SAR TEST REOIRT
FOR
Bluebird Soft Inc.
Windows Business PAD
Model No.: BP80
FCC ID: RBF-BP80

Prepared for : Bluebird Soft Inc.
SEI Tower 13~14, 467-14, Dogok-dong,
Gangnam-gu, Seoul, South Korea.

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File Number	:	C1M1303024
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Date of Test	:	Mar. 05 ~ 14, 2013
Date of Report	:	Mar. 15, 2013

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TEST REPORT VERIFICATION

Applicant	:	Bluebird Soft Inc.		
EUT Description	:	Windows Business PAD		
FCC ID	:	RBF-BP80		
		(A) Model No.	:	BP80
		(B) Serial No.	:	N/A
		(C) Power Supply	:	DC 19V
		(D) Test Voltage	:	AC 120V, 60Hz (Via AC Adapter)

Measurement Standards Used:

FCC 47 CFR Part 2 (§2.1093)
IEEE 1528-2003
FCC OET Bulletin 65 Supplement C, June 2001

(Measurement: KDB 616217 D04v01, KDB 941225 D01v02, KDB 941225 D03v01, KDB 248227 D01, KDB 447498 D01v05)

The device described above was tested by AUDIX Technology Corporation. The measurement results were contained in this test report and AUDIX Technology Corporation was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC OET Bulletin 65 Supplement C & IEEE 1528 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test: Mar. 05 ~ 14, 2013 Date of Report: Mar. 15, 2013

Producer: Tina Huang
(Tina Huang/Administrator)

Signatory: Ben Cheng
(Ben Cheng/Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product	Windows Business PAD
Model Number	BP80
Serial Number	N/A
Applicant	Bluebird Soft Inc. SEI Tower 13~14, 467-14, Dogok-dong, Gangnam-gu, Seoul, South Korea.
SAR Evaluation (Total SAR)	**SAR 1g : WLAN: 0.639(W/kg) ; WWAN: 1.2(W/kg)**
FCC ID	RBF-BP80
Fundamental Range	802.11b/g: 2412MHz ~ 2462MHz 802.11a: 5180MHz ~ 5240MHz (UNII Band I) and 5260MHz ~ 5320MHz (UNII Band II) and 5500MHz ~ 5700MHz (UNII Band III) and 5745MHz ~ 5825MHz (UNII Band IV) 5250MHz ~ 5350MHz, 5470MHz ~ 5725MHz (DFS Function, Slave/without detection) 802.11n-HT20: 2412MHz ~ 2462MHz and 5180MHz ~ 5240MHz (UNII Band I) and 5260MHz ~ 5320MHz (UNII Band II) and 5500MHz ~ 5700MHz (UNII Band III) and 5745MHz ~ 5825MHz (UNII Band IV) 5250MHz ~ 5350MHz, 5470MHz ~ 5725MHz (DFS Function, Slave/without detection) 802.11n-HT40: 2422MHz ~ 2452MHz and 5190MHz ~ 5230MHz (UNII Band I) and 5270MHz ~ 5310MHz (UNII Band II) and 5510MHz ~ 5670MHz (UNII Band III) and 5755MHz ~ 5795MHz (UNII Band IV) 5250MHz ~ 5350MHz, 5470MHz ~ 5725MHz (DFS Function, Slave/without detection) Bluetooth: 2402MHz ~ 2480MHz GPRS/EGPRS 850: UL: 824MHz to 849MHz DL: 869MHz to 894MHz GPRS/EGPRS 1900: UL: 1850MHz to 1910MHz DL: 1930MHz to 1990MHz WCDMA200: BC0 850MHz: UL: 824MHz to 849MHz DL: 869MHz to 894MHz

Frequency Channel	802.11b/g: 11 channels 802.11a: UNII Band I: 4channels UNII Band II: 4 channels UNII Band III: 8 channels UNII Band IV: 4 channels 802.11n-HT20: 2.4GHz: 11 channels 2.4G UNI Band I: 4channels UNII Band II: 4 channels UNII Band III: 8 channels UNII Band IV: 4 channels 802.11n-HT40: 2.4GHz: 7 channels UNII Band I: 2channels UNII Band II: 2 channels UNII Band III: 5 channels UNII Band IV: 3 channels Bluetooth: 79 channels (GFSK,π/4DQPSK, 8-DPSK) GPRS/EGPRS 850: CH 128- CH 251 GPRS/EGPRS 1900: CH 512-CH 810 CDMA2000: BC0 850MHz: CH 384-CH1013 BC1 1900MHz: CH 25-CH1175
Radio Technology	802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g: OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11a: OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11n: OFDM Modulation (MIMO) (BPSK/QPSK/16QAM/64QAM) Bluetooth: FHSS (GFSK,π/4DQPSK, 8-DPSK) GPRS: GMSK EGPRS: 8DPSK CDMA2000: QPSK
Data Transfer Rate	802.11b: 1/2/5.5/11Mbps 802.11a/g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps Bluetooth: 1/2/3Mbps GSM:DL 14.4kbps/UL 14.4kbps GPRS: DL 85.6kbps/UL 85.6kbps EGPRS:DL 236.8kbps/UL 236.8kpbs CDMA2000: 144 kbps now, 307 kbps in the future 1xEV-DO: max 384 kbps - 2.4576Mbps.
AC Adapter	CWT, M/N KPL-040K Input: 100-240V~, 50/60Hz, 1.7A ; Output: DC19V, 2.11A DC Power Cord: Non-Shielded, Undetached, 1.0m AC Power Cord: Non-Shielded, Detached, 1.8m
Date of Receipt of Sample	Mar. 01, 2013
Date of Test	Mar. 05 ~ 14, 2013

1.2. Antenna Information

Antenna Part Number	Manufacture	Antenna Type	Peak Gain	
			Frequency	Max Gain
WLAN (802.11n) Antenna	PIDiOn by Bluebird	PCB	2400MHz	1.7dBi
			2412MHz	2.3dBi
			2442MHz	3.4dBi
			2474MHz	2.5dBi
			2484MHz	2.5dBi
			2500MHz	2.4dBi
			5100MHz	1.1dBi
			5200MHz	-1.1dBi
			5300MHz	-1.0dBi
			5400MHz	-1.6dBi
			5500MHz	-1.8dBi
			5600MHz	-0.5dBi
			5725MHz	-0.3dBi
			5825MHz	1.0dBi
WLAN (802.11ab/g)/BT Antenna P/N: AMAN402012ST01	AMOTECH	Chip	2400-2485MHz	2.9dBi

Antenna Part Number	Manufacture	Antenna Type	Peak Gain	
			Frequency (TX)	Max Gain
WWAN Antenna	PIDiOn by Bluebird	PCB	824MHz	-3.9dBi
			849MHz	-1.7dBi
			869MHz	-0.1dBi
			880MHz	0.8dBi
			894MHz	1.5dBi
			915MHz	0.9dBi
			925MHz	-0.1dBi
			960MHz	-2.4dBi
			1710MHz	-0.1dBi
			1785MHz	2.4dBi
			1810MHz	1.3dBi
			1850MHz	0.2dBi
			1880MHz	1.1dBi
			1910MHz	0.6dBi
			1920MHz	1.1dBi
			1930MHz	1.3dBi
			1980MHz	1.5dBi
			1990MHz	0.7dBi
			2110MHz	1.7dBi
			2170MHz	1.4dBi

1.3. Test Environment

Ambient conditions in the laboratory:

Item	Require	Actual
Temperature (℃)	18-25	22 ± 2
Humidity (%RH)	30-70	48 ± 2

1.4. Description of Test Facility

Name of Firm	:	**AUDIX Technology Corporation** **EMC Department** No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan, R.O.C.
Test Site	:	No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan, R.O.C.
NVLAP Lab. Code	:	200077-0
TAF Accreditation No	:	1724

1.5. Measurement Uncertainty

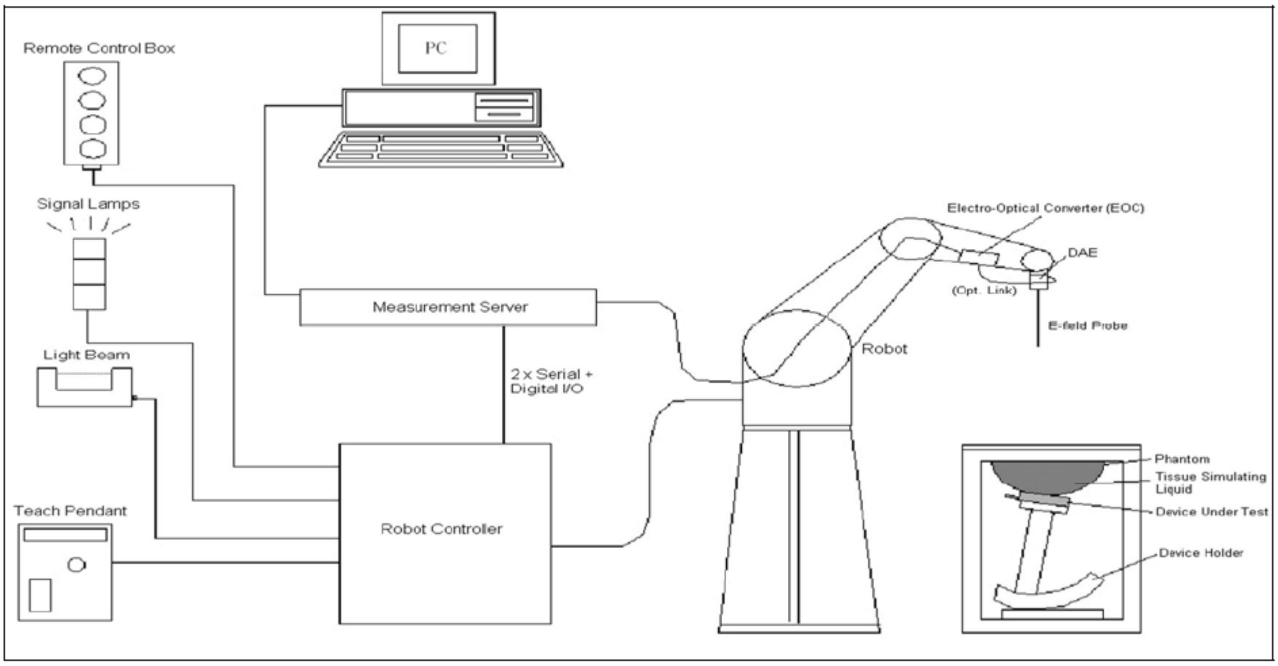
DASY5 Uncertainty Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram / 10 gram.								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.0%	N	1	1	1	±6.0%	±6.0%	∞
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom Uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid Permittivity (target)	±5.0%	R	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined Std. Uncertainty						±11%	±10.8%	387
Expanded STD Uncertainty						±22%	±21.5%	

2. TEST EQUIPMENT

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Stäubli Robot TX90 XL	Stäubli	TX90	F12/5K9SA1/ A101	N/A	N/A
2.	Controller	SPEAG	CS8c	N/A	N/A	N/A
3.	SAM Twin Phantom	SPEAG	QD000 P40 CD	Tp 1515	N/A	N/A
4.	Device Holder	SPEAG	N/A	N/A	N/A	N/A
5.	Data Acquisition Electronic	SPEAG	DAE4	1337	Sep. 03, 12’	Sep. 02, 13’
6.	E-Field Probe	SPEAG	EX3DV4	3855	Sep. 03, 12’	Sep. 02, 13’
7.	SAR Software	SPEAG	DASY52	V52.8.2.843	N/A	N/A
8.	Network Analyzer	Agilent	E5071C	Y46214331	Sep. 03, 12’	Sep. 02, 13’
9.	Signal Generator	Aglient	N5181A	MY50143917	Sep. 03, 12’	Sep. 02, 13’
10.	Power Meter	Aglient	ML2487A	MY52180007	Sep. 03, 12’	Sep. 02, 13’
11.	Power Sensor	Aglient	N8481	MY5208006	Sep. 03, 12’	Sep. 02, 13’
12.	Dipole Antenna	SPEAG	D2450V2	888	May 02, 12’	May 01, 13’
13.	Dipole Antenna	SPEAG	D5GHzV2	1124	May 04, 12’	May 03, 13’
14.	Dipole Antenna	SPEAG	D835V2	4d136	May 03, 12’	May 02, 13’
16.	Dipole Antenna	SPEAG	D1900V2	5d156	May 09, 12’	May 08, 13’

3. SAR MEASUREMENT SYSTEM

3.1. DASY5 System Description



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

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

3.1.1. Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEEE 1528, OET 65, IEC 62209-1, IEC 62209-2, EN 50360, EN 50383 and others.

3.1.2. Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a $10mm^2$ step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

When an Area Scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE 1528-2003, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

3.1.3. Zoom Scan (Cube Scan Averaging)

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm, with the side length of the 10 g cube 21,5mm.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 5x5x7 (8mmx8mmx5mm) providing a volume of 32mm in the X & Y axis, and 30mm in the Z axis.

3.1.4. Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Postprocessor, DASY5 allows the generation of measurement grids which are artificially predefined by analytically based test functions. Therefore, the grids of area scans and zoom scans can be filled with uncertainty test data, according to the SAR benchmark functions of IEEE 1528.The three analytical functions shown in equations as below are used to describe the possible range of the expected SAR distributions for the tested handsets.

The field gradients are covered by the spatially flat distribution f1, the spatially steep distribution f3 and f2 accounts for H-field cancellation on the phantom/tissue surface.

$$f_1(x,y,z) = Ae^{-\frac{z}{2a}} \cos^2\left(\frac{\pi}{2}\frac{\sqrt{x'^2+y'^2}}{5a}\right)$$

$$f_2(x,y,z) = Ae^{-\frac{z}{a}} \frac{a^2}{a^2+x'^2}\left(3-e^{-\frac{2z}{a}}\right)\cos^2\left(\frac{\pi}{2}\frac{y'}{3a}\right)$$

$$f_3(x,y,z) = A\frac{a^2}{\frac{a^2}{4}+x'^2+y'^2}\left(e^{-\frac{2z}{a}}+\frac{a^2}{2(a+2z)^2}\right)$$

3.2. DASY5 E-Field Probe

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

3.2.1. Isotropic E-Field Probe Specification

Model	Ex3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 μW/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μW/g)	
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

3.2.2. Boundary Detection Unit and Probe Mounting Device

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

3.2.3. DATA Acquisition Electronics (DAE) and Measurement Server

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit.

Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

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The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit.

Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

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

3.3. Robot

The DASY5 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used.

The XL robot series have many features that are important for our application:

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

3.4. Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.

The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

3.5. Device Holder

The DASY5 device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR).

Thus the device needs no repositioning when changing the angles.

The DASY5 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity $\varepsilon r = 3$ and loss tangent $\delta = 0.02$. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

3.6. SAM Twin Phantom

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

- Left head
- Right head
- Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

4. TISSUE SIMULATING LIQUID

4.1. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using Aligent Dielectric Probe Kit and Aligent E5071C Vector Network Analyzer.

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
2450MHz	Reference result ± 5% window	52.7 50.065 to 55.335	1.95 1.8525 to 2.0475	N/A
	Mar. 05, 2013	53.60	1.92	22.0

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
5800MHz	Reference result ± 5% window	48.2 45.79 to 50.61	6.00 5.70 to 6.30	N/A
	Mar. 07, 2013	48.52	6.15	21.5

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
835MHz	Reference result ± 5% window	55.2 52.44 to 57.96	0.97 0.9215 to 1.0185	N/A
	Mar. 13, 2013	52.79	0.951	21.8

Body Tissue Simulate Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
1900MHz	Reference result ± 5% window	53.3 50.635 to 55.965	1.52 1.444 to 1.596	N/A
	Mar. 14, 2013	54.90	1.48	21.8

4.2. Tissue Dielectric Parameters for Head and Body Phantoms

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

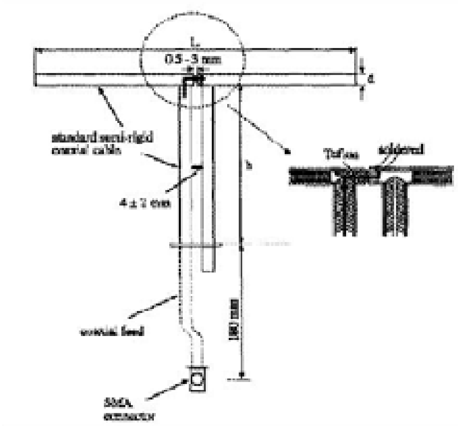
Target Frequency [MHz]	Head		Body	
	ε_r	σ [s/m]	ε_r	σ [s/m]
150	52.3	0.76	61.9	0.80
300	445.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

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

5. SAR MEASUREMENT PROCEDURE

5.1. SAR System Check

5.1.1. Dipoles



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

Frequency	L (mm)	h (mm)	d (mm)
2450MHz	53.5	30.4	3.6

5.1.2. System Check Result

System Performance Check at WLAN (2450MHz)

Dipole Kit: D2450V2 (Body)

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]	Lab Temp.[°C]
2450MHz	Reference result ± 10% window	12.9 11.61 to 14.19	6.02 5.418 to 6.622	N/A	N/A
	Mar. 05, 2013	12.9	5.85	22.0	24.0

Note: All SAR values are normalized to 1W forward power.

System Performance Check at WLAN (5800MHz)

Dipole Kit: D5GHzV2 (Body)

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]	Lab Temp.[°C]
5800MHz	Reference result ± 10% window	7.41 6.669 to 8.151	2.06 1.854 to 2.266	N/A	N/A
	Mar. 07, 2013	7.58	2.13	21.5	21.0

Note: All SAR values are normalized to 1W forward power.

System Performance Check at GSM (835MHz) Dipole Kit: D835V2 (Body)					
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]	Lab Temp.[℃]
835MHz	Reference result ± 10% window	2.45 2.205 to 2.695	1.61 1.449 to 1.771	N/A	N/A
	Mar. 13, 2013	2.26	1.6	21.8	23
Note: All SAR values are normalized to 1W forward power.					

System Performance Check at PCS (1900MHz) Dipole Kit: D1900V2 (Body)					
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [℃]	Lab Temp.[℃]
1900MHz	Reference result ± 10% window	10.1 9.09 to 11.11	5.39 4.851 to 5.929	N/A	N/A
	Mar. 14, 2013	10.1	5.2	21.8	23
Note: All SAR values are normalized to 1W forward power.					

5.1.3. SAR System Check Data

System Performance Check Mode: WLAN (2450MHz)

Date/Time: 3/5/2013 PM 01:52:46

Test Laboratory: Audix_SAR Lab

CW D2450

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

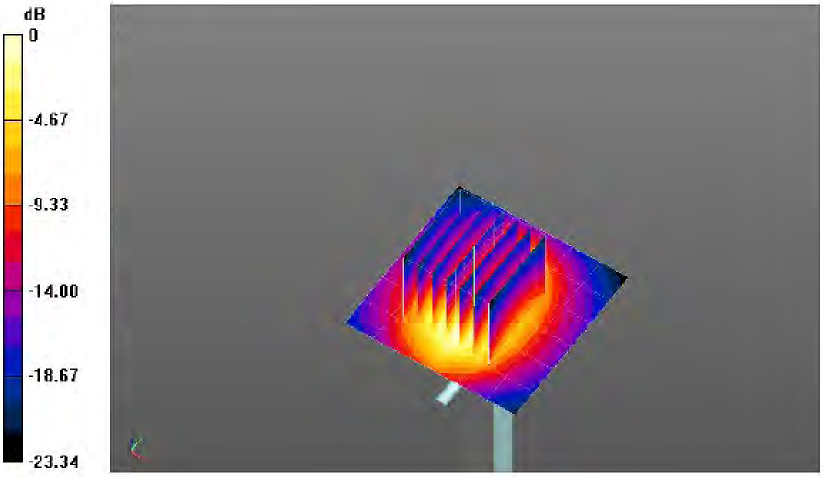
Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.02 S/m; ε_r = 50.71; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.36, 7.36, 7.36); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/CW 2450/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 19.2 W/kg

Configuration/CW 2450/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 82.284 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 27.2 W/kg
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 5.85 W/kg
Maximum value of SAR (measured) = 14.7 W/kg



System Performance Check Mode: WLAN (5800MHz)

Date/Time: 3/7/2013 AM 09:50:35

Test Laboratory: Audix_SAR Lab

cw 5800pwr=100mw

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:xxx

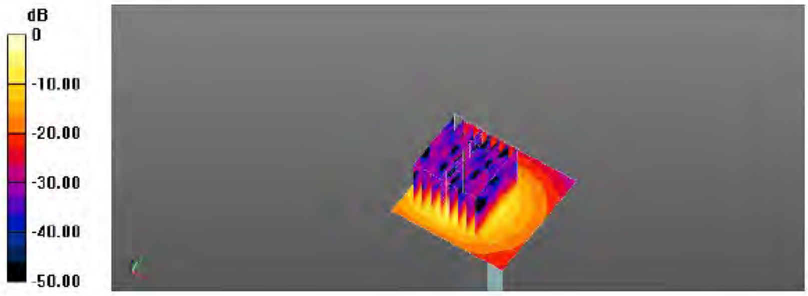
Communication System: CW; Frequency: 5800 MHz
Medium parameters used: f = 5800 MHz; σ = 6.07 S/m; ε_r = 46; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.94, 3.94, 3.94); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x6x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.9 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 28.921 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 30.5 W/kg
SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 16.2 W/kg



System Performance Check Mode: GSM (835MHz)

Date/Time: 3/13/2013 PM 09:58:24

Test Laboratory: Audix_SAR Lab

CW835

DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:xxx

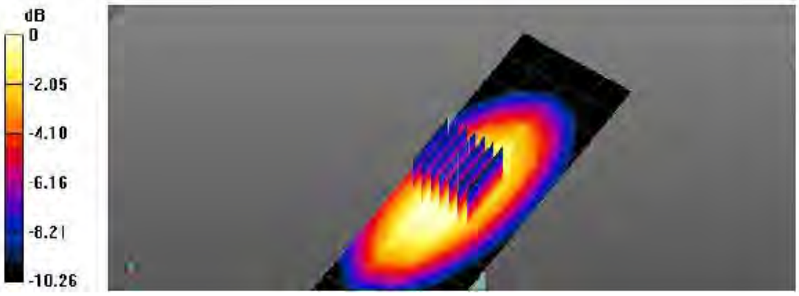
Communication System: CW; Frequency: 835 MHz
Medium parameters used (interpolated): f = 835 MHz; σ = 0.995 S/m; ε_r = 54.785; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (5x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.62 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.976 V/m; Power Drift = -0.21 dB
Peak SAR (extrapolated) = 3.26 W/kg
SAR(1 g) = 2.26 W/kg; SAR(10 g) = 1.6 W/kg
Maximum value of SAR (measured) = 2.44 W/kg



System Performance Check Mode: PCS (1900MHz)

Date/Time: 3/14/2013 PM 03:36:38

Test Laboratory: Audix_SAR Lab

CW1900

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:xxx

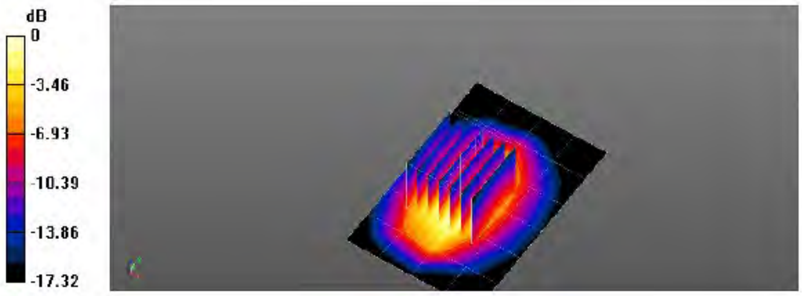
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.57 S/m; ε_r = 51.05; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.61, 7.61, 7.61); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 13.3 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 82.756 V/m; Power Drift = -0.32 dB
Peak SAR (extrapolated) = 18.8 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.2 W/kg
Maximum value of SAR (measured) = 11.2 W/kg



5.2. SAR Measurement Procedure

The Dasy5 calculates SAR using the following equation,

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

σ: represents the simulated tissue conductivity

ρ: represents the tissue density

The EUT is set to transmit at the required power in line with product specification, at each frequency relating to the LOW, MID, and HIGH channel settings.

Pre-scans are made on the device to establish the location for the transmitting antenna, using a large area scan in either air or tissue simulation fluid.

The EUT is placed against the Universal Phantom where the maximum area scan dimensions are larger than the physical size of the resonating antenna. When the scan size is not large enough to cover the peak SAR distribution, it is modified by either extending the area scan size in both the X and Y directions, or the device is shifted within the predefined area.

The area scan is then run to establish the peak SAR location (interpolated resolution set at $1mm^2$) which is then used to orient the center of the zoom scan. The zoom scan is then executed and the 1g and 10g averages are derived from the zoom scan volume (interpolated resolution set at $1mm^3$).

5.3. SAR Exposure Limits

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

Limits for General Population/Uncontrolled Exposure (W/kg)

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for brain or body)	1.60 W/kg
Spatial Average SAR (whole body)	0.08 W/kg
Spatial Peak SAR (10g for hands, feet, ankles and wrist)	4.00 W/kg

5.4. Conducted Power Measurement

5.4.1. WLAN Function

Test Date: Mar. 04, 2013 Temperature: 24℃ Humidity: 46%

Type of Network		Channel	Frequency (MHz)	**Average Output Power (dBm)**
802.11b		CH 1	2412	**17.86**
		CH 6	2437	**19.86**
		CH 11	2462	**19.04**
802.11g		CH 1	2412	**16.12**
		CH 6	2437	**19.90**
		CH 11	2462	**15.92**
802.11a	UNII Band I	CH 36	5180	**11.12**
		CH 40	5200	**11.38**
		CH 48	5240	**11.36**
	UNII Band II	CH 52	5260	**11.38**
		CH 56	5280	**11.42**
		CH 64	5320	**11.61**
	UNII Band III	CH 100	5500	**11.37**
		CH 116	5580	**11.26**
		CH 140	5700	**11.14**
	UNII Band IV	CH 149	5745	**11.74**
		CH 157	5785	**11.62**
		CH 165	5825	**11.59**

Type of Network		Channel	Frequency (MHz)	Average Output Power (dBm)		
				Chain 0	Chain 1	**Total**
802.11n-HT20		CH 1	2412	12.21	12.44	**15.34**
		CH 6	2437	16.03	16.21	**19.13**
		CH 11	2462	11.58	11.68	**14.64**
802.11n-HT20	UNII Band I	CH 36	5180	8.82	8.32	**11.59**
		CH 40	5200	8.61	8.42	**11.53**
		CH 48	5240	8.54	8.56	**11.56**
	UNII Band II	CH 52	5260	8.38	8.16	**11.28**
		CH 56	5280	8.25	8.11	**11.19**
		CH 64	5320	8.36	8.24	**11.31**
	UNII Band III	CH 100	5500	8.41	8.19	**11.31**
		CH 116	5580	8.36	8.26	**11.32**
		CH 140	5700	8.36	8.19	**11.29**
	UNII Band IV	CH 149	5745	8.75	8.56	**11.67**
		CH 157	5785	8.64	8.43	**11.55**
		CH 165	5825	8.81	8.54	**11.69**
802.11n-HT40		CH 3	2422	9.24	9.11	**12.19**
		CH 6	2437	14.02	14.29	**17.17**
		CH 9	2452	11.13	11.27	**14.21**
802.11n-HT40	UNII Band I	CH 38	5190	8.54	8.26	**11.41**
		CH 46	5230	8.49	8.21	**11.36**
	UNII Band II	CH 54	5270	8.61	8.44	**11.54**
		CH 62	5310	8.63	8.52	**11.59**
	UNII Band III	CH 102	5510	8.58	8.37	**11.49**
		CH 118	5590	8.75	8.56	**11.67**
		CH 134	5670	8.69	8.51	**11.61**
	UNII Band IV	CH 151	5755	8.84	8.62	**11.74**
		CH 159	5795	8.77	8.46	**11.63**

5.4.2. GSM/EGPRS Function

Channel / Mode	GSM850 Conducted RF output power (dBm)		
	CH 128	CH 190	CH 251
GPRS (1UL Slot)	24.35	24.22	24.47
GPRS (2UL Slot)	23.47	23.61	23.75
EGPRS	23.41	23.32	23.50

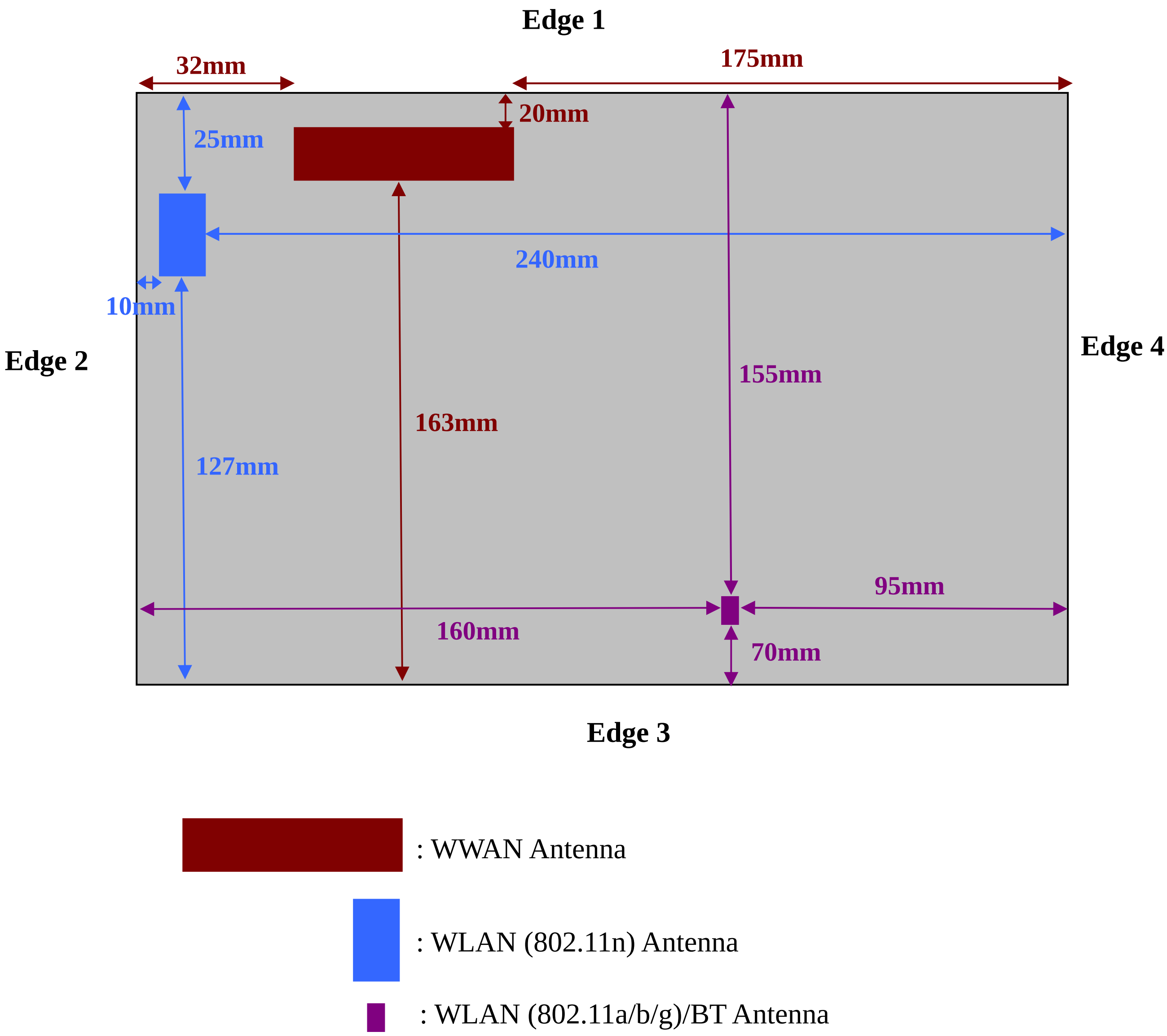
Channel / Mode	GSM1900 Conducted RF output power (dBm)		
	CH 512	CH 661	CH 810
GPRS (1UL Slot)	23.64	23.56	24.55
GPRS (2UL Slot)	23.55	23.32	23.61
EGPRS	24.25	24.31	24.36

5.4.3. CDMA2000 Function

Mode	#	Test Case		BC0 (850MHz) Conducted RF output power (dBm)		
		FWD RC/TAP	REV RC/TAP	CH 1013	CH 384	CH 777
1x	1	RC1	RC1(SO2)	24.45	24.43	24.29
	2	RC1	RC1(SO55)	24.52	24.48	24.32
	3	RC2	RC2(SO9)	24.51	24.35	24.21
	4	RC2	RC2(SO55)	24.55	24.52	24.32
	5	RC3	RC3(SO55)	24.53	24.61	24.56
	6	RC3	RC3(SO32)	24.20	24.35	24.43
1xEVDO Rel0	7a	FTAP Rate=307kbps (2 slot, QPSK)	RTAP rate=9.6kbps	24.41	24.28	24.20
	7b		RTAP rate=19.2kbps	24.42	24.41	24.18
	7c		RTAP rate=38.4kbps	24.36	24.45	24.27
	7d		RTAP rate=76.8kbps	24.47	24.27	24.20
	7e		RTAP rate=153.6kbps	24.48	24.51	24.54
1xEVDO RelA	8a	FTAP Rate=307kbps (2 slot, ACK channel is transmitted at all the slots)	RETAP=pauload size=128	24.31	24.51	24.35
	8b		RETAP=pauload size=256	24.4	24.49	24.36
	8c		RETAP=pauload size=512	24.31	24.47	24.3
	8d		RETAP=pauload size=768	24.38	24.45	24.31
	8e		RETAP=pauload size=1024	24.26	24.35	24.16
	8f		RETAP=pauload size=1536	24.35	24.36	24.35
	8g		RETAP=pauload size=2548	24.47	24.51	24.46
	8h		RETAP=pauload size=3072	24.36	24.44	24.33
	8i		RETAP=pauload size=4096	24.48	24.45	24.34
	8j		RETAP=pauload size=6144	24.42	24.41	24.36
	8k		RETAP=pauload size=8192	24.43	24.46	24.37
	8l		RETAP=pauload size=12288	24.31	24.46	24.35

5.5. Exposure Positions Consideration

<Windows Business PAD>



5.6. SAR Test Result

5.6.1. WLAN Function

Test Date: Mar. 05, 2013 Temperature : 24℃ Humidity : 25%

Liquid Temperature : 22℃					Depth of Liquid: > 15cm	
Test Mode: 2.4GHz						
Test Position Body	Antenna Position	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
802.11b						
Bottom Face	Fixed	6	2437	19.86	**0.639**	1.6
Edge 3 Side	Fixed	6	2437	19.86	**0.576**	1.6

Test Mode: 2.4GHz, 802.11b, CH 2437, Bottom Face

Date/Time: 3/5/2013 PM 08:15:52

Test Laboratory: Audix_SAR Lab

802.11b ch6

DUT: Windows Business PAD; Type: BP80; Serial:

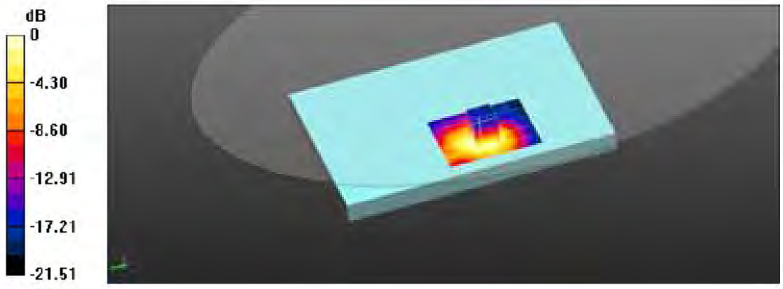
Communication System: 802.11 b, Frequency: 2437 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.013 S/m; ε_r = 50.739; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.36, 7.36, 7.36); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.850 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.662 V/m; Power Drift = -1.18 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.639 W/kg; SAR(10 g) = 0.337 W/kg
Maximum value of SAR (measured) = 0.909 W/kg



Test Mode: 2.4GHz, 802.11b, CH 2437, Edge 3 Side

Date/Time: 3/5/2013 PM 10:36:58

Test Laboratory: Audix_SAR Lab

B_2437_edge

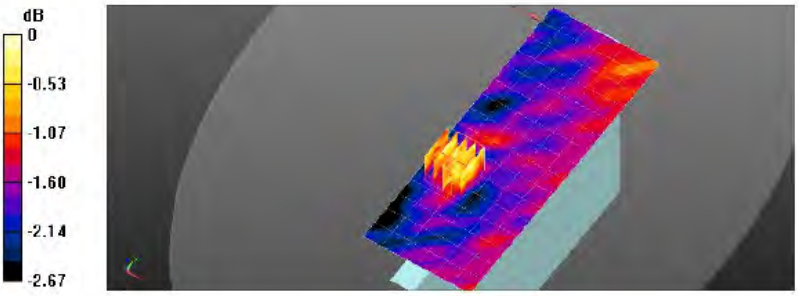
DUT: Windows Business PAD; Type: BP80; Serial: Communication System: 802.11b; Frequency: 2437 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 2.013 S/m; ε_r = 50.739; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.36, 7.36, 7.36); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/B_2437_Back/Area Scan (7x17x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.395 W/kg

Configuration/B_2437_Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.854 V/m; Power Drift = 0.28 dB
Peak SAR (extrapolated) = 1.590 W/kg
SAR(1 g) = 0.576 W/kg; SAR(10 g) = 0.272 W/kg
Maximum value of SAR (measured) = 1.435 W/kg



Test Date: Mar. 07, 2013　Temperature : 21℃　　Humidity : 47%

Liquid Temperature : 21.5℃				Depth of Liquid: > 15cm		
Test Mode: 5GHz (UNII Band IV)						
Test Position Body	Antenna Position	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
802.11a						
Bottom Face	Fixed	149	5745	11.74	**0.595**	1.6
Edge 3 Side	Fixed	149	5745	11.74	**0.383**	1.6

Test Mode: 5GHz (UNII Band IV), 802.11a, 5745MHz, Bottom Face

Date/Time: 3/7/2013 AM 11:45:51

Test Laboratory: Audix_SAR Lab

802.11a

DUT: Windows Business PAD; Type: BP80; Serial:

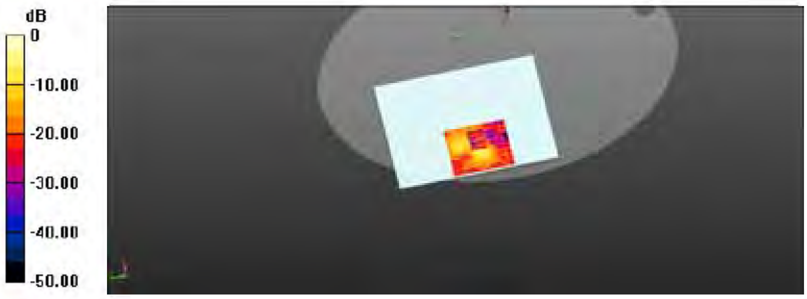
Communication System: 5G_A; Frequency: 5745 MHz
Medium parameters used (interpolated): f = 5745 MHz; σ = 6.213 S/m; ε_r = 48.02; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(3.94, 3.94, 3.94); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (9x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.08 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.214 V/m; Power Drift = 3.80 dB
Peak SAR (extrapolated) = 2.95 W/kg
SAR(1 g) = 0.595 W/kg; SAR(10 g) = 0.157 W/kg
Maximum value of SAR (measured) = 1.71 W/kg



Test Mode: 5GHz (UNII Band IV), 802.11a, 5745MHz, Edge 3 Side

Date/Time: 3/7/2013 PM 01:17:36

Test Laboratory: Audix_SAR Lab

802.11a

DUT: Windows Business PAD; Type: BP80; Serial:

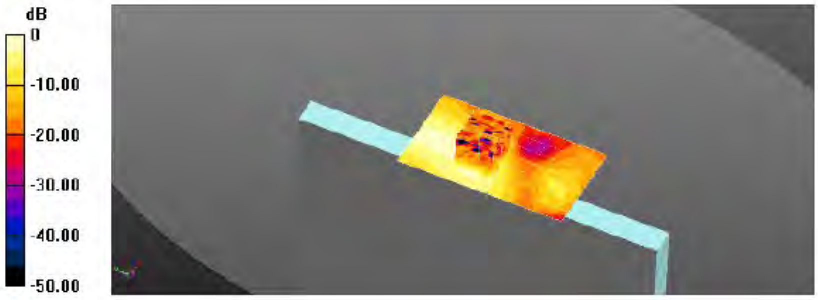
Communication System: 5G_A; Frequency: 5745 MHz
Medium parameters used: f = 5745 MHz; σ = 6.213 S/m; ε_r = 48.02; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(4.28, 4.28, 4.28); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/a 5745_Edge/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.651 W/kg

Configuration/a 5745_Edge/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 8.328 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.383 W/kg; SAR(10 g) = 0.136 W/kg
Maximum value of SAR (measured) = 0.749 W/kg



5.6.2. GSM/PCS & CDMA2000 Function

Test Date: Mar. 13, 2013 Temperature : 23℃ Humidity : 48%
Test Date: Mar. 14, 2013 Temperature : 22℃ Humidity : 50%

Liquid Temperature : 21.8℃						Depth of Liquid: > 15cm
Test Mode: GSM850						
Test Position Body	Antenna Position	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
GPRS						
Bottom Face	Fixed	128	842.2	24.35	**1.04**	1.6
	Fixed	189	836.6	24.22	**1.09**	1.6
	Fixed	251	848.6	24.47	**1.10**	1.6
Edge 1 Side	Fixed	251	848.6	24.47	**0.98**	1.6
Test Mode: PCS1900						
Test Position Body	Antenna Position	Frequency		Conducted power (dBm)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
GPRS						
Bottom Face	Fixed	512	1850.2	23.64	**1.20**	1.6
	Fixed	661	1880.0	23.56	**1.13**	1.6
	Fixed	810	1909.8	24.55	**1.15**	1.6
Edge 1 Side	Fixed	512	1850.2	23.64	**0.864**	1.6
Test Mode: CDMA2000						
BC0 (850MHz)						
Bottom Face	Fixed	384	836.52	24.61	**1.083**	1.6
	Fixed	777	848.31	24.56	**1.147**	1.6
	Fixed	1013	824.70	24.53	**0.912**	1.6
Edge 1 Side	Fixed	777	848.31	24.56	**0.782**	1.6

Test Mode: GSM850, GPRS, CH 128, Bottom Face

Date/Time: 3/13/2013 PM 10:24:03

Test Laboratory: Audix_SAR Lab

GSM_ch128

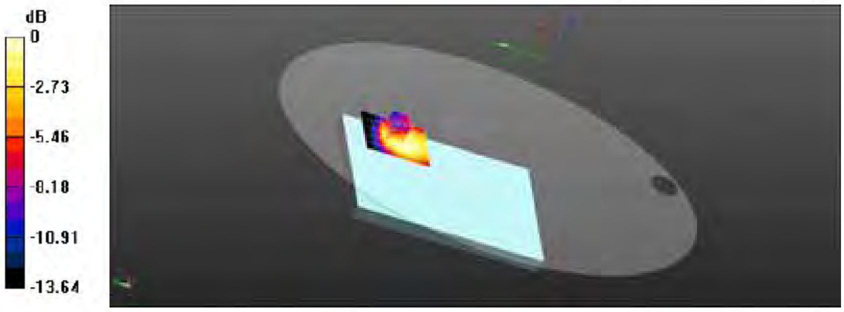
DUT: Windows Business PAD; Type: BP80; Serial: Communication System: Generic GSM; Frequency: 824.2 MHz
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.978 S/m; ε_r = 54.827; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.57 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.064 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.63 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.868 W/kg
Maximum value of SAR (measured) = 1.61 W/kg



Test Mode: GSM850, GPRS, CH 189, Bottom Face

Date/Time: 3/13/2013 PM 10:39:00

Test Laboratory: Audix_SAR Lab

GSM_ch189

DUT: Windows Business PAD; Type: BP80; Serial:

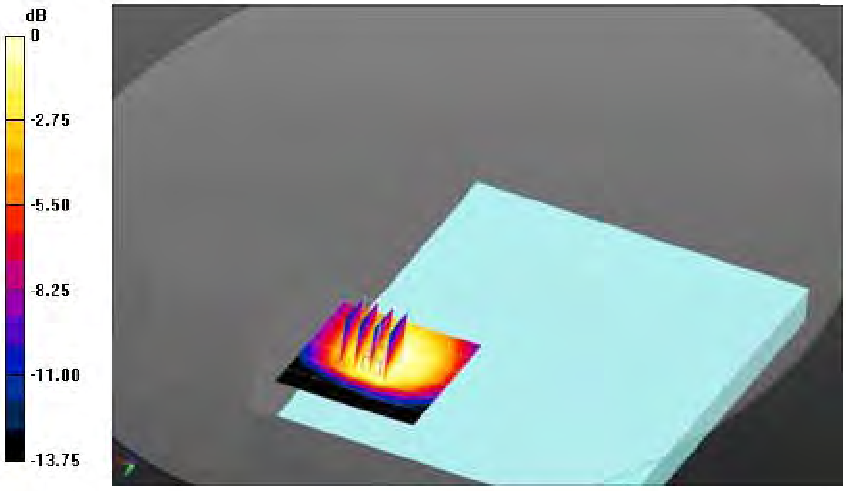
Communication System: Generic GSM; Frequency: 836.6 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.997 S/m; ε_r = 54.777; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.69 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.155 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.832 W/kg
Maximum value of SAR (measured) = 1.70 W/kg



Test Mode: GSM850, GPRS, CH 251, Bottom Face

Date/Time: 3/13/2013 PM 10:51:59

Test Laboratory: Audix_SAR Lab

GSM_ch251

DUT: Windows Business PAD; Type: BP80; Serial:

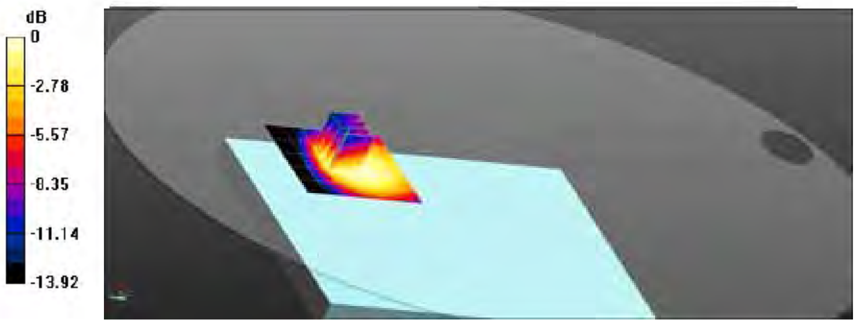
Communication System: Generic GSM; Frequency: 848.6 MHz
Medium parameters used (interpolated): f = 848.6 MHz; σ = 1.009 S/m; ε_r = 54.708; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.48 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.909 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 1.10 W/kg; SAR(10 g) = 0.707 W/kg
Maximum value of SAR (measured) = 1.45 W/kg



Test Mode: GSM850, GPRS, CH 251, Edge 1 Side

Date/Time: 3/14/2013 AM 09:42:58

Test Laboratory: Audix_SAR Lab

GSM_ch251_EDGE

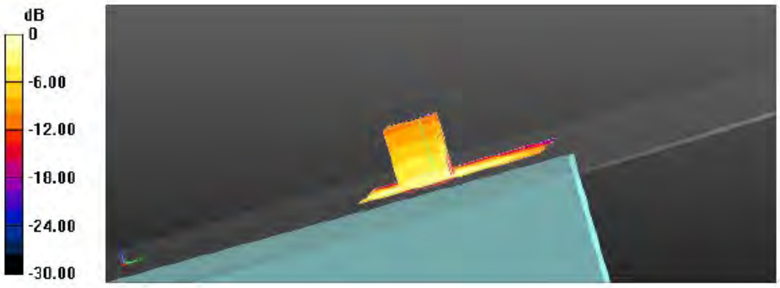
DUT: Windows Business PAD; Type: BP80; Serial: Communication System: Generic GSM; Frequency: 848.6 MHz
Medium parameters used (interpolated): f = 848.6 MHz; σ = 1.009 S/m; ε_r = 54.708; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.35 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.468 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.13 W/kg
SAR(1 g) = 0.98 W/kg; SAR(10 g) = 0.638 W/kg
Maximum value of SAR (measured) = 1.38 W/kg



Test Mode: PCS1900, GPRS, CH 512, Bottom Face

Date/Time: 3/14/2013 PM 03:58:27

Test Laboratory: Audix_SAR Lab

PCS1900 CH512

DUT: Windows Business PAD; Type: BP80; Serial:

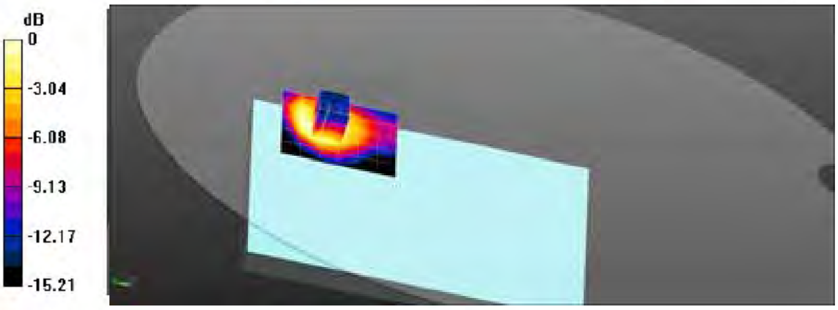
Communication System: Generic GSM; Frequency: 1850.2 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.53 S/m; ε_r = 51.24; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.61, 7.61, 7.61); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.70 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.312 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.673 W/kg
Maximum value of SAR (measured) = 1.63 W/kg



Test Mode: PCS1900, GPRS, CH 661, Bottom Face

Date/Time: 3/14/2013 PM 04:12:37

Test Laboratory: Audix_SAR Lab

PCS1900 CH661

DUT: Windows Business PAD; Type: BP80; Serial:

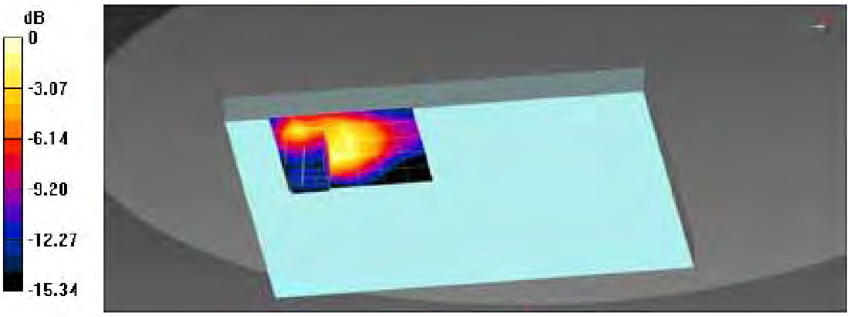
Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.57 S/m; ε_r = 51.14; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.61, 7.61, 7.61); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.54 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.923 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 2.02 W/kg
SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.582 W/kg
Maximum value of SAR (measured) = 1.67 W/kg



Test Mode: PCS1900, GPRS, CH 810, Bottom Face

Date/Time: 3/14/2013 PM 04:29:0

Test Laboratory: Audix_SAR Lab

PCS1900 CH810

DUT: Windows Business PAD; Type: BP80; Serial:

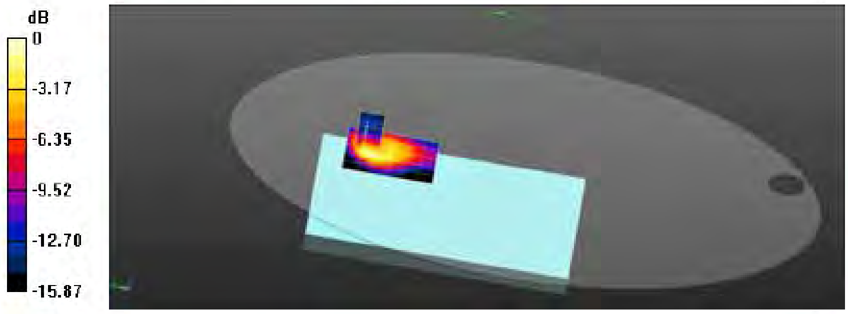
Communication System: Generic GSM; Frequency: 1909.8 MHz
Medium parameters used: f = 1909.8 MHz; σ = 1.6 S/m; ε_r = 51.04; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.61, 7.61, 7.61); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.52 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.037 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.579 W/kg
Maximum value of SAR (measured) = 1.70 W/kg



Test Mode: PCS1900, GPRS, CH 512, Edge 1 Side

Date/Time: 3/14/2013 PM 05:34:31

Test Laboratory: Audix_SAR Lab

PCS1900 CH512 EDGE

DUT: Windows Business PAD; Type: BP80; Serial:

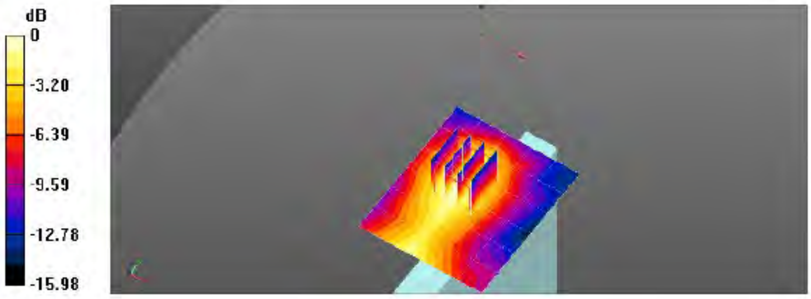
Communication System: Generic GSM; Frequency: 1850.2 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.53 S/m; ε_r = 51.24; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(7.61, 7.61, 7.61); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.208 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.017 V/m; Power Drift = 0.47 dB
Peak SAR (extrapolated) = 1.667 W/kg
SAR(1 g) = 0.864 W/kg; SAR(10 g) = 0.374 W/kg
Maximum value of SAR (measured) = 1.189 W/kg



Test Mode: CDMA2000, BC0(850MHz), CH 384, Bottom Face

Date/Time: 3/14/2013 PM 02:04:02

Test Laboratory: Audix_SAR Lab

CDMA2000 CH384

DUT: Windows Business PAD; Type: BP80; Serial:

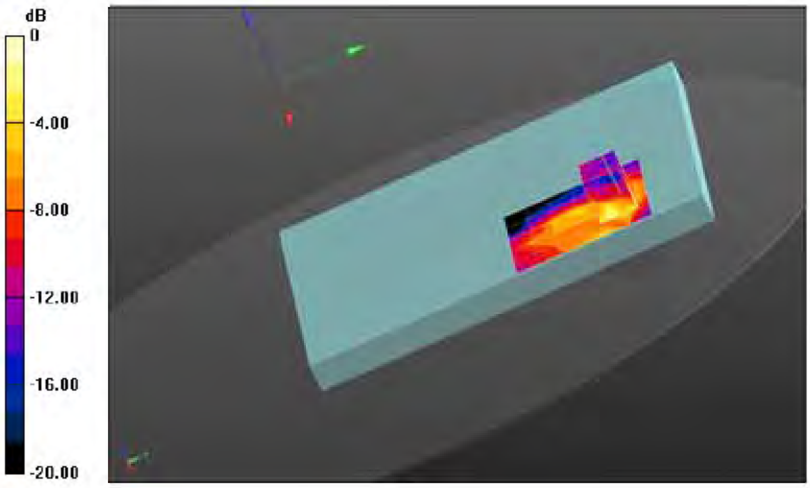
Communication System: CDMA2000(1xRTT,RC3); Frequency: 836.52 MHz
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.997 S/m; ε_r = 54.777; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.79 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.267 V/m; Power Drift = -0.41 dB
Peak SAR (extrapolated) = 1.876 W/kg
SAR(1 g) = 1.083 W/kg; SAR(10 g) = 0.630 W/kg
Maximum value of SAR (measured) = 1.575 W/kg



Test Mode: CDMA2000, BC0(850MHz), CH 777, Bottom Face

Date/Time: 3/14/2013 PM 02:49:41

Test Laboratory: Audix_SAR Lab

CDMA2000 CH777

DUT: Windows Business PAD; Type: BP80; Serial:

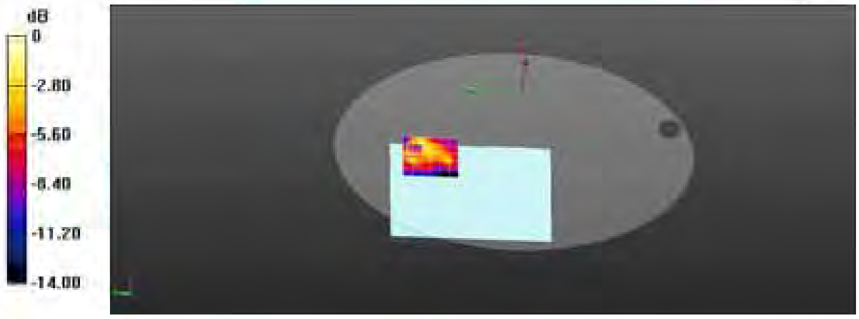
Communication System: CDMA2000(1xRTT,RC3); Frequency: 848.31 MHz
Medium parameters used (interpolated): f = 848.31 MHz; σ = 1.008 S/m; ε_r = 54.71; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.544 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.545 V/m; Power Drift = -1.04 dB
Peak SAR (extrapolated) = 1.776 W/kg
SAR(1 g) = 1.147 W/kg; SAR(10 g) = 0.379 W/kg
Maximum value of SAR (measured) = 1.635 W/kg



Test Mode: CDMA2000, BC0(850MHz), CH 1013, Bottom Face

Date/Time: 3/14/2013 PM 02:38:39

Test Laboratory: Audix_SAR Lab

CDMA2000 CH1013

DUT: Windows Business PAD; Type: BP80; Serial:

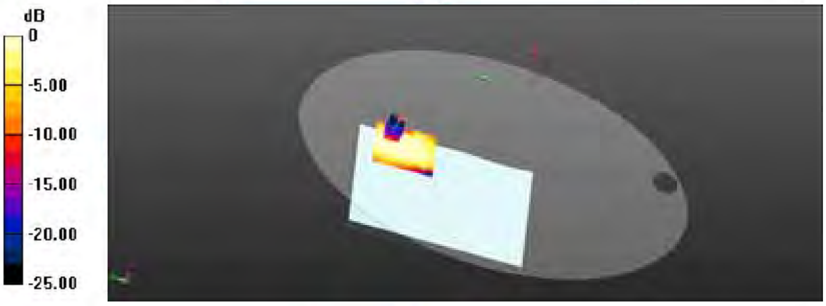
Communication System: CDMA2000(1xRTT,RC3); Frequency: 824.7 MHz
Medium parameters used (interpolated): f = 824.7 MHz; σ = 0.979 S/m; ε_r = 54.826; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.90 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.266 V/m; Power Drift = -0.58 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.912 W/kg; SAR(10 g) = 0.511 W/kg
Maximum value of SAR (measured) = 1.61 W/kg



Test Mode: CDMA2000, BC0(850MHz), CH 777, Bottom Face

Date/Time: 3/14/2013 PM 03:06:47

Test Laboratory: Audix_SAR Lab

CDMA2000 CH777 edge

DUT: Windows Business PAD; Type: BP80; Serial:

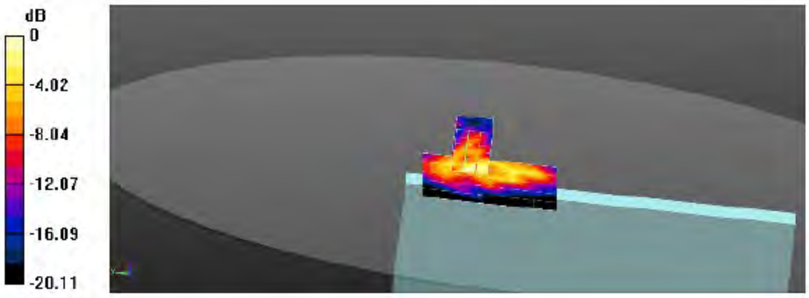
Communication System: CDMA2000(1xRTT,RC3); Frequency: 848.31 MHz
Medium parameters used (interpolated): f = 848.31 MHz; σ = 1.008 S/m; ε_r = 54.71; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3855; ConvF(9.78, 9.78, 9.78); Calibrated: 5/9/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 11.0, 31.0
- Electronics: DAE4 Sn1337; Calibrated: 5/7/2012
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1170
- DASY52 52.8.4(1052); SEMCAD X 14.6.8(7028)

Configuration/Unnamed procedure 2/Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.22 W/kg

Configuration/Unnamed procedure 2/Zoom Scan (4x4x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.468 V/m; Power Drift = 1.06 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 0.782 W/kg; SAR(10 g) = 0.313 W/kg
Maximum value of SAR (measured) = 1.47 W/kg



5.7. Simultaneous Multi-band Transmission Analysis

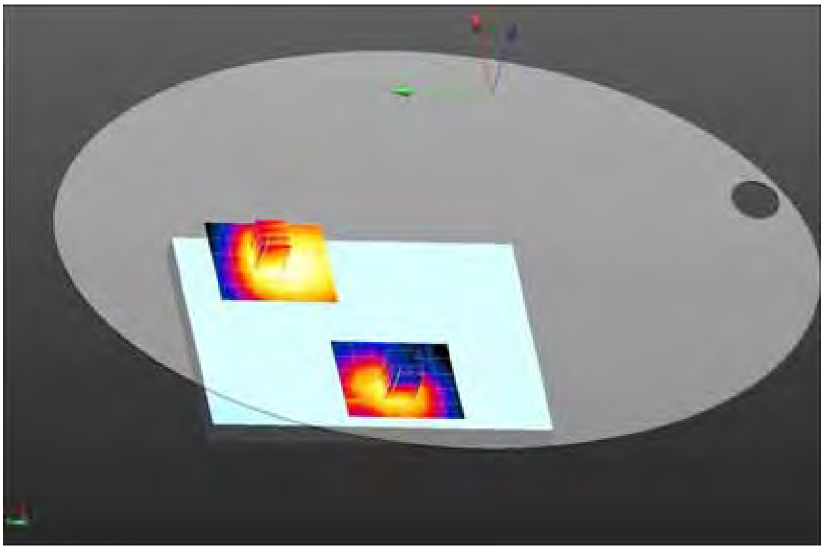
No.	Applicable Simultaneous Transmission Combination
1.	GSM850 + WLAN 2.4G (802.11b)
2.	GSM850 + WLAN 5G (802.11a)
3.	PCS1900 + WLAN 2.4G (802.11b)
4.	PCS1900 + WLAN 5G (802.11a)
5.	CDMA2000 + WLAN 2.4G (802.11b)
6.	CDMA2000 + WLAN 5G (802.11a)

Note:

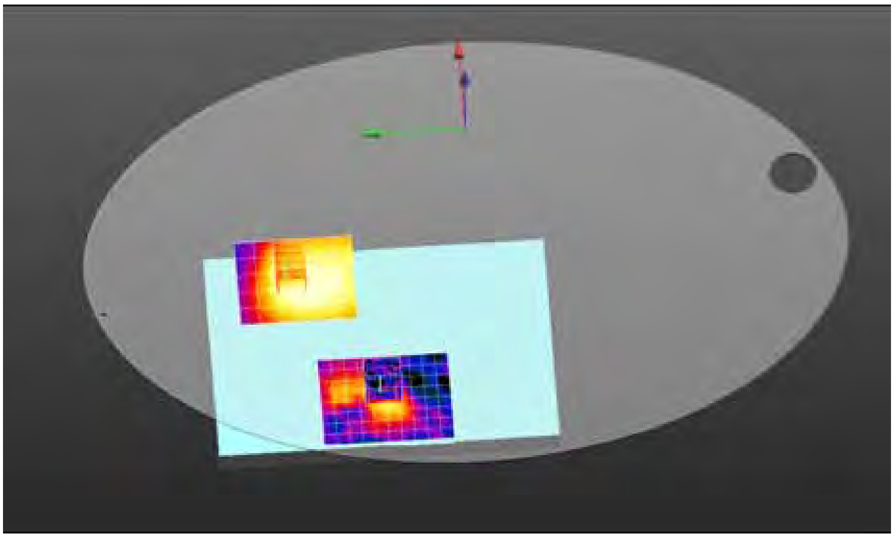
1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01v05, simultaneous transmission SAR is compliant if,
   a. Scalar SAR summation < 1.6W/kg
   b. SRLSR = $(SAR_1+SAR_2)^{1.5}$ / (min separation distance, mm), and the peak separation distance is determined from the square root of $[(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR location in the zoom scan
   c. Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg

5.8. Simultaneous analysis-SPLSR calculation

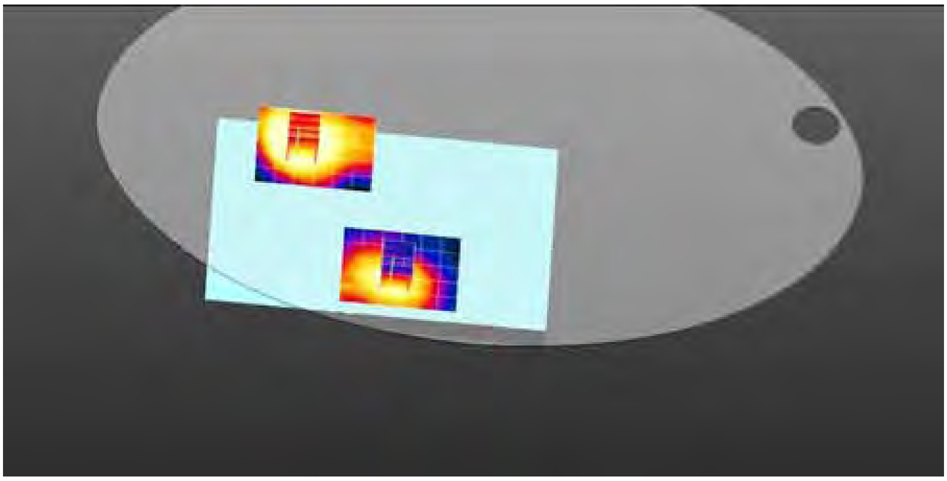
Band	Position	Gap (cm)	1g SAR(W/Kg)	Pair SAR Sum(W/Kg)	3D Distance (mm)	SPLSR	Simultaneous SAR
GSM850	Bottom Face	0	1.10	1.739	138.4	0.017	not required
WLAN 2.4GHz (802.11b)		0	0.639				
Note: Simultaneous SAR is not required while SPLSR<0.04 or Pair SAR Sum <1.6W/Kg.							



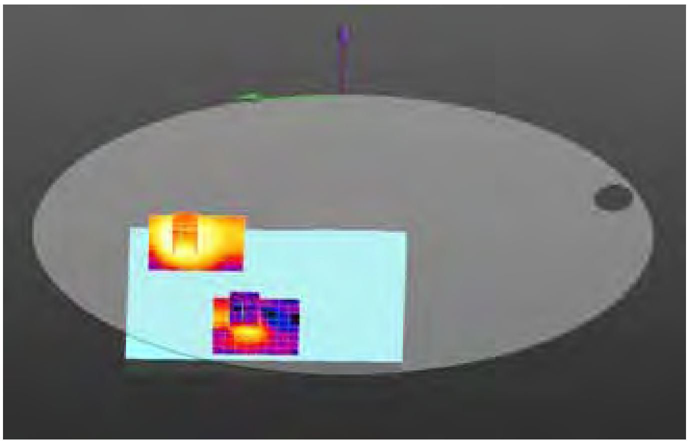
Band	Position	Gap (cm)	1g SAR(W/Kg)	Pair SAR Sum(W/Kg)	3D Distance (mm)	SPLSR	Simultaneous SAR
GSM850	Bottom Face	0	1.10	1.695	125.7	0.018	not required
WLAN 5GHz (802.11a)		0	0.595				
Note: Simultaneous SAR is not required while SPLSR<0.04 or Pair SAR Sum <1.6W/Kg.							



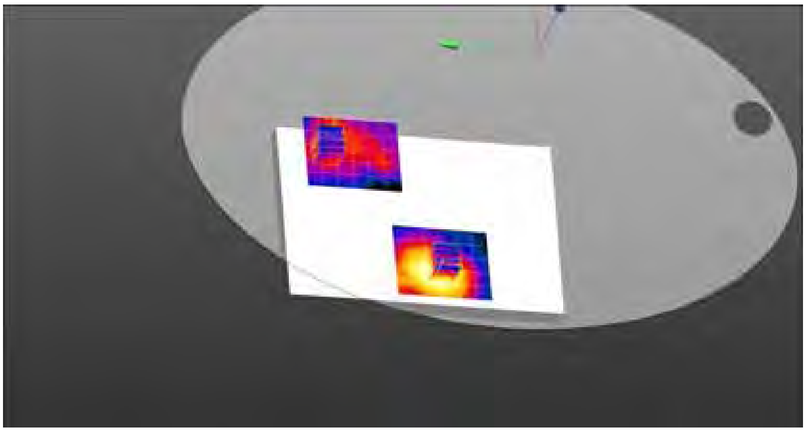
Band	Position	Gap (cm)	1g SAR(W/Kg)	Pair SAR Sum(W/Kg)	3D Distance (mm)	SPLSR	Simultaneous SAR
PCS1900	Bottom Face	0	1.20	1.839	129.5	0.019	not required
WLAN 2.4GHz (802.11b)		0	0.639				
Note: Simultaneous SAR is not required while SPLSR<0.04 or Pair SAR Sum <1.6W/Kg.							



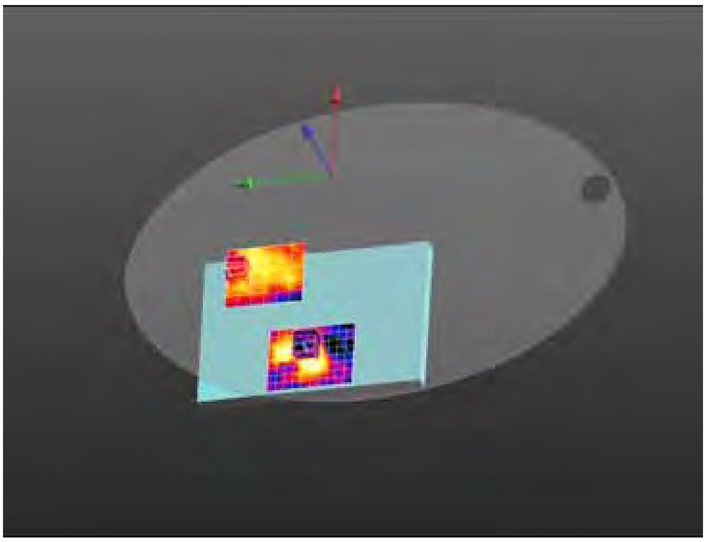
Band	Position	Gap (cm)	1g SAR(W/Kg)	Pair SAR Sum(W/Kg)	3D Distance (mm)	SPLSR	Simultaneous SAR
PCS1900	Bottom Face	0	1.20	1.795	116.4	0.021	not required
WLAN 5GHz (802.11a)		0	0.595				
Note: Simultaneous SAR is not required while SPLSR<0.04 or Pair SAR Sum <1.6W/Kg.							



Band	Position	Gap (cm)	1g SAR(W/Kg)	Pair SAR Sum(W/Kg)	3D Distance (mm)	SPLSR	Simultaneous SAR
CDMA 2000 BC0	Bottom Face	0	1.147	1.786	131.4	0.018	not required
WLAN 2.4GHz (802.11b)		0	0.639				
Note: Simultaneous SAR is not required while SPLSR<0.04 or Pair SAR Sum <1.6W/Kg.							

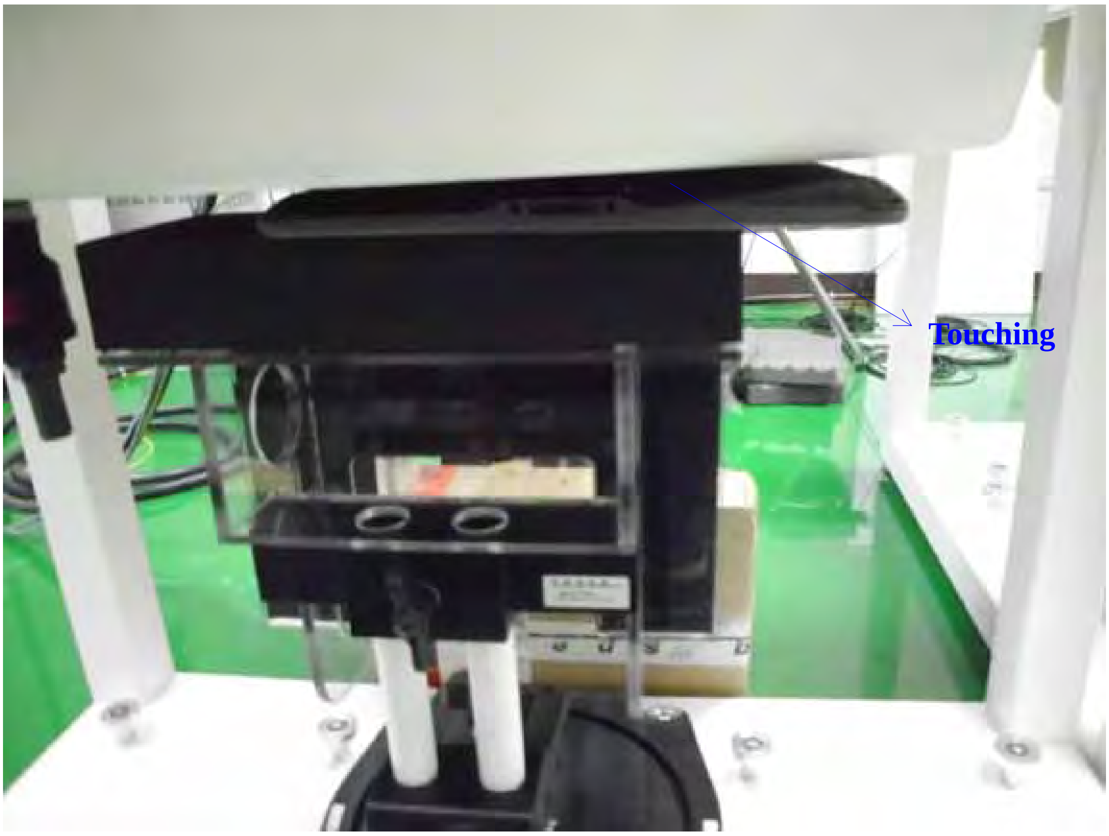


Band	Position	Gap (cm)	1g SAR(W/Kg)	Pair SAR Sum(W/Kg)	3D Distance (mm)	SPLSR	Simultaneous SAR
CDMA 2000 BC0	Bottom Face	0	1.147	1.742	115.9	0.020	not required
WLAN 5GHz (802.11a)		0	0.595				
Note: Simultaneous SAR is not required while SPLSR<0.04 or Pair SAR Sum <1.6W/Kg.							



6. PHOTOGRAPHS OF MEASUREMENT

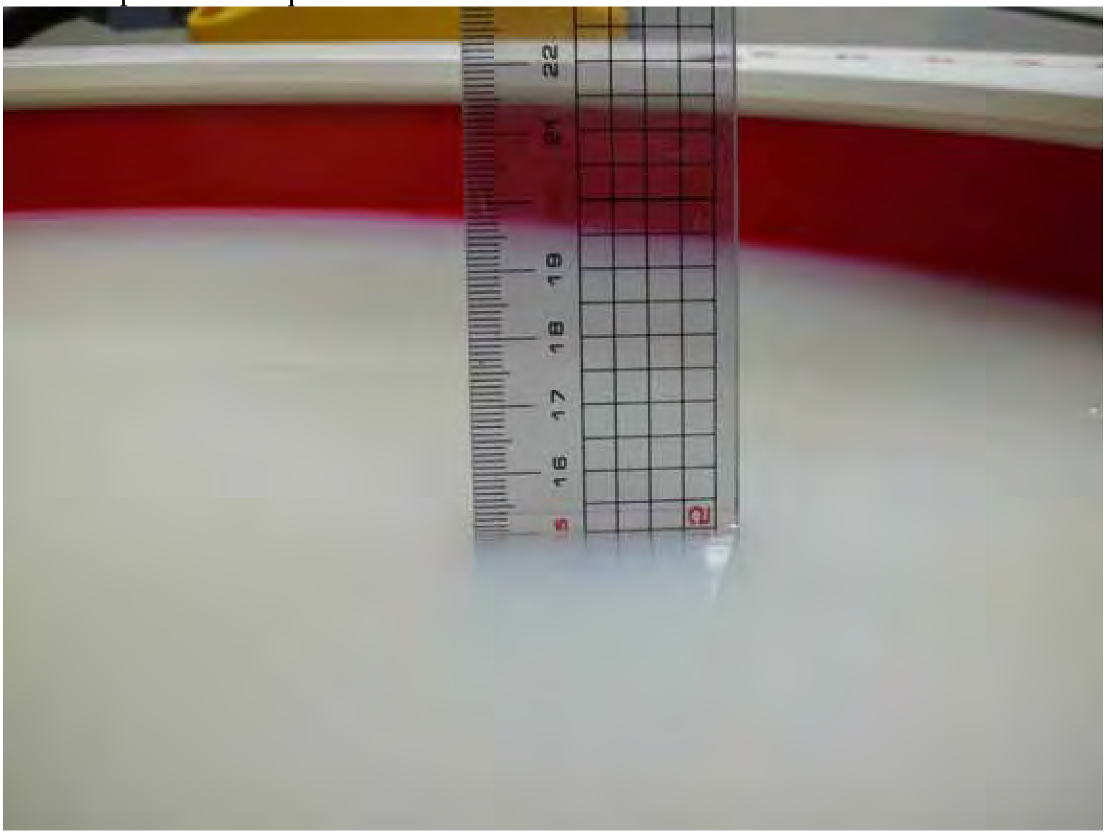
Test Position: Bottom Face



Test Position: Edge Side


Touching

Depth of the Liquid in the Phantom-Zoom In



APPENDIX I

Test Equipment Calibration Data