2450 MHz Dipole Calibration Certificate

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

S Schweizerischer Kalibrierdienst
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Accreditation No.: SCS 0108

Client CTTL-BJ (Auden)

Certificate No: D2450V2-853_Jul16

CALIBRATION CERTIFICATE

Object	D2450V2 - SN:853
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	July 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: July 26, 2016

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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	38.0 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**52.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.23 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.6 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	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.8 ± 6 %	2.03 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**51.2 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (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	**24.1 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	53.7 Ω + 5.1 jΩ
Return Loss	- 24.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.0 Ω + 4.5 jΩ
Return Loss	- 27.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.162 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 10, 2009

DASY5 Validation Report for Head TSL

Date: 25.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:853

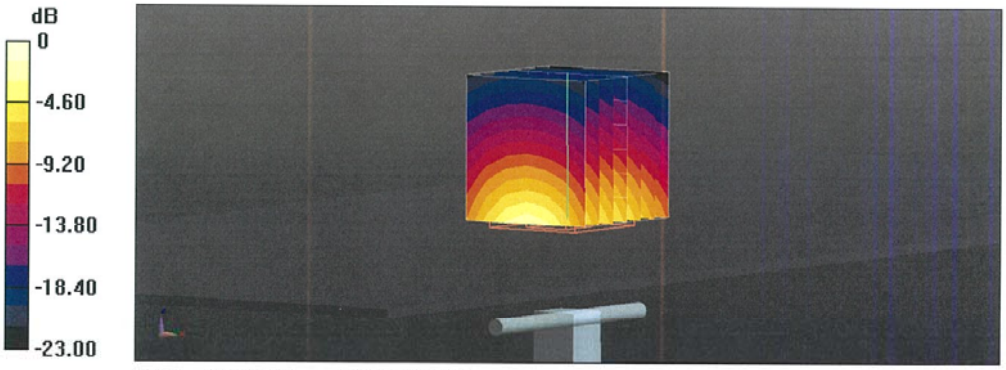
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.86 S/m; ε_r = 38; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.72, 7.72, 7.72); 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)

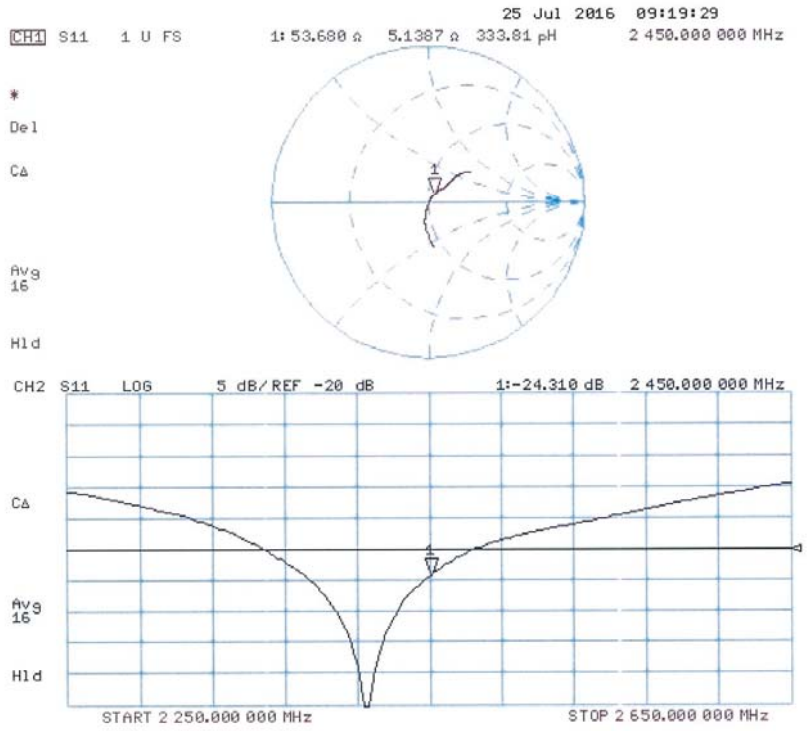
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 115.0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 27.5 W/kg
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.23 W/kg
Maximum value of SAR (measured) = 22.2 W/kg



0 dB = 22.2 W/kg = 13.46 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 25.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:853

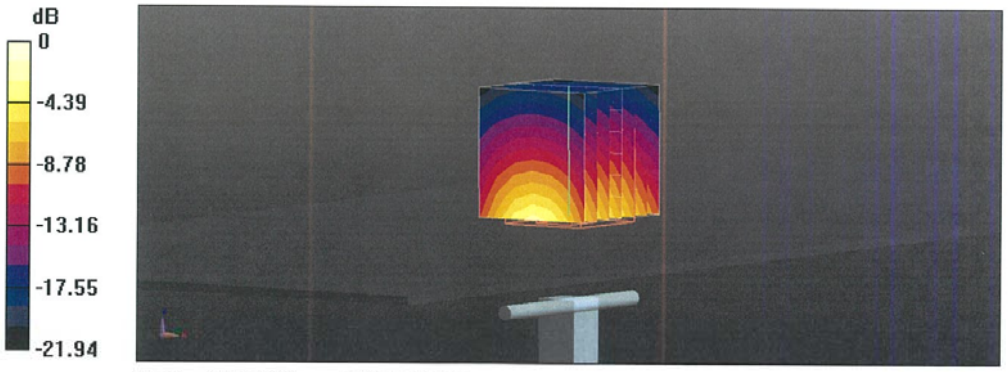
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.03 S/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.79, 7.79, 7.79); 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)

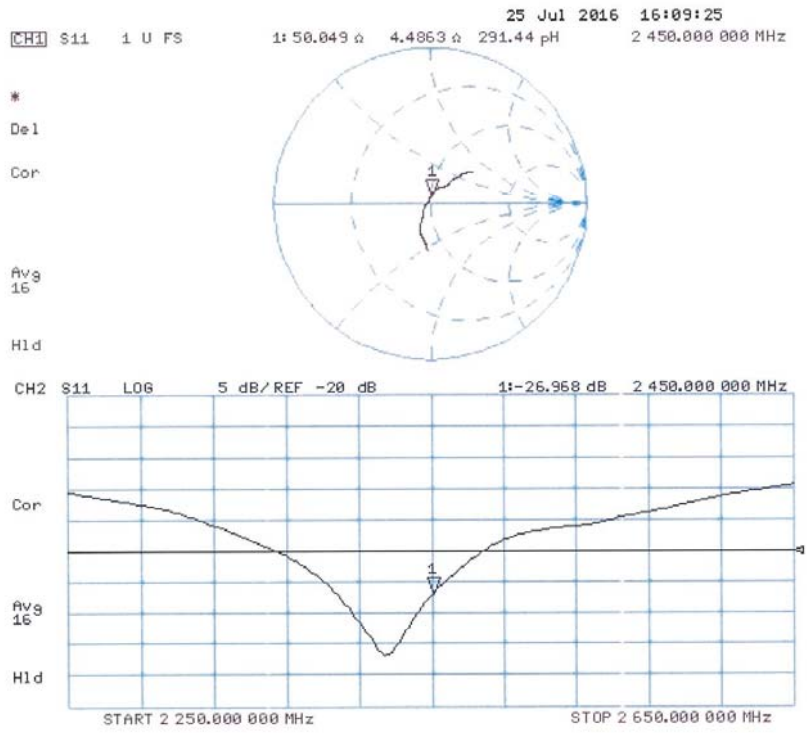
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 107.4 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 26.3 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.1 W/kg
Maximum value of SAR (measured) = 21.6 W/kg



0 dB = 21.6 W/kg = 13.34 dBW/kg

Impedance Measurement Plot for Body TSL



ANNEX I SPOT CHECK

As the test lab for 5046G from TCL Communication Ltd, we, CTTL (Shouxiang), declare on our sole responsibility that, according to "Declaration of changes" provided by applicant, only the Spot check test should be performed. The test results are as below.

I.1 Conducted power of selected case

Table I.1-1: The conducted power results for GSM850/1900

GSM 850MHz	Conducted Power (dBm)		
	Channel 251(848.8MHz)	Channel 190(836.6MHz)	Channel 128(824.2MHz)
	31.92	32.22	32.10
GSM 1900MHz	Conducted Power (dBm)		
	Channel 810(1909.8MHz)	Channel 661(1880MHz)	Channel 512(1850.2MHz)
	27.54	27.64	27.62

Table I.1-2: The conducted power results for GPRS

GSM 850 GPRS (GMSK)	Measured Power (dBm)		
	251	190	128
4 Txslots	27.58	27.78	27.90
PCS1900 GPRS (GMSK)	Measured Power (dBm)		
	810	661	512
4 Txslots	24.84	24.85	24.94

Table I.1-3: The conducted Power for WCDMA

Item	band	FDDV result		
	ARFCN	4132/4357	4182/4407	4233/4458
WCDMA	\	(826.4MHz)	(836.4MHz)	(846.6MHz)
		23.20	23.16	22.97
Item	band	FDDII result		
	ARFCN	9262/9662	9400/9800	9538/9938
WCDMA	\	(1852.4MHz)	(1880MHz)	(1907.6MHz)
		23.19	23.20	23.37
Item	band	FDDIV result		
	ARFCN	1312/1537	1412/1675	1513/1738
WCDMA	\	(1712.4MHz)	(1732.4MHz)	(1752.6MHz)
		23.05	22.90	22.97

Table I.1-4: The conducted Power for WCDMA (Hotspot)

Item	band	FDDII result		
	ARFCN	9262/9662	9400/9800	9538/9938
WCDMA	\	(1852.4MHz)	(1880MHz)	(1907.6MHz)
		20.28	20.42	20.52
Item	band	FDDIV result		
	ARFCN	1312/1537	1412/1675	1513/1738
WCDMA	\	(1712.4MHz)	(1732.4MHz)	(1752.6MHz)
		21.46	21.43	21.45

Table I.1-5: The conducted Power for LTE

LTE Band2	1900 (19100)	23.53
	1880 (18900)	23.71
	1860 (18700)	23.49
LTE Band4	1745 (20300)	23.46
	1732.5 (20175)	23.72
	1720 (20050)	23.45
LTE Band5	844 (20600)	23.25
	836.5 (20525)	23.56
	829 (20450)	23.32
LTE Band12	844 (20600)	23.42
	836.5 (20525)	23.23
	829 (20450)	23.08

Table I.1-6: The conducted Power for LTE (Hotspot)

LTE Band2	1900 (19100)	21.48
	1880 (18900)	21.66
	1860 (18700)	21.69
LTE Band4	1745 (20300)	21.21
	1732.5 (20175)	21.27
	1720 (20050)	21.48

I.2 Measurement results

Test Position	Phantom position L/R	Frequency Band	Channel Number	Frequency (MHz)	Test setup	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Power Drift	Figure。A
Cheek	L	GSM850	251	848.8		31.92	33.5	0.127	**0.18**	0.168	**0.24**	0.03	1
Body	/	GSM850	251	848.8	Rear GPRS 10mm	27.58	29.5	0.254	**0.40**	0.331	**0.52**	-0.04	2
Cheek	L	GSM1900	810	1909.8		27.54	30	0.134	**0.24**	0.225	**0.40**	0.09	3
Body	/	GSM1900	810	1909.8	Bottom Edge GPRS 10mm	24.84	25	0.698	**0.72**	1.390	**1.44**	-0.1	4
Cheek	L	WCDMA1900	9662	1852.4		23.19	24	0.286	**0.34**	0.471	**0.57**	0.09	5
Body	/	WCDMA1900	9800	1880	Bottom Edge 10mm	20.42	22	0.389	**0.56**	0.77	**1.11**	-0.14	6
Body	/	WCDMA1900	9662	1852.4	Front 15mm	23.19	24	0.359	**0.43**	0.62	**0.75**	0.02	7
Cheek	L	WCDMA1700	1738	1752.6		22.97	24	0.266	**0.34**	0.424	**0.54**	0.06	8
Body	/	WCDMA1700	1738	1752.6	Bottom Edge 10mm	21.45	23	0.389	**0.56**	0.738	**1.05**	-0.10	9
Body	/	WCDMA1700	1637	1732.4	Bottom Edge 10mm	21.43	23	0.297	**0.43**	0.553	**0.79**	0.05	/
Body	/	WCDMA1700	1537	1712.4	Bottom Edge 10mm	21.45	23	0.272	**0.39**	0.503	**0.72**	0.06	/
Body	/	WCDMA1700	1738	1752.6	Front 15mm	22.97	24	0.287	**0.36**	0.483	**0.61**	0.06	10
Cheek	L	WCDMA 850	4132	826.4		23.2	24.5	0.221	**0.30**	0.292	**0.39**	0.07	11
Body	/	WCDMA 850	4182	836.4	Rear 10mm	23.2	24.5	0.272	**0.37**	0.366	**0.49**	0.04	12
Cheek	L	LTE Band2	19100	1900	1RB-High	23.36	24.6	0.286	**0.38**	0.479	**0.64**	0.06	13
Body	/	LTE Band2	19100	1900	1RB-High Bottom Edge 10mm	21.48	22.5	0.513	**0.65**	1.01	**1.28**	0.04	/
Body	/	LTE Band2	18900	1880	1RB-High Bottom Edge 10mm	21.66	22.5	0.434	**0.53**	0.887	**1.08**	0.14	/
Body	/	LTE Band2	18700	1860	1RB-High Bottom Edge 10mm	21.69	22.5	0.468	**0.56**	0.922	**1.11**	-0.09	14
Body	/	LTE Band2	19100	1900	1RB-High Rear 15mm	23.53	24.6	0.351	**0.45**	0.619	**0.79**	-0.05	15
Cheek	L	LTE Band4	20175	1732.5	1RB-Low	23.72	24.7	0.257	**0.32**	0.412	**0.52**	0.04	16
Body	/	LTE Band4	20175	1732.5	1RB-Low Bottom Edge 10mm	21.27	22.5	0.299	**0.40**	0.569	**0.76**	0.19	17
Body	/	LTE Band4	20175	1732.5	1RB-Low Rear 15mm	23.72	24.7	0.339	**0.42**	0.498	**0.62**	-0.05	18
Cheek	L	LTE Band5	20525	836.5	1RB-Middle	23.56	24.3	0.215	**0.25**	0.284	**0.34**	0.09	19
Body	/	LTE Band5	20525	836.5	1RB-Middle Rear 10mm	23.56	24.3	0.305	**0.36**	0.406	**0.48**	-0.12	20
Cheek	L	LTE Band12	23130	711	1RB-Low	23.42	24	0.187	**0.21**	0.24	**0.27**	0.10	21
Body	/	LTE Band12	23130	711	1RB-Low Rear 10mm	23.42	24	0.308	**0.35**	0.397	**0.45**	0.07	22

I.3 Reported SAR Comparison

Exposure Configuration	Technology Band	Reported SAR 1g (W/Kg): spot check	Reported SAR 1g (W/Kg): original
Head (Separation Distance 0mm)	GSM 850	**0.24**	0.26
	PCS 1900	**0.40**	0.19
	WCDMA 850	**0.39**	0.42
	WCDMA 1700	**0.54**	0.44
	WCDMA 1900	**0.57**	0.41
	LTE Band2	**0.64**	0.55
	LTE Band4	**0.52**	0.49
	LTE Band5	**0.34**	0.37
	LTE Band12	**0.27**	0.18
Hotspot (Data) (Separation Distance 10mm)	GSM 850	**0.52**	0.58
	PCS 1900	**1.44**	0.96
	WCDMA 850	**0.49**	0.49
	WCDMA 1700	**1.05**	0.84
	WCDMA 1900	**1.11**	1.11
	LTE Band2	**1.28**	1.02
	LTE Band4	**0.76**	0.57
	LTE Band5	**0.48**	0.43
	LTE Band12	**0.45**	0.30
Body-worn (Data) (Separation Distance 15mm)	WCDMA 1900	**0.75**	0.60
	WCDMA 1700	**0.61**	0.49
	LTE Band2	**0.79**	0.56
	LTE Band4	**0.62**	0.44

Note:The spot check results of GSM850, WCDMA850 and LTE Band 5 for Head&GSM850 and WCDMA850/1900 for Hotspot are lower than the original results or equal to the original data, so these results are quoted and results of other bands replace the original data. The data of GSM1900 Hotspot is higher than the original data by 48%, so we retest this part and replace the data in table 14.1-4.

GSM850 _CH251 Left Cheek
Date: 2017-2-15
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 848.8; σ = 0.912 mho/m; εr = 41.15; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22ºC
Communication System: GSM850 848.8 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(10.01,10.01,10.01)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.186 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.565 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.214 W/kg
SAR(1 g) = 0.168 W/kg; SAR(10 g) = 0.127 W/kg
Maximum value of SAR (measured) = 0.184 W/kg

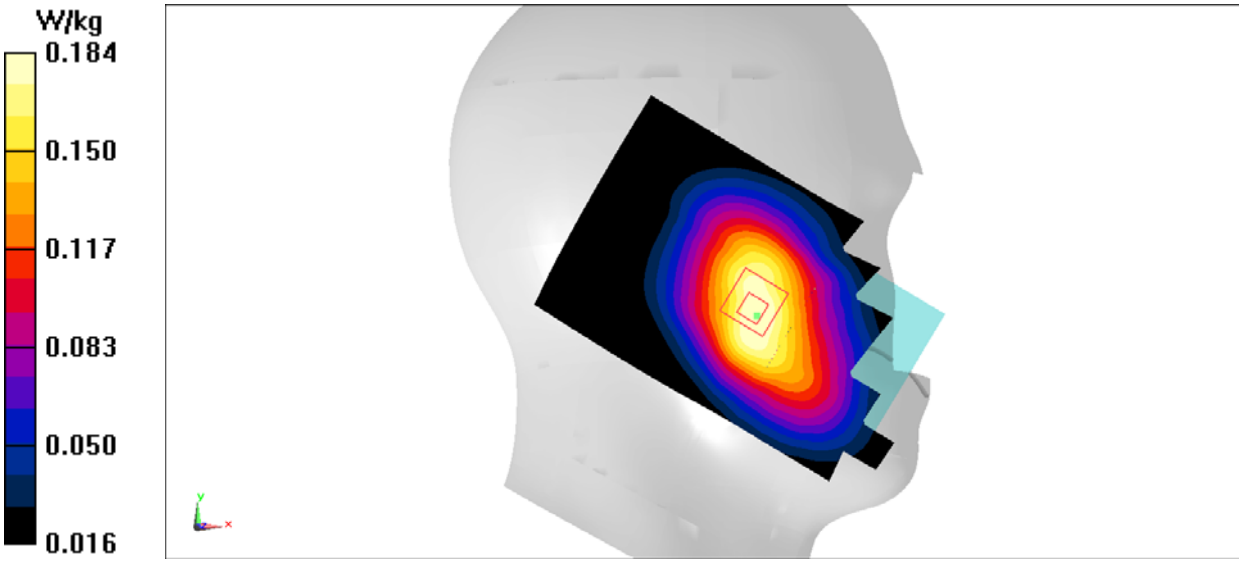


Figure A.1

GSM850 _CH251 Rear
Date: 2017-2-15
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 848.8; σ = 0.975 mho/m; εr = 56.11; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22ºC
Communication System: GSM850 848.8 Duty Cycle: 1:2
Probe: EX3DV4 – SN7307 ConvF(9.83,9.83,9.83)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.365 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.63 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.433 W/kg
SAR(1 g) = 0.331 W/kg; SAR(10 g) = 0.254 W/kg
Maximum value of SAR (measured) = 0.362 W/kg

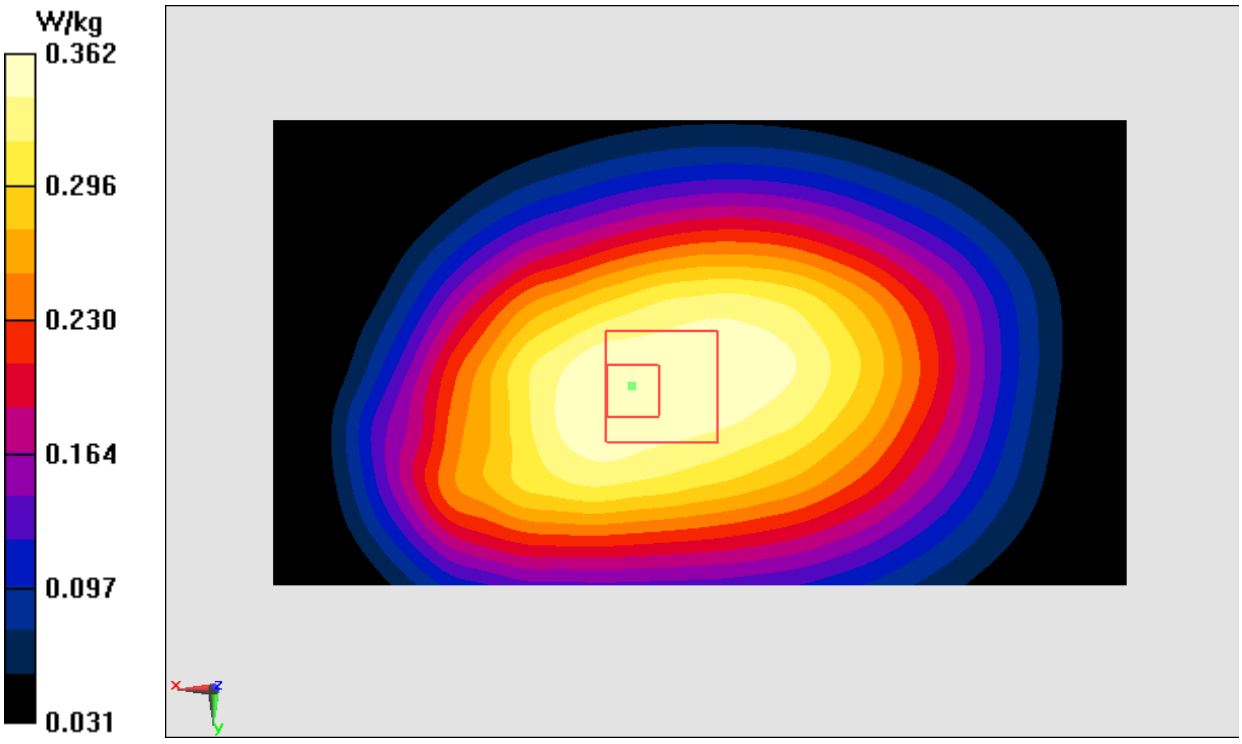


Figure A.2

PCS1900 _CH661 Left Cheek
Date: 2017-2-17
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1909.8; σ = 1.409 mho/m; εr = 39.93; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22ºC
Communication System: PCS1900 1880 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.10,8.10,8.10)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.285 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.6770 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.355 W/kg
SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.134 W/kg
Maximum value of SAR (measured) = 0.271 W/kg

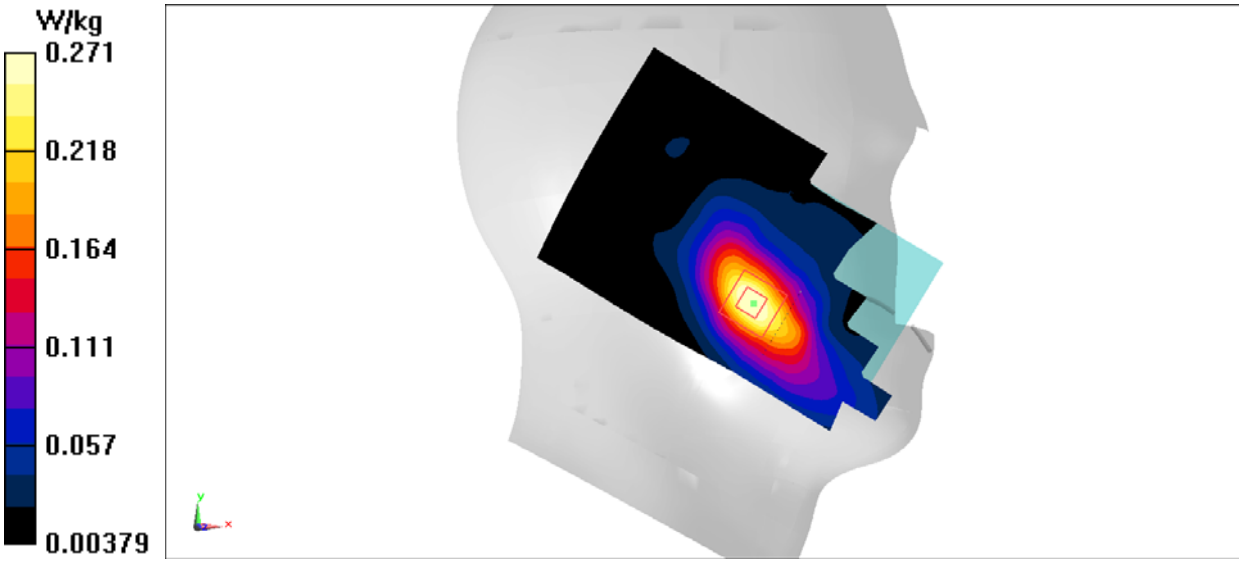


Figure A.3

PCS1900 _CH810 Bottom edge
Date: 2017-2-17
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1909.8; σ = 1.517 mho/m; εr = 53.07; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22ºC
Communication System: PCS1900 1909.8 Duty Cycle: 1:2
Probe: EX3DV4 – SN7307 ConvF(7.67,7.67,7.67)

Area Scan (121x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.63 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.73 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.48 W/kg
SAR(1 g) = 1.39 W/kg; SAR(10 g) = 0.698 W/kg
Maximum value of SAR (measured) = 1.76 W/kg

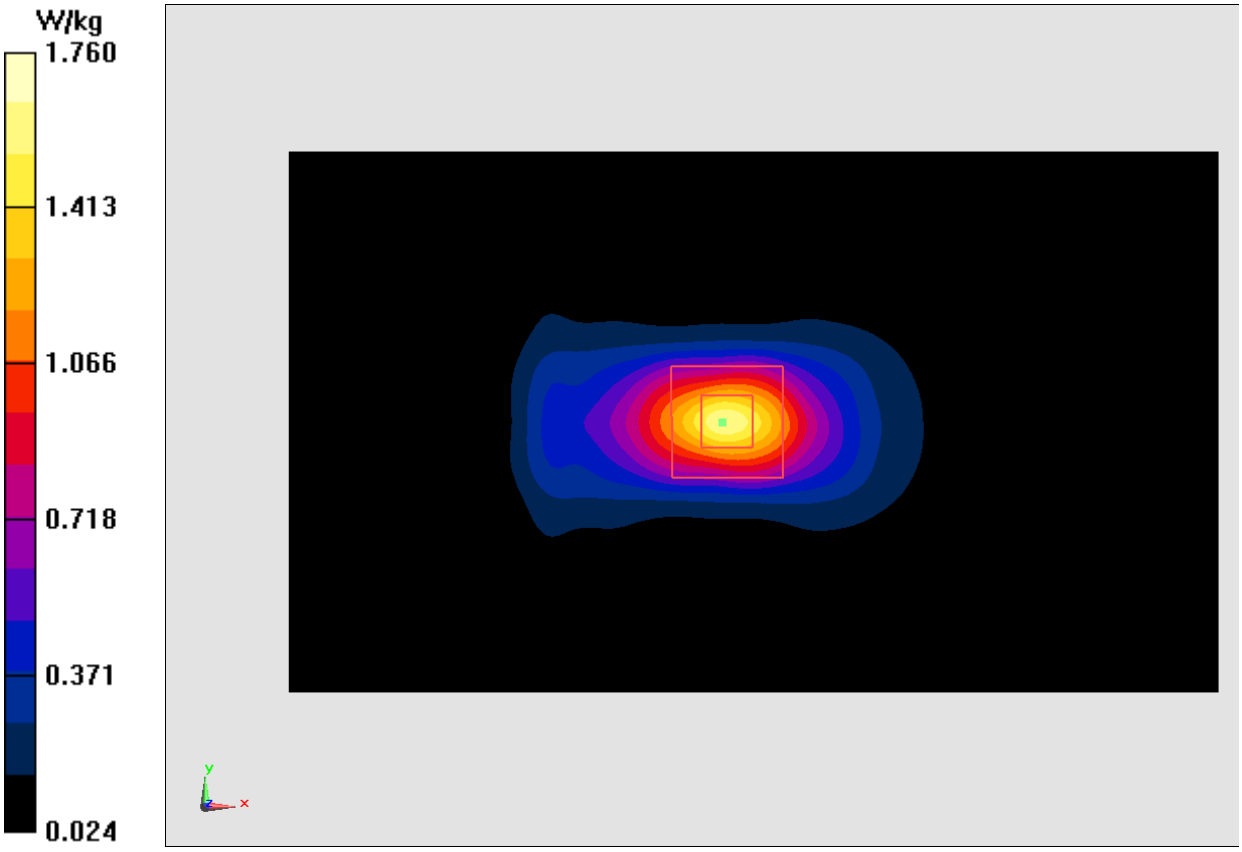


Figure A.4

WCDMA1900_CH9262 Left Cheek
Date: 2017-2-17
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1852.4; σ = 1.369 mho/m; εr = 40.21; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22ºC
Communication System: WCDMA1900 1852.4 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(8.10,8.10,8.10)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.577 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.380 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.730 W/kg
SAR(1 g) = 0.471 W/kg; SAR(10 g) = 0.286 W/kg
Maximum value of SAR (measured) = 0.559 W/kg

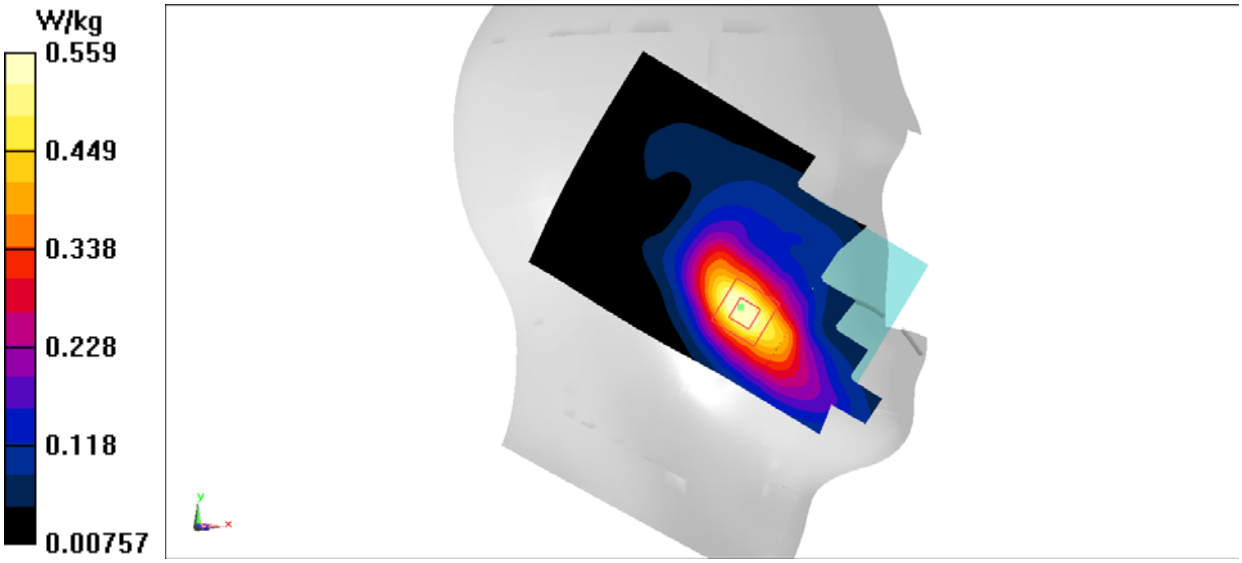


Figure A.5

WCDMA1900_Hotspot on_CH9400 Bottom edge
Date: 2017-2-17
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1880; σ = 1.501 mho/m; εr = 53.21; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22ºC
Communication System: WCDMA1900 1880 Duty Cycle: 1:1
Probe: EX3DV4 – SN7307 ConvF(7.67,7.67,7.67)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.941 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.51 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.770 W/kg; SAR(10 g) = 0.389 W/kg
Maximum value of SAR (measured) = 0.978 W/kg

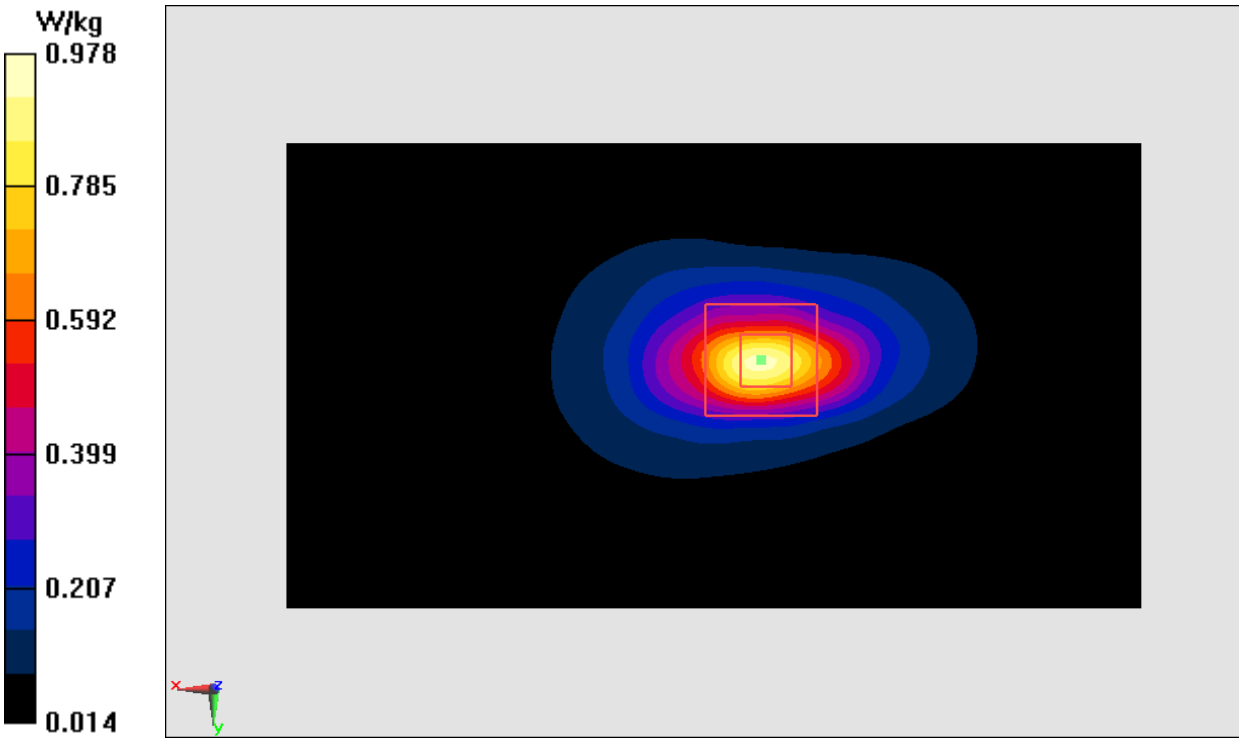


Figure A.6