

# SAR TEST REPORT

The following samples were submitted and identified on behalf of the client as:

<b>Equipment Under Test</b>	Mobile Phone
<b>Model No.</b>	C1905
<b>Brand Name</b>	Sony
<b>Type No.</b>	PM-0490-BV
<b>Company Name</b>	Sony Mobile Communications AB
<b>Company Address</b>	Nya Vattentorget 22188 Lund/SWEDEN
<b>Standards</b>	OET 65 supplement C, IEEE /ANSI C95.1 , C95.3, IEEE 1528
<b>FCC ID</b>	PY7PM-0490
<b>Date of Receipt</b>	Apr. 10, 2013
<b>Date of Test(s)</b>	May 03, 2013 ~ May 19, 2013
<b>Date of Issue</b>	Jun. 07, 2013

In the configuration tested, the EUT complied with the standards specified above.

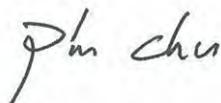
## Remarks:

This report details the results of the testing carried out on two samples, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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## Signed on behalf of SGS

Engineer



Pin Chu

Date: Jun. 07, 2013

Asst. Manager



Kelly Tsai

Date: Jun. 07, 2013

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# Version

Report Number	Revision	Description	Issue Date
EN/2013/40005	Rev. 01	Initial Version	31 May 2013
EN/2013/40005	Rev. 02	Modify "Marketing Name" to "Model No." and "Model No." to "Type No." on page 1 and 5.	07 Jun. 2013

**This test report contains a reference to the previous version test report that it replaces.**

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## 1. General Information

### 1.1 Testing Laboratory

SGS Taiwan Ltd. Electronics & Communication Laboratory	
134, Wu Kung Road, Wuku industrial zone	
Taipei county, Taiwan, R.O.C.	
Telephone	+886-2-2299-3279
Fax	+886-2-2298-0488
Internet	<a href="http://www.tw.sgs.com/">http://www.tw.sgs.com/</a>
Testing Location	1F, No.8, Alley 15, Lane 120, Sec .1, NeiHu Road NeiHu District Taipei City 114, Taiwan

### 1.2 Details of Applicant

Company Name	Sony Mobile Communications AB
Company Address	Nya Vattentornet 22188 Lund/SWEDEN

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### 1.3 Description of EUT

EUT Name	PDA Phone		
Model No.	C1905		
Brand Name	Sony		
Type No.	PM-0490-BV		
HW Version	A		
SW Version	15.1.A.1.3		
Serial No.	WWAN: YT9104W6UG / WLAN: YT9104W6ND		
IMEI Code	WWAN: 004402146593581 / WLAN: 004402146593599		
FCC ID	PY7PM-0490		
Mode of Operation	<input checked="" type="checkbox"/> GSM <input checked="" type="checkbox"/> GPRS <input checked="" type="checkbox"/> EDGE <input checked="" type="checkbox"/> Bluetooth <input checked="" type="checkbox"/> WLAN802.11 a/b/g/n(20M/40M)		
Duty Cycle	GSM	1/8.3	
	GPRS (support multi class 12 max)	1/2 (1Dn4UP) 1/2.76 (1Dn3UP) 1/4.1 (1Dn2UP) 1/8.3 (1Dn1UP)	
	EDGE (support multi class 12 max)	1/2 (1Dn4UP) 1/2.76 (1Dn3UP) 1/4.1 (1Dn2UP) 1/8.3 (1Dn1UP)	
	WLAN 802.11 a/b/g/n(20M/40M)	1	
	Bluetooth	1	
TX Frequency Range (MHz)	GSM850	824.2	— 848.8
	GSM1900	1850.2	— 1909.8
	WLAN 802.11 b/g/n(20M)	2412	— 2462

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	WLAN802.11 a 5.2G	5180	—	5240
	WLAN802.11 a 5.3G	5260	—	5320
	WLAN802.11 a 5.5G	5500	—	5700
	WLAN802.11 a 5.8G	5745	—	5825
	WLAN802.11 n (20M) 5.2G	5180	—	5240
	WLAN802.11 n (20M) 5.3G	5260	—	5320
	WLAN802.11 n (20M) 5.5G	5500	—	5700
	WLAN802.11 n (20M) 5.8G	5745	—	5825
	WLAN802.11 n (40M) 5.2G	5190	—	5230
	WLAN802.11 n (40M) 5.3G	5270	—	5310
	WLAN802.11 n (40M) 5.5G	5510	—	5670
	WLAN802.11 n (40M) 5.8G	5755	—	5795
	Bluetooth	2402	—	2480
Channel Number (ARFCN)	GSM850	128	—	251
	GSM1900	512	—	810
	WLAN802.11 b/g/n(20M)	1	—	11
	WLAN802.11 a 5.2G	36	—	48
	WLAN802.11 a 5.3G	52	—	64
	WLAN802.11 a 5.5G	100	—	140
	WLAN802.11 a 5.8G	149	—	165
	WLAN802.11 n (20M) 5.2G	36	—	48
	WLAN802.11 n (20M) 5.3G	52	—	64
	WLAN802.11 n (20M) 5.5G	100	—	140
	WLAN802.11 n (20M) 5.8G	149	—	165
	WLAN802.11 n (40M) 5.2G	38	—	46
	WLAN802.11 n (40M) 5.3G	54	—	62
	WLAN802.11 n (40M) 5.5G	102	—	134
	WLAN802.11 n (40M) 5.8G	151	—	159
	Bluetooth	0	—	78

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Max. SAR (1 g) (Unit: W/Kg)				
Mode	Band	Measured	Reported	Position / Channel
Head	GSM 850	0.354	0.371	<input type="checkbox"/> Left <input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> Cheek <input type="checkbox"/> Tilt 251 Channel
	GSM 1900	0.565	0.592	<input type="checkbox"/> Left <input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> Cheek <input type="checkbox"/> Tilt 810 Channel
	WLAN802.11 b	0.834	0.840	<input type="checkbox"/> Left <input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> Cheek <input type="checkbox"/> Tilt 1 Channel
	WLAN802.11 n (20M) 5.2G	0.256	0.263	<input checked="" type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> Cheek <input checked="" type="checkbox"/> Tilt 48 Channel
	WLAN802.11 n (20M) 5.3G	0.446	0.452	<input type="checkbox"/> Left <input checked="" type="checkbox"/> Right <input type="checkbox"/> Cheek <input checked="" type="checkbox"/> Tilt 64 Channel
	WLAN802.11 n (20M) 5.5G	0.651	0.659	<input type="checkbox"/> Left <input checked="" type="checkbox"/> Right <input type="checkbox"/> Cheek <input checked="" type="checkbox"/> Tilt 100 Channel
	WLAN802.11a 5.8G	0.467	0.486	<input checked="" type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> Cheek <input checked="" type="checkbox"/> Tilt 149 Channel
Body worn (speech mode)	GSM 850	0.337	0.353	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back 190 Channel - with headset (MH410C)
	GSM 1900	0.297	0.326	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back 661 Channel - with headset (MH410C)

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Max. SAR (1 g) (Unit: W/Kg)				
Mode	Band	Measured	Reported	Position / Channel
Hotspot mode	GPRS 850 (1Dn4UP)	0.785	0.803	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Bottom <input type="checkbox"/> Right <input type="checkbox"/> Left 251 Channel
	GPRS 1900 (1Dn4UP)	1.190	1.305	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Bottom <input type="checkbox"/> Right <input type="checkbox"/> Left 810 Channel - with headset (MH410C)
	WLAN802.11 b	0.159	0.160	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Top <input type="checkbox"/> Right <input type="checkbox"/> Left 1 Channel
	WLAN802.11 n (20M) 5.2G	0.094	0.097	<input type="checkbox"/> Front <input type="checkbox"/> Back <input checked="" type="checkbox"/> Top <input type="checkbox"/> Right <input type="checkbox"/> Left 48 Channel
	WLAN802.11 n (20M) 5.3G	0.212	0.215	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Top <input type="checkbox"/> Right <input type="checkbox"/> Left 64 Channel
	WLAN802.11 n (20M) 5.5G	0.230	0.232	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Top <input type="checkbox"/> Right <input type="checkbox"/> Left 116 Channel
	WLAN802.11n (20M) 5.8G	0.162	0.164	<input type="checkbox"/> Front <input checked="" type="checkbox"/> Back <input type="checkbox"/> Bottom <input type="checkbox"/> Right <input type="checkbox"/> Left 149 Channel

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Max. reported SAR WWAN and WLAN DTS 2.4 GHz, $\Sigma$ SAR evaluation							
Frequency band	Position		reported SAR / W/kg		$\Sigma$ SAR	Calculated distance (mm)	SPLSR ( $\leq 0.04$ )
			WWAN	WLAN	<1.6W/kg		
GSM 850	Head	Right cheek	0.371	0.840	1.210	-	-
GPRS 850 (1Dn4UP)	Hotspot	Back	0.803	0.160	0.963	-	-
GSM 1900	Head	Right cheek	0.592	0.840	1.431	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Back	1.305	0.160	1.465	-	-

Max. reported SAR WWAN and WLAN DTS 5.8 GHz, $\Sigma$ SAR evaluation							
Frequency band	Position		reported SAR / W/kg		$\Sigma$ SAR	Calculated distance (mm)	SPLSR ( $\leq 0.04$ )
			WWAN	WLAN	<1.6W/kg		
GSM 850	Head	Left cheek	0.342	0.455	0.798	-	-
GPRS 850 (1Dn4UP)	Hotspot	Back	0.803	0.164	0.967	-	-
GSM 1900	Head	Left cheek	0.522	0.455	0.977	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Back	1.305	0.164	1.469	-	-

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Max. reported SAR WWAN and WLAN UNII 5 GHz, $\Sigma$ SAR evaluation							
Frequency band	Position		reported SAR / W/kg		$\Sigma$ SAR	Calculated distance (mm)	SPLSR ( $\leq 0.04$ )
			WWAN	WLAN	<1.6W/kg		
GSM 850	Head	Right tilt	0.267	0.659	0.926	-	-
GPRS 850 (1Dn4UP)	Hotspot	Back	0.803	0.232	1.035	-	-
GSM 1900	Head	Right cheek	0.592	0.501	1.093	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Back	1.305	0.232	1.537	-	-

Max. reported SAR WWAN and Bluetooth, $\Sigma$ SAR evaluation							
Frequency band	Position		reported SAR / W/kg		$\Sigma$ SAR	Calculated distance (mm)	SPLSR ( $\leq 0.04$ )
			WWAN	Bluetooth	<1.6W/kg		
GPRS 850 (1Dn4UP)	Hotspot	Back	0.803	0.184	0.987	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Back	1.305	0.184	1.489	-	-

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#. GSM/GPRS/EDGE conducted power table:

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	
				Avg. (dBm)	Source-based time average power Avg. (dBm)
GSM 850 (GMSK)	824.2	128	33.5	33.30	24.27
	836.6	190	33.5	33.30	24.27
	848.8	251	33.5	33.30	24.27
The division factor compared to the number of TX time slot					
Division factor				1 TX time slot	
				-9.03	

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			33.5	30	28.5	28
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850 (GMSK)	824.2	128	33.40	29.80	28.20	27.60
	836.6	190	33.40	29.80	28.30	27.90
	848.8	251	33.30	29.80	28.40	27.90
Source-based time average power						
GPRS 850 (GMSK)	824.2	128	24.37	23.78	23.94	24.59
	836.6	190	24.37	23.78	24.04	24.89
	848.8	251	24.27	23.78	24.14	24.89
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			27	27	26.5	26.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS 5)	824.2	128	26.60	26.50	26.40	26.20
	836.6	190	26.60	26.50	26.40	26.20
	848.8	251	26.60	26.50	26.40	26.20
Source-based time average power						
EDGE 850 (MCS 5)	824.2	128	17.57	20.48	22.14	23.19
	836.6	190	17.57	20.48	22.14	23.19
	848.8	251	17.57	20.48	22.14	23.19
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			33.5	30	28.5	28
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS 4)	824.2	128	33.30	29.60	28.10	27.50
	836.6	190	33.20	29.60	28.10	27.50
	848.8	251	33.10	29.50	28.20	27.40
Source-based time average power						
EDGE 850 (MCS 4)	824.2	128	24.27	23.58	23.84	24.49
	836.6	190	24.17	23.58	23.84	24.49
	848.8	251	24.07	23.48	23.94	24.39
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			27	27	26.5	26.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS 9)	824.2	128	26.80	26.60	26.50	26.30
	836.6	190	26.70	26.60	26.50	26.30
	848.8	251	26.70	26.70	26.40	26.30
Source-based time average power						
EDGE 850 (MCS 9)	824.2	128	17.77	20.58	22.24	23.29
	836.6	190	17.67	20.58	22.24	23.29
	848.8	251	17.67	20.68	22.14	23.29
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source-based time average power
				Avg.(dBm)	Avg.(dBm)
GSM 1900 (GMSK)	1850.2	512	30.5	30.20	21.17
	1880	661	30.5	30.10	21.07
	1909.8	810	30.5	30.30	21.27
The division factor compared to the number of TX time slot					
Division factor				1 TX time slot	
				-9.03	

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			30.5	30	28.5	28
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 1900 (GMSK)	1850.2	512	30.40	29.80	28.50	28.00
	1880	661	30.30	29.80	28.30	27.90
	1909.8	810	30.40	29.60	28.00	27.60
Source-based time average power						
GPRS 1900 (GMSK)	1850.2	512	21.37	23.78	24.24	24.99
	1880	661	21.27	23.78	24.04	24.89
	1909.8	810	21.37	23.58	23.74	24.59
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			26	25.5	25.5	25
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS 5)	1850.2	512	25.90	25.50	25.50	25.00
	1880	661	25.80	25.40	25.40	24.90
	1909.8	810	25.50	25.20	25.10	24.60
Source-based time average power						
EDGE 1900 (MCS 5)	1850.2	512	16.87	19.48	21.24	21.99
	1880	661	16.77	19.38	21.14	21.89
	1909.8	810	16.47	19.18	20.84	21.59
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			30.5	30	28.5	28
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS 4)	1850.2	512	30.30	29.50	28.40	28.00
	1880	661	30.10	29.50	28.20	27.90
	1909.8	810	30.00	29.40	27.80	27.60
Source-based time average power						
EDGE 1900 (MCS 4)	1850.2	512	21.27	23.48	24.14	24.99
	1880	661	21.07	23.48	23.94	24.89
	1909.8	810	20.97	23.38	23.54	24.59
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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Burst average power						
Max. Rated Avg. Power + Max. Tolerance (dBm)			26	25.5	25.5	25
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS 9)	1850.2	512	25.90	25.50	25.50	25.00
	1880	661	25.80	25.40	25.40	24.90
	1909.8	810	25.50	25.30	25.10	24.70
Source-based time average power						
EDGE 1900 (MCS 9)	1850.2	512	16.87	19.48	21.24	21.99
	1880	661	16.77	19.38	21.14	21.89
	1909.8	810	16.47	19.28	20.84	21.69
The division factor compared to the number of TX time slot						
Division factor			1 TX time slot	2 TX time slot	3 TX time slot	4 TX time slot
			-9.03	-6.02	-4.26	-3.01

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#. **WLAN802.11 a/b/g/n (20M/40M) conducted power table:**

802.11b		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Power Output (dBm)			
CH	Frequency (MHz)		Data Rate (Mbps)			
			1	2	5.5	11
1	2412	15.0	14.97	14.94	14.91	14.88
6	2437	15.0	14.99	14.96	14.91	14.89
11	2462	15.0	14.95	14.90	14.86	14.82

802.11g		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Power Output(dBm)							
CH	Frequency (MHz)		Data Rate (Mbps)							
			6	9	12	18	24	36	48	54
1	2412	12.5	12.44	12.39	12.33	12.30	12.24	12.20	12.16	12.13
6	2437	12.5	12.30	12.27	12.25	12.23	12.21	12.19	12.17	12.15
11	2462	12.5	12.35	12.32	12.29	12.27	12.25	12.22	12.20	12.18

802.11n (20M)		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Power Output(dBm)							
CH	Frequency (MHz)		Data Rate (Mbps)							
			6.5	13	19.5	26	39	52	58.5	65
1	2412	12.5	12.22	12.19	12.16	12.14	12.12	12.10	12.07	12.04
6	2437	12.5	12.35	12.32	12.29	12.27	12.25	12.22	12.20	12.18
11	2462	12.5	12.42	12.39	12.33	12.30	12.24	12.20	12.16	12.13

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802.11a		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Power (dBm)								
5.2G/5.3G/5.5G/5.8G			Data Rate (Mbps)								
CH	Frequency (MHz)		6	9	12	18	24	36	48	54	
36	5180	13.0	12.85	12.83	12.81	12.79	12.76	12.74	12.72	12.69	
40	5200	13.0	12.89	12.87	12.84	12.83	12.80	12.79	12.77	12.74	
44	5220	13.0	12.88	12.86	12.85	12.83	12.81	12.78	12.76	12.75	
48	5240	13.0	12.85	12.84	12.81	12.79	12.80	12.74	12.71	12.70	
52	5260	13.0	12.84	12.82	12.80	12.79	12.77	12.74	12.72	12.68	
56	5280	13.0	12.87	12.85	12.83	12.80	12.78	12.76	12.74	12.71	
60	5300	13.0	12.84	12.83	12.80	12.79	12.78	12.74	12.72	12.68	
64	5320	13.0	12.84	12.82	12.81	12.79	12.77	12.76	12.72	12.69	
100	5500	13.0	12.93	12.91	12.89	12.86	12.84	12.82	12.81	12.78	
104	5520	13.0	12.71	12.70	12.68	12.67	12.66	12.64	12.63	12.62	
108	5540	13.0	12.88	12.86	12.85	12.83	12.80	12.78	12.76	12.74	
112	5560	13.0	12.95	12.93	12.90	12.88	12.85	12.84	12.82	12.80	
116	5580	13.0	12.96	12.93	12.90	12.89	12.86	12.84	12.81	12.79	
120	5600	13.0	12.90	12.88	12.86	12.85	12.84	12.83	12.81	12.80	
124	5620	13.0	12.92	12.90	12.87	12.84	12.83	12.80	12.79	12.77	
128	5640	13.0	12.97	12.95	12.93	12.92	12.90	12.88	12.86	12.85	
132	5660	13.0	12.95	12.93	12.90	12.89	12.86	12.84	12.81	12.79	
136	5680	13.0	12.94	12.91	12.89	12.86	12.83	12.81	12.80	12.77	
140	5700	13.0	12.96	12.93	12.91	12.89	12.86	12.83	12.81	12.79	
149	5745	13.0	12.83	12.82	12.81	12.80	12.77	12.75	12.73	12.71	
153	5765	13.0	12.81	12.80	12.77	12.76	12.74	12.73	12.71	12.68	
157	5785	13.0	12.77	12.76	12.75	12.73	12.72	12.70	12.69	12.68	
161	5805	13.0	12.73	12.72	12.70	12.68	12.67	12.66	12.65	12.63	
165	5825	13.0	12.68	12.67	12.66	12.65	12.63	12.62	12.60	12.59	

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802.11n(20M)		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Power (dBm)								
5.2G/5.3G/5.5G/5.8G			Data Rate (Mbps)								
CH	Frequency (MHz)		6.5	13	19.5	26	39	52	58.5	65	
36	5180	13.0	12.85	12.83	12.81	12.79	12.76	12.74	12.71	12.69	
44	5220	13.0	12.91	12.89	12.88	12.85	12.84	12.83	12.81	12.80	
48	5240	13.0	12.88	12.86	12.85	12.83	12.81	12.78	12.76	12.74	
52	5260	13.0	12.89	12.87	12.84	12.83	12.80	12.79	12.77	12.73	
60	5300	13.0	12.91	12.89	12.88	12.85	12.84	12.83	12.81	12.80	
64	5320	13.0	12.94	12.92	12.91	12.89	12.88	12.85	12.84	12.83	
100	5500	13.0	12.95	12.93	12.90	12.89	12.86	12.84	12.81	12.79	
116	5580	13.0	12.96	12.94	12.92	12.90	12.89	12.88	12.86	12.84	
140	5700	13.0	12.97	12.95	12.93	12.92	12.90	12.88	12.86	12.85	
149	5745	13.0	12.94	12.92	12.91	12.89	12.88	12.85	12.84	12.83	
157	5785	13.0	12.88	12.86	12.84	12.83	12.80	12.77	12.76	12.74	
165	5825	13.0	12.97	12.95	12.93	12.92	12.90	12.88	12.86	12.85	

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802.11n(40M)		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average Power (dBm)								
5.2G/5.3G/5.5G/5.8G			Data Rate (Mbps)								
CH	Frequency (MHz)		13.5	27	40.5	54	81	108	121.5	135	
38	5190	12.0	11.81	11.79	11.77	11.74	11.72	11.70	11.69	11.67	
46	5230	12.0	11.81	11.80	11.78	11.77	11.72	11.70	11.68	11.67	
54	5270	12.0	11.90	11.89	11.86	11.84	11.83	11.81	11.79	11.77	
62	5310	12.0	11.93	11.89	11.86	11.85	11.83	11.81	11.79	11.77	
102	5510	12.0	11.77	11.75	11.72	11.70	11.68	11.67	11.65	11.62	
118	5590	12.0	11.97	11.94	11.92	11.90	11.88	11.85	11.84	11.82	
134	5670	12.0	11.90	11.88	11.86	11.85	11.83	11.81	11.79	11.77	
151	5755	12.0	11.96	11.93	11.90	11.87	11.85	11.83	11.80	11.79	
159	5795	12.0	11.96	11.94	11.92	11.90	11.87	11.85	11.84	11.82	

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### #. Bluetooth conducted power table:

Frequency (MHz)	Peak (dBm)		
	BDR	BDR	BDR
2402	8.41	9.41	9.5
2441	8.38	9.39	9.48
2480	8.13	9.13	9.22

Frequency (MHz)	BT4.0
	Peak (dBm)
2402	1.26
2442	1.46
2480	0.98

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## 1.4 Test Environment

Ambient Temperature :  $22 \pm 2^\circ \text{C}$

Tissue Simulating Liquid:  $22 \pm 2^\circ \text{C}$

## 1.5 Operation Description

### General:

1. The EUT is controlled by using a Radio Communication Tester (Agilent E5515C), and the communication between the EUT and the tester is established by air link.
2. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
3. During the SAR testing, the DASY 5 system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
4. Testing head SAR at lowest, middle and highest channel for all bands with Left Tilt /Left Cheek/Right Tilt/Right Cheek conditions.
5. Testing body-worn speech mode SAR by separating the EUT and the phantom **15mm** distance when performing GSM850 and GSM1900. (Both front side & back side)
6. Testing hotspot mode SAR by separating the EUT and the phantom **10mm** distance.
  - #. The SAR testing for portable devices with wireless router capability is referred as test guidance of **KDB 941225 D06v01** (SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities).
  - #. The following procedures are applicable when the overall device length and width are  $\geq 9 \text{ cm} \times 5 \text{ cm}$  respectively. A test separation of 10 mm is required. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25 mm from that surface or edge, for the data modes, wireless technologies and frequency bands supporting hotspot mode.
  - # For WLAN (15mm separation): the testing device support mobile hotspot function, the separation distance is **10mm (No need to perform SAR testing)**

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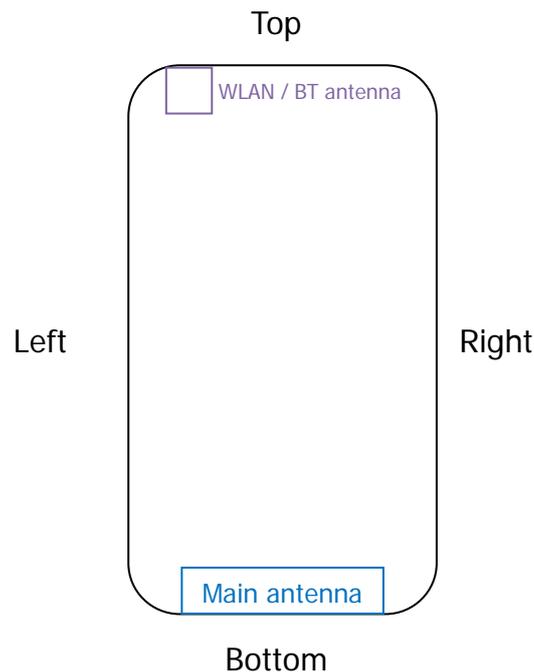
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**with Body worn accessory (15mm separation distance) due to the hotspot mode (10mm separation distance) is more conservative than Body worn accessory mode).**

Test configurations:

- (1) Front side
- (2) Back side
- (3) Top side. (WWAN antenna to edge distance >25mm\_ No SAR measurement is necessary for this configuration)
- (4) Bottom side. (WLAN antenna to edge distance >25mm\_ No SAR measurement is necessary for this configuration)
- (5) Right side. (WLAN antenna to edge distance >25mm\_ No SAR measurement is necessary for this configuration)
- (6) Left side.



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7. According to **KDB447498 D01v05** – The 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by: [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [ $\sqrt{f(\text{GHz})}$ ]  $\leq 3.0$  for 1-g SAR, SAR evaluation is not required. **(Max power of Bluetooth = 9.5dBm)**

When SAR evaluation is not required to be measured, per FCC KDB447498 D01v05, the following equation must be used to estimate the 1g SAR for simultaneous transmission assessment involving that transmitter.

Estimated SAR = [ $\sqrt{f(\text{GHz})}/7.5$ ] · [(max. power of channel, mW)/(min. test separation distance, mm)]

Mode	Frequency (MHz)	Maximum Allowed Power (dBm)	Separation Distance (Body) (mm)	Estimated SAR (Body) (W/kg)
Bluetooth	2402	9.5	10	0.184

8. According to **KDB248227 D01v01**-SAR is not required for 802.11 g/HT20 channels when the maximum average output power is higher than that measured on the corresponding 802.11b channels but increase less than 1/4 dB.

**Additional configuration (Head):**

9. For highest SAR configuration in this band repeated with external Memory card inside. (GSM 1900 - Right cheek position – CH810)

**Additional configuration (Body):**

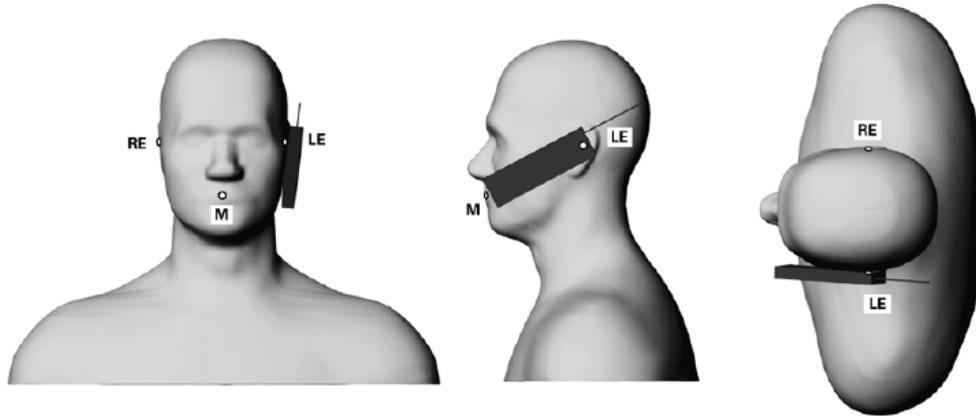
10. For highest SAR configuration in this band repeated with external Memory card inside. (GPRS 1900\_1Dn4Up- Back side – CH810)
11. For highest SAR configuration in this band repeated with Headset (MH410C). (GPRS 1900\_1Dn4Up- Back side – CH810)

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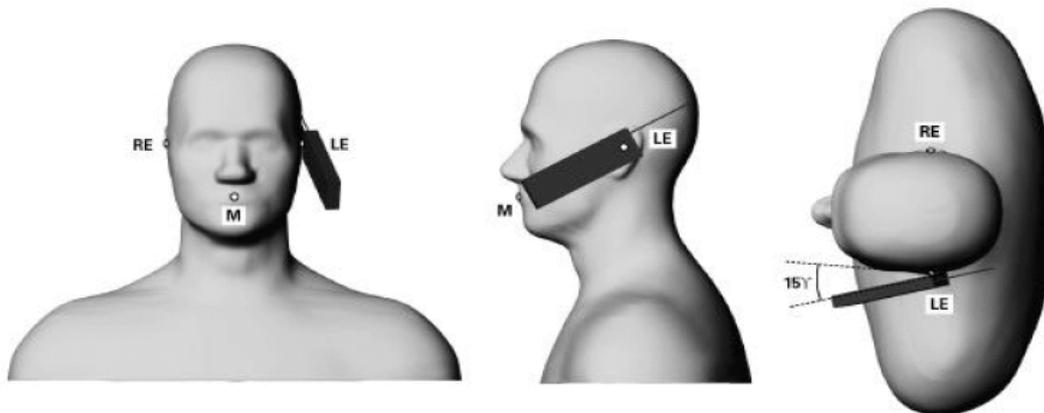
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## 1.6 Positioning Procedure



Phone position 1, "cheek" or "touch" position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning.



Phone position 2, "tilted position." The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning.

### Cheek/Touch Position:

The handset was brought toward the mouth of the head phantom by pivoting against the ear reference point until any point of the mouthpiece or keypad touched the phantom.

### Ear/Tilt Position:

With the phone aligned in the Cheek/Touch position, the handset was tilted away from

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the mouth with respect to the test device reference point by 15 degrees.

## 1.7 Evaluation Procedures

The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1 g and 10 g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. The extraction of the measured data (grid and values) from the Zoom Scan.
2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters).
3. The generation of a high-resolution mesh within the measured volume.
4. The interpolation of all measured values from the measurement grid to the high-resolution grid.
5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface.
6. The calculation of the averaged SAR within masses of 1g and 10g.

The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within -2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g

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and 10 g cubes, the extrapolation distance should not be larger than 5mm.

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans.

The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30x30x30mm contains about 30g of tissue. The first procedure is an extrapolation (incl. Boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is the moved around until the highest averaged SAR is found.

If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

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## 1.8 Probe Calibration Procedures

For the calibration of E-field probes in lossy liquids, an electric field with an accurately known field strength must be produced within the measured liquid. For standardization purposes it would be desirable if all measurements which are necessary to assess the correct field strength would be traceable to standardized measurement procedures. In the following two different calibration techniques are summarized:

### 1.8.1 Transfer Calibration with Temperature Probes

In lossy liquids the specific absorption rate (SAR) is related both to the electric field ( $E$ ) and the temperature gradient ( $\delta T / \delta t$ ) in the liquid.

$$SAR = \frac{\sigma}{\rho} |E|^2 = c \frac{\delta T}{\delta t}$$

whereby  $\sigma$  is the conductivity,  $\rho$  the density and  $c$  the heat capacity of the liquid.

Hence, the electric field in lossy liquid can be measured indirectly by measuring the temperature gradient in the liquid. Non-disturbing temperature probes (optical probes or thermistor probes with resistive lines) with high spatial resolution (<1-2 mm) and fast reaction time (<1 s) are available and can be easily calibrated with high precision [1]. The setup and the exciting source have no influence on the calibration; only the relative positioning uncertainties of the standard temperature probe and the E-field probe to be calibrated must be considered. However, several problems limit the available accuracy of probe calibrations with temperature probes:

- The temperature gradient is not directly measurable but must be evaluated from temperature measurements at different time steps. Special precaution is necessary to avoid measurement errors caused by temperature gradients due to energy equalizing effects or convection currents in the liquid. Such effects cannot be completely avoided, as the measured field itself destroys the thermal equilibrium in the liquid. With a

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careful setup these errors can be kept small.

- The measured volume around the temperature probe is not well defined. It is difficult to calculate the energy transfer from a surrounding gradient temperature field into the probe. These effects must be considered, since temperature probes are calibrated in liquid with homogeneous temperatures. There is no traceable standard for temperature rise measurements.
- The calibration depends on the assessment of the specific density, the heat capacity and the conductivity of the medium. While the specific density and heat capacity can be measured accurately with standardized procedures ( $\sim 2\%$  for  $c$ ; much better for  $\rho$ ), there is no standard for the measurement of the conductivity. Depending on the method and liquid, the error can well exceed  $\pm 5\%$ .
- Temperature rise measurements are not very sensitive and therefore are often performed at a higher power level than the E-field measurements. The nonlinearities in the system (e.g., power measurements, different components, etc.) must be considered.

Considering these problems, the possible accuracy of the calibration of E-field probes with temperature gradient measurements in a carefully designed setup is about  $\pm 10\%$  (RSS) [2]. Recently, a setup which is a combination of the waveguide techniques and the thermal measurements was presented in [3]. The estimated uncertainty of the setup is  $\pm 5\%$  (RSS) when the same liquid is used for the calibration and for actual measurements and  $\pm 7-9\%$  (RSS) when not, which is in good agreement with the estimates given in [2].

### 1.8.2 Calibration with Analytical Fields

In this method a technical setup is used in which the field can be calculated analytically from measurements of other physical magnitudes (e.g., input power). This corresponds to the standard field method for probe calibration in air; however, there is no standard defined for fields in lossy liquids.

When using calculated fields in lossy liquids for probe calibration, several points must be

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considered in the assessment of the uncertainty:

- The setup must enable accurate determination of the incident power.
- The accuracy of the calculated field strength will depend on the assessment of the dielectric parameters of the liquid.
- Due to the small wavelength in liquids with high permittivity, even small setups might be above the resonant cutoff frequencies. The field distribution in the setup must be carefully checked for conformity with the theoretical field distribution.

## References

- [1] N. Kuster, Q. Balzano, and J.C. Lin, Eds., *Mobile Communications Safety*, Chapman & Hall, London, 1997.
- [2] K. Meier, M. Burkhardt, T. Schmid, and N. Kuster, "Broadband calibration of E-field probes in lossy media", *IEEE Transactions on Microwave Theory and Techniques*, vol. 44, no. 10, pp. 1954-1962, Oct. 1996.
- [3] K. Jokela, P. Hyysalo, and L. Puranen, "Calibration of specific absorption rate (SAR) probes in waveguide at 900 MHz", *IEEE Transactions on Instrumentation and Measurements*, vol. 47, no. 2, pp. 432-438, Apr. 1998.

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## 1.9 The SAR Measurement System

A block diagram of the SAR measurement system is given in Fig. a. This SAR measurement system uses a Computer-controlled 3-D stepper motor system (SPEAG DASY 5 professional system). Model ES3DV3 and EX3DV4 field probes are used to determine the internal electric fields. The SAR can be obtained from the equation  $SAR = \sigma (|E_i|^2) / \rho$  where  $\sigma$  and  $\rho$  are the conductivity and mass density of the tissue-simulant.

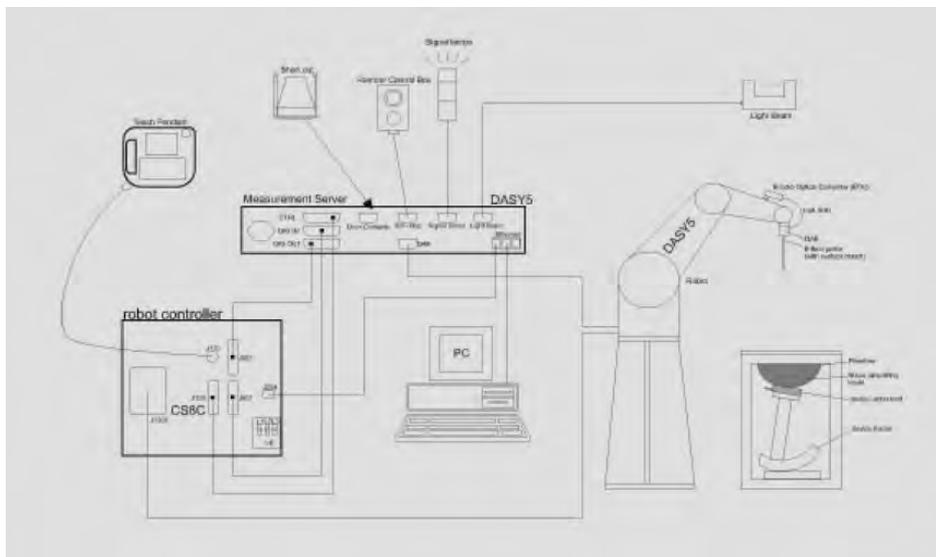


Fig. a A block diagram of the SAR measurement system

The DASY 5 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An arm extension is for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- Data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection,

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collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows XP.
- DASY 5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validate the proper functioning of the system.

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## 1.10 System Components

### ES3DV3 / EX3DV4 E-Field Probe

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL835/1900/2450/5200/5500/5800MHz Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 4 GHz, Linearity: $\pm 0.2$ dB (ES3DV3) 10 MHz to > 6 GHz, Linearity: $\pm 0.6$ dB (EX3DV4)	
Directivity	$\pm 0.3$ dB in HSL (rotation around probe axis) $\pm 0.5$ dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)	
Dimensions	Tip diameter: 4 mm (ES3DV3) Tip diameter: 2.5 mm (EX3DV4)	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

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### SAM PHANTOM V4.0C

Construction:	<p>The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209.</p> <p>It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.</p>	
Shell Thickness:	2 ± 0.2 mm	
Filling Volume:	Approx. 25 liters	
Dimensions:	<p>Height: 210 mm;</p> <p>Length: 1000 mm;</p> <p>Width: 500 mm</p>	

### DEVICE HOLDER

Construction	<p>In combination with the Twin SAM Phantom V4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, and flat phantom).</p>	 <p style="text-align: center;">Device Holder</p>
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## 1.11 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values.

These tests were done at 835/1900/2450/5200/5500/5800 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1. During the tests, the ambient temperature of the laboratory was 21.7°C, the relative humidity was 62% and the liquid depth above the ear reference points was above 15 cm ( $\leq 3G$ ) or 10 cm ( $> 3G$ ) in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

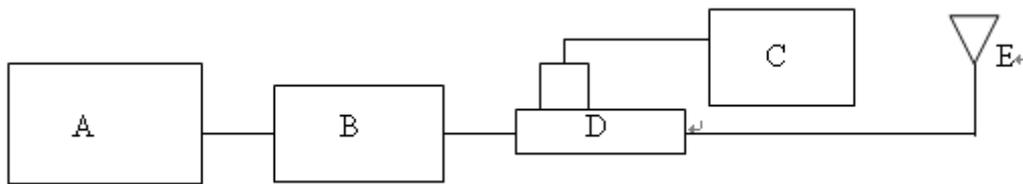
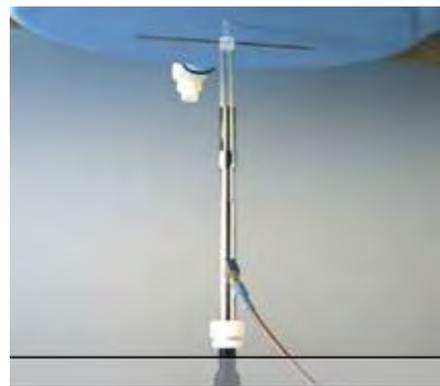


Fig. b The block diagram of system verification

- A. Signal Generator
- B. Amplifier
- C. Power Meter
- D. Dual Directional Coupling
- E. Reference Dipole Antenna



Photograph of the Dipole Antenna

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Validation Kit	S/N	Frequency (MHz)	Target SAR (1g) (Pin=250mW) (mW/g)	Measured SAR (1g)(mW/g)	Deviation (%)	Measured Date	
D835V2	4d063	835	Head	2.36	2.25	4.66%	May 03,2013
			Body	2.46	2.38	3.25%	May 05,2013
D1900V2	5d018	1900	Head	9.88	9.42	4.66%	May 07,2013
			Body	10.2	9.73	4.61%	
D2450V2	869	2450	Head	13.8	13.2	4.35%	May 11,2013
			Body	13	12.4	4.62%	
D5GHzV2	1040	5200	Head	8.2	8.02	2.20%	May 09,2013
			Body	7.37	7.42	-0.68%	May 16,2013
D5GHzV2	1040	5500	Head	8.82	8.71	1.25%	May 13,2013
			Body	7.87	7.64	2.92%	May 16,2013
D5GHzV2	1040	5800	Head	8.23	7.82	4.98%	May 19,2013
			Body	7.44	7.18	3.49%	

Table 1. System validation (follow manufacture target value)

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### 1.12 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this Head-simulant fluid were measured by using the Agilent Model 85070E Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in connection with Network Analyzer.

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The depth of the tissue simulant in the flat section of the phantom was at least 15 cm ( $\leq 3G$ ) or 10 cm ( $> 3G$ ) during all tests. (Appendix Fig. 2)

Measured Frequency (MHz)	Tissue Type	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$	Measurement Date
824.2	Head	41.556	0.899	42.592	0.869	-2.49%	3.35%	May 03,2013
835		41.5	0.9	42.464	0.879	-2.32%	2.33%	
836.6		41.5	0.902	42.44	0.881	-2.27%	2.30%	
848.8		41.5	0.915	42.305	0.893	-1.94%	2.39%	
824.2	Body	55.242	0.969	52.67	0.991	4.66%	-2.25%	May 05,2013
835		55.2	0.97	52.565	1.003	4.77%	-3.40%	
836.6		55.195	0.972	52.547	1.005	4.80%	-3.40%	
848.8		55.158	0.987	52.432	1.017	4.94%	-3.04%	
1850.2	Head	40.000	1.400	38.986	1.342	2.54%	4.14%	May 07,2013
1880		40.000	1.400	38.87	1.372	2.83%	2.00%	
1900		40.000	1.400	38.779	1.392	3.05%	0.57%	
1909.8		40.000	1.400	38.77	1.401	3.07%	-0.07%	
1850.2	Body	53.300	1.520	53.068	1.445	0.44%	4.93%	
1880		53.300	1.520	52.974	1.477	0.61%	2.83%	
1900		53.300	1.520	52.899	1.499	0.75%	1.38%	
1909.8		53.300	1.520	52.865	1.51	0.82%	0.66%	

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Measured Frequency (MHz)	Tissue Type	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$	Measurement Date
2412	Head	39.268	1.766	38.287	1.794	2.50%	-1.57%	May 11,2013
2437		39.223	1.788	38.181	1.821	2.66%	-1.82%	
2450		39.2	1.8	38.128	1.837	2.73%	-2.06%	
2462		39.185	1.813	38.077	1.852	2.83%	-2.15%	
2412	Body	52.751	1.914	50.275	1.971	4.69%	-2.99%	
2437		52.717	1.938	50.167	2.004	4.84%	-3.43%	
2450		52.7	1.95	50.115	2.023	4.91%	-3.74%	
2462		52.685	1.967	50.067	2.039	4.97%	-3.66%	
5180	Head	36.009	4.635	35.418	4.593	1.64%	0.90%	May 09,2013
5190		35.997	4.645	35.402	4.605	1.65%	0.86%	
5200		35.986	4.655	35.337	4.617	1.80%	0.82%	
5220		35.963	4.676	35.161	4.646	2.23%	0.63%	
5230		35.951	4.686	35.104	4.654	2.36%	0.68%	
5240		35.940	4.696	35.038	4.663	2.51%	0.70%	
5260		35.917	4.717	35.008	4.7	2.53%	0.35%	
5270		35.906	4.727	35.029	4.707	2.44%	0.42%	
5280		35.894	4.737	35.065	4.713	2.31%	0.51%	
5310		35.860	4.768	35.096	4.758	2.13%	0.20%	
5320		35.849	4.778	35.061	4.774	2.20%	0.08%	
5180		Body	49.041	5.276	48.664	5.284	0.77%	
5190	49.028		5.288	48.593	5.311	0.89%	-0.44%	
5200	49.014		5.299	48.522	5.337	1.00%	-0.71%	
5220	48.987		5.323	48.399	5.358	1.20%	-0.66%	
5230	48.974		5.334	48.371	5.354	1.23%	-0.37%	
5240	48.960		5.346	48.343	5.351	1.26%	-0.09%	
5260	48.933		5.369	48.196	5.408	1.51%	-0.72%	
5270	48.919		5.381	48.01	5.42	1.86%	-0.72%	
5280	48.906		5.393	47.825	5.432	2.21%	-0.73%	
5310	48.865		5.428	47.767	5.485	2.25%	-1.05%	
5320	48.851		5.439	47.747	5.496	2.26%	-1.04%	

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Measured Frequency (MHz)	Tissue Type	Target Dielectric Constant, $\epsilon_r$	Target Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon_r$	Measured Conductivity, $\sigma$ (S/m)	% dev $\epsilon_r$	% dev $\sigma$	Measurement Date
5500	Head	35.643	4.963	34.606	5.021	2.91%	-1.18%	May 13,2013
5510		35.631	4.973	34.583	5.024	2.94%	-1.03%	
5580		35.551	5.045	34.531	5.112	2.87%	-1.34%	
5590		35.540	5.055	34.509	5.127	2.90%	-1.43%	
5640		35.483	5.106	34.264	5.189	3.44%	-1.63%	
5670		35.449	5.137	34.273	5.228	3.32%	-1.78%	
5700		35.414	5.168	34.358	5.249	2.98%	-1.58%	
5500	Body	48.607	5.650	47.205	5.75	2.88%	-1.78%	May 16,2013
5510		48.594	5.661	47.194	5.765	2.88%	-1.83%	
5580		48.499	5.743	47.112	5.862	2.86%	-2.07%	
5590		48.485	5.755	47.084	5.886	2.89%	-2.28%	
5640		48.417	5.813	46.961	5.936	3.01%	-2.11%	
5670		48.376	5.848	46.833	6.019	3.19%	-2.92%	
5700		48.336	5.883	46.798	6.027	3.18%	-2.44%	
5745	Head	35.363	5.214	34.116	5.322	3.53%	-2.08%	May 19,2013
5755		35.351	5.224	34.061	5.331	3.65%	-2.05%	
5765		35.340	5.234	33.905	5.34	4.06%	-2.02%	
5785		35.317	5.255	33.851	5.358	4.15%	-1.97%	
5795		35.306	5.265	33.916	5.367	3.94%	-1.94%	
5800		35.3	5.27	33.936	5.369	3.86%	-1.88%	
5805		35.294	5.275	33.884	5.376	4.00%	-1.91%	
5825		35.271	5.296	33.788	5.394	4.21%	-1.86%	
5745	Body	48.275	5.936	46.652	6.107	3.36%	-2.88%	
5755		48.261	5.947	46.681	6.125	3.27%	-2.99%	
5765		48.248	5.959	46.666	6.143	3.28%	-3.09%	
5785		48.220	5.982	46.545	6.174	3.47%	-3.20%	
5795		48.207	5.994	46.482	6.184	3.58%	-3.17%	
5800		48.2	6	46.45	6.19	3.63%	-3.17%	
5805		48.193	6.006	46.422	6.193	3.68%	-3.12%	
5825		48.166	6.029	46.334	6.212	3.80%	-3.03%	

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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The composition of the brain tissue simulating liquid:

Frequency (MHz)	Mode	Ingredient						Total amount
		DGMBE	Water	Salt	Preventol D-7	Cellulose	Sugar	
850	Head	—	532.98 g	18.3 g	2.4 g	3.2 g	766 g	1.0L(Kg)
	Body	—	631.68 g	11.72 g	1.2 g	—	600 g	1.0L(Kg)
1900	Head	444.52 g	552.42 g	3.06 g	—	—	—	1.0L(Kg)
	Body	300.67 g	716.56 g	4.0 g	—	—	—	1.0L(Kg)
2450	Head	550ml	450ml	—	—	—	—	1.0L(Kg)
	Body	301.7ml	698.3ml	—	—	—	—	1.0L(Kg)

Simulating Liquids for 5 GHz, Manufactured by SPEAG:

Ingredients	Water	Esters, Emulsifiers, Inhibitors	Sodium and Salt
(% by weight)	60-80	20-40	0-1.5

Table 3. Recipes for tissue simulating liquid

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### 1.13 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.

These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter.

Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over a 10 grams of tissue (defined as a tissue volume in the shape of a cube).

Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels

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or by specific training or education through appropriate means, such as an RF safety program in a work environment.

(2) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube).

Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube).

General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure.

Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.(Table .6)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR (Brain)	1.60 m W/g	8.00 m W/g
Spatial Average SAR (Whole Body)	0.08 m W/g	0.40 m W/g
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table 4. RF exposure limits

Notes:

1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

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## 2. Summary of Results

### GSM 850 MHz

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
GSM (Head)	RE Cheek	-	128	824.2	33.5	33.3	4.71%	0.336	0.352	65
	RE Cheek	-	190	836.6	33.5	33.3	4.71%	0.35	0.366	66
	RE Cheek	-	251	848.8	33.5	33.3	4.71%	0.354	0.371	67
	RE Tilt	-	190	836.6	33.5	33.3	4.71%	0.255	0.267	68
	LE Cheek	-	190	836.6	33.5	33.3	4.71%	0.327	0.342	69
	LE Tilt	-	190	836.6	33.5	33.3	4.71%	0.25	0.262	70
GSM (Body-worn speech mode)	Front side	15	190	836.6	33.5	33.3	4.71%	0.285	0.298	71
	Back side	15	190	836.6	33.5	33.3	4.71%	0.337	0.353	72
GPRS (Hotspot) (1Dn4UP)	Front side	10	190	836.6	28	27.9	2.33%	0.53	0.542	73
	Back side	10	128	824.2	28	27.6	9.65%	0.615	0.674	74
	Back side	10	190	836.6	28	27.9	2.33%	0.669	0.685	75
	Back side	10	251	848.8	28	27.9	2.33%	0.785	0.803	76
	Bottom side	10	190	836.6	28	27.9	2.33%	0.058	0.059	77
	Right side	10	190	836.6	28	27.9	2.33%	0.463	0.474	78
	Left side	10	190	836.6	28	27.9	2.33%	0.445	0.455	79

- # Using KDB941225 D03v01 and KDB941225 D04v01 to exclude SAR test requirements for EDGE modes due to the source-based time-averaged output power for EDGE mode is lower than that in the GPRS mode.
- # According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### GSM 1900 MHz

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
GSM (Head)	RE Cheek	-	512	1850.2	30.5	30.2	7.15%	0.419	0.449	80
	RE Cheek	-	661	1880	30.5	30.1	9.65%	0.534	0.586	81
	RE Cheek	-	810	1909.8	30.5	30.3	4.71%	0.565	0.592	82
	RE Cheek -with Memory card	-	810	1909.8	30.5	30.3	4.71%	0.536	0.561	83
	RE Tilt	-	661	1880	30.5	30.1	9.65%	0.118	0.129	84
	LE Cheek	-	661	1880	30.5	30.1	9.65%	0.476	0.522	85
	LE Tilt	-	661	1880	30.5	30.1	9.65%	0.13	0.143	86
GSM (Body-worn speech mode)	Front side	15	661	1880	30.5	30.1	9.65%	0.286	0.314	87
	Back side	15	661	1880	30.5	30.1	9.65%	0.297	0.326	88
GPRS (Hotspot) (1Dn4UP)	Front side	10	512	1850.2	28	28	0.00%	0.862	0.862	89
	Front side	10	661	1880	28	27.9	2.33%	0.957	0.979	90
	Front side	10	810	1909.8	28	27.6	9.65%	0.997	1.093	91
	Back side	10	512	1850.2	28	28	0.00%	0.973	0.973	92
	Back side	10	661	1880	28	27.9	2.33%	1.11	1.136	93
	Back side	10	810	1909.8	28	27.6	9.65%	1.15	1.261	94
	Back side -with Memory card	10	810	1909.8	28	27.6	9.65%	1.13	1.239	95
	Back side -with headset (MH410C)	10	810	1909.8	28	27.6	9.65%	1.19	1.305	96
	Back side -with headset (MH410C)*	10	810	1909.8	28	27.6	9.65%	1.06	1.162	98
	Bottom side	10	512	1850.2	28	28	0.00%	0.8	0.800	99
	Bottom side	10	661	1880	28	27.9	2.33%	0.93	0.952	100
	Bottom side	10	810	1909.8	28	27.6	9.65%	1.04	1.140	101
	Right side	10	661	1880	28	27.9	2.33%	0.27	0.276	102
Left side	10	661	1880	28	27.9	2.33%	0.324	0.332	103	

\* - repeated at the highest SAR measurement according to the FCC KDB 865664

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- # Using KDB941225 D03v01 and KDB941225 D04v01 to exclude SAR test requirements for EDGE modes due to the source-based time-averaged output power for EDGE mode is lower than that in the GPRS mode.
- # According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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**WLAN802.11 b**

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	1	2412	15	14.97	0.69%	0.834	0.840	104
	RE Cheek*	-	1	2412	15	14.97	0.69%	0.796	0.802	106
	RE Cheek -with Memory card	-	1	2412	15	14.97	0.69%	0.692	0.697	107
	RE Cheek	-	6	2437	15	14.99	0.23%	0.769	0.771	108
	RE Cheek	-	11	2462	15	14.95	1.16%	0.757	0.766	109
	RE Tilt	-	6	2437	15	14.99	0.23%	0.626	0.627	110
	LE Cheek	-	6	2437	15	14.99	0.23%	0.392	0.393	111
	LE Tilt	-	6	2437	15	14.99	0.23%	0.371	0.372	112
Hotspot	Front side	10	6	2437	15	14.99	0.23%	0.116	0.116	113
	Back side	10	1	2412	15	14.97	0.69%	0.159	0.160	114
	Back side	10	6	2437	15	14.99	0.23%	0.142	0.142	115
	Back side	10	11	2462	15	14.95	1.16%	0.158	0.160	116
	Top side	10	6	2437	15	14.99	0.23%	0.1	0.100	117
	Left side	10	6	2437	15	14.99	0.23%	0.079	0.079	118

\* - repeated at the highest SAR measurement according to the FCC KDB 865664

- # Using KDB248227 D01v01-SAR is not required for 802.11 g/HT20 channels when the maximum average output power is higher than that measured on the corresponding 802.11b channels but increase less than 1/4 dB.
- # According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### WLAN802.11 a 5.2G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	40	5200	13	12.89	2.57%	0.135	0.138	119
	RE Tilt	-	40	5200	13	12.89	2.57%	0.191	0.196	120
	RE Tilt	-	44	5220	13	12.88	2.80%	0.19	0.195	121
	LE Cheek	-	40	5200	13	12.89	2.57%	0.128	0.131	122
	LE Tilt	-	40	5200	13	12.89	2.57%	0.186	0.191	123
Hotspot	Front side	10	40	5200	13	12.89	2.57%	0.03	0.031	124
	Back side	10	40	5200	13	12.89	2.57%	0.09	0.092	125
	Back side	10	44	5220	13	12.88	2.80%	0.022	0.023	126
	Top side	10	40	5200	13	12.89	2.57%	0.072	0.074	127
	Left side	10	40	5200	13	12.89	2.57%	0.025	0.026	128

- # As per KDB248227 D01v01, when SAR at default channel where maximum power occurs is less than 0.8W/kg, SAR tests on other default channel is option.
- # As per KDB248227 D01v01, when the maximum average output channel in each frequency band is not include in the "default test channels", the maximum channel should be tested instead of an adjacent "default test channels".

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### WLAN802.11 n (20M) 5.2G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	48	5240	13	12.88	2.80%	0.228	0.234	129
	RE Tilt	-	48	5240	13	12.88	2.80%	0.238	0.245	130
	LE Cheek	-	48	5240	13	12.88	2.80%	0.189	0.194	131
	LE Tilt	-	36	5180	13	12.85	3.51%	0.205	0.212	132
	LE Tilt	-	48	5240	13	12.88	2.80%	0.256	0.263	133
Hotspot	Front side	10	48	5240	13	12.88	2.80%	0.037	0.038	134
	Back side	10	48	5240	13	12.88	2.80%	0.068	0.070	135
	Top side	10	36	5180	13	12.85	3.51%	0.073	0.076	136
	Top side	10	48	5240	13	12.88	2.80%	0.094	0.097	137
	Left side	10	48	5240	13	12.88	2.80%	0.045	0.046	138

# According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### WLAN802.11 n (40M) 5.2G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	38	5190	12	11.81	4.47%	0.137	0.143	139
	RE Tilt	-	38	5190	12	11.81	4.47%	0.19	0.198	140
	LE Cheek	-	38	5190	12	11.81	4.47%	0.133	0.139	141
	LE Tilt	-	38	5190	12	11.81	4.47%	0.196	0.205	142
	LE Tilt	-	46	5230	12	11.81	4.47%	0.093	0.097	143
Hotspot	Front side	10	38	5190	12	11.81	4.47%	0.02	0.021	144
	Back side	10	38	5190	12	11.81	4.47%	0.07	0.073	145
	Back side	10	46	5230	12	11.81	4.47%	0.036	0.038	146
	Top side	10	38	5190	12	11.81	4.47%	0.066	0.069	147
	Left side	10	38	5190	12	11.81	4.47%	0.03	0.031	148

# According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### WLAN802.11 a 5.3G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	56	5280	13	12.87	3.04%	0.243	0.250	149
	RE Tilt	-	56	5280	13	12.87	3.04%	0.305	0.314	150
	RE Tilt	-	64	5320	13	12.84	3.75%	0.312	0.324	151
	LE Cheek	-	56	5280	13	12.87	3.04%	0.22	0.227	152
	LE Tilt	-	56	5280	13	12.87	3.04%	0.189	0.195	153
Hotspot	Front side	10	56	5280	13	12.87	3.04%	0.03	0.031	154
	Back side	10	56	5280	13	12.87	3.04%	0.128	0.132	155
	Top side	10	56	5280	13	12.87	3.04%	0.13	0.134	156
	Top side	10	64	5320	13	12.84	3.75%	0.176	0.183	157
	Left side	10	56	5280	13	12.87	3.04%	0.043	0.044	158

- # As per KDB248227 D01v01, when SAR at default channel where maximum power occurs is less than 0.8W/kg, SAR tests on other default channel is option.
- # As per KDB248227 D01v01, when the maximum average output channel in each frequency band is not include in the "default test channels", the maximum channel should be tested instead of an adjacent "default test channels".

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**WLAN802.11 n (20M) 5.3G**

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	64	5320	13	12.94	1.39%	0.356	0.361	159
	RE Tilt	-	52	5260	13	12.89	2.57%	0.293	0.301	160
	RE Tilt	-	64	5320	13	12.94	1.39%	0.446	0.452	161
	LE Cheek	-	64	5320	13	12.94	1.39%	0.317	0.321	162
	LE Tilt	-	64	5320	13	12.94	1.39%	0.404	0.410	163
Hotspot	Front side	10	64	5320	13	12.94	1.39%	0.042	0.043	164
	Back side	10	52	5260	13	12.89	2.57%	0.125	0.128	165
	Back side	10	64	5320	13	12.94	1.39%	0.212	0.215	166
	Top side	10	64	5320	13	12.94	1.39%	0.19	0.193	167
	Left side	10	64	5320	13	12.94	1.39%	0.082	0.083	168

# According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### WLAN802.11 n (40M) 5.3G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	62	5310	12	11.93	1.62%	0.137	0.139	169
	RE Tilt	-	54	5270	12	11.9	2.33%	0.142	0.145	170
	RE Tilt	-	62	5310	12	11.93	1.62%	0.178	0.181	171
	LE Cheek	-	62	5310	12	11.93	1.62%	0.109	0.111	172
	LE Tilt	-	62	5310	12	11.93	1.62%	0.159	0.162	173
Hotspot	Front side	10	62	5310	12	11.93	1.62%	0.029	0.029	174
	Back side	10	54	5270	12	11.9	2.33%	0.043	0.044	175
	Back side	10	62	5310	12	11.93	1.62%	0.077	0.078	176
	Top side	10	62	5310	12	11.93	1.62%	0.065	0.066	177
	Left side	10	62	5310	12	11.93	1.62%	0.028	0.028	178

# According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### WLAN802.11 a 5.5G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	128	5640	13	12.97	0.69%	0.308	0.310	179
	RE Tilt	-	100	5500	13	12.93	1.62%	0.431	0.438	180
	RE Tilt	-	116	5580	13	12.96	0.93%	0.469	0.473	181
	RE Tilt	-	128	5640	13	12.97	0.69%	0.374	0.377	182
	RE Tilt	-	140	5700	13	12.96	0.93%	0.362	0.365	183
	LE Cheek	-	128	5640	13	12.97	0.69%	0.367	0.370	184
	LE Tilt	-	128	5640	13	12.97	0.69%	0.368	0.371	185
Hotspot	Front side	10	128	5640	13	12.97	0.69%	0.053	0.053	186
	Back side	10	100	5500	13	12.93	1.62%	0.187	0.190	187
	Back side	10	116	5580	13	12.96	0.93%	0.191	0.193	188
	Back side	10	128	5640	13	12.97	0.69%	0.192	0.193	189
	Back side	10	140	5700	13	12.96	0.93%	0.181	0.183	190
	Top side	10	128	5640	13	12.97	0.69%	0.135	0.136	191
	Left side	10	128	5640	13	12.97	0.69%	0.069	0.069	192

- # As per KDB248227 D01v01, when SAR at default channel where maximum power occurs is less than 0.4W/kg, SAR tests on other default channel is option.
- # As per KDB248227 D01v01, when the maximum average output channel in each frequency band is not include in the "default test channels", the maximum channel should be tested instead of an adjacent "default test channels".

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### WLAN802.11 n (20M) 5.5G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	100	5500	13	12.95	1.16%	0.495	0.501	193
	RE Cheek	-	116	5580	13	12.96	0.93%	0.399	0.403	194
	RE Cheek	-	140	5700	13	12.97	0.69%	0.445	0.448	195
	RE Tilt	-	100	5500	13	12.95	1.16%	0.651	0.659	196
	RE Tilt	-	116	5580	13	12.96	0.93%	0.485	0.489	197
	RE Tilt	-	140	5700	13	12.97	0.69%	0.514	0.518	198
	LE Cheek	-	140	5700	13	12.97	0.69%	0.396	0.399	199
	LE Tilt	-	100	5500	13	12.95	1.16%	0.562	0.569	200
	LE Tilt	-	116	5580	13	12.96	0.93%	0.543	0.548	201
	LE Tilt	-	140	5700	13	12.97	0.69%	0.403	0.406	202
Hotspot	Front side	10	140	5700	13	12.97	0.69%	0.033	0.033	203
	Back side	10	100	5500	13	12.95	1.16%	0.195	0.197	204
	Back side	10	116	5580	13	12.96	0.93%	0.23	0.232	205
	Back side	10	140	5700	13	12.97	0.69%	0.164	0.165	206
	Back side -with Memory card	10	116	5580	13	12.96	0.93%	0.187	0.189	207
	Back side -with headset (MH410C)	10	116	5580	13	12.96	0.93%	0.15	0.151	208
	Top side	10	140	5700	13	12.97	0.69%	0.113	0.114	209
	Left side	10	140	5700	13	12.97	0.69%	0.068	0.068	210

# As per KDB447498 D01v05, while the 1g/SAR at the channel of highest output power is less than 0.4 W/kg, where the transmission band corresponding to all channels is  $\leq 200$  MHz, testing for the other channels is not required

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**WLAN802.11 n (40M) 5.5G**

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	118	5590	12	11.97	0.69%	0.234	0.236	211
	RE Tilt	-	102	5510	12	11.77	5.44%	0.502	0.529	212
	RE Tilt	-	118	5590	12	11.97	0.69%	0.29	0.292	213
	RE Tilt	-	134	5670	12	11.9	2.33%	0.285	0.292	214
	LE Cheek	-	118	5590	12	11.97	0.69%	0.182	0.183	215
	LE Tilt	-	118	5590	12	11.97	0.69%	0.229	0.231	216
Hotspot	Front side	10	118	5590	12	11.97	0.69%	0.00479	0.005	217
	Back side	10	102	5510	12	11.77	5.44%	0.175	0.185	218
	Back side	10	118	5590	12	11.97	0.69%	0.105	0.106	219
	Back side	10	134	5670	12	11.9	2.33%	0.09	0.092	220
	Top side	10	118	5590	12	11.97	0.69%	0.066	0.066	221
	Left side	10	118	5590	12	11.97	0.69%	0.026	0.026	222

# As per KDB447498 D01v05, while the 1g/SAR at the channel of highest output power is less than 0.4 W/kg, where the transmission band corresponding to all channels is  $\leq 200$  MHz, testing for the other channels is not required

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### WLAN802.11 a 5.8G

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	149	5745	13	12.83	3.99%	0.325	0.338	223
	RE Tilt	-	149	5745	13	12.83	3.99%	0.376	0.391	224
	LE Cheek	-	149	5745	13	12.83	3.99%	0.438	0.455	225
	LE Tilt	-	149	5745	13	12.83	3.99%	0.467	0.486	226
	LE Tilt	-	153	5765	13	12.81	4.47%	0.442	0.462	227
	LE Tilt	-	161	5805	13	12.73	6.41%	0.349	0.371	228
Hotspot	Front side	10	149	5745	13	12.83	3.99%	0.046	0.048	229
	Back side	10	149	5745	13	12.83	3.99%	0.143	0.149	230
	Back side	10	153	5765	13	12.81	4.47%	0.13	0.136	231
	Back side	10	161	5805	13	12.73	6.41%	0.087	0.093	232
	Top side	10	149	5745	13	12.83	3.99%	0.076	0.079	233
	Left side	10	149	5745	13	12.83	3.99%	0.048	0.050	234

- # As per KDB248227 D01v01, when SAR at default channel where maximum power occurs is less than 0.8W/kg, SAR tests on other default channel is option.
- # As per KDB248227 D01v01, when the maximum average output channel in each frequency band is not include in the "default test channels", the maximum channel should be tested instead of an adjacent "default test channels".

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**WLAN802.11 n (20M) 5.8G**

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	165	5825	13	12.97	0.69%	0.34	0.342	235
	RE Tilt	-	149	5745	13	12.94	1.39%	0.453	0.459	236
	RE Tilt	-	157	5785	13	12.88	2.80%	0.361	0.371	237
	RE Tilt	-	165	5825	13	12.97	0.69%	0.376	0.379	238
	LE Cheek	-	165	5825	13	12.97	0.69%	0.289	0.291	239
	LE Tilt	-	165	5825	13	12.97	0.69%	0.311	0.313	240
Hotspot	Front side	10	165	5825	13	12.97	0.69%	0.043	0.043	241
	Back side	10	149	5745	13	12.94	1.39%	0.162	0.164	242
	Back side	10	157	5785	13	12.88	2.80%	0.124	0.127	243
	Back side	10	165	5825	13	12.97	0.69%	0.102	0.103	244
	Top side	10	165	5825	13	12.97	0.69%	0.055	0.055	245
	Left side	10	165	5825	13	12.97	0.69%	0.044	0.044	246

# According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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**WLAN802.11 n (40M) 5.8G**

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
								Measured	Reported	
Head	RE Cheek	-	151	5755	12	11.96	0.93%	0.274	0.277	247
	RE Tilt	-	151	5755	12	11.96	0.93%	0.333	0.336	248
	RE Tilt	-	159	5795	12	11.96	0.93%	0.262	0.264	249
	LE Cheek	-	151	5755	12	11.96	0.93%	0.296	0.299	250
	LE Tilt	-	151	5755	12	11.96	0.93%	0.297	0.300	251
Hotspot	Front side	10	151	5755	12	11.96	0.93%	0.02	0.020	252
	Back side	10	151	5755	12	11.96	0.93%	0.098	0.099	253
	Back side	10	159	5795	12	11.96	0.93%	0.075	0.076	254
	Top side	10	151	5755	12	11.96	0.93%	0.078	0.079	255
	Left side	10	151	5755	12	11.96	0.93%	0.048	0.048	256

# According to KDB447498 D01v05 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

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### 3. Simultaneous Transmission Analysis

#### Simultaneous Transmission Scenarios

Simultaneous Transmit Configurations	Head	Hot Spot
GSM850/1900 Voice + 2.4GHz Wi-Fi	Yes	No
GSM850/1900 Voice + 5GHz Wi-Fi	Yes	No
GPRS850/1900 Data + 2.4GHz Wi-Fi	No	Yes
GPRS850/1900 Data + 5GHz Wi-Fi	No	Yes
GSM850/1900 Data + 2.4GHz Bluetooth	No	Yes

Notes:

Bluetooth, 5GHz WiFi, and 2.4GHz WiFi share the same antenna path and cannot transmit simultaneously

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### Simultaneous Transmission Combination

reported SAR WWAN and WLAN DTS 2.4GHz, ΣSAR evaluation							
Frequency band	Position		reported SAR / W/kg		ΣSAR <1.6W/kg	Calculated distance (mm)	SPLSR (≤0.04)
			WWAN	WLAN			
GSM 850	Head	Right cheek	0.371	0.840	1.210	-	-
		Right tilt	0.267	0.627	0.894	-	-
		Left cheek	0.342	0.393	0.735	-	-
		Left tilt	0.262	0.372	0.634	-	-
GPRS 850 (1Dn4UP)	Hotspot	Front	0.542	0.116	0.659	-	-
		Back	0.803	0.160	0.963	-	-
		Top	-	0.100	-	-	-
		Bottom	0.059	-	-	-	-
		Right	0.474	-	-	-	-
		Left	0.455	0.079	0.535	-	-
GSM 1900	Head	Right cheek	0.592	0.840	1.431	-	-
		Right tilt	0.129	0.627	0.757	-	-
		Left cheek	0.522	0.393	0.915	-	-
		Left tilt	0.143	0.372	0.514	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Front	1.093	0.116	1.209	-	-
		Back	1.305	0.160	1.465	-	-
		Top	-	0.100	-	-	-
		Bottom	1.140	-	-	-	-
		Right	0.276	-	-	-	-
		Left	0.332	0.079	0.411	-	-

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reported SAR WWAN and WLAN DTS 5.8 GHz, $\Sigma$ SAR evaluation							
Frequency band	Position		reported SAR / W/kg		$\Sigma$ SAR	Calculated distance (mm)	SPLSR ( $\leq 0.04$ )
			WWAN	WLAN	<1.6W/kg		
GSM 850	Head	Right cheek	0.371	0.342	0.713	-	-
		Right tilt	0.267	0.459	0.726	-	-
		Left cheek	0.342	0.455	0.798	-	-
		Left tilt	0.262	0.486	0.747	-	-
GPRS 850 (1Dn4UP)	Hotspot	Front	0.542	0.048	0.590	-	-
		Back	0.803	0.164	0.967	-	-
		Top	-	0.079	-	-	-
		Bottom	0.059	-	-	-	-
		Right	0.474	-	-	-	-
		Left	0.455	0.050	0.505	-	-
GSM 1900	Head	Right cheek	0.592	0.342	0.934	-	-
		Right tilt	0.129	0.459	0.589	-	-
		Left cheek	0.522	0.455	0.977	-	-
		Left tilt	0.143	0.486	0.628	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Front	1.093	0.048	1.141	-	-
		Back	1.305	0.164	1.469	-	-
		Top	-	0.079	-	-	-
		Bottom	1.140	-	-	-	-
		Right	0.276	-	-	-	-
		Left	0.332	0.050	0.381	-	-

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reported SAR WWAN and WLAN UNII 5GHz, ΣSAR evaluation							
Frequency band	Position		reported SAR / W/kg		ΣSAR	Calculated distance (mm)	SPLSR (≤0.04)
			WWAN	WLAN	< 1.6W/kg		
GSM 850	Head	Right cheek	0.371	0.501	0.872	-	-
		Right tilt	0.267	0.659	0.926	-	-
		Left cheek	0.342	0.399	0.741	-	-
		Left tilt	0.262	0.569	0.830	-	-
GPRS 850 (1Dn4UP)	Hotspot	Front	0.542	0.053	0.595	-	-
		Back	0.803	0.232	1.035	-	-
		Top	-	0.193	-	-	-
		Bottom	0.059	-	-	-	-
		Right	0.474	-	-	-	-
		Left	0.455	0.083	0.539	-	-
GSM 1900	Head	Right cheek	0.592	0.501	1.093	-	-
		Right tilt	0.129	0.659	0.788	-	-
		Left cheek	0.522	0.399	0.921	-	-
		Left tilt	0.143	0.569	0.711	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Front	1.093	0.053	1.146	-	-
		Back	1.305	0.232	1.537	-	-
		Top	-	0.193	-	-	-
		Bottom	1.140	-	-	-	-
		Right	0.276	-	-	-	-
		Left	0.332	0.083	0.415	-	-

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reported SAR WWAN and Bluetooth, $\Sigma$ SAR evaluation							
Frequency band	Position		reported SAR / W/kg		$\Sigma$ SAR <1.6W/kg	Calculated distance (mm)	SPLSR ( $\leq 0.04$ )
			WWAN	Bluetooth			
GPRS 850 (1Dn4UP)	Hotspot	Front	0.542	0.184	0.726	-	-
		Back	0.803	0.184	0.987	-	-
		Top	-	0.184	-	-	-
		Bottom	0.059	-	-	-	-
		Right	0.474	-	-	-	-
		Left	0.455	0.184	0.639	-	-
GPRS 1900 (1Dn4UP)	Hotspot	Front	1.093	0.184	1.277	-	-
		Back	1.305	0.184	1.489	-	-
		Top	-	0.184	-	-	-
		Bottom	1.140	-	-	-	-
		Right	0.276	-	-	-	-
		Left	0.332	0.184	0.516	-	-

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## 4. Instruments List

Device	Manufacturer	Type	Serial number	Date of last calibration	Date of next calibration
Dosimetric E-Field Probe	Schmid & Partner Engineering AG	ES3DV3	3071	Jun.22,2012	Jun.21,2013
		EX3DV4	3820	Dec.10,2012	Dec.09,2013
835/1900/2450/5200/5500/5800 MHz System Validation Dipole	Schmid & Partner Engineering AG	D835V2	4d063	May25,2012	May24,2013
		D1900V2	5d018	Jun.21,2012	Jun.20,2013
		D2450V2	869	Jun.15,2012	Jun.14,2013
		D5GHzV2	1040	Jun.19,2012	Jun.18,2013
Data acquisition Electronics	Schmid & Partner Engineering AG	DAE4	856	May30,2012	May29,2013
Software	Schmid & Partner Engineering AG	DASY 52 V52.8	N/A	Calibration not required	Calibration not required
Phantom	Schmid & Partner Engineering AG	SAM	N/A	Calibration not required	Calibration not required
Network Analyzer	Agilent	E5071C	MY46107530	Feb.22,2013	Feb.21,2014
Dielectric Probe Kit	Agilent	85070E	MY44300677	Calibration not required	Calibration not required
		772D	MY46151242	Jul.05,2012	Jul.04,2013
Dual-directional coupler	Agilent	778D	MY48220468	Mar.29,2013	Mar.28,2014
		N5181A	MY50141235	Dec.12,2010	Dec.11,2013
RF Signal Generator	Agilent	N5181A	MY50141235	Dec.12,2010	Dec.11,2013
Power Meter	Agilent	E4417A	MY51410006	Oct.24,2011	Oct.23,2013
Power Sensor	Agilent	E9301H	MY51470002	Nov.22,2012	Nov.21,2013
Radio Communication Test	Agilent	E5515C	GB44051912	Jul.25,2012	Jul.24,2014
TECPEL	Digital thermometer	DTM-303A	TP130074	Mar.04,2013	Mar.03,2014
Power Meter	Anritsu	MA2411B	917032	Feb.08,2012	Feb.07,2014
Power Sensor	Anritsu	ML2495A	1005007	Feb.08,2012	Feb.07,2014
Spectrum Analyzer	Agilent	E4446A	MY51100003	Apr.15,2013	Apr.14,2014
Spectrum Analyzer	Agilent	E4440A	MY45304525	Mar.15,2013	Mar.14,2014

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## 5. Measurements

Date: 5/3/2013

### RE Cheek\_CH128

Communication System: GSM; Frequency: 824.2 MHz

Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.869$  S/m;  $\epsilon_r = 42.592$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.360 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

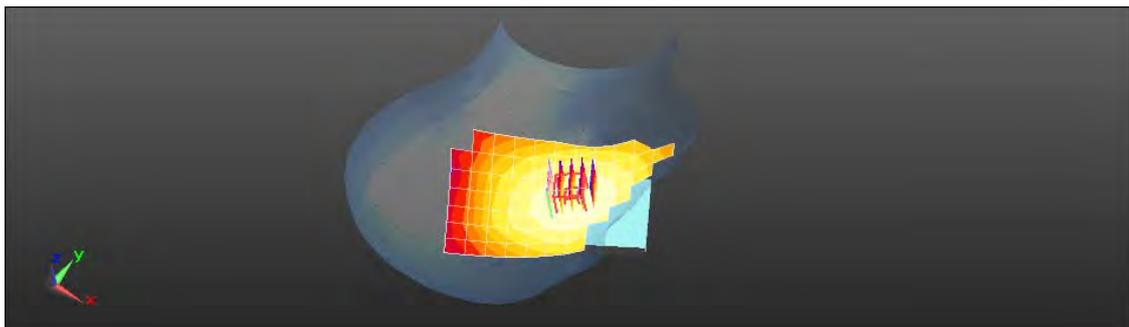
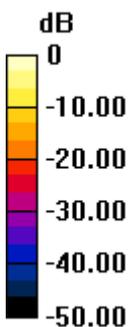
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.032 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.419 W/kg

**SAR(1 g) = 0.336 W/kg; SAR(10 g) = 0.255 W/kg**

Maximum value of SAR (measured) = 0.361 W/kg



0 dB = 0.360 W/kg = -4.44 dBW/kg

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Date: 5/3/2013

## RE Cheek\_CH190

Communication System: GSM; Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 42.44$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.378 W/kg

## Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

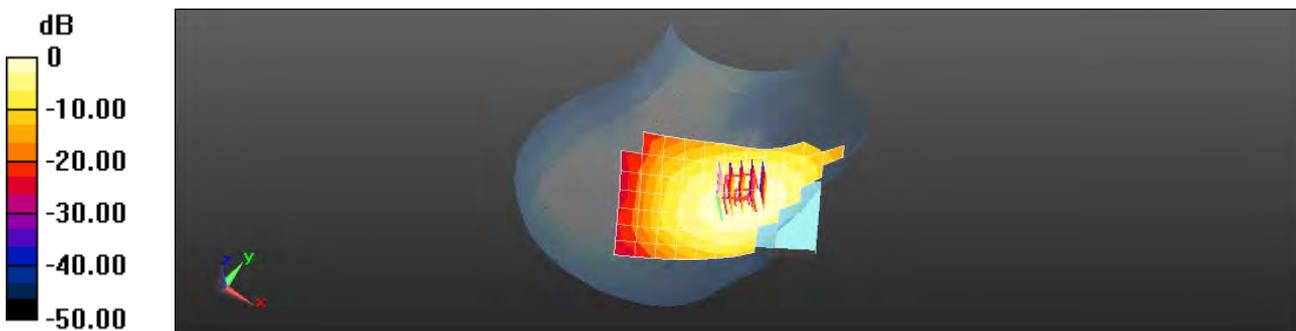
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.500 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.436 W/kg

**SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.264 W/kg**

Maximum value of SAR (measured) = 0.375 W/kg



0 dB = 0.378 W/kg = -4.23 dBW/kg

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Date: 5/3/2013

## RE Cheek\_CH251

Communication System: GSM; Frequency: 848.8 MHz

Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.893$  S/m;  $\epsilon_r = 42.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.382 W/kg

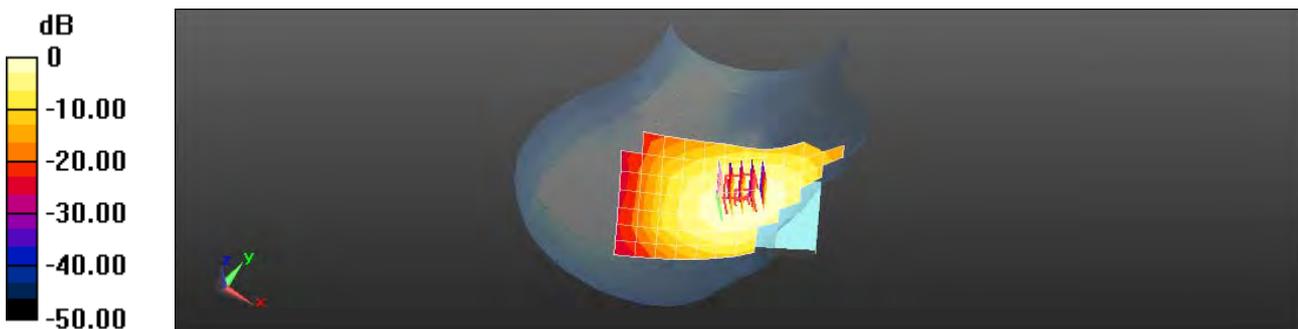
## Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.246 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.447 W/kg

**SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.266 W/kg**



0 dB = 0.382 W/kg = -4.18 dBW/kg

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Date: 5/3/2013

## RE Tilt\_CH190

Communication System: GSM; Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 42.44$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.270 W/kg

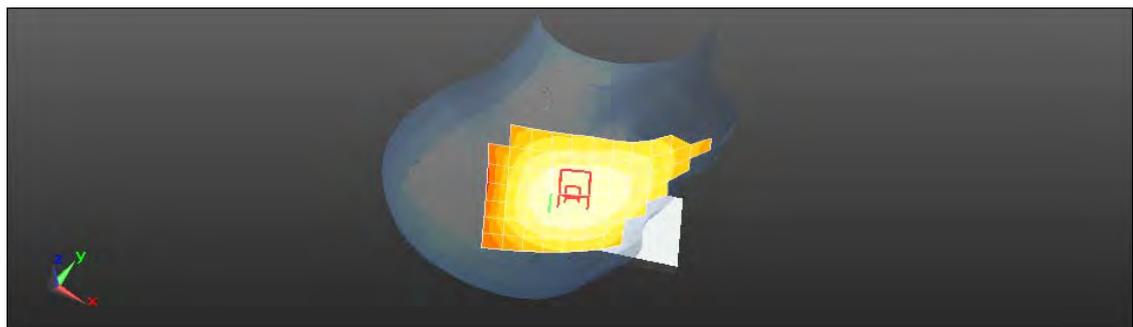
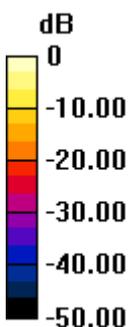
**Configuration/RE Tilt/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.441 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.315 W/kg

**SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.194 W/kg**

Maximum value of SAR (measured) = 0.275 W/kg



0 dB = 0.270 W/kg = -5.69 dBW/kg

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Date: 5/3/2013

## LE Cheek\_CH190

Communication System: GSM; Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 42.44$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.355 W/kg

## Configuration/LE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

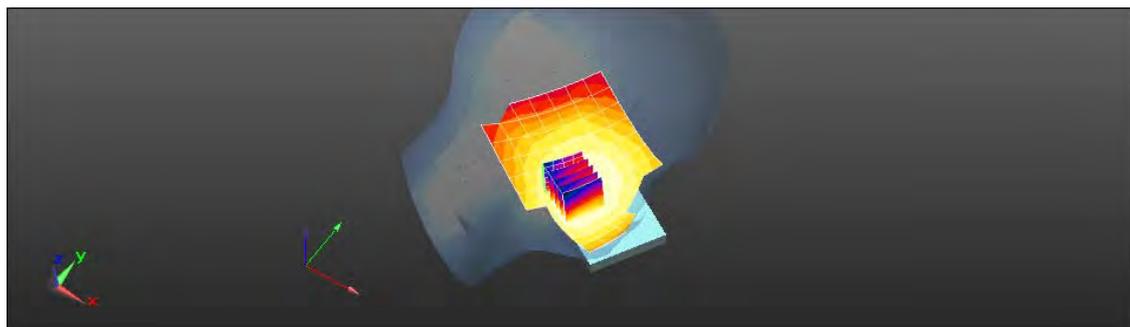
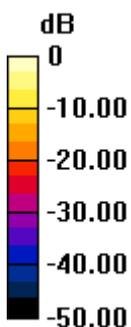
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.286 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.429 W/kg

**SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 0.352 W/kg



0 dB = 0.355 W/kg = -4.49 dBW/kg

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Date: 5/3/2013

## LE Tilt\_CH190

Communication System: GSM; Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 42.44$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.270 W/kg

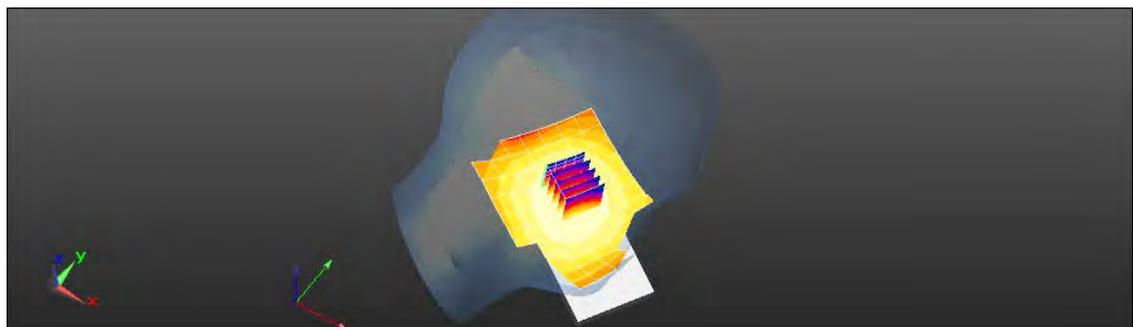
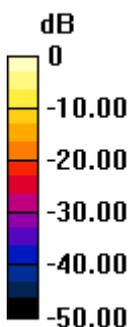
**Configuration/LE Tilt/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.070 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.313 W/kg

**SAR(1 g) = 0.250 W/kg; SAR(10 g) = 0.188 W/kg**

Maximum value of SAR (measured) = 0.271 W/kg



0 dB = 0.270 W/kg = -5.69 dBW/kg

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Date: 5/5/2013

### Speech mode\_Front side\_CH190

Communication System: GSM; Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 52.547$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

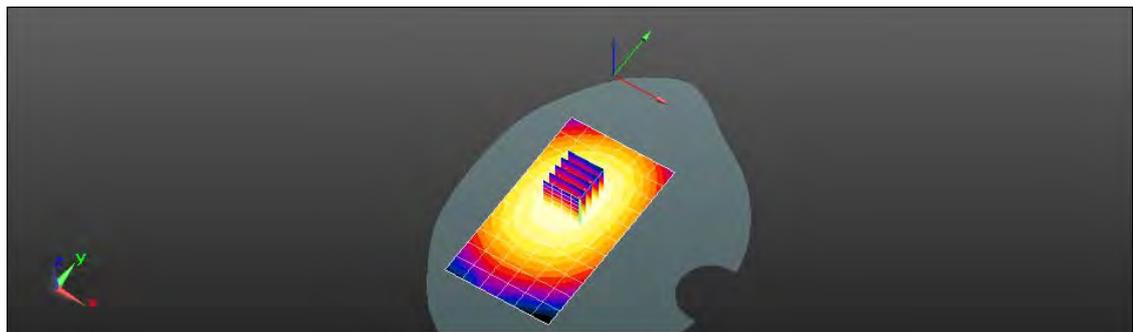
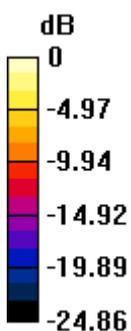
Maximum value of SAR (measured) = 0.329 W/kg

**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.355 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.365 W/kg

**SAR(1 g) = 0.285 W/kg; SAR(10 g) = 0.212 W/kg**



0 dB = 0.329 W/kg = -4.83 dBW/kg

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Date: 5/5/2013

### Speech mode\_Back side\_CH190

Communication System: GSM; Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 52.547$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.385 W/kg

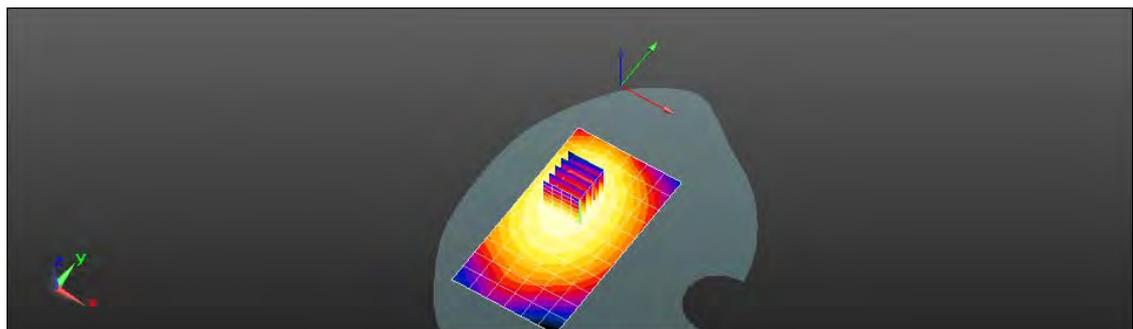
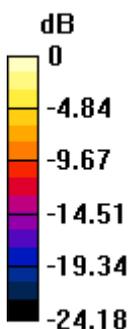
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.639 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.440 W/kg

**SAR(1 g) = 0.337 W/kg; SAR(10 g) = 0.247 W/kg**

Maximum value of SAR (measured) = 0.394 W/kg



0 dB = 0.385 W/kg = -4.15 dBW/kg

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Date: 5/5/2013

### Hotspot\_Front side\_CH190

Communication System: GPRS(Class 12); Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 52.547$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.610 W/kg

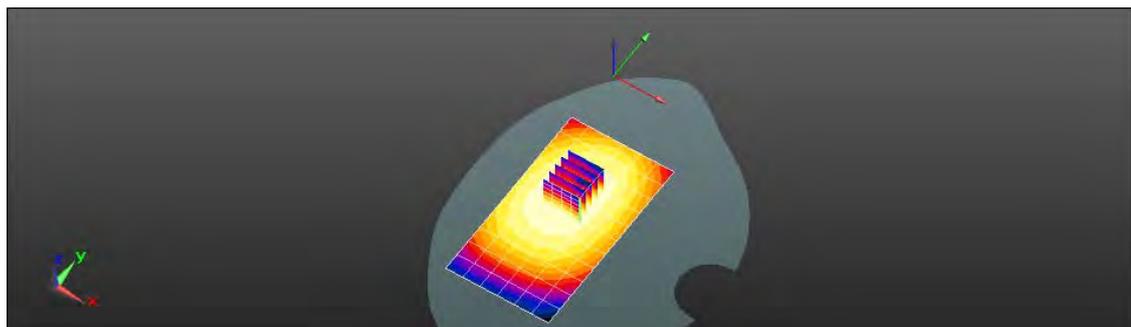
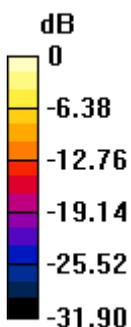
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.251 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.668 W/kg

**SAR(1 g) = 0.530 W/kg; SAR(10 g) = 0.401 W/kg**

Maximum value of SAR (measured) = 0.609 W/kg



0 dB = 0.610 W/kg = -2.14 dBW/kg

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Date: 5/5/2013

## Hotspot\_Back side\_CH128

Communication System: GPRS(Class 12); Frequency: 824.2 MHz

Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.991$  S/m;  $\epsilon_r = 52.67$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.706 W/kg

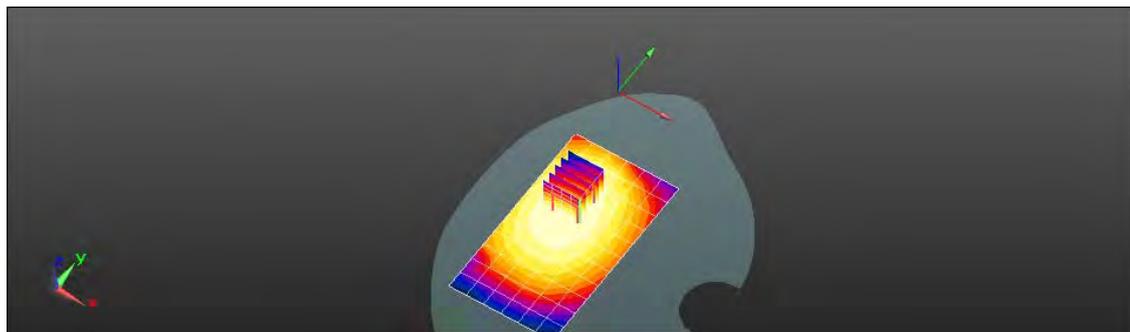
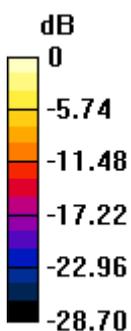
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.747 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.802 W/kg

**SAR(1 g) = 0.615 W/kg; SAR(10 g) = 0.455 W/kg**

Maximum value of SAR (measured) = 0.716 W/kg



0 dB = 0.706 W/kg = -1.51 dBW/kg

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Date: 5/5/2013

### Hotspot\_Back side\_CH190

Communication System: GPRS(Class 12); Frequency: 836.6 MHz

Medium parameters used:  $f = 837 \text{ MHz}$ ;  $\sigma = 1.005 \text{ S/m}$ ;  $\epsilon_r = 52.547$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

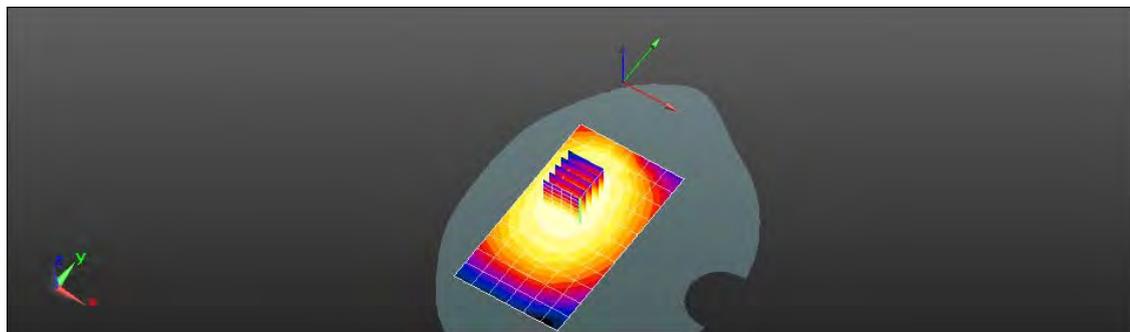
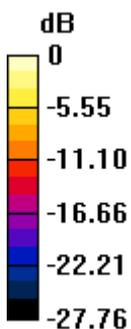
Maximum value of SAR (measured) = 0.815 W/kg

**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 18.058 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.908 W/kg

**SAR(1 g) = 0.699 W/kg; SAR(10 g) = 0.520 W/kg**



0 dB = 0.815 W/kg = -0.89 dBW/kg

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Date: 5/5/2013

### Hotspot\_Back side\_CH251

Communication System: GPRS(Class 12); Frequency: 848.8 MHz

Medium parameters used:  $f = 849$  MHz;  $\sigma = 1.017$  S/m;  $\epsilon_r = 52.432$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.888 W/kg

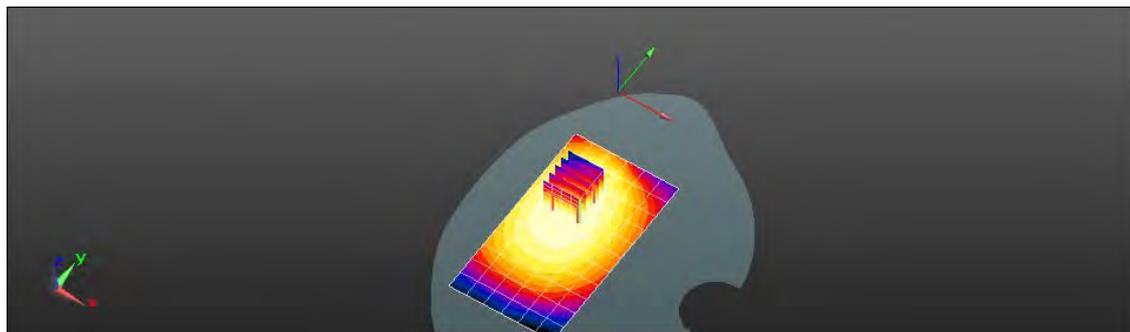
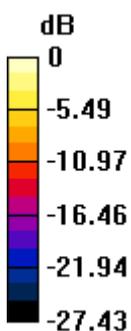
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.899 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.785 W/kg; SAR(10 g) = 0.576 W/kg**

Maximum value of SAR (measured) = 0.915 W/kg



0 dB = 0.888 W/kg = -0.52 dBW/kg

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Date: 5/5/2013

### Hotspot\_Bottom side\_CH190

Communication System: GPRS(Class 12); Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 52.547$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.0735 W/kg

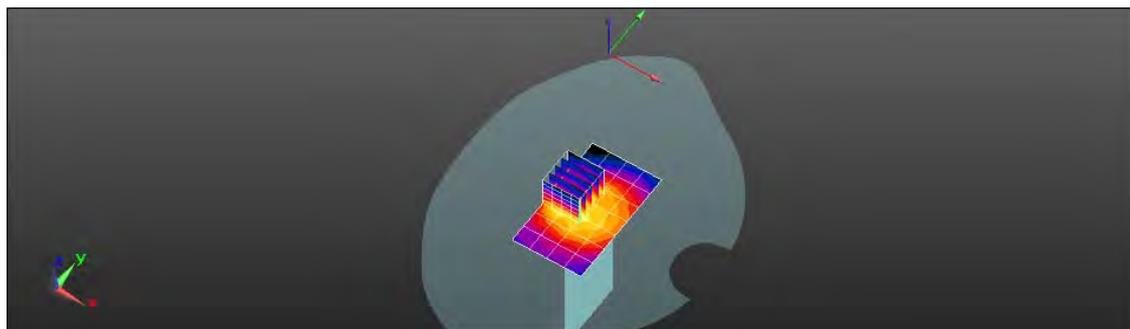
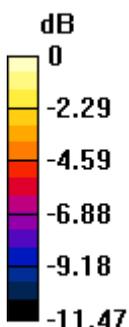
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.420 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.110 W/kg

**SAR(1 g) = 0.058 W/kg; SAR(10 g) = 0.031 W/kg**

Maximum value of SAR (measured) = 0.0833 W/kg



0 dB = 0.0735 W/kg = -11.34 dBW/kg

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Date: 5/5/2013

### Hotspot\_Right side\_CH190

Communication System: GPRS(Class 12); Frequency: 836.6 MHz

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 52.547$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (6x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.564 W/kg

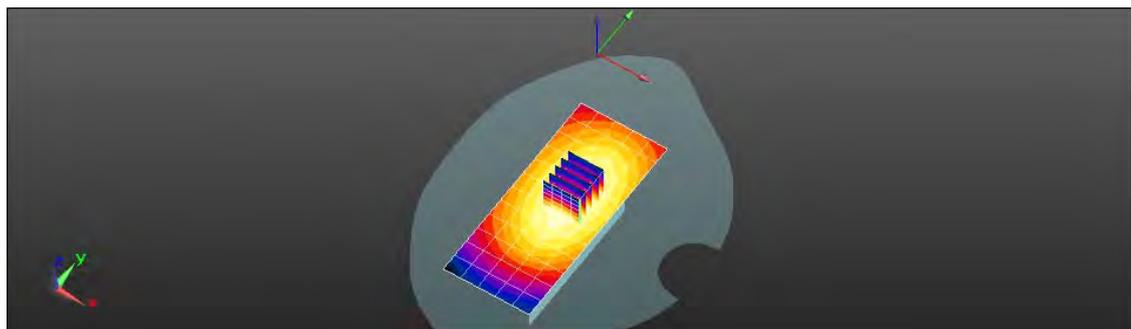
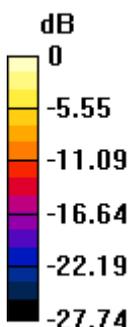
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.386 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.644 W/kg

**SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.321 W/kg**

Maximum value of SAR (measured) = 0.567 W/kg



0 dB = 0.564 W/kg = -2.49 dBW/kg

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Date: 5/5/2013

### Hotspot\_Left side\_CH190

Communication System: GPRS(Class 12); Frequency: 836.6 MHz

Medium parameters used:  $f = 837 \text{ MHz}$ ;  $\sigma = 1.005 \text{ S/m}$ ;  $\epsilon_r = 52.547$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (6x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.530 W/kg

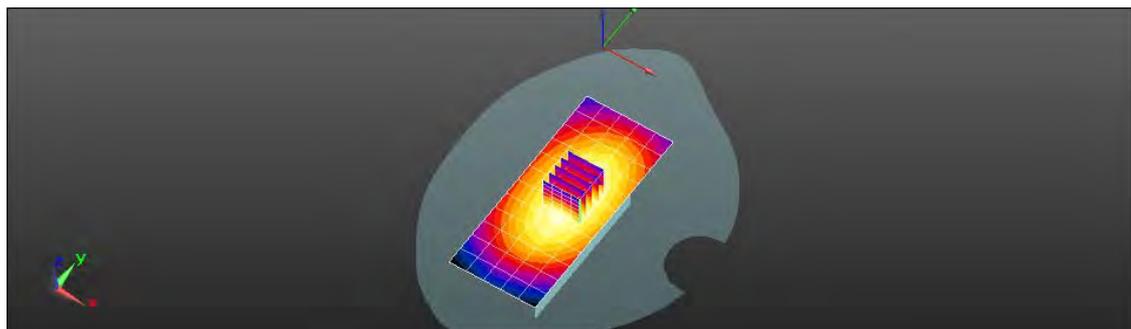
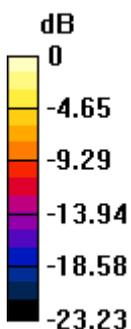
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 22.549 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.623 W/kg

**SAR(1 g) = 0.445 W/kg; SAR(10 g) = 0.302 W/kg**

Maximum value of SAR (measured) = 0.548 W/kg



0 dB = 0.530 W/kg = -2.76 dBW/kg

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Date: 5/7/2013

## RE Cheek\_CH512

Communication System: GSM; Frequency: 1850.2 MHz

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.342$  S/m;  $\epsilon_r = 38.986$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.485 W/kg

## Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

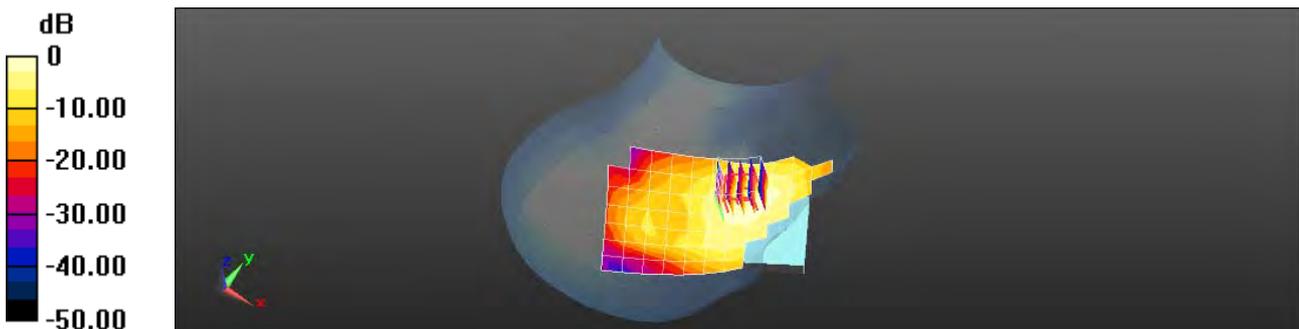
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.001 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.629 W/kg

**SAR(1 g) = 0.419 W/kg; SAR(10 g) = 0.258 W/kg**

Maximum value of SAR (measured) = 0.477 W/kg



0 dB = 0.485 W/kg = -3.14 dBW/kg

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Date: 5/7/2013

## RE Cheek\_CH661

Communication System: GSM; Frequency: 1880 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.372$  S/m;  $\epsilon_r = 38.87$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.607 W/kg

## Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

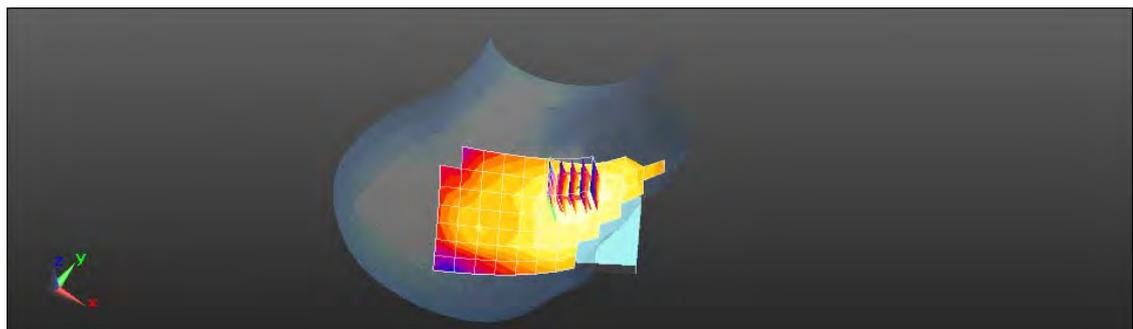
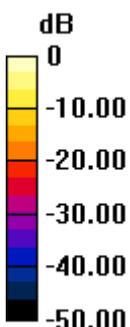
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.930 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.798 W/kg

**SAR(1 g) = 0.534 W/kg; SAR(10 g) = 0.325 W/kg**

Maximum value of SAR (measured) = 0.604 W/kg



0 dB = 0.607 W/kg = -2.17 dBW/kg

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Date: 5/7/2013

## RE Cheek\_CH810

Communication System: GSM; Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.401$  S/m;  $\epsilon_r = 38.77$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.622 W/kg

## Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

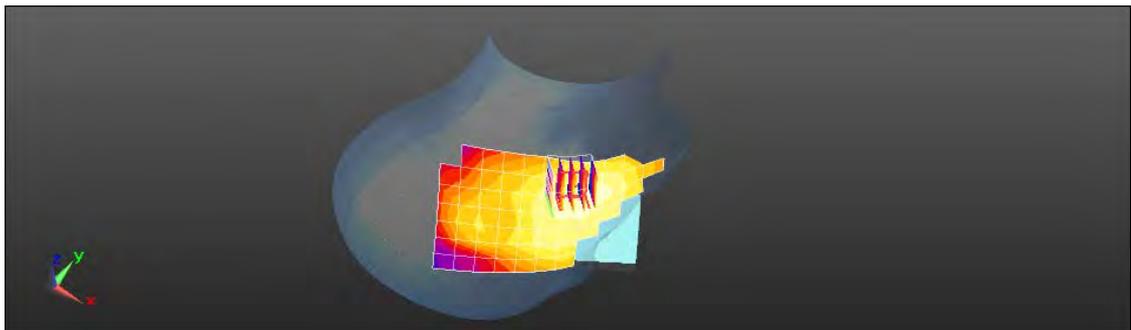
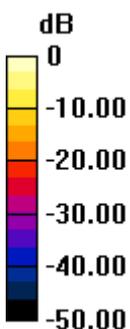
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.967 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.877 W/kg

**SAR(1 g) = 0.565 W/kg; SAR(10 g) = 0.338 W/kg**

Maximum value of SAR (measured) = 0.650 W/kg



0 dB = 0.622 W/kg = -2.06 dBW/kg

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Date: 5/7/2013

### RE Cheek\_CH810\_repeated with external Memory card inside

Communication System: GSM; Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910 \text{ MHz}$ ;  $\sigma = 1.401 \text{ S/m}$ ;  $\epsilon_r = 38.77$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (8x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.598 W/kg

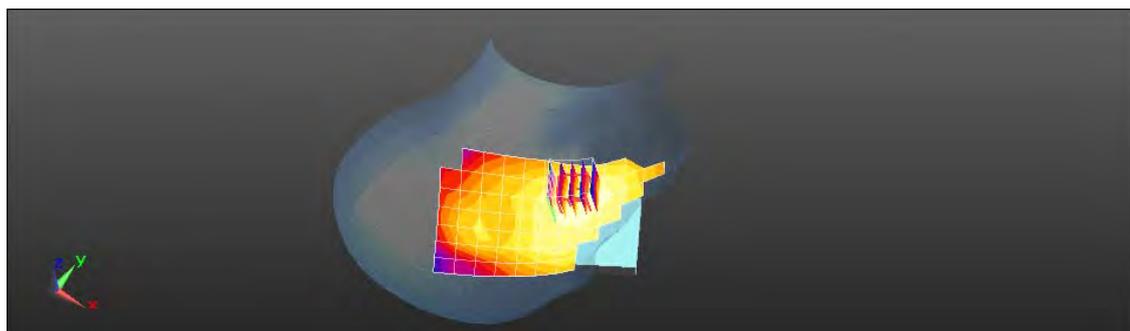
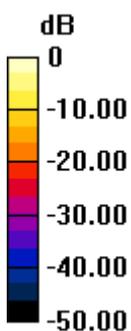
### Configuration/RE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 7.059 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.813 W/kg

**SAR(1 g) = 0.536 W/kg; SAR(10 g) = 0.320 W/kg**



0 dB = 0.598 W/kg = -2.23 dBW/kg

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Date: 5/7/2013

## RE Tilt\_CH661

Communication System: GSM; Frequency: 1880 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.372$  S/m;  $\epsilon_r = 38.87$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.124 W/kg

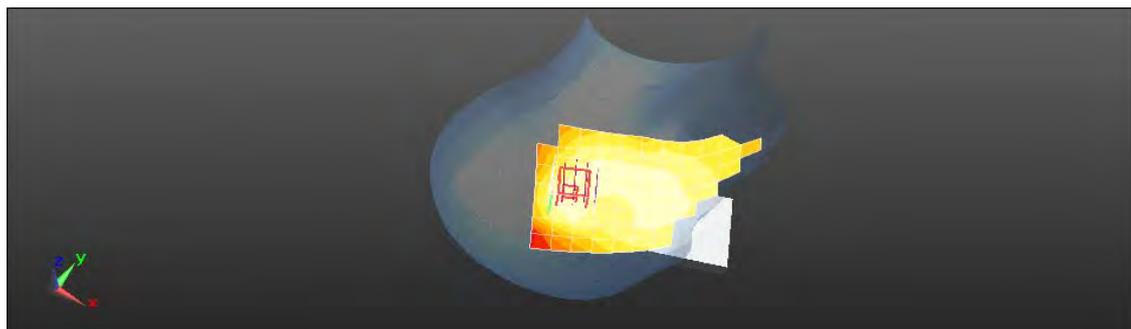
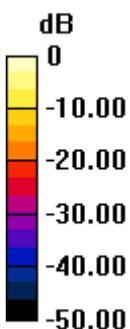
**Configuration/RE Tilt/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.055 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.184 W/kg

**SAR(1 g) = 0.118 W/kg; SAR(10 g) = 0.068 W/kg**

Maximum value of SAR (measured) = 0.136 W/kg



0 dB = 0.124 W/kg = -9.06 dBW/kg

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Date: 5/7/2013

## LE Cheek\_CH661

Communication System: GSM; Frequency: 1880 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.372$  S/m;  $\epsilon_r = 38.87$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (8x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.547 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

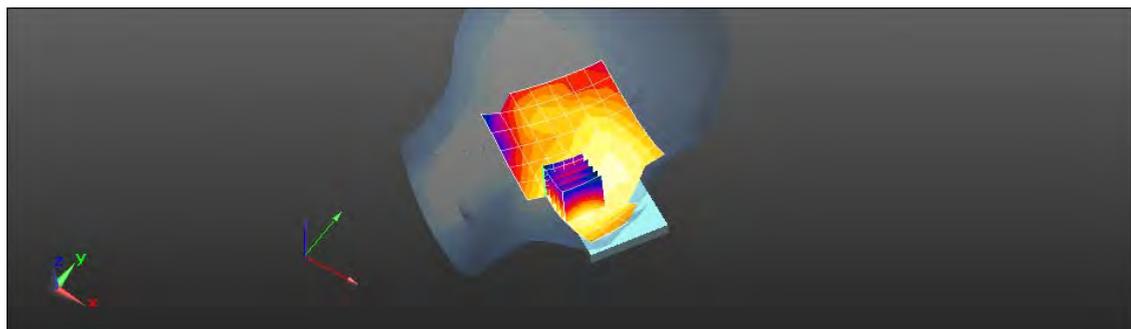
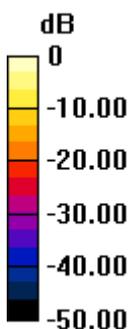
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.455 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.742 W/kg

**SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.285 W/kg**

Maximum value of SAR (measured) = 0.551 W/kg



0 dB = 0.547 W/kg = -2.62 dBW/kg

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Date: 5/7/2013

## LE Tilt\_CH661

Communication System: GSM; Frequency: 1880 MHz

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.372 \text{ S/m}$ ;  $\epsilon_r = 38.87$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (8x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.150 W/kg

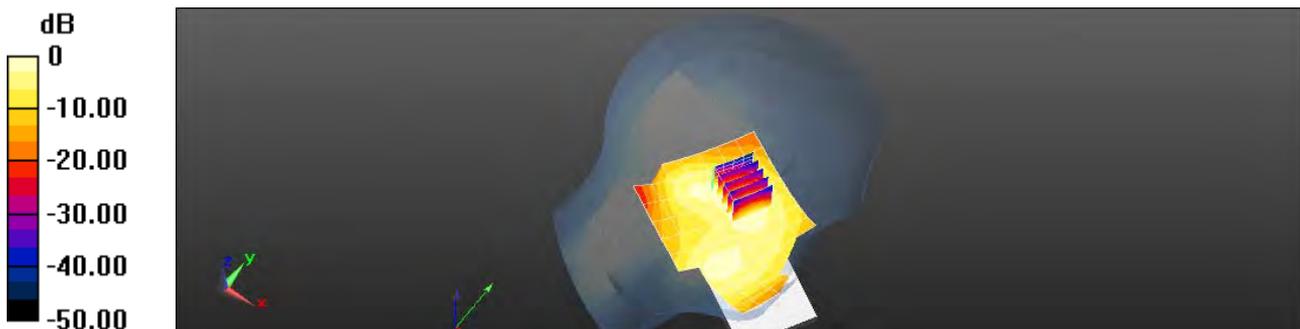
**Configuration/LE Tilt/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 9.616 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.202 W/kg

**SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.080 W/kg**

Maximum value of SAR (measured) = 0.148 W/kg



0 dB = 0.150 W/kg = -8.23 dBW/kg

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Date: 5/7/2013

### Speech mode\_Front side\_CH661

Communication System: GSM; Frequency: 1880 MHz

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.477 \text{ S/m}$ ;  $\epsilon_r = 52.974$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.358 W/kg

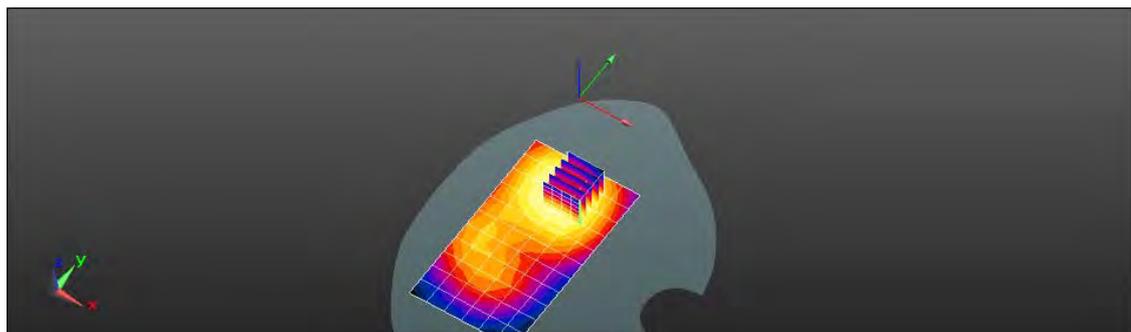
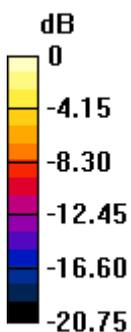
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 5.500 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.441 W/kg

**SAR(1 g) = 0.286 W/kg; SAR(10 g) = 0.182 W/kg**

Maximum value of SAR (measured) = 0.362 W/kg



0 dB = 0.358 W/kg = -4.46 dBW/kg

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Date: 5/7/2013

### Speech mode\_Back side\_CH661

Communication System: GSM; Frequency: 1880 MHz

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.477 \text{ S/m}$ ;  $\epsilon_r = 52.974$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.368 W/kg

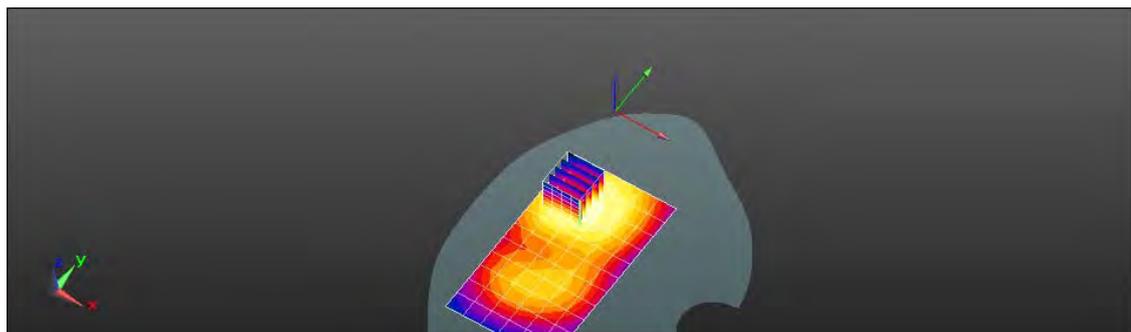
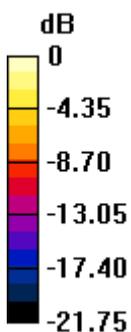
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 6.807 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.455 W/kg

**SAR(1 g) = 0.297 W/kg; SAR(10 g) = 0.187 W/kg**

Maximum value of SAR (measured) = 0.377 W/kg



0 dB = 0.368 W/kg = -4.34 dBW/kg

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Date: 5/7/2013

### Hotspot\_Front side\_CH512

Communication System: GPRS(Class 12); Frequency: 1850.2 MHz

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.445$  S/m;  $\epsilon_r = 53.068$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.07 W/kg

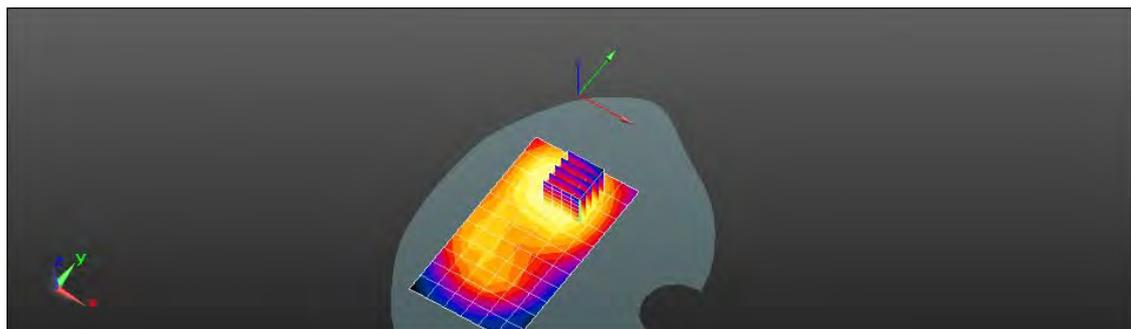
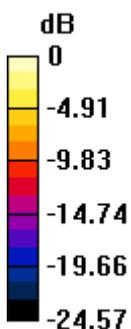
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.725 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.33 W/kg

**SAR(1 g) = 0.862 W/kg; SAR(10 g) = 0.543 W/kg**

Maximum value of SAR (measured) = 1.10 W/kg



0 dB = 1.07 W/kg = 0.29 dBW/kg

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Date: 5/7/2013

### Hotspot\_Front side\_CH661

Communication System: GPRS(Class 12); Frequency: 1880 MHz

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.477 \text{ S/m}$ ;  $\epsilon_r = 52.974$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.21 W/kg

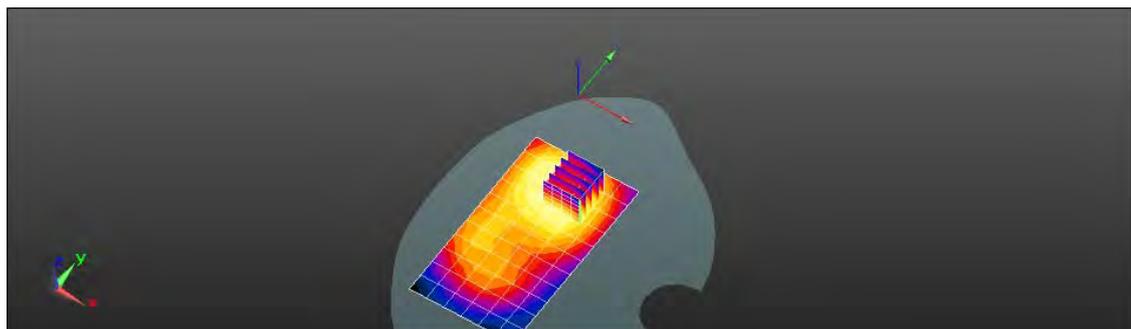
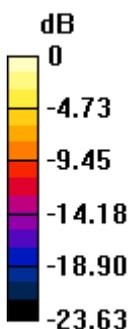
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.951 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.47 W/kg

**SAR(1 g) = 0.957 W/kg; SAR(10 g) = 0.606 W/kg**

Maximum value of SAR (measured) = 1.20 W/kg



0 dB = 1.21 W/kg = 0.81 dBW/kg

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Date: 5/7/2013

### Hotspot\_Front side\_CH810

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.51$  S/m;  $\epsilon_r = 52.865$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.23 W/kg

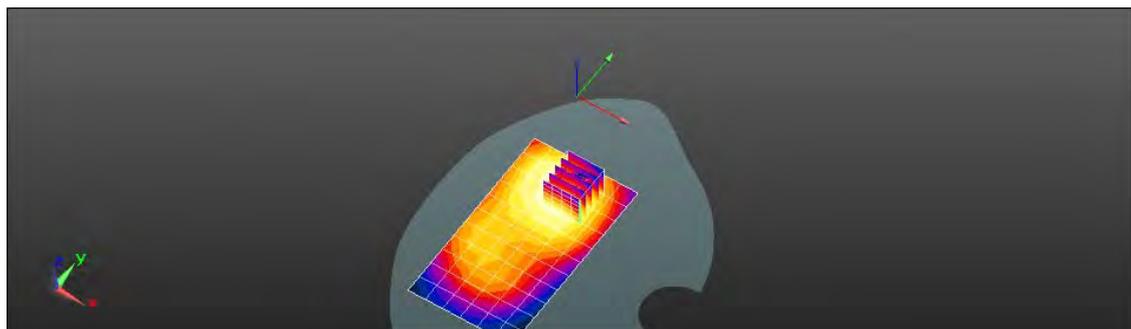
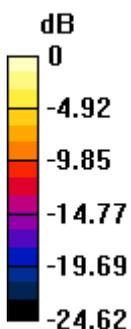
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.180 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.58 W/kg

**SAR(1 g) = 0.997 W/kg; SAR(10 g) = 0.626 W/kg**

Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.23 W/kg = 0.89 dBW/kg

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Date: 5/7/2013

## Hotspot\_Back side\_CH512

Communication System: GPRS(Class 12); Frequency: 1850.2 MHz

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.445$  S/m;  $\epsilon_r = 53.068$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.17 W/kg

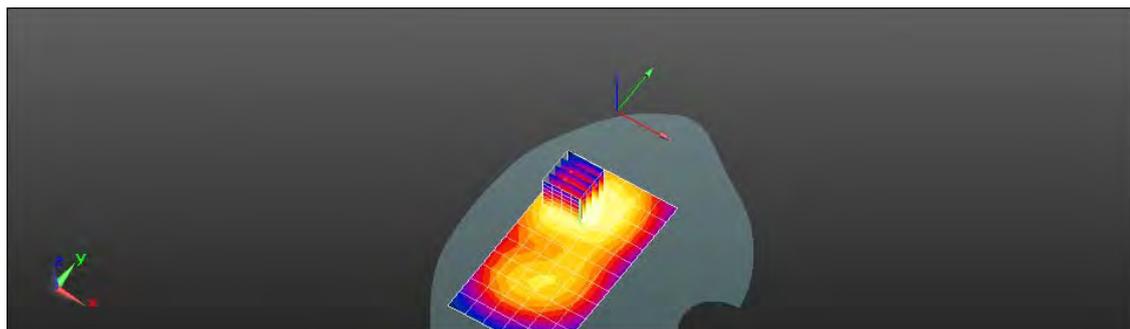
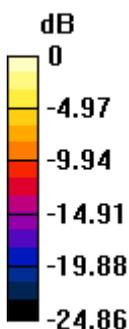
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.263 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.51 W/kg

**SAR(1 g) = 0.973 W/kg; SAR(10 g) = 0.603 W/kg**

Maximum value of SAR (measured) = 1.23 W/kg



0 dB = 1.17 W/kg = 0.68 dBW/kg

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Date: 5/7/2013

### Hotspot\_Back side\_CH661

Communication System: GPRS(Class 12); Frequency: 1880 MHz

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.477 \text{ S/m}$ ;  $\epsilon_r = 52.974$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.33 W/kg

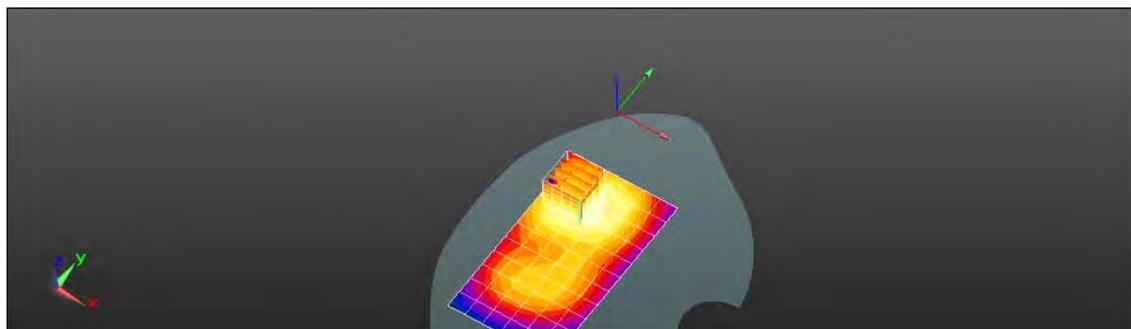
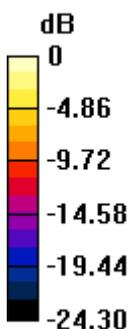
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.677 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.74 W/kg

**SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.690 W/kg**

Maximum value of SAR (measured) = 1.41 W/kg



0 dB = 1.33 W/kg = 1.25 dBW/kg

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Date: 5/7/2013

### Hotspot\_Back side\_CH810

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910 \text{ MHz}$ ;  $\sigma = 1.51 \text{ S/m}$ ;  $\epsilon_r = 52.865$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.41 W/kg

**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.941 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.82 W/kg

**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.712 W/kg**

Maximum value of SAR (measured) = 1.46 W/kg

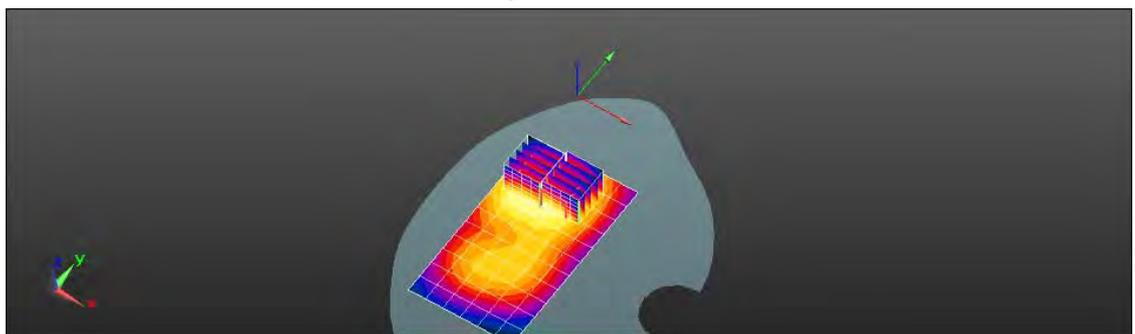
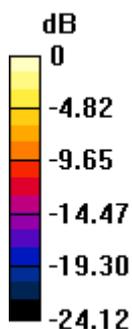
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 1:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.941 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.55 W/kg

**SAR(1 g) = 0.946 W/kg; SAR(10 g) = 0.542 W/kg**

Maximum value of SAR (measured) = 1.29 W/kg



0 dB = 1.41 W/kg = 1.48 dBW/kg

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Date: 5/7/2013

### Hotspot\_Back side\_CH810\_repeated with external Memory card inside

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910 \text{ MHz}$ ;  $\sigma = 1.51 \text{ S/m}$ ;  $\epsilon_r = 52.865$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.41 W/kg

**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.159 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.79 W/kg

**SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.699 W/kg**

Maximum value of SAR (measured) = 1.45 W/kg

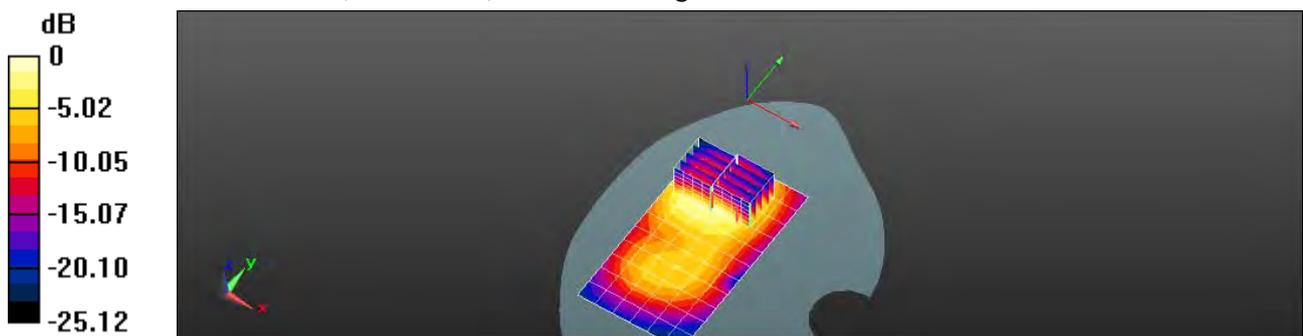
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 1:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.159 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.52 W/kg

**SAR(1 g) = 0.926 W/kg; SAR(10 g) = 0.527 W/kg**

Maximum value of SAR (measured) = 1.26 W/kg



0 dB = 1.41 W/kg = 1.48 dBW/kg

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Date: 5/7/2013

### Hotspot\_Back side\_CH810\_repeated with headset (MH410C)

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910 \text{ MHz}$ ;  $\sigma = 1.51 \text{ S/m}$ ;  $\epsilon_r = 52.865$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.41 W/kg

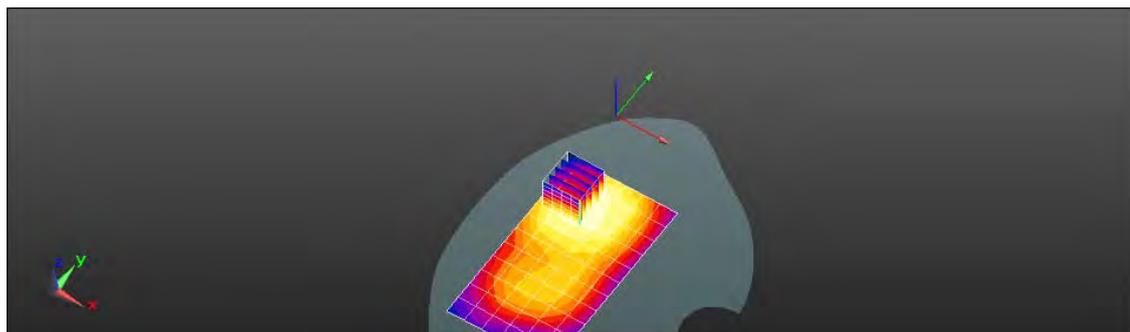
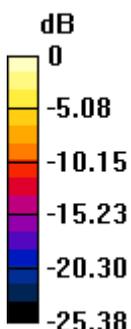
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.112 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.94 W/kg

**SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.725 W/kg**

Maximum value of SAR (measured) = 1.51 W/kg

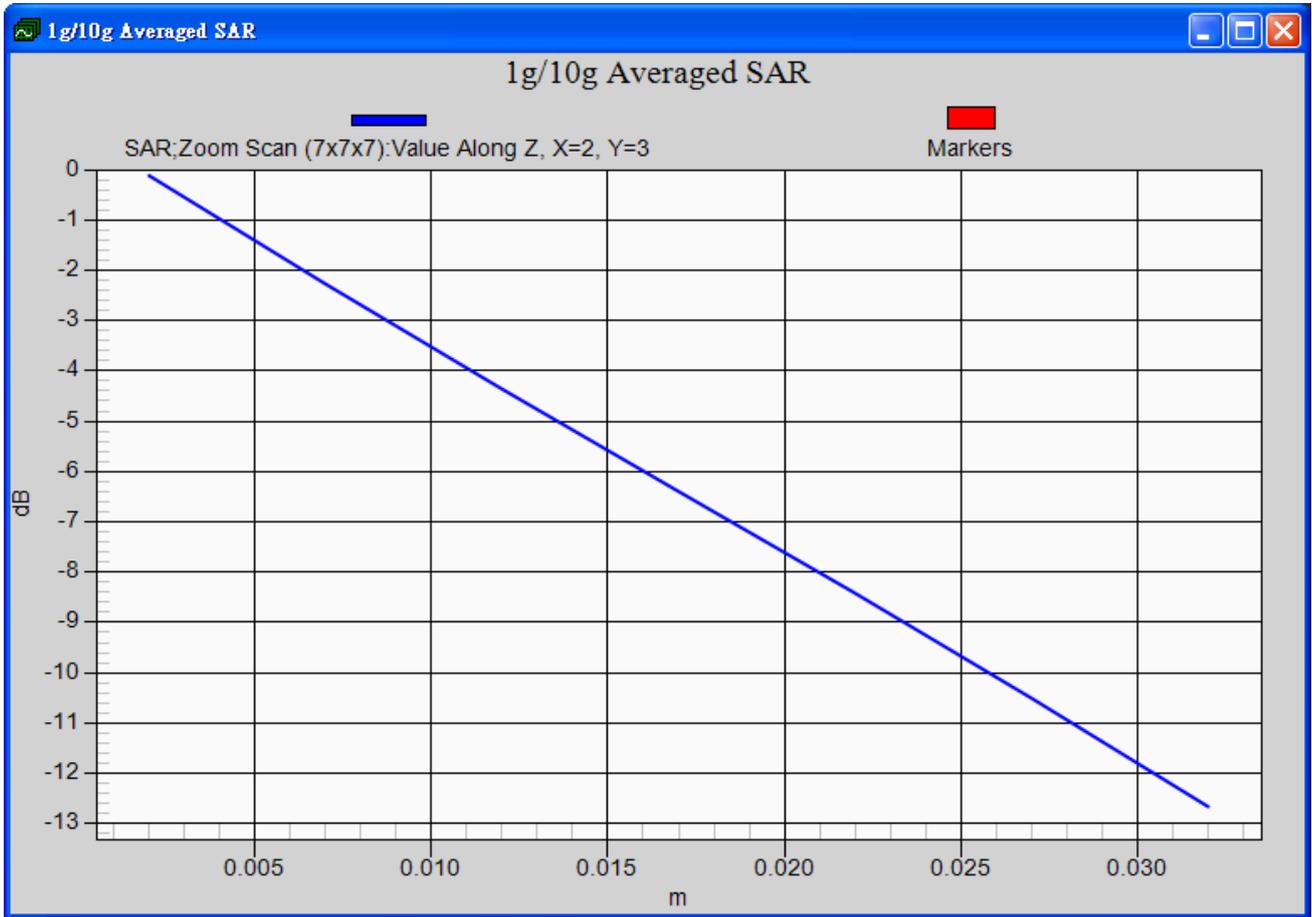


0 dB = 1.41 W/kg = 1.48 dBW/kg

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Date: 5/7/2013

## Hotspot\_Back side\_CH810\_repeated with headset (MH410C)\_repeat SAR test at the highest sar measurement

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.51$  S/m;  $\epsilon_r = 52.865$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.24 W/kg

**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.534 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.71 W/kg

**SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.647 W/kg**

Maximum value of SAR (measured) = 1.37 W/kg

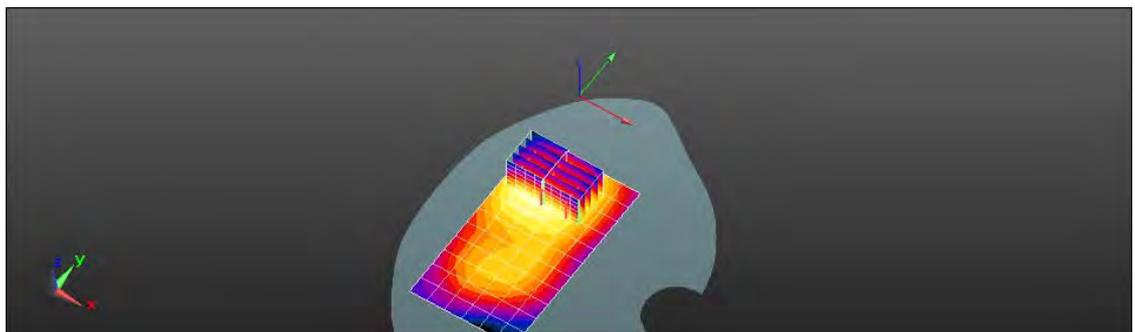
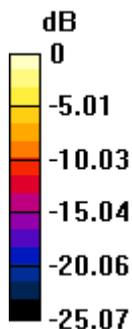
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.534 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.853 W/kg; SAR(10 g) = 0.504 W/kg**

Maximum value of SAR (measured) = 1.12 W/kg



0 dB = 1.24 W/kg = 0.92 dBW/kg

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Date: 5/7/2013

## Hotspot\_Bottom side\_CH512

Communication System: GPRS(Class 12); Frequency: 1850.2 MHz

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.445$  S/m;  $\epsilon_r = 53.068$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.712 W/kg

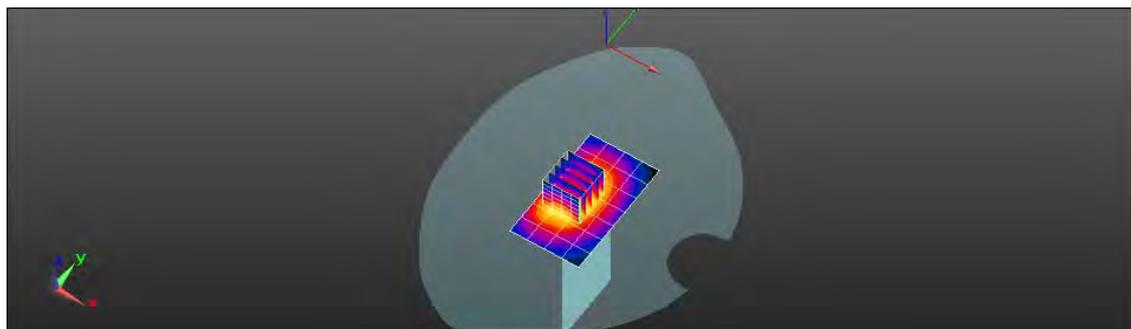
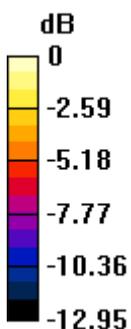
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.539 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.800 W/kg; SAR(10 g) = 0.430 W/kg**

Maximum value of SAR (measured) = 1.11 W/kg



0 dB = 0.712 W/kg = -1.47 dBW/kg

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Date: 5/7/2013

### Hotspot\_Bottom side\_CH661

Communication System: GPRS(Class 12); Frequency: 1880 MHz

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.477 \text{ S/m}$ ;  $\epsilon_r = 52.974$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (5x8x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.827 W/kg

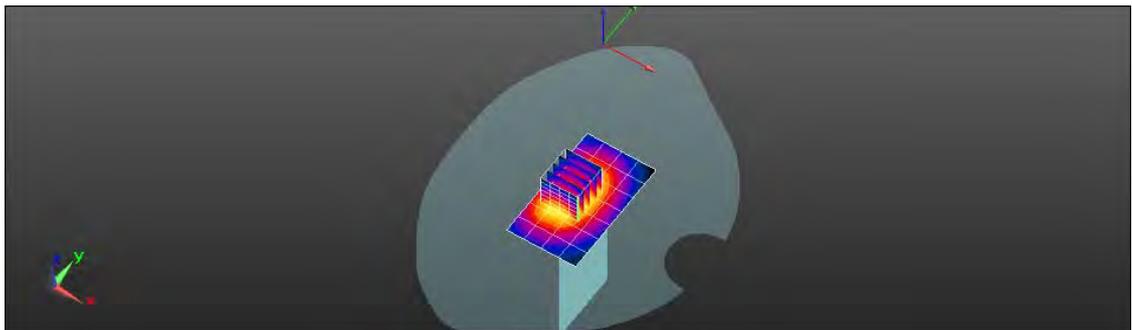
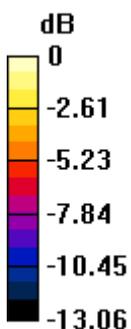
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 24.515 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.58 W/kg

**SAR(1 g) = 0.930 W/kg; SAR(10 g) = 0.492 W/kg**

Maximum value of SAR (measured) = 1.33 W/kg



0 dB = 0.827 W/kg = -0.83 dBW/kg

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Date: 5/7/2013

### Hotspot\_Bottom side\_CH810

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.51$  S/m;  $\epsilon_r = 52.865$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.881 W/kg

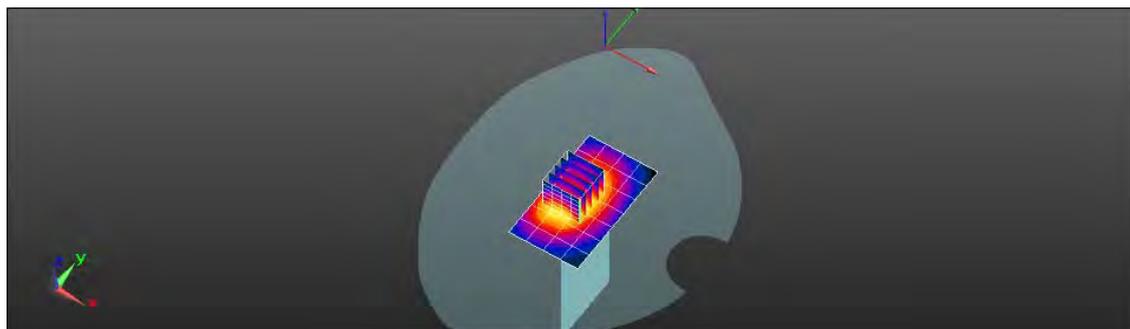
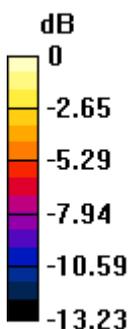
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.666 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.75 W/kg

**SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.552 W/kg**

Maximum value of SAR (measured) = 1.46 W/kg



0 dB = 0.881 W/kg = -0.55 dBW/kg

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Date: 5/7/2013

### Hotspot\_Right side\_CH661

Communication System: GPRS(Class 12); Frequency: 1880 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.477$  S/m;  $\epsilon_r = 52.974$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (6x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.338 W/kg

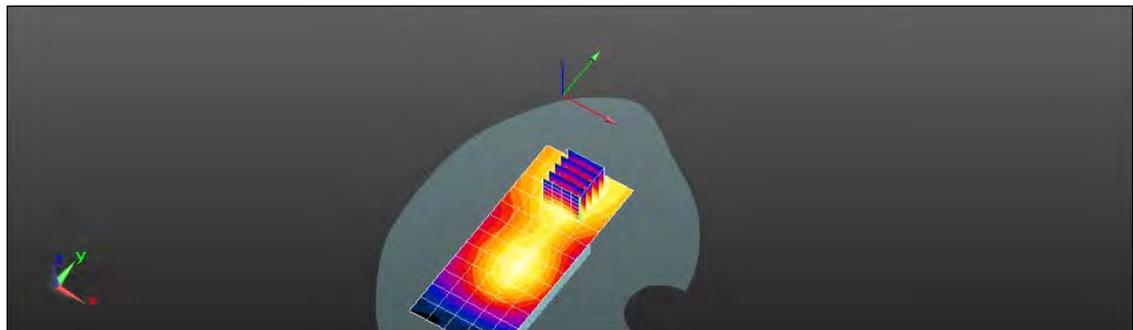
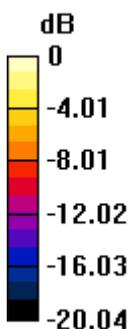
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.885 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.419 W/kg

**SAR(1 g) = 0.270 W/kg; SAR(10 g) = 0.165 W/kg**

Maximum value of SAR (measured) = 0.352 W/kg



0 dB = 0.338 W/kg = -4.71 dBW/kg

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Date: 5/7/2013

### Hotspot\_Left side\_CH661

Communication System: GPRS(Class 12); Frequency: 1880 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.477$  S/m;  $\epsilon_r = 52.974$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (6x13x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.426 W/kg

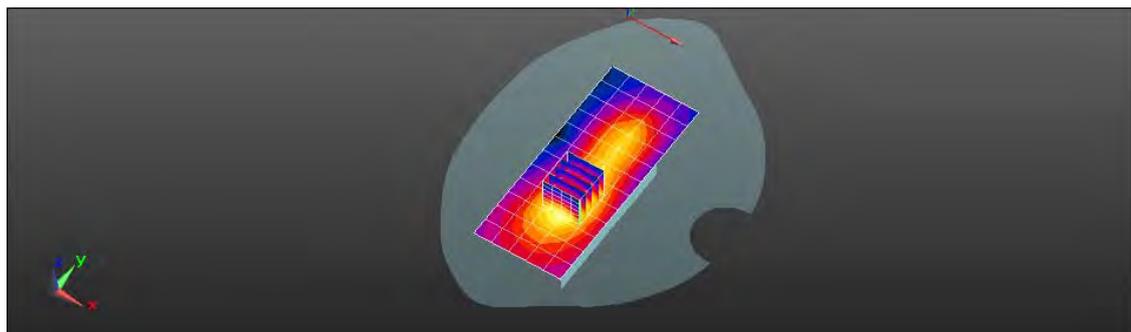
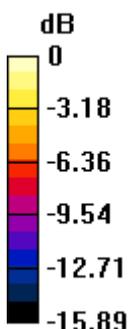
**Configuration/Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.609 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.517 W/kg

**SAR(1 g) = 0.324 W/kg; SAR(10 g) = 0.190 W/kg**

Maximum value of SAR (measured) = 0.431 W/kg



0 dB = 0.426 W/kg = -3.71 dBW/kg

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Date: 5/11/2013

### RE Cheek\_WLAN802.11b\_CH1

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2412 MHz  
Medium parameters used:  $f = 2412 \text{ MHz}$ ;  $\sigma = 1.794 \text{ S/m}$ ;  $\epsilon_r = 38.287$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (10x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

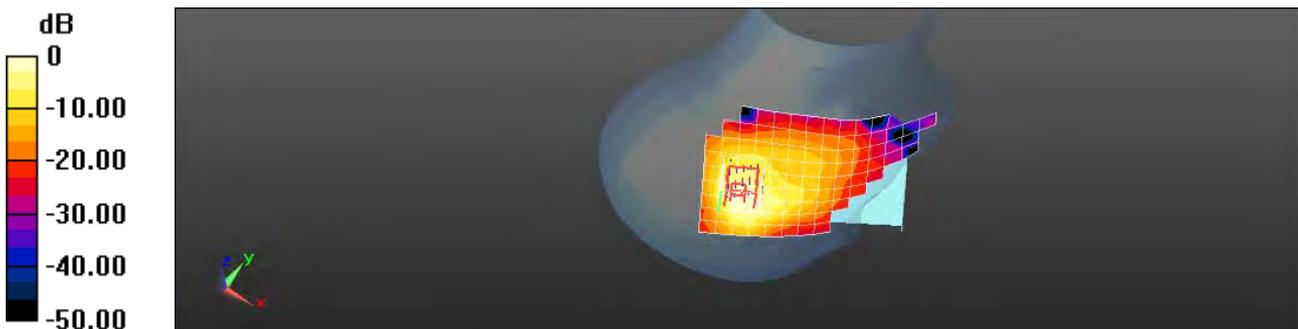
Maximum value of SAR (measured) = 1.21 W/kg

#### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 17.340 V/m; Power Drift = -0.11 dB  
Peak SAR (extrapolated) = 1.93 W/kg

**SAR(1 g) = 0.834 W/kg; SAR(10 g) = 0.368 W/kg**

Maximum value of SAR (measured) = 1.25 W/kg



0 dB = 1.21 W/kg = 0.84 dBW/kg

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Date: 5/11/2013

## RE Cheek\_WLAN802.11b\_CH1\_repeat SAR test at the highest SAR measurement

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2412 MHz  
Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.794$  S/m;  $\epsilon_r = 38.287$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (10x15x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 1.25 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

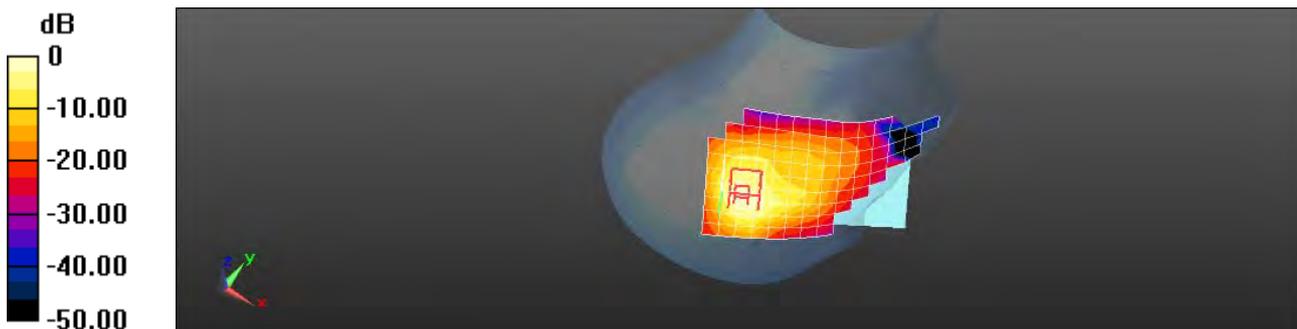
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.374 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.84 W/kg

**SAR(1 g) = 0.796 W/kg; SAR(10 g) = 0.351 W/kg**

Maximum value of SAR (measured) = 1.29 W/kg



0 dB = 1.25 W/kg = 0.97 dBW/kg

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Date: 5/11/2013

## RE Cheek\_WLAN802.11b\_CH1\_repeated with external Memory card inside

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2412 MHz  
Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.794$  S/m;  $\epsilon_r = 38.287$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (10x15x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.912 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

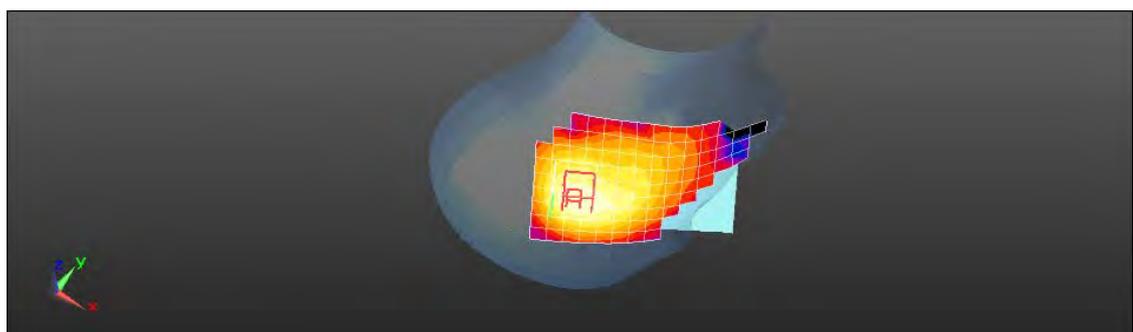
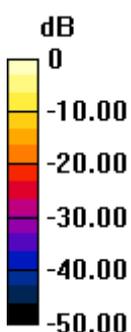
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.647 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.50 W/kg

**SAR(1 g) = 0.692 W/kg; SAR(10 g) = 0.333 W/kg**

Maximum value of SAR (measured) = 1.06 W/kg



0 dB = 0.912 W/kg = -0.40 dBW/kg

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Date: 5/11/2013

### RE Cheek\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.821 \text{ S/m}$ ;  $\epsilon_r = 38.181$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (10x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

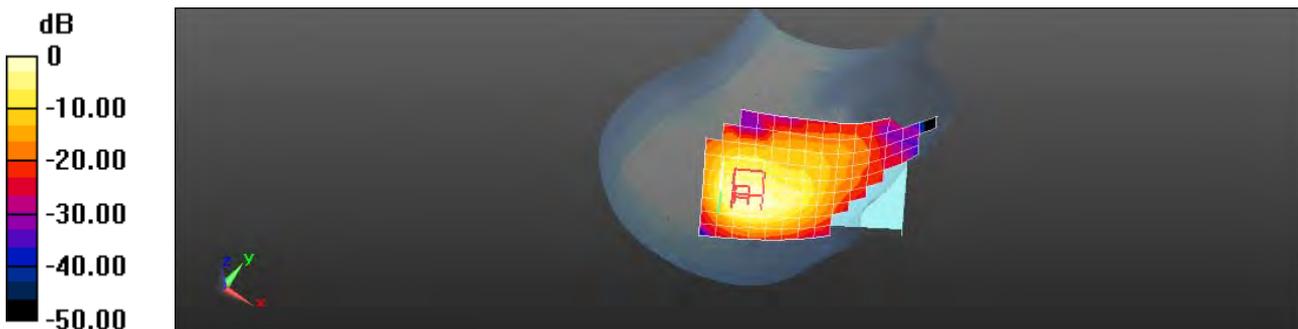
Maximum value of SAR (measured) = 1.07 W/kg

#### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 16.619 V/m; Power Drift = 0.14 dB  
Peak SAR (extrapolated) = 1.70 W/kg

**SAR(1 g) = 0.769 W/kg; SAR(10 g) = 0.365 W/kg**

Maximum value of SAR (measured) = 1.21 W/kg



0 dB = 1.07 W/kg = 0.29 dBW/kg

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Date: 5/11/2013

### RE Cheek\_WLAN802.11b\_CH11

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2462 MHz  
Medium parameters used:  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.852 \text{ S/m}$ ;  $\epsilon_r = 38.077$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (10x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

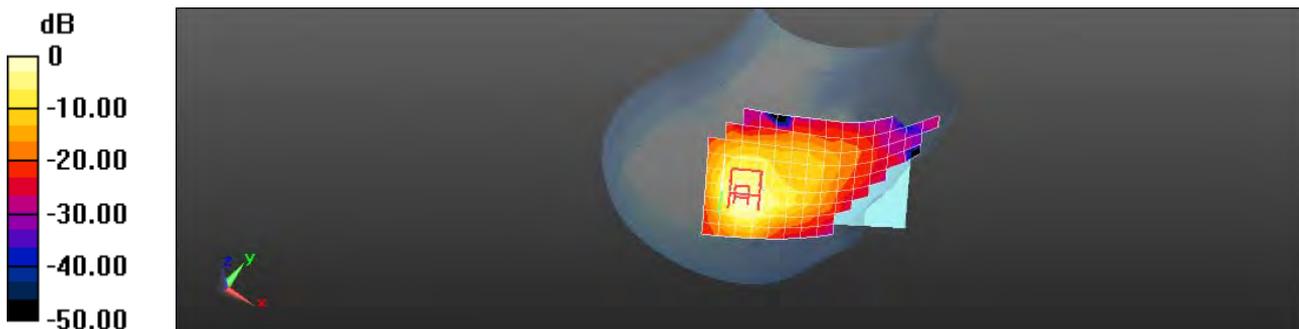
Maximum value of SAR (measured) = 1.21 W/kg

#### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 15.962 V/m; Power Drift = -0.06 dB  
Peak SAR (extrapolated) = 1.78 W/kg

**SAR(1 g) = 0.757 W/kg; SAR(10 g) = 0.330 W/kg**

Maximum value of SAR (measured) = 1.23 W/kg



0 dB = 1.21 W/kg = 0.84 dBW/kg

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Date: 5/11/2013

### RE Tilt\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.821 \text{ S/m}$ ;  $\epsilon_r = 38.181$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (10x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.958 W/kg

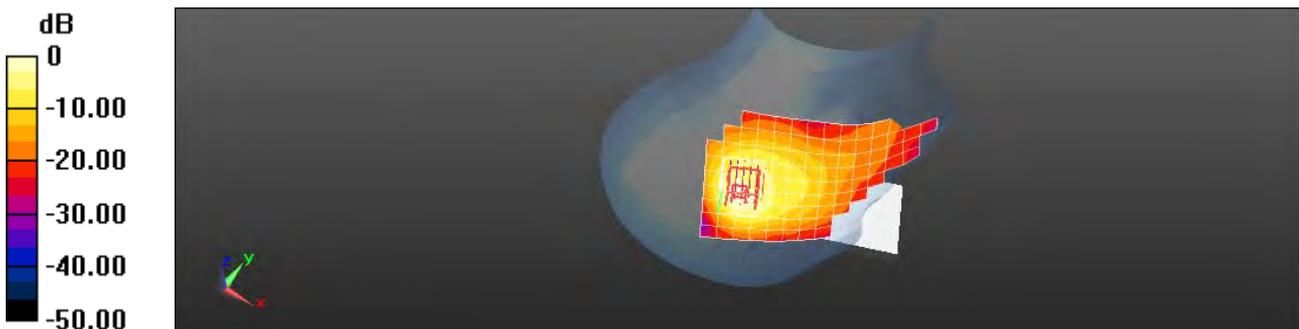
**Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.618 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.626 W/kg; SAR(10 g) = 0.281 W/kg**

Maximum value of SAR (measured) = 0.966 W/kg



0 dB = 0.958 W/kg = -0.18 dBW/kg

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Date: 5/11/2013

### LE Cheek\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.821 \text{ S/m}$ ;  $\epsilon_r = 38.181$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (10x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

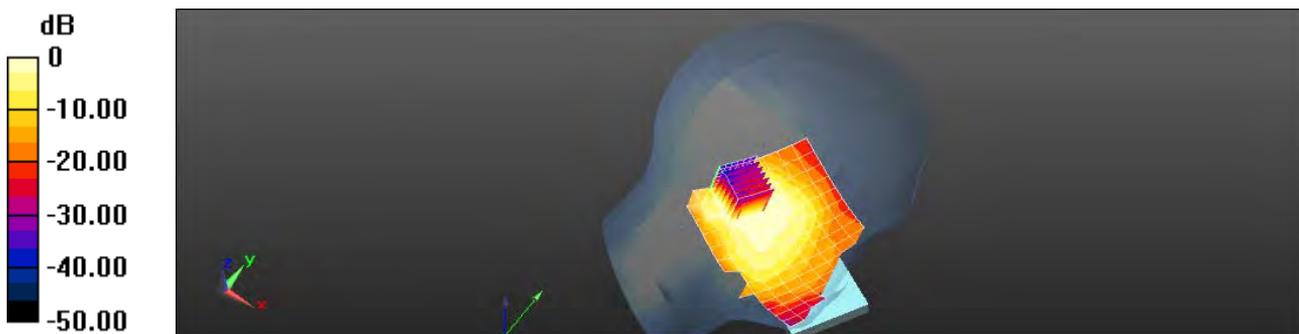
Maximum value of SAR (measured) = 0.500 W/kg

#### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 15.824 V/m; Power Drift = 0.16 dB  
Peak SAR (extrapolated) = 0.785 W/kg

**SAR(1 g) = 0.392 W/kg; SAR(10 g) = 0.203 W/kg**

Maximum value of SAR (measured) = 0.574 W/kg



0 dB = 0.500 W/kg = -3.01 dBW/kg

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Date: 5/11/2013

### LE Tilt\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.821 \text{ S/m}$ ;  $\epsilon_r = 38.181$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (10x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.518 W/kg

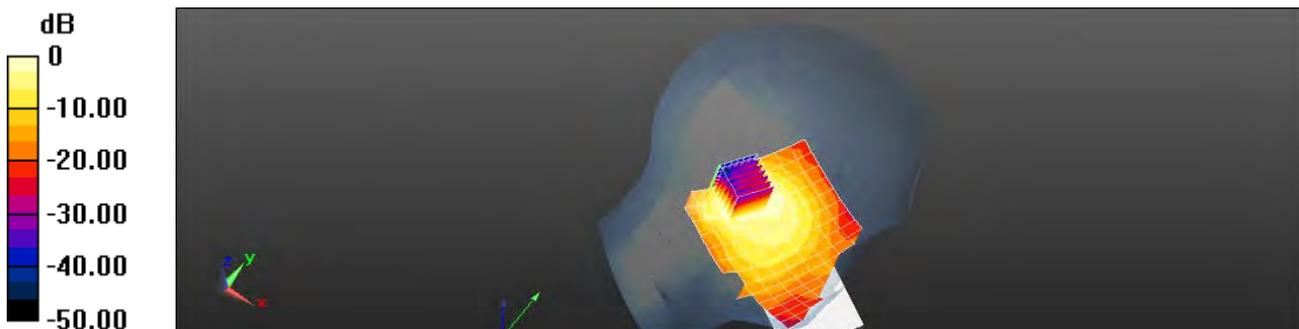
**Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.796 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.754 W/kg

**SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.190 W/kg**

Maximum value of SAR (measured) = 0.554 W/kg



0 dB = 0.518 W/kg = -2.86 dBW/kg

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Date: 5/11/2013

### Hotspot\_Front side\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 2.004 \text{ S/m}$ ;  $\epsilon_r = 50.167$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.164 W/kg

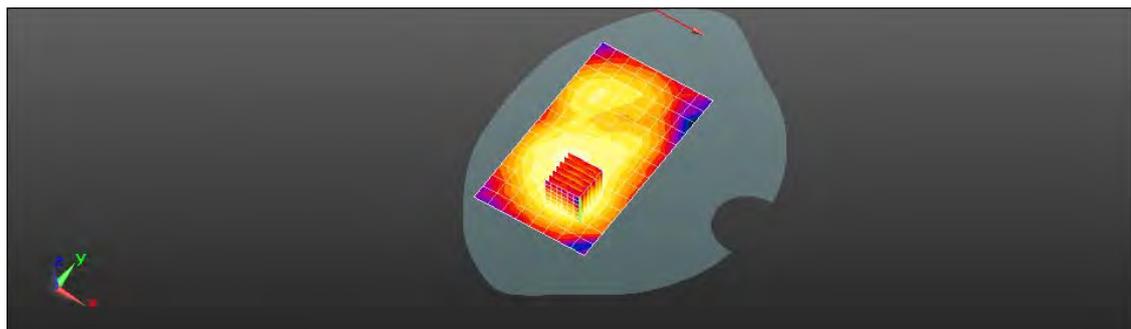
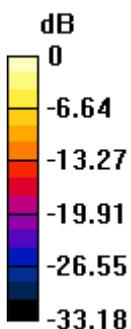
**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 4.981 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.224 W/kg

**SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.061 W/kg**

Maximum value of SAR (measured) = 0.165 W/kg



0 dB = 0.164 W/kg = -7.85 dBW/kg

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Date: 5/11/2013

### Hotspot\_Back side\_WLAN802.11b\_CH1

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2412 MHz  
Medium parameters used:  $f = 2412 \text{ MHz}$ ;  $\sigma = 1.971 \text{ S/m}$ ;  $\epsilon_r = 50.275$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.211 W/kg

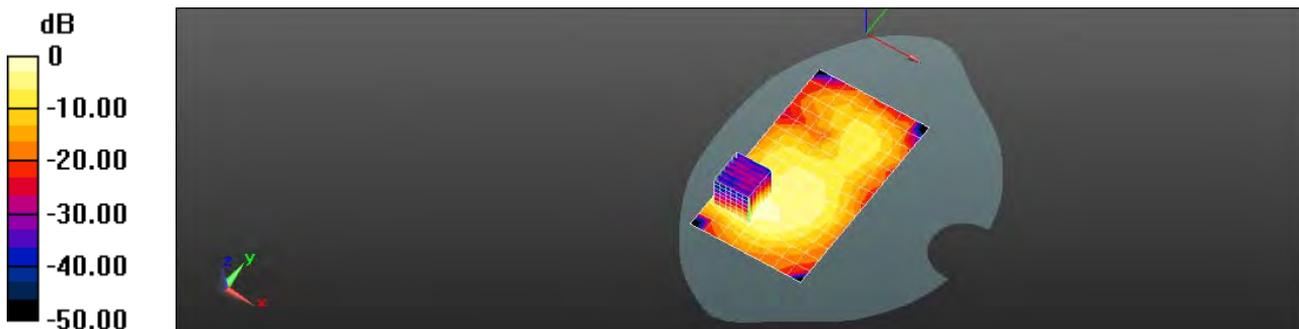
**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.079 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.325 W/kg

**SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.078 W/kg**

Maximum value of SAR (measured) = 0.238 W/kg



0 dB = 0.211 W/kg = -6.76 dBW/kg

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Date: 5/11/2013

### Hotspot\_Back side\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 2.004 \text{ S/m}$ ;  $\epsilon_r = 50.167$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.194 W/kg

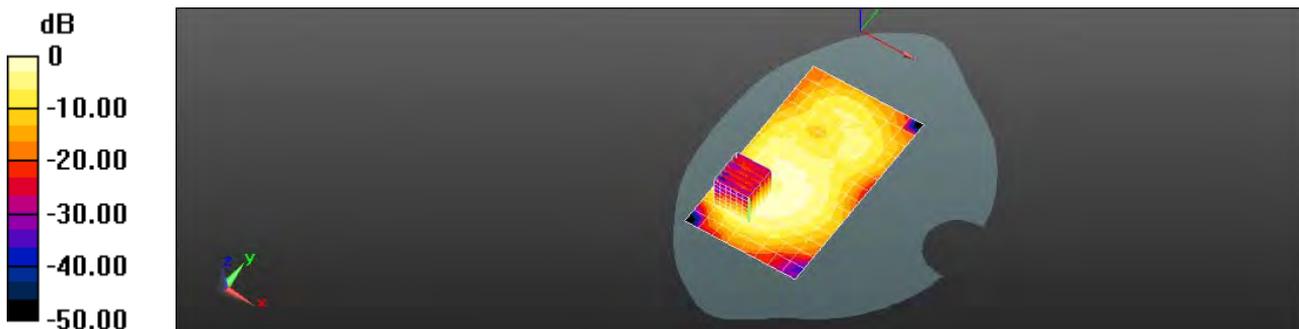
**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.930 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.287 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.070 W/kg**

Maximum value of SAR (measured) = 0.209 W/kg



0 dB = 0.194 W/kg = -7.11 dBW/kg

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Date: 5/11/2013

### Hotspot\_Back side\_WLAN802.11b\_CH11

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2462 MHz  
Medium parameters used:  $f = 2462 \text{ MHz}$ ;  $\sigma = 2.039 \text{ S/m}$ ;  $\epsilon_r = 50.067$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x15x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.218 W/kg

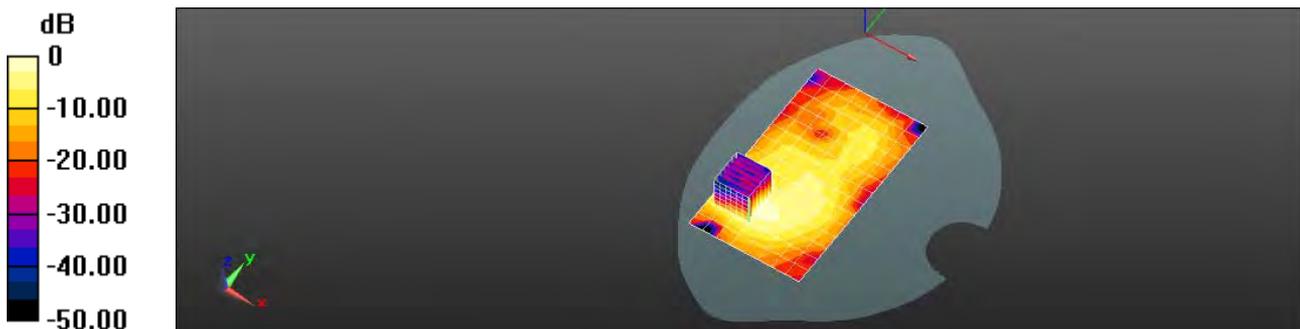
**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.018 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.326 W/kg

**SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.077 W/kg**

Maximum value of SAR (measured) = 0.238 W/kg



0 dB = 0.218 W/kg = -6.62 dBW/kg

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Date: 5/11/2013

### Hotspot\_Top side\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 2.004 \text{ S/m}$ ;  $\epsilon_r = 50.167$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (6x10x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.131 W/kg

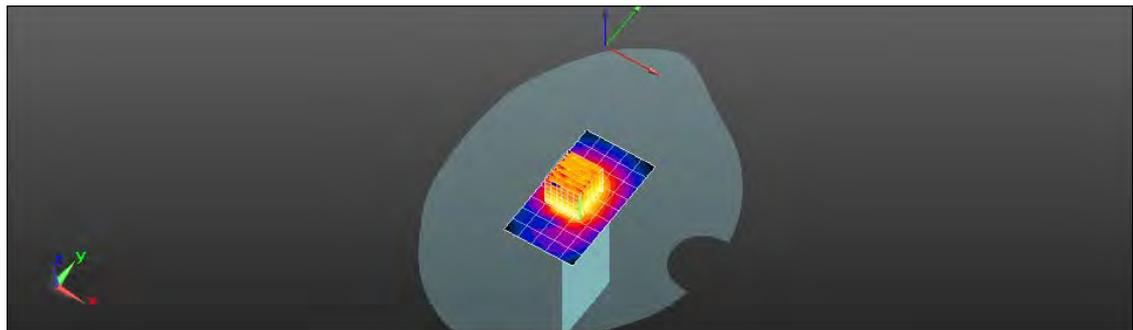
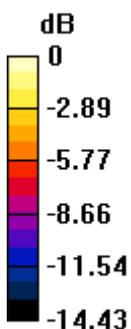
**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 7.391 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.190 W/kg

**SAR(1 g) = 0.100 W/kg; SAR(10 g) = 0.052 W/kg**

Maximum value of SAR (measured) = 0.118 W/kg



0 dB = 0.131 W/kg = -8.81 dBW/kg

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Date: 5/11/2013

### Hotspot\_Left side\_WLAN802.11b\_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz  
Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 2.004 \text{ S/m}$ ;  $\epsilon_r = 50.167$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (7x16x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) = 0.105 W/kg

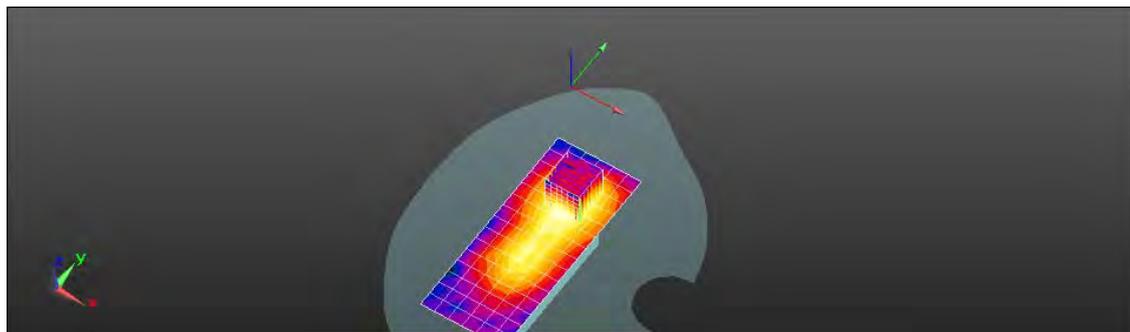
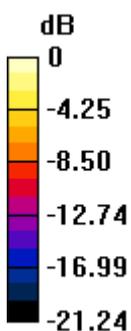
**Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 5.289 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.148 W/kg

**SAR(1 g) = 0.079 W/kg; SAR(10 g) = 0.043 W/kg**

Maximum value of SAR (measured) = 0.112 W/kg



0 dB = 0.105 W/kg = -9.80 dBW/kg

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Date: 5/9/2013

### RE Cheek\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz  
Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 4.617 \text{ S/m}$ ;  $\epsilon_r = 35.337$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

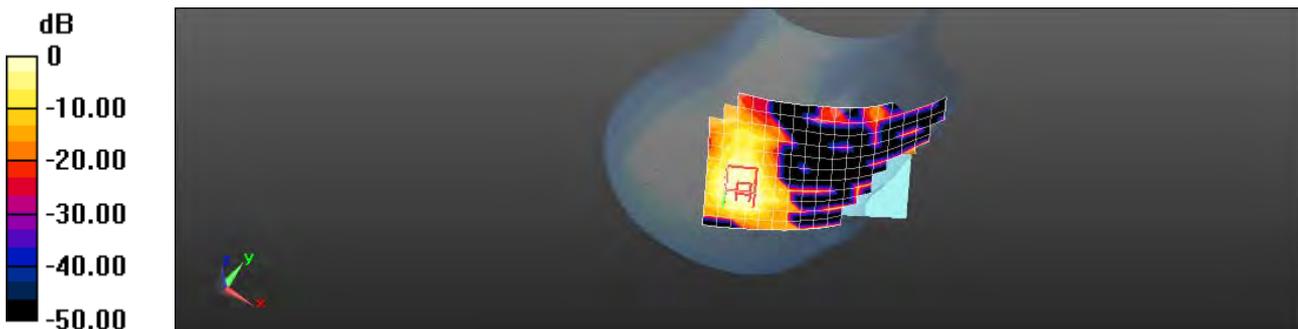
Maximum value of SAR (measured) = 0.269 W/kg

#### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 4.883 V/m; Power Drift = 0.10 dB  
Peak SAR (extrapolated) = 0.843 W/kg

**SAR(1 g) = 0.135 W/kg; SAR(10 g) = 0.047 W/kg**

Maximum value of SAR (measured) = 0.299 W/kg



0 dB = 0.269 W/kg = -5.70 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz  
Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 4.617 \text{ S/m}$ ;  $\epsilon_r = 35.337$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

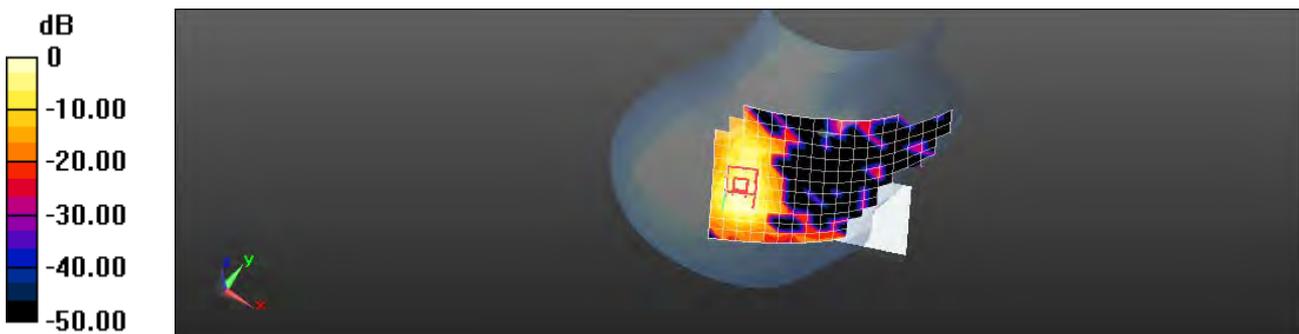
**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.363 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 5.115 V/m; Power Drift = 0.13 dB  
Peak SAR (extrapolated) = 0.675 W/kg

**SAR(1 g) = 0.191 W/kg; SAR(10 g) = 0.063 W/kg**



0 dB = 0.363 W/kg = -4.40 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11a 5.2G\_CH44

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5220 MHz  
Medium parameters used:  $f = 5220 \text{ MHz}$ ;  $\sigma = 4.646 \text{ S/m}$ ;  $\epsilon_r = 35.161$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1)**: Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

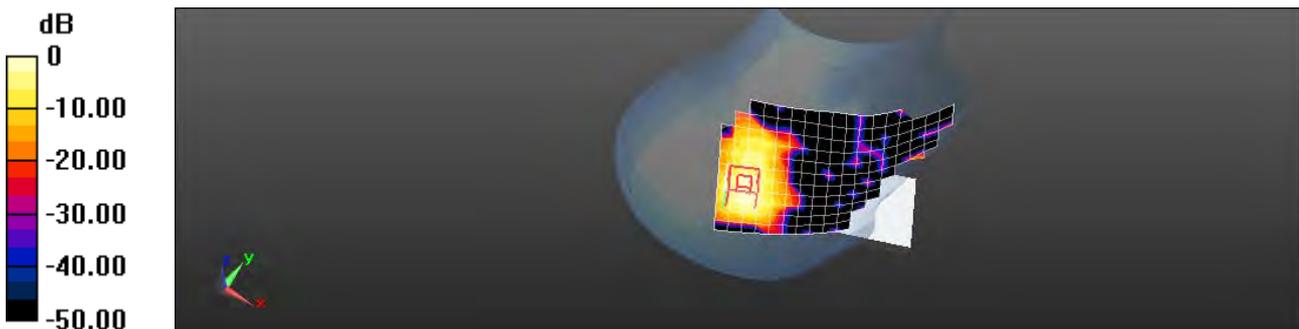
Maximum value of SAR (measured) = 0.373 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.451 V/m; Power Drift = -0.10 dB  
Peak SAR (extrapolated) = 0.651 W/kg

**SAR(1 g) = 0.190 W/kg; SAR(10 g) = 0.059 W/kg**

Maximum value of SAR (measured) = 0.369 W/kg



0 dB = 0.373 W/kg = -4.28 dBW/kg

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Date: 5/9/2013

### LE Cheek\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.617$  S/m;  $\epsilon_r = 35.337$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.241 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

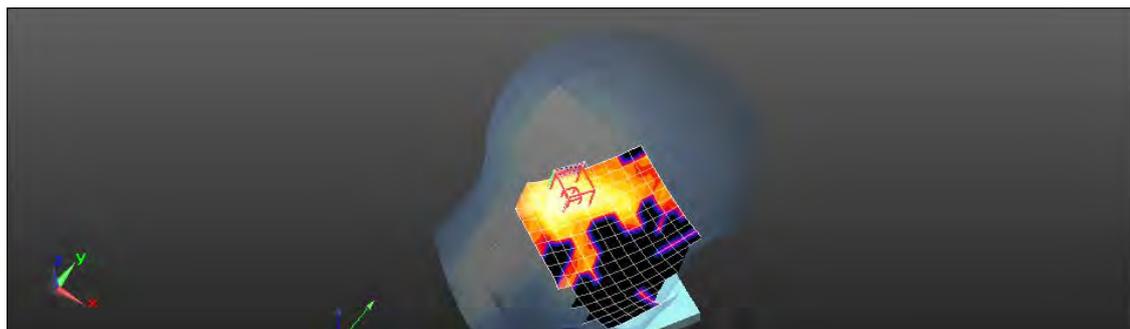
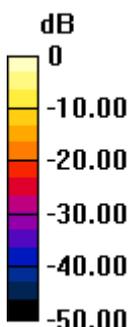
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.154 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.411 W/kg

**SAR(1 g) = 0.128 W/kg; SAR(10 g) = 0.045 W/kg**

Maximum value of SAR (measured) = 0.242 W/kg



0 dB = 0.241 W/kg = -6.17 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz  
Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 4.617 \text{ S/m}$ ;  $\epsilon_r = 35.337$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

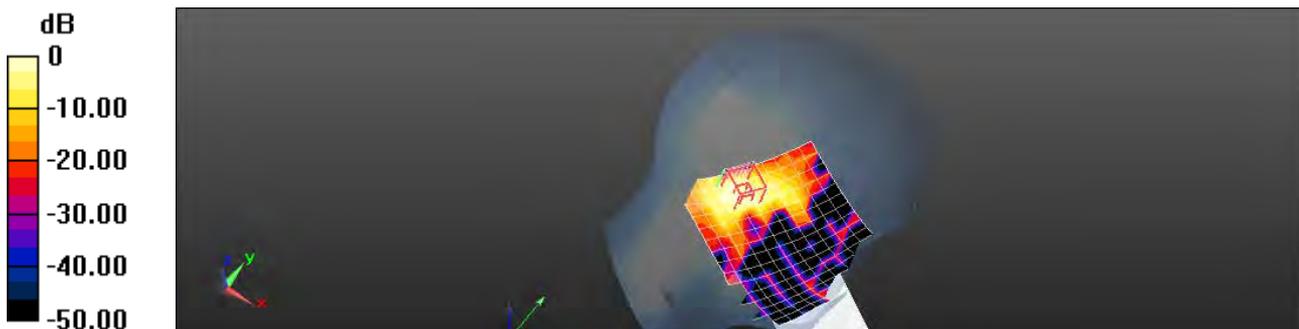
Maximum value of SAR (measured) = 0.336 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.155 V/m; Power Drift = 0.16 dB  
Peak SAR (extrapolated) = 0.626 W/kg

**SAR(1 g) = 0.186 W/kg; SAR(10 g) = 0.064 W/kg**

Maximum value of SAR (measured) = 0.345 W/kg



0 dB = 0.336 W/kg = -4.74 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz  
Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 5.337 \text{ S/m}$ ;  $\epsilon_r = 48.522$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0370 W/kg

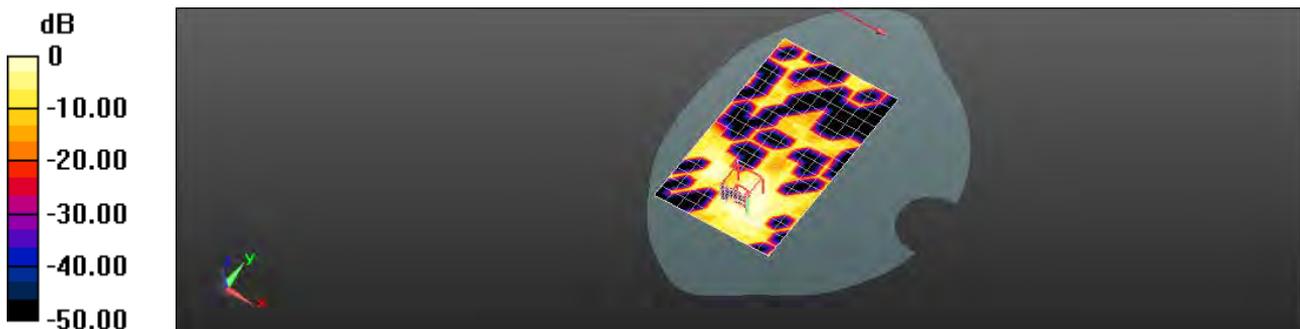
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.428 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.349 W/kg

**SAR(1 g) = 0.030 W/kg; SAR(10 g) = 0.00845 W/kg**

Maximum value of SAR (measured) = 0.0438 W/kg



0 dB = 0.0370 W/kg = -14.32 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz  
Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 5.337 \text{ S/m}$ ;  $\epsilon_r = 48.522$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.132 W/kg

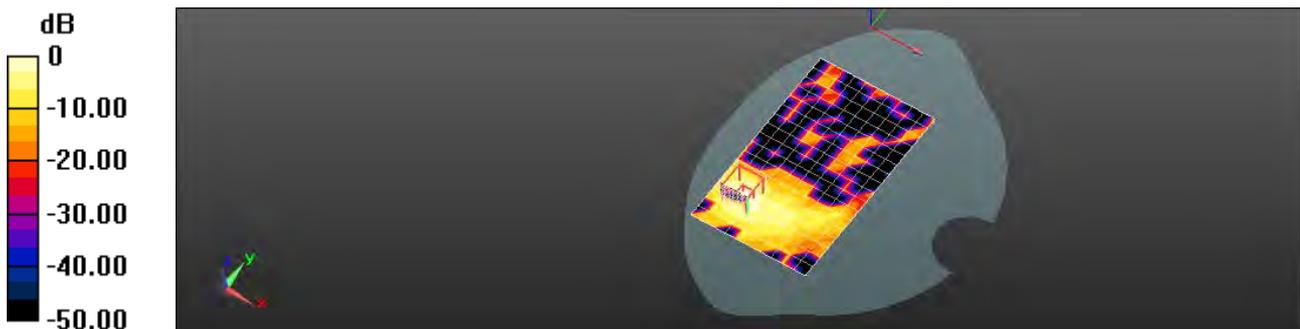
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.738 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.384 W/kg

**SAR(1 g) = 0.090 W/kg; SAR(10 g) = 0.028 W/kg**

Maximum value of SAR (measured) = 0.174 W/kg



0 dB = 0.132 W/kg = -8.79 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.2G\_CH44

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5220 MHz

Medium parameters used:  $f = 5220 \text{ MHz}$ ;  $\sigma = 5.358 \text{ S/m}$ ;  $\epsilon_r = 48.399$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0177 W/kg

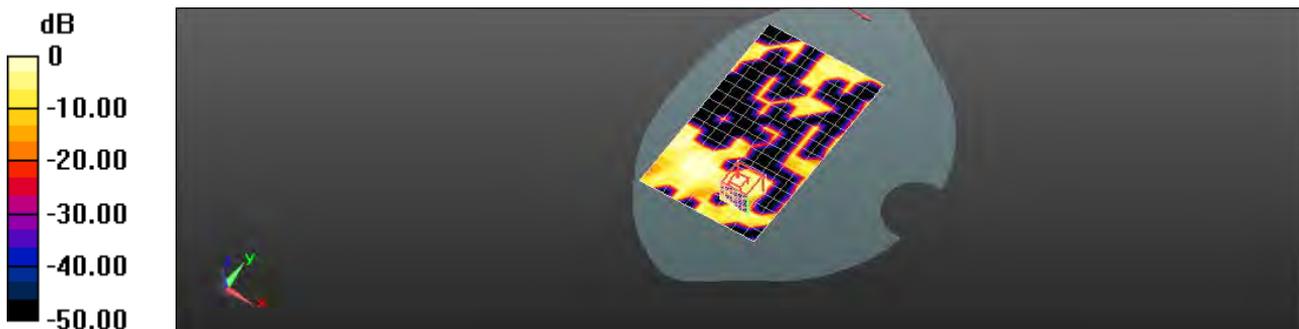
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.6895 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.110 W/kg

**SAR(1 g) = 0.022 W/kg; SAR(10 g) = 0.00597 W/kg**

Maximum value of SAR (measured) = 0.0606 W/kg



0 dB = 0.0177 W/kg = -17.53 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.337$  S/m;  $\epsilon_r = 48.522$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.143 W/kg

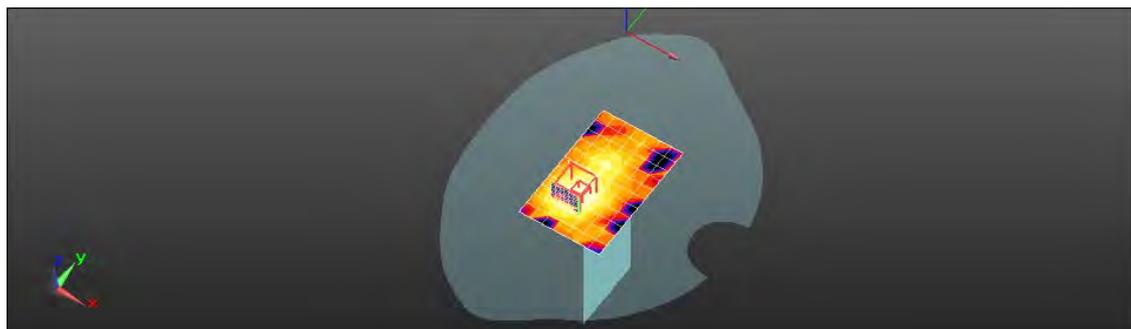
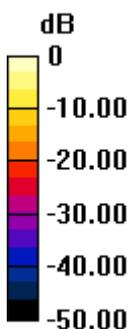
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.254 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.267 W/kg

**SAR(1 g) = 0.072 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.155 W/kg



0 dB = 0.143 W/kg = -8.43 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11a 5.2G\_CH40

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5200 MHz  
Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 5.337 \text{ S/m}$ ;  $\epsilon_r = 48.522$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0557 W/kg

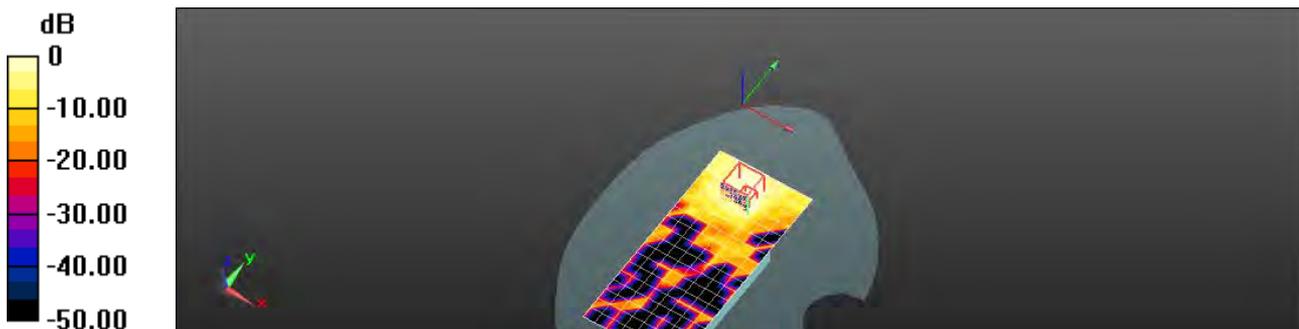
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.566 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.194 W/kg

**SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.009 W/kg**

Maximum value of SAR (measured) = 0.0608 W/kg



0 dB = 0.0557 W/kg = -12.54 dBW/kg

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Date: 5/9/2013

### RE Cheek\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz

Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 4.663 \text{ S/m}$ ;  $\epsilon_r = 35.038$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.365 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

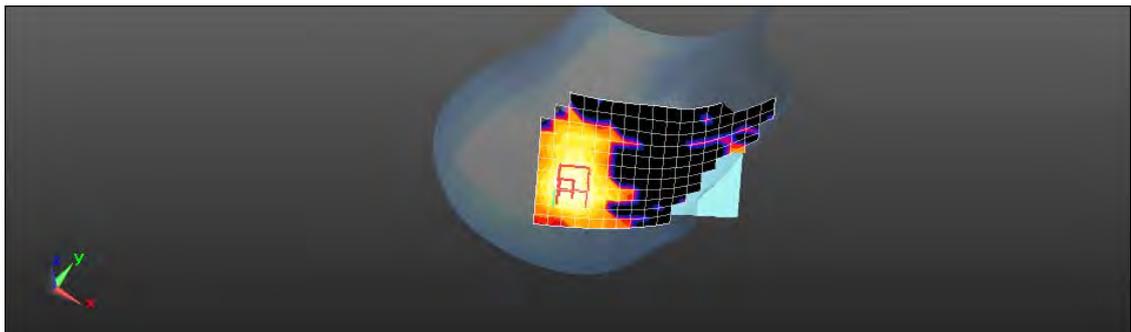
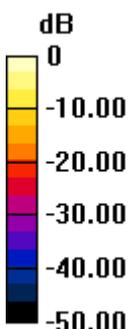
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.684 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 2.94 W/kg

**SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.073 W/kg**

Maximum value of SAR (measured) = 0.383 W/kg



0 dB = 0.365 W/kg = -4.37 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz  
Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 4.663 \text{ S/m}$ ;  $\epsilon_r = 35.038$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

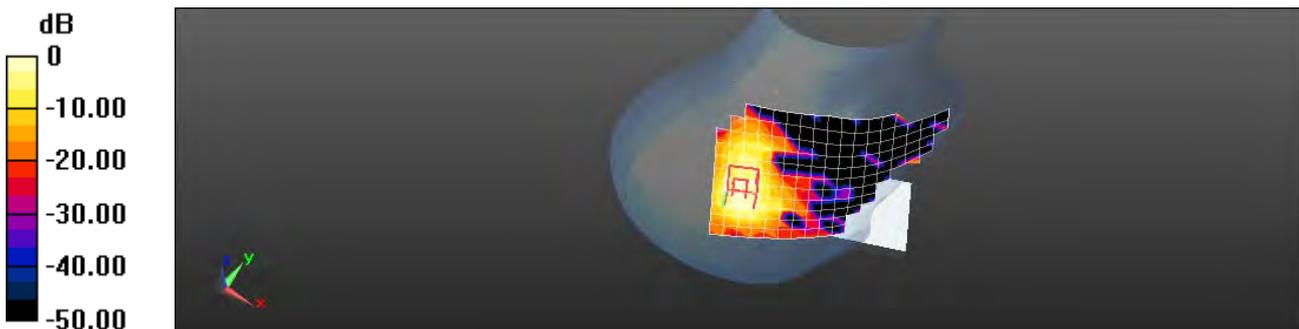
Maximum value of SAR (measured) = 0.461 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.802 V/m; Power Drift = -0.17 dB  
Peak SAR (extrapolated) = 0.821 W/kg

**SAR(1 g) = 0.238 W/kg; SAR(10 g) = 0.082 W/kg**

Maximum value of SAR (measured) = 0.462 W/kg



0 dB = 0.461 W/kg = -3.36 dBW/kg

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Date: 5/9/2013

### LE Cheek\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz

Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 4.663 \text{ S/m}$ ;  $\epsilon_r = 35.038$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1)**: Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.340 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

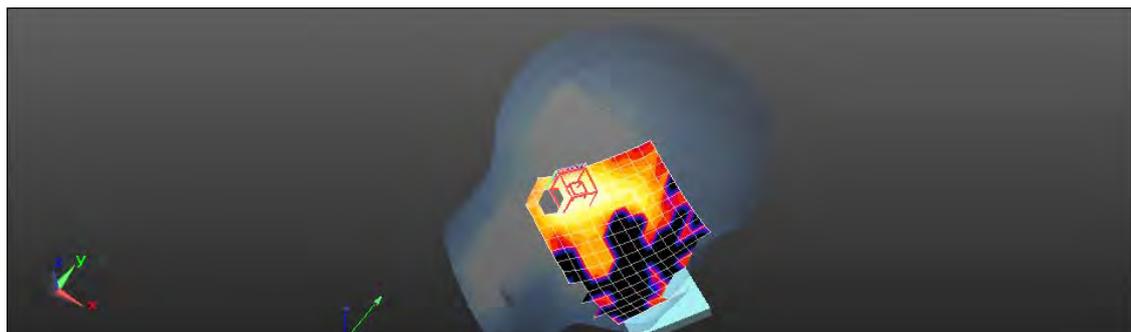
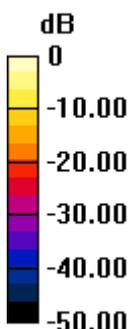
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.541 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.601 W/kg

**SAR(1 g) = 0.189 W/kg; SAR(10 g) = 0.068 W/kg**

Maximum value of SAR (measured) = 0.350 W/kg



0 dB = 0.340 W/kg = -4.69 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11n(20M) 5.2G\_CH36

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5180 MHz  
Medium parameters used:  $f = 5180 \text{ MHz}$ ;  $\sigma = 4.593 \text{ S/m}$ ;  $\epsilon_r = 35.418$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

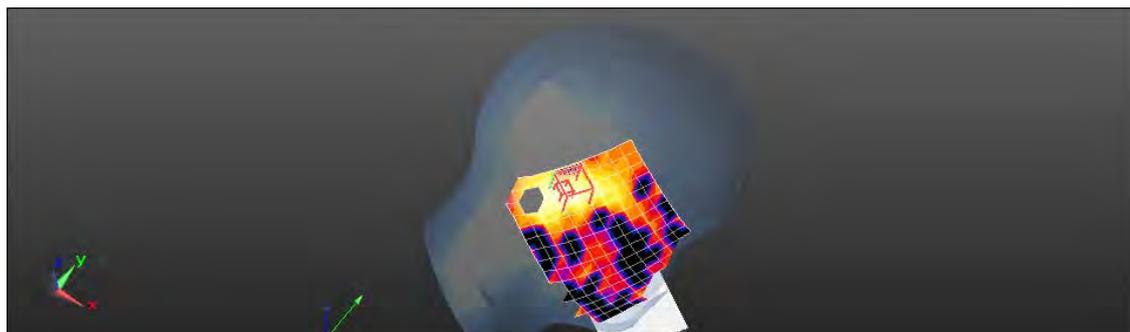
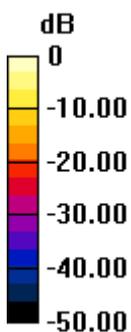
Maximum value of SAR (measured) = 0.360 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.725 V/m; Power Drift = -0.11 dB  
Peak SAR (extrapolated) = 0.637 W/kg

**SAR(1 g) = 0.205 W/kg; SAR(10 g) = 0.067 W/kg**

Maximum value of SAR (measured) = 0.384 W/kg



0 dB = 0.360 W/kg = -4.44 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz

Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 4.663 \text{ S/m}$ ;  $\epsilon_r = 35.038$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.453 W/kg

**Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:**

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 7.123 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.796 W/kg

**SAR(1 g) = 0.256 W/kg; SAR(10 g) = 0.080 W/kg**

Maximum value of SAR (measured) = 0.474 W/kg

**Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 1:**

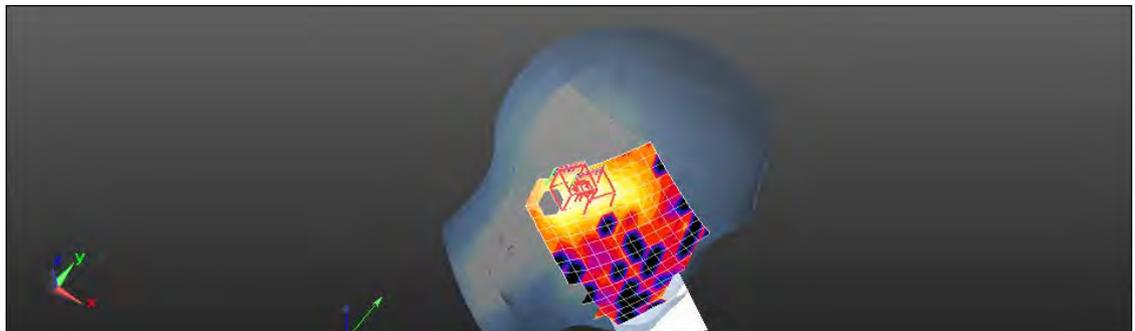
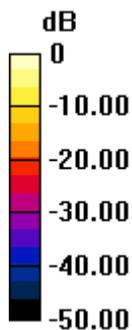
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 7.123 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.824 W/kg

**SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.085 W/kg**

Maximum value of SAR (measured) = 0.478 W/kg



$$0 \text{ dB} = 0.453 \text{ W/kg} = -3.44 \text{ dBW/kg}$$

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz

Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 5.351 \text{ S/m}$ ;  $\epsilon_r = 48.343$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0596 W/kg

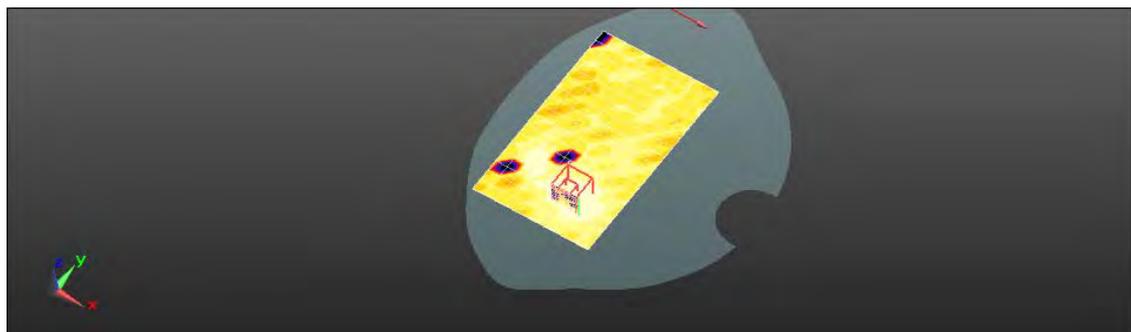
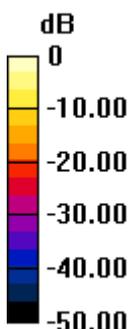
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.000 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.411 W/kg

**SAR(1 g) = 0.037 W/kg; SAR(10 g) = 0.012 W/kg**

Maximum value of SAR (measured) = 0.0635 W/kg



0 dB = 0.0596 W/kg = -12.24 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz  
Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 5.351 \text{ S/m}$ ;  $\epsilon_r = 48.343$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.185 W/kg

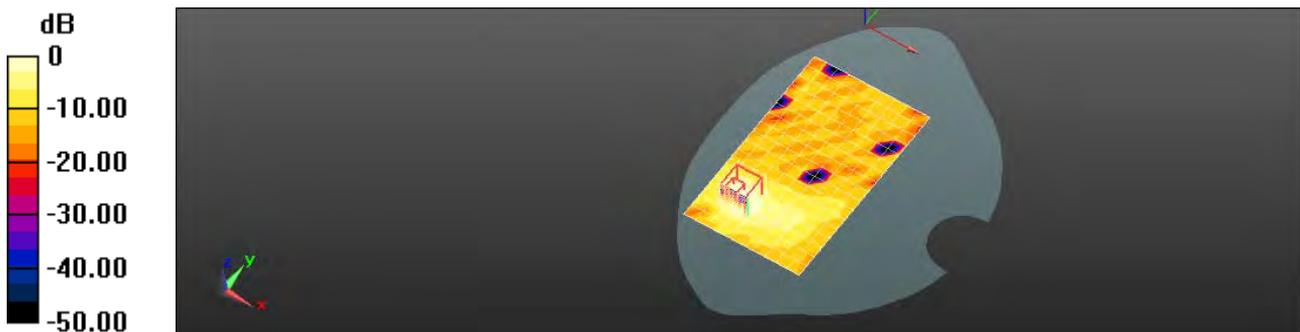
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.305 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.49 W/kg

**SAR(1 g) = 0.068 W/kg; SAR(10 g) = 0.018 W/kg**

Maximum value of SAR (measured) = 0.213 W/kg



0 dB = 0.185 W/kg = -7.33 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11n(20M) 5.2G\_CH36

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5180 MHz

Medium parameters used:  $f = 5180 \text{ MHz}$ ;  $\sigma = 5.284 \text{ S/m}$ ;  $\epsilon_r = 48.664$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.129 W/kg

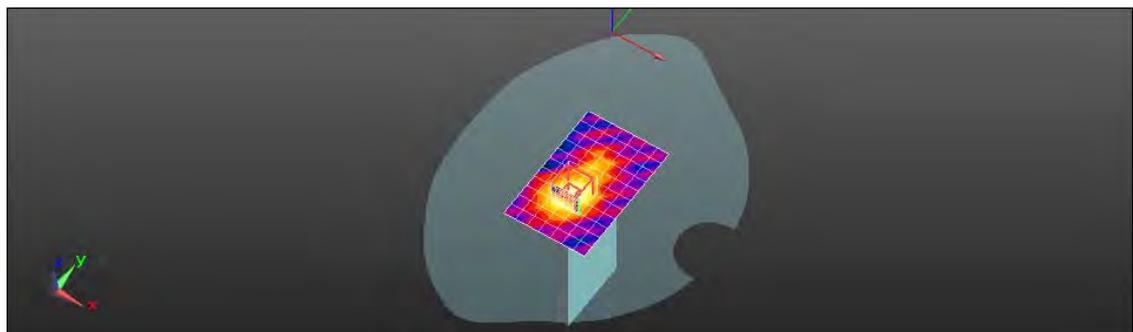
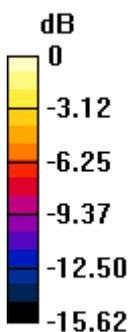
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 3.698 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.302 W/kg

**SAR(1 g) = 0.073 W/kg; SAR(10 g) = 0.026 W/kg**

Maximum value of SAR (measured) = 0.142 W/kg



0 dB = 0.129 W/kg = -8.88 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz

Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 5.351 \text{ S/m}$ ;  $\epsilon_r = 48.343$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.199 W/kg

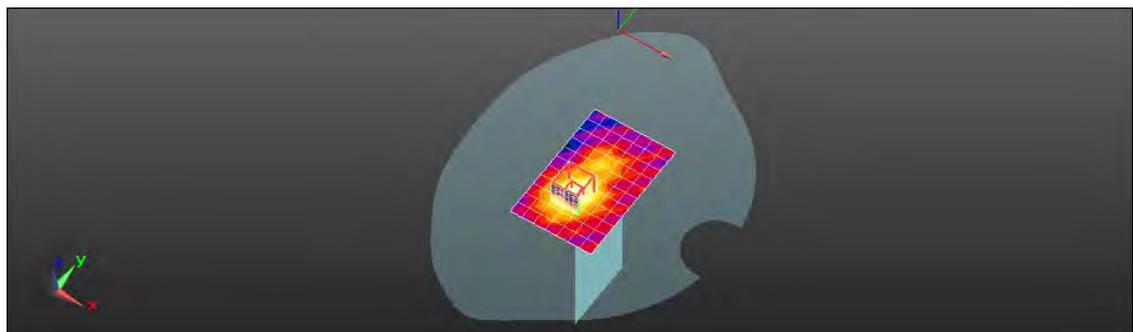
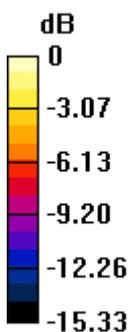
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 4.289 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.381 W/kg

**SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.032 W/kg**

Maximum value of SAR (measured) = 0.201 W/kg



0 dB = 0.199 W/kg = -7.02 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11n(20M) 5.2G\_CH48

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5240 MHz

Medium parameters used:  $f = 5240 \text{ MHz}$ ;  $\sigma = 5.351 \text{ S/m}$ ;  $\epsilon_r = 48.343$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0949 W/kg

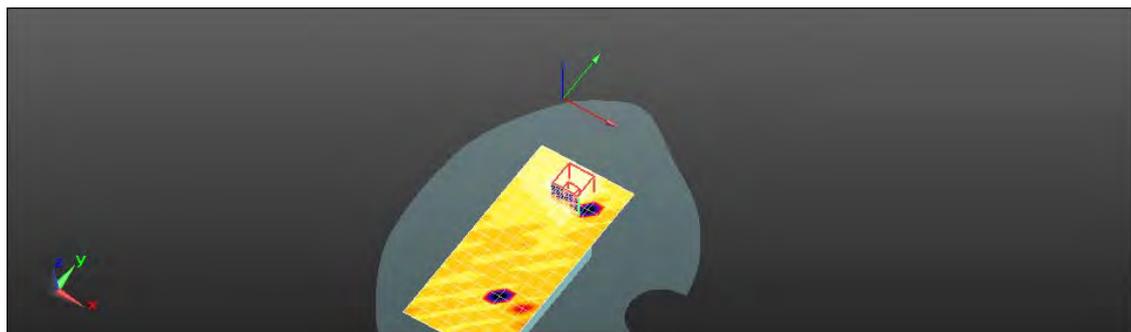
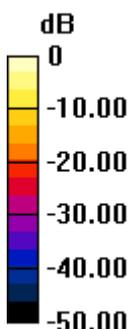
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.796 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.284 W/kg

**SAR(1 g) = 0.045 W/kg; SAR(10 g) = 0.015 W/kg**

Maximum value of SAR (measured) = 0.109 W/kg



0 dB = 0.0949 W/kg = -10.23 dBW/kg

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Date: 5/9/2013

### RE Cheek\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190 \text{ MHz}$ ;  $\sigma = 4.605 \text{ S/m}$ ;  $\epsilon_r = 35.402$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.254 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

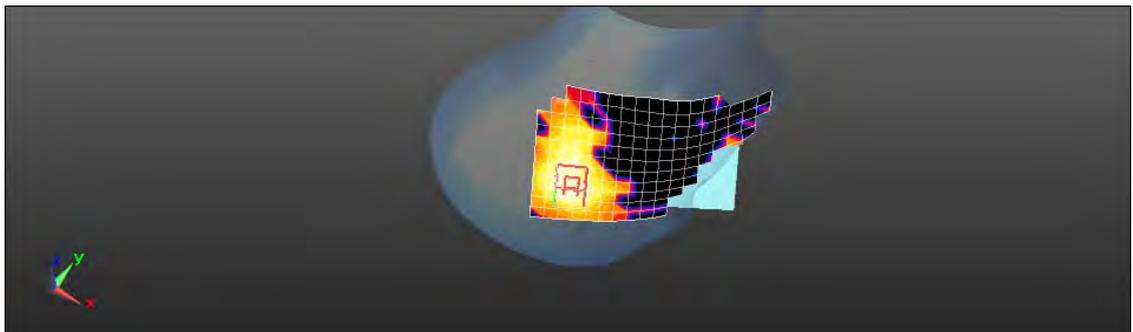
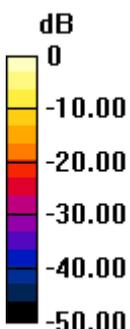
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.354 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.555 W/kg

**SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.039 W/kg**

Maximum value of SAR (measured) = 0.307 W/kg



0 dB = 0.254 W/kg = -5.96 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190$  MHz;  $\sigma = 4.605$  S/m;  $\epsilon_r = 35.402$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.354 W/kg

### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

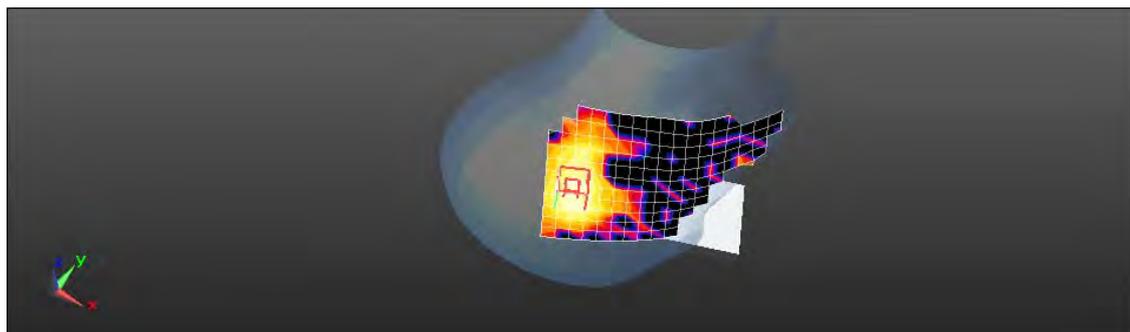
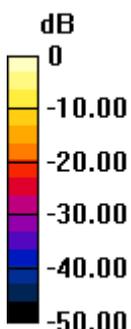
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.745 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.641 W/kg

**SAR(1 g) = 0.190 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.363 W/kg



0 dB = 0.354 W/kg = -4.51 dBW/kg

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Date: 5/9/2013

### LE Cheek\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190 \text{ MHz}$ ;  $\sigma = 4.605 \text{ S/m}$ ;  $\epsilon_r = 35.402$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1)**: Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.236 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

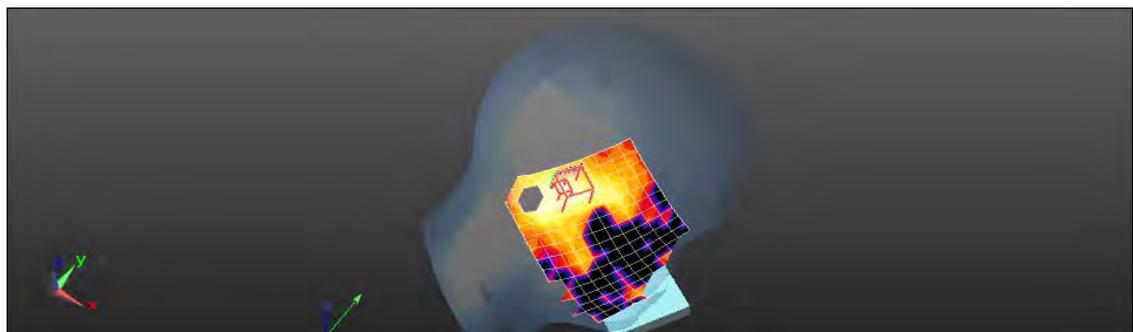
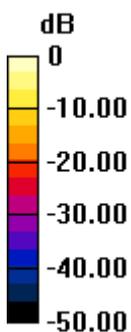
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.249 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.411 W/kg

**SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.044 W/kg**

Maximum value of SAR (measured) = 0.249 W/kg



0 dB = 0.236 W/kg = -6.26 dBW/kg

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Date: 5/9/2013

### LE Tilt\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz  
Medium parameters used:  $f = 5190 \text{ MHz}$ ;  $\sigma = 4.605 \text{ S/m}$ ;  $\epsilon_r = 35.402$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

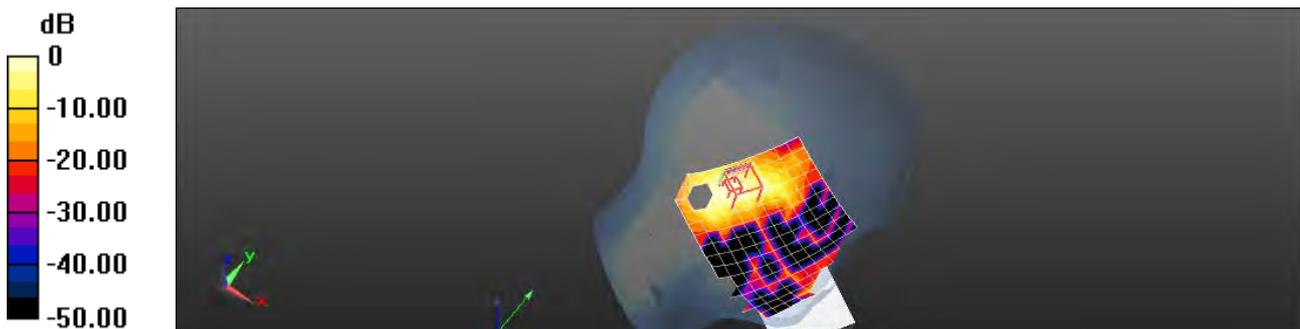
Maximum value of SAR (measured) = 0.352 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.235 V/m; Power Drift = 0.13 dB  
Peak SAR (extrapolated) = 0.675 W/kg

**SAR(1 g) = 0.196 W/kg; SAR(10 g) = 0.060 W/kg**

Maximum value of SAR (measured) = 0.362 W/kg



0 dB = 0.352 W/kg = -4.54 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11n(40M) 5.2G\_CH46

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5230 MHz  
Medium parameters used:  $f = 5230 \text{ MHz}$ ;  $\sigma = 4.654 \text{ S/m}$ ;  $\epsilon_r = 35.104$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

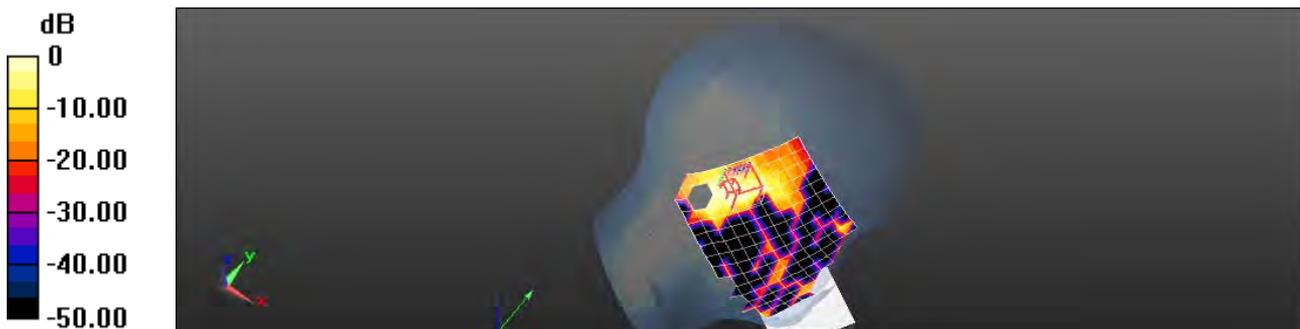
Maximum value of SAR (measured) = 0.173 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 3.265 V/m; Power Drift = 0.13 dB  
Peak SAR (extrapolated) = 0.563 W/kg

**SAR(1 g) = 0.093 W/kg; SAR(10 g) = 0.027 W/kg**

Maximum value of SAR (measured) = 0.186 W/kg



0 dB = 0.173 W/kg = -7.63 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190 \text{ MHz}$ ;  $\sigma = 5.311 \text{ S/m}$ ;  $\epsilon_r = 48.593$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0448 W/kg

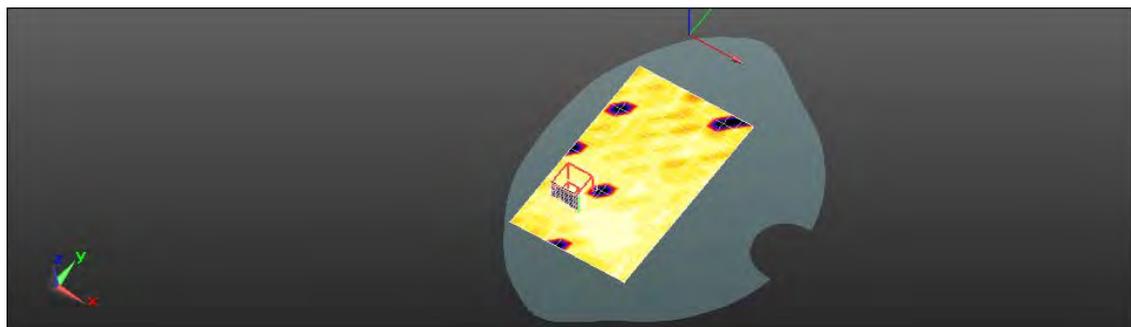
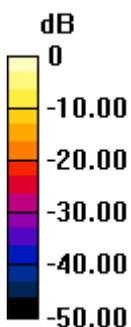
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.984 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.205 W/kg

**SAR(1 g) = 0.020 W/kg; SAR(10 g) = 0.00621 W/kg**

Maximum value of SAR (measured) = 0.0387 W/kg



0 dB = 0.0448 W/kg = -13.49 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190 \text{ MHz}$ ;  $\sigma = 5.311 \text{ S/m}$ ;  $\epsilon_r = 48.593$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.130 W/kg

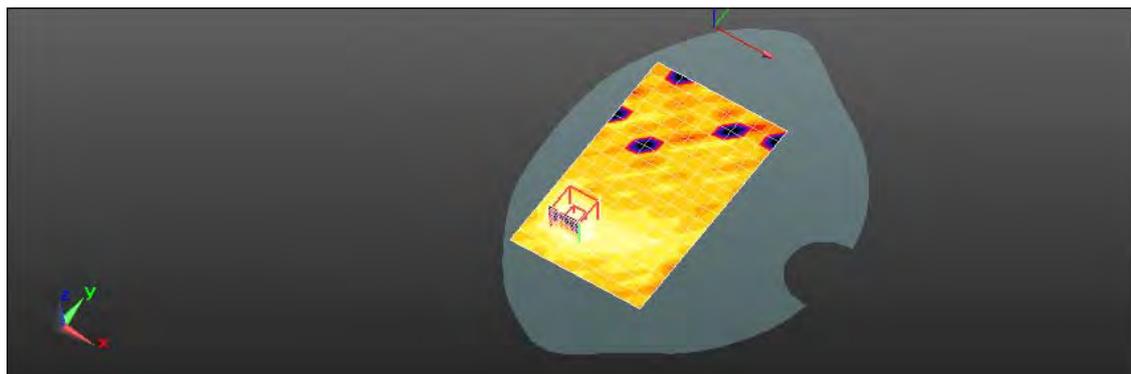
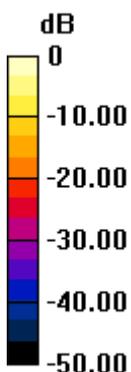
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.137 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.267 W/kg

**SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.148 W/kg



0 dB = 0.130 W/kg = -8.85 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.2G\_CH46

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5230 MHz

Medium parameters used:  $f = 5230 \text{ MHz}$ ;  $\sigma = 5.354 \text{ S/m}$ ;  $\epsilon_r = 48.371$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0800 W/kg

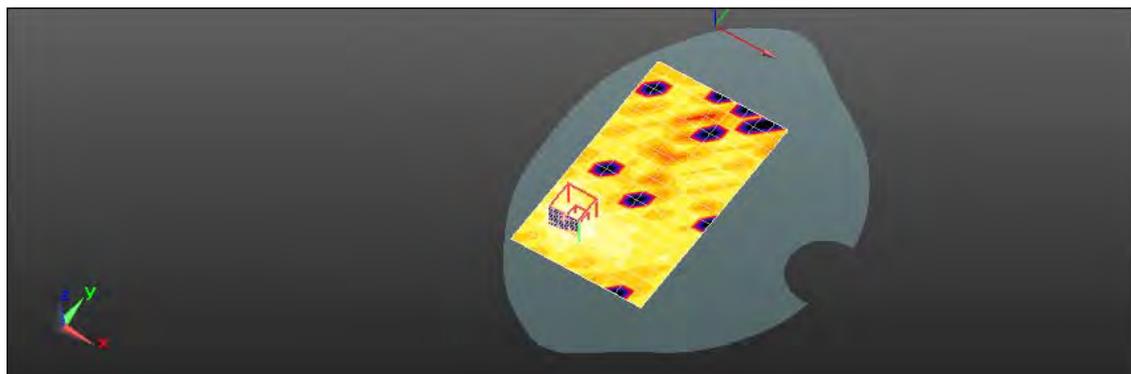
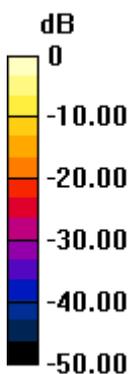
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.720 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.259 W/kg

**SAR(1 g) = 0.036 W/kg; SAR(10 g) = 0.013 W/kg**

Maximum value of SAR (measured) = 0.0872 W/kg



0 dB = 0.0800 W/kg = -10.97 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11n(40M)5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190$  MHz;  $\sigma = 5.311$  S/m;  $\epsilon_r = 48.593$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.135 W/kg

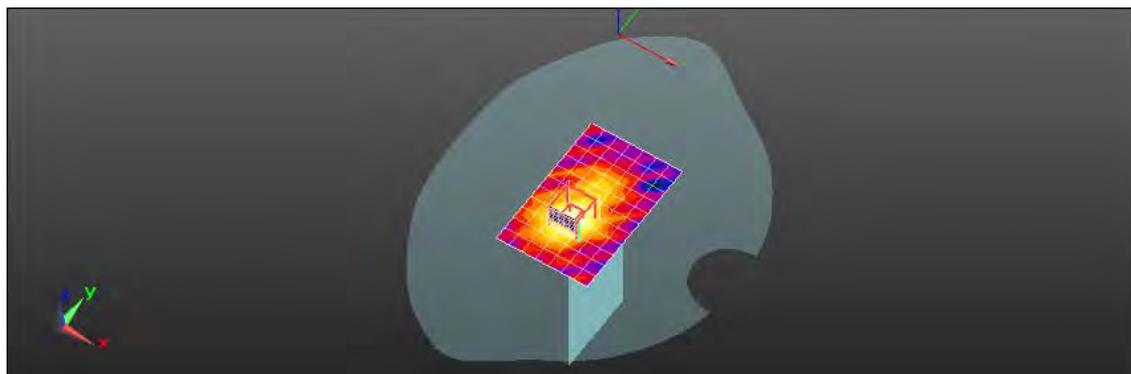
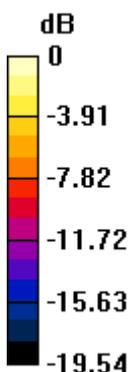
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.320 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.250 W/kg

**SAR(1 g) = 0.066 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.132 W/kg



0 dB = 0.135 W/kg = -8.71 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11n(40M) 5.2G\_CH38

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5190 MHz

Medium parameters used:  $f = 5190$  MHz;  $\sigma = 5.311$  S/m;  $\epsilon_r = 48.593$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.0496 W/kg

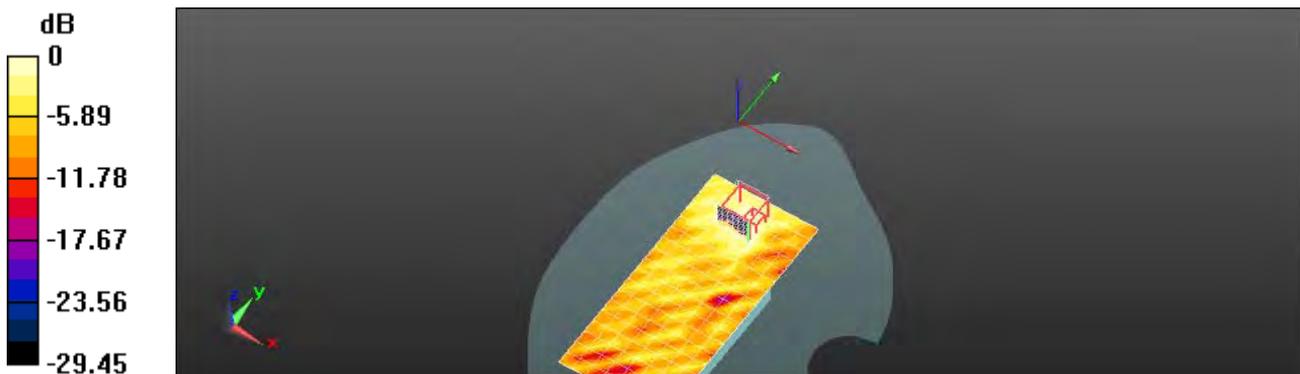
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.561 V/m; Power Drift =0.19 dB

Peak SAR (extrapolated) = 0.358 W/kg

**SAR(1 g) = 0.030 W/kg; SAR(10 g) = 0.011 W/kg**

Maximum value of SAR (measured) = 0.0608 W/kg



0 dB = 0.0496 W/kg = -13.05 dBW/kg

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Date: 5/9/2013

### RE Cheek\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz

Medium parameters used:  $f = 5280 \text{ MHz}$ ;  $\sigma = 4.713 \text{ S/m}$ ;  $\epsilon_r = 35.065$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.452 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

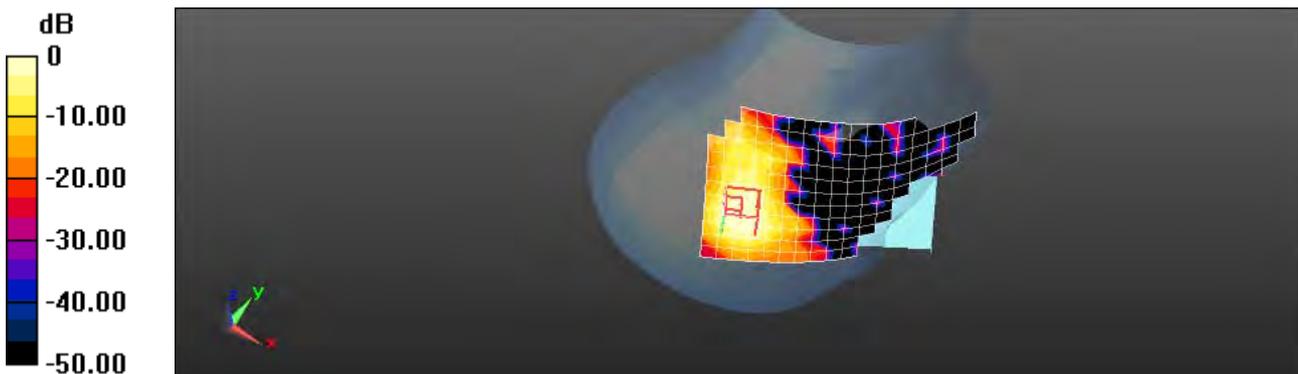
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 8.673 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.945 W/kg

**SAR(1 g) = 0.243 W/kg; SAR(10 g) = 0.087 W/kg**

Maximum value of SAR (measured) = 0.456 W/kg



0 dB = 0.452 W/kg = -3.44 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz  
Medium parameters used:  $f = 5280 \text{ MHz}$ ;  $\sigma = 4.713 \text{ S/m}$ ;  $\epsilon_r = 35.065$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

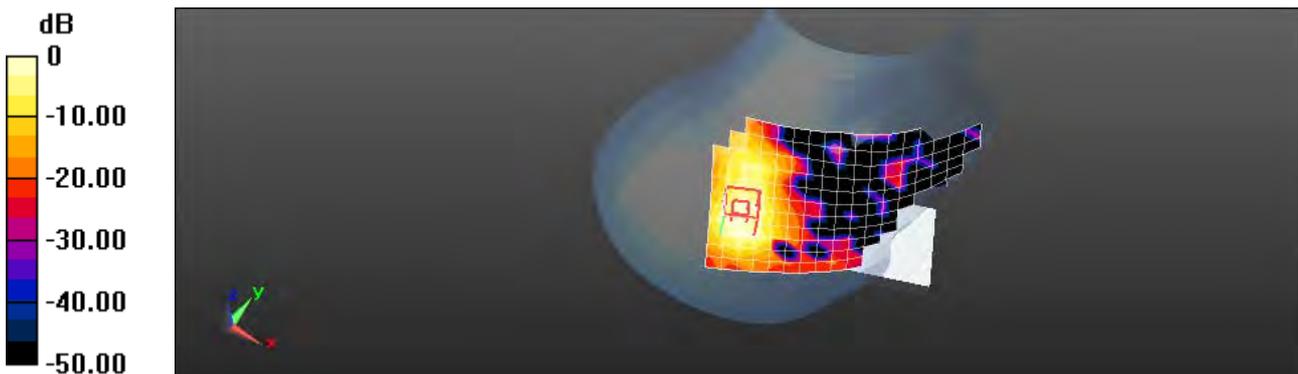
Maximum value of SAR (measured) = 0.557 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.883 V/m; Power Drift = 0.11 dB  
Peak SAR (extrapolated) = 1.05 W/kg

**SAR(1 g) = 0.305 W/kg; SAR(10 g) = 0.108 W/kg**

Maximum value of SAR (measured) = 0.585 W/kg



0 dB = 0.557 W/kg = -2.55 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11a 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz  
Medium parameters used:  $f = 5320$  MHz;  $\sigma = 4.774$  S/m;  $\epsilon_r = 35.061$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

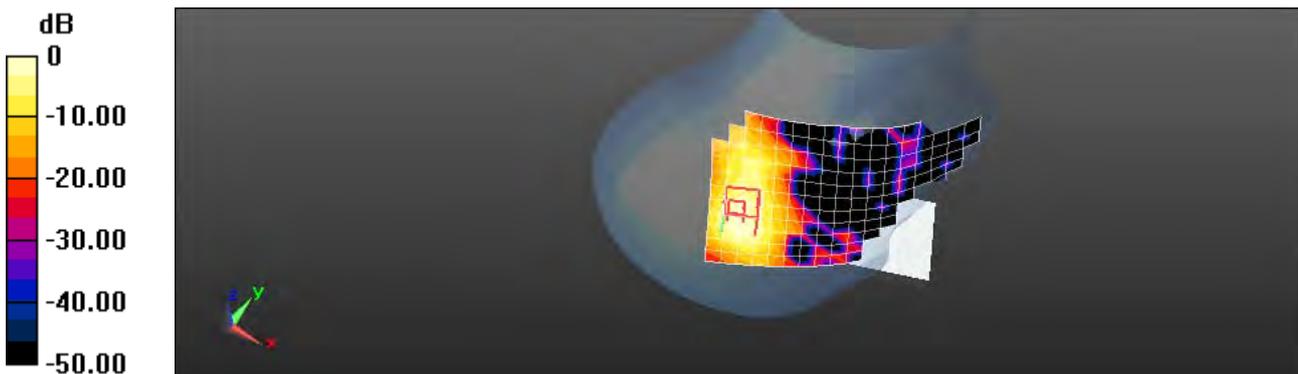
Maximum value of SAR (measured) = 0.603 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 8.160 V/m; Power Drift = -0.07 dB  
Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.312 W/kg; SAR(10 g) = 0.112 W/kg**

Maximum value of SAR (measured) = 0.611 W/kg



0 dB = 0.603 W/kg = -2.20 dBW/kg

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Date: 5/9/2013

### LE Cheek\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz  
Medium parameters used:  $f = 5280$  MHz;  $\sigma = 4.713$  S/m;  $\epsilon_r = 35.065$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

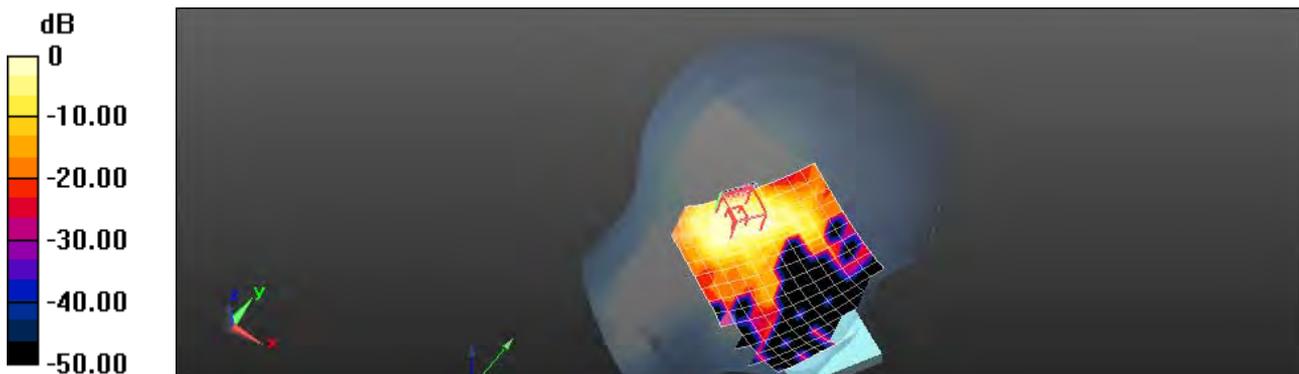
Maximum value of SAR (measured) = 0.377 W/kg

#### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 7.705 V/m; Power Drift = -0.14 dB  
Peak SAR (extrapolated) = 0.760 W/kg

**SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.081 W/kg**

Maximum value of SAR (measured) = 0.416 W/kg



0 dB = 0.377 W/kg = -4.23 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz  
Medium parameters used:  $f = 5280 \text{ MHz}$ ;  $\sigma = 4.713 \text{ S/m}$ ;  $\epsilon_r = 35.065$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

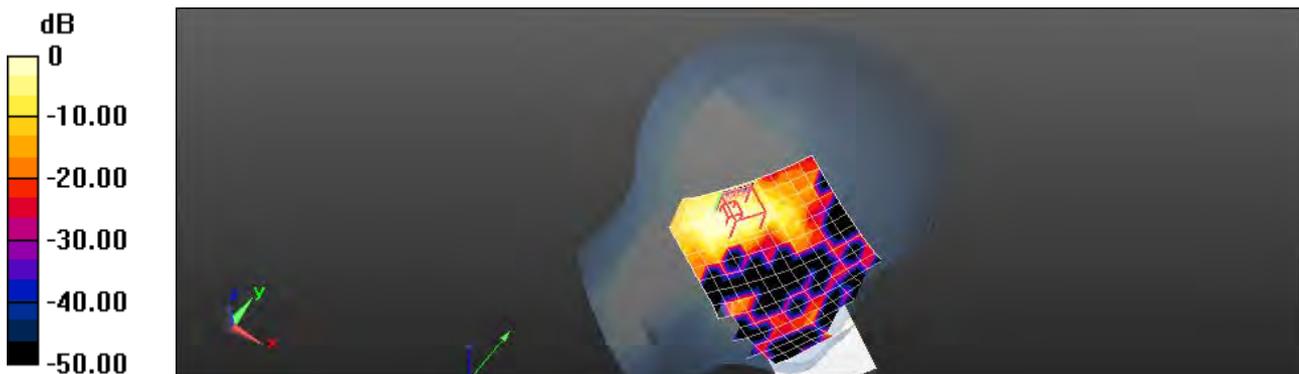
Maximum value of SAR (measured) = 0.353 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.361 V/m; Power Drift = -0.13 dB  
Peak SAR (extrapolated) = 0.603 W/kg

**SAR(1 g) = 0.189 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.356 W/kg



0 dB = 0.353 W/kg = -4.53 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz

Medium parameters used:  $f = 5280$  MHz;  $\sigma = 5.432$  S/m;  $\epsilon_r = 47.825$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.0703 W/kg

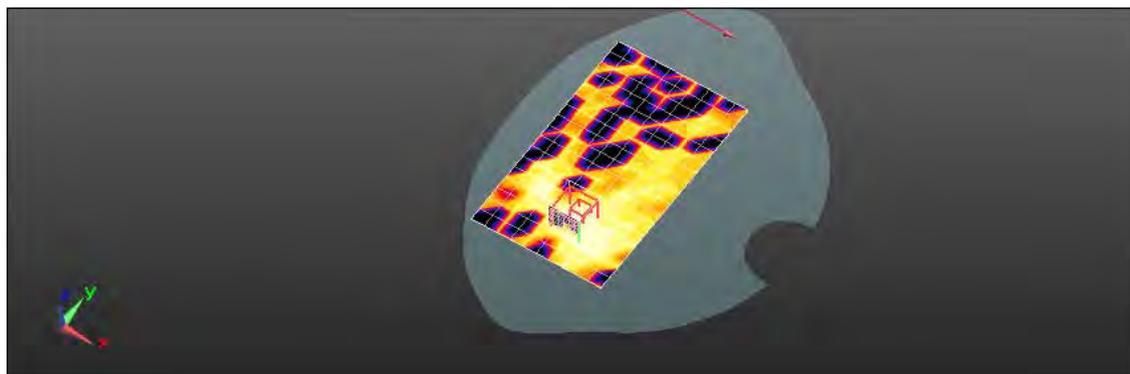
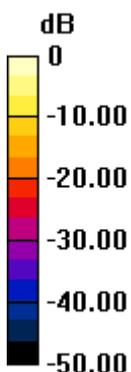
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.918 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.348 W/kg

**SAR(1 g) = 0.030 W/kg; SAR(10 g) = 0.011 W/kg**

Maximum value of SAR (measured) = 0.0681 W/kg



0 dB = 0.0703 W/kg = -11.53 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz  
Medium parameters used:  $f = 5280$  MHz;  $\sigma = 5.432$  S/m;  $\epsilon_r = 47.825$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.219 W/kg

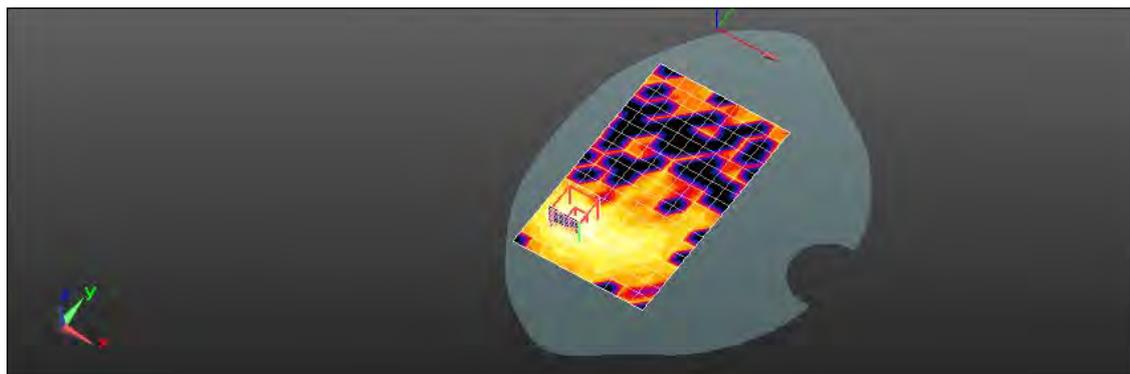
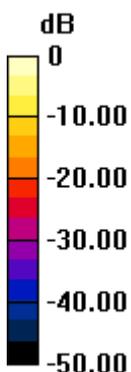
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.740 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.464 W/kg

**SAR(1 g) = 0.128 W/kg; SAR(10 g) = 0.043 W/kg**

Maximum value of SAR (measured) = 0.253 W/kg



0 dB = 0.219 W/kg = -6.60 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz

Medium parameters used:  $f = 5280 \text{ MHz}$ ;  $\sigma = 5.432 \text{ S/m}$ ;  $\epsilon_r = 47.825$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.265 W/kg

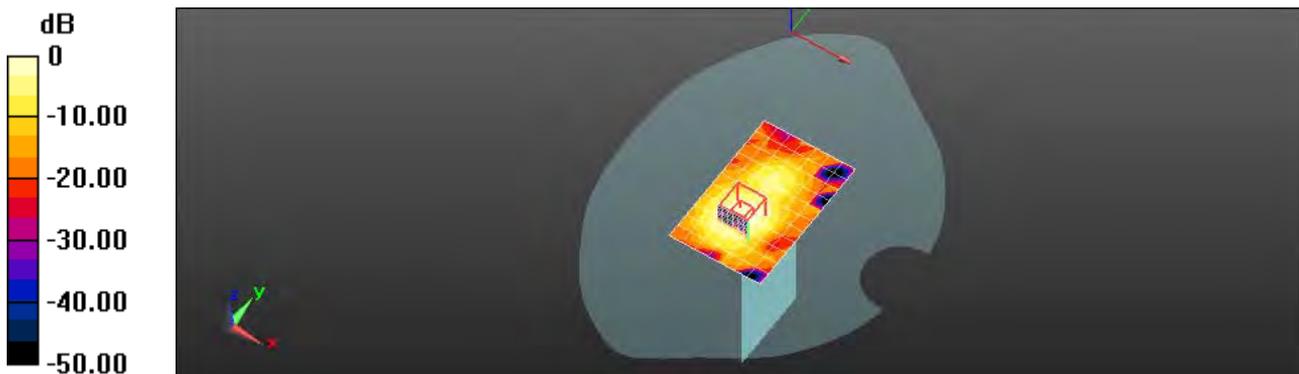
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 4.203 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.478 W/kg

**SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.045 W/kg**

Maximum value of SAR (measured) = 0.263 W/kg



0 dB = 0.265 W/kg = -5.77 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11a 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.496$  S/m;  $\epsilon_r = 47.747$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.356 W/kg

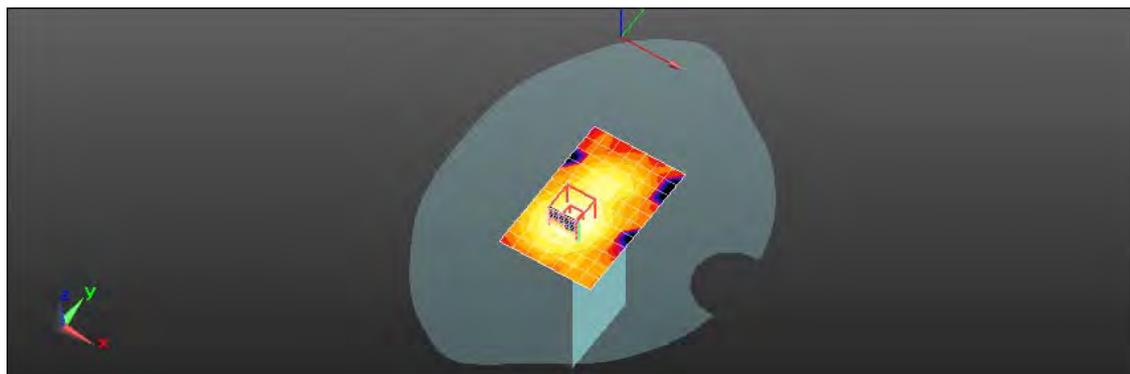
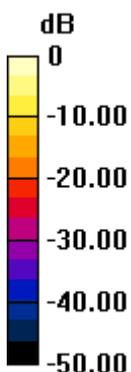
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.439 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.640 W/kg

**SAR(1 g) = 0.176 W/kg; SAR(10 g) = 0.063 W/kg**

Maximum value of SAR (measured) = 0.359 W/kg



0 dB = 0.356 W/kg = -4.49 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11a 5.3G\_CH56

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5280 MHz

Medium parameters used:  $f = 5280 \text{ MHz}$ ;  $\sigma = 5.432 \text{ S/m}$ ;  $\epsilon_r = 47.825$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0859 W/kg

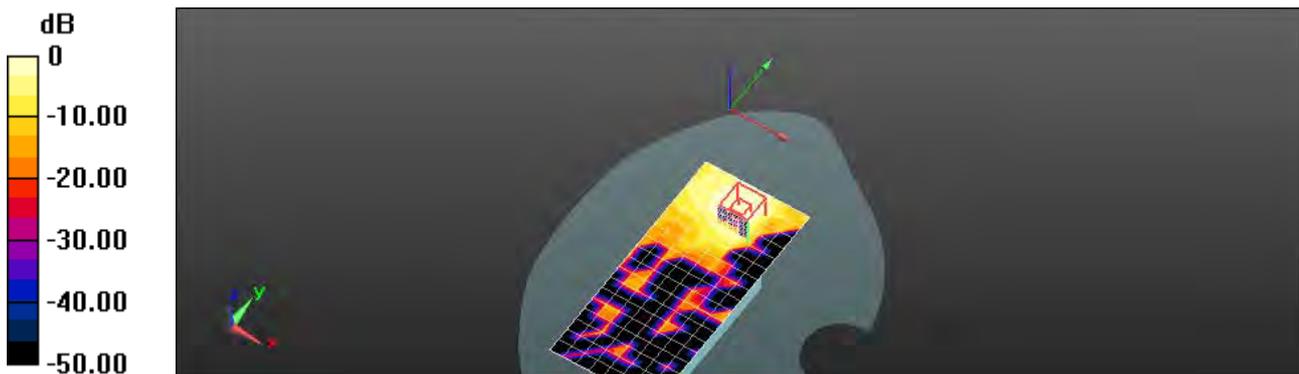
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.863 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.278 W/kg

**SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.015 W/kg**

Maximum value of SAR (measured) = 0.0987 W/kg



0 dB = 0.0859 W/kg = -10.66 dBW/kg

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Member of SGS Group

Date: 5/9/2013

### RE Cheek\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 4.774$  S/m;  $\epsilon_r = 35.061$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.657 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

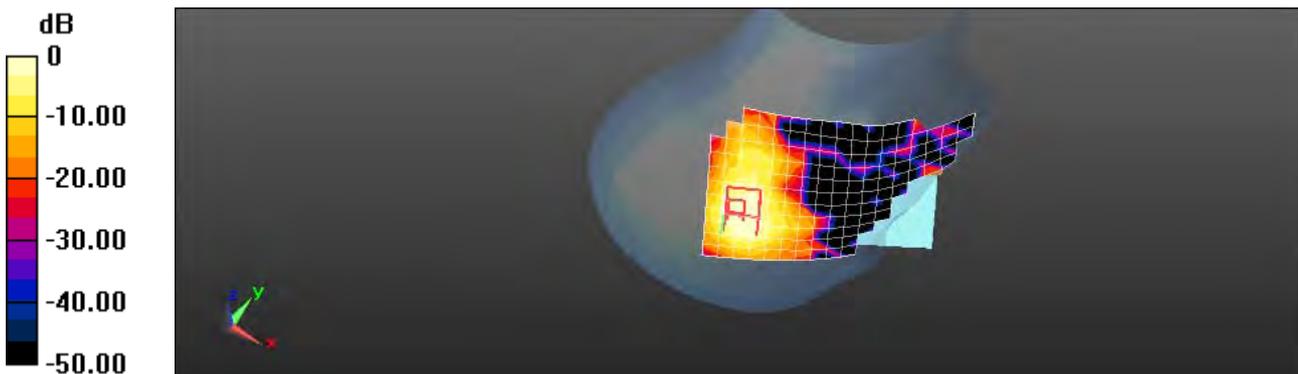
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.704 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 1.28 W/kg

**SAR(1 g) = 0.356 W/kg; SAR(10 g) = 0.131 W/kg**

Maximum value of SAR (measured) = 0.711 W/kg



0 dB = 0.657 W/kg = -1.83 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11n(20M) 5.3G\_CH52

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5260 MHz

Medium parameters used:  $f = 5260$  MHz;  $\sigma = 4.7$  S/m;  $\epsilon_r = 35.008$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.539 W/kg

### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

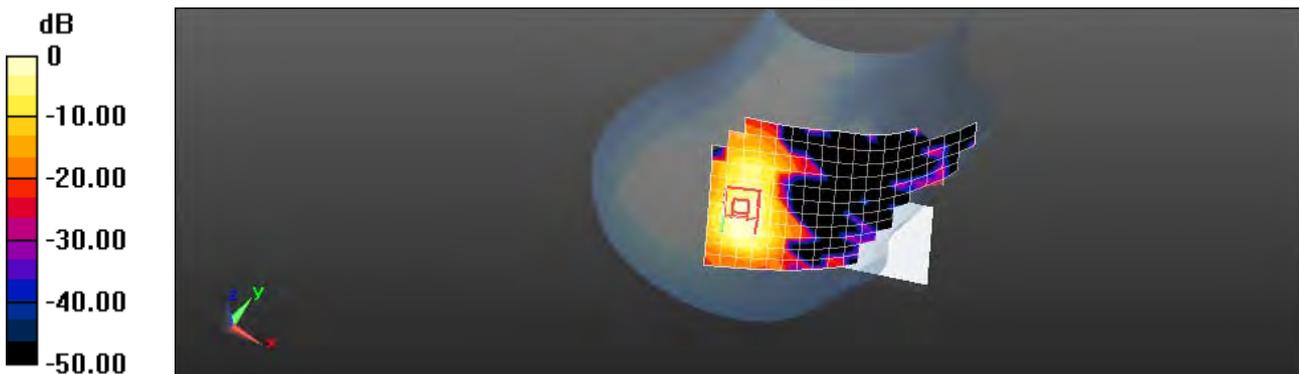
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.595 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.02 W/kg

**SAR(1 g) = 0.293 W/kg; SAR(10 g) = 0.101 W/kg**

Maximum value of SAR (measured) = 0.551 W/kg



0 dB = 0.539 W/kg = -2.68 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 4.774$  S/m;  $\epsilon_r = 35.061$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.865 W/kg

### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

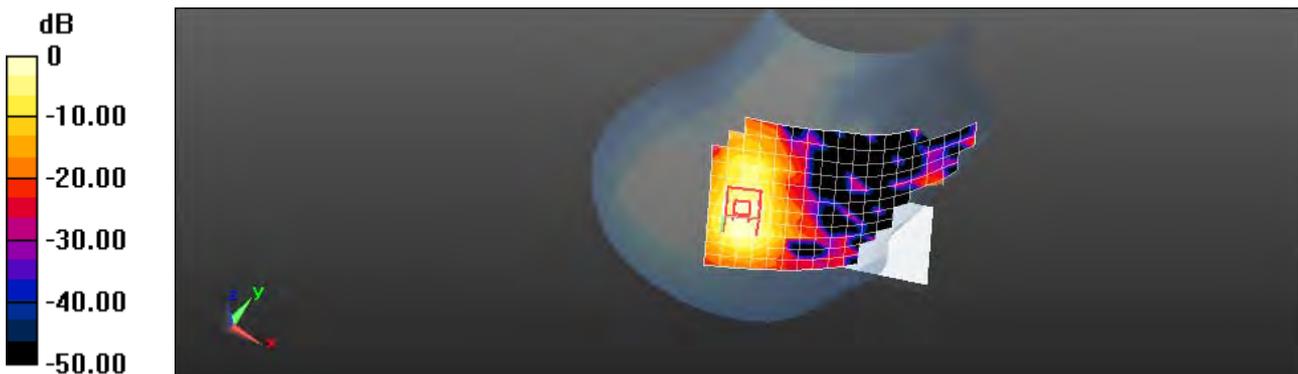
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.566 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.52 W/kg

**SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.152 W/kg**

Maximum value of SAR (measured) = 0.861 W/kg



0 dB = 0.865 W/kg = -0.63 dBW/kg

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Date: 5/9/2013

### LE Cheek\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 4.774$  S/m;  $\epsilon_r = 35.061$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.547 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

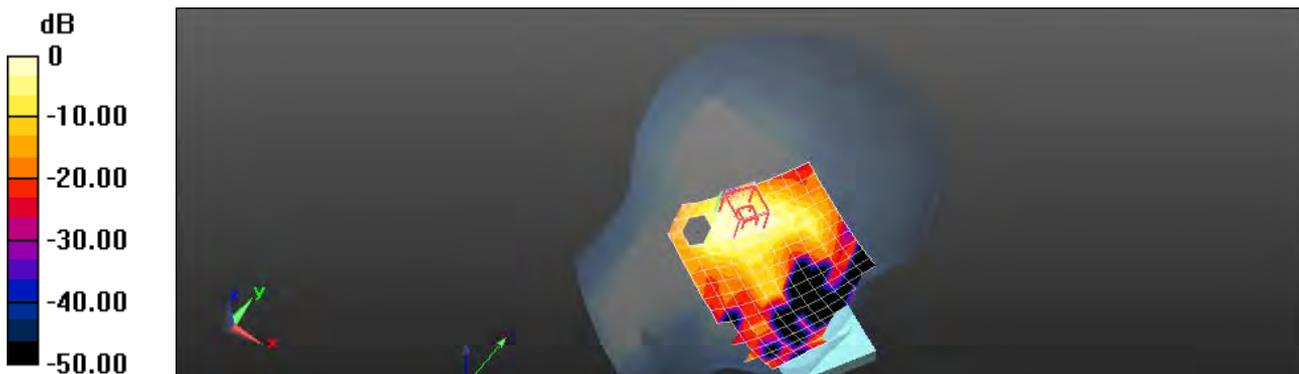
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.647 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.01 W/kg

**SAR(1 g) = 0.317 W/kg; SAR(10 g) = 0.123 W/kg**

Maximum value of SAR (measured) = 0.582 W/kg



0 dB = 0.547 W/kg = -2.62 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 4.774$  S/m;  $\epsilon_r = 35.061$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.649 W/kg

### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

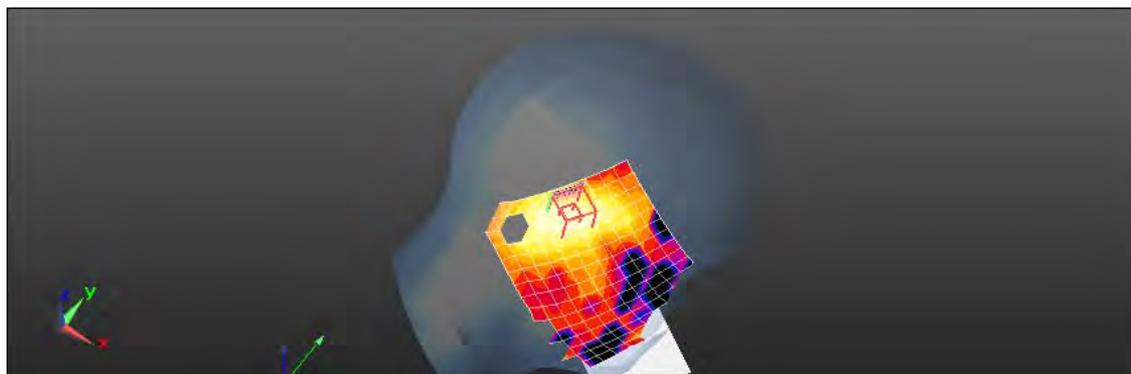
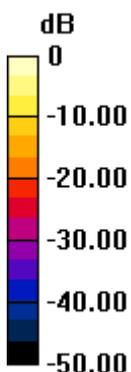
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.271 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 2.35 W/kg

**SAR(1 g) = 0.404 W/kg; SAR(10 g) = 0.138 W/kg**

Maximum value of SAR (measured) = 0.758 W/kg



0 dB = 0.649 W/kg = -1.88 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.496$  S/m;  $\epsilon_r = 47.747$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.0953 W/kg

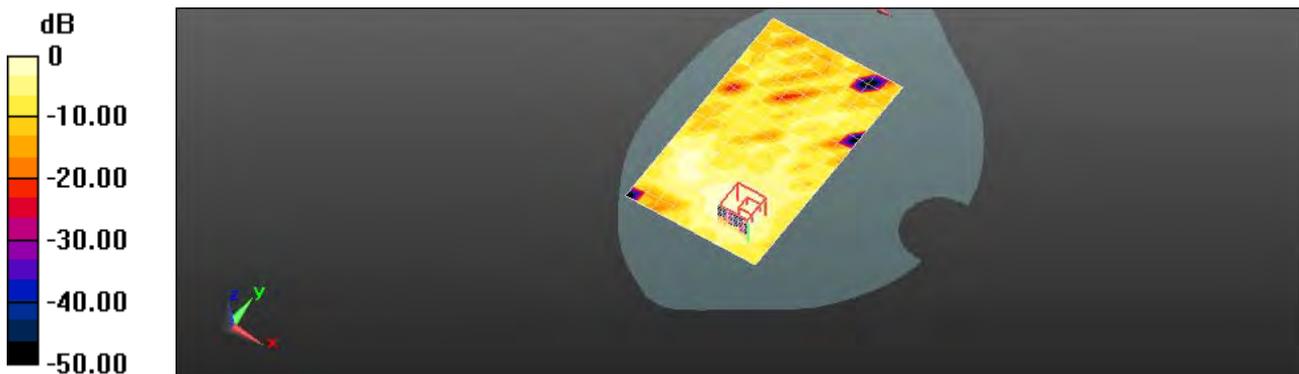
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.827 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.511 W/kg

**SAR(1 g) = 0.042 W/kg; SAR(10 g) = 0.015 W/kg**

Maximum value of SAR (measured) = 0.0810 W/kg



0 dB = 0.0953 W/kg = -10.21 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.3G\_CH52

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5260 MHz

Medium parameters used:  $f = 5260$  MHz;  $\sigma = 5.408$  S/m;  $\epsilon_r = 48.196$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.222 W/kg

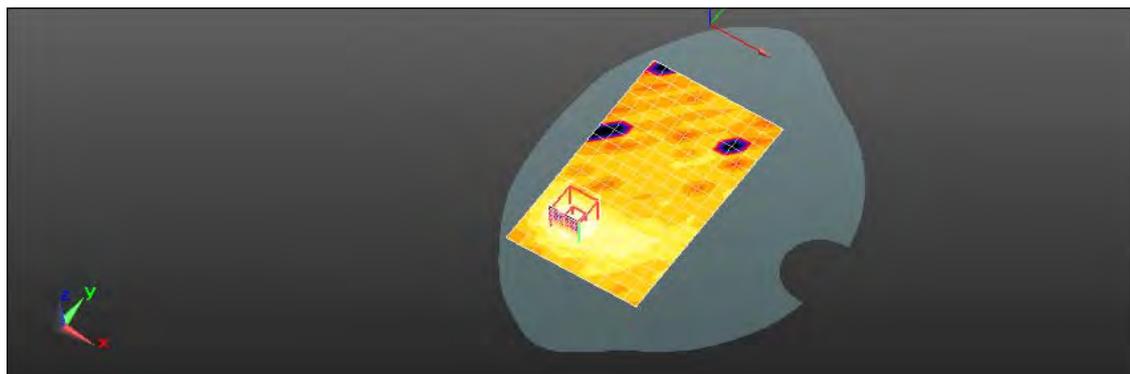
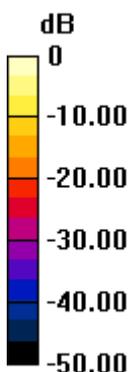
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.483 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.481 W/kg

**SAR(1 g) = 0.125 W/kg; SAR(10 g) = 0.042 W/kg**

Maximum value of SAR (measured) = 0.245 W/kg



0 dB = 0.222 W/kg = -6.53 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.496$  S/m;  $\epsilon_r = 47.747$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.379 W/kg

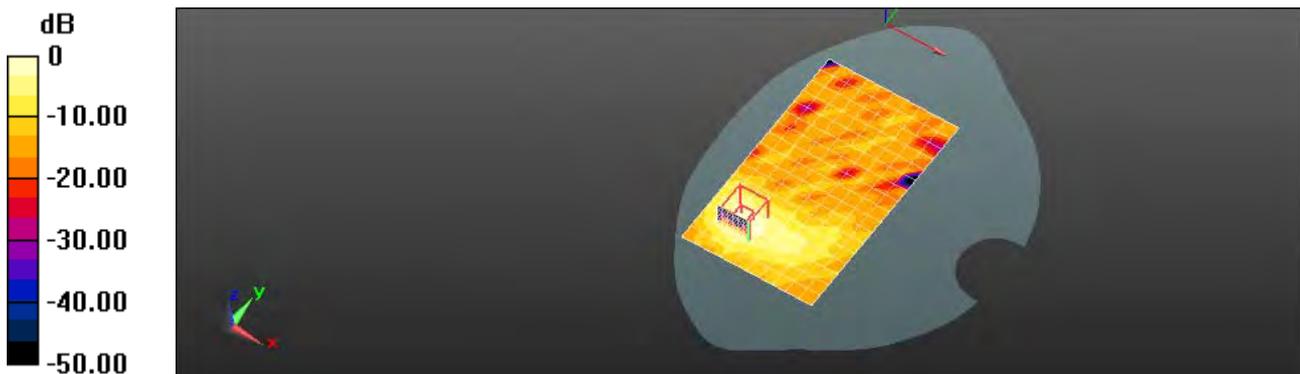
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.847 V/m; Power Drift =0.12 dB

Peak SAR (extrapolated) = 0.805 W/kg

**SAR(1 g) = 0.212 W/kg; SAR(10 g) = 0.072 W/kg**

Maximum value of SAR (measured) = 0.406 W/kg



0 dB = 0.379 W/kg = -4.22 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.496$  S/m;  $\epsilon_r = 47.747$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.352 W/kg

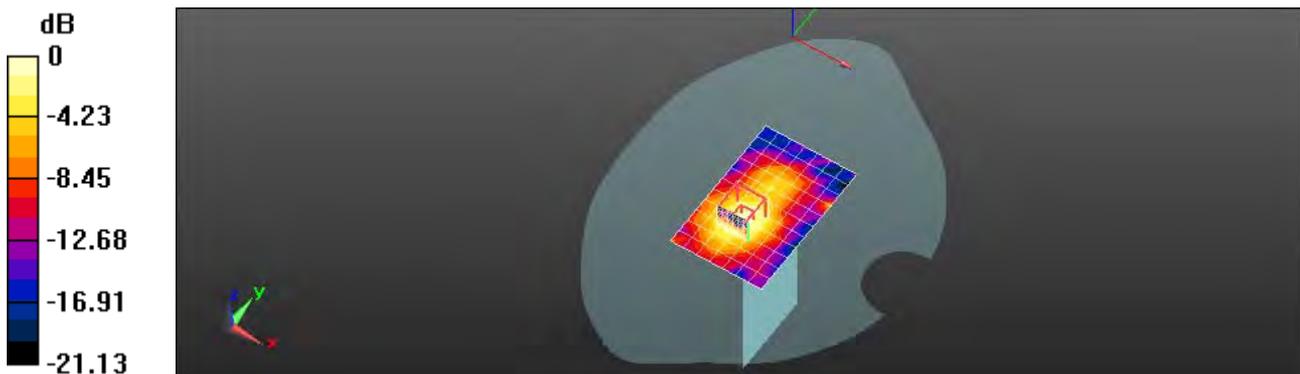
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.373 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.736 W/kg

**SAR(1 g) = 0.190 W/kg; SAR(10 g) = 0.071 W/kg**

Maximum value of SAR (measured) = 0.363 W/kg



0 dB = 0.352 W/kg = -4.53 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11n(20M) 5.3G\_CH64

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5320 MHz

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.496$  S/m;  $\epsilon_r = 47.747$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.135 W/kg

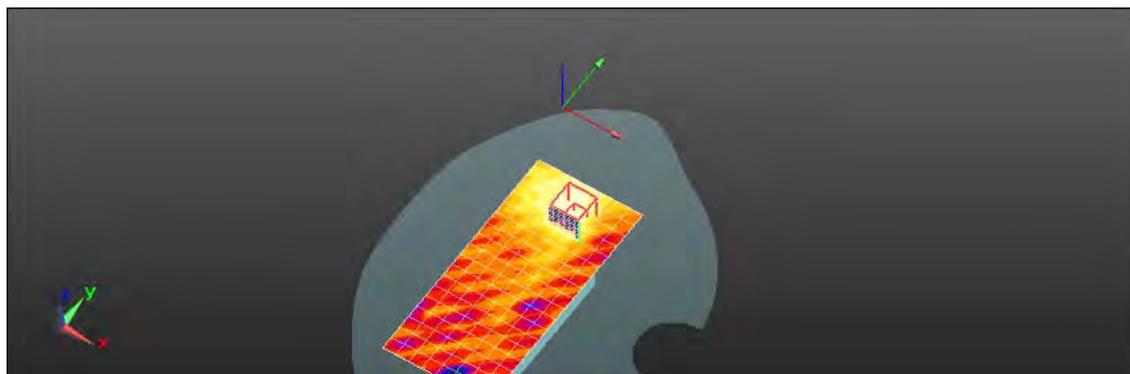
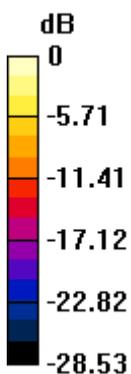
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.509 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.983 W/kg

**SAR(1 g) = 0.082 W/kg; SAR(10 g) = 0.028 W/kg**

Maximum value of SAR (measured) = 0.142 W/kg



0 dB = 0.135 W/kg = -8.70 dBW/kg

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Date: 5/9/2013

### RE Cheek\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz

Medium parameters used:  $f = 5310 \text{ MHz}$ ;  $\sigma = 4.758 \text{ S/m}$ ;  $\epsilon_r = 35.096$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.259 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

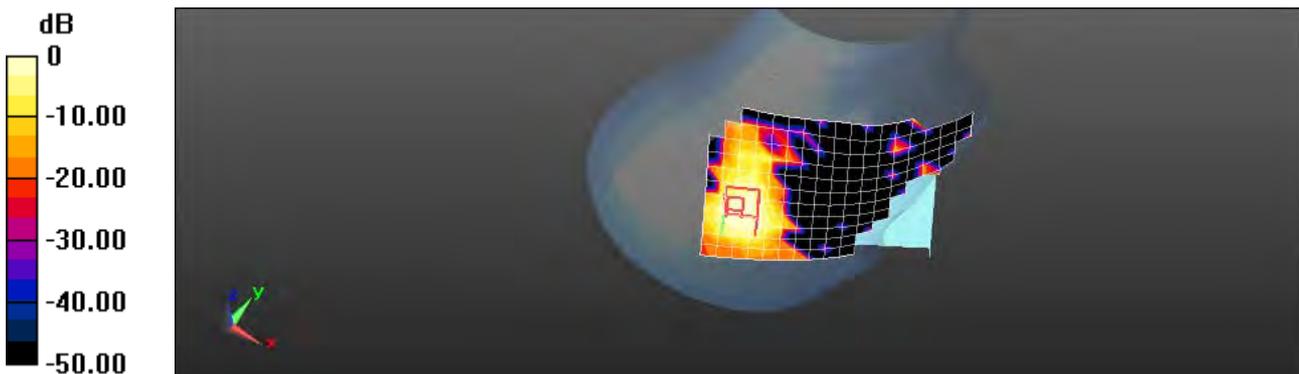
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 5.346 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.490 W/kg

**SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.049 W/kg**

Maximum value of SAR (measured) = 0.272 W/kg



0 dB = 0.259 W/kg = -5.86 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11n(40M) 5.3G\_CH54

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5270 MHz

Medium parameters used:  $f = 5270$  MHz;  $\sigma = 4.707$  S/m;  $\epsilon_r = 35.029$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1)**: Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.259 W/kg

### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

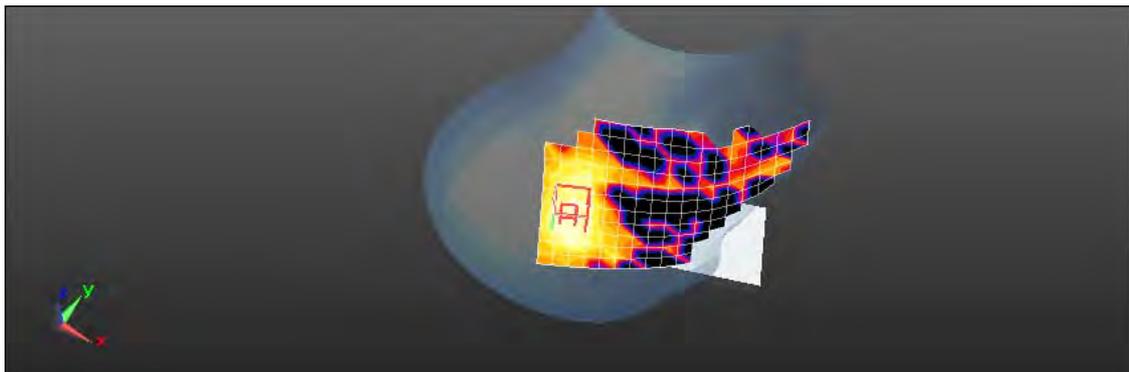
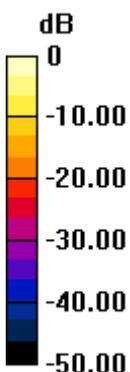
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 6.138 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.508 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.049 W/kg**

Maximum value of SAR (measured) = 0.267 W/kg



0 dB = 0.259 W/kg = -5.87 dBW/kg

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Date: 5/9/2013

### RE Tilt\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz  
Medium parameters used:  $f = 5310$  MHz;  $\sigma = 4.758$  S/m;  $\epsilon_r = 35.096$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

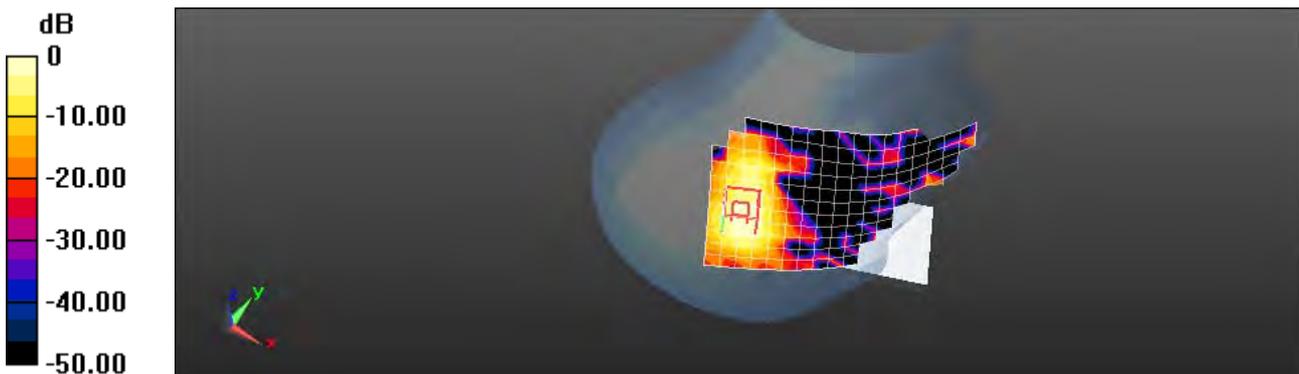
Maximum value of SAR (measured) = 0.347 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 5.701 V/m; Power Drift = 0.17 dB  
Peak SAR (extrapolated) = 0.622 W/kg

**SAR(1 g) = 0.178 W/kg; SAR(10 g) = 0.059 W/kg**

Maximum value of SAR (measured) = 0.348 W/kg



0 dB = 0.347 W/kg = -4.60 dBW/kg

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Date: 5/9/2013

### LE Cheek\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz

Medium parameters used:  $f = 5310$  MHz;  $\sigma = 4.758$  S/m;  $\epsilon_r = 35.096$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.204 W/kg

#### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

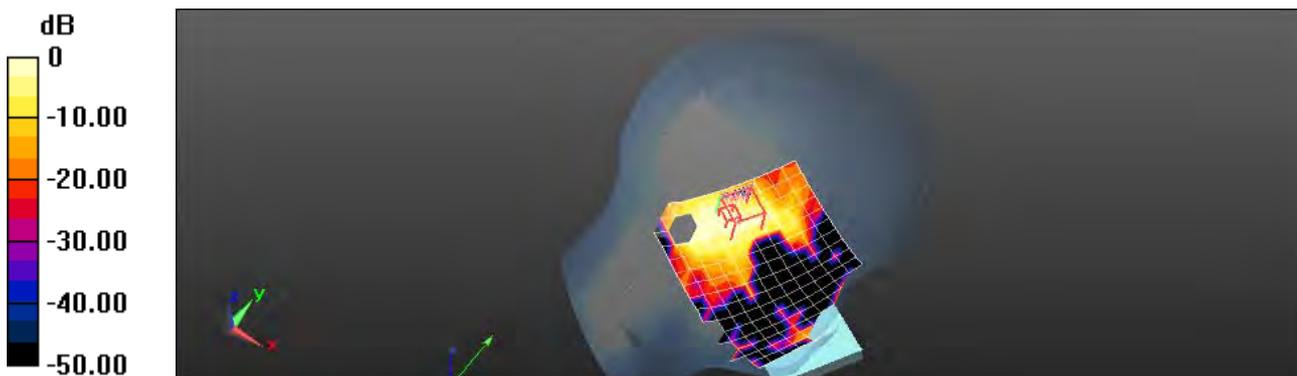
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.547 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.361 W/kg

**SAR(1 g) = 0.109 W/kg; SAR(10 g) = 0.034 W/kg**

Maximum value of SAR (measured) = 0.212 W/kg



0 dB = 0.204 W/kg = -6.91 dBW/kg

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Date: 5/9/2013

### LE Tilt\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz  
Medium parameters used:  $f = 5310 \text{ MHz}$ ;  $\sigma = 4.758 \text{ S/m}$ ;  $\epsilon_r = 35.096$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.76, 4.76, 4.76); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

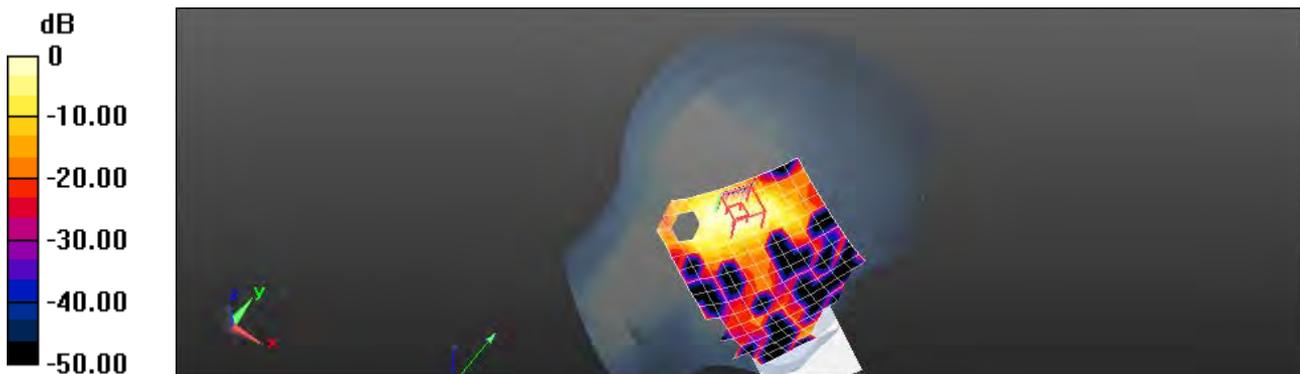
Maximum value of SAR (measured) = 0.281 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 5.322 V/m; Power Drift = 0.15 dB  
Peak SAR (extrapolated) = 0.686 W/kg

**SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.050 W/kg**

Maximum value of SAR (measured) = 0.305 W/kg



0 dB = 0.281 W/kg = -5.52 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz

Medium parameters used:  $f = 5310 \text{ MHz}$ ;  $\sigma = 5.485 \text{ S/m}$ ;  $\epsilon_r = 47.767$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0500 W/kg

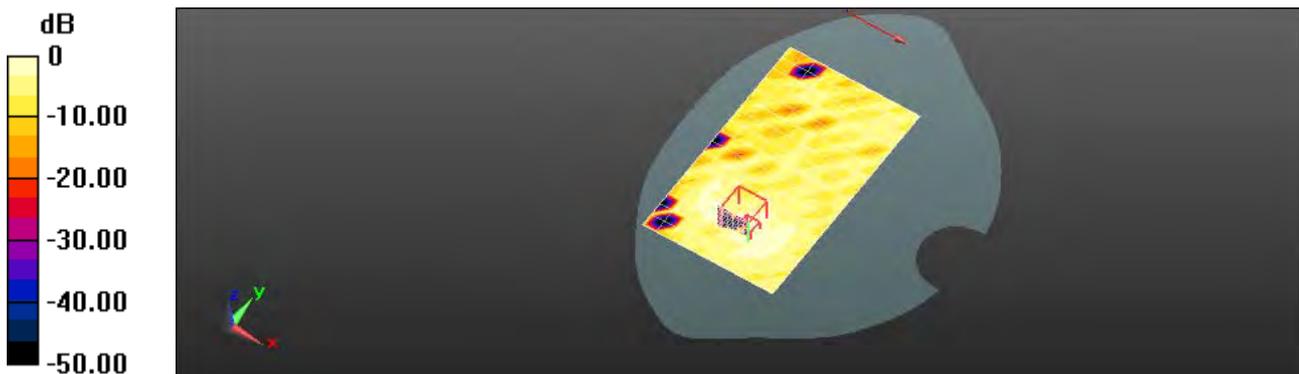
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.418 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.334 W/kg

**SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.00843 W/kg**

Maximum value of SAR (measured) = 0.0425 W/kg



0 dB = 0.0500 W/kg = -13.01 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.3G\_CH54

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5270 MHz  
Medium parameters used:  $f = 5270 \text{ MHz}$ ;  $\sigma = 5.42 \text{ S/m}$ ;  $\epsilon_r = 48.01$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0954 W/kg

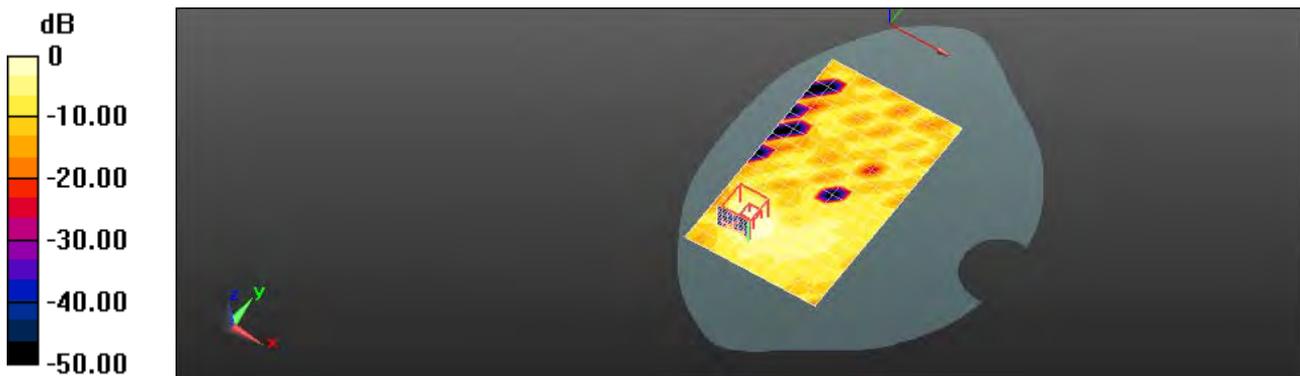
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.946 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.260 W/kg

**SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.014 W/kg**

Maximum value of SAR (measured) = 0.102 W/kg



0 dB = 0.0954 W/kg = -10.21 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz

Medium parameters used:  $f = 5310 \text{ MHz}$ ;  $\sigma = 5.485 \text{ S/m}$ ;  $\epsilon_r = 47.767$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.140 W/kg

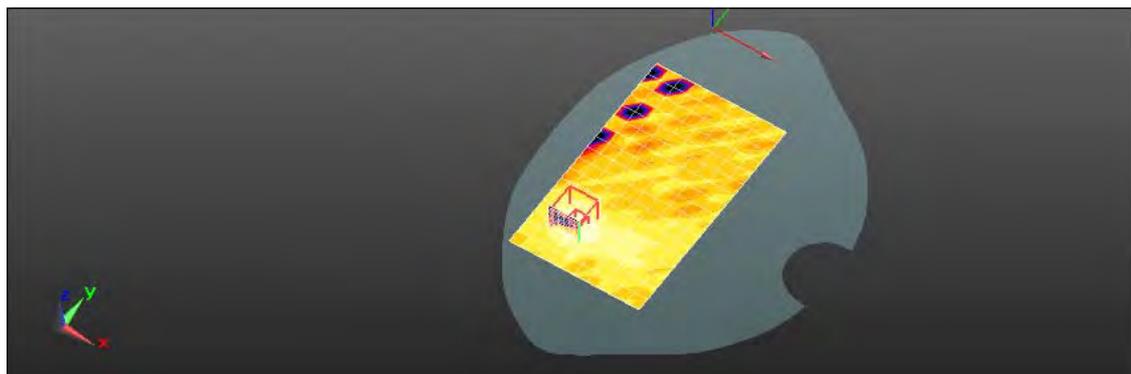
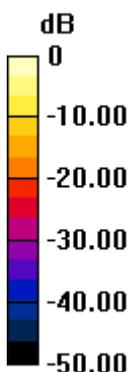
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.069 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.293 W/kg

**SAR(1 g) = 0.077 W/kg; SAR(10 g) = 0.025 W/kg**

Maximum value of SAR (measured) = 0.155 W/kg



0 dB = 0.140 W/kg = -8.53 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz

Medium parameters used:  $f = 5310 \text{ MHz}$ ;  $\sigma = 5.485 \text{ S/m}$ ;  $\epsilon_r = 47.767$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.141 W/kg

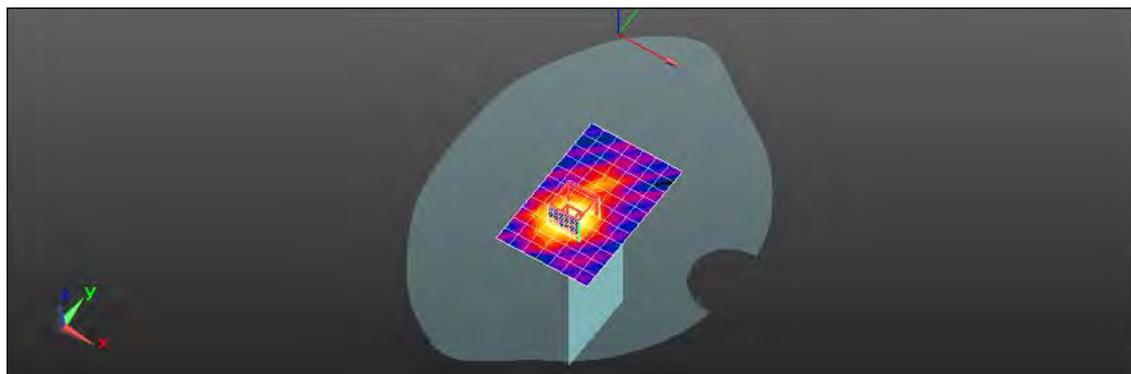
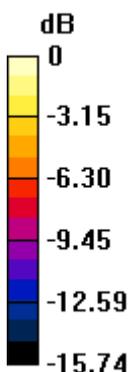
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 3.067 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.320 W/kg

**SAR(1 g) = 0.065 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.145 W/kg



0 dB = 0.141 W/kg = -8.50 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11n(40M) 5.3G\_CH62

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5310 MHz

Medium parameters used:  $f = 5310 \text{ MHz}$ ;  $\sigma = 5.485 \text{ S/m}$ ;  $\epsilon_r = 47.767$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.95, 3.95, 3.95); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0566 W/kg

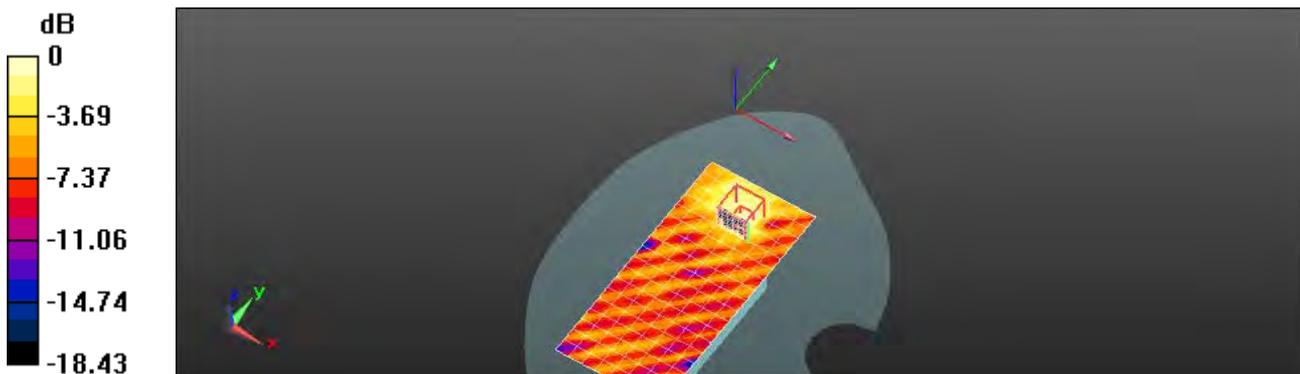
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 2.112 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.347 W/kg

**SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.010 W/kg**

Maximum value of SAR (measured) = 0.0524 W/kg



0 dB = 0.0566 W/kg = -12.47 dBW/kg

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Date: 5/13/2013

### RE Cheek\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz

Medium parameters used:  $f = 5640$  MHz;  $\sigma = 5.189$  S/m;  $\epsilon_r = 34.264$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.598 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

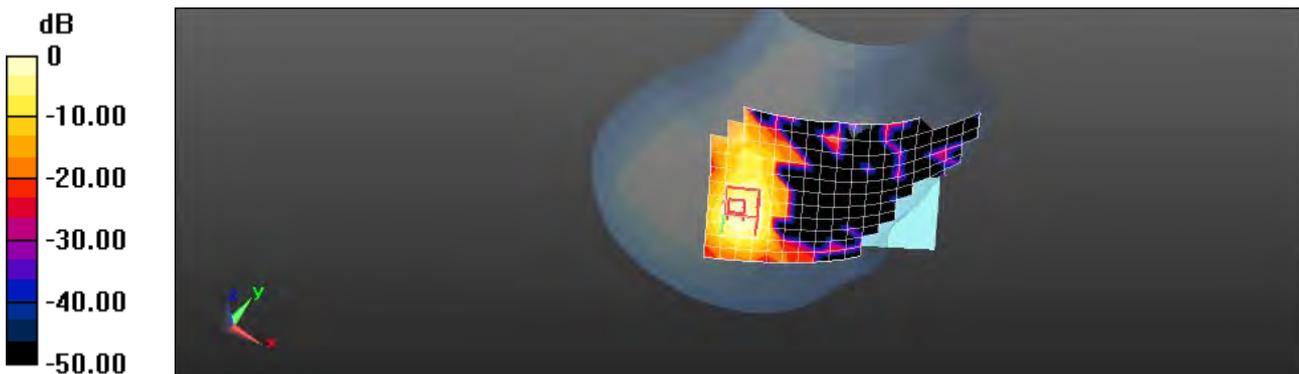
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.904 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.308 W/kg; SAR(10 g) = 0.094 W/kg**

Maximum value of SAR (measured) = 0.627 W/kg



0 dB = 0.598 W/kg = -2.23 dBW/kg

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Date: 5/13/2013

## RE Tilt\_WLAN802.11a 5.5G\_CH100

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5500 MHz

Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.021$  S/m;  $\epsilon_r = 34.606$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.58, 4.58, 4.58); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.812 W/kg

## Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

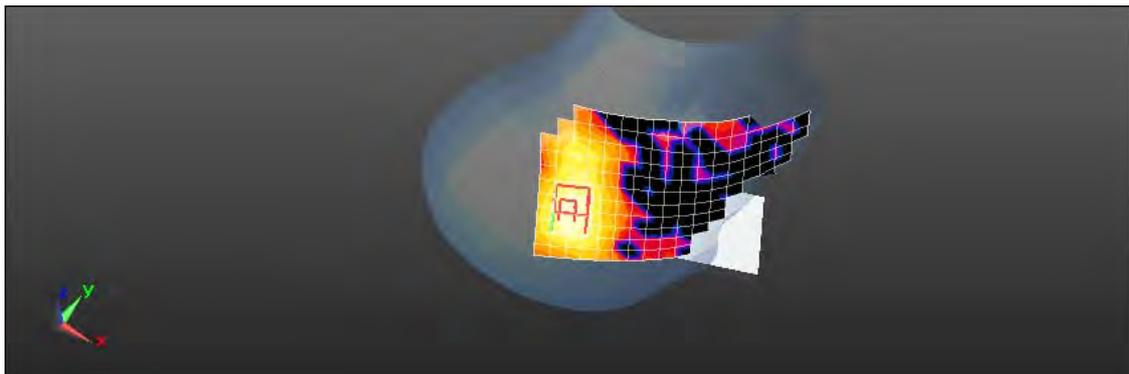
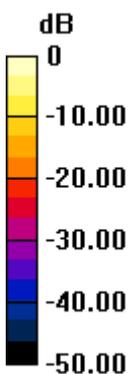
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 10.284 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.62 W/kg

**SAR(1 g) = 0.431 W/kg; SAR(10 g) = 0.147 W/kg**

Maximum value of SAR (measured) = 0.816 W/kg



0 dB = 0.812 W/kg = -0.90 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11a 5.5G\_CH116

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz  
Medium parameters used:  $f = 5580 \text{ MHz}$ ;  $\sigma = 5.112 \text{ S/m}$ ;  $\epsilon_r = 34.531$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

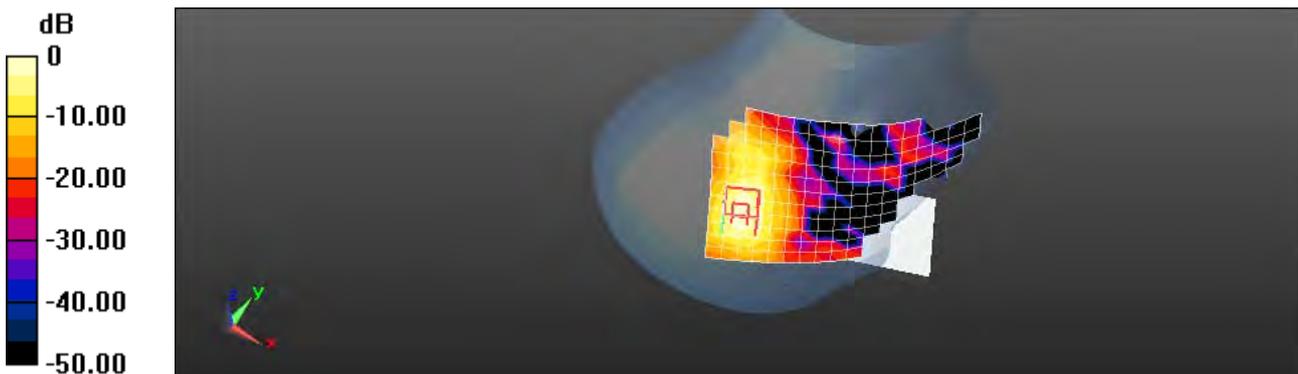
Maximum value of SAR (measured) = 0.920 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 8.312 V/m; Power Drift = 0.14 dB  
Peak SAR (extrapolated) = 1.77 W/kg

**SAR(1 g) = 0.469 W/kg; SAR(10 g) = 0.158 W/kg**

Maximum value of SAR (measured) = 0.925 W/kg



0 dB = 0.920 W/kg = -0.36 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz  
Medium parameters used:  $f = 5640 \text{ MHz}$ ;  $\sigma = 5.189 \text{ S/m}$ ;  $\epsilon_r = 34.264$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

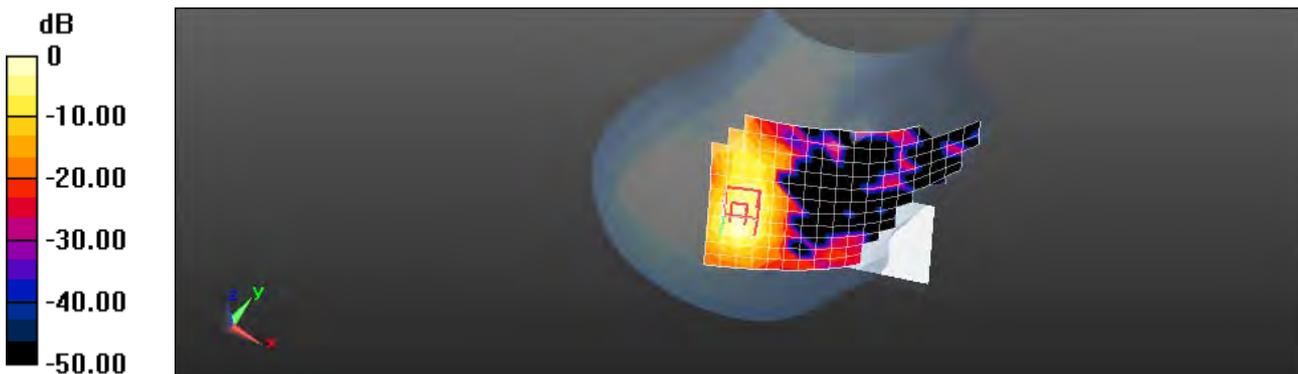
Maximum value of SAR (measured) = 0.749 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 7.097 V/m; Power Drift = 0.11 dB  
Peak SAR (extrapolated) = 1.41 W/kg

**SAR(1 g) = 0.374 W/kg; SAR(10 g) = 0.125 W/kg**

Maximum value of SAR (measured) = 0.735 W/kg



0 dB = 0.749 W/kg = -1.25 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11a 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz  
Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.249 \text{ S/m}$ ;  $\epsilon_r = 34.358$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

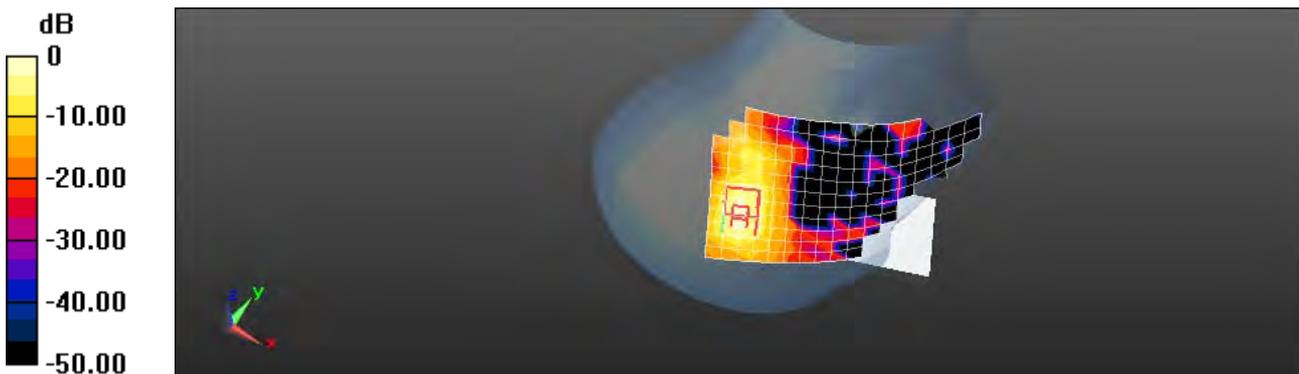
Maximum value of SAR (measured) = 0.744 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 7.170 V/m; Power Drift = -0.11 dB  
Peak SAR (extrapolated) = 1.53 W/kg

**SAR(1 g) = 0.362 W/kg; SAR(10 g) = 0.114 W/kg**

Maximum value of SAR (measured) = 0.747 W/kg



0 dB = 0.744 W/kg = -1.28 dBW/kg

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Date: 5/13/2013

### LE Cheek\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz  
Medium parameters used:  $f = 5640 \text{ MHz}$ ;  $\sigma = 5.189 \text{ S/m}$ ;  $\epsilon_r = 34.264$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

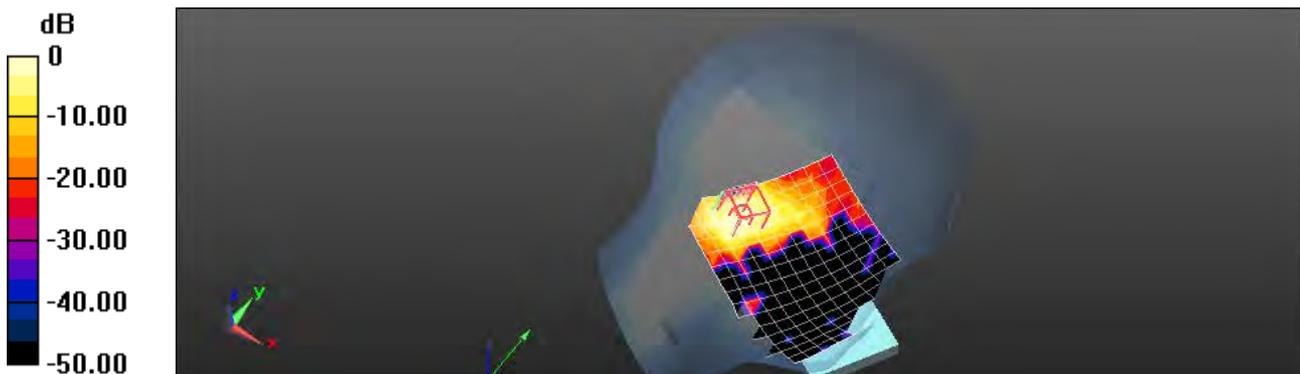
Maximum value of SAR (measured) = 0.657 W/kg

#### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 5.765 V/m; Power Drift = 0.10 dB  
Peak SAR (extrapolated) = 1.27 W/kg

**SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.130 W/kg**

Maximum value of SAR (measured) = 0.707 W/kg



0 dB = 0.657 W/kg = -1.82 dBW/kg

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Date: 5/13/2013

### LE Tilt\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz  
Medium parameters used:  $f = 5640$  MHz;  $\sigma = 5.189$  S/m;  $\epsilon_r = 34.264$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

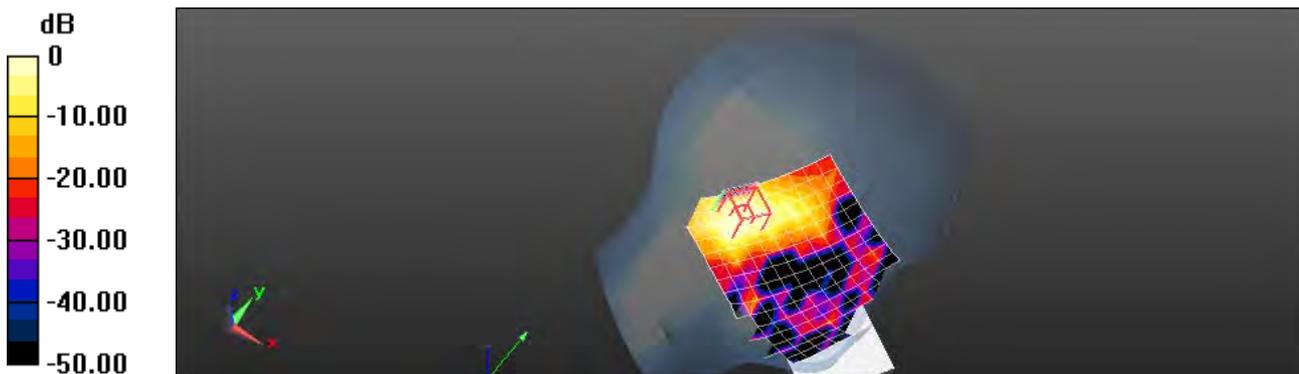
Maximum value of SAR (measured) = 0.651 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 8.544 V/m; Power Drift = 0.13 dB  
Peak SAR (extrapolated) = 1.23 W/kg

**SAR(1 g) = 0.368 W/kg; SAR(10 g) = 0.136 W/kg**

Maximum value of SAR (measured) = 0.693 W/kg



0 dB = 0.651 W/kg = -1.86 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz  
Medium parameters used:  $f = 5640$  MHz;  $\sigma = 5.936$  S/m;  $\epsilon_r = 46.961$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.0859 W/kg

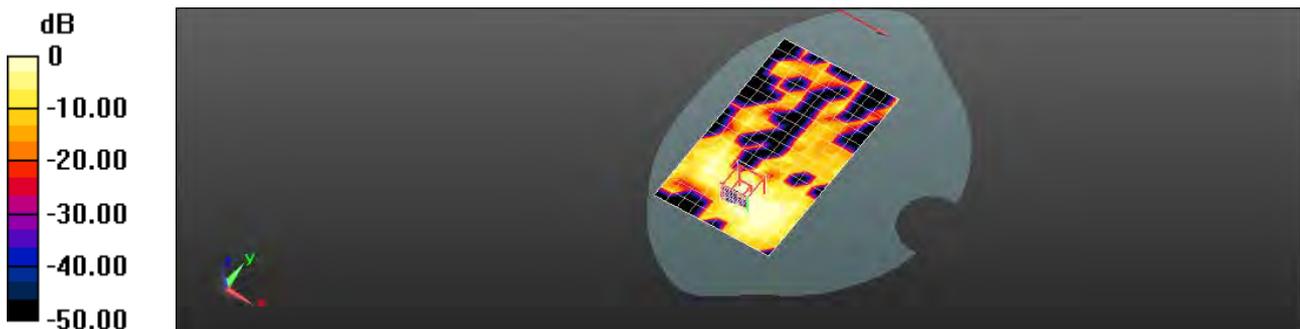
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.796 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.626 W/kg

**SAR(1 g) = 0.053 W/kg; SAR(10 g) = 0.016 W/kg**

Maximum value of SAR (measured) = 0.0828 W/kg



0 dB = 0.0859 W/kg = -10.66 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.5G\_CH100

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5500 MHz  
Medium parameters used:  $f = 5500 \text{ MHz}$ ;  $\sigma = 5.75 \text{ S/m}$ ;  $\epsilon_r = 47.205$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.63, 3.63, 3.63); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.316 W/kg

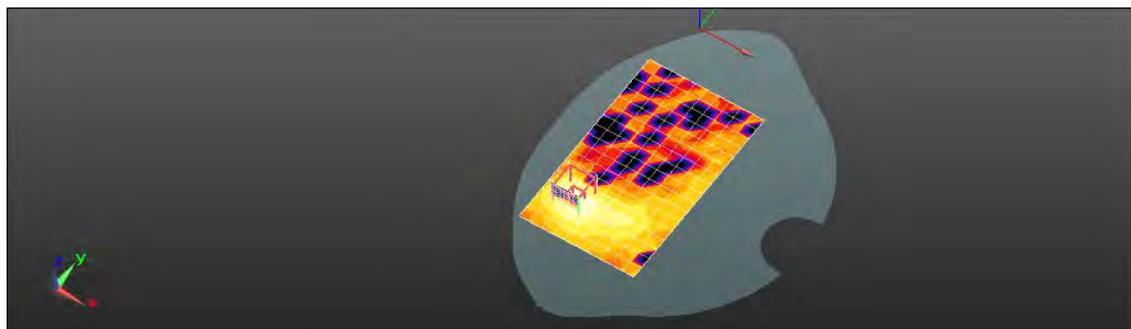
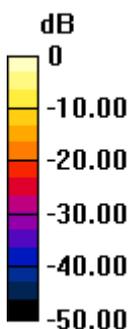
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.830 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.715 W/kg

**SAR(1 g) = 0.187 W/kg; SAR(10 g) = 0.060 W/kg**

Maximum value of SAR (measured) = 0.371 W/kg



0 dB = 0.316 W/kg = -5.01 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.5G\_CH116

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.862$  S/m;  $\epsilon_r = 47.112$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.324 W/kg

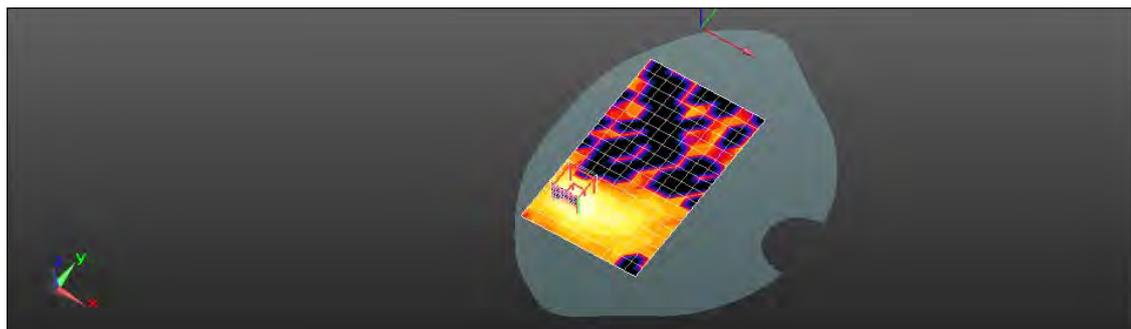
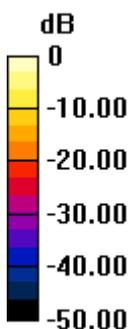
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.912 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.770 W/kg

**SAR(1 g) = 0.191 W/kg; SAR(10 g) = 0.059 W/kg**

Maximum value of SAR (measured) = 0.397 W/kg



0 dB = 0.324 W/kg = -4.90 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz  
Medium parameters used:  $f = 5640 \text{ MHz}$ ;  $\sigma = 5.936 \text{ S/m}$ ;  $\epsilon_r = 46.961$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.363 W/kg

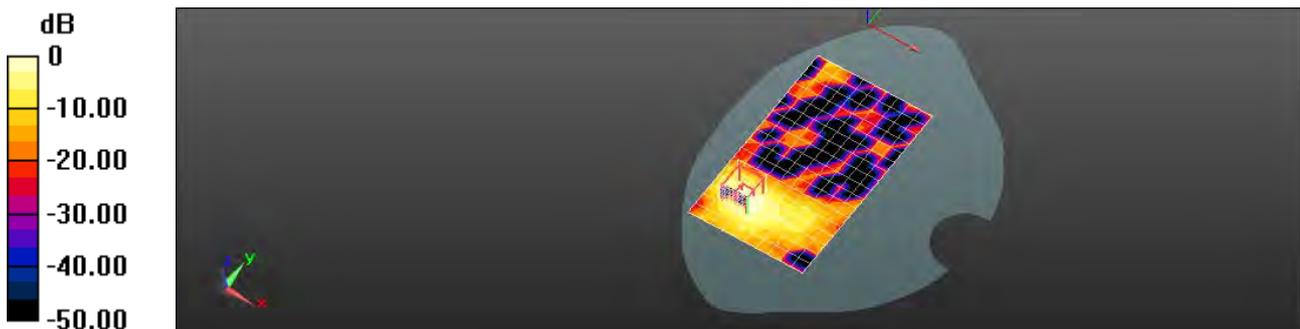
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.206 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.905 W/kg

**SAR(1 g) = 0.192 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.400 W/kg



0 dB = 0.363 W/kg = -4.40 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11a 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 6.027 \text{ S/m}$ ;  $\epsilon_r = 46.798$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.335 W/kg

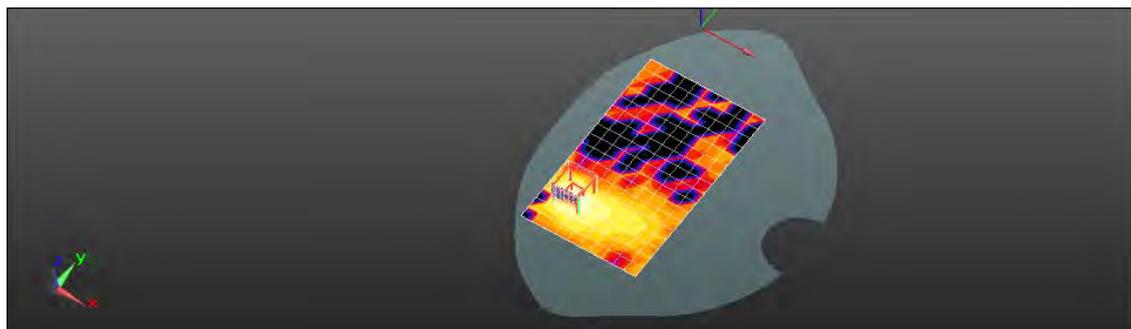
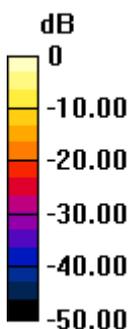
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.201 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.709 W/kg

**SAR(1 g) = 0.181 W/kg; SAR(10 g) = 0.056 W/kg**

Maximum value of SAR (measured) = 0.385 W/kg



0 dB = 0.335 W/kg = -4.76 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz

Medium parameters used:  $f = 5640$  MHz;  $\sigma = 5.936$  S/m;  $\epsilon_r = 46.961$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.262 W/kg

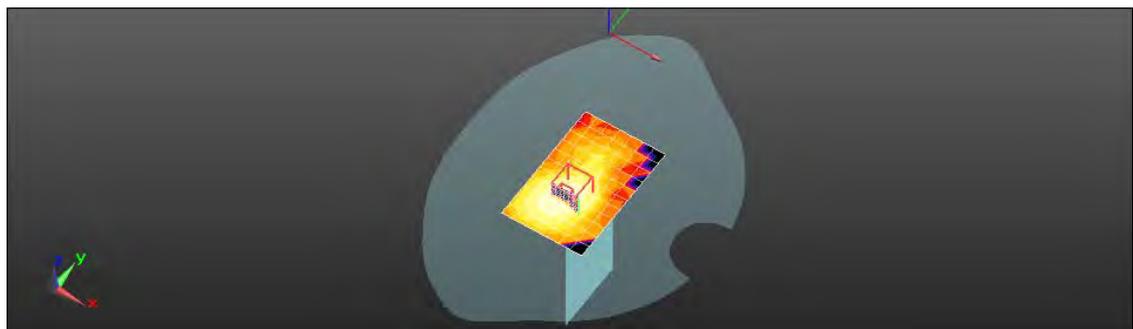
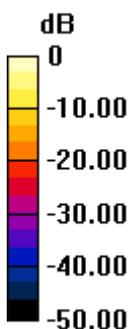
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.475 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.538 W/kg

**SAR(1 g) = 0.135 W/kg; SAR(10 g) = 0.047 W/kg**

Maximum value of SAR (measured) = 0.285 W/kg



0 dB = 0.262 W/kg = -5.82 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11a 5.5G\_CH128

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5640 MHz

Medium parameters used:  $f = 5640$  MHz;  $\sigma = 5.936$  S/m;  $\epsilon_r = 46.961$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.138 W/kg

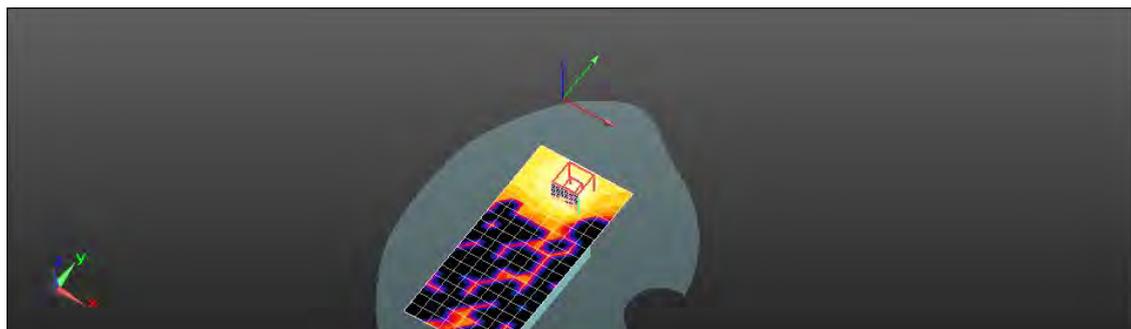
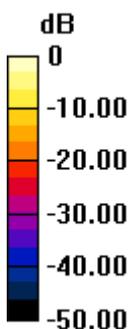
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.024 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.597 W/kg

**SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.025 W/kg**

Maximum value of SAR (measured) = 0.149 W/kg



0 dB = 0.138 W/kg = -8.59 dBW/kg

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Date: 5/13/2013

### RE Cheek\_WLAN802.11n(20M) 5.5G\_CH100

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5500 MHz

Medium parameters used:  $f = 5500 \text{ MHz}$ ;  $\sigma = 5.021 \text{ S/m}$ ;  $\epsilon_r = 34.606$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.58, 4.58, 4.58); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.941 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

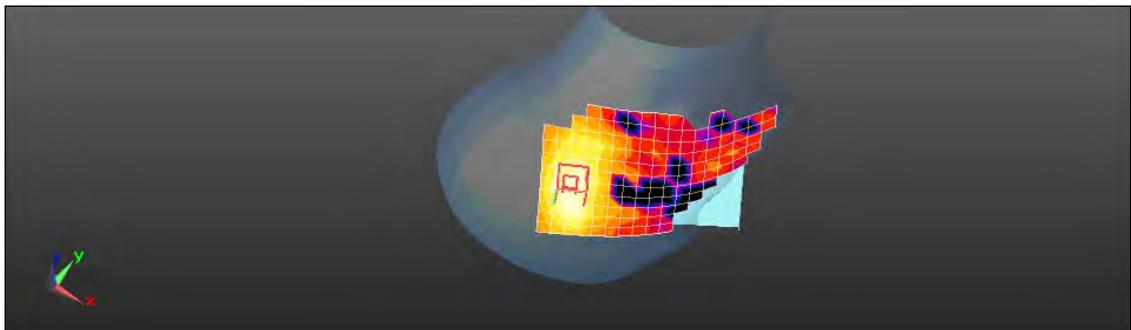
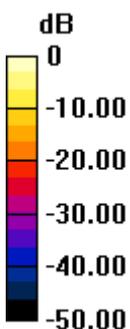
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 11.987 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.73 W/kg

**SAR(1 g) = 0.495 W/kg; SAR(10 g) = 0.181 W/kg**

Maximum value of SAR (measured) = 0.943 W/kg



0 dB = 0.941 W/kg = -0.27 dBW/kg

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Date: 5/13/2013

### RE Cheek\_WLAN802.11n(20M) 5.5G\_CH116

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.112$  S/m;  $\epsilon_r = 34.531$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.730 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

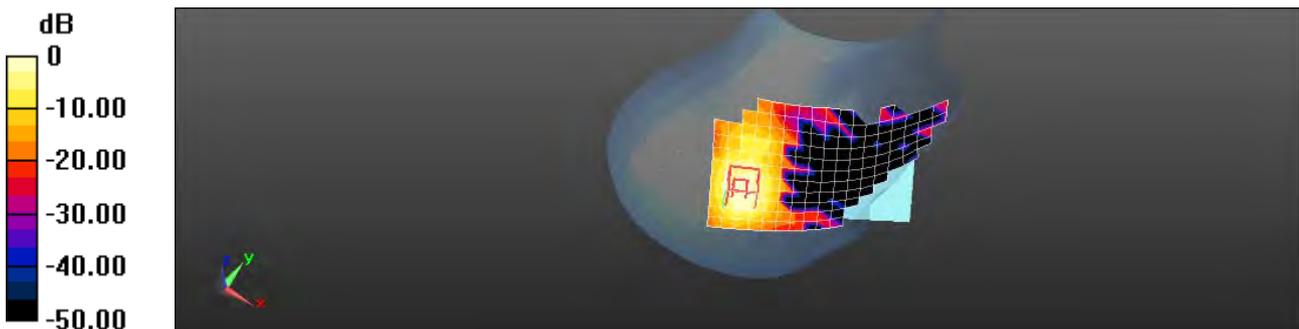
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.006 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.52 W/kg

**SAR(1 g) = 0.399 W/kg; SAR(10 g) = 0.141 W/kg**

Maximum value of SAR (measured) = 0.789 W/kg



0 dB = 0.730 W/kg = -1.37 dBW/kg

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Date: 5/13/2013

### RE Cheek\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.249 \text{ S/m}$ ;  $\epsilon_r = 34.358$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.887 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

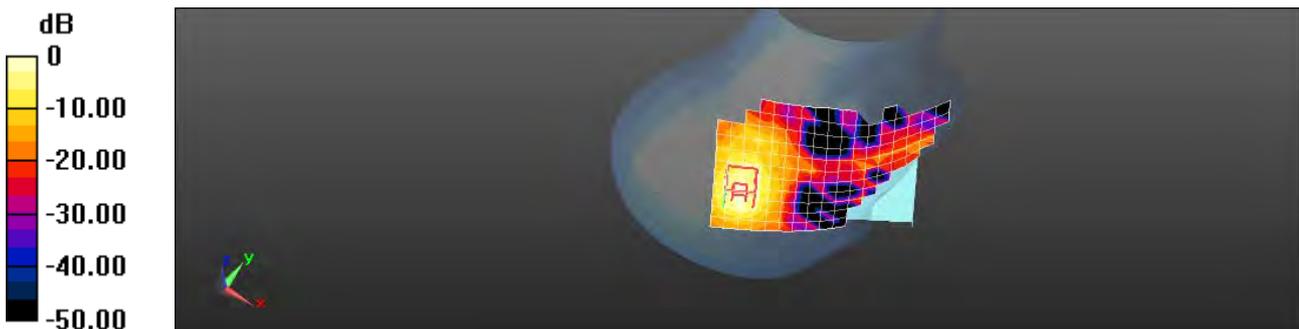
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 7.983 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 1.79 W/kg

**SAR(1 g) = 0.445 W/kg; SAR(10 g) = 0.152 W/kg**

Maximum value of SAR (measured) = 0.893 W/kg



0 dB = 0.887 W/kg = -0.52 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11n(20M) 5.5G\_CH100

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5500 MHz  
Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.021$  S/m;  $\epsilon_r = 34.606$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.58, 4.58, 4.58); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

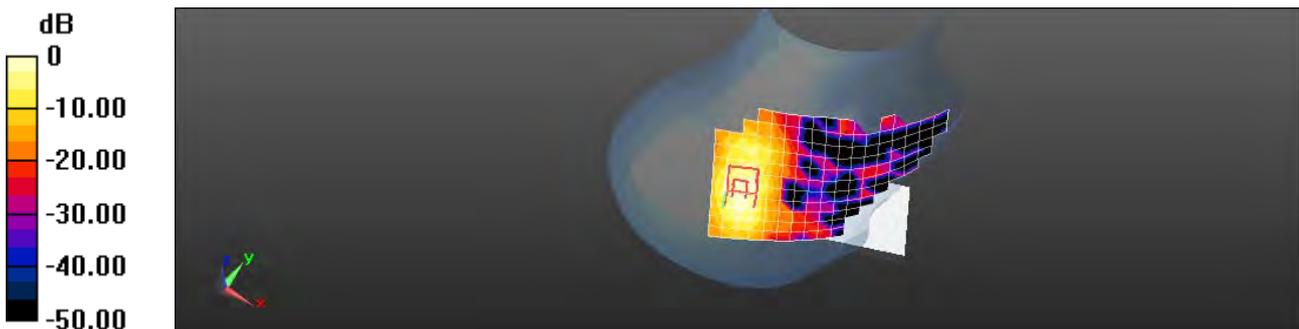
Maximum value of SAR (measured) = 1.23 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 12.186 V/m; Power Drift = -0.01 dB  
Peak SAR (extrapolated) = 2.35 W/kg

**SAR(1 g) = 0.651 W/kg; SAR(10 g) = 0.222 W/kg**

Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.23 W/kg = 0.90 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11n(20M) 5.5G\_CH116

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz  
Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.112$  S/m;  $\epsilon_r = 34.531$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

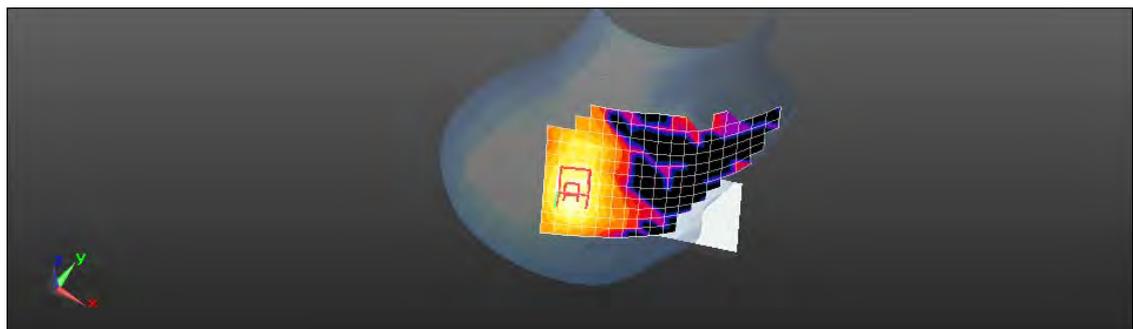
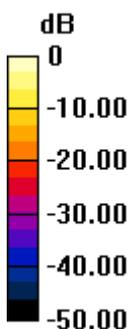
Maximum value of SAR (measured) = 0.923 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 9.858 V/m; Power Drift = 0.14 dB  
Peak SAR (extrapolated) = 1.76 W/kg

**SAR(1 g) = 0.485 W/kg; SAR(10 g) = 0.168 W/kg**

Maximum value of SAR (measured) = 0.973 W/kg



0 dB = 0.923 W/kg = -0.35 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.249 \text{ S/m}$ ;  $\epsilon_r = 34.358$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.03 W/kg

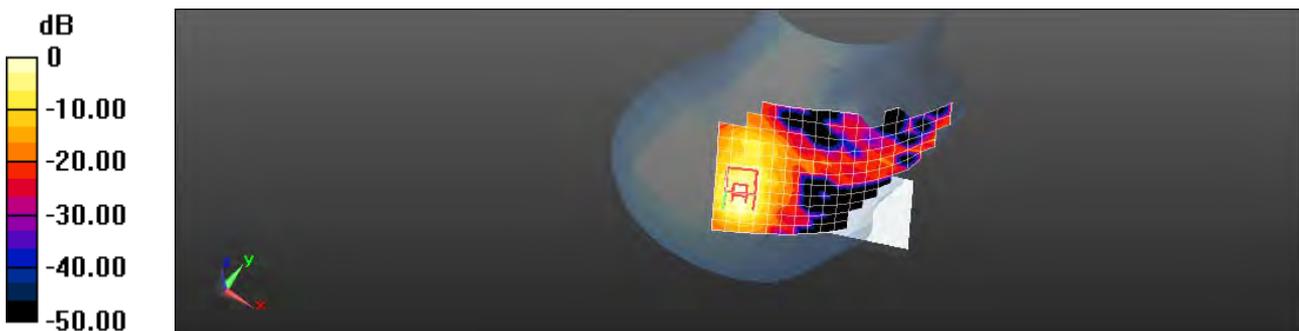
### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 8.870 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.92 W/kg

**SAR(1 g) = 0.514 W/kg; SAR(10 g) = 0.174 W/kg**



0 dB = 1.03 W/kg = 0.11 dBW/kg

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Date: 5/13/2013

### LE Cheek\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.249 \text{ S/m}$ ;  $\epsilon_r = 34.358$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.634 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

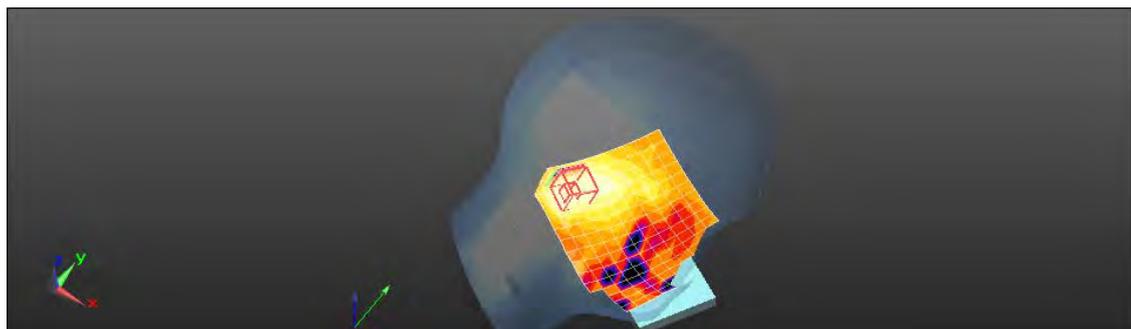
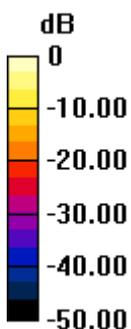
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 10.318 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.396 W/kg; SAR(10 g) = 0.138 W/kg**

Maximum value of SAR (measured) = 0.830 W/kg



0 dB = 0.634 W/kg = -1.98 dBW/kg

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Date: 5/13/2013

### LE Tilt\_WLAN802.11n(20M) 5.5G\_CH100

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5500 MHz

Medium parameters used:  $f = 5500 \text{ MHz}$ ;  $\sigma = 5.021 \text{ S/m}$ ;  $\epsilon_r = 34.606$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.58, 4.58, 4.58); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.833 W/kg

### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

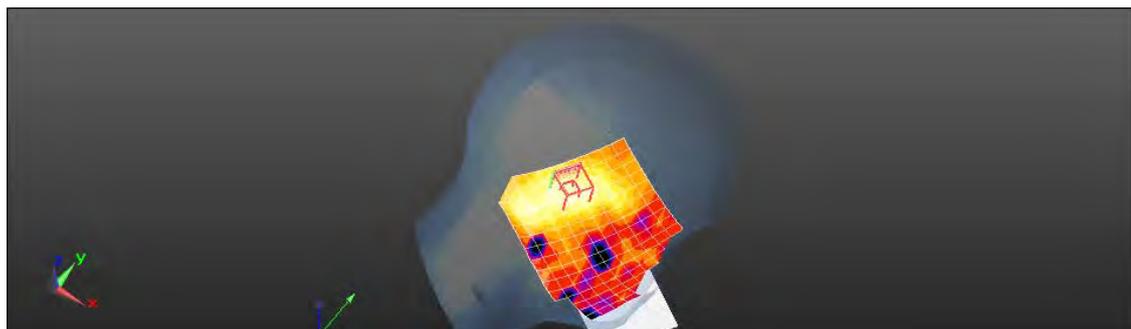
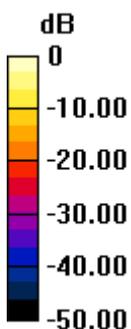
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 15.153 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.95 W/kg

**SAR(1 g) = 0.562 W/kg; SAR(10 g) = 0.193 W/kg**

Maximum value of SAR (measured) = 1.09 W/kg



0 dB = 0.833 W/kg = -0.79 dBW/kg

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Date: 5/13/2013

### LE Tilt\_WLAN802.11n(20M) 5.5G\_CH116

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz

Medium parameters used:  $f = 5580 \text{ MHz}$ ;  $\sigma = 5.112 \text{ S/m}$ ;  $\epsilon_r = 34.531$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.810 W/kg

**Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:**

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 14.219 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.90 W/kg

**SAR(1 g) = 0.543 W/kg; SAR(10 g) = 0.190 W/kg**

Maximum value of SAR (measured) = 1.06 W/kg

**Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 1:**

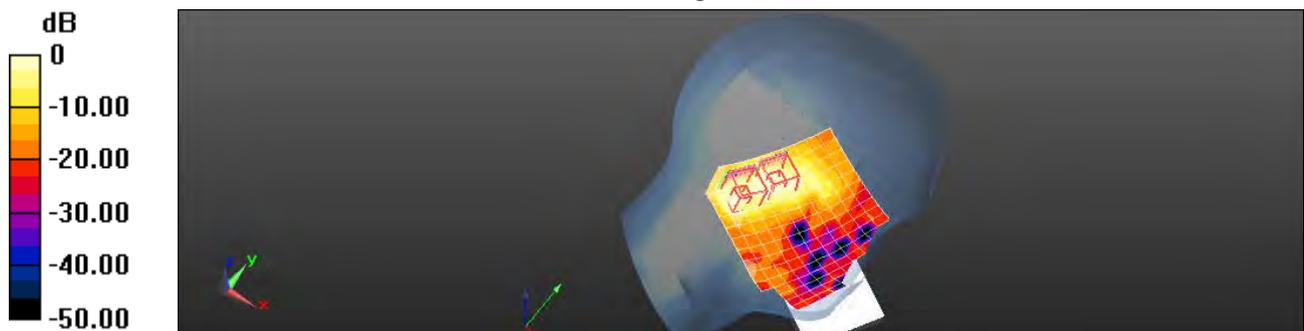
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 14.219 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.941 W/kg

**SAR(1 g) = 0.288 W/kg; SAR(10 g) = 0.101 W/kg**

Maximum value of SAR (measured) = 0.567 W/kg



0 dB = 0.810 W/kg = -0.91 dBW/kg

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Date: 5/13/2013

### LE Tilt\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.249 \text{ S/m}$ ;  $\epsilon_r = 34.358$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.706 W/kg

### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

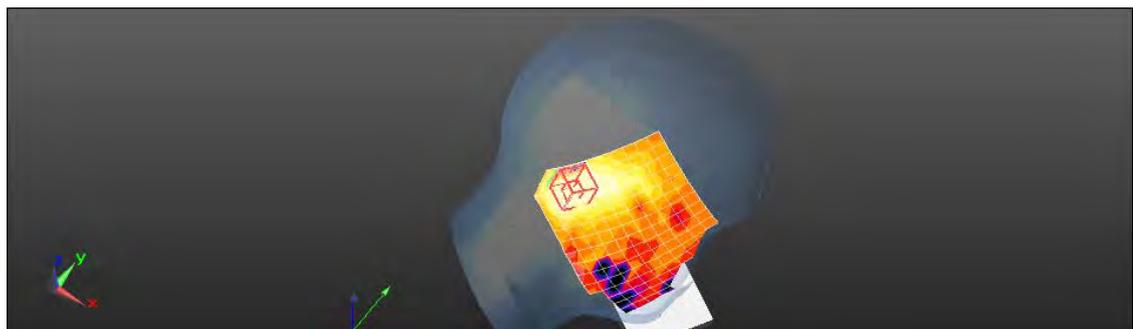
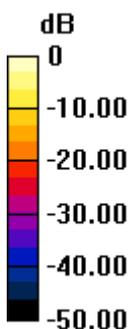
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 11.230 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.403 W/kg; SAR(10 g) = 0.153 W/kg**

Maximum value of SAR (measured) = 0.734 W/kg



0 dB = 0.706 W/kg = -1.51 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 6.027 \text{ S/m}$ ;  $\epsilon_r = 46.798$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.105 W/kg

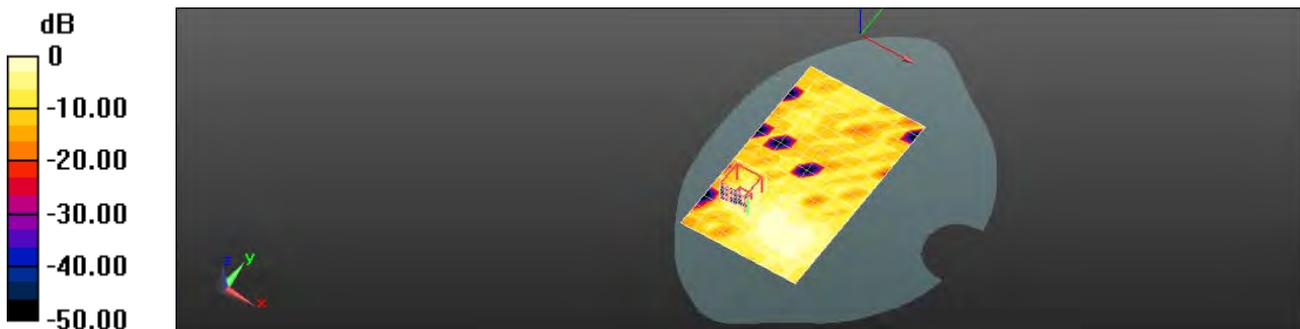
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.969 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.409 W/kg

**SAR(1 g) = 0.033 W/kg; SAR(10 g) = 0.010 W/kg**

Maximum value of SAR (measured) = 0.0654 W/kg



0 dB = 0.105 W/kg = -9.77 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.5G\_CH100

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5500 MHz  
Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.75$  S/m;  $\epsilon_r = 47.205$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.63, 3.63, 3.63); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.376 W/kg

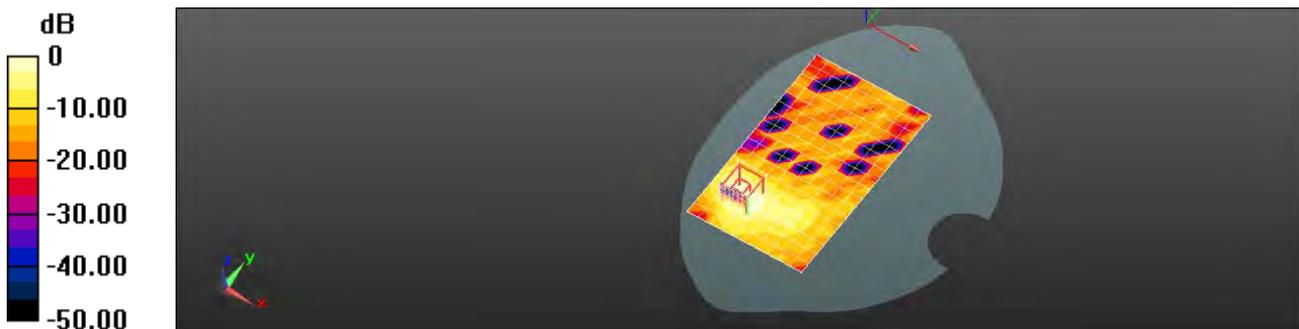
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.457 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.33 W/kg

**SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.067 W/kg**

Maximum value of SAR (measured) = 0.413 W/kg



0 dB = 0.376 W/kg = -4.25 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.5G\_CH116

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.862$  S/m;  $\epsilon_r = 47.112$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.338 W/kg

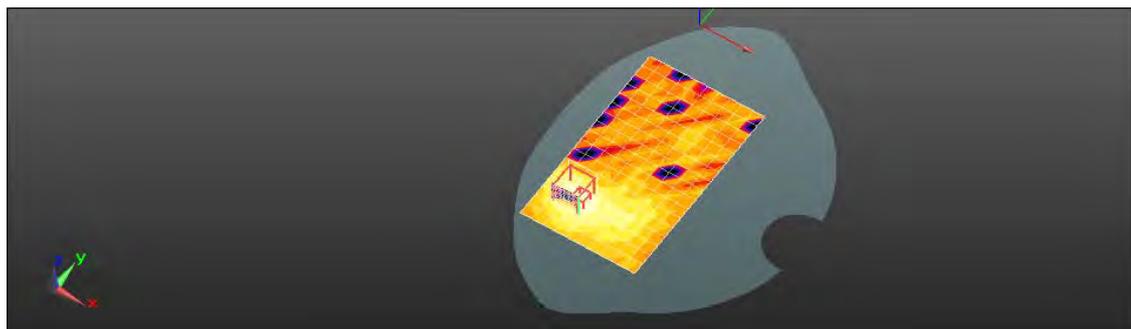
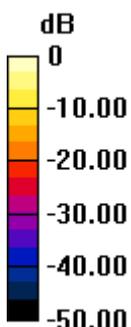
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.350 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 2.63 W/kg

**SAR(1 g) = 0.230 W/kg; SAR(10 g) = 0.074 W/kg**

Maximum value of SAR (measured) = 0.409 W/kg



0 dB = 0.338 W/kg = -4.71 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700$  MHz;  $\sigma = 6.027$  S/m;  $\epsilon_r = 46.798$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.299 W/kg

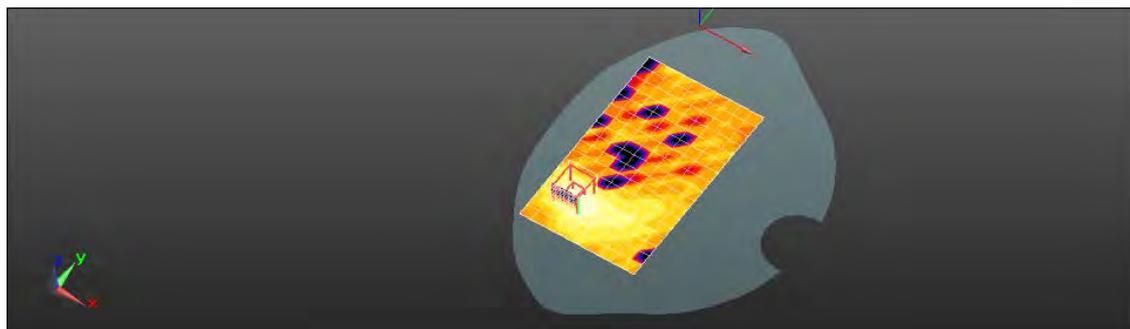
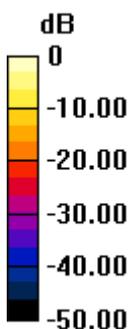
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.730 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.707 W/kg

**SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.051 W/kg**

Maximum value of SAR (measured) = 0.350 W/kg



0 dB = 0.299 W/kg = -5.24 dBW/kg

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Date: 5/16/2013

## Hotspot\_Back side\_WLAN802.11n(20M) 5.5G\_CH116\_repeated with external Memory card inside

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.862$  S/m;  $\epsilon_r = 47.112$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.320 W/kg

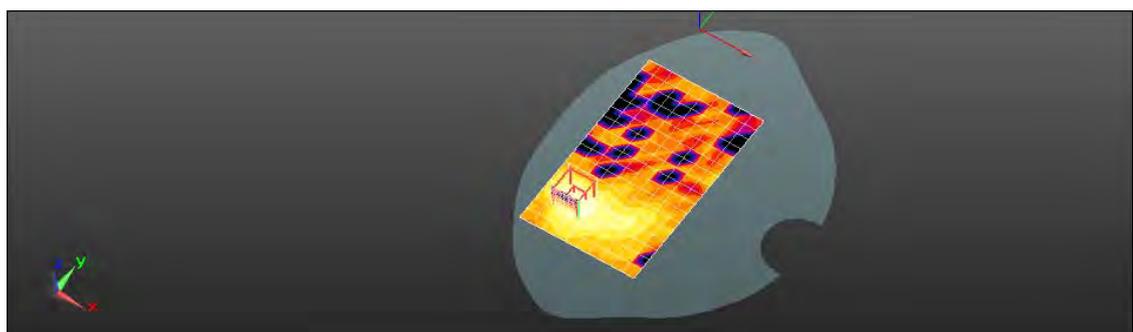
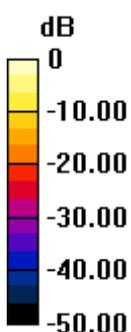
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.066 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.52 W/kg

**SAR(1 g) = 0.187 W/kg; SAR(10 g) = 0.063 W/kg**

Maximum value of SAR (measured) = 0.368 W/kg



0 dB = 0.320 W/kg = -4.95 dBW/kg

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Date: 5/16/2013

## Hotspot\_Back side\_WLAN802.11n(20M) 5.5G\_CH116\_repeated with headset (MH410C)

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5580 MHz

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.862$  S/m;  $\epsilon_r = 47.112$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.296 W/kg

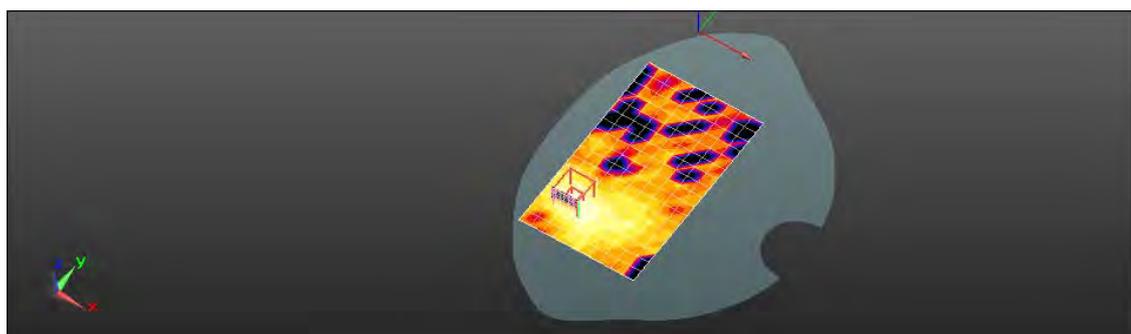
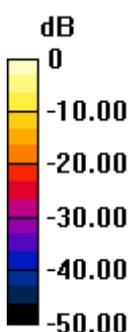
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.069 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.583 W/kg

**SAR(1 g) = 0.150 W/kg; SAR(10 g) = 0.050 W/kg**

Maximum value of SAR (measured) = 0.305 W/kg



0 dB = 0.296 W/kg = -5.29 dBW/kg

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### Hotspot\_Top side\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 6.027 \text{ S/m}$ ;  $\epsilon_r = 46.798$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.230 W/kg

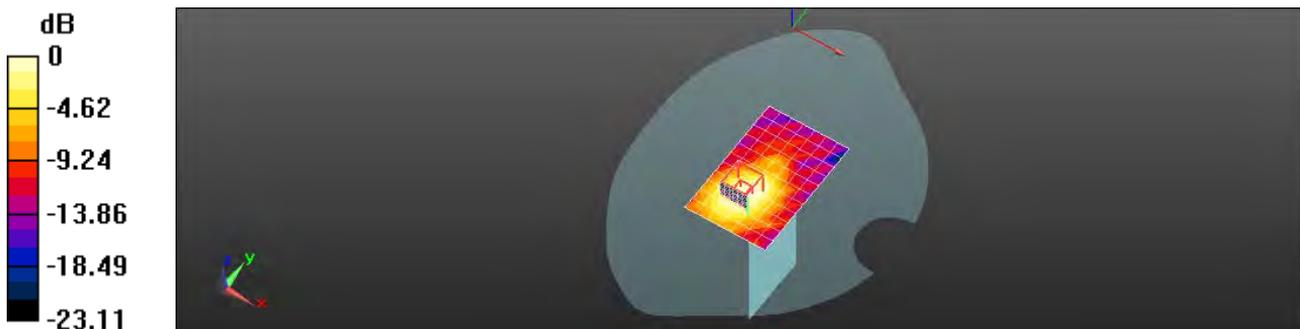
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 4.063 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.446 W/kg

**SAR(1 g) = 0.113 W/kg; SAR(10 g) = 0.042 W/kg**

Maximum value of SAR (measured) = 0.248 W/kg



0 dB = 0.230 W/kg = -6.39 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11n(20M) 5.5G\_CH140

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5700 MHz

Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 6.027 \text{ S/m}$ ;  $\epsilon_r = 46.798$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.136 W/kg

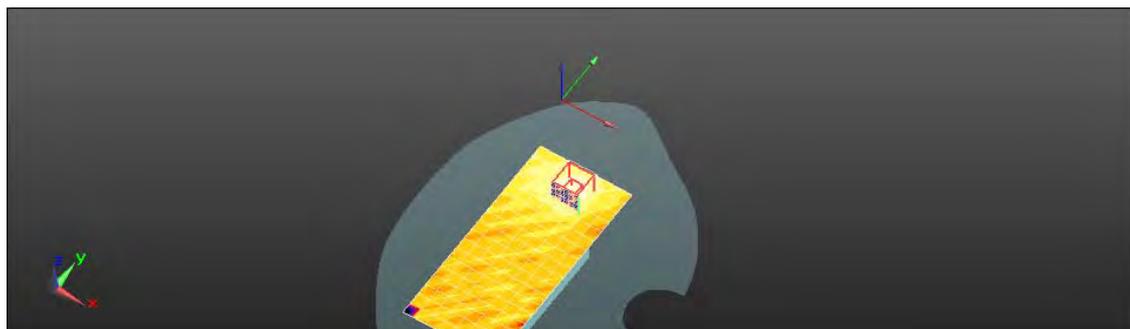
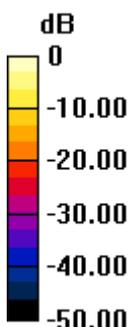
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.666 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.473 W/kg

**SAR(1 g) = 0.068 W/kg; SAR(10 g) = 0.024 W/kg**

Maximum value of SAR (measured) = 0.142 W/kg



0 dB = 0.136 W/kg = -8.66 dBW/kg

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Date: 5/13/2013

### RE Cheek\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz

Medium parameters used:  $f = 5590$  MHz;  $\sigma = 5.127$  S/m;  $\epsilon_r = 34.509$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.444 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

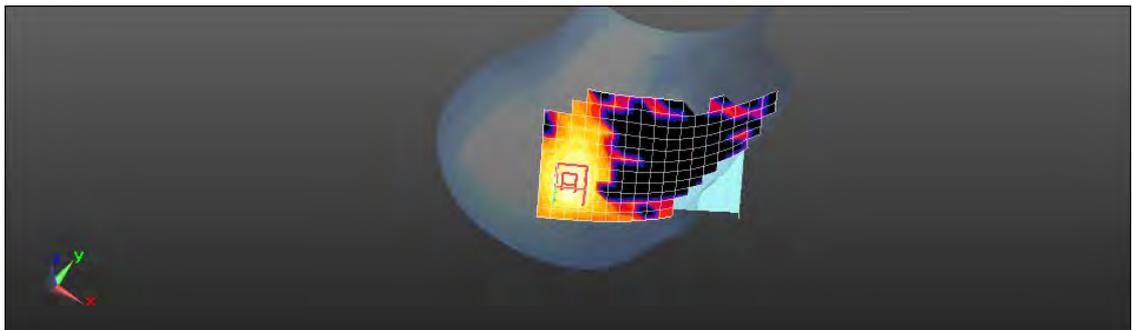
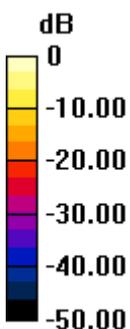
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 6.671 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.816 W/kg

**SAR(1 g) = 0.234 W/kg; SAR(10 g) = 0.067 W/kg**

Maximum value of SAR (measured) = 0.462 W/kg



0 dB = 0.444 W/kg = -3.53 dBW/kg

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Date: 5/13/2013

## RE Tilt\_WLAN802.11n(40M) 5.5G\_CH102

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5510 MHz

Medium parameters used:  $f = 5510 \text{ MHz}$ ;  $\sigma = 5.024 \text{ S/m}$ ;  $\epsilon_r = 34.583$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.58, 4.58, 4.58); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.858 W/kg

## Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

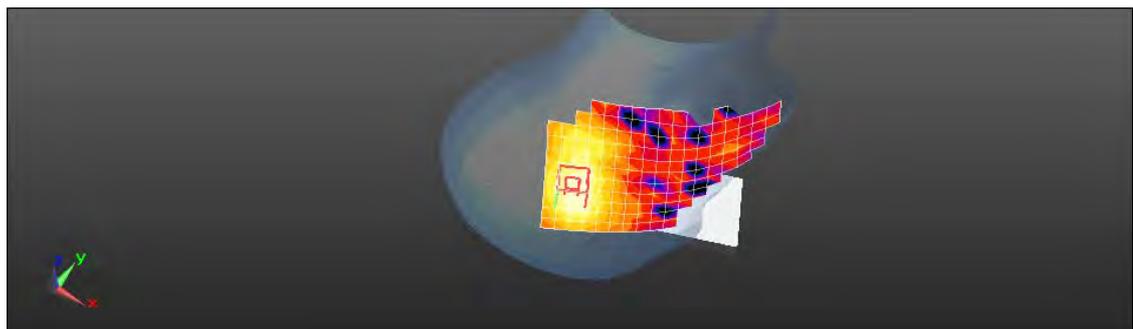
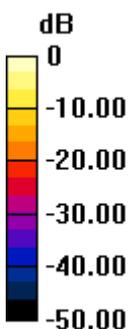
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 11.669 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.81 W/kg

**SAR(1 g) = 0.502 W/kg; SAR(10 g) = 0.168 W/kg**

Maximum value of SAR (measured) = 0.959 W/kg



0 dB = 0.858 W/kg = -0.67 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz  
Medium parameters used:  $f = 5590$  MHz;  $\sigma = 5.127$  S/m;  $\epsilon_r = 34.509$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

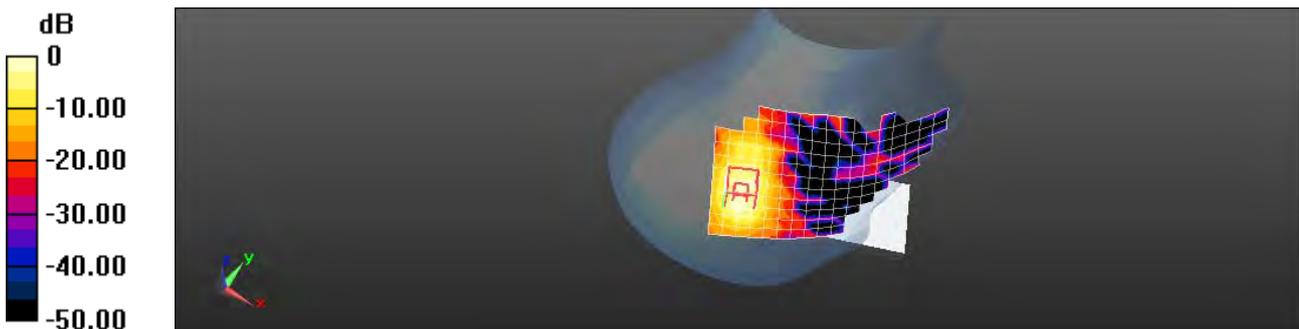
Maximum value of SAR (measured) = 0.559 W/kg

#### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 7.873 V/m; Power Drift = 0.15 dB  
Peak SAR (extrapolated) = 1.07 W/kg

**SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.099 W/kg**

Maximum value of SAR (measured) = 0.585 W/kg



0 dB = 0.559 W/kg = -2.53 dBW/kg

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Date: 5/13/2013

### RE Tilt\_WLAN802.11n(40M) 5.5G\_CH134

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5670 MHz

Medium parameters used:  $f = 5670$  MHz;  $\sigma = 5.228$  S/m;  $\epsilon_r = 34.273$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.533 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

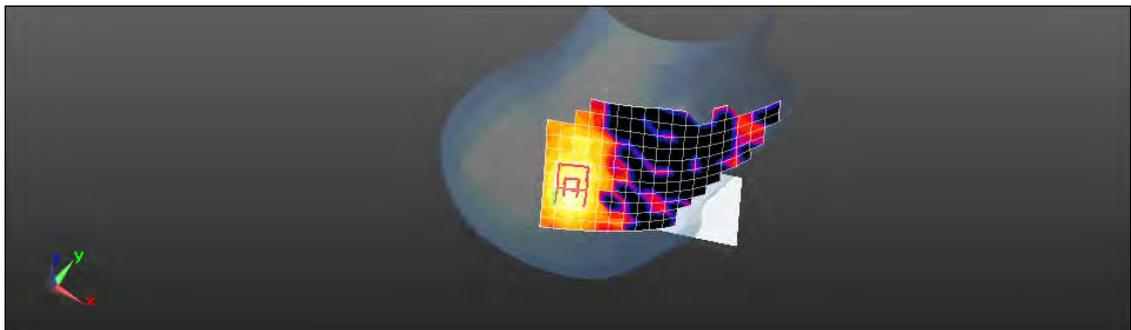
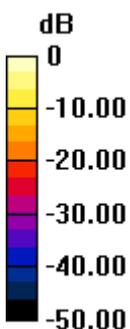
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.089 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.08 W/kg

**SAR(1 g) = 0.285 W/kg; SAR(10 g) = 0.095 W/kg**

Maximum value of SAR (measured) = 0.586 W/kg



0 dB = 0.533 W/kg = -2.73 dBW/kg

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Date: 5/13/2013

### LE Cheek\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz

Medium parameters used:  $f = 5590$  MHz;  $\sigma = 5.127$  S/m;  $\epsilon_r = 34.509$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.328 W/kg

### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

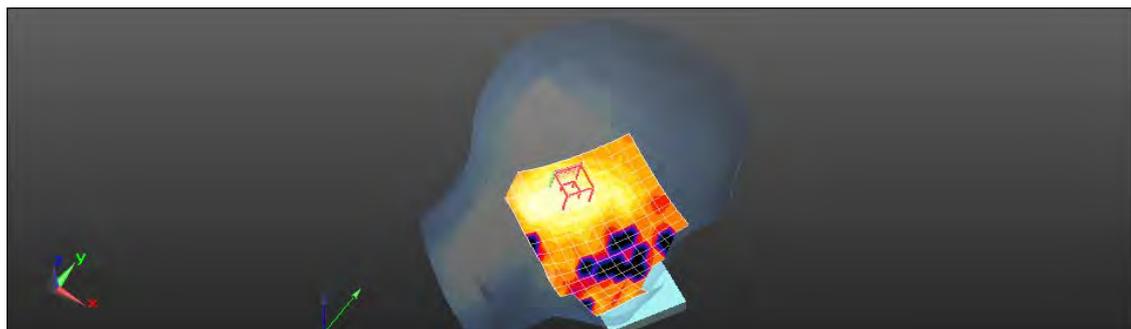
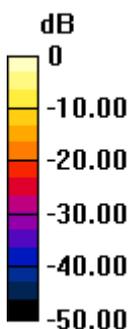
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.078 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.622 W/kg

**SAR(1 g) = 0.182 W/kg; SAR(10 g) = 0.069 W/kg**

Maximum value of SAR (measured) = 0.338 W/kg



0 dB = 0.328 W/kg = -4.84 dBW/kg

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Date: 5/13/2013

### LE Tilt\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz

Medium parameters used:  $f = 5590$  MHz;  $\sigma = 5.127$  S/m;  $\epsilon_r = 34.509$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.429 W/kg

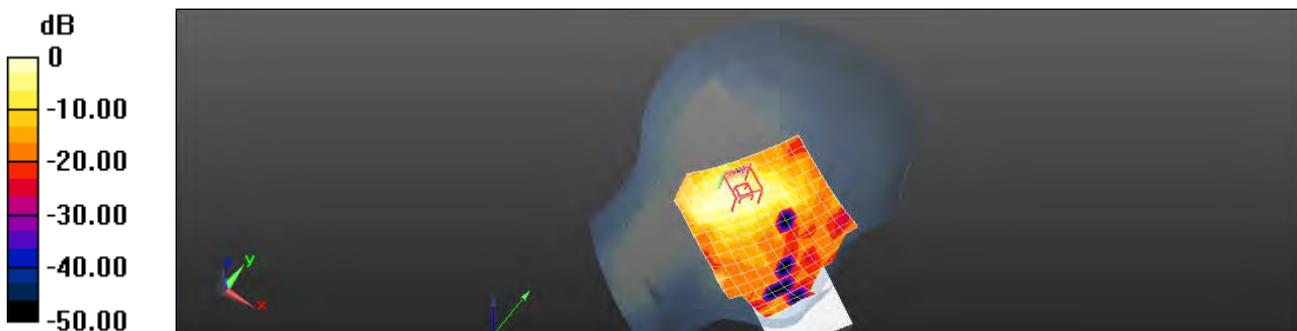
### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.665 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.804 W/kg

**SAR(1 g) = 0.229 W/kg; SAR(10 g) = 0.083 W/kg**



0 dB = 0.429 W/kg = -3.67 dBW/kg

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Date: 5/16/2013

### Hotspot\_Front side\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz

Medium parameters used:  $f = 5590 \text{ MHz}$ ;  $\sigma = 5.886 \text{ S/m}$ ;  $\epsilon_r = 47.084$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.31, 4.31, 4.31); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0683 W/kg

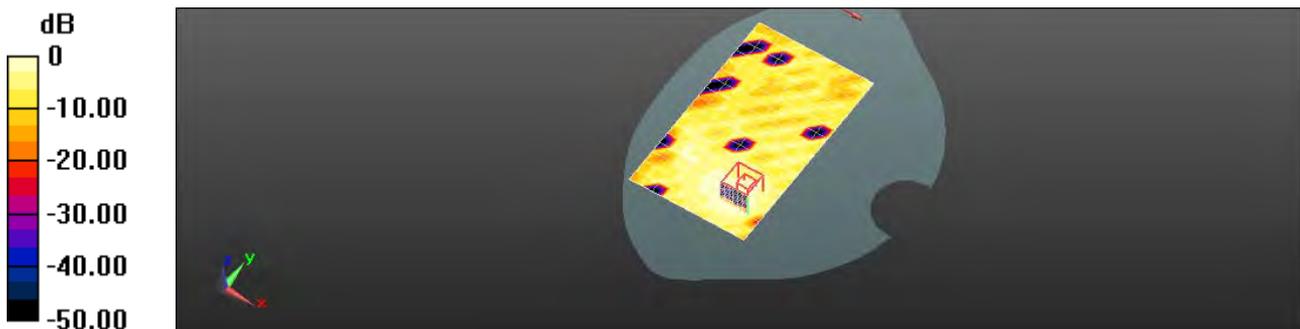
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.862 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.269 W/kg

**SAR(1 g) = 0.00479 W/kg; SAR(10 g) = 0.000849 W/kg**

Maximum value of SAR (measured) = 0.269 W/kg



0 dB = 0.0683 W/kg = -11.66 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.5G\_CH102

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5510 MHz

Medium parameters used:  $f = 5510$  MHz;  $\sigma = 5.765$  S/m;  $\epsilon_r = 47.194$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.63, 3.63, 3.63); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.314 W/kg

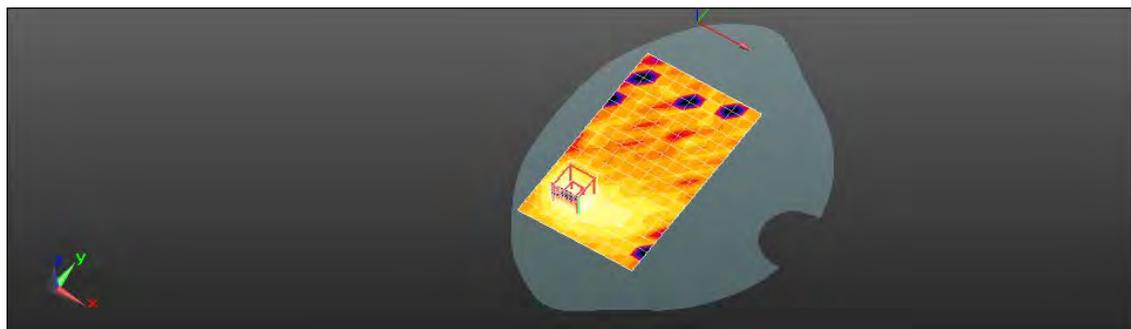
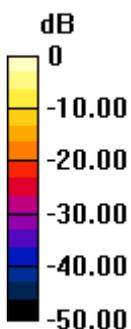
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.414 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.716 W/kg

**SAR(1 g) = 0.175 W/kg; SAR(10 g) = 0.058 W/kg**

Maximum value of SAR (measured) = 0.348 W/kg



0 dB = 0.314 W/kg = -5.03 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz

Medium parameters used:  $f = 5590 \text{ MHz}$ ;  $\sigma = 5.886 \text{ S/m}$ ;  $\epsilon_r = 47.084$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.215 W/kg

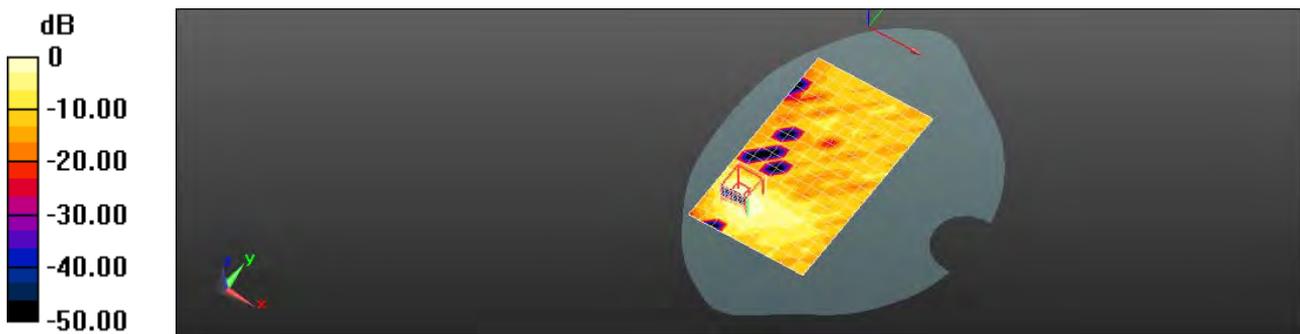
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.141 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.028 W/kg**

Maximum value of SAR (measured) = 0.234 W/kg



0 dB = 0.215 W/kg = -6.67 dBW/kg

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Date: 5/16/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.5G\_CH134

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5670 MHz

Medium parameters used:  $f = 5670$  MHz;  $\sigma = 6.019$  S/m;  $\epsilon_r = 46.833$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.165 W/kg

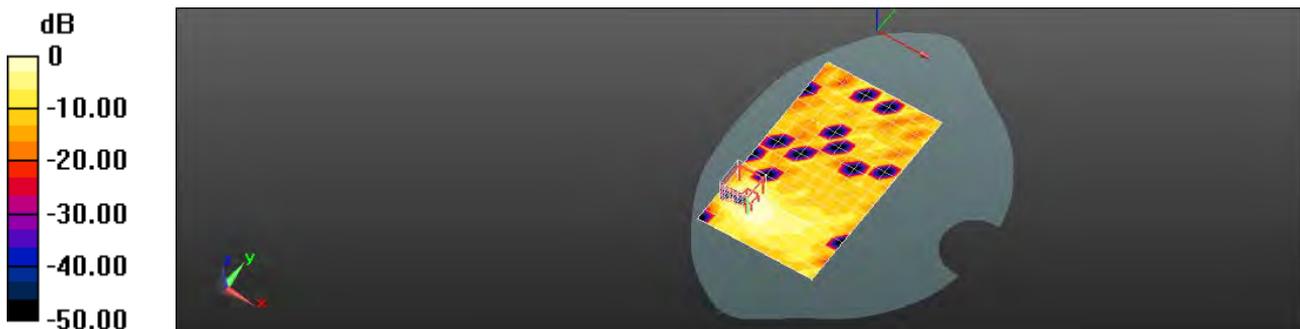
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.284 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.396 W/kg

**SAR(1 g) = 0.090 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.204 W/kg



0 dB = 0.165 W/kg = -7.83 dBW/kg

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Date: 5/16/2013

### Hotspot\_Top side\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz

Medium parameters used:  $f = 5590 \text{ MHz}$ ;  $\sigma = 5.886 \text{ S/m}$ ;  $\epsilon_r = 47.084$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.168 W/kg

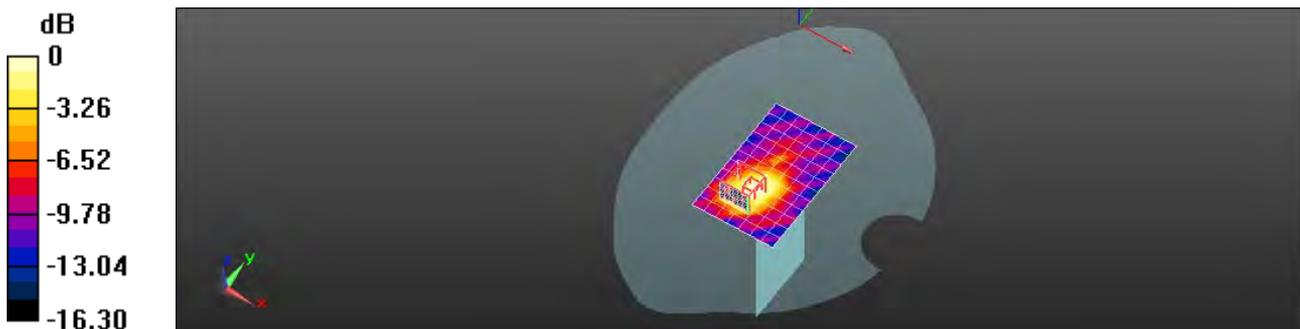
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 3.787 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.401 W/kg

**SAR(1 g) = 0.066 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.171 W/kg



0 dB = 0.168 W/kg = -7.74 dBW/kg

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Date: 5/16/2013

### Hotspot\_Left side\_WLAN802.11n(40M) 5.5G\_CH118

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5590 MHz  
Medium parameters used:  $f = 5590$  MHz;  $\sigma = 5.886$  S/m;  $\epsilon_r = 47.084$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.39, 3.39, 3.39); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.0766 W/kg

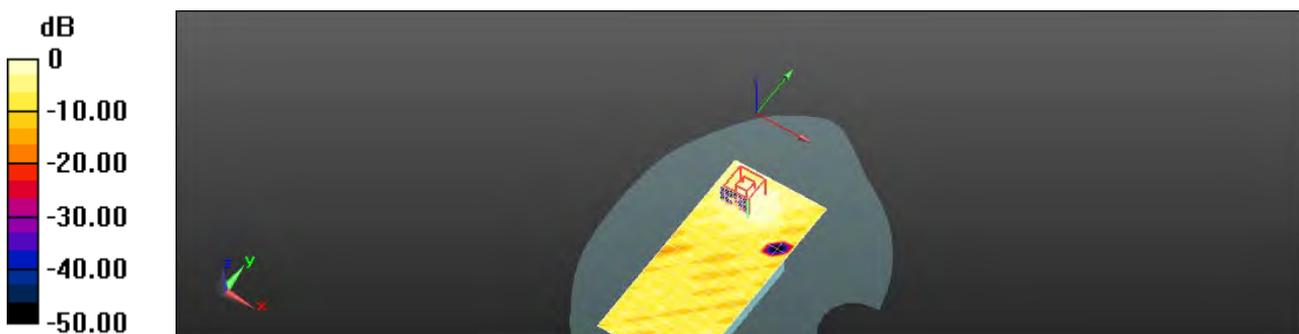
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.546 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.304 W/kg

**SAR(1 g) = 0.026 W/kg; SAR(10 g) = 0.00901 W/kg**

Maximum value of SAR (measured) = 0.0640 W/kg



0 dB = 0.0766 W/kg = -11.16 dBW/kg

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Date: 5/19/2013

### RE Cheek\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz  
Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.322 \text{ S/m}$ ;  $\epsilon_r = 34.116$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

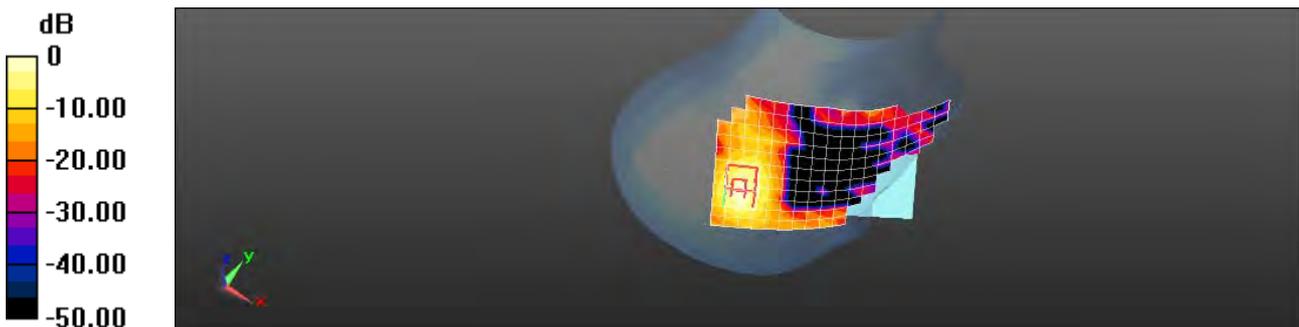
Maximum value of SAR (measured) = 0.695 W/kg

#### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 7.283 V/m; Power Drift = -0.18 dB  
Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.325 W/kg; SAR(10 g) = 0.100 W/kg**

Maximum value of SAR (measured) = 0.649 W/kg



0 dB = 0.695 W/kg = -1.58 dBW/kg

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Date: 5/19/2013

### RE Tilt\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz  
Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.322 \text{ S/m}$ ;  $\epsilon_r = 34.116$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

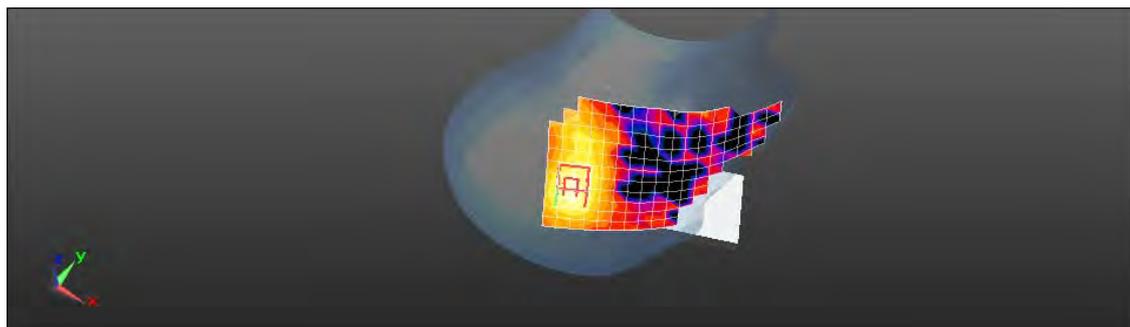
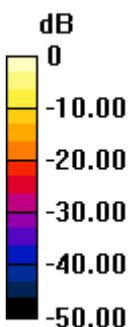
Maximum value of SAR (measured) = 0.725 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.632 V/m; Power Drift = 0.19 dB  
Peak SAR (extrapolated) = 1.51 W/kg

**SAR(1 g) = 0.376 W/kg; SAR(10 g) = 0.118 W/kg**

Maximum value of SAR (measured) = 0.734 W/kg



0 dB = 0.725 W/kg = -1.40 dBW/kg

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Date: 5/19/2013

### LE Cheek\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz  
Medium parameters used:  $f = 5745$  MHz;  $\sigma = 5.322$  S/m;  $\epsilon_r = 34.116$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

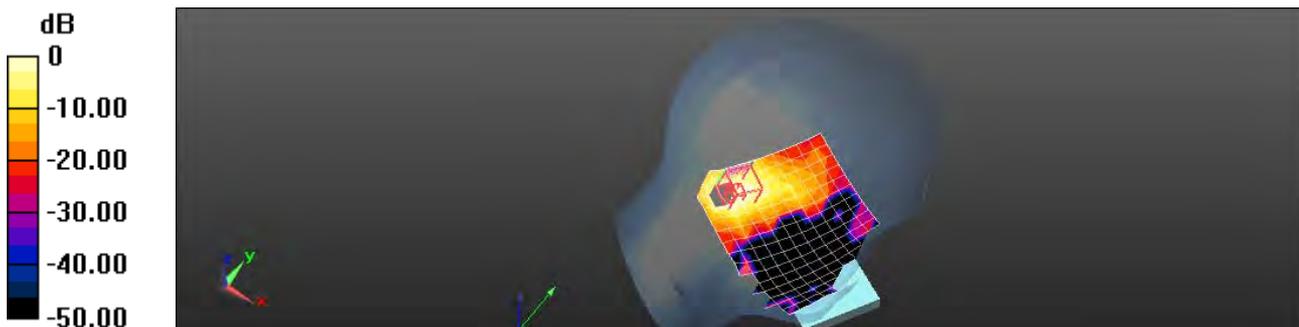
Maximum value of SAR (measured) = 0.757 W/kg

#### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 6.098 V/m; Power Drift = 0.18 dB  
Peak SAR (extrapolated) = 1.79 W/kg

**SAR(1 g) = 0.438 W/kg; SAR(10 g) = 0.155 W/kg**

Maximum value of SAR (measured) = 0.917 W/kg



0 dB = 0.757 W/kg = -1.21 dBW/kg

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Date: 5/19/2013

### LE Tilt\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz  
Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.322 \text{ S/m}$ ;  $\epsilon_r = 34.116$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

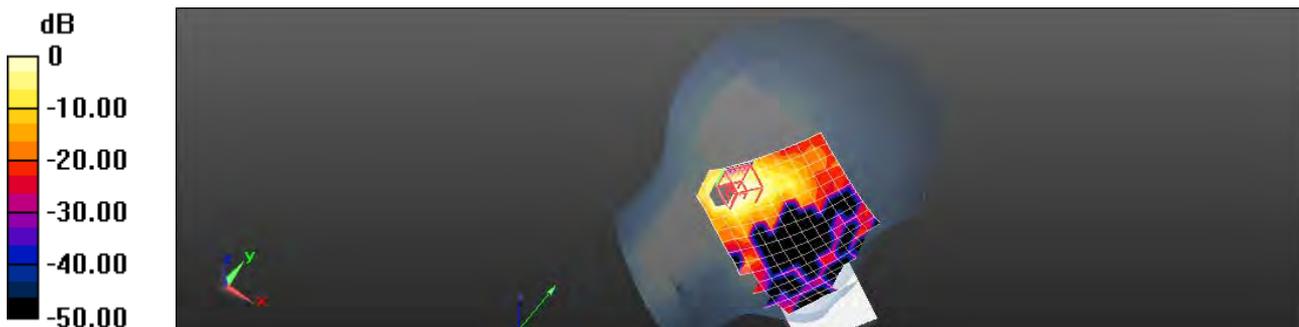
Maximum value of SAR (measured) = 0.794 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 8.208 V/m; Power Drift = 0.16 dB  
Peak SAR (extrapolated) = 1.74 W/kg

**SAR(1 g) = 0.467 W/kg; SAR(10 g) = 0.167 W/kg**

Maximum value of SAR (measured) = 0.905 W/kg



0 dB = 0.794 W/kg = -1.00 dBW/kg

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Date: 5/19/2013

### LE Tilt\_WLAN802.11a 5.8G\_CH153

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5765 MHz  
Medium parameters used:  $f = 5765$  MHz;  $\sigma = 5.340$  S/m;  $\epsilon_r = 33.905$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid: dx=10mm, dy=10mm

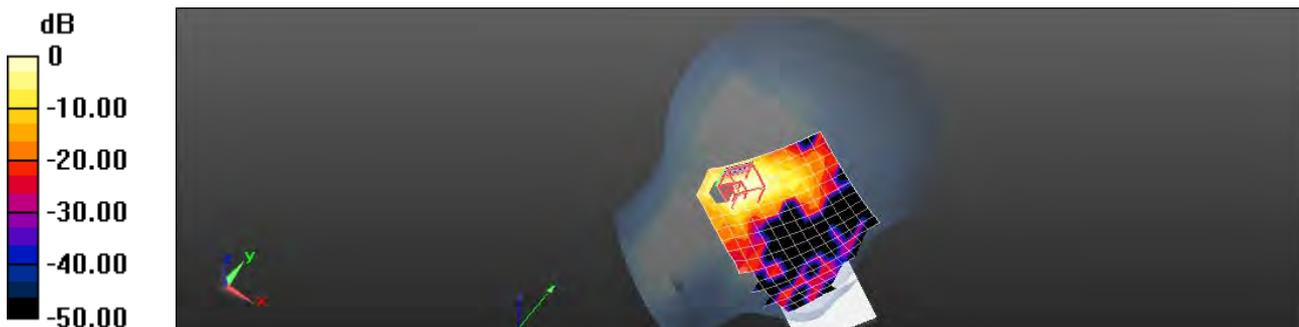
Maximum value of SAR (measured) = 0.648 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 7.222 V/m; Power Drift = 0.12 dB  
Peak SAR (extrapolated) = 2.07 W/kg

**SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.138 W/kg**

Maximum value of SAR (measured) = 1.04 W/kg



0 dB = 0.648 W/kg = -1.88 dBW/kg

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Date: 5/19/2013

### LE Tilt\_WLAN802.11a 5.8G\_CH161

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5805 MHz  
Medium parameters used:  $f = 5805 \text{ MHz}$ ;  $\sigma = 5.376 \text{ S/m}$ ;  $\epsilon_r = 33.884$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

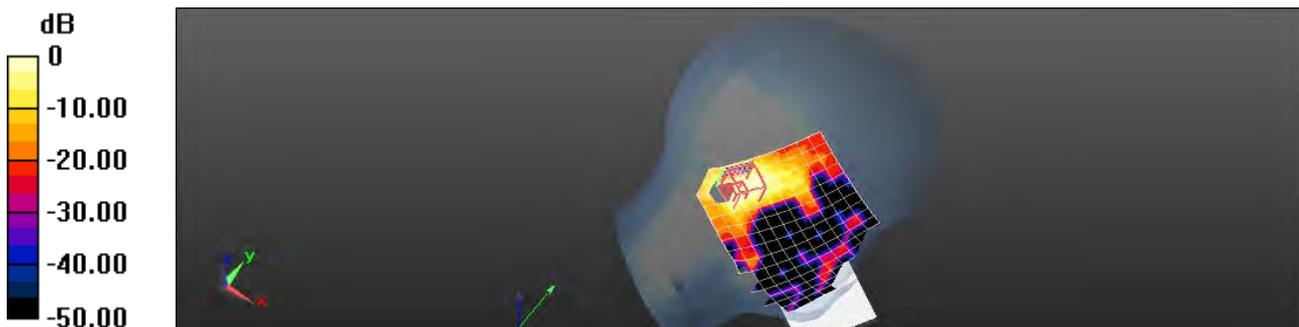
Maximum value of SAR (measured) = 0.506 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.331 V/m; Power Drift = 0.12 dB  
Peak SAR (extrapolated) = 1.70 W/kg

**SAR(1 g) = 0.349 W/kg; SAR(10 g) = 0.109 W/kg**

Maximum value of SAR (measured) = 0.819 W/kg



0 dB = 0.506 W/kg = -2.96 dBW/kg

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Date: 5/19/2013

### Hotspot\_Front side\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz  
Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.107 \text{ S/m}$ ;  $\epsilon_r = 46.652$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0763 W/kg

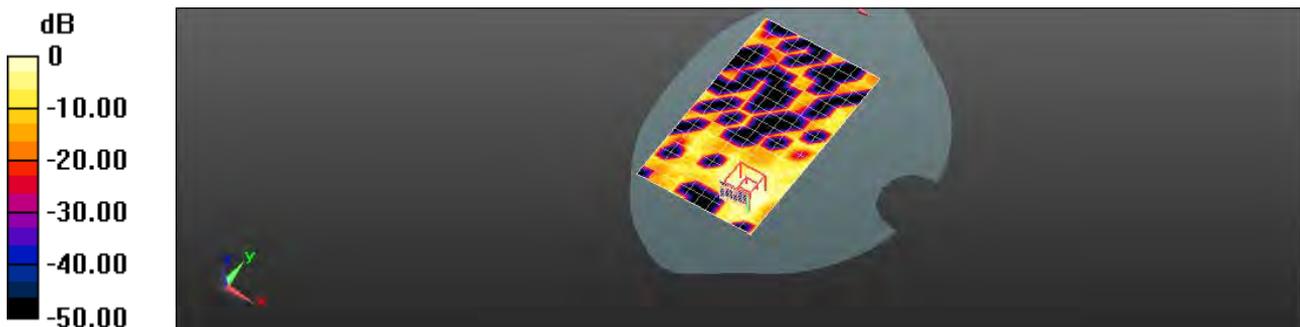
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.079 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.212 W/kg

**SAR(1 g) = 0.046 W/kg; SAR(10 g) = 0.013 W/kg**

Maximum value of SAR (measured) = 0.103 W/kg



0 dB = 0.0763 W/kg = -11.17 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz

Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.107 \text{ S/m}$ ;  $\epsilon_r = 46.652$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.248 W/kg

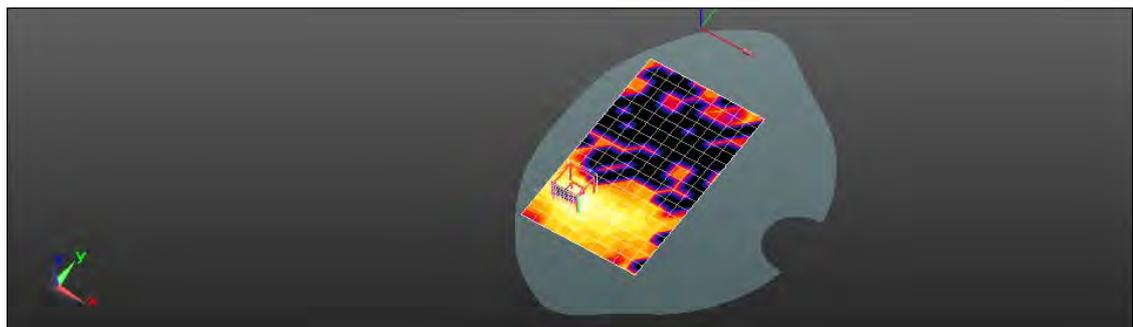
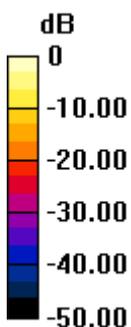
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 2.689 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.645 W/kg

**SAR(1 g) = 0.143 W/kg; SAR(10 g) = 0.043 W/kg**

Maximum value of SAR (measured) = 0.310 W/kg



0 dB = 0.248 W/kg = -6.06 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11a 5.8G\_CH153

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5765 MHz

Medium parameters used:  $f = 5765$  MHz;  $\sigma = 6.143$  S/m;  $\epsilon_r = 46.666$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.250 W/kg

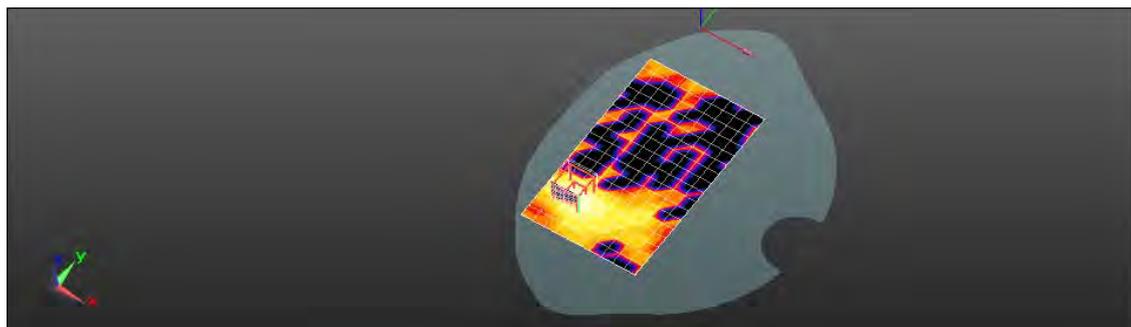
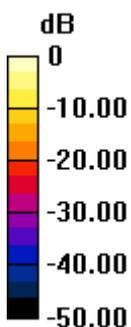
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.453 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.562 W/kg

**SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.039 W/kg**

Maximum value of SAR (measured) = 0.286 W/kg



0 dB = 0.250 W/kg = -6.02 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11a 5.8G\_CH161

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5805 MHz  
Medium parameters used:  $f = 5805 \text{ MHz}$ ;  $\sigma = 6.193 \text{ S/m}$ ;  $\epsilon_r = 46.422$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.180 W/kg

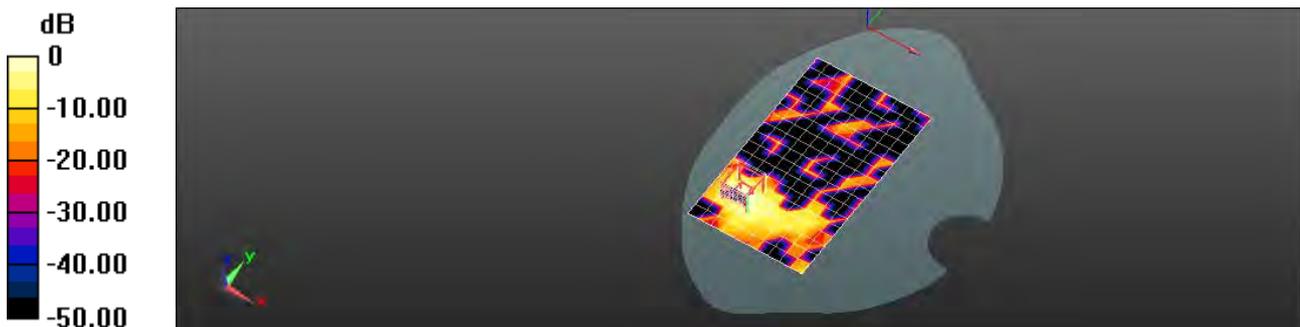
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 2.926 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.399 W/kg

**SAR(1 g) = 0.087 W/kg; SAR(10 g) = 0.025 W/kg**

Maximum value of SAR (measured) = 0.205 W/kg



0 dB = 0.180 W/kg = -7.44 dBW/kg

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Date: 5/19/2013

### Hotspot\_Top side\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz

Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.107 \text{ S/m}$ ;  $\epsilon_r = 46.652$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.175 W/kg

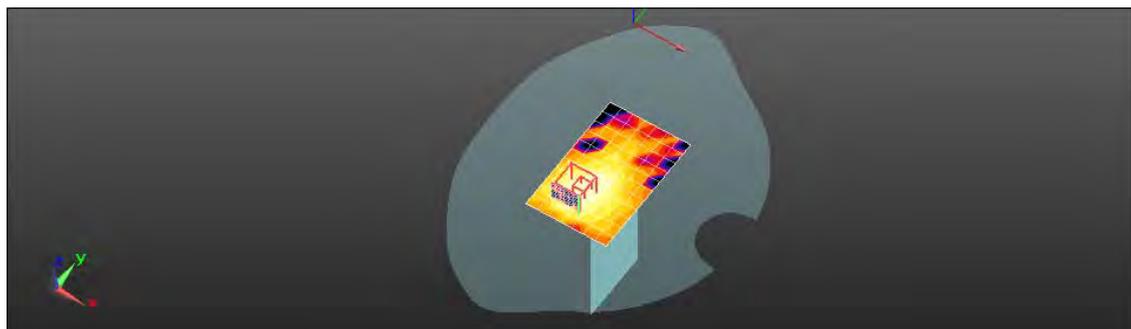
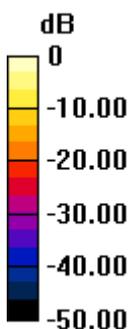
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 3.970 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.463 W/kg

**SAR(1 g) = 0.076 W/kg; SAR(10 g) = 0.027 W/kg**

Maximum value of SAR (measured) = 0.200 W/kg



0 dB = 0.175 W/kg = -7.58 dBW/kg

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Date: 5/19/2013

### Hotspot\_Left side\_WLAN802.11a 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz

Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.107 \text{ S/m}$ ;  $\epsilon_r = 46.652$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.106 W/kg

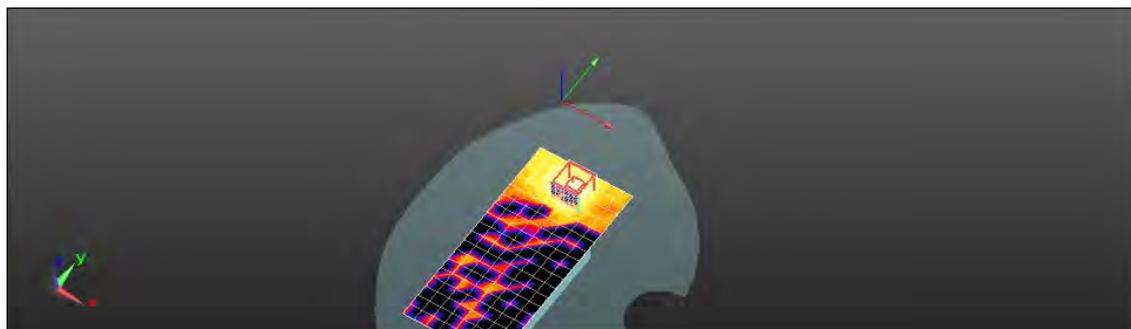
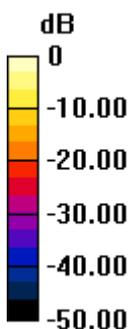
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.068 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.428 W/kg

**SAR(1 g) = 0.048 W/kg; SAR(10 g) = 0.016 W/kg**

Maximum value of SAR (measured) = 0.113 W/kg



0 dB = 0.106 W/kg = -9.76 dBW/kg

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Date: 5/19/2013

### RE Cheek\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 5.394 \text{ S/m}$ ;  $\epsilon_r = 33.788$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.686 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

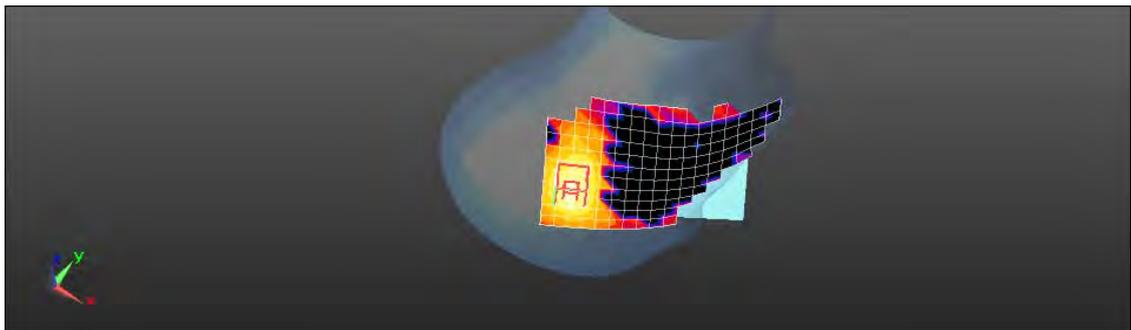
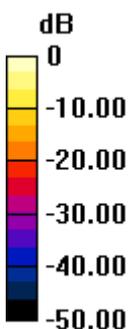
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.265 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.42 W/kg

**SAR(1 g) = 0.340 W/kg; SAR(10 g) = 0.110 W/kg**

Maximum value of SAR (measured) = 0.691 W/kg



0 dB = 0.686 W/kg = -1.64 dBW/kg

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Date: 5/19/2013

### RE Tilt\_WLAN802.11n(20M) 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz  
Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.322 \text{ S/m}$ ;  $\epsilon_r = 34.116$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

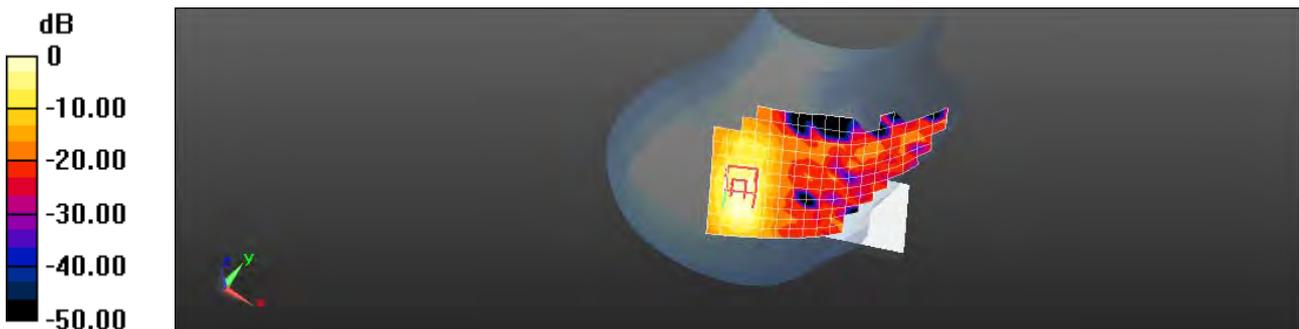
Maximum value of SAR (measured) = 0.827 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 11.531 V/m; Power Drift = -0.06 dB  
Peak SAR (extrapolated) = 1.73 W/kg

**SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.152 W/kg**

Maximum value of SAR (measured) = 0.877 W/kg



0 dB = 0.827 W/kg = -0.83 dBW/kg

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Date: 5/19/2013

## RE Tilt\_WLAN802.11n(20M) 5.8G\_CH157

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5785 MHz

Medium parameters used:  $f = 5785$  MHz;  $\sigma = 5.358$  S/m;  $\epsilon_r = 33.851$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.728 W/kg

**Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:**

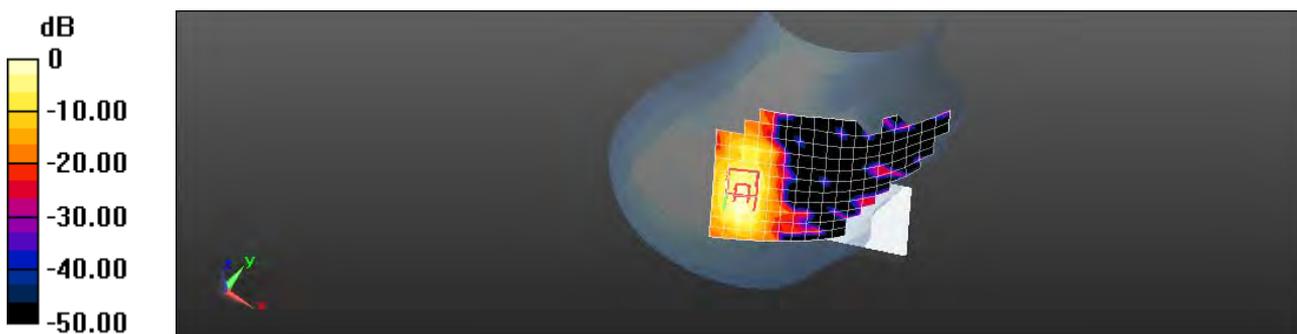
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.765 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.43 W/kg

**SAR(1 g) = 0.361 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.730 W/kg



0 dB = 0.728 W/kg = -1.38 dBW/kg

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Date: 5/19/2013

### RE Tilt\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825$  MHz;  $\sigma = 5.394$  S/m;  $\epsilon_r = 33.788$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.733 W/kg

### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

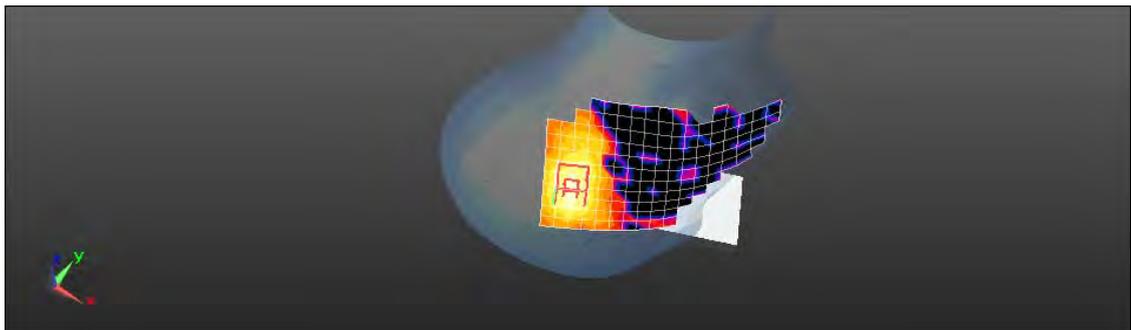
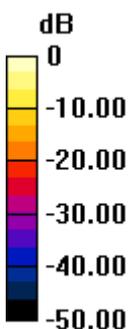
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.216 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.56 W/kg

**SAR(1 g) = 0.376 W/kg; SAR(10 g) = 0.124 W/kg**

Maximum value of SAR (measured) = 0.755 W/kg



0 dB = 0.733 W/kg = -1.35 dBW/kg

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Date: 5/19/2013

### LE Cheek\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 5.394 \text{ S/m}$ ;  $\epsilon_r = 33.788$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.535 W/kg

#### **Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:**

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.446 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.935 W/kg

**SAR(1 g) = 0.256 W/kg; SAR(10 g) = 0.082 W/kg**

Maximum value of SAR (measured) = 0.547 W/kg

#### **Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 1:**

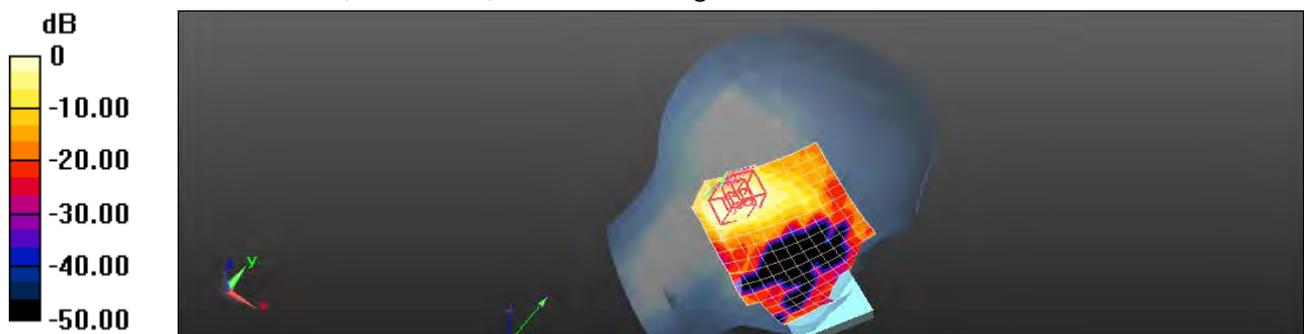
Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 6.446 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.03 W/kg

**SAR(1 g) = 0.289 W/kg; SAR(10 g) = 0.113 W/kg**

Maximum value of SAR (measured) = 0.538 W/kg



0 dB = 0.535 W/kg = -2.72 dBW/kg

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Date: 5/19/2013

### LE Tilt\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz  
Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 5.394 \text{ S/m}$ ;  $\epsilon_r = 33.788$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.526 W/kg

#### **Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:**

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 8.724 V/m; Power Drift = 0.14 dB  
Peak SAR (extrapolated) = 1.15 W/kg

**SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.120 W/kg**

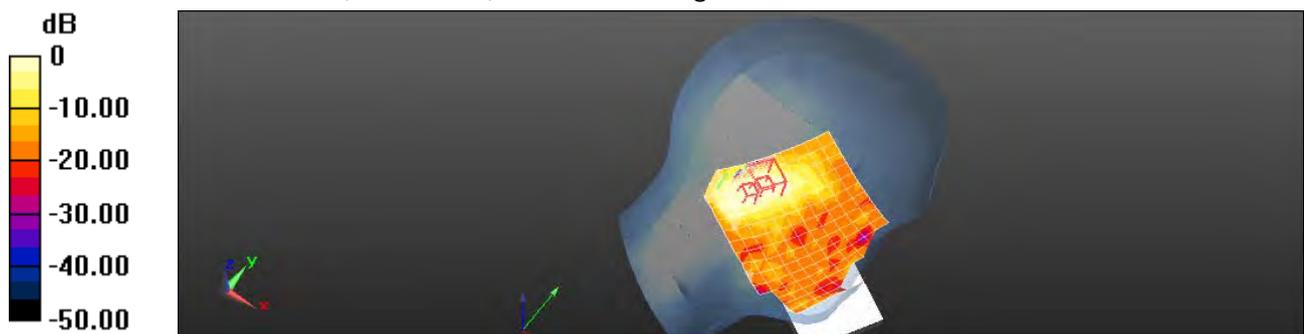
Maximum value of SAR (measured) = 0.587 W/kg

#### **Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 1:**

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 8.724 V/m; Power Drift = 0.14 dB  
Peak SAR (extrapolated) = 1.05 W/kg

**SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.089**

Maximum value of SAR (measured) = 0.544 W/kg



0 dB = 0.526 W/kg = -2.79 dBW/kg

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Date: 5/19/2013

### Hotspot\_Front side\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 6.212 \text{ S/m}$ ;  $\epsilon_r = 46.334$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.111 W/kg

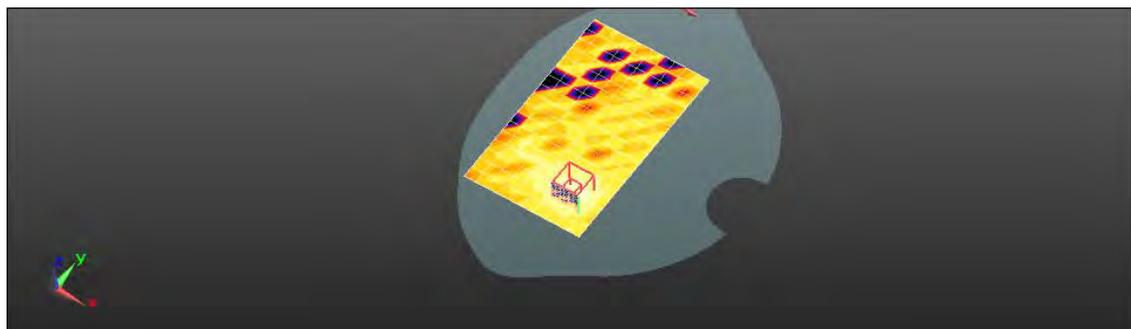
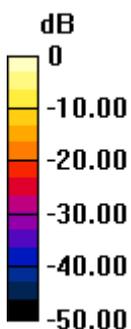
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.774 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.317 W/kg

**SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.015 W/kg**

Maximum value of SAR (measured) = 0.0973 W/kg



0 dB = 0.111 W/kg = -9.56 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.8G\_CH149

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5745 MHz

Medium parameters used:  $f = 5745$  MHz;  $\sigma = 6.107$  S/m;  $\epsilon_r = 46.652$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.300 W/kg

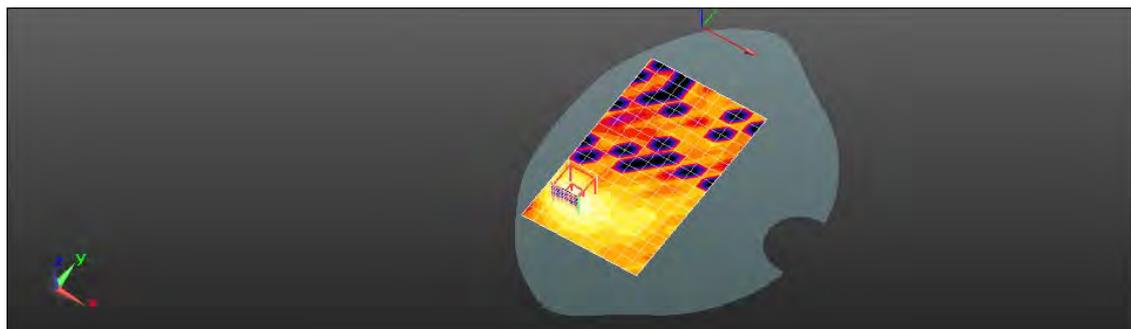
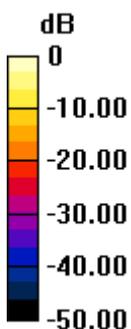
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.163 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.667 W/kg

**SAR(1 g) = 0.162 W/kg; SAR(10 g) = 0.051 W/kg**

Maximum value of SAR (measured) = 0.345 W/kg



0 dB = 0.300 W/kg = -5.23 dBW/kg

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Member of SGS Group

Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.8G\_CH157

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5785 MHz

Medium parameters used:  $f = 5785 \text{ MHz}$ ;  $\sigma = 6.174 \text{ S/m}$ ;  $\epsilon_r = 46.545$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.226 W/kg

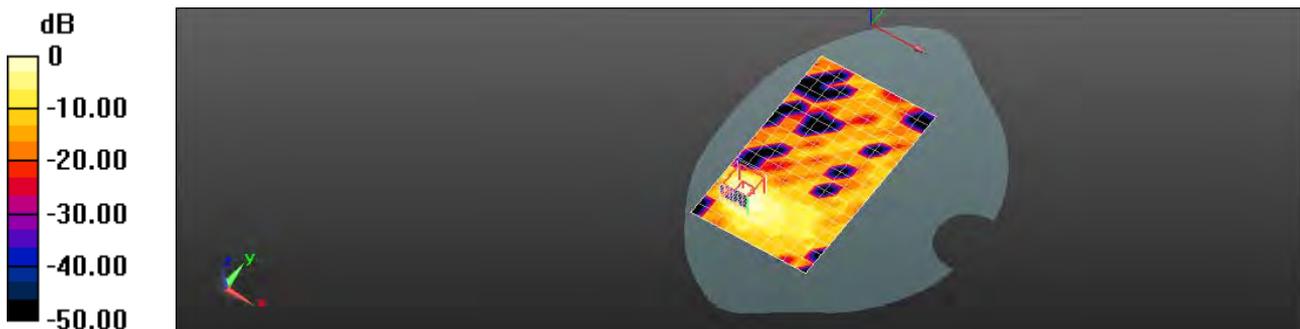
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.570 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.528 W/kg

**SAR(1 g) = 0.124 W/kg; SAR(10 g) = 0.038 W/kg**

Maximum value of SAR (measured) = 0.272 W/kg



0 dB = 0.226 W/kg = -6.46 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825$  MHz;  $\sigma = 6.212$  S/m;  $\epsilon_r = 46.334$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.200 W/kg

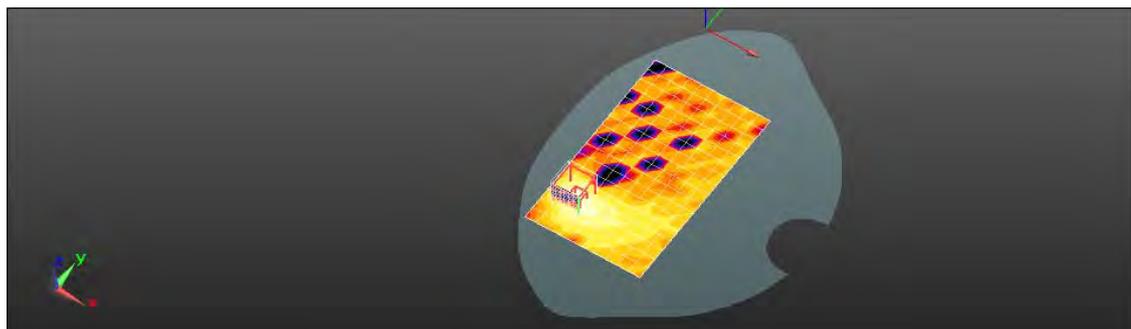
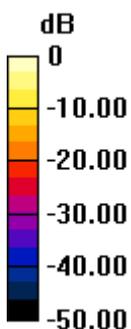
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.253 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.458 W/kg

**SAR(1 g) = 0.102 W/kg; SAR(10 g) = 0.031 W/kg**

Maximum value of SAR (measured) = 0.227 W/kg



0 dB = 0.200 W/kg = -7.00 dBW/kg

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Date: 5/19/2013

### Hotspot\_Top side\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 6.212 \text{ S/m}$ ;  $\epsilon_r = 46.334$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.122 W/kg

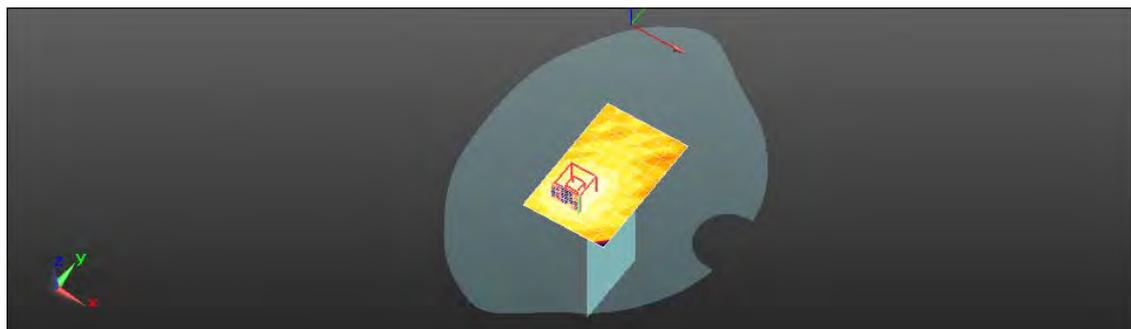
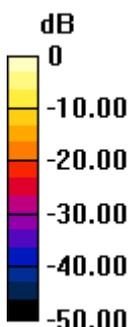
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 2.868 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.412 W/kg

**SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.022 W/kg**

Maximum value of SAR (measured) = 0.131 W/kg



0 dB = 0.122 W/kg = -9.15 dBW/kg

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Date: 5/19/2013

### Hotspot\_Left side\_WLAN802.11n(20M) 5.8G\_CH165

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5825 MHz

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 6.212 \text{ S/m}$ ;  $\epsilon_r = 46.334$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0823 W/kg

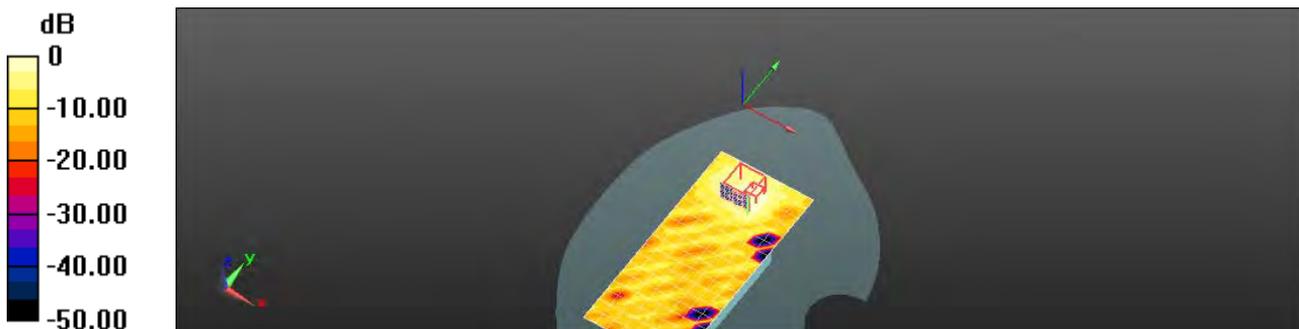
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.702 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.458 W/kg

**SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.014 W/kg**

Maximum value of SAR (measured) = 0.0929 W/kg



0 dB = 0.0823 W/kg = -10.85 dBW/kg

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Date: 5/19/2013

### RE Cheek\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz

Medium parameters used:  $f = 5755$  MHz;  $\sigma = 5.331$  S/m;  $\epsilon_r = 34.061$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Cheek/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.495 W/kg

### Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

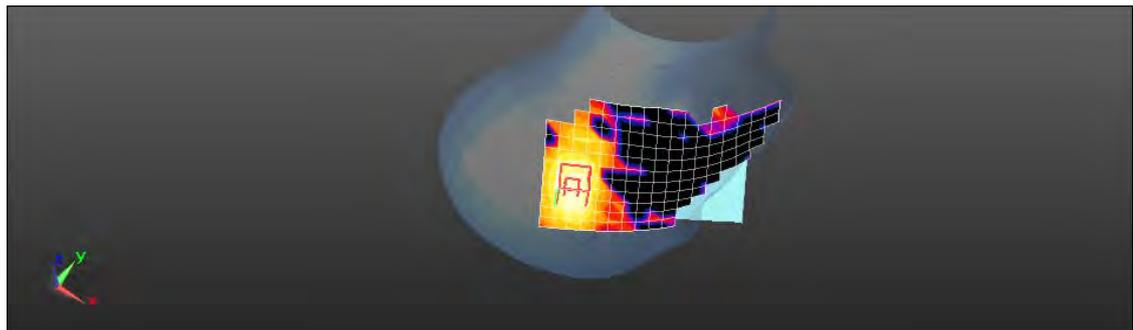
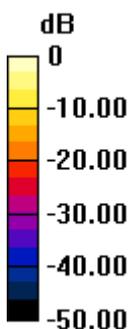
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 6.894 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.11 W/kg

**SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.096 W/kg**

Maximum value of SAR (measured) = 0.557 W/kg



0 dB = 0.495 W/kg = -3.05 dBW/kg

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Date: 5/19/2013

### RE Tilt\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz  
Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 5.331 \text{ S/m}$ ;  $\epsilon_r = 34.061$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

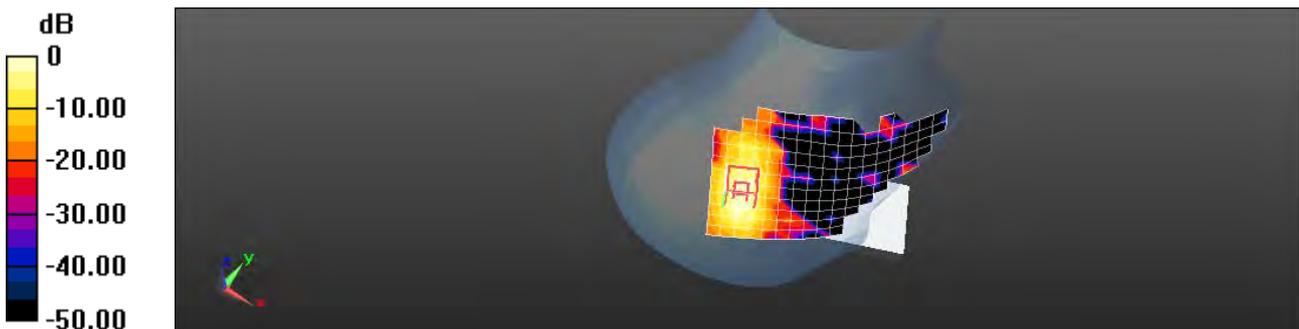
Maximum value of SAR (measured) = 0.650 W/kg

#### Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 8.447 V/m; Power Drift = 0.11 dB  
Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.333 W/kg; SAR(10 g) = 0.111 W/kg**

Maximum value of SAR (measured) = 0.681 W/kg



0 dB = 0.650 W/kg = -1.87 dBW/kg

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Date: 5/19/2013

## RE Tilt\_WLAN802.11n(40M) 5.8G\_CH159

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5795 MHz

Medium parameters used:  $f = 5795$  MHz;  $\sigma = 5.367$  S/m;  $\epsilon_r = 33.916$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/RE Tilt/Area Scan (12x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.438 W/kg

## Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

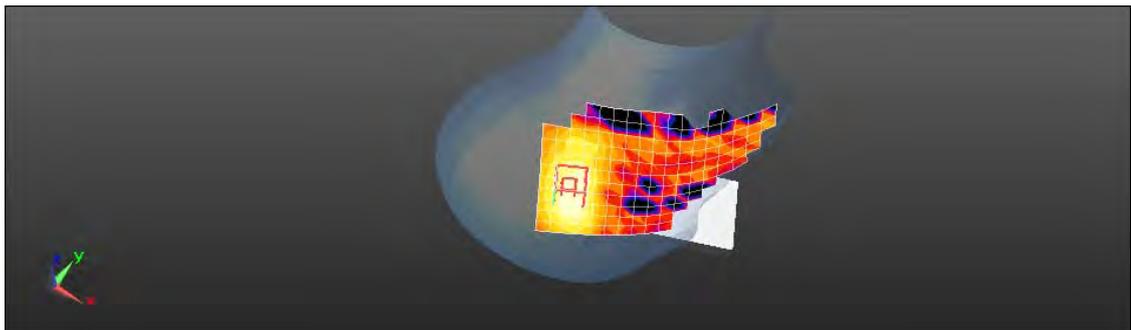
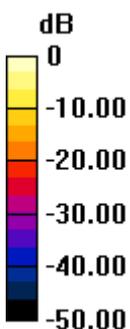
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.870 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.02 W/kg

**SAR(1 g) = 0.262 W/kg; SAR(10 g) = 0.088 W/kg**

Maximum value of SAR (measured) = 0.522 W/kg



0 dB = 0.438 W/kg = -3.58 dBW/kg

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Date: 5/19/2013

### LE Cheek\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz  
Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 5.331 \text{ S/m}$ ;  $\epsilon_r = 34.061$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Cheek/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

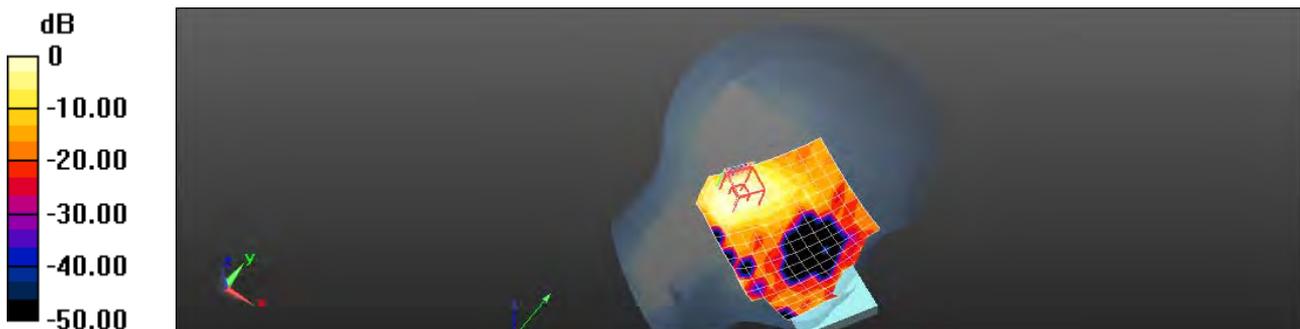
Maximum value of SAR (measured) = 0.549 W/kg

#### Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 6.121 V/m; Power Drift = 0.12 dB  
Peak SAR (extrapolated) = 0.970 W/kg

**SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.116 W/kg**

Maximum value of SAR (measured) = 0.542 W/kg



0 dB = 0.549 W/kg = -2.60 dBW/kg

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Date: 5/19/2013

### LE Tilt\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz  
Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 5.331 \text{ S/m}$ ;  $\epsilon_r = 34.061$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/LE Tilt/Area Scan (12x16x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

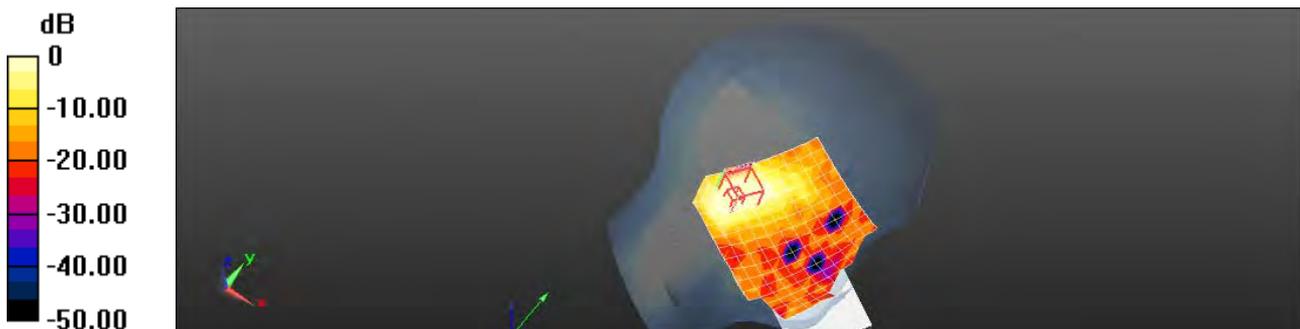
Maximum value of SAR (measured) = 0.536 W/kg

#### Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x12)/Cube 0:

Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 7.338 V/m; Power Drift = 0.11 dB  
Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.297 W/kg; SAR(10 g) = 0.120 W/kg**

Maximum value of SAR (measured) = 0.592 W/kg



0 dB = 0.536 W/kg = -2.70 dBW/kg

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Date: 5/19/2013

### Hotspot\_Front side\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz

Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 6.125 \text{ S/m}$ ;  $\epsilon_r = 46.681$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0684 W/kg

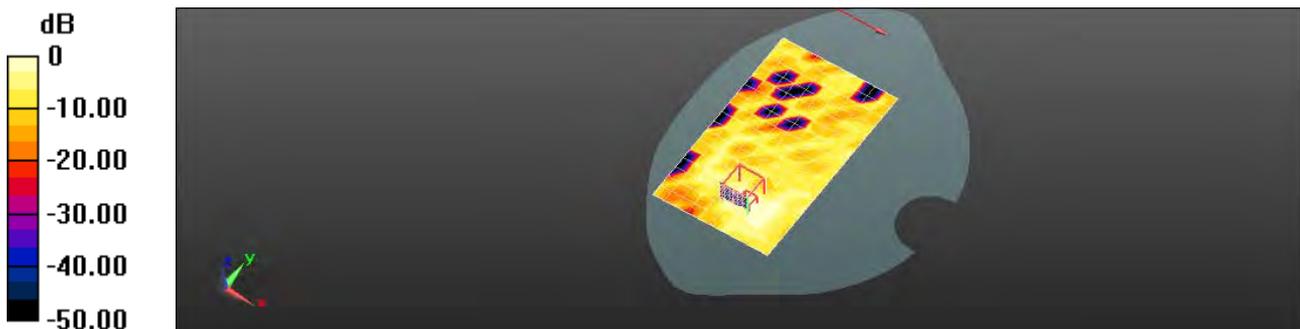
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 2.036 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.228 W/kg

**SAR(1 g) = 0.020 W/kg; SAR(10 g) = 0.0031 W/kg**

Maximum value of SAR (measured) = 0.0424 W/kg



0 dB = 0.0684 W/kg = -11.65 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz

Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 6.125 \text{ S/m}$ ;  $\epsilon_r = 46.681$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.173 W/kg

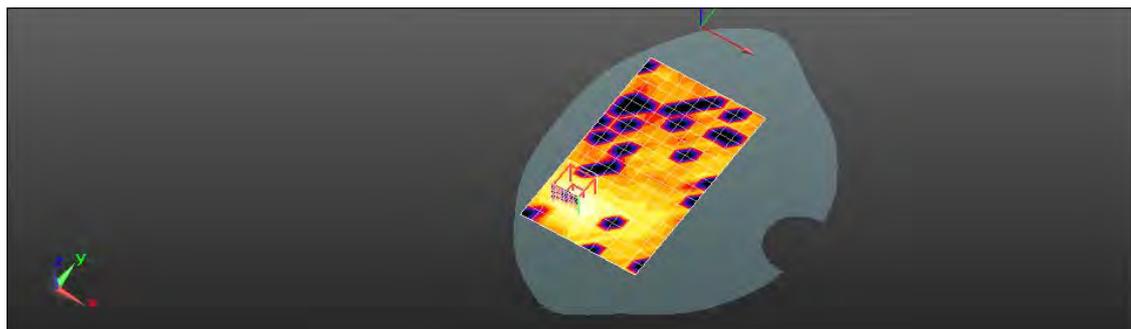
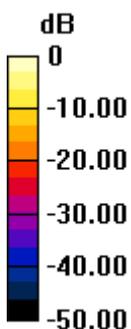
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.996 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.426 W/kg

**SAR(1 g) = 0.098 W/kg; SAR(10 g) = 0.030 W/kg**

Maximum value of SAR (measured) = 0.218 W/kg



0 dB = 0.173 W/kg = -7.61 dBW/kg

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Date: 5/19/2013

### Hotspot\_Back side\_WLAN802.11n(40M) 5.8G\_CH159

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5795 MHz

Medium parameters used:  $f = 5795$  MHz;  $\sigma = 6.184$  S/m;  $\epsilon_r = 46.482$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (11x18x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.158 W/kg

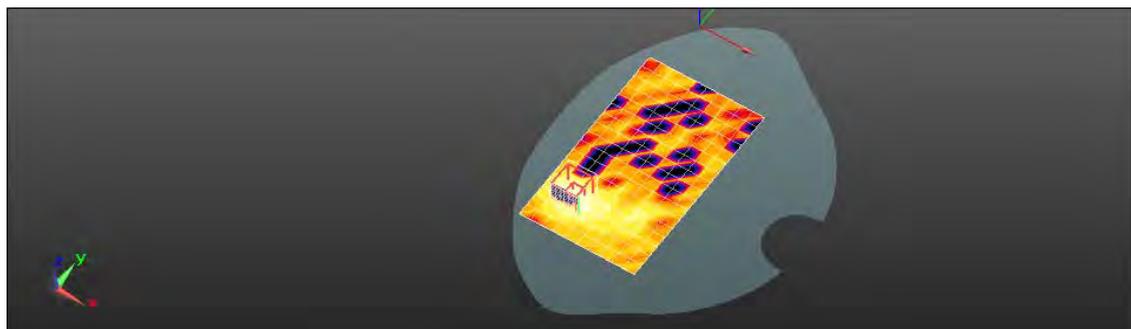
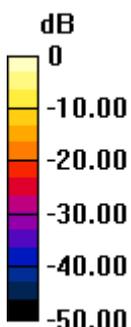
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.8762 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.676 W/kg

**SAR(1 g) = 0.075 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.194 W/kg



0 dB = 0.158 W/kg = -8.02 dBW/kg

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Date: 5/19/2013

### Hotspot\_Top side\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz

Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 6.125 \text{ S/m}$ ;  $\epsilon_r = 46.681$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (8x12x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.125 W/kg

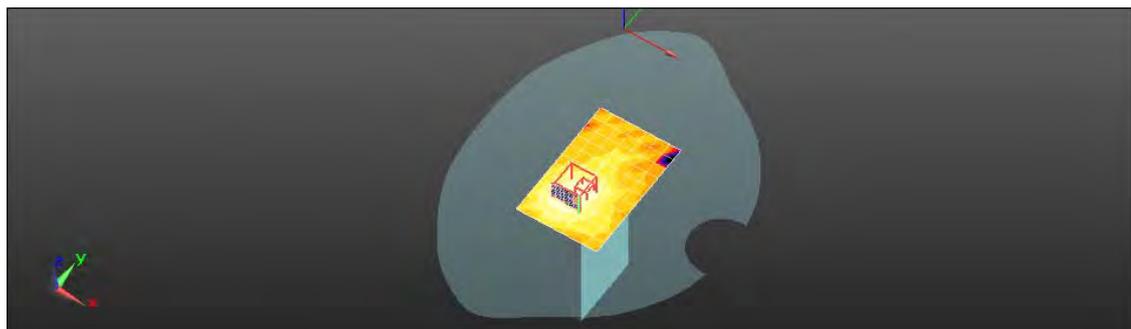
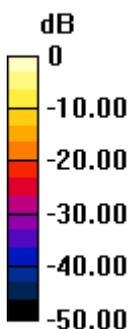
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 2.745 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.891 W/kg

**SAR(1 g) = 0.078 W/kg; SAR(10 g) = 0.031 W/kg**

Maximum value of SAR (measured) = 0.129 W/kg



0 dB = 0.125 W/kg = -9.04 dBW/kg

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Date: 5/19/2013

### Hotspot\_Left side\_WLAN802.11n(40M) 5.8G\_CH151

Communication System: WLAN 802.11n/a(5G) FCC; Frequency: 5755 MHz

Medium parameters used:  $f = 5755 \text{ MHz}$ ;  $\sigma = 6.125 \text{ S/m}$ ;  $\epsilon_r = 46.681$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

**Configuration/Body/Area Scan (9x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (measured) = 0.0779 W/kg

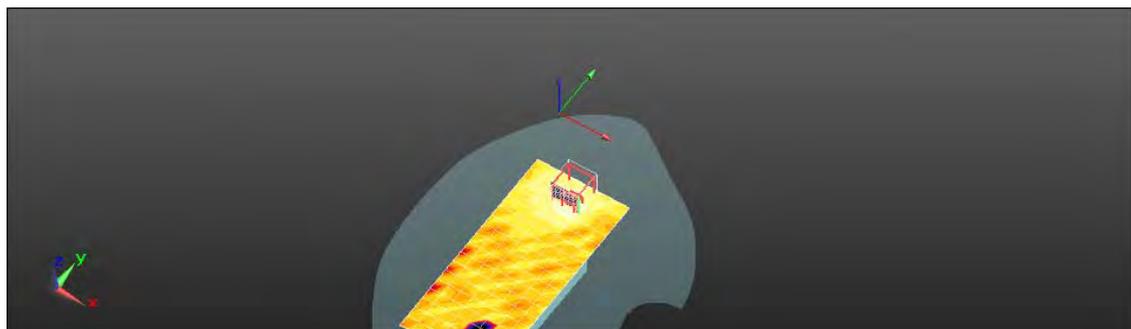
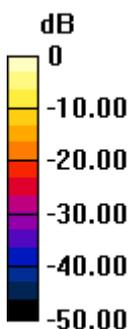
**Configuration/Body/Zoom Scan (7x7x7) (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 0.777 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.535 W/kg

**SAR(1 g) = 0.048 W/kg; SAR(10 g) = 0.014 W/kg**

Maximum value of SAR (measured) = 0.0790 W/kg



0 dB = 0.0779 W/kg = -11.09 dBW/kg

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## 6. System Verification

Date: 5/3/2013

### Dipole\_835 MHz (Head)

Communication System: CW; Frequency: 835 MHz

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.879$  S/m;  $\epsilon_r = 42.464$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=15mm, Pin=250mW, :

Maximum value of SAR (measured) = 2.74 W/kg

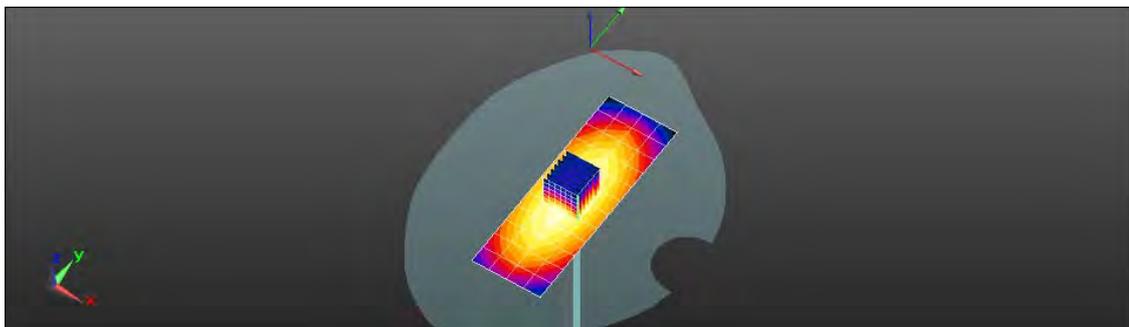
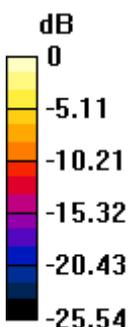
### Configuration/d=15mm, Pin=250mW, :

Reference Value = 56.950 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.34 W/kg

**SAR(1 g) = 2.25 W/kg; SAR(10 g) = 1.46 W/kg**

Maximum value of SAR (measured) = 2.79 W/kg



0 dB = 2.74 W/kg = 4.39 dBW/kg

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Date: 5/5/2013

### Dipole\_835 MHz (Body)

Communication System: CW; Frequency: 835 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 1.003 \text{ S/m}$ ;  $\epsilon_r = 52.565$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(5.69, 5.69, 5.69); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=15mm, Pin=250mW, :

Maximum value of SAR (measured) = 2.99 W/kg

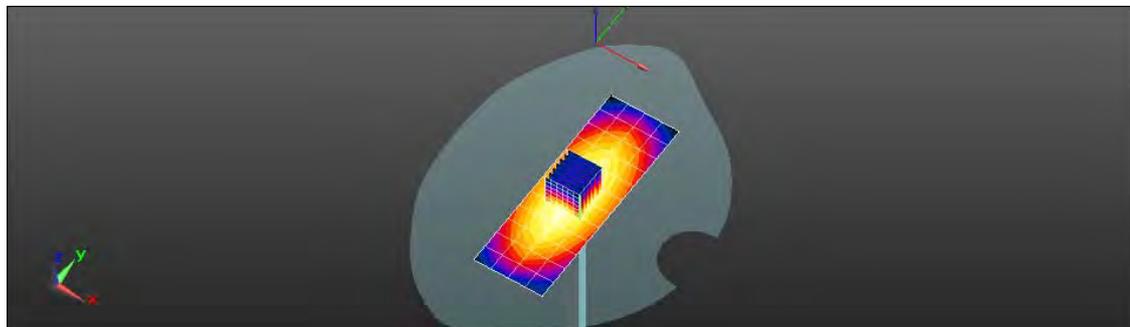
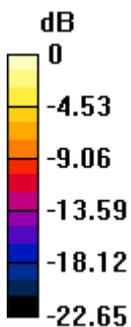
### Configuration/d=15mm, Pin=250mW, :

Reference Value = 56.243 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.52 W/kg

**SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.56 W/kg**

Maximum value of SAR (measured) = 3.01 W/kg



0 dB = 2.99 W/kg = 4.76 dBW/kg

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Date: 5/7/2013

## Dipole\_1900 MHz (Head)

Communication System: CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.392$  S/m;  $\epsilon_r = 38.779$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=250mW, :

Maximum value of SAR (measured) = 11.2 W/kg

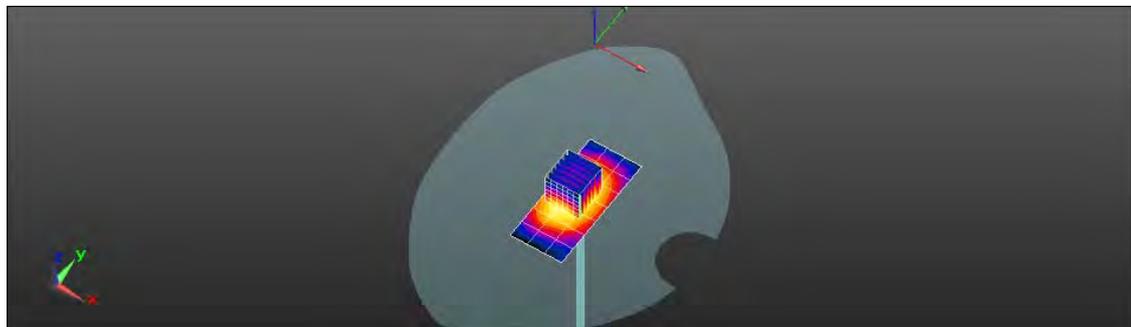
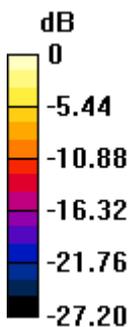
### Configuration/d=10mm, Pin=250mW, :

Reference Value = 99.406 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.0 W/kg

**SAR(1 g) = 9.42 W/kg; SAR(10 g) = 4.81 W/kg**

Maximum value of SAR (measured) = 10.4 W/kg



0 dB = 11.2 W/kg = 10.51 dBW/kg

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Date: 5/7/2013

### Dipole\_1900 MHz (Body)

Communication System: CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.499 \text{ S/m}$ ;  $\epsilon_r = 52.899$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.29, 4.29, 4.29); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=250mW, :

Maximum value of SAR (measured) = 12.7 W/kg

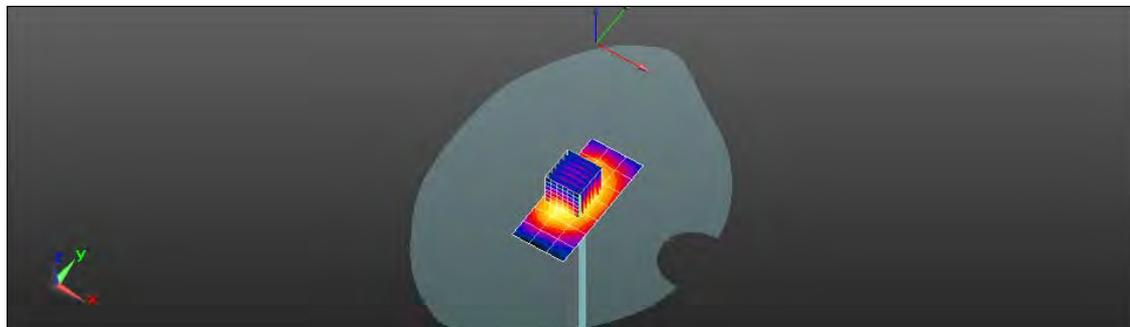
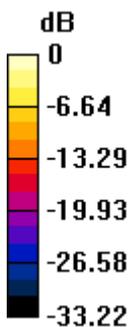
### Configuration/d=10mm, Pin=250mW, :

Reference Value = 97.178 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.9 W/kg

**SAR(1 g) = 9.73 W/kg; SAR(10 g) = 5.01 W/kg**

Maximum value of SAR (measured) = 14.0 W/kg



0 dB = 12.7 W/kg = 11.05 dBW/kg

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Date: 5/11/2013

### Dipole\_2450 MHz (Head)

Communication System: CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.837$  S/m;  $\epsilon_r = 38.128$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(4.08, 4.08, 4.08); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=250mW, :

Maximum value of SAR (measured) = 13.9 W/kg

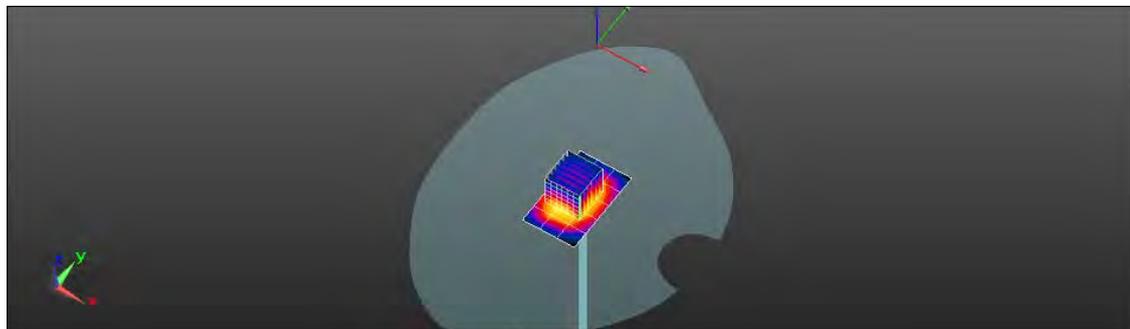
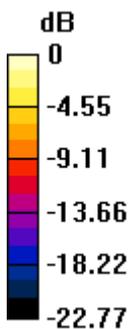
### Configuration/d=10mm, Pin=250mW, :

Reference Value = 105.3 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 27.5 W/kg

**SAR(1 g) = 13.2 W/kg; SAR(10 g) = 5.77 W/kg**

Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 13.9 W/kg = 11.44 dBW/kg

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Date: 5/11/2013

## Dipole\_2450 MHz (Body)

Communication System: CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450 \text{ MHz}$ ;  $\sigma = 2.023 \text{ S/m}$ ;  $\epsilon_r = 50.115$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3071; ConvF(3.87, 3.87, 3.87); Calibrated: 6/22/2012;
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=250mW, :

Maximum value of SAR (measured) = 14.6 W/kg

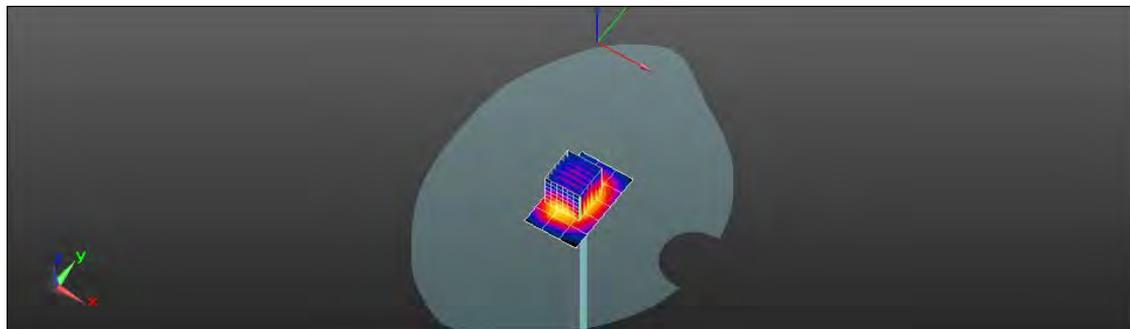
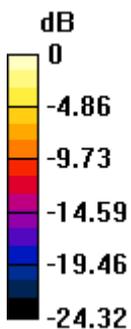
### Configuration/d=10mm, Pin=250mW, :

Reference Value = 98.127 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 26.4 W/kg

**SAR(1 g) = 12.4 W/kg; SAR(10 g) = 5.66 W/kg**

Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 14.6 W/kg = 11.63 dBW/kg

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Date: 5/9/2013

### Dipole\_5.2GHz (Head)

Communication System: CW; Frequency: 5200 MHz

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.617$  S/m;  $\epsilon_r = 35.337$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(5.01, 5.01, 5.01); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=100mW, :

Maximum value of SAR (measured) = 6.96 W/kg

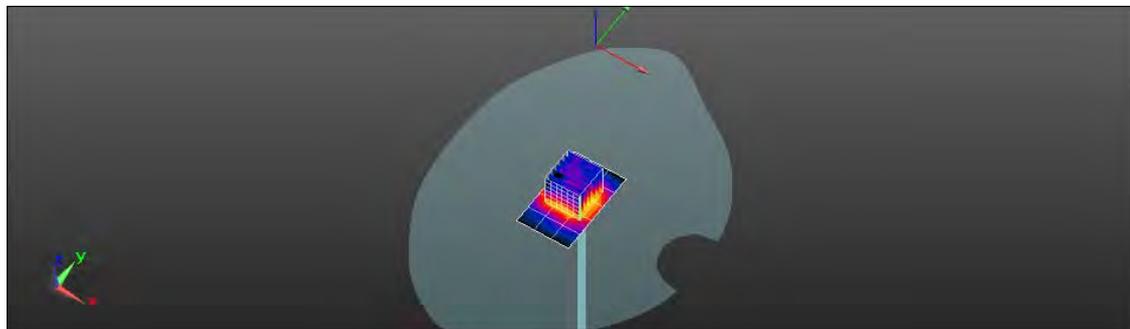
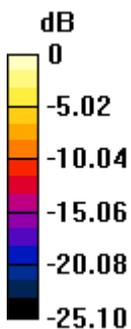
### Configuration/d=10mm, Pin=100mW, :

Reference Value = 60.572 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 34.4 W/kg

**SAR(1 g) = 8.02 W/kg; SAR(10 g) = 2.25 W/kg**

Maximum value of SAR (measured) = 16.6 W/kg



0 dB = 6.96 W/kg = 8.43 dBW/kg

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Date: 5/16/2013

### Dipole\_5.2GHz (Body)

Communication System: CW; Frequency: 5200 MHz

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.337$  S/m;  $\epsilon_r = 48.522$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=100mW, :

Maximum value of SAR (measured) = 9.87 W/kg

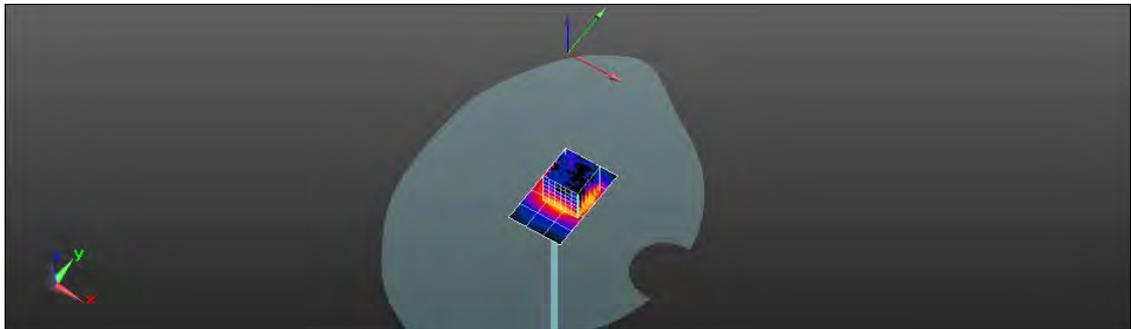
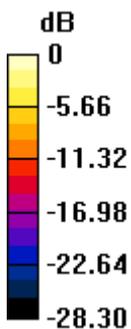
### Configuration/d=10mm, Pin=100mW, :

Reference Value = 57.887 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 34.5 W/kg

**SAR(1 g) = 7.42 W/kg; SAR(10 g) = 2.05 W/kg**

Maximum value of SAR (measured) = 14.9 W/kg



0 dB = 9.87 W/kg = 9.94 dBW/kg

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Date: 5/13/2013

## Dipole\_5.5GHz (Head)

Communication System: CW; Frequency: 5500 MHz

Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.021$  S/m;  $\epsilon_r = 34.606$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.58, 4.58, 4.58); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=100mW, :

Maximum value of SAR (measured) = 6.36 W/kg

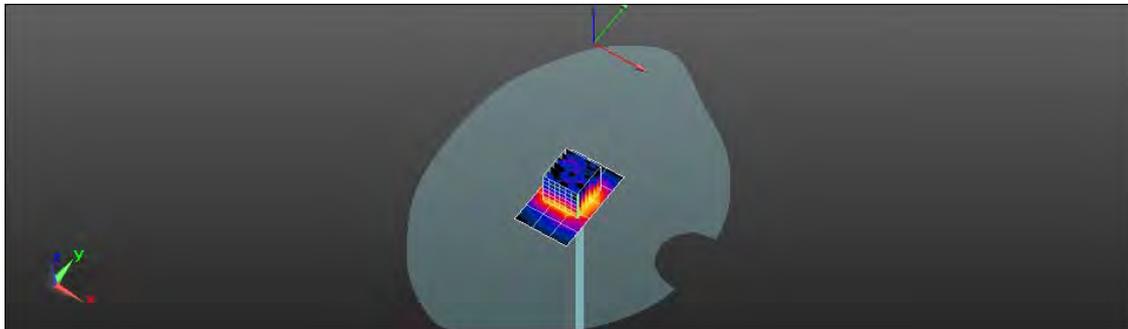
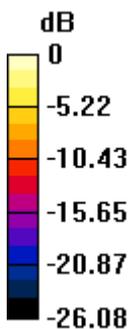
### Configuration/d=10mm, Pin=100mW, :

Reference Value = 58.737 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 35.4 W/kg

**SAR(1 g) = 8.71 W/kg; SAR(10 g) = 2.31 W/kg**

Maximum value of SAR (measured) = 16.4 W/kg



0 dB = 6.36 W/kg = 8.03 dBW/kg

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Date: 5/16/2013

## Dipole\_5.5GHz (Body)

Communication System: CW; Frequency: 5500 MHz

Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.75$  S/m;  $\epsilon_r = 47.205$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.63, 3.63, 3.63); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=100mW, :

Maximum value of SAR (measured) = 11.8 W/kg

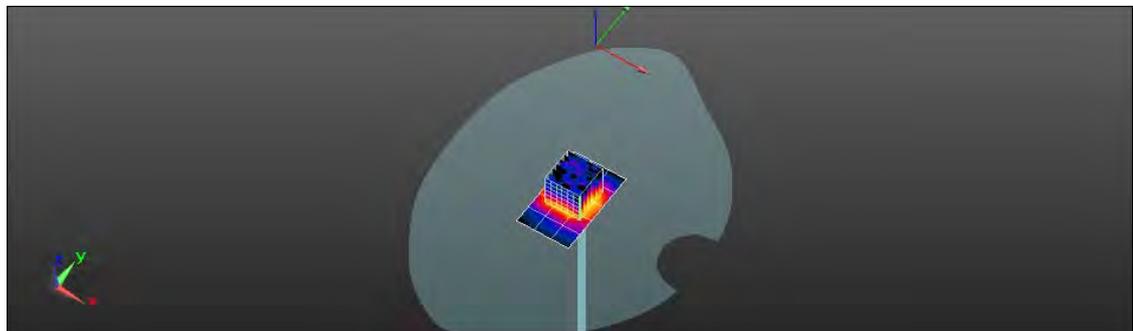
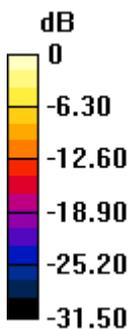
### Configuration/d=10mm, Pin=100mW, :

Reference Value = 56.280 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 38.4 W/kg

**SAR(1 g) = 7.64 W/kg; SAR(10 g) = 2.1 W/kg**

Maximum value of SAR (measured) = 14.6 W/kg



0 dB = 11.8 W/kg = 10.71 dBW/kg

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Date: 5/19/2013

### Dipole\_5.8GHz (Head)

Communication System: CW; Frequency: 5800 MHz

Medium parameters used:  $f = 5800 \text{ MHz}$ ;  $\sigma = 5.369 \text{ S/m}$ ;  $\epsilon_r = 33.936$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(4.52, 4.52, 4.52); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=100mW, :

Maximum value of SAR (measured) = 7.95 W/kg

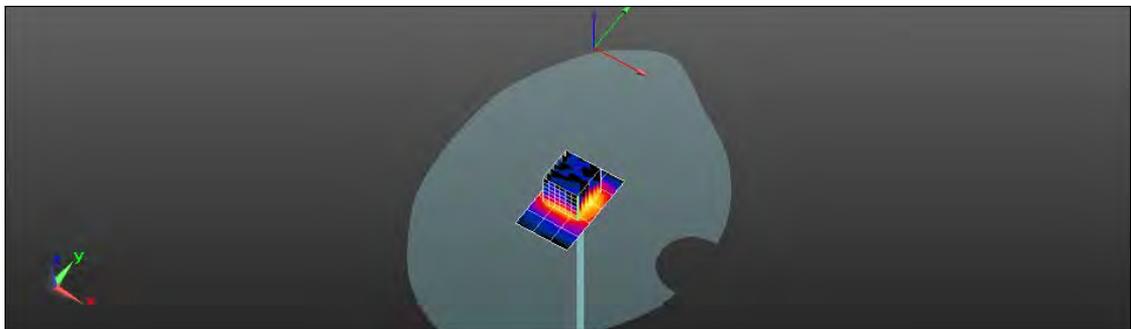
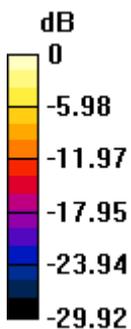
### Configuration/d=10mm, Pin=100mW, :

Reference Value = 54.819 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 38.5 W/kg

**SAR(1 g) = 7.82 W/kg; SAR(10 g) = 2.14 W/kg**

Maximum value of SAR (measured) = 15.9 W/kg



0 dB = 7.95 W/kg = 9.00 dBW/kg

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Date: 5/19/2013

## Dipole\_5.8GHz (Body)

Communication System: CW; Frequency: 5800 MHz

Medium parameters used:  $f = 5800$  MHz;  $\sigma = 6.19$  S/m;  $\epsilon_r = 46.45$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3820; ConvF(3.83, 3.83, 3.83); Calibrated: 12/10/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/30/2012
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

### Configuration/d=10mm, Pin=100mW, :

Maximum value of SAR (measured) = 11.3 W/kg

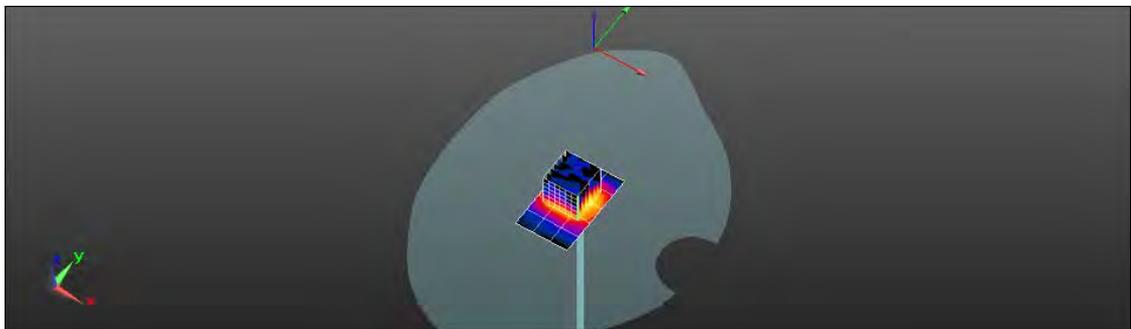
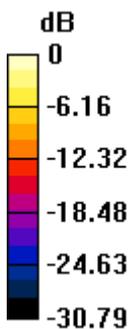
### Configuration/d=10mm, Pin=100mW, :

Reference Value = 53.382 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 39.1 W/kg

**SAR(1 g) = 7.18 W/kg; SAR(10 g) = 1.96 W/kg**

Maximum value of SAR (measured) = 13.7 W/kg



0 dB = 11.3 W/kg = 10.52 dBW/kg

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## 7. DAE & Probe Calibration Certificate

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Accreditation No.: SCS 108

Client **SGS-TW (Auden)**

Certificate No: DAE4-856\_May12

### CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BJ - SN: 856

Calibration procedure(s): QA CAL-06.v24  
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: May 30, 2012

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	28-Sep-11 (No:11450)	Sep-12
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Calibrator Box V2.1	SE UWS 053 AA 1001	05-Jan-12 (in house check)	In house check: Jan-13

	Name	Function	Signature
Calibrated by:	Dominique Steffen	Technician	
Approved by:	Fin Bomholt	R&D Director	

Issued: May 30, 2012

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Certificate No: DAE4-856\_May12

Page 1 of 5

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Accreditation No.: **SCS 108**

## Glossary

**DAE** data acquisition electronics  
**Connector angle** information used in DASY system to align probe sensor X to the robot coordinate system.

## Methods Applied and Interpretation of Parameters

- **DC Voltage Measurement:** Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- **Connector angle:** The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - **DC Voltage Measurement Linearity:** Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - **Common mode sensitivity:** Influence of a positive or negative common mode voltage on the differential measurement.
  - **Channel separation:** Influence of a voltage on the neighbor channels not subject to an input voltage.
  - **AD Converter Values with inputs shorted:** Values on the internal AD converter corresponding to zero input voltage
  - **Input Offset Measurement:** Output voltage and statistical results over a large number of zero voltage measurements.
  - **Input Offset Current:** Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - **Input resistance:** Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - **Low Battery Alarm Voltage:** Typical value for information. Below this voltage, a battery alarm signal is generated.
  - **Power consumption:** Typical value for information. Supply currents in various operating modes.

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### DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 $\mu$ V, full range = -100...+300 mV

Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.685 $\pm$ 0.1% (k=2)	405.499 $\pm$ 0.1% (k=2)	405.499 $\pm$ 0.1% (k=2)
Low Range	3.97256 $\pm$ 0.7% (k=2)	3.99169 $\pm$ 0.7% (k=2)	3.98202 $\pm$ 0.7% (k=2)

### Connector Angle

Connector Angle to be used in DASY system	53.0 $^{\circ}$ $\pm$ 1 $^{\circ}$
---	------------------------------------

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## Appendix

### 1. DC Voltage Linearity

High Range	Reading ( $\mu\text{V}$ )	Difference ( $\mu\text{V}$ )	Error (%)
Channel X + Input	199996.85	-0.01	-0.00
Channel X + Input	20002.52	2.06	0.01
Channel X - Input	-19995.75	4.64	-0.02
Channel Y + Input	199998.52	1.64	0.00
Channel Y + Input	19997.20	-3.27	-0.02
Channel Y - Input	-20001.37	-0.86	0.00
Channel Z + Input	199999.86	2.84	0.00
Channel Z + Input	19996.24	-4.21	-0.02
Channel Z - Input	-20002.54	-1.90	0.01

Low Range	Reading ( $\mu\text{V}$ )	Difference ( $\mu\text{V}$ )	Error (%)
Channel X + Input	2001.27	0.30	0.02
Channel X + Input	201.78	0.43	0.21
Channel X - Input	-198.03	0.56	-0.28
Channel Y + Input	2000.82	0.10	0.01
Channel Y + Input	200.11	-1.12	-0.56
Channel Y - Input	-200.32	-1.61	0.81
Channel Z + Input	2000.28	-0.51	-0.03
Channel Z + Input	200.93	-0.26	-0.13
Channel Z - Input	-199.20	-0.54	0.27

### 2. Common mode sensitivity

DASY measurement parameters; Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading ( $\mu\text{V}$ )	Low Range Average Reading ( $\mu\text{V}$ )
Channel X	200	-12.26	-13.43
	-200	15.87	14.54
Channel Y	200	-18.86	-19.63
	-200	17.06	17.06
Channel Z	200	-22.77	-23.05
	-200	22.24	22.31

### 3. Channel separation

DASY measurement parameters; Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X ( $\mu\text{V}$ )	Channel Y ( $\mu\text{V}$ )	Channel Z ( $\mu\text{V}$ )
Channel X	200	-	1.85	-1.89
Channel Y	200	7.33	-	3.16
Channel Z	200	9.36	4.70	-

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#### 4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16570	16623
Channel Y	15794	16231
Channel Z	16304	16768

#### 5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec  
Input 10M $\Omega$

	Average ( $\mu$ V)	min. Offset ( $\mu$ V)	max. Offset ( $\mu$ V)	Std. Deviation ( $\mu$ V)
Channel X	0.33	-0.82	1.16	0.35
Channel Y	-0.79	-2.36	0.43	0.51
Channel Z	-0.35	-1.45	1.04	0.51

#### 6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

#### 7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

#### 8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

#### 9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

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Accreditation No.: **SCS 108**

Client **Auden**

Certificate No: **ES3-3071\_Jun12**

## CALIBRATION CERTIFICATE

Object: **ES3DV3 - SN:3071**

Calibration procedure(s): **QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4  
Calibration procedure for dosimetric E-field probes**

Calibration date: **June 22, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 660	10-Jan-12 (No. DAE4-660_Jan12)	Jan-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 22, 2012

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**Glossary:**

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

**Methods Applied and Interpretation of Parameters:**

- **NORM<sub>x,y,z</sub>:** Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- **NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- **DCP<sub>x,y,z</sub>:** DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- **PAR:** PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- **A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>:** A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- **ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- **Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- **Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

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ES3DV3 – SN:3071

June 22, 2012

# Probe ES3DV3

## SN:3071

Manufactured: December 14, 2004  
Calibrated: June 22, 2012

Calibrated for DASY/EASY Systems  
(Note: non-compatible with DASY2 system!)

Certificate No: ES3-3071\_Jun12

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SGS Taiwan Ltd.

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Member of SGS Group

ES3DV3-SN:3071

June 22, 2012

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	1.12	1.22	0.96	$\pm 10.1\%$
DCP (mV) <sup>B</sup>	101.5	99.2	99.2	

### Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc <sup>E</sup> (k=2)
0	CW	0.00	X	0.00	0.00	1.00	107.3	$\pm 3.3\%$
			Y	0.00	0.00	1.00	108.0	
			Z	0.00	0.00	1.00	99.5	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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ES3DV3-SN:3071

June 22, 2012

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	5.91	5.91	5.91	0.37	1.63	± 12.0 %
835	41.5	0.90	5.68	5.68	5.68	0.77	1.14	± 12.0 %
900	41.5	0.97	5.57	5.57	5.57	0.48	1.40	± 12.0 %
1450	40.5	1.20	5.00	5.00	5.00	0.32	1.98	± 12.0 %
1750	40.1	1.37	4.89	4.89	4.89	0.80	1.25	± 12.0 %
1900	40.0	1.40	4.66	4.66	4.66	0.80	1.20	± 12.0 %
2000	40.0	1.40	4.63	4.63	4.63	0.80	1.24	± 12.0 %
2450	39.2	1.80	4.08	4.08	4.08	0.80	1.28	± 12.0 %

<sup>C</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

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ES3DV3-SN:3071

June 22, 2012

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

### Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	5.78	5.78	5.78	0.65	1.24	± 12.0 %
835	55.2	0.97	5.69	5.69	5.69	0.36	1.76	± 12.0 %
900	55.0	1.05	5.62	5.62	5.62	0.67	1.27	± 12.0 %
1450	54.0	1.30	5.04	5.04	5.04	0.66	1.31	± 12.0 %
1750	53.4	1.49	4.50	4.50	4.50	0.74	1.29	± 12.0 %
1900	53.3	1.52	4.29	4.29	4.29	0.60	1.44	± 12.0 %
2000	53.3	1.52	4.37	4.37	4.37	0.62	1.46	± 12.0 %
2450	52.7	1.95	3.87	3.87	3.87	0.80	1.08	± 12.0 %

<sup>C</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

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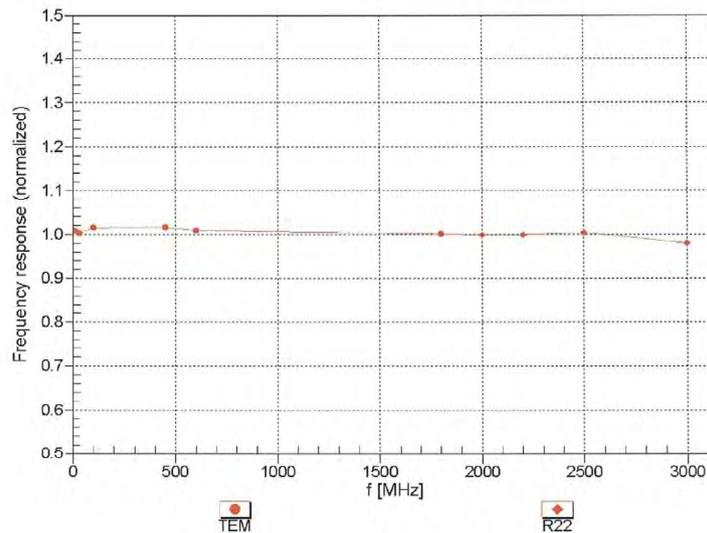
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June 22, 2012

## Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

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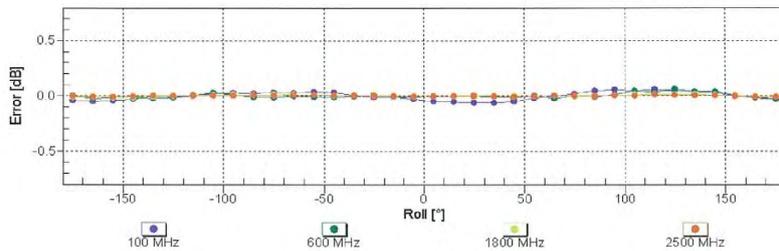
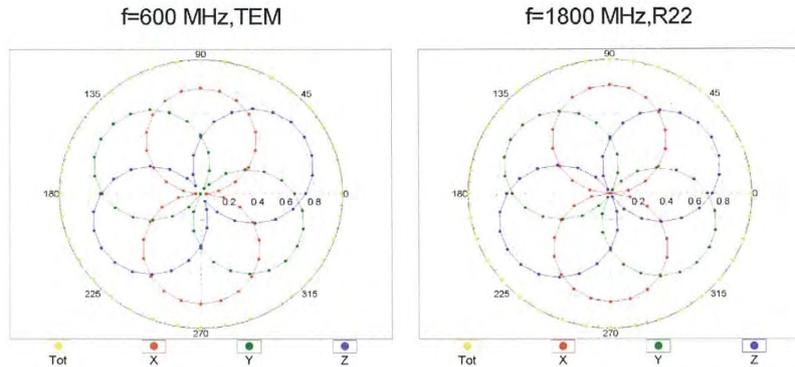
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June 22, 2012

## Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$



Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

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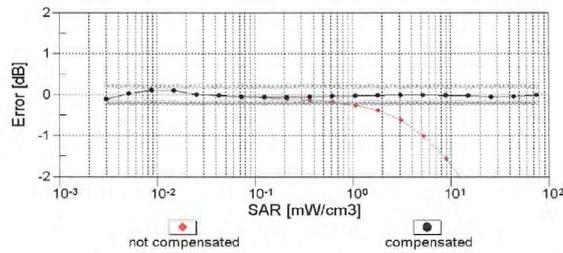
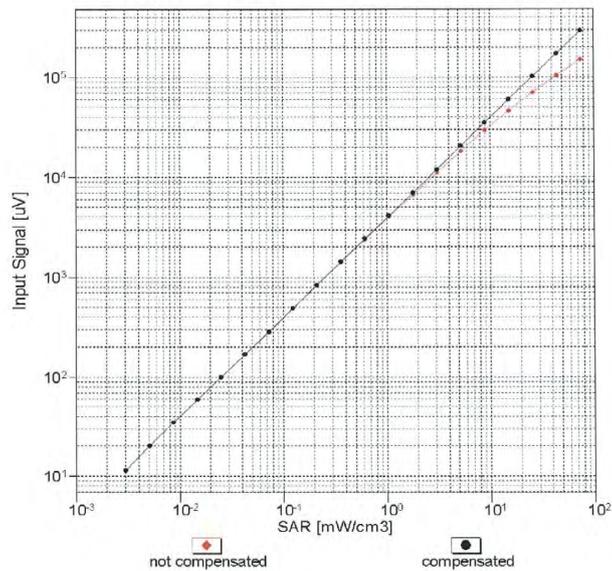
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June 22, 2012

## Dynamic Range f(SAR<sub>head</sub>) (TEM cell , f = 900 MHz)



Uncertainty of Linearity Assessment: ± 0.6% (k=2)

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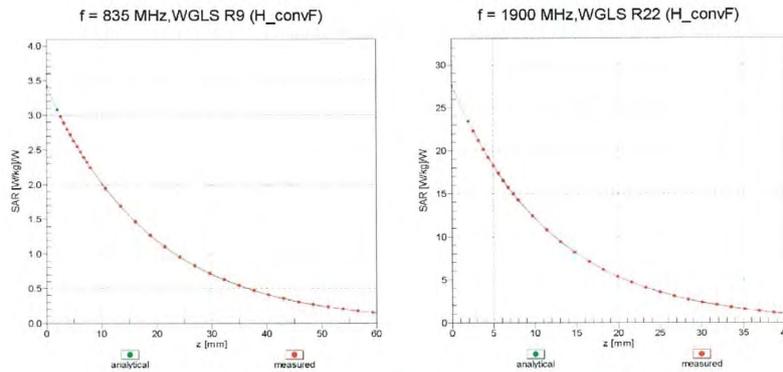
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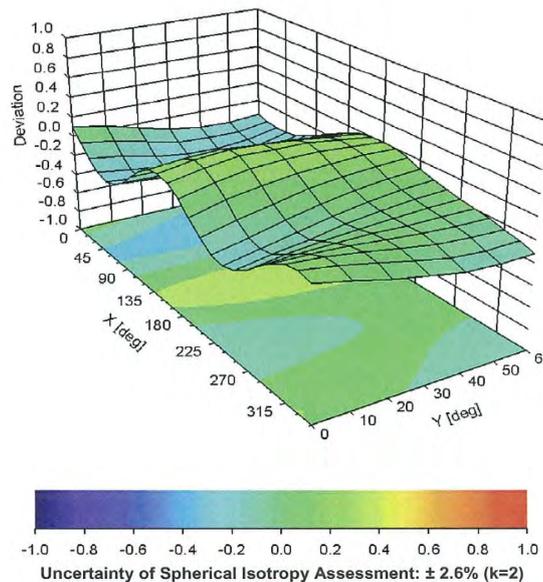
ES3DV3-SN:3071

June 22, 2012

## Conversion Factor Assessment



## Deviation from Isotropy in Liquid Error ( $\phi$ , $\theta$ ), $f = 900$ MHz



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ES3DV3-SN:3071

June 22, 2012

## DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

### Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	64.9
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

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Accreditation No.: **SCS 108**

Client **Auden**

Certificate No: **EX3-3820\_Dec12**

## CALIBRATION CERTIFICATE

Object: **EX3DV4 - SN:3820**

Calibration procedure(s): **QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4  
Calibration procedure for dosimetric E-field probes**

Calibration date: **December 10, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: December 11, 2012

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Accreditation No.: **SCS 108**

**Glossary:**

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\theta$	$\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

**Methods Applied and Interpretation of Parameters:**

- **NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\theta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- **NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* frequency\_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- **DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- **PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- **A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>; A, B, C** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- **ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- **Spherical Isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- **Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

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EX3DV4 – SN:3820

December 10, 2012

# Probe EX3DV4

## SN:3820

Manufactured: September 2, 2011  
Calibrated: December 10, 2012

Calibrated for DASY/EASY Systems  
(Note: non-compatible with DASY2 system)

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## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3820

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	0.44	0.35	0.44	$\pm 10.1\%$
DCP (mV) <sup>B</sup>	99.1	100.3	99.4	

### Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc <sup>C</sup> (k=2)
D	CW	0.00	X	0.0	0.0	1.0	149.3	$\pm 3.0\%$
			Y	0.0	0.0	1.0	179.2	
			Z	0.0	0.0	1.0	147.4	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter; uncertainty not required.

<sup>C</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3820

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>c</sup>	Relative Permittivity <sup>e</sup>	Conductivity (S/m) <sup>e</sup>	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	41.5	0.90	9.19	9.19	9.19	0.80	0.66	± 12.0 %
1750	40.1	1.37	7.81	7.81	7.81	0.49	0.77	± 12.0 %
1900	40.0	1.40	7.51	7.51	7.51	0.46	0.78	± 12.0 %
2100	39.8	1.49	7.64	7.64	7.64	0.42	0.81	± 12.0 %
2450	39.2	1.80	6.74	6.74	6.74	0.37	0.89	± 12.0 %
5200	36.0	4.66	5.01	5.01	5.01	0.45	1.80	± 13.1 %
5300	35.9	4.76	4.76	4.76	4.76	0.45	1.80	± 13.1 %
5500	35.6	4.96	4.58	4.58	4.58	0.45	1.80	± 13.1 %
5600	35.5	5.07	4.31	4.31	4.31	0.50	1.80	± 13.1 %
5800	35.3	5.27	4.52	4.52	4.52	0.45	1.80	± 13.1 %

<sup>c</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>e</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

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EX3DV4- SN:3820

December 10, 2012

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3820

### Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>①</sup>	Relative Permittivity <sup>②</sup>	Conductivity (S/m) <sup>③</sup>	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	55.2	0.97	9.07	9.07	9.07	0.32	1.10	± 12.0 %
1750	53.4	1.49	7.60	7.60	7.60	0.37	0.91	± 12.0 %
1900	53.3	1.52	7.30	7.30	7.30	0.26	1.19	± 12.0 %
2100	53.2	1.62	7.56	7.56	7.56	0.25	1.17	± 12.0 %
2450	52.7	1.95	6.84	6.84	6.84	0.80	0.61	± 12.0 %
5200	49.0	5.30	4.23	4.23	4.23	0.50	1.90	± 13.1 %
5300	48.9	5.42	3.95	3.95	3.95	0.55	1.90	± 13.1 %
5500	48.6	5.65	3.63	3.63	3.63	0.60	1.90	± 13.1 %
5600	48.5	5.77	3.39	3.39	3.39	0.65	1.90	± 13.1 %
5800	48.2	6.00	3.83	3.83	3.83	0.60	1.90	± 13.1 %

<sup>①</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>②</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

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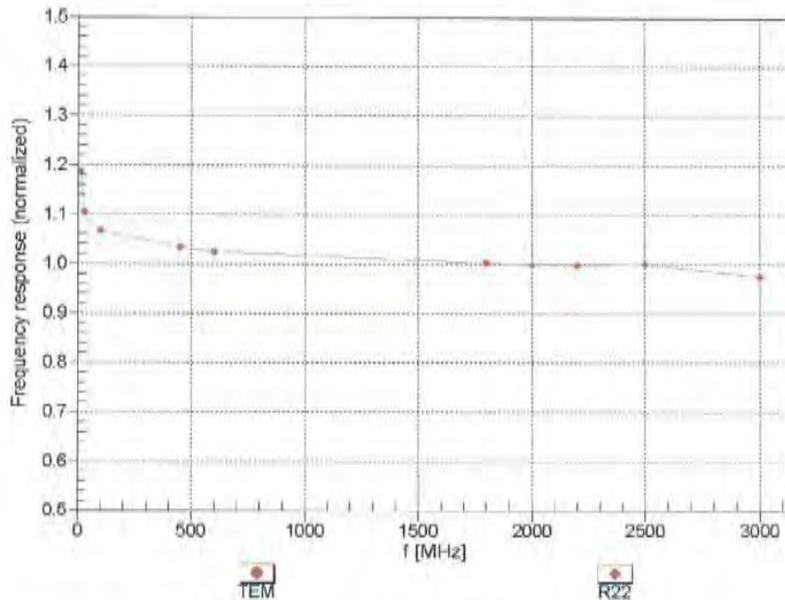
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## Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

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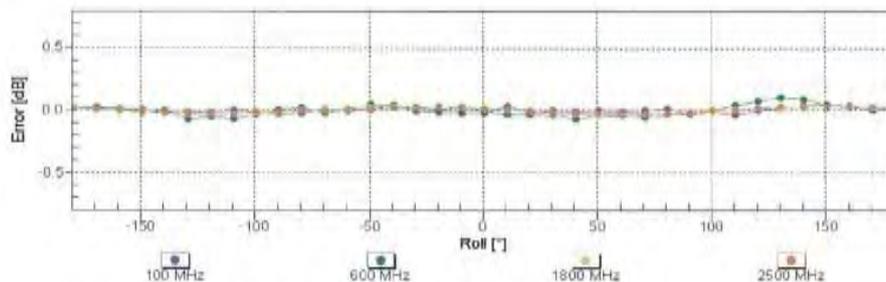
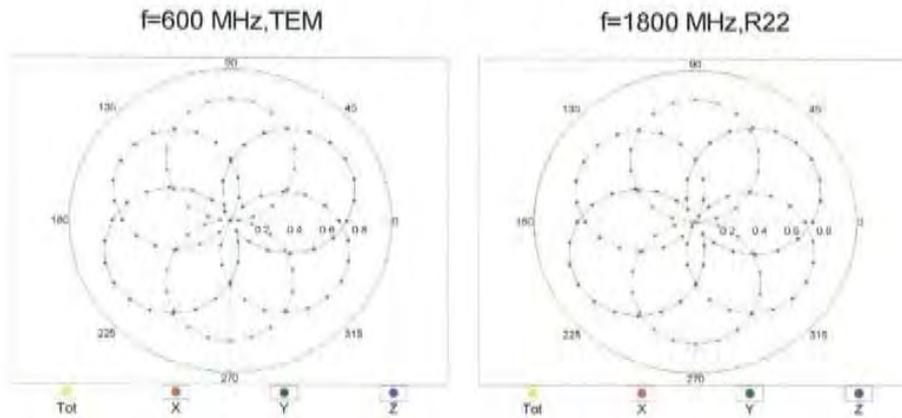
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## Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$



Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

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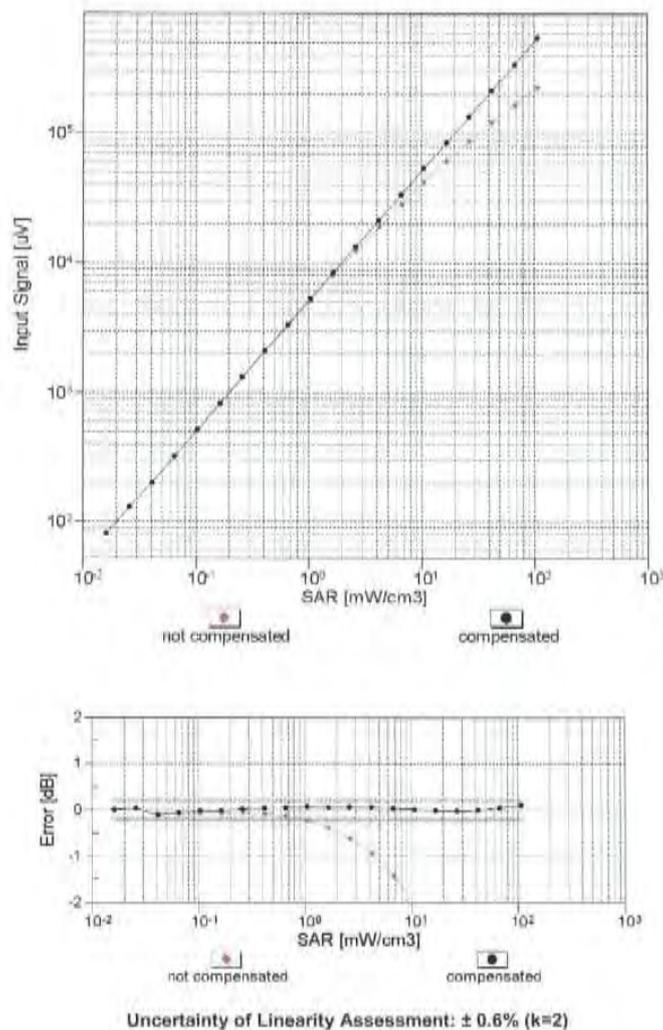
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## Dynamic Range $f(SAR_{head})$ (TEM cell, $f = 900$ MHz)



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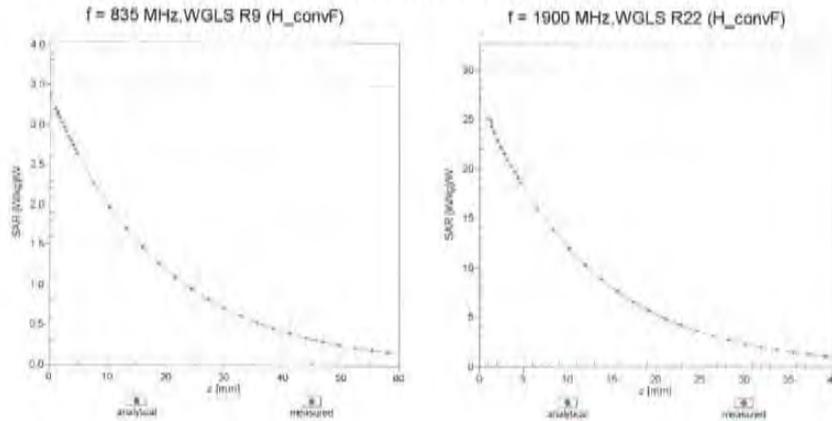
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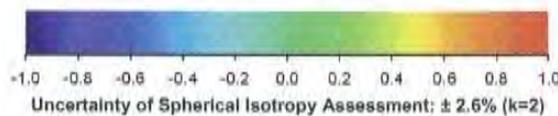
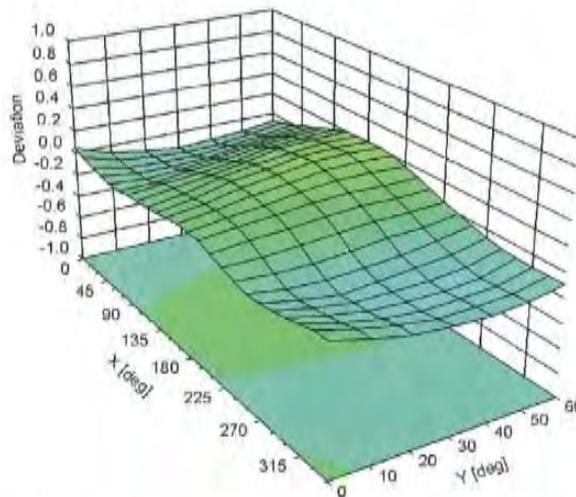
EX3DV4-SN:3820

December 10, 2012

## Conversion Factor Assessment



## Deviation from Isotropy in Liquid Error ( $\phi$ , $\theta$ ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment:  $\pm 2.6\%$  (k=2)

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## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3820

### Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-69,3
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2,5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

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