SAR TEST REPORT

No. 2010EEB00818

For

Notion Ink Design Labs Pvt. Ltd.

Tablet PC

NI3421-A01

With

Wi-Fi/Bluetooth module：WM-BN-BM-01

FCCID: Y2GNI3421A01

2G/3G module：F3307

FCCID: VV7-MBMF33071

Issued Date: 2011-01-18

Deutscher Akkreditierungs Rat

No. **DGA-PL-114/09-A0**

ilac-MRA

CNAS 检 测 CNAS L0442

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

Test Laboratory:

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology

No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2079, Fax:+86(0)10-62304793 Email:welcome@emcite.com. www.emcite.com

工业和信息化部通信计量中心 检验报告专用章

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	TMC Shenzhen, Telecommunication Metrology Center of MIIT
Address:	No. 12building, Shangsha Innovation and Technology Park,Futian District,Shenzhen, P. R. China
Postal Code:	518048
Telephone:	+86-755-33322000
Fax:	+86-755-33322001

1.2 Testing Environment

Temperature:	18°C~25 °C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω

Ambient noise is checked and found very low and in compliance with requirement of standards.
Reflection of surrounding objects is minimized and in compliance with requirement of standards.

1.3 Project Data

Project Leader:	Zhou Yi
Test Engineer:	Zhu Zhiqiang
Testing Start Date:	January 10, 2011
Testing End Date:	January 12, 2011

1.4 Signature

Zhu Zhiqiang
(Prepared this test report)

Zhou Yi
(Reviewed this test report)

Lu Bingsong
Deputy Director of the laboratory
(Approved this test report)

2 Client Information

2.1 Applicant Information

Company Name:	Notion Ink Design Labs Pvt. Ltd.
Address /Post:	6th Block, D tower, Subramanya Arcade, Bannerghatta Road, Bangalore,Karnataka, India - 560029
City:	Bangalore
Postal Code:	560029
Country:	India
Telephone:	/
Fax:	/

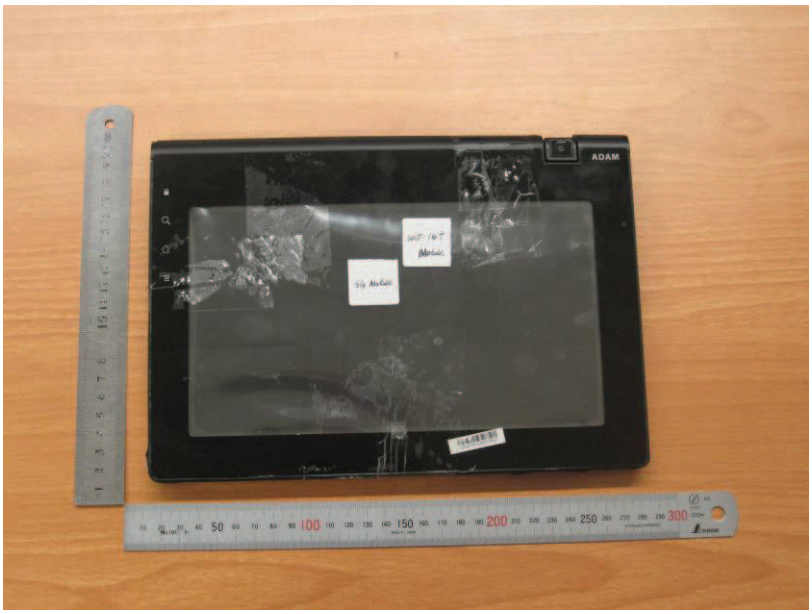
2.2 Manufacturer Information

Company Name:	Wanlida Group Co., Ltd.
Address /Post:	Wanlida Industry Zone, Nanjing, Fujian, China 363601
City:	Nanjing
Postal Code:	363601
Country:	China
Telephone:	+86-596-7653680
Fax:	+86-596-7662886

3 Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1 About EUT

Description:	Tablet PC with WiFi/Bluetooth/2G/3G module
Model Name:	NI3421-A01
Brand Name:	WANLIDA
Frequency Band:	802.11b/g/n 2.45GHz; GPRS&EGPRS 850/1900 ;WCDMA&HSPA 850/1900
GPRS Class	10
WCDMA Class	3



Picture 1: Constituents of the sample

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	358820030002751	7379C VER 1.1	Android 2.2

*EUT ID: is used to identify the test sample in the lab internally.

3.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	AC Adapter	MPA-40P	/	Wanlida Group Co., Ltd.
AE2	Li-ion battery pack	A0B4 3S1P _11.1V/2.2Ah	/	SCUD FUJIAN Electronics Co., Ltd.

*EUT/AE ID: is used to identify the test sample in the lab internally.

4 CHARACTERISTICS OF THE TEST

4.1 Applicable Limit Regulations

EN 50360–2001: Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.

It specifies the maximum exposure limit of **2.0 W/kg** as averaged over any 10 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
47 CFR §2.1093: Radiofrequency radiation exposure evaluation: portable devices.

They specify the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

4.2 Applicable Measurement Standards

EN 62209-1–2006: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz).

IEEE 1528–2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.

OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.

IEC 62209-2 (Edition 1.0): Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz).
KDB 447498 D01: Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies v03r02
KDB 248227:SAR Measurement Procedures for 802.11 a/b/g transmitter
KDB 616217:SAR Evaluation Considerations for Laptop Computers with Antennas Built-in on Display Screens.
KDB 941225: SAR Measurement Procedures for 3G Devices.
They specify the measurement method for demonstration of compliance with the SAR limits for such equipments.

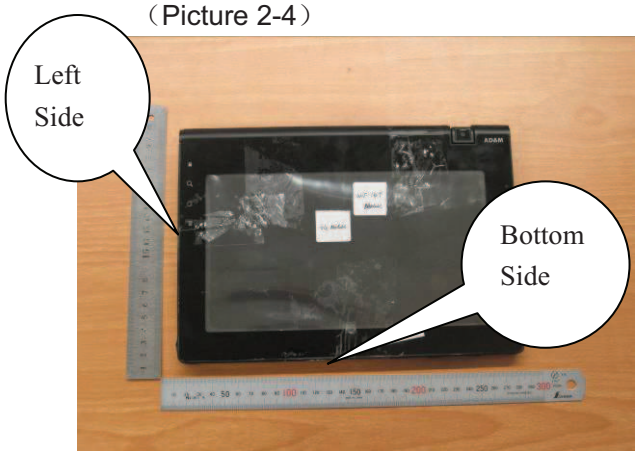
5 OPERATIONAL CONDITIONS DURING TEST

5.1 Schematic Test Configuration

5.1.1 Test positions

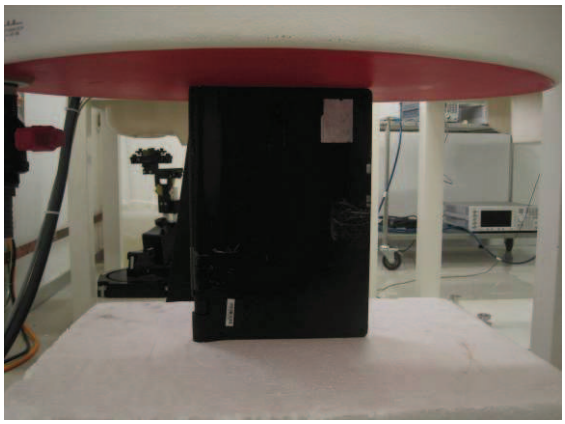
According to KDB 447498 4) b) ii) (2), SAR is required only for the edge with the most conservative exposure conditions. So the EUT is tested at the following 3 test positions:

- Test Position 1: The back side of the EUT is tightly touched the bottom of the flat phantom.（Picture 2-2）
- Test Position 2: The left side of the EUT is tightly touched the bottom of the flat phantom.（Picture 2-3）
- Test Position 3: The bottom side of the EUT is tightly touched the bottom of the flat phantom.（Picture 2-4）



Picture 2-1: side definition

Picture 2-2: Test position 1



Picture 2-3: Test position 2

Picture 2-4: Test position 3

Picture 3 antenna positions

5.1.2 Body SAR Measurement Description

BT 2.45GHz band

The conducted power for WiFi is as following:

Bluetooth Conducted power: (dBm)

Channel/Modulation	GFSK	8DPSK
CH1	-0.90	1.65
CH6	0.52	2.97
CH11	0.91	3.35

The highest output power of BT antenna is 3.35dBm. The output power is less than the output power thresholds for unlicensed transmitters,So SAR is not required for BlueTooth antenna.

WiFi 802.11b/g/n 2.45GHz band

SAR is not required for 802.11g channels since the output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels, and for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 0.25dB higher than those measured at the lowest data rate. According to the following conducted power, the EUT should be tested for “802.11b 1Mbps” first, then the necessary configurations in “802.11g” and “802.11n”,

A communication link is set up with the test mode software for WiFi mode test. The test mode software we used is MyWL Test Program with the version of V1.01 supported by company USI.For 802.11b,802.11g,and 802.11n,the Absolute Radio Frequency Channel Number (ARFCN) is allocated to 1, 6 and 11 respectively in the case of 2450 MHz. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. The tests are performed for WiFi at highest output channel for all the 3 test positions, and according to KDB447498 D01 1)e)i, ”When the SAR procedures require multiple channels to be tested and the 1-g SAR for the highest output channel is less than 0.8W/Kg,where the transmission band corresponding to all channels is≤100 MHz,testing for the other channels is not required.” So the test channels have been set first to the highest output channel and then others if necessary.

The conducted power for WiFi is as following:

802.11b（dBm）

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	21.55	21.49	21.33	21.20
6	21.88	21.76	21.23	21.00
11	22.87	22.20	22.17	22.08

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	20.41	20.09	20.05	20.31	20.33	20.15	20.05	20.08
6	20.94	20.70	20.64	20.80	20.70	20.62	20.75	20.73
11	21.04	21.01	20.85	20.83	20.83	20.79	20.82	20.85

802.11n HT20（dBm）

Channel\data rate	6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
1	20.10	19.85	19.89	19.75	19.79	19.75	19.79	19.57
6	20.85	20.45	20.46	20.42	20.23	20.30	20.30	20.20
11	20.89	20.85	20.65	20.75	20.74	20.67	20.61	20.55

GSM Frequency Band

Because the EUT has only data transfer function, the tests for GSM 850/1900 are performed in GPRS and EGPRS mode (since the GPRS/EGPRS class is 10, the tests are performed for the case of the slots in uplink with the maximum averaged power). The tests are performed for GPRS at middle frequency first for all the 3 test positions, and according to the 3 dB rule, ”if the SAR measured at the middle channel for each test configuration is at least 3 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).” So the test channels have been set first to the middle and then to low and high if necessary. And after found the worst case, the EGPRS will be tested for that position.

The conducted power for GPRS/EGPRS 850/1900 is as following:

GSM 850 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	128	**190**	**251**		**128**	**190**	**251**
1 Txslot	32.15	32.25	32.18	-9.03dB	23.12	23.22	23.15
2 Txslots	32.10	32.20	32.00	-6.02dB	**26.08**	**26.18**	**25.98**
GSM 850 EGPRS	Measured Power (dBm)				Averaged Power (dBm)		
	128	**190**	**251**		**128**	**190**	**251**
1 Txslot	32.10	32.23	32.10	-9.03dB	23.07	23.20	23.07
2 Txslots	32.02	32.06	31.88	-6.02dB	**26.00**	**26.04**	**25.86**
PCS1900 GPRS	Measured Power (dBm)				Averaged Power (dBm)		
	512	**661**	**810**		**512**	**661**	**810**
1 Txslot	28.55	29.03	28.88	-9.03dB	19.52	20.00	19.85
2 Txslots	28.38	28.85	28.75	-6.02dB	**22.36**	**22.83**	**22.73**

PCS1900 EGPRS	Measured Power (dBm)				Averaged Power (dBm)		
	512	**661**	**810**		**512**	**661**	**810**
1 Txslot	28.50	29.00	28.80	-9.03dB	19.47	19.97	19.77
2 Txslots	`28.35	28.84	28.72	-6.02dB	**22.33**	**22.82**	**22.7**

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

WCDMA Band

For WCDMA 850/1900, the conducted power will be measured for WCDMA/HSDPA/HSUPA, and the results are as following:

Item	band	WCDMA 850			WCDMA1900		
	ARFCN	**4132**	**4183**	**4233**	**9262**	**9400**	**9538**
WCDMA	\	23.30	23.53	23.21	23.06	23.04	22.60
HSDPA	Sub-test 1	23.53	23.52	23.27	23.00	22.35	22.78
	Sub-test 2	21.33	21.30	21.04	20.83	21.13	20.61
	Sub-test 3	20.08	20.03	19.80	19.60	19.82	19.33
	Sub-test 4	19.47	19.48	19.18	19.01	19.26	18.75
HSUPA	Sub-test 1	22.67	22.67	22.49	21.31	22.40	21.83
	Sub-test 2	23.21	23.29	23.04	22.55	22.97	22.40
	Sub-test 3	22.17	22.20	22.38	21.51	21.90	21.34
	Sub-test 4	21.59	21.60	21.38	20.97	21.35	20.76
	Sub-test 5	22.61	22.66	22.40	22.02	22.40	21.82

The tests are performed for WCDMA 850 and WCDMA 1900 at middle frequency first for all the 3 test positions, and according to the 3 dB rule then set to low and high if necessary. HSDPA/HSUPA body SAR is not required, because maximum average output power of each RF channel with HSPA active is not 1/4 dB higher than that measured without HSPA and the maximum SAR for WCDMA 850 and WCDMA1900 are not above 75% of the SAR limit (see Table 6&8 for the SAR measurement results)

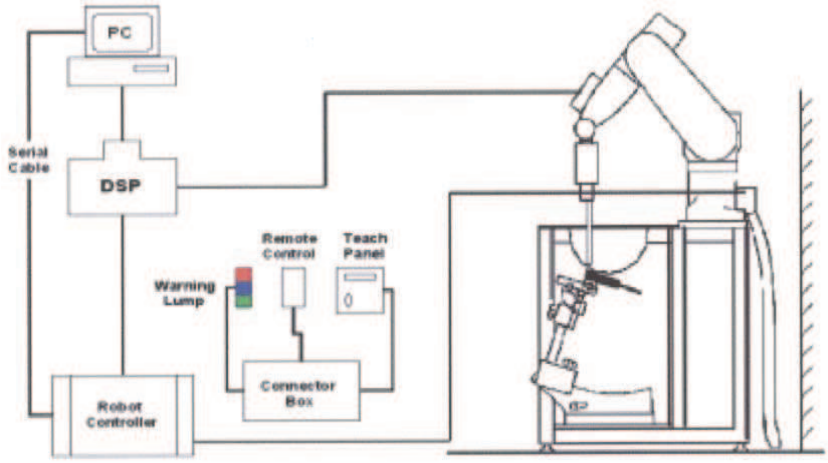
Simultaneous transmission SAR is not required because 2/3G module and WIFI module cannot work in the same time.

5.2 SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DASY5 NEO from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than ± 0.02mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length =300mm) to the data acquisition unit.

A cell controller system contains the power supply, robot controller, teaches pendant (Joystick),

and remote control, is used to drive the robot motors. The PC consists of Inter® Core™ CPU 6300 @1.86GHz,1.58GHz computer with Windows XP system and SAR Measurement Software DASY5 NEO, A/D interface card, monitor, mouse, and keyboard. The Stäubli 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.



Picture 4: SAR Lab Test Measurement Set-up

The 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 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.

5.3 Dasy5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the standard procedure with an accuracy of better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB.

Picture 5: ES3DV3 E-field Probe

ES3DV3 Probe Specification

Construction	Symmetrical design with triangular core
	Interleaved sensors
	Built-in shielding against static charges
	PEEK enclosure material (resistant to organic solvents, e.g., DGBE)

Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 900 and HSL 1810 Additional CF for other liquids and frequencies upon request
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

Picture6:ES3DV3 E-field probe

5.4 E-field Probe Calibration

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

Or

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

Picture 7: Device Holder

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

5.5 Other Test Equipment

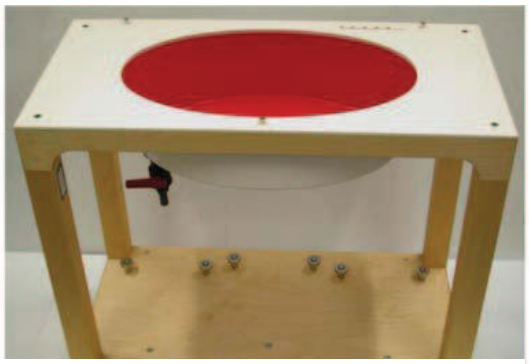
5.5.1 Device Holder for Transmitters

In combination with the Generic Twin Phantom V3.0, 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 repeatably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

5.5.2 Phantom

The ELI4 phantom is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6GHz. ELI4 is fully compatible with the latest standard IEC 62209-2 and all known tissue simulating liquids. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Shell Thickness	2±0. l mm
Filling Volume	Approx. 20 liters
Dimensions	810 x l000 x 500 mm (H x L x W)
Available	Special



Picture 8: ELI4 Phantom

5.6 Equivalent Tissues

The liquid used for the frequency range of 2000-3000 MHz consisted of water, Glycol monobutyl,and salt . The liquid has been previously proven to be suited for worst-case. The Table 4 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528.

Table 1: Composition of the Body Tissue Equivalent Matter

MIXTURE %	FREQUENCY 2450MHz
Water	72.60
Glycol monobutyl	27.22
Salt	0.18
Dielectric Parameters Target Value	f=2450MHz ε=52.7 σ=1.95
MIXTURE %	FREQUENCY 850MHz

Water	**50.93**
Sugar	**45.61**
Salt	**1.09**
Preventol	**0.37**
Cellulose	**2.0**
Dielectric Parameters Target Value	**f=850MHz ε=55.2 σ=0.97**
MIXTURE %	**FREQUENCY 1900MHz**
Water	**70.52**
Glycol monobutyl	**29.09**
Salt	**0.39**
Dielectric Parameters Target Value	**f=1900MHz ε=53.3 σ=1.52**

5.7 System Specifications

Specifications

Positioner: Stäubli Unimation Corp. Robot Model: TX90XL
Repeatability: ±0.02 mm
No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Inter® Core™ CPU 6300
Clock Speed: 1.86GHz
Operating System: Windows XP

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic
Software: DASY5 software
Connecting Lines: Optical downlink for data and status info.
Optical uplink for commands and clock

6 TEST RESULTS

6.1 Dielectric Performance

Table 2: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 20.5 °C and relative humidity 48%.
Liquid temperature during the test: 20.0°C
Measurement Date : 2450 MHz **Jan 10, 2011** 850 MHz **Jan 11 , 2011** 1900 MHz **Jan 12 , 2011**

/	**Measurement date**	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	**/**	2450 MHz	52.7	1.95
		850 MHz	55.2	0.97
		1900 MHz	53.3	1.52
Measurement value (Average of 10 tests)	1/10/2011	2450 MHz	50.81	2.00
	1/11/2011	850 MHz	54.6	1.01
	1/12/2011	1900 MHz	52.74	1.56

6.2 System Validation

Table 3: System Validation

Measurement is made at temperature 20.5 °C and relative humidity 48%,input power 250mW Liquid temperature during the test: 20.0°C Measurement Date : 2450 MHz **Jan 10, 2011** 850 MHz **Jan 11 , 2011** 1900 MHz **Jan 12 , 2011**							
Liquid parameters	Dipole calibration Target value	**Frequency**		**Permittivity ε**		**Conductivity σ (S/m)**	
		2450 MHz		52.6		1.95	
		850 MHz		54.5		0.97	
		1900 MHz		52.5		1.51	
	Actural Measurement value	2450 MHz		50.81		2.00	
		850 MHz		54.6		1.01	
		1900 MHz		52.74		1.56	
Verification results	**Frequency**	**Target value (W/kg)**		**Measured value (W/kg)**		**Deviation**	
		10 g Average	**1 g Average**	**10 g Average**	**1 g Average**	**10 g Average**	**1 g Average**
	2450 MHz	5.98	12.9	5.78	12.8	-0.69%	0.16%
	850 MHz	1.57	2.41	1.56	2.50	-0.64%	3.73%
	1900 MHz	5.24	10.4	5.19	10.4	-0.95%	0

Note：Target values are the data of the dipole validation results, please check Annex F for the Dipole Calibration Certificate.

6.3 Summary of Measurement Results

Table 4: SAR Values (WiFi 2450MHz)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case(Flat Phantom)	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Test Position 1, top frequency,802.11b,1Mbps(See Figure 1)	0.097	0.233	0.19
Test Position 2, top frequency,802.11b 1Mbps (See Figure 2)	0.043	0.097	-0.11
Test Position 3, top frequency, 802.11b 1Mbps (See Figure 3)	0.063	0.175	0.15
Test Position 1, top frequency, 802.11n 6.5Mbps (See Figure 4)	0.055	0.136	0.16

Table 5: SAR Values (GPRS 850MHz)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case(Flat Phantom)	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	

Test Position 1, Middle frequency (See Figure 5)	0.00944	0.014	0.182
Test Position 2, Middle frequency (See Figure 6)	0.00048	0.00125	0.132
Test Position 3, Middle frequency (See Figure 7)	0.00161	0.00266	-0.17
Test Position 1, Middle frequency with EGPRS (See Figure 8)	0.0045	0.0104	-0.15

Table 6: SAR Values (WCDMA 850MHz)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case(Flat Phantom)	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Test Position 1, Middle frequency (See Figure 9)	0.00504	0.00551	0.149
Test Position 2, Middle frequency (See Figure 10)	0.0012	0.0017	0.105
Test Position 3, Middle frequency (See Figure 11)	0.0018	0.00272	0.12

Table 7: SAR Values (GPRS 1900MHz)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case(Flat Phantom)	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Test Position 1, Middle frequency (See Figure 12)	0.045	0.104	-0.125
Test Position 2, Middle frequency (See Figure 13)	0.00438	0.00747	0.19
Test Position 3, Middle frequency (See Figure 14)	0.058	0.129	0.157
Test Position 1,Middle frequency with EGPRS (See Figure 15)	0.043	0.097	-0.13

Table 8: SAR Values (WCDMA 1900MHz)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case(Flat Phantom)	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Test Position 1, Middle frequency (See Figure 16)	0.264	0.604	0.12
Test Position 2, Middle frequency (See Figure 17)	0.026	0.054	0.137
Test Position 3, Middle frequency (See Figure 18)	0.011	0.024	-0.105

6.4 Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 4.2 of this report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 4.1 of this test report.

7 Measurement Uncertainty

SN	a	Type	c	d	e = f(d,k)	f	h = c x f / e	k
	Uncertainty Component		Tol. (± %)	Prob .Dist.	Div.	c_i (1 g)	1 g u_i(±%)	v_i
1	System repetivity	A	0.5	N	1	1	0.5	9
	Measurement System							
2	Probe Calibration	B	5	N	2	1	2.5	∞
3	Axial Isotropy	B	4.7	R	√3	$(1\text{-cp})^{1/2}$	4.3	∞
4	Hemispherical Isotropy	B	9.4	R	√3	$\sqrt{c_p}$		∞
5	Boundary Effect	B	0.4	R	√3	1	0.23	∞
6	Linearity	B	4.7	R	√3	1	2.7	∞
7	System Detection Limits	B	1.0	R	√3	1	0.6	∞
8	Readout Electronics	B	1.0	N	1	1	1.0	∞
9	RF Ambient Conditions	B	3.0	R	√3	1	1.73	∞
10	Probe Positioner Mechanical Tolerance	B	0.4	R	√3	1	0.2	∞
11	Probe Positioning with respect to Phantom Shell	B	2.9	R	√3	1	1.7	∞
12	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	√3	1	2.3	∞
	Test sample Related							
13	Test Sample Positioning	A	4.9	N	1	1	4.9	N-1
14	Device Holder Uncertainty	A	6.1	N	1	1	6.1	N-1
15	Output Power Variation - SAR drift measurement	B	5.0	R	√3	1	2.9	∞
	Phantom and Tissue Parameters							
16	Phantom Uncertainty (shape and thickness tolerances)	B	1.0	R	√3	1	0.6	∞
17	Liquid Conductivity - deviation from target values	B	5.0	R	√3	0.64	1.7	∞
18	Liquid Conductivity - measurement uncertainty	B	5.0	N	1	0.64	1.7	M
19	Liquid Permittivity - deviation from target values	B	5.0	R	√3	0.6	1.7	∞
20	Liquid Permittivity - measurement uncertainty	B	5.0	N	1	0.6	1.7	M
	Combined Standard Uncertainty			RSS			11.25	
	Expanded Uncertainty (95% CONFIDENCE INTERVAL)			K=2			22.5	

8 MAIN TEST INSTRUMENTS

Table 9: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent E5071C	MY46103759	January 18,2010	One year
02	Power meter	NRVD	101253	March 9,2010	One year
03	Power sensor	NRV-Z5	100333		
04	Signal Generator	Agilent E4438C	MY45095825	January 18,2010	One Year
05	Amplifier	VTL5400	0404	No Calibration Requested	
06	E-field Probe	SPEAG ES3DV3	3151	April 28, 2010	One year
07	DAE	SPEAG DAE4	786	November 22, 2010	One year
08	Dipole Validation Kit	D2450V2	853	September 27, 2010	Two years
09	Dipole Validation Kit	D835V2	443	February 26, 2010	Two years
10	Dipole Validation Kit	D1900V2	541	February 26, 2010	Two years

END OF REPORT BODY

ANNEX A MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the reference point was measured and was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of the phantom was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the flat phantom and the horizontal grid spacing was 10 mm x 10 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

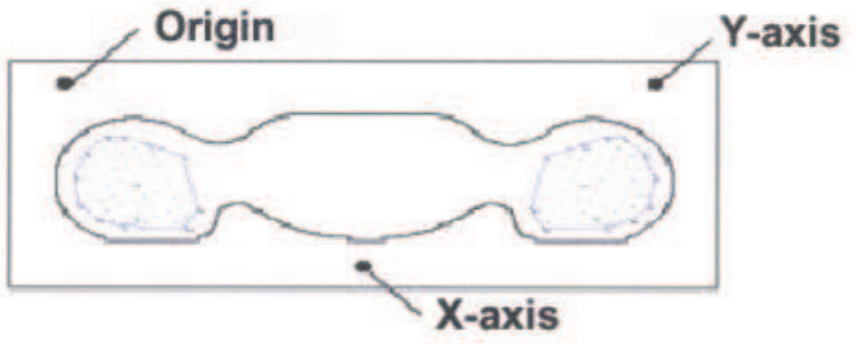
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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 straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) 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.

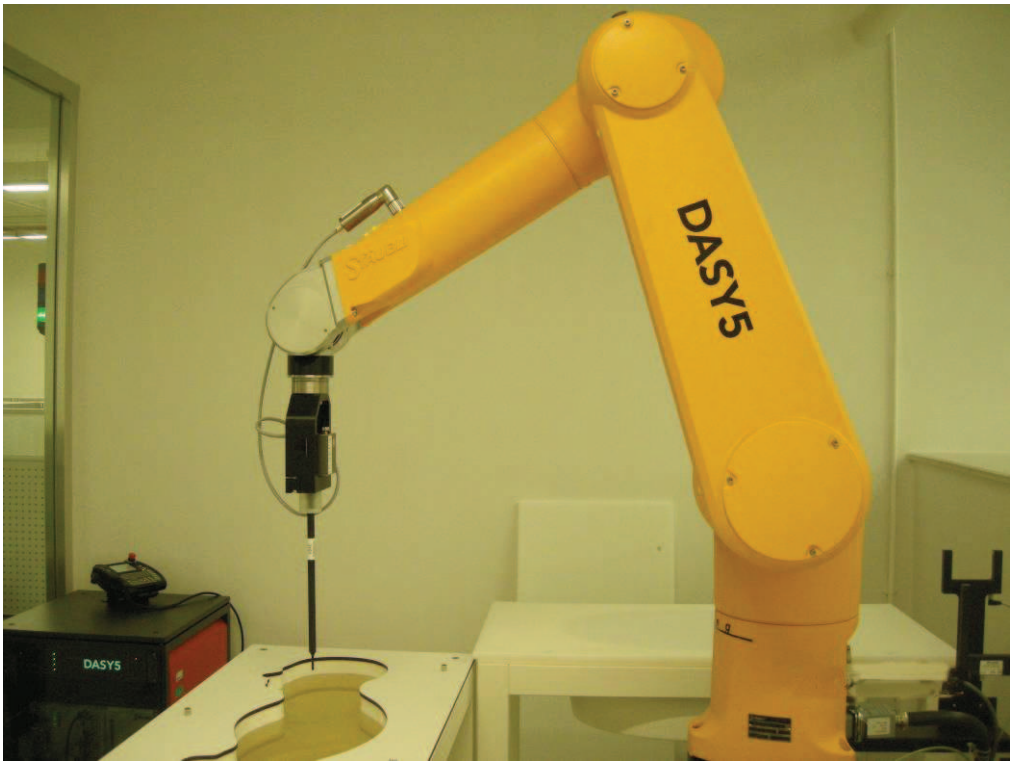
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation is repeated.

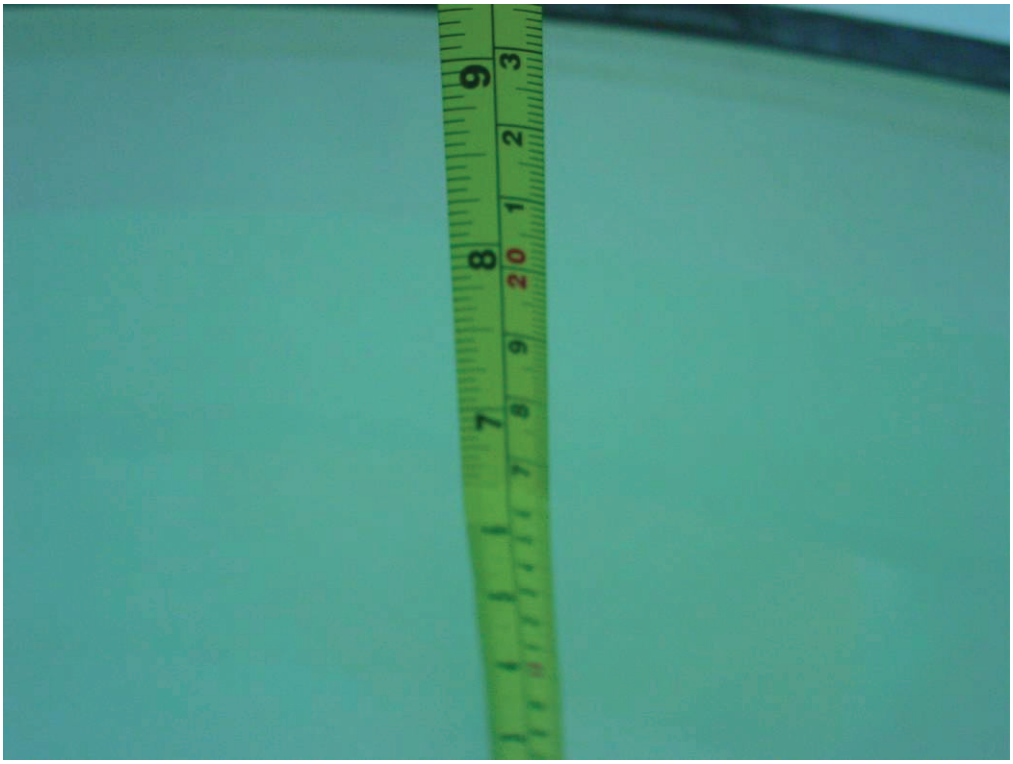


Picture A: SAR Measurement Points in Area Scan

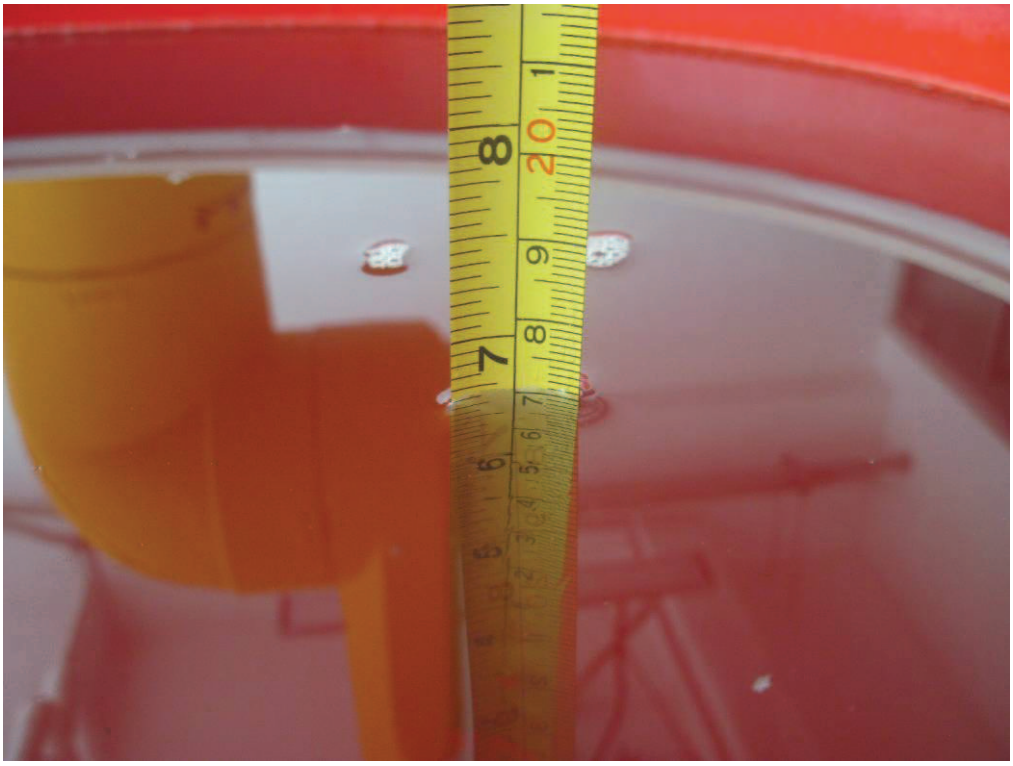
ANNEX B TEST LAYOUT



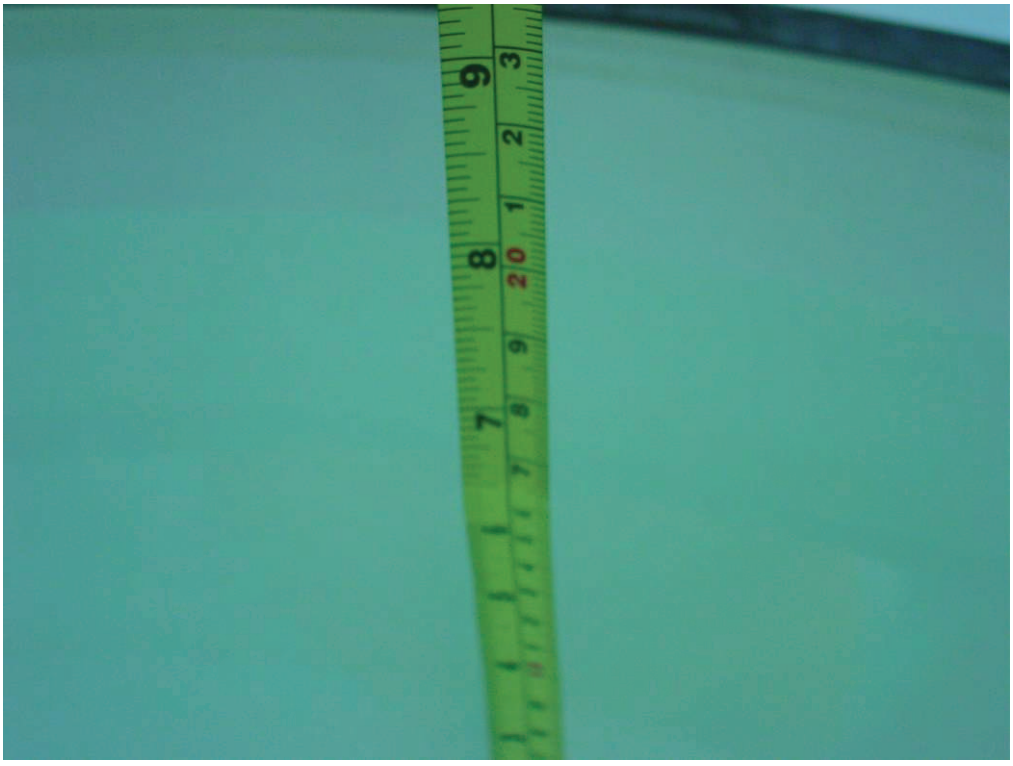
Picture B1: Specific Absorption Rate Test Layout



Picture B2 Liquid depth in the Flat Phantom (2450/MHz)



Picture B3: Liquid depth in the Flat Phantom (850 MHz)



Picture B4: Liquid depth in the Flat Phantom (1900 MHz)

ANNEX C GRAPH RESULTS

WiFi 802.11b_Test Position 1_Channel Top_1Mbps

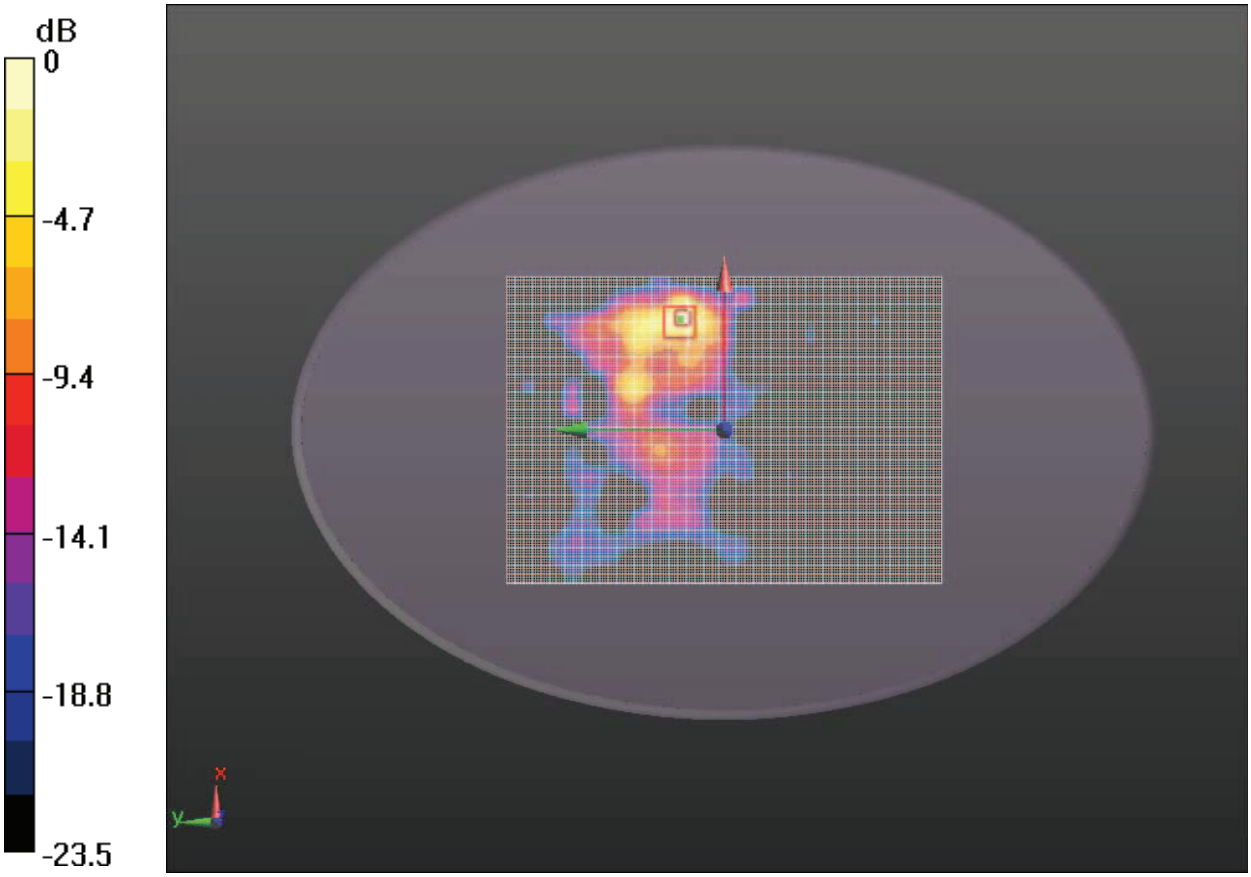
Date/Time: 1/10/2011 9:17:33 AM,
Electronics: DAE4 Sn786
Medium: Body 2450
Medium parameters used: f = 2462 MHz; σ = 2.02 mho/m; ε_r = 50.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WiFi 802.11 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3151 ConvF(3.72, 3.72, 3.72)

Test position 1_Channel High/Area Scan (141x201x1): Measurement grid:

dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.231 mW/g

Test position 1_Channel High/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.3 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.653 W/kg
SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.097 mW/g
Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258mW/g

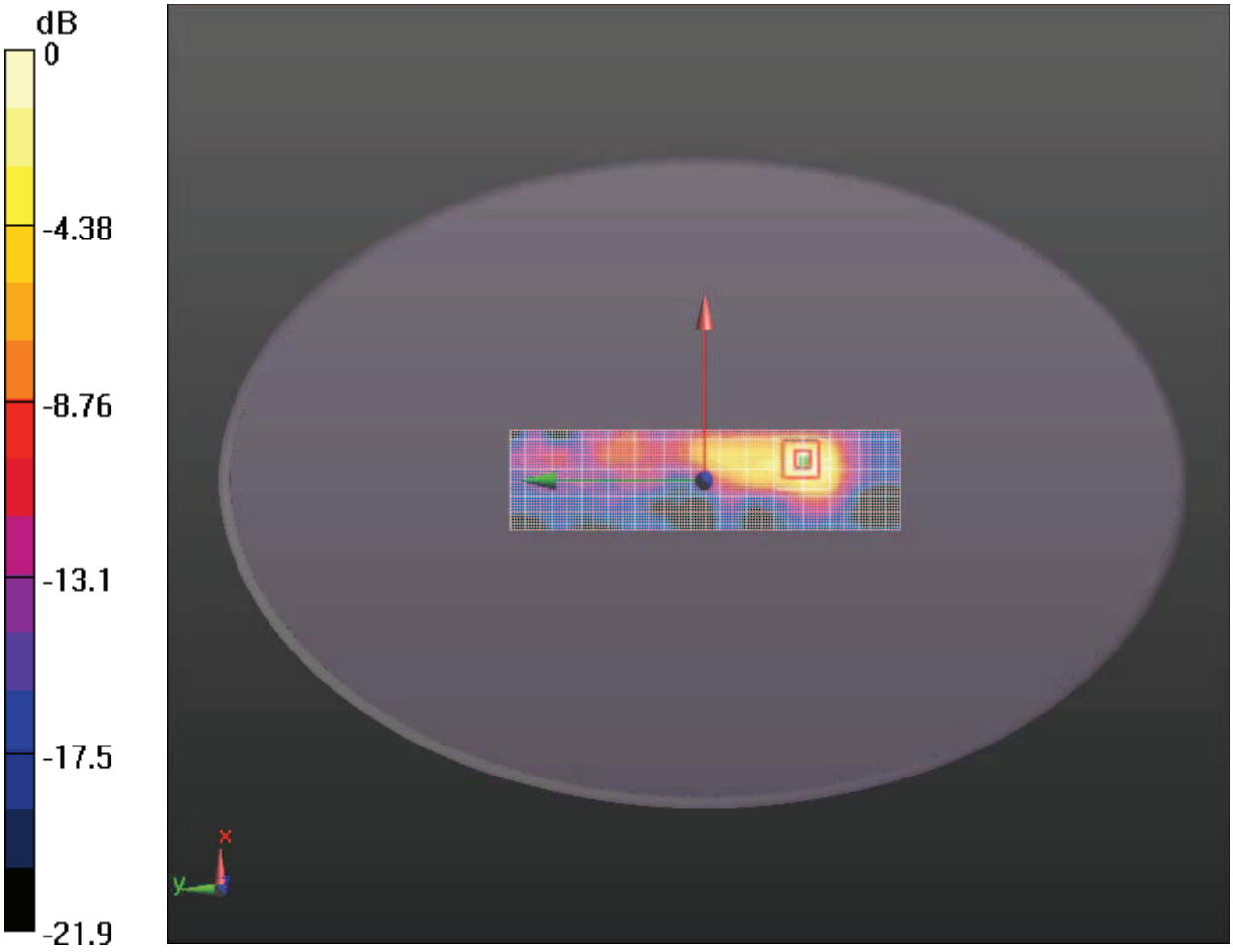
Fig.1 2450MHz CH11 Test Position 1-WiFi 802.11b 1Mbps

WiFi 802.11b_Test Position 2_Channel Top_1Mbps

Date/Time: 1/10/2011 10:09:12 AM,
Electronics: DAE4 Sn786;Medium: Body 2450
Medium parameters used: f = 2462 MHz; σ = 2.02 mho/m; ε_r = 50.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WiFi 802.11 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3151 ConvF(3.72, 3.72, 3.72)

Test position 2_Channel Middle/Area Scan (41x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.123 mW/g

Test position 2_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.86 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.043 mW/g
Maximum value of SAR (measured) = 0.112 mW/g



0 dB = 0.112mW/g

Fig.2 2450MHz CH11 Test Position 2-WiFi 802.11b 1Mbps

WiFi 802.11b_Test Position 3_Channel Top_1Mbps

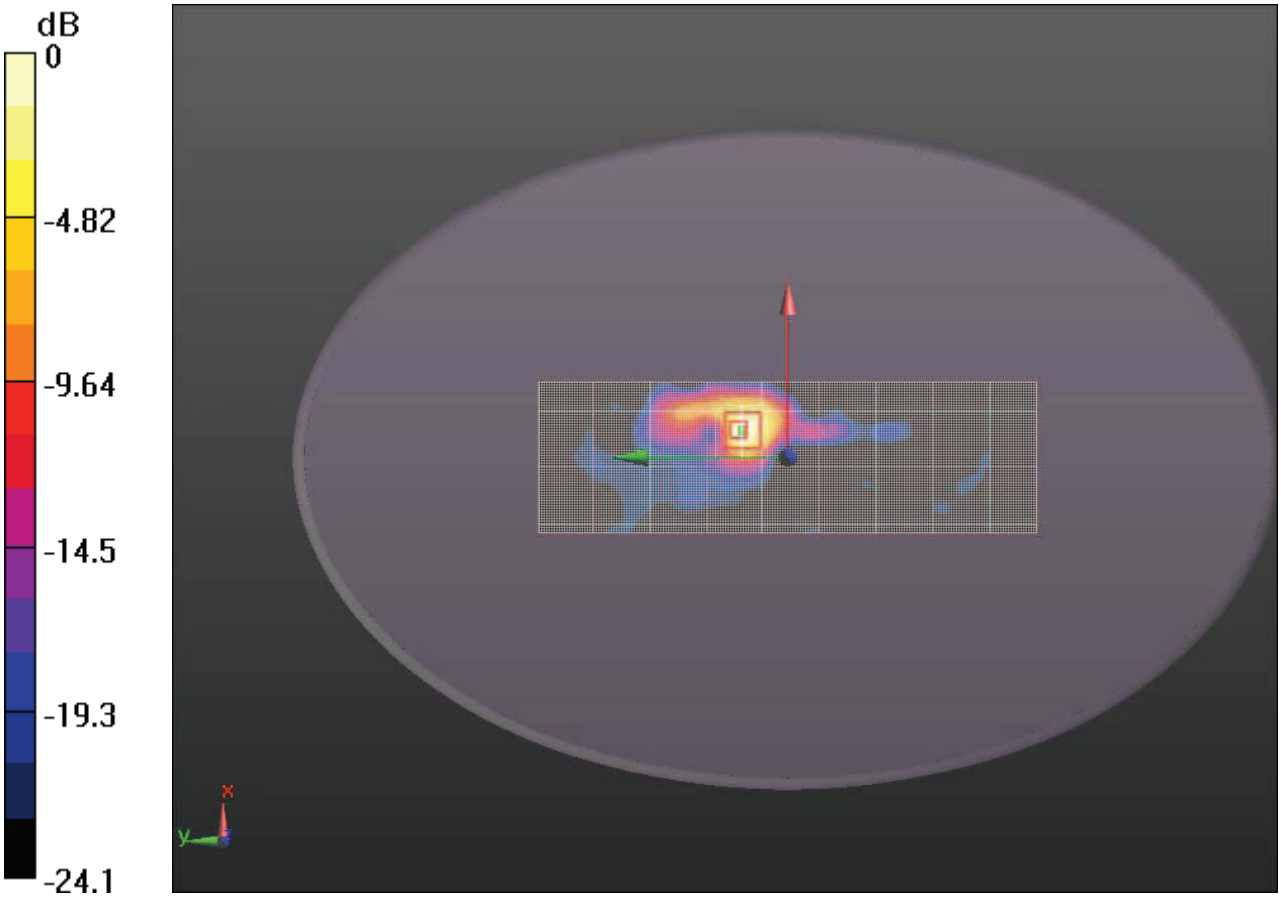
Date/Time: 1/10/2011 10:51:35 AM
Electronics: DAE4 Sn786
Medium: Body 2450
Medium parameters used: f = 2462 MHz; σ = 2.02 mho/m; ε_r = 50.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WiFi 802.11 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3151 ConvF(3.72, 3.72, 3.72)

Test position 3_Channel High/Area Scan (61x201x1): Measurement grid:

dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.255 mW/g

Test position 3_Channel High/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.465 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.559 W/kg
SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.063 mW/g
Maximum value of SAR (measured) = 0.193 mW/g



0 dB = 0.193mW/g

Fig.3 2450MHz CH11 Test Position 2-WiFi 802.11b 1Mbps

WiFi 802.11n_Test Position 1_Channel Top_6.5Mbps

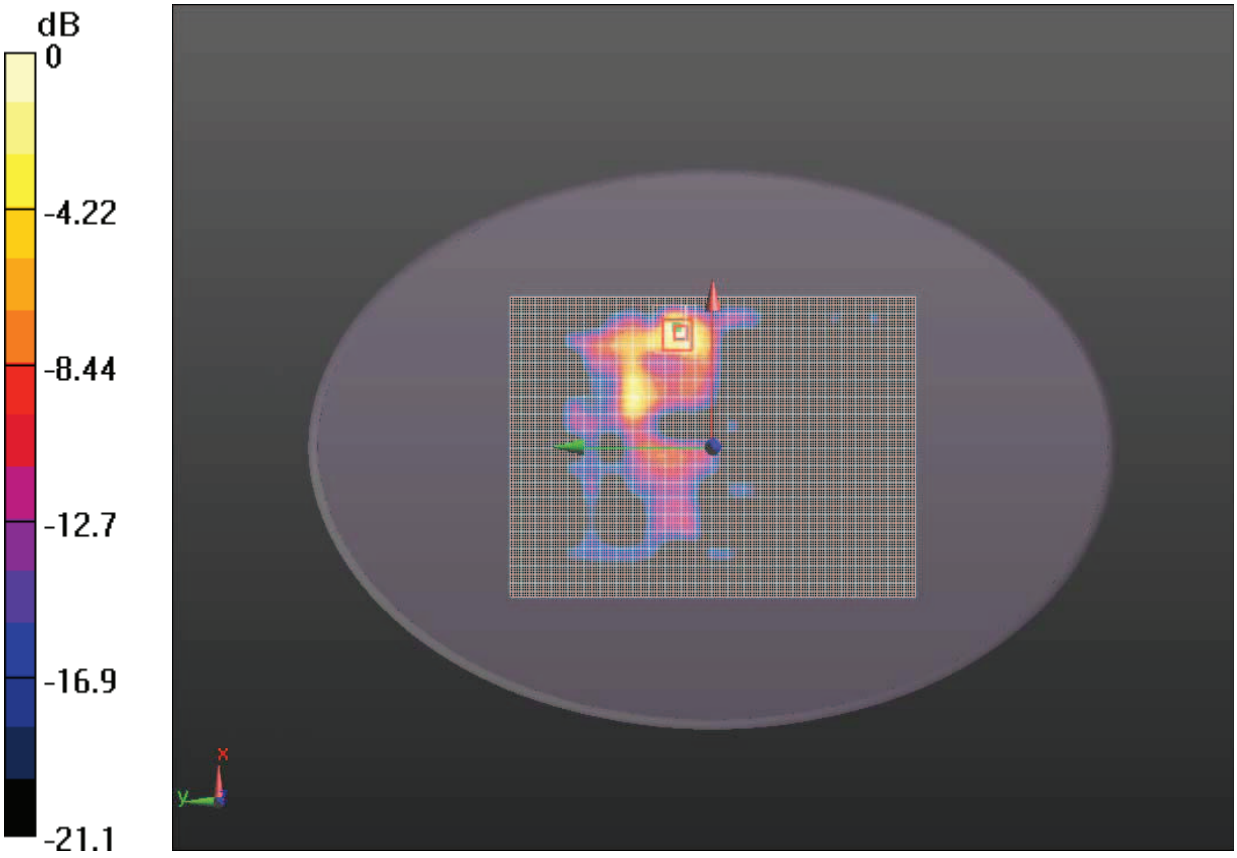
Date/Time: 1/10/2011 11:34:53 AM
Electronics: DAE4 Sn786
Medium: Body 2450
Medium parameters used: f = 2462 MHz; σ = 2.02 mho/m; ε_r = 50.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WiFi 802.11 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3151 ConvF(3.72, 3.72, 3.72)

Test position 1_Channel High/Area Scan (141x201x1): Measurement grid:

dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.154 mW/g

Test position 1_Channel High/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.3 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.379 W/kg
SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.140 mW/g



0 dB = 0.140mW/g

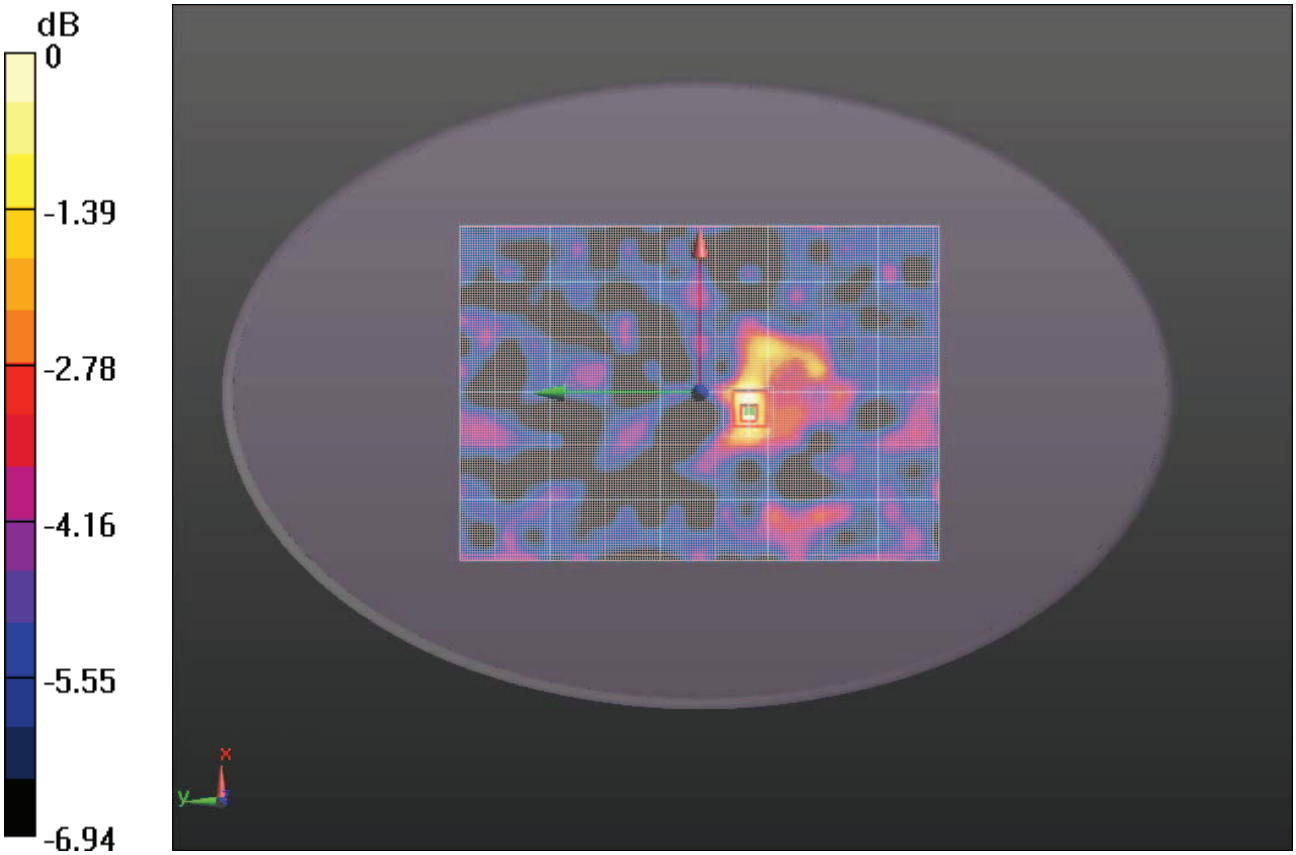
Fig.4 2450MHz CH11 Test Position 1-WiFi 802.11n 6.5Mbps

GPRS 850_Test Position 1_Channel Middle

Date/Time: 1/11/2011 9:06:10 AM
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 836.6 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 1_Channel Middle/Area Scan (141x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.018 mW/g

Test position 1_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.42 V/m; Power Drift = 0.182 dB
Peak SAR (extrapolated) = 0.020 W/kg
SAR(1 g) = 0.014 mW/g; SAR(10 g) = 0.00944 mW/g
Maximum value of SAR (measured) = 0.017 mW/g



0 dB = 0.017mW/g

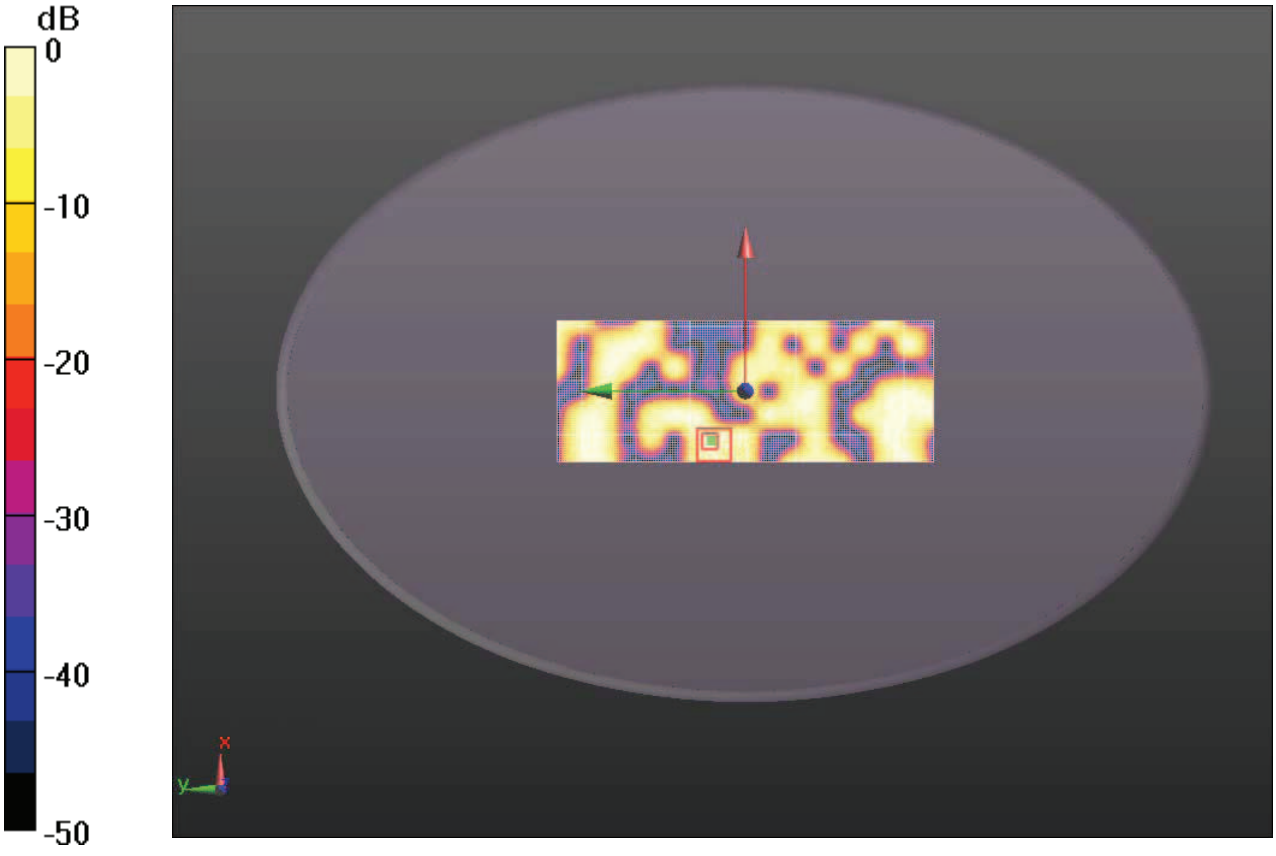
Fig.5 GPRS 850MHz CH190 Test Position 1

GPRS 850_Test Position 2_Channel Middle

Date/Time: 1/11/2011 10:37:15 AM
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 836.6 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 2_Channel Middle/Area Scan (61x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00416 mW/g

Test position 2_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.508 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 0.00574 W/kg
SAR(1 g) = 0.00125 mW/g; SAR(10 g) = 0.00048 mW/g
Maximum value of SAR (measured) = 0.00213 mW/g



0 dB = 0.00213mW/g

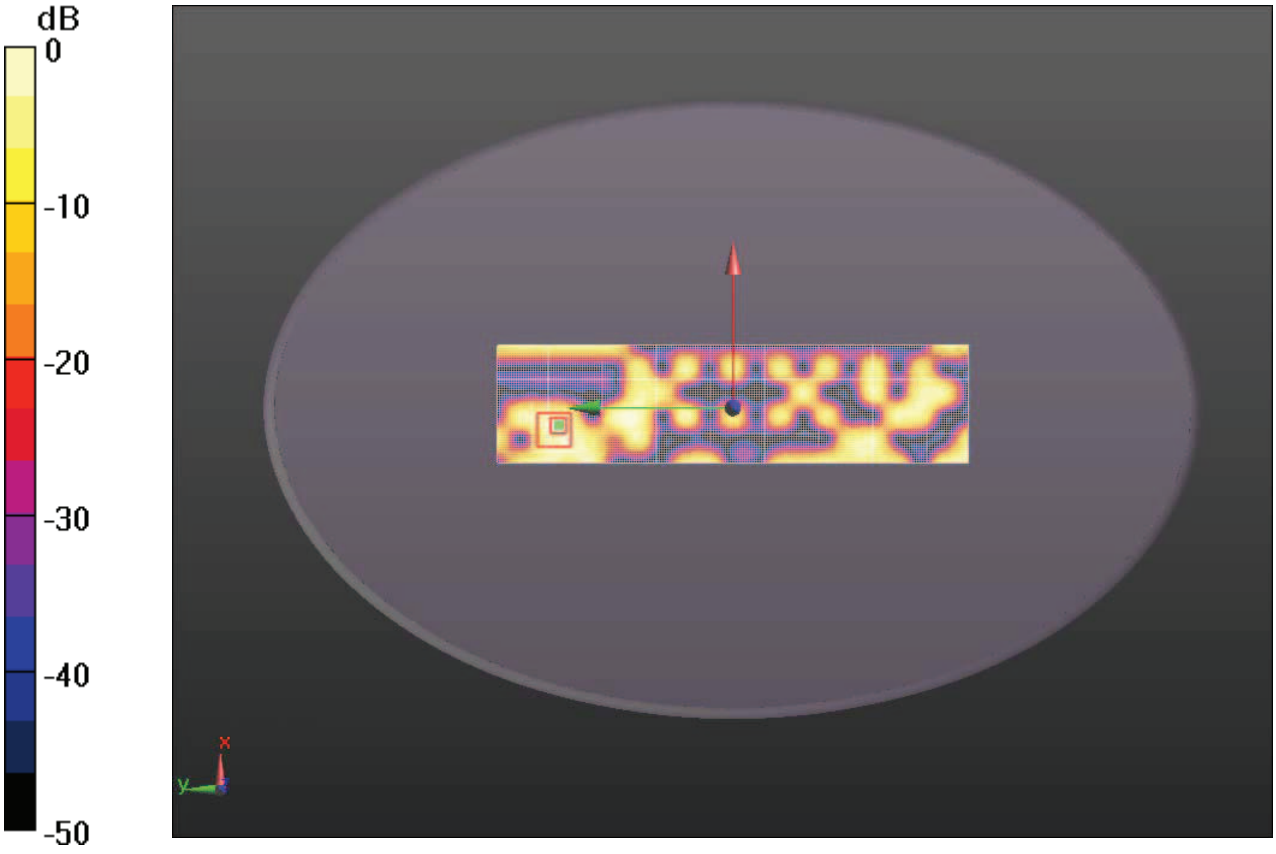
Fig.6 GPRS 850MHz CH190 Test Position 2

GPRS 850_Test Position 3_Channel Middle

Date/Time: 1/11/2011 11:22:21 AM,
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 836.6 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 3_Channel Middle/Area Scan (51x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.0034 mW/g

Test position 3_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.8 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.00444 W/kg
SAR(1 g) = 0.00266 mW/g; SAR(10 g) = 0.00161 mW/g
Maximum value of SAR (measured) = 0.00444 mW/g



0 dB = 0.00444mW/g

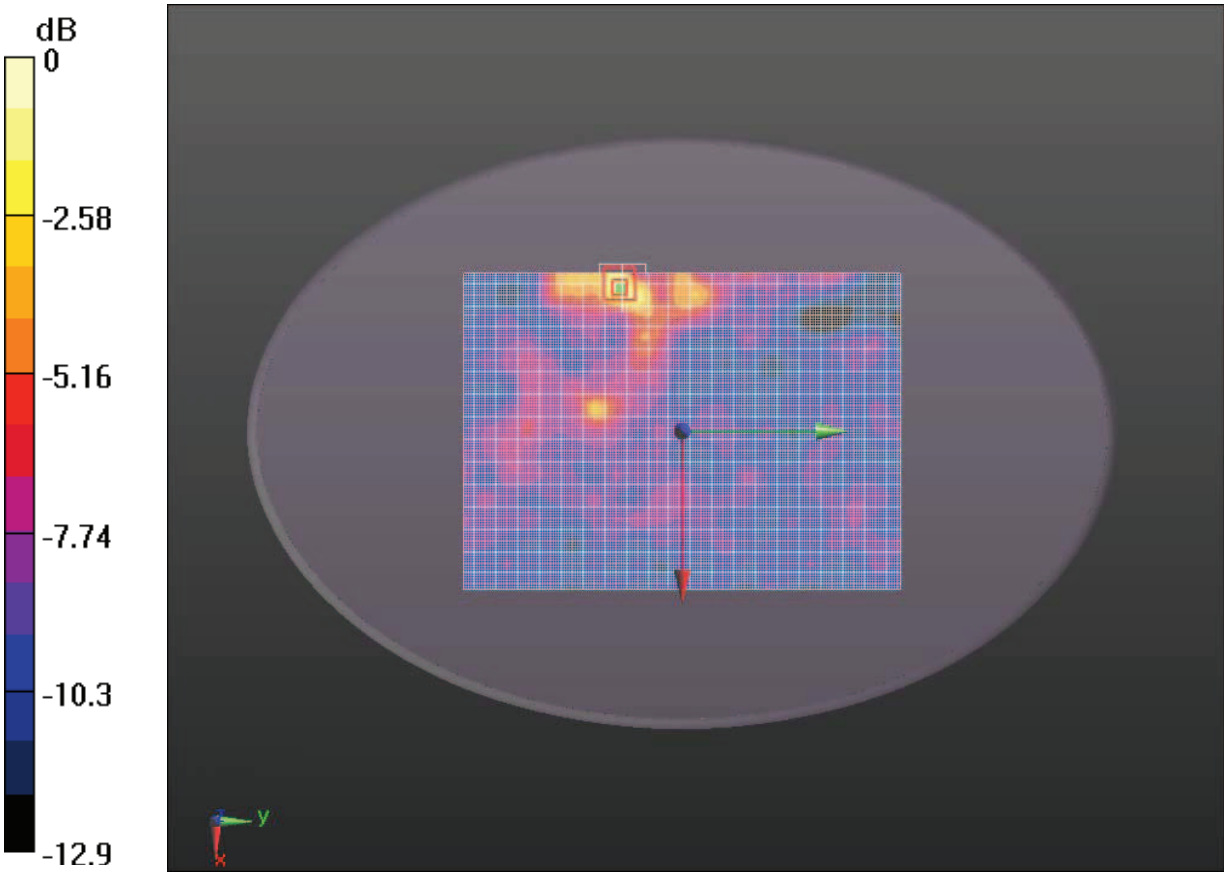
Fig.7 GPRS 850MHz CH190 Test Position 3

EGPRS 850_Test Position 1_Channel Middle

Date/Time: 1/11/2011 11:57:39 AM,
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: EGPRS class 10 Frequency: 836.6 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 1_Channel Middle/Area Scan (141x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.0103 mW/g

Test position 1_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.18 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.0215 W/kg
SAR(1 g) = 0.0104 mW/g; SAR(10 g) = 0.0045 mW/g
Maximum value of SAR (measured) = 0.0139 mW/g



0 dB = 0.0139mW/g

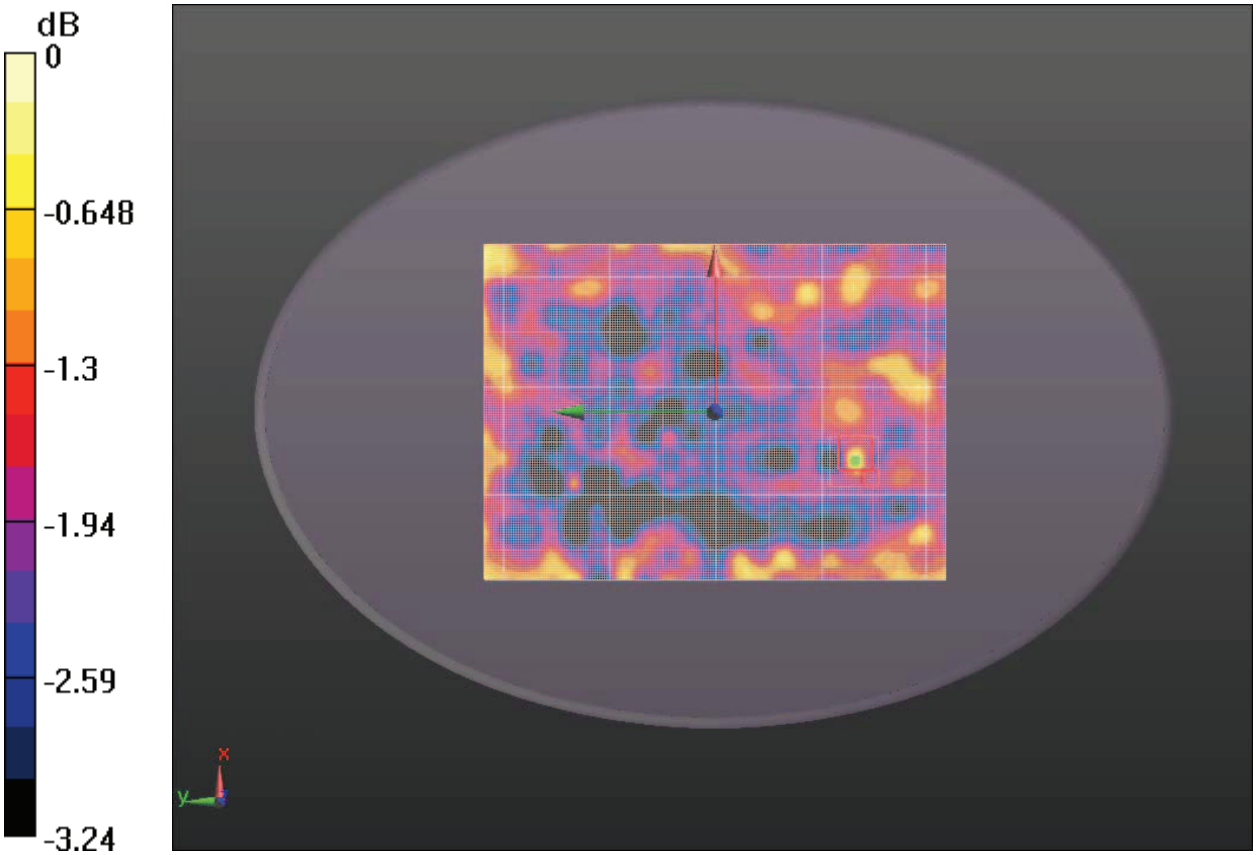
Fig.8 EGPRS 850MHz CH190 Test Position 1

WCDMA 850_Test Position 1_Channel Middle

Date/Time: 1/13/2011 1:46:16 PM,
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WCMDA Frequency: 836.6 MHz Duty Cycle: 1:2.18776
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 1_Channel Middle/Area Scan (141x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00565 mW/g

Test position 1_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.977 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.00618 W/kg
SAR(1 g) = 0.00551 mW/g; SAR(10 g) = 0.00504 mW/g
Maximum value of SAR (measured) = 0.00618 mW/g



0 dB = 0.00618mW/g

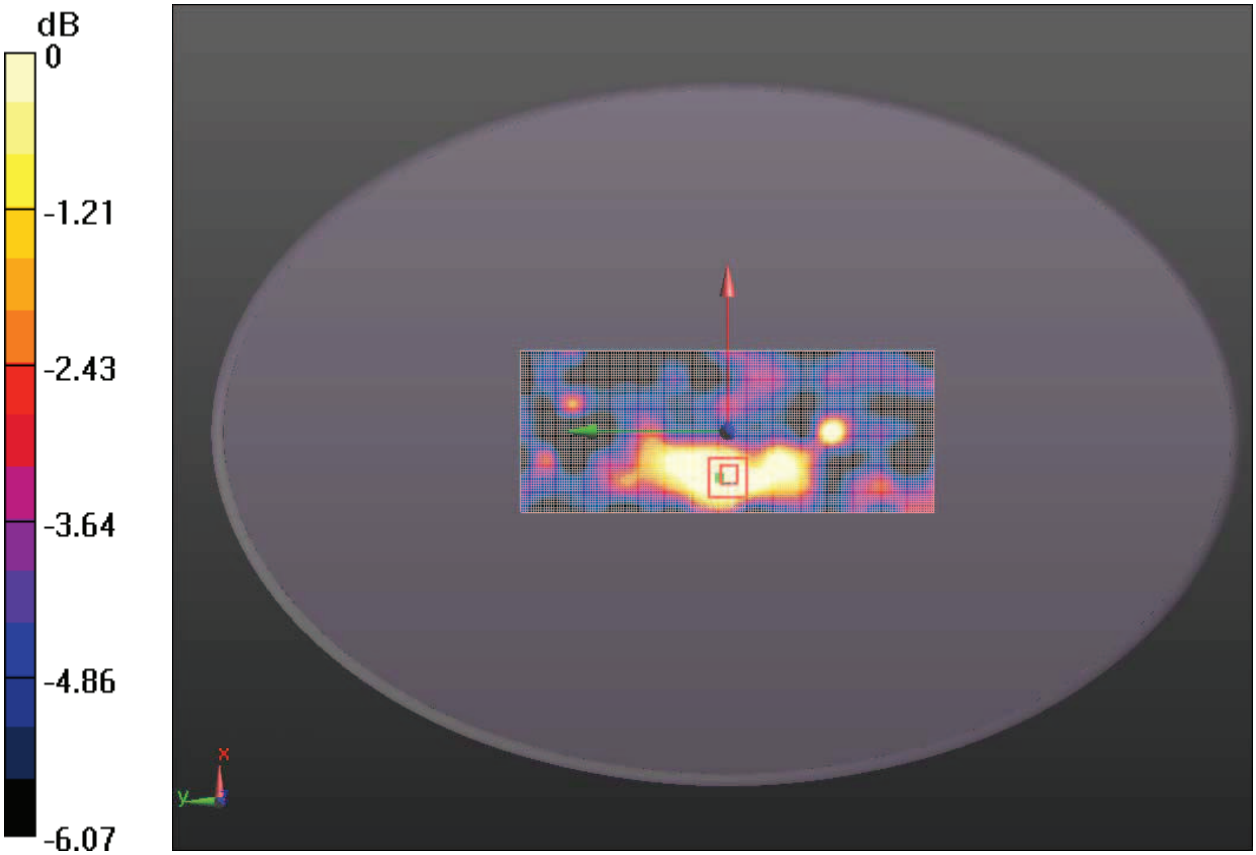
Fig.9 WCDMA 850MHz CH4183 Test Position 1

WCDMA 850_Test Position 2_Channel Middle

Date/Time: 1/11/2011 3:18:18 PM,
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WCMDA Frequency: 836.6 MHz Duty Cycle: 1:2.18776
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 2_Channel Middle/Area Scan (61x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00278 mW/g

Test position 2_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.637 V/m; Power Drift = 0.105 dB
Peak SAR (extrapolated) = 0.00449 W/kg
SAR(1 g) = 0.0017 mW/g; SAR(10 g) = 0.0012 mW/g
Maximum value of SAR (measured) = 0.00171 mW/g



0 dB = 0.00171mW/g

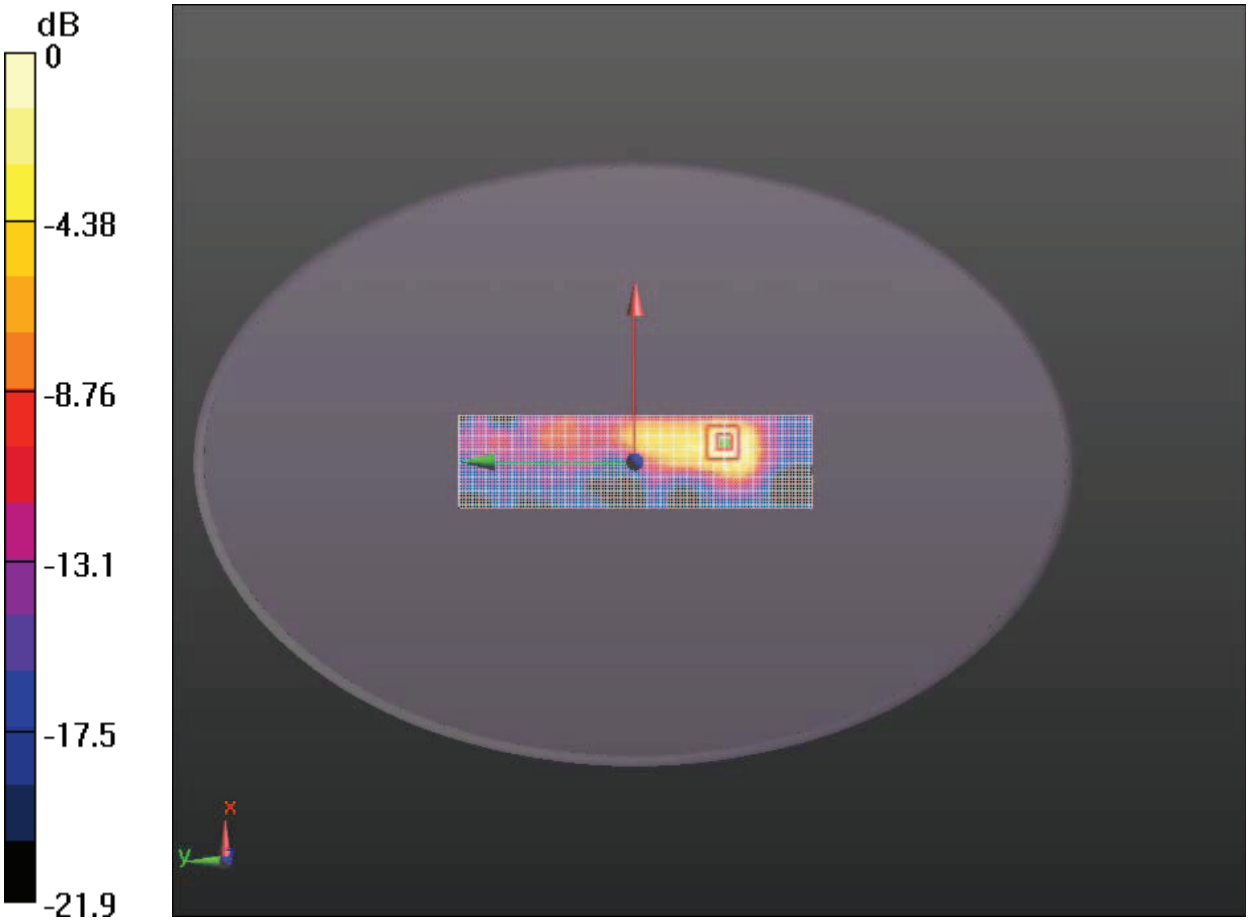
Fig.10 WCDMA 850MHz CH4183 Test Position 2

WCDMA 850_Test Position 3_Channel Middle

Date/Time: 1/11/2011 4:09:33 PM
Electronics: DAE4 Sn786
Medium: Body 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WCMDA Frequency: 836.6 MHz Duty Cycle: 1:2.18776
Probe: ES3DV3 - SN3151 ConvF(6.02, 6.02, 6.02)

Test position 3_Channel Middle/Area Scan (51x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00115 mW/g

Test position 3_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.3 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.00344 W/kg
SAR(1 g) = 0.00272 mW/g; SAR(10 g) = 0.0018 mW/g
Maximum value of SAR (measured) = 0.00337 mW/g



0 dB = 0.00337mW/g

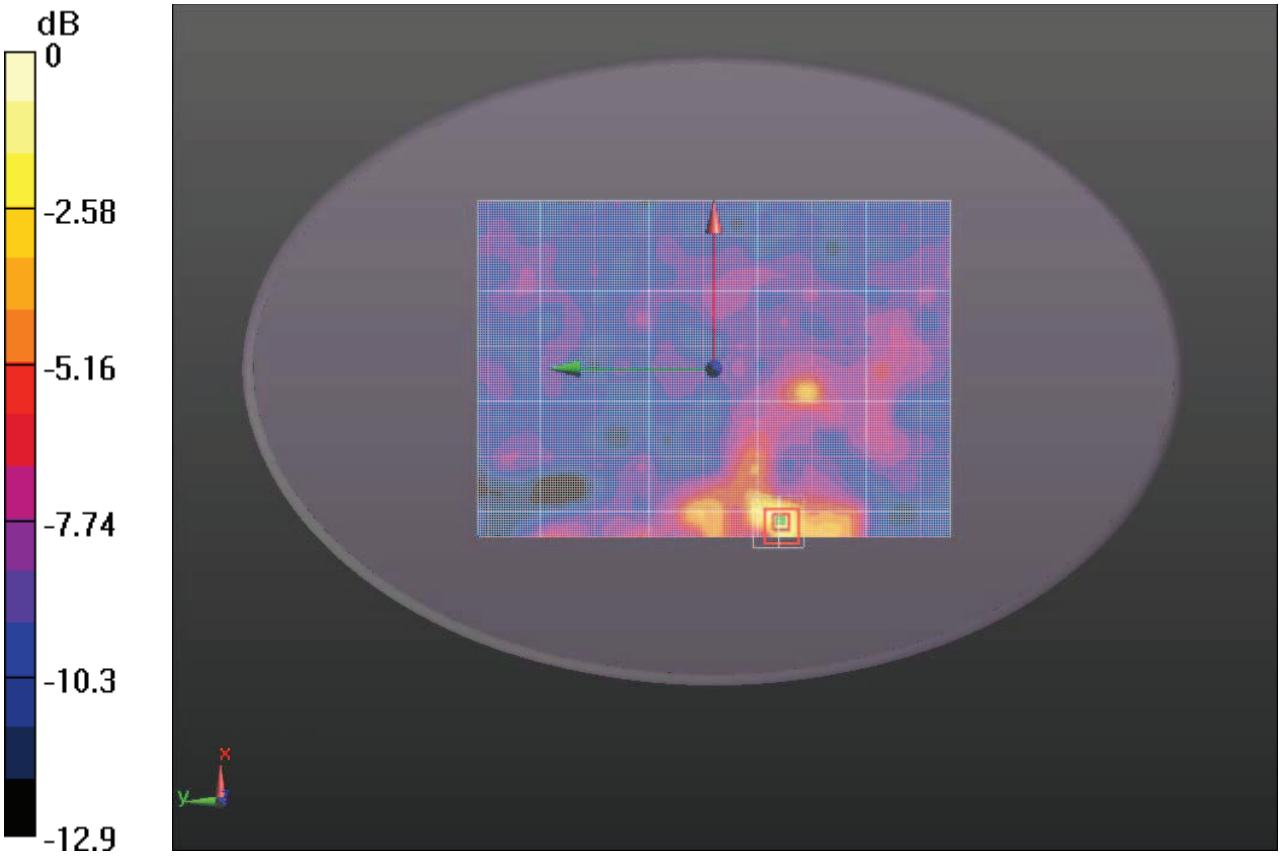
Fig.11 WCDMA 850MHz CH4183 Test Position 3

GPRS 1900_Test Position 1_Channel Middle

Date/Time: 1/12/2011 9:19:55 AM,
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 1880 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 1_Channel Middle/Area Scan (141x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.103 mW/g

Test position 1_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.18 V/m; Power Drift = -0.125 dB
Peak SAR (extrapolated) = 0.215 W/kg
SAR(1 g) = 0.104 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.139 mW/g



0 dB = 0.139mW/g

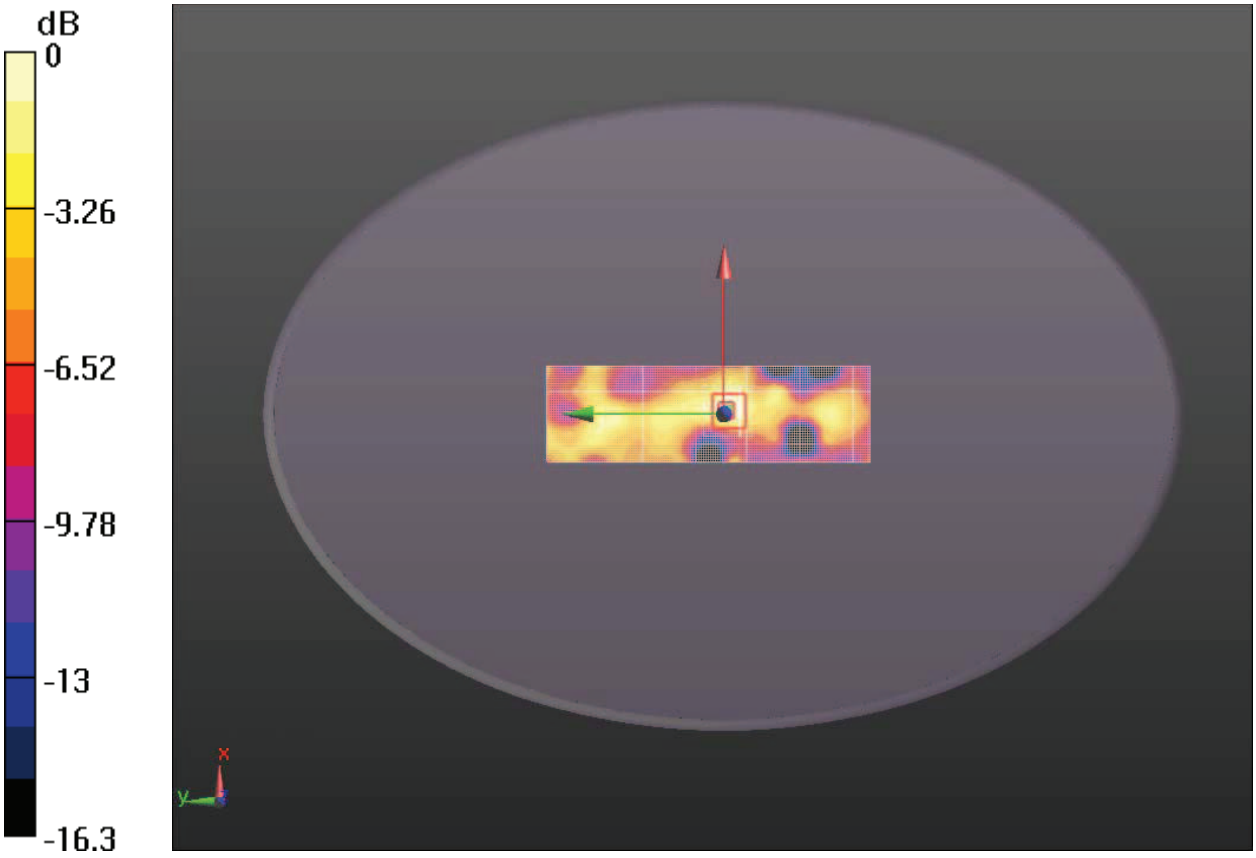
Fig.12 GPRS 1900MHz CH661 Test Position 1

GPRS 1900_Test Position 2_Channel Middle

Date/Time: 1/12/2011 10:11:56 AM
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 1880 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 2_Channel Middle/Area Scan (41x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00945 mW/g

Test position 2_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.02 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.014 W/kg
SAR(1 g) = 0.00747 mW/g; SAR(10 g) = 0.00438 mW/g
Maximum value of SAR (measured) = 0.00823 mW/g



0 dB = 0.00823mW/g

Fig.13 GPRS 1900MHz CH661 Test Position 2

GPRS 1900_Test Position 3_Channel Middle

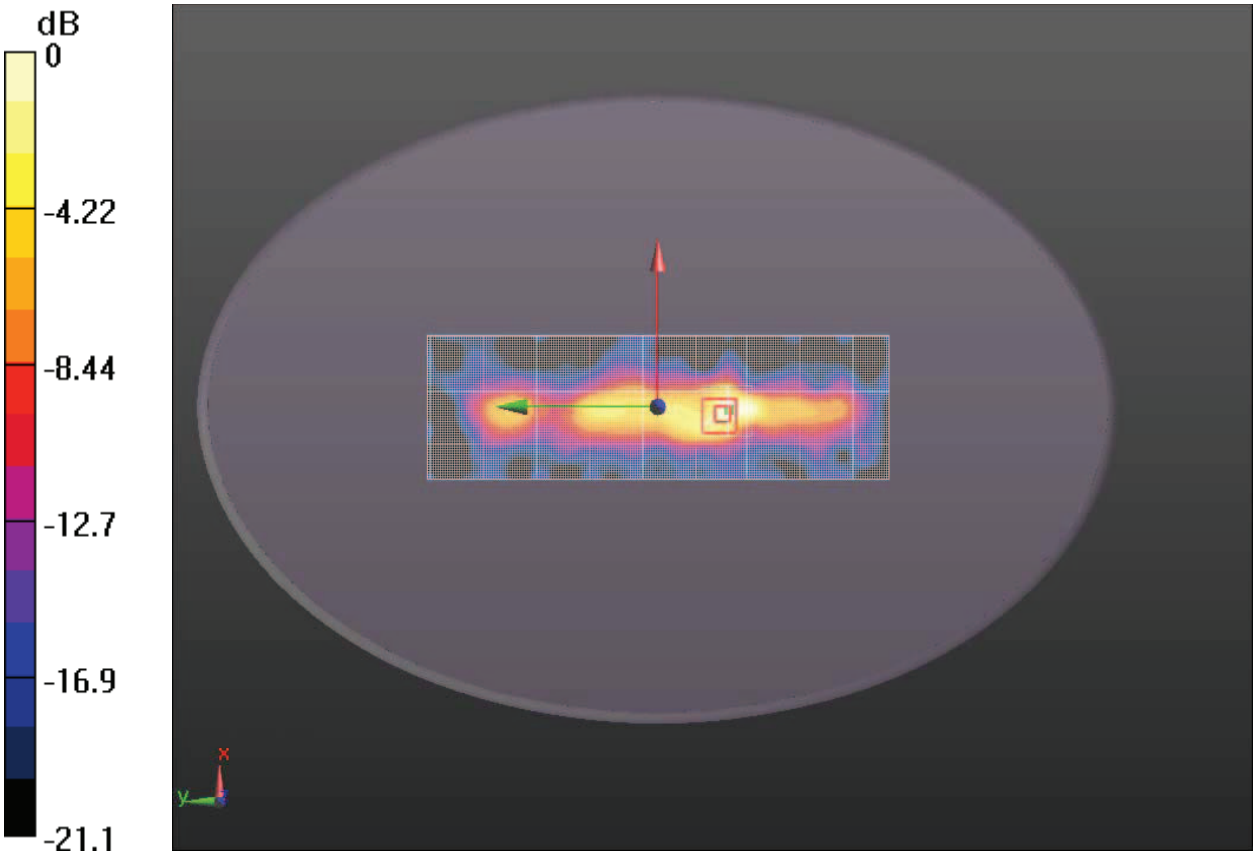
Date/Time: 1/12/2011 10:58:32 AM
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 1880 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 3_Channel Middle Sample1/Area Scan (61x201x1):

Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.158 mW/g

Test position 3_Channel Middle Sample1/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.79 V/m; Power Drift = 0.157 dB
Peak SAR (extrapolated) = 0.304 W/kg
SAR(1 g) = 0.129 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.153 mW/g



0 dB = 0.153mW/g

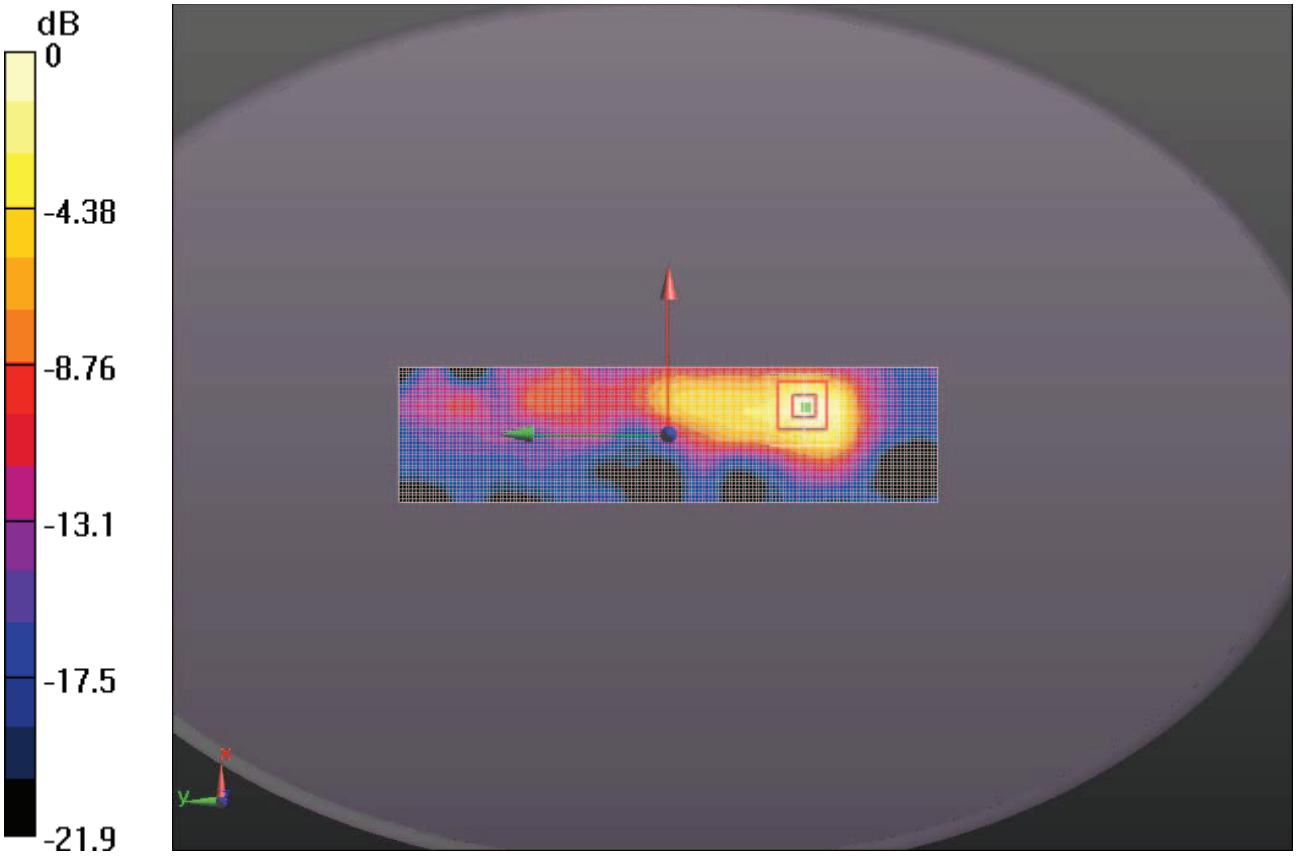
Fig.14 GPRS 1900MHz CH661 Test Position 3

EGPRS 1900_Test Position 3_Channel Middle

Date/Time: 1/12/2011 11:46:24 AM
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: GPRS class 10 Frequency: 1880 MHz Duty Cycle: 1:4.00037
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 3_Channel Middle /Area Scan (41x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.123 mW/g

Test position 3_Channel Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.86 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.043 mW/g
Maximum value of SAR (measured) = 0.112 mW/g



0 dB = 0.112mW/g

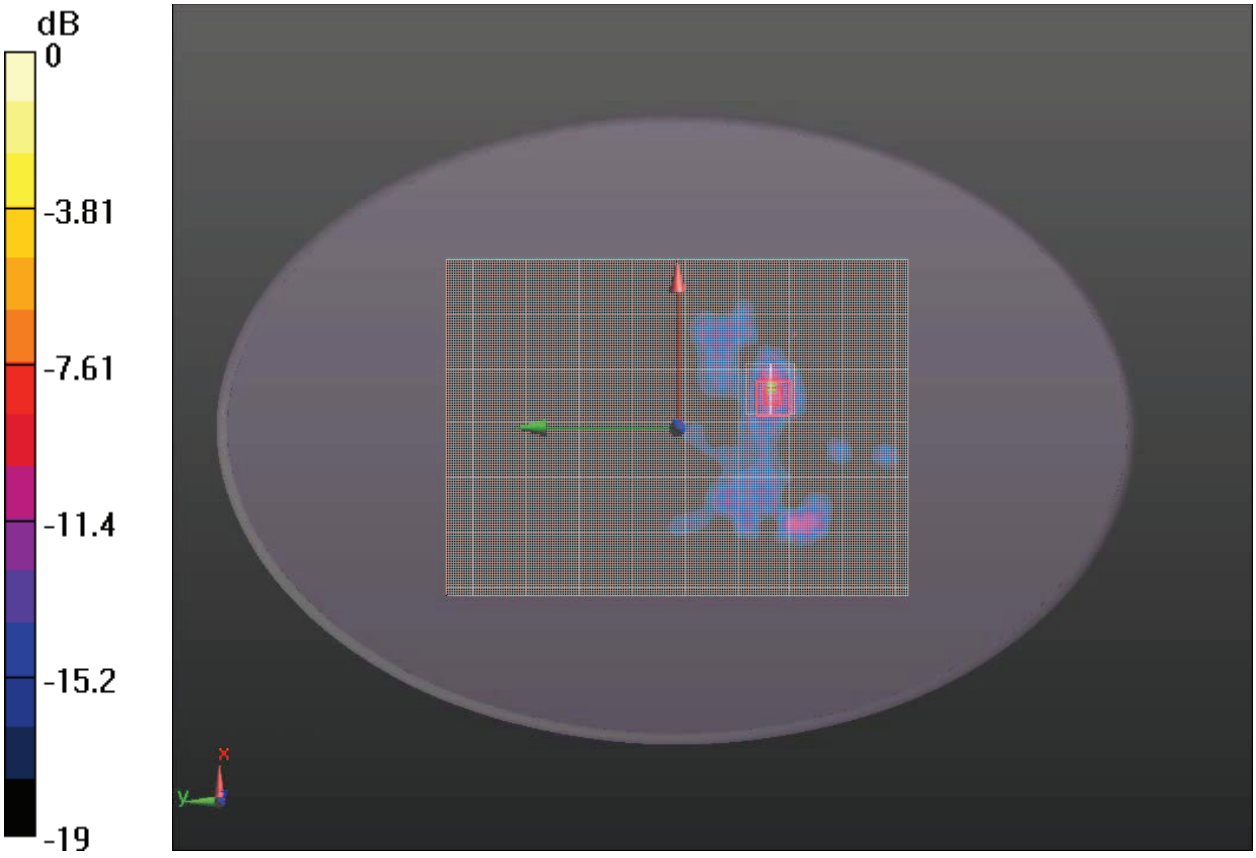
Fig.15 GPRS 1900MHz CH661 Test Position 3

WCDMA 1900_Test Position 1_Channel Middle

Date/Time: 1/12/2011 1:45:45 PM
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WCMDA Frequency: 1880 MHz Duty Cycle: 1:2.18776
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 1_Channel Middle/Area Scan (141x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.082 mW/g

Test position 1_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.55 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 0.604 mW/g; SAR(10 g) = 0.264 mW/g



0 dB = 0.713mW/g

Fig.16 WCDMA 1900MHz CH9400 Test Position 1

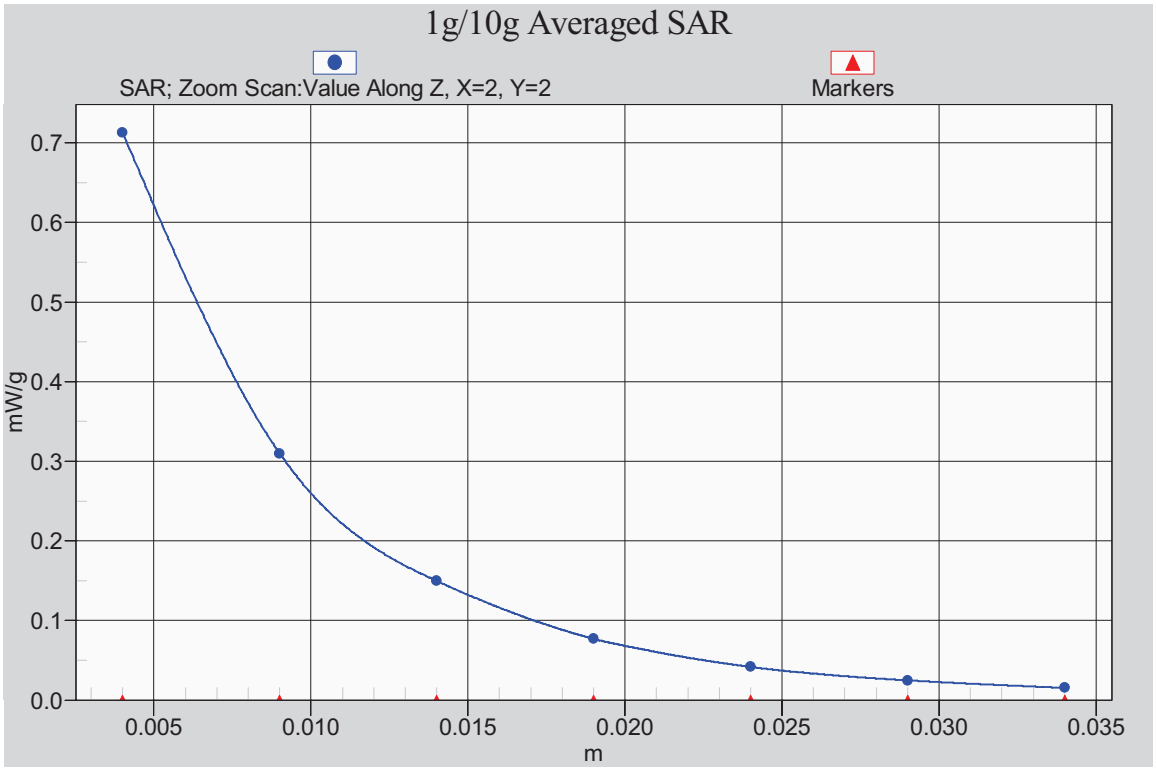


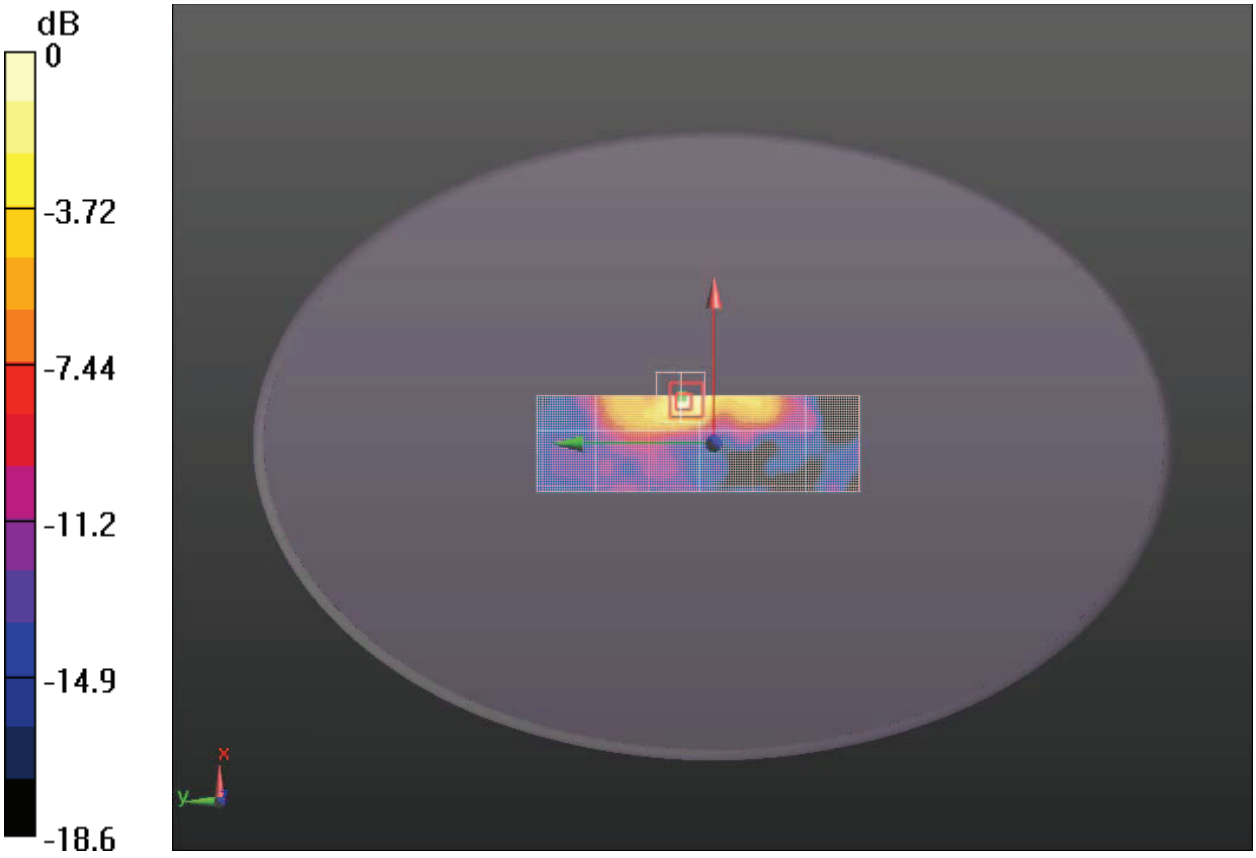
Fig.16-1 Z-Scan at power reference point (WCDMA 1900MHz CH9400 Test Position 1)

WCDMA 1900_Test Position 2_Channel Middle

Date/Time: 1/12/2011 2:41:41 PM
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WCMDA Frequency: 1880 MHz Duty Cycle: 1:2.18776
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 2_Channel Middle/Area Scan (41x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.054 mW/g

Test position 2_Channel Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.15 V/m; Power Drift =0.137 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.054 mW/g; SAR(10 g) = 0.026 mW/g
Maximum value of SAR (measured) = 0.058 mW/g



0 dB = 0.058mW/g

Fig.17 WCDMA 1900MHz CH9400 Test Position 2

WCDMA 1900_Test Position 3_Channel Middle

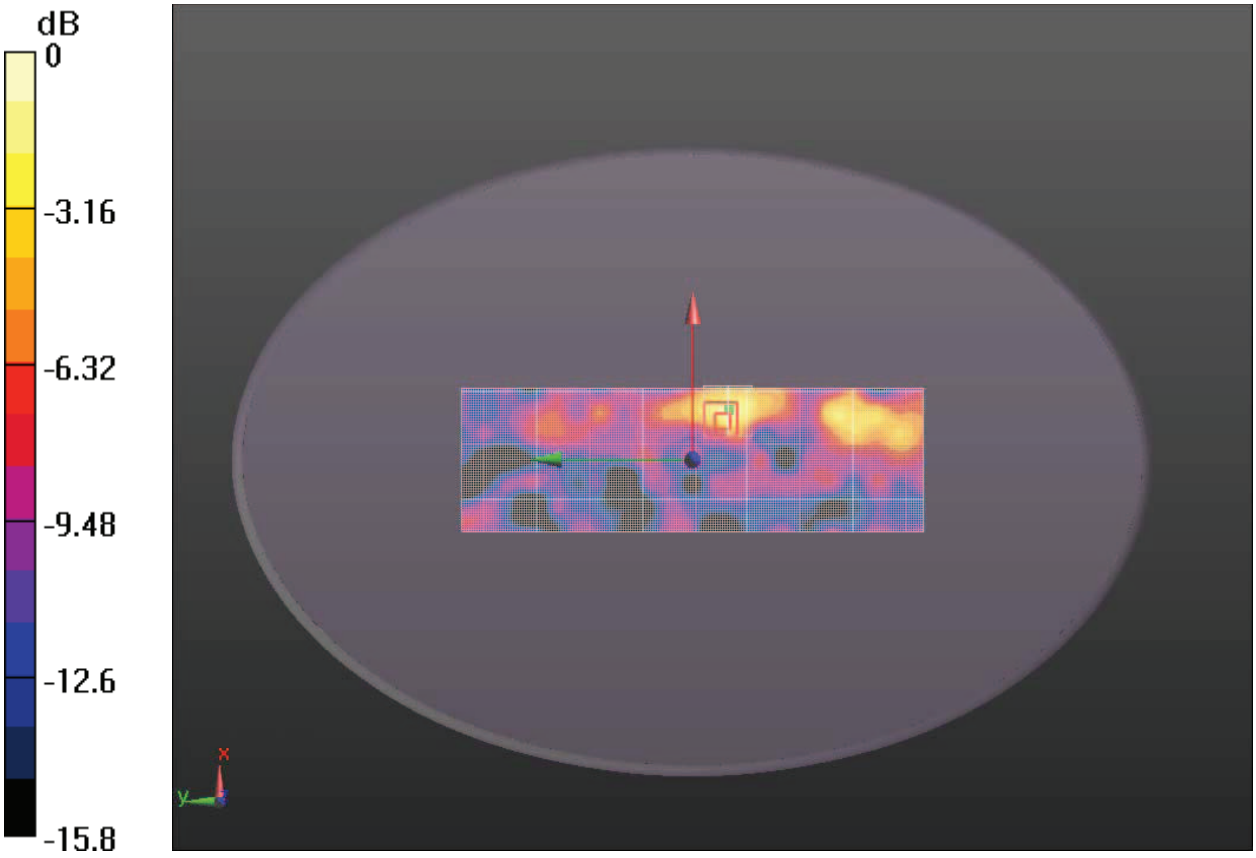
Date/Time: 1/12/2011 3:59:22 PM
Electronics: DAE4 Sn786
Medium: Body 1900MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:20.5℃ Liquid Temperature: 20.0℃
Communication System: WCMDA Frequency: 1880 MHz Duty Cycle: 1:2.18776
Probe: ES3DV3 - SN3151 ConvF(4.73, 4.73, 4.73)

Test position 3_Channel Middle /Area Scan (61x201x1): Measurement grid:

dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.019 mW/g

Test position 3_Channel Middle /Zoom Scan (7x7x7)/Cube 0: Measurement

grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.55 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 0.044 W/kg
SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.027 mW/g



0 dB = 0.027mW/g

Fig.18 WCDMA 1900MHz CH9400 Test Position 3