SAR TEST REPORT

Test report No:	**EMC-FCC-A0005**
Type of Equipment:	**WiFi Phone**
Model Name:	**MWP1100A**
Applicant:	**Moimstone.co.,Ltd**
FCCID:	**2AAKFMWP1100A**
Test standards:	**FCC OET Bulletin 6 supplement C** **IEEE 1528 ,2003** **IEC 62209 :2006/IEC62209-2 :2010** **RSS-102**
Max. SAR(1g)	**0.243 W/kg**
Test result:	**Complied**

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

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

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Date of receipt: 2013. 06. 11

Date of testing: 2013. 06.24 ~ 06. 29

Issued date: 2013. 07. 02

Tested by: Chang-won, Lee

Approved by: Sang-Hun, Yu

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1. Applicant information

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2. Laboratory information

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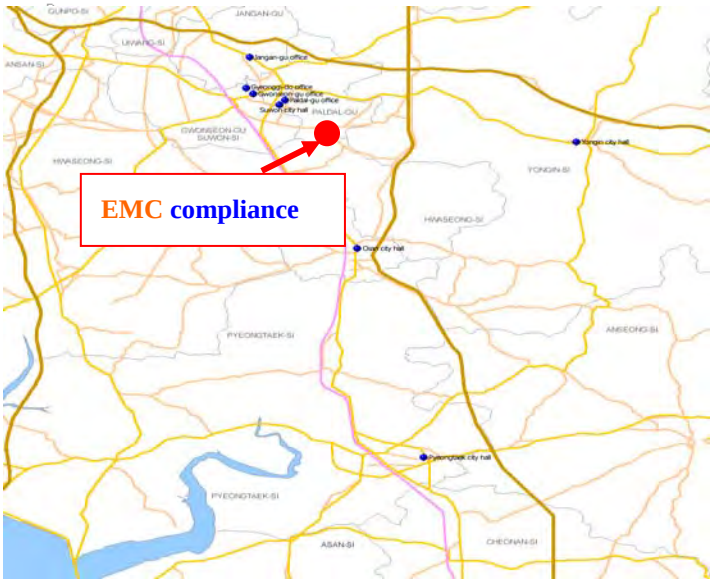
FCC CAB.: 508785
VCCI Registration No. : C-1713, R-1606, T-258
Industry Canada Registration No. : 8035A-2
KOLAS NO.: 231

SITE MAP



3. Identification of Sample

Mode of Operation	802.11a/b/g/n(HT20)
Model Number	MWP1100A
Serial Number	N/A
Sample Version	V.1.0.0
Tx Freq.Range	2 412 MHz ~ 2 462 MHz / 5 180 MHz ~ 5 240 MHz 5 260 MHz ~ 5 320 MHz / 5 500 MHz ~ 5 700 MHz 5 745 MHz ~ 5 825 MHz
Rx Freq.Range	2 412 MHz ~ 2 462 MHz / 5 180 MHz ~ 5 240 MHz 5 260 MHz ~ 5 320 MHz / 5 500 MHz ~ 5 700 MHz 5 745 MHz ~ 5 825 MHz
Maximum AVG Conducted Power (Unit : dBm)	802.11b(2.4G band) – 14.48 dBm 802.11a(5150 band) – 12.42 dBm 802.11a(5250 band) – 12.82 dBm 802.11a(5470 band) – 12.72 dBm 802.11a(5745 band) – 17.52 dBm
Antenna Dimensions	43.70 x 10.17 x 7.23(mm)
Antenna Gain	2.11 dBi
Normal Voltae	DC 3.7 V

4.Test Result Summary

Band & Mode	AVG Power (dBm)	Max tune up power (dBm)	Traffic Channel		Measured 1 g SAR (W/kg)	Reported 1g SAR (W/kg)	Limit (W/kg)
			Frequency (MHz)	Ch.			
802.11b RE. Cheek	13.97	15	2 437	6	0.050	0.063	1.6
802.11a RE. Cheek	12.82	13	5 300	60	**0.233**	**0.243**	1.6
802.11b Back	13.97	15	2 437	6	0.035	0.044	1.6
802.11a Back	12.82	13	5 300	60	0.157	0.164	1.6

* Contain the results of the worst test SAR including battery.
* Reported SAR = (measured SAR) x [max possible power(mW) / sample measured power(mW)]

5. Report Overview

This report details the results of testing carried out on the samples listed in section 3, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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6. Test Lab Declaration or comments

None

7. Applicant Declaration or Comments

None

8. Measurement Uncertainty

Measurements and results are all in compliance with the standards listed in section 15 of this report. All measurements and results are recorded and maintained at the laboratory performing the tests and measurement uncertainties are taken into account when comparing measurements to pass / fail criteria.

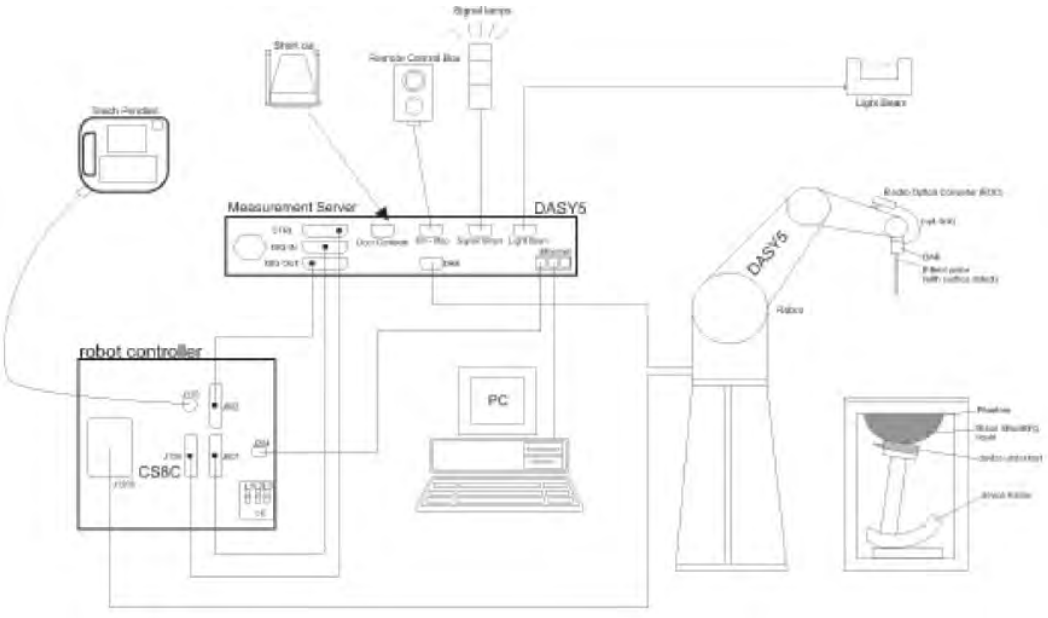
Uncertainty of SAR equipments for measurement 300 MHz to 3GHz

a	b	c	d	e = f(d,k)	g	i = cxg/e	k
Uncertainty Component	Section in P1528	Tol (%)	Prob . Dist.	Div.	Ci (10g)	1g ui (%)	Vi (Veff)
Measurement System							
Probe calibration	E.2.1	6.30	N	1	1	6.30	∞
Axial isotropy	E.2.2	0.50	R	1.73	0.71	0.20	∞
hemispherical isotropy	E.2.2	2.60	R	1.73	0.71	1.06	∞
Boundary effect	E.2.3	0.80	R	1.73	1	0.46	∞
Linearity	E.2.4	0.60	R	1.73	1	0.35	∞
System detection limit	E.2.5	0.25	R	1.73	1	0.14	∞
Readout electronics	E.2.6	0.30	N	1	1	0.30	∞
Response time	E.2.7	0.00	R	1.73	1	0.00	∞
Integration time	E.2.8	2.60	R	1.73	1	1.50	∞
RF ambient Condition -Noise	E.6.1	3.00	R	1.73	1	1.73	∞
RF ambient Condition - reflections	E.6.1	3.00	R	1.73	1	1.73	∞
Probe positioning- mechanical tolerance	E.6.2	0.40	R	1.73	1	0.23	∞
Probe positioning- with respect to phantom	E.6.3	2.90	R	1.73	1	1.67	∞
Max. SAR evaluation	E.5.2	2.00	R	1.73	1	1.15	∞
Test Sample Related							
Test sample positioning	E.4.2	4.75	N	1	1	4.75	9
Device holder uncertainty	E.4.1	3.60	N	1	1	3.60	∞
Output power variation -SAR drift measurement	6.62	5.00	R	1.73	1	2.89	∞
Phantom and Setup							
Phantom uncertainty (shape and thickness tolerances)	E.3.1	6.10	R	1.73	1	3.52	∞
Liquid conductivity - deviation from target values	E.3.2	5.00	R	1.73	0.43	1.24	∞
Liquid conductivity - measurement uncertainty	E.3.2	0.46	N	1	0.43	0.20	5
Liquid permittivity - deviation from target values	E.3.3	5.00	R	1.73	0.49	1.41	∞
Liquid permittivity - measurement uncertainty	E.3.3	0.75	N	1	0.49	0.37	5
Combined standard uncertainty				RSS		10.66	244
Expanded uncertainty (95% CONFIDENCE INTERVAL)				K=2		21.33	

Uncertainty of SAR equipments for measurement 3 GHz to 6GHz

a	b	c	d	e = f(d,k)	g	i = cxg/e	k
Uncertainty Component	Section in P1528	Tol (%)	Prob . Dist.	Div.	Ci (10g)	1g ui (%)	Vi (Veff)
Measurement System							
Probe calibration	E.2.1	6.50	N	1	1	6.50	∞
Axial isotropy	E.2.2	0.50	R	1.73	0.71	0.20	∞
hemispherical isotropy	E.2.2	2.60	R	1.73	0.71	1.06	∞
Boundary effect	E.2.3	1.80	R	1.73	1	1.04	∞
Linearity	E.2.4	0.60	R	1.73	1	0.35	∞
System detection limit	E.2.5	1.00	R	1.73	1	0.58	∞
Readout electronics	E.2.6	0.30	N	1	1	0.30	∞
Response time	E.2.7	0.80	R	1.73	1	0.46	∞
Integration time	E.2.8	2.60	R	1.73	1	1.50	∞
RF ambient Condition -Noise	E.6.1	3.00	R	1.73	1	1.73	∞
RF ambient Condition - reflections	E.6.1	3.00	R	1.73	1	1.73	∞
Probe positioning- mechanical tolerance	E.6.2	0.80	R	1.73	1	0.46	∞
Probe positioning- with respect to phantom	E.6.3	9.90	R	1.73	1	5.72	∞
Max. SAR evaluation	E.5.2	4.00	R	1.73	1	2.31	∞
Test Sample Related							
Test sample positioning	E.4.2	5.30	N	1	1	5.30	9
Device holder uncertainty	E.4.1	3.60	N	1	1	3.60	∞
Output power variation -SAR drift measurement	6.62	5.00	R	1.73	1	2.89	∞
Phantom and Setup							
Phantom uncertainty (shape and thickness tolerances)	E.3.1	4.00	R	1.73	1	2.31	∞
Liquid conductivity - deviation from target values	E.3.2	5.00	R	1.73	0.43	1.24	∞
Liquid conductivity - measurement uncertainty	E.3.2	0.97	N	1	0.43	0.42	5
Liquid permittivity - deviation from target values	E.3.3	5.00	R	1.73	0.49	1.41	∞
Liquid permittivity - measurement uncertainty	E.3.3	0.39	N	1	0.49	0.19	5
Combined standard uncertainty				RSS		12.25	244
Expanded uncertainty (95% CONFIDENCE INTERVAL)				K=2		24.51	

9. The SAR Measurement System



<SAR System Configuration>

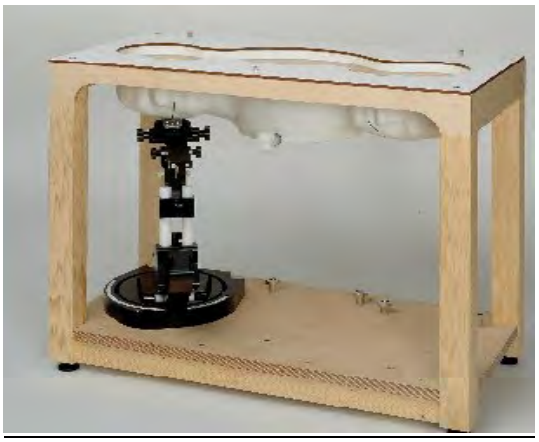
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- Data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.
-

9.1 Isotropic E-field Probe EX3DV4

<EX3DV4 E-field Probe>

Construction	:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g. DGBE).
Calibration	:	In air from 10 MHz to 6 GHz In brain simulating tissue (accuracy ± 6.3 %)
Frequency	:	10 MHz to > 6 GHz; Linearity: ±0.2 dB (30 MHz to 6 GHz)
Directivity	:	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal to probe axis)
Dynamic Range	:	5 µW/g to >100 mW/g; Linearity: ±0.2 dB
Srfce. Detect	:	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions	:	Overall length: 337 mm Tip length: 9 mm Body diameter: 10 mm Tip diameter: 2.5 mm Distance from probe tip to dipole centers: 2 mm
Application	:	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing frequencies up to 6 GHz with precision of better 30%.

9.2 SAM Twin Phantom



<SAM Twin Phantom>

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:

• Left head

• Right head

• Flat phantom

A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on the cover are possible.

On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

Phantom specification:

Description The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-2003, IEC 62209-1 and IEC 62209-2. 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.

Shell Thickness 2 + 0.2 mm, Center ear point: 6 + 0.2 mm

Filling Volume Approx.25 liters

Dimensions Length: 1000 mm, Width: 500 mm, Height: 850 mm

9.3 Device Holder for Transmitters

<Device Holder for Transmitters>

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source in 5mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. An accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions, in which the devices must be measured, are defined by the standards.

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity = 3 and loss tangent = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

10. Measurement for Tissue Simulant Liquid

The dielectric properties for this Tissue Simulant Liquids were measured by using the Agilent Model 85070D Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjunction with Agilent E5070B Network Analyzer (9 kHz -3000 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in Table 1.For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was (22 ± 2) °C

Frequency (MHz)	Tissue Type	Limit/Measured	Permittivity (ρ)	Conductivity (σ)	Temp (°C)
2450	Head	Recommended Limit	39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
		Measured, 24-06, 2013	37.61	1.83	20.8
5500	Head	Recommended Limit	35.65 ± 5 % (33.87 ~ 37.43)	4.97 ± 5 % (4.72 ~ 5.22)	22 ± 2
		Measured, 25-06, 2013	34.93	4.90	20.7
5600	Head	Recommended Limit	35.50 ± 5 % (33.73 ~ 37.28)	5.07 ± 5 % (4.82 ~ 5.32)	22 ± 2
		Measured, 25-06, 2013	34.70	5.03	20.7
5800	Head	Recommended Limit	35.30 ± 5 % (33.54 ~ 37.07)	5.27 ± 5 % (5.01 ~ 5.53)	22 ± 2
		Measured, 25-06, 2013	34.20	5.25	20.7
5200	Head	Recommended Limit	36.00 ± 5 % (34.20 ~ 37.80)	4.66 ± 5 % (4.43 ~ 4.89)	22 ± 2
		Measured, 25-06, 2013	35.57	4.57	20.7
5300	Head	Recommended Limit	35.90 ± 5 % (34.11 ~ 37.70)	4.76 ± 5 % (4.52 ~ 5.00)	22 ± 2
		Measured, 25-06, 2013	35.34	4.68	20.7
2450	Body	Recommended Limit	52.70 ± 5 % (50.07 ~ 55.34)	1.95 ± 5 % (1.85 ~ 2.05)	22 ± 2
		Measured, 26-06, 2013	51.46	2.02	21.1
5500	Body	Recommended Limit	48.61 ± 5 % (46.18 ~ 51.04)	5.65 ± 5 % (5.37 ~ 5.93)	22 ± 2
		Measured, 27-06, 2013	47.17	5.70	20.6
5600	Body	Recommended Limit	48.47 ± 5 % (46.05 ~ 50.89)	5.77 ± 5 % (5.48 ~ 6.06)	22 ± 2
		Measured, 27-06, 2013	47.04	5.86	20.6
5800	Body	Recommended Limit	48.20 ± 5 % (45.79 ~ 50.61)	6.00 ± 5 % (5.7 ~ 6.30)	22 ± 2
		Measured, 27-06, 2013	46.68	60.24	20.6
5200	Body	Recommended Limit	49.01 ± 5 % (46.56 ~ 51.46)	5.30 ± 5 % (5.01 ~ 5.53)	22 ± 2
		Measured, 28-06, 2013	47.91	5.27	20.6
5300	Body	Recommended Limit	48.88 ± 5 % (46.44 ~ 51.32)	5.42 ± 5 % (5.17 ~ 5.71)	22 ± 2
		Measured, 28-06, 2013	47.70	5.44	20.6

<Measurement result of Tissue electric parameters>

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% by weight)	Frequency (㎒)									
	450		835		915		1900		**2450**	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.5	56.7	41.5	55.2	42.0	56.8	40.0	53.3	39.2	52.7
Conductivity (S/m)	0.87	0.94	0.90	0.97	1.0	1.07	1.40	1.52	1.80	1.95

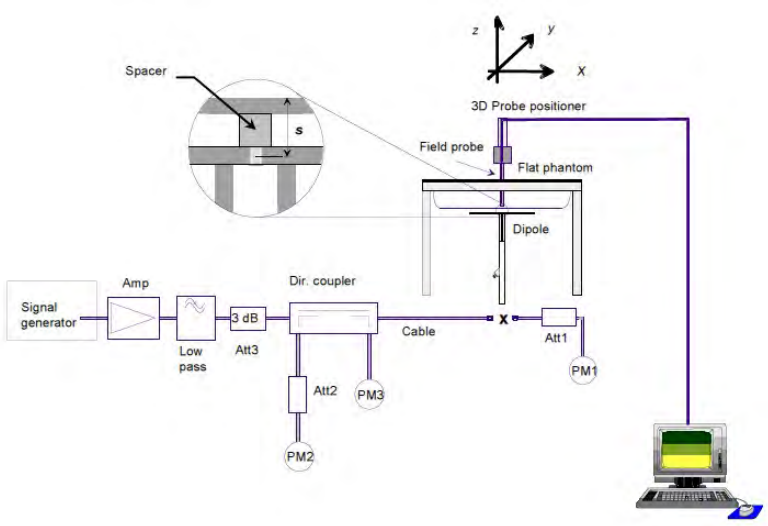
Salt: 99+% Pure Sodium Chloride Sugar: 98+% Pure Sucrose
Water: De-ionized, 16 M + resistivity HEC: Hydroxyethyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

Simulating Liquids for 5 GHz

Ingredients	(% by weight)
Water	78
Mineral oil	11
Emulsifiers	9
Additives and salt	2

11. SAR System Validation

The microwave circuit arrangement for system verification is sketched below picture. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10 % from the target SAR values. These tests were done at 900/1800/1950/2450 MHz. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the table C-1 (A power level of 250 ㎽ was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22 °C, the relative humidity was in the range 60 % and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



Validation Kit	Frequency (MHz)	Tissue Type	Limit/Measurement (Normalized to 1 W)		
				1 g	10 g
D2450V2	2450	Head	Recommended Limit (Normalized)	51.40 ± 10 % (46.26 ~ 56.54)	24.10 ± 10 % (21.69 ~ 26.51)
			Measured, 24-06, 2013	56.00	25.64
		Body	Recommended Limit (Target)	53.60 ± 10 % (48.24 ~ 58.96)	25.00 ± 10 % (22.5 ~ 27.5)
			Measured, 26-06, 2013	52.00	24.20
D5GHzV2	5200	Head	Recommended Limit (Normalized)	80.00 ± 10 % (72.00 ~ 88.00)	22.90 ± 10 % (20.61 ~ 25.19)
			Measured, 25-06, 2013	77.40	22.20
		Body	Recommended Limit (Target)	74.70 ± 10 % (67.23 ~ 82.17)	20.80 ± 10 % (18.72 ~ 22.88)
			Measured, 28-06, 2013	76.10	21.60
D5GHzV2	5300	Head	Recommended Limit (Normalized)	84.70 ± 10 % (76.23 ~ 93.17)	24.20 ± 10 % (21.78 ~ 26.62)
			Measured, 25-06, 2013	91.70	25.70
		Body	Recommended Limit (Target)	76.20 ± 10 % (68.58 ~ 83.82)	21.30 ± 10 % (19.17 ~ 23.43)
			Measured, 28-06, 2013	80.80	22.40
D5GHzV2	5500	Head	Recommended Limit (Normalized)	85.50± 10 % (76.95 ~ 94.05)	24.30 ± 10 % (21.87 ~ 26.73)
			Measured, 25-06, 2013	85.50	24.10
		Body	Recommended Limit (Target)	79.80 ± 10 % (71.82 ~ 87.78)	22.10 ± 10 % (19.89 ~ 24.31)
			Measured, 27-06, 2013	79.70	22.30
D5GHzV2	5600	Head	Recommended Limit (Normalized)	84.30 ± 10 % (75.87 ~ 92.73)	23.90 ± 10 % (21.51 ~ 26.29)
			Measured, 25-06, 2013	82.70	23.30
		Body	Recommended Limit (Target)	81.60 ± 10 % (73.44 ~ 89.76)	22.50 ± 10 % (20.25 ~ 24.75)
			Measured, 27-06, 2013	81.60	22.70
D5GHzV2	5800	Head	Recommended Limit (Normalized)	79.30 ± 10 % (71.37 ~ 87.23)	22.50 ± 10 % (20.25 ~ 24.75)
			Measured, 25-06, 2013	82.30	22.90
		Body	Recommended Limit (Target)	74.60 ± 10 % (67.14 ~ 82.06)	20.60 ± 10 % (18.54 ~ 22.66)
			Measured, 27-06, 2013	72.30	20.00

<SAR System Validation Result>

12. Operation Configurations

For the 802.11b/g/n SAR tests, a communication link is set up with the test mode software for WiFi mode test. The Absolute Radio Frequency Channel Number is allocated to 1,6and 11 respectively in the case of 2450 MHz.During the test,at the each test frequency channel, theEUT is operated at the RF continuous emission mode.Each channel should be tested at the max power data rate.

802.11b/g/n operating modes are tested independently according to the service requirements in each frquency band. 802.11b/g/n modes are tested on channel 1,6,11; however,if output power reduction is necessary for channels 1 and/or 11 to meet restricted band requirements the highest output channel closest to each 13f these channels must be tested instead.

Communication between the device and the tester was established by RS232 Port.

Measurements were performed at the lowest, middle and highest channels of the operating band. The EUT was set to maximum power level during all tests and at the beginning of each test the battery was fully charged.

13. SAR Measurement Procedures

Step 1: Power Reference Measurement
The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When either the x or y dimension of the test device in the measurement plane is smaller than the above, the measurement resolution must be ≤ the corresponding x and y dimensions of the test device, with at least one measurement point on the test device.	

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures 7x7x9 (above 4.5 GHz) or 5x5x7 (below 3 GHz) points within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measument 10 MHz to 6 GHz v01

<table>
<tr><th colspan="3"></th><th>≤ 3 GHz</th><th>> 3 GHz</th></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm</td><td>3 – 4 GHz: ≤ 5 mm
4 – 6 GHz: ≤ 4 mm</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
</table>

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

Step 5: Z-Scan

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a onedimensional grid. In order to get a reasonable extrapolation, the extrapolated distance should not be larger than the step size in Z-direction.

* Z Scan Report on Liquid Measure the height Annex A.4 Liquid Depth photo to replace

14. Test Equipment Information

SPEAG DASY5

Test Platform	SPEAG DASY5 System
Location	EMC Compliance Lab
Manufacture	SPEAG
Description	SAR Test System (Frequency range 300MHz-6GHz) 450, 835, 900, 1 800, 1 900, 1 950, 2 450, 5 000 frequency band
Software Reference	DASY5: V52.8.4.1052 SEMCAD: V14.6.8

Hardware Reference				
Equipment	Model	Serial Number	Calibration Date	Due date of calibration
Robot	TX90XL Speag	F12/5L7FA1/A/01	N/A	N/A
Phantom	TwinSAM Phantom	1724	N/A	N/A
Phantom	TwinSAM Phantom	1728	N/A	N/A
Data Acquisition Unit (DAE)	DAE4	1342	2012-08-09	2013-08-08
Probes	ES3DV3	3302	2012-08-06	2013-08-05
Probes	EX3DV4	3865	2012-08-06	2013-08-05
Dipole Validation Kits	D300V3	1016	2012-07-24	2014-07-23
Dipole Validation Kits	D450V3	1080	2012-07-24	2014-07-23
Dipole Validation Kits	D850V2	1006	2012-08-07	2014-08-06
Dipole Validation Kits	D900V2	1d138	2012-08-07	2014-08-06
Dipole Validation Kits	D1750V2	1072	2012-07-19	2014-07-18
Dipole Validation Kits	D1900V2	5d160	2012-07-20	2014-07-19
Dipole Validation Kits	D2450V2	865	2012-07-24	2014-07-23
Dipole Validation Kits	D2600V2	1050	2012-07-24	2014-07-23
Dipole Validation Kits	D5GHzV2	1134	2012-07-27	2014-07-26
Network Analyzer	E5071B	MY42403524	2012-07-20	2013-07-19
Dual Directional Coupler	778D	16059	2012-09-21	2013-09-20
Dual Directional Coupler	772D	2839A00719	2012-09-21	2013-09-20
Signal Generator	E4438C	MY42080486	2013-02-18	2014-02-18

Power Amplifier	GRF5039	1062	2012-07-20	2013-07-19
Power Amplifier	5057FE	1009	2012-08-07	2013-08-06
Power Amplifier	5190FE	1012	2012-09-21	2013-09-20
Dual Power Meter	E4419B	GB43312301	2012-07-10	2013-07-09
Power Sensor	8481H	3318A19674	2012-07-12	2013-07-11
Power Sensor	8481H	3318A19376	2012-07-12	2013-07-11
LP Filter	LA-30N	40058	2012-10-05	2013-10-05
WIDEBAND POWER SENSOR	NRP-Z81	100677	2013-05-06	2014-05-06

15. Average Power

Frequency (MHz)	Mode	Tune up power Tolerant range(dBm)	Measured Average Power (dBm)
2 412	802.11b 11 Mbps	14 ± 1	**14.48**
2 437		14 ± 1	13.97
2 462		14 ± 1	13.76
2 412	802.11g 54 Mbps	10 ± 1	10.65
2 437		10 ± 1	10.48
2 462		10 ± 1	10.27
2 412	802.11nHT20 MCS 7	10 ± 1	10.05
2 437		10 ± 1	9.96
2 462		10 ± 1	9.75
5 745	802.11a 54 Mbps	17 ± 1	17.47
5 785		17 ± 1	17.14
5 825		17 ± 1	17.52
5 745	802.11anHT20 MCS 7	17 ± 1	16.79
5 785		17 ± 1	17.11
5 825		17 ± 1	17.17
5 180	802.11a 54 Mbps	12 ± 1	12.31
5 200		12 ± 1	12.37
5 240		12 ± 1	12.42
5 180	802.11anHT20 MCS 7	12 ± 1	12.39
5 200		12 ± 1	12.48
5 240		12 ± 1	12.52
5 260	802.11a 54 Mbps	12 ± 1	12.39
5 300		12 ± 1	12.82
5320		12 ± 1	12.75
5 260	802.11anHT20 MCS 7	12 ± 1	12.49
5 300		12 ± 1	12.95
5320		12 ± 1	12.87
5 500	802.11a 54 Mbps	12 ± 1	12.72
5 580		12 ± 1	12.52
5 700		12 ± 1	12.11
5 500	802.11anHT20 MCS 7	12 ± 1	12.81
5 580		12 ± 1	12.63
5 700		12 ± 1	12.22

16. SAR Test Results

16.1 Measurement of SAR average value

16.1.1 Head Exposure Conditions(WLAN 2.4GHz)

EUT Position	Mode	Dist. (mm)	AVG Power (dBm)	Max tune up power (dBm)	Traffic Channel		Measured 1 g SAR (W/kg)	Reported 1g SAR (W/kg)	Note
					Frequency (MHz)	Ch.			
Left Ear	802.11b 11Mbps	Cheek	14.48	15	2412	1			1
			13.97	15	2437	6	0.050	0.06	
			13.76	15	2462	11			1
Left Ear	802.11b 11Mbps	Tilt	14.48	15	2412	1			1
			13.97	15	2437	6	0.043	0.05	
			13.76	15	2462	11			1
Right Ear	802.11b 11Mbps	Cheek	14.48	15	2412	1			1
			13.97	15	2437	6	**0.057**	0.07	
			13.76	15	2462	11			1
Right Ear	802.11b 11Mbps	Tilt	14.48	15	2412	1			1
			13.97	15	2437	6	0.046	0.06	
			13.76	15	2462	11			1

16.1.2 Body Exposure Conditions(WLAN 2.4GHz)

EUT Position	Mode	Dist. (mm)	AVG Power (dBm)	Max tune up power (dBm)	Traffic Channel		Measured 1 g SAR (W/kg)	Reported 1g SAR (W/kg)	Note
					Frequency (MHz)	Ch.			
Front	802.11b 11Mbps	15 mm	14.48	15	2412	1			1
			13.97	15	2437	6	0.00913	0.012	
			13.76	15	2462	11			1
Back	802.11b 11Mbps	15 mm	14.48	15	2412	1			1
			13.97	15	2437	6	**0.035**	0.044	
			13.76	15	2462	11			1
Edge1	802.11b 11Mbps	15 mm	14.48	15	2412	1			1
			13.97	15	2437	6	0.00844	0.011	
			13.76	15	2462	11			1
Edge2	802.11b 11Mbps	15 mm	14.48	15	2412	1			1
			13.97	15	2437	6	0.00444	0.006	
			13.76	15	2462	11			1
Edge3	802.11b 11Mbps	15 mm	14.48	15	2412	1			1
			13.97	15	2437	6	0.000894	0.001	
			13.76	15	2462	11			1

<Note>

1. When the 1-g SAR for the mid-band channel, or the channel with the highest output power satisfy the following conditions,testing of the other channels in the band is not required. (Per KDB 447498)

=0.8 W/kg and transmission band =100 MHz
=0.6 W/kg and, 100 MHz < transmission bandwidth =200 MHz
=0.4 W/kg and transmission band > 200 MHz

2. Reported SAR = (measured SAR) x [max possible power(mW) / sample measured power(mW)]

16.1.3 Head Exposure Conditions(WLAN 5 GHz Bands)

EUT Position	Mode	Dist. (mm)	AVG Power (dBm)	Max tune up power (dBm)	Traffic Channel		Measured 1 g SAR (W/kg)	Reported 1g SAR (W/kg)	Note
					Frequency (MHz)	Ch.			
Left Ear	802.11a 54Mbps	Cheek	12.31	13	5180	36			1
			12.37	13	5200	40	0.127	0.147	
			12.42	13	5240	48			1
Left Ear	802.11a 54Mbps	Tilt	12.31	13	5180	36			1
			12.37	13	5200	40	0.116	0.134	
			12.42	13	5240	48			1
Right Ear	802.11a 54Mbps	Cheek	12.31	13	5180	36			1
			12.37	13	5200	40	0.133	0.154	
			12.42	13	5240	48			1
Right Ear	802.11a 54Mbps	Tilt	12.31	13	5180	36			1
			12.37	13	5200	40	0.117	0.135	
			12.42	13	5240	48			1
Left Ear	802.11a 54Mbps	Cheek	12.39	13	5260	52			1
			12.82	13	5300	60	0.173	0.180	
			12.75	13	5320	64			1
Left Ear	802.11a 54Mbps	Tilt	12.39	13	5260	52			1
			12.82	13	5300	60	0.146	0.152	
			12.75	13	5320	64			1
Right Ear	802.11a 54Mbps	Cheek	12.39	13	5260	52			1
			12.82	13	5300	60	**0.233**	0.243	
			12.75	13	5320	64			1
Right Ear	802.11a 54Mbps	Tilt	12.39	13	5260	52			1
			12.82	13	5300	60	0.153	0.159	
			12.75	13	5320	64			1
Left Ear	802.11a 54Mbps	Cheek	12.72	13	5500	100			1
			12.52	13	5580	116	0.162	0.181	
			12.11	13	5700	140			1
Left Ear	802.11a 54Mbps	Tilt	12.72	13	5500	102			1
			12.52	13	5580	116	0.185	0.207	
			12.11	13	5700	140			1
Right Ear	802.11a 54Mbps	Cheek	12.72	13	5500	100			1
			12.52	13	5580	116	0.161	0.180	
			12.11	13	5700	140			1
Right Ear	802.11a 54Mbps	Tilt	12.72	13	5500	100			1
			12.52	13	5580	116	0.143	0.160	
			12.11	13	5700	140			1
Left Ear	802.11a 54Mbps	Cheek	17.47	18	5745	149			1
			17.14	18	5785	157	0.101	0.123	
			17.52	18	5825	165			1
Left Ear	802.11a 54Mbps	Tilt	17.47	18	5745	149			1
			17.14	18	5785	157	0.170	0.207	
			17.52	18	5825	165			1
Right Ear	802.11a 54Mbps	Cheek	17.47	18	5745	149			1
			17.14	18	5785	157	0.120	0.146	
			17.52	18	5825	165			1
Right Ear	802.11a 54Mbps	Tilt	17.47	18	5745	149			1
			17.14	18	5785	157	0.151	0.184	
			17.52	18	5825	165			1

16.1.4 Body Exposure Conditions(WLAN 5 GHz Bands)

EUT Position	Mode	Dist. (mm)	AVG Power (dBm)	Max tune up power (dBm)	Traffic Channel		Measured 1 g SAR (W/kg)	Reported 1g SAR (W/kg)	Note
					Frequency (MHz)	Ch.			
Front	802.11a 54Mbps	15 mm	12.31	13	5180	36			1
			12.37	13	5200	40	0.000316	0.0004	
			12.42	13	5240	48			1
Back	802.11a 54Mbps	15 mm	12.31	13	5180	36			1
			12.37	13	5200	40	0.124	0.143	
			12.42	13	5240	48			1
Edge1	802.11a 54Mbps	15 mm	12.31	13	5180	36			1
			12.37	13	5200	40	0.051	0.059	
			12.42	13	5240	48			1
Edge2	802.11a 54Mbps	15 mm	12.31	13	5180	36			1
			12.37	13	5200	40	0.044	0.051	
			12.42	13	5240	48			1
Edge3	802.11a 54Mbps	15 mm	12.31	13	5180	36			1
			12.37	13	5200	40	0.013	0.015	
			12.42	13	5240	48			1
Front	802.11a 54Mbps	15 mm	12.39	13	5260	52			1
			12.82	13	5300	60	0.00179	0.0019	
			12.75	13	5320	64			1
Back	802.11a 54Mbps	15 mm	12.39	13	5260	52			1
			12.82	13	5300	60	**0.157**	0.164	
			12.75	13	5320	64			1
Edge1	802.11a 54Mbps	15 mm	12.39	13	5260	52			1
			12.82	13	5300	60	0.092	0.096	
			12.75	13	5320	64			1
Edge2	802.11a 54Mbps	15 mm	12.39	13	5260	52			1
			12.82	13	5300	60	0.069	0.072	
			12.75	13	5320	64			1
Edge3	802.11a 54Mbps	15 mm	12.39	13	5260	52			1
			12.82	13	5300	60	0.022	0.023	
			12.75	13	5320	64			1
Front	802.11a 54Mbps	15 mm	12.72	13	5500	100			1
			12.52	13	5580	116	0.024	0.027	
			12.11	13	5700	140			1
Back	802.11a 54Mbps	15 mm	12.72	13	5500	100			1
			12.52	13	5580	116	0.131	0.146	
			12.11	13	5700	140			1
Edge1	802.11a 54Mbps	15 mm	12.72	13	5500	100			1
			12.52	13	5580	116	0.108	0.121	
			12.11	13	5700	140			1
Edge2	802.11a 54Mbps	15 mm	12.72	13	5500	100			1
			12.52	13	5580	116	0.058	0.065	
			12.11	13	5700	140			1
Edge3	802.11a 54Mbps	15 mm	12.72	13	5500	100			1
			12.52	13	5580	116	0.030	0.034	
			12.11	13	5700	140			1

EUT Position	Mode	Dist. (mm)	AVG Power (dBm)	Max tune up power (dBm)	Traffic Channel		Measured 1 g SAR (W/kg)	Reported 1g SAR (W/kg)	Note
					Frequency (MHz)	Ch.			
Front	802.11a 54Mbps	15 mm	17.47	18	5745	149			1
			17.14	18	5785	157	0.000445	0.0005	
			17.52	18	5825	165			1
Back	802.11a 54Mbps	15 mm	17.47	18	5745	149			1
			17.14	18	5785	157	0.071	0.087	
			17.52	18	5825	165			1
Edge1	802.11a 54Mbps	15 mm	17.47	18	5745	149			1
			17.14	18	5785	157	0.087	0.106	
			17.52	18	5825	165			1
Edge2	802.11a 54Mbps	15 mm	17.47	18	5745	149			1
			17.14	18	5785	157	0.031	0.038	
			17.52	18	5825	165			1
Edge3	802.11a 54Mbps	15 mm	17.47	18	5745	149			1
			17.14	18	5785	157	0.018	0.022	
			17.52	18	5825	165			1

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<Note>

1. When the 1-g SAR for the mid-band channel, or the channel with the highest output power satisfy the following conditions,testing of the other channels in the band is not required. (Per KDB 447498)

=0.8 W/kg and transmission band =100 MHz
=0.6 W/kg and, 100 MHz < transmission bandwidth =200 MHz
=0.4 W/kg and transmission band > 200 MHz

2. Reported SAR = (measured SAR) x [max possible power(mW) / sample measured power(mW)]

17. Validation Test Results

System Validation for 2 450 MHz - Head(24-06-2013)

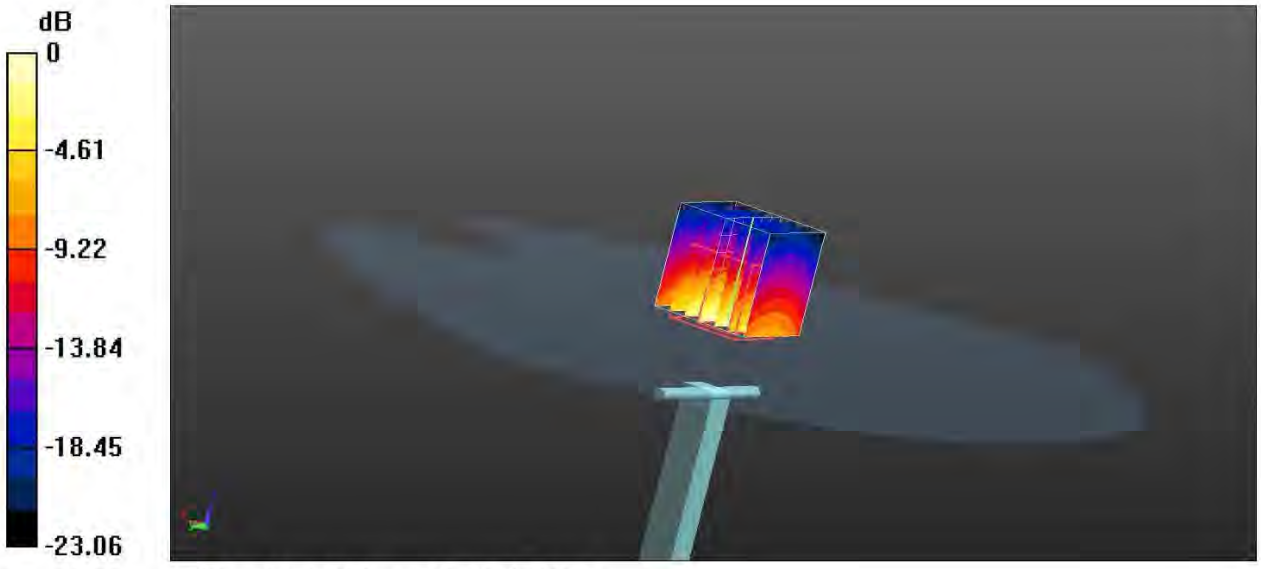
DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:895
Procedure Name: d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)

Communication System: cw1; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.83 S/m; ε_r = 37.613; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.42, 7.42, 7.42); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.8 (7028)

System Performance Check at Frequencies/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 108.7 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 29.5 W/kg
SAR(1 g) = 14 W/kg; SAR(10 g) = 6.41 W/kg
Maximum value of SAR (measured) = 21.4 W/kg



0 dB = 21.4 W/kg = 13.30 dBW/kg

System Validation for 5 GHz Band - Head(25-06-2013)

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1134
Procedure Name: d=10mm, Pin=100mW, f=5200 MHz, Procedure Name: d=10mm, Pin=100mW, f=5300 MHz, Procedure Name: d=10mm, Pin=100mW, f=5500 MHz, Procedure Name: d=10mm, Pin=100mW, f=5600 MHz 2, Procedure Name: d=10mm, Pin=100mW, f=5800 MHz 2 2

Communication System: CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 4.565 S/m; ε_r = 35.567; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5300 MHz; σ = 4.682 S/m; ε_r = 35.343; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5500 MHz; σ = 4.904 S/m; ε_r = 34.927; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5600 MHz; σ = 5.026 S/m; ε_r = 34.703; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5800 MHz; σ = 5.248 S/m; ε_r = 34.195; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.54, 4.54, 4.54); Calibrated: 06.08.2012, ConvF(4.33, 4.33, 4.33); Calibrated: 06.08.2012, ConvF(4.37, 4.37, 4.37); Calibrated: 06.08.2012, ConvF(4.09, 4.09, 4.09); Calibrated: 06.08.2012, ConvF(4.25, 4.25, 4.25); Calibrated: 06.08.2012;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (9x9x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 71.522 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 32.4 W/kg
SAR(1 g) = 7.74 W/kg; SAR(10 g) = 2.22 W/kg
Maximum value of SAR (measured) = 19.4 W/kg

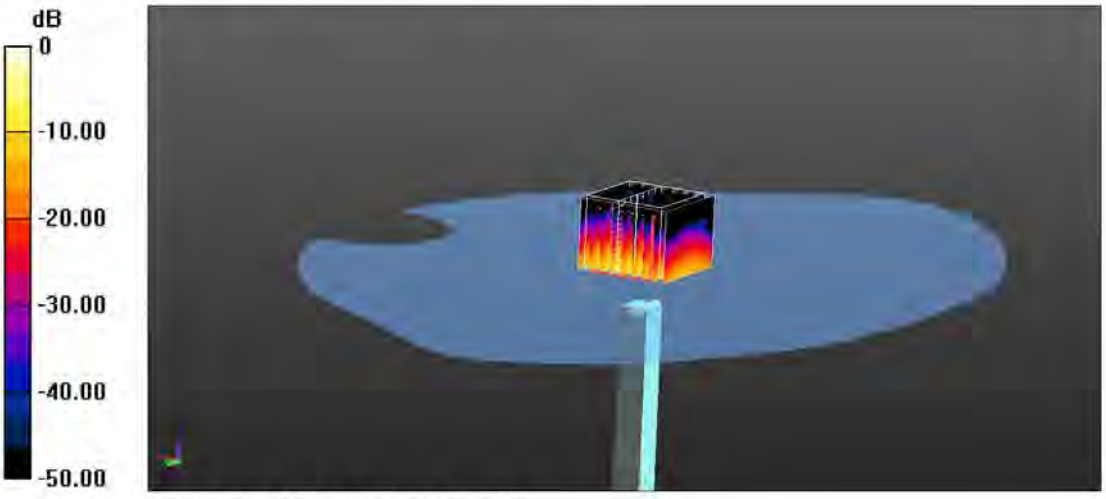
Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5300 MHz/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 76.834 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 39.5 W/kg
SAR(1 g) = 9.17 W/kg; SAR(10 g) = 2.57 W/kg
Maximum value of SAR (measured) = 23.3 W/kg

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5500 MHz/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 73.091 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 38.3 W/kg
SAR(1 g) = 8.55 W/kg; SAR(10 g) = 2.41 W/kg

Maximum value of SAR (measured) = 22.1 W/kg

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5600 MHz 2/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 73.382 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 35.5 W/kg
SAR(1 g) = 8.27 W/kg; SAR(10 g) = 2.33 W/kg
Maximum value of SAR (measured) = 21.4 W/kg

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5800 MHz 2 2/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 72.560 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 37.8 W/kg
SAR(1 g) = 8.23 W/kg; SAR(10 g) = 2.29 W/kg
Maximum value of SAR (measured) = 21.9 W/kg



0 dB = 21.9 W/kg = 13.40 dBW/kg

System Validation for 2 450 MHz - Body(26-06-2013)

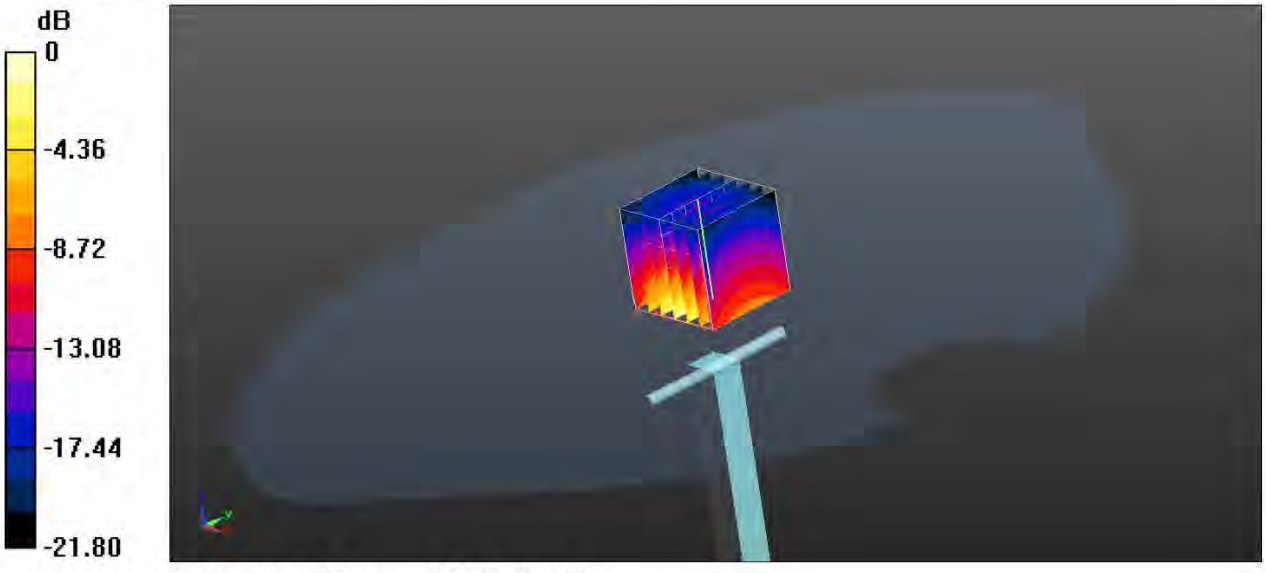
DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:895
Procedure Name: d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)

Communication System: cw1; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 2.022 S/m; ε_r = 51.457; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.47, 7.47, 7.47); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

System Performance Check at Frequencies/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.795 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 26.9 W/kg
SAR(1 g) = 13 W/kg; SAR(10 g) = 6.05 W/kg
Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 19.9 W/kg = 12.99 dBW/kg

System Validation for 5 GHz Band - Body(27-06-2013)

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1134
Procedure Name: d=10mm, Pin=100mW, f=5500 MHz, Procedure Name: d=10mm, Pin=100mW, f=5600 MHz 2, Procedure Name: d=10mm, Pin=100mW, f=5800 MHz 2 2

Communication System: CW; Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.703 S/m; ε_r = 47.167; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5600 MHz; σ = 5.862 S/m; ε_r = 47.043; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5800 MHz; σ = 6.24 S/m; ε_r = 46.679; ρ = 1000 kg/m^3
Phantom section: Flat Section

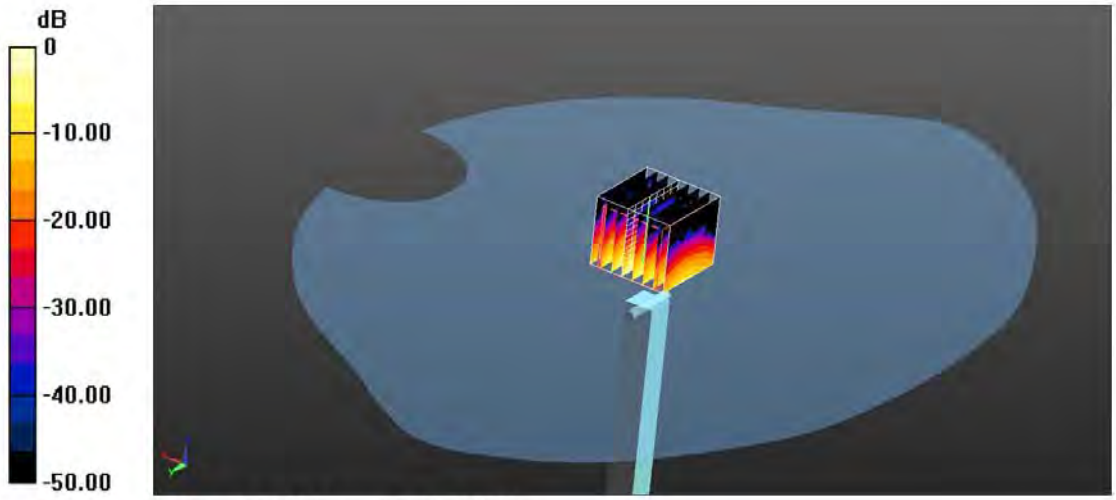
DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(3.89, 3.89, 3.89); Calibrated: 06.08.2012, ConvF(3.74, 3.74, 3.74); Calibrated: 06.08.2012, ConvF(3.87, 3.87, 3.87); Calibrated: 06.08.2012;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5500 MHz/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 67.242 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 33.2 W/kg
SAR(1 g) = 7.97 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 20.1 W/kg

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5600 MHz 2/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 67.305 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 35.3 W/kg
SAR(1 g) = 8.16 W/kg; SAR(10 g) = 2.27 W/kg
Maximum value of SAR (measured) = 21.0 W/kg

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5800 MHz 2 2/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 64.494 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 30.4 W/kg
SAR(1 g) = 7.23 W/kg; SAR(10 g) = 2 W/kg
Maximum value of SAR (measured) = 18.6 W/kg



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

System Validation for 5 GHz Band - Body(28-06-2013)

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1134
Procedure Name: d=10mm, Pin=100mW, f=5200 MHz, Procedure Name: d=10mm, Pin=100mW, f=5300 MHz

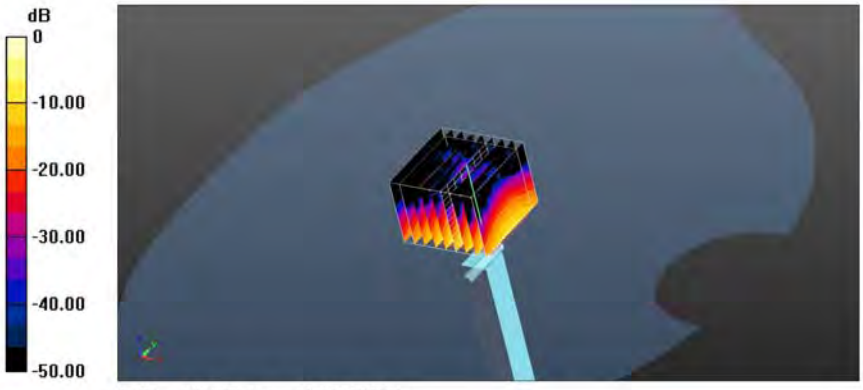
Communication System: CW; Frequency: 5200 MHz, Frequency: 5300 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.41 S/m; ε_r = 48.618; ρ = 1000 kg/m^3 ,
Medium parameters used: f = 5300 MHz; σ = 5.616 S/m; ε_r = 48.324; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.28, 4.28, 4.28); Calibrated: 06.08.2012, ConvF(4.16, 4.16, 4.16); Calibrated: 06.08.2012;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (9x9x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 65.080 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 29.4 W/kg
SAR(1 g) = 7.61 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 18.9 W/kg

Validation D5GHzV2 Dipole/d=10mm, Pin=100mW, f=5300 MHz/Zoom Scan (4x4x2mm, uniform), dist=1.4mm (8x8x13)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 66.325 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 32.5 W/kg
SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.24 W/kg
Maximum value of SAR (measured) = 20.1 W/kg



0 dB = 20.1 W/kg = 13.03 dBW/kg

18. Test Results

18.1 WLAN 2.4 GHz - Head

2437_Left Ear_Cheek

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Left Ear_Cheek

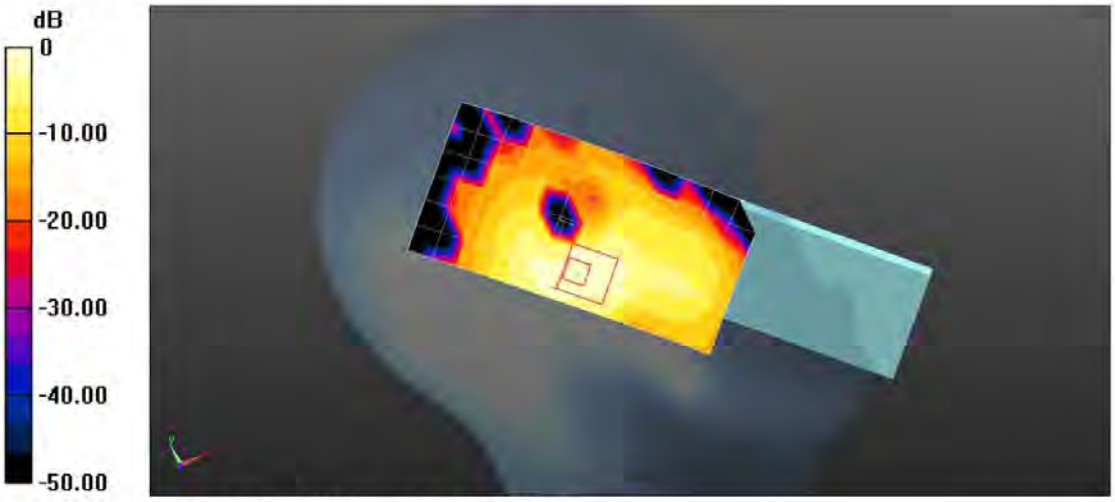
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.817 S/m; ε_r = 37.669; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.42, 7.42, 7.42); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Left Ear_Cheek/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0672 W/kg

MWP1100A/802.11b_ch06_f2437_Left Ear_Cheek/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.313 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.0890 W/kg
SAR(1 g) = 0.050 W/kg; SAR(10 g) = 0.023 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0699 W/kg



0 dB = 0.0699 W/kg = -11.56 dBW/kg

2437_Left Ear_Tilt

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Left Ear_Tilt

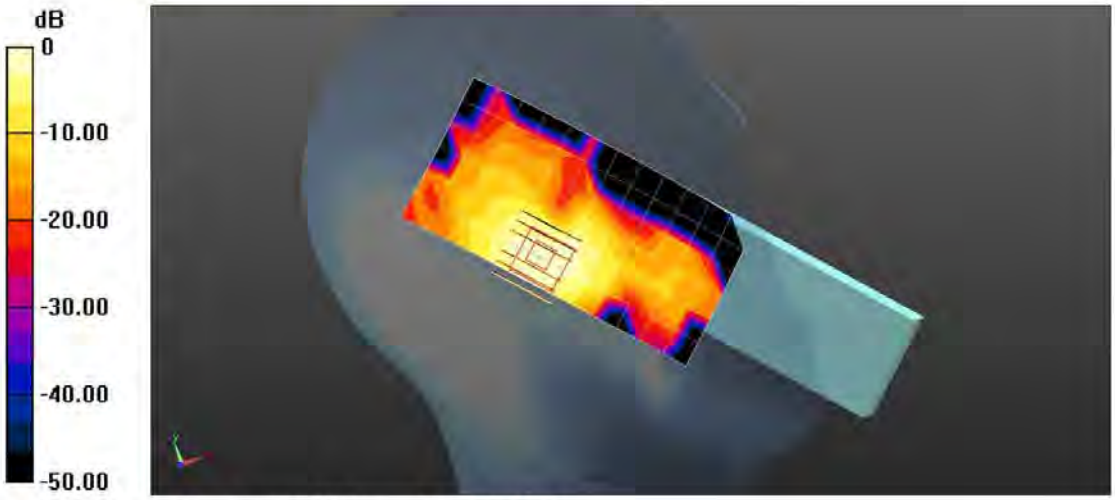
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.817 S/m; ε_r = 37.669; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.42, 7.42, 7.42); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Left Ear_Tilt/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0665 W/kg

MWP1100A/802.11b_ch06_f2437_Left Ear_Tilt/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.991 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.0870 W/kg
SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.020 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0660 W/kg



0 dB = 0.0660 W/kg = -11.80 dBW/kg

2437_Right Ear_Cheek

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch.06_f2437_Right Ear_Cheek

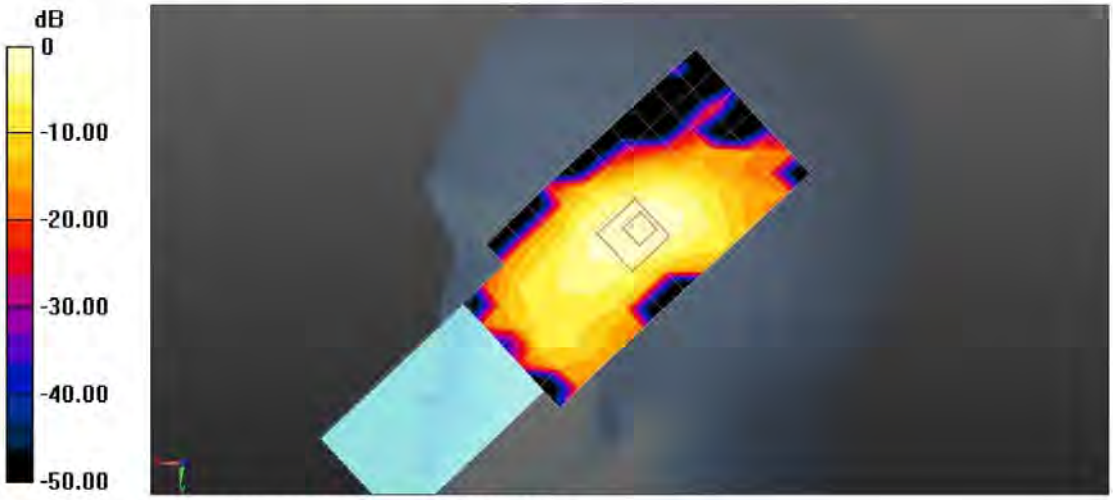
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.817 S/m; ε_r = 37.669; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.42, 7.42, 7.42); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP110A/802.11b_ch.06_f2437_Right Ear_Cheek/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0793 W/kg

MWP110A/802.11b_ch.06_f2437_Right Ear_Cheek/Zoom Scan (8x8x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.802 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.108 W/kg
SAR(1 g) = 0.057 W/kg; SAR(10 g) = 0.028 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0845 W/kg



0 dB = 0.0845 W/kg = -10.73 dBW/kg

2437_Right Ear_Tilt

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch.06_f2437_Right Ear_Tilt

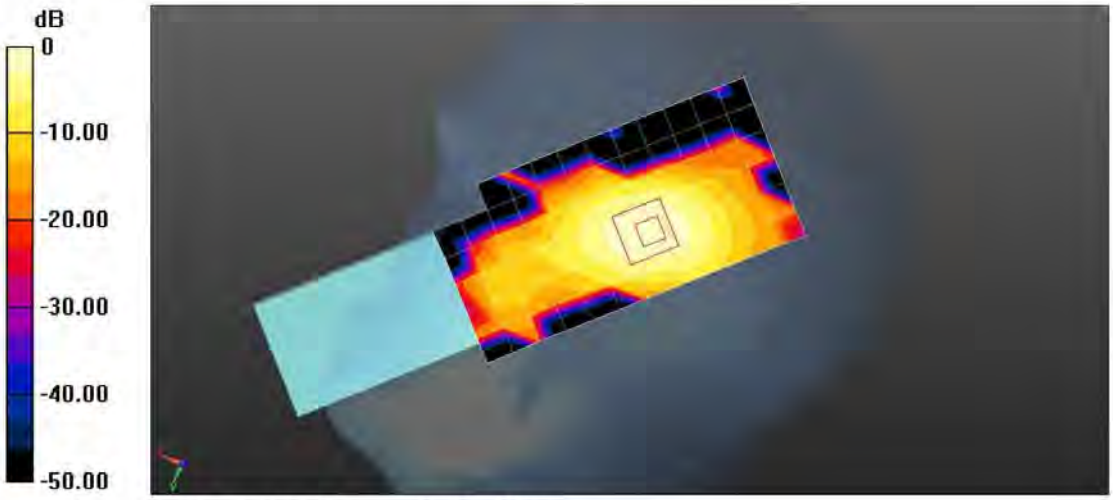
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.817 S/m; ε_r = 37.669; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.42, 7.42, 7.42); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP110A/802.11b_ch.06_f2437_Right Ear_Tilt/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0684 W/kg

MWP110A/802.11b_ch.06_f2437_Right Ear_Tilt/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.728 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.0890 W/kg
SAR(1 g) = 0.046 W/kg; SAR(10 g) = 0.022 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0674 W/kg



0 dB = 0.0674 W/kg = -11.71 dBW/kg

18.2 WLAN 2.4 GHz - Body

2437_Front_gap 15 mm

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Front gap 15mm

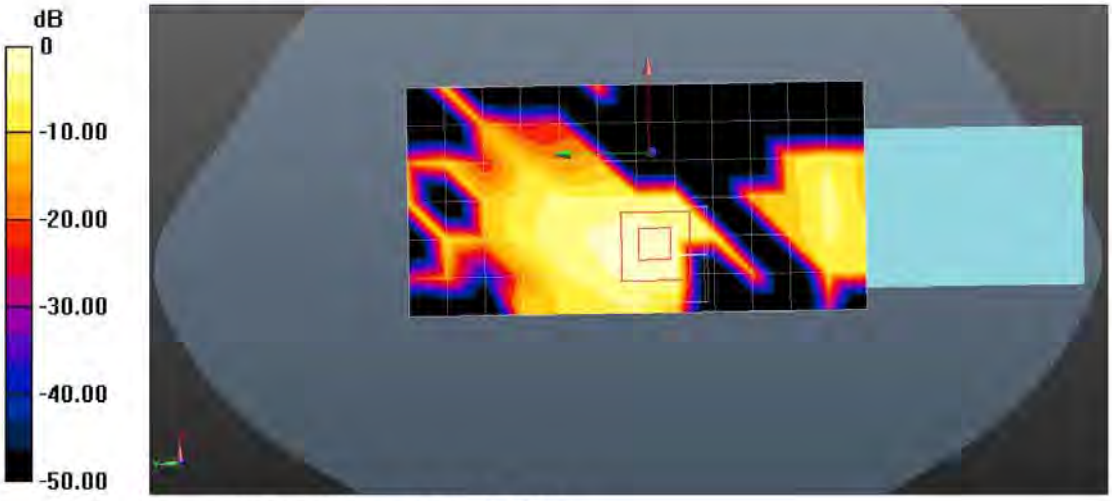
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.001 S/m; ε_r = 51.445; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.47, 7.47, 7.47); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Front gap 15mm/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0147 W/kg

MWP1100A/802.11b_ch06_f2437_Front gap 15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.886 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.0220 W/kg
SAR(1 g) = 0.00913 W/kg; SAR(10 g) = 0.00314 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0152 W/kg



0 dB = 0.0152 W/kg = -18.18 dBW/kg

2437_Back_gap 15 mm

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Back gap 15mm

Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.001 S/m; ε_r = 51.445; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

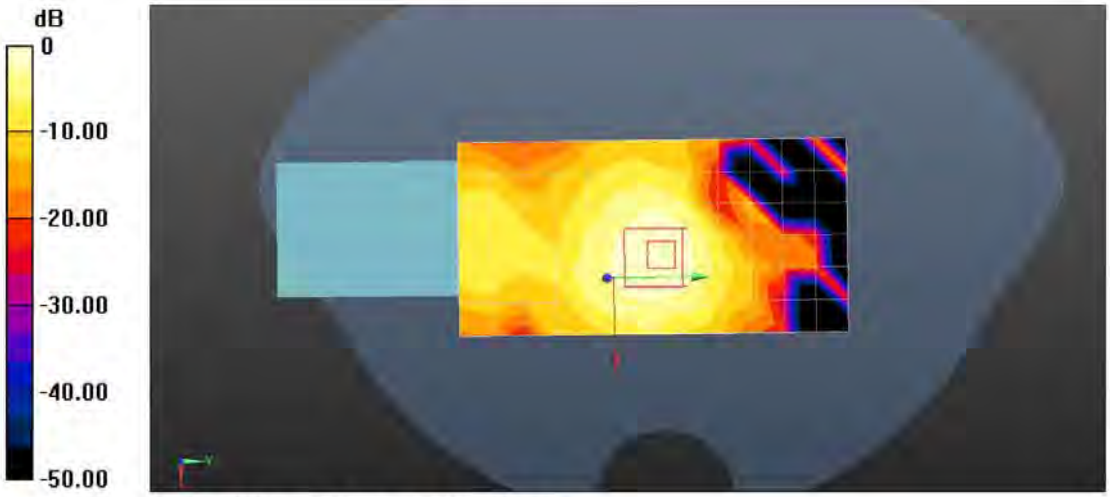
- Probe: EX3DV4 - SN3865; ConvF(7.47, 7.47, 7.47); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Back gap 15mm/Area Scan (7x13x1):

Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0465 W/kg

MWP1100A/802.11b_ch06_f2437_Back gap 15mm/Zoom Scan (8x8x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.601 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.0660 W/kg
SAR(1 g) = 0.035 W/kg; SAR(10 g) = 0.017 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0512 W/kg



0 dB = 0.0512 W/kg = -12.91 dBW/kg

2437_Edge1_gap 15 mm

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Edge1 gap15mm

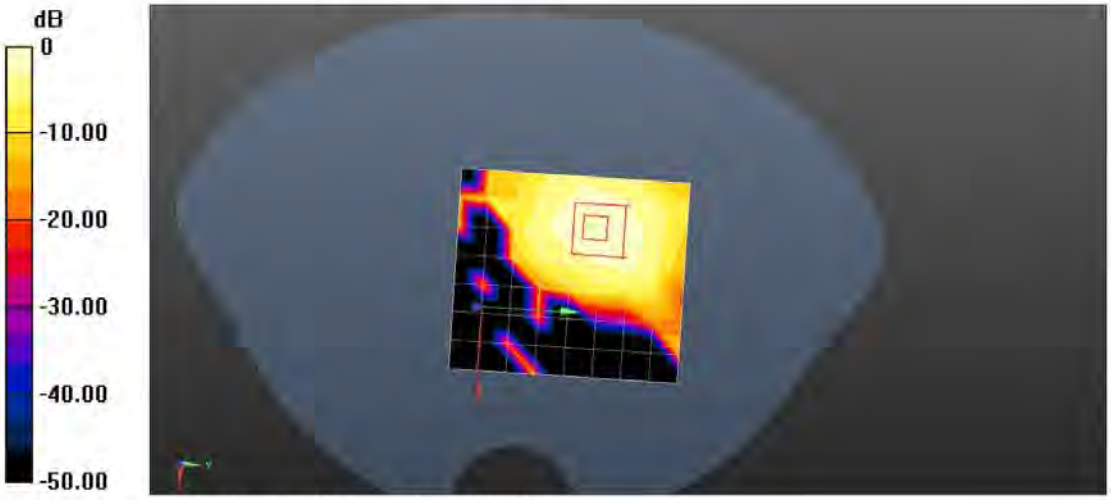
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.001 S/m; ε_r = 51.445; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.47, 7.47, 7.47); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Edge1 gap 15mm/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0117 W/kg

MWP1100A/802.11b_ch06_f2437_Edge1 gap 15mm/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.484 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.0170 W/kg
SAR(1 g) = 0.00844 W/kg; SAR(10 g) = 0.00357 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0132 W/kg



0 dB = 0.0132 W/kg = -18.79 dBW/kg

2437_Edge2_gap 15 mm

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Edge2 gap 15mm

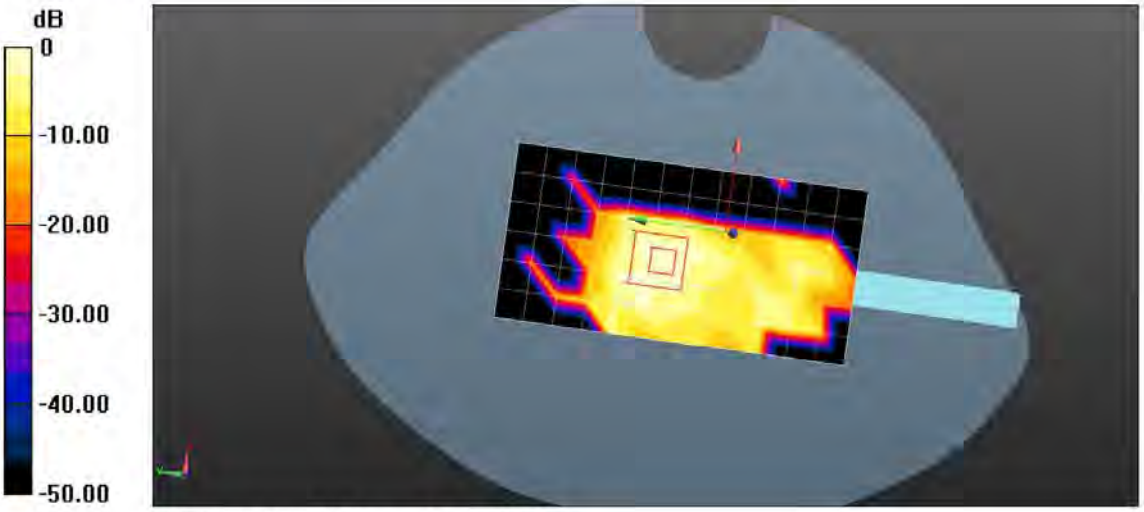
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.001 S/m; ε_r = 51.445; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.47, 7.47, 7.47); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Edge2 gap 15mm/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.0104 W/kg

MWP1100A/802.11b_ch06_f2437_Edge2 gap 15mm/Zoom Scan (8x9x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.298 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.0270 W/kg
SAR(1 g) = 0.00444 W/kg; SAR(10 g) = 0.00163 W/kg
Info: Interpolated medium parameters used for SAR evaluation.



0 dB = 0.0107 W/kg = -19.71 dBW/kg

2437_Edge3_gap 15 mm

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11b_ch06_f2437_Edge3 gap 15mm

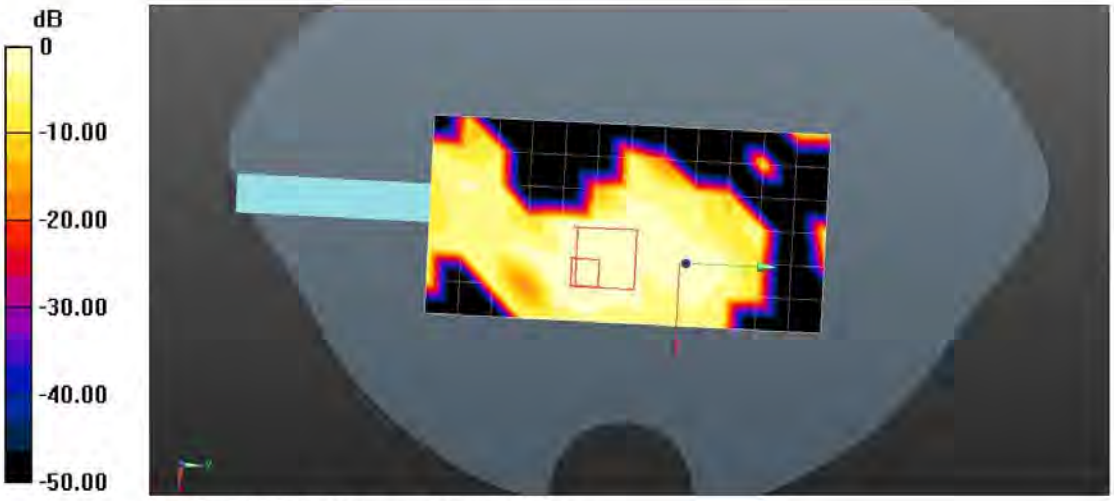
Communication System: 2.4GWLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.001 S/m; ε_r = 51.445; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(7.47, 7.47, 7.47); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM twin SN1724; Type: QD000P40CD; Serial: TP:1724
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11b_ch06_f2437_Edge3 gap 15mm/Area Scan (7x13x1): Measurement grid: dx=12mm, dy=12mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.00413 W/kg

MWP1100A/802.11b_ch06_f2437_Edge3 gap 15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.152 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.00766 W/kg
SAR(1 g) = 0.000894 W/kg; SAR(10 g) = 0.000226 W/kg
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.00375 W/kg



0 dB = 0.00375 W/kg = -24.26 dBW/kg

18.3 WLAN 5 GHz - Head

5200_Left Ear_Cheek

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11a_ch40_f5200_Left Ear_Cheek

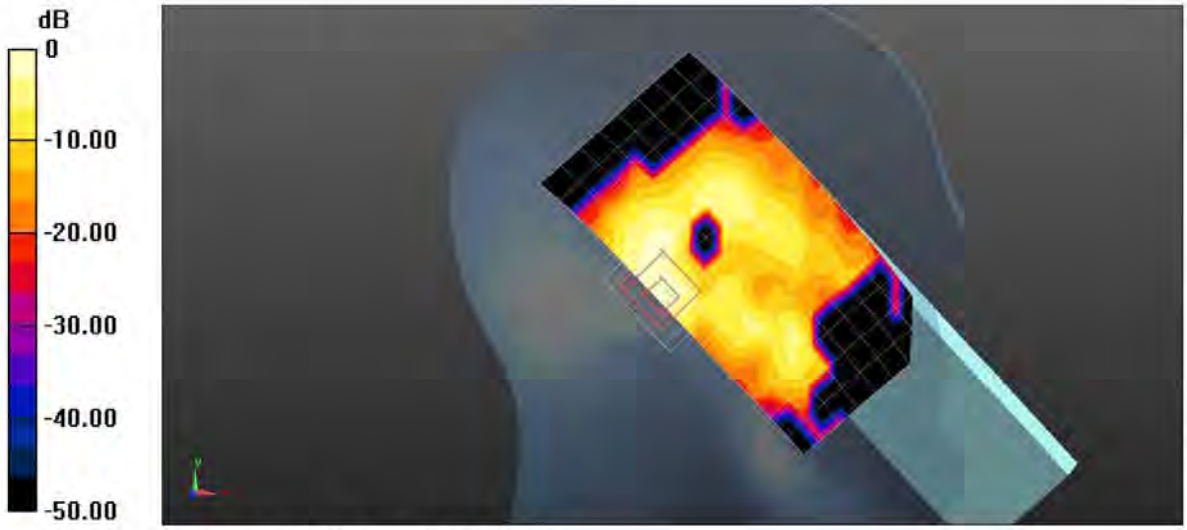
Communication System: 5GWALN; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 4.565 S/m; ε_r = 35.567; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.54, 4.54, 4.54); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11a_ch40_f5200_Left Ear_Cheek/Area Scan (9x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.220 W/kg

MWP1100A/802.11a_ch40_f5200_Left Ear_Cheek/Zoom Scan (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.476 W/kg
SAR(1 g) = 0.127 W/kg; SAR(10 g) = 0.039 W/kg
Maximum value of SAR (measured) = 0.265 W/kg



0 dB = 0.265 W/kg = -5.77 dBW/kg

5200_Left Ear_Tilt

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11a_ch40_f5200_Left Ear_Tilt

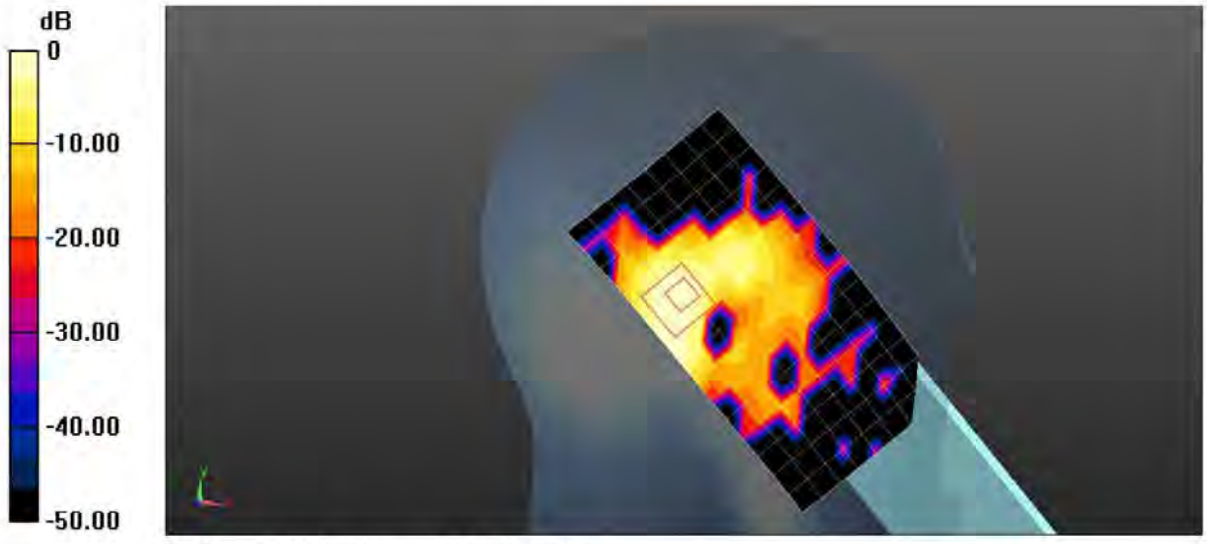
Communication System: 5GWALN; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 4.565 S/m; ε_r = 35.567; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.54, 4.54, 4.54); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11a_ch40_f5200_Left Ear_Tilt/Area Scan (9x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.236 W/kg

MWP1100A/802.11a_ch40_f5200_Left Ear_Tilt/Zoom Scan (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.113 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.510 W/kg
SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.038 W/kg
Maximum value of SAR (measured) = 0.240 W/kg



0 dB = 0.240 W/kg = -6.20 dBW/kg

5200_Right Ear_Cheek

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11a_ch40_f5200_Right Ear_Cheek

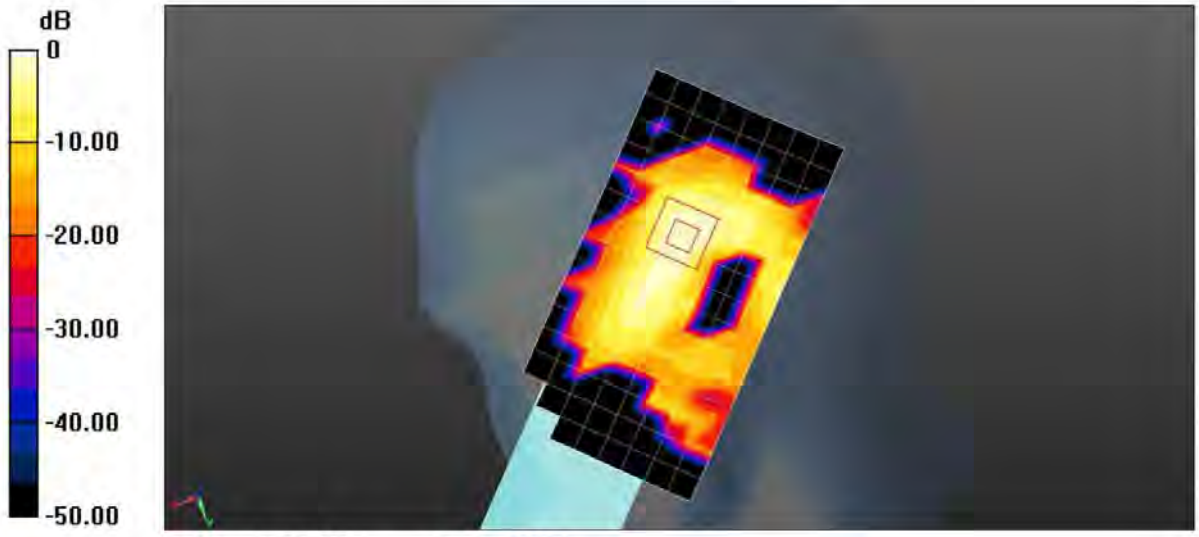
Communication System: 5GWALN; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 4.565 S/m; ε_r = 35.567; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.54, 4.54, 4.54); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP110A/802.11a_ch40_f5200_Right Ear_Cheek/Area Scan (9x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.228 W/kg

MWP110A/802.11a_ch40_f5200_Right Ear_Cheek/Zoom Scan (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.561 W/kg
SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.042 W/kg
Maximum value of SAR (measured) = 0.282 W/kg



0 dB = 0.282 W/kg = -5.50 dBW/kg

5200_Right Ear_Tilt

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11a_ch40_f5200_Right Ear_Tilt

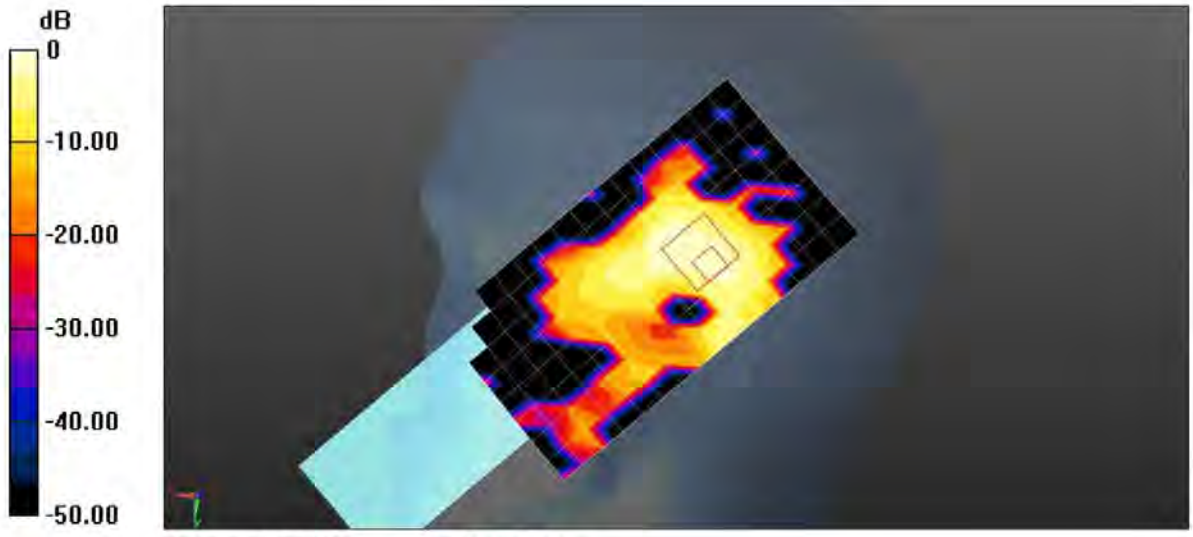
Communication System: 5GWALN; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 4.565 S/m; ε_r = 35.567; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.54, 4.54, 4.54); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP110A/802.11a_ch40_f5200_Right Ear_Tilt/Area Scan (9x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.199 W/kg

MWP110A/802.11a_ch40_f5200_Right Ear_Tilt/Zoom Scan (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.832 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.424 W/kg
SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.040 W/kg
Maximum value of SAR (measured) = 0.237 W/kg



0 dB = 0.237 W/kg = -6.25 dBW/kg

5300_Left Ear_Cheek

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11a_ch60_f5300_Left Ear_Cheek

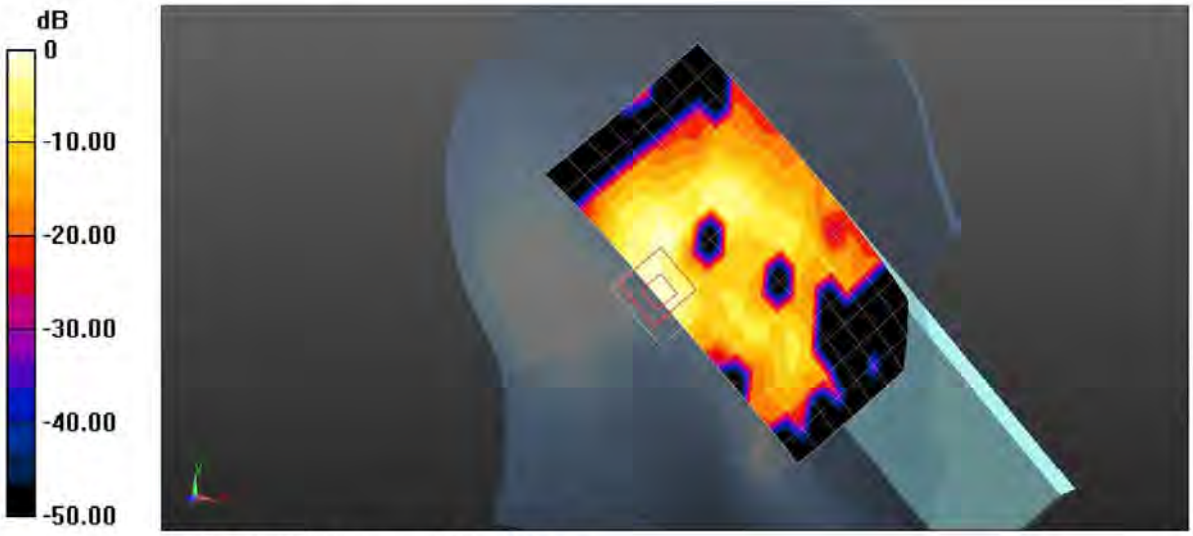
Communication System: 5GWALN; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 4.682 S/m; ε_r = 35.343; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.33, 4.33, 4.33); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11a_ch60_f5300_Left Ear_Cheek/Area Scan (9x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.327 W/kg

MWP1100A/802.11a_ch60_f5300_Left Ear_Cheek/Zoom Scan (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.601 W/kg
SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.052 W/kg
Maximum value of SAR (measured) = 0.369 W/kg



0 dB = 0.369 W/kg = -4.33 dBW/kg

5300_Left Ear_Tilt

DUT: MWP1100A; Type: WIFI Phone; Serial: N/A
Procedure Name: 802.11a_ch60_f5300_Left Ear_Tilt

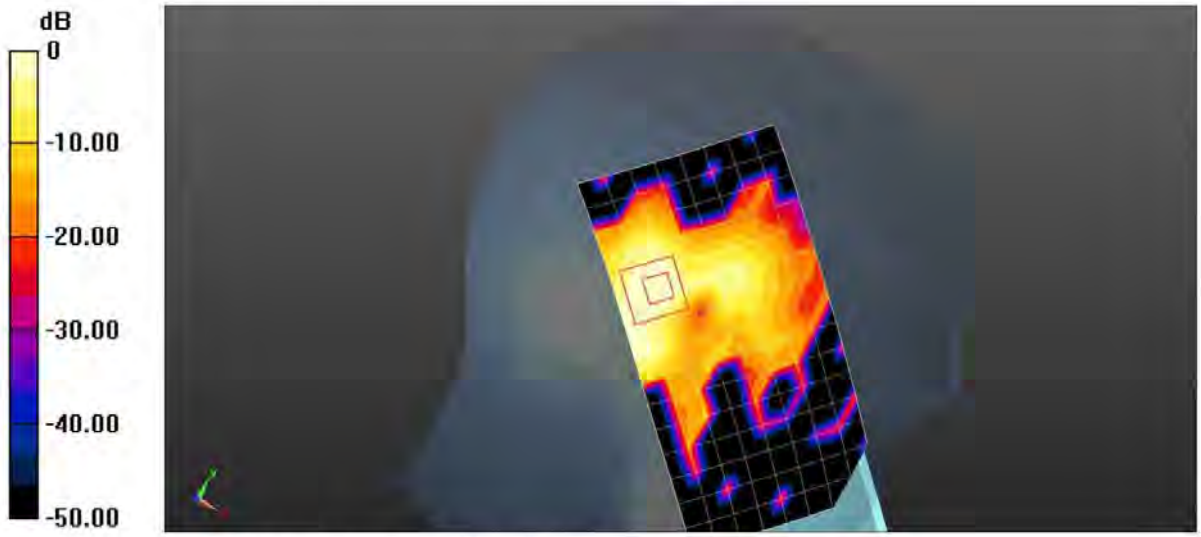
Communication System: 5GWALN; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 4.682 S/m; ε_r = 35.343; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3865; ConvF(4.33, 4.33, 4.33); Calibrated: 06.08.2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1342; Calibrated: 09.08.2012
- Phantom: SAM with SN1728; Type: QD000P40CC; Serial: TP:1728
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

MWP1100A/802.11a_ch60_f5300_Left Ear_Tilt/Area Scan (9x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.343 W/kg

MWP1100A/802.11a_ch60_f5300_Left Ear_Tilt/Zoom Scan (7x7x12)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.254 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.571 W/kg
SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.046 W/kg
Maximum value of SAR (measured) = 0.314 W/kg



0 dB = 0.314 W/kg = -5.03 dBW/kg