SAR TEST REPORT

HCT CO., LTD

EUT Type:	CDMA/GSM/WCDMA/LTE Phone with Bluetooth/WLAN/NFC
FCC ID:	TYK-JDS9507
Model:	C811
Date of Issue:	Aug. 13, 2012
Test report No.:	HCTA1207FS04
Test Laboratory:	**HCT CO., LTD.** 105-1, Jangam-ri, Majang-myeon, Icheon-si,Gyeonggi-do,Korea 467-811 TEL: +82 31 645 6485 FAX: +82 31 645 6401
Applicant :	**NEC CASIO MOBILE COMMUNICATIONS, LTD.** 1753 Shimonumabe, Nakahara-ku, Kawasaki, Kanagawa 211-8666 Japan
Testing has been carried out in accordance with:	RSS-102 Issue 4; Health Canada Safety Code 6 47CFR §2.1093 FCC OET Bulletin 65(Edition 97-01), Supplement C (Edition 01-01) ANSI/ IEEE C95.1 – 1992 IEEE 1528-2003
Test result:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.
Signature	  Report prepared by : Young-Soo Jang Test Engineer of SAR Part Approved by : Jae-Sang So Manager of SAR Part

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1. INTRODUCTION

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy (d*W*) absorbed by (dissipated in) an incremental mass (d*m*) contained in a volume element (d*V*) of a given density (*r*). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body.

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

Figure 2. SAR Mathematical Equation

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

$$SAR = \sigma E^2 / \rho$$

where:

σ = conductivity of the tissue-simulant material (S/m)

ρ = mass density of the tissue-simulant material (kg/m^3)

E = Total RMS electric field strength (V/m)

NOTE:

The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

2. DESCRIPTION OF DEVICE

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

2.1 General Information

EUT Type	CDMA/GSM/WCDMA/LTE Phone with Bluetooth/WLAN/NFC		
FCC ID:	TYK-JDS9507		
Model:	C811		
Trade Name	NEC CASIO MOBILE COMMUNICATIONS, LTD.	Serial Number(s)	#1
Mode(s)of Operation	GSM850/GSM1900 /CDMA835/PCS1900/WCDMA850/WCDMA1900/802.11bgn/LTE Band13		
Application Type	Certification		
Tx Frequency	824.70 - 848.31 MHz (CDMA835) / 1 851.25 – 1 908.75 MHz (PCS CDMA) 824.20 - 848.80 MHz (GSM850) /1 850.20 – 1 909.80 MHz (GSM1900) 826.4 - 846.6 MHz (WCDMA850) / 1 852.4 - 1 907.6 MHz (WCDMA1900) 2 412- 2 462 MHz (WLAN)/ 777-787 MHz (LTE Band13)		
Rx Frequency	869.70 - 893.31 MHz (CDMA835) / 1 931.25 – 1 988.75 MHz (PCS CDMA) 869.20 - 893.80 MHz (GSM850)/ 1 930.20 – 1 989.80 MHz (GSM1900) 871.4 - 891.6 MHz (WCDMA850)/ 1 932.4 - 1 987.6 MHz (WCDMA1900) 2 412- 2 462 MHz (WLAN)/ 746 – 756 MHz (LTE Band13)		
FCC Classification	Licensed Portable Transmitter Held to Ear (PCE)/ DSS/ DTS		
Production Unit	Prototype		

Max SAR

Band	1g SAR (W/kg)		
	Head	Body-worn	Hotspot
CDMA835	0.733	0.947	0.947
PCS1900	0.987	0.705	0.705
EVDO835	1.08	1.08	1.08
EVDO1900	1.04	0.757	0.757
GSM850	0.52	0.527	0.527
GSM1900	0.392	0.637	0.637
WCDMA850	0.885	1.01	1.01
WCDMA1900	1.02	0.677	0.677
LTE 13	0.503	0.519	0.519
802.11b	0.221	0.05	0.05
Simultaneous SAR per KDB 690783 D01	1.494	1.545	1.545

Date(s) of Tests	Jul. 1.2012 –Aug. 6. 2012
Antenna Type	Integral Antenna
EVDO	Rev.0, A
GPRS	Multislot Class: 10, Mode Class: B
Key Features;	Mobile Hotspot support, SVDO & SVLTE support, Bluetooth 4.0 capability support 1x advanced support

2.2 KDB 941225 LTE information

No.	Description	Parameter
1	Frequency Range:	Band 13: 777 - 787 MHz
2	Channel Bandwidth:	10 MHz
3	Channel Number & Frequency:	LTE Band13, Ch No.: 23230, Frequency: 782 MHz
4	UE Category & Uplink Modulation	UE Category 3, QPSK, 16QAM
5	Power Class	UE Power Class 3
6	Description of the LTE Transmitter & antenna	This model have three Tx antennas. - One for LTE, GSM850/GSM1900, WCDMA850/1900 & CDMA835/1900 EVDO. It can not transmit simultaneously. - Another is for CDMA835/1900 1xRTT. - The other is for BT & WLAN. It can not transmit simultaneously. Please find the section 10.
7	LTE voice/data requirements	Data Only. Please find the section 10. LTE voice is available via VoIP. Considering the users may install 3rd party software to enable VoIP, LTE Head SAR is also evaluated.
8	Identify if MPR is optional or mandatory	The EUT incorporates MPR as per 36.101. The MPR is permanently built-in by design as a mandatory. A-MPR is not implemented. During SAR testing, A-MPR was disabled by setting NS=01 on the R&S CMW500.
9	Maximum average conducted output power	LTE Band 13: 22.4 dBm See section 9 RF outpower measurements in the SAR report.
10	Identify all other U.S. wireless operating modes, device exposure configurations and frequency bands	- CDMA835/1900, GSM850/GSM1900, WCDMA850/1900 and LTE Band 13 : Head/Body worn and Hotspot SAR is required. - Bluetooth 2.4 GHz: BT SAR is not required as maximum output power < 12 mW - WiFi 2.4 GHz: Head/Body worn and Hotspot SAR is required.
11	Maximum average conducted output power for other wireless mode and frequency	See section 9 RF outpower measurements in the SAR report.
12	Simultaneous Transmission	See section 11 Simultaneous transmission conditions in the SAR report.
13	Power reduction explanation	<table><tr><th>Mode</th><th>CDMA Current Voice Power for BC0, BC1 (dBm)</th><th>CDMA EVDO Max. Power for BC0 & BC1 (dBm)</th></tr><tr><td rowspan="2">SVDO</td><td>P<15.5</td><td>23.7 (Limited)</td></tr><tr><td>P≥15.5</td><td>18.7(Limited)</td></tr><tr><th>Mode</th><th>CDMA Current Voice Power for BC0, BC1 (dBm)</th><th>LTE Max. Power for B13 (dBm)</th></tr><tr><td rowspan="2">SVLTE</td><td>P<18.5</td><td>22.4 (Limited)</td></tr><tr><td>P≥18.5</td><td>18.8 (Limited)</td></tr></table>
14	Description of the test equipment, software, etc.	SAR Testing was performed using a CMW500. UE transmits with maximum output power during SAR testing.

3. DESCRIPTION OF TEST EQUIPMENT

3.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium III computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of Maximum electromagnetic field (EMF) (see Figure.3.1).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC consists of the HP Pentium IV 3.0 GHz computer with Windows XP system and SAR Measurement Software DASY4, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

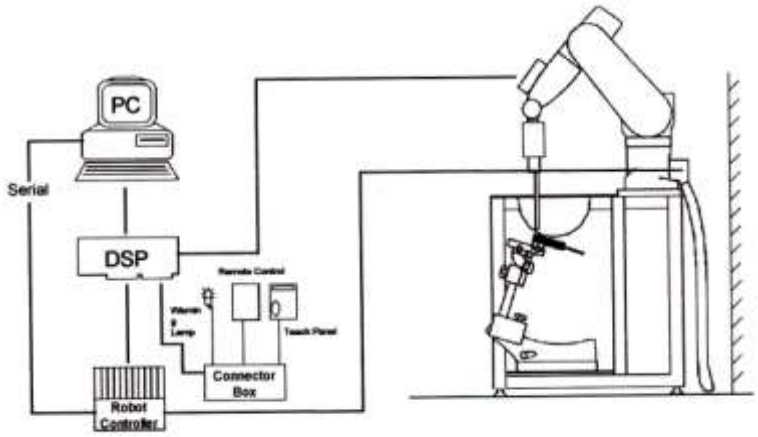


Figure 3.1 HCT SAR Lab. Test Measurement Set-up

The DAE4 consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

3.2 DASY4 E-FIELD PROBE SYSTEM

3.2.1 EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection System Built-in shielding against static charges
Calibration	In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at Frequencies of 450 MHz, 900 MHz and 1.8 GHz (accuracy: 8 %)
Frequency	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Directivity	± 0.2 dB in brain tissue (rotation around probe axis) ± 0.4 dB in brain tissue (rotation normal probe axis)
Dynamic	5 μW/g to > 100 mW/g;
Range Linearity:	± 0.2 dB
Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces.
Dimensions	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application	General dissymmetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

Figure 3.2 Photograph of the probe and the Phantom

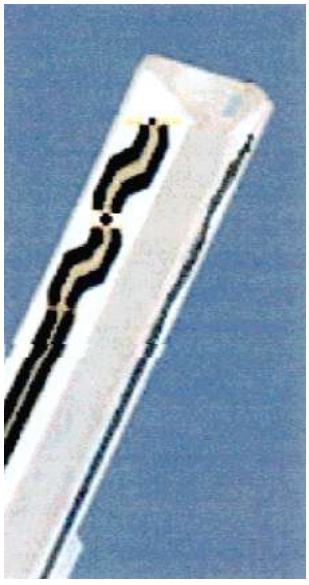


Figure 3.3 ET3DV6 E-field Probe

The SAR measurements were conducted with the dosimetric probe ET3DV6, designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches a maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY4 software reads the reflection during a software approach and looks for the maximum using a 2nd order fitting. The approach is stopped at reaching the maximum.

3.3 PROBE CALIBRATION PROCESS

3.3.1 E-Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with an accuracy better than ± 10 %. The spherical isotropy was evaluated with the proper procedure and found to be better than ± 0.25 dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe is tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a waveguide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

where:

Δt = exposure time (30 seconds),

C = heat capacity of tissue (brain or muscle),

ΔT = temperature increase due to RF exposure.

SAR is proportional to $\Delta T / \Delta t$, the initial rate of tissue heating, before thermal diffusion takes place. Now it's possible to quantify the electric field in the simulated tissue by equating the thermally derived SAR to the E- field;

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

where:

σ = simulated tissue conductivity,

ρ = Tissue density (1.25 g/cm^3 for brain tissue)

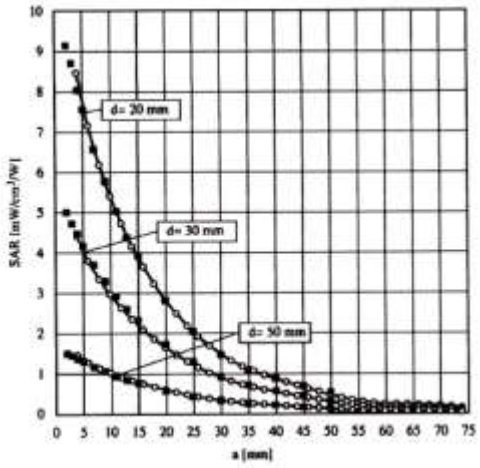


Figure 3.4 E-Field and Temperature measurements at 900 MHz

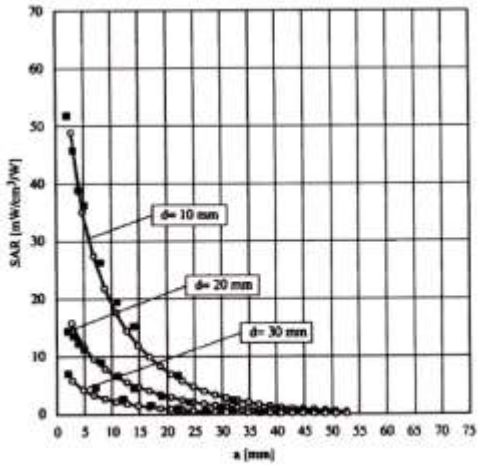


Figure 3.5 E-Field and temperature measurements at 1.8 GHz

3.3.2 Data Extrapolation

The DASY4 software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given like below;

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

with
V_i = compensated signal of channel i (i=x,y,z)
U_i = input signal of channel i (i=x,y,z)
cf = crest factor of exciting field (DASY parameter)
dcp_i = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:

$$E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

with
V_i = compensated signal of channel i (i = x,y,z)
$Norm_i$ = sensor sensitivity of channel i (i = x,y,z)
$\mu V/(V/m)^2$ for E-field probes
ConvF = sensitivity of enhancement in solution
E_i = electric field strength of channel i in V/m

The RSS value of the field components gives the total field strength (Hermetian magnitude):

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with
SAR = local specific absorption rate in W/g
E_{tot} = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = \frac{E_{tot}^2}{3770}$$

with
P_{pwe} = equivalent power density of a plane wave in W/cm^2
E_{tot} = total electric field strength in V/m

3.4 SAM Phantom

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Figure 3.6 SAM Phantom

Shell Thickness	2.0 mm ± 0.2 mm (6 ± 0.2 mm at ear point)
Filling Volume	about 25 L
Dimensions	1 000 mm x 500 mm (L x W)

3.5 Device Holder for Transmitters

In combination with the SAM Phantom V 4.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatable positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Note: A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produced infinite number of configurations. To produce the Worst-case condition (the hand absorbs antenna output power), the hand is omitted during the tests.

Figure 3.7 Device Holder

3.6 Brain & Muscle Simulating Mixture Characterization

The brain and muscle mixtures consist of a viscous gel using hydrox-ethyl cellulose (HEC) gelling agent and saline solution (see Table 3.1). Preservation with a bacteriacide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. The mixture characterizations used for the brain and muscle tissue simulating liquids are according to the data by C. Gabriel and G. Hartsgrove.

Ingredients (% by weight)	Frequency (MHz)											
	750		835		915		1 900		2 450		5200-5800	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	41.2	51.7	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2	65.52	78.66
Salt (NaCl)	1.4	1.0	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04	0.0	0.0
Sugar	57	47.2	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0	0.0	0.0
HEC	0.2	0.0	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0	0.0	0.0
Bactericide	0.2	0.1	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0	0.0	0.0
Triton X-100	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0	17.24	10.67
DGBE	0.00	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7	0.0	0.0
Diethylene glycol hexyl ether											17.24	10.67

Salt:	99 % Pure Sodium Chloride	Sugar:	98 % Pure Sucrose
Water:	De-ionized, 16M 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		

Table 3.1 Composition of the Tissue Equivalent Matter

3.7 SAR TEST EQUIPMENT

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	SAM Phantom	-	N/A	N/A	N/A
Staubli	Robot RX90L	F01/5K09A1/A/01	N/A	N/A	N/A
Staubli	Robot ControllerCS7MB	F99/5A82A1/C/01	N/A	N/A	N/A
HP	Pavilion t000_puffer	KRJ51201TV	N/A	N/A	N/A
SPEAG	Light Alignment Sensor	265	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D221340.01	N/A	N/A	N/A
SPEAG	DAE3	466	Feb. 21, 2012	Annual	Feb. 21, 2013
SPEAG	DAE4	869	Sep. 22, 2011	Annual	Sep. 22, 2012
SPEAG	E-Field Probe ET3DV6	1605	Apr. 26, 2012	Annual	Apr. 26, 2013
SPEAG	E-Field Probe ET3DV6	1630	Nov. 18, 2011	Annual	Nov. 18, 2012
SPEAG	Validation Dipole D750V3	1014	July 15, 2011	Annual	July 15, 2012
SPEAG	Validation Dipole D835V2	441	May 16, 2012	Annual	May 16, 2013
SPEAG	Validation Dipole D1900V2	5d032	July 22, 2011	Annual	July 22, 2012
SPEAG	Validation Dipole D1900V2	5d032	July 20, 2012	Annual	July 20, 2013
SPEAG	Validation Dipole D2450V2	743	Aug. 29, 2011	Annual	Aug. 29, 2012
Agilent	Power Meter(F) E4419B	MY41291386	Nov. 04, 2011	Annual	Nov. 04, 2012
Agilent	Power Sensor(G) 8481	MY41090870	Nov. 04, 2011	Annual	Nov. 04, 2012
HP	Dielectric Probe Kit	00721521	N/A	N/A	N/A
HP	Dual Directional Coupler	16072	Nov. 04, 2011	Annual	Nov. 04, 2012
R&S	Base Station CMU200	110740	July 26, 2011	Annual	July 26, 2012
Agilent	Base Station E5515C	GB44400269	Feb. 10, 2012	Annual	Feb. 10, 2013
HP	Signal Generator E4438C	MY42082646	Nov. 11, 2011	Annual	Nov. 11, 2012
HP	Network Analyzer 8753ES	JP39240221	Apr. 3, 2012	Annual	Apr. 3, 2013
R&S	Base Station CMW500	101901	Aug. 5, 2011	Annual	Aug. 5, 2012

NOTE:

The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Validation measurement is performed by HCT Lab. before each test. The brain simulating material is calibrated by HCT using the dielectric probe system and network analyzer to determine the conductivity and permittivity (dielectric constant) of the brain-equivalent material.

4. SAR MEASUREMENT PROCEDURE

The evaluation was performed with the following procedure:

1. The SAR value at a fixed location above the ear point was measured and was used as a reference value for assessing the power drop.

2. The SAR distribution at the exposed side of the head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15 mm x 15 mm. Based on this data, the area of the Maximum absorption was determined by spline interpolation.

3. Around this point, a volume of 32 mm x 32 mm x 30 mm was assessed by measuring 5 x 5 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

   a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
   b. The Maximum interpolated value was searched with a straight-forward algorithm. Around this Maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR value, at the same location as procedure #1, was re-measured. If the value changed by more than 5 %, the evaluation is repeated.

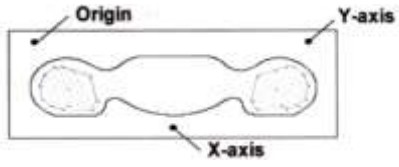


Figure 4.1 SAR Measurement Point in Area Scan

5. DESCRIPTION OF TEST POSITION

5.1 HEAD POSITION

The device was placed in a normal operating position with the Point A on the device, as illustrated in following drawing, aligned with the location of the RE(ERP) on the phantom. With the ear-piece pressed against the head, the vertical center line of the body of the handset was aligned with an imaginary plane consisting of the RE, LE and M. While maintaining these alignments, the body of the handset was gradually moved towards the cheek until any point on the mouth-piece or keypad contacted the cheek. This is a cheek/touch position. For ear/tilt position, while maintain the device aligned with the BM and FN lines, the device was pivot against ERP back for 15º or until the device antenna touch the phantom. Please refer to IEEE 1528-2003 illustration below.

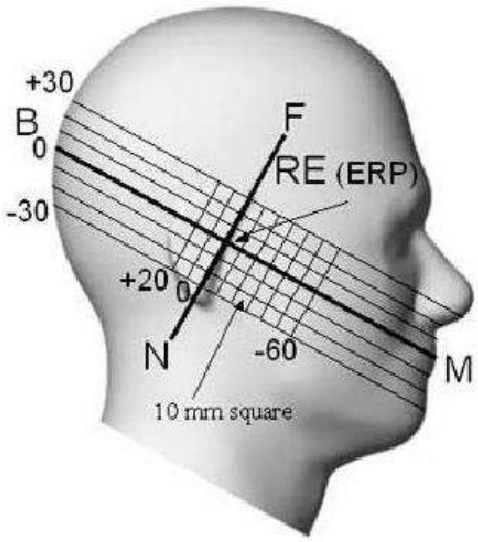


Figure 5.1 Side view of the phantom

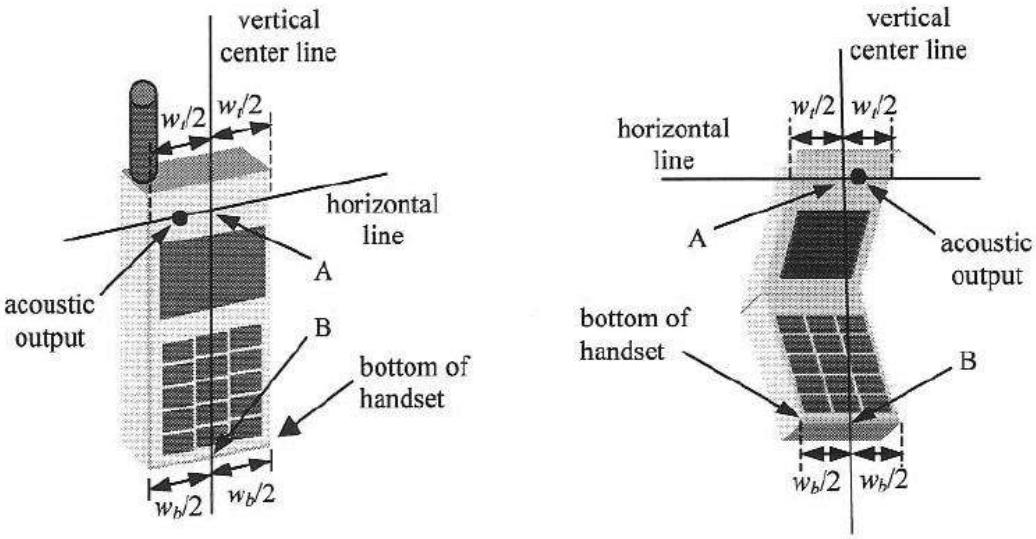


Figure 5.2 Handset vertical and horizontal reference lines

5.2 Body Holster/Belt Clip Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. A device with a headset output is tested with a headset connected to the device. Body dielectric parameters are used.

Accessories for Body-worn operation configurations 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 device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with each accessory. If multiple accessory share an identical metallic component (i.e. 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 Devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used.

Since this EUT does not supply any body worn accessory to the end user a distance of 1.0 cm from the EUT back surface to the liquid interface is configured for the generic test.

"See the Test SET-UP Photo"

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessory(ies), Including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

In all cases SAR measurements are performed to investigate the worst-case positioning. Worstcase positioning is then documented and used to perform Body SAR testing.

6. MEASUREMENT UNCERTAINTY

Error Description	Tol (± %)	Prob. dist.	Div.	c_i	Standard Uncertainty (± %)	v_{eff}
1. Measurement System						
Probe Calibration	6.00	N	1	1	6.00	∞
Axial Isotropy	4.70	R	1.73	0.7	1.90	∞
Hemispherical Isotropy	9.60	R	1.73	0.7	3.88	∞
Boundary Effects	1.00	R	1.73	1	0.58	∞
Linearity	4.70	R	1.73	1	2.71	∞
System Detection Limits	1.00	R	1.73	1	0.58	∞
Readout Electronics	0.30	N	1.00	1	0.30	∞
Response Time	0.8	R	1.73	1	0.46	∞
Integration Time	2.6	R	1.73	1	1.50	∞
RF Ambient Conditions	3.00	R	1.73	1	1.73	∞
Probe Positioner	0.40	R	1.73	1	0.23	∞
Probe Positioning	2.90	R	1.73	1	1.67	∞
Max SAR Eval	1.00	R	1.73	1	0.58	∞
2.Test Sample Related						
Device Positioning	2.90	N	1.00	1	2.90	145
Device Holder	3.60	N	1.00	1	3.60	5
Power Drift	5.00	R	1.73	1	2.89	∞
3.Phantom and Setup						
Phantom Uncertainty	4.00	R	1.73	1	2.31	∞
Liquid Conductivity(target)	5.00	R	1.73	0.64	1.85	∞
Liquid Conductivity(meas.)	2.07	N	1	0.64	1.32	9
Liquid Permitivity(target)	5.00	R	1.73	0.6	1.73	∞
Liquid Permitivity(meas.)	5.02	N	1	0.6	3.01	9
Combind Standard Uncertainty					11.13	
Coverage Factor for 95 %					k=2	
Expanded STD Uncertainty					22.25	

Table 6.1 Uncertainty (750 MHz- 2600 MHz)

7. ANSI/ IEEE C95.1 - 1992 RF EXPOSURE LIMITS

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT Occupational (W/kg) or (mW/g)
SPATIAL PEAK SAR * (Brain)	1.60	8.00
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.40
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.00	20.00

Table 7.1 Safety Limits for Partial Body Exposure

NOTES:

* The Spatial Peak value of the SAR averaged over any 1 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

** The Spatial Average value of the SAR averaged over the whole-body.

*** The Spatial Peak value of the SAR averaged over any 10 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e.as a result of employment or occupation).

8. SYSTEM VERIFICATION

8.1 Tissue Verification

Band	Freq. [MHz]	Date	Liquid	Liquid Temp.[°C]	Parameters	Target Value	Measured Value	Deviation [%]	Limit [%]
850	835	Jul. 15, 2012	Head	21.1	ε r	41.5	42.1	+ 1.45	± 5
					σ	0.90	0.898	- 0.22	± 5
	835	Jul. 17, 2012	Body	21.3	ε r	55.2	54.6	- 1.09	± 5
					σ	0.97	1.01	+ 4.12	± 5
1900	1 900	Jul. 1, 2012	Head	21.2	ε r	40.0	39.8	- 0.50	± 5
					σ	1.40	1.41	+ 0.71	± 5
	1 900	Jul. 4, 2012	Body	21.3	ε r	53.3	53.4	+ 0.19	± 5
					σ	1.52	1.48	- 2.63	± 5
LTE B13	750	Jul. 7, 2012	Head	21.1	ε ρ	41.9	42.2	+ 0.72	± 5
					σ	0.89	0.867	- 2.58	± 5
	750	Jul. 11, 2012	Body	21.3	ε r	55.5	55	- 0.90	± 5
					σ	0.96	0.989	+ 3.02	± 5
WLAN	2 450	Jul. 20, 2012	Head	21.2	ε r	39.2	38.7	- 1.28	± 5
					σ	1.80	1.76	- 2.22	± 5
	2 450	Jul. 22, 2012	Body	21.1	ε r	52.7	51.8	- 1.71	± 5
					σ	1.95	1.94	- 0.51	± 5
850	835	Aug. 6. 2012	Head	21.1	ε r	41.5	42.8	+ 3.13	± 5
					σ	0.90	0.9	0.00	± 5
	835	Aug. 6. 2012	Body	21.1	ε r	55.2	54.5	- 1.27	± 5
					σ	0.97	1.01	+ 4.12	± 5
1900	1 900	Aug. 6. 2012	Head	21.1	ε r	40.0	39.8	- 0.50	± 5
					σ	1.40	1.41	+ 0.71	± 5
	1 900	Aug. 6. 2012	Body	21.1	ε r	53.3	53.4	+ 0.19	± 5
					σ	1.52	1.59	+ 4.61	± 5

The dielectronic parameters of the liquids were measured prior to the SAR evaluation using an Agilent 85070C Dielectronic Probe Kit and Agilent Network Analyzer.

8.2 System Validation

Prior to assessment, the system is verified to the ± 10 % of the specifications at 835 MHz / 750 MHz/ 1 900 MHz/ 2 450 MHz by using the system validation kit. (Graphic Plots Attached)

Band	Freq. [MHz]	Probe (SN)	Dipole (SN)	Date	Liquid	Liquid Temp. [°C]	1 W Target SAR_{1g} (mW/g)	Measured SAR_{1g} (mW/g)	1 W Normalized SAR_{1g} (mW/g)	Deviation [%]	Limit [%]
850	835	1605	441	Jul. 15, 2012	Head	21.1	9.43	0.942	9.42	- 0.11	± 10
	835			Jul. 17, 2012	Body	21.3	9.50	0.967	9.67	+ 1.79	± 10
1900	1 900		5d032	Jul. 1, 2012	Head	21.2	39.9	3.96	39.6	- 0.75	± 10
	1 900			Jul. 4, 2012	Body	21.3	40.9	4.17	41.7	+ 1.96	± 10
LTE B13	750		1014	Jul. 7, 2012	Head	21.1	8.29	0.854	8.54	+ 3.02	± 10
	750			Jul. 11, 2012	Body	21.3	8.8	0.896	8.96	+ 1.82	± 10
WLAN	2 450	1630	743	Jul. 20, 2012	Head	21.2	53.8	5.49	54.9	+ 2.04	± 10
	2 450			Jul. 22, 2012	Body	21.1	51.7	5.06	50.6	- 2.13	± 10
850	835	1605	441	Aug. 6. 2012	Head	21.1	9.43	0.942	9.42	-0.11	± 10
	835			Aug. 6. 2012	Body	21.1	9.50	0.962	9.62	+ 1.26	± 10
1900	1 900		5d032	Aug. 6. 2012	Head	21.1	39.0	4.04	40.4	+ 3.59	± 10
	1 900			Aug. 6. 2012	Body	21.1	39.9	4.13	41.3	+ 3.51	± 10

8.3 System Validation Procedure

SAR measurement was Prior to assessment, the system is verified to the ± 10 % of the specifications at target frequency by using the system validation kit. (Graphic Plots Attached)

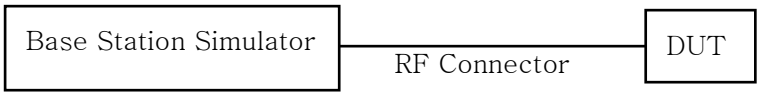
- Cabling the system, using the validation kit equipments.
- Generate about 100 mW Input Level from the Signal generator to the Dipole Antenna.
- Dipole Antenna was placed below the Flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % of the target reference value.
- The results are normalized to 1 W input power.

Note;
SAR Verification was performed according to the FCC KDB 450824.

9. RF CONDUCTED POWER MEASUREMENT

Power measurements were performed using a base station simulator under digital average power.
The handset was placed 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 evaluation
SAR measurements were taken with a fully charged battery. In order to verify that the device was tested and maintained at full power, this 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.

Conducted output power measurements were performed using a base station simulator under digital average power.



SAR Test for WWAN & LTE were performed with a base station simulator Agilent E5515C & CMW500. Communication between the device and the emulator was established by air link. Set base station emulator to allow DUT to radiate maximum output power during all tests.

9.1 CDMA & EVDO

9.1.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices", May 2006. Maximum output power is verified on the High, Middle and Low channels according to procedures defined in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in “All Up” condition.

1. If the mobile station supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9 600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1 (Table 9.1) parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH0 and demodulation of RC 3, 4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9 600 bps Fundamental Channel and 9 600 bps SCH0 data rate Channel and 9 600 bps SCH0 data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2(Table 9.2) was applied.
5. FCHs were configured at full rate for Maximum SAR with “All Up” power control bits.

Parameters for Max. Power for RC1

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table. 9.1

Parameters for Max. Power for RC3

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-86
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table. 9.2

9.1.2 CDMA2000 1x Advanced

This device additionally supports 1x Advanced. Conducted powers were measured using SO75 whth RC8 on the uplink and RC11 on the dounlink per Oct 201 TCB Workshop notes. Smart blanking was Disabled for all measurements. The EUT was configured with forward power control Mode 000 and Reverse power control at 400 bps. Conducted powers were measured on an Agilent 8960 Series 10 Wireless Communications Test Set, Model E5515C using the CDMA2000 1x Advanced application, Option E1962B-410.

Based on the maximum output power measured for 1x Advanced, SAR would have th be vealuated for 1x advanced of the maximum output for 1x Advanced is more than 0.25 dB higher than the maximum Measured for 1x Also, lf the measured SAR in any 1x mode exposure conditions (head, body etc) is Larger then 1.2 W/kg, the highest of those configurations above 1.2 W/kg for each exposure condition In 1x Advanced has to be repeated. All measured SAR in 1x mode higher than 1.5 W/kg must be Repeated 1x Advanced.

9.1.3 Head SAR Measurement

SAR for head exposure configurations is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option 55. SAR for RC1 is not required when the Maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the Maximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3.

9.1.4 Body SAR Measurement

SAR for body exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. SAR for multiple code channels (FCH + SCHn) is not required when the Maximum average output of each RF channel is less than ¼ dB higher than that measured with FCH only. Otherwise, SAR is measured on the Maximum output channel (FCH + SCHn) with FCH at full rate and SCH0 enabled at 9 600 bps using the exposure configuration that results in the highest SAR for that channel with FCH only. When multiple code channels are enabled, the DUT output may 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 ¼ 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 channel in RC3.

9.1.5 Handsets with EV-DO

For handsets with Ev-Do capabilities, when the Maximum average output of each channel in Rev. 0 is less than ¼ dB higher than that measured in RC3 (1x RTT), body SAR for Ev-Do is not required. Otherwise, SAR for Rev. 0 is measured on the Maximum output channel at 153.6 kbps using the body exposure configuration that results in the highest SAR for that channel in RC3. SAR for Rev. A is not required when the Maximum average output of each channel is less than that measured in Rev. 0 or less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the Maximum output channel for Rev. A using a Reverse Data Channel payload size of 4 096 bits and a

Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations. A Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots should be configured in the downlink for both Rev. 0 and Rev. A.

9.1.5.1 EVDO Release 0 (RTAP)

Application Config > Enhanced Test Application Protocol > RTAP

RTAP Rate > 153.6 kbps

Protocol Rev > 0 (1x EVDO)

Power: All Up bits

9.1.5.2 EVDO Release 0 (FTAP)

Application Config > Enhanced Test Application Protocol > FTAP

RTAP Rate > 307.2 kbps

Protocol Rev > 0 (1x EVDO)

Power: All Up bits

9.1.5.3 EVDO Release A (RETAP)

Protocol Rev > A (1x EVDO A)

Application Config > Enhanced Test Application Protocol > RETAP

R-Data Pkt Size > 4096

Power: All Up bits

9.1.5.4 EVDO Release A (FETAP)

Protocol Rev > A (1x EVDO A)

Application Config > Enhanced Test Application Protocol > FETAP

F-Traffic Format > 4 (1024, 2, 128) Canonical (307.2k, QPSK)

Power: All Up bits

Maximum Average Output Power Measurement for FCC ID: TYK-JDS9507

Target Power : 23.7 dBm

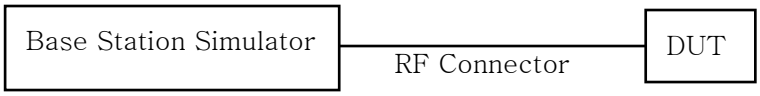
Turn-up Tolerance : - 1.5dB/ + 0.7dB

Band	Channel	SO2	SO2	SO55	SO55	SO75	TDSO SO32	1xEvDO Rev. O	1xEvDO Rev.O	1xEvDO Rev.A	1xEvDO Rev.A
		RC1/1 (dBm)	RC3/3 (dBm)	RC1/1 (dBm)	RC3/3 (dBm)	RC11/8 (dBm)	RC3/3 (dBm)	(FTAP)	(RTAP)	(FETAP)	(RETAP)
CDMA	1013	24.30	24.06	24.22	24.26	24.05	24.09	24.22	24.19	23.92	23.78
	384	24.31	24.22	24.31	24.31	24.19	24.24	24.28	24.19	23.99	23.60
	777	24.33	24.14	24.26	24.36	24.21	24.23	24.24	24.23	24.01	24.01
PCS	25	24.18	24.05	24.18	24.31	24.12	24.25	24.25	24.22	23.87	23.90
	600	24.15	23.98	24.03	24.20	24.05	23.96	24.34	24.32	24.07	24.12
	1175	24.21	24.04	24.09	24.03	24.16	24.01	24.07	24.06	23.68	23.71

CDMA Avergae Conducted output powers (dBm)

9.2 GSM

Conducted output power measurements were performed using a base station simulator under digital average power.



SAR Test for WWAN were performed with a base station simulator Agilent E5515C. Communication between the device and the emulator was established by air link. Set base station emulator to allow DUT to radiate maximum output power during all tests. Please refer to the below worst case SAR operation setup.

- GSM voice: Head SAR
- GPRS Multi-slots : Body SAR with GPRS Multi-slot Class10 with CS 1 (GMSK)

Note;

CS1/MCS7 coding scheme was used in GPRS/EDGE output power measurements and SAR Testing, as a condition where GMSK/8PSK modulation was ensured. Investigation has shown that CS1 - CS4/ MCS5 – MCS9 settings do not have any impact on the output levels in the GPRS/EDGE modes.

GSM850/GPRS850
Target Power : 32.5 dBm
Turn-up Tolerance : - 1.5dB/ + 0.7dB

GSM1900/GPRS1900
Target Power : 29.7 dBm
Turn-up Tolerance : - 1.5dB/ + 0.7dB

EGPRS850
Target Power : 26.6 dBm
Turn-up Tolerance : - 1.5dB/ + 0.7dB

EGPRS1900
Target Power : 25.2 dBm
Turn-up Tolerance : - 1.5dB/ + 0.7dB

GSM Conducted output powers (Burst-Average)

Band	Channel	GSM	GPRS(GMSK) Data – CS1		EDGE(8PSK) Data – MCS7	
		Voice (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)
GSM 850	128	33.09	33.20	33.14	27.23	27.1
	190	33.04	33.00	32.86	27.18	27.05
	251	33.17	33.07	32.92	27.11	26.99
GSM 1900	512	29.87	29.85	29.84	25.6	25.56
	661	29.95	29.97	29.93	25.74	25.71
	810	30.36	30.34	30.26	25.81	25.77

GSM Conducted output powers (Frame-Average)

Band	Channel	GSM	GPRS(GMSK) Data – CS1		EDGE(8PSK) Data – MCS7	
		Voice (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)
GSM 850	128	24.06	24.17	27.12	18.2	21.08
	190	24.01	23.97	26.84	18.15	21.03
	251	24.14	24.04	26.9	18.08	20.97
GSM 1900	512	20.84	20.82	23.82	16.57	19.54
	661	20.92	20.94	23.91	16.71	19.69
	810	21.33	21.31	24.24	16.78	19.75

Note:

Time slot average factor is as follows:

1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB

2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB

3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB

4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

9.3 WCDMA

Body SAR is not required for handsets with HSDPA capabilities when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is ≤ 75 % of the SAR limit. Otherwise, SAR is Measured for HSDPA, using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA, on the maximum output channel with the body exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel.

9.3.1 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 3 GPP TS 34.121, using the appropriate RMC or AMR with TPC(transmit power control) set to all “1s”.

9.3.2 Head SAR Measurements

SAR for head exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all “1s”. SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than ¼ dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 AMR with a 3.4 kbps SRB (signaling radio bearer using the exposure configuration that results in the highest SAR for that RF channel in 12.2 RMC.

9.3.3 Body SAR Measurement

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all “1s”.

9.3.4 Handsets with Release 5 HSDPA

Body SAR is not required for handsets with HSDPA capabilities when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is ≤ 75 % of the SAR limit. Otherwise, SAR is Measured for HSDPA, using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA, on the maximum output channel with the body exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel.

Sub-Test 1 Setup for Release 5 HSDPA

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	CM (dB) (2)
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 (3)	15/15 (3)	64	12/15 (3)	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

9.3.5 Handsets with Release 6 HSPA (HSDPA/HSUPA)

Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is ≤ 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 12.1 kbps RMC without HSPA. When VOIP is applicable for head exposure, SAR is not required when the maximum output of each RF channel with HSPA is less than ¼ dB higher than that measured using 12.2 kbps RMC; otherwise, the same HSPA configuration used for body measurement should be used to test for head exposure.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}: 47/15 β_{ed2}: 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Target Power : 23.3 dBm

Turn-up Tolerance : - 1.5dB/ + 0.7dB

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]						MPR Target
			4132	Power reduction (dB)	4183	Power reduction (dB)	4233	Power reduction (dB)	
99	WCDMA	12.2 kbps RMC	23.83		24		23.81		-
99	WCDMA	12.2 kbps AMR	23.81		23.97		23.78		
5	HSDPA	Subtest 1	23.72		23.95		23.82		0
5		Subtest 2	23.63	0.09	24.08	-0.13	23.74	0.08	0
5		Subtest 3	23.25	0.47	23.44	0.51	23.19	0.63	0.5
5		Subtest 4	23.19	0.53	23.48	0.47	23.21	0.61	0.5
6	HSUPA	Subtest 1	23.56		23.46		23.43		0
6		Subtest 2	21.64	1.92	21.65	1.81	21.41	2.02	2
6		Subtest 3	22.55	1.01	22.39	1.07	22.19	1.24	1
6		Subtest 4	22.33	1.23	22.41	1.05	22.31	1.12	2
6		Subtest 5	23.52	0.04	23.31	0.15	23.01	0.42	0

3GPP Release Version	Mode	3GPP 34.121 Subtest	PCS Band [dBm]						MPR Target
			9262	Power reduction (dB)	9400	Power reduction (dB)	9538	Power reduction (dB)	
99	WCDMA	12.2 kbps RMC	23.88		23.92		23.85		-
99	WCDMA	12.2 kbps AMR	23.87		23.91		23.78		
5	HSDPA	Subtest 1	23.9		23.96		23.88		0
5		Subtest 2	23.88	0.02	24.03	-0.07	23.58	0.3	0
5		Subtest 3	23.32	0.58	23.47	0.49	23.11	0.77	0.5
5		Subtest 4	23.33	0.57	23.44	0.52	23.09	0.79	0.5
6	HSUPA	Subtest 1	23.42		23.53		23.51		0
6		Subtest 2	22.22	1.2	22.38	1.15	22.32	1.19	2
6		Subtest 3	22.34	1.08	22.51	1.02	22.38	1.13	1
6		Subtest 4	22.38	1.04	22.64	0.89	22.43	1.08	2
6		Subtest 5	23.27	0.15	23.44	0.09	23.35	0.16	0

WCDMA Average Conducted output powers

9.3 WiFi

9.3.1 SAR Testing for 802.11a/b/g/n modes

General Device Setup

Normal Network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual 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.

Frequency Channel Configurations

80.11 a/b/g and 4.9 GHz operating modes are tested independently according to the service requirements in each frequency band. 80.211 b/g modes are tested on channels 1, 6 and 11.802.11a is tested for UNII operations on channels 36 and 48 in the 5.15-5.25 GHz band; channels 52 and 64 in the 5.25-5.35 GHz band; Channels 104, 116, 124 and 136 in the 5.470-5.725 GHz band; and channels 149 and 161 in the 5.8 GHz band. When 5.8 GHz § 15.247 is also available, channels 149, 157 and 165 should be tested instead of the UNII channels. 4.9 GHz is tested on channels 1, 10 and 5 or 6, whichever has the higher output power, for 5 MHz channels; channels 11,15 and 19 for 10 MHz channels; and channels 21 and 25 for 20 MHz channels.

These are referred to as the “default test channels”. 802.11g mode was evaluated only if the output power was 0.25 dB higher than the 802.11b mode.

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		√	∇		
802.11a	UNII	5.18	36				√	
		5.20	40	42 (5.21 GHz)				*
		5.22	44					*
		5.24	48	50 (5.25 GHz)			√	
		5.26	52				√	
		5.28	56	58 (5.29 GHz)				*
		5.30	60					*
		5.32	64				√	
		5.500	100	Unknown				*
		5.520	104				√	
		5.540	108					*
		5.560	112					*
		5.580	116				√	
		5.600	120					*
		5.620	124				√	
		5.640	128					*
		5.660	132					*
		5.680	136				√	
		5.700	140					*
	UNII or §15.247	5.745	149		√		√	
		5.765	153	152 (5.76 GHz)		*		*
		5.785	157		√			*
		5.805	161	160 (5.80 GHz)		*	√	
	§15.247	5.825	165		√			

802.11 Test Channels per FCC Requirements

Band	Channel	Conducted Power (dBm)			
		Data Rate (Mbps)			
		1	2	5.5	11
IEEE 802.11b	1	17.07	17.01	16.92	16.51
	6	17.04	17.00	16.92	16.42
	11	17.10	16.99	16.91	16.44

Average IEEE 802.11b Conducted output power

Band	Channel	Conducted Power (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
IEEE 802.11g	1	13.43	13.15	12.95	12.51	12.13	11.48	10.92	10.70
	6	13.98	13.74	13.50	13.08	12.70	11.99	11.49	11.31
	11	13.57	13.38	13.16	12.72	12.31	11.61	11.12	10.91

Average IEEE 802.11g Conducted output power

Band	Channel	Conducted Power (dBm)							
		Data Rate (Mbps)							
		6.5	13	19.5	26	39	52	58.5	65
IEEE 802.11n (HT-20)	1	12.52	12.05	11.64	11.24	10.60	10.12	9.92	9.73
	6	13.08	12.61	12.19	11.79	11.15	10.67	10.46	10.26
	11	12.73	12.21	11.82	11.37	10.79	10.29	10.10	9.88

Average IEEE 802.11n Conducted output power

9.4 LTE

SAR testing was performed according to the FCC KDB 941225 D05 publication.

TYK-JDS9507 developed base on MPR. The MPR is mandatory.

The device will not operate with any other MPR setting than that stated in the table as indicated.

SAR Testing was performed using a CMW500. UE transmits with Maximum output power during SAR testing.

A-MPR has been disabled for all SAR tests by setting NS=01 on the R&S CMW500.

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 -6.2.5 under Table 6.2.3-1. The differences noted are not cases of implemented MPR but rather associated with measurement uncertainty and allowable tolerances per 3 GPP standard and the manufacturer. See section 0 For MPR targets.

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks	A-MPR (dB)
NS_01	NA	NA	NA	NA	NA
NS_03	6.6.2.2.1	2, 4,10, 35, 36	3	>5	≤ 1
	6.6.2.2.1	2, 4,10, 35,36	5	>6	≤ 1
	6.6.2.2.1	2, 4,10, 35,36	10	>6	≤ 1
	6.6.2.2.1	2, 4,10,35,36	15	>8	≤ 1
	6.6.2.2.1	2, 4,10,35, 36	20	>10	≤ 1
NS_04	6.6.2.2.2	TBD	TBD	TBD	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50 for QPSK	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	n/a	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
..					
NS_32	-	-	-	-	-

9.4.1 LTE Band13 10 MHz

Target Power :22.4 dBm

Turn-up Tolerance : - 1.5dB/ + 0.7dB

Bandwidth	UL Channel	UL Freq.(MHz)	Modulation	RB Size	RB Offset	Max.Average Power (dBm)	Target MPR (dB)	Measured Power reduction (dB)
10 MHz	23230	782	QPSK	1	0	23.1	0	0.00
				1	49	23.09	0	0.01
				25	13	21.77	1	1.33
				50	0	21.69	1	1.41
			16QAM	1	0	21.64	1	1.46
				1	49	21.68	1	1.42
				25	13	20.85	2	2.25
				50	0	20.66	2	2.44

LTE Conducted output powers

Note;

The EUT enables maximum power reduction in accordance with 3GPP 36.101. The MPR settings are configured during the manufacture process and are not configurable by the network, carrier, or end user.

9.5. SVLTE/SVDO RF Conducted Power

The EUT uses a power reduction technique where the data mode transmit power is reduced a predetermined amount based on the voice transmit power. As voice 1x power approaches maximum transmit power, the data mode transmit power is reduced a configured magnitude. For low voice 1x power levels, there is no restriction on the data mode transmit power. Although this device supports SVDO/SVLTE power reduction, initial SAR evaluation will use the max. output power without power reduction. If the SVDO and SVLTE mode of operation can achieve SAR compliance without power reduction, SVDO and SVLTE with reduced power will not be performed. However, if during SAR evaluation, it is determined that power reduction is required to achieve SAR compliance; test report will include the output power used during final SAR evaluation.

Mode	CDMA Current Voice Power for BC0, BC1 (dBm)	CDMA EVDO Max. Power for BC0 & BC1 (dBm)
SVDO	P<15.5	23.7 (Limited)
	P≥15.5	18.7(Limited)
Mode	**CDMA Current Voice Power for BC0, BC1 (dBm)**	**LTE Max. Power for B13 (dBm)**
SVLTE	P<18.5	22.4 (Limited)
	P≥18.5	18.8 (Limited)

Power reduction Settings

9.5.1 SVDO

CDMA 1xRTT (BC0) to 1xEVDO (BC0 & BC1)

Agilent 8960		Agilent 8960					
CDMA BC0_1xRTT		BC0_1xEV-DO			BC1_1xEV-DO		
		Output Power [dBm]			Output Power [dBm]		
CH	Output Power [dBm]	1013	384	777	25	600	1175
1013	15	24.2	24.2	24.2	24.2	24.1	24.2
	16	19.2	19.1	19.2	19.2	19.3	19.1
384	15	24.3	24.3	24.3	24.0	24.0	24.1
	16	19.2	19.2	19.1	19.0	19.2	19.2
777	15	24.2	24.3	24.3	24.1	24.0	24.0
	16	19.2	19.1	19.2	19.2	19.0	19.3

CDMA 1xRTT (BC1) to 1xEVDO (BC0 & BC1)

Agilent 8960		Agilent 8960					
CDMA BC1_1xRTT		BC0_1xEV-DO			BC1_1xEV-DO		
		Output Power [dBm]			Output Power [dBm]		
CH	Output Power [dBm]	1013	384	777	25	600	1175
25	15	24.2	24.2	24.2	24.0	24.0	23.9
	16	19.2	19.1	19.1	19.2	19.1	19.2
600	15	24.2	24.1	24.1	24.0	24.0	23.9
	16	19.2	19.1	19.2	19.2	19.1	19.1
1175	15	24.2	24.2	24.1	24.0	23.9	23.8
	16	19.2	19.0	19.2	19.1	19.3	19.1

9.5.2 SVLTE

CDMA 1xRTT (BC0) to LTE Band 13 (QPSK, 16QAM)

LTE Band 13, 10MHz BW, CH23230 (UL)									
Agilent 8960		CMW 500							
CDMA BC0_1xRTT		QPSK				16QAM			
		Output Power [dBm]				Output Power [dBm]			
CH	Output Power [dBm]	1RB 0 offset	1RB 49offset	25RB 13offset	50RB 0 offset	1RB 0 offset	1RB 49offset	25RB 13offset	50RB 0 offset
1013	18	23.1	23.0	21.8	21.8	22.0	21.8	21.0	20.9
	19	19.1	19.0	19.3	19.2	19.3	19.0	19.2	19.3
384	18	23.0	22.9	21.9	21.8	21.9	21.8	20.9	20.8
	19	19.1	19.0	19.3	19.2	19.3	18.9	19.4	19.3
777	18	23.1	23.0	22.0	21.9	21.9	21.9	20.9	20.7
	19	19.0	18.9	19.2	19.1	19.2	18.9	19.3	19.2

CDMA 1xRTT (BC1) to LTE Band 13 (QPSK, 16QAM)

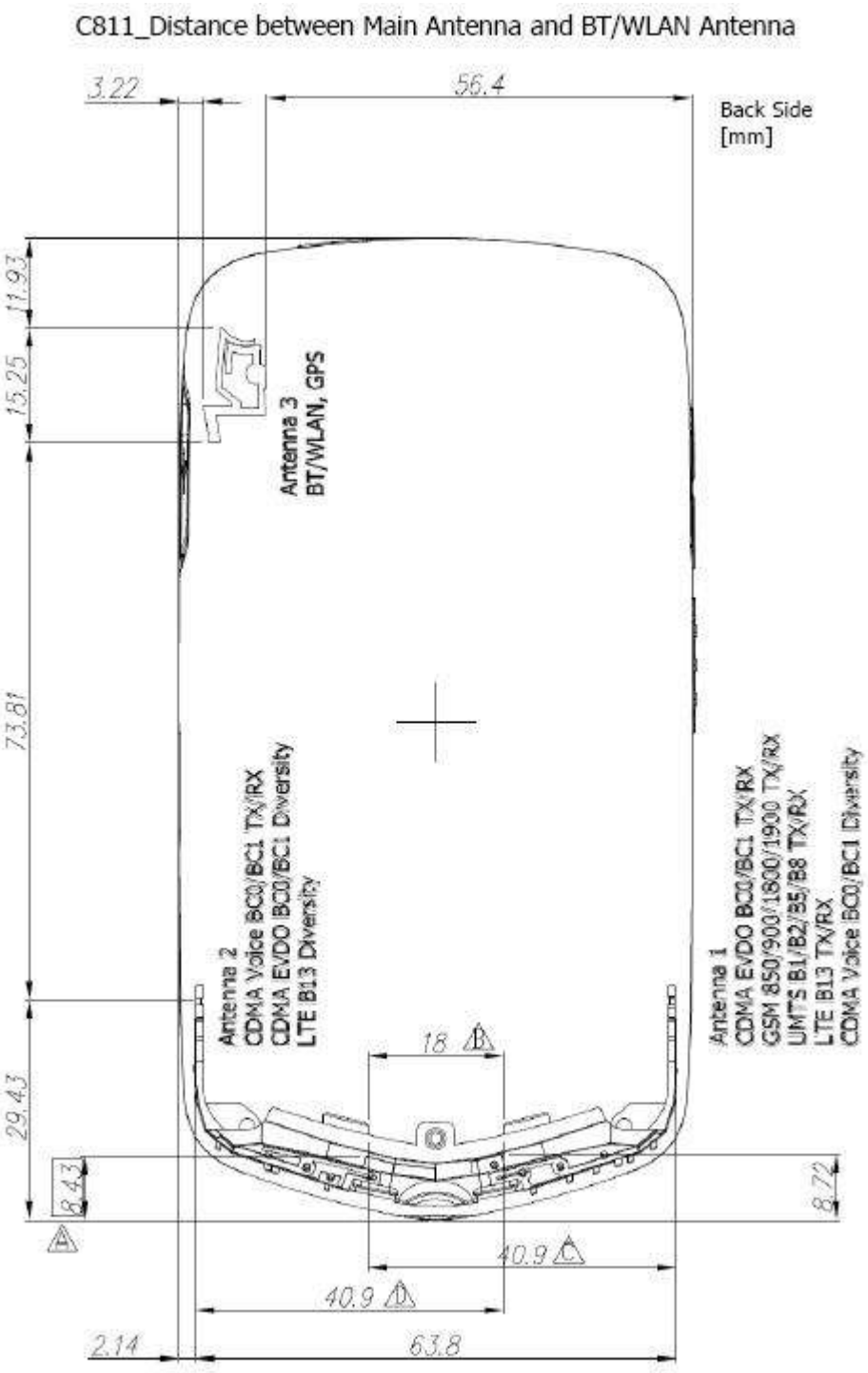
LTE Band 13, 10MHz BW, CH23230 (UL)									
Agilent 8960		CMW 500							
CDMA BC1_1xRTT		QPSK				16QAM			
		Output Power [dBm]				Output Power [dBm]			
CH	Output Power [dBm]	1RB 0 offset	1RB 49offset	25RB 13offset	50RB 0 offset	1RB 0 offset	1RB 49offset	25RB 13offset	50RB 0 offset
25	18	23.0	23.0	21.9	21.8	21.9	21.9	20.9	20.8
	19	19.1	18.9	19.3	19.2	19.3	18.9	19.3	19.2
600	18	22.9	22.9	21.8	21.8	21.8	21.7	21.0	20.9
	19	19.1	18.9	19.2	19.2	19.3	19.0	19.4	19.2
1175	18	23.1	23.0	21.9	21.8	21.8	21.8	20.9	20.8
	19	19.2	18.8	19.3	19.2	19.4	18.9	19.3	19.3

10. SAR Test configuration & Antenna Information

10.1 SAR Test configurations for Mobile Hotspot

Mode	Back	Front	Left	Right	Bottom	Top
CDMA835	Yes	Yes	No	No	No	No
EVDO835	Yes	Yes	Yes	No	Yes	Yes
PCS1900	Yes	Yes	No	No	No	No
EVDO1900	Yes	Yes	Yes	No	Yes	Yes
GSM850	Yes	Yes	Yes	No	Yes	No
GSM1900	Yes	Yes	Yes	No	Yes	No
WCDMA850	Yes	Yes	Yes	No	Yes	No
WCDMA1900	Yes	Yes	Yes	No	Yes	No
LTE B13	Yes	Yes	Yes	No	Yes	No
WLAN	Yes	Yes	No	Yes	No	Yes

10.2 Antenna and Device Information



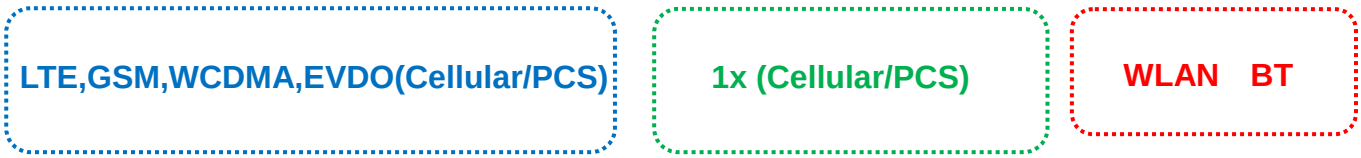
[Rear side View, Unit: mm]

Note;

Per KDB 941225 D06 hotspot procedures, we performed the SAR testing at 1 cm from the top & bottom surfaces and also from side edges with a transmitting antenna ≤ 2.5 cm from an edge.

10.3 Simultaneous Transmission Paths

Possible Transmission paths for the DUT are shown in below and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.



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10.4 SAR Exposure Conditions

Head Operation				
Mode	Band (MHz)	ANT 1	ANT 2	ANT 3
CDMA Voice(1xRTT)	835	No	Yes	No
CDMA Voice(1xRTT)	1900	No	Yes	No
EVDO	835	Yes	No	No
EVDO	1900	Yes	No	No
LTE Data	750	Yes	No	No
SVDO(Voice & Data)	835/835	Yes	Yes	No
SVDO(Voice & Data)	835/1900	Yes	Yes	No
SVDO(Voice & Data)	1900/835	Yes	Yes	No
SVDO(Voice & Data)	1900/1900	Yes	Yes	No
SVLTE(Voice & Data)	835/ 750	Yes	Yes	No
SVLTE(Voice & Data)	1900/ 750	Yes	Yes	No
GSM Voice	850	Yes	No	No
GSM Voice	1900	Yes	No	No
WCDMA Voice	850	Yes	No	No
WCDMA Voice	1900	Yes	No	No
Wi-Fi	2400/5000	No	No	Yes
BT	2400	No	No	Yes
Body-worn Operation				
Mode	Band	ANT 1	ANT 2	ANT 3
CDMA Voice(1xRTT)	835	No	Yes	No
CDMA Voice(1xRTT)	1900	No	Yes	No
EVDO	835	Yes	No	No
EVDO	1900	Yes	No	No
LTE Data	750	Yes	No	No
SVDO(Voice & Data)	835/835	Yes	Yes	No
SVDO(Voice & Data)	835/1900	Yes	Yes	No
SVDO(Voice & Data)	1900/835	Yes	Yes	No
SVDO(Voice & Data)	1900/1900	Yes	Yes	No
SVLTE(Voice & Data)	835/ 750	Yes	Yes	No
SVLTE(Voice & Data)	1900/ 750	Yes	No	No
GPRS	850	Yes	No	No
GPRS	1900	Yes	No	No
WCDMA Data	850	Yes	No	No
WCDMA Data	1900	Yes	No	No
Wi-Fi	2400/5000	No	No	Yes
BT	2400	No	No	Yes
Wireless Router/ Hotspot Operation				
Separation Distance = 1 cm				
Mode	Band	ANT 1	ANT 2	ANT 3
EVDO Data+Wi-Fi	835	Yes	No	Yes
EVDO Data+Wi-Fi	1900	Yes	No	Yes
GPRS + WiFi	850	Yes	No	Yes
GPRS + WiFi	1900	Yes	No	Yes
WCDMA Data+ WiFi	850	Yes	No	Yes
WCDMA Data+ WiFi	1900	Yes	No	Yes
LTE Data+Wi-Fi	750	Yes	No	Yes
SVDO(Voice & Data)+Wi-Fi	835/835/2450	Yes	Yes	Yes
SVDO(Voice & Data)+Wi-Fi	835/1900/2450	Yes	Yes	Yes
SVDO(Voice & Data)+Wi-Fi	1900/835/2450	Yes	Yes	Yes
SVDO(Voice & Data)+Wi-Fi	1900/1900/2450	Yes	Yes	Yes
SVLTE(Voice & Data)+Wi-Fi	835/750/2450	Yes	Yes	Yes
SVLTE(Voice & Data)+Wi-Fi	1900/750/2450	Yes	Yes	Yes

11. SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas

11.1 SAR Evaluation Considerations

These procedures were followed according to FCC "SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas", May 2008. The procedures are applicable to phones with built-in unlicensed transmitters, such as 802.11 a/b/g and Bluetooth devices.

	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. 11.1 Output Power Thresholds for Unlicensed Transmitters

	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·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	
Jaw, Mouth and Nose	Flat phantom SAR required ○ when measurement is required in tight regions of SAM and it is not feasible or the results can be questionable due to probe tilt, calibration, positioning and orientation issues ○ position rectangular and clam-shell phones according to flat phantom procedures and conduct SAR measurements for these specific locations	When simultaneous transmission SAR testing is required, contact the FCC Laboratory for interim guidance.

Table. 11.2 SAR Evaluation Requirements for Cellphones with Multiple Transmitters

FCC ID: TYK-JDS9507

BT Max. RF output power: 2.48 mW

11.2 Simultaneous Transmission Conditions

No.	Capable TX Configuration	Head	Body-worn	Hotspot	Note
		SAR	SAR	SAR	
1	CDMA 835 Voice + 2.4 GHz Wi-Fi	✓	✓	-	
2	PCS1900Voice + 2.4 GHz Wi-Fi	✓	✓	-	
3	CDMA 835 EVDO+ 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot
4	PCS1900 EVDO+ 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot
5	GSM850 Voice+ 2.4 GHz Wi-Fi	✓	✓	-	
6	GSM1900 Voice+ 2.4 GHz Wi-Fi	✓	✓	-	
7	GSM850 GPRS/EDGE Data + 2.4 GHz Wi-Fi	-	✓	✓	WI-FI Hotspot
8	GSM1900 GPRS/EDGE Data + 2.4 GHz Wi-Fi	-	✓	✓	WI-FI Hotspot
9	WCDMA 850 Voice + 2.4 GHz Wi-Fi	✓	✓	-	
10	WCDMA 1900 Voice + 2.4 GHz Wi-Fi	✓	✓	-	
11	WCDMA/HSPA 850 Data + 2.4 GHz Wi-Fi	-	✓	✓	WI-FI Hotspot
12	WCDMA/HSPA 1900 Data + 2.4 GHz Wi-Fi	-	✓	✓	WI-FI Hotspot
13	LTE B13 + 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot
14	CDMA 835 Voice + CDMA 835 EVDO	✓	✓	-	SVDO
15	CDMA 835 Voice + PCS1900EVDO	✓	✓	-	SVDO
16	CDMA 835 Voice + LTE B13	✓	✓	-	SVLTE
17	PCS1900 Voice + CDMA 835 EVDO	✓	✓	-	SVDO
18	PCS1900 Voice + PCS1900 EVDO	✓	✓	-	SVDO
19	PCS1900 Voice + LTE B13	✓	✓	-	SVLTE
20	CDMA 835 Voice + CDMA 835 EVDO + 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot + SVDO
21	CDMA 835 Voice + PCS1900EVDO + 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot + SVDO
22	CDMA 835 Voice + LTE B13 + 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot + SVLTE
23	PCS1900Voice + CDMA 835 EVDO+ 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot + SVDO
24	PCS1900Voice + PCS1900EVDO+ 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot + SVDO
25	PCS1900Voice + LTE B13+ 2.4 GHz Wi-Fi	✓	✓	✓	WI-FI Hotspot + SVLTE

* BT and WLAN are not simultaneous transmission.

* EVDO and LTE are not simultaneous transmission.

* VOIP support (LTE, EVDO, WiFi 2.4GHz).

*Hotspot support (GPRS, HSPA, LTE, EVDO).

* SVLTE, SVDO is supported.

11.3 SAR Summation Scenario

CDMA Voice + EVDO Data + WLAN VoIP Simultaneous Transmission for Held to Ear

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO835 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO835 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.
Head SAR	Left Cheek	0.611	1.08	0.221	1.912	A	Head SAR	Left Cheek	0.77	1.08	0.221	2.071	E
	Left Tilt	0.297	0.389	0.141	0.827	-		Left Tilt	0.24	0.389	0.141	0.77	-
	Right Cheek	0.733	0.73	0.175	1.638	B		Right Cheek	0.987	0.73	0.175	1.892	F
	Right Tilt	0.335	0.33	0.117	0.782	-		Right Tilt	0.251	0.33	0.117	0.698	-
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.
Head SAR	Left Cheek	0.611	1.04	0.221	1.872	C	Head SAR	Left Cheek	0.77	1.04	0.221	2.031	G
	Left Tilt	0.297	0.218	0.141	0.656	-		Left Tilt	0.24	0.218	0.141	0.599	-
	Right Cheek	0.733	0.717	0.175	1.625	D		Right Cheek	0.987	0.717	0.175	1.879	H
	Right Tilt	0.335	0.252	0.117	0.704	-		Right Tilt	0.251	0.252	0.117	0.62	-

Simultaneous Transmission Summation for Held to Ear

Simultaneous TX	configuration	GSM850 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	GSM1900 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.52	0.221	0.741	Head SAR	Left Cheek	0.392	0.221	0.613
	Left Tilt	0.21	0.141	0.351		Left Tilt	0.094	0.141	0.235
	Right Cheek	0.291	0.175	0.466		Right Cheek	0.305	0.175	0.48
	Right Tilt	0.162	0.117	0.279		Right Tilt	0.102	0.117	0.219
Simultaneous TX	configuration	WCDMA850 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	WCDMA1900 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.885	0.221	1.106	Head SAR	Left Cheek	1.02	0.221	1.241
	Left Tilt	0.349	0.141	0.49		Left Tilt	0.195	0.141	0.336
	Right Cheek	0.612	0.175	0.787		Right Cheek	0.707	0.175	0.882
	Right Tilt	0.29	0.117	0.407		Right Tilt	0.242	0.117	0.359

CDMA Voice + LTE Data + WLAN VoIP Simultaneous Transmission for Held to Ear

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.611	0.503	0.221	1.335	Head SAR	Left Cheek	0.77	0.503	0.221	1.494
	Left Tilt	0.297	0.19	0.141	0.628		Left Tilt	0.24	0.19	0.141	0.571
	Right Cheek	0.733	0.317	0.175	1.225		Right Cheek	0.987	0.317	0.175	1.479
	Right Tilt	0.335	0.163	0.117	0.615		Right Tilt	0.251	0.163	0.117	0.531

CDMA + EVDO Data + WLAN Simultaneous Transmission for Body with Hotspot (1.0 cm)

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO835 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.	Simultaneous TX	configuration	PCS1900 SAR (W/kg)	EVDO835 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.
Body SAR	Rear	0.947	1.08	0.05	2.077	I	Body SAR	Rear	0.705	1.08	0.05	1.835	L
	Front	0.743	1.02	0.045	1.808	K		Front	0.675	1.02	0.045	1.74	M
	Left	-	0.694	-	0.694	-		Left	-	0.694	-	0.694	-
	Right	-	0.426	0.041	0.467	-		Right	-	0.426	0.041	0.467	-
	Top	-	-	0.035	0.035	-		Top	-	-	0.035	0.035	-
	Bottom	-	0.124	-	0.124	-		Bottom	-	0.124	-	0.124	-
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.
Body SAR	Rear	0.947	0.61	0.05	1.607	J	Body SAR	Rear	0.705	0.61	0.05	1.365	-
	Front	0.743	0.757	0.045	1.545	-		Front	0.675	0.757	0.045	1.477	-
	Left	-	0.438	-	0.438	-		Left	-	0.438	-	0.438	-
	Right	-	0.134	0.041	0.175	-		Right	-	0.134	0.041	0.175	-
	Top	-	-	0.035	0.035	-		Top	-	-	0.035	0.035	-
	Bottom	-	0.357	-	0.357	-		Bottom	-	0.357	-	0.357	-

Simultaneous Transmission for Body with Hotspot (1.0 cm)

Simultaneous TX	configuration	GPRS850 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	GPRS1900 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.506	0.05	0.556	Body SAR	Rear	0.54	0.05	0.59
	Front	0.527	0.045	0.572		Front	0.637	0.045	0.682
	Left	0.444	-	0.444		Left	0.32	-	0.32
	Right	0.281	0.041	0.322		Right	0.091	0.041	0.132
	Top	-	0.035	0.035		Top	-	0.035	0.035
	Bottom	0.079	-	0.079		Bottom	0.284	-	0.284
Simultaneous TX	configuration	WCDMA850 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	WCDMA1900 SAR(W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.953	0.05	1.003	Body SAR	Rear	0.557	0.05	0.607
	Front	1.01	0.045	1.055		Front	0.677	0.045	0.722
	Left	0.633	-	0.633		Left	0.364	-	0.364
	Right	0.404	0.041	0.445		Right	0.11	0.041	0.151
	Top	-	0.035	0.035		Top	-	0.035	0.035
	Bottom	0.139	-	0.139		Bottom	0.294	-	0.294

CDMA + LTE Data + WLAN Simultaneous Transmission for Body with Hotspot (1.0 cm)

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.947	0.519	0.05	1.516	Body SAR	Rear	0.705	0.519	0.05	1.274
	Front	0.743	0.493	0.045	1.281		Front	0.675	0.493	0.045	1.213
	Left	-	0.375	-	0.375		Left	-	0.375	-	0.375
	Right	-	0.12	0.041	0.161		Right	-	0.12	0.041	0.161
	Top	-	-	0.035	0.035		Top	-	-	0.035	0.035
	Bottom	-	0.08	-	0.08		Bottom	-	0.08	-	0.08

Simultaneous Transmission Summation for Body-Worn (1.0cm)

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO835 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	
Body SAR	Rear	0.947	1.08	0.05	2.077	I	Body SAR	Rear	0.705	0.61	0.05	1.365	
	Front	0.743	1.02	0.045	1.808	K		Front	0.675	0.757	0.045	1.477	
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO835 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	Case no.
Body SAR	Rear	0.947	0.61	0.05	1.607	J	Body SAR	Rear	0.705	1.08	0.05	1.835	L
	Front	0.743	0.757	0.045	1.545			Front	0.675	1.02	0.045	1.74	M
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE B13 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)		Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE B13 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	
Body SAR	Rear	0.947	0.519	0.05	1.516		Body SAR	Rear	0.705	0.519	0.05	1.274	
	Front	0.743	0.493	0.045	1.281			Front	0.675	0.493	0.045	1.213	
Simultaneous TX	configuration	GPRS850 SAR(W/kg)		2.4G WIFI SAR (W/kg)	∑SAR (W/kg)		Simultaneous TX	configuration	GPRS1900 SAR(W/kg)		2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	
Body SAR	Rear	0.506		0.05	0.556		Body SAR	Rear	0.54		0.05	0.59	
	Front	0.527		0.045	0.572			Front	0.637		0.045	0.682	
Simultaneous TX	configuration	WCDMA850 SAR(W/kg)		2.4G WIFI SAR (W/kg)	∑SAR (W/kg)		Simultaneous TX	configuration	WCDMA1900 SAR(W/kg)		2.4G WIFI SAR (W/kg)	∑SAR (W/kg)	
Body SAR	Rear	0.953		0.05	1.003		Body SAR	Rear	0.557		0.05	0.607	
	Front	1.01		0.045	1.055			Front	0.677		0.045	0.722	

Note : If 1g SAR Summation was over the 1.6 W/kg and then SPLSR was over 0.3, refer 13. SVDO/SVLTE Analysis Procedure

SAR scaling Consideration for Simultaneous Transmission

SAR Summation

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.611	0.503	0.221	1.335
Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.77	0.503	0.221	1.494
Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Right Cheek	0.987	0.317	0.175	1.479
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Front	0.743	0.757	0.045	1.545
Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.705	0.61	0.05	1.365
Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Front	0.675	0.757	0.045	1.477
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE SAR (W/kg)	2.4G WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.947	0.519	0.05	1.516

Scaled SAR Summation

Simultaneous TX	configuration	CDMA835 Scaled SAR(W/kg)	LTE Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Head SAR	Left Cheek	0.624	0.534	0.172	1.339
Simultaneous TX	configuration	PCS1900 Scaled SAR(W/kg)	LTE Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Head SAR	Left Cheek	0.806	0.543	0.172	1.521
Simultaneous TX	configuration	PCS1900 Scaled SAR(W/kg)	LTE Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Head SAR	Right Cheek	1.008	0.317	0.136	1.461
Simultaneous TX	configuration	CDMA835 Scaled SAR(W/kg)	EVDO1900 Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Body SAR	Front	0.738	0.621	0.039	1.398
Simultaneous TX	configuration	PCS1900 Scaled SAR(W/kg)	EVDO1900 Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Body SAR	Rear	0.738	0.621	0.039	1.398
Simultaneous TX	configuration	PCS1900 Scaled SAR(W/kg)	EVDO1900 Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Body SAR	Front	0.707	0.771	0.035	1.513
Simultaneous TX	configuration	CDMA835 Scaled SAR(W/kg)	LTE Scaled SAR (W/kg)	2.4G WIFI Scaled SAR (W/kg)	∑ Scaled SAR (W/kg)
Body SAR	Rear	1.017	0.519	0.039	1.575

Note: The greatest deviation in measured output power below the maximum of output power tune-up limit across all transmit modes is 0.8 dBm. Applying a scale-down based on this value to the SAR limit of 1.6 W/kg results in a value of 1.33 W/kg and used as the criteria to applying scaled SAR on simultaneous transmission condition. In other words, for Simultaneous Transmission Cases with Sum of SAR values < 1.33 W/kg, SAR scaling was not applied.

11.4 Simultaneous Transmission Conclusion

The above tables represent the worst-case simultaneous transmission scenarios possibility with this device.

The conducted output power level of the BT transmitter is less than P_{ref}, the BT antenna is less than 2.5 cm from the other antenna, and licensed Transmitter SAR is less than 1.2 W/kg, therefore, a stand-alone BT SAR evaluation is not required.

Note;
Simultaneous transmission SAR is required because the sum of the 1g-SAR is > 1.6 W/kg.

12. SAR TEST DATA SUMMARY

12.1 Measurement Results (CDMA835/EVDO835 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
836.52	384 (Mid)	CDMA835	24.31	- 0.167	Standard	Left Ear	0.611
836.52	384 (Mid)	CDMA835	24.31	0.129	Standard	Left Tilt 15°	0.297
836.52	384 (Mid)	CDMA835	24.31	- 0.059	Standard	Right Ear	0.733
836.52	384 (Mid)	CDMA835	24.31	- 0.034	Standard	Right Tilt 15°	0.335
836.52	384 (Mid)	CDMA835	24.31	- 0.087	Wireless charging	Right Ear	*0.636
836.52	384 (Mid)	CDMA835	24.31	- 0.066	Extended	Right Ear	**0.638
824.7	1013 (Low)	EVDO	24.19	- 0.011	Standard	Left Ear	0.922
836.52	384(Mid)	EVDO	24.19	- 0.181	Standard	Left Ear	1.08
848.31	777(High)	EVDO	24.23	- 0.076	Standard	Left Ear	1.07
836.52	384 (Mid)	EVDO	24.19	- 0.021	Standard	Left Tilt 15°	0.389
836.52	384 (Mid)	EVDO	24.19	- 0.183	Standard	Right Ear	0.73
836.52	384 (Mid)	EVDO	24.19	0.064	Standard	Right Tilt 15°	0.33
836.52	384 (Mid)	EVDO	24.19	- 0.015	Wireless charging	Left Ear	*0.997
836.52	384 (Mid)	EVDO	24.19	- 0.188	Extended	Left Ear	**0.963
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population					**Head 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 CDMA Head SAR was tested under RC3/SO55.
9 EVDO SAR was tested under EVDO Rev.0 RTAP.
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.2 Measurement Results (PCS1900/EVDO1900 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
1 880.00	600 (Mid)	PCS1900	24.20	- 0.164	Standard	Left Ear	0.77
1 880.00	600 (Mid)	PCS1900	24.20	- 0.018	Standard	Left Tilt 15°	0.24
1 851.25	25(Low)	PCS1900	24.31	- 0.044	Standard	Right Ear	0.987
1 880.00	600 (Mid)	PCS1900	24.20	0.133	Standard	Right Ear	0.921
1 908.75	1175(High)	PCS1900	24.03	0.027	Standard	Right Ear	0.821
1 908.75	600 (Mid)	PCS1900	24.20	0.144	Standard	Right Tilt 15°	0.251
1 851.25	25(Low)	PCS1900	24.20	0.057	Wireless charging	Right Ear	*0.799
1 851.25	25(Low)	PCS1900	24.20	0.157	Extended	Right Ear	**0.796
1 851.25	25(Low)	EVDO	24.22	- 0.031	Standard	Left Ear	0.971
1 880.00	600 (Mid)	EVDO	24.32	- 0.148	Standard	Left Ear	1.04
1 908.75	1175(High)	EVDO	24.06	- 0.078	Standard	Left Ear	1.02
1 880.00	600 (Mid)	EVDO	24.32	- 0.120	Standard	Left Tilt 15°	0.218
1 880.00	600 (Mid)	EVDO	24.32	- 0.084	Standard	Right Ear	0.717
1 880.00	600 (Mid)	EVDO	24.32	- 0.143	Standard	Right Tilt 15°	0.252
1 880.00	600 (Mid)	EVDO	24.32	- 0.139	Wireless charging	Left Ear	*1.00
1 880.00	600 (Mid)	EVDO	24.32	- 0.035	Extended	Left Ear	**1.03
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population					**Head 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 CDMA Head SAR was tested under RC3/SO55.
9 EVDO SAR was tested under EVDO Rev.0 RTAP.
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.3 Measurement Results (GSM850 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
836.6	190 (Mid)	GSM850	33.04	- 0.007	Standard	Left Ear	0.52
836.6	190 (Mid)	GSM850	33.04	- 0.17	Standard	Left Tilt 15°	0.21
836.6	190 (Mid)	GSM850	33.04	- 0.001	Standard	Right Ear	0.291
836.6	190 (Mid)	GSM850	33.04	- 0.022	Standard	Right Tilt 15°	0.162
836.6	190 (Mid)	GSM850	33.04	- 0.18	Wireless charging	Left Ear	*0.456
836.6	190 (Mid)	GSM850	33.04	0.177	Extended	Left Ear	**0.476
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Head 1.6 W/kg (mW/g)** Averaged over 1 gram	

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
9 **SAR testing was performed at worst case SAR with Extended battery.

12.4 Measurement Results (GSM1900 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
1 880.0	661 (Mid)	GSM1900	29.95	- 0.158	Standard	Left Ear	0.392
1 880.0	661 (Mid)	GSM1900	29.95	- 0.041	Standard	Left Tilt 15°	0.094
1 880.0	661 (Mid)	GSM1900	29.95	- 0.084	Standard	Right Ear	0.305
1 880.0	661 (Mid)	GSM1900	29.95	- 0.171	Standard	Right Tilt 15°	0.102
1 880.0	661 (Mid)	GSM1900	29.95	- 0.097	Wireless charging	Right Ear	*0.276
1 880.0	661 (Mid)	GSM1900	29.95	- 0.078	Extended	Right Ear	**0.274
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Head 1.6 W/kg (mW/g)** Averaged over 1 gram	

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
9 **SAR testing was performed at worst case SAR with Extended battery.

12.5 Measurement Results (WCDMA850 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	Antenna Type	SAR(mW/g)
MHz	Channel							
826.4	4132 (Low)	WCDMA850	23.83	- 0.069	Standard	Left Ear	Intenna	0.78
836.6	4183 (Mid)	WCDMA850	24.00	- 0.053	Standard	Left Ear	Intenna	0.885
846.6	4233 (High)	WCDMA850	23.81	- 0.047	Standard	Left Ear	Intenna	0.7
836.6	4183 (Mid)	WCDMA850	24.00	- 0.019	Standard	Left Tilt 15°	Intenna	0.349
836.6	4183 (Mid)	WCDMA850	24.00	- 0.126	Standard	Right Ear	Intenna	0.612
836.6	4183 (Mid)	WCDMA850	24.00	- 0.018	Standard	Right Tilt 15°	Intenna	0.29
836.6	4183 (Mid)	WCDMA850	24.00	- 0.096	Wireless charging	Left Ear	Intenna	*0.827
836.6	4183 (Mid)	WCDMA850	24.00	- 0.135	Extended	Left Ear	Intenna	**0.827
ANSI/ IEEE C95.1 1992 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Head 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.
9 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
10 **SAR testing was performed at worst case SAR with Extended battery.

12.6 Measurement Results (WCDMA1900 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	Antenna Type	SAR(mW/g)
MHz	Channel							
1 852.4	9262 (Low)	WCDMA1900	23.88	- 0.113	Standard	Left Ear	Intenna	0.929
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.101	Standard	Left Ear	Intenna	0.984
1 907.6	9538 (High)	WCDMA1900	23.85	0.112	Standard	Left Ear	Intenna	1.02
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.126	Standard	Left Tilt 15°	Intenna	0.195
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.16	Standard	Right Ear	Intenna	0.707
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.127	Standard	Right Tilt 15	Intenna	0.242
1 907.6	9538 (High)	WCDMA1900	23.85	0.002	Wireless charging	Left Ear	Intenna	*0.932
1 907.6	9538 (High)	WCDMA1900	23.85	- 0.088	Extended	Left Ear	Intenna	**0.967
ANSI/ IEEE C95.1 – 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Head 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.
9 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
10 **SAR testing was performed at worst case SAR with Extended battery.

12.7 Measurement Results (LTE Band13 QPSK Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	RB Size	RB Offset	Battery	Phantom Position	SAR(mW/g)	MPR
MHz	Channel									
782	23230	QPSK	21.77	- 0.111	25	13	Standard	Left Ear	0.503	1
782	23230	QPSK	23.10	- 0.146	1	0	Standard	Left Ear	0.441	0
782	23230	QPSK	23.09	- 0.05	1	49	Standard	Left Ear	0.408	0
782	23230	QPSK	21.77	- 0.056	25	13	Standard	Left Tilt 15°	0.19	1
782	23230	QPSK	23.10	- 0.021	1	0	Standard	Left Tilt 15°	0.189	0
782	23230	QPSK	23.09	- 0.118	1	49	Standard	Left Tilt 15°	0.169	0
782	23230	QPSK	21.77	0.012	25	13	Standard	Right Ear	0.314	1
782	23230	QPSK	23.10	0.062	1	0	Standard	Right Ear	0.317	0
782	23230	QPSK	23.09	- 0.027	1	49	Standard	Right Ear	0.287	0
782	23230	QPSK	21.77	- 0.037	25	13	Standard	Right Tilt 15°	0.163	1
782	23230	QPSK	23.10	- 0.119	1	0	Standard	Right Tilt 15°	0.14	0
782	23230	QPSK	23.09	- 0.174	1	49	Standard	Right Tilt 15°	0.131	0
782	23230	QPSK	23.09	- 0.154	25	13	Wireless charging	Left Ear	*0.494	0
782	23230	QPSK	23.09	- 0.099	25	13	Extended	Left Ear	**0.485	0

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg (mW/g) Averaged over 1 gram

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required since the power variation across all channels is 1/2 dB and SAR is ≤ 1.45 W/kg.
8 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
9 **SAR testing was performed at worst case SAR with Extended battery.

12.8 Measurement Results (LTE Band13 16QAM Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	RB Size	RB Offset	Battery	Phantom Position	SAR(mW/g)	MPR
MHz	Chann									
782	23230	16QAM	20.85	- 0.005	25	13	Standard	Left Ear	0.365	2
782	23230	16QAM	21.64	- 0.074	1	0	Standard	Left Ear	0.42	1
782	23230	16QAM	21.68	- 0.092	1	49	Standard	Left Ear	0.386	1
782	23230	16QAM	20.85	- 0.131	25	13	Standard	Left Tilt 15°	0.148	2
782	23230	16QAM	21.64	- 0.051	1	0	Standard	Left Tilt 15°	0.178	1
782	23230	16QAM	21.68	- 0.088	1	49	Standard	Left Tilt 15°	0.157	1
782	23230	16QAM	20.85	0.009	25	13	Standard	Right Ear	0.248	2
782	23230	16QAM	21.64	- 0.067	1	0	Standard	Right Ear	0.289	1
782	23230	16QAM	21.68	- 0.034	1	49	Standard	Right Ear	0.276	1
782	23230	16QAM	20.85	- 0.104	25	13	Standard	Right Tilt 15°	0.117	2
782	23230	16QAM	21.64	0.006	1	0	Standard	Right Tilt 15°	0.133	1
782	23230	16QAM	21.68	- 0.022	1	49	Standard	Right Tilt 15°	0.126	1

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg (mW/g) Averaged over 1 gram

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required since the power variation across all channels is 1/2 dB and SAR is ≤ 1.45 W/kg.

12.9 Measurement Results (802.11b/g/n Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
2 462	11(High)	802.11b	17.10	0.16	Standard	Left Ear	0.221
2 462	11(High)	802.11b	17.10	- 0.124	Standard	Left Tilt 15°	0.141
2 462	11(High)	802.11b	17.10	0.121	Standard	Right Ear	0.175
2 462	11(High)	802.11b	17.10	- 0.012	Standard	Right Tilt 15	0.117
2 462	11(High)	802.11b	17.10	- 0.145	Wireless charging	Left Ear	*0.136
2 462	11(High)	802.11b	17.10	- 0.079	Extended	Left Ear	**0.215
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Head 1.6 W/kg (mW/g)** Averaged over 1 gram	

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].

2 All modes of operation were investigated and the worst-case are reported.

3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.

4 Tissue parameters and temperatures are listed on the SAR plot.

5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.

6 Test Signal Call Mode ☒ Manual Test cord ☐ Base Station Simulator

7 IEEE 802.11g(including 802.11n) SAR testing is required when the conducted powers are equal to or greater than 0.25 dB Than the conducted powers in IEEE 802.11b.

8 For 2.4GHz WLAN, Highest average power channel for the lowest data rate was selected for SAR evaluation based on KDB 248227. Other channels are not necessary because 1g-average SAR < 0.8 W/Kg and peak SAR < 1.6W/Kg per KDB 248227.

9 *SAR testing was performed at worst case SAR with Wireless charging battery cover.

10 **SAR testing was performed at worst case SAR with Extended battery.

12.10 Measurement Results (CDMA835/EVDO Hotspot SAR)

Frequency		Modulation	ConductedPower (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
824.7	1013 (Low)	CDMA835	24.09	0.041	Rear	Standard	1.0 cm	0.947
836.52	384 (Mid)	CDMA835	24.24	- 0.038	Rear	Standard	1.0 cm	0.911
848.31	777 (High)	CDMA835	24.23	- 0.041	Rear	Standard	1.0 cm	0.942
836.52	384 (Mid)	CDMA835	24.24	- 0.062	Front	Standard	1.0 cm	0.743
824.7	1013 (Low)	CDMA835	24.09	0.137	Rear	Wireless charging	1.0 cm	*0.782
824.7	1013 (Low)	CDMA835	24.09	0.038	Rear	Extended	1.0 cm	**0.792
824.7	1013 (Low)	EVDO	24.19	- 0.045	Rear	Standard	1.0 cm	0.998
836.52	384 (Mid)	EVDO	24.19	- 0.018	Rear	Standard	1.0 cm	1.07
848.31	777 (High)	EVDO	24.23	- 0.178	Rear	Standard	1.0 cm	1.08
824.7	1013 (Low)	EVDO	24.19	- 0.007	Front	Standard	1.0 cm	0.927
836.52	384 (Mid)	EVDO	24.19	- 0.076	Front	Standard	1.0 cm	1.02
848.31	777 (High)	EVDO	24.23	- 0.041	Front	Standard	1.0 cm	1.01
836.52	384 (Mid)	EVDO	24.19	0.011	Left	Standard	1.0 cm	0.694
836.52	384 (Mid)	EVDO	24.19	- 0.165	Bottom	Standard	1.0 cm	0.124
848.31	777 (High)	EVDO	24.19	0.074	Rear	Wireless charging	1.0 cm	*0.813
848.31	777 (High)	EVDO	24.19	- 0.058	Rear	Extended	1.0 cm	**0.816
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Body SAR was tested under RC3/SO32 FCH only.
9 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.11 Measurement Results(PCS1900/EVDO Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
1 880.00	600 (Mid)	PCS1900	24.20	- 0.058	Rear	Standard	1.0 cm	0.705
1 880.00	600 (Mid)	PCS1900	24.20	0.004	Front	Standard	1.0 cm	0.675
1 880.00	600 (Mid)	PCS1900	24.20	- 0.003	Rear	Wireless charging	1.0 cm	*0.694
1 880.00	600 (Mid)	PCS1900	24.20	- 0.014	Rear	Extended	1.0 cm	**0.69
1 880.00	600 (Mid)	EVDO	24.32	- 0.074	Rear	Standard	1.0 cm	0.61
1 880.00	600 (Mid)	EVDO	24.32	0.004	Front	Standard	1.0 cm	0.757
1 880.00	600 (Mid)	EVDO	24.32	- 0.094	Left	Standard	1.0 cm	0.438
1 880.00	600 (Mid)	EVDO	24.32	0.00	Bottom	Standard	1.0 cm	0.357
1 880.00	600 (Mid)	EVDO	24.32	- 0.063	Front	Wireless charging	1.0 cm	*0.676
1 880.00	600 (Mid)	EVDO	24.32	- 0.008	Front	Extended	1.0 cm	**0.669
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Body SAR was tested under RC3/SO32 FCH only.
9 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.12 Measurement Results (GSM850 Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
836.6	190 (Mid)	GPRS 2Tx	32.86	0.004	Rear	Standard	1.0 cm	0.506
836.6	190 (Mid)	GPRS 2Tx	32.86	0.156	Front	Standard	1.0 cm	0.527
836.6	190 (Mid)	GPRS 2Tx	32.86	- 0.135	Left	Standard	1.0 cm	0.444
836.6	190 (Mid)	GPRS 2Tx	32.86	- 0.008	Bottom	Standard	1.0 cm	0.079
836.6	190 (Mid)	GPRS 2Tx	32.86	- 0.025	Front	Wireless charging	1.0 cm	*0.426
836.6	190 (Mid)	GPRS 2Tx	32.86	- 0.021	Front	Extended	1.0 cm	**0.439
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
9 For body SAR testing, the EUT was set in GPRS multi-slot class10 with 2uplink slots for GSM850 due to maximum source-based time-averaged output power.
According to the KDB 941225 D03 SAR test reduction GSM/GPRS/EDGE, the maximum output power configuration were chosen for Body SAR testing.
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.13 Measurement Results (GSM1900 Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
1 880.0	661 (Mid)	GPRS 2Tx	29.93	0.019	Rear	Standard	1.0 cm	0.54
1 880.0	661 (Mid)	GPRS 2Tx	29.93	0.044	Front	Standard	1.0 cm	0.637
1 880.0	661 (Mid)	GPRS 2Tx	29.93	0.018	Left	Standard	1.0 cm	0.32
1 880.0	661 (Mid)	GPRS 2Tx	29.93	0.140	Bottom	Standard	1.0 cm	0.284
1 880.0	661 (Mid)	GPRS 2Tx	29.93	0.115	Front	Wireless charging	1.0 cm	*0.476
1 880.0	661 (Mid)	GPRS 2Tx	29.93	- 0.042	Front	Extended	1.0 cm	**0.517
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g) Averaged over 1 gram**		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
9 For body SAR testing, the EUT was set in GPRS multi-slot class10 with 2uplink slots for GSM1900 due to maximum source-based time-averaged output power.
According to the KDB 941225 D03 SAR test reduction GSM/GPRS/EDGE, the maximum output power configuration were chosen for Body SAR testing.
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.14 Measurement Results (WCDMA850 Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
826.4	4132 (Low)	WCDMA850	23.83	- 0.123	Rear	Standard	1.0 cm	0.853
836.6	4183 (Mid)	WCDMA850	24.00	- 0.125	Rear	Standard	1.0 cm	0.953
846.6	4233 (High)	WCDMA850	23.81	- 0.035	Rear	Standard	1.0 cm	0.809
826.4	4132 (Low)	WCDMA850	23.83	0.086	Front	Standard	1.0 cm	1.01
836.6	4183 (Mid)	WCDMA850	24.00	- 0.022	Front	Standard	1.0 cm	0.92
846.6	4233 (High)	WCDMA850	23.81	0.042	Front	Standard	1.0 cm	0.981
836.6	4183 (Mid)	WCDMA850	24.00	- 0.079	Left	Standard	1.0 cm	0.633
836.6	4183 (Mid)	WCDMA850	24.00	- 0.049	Bottom	Standard	1.0 cm	0.139
826.4	4132 (Low)	WCDMA850	23.83	- 0.058	Front	Wireless charging	1.0 cm	*0.75
826.4	4132 (Low)	WCDMA850	23.83	- 0.050	Front	Extended	1.0 cm	**0.731
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

1 The test data reported are the worst-case SAR value with the antenna-Body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
9 WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.15 Measurement Results (WCDMA1900 Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
1 880.0	9400 (Mid)	WCDMA1900	23.92	0.013	Rear	Standard	1.0 cm	0.557
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.002	Front	Standard	1.0 cm	0.677
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.036	Left	Standard	1.0 cm	0.364
1 880.0	9400 (Mid)	WCDMA1900	23.92	0.065	Bottom	Standard	1.0 cm	0.294
1 880.0	9400 (Mid)	WCDMA1900	23.92	- 0.133	Front	Wireless charging	1.0 cm	*0.556
1 880.0	9400 (Mid)	WCDMA1900	23.92	0.057	Front	Extended	1.0 cm	**0.551
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

1 The test data reported are the worst-case SAR value with the antenna-Body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
9 WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.
10 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
11 **SAR testing was performed at worst case SAR with Extended battery.

12.16 Measurement Results (LTE Band13 QPSK Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	RB Size	RB Offset	Separation Distance	SAR (mW/g)	MPR
MHz	Channel										
782	23230	QPSK	21.77	- 0.128	Rear	Standard	25	13	1.0 cm	0.483	1
782	23230	QPSK	23.10	- 0.036	Rear	Standard	1	0	1.0 cm	0.519	0
782	23230	QPSK	23.09	- 0.012	Rear	Standard	1	49	1.0 cm	0.489	0
782	23230	QPSK	21.77	0.002	Front	Standard	25	13	1.0 cm	0.453	1
782	23230	QPSK	23.10	0.067	Front	Standard	1	0	1.0 cm	0.493	0
782	23230	QPSK	23.09	0.010	Front	Standard	1	49	1.0 cm	0.465	0
782	23230	QPSK	21.77	- 0.026	Left	Standard	25	13	1.0 cm	0.352	1
782	23230	QPSK	23.10	- 0.104	Left	Standard	1	0	1.0 cm	0.375	0
782	23230	QPSK	23.09	0.052	Left	Standard	1	49	1.0 cm	0.353	0
782	23230	QPSK	21.77	0.06	Bottom	Standard	25	13	1.0 cm	0.080	1
782	23230	QPSK	23.10	- 0.089	Bottom	Standard	1	0	1.0 cm	0.085	0
782	23230	QPSK	23.09	- 0.046	Bottom	Standard	1	49	1.0 cm	0.077	0
782	23230	QPSK	23.10	0.063	Rear	Wireless charging	1	0	1.0 cm	*0.511	0
782	23230	QPSK	23.10	- 0.033	Rear	Extended	1	0	1.0 cm	**0.431	0
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required since the power variation across all channels is 1/2 dB and SAR is ≤ 1.45 W/kg.

8 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
9 **SAR testing was performed at worst case SAR with Extended battery.

12.17 Measurement Results (LTE Band13 16QAM Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	RB Size	RB Offset	Separation Distance	SAR (mW/g)	MPR
MHz	Channel										
782	23230	16QAM	20.85	0.004	Rear	Standard	25	13	1.0 cm	0.378	2
782	23230	16QAM	21.64	- 0.023	Rear	Standard	1	0	1.0 cm	0.5	1
782	23230	16QAM	21.68	- 0.019	Rear	Standard	1	49	1.0 cm	0.471	1
782	23230	16QAM	20.85	0.052	Front	Standard	25	13	1.0 cm	0.351	2
782	23230	16QAM	21.64	0.030	Front	Standard	1	0	1.0 cm	0.479	1
782	23230	16QAM	21.68	0.016	Front	Standard	1	49	1.0 cm	0.454	1
782	23230	16QAM	20.85	- 0.032	Left	Standard	25	13	1.0 cm	0.275	2
782	23230	16QAM	21.64	- 0.041	Left	Standard	1	0	1.0 cm	0.373	1
782	23230	16QAM	21.68	- 0.042	Left	Standard	1	49	1.0 cm	0.353	1
782	23230	16QAM	20.85	- 0.014	Bottom	Standard	25	13	1.0 cm	0.063	2
782	23230	16QAM	21.64	- 0.016	Bottom	Standard	1	0	1.0 cm	0.078	1
782	23230	16QAM	21.68	- 0.026	Bottom	Standard	1	49	1.0 cm	0.076	1
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									**Body 1.6 W/kg (mW/g) Averaged over 1 gram**		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required since the power variation across all channels is 1/2 dB and SAR is ≤ 1.45 W/kg.

12.18 Measurement Results (802.11b/g/n Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	Data Rate	SAR(mW/g)
MHz	Channel								
2 462	11(Low)	802.11b	17.10	- 0.041	Rear	Standard	1.0 cm	1 Mbps	0.05
2 462	11(Low)	802.11b	17.10	0.147	Front	Standard	1.0 cm	1 Mbps	0.045
2 462	11(Low)	802.11b	17.10	- 0.087	Right	Standard	1.0 cm	1 Mbps	0.041
2 462	11(Low)	802.11b	17.10	0.100	Top	Standard	1.0 cm	1 Mbps	0.035
2 462	11(Low)	802.11b	17.10	0.038	Rear	Wireless charging	1.0 cm	1 Mbps	*0.04
2 462	11(Low)	802.11b	17.10	- 0.092	Rear	Extended	1.0 cm	1 Mbps	**0.029
ANSI/ IEEE C95.1 1992 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							**Body 1.6 W/kg (mW/g)** Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☒ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☒ Manual Test code ☐ Base Station Simulator
7 IEEE 802.11g(including 802.11n) SAR testing is required when the conducted powers are equal to or greater than 0.25 dB Than the conducted powers in IEEE 802.11b.
8 For 2.4GHz WLAN, Highest average power channel for the lowest data rate was selected for SAR evaluation based on KDB 248227. Other channels are not necessary because 1g-average SAR < 0.8 W/Kg and peak SAR < 1.6W/Kg per KDB 248227.
9 *SAR testing was performed at worst case SAR with Wireless charging battery cover.
10 **SAR testing was performed at worst case SAR with Extended battery.

12.19 Measurement Results (EVDO835/EVDO1900 Head SAR)

With Power Reduction

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
836.52	384(Mid)	EVDO	19.20	-0.073	Standard	Left Ear	0.277
836.52	384 (Mid)	EVDO	19.20	0.173	Standard	Right Ear	0.211
1 880.00	600 (Mid)	EVDO	19.20	-0.071	Standard	Left Ear	0.263
1 880.00	600 (Mid)	EVDO	19.20	0.144	Standard	Right Ear	0.203
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population					**Head 1.6 W/kg (mW/g) **Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
8 EVDO SAR was tested under EVDO Rev.0 RTAP.
9 EVDO SAR was tested under EVDO Power Reduction. (1g SAR summation is > 1.6 W/kg and SPLSR is > 0.3)
10 The test data reported a

12.20 Measurement Results (EVDO835/ EVDO1900 Hotspot SAR) With Power Reduction

Frequency		Modulation	ConductedPower (dBm)	Power Drift (dB)	Configuration	Battery	Separation Distance	SAR(mW/g)
MHz	Channel							
836.52	384 (Mid)	EVDO	19.20	0.084	Rear	Standard	1.0 cm	0.325
836.52	384 (Mid)	EVDO	19.20	0.176	Front	Standard	1.0 cm	0.316
1 880.00	600 (Mid)	EVDO	19.20	0.021	Rear	Standard	1.0 cm	0.178
ANSI/ IEEE C95.1 – 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g) **Averaged over 1 gram		

NOTES:

1 The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 EVDO SAR was tested under EVDO Rev.0 RTAP.
9 Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
10 EVDO SAR was tested under EVDO Power Reduction. (1g SAR summation is > 1.6 W/kg and SPLSR is > 0.3)

13. SVDO/SVLTE Analysis Procedure

The implemented Power combination:

Power combination	CDMA2000 1x voice mode(dBm)	EVDO Data mode(dBm)
SVDO Mode	23.7	18.7
	16	18.7
	15	23.7
Power combination	CDMA2000 1x voice mode(dBm)	LTE Data mode(dBm)
SVLTE Mode	23.7	18.8
	19	18.8
	18	22.4

Alternative combination- For analysis Purpose only

Power combination	CDMA2000 1x voice mode(dBm)	EVDO Data mode(dBm)
#1	23.7	23.7
#2	23.7	18.7
#3	16	18.7
#4	15	23.7
Power combination	CDMA2000 1x voice mode(dBm)	LTE Data mode(dBm)
#5	23.7	22.4
#6	23.7	18.8
#7	19	18.8
#8	18	22.4

Note: Alternative combinations #1/ #5 are not implemented in DUT SVDO/SVLTE power reduction design, those are made for simultaneous transmission exclusion analysis only.

Analysis Procedure:

1. Maximum output power stand-alone SAR are used for simultaneous transmission analysis. (Power combination # 1,#5)
2. If 1g SAR summation is < 1.6 W/kg, further evaluation is not required.
3. If 1g SAR summation is > 1.6 W/kg, SPLSR is required.
4. If SPLSR is < 0.3, further evaluation is not required.
5. If SPLSR is > 0.3, power combination #2, #6 can be used for summation.
6. If 1g SAR summation is < 1.6 W/kg, further evaluation is not required.
7. If 1g SAR summation is > 1.6 W/kg, SPLSR is required for power combination #2, #6.
8. If SPLSR is < 0.3, further evaluation is not required.
9. If SPLSR is > 0.3, volume SAR is required for power combination #2, #6.

13.1 SVDO Head Exposure Condition

SVDO Head

Position	Voice		Data			∑ 1g SAR	Case No.
	CDMA835 1xRTT	PCS1900 1xRTT	CDMA835 1xEVDO	PCS1900 1xEVDO	WiFi		
Left Touch	0.611		1.08		0.221	1.912	A
Left Tilt	0.297		0.389		0.141	0.827	
Right Touch	0.733		0.73		0.175	1.638	B
Right Tilt	0.335		0.33		0.117	0.782	
Left Touch	0.611			1.04	0.221	1.872	C
Left Tilt	0.297			0.218	0.141	0.656	
Right Touch	0.733			0.717	0.175	1.625	D
Right Tilt	0.335			0.252	0.117	0.704	
Left Touch		0.77	1.08		0.221	2.071	E
Left Tilt		0.24	0.389		0.141	0.77	
Right Touch		0.987	0.73		0.175	1.892	F
Right Tilt		0.251	0.33		0.117	0.698	
Left Touch		0.77		1.04	0.221	2.031	G
Left Tilt		0.24		0.218	0.141	0.599	
Right Touch		0.987		0.717	0.175	1.879	H
Right Tilt		0.251		0.252	0.117	0.62	

SVDO Head EVDO Power Reduction

Position	Voice		Data			∑ 1g SAR
	CDMA850 1xRTT	PCS1900 1xRTT	CDMA835 1xEVDO Power Reduction	PCS1900 1xEVDO Power Reduction	WiFi	
Left Touch	0.611		0.277		0.221	1.109
Right Touch	0.733		0.211		0.175	1.119
Left Touch	0.611			0.263	0.221	1.095
Right Touch	0.733			0.203	0.175	1.111
Left Touch		0.77	0.277		0.221	1.268
Right Touch		0.987	0.211		0.175	1.373
Left Touch		0.77		0.263	0.221	1.254
Right Touch		0.987		0.203	0.175	1.365

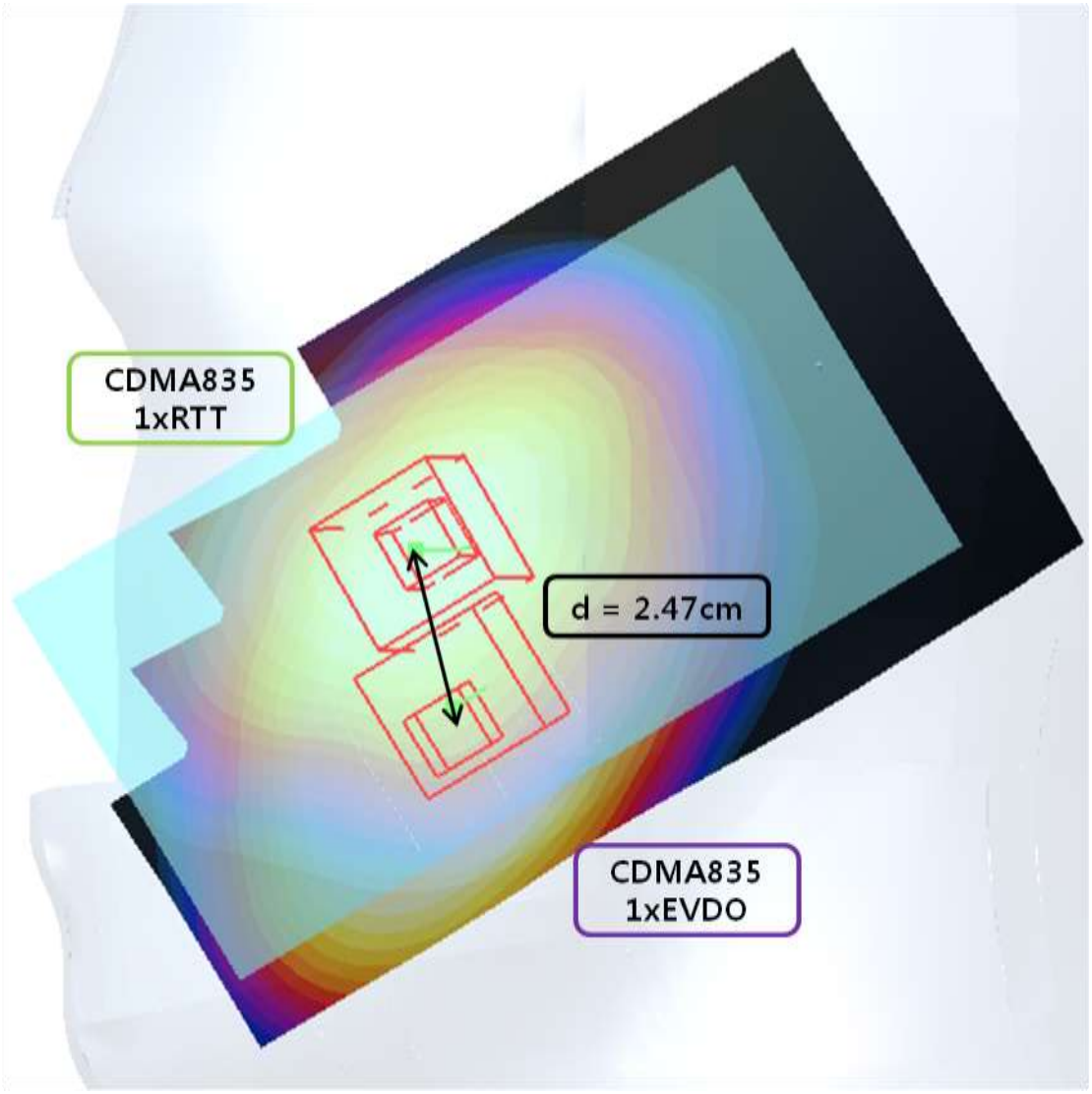
NOTES:

- 1g SAR Summation is over the 1.6 W/kg, and SPLSR is over 0.3, then Power Combination that was mixed with Max Power and Reduction Power is used for summation.
- If 1g SAR Summation is under 1.6 W/kg, further evaluation is not required.
- The Numbers marked in blue is measured Reduction Power.
- 1g SAR Summation in Table 'SVDO Head EVDO Power Reduction' is compliant with SAR requirement

SAR to Peak Location Separation Ratio (SPLSR)

Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	CDMA835 1xEVDO	WiFi				
A	Left touch	0.611	1.08	0.221	1.912			-
		0.611	1.08		1.691	2.47	0.69	1
		0.611		0.221	0.832	6.17	0.13	2
			1.08	0.221	1.301	7.32	0.18	3
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	CDMA835x1 EVDO	WiFi				
B	Right touch	0.733	0.73	0.175	1.638			-
		0.733	0.73		1.463	2.54	0.58	4
		0.733		0.175	0.908	5.52	0.16	5
			0.73	0.175	0.905	5.78	0.16	6
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	PCS1900 1xEVDO	WiFi				
C	Left touch	0.611	1.04	0.221	1.872			-
		0.611	1.04		1.57	3.64	0.45	7
		0.611		0.221	0.832	6.17	0.13	2
			1.04	0.221	1.261	6.28	0.20	8
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	PCS1900 1xEVDO	WiFi				
D	Right touch	0.733	0.717	0.175	1.625			-
		0.733	0.717		1.45	0.92	1.57	9
		0.733		0.175	0.908	5.52	0.16	5
			0.717	0.175	0.892	6.02	0.15	10
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		PCS1900 1xRTT	CDMA835 1xEVDO	WiFi				
E	Left touch	0.77	1.08	0.221	2.071			-
		0.77	1.08		1.85	1.58	1.17	11
		0.77		0.221	0.991	6.80	0.15	12
			1.08	0.221	1.301	7.32	0.18	3
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		PCS1900 1xRTT	CDMA835 1xEVDO	WiFi				
F	Right touch	0.987	0.73	0.175	1.892			-
		0.987	0.73		1.717	3.69	0.47	13
		0.987		0.175	1.162	5.79	0.20	14
			0.73	0.175	0.905	5.78	0.16	6
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		PCS1900 1xRTT	PCS1900 1x EVDO	WiFi				
G	Left touch	0.77	1.04	0.221	2.031			-
		0.77	1.04		1.81	0.64	2.81	15
		0.77		0.221	0.991	6.80	0.15	12
			1.04	0.221	1.261	6.28	0.20	8
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		PCS1900 1xRTT	PCS1900 1xEVDO	WiFi				
H	Right touch	0.987	0.717	0.175	1.879			-
		0.987	0.717		1.704	0.52	3.28	16
		0.987		0.175	1.162	5.79	0.20	14
			0.717	0.175	0.892	6.02	0.15	10

Figure. 1 (CDMA835 1xRTT to CDMA835 1xEVDO)

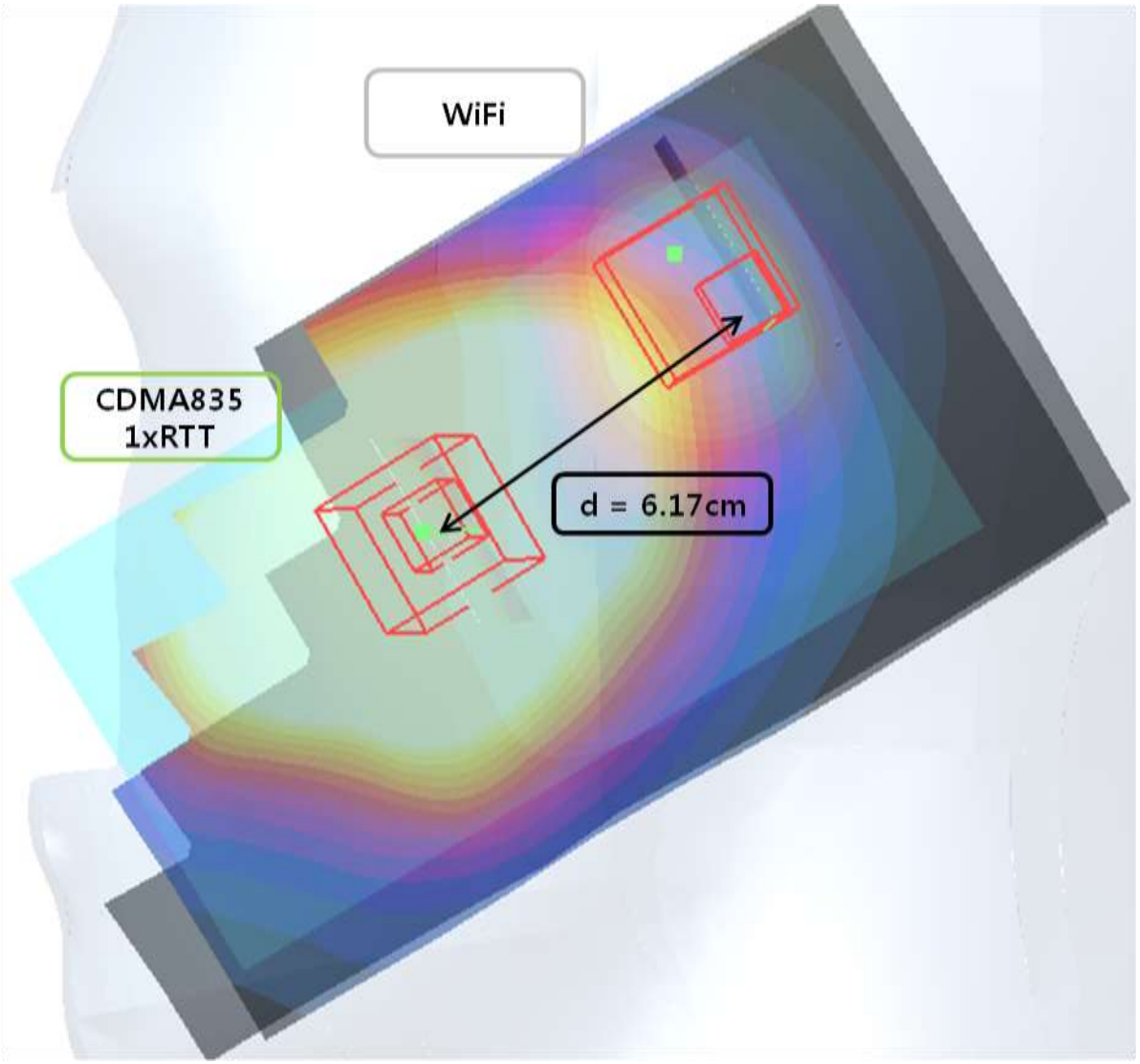


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.611	0.0754	0.282	- 0.171
CDMA 835 1xEVDO	1.08	0.0707	0.258	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 2.47 cm

Figure. 2 (CDMA835 1xRTT to WiFi)

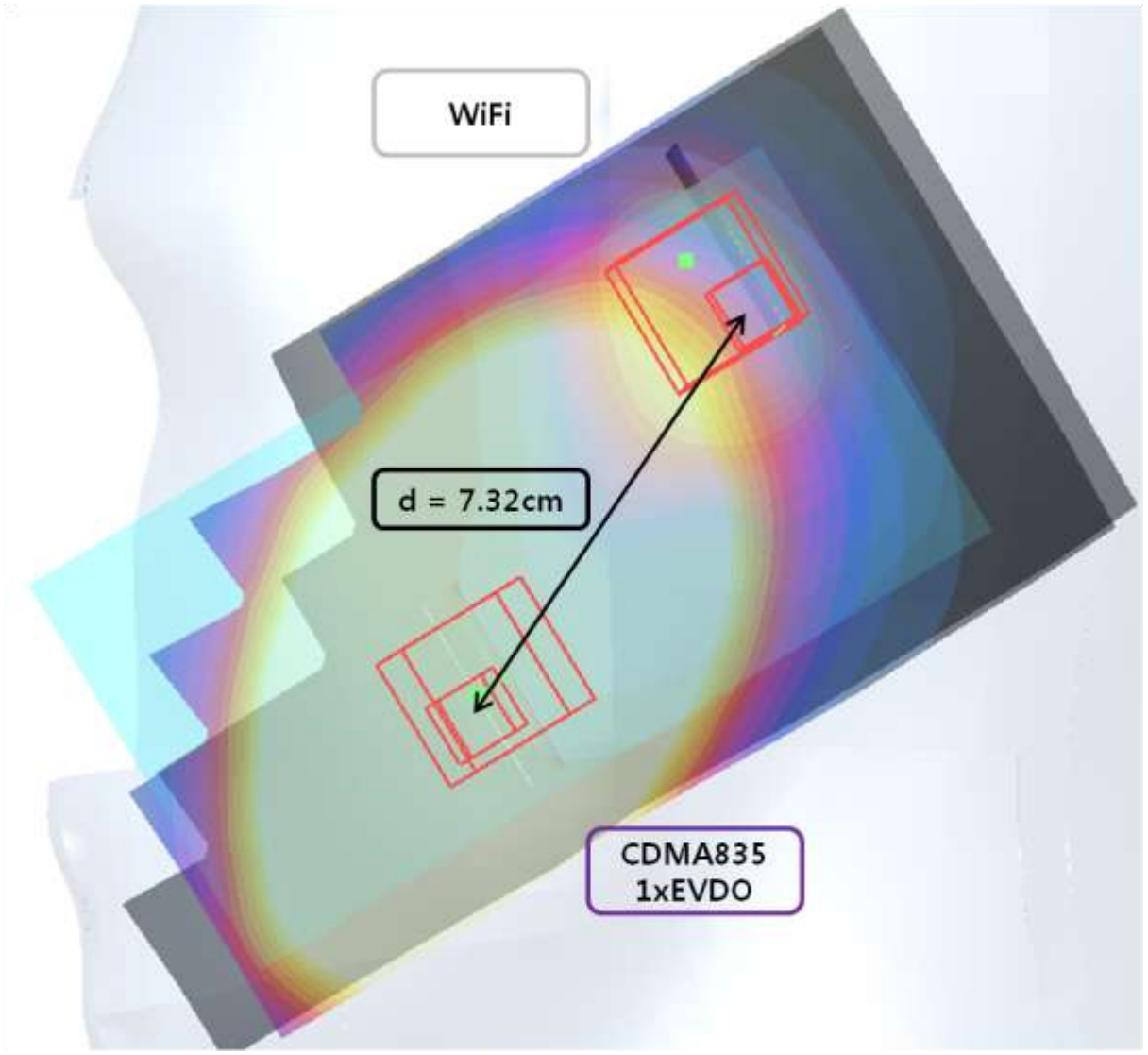


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.611	0.0764	0.282	- 0.171
WiFi	0.221	0.0236	0.314	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 6.17 cm

Figure. 3 (CDMA835 1xEVDO to WiFi)

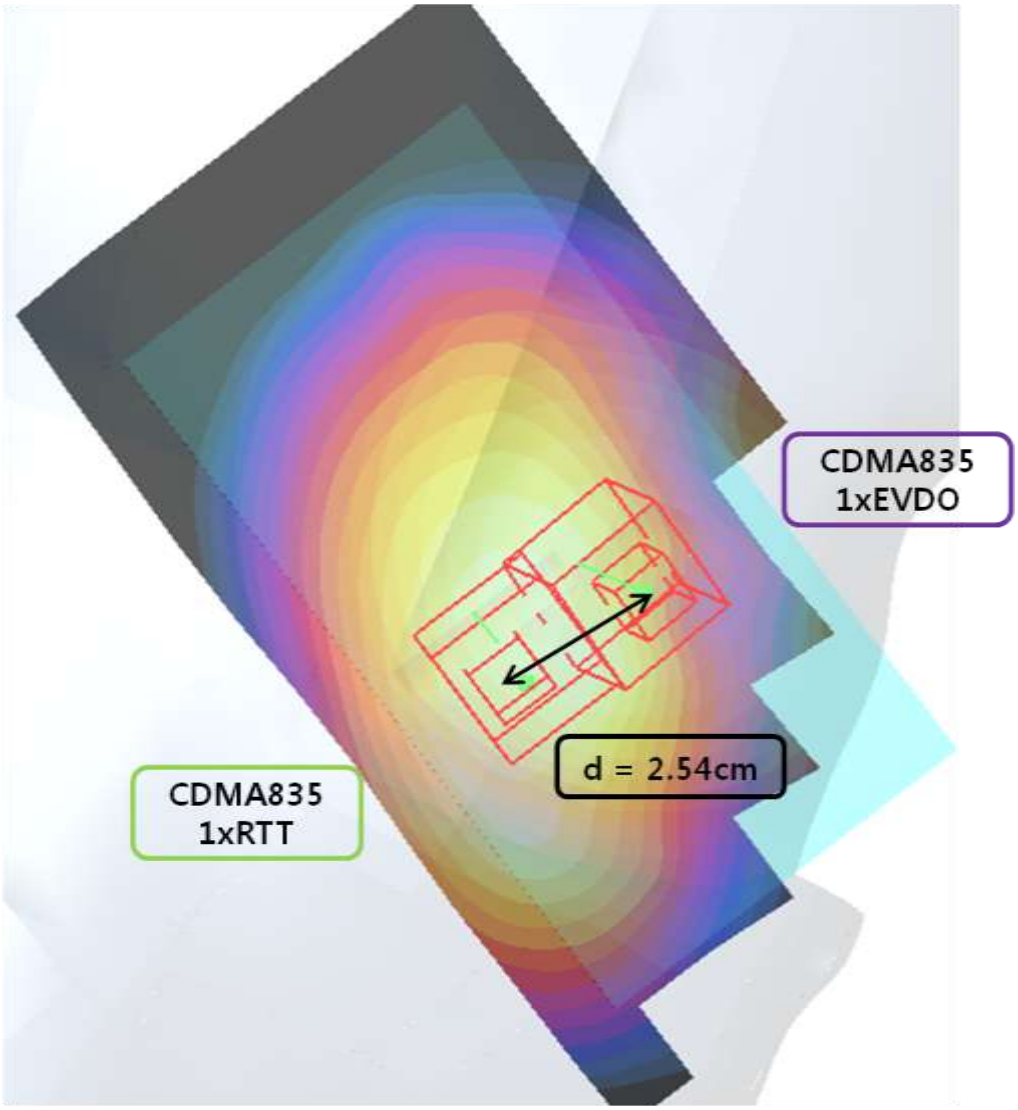


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xEVDO	1.08	0.0707	0.258	- 0.171
WiFi	0.221	0.0236	0.314	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 7.32 cm

Figure. 4 (CDMA835 1xRTT to CDMA835 1xEVDO)

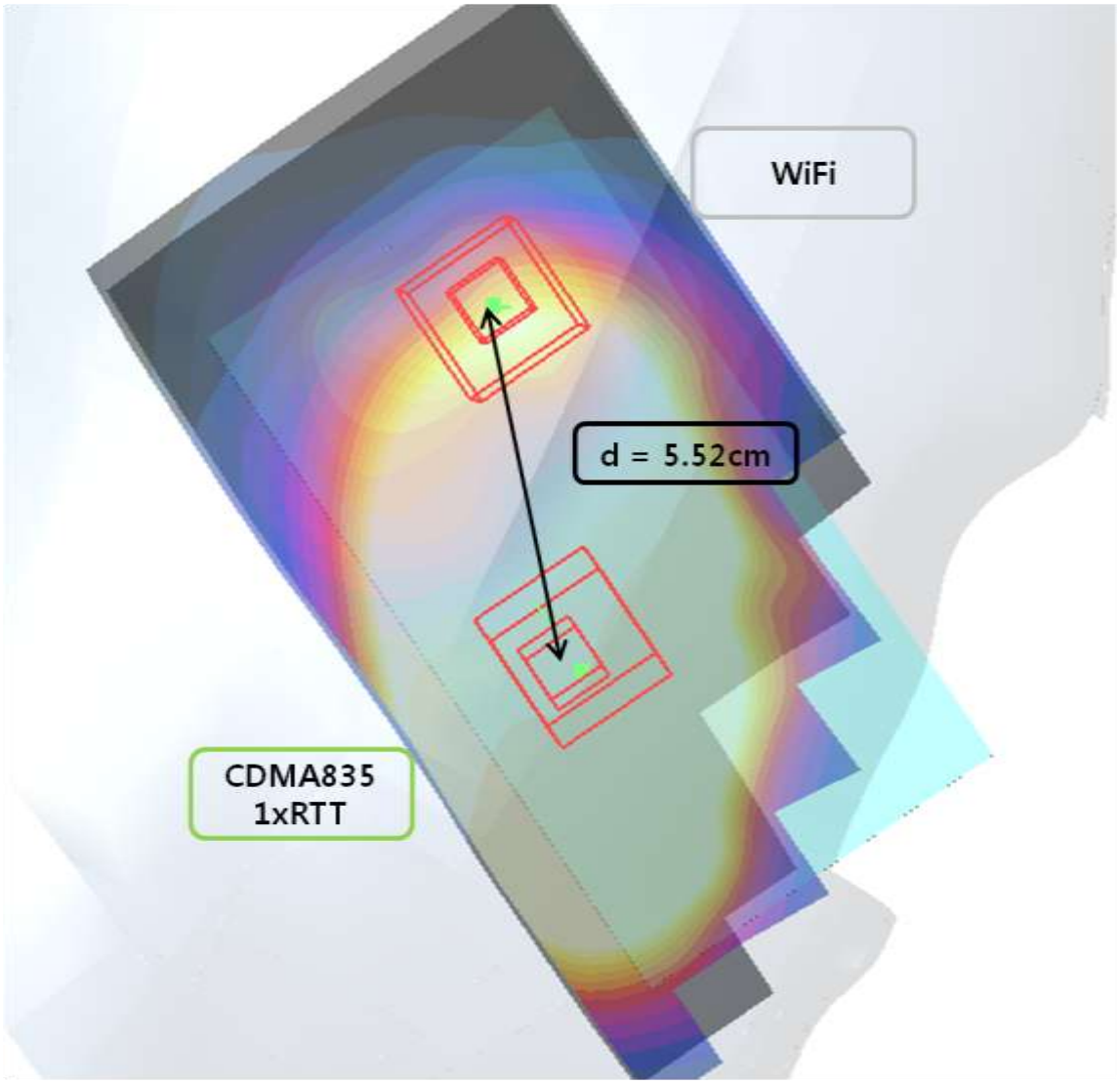


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.733	0.0647	- 0.263	- 0.172
CDMA 835 1xEVDO	0.73	0.0832	- 0.28	- 0.168

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 2.54 cm

Figure. 5 (CDMA835 1xRTT to WiFi)

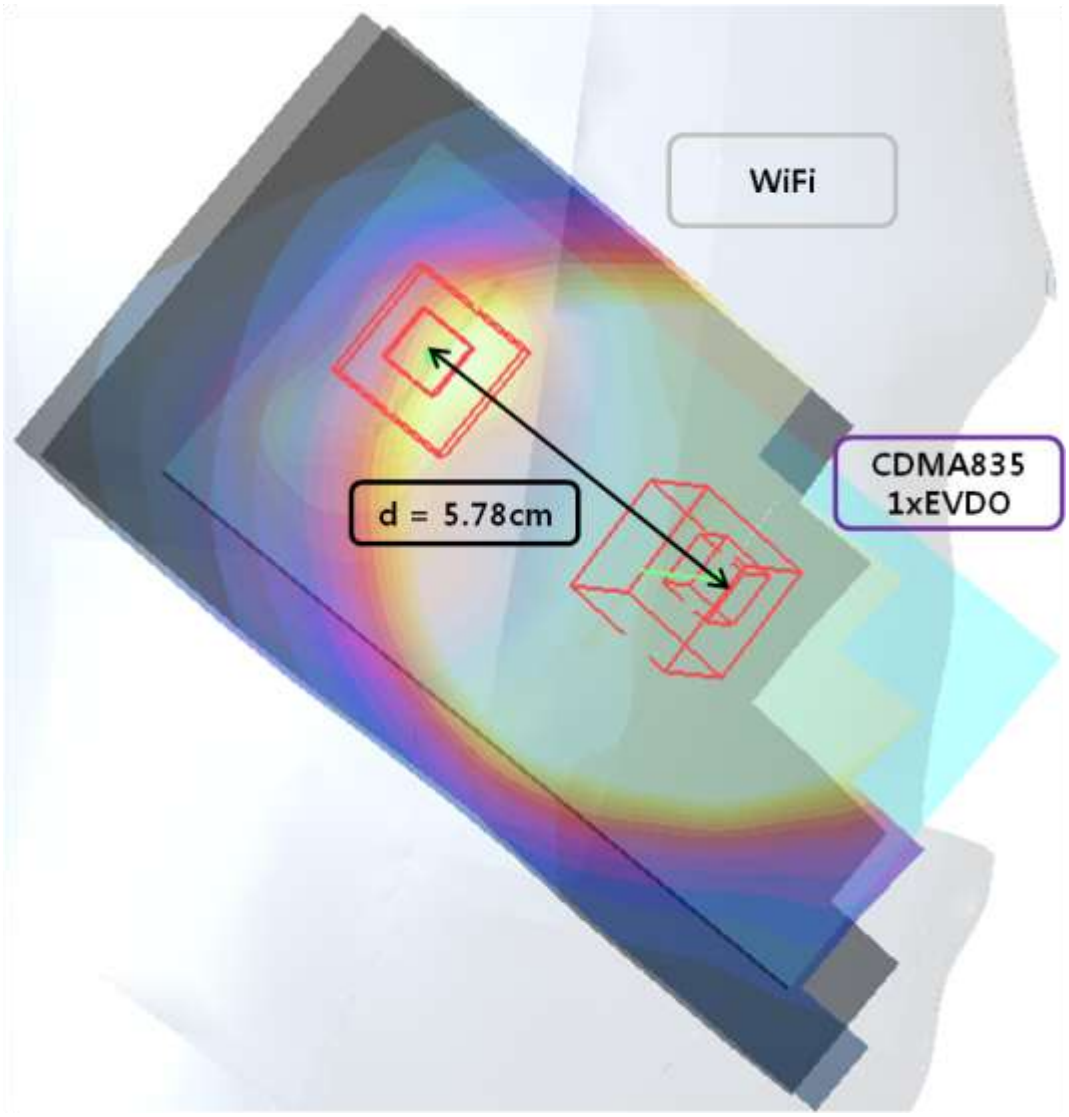


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.733	0.0647	- 0.263	- 0.172
WiFi	0.175	0.0327	- 0.308	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 5.52 cm

Figure. 6 (CDMA835 1xEVDO to WiFi)

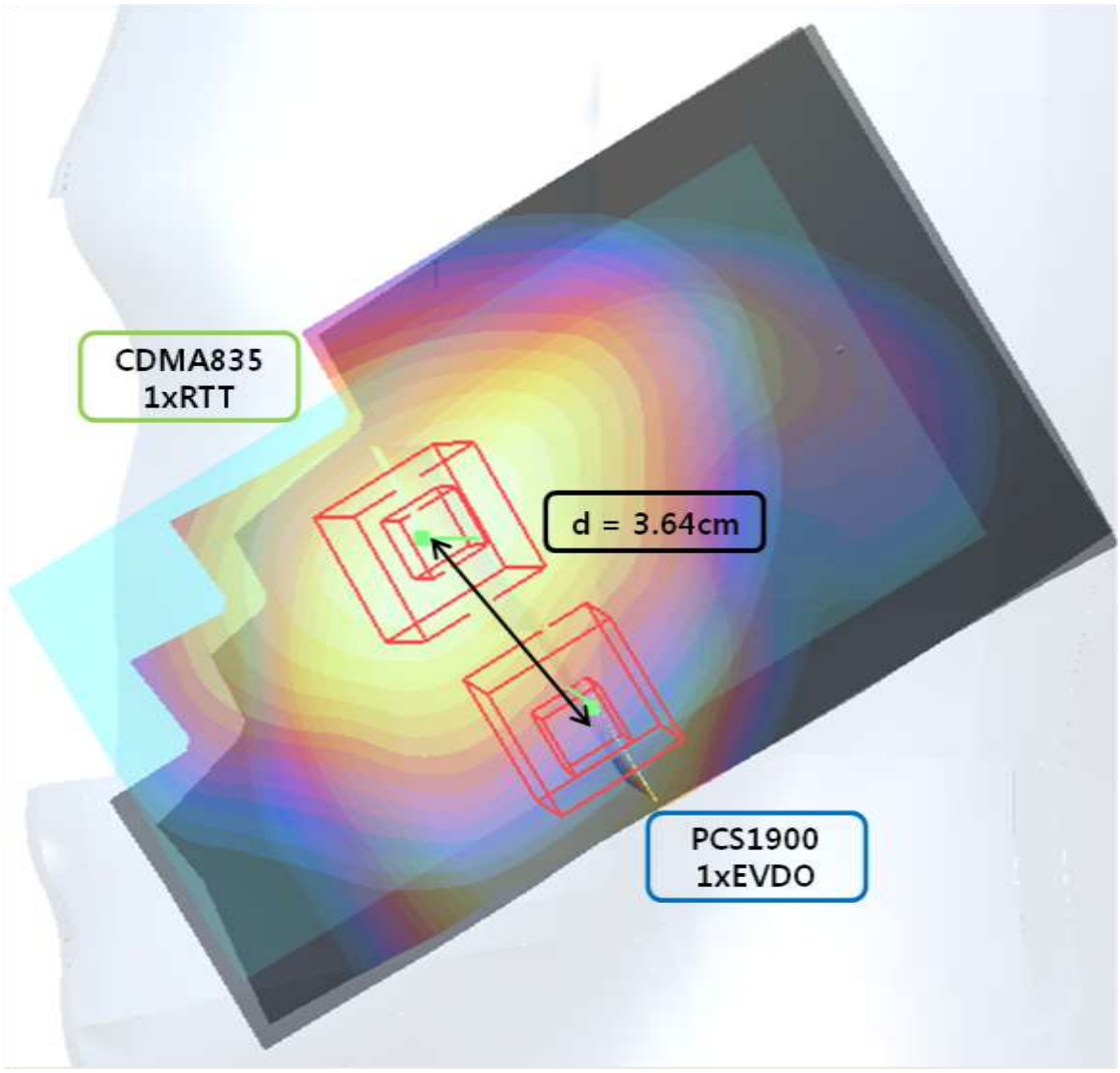


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xEVDO	0.73	0.0832	- 0.28	- 0.168
WiFi	0.175	0.0327	- 0.308	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 5.78 cm

Figure. 7 (CDMA835 1xRTT to PCS1900 1xEVDO)

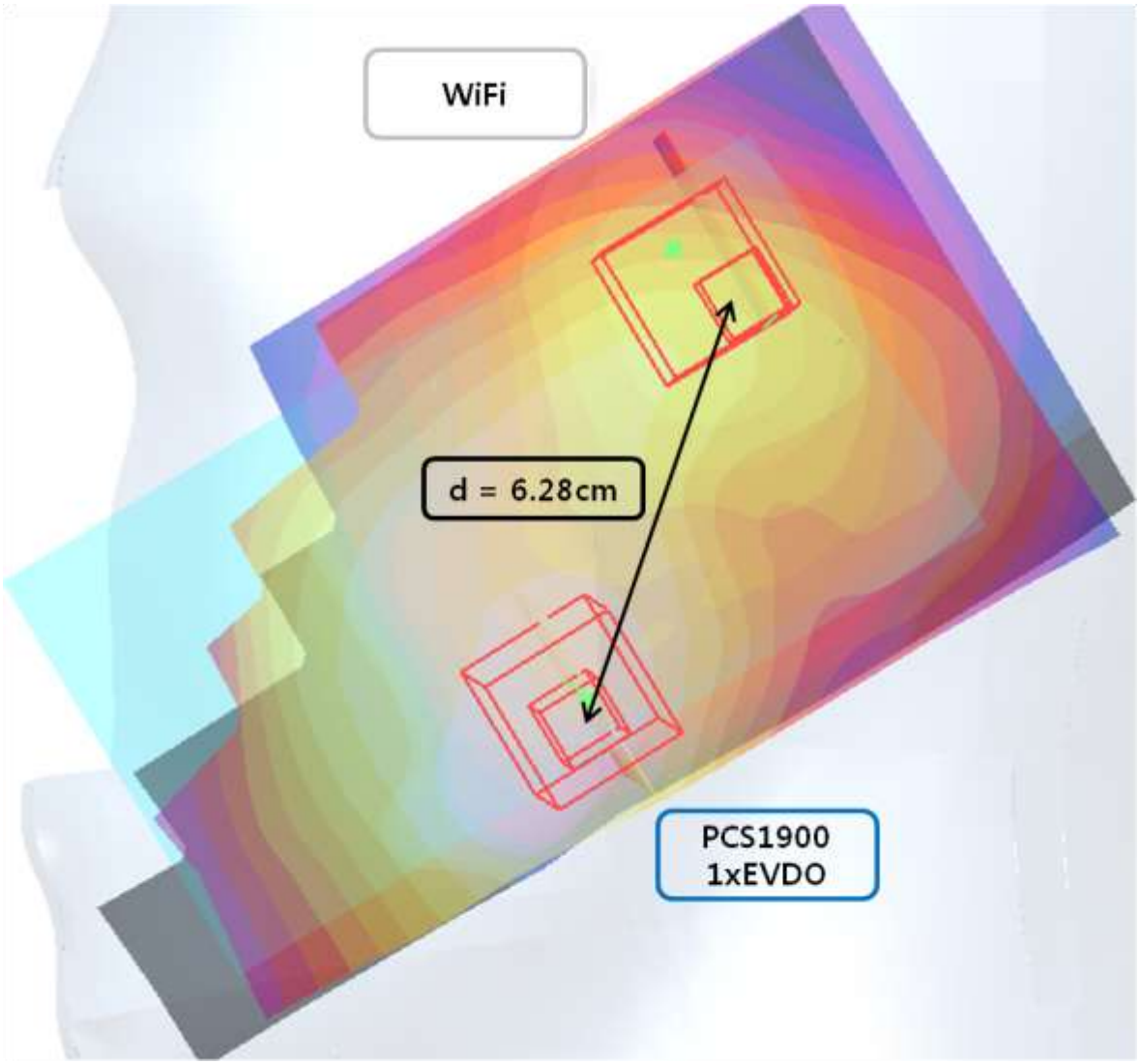


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.611	0.0764	0.282	- 0.171
PCS 1900 1xEVDO	1.04	0.0499	0.257	- 0.17

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 3.64 cm

Figure. 8 (PCS1900 1xEVDO to WiFi)

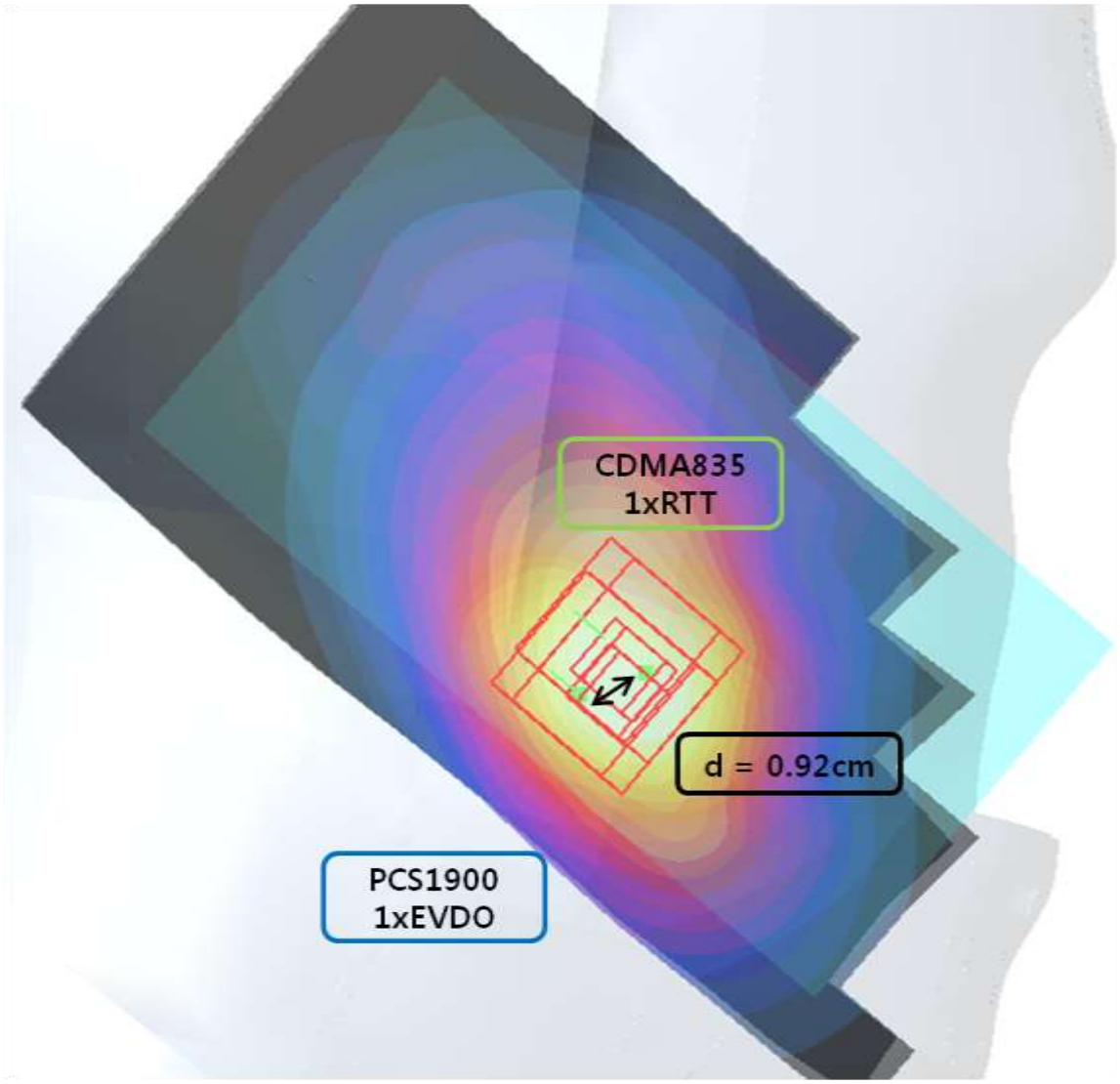


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xEVDO	1.04	0.0499	0.257	- 0.17
WiFi	0.221	0.0236	0.314	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 6.28 cm

Figure. 9 (CDMA835 1xRTT to PCS1900 1xEVDO)

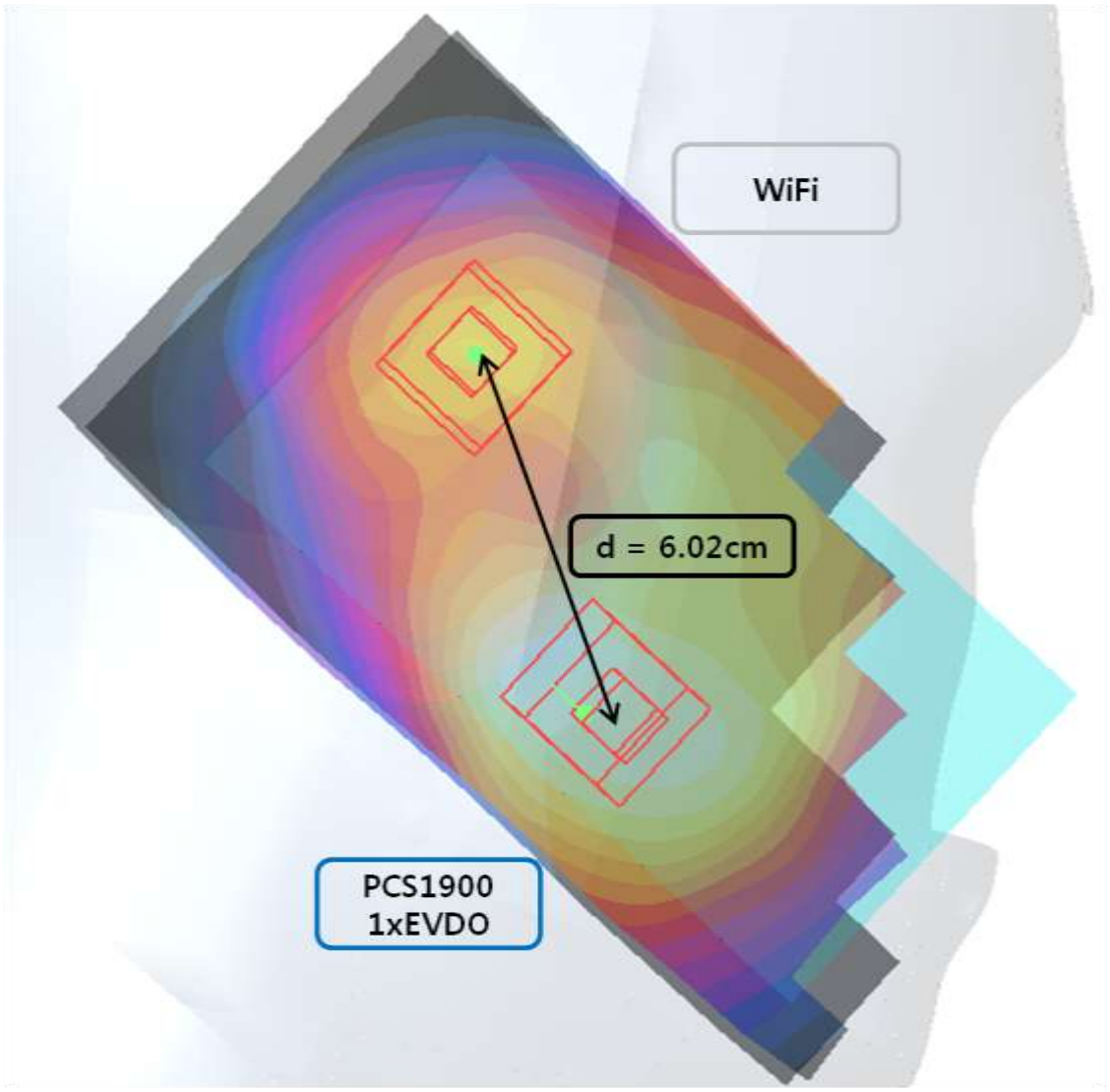


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.733	0.0647	- 0.263	- 0.172
PCS 1900 1xEVDO	0.717	0.0612	- 0.255	- 0.169

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 0.92 cm

Figure. 10 (PCS1900 1xEVDO to WiFi)

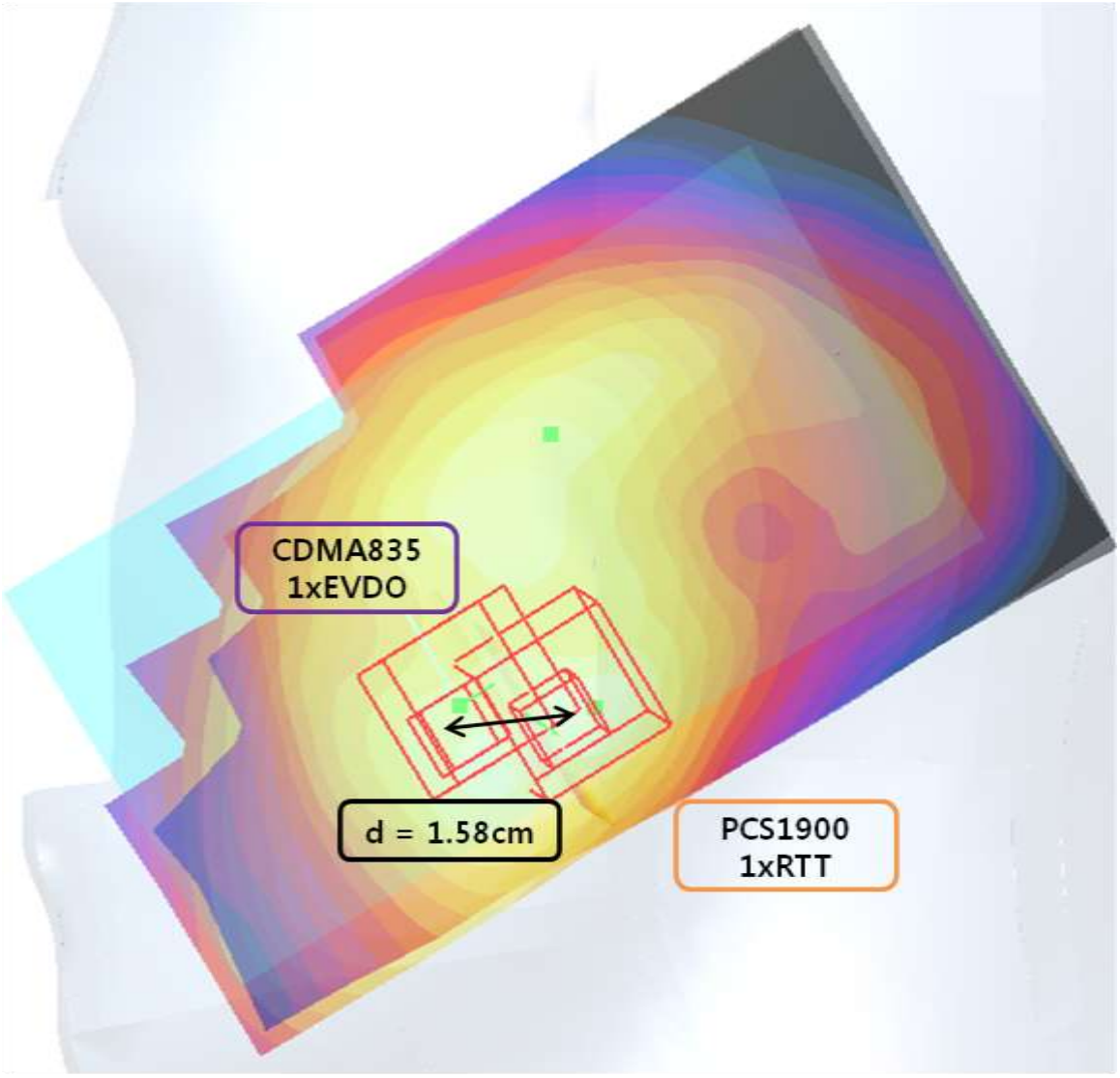


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xEVDO	0.717	0.0612	- 0.255	- 0.169
WiFi	0.175	0.0327	- 0.308	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 6.02 cm

Figure. 11 (CDMA835 1xEVDO to PCS1900 1xRTT)

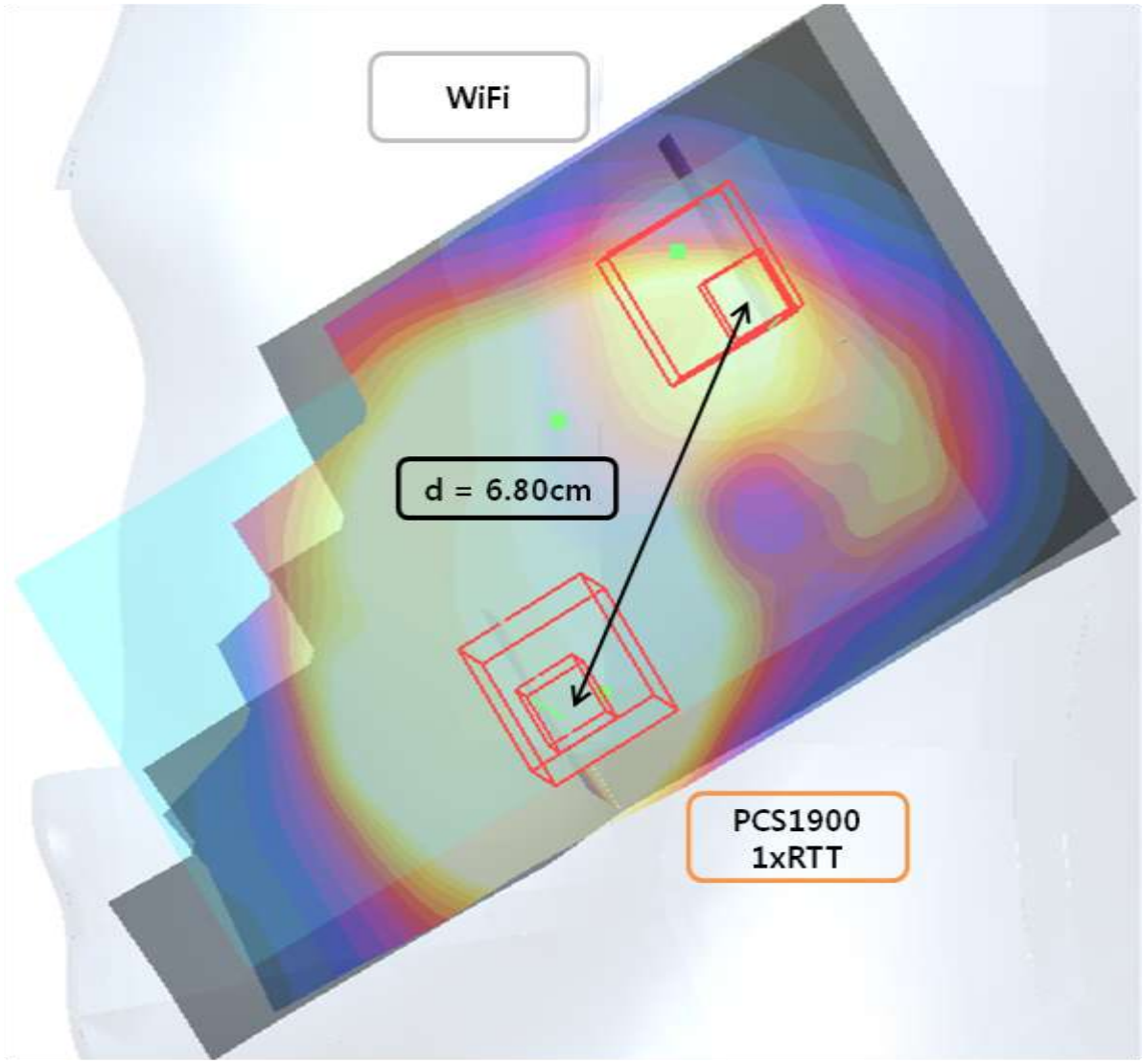


	Value of SAR	X	Y	Z
	mW/g	m	M	m
CDMA 835 1xEVDO	0.77	0.0555	0.254	- 0.169
PCS 1900 1xRTT	1.08	0.0707	0.258	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 1.58 cm

Figure. 12 (PCS1900 1xRTT to WiFi)

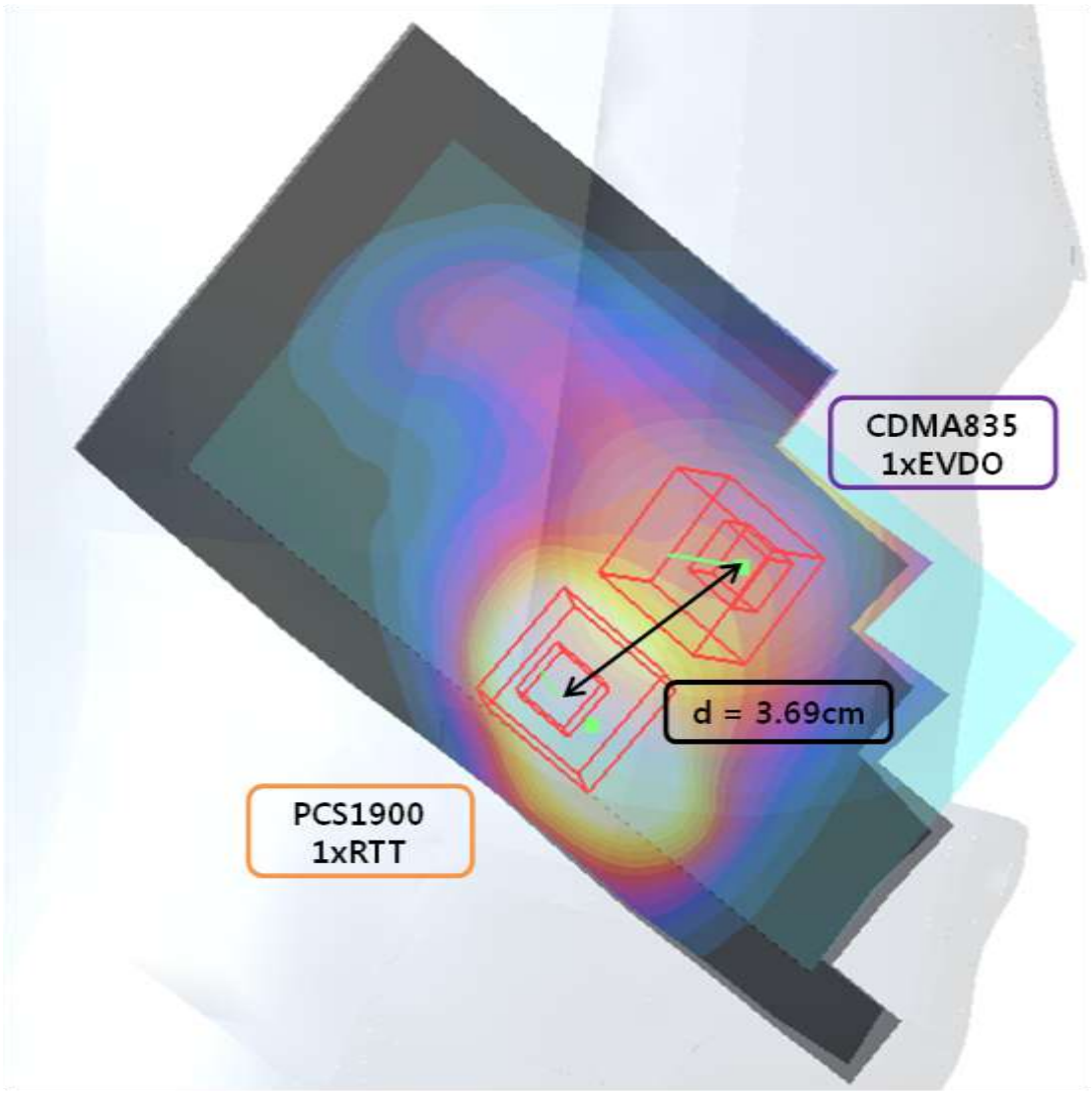


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xRTT	0.77	0.0555	0.254	- 0.169
WiFi	0.221	0.0236	0.314	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 6.80 cm

Figure. 13 (PCS1900 1xRTT to CDMA835 1xEVDO)

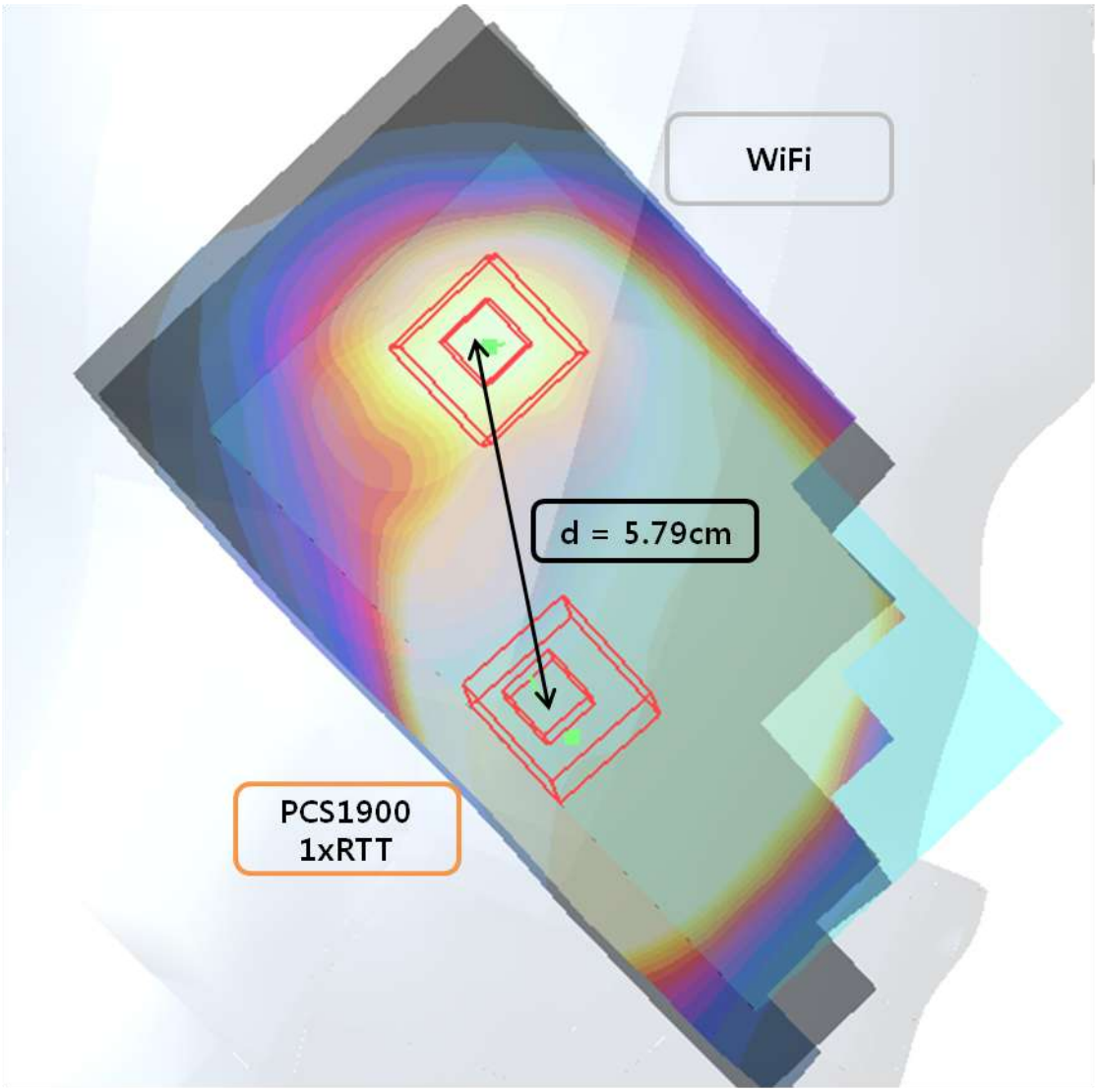


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xRTT	0.987	0.0561	- 0.255	- 0.17
CDMA 835 1xEVDO	0.73	0.0832	- 0.28	- 0.168

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 3.69 cm

Figure. 14 (PCS1900 1xRTT to WiFi)

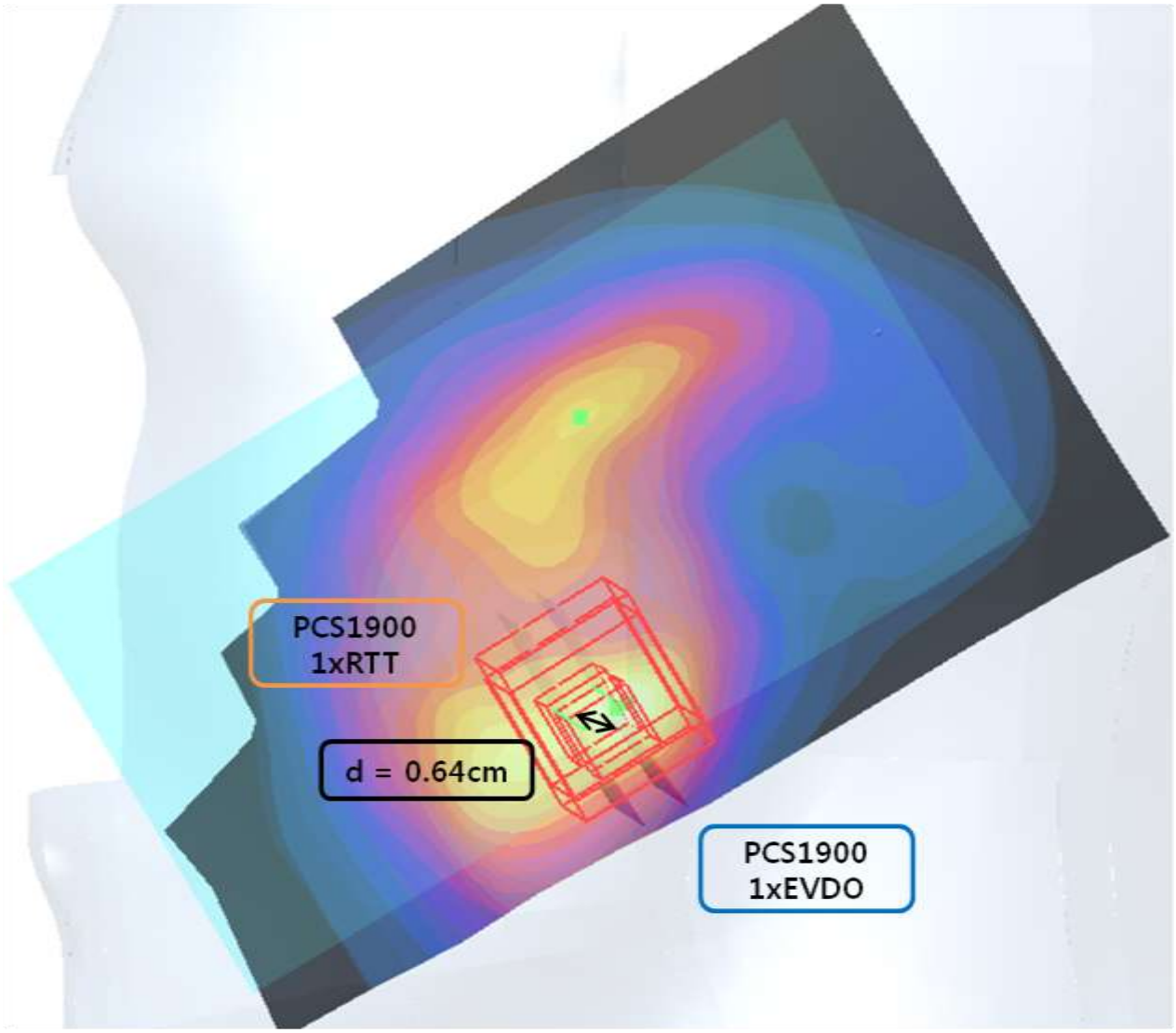


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xRTT	0.987	0.0561	- 0.255	- 0.17
WiFi	0.175	0.0327	- 0.308	- 0.171

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 5.79 cm

Figure. 15 (PCS1900 1xRTT to PCS1900 1xEVDO)

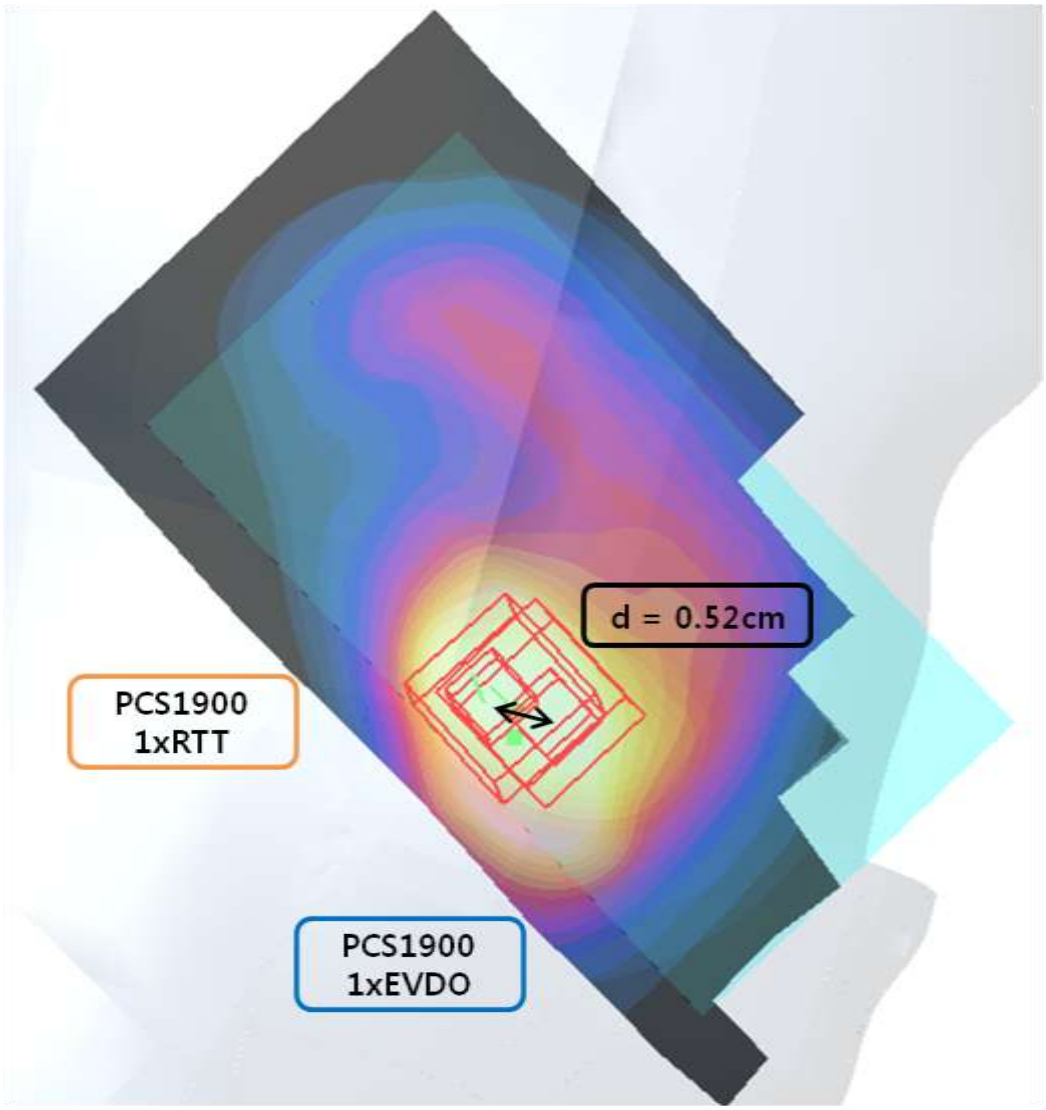


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xRTT	0.77	0.0555	0.254	- 0.169
PCS 1900 1xEVDO	1.04	0.0499	0.257	- 0.17

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 0.64 cm

Figure. 16 (PCS1900 1xRTT to PCS1900 1xEVDO)



	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS 1900 1xRTT	0.987	0.0561	- 0.255	- 0.17
PCS 1900 1xEVDO	0.717	0.0612	- 0.255	- 0.169

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 0.52 cm

13.2 SVDO Body-worn and Body-hotspot Exposure Condition

SVDO Body Hotspot

Position	Voice		Data			∑ 1g SAR	Case No.
	CDMA835 1xRTT	PCS1900 1xRTT	CDMA835 EVDO	PCS1900 EVDO	WiFi		
Rear	0.947		1.08		0.05	2.077	I
	0.947			0.61	0.05	1.607	J
Front	0.743		1.02		0.045	1.808	K
	0.743			0.757	0.045	1.545	
Rear		0.705	1.08		0.05	1.835	L
		0.705		0.61	0.05	1.365	
Front		0.675	1.02		0.045	1.74	M
		0.675		0.757	0.045	1.477	

SVDO Body Power Reduction Hotspot

Position	Voice		Data			∑ 1g SAR
	CDMA850 1xRTT	CDMA1900 1xRTT	CDMA850 1xEVDO Power Reduction	CDMA1900 1xEVDO Reduction	WiFi	
Rear	0.947		0.325		0.05	1.322
	0.947			0.178	0.05	1.175
Front	0.743		0.316		0.045	1.104
Rear		0.705	0.325		0.05	1.08
Front		0.675	0.316		0.045	1.036

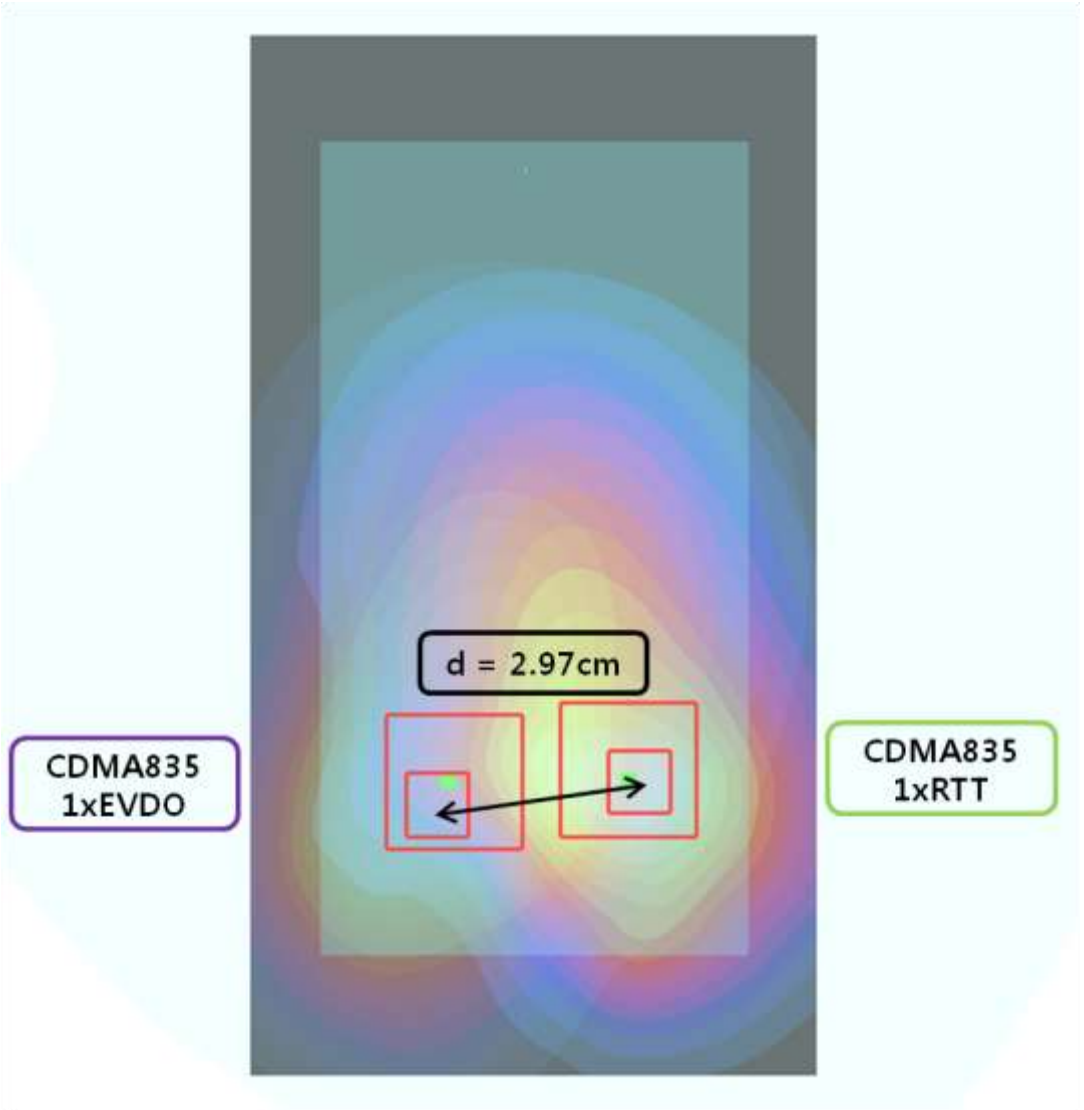
NOTES:

- 1g SAR Summation is over the 1.6 W/kg, and SPLSR is over 0.3, then Power Combination that was mixed with Max Power and Reduction Power is used for summation.
- If 1g SAR Summation is under 1.6 W/kg, further evaluation is not required.
- The Numbers marked in blue is measured Reduction Power.
- 1g SAR Summation in Table 'SVDO Head EVDO Power Reduction' is compliant with SAR requirement

SAR to Peak Location Separation Ratio (SPLSR)

Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	CDMA835 1xEVDO	WiFi				
I	Rear	0.947	1.08	0.05	2.077			-
		0.947	1.08		2.027	2.97	0.68	17
		0.947		0.05	0.997	7.46	0.13	18
			1.08	0.05	1.13	7.65	0.15	19
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	PCS1900 1xEVDO	WiFi				
J	Rear	0.947	0.61	0.05	1.607			-
		0.947	0.61		1.557	1.72	0.91	20
		0.947		0.05	0.997	7.46	0.13	18
			0.61	0.05	0.66	8.42	0.08	21
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		CDMA835 1xRTT	CDMA835 1xEVDO	WiFi				
K	Front	0.743	1.02	0.045	1.808			-
		0.743	1.02		1.763	3.11	1.62	22
		0.743		0.045	0.788	6.89	0.10	23
			1.02	0.045	1.065	6.13	0.15	24
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		PCS1900 1xRTT	CDMA835 1xEVDO	WiFi				
L	Rear	0.705	1.08	0.05	1.835			-
		0.705	1.08		1.785	1.10	1.62	25
		0.705		0.05	0.755	7.69	0.10	26
			1.08	0.05	1.13	7.65	0.15	19
Case No.	Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR	Figure
		PCS1900 1xRTT	CDMA835 1xEVDO	WiFi				
M	Front	0.675	1.02	0.045	1.74			-
		0.675	1.02		1.695	1.93	0.88	27
		0.675		0.045	0.72	7.63	0.09	28
			1.02	0.045	1.065	6.13	0.17	24

Figure.17 (CDMA835 1xRTT to CDMA835 1xEVDO)

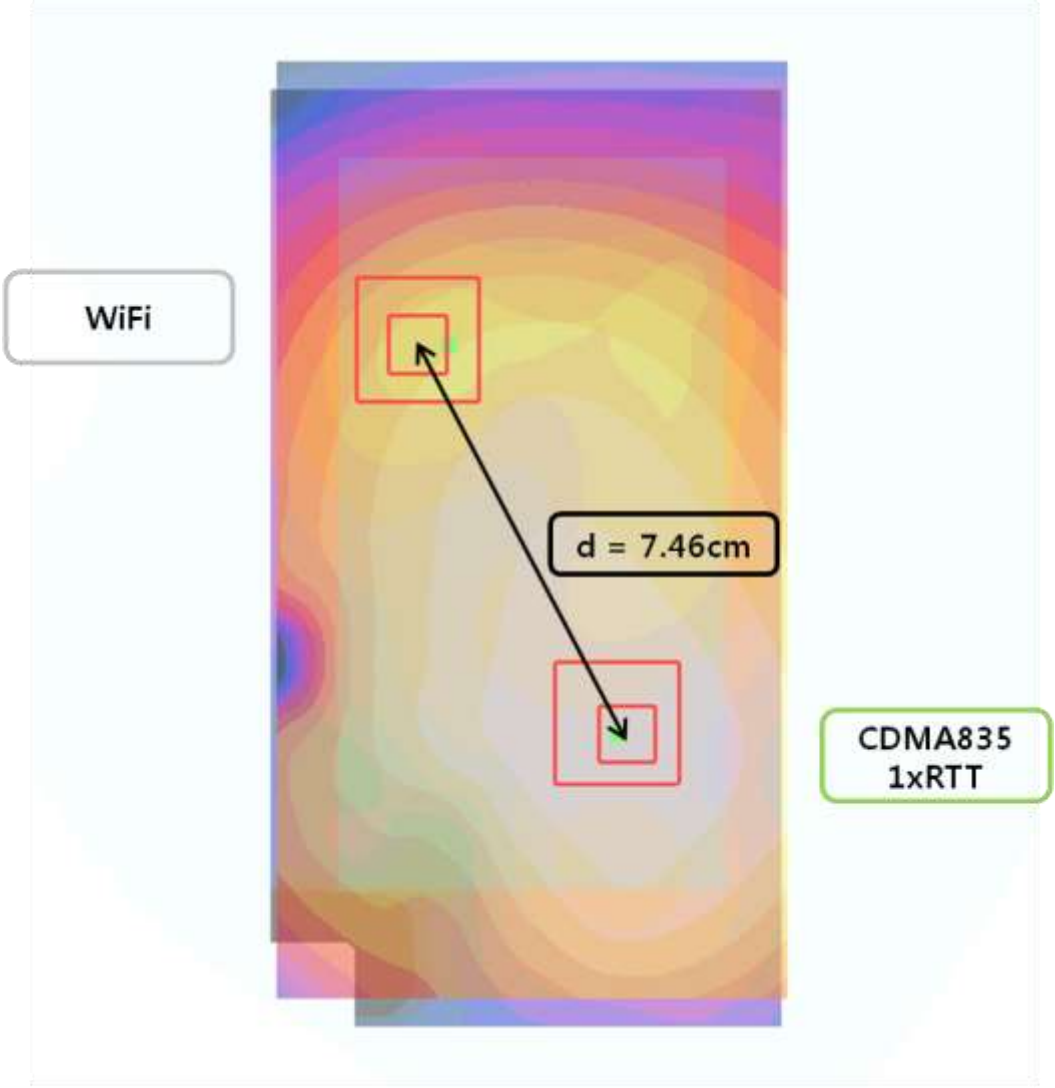


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.947	- 0.032	- 0.0655	- 0.203
CDMA 835 1xEVDO	1.08	- 0.00344	- 0.0735	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 2.97 cm

Figure.18 (CDMA835 1xRTT to WiFi)

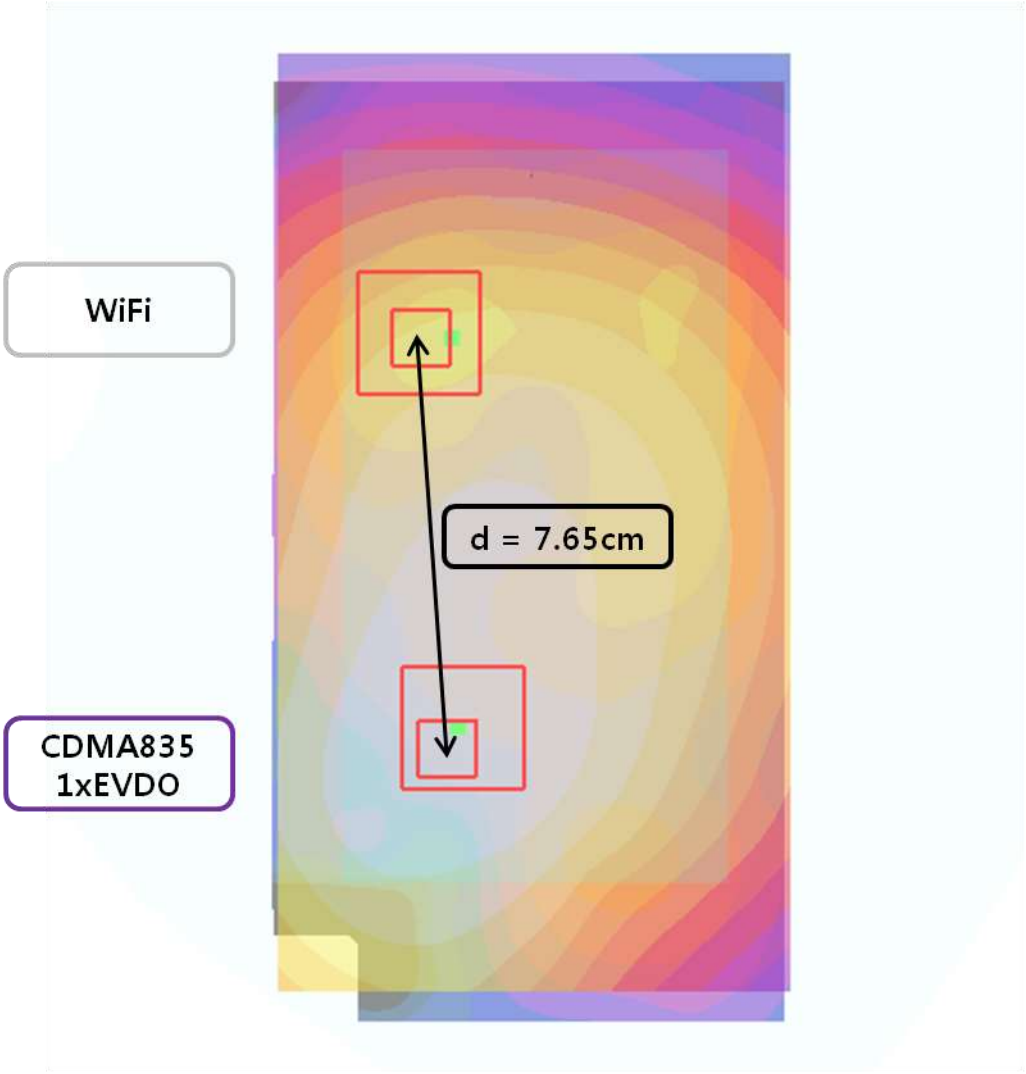


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.947	- 0.032	- 0.0655	- 0.203
WiFi	0.05	- 0.00248	0.00302	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 7.46 cm

Figure.19 (CDMA835 1xEVDO to WiFi)

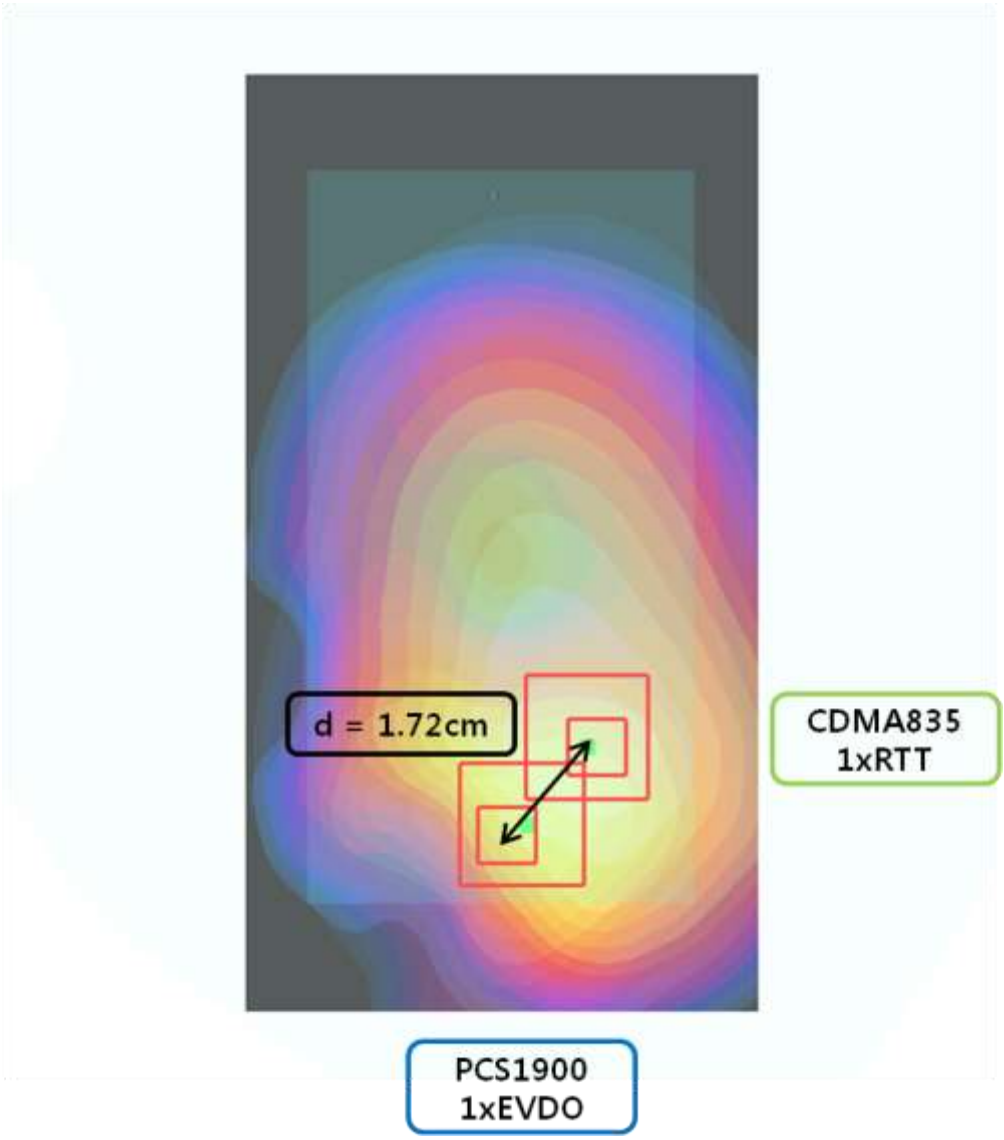


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xEVDO	1.08	- 0.00344	- 0.0735	- 0.203
WiFi	0.05	- 0.00248	0.00302	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 7.65 cm

Figure.20 (CDMA835 1xRTT to PCS1900 1xEVDO)

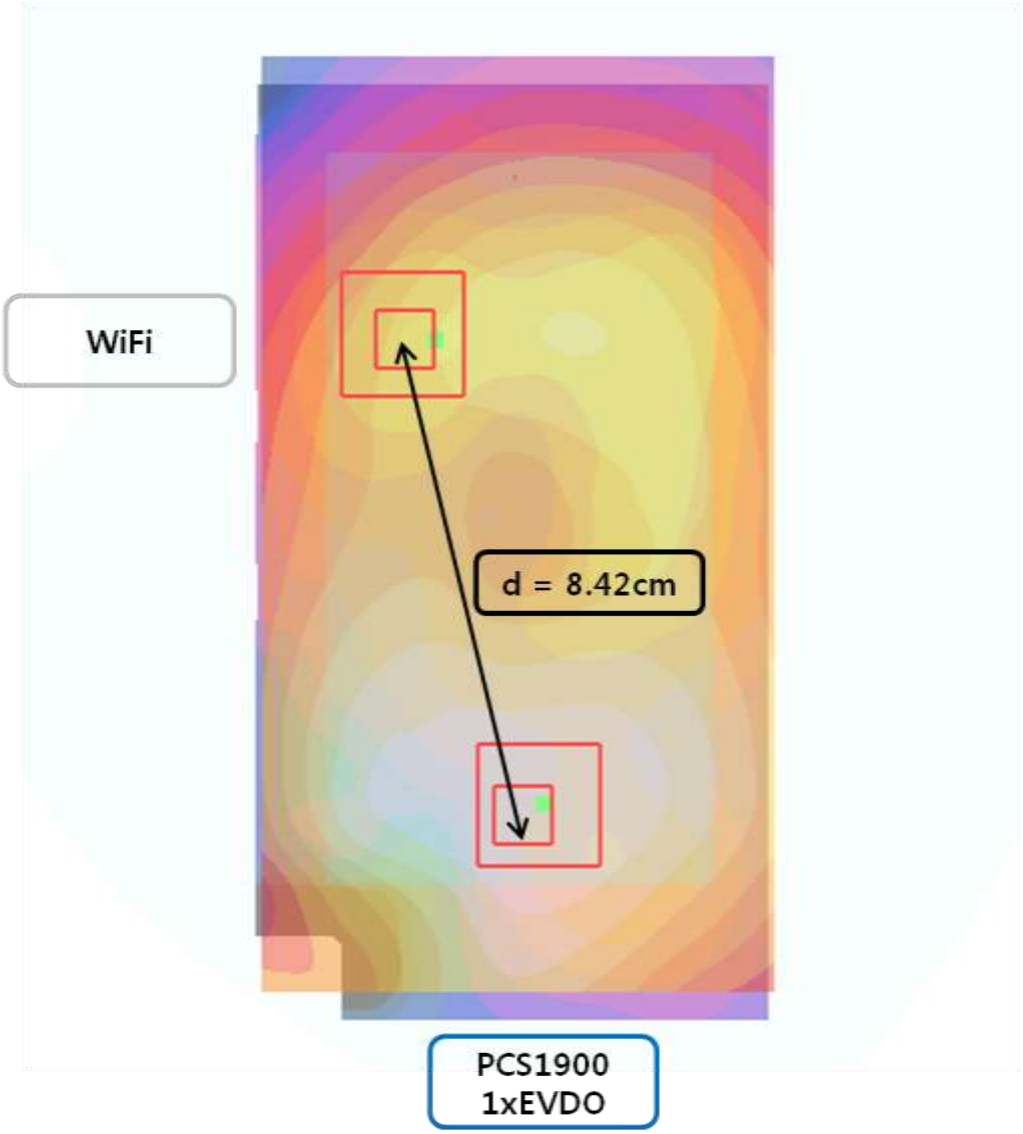


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.947	- 0.032	- 0.0655	- 0.203
PCS1900 1xEVDO	0.61	- 0.0214	- 0.079	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 1.72 cm

Figure.21 (PCS1900 1xEVDO to WiFi)

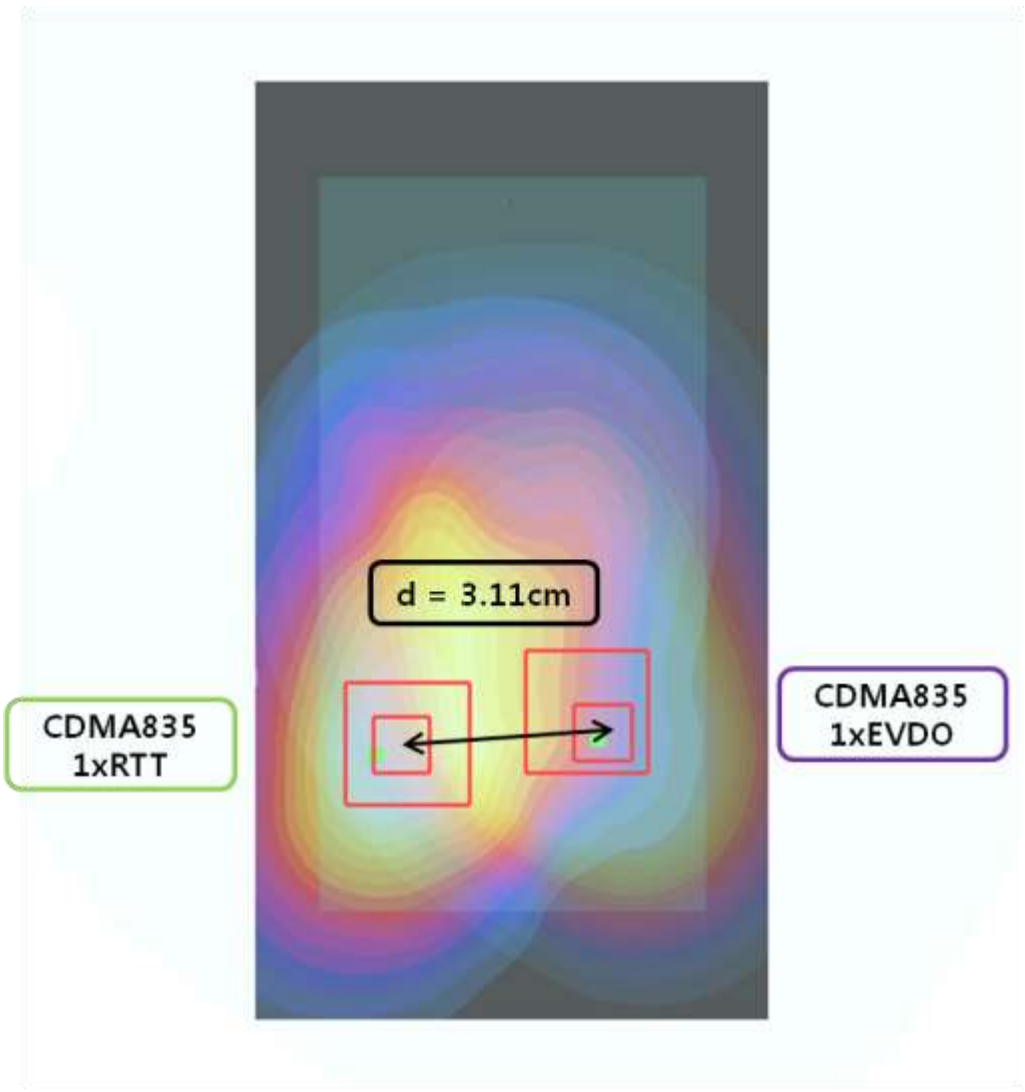


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xEVDO	0.61	- 0.0214	- 0.079	- 0.203
WiFi	0.05	- 0.00248	0.00302	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 8.42 cm

Figure.22 (CDMA835 1xEVDO to CDMA835 1xRTT)

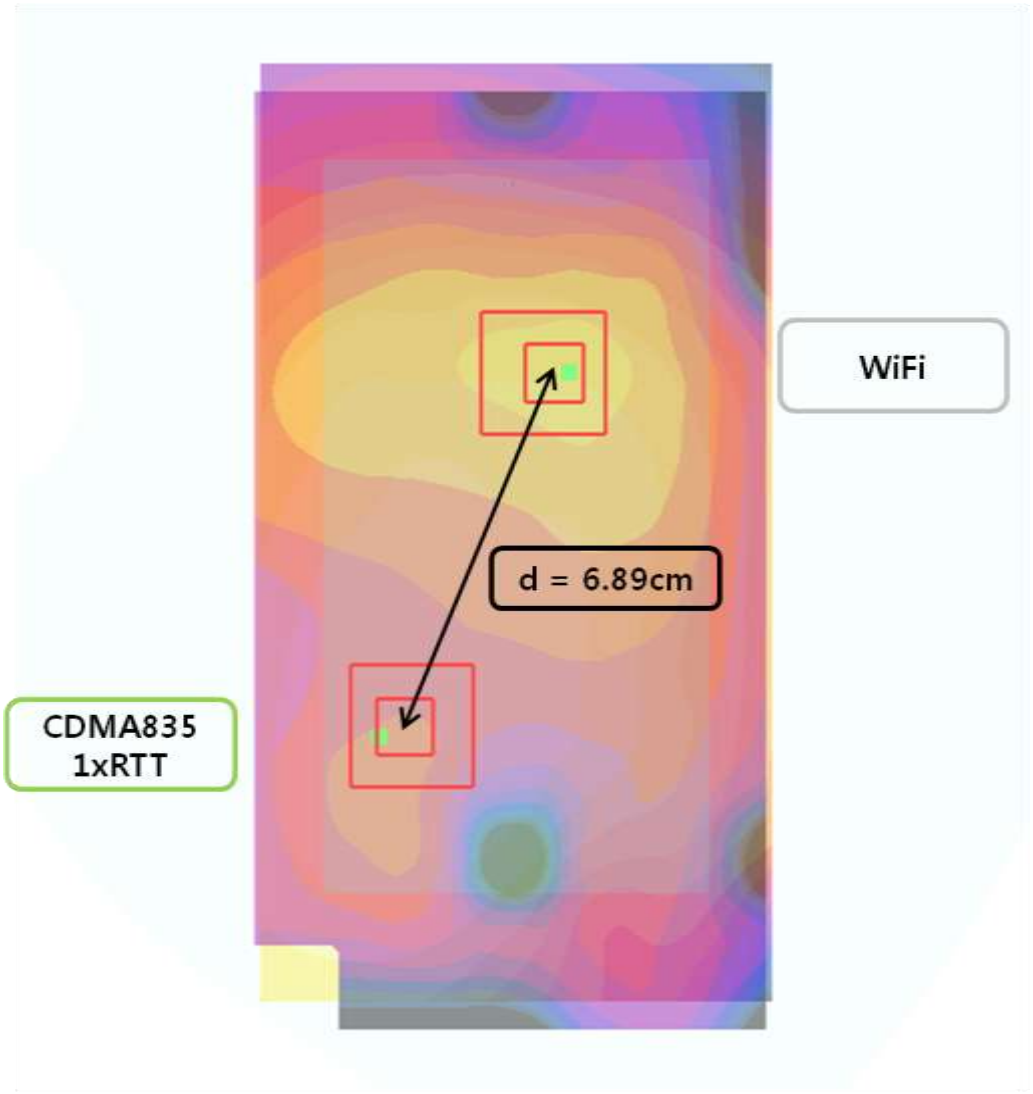


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xEVDO	0.743	- 0.000972	- 0.0655	- 0.203
CDMA 835 1xRTT	1.02	- 0.0319	- 0.0625	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 3.11 cm

Figure.23 (CDMA835 1xRTT to WiFi)

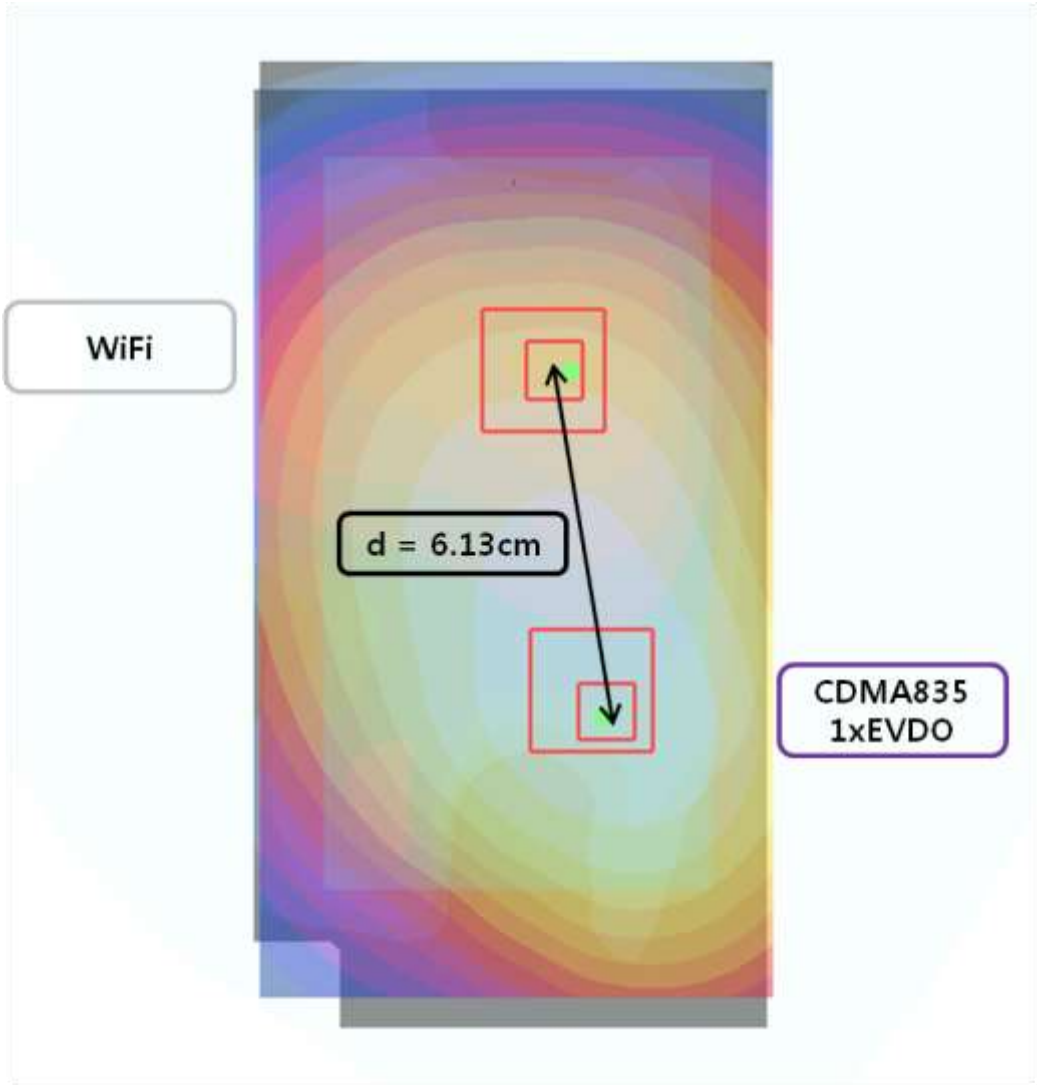


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xRTT	0.743	- 0.000972	- 0.06455	- 0.203
WiFi	0.045	- 0.0264	- 0.00149	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 6.89 cm

Figure.24 (CDMA835 1xEVDO to WiFi)

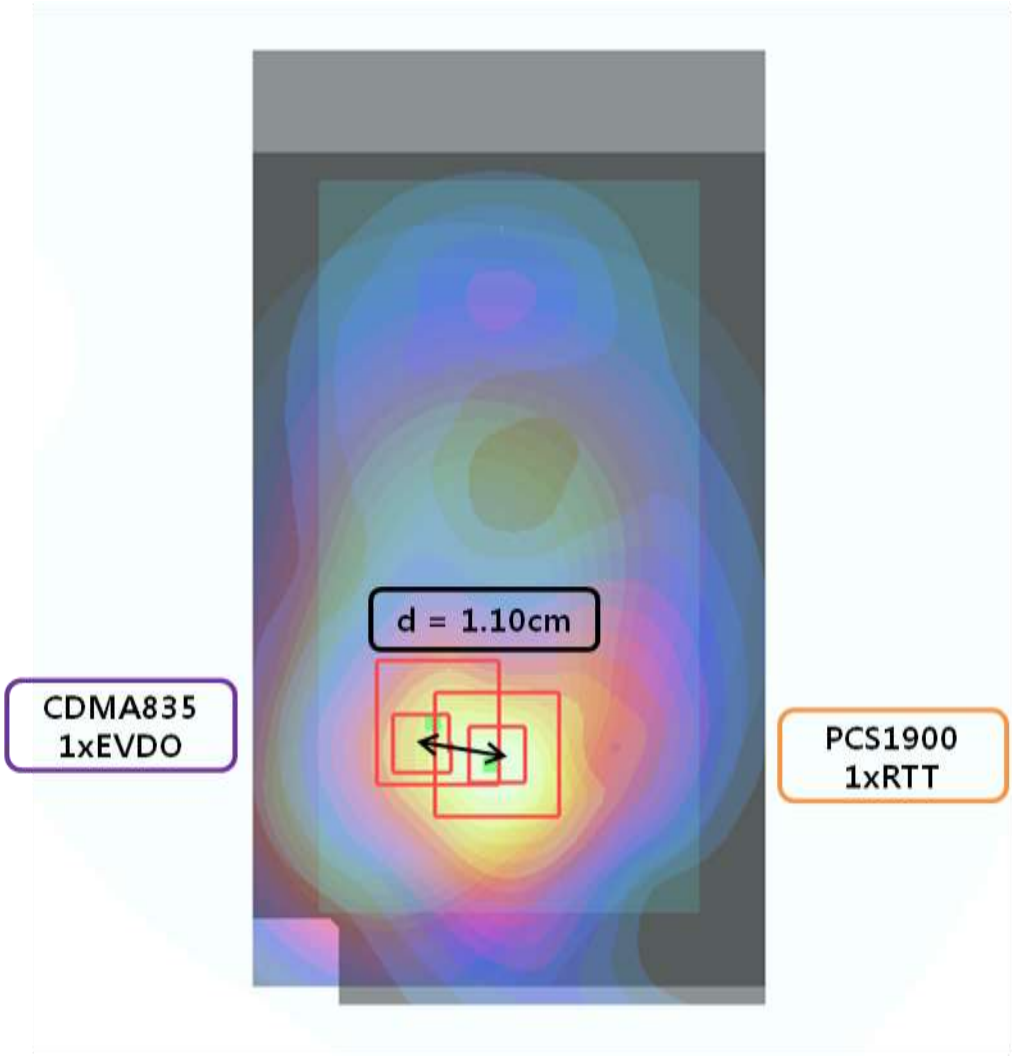


	Value of SAR	X	Y	Z
	mW/g	m	m	m
CDMA 835 1xEVDO	1.02	- 0.0319	- 0.0625	- 0.203
WiFi	0.045	- 0.0264	- 0.00149	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 6.13 cm

Figure.25 (PCS1900 1xRTT to CDMA835 1xEVDO)

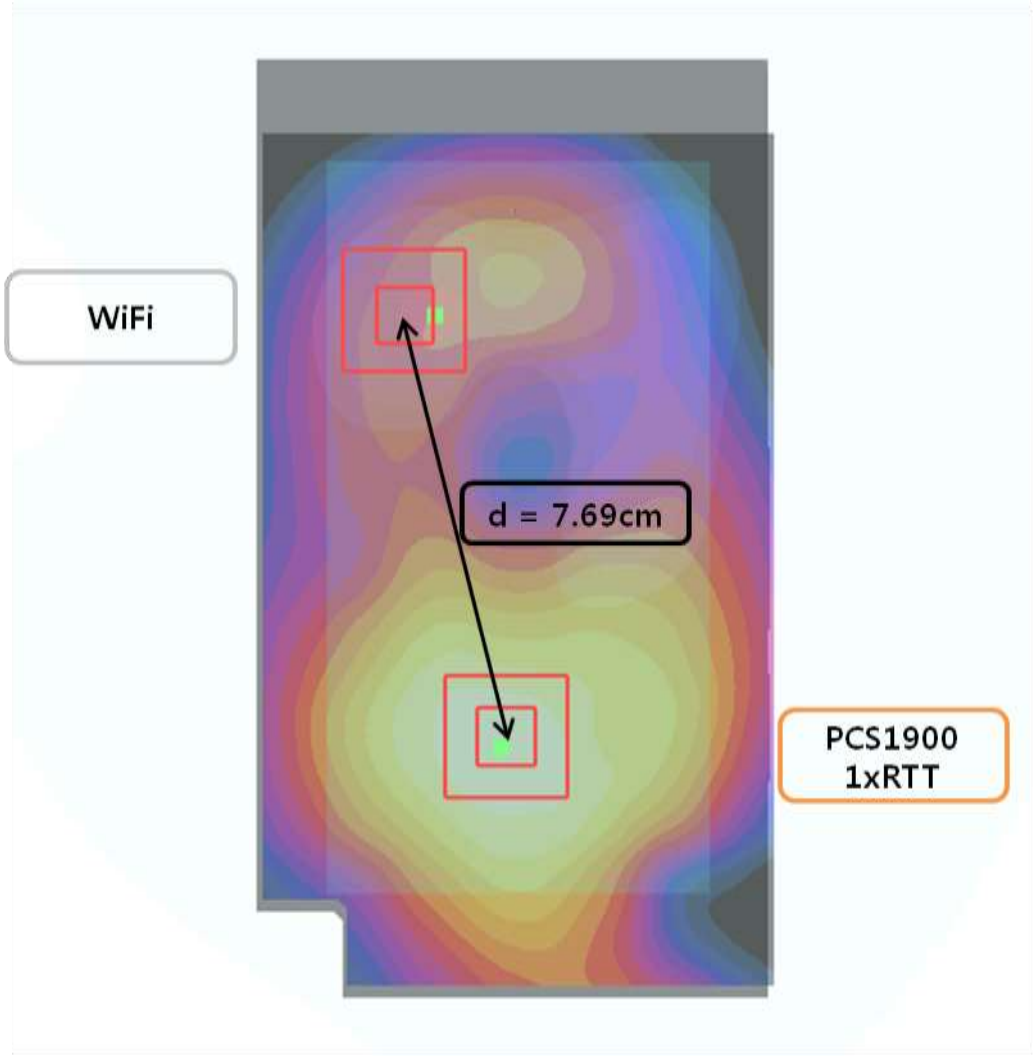


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xRTT	0.705	- 0.014	- 0.073	- 0.206
CDMA 835 1xEVDO	1.08	- 0.00344	- 0.0735	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 1.10 cm

Figure.26 (PCS1900 1xRTT to WiFi)

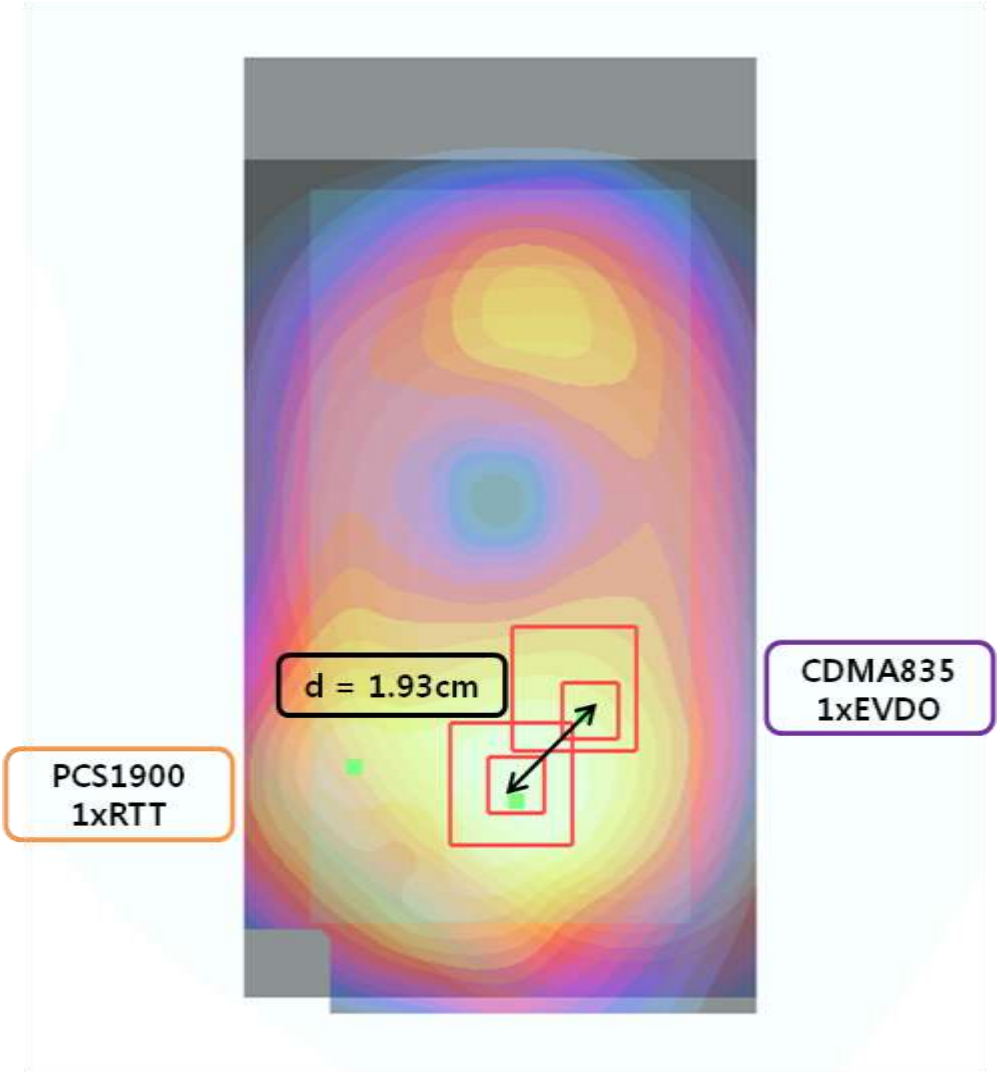


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xRTT	0.705	- 0.014	- 0.073	- 0.206
WiFi	0.05	- 0.00248	0.00302	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 7.69 cm

Figure.27 (PCS1900 1xRTT to CDMA835 1xEVDO)

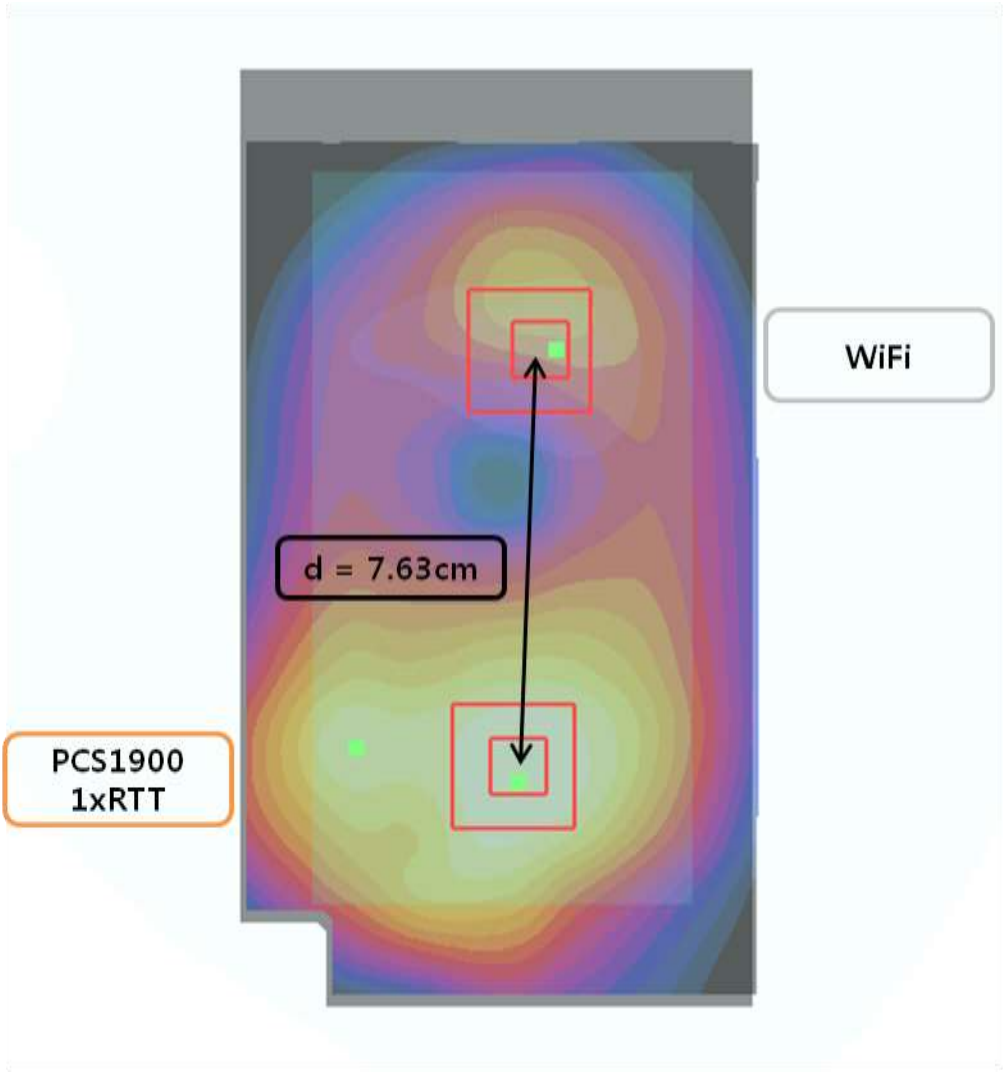


	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xRTT	0.675	- 0.02	- 0.0775	- 0.205
CDMA835 1xEVDO	1.02	- 0.0319	- 0.0625	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 1.93 cm

Figure.28 (PCS1900 1xRTT to WiFi)



	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xRTT	0.675	- 0.02	- 0.0775	- 0.205
WiFi	0.045	- 0.0264	- 0.00149	- 0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 7.63 cm

14. Scaled SAR Values to the Maximum tune-up tolerances

The following measured results were scaled to the maximum tune-up tolerances,according to the output power of the channel tested for the highest measured results in each frequency band

Test Configuration		Mode	Ch #	Freq (MHz)	Power(dBm)		SAR(W/kg)	
					Max. Tune-up limit	Measured	Measured	Scaled
HEAD	Right Touch	CDMA835	384	836.52	24.4	24.31	0.733	0.748
BODY	Rear	CDMA835	1013	824.7	24.4	24.26	0.947	0.978
HEAD	Left Touch	EVDO835	384	836.52	24.4	24.19	1.08	1.134
BODY	Rear	EVDO835	777	848.31	24.4	24.23	1.08	1.123
HEAD	Right Touch	PCS1900	25	1851.25	24.4	24.31	0.987	1.008
BODY	Rear	PCS1900	600	1880.0	24.4	24.20	0.705	0.738
HEAD	Leftt Touch	EVDO1900	600	1880.0	24.4	24.32	1.04	1.059
BODY	Front	EVDO1900	600	1880.0	24.4	24.32	0.757	0.771
HEAD	Left Touch	GSM850	190	836.6	33.2	33.04	0.52	0.540
BODY	Front	GSM850(GPRS)	190	836.6	33.2	32.86	0.527	0.570
HEAD	Left Touch	GSM1900	661	1880.0	30.4	29.95	0.392	0.435
BODY	Front	GSM1900(GPRS)	661	1880.0	30.4	29.93	0.637	0.710
HEAD	Left Touch	WCDMA850	4183	836.6	24.0	24	0.885	0.885
BODY	Front	WCDMA850	4132	826.4	24.0	23.83	1.01	1.050
HEAD	Left Touch	WCDMA1900	9538	1907.6	24.0	23.85	1.02	1.056
BODY	Front	WCDMA1900	9400	1880.0	24.0	23.92	0.677	0.690
HEAD	Left Touch	LTE 13	23230	782	23.1	21.77	0.503	0.683
BODY	Rear	LTE 13	23230	782	23.1	23.1	0.519	0.519
HEAD	Right Touch	WiFi	11	2462	16	17.1	0.221	0.172
BODY	Rear	WiFi	11	2462	16	17.1	0.05	0.039

15. CONCLUSION

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the ANSI/ IEEE C95.1 1992.

These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests.

16. REFERENCES

[1] Federal Communications Commission, OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01), Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields, July 2001.

[2] IEEE Standards Coordinating Committee 34 – IEEE Std. 1528-2003, IEE Recommended Practice or Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices.

[3] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation, Aug. 1996.

[4] ANSI/IEEE C95.1 - 1991, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 300 kHz to 100 GHz, New York: IEEE, Aug. 1992

[5] ANSI/IEEE C95.3 - 1991, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, 1992.

[6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.

[7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.

[8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 120-124.

[9]K. Pokovi^{o}, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.

[10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.

[11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Head Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.

[12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300 MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.

[13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectro magnetics, Canada: 1987, pp. 29-36.

[14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.

[15] W. Gander, Computer mathematick, Birkhaeuser, Basel, 1992.

[16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recepies in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.

[17] Federal Communications Commission, OET Bulletin 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. Supplement C, Dec. 1997.

[18] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

[19] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10 kHz-300 GHz, Jan. 1995.

[20] Prof. Dr. Niels Kuster, ETH, EidgenØssische Technische Hoschschule Zòrich, Dosimetric Evaluation of the Cellular Phone.

[21] SAR Evaluation of Handsets with Multiple Transmitters and Antennas #648474.

[22] SAR Measurement Procedure for 802.11 a/b/g Transmitters #KDB 248227.

Attachment 1. – SAR Test Plots

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

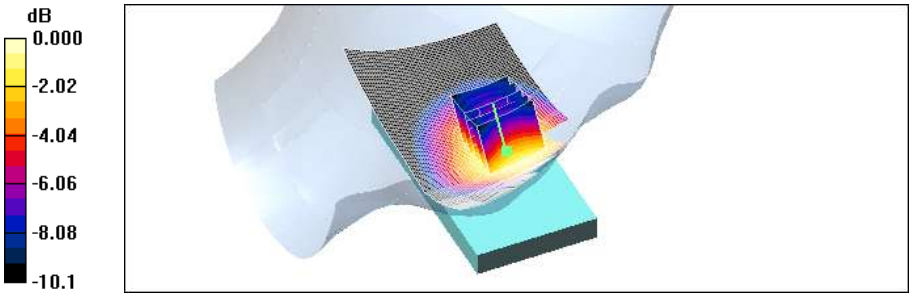
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 384/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.650 mW/g

Left touch 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.00 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 0.997 W/kg
SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.427 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.641 mW/g



0 dB = 0.641mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

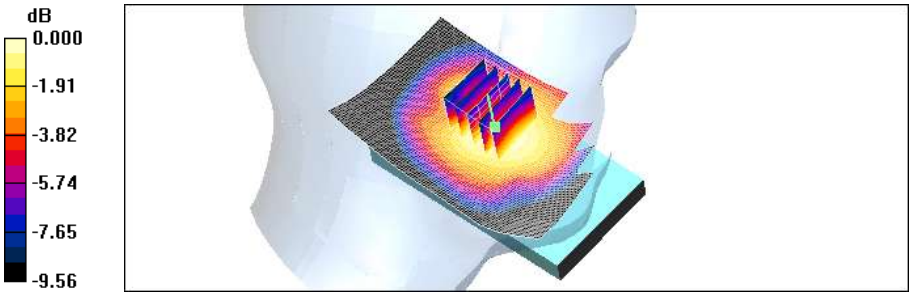
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left tilt 384/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.327 mW/g

Left tilt 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.30 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 0.382 W/kg
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.217 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.316 mW/g



0 dB = 0.316mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

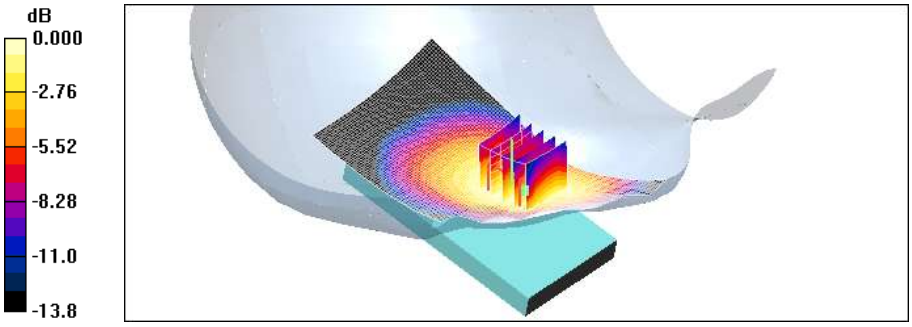
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 384/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.804 mW/g

Right touch 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.99 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.733 mW/g; SAR(10 g) = 0.499 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.766 mW/g



0 dB = 0.766mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

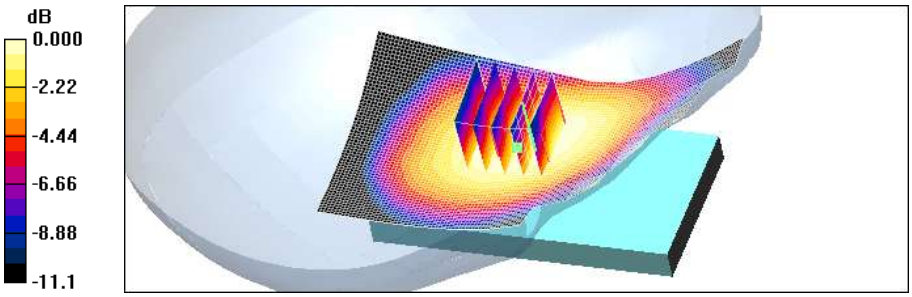
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right tilt 384/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.354 mW/g

Right tilt 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 0.435 W/kg
SAR(1 g) = 0.335 mW/g; SAR(10 g) = 0.235 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.348 mW/g



0 dB = 0.348mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

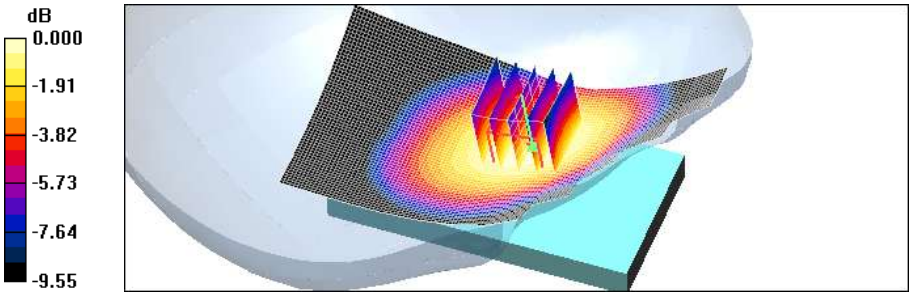
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: SAM 1800/1900 MHz; Type: SAM

Right touch 384 Wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.684 mW/g

Right touch 384 Wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.72 V/m; Power Drift = -0.087 dB
Peak SAR (extrapolated) = 0.827 W/kg
SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.468 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.676 mW/g



0 dB = 0.676mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012
Option	Extended Battery

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

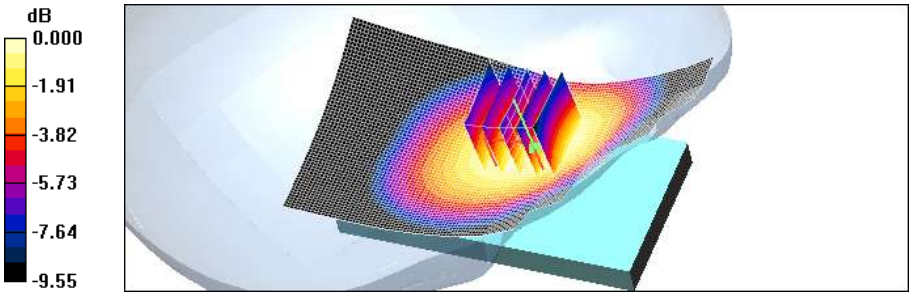
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: SAM 1800/1900 MHz; Type: SAM

Right touch 384 Extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.682 mW/g

Right touch 384 Extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.79 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 0.824 W/kg
SAR(1 g) = 0.638 mW/g; SAR(10 g) = 0.470 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.679 mW/g



0 dB = 0.679mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

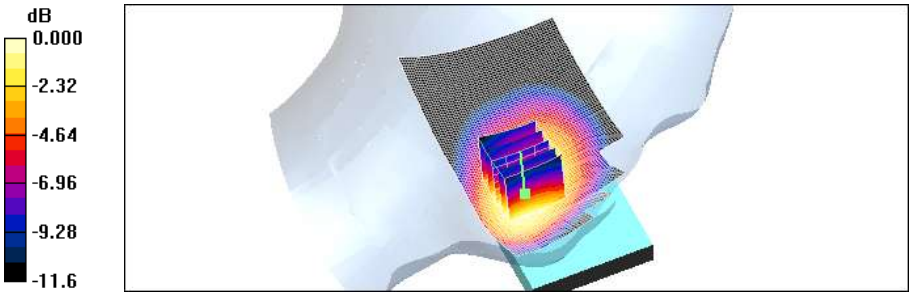
DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.889 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 1013 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.995 mW/g

Left touch 1013 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.73 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.922 mW/g; SAR(10 g) = 0.615 mW/g
Maximum value of SAR (measured) = 0.986 mW/g



0 dB = 0.986mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

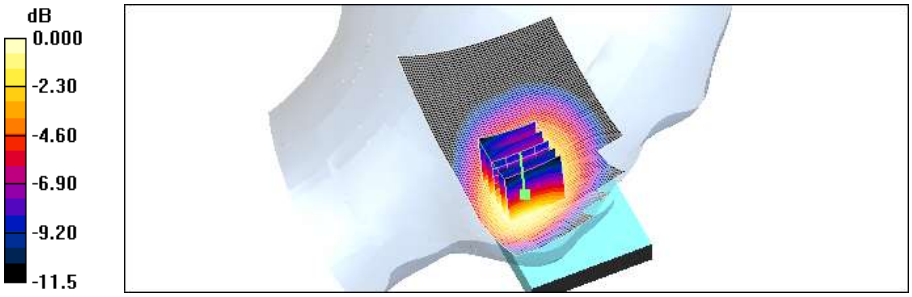
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 384 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.16 mW/g

Left touch 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.33 V/m; Power Drift = -0.181 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.716 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.13 mW/g



0 dB = 1.13mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.909 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

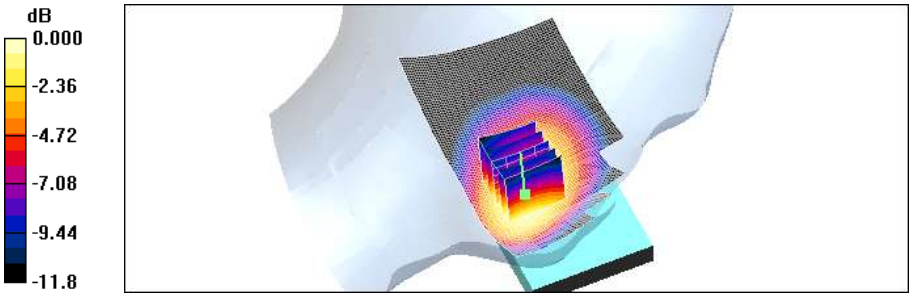
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 777 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.15 mW/g

Left touch 777 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.20 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.704 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

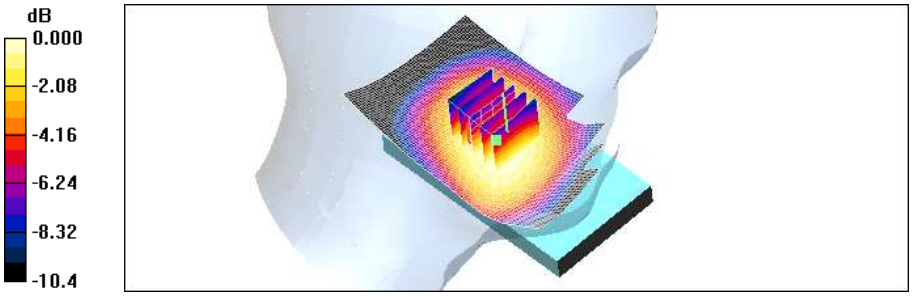
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left tilt 384 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.413 mW/g

Left tilt 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.491 W/kg
SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.288 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.407 mW/g



0 dB = 0.407mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

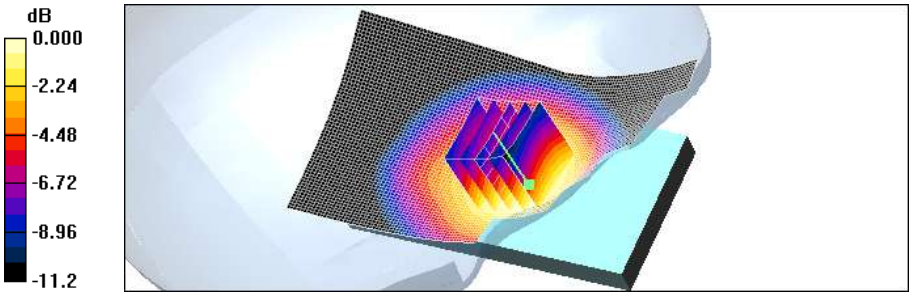
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 384 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.816 mW/g

Right touch 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.20 V/m; Power Drift = -0.183 dB
Peak SAR (extrapolated) = 0.979 W/kg
SAR(1 g) = 0.730 mW/g; SAR(10 g) = 0.520 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.769 mW/g



0 dB = 0.769mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

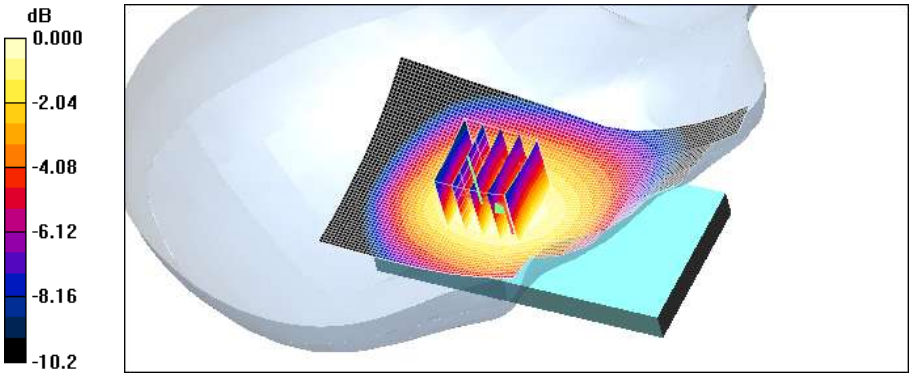
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right tilt 384 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.359 mW/g

Right tilt 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 0.434 W/kg
SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.242 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.349 mW/g



0 dB = 0.349mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

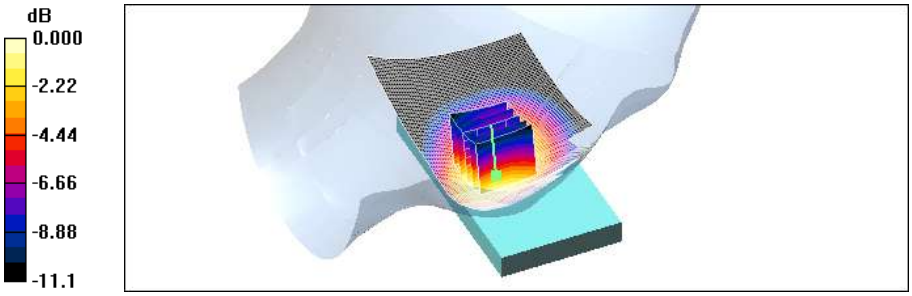
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 384 EVDO wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.09 mW/g

Left touch 384 EVDO wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.58 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.997 mW/g; SAR(10 g) = 0.673 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Jul. 15, 2012
Option	Extended Battery

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

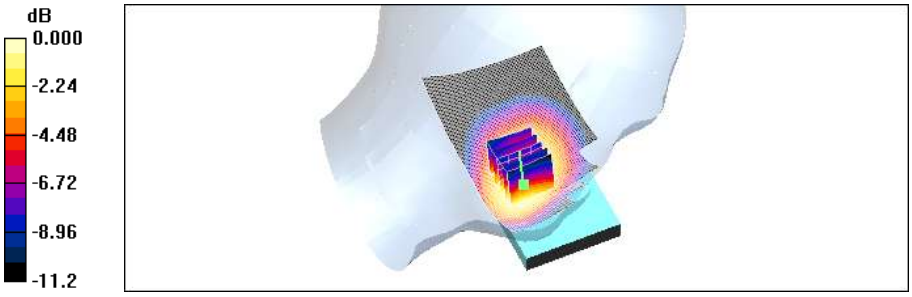
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 384 EVDO extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.05 mW/g

Left touch 384 EVDO extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.30 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.963 mW/g; SAR(10 g) = 0.655 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.01 mW/g



0 dB = 1.01mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

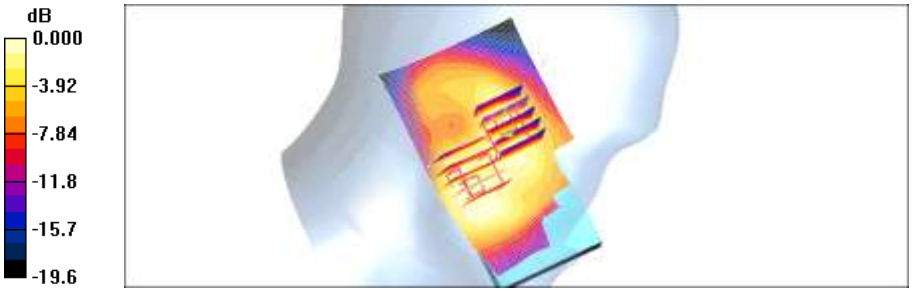
Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 600/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.793 mW/g

Left touch 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.164 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.770 mW/g; SAR(10 g) = 0.450 mW/g
Maximum value of SAR (measured) = 0.822 mW/g

Left touch 600/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.164 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.605 mW/g; SAR(10 g) = 0.354 mW/g
Maximum value of SAR (measured) = 0.668 mW/g



0 dB = 0.668mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

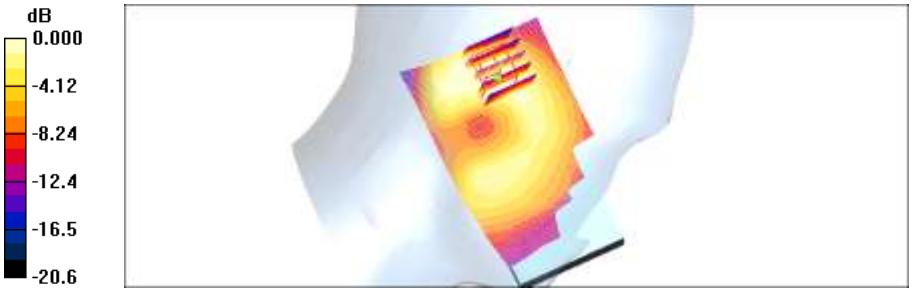
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 600/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.271 mW/g

Left tilt 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.386 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.143 mW/g
Maximum value of SAR (measured) = 0.256 mW/g



0 dB = 0.256mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1851.25 MHz; σ = 1.36 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

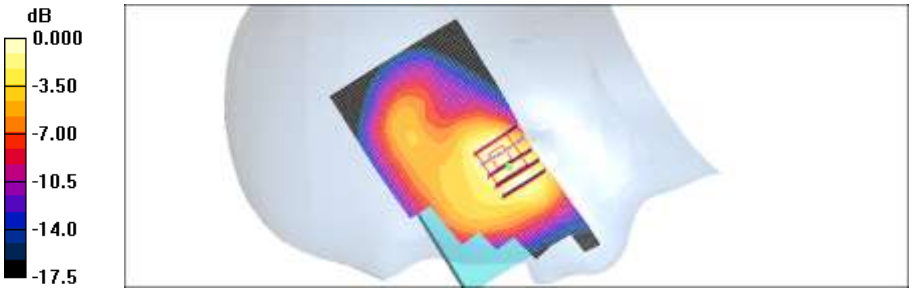
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 25/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.07 mW/g

Right touch 25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 0.987 mW/g; SAR(10 g) = 0.570 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.09 mW/g



0 dB = 1.09mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

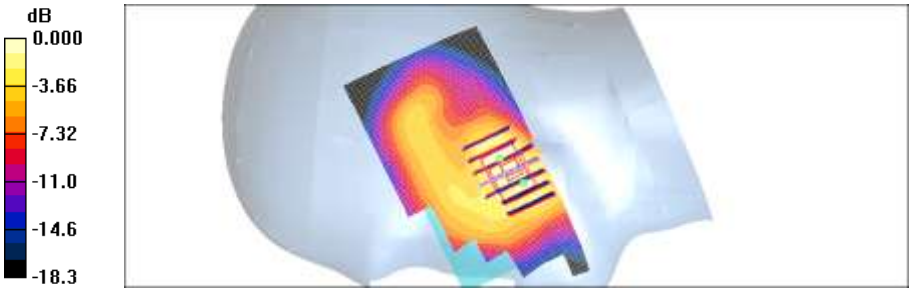
Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 600/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.899 mW/g

Right touch 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = 0.133 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.893 mW/g; SAR(10 g) = 0.470 mW/g
Maximum value of SAR (measured) = 0.966 mW/g

Right touch 600/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = 0.133 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.921 mW/g; SAR(10 g) = 0.531 mW/g.
Maximum value of SAR (measured) = 0.961 mW/g



0 dB = 0.961mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.42 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

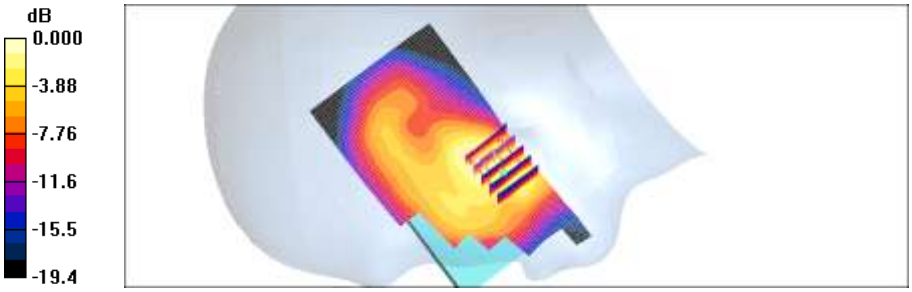
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 1175/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.808 mW/g

Right touch 1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.821 mW/g; SAR(10 g) = 0.462 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.896 mW/g



0 dB = 0.896mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

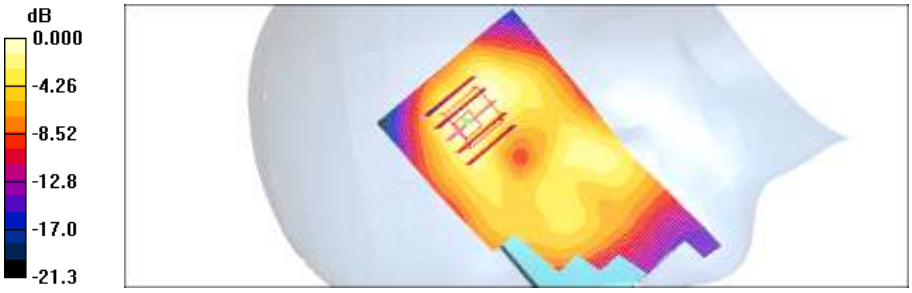
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 600/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.309 mW/g

Right tilt 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = 0.144 dB
Peak SAR (extrapolated) = 0.396 W/kg
SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.281 mW/g



0 dB = 0.281mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1851.25 MHz; σ = 1.36 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

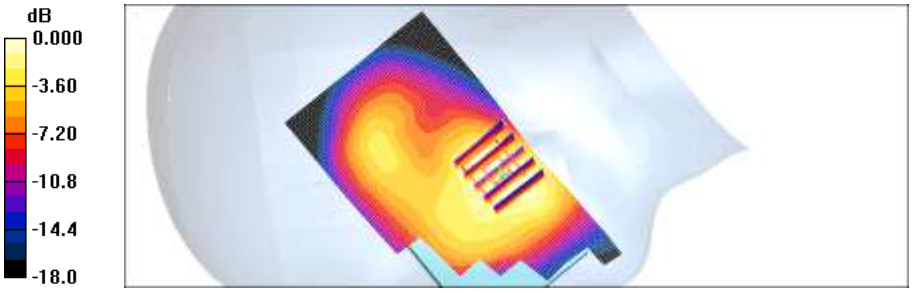
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 25 wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.863 mW/g

Right touch 25 wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = 0.057 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.799 mW/g; SAR(10 g) = 0.477 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.864 mW/g



0 dB = 0.864mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Extended Battery

DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1851.25 MHz; σ = 1.36 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

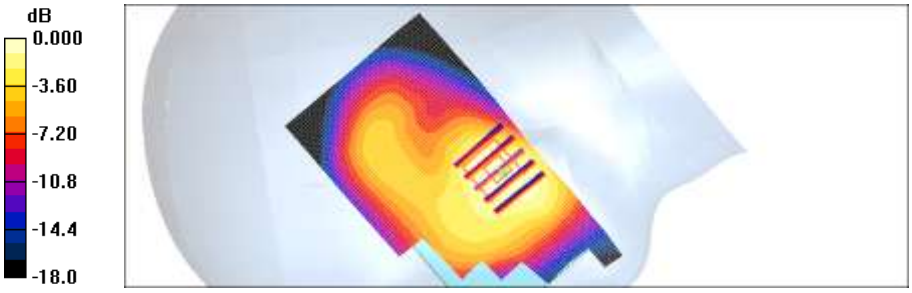
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 25 extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.866 mW/g

Right touch 25 extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.157 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.796 mW/g; SAR(10 g) = 0.474 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.861 mW/g



0 dB = 0.861mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1851.25 MHz; σ = 1.36 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

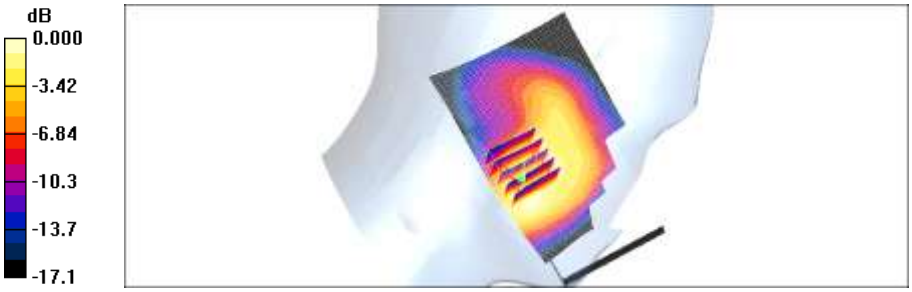
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 25 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.16 mW/g

Left touch 25 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.567 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.12 mW/g



0 dB = 1.12mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

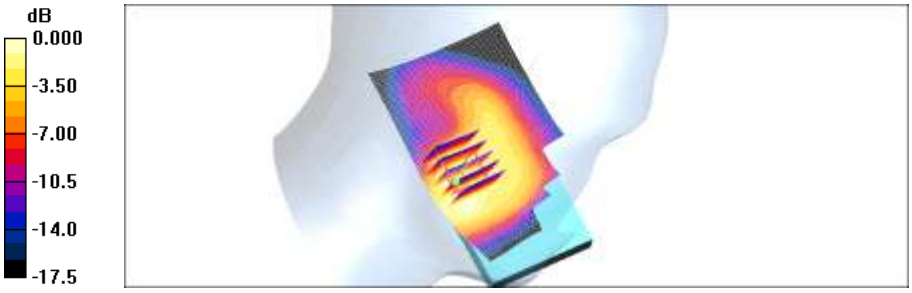
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 600 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.20 mW/g

Left touch 600 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = -0.148 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.595 mW/g
Maximum value of SAR (measured) = 1.17 mW/g



0 dB = 1.17mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.42 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

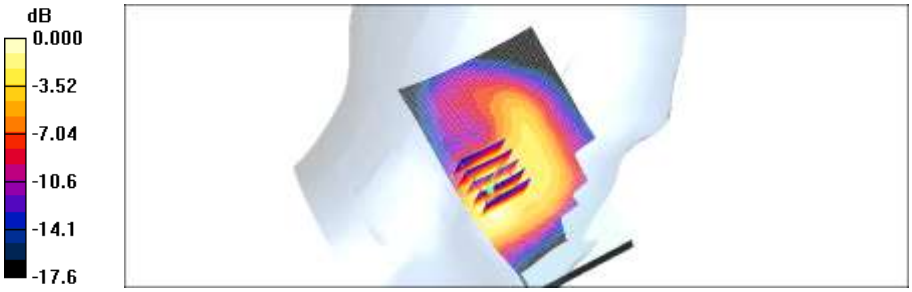
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 1175 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.20 mW/g

Left touch 1175 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.577 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.16 mW/g



0 dB = 1.16mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

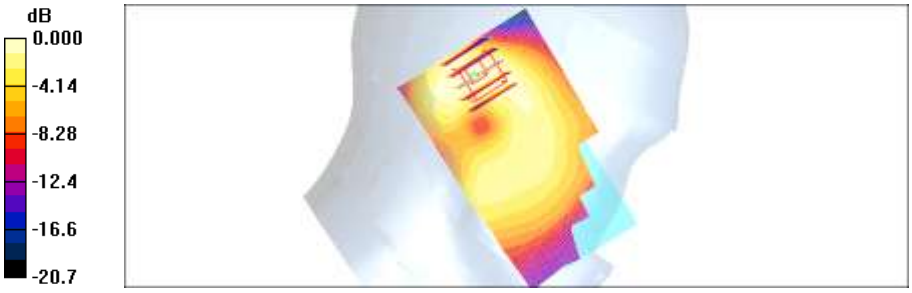
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 600 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.260 mW/g

Left tilt 600 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = -0.120 dB
Peak SAR (extrapolated) = 0.361 W/kg
SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.128 mW/g
Maximum value of SAR (measured) = 0.235 mW/g



0 dB = 0.235mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

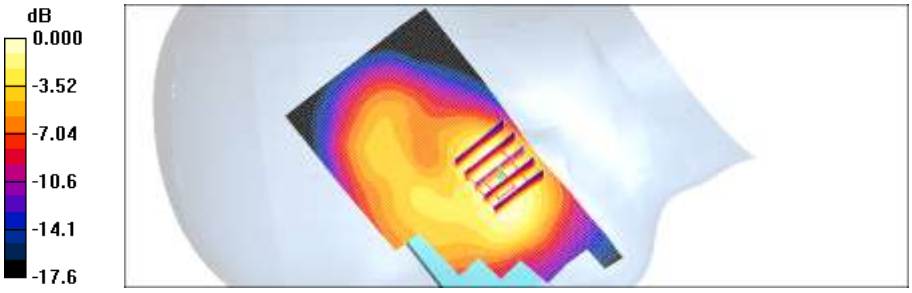
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 600 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.777 mW/g

Right touch 600 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.0 V/m; Power Drift = -0.084 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.717 mW/g; SAR(10 g) = 0.445 mW/g
Maximum value of SAR (measured) = 0.758 mW/g



0 dB = 0.758mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

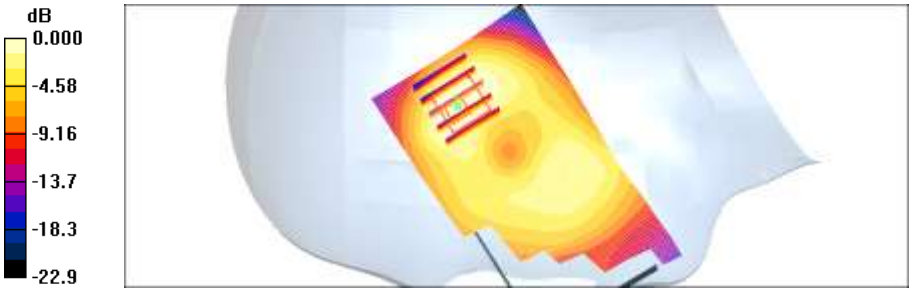
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 600 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.301 mW/g

Right tilt 600 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 0.430 W/kg
SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.145 mW/g
Maximum value of SAR (measured) = 0.267 mW/g



0 dB = 0.267mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

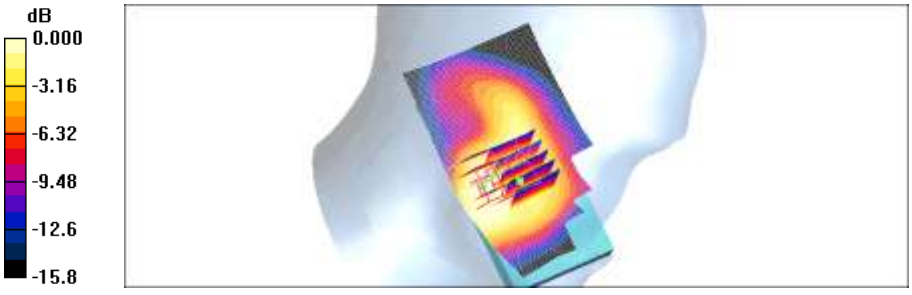
Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 600 EVDO wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.14 mW/g

Left touch 600 EVDO wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 1.65 W/kg
SAR(1 g) = 1 mW/g; SAR(10 g) = 0.575 mW/g
Maximum value of SAR (measured) = 1.13 mW/g

Left touch 600 EVDO wireless cover/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.774 mW/g; SAR(10 g) = 0.474 mW/g
Maximum value of SAR (measured) = 0.928 mW/g



0 dB = 0.928mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Extended Battery

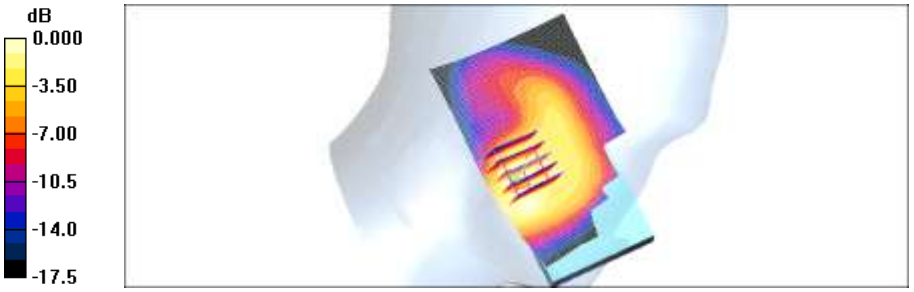
DUT: C811; Type: bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 600 EVDO extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.17 mW/g

Left touch 600 EVDO extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.591 mW/g
Maximum value of SAR (measured) = 1.16 mW/g



0 dB = 1.16mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

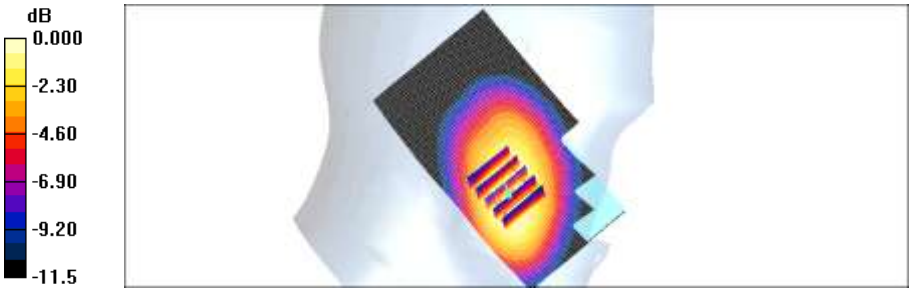
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 190/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.576 mW/g

Left touch 190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.71 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.754 W/kg
SAR(1 g) = 0.520 mW/g; SAR(10 g) = 0.348 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.557 mW/g



0 dB = 0.557mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

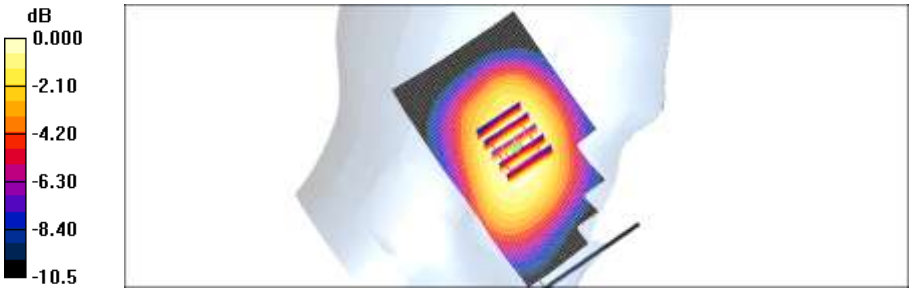
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left tilt 190/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.223 mW/g

Left tilt 190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.88 V/m; Power Drift = -0.170 dB
Peak SAR (extrapolated) = 0.269 W/kg
SAR(1 g) = 0.210 mW/g; SAR(10 g) = 0.154 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.220 mW/g



0 dB = 0.220mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

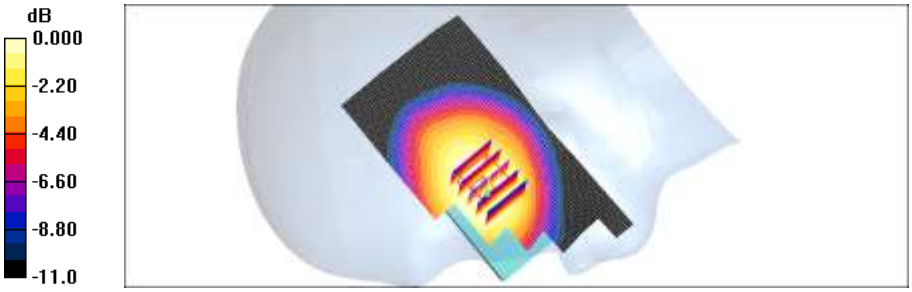
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 190/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.344 mW/g

Right touch 190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.24 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 0.384 W/kg
SAR(1 g) = 0.291 mW/g; SAR(10 g) = 0.210 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.306 mW/g



0 dB = 0.306mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

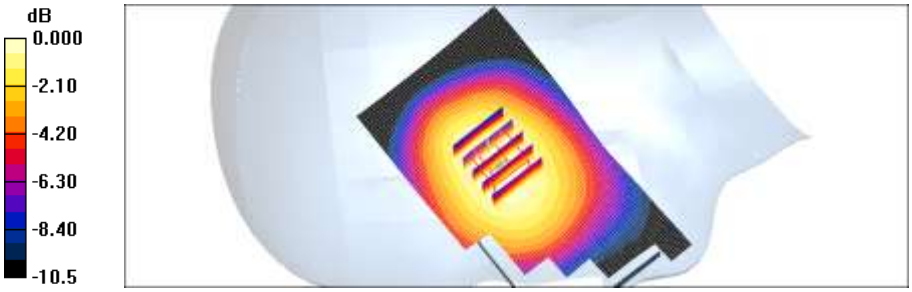
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right tilt 190/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.175 mW/g

Right tilt 190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.74 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.212 W/kg
SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.119 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.170 mW/g



0 dB = 0.170mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

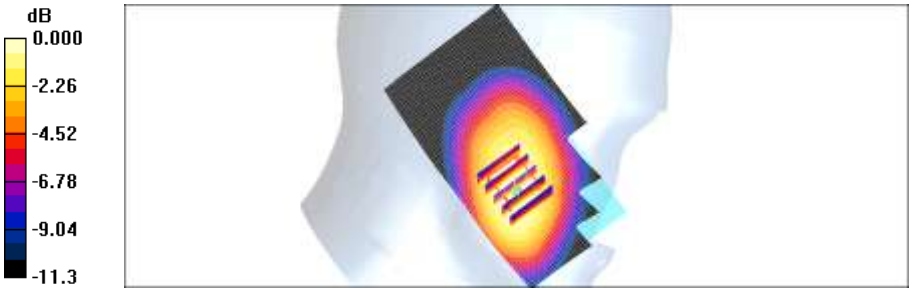
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 190 wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.504 mW/g

Left touch 190 wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.70 V/m; Power Drift = -0.180 dB
Peak SAR (extrapolated) = 0.657 W/kg
SAR(1 g) = 0.456 mW/g; SAR(10 g) = 0.310 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.479 mW/g



0 dB = 0.479mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012
Option	Extended Battery

DUT: C811; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

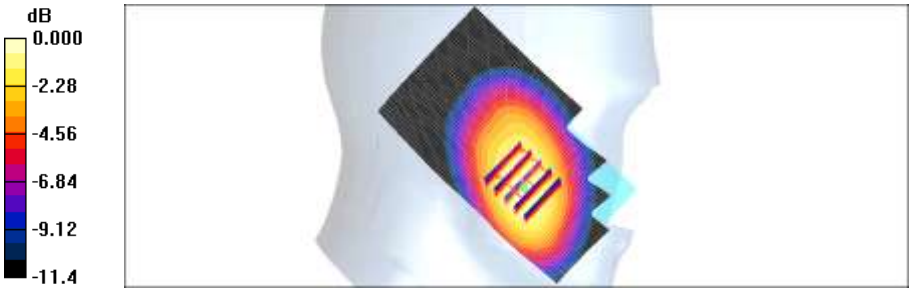
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 190 extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.486 mW/g

Left touch 190 extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.65 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 0.676 W/kg
SAR(1 g) = 0.476 mW/g; SAR(10 g) = 0.318 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.531 mW/g



0 dB = 0.531mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

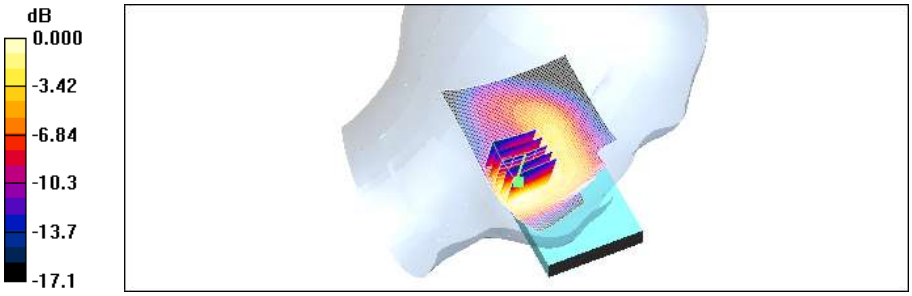
DUT: C811; Type: bar; Serial: #1

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 661/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.449 mW/g

Left touch 661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.69 V/m; Power Drift = -0.158 dB
Peak SAR (extrapolated) = 0.631 W/kg
SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.228 mW/g
Maximum value of SAR (measured) = 0.445 mW/g



0 dB = 0.445mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

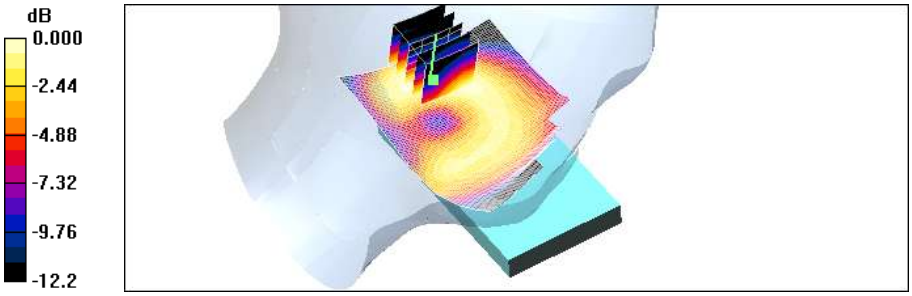
DUT: C811; Type: bar; Serial: #1

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 661/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.107 mW/g

Left tilt 661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.64 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 0.156 W/kg
SAR(1 g) = 0.094 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.100 mW/g



0 dB = 0.100mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

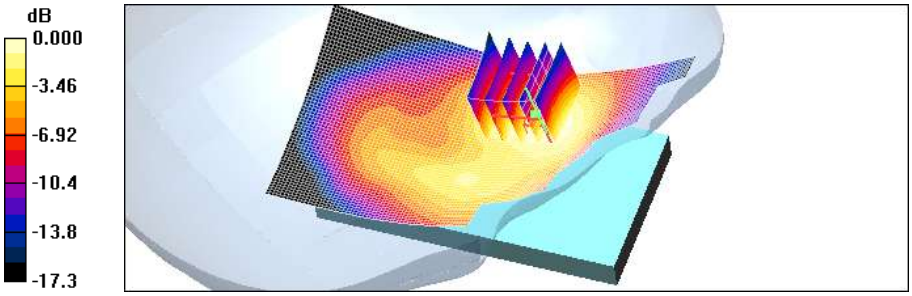
DUT: C811; Type: bar; Serial: #1

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 661/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.328 mW/g

Right touch 661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.98 V/m; Power Drift = -0.084 dB
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.189 mW/g
Maximum value of SAR (measured) = 0.324 mW/g



0 dB = 0.324mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

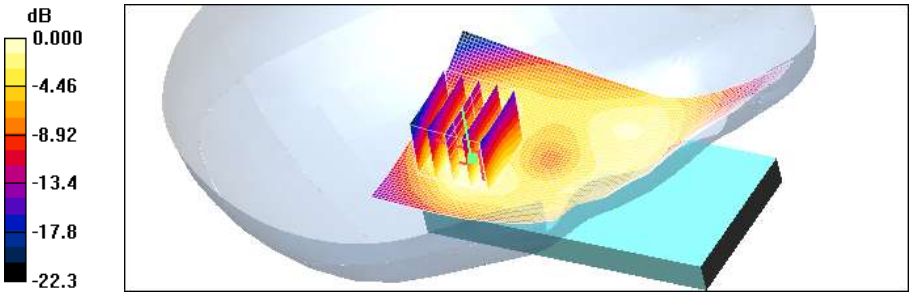
DUT: C811; Type: bar; Serial: #1

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 661/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.128 mW/g

Right tilt 661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.43 V/m; Power Drift = -0.171 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.102 mW/g; SAR(10 g) = 0.059 mW/g
Maximum value of SAR (measured) = 0.107 mW/g



0 dB = 0.107mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Wireless Charging cover

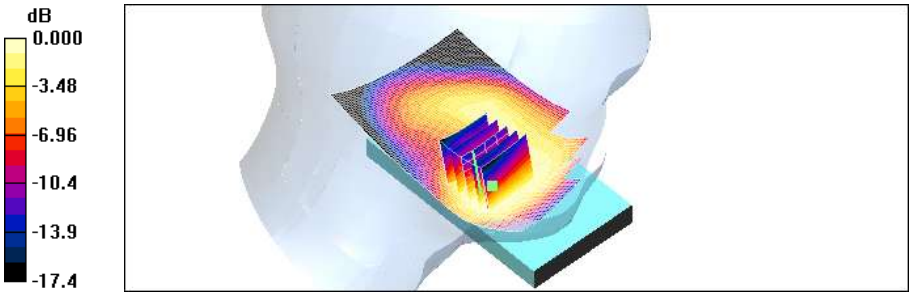
DUT: C811; Type: bar; Serial: #1

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 661 Wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.304 mW/g

Left touch 661 Wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.63 V/m; Power Drift = -0.097 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.276 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.293 mW/g



0 dB = 0.293mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Extended Battery

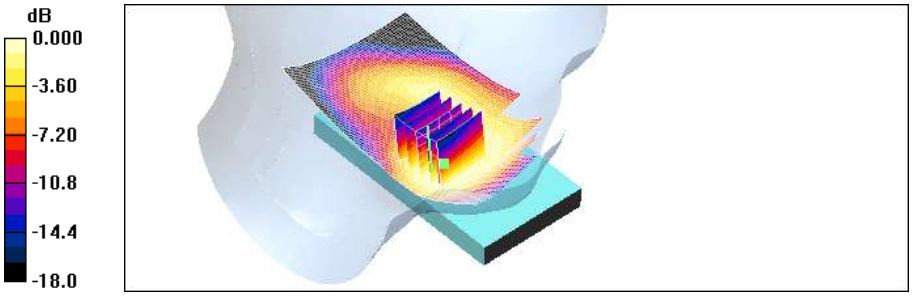
DUT: C811; Type: bar; Serial: #1

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 661 Extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.295 mW/g

Left touch 661 Extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.43 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.444 W/kg
SAR(1 g) = 0.274 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 0.289 mW/g



0 dB = 0.289mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.891 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

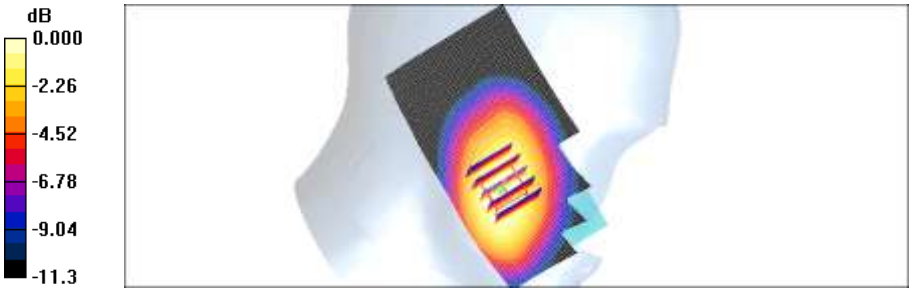
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 4132/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.841 mW/g

Left touch 4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.09 V/m; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.780 mW/g; SAR(10 g) = 0.522 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.819 mW/g



0 dB = 0.819mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

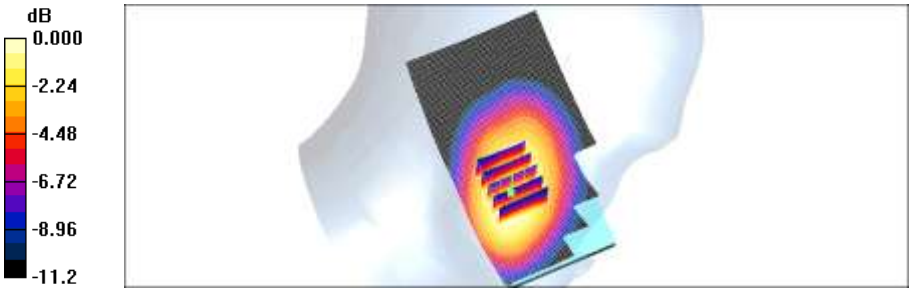
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 4183/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.981 mW/g

Left touch 4183/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.86 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.885 mW/g; SAR(10 g) = 0.599 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.932 mW/g



0 dB = 0.932mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.908 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

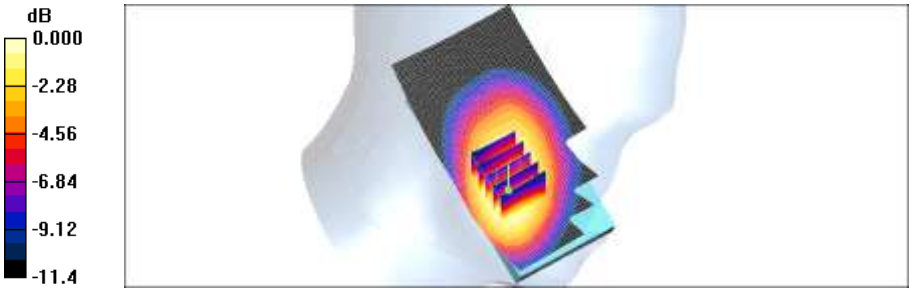
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left touch 4233/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.778 mW/g

Left touch 4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.78 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.475 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.735 mW/g



0 dB = 0.735mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

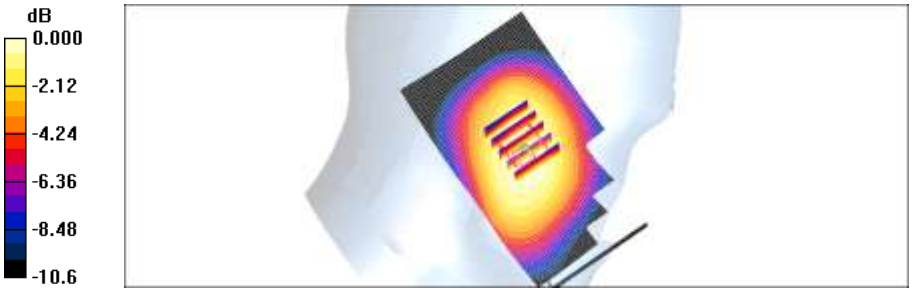
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Left tilt 4183/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.374 mW/g

Left tilt 4183/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 0.441 W/kg
SAR(1 g) = 0.349 mW/g; SAR(10 g) = 0.258 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.366 mW/g



0 dB = 0.366mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

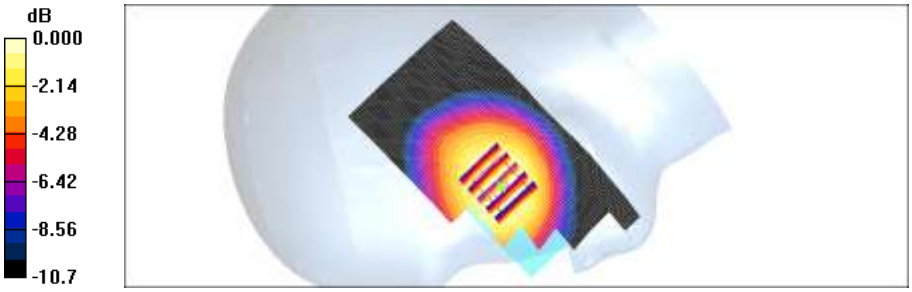
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 4183/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.666 mW/g

Right touch 4183/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.43 V/m; Power Drift = -0.126 dB
Peak SAR (extrapolated) = 0.809 W/kg
SAR(1 g) = 0.612 mW/g; SAR(10 g) = 0.442 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.645 mW/g



0 dB = 0.645mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

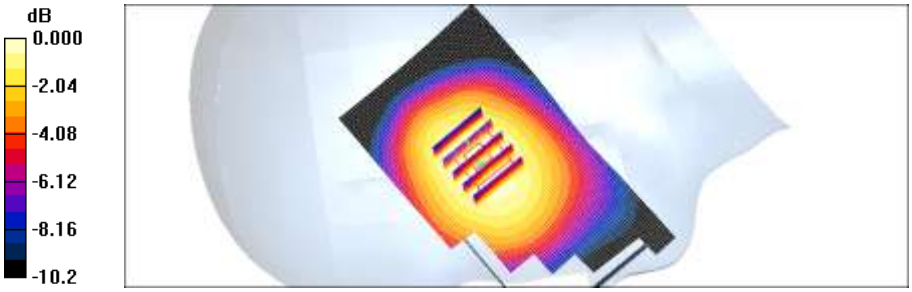
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Right tilt 4183/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.315 mW/g

Right tilt 4183/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.8 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.379 W/kg
SAR(1 g) = 0.290 mW/g; SAR(10 g) = 0.213 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.303 mW/g



0 dB = 0.303mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

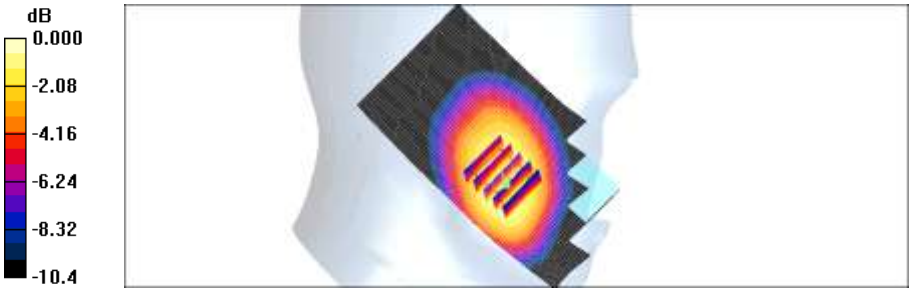
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left touch 4183 Wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.886 mW/g

Left touch 4183 Wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.58 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.581 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.876 mW/g



0 dB = 0.876mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 15, 2012
Option	Extended Battery

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.899 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

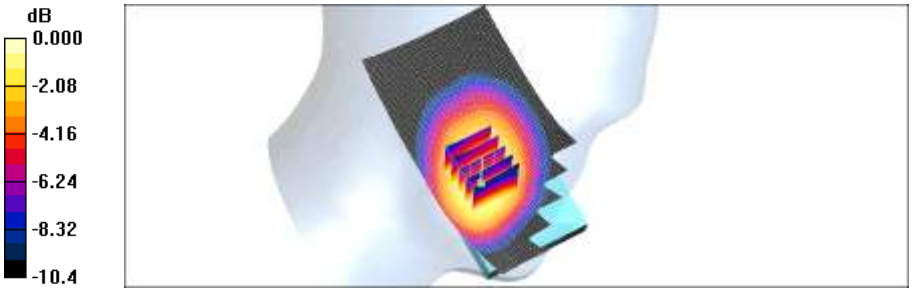
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.64, 6.64, 6.64); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left touch 4183 Extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.895 mW/g

Left touch 4183 Extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.41 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.581 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.877 mW/g



0 dB = 0.877mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.36 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

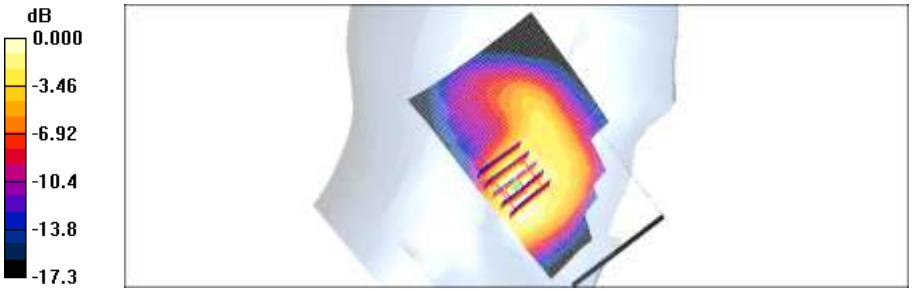
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 9262/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.06 mW/g

Left touch 9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.0 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.929 mW/g; SAR(10 g) = 0.536 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

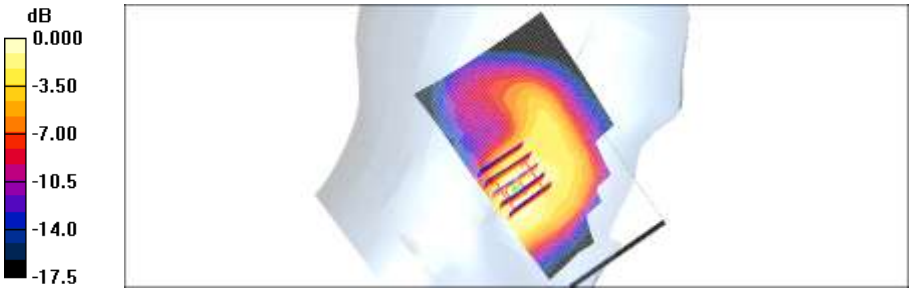
DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 9400/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.16 mW/g

Left touch 9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.101 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.984 mW/g; SAR(10 g) = 0.570 mW/g
Maximum value of SAR (measured) = 1.13 mW/g



0 dB = 1.13mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 1, 2012

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.42 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

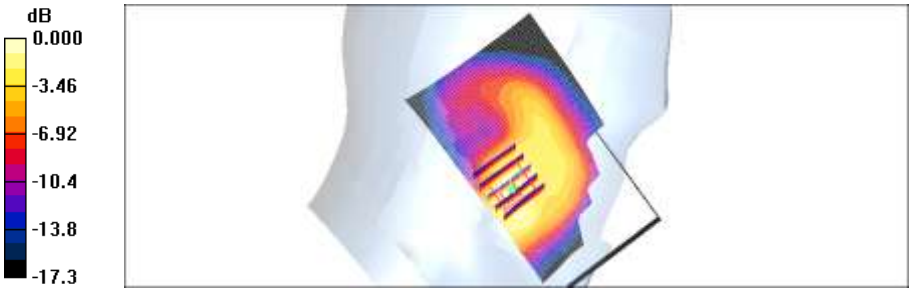
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 9538/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.15 mW/g

Left touch 9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.112 dB
Peak SAR (extrapolated) = 1.71 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.563 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

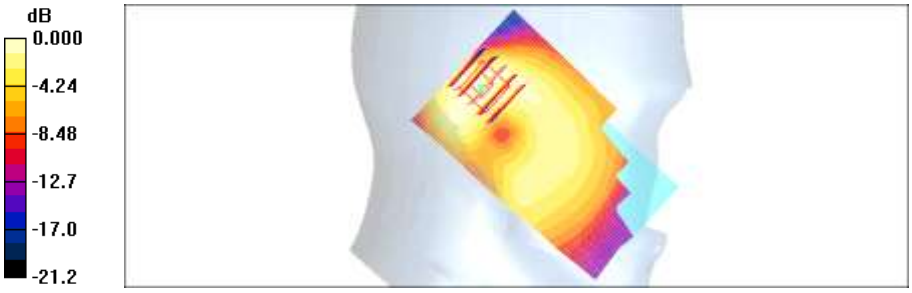
DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 9400/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.235 mW/g

Left tilt 9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = -0.126 dB
Peak SAR (extrapolated) = 0.323 W/kg
SAR(1 g) = 0.195 mW/g; SAR(10 g) = 0.115 mW/g
Maximum value of SAR (measured) = 0.211 mW/g



0 dB = 0.211mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

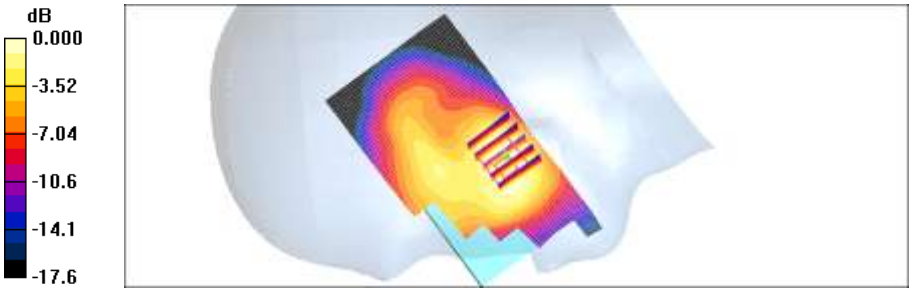
DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right touch 9400/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.751 mW/g

Right touch 9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.707 mW/g; SAR(10 g) = 0.441 mW/g
Maximum value of SAR (measured) = 0.757 mW/g



0 dB = 0.757mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012

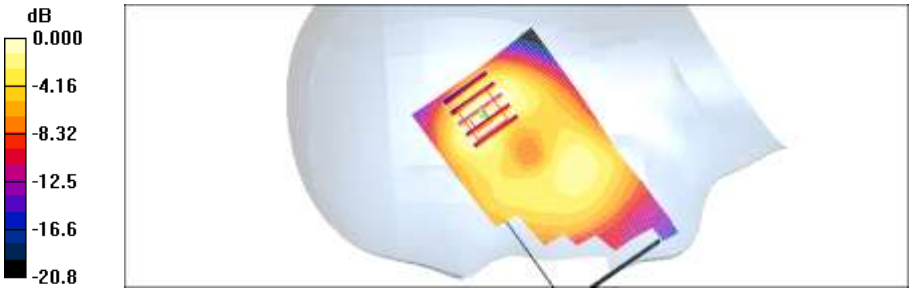
DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 9400/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.283 mW/g

Right tilt 9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.127 dB
Peak SAR (extrapolated) = 0.410 W/kg
SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Wireless Charging cover

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.42 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

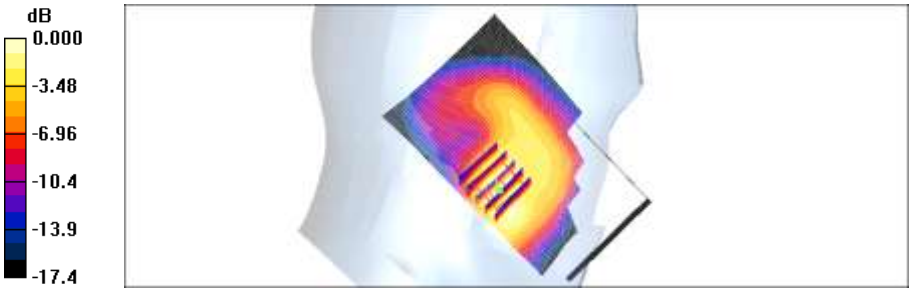
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 9538 wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.07 mW/g

Left touch 9538 wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.523 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.08 mW/g



0 dB = 1.08mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 1, 2012
Option	Extended Battery

DUT: C811; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.42 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

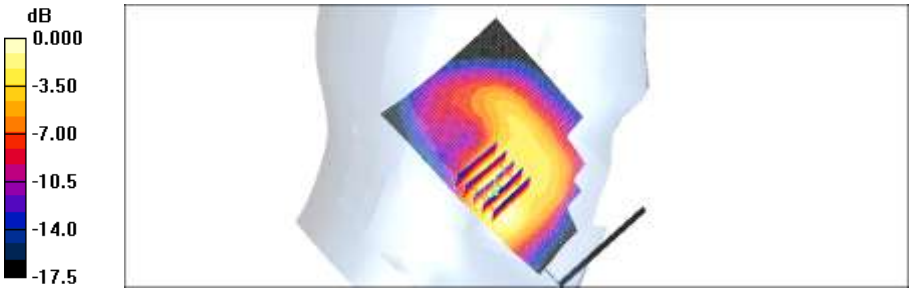
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(5.26, 5.26, 5.26); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 9538 extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.10 mW/g

Left touch 9538 extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 0.967 mW/g; SAR(10 g) = 0.539 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.11 mW/g



0 dB = 1.11mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

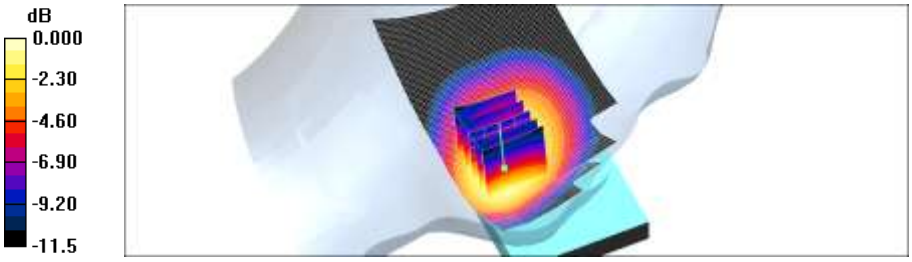
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch QPSK 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.555 mW/g

Left Touch QPSK 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.66 V/m; Power Drift = -0.111 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.337 mW/g
Maximum value of SAR (measured) = 0.540 mW/g



0 dB = 0.540mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

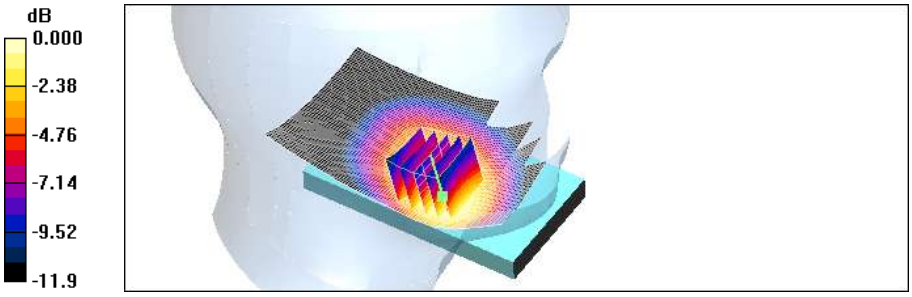
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch QPSK 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.481 mW/g

Left Touch QPSK 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.57 V/m; Power Drift = -0.146 dB
Peak SAR (extrapolated) = 0.627 W/kg
SAR(1 g) = 0.441 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 0.476 mW/g



0 dB = 0.476mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

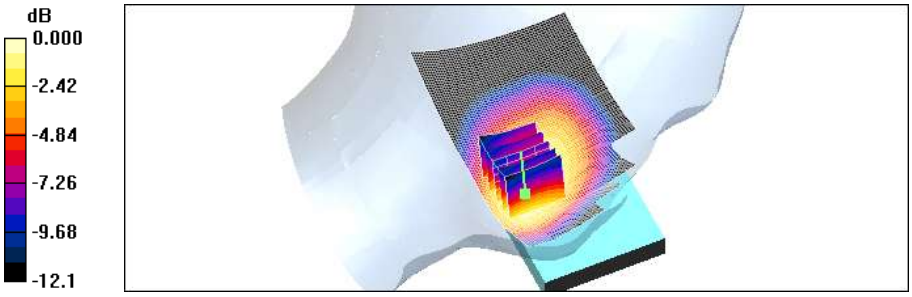
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch QPSK 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.439 mW/g

Left Touch QPSK 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.36 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 0.587 W/kg
SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.440 mW/g



0 dB = 0.440mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

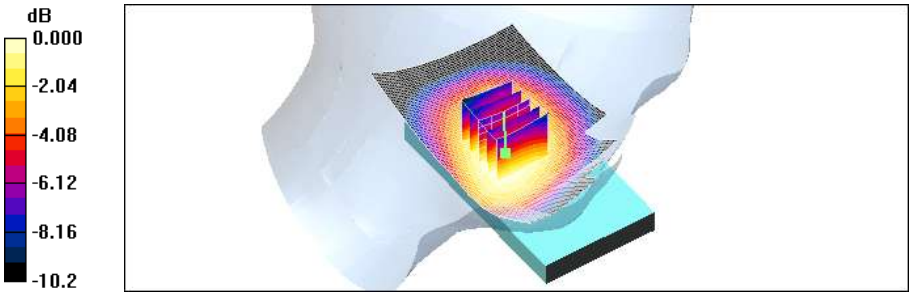
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt QPSK 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.205 mW/g

Left tilt QPSK 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.94 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.239 W/kg
SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.142 mW/g
Maximum value of SAR (measured) = 0.199 mW/g



0 dB = 0.199mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

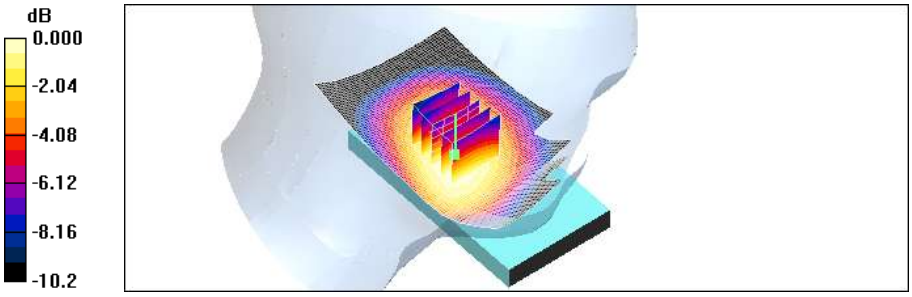
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt QPSK 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.203 mW/g

Left tilt QPSK 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.76 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.236 W/kg
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.141 mW/g
Maximum value of SAR (measured) = 0.198 mW/g



0 dB = 0.198mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

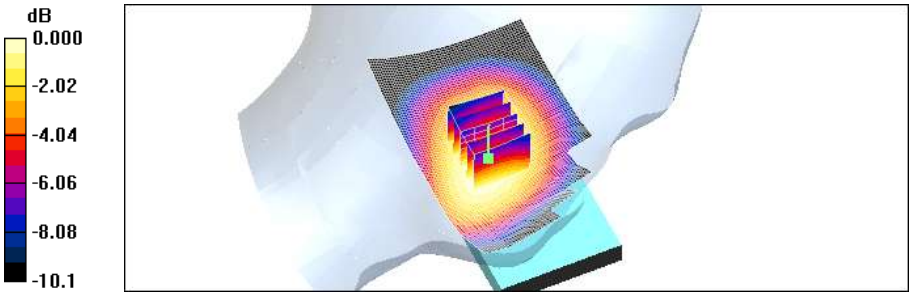
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt QPSK 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.182 mW/g

Left tilt QPSK 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.33 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 0.209 W/kg
SAR(1 g) = 0.169 mW/g; SAR(10 g) = 0.126 mW/g
Maximum value of SAR (measured) = 0.179 mW/g



0 dB = 0.179mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

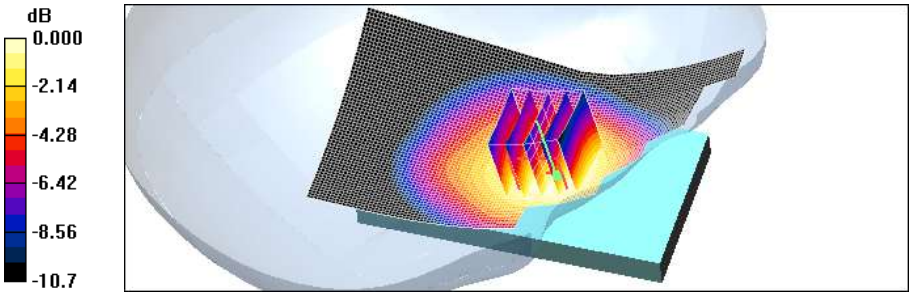
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch QPSK 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.342 mW/g

Right Touch QPSK 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.03 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.413 W/kg
SAR(1 g) = 0.314 mW/g; SAR(10 g) = 0.226 mW/g
Maximum value of SAR (measured) = 0.333 mW/g



0 dB = 0.333mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 7, 2012

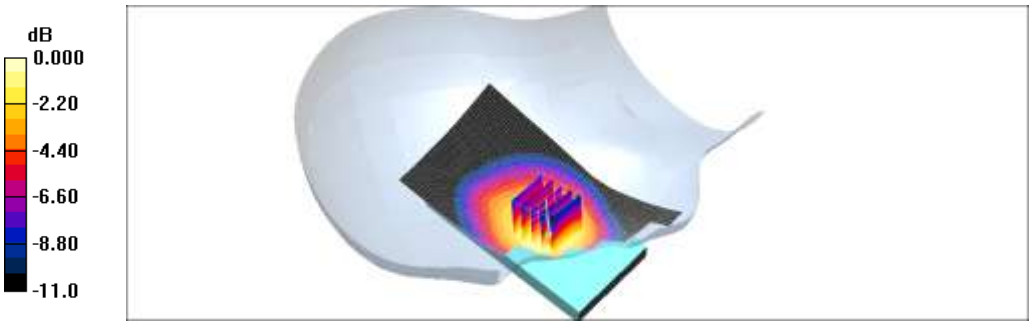
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch QPSK 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.341 mW/g

Right Touch QPSK 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.77 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.420 W/kg
SAR(1 g) = 0.317 mW/g; SAR(10 g) = 0.227 mW/g
Maximum value of SAR (measured) = 0.335 mW/g



0 dB = 0.335mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 7, 2012

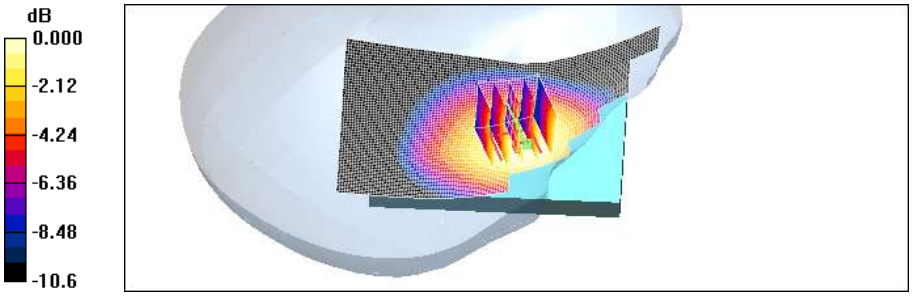
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch QPSK 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.316 mW/g

Right Touch QPSK 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.58 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.380 W/kg
SAR(1 g) = 0.287 mW/g; SAR(10 g) = 0.208 mW/g
Maximum value of SAR (measured) = 0.301 mW/g



0 dB = 0.301mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 7, 2012

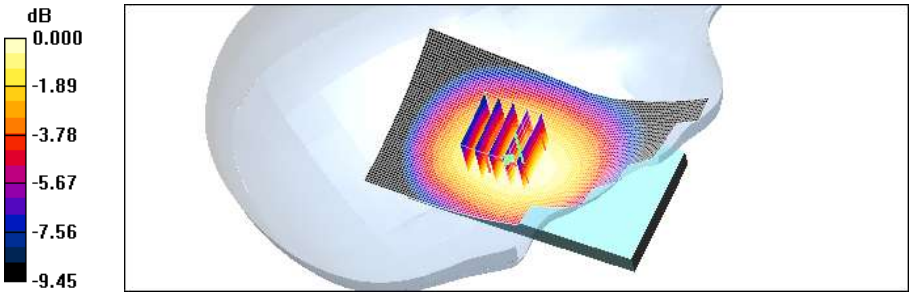
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt QPSK 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.175 mW/g

Right tilt QPSK 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.85 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.124 mW/g
Maximum value of SAR (measured) = 0.171 mW/g



0 dB = 0.171mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

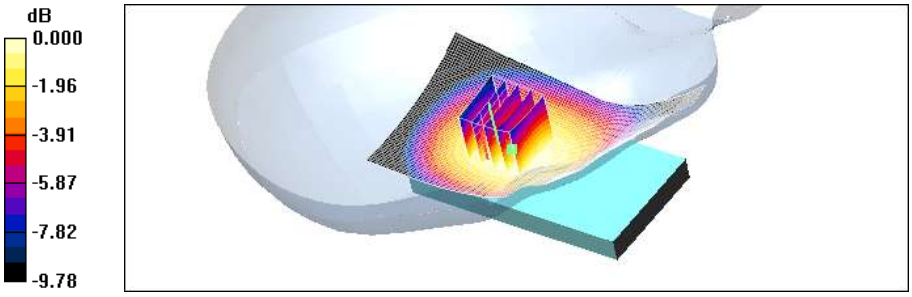
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt QPSK 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.152 mW/g

Right tilt QPSK 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.65 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.140 mW/g; SAR(10 g) = 0.106 mW/g
Maximum value of SAR (measured) = 0.145 mW/g



0 dB = 0.145mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 7, 2012

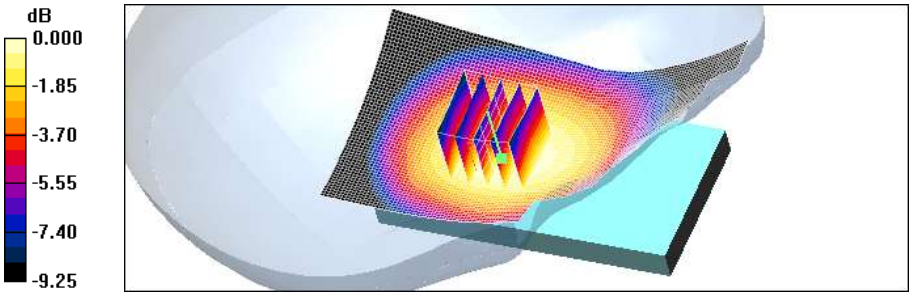
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt QPSK 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.140 mW/g

Right tilt QPSK 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.27 V/m; Power Drift = -0.174 dB
Peak SAR (extrapolated) = 0.163 W/kg
SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.137 mW/g



0 dB = 0.137mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 7, 2012
Option	Wireless Charging cover

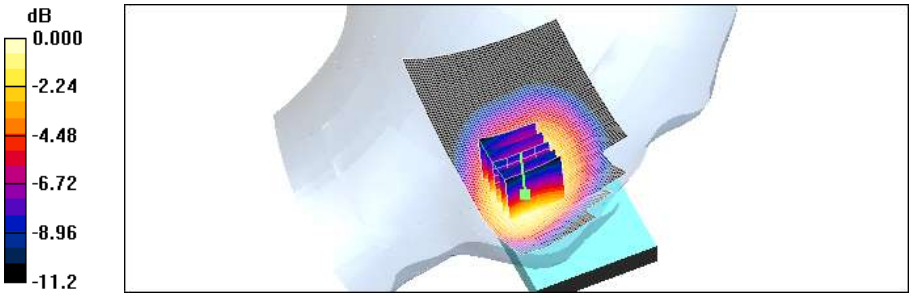
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch QPSK 10MHz 25RB 13 offset 23230 Wireless Cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.541 mW/g

Left Touch QPSK 10MHz 25RB 13 offset 23230 Wireless Cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.76 V/m; Power Drift = -0.154 dB
Peak SAR (extrapolated) = 0.722 W/kg
SAR(1 g) = 0.494 mW/g; SAR(10 g) = 0.334 mW/g
Maximum value of SAR (measured) = 0.522 mW/g



0 dB = 0.522mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.1℃
Ambient Temperature:	21.3℃
Test Date:	Jul. 7, 2012
Option	Extended Battery

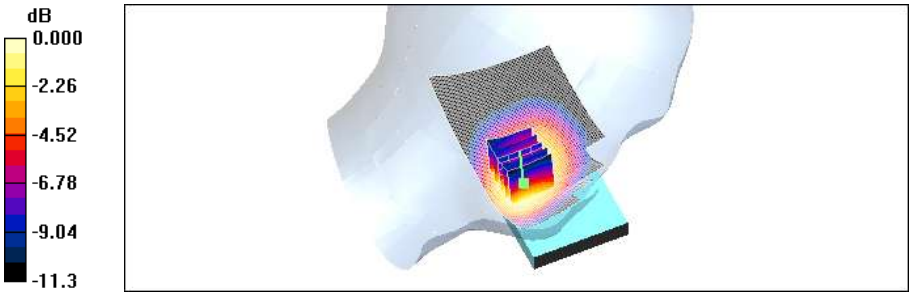
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch QPSK 10MHz 25RB 13 offset 23230 Extended/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.531 mW/g

Left Touch QPSK 10MHz 25RB 13 offset 23230 Extended/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.32 V/m; Power Drift = -0.099 dB
Peak SAR (extrapolated) = 0.704 W/kg
SAR(1 g) = 0.485 mW/g; SAR(10 g) = 0.328 mW/g
Maximum value of SAR (measured) = 0.518 mW/g



0 dB = 0.518mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

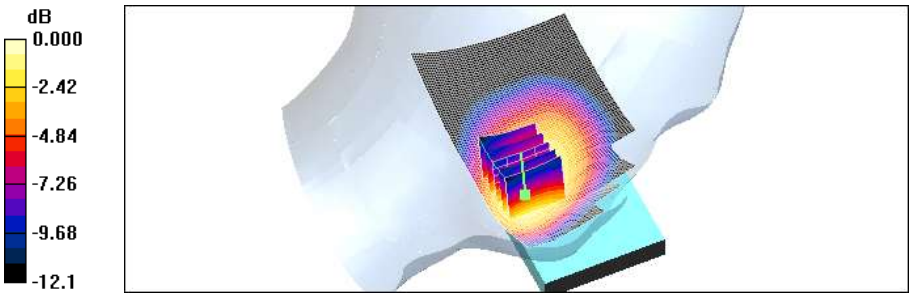
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch 16QAM 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.389 mW/g

Left Touch 16QAM 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.93 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 0.526 W/kg
SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.248 mW/g
Maximum value of SAR (measured) = 0.393 mW/g



0 dB = 0.393mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

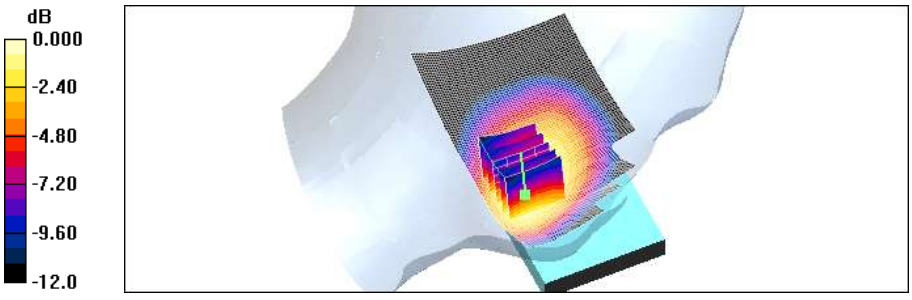
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch 16QAM 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.445 mW/g

Left Touch 16QAM 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.41 V/m; Power Drift = -0.074 dB
Peak SAR (extrapolated) = 0.600 W/kg
SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.288 mW/g
Maximum value of SAR (measured) = 0.451 mW/g



0 dB = 0.451mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

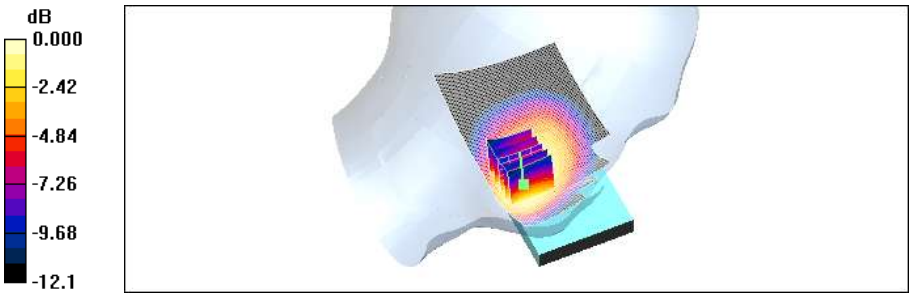
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch 16QAM 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.414 mW/g

Left Touch 16QAM 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.31 V/m; Power Drift = -0.092 dB
Peak SAR (extrapolated) = 0.551 W/kg
SAR(1 g) = 0.386 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.415 mW/g



0 dB = 0.415mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

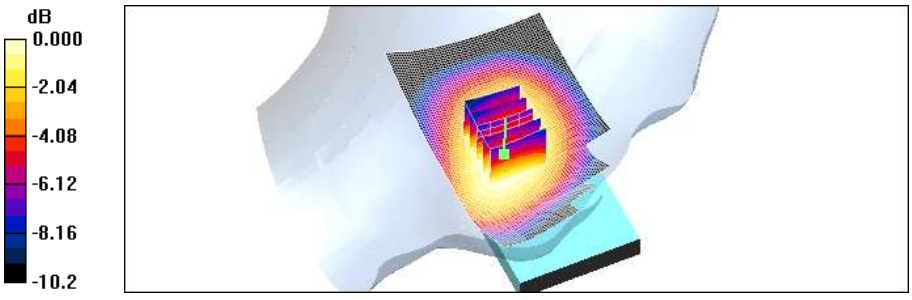
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 16QAM 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.161 mW/g

Left tilt 16QAM 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.83 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 0.185 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.111 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

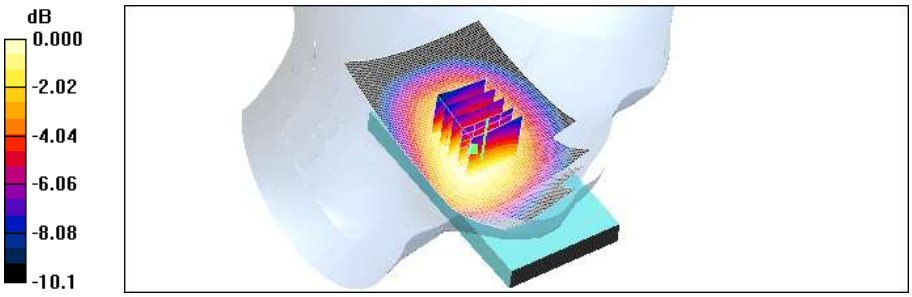
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 16QAM 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.191 mW/g

Left tilt 16QAM 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.52 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.178 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.185 mW/g



0 dB = 0.185mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

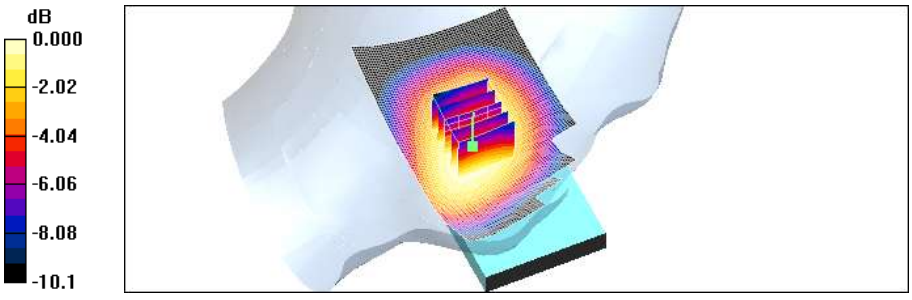
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 16QAM 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.168 mW/g

Left tilt 16QAM 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.01 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 0.196 W/kg
SAR(1 g) = 0.157 mW/g; SAR(10 g) = 0.118 mW/g
Maximum value of SAR (measured) = 0.166 mW/g



0 dB = 0.166mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

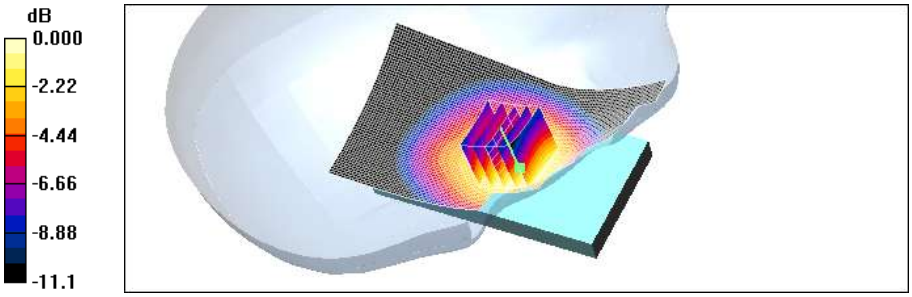
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch 16QAM 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.264 mW/g

Right Touch 16QAM 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.49 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.324 W/kg
SAR(1 g) = 0.248 mW/g; SAR(10 g) = 0.178 mW/g
Maximum value of SAR (measured) = 0.262 mW/g



0 dB = 0.262mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

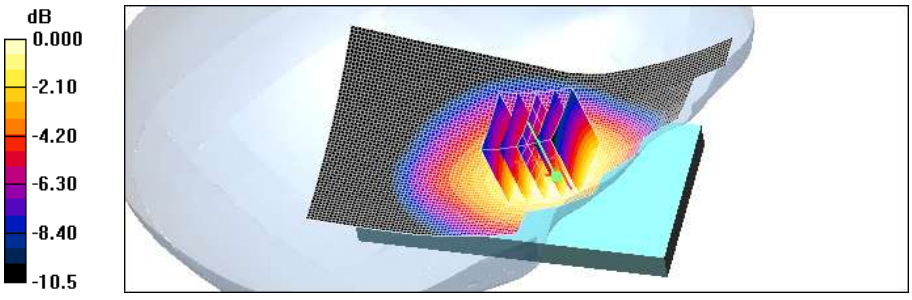
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch 16QAM 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

Right Touch 16QAM 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.67 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.383 W/kg
SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.303 mW/g



0 dB = 0.303mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

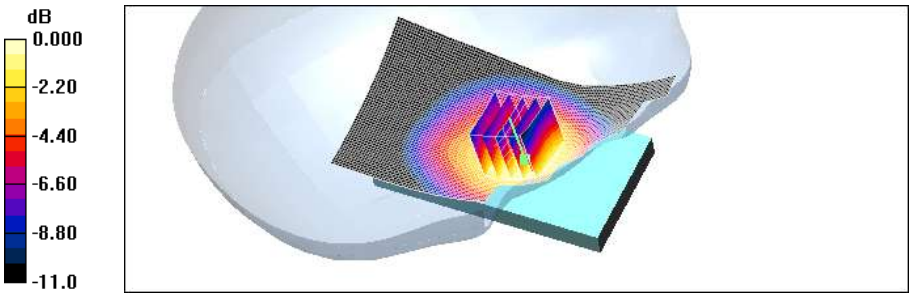
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch 16QAM 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.295 mW/g

Right Touch 16QAM 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.46 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 0.364 W/kg
SAR(1 g) = 0.276 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.293 mW/g



0 dB = 0.293mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

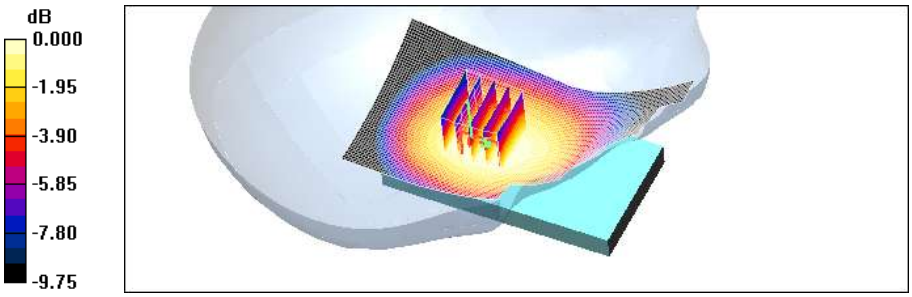
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 16QAM 10MHz 25RB 13 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.126 mW/g

Right tilt 16QAM 10MHz 25RB 13 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.08 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 0.147 W/kg
SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.088 mW/g
Maximum value of SAR (measured) = 0.121 mW/g



0 dB = 0.121mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

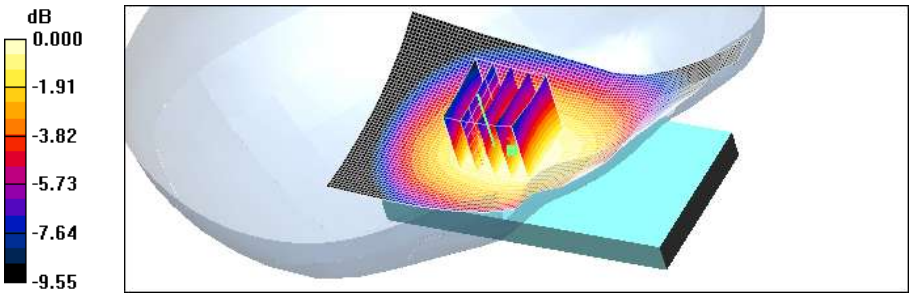
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 16QAM 10MHz 1RB 0 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.143 mW/g

Right tilt 16QAM 10MHz 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.35 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.169 W/kg
SAR(1 g) = 0.133 mW/g; SAR(10 g) = 0.101 mW/g
Maximum value of SAR (measured) = 0.141 mW/g



0 dB = 0.141mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.1℃
Ambient Temperature: 21.3℃
Test Date: Jul. 7, 2012

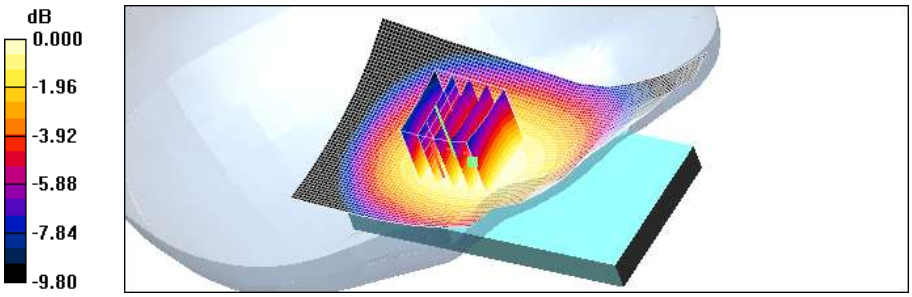
DUT: C811; Type: bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.895 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(7.03, 7.03, 7.03); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 835/900 Phamtom ; Type: SAM

Right tilt 16QAM 10MHz 1RB 49 offset 23230/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.135 mW/g

Right tilt 16QAM 10MHz 1RB 49 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.05 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.159 W/kg
SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.131 mW/g



0 dB = 0.131mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 20, 2012

DUT: C811; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.78 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

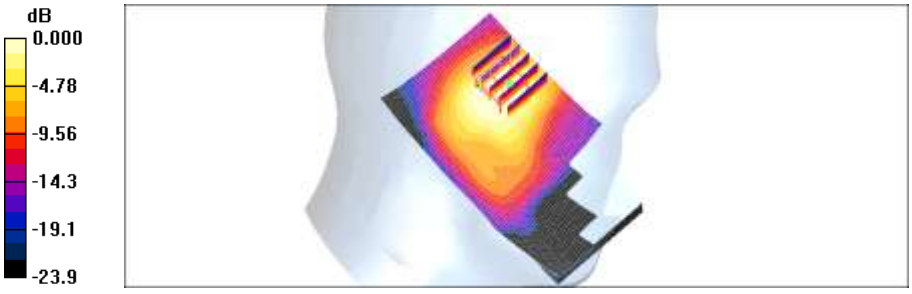
DASY4 Configuration:
- Probe: ET3DV6 - SN1630; ConvF(4.57, 4.57, 4.57); Calibrated: 2011-11-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2012-02-21
- Phantom: 835/900 Phamtom ; Type: SAM

Left Touch 1Mbps 11ch/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.273 mW/g

Left Touch 1Mbps 11ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.80 V/m; Power Drift = 0.160 dB
Peak SAR (extrapolated) = 0.510 W/kg
SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.122 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.267 mW/g



0 dB = 0.267mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 20, 2012

DUT: C811; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.78 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

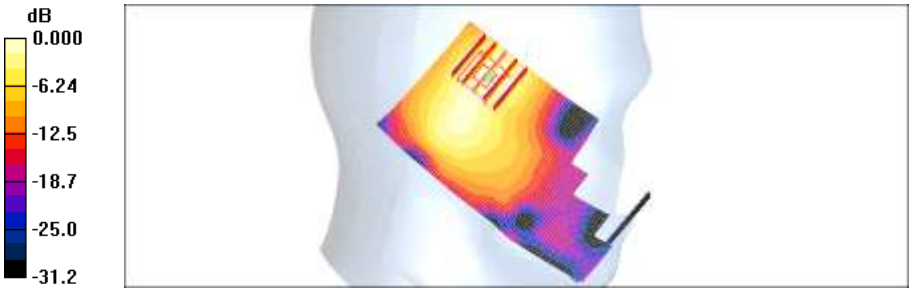
DASY4 Configuration:
- Probe: ET3DV6 - SN1630; ConvF(4.57, 4.57, 4.57); Calibrated: 2011-11-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2012-02-21
- Phantom: 835/900 Phamtom ; Type: SAM

Left tilt 1Mbps 11ch/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.150 mW/g

Left tilt 1Mbps 11ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.19 V/m; Power Drift = -0.124 dB
Peak SAR (extrapolated) = 0.320 W/kg
SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.069 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.154 mW/g



0 dB = 0.154mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 20, 2012

DUT: C811; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.78 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

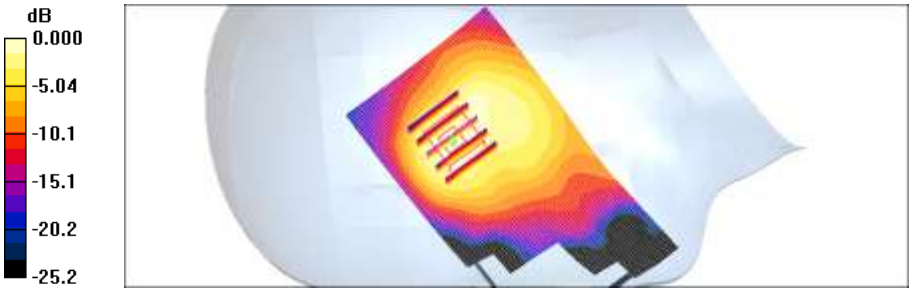
DASY4 Configuration:
- Probe: ET3DV6 - SN1630; ConvF(4.57, 4.57, 4.57); Calibrated: 2011-11-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2012-02-21
- Phantom: 835/900 Phamtom ; Type: SAM

Right Touch 1Mbps 11ch/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.202 mW/g

Right Touch 1Mbps 11ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.67 V/m; Power Drift = 0.121 dB
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.094 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.190 mW/g



0 dB = 0.190mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature: 21.2℃
Ambient Temperature: 21.4℃
Test Date: Jul. 20, 2012

DUT: C811; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.78 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

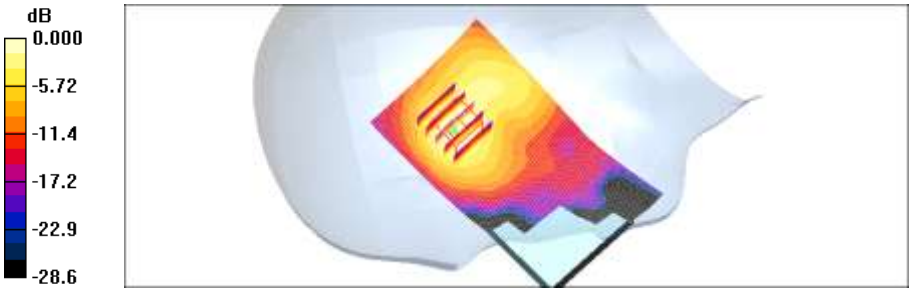
DASY4 Configuration:
- Probe: ET3DV6 - SN1630; ConvF(4.57, 4.57, 4.57); Calibrated: 2011-11-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2012-02-21
- Phantom: 835/900 Phamtom ; Type: SAM

Right Tilt 1Mbps 11ch/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.131 mW/g

Right Tilt 1Mbps 11ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.24 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.243 W/kg
SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.059 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.129 mW/g



0 dB = 0.129mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 20, 2012
Option	Wireless Charging cover

DUT: C811; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.78 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

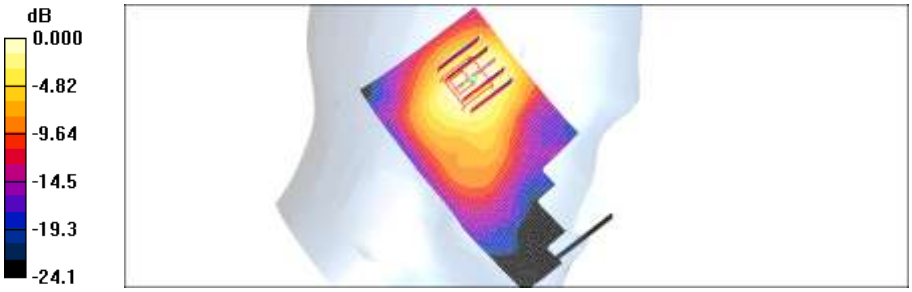
DASY4 Configuration:
- Probe: ET3DV6 - SN1630; ConvF(4.57, 4.57, 4.57); Calibrated: 2011-11-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2012-02-21
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 1Mbps 11ch Wireless chager cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.140 mW/g

Left touch 1Mbps 11ch Wireless chager cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.16 V/m; Power Drift = -0.145 dB
Peak SAR (extrapolated) = 0.306 W/kg
SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.068 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.145 mW/g



0 dB = 0.145mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.2℃
Ambient Temperature:	21.4℃
Test Date:	Jul. 20, 2012
Option	Extended Battery

DUT: C811; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.78 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

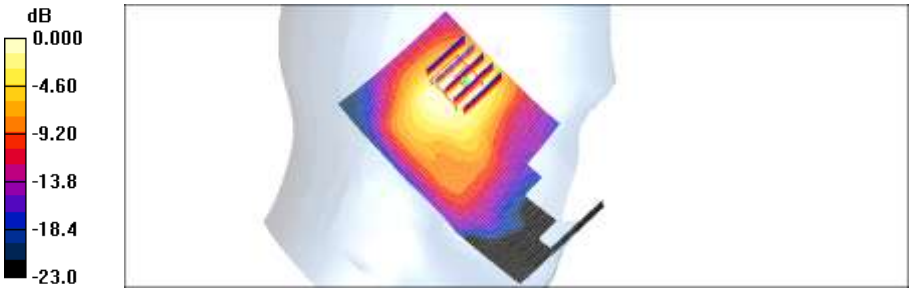
DASY4 Configuration:
- Probe: ET3DV6 - SN1630; ConvF(4.57, 4.57, 4.57); Calibrated: 2011-11-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn466; Calibrated: 2012-02-21
- Phantom: 835/900 Phamtom ; Type: SAM

Left touch 1Mbps 11ch Extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.265 mW/g

Left touch 1Mbps 11ch Extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.88 V/m; Power Drift = -0.079 dB
Peak SAR (extrapolated) = 0.489 W/kg
SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.117 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.263 mW/g



0 dB = 0.263mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm

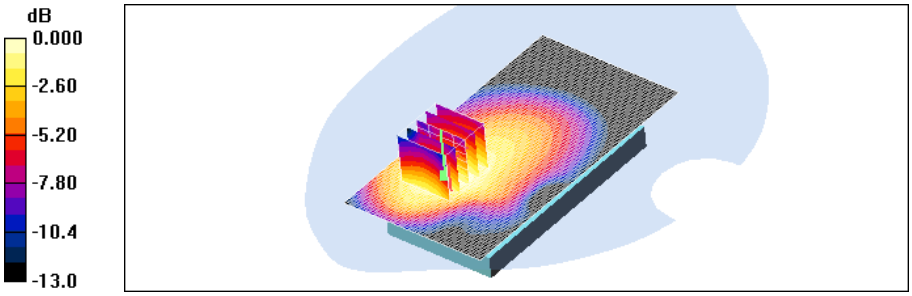
DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.996 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body Rear 1013 1xRTT/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.01 mW/g

Body Rear 1013 1xRTT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.3 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.947 mW/g; SAR(10 g) = 0.676 mW/g
Maximum value of SAR (measured) = 1.000 mW/g



0 dB = 1.00mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm

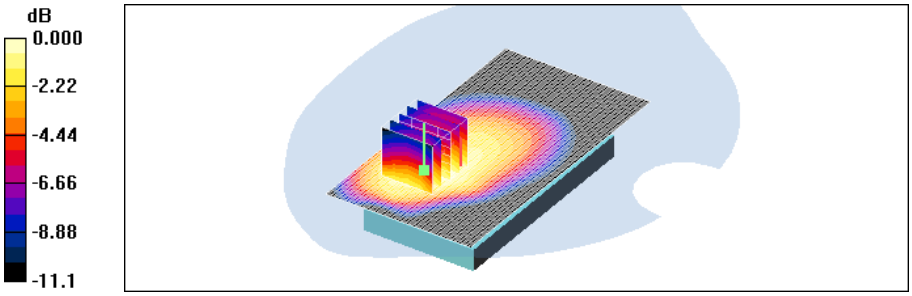
DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.996 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body Rear 384 1xRTT/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.971 mW/g

Body Rear 384 1xRTT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.6 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.911 mW/g; SAR(10 g) = 0.660 mW/g
Maximum value of SAR (measured) = 0.963 mW/g



0 dB = 0.963mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 848.31 MHz; σ = 1.03 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

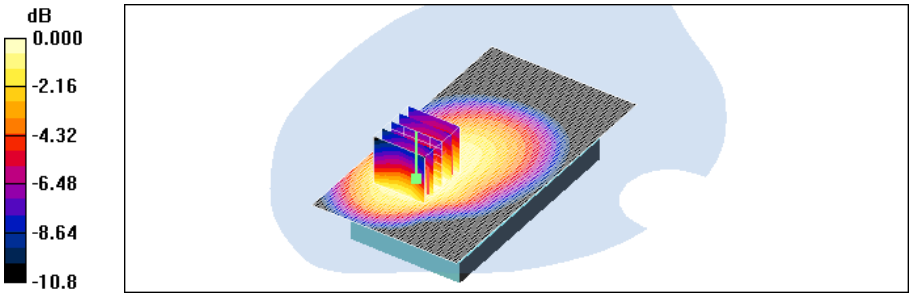
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body Rear 777 1xRTT/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.01 mW/g

Body Rear 777 1xRTT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.2 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.942 mW/g; SAR(10 g) = 0.693 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.995 mW/g



0 dB = 0.995mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 1.01 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

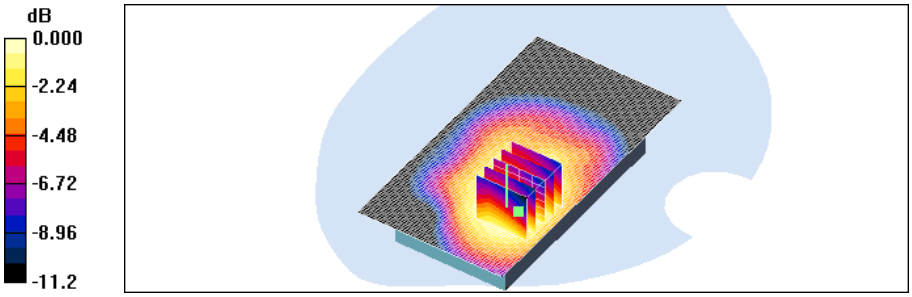
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body Front 1xRTT 384/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.811 mW/g

Body Front 1xRTT 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.959 W/kg
SAR(1 g) = 0.743 mW/g; SAR(10 g) = 0.548 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.775 mW/g



0 dB = 0.775mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm
Option	Wireless Charging cover

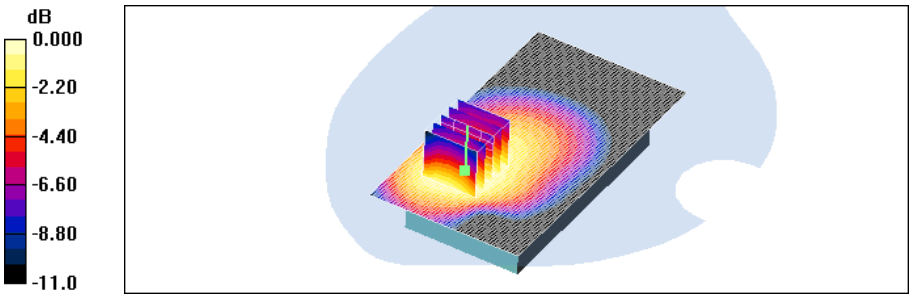
DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.996 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body rear 1013 wireless cover/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.852 mW/g

Body rear 1013 wireless cover/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.137 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.782 mW/g; SAR(10 g) = 0.568 mW/g
Maximum value of SAR (measured) = 0.822 mW/g



0 dB = 0.822mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm
Option	Extended Battery

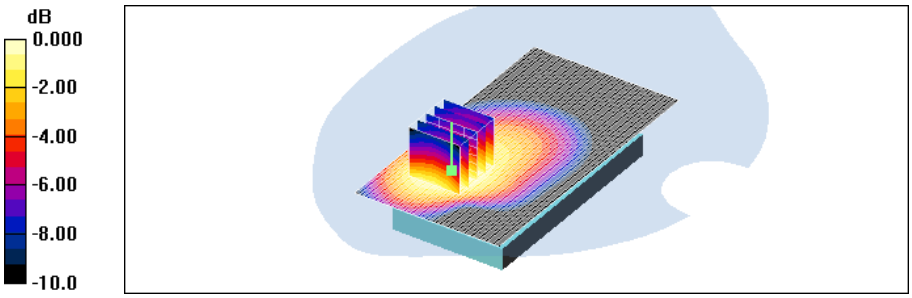
DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.996 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body rear 1013 Extended battery/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.834 mW/g

Body rear 1013 Extended battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.792 mW/g; SAR(10 g) = 0.571 mW/g
Maximum value of SAR (measured) = 0.837 mW/g



0 dB = 0.837mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm

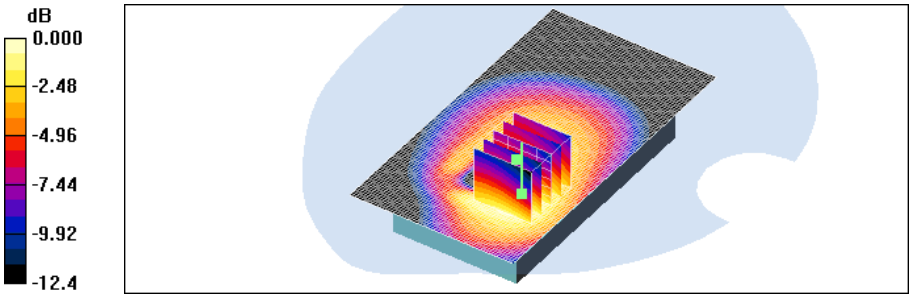
DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.996 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body Rear 1013 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.47 mW/g

Body Rear 1013 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.2 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.998 mW/g; SAR(10 g) = 0.698 mW/g
aximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDMA/GSM/WCDMA/LTE Phone With Bluetooth/WLAN/NFC
Liquid Temperature:	21.3℃
Ambient Temperature:	21.5℃
Test Date:	Jul. 17, 2012
Separation Distance	1.0 cm

DUT: C811; Type: bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 1.01 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

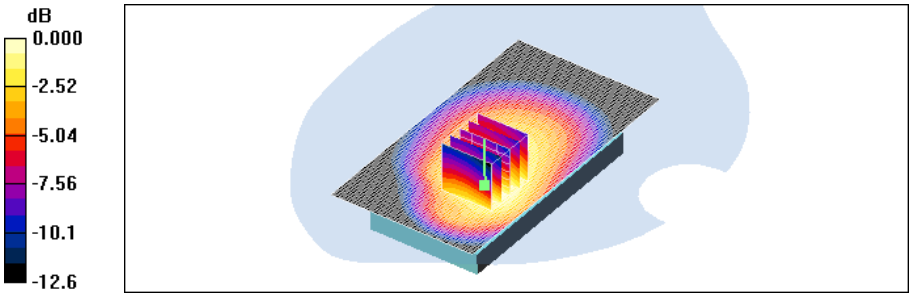
DASY4 Configuration:
- Probe: ET3DV6 - SN1605; ConvF(6.52, 6.52, 6.52); Calibrated: 2012-04-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2011-09-22
- Phantom: 1800/1900 Phantom; Type: SAM

Body Rear 384 EVDO/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.13 mW/g

Body Rear 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.3 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.757 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g