AT4 wireless, S.A.U.
Parque Tecnológico de Andalucía,
c/ Severo Ochoa nº 2 · 29590 Campanillas · Málaga · España
www.at4wireless.com · C.I.F. A29 507 456

Nº 51/LE147

Test report No:

NIE: 50389RAN.001

Test report
REFERENCE STANDARDS:
FCC 47CFR Part 2.1093, Published RF Exposure KDB Procedures, ISED RSS -102 Issue 5:2015

Identification of item tested.....:	3M™ Two-Piece GPS Offender Tracking Unit (V6)
Trade .....:	3M
Model and /or type reference .....:	60433
Other identification of the product .....:	S/N: 35600300 Cell module FCC ID : XPYLISAU200 Cell module ISED: 8595A-LISAU200
Final HW version .....:	V6
Final SW version .....:	5.12.5.39
Features.....:	Not provided data
Manufacturer.....:	3M ELECTRONIC MONITORING 2 Habarzel St. Tel-Aviv, 69710, IsraeI.
Test method requested, standard.....:	1. FCC 47 CFR Part 2.1093. (10-1-14 Edition) Radiofrequency radiation exposure evaluation: portable devices. 2. FCC OET KDB 447498 D01 General RF Exposure Guidance v06 (October 2015) 3. FCC OET KDB 865664 D01 - SAR Measurement Requirements for 100 MHz to 6 GHz v01r04 (August 2015). 4. FCC OET KDB 865664 D02 RF Exposure Reporting v01r02 (October 2015) 5. FCC OET KDB 648474 D04 Handset SAR v01r03 (October 2015) 6. FCC OET KDB 941225 D01 3G SAR Procedures v03r01 (October 2015). 7. ISED RSS-102 Issue 5 (2015-03) – Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) 8. Canada`s Safety Code No.6 – Limits of Human Exposure to Radiofrequency Electromag-netic Fields in the Frequency Range from 3 kHz to 300 GHz .

Summary .....:	Considering the results of the performed test according to FCC 47CFR Part 2.1093 and ISED RSS-102 Issue 5, the item under test is IN COMPLIANCE with the requested specifications specified in the standards. The maximum 1g volume averaged SAR found during this test has been 1.49 W/kg, for GPRS 850 MHz Band and 4 slots mode, into the body exposure condition. NOTE: The results presented in this Test Report apply only to the particular item under test established in page 1 of this document, as presented for test on the date(s) shown in section, "USAGE OF SAMPLES, TESTING PERIOD AND ENVIRONMENTAL CONDITIONS".
Approved by (name / position & signature) .....:	Miguel Lacave Antennas Lab Manager  MIGUEL LACAVE GARCÍA 2016.11.07 14:42:14 +01'00'
Date of issue .....:	2016-10-10
Report template No.....:	FDT08_18

Index

Competences and guarantees

AT4 wireless is a testing laboratory accredited by the National Accreditation Body (ENAC -Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

In order to assure the traceability to other national and international laboratories, AT4 wireless has a calibration and maintenance program for its measurement equipment.

AT4 wireless guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at AT4 wireless at the time of performance of the test.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of AT4 wireless.

General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of AT4 wireless.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the following documents:

1. FCC OET KDB 865664 D01 - SAR Measurement Requirements for 100 MHz to 6 GHz v01r04 (August 2015).

Usage of samples

Samples undergoing test have been selected by: the client

Sample M/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
50389B/18	Electronic Device	60433	35600300	2016-06-22

Sample M/02 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
50389B/18	Electronic Device	60433	35600300	2016-06-22

1. Sample M/01 has undergone the test(s) specified in subclause "Test method requested": Conducted average output power.
2. Sample M/02 has undergone the test(s) specified in subclause "Test method requested": SAR evaluation for 2G and 3G modes.

Test sample description

The test sample consists of a Tracking Device.

Identification of the client

Company name: 3M ELECTRONIC MONITORING

Postal Addres: 2 Habarzel ST. Tel-Aviv, 69710 Israel

Contact person: Hanna Sharet

Job title / Department: PRL Engineer

Telephone: +972 3 7671 700 ext. 6551

e-mail: hsharet@mmm.com

Testing period

The performed test started on 2016-06-27 and finished on 2016-09-10.

The tests have been performed at AT4 wireless.

Environmental conditions

In the laboratory for measurements, the following limits were not exceeded during the test:

Temperature	Min. = 22.32ºC Max. = 24.89 ºC
Relative humidity	Min. = 42.10 % Max. = 61.14 %

Remarks and comments

1: Zoom scan is not required according to FCC OET KDB 447498 D01 General RF Exposure Guidance v06, paragraph "4.4.2. Area scan based 1-g estimation"

2: Testing of other required channels is not required according to FCC OET KDB 447498 D01 General RF Exposure Guidance v06, paragraph "4.4.1. General SAR test reduction considerations".

3: Testing of GPRS EDGE mode is not required according to test reductions mentioned in FCC OET KDB 941225 D01 3G SAR Procedures, paragraph "5. GSM, GPRS and EDGE"

4: Testing of HSDPA/HSPA/HSPA+/DC-HSPA modes are not required according to paragraph "2.1 3G SAR test reduction procedure" mentioned in FCC OET KDB 941225 D01 3G SAR Procedures.

5: Only the plots of the highest reported SAR for each test position and mode/band are included in appendix C.

Used instrumentation

1. Dosimetric E-field probe SPEAG ES3DV3 and SPEAG EX3DV4
2. Data acquisition device SPEAG DAE4
3. Electro-optical converter SPEAG EOC3
4. 900 MHz dipole validation kit SPEAG D900V2
5. 1800MHz dipole validation kit SPEAG D1800V2
6. Robot Stäubli RX60BL
7. Robot controller Stäubli CM7MB
8. SAR measurement software SPEAG DASY52 V52.8.8.1222
9. SAR post processing software SPEAG SEMCAD X
10. Measurement server SPEAG DASY5 SE UMS 011 BS
11. SAM head-body simulator SPEAG Twin SAM V4.0
12. Oval flat phantom SPEAG ELI 4
13. Head and Body Tissue Equivalent Liquids for 850MHz and 1700MHz and 1900MHz bands
14. Wideband Radio Communication Tester R&S CMW 500
15. Vector network analyzer Agilent FieldFox N9923A
16. Dielectric probe kit SPEAG DAK-3.5
17. Power sensor DC 50 MHz to 18 GHz R&S model NRP-Z81
18. Power meter Agilent E4419B
19. RF Generator R&S SMU200A
20. DC Power supply Agilent U8002A
21. Dual directional coupler NARDA FSCM 99899
22. Dual directional coupler HP 778D.
23. Power amplifier MITEQ AMF-4D-00400600-50-30P
24. 6 dB attenuator Weinschel 75 A-6-11
25. 20 dB attenuator Weinschel 75 A-20-11
26. SPEAG Mounting Device for Hand-Held Transmitters.
27. Anritsu MT8852A Bluetooth testing unit.
28. Digital thermometer LKM Electronics model DTM300-Spezial
29. Temperature and humidity probe HUMIDIROBE Pico Technology.

Testing verdicts

Not applicable .....:	N/A
Pass .....:	P
Fail .....:	F
Not measured .....:	N/M

FCC 47CFR Part 2.1093 & Health Canada Safety Code 6	**VERDICT**			
	NA	**P**	**F**	**NM**
GSM/GPRS/EDGE 850		P [3]		
GSM/GPRS/EDGE 1900		P [3]		
WCDMA/HSDPA/HSPA Band II		P [4]		
WCDMA/HSDPA/HSPA Band IV		P [4]		
WCDMA/HSDPA/HSPA Band V		P [4]		

3 and 4: See remarks and comments.

Appendix A – Test configuration

INDEX

1. GENERAL INTRODUCTION

1.1. Application Standard

The Federal Communications Commission (FCC) sets the limits for General Population/Uncontrolled exposure to radio frequency electromagnetic fields for transmitting devices designed to be used within 20 centimetres of the body of the user under FCC 47 CFR Part 2.1093 - "Radiofrequency radiation exposure evaluation: portable devices", paragraph (d)(2).

Industry of Canada (ISED) sets the limits for General Population/Uncontrolled exposure when the expsosure occurs at a distance of 0.2 m or less into the Health Canada Safety Code 6, paragraph 2.1 "Basic restrictions".

1.2. General requirements

The SAR measurement has been performed continuing the following considerations and environment conditions:

- The ambient temperature shall be in the range of 18ºC to 25ºC and the variation shall not exceed +/- 2ºC during the test.
- The ambient humidity shall be in the range of and 30% - 70%.
- The device battery shall be fully charged before each measurement.

1.3. Measurement system requirements

The measurement system used for SAR tests fulfils the procedural and technical requirements described at the reference standards used.

1.4. Phantom requirements

The phantom for head worn is a simplified representation of the human anatomy and comprised of material with electrical properties similar to the corresponding tissues in human body. The human model has the following proportions:

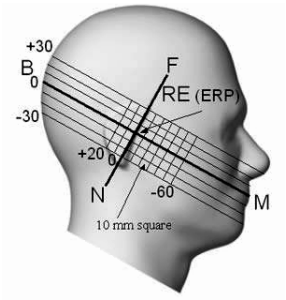


Figure 1: Proportions of Phantom

The shell model is a shaped container and it has the representation shown in the following figure:

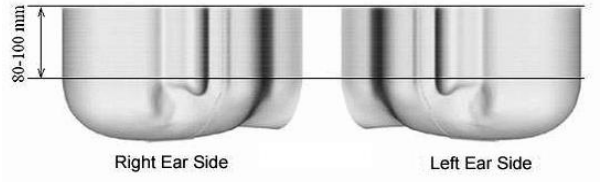


Figure 2: Proportions and shape of Phantom shell

The phantom model for body measurements is an elliptical open-top container with a flat bottom, with the following shape and dimensions:

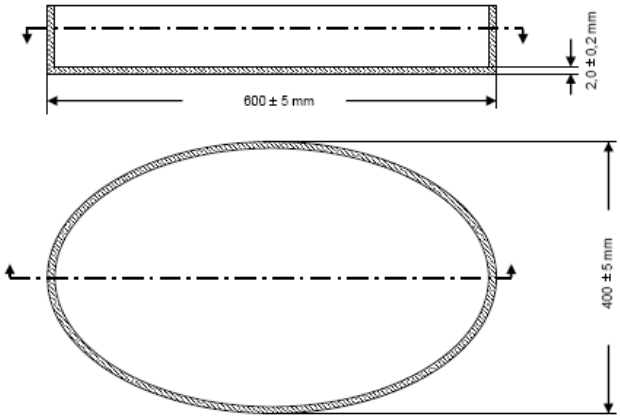


Figure 3: Proportions and shape of Phantom shell

1.5. Measurement Liquids requirements.

The liquids used to simulate the human tissues, must fulfils the requirements of the dielectric properties required. These target dielectric properties per FCC OET KDB 865664 D01 instructions come from the dipole and probe calibration data which are included in Appendix B, Section 3, of this document.

To minimize the effect of reflections on peak spatial-average SAR values, from the upper surface of the tissue-equivalent liquid, the depth of the liquid should be at least 15 cm.

2. MEASUREMENT SYSTEM

2.1. Measurement System

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

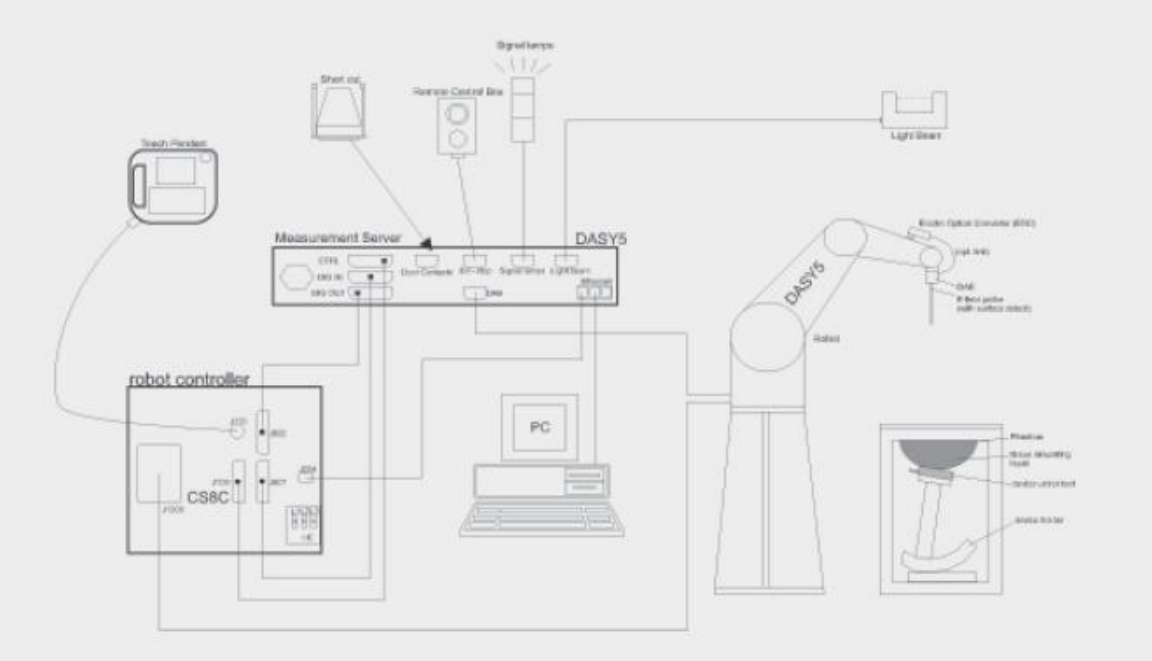


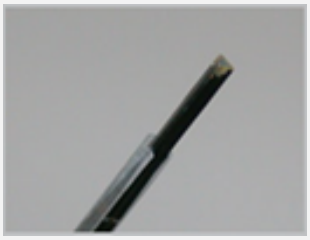
Figure 4: SAR Measurement system

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

Manufacturer	Device	Type
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	ES3DV3
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	EX3DV4
Schmid & Partner Engineering AG	Data Acquisition Electronics	DAE4
Schmid & Partner Engineering AG	Electro-Optical Converter	EOC3
Stäubli	Robot	RX60BL
Stäubli	Robot controller	CS7MB
Schmid & Partner Engineering AG	Measurement Server	DASY5 SE UMS 011 BS
Schmid & Partner Engineering AG	SAM head-body simulator	TWIN SAM V4.0
Schmid & Partner Engineering AG	Oval flat phantom	SPEAG ELI 4
Schmid & Partner Engineering AG	Mounting Device for Hand-Held Transmitters	SD000 HD1HA
Schmid & Partner Engineering AG	Measurement Software	DASY52 V52.8.8.1222
Schmid & Partner Engineering AG	Postprocessing Software	SEMCAD X
Schmid & Partner Engineering AG	900 MHz System Validation Dipole	D900V2
Schmid & Partner Engineering AG	1800 MHz System Validation Dipole	D1800V2
Agilent	Vector Network Analyser	FieldFox N9923A
Schmid & Partner Engineering AG	Dielectric Probe Kit	DAK-3.5

Table 1: Measurement Equipment

	**Model**	**ES3DV3**
	Construction	Symmetrical design with triangular core. Interleaved sensors. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).
	Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
	Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)
	Dynamic Range	5 µW/g to > 100 mW/g Linearity: ± 0.2 dB
	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

	**Model**	**EX3DV4**
	Construction	Symmetrical design with triangular core. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).
	Frequency	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
	Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
	Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
	Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1.0 mm

	**Model**	**DAE4**
	Construction	Signal amplifier, multiplexer, A/D converter, and control logic. Serial optical link communication with DASY4/5 embedded system (fully remote controlled). Two-step probe tocuh detector for mechanical surface detection and emergency robot stop.
	Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)
	Input Offset Voltage	< 5 µV (with auto zero)
	Input Resistance	200 MOhm
	Input Blas Current	< 50 fA

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

	**Model**	**Twin SAM**
	Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.
	Material	Vinylester, glass fiber reinforced (VE-GF)
	Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
	Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
	Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet
	Filling Volume	Approx. 25 liters
	Wooden Support	SPEAG standard phantom table

	**Model**	**Mounting Device for Hand-Held Transmitters**
	Construction	In combination with the Twin SAM V5.0/V5.0c or ELI Phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).
	Material	Polyoxymethylene (POM)

	**Model**	**System Validations Kits 450 MHz – 6 GHz**		
	Construction	Symmetrical dipole with I/4 balun. Enables measurement of feedpoint impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.		
	Frequency	450 MHz to 5800 MHz		
	Return Loss	20 dB at specified validation position		
	Dimensions (length and overall height in mm)	**Product**	**Dipole length**	**Overall height**
		D450V3	290.0	330.0
		D750V3	179.0	330.0
		D900V2	148.5	340.0
		D1800V2	72.5	300.0
		D2000V2	65.0	300.0
		D2450V2	52.0	290.0
		D2600V2	49.2	290.0
		D5GHzV2	20.6	300.0

2.2. Test positions of device relative to head

The standard requires two test positions for the handset in the head. These positions are the "cheek" position and the "tilted" position. The tests positions used are described below. The handset should be tested in both positions (left and right sides) in the SAM phantom.

The DUT shall be placed in the Phantom in such way that the main point of the mobile terminal (acoustic output) coincides with the reference point located at the Phantom's ear.

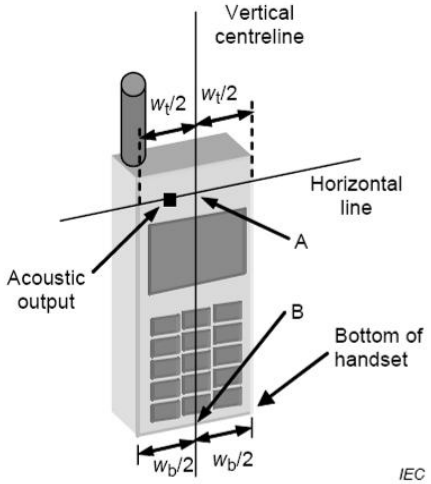


Figure 5: DUT's basic scheme

SAR measurements will be performed for the following configurations as indicated in the reference standard:

- Right side of Phantom, Cheek position.
- Right side of Phantom, 15º Tilted position.
- Left side of Phantom, Cheek position.
- Left side of Phantom, 15º Tilted position.

Definition of the "cheek" position

The "cheek" position relative to Phantom is described as follows:

1. - Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagital plane of the Phantom. While maintaining the device in this plane, align the centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE).

2. - Translate the mobile phone box towards the Phantom until the ear-piece touches the ear reference point (RE or LE). While maintaining the device in the reference plane, move the bottom of the box until any point of the front side is in contact with the cheek of the Phantom.

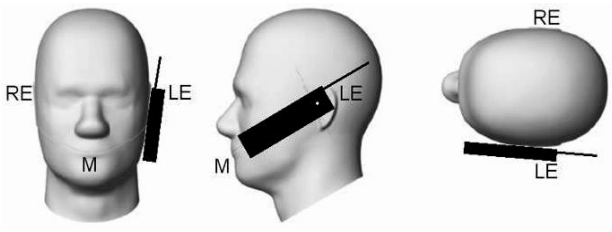


Figure 6: "Cheek" position of DUT

Definition of the tilted position:

The "15º tilted" position relative to Phantom is described as follows:

1. - Position the device in the "cheek" position described above.

2. - While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees.

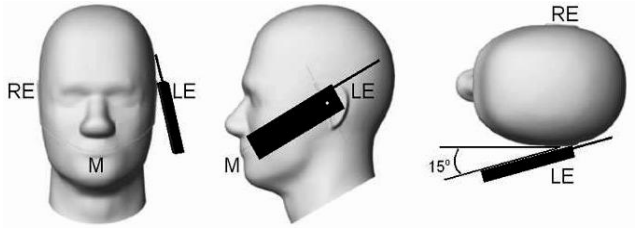


Figure 7: "Tilted" position of DUT

2.3. Test positions of device relative to body.

Body-worn accessory exposure shall be tested according to the procedures in KDB 447498. To perform testing each face of the DUT has been placed against the phantom with the back face of the accessory (clip) touching the flat phantom surface, at 0 mm distance.

2.4. Test to be performed

Test shall be performed at both phone positions previously described, on each side of the head (left and right side) and using the centre frequency of each operating band.

Additionally, the configuration giving to the maximum mass averaged SAR shall be used to test the low-end and the high-end frequencies of each transmitting band. Thus, the tests to be performed in mobile phones are as follows:

- Measurements at Central Channel of application band:
  1. SAR measurement at the left side of Phantom and the cheek position of the DUT.
  2. SAR measurement at the left side of Phantom and the tilted 15º position of the DUT.
  3. SAR measurement at the right side of Phantom and the cheek position of the DUT.
  4. SAR measurement at the right side of Phantom and the tilted 15º position of the DUT.
- Measurements at Low Channel of application band: SAR measurement at the side and position where the maximum SAR level, measured at Central channel, was found.
- Measurements at High Channel of application band: SAR measurement at the side and position where the maximum SAR level, measured at Central channel, was found.

For body SAR test, measurements shall be performed using a flat phantom and the DUT will be placed at the center of flat phantom, according to the test positions and test separation described above. The DUT position using during the body SAR tests will be the one where the maximum peak SAR was found. Low and high channels for each band should be tested at this position.

If the mobile phone is also designed to transmit with other configurations (antenna fully extended/retracted, keypad cover opened/closed…), all tests described above shall be performed for each configuration. When considering multi-mode and multi-band mobile phones, all of the above tests shall be performed at each transmitting mode/band with the corresponding maximum peak power level.

2.5. Description of interpolation/extrapolation scheme

The local SAR inside the Phantom is measured using small dipole sensing elements inside a probe element. The probe tip must not be in contact with the Phantoms surface in order to minimise measurement errors, but the highest local SAR is obtained from measurements at a certain distances from the shell trough extrapolation. The accurate assessment of the maximum SAR averaged over 1 gr. requires a very fine resolution in the three dimensional scanned data array. Since the measurements have to be performed over a limited time, the measured data have to be interpolated to provide an array of sufficient resolution.

The interpolation of 2D area scan is used after the initial area scan, at a fixed distance from the Phantom shell wall. The initial scan data is collected with approx. 15 mm spatial resolution and this interpolation is used to find the location of the local maximum for positioning the subsequent 3D scanning within a 1mm resolution.

For the 3D scan, data is collected on a spatially regular 3D grid having 5 mm steps in both directions. After the data collection by the SAR probe, the data are extrapolated in the depth direction to assign values to points in the 3D array closer to the shell wall. A notional extrapolation value is also assigned to the first point outside the shell wall so that subsequent interpolation schemes will be applicable right up to the shell wall boundary.

2.6. Determination of the largest peak spatial-average SAR

To determine the maximum value of the peak spatial-average SAR of a DUT, all device positions, configurations and operational modes should be tested for each frequency band.

The averaging volume shall be chosen as 1gr. of contiguous tissue. The cubic volumes, over which the SAR measurements are averaged after extrapolation and interpolation, are chosen in order to include the highest values of local SAR.

The maximum SAR level for the DUT will be the maximum level obtained of the performed measurements, and indicated in the previous points.

2.7. System Validation

Prior to the SAR measurements, system verification is done daily to verify the system accuracy. A complete SAR evaluation is done using a half-wavelength dipole as source with the frequency of the mid-band channel of the operating band, or within 10% of this channel.

The measured one-gram SAR should be within 10% of the expected target values specified in the calibration certificate of the dipole, for the specific tissue and frequency used.

3. UNCERTAINTY

According to FCC OET KDB 865664 D01 - SAR Measurement Requirements for 100 MHz to 6 GHz v01r04 (August 2015), as the highest measured 1-g SAR has been < 1.5 W/kg, SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in the actual SAR report, but it has been included for ISO 17025 accreditation.

Uncertainty for 300 MHz – 6 GHz

ERROR SOURCES	Uncertainty value (± %)	Probability distribution	Divisor	(c_i) 1g	(c_i) 10g	Standard uncertainty (1g) (± %)	Standard uncertainty (10g) (± %)
Measurement Equipment							
Probe Calibration	6.550	N	1	1	1	6.550	6.550
Axial Isotropy	4.700	R	√3	0.7	0.7	1.899	1.899
Hemisfericall Isotropy	9.600	R	√3	0.7	0.7	3.880	3.880
Boundary effect	2.000	R	√3	1	1	1.155	1.155
Linearity	4.700	R	√3	1	1	2.714	2.714
System Detection limits	1.000	R	√3	1	1	0.577	0.577
Probe modulation response	6.100	R	√3	1	1	3.522	3.522
Readout electronics	0.300	N	1	1	1	0.300	0.300
Response time	0.800	R	√3	1	1	0.462	0.462
Integration time	2.600	R	√3	1	1	1.501	1.501
RF Ambient noise	3.000	R	√3	1	1	1.732	1.732
RF Ambient reflections	3.000	R	√3	1	1	1.732	1.732
Probe positioner mech. restrictions	0.800	R	√3	1	1	0.462	0.462
Probe positioning with respect to phantom shell	6.700	R	√3	1	1	3.868	3.868
Max. SAR Eval.	4.000	R	√3	1	1	2.309	2.309
Test Sample Related							
Device holder uncertainty	2.900	N	1	1	1	2.900	2.900
Test sample positioning	3.600	N	1	1	1	3.600	3.600
Drift of output power	5.000	R	√3	1	1	2.887	2.887
Phantom and Setup							
Phantom uncertainty (shape and thickness tolerances)	6.600	R	√3	1	1	3.811	3.811
Algorithm for correcting SAR for deviations in permittivity and conductivity	1.900	R	√3	1	0.84	1.097	0.921
Liquid conductivity (meas.)	2.454	N	1	0.78	0.71	1.914	1.742
Liquid permittivity (meas.)	2.454	N	1	0.26	0.26	0.6.38	0.638
Liquid conductivity – temperature uncertainty	3.400	R	√3	0.78	0.71	1.531	1.394
Liquid permittivity – temperature uncertainty	0.400	R	√3	0.23	0.26	0.053	0.060
Combined standard uncertainty	$u_c = \sqrt{\sum_{1=1}^{m} c_i^2 \cdot u_i^2}$					**12.82**	**12.76**
Expanded uncertainty (confidence interval of 95%)	*ue =2.00 uc*					**25.64**	**25.53**

Table 2: Uncertainty Assessment for 300 MHz - 6 GHz

4. SAR LIMIT

Having a worst case measurement, the SAR limit is valid for general population/uncontrolled exposure.

The SAR values have to be averaged over a mass of 1 gr. (SAR 1 gr.) with the shape of a cube. This level couldn't exceed the values indicated in the application Standard:

Standard	Exposure	SAR	SAR Limit (W/kg)
FCC 47 CFR Part 2.1093, Paragraph (d)(2) Health Canada Safety Code 6, Paragraph 2.1.2	General population/Uncontrolled	SAR $_{1\ gr.}$	1.6

Table 3: SAR limit

5. DEVICE UNDER TEST

5.1. Dimensions

Dimensions	Millimetres
Height x Width x Depth	110.0 x 67.0 x 21.0
Overall Diagonal:	120.0
Display Diagonal:	60.0

Table 4: Dimensions

5.2. Wireless Technology

Wireless Technology	SAR Testing	Frequency Bands	Modes
GSM	Required	850 / 1900	- Voice (GMSK) - GPRS (GMSK, Multi-slot class 14) - EGPRS (8PSK, Multi-slot class 14)
W-CDMA	Required	II/IV/V	- UMTS Rel. 99 (Voice & Data) - HSDPA (Rel. 5) - HSPA (Rel. 6)
UHF	Not required	450 MHz	- 433 MHz Receiver

Table 5: Supported modes

5.3. Antenna Location

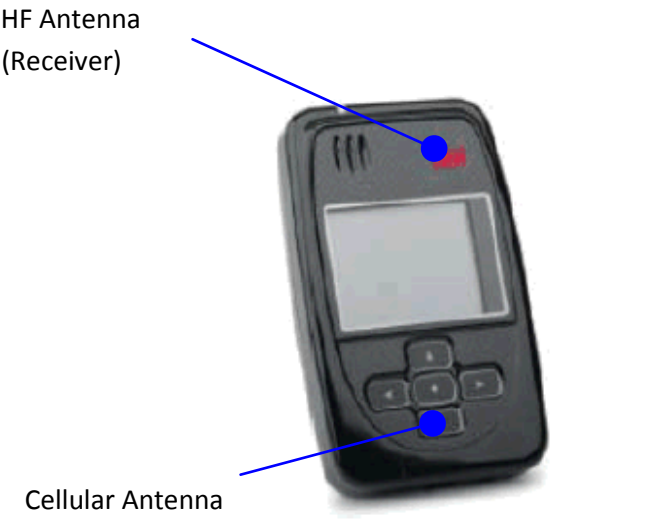


Figure 8: Antenna location sketch

Appendix B – Test results

INDEX

1. TEST CONDITIONS

1.1. Power supply (V):

V_n = 3.7 Li-polymer rechargeable battery

Type of power supply = DC Voltage from rechargeable Li-Ion 3.7 V battery.

1.2. Temperature (ºC):

T_n = +20.00 to +25.00

The subscript n indicates normal test conditions.

1.3. Test signal, Output Power and Frequencies

For the GPRS/EDGE and WCDMA modes, the sample was put into operation by using a R&S CMW 500 as base station simulator. The output power of the device was set to Power Control Level (PCL) maximum for all tests.

A fully charged battery was used for every test sequence. In all operating bands and test positions, the measurements were performed on the middle channel. In each band, for those positions where the maximum averaged SAR was found, measurements were performed on the remaining required channels except those with applicable test reductions [3, 4, 5.]

3, 4, 5: See remarks and comments

The maximum conducted time-averaged power of the device for each mode was measured with a power sensor R&S NRP-Z81.

The target power alignments declared by the manufacturer for each supported technology are:

Band/Mode	Power Class	Output Power (dBm)	Transmission Mode				
			Voice mode	1 Tx slot	2 Tx slots	3 Tx slots	4 Tx slots
GSM 850	4	Maximum	34.0	-	-	-	-
		Nominal	32.5	-	-	-	-
GSM 1900	1	Maximum	31.0	-	-	-	-
		Nominal	29.5	-	-	-	-
GPRS 850	4	Maximum	-	34.0	31.0	29.2	28.0
		Nominal	-	32.5	29.5	27.7	26.5
GPRS 1900	1	Maximum	-	31.0	28.0	26.2	25.0
		Nominal	-	29.5	26.5	24.7	23.5
EGPRS 850	E2	Maximum	-	28.5	25.5	23.7	22.5
		Nominal	-	27.0	24.0	22.2	21.0
EGPRS 1900	E2	Maximum	-	27.5	24.5	22.7	21.5
		Nominal	-	26.0	23.0	21.2	20.0

Band	Power Class	Output Power (dBm)	Transmission Mode		
			WCDMA	HSDPA	HSPA
FDD II 1900	3	Maximum	24.5	24.5	24.5
		Nominal	23.0	23.0	23.0
FDD IV 1700	3	Maximum	24.5	24.5	24.5
		Nominal	23.0	23.0	23.0
FDD V 850	3	Maximum	24.5	24.5	24.5
		Nominal	23.0	23.0	23.0

1.4. DUT and test-site configurations

For both modes, voice modes and only-data modes, the DUT was tested over head and body exposure conditions.

For head tests, the DUT was placed in cheek and tilt position on the right/left side of the SAM phantom.

For body tests, the DUT was placed with the body-worn accessory touching the flat phantom surface at 0 mm distance for each face.

2. CONDUCTED AVERAGE POWER MEASUREMENTS

2.1. GSM/GPRS/EGPRS Bands

- GSM 850: For voice mode PCL 5 was set in the CMU-200 to allow DUT's max power transmission.

GSM 850 - Average Output Power					
Channel Number	Frequency (MHz)	Frame Average Output Power (dBm)	Average Burst Output Power (dBm)	PCL	Modulation
128	824.2	23.2	32.7	5	GMSK
190	836.6	23.2	32.8	5	GMSK
251	848.8	23.1	32.6	5	GMSK

- GPRS 850: For data mode. PCL 5, CS1 coding scheme and Gamma 3 were set in the CMU-200 to allow DUT's max power transmission for each slot.

GPRS 850 - Frame Average Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
128	824.2	23.0	25.8	26.9	27.0	5	GMSK-CS1
190	836.6	23.1	25.8	26.9	27.1	5	GMSK-CS1
251	848.8	22.9	25.7	26.7	26.9	5	GMSK-CS1

GPRS 850 - Average Burst Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
128	824.2	32.7	32.5	31.9	30.7	5	GMSK-CS1
190	836.6	32.8	32.5	31.8	30.7	5	GMSK-CS1
251	848.8	32.6	32.4	31.7	30.6	5	GMSK-CS1

- EGPRS 850: For data mode. PCL 8, MCS5 coding scheme and Gamma 6 were set in the CMU-500 to allow DUT's max power transmission for each slot.

EDGE 850 - Frame Average Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
128	824.2	17.1	20.1	21.0	21.1	8	8PSK-MCS5
190	836.6	17.2	20.2	21.1	21.2	8	8PSK-MCS5
251	848.8	17.1	20.1	21.0	21.1	8	8PSK-MCS5

EDGE 850 - Average Burst Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
128	824.2	29.4	29.4	28.7	27.6	8	8PSK-MCS5
190	836.6	29.5	29.5	28.8	27.7	8	8PSK-MCS5
251	848.8	29.4	29.4	28.7	27.6	8	8PSK-MCS5

- GSM 1900: For voice mode PCL 0 was set in the CMU-200 to allow DUT's max power transmission.

GSM 1900 - Average Output Power					
Channel Number	Frequency (MHz)	Frame Average Output Power (dBm)	Average Burst Output Power (dBm)	PCL	Modulation
512	1850.2	19.4	28.9	0	GMSK-CS1
661	1880	19.4	28.9	0	GMSK-CS1
810	1909.8	19.2	28.6	0	GMSK-CS1

- GPRS1900: For data mode. PCL 0, CS1 coding scheme and Gamma 3 were set in the CMU-200 to allow max power transmission for each slot.

GPRS 1900 - Frame Average Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
512	1850.2	19.2	22.2	23.1	23.2	0	GMSK-CS1
661	1880	19.1	22.2	23.1	23.2	0	GMSK-CS1
810	1909.8	19.0	21.9	22.9	23.0	0	GMSK-CS1

GPRS 1900 - Average Burst Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
512	1850.2	28.9	28.9	28.1	26.8	0	GMSK-CS1
661	1880	28.8	28.9	28.0	26.9	0	GMSK-CS1
810	1909.8	28.6	28.6	27.8	26.6	0	GMSK-CS1

- EGPRS 1900: For data mode, PCL 2, MCS5 coding scheme and Gamma 5 were set in the CMU-200 to allow max power transmission for each slot.

EDGE 1900 - Frame Average Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
512	1850.2	15.3	18.4	19.4	19.6	2	8PSK-MCS5
661	1880	15.4	18.4	19.4	19.6	2	8PSK-MCS5
810	1909.8	15.1	18.2	19.2	19.4	2	8PSK-MCS5

EDGE 1900 - Average Burst Output Power							
Channel Number	Frequency (MHz)	Power (dBm) 1 Slot	Power (dBm) 2 Slots	Power (dBm) 3 Slots	Power (dBm) 4 Slots	PCL	Modulation
512	1850.2	27.8	27.8	27.2	26.2	2	8PSK-MCS5
661	1880	27.7	27.7	27.1	26.1	2	8PSK-MCS5
810	1909.8	17.5	27.4	26.8	25.9	2	8PSK-MCS5

2.2. WCDMA/HSDPA/HSPA/HSPA+/DC-HSDPA Bands

- **WCDMA:** The DUT supports power Class 3. The measurements were completed according to 3GPP TS34.121, section 5.

Mode	Subtest	Rel99
WCDMA	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2Kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

Band	Mode	Channel Number	Frequency (MHz)	Average Output Power (dBm)
FDD II 1900	WCDMA	9262	1852.4	21.75
FDD II 1900	WCDMA	9400	1880	22.41
FDD II 1900	WCDMA	9538	1907.6	22.20

Band	Mode	Channel Number	Frequency (MHz)	Average Output Power (dBm)
FDD IV 1700	WCDMA	1312	1712.4	22.70
FDD IV 1700	WCDMA	1412	1732.6	22.71
FDD IV 1700	WCDMA	1512	1752.6	22.68

Band	Mode	Channel Number	Frequency (MHz)	Average Output Power (dBm)
FDD V 850	WCDMA	4132	826.4	22.98
FDD V 850	WCDMA	4182	836.4	22.88
FDD V 850	WCDMA	4233	846.6	22.85

- HSDPA:

Mode	Subtest	1	2	3	4
HSDPA	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2Kbps RMC			
	HSDPA FRC	H-Set1			
	HSUPA Test	HSUPA Loopback			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64	64	64	64
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR	0	0	0.5	0.5
	Dack	8			
	Dnak	8			
	Ack-Nack repetition factor	3			
	DCQI	8			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs =βhs/βc	30/15			

				Average Output Power (dBm)			
Band	**Mode**	**Channel Number**	**Frequency (MHz)**	**Subtest 1 HSDPA**	**Subtest 2 HSDPA**	**Subtest 3 HSDPA**	**Subtest 4 HSDPA**
FDD II 1900	HSDPA	9262	1852.4	21.59	21.05	20.73	20.52
FDD II 1900	HSDPA	9400	1880	22.05	21.45	21.23	20.97
FDD II 1900	HSDPA	9538	1907.6	21.96	21.37	21.17	20.92

				Average Output Power (dBm)			
Band	**Mode**	**Channel Number**	**Frequency (MHz)**	**Subtest 1 HSDPA**	**Subtest 2 HSDPA**	**Subtest 3 HSDPA**	**Subtest 4 HSDPA**
FDD IV 1700	HSDPA	1312	1712.4	22.5	21.89	21.7	21.47
FDD IV 1700	HSDPA	1412	1732.6	22.56	21.97	21.61	21.49
FDD IV 1700	HSDPA	1512	1752.6	22.47	21.89	21.65	21.45

				Average Output Power (dBm)			
Band	**Mode**	**Channel Number**	**Frequency (MHz)**	**Subtest 1 HSDPA**	**Subtest 2 HSDPA**	**Subtest 3 HSDPA**	**Subtest 4 HSDPA**
FDD V 850	HSDPA	4132	826.4	22.87	22.24	2197	21.71
FDD V 850	HSDPA	4182	836.4	22.85	22.21	21.97	21.73
FDD V 850	HSDPA	4233	846.6	22.73	22.12	21.97	21.61

- HSPA:

Mode	Subtest	1	2	3	4	5
HSPA	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2Kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm 2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15	56/75	134/15
	MPR (dB)	0	2	1	2	0
	Dack	8				
	Dnak	8				
	Ack-Nack repetition factor	3				
	DCQI	8				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	Ahs =βhs/βc	30/15				
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL DataRate Kbps	242.1	174.9	482.8	205.8	308.9

				Average Output Power (dBm)				
Band	**Mode**	**CH**	**Frequency (MHz)**	**Subtest 1 HSPA**	**Subtest 2 HSPA**	**Subtest 3 HSPA**	**Subtest 4 HSPA**	**Subtest 5 HSPA**
FDD II 1900	HSPA	9262	1852.4	21.12	21.56	20.73	21.6	20.99
FDD II 1900	HSPA	9400	1880	21.56	21.92	21.19	22.03	21.44
FDD II 1900	HSPA	9538	1907.6	21.48	21.82	21.09	21.95	21.37

				Average Output Power (dBm)				
Band	**Mode**	**CH**	**Frequency (MHz)**	**Subtest 1 HSPA**	**Subtest 2 HSPA**	**Subtest 3 HSPA**	**Subtest 4 HSPA**	**Subtest 5 HSPA**
FDD IV 1700	HSPA	1312	1712.4	22.03	22.51	21.83	22.53	21.95
FDD IV 1700	HSPA	1412	1732.6	22.13	22.51	21.75	22.58	21.98
FDD IV 1700	HSPA	1512	1752.6	22.02	22.46	21.72	22.51	21.94

				Average Output Power (dBm)				
Band	**Mode**	**CH**	**Frequency (MHz)**	**Subtest 1 HSPA**	**Subtest 2 HSPA**	**Subtest 3 HSPA**	**Subtest 4 HSPA**	**Subtest 5 HSPA**
FDD V 850	HSPA	4132	826.4	22.39	22.77	22.06	22.87	22.23
FDD V 850	HSPA	4182	836.4	22.37	22.74	22.06	22.89	22.2
FDD V 850	HSPA	4233	846.6	22.27	22.65	21.86	22.77	22.11

3. TISSUE PARAMETERS MEASUREMENTS

Frequency (MHz)	Target Head Tissue		Measured Head Tissue		Deviation %		Measured Date
	Permittivity ε	Conductivity σ [S/m]	Permittivity ε	Conductivity σ [S/m]	Permittivity ε	Conductivity σ [S/m]	
835	41.50	0.90	41.27	0.92	-0.56	1.94	2016-06-28
900	41.50	0.97	40.64	0.98	-2.08	1.02	2016-06-28
1800	40.00	1.40	40.97	1.39	2.42	-0.83	2016-08-04
1900	40.00	1.40	40.68	1.46	1.70	4.29	2016-08-04
1800	40.00	1.40	41.00	1.39	2.50	-0.74	2016-08-08
1900	40.00	1.40	40.71	1.46	1.78	4.29	2016-08-08
1750	40.07	1.37	38.94	1.39	-2.82	1.24	2016-08-10
1800	40.00	1.40	38.97	1.45	-2.58	3.44	2016-08-10

Frequency (MHz)	Target Body Tissue		Measured Body Tissue		Deviation %		Measured Date
	Permittivity ε	Conductivity σ [S/m]	Permittivity ε	Conductivity σ [S/m]	Permittivity ε	Conductivity σ [S/m]	
835	55.2	0.97	53.50	0.96	-3.07	-0.93	2016-06-28
900	55.0	1.05	52.83	1.03	-3.94	-1.65	2016-06-28
835	55.2	0.97	54.38	0.99	-1.49	1.91	2016-08-12
900	55.0	1.05	53.80	1.06	-2.18	1.28	2016-08-12
1800	53.30	1.52	51.47	1.48	-3.44	-2.71	2016-08-09
1900	53.30	1.52	51.12	1.51	-4.09	-0.66	2016-08-09
1750	53.43	1.49	55.59	1.53	4.04	3.01	2016-08-10
1800	53.30	1.52	55.66	1.57	4.43	3.08	2016-08-10

Note: The dielectric properties have been measured by the contact probe method at 22° C.

- Composition / Information on ingredients

Head and Muscle Tissue Simulation Liquids HSL900/MSL900

H2O	Water, 35 – 58%
Sucrose	Sugar, white, refined, 40 – 60%
NaCl	Sodium Chloride, 0 – 6%
Hydroxyethyl-cellulose	Medium Viscosity (CAS# 9004-62-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone, 0.1 – 0.7%

Head and Muscle Tissue Simulation Liquids HSL1800/MSL1800

H2O	Water, 52 – 75%
C8H18O3	Diethylene glycol monobutyl ether (DGBE), 25 – 48% (CAS-No. 112-34-5, EC-No. 203-961-6, EC-index-No. 603-096-00-8)
NaCl	Sodium Chloride, <1.0%

Head and Muscle Tissue Simulation Liquids HBBL1900-3800V3/M HBBL1900-3800V3

Water	50 – 73 %
Non-ionic detergents	27 – 50 % polyoxyethylenesorbitan monolaurate
NaCl	0 – 2 %
Preservative	0.05 – 0.1% Preventol-D7
Safety relevant ingredients:	
CAS-No. 55965-84-9	< 0.1 % aqueous preparation, containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone
CAS-No. 9005-64-5	<50 % polyoxyethylenesorbitan monolaurate

4. SYSTEM CHECK MEASUREMENTS

4.1. Validation results for Head TSL

Date	Frequency (MHz)	SAR over	Fast SAR (W/kg)	SAR (W/kg)	Δ SAR - Fast SAR	1 W Target SAR (W/kg)	1 W Norm. SAR (W/kg)	Drift (%)
2016-06-28	900	1 gr.	2.79	2.79	< ±3%	10.6	11.08	4.56
		10 gr.	1.87	1.80	< ±7%	6.82	7.15	4.85
2016-08-04	1800	1 gr.	9.85	9.72	< ±3%	39.1	38.78	-0.83
		10 gr.	5.20	5.26	< ±7%	20.6	20.98	1.86
2016-08-08	1800	1 gr.	9.96	9.83	< ±3%	39.1	39.13	0.07
		10 gr.	5.26	5.40	< ±7%	20.6	21.49	4.34
2016-08-11	1800	1 gr.	10.10	9.91	< ±3%	39.1	39.64	1.38
		10 gr.	5.38	5.21	< ±7%	20.6	20.84	1.38

4.2. Validation results for Body TSL

Date	Frequency (MHz)	SAR over	Fast SAR (W/kg)	SAR (W/kg)	Δ SAR - Fast SAR	1 W Target SAR (W/kg)	1 W Norm. SAR (W/kg)	Drift (%)
2016-06-28	900	1 gr.	2.85	2.82	< ±3%	10.5	11.16	6.32
		10 gr.	1.90	1.84	< ±7%	6.79	7.28	7.27
2016-08-12	900	1 gr.	2.78	2.83	< ±3%	10.5	11.14	6.12
		10 gr.	1.85	1.86	< ±7%	6.79	7.32	7.86
2016-08-09	1800	1 gr.	9.91	9.72	< ±3%	37.4	38.66	3.36
		10 gr.	5.14	5.28	< ±7%	19.8	21.00	6.05
2016-08-11	1800	1 gr.	10.20	10.10	< ±3%	37.4	39.72	6.21
		10 gr.	5.28	5.40	< ±7%	19.8	21.24	7.26

5. MEASUREMENT RESULTS FOR SAR (SPECIFIC ABSORPTION RATE)

5.1. Summary maximum results for head measurements.

Band	Mode	Side / Position	Channel (Frequency)	Reported SAR 1-g (W/kg)	Limit SAR 1-g (W/kg)
850 MHz	GSM	Right / Cheek	CH 190 (836.6 MHz)	0.58	1.6
	WCDMA Band V	Right / Cheek	CH 4183 (836.6 MHz	0.51	1.6
1700MHz	WCDMA Band IV	Left / Cheek	CH 1512 (1752.6 MHz)	1.31	1.6
1900 MHz	GSM	Left / Cheek	CH 661 (1880 MHz)	0.55	1.6
	WCDMA Band II	Left / Cheek	CH 9400 (1880 MHz)	0.84	1.6

5.2. Summary maximum results for body measurements

Band	Mode	Side / Position	Channel (Frequency)	Reported SAR 1-g (W/kg)	Limit SAR 1-g (W/kg)
850 MHz	GPRS 4 slots	Back face	CH 190 (836.6 MHz)	1.49	1.6
	WCDMA Band V	Back face	CH 4183 (836.6 MHz)	0.69	1.6
1700MHz	WCDMA Band IV	Back face	CH 1312 (1712.4 MHz)	1.40	1.6
1900 MHz	GPRS 4 slots	Back face	CH 661 (1880 MHz)	0.50	1.6
	WCDMA Band II	Back face	CH 9400 (1880 MHz	0.79	1.6

5.3. Results for GSM 850 MHz band.

- **Head measurements (GSM)**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Left / Cheek	0	50389B/18	CH 190 (836.6 MHz)	0.378	NM[1]	-0.34	34	0.50	
Left / Tilted	0	50389B/18	CH 190 (836.6 MHz)	0.232	NM[1]	0.81	34	0.32	
Right / Cheek	0	50389B/18	CH 190 (836.6 MHz)	0.425	0.436	0.93	34	0.58	1
Right / Tilted	0	50389B/18	CH 190 (836.6 MHz)	0.237	NM[1]	0.46	34	0.32	
Right / Cheek	0	50389B/18	CH 128 (824.2 MHz)	NM[2]					
Right / Cheek	0	50389B/18	CH 251 (848.8 MHz)	NM[2]					

1 and 2: See remarks and comments.

- **Body measurements (GPRS 4 slots)**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Front face	0	50389B/18	CH 190 (836.6 MHz)	0.909	0.958	0.00	28	0.96	
Back face	0	50389B/18	CH 190 (836.6 MHz)	1.43	1.46	-1.14	28	1.49	2
Back face	0	50389B/18	CH 128 (824.2 MHz)	1.37	1.41	0.58	28	1.41	
Back face	0	50389B/18	CH 251 (848.8 MHz)	1.31	1.38	-0.57	28	1.40	

5.4. Results for GSM 1900 MHz Band

- **Head measurements (GSM)**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Left / Cheek	0	50389B/18	CH 661 (1880 MHz)	0.28	0.341	1.86	31	0.55	3
Left / Tilted	0	50389B/18	CH 661 (1880 MHz)	0.14	NM[1]	1.39	31	0.23	
Right / Cheek	0	50389B/18	CH 661 (1880 MHz)	0.24	NM[1]	0.00	31	0.39	
Right / Tilted	0	50389B/18	CH 661 (1880 MHz)	0.136	NM[1]	0.69	31	0.22	
Right / Cheek	0	50389B/18	CH 512 (1850.2 MHz)	NM[2]					
Right / Cheek	0	50389B/18	CH 810 (1909.8 MHz)	NM[2]					

1 and 2: See remarks and comments.

- **Body measurements (GPRS 4 slots)**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Front face	0	50389B/18	CH 661 (1880 MHz)	0.443	NM[1]	-0.46	25	0.45	
Back face	0	50389B/18	CH 661 (1880 MHz)	0.474	0.498	0.69	25	0.50	4
Back face	0	50389B/18	CH 512 (1850.2 MHz)	NM[2]					
Back face	0	50389B/18	CH 810 (1909.8 MHz)	NM[2]					

1 and 2: See remarks and comments

5.5. Results for WCDMA Band II

- **Head measurements**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Left / Cheek	0	50389B/18	CH 9400 (1880 MHz)	0.532	0.52	2.57	24.5	0.84	5
Left / Tilted	0	50389B/18	CH 9400 (1880 MHz)	0.278	NM[1]	2.68	24.5	0.45	
Right / Cheek	0	50389B/18	CH 9400 (1880 MHz)	0.484	NM[1]	0.00	24.5	0.78	
Right / Tilted	0	50389B/18	CH 9400 (1880 MHz)	0.283	NM[1]	0.81	24.5	0.46	
Right / Cheek	0	50389B/18	CH 512 (1850.2 MHz)	NM[2]					
Right / Cheek	0	50389B/18	CH 810 (1909.8 MHz)	NM[2]					

1 and 2: See remarks and comments.

- **Body measurements**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Front face	0	50389B/18	CH 9400 (1880 MHz)	0.435	NM[1]	0.00	24.5	0.70	
Back face	0	50389B/18	CH 9400 (1880 MHz)	0.468	0.49	0.58	24.5	0.79	6
Back face	0	50389B/18	CH 512 (1850.2 MHz)	NM[2]					
Back face	0	50389B/18	CH 810 (1909.8 MHz)	NM[2]					

1 and 2: See remarks and comments.

5.6. Results for WCDMA Band IV

- **Head measurements**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Left / Cheek	0	50389B/18	CH 1412 (1732.6 MHz)	0.496	0.495	1.04	24.5	0.75	
Left / Tilted	0	50389B/18	CH 1412 (1732.6 MHz)	0.246	NM[1]	0.81	24.5	0.37	
Right / Cheek	0	50389B/18	CH 1412 (1732.6 MHz)	0.864	0.853	2.21	24.5	1.29	
Right / Tilted	0	50389B/18	CH 1412 (1732.6 MHz)	0.229	NM[1]	0.93	24.5	0.35	
Right / Cheek	0	50389B/18	CH 1312 (1712.4 MHz)	0.835	0.852	0.46	24.5	1.29	
Right / Cheek	0	50389B/18	CH 1512 (1752.6 MHz)	0.897	0.86	0.58	24.5	1.31	7

1: See remarks and comments.

- **Body measurements**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Front face	0	50389B/18	CH 1412 (1732.6 MHz)	0.51	0.529	2.57	24.5	0.80	
Back face	0	50389B/18	CH 1412 (1732.6 MHz)	0.702	0.761	1.16	24.5	1.15	
Back face	0	50389B/18	CH 1312 (1712.4 MHz)	0.84	0.906	-0.92	24.5	1.40	8
Back face	0	50389B/18	CH 1512 (1752.6 MHz)	0.632	0.69	0.69	24.5	1.05	

5.7. Results for WCDMA Band V

- **Head measurements**

Side / Position	Dist (mm)	Sample	Channel (Frequency)	Fast SAR 1-g (W/kg)	SAR 1-g (W/kg)	Power Drift (%)	Max Output Power (dBm)	Reported SAR 1-g (W/kg)	Plot No.
Left / Cheek	0	50389B/18	CH 4183 (836.6 MHz)	0.303	NM[1]	0.00	24.5	0.44	
Left / Tilted	0	50389B/18	CH 4183 (836.6 MHz)	0.189	NM[1]	1.04	24.5	0.27	
Right / Cheek	0	50389B/18	CH 4183 (836.6 MHz)	0.349	0.349	0.00	24.5	0.51	9
Right / Tilted	0	50389B/18	CH 4183 (836.6 MHz)	0.173	NM[1]	0.81	24.5	0.17	
Right / Cheek	0	50389B/18	CH 4132 (826.4 MHz)	NM[2]					
Right / Cheek	0	50389B/18	CH 4233 (846.6 MHz)	NM[2]					

1 and 2: See remarks and comments.

- **Body measurements**

Side / Position	**Dist (mm)**	**Sample**	**Channel (Frequency)**	**Fast SAR 1-g (W/kg)**	**SAR 1-g (W/kg)**	**Power Drift (%)**	**Max Output Power (dBm)**	**Reported SAR 1-g (W/kg)**	**Plot No.**
Front face	0	50389B/18	CH 4183 (836.6 MHz)	0.303	NM[1]	-0.46	24.5	0.45	
Back face	0	50389B/18	CH 4183 (836.6 MHz)	0.483	0.468	-0.57	24.5	0.69	10
Back face	0	50389B/18	CH 4132 (826.4 MHz)	NM[2]					
Back face	0	50389B/18	CH 4233 (846.6 MHz)	NM[2]					

1 and 2: See remarks and comments.

5.8. Variability results.

According to KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, paragraph "2.8.1. SAR measurement variability", repeated measurements are required only when the measured SAR is ≥ 0.80 W/kg. SAR measurement variability must be assessed for each frequency band, wich is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements.

Band	Mode	RF Exposure	Side / Position	Channel (Frequency)	Measured SAR SAR 1-g (W/kg)	Repeated SAR SAR 1-g (W/kg)	Plot No.
850 MHz	GPRS 4 slots	Body	Back face	CH 190 (836.6 MHz)	1.46	1.45	11
1700 MHz	WCDMA Band IV	Head	Right / Cheek	CH 1512 (1752.6 MHz)	0.86	0.84	12
	WCDMA Band IV	Body	Back face	CH 1312 (1712.4 MHz)	0.91	0.87	13

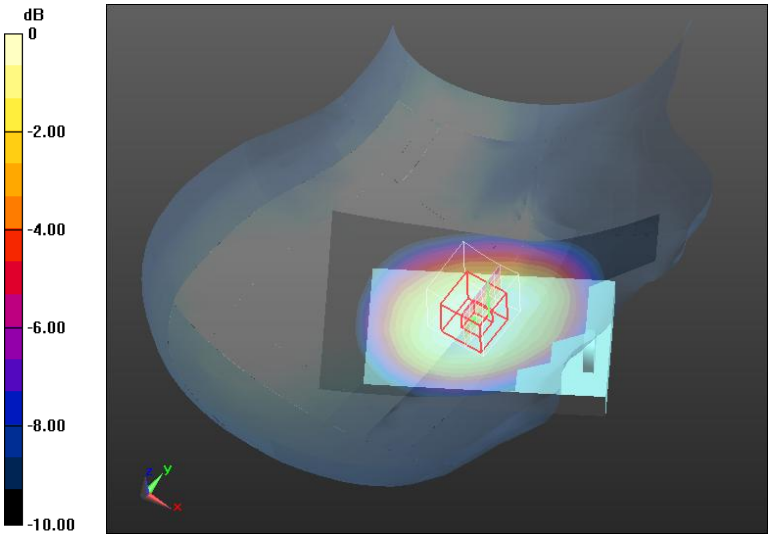
Appendix C – Measurement report

GSM 850 MHz – Right hand side – Cheek position – Middle Channel – Plot Nº1

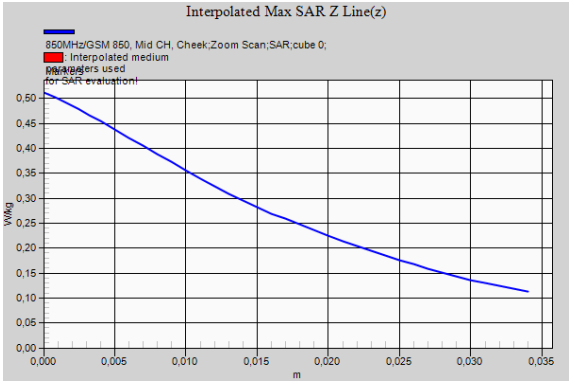
Test Laboratory: AT4 Wireless; Date: 29/06/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 836.6 MHz; Duty Cycle: 1:8.6896
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.923 S/m; ε_r = 41.248; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3052; ConvF(6.34, 6.34, 6.34); Calibrated: 20/07/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 13/07/2015
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Right Hand Side/850MHz/GSM 850, Mid CH, Cheek/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.482 W/kg

Right Hand Side/850MHz/GSM 850, Mid CH, Cheek/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.16 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.512 W/kg
SAR(1 g) = 0.436 W/kg; SAR(10 g) = 0.339 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.454 W/kg



0 dB = 0.454 W/kg = -3.43 dBW/kg



GPRS 850 MHz 4 slots – Body – Back Face – Middle Channel – Plot Nº2

Test Laboratory: AT4 Wireless; Date: 12/08/2016

DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300

Communication System: UID 10028 - DAB, GPRS-FDD (TDMA, GMSK, TN 0-1-2-3); Frequency: 836.6 MHz; Duty Cycle: 1:2.26464

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.993 S/m; ε_r = 54.364; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3687; ConvF(8.59, 8.59, 8.59); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, Accessory, d=0mm/850MHz/GPRS 850, 4 slots, Mid CH, Back face/Area Scan (61x101x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (interpolated) = 1.63 W/kg

Flat Phantom, Accessory, d=0mm/850MHz/GPRS 850, 4 slots, Mid CH, Back face/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

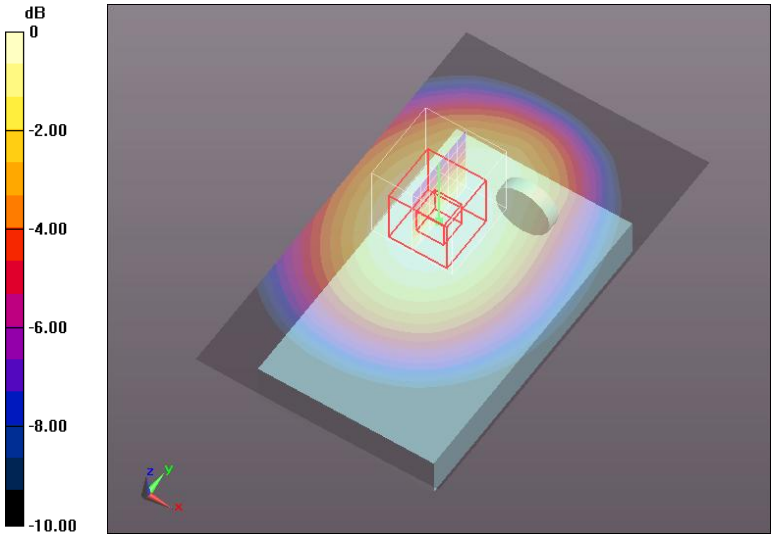
Reference Value = 37.66 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.84 W/kg

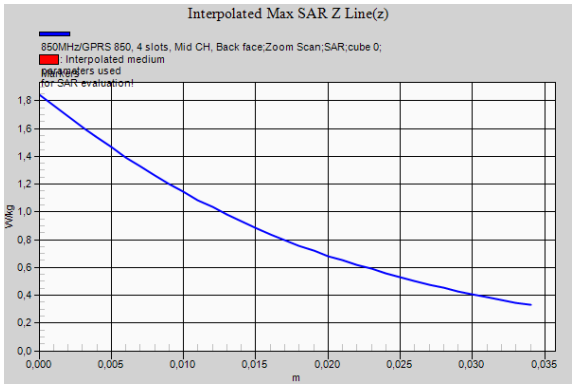
SAR(1 g) = 1.46 W/kg; SAR(10 g) = 1.09 W/kg (SAR corrected for target medium)

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 1.54 W/kg



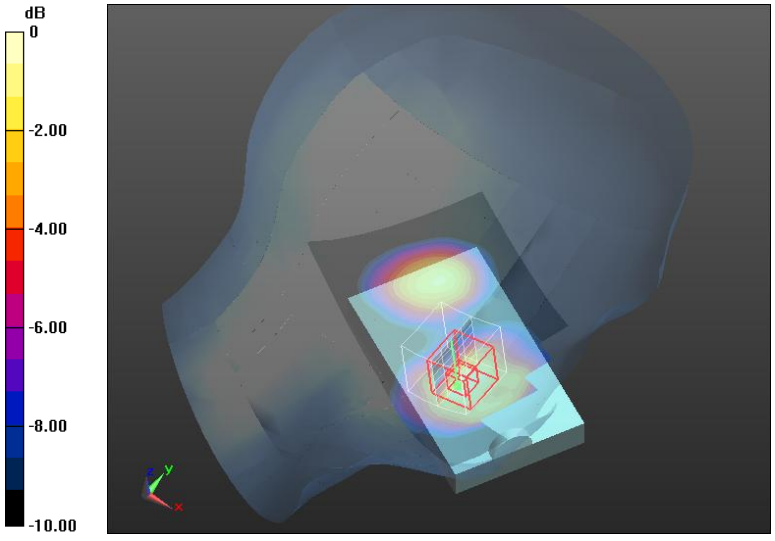
0 dB = 1.54 W/kg = 1.88 dBW/kg



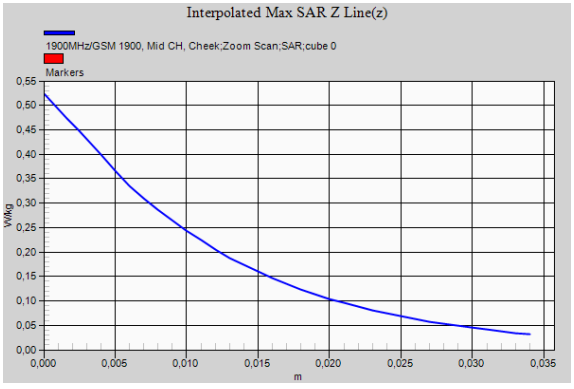
GSM 1900 MHz – Left hand side – Cheek position – Middle Channel – Plot Nº3
Test Laboratory: AT4 Wireless; Date: 05/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10021 - DAB, GSM-FDD (TDMA, GMSK); Frequency: 1880 MHz; Duty Cycle: 1:8.6896
Medium parameters used: f = 1880 MHz; σ = 1.44 S/m; ε_r = 40.77; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.31, 7.31, 7.31); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Left Hand Side/1900MHz/GSM 1900, Mid CH, Cheek/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.349 W/kg

Left Hand Side/1900MHz/GSM 1900, Mid CH, Cheek/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.57 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.524 W/kg
SAR(1 g) = 0.341 W/kg; SAR(10 g) = 0.196 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.393 W/kg



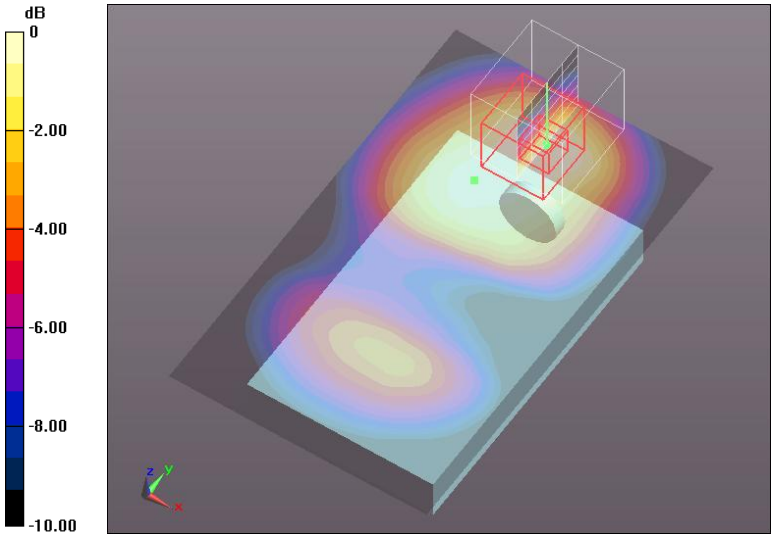
0 dB = 0.393 W/kg = -4.06 dBW/kg



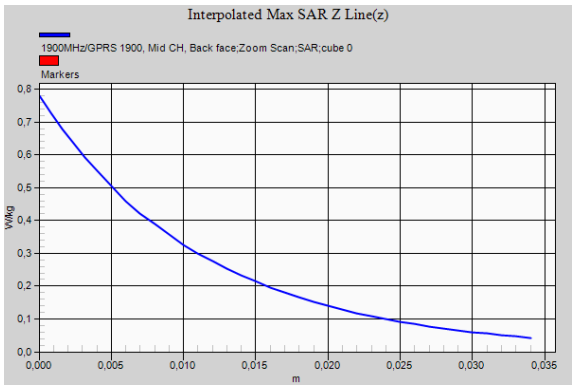
GPRS 1900 MHz 4 slots – Body – Back Face – Middle Channel – Plot Nº4
Test Laboratory: AT4 Wireless; Date: 10/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10028 - DAB, GPRS-FDD (TDMA, GMSK, TN 0-1-2-3); Frequency: 1880 MHz; Duty Cycle: 1:2.26464
Medium parameters used: f = 1880 MHz; σ = 1.5 S/m; ε_r = 51.18; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.19, 7.19, 7.19); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, d=0mm/1900MHz/GPRS 1900, Mid CH, Back face/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.593 W/kg

Flat Phantom, d=0mm/1900MHz/GPRS 1900, Mid CH, Back face/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.959 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.780 W/kg
SAR(1 g) = 0.498 W/kg; SAR(10 g) = 0.310 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.543 W/kg



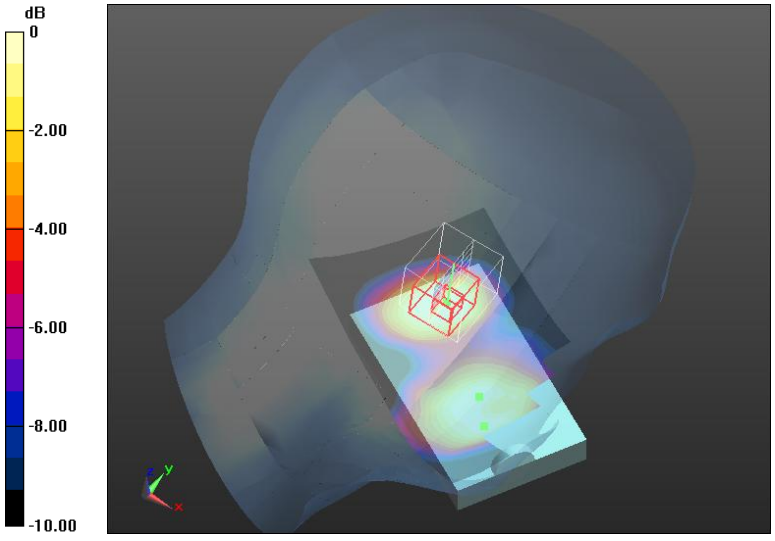
0 dB = 0.543 W/kg = -2.65 dBW/kg



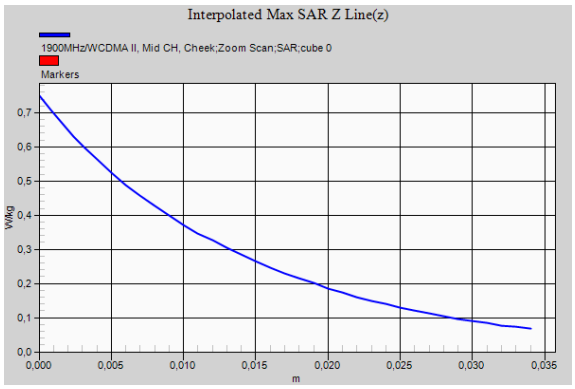
WCDMA Band II – Left hand side – Cheek position – Middle Channel – Plot Nº5
Test Laboratory: AT4 Wireless; Date: 05/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:1.95434
Medium parameters used: f = 1880 MHz; σ = 1.44 S/m; ε_r = 40.77; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.31, 7.31, 7.31); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Left Hand Side/1900MHz/WCDMA II, Mid CH, Cheek/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.694 W/kg

Left Hand Side/1900MHz/WCDMA II, Mid CH, Cheek/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.50 V/m; Power Drift = 0.22 dB
Peak SAR (extrapolated) = 0.750 W/kg
SAR(1 g) = 0.520 W/kg; SAR(10 g) = 0.327 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.557 W/kg



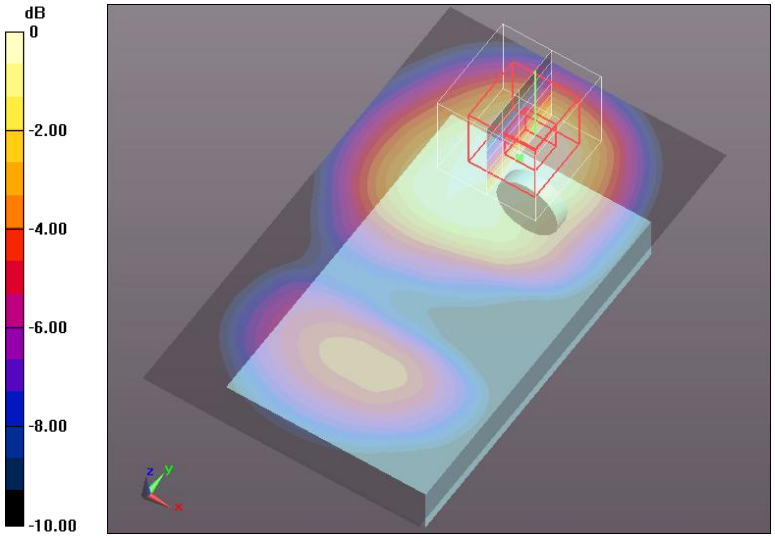
0 dB = 0.557 W/kg = -2.54 dBW/kg



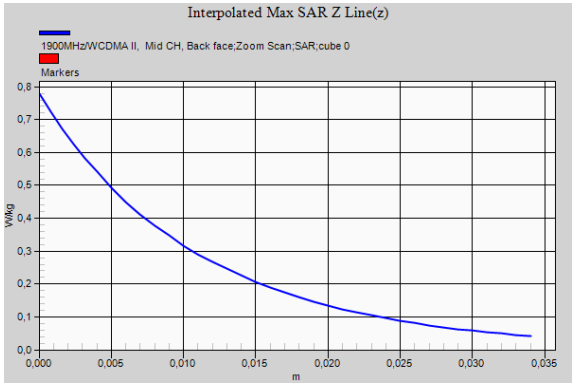
WCDMA Band II – Body – Back Face – Middle Channel – Plot Nº6
Test Laboratory: AT4 Wireless; Date: 10/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:1.95434
Medium parameters used: f = 1880 MHz; σ = 1.5 S/m; ε_r = 51.18; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.19, 7.19, 7.19); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, d=0mm/1900MHz/WCDMA II, Mid CH, Back face/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.563 W/kg

Flat Phantom, d=0mm/1900MHz/WCDMA II, Mid CH, Back face/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.49 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.779 W/kg
SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.299 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.533 W/kg



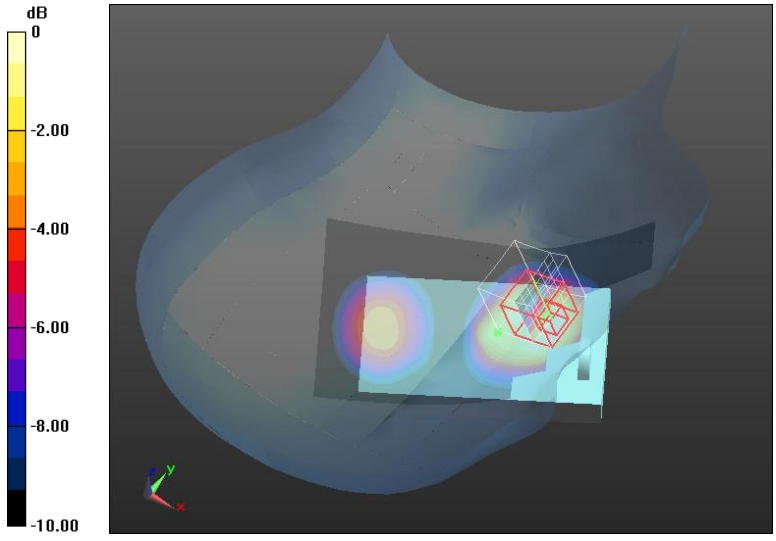
0 dB = 0.533 W/kg = -2.73 dBW/kg



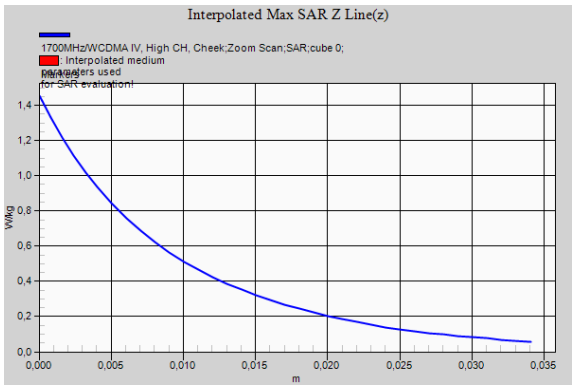
WCDMA Band IV – Right hand side – Cheek position – High Channel – Plot Nº7
Test Laboratory: AT4 Wireless; Date: 11/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1752.6 MHz; Duty Cycle: 1:1.95434
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.395 S/m; ε_r = 38.932; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.63, 7.63, 7.63); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Right Hand Side/1700MHz/WCDMA IV, High CH, Cheek/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.09 W/kg

Right Hand Side/1700MHz/WCDMA IV, High CH, Cheek/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.52 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.860 W/kg; SAR(10 g) = 0.510 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.944 W/kg



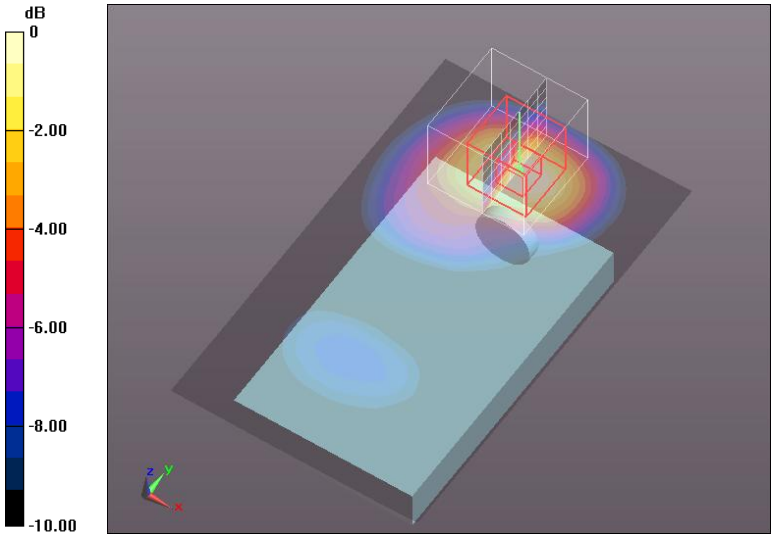
0 dB = 0.944 W/kg = -0.25 dBW/kg



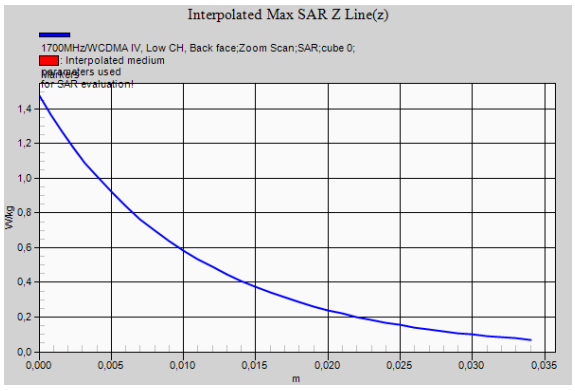
WCDMA Band IV – Body – Back Face – Low Channel – Plot Nº8
Test Laboratory: AT4 Wireless; Date: 11/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1712.4 MHz; Duty Cycle: 1:1.95434
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.482 S/m; ε_r = 55.853; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.25, 7.25, 7.25); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, Accessory, d=0mm/1700MHz/WCDMA IV, Low CH, Back face/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.05 W/kg

Flat Phantom, Accessory, d=0mm/1700MHz/WCDMA IV, Low CH, Back face/Zoom Scan (8x8x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.736 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.48 W/kg
SAR(1 g) = 0.906 W/kg; SAR(10 g) = 0.510 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.01 W/kg



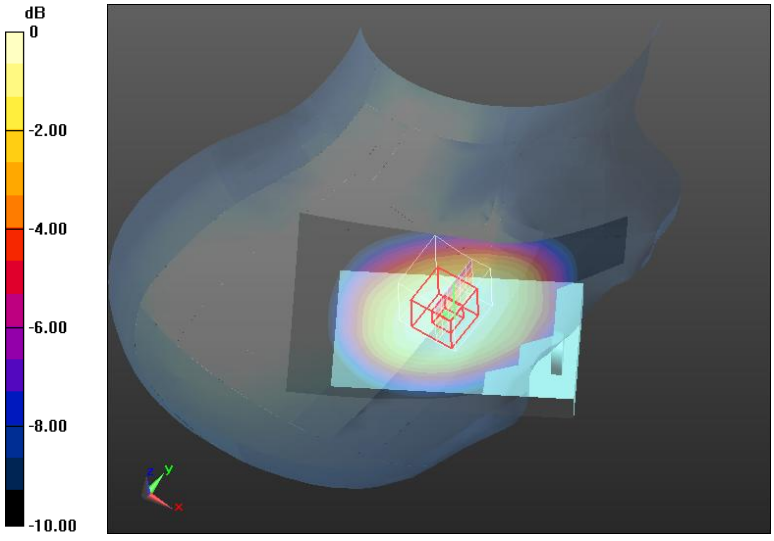
0 dB = 1.01 W/kg = 0.04 dBW/kg



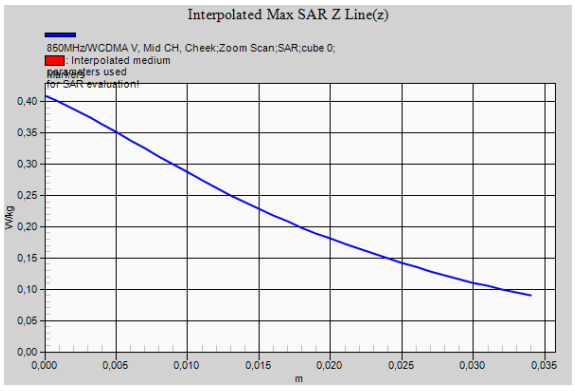
WCDMA Band V – Right hand side – Cheek position – Middle Channel – Plot Nº9
Test Laboratory: AT4 Wireless; Date: 29/06/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1.95434
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.923 S/m; ε_r = 41.248; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3052; ConvF(6.34, 6.34, 6.34); Calibrated: 20/07/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 13/07/2015
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Right Hand Side/850MHz/WCDMA V, Mid CH, Cheek/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.396 W/kg

Right Hand Side/850MHz/WCDMA V, Mid CH, Cheek/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.689 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.410 W/kg
SAR(1 g) = 0.349 W/kg; SAR(10 g) = 0.271 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.365 W/kg



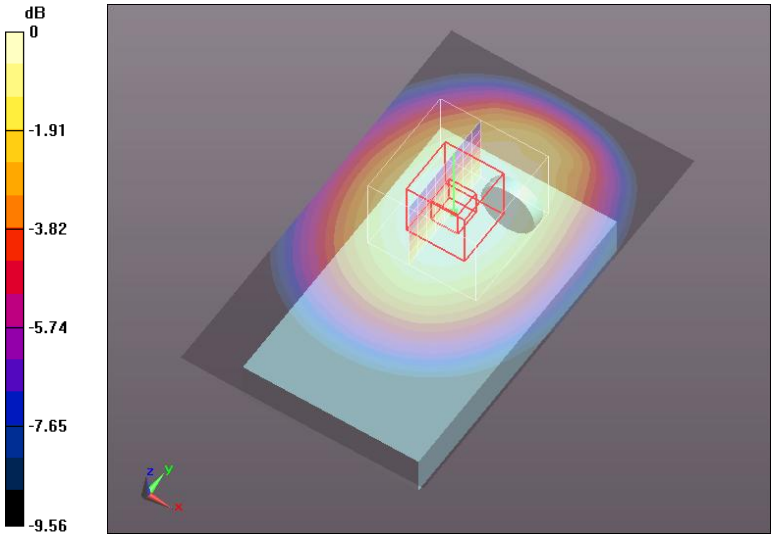
0 dB = 0.365 W/kg = -4.38 dBW/kg



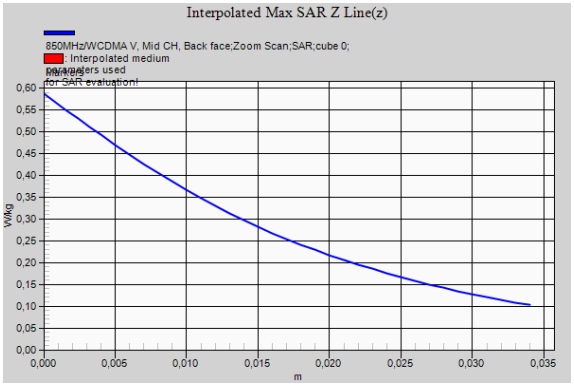
WCDMA Band V – Body – Back Face – Middle Channel – Plot N°10
Test Laboratory: AT4 Wireless; Date: 28/06/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1.95434
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.963 S/m; ε_r = 53.487; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3052; ConvF(6.06, 6.06, 6.06); Calibrated: 20/07/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 13/07/2015
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, Accessory, d=0mm/850MHz/WCDMA V, Mid CH, Back face/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.548 W/kg

Flat Phantom, Accessory, d=0mm/850MHz/WCDMA V, Mid CH, Back face/Zoom Scan (9x9x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.55 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.588 W/kg
SAR(1 g) = 0.468 W/kg; SAR(10 g) = 0.350 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.494 W/kg

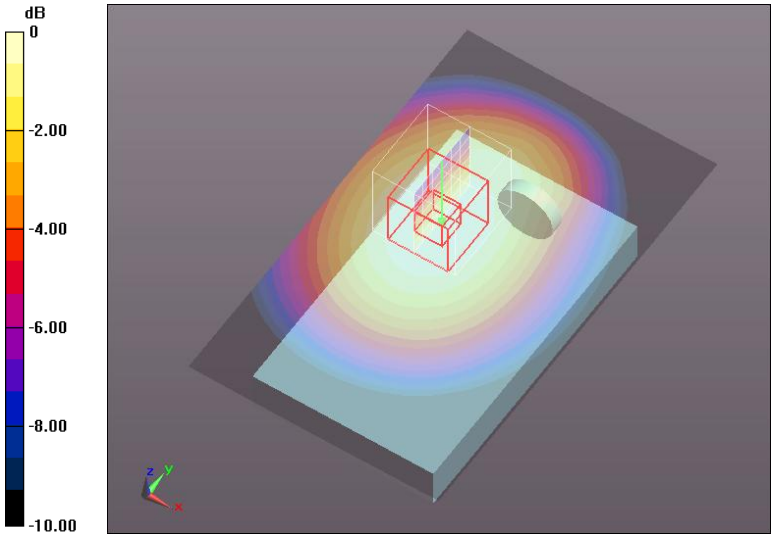


0 dB = 0.494 W/kg = -3.06 dBW/kg

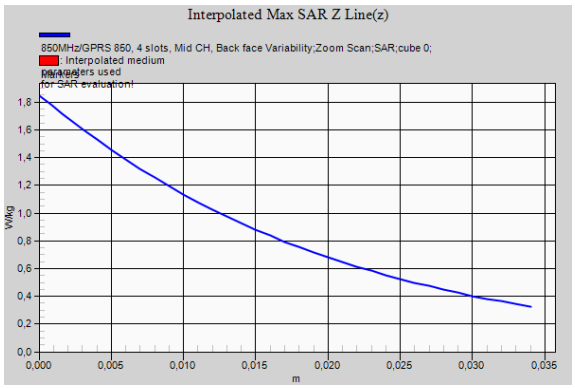


GPRS 850 MHz 4 slots – Body – Back Face – Middle Channel – Variability – Plot Nº11
Test Laboratory: AT4 Wireless; Date: 12/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10028 - DAB, GPRS-FDD (TDMA, GMSK, TN 0-1-2-3); Frequency: 836.6 MHz; Duty Cycle: 1:2.26464
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.993 S/m; ε_r = 54.364; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(8.59, 8.59, 8.59); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, Accessory, d=0mm/850MHz/GPRS 850, 4 slots, Mid CH, Back face Variability/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.62 W/kg
Flat Phantom, Accessory, d=0mm/850MHz/GPRS 850, 4 slots, Mid CH, Back face Variability/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 37.12 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.45 W/kg; SAR(10 g) = 1.09 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.53 W/kg



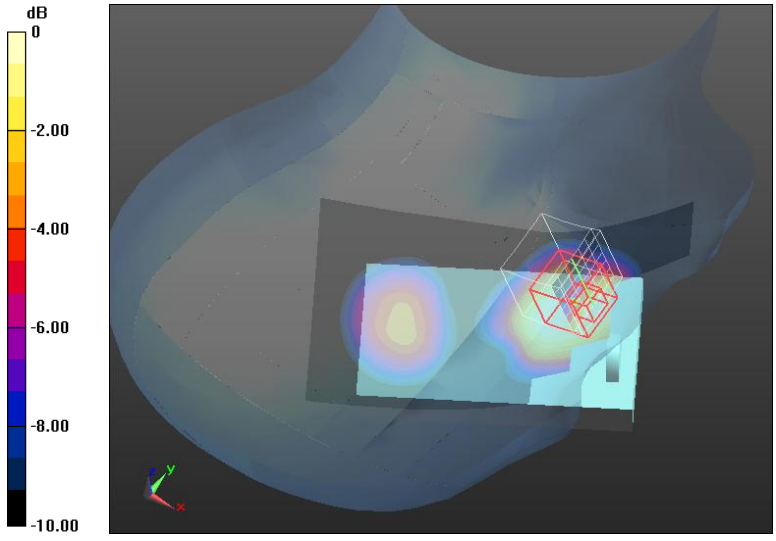
0 dB = 1.53 W/kg = 1.85 dBW/kg



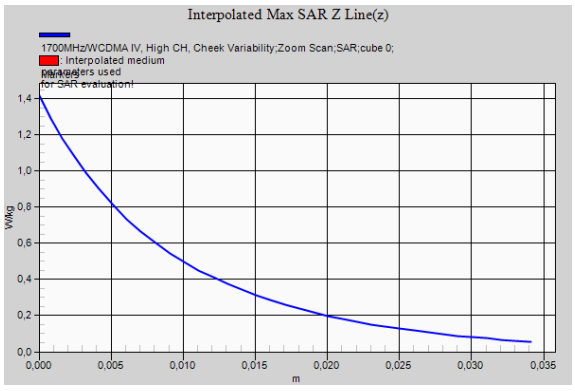
WCDMA Band IV – Right hand side – Cheek position – High Channel – Variability – Plot Nº12
Test Laboratory: AT4 Wireless; Date: 11/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1752.6 MHz; Duty Cycle: 1:1.95434
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.395 S/m; ε_r = 38.932; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.63, 7.63, 7.63); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Right Hand Side/1700MHz/WCDMA IV, High CH, Cheek Variability/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.06 W/kg

Right Hand Side/1700MHz/WCDMA IV, High CH, Cheek Variability/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.15 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.836 W/kg; SAR(10 g) = 0.498 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.917 W/kg



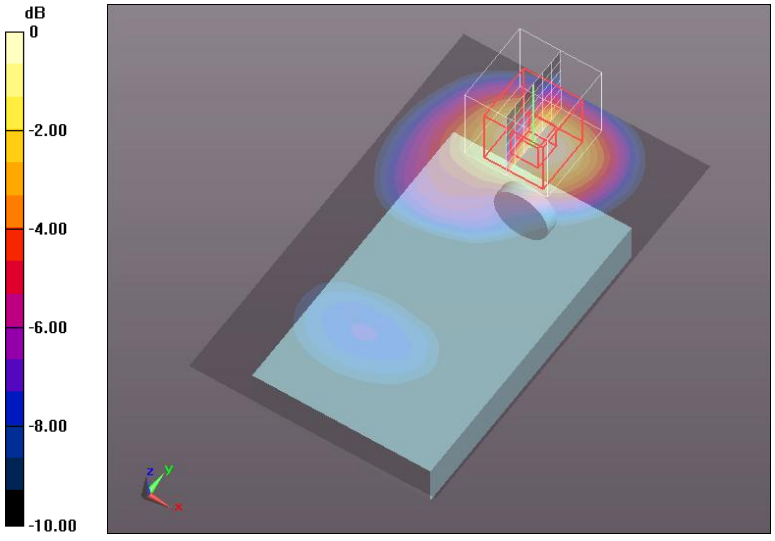
0 dB = 0.917 W/kg = -0.38 dBW/kg



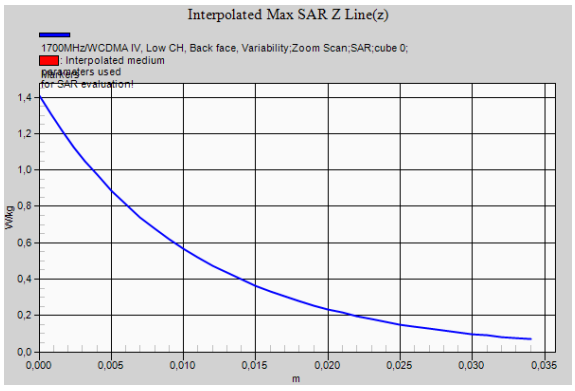
WCDMA Band IV – Body – Back Face – Low Channel – Variability – Plot Nº13
Test Laboratory: AT4 Wireless; Date: 11/08/2016
DUT: 3M Two-Piece GPS Offender Tracking Device (V6); Type: Handset; Serial: 35600300
Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1712.4 MHz; Duty Cycle: 1:1.95434
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.482 S/m; ε_r = 55.853; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.25, 7.25, 7.25); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Flat Phantom, Accessory, d=0mm/1700MHz/WCDMA IV, Low CH, Back face, Variability/Area Scan (61x101x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.05 W/kg

Flat Phantom, Accessory, d=0mm/1700MHz/WCDMA IV, Low CH, Back face, Variability/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.226 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.873 W/kg; SAR(10 g) = 0.495 W/kg (SAR corrected for target medium)
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.977 W/kg



0 dB = 0.977 W/kg = -0.10 dBW/kg



Appendix D – System Validation Reports

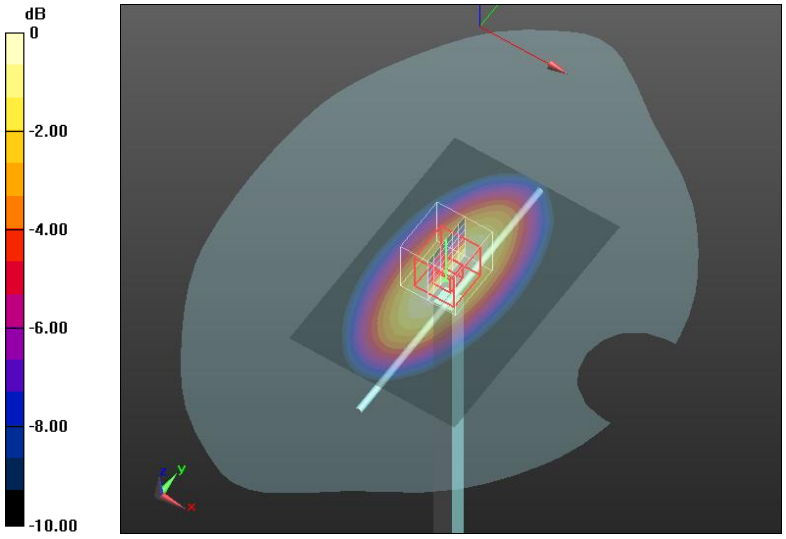
Validation results in 900 MHz Band for Head TSL

Test Laboratory: AT4 Wireless; Date: 28/06/2016

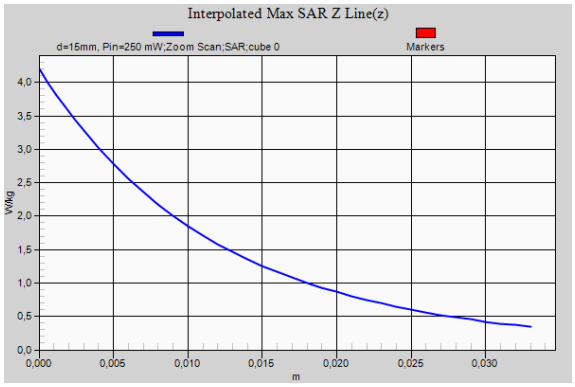
DUT: Dipole 900 MHz D900V2; Type: D900V2; Serial: D900V2 - SN:1d007
Communication System: UID 0, CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 0.98 S/m; ε_r = 40.64; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3052; ConvF(6.23, 6.23, 6.23); Calibrated: 20/07/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 13/07/2015
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 900MHz. 28-06-2016/d=15mm, Pin=250 mW/Area Scan (61x91x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.23 W/kg

Configuration 900MHz. 28-06-2016/d=15mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.60 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 4.20 W/kg
SAR(1 g) = 2.79 W/kg; SAR(10 g) = 1.8 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.28 W/kg



0 dB = 3.28 W/kg = 5.16 dBW/kg



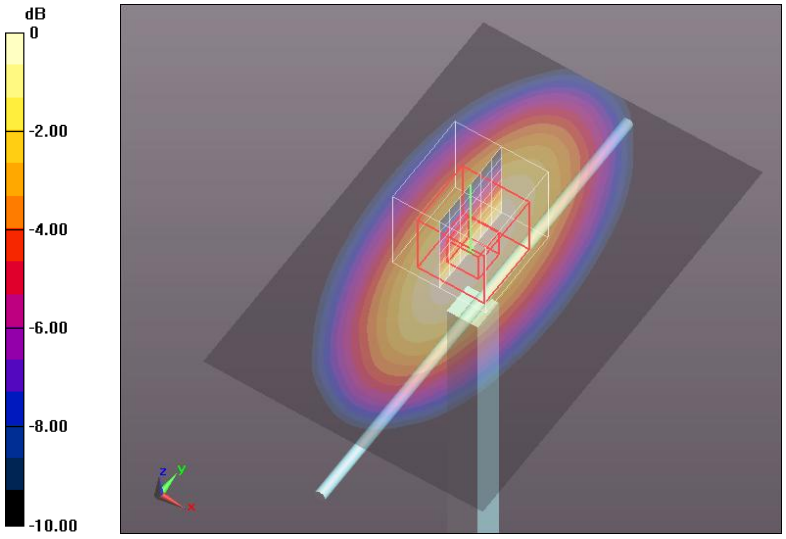
Validation results in 900 MHz Band for Body TSL

Test Laboratory: AT4 Wireless; Date: 28/06/2016

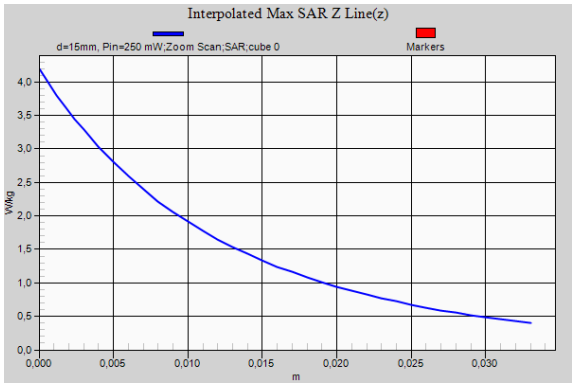
DUT: Dipole 900 MHz D900V2; Type: D900V2; Serial: D900V2 - SN:1d007
Communication System: UID 0, CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 1.03 S/m; ε_r = 52.83; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3052; ConvF(6.03, 6.03, 6.03); Calibrated: 20/07/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 13/07/2015
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 900MHz, 2016-06-28/d=15mm, Pin=250 mW/Area Scan (61x91x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.28 W/kg

Configuration 900MHz, 2016-06-28/d=15mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.30 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 4.19 W/kg
SAR(1 g) = 2.82 W/kg; SAR(10 g) = 1.84 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.29 W/kg



0 dB = 3.29 W/kg = 5.17 dBW/kg



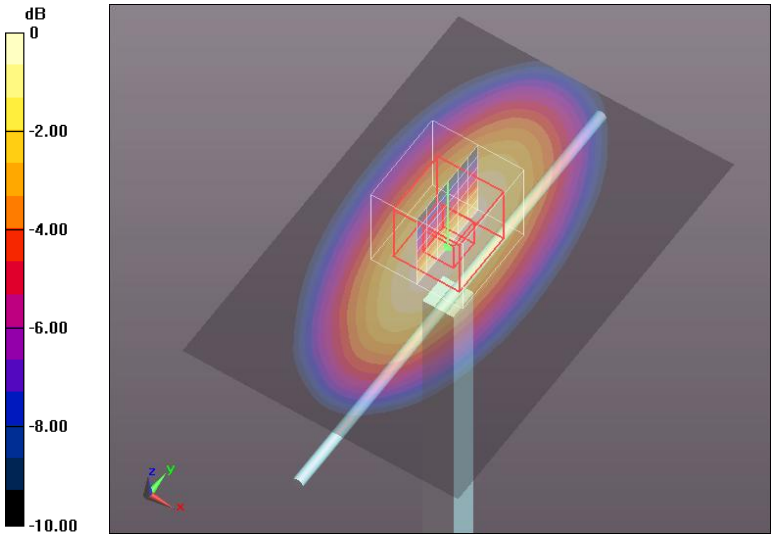
Validation results in 900 MHz Band for Body TSL

Test Laboratory: AT4 Wireless; Date: 12/08/2016

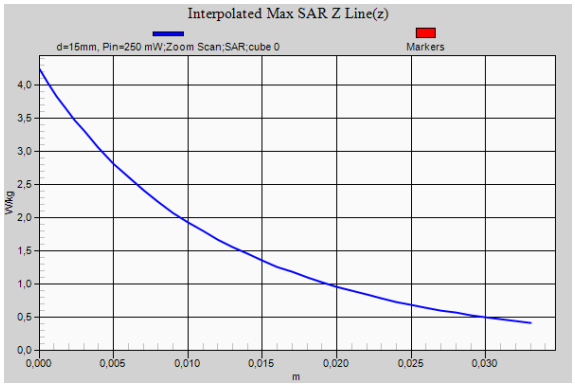
DUT: Dipole 900 MHz D900V2; Type: D900V2; Serial: D900V2 - SN:1d007
Communication System: UID 0, CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 1.06 S/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(8.49, 8.49, 8.49); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 900MHz, 2016-08-12/d=15mm, Pin=250 mW/Area Scan (61x91x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.22 W/kg

Configuration 900MHz, 2016-08-12/d=15mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.49 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 4.25 W/kg
SAR(1 g) = 2.83 W/kg; SAR(10 g) = 1.86 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.30 W/kg



0 dB = 3.30 W/kg = 5.19 dBW/kg



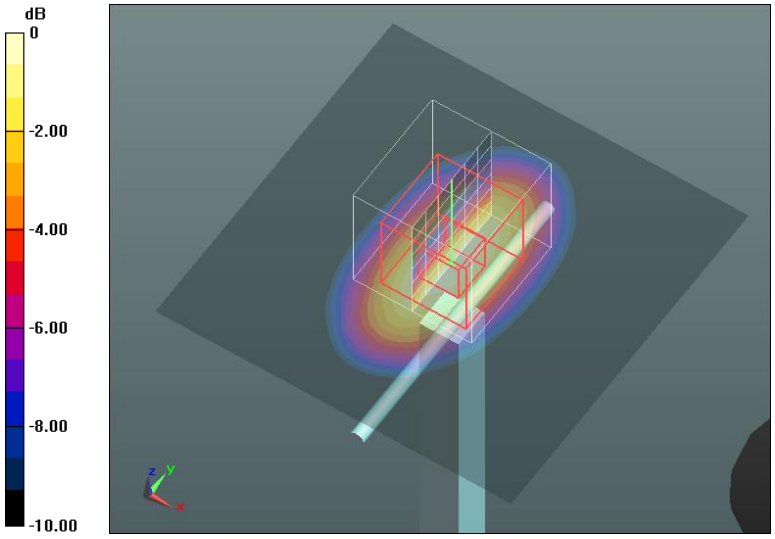
Validation results in 1800 MHz Band for Head TSL

Test Laboratory: AT4 Wireless; Date: 04/08/2016

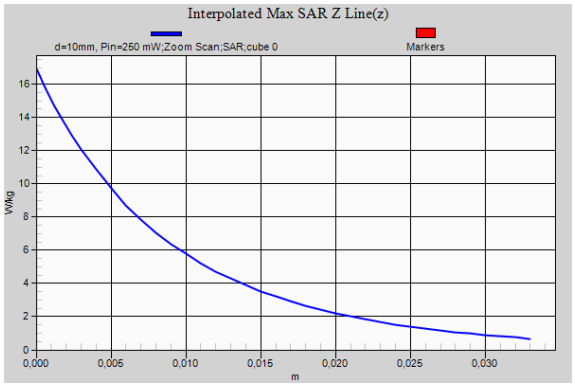
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:2d099
Communication System: UID 0, CW (0); Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.39 S/m; ε_r = 40.97; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.63, 7.63, 7.63); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 1800 MHz, 04-08-2016/d=10mm, Pin=250 mW/Area Scan (91x91x1):
Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 12.1 W/kg

Configuration 1800 MHz, 04-08-2016/d=10mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.04 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 9.72 W/kg; SAR(10 g) = 5.26 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg = 10.83 dBW/kg



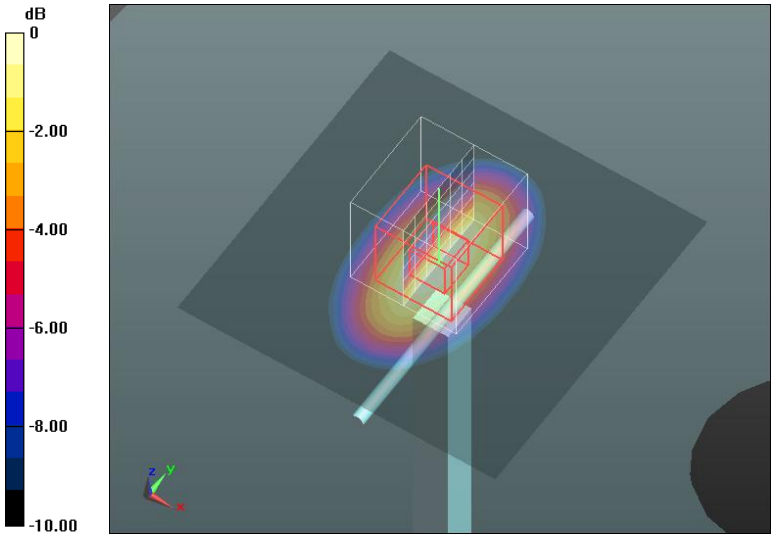
Validation results in 1800 MHz Band for Head TSL

Test Laboratory: AT4 Wireless; Date: 08/08/2016

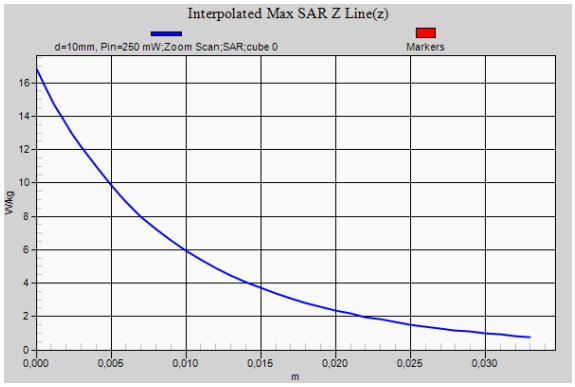
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:2d099
Communication System: UID 0, CW (0); Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.39 S/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.63, 7.63, 7.63); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 1800 MHz, 08-08-2016/d=10mm, Pin=250 mW/Area Scan (91x91x1):
Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 12.3 W/kg

Configuration 1800 MHz, 08-08-2016/d=10mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.39 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 9.83 W/kg; SAR(10 g) = 5.4 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 12.2 W/kg



0 dB = 12.2 W/kg = 10.86 dBW/kg



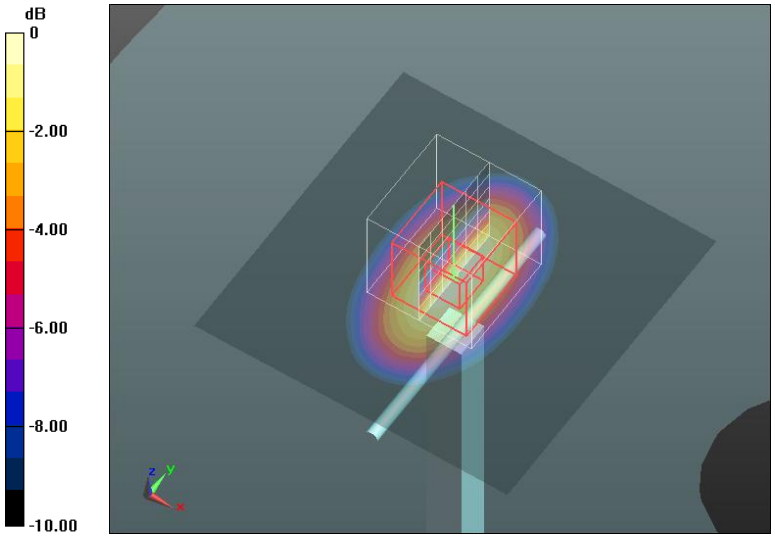
Validation results in 1800 MHz Band for Head TSL

Test Laboratory: AT4 Wireless; Date: 11/08/2016

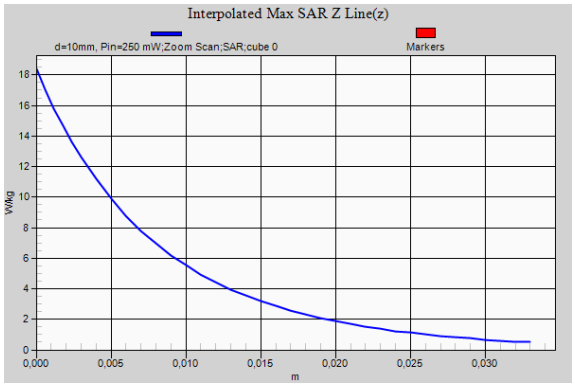
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:2d099
Communication System: UID 0, CW (0); Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.45 S/m; ε_r = 38.97; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.63, 7.63, 7.63); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: SAM head-body simulator ; Type: Twin SAM V4.0; Serial: ---
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 1800 MHz, 11-08-2016/d=10mm, Pin=250 mW/Area Scan (91x91x1):
Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 12.5 W/kg

Configuration 1800 MHz, 11-08-2016/d=10mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.09 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 18.4 W/kg
SAR(1 g) = 9.91 W/kg; SAR(10 g) = 5.21 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 12.6 W/kg



0 dB = 12.6 W/kg = 11.00 dBW/kg

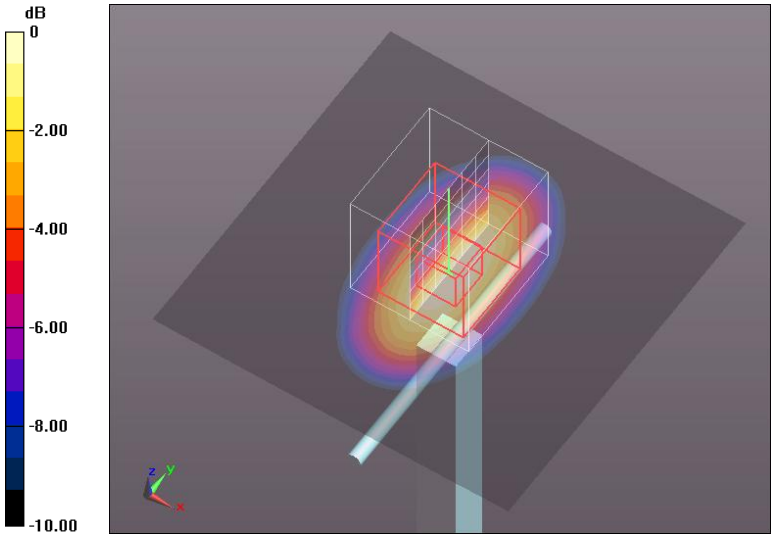


Validation results in 1800 MHz Band for Body TSL

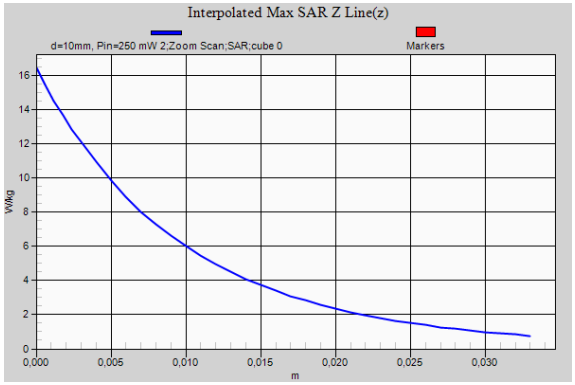
Test Laboratory: AT4 Wireless; Date: 09/08/2016
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:2d099
Communication System: UID 0, CW (0); Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.48 S/m; ε_r = 51.47; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.25, 7.25, 7.25); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 1800 MHz, 2016-08-09/d=10mm, Pin=250 mW 2/Area Scan (91x91x1):
Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 12.3 W/kg

Configuration 1800 MHz, 2016-08-09/d=10mm, Pin=250 mW 2/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.63 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 16.5 W/kg
SAR(1 g) = 9.72 W/kg; SAR(10 g) = 5.28 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg = 10.83 dBW/kg



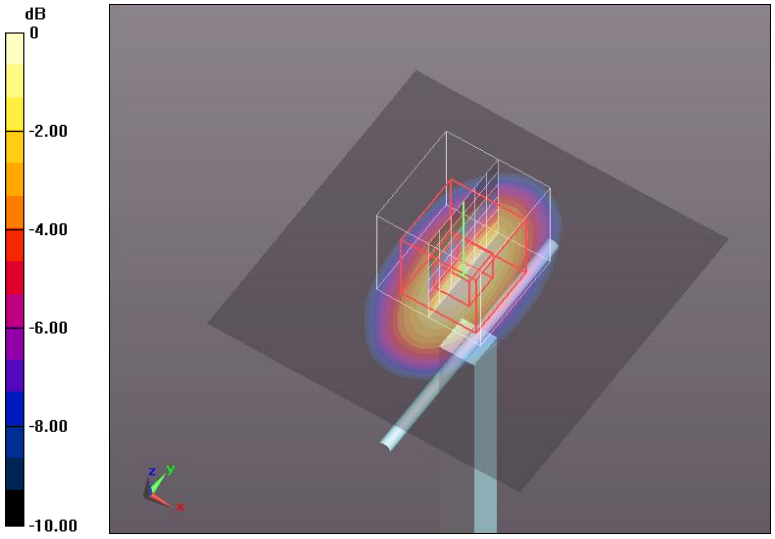
Validation results in 1800 MHz Band for Body TSL

Test Laboratory: AT4 Wireless; Date: 11/08/2016

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:2d099
Communication System: UID 0, CW (0); Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.57 S/m; ε_r = 55.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: EX3DV4 - SN3687; ConvF(7.25, 7.25, 7.25); Calibrated: 26/07/2016;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn669; Calibrated: 18/07/2016
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1060
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration 1800 MHz, 2016-08-11/d=10mm, Pin=250 mW/Area Scan (91x91x1):
Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 12.9 W/kg

Configuration 1800 MHz, 2016-08-11/d=10mm, Pin=250 mW/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.32 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.4 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 12.8 W/kg



0 dB = 12.8 W/kg = 11.07 dBW/kg