SAR TEST REOIRT

FOR

TP-LINK Technologies Co., Ltd.

3G Mobile Wi-Fi

Model No.: M5350

FCC ID: TE7M5350V2

Brand: TP-LINK

Prepared for : TP-LINK Technologies Co., Ltd.
Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China

Prepared By : AUDIX Technology Corporation
EMC Department
No. 53-11, Dingfu, Linkou Dist.,
New Taipei City 244, Taiwan, R.O.C.

Tel : (02) 2609-9301, 2609-2133
Fax : (02) 2609-9303

File Number : C1M1407030
Report Number : EM-SR140004
Date of Test : 2014. 07. 14 ~ 08. 28
Date of Report : 2014. 08. 28

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TEST REPORT VERIFICATION

Applicant	:	TP-LINK Technologies Co., Ltd.		
EUT Description	:	3G Mobile Wi-Fi		
FCC ID	:	TE7M5250V2		
		(A) Model No.	:	M5350
		(B) Serial No.	:	N/A
		(C) Brand	:	TP-LINK
		(D) Power Supply	:	DC 3.7V
		(E) Test Voltage	:	DC 3.7V

Measurement Standards Used:

FCC 47 CFR Part 2 (§2.1093)
FCC OET Bulletin 65 Supplement C, June 2001

(Measurement: KDB 248227 D01 SAR meas for 802.11 a b g v01r02,
KDB 447498 D01 General RF Exposure Guidance v05r02,
KDB 941225 D01 SAR Test for 3G devices v02,
KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE v01,
KDB 865664 D01 SAR Measurment 100MHz to 6GHz v01r03)

The device described above was tested by AUDIX Technology Corporation. The measurement results were contained in this test report and AUDIX Technology Corporation was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC OET Bulletin 65 Supplement C & IEEE 1528 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test: 2014. 07. 14 ~ 08. 28 Date of Report: 2014. 08. 28

Producer: Tina Huang
(Tina Huang/Administrator)

Signatory: Ben Cheng
(Ben Cheng/Manager)

1. DESCRIPTION OF REVISION HISTORY

Edition No.	Date of Rev.	Revision Summary	Report No.
0	2014. 08. 28	Original Report	EM-SR140004

2. SUMMARY OF MAXIMUM SAR VALUE

Mode	Highest Reported Body SAR $_{1g}$
WLAN 2.4G	**0.48(W/kg)**
GSM 850	**0.321(W/kg)**
PCS 1900	**0.156(W/kg)**
WCDMA Band II	**1.190(W/kg)**
WCDMA Band V	**0.636(W/kg)**
Highest Simultaneous Transmission SAR in the same side	Body SAR $_{1g}$
WLAN 2.4G (Rear Face)+GSM 850 (Rear Face)	**0.801(W/kg)**
WLAN 2.4G (Rear Face)+ WCDMA Band II (Rear Face)	**1.437(W/kg)**
WLAN 2.4G (Front Face)+ WCDMA Band II (Front Face)	**1.523(W/kg)**

Note: The SAR limit (SAR1g 1.6 W/kg) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1991.

3. GENERAL INFORMATION

3.1. Description of Device (EUT)

Product	3G Mobile Wi-Fi
Model Number	M5350
Serial Number	N/A
Brand Name	TP-LINK
FCC ID	TE7M5350V2
Applicant	TP-LINK Technologies Co., Ltd. Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China
Manufacturer	TP-LINK Technologies Co., Ltd. Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China
Fundamental Range	802.11b/g: 2412MHz ~ 2462MHz 802.11n-HT20: 2412MHz ~ 2462MHz GPRS/EGPRS 850: UL: 824.2MHz ~ 848.8MHz DL: 869.2MHz ~ 893.8MHz GPRS/EGPRS 1900: UL: 1850.2MHz ~ 1909.8MHz DL: 1930.2MHz ~ 1989.8MHz WCDMA Band: Band II: UL: 1852.4MHz ~ 1907.6MHz DL: 1932.4MHz ~ 1987.6MHz Band V: UL: 826.4MHz ~ 846.6MHz DL: 871.4MHz ~ 891.6MHz
Frequency Channel	802.11b/g: 11 channels 802.11n-HT20: 2.4GHz: 11 channels GPRS/EGPRS 850: CH 128- CH 251 GPRS/EGPRS 1900: CH 512-CH 810 WCDMA Band: Band II: UL: CH 9262 ~ CH9538; DL: CH 9662 ~ CH9938 Band V: UL: CH 4132 ~ CH4233; DL: CH 4357 ~ CH4458
Radio Technology	802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g: DSSS /OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11n: DSSS /OFDM Modulation (SISO) (BPSK/QPSK/16QAM/64QAM) GPRS/EGPRS: GMSK/8PSK WCDMA: QPSK/16-QAM/64-QAM

Data Transfer Rate	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 72.2Mbps GSM:DL 14.4kbps/UL 14.4kbps GPRS: DL 85.6kbps/UL 85.6kbps EGPRS:DL 236.8kbps/UL 236.8kpbs WCDMA CS: DL 64kbps/UL 64kpbs WCDMA PS: DL 384kbps/UL 384kbps HSPA+:DL 21.6Mbps/UL 5.76Mpbs
USB Cable	Shielded, Detachable, 0.6m
Battery	SHENZHEN BAK Battery Co., Ltd. M/N: TBL-71A2000, Rating: 3.7V, 2000mAh, 7.4Wh
AC Adapter	TP-LINK, M/N T050100-2B3 Input: 100-240V~ 50/60Hz 0.3A, Output: DC 5V, 1A
Date of Receipt of Sample	2014. 07. 03
Date of Test	2014. 07. 14 ~ 08. 28

3.2. Antenna Information

Antenna Part Number	Manufacture	Antenna Type	Peak Gain	
			Frequency	Max Gain
WLAN Antenna	SkyCross	PIFA	2400~2500MHz	3.7dBi
2G+3G Primary Antenna	SkyCross	Fixed Internal	824MHz~894MHz	-1.99dBi
			1850MHz~1990MHz	0.11dBi
3G DRX Antenna	SkyCross	Fixed Internal	869MHz~894MHz	-5.40dBi
			1930MHz~1990MHz	-3.68dBi

3.3. Test Environment

Ambient conditions in the laboratory:

Item	Require	Actual
Temperature (25℃)	18-25	22.9± 2
Humidity (%RH)	30-70	50± 1

3.4. Description of Test Facility

Name of Firm	:	**AUDIX Technology Corporation** **EMC Department** No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan, R.O.C.
Test Site	:	No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan, R.O.C.
NVLAP Lab. Code	:	200077-0
TAF Accreditation No	:	1724

3.5. Measurement Uncertainty

DASY5 Uncertainty Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram / 10 gram.								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.0%	N	1	1	1	±6.0%	±6.0%	∞
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom Uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid Permittivity (target)	±5.0%	R	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined Std. Uncertainty						±11%	±10.8%	387
Expanded STD Uncertainty						±22%	±21.5%	

4. TEST EQUIPMENT

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Stäubli Robot TX90 XL	Stäubli	TX90	F12/5K9SA1/A 101	N.C.R.
2.	Controller	SPEAG	CS8c	N/A	N.C.R.
3.	SAM Twin Phantom	SPEAG	QD000 P40 CD	Tp 1515	N.C.R.
4.	Device Holder	SPEAG	N/A	N/A	N.C.R.
5.	Data Acquisition Electronic	SPEAG	DAE4	1337	2014. 09. 22
6.	E-Field Probe	SPEAG	EX3DV4	3855	2014. 09. 25
7.	SAR Software	SPEAG	DASY52	V52.8.2.843	N.C.R.
8.	ENA Network Analyzer	Agilent	E5071C-480	Y46214331	2014. 08. 30
9.	Signal Generator	Aglient	N5181A	MY50143917	2014. 09. 04
10.	Dual Channel PK Power Meter	Aglient	N1912A	MY52180007	2014. 09. 08
11.	Power Sensor	Aglient	N8481H	MY52080006	2014. 09. 08
12.	Dipole Antenna	SPEAG	D2450V2	888	2015. 07. 15
13.	Dipole Antenna	SPEAG	D835V2	4d136	2014. 12. 13
14.	Dipole Antenna	SPEAG	D1900V2	5d156	2014. 12. 14

5. SAR MEASUREMENT SYSTEM

5.1. Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\boldsymbol{\rho}\mathbf{dv}}\right)$$

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

5.2. SPEAG DASY System

DASY system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY5 software defined. The DASY software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.

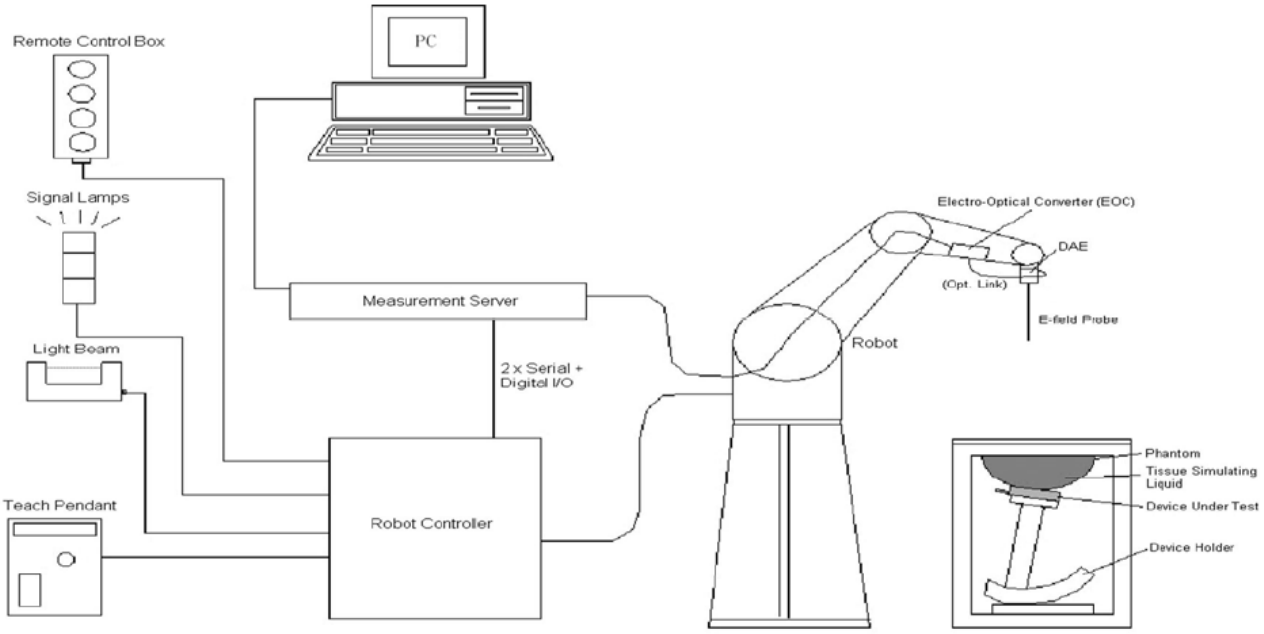
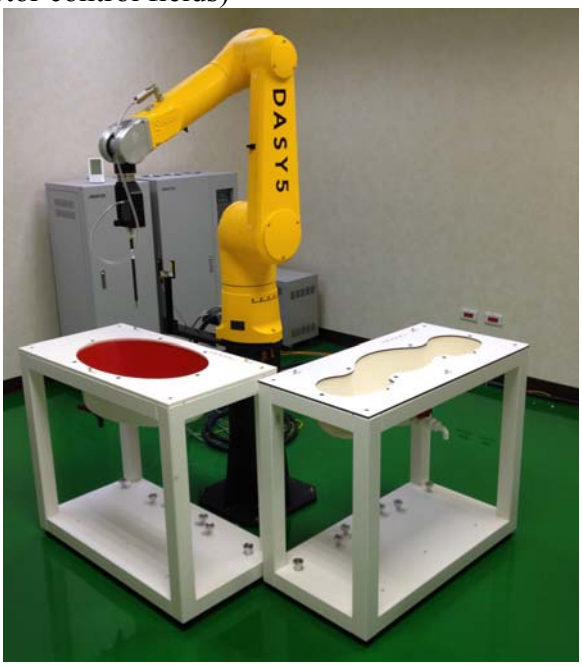


Figure-3.1 DASY System Setup

5.2.1. Robot

The DASY system uses the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

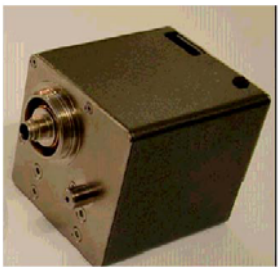
- High precision (repeatability ±0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)



5.2.2. Probes

Model	Ex3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 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	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

5.2.3. Data Acquisition Electronics (DAE)

Model	DAE4	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)	
Input Offset Voltage	< 5µV (with auto zero)	
Input Bias Current	< 50 fA	
Dimensions	60 x 60 x 68 mm	

5.2.4. Phantoms

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. 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 teaching three points with the robot.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	

Model	ELI	
Construction	Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	

5.2.5. Device Holder

Model	Mounting Device	
Construction	In combination with the Twin SAM Phantom or ELI4, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).	
Material	POM	

Model	Laptop Extensions Kit	
Construction	Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner.	
Material	POM, Acrylic glass, Foam	

5.2.6. Device Holder

Model	System Validation Dipoles	
Construction	Symmetrical dipole with l/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.	
Frequency	750 MHz to 5800 MHz	
Return Loss	> 20 dB	
Power Capability	> 100 W (f < 1GHz), > 40 W (f > 1GHz)	

5.2.7. Tissue Simulating Liquids

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-5.1.

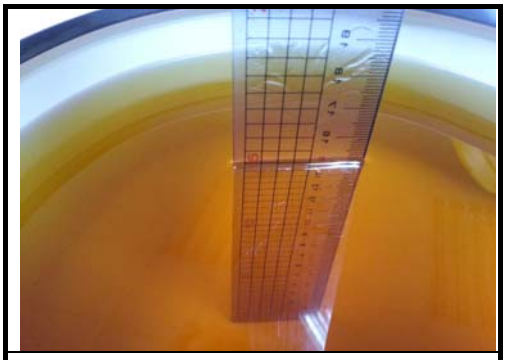


Photo of Liquid Height

The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528 and FCC OET 65 Supplement C Appendix C. For the body tissue simulating liquids, the dielectric properties are defined in FCC OET 65 Supplement C Appendix C. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using an Agilent 85070D Dielectric Probe Kit and an Agilent Network Analyzer.

Table-5.1 Targets of Tissue Simulating Liquid

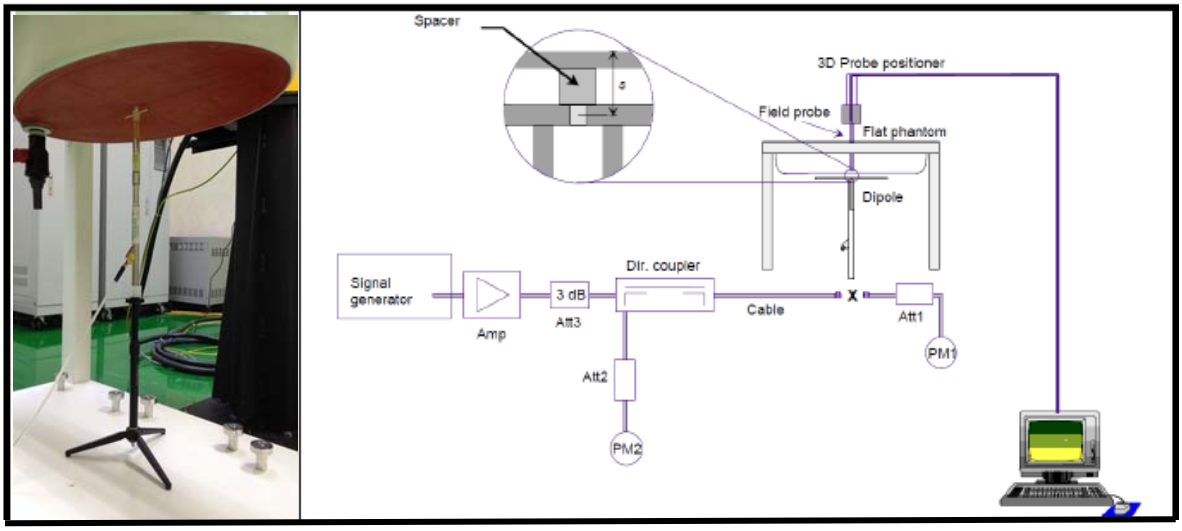
Target Frequency [MHz]	Target Permittivity (εr)	Range of ± 5%	Target Conductivity σ [s/m]	Range of ± 5%
For Head				
750	41.9	39.8 ~ 44.0	0.89	0.85 ~ 0.93
835	41.5	39.4 ~ 43.6	0.90	0.86 ~ 0.95
900	41.5	39.4 ~ 43.6	0.97	0.92 ~ 1.02
1450	40.5	38.5 ~ 42.5	1.20	1.14 ~ 1.26
1640	40.3	38.3 ~ 42.3	1.29	1.23 ~ 1.35
1750	40.1	38.1 ~ 42.1	1.37	1.30 ~ 1.44
1800	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
1900	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2000	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2300	39.5	37.5 ~ 41.5	1.67	1.59 ~ 1.75
2450	39.2	37.2 ~ 41.2	1.80	1.71 ~ 1.89
2600	39.0	37.1 ~ 41.0	1.96	1.86 ~ 2.06
3500	37.9	36.0 ~ 39.8	2.91	2.76 ~ 3.06
5200	36.0	34.2 ~ 37.8	4.66	4.43 ~ 4.89
5300	35.9	34.1 ~ 37.7	4.76	4.52 ~ 5.00
5500	35.6	33.8 ~ 37.4	4.96	4.71 ~ 5.21
5600	35.5	33.7 ~ 37.3	5.07	4.82 ~ 5.32
5800	35.3	33.5 ~ 37.1	5.27	5.01 ~ 5.53
For Body				
750	55.5	52.7 ~ 58.3	0.96	0.91 ~ 1.01
835	55.2	52.4 ~ 58.0	0.97	0.92 ~ 1.02
900	55.0	52.3 ~ 57.8	1.05	1.00 ~ 1.10
1450	54.0	51.3 ~ 56.7	1.30	1.24 ~ 1.37
1640	53.8	51.1 ~ 56.5	1.40	1.33 ~ 1.47
1750	53.4	50.7 ~ 56.1	1.49	1.42 ~ 1.56
1800	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
1900	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2000	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2300	52.9	50.3 ~ 55.5	1.81	1.72 ~ 1.90
2450	52.7	50.1 ~ 55.3	1.95	1.85 ~ 2.05
2600	52.5	49.9 ~ 55.1	2.16	2.05 ~ 2.27
3500	51.3	48.7 ~ 53.9	3.31	3.14 ~ 3.48
5200	49.0	46.6 ~ 51.5	5.30	5.04 ~ 5.57
5300	48.9	46.5 ~ 51.3	5.42	5.15 ~ 5.69
5500	48.6	46.2 ~ 51.0	5.65	5.37 ~ 5.93
5600	48.5	46.1 ~ 50.9	5.77	5.48 ~ 6.06
5800	48.2	45.8 ~ 50.6	6.00	5.70 ~ 6.30

Table-5.2 Recipes of Tissue Simulating Liquid

Tissue Type	Bactericide	DGBE	HEC	NaCI	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
For Head								
H750	0.2	-	0.2	1.5	56.0	-	42.1	-
H835	0.2	-	0.2	1.5	57.0	-	41.1	-
H900	0.2	-	0.2	1.4	58.0	-	40.2	-
H1450	-	43.3	-	0.6	-	-	56.1	-
H1640	-	45.8	-	0.5	-	-	53.7	-
H1750	-	47.0	-	0.4	-	-	52.6	-
H1800	-	44.5	-	0.3	-	-	55.2	-
H1900	-	44.5	-	0.2	-	-	55.3	-
H2000	-	44.5	-	0.1	-	-	55.4	-
H2300	-	44.9	-	0.1	-	-	55.0	-
H2450	-	45.0	-	0.1	-	-	54.9	-
H2600	-	45.1	-	0.1	-	-	54.8	-
H3500	-	8.0	-	0.2	-	20.0	71.8	-
H5G	-		-	-	-	17.2	65.5	17.3
For Body								
B750	0.2	-	0.2	0.8	48.8	-	50.0	-
B835	0.2	-	0.2	0.9	48.5	-	50.2	-
B900	0.2	-	0.2	0.9	48.2	-	50.5	-
B1450	-	34.0	-	0.3	-	-	65.7	-
B1640	-	32.5	-	0.3	-	-	67.2	-
B1750	-	31.0	-	0.2	-	-	68.8	-
B1800	-	29.5	-	0.4	-	-	70.1	-
B1900	-	29.5	-	0.3	-	-	70.2	-
B2000	-	30.0	-	0.2	-	-	69.8	-
B2300	-	31.0	-	0.1	-	-	68.9	
B2450	-	31.4	-	0.1	-	-	68.5	
B2600	-	31.8	-	0.1	-	-	68.1	
B3500	-	28.8	-	0.1	-	-	71.1	
B5G	-	-	-	-	-	10.7	78.6	10.7

5.3. SAR System Verification

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.



The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The power meter PM1 measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2.

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

5.3.1. SAR System Verification Result

System Performance Check at WLAN Dipole Kit: D2450V2 (Body)				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
2450MHz	Reference result ± 10% window	12.9 11.61 to 14.19	6.02 5.418 to 6.622	N/A
	2014. 07. 14	13.1	5.93	22.3
Note: All SAR values are normalized to 1W forward power.				

System Performance Check at GSM 850 & WCDMA Band V Dipole Kit: D835V2 (Body)				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
835MHz	Reference result ± 10% window	2.45 2.205 to 2.695	1.61 1.449 to 1.771	N/A
	2014. 07. 14	2.36	1.55	22.8
	2014. 08. 28	2.41	1.58	23.2
Note: All SAR values are normalized to 1W forward power.				

System Performance Check at PCS 1900 & WCDMA Band II Dipole Kit: D1900V2 (Body)				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]
1900MHz	Reference result ± 10% window	10.1 9.09 to 11.11	5.39 4.851 to 5.929	N/A
	2014. 07. 14	10.2	5.25	22.4
	2014. 08. 27	10.0	5.28	23.4
Note: All SAR values are normalized to 1W forward power.				

5.3.2. SAR System Check Data

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

System Check_B2450

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

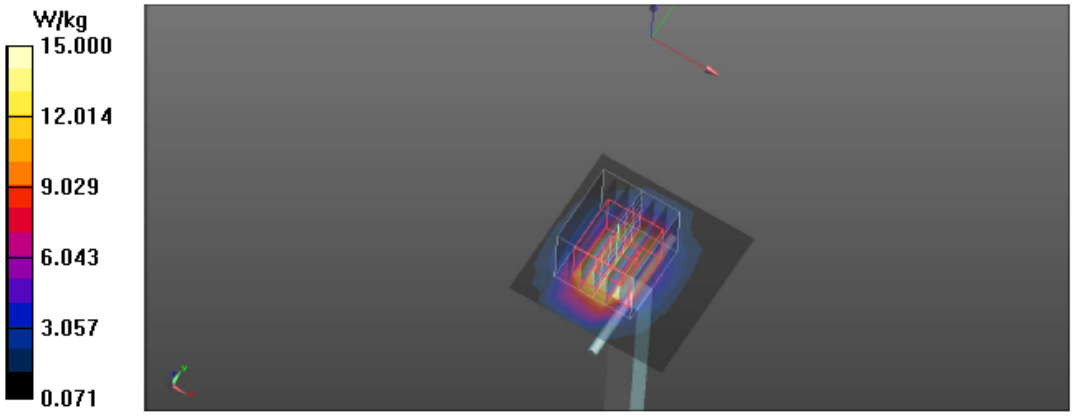
Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.979 S/m; ε_r = 53.285; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.69, 7.69, 7.69); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/CW 2450/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 17.6 W/kg

Configuration/CW 2450/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 77.264 V/m; Power Drift = -0.45 dB
Peak SAR (extrapolated) = 28.7 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.93 W/kg
Maximum value of SAR (measured) = 15.0 W/kg



Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

System Check_B835

DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:xxx

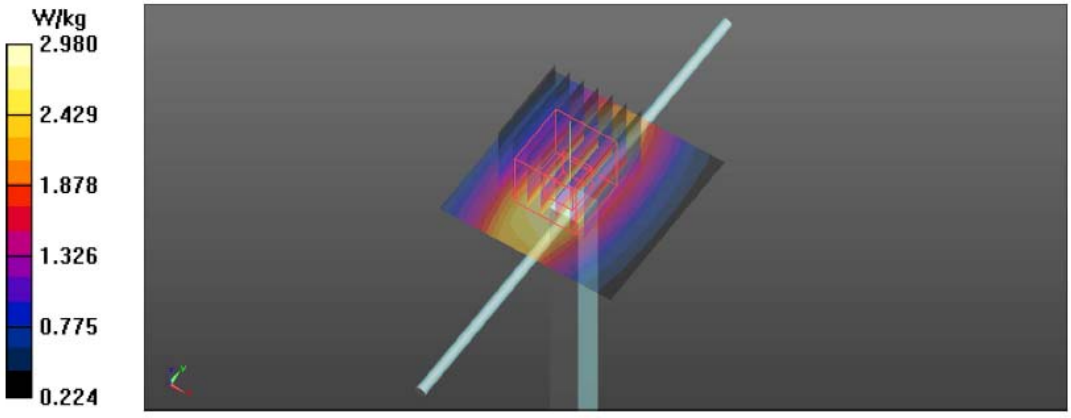
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.96 S/m; ε_r = 55.87; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.98 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 50.853 V/m; Power Drift = -0.31 dB
Peak SAR (extrapolated) = 3.54 W/kg
SAR(1 g) = 2.36 W/kg; SAR(10 g) = 1.55 W/kg
Maximum value of SAR (measured) = 2.55 W/kg



Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

System Check_B1900

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:xxx

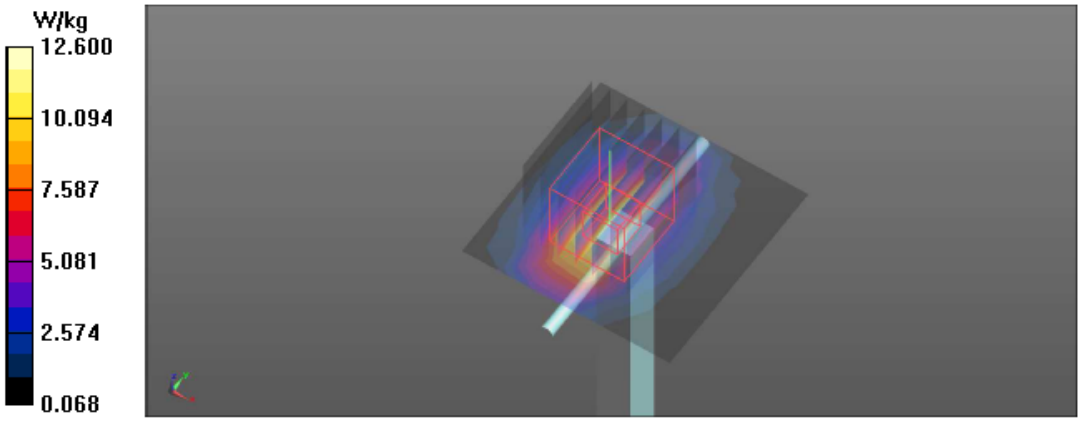
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.542 S/m; ε_r = 53.199; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.6 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 77.871 V/m; Power Drift = -0.40 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.25 W/kg
Maximum value of SAR (measured) = 11.5 W/kg



Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

System Check_B1900

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:5d156

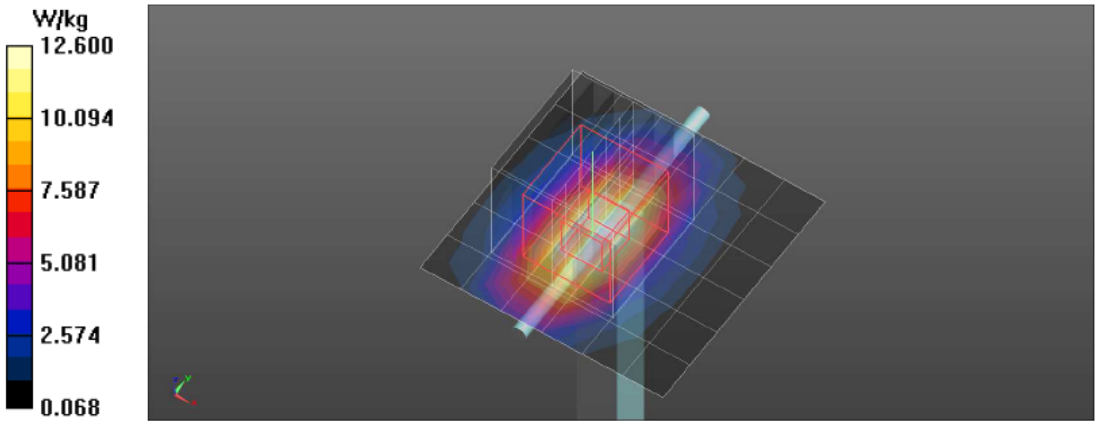
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.542 S/m; ε_r = 53.199; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.4 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 77.721 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 18.7 W/kg
SAR(1 g) = 10.0 W/kg; SAR(10 g) = 5.28 W/kg
Maximum value of SAR (measured) = 11.4 W/kg



Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

System Check_B835

DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:xxx

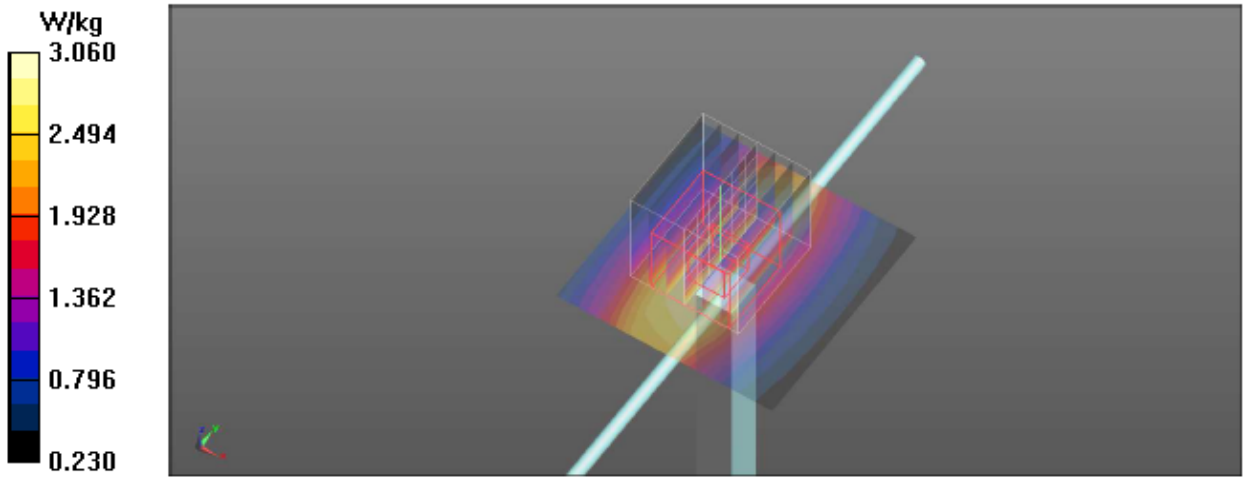
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.971 S/m; ε_r = 53.894; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 3.06 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 50.751 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.63 W/kg
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 2.60 W/kg



5.4. SAR Measurement Procedure

According to the SAR test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

The SAR measurement procedures for each of test conditions are as follows:

(a) Make EUT to transmit maximum output power
(b) Measure conducted output power through RF cable
(c) Place the EUT in the specific position of phantom
(d) Perform SAR testing steps on the DASY system
(e) Record the SAR value

5.4.1. Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. According to KDB 865664D01v01, the resolution for Area and Zoom scan is specified in the table below.

Items	<= 2 GHz	2-3 GHz	3-4 GHz	4-5 GHz	5-6 GHz
Area Scan (Δx, Δy)	<= 15mm	<= 12mm	<= 12mm	<= 10mm	<= 10mm
Zoom Scan (Δx, Δy)	<= 8mm	<= 5mm	<= 5mm	<= 4mm	<= 4mm
Zoom Scan (Δz)	<= 5mm	<= 5mm	<= 4mm	<= 3mm	<= 2mm
Zoom Scan Volume	>= 30mm	>= 30mm	>= 28mm	>= 25mm	>= 22mm

Note:
When zoom scan is required and report SAR is <= 1.4 W/kg, the zoom scan resolution of Δx / Δy (2-3GHz: <= 8 mm, 3-4GHz: <= 7 mm, 4-6GHz: <= 5 mm) may be applied.

5.4.2. Volume Scan Procedure

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

5.4.3. Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

5.4.4. Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

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 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

5.4.5. SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. 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 5 mm.

6. SAR MEASUREMENT EVALUATION

6.1. EUT Configuration and Setting

For WWAN SAR testing, the EUT was linked and controlled by base station emulator (Agilent E5515C). Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

For GSM850, the power control level is set to 5. For GPRS850 (GMSK, CS1), the power control level is set to 5. For EDGE850 (8PSK:MCS9), the power control level is set to 8. For GSM1900, the power control level is set to 0. For GPRS1900 (GMSK, CS1), the power control level is set to 0. For EDGE1900 (8PSK:MCS9), the power control level is set to 2.

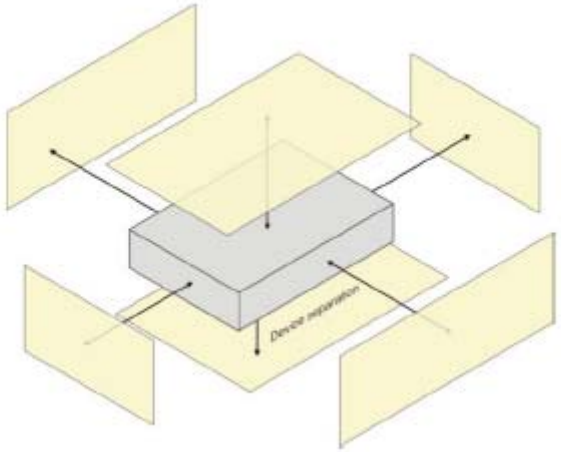
For WLAN SAR testing, the EUT has installed WLAN engineering testing software which can provide continuous transmitting RF signal. According to KDB 248227 D01, WLAN SAR should tested at the lowest data rate, and testing at higher data rate is not required when the maximum average output power is less than 1/4 dB higher than those measured at the lowest data rate. Since the WLAN power at lowest data rate has highest output power, WLAN SAR for this device was performed at the lowest data rate as set in 1 Mbps for 802.11b. This RF signal utilized in SAR measurement has almost 100% duty cycle, and the duty factor is 1 during WLAN SAR testing.

6.2. EUT Testing Position

According to KDB 941225 D06v01, the wireless router device is tested for SAR compliance in body configurations described in the following subsections.

6.2.1. Hotspot Mode Exposure conditions

A test separation of 10 mm is required. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25 mm from that surface or edge, for the data modes, wireless technologies and frequency bands supporting hotspot mode. The standalone SAR results in each device test orientation must be analyzed for the applicable hotspot mode simultaneous transmission configurations to determine SAR test exclusion and volume scan requirements. The simultaneous transmission configurations must be clearly described in the SAR report to support the analyses or test results. When the device form factor is smaller than 9 cm x 5 cm, unless a test separation distance of 5 mm or less is used a KDB inquiry is required to determine the acceptable test distance.



The SAR testing required for hotspot mode is listed as below.

Antenna	Front Face	Rear Face	Top Side	Bottom Side	Left Side	Right Side
WWAN	√	√		√	√	√
WLAN	√	√	√		√	√

6.3. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using Aligent Dielectric Probe Kit and Aligent E5071C Vector Network Analyzer.

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
2450MHz	Reference result ± 5% window	52.7 50.065 to 55.335	1.95 1.8525 to 2.0475	N/A
	2014. 07. 14	52.285	1.979	22.3

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
835MHz	Reference result ± 5% window	55.2 52.44 to 57.96	0.97 0.9215 to 1.0185	N/A
	2014. 07. 14	55.87	0.96	23.8
	2014. 08. 28	53.89	0.97	23.2

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [℃]
		ε_r	σ [s/m]	
1900MHz	Reference result ± 5% window	53.3 50.635 to 55.965	1.52 1.444 to 1.596	N/A
	2014. 07. 14	53.199	1.542	22.4
	2014. 08. 27	53.200	1.542	23.4

6.4. SAR Exposure Limits

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

Limits for General Population/Uncontrolled Exposure (W/kg)

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for brain or body)	1.60 W/kg
Spatial Average SAR (whole body)	0.08 W/kg
Spatial Peak SAR (10g for hands, feet, ankles and wrist)	4.00 W/kg

6.5. Conducted Power Measurement

6.5.1. WLAN Function

Type of Network	Channel	Frequency (MHz)	**Average Output Power (dBm)**	Power Setting	Tolerance
802.11b	CH 1	2412	**14.63**	14	± 0.6 dB
	CH 6	2437	**14.48**	14	± 0.6 dB
	CH 11	2462	**14.46**	14	± 0.6 dB
802.11g	CH 1	2412	**12.07**	12	± 0.5 dB
	CH 6	2437	**11.92**	12	± 0.5 dB
	CH 11	2462	**12.02**	12	± 0.5 dB
802.11n-HT20	CH 1	2412	**12.03**	12	± 0.5 dB
	CH 6	2437	**11.96**	12	± 0.5 dB
	CH 11	2462	**11.87**	12	± 0.5 dB

6.5.2. GSM/PCS Function

GSM850	Conducted RF output power (dBm)			Tolerance
	CH 128	CH 190	CH 251	
GPRS	31.49	31.61	31.41	+0.5dB/-1 dB
EGPRS	29.33	29.43	29.23	+0.5dB/-1 dB

PCS1900	Conducted RF output power (dBm)			Tolerance
	CH 512	CH 661	CH 810	
GPRS	27.15	27.82	28.67	+0.7dB/-1 dB
EGPRS	26.87	27.63	28.64	+0.7dB/-1 dB

6.5.3. WCDMA Function

UMTS Band II Conducted RF output power (dBm)							
3GPP Release version	Model	3GPP 34.121 Case	CH 9262 1852.4MHz	CH 9400 1880MHz	CH 9538 1907.6MHz	MPR (dB)	Tolerance
99(note)	WCDMA	12.2kbps (RMC)	22.51	22.63	22.54	N/A	+0.6dB/-1 dB
7	HSDPA	Case 1	22.06	22.09	22.03	0	+0.6dB/-1 dB
7		Case 2	22.16	22.12	22.13	0	+0.6dB/-1 dB
7		Case 3	21.28	21.74	21.70	0.5	+0.6dB/-1 dB
7		Case 4	21.54	21.84	21.75	0.5	+0.6dB/-1 dB
7	HSUPA	Case 1	21.73	21.97	21.92	0	+0.6dB/-1 dB
7		Case 2	21.69	21.94	21.88	2	+0.6dB/-1 dB
7		Case 3	22.20	22.49	22.39	1	+0.6dB/-1 dB
7		Case 4	22.07	22.47	22.30	2	+0.6dB/-1 dB
7		Case 5	22.46	22.43	22.43	0	+0.6dB/-1 dB

Note: Band II SAR is tested in RMC mode for having the maximum power.

UMTS Band V Conducted RF output power (dBm)							
3GPP Release version	Model	3GPP 34.121 Case	CH 4132 826.4MHz	CH 4182 836.4MHz	CH 4233 846.6MHz	MPR (dB)	Tolerance
99 (note)	WCDMA	12.2kbps (RMC)	22.53	22.52	22.39	N/A	+0.5dB/-1 dB
7	HSDPA	Case 1	21.76	21.79	21.73	0	+0.5dB/-1 dB
7		Case 2	21.86	21.82	21.83	0	+0.5dB/-1 dB
7		Case 3	20.98	21.44	21.40	0.5	+0.5dB/-1 dB
7		Case 4	21.14	21.54	21.45	0.5	+0.5dB/-1 dB
7	HSUPA	Case 1	21.74	21.77	21.66	0	+0.5dB/-1 dB
7		Case 2	21.76	21.78	21.62	2	+0.5dB/-1 dB
7		Case 3	22.30	22.31	22.25	1	+0.5dB/-1 dB
7		Case 4	22.24	22.25	22.23	2	+0.8dB/-1 dB
7		Case 5	22.30	22.31	22.20	0	+0.5dB/-1 dB

Note: Band V SAR is tested in RMC mode for having the maximum power.

Test Case

	Case	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15 47/15	56/75	134/15
	CM (dB)	1.0	3.0	2.0	3.0	1.0
	MPR(dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C. 11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27	

6.6. Exposure Positions Consideration

6.7. SAR Test Result

Test Mode: WLAN

Liquid Temperature : 22.3℃						Depth of Liquid: **>** 15cm	
Test Position Body	Antenna Position	Separation Distance (cm)	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
			Channel	MHz			
802.11b							
Front Face	Fixed	0.5	1	2412	14.63	**0.333**	1.6
Rear Face	Fixed	0.5	1	2412	14.63	**0.480**	1.6
Left Side	Fixed	0.5	1	2412	14.63	**0.249**	1.6
Right Side	Fixed	0.5	1	2412	14.63	**0.038**	1.6
Top Side	Fixed	0.5	1	2412	14.63	**0.129**	1.6

Test Mode: GSM850

Liquid Temperature : 22.8℃						Depth of Liquid: **>** 15cm	
Test Position Body	Antenna Position	Separation Distance (cm)	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
			Channel	MHz			
GPRS							
Front Face	Fixed	0.5	189	836.4	31.61	**0.187**	1.6
Rear Face	Fixed	0.5	189	836.4	31.61	**0.321**	1.6
Left Side	Fixed	0.5	189	836.4	31.61	**0.048**	1.6
Right Side	Fixed	0.5	189	836.4	31.61	**0.099**	1.6
Bottom Side	Fixed	0.5	189	836.4	31.61	**0.052**	1.6

Test Mode: PCS 1900

Liquid Temperature : 22.8℃						Depth of Liquid: **>** 15cm	
Test Position Body	Antenna Position	Separation Distance (cm)	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
			Channel	MHz			
GPRS							
Front Face	Fixed	0.5	810	1909.8	28.67	**0.053**	1.6
Rear Face	Fixed	0.5	810	1909.8	28.67	**0.156**	1.6
Left Side	Fixed	0.5	810	1909.8	28.67	**0.027**	1.6
Right Side	Fixed	0.5	810	1909.8	28.67	**0.044**	1.6
Bottom Side	Fixed	0.5	810	1909.8	28.67	**0.041**	1.6

Test Mode: WCDMA Band II

Liquid Temperature : 23.4℃					Depth of Liquid: **>** 15cm		
Test Position Body	Antenna Position	Separation Distance (cm)	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
			Channel	MHz			
WCDMA							
Front Face	Fixed	0.5	9262	1852.4	22.51	**1.190**	1.6
Rear Face	Fixed	0.5	9262	1852.4	22.51	**0.957**	1.6
Left Side	Fixed	0.5	9262	1852.4	22.51	**0.350**	1.6
Right Side	Fixed	0.5	9262	1852.4	22.51	**0.549**	1.6
Top Side	Fixed	0.5	9262	1852.4	22.51	**0.172**	1.6
Bottom Side	Fixed	0.5	9262	1852.4	22.51	**0.627**	1.6
Front Face	Fixed	0.5	9400	1880.0	22.63	**1.050**	1.6
			9538	1907.6	22.54	**0.783**	1.6
Rear Face	Fixed	0.5	9400	1880.0	22.63	**0.806**	1.6
			9538	1907.6	22.54	**0.780**	1.6

Test Mode: WCDMA Band V

Liquid Temperature : 23.2℃					Depth of Liquid: **>** 15cm		
Test Position Body	Antenna Position	Separation Distance (cm)	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
			Channel	MHz			
WCDMA							
Front Face	Fixed	0.5	4132	826.4	22.53	**0.528**	1.6
Rear Face	Fixed	0.5	4132	826.4	22.53	**0.636**	1.6
Left Side	Fixed	0.5	4132	826.4	22.53	**0.224**	1.6
Right Side	Fixed	0.5	4132	826.4	22.53	**0.412**	1.6
Top Side	Fixed	0.5	4132	826.4	22.53	**0.042**	1.6
Bottom Side	Fixed	0.5	4132	826.4	22.53	**0.153**	1.6

Note: 1. SAR is performed on the highest power channel. When the reported SAR value of highest power channel is <= 0.8 W/kg, SAR testing for optional channel is not required.
2. According to KDB 248227, when the extrapolated maximum peak SAR for the maximum output power channel is <= 1.6 W/kg and the 1g averaged SAR is <= 0.8 W/kg, WLAN SAR testing for other channels is not required.
3. SAR testing for 802.11g/n is not required when its maximum power is less than 1/4 dB higher than 802.11b.

Test Mode: WLAN, 802.11b: CH 1, Front Face

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P13 802.11b_Front Face_0.5cm_Ch1

DUT: M5350

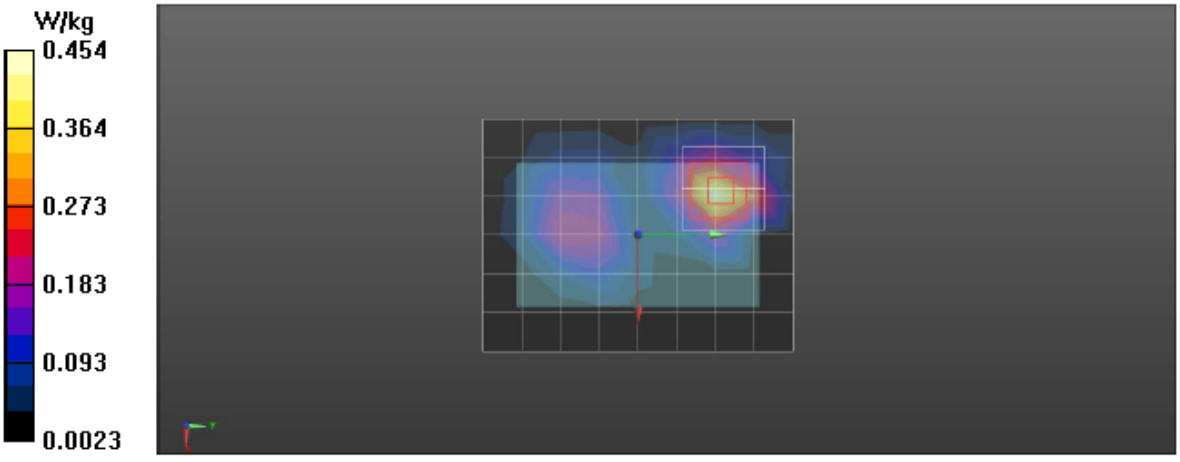
Communication System: WIFI 2.4G 802.11B; Frequency: 2412 MHz
Medium parameters used: f = 2412 MHz; σ = 1.925 S/m; ε_r = 53.303; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.69, 7.69, 7.69); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.454 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.387 V/m; Power Drift = 0.25 dB
Peak SAR (extrapolated) = 0.632 W/kg
SAR(1 g) = 0.333 W/kg; SAR(10 g) = 0.166 W/kg
Maximum value of SAR (measured) = 0.487 W/kg



Test Mode: WLAN, 802.11b: CH 1, Rear Face

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P14 802.11b_Rear Face_0.5cm_Ch1

DUT: M5350

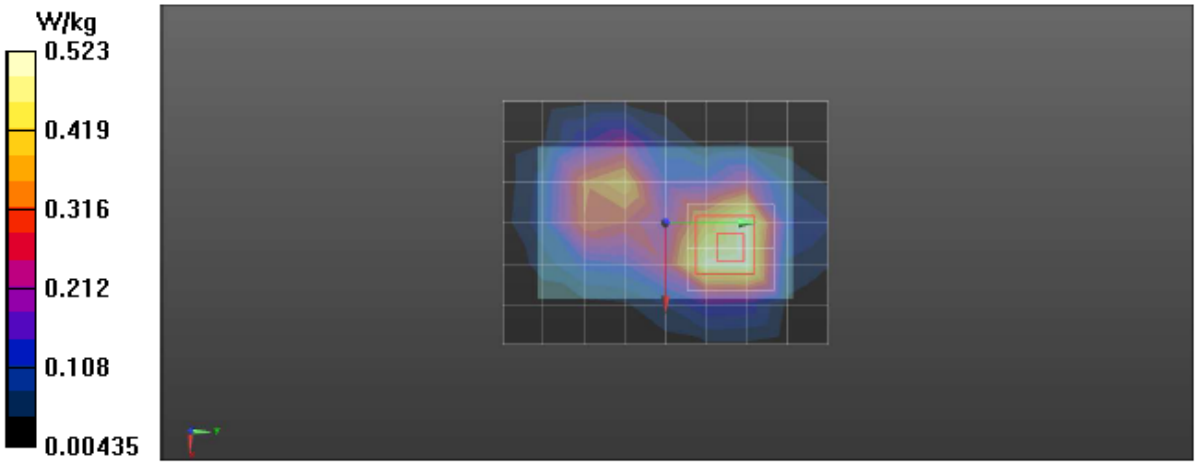
Communication System: WIFI 2.4G 802.11B; Frequency: 2412 MHz
Medium parameters used: f = 2412 MHz; σ = 1.925 S/m; ε_r = 53.303; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.69, 7.69, 7.69); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.523 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.924 V/m; Power Drift = 0.25 dB
Peak SAR (extrapolated) = 0.867 W/kg
SAR(1 g) = 0.480 W/kg; SAR(10 g) = 0.258 W/kg
Maximum value of SAR (measured) = 0.665 W/kg



Test Mode: WLAN, 802.11b: CH 1, Left Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P15 802.11b_Left Side_0.5cm_Ch1

DUT: M5350

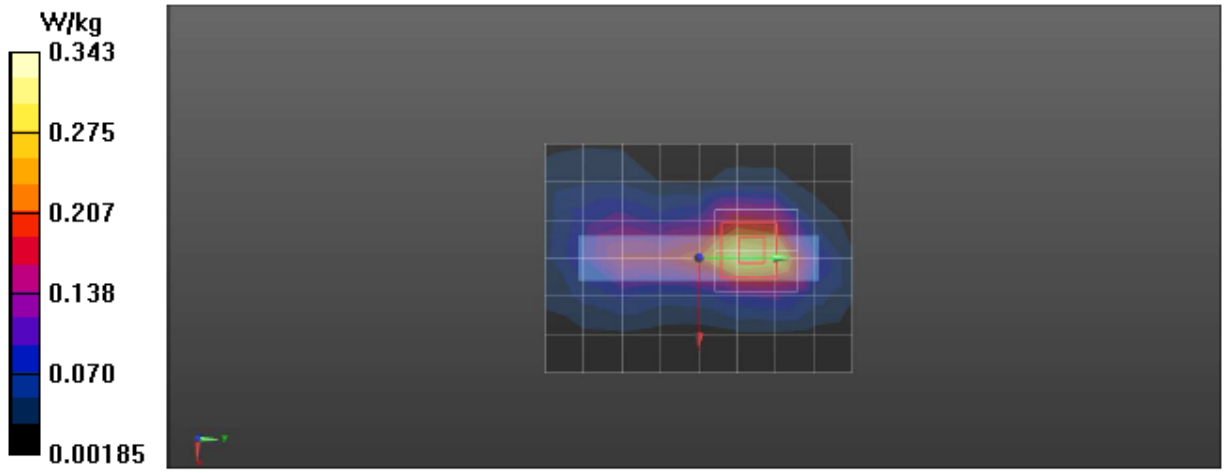
Communication System: WIFI 2.4G 802.11B; Frequency: 2412 MHz
Medium parameters used: f = 2412 MHz; σ = 1.925 S/m; ε_r = 53.303; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.69, 7.69, 7.69); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.310 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.747 V/m; Power Drift = -0.37 dB
Peak SAR (extrapolated) = 0.432 W/kg
SAR(1 g) = 0.249 W/kg; SAR(10 g) = 0.135 W/kg
Maximum value of SAR (measured) = 0.343 W/kg



Test Mode: WLAN, 802.11b: CH 1, Right Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P16 802.11b_Right Side_0.5cm_Ch1

DUT: M5350

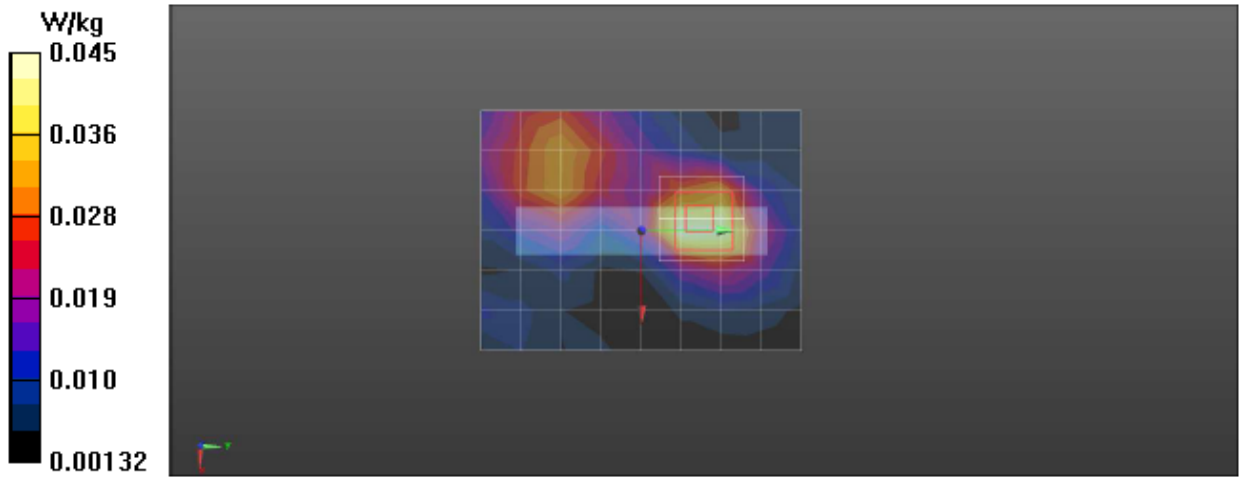
Communication System: WIFI 2.4G 802.11B; Frequency: 2412 MHz
Medium parameters used: f = 2412 MHz; σ = 1.925 S/m; ε_r = 53.303; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.69, 7.69, 7.69); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0450 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.584 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.0620 W/kg
SAR(1 g) = 0.038 W/kg; SAR(10 g) = 0.020 W/kg
Maximum value of SAR (measured) = 0.0516 W/kg



Test Mode: WLAN, 802.11b: CH 1, Top Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P17 802.11b_Top Side_0.5cm_Ch1

DUT: M5350

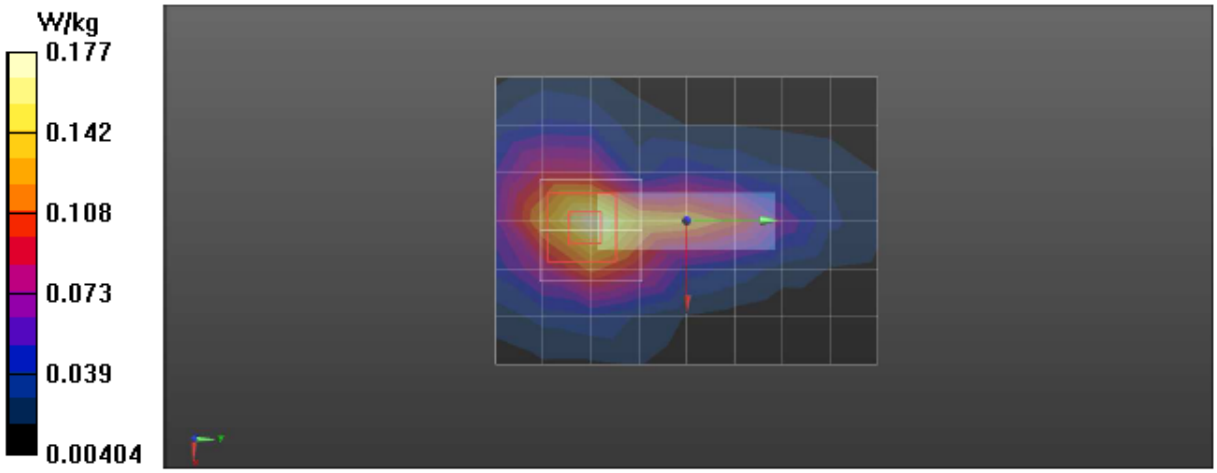
Communication System: WIFI 2.4G 802.11B; Frequency: 2412 MHz
Medium parameters used: f = 2412 MHz; σ = 1.925 S/m; ε_r = 53.303; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.69, 7.69, 7.69); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.177 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.911 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.231 W/kg
SAR(1 g) = 0.129 W/kg; SAR(10 g) = 0.072 W/kg
Maximum value of SAR (measured) = 0.182 W/kg



Test Mode: GSM 850, GPRS, CH 189, Front Face

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P1 GSM850_Front Face_0.5cm_Ch1

DUT: M5350

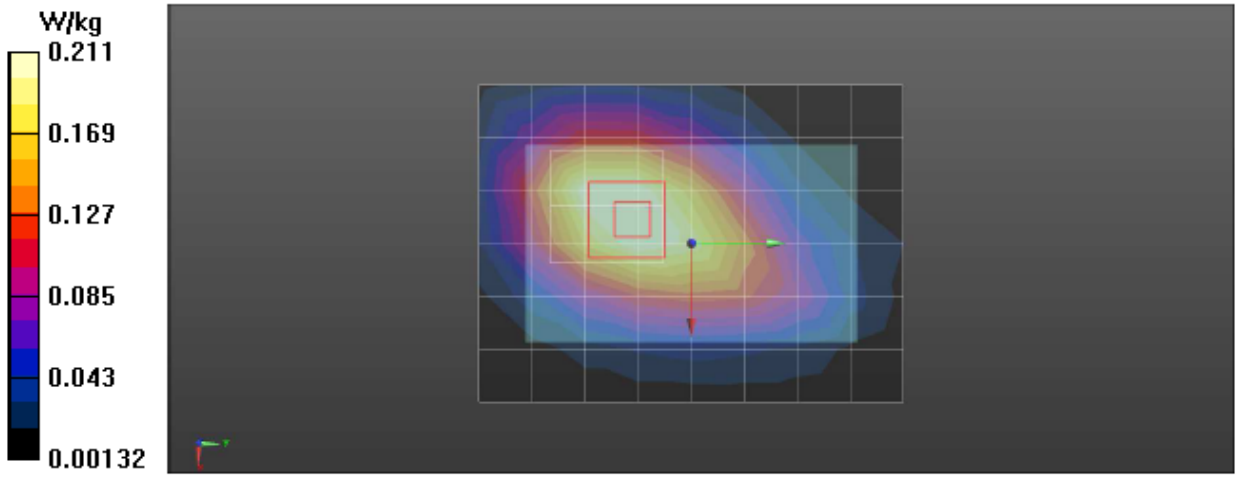
Communication System: GSM GPRS8; Frequency: 836.4 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.973 S/m; ε_r = 53.882; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.211 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.204 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.259 W/kg
SAR(1 g) = 0.187 W/kg; SAR(10 g) = 0.129 W/kg
Maximum value of SAR (measured) = 0.223 W/kg



Test Mode: GSM 850, GPRS, CH 189, Rear Face

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P2 GSM850_Rear Face_0.5cm_Ch1

DUT: M5350

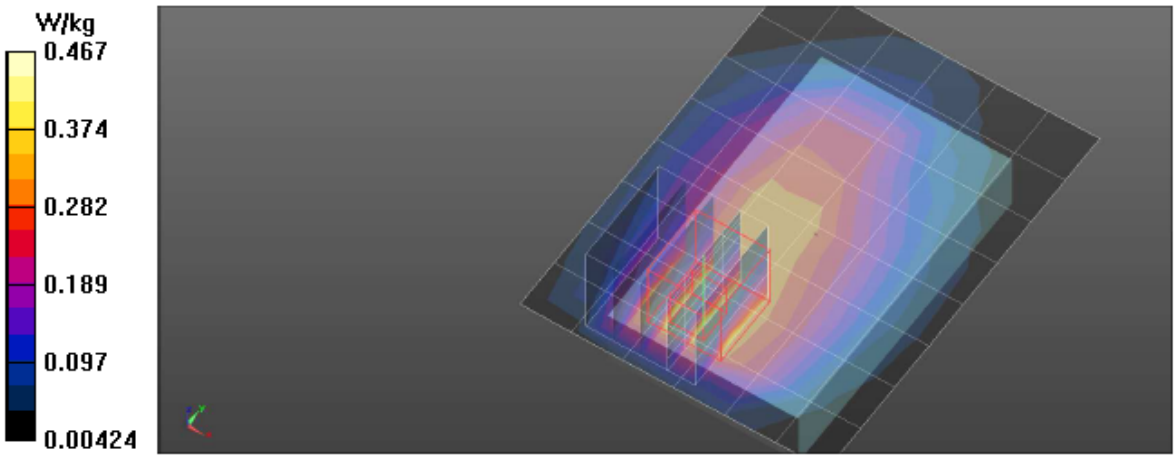
Communication System: GSM GPRS8; Frequency: 836.4 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.973 S/m; ε_r = 53.882; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.342 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.711 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.621 W/kg
SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.196 W/kg
Maximum value of SAR (measured) = 0.467 W/kg



Test Mode: GSM 850, GPRS, CH 189, Left Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P3 GSM850_Left Side_0.5cm_Ch1

DUT: M5350

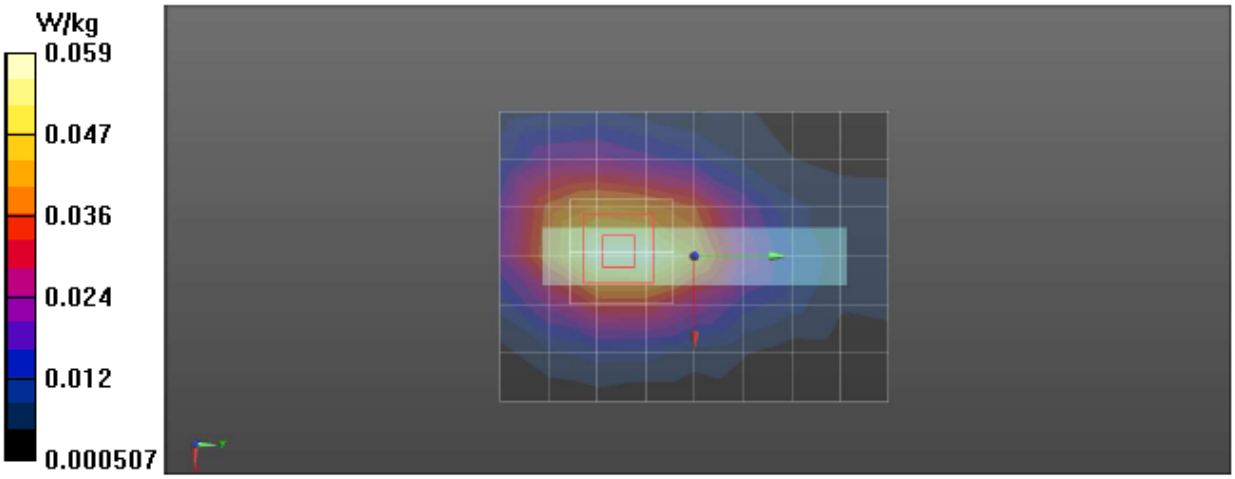
Communication System: GSM GPRS8; Frequency: 836.4 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.973 S/m; ε_r = 53.882; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0589 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.772 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.0730 W/kg
SAR(1 g) = 0.048 W/kg; SAR(10 g) = 0.032 W/kg
Maximum value of SAR (measured) = 0.0609 W/kg



Test Mode: GSM 850, GPRS, CH 189, Right Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P4 GSM850_Right Side_0.5cm_Ch1

DUT: M5350

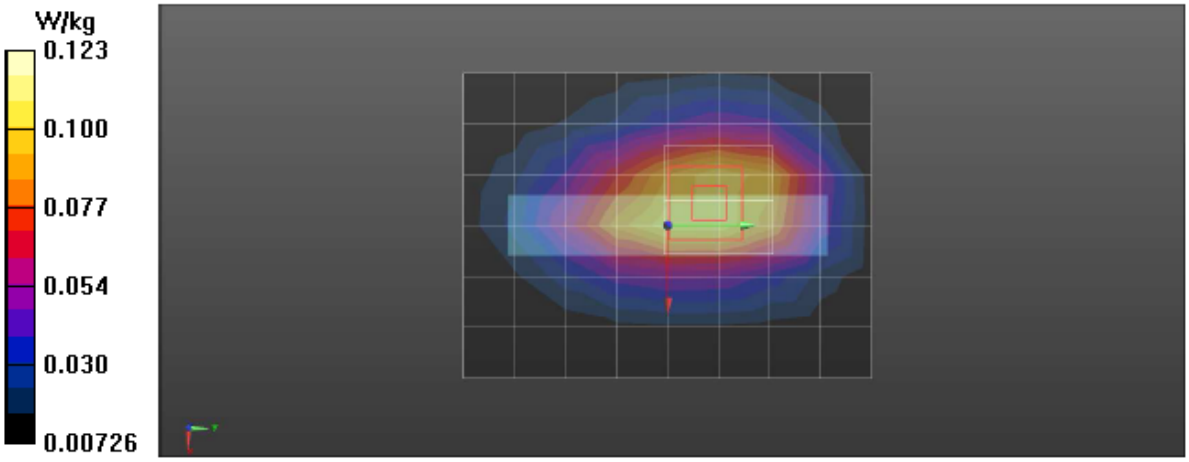
Communication System: GSM GPRS8; Frequency: 836.4 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.973 S/m; ε_r = 53.882; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.106 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.607 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.143 W/kg
SAR(1 g) = 0.099 W/kg; SAR(10 g) = 0.067 W/kg
Maximum value of SAR (measured) = 0.123 W/kg



Test Mode: GSM 850, GPRS, CH 189, Bottom Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P6 GSM850_Button Side_0.5cm_Ch1

DUT: M5350

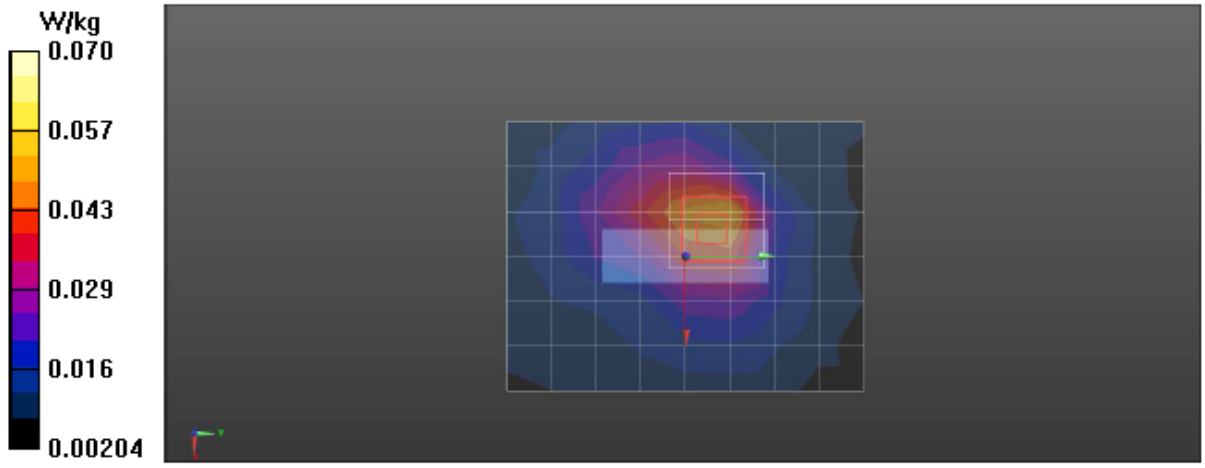
Communication System: GSM GPRS8; Frequency: 836.4 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.973 S/m; ε_r = 53.882; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0526 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.413 V/m; Power Drift = -0.35 dB
Peak SAR (extrapolated) = 0.0870 W/kg
SAR(1 g) = 0.052 W/kg; SAR(10 g) = 0.030 W/kg
Maximum value of SAR (measured) = 0.0702 W/kg



Test Mode: PCS 1900, EGPRS, CH 810, Front Face

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P7 GSM1900_Front Face_0.5cm_Ch1

DUT: M5350

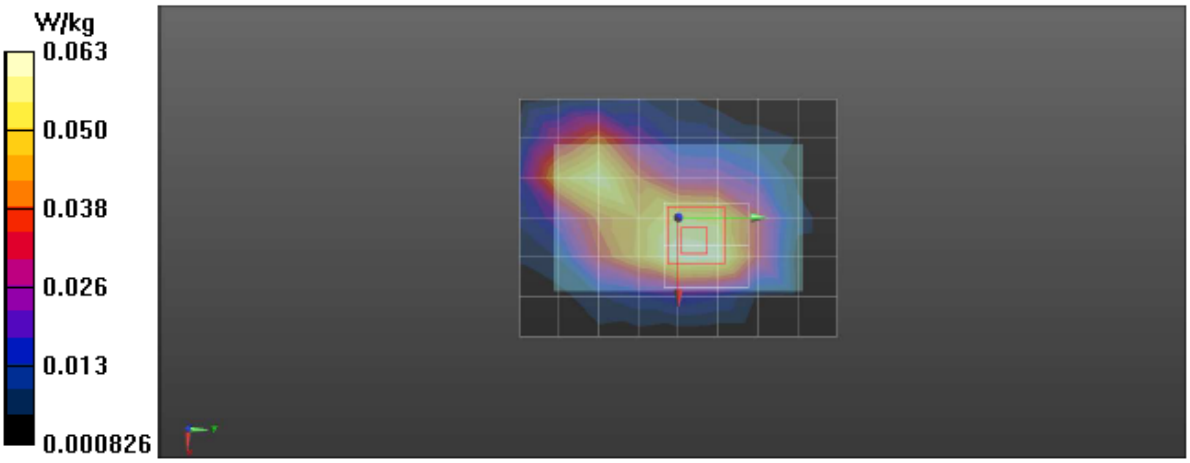
Communication System: GSM GPRS8; Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.555 S/m; ε_r = 53.186; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0629 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.934 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.0780 W/kg
SAR(1 g) = 0.053 W/kg; SAR(10 g) = 0.033 W/kg
Maximum value of SAR (measured) = 0.0674 W/kg



Test Mode: PCS 1900, EGPRS, CH 810, Rear Face Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P8 GSM1900_Rear Face_0.5cm_Ch1

DUT: M5350

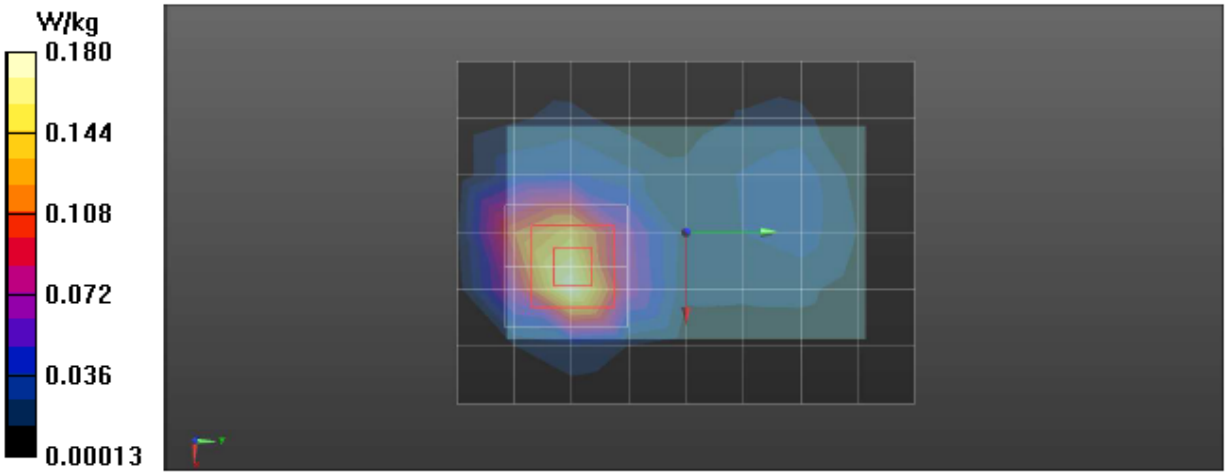
Communication System: GSM GPRS8; Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.555 S/m; ε_r = 53.186; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.180 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.957 V/m; Power Drift = 0.95 dB
Peak SAR (extrapolated) = 0.302 W/kg
SAR(1 g) = 0.156 W/kg; SAR(10 g) = 0.078 W/kg
Maximum value of SAR (measured) = 0.234 W/kg



Test Mode: PCS1900, EGPRS, CH 810, Left Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P9 GSM1900_Left Side_0.5cm_Ch1

DUT: M5350

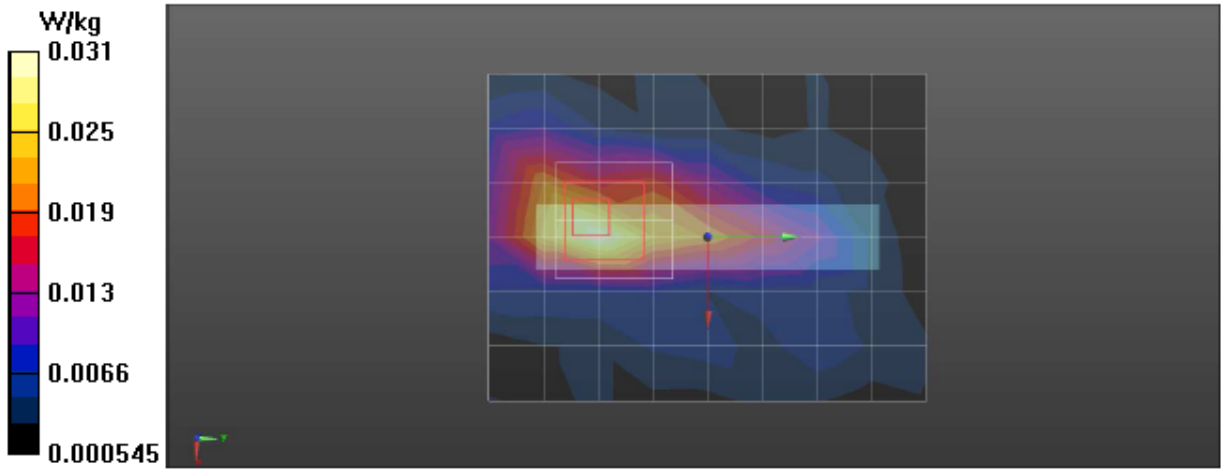
Communication System: GSM GPRS8; Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.555 S/m; ε_r = 53.186; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0308 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.535 V/m; Power Drift = 0.24 dB
Peak SAR (extrapolated) = 0.0440 W/kg
SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.015 W/kg
Maximum value of SAR (measured) = 0.0364 W/kg



Test Mode: PCS1900, EGPRS, CH 810, Right Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P10 GSM1900_Right Side_0.5cm_Ch1

DUT: M5350

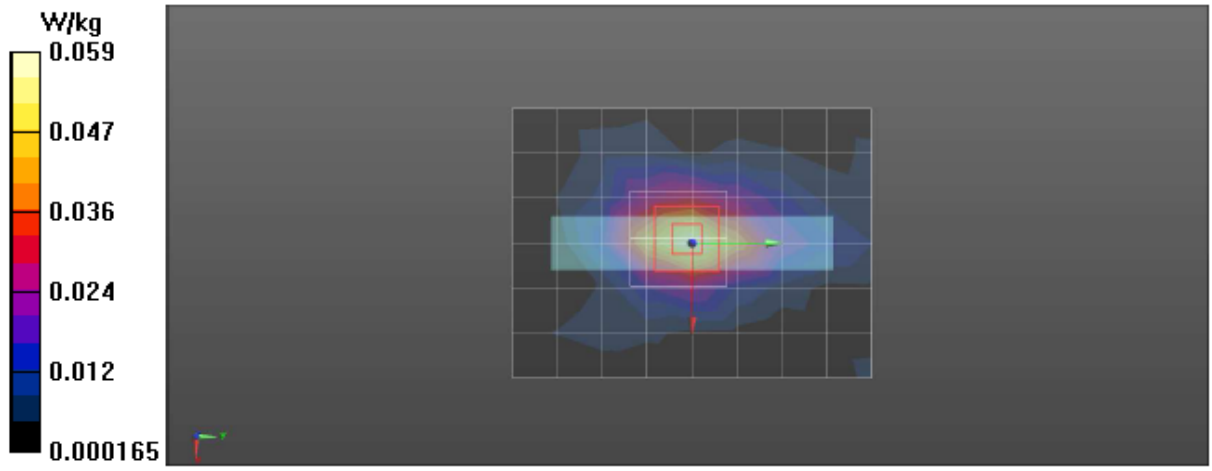
Communication System: GSM GPRS8; Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.555 S/m; ε_r = 53.186; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0593 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.186 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.0680 W/kg
SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.027 W/kg
Maximum value of SAR (measured) = 0.0565 W/kg



Test Mode: PCS1900, EGPRS, CH 810, Bottom Side

Date/Time: 7/14/2014

Test Laboratory: Audix_SAR Lab

P12 GSM1900_Button Side_0.5cm_Ch1

DUT: M5350

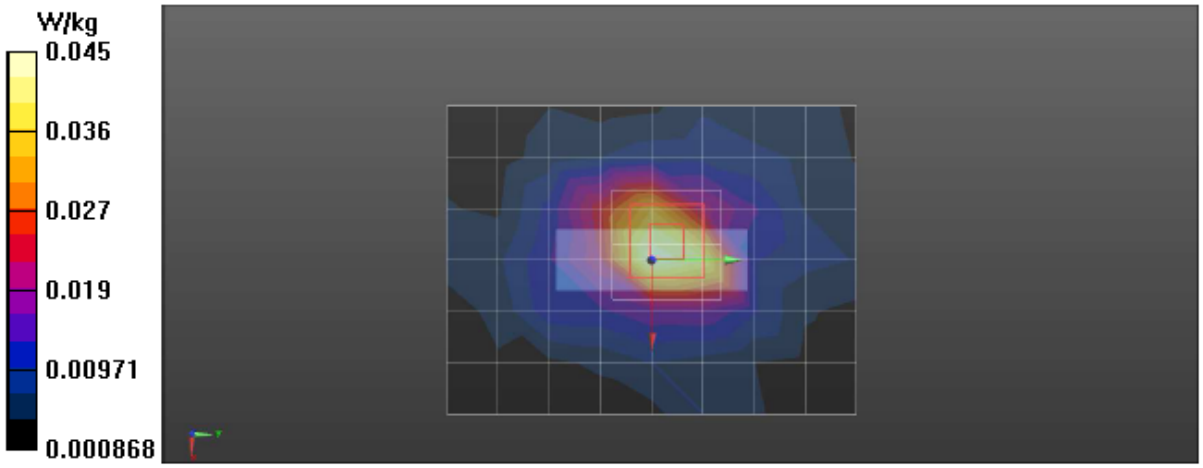
Communication System: GSM GPRS8; Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.555 S/m; ε_r = 53.186; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0451 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.144 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.0690 W/kg
SAR(1 g) = 0.041 W/kg; SAR(10 g) = 0.022 W/kg
Maximum value of SAR (measured) = 0.0566 W/kg



Test Mode: WCDMA Band II, GSM, CH 9262, Front Face

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P19 WCMDA_B2_Front Face_0.5cm_Ch9262

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.484 S/m; ε_r = 53.341; ρ = 1000 kg/m^3

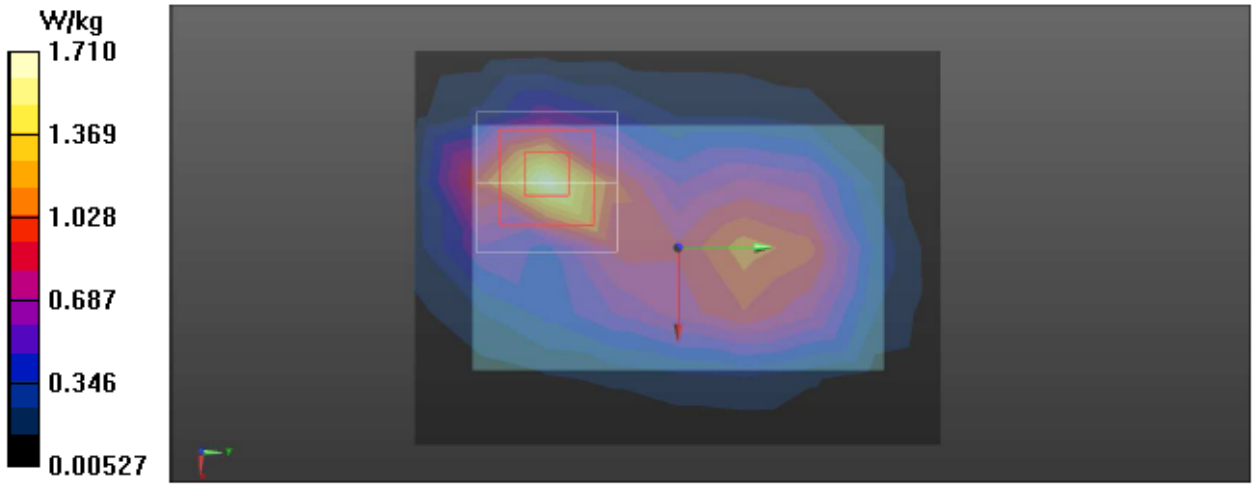
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.71 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.880 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 2.14 W/kg
SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.621 W/kg
Maximum value of SAR (measured) = 1.69 W/kg



Test Mode: WCDMA Band II, GSM, CH 9262, Rear Face Side

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P20 WCMDA_B2_Rear Face_0.5cm_Ch9262.

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.484 S/m; ε_r = 53.341; ρ = 1000 kg/m^3

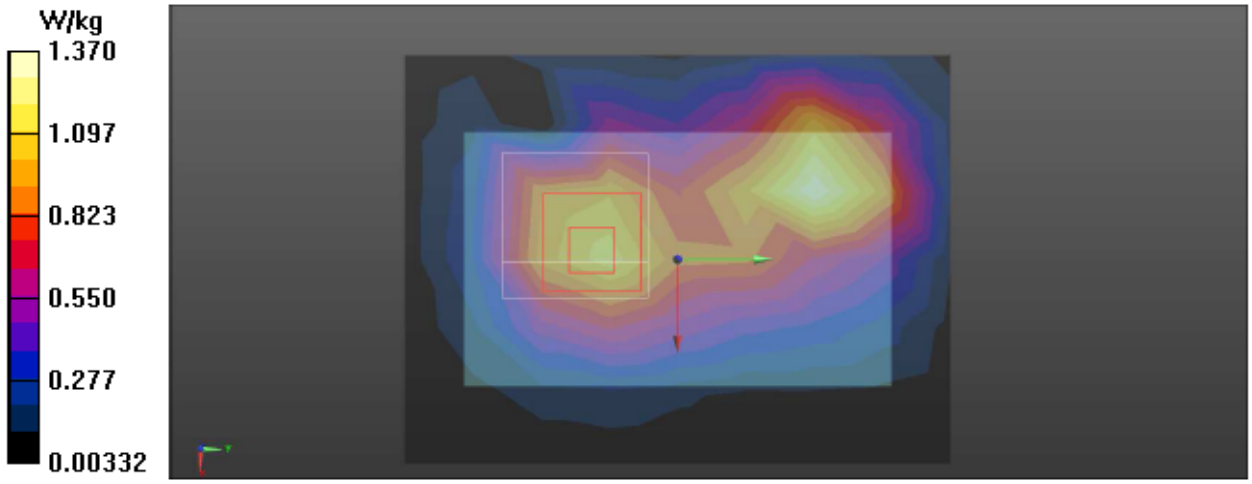
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.37 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.055 V/m; Power Drift = -0.31 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.957 W/kg; SAR(10 g) = 0.613 W/kg
Maximum value of SAR (measured) = 1.20 W/kg



Test Mode: WCDMA Band II, GSM, CH 9262, Left Side

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P21 WCMDA_B2_Left Side_0.5cm_Ch9262.

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.484 S/m; ε_r = 53.341; ρ = 1000 kg/m^3

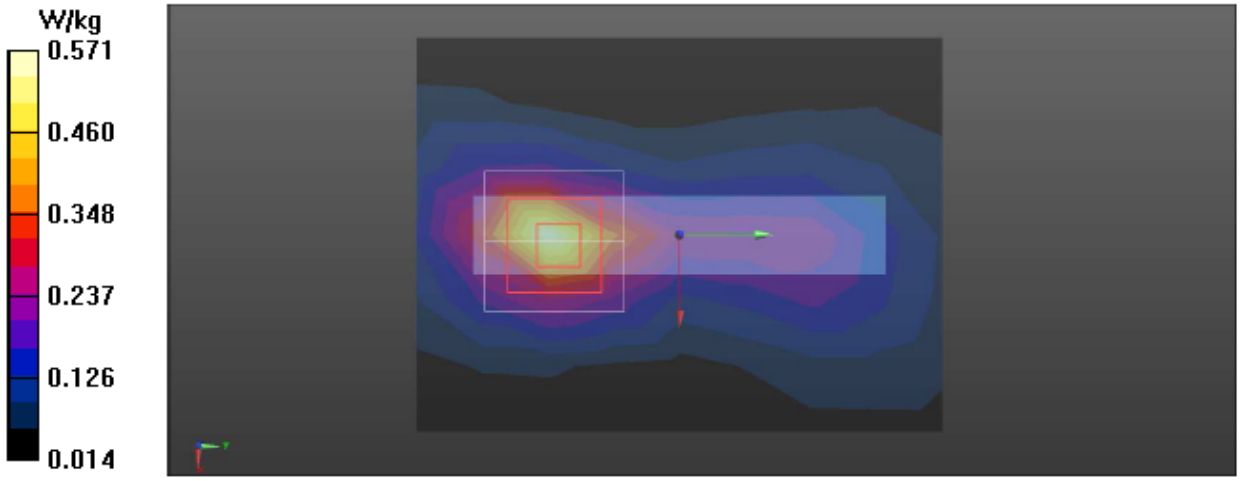
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.571 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.342 V/m; Power Drift = -0.34 dB
Peak SAR (extrapolated) = 0.570 W/kg
SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.202 W/kg
Maximum value of SAR (measured) = 0.469 W/kg



Test Mode: WCDMA Band II, GSM, CH 9262, Right Side

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P22 WCMDA_B2_Right Side_0.5cm_Ch9262

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.484 S/m; ε_r = 53.341; ρ = 1000 kg/m^3

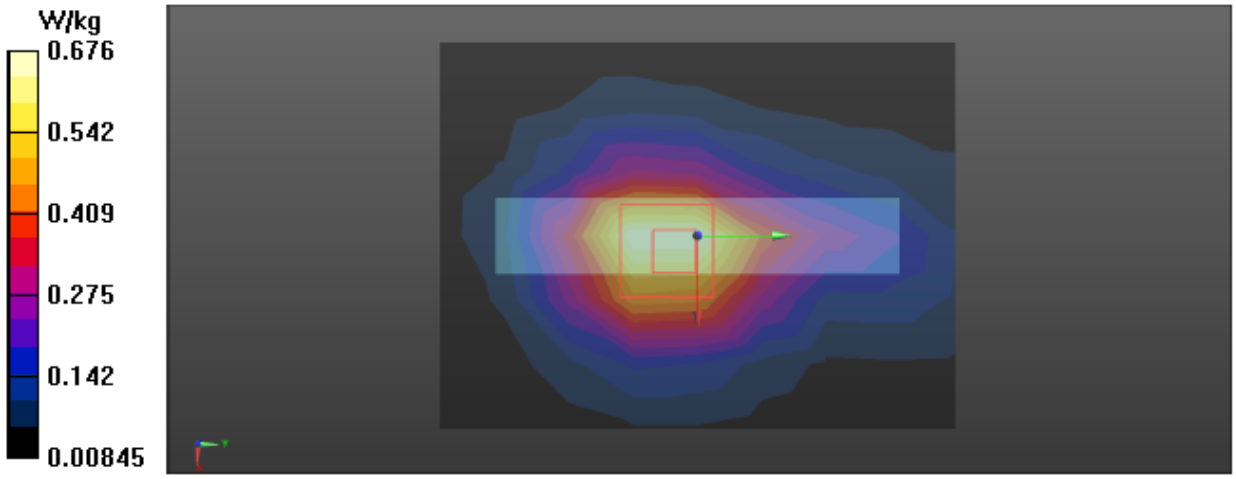
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.676 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.164 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.820 W/kg
SAR(1 g) = 0.549 W/kg; SAR(10 g) = 0.339 W/kg
Maximum value of SAR (measured) = 0.700 W/kg



Test Mode: WCDMA Band II, GSM, CH 9262, Top Side

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P23 WCMDA_B2_Top Side_0.5cm_Ch9262

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.484 S/m; ε_r = 53.341; ρ = 1000 kg/m^3

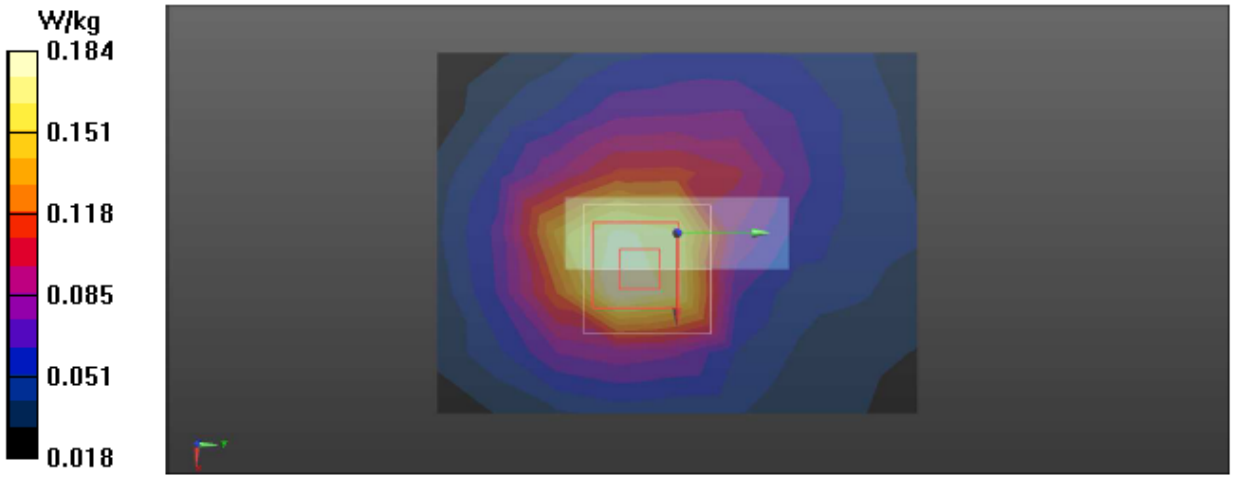
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.184 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.766 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.269 W/kg
SAR(1 g) = 0.172 W/kg; SAR(10 g) = 0.104 W/kg
Maximum value of SAR (measured) = 0.226 W/kg



Test Mode: WCDMA Band II, GSM, CH 9262, Bottom Side

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P24 WCMDA_B2_Buttom Side_0.5cm_Ch9262

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 1852.4 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.484 S/m; ε_r = 53.341; ρ = 1000 kg/m^3

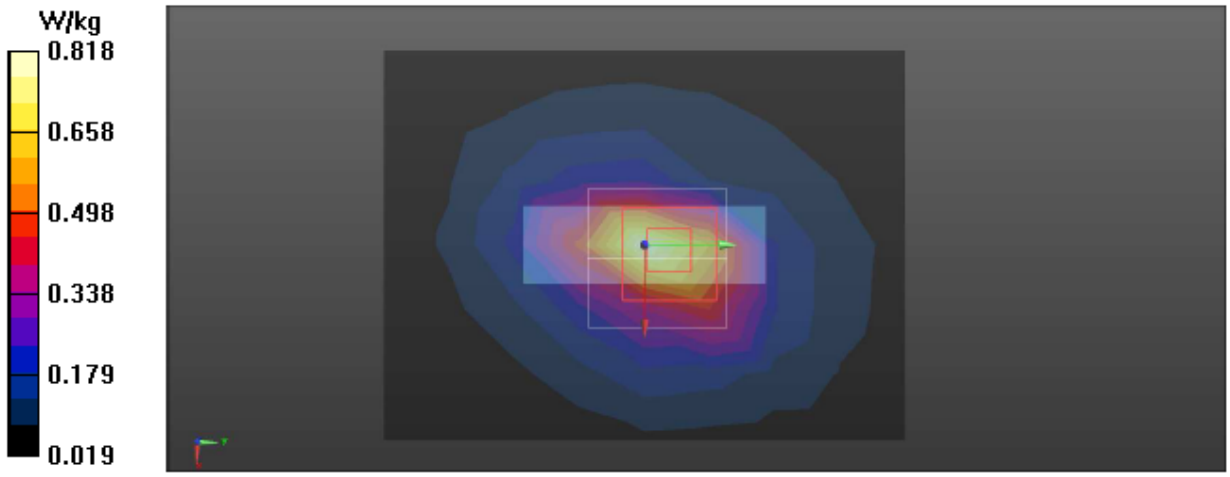
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.818 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.878 V/m; Power Drift = -0.36 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.627 W/kg; SAR(10 g) = 0.330 W/kg
Maximum value of SAR (measured) = 0.828 W/kg



Test Mode: WCDMA Band II, GSM, CH 9400, Front Face

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P25 WCMDA_B2_Front Face_0.5cm_Ch9400

DUT: M5350

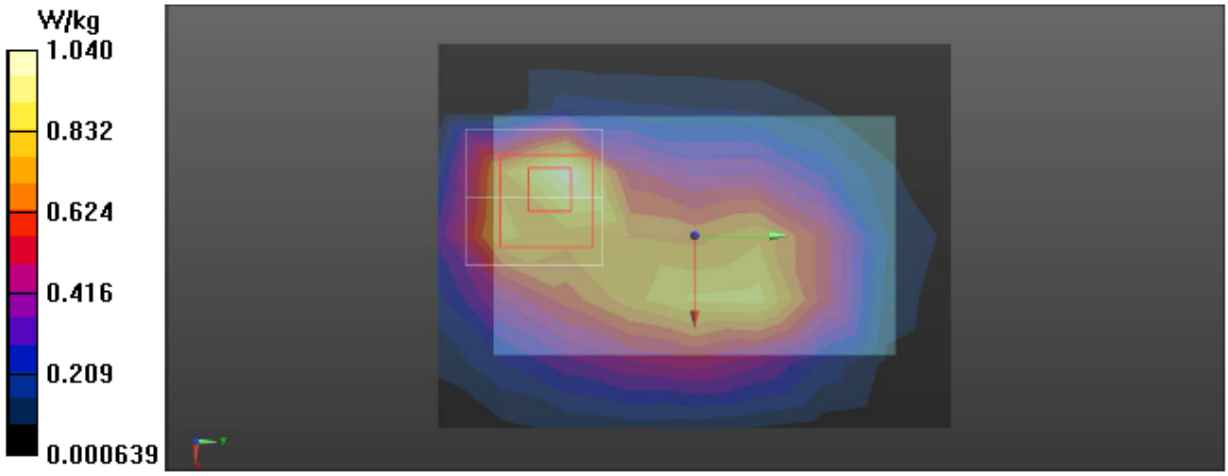
Communication System: UMTS-FDD (WCDMA); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.517 S/m; ε_r = 53.248; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.04 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.773 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 2.09 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.487 W/kg
Maximum value of SAR (measured) = 1.36 W/kg



Test Mode: WCDMA Band II, GSM, CH 9538, Front Face

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P26 WCMDA_B2_Front Face_0.5cm_Ch9538

DUT: M5350

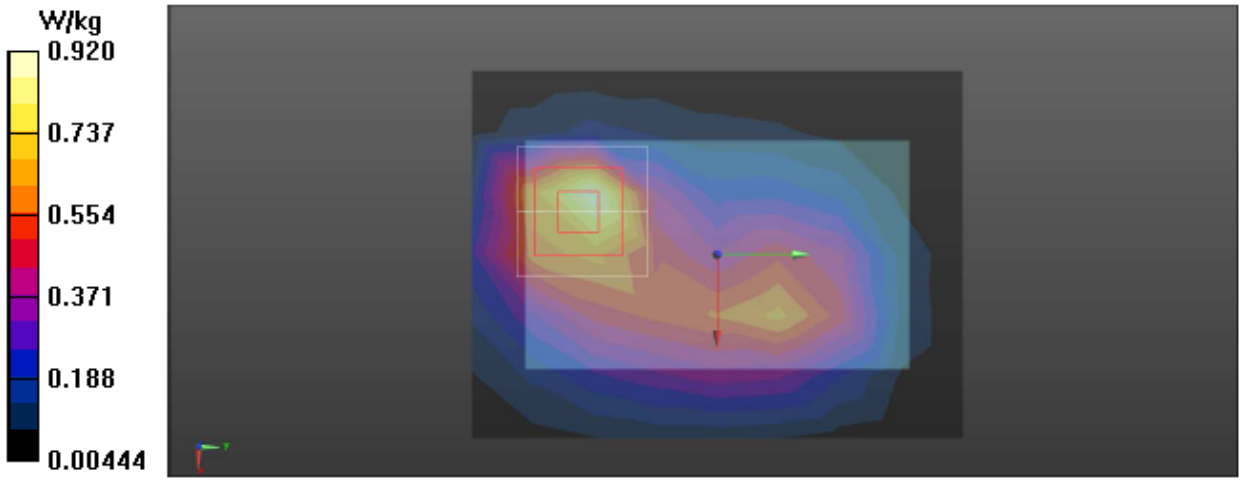
Communication System: UMTS-FDD (WCDMA); Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.552 S/m; ε_r = 53.188; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.920 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.145 V/m; Power Drift = -0.27 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.783 W/kg; SAR(10 g) = 0.403 W/kg
Maximum value of SAR (measured) = 1.12 W/kg



Test Mode: WCDMA Band II, GSM, CH 9400, Rear Face

Date/Time: 8/27/2014

Test Laboratory: Audix_SAR Lab

P27 WCMDA_B2_Rear Face_0.5cm_Ch9400.

DUT: M5350

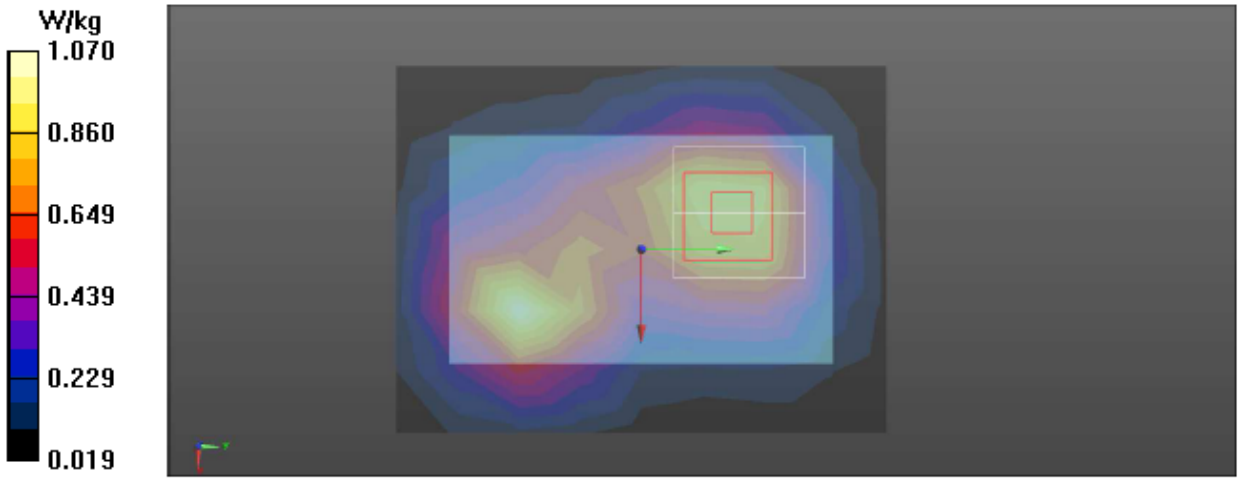
Communication System: UMTS-FDD (WCDMA); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.517 S/m; ε_r = 53.248; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.07 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.426 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.806 W/kg; SAR(10 g) = 0.511 W/kg
Maximum value of SAR (measured) = 1.01 W/kg



Test Mode: WCDMA Band II, GSM, CH 9538, Rear Face

Date/Time: 8/27/2014 PM 06:31:53

Test Laboratory: Audix_SAR Lab

P28 WCMDA_B2_Rear Face_0.5cm_Ch9538.

DUT: M5350

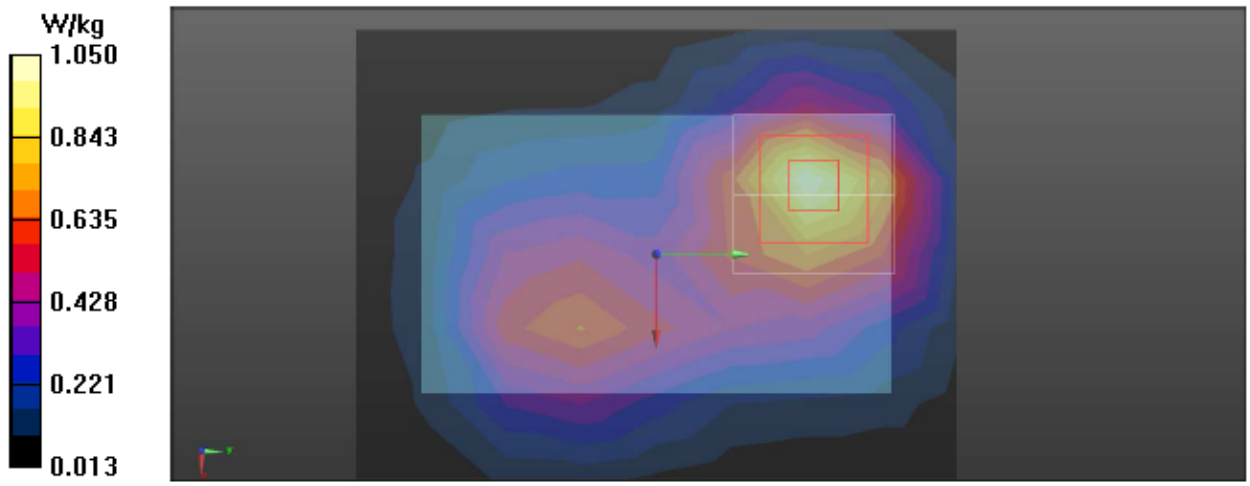
Communication System: UMTS-FDD (WCDMA); Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.552 S/m; ε_r = 53.188; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(8.02, 8.02, 8.02); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.05 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.152 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.780 W/kg; SAR(10 g) = 0.445 W/kg



Test Mode: WCDMA Band V, GSM, CH 4132, Front Face

Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

P29 WCMDA_B5_Front Face_0.5cm_Ch4132

DUT: M5350

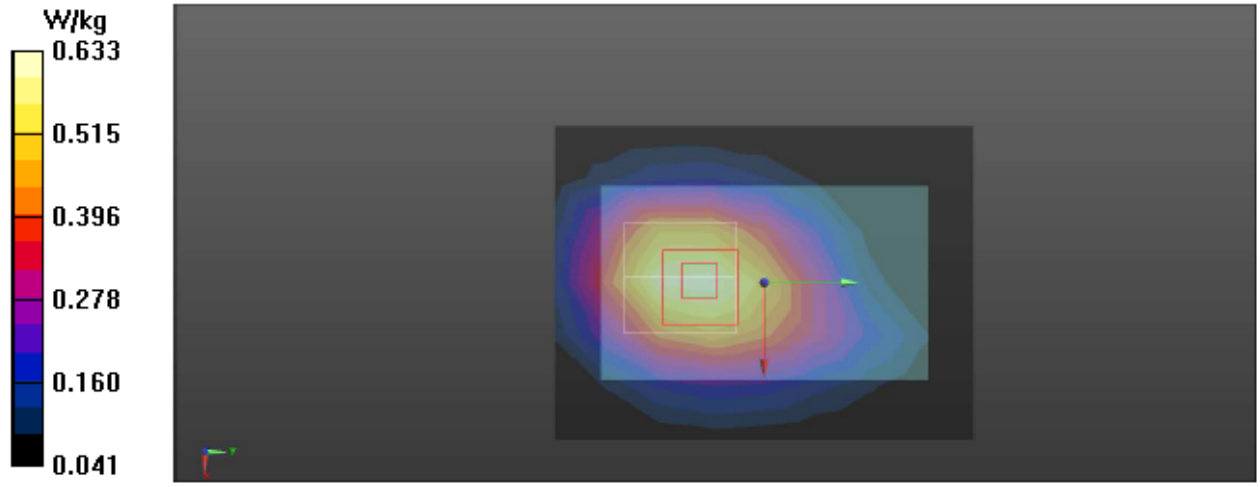
Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 S/m; ε_r = 53.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.623 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.075 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.753 W/kg
SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.372 W/kg
Maximum value of SAR (measured) = 0.633 W/kg



Test Mode: WCDMA Band V, GSM, CH 4132, Rear Face Side

Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

P30 WCMDA_B5_Rear Face_0.5cm_Ch4132

DUT: M5350

Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 S/m; ε_r = 53.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

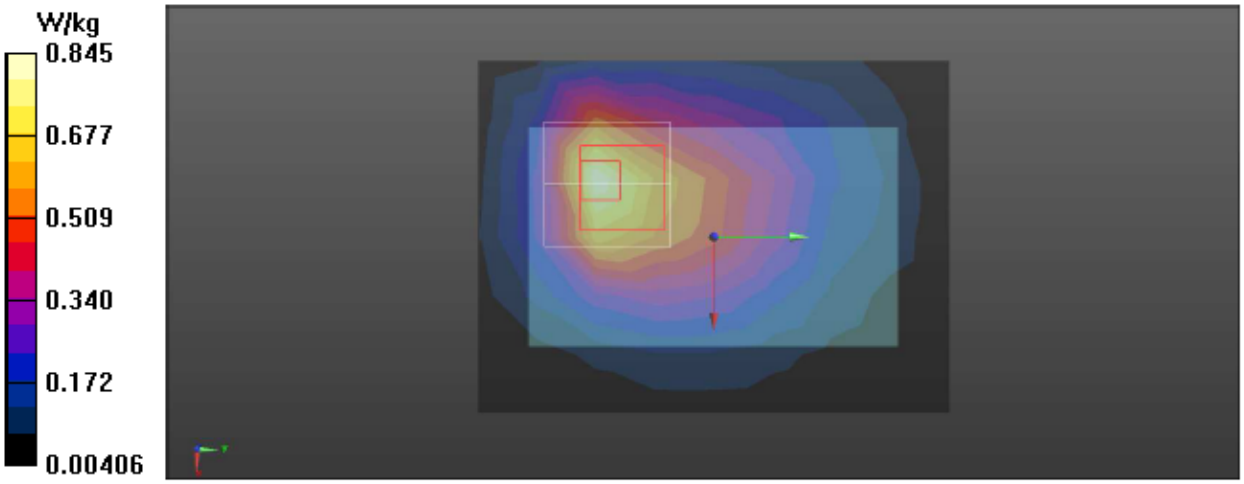
- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.845 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.389 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.408 W/kg

Maximum value of SAR (measured) = 0.801 W/kg



Test Mode: WCDMA Band V, GSM, CH 4132, Left Side

Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

P31 WCMDA_B5_Left Side_0.5cm_Ch4132

DUT: M5350

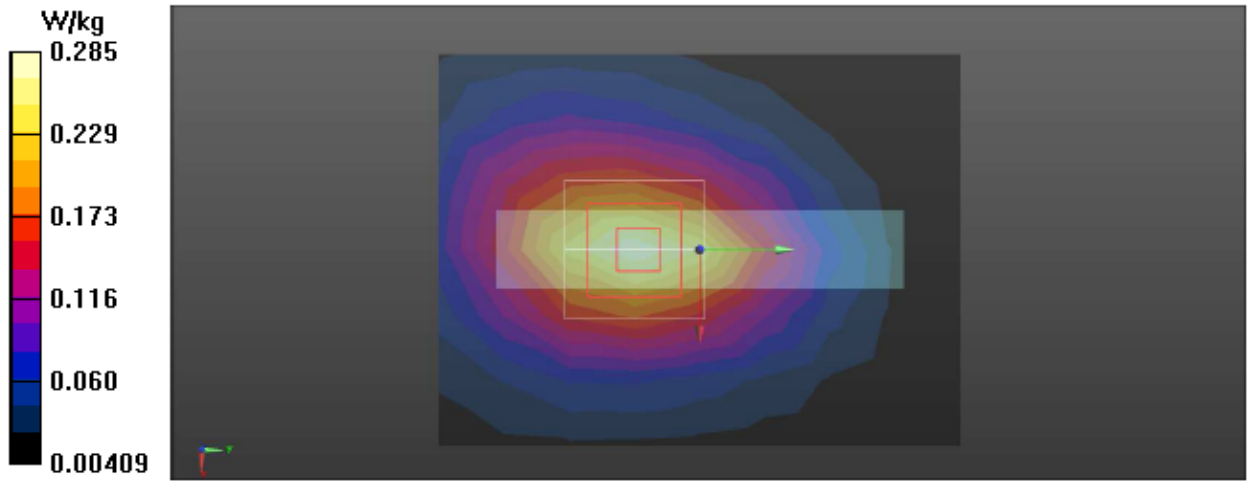
Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 S/m; ε_r = 53.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.285 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.072 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.331 W/kg
SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.151 W/kg
Maximum value of SAR (measured) = 0.280 W/kg



Test Mode: WCDMA Band V, GSM, CH 4132, Right Side

Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

P32 WCMDA_B5_Right Side_0.5cm_Ch4132

DUT: M5350

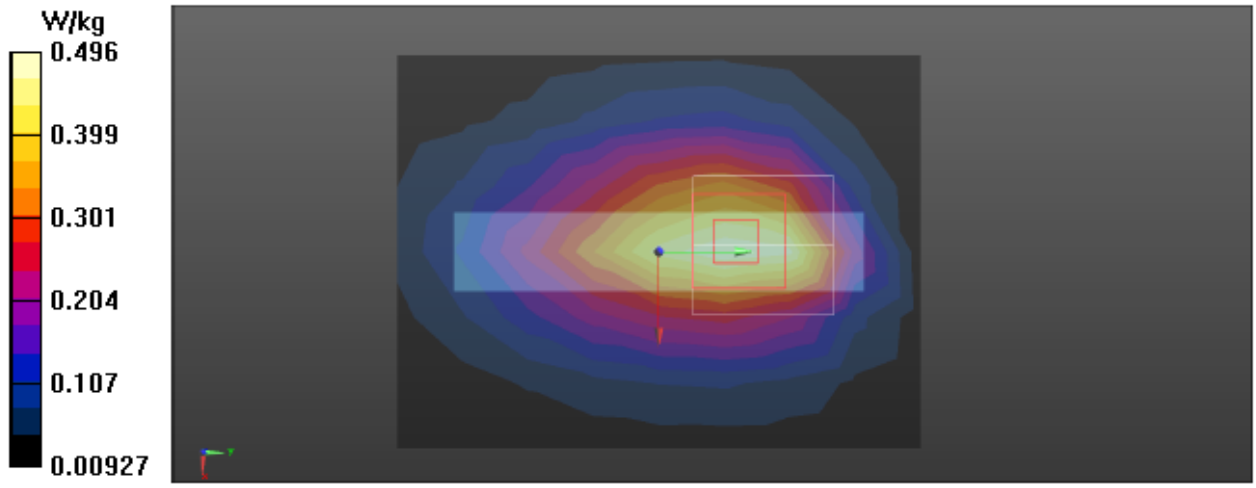
Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 S/m; ε_r = 53.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.496 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.777 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.641 W/kg
SAR(1 g) = 0.412 W/kg; SAR(10 g) = 0.268 W/kg
Maximum value of SAR (measured) = 0.516 W/kg



Test Mode: WCDMA Band V, GSM, CH 4132, Top Side

Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

P33 WCMDA_B5_Top Side_0.5cm_Ch4132

DUT: M5350

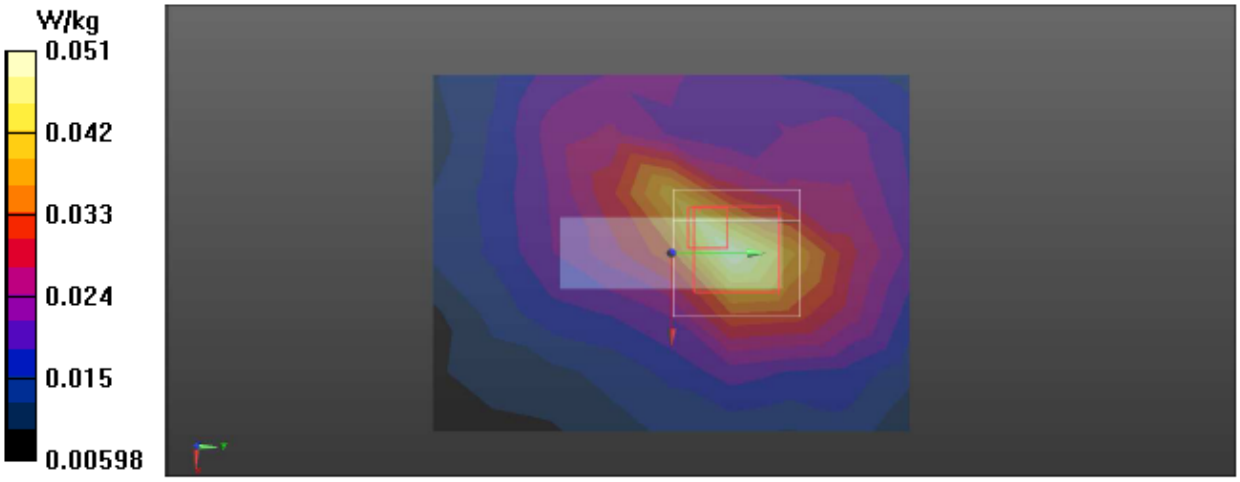
Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 S/m; ε_r = 53.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0513 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.573 V/m; Power Drift = 0.30 dB
Peak SAR (extrapolated) = 0.0780 W/kg
SAR(1 g) = 0.042 W/kg; SAR(10 g) = 0.026 W/kg
Maximum value of SAR (measured) = 0.0607 W/kg



Test Mode: WCDMA Band V, GSM, CH 4132, Bottom Side

Date/Time: 8/28/2014

Test Laboratory: Audix_SAR Lab

P34 WCMDA_B5_Buttom Side_0.5cm_Ch4132

DUT: M5350

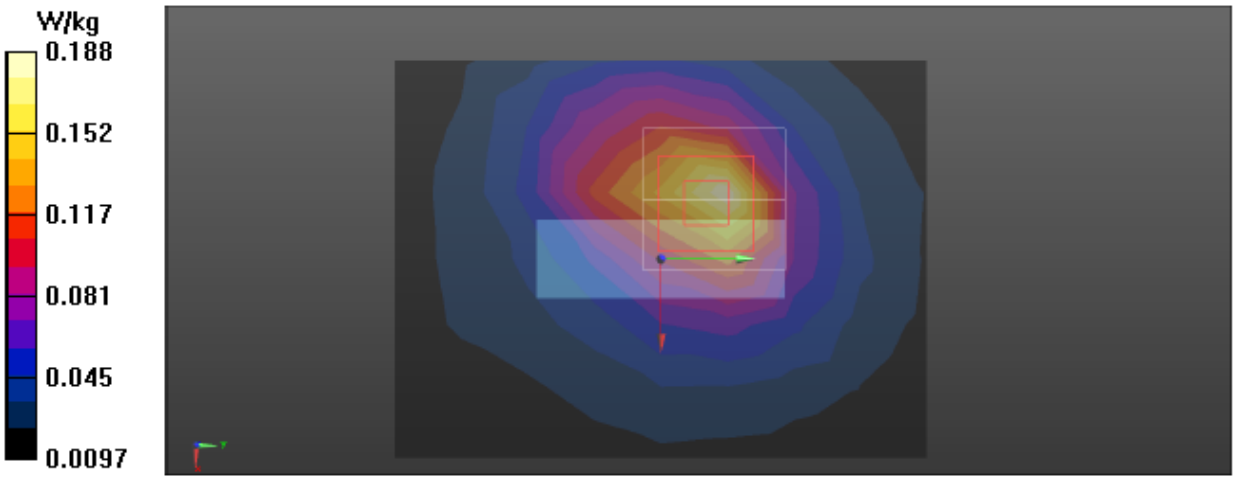
Communication System: UMTS-FDD (WCDMA); Frequency: 826.4 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 S/m; ε_r = 53.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.73, 9.73, 9.73); Calibrated: 9/26/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 9/23/2013
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/-/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.188 W/kg

Configuration/-/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.071 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.251 W/kg
SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.090 W/kg
Maximum value of SAR (measured) = 0.208 W/kg



6.8. Simultaneous Multi-band Transmission Evaluation

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR1g is greater than the SAR limit (SAR1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

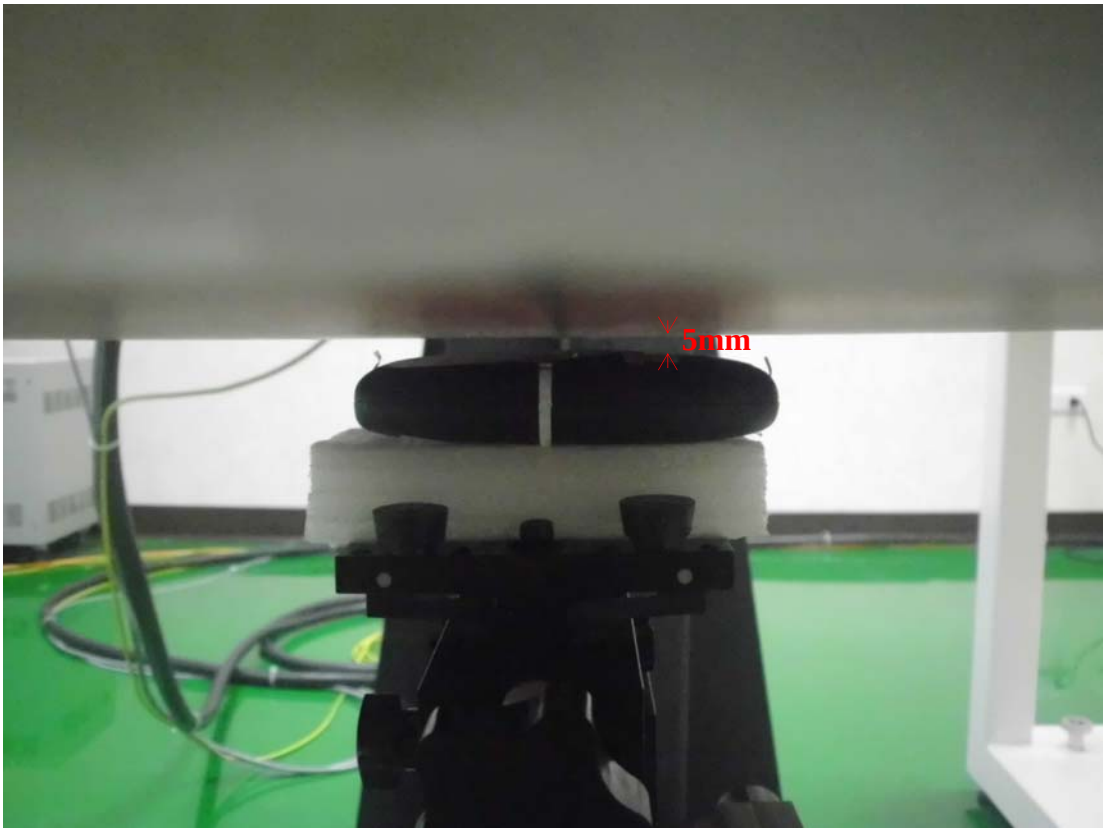
Max WLAN SAR 1g	Max GPRS SAR 1g	Total SAR 1g
0.48 W/kg (Rear Face)	0.321 W/kg (Rear Face)	0.801 W/kg
Remark: 1.Pursuant to KDB447 498 D01 section 4.3.2, the sum of all simultaneously transmitting SAR is <1.6W/kg that simultaneous transmission SAR is not required. 2. The total SAR is calculated from maximum WLAN SAR and maximum GPRS SAR in the same side.		

Max WLAN SAR 1g	WCDMA SAR 1g	Total SAR 1g
0.48 W/kg (Rear Face)	0.957 W/kg (Rear Face)	1.437 W/kg
Remark: 1.Pursuant to KDB447 498 D01 section 4.3.2, the sum of all simultaneously transmitting SAR is <1.6W/kg that simultaneous transmission SAR is not required. 2. The total SAR is calculated from maximum WLAN SAR and WCDMA SAR in the same side.		

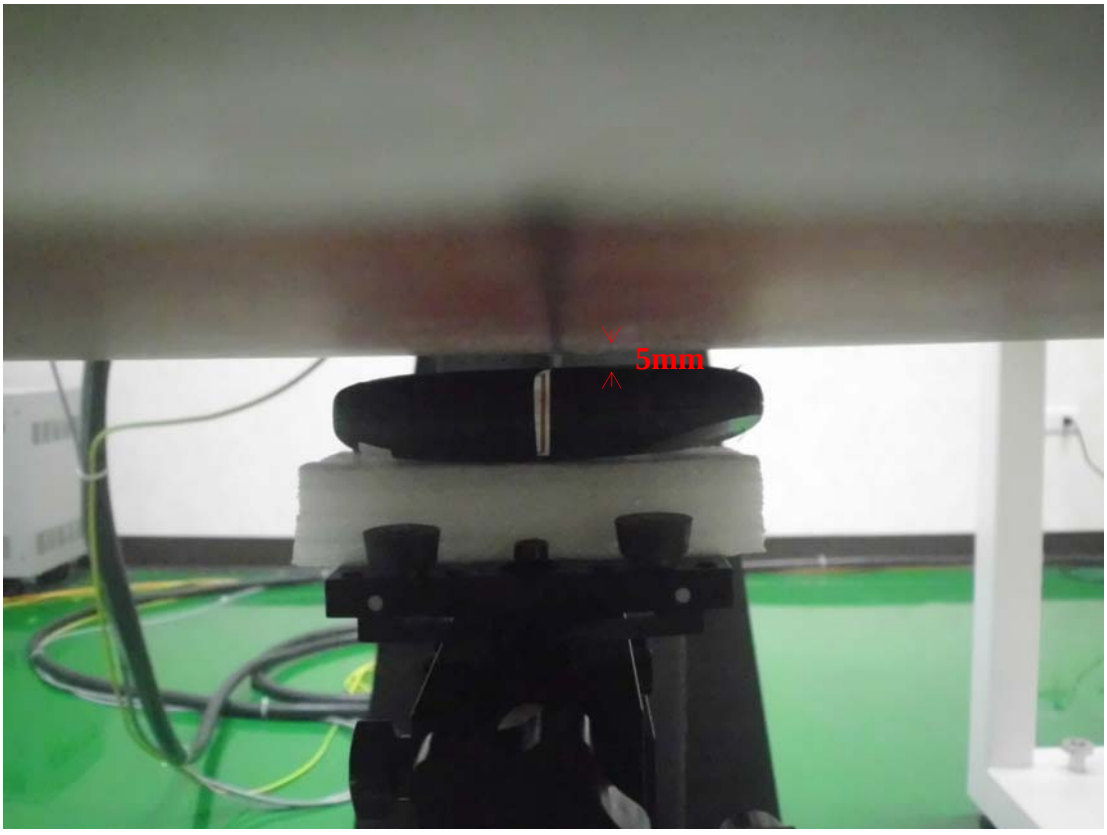
WLAN SAR 1g	Max WCDMA SAR 1g	Total SAR 1g
0.333 W/kg (Front Face)	1.19 W/kg (Front Face)	1.523 W/kg
Remark: 1.Pursuant to KDB447 498 D01 section 4.3.2, the sum of all simultaneously transmitting SAR is <1.6W/kg that simultaneous transmission SAR is not required. 2. The total SAR is calculated from WLAN SAR and maximum WCDMA SAR in the same side.		

7. PHOTOGRAPHS OF MEASUREMENT

Test Position: Front Face



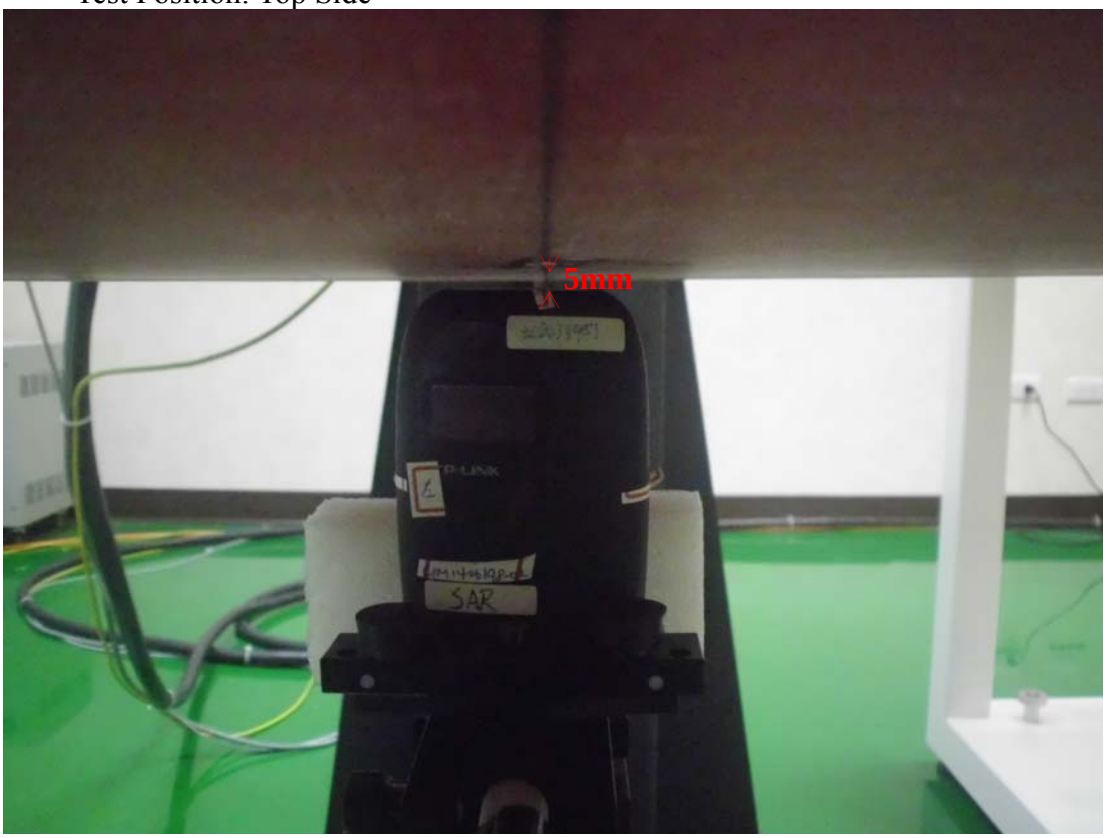
Test Position: Rear Face



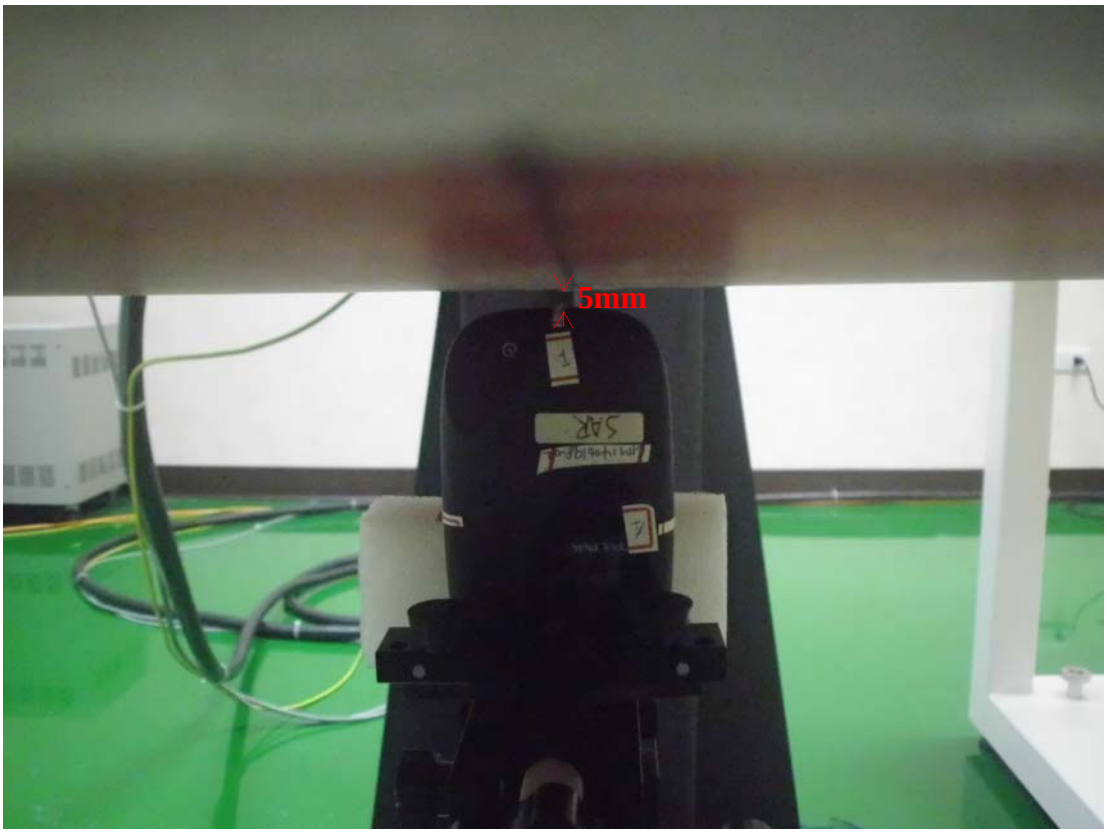
Test Position: Left Side

Test Position: Right Side

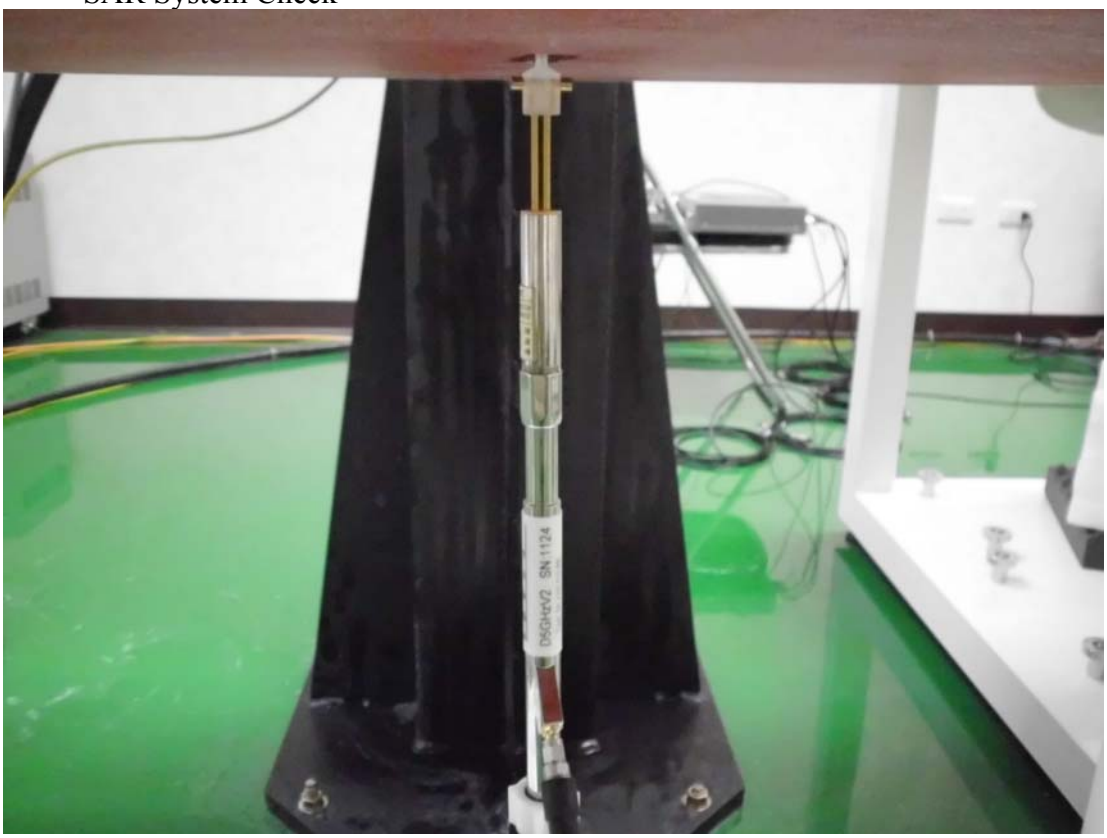
Test Position: Top Side



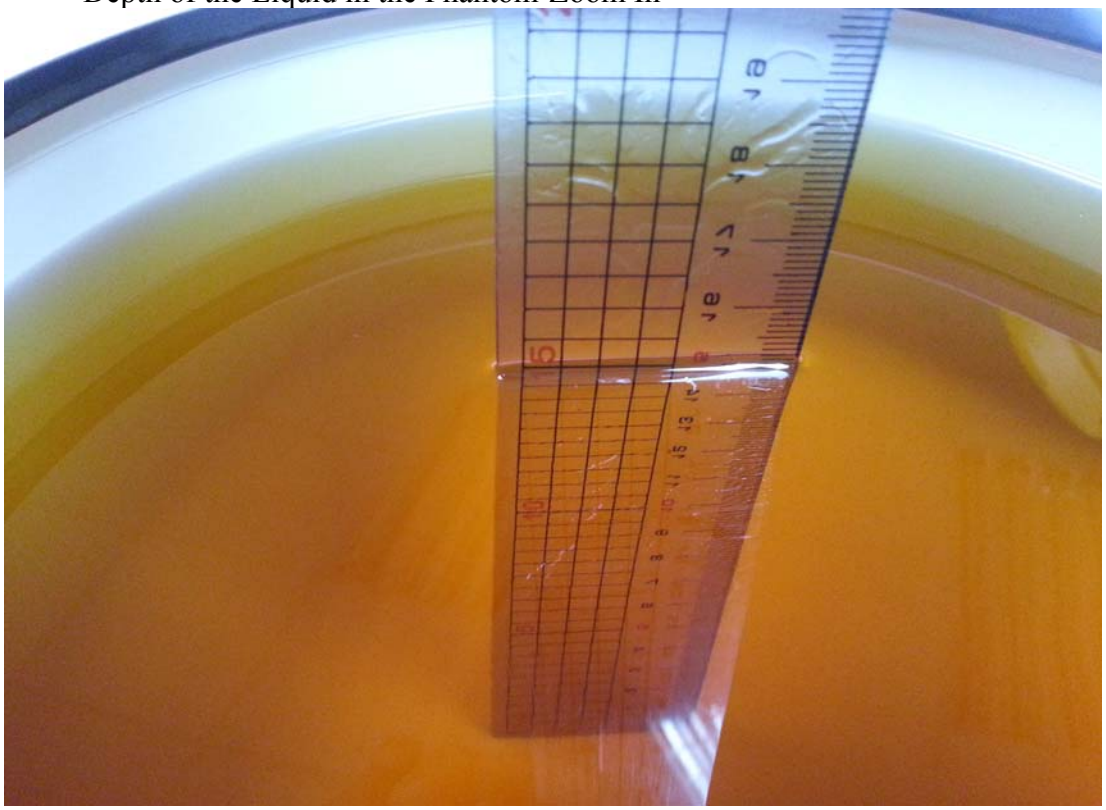
Test Position: Bottom Side



SAR System Check



Depth of the Liquid in the Phantom-Zoom In



APPENDIX I

Test Equipment Calibration Data