TEST REPORT
(SAR EVALUATION)

For

Mobile Phone

In conformity with

FCC 47 CFR Part 2

Model:	**YTMF-1**
Test Item:	**Mobile Phone**
Report No:	**RY1202A03R1**
Issue Date:	**February 3, 2012**

Prepared for

KYOCERA Corporation
2-1-1 Kagahara, Tsuzuki-ku, Yokohama-shi, kanagawa, Japan

Prepared by

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Testing
RTL02770

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History

Report No	Date	Revisions	Issued by
RY1202A03R1	February 3, 2012	Initial Issue	M.Asano

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1 General information

1.1 Product description

Test item :	Mobile Phone
Manufacturer:	KYOCERA Corporation
Address:	2-1-1 Kagahara, Tsuzuki-ku, Yokohama-shi, kanagawa, Japan
Model:	YTMF-1
FCC ID:	JOYYTMF-1
EUT Condition:	Engineering sample
Serial numbers:	004401350060527
Tx Frequency:	1850.2MHz - 1909.6MHz (GSM1900) 2412MHz – 2462MHz (IEEE802.11 b/g/n)
Conducted Power:	GSM1900: 29.31 dBm IEEE802.11 b/g/n: 14.29 dBm
Max. SAR Measurement:	GSM1900: Head SAR: 0.606 W/kg, Body SAR: 0.467 W/kg IEEE802.11 b/g/n: Body SAR: 0.074 W/kg
Power Source Type:	Lithium-ion Battery (Model: LB03KC)
Nominal Power Source Voltages :	3.7 V DC
Antenna Type:	GSM1900: Integral antenna IEEE802.11 b/g/n: Integral antenna

1.2 Test(s) performed/ Summary of test result

Applicable FCC Rule Parts: CFR§2.1093;

Applicable Test Procedure:
FCC/OET Bulletin 65 Supplement C (June 2001).
IEEE Std 1528 (2003)
FCC Public Notice DA-02-1438
KDB447498 Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Polices
KDB447498 SAR Measurement Procedures for USB Dongle Transmitters
KDB648474 SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas
KDB616217 SAR Evaluation Considerations for Laptop Computers with Antennas Built-in on Display Screens
KDB616217 SAR Evaluation Considerations for Laptop/Notebooks/ and Tablet Computers - Supplement to KDB 616217
KDB248227 SAR Measurement Procedures for 802.11 a/b/g Transmitters
KDB941225 SAR Measurement Procedures for 3G Devices
KDB941225 3GPP R6 HSPA and R7 HSPA+ SAR Guidance
KDB941225 Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE
KDB941225 SAR test procedures for GSM/(E)GPRS Dual Transfer Mode operation
KDB941225 SAR test procedures for devices incorporating SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities (Hot Spot SAR)
KDB941225 SAR Evaluation Procedures for UMPC Mini-Tablet Devices

FCC Classification:	Transmitter Held to Ear (PCE)
Receipt date of EUT:	December 27, 2011
Test(s) started:	January 6, 2012
Test(s) completed:	February 1, 2012
Application type:	Certification
Summary of test result:	Complied

Note: The above judgment is only based on the measurement data and it does not include the measurement uncertainty. Accordingly, the statement below is applied to the test result.
The EUT complies with the limit required in the standard in case that the margin is not less than the measurement uncertainty in the Laboratory.
Compliance of the EUT is more probable than non-compliance is case that the margin is less than the measurement uncertainty in the Laboratory.

Test engineer : M. Asano
M.Asano (Test Engineer, EMC Testing Department)

Reviewer : T. Ikegami
T.Ikegami (Manager, EMC Testing Department)

1.3 Equipment modifications

No modifications have been made to the equipment in order to achieve compliance with the applicable rules described in clause 1.2.

1.4 Deviation from the standard

No deviations from the FCC rules and procedures described in clause 1.2.

2 Introduction

2.1 SAR Definition

The time derivative of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of given density (ρ).

$$SAR = \frac{d}{dt}\left(\frac{dW}{dm}\right) = \frac{d}{dt}\left(\frac{dW}{\rho\, dV}\right)$$

The SI unit is the watt per kilogram (W/kg).

SAR can be related to the electric field at a point by

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

Where:

σ is conductivity of the tissue (S/m)
ρ is mass density of the tissue (kg/m^3)
E is rms electric field strength in tissue (V/m)

3 Test Facility / Accreditations

Test Site : RF Technologies Ltd. Yokohama Laboratory
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Accredited by The Japan Accreditation Board for Conformity Assessment (JAB) for EMC tests and Radio tests stated in the scope of the certificate under Certificate Number RTL02770

Accredited by National Voluntary Laboratory Accreditation Program (NVLAP) for the emission tests stated in the scope of the certificate under Certificate Number 200780-0

Registered by Voluntary Control Council for Interference by Information Technology Equipment (VCCI);
Each registered facility number is as follows;
Test site (Semi-Anechoic chamber 3m) R-2393
Test site (Shielded room) C-2617

Registered by Industry Canada (IC): The registered facility number is as follows
Test site No.1 (Semi-Anechoic chamber 3m): 6974A-1

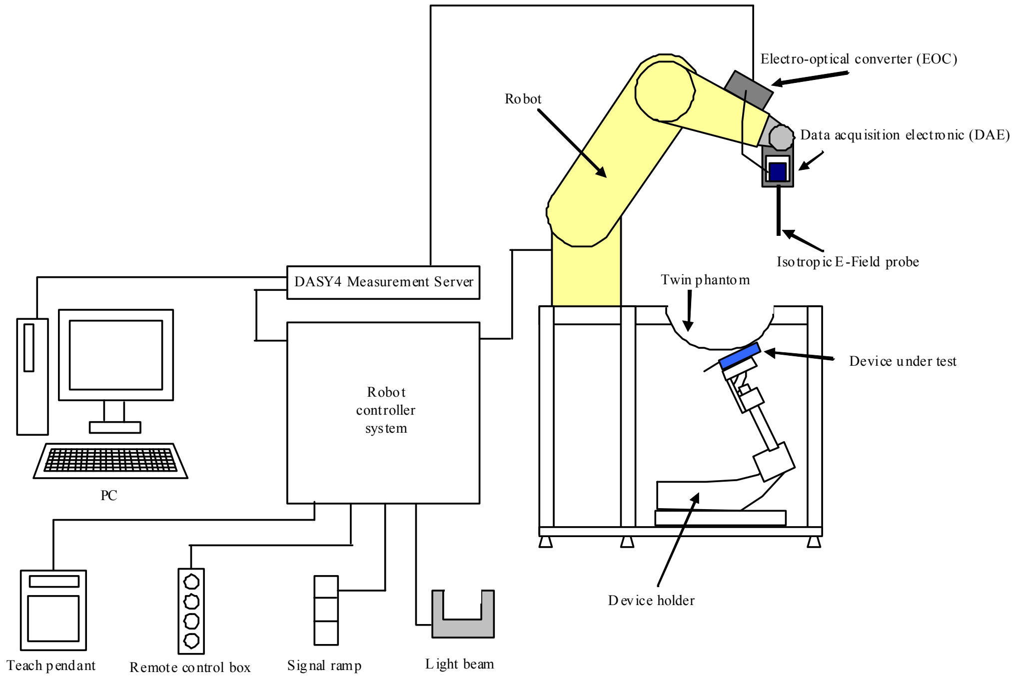
4 SAR Measurement Setup

4.1 Measurement System diagram

Measurements are performed using the DASY4 automated dosimetric assessment system manufactured by Schmid & Partner Engineering AG in Zurich, Switzerland.
Measurement system consists of following instruments.

- Isotropic E-filed probe
- Robot controller system
- DASY4 Measurement server
- Personal computer (PC) with DASY4 software installed
- Data acquisition electronic (DAE)
- Electro-optical converter (EOC)
- Twin phantom
- Device holder

The robot in the system has six-axis industrial robot arms performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). The robot controller system consists of the power supply, the Teach pendant, the Remote control box, the Signal ramp, and the Light beam, and is connected to the DASY4 measurement server. The robot is connected to robot controller system to allow software manipulation of the robot. The isotropic E-field probe, the DAE and the EOC are installed on the robot. The isotropic E-field probe measures Electromagnetic filed in the Twin SAM phantom containing the equivalent tissue. The isotropic E-field probe is connected to the DAE and transfers the data to the DAE. The DAE is connected to the EOC and performs the signal amplification, the signal multiplexing, the AD-conversion, the offset measurements, the mechanical surface detection, the collision detection, etc. The signal from the DAE is optically transmitted to the EOC. The EOC performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the DASY4 measurement server and transfers the data to the DASY4 measurement server. The DASY4 measurement server is connected to the PC that is installed the DASY4 software. The PC analyzes the data, transferred from the DASY4 measurement server, to find the maximum SAR.



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5 System components

5.1 Probe Specifications

[Probe 1]

Model:	ET3DV6
Frequency range:	10 MHz - 2.3 GHz
Calibration:	900MHz, 1750MHz, 1900MH
Linearity:	± 0.2 dB (30 MHz to 2.3 GHz)
Dynamic range:	5 µW/g to > 100 mW/g
Probe length:	330 mm
Probe tip length:	16 mm
Body diameter:	12 mm
Tip diameter:	6.8 mm
Application:	General dosimetric measurements up to 2.3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

[Probe 2]

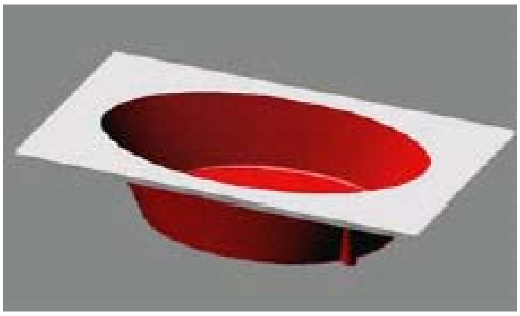
Model:	EX3DV4
Frequency range:	10 MHz - 6 GHz (EX3DV4)
Calibration:	2450MHz
Linearity:	± 0.2 dB
Dynamic range:	10 µW/g to > 100 mW/g
Probe length:	337 mm
Probe tip length:	20 mm
Body diameter:	12 mm
Tip diameter:	2.5 mm
Application:	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

5.2 Twin SAR Phantom

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-2003, CENELEC 50361 and IEC 62209.
The SAM twin phantom is a low-loss dielectric, consists of fiberglass. It has three measurement areas, Left head, Right head and Flat phantom. Tissue simulating liquid can be filled up in the shell inside the phantom. The liquid depth is maintained at a minimum depth of 15cm to minimize reflections from the upper surface.
It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Shell Thickness	: 2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Filling Volume	: Approx. 25 liters
Dimensions	: 880×1000×500 mm (H×L×W)

5.3 ELI4 Flat Phantom



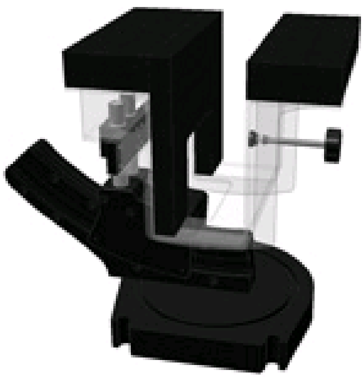
Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard 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.

Shell Thickness	: 2.0 ± 0.2 mm (bottom plate)
Filling Volume	: approx. 30 liters
Dimensions	: Major axis: 600 mm Minor axis: 400 mm

5.4 Mounting Device for Transmitters

The Device Holder enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat point).

5.5 Laptop Extensions Kit for Mounting Device



Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin-SAM, ELI4 and SAM v6.0 Phantoms.

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5.6 Brain & Muscle Tissue Simulating Mixture Characterization

The composition of ingredients is in accordance with FCC/OET Bulleting 65 Supplement C.

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

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

6 Dosimetric Assessment

6.1 Measurement Procedure

First Area Scan is done to find the approximate location of the local peak SAR, and next Zoom Scan is performed to evaluate the 1g or 10g peak spatial-average SAR in the area identified during the area scan. The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a final measurement around the hot spot. The area of the scan covered the entire dimension of the head and the horizontal grid spacing is 15mm x 15mm. The evaluation on the measured area scan gives the interpolated maximum of the measured area. Based on the area scan data, the area of the maximum absorption is determined by spline interpolation. The Zoom scan is performed around this point. A volume of 32mm x 32mm x 30mm is assessed by measuring 5 x 5 x 7 points. The data at the surface is extrapolated, since the center of the dipoles is 2.7mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation is based on a least square algorithm. The maximum interpolated value is searched with a straight-forward algorithm. The SAR values averaged over the spatial volumes around the maximum location are computed using the 3D-Spline interpolation algorithm. All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

7 Definition of reference points for Handset

7.1 Ear Reference Point

Front, back and side views of the SAM Twin Phantom are shown in Figure 7-1-1. The point "M" on the SAM is the reference point for the center of the mouth. The point LE on the SAM is the left ear reference point (ERP) and the point RE on the SAM is the right ERP. (The ERP is 15mm posterior to the entrance to the ear canal along the B-M line as shown in Figure 7-1-2. The plane passing through the two canals and M is defined as Reference Plane, and contains the line B-M. The line N-F, perpendicular to the reference plane and passing through the RE (or LE) is defined as Reference Pivoting Line. The N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.

Figure 7-1-1 Front, Back, and side view of SAM Twin Phantom

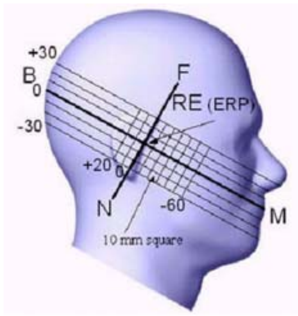

Figure 7-1-2 Closed-up side view on ERP

7.2 Handset Reference points

Two imaginary lines, the vertical centerline and horizontal line, are defined on the handset described in Figure 7-2-1. The vertical centerline passes through two points on the front side of the handset – the midpoint of width w_t of the handset at the level of the acoustic output (Point A in Figure 7-2-1), and the midpoint of the width w_b of the bottom of the handset (Point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The two lines intersect at point A.

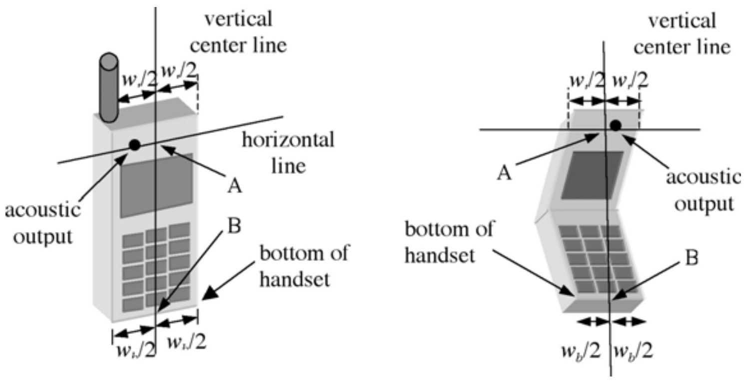

Figure 7-2-1 Vertical centerline and horizontal line on handset

8 Test Configuration Positions

8.1 Test Configurations for Handset

8.1.1 Positioning for Cheek/Touch

The handset is positioned close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through point RE and LE on the phantom (see Figure 8-1-1), such that the plane defined by the vertical centerline and horizontal line of the handset is approximately parallel to the sagittal plane of the phantom. The handset is translated towards the phantom along the line passing through RE and LE until point A on handset touches the ERP on the phantom. While maintaining the handset in this plane, the handset is rotated around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines. The handset is rotated around the vertical centerline until the handset (horizontal line) is parallel to the N-F line. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the ERP, the handset is rotated about the N-F line until any point on the handset is in contact with a phantom point below the ERP on the cheek.

Figure 8-1-1 Front, Side and Top View of Cheek/Touch position

8.1.2 Positioning for Ear/15° Tilt

The procedure “Positioning for Cheek/Touch” is repeated to place the handset in the Cheek/Touch position. While maintaining the orientation of the handset, the handset is moved away from the ERP along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15 degrees. The handset is rotated around the horizontal line by 15 degrees. While maintaining the orientation of the handset, the handset is moved towards the phantom on the line passing through RE and LE until any part of the handset touches the head (In this position, point A is located on the line RE and LE). The tilt position is obtained when the contact point is on ERP (See Figure 8-1-2). If the contact is at any location other than ERP, the angle of the handset would then be reduced. In this case, the tilt position is obtained when any point on the handset is in contact with the ERP and a second point on the handset is in contact with the phantom. (e.g., the antenna with the back of the bead).

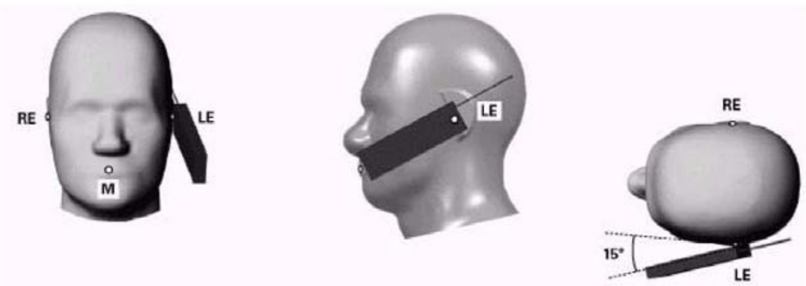

Figure 8-1-2 Front, Side and Top View of Ear /15° Tilt position

8.1.3 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones. It has been known for some time that there are SAR measurement difficulties in these regions of the SAM phantom. SAR probes are calibrated in tissue-equivalent liquids with sufficient separation between the probe sensors and nearby physical boundaries to ensure scattering does not affect probe calibration. When the probe tip is moved into tight regions with multiple boundaries surrounding its sensors, probe calibration and measurement accuracy can become questionable. In addition, these measurement locations often require a probe to be tilted at steep angles, where it may no longer comply with calibration requirements and measurement protocols, or satisfy the required measurement uncertainty. In some situations it is not feasible to tilt the probe or rotate the phantom, as suggested by measurement standards, to conduct these measurements.

In order to ensure there is sufficient conservativeness for ensuring compliance until practical solutions are available, additional measurement considerations are necessary to address these technical difficulties. When measurements are required near the mouth, nose, jaw or similar tight regions of the SAM phantom, area or zoom scans are often unable to fully enclose the peak SAR location as required by IEEE 1528 and Supplement C, due to probe orientation and positioning difficulties. Even when limited measurements are possible, the test results could be questionable due to probe calibration and measurement uncertainty issues. Under these circumstances, the procedures described in KDB648474 apply. The SAR required in these regions of SAM should be measured using a flat phantom. Rectangular shaped phones should be positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM. The ear reference point (ERP, as defined for SAM) of the phone should be positioned 0.5 cm from the flat phantom shell. Clam-shell phones should be positioned with the hinge against a smooth edge of the flat phantom where the upper half of the phone is unfolded and extended beyond the phantom side wall. The lower half of the phone is secured in the test device holder at a fixed distance below the flat phantom determined by the minimum separation along the lower edge of the phone in the cheek touching position using SAM. If there is substantial variation in separation distance along the lower edge of a clam-shell phone when placed in the cheek touching position using SAM, methodology to position the phone for the SAR is discussed with the FCC Laboratory.

The flat phantom data should allow test results to be compared uniformly across measurement systems, until suitable solutions are available in measurement standards to address certain probe calibration and positioning issues, due to implementation differences between horizontal and up-right SAM configurations. These flat phantom procedures are only applicable to stand-alone SAR evaluation in tight regions of the SAM phantom, where measurement is not feasible or test results can be questionable due to probe calibration and accessibility issues. Details on device positioning and photos showing how separation distances are determined should be included in the SAR report photographs. SAR for other regions of the head must be evaluated using SAM; therefore, a phone with antennas at different locations may require flat and SAM phantom evaluation for the different antennas.

8.1.4 Body Holster / Belt Clip Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the handset and positioned against the flat phantom in normal use configurations. For purpose of determining test requirements, accessories are divided into two categories: those that do not contain metallic components and those that contain metallic components. When multiple accessories that do not contain metallic components are supplied with the handset, the handset is tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the handset, the handset is tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body is tested. Body-worn accessories may not always be supplied or available as options for some handsets that are intended to be authorized for body-worn use. In this case a separation distance of 1.5 cm between the handset and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the handset may use body-worn accessories that provide a separation distance greater than that tested for the handset provided however that the accessory contains no metallic components.

For the handset that are carried next to the body such as shoulder, waist or chest, SAR compliance is evaluated with the accessories, including headsets and microphones, attached to the handset and positioned against a flat phantom in a normal use configuration. Test position spacing between the flat phantom and the handset is recorded in the test report.

8.1.5 Face SAR Configuration

The handset that are designed to operate in front of a person's face, as in push-to-talk configurations, are evaluated for SAR compliance with the front of the handset positioned to face the flat phantom in head tissue. Test position spacing between the flat phantom and the handset is 2.5cm.

8.2 Test Configurations for Notebooks and Devices that connect to Computer

8.2.1 Test Configuration for USB Dongles

All USB orientations (see Figure 8-2-1) with a device-to-phantom separation distance of 5 mm or less are tested, according to KDB447498 requirements. Current generation portable host computers should be used to establish the required SAR measurement separation distance. The same test separation distance must be used to test all frequency bands and modes in each USB orientation. The typical Horizontal-Up USB connection (A), found in the majority of host computers, must be tested using an appropriate host computer. A host computer with either Vertical-Front (C) or Vertical-Back (D) USB connection should be used to test one of the vertical USB orientations. If a suitable host computer is not available for testing the Horizontal-Down (B) or the remaining Vertical USB orientation, a high quality USB cable, 12 inches or less, may be used for testing these other orientations. It must be documented that the USB cable does not influence the radiating characteristics and output power of the transmitter.

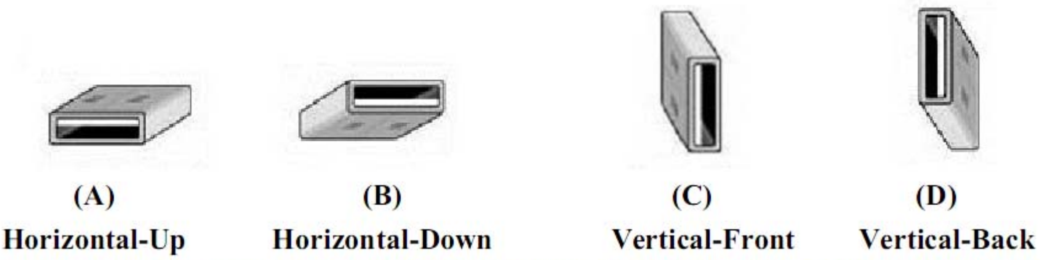

Figure 8-2-1 USB Connector Orientations Implemented on Laptop Computers

8.2.2 Test Configuration for Notebooks and Lap-touching Devices

Lap-touching devices that have transmitting antennas located less than 20 cm from the lap of the user require routine SAR evaluation. Such devices are considered portable and are capable of being held to the body.

Antennas installed in the keyboard or base sections of laptop are evaluated in Laptop Mode with the bottom of the computer in direct contact against a flat phantom and the display open to the perpendicular (90º) position with maximum output power.

8.2.3 Test Configuration for Convertible and Slate Tablet Computers

The following procedures are applicable to tablet computers with antennas installed along the tablet edges while operating in Tablet Mode. When the output power of an antenna is > 60/f(GHz) mW, SAR is required for both bottom face and edge exposure conditions. Each antenna is evaluated for bottom face exposure with the base/bottom of the tablet in direct contact with a flat phantom. Convertible tablets must be tested in normal use conditions with the display folded on top of the keyboard section. In case of convertible tablet computer which can be used in Laptop mode in normal use, antennas installed in the keyboard or base sections of convertible tablet computers are evaluated in Laptop Mode with the bottom of the computer in direct contact against a flat phantom and the display open to the perpendicular (90º) position. Antennas installed along the edges of a tablet are each evaluated with the corresponding edge in direct contact with a flat phantom. The applicable edge configurations include: (A) one fixed display orientation in either portrait or landscape configuration; (B) two fixed display orientations with one in portrait and one in landscape configurations; and (C) multiple display orientations supporting both portrait and landscape configurations. For edge configuration (A): SAR is required for each antenna located within 5 cm of the tablet edge closet to the user for the applicable display orientation. For antenna(s) located ≥ 5 cm from this edge, the test reduction and exclusion procedures for laptop computers in KDB 616217 are applied. For edge configurations (B) and (C): The procedures for edge configuration (A) are applied to each antenna, for the applicable display orientations where the corresponding edge is closest to the user. For each antenna, SAR is required only for the edge with the most conservative exposure condition.

8.3 Test Configurations for Wireless Router

8.3.1 Hotspot mode SAR test requirements for hand-held and other near-body use condition

Standalone personal wireless routers and handsets with hotspot mode capabilities must address hand-held and other near-body exposure conditions to show SAR compliance. The following procedures are applicable when the overall device length and width are ≥ 9 cm x 5 cm respectively. A test separation of 10 mm is required. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25 mm from that surface or edge, for the data modes, wireless technologies and frequency bands supporting hotspot mode. The standalone SAR results in each device test orientation must be analyzed for the applicable hotspot mode simultaneous transmission configurations to determine SAR test exclusion and volume scan requirements. When the device form factor is smaller than 9 cm x 5 cm, unless a test separation distance of 5 mm or less is used a KDB inquiry is required to determine the acceptable test distance. For battery operated standalone wireless routers that allows external or peripheral transmitter(s), such as an approved USB dongle or ExpressCard, to provide hotspot mode support, a 1-g SAR of 1.6 W/kg must be assumed for such transmitters to qualify for simultaneous transmission SAR test exclusion. For USB dongles, the analysis must assume the peak SAR location is at 1 cm or less from the USB connector. For transmitter cards, the analysis must assume the peak SAR location is at the edge of the router centered along the plug-in card slot. When the maximum average conducted power of the built-in transmitter; for example, a Wi-Fi, is less than 60/f(GHz) mW and SAR measurement is not required, zero W/kg should be assumed for that built-in transmitter to apply the sum of 1-g SAR exclusion; otherwise, SAR to peak location ratio must be used to determine simultaneous transmission SAR exclusion.

8.3.2 Head and body-worn accessory SAR test requirements for handsets with hotspot mode

When hotspot mode use is not restricted during voice calls, SAR compliance must be addressed for the simultaneous voice and hotspot data configurations in head and body-worn accessory use conditions. Depending on the transmitter and antenna paths used by the wireless modes and technologies in a handset, different simultaneous voice and data combinations may apply. For example, when voice and data modes in 1xRTT and EVDO or GSM and GPRS are operating from the same transmitter, simultaneous voice and data transmissions are typically not supported; therefore, hotspot mode operations are not feasible with EVDO or GPRS when 1xRTT or GSM voice calls are in progress. When separate transmitters are used for voice and hotspot mode, simultaneous transmission of voice and hotspot data can occur. For example, hotspot data may be transmitted concurrently through a EVDO, LTE or WiMAX transmitter when voice calls are routed through a separate WCDMA or 1xRTT transmitter. Simultaneous voice and hotspot data is also feasible for GSM/GPRS handsets with DTM by using additional time slots. These technology and implementation dependent voice and hotspot data configurations for head and body-worn accessory use conditions must be addressed for SAR compliance.

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The standalone head and body-worn accessory SAR data for the applicable voice and data configurations in each wireless mode and frequency band should be analyzed separately to determine simultaneous transmission SAR test exclusion according to the procedures in KDB 648474. When the same wireless modes and device transmission configurations are required for testing body-worn accessories and hotspot mode, it is not necessary to test body-worn accessory SAR for the same device orientation (typically the back of the handset) if the test separation distance for hotspot mode is more conservative than that used for body-worn accessories. When body-worn SAR is not required and unavailable for the particular device test orientation(s), the more conservative hotspot mode SAR must be used to determine compliance for body-worn accessory and also hotspot mode simultaneous transmission SAR test exclusion in body-worn accessory use conditions. On the other hand, if the body-worn accessory test conditions are more conservative than that required for hotspot mode, the body-worn SAR may be used to determine compliance for hotspot mode; therefore, hotspot mode SAR is not necessary for that particular device test orientation. The body-worn accessory use conditions for today's smart phones are primarily intended for voice mode operations when the phone is carried in a qualified body-worn accessory and users are given full disclosure to acquire body-worn accessories that satisfy the separation distance required for SAR compliance. When hotspot mode is available in body-worn accessory use configurations, both voice and data transmissions must be taken into consideration to determine simultaneous transmission SAR test exclusion or volume scan requirements. The range of test separation distances documented in Supplement C 01-01 for testing body-worn accessories is 0 – 25 mm. In general, the body-worn accessory test distance required to support compliance must be based on the types of accessories supplied with the phone or those available off-the-shelf, according to the form factor and operating characteristics of the individual phone model. The grantee is responsible for determining the body-worn accessory test distance required for the types of accessories available, according to the form factor and use conditions of a phone model to demonstrate compliance.

8.4 Test Configurations for UMPC Mini-Tablet Device

UMPC mini-tablet devices must be tested on all sides and edges with a transmitting antenna within 25 mm from that surface or edge, at 5 mm separation from a flat phantom, for the data modes, wireless technologies and frequency bands supported by the device to determine SAR compliance. Since the procedures are more conservative than those required for hotspot mode, additional SAR tests for hotspot mode is typically not necessary when UMPC mini-tablet procedures are used. For simultaneous transmission conditions, the procedures described in KDB 648474 are used to determine SAR test exclusion and volume scan requirements.

9 SAR Evaluation for Device with Multiple Transmitters and Antennas

9.1 SAR Evaluations for Handsets with Multiple Transmitters and Antennas

When simultaneous transmission applies, power thresholds (P_{ref}) in the following table are used to reduce stand-alone SAR requirements for unlicensed devices incorporated in cell phones. P_{ref} is defined as the maximum conducted power available at the antenna according to source-based time-averaging requirements of Section 2.1093(d)(5).

	2.45	5.15 - 5.35	5.47 - 5.85	GHz
P_{Ref}	12	6	5	mW
Device output power should be rounded to the nearest mW to compare with values specified in this table.				

SAR Evaluation requirements for Multiple Transmitter Handsets are depend on antenna separation distances and maximum conducted power of transmitters. Antenna separation distance is determined by the closest distance between the antennas. The procedures are described the following table.

	Individual Transmitter	Simultaneous Transmission
Licensed Transmitters	Routine evaluation required	SAR not required: Unlicensed only ○ when stand-alone 1-g SAR is not required and antenna is ≥ 5 cm from other antennas Licensed & Unlicensed ○ when the sum of the 1-g SAR is < 1.6 W/kg for all simultaneous transmitting antennas ○ when SAR to peak location separation ratio of simultaneous transmitting antenna pair is < 0.3 SAR required: Licensed & Unlicensed antenna pairs with SAR to peak location separation ratio ≥ 0.3; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply
Unlicensed Transmitters	When there is no simultaneous transmission – ○ output ≤ 60/f: SAR not required ○ output > 60/f: stand-alone SAR required When there is simultaneous transmission – Stand-alone SAR not required when ○ output ≤ $2 \cdot P_{Ref}$ and antenna is ≥ 5.0 cm from other antennas ○ output ≤ P_{Ref} and antenna is ≥ 2.5 cm from other antennas ○ output ≤ P_{Ref} and antenna is < 2.5 cm from other antennas, each with either output power ≤ P_{Ref} or 1-g SAR < 1.2 W/kg Otherwise stand-alone SAR is required When stand-alone SAR is required ○ test SAR on highest output channel for each wireless mode and exposure condition ○ if SAR for highest output channel is > 50% of SAR limit, evaluate all channels according to normal procedures	

9.2 SAR Evaluations for Laptop Computers with Transmitters and Antennas

SAR Evaluation requirements for Multiple Transmitter Laptop are depend on antenna separation distances and maximum conducted power of transmitters. The procedures are described the following table.

<table>
<tr><th>Antenna Output Power (mW)</th><th>$\leq 60/f_{(GHz)}$</th><th>$> 60/f_{(GHz)}$</th></tr>
<tr><td>Individual Transmitter or Antenna</td><td>SAR not required</td><td>Antenna-to-user distance –
$\geq (5 + ½·n)$ cm: test SAR on highest output channel only
$< (5 + ½·n)$ cm: test SAR according to normal procedures</td></tr>
<tr><td rowspan="3">Simultaneous Transmitting Antennas</td><td>SAR not required: antenna-to-antenna or antenna-to-person distance ≥ 5 cm</td><td>SAR not required: antenna-to-antenna $\geq (5 + ½·n_x + ½·n_y)$ and antenna-to-person $\geq (5 + ½·n_x)$ cm</td></tr>
<tr><td colspan="2">SAR not required: when $\sum (SAR_{1g}) <$ SAR limit, antenna-to-antenna distances > 5 cm and antenna-to-user distance > 5 cm if output $> 60/f$</td></tr>
<tr><td colspan="2">otherwise, test antenna(s) using highest SAR configuration for the individual transmitter/antenna</td></tr>
</table>

The following parameters are used for SAR evaluation procedures in table above.

$$\frac{1}{2} \cdot n = \frac{P}{\frac{60}{f\,(GHz)}} - 1$$

Where:

1/2・n	is function of both P and f (rounded to the nearest cm)
P	is conducted output power [mW](rounded to the nearest mW)
f	is transmitting frequency [GHz]

$$\frac{1}{2} \cdot n_{x(y)} = \frac{P_{x(y)}}{\frac{60}{f\,(GHz)}} - 1$$

Where:

$1/2 \cdot n_{x(y)}$	is function of both $P_{x(y)}$ and f (rounded to the nearest cm)
$P_{x(y)}$	is conducted output power [mW](rounded to the nearest mW) for antenna(x) (or antenna(y))
f	is transmitting frequency [GHz]

10 RF Exposure Limits

10.1 Uncontrolled Environment

Uncontrolled environments are defined as locations where there is the exposure of individual who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

10.2 Controlled Environment

Controlled environments are defined as location where there is exposure that may be incurred by persons who are aware of the potential for exposure. Occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

10.3 Exposure Limits

	Uncontrolled environment General Population	Controlled environment Occupational
SPATIAL PEAK SAR Brain (SAR averaged over any 1gram of tissue)	1.6 W/kg	8.0 W/kg
SPATIAL AVERAGE SAR Whole Body (SAR averaged over the entire body)	0.08 W/kg	0.4 W/kg
SPATIAL PEAK SAR Hands, Feet, Ankles, Wrists (SAR averaged over any 10gram of tissue)	4.0 W/kg	20 W/kg

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11 Measurement Uncertainties

Uncertainty Component	Clause	Tolerance/ Uncetainty value ±%	Probablity Distribution	Div.	C_i (1g)	C_i (10g)	Standard Uncer-tainty ±%, (1g)	Standard Uncer-tainty ±%, (10g)	V_i or V_{eff}
Measurement system									
Probe calibration	E.2.1	5.9	N	1	1	1	5.9	5.9	∞
Axial isotoropy	E.2.2	0.5	R	$\sqrt{3}$	0.7	0.7	0.2	0.2	∞
Hemispherical isotropy	E.2.2	2.6	R	$\sqrt{3}$	0.7	0.7	1.1	1.1	∞
Boundary effect	E.2.3	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
Linearity	E.2.4	0.6	R	$\sqrt{3}$	1	1	0.3	0.3	∞
System detection limits	E.2.5	0.3	R	$\sqrt{3}$	1	1	0.2	0.2	∞
Readout electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response time	E.2.7	0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
Integration time	E.2.8	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
RF ambient conditions - Noise	E.6.1	0.1	R	$\sqrt{3}$	1	1	0.1	0.1	∞
RF ambient conditions - Reflections	E.6.1	0.1	R	$\sqrt{3}$	1	1	0.1	0.1	∞
Probe positioner mechanical tolerance	E.6.2	1.5	R	$\sqrt{3}$	1	1	0.9	0.9	∞
Probe positioning with respect to phantom	E.6.3	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related									
Test sample positioning	E.4.2	5.7	N	1	1	1	5.7	5.7	71
Device Holder Uncertainty	E.4.1	5.8	N	1	1	1	5.8	5.8	5
Output Power Variation - SAR drift measurement	6.6.3	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	5
Phantom and set-up									
Phantom uncertainty (Shape and thickness tolerances)	E.3.1	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
Liquid Conductivity – deviation from target values	E.3.2	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
Liquid Conductivity – measurement uncertainty	E.3.3	3.9	N	1	0.64	0.43	2.5	1.7	5
Liquid Permittivity – deviation from taget values	E.3.2	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
Liquid Permittivity – masurement uncertainty	E.3.3	3.7	N	1	0.6	0.49	2.2	1.8	5
Combined standard uncertainty		-	RSS	-	-	-	11.8	11.5	
Expanded uncertainty (95% conf.interval)							23.7	23.0	

The above measurement uncertainties are according to IEEE Std.1528-2003

12 Measurement Conditions

12.1 Procedures Used to Establish RF Signal for SAR

The handset was place into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing SAR and are recommended for evaluating SAR. SAR measurements were taken with a fully charged battery. In order to verify that the handset was tested and maintained at full power, it was configured with the base station simulator. The SAR measurement software calculates a reference point at the start and end of the test to check for power drifts. If conducted power deviations of more than 5% occurred, the tests were repeated.

12.2 SAR Measurement Conditions for GSM

12.2.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels using the appropriate power level to keep transmitting power maximum. When GPRS mode and EDGE mode is active all transmitting slot setting is measured.

12.2.2 Head SAR Measurements

SAR for head exposure configuration is measured with the appropriate power level to keep transmitting power maximum.

12.2.3 Body SAR Measurements

SAR for body exposure configuration is measured with the appropriate power level to keep transmitting power maximum. In case of GPRS mode and EDGE mode, all transmitting slot setting is evaluated.

12.3 SAR Measurement Conditions for WCDMA

12.3.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121.

For Rel 99 Maximum output power is verified using the appropriate RMC or AMR with TPC(transmit power control) set to all “1’s”.

For Rel 5 Maximum output power is verified using an FRC with H-set 1 and a 12.2 kbps RMC with TPC set to all “1’s”. When HSDPA is active output power is measured according requirements for HS-DPCCH Sub-test 1-4.

For Rel 6 Maximum output power is verified using the appropriate RMC, FRC and E-DCH configurations. When E-DCH is not active, TPC is set to all “1’s”. When HSPA is active output power for the applicable HSPA modes are measured for E-DCH Sub-test 1-5.

12.3.2 Head SAR Measurements

For Rel 99, Rel 5, Rel 6, SAR for head exposure configurations in voice mode is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than 1/4 dB higher than that measured in 12.2 kbps.

12.3.3 Body SAR Measurements

For Rel 99 SAR for body exposure configuration in voice and data modes is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. SAR for other spreading codes and multiple $DPDCH_n$, when supported by the EUT, are not required when the maximum average output of each RF channel, for each spreading code and $DPDCH_n$ configuration, are less than 1/4 dB higher than those measured in 12.2 kbps RMC.

For Rel 5 SAR for body configuration is measured according to the procedure for Rel 99 in this section. In addition, body SAR is also measured for HSDPA when the maximum average output of each RF channel with HSDPA active is at least 1/4 dB higher than that measured without HSDPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is above 75% of the SAR limit. Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using highest body SAR configuration in 12.2 kbps RMC without HSDPA.

For Rel 6 SAR for body configuration is measured according to the procedure for Rel 99 in this section. In addition, body SAR is also measured for HSPA when the maximum average output of each RF channel with HSPA active is at leaset 1/4 dB higher than that measured without HSPA using 12.2 kpbs RMC or the maximum SAR for 12.2 kbps RMC is above 75 % of the SAR limit. Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 with power control algorithm 2, according to the highest body SAR configuration in 12.2 kbps RMC without HSPA.

12.4 SAR Measurement Conditions for CDMA2000

12.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. Step 3 and 4 are measured using SO55 with power control bits in “All up” condition. Step 10 is measured using TDSO / SO32 with power control bits in the “Bits Hold” condition (i.e. alternative Up/Down Bits).

12.4.2 Head SAR Measurements

SAR for head exposure configurations is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55. SAR for RC1 is not required when the maximum average output of each channel is less than 1/4 dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC 1 using the exposure configuration that results in the highest SAR for that channel in RC3.

12.4.3 Body SAR Measurements

SAR for body exposure configurations is measured in RC3 with the DUT configured using TDSO / SO32, to Transmit at full rate on FCH with all other code channels disabled. SAR for multiple code channels (FCH + SCH_n) is not required when the maximum average output of each RF channel is less than 1/4 dB higher than that measured with FCH only. Otherwise, SAR is measured on the maximum output channel (FCH + SCH_n) with FCH at full rate and SCH_0 enabled at 9600 bps, using the exposure configuration that results in the highest SAR with FCH only for that channel. When multiple code channels are enabled, the DUT output is shift by more than 0.5 dB and lead to higher SAR drifts and SCH dropouts.

Body SAR in RC1 is not required when the maximum average output of each channel is less than 1/4 dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1; with Loopback Service Option SO55, at full rate, using the body exposure configuration that results in the highest SAR for that channels in RC3.

12.5 SAR Measurement Conditions for IEEE802.11 b/g/n

12.5.1 Output Power Verification

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR manufacturers must be identical to those programmed in production units, including output power levels, amplifier gain settings and channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements. 802.11 b/g/n modes are tested on channels 1, 6 and 11. These are referred to as the “default test channels”(See Table below). Maximum output power each channel is verified at continuous periodic data frames to simulate 100% duty factor using test mode software.

Mode	GHz	Channel	Turbo Channel	“Default Test Channels”			
				§15.247		UNII	
				802.11b	802.11g		
802.11 b/g	2.412	1		√	∇		
	2.437	6	6	√	∇		
	2.462	11		√	∇		

√ = “default test channels”

∇ = possible 802.11g channels with maximum average output ¼ dB ≥ the “default test channels”

12.5.2 SAR Measurements

SAR is not required for 802.11g/n channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding on 802.11b channels. SAR at higher data rates is not required when the maximum average output power for each of these configurations is less than 1/4 dB higher than those measured at the lowest data rate.

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13 System Verification

13.1 Tissue Verification

The dielectric probe connected to network analyzer is immersed in the sample which is in a non-metallic container to measure relative permittivity and relative permittivity loss.
The conductivity is derived from following formula.

$$\sigma = \varepsilon_r'' \varepsilon_o \omega$$

Where σ : Conductivity (S/m), ε_r": relative permittivity loss,
ε_o: permittivity of free space (F/m), ω : Angular velocity (rad/s)

Prior to SAR measurement, the Measured Conductivity and Measured Relative permittivity are verified to +/-5% of the TARGET Conductivity and TARGET Relative permittivity specified in FCC/OET Bulletin 65, Supplement C. The measured tissue parameters shown below are used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies.

Date	Tissue Type	Tissue Temp [℃]	Measured Frequency [MHz]	Measured Dielectric Constant, ε	Measured Conductivity,σ [S/m]	TARGET Dielectric Constant, ε	TARGET Conductivity, σ [S/m]	% dev ε	% dev σ
2012/1/6	Head 1880MHz	21.9	1850	38.60	1.422	40.0	1.40	-3.49%	1.57%
			1880	38.70	1.433	40.0	1.40	-3.26%	2.32%
			1910	38.49	1.446	40.0	1.40	-3.76%	3.25%
2012/1/6	Muscle (Body) 1880MHz	22.2	1850	51.56	1.502	53.3	1.52	-3.26%	-1.16%
			1880	51.45	1.540	53.3	1.52	-3.48%	1.31%
			1910	51.34	1.575	53.3	1.52	-3.68%	3.61%
2012/1/19	Muscle (Body) 1880MHz	21.9	1850	51.77	1.499	53.3	1.52	-2.86%	-1.36%
			1880	51.65	1.539	53.3	1.52	-3.09%	1.26%
			1910	51.55	1.569	53.3	1.52	-3.28%	3.19%
2012/2/1	Muscle (Body) 2450MHz	23.0	2412	50.70	1.930	52.7	1.95	-3.80%	-1.04%
			2437	50.56	1.963	52.7	1.95	-4.05%	0.68%
			2462	50.47	2.002	52.7	1.95	-4.23%	2.65%

Test equipment used (refer to List of utilized test equipment)

NA02	DP01					

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13.2 System Validation

Prior to SAR measurement, the system is verified to +/-10% of the manufacturer SAR result on the reference dipole at the time of calibration.

Date	Frequency [MHz]	Tissue type	Ambient Temp [℃]	Tissue Temp [℃]	Input Power [mW]	Measured SAR [mW/g]	Normalized to 1W SAR [mW/g]	TARGET SAR [mW/g]	Deviation [%]	Dipole S/N
2012/1/6	1900	Head	22.9	21.9	100	4.10	41.0	40.2	1.99%	5d114
2012/1/6	1900	Body	22.9	22.2	100	3.83	38.3	40.5	-5.43%	5d114
2012/1/19	1900	Body	22.7	21.9	100	3.73	37.3	40.5	-7.90%	5d114
2012/2/1	2450	Body	24.3	23.0	100	5.43	54.3	51.3	5.85%	868

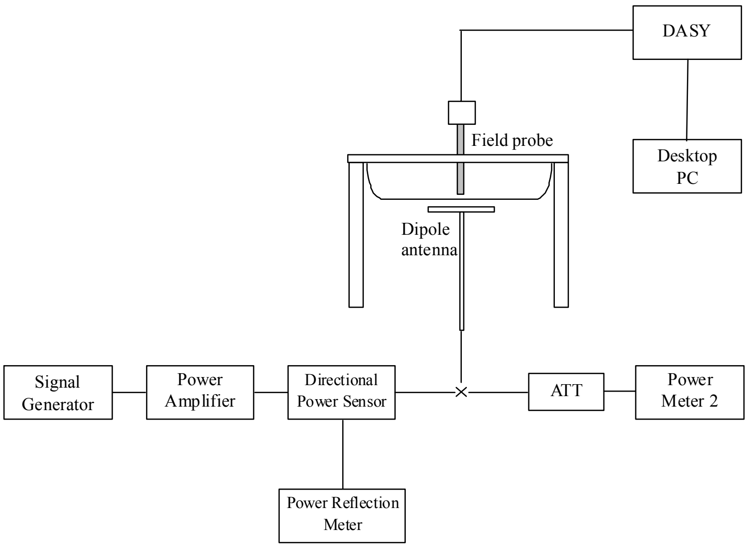

Figure 7-3 System Verification Setup Diagram

Test equipment used (refer to Equipment List)

EM04	DE01	DA03	PM04	PU04	SG10	RP06	PM03	PU03
AT27	AT90	EM05	DA07	AT90				

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13.3 RF Conducted Powers

13.3.1 GSM

Band	Freq [MHz]	Ch	Voice [dBm]	GPRS 1TX Slot [dBm]	GPRS 2TX Slot [dBm]	GPRS 3TX Slot [dBm]
GSM1900	1850.2	512	29.08	29.12	25.99	24.19
	1880.0	661	29.21	29.21	26.00	24.24
	1909.6	810	29.38	29.34	26.10	24.36

Note:
1. Transmitting slot setting on GPRS mode is up to 3Tx since Multislot class is 11.
The conducted power results on GPRS 1Tx, 2Tx, 3Tx were reported.

13.3.2 IEEE802.11 b/g/n

IEEE802.11b Unit:[dBm]

Mode /Band	Freq [MHz]	Ch	Data Rate [Mbps] 1	2	5.5	11
IEEE 802.11b	2412	1	13.29	13.30	13.38	13.33
	2437	6	13.85	13.82	13.98	13.83
	2462	11	14.21	14.16	14.29	14.16

IEEE802.11g Unit:[dBm]

Mode /Band	Freq [MHz]	Ch	Data Rate [Mbps] 6	9	12	18	24	36	48	54
IEEE 802.11g	2412	1	12.02	11.87	11.86	11.71	11.68	11.45	11.19	11.10
	2437	6	12.54	12.46	12.41	12.32	12.21	11.94	11.73	11.69
	2462	11	12.90	12.80	12.74	12.65	12.53	12.27	12.13	12.04

IEEE802.11n Bandwidth: 20MHz Unit:[dBm]

Mode /Band	Freq [MHz]	Ch	Data Rate [Mbps] MCS0 6.5/7.2	MCS1 13.0/14.4	MCS2 19.5/21.7	MCS3 26.0/28.9	MCS4 39.0/43.3	MCS5 52.0/57.8	MCS6 58.5/65.0	MCS7 65.0/72.2
IEEE 802.11n	2412	1	11.84	11.72	11.63	11.53	11.35	11.11	11.04	10.96
	2437	6	12.32	12.30	12.09	12.02	11.81	11.65	11.62	11.53
	2462	11	12.69	12.61	12.50	12.41	12.18	12.03	12.01	11.89

Note:
1. The EUT was transmitting at 100% duty factor using test mode software.

Test equipment used (refer to Equipment List)

RC03	PM05	PU06	AT27			

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14 SAR Data Summary

14.1 Head SAR Results

14.1.1 GSM1900

Mode /Band	Freq [MHz]	Ch.	Side	Test Position	Antenna Position	Battery Type	Tissue Temp [℃]	Conducted Power [dBm]		SAR(1g) [W/kg]
								Start	End	
GSM1900	1850.2	512	Right	Touch	Integral	Standard	22.2	29.13	29.12	0.428
GSM1900	1880.0	661	Right	Touch	Integral	Standard	22.1	29.27	29.25	0.606
GSM1900	1909.6	809	Right	Touch	Integral	Standard	22.1	29.38	29.37	0.591
GSM1900	1850.2	512	Right	Tilt	Integral	Standard	-	-	-	-
GSM1900	1880.0	661	Right	Tilt	Integral	Standard	22.1	29.32	29.26	0.145
GSM1900	1909.6	809	Right	Tilt	Integral	Standard	-	-	-	-
GSM1900	1850.2	512	Left	Touch	Integral	Standard	-	-	-	-
GSM1900	1880.0	661	Left	Touch	Integral	Standard	22.1	29.28	29.29	0.260
GSM1900	1909.6	809	Left	Touch	Integral	Standard	-	-	-	-
GSM1900	1850.2	512	Left	Tilt	Integral	Standard	-	-	-	-
GSM1900	1880.0	661	Left	Tilt	Integral	Standard	22.2	29.30	29.29	0.136
GSM1900	1909.6	809	Left	Tilt	Integral	Standard	-	-	-	-
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population							**1.6 W/kg (mW/g) averaged over 1 gram**			

Notes:
1.Test procedures used are according to FCC/OET Bulletin 65, Supplement C [June 2001].
2. All modes of operation were investigated, and worst-case results are reported.
3. Batteries are fully charged for all readings.
4. Tissue parameters are listed on the SAR plots.
5. Liquid tissue depth is 15.1 +/- 0.1 cm.
6. Justification for reduced test configurations: Based on FCC/OET Bulletin 65 Supplement C (June 2001) and Public Notice DA-02-1438, if the SAR measured at the middle channel for each test configuration(left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).

Test Date: January 6, 2012
Temperature: 22.9 degrees C
Humidity: 33 %
Atmos. Press: 1021 hPa

14.2 Body SAR Results

14.2.1 GSM/GPRS1900

Mode /Band	Service	Freq [MHz]	Ch.	Side	Test Position	Spacing [mm]	Antenna Position	Battery Type	Device-Accesory	Tissue Temp [℃]	Conducted Power [dBm]		SAR(1g) [W/kg]
											Start	End	
GSM1900	Voice	1850.2	512	Body	Front	10	Integral	Standard	Earphone	22.2	29.16	29.15	0.434
GSM1900	Voice	1880.0	661	Body	Front	10	Integral	Standard	Earphone	22.2	29.30	29.32	0.467
GSM1900	Voice	1909.6	809	Body	Front	10	Integral	Standard	Earphone	22.1	29.35	29.37	0.382
GSM1900	Voice	1850.2	512	Body	Back	10	Integral	Standard	Earphone	-	-	-	-
GSM1900	Voice	1880.0	661	Body	Back	10	Integral	Standard	Earphone	22.1	29.32	29.32	0.246
GSM1900	Voice	1909.6	809	Body	Back	10	Integral	Standard	Earphone	-	-	-	-
GSM1900	GPRS 1Tx	1850.2	512	Body	Front	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 1Tx	1880.0	661	Body	Front	10	Integral	Standard	None	21.9	29.10	29.14	0.420
GSM1900	GPRS 1Tx	1909.6	809	Body	Front	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 1Tx	1850.2	512	Body	Back	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 1Tx	1880.0	661	Body	Back	10	Integral	Standard	None	22.0	29.15	29.14	0.244
GSM1900	GPRS 1Tx	1909.6	809	Body	Back	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 2Tx	1850.2	512	Body	Front	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 2Tx	1880.0	661	Body	Front	10	Integral	Standard	None	22.0	25.93	25.91	0.363
GSM1900	GPRS 2Tx	1909.6	809	Body	Front	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 2Tx	1850.2	512	Body	Back	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 2Tx	1880.0	661	Body	Back	10	Integral	Standard	None	22.1	25.95	25.96	0.239
GSM1900	GPRS 2Tx	1909.6	809	Body	Back	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 3Tx	1850.2	512	Body	Front	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 3Tx	1880.0	661	Body	Front	10	Integral	Standard	None	21.9	24.32	24.26	0.425
GSM1900	GPRS 3Tx	1909.6	809	Body	Front	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 3Tx	1850.2	512	Body	Back	10	Integral	Standard	None	-	-	-	-
GSM1900	GPRS 3Tx	1880.0	661	Body	Back	10	Integral	Standard	None	22.0	24.30	24.29	0.255
GSM1900	GPRS 3Tx	1909.6	809	Body	Back	10	Integral	Standard	None	-	-	-	-
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population										**1.6 W/kg (mW/g) averaged over 1 gram**			

Note
1. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [June 2001].
2. Tissue parameters are listed on the SAR plots.
3. Liquid tissue depth is 15.1+/-0.1 cm
4. The spacing between the handset and the phantom was 10mm
5. Transmitting slot setting on GPRS mode is up to 3Tx since Multislot class is 11.
   SAR results on GPRS 1Tx, 2Tx, 3Tx were reported.

Test Date:	January 6, 2012	January 19, 2012
Temperature:	22.9 degrees C	22.7 degrees C
Humidity:	33 %	32 %
Atmos. Press:	1021 hPa	1026 hPa

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14.2.2 IEEE802.11 b/g/n

Mode /Band	Data Rate	Freq [MHz]	Ch.	Side	Test Position	Spacing [mm]	Antenna Position	Battery Type	Tissue Temp [℃]	Conducted Power [dBm]		SAR(1g) [W/kg]
										Start	End	
IEEE802.11b	1 Mbps	2412	1	Body	Front	10	Integral	Standard	-	-	-	-
IEEE802.11b	1 Mbps	2437	6	Body	Front	10	Integral	Standard	-	-	-	-
IEEE802.11b	1 Mbps	2462	11	Body	Front	10	Integral	Standard	23.0	14.16	14.09	0.055
IEEE802.11b	1 Mbps	2412	1	Body	Back	10	Integral	Standard	-	-	-	-
IEEE802.11b	1 Mbps	2437	6	Body	Back	10	Integral	Standard	-	-	-	-
IEEE802.11b	1 Mbps	2462	11	Body	Back	10	Integral	Standard	23.0	14.15	14.14	0.074
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population									**1.6 W/kg (mW/g) averaged over 1 gram**			

Note
1. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [June 2001].
2. Tissue parameters are listed on the SAR plots.
3. Liquid tissue depth is 15.1+/-0.1 cm
4. The spacing between the handset and the phantom was 10mm
5. SARs on the highest output channel were reported.

Test Date: February 1, 2012
Temperature: 24.3 degrees C
Humidity: 33 %
Atmos. Press: 1005 hPa

Test equipment used (refer to Equipment List)

EM04	DE01	RC03						

15 Simultaneous Analysis

15.1 Simultaneous Transmission Calculation

Simultaneous Transmission

GSM1900 and IEEE802.11b/g/n : Yes

Antenna Separation Distances

GSM1900 to IEEE802.11b/g/n : 95mm

Stand-alone SAR Requirements for Unlicensed Transmitters

IEEE802.11b/g/n : Required

*The output of IEEE802.11b/g/n is above 2*P_{ref}

Simultaneous Transmission SAR Evaluation

GSM1900 and IEEE802.11b/g/n : Not Required

*Simultaneous transmission SAR evaluation for GSM1900 and IEEE802.11b/g/n is not required since the sum of Stand-alone SAR for IEEE802.11b/g/n and GSM1900 is below 1.6W/kg.

16 Equipment List

RFT ID No.	Kind of Equipment and Precision	Manufacturer	Model No.	Serial Number	Calibration Date	Calibration Due Date
NA02	Network Analyzer	Agilent	8753ES	US39175208	2011/6/6	2012/6/30
DP01	Dielectric probe	Agilent Technologies	85070C	545	2011/6/27	2012/6/30
EM04	E-Field Probe	SPEAG	ET3DV6	1563	2011/6/14	2012/6/30
EM05	E-Field Probe	SPEAG	EX3DV4	3793	2011/7/11	2012/6/30
DE01	DAE (Data Acquisition Electro.)	SPEAG	DAE3	414	2011/6/21	2012/6/30
DA03	Dipole Antenna (1900MHz)	SPEAG	D1900V2	5d114	2011/6/10	2013/6/30
SG10	Signal Generator	Agilent Technologies	E8257D	US49060100	2011/12/14	2012/12/31
RP06	RF Power Amplifier 2.5G 10W	Stealth Microwave	SL0825-40	12611	2011/8/24	2012/8/31
RC03	Radio communication tester (F/W : 10.20 #005)	Anritsu	MT8820B	6200636657	2011/6/16	2012/6/30
PM03	Power Meter	Anritsu	ML2438A	99070001	2011/7/18	2012/7/31
PU03	Power Sensor (CW)	Anritsu	MA2472A	990103	2011/7/18	2012/7/31
PM51	Power reflection meter	Rohde & Schwarz	NRT	838490/023	2011/8/24	2012/8/31
PU51	Directional power sensor	Rohde & Schwarz	NRT-Z44	838188/061	2011/8/24	2012/8/31
AT27	Attenuator 10dB 5W 18GHz	Weinschel	WA2-10-34	A1026	2011/3/15	2012/3/31
AT90	Attenuator (6dB)	Suhner	6806.19.A	-	2011/11/2	2012/11/30
PM05	Power Meter	Anritsu	ML2487A	6K00004724	2011/9/6	2012/9/30
PU06	Power Sensor (Peak/Ave)	Anritsu	MA2491A	033696	2011/9/6	2012/9/30
DA07	Dipole Antenna (2450MHz)	SPEAG	D2450V2	868	2011/7/15	2013/6/30

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

Appendix A

System Validation Data

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Test Laboratory: RF Technologies Ltd.

Mode: SystemPerformanceCheck 1900MHz Head

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d114

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.44 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

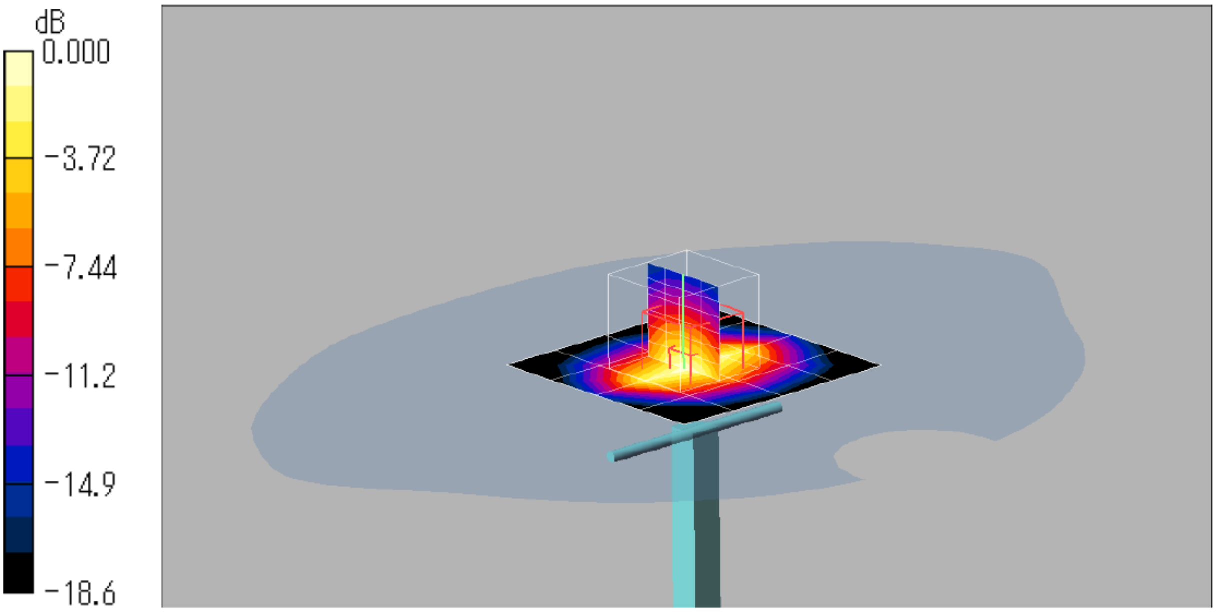
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Input power=100mW/Area Scan (5x5x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 4.56 mW/g

d=10mm, Input power=100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.6 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 7.84 W/kg
SAR(1 g) = 4.1 mW/g; SAR(10 g) = 2.12 mW/g
Maximum value of SAR (measured) = 4.50 mW/g



0 dB = 4.50mW/g

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Test Laboratory: RF Technologies Ltd.

Mode: SystemPerformanceCheck 1900MHz Muscle(Body)

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d114

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.56 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

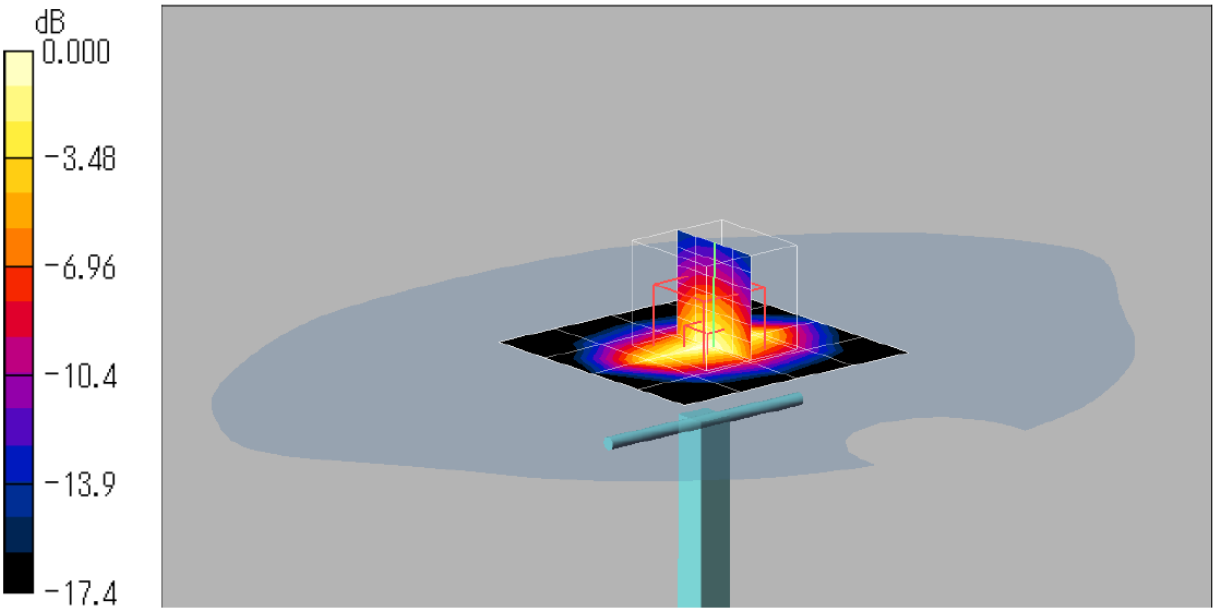
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Input power=100mW/Area Scan (5x5x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 4.23 mW/g

d=10mm, Input power=100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.5 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 6.60 W/kg
SAR(1 g) = 3.83 mW/g; SAR(10 g) = 2.03 mW/g
Maximum value of SAR (measured) = 4.31 mW/g



0 dB = 4.31mW/g

Test Laboratory: RF Technologies Ltd.

Mode: SystemPerformanceCheck 1900MHz Muscle(Body)

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d114

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.56 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

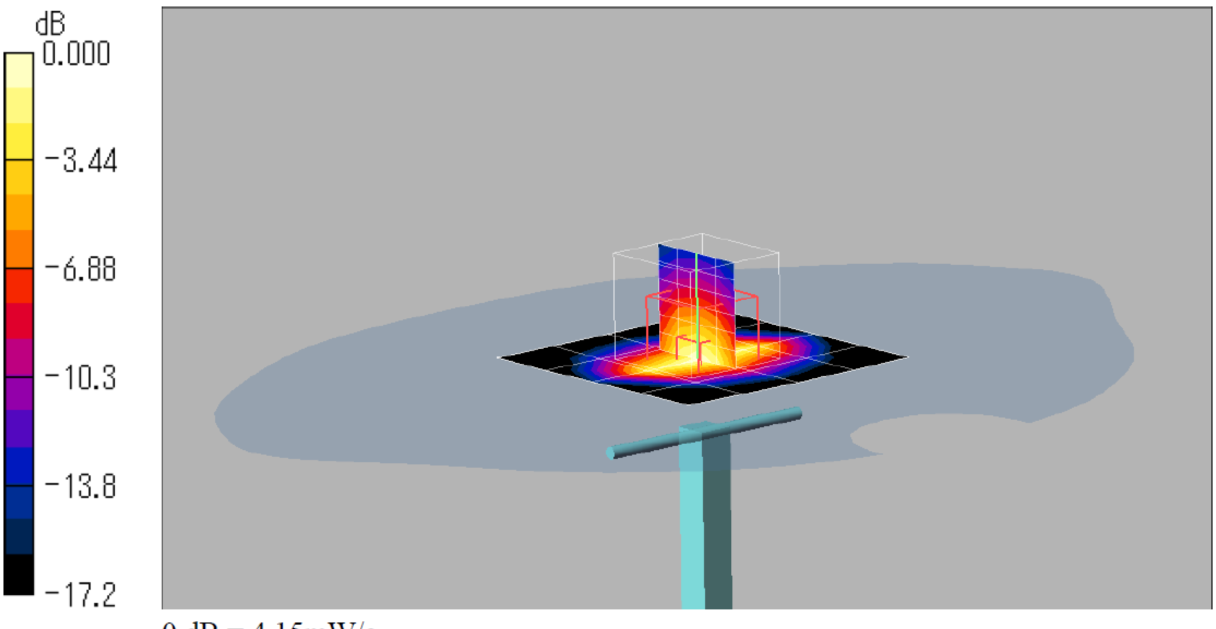
Test Date: 2012-01-19

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Input power=100mW/Area Scan (5x5x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 4.18 mW/g

d=10mm, Input power=100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.7 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 6.48 W/kg
SAR(1 g) = 3.73 mW/g; SAR(10 g) = 1.99 mW/g
Maximum value of SAR (measured) = 4.15 mW/g



0 dB = 4.15mW/g

Test Laboratory: RF Technologies Ltd.

Mode: SystemPerformanceCheck 2450MHz Muscle(Body)

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:868

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2450 MHz; σ = 1.98 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

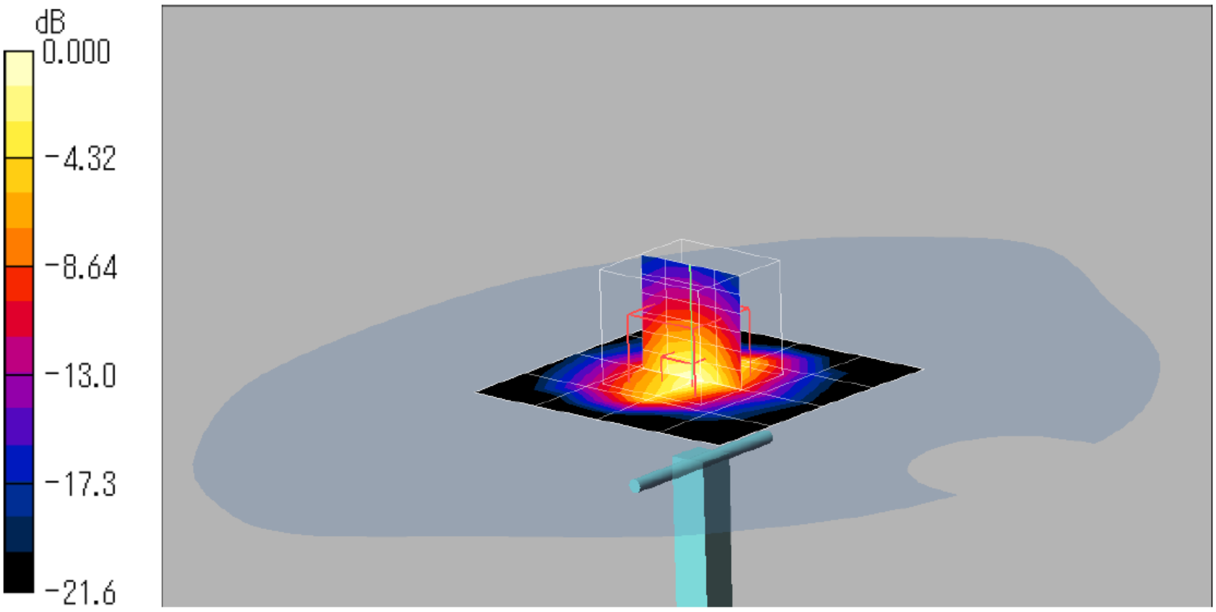
Test Date: 2012-02-01

DASY4 Configuration:

- Probe: EX3DV4 - SN3793; ConvF(6.92, 6.92, 6.92); Calibrated: 2011/07/18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Input power=100mW/Area Scan (5x5x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 5.84 mW/g

d=10mm, Input power=100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.2 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 11.2 W/kg
SAR(1 g) = 5.43 mW/g; SAR(10 g) = 2.51 mW/g
Maximum value of SAR (measured) = 6.15 mW/g



0 dB = 6.15mW/g

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Appendix B

SAR Test Data

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Right head, Touch position, Low.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1850.2 MHz; σ = 1.42 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

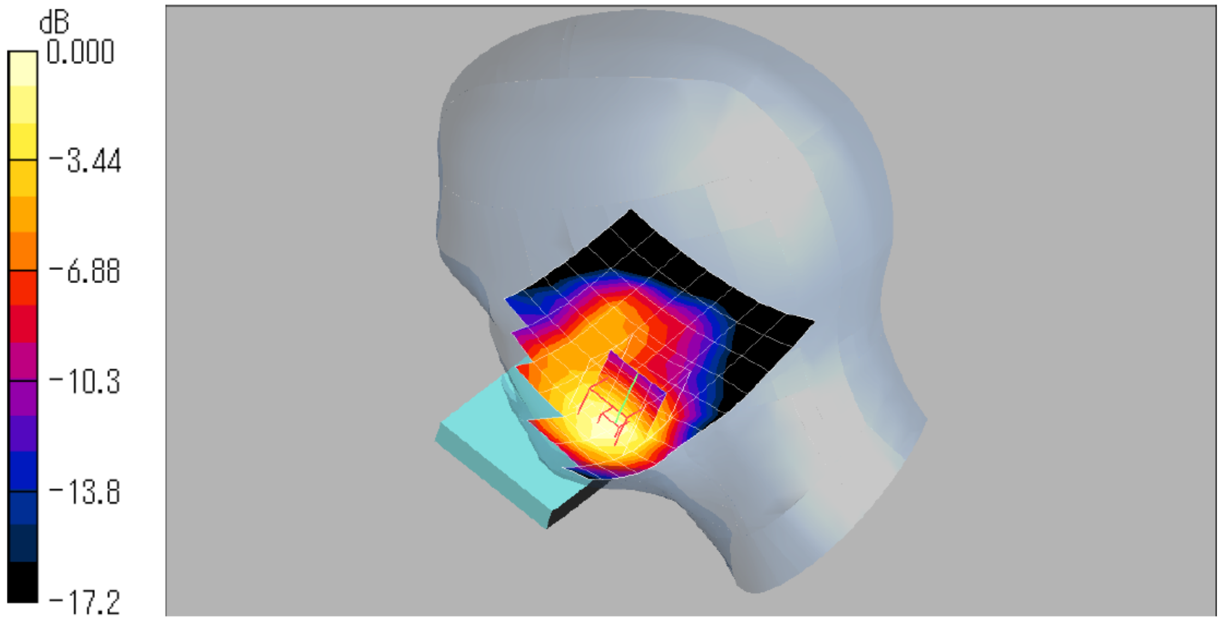
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Touch position - Low.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.453 mW/g

Touch position - Low.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.43 V/m; Power Drift = 0.184 dB
Peak SAR (extrapolated) = 0.695 W/kg
SAR(1 g) = 0.428 mW/g; SAR(10 g) = 0.267 mW/g
Maximum value of SAR (measured) = 0.459 mW/g



0 dB = 0.459mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Right head, Touch position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

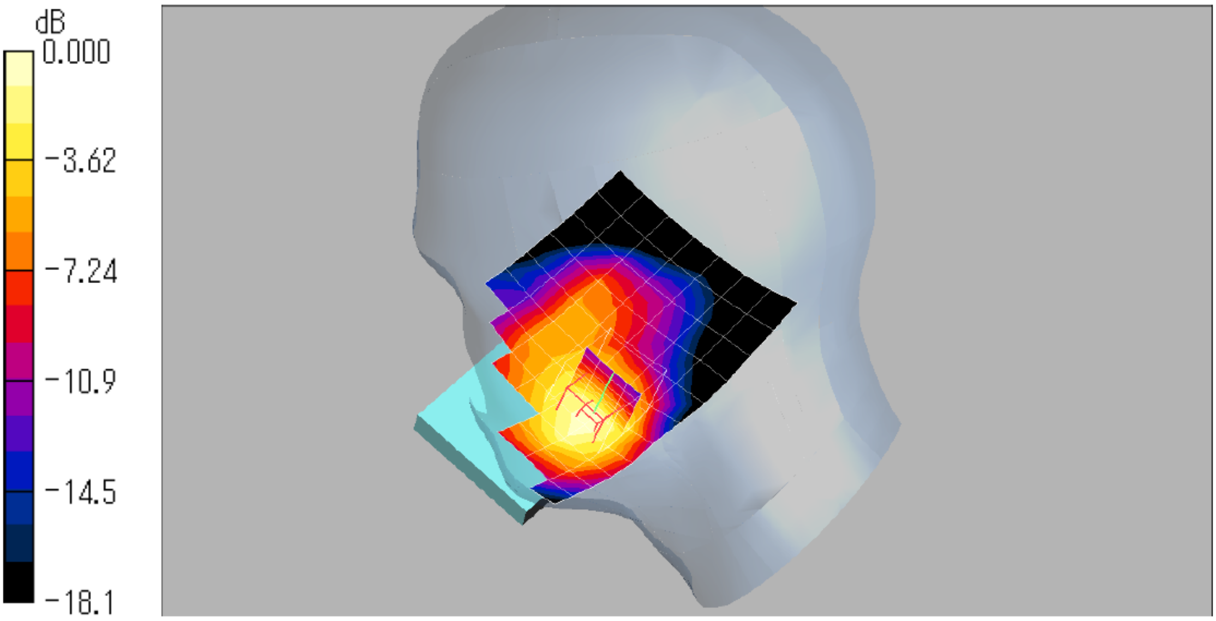
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Touch position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.642 mW/g

Touch position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.18 V/m; Power Drift = -0.072 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.606 mW/g; SAR(10 g) = 0.365 mW/g
Maximum value of SAR (measured) = 0.647 mW/g



0 dB = 0.647mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Right head, Touch position, High.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1909.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1909.6 MHz; σ = 1.45 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

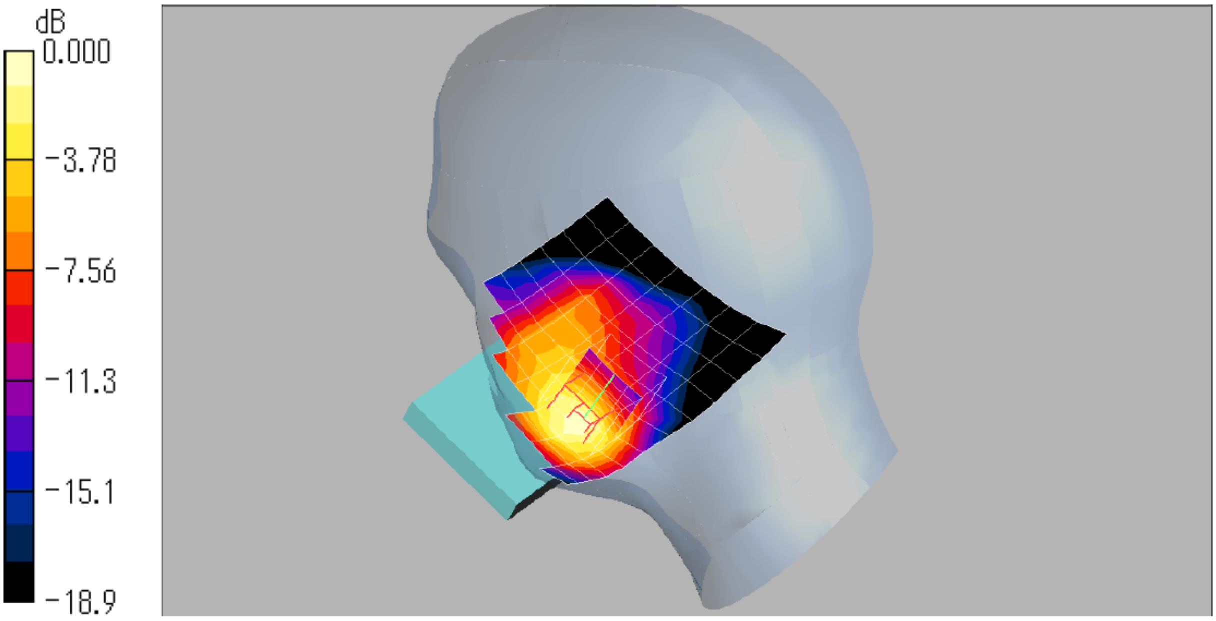
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Touch position - High.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.620 mW/g

Touch position - High.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.93 V/m; Power Drift = 0.136 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.591 mW/g; SAR(10 g) = 0.353 mW/g
Maximum value of SAR (measured) = 0.641 mW/g



0 dB = 0.641mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Right head, Tilt position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

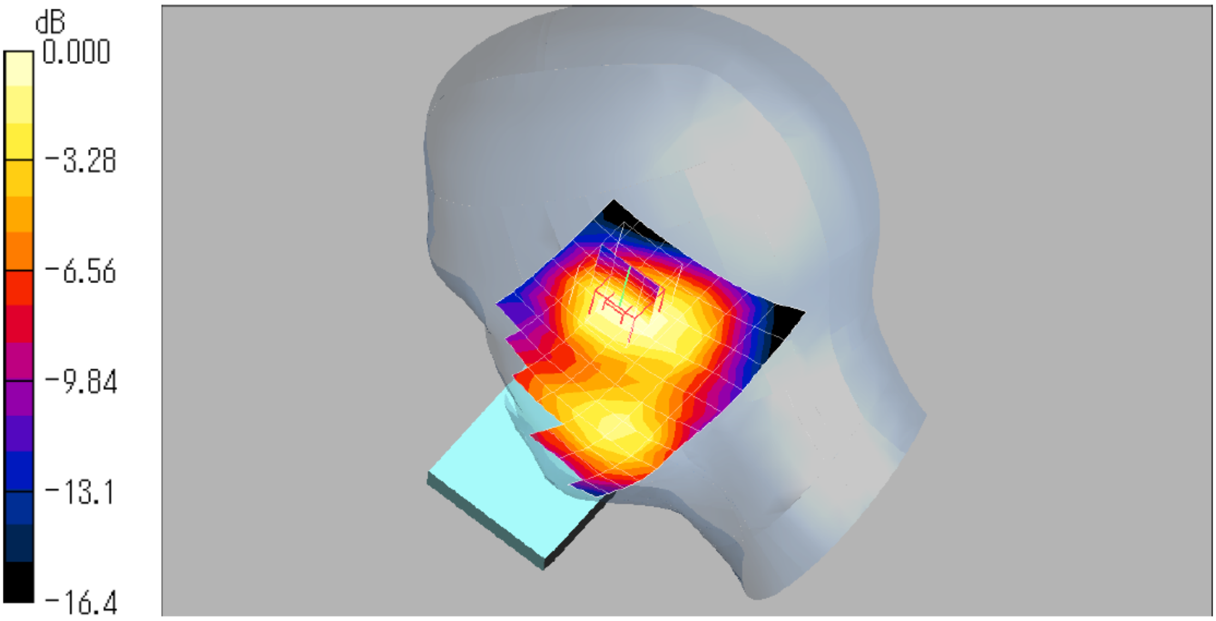
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.143 mW/g

Tilt position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.66 V/m; Power Drift = -0.183 dB
Peak SAR (extrapolated) = 0.223 W/kg
SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.092 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Left head, Touch position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

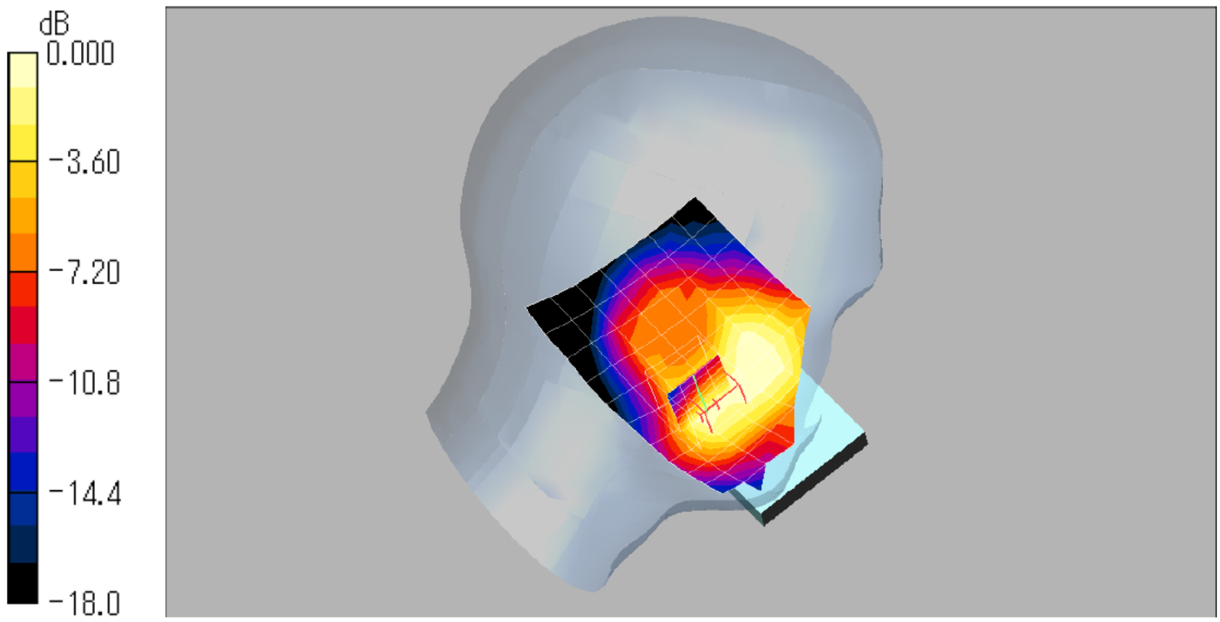
Test Date: 2012-01-06;

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Touch position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.273 mW/g

Touch position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.51 V/m; Power Drift = 0.082 dB
Peak SAR (extrapolated) = 0.467 W/kg
SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.157 mW/g
Maximum value of SAR (measured) = 0.281 mW/g



0 dB = 0.281mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Left head, Tilt position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

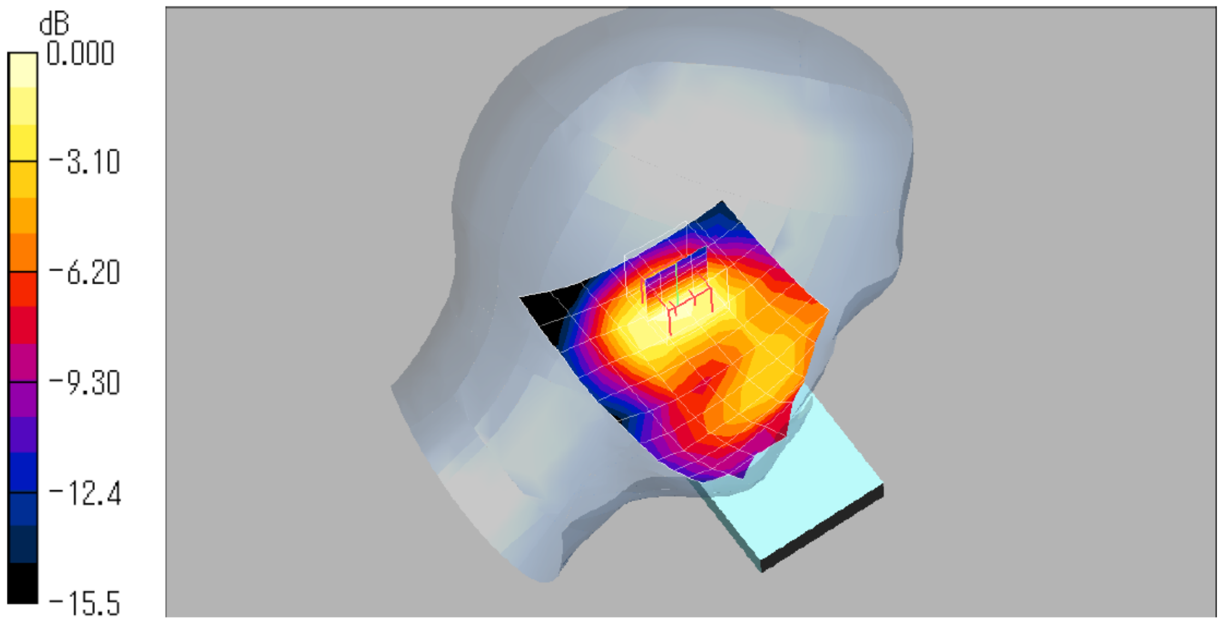
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.95, 4.95, 4.95); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.145 mW/g

Tilt position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.55 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 0.220 W/kg
SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.083 mW/g
Maximum value of SAR (measured) = 0.147 mW/g



0 dB = 0.147mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Body-worn, Front position, Earphone attached, Low.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1850.2 MHz; σ = 1.5 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

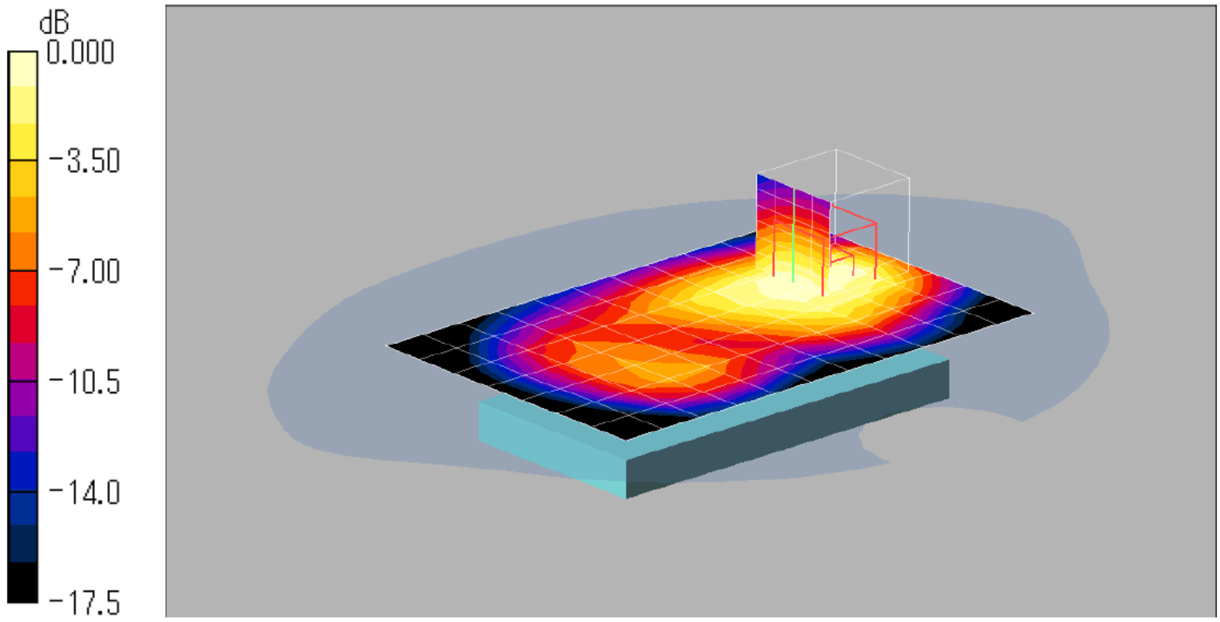
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Fornt position - Low.ch with earphone attached/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.457 mW/g

Fornt position - Low.ch with earphone attached/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.08 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 0.747 W/kg
SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.271 mW/g
Maximum value of SAR (measured) = 0.479 mW/g



0 dB = 0.479mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Body-worn, Front position, Earphone attached, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

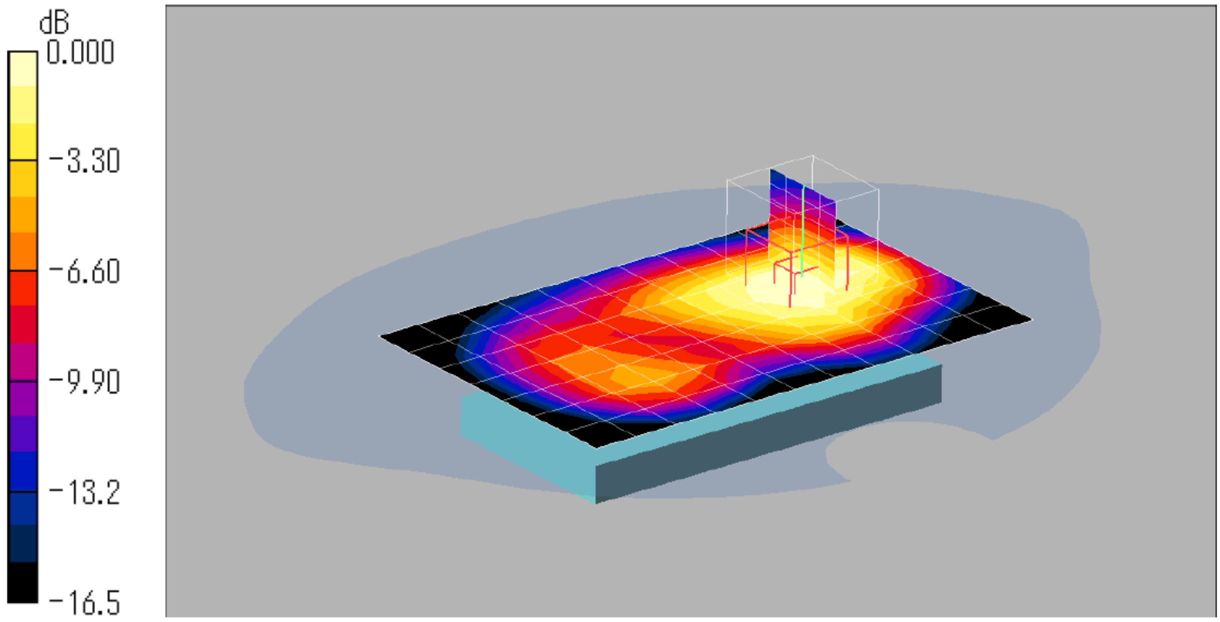
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Front position - Middle.ch with earphone attached/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.483 mW/g

Front position - Middle.ch with earphone attached/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.73 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.752 W/kg
SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 0.494 mW/g



0 dB = 0.494mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Body-worn, Front position, Earphone attached, High.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1909.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1909.6 MHz; σ = 1.57 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

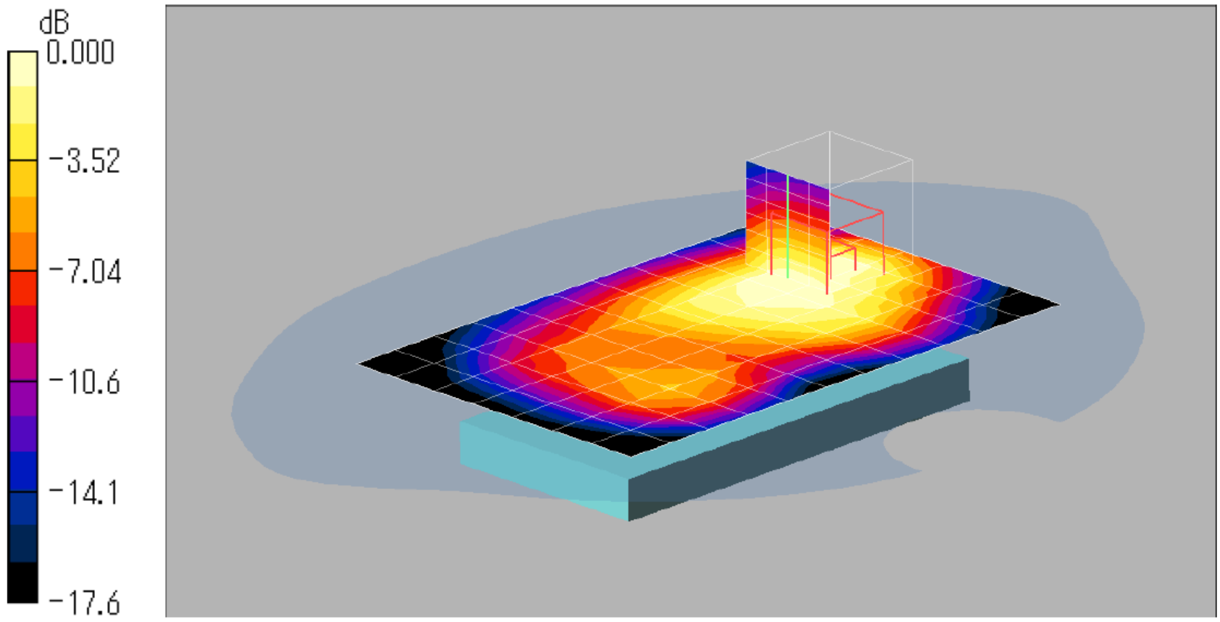
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Front position - High.ch with earphone attached/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.400 mW/g

Front position - High.ch with earphone attached/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.45 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.691 W/kg
SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.233 mW/g
Maximum value of SAR (measured) = 0.415 mW/g



0 dB = 0.415mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, Voice, Body-worn, Back position, Earphone attached, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

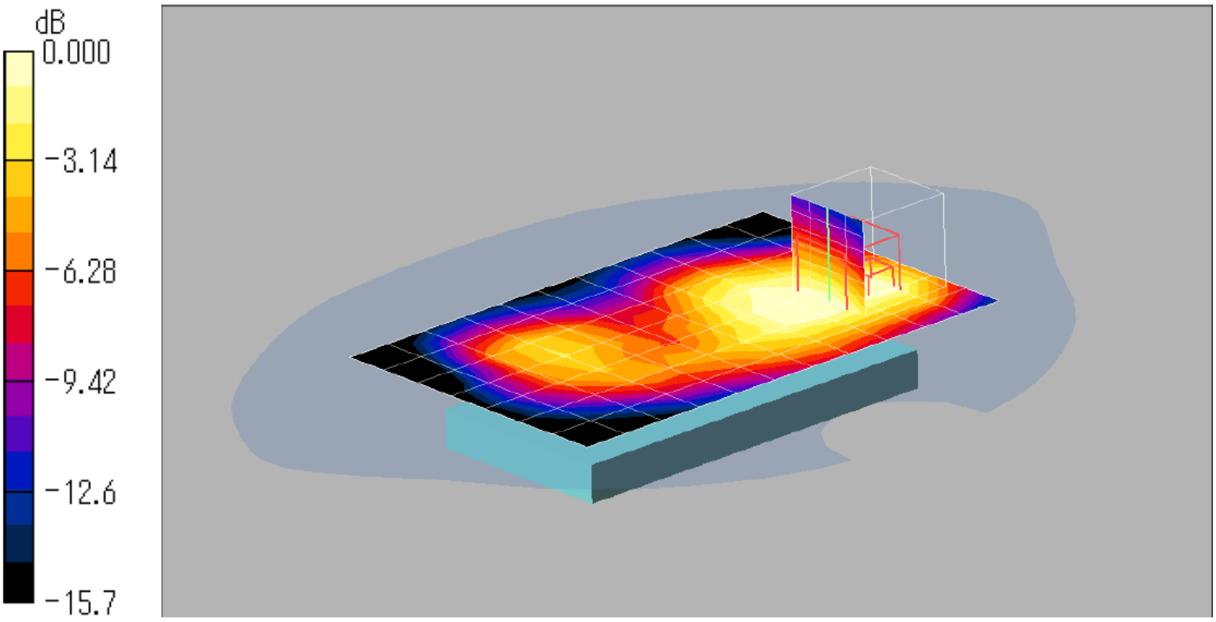
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Back position - Middle.ch with earphone attached/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.271 mW/g

Back position - Middle.ch with earphone attached/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.50 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.426 W/kg
SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.150 mW/g
Maximum value of SAR (measured) = 0.269 mW/g



0 dB = 0.269mW/g

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Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, GPRS 1Tx, Body-worn, Front position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM1900 GPRS 1Tx; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

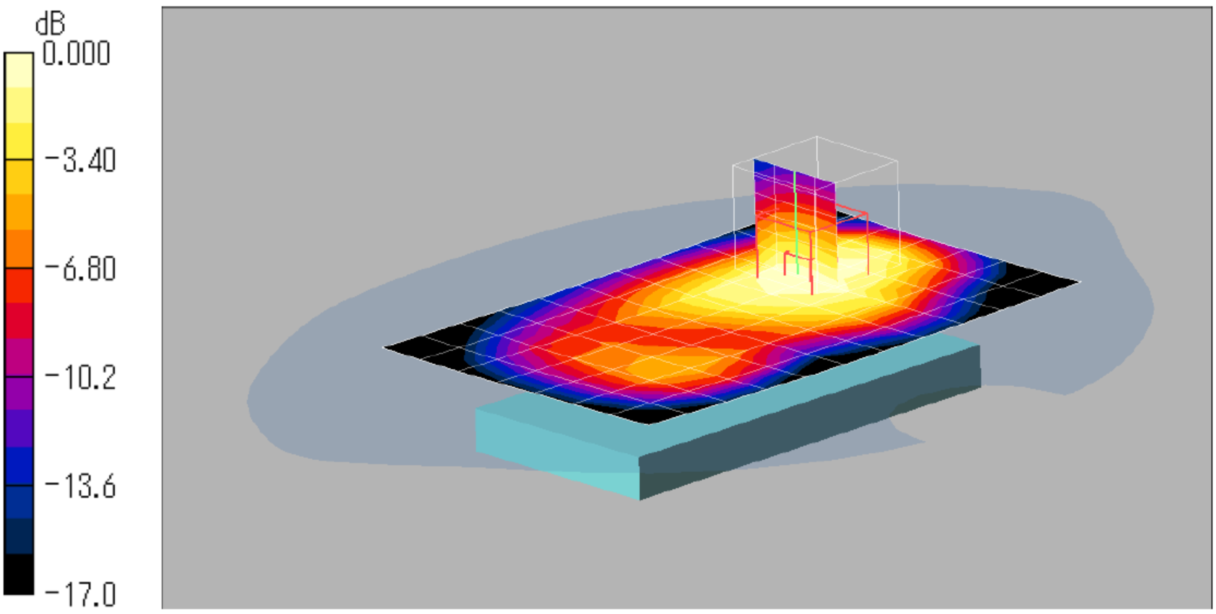
Test Date: 2012-01-19

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Front position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.430 mW/g

Front position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.92 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.711 W/kg
SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.270 mW/g
Maximum value of SAR (measured) = 0.447 mW/g



0 dB = 0.447mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, GPRS 1Tx, Body-worn, Back position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM1900 GPRS 1Tx; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

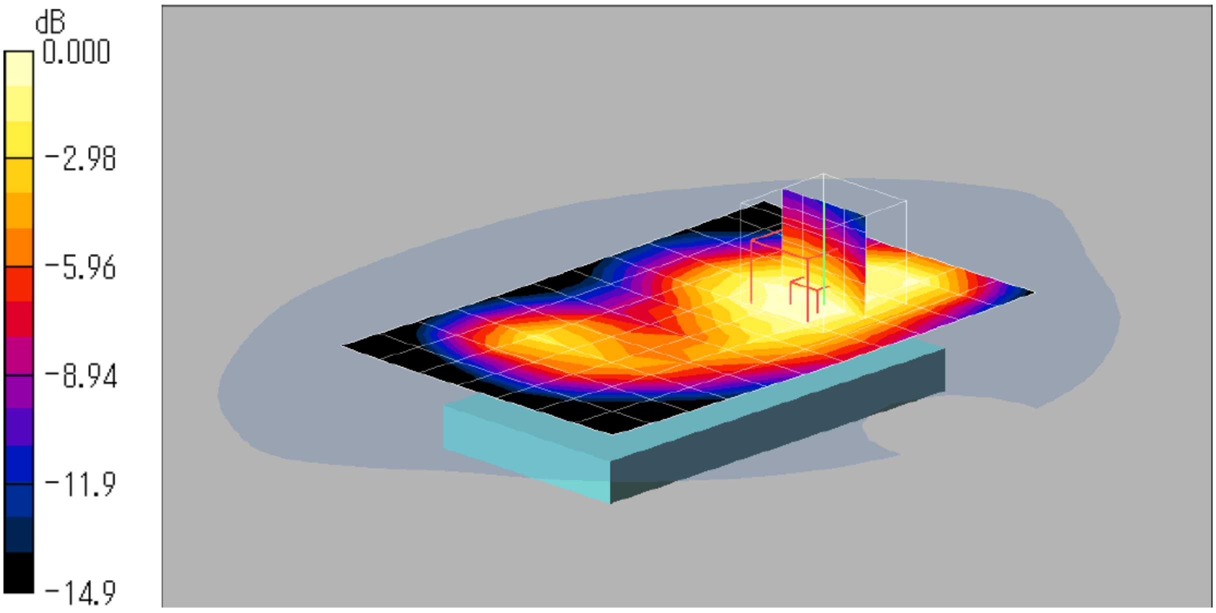
Test Date: 2012-01-19

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Back position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.251 mW/g

Back position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.06 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.372 W/kg
SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.159 mW/g
Maximum value of SAR (measured) = 0.260 mW/g



0 dB = 0.260mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, GPRS 2Tx, Body-worn, Front position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM1900 GPRS 2Tx; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

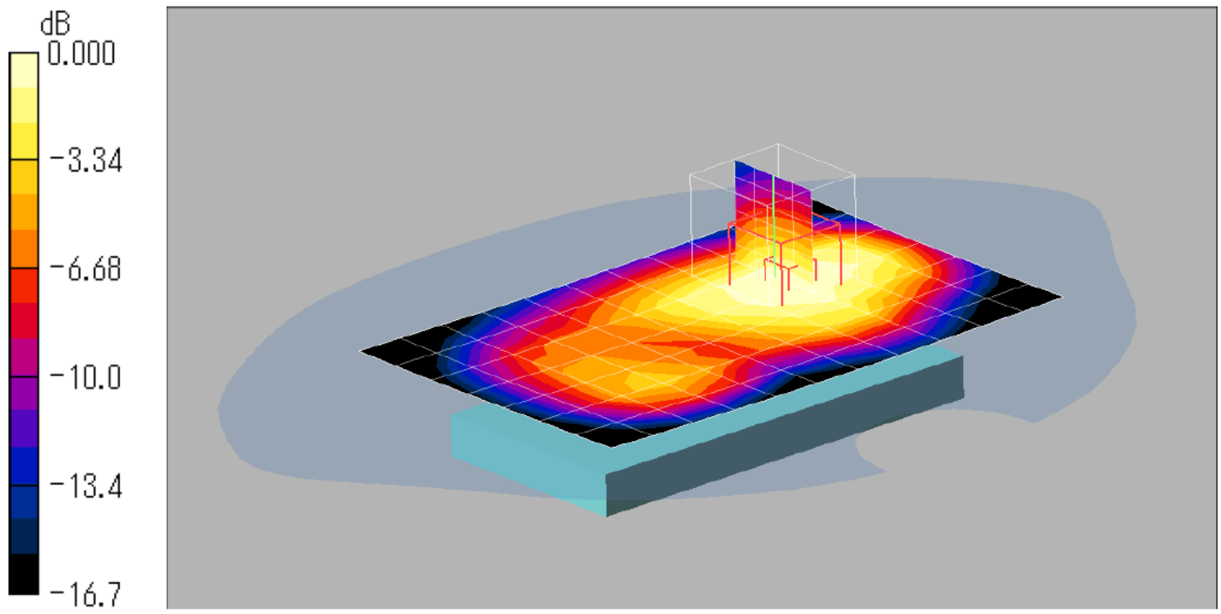
Test Date: 2012-01-19

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Front position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.377 mW/g

Front position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.61 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 0.579 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.381 mW/g



0 dB = 0.381mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, GPRS 2Tx, Body-worn, Back position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM1900 GPRS 2Tx; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

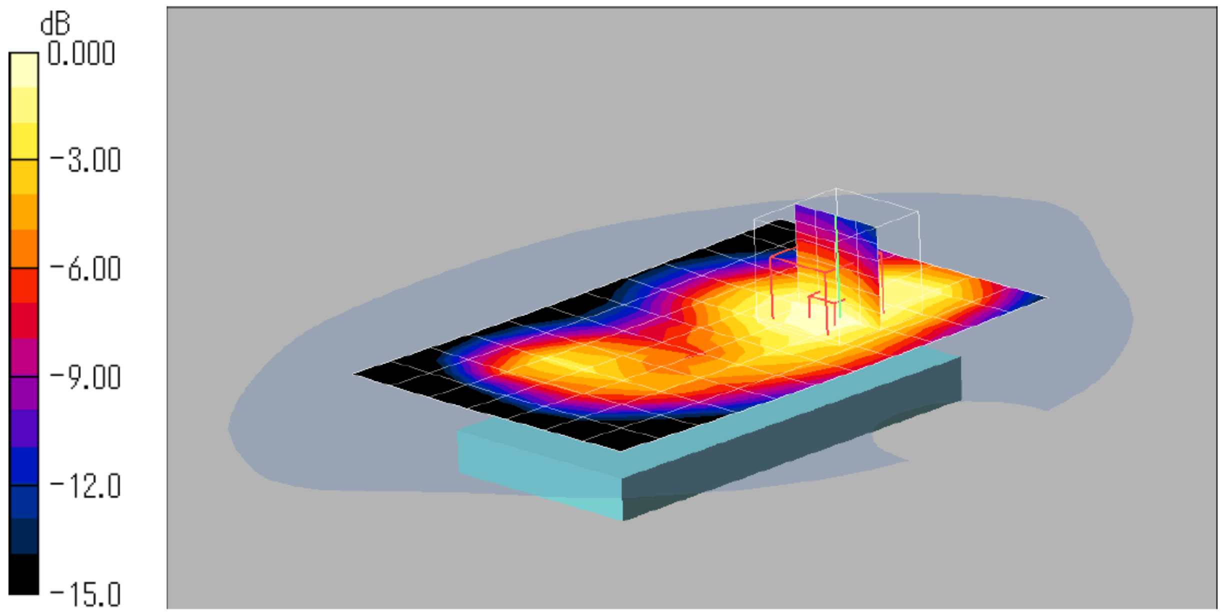
Test Date: 2012-01-19

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1027); Type: SAM; Serial: TP1027
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Back position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.239 mW/g

Back position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.73 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.256 mW/g



0 dB = 0.256mW/g

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Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, GPRS 3Tx, Body-worn, Front position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM1900 GPRS 3Tx; Frequency: 1880 MHz;Duty Cycle: 1:2.767
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

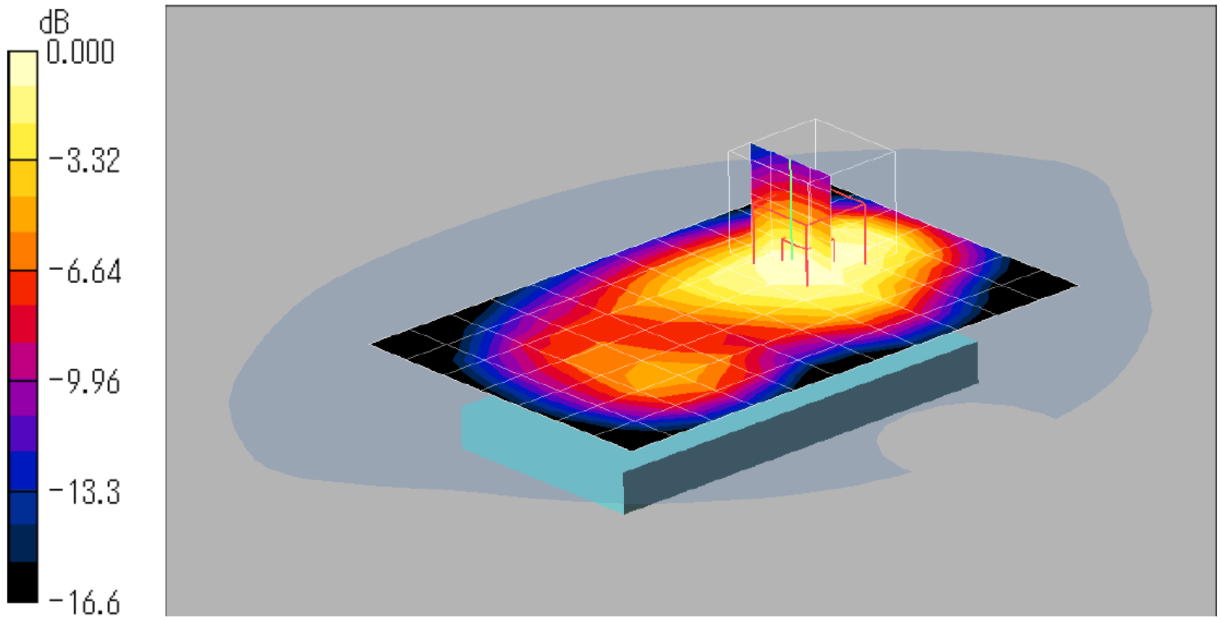
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Front position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.437 mW/g

Front position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.69 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.700 W/kg
SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.273 mW/g
Maximum value of SAR (measured) = 0.450 mW/g



0 dB = 0.450mW/g

Test Laboratory: RF Technologies Ltd.

Mode: GSM1900, GPRS 3Tx, Body-worn, Back position, Middle.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: GSM1900 GPRS 3Tx; Frequency: 1880 MHz;Duty Cycle: 1:2.767
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

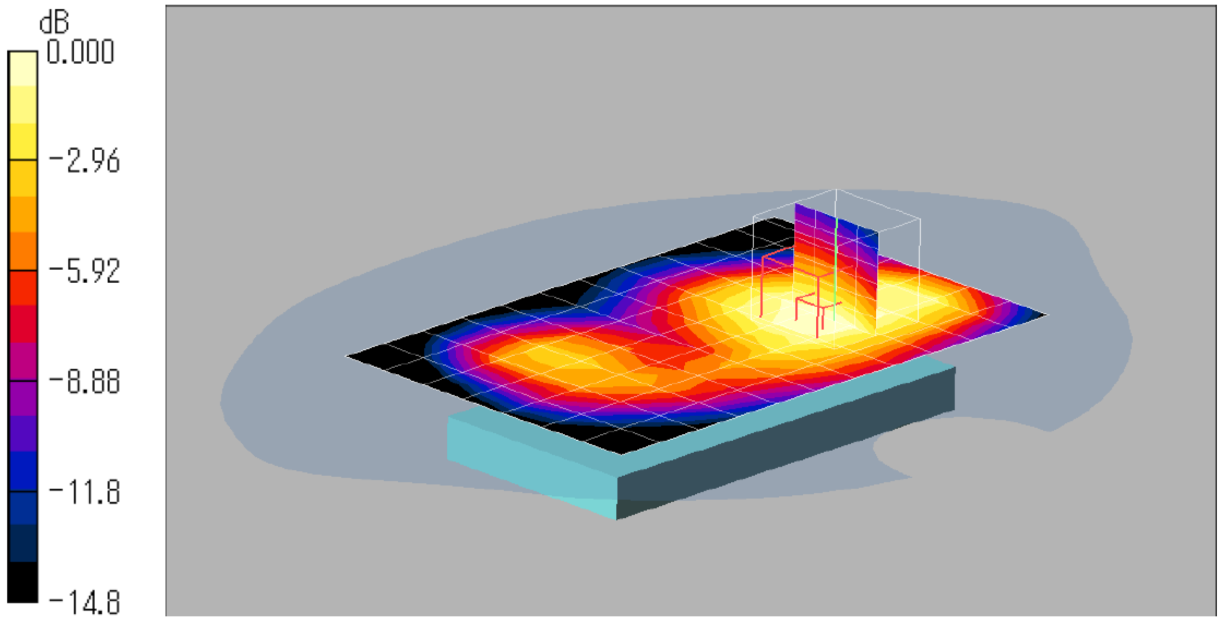
Test Date: 2012-01-06

DASY4 Configuration:

- Probe: ET3DV6 - SN1563; ConvF(4.65, 4.65, 4.65); Calibrated: 2011/06/14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Back position - Middle.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.259 mW/g

Back position - Middle.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.89 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 0.389 W/kg
SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.273 mW/g



0 dB = 0.273mW/g

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Test Laboratory: RF Technologies Ltd.

Mode: IEEE802.11b, 1Mbps, Body-worn, Front position, High.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: IEEE802.11; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 2 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

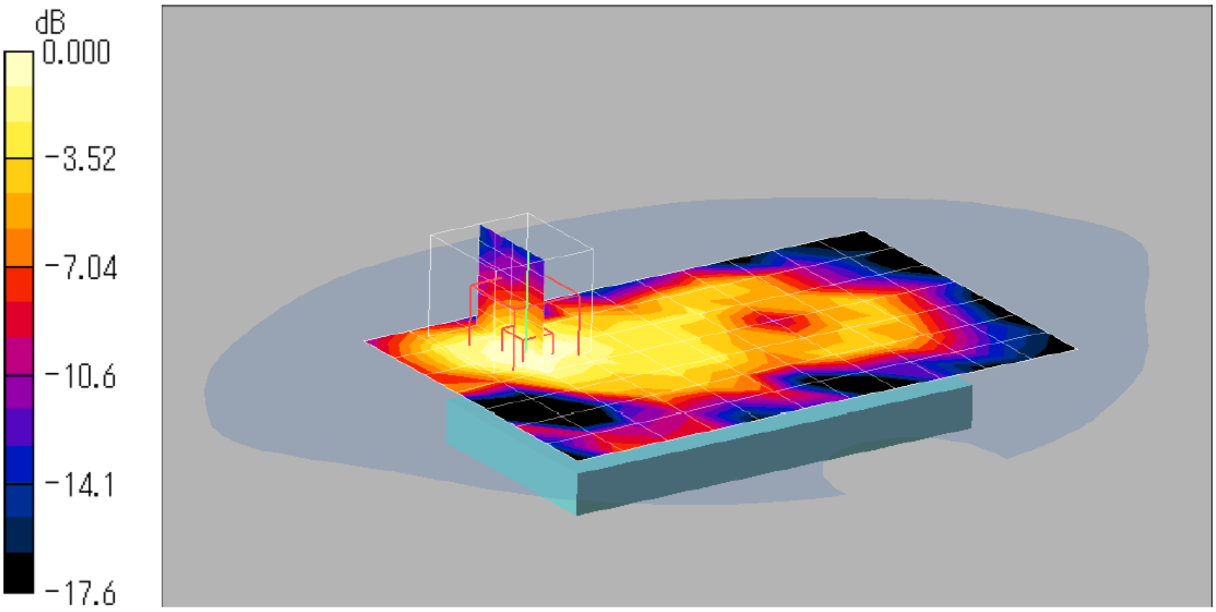
Test Date: 2012-02-01

DASY4 Configuration:

- Probe: EX3DV4 - SN3793; ConvF(6.92, 6.92, 6.92); Calibrated: 2011/07/18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Front position - IEEE802.11b, 1Mbps, High.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.059 mW/g

Front position - IEEE802.11b, 1Mbps, High.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.83 V/m; Power Drift = -0.123 dB
Peak SAR (extrapolated) = 0.227 W/kg
SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.058 mW/g



0 dB = 0.058mW/g

Test Laboratory: RF Technologies Ltd.

Mode: IEEE802.11b, 1Mbps, Body-worn, Back position, High.ch

DUT: YTMF-1; Type: Mobile phone; Serial: 004401350060527

Communication System: IEEE802.11; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 2 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

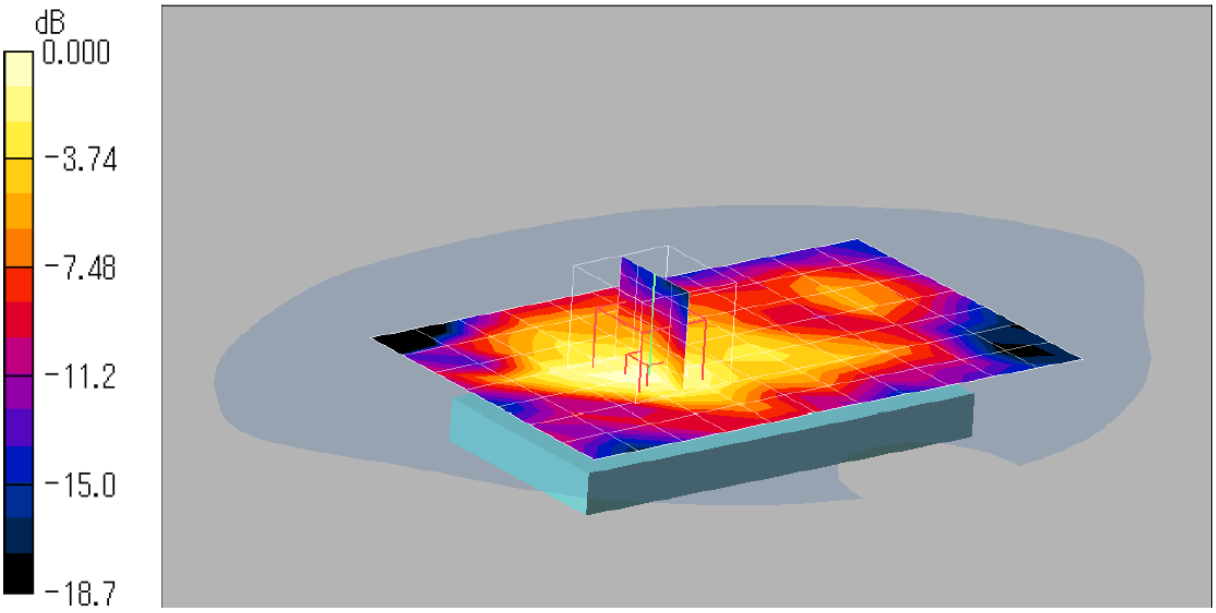
Test Date: 2012-02-01

DASY4 Configuration:

- Probe: EX3DV4 - SN3793; ConvF(6.92, 6.92, 6.92); Calibrated: 2011/07/18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn414; Calibrated: 2011/06/21
- Phantom: SAM with CRP (TP1063); Type: SAM; Serial: TP1063
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Back position - IEEE802.11b, 1Mbps, High.ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.074 mW/g

Back position - IEEE802.11b, 1Mbps, High.ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.75 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 0.146 W/kg
SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.081 mW/g



0 dB = 0.081mW/g