中国计量科学研究院
NATIONAL INSTITUTE OF METROLOGY

The National Institute of Metrology (NIM)

FCC SAR TEST REPORT

Report No. **<NIME15040051700>**
FCC ID **<2AEB5-E41>**

Client:	AOC
Sample:	Smart phone
Type/Model:	E41
Client Address:	8F-3, No. 166, Jian 1st Rd., Zhonghe Dist., New Taipei City 23511, Taiwan
Manufacturer:	AOC
Manufacturer Address:	8F-3, No. 166, Jian 1st Rd., Zhonghe Dist., New Taipei City 23511, Taiwan
Date of Test:	2015-04-29

Approved by:<>

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Note：

1. The test results presented in this report relate only to the object tested.
2. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Reference documents (Code,Name):

: IEEE Std. 1528-2013, 47CFR § 2.1093
: FCC KDB Publication 447498 D01v05r02
: FCC KDB Publication 648474 D04v01r02
: FCC KDB Publication 865664 D01v01r03
: FCC KDB Publication 941225 D01~D06

Subcontractor:

1. The Probe is rented from Shenzhen Academy of Metrology and Quality Inspection(SMQ) EMC Laboratory by National Institute of Metrology（NIM） and the DASY52 test system is subcontracted from National Institute of Metrology（NIM）
2. SMQ Address：No.4 Tongfa Road, Xili Town, Nanshan District, Shenzhen, Guangdong, China
   NIM Address：No.18 Bei San Huan Dong Lu,Beijing,P.R.China
3. Because SMQ is NIM 's subordinate relationship,SO the SAR test is finished finally form NIM
4. Test location: National Institute of Metrology SAR test Laboratory(NIM).

CNAS number	
NIM	L0502
SMQ	L0579

Tested by： <> Beorl **Checked:** <> Joyce

FinishDate: 2015-04-30 FinishDate: 2015-04-30

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1. GENERAL INFORMATION

1.1. DUT Description

Product Name	Smart phone	
Model No.	E41	
IMEI 1: IMEI 2:	865965020193171 865965020193163	
Device Category	Portable	
Hardware Version	PH502AW - MAINPCB-V1.0.0	
Software Version	PH502BW_KMOEB_FOREIGN_V1.0.2_user_r8741	
Antenna Type	Internal	
Support Band	GSM850 :824.2~848.8MHz PCS1900:1850.2~1909.8MHz WCDMA Band II：1852.4~1907.6MHz WCDMA Band V：826.4~846.6MHz WIFI 2.4G:2412~2462MHz Bluetooth:2420~2480MHz	
Type of modulation	GSMK for GSM/GPRS/EDGE、8PSK for EDGE、QPSK for RMC/ARM、QPSK for HSUPA/HSDPA	
Max. Reportted SAR(1g)	Head:**0.816** W/g GSM850 : **0.392**W/g PCS1900: **307**W/g WCDMA Band II : **0.655**W/g WCDMA Band V : **0.342**W/g WIFI 2.4G: **0.816**W/g	Body:**0.904** W/g GSM850 : **0.904**W/g PCS1900:**0.414** W/g WCDMA Band II : **0.840**W/g WCDMA Band V : **0.508**W/g WIFI 2.4G: **0.098**W/g
Wi-Fi		
Wi-Fi Frequency	802.11b/g/n(20MHz): 2412 ~ 2462 MHz 802.11n(40MHz): 2422 ~ 2452 MHz;	
Type of modulation	802.11b: DSSS; 802.11g/n: OFDM	
Data Rate	802.11b: 1/2/5.5/11 Mbps	
	802.11g: 6/9/12/18/24/36/48/54 Mbps	
	802.11n: up to 135 Mbps	
Bluetooth		
Bluetooth Frequency	2402~2480MHz	
Bluetooth Version	V2.1+EDR	
Type of modulation	GFSK, Pi/4 DQPSK, 8DPSK	
Data Rate	1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)	

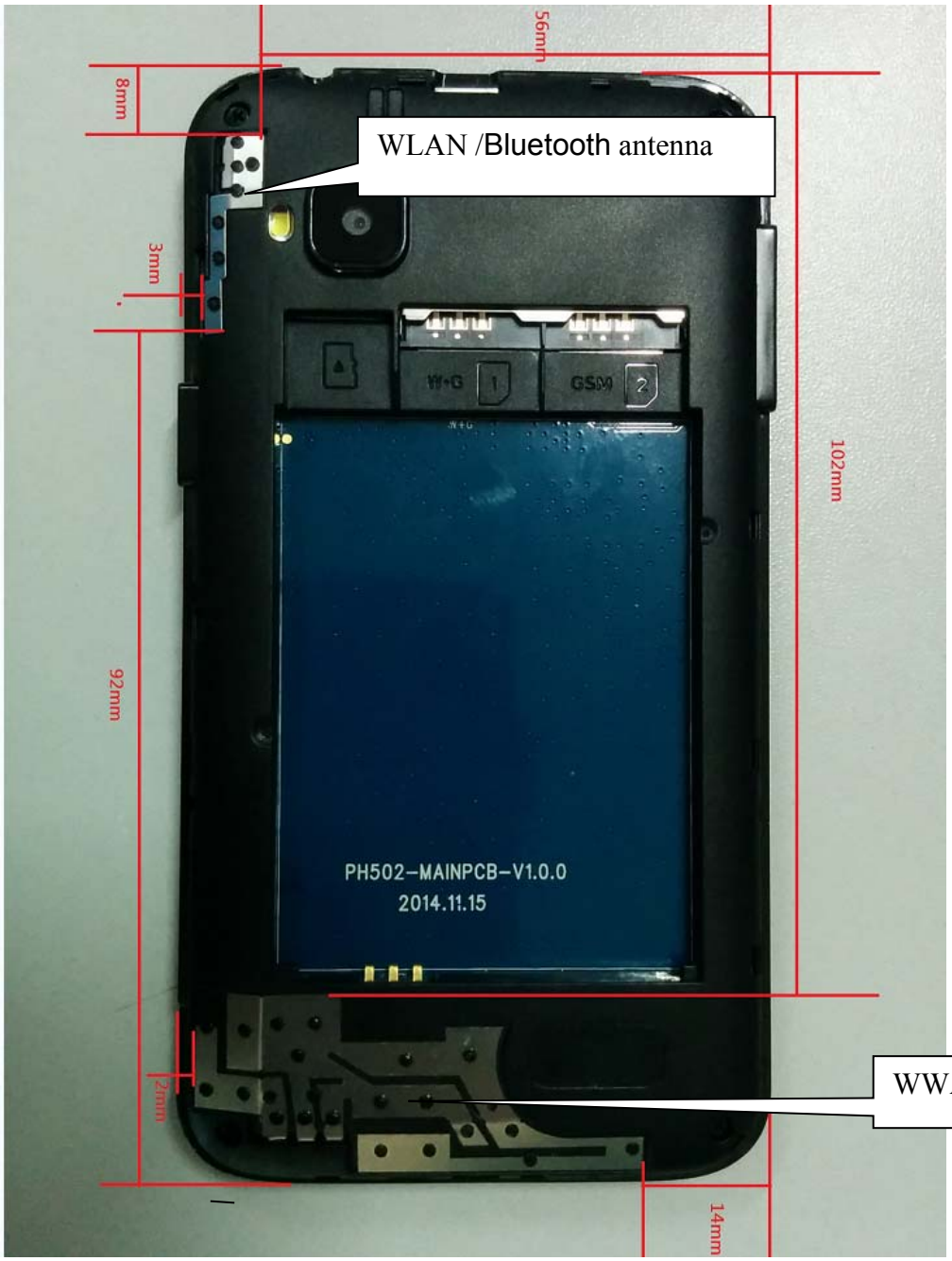
1.2. The test Laboratory

（CIPM MRA）。The National Institute of Metrology (NIM) is China's national metrology institute (NMI) and a state-level legal metrology institute. NIM is China's signatory to the Mutual Recognition of National Measurement Standards and of Calibration and Measurement Certificates Issued by National Metrology Institutes (CIPM MRA) which is arranged by the International Committee of Weights and Measures (CIPM).

NIM's quality management system meets requirements of the ISO/IEC 17025. Its Calibration and Measurement Capabilities (CMCs) that are peer reviewed both by China National Accreditation Service for Conformity Assessment (CNAS) and the Asia Pacific Metrology Programme (APMP) are published in the International Bureau of Weights and Measures (BIPM) Key Comparison Database (KCDB).

NIM and CNAS signed a Memorandum of Understanding (MOU) for Recognition of Technical Assessment in Laboratory Accreditation Field in 2011, in which CNAS recognizing the technical supporting role of NIM in laboratory accreditation and the traceability of NIM's calibration / test results.

1.3. EUT Antenna Locations



Mobile Hotspot Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Left	Right
GPRS900	Yes	Yes	NO	Yes	Yes	NO
GPRS900	Yes	Yes	NO	Yes	Yes	NO
WCDMA Band II	Yes	Yes	NO	Yes	Yes	NO
WCDMA Band V	Yes	Yes	NO	Yes	Yes	NO
WIFI	Yes	Yes	Yes	NO	NO	Yes

Note: Particular DUT edges were not required to be evaluated for Wireless Router SAR if theedges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication941225 D06v01r01 guidance, page 2. The antenna photo shows the distances between thetransmit antennas and the edges of the device.

1.4. Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	± 21.5%

1.5. Temperature and Humidity

Items	Require	Actual
Temperature (°C)	18-25	22±2
Humidity (%RH)	30-70	55

1.6. Introduction of 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 general public group.

SAR Definition:

$$SAR = \frac{d}{dt}\left(\frac{dW}{dm}\right) = \frac{d}{dt}\left(\frac{dW}{\rho dv}\right) \qquad SAR = C\frac{\delta T}{\delta t} \quad SAR = \frac{\sigma |E|^2}{\rho}$$

In the first equation,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).

In the second equation, C is the specific head capacity, δT is the temperature rise and δt is the exposure duration.

The last equation relates to the electrical field, where σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the rms electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

SAR is expressed in units of Watts per kilogram (W/kg)

1.7. Test Configuration

GSM Test Configuration

The tests for GSM850 and GSM1900, a communication link is set up with a System Simulator by air link. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 128, 189 and 251 respectively in the case of GSM850, to 512, 661 and 810 respectively in the case of GSM1900. The tests in the band of GSM850 and GSM1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 10 for this EUT, it has at most 2 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 10 for this EUT, it has at most 2 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5. The device output power was set to maximum power level for all tests.

WCDMA Test Configuration

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

	Mode	Rel99
	Subtest	---
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c / β_d	8/15

WiFi Test configuration

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(ARFCN) is allocated to 1, 7 and 13 respectively in the case of 2450 MHz. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate.

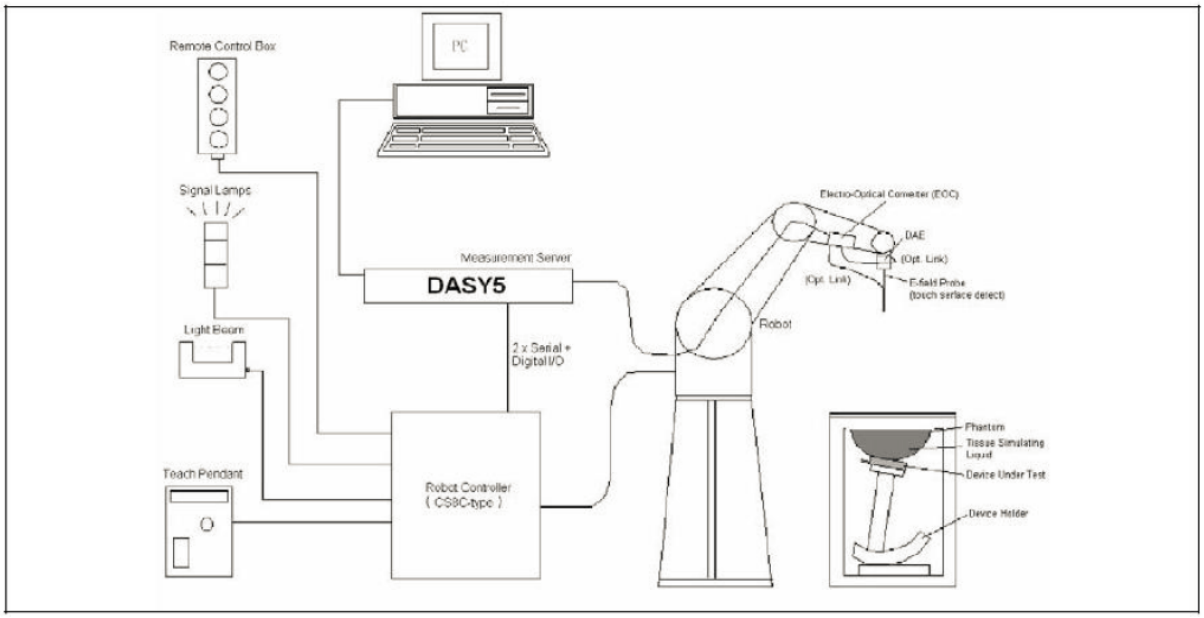
The distance between the DUT and the antenna of the System Simulator is larger than 50 cm.A fully charged battery was used for every test sequence.

For all the testing, measurements follow the EN 62209-1/-2 standards. The measurements were performed on the middle channel of both bands for each testing position. For the testing position with largest SAR result on each band, measurements of the lowest channel and highest channel were also performed.

The radiated output power of the device was measured by a separate test laboratory on the same unit(s) as used for SAR testing.

2. SAR MEASUREMENT SYSTEM

2.1. DASY5 System Description



The DASY5 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A data acquisition electronics (DAE) which performs the signal amplification,signalmultiplexing, AD-conversion, offset measurements, mechanical surface detection,collision detection, etc. The unit is battery powered with standard or rechargeablebatteries. 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 Light Beam used is for probe alignment. This improves the (absolute) accuracy ofthe probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety suchas warning lamps, etc.
- The phantom, the device holder and other accessories according to the targetedmeasurement.

2.2. Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEEE 1528, OET 65, IEC 62209-1, IEC 62209-2, EN 50360, EN50383, EN62311 and others

2.3. Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 10mm² step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments

When an Area Scan has measured all reachable points, it computes the field maxima foundin the scanned area, within a range of the global maximum. The range (in dB) is specified inthe standards for compliance testing. For example, a 2 dB range is required in IEEE1528-2003, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

2.4. 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. A density of 1000 kg/m³ is used to represent the head and body tissue density and not the phantom liquid density, in order tobe consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm, with the side length of the 10 g cube 21,5mm.

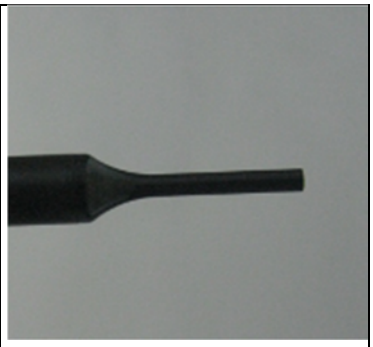
The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications utilize a physical step of 7x7x7 (5mmx5mmx5mm) providing a volume of 30mm in the X & Y axis, and 30mm in the Z axis.

2.5. DASY5 E-Field Probe

The SAR measurement is conducted with the dosimetric probe manufactured by SPEAG. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.
SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEEE 1528, EN 62209-1, IEC 62209, etc.) under ISO 17025. The calibration data are in Appendix D.

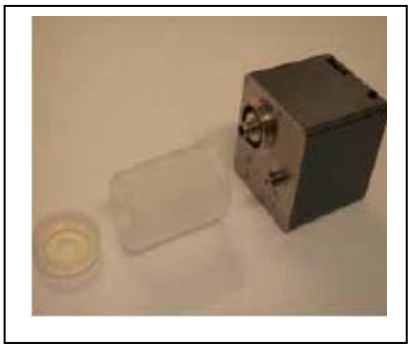
Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz)
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: 20mm) Tip length: 2.5 mm (Body: 12mm) Typical distance from probe tip to dipole centers: 1mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB



range		
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm	
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones	

2.6. Boundary Detection Unit and Probe Mounting Device



The DASY probes use a precise connector and an additional holder for the probe, consisting of a plastic tube and a flexible silicon ring to center the probe. The connector at the DAE is flexibly mounted and held in the default position with magnets and springs. Two switching systems in the connector mount detect frontal and lateral probe collisions and trigger the necessary software response

2.7. DATA Acquisition Electronics (DAE) and Measurement Server

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit.
Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz intel ULV Celeron, 128MB chipdisk and 128MB RAM. The necessary circuits for communication with the DAE electronics box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

2.8. Robot

The DASY5 system uses the high precision robots TX60 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used.
The XL robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

2.9. Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.
The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

2.10.Device holder description

The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent σ=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.
The device holder permits the device to be positioned with a tolerance of ±1° in the tilt angle.

Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.
Therefore those devices are normally only tested at the flat part of the SAM.

2.11.Phantom description

SAM Twin Phantom

Shell Thickness	2mm +/- 0.2 mm; The ear region: 6mm	
Filling Volume	Approximately 25 liters	
Dimensions	Length:1000mm; Width:500mm; Height: adjustable feet	
Measurement Areas	Left hand Right hand Flat phantom	
The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom		

counter. These reference marks are used to teach the absolute phantom position relative to the robot.

ELI4 Phantom

Shell Thickness	2mm +/- 0.2 mm	
Filling Volume	Approximately 30 liters	
Dimensions	Major axis:600mm; Minor axis:400mm	
Measurement Areas	Flat phantom	
The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6GHz. ELI4 is fully compatible with the latest draft of the standard IEC 62209-2 and all known tissue simulating liquids.		

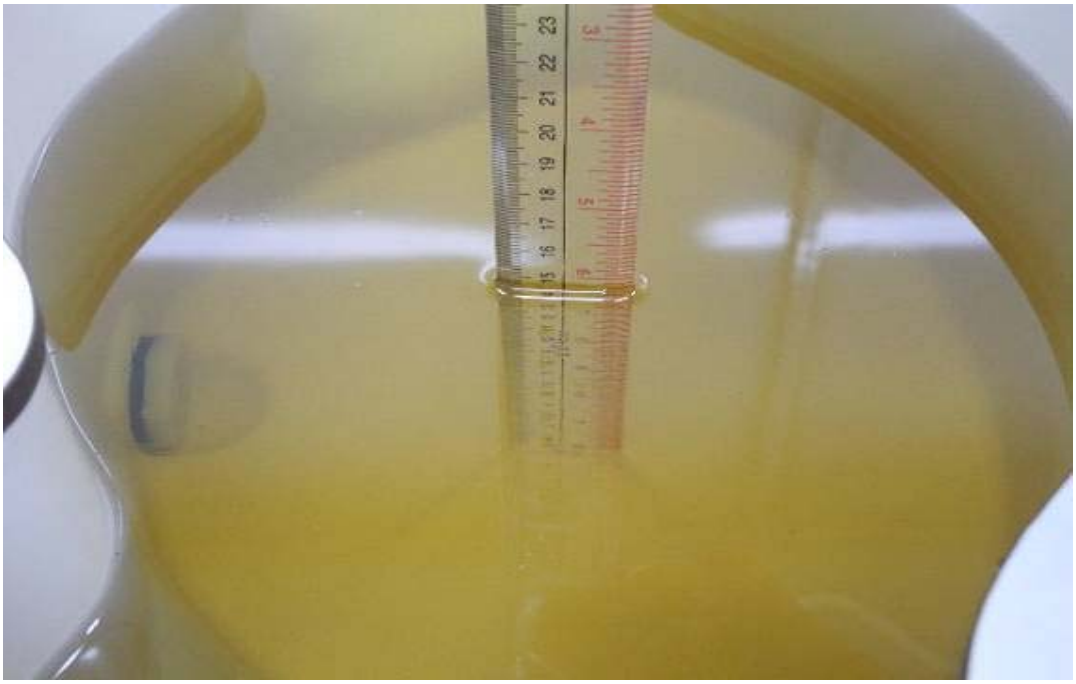
The phantom shell material is resistant to all ingredients used in the tissue-equivalent liquid recipes. The shell of the phantom including ear spacers is constructed from low permittivity and low loss material, with a relative permittivity ≤5 and a loss tangent ≤0.05.Tissue-equivalent liquid Recipes

2.12.Tissue-equivalent Liquids

Tissue-equivalent liquids that are used for testing, which are made mainly of sugar, salt and water solution. All tests were carried out using tissue-equivalent liquids whose dielectric parameters were within ± 5% of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.
The depth of the Tissue-equivalent liquid was 15.0±0.5 cm measured from the ear reference point (ERP) during system checking and device measurements.

Tissue-equivalent liquid Recipes

The following recipe(s) were used for Head Tissue-equivalent liquid(s):



3. Tissue Simulating Liquid

3.1. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using DASY5 Dielectric Probe Kit and Agilent Vector Network Analyzer E5071C
Dielectric parameters of the tissue simulants were measured every day using the dielectric proble kit and the network analyzer.

Head Tissue-equivalent liquid measurements: Reference result (+/-5%)				
Frequency	Dsicription	Dielectric Parameters		Temp (ºC)
		εr	σ(S/m)	
850MHz	calibration date	41.50 39.43 to 43.58	0.90 0.85 to 0.95	N/A
	2015-4-30	40.85	0.91	22
1900MHz	calibration date	40.0 38.00 to 42.00	1.40 1.33 to 1.47	N/A
	2015-4-30	39.06	1.43	22
2450MHz	calibration date	39.2 37.24 to41.16	1.80 1.62 to 1.98	N/A
	2015-4-30	39.1	1.82	22
εr= Relative permittivity, σ= Conductivity				

Body Tissue-equivalent liquid measurements: Reference result (+/-5%)				
Frequency	Dsicription	Dielectric Parameters		Temp (ºC)
		εr	σ(S/m)	
850MHz	calibration date	55.2 52.44 to57.96	0.97 0.92to 1.02	N/A
	2015-4-30	54.75	0.98	22
1900MHz	calibration date	53.3 50.64 to 55.97	1.52 1.44 to 1.60	N/A
	2015-4-30	51.05	1.57	22
2450MHz	calibration date	52.7 50.07 to55.34	1.95 1.85 to 2.05	N/A
	2015-4-30	51.70	1.98	22
εr= Relative permittivity, σ= Conductivity				

Note:Tissue Calibration Resultfrom APPENDIX A

3.1. Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	**41.5**	**0.90**	**55.2**	**0.97**
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	**40.0**	**1.40**	**53.3**	**1.52**
2450	**39.2**	**1.80**	**52.7**	**1.95**
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

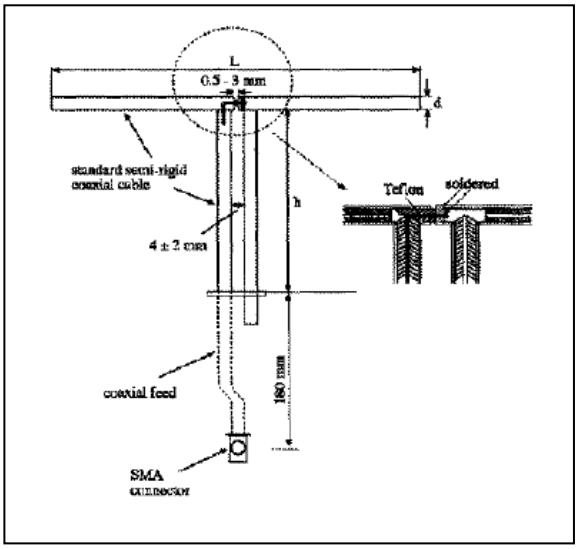
(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

4. SAR Measurement Procedure

4.1. SAR System Validation

Validation Dipoles

The dipoles used is based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical specifications for the dipoles



Frequency	L (mm)	h (mm)	d (mm)
900MHz	149.0	83.3	3.6
1800MHz	72.0	41.7	3.6
1900MHz	68.0	39.5	3.6
2450MHz	53.5	30.4	3.6
5200MHz	20.6	14.2	3.6
5500 MHz	20.6	14.2	3.6
5800 MHz	20.6	14.2	3.6

4.2. Validation Result

Dielectric parameters of the tissue simulants were measured every day using the dielectric proble kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the stimulant, using the dipole system check kit. A power level of **250 mW** as supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system check results (dielectric parameters and SAR values) are given in the following table.

Results system check

System Check	Target SAR (1W) (+/-10%)	Measured SAR (Normalized to 1W)	Liquid Temp	Test Date
	1-g (mW/g)	1-g (mW/g)		
D850 Head	9.50(8.55~10.45)	8.84	22	2015-4-29
D1900 Head	40.0(36.00~44.00)	39.68	22	2015-4-29
D2450 Head	53.6(48.24~58.96)	53.6	22	2015-4-29

System Check	Target SAR (1W) (+/-10%)	Measured SAR (Normalized to 1W)	Liquid Temp	Test Date
	1-g (mW/g)	1-g (mW/g)		
D850 Body	9.53(8.577~10.48)	9.72	22	2015-4-29
D1900 Body	40.50(36,45~44.55)	43.2	22	2015-4-29
D2450 Body	49.2(44.38~54.12)	51.6	22	2015-4-29

Note:1.The Results system check from APPENDIX A

2.A power level of **250 mW** as supplied to the dipole antenna Every measured SAR from APPENDIX A must time 4.

5. 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. DESCRIPTION OF THE TEST EQUIPMENTS

6.1. Measurement System and Components

No.	Equipment	Model No.	Serial No.	Manufacturer	Last Calibration Date	Period
1	SAR test system	TX60L	F08/5AY8A1/A/01+F08/	SPEAG	NCR	NCR
2	Electronic Data Transmitter	DAE4	898	SPEAG	2014.12.09	1year
3	SAR Probe	ES3DV3	3203	SPEAG	2014.12.19	1year
4	SAR Probe	EX3DV4	3881	SPEAG	2014.07.22	1year
5	System Validation Dipole,835MHz	D835V2	4d141	SPEAG	2012.09.24	3year
6	System Validation Dipole,900MHz	D900V2	101077	SPEAG	2012.10.16	3year
7	System Validation Dipole,1800MHz	D1800V2	201171	SPEAG	2012.10.12	3year
8	System Validation Dipole,1900MHz	D1900V2	5d162	SPEAG	2012.09.21	3year
9	System Validation Dipole,2450MHz	D2450V2	818	SPEAG	2012.10.18	3year
10	Dielectric Probe Kit	85070E	MY44300455	Agilent	NCR	NCR
11	Dual-directional coupler,0.10-2.0GHz	778D	MY48220198	Agilent	NCR	NCR
12	Dual-directional coupler,2.00-18GHz	772D	MY46151160	Agilent	NCR	NCR
13	Coaxial attenuator	8491A	MY39266348	Agilent	NCR	NCR
14	Power Amplifier	ZHL42W	81709	Agilent	NCR	NCR
15	Signal Generator	SMR20	100047	R&S	2015.01.14	1year
16	Power Meter	NRVD	100041	R&S	2015.01.22	1year
17	Call Tester	CMU 200	100110	R&S	2015.01.06	1year
18	Network Analyzer	E5071C	MY46109550	Agilent	2015.01.24	1Year
19	Flat Phantom	ELI4.0	TP-1904	SPEAG	NCR	NCR
20	Twin Phantom	SAM	TP-1504	SPEAG	NCR	NCR

6.2. Test Position

Against Phantom Head

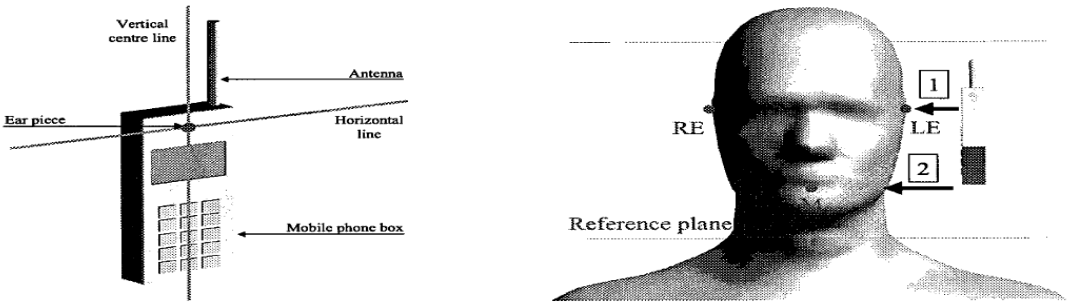
The Mobile phone shall be tested in the “cheek” and “tilted” position on left and right sides of the phantom.

Define of the “cheek” position:

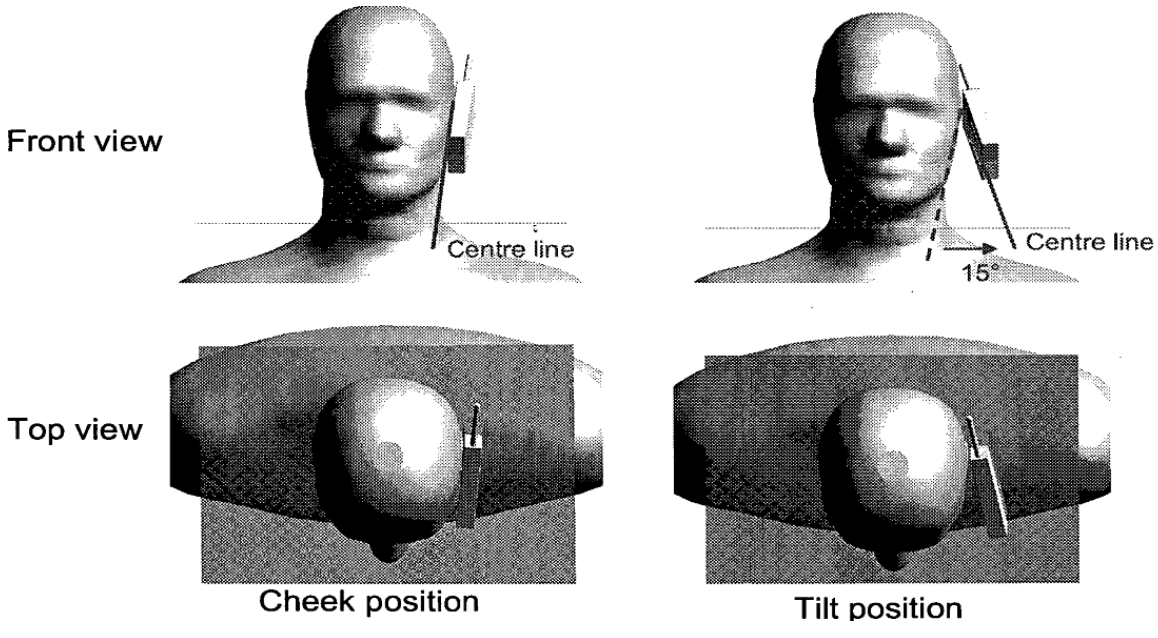
a) Position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M, RE and LE) and align the center of the ear piece with the line RE-LE.
b) Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

Define of the “tilted” position:

a) Position the device in the “cheek” position described above.
b) While maintaining the device the reference planes described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.



Define of the reference lines and points,
on the phone and on the phantom and initial position



"Cheek" and "tilted" position of the mobile phone on the left side

Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. The distance between of the device and the phantom was kept 15mm.

6.3. Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

6.4. SAR Averaging Methods

The DASY5 software includes all numerical procedures necessary to evaluate the spatial peak SAR values. The base for the evaluation is a "cube" measurement in a volume of (30mm)3 (7x7x7 points). The maximum SAR value was averaged over the cube of tissue using interpolation and extrapolation.
The interpolation, extrapolation and maximum search routines within Dasy5 are all based on the modified Quadratic Shepard's method.
The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately.
The interpolating function is finally calculated as a weighted average of the quadratics.
In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner

The measurements were performed using an automated near-field scanning system, DASY5, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the "advanced extrapolation" algorithm

7. MEASUREMENT UNCERTAINTY

7.1. Uncertainty for Sar Test

Uncertainty Component	**Tol. (%)**	**Prob Dist.**	**Div**	**ci (1g)**	**ci.ui(%) (1g)**	**Vi**
Measurement System						
Probe Calibration	±5.9	N	1	1	±5.9	∞
Axial Isotropy	±4.7	R	$\sqrt{3}$	0.7	±1.9	∞
Hemispherical Isotropy	±9.6	R	$\sqrt{3}$	0.7	±3.9	∞
Boundary Effect	±1.0	R	$\sqrt{3}$	1	±0.6	∞
Linearity	±4.7	R	$\sqrt{3}$	1	±2.7	∞
System Detection Limits	±1.0	R	$\sqrt{3}$	1	±0.6	∞
Readout Electronics	±0.3	N	1	1	±0.3	∞
Response Time	±0.8	R	$\sqrt{3}$	1	±0.5	∞
Integration Time	±2.6	R	$\sqrt{3}$	1	±1.5	∞
RF Ambient Conditions – Noise	±3.0	R	$\sqrt{3}$	1	±1.7	∞
RF Ambient Conditions – Reflections	±3.0	R	$\sqrt{3}$	1	±1.7	∞
Probe Positioner Mechanical Tolerance	±0.4	R	$\sqrt{3}$	1	±0.2	∞
Probe Positioning with respect toPhantom Shell	±2.9	R	$\sqrt{3}$	1	±1.7	∞
Extrapolation, interpolation andIntegration Algorithms for Max. SAREvaluation	±1.0	R	$\sqrt{3}$	1	±0.6	∞
Test Sample Related						
Test Sample Positioning	±2.9	N	1	1	±2.9	145
Device Holder Uncertainty	±3.6	N	1	1	±3.6	5
Output Power Variation - SAR driftmeasurement	±5.0	R	$\sqrt{3}$	1	±2.9	∞
Phantom and Tissue Parameters						
Phantom Uncertainty (shape andthickness tolerances)	±4.0	R	$\sqrt{3}$	1	±2.3	∞
Conductivity Target – tolerance	±5.0	R	$\sqrt{3}$	0.43	±1.2	∞
Conductivity - measurement uncertainty	±2.5	N	1	0.43	±1.1	∞
Permittivity Target – tolerance	±5.0	R	$\sqrt{3}$	0.49	±1.4	∞
Permittivity - measurement uncertainty	±2.5	N	1	0.49	±1.2	5
Combined Standard Uncertainty					**±10.7**	**387**
Expanded STD Uncertainty					**±21.5**	

7.2. Uncertainty for System Validation

Uncertainty Component	Uncert. value	Prob. Dist.	Div.	(ci) (1g)	Std. Unc. (1g)	(vi) veff
Probe Calibration	±6.55 %	N	1	1	±6.55 %	1
Axial Isotropy	±4.7 %	R	$\sqrt{3}$	1	±2.7 %	1
Hemispherical Isotropy	±9.6 %	R	$\sqrt{3}$	0	±0 %	1
Boundary E_ects	±1.0 %	R	$\sqrt{3}$	1	±0.6 %	1
Linearity	±4.7 %	R	$\sqrt{3}$	1	±2.7 %	1
System Detection Limits	±1.0 %	R	$\sqrt{3}$	1	±0.6 %	1
Modulation Response	±0 %	R	$\sqrt{3}$	1	±0 %	1
Readout Electronics	±0.3 %	N	1	1	±0.3 %	1
Response Time	±0 %	R	$\sqrt{3}$	1	±0 %	1
Integration Time	±0 %	R	$\sqrt{3}$	1	±0 %	1
RF Ambient Noise	±1.0 %	R	$\sqrt{3}$	1	±0.6 %	1
RF Ambient Re ections	±1.0 %	R	$\sqrt{3}$	1	±0.6 %	1
Probe Positioner	±0.8 %	R	$\sqrt{3}$	1	±0.5 %	1
Probe Positioning	±6.7 %	R	$\sqrt{3}$	1	±3.9 %	1
Max. SAR Eval.	±2.0 %	R	$\sqrt{3}$	1	±1.2 %	1
Dipole Related						
Deviation of exp. dipole	±5.5 %	R	$\sqrt{3}$	1	±3.2 %	1
Dipole Axis to Liquid Dist.	±2.0 %	R	$\sqrt{3}$	1	±1.2 %	1
Input power & SAR drift	±3.4 %	R	$\sqrt{3}$	1	±2.0 %	1
Phantom and Setup						
Phantom Uncertainty	±4.0 %	R	$\sqrt{3}$	1	±2.3 %	1
SAR correction	±1.9 %	R	$\sqrt{3}$	0.84	±0.9 %	1
Liquid Conductivity (meas.)	±2.5 %	N	1	0.71	±1.8 %	1
Liquid Permittivity (meas.)	±2.5 %	N	1	0.26	±0.7 %	1
Temp. unc. -Conductivity	±1.7 %	R	$\sqrt{3}$	0.71	±0.7 %	1
Temp. unc. -Permittivity	±0.3 %	R	$\sqrt{3}$	0.26	±0.0 %	∞
Combined Std. Uncertainty					**±10.1 %**	
Expanded STD Uncertainty					**±20.2%**	

8. EUT TUNE-UP PROCEDURES AND TEST MODE

The following procedure had been used to prepare the EUT for the SAR test.

To setup the desire channel frequency and the maximum output power. A Radio Communication Tester ."CMU200 " was used to program the EUT.

For the measurements a Rohde & Schwarz Radio Communication Tester CMU 200 was used.SAR drift measured at the same position in liquid before and after each SAR test as below 6.2 chapter.

Note: CMU200 measures GSM peak and average output power for active timeslots.For SAR the timebased average power is relevant. The difference in between depends on the duty cycle of the TDMA signal :

No. of timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.1	1:2.77	1:2.08
timebased avg. power compared to slotted avg. power	-9.19dB	-6.13dB	-4.42dB	-3.18dB

The signalling modes differ as follows:

mode	coding scheme	modulation
GPRS	CS1 to CS4	GMSK
EDGE	MCS1 to MCS4	GMSK

Apart from modulation change (GMSK/8PSK) coding schemes differ in code rate without influence on the RF signal. Therefore one coding scheme per mode was selected for conducted power measurements.

General Note:

1. Per KDB 447498 D01v05r02, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. For head SAR testing, the EUT was set in GSM Voice for GSM850 and PCS1900 due to its highest frame-average power.
3. For body worn SAR testing, the EUT was set in GPRS 2 Tx slots for GSM850 and GPRS 2 Tx PCS1900 due to its highest frame-average power.
4. For hotspot SAR testing, the EUT was set in GPRS 2Tx slots for GSM850 and GPRS 2 Tx PCS1900 due to its highest frame-average power.

8.1. Conducted Power Measurement

Mode	Channel	Frequency (MHz)	Avg.Burst Power (dBm)	Duty Cycle Factor (dB)	Frame Power (dBm)
GSM850	128	824.2	31.70	-9	22.7
	190	836.6	31.60	-9	22.6
	251	848.8	31.50	-9	22.5
GPRS850(1 Slot)	128	824.2	31.67	-9	22.67
	190	836.6	31.66	-9	22.66
	251	848.8	31.64	-9	22.64
GPRS850(2 Slot)	128	824.2	29.42	-6	23.42
	190	836.6	29.42	-6	**23.42**
	251	848.8	29.36	-6	23.36
GPRS850 (3 Slot)	128	824.2	27.54	-4.25	23.29
	190	836.6	27.49	-4.25	23.24
	251	848.8	27.39	-4.25	23.14
GPRS850 (4 Slot)	128	824.2	25.47	-3	22.47
	190	836.6	25.43	-3	22.43
	251	848.8	25.35	-3	22.35
	251	848.8	23.8	-3	20.8
PCS1900	512	1850.2	29.50	-9	20.5
	810	1880.0	29.20	-9	20.2
	661	1909.8	29.20	-9	20.2
GPRS1900(1 Slot)	512	1850.2	29.49	-9	20.49
	661	1880.0	29.21	-9	20.21
	810	1909.8	29.14	-9	20.14
GPRS1900(2 Slot)	512	1850.2	26.97	-6	**20.97**
	661	1880.0	26.63	-6	20.63
	810	1909.8	26.57	-6	20.57
GPRS1900(3 Slot)	512	1850.2	25.11	-4.25	20.86
	661	1880.0	24.78	-4.25	20.53
	810	1909.8	24.72	-4.25	20.47
GPRS1900(4 Slot)	512	1850.2	22.34	-3	19.34
	661	1880.0	22.09	-3	19.09
	810	1909.8	22.10	-3	19.1

Note 1: Scaling Factor = Max. Power(mW) -Avg. Burst Power(mW)/10.The powers of 10 for it.

2: This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v05r02.

3: Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged powers were calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots

4: The bolded GPRS modes were selected for SAR testing according to the highest frame-averaged output power table per KDB 941225 D03v01

5: GPRS(GMSK) output powers were measured with coding scheme setting of 1 (CS1) on the base station simulator. CS1 was configured to measure GPRS output power measurements and SAR to ensure GMSK modulation in the signal. Our Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels or modulation in the GPRS modes.

8.2. WCDMA/HSDPA/HSUPA

Mode		Conducted Power (dBm) Channel		
		9269	9400	9538
WCDMA II	12.2kbps RMC	20.75	20.65	21.08
HSDPA	Subtest 1	20.37	20.56	21.28
	Subtest 2	20.25	20.12	21.08
	Subtest 3	20.18	20.09	21.03
	Subtest 4	20.01	19.98	20.22
HSUPA	Subtest 1	19.77	19.92	19.53
	Subtest 2	19.12	19.32	18.96
	Subtest 3	19.07	19.04	18.44
	Subtest 4	18.85	18.77	18.31
	Subtest 5	19.05	19.06	18.46

Mode		Conducted Power (dBm) Channel		
		4132	4182	4233
WCDMAV	12.2kbps RMC	19.63	19.60	19.34
HSDPA	Subtest 1	19.86	19.09	19.08
	Subtest 2	19.02	18.66	18.45
	Subtest 3	18.72	18.21	18.11
	Subtest 4	18.34	17.97	17.78
HSUPA	Subtest 1	19.41	18.54	18.53
	Subtest 2	19.06	18.04	17.99
	Subtest 3	18.75	17.89	17.64
	Subtest 4	18.44	17.45	17.32
	Subtest 5	18.74	17.90	17.71

Note: UMTS SAR was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v02. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg

8.3. WLAN output power

Mode	channel	Frequency (MHz)	Avg.Burst Power (dBm)
802.11b	01	2412	18.14
	06	2437	18.26
	11	2462	18.27
802.11g	01	2412	17.56
	06	2437	17.74
	11	2462	17.50
802.11n (20MHz)	01	2412	17.55
	06	2437	17.28
	11	2462	17.75
802.11n (40MHz)	03	2422	15.19
	06	2442	15.71
	09	2452	15.13

Note1: SAR is not required for 802.11g channels whenthe maximum average output power is less than ¼ dB higher than that measured on the corresponding 802.11b channels.

2: When output power is reduced for channel 1 and/or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested

8.4. Bluetooth 2.1 Conducted output power(dBm):

Mode	Frequency (MHz)	Peak Power
GFSK modulation	2402.00	1.93
	2441.00	2.18
	2480.00	**2.35**
Pi/4 QPSK modulation	2402.00	1.48
	2441.00	1.88
	2480.00	2.08
8DPSK modulation	2402.00	1.86
	2441.00	2.16
	2480.00	2.32

- According to KDB447498 D01:The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,24 where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation25
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

If the test separation distance (antenna-user) is < 5mm, 5mm is used for excluded SAR

Calculation

Bluetooth		
Tune-up Maximum power (dBm)		3
Tune-up Maximum rated power (mW)		2.000
Head	Antenna to user (mm)	5
	Frequency(GHz)	2.480
	SAR exclusion threshold	0.630
Body	Antenna to user (mm)	10
	Frequency(GHz)	2.480
	SAR exclusion threshold	0.314

Per KDB 447498 D01v05r02 exclusion thresholds is[(max. power of channel, including tune-up tolerance:5.012 mW)/(min. test separation distance: 5mm)] · [√2.480] =0.630< 3, Bluetooth RF exposure evaluation is not required.

8.5. The scaling factor of the test mode

Mode	Channel	Frequency (MHz)	Avg.Burst Power (dBm)	Tune-up Limit (dBm)	Scaling Factor
GSM850	128	824.2	31.70	32	1.071
	189	836.4	31.60	32	1.096
	251	848.8	31.50	32	1.122
GPRS850 (2 Slot)	128	824.2	29.42	30	1.142
	189	836.4	29.42	30	1.142
	251	848.8	29.36	30	1.158
PCS1900	512	1850.2	29.74	30	1.061
	661	1880.0	29.77	30	1.054
	810	1909.8	29.81	30	1.044
GPRS1900 (2 Slot)	512	1850.2	26.97	27	1.006
	661	1880.0	26.63	27	1.088
	810	1909.8	26.57	27	1.104
WCDMA Band II (850MHz)	9262	1852.4	20.75	21	1.059
	9400	1880.0	20.65	21	1.109
	9538	1907.6	20.18	21	1.207
WCDMA Band V (850MHz)	4132	826.4	22.35	23	1.161
	4182	863.4	22.47	23	1.129
	4233	846.6	22.51	23	1.119
802.11b	01	2412	18.14	19	1.218
	06	2437	18.26	19	1.185
	11	2462	18.27	19	1.184
Bluetooth	CH00	2402	1.93	3	1.250
	CH39	2441	2.18	3	1.207
	CH78	2480	2.35	3	1.161

9. SAR MEASUREMENT RESULTS

9.1. SAR measurement Result of GSM850

Test Mode GSM850(Voice)						
Position Head	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Left-Cheek	128	824.2	/	1.071	/	1.6
Left-Cheek	190	836.6	0.322	1.096	0.353	1.6
Left-Cheek	251	848.8	/	1.122	/	1.6
Left-Tilt	190	836.6	0.252	1.096	0.276	1.6
Right-Cheek	128	824.2	/	1.071	/	1.6
Right-Cheek	190	836.6	0.358	1.096	0.392	1.6
Right-Cheek	251	848.8	/	1.122	/	1.6
Right-Tilt	190	836.6	0.238	1.096	0.260	1.6
Test at worst position with SIM 2						
Right-Cheek	190	836.6	0.296	1.096	0.324	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						
Test Mode GSM850(GPRS)						
Position Body	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Front Side	128	824.2	/	1.142	/	1.6
Front Side	190	836.6	0.563	1.142	0.642	1.6
Front Side	251	848.8	/	1.158	/	1.6
Back Side	128	824.2	/	1.142	/	1.6
Back Side	190	836.6	0.792	1.142	0.904	1.6
Back Side	251	848.8	/	1.158	/	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

9.2. SAR measurement Result of PCS1900

Test Mode PCS1900(Voice)						
Position Head	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Left-Cheek	512	1850.2	/	1.061		1.6
Left-Cheek	661	1880.0	0.292	1.054	0.307	1.6
Left-Cheek	810	1909.8	/	1.044		1.6
Left-Tilt	661	1880.0	0.148	1.054	0.156	1.6
Right-Cheek	512	1850.2	/	1.061		1.6
Right-Cheek	661	1880.0	0.169	1.054	0.178	1.6
Right-Cheek	810	1909.8	/	1.044		1.6
Right-Tilt	661	1880.0	0.154	1.054	0.162	1.6
Test at worst position with SIM 2						
Left-Cheek	661	1880.0	0.222	1.054	0.233	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						
Test Mode PCS1900(GPRS)						
Position Body	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Front Side	512	1850.2	/	1.006	/	1.6
Front Side	661	1880.0	0.350	1.088	0.380	1.6
Front Side	810	1909.8	/	1.104	/	1.6
Back Side	512	1850.2	/	1.006	/	1.6
Back Side	661	1880.0	0.381	1.088	0.414	1.6
Back Side	810	1909.8	/	1.104	/	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

9.3. SAR measurement Result of WCDMA Band II

Test Mode WCDMA Band II(Voice)						
Position Head	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Left-Cheek	9262	1852.4	/	1.059	/	1.6
Left-Cheek	9400	1880.0	0.591	1.109	0.655	1.6
Left-Cheek	9538	1907.6	/	1.207	/	1.6
Left-Tilt	9400	1880.0	0.259	1.109	0.287	1.6
Right-Cheek	9262	1852.4	/	1.059	/	1.6
Right-Cheek	9400	1880.0	0.355	1.109	0.393	1.6
Right-Cheek	9538	1907.6	/	1.207	/	1.6
Right-Tilt	9400	1880.0	0.331	1.109	0.367	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

Test Mode WCDMA Band II(GPRS)						
Position Body	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Front Side	9262	1852.4	/	1.059	/	1.6
Front Side	9400	1880.0	0.661	1.109	0.733	1.6
Front Side	9538	1907.6	/	1.207	/	1.6
Back Side	9262	1852.4	/	1.059	/	1.6
Back Side	9400	1880.0	0.758	1.109	0.840	1.6
Back Side	9538	1907.6	/	1.207	/	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

Test Mode WCDMA Band V(Voice)						
Position Head	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Left-Cheek	4132	826.4	/	1.161	/	1.6
Left-Cheek	4182	836.6	0.258	1.129	0.291	1.6
Left-Cheek	4233	846.6	/	1.119	/	1.6
Left-Tilt	4182	836.6	0.176	1.129	0.198	1.6
Right-Cheek	4132	826.4	/	1.161	/	1.6
Right-Cheek	4182	836.6	0.303	1.129	0.342	1.6
Right-Cheek	4233	846.6	/	1.119	/	1.6
Right-Tilt	4182	836.6	0.147	1.129	0.165	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

Test Mode WCDMA Band V(GPRS)						
Position Body	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Front Side	4132	826.4	/	1.161	/	1.6
Front Side	4182	836.6	0.277	1.129	0.312	1.6
Front Side	4233	846.6	/	1.119	/	1.6
Back Side	4132	826.4	/	1.161	/	1.6
Back Side	4182	836.6	0.450	1.129	0.508	1.6
Back Side	4233	846.6	/	1.119	/	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

9.4. SAR measurement Result of WIFI 802.11 b

Test Mode WIFI 802.11 b						
Position Head	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Left-Cheek	01	2412	/	1.218	/	1.6
Left-Cheek	06	2437	0.346	1.185	0.410	1.6
Left-Cheek	11	2462	/	1.184	/	1.6
Left-Tilt	06	2437	0.329	1.185	0.389	1.6
Right-Cheek	01	2412	/	1.218	/	1.6
Right-Cheek	06	2437	0.614	1.185	0.727	1.6
Right-Cheek	11	2462	/	1.184	/	1.6
Right-Tilt	06	2437	0.689	1.185	0.816	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

Test Mode WIFI 802.11 b						
Position Body	Frequency		Test SAR 1g (W/kg)	Scaling Factor	Scaled SAR 1g (W/kg)	Limit (W/kg)
	Channel	MHz				
Front Side	01	2412	/	1.218	/	1.6
Front Side	06	2437	0.083	1.185	0.098	1.6
Front Side	11	2462	/	1.184	/	1.6
Back Side	01	2412	/	1.218	/	1.6
Back Side	06	2437	0.094	1.185	0.0111	1.6
Back Side	11	2462	/	1.184	/	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 447498 D01 v05r02						

According to October 2013TCB Workshop, For GSM / GPRS / EGPRS, the number of time slots to test for SAR should correspond to the highest source-based time-averaged maximum output power configuration, Considering the possibility of e.g. 3rd party VoIP operation for body-worn SAR testing, the EUT was set in GPRS (4Tx slots) for GSM850/GSM1900 band due to its highest frame-average power.

9.5. SAR for Hotspot Test Record

Band	Test position (10MM)	channel	Freq. (MHZ)	Test SAR1g (mW/g)	Scaling Factor	Scaled SAR1g (mW/g)	Limit (W/kg)
GSM850	Front	190	836.6	0.563	1.142	0.64	1.6
GSM850	Back	190	836.6	0.792	1.142	0.90	1.6
GSM850	Left	190	836.6	0.426	1.142	0.49	1.6
GSM850	Right	190	836.6	0.645	1.142	0.74	1.6
GSM850	Bottom	190	836.6	0.215	1.142	0.25	1.6
PCS1900	Front	616	1880	0.350	1.088	0.38	1.6
PCS1900	Back	616	1880	0.381	1.088	0.41	1.6
PCS1900	Left	616	1880	0.322	1.088	0.35	1.6
PCS1900	Right	616	1880	0.115	1.088	0.13	1.6
PCS1900	Bottom	616	1880	0.157	1.088	0.17	1.6
WCDMA II	Front	9400	1880.0	0.661	1.109	0.73	1.6
WCDMA II	Back	9400	1880.0	0.758	1.109	0.84	1.6
WCDMA II	Left	9400	1880.0	0.572	1.109	0.63	1.6
WCDMA II	Right	9400	1880.0	0.256	1.109	0.28	1.6
WCDMA II	Bottom	9400	1880.0	0.275	1.109	0.30	1.6
WCDMA V	Front	4182	836.6	0.277	1.129	0.31	1.6
WCDMA V	Back	4182	836.6	0.450	1.129	0.51	1.6
WCDMA V	Left	4182	836.6	0.212	1.129	0.24	1.6
WCDMA V	Right	4182	836.6	0.329	1.129	0.37	1.6
WCDMA V	Bottom	4182	836.6	0.078	1.129	0.09	1.6
WLAN 2.4G	Front	6	2437	0.083	1.185	0.10	1.6
WLAN 2.4G	Back	6	2437	0.094	1.185	0.11	1.6
WLAN 2.4G	Left	6	2437	0.047	1.185	0.06	1.6
WLAN 2.4G	Top	6	2437	0.093	1.185	0.11	1.6

9.6. Estimated SAR for Bluetooth

$$\text{Estimated SAR} = \frac{\sqrt{f(GHz)}}{7.5} * \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

Bluetooth

	Max Power	**Head (5 mm distance)**	**Body (10mm distance)**
Estimated SAR (W/Kg)	3dBm	0.084W/Kg	0.042W/Kg

Mode	Frequency Maximum	Scaling Factor	Separation Distance (Head)	Estimated SAR (Held-to-Ear)	Separation Distance (Body)	Estimated SAR (Body)
	[MHz]		[mm]	[W/kg]	[mm]	[W/kg]
Bluetooth	2480	1.161	5	0.097	10	0.048

9.7. REPEATED SAR MEASUREMENT

Rereat Test

Band	Test position (10MM)	channel	Freq. (MHZ)	Test SAR1g (mW/g)	Scaling Factor	Scaled SAR1g (mW/g)	Limit (W/kg)
GSM850	Back	190	836.6	0.875	1.142	0.999	1.6

Comparisonresult

Band	Test position	channel	Freq. (MHZ)	Original Measured SAR1g (mW/g)	1st Repeated SAR1g (mW/g	Ratio

Note:

1. Per KDB 865664 D01v01,for each frequence band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8W/Kg
2. Per KDB 865664 D01v01,if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤1.2 and the measured SAR < 1.45W/Kg, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg
4. The ratio is the difference in percentage between original and repeated measured SAR.

10. SULT OF SUM ∑SAR1G

10.1.Result of SUM∑SAR1g of Head

SUM ∑SAR1g (GSM850+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	GSM850	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Right Cheek	0	0.392	0.614	0.084	1.006	0.476
Right Tilted	0	0.260	0.689	0.084	0.949	0.344
Left Cheek	0	0.352	0.346	0.084	0.698	0.436
Left Tilted	0	0.276	0.329	0.084	0.605	0.36

SUM ∑SAR1g (PCS1900+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	PCS1900	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Right Cheek	0	0.178	0.614	0.084	0.792	0.262
Right Tilted	0	0.162	0.689	0.084	0.851	0.246
Left Cheek	0	0.307	0.346	0.084	0.653	0.391
Left Tilted	0	0.156	0.329	0.084	0.485	0.24

SUM ∑SAR1g (WCDMA Band II+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	WCDMA Band II	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Right Cheek	0	0.393	0.614	0.084	1.007	0.477
Right Tilted	0	0.367	0.689	0.084	1.056	0.451
Left Cheek	0	0.655	0.346	0.084	1.001	0.739
Left Tilted	0	0.287	0.329	0.084	0.616	0.371

SUM ∑SAR1g (WCDMA Band V+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	WCDMA Band V	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Right Cheek	0	0.342	0.614	0.084	0.956	0.426
Right Tilted	0	0.156	0.689	0.084	0.845	0.24
Left Cheek	0	0.291	0.346	0.084	0.637	0.375
Left Tilted	0	0.198	0.329	0.084	0.527	0.282

10.2.Result of SUM∑SAR1g for Body

SUM ∑SAR1g (GSM850+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	GPRS850	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.642	0.036	0.042	0.678	0.684
Back	10	0.904	0.032	0.042	0.936	0.946

SUM ∑SAR1g (PCS1900+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	GPRS1900	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.579	0.036	0.042	0.615	0.621
Back	10	0.756	0.032	0.042	0.788	0.798

SUM ∑SAR1g （WCDMA Band II +WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	WCDMA Band II	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.138	0.036	0.042	0.174	0.18
Back	10	0.520	0.032	0.042	0.552	0.562

SUM ∑SAR1g （WCDMA Band V +WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	WCDMA Band V	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.344	0.036	0.042	0.38	0.386
Back	10	0.609	0.032	0.042	0.641	0.651

10.3.Result of SUM∑SAR1g for Hotspot

SUM ∑SAR1g (GSM850+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	GSM850	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.64	0.09	0.042	0.73	0.682
Back	10	0.904	0.10	0.042	1.004	0.942
Left	10	0.49	0.11	0.042	0.60	0.532
Right	10	0.74	0.06	0.042	0.80	0.782
Top	10	/	0.11	0.042	/	/
Botom	10	0.25	/	0.042	/	0.292

SUM ∑SAR1g (PCS1900+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	PCS1900	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.38	0.09	0.042	0.47	0.422
Back	10	0.41	0.10	0.042	0.51	0.452
Left	10	0.35	0.11	0.042	0.46	0.392
Right	10	0.13	0.06	0.042	0.19	0.172
Top	10	/	0.11	0.042	/	/
Botom	10	0.17	/	0.042	/	0.212

SUM ∑SAR1g (WCDMA Band II+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	WCDMA Band II	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.73	0.09	0.042	0.82	0.772
Back	10	0.84	0.10	0.042	0.94	0.882
Left	10	0.63	0.11	0.042	0.74	0.672
Right	10	0.28	0.06	0.042	0.34	0.322
Top	10	/	0.11	0.042	/	/
Botom	10	0.30	/	0.042	/	0.342

SUM ∑SAR1g (WCDMA Band V+WLAN(2.4G) or Bluetooth)						
Position	Distance	Stand alone SAR(1g) [W/kg]			SUM SAR(1g)[W/kg]	SUM SAR(1g)[W/kg]
	[mm]	WCDMA Band V	WLAN 2.4G	Bluetooth	WWAN + WLAN(2.4G)	WWAN + Bluetooth
Front	10	0.31	0.09	0.042	0.4	0.352
Back	10	0.51	0.10	0.042	0.61	0.552
Left	10	0.24	0.11	0.042	0.35	0.282
Right	10	0.37	0.06	0.042	0.43	0.412
Top	10	/	0.11	0.042	/	/
Botom	10	0.09	/	0.042	/	0.132

11. APPENDIX A: SYSTEM CHECKING SCANS

Date: 4/30/2015

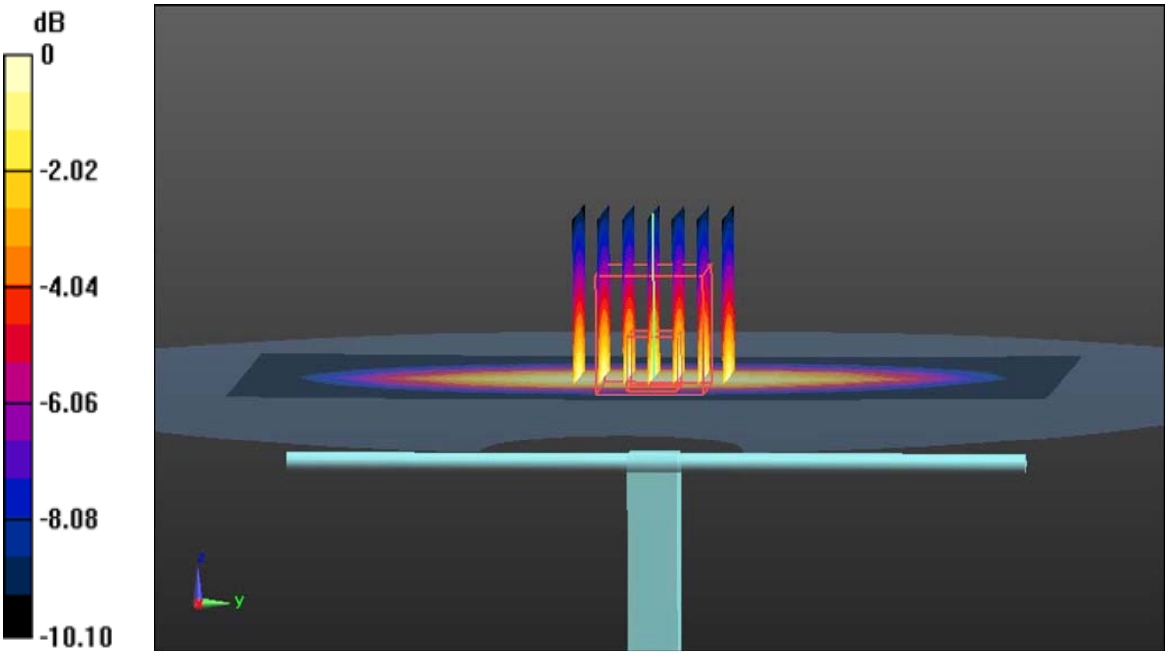
SystemPerformanceCheck-HeadD835
DUT:Dipole 835MHz D835V2;
Communication System:UID0, CW;Communication System Band:D835(835.0 MHz);Frequency:835MHz;Duty Cycle:1:1
Medium parameters used: f= 835 MHz;σ= 0.911 S/m; ε_r= 40.846; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C;
LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe:EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 7/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

SystemPerformanceCheckatFrequenciesLow 1GHz/Pin=250mW,dist=15mm(EX-Probe)/AreaScan(7x12x1):
Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 2.72 W/kg

SystemPerformanceCheckatFrequenciesLow 1GHz/Pin=250mW,dist=15mm(EX-Probe)/ZoomScan(7x7x7)(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mmReference Value = 59.67V/m; Power Drift = -0.04 dB
PeakSAR (extrapolated) = 3.24 W/kg
SAR(1g)=2.21W/kg;SAR(10g)= 1.46W/kg
Maximumvalue of SAR (measured) = 2.77 W/kg



0dB=2.77W/kg=4.42dBW/kg

Date: 4/30/2015

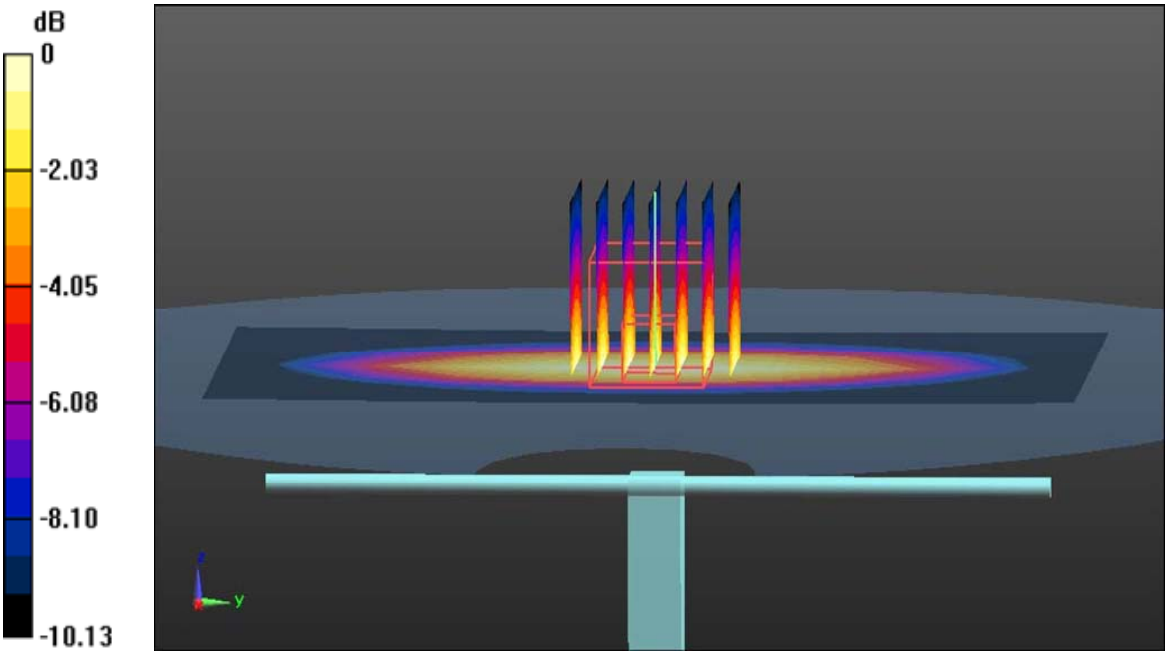
SystemPerformanceCheck-BodyD835
DUT:Dipole 835MHz D835V2;
Communication System:UID0, CW;Communication System Band:D835(835.0 MHz);Frequency:835MHz;Duty Cycle:1:1
Medium parameters used: f= 835 MHz;σ= 0.978 S/m; ε_r= 53.445; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C;
LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated:7/28/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn1245;Calibrated: 7/22/2014
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

SystemPerformanceCheckatFrequenciesLow 1GHz/dist=15mm,Pin=250mW(EX-Probe)/AreaScan(7x12x1):
Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 3.00 W/kg

SystemPerformanceCheckatFrequenciesLow 1GHz/dist=15mm,Pin=250mW(EX-Probe)/ZoomScan(7x7x7)(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mmReference Value = 56.59V/m; Power Drift = 0.09 dB
PeakSAR (extrapolated) = 3.57 W/kg
SAR(1g)=2.43W/kg;SAR(10g)= 1.61W/kg
Maximumvalue of SAR (measured) = 3.06 W/kg



0dB=3.06W/kg=4.86dBW/kg

Date: 4/30/2015

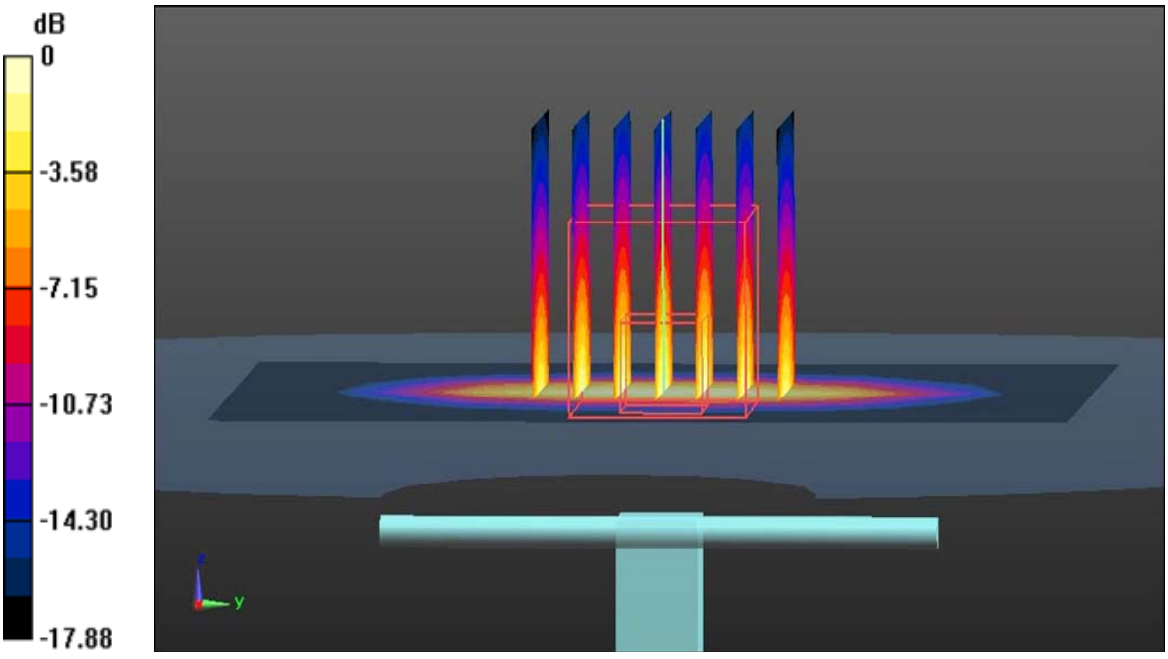
SystemPerformanceCheck-HeadD1900
DUT:Dipole 1900 MHz D1900V2;
Communication System:UID0,CW;CommunicationSystemBand:D1900(1900.0MHz); Frequency:1900 MHz;Duty Cycle:1:1
Medium parameters used: f= 1900 MHz;σ= 1.431 S/m; ε_r= 39.062;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C;
LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated:7/28/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn1245;Calibrated: 7/22/2014
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/AreaScan(7x8x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 13.3 W/kg

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/ZoomScan(7x7x7)(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mmReference Value = 101.7V/m; Power Drift = 0.01 dB
PeakSAR (extrapolated) = 18.6 W/kg
SAR(1g)=9.92W/kg;SAR(10g)= 5.11W/kg
Maximumvalue of SAR (measured) = 14.4 W/kg



0dB=14.4W/kg=11.58dBW/kg

Date: 4/30/2015

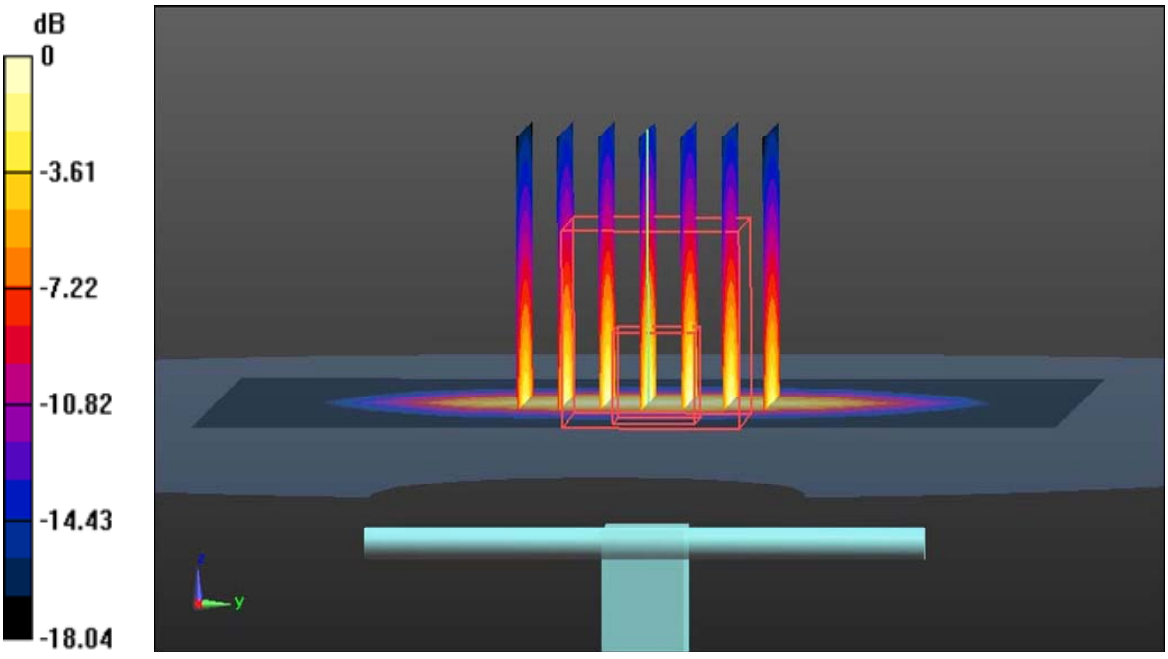
SystemPerformanceCheck-BodyD1900
DUT:Dipole 1900 MHz D1900V2;
Communication System:UID0,CW;CommunicationSystemBand:D1900(1900.0MHz); Frequency:1900 MHz;Duty Cycle:1:1
Medium parameters used: f= 1900 MHz;σ= 1.571 S/m; ε_r= 54.749;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C;
LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated:7/28/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn1245;Calibrated: 7/22/2014
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/AreaScan(7x8x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 14.6 W/kg

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/ZoomScan(7x7x7)(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mmReference Value = 101.5V/m; Power Drift = -0.05 dB
PeakSAR (extrapolated) = 20.0 W/kg
SAR(1g)=10.8W/kg;SAR(10g)= 5.53W/kg
Maximumvalue of SAR (measured) = 15.5 W/kg



0dB=15.5W/kg=11.90dBW/kg

Date: 4/30/2015

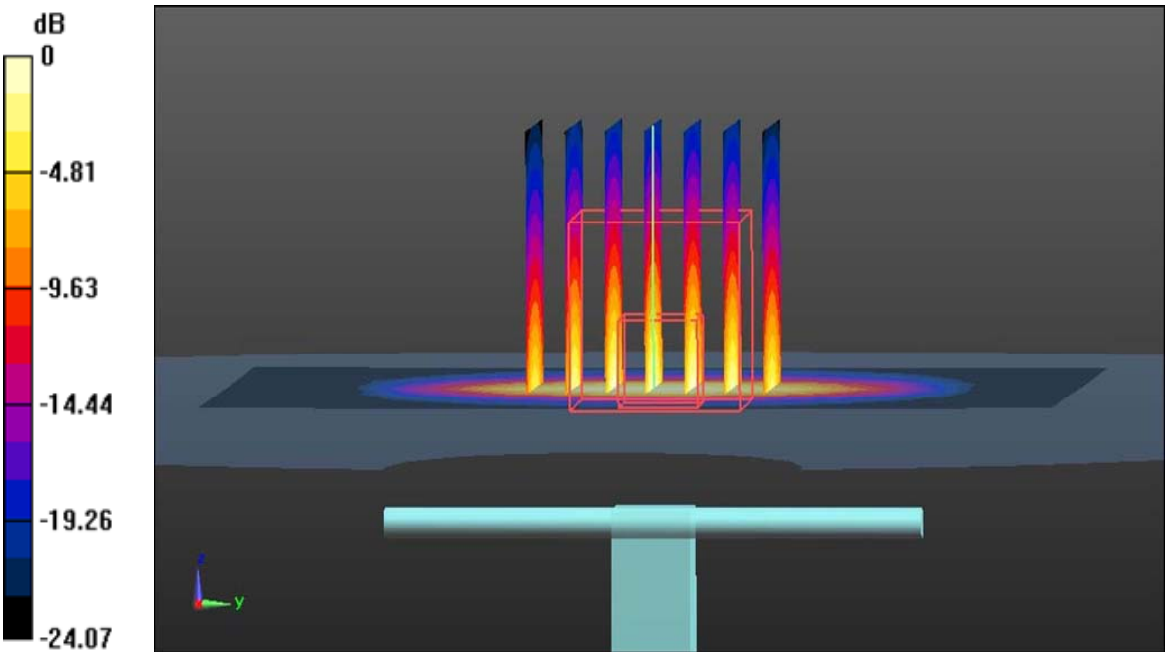
SystemPerformanceCheck-HeadD2450
DUT:Dipole 2450 MHz D2450V2;
Communication System:UID0,CW;CommunicationSystemBand:D2450(2450.0MHz); Frequency:2450 MHz;Duty Cycle:1:1
Medium parameters used: f= 2450 MHz;σ= 1.832 S/m; ε_r= 39.128;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C;
LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV3- SN3230;ConvF(7.04,7.04, 7.04);Calibrated:12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/AreaScan(9x10x1): Measurementgrid:dx=12mm,dy=12mm
Maximumvalue of SAR (measured) = 19.4 W/kg

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/ZoomScan(7x7x7)(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mmReference Value = 108.6V/m; Power Drift = 0.00 dB
PeakSAR (extrapolated) = 29.2 W/kg
SAR(1g)=13.4W/kg;SAR(10g)= 6.01W/kg
Maximumvalue of SAR (measured) = 21.0 W/kg



0dB=21.0W/kg=13.22dBW/kg

Date: 4/30/2015

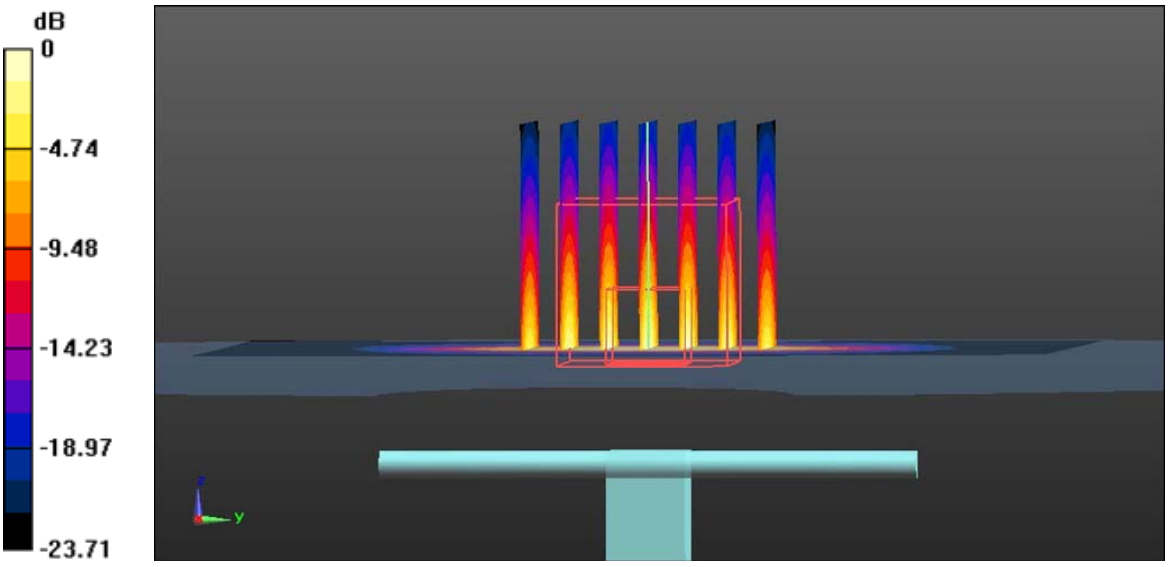
SystemPerformanceCheck-BodyD2450
DUT:Dipole 2450 MHz D2450V2;
Communication System:UID0,CW;CommunicationSystemBand:D2450(2450.0MHz); Frequency:2450 MHz;Duty Cycle:1:1
Medium parameters used: f= 2450 MHz;σ= 1.978 S/m; ε_r= 51.708;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C;
LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV3 - SN3230;ConvF(6.82,6.82, 6.82);Calibrated:12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/AreaScan(9x10x1): Measurementgrid:dx=12mm,dy=12mm
Maximumvalue of SAR (measured) = 18.5 W/kg

SystemPerformanceCheckatFrequenciesabove1GHz/Pin=250mW,dist=10mm(EX-Probe)/ZoomScan(7x7x7)(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mmReference Value = 102.3V/m; Power Drift = -0.03 dB
PeakSAR (extrapolated) = 28.5 W/kg
SAR(1g)=12.9W/kg;SAR(10g)= 5.74W/kg
Maximumvalue of SAR (measured) = 20.3 W/kg



0dB=20.3W/kg=13.07dBW/kg

12. APPENDIX B: MEASUREMENT SCANS

Date: 4/30/2015

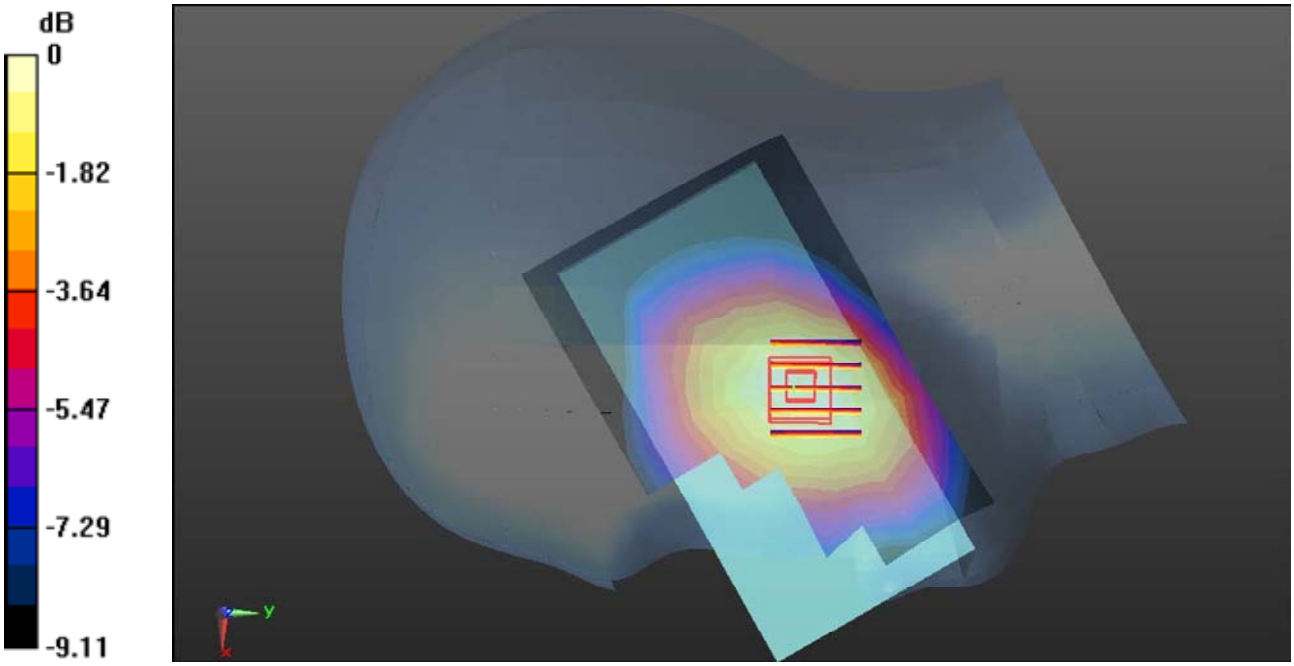
GSM850-RightHeadCheekMidCH190
DUT:MobilePhone;
CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:8.30042
Medium parameters used: f= 849 MHz;σ= 0.921 S/m; ε_r= 40.581; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C
Phantomsection:RightSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe:EX3DV4- SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
- DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GSM850/RightHeadCheek Mid CH190/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.386 W/kg

GSM 850/RightHeadCheekMid CH190/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 8.581V/m; Power Drift = -0.02 dBPeakSAR (extrapolated) = 0.437 W/kg
SAR(1g) = 0.358W/kg;SAR(10g) =0.275W/kg

Maximumvalue of SAR (measured) = 0.401 W/kg



0dB=0.401W/kg=-3.97dBW/kg

Date: 4/30/2015

GSM850-RightHeadTiltedMidCH190

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:8.30042

Medium parameters used: f= 849 MHz;σ= 0.921 S/m; ε_r= 40.581; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection:RightSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

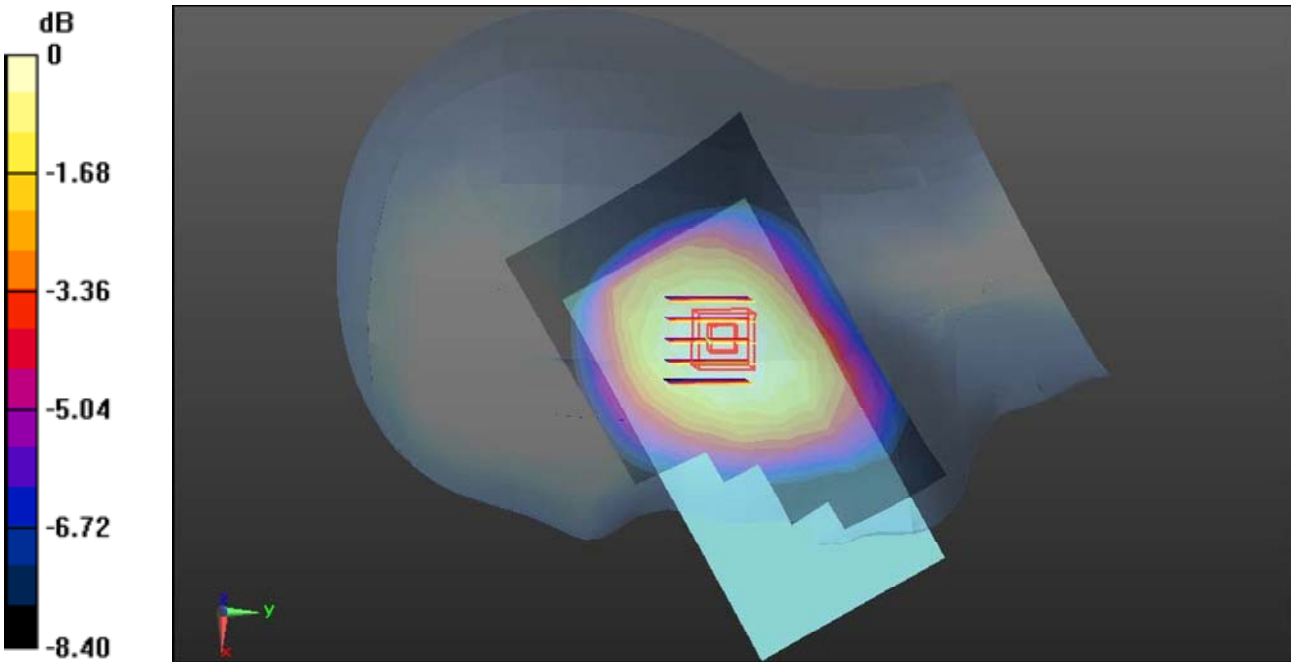
- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

GSM 850/RightHeadTilted Mid CH190/AreaScan(8x12x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.275 W/kg

GSM 850/Right Head Tilted Mid CH190/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 13.56V/m; Power Drift = -0.05 dBPeakSAR (extrapolated) = 0.290 W/kg
SAR(1g) = 0.238W/kg;SAR(10g) =0.186W/kg
Maximumvalue of SAR (measured) = 0.266 W/kg



0dB=0.266W/kg=-5.75dBW/kg

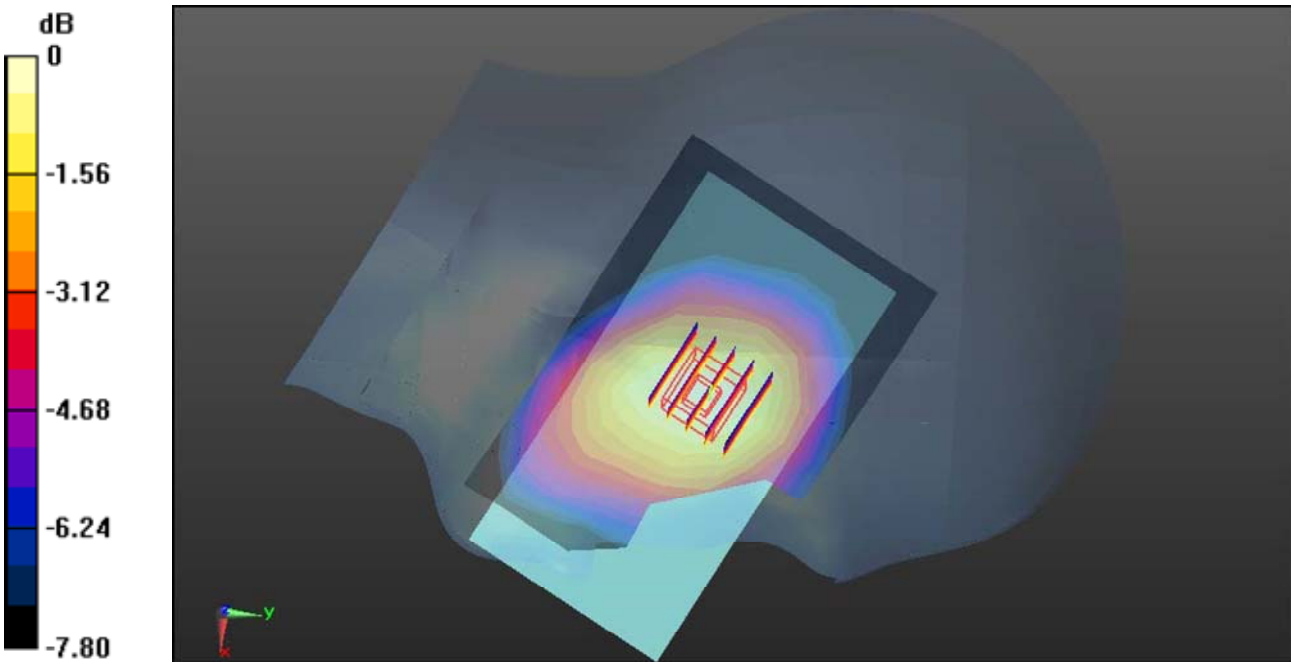
Date: 4/30/2015

GSM850-LeftHeadCheek Mid CH190
DUT:MobilePhone;
CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:8.30042
Medium parameters used: f= 849 MHz;σ= 0.921 S/m; ε_r= 40.581; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C
Phantomsection: Left Section
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GSM850/LeftHeadCheekMid CH190/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.366 W/kg

GSM850/LeftHeadCheekMid CH190/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 8.250V/m; Power Drift = -0.08 dBPeakSAR (extrapolated) = 0.394 W/kg
SAR(1g) = 0.322W/kg;SAR(10g) =0.247W/kg
Maximumvalue of SAR (measured) = 0.363 W/kg



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

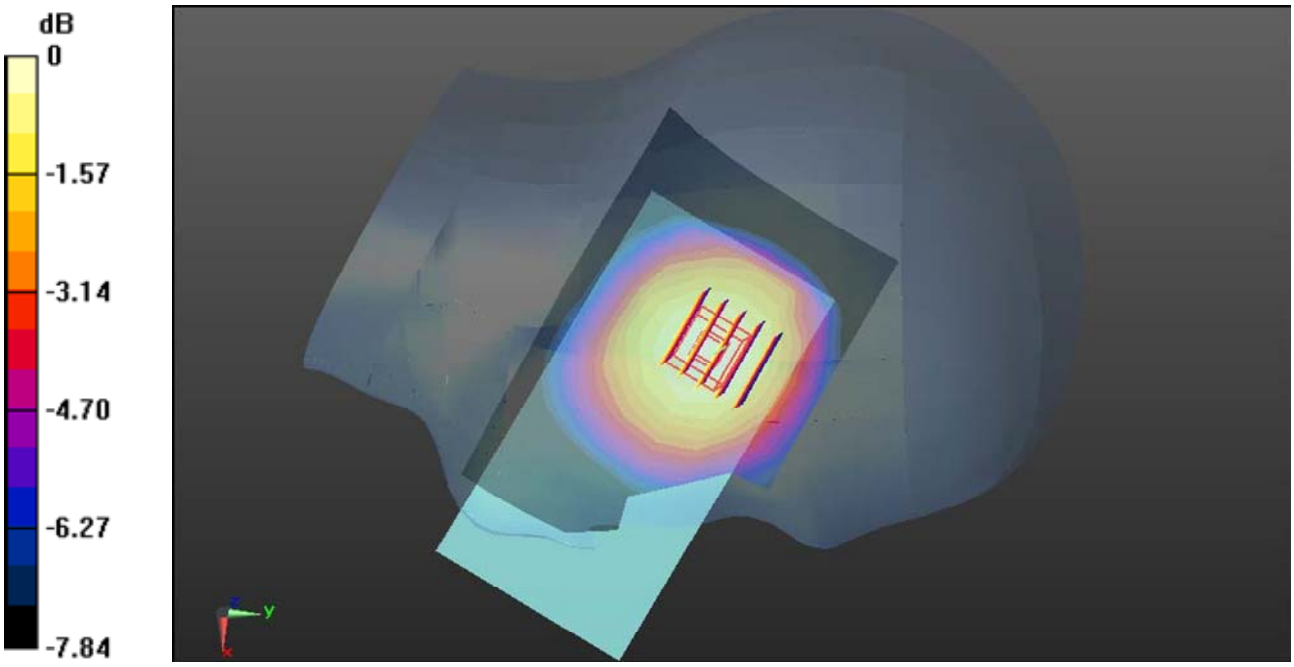
Date: 4/30/2015

GSM850-Left Head Tilted Mid CH190
DUT:MobilePhone;
CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:8.30042
Medium parameters used: f= 849 MHz;σ= 0.921 S/m; ε_r= 40.581; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C
Phantomsection: Left Section
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GSM 850/LeftHead TiltedMid CH190/AreaScan (8x12x1): Measurementgrid:dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.280 W/kg

GSM850/LeftHeadTiltedMid CH190/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 13.33V/m; Power Drift = -0.11 dBPeakSAR (extrapolated) = 0.304 W/kg
SAR(1g) = 0.252W/kg;SAR(10g) =0.197W/kg
Maximumvalue of SAR (measured) = 0.283 W/kg



0dB=0.283W/kg=-5.48dBW/kg

Date: 4/30/2015

GSM850-RightHeadCheek MidCH190 SIM2

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:8.30042

Medium parameters used: f= 849 MHz;σ= 0.921 S/m; ε_r= 40.581; ρ = 1000 kg/m^3Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection:RightSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

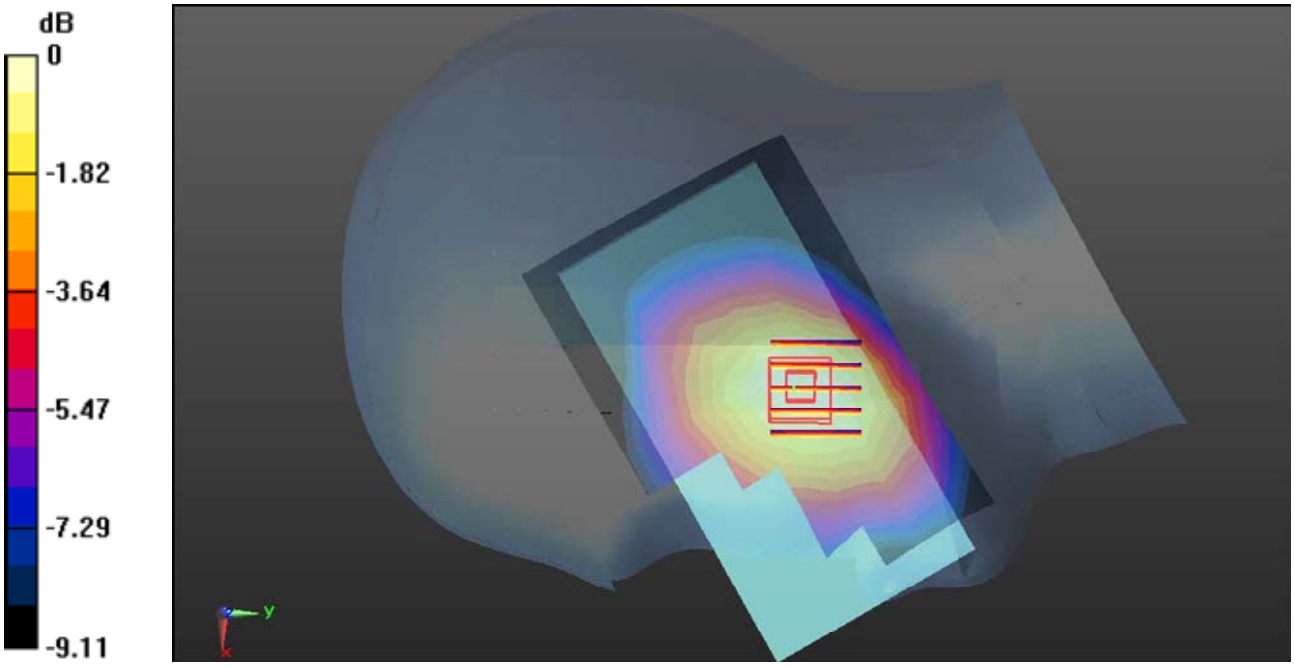
Probe:EX3DV4- SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics:DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
- DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GSM850/RightHeadCheek Mid CH190/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.386 W/kg

GSM 850/RightHeadCheekMid CH190/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value =7.681V/m; Power Drift = -0.02 dBPeakSAR (extrapolated) = 0.437 W/kg
SAR(1g) = 0.296W/kg;SAR(10g) =0.275W/kg

Maximumvalue of SAR (measured) = 0.401 W/kg



0dB=0.401W/kg=-3.97dBW/kg

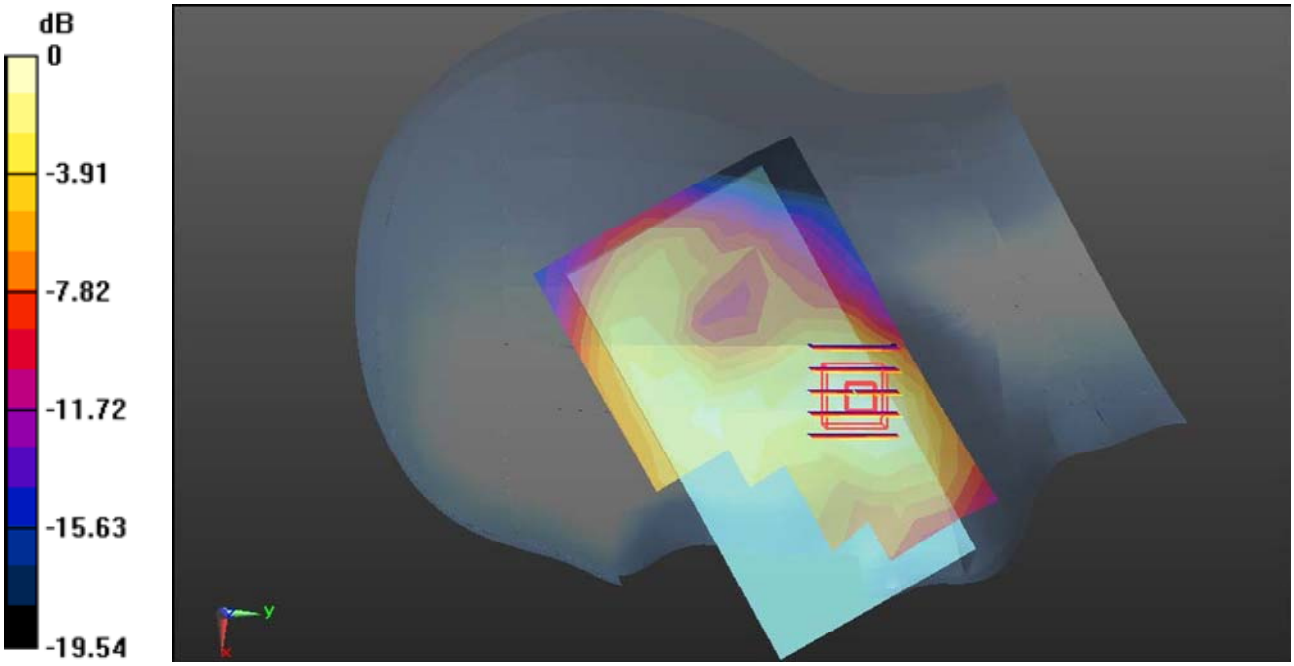
Date: 4/30/2015

PCS1900-RightHeadCheekMid CH661
DUT:MobilePhone;
CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:8.30042
Medium parameters used: f= 1910 MHz;σ= 1.441 S/m; ε_r= 38.892;ρ = 1000 kg/m^3Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C
Phantomsection:RightSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

PCS1900/RightHeadCheek Mid CH661/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.206 W/kg

PCS 1900/RightHeadCheekMid CH661/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 7.366V/m; Power Drift = -0.15 dBPeakSAR (extrapolated) = 0.295 W/kg
SAR(1g) = 0.169W/kg;SAR(10g) =0.096W/kg
Maximumvalue of SAR (measured) = 0.233 W/kg



0dB=0.233W/kg=-6.32dBW/kg

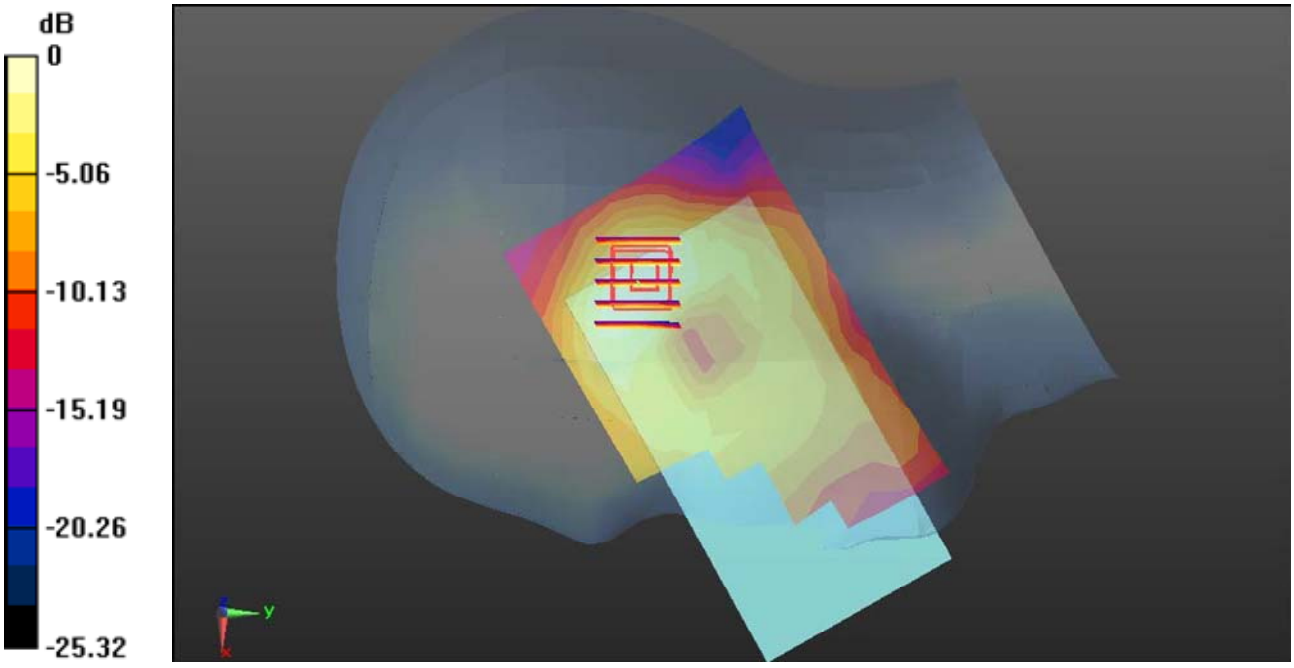
Date: 4/30/2015

PCS1900-RightHeadTiltedMid CH661
DUT:MobilePhone;
CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:8.30042
Medium parameters used: f= 1910 MHz;σ= 1.441 S/m; ε_r= 38.892;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C
Phantomsection:RightSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

PCS 1900/RightHeadTiltedMid CH661/AreaScan(8x12x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.213 W/kg

PCS1900/RightHeadTiltedMid CH661/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 12.14V/m; Power Drift = -0.12 dBPeakSAR (extrapolated) = 0.291 W/kg
SAR(1g) = 0.154W/kg;SAR(10g) =0.082W/kg
Maximumvalue of SAR (measured) = 0.217 W/kg



0dB=0.217W/kg=-6.64dBW/kg

Date: 4/30/2015

PCS1900-LeftHeadCheek Mid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:8.30042

Medium parameters used: f= 1910 MHz;σ= 1.441 S/m; ε_r= 38.892;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: Left Section

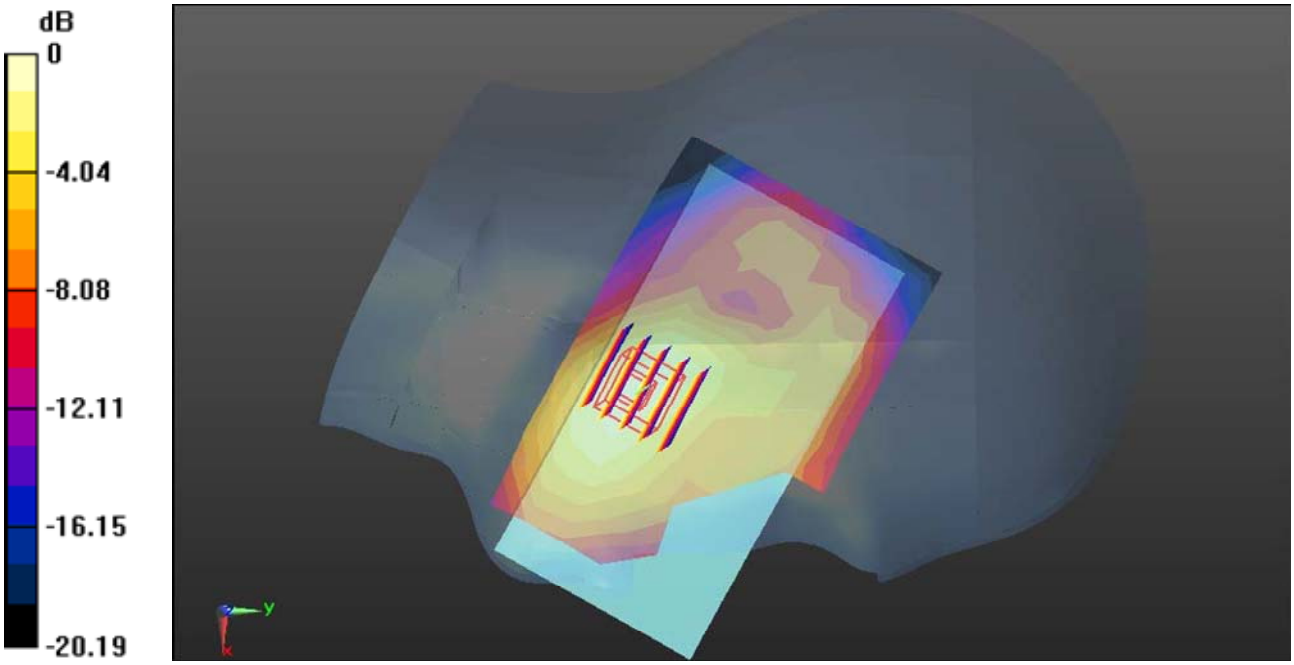
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

PCS1900/LeftHead Cheek Mid CH661/Area Scan(8x11x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.416 W/kg

PCS 1900/LeftHeadCheek Mid CH661/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 8.020V/m; Power Drift = -0.09 dBPeakSAR (extrapolated) = 0.523 W/kg
SAR(1g) = 0.292W/kg;SAR(10g) =0.163W/kg
Maximumvalue of SAR (measured) = 0.404 W/kg



0dB=0.404W/kg=-3.93dBW/kg

Date: 4/30/2015

PCS1900-LeftHeadTiltedMid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:8.30042

Medium parameters used: f= 1910 MHz;σ= 1.441 S/m; ε_r= 38.892;ρ = 1000 kg/m^3Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: Left Section

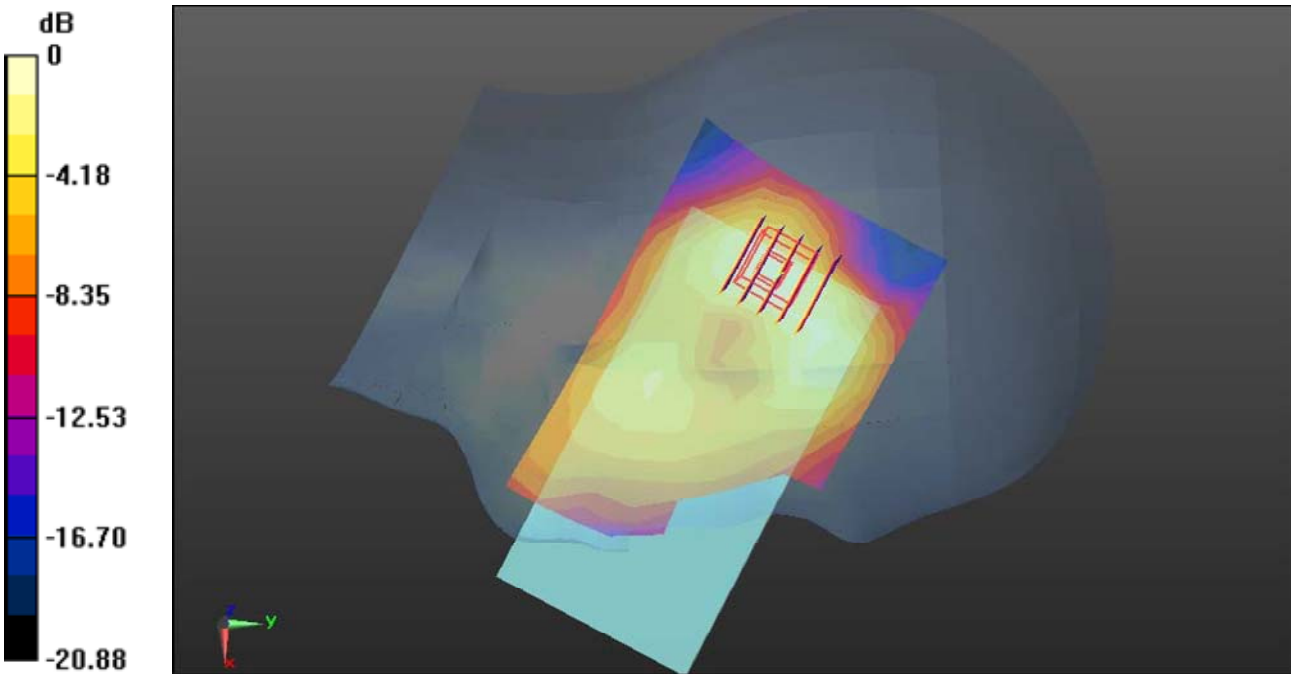
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

PCS1900/LeftHeadTilted Mid CH661/AreaScan(8x12x1): Measurementgrid:dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.192 W/kg

PCS 1900/Left Head Tilted Mid CH661/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 12.38V/m; Power Drift = -0.13 dBPeakSAR (extrapolated) = 0.274 W/kg
SAR(1g) = 0.148W/kg;SAR(10g) =0.080W/kg
Maximumvalue of SAR (measured) = 0.202 W/kg



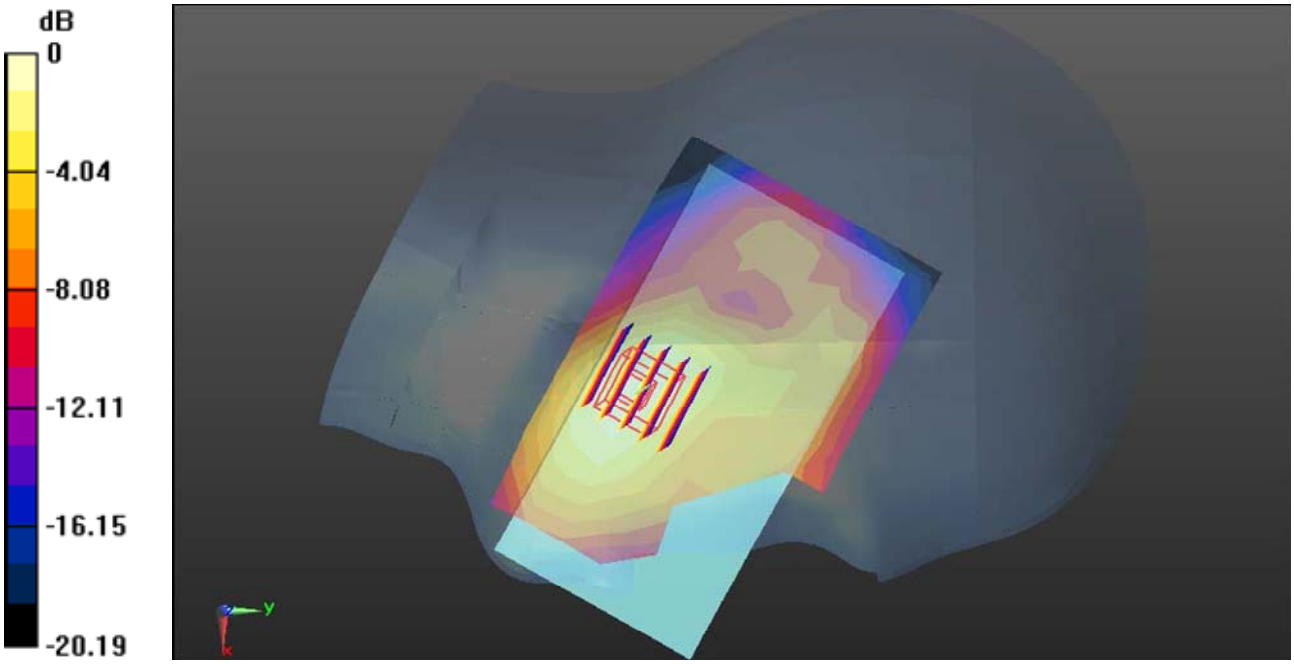
0dB=0.202W/kg=-6.95dBW/kg

PCS1900-LeftHeadCheek Mid CH661
DUT:MobilePhone;
CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:8.30042
Medium parameters used: f= 1910 MHz;σ= 1.441 S/m; ε_r= 38.892;ρ = 1000 kg/m^3Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C
Phantomsection: Left Section
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

PCS1900/LeftHead Cheek Mid CH661/Area Scan(8x11x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.329 W/kg

PCS 1900/LeftHeadCheek Mid CH661/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value =7.121V/m; Power Drift = -0.09 dBPeakSAR (extrapolated) = 0.523 W/kg
SAR(1g) = 0.222W/kg;SAR(10g) =0.103W/kg
Maximumvalue of SAR (measured) = 0.404 W/kg



0dB=0.404W/kg=-3.93dBW/kg

Date: 4/30/2015

WCDMABandII-Right HeadCheekMiddleCH9400

DUT:MobilePhone;

CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1

Medium parameters used: f= 1880 MHz;σ= 1.413 S/m; ε_r= 39.34;ρ = 1000 kg/m^3

Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection:RightSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandII/Right HeadCheekMiddleCH9400/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm

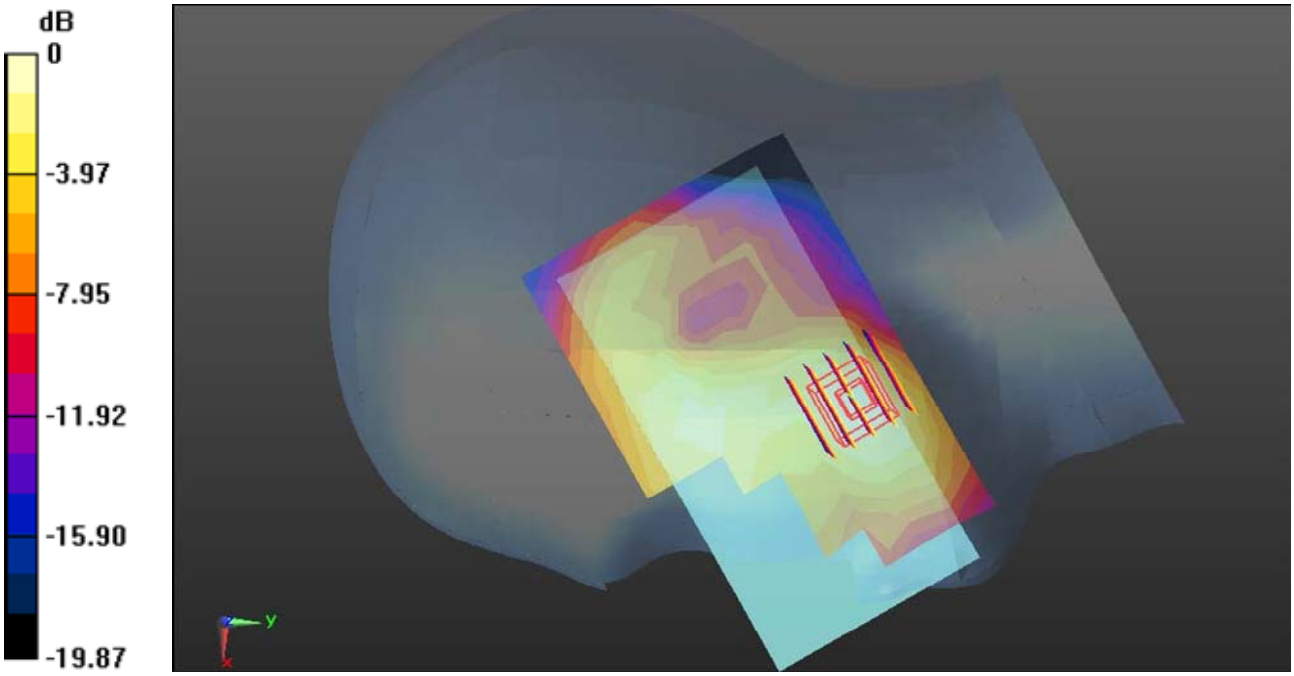
Maximumvalue of SAR (measured) = 0.442 W/kg

WCDMA Band II/RightHead Cheek MiddleCH9400/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.59V/m; Power Drift = -0.04 dBPeakSAR (extrapolated) = 0.613 W/kg

SAR(1g) = 0.355W/kg;SAR(10g) =0.202W/kg

Maximumvalue of SAR (measured) = 0.488 W/kg



0dB=0.488W/kg=-3.12dBW/kg

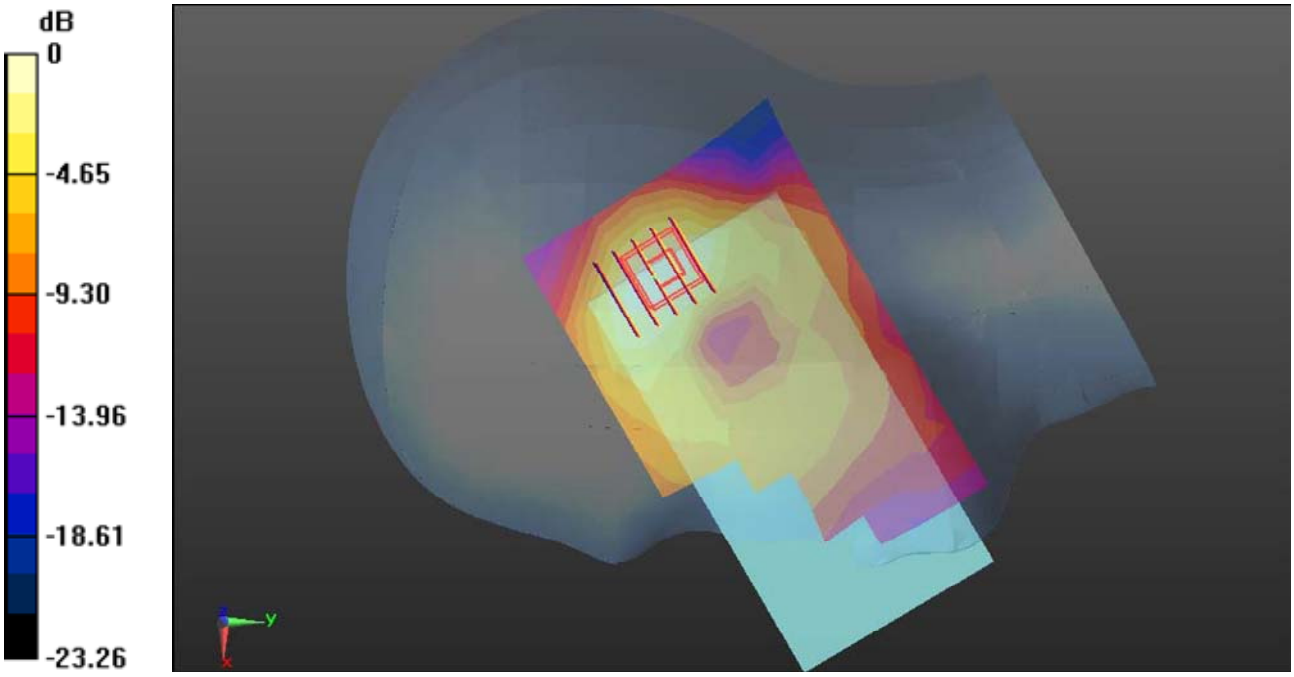
Date: 4/30/2015

WCDMABandII-Right HeadTiltedMiddleCH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.413 S/m; ε_r= 39.34;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection:RightSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandII/Right HeadTiltedMiddleCH9400/AreaScan(8x12x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.481 W/kg

WCDMABandII/Right HeadTilted MiddleCH9400/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.86V/m; Power Drift = -0.02 dBPeakSAR (extrapolated) = 0.625 W/kg
SAR(1g) = 0.331W/kg;SAR(10g) =0.175W/kg
Maximumvalue of SAR (measured) = 0.463 W/kg



0dB=0.463W/kg=-3.34dBW/kg

Date: 4/30/2015

WCDMABandII-LeftHeadCheekMiddleCH9400

DUT:MobilePhone;

CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1

Medium parameters used: f= 1880 MHz;σ= 1.413 S/m; ε_r= 39.34;ρ = 1000 kg/m^3

Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: Left Section

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (MechanicalSurface Detection),Sensor-Surface: 2.5mm (MechanicalSurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandII/LeftHeadCheekMiddleCH9400/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm

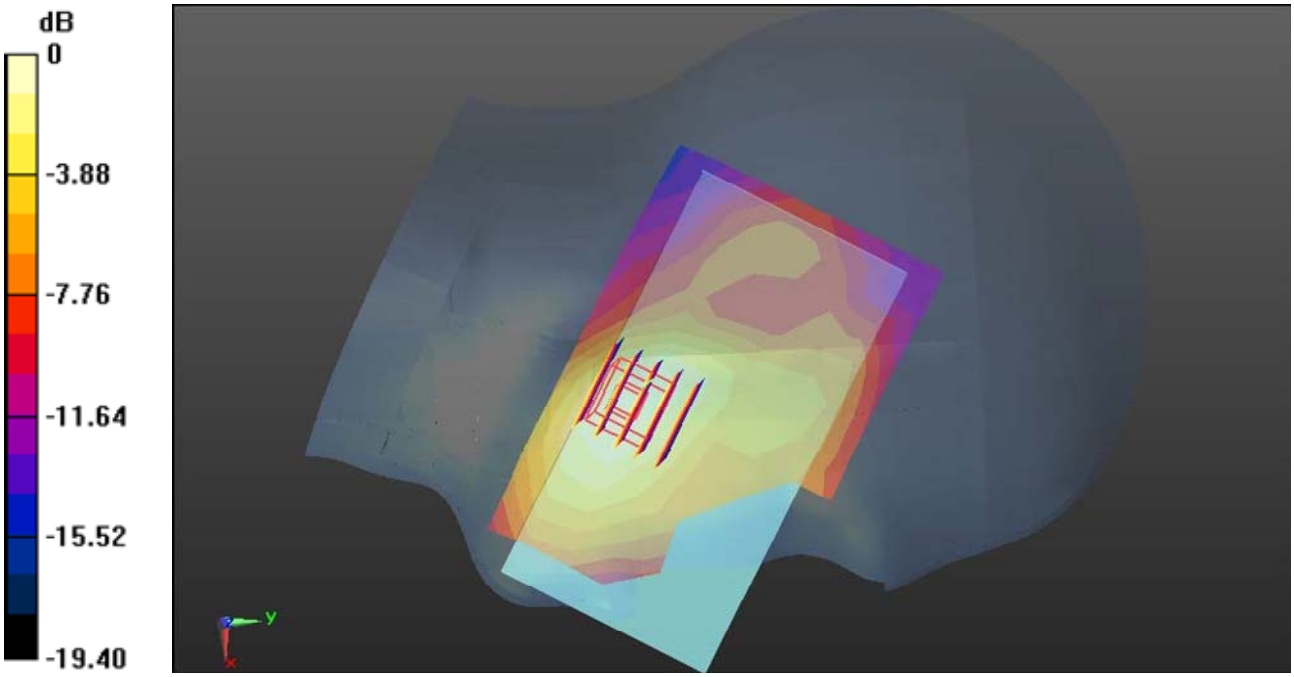
Maximumvalue of SAR (measured) = 0.856 W/kg

WCDMA BandII/LeftHeadCheekMiddleCH9400/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.04V/m; Power Drift = -0.03 dBPeakSAR (extrapolated) = 1.05 W/kg

SAR(1g) = 0.591W/kg;SAR(10g) =0.331W/kg

Maximumvalue of SAR (measured) = 0.742 W/kg



0dB=0.742W/kg=-1.30dBW/kg

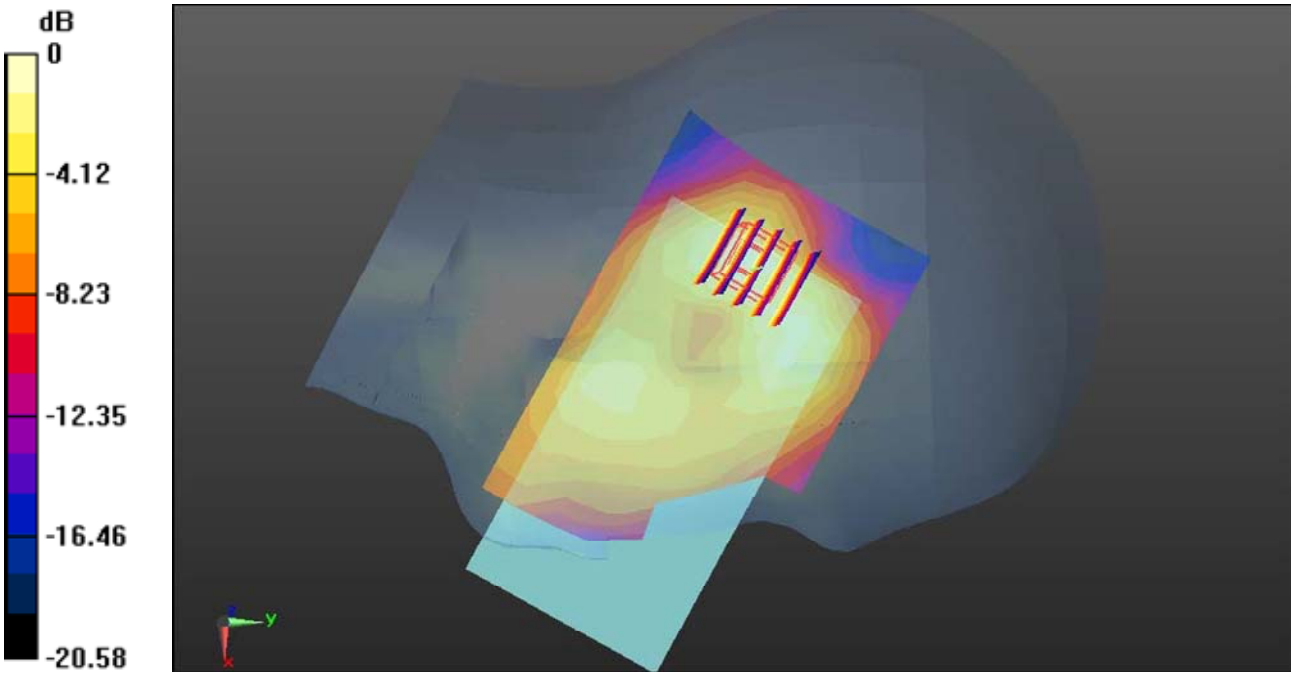
Date: 4/30/2015

WCDMABandII-LeftHeadTiltedMiddleCH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.413 S/m; ε_r= 39.34;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: Left Section
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.75,7.75, 7.75);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandII/LeftHeadTiltedMiddleCH9400/AreaScan (8x12x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.341 W/kg

WCDMA BandII/LeftHeadTiltedMiddle CH9400/Zoom Scan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.89V/m; Power Drift = 0.04 dBPeakSAR (extrapolated) = 0.482 W/kg
SAR(1g) = 0.259W/kg;SAR(10g) =0.140W/kg
Maximumvalue of SAR (measured) = 0.359 W/kg



0dB=0.359W/kg=-4.45dBW/kg

Date: 4/30/2015

WCDMABandV-Right HeadCheekMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.912 S/m;ε_r=40.816; ρ =1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection:RightSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandV/RightHeadCheekMiddleCH4182/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm

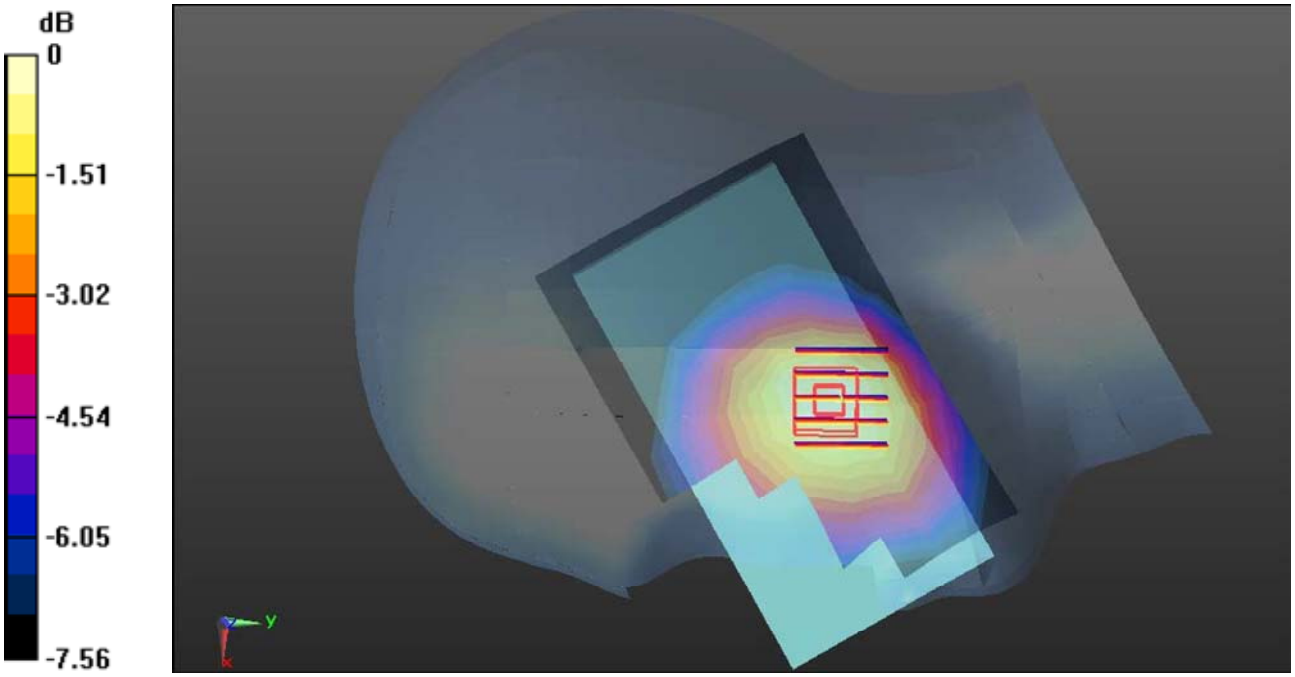
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.342 W/kg

WCDMA Band V/RightHead Cheek MiddleCH4182/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.674V/m; Power Drift = 0.10 dBPeakSAR (extrapolated) = 0.373 W/kg

SAR(1g) = 0.303W/kg;SAR(10g) =0.234W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.343 W/kg



0dB=0.343W/kg=-4.65dBW/kg

Date: 4/30/2015

WCDMABandV-Right HeadTiltedMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.912 S/m;ε_r=40.816; ρ =1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection:RightSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandV/RightHeadTiltedMiddleCH4182/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm

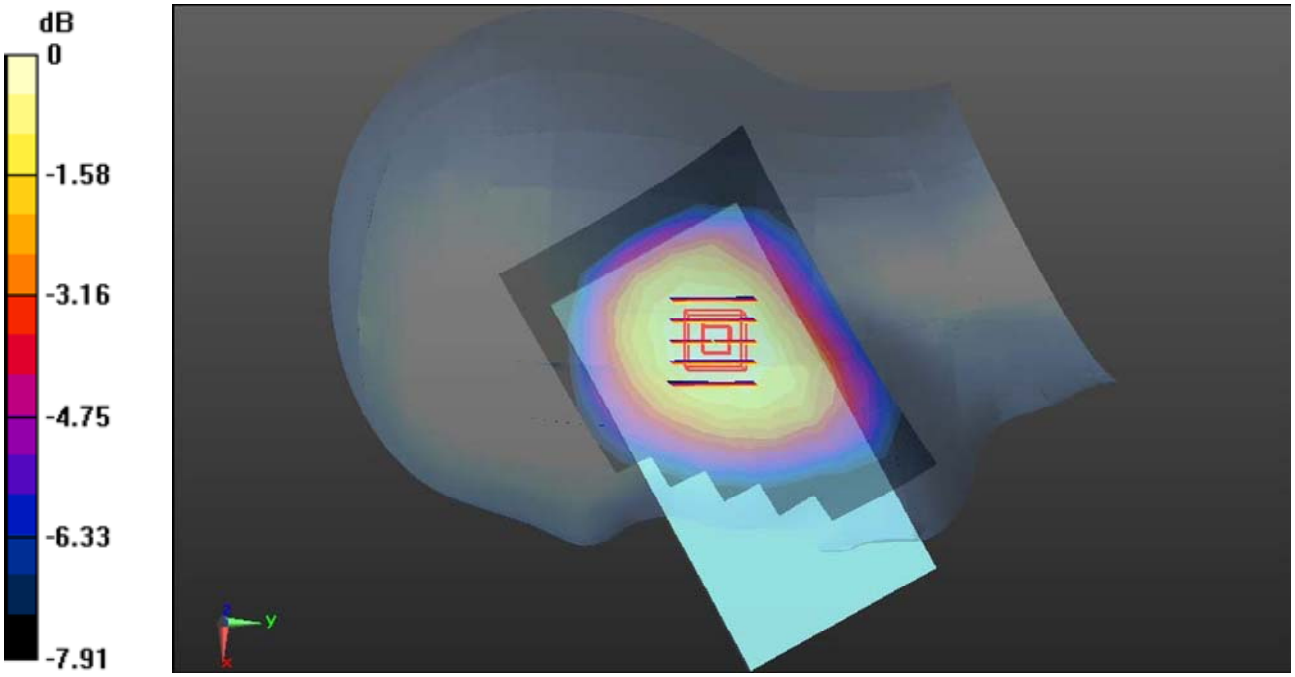
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.166 W/kg

WCDMA Band V/RightHead Tilted MiddleCH4182/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.86V/m; Power Drift = 0.06 dBPeakSAR (extrapolated) = 0.182 W/kg

SAR(1g) = 0.147W/kg;SAR(10g) =0.114W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.168 W/kg



0dB=0.168W/kg=-7.75dBW/kg

Date: 4/30/2015

WCDMABandV-LeftHeadCheekMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.912 S/m;ε_r=40.816; ρ =1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: Left Section

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandV/LeftHeadCheekMiddleCH4182/AreaScan(8x11x1): Measurementgrid:dx=15mm,dy=15mm

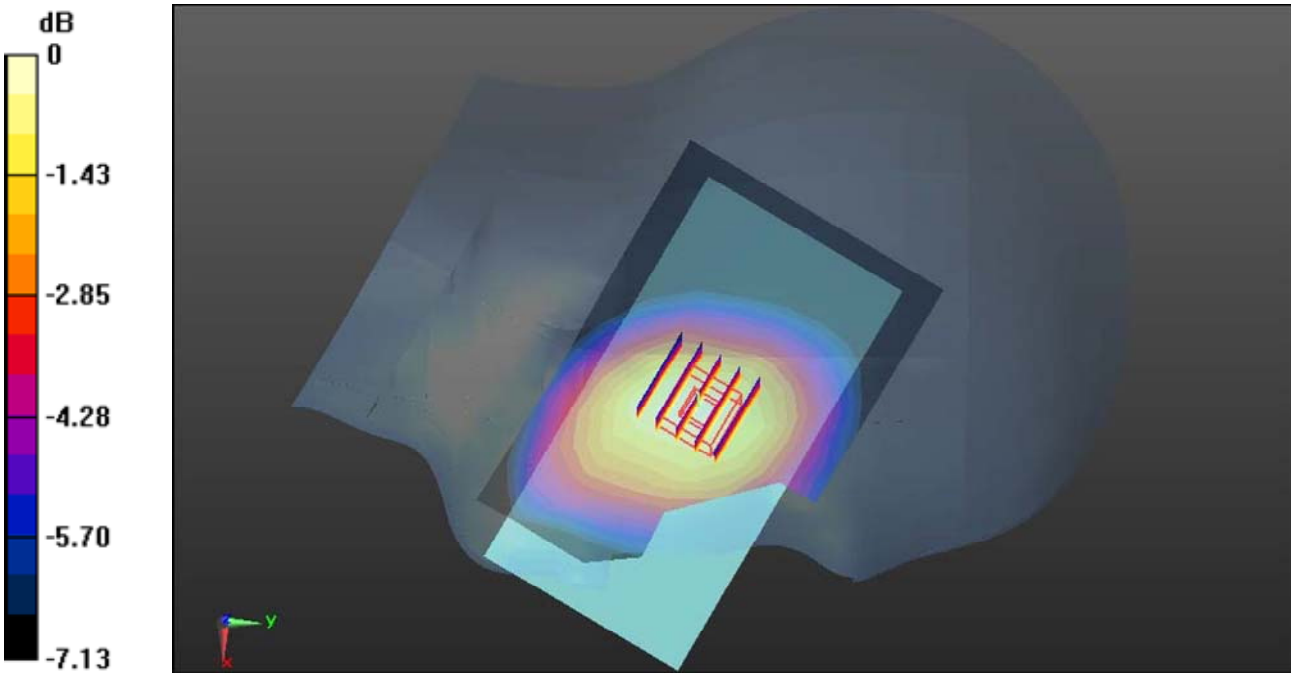
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.275 W/kg

WCDMA BandV/LeftHeadCheekMiddle CH4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.749V/m; Power Drift = -0.10 dBPeakSAR (extrapolated) = 0.313 W/kg

SAR(1g) = 0.258W/kg;SAR(10g) =0.203W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.293 W/kg



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

Date: 4/30/2015

WCDMABandV-LeftHeadTiltedMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.912 S/m;ε_r=40.816; ρ =1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: Left Section

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381; ConvF(9.3, 9.3, 9.3); Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandV/LeftHeadTiltedMiddleCH4182/AreaScan(8x12x1): Measurementgrid:dx=15mm,dy=15mm

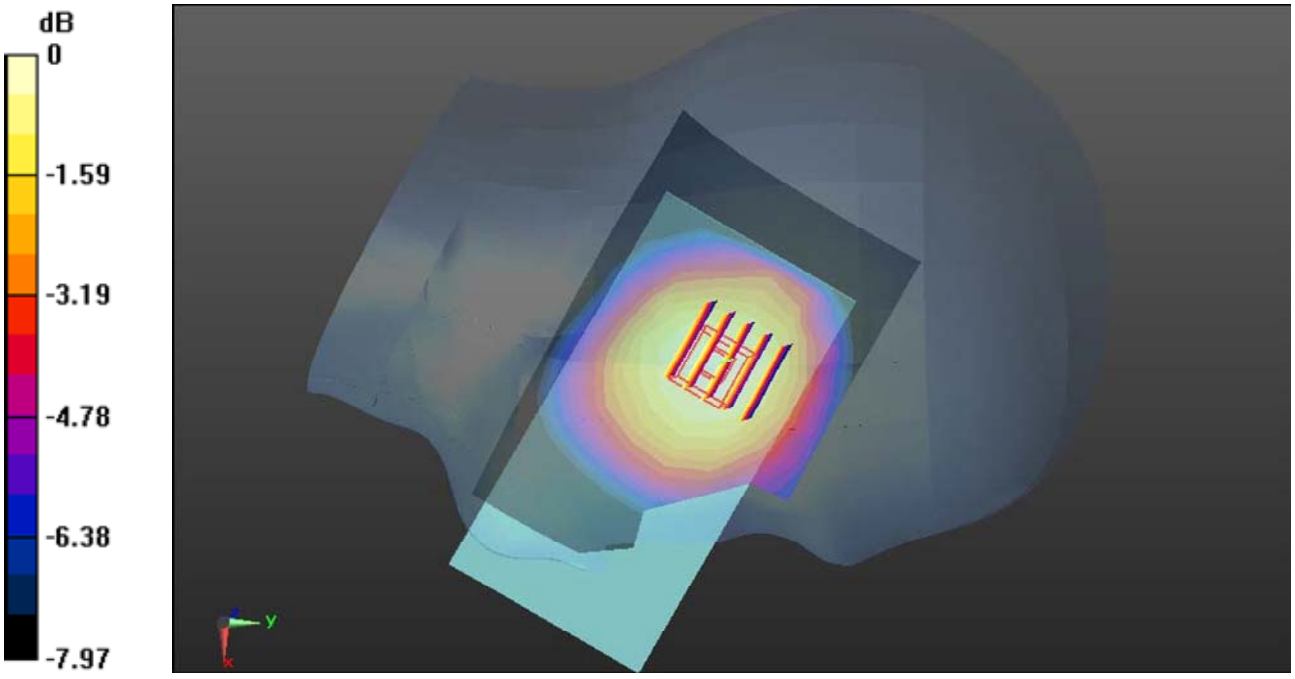
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.190 W/kg

WCDMA BandV/LeftHeadTiltedMiddleCH4182/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.288V/m; Power Drift = 0.04 dBPeakSAR (extrapolated) = 0.210 W/kg

SAR(1g) = 0.176W/kg;SAR(10g) =0.139W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.197 W/kg



0dB=0.197W/kg=-7.06dBW/kg

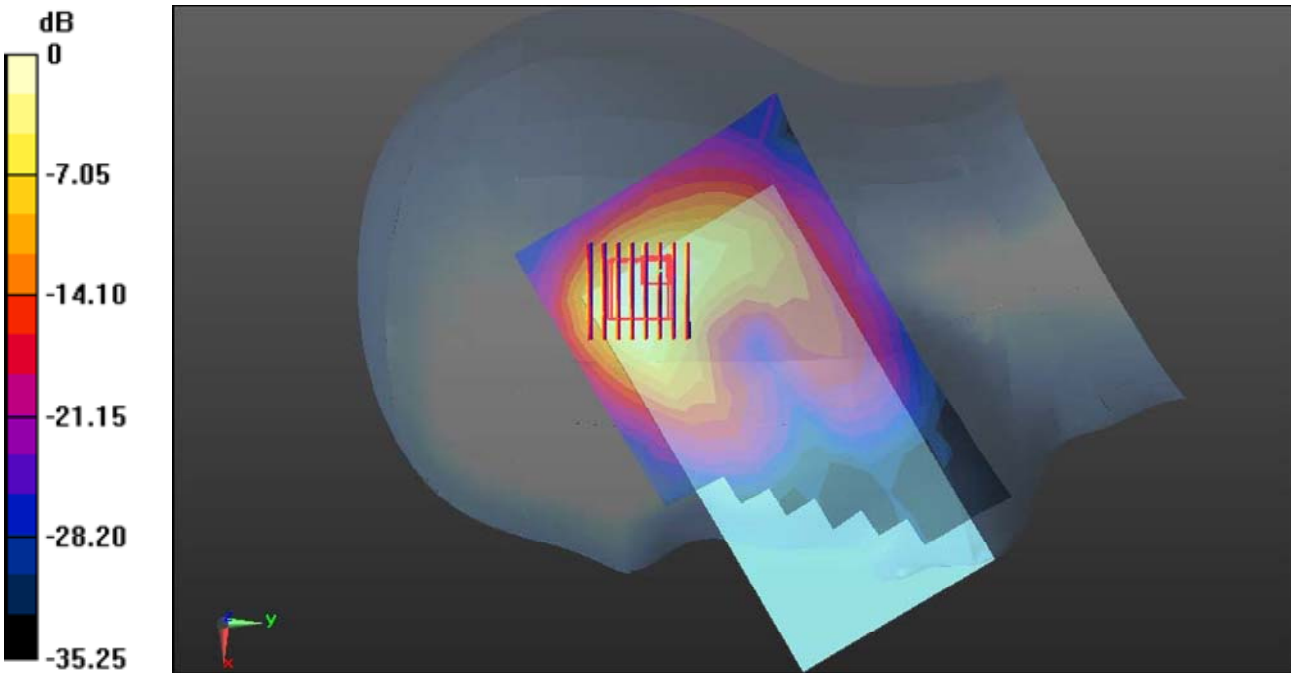
Date: 4/30/2015

WIFI-RightHead Cheek Middle CH6
DUT:MobilePhone;
CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f= 2437 MHz;σ= 1.806 S/m; ε_r= 39.203;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection:RightSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.04,7.04, 7.04);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WIFI/Right HeadCheekMiddleCH6/AreaScan(10x15x1): Measurementgrid:dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 1.17 W/kg

WIFI/RightHead Cheek MiddleCH6/Zoom Scan(8x8x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mm
Reference Value = 17.23V/m; Power Drift = -0.07 dBPeakSAR (extrapolated) = 2.41 W/kg
SAR(1g) = 0.614W/kg;SAR(10g) =0.218W/kg
Maximumvalue of SAR (measured) = 1.38 W/kg



0dB=1.38W/kg=1.40dBW/kg

Date: 4/30/2015

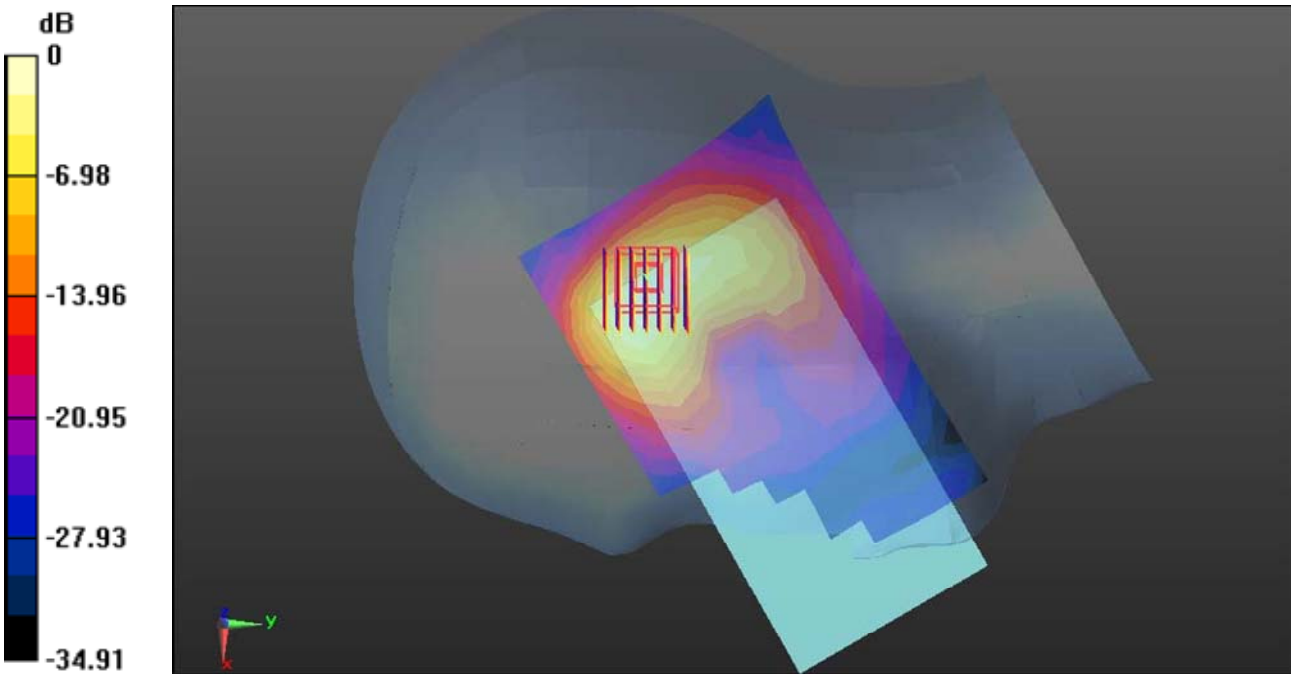
WIFI-Right HeadTiltedMiddle CH6
DUT:MobilePhone;
CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f= 2412 MHz;σ= 1.776 S/m; ε_r= 39.345;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection:RightSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV3 - SN3203;ConvF(7.04,7.04, 7.04);Calibrated: 12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WIFI/RightHeadTiltedMiddleCH6/AreaScan(10x15x1): Measurementgrid:dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 1.15 W/kg

WIFI/RightHeadTilted MiddleCH6/ZoomScan (7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mm
Reference Value = 18.74V/m; Power Drift = -0.05 dBPeakSAR (extrapolated) = 2.34 W/kg
SAR(1g) = 0.689W/kg;SAR(10g) =0.259W/kg

Maximumvalue of SAR (measured) = 1.31 W/kg



0dB=1.31W/kg=1.17dBW/kg

Date: 4/30/2015

WIFI-LeftHeadCheek Middle CH6

DUT:MobilePhone;

CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1

Medium parameters used: f= 2412 MHz;σ= 1.776 S/m; ε_r= 39.345;ρ = 1000 kg/m^3

Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: Left Section

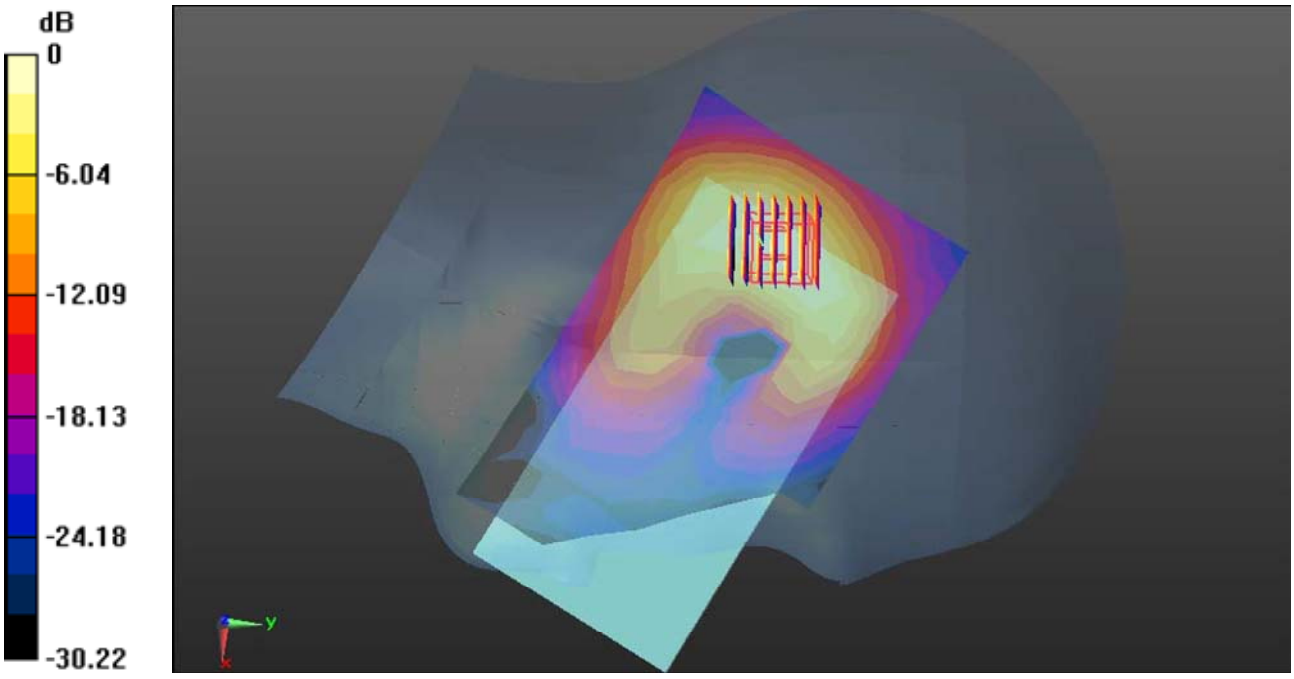
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV3 - SN3203;ConvF(7.04,7.04, 7.04);Calibrated: 12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WIFI/Left HeadCheekMiddleCH6/AreaScan(10x15x1): Measurementgrid:dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 0.512 W/kg

WIFI/Left HeadCheekMiddleCH6/ZoomScan(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mm
Reference Value = 16.84V/m; Power Drift = 0.11 dBPeakSAR (extrapolated) = 0.904 W/kg
SAR(1g) = 0.364W/kg;SAR(10g) =0.171W/kg
Maximumvalue of SAR (measured) = 0.572 W/kg



0dB=0.572W/kg=-2.43dBW/kg

Date: 4/30/2015

WIFI-LeftHeadTilted Middle CH6

DUT:MobilePhone;

CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1

Medium parameters used: f= 2412 MHz;σ= 1.776 S/m; ε_r= 39.345;ρ = 1000 kg/m^3

Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: Left Section

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV3 - SN3203;ConvF(7.04,7.04, 7.04);Calibrated: 12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

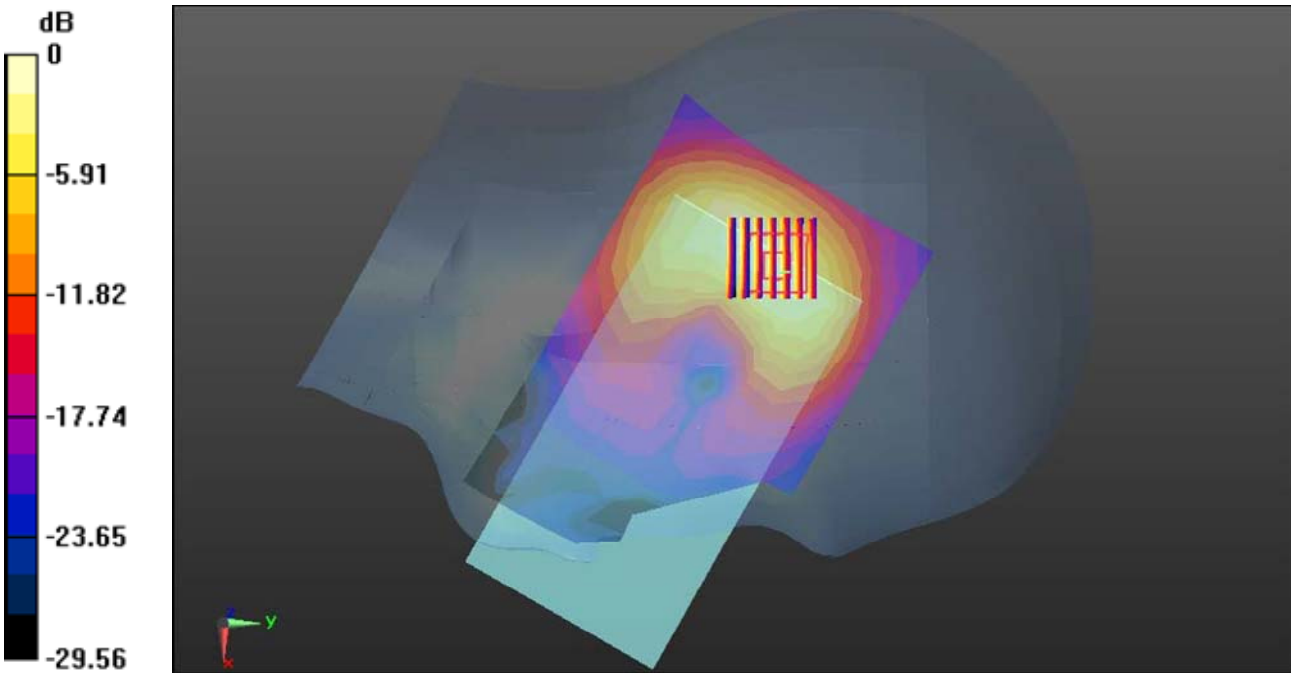
WIFI/LeftHeadTiltedMiddleCH6/AreaScan(10x15x1): Measurementgrid:dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 0.493 W/kg

WIFI/Left HeadTiltedMiddleCH6/ZoomScan(7x7x7)/Cube0: Measurementgrid:dx=5mm,dy=5mm,dz=5mm

Reference Value = 14.62V/m; Power Drift = 0.12 dBPeakSAR (extrapolated) = 0.725 W/kg

SAR(1g) = 0.329W/kg;SAR(10g) =0.158W/kg

Maximumvalue of SAR (measured) = 0.502 W/kg



0dB=0.502W/kg=-2.99dBW/kg

Date: 4/30/2015

GPRS850-BodyFrontMidCH190

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 849 MHz;σ= 0.996 S/m; ε_r= 53.744; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

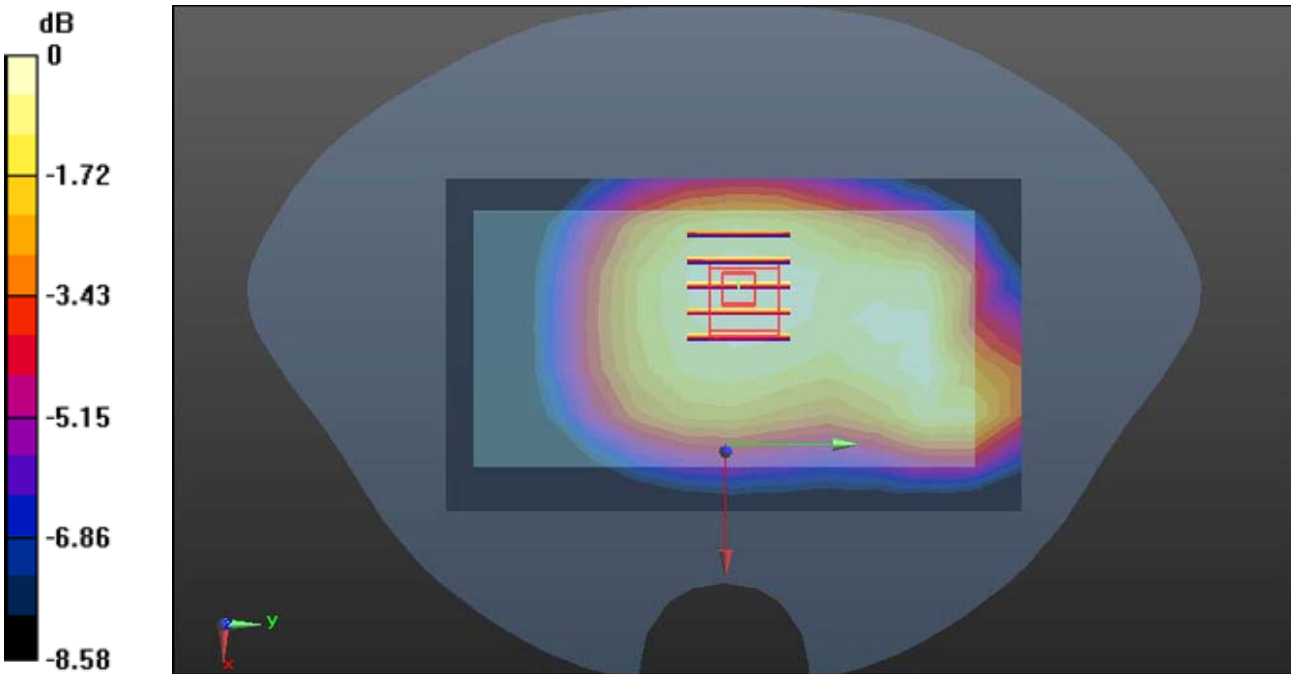
GPRS 850/BodyFront Mid CH190/Area Scan (13x8x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.644 W/kg

GPRS 850/Body Front Mid CH190/Zoom Scan (5x5x7)/Cube 0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm

Reference Value = 25.19V/m; Power Drift = -0.11 dBPeakSAR (extrapolated) = 0.721 W/kg

SAR(1g) = 0.563W/kg;SAR(10g) =0.435W/kg

Maximumvalue of SAR (measured) = 0.654 W/kg



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

Date: 4/30/2015

GPRS850-BodyRearMidCH190

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used (interpolated): f= 824.2MHz; σ= 0.967 S/m;ε_r=53.374; ρ =1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

GPRS 850/BodyRear Mid CH190/AreaScan(13x8x1): Measurementgrid:dx=15mm,dy=15mmInfo:

Interpolatedmediumparameters used for SAR evaluation.

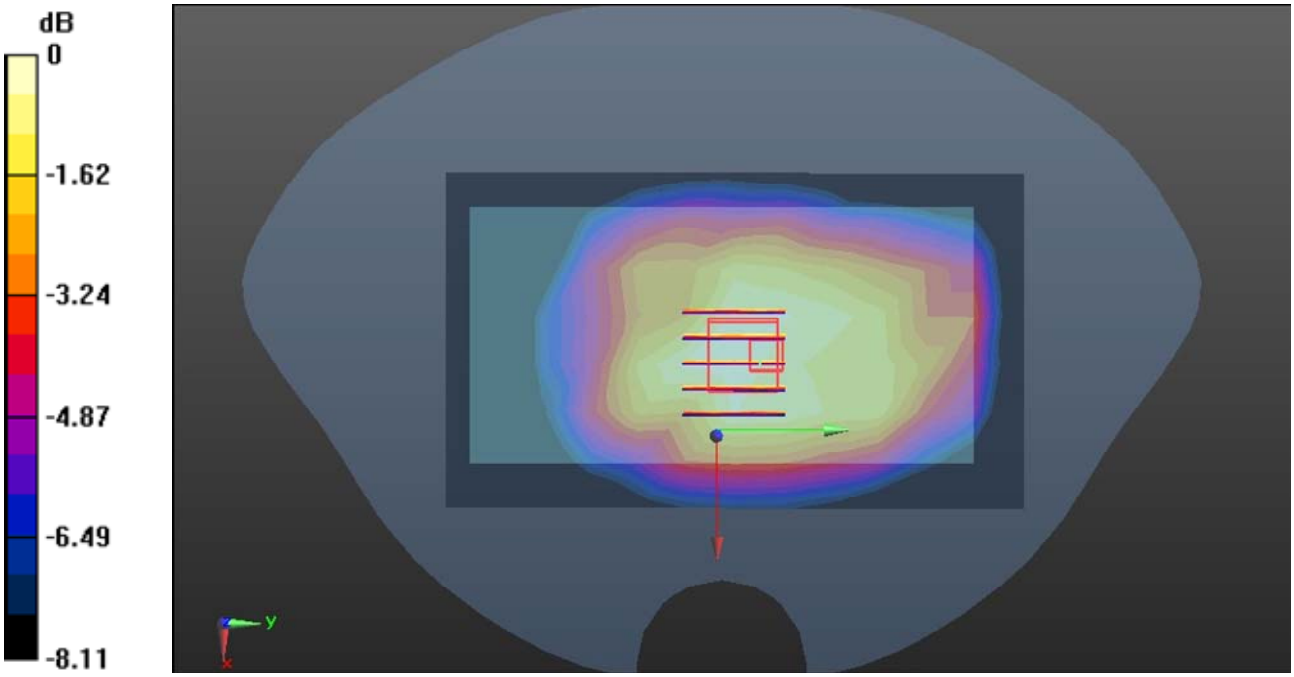
Maximumvalue of SAR (measured) = 0.935 W/kg

GPRS850/BodyRear Mid CH190/Zoom Scan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm

Reference Value = 31.05V/m; Power Drift = -0.01 dBPeakSAR (extrapolated) = 1.03 W/kg

SAR(1g) = 0.792W/kg;SAR(10g) =0.595W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.931 W/kg



0dB=0.931W/kg=-0.31dBW/kg

Date: 4/30/2015

GPRS850-BodyRightMidCH190

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 849 MHz;σ= 0.996 S/m; ε_r= 53.744; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

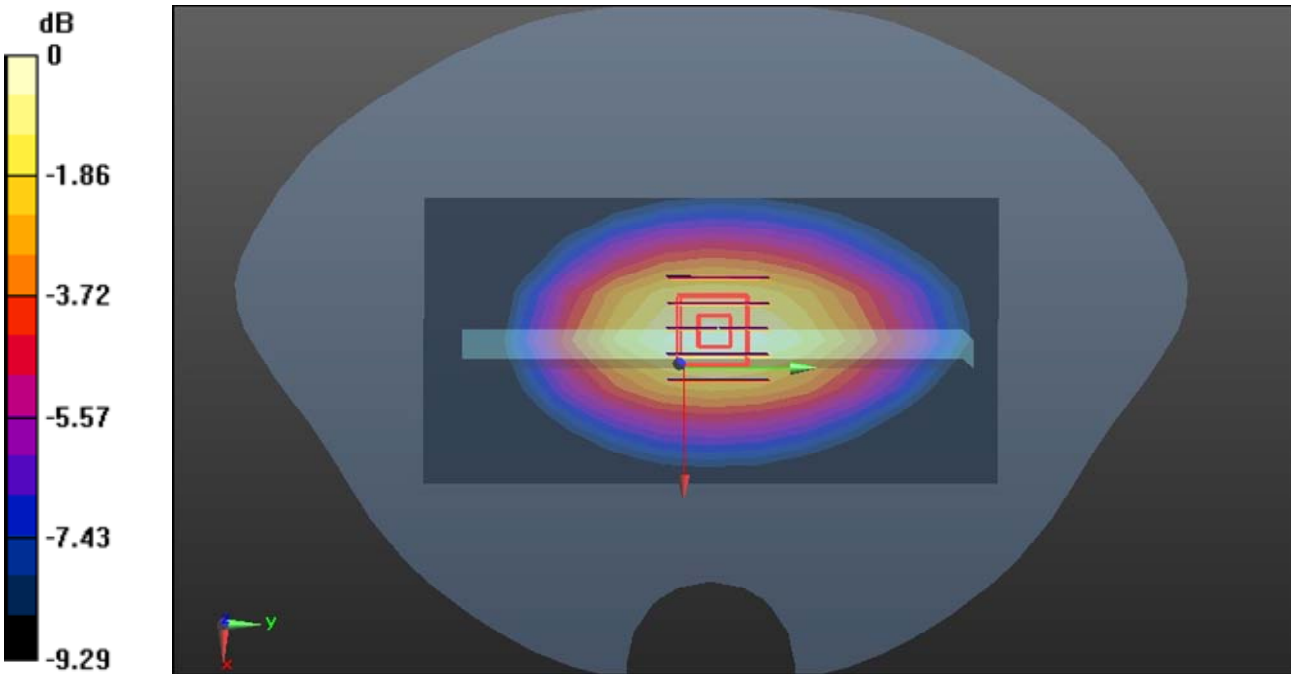
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GPRS 850/BodyRightMiddleCH190/Area Scan(13x7x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.761 W/kg

GPRS 850/BodyRight MiddleCH190/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 28.52V/m; Power Drift = 0.05 dBPeakSAR (extrapolated) = 0.915 W/kg
SAR(1g) = 0.645W/kg;SAR(10g) =0.452W/kg
Maximumvalue of SAR (measured) = 0.794 W/kg



0dB=0.794W/kg=-1.00dBW/kg

Date: 4/30/2015

GPRS850-BodyLeftMidCH190

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 849 MHz;σ= 0.996 S/m; ε_r= 53.744; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

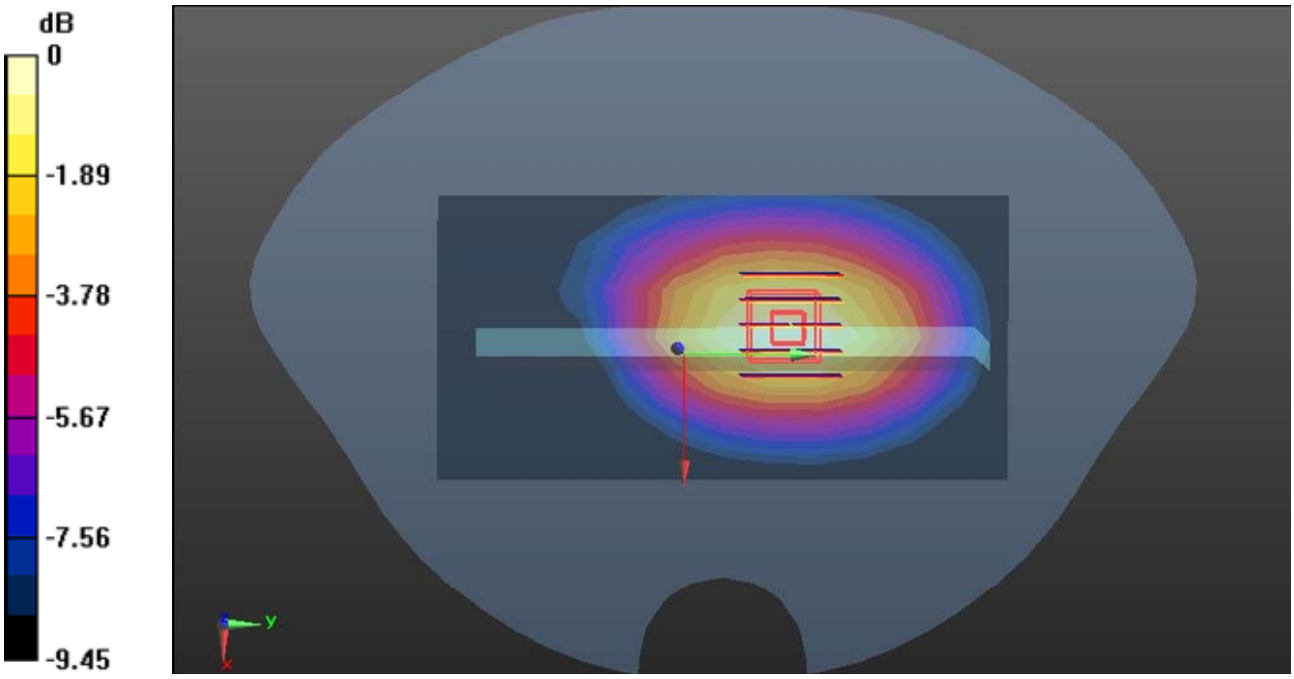
- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

GPRS 850/BodyLeftMiddleCH190/AreaScan(13x7x1): Measurementgrid:dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.498 W/kg

GPRS850/BodyLeftMiddleCH190/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 21.37V/m; Power Drift = 0.04 dBPeakSAR (extrapolated) = 0.604 W/kg
SAR(1g) = 0.426W/kg;SAR(10g) =0.298W/kg
Maximumvalue of SAR (measured) = 0.523 W/kg



0dB=0.523W/kg=-2.81dBW/kg

Date: 4/30/2015

GPRS850-BodyBottomHighCH251

DUT:MobilePhone;

CommunicationSystem:UID0,GenericGSM(0); Communication SystemBand:GSM850;Frequency: MHz;DutyCycle:1:8.30042

Medium parameters used: f= 849 MHz;σ= 0.996 S/m; ε_r= 53.744; ρ = 1000 kg/m^3Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

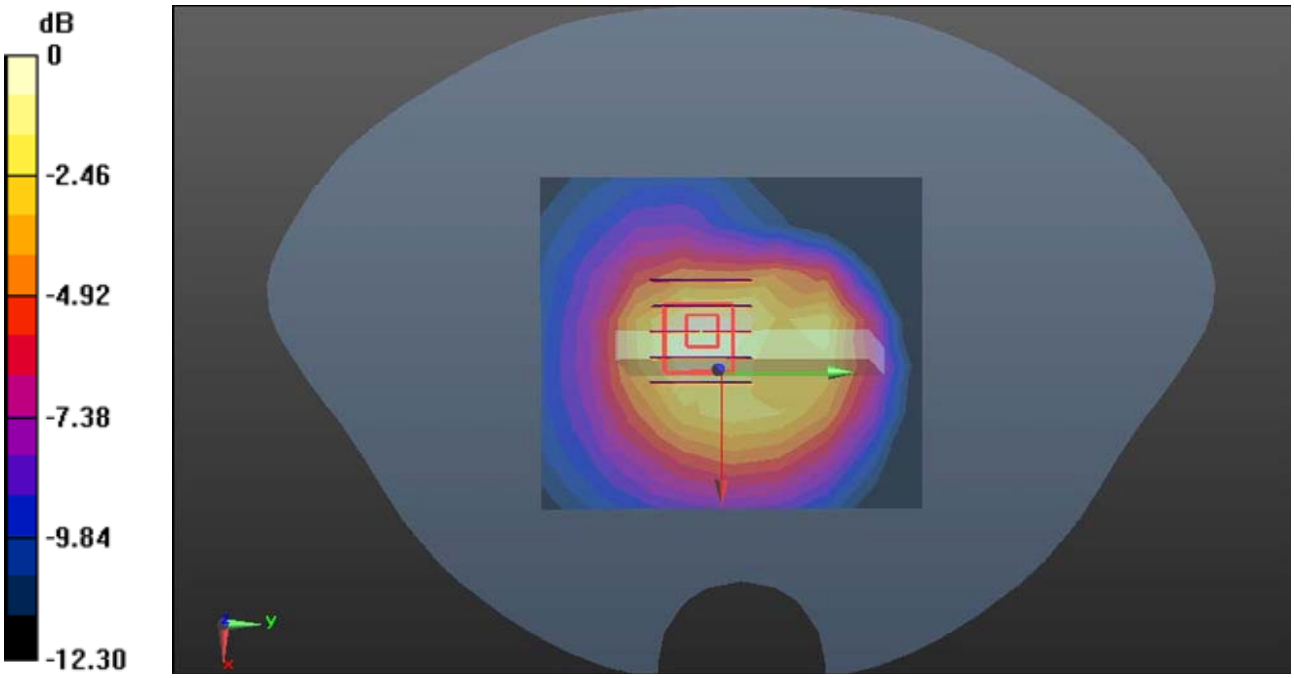
GPRS 850/BodyBottomMiddleCH190/AreaScan(9x8x1): Measurementgrid:dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.254 W/kg

GPRS 850/BodyBottom MiddleCH190/Zoom Scan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm

Reference Value = 14.43V/m; Power Drift = 0.08 dBPeakSAR (extrapolated) = 0.359 W/kg

SAR(1g) = 0.215W/kg;SAR(10g) =0.134W/kg

Maximumvalue of SAR (measured) = 0.291 W/kg



0dB=0.291W/kg=-5.36dBW/kg

Date: 4/30/2015

GPRS1900-BodyFrontMid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 1910 MHz;σ= 1.58 S/m; ε_r= 54.703; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

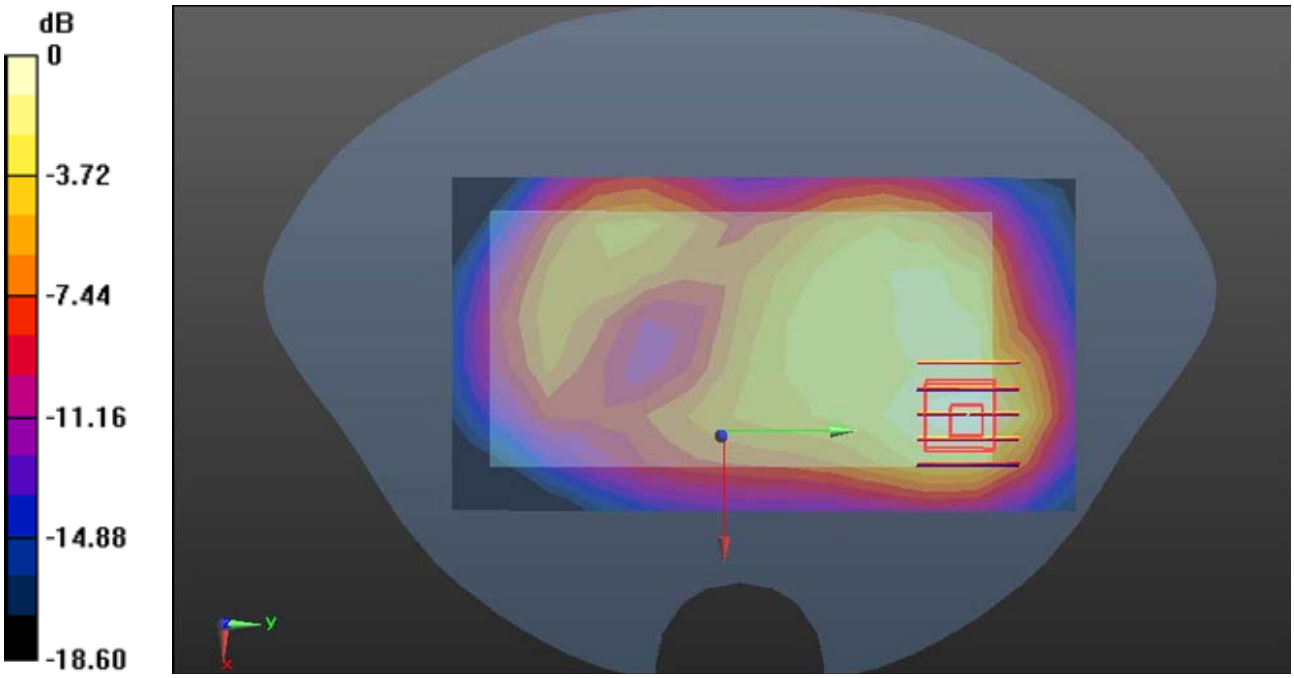
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GPRS 1900/BodyFrontMid CH661/Area Scan(14x8x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.476 W/kg

GPRS1900/BodyFrontMid CH661/Zoom Scan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 9.286V/m; Power Drift = -0.06 dBPeakSAR (extrapolated) = 0.624 W/kg
SAR(1g) = 0.350W/kg;SAR(10g) =0.195W/kg
Maximumvalue of SAR (measured) = 0.472 W/kg



0dB=0.472W/kg=-3.26dBW/kg

Date: 4/30/2015

GPRS1900-BodyRearMid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 1910 MHz;σ= 1.58 S/m; ε_r= 54.703; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

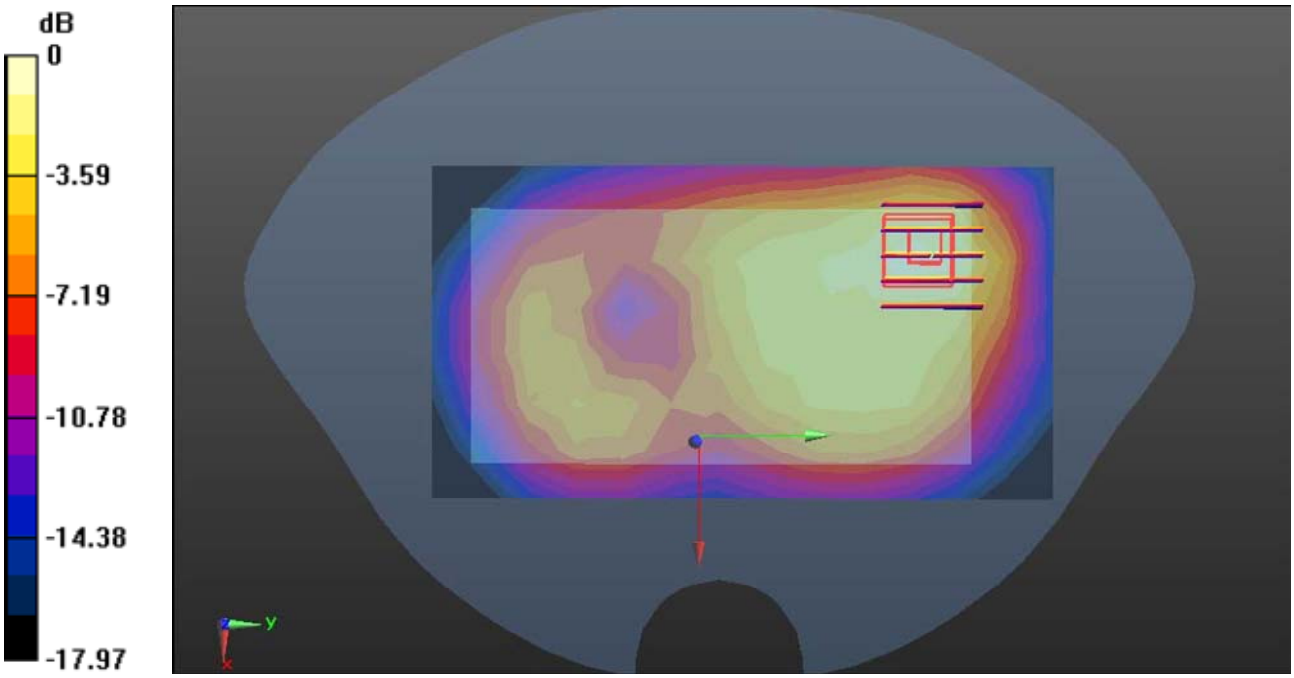
- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

GPRS 1900/BodyRearMid CH661/Area Scan(14x8x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.473 W/kg

GPRS1900/BodyRearMid CH661/Zoom Scan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 10.14V/m; Power Drift = 0.03 dBPeakSAR (extrapolated) = 0.669 W/kg
SAR(1g) = 0.381W/kg;SAR(10g) =0.213W/kg
Maximumvalue of SAR (measured) = 0.523 W/kg



0dB=0.523W/kg=-2.81dBW/kg

Date: 4/30/2015

GPRS1900-BodyRightMid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 1910 MHz;σ= 1.58 S/m; ε_r= 54.703; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609

DASY5252.8.8(1222);

- SEMCAD X Version 14.6.10(7331)

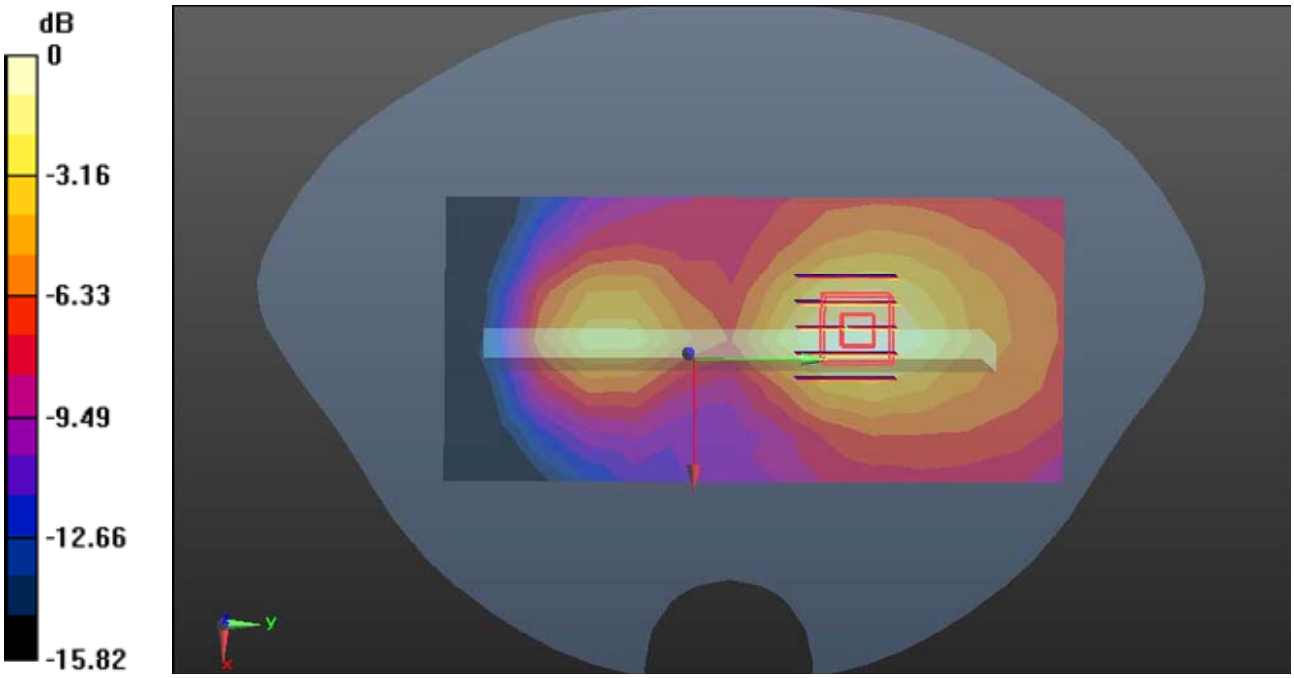
GPRS 1900/BodyRightMid CH661/Area Scan(14x7x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.147 W/kg

GPRS1900/BodyRightMid CH661/Zoom Scan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm

Reference Value = 4.867V/m; Power Drift = -0.10 dBPeakSAR (extrapolated) = 0.192 W/kg

SAR(1g) = 0.115W/kg;SAR(10g) =0.068W/kg

Maximumvalue of SAR (measured) = 0.154 W/kg



0dB=0.154W/kg=-8.12dBW/kg

Date: 4/30/2015

GPRS1900-BodyLeftMid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 1910 MHz;σ= 1.58 S/m; ε_r= 54.703; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

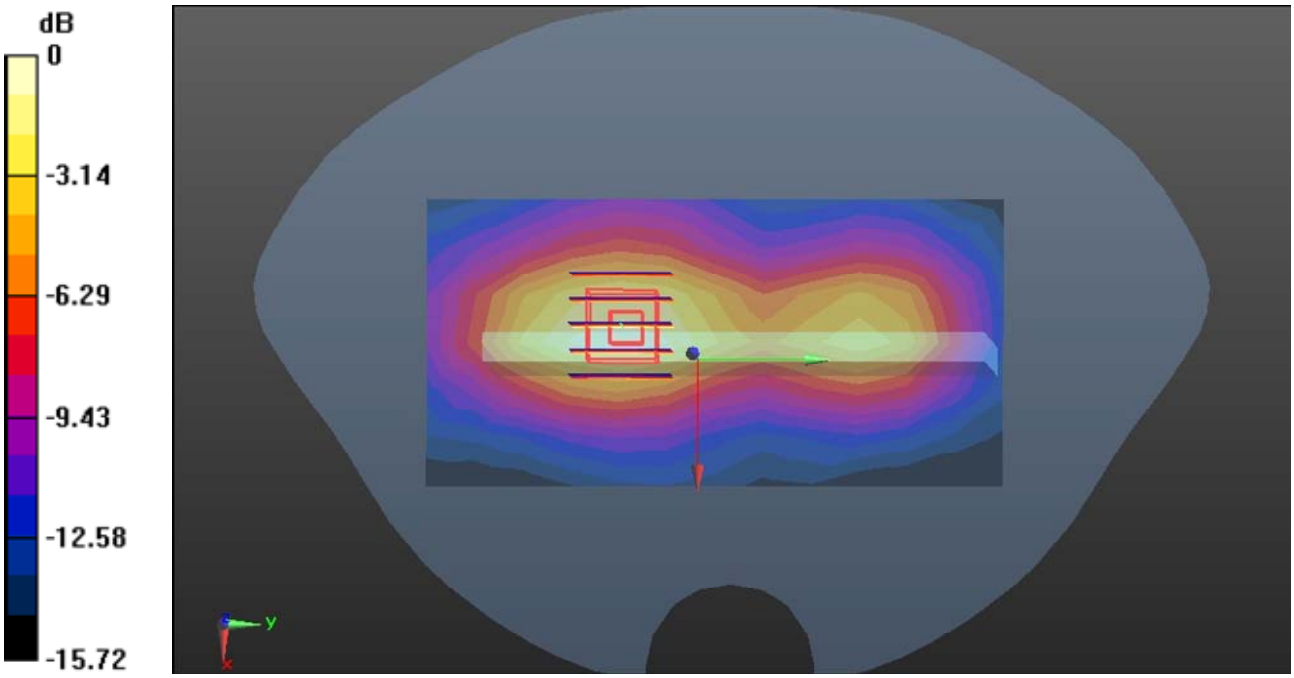
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GPRS 1900/BodyLeftMid CH661/Area Scan(13x7x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.406 W/kg

GPRS1900/BodyLeftMid CH661/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 11.14V/m; Power Drift = -0.02 dBPeakSAR (extrapolated) = 0.532 W/kg
SAR(1g) = 0.322W/kg;SAR(10g) =0.188W/kg
Maximumvalue of SAR (measured) = 0.435 W/kg



0dB=0.435W/kg=-3.62dBW/kg

Date: 4/30/2015

GPRS1900-BodyBottomMid CH661

DUT:MobilePhone;

CommunicationSystem:UID0,Generic GSM(0);CommunicationSystemBand:PCS1900; Frequency: MHz;DutyCycle:1:4.0797

Medium parameters used: f= 1910 MHz;σ= 1.58 S/m; ε_r= 54.703; ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

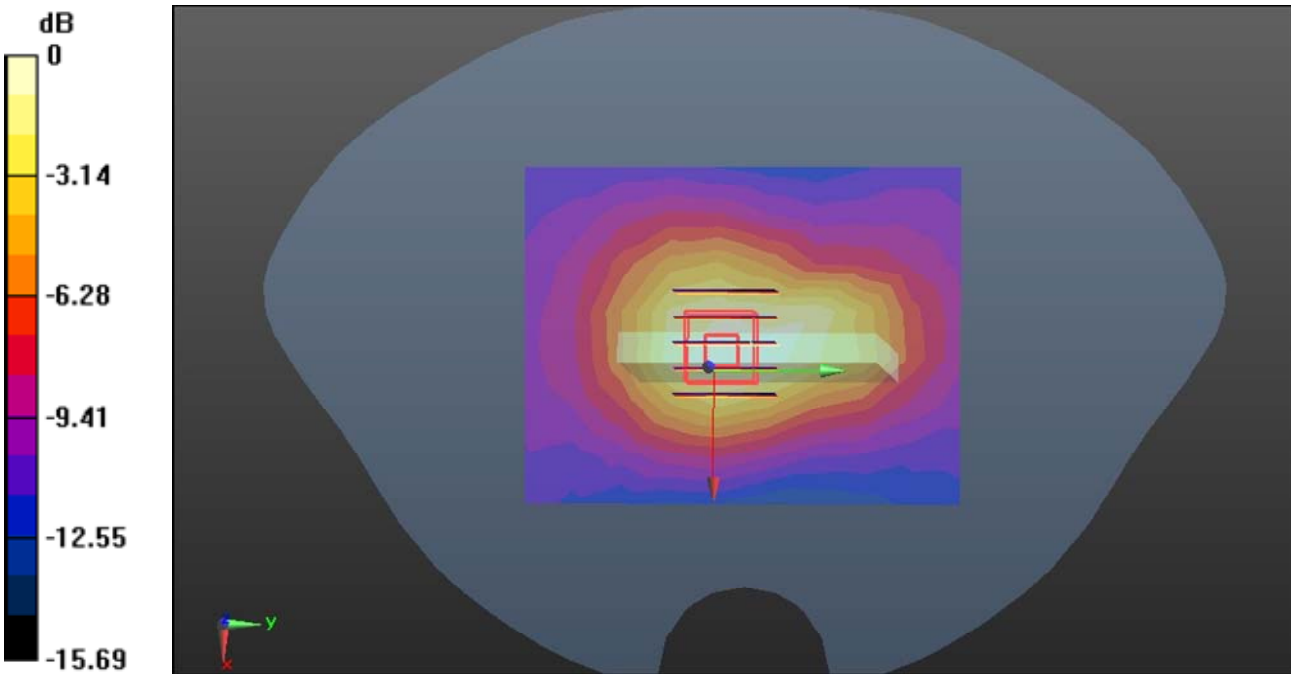
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

GPRS 1900/BodyBottom Mid CH661/Area Scan(10x8x1): Measurementgrid: dx=15mm,dy=15mmMaximumvalue of SAR (measured) = 0.206 W/kg

GPRS1900/BodyBottomMid CH661/ZoomScan(5x5x7)/Cube0: Measurement grid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 11.73V/m; Power Drift = -0.08 dBPeakSAR (extrapolated) = 0.268 W/kg
SAR(1g) = 0.157W/kg;SAR(10g) =0.095W/kg
Maximumvalue of SAR (measured) = 0.208 W/kg



0dB=0.208W/kg=-6.82dBW/kg

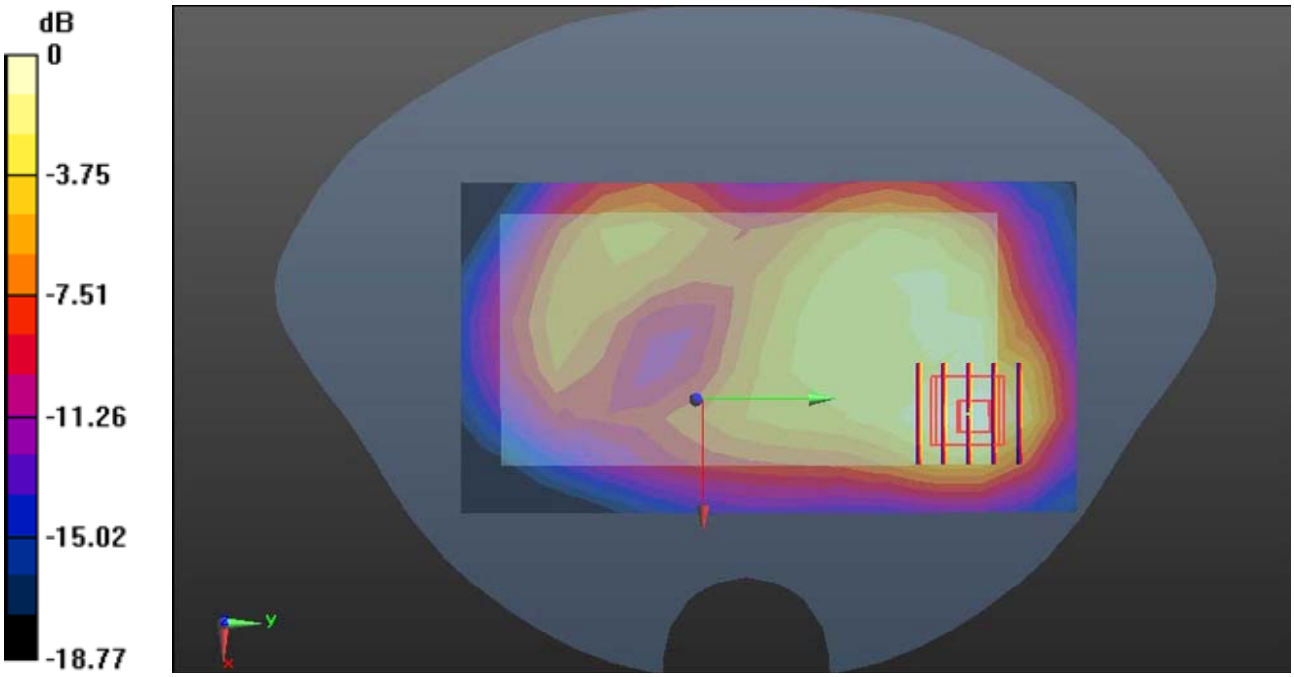
Date: 4/30/2015

WCDMABandII-BodyFrontMIddle CH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.56 S/m; ε_r= 54.82; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandII/BodyFrontMIddle CH9400/AreaScan(14x8x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.920 W/kg

WCDMABand II/BodyFront MIddleCH9400/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.85V/m; Power Drift = -0.01 dBPeakSAR (extrapolated) = 1.17 W/kg
SAR(1g) = 0.661W/kg;SAR(10g) =0.366W/kg
Maximumvalue of SAR (measured) = 0.922 W/kg



0dB=0.922W/kg=-0.35dBW/kg

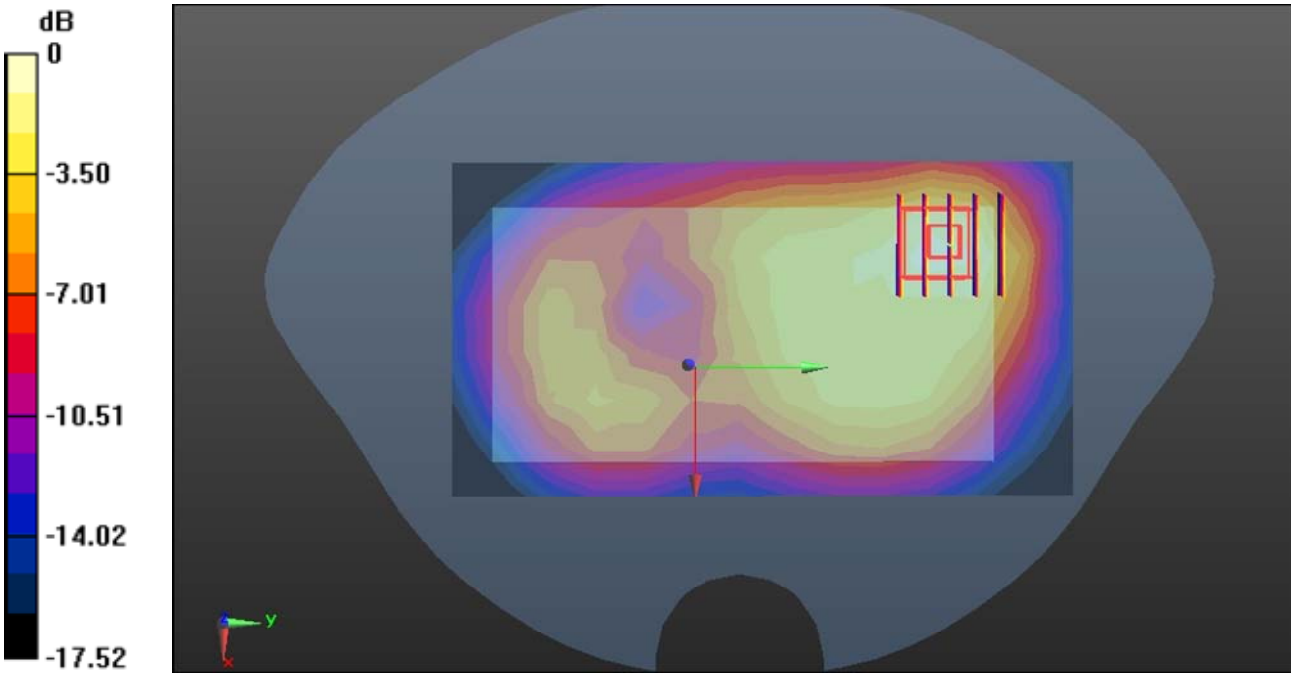
Date: 4/30/2015

WCDMABandII-BodyRearMiddleCH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.56 S/m; ε_r= 54.82; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandII/BodyRearMiddle CH9400/AreaScan(14x8x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.930 W/kg

WCDMABandII/BodyRearMiddleCH9400/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 13.84V/m; Power Drift = 0.03 dBPeakSAR (extrapolated) = 1.33 W/kg
SAR(1g) = 0.758W/kg;SAR(10g) =0.421W/kg
Maximumvalue of SAR (measured) = 1.04 W/kg



0dB=1.04W/kg=0.17dBW/kg

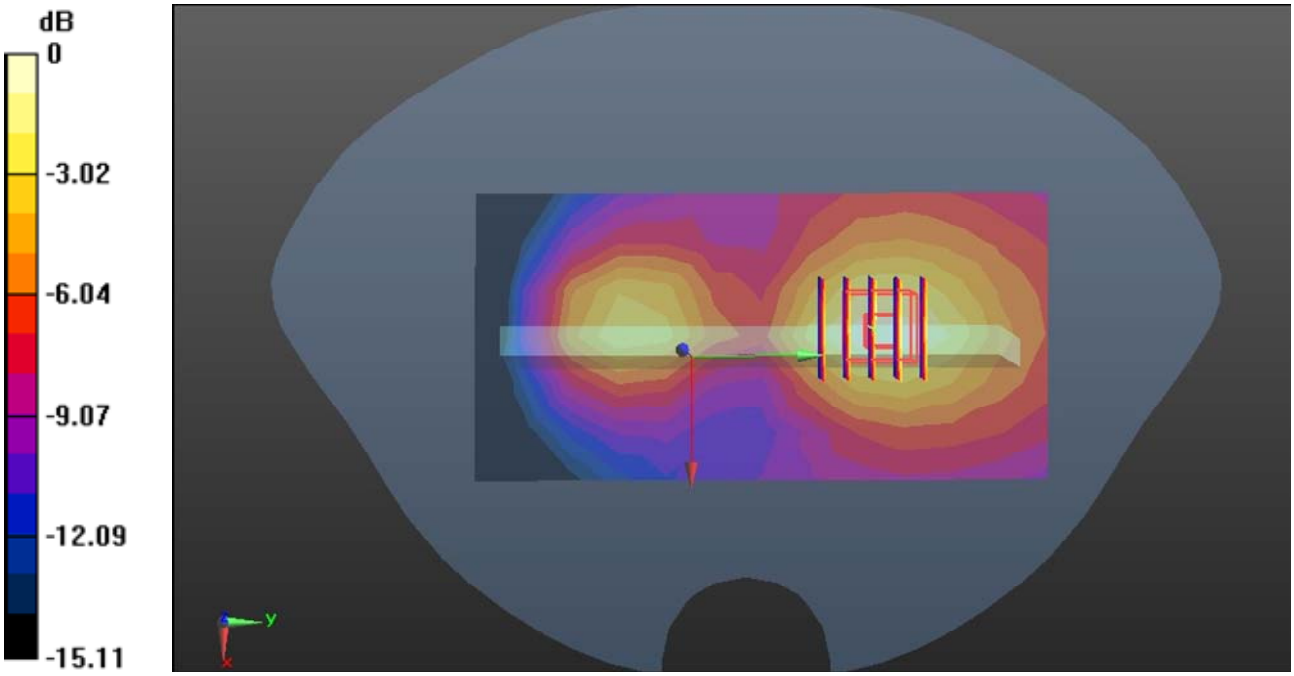
Date: 4/30/2015

WCDMABandII-BodyRightMiddleCH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.56 S/m; ε_r= 54.82; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandII/BodyRightMiddle CH9400/AreaScan(13x7x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.322 W/kg

WCDMABand II/BodyRight MiddleCH9400/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.454V/m; Power Drift = 0.08 dBPeakSAR (extrapolated) = 0.418 W/kg
SAR(1g) = 0.256W/kg;SAR(10g) =0.153W/kg
Maximumvalue of SAR (measured) = 0.341 W/kg



0dB=0.341W/kg=-4.67dBW/kg

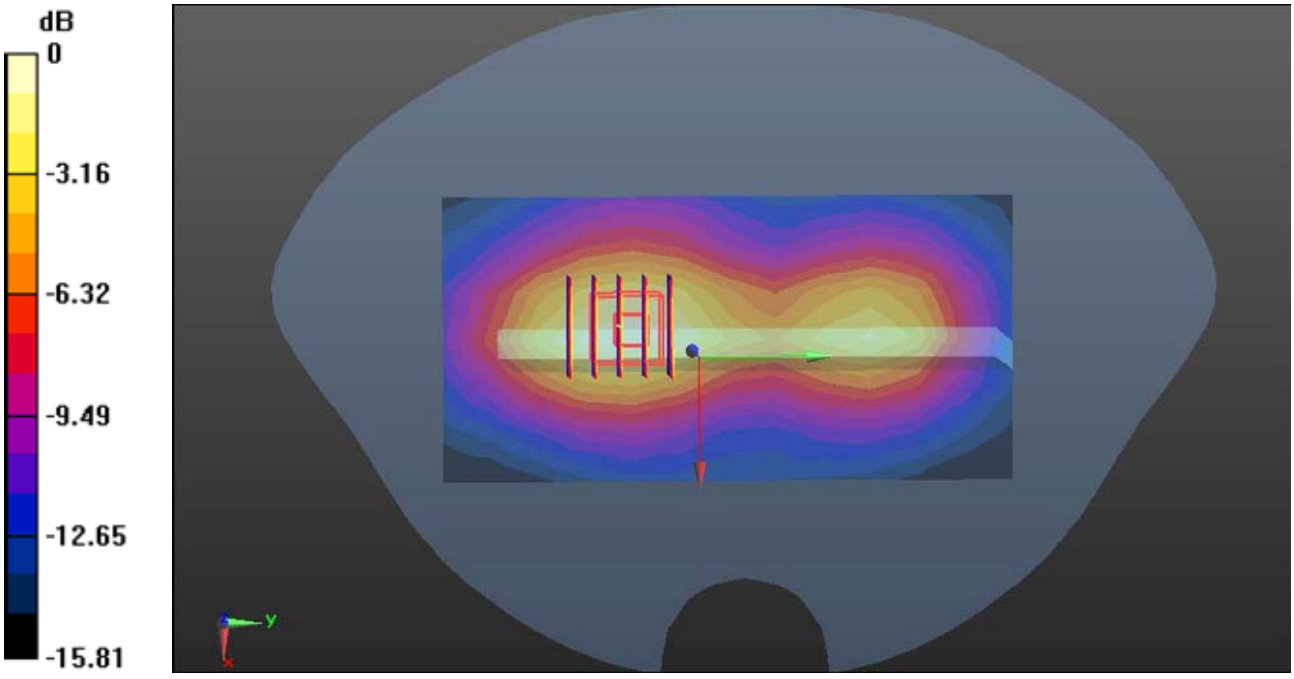
Date: 4/30/2015

WCDMABandII-BodyLeftMiddleCH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.56 S/m; ε_r= 54.82; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandII/BodyLeftMiddleCH9400/AreaScan(13x7x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.748 W/kg

WCDMABandII/BodyLeftMiddleCH9400/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm
Reference Value = 13.78V/m; Power Drift = 0.04 dBPeakSAR (extrapolated) = 0.939 W/kg
SAR(1g) = 0.572W/kg;SAR(10g) =0.337W/kg
Maximumvalue of SAR (measured) = 0.764 W/kg



0dB=0.764W/kg=-1.17dBW/kg

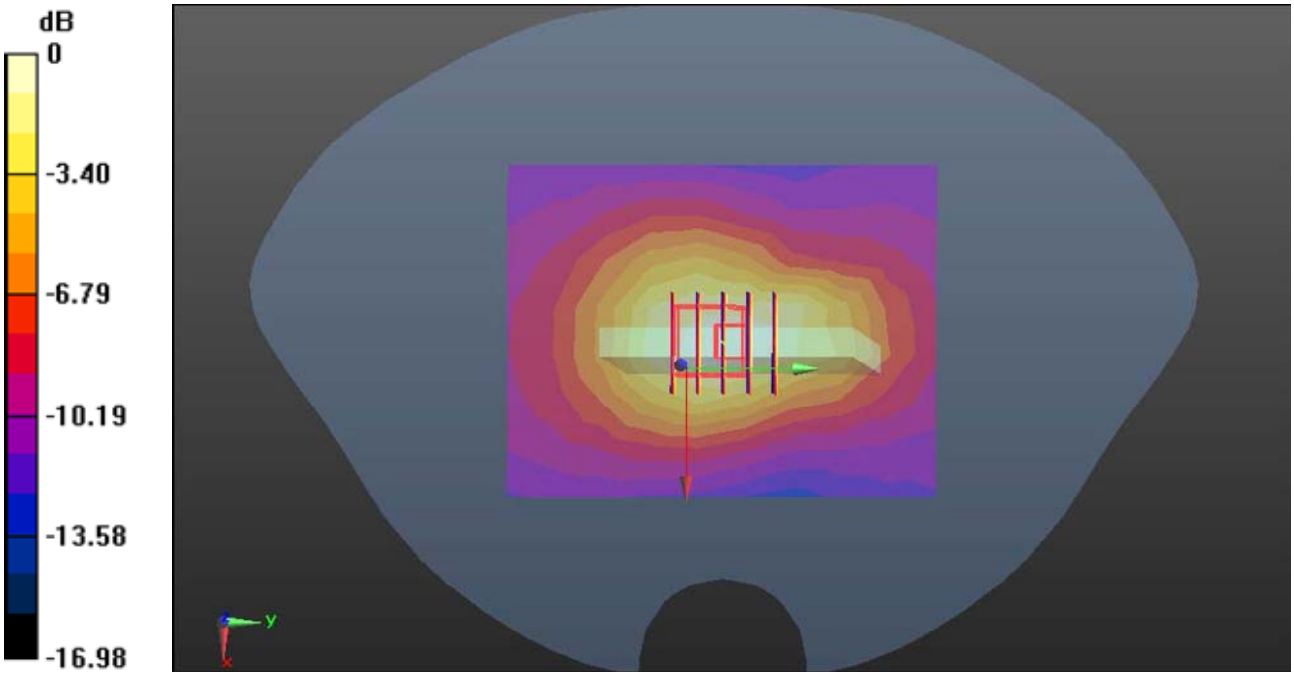
Date: 4/30/2015

WCDMABandII-BodyBottomMiddleCH9400
DUT:MobilePhone;
CommunicationSystem:UID0, FDDWCDMA (0); Communication SystemBand:Band II;Frequency:1880 MHz;Duty Cycle:1:1
Medium parameters used: f= 1880 MHz;σ= 1.56 S/m; ε_r= 54.82; ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV4 - SN3381;ConvF(7.09,7.09, 7.09);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandII/BodyBottomMiddleCH9400/AreaScan(10x8x1): Measurementgrid:dx=15mm,dy=15mm
Maximumvalue of SAR (measured) = 0.349 W/kg

WCDMABandII/BodyBottomMiddle CH9400/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.05V/m; Power Drift = -0.06 dBPeakSAR (extrapolated) = 0.472 W/kg
SAR(1g) = 0.275W/kg;SAR(10g) =0.165W/kg
Maximumvalue of SAR (measured) = 0.370 W/kg



0dB=0.370W/kg=-4.32dBW/kg

Date: 4/30/2015

WCDMABandV-BodyFrontMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.98 S/m; ε_r= 53.528;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandV/BodyFrontMiddle CH4182/AreaScan(13x8x1): Measurementgrid:dx=15mm,dy=15mm

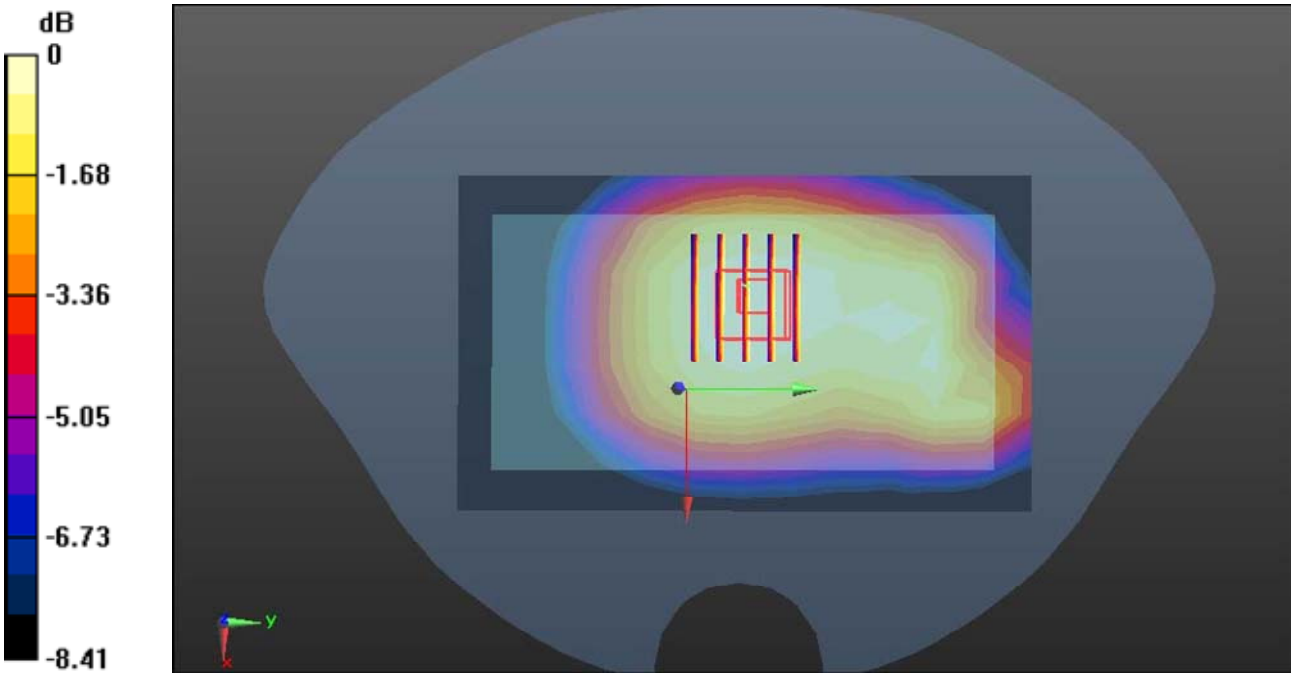
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.312 W/kg

WCDMABand V/BodyFront MiddleCH4182/ZoomScan(5x6x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.94V/m; Power Drift = 0.00 dBPeakSAR (extrapolated) = 0.347 W/kg

SAR(1g) = 0.277W/kg;SAR(10g) =0.215W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.316 W/kg



0dB=0.316W/kg=-5.00dBW/kg

Date: 4/30/2015

WCDMABandV-BodyRearMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.98 S/m; ε_r= 53.528;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandV/BodyRearMiddleCH4182/AreaScan(13x8x1): Measurementgrid:dx=15mm,dy=15mm

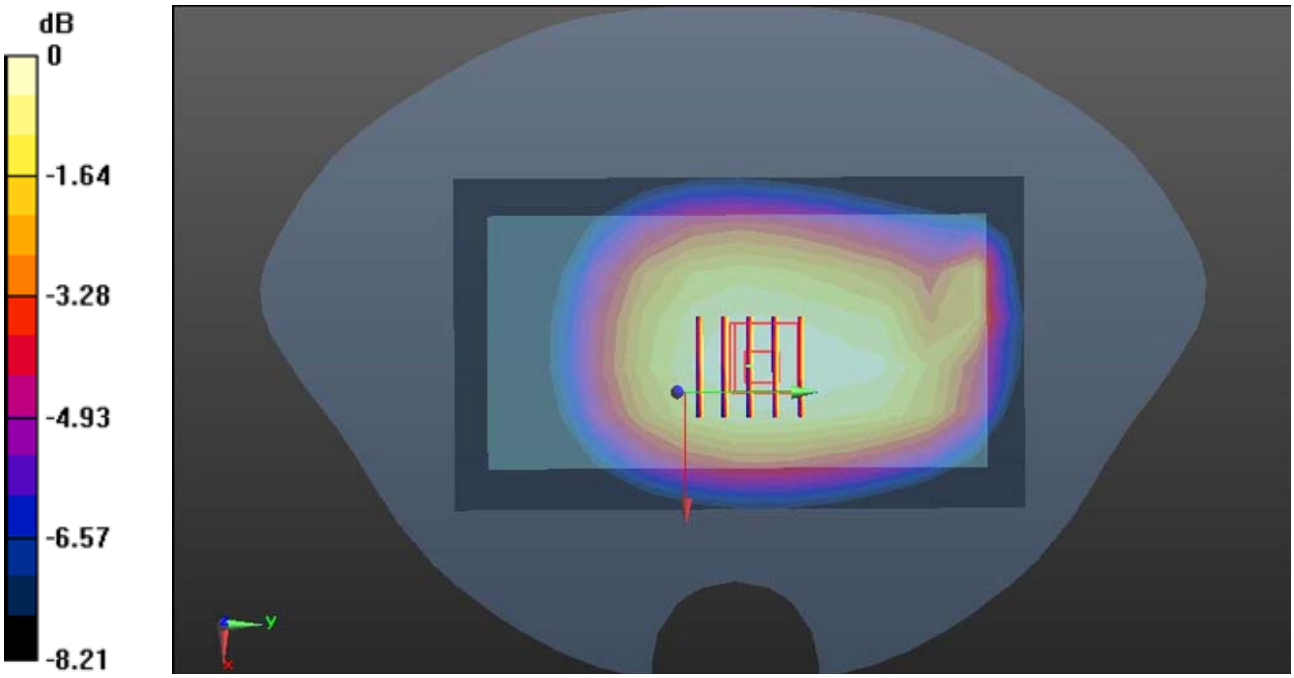
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.512 W/kg

WCDMABandV/BodyRearMiddleCH4182/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.39V/m; Power Drift = -0.14 dBPeakSAR (extrapolated) = 0.568 W/kg

SAR(1g) = 0.450W/kg;SAR(10g) =0.348W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.516 W/kg



0dB=0.516W/kg=-2.87dBW/kg

Date: 4/30/2015

WCDMABandV-BodyRightMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.98 S/m; ε_r= 53.528;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandV/BodyRightMiddleCH4182/AreaScan(13x7x1): Measurementgrid:dx=15mm,dy=15mm

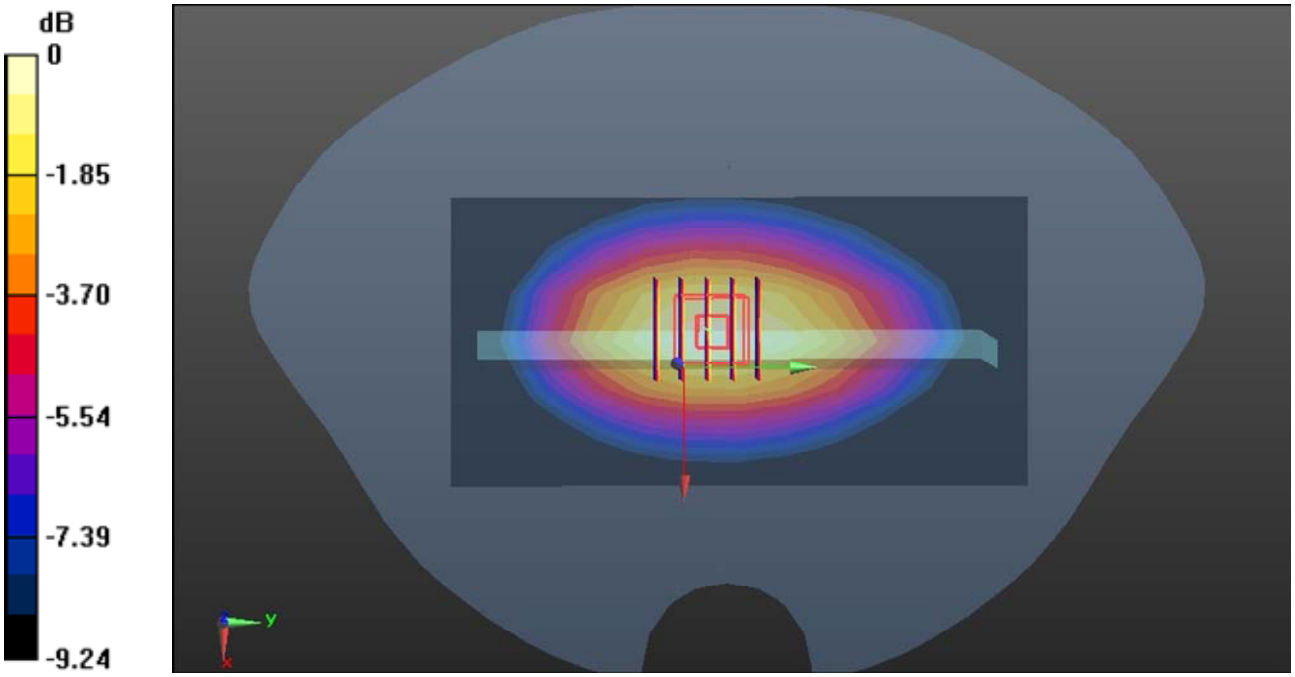
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.387 W/kg

WCDMABandV/BodyRightMiddle CH4182/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.91V/m; Power Drift = -0.15 dBPeakSAR (extrapolated) = 0.458 W/kg

SAR(1g) = 0.329W/kg;SAR(10g) =0.230W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.401 W/kg



0dB=0.401W/kg=-3.97dBW/kg

Date: 4/30/2015

WCDMABandV-BodyLeftMiddle CH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.98 S/m; ε_r= 53.528;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMABandV/BodyLeftMiddleCH4182/AreaScan(13x7x1): Measurementgrid:dx=15mm,dy=15mm

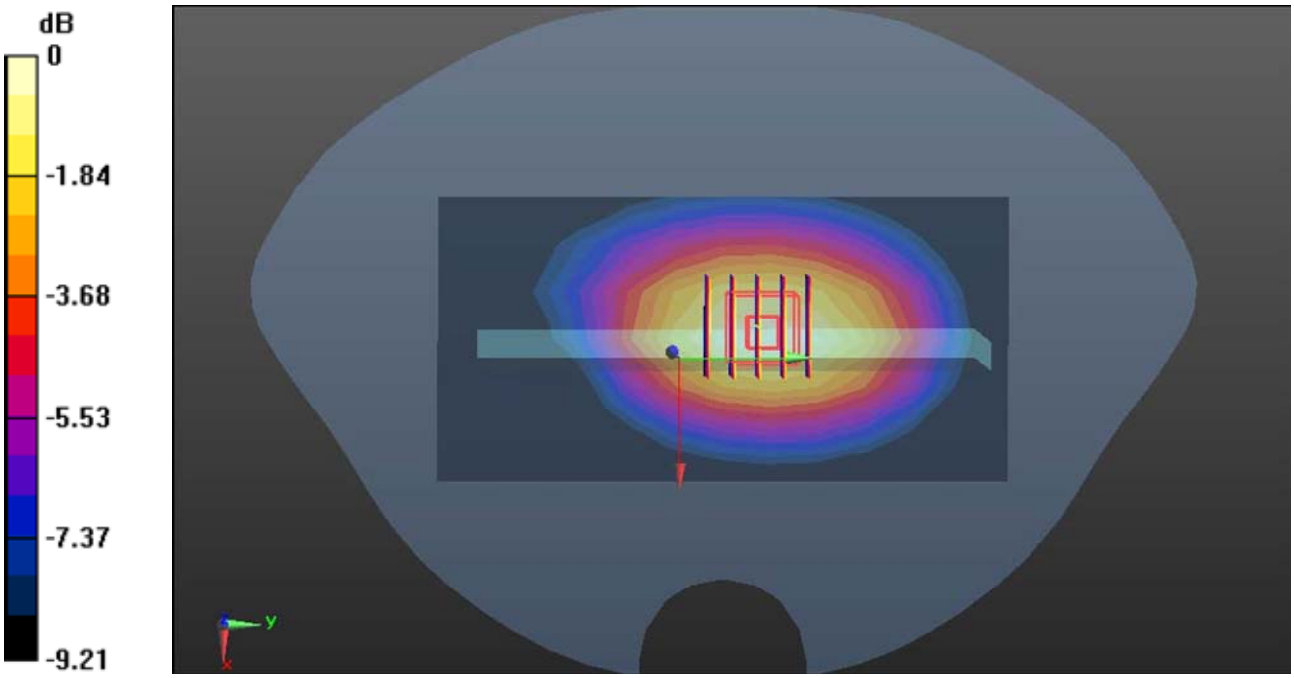
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.255 W/kg

WCDMABandV/BodyLeftMiddleCH4182/ZoomScan(5x5x7)/Cube0: Measurementgrid:dx=8mm,dy=8mm,dz=5mm

Reference Value = 16.83V/m; Power Drift = -0.04 dBPeakSAR (extrapolated) = 0.293 W/kg

SAR(1g) = 0.212W/kg;SAR(10g) =0.149W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.257 W/kg



0dB=0.257W/kg=-5.90dBW/kg

Date: 4/30/2015

WCDMABandV-BodyBottomMiddleCH4182

DUT:MobilePhone;

CommunicationSystem:UID 0,FDDWCDMA (0); Communication SystemBand:BandV; Frequency: MHz;DutyCycle:1:1

Medium parameters used (interpolated): f= 836.6MHz; σ= 0.98 S/m; ε_r= 53.528;ρ = 1000 kg/m^{3}Room Ambient Temperature: 22°C; LiquidTemperature:21.5°C

Phantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV4 - SN3381;ConvF(9.22,9.22, 9.22);Calibrated: 07/22/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WCDMA BandV/BodyBottomMiddleCH4182/AreaScan(9x8x1): Measurementgrid:dx=15mm,dy=15mm

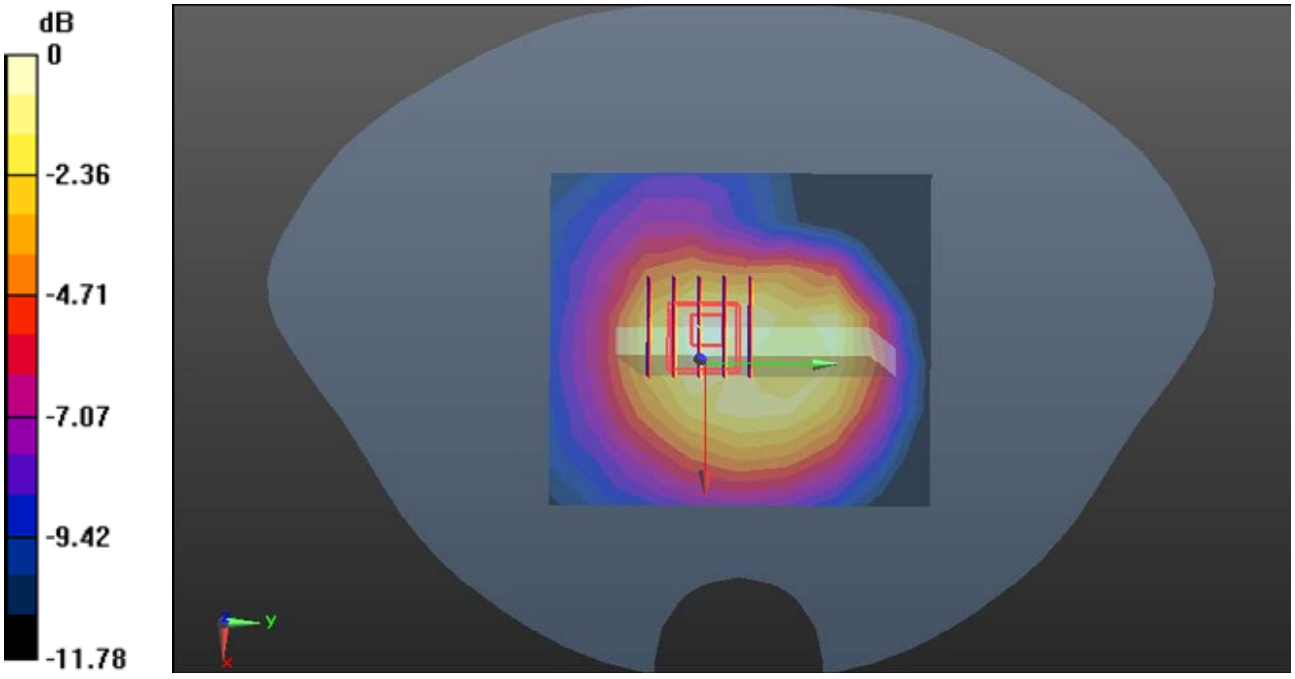
Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.0931 W/kg

WCDMA Band V/BodyBottom Middle CH4182/ZoomScan (5x5x7)/Cube0: Measurementgrid:dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.727V/m; Power Drift = -0.10 dBPeakSAR (extrapolated) = 0.122 W/kg

SAR(1g) = 0.078W/kg;SAR(10g) =0.051W/kg

Info: Interpolatedmediumparameters used for SAR evaluation.Maximumvalue of SAR (measured) = 0.101 W/kg



0dB=0.101W/kg=-9.96dBW/kg

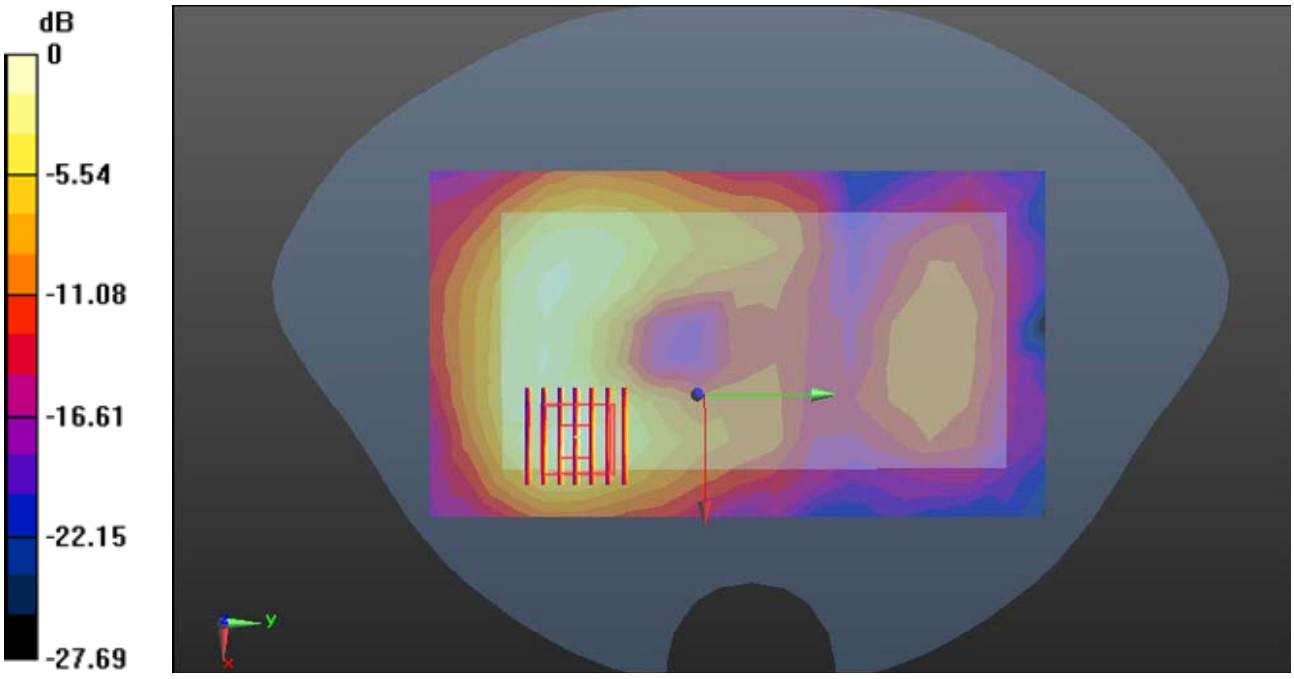
Date: 4/30/2015

WIFI-BodyFront MidCH6
DUT:MobilePhone;
CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f= 2412 MHz;σ= 1.887 S/m; ε_r= 51.887;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV3 - SN3203;ConvF(6.82,6.82, 6.82);Calibrated: 12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WIFI/BodyFront Mid CH6/AreaScan(17x10x1): Measurementgrid:dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 0.129 W/kg

WIFI/BodyFront Mid CH6/ZoomScan (7x7x7)/Cube 0: Measurement grid:dx=5mm,dy=5mm,dz=5mm
Reference Value = 2.428V/m; Power Drift = -0.05 dBPeakSAR (extrapolated) = 0.183 W/kg
SAR(1g) = 0.083W/kg;SAR(10g) =0.038W/kg
Maximumvalue of SAR (measured) = 0.128 W/kg



0dB=0.128W/kg=-8.93dBW/kg

Date: 4/30/2015

WIFI-BodyRearMidCH6

DUT:MobilePhone;

CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1

Medium parameters used: f= 2412 MHz;σ= 1.887 S/m; ε_r= 51.887;ρ = 1000 kg/m^3

Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV3 - SN3203;ConvF(6.82,6.82, 6.82);Calibrated: 12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

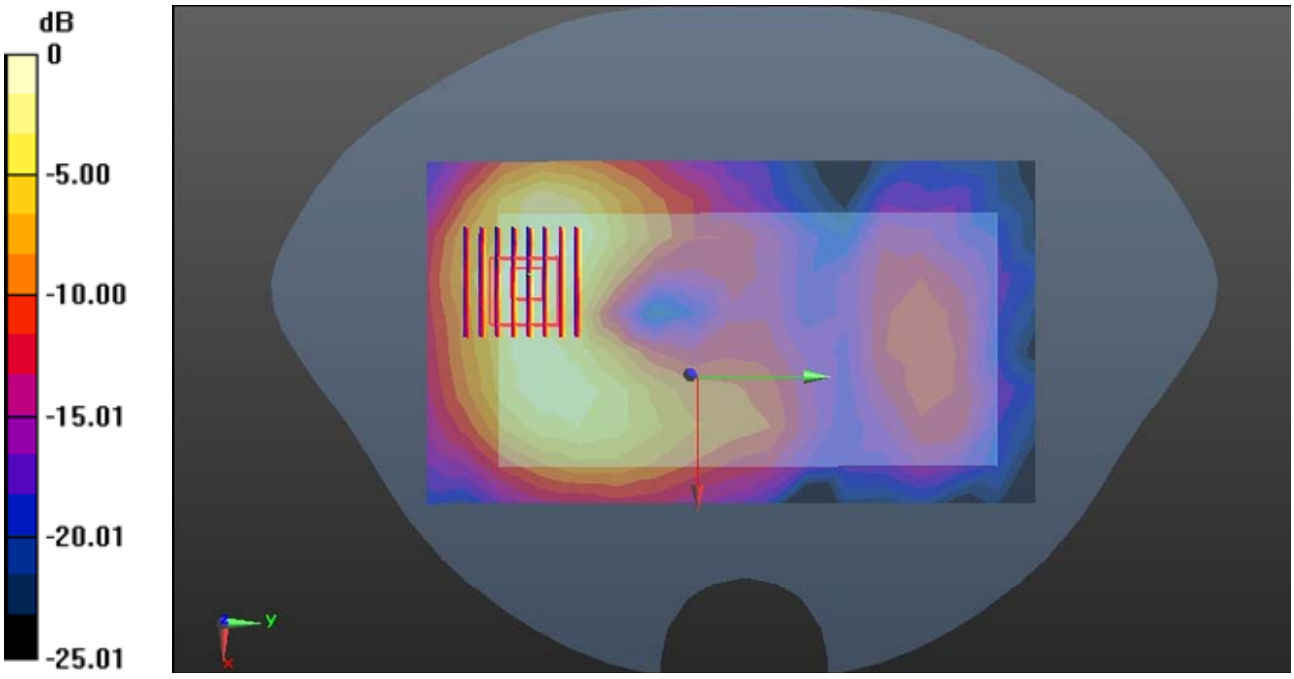
WIFI/BodyRear Mid CH6/AreaScan(17x10x1): Measurementgrid:dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 0.144 W/kg

WIFI/BodyRear Mid CH6/Zoom Scan (8x8x7)/Cube 0: Measurement grid:dx=5mm,dy=5mm,dz=5mm

Reference Value = 2.068V/m; Power Drift = 0.06 dBPeakSAR (extrapolated) = 0.224 W/kg

SAR(1g) = 0.094W/kg;SAR(10g) =0.043W/kg

Maximumvalue of SAR (measured) = 0.150 W/kg



0dB=0.150W/kg=-8.24dBW/kg

Date: 4/30/2015

WIFI-BodyLeftMidCH6

DUT:MobilePhone;

CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1

Medium parameters used: f= 2412 MHz;σ= 1.887 S/m; ε_r= 51.887;ρ = 1000 kg/m^3

Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection

MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:

Probe: EX3DV3 - SN3203;ConvF(6.82,6.82, 6.82);Calibrated: 12/19/2014;

- Sensor-Surface: 2mm (Mechanical SurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

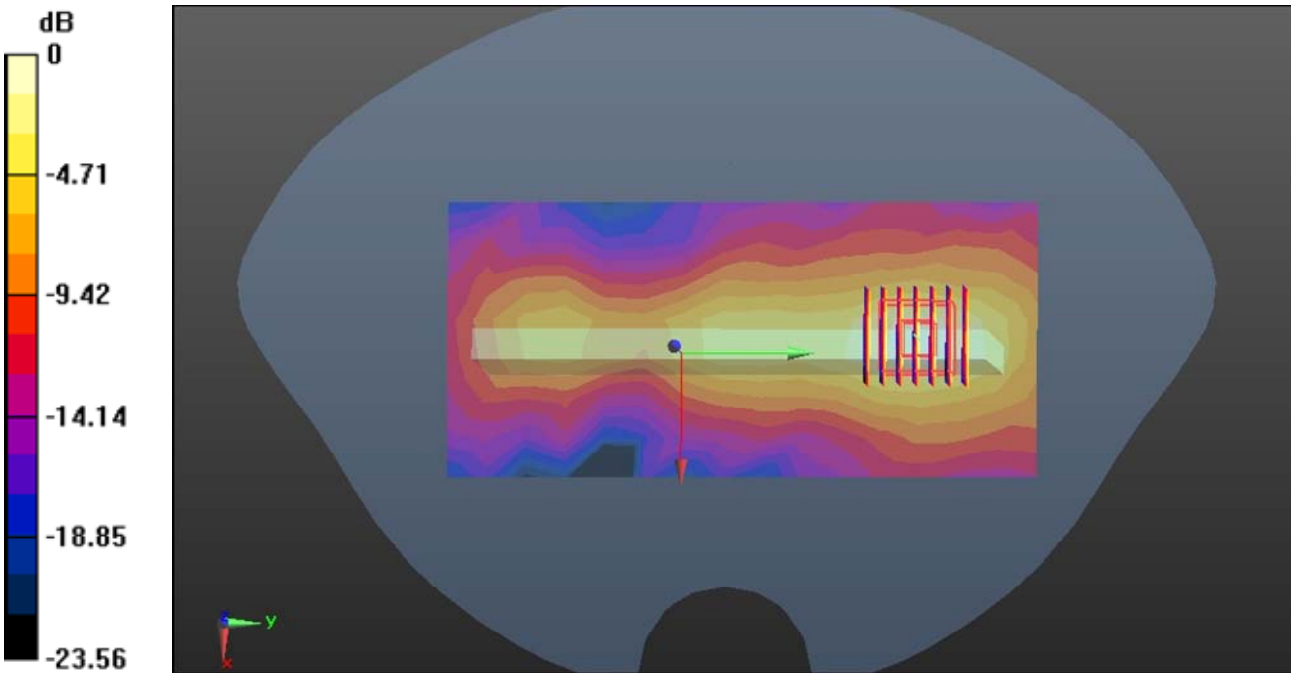
WIFI/BodyLeftMid CH6/Area Scan(16x8x1): Measurementgrid: dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 0.0578 W/kg

WIFI/BodyLeftMid CH6/Zoom Scan(7x7x7)/Cube0: Measurement grid:dx=5mm,dy=5mm,dz=5mm

Reference Value = 4.342V/m; Power Drift = 0.01 dBPeakSAR (extrapolated) = 0.221 W/kg

SAR(1g) = 0.047W/kg;SAR(10g) =0.023W/kg

Maximumvalue of SAR (measured) = 0.0691 W/kg



0dB=0.0691W/kg=-11.61dBW/kg

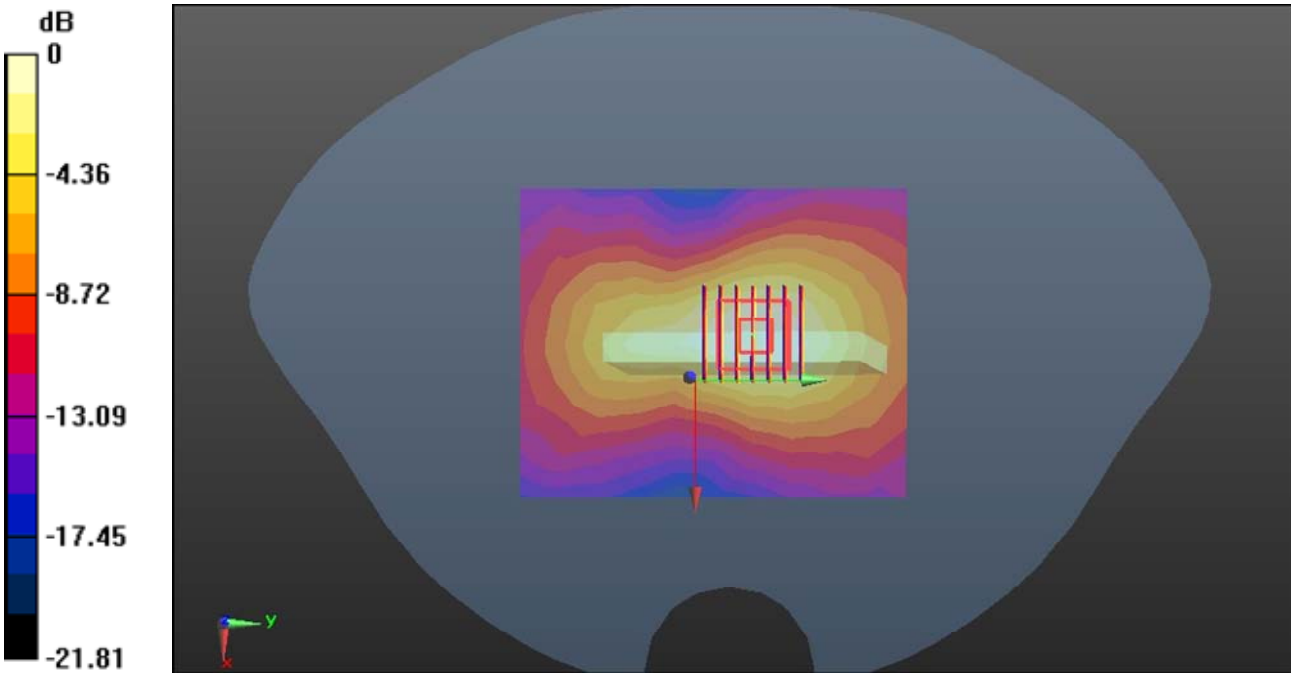
Date: 4/30/2015

WIFI-BodyTop Mid CH6
DUT:MobilePhone;
CommunicationSystem:UID0,IEEE802.11b(0);CommunicationSystemBand:ISM2.4GHzBand;Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f= 2412 MHz;σ= 1.887 S/m; ε_r= 51.887;ρ = 1000 kg/m^3
Room Ambient Temperature: 22°C; LiquidTemperature:21.5°CPhantomsection: FlatSection
MeasurementStandard:DASY5(IEEE/IEC/ANSIC63.19-2007)DASYConfiguration:
Probe: EX3DV3 - SN3203;ConvF(6.82,6.82, 6.82);Calibrated: 12/19/2014;

- Sensor-Surface: 1.4mm(Mechanical SurfaceDetection), Sensor-Surface: 2mm (MechanicalSurfaceDetection)
- Electronics: DAE4 Sn876;Calibrated: 03/09/2015
- Phantom:TwinSAM Phantom; Type:QD 000 P40 CD; Serial:1609
  DASY5252.8.8(1222);
- SEMCAD X Version 14.6.10(7331)

WIFI/BodyTop Mid CH6/Area Scan(11x9x1): Measurementgrid: dx=12mm,dy=12mmMaximumvalue of SAR (measured) = 0.151 W/kg

WIFI/BodyTop Mid CH6/Zoom Scan(7x7x7)/Cube0: Measurement grid:dx=5mm,dy=5mm,dz=5mm
Reference Value = 8.120V/m; Power Drift = 0.03 dBPeakSAR (extrapolated) = 0.182 W/kg
SAR(1g) = 0.093W/kg;SAR(10g) =0.049W/kg
Maximumvalue of SAR (measured) = 0.135 W/kg



0dB=0.135W/kg=-8.70dBW/kg