SAR TEST REPORT

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

Equipment Under Test	Smart Phone
Brand Name	HUAWEI
Model No.	HUAWEI CAN-L13,CAN-L13,HUAWEI CAN-L03,CAN-L03
Company Name	Huawei Technologies Co., Ltd
Company Address	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Standards	IEEE/ANSI C95.1-1992, IEEE 1528-2013, KDB248227D01v02r02,KDB865664D01v01r04, KDB865664D02v01r02,KDB941225D01v03r01, KDB941225D05v02r05,KDB941225D06v02r01, KDB447498D01v06,KDB648474D04v01r03, KDB941225D05Av01r02
FCC ID	QISCAN-LX3
Date of Receipt	Oct. 11, 2016
Date of Test(s)	Oct. 18, 2016 ~ Nov. 01, 2016
Date of Issue	Nov. 08, 2016

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

Remarks:

This report details the results of the testing carried out on three sample, 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.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan Electronic & Communication Laboratory or testing done by SGS Taiwan Electronic & Communication Laboratory in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Electronic & Communication Laboratory in writing.

Signed on behalf of SGS

Asst. Supervisor	**Supervisor**
Kevin Li Kevin Li	John Yeh **John Yeh**
Date: Nov. 08, 2016	**Date: Nov. 08, 2016**

Revision History

Report Number	Revision	Description	Issue Date
E5/2016/A0008	Rev.00	Initial creation of document	Nov. 08, 2016

Contents

1. General Information

1.1 Testing Laboratory

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1.2 Details of Applicant

Company Name	Huawei Technologies Co., Ltd
Company Address	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

1.3 Description of EUT

EUT Name	Smart Phone		
Brand Name	HUAWEI		
Model No.	HUAWEI CAN-L13, CAN-L13, HUAWEI CAN-L03, CAN-L03		
Difference between CAN-L13 and CAN-L03	Model HUAWEI CAN-L13, CAN -L13 is a smart phone with dual SIM. Model HUAWEI CAN-L03, CAN-L03 is a smart phone with single SIM. The difference of them is only for SIM CARD. HUAWEI CAN-L03, CAN-L03 delete one SIM by software.		
IMEI	Battery#1 - 862396030002397 / 862396030005598 Battery#2 - 862396030001365 / 862396030004567 Battery#3 - 862396030001357 / 862396030004559		
FCC ID	QISCAN-LX3		
Mode of Operation	☒GSM ☒GPRS ☒EDGE ☒WCDMA ☒HSDPA ☒HSUPA ☒DC-HSDPA ☒LTE FDD ☒WLAN802.11 b/g/n(20M) ☒Bluetooth		
Duty Cycle	GSM (DTM multi class B)	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)	
	LTE FDD (LTE Release Version: R10)	1	
	WCDMA (HSDPA Category 24) (HSUPA Category 6)	1	
	WLAN802.11 b/g/n(20M)	1	
	Bluetooth	1	
TX Frequency Range (MHz)	GSM850	824 –	849
	GSM1900	1850 –	1910

TX Frequency Range (MHz)	WCDMA Band II	1850	—	1910
	WCDMA Band IV	1710	—	1755
	WCDMA Band V	824	—	849
	LTE FDD Band II	1850	—	1910
	LTE FDD Band IV	1710	—	1755
	LTE FDD Band V	824	—	849
	LTE FDD Band VII	2500	—	2570
	LTE FDD Band XII	699	—	716
	LTE FDD Band XVII	704	—	716
	WLAN802.11 b/g/n(20M)	2412	—	2462
	Bluetooth	2402	—	2480
RX Frequency Range (MHz)	GSM850	869	—	894
	GSM1900	1930	—	1990
	WCDMA Band II	1930	—	1990
	WCDMA Band IV	2110	—	2155
	WCDMA Band V	869	—	894
	LTE FDD Band II	1830	—	1990
	LTE FDD Band IV	2110	—	2155
	LTE FDD Band V	869	—	894
	LTE FDD Band VII	2620	—	2690
	LTE FDD Band XII	729	—	746
	LTE FDD Band XVII	734	—	746
	WLAN802.11 b/g/n(20M)	2412	—	2462
	Bluetooth	2402	—	2480
Channel Number (ARFCN)	GSM850	128	—	251
	GSM1900	512	—	810
	WCDMA Band II	9262	—	9538
	WCDMA Band IV	1312	—	1513

Channel Number (ARFCN)	WCDMA Band V	4132	–	4233
	LTE FDD Band II	18607	–	19193
	LTE FDD Band IV	19957	–	20393
	LTE FDD Band V	20407	–	20643
	LTE FDD Band VII	20775	–	21425
	LTE FDD Band XII	23007	–	23173
	LTE FDD Band XVII	23755	–	23825
	WLAN802.11 b/g/n(20M)	1	–	11
	Bluetooth	0	–	78

Max. SAR (1 g) (Unit: W/Kg)					
Mode	Band	Distance	Measured	Reported	Position / Channel
Head	GSM 850	-	1.09	1.35	☐Left ☒Right ☒Cheek ☐Tilt 251 Channel
	GSM 1900	-	0.19	0.23	☒Left ☐Right ☒Cheek ☐Tilt 661 Channel
	WCDMA Band II	-	0.21	0.26	☒Left ☐Right ☒Cheek ☐Tilt 9262 Channel
	WCDMA Band IV	-	0.28	0.30	☒Left ☐Right ☒Cheek ☐Tilt 1312 Channel
	WCDMA Band V	-	1.03	1.37	☐Left ☒Right ☒Cheek ☐Tilt 4233 Channel
	LTE FDD Band II	-	0.21	0.25	☒Left ☐Right ☒Cheek ☐Tilt 18900 Channel
	LTE FDD Band IV	-	0.15	0.15	☐Left ☒Right ☒Cheek ☐Tilt 20300 Channel
	LTE FDD Band V	-	1.12	1.41	☐Left ☒Right ☒Cheek ☐Tilt 20600 Channel

Max. SAR (1 g) (Unit: W/Kg)					
Mode	Band	Distance	Measured	Reported	Position / Channel
Head	LTE FDD Band XII	-	0.82	1.15	☐Left ☒Right ☒Cheek ☐Tilt 23095 Channel
	LTE FDD Band XII	-	0.82	1.15	☐Left ☒Right ☒Cheek ☐Tilt 23095 Channel
	LTE FDD Band XVII	-	0.83	1.14	☐Left ☒Right ☒Cheek ☐Tilt 23800 Channel
	WLAN802.11 b	-	1.19	1.20	☒Left ☐Right ☒Cheek ☐Tilt 11 Channel

Max. SAR (1 g) (Unit: W/Kg)					
Mode	Band	Distance	Measured	Reported	Position / Channel
Body-worn	GSM 850	15mm	0.42	0.45	☐Front ☒Back 190 Channel
	GSM 1900	15mm	0.51	0.62	☐Front ☒Back 661 Channel
	WCDMA Band II	15mm	0.54	0.68	☒Front ☐Back 9262 Channel
	WCDMA Band IV	15mm	0.59	0.62	☒Front ☐Back 1312 Channel
	WCDMA Band V	15mm	0.34	0.36	☐Front ☒Back 4233 Channel
	LTE FDD Band II	15mm	0.57	0.68	☐Front ☒Back 18900 Channel
	LTE FDD Band IV	15mm	0.49	0.50	☐Front ☒Back 20300 Channel
	LTE FDD Band V	15mm	0.34	0.40	☐Front ☒Back 20600 Channel
	LTE FDD Band VII	15mm	0.54	0.54	☒Front ☐Back 20850 Channel
	LTE FDD Band XII	15mm	0.25	0.27	☐Front ☒Back 23130 Channel
	LTE FDD Band XVII	15mm	0.25	0.28	☐Front ☒Back 23790 Channel

Max. SAR (1 g) (Unit: W/Kg)					
Mode	Band	Distance	Measured	Reported	Position / Channel
Body-worn	WLAN802.11 b	15mm	0.23	0.23	☐Front ☒Back 6 Channel

Max. SAR (1 g) (Unit: W/Kg)					
Mode	Band	Distance	Measured	Reported	Position / Channel
Hotspot mode	GPRS 850 (1Dn3UP)	10mm	0.41	0.52	☐Front ☒Back ☐Bottom ☐Top ☐Right ☐Left 190 Channel
	GPRS 1900 (1Dn3UP)	10mm	1.06	1.35	☐Front ☐Back ☒Bottom ☐Top ☐Right ☐Left 661 Channel
	WCDMA Band II	10mm	1.14	1.43	☐Front ☐Back ☒Bottom ☐Top ☐Right ☐Left 9538 Channel
	WCDMA Band IV	10mm	1.16	1.31	☐Front ☐Back ☒Bottom ☐Top ☐Right ☐Left 1312 Channel
	WCDMA Band V	10mm	0.60	0.64	☐Front ☒Back ☐Bottom ☐Top ☐Right ☐Left 4233 Channel
	LTE FDD Band II	10mm	0.94	1.29	☐Front ☐Back ☒Bottom ☐Top ☐Right ☐Left 19100 Channel

Max. SAR (1 g) (Unit: W/Kg)					
Mode	Band	Distance	Measured	Reported	Position / Channel
Hotspot mode	LTE FDD Band IV	10mm	1.18	1.43	☐Front ☐Back ☒Bottom ☐Top ☐Right ☐Left 20050 Channel
	LTE FDD Band V	10mm	0.51	0.59	☐Front ☒Back ☐Bottom ☐Top ☐Right ☐Left 20600 Channel
	LTE FDD Band VII	10mm	1.14	1.38	☐Front ☐Back ☒Bottom ☐Top ☐Right ☐Left 21350 Channel
	LTE FDD Band XII	10mm	0.20	0.29	☐Front ☒Back ☐Bottom ☐Top ☐Right ☐Left 23095 Channel
	LTE FDD Band XVII	10mm	0.24	0.29	☐Front ☒Back ☐Bottom ☐Top ☐Right ☐Left 23780 Channel
	WLAN802.11 b	10mm	0.48	0.48	☐Front ☒Back ☐Bottom ☐Top ☐Right ☐Left 6 Channel

Battery -

Name	Manufacturer	Description
Battery 1	Sunwoda Electronic Co., Ltd	Battery Model: HB386483ECW+ Rated capacity: 3270 mAh Nominal Voltage: ⎓ +3.82V Charging Voltage: ⎓ +4.40V
Battery 2	SCUD (FUJIAN) Electronics Co., Ltd	
Battery 3	Huizhou Desay Battery Co., Ltd	

GSM/GPRS/EDGE conducted power table:

Main antenna (Only)

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source -based time average power
				Avg. (dBm)	Avg. (dBm)
GSM850 (GMSK)	824.2	128	33.3	33.21	24.18
	836.6	190	33.3	33.30	24.27
	848.8	251	33.3	33.03	24.00
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)			33.3	30.3	28.8	27.3
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850	824.2	128	33.21	29.53	27.52	25.73
	836.6	190	33.30	29.60	27.37	25.58
	848.8	251	33.03	29.53	27.28	25.48
Source-based time average power						
GPRS 850	824.2	128	24.18	23.51	23.26	22.72
	836.6	190	24.27	23.58	23.11	22.57
	848.8	251	24.00	23.51	23.02	22.47
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)			27.5	24.5	23	21.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS5)	824.2	128	25.98	22.99	21.33	19.76
	836.6	190	26.00	23.14	21.53	19.80
	848.8	251	25.89	23.10	21.28	19.54
Source-based time average power						
EDGE 850 (MCS5)	824.2	128	16.95	16.97	17.07	16.75
	836.6	190	16.97	17.12	17.27	16.79
	848.8	251	16.86	17.08	17.02	16.53
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

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source-based time average power
				Avg. (dBm)	Avg. (dBm)
GSM1900 (GMSK)	1850.2	512	30.7	29.34	20.31
	1800	661	30.7	29.83	20.80
	1909.8	810	30.7	29.67	20.64
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)			30.7	27.7	26.2	24.7
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 1900	1850.2	512	29.34	26.81	24.70	23.81
	1880	661	29.83	27.02	24.86	23.95
	1909.8	810	29.67	26.96	24.81	23.89
Source-based time average power						
GPRS 1900	1850.2	512	20.31	20.79	20.44	20.80
	1880	661	20.80	21.00	20.60	20.94
	1909.8	810	20.64	20.94	20.55	20.88
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)			26.5	23.5	22	20.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS5)	1850.2	512	24.89	22.14	20.59	19.27
	1880	661	25.13	22.46	20.82	19.47
	1909.8	810	25.04	22.36	20.59	19.14
Source-based time average power						
EDGE 1900 (MCS5)	1850.2	512	15.86	16.12	16.33	16.26
	1880	661	16.10	16.44	16.56	16.46
	1909.8	810	16.01	16.34	16.33	16.13
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

Main antenna + Hotspot On

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source -based time average power
				Avg. (dBm)	Avg. (dBm)
GSM1900 (GMSK)	1850.2	512	30	28.50	19.47
	1800	661	30	28.70	19.67
	1909.8	810	30	28.64	19.61
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	27	25.5	24
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 1900	1850.2	512	28.50	25.82	24.28	22.69
	1880	661	28.70	26.04	24.44	22.84
	1909.8	810	28.64	25.97	24.38	22.79
Source-based time average power						
GPRS 1900	1850.2	512	19.47	19.80	20.02	19.68
	1880	661	19.67	20.02	20.18	19.83
	1909.8	810	19.61	19.95	20.12	19.78
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)			25.8	22.8	21.3	20
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 1900 (MCS5)	1850.2	512	24.15	21.24	19.71	18.24
	1880	661	24.62	21.42	19.72	18.35
	1909.8	810	24.25	21.29	19.61	18.29
Source-based time average power						
EDGE 1900 (MCS5)	1850.2	512	15.12	15.22	15.45	15.23
	1880	661	15.59	15.40	15.46	15.34
	1909.8	810	15.22	15.27	15.35	15.28
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

Sub antenna (Only)

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source -based time average power
				Avg. (dBm)	Avg. (dBm)
GSM850 (GMSK)	824.2	128	33.3	33.02	23.99
	836.6	190	33.3	33.08	24.05
	848.8	251	33.3	32.80	23.77
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)			33.3	30.3	28.8	27.3
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850	824.2	128	33.02	29.68	27.67	26.07
	836.6	190	33.08	29.85	27.81	26.22
	848.8	251	32.80	29.79	27.72	26.06
Source-based time average power						
GPRS 850	824.2	128	23.99	23.66	23.41	23.06
	836.6	190	24.05	23.83	23.55	23.21
	848.8	251	23.77	23.77	23.46	23.05
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)			27.5	24.5	23	21.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS5)	824.2	128	26.52	23.40	21.77	20.05
	836.6	190	26.63	23.51	21.87	20.22
	848.8	251	26.51	23.39	21.90	20.04
Source-based time average power						
EDGE 850 (MCS5)	824.2	128	17.49	17.38	17.51	17.04
	836.6	190	17.60	17.49	17.61	17.21
	848.8	251	17.48	17.37	17.64	17.03
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

Sub antenna + Proximity sensor power reduction

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source -based time average power
				Avg. (dBm)	Avg. (dBm)
GSM850 (GMSK)	824.2	128	31.1	30.08	21.05
	836.6	190	31.1	30.23	21.20
	848.8	251	31.1	30.18	21.15
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)			33.3	30.3	28.8	27.3
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850	824.2	128	33.02	29.68	27.67	26.07
	836.6	190	33.08	29.85	27.81	26.22
	848.8	251	32.80	29.79	27.72	26.06
Source-based time average power						
GPRS 850	824.2	128	23.99	23.66	23.41	23.06
	836.6	190	24.05	23.83	23.55	23.21
	848.8	251	23.77	23.77	23.46	23.05
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)			27.5	24.5	23	21.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS5)	824.2	128	26.52	23.40	21.77	20.05
	836.6	190	26.63	23.51	21.87	20.22
	848.8	251	26.51	23.39	21.90	20.04
Source-based time average power						
EDGE 850 (MCS5)	824.2	128	17.49	17.38	17.51	17.04
	836.6	190	17.60	17.49	17.61	17.21
	848.8	251	17.48	17.37	17.64	17.03
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

Sub antenna + Proximity sensor power reduction + WiFi station

EUT mode	Frequency (MHz)	CH	Max. Rated Avg. Power + Max. Tolerance (dBm)	Burst average power	Source -based time average power
				Avg. (dBm)	Avg. (dBm)
GSM850 (GMSK)	824.2	128	30.6	29.55	20.52
	836.6	190	30.6	29.73	20.70
	848.8	251	30.6	29.67	20.64
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)			33.3	30.3	28.8	27.3
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
GPRS 850	824.2	128	33.02	29.68	27.67	26.07
	836.6	190	33.08	29.85	27.81	26.22
	848.8	251	32.80	29.79	27.72	26.06
Source-based time average power						
GPRS 850	824.2	128	23.99	23.66	23.41	23.06
	836.6	190	24.05	23.83	23.55	23.21
	848.8	251	23.77	23.77	23.46	23.05
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)			27.5	24.5	23	21.5
			1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EUT mode	Frequency (MHz)	CH	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)	Avg. (dBm)
EDGE 850 (MCS5)	824.2	128	26.52	23.40	21.77	20.05
	836.6	190	26.63	23.51	21.87	20.22
	848.8	251	26.51	23.39	21.90	20.04
Source-based time average power						
EDGE 850 (MCS5)	824.2	128	17.49	17.38	17.51	17.04
	836.6	190	17.60	17.49	17.61	17.21
	848.8	251	17.48	17.37	17.64	17.03
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

WCDMA Band II / IV / V - HSDPA / HSUPA / DC-HSDPA conducted power table:

Main antenna (Only)

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.00		
3GPP Rel 99	RMC 12.2Kbps	22.99	22.85	22.98
Max. Rated Avg. Power+Max. Tolerance (dBm)		23.00		
3GPP Rel 5	HSDPA Subtest-1	22.03	21.98	21.99
	HSDPA Subtest-2	21.97	21.96	22.02
	HSDPA Subtest-3	21.50	21.35	21.36
	HSDPA Subtest-4	21.45	21.42	21.37
3GPP Rel 6	HSUPA Subtest-1	22.03	22.05	22.01
	HSUPA Subtest-2	21.57	21.52	21.46
	HSUPA Subtest-3	22.02	22.01	21.95
	HSUPA Subtest-4	21.96	21.91	21.91
	HSUPA Subtest-5	22.09	22.07	22.02
3GPP Rel 8	DC-HSDPA Subtest-1	21.94	21.83	21.89
	DC-HSDPA Subtest-2	21.92	21.81	21.84
	DC-HSDPA Subtest-3	21.44	21.38	21.42
	DC-HSDPA Subtest-4	21.32	21.31	21.27

Band		WCDMA IV		
TX Channel		1312	1412	1513
Frequency (MHz)		1712.4	1732.4	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.00		
3GPP Rel 99	RMC 12.2Kbps	23.72	23.58	23.62
Max. Rated Avg. Power+Max. Tolerance (dBm)		23.50		
3GPP Rel 5	HSDPA Subtest-1	22.71	22.56	22.61
	HSDPA Subtest-2	22.70	22.50	22.56
	HSDPA Subtest-3	22.29	22.09	22.11
	HSDPA Subtest-4	22.34	21.98	22.13
3GPP Rel 6	HSUPA Subtest-1	22.83	22.62	22.68
	HSUPA Subtest-2	22.41	22.24	22.15
	HSUPA Subtest-3	22.81	22.63	22.72
	HSUPA Subtest-4	22.82	22.65	22.66
	HSUPA Subtest-5	22.83	22.66	22.73
3GPP Rel 8	DC-HSDPA Subtest-1	22.66	22.51	22.52
	DC-HSDPA Subtest-2	22.64	22.43	22.48
	DC-HSDPA Subtest-3	22.21	22.01	22.05
	DC-HSDPA Subtest-4	22.20	22.00	22.01

Band		WCDMA V		
TX Channel		4132	4183	4233
Frequency (MHz)		826.4	836.6	846.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		24.10		
3GPP Rel 99	RMC 12.2Kbps	23.76	23.69	23.86
Max. Rated Avg. Power+Max. Tolerance (dBm)		23.10		
3GPP Rel 5	HSDPA Subtest-1	22.62	22.59	22.66
	HSDPA Subtest-2	22.55	22.56	22.79
	HSDPA Subtest-3	21.99	22.05	22.26
	HSDPA Subtest-4	21.98	22.04	22.27
3GPP Rel 6	HSUPA Subtest-1	22.60	22.55	22.68
	HSUPA Subtest-2	22.02	22.03	22.21
	HSUPA Subtest-3	22.50	22.52	22.65
	HSUPA Subtest-4	22.59	22.60	22.68
	HSUPA Subtest-5	22.68	22.57	22.69
3GPP Rel 8	DC-HSDPA Subtest-1	22.54	22.46	22.61
	DC-HSDPA Subtest-2	22.47	22.57	22.74
	DC-HSDPA Subtest-3	21.85	22.13	22.21
	DC-HSDPA Subtest-4	21.84	22.01	22.19

Main antenna + Hotspot On

Band		WCDMA II		
TX Channel		9262	9400	9538
Frequency (MHz)		1852.4	1880	1907.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		21.50		
3GPP Rel 99	RMC 12.2Kbps	20.54	20.42	20.53
Max. Rated Avg. Power+Max. Tolerance (dBm)		20.50		
3GPP Rel 5	HSDPA Subtest-1	19.48	19.38	19.45
	HSDPA Subtest-2	19.39	19.39	19.47
	HSDPA Subtest-3	19.01	18.92	18.94
	HSDPA Subtest-4	18.93	18.94	18.96
3GPP Rel 6	HSUPA Subtest-1	19.51	19.40	19.49
	HSUPA Subtest-2	18.92	18.93	18.91
	HSUPA Subtest-3	19.47	19.38	19.56
	HSUPA Subtest-4	19.51	19.41	19.48
	HSUPA Subtest-5	19.54	19.44	19.54
3GPP Rel 8	DC-HSDPA Subtest-1	19.32	19.31	19.38
	DC-HSDPA Subtest-2	19.25	19.21	19.29
	DC-HSDPA Subtest-3	18.94	18.79	18.83
	DC-HSDPA Subtest-4	18.91	18.78	18.84

Band		WCDMA IV		
TX Channel		1312	1412	1513
Frequency (MHz)		1712.4	1732.4	1752.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		22.50		
3GPP Rel 99	RMC 12.2Kbps	21.98	21.87	21.96
Max. Rated Avg. Power+Max. Tolerance (dBm)		21.50		
3GPP Rel 5	HSDPA Subtest-1	20.95	20.88	20.93
	HSDPA Subtest-2	20.94	20.86	20.92
	HSDPA Subtest-3	20.57	20.37	20.35
	HSDPA Subtest-4	20.41	20.30	20.37
3GPP Rel 6	HSUPA Subtest-1	20.94	20.87	20.83
	HSUPA Subtest-2	20.43	20.31	20.35
	HSUPA Subtest-3	21.02	20.91	20.96
	HSUPA Subtest-4	20.96	20.84	20.91
	HSUPA Subtest-5	21.06	20.96	21.02
3GPP Rel 8	DC-HSDPA Subtest-1	20.82	20.73	20.71
	DC-HSDPA Subtest-2	20.76	20.71	20.70
	DC-HSDPA Subtest-3	20.44	20.31	20.25
	DC-HSDPA Subtest-4	20.33	20.21	20.25

Sub antenna (Only)

Band		WCDMA V		
TX Channel		4132	4183	4233
Frequency (MHz)		826.4	836.6	846.6
Max. Rated Avg. Power+Max. Tolerance (dBm)		21.60		
3GPP Rel 99	RMC 12.2Kbps	20.29	20.24	20.36
Max. Rated Avg. Power+Max. Tolerance (dBm)		20.60		
3GPP Rel 5	HSDPA Subtest-1	19.25	19.29	19.49
	HSDPA Subtest-2	19.20	19.26	19.48
	HSDPA Subtest-3	18.82	18.78	18.92
	HSDPA Subtest-4	18.72	18.78	18.92
3GPP Rel 6	HSUPA Subtest-1	19.17	19.21	19.42
	HSUPA Subtest-2	19.21	19.22	19.48
	HSUPA Subtest-3	19.21	19.27	19.42
	HSUPA Subtest-4	19.18	19.26	19.47
	HSUPA Subtest-5	19.29	19.28	19.49
3GPP Rel 8	DC-HSDPA Subtest-1	19.13	19.15	19.41
	DC-HSDPA Subtest-2	19.09	19.21	19.34
	DC-HSDPA Subtest-3	18.72	18.62	18.82
	DC-HSDPA Subtest-4	18.66	18.53	18.78

Sub-Test for HSDPA

SUB-TEST	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} *(Note1, Note 2)*	CM (dB) *(Note 3)*	MPR (dB) *(Note 3)*
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15	15/15	64	12/15	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Sub-Test for HSUPA

SUB-TEST	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} *(Note1)*	β_{ec}	β_{ed} *(Note 5) (Note 6)*	β_{ed} *(SF)*	β_{ed} *(Codes)*	CM *(dB) (Note 2)*	MPR *(dB) (Note 2)*	*AG Index (Note 6)*	*E-TFCI*
1	11/15	15/15	64	11/15	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	15/15	64	15/15	30/15	24/15	134/15	4	1	1.0	0.0	21	81

LTE FDD Band II / IV / V / VII / XII / XVII power table:

FDD Band 2 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	1860	18700	22.08	23.5	0
				1880	18900	22.17	23.5	0
				1900	19100	22.00	23.5	0
			50	1860	18700	22.34	23.5	0
				1880	18900	22.74	23.5	0
				1900	19100	22.51	23.5	0
			99	1860	18700	22.15	23.5	0
				1880	18900	22.43	23.5	0
				1900	19100	22.18	23.5	0
		50 RB	0	1860	18700	21.98	22.5	0-1
				1880	18900	22.06	22.5	0-1
				1900	19100	21.93	22.5	0-1
			25	1860	18700	22.05	22.5	0-1
				1880	18900	22.07	22.5	0-1
				1900	19100	21.92	22.5	0-1
			50	1860	18700	21.96	22.5	0-1
				1880	18900	22.01	22.5	0-1
				1900	19100	21.89	22.5	0-1
		100RB		1860	18700	21.97	22.5	0-1
				1880	18900	22.04	22.5	0-1
				1900	19100	22.02	22.5	0-1
	16-QAM	1 RB	0	1860	18700	21.64	22.5	0-1
				1880	18900	21.57	22.5	0-1
				1900	19100	22.00	22.5	0-1
			50	1860	18700	21.93	22.5	0-1
				1880	18900	22.28	22.5	0-1
				1900	19100	21.81	22.5	0-1
			99	1860	18700	21.86	22.5	0-1
				1880	18900	21.65	22.5	0-1
				1900	19100	21.62	22.5	0-1
		50 RB	0	1860	18700	21.02	21.5	0-2
				1880	18900	21.15	21.5	0-2
				1900	19100	21.03	21.5	0-2
			25	1860	18700	21.02	21.5	0-2
				1880	18900	21.17	21.5	0-2
				1900	19100	20.90	21.5	0-2
			50	1860	18700	21.09	21.5	0-2
				1880	18900	20.98	21.5	0-2
				1900	19100	20.96	21.5	0-2
		100RB		1860	18700	20.86	21.5	0-2
				1880	18900	20.98	21.5	0-2
				1900	19100	20.94	21.5	0-2

FDD Band 2 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1857.5	18675	22.34	23.5	0
				1880	18900	22.45	23.5	0
				1902.5	19125	22.61	23.5	0
			36	1857.5	18675	22.51	23.5	0
				1880	18900	22.59	23.5	0
				1902.5	19125	22.40	23.5	0
			74	1857.5	18675	22.51	23.5	0
				1880	18900	22.46	23.5	0
				1902.5	19125	22.57	23.5	0
		36 RB	0	1857.5	18675	21.99	22.5	0-1
				1880	18900	22.10	22.5	0-1
				1902.5	19125	22.00	22.5	0-1
			18	1857.5	18675	22.00	22.5	0-1
				1880	18900	22.18	22.5	0-1
				1902.5	19125	22.01	22.5	0-1
			37	1857.5	18675	22.07	22.5	0-1
				1880	18900	22.00	22.5	0-1
				1902.5	19125	21.89	22.5	0-1
		75RB		1857.5	18675	22.02	22.5	0-1
				1880	18900	21.99	22.5	0-1
				1902.5	19125	21.99	22.5	0-1
	16-QAM	1 RB	0	1857.5	18675	22.12	22.5	0-1
				1880	18900	22.02	22.5	0-1
				1902.5	19125	21.96	22.5	0-1
			36	1857.5	18675	21.43	22.5	0-1
				1880	18900	21.79	22.5	0-1
				1902.5	19125	22.00	22.5	0-1
			74	1857.5	18675	21.86	22.5	0-1
				1880	18900	21.81	22.5	0-1
				1902.5	19125	21.27	22.5	0-1
		36 RB	0	1857.5	18675	20.87	21.5	0-2
				1880	18900	20.98	21.5	0-2
				1902.5	19125	20.88	21.5	0-2
			18	1857.5	18675	20.99	21.5	0-2
				1880	18900	21.10	21.5	0-2
				1902.5	19125	20.95	21.5	0-2
			37	1857.5	18675	20.96	21.5	0-2
				1880	18900	21.04	21.5	0-2
				1902.5	19125	20.92	21.5	0-2
		75RB		1857.5	18675	21.04	21.5	0-2
				1880	18900	21.15	21.5	0-2
				1902.5	19125	21.02	21.5	0-2

FDD Band 2 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1855	18650	22.11	23.5	0
				1880	18900	22.16	23.5	0
				1905	19150	22.21	23.5	0
			25	1855	18650	22.25	23.5	0
				1880	18900	22.61	23.5	0
				1905	19150	22.61	23.5	0
			49	1855	18650	22.38	23.5	0
				1880	18900	22.45	23.5	0
				1905	19150	22.21	23.5	0
		25 RB	0	1855	18650	21.94	22.5	0-1
				1880	18900	22.06	22.5	0-1
				1905	19150	21.99	22.5	0-1
			12	1855	18650	21.89	22.5	0-1
				1880	18900	22.08	22.5	0-1
				1905	19150	21.88	22.5	0-1
			25	1855	18650	22.05	22.5	0-1
				1880	18900	22.09	22.5	0-1
				1905	19150	21.87	22.5	0-1
		50RB		1855	18650	21.94	22.5	0-1
				1880	18900	22.02	22.5	0-1
				1905	19150	21.95	22.5	0-1
	16-QAM	1 RB	0	1855	18650	21.63	22.5	0-1
				1880	18900	21.52	22.5	0-1
				1905	19150	21.88	22.5	0-1
			25	1855	18650	21.86	22.5	0-1
				1880	18900	22.21	22.5	0-1
				1905	19150	21.85	22.5	0-1
			49	1855	18650	21.78	22.5	0-1
				1880	18900	21.66	22.5	0-1
				1905	19150	21.45	22.5	0-1
		25 RB	0	1855	18650	21.14	21.5	0-2
				1880	18900	21.14	21.5	0-2
				1905	19150	21.13	21.5	0-2
			12	1855	18650	20.82	21.5	0-2
				1880	18900	21.16	21.5	0-2
				1905	19150	20.95	21.5	0-2
			25	1855	18650	21.21	21.5	0-2
				1880	18900	21.16	21.5	0-2
				1905	19150	20.84	21.5	0-2
		50RB		1855	18650	21.00	21.5	0-2
				1880	18900	21.19	21.5	0-2
				1905	19150	20.99	21.5	0-2

FDD Band 2 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	1852.5	18625	21.92	23.5	0
				1880	18900	22.00	23.5	0
				1907.5	19175	21.95	23.5	0
			12	1852.5	18625	22.57	23.5	0
				1880	18900	22.45	23.5	0
				1907.5	19175	22.73	23.5	0
			24	1852.5	18625	22.15	23.5	0
				1880	18900	22.00	23.5	0
				1907.5	19175	22.08	23.5	0
		12 RB	0	1852.5	18625	21.96	22.5	0-1
				1880	18900	22.13	22.5	0-1
				1907.5	19175	21.97	22.5	0-1
			6	1852.5	18625	21.93	22.5	0-1
				1880	18900	22.11	22.5	0-1
				1907.5	19175	21.94	22.5	0-1
			13	1852.5	18625	21.88	22.5	0-1
				1880	18900	22.09	22.5	0-1
				1907.5	19175	21.88	22.5	0-1
		25RB		1852.5	18625	21.83	22.5	0-1
				1880	18900	22.12	22.5	0-1
				1907.5	19175	21.91	22.5	0-1
	16-QAM	1 RB	0	1852.5	18625	21.82	22.5	0-1
				1880	18900	21.55	22.5	0-1
				1907.5	19175	21.95	22.5	0-1
			12	1852.5	18625	22.05	22.5	0-1
				1880	18900	21.56	22.5	0-1
				1907.5	19175	21.72	22.5	0-1
			24	1852.5	18625	21.61	22.5	0-1
				1880	18900	21.59	22.5	0-1
				1907.5	19175	21.54	22.5	0-1
		12 RB	0	1852.5	18625	21.00	21.5	0-2
				1880	18900	21.12	21.5	0-2
				1907.5	19175	21.06	21.5	0-2
			6	1852.5	18625	21.06	21.5	0-2
				1880	18900	21.05	21.5	0-2
				1907.5	19175	21.10	21.5	0-2
			13	1852.5	18625	20.83	21.5	0-2
				1880	18900	20.93	21.5	0-2
				1907.5	19175	20.96	21.5	0-2
		25RB		1852.5	18625	21.09	21.5	0-2
				1880	18900	21.01	21.5	0-2
				1907.5	19175	20.93	21.5	0-2

FDD Band 2 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1851.5	18615	22.09	23.5	0
				1880	18900	22.52	23.5	0
				1908.5	19185	22.05	23.5	0
			7	1851.5	18615	22.50	23.5	0
				1880	18900	22.65	23.5	0
				1908.5	19185	22.20	23.5	0
			14	1851.5	18615	22.22	23.5	0
				1880	18900	22.31	23.5	0
				1908.5	19185	22.07	23.5	0
		8 RB	0	1851.5	18615	21.86	22.5	0-1
				1880	18900	22.06	22.5	0-1
				1908.5	19185	21.89	22.5	0-1
			4	1851.5	18615	21.93	22.5	0-1
				1880	18900	22.12	22.5	0-1
				1908.5	19185	21.88	22.5	0-1
			7	1851.5	18615	21.94	22.5	0-1
				1880	18900	22.03	22.5	0-1
				1908.5	19185	21.85	22.5	0-1
		15RB		1851.5	18615	21.93	22.5	0-1
				1880	18900	22.03	22.5	0-1
				1908.5	19185	21.91	22.5	0-1
	16-QAM	1 RB	0	1851.5	18615	21.44	22.5	0-1
				1880	18900	21.86	22.5	0-1
				1908.5	19185	21.48	22.5	0-1
			7	1851.5	18615	21.53	22.5	0-1
				1880	18900	22.32	22.5	0-1
				1908.5	19185	21.46	22.5	0-1
			14	1851.5	18615	21.72	22.5	0-1
				1880	18900	21.54	22.5	0-1
				1908.5	19185	21.51	22.5	0-1
		8 RB	0	1851.5	18615	20.83	21.5	0-2
				1880	18900	21.12	21.5	0-2
				1908.5	19185	20.92	21.5	0-2
			4	1851.5	18615	21.02	21.5	0-2
				1880	18900	20.99	21.5	0-2
				1908.5	19185	20.85	21.5	0-2
			7	1851.5	18615	20.86	21.5	0-2
				1880	18900	21.20	21.5	0-2
				1908.5	19185	21.03	21.5	0-2
		15RB		1851.5	18615	20.66	21.5	0-2
				1880	18900	20.89	21.5	0-2
				1908.5	19185	20.84	21.5	0-2

FDD Band 2 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1850.7	18607	22.36	23.5	0
				1880	18900	22.42	23.5	0
				1909.3	19193	22.36	23.5	0
			2	1850.7	18607	22.44	23.5	0
				1880	18900	22.51	23.5	0
				1909.3	19193	22.34	23.5	0
			5	1850.7	18607	22.35	23.5	0
				1880	18900	22.49	23.5	0
				1909.3	19193	22.16	23.5	0
		3 RB	0	1850.7	18607	22.40	23.5	0
				1880	18900	22.43	23.5	0
				1909.3	19193	22.60	23.5	0
			2	1850.7	18607	22.38	23.5	0
				1880	18900	22.64	23.5	0
				1909.3	19193	22.45	23.5	0
			3	1850.7	18607	22.50	23.5	0
				1880	18900	22.68	23.5	0
				1909.3	19193	22.41	23.5	0
		6RB		1850.7	18607	21.89	22.5	0-1
				1880	18900	22.05	22.5	0-1
				1909.3	19193	21.95	22.5	0-1
	16-QAM	1 RB	0	1850.7	18607	21.40	22.5	0-1
				1880	18900	22.13	22.5	0-1
				1909.3	19193	21.85	22.5	0-1
			2	1850.7	18607	21.94	22.5	0-1
				1880	18900	21.74	22.5	0-1
				1909.3	19193	21.68	22.5	0-1
			5	1850.7	18607	21.71	22.5	0-1
				1880	18900	22.19	22.5	0-1
				1909.3	19193	21.85	22.5	0-1
		3 RB	0	1850.7	18607	21.81	22.5	0-1
				1880	18900	21.97	22.5	0-1
				1909.3	19193	21.96	22.5	0-1
			2	1850.7	18607	21.72	22.5	0-1
				1880	18900	22.03	22.5	0-1
				1909.3	19193	21.96	22.5	0-1
			3	1850.7	18607	21.84	22.5	0-1
				1880	18900	22.11	22.5	0-1
				1909.3	19193	21.94	22.5	0-1
		6RB		1850.7	18607	20.57	21.5	0-2
				1880	18900	20.81	21.5	0-2
				1909.3	19193	20.92	21.5	0-2

FDD Band 2 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	1860	18700	19.54	21	0
				1880	18900	19.80	21	0
				1900	19100	19.45	21	0
			50	1860	18700	20.41	21	0
				1880	18900	20.21	21	0
				1900	19100	19.64	21	0
			99	1860	18700	19.93	21	0
				1880	18900	20.00	21	0
				1900	19100	19.41	21	0
		50 RB	0	1860	18700	19.87	21	0
				1880	18900	20.00	21	0
				1900	19100	19.76	21	0
			25	1860	18700	19.95	21	0
				1880	18900	20.01	21	0
				1900	19100	19.77	21	0
			50	1860	18700	19.86	21	0
				1880	18900	19.96	21	0
				1900	19100	19.70	21	0
		100RB		1860	18700	19.89	21	0
				1880	18900	19.88	21	0
				1900	19100	19.81	21	0
	16-QAM	1 RB	0	1860	18700	19.69	21	0
				1880	18900	19.45	21	0
				1900	19100	19.35	21	0
			50	1860	18700	20.17	21	0
				1880	18900	20.16	21	0
				1900	19100	19.62	21	0
			99	1860	18700	19.58	21	0
				1880	18900	19.52	21	0
				1900	19100	19.49	21	0
		50 RB	0	1860	18700	19.94	21	0
				1880	18900	20.05	21	0
				1900	19100	19.88	21	0
			25	1860	18700	19.96	21	0
				1880	18900	20.09	21	0
				1900	19100	19.70	21	0
			50	1860	18700	19.91	21	0
				1880	18900	19.88	21	0
				1900	19100	19.73	21	0
		100RB		1860	18700	19.86	21	0
				1880	18900	19.85	21	0
				1900	19100	19.85	21	0

FDD Band 2 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1857.5	18675	19.89	21	0
				1880	18900	19.80	21	0
				1902.5	19125	19.77	21	0
			36	1857.5	18675	20.03	21	0
				1880	18900	19.75	21	0
				1902.5	19125	19.64	21	0
			74	1857.5	18675	19.93	21	0
				1880	18900	19.84	21	0
				1902.5	19125	19.75	21	0
		36 RB	0	1857.5	18675	19.86	21	0
				1880	18900	20.02	21	0
				1902.5	19125	19.78	21	0
			18	1857.5	18675	19.91	21	0
				1880	18900	19.99	21	0
				1902.5	19125	19.80	21	0
			37	1857.5	18675	20.02	21	0
				1880	18900	19.91	21	0
				1902.5	19125	19.66	21	0
		75RB		1857.5	18675	19.92	21	0
				1880	18900	19.90	21	0
				1902.5	19125	19.74	21	0
	16-QAM	1 RB	0	1857.5	18675	19.94	21	0
				1880	18900	19.57	21	0
				1902.5	19125	19.61	21	0
			36	1857.5	18675	19.64	21	0
				1880	18900	20.02	21	0
				1902.5	19125	19.81	21	0
			74	1857.5	18675	19.70	21	0
				1880	18900	19.48	21	0
				1902.5	19125	19.73	21	0
		36 RB	0	1857.5	18675	19.77	21	0
				1880	18900	19.98	21	0
				1902.5	19125	19.93	21	0
			18	1857.5	18675	19.95	21	0
				1880	18900	19.95	21	0
				1902.5	19125	19.73	21	0
			37	1857.5	18675	19.96	21	0
				1880	18900	19.88	21	0
				1902.5	19125	19.77	21	0
		75RB		1857.5	18675	20.01	21	0
				1880	18900	19.82	21	0
				1902.5	19125	19.87	21	0

FDD Band 2 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1855	18650	19.56	21	0
				1880	18900	19.60	21	0
				1905	19150	19.52	21	0
			25	1855	18650	20.10	21	0
				1880	18900	20.09	21	0
				1905	19150	19.96	21	0
			49	1855	18650	19.96	21	0
				1880	18900	19.73	21	0
				1905	19150	19.51	21	0
		25 RB	0	1855	18650	19.92	21	0
				1880	18900	20.08	21	0
				1905	19150	19.96	21	0
			12	1855	18650	19.91	21	0
				1880	18900	20.11	21	0
				1905	19150	19.85	21	0
			25	1855	18650	20.06	21	0
				1880	18900	20.13	21	0
				1905	19150	19.80	21	0
		50RB		1855	18650	19.85	21	0
				1880	18900	20.16	21	0
				1905	19150	19.74	21	0
	16-QAM	1 RB	0	1855	18650	19.21	21	0
				1880	18900	19.36	21	0
				1905	19150	19.46	21	0
			25	1855	18650	19.77	21	0
				1880	18900	19.66	21	0
				1905	19150	20.04	21	0
			49	1855	18650	19.83	21	0
				1880	18900	19.70	21	0
				1905	19150	19.27	21	0
		25 RB	0	1855	18650	20.10	21	0
				1880	18900	20.24	21	0
				1905	19150	20.17	21	0
			12	1855	18650	19.80	21	0
				1880	18900	20.31	21	0
				1905	19150	19.80	21	0
			25	1855	18650	20.20	21	0
				1880	18900	20.24	21	0
				1905	19150	20.03	21	0
		50RB		1855	18650	19.95	21	0
				1880	18900	20.00	21	0
				1905	19150	19.86	21	0

FDD Band 2 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	1852.5	18625	19.39	21	0
				1880	18900	19.60	21	0
				1907.5	19175	19.35	21	0
			12	1852.5	18625	20.05	21	0
				1880	18900	20.01	21	0
				1907.5	19175	19.89	21	0
			24	1852.5	18625	19.56	21	0
				1880	18900	19.87	21	0
				1907.5	19175	19.40	21	0
		12 RB	0	1852.5	18625	19.89	21	0
				1880	18900	20.09	21	0
				1907.5	19175	19.82	21	0
			6	1852.5	18625	19.81	21	0
				1880	18900	20.16	21	0
				1907.5	19175	19.81	21	0
			13	1852.5	18625	19.92	21	0
				1880	18900	20.04	21	0
				1907.5	19175	19.81	21	0
		25RB		1852.5	18625	19.87	21	0
				1880	18900	20.07	21	0
				1907.5	19175	19.76	21	0
	16-QAM	1 RB	0	1852.5	18625	19.37	21	0
				1880	18900	19.82	21	0
				1907.5	19175	19.24	21	0
			12	1852.5	18625	19.81	21	0
				1880	18900	20.29	21	0
				1907.5	19175	19.52	21	0
			24	1852.5	18625	19.58	21	0
				1880	18900	19.34	21	0
				1907.5	19175	19.59	21	0
		12 RB	0	1852.5	18625	19.78	21	0
				1880	18900	20.21	21	0
				1907.5	19175	19.55	21	0
			6	1852.5	18625	19.94	21	0
				1880	18900	20.15	21	0
				1907.5	19175	19.56	21	0
			13	1852.5	18625	19.83	21	0
				1880	18900	20.28	21	0
				1907.5	19175	19.68	21	0
		25RB		1852.5	18625	19.83	21	0
				1880	18900	20.21	21	0
				1907.5	19175	19.88	21	0

FDD Band 2 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1851.5	18615	19.81	21	0
				1880	18900	19.76	21	0
				1908.5	19185	19.34	21	0
			7	1851.5	18615	20.31	21	0
				1880	18900	19.68	21	0
				1908.5	19185	19.52	21	0
			14	1851.5	18615	19.98	21	0
				1880	18900	19.67	21	0
				1908.5	19185	19.39	21	0
		8 RB	0	1851.5	18615	19.98	21	0
				1880	18900	20.02	21	0
				1908.5	19185	19.98	21	0
			4	1851.5	18615	19.92	21	0
				1880	18900	20.09	21	0
				1908.5	19185	19.79	21	0
			7	1851.5	18615	19.85	21	0
				1880	18900	20.10	21	0
				1908.5	19185	19.81	21	0
		15RB		1851.5	18615	19.83	21	0
				1880	18900	20.11	21	0
				1908.5	19185	19.83	21	0
	16-QAM	1 RB	0	1851.5	18615	19.39	21	0
				1880	18900	20.05	21	0
				1908.5	19185	19.29	21	0
			7	1851.5	18615	19.57	21	0
				1880	18900	20.06	21	0
				1908.5	19185	19.39	21	0
			14	1851.5	18615	19.94	21	0
				1880	18900	19.64	21	0
				1908.5	19185	19.66	21	0
		8 RB	0	1851.5	18615	19.87	21	0
				1880	18900	19.69	21	0
				1908.5	19185	19.78	21	0
			4	1851.5	18615	19.96	21	0
				1880	18900	20.02	21	0
				1908.5	19185	19.79	21	0
			7	1851.5	18615	20.03	21	0
				1880	18900	20.15	21	0
				1908.5	19185	19.50	21	0
		15RB		1851.5	18615	19.95	21	0
				1880	18900	20.11	21	0
				1908.5	19185	19.75	21	0

FDD Band 2 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1850.7	18607	19.64	21	0
				1880	18900	20.05	21	0
				1909.3	19193	19.72	21	0
			2	1850.7	18607	19.61	21	0
				1880	18900	20.07	21	0
				1909.3	19193	19.81	21	0
			5	1850.7	18607	19.85	21	0
				1880	18900	20.07	21	0
				1909.3	19193	19.75	21	0
		3 RB	0	1850.7	18607	19.88	21	0
				1880	18900	20.36	21	0
				1909.3	19193	19.88	21	0
			2	1850.7	18607	19.87	21	0
				1880	18900	20.17	21	0
				1909.3	19193	19.83	21	0
			3	1850.7	18607	19.94	21	0
				1880	18900	20.17	21	0
				1909.3	19193	19.88	21	0
		6RB		1850.7	18607	19.86	21	0
				1880	18900	20.05	21	0
				1909.3	19193	19.80	21	0
	16-QAM	1 RB	0	1850.7	18607	20.00	21	0
				1880	18900	19.87	21	0
				1909.3	19193	19.92	21	0
			2	1850.7	18607	20.17	21	0
				1880	18900	20.11	21	0
				1909.3	19193	19.62	21	0
			5	1850.7	18607	19.83	21	0
				1880	18900	19.96	21	0
				1909.3	19193	19.51	21	0
		3 RB	0	1850.7	18607	19.88	21	0
				1880	18900	20.04	21	0
				1909.3	19193	20.01	21	0
			2	1850.7	18607	20.03	21	0
				1880	18900	20.13	21	0
				1909.3	19193	19.73	21	0
			3	1850.7	18607	19.85	21	0
				1880	18900	19.79	21	0
				1909.3	19193	19.53	21	0
		6RB		1850.7	18607	20.01	21	0
				1880	18900	19.73	21	0
				1909.3	19193	19.63	21	0

FDD Band 4 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	1720	20050	23.18	23.5	0
				1732.5	20175	22.91	23.5	0
				1745	20300	22.93	23.5	0
			50	1720	20050	23.28	23.5	0
				1732.5	20175	23.05	23.5	0
				1745	20300	23.38	23.5	0
			99	1720	20050	23.13	23.5	0
				1732.5	20175	22.71	23.5	0
				1745	20300	23.48	23.5	0
		50 RB	0	1720	20050	22.27	22.5	0-1
				1732.5	20175	22.06	22.5	0-1
				1745	20300	22.20	22.5	0-1
			25	1720	20050	22.18	22.5	0-1
				1732.5	20175	22.07	22.5	0-1
				1745	20300	22.17	22.5	0-1
			50	1720	20050	22.21	22.5	0-1
				1732.5	20175	22.05	22.5	0-1
				1745	20300	22.15	22.5	0-1
		100RB		1720	20050	22.24	22.5	0-1
				1732.5	20175	22.07	22.5	0-1
				1745	20300	22.26	22.5	0-1
	16-QAM	1 RB	0	1720	20050	22.45	22.5	0-1
				1732.5	20175	21.99	22.5	0-1
				1745	20300	22.27	22.5	0-1
			50	1720	20050	21.95	22.5	0-1
				1732.5	20175	21.93	22.5	0-1
				1745	20300	22.49	22.5	0-1
			99	1720	20050	22.16	22.5	0-1
				1732.5	20175	21.62	22.5	0-1
				1745	20300	22.07	22.5	0-1
		50 RB	0	1720	20050	21.26	21.5	0-2
				1732.5	20175	21.20	21.5	0-2
				1745	20300	21.25	21.5	0-2
			25	1720	20050	21.25	21.5	0-2
				1732.5	20175	21.09	21.5	0-2
				1745	20300	21.28	21.5	0-2
			50	1720	20050	21.19	21.5	0-2
				1732.5	20175	21.08	21.5	0-2
				1745	20300	21.04	21.5	0-2
		100RB		1720	20050	21.20	21.5	0-2
				1732.5	20175	21.14	21.5	0-2
				1745	20300	21.24	21.5	0-2

FDD Band 4 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1717.5	20025	23.29	23.5	0
				1732.5	20175	22.95	23.5	0
				1747.5	20325	23.20	23.5	0
			36	1717.5	20025	23.20	23.5	0
				1732.5	20175	23.11	23.5	0
				1747.5	20325	23.12	23.5	0
			74	1717.5	20025	23.12	23.5	0
				1732.5	20175	22.98	23.5	0
				1747.5	20325	23.42	23.5	0
		36 RB	0	1717.5	20025	22.36	22.5	0-1
				1732.5	20175	22.14	22.5	0-1
				1747.5	20325	22.28	22.5	0-1
			18	1717.5	20025	22.13	22.5	0-1
				1732.5	20175	22.13	22.5	0-1
				1747.5	20325	22.10	22.5	0-1
			37	1717.5	20025	22.20	22.5	0-1
				1732.5	20175	22.15	22.5	0-1
				1747.5	20325	22.22	22.5	0-1
		75RB		1717.5	20025	22.19	22.5	0-1
				1732.5	20175	22.16	22.5	0-1
				1747.5	20325	22.16	22.5	0-1
	16-QAM	1 RB	0	1717.5	20025	22.22	22.5	0-1
				1732.5	20175	21.76	22.5	0-1
				1747.5	20325	21.73	22.5	0-1
			36	1717.5	20025	21.90	22.5	0-1
				1732.5	20175	22.07	22.5	0-1
				1747.5	20325	21.77	22.5	0-1
			74	1717.5	20025	21.79	22.5	0-1
				1732.5	20175	21.71	22.5	0-1
				1747.5	20325	22.09	22.5	0-1
		36 RB	0	1717.5	20025	21.31	21.5	0-2
				1732.5	20175	21.17	21.5	0-2
				1747.5	20325	21.30	21.5	0-2
			18	1717.5	20025	21.19	21.5	0-2
				1732.5	20175	21.06	21.5	0-2
				1747.5	20325	21.12	21.5	0-2
			37	1717.5	20025	21.14	21.5	0-2
				1732.5	20175	21.04	21.5	0-2
				1747.5	20325	21.13	21.5	0-2
		75RB		1717.5	20025	21.25	21.5	0-2
				1732.5	20175	21.08	21.5	0-2
				1747.5	20325	21.21	21.5	0-2

FDD Band 4 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1715	20000	23.02	23.5	0
				1732.5	20175	22.84	23.5	0
				1750	20350	22.85	23.5	0
			25	1715	20000	23.42	23.5	0
				1732.5	20175	23.24	23.5	0
				1750	20350	23.18	23.5	0
			49	1715	20000	22.93	23.5	0
				1732.5	20175	22.76	23.5	0
				1750	20350	23.22	23.5	0
		25 RB	0	1715	20000	22.32	22.5	0-1
				1732.5	20175	22.06	22.5	0-1
				1750	20350	22.18	22.5	0-1
			12	1715	20000	22.26	22.5	0-1
				1732.5	20175	22.06	22.5	0-1
				1750	20350	22.21	22.5	0-1
			25	1715	20000	22.14	22.5	0-1
				1732.5	20175	22.12	22.5	0-1
				1750	20350	22.24	22.5	0-1
		50RB		1715	20000	22.32	22.5	0-1
				1732.5	20175	22.10	22.5	0-1
				1750	20350	22.30	22.5	0-1
	16-QAM	1 RB	0	1715	20000	21.97	22.5	0-1
				1732.5	20175	21.86	22.5	0-1
				1750	20350	21.66	22.5	0-1
			25	1715	20000	22.22	22.5	0-1
				1732.5	20175	21.84	22.5	0-1
				1750	20350	21.92	22.5	0-1
			49	1715	20000	21.86	22.5	0-1
				1732.5	20175	21.73	22.5	0-1
				1750	20350	21.99	22.5	0-1
		25 RB	0	1715	20000	21.35	21.5	0-2
				1732.5	20175	21.07	21.5	0-2
				1750	20350	21.23	21.5	0-2
			12	1715	20000	21.16	21.5	0-2
				1732.5	20175	21.19	21.5	0-2
				1750	20350	21.25	21.5	0-2
			25	1715	20000	21.24	21.5	0-2
				1732.5	20175	21.12	21.5	0-2
				1750	20350	21.45	21.5	0-2
		50RB		1715	20000	21.22	21.5	0-2
				1732.5	20175	21.13	21.5	0-2
				1750	20350	21.37	21.5	0-2

FDD Band 4 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	1712.5	19975	22.81	23.5	0
				1732.5	20175	22.72	23.5	0
				1752.5	20375	22.71	23.5	0
			12	1712.5	19975	23.42	23.5	0
				1732.5	20175	22.96	23.5	0
				1752.5	20375	23.15	23.5	0
			24	1712.5	19975	23.00	23.5	0
				1732.5	20175	22.55	23.5	0
				1752.5	20375	23.07	23.5	0
		12 RB	0	1712.5	19975	22.37	22.5	0-1
				1732.5	20175	22.16	22.5	0-1
				1752.5	20375	22.22	22.5	0-1
			6	1712.5	19975	22.35	22.5	0-1
				1732.5	20175	22.13	22.5	0-1
				1752.5	20375	22.17	22.5	0-1
			13	1712.5	19975	22.34	22.5	0-1
				1732.5	20175	22.14	22.5	0-1
				1752.5	20375	22.31	22.5	0-1
		25RB		1712.5	19975	22.26	22.5	0-1
				1732.5	20175	22.11	22.5	0-1
				1752.5	20375	22.24	22.5	0-1
	16-QAM	1 RB	0	1712.5	19975	21.95	22.5	0-1
				1732.5	20175	21.73	22.5	0-1
				1752.5	20375	21.88	22.5	0-1
			12	1712.5	19975	21.78	22.5	0-1
				1732.5	20175	21.42	22.5	0-1
				1752.5	20375	22.27	22.5	0-1
			24	1712.5	19975	22.14	22.5	0-1
				1732.5	20175	21.67	22.5	0-1
				1752.5	20375	22.33	22.5	0-1
		12 RB	0	1712.5	19975	21.23	21.5	0-2
				1732.5	20175	21.04	21.5	0-2
				1752.5	20375	21.15	21.5	0-2
			6	1712.5	19975	21.38	21.5	0-2
				1732.5	20175	21.08	21.5	0-2
				1752.5	20375	21.33	21.5	0-2
			13	1712.5	19975	21.37	21.5	0-2
				1732.5	20175	21.08	21.5	0-2
				1752.5	20375	21.50	21.5	0-2
		25RB		1712.5	19975	21.17	21.5	0-2
				1732.5	20175	21.13	21.5	0-2
				1752.5	20375	21.43	21.5	0-2

FDD Band 4 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1711.5	19965	23.02	23.5	0
				1732.5	20175	22.87	23.5	0
				1753.5	20385	22.90	23.5	0
			7	1711.5	19965	23.25	23.5	0
				1732.5	20175	23.16	23.5	0
				1753.5	20385	23.34	23.5	0
			14	1711.5	19965	23.26	23.5	0
				1732.5	20175	22.82	23.5	0
				1753.5	20385	23.16	23.5	0
		8 RB	0	1711.5	19965	22.40	22.5	0-1
				1732.5	20175	22.17	22.5	0-1
				1753.5	20385	22.11	22.5	0-1
			4	1711.5	19965	22.40	22.5	0-1
				1732.5	20175	22.15	22.5	0-1
				1753.5	20385	22.23	22.5	0-1
			7	1711.5	19965	22.31	22.5	0-1
				1732.5	20175	22.08	22.5	0-1
				1753.5	20385	22.35	22.5	0-1
		15RB		1711.5	19965	22.30	22.5	0-1
				1732.5	20175	22.06	22.5	0-1
				1753.5	20385	22.34	22.5	0-1
	16-QAM	1 RB	0	1711.5	19965	22.30	22.5	0-1
				1732.5	20175	22.04	22.5	0-1
				1753.5	20385	21.72	22.5	0-1
			7	1711.5	19965	21.79	22.5	0-1
				1732.5	20175	21.58	22.5	0-1
				1753.5	20385	21.65	22.5	0-1
			14	1711.5	19965	21.82	22.5	0-1
				1732.5	20175	21.68	22.5	0-1
				1753.5	20385	22.36	22.5	0-1
		8 RB	0	1711.5	19965	21.49	21.5	0-2
				1732.5	20175	21.26	21.5	0-2
				1753.5	20385	21.18	21.5	0-2
			4	1711.5	19965	21.35	21.5	0-2
				1732.5	20175	21.23	21.5	0-2
				1753.5	20385	21.29	21.5	0-2
			7	1711.5	19965	21.41	21.5	0-2
				1732.5	20175	21.15	21.5	0-2
				1753.5	20385	21.32	21.5	0-2
		15RB		1711.5	19965	21.20	21.5	0-2
				1732.5	20175	21.10	21.5	0-2
				1753.5	20385	21.24	21.5	0-2

FDD Band 4 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1710.7	19957	23.30	23.5	0
				1732.5	20175	22.87	23.5	0
				1754.3	20393	23.05	23.5	0
			2	1710.7	19957	23.32	23.5	0
				1732.5	20175	22.82	23.5	0
				1754.3	20393	23.19	23.5	0
			5	1710.7	19957	23.29	23.5	0
				1732.5	20175	22.76	23.5	0
				1754.3	20393	23.26	23.5	0
		3 RB	0	1710.7	19957	23.35	23.5	0
				1732.5	20175	23.15	23.5	0
				1754.3	20393	23.39	23.5	0
			2	1710.7	19957	23.41	23.5	0
				1732.5	20175	23.11	23.5	0
				1754.3	20393	23.24	23.5	0
			3	1710.7	19957	23.42	23.5	0
				1732.5	20175	23.07	23.5	0
				1754.3	20393	23.28	23.5	0
		6RB		1710.7	19957	22.22	22.5	0-1
				1732.5	20175	22.09	22.5	0-1
				1754.3	20393	22.32	22.5	0-1
	16-QAM	1 RB	0	1710.7	19957	21.87	22.5	0-1
				1732.5	20175	21.82	22.5	0-1
				1754.3	20393	22.22	22.5	0-1
			2	1710.7	19957	22.33	22.5	0-1
				1732.5	20175	22.11	22.5	0-1
				1754.3	20393	22.43	22.5	0-1
			5	1710.7	19957	22.18	22.5	0-1
				1732.5	20175	21.46	22.5	0-1
				1754.3	20393	22.23	22.5	0-1
		3 RB	0	1710.7	19957	22.31	22.5	0-1
				1732.5	20175	22.10	22.5	0-1
				1754.3	20393	22.19	22.5	0-1
			2	1710.7	19957	22.29	22.5	0-1
				1732.5	20175	22.16	22.5	0-1
				1754.3	20393	22.39	22.5	0-1
			3	1710.7	19957	22.30	22.5	0-1
				1732.5	20175	21.91	22.5	0-1
				1754.3	20393	22.42	22.5	0-1
		6RB		1710.7	19957	21.20	21.5	0-2
				1732.5	20175	20.95	21.5	0-2
				1754.3	20393	20.96	21.5	0-2

FDD Band 4 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	1720	20050	21.96	23	0
				1732.5	20175	21.85	23	0
				1745	20300	22.01	23	0
			50	1720	20050	22.30	23	0
				1732.5	20175	22.25	23	0
				1745	20300	22.43	23	0
			99	1720	20050	22.10	23	0
				1732.5	20175	21.79	23	0
				1745	20300	22.65	23	0
		50 RB	0	1720	20050	22.28	23	0
				1732.5	20175	22.13	23	0
				1745	20300	22.30	23	0
			25	1720	20050	22.21	23	0
				1732.5	20175	22.15	23	0
				1745	20300	22.18	23	0
			50	1720	20050	22.23	23	0
				1732.5	20175	22.11	23	0
				1745	20300	22.14	23	0
		100RB		1720	20050	22.17	23	0
				1732.5	20175	22.14	23	0
				1745	20300	22.26	23	0
	16-QAM	1 RB	0	1720	20050	21.98	23	0
				1732.5	20175	22.26	23	0
				1745	20300	21.83	23	0
			50	1720	20050	22.09	23	0
				1732.5	20175	22.09	23	0
				1745	20300	22.20	23	0
			99	1720	20050	21.92	23	0
				1732.5	20175	22.16	23	0
				1745	20300	22.06	23	0
		50 RB	0	1720	20050	21.44	23	0
				1732.5	20175	21.15	23	0
				1745	20300	21.32	23	0
			25	1720	20050	21.14	23	0
				1732.5	20175	21.23	23	0
				1745	20300	21.26	23	0
			50	1720	20050	21.27	23	0
				1732.5	20175	21.05	23	0
				1745	20300	21.27	23	0
		100RB		1720	20050	21.22	23	0
				1732.5	20175	21.09	23	0
				1745	20300	21.28	23	0

FDD Band 4 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	1717.5	20025	22.33	23	0
				1732.5	20175	22.16	23	0
				1747.5	20325	22.21	23	0
			36	1717.5	20025	22.22	23	0
				1732.5	20175	22.13	23	0
				1747.5	20325	22.36	23	0
			74	1717.5	20025	22.00	23	0
				1732.5	20175	22.04	23	0
				1747.5	20325	22.37	23	0
		36 RB	0	1717.5	20025	22.38	23	0
				1732.5	20175	22.15	23	0
				1747.5	20325	22.28	23	0
			18	1717.5	20025	22.22	23	0
				1732.5	20175	22.15	23	0
				1747.5	20325	22.20	23	0
			37	1717.5	20025	22.19	23	0
				1732.5	20175	22.14	23	0
				1747.5	20325	22.22	23	0
		75RB		1717.5	20025	22.18	23	0
				1732.5	20175	22.14	23	0
				1747.5	20325	22.14	23	0
	16-QAM	1 RB	0	1717.5	20025	22.27	23	0
				1732.5	20175	22.20	23	0
				1747.5	20325	21.97	23	0
			36	1717.5	20025	21.96	23	0
				1732.5	20175	21.48	23	0
				1747.5	20325	21.88	23	0
			74	1717.5	20025	21.76	23	0
				1732.5	20175	21.91	23	0
				1747.5	20325	22.09	23	0
		36 RB	0	1717.5	20025	21.30	23	0
				1732.5	20175	21.16	23	0
				1747.5	20325	21.25	23	0
			18	1717.5	20025	21.15	23	0
				1732.5	20175	21.12	23	0
				1747.5	20325	21.23	23	0
			37	1717.5	20025	21.14	23	0
				1732.5	20175	21.18	23	0
				1747.5	20325	21.17	23	0
		75RB		1717.5	20025	21.24	23	0
				1732.5	20175	21.19	23	0
				1747.5	20325	21.20	23	0

FDD Band 4 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	1715	20000	22.09	23	0
				1732.5	20175	21.80	23	0
				1750	20350	22.03	23	0
			25	1715	20000	22.34	23	0
				1732.5	20175	22.37	23	0
				1750	20350	22.44	23	0
			49	1715	20000	22.07	23	0
				1732.5	20175	21.85	23	0
				1750	20350	22.35	23	0
		25 RB	0	1715	20000	22.33	23	0
				1732.5	20175	22.20	23	0
				1750	20350	22.19	23	0
			12	1715	20000	22.28	23	0
				1732.5	20175	22.06	23	0
				1750	20350	22.22	23	0
			25	1715	20000	22.16	23	0
				1732.5	20175	22.12	23	0
				1750	20350	22.32	23	0
		50RB		1715	20000	22.23	23	0
				1732.5	20175	22.10	23	0
				1750	20350	22.32	23	0
	16-QAM	1 RB	0	1715	20000	22.19	23	0
				1732.5	20175	21.86	23	0
				1750	20350	22.36	23	0
			25	1715	20000	21.92	23	0
				1732.5	20175	22.02	23	0
				1750	20350	22.42	23	0
			49	1715	20000	21.97	23	0
				1732.5	20175	21.74	23	0
				1750	20350	22.46	23	0
		25 RB	0	1715	20000	21.67	23	0
				1732.5	20175	21.27	23	0
				1750	20350	21.17	23	0
			12	1715	20000	21.46	23	0
				1732.5	20175	21.12	23	0
				1750	20350	21.26	23	0
			25	1715	20000	21.35	23	0
				1732.5	20175	21.17	23	0
				1750	20350	21.38	23	0
		50RB		1715	20000	21.33	23	0
				1732.5	20175	21.19	23	0
				1750	20350	21.39	23	0

FDD Band 4 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	1712.5	19975	21.84	23	0
				1732.5	20175	21.73	23	0
				1752.5	20375	21.72	23	0
			12	1712.5	19975	22.29	23	0
				1732.5	20175	22.13	23	0
				1752.5	20375	22.43	23	0
			24	1712.5	19975	22.26	23	0
				1732.5	20175	21.64	23	0
				1752.5	20375	22.16	23	0
		12 RB	0	1712.5	19975	22.38	23	0
				1732.5	20175	22.19	23	0
				1752.5	20375	22.16	23	0
			6	1712.5	19975	22.38	23	0
				1732.5	20175	22.24	23	0
				1752.5	20375	22.30	23	0
			13	1712.5	19975	22.38	23	0
				1732.5	20175	22.12	23	0
				1752.5	20375	22.33	23	0
		25RB		1712.5	19975	22.28	23	0
				1732.5	20175	22.12	23	0
				1752.5	20375	22.25	23	0
	16-QAM	1 RB	0	1712.5	19975	22.16	23	0
				1732.5	20175	21.93	23	0
				1752.5	20375	22.10	23	0
			12	1712.5	19975	22.25	23	0
				1732.5	20175	21.53	23	0
				1752.5	20375	22.13	23	0
			24	1712.5	19975	21.84	23	0
				1732.5	20175	21.74	23	0
				1752.5	20375	22.12	23	0
		12 RB	0	1712.5	19975	21.38	23	0
				1732.5	20175	21.19	23	0
				1752.5	20375	21.14	23	0
			6	1712.5	19975	21.36	23	0
				1732.5	20175	21.13	23	0
				1752.5	20375	21.32	23	0
			13	1712.5	19975	21.36	23	0
				1732.5	20175	21.00	23	0
				1752.5	20375	21.34	23	0
		25RB		1712.5	19975	21.41	23	0
				1732.5	20175	21.14	23	0
				1752.5	20375	21.22	23	0

FDD Band 4 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	1711.5	19965	22.39	23	0
				1732.5	20175	22.02	23	0
				1753.5	20385	21.90	23	0
			7	1711.5	19965	22.60	23	0
				1732.5	20175	22.39	23	0
				1753.5	20385	22.26	23	0
			14	1711.5	19965	22.29	23	0
				1732.5	20175	21.71	23	0
				1753.5	20385	22.16	23	0
		8 RB	0	1711.5	19965	22.42	23	0
				1732.5	20175	22.25	23	0
				1753.5	20385	22.12	23	0
			4	1711.5	19965	22.33	23	0
				1732.5	20175	22.14	23	0
				1753.5	20385	22.33	23	0
			7	1711.5	19965	22.41	23	0
				1732.5	20175	22.27	23	0
				1753.5	20385	22.27	23	0
		15RB		1711.5	19965	22.40	23	0
				1732.5	20175	22.15	23	0
				1753.5	20385	22.24	23	0
	16-QAM	1 RB	0	1711.5	19965	22.33	23	0
				1732.5	20175	21.57	23	0
				1753.5	20385	21.61	23	0
			7	1711.5	19965	22.60	23	0
				1732.5	20175	21.43	23	0
				1753.5	20385	22.23	23	0
			14	1711.5	19965	21.97	23	0
				1732.5	20175	21.72	23	0
				1753.5	20385	22.26	23	0
		8 RB	0	1711.5	19965	21.41	23	0
				1732.5	20175	21.26	23	0
				1753.5	20385	21.11	23	0
			4	1711.5	19965	21.51	23	0
				1732.5	20175	21.16	23	0
				1753.5	20385	21.29	23	0
			7	1711.5	19965	21.58	23	0
				1732.5	20175	21.18	23	0
				1753.5	20385	21.30	23	0
		15RB		1711.5	19965	21.49	23	0
				1732.5	20175	21.04	23	0
				1753.5	20385	21.02	23	0

FDD Band 4 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	1710.7	19957	22.04	23	0
				1732.5	20175	22.02	23	0
				1754.3	20393	22.16	23	0
			2	1710.7	19957	22.21	23	0
				1732.5	20175	22.11	23	0
				1754.3	20393	22.34	23	0
			5	1710.7	19957	22.07	23	0
				1732.5	20175	22.14	23	0
				1754.3	20393	22.08	23	0
		3 RB	0	1710.7	19957	22.29	23	0
				1732.5	20175	22.27	23	0
				1754.3	20393	22.33	23	0
			2	1710.7	19957	22.33	23	0
				1732.5	20175	22.23	23	0
				1754.3	20393	22.25	23	0
			3	1710.7	19957	22.47	23	0
				1732.5	20175	22.17	23	0
				1754.3	20393	22.37	23	0
		6RB		1710.7	19957	22.40	23	0
				1732.5	20175	22.07	23	0
				1754.3	20393	22.33	23	0
	16-QAM	1 RB	0	1710.7	19957	22.52	23	0
				1732.5	20175	21.80	23	0
				1754.3	20393	22.02	23	0
			2	1710.7	19957	22.02	23	0
				1732.5	20175	21.56	23	0
				1754.3	20393	21.76	23	0
			5	1710.7	19957	22.52	23	0
				1732.5	20175	22.27	23	0
				1754.3	20393	22.08	23	0
		3 RB	0	1710.7	19957	22.38	23	0
				1732.5	20175	22.47	23	0
				1754.3	20393	22.27	23	0
			2	1710.7	19957	22.43	23	0
				1732.5	20175	22.24	23	0
				1754.3	20393	22.39	23	0
			3	1710.7	19957	22.34	23	0
				1732.5	20175	22.42	23	0
				1754.3	20393	22.13	23	0
		6RB		1710.7	19957	21.44	23	0
				1732.5	20175	21.31	23	0
				1754.3	20393	21.43	23	0

FDD Band 5 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	829	20450	22.88	24.2	0
				836.5	20525	22.91	24.2	0
				844	20600	22.79	24.2	0
			25	829	20450	23.05	24.2	0
				836.5	20525	23.36	24.2	0
				844	20600	23.57	24.2	0
			49	829	20450	22.63	24.2	0
				836.5	20525	22.80	24.2	0
				844	20600	22.96	24.2	0
		25 RB	0	829	20450	22.05	23.2	0-1
				836.5	20525	21.91	23.2	0-1
				844	20600	22.19	23.2	0-1
			12	829	20450	21.95	23.2	0-1
				836.5	20525	22.04	23.2	0-1
				844	20600	22.03	23.2	0-1
			25	829	20450	21.92	23.2	0-1
				836.5	20525	21.96	23.2	0-1
				844	20600	22.10	23.2	0-1
		50RB		829	20450	22.01	23.2	0-1
				836.5	20525	22.12	23.2	0-1
				844	20600	21.92	23.2	0-1
	16-QAM	1 RB	0	829	20450	21.21	23.2	0-1
				836.5	20525	21.73	23.2	0-1
				844	20600	21.90	23.2	0-1
			25	829	20450	21.75	23.2	0-1
				836.5	20525	21.81	23.2	0-1
				844	20600	22.19	23.2	0-1
			49	829	20450	21.71	23.2	0-1
				836.5	20525	21.93	23.2	0-1
				844	20600	22.06	23.2	0-1
		25 RB	0	829	20450	21.08	22.2	0-2
				836.5	20525	20.90	22.2	0-2
				844	20600	20.93	22.2	0-2
			12	829	20450	20.94	22.2	0-2
				836.5	20525	20.90	22.2	0-2
				844	20600	20.89	22.2	0-2
			25	829	20450	21.00	22.2	0-2
				836.5	20525	20.87	22.2	0-2
				844	20600	21.12	22.2	0-2
		50RB		829	20450	21.00	22.2	0-2
				836.5	20525	21.07	22.2	0-2
				844	20600	21.18	22.2	0-2

FDD Band 5 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	826.5	20425	22.76	24.2	0
				836.5	20525	22.84	24.2	0
				846.5	20625	22.87	24.2	0
			12	826.5	20425	22.92	24.2	0
				836.5	20525	23.00	24.2	0
				846.5	20625	23.33	24.2	0
			24	826.5	20425	22.61	24.2	0
				836.5	20525	22.70	24.2	0
				846.5	20625	22.69	24.2	0
		12 RB	0	826.5	20425	22.02	23.2	0-1
				836.5	20525	21.90	23.2	0-1
				846.5	20625	22.15	23.2	0-1
			6	826.5	20425	22.03	23.2	0-1
				836.5	20525	21.98	23.2	0-1
				846.5	20625	22.31	23.2	0-1
			13	826.5	20425	22.01	23.2	0-1
				836.5	20525	22.09	23.2	0-1
				846.5	20625	22.12	23.2	0-1
		25RB		826.5	20425	22.01	23.2	0-1
				836.5	20525	21.92	23.2	0-1
				846.5	20625	22.04	23.2	0-1
	16-QAM	1 RB	0	826.5	20425	21.68	23.2	0-1
				836.5	20525	21.49	23.2	0-1
				846.5	20625	21.95	23.2	0-1
			12	826.5	20425	21.82	23.2	0-1
				836.5	20525	21.89	23.2	0-1
				846.5	20625	22.07	23.2	0-1
			24	826.5	20425	21.69	23.2	0-1
				836.5	20525	21.71	23.2	0-1
				846.5	20625	21.89	23.2	0-1
		12 RB	0	826.5	20425	20.76	22.2	0-2
				836.5	20525	20.74	22.2	0-2
				846.5	20625	21.18	22.2	0-2
			6	826.5	20425	20.75	22.2	0-2
				836.5	20525	20.81	22.2	0-2
				846.5	20625	21.15	22.2	0-2
			13	826.5	20425	20.90	22.2	0-2
				836.5	20525	20.94	22.2	0-2
				846.5	20625	20.98	22.2	0-2
		25RB		826.5	20425	20.92	22.2	0-2
				836.5	20525	20.90	22.2	0-2
				846.5	20625	20.91	22.2	0-2

FDD Band 5 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	825.5	20415	23.04	24.2	0
				836.5	20525	22.78	24.2	0
				847.5	20635	22.89	24.2	0
			7	825.5	20415	23.25	24.2	0
				836.5	20525	22.95	24.2	0
				847.5	20635	23.10	24.2	0
			14	825.5	20415	22.97	24.2	0
				836.5	20525	22.87	24.2	0
				847.5	20635	22.82	24.2	0
		8 RB	0	825.5	20415	21.98	23.2	0-1
				836.5	20525	21.98	23.2	0-1
				847.5	20635	22.28	23.2	0-1
			4	825.5	20415	22.19	23.2	0-1
				836.5	20525	22.05	23.2	0-1
				847.5	20635	22.20	23.2	0-1
			7	825.5	20415	22.05	23.2	0-1
				836.5	20525	22.01	23.2	0-1
				847.5	20635	22.15	23.2	0-1
		15RB		825.5	20415	21.96	23.2	0-1
				836.5	20525	22.08	23.2	0-1
				847.5	20635	22.11	23.2	0-1
	16-QAM	1 RB	0	825.5	20415	21.79	23.2	0-1
				836.5	20525	22.13	23.2	0-1
				847.5	20635	22.12	23.2	0-1
			7	825.5	20415	21.66	23.2	0-1
				836.5	20525	22.05	23.2	0-1
				847.5	20635	21.98	23.2	0-1
			14	825.5	20415	21.67	23.2	0-1
				836.5	20525	21.99	23.2	0-1
				847.5	20635	22.17	23.2	0-1
		8 RB	0	825.5	20415	21.08	22.2	0-2
				836.5	20525	20.61	22.2	0-2
				847.5	20635	21.32	22.2	0-2
			4	825.5	20415	21.10	22.2	0-2
				836.5	20525	20.86	22.2	0-2
				847.5	20635	20.83	22.2	0-2
			7	825.5	20415	21.20	22.2	0-2
				836.5	20525	20.82	22.2	0-2
				847.5	20635	20.91	22.2	0-2
		15RB		825.5	20415	21.13	22.2	0-2
				836.5	20525	20.99	22.2	0-2
				847.5	20635	21.02	22.2	0-2

FDD Band 5 (Main antenna + Hotspot Off)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	824.7	20407	22.91	24.2	0
				836.5	20525	22.89	24.2	0
				848.3	20643	23.06	24.2	0
			2	824.7	20407	23.03	24.2	0
				836.5	20525	22.79	24.2	0
				848.3	20643	23.21	24.2	0
			5	824.7	20407	23.20	24.2	0
				836.5	20525	22.99	24.2	0
				848.3	20643	23.07	24.2	0
		3 RB	0	824.7	20407	23.33	24.2	0
				836.5	20525	22.97	24.2	0
				848.3	20643	23.37	24.2	0
			2	824.7	20407	23.03	24.2	0
				836.5	20525	23.01	24.2	0
				848.3	20643	23.35	24.2	0
			3	824.7	20407	22.98	24.2	0
				836.5	20525	23.08	24.2	0
				848.3	20643	23.11	24.2	0
		6RB		824.7	20407	21.93	23.2	0-1
				836.5	20525	22.03	23.2	0-1
				848.3	20643	22.09	23.2	0-1
	16-QAM	1 RB	0	824.7	20407	22.09	23.2	0-1
				836.5	20525	21.87	23.2	0-1
				848.3	20643	21.99	23.2	0-1
			2	824.7	20407	21.82	23.2	0-1
				836.5	20525	21.73	23.2	0-1
				848.3	20643	22.00	23.2	0-1
			5	824.7	20407	21.97	23.2	0-1
				836.5	20525	22.11	23.2	0-1
				848.3	20643	21.98	23.2	0-1
		3 RB	0	824.7	20407	21.70	23.2	0-1
				836.5	20525	21.90	23.2	0-1
				848.3	20643	22.19	23.2	0-1
			2	824.7	20407	22.12	23.2	0-1
				836.5	20525	21.85	23.2	0-1
				848.3	20643	22.18	23.2	0-1
			3	824.7	20407	22.11	23.2	0-1
				836.5	20525	21.85	23.2	0-1
				848.3	20643	22.18	23.2	0-1
		6RB		824.7	20407	20.84	22.2	0-2
				836.5	20525	20.74	22.2	0-2
				848.3	20643	21.06	22.2	0-2

FDD Band 5 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	829	20450	20.58	21.9	0
				836.5	20525	20.53	21.9	0
				844	20600	20.35	21.9	0
			25	829	20450	20.73	21.9	0
				836.5	20525	20.79	21.9	0
				844	20600	20.89	21.9	0
			49	829	20450	20.35	21.9	0
				836.5	20525	20.87	21.9	0
				844	20600	20.55	21.9	0
		25 RB	0	829	20450	20.65	21.9	0-1
				836.5	20525	20.66	21.9	0-1
				844	20600	20.75	21.9	0-1
			12	829	20450	20.73	21.9	0-1
				836.5	20525	20.76	21.9	0-1
				844	20600	20.77	21.9	0-1
			25	829	20450	20.67	21.9	0-1
				836.5	20525	20.69	21.9	0-1
				844	20600	20.82	21.9	0-1
		50RB		829	20450	20.66	21.9	0-1
				836.5	20525	20.74	21.9	0-1
				844	20600	20.93	21.9	0-1
	16-QAM	1 RB	0	829	20450	20.46	21.9	0-1
				836.5	20525	20.37	21.9	0-1
				844	20600	20.68	21.9	0-1
			25	829	20450	20.56	21.9	0-1
				836.5	20525	20.73	21.9	0-1
				844	20600	20.66	21.9	0-1
			49	829	20450	21.12	21.9	0-1
				836.5	20525	20.41	21.9	0-1
				844	20600	20.86	21.9	0-1
		25 RB	0	829	20450	20.70	21.9	0-2
				836.5	20525	20.71	21.9	0-2
				844	20600	20.82	21.9	0-2
			12	829	20450	20.67	21.9	0-2
				836.5	20525	20.76	21.9	0-2
				844	20600	20.70	21.9	0-2
			25	829	20450	20.66	21.9	0-2
				836.5	20525	20.68	21.9	0-2
				844	20600	20.84	21.9	0-2
		50RB		829	20450	20.80	21.9	0-2
				836.5	20525	20.70	21.9	0-2
				844	20600	20.83	21.9	0-2

FDD Band 5 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	826.5	20425	20.44	21.9	0
				836.5	20525	20.52	21.9	0
				846.5	20625	20.63	21.9	0
			12	826.5	20425	20.86	21.9	0
				836.5	20525	21.00	21.9	0
				846.5	20625	21.05	21.9	0
			24	826.5	20425	20.18	21.9	0
				836.5	20525	20.25	21.9	0
				846.5	20625	20.29	21.9	0
		12 RB	0	826.5	20425	20.79	21.9	0-1
				836.5	20525	20.71	21.9	0-1
				846.5	20625	20.91	21.9	0-1
			6	826.5	20425	20.76	21.9	0-1
				836.5	20525	20.68	21.9	0-1
				846.5	20625	21.01	21.9	0-1
			13	826.5	20425	20.72	21.9	0-1
				836.5	20525	20.76	21.9	0-1
				846.5	20625	20.70	21.9	0-1
		25RB		826.5	20425	20.72	21.9	0-1
				836.5	20525	20.63	21.9	0-1
				846.5	20625	20.75	21.9	0-1
	16-QAM	1 RB	0	826.5	20425	20.37	21.9	0-1
				836.5	20525	20.30	21.9	0-1
				846.5	20625	20.40	21.9	0-1
			12	826.5	20425	20.85	21.9	0-1
				836.5	20525	21.01	21.9	0-1
				846.5	20625	20.75	21.9	0-1
			24	826.5	20425	20.37	21.9	0-1
				836.5	20525	20.58	21.9	0-1
				846.5	20625	20.27	21.9	0-1
		12 RB	0	826.5	20425	20.63	21.9	0-2
				836.5	20525	20.39	21.9	0-2
				846.5	20625	20.57	21.9	0-2
			6	826.5	20425	20.63	21.9	0-2
				836.5	20525	20.83	21.9	0-2
				846.5	20625	20.89	21.9	0-2
			13	826.5	20425	20.76	21.9	0-2
				836.5	20525	20.72	21.9	0-2
				846.5	20625	20.60	21.9	0-2
		25RB		826.5	20425	20.75	21.9	0-2
				836.5	20525	20.81	21.9	0-2
				846.5	20625	20.91	21.9	0-2

FDD Band 5 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	825.5	20415	20.91	21.9	0
				836.5	20525	20.46	21.9	0
				847.5	20635	20.88	21.9	0
			7	825.5	20415	20.69	21.9	0
				836.5	20525	20.95	21.9	0
				847.5	20635	20.93	21.9	0
			14	825.5	20415	20.31	21.9	0
				836.5	20525	20.87	21.9	0
				847.5	20635	20.50	21.9	0
		8 RB	0	825.5	20415	20.73	21.9	0-1
				836.5	20525	20.61	21.9	0-1
				847.5	20635	20.88	21.9	0-1
			4	825.5	20415	20.79	21.9	0-1
				836.5	20525	20.70	21.9	0-1
				847.5	20635	20.86	21.9	0-1
			7	825.5	20415	20.67	21.9	0-1
				836.5	20525	20.68	21.9	0-1
				847.5	20635	20.83	21.9	0-1
		15RB		825.5	20415	20.77	21.9	0-1
				836.5	20525	20.68	21.9	0-1
				847.5	20635	20.75	21.9	0-1
	16-QAM	1 RB	0	825.5	20415	20.51	21.9	0-1
				836.5	20525	20.41	21.9	0-1
				847.5	20635	20.39	21.9	0-1
			7	825.5	20415	20.95	21.9	0-1
				836.5	20525	20.76	21.9	0-1
				847.5	20635	20.85	21.9	0-1
			14	825.5	20415	20.84	21.9	0-1
				836.5	20525	20.27	21.9	0-1
				847.5	20635	20.23	21.9	0-1
		8 RB	0	825.5	20415	20.77	21.9	0-2
				836.5	20525	20.80	21.9	0-2
				847.5	20635	20.85	21.9	0-2
			4	825.5	20415	20.73	21.9	0-2
				836.5	20525	20.71	21.9	0-2
				847.5	20635	20.81	21.9	0-2
			7	825.5	20415	20.88	21.9	0-2
				836.5	20525	20.73	21.9	0-2
				847.5	20635	20.79	21.9	0-2
		15RB		825.5	20415	20.74	21.9	0-2
				836.5	20525	20.92	21.9	0-2
				847.5	20635	20.77	21.9	0-2

FDD Band 5 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	824.7	20407	20.52	21.9	0
				836.5	20525	20.72	21.9	0
				848.3	20643	20.43	21.9	0
			2	824.7	20407	20.45	21.9	0
				836.5	20525	20.71	21.9	0
				848.3	20643	20.45	21.9	0
			5	824.7	20407	20.75	21.9	0
				836.5	20525	20.73	21.9	0
				848.3	20643	20.48	21.9	0
		3 RB	0	824.7	20407	20.82	21.9	0
				836.5	20525	20.96	21.9	0
				848.3	20643	20.76	21.9	0
			2	824.7	20407	20.60	21.9	0
				836.5	20525	20.81	21.9	0
				848.3	20643	20.79	21.9	0
			3	824.7	20407	20.83	21.9	0
				836.5	20525	20.82	21.9	0
				848.3	20643	20.74	21.9	0
		6RB		824.7	20407	20.67	21.9	0-1
				836.5	20525	20.65	21.9	0-1
				848.3	20643	20.78	21.9	0-1
	16-QAM	1 RB	0	824.7	20407	20.74	21.9	0-1
				836.5	20525	20.72	21.9	0-1
				848.3	20643	20.79	21.9	0-1
			2	824.7	20407	20.42	21.9	0-1
				836.5	20525	20.13	21.9	0-1
				848.3	20643	20.87	21.9	0-1
			5	824.7	20407	21.19	21.9	0-1
				836.5	20525	20.26	21.9	0-1
				848.3	20643	20.63	21.9	0-1
		3 RB	0	824.7	20407	20.61	21.9	0-1
				836.5	20525	20.40	21.9	0-1
				848.3	20643	21.02	21.9	0-1
			2	824.7	20407	20.73	21.9	0-1
				836.5	20525	20.66	21.9	0-1
				848.3	20643	21.05	21.9	0-1
			3	824.7	20407	20.74	21.9	0-1
				836.5	20525	20.74	21.9	0-1
				848.3	20643	20.95	21.9	0-1
		6RB		824.7	20407	20.49	21.9	0-2
				836.5	20525	20.76	21.9	0-2
				848.3	20643	20.53	21.9	0-2

FDD Band 7 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	2510	20850	22.86	23.3	0
				2535	21100	22.80	23.3	0
				2560	21350	22.78	23.3	0
			50	2510	20850	23.30	23.3	0
				2535	21100	23.24	23.3	0
				2560	21350	23.25	23.3	0
			99	2510	20850	22.63	23.3	0
				2535	21100	22.79	23.3	0
				2560	21350	22.71	23.3	0
		50 RB	0	2510	20850	22.08	22.3	0-1
				2535	21100	22.09	22.3	0-1
				2560	21350	22.07	22.3	0-1
			25	2510	20850	22.06	22.3	0-1
				2535	21100	22.05	22.3	0-1
				2560	21350	21.96	22.3	0-1
			50	2510	20850	22.02	22.3	0-1
				2535	21100	22.01	22.3	0-1
				2560	21350	21.93	22.3	0-1
		100RB		2510	20850	21.92	22.3	0-1
				2535	21100	22.08	22.3	0-1
				2560	21350	21.97	22.3	0-1
	16-QAM	1 RB	0	2510	20850	21.01	22.3	0-1
				2535	21100	21.95	22.3	0-1
				2560	21350	21.56	22.3	0-1
			50	2510	20850	22.05	22.3	0-1
				2535	21100	22.12	22.3	0-1
				2560	21350	22.28	22.3	0-1
			99	2510	20850	21.83	22.3	0-1
				2535	21100	21.91	22.3	0-1
				2560	21350	21.72	22.3	0-1
		50 RB	0	2510	20850	21.10	21.3	0-2
				2535	21100	21.23	21.3	0-2
				2560	21350	21.03	21.3	0-2
			25	2510	20850	20.99	21.3	0-2
				2535	21100	21.08	21.3	0-2
				2560	21350	21.10	21.3	0-2
			50	2510	20850	21.10	21.3	0-2
				2535	21100	21.07	21.3	0-2
				2560	21350	21.04	21.3	0-2
		100RB		2510	20850	21.14	21.3	0-2
				2535	21100	21.11	21.3	0-2
				2560	21350	20.94	21.3	0-2

FDD Band 7 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	2507.5	20825	23.04	23.3	0
				2535	21100	22.94	23.3	0
				2562.5	21375	22.84	23.3	0
			36	2507.5	20825	23.00	23.3	0
				2535	21100	22.98	23.3	0
				2562.5	21375	22.86	23.3	0
			74	2507.5	20825	23.04	23.3	0
				2535	21100	23.00	23.3	0
				2562.5	21375	23.04	23.3	0
		36 RB	0	2507.5	20825	22.10	22.3	0-1
				2535	21100	22.06	22.3	0-1
				2562.5	21375	22.01	22.3	0-1
			18	2507.5	20825	22.08	22.3	0-1
				2535	21100	22.04	22.3	0-1
				2562.5	21375	22.01	22.3	0-1
			37	2507.5	20825	22.05	22.3	0-1
				2535	21100	22.15	22.3	0-1
				2562.5	21375	22.11	22.3	0-1
		75RB		2507.5	20825	22.14	22.3	0-1
				2535	21100	22.03	22.3	0-1
				2562.5	21375	21.98	22.3	0-1
	16-QAM	1 RB	0	2507.5	20825	22.09	22.3	0-1
				2535	21100	21.66	22.3	0-1
				2562.5	21375	21.39	22.3	0-1
			36	2507.5	20825	21.89	22.3	0-1
				2535	21100	21.79	22.3	0-1
				2562.5	21375	21.78	22.3	0-1
			74	2507.5	20825	22.02	22.3	0-1
				2535	21100	22.21	22.3	0-1
				2562.5	21375	21.91	22.3	0-1
		36 RB	0	2507.5	20825	21.04	21.3	0-2
				2535	21100	21.15	21.3	0-2
				2562.5	21375	20.98	21.3	0-2
			18	2507.5	20825	20.99	21.3	0-2
				2535	21100	21.01	21.3	0-2
				2562.5	21375	21.03	21.3	0-2
			37	2507.5	20825	21.09	21.3	0-2
				2535	21100	21.15	21.3	0-2
				2562.5	21375	21.03	21.3	0-2
		75RB		2507.5	20825	21.08	21.3	0-2
				2535	21100	21.27	21.3	0-2
				2562.5	21375	20.91	21.3	0-2

FDD Band 7 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	2505	20800	22.81	23.3	0
				2535	21100	22.97	23.3	0
				2565	21400	22.87	23.3	0
			25	2505	20800	22.70	23.3	0
				2535	21100	23.21	23.3	0
				2565	21400	23.14	23.3	0
			49	2505	20800	22.77	23.3	0
				2535	21100	22.95	23.3	0
				2565	21400	22.69	23.3	0
		25 RB	0	2505	20800	22.01	22.3	0-1
				2535	21100	22.02	22.3	0-1
				2565	21400	21.93	22.3	0-1
			12	2505	20800	22.03	22.3	0-1
				2535	21100	21.95	22.3	0-1
				2565	21400	22.01	22.3	0-1
			25	2505	20800	22.00	22.3	0-1
				2535	21100	21.97	22.3	0-1
				2565	21400	22.08	22.3	0-1
		50RB		2505	20800	21.99	22.3	0-1
				2535	21100	22.03	22.3	0-1
				2565	21400	21.92	22.3	0-1
	16-QAM	1 RB	0	2505	20800	22.14	22.3	0-1
				2535	21100	21.68	22.3	0-1
				2565	21400	22.04	22.3	0-1
			25	2505	20800	22.18	22.3	0-1
				2535	21100	22.15	22.3	0-1
				2565	21400	22.11	22.3	0-1
			49	2505	20800	21.93	22.3	0-1
				2535	21100	21.65	22.3	0-1
				2565	21400	21.78	22.3	0-1
		25 RB	0	2505	20800	21.11	21.3	0-2
				2535	21100	21.02	21.3	0-2
				2565	21400	21.09	21.3	0-2
			12	2505	20800	21.10	21.3	0-2
				2535	21100	21.10	21.3	0-2
				2565	21400	21.06	21.3	0-2
			25	2505	20800	21.02	21.3	0-2
				2535	21100	21.07	21.3	0-2
				2565	21400	21.12	21.3	0-2
		50RB		2505	20800	21.07	21.3	0-2
				2535	21100	21.08	21.3	0-2
				2565	21400	20.99	21.3	0-2

FDD Band 7 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	2502.5	20775	22.68	23.3	0
				2535	21100	22.47	23.3	0
				2567.5	21425	22.33	23.3	0
			12	2502.5	20775	23.26	23.3	0
				2535	21100	23.10	23.3	0
				2567.5	21425	23.08	23.3	0
			24	2502.5	20775	22.63	23.3	0
				2535	21100	22.68	23.3	0
				2567.5	21425	22.52	23.3	0
		12 RB	0	2502.5	20775	21.91	22.3	0-1
				2535	21100	22.03	22.3	0-1
				2567.5	21425	22.01	22.3	0-1
			6	2502.5	20775	22.01	22.3	0-1
				2535	21100	22.08	22.3	0-1
				2567.5	21425	21.93	22.3	0-1
			13	2502.5	20775	21.95	22.3	0-1
				2535	21100	22.03	22.3	0-1
				2567.5	21425	21.85	22.3	0-1
		25RB		2502.5	20775	22.00	22.3	0-1
				2535	21100	22.06	22.3	0-1
				2567.5	21425	21.87	22.3	0-1
	16-QAM	1 RB	0	2502.5	20775	21.71	22.3	0-1
				2535	21100	21.32	22.3	0-1
				2567.5	21425	21.90	22.3	0-1
			12	2502.5	20775	21.81	22.3	0-1
				2535	21100	22.04	22.3	0-1
				2567.5	21425	21.53	22.3	0-1
			24	2502.5	20775	21.63	22.3	0-1
				2535	21100	21.81	22.3	0-1
				2567.5	21425	21.36	22.3	0-1
		12 RB	0	2502.5	20775	21.02	21.3	0-2
				2535	21100	20.85	21.3	0-2
				2567.5	21425	20.79	21.3	0-2
			6	2502.5	20775	21.01	21.3	0-2
				2535	21100	21.20	21.3	0-2
				2567.5	21425	20.94	21.3	0-2
			13	2502.5	20775	21.24	21.3	0-2
				2535	21100	21.06	21.3	0-2
				2567.5	21425	20.85	21.3	0-2
		25RB		2502.5	20775	21.04	21.3	0-2
				2535	21100	21.11	21.3	0-2
				2567.5	21425	20.98	21.3	0-2

FDD Band 7 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
20	QPSK	1 RB	0	2510	20850	20.65	21.8	0
				2535	21100	20.78	21.8	0
				2560	21350	20.61	21.8	0
			50	2510	20850	21.45	21.8	0
				2535	21100	21.28	21.8	0
				2560	21350	21.12	21.8	0
			99	2510	20850	20.87	21.8	0
				2535	21100	20.79	21.8	0
				2560	21350	20.76	21.8	0
		50 RB	0	2510	20850	21.06	21.8	0
				2535	21100	21.08	21.8	0
				2560	21350	20.97	21.8	0
			25	2510	20850	21.01	21.8	0
				2535	21100	21.05	21.8	0
				2560	21350	20.98	21.8	0
			50	2510	20850	21.14	21.8	0
				2535	21100	21.07	21.8	0
				2560	21350	20.94	21.8	0
		100RB		2510	20850	20.99	21.8	0
				2535	21100	21.08	21.8	0
				2560	21350	20.97	21.8	0
	16-QAM	1 RB	0	2510	20850	20.47	21.8	0
				2535	21100	20.44	21.8	0
				2560	21350	20.77	21.8	0
			50	2510	20850	21.29	21.8	0
				2535	21100	21.41	21.8	0
				2560	21350	20.73	21.8	0
			99	2510	20850	20.79	21.8	0
				2535	21100	20.59	21.8	0
				2560	21350	20.98	21.8	0
		50 RB	0	2510	20850	21.21	21.8	0
				2535	21100	21.16	21.8	0
				2560	21350	21.07	21.8	0
			25	2510	20850	21.01	21.8	0
				2535	21100	21.10	21.8	0
				2560	21350	21.03	21.8	0
			50	2510	20850	21.05	21.8	0
				2535	21100	21.11	21.8	0
				2560	21350	21.01	21.8	0
		100RB		2510	20850	21.04	21.8	0
				2535	21100	21.12	21.8	0
				2560	21350	21.01	21.8	0

FDD Band 7 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
15	QPSK	1 RB	0	2507.5	20825	21.03	21.8	0
				2535	21100	20.90	21.8	0
				2562.5	21375	20.91	21.8	0
			36	2507.5	20825	21.10	21.8	0
				2535	21100	20.92	21.8	0
				2562.5	21375	20.88	21.8	0
			74	2507.5	20825	20.95	21.8	0
				2535	21100	20.84	21.8	0
				2562.5	21375	21.01	21.8	0
		36 RB	0	2507.5	20825	21.14	21.8	0
				2535	21100	21.12	21.8	0
				2562.5	21375	21.04	21.8	0
			18	2507.5	20825	21.03	21.8	0
				2535	21100	21.07	21.8	0
				2562.5	21375	20.98	21.8	0
			37	2507.5	20825	21.04	21.8	0
				2535	21100	21.02	21.8	0
				2562.5	21375	21.05	21.8	0
		75RB		2507.5	20825	21.05	21.8	0
				2535	21100	21.05	21.8	0
				2562.5	21375	21.03	21.8	0
	16-QAM	1 RB	0	2507.5	20825	21.23	21.8	0
				2535	21100	21.23	21.8	0
				2562.5	21375	20.82	21.8	0
			36	2507.5	20825	21.24	21.8	0
				2535	21100	20.49	21.8	0
				2562.5	21375	21.04	21.8	0
			74	2507.5	20825	20.86	21.8	0
				2535	21100	20.97	21.8	0
				2562.5	21375	20.79	21.8	0
		36 RB	0	2507.5	20825	20.99	21.8	0
				2535	21100	21.14	21.8	0
				2562.5	21375	20.97	21.8	0
			18	2507.5	20825	21.10	21.8	0
				2535	21100	21.08	21.8	0
				2562.5	21375	21.03	21.8	0
			37	2507.5	20825	21.07	21.8	0
				2535	21100	21.07	21.8	0
				2562.5	21375	21.09	21.8	0
		75RB		2507.5	20825	21.26	21.8	0
				2535	21100	21.22	21.8	0
				2562.5	21375	21.02	21.8	0

FDD Band 7 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	2505	20800	20.80	21.8	0
				2535	21100	20.81	21.8	0
				2565	21400	20.81	21.8	0
			25	2505	20800	21.14	21.8	0
				2535	21100	21.18	21.8	0
				2565	21400	21.13	21.8	0
			49	2505	20800	20.87	21.8	0
				2535	21100	20.81	21.8	0
				2565	21400	20.79	21.8	0
		25 RB	0	2505	20800	21.06	21.8	0
				2535	21100	21.11	21.8	0
				2565	21400	21.04	21.8	0
			12	2505	20800	21.09	21.8	0
				2535	21100	21.11	21.8	0
				2565	21400	21.04	21.8	0
			25	2505	20800	21.04	21.8	0
				2535	21100	21.04	21.8	0
				2565	21400	21.08	21.8	0
		50RB		2505	20800	21.07	21.8	0
				2535	21100	21.06	21.8	0
				2565	21400	21.02	21.8	0
	16-QAM	1 RB	0	2505	20800	20.73	21.8	0
				2535	21100	20.85	21.8	0
				2565	21400	21.06	21.8	0
			25	2505	20800	20.69	21.8	0
				2535	21100	21.02	21.8	0
				2565	21400	21.37	21.8	0
			49	2505	20800	20.53	21.8	0
				2535	21100	20.59	21.8	0
				2565	21400	21.15	21.8	0
		25 RB	0	2505	20800	21.07	21.8	0
				2535	21100	21.02	21.8	0
				2565	21400	20.99	21.8	0
			12	2505	20800	21.08	21.8	0
				2535	21100	21.02	21.8	0
				2565	21400	21.38	21.8	0
			25	2505	20800	21.07	21.8	0
				2535	21100	21.25	21.8	0
				2565	21400	20.96	21.8	0
		50RB		2505	20800	21.13	21.8	0
				2535	21100	21.16	21.8	0
				2565	21400	21.04	21.8	0

FDD Band 7 - Main antenna (Hotspot On)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	2502.5	20775	20.97	21.8	0
				2535	21100	20.79	21.8	0
				2567.5	21425	20.77	21.8	0
			12	2502.5	20775	21.16	21.8	0
				2535	21100	21.07	21.8	0
				2567.5	21425	21.41	21.8	0
			24	2502.5	20775	20.65	21.8	0
				2535	21100	20.77	21.8	0
				2567.5	21425	20.59	21.8	0
		12 RB	0	2502.5	20775	21.02	21.8	0
				2535	21100	21.12	21.8	0
				2567.5	21425	20.98	21.8	0
			6	2502.5	20775	20.98	21.8	0
				2535	21100	21.14	21.8	0
				2567.5	21425	21.05	21.8	0
			13	2502.5	20775	21.03	21.8	0
				2535	21100	21.08	21.8	0
				2567.5	21425	21.01	21.8	0
		25RB		2502.5	20775	21.05	21.8	0
				2535	21100	21.10	21.8	0
				2567.5	21425	20.91	21.8	0
	16-QAM	1 RB	0	2502.5	20775	20.82	21.8	0
				2535	21100	20.70	21.8	0
				2567.5	21425	20.75	21.8	0
			12	2502.5	20775	20.74	21.8	0
				2535	21100	20.57	21.8	0
				2567.5	21425	20.48	21.8	0
			24	2502.5	20775	20.70	21.8	0
				2535	21100	21.09	21.8	0
				2567.5	21425	20.31	21.8	0
		12 RB	0	2502.5	20775	21.01	21.8	0
				2535	21100	20.92	21.8	0
				2567.5	21425	20.85	21.8	0
			6	2502.5	20775	20.98	21.8	0
				2535	21100	21.12	21.8	0
				2567.5	21425	21.04	21.8	0
			13	2502.5	20775	21.12	21.8	0
				2535	21100	21.15	21.8	0
				2567.5	21425	20.81	21.8	0
		25RB		2502.5	20775	20.99	21.8	0
				2535	21100	21.07	21.8	0
				2567.5	21425	21.01	21.8	0

FDD Band 12 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	704	23060	22.57	23.6	0
				707.5	23095	22.43	23.6	0
				711	23130	22.45	23.6	0
			25	704	23060	22.81	23.6	0
				707.5	23095	22.99	23.6	0
				711	23130	23.25	23.6	0
			49	704	23060	22.76	23.6	0
				707.5	23095	22.69	23.6	0
				711	23130	22.75	23.6	0
		25 RB	0	704	23060	21.98	22.6	0-1
				707.5	23095	21.95	22.6	0-1
				711	23130	21.87	22.6	0-1
			12	704	23060	21.92	22.6	0-1
				707.5	23095	21.85	22.6	0-1
				711	23130	21.91	22.6	0-1
			25	704	23060	21.97	22.6	0-1
				707.5	23095	21.89	22.6	0-1
				711	23130	21.93	22.6	0-1
		50RB		704	23060	21.92	22.6	0-1
				707.5	23095	21.90	22.6	0-1
				711	23130	21.89	22.6	0-1
	16-QAM	1 RB	0	704	23060	22.16	22.6	0-1
				707.5	23095	21.87	22.6	0-1
				711	23130	21.95	22.6	0-1
			25	704	23060	21.93	22.6	0-1
				707.5	23095	21.75	22.6	0-1
				711	23130	21.83	22.6	0-1
			49	704	23060	21.98	22.6	0-1
				707.5	23095	21.54	22.6	0-1
				711	23130	21.62	22.6	0-1
		25 RB	0	704	23060	21.24	21.6	0-2
				707.5	23095	21.02	21.6	0-2
				711	23130	20.95	21.6	0-2
			12	704	23060	20.84	21.6	0-2
				707.5	23095	20.93	21.6	0-2
				711	23130	20.95	21.6	0-2
			25	704	23060	21.18	21.6	0-2
				707.5	23095	20.85	21.6	0-2
				711	23130	21.03	21.6	0-2
		50RB		704	23060	20.94	21.6	0-2
				707.5	23095	20.88	21.6	0-2
				711	23130	20.93	21.6	0-2

FDD Band 12 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	701.5	23035	22.68	23.6	0
				707.5	23095	22.51	23.6	0
				713.5	23155	22.39	23.6	0
			12	701.5	23035	22.88	23.6	0
				707.5	23095	23.16	23.6	0
				713.5	23155	23.12	23.6	0
			24	701.5	23035	22.49	23.6	0
				707.5	23095	22.65	23.6	0
				713.5	23155	22.84	23.6	0
		12 RB	0	701.5	23035	21.86	22.6	0-1
				707.5	23095	22.00	22.6	0-1
				713.5	23155	21.94	22.6	0-1
			6	701.5	23035	21.99	22.6	0-1
				707.5	23095	21.96	22.6	0-1
				713.5	23155	21.88	22.6	0-1
			13	701.5	23035	21.94	22.6	0-1
				707.5	23095	21.93	22.6	0-1
				713.5	23155	21.90	22.6	0-1
		25RB		701.5	23035	21.98	22.6	0-1
				707.5	23095	21.93	22.6	0-1
				713.5	23155	21.84	22.6	0-1
	16-QAM	1 RB	0	701.5	23035	21.83	22.6	0-1
				707.5	23095	21.77	22.6	0-1
				713.5	23155	21.65	22.6	0-1
			12	701.5	23035	22.15	22.6	0-1
				707.5	23095	21.80	22.6	0-1
				713.5	23155	21.83	22.6	0-1
			24	701.5	23035	21.61	22.6	0-1
				707.5	23095	21.47	22.6	0-1
				713.5	23155	21.73	22.6	0-1
		12 RB	0	701.5	23035	20.96	21.6	0-2
				707.5	23095	20.87	21.6	0-2
				713.5	23155	20.85	21.6	0-2
			6	701.5	23035	20.93	21.6	0-2
				707.5	23095	21.02	21.6	0-2
				713.5	23155	20.99	21.6	0-2
			13	701.5	23035	20.90	21.6	0-2
				707.5	23095	20.94	21.6	0-2
				713.5	23155	21.03	21.6	0-2
		25RB		701.5	23035	20.84	21.6	0-2
				707.5	23095	20.94	21.6	0-2
				713.5	23155	20.95	21.6	0-2

FDD Band 12 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	700.5	23025	22.62	23.6	0
				707.5	23095	22.51	23.6	0
				714.5	23165	22.99	23.6	0
			7	700.5	23025	22.81	23.6	0
				707.5	23095	22.71	23.6	0
				714.5	23165	23.02	23.6	0
			14	700.5	23025	22.60	23.6	0
				707.5	23095	22.83	23.6	0
				714.5	23165	23.19	23.6	0
		8 RB	0	700.5	23025	22.11	22.6	0-1
				707.5	23095	21.99	22.6	0-1
				714.5	23165	21.94	22.6	0-1
			4	700.5	23025	21.94	22.6	0-1
				707.5	23095	21.89	22.6	0-1
				714.5	23165	21.97	22.6	0-1
			7	700.5	23025	21.99	22.6	0-1
				707.5	23095	21.96	22.6	0-1
				714.5	23165	21.89	22.6	0-1
		15RB		700.5	23025	22.01	22.6	0-1
				707.5	23095	21.90	22.6	0-1
				714.5	23165	21.92	22.6	0-1
	16-QAM	1 RB	0	700.5	23025	21.40	22.6	0-1
				707.5	23095	21.73	22.6	0-1
				714.5	23165	22.03	22.6	0-1
			7	700.5	23025	21.98	22.6	0-1
				707.5	23095	21.41	22.6	0-1
				714.5	23165	21.64	22.6	0-1
			14	700.5	23025	21.73	22.6	0-1
				707.5	23095	21.64	22.6	0-1
				714.5	23165	21.86	22.6	0-1
		8 RB	0	700.5	23025	20.60	21.6	0-2
				707.5	23095	20.94	21.6	0-2
				714.5	23165	20.69	21.6	0-2
			4	700.5	23025	20.81	21.6	0-2
				707.5	23095	21.03	21.6	0-2
				714.5	23165	21.02	21.6	0-2
			7	700.5	23025	21.11	21.6	0-2
				707.5	23095	20.98	21.6	0-2
				714.5	23165	21.03	21.6	0-2
		15RB		700.5	23025	20.97	21.6	0-2
				707.5	23095	21.11	21.6	0-2
				714.5	23165	21.00	21.6	0-2

FDD Band 12 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	699.7	23017	22.72	23.6	0
				707.5	23095	22.79	23.6	0
				715.3	23173	22.74	23.6	0
			2	699.7	23017	22.84	23.6	0
				707.5	23095	22.83	23.6	0
				715.3	23173	22.69	23.6	0
			5	699.7	23017	22.90	23.6	0
				707.5	23095	22.78	23.6	0
				715.3	23173	22.67	23.6	0
		3 RB	0	699.7	23017	22.96	23.6	0
				707.5	23095	22.82	23.6	0
				715.3	23173	22.77	23.6	0
			2	699.7	23017	23.08	23.6	0
				707.5	23095	22.93	23.6	0
				715.3	23173	22.74	23.6	0
			3	699.7	23017	23.13	23.6	0
				707.5	23095	22.95	23.6	0
				715.3	23173	22.86	23.6	0
		6RB		699.7	23017	21.96	22.6	0-1
				707.5	23095	21.81	22.6	0-1
				715.3	23173	21.93	22.6	0-1
	16-QAM	1 RB	0	699.7	23017	21.62	22.6	0-1
				707.5	23095	21.98	22.6	0-1
				715.3	23173	21.98	22.6	0-1
			2	699.7	23017	21.83	22.6	0-1
				707.5	23095	21.63	22.6	0-1
				715.3	23173	21.77	22.6	0-1
			5	699.7	23017	21.85	22.6	0-1
				707.5	23095	21.26	22.6	0-1
				715.3	23173	22.11	22.6	0-1
		3 RB	0	699.7	23017	21.70	22.6	0-1
				707.5	23095	21.90	22.6	0-1
				715.3	23173	21.73	22.6	0-1
			2	699.7	23017	21.86	22.6	0-1
				707.5	23095	21.66	22.6	0-1
				715.3	23173	22.04	22.6	0-1
			3	699.7	23017	21.76	22.6	0-1
				707.5	23095	21.53	22.6	0-1
				715.3	23173	21.86	22.6	0-1
		6RB		699.7	23017	20.90	21.6	0-2
				707.5	23095	20.87	21.6	0-2
				715.3	23173	20.93	21.6	0-2

FDD Band 12 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	704	23060	22.69	23.6	0
				707.5	23095	22.11	23.6	0
				711	23130	22.33	23.6	0
			25	704	23060	22.70	23.6	0
				707.5	23095	22.36	23.6	0
				711	23130	23.02	23.6	0
			49	704	23060	22.27	23.6	0
				707.5	23095	22.44	23.6	0
				711	23130	22.21	23.6	0
		25 RB	0	704	23060	21.62	22.6	0-1
				707.5	23095	21.76	22.6	0-1
				711	23130	21.68	22.6	0-1
			12	704	23060	21.61	22.6	0-1
				707.5	23095	21.65	22.6	0-1
				711	23130	21.66	22.6	0-1
			25	704	23060	21.70	22.6	0-1
				707.5	23095	21.63	22.6	0-1
				711	23130	21.67	22.6	0-1
		50RB		704	23060	21.62	22.6	0-1
				707.5	23095	21.68	22.6	0-1
				711	23130	21.74	22.6	0-1
	16-QAM	1 RB	0	704	23060	21.74	22.6	0-1
				707.5	23095	21.14	22.6	0-1
				711	23130	21.35	22.6	0-1
			25	704	23060	21.95	22.6	0-1
				707.5	23095	21.34	22.6	0-1
				711	23130	21.91	22.6	0-1
			49	704	23060	21.38	22.6	0-1
				707.5	23095	21.87	22.6	0-1
				711	23130	21.09	22.6	0-1
		25 RB	0	704	23060	20.52	21.6	0-2
				707.5	23095	20.69	21.6	0-2
				711	23130	20.56	21.6	0-2
			12	704	23060	20.66	21.6	0-2
				707.5	23095	20.62	21.6	0-2
				711	23130	20.48	21.6	0-2
			25	704	23060	20.73	21.6	0-2
				707.5	23095	20.61	21.6	0-2
				711	23130	20.70	21.6	0-2
		50RB		704	23060	20.59	21.6	0-2
				707.5	23095	20.67	21.6	0-2
				711	23130	20.63	21.6	0-2

FDD Band 12 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	701.5	23035	22.30	23.6	0
				707.5	23095	22.12	23.6	0
				713.5	23155	22.63	23.6	0
			12	701.5	23035	22.88	23.6	0
				707.5	23095	22.96	23.6	0
				713.5	23155	22.94	23.6	0
			24	701.5	23035	22.27	23.6	0
				707.5	23095	22.45	23.6	0
				713.5	23155	22.30	23.6	0
		12 RB	0	701.5	23035	21.57	22.6	0-1
				707.5	23095	21.65	22.6	0-1
				713.5	23155	21.71	22.6	0-1
			6	701.5	23035	21.75	22.6	0-1
				707.5	23095	21.67	22.6	0-1
				713.5	23155	21.73	22.6	0-1
			13	701.5	23035	21.69	22.6	0-1
				707.5	23095	21.58	22.6	0-1
				713.5	23155	21.66	22.6	0-1
		25RB		701.5	23035	21.74	22.6	0-1
				707.5	23095	21.54	22.6	0-1
				713.5	23155	21.59	22.6	0-1
	16-QAM	1 RB	0	701.5	23035	21.47	22.6	0-1
				707.5	23095	21.55	22.6	0-1
				713.5	23155	21.23	22.6	0-1
			12	701.5	23035	20.98	22.6	0-1
				707.5	23095	21.19	22.6	0-1
				713.5	23155	21.70	22.6	0-1
			24	701.5	23035	21.37	22.6	0-1
				707.5	23095	21.31	22.6	0-1
				713.5	23155	21.70	22.6	0-1
		12 RB	0	701.5	23035	20.69	21.6	0-2
				707.5	23095	20.51	21.6	0-2
				713.5	23155	20.62	21.6	0-2
			6	701.5	23035	20.76	21.6	0-2
				707.5	23095	20.57	21.6	0-2
				713.5	23155	20.83	21.6	0-2
			13	701.5	23035	20.65	21.6	0-2
				707.5	23095	20.59	21.6	0-2
				713.5	23155	20.73	21.6	0-2
		25RB		701.5	23035	20.87	21.6	0-2
				707.5	23095	20.63	21.6	0-2
				713.5	23155	20.70	21.6	0-2

FDD Band 12 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
3	QPSK	1 RB	0	700.5	23025	22.50	23.6	0
				707.5	23095	22.59	23.6	0
				714.5	23165	22.34	23.6	0
			7	700.5	23025	22.99	23.6	0
				707.5	23095	22.85	23.6	0
				714.5	23165	22.78	23.6	0
			14	700.5	23025	22.18	23.6	0
				707.5	23095	22.50	23.6	0
				714.5	23165	22.66	23.6	0
		8 RB	0	700.5	23025	21.82	22.6	0-1
				707.5	23095	21.72	22.6	0-1
				714.5	23165	21.61	22.6	0-1
			4	700.5	23025	21.80	22.6	0-1
				707.5	23095	21.67	22.6	0-1
				714.5	23165	21.68	22.6	0-1
			7	700.5	23025	21.72	22.6	0-1
				707.5	23095	21.64	22.6	0-1
				714.5	23165	21.73	22.6	0-1
		15RB		700.5	23025	21.67	22.6	0-1
				707.5	23095	21.62	22.6	0-1
				714.5	23165	21.70	22.6	0-1
	16-QAM	1 RB	0	700.5	23025	21.49	22.6	0-1
				707.5	23095	21.22	22.6	0-1
				714.5	23165	21.39	22.6	0-1
			7	700.5	23025	21.22	22.6	0-1
				707.5	23095	21.63	22.6	0-1
				714.5	23165	21.36	22.6	0-1
			14	700.5	23025	21.52	22.6	0-1
				707.5	23095	21.52	22.6	0-1
				714.5	23165	21.89	22.6	0-1
		8 RB	0	700.5	23025	20.93	21.6	0-2
				707.5	23095	20.41	21.6	0-2
				714.5	23165	20.44	21.6	0-2
			4	700.5	23025	20.81	21.6	0-2
				707.5	23095	20.43	21.6	0-2
				714.5	23165	20.69	21.6	0-2
			7	700.5	23025	20.66	21.6	0-2
				707.5	23095	20.67	21.6	0-2
				714.5	23165	20.78	21.6	0-2
		15RB		700.5	23025	20.65	21.6	0-2
				707.5	23095	20.59	21.6	0-2
				714.5	23165	20.53	21.6	0-2

FDD Band 12 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
1.4	QPSK	1 RB	0	699.7	23017	22.42	23.6	0
				707.5	23095	22.67	23.6	0
				715.3	23173	22.70	23.6	0
			2	699.7	23017	22.61	23.6	0
				707.5	23095	22.86	23.6	0
				715.3	23173	22.70	23.6	0
			5	699.7	23017	22.70	23.6	0
				707.5	23095	22.52	23.6	0
				715.3	23173	22.59	23.6	0
		3 RB	0	699.7	23017	22.73	23.6	0
				707.5	23095	22.74	23.6	0
				715.3	23173	22.50	23.6	0
			2	699.7	23017	22.69	23.6	0
				707.5	23095	22.59	23.6	0
				715.3	23173	22.72	23.6	0
			3	699.7	23017	22.79	23.6	0
				707.5	23095	22.65	23.6	0
				715.3	23173	22.67	23.6	0
		6RB		699.7	23017	21.63	22.6	0-1
				707.5	23095	21.55	22.6	0-1
				715.3	23173	21.66	22.6	0-1
	16-QAM	1 RB	0	699.7	23017	21.38	22.6	0-1
				707.5	23095	21.37	22.6	0-1
				715.3	23173	21.59	22.6	0-1
			2	699.7	23017	21.67	22.6	0-1
				707.5	23095	21.35	22.6	0-1
				715.3	23173	21.77	22.6	0-1
			5	699.7	23017	21.57	22.6	0-1
				707.5	23095	21.55	22.6	0-1
				715.3	23173	21.74	22.6	0-1
		3 RB	0	699.7	23017	21.78	22.6	0-1
				707.5	23095	21.68	22.6	0-1
				715.3	23173	21.31	22.6	0-1
			2	699.7	23017	21.61	22.6	0-1
				707.5	23095	21.67	22.6	0-1
				715.3	23173	21.54	22.6	0-1
			3	699.7	23017	21.83	22.6	0-1
				707.5	23095	21.45	22.6	0-1
				715.3	23173	21.19	22.6	0-1
		6RB		699.7	23017	20.74	21.6	0-2
				707.5	23095	20.25	21.6	0-2
				715.3	23173	20.36	21.6	0-2

FDD Band 17- Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	709	23780	22.49	23.6	0
				710	23790	22.29	23.6	0
				711	23800	22.32	23.6	0
			25	709	23780	22.81	23.6	0
				710	23790	22.96	23.6	0
				711	23800	22.51	23.6	0
			49	709	23780	22.59	23.6	0
				710	23790	22.38	23.6	0
				711	23800	22.63	23.6	0
		25 RB	0	709	23780	21.91	22.6	0-1
				710	23790	21.77	22.6	0-1
				711	23800	21.75	22.6	0-1
			12	709	23780	21.72	22.6	0-1
				710	23790	21.78	22.6	0-1
				711	23800	21.76	22.6	0-1
			25	709	23780	21.85	22.6	0-1
				710	23790	21.79	22.6	0-1
				711	23800	21.71	22.6	0-1
		50RB		709	23780	21.78	22.6	0-1
				710	23790	21.79	22.6	0-1
				711	23800	21.72	22.6	0-1
	16-QAM	1 RB	0	709	23780	21.76	22.6	0-1
				710	23790	21.35	22.6	0-1
				711	23800	21.46	22.6	0-1
			25	709	23780	22.22	22.6	0-1
				710	23790	22.36	22.6	0-1
				711	23800	21.70	22.6	0-1
			49	709	23780	21.90	22.6	0-1
				710	23790	21.88	22.6	0-1
				711	23800	21.24	22.6	0-1
		25 RB	0	709	23780	20.93	21.6	0-2
				710	23790	20.86	21.6	0-2
				711	23800	20.65	21.6	0-2
			12	709	23780	20.75	21.6	0-2
				710	23790	20.88	21.6	0-2
				711	23800	20.86	21.6	0-2
			25	709	23780	20.95	21.6	0-2
				710	23790	20.74	21.6	0-2
				711	23800	20.85	21.6	0-2
		50RB		709	23780	20.95	21.6	0-2
				710	23790	20.71	21.6	0-2
				711	23800	20.71	21.6	0-2

FDD Band 17 - Main antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	706.5	23755	22.27	23.6	0
				710	23790	22.35	23.6	0
				713.5	23825	22.27	23.6	0
			12	706.5	23755	22.93	23.6	0
				710	23790	22.44	23.6	0
				713.5	23825	22.79	23.6	0
			24	706.5	23755	22.34	23.6	0
				710	23790	22.28	23.6	0
				713.5	23825	22.19	23.6	0
		12 RB	0	706.5	23755	21.73	22.6	0-1
				710	23790	21.70	22.6	0-1
				713.5	23825	21.65	22.6	0-1
			6	706.5	23755	21.84	22.6	0-1
				710	23790	21.74	22.6	0-1
				713.5	23825	21.79	22.6	0-1
			13	706.5	23755	21.86	22.6	0-1
				710	23790	21.70	22.6	0-1
				713.5	23825	21.79	22.6	0-1
		25RB		706.5	23755	21.87	22.6	0-1
				710	23790	21.71	22.6	0-1
				713.5	23825	21.65	22.6	0-1
	16-QAM	1 RB	0	706.5	23755	21.37	22.6	0-1
				710	23790	21.51	22.6	0-1
				713.5	23825	21.39	22.6	0-1
			12	706.5	23755	21.31	22.6	0-1
				710	23790	21.45	22.6	0-1
				713.5	23825	21.13	22.6	0-1
			24	706.5	23755	21.72	22.6	0-1
				710	23790	21.38	22.6	0-1
				713.5	23825	21.73	22.6	0-1
		12 RB	0	706.5	23755	20.83	21.6	0-2
				710	23790	20.49	21.6	0-2
				713.5	23825	20.49	21.6	0-2
			6	706.5	23755	20.94	21.6	0-2
				710	23790	20.76	21.6	0-2
				713.5	23825	20.74	21.6	0-2
			13	706.5	23755	20.77	21.6	0-2
				710	23790	20.58	21.6	0-2
				713.5	23825	20.59	21.6	0-2
		25RB		706.5	23755	20.93	21.6	0-2
				710	23790	20.50	21.6	0-2
				713.5	23825	20.57	21.6	0-2

FDD Band 17 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
10	QPSK	1 RB	0	709	23780	22.25	23.6	0
				710	23790	22.08	23.6	0
				711	23800	22.02	23.6	0
			25	709	23780	22.71	23.6	0
				710	23790	22.49	23.6	0
				711	23800	22.20	23.6	0
			49	709	23780	22.35	23.6	0
				710	23790	22.14	23.6	0
				711	23800	22.19	23.6	0
		25 RB	0	709	23780	21.64	22.6	0-1
				710	23790	21.43	22.6	0-1
				711	23800	21.50	22.6	0-1
			12	709	23780	21.55	22.6	0-1
				710	23790	21.44	22.6	0-1
				711	23800	21.47	22.6	0-1
			25	709	23780	21.54	22.6	0-1
				710	23790	21.45	22.6	0-1
				711	23800	21.49	22.6	0-1
		50RB		709	23780	21.59	22.6	0-1
				710	23790	21.49	22.6	0-1
				711	23800	21.47	22.6	0-1
	16-QAM	1 RB	0	709	23780	21.08	22.6	0-1
				710	23790	20.87	22.6	0-1
				711	23800	21.15	22.6	0-1
			25	709	23780	21.03	22.6	0-1
				710	23790	21.32	22.6	0-1
				711	23800	21.54	22.6	0-1
			49	709	23780	21.23	22.6	0-1
				710	23790	21.23	22.6	0-1
				711	23800	21.20	22.6	0-1
		25 RB	0	709	23780	20.69	21.6	0-2
				710	23790	20.53	21.6	0-2
				711	23800	20.58	21.6	0-2
			12	709	23780	20.60	21.6	0-2
				710	23790	20.52	21.6	0-2
				711	23800	20.56	21.6	0-2
			25	709	23780	20.43	21.6	0-2
				710	23790	20.72	21.6	0-2
				711	23800	20.46	21.6	0-2
		50RB		709	23780	20.44	21.6	0-2
				710	23790	20.51	21.6	0-2
				711	23800	20.39	21.6	0-2

FDD Band 17 - Sub antenna (Only)								
BW(Mhz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel	Conducted power (dBm)	Target Power + Max. Tolerance (dBm)	MPR Allowed per 3GPP(dB)
5	QPSK	1 RB	0	706.5	23755	21.83	23.6	0
				710	23790	22.28	23.6	0
				713.5	23825	22.15	23.6	0
			12	706.5	23755	22.34	23.6	0
				710	23790	22.51	23.6	0
				713.5	23825	22.57	23.6	0
			24	706.5	23755	22.42	23.6	0
				710	23790	21.87	23.6	0
				713.5	23825	22.03	23.6	0
		12 RB	0	706.5	23755	21.45	22.6	0-1
				710	23790	21.37	22.6	0-1
				713.5	23825	21.45	22.6	0-1
			6	706.5	23755	21.63	22.6	0-1
				710	23790	21.38	22.6	0-1
				713.5	23825	21.46	22.6	0-1
			13	706.5	23755	21.59	22.6	0-1
				710	23790	21.36	22.6	0-1
				713.5	23825	21.48	22.6	0-1
		25RB		706.5	23755	21.52	22.6	0-1
				710	23790	21.42	22.6	0-1
				713.5	23825	21.43	22.6	0-1
	16-QAM	1 RB	0	706.5	23755	21.35	22.6	0-1
				710	23790	21.41	22.6	0-1
				713.5	23825	21.24	22.6	0-1
			12	706.5	23755	21.03	22.6	0-1
				710	23790	21.64	22.6	0-1
				713.5	23825	20.76	22.6	0-1
			24	706.5	23755	21.15	22.6	0-1
				710	23790	21.16	22.6	0-1
				713.5	23825	21.17	22.6	0-1
		12 RB	0	706.5	23755	20.43	21.6	0-2
				710	23790	20.24	21.6	0-2
				713.5	23825	20.26	21.6	0-2
			6	706.5	23755	20.37	21.6	0-2
				710	23790	20.58	21.6	0-2
				713.5	23825	20.58	21.6	0-2
			13	706.5	23755	20.50	21.6	0-2
				710	23790	20.29	21.6	0-2
				713.5	23825	20.49	21.6	0-2
		25RB		706.5	23755	20.70	21.6	0-2
				710	23790	20.55	21.6	0-2
				713.5	23825	20.31	21.6	0-2

LTE CA conducted power table:

Two Component Carrier Maximum Conducted Power																
PCC									SCC				Power			
PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	PCC (DL) Channel	PCC (DL) Frequency [MHz]	LTE Rel 10 Tx.Power (dBm)	LTE Rel 8 Tx.Power (dBm)	Configurations	Antenna
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	20	898	1959.8	21.32	22.34	CA_2C	Main (Full power)
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	15	871	1957.1	21.44	22.34	CA_2C	
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	10	844	1954.4	21.66	22.34	CA_2C	
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	5	817	1951.7	21.08	22.34	CA_2C	
LTE B2	15	18675	1857.5	QPSK	1	36	675	1937.5	LTE B2	15	825	1952.5	21.35	22.51	CA_2C	
LTE B2	15	18675	1857.5	QPSK	1	36	675	1937.5	LTE B2	10	795	1949.5	21.64	22.51	CA_2C	
LTE B4	10	20000	1745	QPSK	1	25	2000	2115	LTE B17	10	5790	740	22.68	23.42	CA_4A-17A	
LTE B4	20	18900	1880	QPSK	1	50	900	1960	LTE B28	20	9435	780.5	22.01	22.74	CA_4A-28A	
LTE B4	20	20050	1720	QPSK	1	50	2050	2120	LTE B4	5	2375	2152.5	22.18	23.28	CA_4A-4A	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B28	15	9435	780.5	22.14	23.30	CA_7A-28A	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B7	20	3048	2649.8	21.94	23.30	CA_7C	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B7	15	3021	2647.1	22.42	23.30	CA_7C	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B7	10	2994	2644.4	22.18	23.30	CA_7C	
LTE B7	20	21350	2560	QPSK	1	50	3350	2680	LTE B7	15	3179	2662.9	22.14	23.25	CA_7C	
LTE B7	20	21350	2560	QPSK	1	50	3350	2680	LTE B7	10	3206	2665.6	21.88	23.25	CA_7C	
LTE B7	15	20825	2507.5	QPSK	1	0	2825	2627.5	LTE B7	15	3021	2647.1	22.06	23.04	CA_7C	
LTE B7	15	21375	2562.5	QPSK	1	74	3375	2682.5	LTE B7	15	3225	2667.5	21.97	23.04	CA_7C	
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	20	898	1959.8	19.33	20.41	CA_2C	Main (Reduction power)
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	15	871	1957.1	19.24	20.41	CA_2C	
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	10	844	1954.4	19.15	20.41	CA_2C	
LTE B2	20	18700	1860	QPSK	1	50	700	1940	LTE B2	5	817	1951.7	19.39	20.41	CA_2C	
LTE B2	15	18675	1857.5	QPSK	1	36	675	1937.5	LTE B2	15	825	1952.5	19.04	20.03	CA_2C	
LTE B2	15	18675	1857.5	QPSK	1	36	675	1937.5	LTE B2	10	795	1949.5	19.18	20.03	CA_2C	
LTE B4	10	20350	1750	QPSK	1	25	2350	2150	LTE B17	10	5790	740	21.21	22.44	CA_4A-17A	
LTE B4	20	20300	1745	QPSK	1	99	2300	2145	LTE B28	20	9435	780.5	21.14	22.65	CA_4A-28A	
LTE B4	20	20050	1720	QPSK	1	50	2050	2120	LTE B4	5	2375	2152.5	21.49	22.30	CA_4A-4A	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B28	15	9435	780.5	20.66	21.45	CA_7A-28A	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B7	20	3048	2649.8	20.41	21.45	CA_7C	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B7	15	3021	2647.1	21.01	21.45	CA_7C	
LTE B7	20	20850	2510	QPSK	1	50	2850	2630	LTE B7	10	2994	2644.4	20.33	21.45	CA_7C	
LTE B7	20	21350	2560	QPSK	1	50	3350	2680	LTE B7	20	3048	2649.8	20.11	21.12	CA_7C	
LTE B7	20	21350	2560	QPSK	1	50	3350	2680	LTE B7	15	3021	2647.1	20.04	21.12	CA_7C	
LTE B7	15	20825	2507.5	16QAM	75	0	2825	2627.5	LTE B7	15	3021	2647.1	19.44	21.26	CA_7C	
LTE B7	15	21375	2562.5	16QAM	36	37	3375	2682.5	LTE B7	15	3225	2667.5	19.12	21.09	CA_7C	

LTE CA information

A) The device supports downlink Release 10 LTE Carrier Aggregation (CA) only. It supports a maximum of 2 carriers in the downlink. Other Release 10 features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V14.0.0. The conducted power measurement results of downlink LTE CA are provided in Section 7 of this report 3GPP TS 36.521-1 V13.2.0. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required

B) i) Combinations supported for intra-band aggregation.

Table 1: contiguous intra-band CA

E-UTRA CA configuration / Bandwidth combination set					
E-UTRA CA configuration	**Component carriers in order of increasing carrier frequency**			**Maximum aggregated bandwidth [MHz]**	**Bandwidth combination set**
	Channel bandwidths for carrier [MHz]	**Channel bandwidths for carrier [MHz]**	**Channel bandwidths for carrier [MHz]**		
CA_2C	5	20		40	0
	10	15, 20			
	15	10, 15, 20			
	20	5, 10, 15, 20			
CA_7C	15	15		40	0
	20	20			
	10	20		40	1
	15	15, 20			
	20	10, 15, 20			

Table 2: non-contiguous intra-band CA (with two sub-blocks)

-UTRACA configuration	**Component carriers in order of increasing carrier frequency**			**Maximum aggregated bandwidth [MHz]**	**Bandwidth combination set**
	Channel bandwidths for carrier [MHz]	**Channel bandwidths for carrier [MHz]**	**Channel bandwidths for carrier [MHz]**		
CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20		40	0

ii) The frequency band combinations supported for inter-band carrier aggregation.

Table 2: inter-band CA (two bands)

E-UTRA CA Configuration	**E-UTRA Bands**	**1.4 MHz**	**3 MHz**	**5 MHz**	**10 MHz**	**15 MHz**	**20 MHz**	**Maximum aggregated bandwidth [MHz]**	**Bandwidth combination set**
CA_4A-17A	4			Yes	Yes			20	0
	17			Yes	Yes				
CA_4A-28A	4			Yes	Yes	Yes	Yes	40	0
	28			Yes	Yes	Yes	Yes		
CA_7A-28A	7			Yes	Yes	Yes	Yes	35	0
	28			Yes	Yes	Yes			

Note:

1) For the inter-band CA combinations, except CA_4A-17A, B17 can not be PCC. Other the listed bands above can be used as PCC or SCC.
2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V14.0.0
3) The reference test frequencies for CA refers to 3GPP TS 36.521-1 V13.2.0

WLAN802.11 b/g/n(20M) conducted power table:

2.4GHz (Only)

802.11 b		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			1
1	2412	18.5	18.43
6	2437	18.5	18.49
11	2462	18.5	18.46

802.11 g		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			6
1	2412	17.0	16.98
6	2437	17.0	16.88
11	2462	17.0	16.68

802.11 n(20M)		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			6.5
1	2412	15.5	15.48
6	2437	15.5	15.47
11	2462	15.5	15.23

WLAN 2.4GHz (Main Ant + WiFi station + Proximity sensor On)

802.11 b		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			1
1	2412	16.5	16.45
6	2437	16.5	16.48
11	2462	16.5	16.47

802.11 g		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			6
1	2412	16.5	16.41
6	2437	16.5	16.37
11	2462	16.5	16.23

802.11 n(20M)		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			6.5
1	2412	15.5	15.48
6	2437	15.5	15.47
11	2462	15.5	15.23

WLAN 2.4GHz (Sub Ant + WiFi station + Proximity sensor On)

802.11 b		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			1
1	2412	13.5	13.48
6	2437	13.5	13.44
11	2462	13.5	13.47

802.11 g		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			6
1	2412	13.0	12.65
6	2437	13.0	12.99
11	2462	13.0	12.88

802.11 n(20M)		Max. Rated Avg. Power + Max. Tolerance (dBm)	Average conducted output power (dBm)
CH	Frequency (MHz)		Data Rate (Mbps)
			6.5
1	2412	13.0	12.66
6	2437	13.0	12.92
11	2462	13.0	12.91

Bluetooth conducted power table:

Frequency (MHz)	Data Rate	Max. tune-up power	Average	
			dBm	mW
2402	1	12	8.13	6.501
2441	1	12	10.28	10.666
2480	1	12	8.31	6.776
2402	2	12	5.93	3.917
2441	2	12	8.03	6.353
2480	2	12	6.15	4.121
2402	3	12	5.84	3.837
2441	3	12	8.01	6.324
2480	3	12	6.09	4.064

Frequency (MHz)	BT4.0 Average	
	dBm	mW
2402	-2.73	0.533
2442	-0.42	0.908
2480	-3.15	0.484

1.4 Test Environment

Ambient Temperature: 22±2° C
Tissue Simulating Liquid: 22±2° C

1.5 Operation Description

1. The EUT is controlled by using a Radio Communication Tester (Anritsu MT8820C / R&S CMW500), 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. SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power. The data mode with highest specified time-averaged output power should be tested for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode. Since the maximum output power in a secondary mode (8-PSK EDGE) is ≤ ¼ dB higher than the primary mode (GMSK GPRS/EDGE), SAR measurement is not required for the secondary mode (8-PSK EDGE).

5. The 3G SAR test reduction procedure is applied to HSDPA with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSDPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSDPA).

6. The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) with 12.2 kbps RMC as the primary mode. Since the maximum output power in a secondary mode (HSPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (HSPA).

7. SAR test exclusion for DC-HSDPA
The 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the

H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable. Since the maximum output power in a secondary mode (DC-HSDPA) is ≤ ¼ dB higher than the primary mode (WCDMA), SAR measurement is not required for the secondary mode (DC-HSDPA).

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

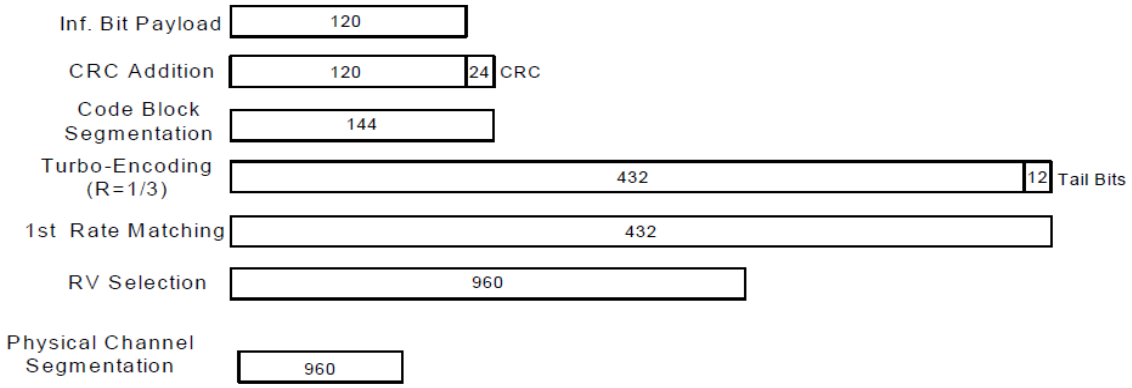


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI}= 8⇔A_{hs} = β_{hs}/β_c=30/15⇔β_{hs}=30/15*β_c
Note2: CM=1 for β_c/β_d=12/15, β_{hs}/β_c=24/15.
Note3: For subtest 2 the $\beta_c\beta_d$ ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to β_c=11/15 and β_d=15/15.

8. LTE modes test according to **KDB 941225D05v02r05.**

a. Per Section 5.2.1, the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation.

- Using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.
- When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

b. Per Section 5.2.2, the largest channel bandwidth and measure SAR for QPSK with 50% RB allocation

- The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

c. Per Section 5.2.3, the largest channel bandwidth and measure SAR for QPSK with 100% RB allocation

- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8 W/kg.
- Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

d. Per Section 5.2.4, Higher order modulations

- For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 5.2.1, 5.2.2 and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is >

½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

e. Per Section 5.3, other channel bandwidth standalone SAR test requirements

- For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section 5.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth.

LTE downlink CA (KDB942225 D05A)

9. The device supports a maximum of 2 carriers in the downlink. All uplink communications are identical to the Release 8 specifications. Uplink maximum output power is measured with downlink carrier aggregation active, only for the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

10. The downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements. The nominal channel spacing is determined by [BW1 + BW2 – 0.1*|BW1 – BW2|]/2 MHz, where BW1 and BW2 are the channel bandwidths of the CC in a 2-CC aggregation configuration.

11. The downlink PCC channel should be paired with the uplink channel according to normal configurations, as if there is no carrier aggregation. The downlink SCC should be adjacent to the PCC and remain within the downlink transmission band for contiguous intra-band CA. For non-contiguous intra-band CA, the SCC should be selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For inter-band CA, the SCC should be near the middle of its transmission band.

12. When downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive, so SAR evaluation is not required for downlink carrier aggregation.

WLAN

802.11b DSSS SAR Test Requirements:

13. SAR is measured for 2.4 GHz 802.11b DSSS mode using the highest measured maximum output power channel, when the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

14. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

802.11g/n OFDM SAR Test Exclusion Requirements:

15. SAR is not required for 802.11g/n since the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Initial Test Configuration:

16. An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band.

17. SAR is measured using the highest measured maximum output power channel. When the reported SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

Other

18. BT and WLAN use the same antenna path and Bluetooth can't transmit simultaneously with WLAN.

19. There are two WWAN antennas (Main / Sub) but they can transmit simultaneously.

20. According to **KDB447498D01v06**, testing of other required channels is not required when the reported 1-g SAR for the highest output channel is ≤ 0.8 W/kg, when the transmission band is ≤ 100 MHz.

21. According to **KDB865664D01v01r04**, SAR measurement variability must be assessed for each frequency band. When the original highest measured SAR is ≥ 0.8 W/kg, repeated that measurement once. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit)

22. According to **KDB447498D01v06** – The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances≤ 50 mm are determined by: [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for product specific 10-g SAR.

mode	position	max. power (dB)	max. power (mW)	f(GHz)	calculation	SAR exclusion threshold	SAR test exclusion
BT	body-worn	12	15.849	2.48	1.664	3	yes

23. According to **KDB865664 D01v01r04** SAR measurement uncertainty analysis is required in SAR reports only when the highest measured SAR in a frequency band is ≥ 1.5 W/kg for 1-g SAR.

24. According to **KDB648474 D04v01r03**, for handsets with additional batteries, the highest reported SAR for each wireless technology, frequency band, operating mode (different modes/configurations within each wireless technology) and applicable exposure condition (head, body-worn accessory, hotspot mode, etc.) must be repeated with additional batteries attached. In addition, for test cases where the measured SAR for a handset is greater than 1.2 W/kg, these tests should be repeated with the additional batteries

25. According to 2016-10-12 RF Exposure General Issues slide, when the highest reported SAR of an antenna > 1.2 W/Kg, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands.

26. The device supports NFC function. Per **KDB 648474 D04v01r03** Phones with built-in NFC functions do not require separate SAR testing and can generally be tested according to the SAR measurement procedures normally required for the phone. Influences of the hardware introduced by the built-in NFC functions are inherently considered through testing of the other transmitters that require SAR.

27. **Dynamic antenna switching specification**

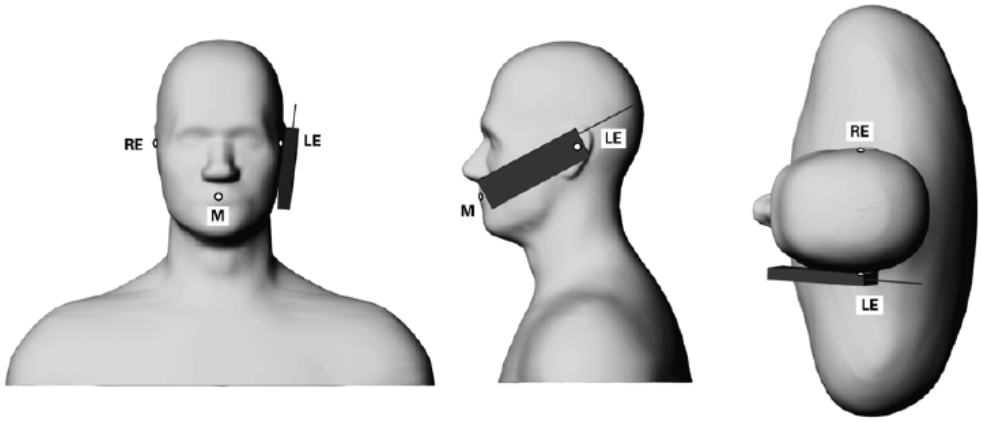
The device has two 2G/3G/4G Tx antennas (Main Antenna and Second Antenna). It can transmit from either Main Antenna or Second Antenna, but they can not transmit simultaneously.

The Main Antenna and Second Antenna are set to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time. All independent antennas will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered to ensure SAR compliance.

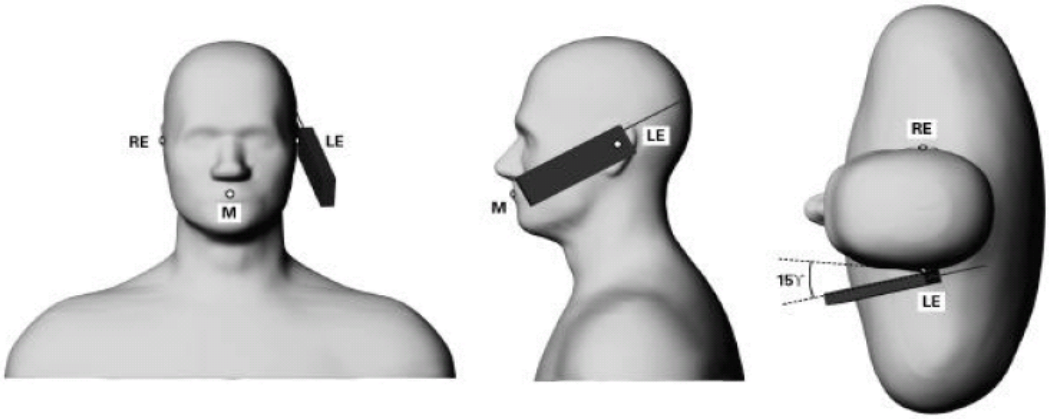
Second Antenna only supports GSM850,UMTS Band V, LTE Band XII and Band XVII.

1.6 Positioning Procedure

Head SAR measurement statement



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

Body SAR measurement statement

1. Body-worn exposure: 15mm
   Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative test separation distance configuration may be used to support both SAR conditions. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.

2. Hotspot exposure: 10mm
   A test separation distance of 10 mm is required between the phantom and all surfaces and edges with a transmitting antenna located within 25 mm from that surface or edge when the form factor of a handset is larger than 9 cm × 5 cm,
   Test configurations of WWAN Main
   (1) Front side
   (2) Back side
   (3) Bottom side.
   (4) Right side.
   (5) Left side.
   Test configurations of WWAN Sub
   (1) Front side
   (2) Back side
   (3) Top side.
   (4) Left side.
   (5) Right side
   Test configurations of WLAN
   (1) Front side
   (2) Back side
   (3) Top side.
   (4) Right side
3. Phablet SAR test consideration
   Since the device is not a phablet (overall diagonal dimension < 16.0 cm and display diagonal dimension < 15 cm), phablet SAR procedure is not required.

1.7 Power reduction information

This device uses a single fixed level of power reduction through static table look-up for SAR compliance.

1) Infrared proximity sensor

This device uses an infrared proximity sensor to facilitate triggering in typical user interactivity with the device. The proximity sensor locates on the front face of the device. Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the phone is held close to a user's ear exposure condition. It utilizes the proximity sensor to reduce the output power of sub antenna and Wi-Fi antenna in held-to-ear scenario.

2) Hotspot on

A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.

The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.

Table1~3 summarize the key power reduction information.

Table1: 2G&3G&4G sub ant +WiFi ant transmit simultaneously Power Reduction

Band	Power Reduction (dB)*	
	sub ant +WiFi station + sensor on	sub ant +WiFi station + sensor off
GSM 850	2.7	0
WiFi 2.4G 802.11b	5	0
WiFi 2.4G 802.11g	4	0
WiFi 2.4G 802.11n	2.5	0

Table 2: 2G&3G&4G main ant +WiFi ant transmit simultaneously Power Reduction

Band	Power Reduction (dB)*		
	Main ant + WiFi station + sensor on	Main ant + WiFi station + sensor off	Main ant +WiFi hotspot on
GSM 1900	0	0	0.7
WCDMA B2	0	0	2.5
WCDMA B4	0	0	1.5
LTE B2	0	0	2.5
LTE B4	0	0	0.5
LTE B7	0	0	1.5
WiFi 2.4G 802.11b	2	0	0
WiFi 2.4G 802.11g	0.5	0	0
WiFi 2.4G 802.11n	0	0	0

Table 3: 2G&3G&4G sub ant transmit Power Reduction

Band	Power Reduction (dB)*	
	sub ant + sensor on	sub ant + sensor off
GSM850	2.2	0

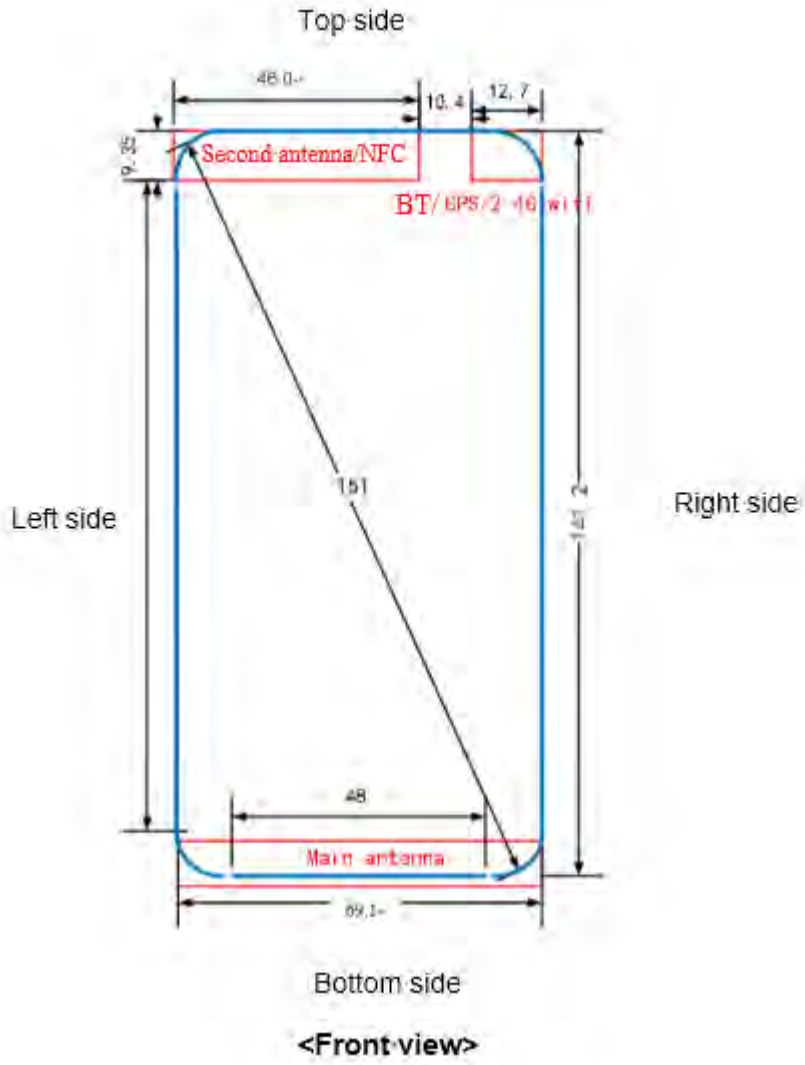
Note:
1)The device power reduction “implemented using a single fixed level of reduction through static table look-up for all exposure test configurations in a single wireless operating mode of a frequency band and it is triggered by a single event or operation” per PAG exclusion clause in KDB388624D02 itemII.C.1.k and II.C.1.m.
2) The power reduction level in the above table is only for reference. The final detailed full power and reduced tune-up specifications and conducted power measurement results will be confirmed and provided in the final SAR report.

The specific device(s) covered by the KDB inquiry.

1.7.1 General proximity sensor implementation description

This device uses an infrared proximity sensor to facilitate triggering in typical user interactivity with the device. Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the phone is held close to a user’s ear exposure condition. It utilizes the proximity sensor to reduce the output power of second antenna and Wi-Fi ant in held-to-ear scenario.

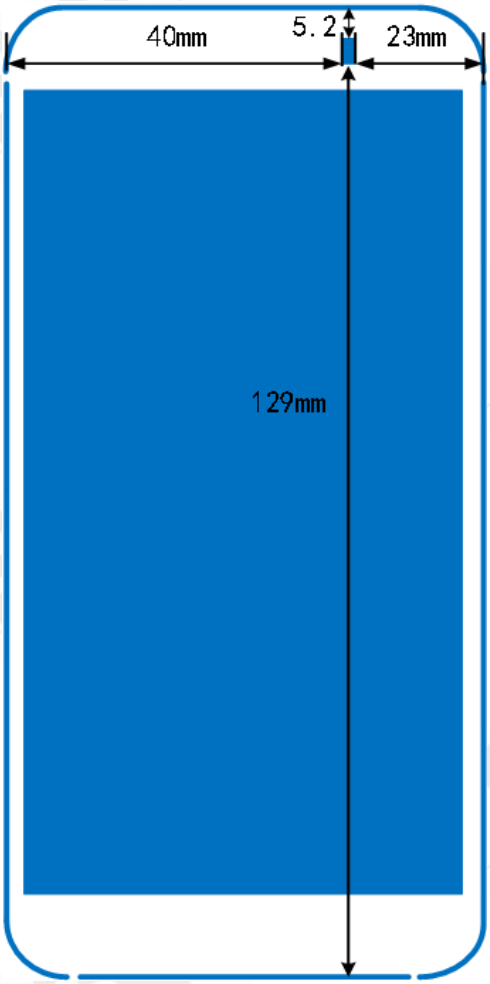
1.7.2 Antennas and sensor placement details



Figue1: The location of the antennas (Front View)

Note:

1) The device has two 2G/3G/4G Tx antennas (Main Antenna and Sub/Div Antenna). It can transmit from either Main Antenna or Sub Antenna, but they can not transmit simultaneously.



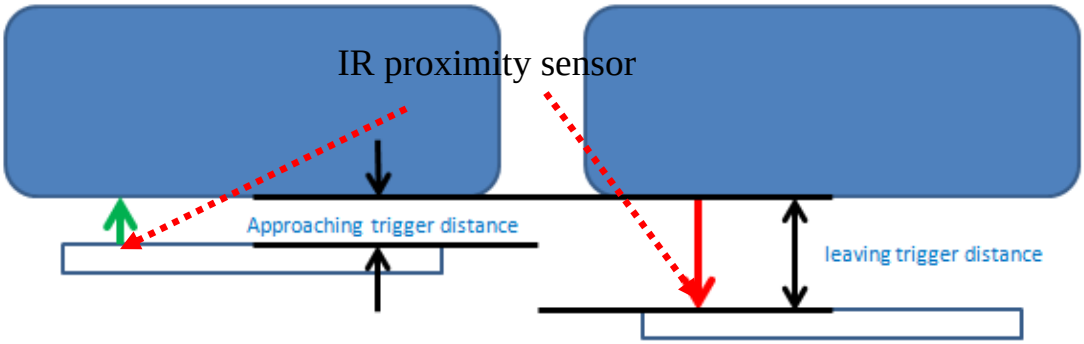
Figue2: The location of the IR proximity sensor (Front View)

Antenna and sensor distances (front view，unit:mm)						
Antenna	**Front side**	**Back side**	**Left side**	**Right side**	**Top side**	**Bottom side**
Sub Antenna(Div Antenna)	0	0	0	23.1	0	131.8
Main Antenna	0	0	0	0	132.4	0
2.4G/5G WiFi &BT Antenna	0	0	56	0	0	131.8
Proximity Sensor	0	0	40	23	5.2	129
The IR proximity sensor locates on the front face of the device and detects objects approaching only from the front side						

1.7.3 proximity sensor coverage, distance and angle

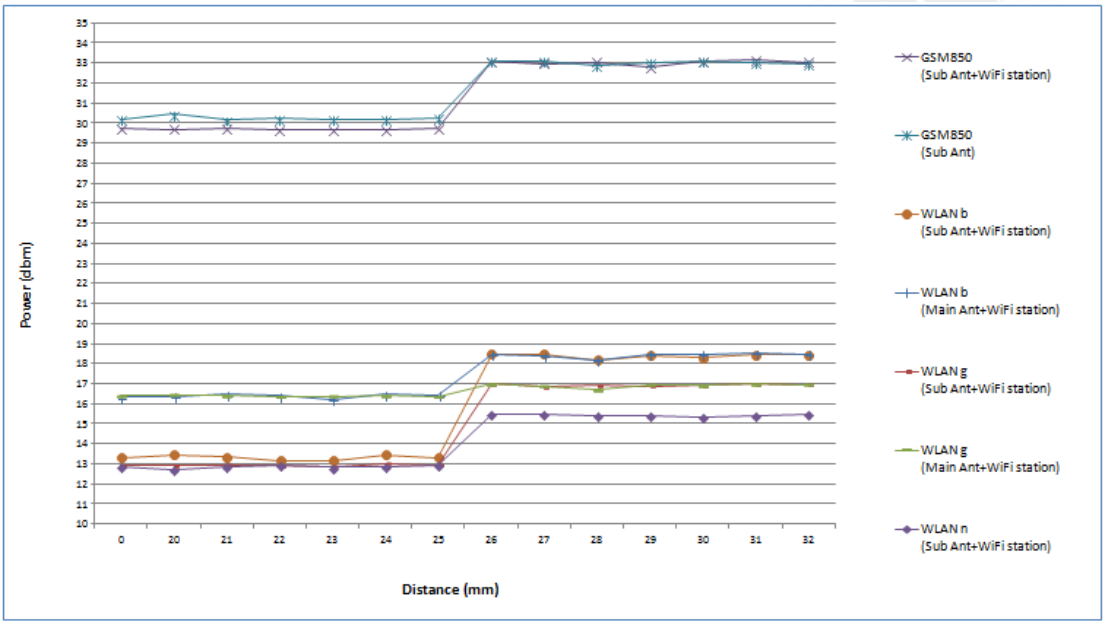
1.7.3.1 Procedures for determining proximity sensor triggering distances

Per FCC KDB 616217 D04v01§6.2, the following procedure is used to determine the triggering distances. As the proximity sensor locates on the front face of the device and detects objects approaching only from the front side, so triggering distance only need to be checked for the front side when 2G&3G&4G sub antenna transmit or Wi-Fi antenna and 2G&3G&4G antenna transmit simultaneously.



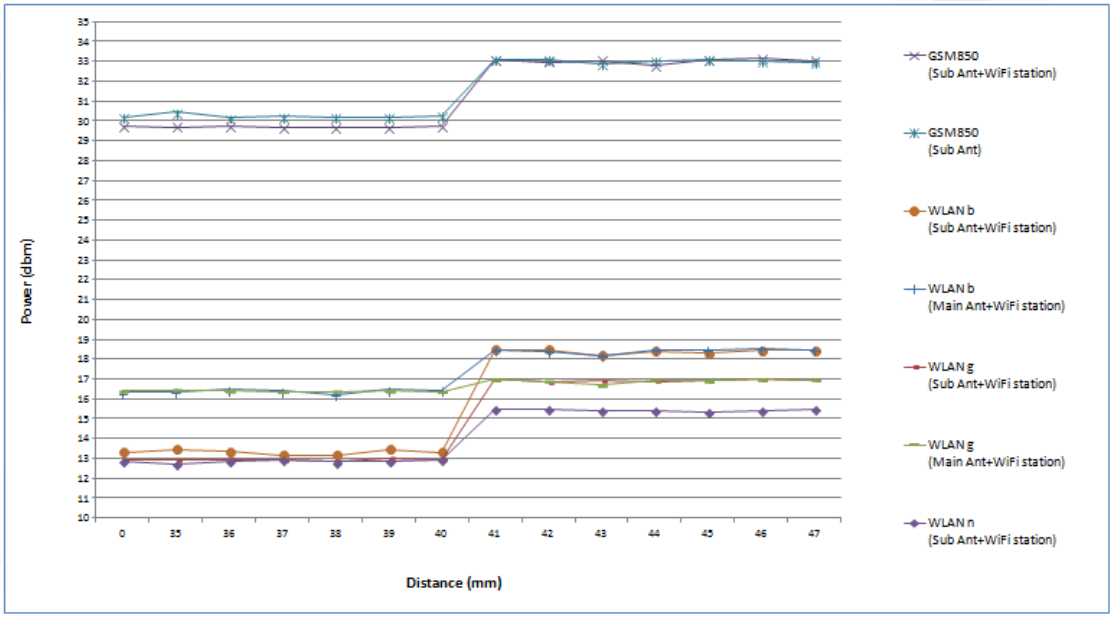
Picture: Proximity sensor triggering distances assessment (Front side)
The DUT is moved towards from the flat phantom

Distance between phantom to DUT in mm	50	45	40	35	30	25	20
Condition of Sensor in the front side of the device	off	off	off	off	off	on	on



The DUT is moved away from the flat phantom

Distance between phantom to DUT in mm	65	60	55	50	45	40	35
Condition of Sensor in the front side of the device	off	off	off	off	off	on	on



Conclusion: The Proximity sensor triggering distance is about 25-40mm, it can be ensured that the proximity sensor can be valid triggered in held-to-ear scenario.

1.7.3.2 Procedures for determining antenna and proximity sensor coverage

According to the location picture, proximity sensor is only applicable for the front side of DUT. As there is no spatial offset between the antenna and the proximity sensor element from the front view, so proximity sensor coverage does not need to be assessed.

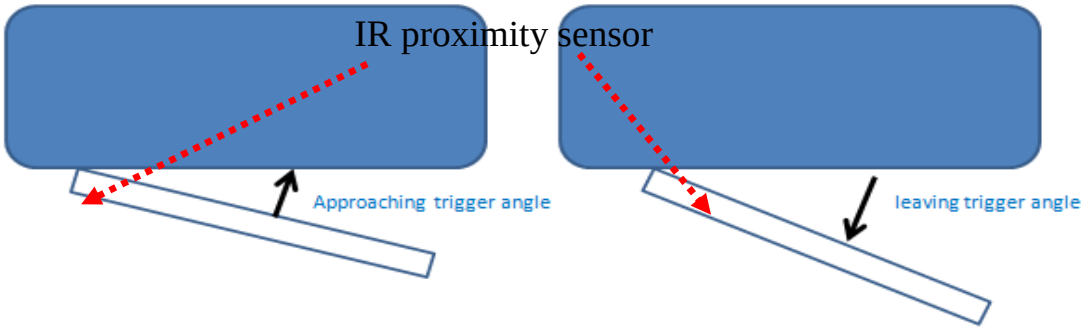
1.7.3.3 Procedures for determining device tilt angle influences to proximity sensor triggering

The following procedure is used to determine the triggering angle. Distance need to be check when device under voice mode so that sensor is working.

For Head exposure condition, device tilt angle influences to proximity sensor triggering is determined as below:

Firstly, the DUT was positioned directly touch the SAM phantom (Left&Right hand touch cheek position) for each band. Rotate the DUT around the ear reference point of the phantom in 5° increments until the DUT is 15° or more away from the touch cheek position at 0°

Then the DUT is positioned at 15° or more away from the touch cheek position and moved towards the phantom in 5°increments until the DUT directly touch the SAM phantom at 0°(Left & Right hand touch cheek position).



The DUT is moved towards and away from SAM phantom.

angle between phantom to DUT in degree	0	5	10	15	20	25
Condition of Sensor	on	on	on	on	on	on

Based on the validation results above, angle tilt coverage can ensure that the proximity sensor is triggered for all the Head test positions(Left/Right Hand Touched cheek, Left/Right Hand tiled 15 °)

1.7.4 Summary SAR test Plan for Proximity sensor power reduction

For Head SAR compliance: Head SAR for Sub ant and Wi-Fi antenna are evaluated at reduced power levels according to the real held-to-ear proximity sensor power reduction usage scenarios.

For Body SAR compliance, Standalone SAR compliance is still tested at the maximum output power level without any sensor power reduction. Additional Body SAR tests at reduced power levels in Wi-Fi and 2G&3G&4G antenna simultaneous transmission power reduction scenarios may be tested for some frequency bands and test positions, which are only used to ensure simultaneous transmission SAR test exclusion.

1.8 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 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.

1.9 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:

1.9.1 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 σ is the conductivity, ρ 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:

1. 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 careful setup these errors can be kept small.
2. 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.
3. 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 (~ 2% for c; much better for ρ), there is no standard for the measurement of the conductivity. Depending on the method and liquid, the error can well exceed ±5%.
4. 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 ±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 ±5% (RSS) when the same liquid is used for the calibration and for actual measurements and ±7-9% (RSS) when not, which is in good agreement with the estimates given in [2].

1.9.2 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 considered in the assessment of the uncertainty:

1. The setup must enable accurate determination of the incident power.
2. The accuracy of the calculated field strength will depend on the assessment of the dielectric parameters of the liquid.
3. 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.

1.10 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 EX3DV4 field probes are used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant.

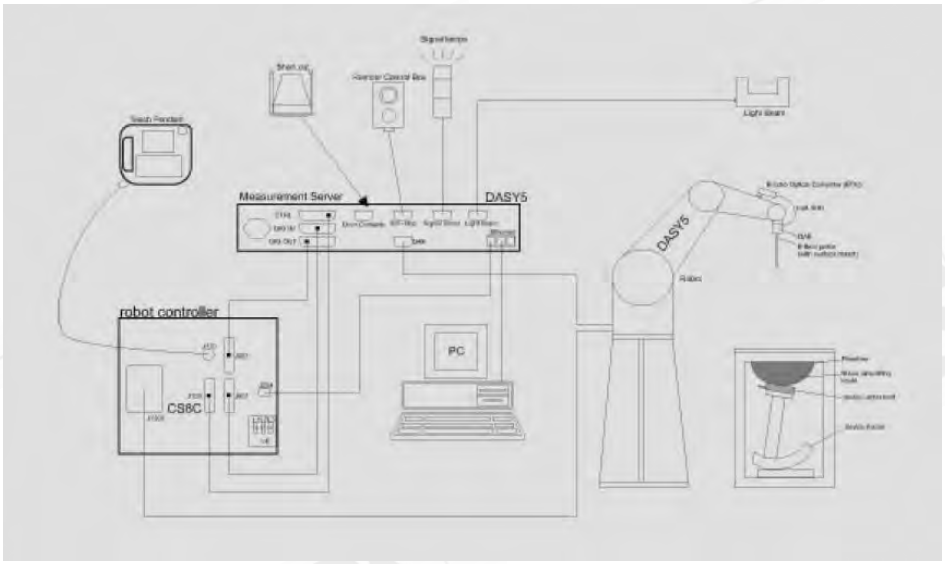


Fig. a A block diagram of the SAR measurement system

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

1. 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).
2. 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.
3. Data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
4. 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.
5. 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.
6. A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
7. A computer operating Windows7
8. DASY 5 software.
9. Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
10. The SAM twin phantom enabling testing left-hand and right-hand usage.
11. The device holder for handheld mobile phones.
12. Tissue simulating liquid mixed according to the given recipes.
13. Validation dipole kits allowing to validate the proper functioning of the system.

1.11 System Components

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 HSL750/835/1750/1900/2450/2600 MHz Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz, Linearity: ± 0.6 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Tip diameter: 2.5 mm	
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%.	

SAM PHANTOM V4.0C

Construction:	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209. 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.	
Shell Thickness:	2 ± 0.2 mm	
Filling Volume:	Approx. 25 liters	
Dimensions:	Height: 850 mm; Length: 1000 mm; Width: 500 mm	

DEVICE HOLDER

Construction	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, flat phantom).	 Device Holder

1.12 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% (according to KDB865664D01v01r04) from the target SAR values.

These tests were done at 750/835/1750/1900/2450/2600 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 (≤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.

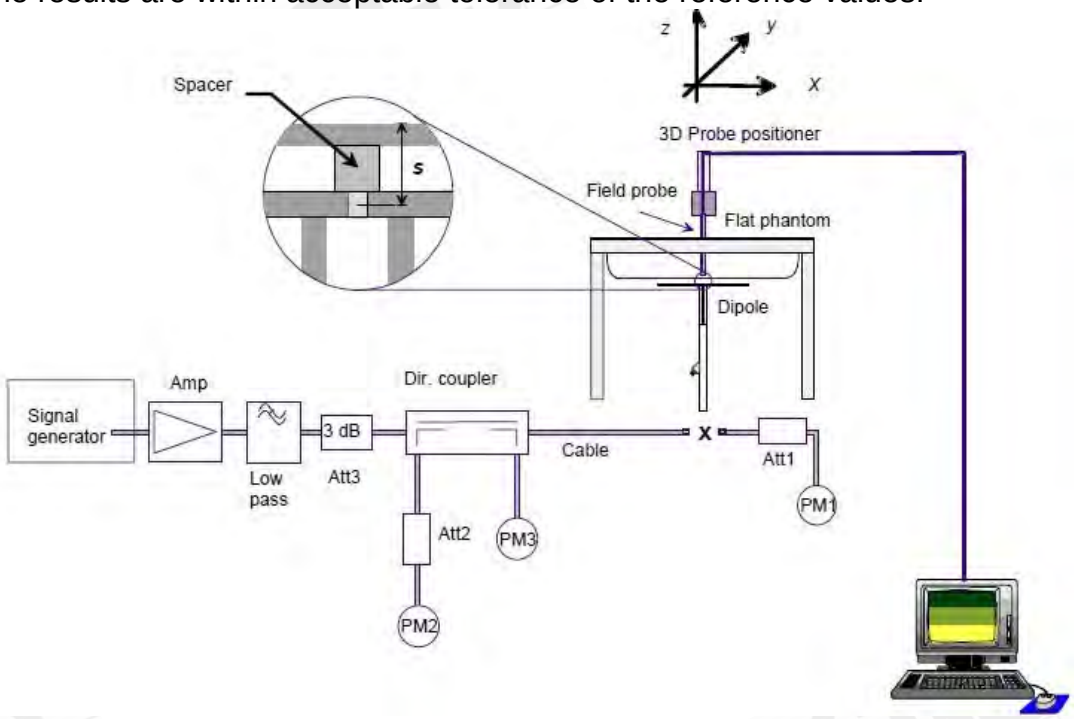


Fig. b The block diagram of system verification

Validation Kit	S/N	Frequency (MHz)		1W Target SAR-1g (mW/g)	Measured SAR-1g (mW/g)	Measured SAR-1g normalized to 1W (mW/g)	Deviation (%)	Measured Date
D750V3	1015	750	Head	8.32	2.18	8.72	4.81%	Oct. 29, 2016
			Body	8.77	2.23	8.92	1.71%	Oct. 22, 2016
				8.77	2.23	8.92	1.71%	Oct. 23, 2016
D835V2	4d063	835	Head	9.40	2.39	9.56	1.70%	Oct. 18, 2016
				9.40	2.41	9.64	2.55%	Oct. 30, 2016
			Body	9.57	2.57	10.28	7.42%	Oct. 24, 2016
				9.57	2.57	10.28	7.42%	Oct. 25, 2016
D1750V2	1008	1750	Head	37.20	9.06	36.24	-2.58%	Oct. 31, 2016
			Body	37.30	9.30	37.20	-0.27%	Oct. 26, 2016
D1900V2	5d027	1900	Head	38.70	9.93	39.72	2.64%	Oct. 31, 2016
			Body	39.70	10.00	40.00	0.76%	Oct. 27, 2016
D2450V2	727	2450	Head	51.00	12.20	48.80	-4.31%	Oct. 19, 2016
			Body	49.60	12.90	51.60	4.03%	Oct. 20, 2016
D2600V2	1005	2600	Head	55.20	14.00	56.00	1.45%	Nov. 01, 2016
			Body	53.90	13.10	52.40	-2.78%	Oct. 28, 2016

Table 1. Results of system validation

1.13 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 conjunction 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 (≤3G) or 10 cm (>3G) during all tests. (Appendix Fig. 2)

Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	% dev εr	% dev σ
Head	2016/10/29	704	42.181	0.890	42.532	0.857	-0.83%	3.69%
		707.5	42.162	0.890	42.485	0.862	-0.77%	3.15%
		709	42.155	0.890	42.439	0.862	-0.67%	3.17%
		710	42.149	0.890	42.419	0.864	-0.64%	2.95%
		711	42.144	0.890	42.399	0.864	-0.60%	2.96%
		750	41.942	0.893	41.857	0.903	0.20%	-1.08%
	2016/10/18	824.2	41.556	0.899	42.669	0.867	-2.68%	3.58%
		826.4	41.545	0.899	42.665	0.869	-2.70%	3.37%
		829	41.531	0.900	42.661	0.872	-2.72%	3.06%
		835	41.500	0.900	42.654	0.878	-2.78%	2.44%
		836.5	41.500	0.902	42.646	0.881	-2.76%	2.29%
		836.6	41.500	0.902	42.622	0.881	-2.70%	2.30%
		844	41.500	0.910	42.534	0.889	-2.49%	2.27%
		846.6	41.500	0.912	42.490	0.902	-2.39%	1.15%
		848.8	41.500	0.915	42.486	0.905	-2.38%	1.08%
	2016/10/30	835	41.500	0.900	42.644	0.887	-2.76%	1.44%
		836.5	41.500	0.902	42.636	0.890	-2.74%	1.29%
		836.6	41.500	0.902	42.612	0.890	-2.68%	1.30%
		844	41.500	0.910	42.524	0.898	-2.47%	1.29%
		846.6	41.500	0.912	42.510	0.915	-2.43%	-0.27%
	2016/10/31	1712.4	40.138	1.349	38.688	1.385	3.61%	-2.65%
		1720	40.126	1.354	38.659	1.396	3.66%	-3.16%
		1745	40.087	1.368	38.603	1.419	3.70%	-3.72%
		1750	40.079	1.371	38.631	1.424	3.61%	-3.89%
		1852.4	40.000	1.400	38.879	1.389	2.80%	0.79%
		1860	40.000	1.400	38.416	1.397	3.96%	0.21%
		1880	40.000	1.400	38.795	1.417	3.01%	-1.21%
		1900	40.000	1.400	38.301	1.437	4.25%	-2.64%
	2016/10/19	2412	39.262	1.766	40.413	1.793	-2.93%	-1.53%
		2437	39.223	1.788	40.382	1.816	-2.95%	-1.57%
		2450	39.200	1.800	40.371	1.829	-2.99%	-1.61%
		2462	39.185	1.813	40.344	1.841	-2.96%	-1.54%
	2016/11/1	2510	39.124	1.865	38.002	1.901	2.87%	-1.91%
		2535	39.092	1.893	37.934	1.929	2.96%	-1.91%
		2600	39.009	1.964	37.692	1.993	3.38%	-1.48%

Tissue Type	Measurement Date	Measured Frequency (MHz)	Target Dielectric Constant, εr	Target Conductivity, σ (S/m)	Measured Dielectric Constant, εr	Measured Conductivity, σ (S/m)	% dev εr	% dev σ
Body	2016/10/22	707.5	55.697	0.960	54.731	0.949	1.73%	1.15%
		709	55.691	0.960	54.716	0.952	1.75%	0.85%
		711	55.683	0.960	54.701	0.954	1.76%	0.66%
		750	55.531	0.963	54.340	0.993	2.15%	-3.07%
	2016/10/23	704	55.710	0.960	54.835	0.939	1.57%	2.17%
		709	55.691	0.960	54.716	0.945	1.75%	1.58%
		710	55.687	0.960	54.761	0.946	1.66%	1.48%
		711	55.683	0.960	54.701	0.947	1.76%	1.39%
		750	55.531	0.963	54.340	0.986	2.15%	-2.35%
	2016/10/24	835	55.200	0.970	53.866	0.957	2.42%	1.34%
		836.6	55.195	0.972	53.861	0.958	2.42%	1.44%
		844	55.172	0.981	53.806	0.977	2.48%	0.42%
		846.6	55.164	0.984	53.717	0.981	2.62%	0.33%
	2016/10/25	824.2	55.242	0.969	53.426	0.999	3.29%	-3.08%
		835	55.200	0.970	53.311	1.008	3.42%	-3.96%
		836.5	55.195	0.972	53.247	1.008	3.53%	-3.72%
		836.6	55.195	0.972	53.267	1.008	3.49%	-3.71%
		844	55.172	0.981	53.208	1.017	3.56%	-3.66%
		846.6	55.164	0.984	53.218	1.018	3.53%	-3.43%
	2016/10/26	1712.4	53.531	1.465	51.610	1.496	3.59%	-2.14%
		1720	53.511	1.469	51.638	1.501	3.50%	-2.15%
		1732.4	53.478	1.477	51.573	1.514	3.56%	-2.50%
		1732.5	53.478	1.477	51.558	1.517	3.59%	-2.71%
		1745	53.445	1.485	52.128	1.518	2.46%	-2.20%
		1750	53.432	1.488	51.520	1.541	3.58%	-3.50%
		1752.6	53.425	1.490	51.539	1.542	3.53%	-3.46%
	2016/10/27	1850.2	53.300	1.520	51.317	1.538	3.72%	-1.16%
		1852.4	53.300	1.520	51.347	1.544	3.66%	-1.57%
		1860	53.300	1.520	51.293	1.548	3.77%	-1.87%
		1880	53.300	1.520	51.215	1.567	3.91%	-3.09%
		1900	53.300	1.520	51.153	1.584	4.03%	-4.21%
		1907.6	53.300	1.520	51.159	1.588	4.02%	-4.47%
		1909.8	53.300	1.520	51.154	1.589	4.03%	-4.54%
	2016/10/20	2437	52.717	1.938	54.021	1.952	-2.47%	-0.72%
		2450	52.700	1.950	53.955	1.968	-2.38%	-0.92%
	2016/10/28	2510	52.624	2.035	51.659	2.107	1.83%	-3.53%
		2535	52.592	2.071	51.481	2.115	2.11%	-2.14%
		2560	52.560	2.106	51.109	2.130	2.76%	-1.14%
		2600	52.509	2.163	51.066	2.217	2.75%	-2.52%

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the tissue simulating liquid:

Frequency (MHz)	Mode	Ingredient						Total amount
		DGMBE	Water	Salt	Preventol D-7	Cellulose	Sugar	
750	Head	—	532.98 g	18.3 g	2.4 g	3.2 g	766 g	1.3L(Kg)
	Body	—	631.68 g	11.72 g	1.2 g	—	600 g	1.0L(Kg)
850	Head	—	532.98 g	18.3 g	2.4 g	3.2 g	766 g	1.3L(Kg)
	Body	—	631.68 g	11.72 g	1.2 g	—	600 g	1.0L(Kg)
1750	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)
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)
2600	Head	550ml	450ml	—	—	—	—	1.0L(Kg)
	Body	301.7ml	698.3ml	—	—	—	—	1.0L(Kg)

Table 3. Recipes for tissue simulating liquid

1.14 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, 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 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 W/kg	8.00 W/kg
Spatial Average SAR (Whole Body)	0.08 W/kg	0.40 W/kg
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 W/kg	20.00 W/kg

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.

2. Summary of Results

GSM 850 MHz

Main Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
GSM850 (Head)	Re Cheek	-	190	836.6	1	1	33.30	33.30	100.00%	0.283	0.283	-
	Re Cheek	-	190	836.6	1	2	33.30	33.30	100.00%	0.281	0.281	-
	Re Cheek	-	190	836.6	2	1	33.30	33.30	100.00%	0.316	0.316	-
	Re Cheek	-	190	836.6	3	1	33.30	33.30	100.00%	0.320	0.320	149
	Re Tilt	-	190	836.6	1	1	33.30	33.30	100.00%	0.166	0.166	-
	Le Cheek	-	190	836.6	1	1	33.30	33.30	100.00%	0.231	0.231	-
	Le Tilt	-	190	836.6	1	1	33.30	33.30	100.00%	0.181	0.181	-
GSM850 (Body-Worn)	Front side	15	190	836.6	1	1	33.30	33.30	100.00%	0.304	0.304	-
	Back side	15	190	836.6	1	1	33.30	33.30	100.00%	0.317	0.317	-
	Back side	15	190	836.6	1	2	33.30	33.30	100.00%	0.319	0.319	-
	Back side	15	190	836.6	2	1	33.30	33.30	100.00%	0.334	0.334	150
	Back side	15	190	836.6	3	1	33.30	33.30	100.00%	0.303	0.303	-
GPRS850 (Hotspot) (1Dn3Up)	Front side	10	128	824.2	1	1	28.80	27.52	134.28%	0.306	0.411	-
	Back side	10	128	824.2	1	1	28.80	27.52	134.28%	0.326	0.438	151
	Back side	10	128	824.2	2	1	28.80	27.52	134.28%	0.311	0.418	-
	Back side	10	128	824.2	3	1	28.80	27.52	134.28%	0.302	0.406	-
	Bottom side	10	128	824.2	1	1	28.80	27.52	134.28%	0.159	0.213	-
	Right side	10	128	824.2	1	1	28.80	27.52	134.28%	0.312	0.419	-
	Left side	10	128	824.2	1	1	28.80	27.52	134.28%	0.140	0.188	-

Sub Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
GSM850 (Head) <Proximity sensor power reduction>	Re Cheek	-	128	824.2	1	1	31.10	30.08	126.47%	0.849	1.074	-
	Re Cheek	-	190	836.6	1	1	31.10	30.23	122.18%	1.030	1.258	-
	Re Cheek	-	251	848.8	1	1	31.10	30.18	123.59%	1.090	1.347	152
	Re Cheek	-	251	848.8	1	2	31.10	30.18	123.59%	1.080	1.335	-
	Re Cheek	-	251	848.8	2	1	31.10	30.18	123.59%	0.933	1.153	-
	Re Cheek	-	251	848.8	3	1	31.10	30.18	123.59%	0.955	1.180	-
	Re Cheek*	-	251	848.8	1	1	31.10	30.18	123.59%	1.070	1.322	-
	Re Tilt	-	128	824.2	1	1	31.10	30.08	126.47%	0.603	0.763	-
	Re Tilt	-	190	836.6	1	1	31.10	30.23	122.18%	0.754	0.921	-
	Re Tilt	-	251	848.8	1	1	31.10	30.18	123.59%	0.837	1.034	-
	Le Cheek	-	190	836.6	1	1	31.10	30.23	122.18%	0.621	0.759	-
	Le Tilt	-	190	836.6	1	1	31.10	30.23	122.18%	0.524	0.640	-
GSM850 (Head) <Proximity sensor power reduction + WiFi station>	Re Cheek	-	128	824.2	1	1	30.60	29.55	127.35%	0.767	0.977	-
	Re Cheek	-	190	836.6	1	1	30.60	29.73	122.18%	0.938	1.146	-
	Re Cheek	-	251	848.8	1	1	30.60	29.67	123.88%	0.971	1.203	153
	Re Cheek	-	251	848.8	1	2	30.60	29.67	123.88%	0.970	1.202	-
	Re Cheek	-	251	848.8	2	1	30.60	29.67	123.88%	0.958	1.187	-
	Re Cheek	-	251	848.8	3	1	30.60	29.67	123.88%	0.912	1.130	-
	Re Tilt	-	128	824.2	1	1	30.60	29.55	127.35%	0.542	0.690	-
	Re Tilt	-	190	836.6	1	1	30.60	29.73	122.18%	0.676	0.826	-
	Re Tilt	-	251	848.8	1	1	30.60	29.67	123.88%	0.740	0.917	-
	Le Cheek	-	190	836.6	1	1	30.60	29.73	122.18%	0.543	0.663	-
	Le Tilt	-	190	836.6	1	1	30.60	29.73	122.18%	0.457	0.558	-
GSM850 (Body-Worn)	Front side	15	190	836.6	1	1	33.30	33.08	105.20%	0.254	0.267	-
	Back side	15	190	836.6	1	1	33.30	33.08	105.20%	0.423	0.445	154
	Back side	15	190	836.6	1	2	33.30	33.08	105.20%	0.421	0.443	-
	Back side	15	190	836.6	2	1	33.30	33.08	105.20%	0.355	0.373	-
	Back side	15	190	836.6	3	1	33.30	33.08	105.20%	0.364	0.383	-
GPRS850 (Hotspot) (1Dn3Up)	Front side	10	190	836.6	1	1	28.80	27.81	125.60%	0.313	0.393	-
	Back side	10	190	836.6	1	1	28.80	27.81	125.60%	0.412	0.517	155
	Back side	10	128	824.2	2	1	28.80	27.81	125.60%	0.401	0.504	-
	Back side	10	128	824.2	3	1	28.80	27.81	125.60%	0.400	0.502	-
	Top side	10	190	836.6	1	1	28.80	27.81	125.60%	0.232	0.291	-
	Right side	10	190	836.6	1	1	28.80	27.81	125.60%	0.111	0.139	-
	Left side	10	190	836.6	1	1	28.80	27.81	125.60%	0.326	0.409	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

GSM 1900 MHz

Main Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
GSM1900 (Head)	Re Cheek	-	661	1880	1	1	30.70	29.83	122.18%	0.146	0.178	-
	Re Tilt	-	661	1880	1	1	30.70	29.83	122.18%	0.070	0.086	-
	Le Cheek	-	661	1880	1	1	30.70	29.83	122.18%	0.188	0.230	156
	Le Cheek	-	661	1880	1	2	30.70	29.83	122.18%	0.181	0.221	-
	Le Cheek	-	661	1880	2	1	30.70	29.83	122.18%	0.165	0.202	-
	Le Cheek	-	661	1880	3	1	30.70	29.83	122.18%	0.173	0.211	-
	Le Tilt	-	661	1880	1	1	30.70	29.83	122.18%	0.069	0.084	-
GSM1900 (Body-Worn)	Front side	15	661	1880	1	1	30.70	29.83	122.18%	0.490	0.599	-
	Back side	15	661	1880	1	1	30.70	29.83	122.18%	0.510	0.623	157
	Back side	15	661	1880	1	2	30.70	29.83	122.18%	0.507	0.619	-
	Back side	15	661	1880	2	1	30.70	29.83	122.18%	0.508	0.621	-
	Back side	15	661	1880	3	1	30.70	29.83	122.18%	0.493	0.602	-
GPRS1900 (Hotspot) (1Dn3Up)	Front side	10	661	1880	1	1	25.50	24.44	127.64%	0.509	0.650	-
	Back side	10	661	1880	1	1	25.50	24.44	127.64%	0.552	0.705	-
	Bottom side	10	512	1850.2	1	1	25.50	24.28	132.43%	0.893	1.183	-
	Bottom side	10	661	1880	1	1	25.50	24.44	127.64%	1.060	1.353	158
	Bottom side	10	661	1880	2	1	25.50	24.44	127.64%	1.050	1.340	-
	Bottom side	10	661	1880	3	1	25.50	24.44	127.64%	1.010	1.289	-
	Bottom side*	10	661	1880	1	1	25.50	24.44	127.64%	0.998	1.274	-
	Bottom side	10	810	1909.8	1	1	25.50	24.38	129.42%	0.941	1.218	-
	Right side	10	661	1880	1	1	25.50	24.44	127.64%	0.096	0.123	-
	Left side	10	661	1880	1	1	25.50	24.44	127.64%	0.107	0.137	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

WCDMA Band II

Main Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
R99 (Head)	Re Cheek	-	9262	1852.4	1	1	24.00	22.99	126.18%	0.155	0.196	-
	Re Tilt	-	9262	1852.4	1	1	24.00	22.99	126.18%	0.056	0.071	-
	Le Cheek	-	9262	1852.4	1	1	24.00	22.99	126.18%	0.165	0.208	-
	Le Cheek	-	9262	1852.4	1	2	24.00	22.99	126.18%	0.165	0.208	-
	Le Cheek	-	9262	1852.4	2	1	24.00	22.99	126.18%	0.153	0.193	-
	Le Cheek	-	9262	1852.4	3	1	24.00	22.99	126.18%	0.206	0.260	159
	Le Tilt	-	9262	1852.4	1	1	24.00	22.99	126.18%	0.074	0.093	-
R99 (Body-Worn)	Front side	15	9262	1852.4	1	1	24.00	22.99	126.18%	0.538	0.679	160
	Front side	15	9262	1852.4	1	2	24.00	22.99	126.18%	0.531	0.670	-
	Front side	15	9262	1852.4	2	1	24.00	22.99	126.18%	0.505	0.637	-
	Front side	15	9262	1852.4	3	1	24.00	22.99	126.18%	0.536	0.676	-
	Back side	15	9262	1852.4	1	1	24.00	22.99	126.18%	0.523	0.660	-
R99 (Hotspot)	Front side	10	9262	1852.4	1	1	21.50	20.54	124.74%	0.491	0.612	-
	Back side	10	9262	1852.4	1	1	21.50	20.54	124.74%	0.478	0.596	-
	Bottom side	10	9262	1852.4	1	1	21.50	20.54	124.74%	0.885	1.104	-
	Bottom side	10	9400	1880	1	1	21.50	20.42	128.23%	0.997	1.278	-
	Bottom side	10	9538	1907.6	1	1	21.50	20.53	125.03%	1.140	1.425	161
	Bottom side	10	9538	1907.6	2	1	21.50	20.53	125.03%	1.120	1.400	-
	Bottom side	10	9538	1907.6	3	1	21.50	20.53	125.03%	1.100	1.375	-
	Bottom side*	10	9538	1907.6	1	1	21.50	20.53	125.03%	1.130	1.413	-
	Right side	10	9262	1852.4	1	1	21.50	20.54	124.74%	0.101	0.126	-
	Left side	10	9262	1852.4	1	1	21.50	20.54	124.74%	0.102	0.127	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

WCDMA Band IV

Main Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
R99 (Head)	Re Cheek	-	1312	1712.4	1	1	24.00	23.72	106.66%	0.183	0.195	-
	Re Tilt	-	1312	1712.4	1	1	24.00	23.72	106.66%	0.082	0.087	-
	Le Cheek	-	1312	1712.4	1	1	24.00	23.72	106.66%	0.281	0.300	162
	Le Cheek	-	1312	1712.4	1	2	24.00	23.72	106.66%	0.280	0.299	-
	Le Cheek	-	1312	1712.4	2	1	24.00	23.72	106.66%	0.277	0.295	-
	Le Cheek	-	1312	1712.4	3	1	24.00	23.72	106.66%	0.271	0.289	-
	Le Tilt	-	1312	1712.4	1	1	24.00	23.72	106.66%	0.073	0.078	-
R99 (Body-Worn)	Front side	15	1312	1712.4	1	1	24.00	23.72	106.66%	0.585	0.624	163
	Front side	15	1312	1712.4	1	2	24.00	23.72	106.66%	0.579	0.618	-
	Front side	15	1312	1712.4	2	1	24.00	23.72	106.66%	0.577	0.615	-
	Front side	15	1312	1712.4	3	1	24.00	23.72	106.66%	0.544	0.580	-
	Back side	15	1312	1712.4	1	1	24.00	23.72	106.66%	0.542	0.578	-
R99 (Hotspot)	Front side	10	1312	1712.4	1	1	22.50	21.98	112.72%	0.584	0.658	-
	Back side	10	1312	1712.4	1	1	22.50	21.98	112.72%	0.647	0.729	-
	Bottom side	10	1312	1712.4	1	1	22.50	21.98	112.72%	1.140	1.285	-
	Bottom side	10	1412	1732.4	1	1	22.50	21.87	115.61%	1.090	1.260	-
	Bottom side	10	1513	1752.6	1	1	22.50	21.96	113.24%	1.050	1.189	-
	Bottom side	10	1312	1712.4	2	1	22.50	21.98	112.72%	1.110	1.251	-
	Bottom side	10	1312	1712.4	3	1	22.50	21.98	112.72%	1.160	1.308	164
	Bottom side*	10	1312	1712.4	3	1	22.50	21.98	112.72%	1.150	1.296	-
	Right side	10	1312	1712.4	1	1	22.50	21.98	112.72%	0.081	0.091	-
	Left side	10	1312	1712.4	1	1	22.50	21.98	112.72%	0.110	0.124	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

WCDMA Band V

Main Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
R99 (Head)	Re Cheek	-	4233	846.6	1	1	24.10	23.86	105.68%	0.410	0.433	-
	Re Cheek	-	4233	846.6	1	2	24.10	23.86	105.68%	0.412	0.435	-
	Re Cheek	-	4233	846.6	2	1	24.10	23.86	105.68%	0.374	0.395	-
	Re Cheek	-	4233	846.6	3	1	24.10	23.86	105.68%	0.446	0.471	165
	Re Tilt	-	4233	846.6	1	1	24.10	23.86	105.68%	0.205	0.217	-
	Le Cheek	-	4233	846.6	1	1	24.10	23.86	105.68%	0.320	0.338	-
	Le Tilt	-	4233	846.6	1	1	24.10	23.86	105.68%	0.262	0.277	-
R99 (Body-Worn)	Front side	15	4233	846.6	1	1	24.10	23.86	105.68%	0.291	0.308	-
	Back side	15	4233	846.6	1	1	24.10	23.86	105.68%	0.337	0.356	-
	Back side	15	4233	846.6	1	2	24.10	23.86	105.68%	0.335	0.354	-
	Back side	15	4233	846.6	2	1	24.10	23.86	105.68%	0.342	0.361	166
	Back side	15	4233	846.6	3	1	24.10	23.86	105.68%	0.311	0.329	-
R99 (Hotspot)	Front side	10	4233	846.6	1	1	24.10	23.86	105.68%	0.395	0.417	-
	Back side	10	4233	846.6	1	1	24.10	23.86	105.68%	0.602	0.636	167
	Back side	10	4233	846.6	2	1	24.10	23.86	105.68%	0.555	0.587	-
	Back side	10	4233	846.6	3	1	24.10	23.86	105.68%	0.547	0.578	-
	Bottom side	10	4233	846.6	1	1	24.10	23.86	105.68%	0.256	0.271	-
	Right side	10	4233	846.6	1	1	24.10	23.86	105.68%	0.328	0.347	-
	Left side	10	4233	846.6	1	1	24.10	23.86	105.68%	0.118	0.125	-

Sub Antenna

Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
										Measured	Reported	
R99 (Head)	Re Cheek	-	4132	826.4	1	1	21.60	20.29	135.21%	0.845	1.143	-
	Re Cheek	-	4183	836.6	1	1	21.60	20.24	136.77%	0.931	1.273	-
	Re Cheek	-	4233	846.6	1	1	21.60	20.36	133.05%	0.959	1.276	-
	Re Cheek	-	4233	846.6	1	2	21.60	20.36	133.05%	0.962	1.280	-
	Re Cheek	-	4233	846.6	2	1	21.60	20.36	133.05%	1.030	1.370	168
	Re Cheek	-	4233	846.6	3	1	21.60	20.36	133.05%	1.020	1.357	-
	Re Cheek*	-	4233	846.6	2	1	21.60	20.36	133.05%	1.000	1.330	-
	Re Tilt	-	4132	826.4	1	1	21.60	20.29	135.21%	0.640	0.865	-
	Re Tilt	-	4183	836.6	1	1	21.60	20.24	136.77%	0.706	0.966	-
	Re Tilt	-	4233	846.6	1	1	21.60	20.36	133.05%	0.734	0.977	-
	Le Cheek	-	4132	826.4	1	1	21.60	20.29	135.21%	0.514	0.695	-
	Le Cheek	-	4183	836.6	1	1	21.60	20.24	136.77%	0.601	0.822	-
	Le Cheek	-	4233	846.6	1	1	21.60	20.36	133.05%	0.646	0.859	-
	Le Tilt	-	4233	846.6	1	1	21.60	20.36	133.05%	0.567	0.754	-
R99 (Body-Worn)	Front side	15	4233	846.6	1	1	21.60	20.36	133.05%	0.103	0.137	-
	Back side	15	4233	846.6	1	1	21.60	20.36	133.05%	0.151	0.201	-
	Back side	15	4233	846.6	1	2	21.60	20.36	133.05%	0.153	0.204	-
	Back side	15	4233	846.6	2	1	21.60	20.36	133.05%	0.155	0.206	-
	Back side	15	4233	846.6	3	1	21.60	20.36	133.05%	0.158	0.210	169
R99 (Hotspot)	Front side	10	4233	846.6	1	1	21.60	20.36	133.05%	0.220	0.293	-
	Back side	10	4233	846.6	1	1	21.60	20.36	133.05%	0.277	0.369	-
	Back side	10	4233	846.6	2	1	21.60	20.36	133.05%	0.295	0.392	170
	Back side	10	4233	846.6	3	1	21.60	20.36	133.05%	0.285	0.379	-
	Top side	10	4233	846.6	1	1	21.60	20.36	133.05%	0.170	0.226	-
	Right side	10	4233	846.6	1	1	21.60	20.36	133.05%	0.043	0.057	-
	Left side	10	4233	846.6	1	1	21.60	20.36	133.05%	0.212	0.282	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

LTE FDD Band II

Main Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 2 (Head)	20MHz	QPSK	1 RB	50	RE Cheek	-	18900	1880	1	1	23.50	22.74	119.12%	0.150	0.179	-
					RE Tilt	-	18900	1880	1	1	23.50	22.74	119.12%	0.057	0.068	-
					LE Cheek	-	18900	1880	1	1	23.50	22.74	119.12%	0.176	0.210	-
					LE Cheek	-	18900	1880	2	1	23.50	22.74	119.12%	0.210	0.250	171
					LE Cheek	-	18900	1880	3	1	23.50	22.74	119.12%	0.182	0.217	-
					LE Tilt	-	18900	1880	1	1	23.50	22.74	119.12%	0.080	0.095	-
			50 RB	25	RE Cheek	-	18900	1880	1	1	22.50	22.07	110.41%	0.127	0.140	-
					RE Tilt	-	18900	1880	1	1	22.50	22.07	110.41%	0.045	0.050	-
					LE Cheek	-	18900	1880	1	1	22.50	22.07	110.41%	0.148	0.163	-
					LE Tilt	-	18900	1880	1	1	22.50	22.07	110.41%	0.068	0.075	-
			100 RB		RE Cheek	-	18700	1860	1	1	22.50	21.97	112.98%	0.121	0.137	-
					RE Tilt	-	18700	1860	1	1	22.50	21.97	112.98%	0.041	0.046	-
					LE Cheek	-	18700	1860	1	1	22.50	21.97	112.98%	0.142	0.160	-
					LE Tilt	-	18700	1860	1	1	22.50	21.97	112.98%	0.065	0.073	-
LTE Band 2 (Body-Worn)	20MHz	QPSK	1 RB	50	Front side	15	18900	1880	1	1	23.50	22.74	119.12%	0.565	0.673	-
					Back side	15	18900	1880	1	1	23.50	22.74	119.12%	0.573	0.683	172
					Back side	15	18900	1880	2	1	23.50	22.74	119.12%	0.550	0.655	-
					Back side	15	18900	1880	3	1	23.50	22.74	119.12%	0.571	0.680	-
			50 RB	25	Front side	15	18900	1880	1	1	22.50	22.07	110.41%	0.537	0.593	-
					Back side	15	18900	1880	1	1	22.50	22.07	110.41%	0.556	0.614	-
			100 RB		Front side	15	18900	1880	1	1	22.50	22.04	111.17%	0.534	0.594	-
					Back side	15	18900	1880	1	1	22.50	22.04	111.17%	0.531	0.590	-
LTE Band 2 (Hotspot)	20MHz	QPSK	1 RB	50	Front side	10	18700	1860	1	1	21.00	20.41	114.55%	0.480	0.550	-
					Back side	10	18700	1860	1	1	21.00	20.41	114.55%	0.483	0.553	-
					Bottom side	10	18700	1860	1	1	21.00	20.41	114.55%	0.803	0.920	-
					Bottom side	10	18900	1880	1	1	21.00	20.21	119.95%	0.740	0.888	-
					Bottom side	10	19100	1900	1	1	21.00	19.64	136.77%	0.943	1.290	173
					Bottom side	10	19100	1900	2	1	21.00	19.64	136.77%	0.933	1.276	-
					Bottom side	10	19100	1900	3	1	21.00	19.64	136.77%	0.805	1.101	-
					Bottom side*	10	19100	1900	1	1	21.00	19.64	136.77%	0.940	1.286	-
					Right side	10	18700	1860	1	1	21.00	20.41	114.55%	0.068	0.078	-
					Left side	10	18700	1860	1	1	21.00	20.41	114.55%	0.087	0.100	-
			50 RB	25	Front side	10	18900	1880	1	1	21.00	20.01	125.60%	0.457	0.574	-
					Back side	10	18900	1880	1	1	21.00	20.01	125.60%	0.471	0.592	-
					Bottom side	10	18700	1860	1	1	21.00	19.95	127.35%	0.687	0.875	-
					Bottom side	10	18900	1880	1	1	21.00	20.01	125.60%	0.718	0.902	-
					Bottom side	10	19100	1900	1	1	21.00	19.77	132.74%	0.787	1.045	-
					Right side	10	18900	1880	1	1	21.00	20.01	125.60%	0.065	0.082	-
					Left side	10	18900	1880	1	1	21.00	20.01	125.60%	0.084	0.106	-
			100 RB		Front side	10	18700	1860	1	1	21.00	19.89	129.12%	0.431	0.557	-
					Back side	10	18700	1860	1	1	21.00	19.89	129.12%	0.459	0.593	-
					Bottom side	10	18700	1860	1	1	21.00	19.89	129.12%	0.711	0.918	-
					Bottom side	10	18900	1880	1	1	21.00	19.88	129.42%	0.713	0.923	-
					Bottom side	10	19100	1900	1	1	21.00	19.81	131.52%	0.799	1.051	-
					Right side	10	18700	1860	1	1	21.00	19.89	129.12%	0.062	0.080	-
					Left side	10	18700	1860	1	1	21.00	19.89	129.12%	0.083	0.107	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

LTE FDD Band IV

Main Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 4 (Head)	20MHz	QPSK	1 RB	99	RE Cheek	-	20300	1745	1	1	23.50	23.48	100.46%	0.153	0.154	174
					RE Cheek	-	20300	1745	2	1	23.50	23.48	100.46%	0.147	0.148	-
					RE Cheek	-	20300	1745	3	1	23.50	23.48	100.46%	0.141	0.142	-
					RE Tilt	-	20300	1745	1	1	23.50	23.48	100.46%	0.071	0.071	-
					LE Cheek	-	20300	1745	1	1	23.50	23.48	100.46%	0.142	0.143	-
					LE Tilt	-	20300	1745	1	1	23.50	23.48	100.46%	0.048	0.048	-
			50 RB	0	RE Cheek	-	20050	1720	1	1	22.50	22.27	105.44%	0.110	0.116	-
					RE Tilt	-	20050	1720	1	1	22.50	22.27	105.44%	0.050	0.053	-
					LE Cheek	-	20050	1720	1	1	22.50	22.27	105.44%	0.100	0.105	-
					LE Tilt	-	20050	1720	1	1	22.50	22.27	105.44%	0.031	0.033	-
			100 RB		RE Cheek	-	20300	1745	1	1	22.50	22.26	105.68%	0.114	0.120	-
					RE Tilt	-	20300	1745	1	1	22.50	22.26	105.68%	0.053	0.056	-
					LE Cheek	-	20300	1745	1	1	22.50	22.26	105.68%	0.105	0.111	-
					LE Tilt	-	20300	1745	1	1	22.50	22.26	105.68%	0.035	0.037	-
LTE Band 4 (Body-Worn)	20MHz	QPSK	1 RB	99	Front side	15	20300	1745	1	1	23.50	23.48	100.46%	0.492	0.494	-
					Back side	15	20300	1745	1	1	23.50	23.48	100.46%	0.494	0.496	175
					Back side	15	20300	1745	2	1	23.50	23.48	100.46%	0.473	0.475	-
					Back side	15	20300	1745	3	1	23.50	23.48	100.46%	0.477	0.479	-
			50 RB	0	Front side	15	20050	1720	1	1	22.50	22.27	105.44%	0.398	0.420	-
					Back side	15	20050	1720	1	1	22.50	22.27	105.44%	0.401	0.423	-
			100 RB		Front side	15	20300	1745	1	1	22.50	22.26	105.68%	0.383	0.405	-
					Back side	15	20300	1745	1	1	22.50	22.26	105.68%	0.392	0.414	-
LTE Band 4 (Hotspot)	20MHz	QPSK	1 RB	50	Bottom side	10	20050	1720	1	1	23.00	22.30	117.49%	1.130	1.328	-
					Bottom side	10	20175	1732.5	1	1	23.00	22.25	118.85%	1.080	1.284	-
				99	Front side	10	20300	1745	1	1	23.00	22.65	108.39%	0.618	0.670	-
					Back side	10	20300	1745	1	1	23.00	22.65	108.39%	0.502	0.544	-
					Bottom side	10	20300	1745	1	1	23.00	22.65	108.39%	1.020	1.106	-
					Right side	10	20300	1745	1	1	23.00	22.65	108.39%	0.065	0.070	-
					Left side	10	20300	1745	1	1	23.00	22.65	108.39%	0.083	0.090	-
			50 RB	0	Front side	10	20300	1745	1	1	23.00	22.30	117.49%	0.605	0.711	-
					Back side	10	20300	1745	1	1	23.00	22.30	117.49%	0.426	0.501	-
					Bottom side	10	20050	1720	1	1	23.00	22.28	118.03%	1.170	1.381	-
					Bottom side	10	20300	1745	1	1	23.00	22.30	117.49%	1.120	1.316	-
					Right side	10	20300	1745	1	1	23.00	22.30	117.49%	0.064	0.075	-
					Left side	10	20300	1745	1	1	23.00	22.30	117.49%	0.082	0.096	-
				25	Bottom side	10	20175	1732.5	1	1	23.00	22.15	121.62%	1.040	1.265	-
			100 RB		Front side	10	20300	1745	1	1	23.00	22.26	118.58%	0.533	0.632	-
					Back side	10	20300	1745	1	1	23.00	22.26	118.58%	0.376	0.446	-
					Bottom side	10	20050	1720	1	1	23.00	22.17	121.06%	1.180	1.429	176
					Bottom side - Holder perturbations	10	20050	1720	1	1	23.00	22.17	121.06%	1.150	1.392	-
					Bottom side	10	20050	1720	2	1	23.00	22.17	121.06%	1.110	1.344	-
					Bottom side	10	20050	1720	3	1	23.00	22.17	121.06%	1.150	1.392	-
					Bottom side*	10	20050	1720	1	1	23.00	22.17	121.06%	1.170	1.416	-
					Bottom side	10	20175	1732.5	1	1	23.00	22.14	121.90%	1.030	1.256	-
					Bottom side	10	20300	1745	1	1	23.00	22.26	118.58%	1.060	1.257	-
					Right side	10	20300	1745	1	1	23.00	22.26	118.58%	0.060	0.071	-
					Left side	10	20300	1745	1	1	23.00	22.26	118.58%	0.079	0.094	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

LTE FDD Band V

Main Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 5 (Head)	10MHz	QPSK	1 RB	25	RE Cheek	-	20600	844	1	1	24.20	23.57	115.61%	0.402	0.465	177
					RE Cheek	-	20600	844	2	1	24.20	23.57	115.61%	0.322	0.372	-
					RE Cheek	-	20600	844	3	1	24.20	23.57	115.61%	0.398	0.460	-
					RE Tilt	-	20600	844	1	1	24.20	23.57	115.61%	0.253	0.292	-
					LE Cheek	-	20600	844	1	1	24.20	23.57	115.61%	0.321	0.371	-
					LE Tilt	-	20600	844	1	1	24.20	23.57	115.61%	0.231	0.267	-
			25 RB	0	RE Cheek	-	20600	844	1	1	23.20	22.19	126.18%	0.290	0.366	-
					RE Tilt	-	20600	844	1	1	23.20	22.19	126.18%	0.186	0.235	-
					LE Cheek	-	20600	844	1	1	23.20	22.19	126.18%	0.234	0.295	-
					LE Tilt	-	20600	844	1	1	23.20	22.19	126.18%	0.175	0.221	-
			50 RB		RE Cheek	-	20525	836.5	1	1	23.20	22.12	128.23%	0.275	0.353	-
					RE Tilt	-	20525	836.5	1	1	23.20	22.12	128.23%	0.180	0.231	-
					LE Cheek	-	20525	836.5	1	1	23.20	22.12	128.23%	0.225	0.289	-
					LE Tilt	-	20525	836.5	1	1	23.20	22.12	128.23%	0.170	0.218	-
LTE Band 5 (Body-Worn)	10MHz	QPSK	1 RB	25	Front side	15	20600	844	1	1	24.20	23.57	115.61%	0.288	0.333	-
					Back side	15	20600	844	1	1	24.20	23.57	115.61%	0.342	0.395	178
					Back side	15	20600	844	2	1	24.20	23.57	115.61%	0.297	0.343	-
					Back side	15	20600	844	3	1	24.20	23.57	115.61%	0.313	0.362	-
			25 RB	0	Front side	15	20600	844	1	1	23.20	22.19	126.18%	0.231	0.291	-
					Back side	15	20600	844	1	1	23.20	22.19	126.18%	0.234	0.295	-
			50 RB		Front side	15	20525	836.5	1	1	23.20	22.12	128.23%	0.229	0.294	-
					Back side	15	20525	836.5	1	1	23.20	22.12	128.23%	0.232	0.298	-
LTE Band 5 (Hotspot)	10MHz	QPSK	1 RB	25	Front side	10	20600	844	1	1	24.20	23.57	115.61%	0.357	0.413	-
					Back side	10	20600	844	1	1	24.20	23.57	115.61%	0.510	0.590	179
					Back side	10	20600	844	2	1	24.20	23.57	115.61%	0.488	0.564	-
					Back side	10	20600	844	3	1	24.20	23.57	115.61%	0.440	0.509	-
					Bottom side	10	20600	844	1	1	24.20	23.57	115.61%	0.243	0.281	-
					Right side	10	20600	844	1	1	24.20	23.57	115.61%	0.379	0.438	-
					Left side	10	20600	844	1	1	24.20	23.57	115.61%	0.123	0.142	-
			25 RB	0	Front side	10	20600	844	1	1	23.20	22.19	126.18%	0.275	0.347	-
					Back side	10	20600	844	1	1	23.20	22.19	126.18%	0.345	0.435	-
					Bottom side	10	20600	844	1	1	23.20	22.19	126.18%	0.174	0.220	-
					Right side	10	20600	844	1	1	23.20	22.19	126.18%	0.284	0.358	-
					Left side	10	20600	844	1	1	23.20	22.19	126.18%	0.096	0.121	-
			50 RB		Front side	10	20525	836.5	1	1	23.20	22.12	128.23%	0.261	0.335	-
					Back side	10	20525	836.5	1	1	23.20	22.12	128.23%	0.313	0.401	-
					Bottom side	10	20525	836.5	1	1	23.20	22.12	128.23%	0.161	0.206	-
					Right side	10	20525	836.5	1	1	23.20	22.12	128.23%	0.274	0.351	-
					Left side	10	20525	836.5	1	1	23.20	22.12	128.23%	0.094	0.121	-

Sub Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 5 (Head)	10MHz	QPSK	1 RB	25	RE Cheek	-	20450	829	1	1	21.90	20.73	130.92%	0.972	1.273	-
					RE Cheek	-	20600	844	1	1	21.90	20.89	126.18%	1.120	1.413	180
					RE Cheek	-	20600	844	2	1	21.90	20.89	126.18%	0.955	1.205	-
					RE Cheek	-	20600	844	3	1	21.90	20.89	126.18%	0.880	1.110	-
					RE Cheek - Holder perturbations	-	20600	844	1	1	21.90	20.89	126.18%	1.080	1.363	-
					RE Cheek*	-	20600	844	1	1	21.90	20.89	126.18%	1.100	1.388	-
					RE Tilt	-	20450	829	1	1	21.90	20.73	130.92%	0.664	0.869	-
					RE Tilt	-	20600	844	1	1	21.90	20.89	126.18%	0.808	1.020	-
					LE Cheek	-	20600	844	1	1	21.90	20.89	126.18%	0.584	0.737	-
					LE Tilt	-	20600	844	1	1	21.90	20.89	126.18%	0.525	0.662	-
				49	RE Cheek	-	20525	836.5	1	1	21.90	20.87	126.77%	1.110	1.407	-
					RE Tilt	-	20525	836.5	1	1	21.90	20.87	126.77%	0.772	0.979	-
			25 RB	12	RE Cheek	-	20450	829	1	1	21.90	20.73	130.92%	0.969	1.269	-
					RE Cheek	-	20525	836.5	1	1	21.90	20.76	130.02%	1.060	1.378	-
					RE Tilt	-	20450	829	1	1	21.90	20.73	130.92%	0.657	0.860	-
					RE Tilt	-	20525	836.5	1	1	21.90	20.76	130.02%	0.800	1.040	-
				25	RE Cheek	-	20600	844	1	1	21.90	20.82	128.23%	1.100	1.411	-
					RE Tilt	-	20600	844	1	1	21.90	20.82	128.23%	0.800	1.026	-
					LE Cheek	-	20600	844	1	1	21.90	20.82	128.23%	0.581	0.745	-
					LE Tilt	-	20600	844	1	1	21.90	20.82	128.23%	0.511	0.655	-
			50 RB		RE Cheek	-	20600	844	1	1	21.90	20.93	125.03%	1.100	1.375	-
					RE Tilt	-	20600	844	1	1	21.90	20.93	125.03%	0.794	0.993	-
					LE Cheek	-	20600	844	1	1	21.90	20.93	125.03%	0.580	0.725	-
					LE Tilt	-	20600	844	1	1	21.90	20.93	125.03%	0.509	0.636	-
LTE Band 5 (Body-Worn)	10MHz	QPSK	1 RB	25	Front side	15	20600	844	1	1	21.90	20.89	126.18%	0.097	0.122	-
					Back side	15	20600	844	1	1	21.90	20.89	126.18%	0.135	0.170	181
					Back side	15	20600	844	2	1	21.90	20.89	126.18%	0.120	0.151	-
					Back side	15	20600	844	3	1	21.90	20.89	126.18%	0.124	0.156	-
			25 RB	25	Front side	15	20600	844	1	1	21.90	20.82	128.23%	0.096	0.123	-
					Back side	15	20600	844	1	1	21.90	20.82	128.23%	0.116	0.149	-
			50 RB		Front side	15	20600	844	1	1	21.90	20.93	125.03%	0.093	0.116	-
					Back side	15	20600	844	1	1	21.90	20.93	125.03%	0.115	0.144	-
LTE Band 5 (Hotspot)	10MHz	QPSK	1 RB	25	Front side	10	20600	844	1	1	21.90	20.89	126.18%	0.215	0.271	-
					Back side	10	20600	844	1	1	21.90	20.89	126.18%	0.285	0.360	182
					Back side	10	20600	844	2	1	21.90	20.89	126.18%	0.245	0.309	-
					Back side	10	20600	844	3	1	21.90	20.89	126.18%	0.241	0.304	-
					Top side	10	20600	844	1	1	21.90	20.89	126.18%	0.150	0.189	-
					Right side	10	20600	844	1	1	21.90	20.89	126.18%	0.046	0.058	-
					Left side	10	20600	844	1	1	21.90	20.89	126.18%	0.178	0.225	-
			25 RB	25	Front side	10	20600	844	1	1	21.90	20.82	128.23%	0.210	0.269	-
					Back side	10	20600	844	1	1	21.90	20.82	128.23%	0.263	0.337	-
					Top side	10	20600	844	1	1	21.90	20.82	128.23%	0.149	0.191	-
					Right side	10	20600	844	1	1	21.90	20.82	128.23%	0.045	0.058	-
					Left side	10	20600	844	1	1	21.90	20.82	128.23%	0.169	0.217	-
			50 RB		Front side	10	20600	844	1	1	21.90	20.93	125.03%	0.206	0.258	-
					Back side	10	20600	844	1	1	21.90	20.93	125.03%	0.258	0.323	-
					Top side	10	20600	844	1	1	21.90	20.93	125.03%	0.147	0.184	-
					Right side	10	20600	844	1	1	21.90	20.93	125.03%	0.045	0.056	-
					Left side	10	20600	844	1	1	21.90	20.93	125.03%	0.169	0.211	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

LTE FDD Band VII

Main Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 7 (Head)	20MHz	QPSK	1 RB	50	RE Cheek	-	20850	2510	1	1	23.30	23.30	100.00%	0.196	0.196	183
					RE Cheek	-	20850	2510	2	1	23.30	23.30	100.00%	0.191	0.191	-
					RE Cheek	-	20850	2510	3	1	23.30	23.30	100.00%	0.182	0.182	-
					RE Tilt	-	20850	2510	1	1	23.30	23.30	100.00%	0.059	0.059	-
					LE Cheek	-	20850	2510	1	1	23.30	23.30	100.00%	0.132	0.132	-
					LE Tilt	-	20850	2510	1	1	23.30	23.30	100.00%	0.034	0.034	-
			50 RB	0	RE Cheek	-	21100	2535	1	1	22.30	22.09	104.95%	0.141	0.148	-
					RE Tilt	-	21100	2535	1	1	22.30	22.09	104.95%	0.041	0.043	-
					LE Cheek	-	21100	2535	1	1	22.30	22.09	104.95%	0.095	0.100	-
					LE Tilt	-	21100	2535	1	1	22.30	22.09	104.95%	0.021	0.022	-
			100 RB		RE Cheek	-	21100	2535	1	1	22.30	22.08	105.20%	0.136	0.143	-
					RE Tilt	-	21100	2535	1	1	22.30	22.08	105.20%	0.037	0.039	-
					LE Cheek	-	21100	2535	1	1	22.30	22.08	105.20%	0.090	0.095	-
					LE Tilt	-	21100	2535	1	1	22.30	22.08	105.20%	0.020	0.021	-
LTE Band 7 (Body-Worn)	20MHz	QPSK	1 RB	50	Front side	15	20850	2510	1	1	23.30	23.30	100.00%	0.544	0.544	184
					Back side	15	20850	2510	1	1	23.30	23.30	100.00%	0.412	0.412	-
					Back side	15	20850	2510	2	1	23.30	23.30	100.00%	0.502	0.502	-
					Back side	15	20850	2510	3	1	23.30	23.30	100.00%	0.519	0.519	-
			50 RB	0	Front side	15	21100	2535	1	1	22.30	22.09	104.95%	0.434	0.456	-
					Back side	15	21100	2535	1	1	22.30	22.09	104.95%	0.376	0.395	-
			100 RB		Front side	15	21100	2535	1	1	22.30	22.08	105.20%	0.431	0.453	-
					Back side	15	21100	2535	1	1	22.30	22.08	105.20%	0.364	0.383	-
LTE Band 7 (Hotspot)	20MHz	QPSK	1 RB	50	Front side	10	20850	2510	1	1	21.80	21.45	108.39%	0.527	0.571	-
					Back side	10	20850	2510	1	1	21.80	21.45	108.39%	0.519	0.563	-
					Bottom side	10	20850	2510	1	1	21.80	21.45	108.39%	1.180	1.279	-
					Bottom side	10	21100	2535	1	1	21.80	21.28	112.72%	1.200	1.353	185
					Bottom side	10	21100	2535	2	1	21.80	21.28	112.72%	1.110	1.251	-
					Bottom side	10	21100	2535	3	1	21.80	21.28	112.72%	1.150	1.296	-
					Bottom side*	10	21100	2535	1	1	21.80	21.28	112.72%	1.170	1.319	-
					Bottom side	10	21350	2560	1	1	21.80	21.12	116.95%	1.140	1.333	-
					Right side	10	20850	2510	1	1	21.80	21.45	108.39%	0.088	0.095	-
					Left side	10	20850	2510	1	1	21.80	21.45	108.39%	0.155	0.168	-
			50 RB	0	Bottom side	10	21100	2535	1	1	21.80	21.08	118.03%	1.160	1.369	-
				25	Bottom side	10	21350	2560	1	1	21.80	20.98	120.78%	1.110	1.341	-
				50	Front side	10	20850	2510	1	1	21.80	21.14	116.41%	0.521	0.607	-
					Back side	10	20850	2510	1	1	21.80	21.14	116.41%	0.514	0.598	-
					Bottom side	10	20850	2510	1	1	21.80	21.14	116.41%	1.090	1.269	-
					Right side	10	20850	2510	1	1	21.80	21.14	116.41%	0.087	0.101	-
					Left side	10	20850	2510	1	1	21.80	21.14	116.41%	0.153	0.178	-
			100 RB		Front side	10	21100	2535	1	1	21.80	21.08	118.03%	0.516	0.609	-
					Back side	10	21100	2535	1	1	21.80	21.08	118.03%	0.488	0.576	-
					Bottom side	10	20850	2510	1	1	21.80	20.99	120.50%	1.110	1.338	-
					Bottom side	10	21100	2535	1	1	21.80	21.08	118.03%	0.989	1.167	-
					Bottom side	10	21350	2560	1	1	21.80	20.97	121.06%	1.140	1.380	-
					Bottom side	10	21350	2560	2	1	21.80	20.97	121.06%	1.000	1.211	-
					Bottom side	10	21350	2560	3	1	21.80	20.97	121.06%	1.100	1.332	-
					Right side	10	21100	2535	1	1	21.80	21.08	118.03%	0.076	0.090	-
					Left side	10	21100	2535	1	1	21.80	21.08	118.03%	0.147	0.174	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

LTE FDD Band XII

Main Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 12 (Head)	10MHz	QPSK	1 RB	25	RE Cheek	-	23130	711	1	1	23.60	23.25	108.39%	0.139	0.151	-
					RE Cheek	-	23130	711	2	1	23.60	23.25	108.39%	0.203	0.220	186
					RE Cheek	-	23130	711	3	1	23.60	23.25	108.39%	0.133	0.144	-
					RE Tilt	-	23130	711	1	1	23.60	23.25	108.39%	0.105	0.114	-
					LE Cheek	-	23130	711	1	1	23.60	23.25	108.39%	0.119	0.129	-
					LE Tilt	-	23130	711	1	1	23.60	23.25	108.39%	0.078	0.085	-
			25 RB	0	RE Cheek	-	23060	704	1	1	22.60	21.98	115.35%	0.090	0.104	-
					RE Tilt	-	23060	704	1	1	22.60	21.98	115.35%	0.072	0.083	-
					LE Cheek	-	23060	704	1	1	22.60	21.98	115.35%	0.081	0.093	-
					LE Tilt	-	23060	704	1	1	22.60	21.98	115.35%	0.049	0.057	-
			50 RB		RE Cheek	-	23060	704	1	1	22.60	21.92	116.95%	0.090	0.105	-
					RE Tilt	-	23060	704	1	1	22.60	21.92	116.95%	0.076	0.089	-
					LE Cheek	-	23060	704	1	1	22.60	21.92	116.95%	0.085	0.099	-
					LE Tilt	-	23060	704	1	1	22.60	21.92	116.95%	0.051	0.060	-
LTE Band 12 (Body-Worn)	10MHz	QPSK	1 RB	25	Front side	15	23130	711	1	1	23.60	23.25	108.39%	0.189	0.205	-
					Back side	15	23130	711	1	1	23.60	23.25	108.39%	0.190	0.206	-
					Back side	15	23130	711	2	1	23.60	23.25	108.39%	0.253	0.274	187
					Back side	15	23130	711	3	1	23.60	23.25	108.39%	0.181	0.196	-
			25 RB	0	Front side	15	23060	704	1	1	22.60	21.98	115.35%	0.129	0.149	-
					Back side	15	23060	704	1	1	22.60	21.98	115.35%	0.135	0.156	-
			50 RB		Front side	15	23060	704	1	1	22.60	21.92	116.95%	0.128	0.150	-
					Back side	15	23060	704	1	1	22.60	21.92	116.95%	0.134	0.157	-
LTE Band 12 (Hotspot)	10MHz	QPSK	1 RB	25	Front side	10	23130	711	1	1	23.60	23.25	108.39%	0.233	0.253	-
					Back side	10	23130	711	1	1	23.60	23.25	108.39%	0.248	0.269	188
					Back side	10	23130	711	2	1	23.60	23.25	108.39%	0.193	0.209	-
					Back side	10	23130	711	3	1	23.60	23.25	108.39%	0.240	0.260	-
					Bottom side	10	23130	711	1	1	23.60	23.25	108.39%	0.074	0.080	-
					Right side	10	23130	711	1	1	23.60	23.25	108.39%	0.130	0.141	-
					Left side	10	23130	711	1	1	23.60	23.25	108.39%	0.134	0.145	-
			25 RB	0	Front side	10	23060	704	1	1	22.60	21.98	115.35%	0.164	0.189	-
					Back side	10	23060	704	1	1	22.60	21.98	115.35%	0.168	0.194	-
					Bottom side	10	23060	704	1	1	22.60	21.98	115.35%	0.051	0.059	-
					Right side	10	23060	704	1	1	22.60	21.98	115.35%	0.089	0.103	-
					Left side	10	23060	704	1	1	22.60	21.98	115.35%	0.093	0.107	-
			50 RB		Front side	10	23060	704	1	1	22.60	21.92	116.95%	0.161	0.188	-
					Back side	10	23060	704	1	1	22.60	21.92	116.95%	0.165	0.193	-
					Bottom side	10	23060	704	1	1	22.60	21.92	116.95%	0.046	0.054	-
					Right side	10	23060	704	1	1	22.60	21.92	116.95%	0.088	0.103	-
					Left side	10	23060	704	1	1	22.60	21.92	116.95%	0.092	0.108	-

Sub Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 12 (Head)	10MHz	QPSK	1 RB	0	RE Cheek	-	23095	707.5	1	1	23.60	22.11	140.93%	0.709	0.999	-
					RE Cheek	-	23095	707.5	2	1	23.60	22.11	140.93%	0.749	1.056	-
					RE Cheek	-	23095	707.5	3	1	23.60	22.11	140.93%	0.819	1.154	189
					RE Cheek*	-	23095	707.5	3	1	23.60	22.11	140.93%	0.802	1.130	-
					RE Tilt	-	23095	707.5	1	1	23.60	22.11	140.93%	0.633	0.892	-
					LE Cheek	-	23095	707.5	1	1	23.60	22.11	140.93%	0.408	0.575	-
					LE Tilt	-	23095	707.5	1	1	23.60	22.11	140.93%	0.374	0.527	-
				25	RE Cheek	-	23060	704	1	1	23.60	22.70	123.03%	0.719	0.885	-
					RE Cheek	-	23130	711	1	1	23.60	23.02	114.29%	0.744	0.850	-
					RE Tilt	-	23060	704	1	1	23.60	22.70	123.03%	0.653	0.803	-
					RE Tilt	-	23130	711	1	1	23.60	23.02	114.29%	0.693	0.792	-
			25 RB	0	RE Cheek	-	23095	707.5	1	1	22.60	21.76	121.34%	0.581	0.705	-
					RE Tilt	-	23095	707.5	1	1	22.60	21.76	121.34%	0.514	0.624	-
					LE Cheek	-	23095	707.5	1	1	22.60	21.76	121.34%	0.361	0.438	-
					LE Tilt	-	23095	707.5	1	1	22.60	21.76	121.34%	0.309	0.375	-
			50 RB		RE Cheek	-	23130	711	1	1	22.60	21.74	121.90%	0.642	0.783	-
					RE Tilt	-	23130	711	1	1	22.60	21.74	121.90%	0.549	0.669	-
					LE Cheek	-	23130	711	1	1	22.60	21.74	121.90%	0.401	0.489	-
					LE Tilt	-	23130	711	1	1	22.60	21.74	121.90%	0.342	0.417	-
LTE Band 12 (Body-Worn)	10MHz	QPSK	1 RB	0	Front side	15	23095	707.5	1	1	23.60	22.11	140.93%	0.089	0.125	-
					Back side	15	23095	707.5	1	1	23.60	22.11	140.93%	0.099	0.140	-
					Back side	15	23095	707.5	2	1	23.60	22.11	140.93%	0.094	0.132	-
					Back side	15	23095	707.5	3	1	23.60	22.11	140.93%	0.110	0.155	190
			25 RB	0	Front side	15	23095	707.5	1	1	22.60	21.76	121.34%	0.087	0.106	-
					Back side	15	23095	707.5	1	1	22.60	21.76	121.34%	0.108	0.131	-
			50 RB		Front side	15	23130	711	1	1	22.60	21.74	121.90%	0.076	0.093	-
					Back side	15	23130	711	1	1	22.60	21.74	121.90%	0.092	0.112	-
LTE Band 12 (Hotspot)	10MHz	QPSK	1 RB	0	Front side	10	23095	707.5	1	1	23.60	22.11	140.93%	0.161	0.227	-
					Back side	10	23095	707.5	1	1	23.60	22.11	140.93%	0.196	0.276	-
					Back side	10	23095	707.5	2	1	23.60	22.11	140.93%	0.203	0.286	191
					Back side	10	23095	707.5	3	1	23.60	22.11	140.93%	0.195	0.275	-
					Top side	10	23095	707.5	1	1	23.60	22.11	140.93%	0.120	0.169	-
					Right side	10	23095	707.5	1	1	23.60	22.11	140.93%	0.035	0.049	-
					Left side	10	23095	707.5	1	1	23.60	22.11	140.93%	0.121	0.171	-
			25 RB	0	Front side	10	23095	707.5	1	1	22.60	21.76	121.34%	0.155	0.188	-
					Back side	10	23095	707.5	1	1	22.60	21.76	121.34%	0.196	0.238	-
					Top side	10	23095	707.5	1	1	22.60	21.76	121.34%	0.108	0.131	-
					Right side	10	23095	707.5	1	1	22.60	21.76	121.34%	0.034	0.041	-
					Left side	10	23095	707.5	1	1	22.60	21.76	121.34%	0.118	0.143	-
			50 RB		Front side	10	23130	711	1	1	22.60	21.74	121.90%	0.148	0.180	-
					Back side	10	23130	711	1	1	22.60	21.74	121.90%	0.194	0.236	-
					Top side	10	23130	711	1	1	22.60	21.74	121.90%	0.106	0.129	-
					Right side	10	23130	711	1	1	22.60	21.74	121.90%	0.033	0.040	-
					Left side	10	23130	711	1	1	22.60	21.74	121.90%	0.115	0.140	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

LTE FDD Band XVII

Main Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 17 (Head)	10MHz	QPSK	1 RB	25	RE Cheek	-	23790	710	1	1	23.60	22.96	115.88%	0.134	0.155	-
					RE Cheek	-	23790	710	2	1	23.60	22.96	115.88%	0.161	0.187	192
					RE Cheek	-	23790	710	3	1	23.60	22.96	115.88%	0.114	0.132	-
					RE Tilt	-	23790	710	1	1	23.60	22.96	115.88%	0.099	0.115	-
					LE Cheek	-	23790	710	1	1	23.60	22.96	115.88%	0.115	0.133	-
					LE Tilt	-	23790	710	1	1	23.60	22.96	115.88%	0.077	0.089	-
			25 RB	0	RE Cheek	-	23780	709	1	1	22.60	21.91	117.22%	0.108	0.127	-
					RE Tilt	-	23780	709	1	1	22.60	21.91	117.22%	0.083	0.097	-
					LE Cheek	-	23780	709	1	1	22.60	21.91	117.22%	0.093	0.109	-
					LE Tilt	-	23780	709	1	1	22.60	21.91	117.22%	0.060	0.070	-
			50 RB		RE Cheek	-	23790	710	1	1	22.60	21.79	120.50%	0.108	0.130	-
					RE Tilt	-	23790	710	1	1	22.60	21.79	120.50%	0.081	0.098	-
					LE Cheek	-	23790	710	1	1	22.60	21.79	120.50%	0.092	0.111	-
					LE Tilt	-	23790	710	1	1	22.60	21.79	120.50%	0.062	0.075	-
LTE Band 17 (Body-Worn)	10MHz	QPSK	1 RB	25	Front side	15	23790	710	1	1	23.60	22.96	115.88%	0.180	0.209	-
					Back side	15	23790	710	1	1	23.60	22.96	115.88%	0.181	0.210	-
					Back side	15	23790	710	2	1	23.60	22.96	115.88%	0.245	0.284	193
					Back side	15	23790	710	3	1	23.60	22.96	115.88%	0.172	0.199	-
			25 RB	0	Front side	15	23780	709	1	1	22.60	21.91	117.22%	0.149	0.175	-
					Back side	15	23780	709	1	1	22.60	21.91	117.22%	0.146	0.171	-
			50 RB		Front side	15	23790	710	1	1	22.60	21.79	120.50%	0.148	0.178	-
					Back side	15	23790	710	1	1	22.60	21.79	120.50%	0.144	0.174	-
LTE Band 17 (Hotspot)	10MHz	QPSK	1 RB	25	Front side	10	23790	710	1	1	23.60	22.96	115.88%	0.222	0.257	-
					Back side	10	23790	710	1	1	23.60	22.96	115.88%	0.244	0.283	194
					Back side	10	23790	710	2	1	23.60	22.96	115.88%	0.224	0.260	-
					Back side	10	23790	710	3	1	23.60	22.96	115.88%	0.231	0.268	-
					Bottom side	10	23790	710	1	1	23.60	22.96	115.88%	0.091	0.105	-
					Right side	10	23790	710	1	1	23.60	22.96	115.88%	0.168	0.195	-
					Left side	10	23790	710	1	1	23.60	22.96	115.88%	0.135	0.156	-
			25 RB	0	Front side	10	23780	709	1	1	22.60	21.91	117.22%	0.181	0.212	-
					Back side	10	23780	709	1	1	22.60	21.91	117.22%	0.193	0.226	-
					Bottom side	10	23780	709	1	1	22.60	21.91	117.22%	0.075	0.088	-
					Right side	10	23780	709	1	1	22.60	21.91	117.22%	0.136	0.159	-
					Left side	10	23780	709	1	1	22.60	21.91	117.22%	0.106	0.124	-
			50 RB		Front side	10	23790	710	1	1	22.60	21.79	120.50%	0.179	0.216	-
					Back side	10	23790	710	1	1	22.60	21.79	120.50%	0.192	0.231	-
					Bottom side	10	23790	710	1	1	22.60	21.79	120.50%	0.074	0.089	-
					Right side	10	23790	710	1	1	22.60	21.79	120.50%	0.133	0.160	-
					Left side	10	23790	710	1	1	22.60	21.79	120.50%	0.104	0.125	-

Sub Antenna

Mode	Bandwidth (MHz)	Modulation	RB Size	RB start	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
														Measured	Reported	
LTE Band 17 (Head)	10MHz	QPSK	1 RB	25	RE Cheek	-	23780	709	1	1	23.60	22.71	122.74%	0.786	0.965	-
					RE Cheek	-	23790	710	1	1	23.60	22.49	129.12%	0.738	0.953	-
					RE Cheek	-	23800	711	1	1	23.60	22.20	138.04%	0.718	0.991	-
					RE Cheek	-	23800	711	2	1	23.60	22.20	138.04%	0.822	1.135	-
					RE Cheek	-	23800	711	3	1	23.60	22.20	138.04%	0.827	1.142	195
					RE Cheek*	-	23800	711	3	1	23.60	22.20	138.04%	0.825	1.139	-
					RE Tilt	-	23780	709	1	1	23.60	22.71	122.74%	0.673	0.826	-
					RE Tilt	-	23790	710	1	1	23.60	22.49	129.12%	0.666	0.860	-
					RE Tilt	-	23800	711	1	1	23.60	22.20	138.04%	0.658	0.908	-
					LE Cheek	-	23780	709	1	1	23.60	22.71	122.74%	0.475	0.583	-
					LE Tilt	-	23780	709	1	1	23.60	22.71	122.74%	0.416	0.511	-
			25 RB	0	RE Cheek	-	23780	709	1	1	22.60	21.64	124.74%	0.639	0.797	-
					RE Tilt	-	23780	709	1	1	22.60	21.64	124.74%	0.541	0.675	-
					LE Cheek	-	23780	709	1	1	22.60	21.64	124.74%	0.385	0.480	-
					LE Tilt	-	23780	709	1	1	22.60	21.64	124.74%	0.325	0.405	-
			50 RB		RE Cheek	-	23780	709	1	1	22.60	21.59	126.18%	0.647	0.816	-
					RE Cheek	-	23790	710	1	1	22.60	21.49	129.12%	0.603	0.779	-
					RE Cheek	-	23800	711	1	1	22.60	21.47	129.72%	0.614	0.796	-
					RE Tilt	-	23780	709	1	1	22.60	21.59	126.18%	0.539	0.680	-
					LE Cheek	-	23780	709	1	1	22.60	21.59	126.18%	0.388	0.490	-
					LE Tilt	-	23780	709	1	1	22.60	21.59	126.18%	0.323	0.408	-
LTE Band 17 (Body-Worn)	10MHz	QPSK	1 RB	25	Front side	15	23780	709	1	1	23.60	22.71	122.74%	0.105	0.129	-
					Back side	15	23780	709	1	1	23.60	22.71	122.74%	0.114	0.140	196
					Back side	15	23780	709	2	1	23.60	22.71	122.74%	0.093	0.114	-
					Back side	15	23780	709	3	1	23.60	22.71	122.74%	0.110	0.135	-
			25 RB	0	Front side	15	23780	709	1	1	22.60	21.64	124.74%	0.087	0.109	-
					Back side	15	23780	709	1	1	22.60	21.64	124.74%	0.098	0.122	-
			50 RB		Front side	15	23780	709	1	1	22.60	21.59	126.18%	0.084	0.106	-
					Back side	15	23780	709	1	1	22.60	21.59	126.18%	0.094	0.119	-
LTE Band 17 (Hotspot)	10MHz	QPSK	1 RB	25	Front side	10	23780	709	1	1	23.60	22.71	122.74%	0.188	0.231	-
					Back side	10	23780	709	1	1	23.60	22.71	122.74%	0.203	0.249	-
					Back side	10	23780	709	2	1	23.60	22.71	122.74%	0.235	0.288	197
					Back side	10	23780	709	3	1	23.60	22.71	122.74%	0.212	0.260	-
					Top side	10	23780	709	1	1	23.60	22.71	122.74%	0.131	0.161	-
					Right side	10	23780	709	1	1	23.60	22.71	122.74%	0.033	0.041	-
					Left side	10	23780	709	1	1	23.60	22.71	122.74%	0.153	0.188	-
			25 RB	0	Front side	10	23780	709	1	1	22.60	21.64	124.74%	0.152	0.190	-
					Back side	10	23780	709	1	1	22.60	21.64	124.74%	0.195	0.243	-
					Top side	10	23780	709	1	1	22.60	21.64	124.74%	0.108	0.135	-
					Right side	10	23780	709	1	1	22.60	21.64	124.74%	0.026	0.032	-
					Left side	10	23780	709	1	1	22.60	21.64	124.74%	0.131	0.163	-
			50 RB		Front side	10	23780	709	1	1	22.60	21.59	126.18%	0.151	0.191	-
					Back side	10	23780	709	1	1	22.60	21.59	126.18%	0.193	0.244	-
					Top side	10	23780	709	1	1	22.60	21.59	126.18%	0.107	0.135	-
					Right side	10	23780	709	1	1	22.60	21.59	126.18%	0.026	0.033	-
					Left side	10	23780	709	1	1	22.60	21.59	126.18%	0.128	0.162	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

WLAN802.11 b

Antenna	Mode	Position	Distance (mm)	CH	Freq. (MHz)	Battery	SIM	Max. Rated Avg. Power + Max. Tolerance (dBm)	Measured Avg. Power (dBm)	Scaling	Averaged SAR over 1g (W/kg)		Plot page
											Measured	Reported	
WLAN	WLAN 802.11 b (Head) <Main Ant + WiFi station + Proximity sensor On>	RE Cheek	-	6	2437	1	1	16.5	16.48	100.46%	0.363	0.365	-
		RE Tilt	-	6	2437	1	1	16.5	16.48	100.46%	0.359	0.361	-
		LE Cheek	-	1	2412	1	1	16.5	16.45	101.16%	0.814	0.823	-
		LE Cheek	-	6	2437	1	1	16.5	16.48	100.46%	1.060	1.065	-
		LE Cheek	-	11	2462	1	1	16.5	16.47	100.69%	1.170	1.178	-
		LE Cheek	-	11	2462	2	1	16.5	16.47	100.69%	1.140	1.148	-
		LE Cheek	-	11	2462	3	1	16.5	16.47	100.69%	1.190	1.198	198
		LE Cheek*	-	11	2462	3	1	16.5	16.47	100.69%	1.180	1.188	-
		LE Tilt	-	1	2412	1	1	16.5	16.45	101.16%	0.807	0.816	-
		LE Tilt	-	6	2437	1	1	16.5	16.48	100.46%	0.974	0.978	-
		LE Tilt	-	11	2462	1	1	16.5	16.47	100.69%	1.140	1.148	-
	WLAN 802.11 b (Head) <Sub Ant + WiFi station + Proximity sensor On>	RE Cheek	-	1	2412	1	1	13.5	13.48	100.46%	0.156	0.157	-
		RE Tilt	-	1	2412	1	1	13.5	13.48	100.46%	0.143	0.144	-
		LE Cheek	-	1	2412	1	1	13.5	13.48	100.46%	0.408	0.410	199
		LE Cheek	-	1	2412	2	1	13.5	13.48	100.46%	0.384	0.386	-
		LE Cheek	-	1	2412	3	1	13.5	13.48	100.46%	0.406	0.408	-
		LE Tilt	-	1	2412	1	1	13.5	13.48	100.46%	0.346	0.348	-
	WLAN 802.11 b (Body-Worn)	Front side	15	6	2437	1	1	18.5	18.49	100.23%	0.185	0.185	-
		Back side	15	6	2437	1	1	18.5	18.49	100.23%	0.199	0.199	-
		Back side	15	6	2437	2	1	18.5	18.49	100.23%	0.231	0.232	200
		Back side	15	6	2437	3	1	18.5	18.49	100.23%	0.225	0.226	-
	WLAN 802.11 b (Hotspot)	Front side	10	6	2437	1	1	18.5	18.49	100.23%	0.359	0.360	-
		Back side	10	6	2437	1	1	18.5	18.49	100.23%	0.420	0.421	-
		Back side	10	6	2437	2	1	18.5	18.49	100.23%	0.469	0.470	-
		Back side	10	6	2437	3	1	18.5	18.49	100.23%	0.477	0.478	201
		Top side	10	6	2437	1	1	18.5	18.49	100.23%	0.184	0.184	-
		Right side	10	6	2437	1	1	18.5	18.49	100.23%	0.401	0.402	-

* - repeated at the highest SAR measurement according to the KDB865664D01v01r04

3. Simultaneous Transmission Analysis

Simultaneous Transmission Scenarios:

Simultaneous Transmit Configurations	Head	Body-Worn	Hotspot
Main_GSM + 2.4GHz Wi-Fi	Yes	Yes	No
Main_GPRS/EGPRS + 2.4GHz Wi-Fi	No	No	Yes
Main_WCDMA + 2.4GHz Wi-Fi	Yes	Yes	Yes
Main_LTE + 2.4GHz Wi-Fi	Yes	Yes	Yes
Main_GSM + BT	No	Yes	No
Main_GPRS/EGPRS + BT	No	No	No
Main_WCDMA + BT	No	Yes	No
Main_LTE + BT	No	Yes	No
Sub_GSM + 2.4GHz Wi-Fi	Yes	Yes	No
Sub_GPRS/EGPRS + 2.4GHz Wi-Fi	No	No	Yes
Sub_WCDMA + 2.4GHz Wi-Fi	Yes	Yes	Yes
Sub_LTE + 2.4GHz Wi-Fi	Yes	Yes	Yes
Sub_GSM + BT	No	Yes	No
Sub_GPRS/EGPRS + BT	No	No	No
Sub_WCDMA + BT	No	Yes	No
Sub_LTE + BT	No	Yes	No

Notes:

1. WiFi 2.4G and BT can't transmit simultaneously.
2. The device does not support VoLTE or WiFi VOIP function.
3. The device does not support DTM function. Body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
4. Held to ear configurations are not applicable to Bluetooth for this device.
5.Based on KDB447498D01 note 36, when SAR test exclusion is allowed by other published RF exposure KDB procedures, such as the 2.5 cm hotspot mode SAR test exclusion for an edge or surface, then estimated SAR is not required to determine simultaneous SAR test exclusion.

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3.1 Estimated SAR calculation

According to KDB447498 D01v06, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm, where x = 7.5 for 1-g SAR.

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

mode	position	max. power (dB)	max. power (mW)	f(GHz)	distance (mm)	x	Estimated SAR
BT	body-worn	12	15.849	2.48	15	7.5	0.222 (1g)

3.2 SPLSR evaluation and analysis

Per KDB447498D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR sum to peak location separation ratio(SPLSR).

The simultaneous transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion.

The ratio is determined by **(SAR1 + SAR2)^1.5/Ri**, rounded to two decimal digits, and must be **≤ 0.04** for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.

SAR1 and SAR2 are the highest reported or estimated SAR for each antenna in the pair, and Ri is the separation distance between the peak SAR locations for the antenna pair in mm.

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna.

Simultaneous Transmission Combination

Main Antenna

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
GSM 850	Head	Right cheek	0.320	0.365	0.685
		Right tilt	0.166	0.361	0.527
		Left cheek	0.231	1.198	1.429
		Left tilt	0.181	1.148	1.329
	Body-worn	Front	0.304	0.185	0.489
		Back	0.334	0.232	0.566
GPRS 850 (1Dn3UP)	Hotspot	Front	0.411	0.360	0.771
		Back	0.438	0.478	0.916
		Top	-	0.184	-
		Bottom	0.213	-	-
		Right	0.419	0.402	0.821
		Left	0.188	-	-
GSM 1900	Head	Right cheek	0.178	0.365	0.543
		Right tilt	0.086	0.361	0.447
		Left cheek	0.230	1.198	1.428
		Left tilt	0.084	1.148	1.232
	Body-worn	Front	0.599	0.185	0.784
		Back	0.623	0.232	0.855
GPRS 1900 (1Dn3UP)	Hotspot	Front	0.650	0.360	1.010
		Back	0.705	0.478	1.183
		Top	-	0.184	-
		Bottom	1.353	-	-
		Right	0.123	0.402	0.525
		Left	0.137	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
WCDMA Band II	Head	Right cheek	0.196	0.365	0.561
		Right tilt	0.071	0.361	0.432
		Left cheek	0.260	1.198	1.458
		Left tilt	0.093	1.148	1.241
	Body-worn	Front	0.679	0.185	0.864
		Back	0.660	0.232	0.892
	Hotspot	Front	0.612	0.360	0.972
		Back	0.596	0.478	1.074
		Top	-	0.184	-
		Bottom	1.425	-	-
		Right	0.126	0.402	0.528
		Left	0.127	-	-
WCDMA Band IV	Head	Right cheek	0.195	0.365	0.560
		Right tilt	0.087	0.361	0.448
		Left cheek	0.300	1.198	1.498
		Left tilt	0.078	1.148	1.226
	Body-worn	Front	0.624	0.185	0.809
		Back	0.578	0.232	0.810
	Hotspot	Front	0.658	0.360	1.018
		Back	0.729	0.478	1.207
		Top	-	0.184	-
		Bottom	1.308	-	-
		Right	0.091	0.402	0.493
		Left	0.124	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
WCDMA Band V	Head	Right cheek	0.471	0.365	0.836
		Right tilt	0.217	0.361	0.578
		Left cheek	0.338	1.198	1.536
		Left tilt	0.277	1.148	1.425
	Body-worn	Front	0.308	0.185	0.493
		Back	0.361	0.232	0.593
	Hotspot	Front	0.417	0.360	0.777
		Back	0.636	0.478	1.114
		Top	-	0.184	-
		Bottom	0.271	-	-
		Right	0.347	0.402	0.749
		Left	0.125	-	-
LTE FDD Band II	Head	Right cheek	0.179	0.365	0.544
		Right tilt	0.068	0.361	0.429
		Left cheek	0.250	1.198	1.448
		Left tilt	0.095	1.148	1.243
	Body-worn	Front	0.673	0.185	0.858
		Back	0.683	0.232	0.915
	Hotspot	Front	0.574	0.360	0.934
		Back	0.593	0.478	1.071
		Top	-	0.184	-
		Bottom	1.290	-	-
		Right	0.082	0.402	0.484
		Left	0.107	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
LTE FDD Band IV	Head	Right cheek	0.154	0.365	0.519
		Right tilt	0.071	0.361	0.432
		Left cheek	0.143	1.198	1.341
		Left tilt	0.048	1.148	1.196
	Body-worn	Front	0.494	0.185	0.679
		Back	0.496	0.232	0.728
	Hotspot	Front	0.711	0.360	1.071
		Back	0.544	0.478	1.022
		Top	-	0.184	-
		Bottom	1.429	-	-
		Right	0.075	0.402	0.477
		Left	0.096	-	-
LTE FDD Band V	Head	Right cheek	0.465	0.365	0.830
		Right tilt	0.292	0.361	0.653
		Left cheek	0.371	1.198	1.569
		Left tilt	0.267	1.148	1.415
	Body-worn	Front	0.333	0.185	0.518
		Back	0.395	0.232	0.627
	Hotspot	Front	0.413	0.360	0.773
		Back	0.590	0.478	1.068
		Top	-	0.184	-
		Bottom	0.281	-	-
		Right	0.438	0.402	0.840
		Left	0.142	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
LTE FDD Band VII	Head	Right cheek	0.196	0.365	0.561
		Right tilt	0.059	0.361	0.420
		Left cheek	0.132	1.198	1.330
		Left tilt	0.034	1.148	1.182
	Body-worn	Front	0.544	0.185	0.729
		Back	0.519	0.232	0.751
	Hotspot	Front	0.609	0.360	0.969
		Back	0.598	0.478	1.076
		Top	-	0.184	-
		Bottom	1.380	-	-
		Right	0.101	0.402	0.503
		Left	0.178	-	-
LTE FDD Band XII	Head	Right cheek	0.220	0.365	0.585
		Right tilt	0.114	0.361	0.475
		Left cheek	0.129	1.198	1.327
		Left tilt	0.085	1.148	1.233
	Body-worn	Front	0.205	0.185	0.390
		Back	0.274	0.232	0.506
	Hotspot	Front	0.253	0.360	0.613
		Back	0.269	0.478	0.747
		Top	-	0.184	-
		Bottom	0.080	-	-
		Right	0.141	0.402	0.543
		Left	0.145	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
LTE FDD Band XVII	Head	Right cheek	0.187	0.365	0.552
		Right tilt	0.115	0.361	0.476
		Left cheek	0.133	1.198	1.331
		Left tilt	0.089	1.148	1.237
	Body-worn	Front	0.209	0.185	0.394
		Back	0.284	0.232	0.516
	Hotspot	Front	0.257	0.360	0.617
		Back	0.283	0.478	0.761
		Top	-	0.184	-
		Bottom	0.105	-	-
		Right	0.195	0.402	0.597
		Left	0.156	-	-

reported SAR WWAN and Bluetooth, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	Bluetooth	<1.6W/kg
GSM 850	Body-worn	Front	0.304	0.222	0.526
		Back	0.334	0.222	0.556
GSM 1900	Body-worn	Front	0.599	0.222	0.821
		Back	0.623	0.222	0.845
WCDMA Band II	Body-worn	Front	0.679	0.222	0.901
		Back	0.660	0.222	0.882
WCDMA Band IV	Body-worn	Front	0.624	0.222	0.846
		Back	0.578	0.222	0.800
WCDMA Band V	Body-worn	Front	0.308	0.222	0.530
		Back	0.361	0.222	0.583
LTE FDD Band II	Body-worn	Front	0.673	0.222	0.895
		Back	0.683	0.222	0.905
LTE FDD Band IV	Body-worn	Front	0.494	0.222	0.716
		Back	0.496	0.222	0.718
LTE FDD Band V	Body-worn	Front	0.333	0.222	0.555
		Back	0.395	0.222	0.617
LTE FDD Band VII	Body-worn	Front	0.544	0.222	0.766
		Back	0.519	0.222	0.741
LTE FDD Band XII	Body-worn	Front	0.205	0.222	0.427
		Back	0.274	0.222	0.496
LTE FDD Band XVII	Body-worn	Front	0.209	0.222	0.431
		Back	0.284	0.222	0.506

Sub Antenna

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
GSM 850	Head	Right cheek	1.347	0.157	1.504
		Right tilt	1.034	0.144	1.178
		Left cheek	0.759	0.410	1.169
		Left tilt	0.640	0.348	0.988
	Body-worn	Front	0.267	0.185	0.452
		Back	0.445	0.232	0.677
GPRS 850 (1Dn3UP)	Hotspot	Front	0.393	0.360	0.753
		Back	0.517	0.478	0.995
		Top	0.291	0.184	0.475
		Bottom	-	-	-
		Right	0.139	0.402	0.541
		Left	0.409	-	-
WCDMA Band V	Head	Right cheek	1.370	0.157	1.527
		Right tilt	0.977	0.144	1.121
		Left cheek	0.859	0.410	1.269
		Left tilt	0.754	0.348	1.102
	Body-worn	Front	0.137	0.185	0.322
		Back	0.210	0.232	0.442
	Hotspot	Front	0.293	0.360	0.653
		Back	0.392	0.478	0.870
		Top	0.226	0.184	0.410
		Bottom	-	-	-
		Right	0.057	0.402	0.459
		Left	0.282	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
LTE FDD Band V	Head	Right cheek	1.413	0.157	1.570
		Right tilt	1.040	0.144	1.184
		Left cheek	0.745	0.410	1.155
		Left tilt	0.662	0.348	1.010
	Body-worn	Front	0.123	0.185	0.308
		Back	0.170	0.232	0.402
	Hotspot	Front	0.271	0.360	0.631
		Back	0.360	0.478	0.838
		Top	0.191	0.184	0.375
		Bottom	-	-	-
		Right	0.058	0.402	0.460
		Left	0.225	-	-
LTE FDD Band XII	Head	Right cheek	1.154	0.157	1.311
		Right tilt	0.892	0.144	1.036
		Left cheek	0.575	0.410	0.985
		Left tilt	0.527	0.348	0.875
	Body-worn	Front	0.125	0.185	0.310
		Back	0.155	0.232	0.387
	Hotspot	Front	0.227	0.360	0.587
		Back	0.286	0.478	0.764
		Top	0.169	0.184	0.353
		Bottom	-	-	-
		Right	0.049	0.402	0.451
		Left	0.171	-	-

reported SAR WWAN and WLAN 2.4GHz, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	WLAN	<1.6W/kg
LTE FDD Band XVII	Head	Right cheek	1.142	0.157	1.299
		Right tilt	0.908	0.144	1.052
		Left cheek	0.583	0.410	0.993
		Left tilt	0.511	0.348	0.859
	Body-worn	Front	0.129	0.185	0.314
		Back	0.140	0.232	0.372
	Hotspot	Front	0.231	0.360	0.591
		Back	0.288	0.478	0.766
		Top	0.161	0.184	0.345
		Bottom	-	-	-
		Right	0.041	0.402	0.443
		Left	0.188	-	-

reported SAR WWAN and Bluetooth, ΣSAR evaluation					
Frequency band	Position		reported SAR / W/kg		ΣSAR
			WWAN	Bluetooth	<1.6W/kg
GSM 850	Body-worn	Front	0.267	0.222	0.489
		Back	0.445	0.222	0.667
WCDMA Band V	Body-worn	Front	0.137	0.222	0.359
		Back	0.210	0.222	0.432
LTE FDD Band V	Body-worn	Front	0.123	0.222	0.345
		Back	0.170	0.222	0.392
LTE FDD Band XII	Body-worn	Front	0.125	0.222	0.347
		Back	0.155	0.222	0.377
LTE FDD Band XVII	Body-worn	Front	0.129	0.222	0.351
		Back	0.140	0.222	0.362

4. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	EX3DV4	3831	Jan.27,2016	Jan.26,2017
Schmid & Partner Engineering AG	System Validation Dipole	D750V3	1015	Aug.30,2016	Aug.29,2017
		D835V2	4d063	Aug.25,2016	Aug.24,2017
		D1750V2	1008	Aug.31,2016	Aug.30,2017
		D1900V2	5d027	Apr.25,2016	Apr.24,2017
		D2450V2	727	Apr.19,2016	Apr.18,2017
		D2600V2	1005	Jan.21,2016	Jan.20,2017
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	547	Mar.21,2016	Mar.20,2017
Schmid & Partner Engineering AG	Software	DASY 52 V52.8.8	N/A	Calibration not required	Calibration not required
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration not required	Calibration not required
Network Analyzer	Agilent	E5071C	MY46107530	Jan.07,2016	Jan.06,2017
Agilent	Dielectric Probe Kit	85070E	MY44300677	Calibration not required	Calibration not required
Agilent	Dual-directional coupler	772D	MY52180142	Apr.13,2016	Apr.12,2017
		778D	MY52180302	Apr.13,2016	Apr.12,2017

Manufacturer	Device	Type	Serial number	Date of last calibration	Date of next calibration
Agilent	RF Signal Generator	N5181A	MY50145142	Feb.19,2016	Feb.18,2017
Agilent	Power Meter	E4417A	MY51410006	Jan.07,2016	Jan.06,2017
Agilent	Power Sensor	E9301H	MY51470001	Jan.07,2016	Jan.06,2017
			MY51470002	Jan.07,2016	Jan.06,2017
TECPEL	Digital thermometer	DTM-303A	TP130073	Feb.26,2016	Feb.25,2017
Anritsu	Radio Communication Test	MT8820C	6201061049	Apr.08,2016	Apr.07,2017
R&S	Radio Communication Test	CMW 500	125470	Jul.09,2016	Jul.08,2017

5. Measurements

Date: 2016/10/30

GSM 850_Head_Re Cheek_CH 190

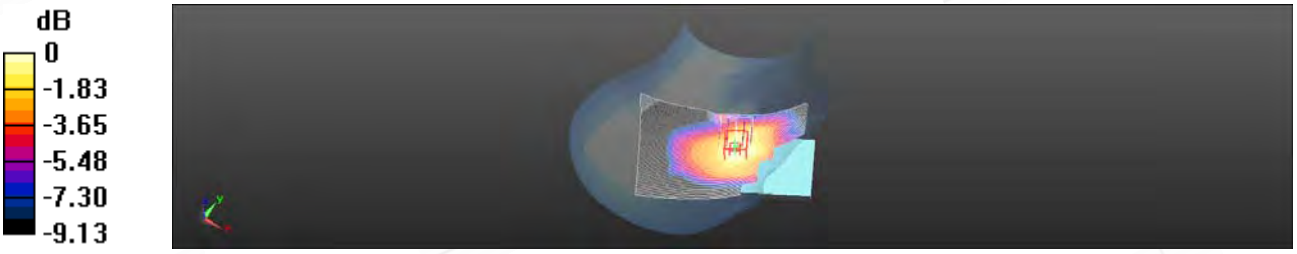
Communication System: GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.89 S/m; ε_r = 42.612; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.332 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.87 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.375 W/kg
SAR(1 g) = 0.320 W/kg; SAR(10 g) = 0.237 W/kg
Maximum value of SAR (measured) = 0.340 W/kg



0 dB = 0.340 W/kg = -4.68 dBW/kg

Date: 2016/10/25

GSM 850_Body-worn_Back side_CH 190_15mm

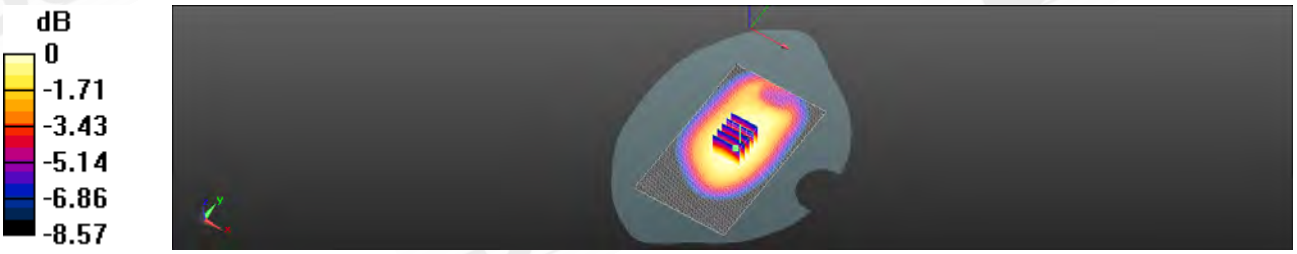
Communication System: GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 1.008 S/m; ε_r = 53.267; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.366 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.52 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.403 W/kg
SAR(1 g) = 0.334 W/kg; SAR(10 g) = 0.254 W/kg
Maximum value of SAR (measured) = 0.366 W/kg



0 dB = 0.366 W/kg = -4.36 dBW/kg

Date: 2016/10/25

GPRS 850_Hotspot_Back side_CH 128_10mm

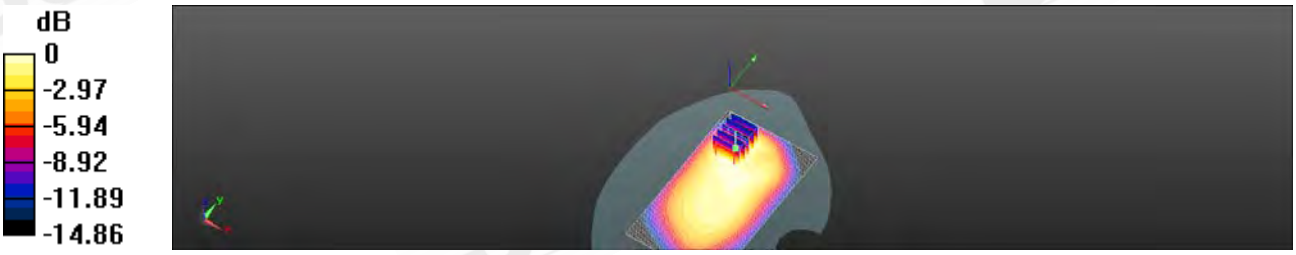
Communication System: GPRS (1Dn3Up); Frequency: 824.2 MHz
Medium parameters used: f = 824.2 MHz; σ = 0.999 S/m; ε_r = 53.426; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.466 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.17 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.553 W/kg
SAR(1 g) = 0.326 W/kg; SAR(10 g) = 0.198 W/kg
Maximum value of SAR (measured) = 0.438 W/kg



0 dB = 0.438 W/kg = -3.58 dBW/kg

Date: 2016/10/18

GSM 850_Head_Re Cheek_CH 251

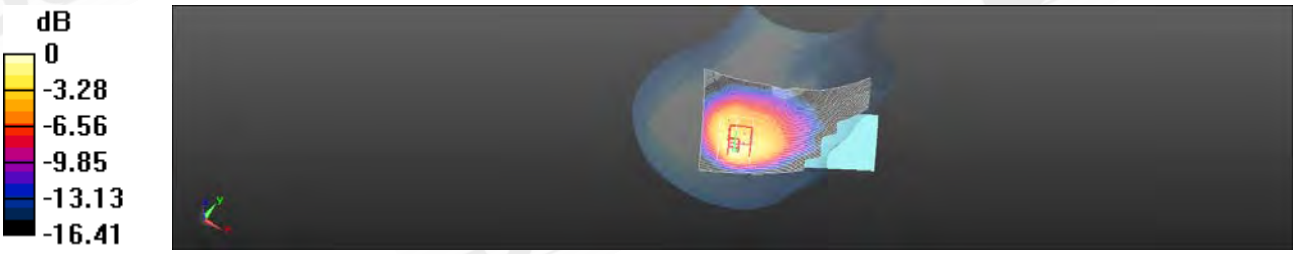
Communication System: GSM; Frequency: 848.8 MHz
Medium parameters used: f = 849 MHz; σ = 0.905 S/m; ε_r = 42.486; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.78 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.81 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 2.20 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.613 W/kg
Maximum value of SAR (measured) = 1.61 W/kg



0 dB = 1.61 W/kg = 2.08 dBW/kg

Date: 2016/10/18

GSM 850_Head_Re Cheek_CH 251

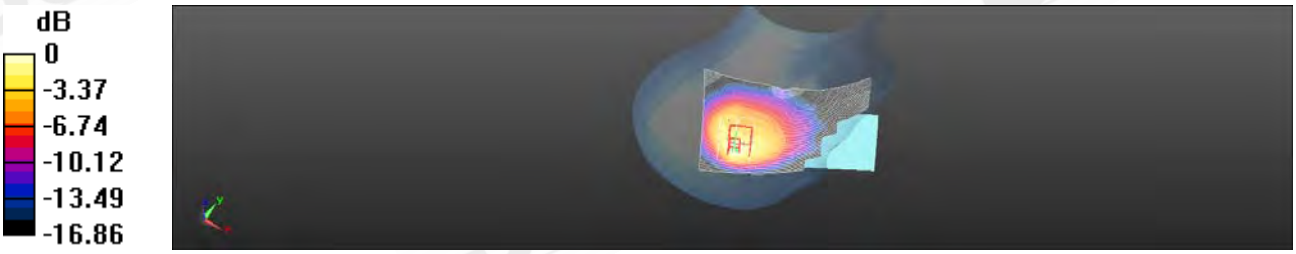
Communication System: GSM; Frequency: 848.8 MHz
Medium parameters used: f = 849 MHz; σ = 0.905 S/m; ε_r = 42.486; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.59 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.38 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.971 W/kg; SAR(10 g) = 0.542 W/kg
Maximum value of SAR (measured) = 1.44 W/kg



0 dB = 1.44 W/kg = 1.59 dBW/kg

Date: 2016/10/24

GSM 850_Body-worn_Back side_CH 190_15mm

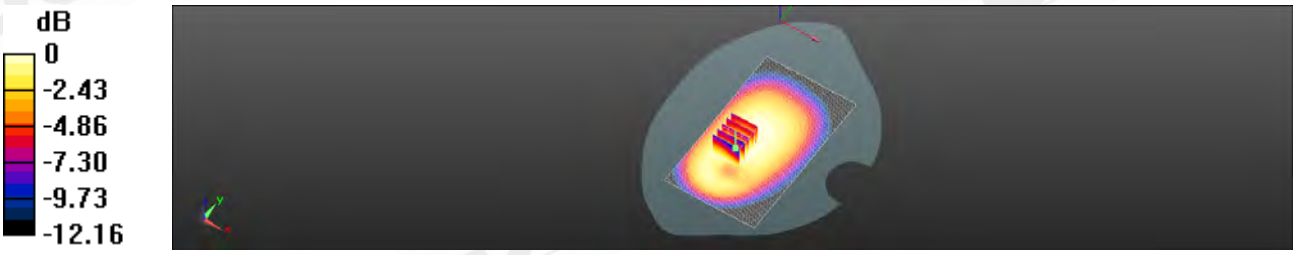
Communication System: GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.958 S/m; ε_r = 53.861; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.491 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.57 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.535 W/kg
SAR(1 g) = 0.423 W/kg; SAR(10 g) = 0.319 W/kg
Maximum value of SAR (measured) = 0.487 W/kg



0 dB = 0.487 W/kg = -3.13 dBW/kg

Date: 2016/10/24

GPRS 850_Hotspot_Back side_CH 190_10mm

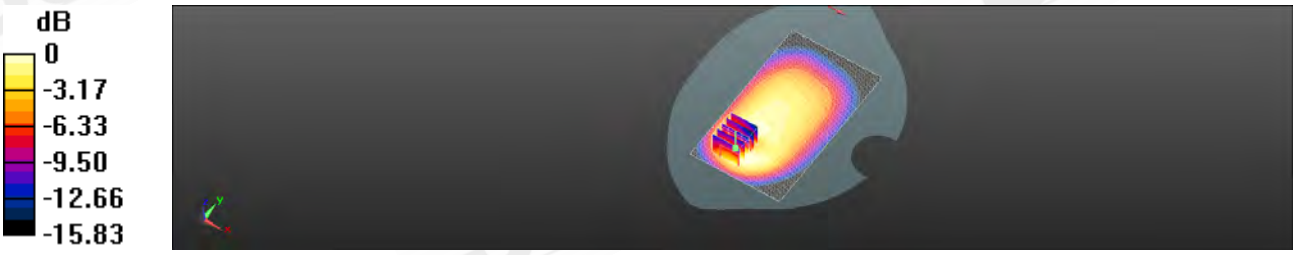
Communication System: GPRS (1Dn3Up); Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.958 S/m; ε_r = 53.861; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.526 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.41 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.706 W/kg
SAR(1 g) = 0.412 W/kg; SAR(10 g) = 0.235 W/kg
Maximum value of SAR (measured) = 0.525 W/kg



0 dB = 0.525 W/kg = -2.80 dBW/kg

Date: 2016/10/31

GSM 1900_Head_Le Cheek_CH 661

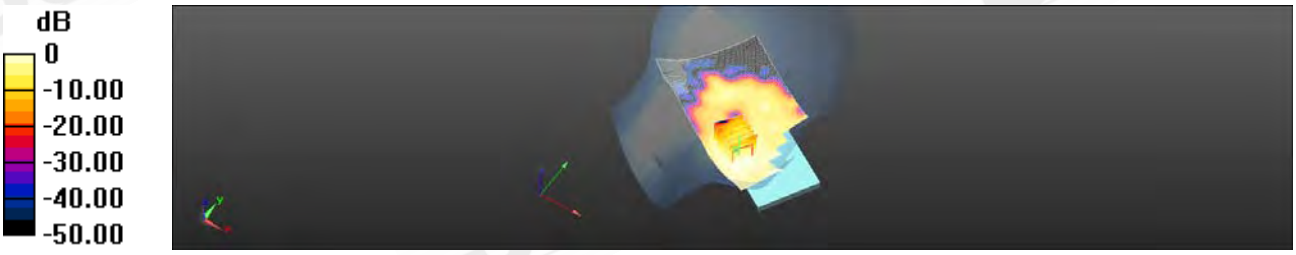
Communication System: GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 38.759; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.66, 7.66, 7.66); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.235 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.472 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.293 W/kg
SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.114 W/kg
Maximum value of SAR (measured) = 0.231 W/kg



0 dB = 0.231 W/kg = -6.36 dBW/kg

Date: 2016/10/27

GSM 1900_Body-worn_Back side_CH 661_15mm

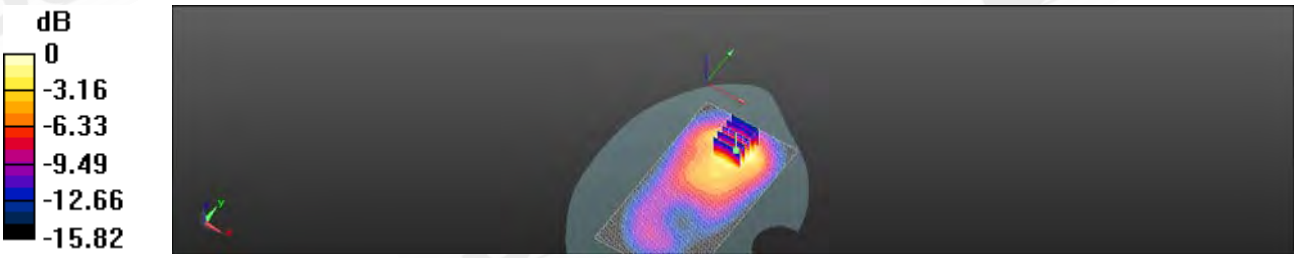
Communication System: GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.567 S/m; ε_r = 51.215; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.709 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.683 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.864 W/kg
SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.281 W/kg
Maximum value of SAR (measured) = 0.709 W/kg



0 dB = 0.709 W/kg = -1.50 dBW/kg

Date: 2016/10/27

GPRS 1900_Hotspot_Bottom side_CH 661_10mm

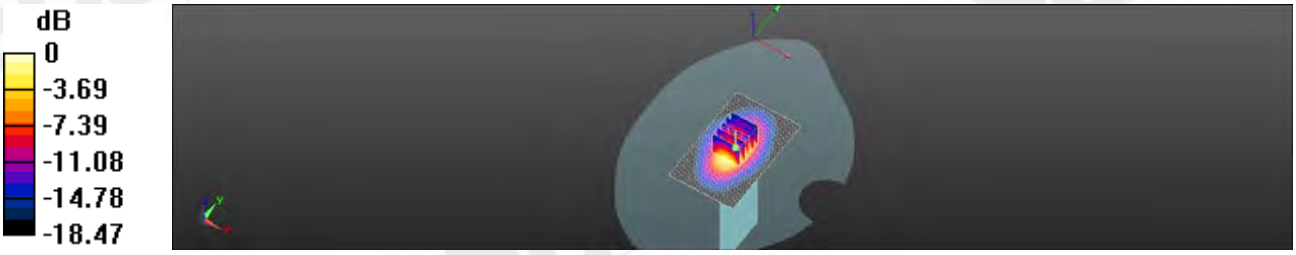
Communication System: GPRS (1Dn3Up); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.567 S/m; ε_r = 51.215; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (51x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.53 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.83 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.565 W/kg
Maximum value of SAR (measured) = 1.46 W/kg



0 dB = 1.46 W/kg = 1.64 dBW/kg

Date: 2016/10/31

WCDMA Band II_Head_Le Cheek_CH 9262

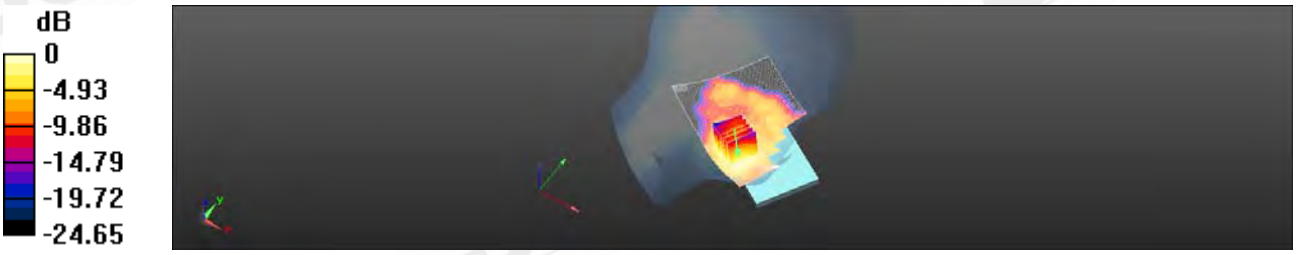
Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.389 S/m; ε_r = 38.879; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.66, 7.66, 7.66); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.256 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.945 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.125 W/kg
Maximum value of SAR (measured) = 0.258 W/kg



0 dB = 0.258 W/kg = -5.88 dBW/kg

Date: 2016/10/27

WCDMA Band II_Body-worn_Front side_CH 9262_15mm

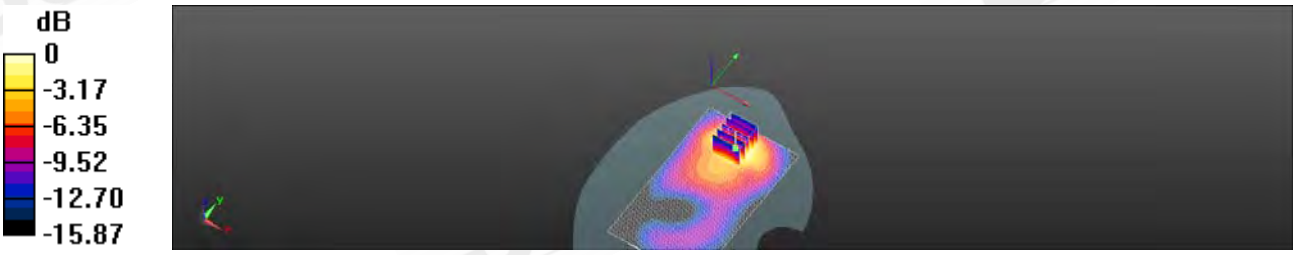
Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.544 S/m; ε_r = 51.347; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.857 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.037 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.538 W/kg; SAR(10 g) = 0.248 W/kg
Maximum value of SAR (measured) = 0.887 W/kg



0 dB = 0.887 W/kg = -0.52 dBW/kg

Date: 2016/10/27

WCDMA Band II_Hotspot_Bottom side_CH 9538_10mm

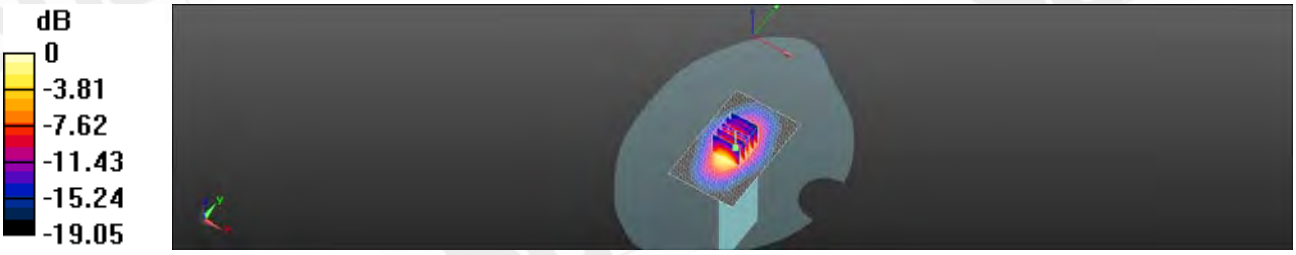
Communication System: WCDMA; Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.588 S/m; ε_r = 51.159; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (51x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.71 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.11 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.599 W/kg
Maximum value of SAR (measured) = 1.58 W/kg



0 dB = 1.58 W/kg = 1.98 dBW/kg

Date: 2016/10/31

WCDMA Band IV_Head_Le Check_CH 1312

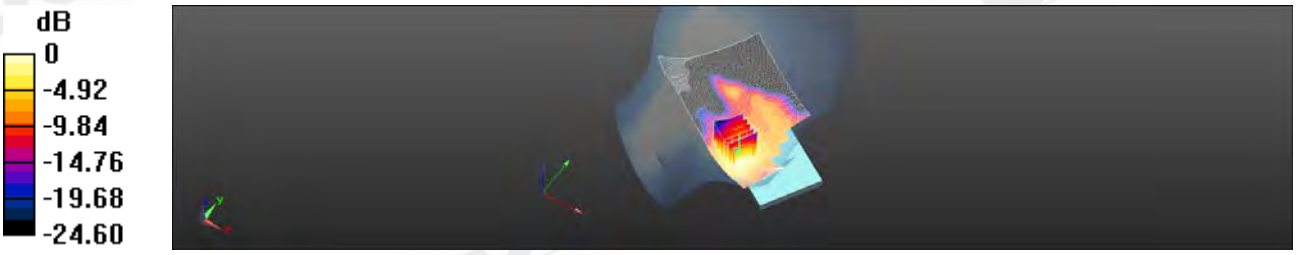
Communication System: WCDMA; Frequency: 1712.4 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.385 S/m; ε_r = 38.688; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.92, 7.92, 7.92); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.341 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.493 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.441 W/kg
SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.169 W/kg
Maximum value of SAR (measured) = 0.368 W/kg



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

Date: 2016/10/26

WCDMA Band IV_Body-worn_Front side_CH 1312_15mm

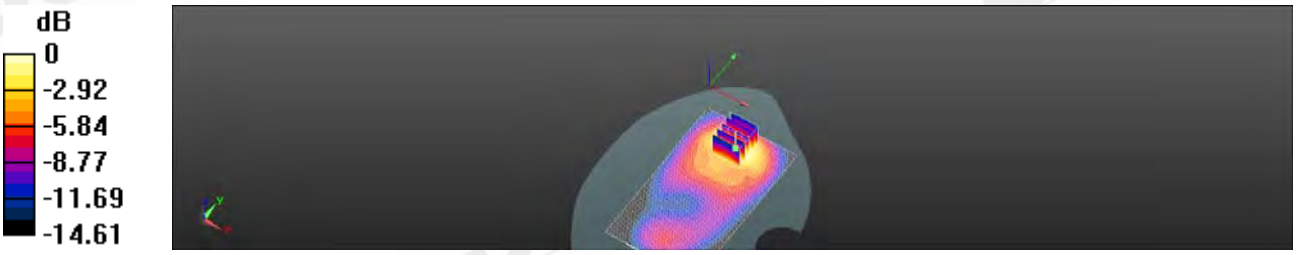
Communication System: WCDMA; Frequency: 1712.4 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.496 S/m; ε_r = 51.61; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.74, 7.74, 7.74); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.689 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.016 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.844 W/kg
SAR(1 g) = 0.585 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 0.721 W/kg



0 dB = 0.721 W/kg = -1.42 dBW/kg

Date: 2016/10/26

WCDMA Band IV_Hotspot_Bottom side_CH 1312_10mm

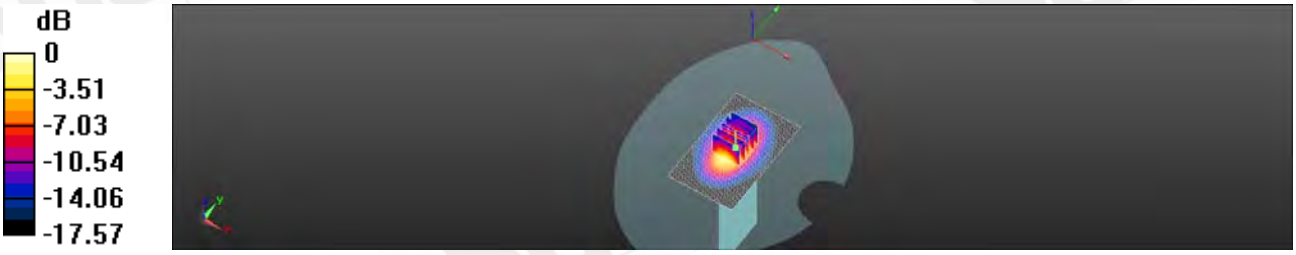
Communication System: WCDMA; Frequency: 1712.4 MHz
Medium parameters used: f = 1712.4 MHz; σ = 1.496 S/m; ε_r = 51.61; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.74, 7.74, 7.74); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (51x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.59 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.24 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.92 W/kg
SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.637 W/kg
Maximum value of SAR (measured) = 1.57 W/kg



0 dB = 1.57 W/kg = 1.97 dBW/kg

Date: 2016/10/30

WCDMA Band V_Head_Re Cheek_CH 4233

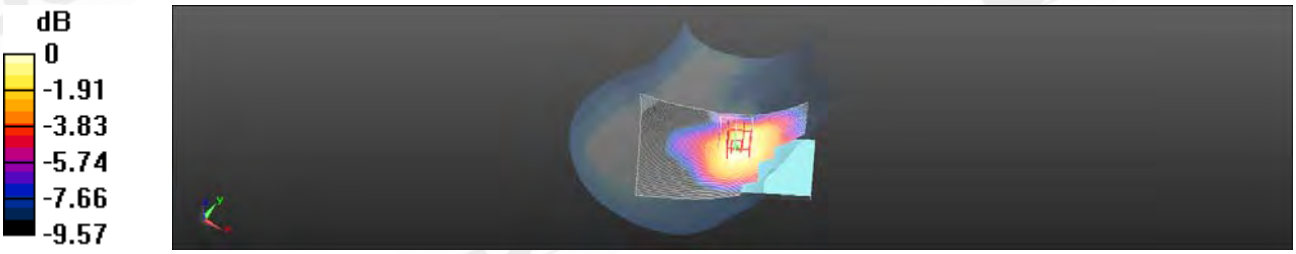
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 0.915 S/m; ε_r = 42.51; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.520 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.48 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.575 W/kg
SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.341 W/kg
Maximum value of SAR (measured) = 0.520 W/kg



0 dB = 0.520 W/kg = -2.84 dBW/kg

Date: 2016/10/25

WCDMA Band V_Body-worn_Back side_CH 4233_15mm

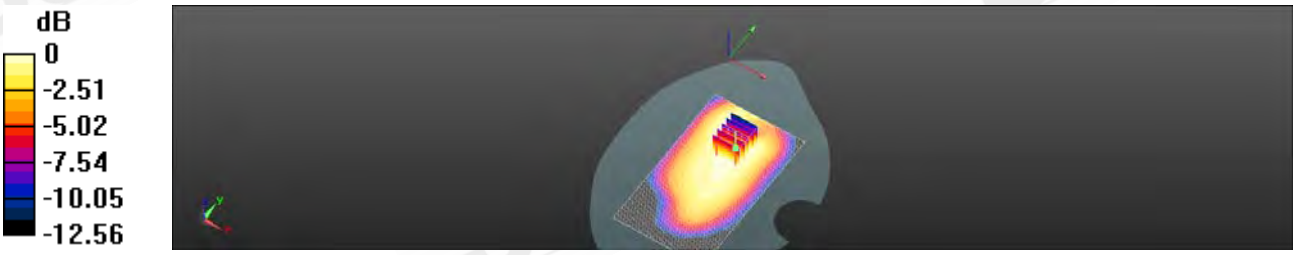
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 1.018 S/m; ε_r = 53.218; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.386 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.24 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.453 W/kg
SAR(1 g) = 0.342 W/kg; SAR(10 g) = 0.228 W/kg
Maximum value of SAR (measured) = 0.397 W/kg



0 dB = 0.397 W/kg = -4.01 dBW/kg

Date: 2016/10/25

WCDMA Band V_Hotspot_Back side_CH 4233_10mm

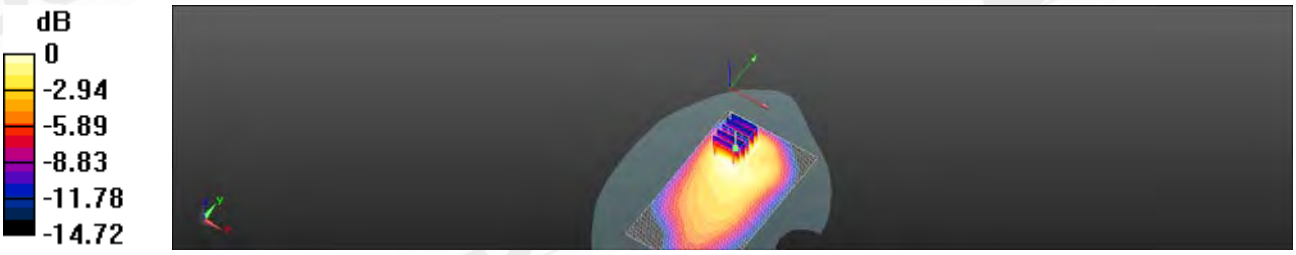
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 1.018 S/m; ε_r = 53.218; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.868 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.21 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.602 W/kg; SAR(10 g) = 0.365 W/kg
Maximum value of SAR (measured) = 0.803 W/kg



0 dB = 0.803 W/kg = -0.96 dBW/kg

Date: 2016/10/18

WCDMA Band V_Head_Re Cheek_CH 4233

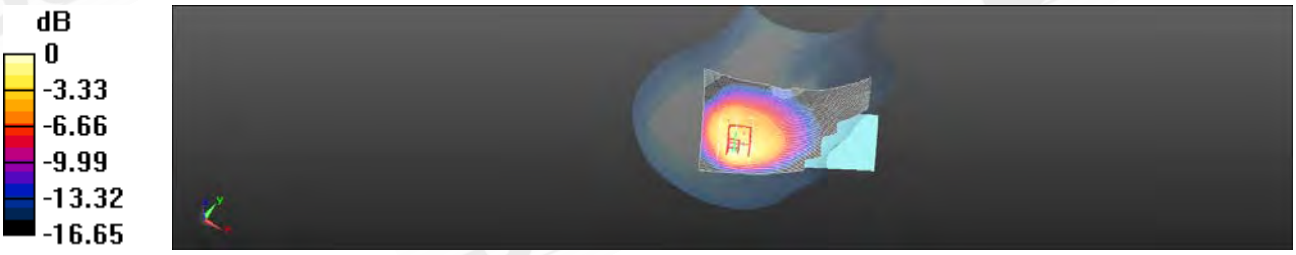
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 0.902 S/m; ε_r = 42.49; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.64 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.51 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.09 W/kg
SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.575 W/kg
Maximum value of SAR (measured) = 1.49 W/kg



0 dB = 1.49 W/kg = 1.74 dBW/kg

Date: 2016/10/24

WCDMA Band V_Body-worn_Back side_CH 4233_15mm

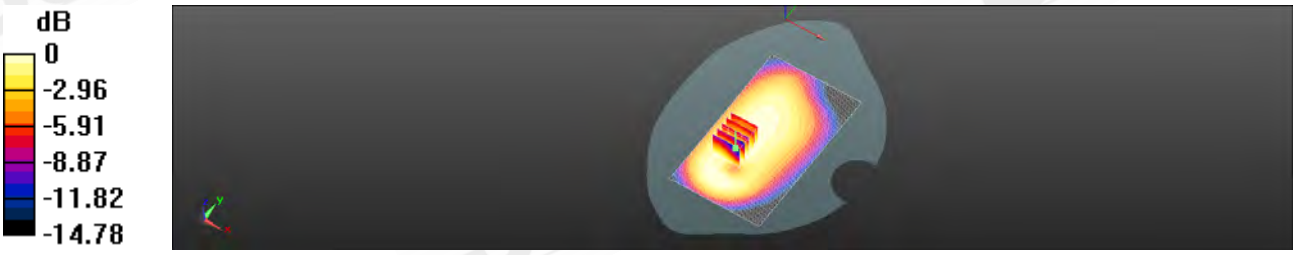
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 0.981 S/m; ε_r = 53.717; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.185 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.21 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.196 W/kg
SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 0.176 W/kg



0 dB = 0.176 W/kg = -7.55 dBW/kg

Date: 2016/10/24

WCDMA Band V_Hotspot_Back side_CH 4233_10mm

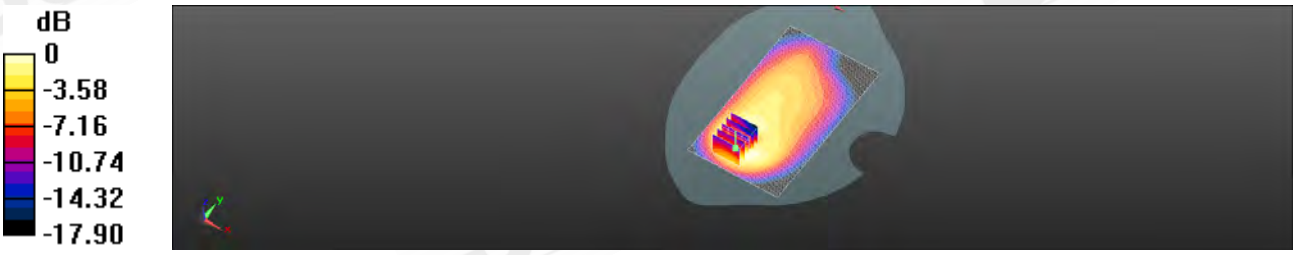
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 0.981 S/m; ε_r = 53.717; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.347 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.71 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.480 W/kg
SAR(1 g) = 0.295 W/kg; SAR(10 g) = 0.165 W/kg
Maximum value of SAR (measured) = 0.381 W/kg



0 dB = 0.381 W/kg = -4.19 dBW/kg

Date: 2016/10/31

LTE Band 2 (20MHz)_Head_Le Cheek_CH 18900_QPSK_1-50

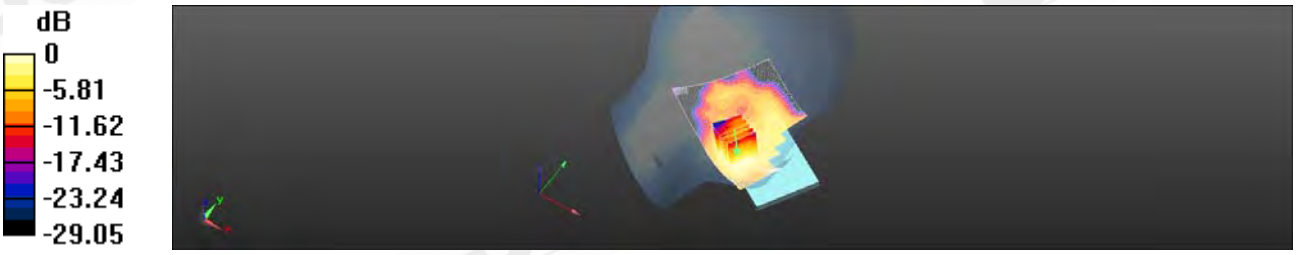
Communication System: LTE; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 38.795; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.66, 7.66, 7.66); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.262 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.583 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.130 W/kg
Maximum value of SAR (measured) = 0.268 W/kg



0 dB = 0.268 W/kg = -5.71 dBW/kg

Date: 2016/10/27

LTE Band 2 (20MHz)_Body-worn_Back side_CH 18900_QPSK_1-50_15mm

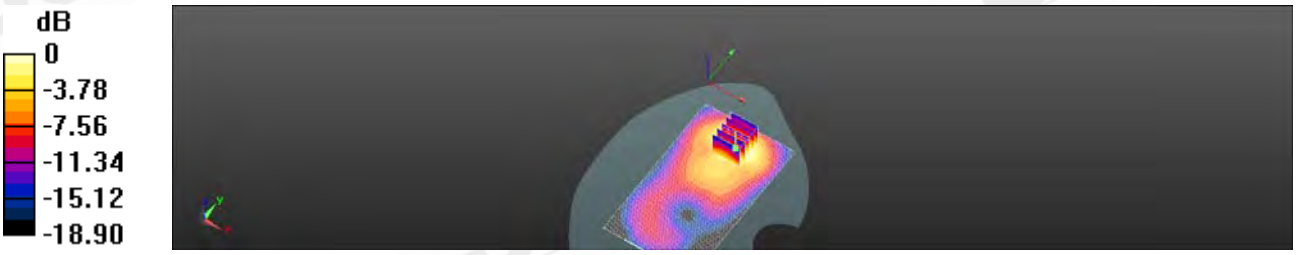
Communication System: LTE; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.567 S/m; ε_r = 51.215; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.976 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.148 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.573 W/kg; SAR(10 g) = 0.321 W/kg
Maximum value of SAR (measured) = 0.964 W/kg



0 dB = 0.964 W/kg = -0.16 dBW/kg

Date: 2016/10/27

LTE Band 2 (20MHz)_Hotspot_Bottom side_CH 19100_QPSK_1-50_10mm

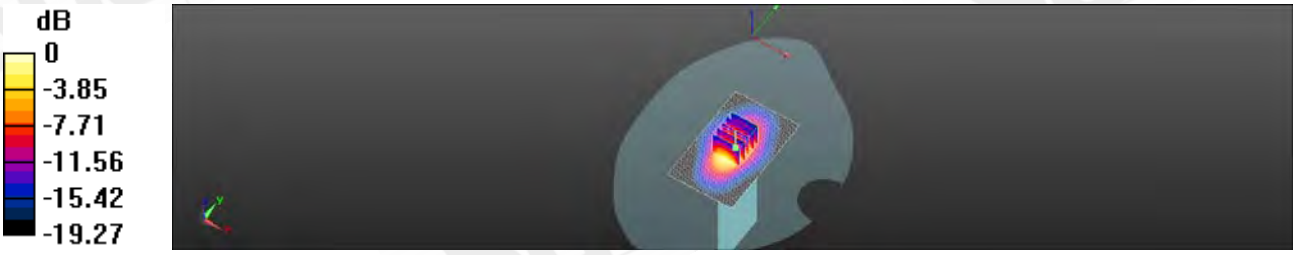
Communication System: LTE; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.584 S/m; ε_r = 51.153; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (51x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.45 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.92 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.62 W/kg
SAR(1 g) = 0.943 W/kg; SAR(10 g) = 0.498 W/kg
Maximum value of SAR (measured) = 1.30 W/kg



0 dB = 1.30 W/kg = 1.12 dBW/kg

Date: 2016/10/31

LTE Band 4 (20MHz)_Head_Re Cheek_CH 20300_QPSK_1-99

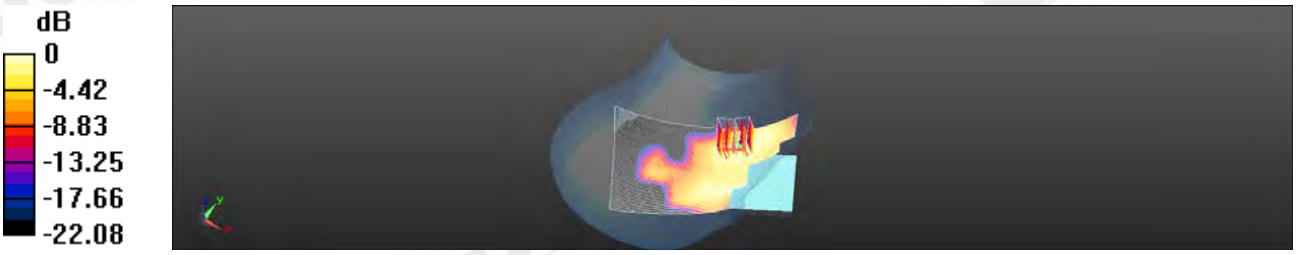
Communication System: LTE; Frequency: 1745 MHz
Medium parameters used: f = 1745 MHz; σ = 1.419 S/m; ε_r = 38.603; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.92, 7.92, 7.92); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.188 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.801 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.243 W/kg
SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.093 W/kg
Maximum value of SAR (measured) = 0.203 W/kg



0 dB = 0.203 W/kg = -6.92 dBW/kg

Date: 2016/10/26

LTE Band 4 (20MHz)_Body-worn_Back side_CH 20300_QPSK_1-99_15mm

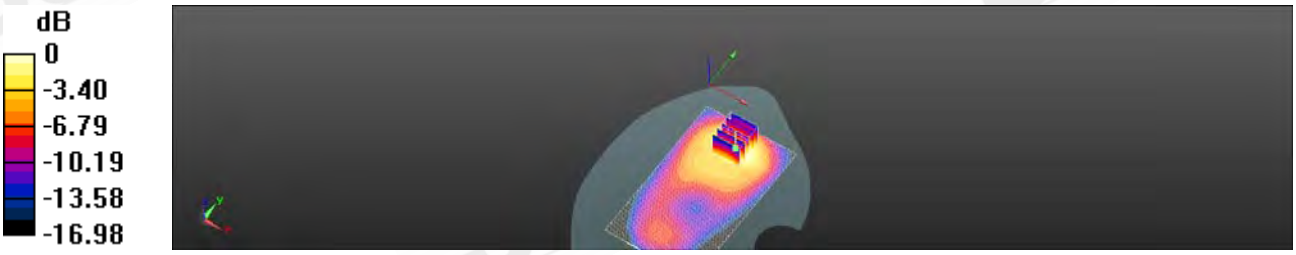
Communication System: LTE; Frequency: 1745 MHz
Medium parameters used: f = 1830 MHz; σ = 1.518 S/m; ε_r = 52.128; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.74, 7.74, 7.74); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.611 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.761 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.776 W/kg
SAR(1 g) = 0.494 W/kg; SAR(10 g) = 0.275 W/kg
Maximum value of SAR (measured) = 0.654 W/kg



0 dB = 0.654 W/kg = -1.84 dBW/kg

Date: 2016/10/26

LTE Band 4 (20MHz)_Hotspot_Bottom side_CH 20050_QPSK_100-0_10mm

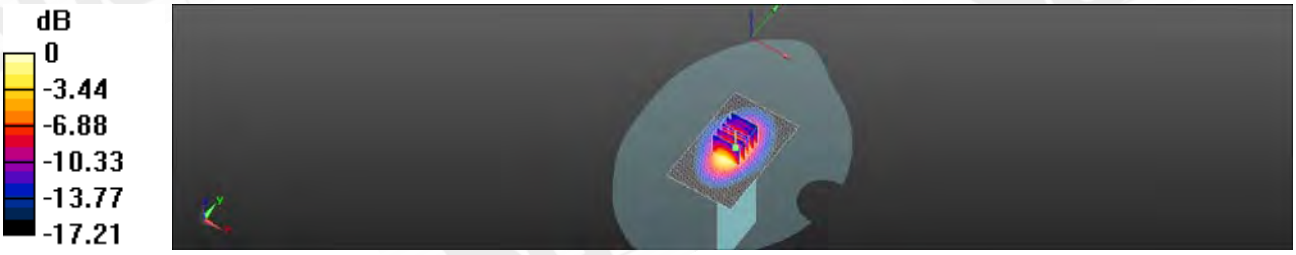
Communication System: LTE; Frequency: 1720 MHz
Medium parameters used: f = 1720 MHz; σ = 1.501 S/m; ε_r = 51.638; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.74, 7.74, 7.74); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (51x81x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.67 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.35 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.594 W/kg
Maximum value of SAR (measured) = 1.62 W/kg



0 dB = 1.62 W/kg = 2.10 dBW/kg

Date: 2016/10/30

LTE Band 5 (10MHz)_Head_Re Cheek_CH 20600_QPSK_1-25

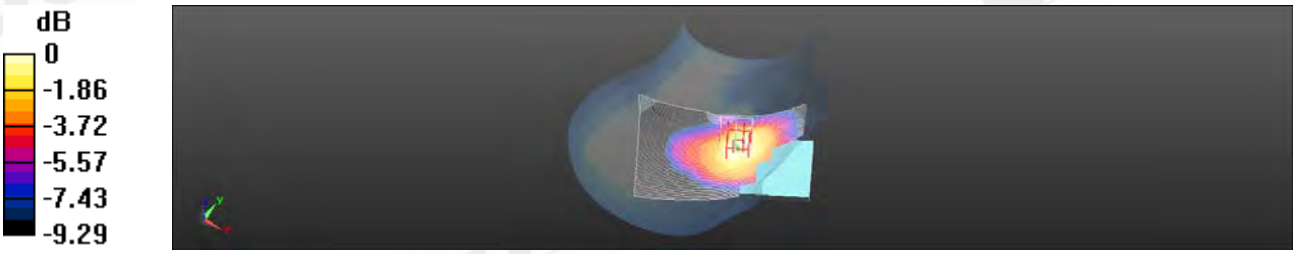
Communication System: LTE; Frequency: 844 MHz
Medium parameters used: f = 844 MHz; σ = 0.898 S/m; ε_r = 42.524; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.477 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.81 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.523 W/kg
SAR(1 g) = 0.402 W/kg; SAR(10 g) = 0.300 W/kg
Maximum value of SAR (measured) = 0.478 W/kg



0 dB = 0.478 W/kg = -3.20 dBW/kg

Date: 2016/10/25

LTE Band 5 (10MHz)_Body-worn_Back side_CH 20600_QPSK_1-25_15mm

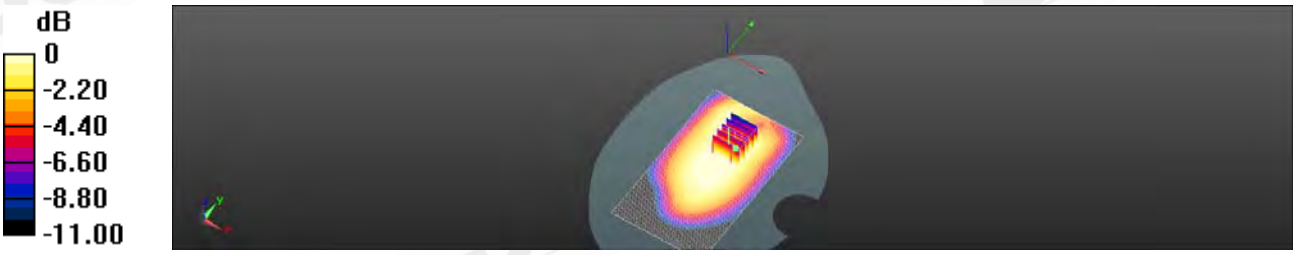
Communication System: LTE; Frequency: 844 MHz
Medium parameters used: f = 844 MHz; σ = 1.017 S/m; ε_r = 53.208; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.400 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.73 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.433 W/kg
SAR(1 g) = 0.342 W/kg; SAR(10 g) = 0.257 W/kg
Maximum value of SAR (measured) = 0.394 W/kg



0 dB = 0.394 W/kg = -4.05 dBW/kg

Date: 2016/10/25

LTE Band 5 (10MHz)_Hotspot_Back side_CH 20600_QPSK_1-25_10mm

Communication System: LTE; Frequency: 844 MHz
Medium parameters used: f = 844 MHz; σ = 1.017 S/m; ε_r = 53.208; ρ = 1000 kg/m^3
Phantom section: Flat Section

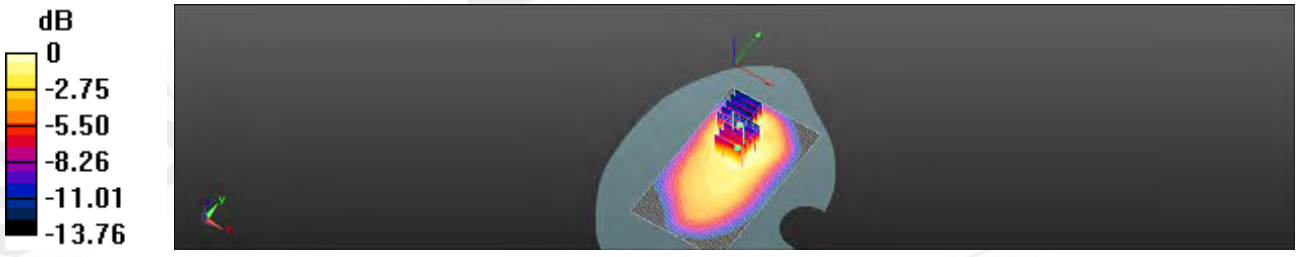
DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.732 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.23 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.507 W/kg; SAR(10 g) = 0.306 W/kg
Maximum value of SAR (measured) = 0.680 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.23 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.838 W/kg
SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.359 W/kg
Maximum value of SAR (measured) = 0.679 W/kg



0 dB = 0.679 W/kg = -1.68 dBW/kg

Date: 2016/10/18

LTE Band 5 (10MHz)_Head_Re Cheek_CH 20600_QPSK_1-25

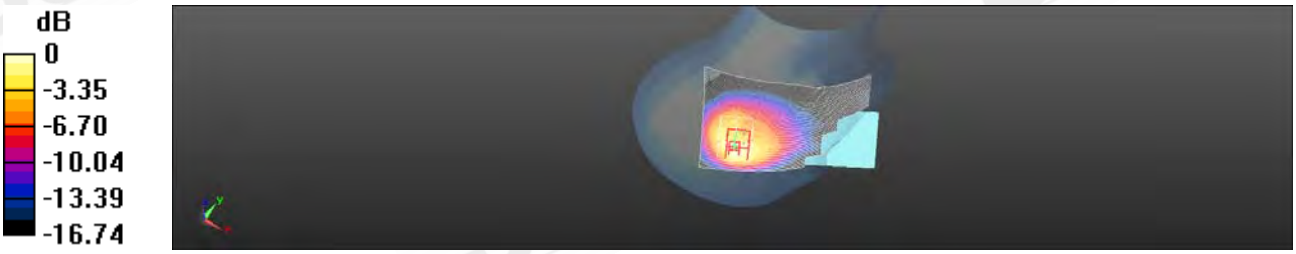
Communication System: LTE; Frequency: 844 MHz
Medium parameters used: f = 844 MHz; σ = 0.889 S/m; ε_r = 42.534; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.57 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.35 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 2.44 W/kg
SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.571 W/kg
Maximum value of SAR (measured) = 1.63 W/kg



0 dB = 1.63 W/kg = 2.13 dBW/kg

Date: 2016/10/24

LTE Band 5 (10MHz)_Body-worn_Back side_CH 20600_QPSK_1-25_15mm

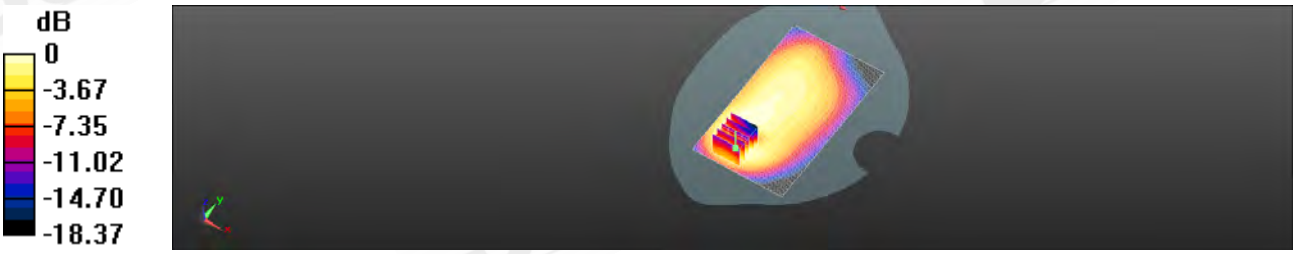
Communication System: LTE; Frequency: 844 MHz
Medium parameters used: f = 844 MHz; σ = 0.977 S/m; ε_r = 53.806; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.176 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.03 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.218 W/kg
SAR(1 g) = 0.135 W/kg; SAR(10 g) = 0.082 W/kg
Maximum value of SAR (measured) = 0.178 W/kg



0 dB = 0.178 W/kg = -7.50 dBW/kg

Date: 2016/10/24

LTE Band 5 (10MHz)_Hotspot_Back side_CH 20600_QPSK_1-25_10mm

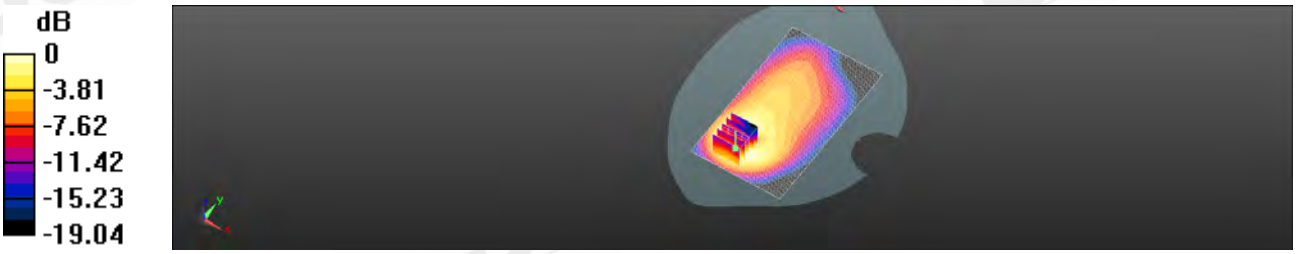
Communication System: LTE; Frequency: 844 MHz
Medium parameters used: f = 844 MHz; σ = 0.977 S/m; ε_r = 53.806; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.380 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.31 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.489 W/kg
SAR(1 g) = 0.285 W/kg; SAR(10 g) = 0.159 W/kg
Maximum value of SAR (measured) = 0.387 W/kg



0 dB = 0.387 W/kg = -4.12 dBW/kg

Date: 2016/11/1

LTE Band 7 (20MHz)_Head_Re Cheek_CH 20850_QPSK_1-50

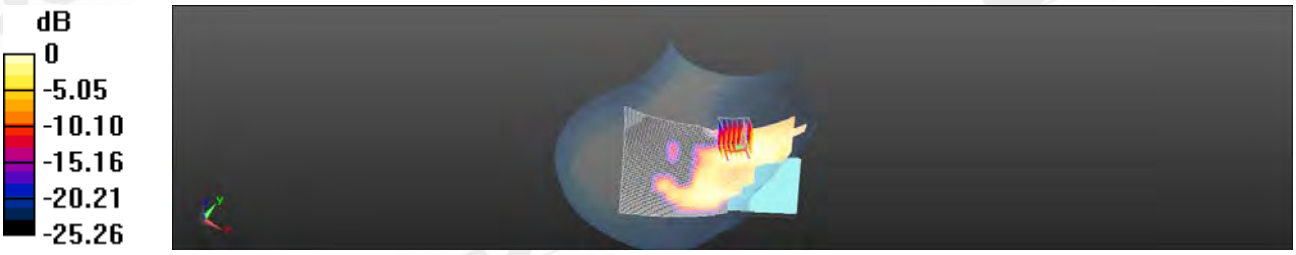
Communication System: LTE; Frequency: 2510 MHz
Medium parameters used: f = 2510 MHz; σ = 1.901 S/m; ε_r = 38.002; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.71, 6.71, 6.71); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (91x151x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.298 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.015 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.359 W/kg
SAR(1 g) = 0.196 W/kg; SAR(10 g) = 0.109 W/kg
Maximum value of SAR (measured) = 0.274 W/kg



0 dB = 0.274 W/kg = -5.62 dBW/kg

Date: 2016/10/28

LTE Band 7 (20MHz)_Body-worn_Front side_CH 20850_QPSK_1-50_15mm

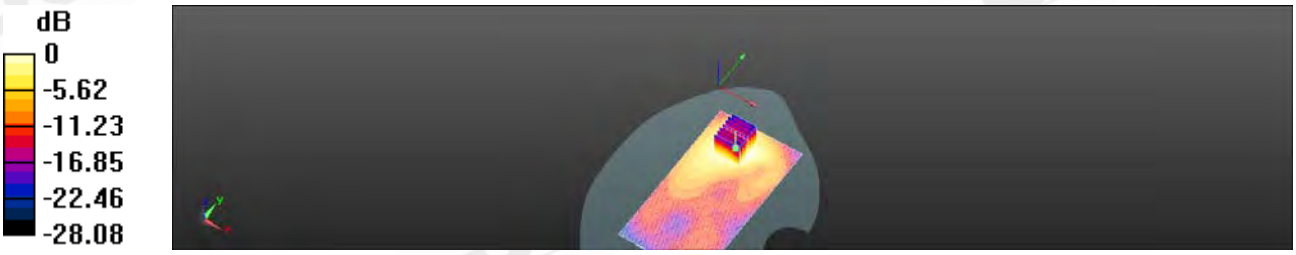
Communication System: LTE; Frequency: 2510 MHz
Medium parameters used: f = 2510 MHz; σ = 2.107 S/m; ε_r = 51.659; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.71, 6.71, 6.71); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x151x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.787 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.878 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.544 W/kg; SAR(10 g) = 0.287 W/kg
Maximum value of SAR (measured) = 0.783 W/kg



0 dB = 0.783 W/kg = -1.06 dBW/kg

Date: 2016/10/28

LTE Band 7 (20MHz)_Hotspot_Bottom side_CH 21100_QPSK_1-50_10mm

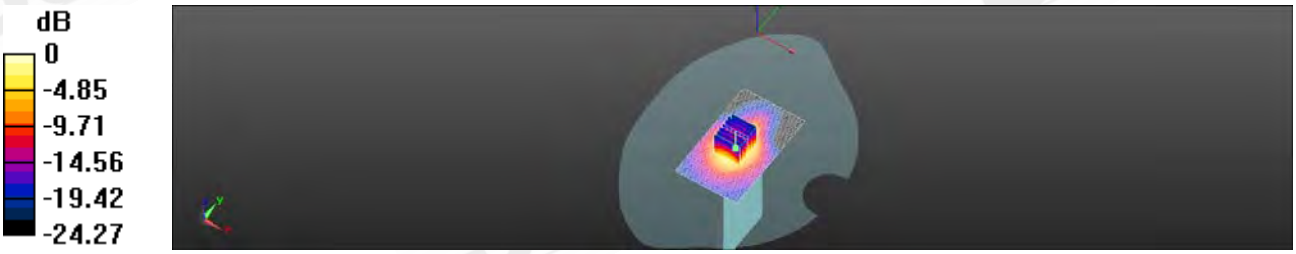
Communication System: LTE; Frequency: 2535 MHz
Medium parameters used: f = 2535 MHz; σ = 2.115 S/m; ε_r = 51.481; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.71, 6.71, 6.71); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (61x101x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 1.85 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.76 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 2.44 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.569 W/kg
Maximum value of SAR (measured) = 1.80 W/kg



0 dB = 1.80 W/kg = 2.56 dBW/kg

Date: 2016/10/29

LTE Band 12 (10MHz)_Head_Re Cheek_CH 23130_QPSK_1-25

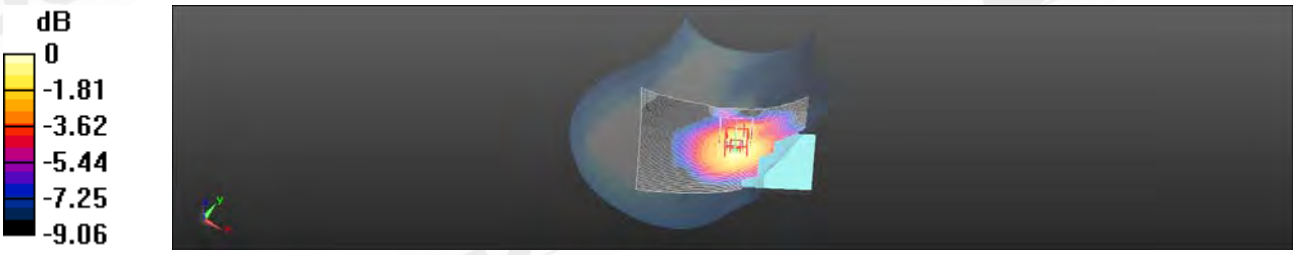
Communication System: LTE; Frequency: 711 MHz
Medium parameters used: f = 711 MHz; σ = 0.864 S/m; ε_r = 42.399; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.38, 9.38, 9.38); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.219 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.110 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.275 W/kg
SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.152 W/kg
Maximum value of SAR (measured) = 0.254 W/kg



0 dB = 0.254 W/kg = -5.96 dBW/kg

Date: 2016/10/23

LTE Band 12 (10MHz)_Body-worn_Back side_CH 23130_QPSK_1-25_15mm

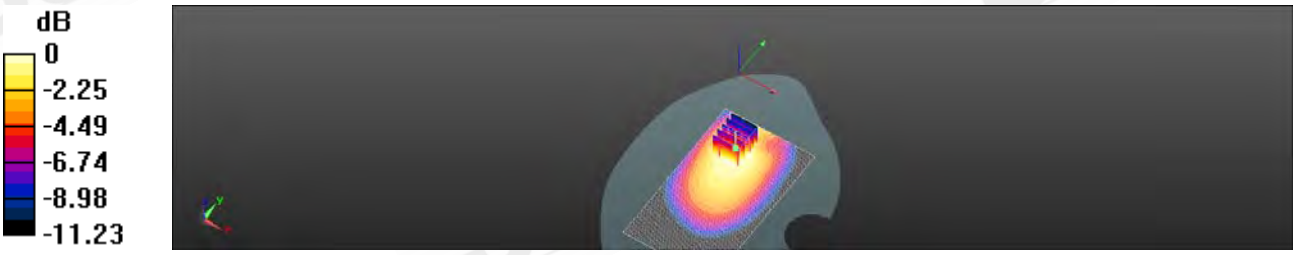
Communication System: LTE; Frequency: 711 MHz
Medium parameters used: f = 711 MHz; σ = 0.947 S/m; ε_r = 54.701; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.301 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.13 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.339 W/kg
SAR(1 g) = 0.253 W/kg; SAR(10 g) = 0.181 W/kg
Maximum value of SAR (measured) = 0.299 W/kg



0 dB = 0.299 W/kg = -5.24 dBW/kg

Date: 2016/10/23

LTE Band 12 (10MHz)_Hotspot_Back side_CH 23130_QPSK_1-25_10mm

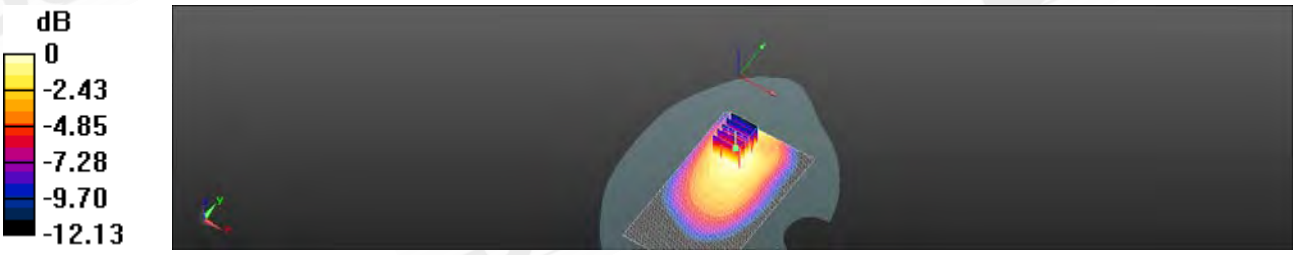
Communication System: LTE; Frequency: 711 MHz
Medium parameters used: f = 711 MHz; σ = 0.947 S/m; ε_r = 54.701; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.313 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.46 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.366 W/kg
SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.173 W/kg
Maximum value of SAR (measured) = 0.309 W/kg



0 dB = 0.309 W/kg = -5.11 dBW/kg

Date: 2016/10/29

LTE Band 12 (10MHz)_Head_Re Cheek_CH 23095_QPSK_1-0

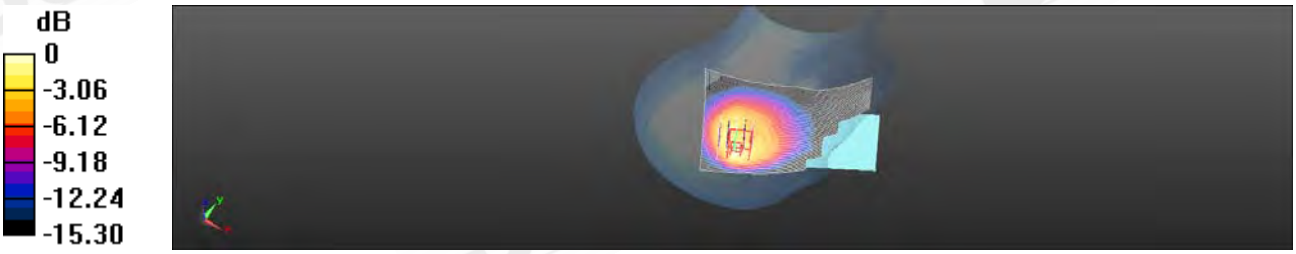
Communication System: LTE; Frequency: 707.5 MHz
Medium parameters used: f = 707.5 MHz; σ = 0.862 S/m; ε_r = 42.485; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.38, 9.38, 9.38); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.22 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.28 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.89 W/kg
SAR(1 g) = 0.819 W/kg; SAR(10 g) = 0.420 W/kg
Maximum value of SAR (measured) = 1.20 W/kg



0 dB = 1.20 W/kg = 0.78 dBW/kg

Date: 2016/10/22

LTE Band 12 (10MHz)_Body-worn_Back side_CH 23095_QPSK_1-0_15mm

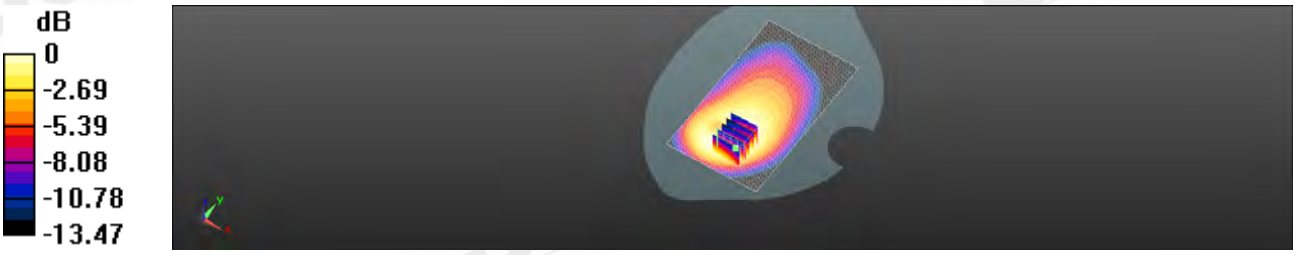
Communication System: LTE; Frequency: 707.5 MHz
Medium parameters used: f = 707.5 MHz; σ = 0.949 S/m; ε_r = 54.731; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.125 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.668 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.164 W/kg
SAR(1 g) = 0.110 W/kg; SAR(10 g) = 0.078 W/kg
Maximum value of SAR (measured) = 0.133 W/kg



0 dB = 0.133 W/kg = -8.76 dBW/kg

Date: 2016/10/22

LTE Band 12 (10MHz)_Hotspot_Back side_CH 23095_QPSK_1-0_10mm

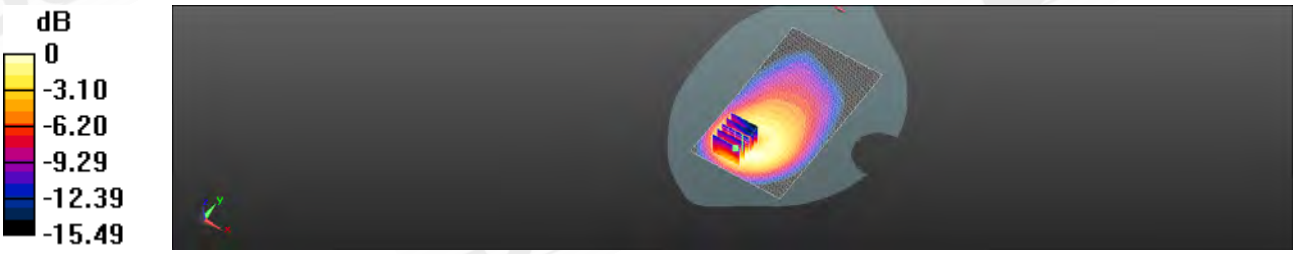
Communication System: LTE; Frequency: 707.5 MHz
Medium parameters used: f = 707.5 MHz; σ = 0.949 S/m; ε_r = 54.731; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.250 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.047 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.344 W/kg
SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.113 W/kg
Maximum value of SAR (measured) = 0.273 W/kg



0 dB = 0.273 W/kg = -5.64 dBW/kg

Date: 2016/10/29

LTE Band 17 (10MHz)_Head_Re Cheek_CH 23790_QPSK_1-25

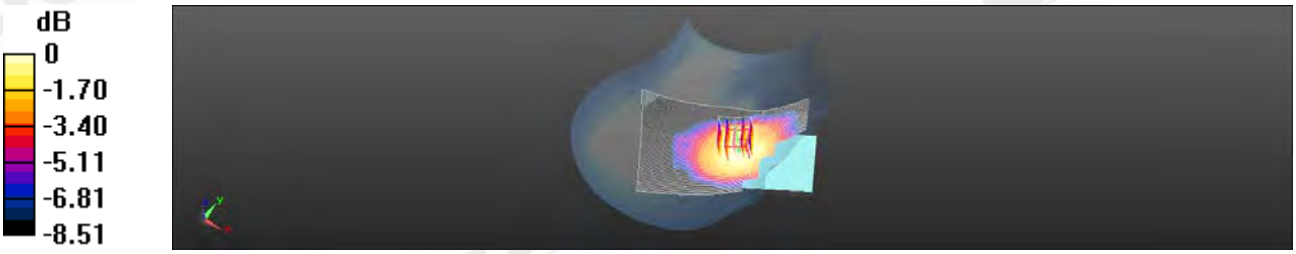
Communication System: LTE; Frequency: 710 MHz
Medium parameters used: f = 710 MHz; σ = 0.864 S/m; ε_r = 42.419; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.38, 9.38, 9.38); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.174 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.389 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.161 W/kg; SAR(10 g) = 0.128 W/kg
Maximum value of SAR (measured) = 0.180 W/kg



0 dB = 0.180 W/kg = -7.44 dBW/kg

Date: 2016/10/23

LTE Band 17 (10MHz)_Body_Back side_CH 23790_QPSK_1-25_15mm

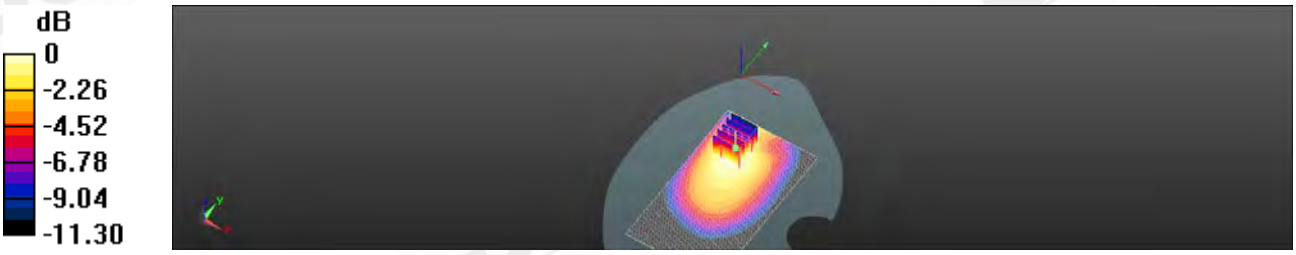
Communication System: LTE; Frequency: 710 MHz
Medium parameters used: f = 710 MHz; σ = 0.946 S/m; ε_r = 54.761; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.298 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.91 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.245 W/kg; SAR(10 g) = 0.176 W/kg
Maximum value of SAR (measured) = 0.293 W/kg



0 dB = 0.293 W/kg = -5.33 dBW/kg

Date: 2016/10/23

LTE Band 17 (10MHz)_Hotspot_Back side_CH 23790_QPSK_1-25_10mm

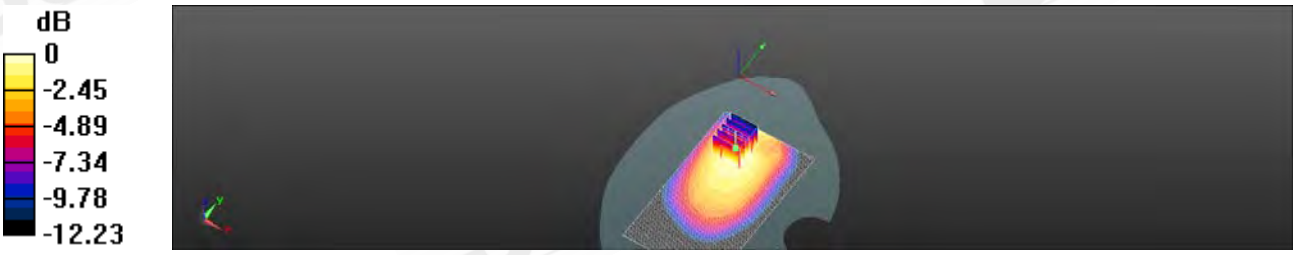
Communication System: LTE; Frequency: 710 MHz
Medium parameters used: f = 710 MHz; σ = 0.946 S/m; ε_r = 54.761; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.299 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.30 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.350 W/kg
SAR(1 g) = 0.244 W/kg; SAR(10 g) = 0.171 W/kg
Maximum value of SAR (measured) = 0.295 W/kg



0 dB = 0.295 W/kg = -5.31 dBW/kg

Date: 2016/10/29

LTE Band 17 (10MHz)_Head_Re Cheek_CH 23800_QPSK_1-25

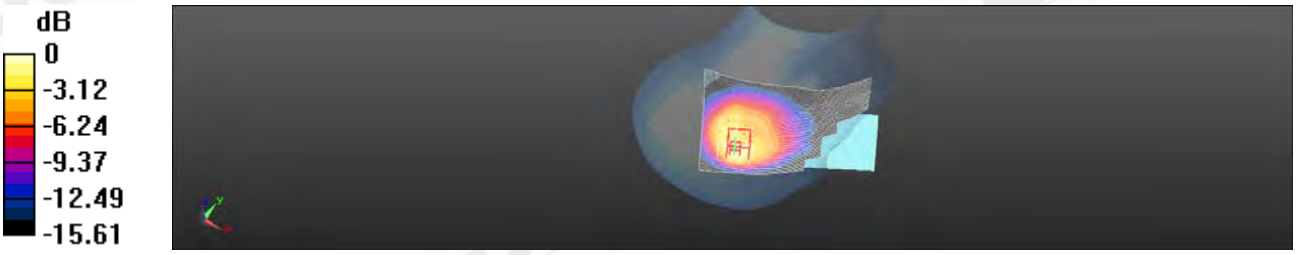
Communication System: LTE; Frequency: 711 MHz
Medium parameters used: f = 711 MHz; σ = 0.864 S/m; ε_r = 42.399; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.38, 9.38, 9.38); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 1.28 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.39 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 0.827 W/kg; SAR(10 g) = 0.431 W/kg
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.22 W/kg = 0.87 dBW/kg

Date: 2016/10/22

LTE Band 17 (10MHz)_Body-worn_Back side_CH 23780_QPSK_1-25_15mm

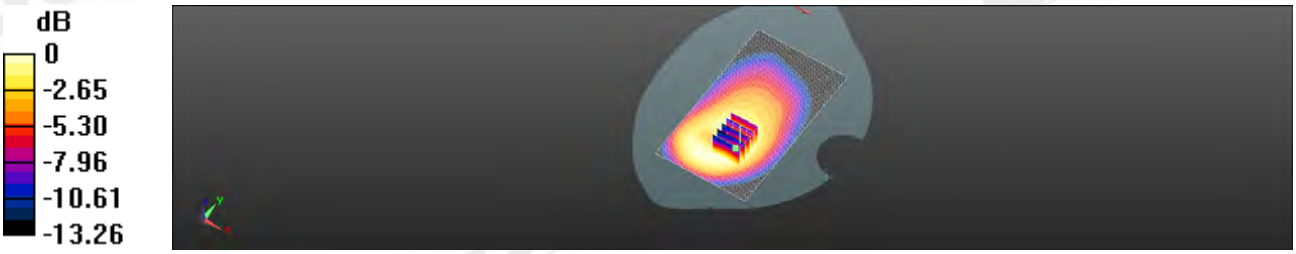
Communication System: LTE; Frequency: 709 MHz
Medium parameters used: f = 709 MHz; σ = 0.952 S/m; ε_r = 54.716; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.137 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.940 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.167 W/kg
SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.076 W/kg
Maximum value of SAR (measured) = 0.140 W/kg



0 dB = 0.140 W/kg = -8.55 dBW/kg

Date: 2016/10/22

LTE Band 17 (10MHz)_Hotspot_Back side_CH 23780_QPSK_1-25_10mm

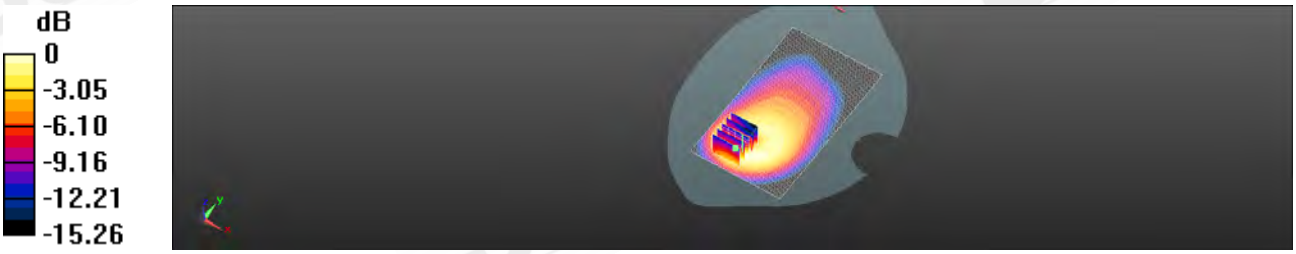
Communication System: LTE; Frequency: 709 MHz
Medium parameters used: f = 709 MHz; σ = 0.952 S/m; ε_r = 54.716; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (71x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.256 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.789 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.351 W/kg
SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.135 W/kg
Maximum value of SAR (measured) = 0.279 W/kg



0 dB = 0.279 W/kg = -5.54 dBW/kg

Date: 2016/10/19

WLAN 802.11b_Head_Le Cheek_CH 11

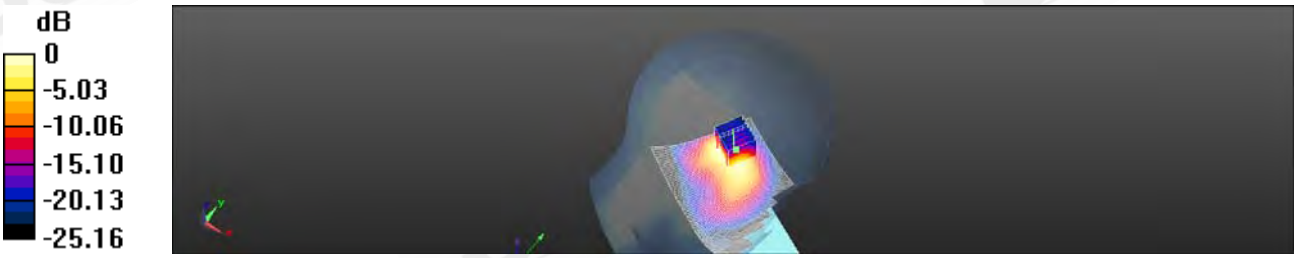
Communication System: WLAN 2.45G; Frequency: 2462 MHz
Medium parameters used: f = 2462 MHz; σ = 1.841 S/m; ε_r = 40.344; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.92, 6.92, 6.92); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (91x151x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 2.20 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.08 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.96 W/kg
SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.591 W/kg
Maximum value of SAR (measured) = 1.98 W/kg



0 dB = 1.98 W/kg = 2.96 dBW/kg

Date: 2016/10/19

WLAN 802.11b_Head_Le Cheek_CH 1

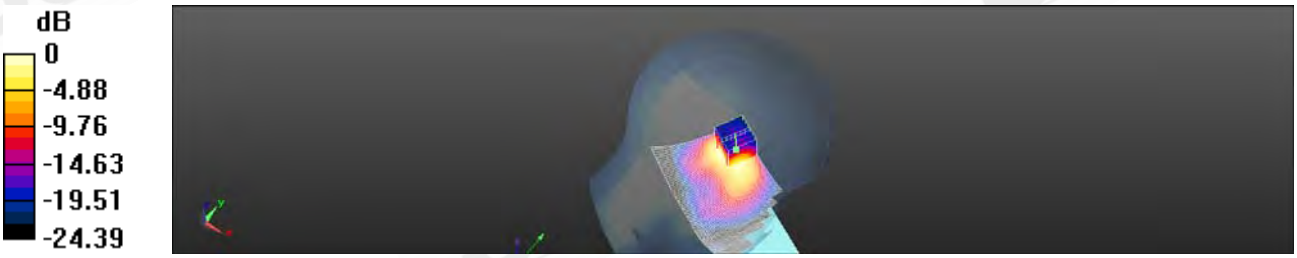
Communication System: WLAN 2.45G; Frequency: 2412 MHz
Medium parameters used: f = 2412 MHz; σ = 1.793 S/m; ε_r = 40.413; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.92, 6.92, 6.92); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x151x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.718 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.454 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.997 W/kg
SAR(1 g) = 0.408 W/kg; SAR(10 g) = 0.200 W/kg
Maximum value of SAR (measured) = 0.668 W/kg



0 dB = 0.668 W/kg = -1.75 dBW/kg

Date: 2016/10/20

WLAN 802.11b_Body-worn_Back side_CH 6_15mm

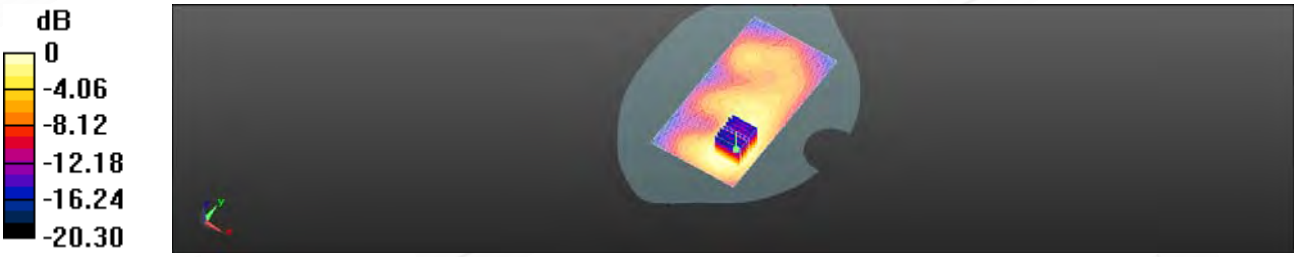
Communication System: WLAN 2.45G; Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.952 S/m; ε_r = 54.021; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.05, 7.05, 7.05); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x151x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.318 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.771 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.420 W/kg
SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.126 W/kg
Maximum value of SAR (measured) = 0.324 W/kg



0 dB = 0.324 W/kg = -4.89 dBW/kg

Date: 2016/10/20

WLAN 802.11b_Hotspot_Back side_CH 6_10mm

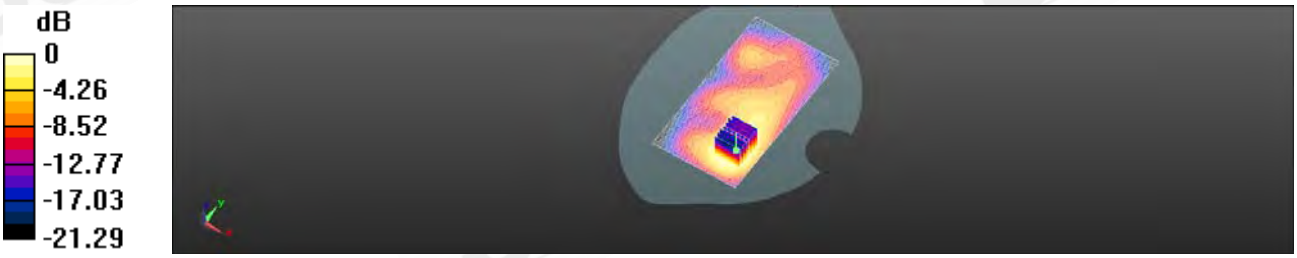
Communication System: WLAN 2.45G; Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.952 S/m; ε_r = 54.021; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.05, 7.05, 7.05); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (81x151x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 0.651 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.525 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.904 W/kg
SAR(1 g) = 0.477 W/kg; SAR(10 g) = 0.247 W/kg
Maximum value of SAR (measured) = 0.670 W/kg



0 dB = 0.670 W/kg = -1.74 dBW/kg

6. SAR System Performance Verification

Date: 2016/10/29

Dipole 750 MHz_SN:1015_Head

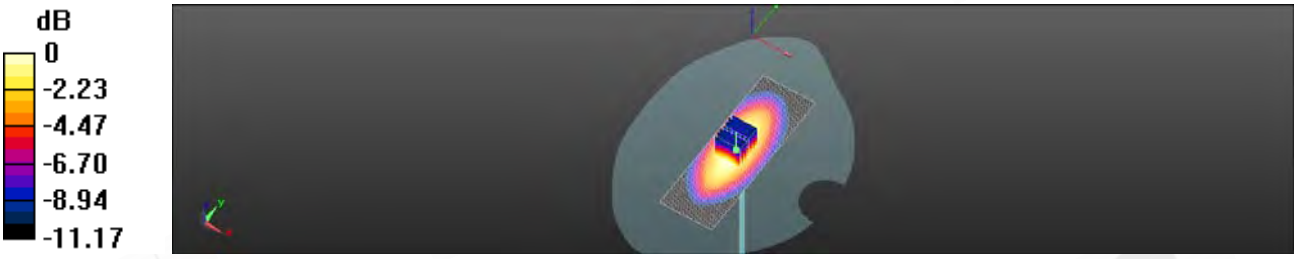
Communication System: CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.903 S/m; ε_r = 41.857; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.38, 9.38, 9.38); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (41x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.77 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.17 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.30 W/kg
SAR(1 g) = 2.18 W/kg; SAR(10 g) = 1.41 W/kg
Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.46 dBW/kg

Date: 2016/10/22

Dipole 750 MHz_SN:1015_Body

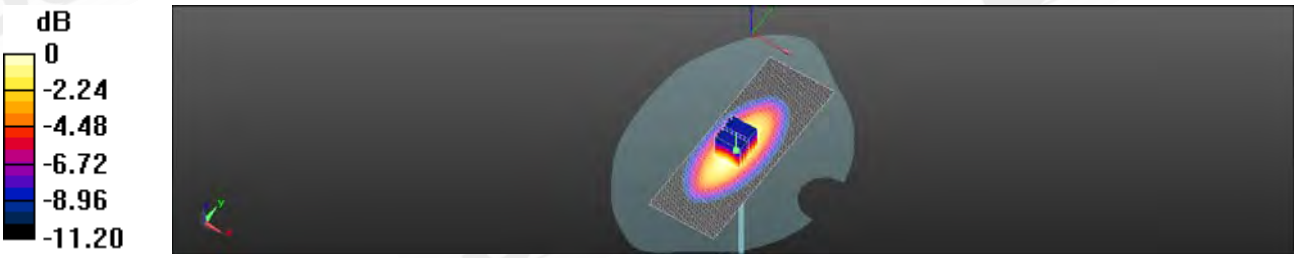
Communication System: CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.993 S/m; ε_r = 54.34; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x141x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.83 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.73 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.42 W/kg
SAR(1 g) = 2.23 W/kg; SAR(10 g) = 1.44 W/kg
Maximum value of SAR (measured) = 2.87 W/kg



0 dB = 2.87 W/kg = 4.58 dBW/kg

Date: 2016/10/23

Dipole 750 MHz_SN:1015_Body

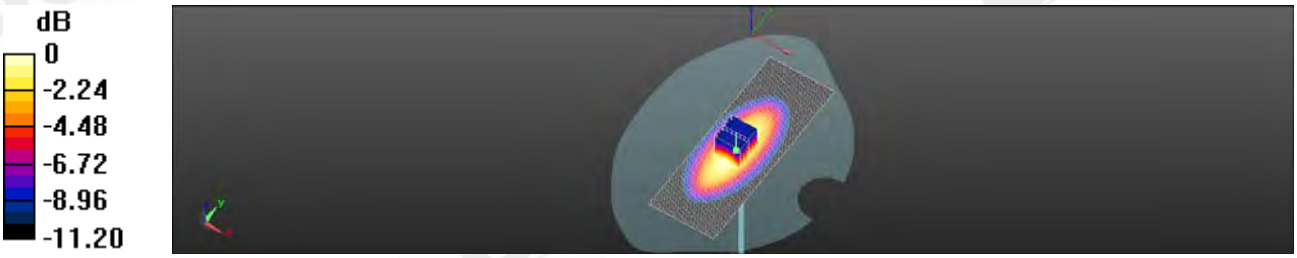
Communication System: CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.986 S/m; ε_r = 54.34; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.25, 9.25, 9.25); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x141x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 2.83 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.73 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.42 W/kg
SAR(1 g) = 2.23 W/kg; SAR(10 g) = 1.44 W/kg
Maximum value of SAR (measured) = 2.87 W/kg



0 dB = 2.87 W/kg = 4.58 dBW/kg

Date: 2016/10/18

Dipole 835 MHz_SN:4d063_Head

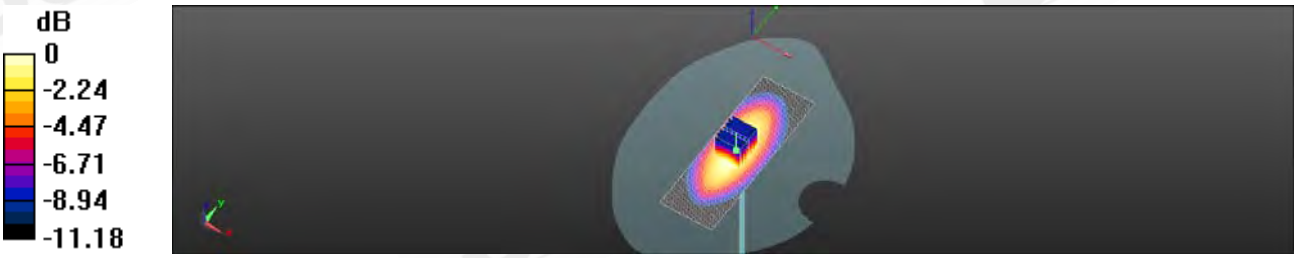
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.878 S/m; ε_r = 42.654; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (41x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 3.66 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 65.44 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 4.37 W/kg
SAR(1 g) = 2.39 W/kg; SAR(10 g) = 1.56 W/kg
Maximum value of SAR (measured) = 3.70 W/kg



0 dB = 3.70 W/kg = 5.68 dBW/kg

Date: 2016/10/30

Dipole 835 MHz_SN:4d063_Head

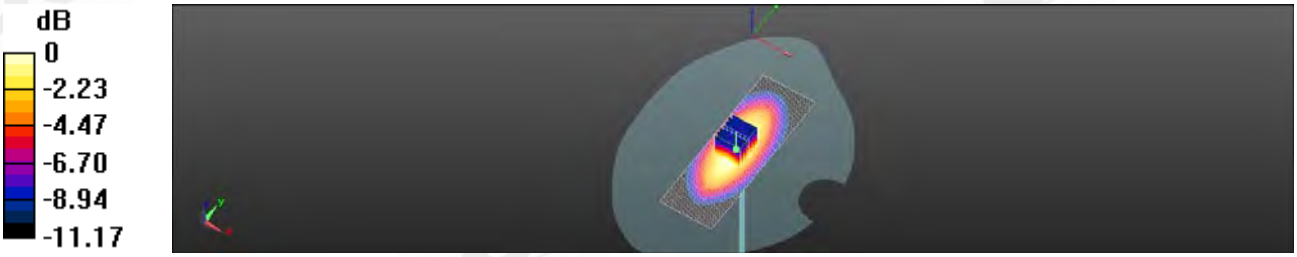
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.887 S/m; ε_r = 42.644; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(8.84, 8.84, 8.84); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (41x121x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 3.75 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 66.27 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 4.45 W/kg
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.76 W/kg



0 dB = 3.76 W/kg = 5.75 dBW/kg

Date: 2016/10/24

Dipole 835 MHz_SN:4d063_Body

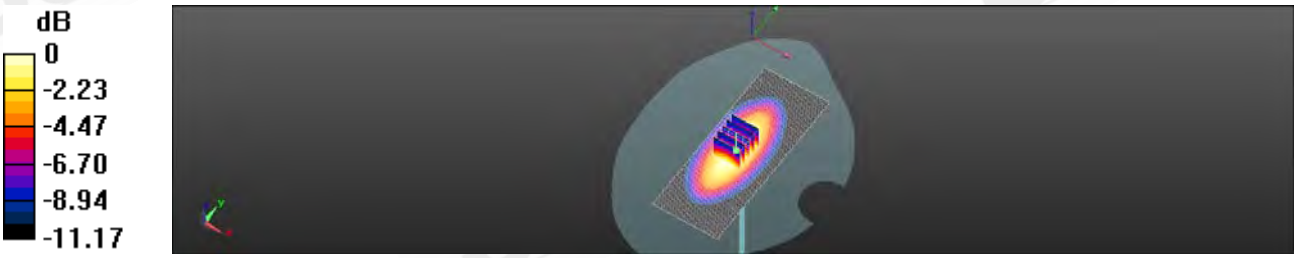
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.957 S/m; ε_r = 53.866; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 3.30 W/kg

Configuration/Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.03 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.92 W/kg
SAR(1 g) = 2.57 W/kg; SAR(10 g) = 1.67 W/kg
Maximum value of SAR (measured) = 3.31 W/kg



0 dB = 3.31 W/kg = 5.20 dBW/kg

Date: 2016/10/25

Dipole 835 MHz_SN:4d063_Body

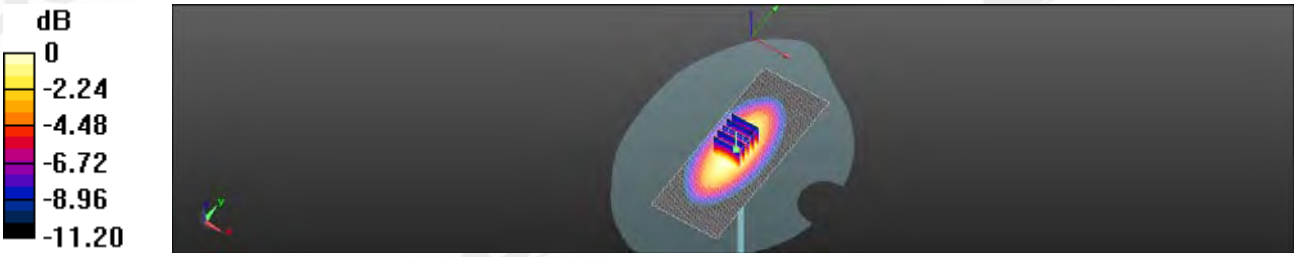
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 1.008 S/m; ε_r = 53.311; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(9.08, 9.08, 9.08); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x131x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 3.30 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.32 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.91 W/kg
SAR(1 g) = 2.57 W/kg; SAR(10 g) = 1.66 W/kg
Maximum value of SAR (measured) = 3.30 W/kg



0 dB = 3.30 W/kg = 5.18 dBW/kg

Date: 2016/10/31

Dipole 1750 MHz_SN:1008_Head

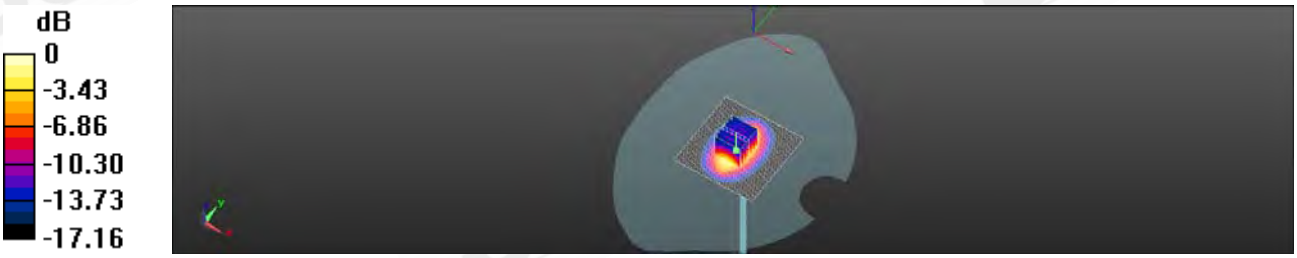
Communication System: CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.424 S/m; ε_r = 38.631; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.92, 7.92, 7.92); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 13.0 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.53 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.06 W/kg; SAR(10 g) = 4.79 W/kg
Maximum value of SAR (measured) = 12.9 W/kg



0 dB = 12.9 W/kg = 11.11 dBW/kg

Date: 2016/10/26

Dipole 1750 MHz_SN:1008_Body

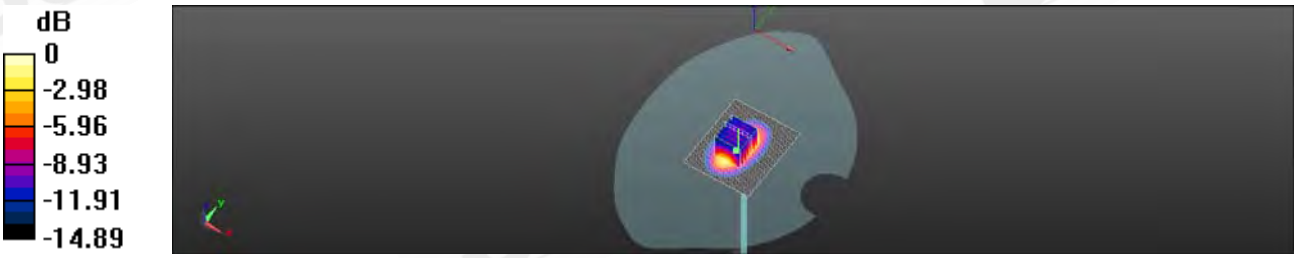
Communication System: CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.541 S/m; ε_r = 51.520; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.74, 7.74, 7.74); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x61x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 14.0 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.78 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 9.3 W/kg; SAR(10 g) = 4.92 W/kg
Maximum value of SAR (measured) = 13.0 W/kg



0 dB = 13.0 W/kg = 11.15 dBW/kg

Date: 2016/10/31

Dipole 1900 MHz_SN:5d027_Head

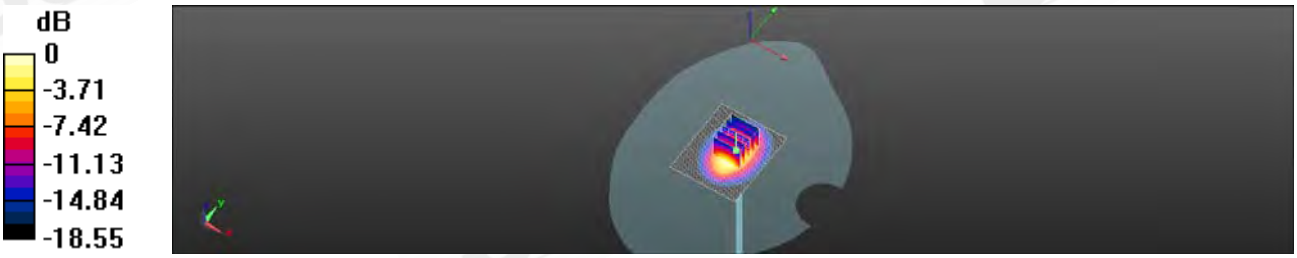
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.437 S/m; ε_r = 38.301; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.66, 7.66, 7.66); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x61x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 15.0 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 101.0 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 9.93 W/kg; SAR(10 g) = 5.15 W/kg
Maximum value of SAR (measured) = 14.1 W/kg



0 dB = 14.1 W/kg = 11.49 dBW/kg

Date: 2016/10/27

Dipole 1900 MHz_SN:5d027_Body

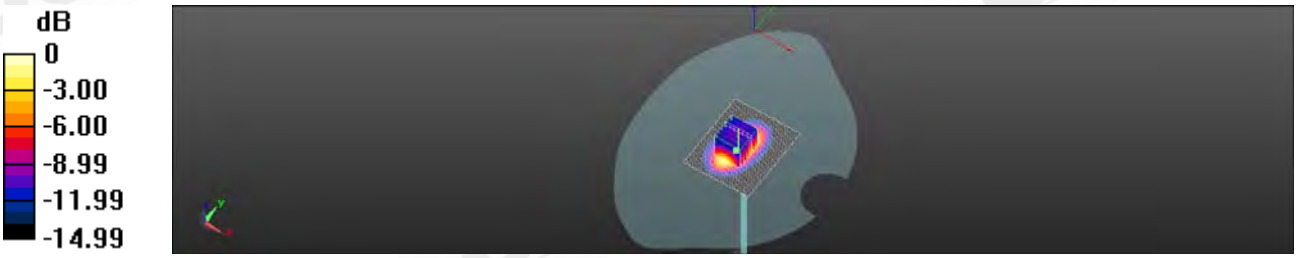
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.584 S/m; ε_r = 51.153; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.54, 7.54, 7.54); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x61x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 14.8 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.51 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 10 W/kg; SAR(10 g) = 5.19 W/kg
Maximum value of SAR (measured) = 13.7 W/kg



0 dB = 13.7 W/kg = 11.37 dBW/kg

Date: 2016/10/19

Dipole 2450 MHz_SN:727_Head

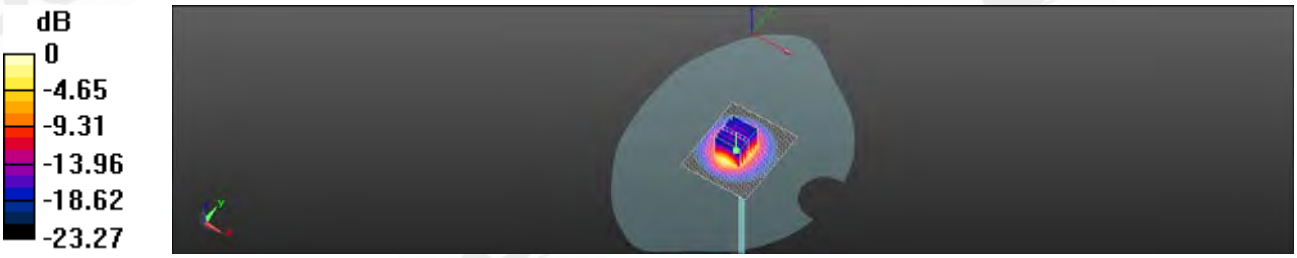
Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.829 S/m; ε_r = 40.371; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.92, 6.92, 6.92); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x61x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 19.2 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 102.7 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 25.6 W/kg
SAR(1 g) = 12.2 W/kg; SAR(10 g) = 5.65 W/kg
Maximum value of SAR (measured) = 18.6 W/kg



0 dB = 18.6 W/kg = 12.70 dBW/kg

Date: 2016/10/20

Dipole 2450 MHz_SN:727_Body

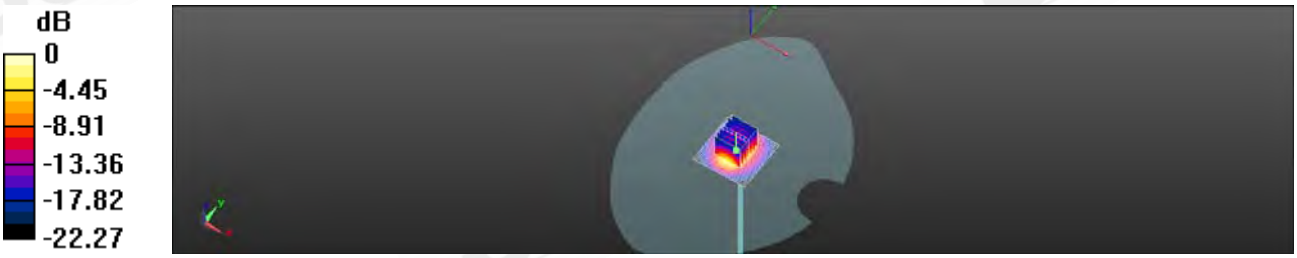
Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.968 S/m; ε_r = 53.955; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(7.05, 7.05, 7.05); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x51x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 21.2 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.2 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 5.92 W/kg
Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 19.9 W/kg = 12.98 dBW/kg

Date: 2016/11/1

Dipole 2600 MHz_SN:1005_Head

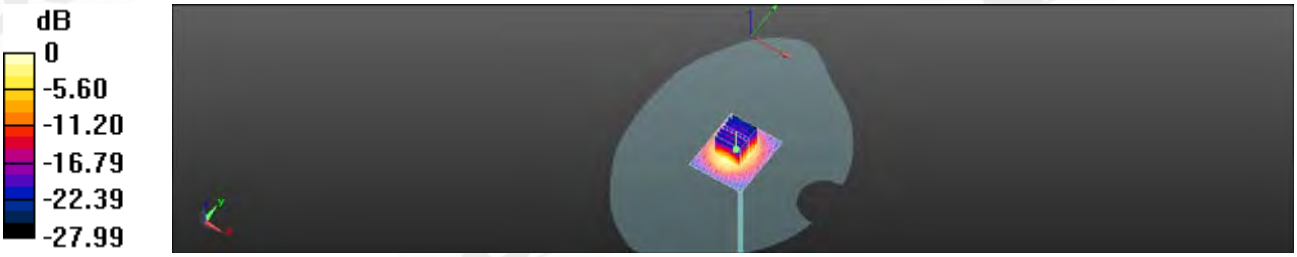
Communication System: CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 1.993 S/m; ε_r = 37.692; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.71, 6.71, 6.71); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x61x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 30.1 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 116.7 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 42.2 W/kg
SAR(1 g) = 14 W/kg; SAR(10 g) = 6.17 W/kg
Maximum value of SAR (measured) = 28.9 W/kg



0 dB = 28.9 W/kg = 14.61 dBW/kg

Date: 2016/10/28

Dipole 2600 MHz_SN:1005_Body

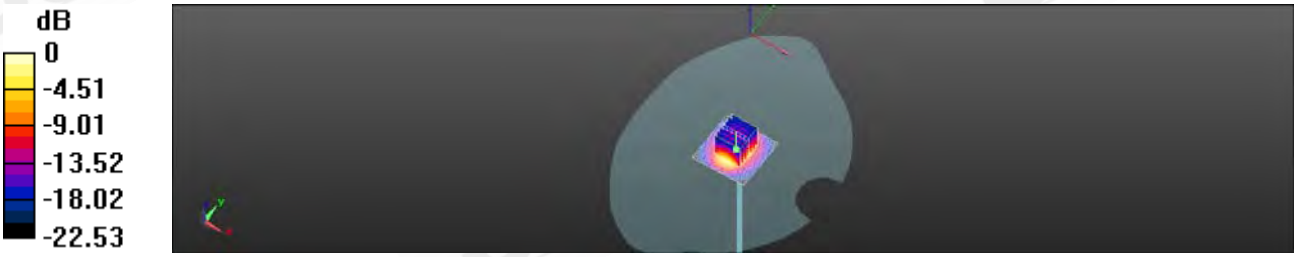
Communication System: CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.217 S/m; ε_r = 51.066; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3831; ConvF(6.71, 6.71, 6.71); Calibrated: 2016/1/27;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2016/3/21
- Phantom: Head
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Pin=250mW/Area Scan (51x51x1): Interpolated grid: dx=12 mm, dy=12 mm
Maximum value of SAR (interpolated) = 20.1 W/kg

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.41 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 24.8 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.92 W/kg
Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 18.5 W/kg = 12.67 dBW/kg

7. DAE & Probe Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: DAE4-547_Mar16

CALIBRATION CERTIFICATE

Object DAE4 - SD 000 D04 BM - SN: 547

Calibration procedure(s) QA CAL-06.v29
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: March 21, 2016

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	09-Sep-15 (No:17153)	Sep-16
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	05-Jan-16 (in house check)	In house check: Jan-17
Calibrator Box V2.1	SE UMS 006 AA 1002	05-Jan-16 (in house check)	In house check: Jan-17

	Name	Function	Signature
Calibrated by:	R.Mayoraz	Technician	
Approved by:	Fin Bomholt	Deputy Technical Manager	

Issued: March 21, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: DAE4-547_Mar16 Page 1 of 5

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

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.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range:	1LSB =	6.1μV ,	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	403.135 ± 0.02% (k=2)	403.036 ± 0.02% (k=2)	402.684 ± 0.02% (k=2)
Low Range	3.95305 ± 1.50% (k=2)	3.90339 ± 1.50% (k=2)	3.96094 ± 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	162.0 ° ± 1 °

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Member of SGS Group

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range		Reading (µV)	Difference (µV)	Error (%)
Channel X	+ Input	199994.21	2.19	0.00
Channel X	+ Input	20002.69	2.01	0.01
Channel X	- Input	-19996.82	4.06	-0.02
Channel Y	+ Input	199993.69	1.38	0.00
Channel Y	+ Input	19998.39	-2.33	-0.01
Channel Y	- Input	-20002.28	-1.42	0.01
Channel Z	+ Input	199992.57	0.40	0.00
Channel Z	+ Input	20001.18	0.43	0.00
Channel Z	- Input	-19999.63	1.28	-0.01

Low Range		Reading (µV)	Difference (µV)	Error (%)
Channel X	+ Input	2000.74	0.01	0.00
Channel X	+ Input	200.96	-0.15	-0.08
Channel X	- Input	-198.85	-0.17	0.09
Channel Y	+ Input	2000.55	-0.24	-0.01
Channel Y	+ Input	200.62	-0.63	-0.31
Channel Y	- Input	-199.16	-0.63	0.32
Channel Z	+ Input	2000.92	0.18	0.01
Channel Z	+ Input	200.09	-1.21	-0.60
Channel Z	- Input	-199.88	-1.33	0.67

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 (µV)	Low Range Average Reading (µV)
Channel X	200	-3.77	-5.74
	- 200	5.75	4.10
Channel Y	200	-0.96	-1.19
	- 200	-0.19	-0.50
Channel Z	200	5.38	5.39
	- 200	-7.88	-7.92

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (µV)	Channel Y (µV)	Channel Z (µV)
Channel X	200	-	3.23	-2.09
Channel Y	200	9.86	-	4.46
Channel Z	200	4.46	8.53	-

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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	16360	14961
Channel Y	16477	16929
Channel Z	16075	16224

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	0.98	0.14	1.82	0.32
Channel Y	-0.29	-1.11	0.56	0.32
Channel Z	-1.72	-2.77	-0.15	0.39

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	+8	+14
Supply (- Vcc)	-0.01	-8	-9

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Calibration Laboratory of
Schmid & Partner
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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 0108

Client SGS-TW (Auden) Certificate No: EX3-3831_Jan16

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3831

Calibration procedure(s) QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: January 27, 2016

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	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-15)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 28, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z*: Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * 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*.
- *DCPx,y,z*: 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
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z*: A, B, C, D 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 ≤ 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 *NORMx,y,z * 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 ± 50 MHz to ± 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.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

Probe EX3DV4

SN:3831

Manufactured: September 6, 2011
Calibrated: January 27, 2016

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3831

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.45	0.42	0.43	± 10.1 %
DCP (mV)[B]	100.7	102.6	99.9	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	153.7	±3.3 %
		Y	0.0	0.0	1.0		139.5	
		Z	0.0	0.0	1.0		143.5	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3831

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	9.38	9.38	9.38	0.23	1.35	± 12.0 %
835	41.5	0.90	8.84	8.84	8.84	0.19	1.62	± 12.0 %
900	41.5	0.97	8.77	8.77	8.77	0.20	1.51	± 12.0 %
1450	40.5	1.20	8.17	8.17	8.17	0.28	0.97	± 12.0 %
1750	40.1	1.37	7.92	7.92	7.92	0.41	0.80	± 12.0 %
1900	40.0	1.40	7.66	7.66	7.66	0.37	0.80	± 12.0 %
2000	40.0	1.40	7.61	7.61	7.61	0.32	0.80	± 12.0 %
2300	39.5	1.67	7.33	7.33	7.33	0.31	0.96	± 12.0 %
2450	39.2	1.80	6.92	6.92	6.92	0.27	1.09	± 12.0 %
2600	39.0	1.96	6.71	6.71	6.71	0.40	0.89	± 12.0 %
3500	37.9	2.91	6.41	6.41	6.41	0.42	1.03	± 13.1 %
5200	36.0	4.66	4.76	4.76	4.76	0.35	1.80	± 13.1 %
5300	35.9	4.76	4.46	4.46	4.46	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.08	4.08	4.08	0.50	1.80	± 13.1 %
5800	35.3	5.27	4.10	4.10	4.10	0.50	1.80	± 13.1 %

[C] Frequency validity above 300 MHz 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. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) 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 (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3831

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	9.25	9.25	9.25	0.26	1.29	± 12.0 %
835	55.2	0.97	9.08	9.08	9.08	0.35	1.04	± 12.0 %
900	55.0	1.05	9.05	9.05	9.05	0.30	1.12	± 12.0 %
1750	53.4	1.49	7.74	7.74	7.74	0.27	1.01	± 12.0 %
1900	53.3	1.52	7.54	7.54	7.54	0.35	0.85	± 12.0 %
2000	53.3	1.52	7.62	7.62	7.62	0.37	0.84	± 12.0 %
2300	52.9	1.81	7.06	7.06	7.06	0.35	0.80	± 12.0 %
2450	52.7	1.95	7.05	7.05	7.05	0.34	0.80	± 12.0 %
2600	52.5	2.16	6.71	6.71	6.71	0.37	0.80	± 12.0 %
5200	49.0	5.30	4.07	4.07	4.07	0.50	1.90	± 13.1 %
5300	48.9	5.42	3.81	3.81	3.81	0.55	1.90	± 13.1 %
5600	48.5	5.77	3.47	3.47	3.47	0.55	1.90	± 13.1 %
5800	48.2	6.00	3.52	3.52	3.52	0.60	1.90	± 13.1 %

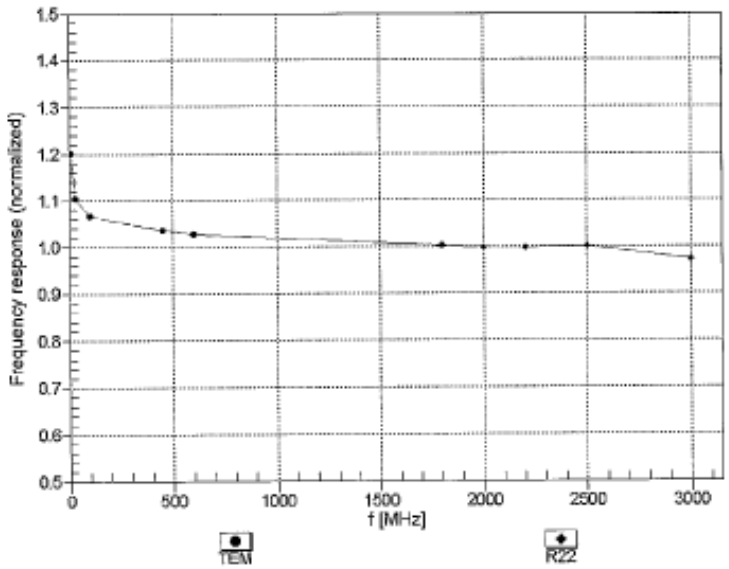
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) 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 (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

EX3DV4– SN:3831 January 27, 2016

Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

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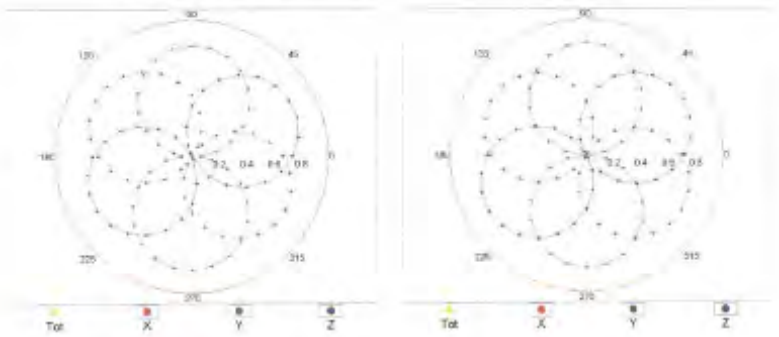
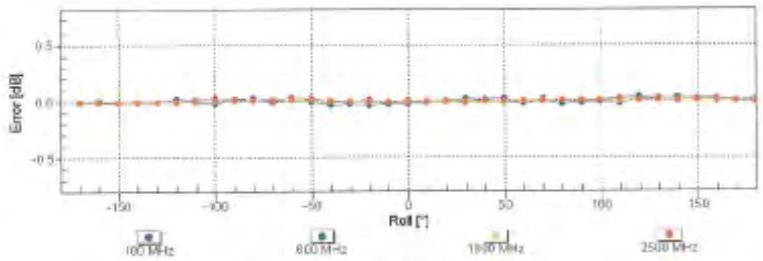
EX3DV4- SN:3831 January 27, 2016

Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM f=1800 MHz,R22





Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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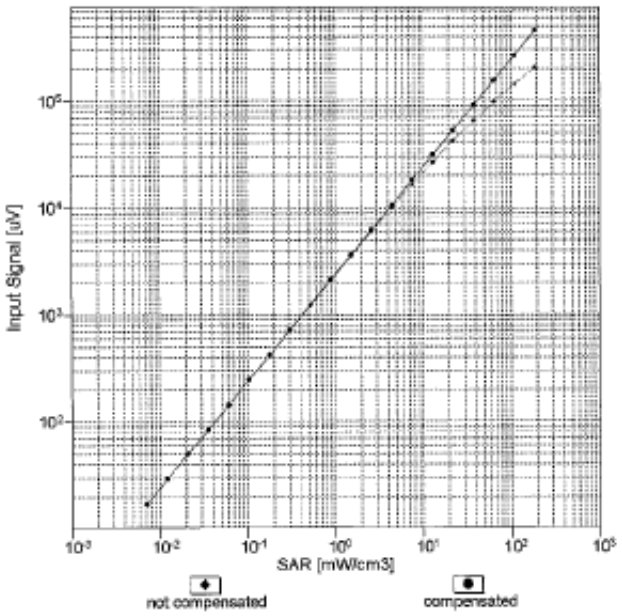
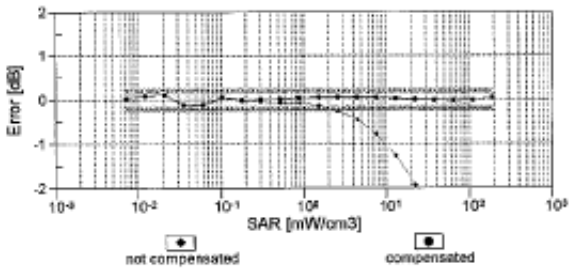
Dynamic Range f(SAR$_{head}$)
(TEM cell , f_{eval}= 1900 MHz)



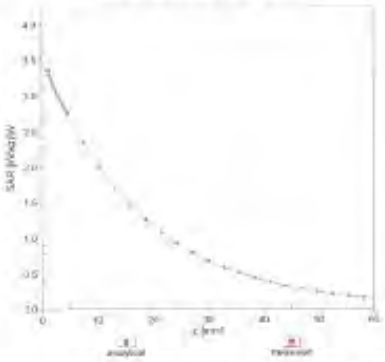


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

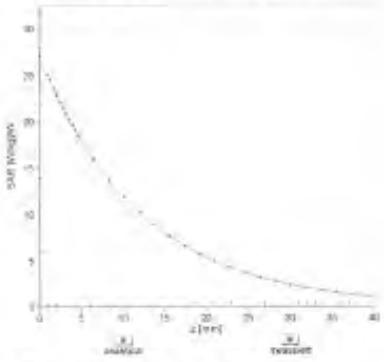
EX3DV4- SN:3831 January 27, 2016

Conversion Factor Assessment

f = 900 MHz,WGLS R9 (H_convF)

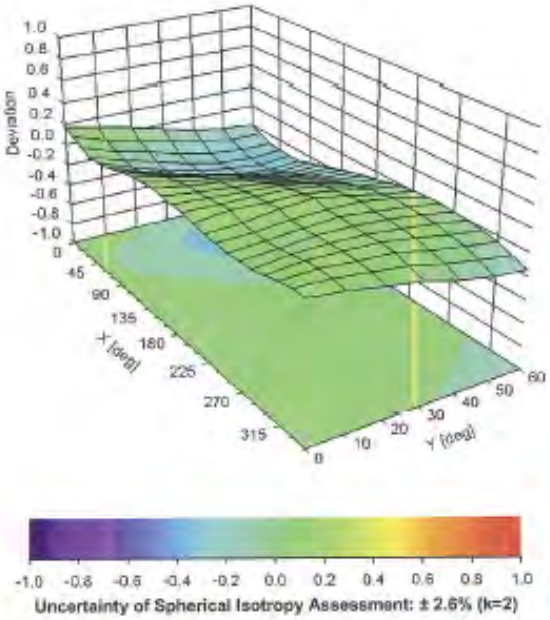


f = 1750 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (φ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3831

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-20.3
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	1.4 mm

8. Phantom Description

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s p e a g

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info@speag.com, http://www.speag.com

Certificate of Conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 C
Series No	TP-1150 and higher
Manufacturer	SPEAG Zeughausstrasse 43 CH-8004 Zürich Switzerland

Tests
The series production process used allows the limitation to test of first articles.
Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series items (called samples) or are tested at each item.

Test	Requirement	Details	Units tested
Dimensions	Compliant with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness of shell	Compliant with the requirements according to the standards	2mm +/- 0.2mm in flat and specific areas of head section	First article, Samples, TP-1314 ff.
Material thickness at ERP	Compliant with the requirements according to the standards	6mm +/- 0.2mm at ERP	First article, All items
Material parameters	Dielectric parameters for required frequencies	300 MHz – 6 GHz: Relative permittivity < 5. Loss tangent < 0.05	Material samples
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards if handled and cleaned according to the instructions. Observe technical Note for material compatibility	DEGMBE based simulating liquids	Pre-series, First article, Material samples
Sagging	Compliant with the requirements according to the standards. Sagging of the flat section when filled with tissue simulating liquid	< 1% typical < 0.8% if filled with 155mm of HSL900 and without OUT below	Prototypes, Sample testing

Standards
[1] CENELEC EN 50361
[2] IEEE Std 1528-2003
[3] IEC 62209 Part I
[4] FCC OET Bulletin 65, Supplement C, Edition 01-01
(*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of the other documents.

Conformity
Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standards [1] to [4].

Date 07.07.2005

Signature / Stamp

s p e a g
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Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

Doc No SAT – QD 000 P40 C – F Page 1 (1)

9. System Validation from Original Equipment Supplier

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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D750V3-1015_Aug16

CALIBRATION CERTIFICATE

Object D750V3 - SN: 1015

Calibration procedure(s) QA CAL-05.v9
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: August 30, 2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	15-Jun-16 (No. EX3-7349_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 30, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D750V3-1015_Aug16 Page 1 of 8

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.4 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.11 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.32 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.45 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.9 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.25 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.77 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.47 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.76 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.1 Ω - 0.2 jΩ
Return Loss	-30.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.0 Ω - 2.8 jΩ
Return Loss	-30.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.037 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 22, 2010

DASY5 Validation Report for Head TSL

Date: 30.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

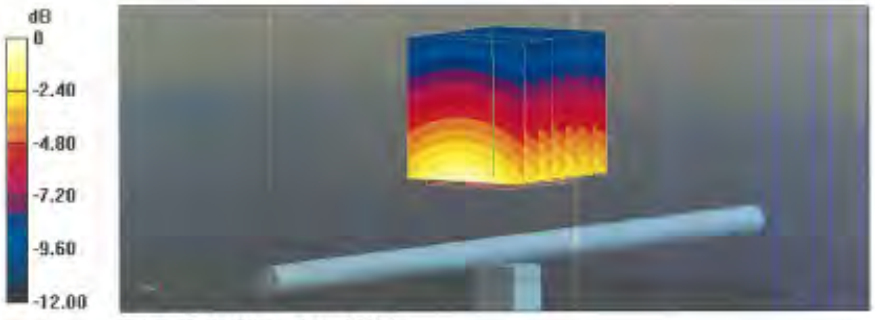
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1015

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz, σ = 0.91 S/m; ε_r = 42.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.07, 10.07, 10.07); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.26 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.16 W/kg
SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (measured) = 2.81 W/kg



0 dB = 2.81 W/kg = 4.49 dBW/kg

DASY5 Validation Report for Body TSL

Date: 30.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1015

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.99 S/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

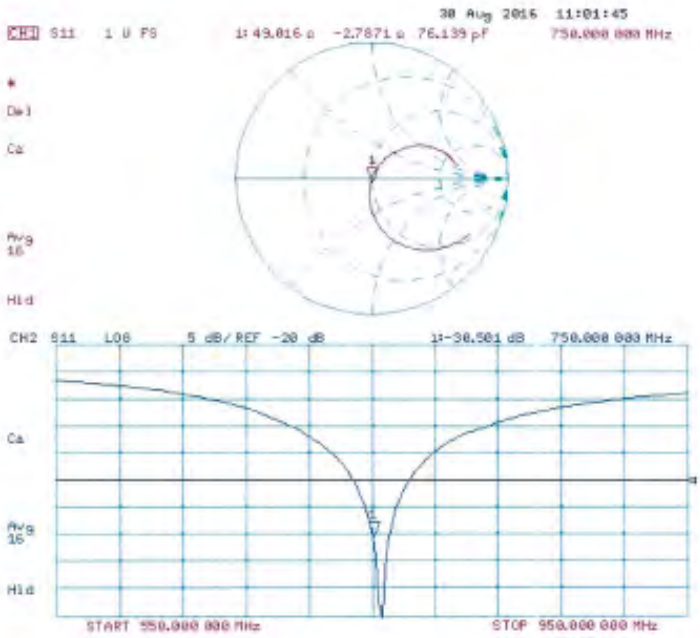
DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.99, 9.99, 9.99); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.47 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.39 W/kg
SAR(1 g) = 2.25 W/kg; SAR(10 g) = 1.47 W/kg
Maximum value of SAR (measured) = 2.97 W/kg

0 dB = 2.97 W/kg = 4.73 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D835V2-4d063_Aug16

CALIBRATION CERTIFICATE

Object	D835V2 - SN:4d063
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date	August 25, 2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	15-Jun-16 (No. EX3-7349_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 29, 2016

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.1 ± 6 %	0.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**9.40 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.54 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.05 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.7 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.47 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**9.57 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.61 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**6.28 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.2 Ω - 2.8 jΩ
Return Loss	- 30.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω - 5.5 jΩ
Return Loss	- 24.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.392 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 27, 2006

DASY5 Validation Report for Head TSL

Date: 25.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

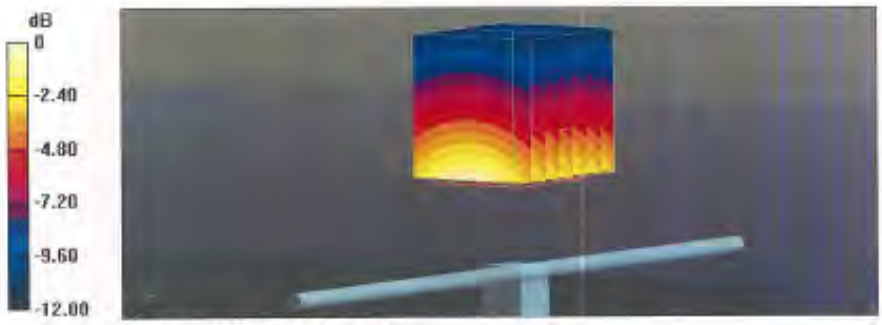
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.93 S/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

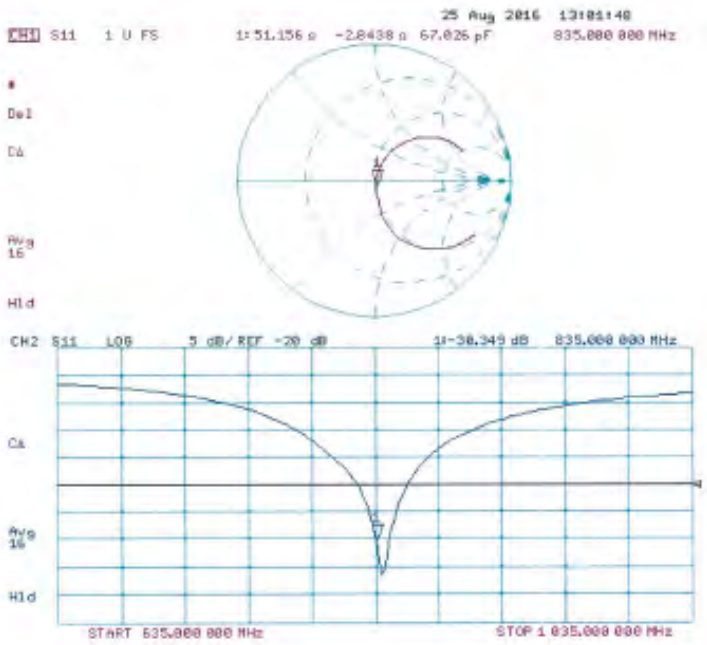
- Probe: EX3DV4 - SN7349; ConvF(9.72, 9.72, 9.72); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 61.75 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.54 W/kg
Maximum value of SAR (measured) = 3.24 W/kg



0 dB = 3.24 W/kg = 5.11 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 25.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

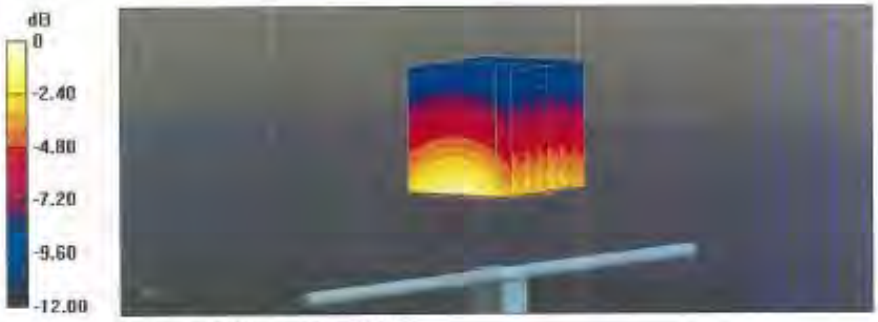
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 1.01 S/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

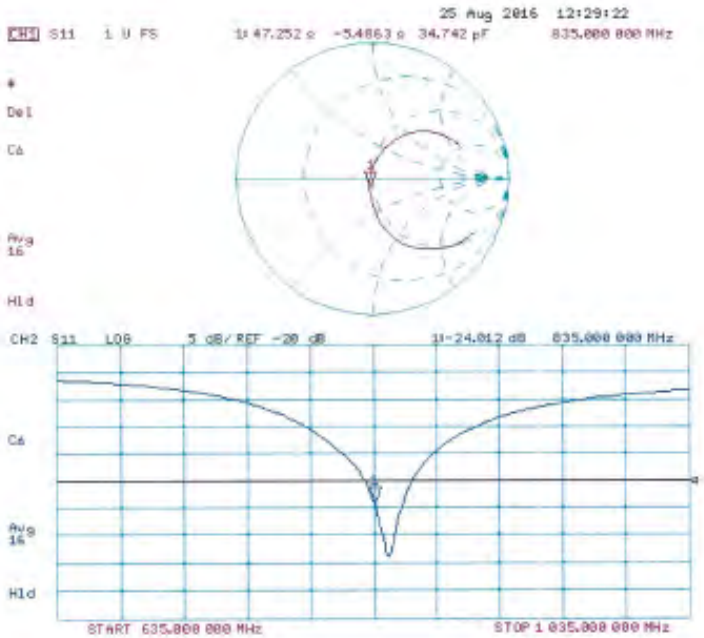
- Probe: EX3DV4 - SN7349; ConvF(9.73, 9.73, 9.73); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.83 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 3.63 W/kg
SAR(1 g) = 2.47 W/kg; SAR(10 g) = 1.61 W/kg
Maximum value of SAR (measured) = 3.25 W/kg



0 dB = 3.25 W/kg = 5.12 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D1750V2-1008_Aug16

CALIBRATION CERTIFICATE

Object	D1750V2 - SN:1008
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 31, 2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	15-Jun-16 (No. EX3-7349_Jun16)	Jun-17
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Johannes Kumhos	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 31, 2016

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.3 ± 6 %	1.37 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	—	—

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**37.2 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.90 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**19.6 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.1 ± 6 %	1.49 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	—	—

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.34 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**37.3 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.96 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**19.9 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.0 Ω - 0.2 jΩ
Return Loss	- 40.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7 Ω - 0.5 jΩ
Return Loss	- 29.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.221 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	May 27, 2003

DASY5 Validation Report for Head TSL

Date: 24.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

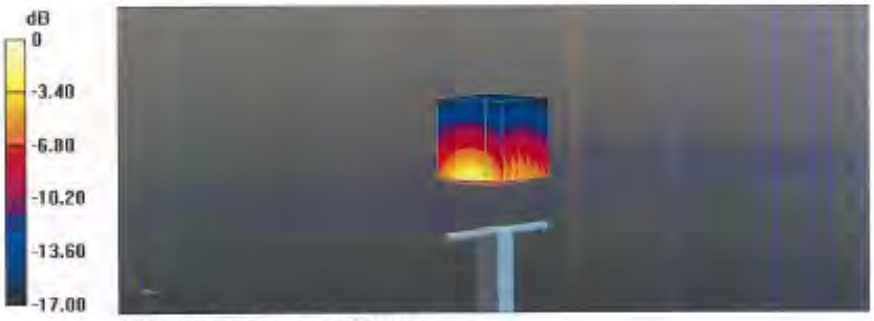
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.37 S/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.46, 8.46, 8.46); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

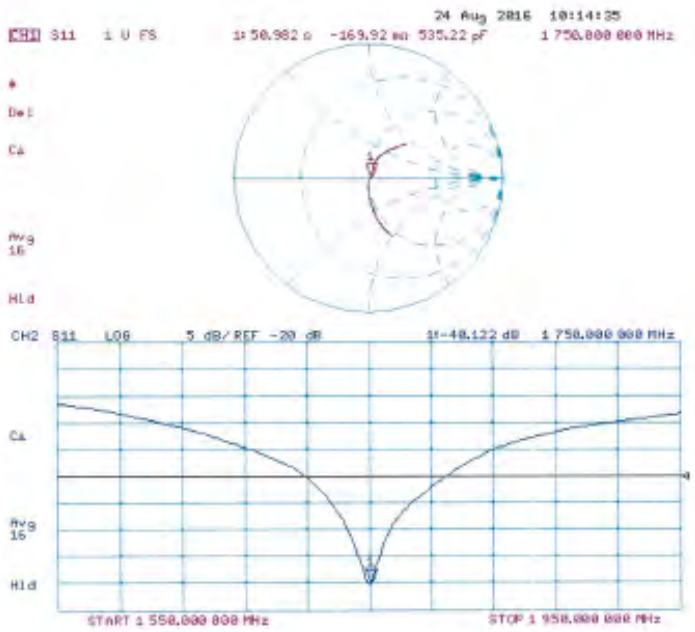
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 105.8 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.28 W/kg; SAR(10 g) = 4.9 W/kg
Maximum value of SAR (measured) = 14.3 W/kg



0 dB = 14.3 W/kg = 11.55 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 31.08.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

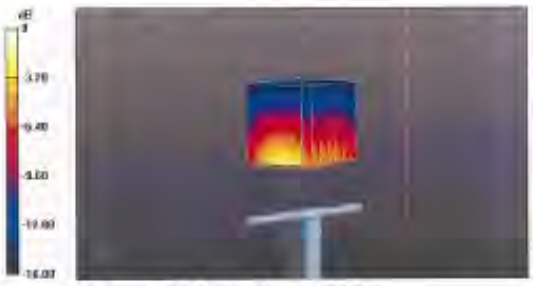
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.49 S/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.25, 8.25, 8.25); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

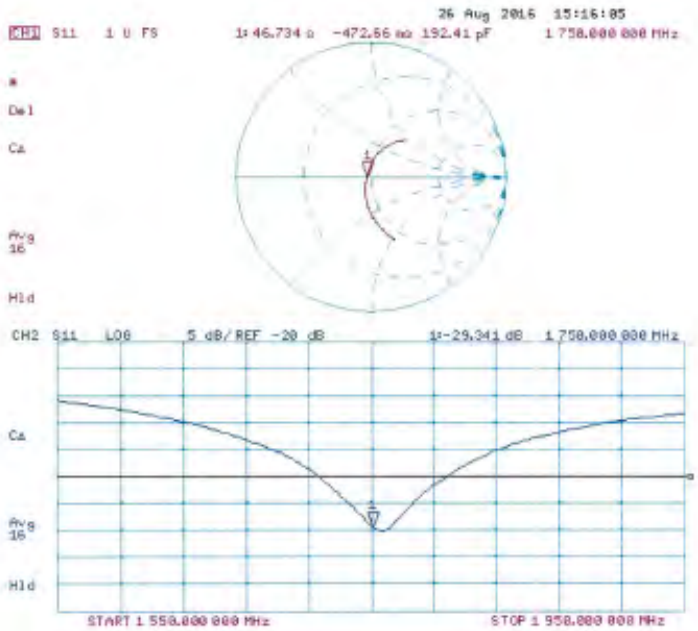
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.8 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.34 W/kg; SAR(10 g) = 4.98 W/kg
Maximum value of SAR (measured) = 13.9 W/kg



0 dB = 13.9 W/kg = 11.43 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D1900V2-5d027_Apr16

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d027
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date	April 25, 2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 3047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 26, 2016

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

a) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.0 ± 6 %	1.37 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.55 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**38.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.03 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**20.3 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.9 ± 6 %	1.49 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.83 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**39.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.21 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.0 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.8 Ω + 4.4 jΩ
Return Loss	- 27.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.5 Ω + 5.6 jΩ
Return Loss	- 23.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.196 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 17, 2002

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DASY5 Validation Report for Head TSL

Date: 25.04.2016

Test Laboratory: SPEAG, Zurich, Switzerland

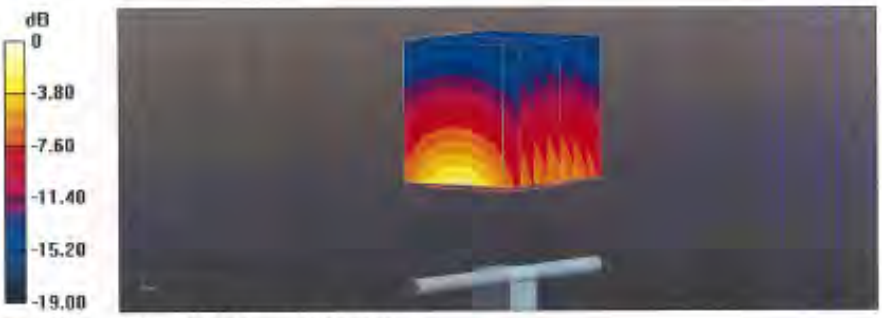
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d027

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.37 S/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

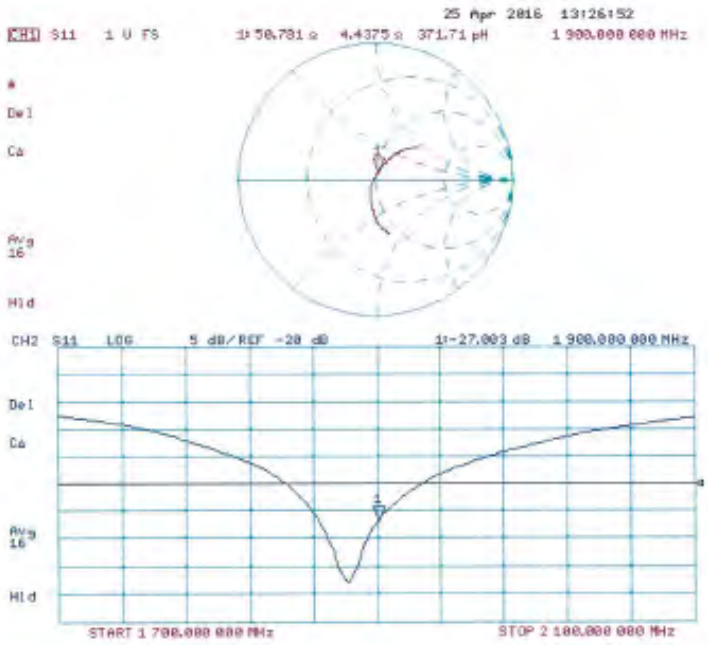
- Probe: EX3DV4 - SN7349; ConvF(8.2, 8.2, 8.2); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 106.9 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.55 W/kg; SAR(10 g) = 5.03 W/kg
Maximum value of SAR (measured) = 14.3 W/kg



0 dB = 14.3 W/kg = 11.55 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 25.04.2016

Test Laboratory: SPEAG, Zurich, Switzerland

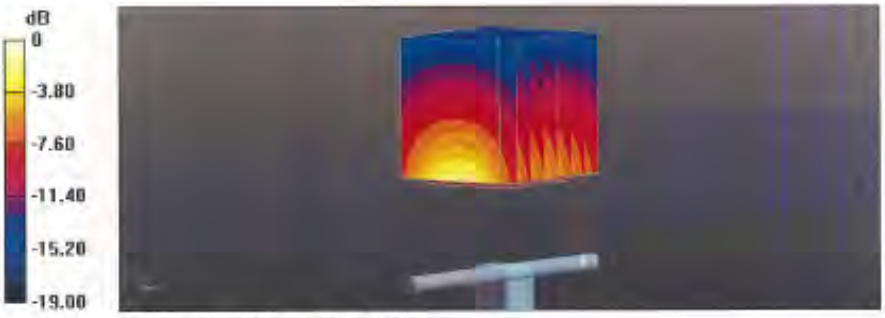
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d027

Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.49 S/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

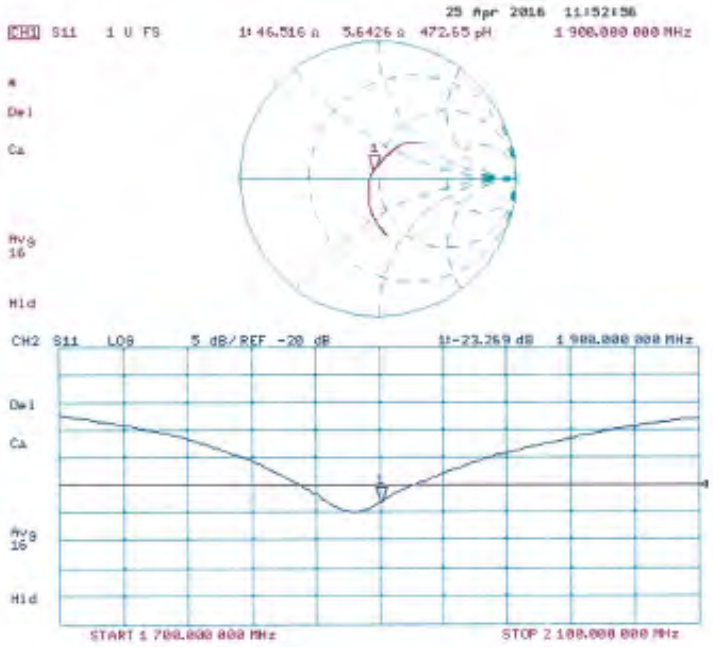
- Probe: EX3DV4 - SN7349; ConvF(8.03, 8.03, 8.03); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 104.2 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.83 W/kg; SAR(10 g) = 5.21 W/kg
Maximum value of SAR (measured) = 14.7 W/kg



0 dB = 14.7 W/kg = 11.67 dBW/kg

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D2450V2-727_Apr16

CALIBRATION CERTIFICATE

Object D2450V2 - SN:727

Calibration procedure(s) QA CAL-05.v9
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: April 19, 2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: 5058 (20k)	05-Apr-16 (No. 217-02292)	Apr-17
Type-N mismatch combination	SN: 5047.2 / 06327	05-Apr-16 (No. 217-02295)	Apr-17
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (No. 217-02222)	In house check: Oct-16
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (No. 217-02223)	In house check: Oct-16
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Jun-15)	In house check: Oct-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 20, 2016

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.0 ± 6 %	1.83 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	12.8 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**51.0 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.93 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**23.7 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.7 ± 6 %	1.98 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.5 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**49.6 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.86 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**23.3 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.3 Ω + 2.0 jΩ
Return Loss	- 25.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	52.1 Ω + 4.8 jΩ
Return Loss	- 25.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.148 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 09, 2003

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DASY5 Validation Report for Head TSL

Date: 19.04.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 727

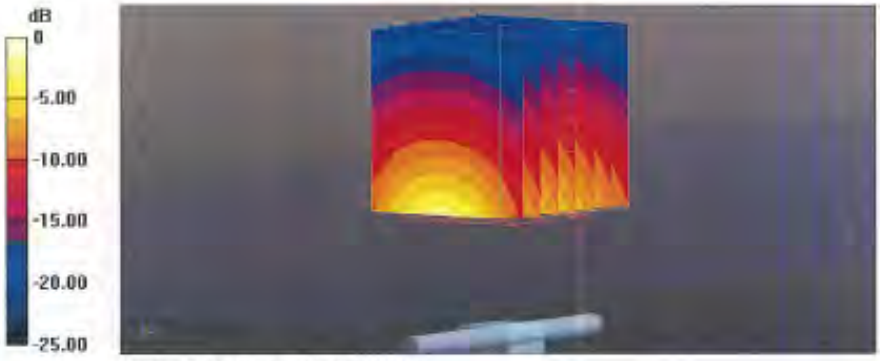
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.83 S/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.76, 7.76, 7.76); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

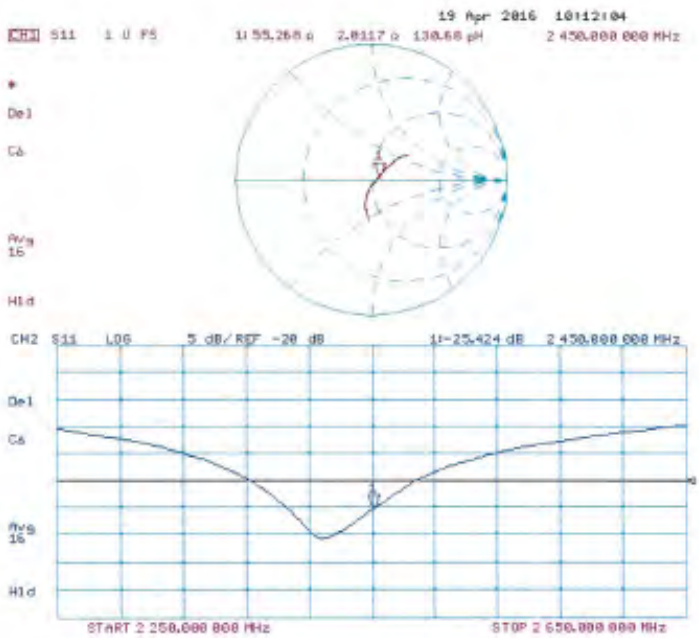
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 112.1 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 25.7 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.93 W/kg
Maximum value of SAR (measured) = 20.8 W/kg



0 dB = 20.8 W/kg = 13.18 dBW/kg

Impedance Measurement Plot for Head TSL



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Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
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S Swiss Calibration Service

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The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client SGS-TW (Auden)

Certificate No: D2600V2-1005_Jan16

CALIBRATION CERTIFICATE

Object	D2600V2 - SN: 1005
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date	January 21, 2016

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 EPM-442A	GB37480704	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 26, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D2600V2-1005_Jan16 Page 1 of 8

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
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S Swiss Calibration Service

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The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.3 ± 6 %	2.04 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.2 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**55.2 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.29 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.7 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.6 ± 6 %	2.22 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.7 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**53.9 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.10 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**24.2 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.2 Ω - 4.2 jΩ
Return Loss	- 27.2 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.6 Ω - 3.3 jΩ
Return Loss	- 24.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.154 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 23, 2006

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DASY5 Validation Report for Head TSL

Date: 21.01.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1005

Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.04 S/m; ε_r = 37.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

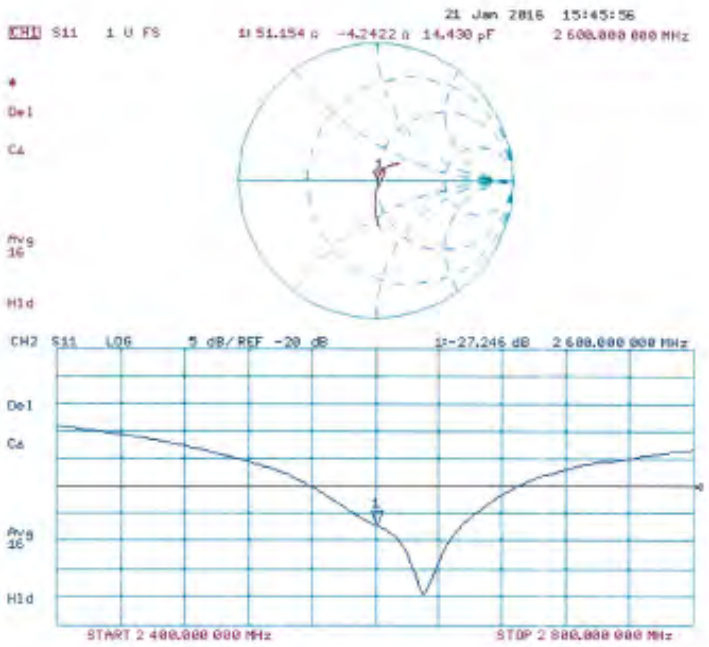
- Probe: EX3DV4 - SN7349; ConvF(7.49, 7.49, 7.49); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 114.8 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 30.2 W/kg
SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.29 W/kg
Maximum value of SAR (measured) = 24.0 W/kg

0 dB = 24.0 W/kg = 13.80 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 21.01.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1005

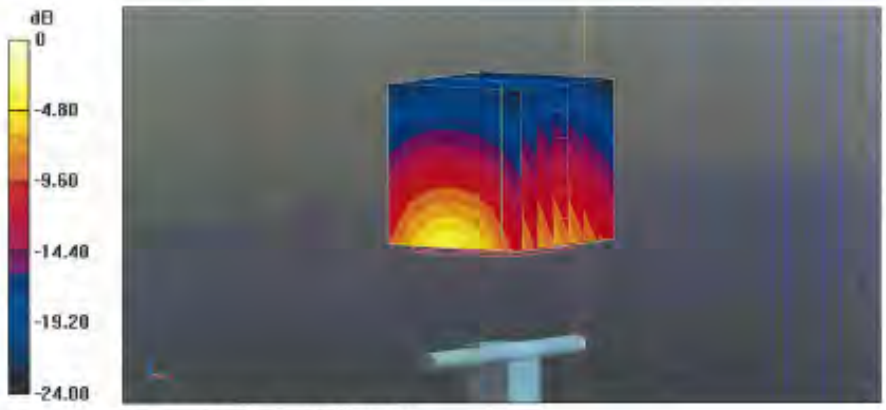
Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.22 S/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.6, 7.6, 7.6); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

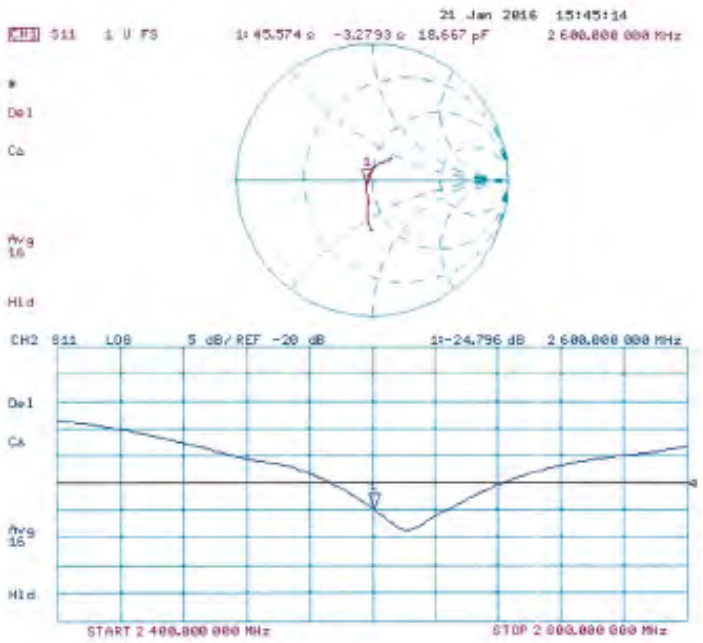
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 106.7 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 28.4 W/kg
SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.1 W/kg
Maximum value of SAR (measured) = 22.8 W/kg



0 dB = 22.8 W/kg = 13.58 dBW/kg

Impedance Measurement Plot for Body TSL



- End of 1st part of report -

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