
SAR Test Report

Report No.: AGC07Z120101S2A

FCC ID : GSS-VS14445G

Product Designation : Tablet PC

Brand Name : ViewSonic

Test model : VS14445

Client : VIEWSONIC CORPORATION

Date of Issue : Mar. 18, 2012

STANDARD(S) : FCC Oet65 Supplement C June 2001
: IEEE Std. 1528-2003,47CFR § 2.1093

Attestation of Global Compliance Co., Ltd.

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Test Report Certifi tablet computer

Applicant Name	:	ViewSonic Corporation
Applicant Address	:	381 Brea Canyon Road, Walnut, CA 91789, USA
Manufacturer Name	:	ViewSonic Corporation
Manufacturer Address	:	381 Brea Canyon Road, Walnut, CA 91789, USA
Product Designation	:	Tablet PC
Brand Name	:	ViewSonic
Test Model	:	VS14445
EUT Voltage	:	DC3.7V
Applicable Standard	:	FCC Oet65 Supplement C June 2001 IEEE Std. 1528-2003,47CFR § 2.1093
Test Date	:	MAR.18,2012
Test Results	:	MAX SAR MEASUREMENT(1g) Body:1.448 W/Kg(2G) 0.713 W/Kg (3G) 0.483 W/Kg(Wi-Fi)
Performed PC :	LoTablet	Attestation of Global Compliance Co., Ltd. 1F., No.2 Building, Huafeng No.1 Technical Industrial Park, Sanwei, Xixiang, Baoan District, Shenzhen

Tested By



Angela Li

MAR.18,2012

Checked By



Forrest Lei

MAR.18,2012

Authorized By



Solger Zhang

MAR.18,2012

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1. General Information

1.1. EUT Description

General Information	
Product Designation	Tablet PC
Test Model	VS14445
Hardware Version	Z97T-S VER.B
Software Version	N/A
Device category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
GSM and GPRS	
Support Band	☒ GSM 850 ☒ PCS 1900 (U.S. Bands) ☒ GSM 900 ☒ DCS 1800 (Non-U.S. Bands)
GPRS Type	Class B
GPRS Class	Class 8,10 ,12(1Tx+4Rx, 2Tx+3Rx, 3Tx+2Rx, 4Tx+1Rx)
TX Frequency Range	GSM 850 : 824.2~848.8MHz; PCS 1900: 1850.2~1909.8MHz;
RX Frequency Range	GSM 850 : 869~894MHz PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM/GPRS
Antenna Gain	1.2dBi for GSM850 1.4dBi for PCS1900
Max. Output Power (Avg. Burst Power)	GSM850: 32.39 dBm (32.46dBm Peak Power) PCS1900:29.59 dBm (29.62 dBm Peak Power)
Max. Output Power (Radiated)	GSM850: 30.05 dBm- ERP PCS1900: 28.24dBm- EIRP
WCDMA	
Support Band	U.S. Bands: ☒ UMTS FDD Band II ☒ UMTS FDD Band V
HS Type	HSDPA

TX Frequency Range	WCDMA FDD BAND II: 1852.4 -1907.6MHz WCDMA FDD BAND V: 826.4-846.6MHz
RX Frequency Range	WCDMA FDD BAND II: 1930-1990MHz WCDMA FDD BAND V: 869-894MHz
Release Version	Rel-5
Type of modulation	QPSK
Antenna Gain	UMTS BAND V: 1.2dBi UMTS BAND II: 1.4dBi
Max. Output Power (Avg. Burst Power)	Band II: 23.35 dBm (23.41 dBm Peak Power) Band V:23.25dBm (23.31 dBm Peak Power)
Max. Output Power (Radiated)	Band II: 21.10 dBm- EIRP Band V: 21.93dBm- ERP
Bluetooth	
Bluetooth Version	☐ V2.0 ☐ V2.1 ☒ V2.1+EDR ☐ V3.0 ☐ V3.0+EDR
Operation Frequency	2402~2480MHz
Type of modulation	☒ GFSK ☒ π/4-DQPSK ☒ 8-DPSK
Max. Output Power (Peak Conducted)	3.57 dBm(max) for GFSK modulation
Antenna Gain	1.2dBi
WIFI	
WIFI Specifi3 Tablet PC	☐ 802.11a ☒ 802.11b ☒ 802.11g ☒ 802.11n(20) ☒ 802.11n(40)
Modulation	DBPSK,DQPSK,CCK,16-QAM,64-QAM
Operation Frequency	2412~2462MHz
Max. Output Power	11b:17.21 dBm,11g:14.03 dBm,11n(20):13.05dBm,11n(40):11.97dBm
Antenna Gain	Antenna (max): 1.2dBi
Accessories	
Battery	Brand name: SUNWODM Model No. : Z97T Voltage and Capacitance: DC 7.4VV/2000mAh
Adapter	Brand name: APD/CLICK Model No. : Z97T Input: 100-240V, 50/60HZ / Output: 2A 12V

Note: The sample used for testing is end product.

1.2. Test Procedure

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT Communication Tablet PC with CMU 200, and test them respectively at BAND V & PCS1900 bands

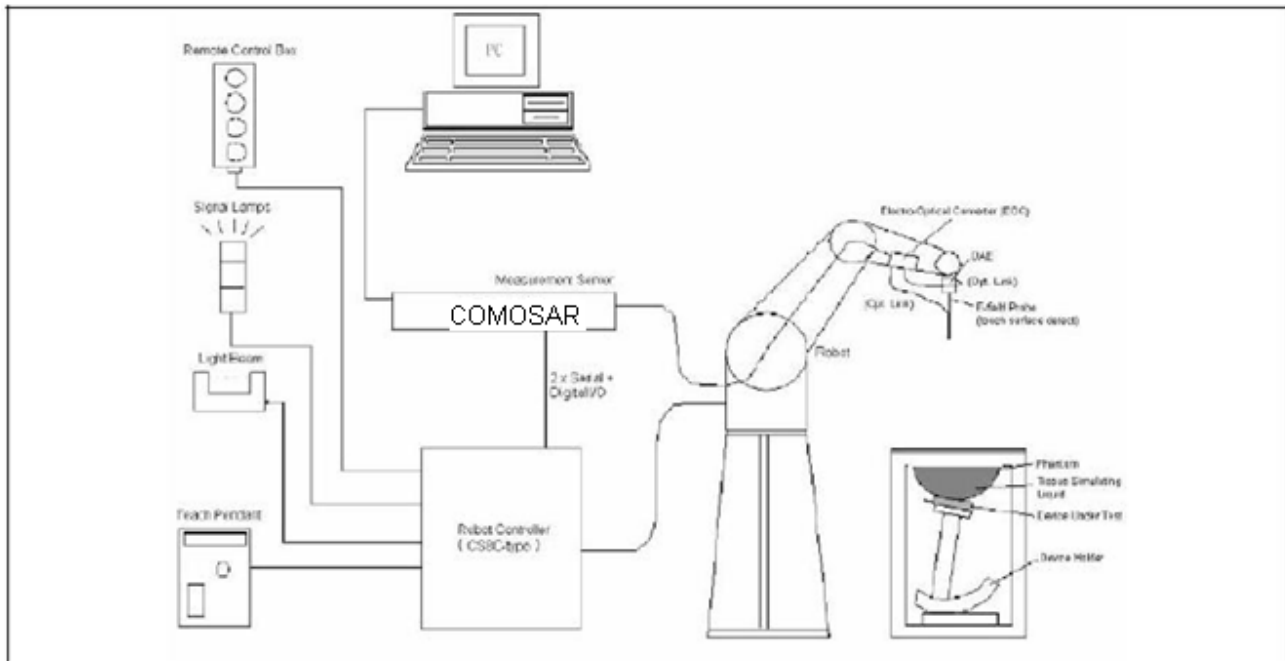
1.3. Test Environment

Ambient conditions in the laboratory:

Items	Required	Actual
Temperature (°C)	18-25	21± 2
Humidity (%RH)	30-70	55±2

2. SAR Measurement System

2.1. COMOSAR System Description



The COMOSAR 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, 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 Tablet PC 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 Opensar 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.

2.1.1. AppliTablet PCs

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.

2.1.2. 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 appliTablet PCs utilize a 10mm² step integral, with 1mm interpolation used to loTablet PCe 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).

2.1.3. 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/m³ 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 appliTablet PCs utilize a physical step of 7x7x7 (5mmx5mmx5mm) providing a volume of 30mm in the X & Y axis, and 30mm in the Z axis.

2.1.4. Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Post processor, COMOSAR 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.

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

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

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

2.2. COMOSAR E-Field Probe

The SAR measurement is conducted with the dissymmetric probe manufactured by SPEAG.

The probe is specially designed and calibrated for use in liquid with high permittivity. The dissymmetric 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, EN62209-1, IEC 62209, etc.) Under ISO17025. The calibration data are in Appendix D.

2.2.1. Isotropic E-Field Probe Specifics

Model	SSE5	
Manufacture	Satimo	
frequency	0.3 GHz-3 GHz Linearity:±0.2dB(300 MHz-3 GHz)	
Dynamic Range	0.01W/Kg-100W/Kg Linearity:±0.2dB	
Dimensions	Overall length:330mm Length of individual dipoles:4.5mm Maxmum external diameter:8mm Probe Tip external diameter:5mm Distance between dipoles/ probe extremity:2.7mm	
AppliTablet PC	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 3 GHz with precision of better 30%.	

2.3 Robot

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

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

- 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



2.4. Video Positioning System

The video positioning system is used in OpenSAR to check the probe. Which is composed of a camera, LED, mirror and mechanical parts. The camera is piloted by the main computer with firewire link.

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.

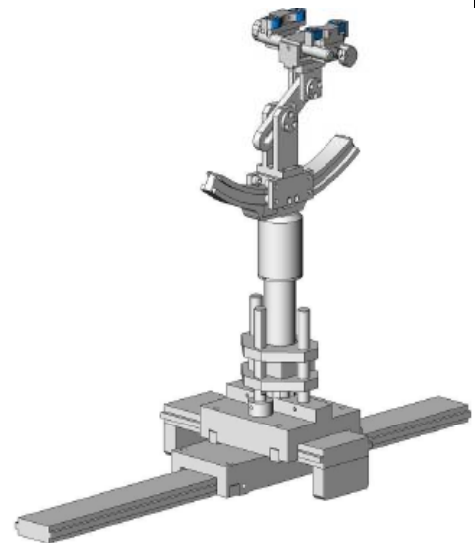


2.5. Device Holder

The COMOSAR 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 COMOSAR device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity $\epsilon_r = 3$ 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.



2.6. 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.

3. Tissue Simulating Liquid

3.1. The composition of the tissue simulating liquid

Ingredient	835MHz	835MHz	1900MHz	1900MHz
(% Weight)	Head	Body	Head	Body
Water	40.45	52.4	54.90	40.5
Salt	1.45	1.40	0.18	0.50
Sugar	57.6	45.0	0.00	58.0
HEC	0.40	1.00	0.00	0.50
Preventol	0.10	0.20	0.00	0.50
DGBE	0.00	0.00	44.92	0.00

3.2. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using COMOSAR Dielectric Probe Kit and R&S Network Analyzer ZVL6 .

Body Tissue Stimulant Measurement				
Frequency (MHz)	Description	Dielectric Parameters		Tissue Temp [°C]
835MHz	Reference result ±5% window	ϵ_r 41.50 39.43-43.58	δ [s/m] 0.90 0.86-0.95	N/A
	MAR.18,2012	40.69	0.91	21

Body Tissue Stimulant Measurement				
Frequency (MHz)	Description	Dielectric Parameters		Tissue Temp [°C]
1900MHz	Reference result ±5% window	ϵ_r 40.00 38.00-42.00	δ [s/m] 1.40 1.33-1.47	N/A
	MAR.18,2012	39.17	1.42	21

Body Tissue Stimulant Measurement				
Frequency (MHz)	Description	Dielectric Parameters		Tissue Temp [°C]
2450MHz	Reference result ±5% window	ϵ_r 39.2 37.24-41.16	δ [s/m] 1.80 1.62-1.89	N/A
	MAR.18,2012	38.57	1.79	21

3.3. 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.

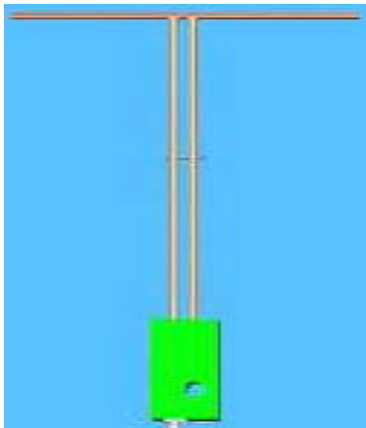
Target Frequency (MHz)	head		body	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ϵ_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m³)

4. SAR Measurement Procedure

4.1. SAR System Validation

4.1.1. Validation Dipoles

	The dipoles used is based on the IEEE-1528 standard, and is complied with mechanical and electrical Specification tablet PC in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical Specification tablet PC for the dipoles.
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Frequency	L (mm)	h (mm)	d (mm)
900 MHz	149.0	83.3	3.6
1900MHz	68	39.5	3.6
2450MHz	51.5	30.4	3.6

4.1.2. Validation Result

System Performance Check at 835 MHz &1900MHz for Head				
Validation Kit: SN 46/11DIP 0G900-185				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp.[°C]
835 MHz	Reference result ± 10% window	10.9 9.81 to 11.99	6.99 6.29 to 7.69	N/A
	MAR.18,2012	11.33	6.66	21.0
Validation Kit: SN 46/11DIP 1G900-187				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp.[°C]
1900 MHz	Reference result ± 10% window	39.7 35.73 to 43.67	20.5 18.45 to 22.55	N/A
	MAR.18,2012	43.01	21.84	21.0
Validation Kit: SN 46/11DIP 2G450-189				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp.[°C]
2450MHz	Reference result ± 10% window	54.22 48.80 to 59.64	24 21.6 to 26.4	N/A
	MAR.18,2012	52.99	23.68	21.0
Note: All SAR values are normalized to 1W forward power.				

4.2. SAR Measurement Procedure

The COMOSAR 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 specific Tablet PC, at each frequency relating to the LOW, MID, and HIGH channel settings.

Pre-scans are made on the device to establish the IoT Tablet PC 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 IoT Tablet PC (interpolated resolution set at 1mm²) 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 1mm³).

When multiple peak SAR IoT Tablet PCs were found during the same configuration or test mode, Zoom scan shall performed on each peak SAR IoT Tablet PC, only the peak point with maximum SAR value will be reported for the configuration or test mode.

5. 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 loTablet PC 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

6. Test Equipment List

Equipment description	Manufacturer/Model	Identification No.	Current calibration date	Next calibration date
SAR Probe	Satimo	SN_3511_EP132	12/09/2011	12/08/2012
Phantom	Satimo	SN_4511_SAM90	Validated. No cal required.	Validated. No cal required.
Liquid	Satimo	-	Validated. No cal required.	Validated. No cal required.
Comm Tester	R&S - CMU200	069Y7-158-13-712	12/09/2011	12/08/2012
Multimeter	Keithley 2000	1188656	12/09/2011	12/08/2012
Dipole	Satimo SID900	SN46/11 DIP 0G900-185	12/09/2011	12/08/2014
Dipole	Satimo SID1900	SN46/11 DIP 1G900-187	12/09/2011	12/08/2014
Amplifier	Aethercomm	SN 046	12/09/2011	12/08/2012
Power Meter	HP E4418A	US38261498	12/09/2011	12/08/2012
Network Analyzer	Rhode & Schwarz ZVA	SN100132	12/09/2011	12/08/2012

Note: Per KDB 50824 Dipole SAR Validation VerifiTablet PC, AGC Lab has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss is within 20% of calibrated measurement;
4. Impedance is within 5Ω of calibrated measurement.

7. Measurement Uncertainty

Satimo Uncertainty									
Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram / 10 gram.									
Error Description	Sec	Tol (±%)	Prob. Dist.	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g) (±%)	Std. Unc. (10g)(±%)	(Vi) Veff
Measurement System									
Probe Calibration	E.2.1	6	N	1	1	1	6	6	∞
Axial Isotropy	E.2.2	3	R		$(1-C_p)^{1/2}$	$(1-C_p)^{1/2}$	1.22474	1.22474	∞
Hemispherical Isotropy	E.2.2	5	R		$\sqrt{C_p}$	$\sqrt{C_p}$	2.04124	2.04124	∞
Boundary Effects	E.2.3	1	R		1	1	0.57735	0.57735	∞
Linearity	E.2.4	5	R		1	1	2.88675	2.88675	∞
System Detection Limits	E.2.5	1	R		1	1	0.57735	0.57735	∞
Readout Electronics	E.2.6	0.5	N	1	1	1	0.5	0.5	∞
Response Time	E.2.7	0.2	R		1	1	0.11547	0.11547	∞
Integration Time	E.2.8	2	R		1	1	1.1547	1.1547	∞
RF Ambient Noise	E.6.1	3	R		1	1	1.73205	1.73205	∞
Probe Positioner Mechanical Tolerance	E.6.2	2	R		1	1	1.1547	1.1547	∞
Probe Positioning with Respect to Phantom Shell	E.6.3	1	R		1	1	0.57735	0.57735	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5.2	1.5	R		1	1	0.86603	0.86603	∞
Dipole									
Device Positioning	8,E.4.2	1	N		1	1	0.57735	0.57735	N-1
Power Drift	8.6.6.2	2	R		1	1	1.1547	1.1547	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4	R		1	1	2.3094	2.3094	∞
Liquid Conductivity (target)	E.3.2	5	R		0.64	0.43	1.84752	1.2413	∞
Liquid Conductivity (meas.)	E.3.3	2.5	N	1	0.64	0.43	1.6	1.075	∞
Liquid Permittivity (target)	E.3.2	3	R		0.6	0.49	1.03923	0.8487	∞
Liquid Permittivity (meas.)	E.3.3	2.5	N	1	0.6	0.49	1.5	1.225	M
Combined Standard Uncertainty			RSS				8.09272	7.9296	
Expanded Uncertainty (95%CONFIDENCE INTERVAL)			k				15.8617	15.542	

8. Conducted Power Measurement

Mode	Frequency(MHz)	Peak Power	Avg. Burst Power	Duty cycle Factor(dB)	Frame Power(dBm)
Maximum Power					
GPRS850 (1 Slot)	824.2	32.21	32.15	-9	23.15
	836.6	32.36	32.29	-9	23.29
	848.8	32.46	32.39	-9	23.39
GPRS850 (2 Slot)	824.2	29.24	29.21	-6	23.21
	836.6	29.43	29.36	-6	23.36
	848.8	29.57	29.51	-6	23.51
GPRS850 (3 Slot)	824.2	27.00	26.91	-4.25	22.68
	836.6	27.53	27.51	-4.25	23.28
	848.8	27.93	27.91	-4.25	23.68
GPRS850 (4 Slot)	824.2	26.16	25.87	-3	22.87
	836.6	26.44	26.39	-3	23.39
	848.8	26.87	26.84	-3	23.84
GPRS1900 (1 Slot)	1850.2	29.23	29.11	-9	20.11
	1880	29.45	29.41	-9	20.41
	1909.8	29.62	29.59	-9	20.59
GPRS1900 (2 Slot)	1850.2	26.45	26.41	-6	20.41
	1880	26.67	26.63	-6	20.63
	1909.8	26.78	26.76	-6	20.76
GPRS850 (3 Slot)	1850.2	24.65	24.64	-4.25	20.41
	1880	24.93	24.91	-4.25	20.68
	1909.8	24.99	24.97	-4.25	20.74
GPRS850 (4 Slot)	1850.2	23.43	23.35	-3	20.35
	1880	23.68	23.61	-3	20.61
	1909.8	23.73	23.67	-3	20.67

Note 1:

The Frame Power (Source-based time-averaged Power) is scaled the maximum burst average power based on time slots. The calculated methods are show as following:

Frame Power = Max burst power (1 Up Slot) – 9 dB

Frame Power = Max burst power (2 Up Slot) – 6 dB

Frame Power = Max burst power (3 Up Slot) – 4.25 dB

Frame Power = Max burst power (2 Up Slot) – 3 dB

UMTS BAND II

Mode	Frequency (MHz)	Peak Power	Avg.Burst Power
WCDMA 1900 RMC(12.2K)	1852.4	23.15	23.10
	1880	23.23	23.21
	1907.6	23.31	23.25
WCDMA 1900 AMR	1852.4	23.14	23.11
	1880	23.19	23.18
	1907.6	23.27	23.24
HSPA Subtest 1	1852.4	22.42	22.25
	1880	22.64	22.51
	1907.6	22.78	22.67
HSPA Subtest 2	1852.4	22.35	22.33
	1880	22.46	22.41
	1907.6	22.61	22.53
HSPA Subtest 3	1852.4	22.38	22.36
	1880	22.59	22.54
	1907.6	22.67	22.64
HSPA Subtest 4	1852.4	22.37	22.35
	1880	22.47	22.44
	1907.6	22.61	22.58

UMTS BAND V

Mode	Frequency (MHz)	Peak Power	Avg.Burst Power
WCDMA 850 RMC(12.2K)	826.4	23.01	22.97
	835.0	23.29	23.24
	846.6	23.41	23.35
WCDMA 850 AMR	826.4	22.87	22.84
	835.0	22.94	22.91
	846.6	23.26	23.22
HSPA Subtest 1	826.4	22.89	22.86
	835.0	22.95	22.91
	846.6	23.04	22.96
HSPA Subtest 2	826.4	22.81	22.79
	835.0	22.85	22.83
	846.6	22.95	22.91
HSPA Subtest 3	826.4	22.76	22.74
	835.0	22.81	22.78
	846.6	22.87	22.85
HSPA Subtest 4	826.4	22.78	22.76
	835.0	22.84	22.81
	846.6	22.9	22.86

Wi-Fi

Mode	Frequency (GHz)	Peak Power	Avg.Burst Power
802.11b	2.412	17.21	16.77
	2.437	17.16	16.59
	2.462	17.18	16.62
802.11g	2.412	14.03	13.07
	2.437	13.97	13.03
	2.462	13.95	13.00
802.11n(20)	2.412	13.05	11.99
	2.437	13.02	11.92
	2.462	12.97	11.88
802.11n(40)	2.412	11.97	10.95
	2.437	11.94	10.91
	2.462	11.92	10.89

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1aA: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	$0 \leq CM \leq 3.5$	$MAX(CM-1,0)$
Note: $CM=1$ for $\beta_d/\beta_d=12/15$, $\beta_{hs}/\beta_c=24/15$.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensate for the power

bottom-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

9. Test Results

9.1. SAR Test Results Summary

9.1.1. Test position and configuration

Only Body SAR was performed with the device close to the phantom.

9.1.2. Body SAR with Headset

Testing with the headset was performed at the position and channels that resulted in the highest body SAR. This testing was performed with GPRS transmitting with 2/3/4 uplink timeslots. This operation mode represents the maximum SAR situation, when downloading data via GPRS and listening to music by headset. SAR without the headset attached was significantly higher than with the headset, and also was verified several times and confirmed, so the final test data shown were the worst case without headset. In the Body SAR test result table, body-worn means display of device down, body-front means display of device up.

9.1.3. Operation Mode

This is a multi-slot class 12 device capable of 4 uplink timeslots. During the head SAR test, the device was transmitting with maximum 1 uplink timeslot; during the body SAR test, it was transmitting with maximum 4 uplink timeslots. Additionally, this device doesn't support dual transfer mode (DTM), and SIM <1> can't transmit with SIM <2> simultaneously.

9.1.4. Co-located PC SAR

According to KDB 447498 and KDB 648474, due to the Max peak power for Bluetooth is 3.57dBm less than Pref thus, regardless the closest separation distance between the GSM antenna and Bluetooth Antenna, stand-alone SAR and simultaneous transmission SAR is not required.

Other reference document: KDB 941225.

Due to the average power for 802.11g/n(20)/n(40) is < 13.85 dBm, only 802.11b mode is higher > than 13.85 dBm, and antenna separation between GSM/WCDMA and WiFi is > 15cm, only the stand-alone SAR for WLAN (802.11b) was measured.

SAR MEASUREMENT									
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55			
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15			
Product: Tablet PC									
Test Mode: GSM850									
Configuration			Antenna Position	Frequency		Frame Power (dBm)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz				
<1>	Body bottom	GPRS 1 TS	Fixed	128	824.2	23.15	0.04	1.093	1.6
				190	836.6	23.29	-0.05	1.453	1.6
				251	848.8	23.39	0.07	1.083	1.6
		GPRS 2 TS	Fixed	128	824.2	23.21	--	--	1.6
				190	836.6	23.36	0.06	0.666	1.6
				251	848.8	23.51	--	--	1.6
		GPRS 3 TS	Fixed	128	824.2	22.68	--	--	1.6
				190	836.6	23.28	0.07	0.631	1.6
				251	848.8	23.68	--	--	1.6
		GPRS 4 TS	Fixed	128	824.2	22.87	--	--	1.6
				190	836.6	23.39	0.08	0.659	1.6
				251	848.8	23.84	--	--	1.6
	Body (H/V)	GPRS 1 TS (horizontal)	Fixed	128	824.2	23.15	--	--	1.6
				190	836.6	23.29	0.06	0.319	1.6
				251	848.8	23.39	--	--	1.6
		GPRS 1 TS (vertical)	Fixed	128	824.2	23.15	--	--	1.6
				190	836.6	23.29	0.03	0.769	1.6
				251	848.8	23.39	--	--	1.6

Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.

Ambient Temperature (°C) : 21 ± 2

Relative Humidity (%): 55

Liquid Temperature (°C) : 21 ± 2

Depth of Liquid (cm):>15

Product: Tablet PC

Test Mode: WCDMA band V with QPSK modulation

Configuration			Antenn a	Frequency		Avg.Burst Power (dBm)	Power Drift ($\leq \pm 0.2$ dB)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status	Position	channel	MHz				
<1>	Body	RMC (towards phantom)	Fixed	4132	826.4	22.97	--	--	1.6
				4182	835.0	23.24	0.02	0.301	1.6
				4233	846.6	23.35	--	--	1.6
		RMC (towards grounds)	Fixed	4132	826.4	22.97	--	--	1.6
				4182	835.0	23.24	0.07	0.311	1.6
				4233	846.6	23.35	--	--	1.6
		HSDPA (towards grounds)	Fixed	4132	826.4	22.86	--	--	1.6
				4182	835.0	22.91	-0.05	0.305	1.6
				4233	846.6	22.96	--	--	1.6

Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.

Ambient Temperature (°C) : 21 ± 2

Relative Humidity (%): 55

Liquid Temperature (°C) : 21 ± 2

Depth of Liquid (cm):>15

Product: Tablet PC

Test Mode: GSM1900

Configuration			Antenna Position	Frequency		Frame Power (dBm)	Power Drift ($\leq \pm 0.2$ dB)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz				
<1>	Body Bottom	GPRS 1 TS	Fixed	512	1850.2	20.11	0.05	1.448	1.6
				661	1880.0	20.41	-0.03	1.389	1.6
				810	1909.8	20.59	0.04	0.798	1.6
		GPRS 2 TS	Fixed	512	1850.2	20.41	--	--	1.6
				661	1880.0	20.63	0.03	0.696	1.6
				810	1909.8	20.76	--	--	1.6
		GPRS 3 TS	Fixed	512	1850.2	20.41	--	--	1.6
				661	1880.0	20.68	-0.06	0.709	1.6
				810	1909.8	20.74	--	--	1.6
		GPRS 4 TS	Fixed	512	1850.2	20.35	--	--	1.6
				661	1880.0	20.61	0.05	0.573	1.6
				810	1909.8	20.67	--	--	1.6
	Body (H/V)	GPRS 1TS (Horizon tal)	Fixed	512	1850.2	20.11	--	--	1.6
				661	1880.0	20.41	-0.04	0.619	1.6
				810	1909.8	20.59	--	--	1.6
		GPRS 1 TS (vertical)	Fixed	512	1850.2	20.11	--	--	1.6
				661	1880.0	20.41	0.04	0.189	1.6
				810	1909.8	20.59	--	--	1.6

Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.

Wi-Fi									
SAR MEASUREMENT									
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55			
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15			
Product: Tablet PC									
Test Mode: 802.11b									
Configuration			Antenna Position	Frequency		Avg.Burst Power (dBm)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz				
<2>	Body	Towards phantom	Fixed	1	2412	16.77	--	--	1.6
				7	2442	16.59	0.02	0.467	1.6
				13	2472	16.62	--	--	1.6
		Towards grounds	Fixed	1	2412	16.77	--	--	1.6
				7	2442	16.59	-0.03	0.483	1.6
				13	2472	16.62	--	--	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.									

Appendix A. SAR System Validation Data

Test Laboratory: AGC Lab

Date: MAR. 18, 2012

System Check Head 900 MHz

DUT: Dipole 900 MHz Type: SID 900

Communication System: CW; Communication System Band: D850(850.0 MHz); Duty Cycle: 1:1; ConvF=6.79

Frequency: 850 MHz; Medium parameters used: $f = 850$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section ; Input Power=20dBm

Ambient temperature (°C): 21, Liquid temperature (°C): 21

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

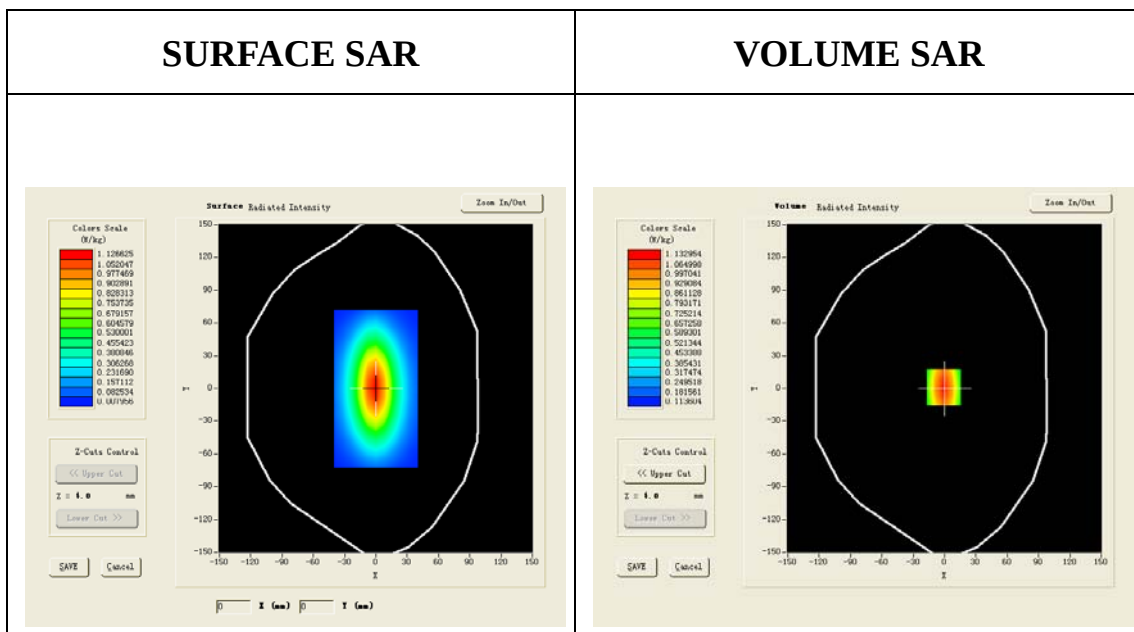
• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Phantom: SAM2; Type: SAM

• Measurement SW: OpenSAR V4_02_01

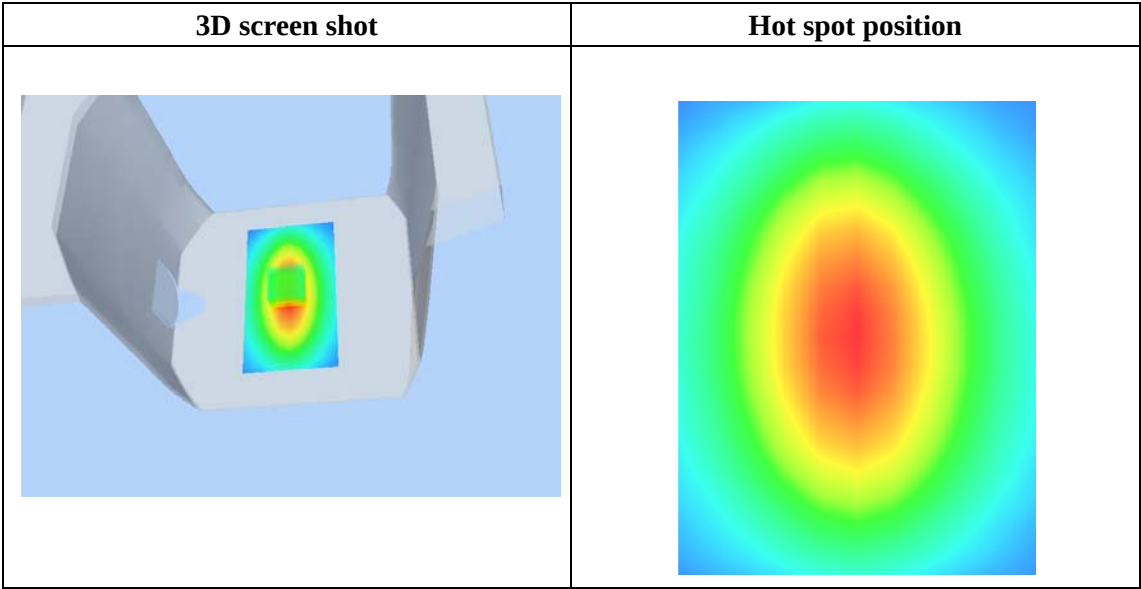
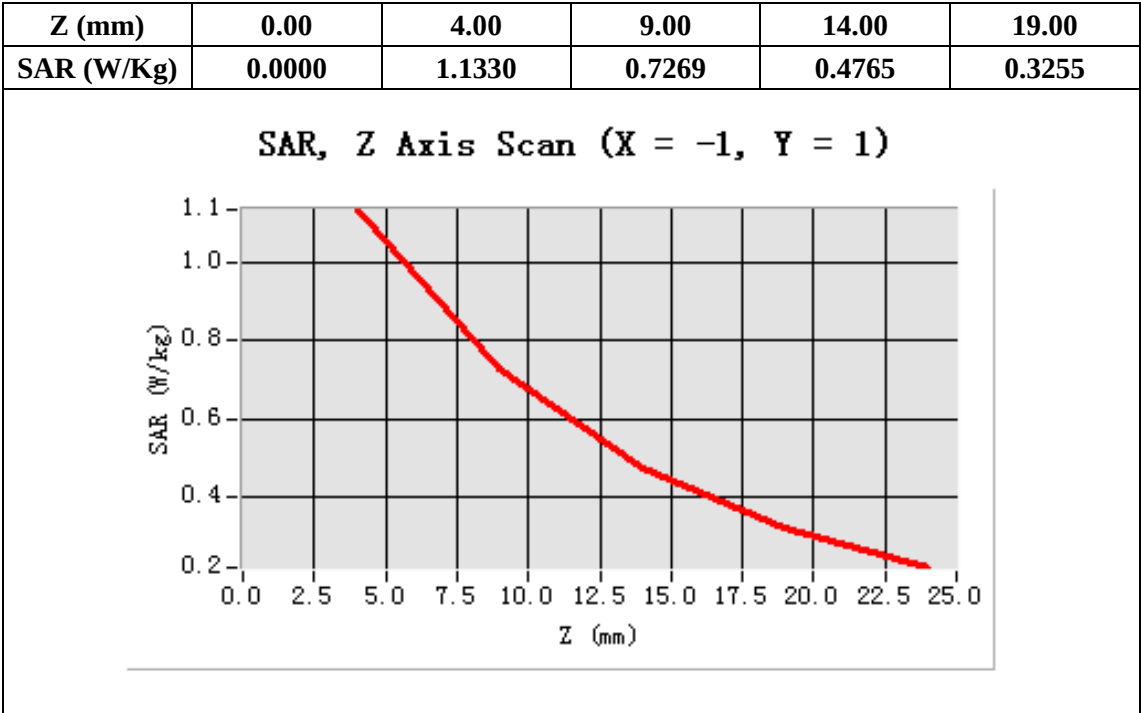
Configuration/System Check GSM850 Head/Area Scan: Measurement grid: dx=8mm,
dy=8mm

Configuration/System Check GSM850 Head/Zoom Scan : Measurement grid: dx=8mm,
dy=8mm, dz=5mm



Maximum location: X=-1.00, Y=1.00

SAR 10g (W/Kg)	0.666084
SAR 1g (W/Kg)	1.072115



Test Laboratory: AGC Lab

Date: MAR.18,2012

System Check Head 1900MHz

DUT: Dipole 1900 MHz ; Type: SID 1900

Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1;ConvF=6.42

Frequency: 1900 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section ; Input Power=20dBm

Ambient temperature (°C): 21, Liquid temperature (°C): 21

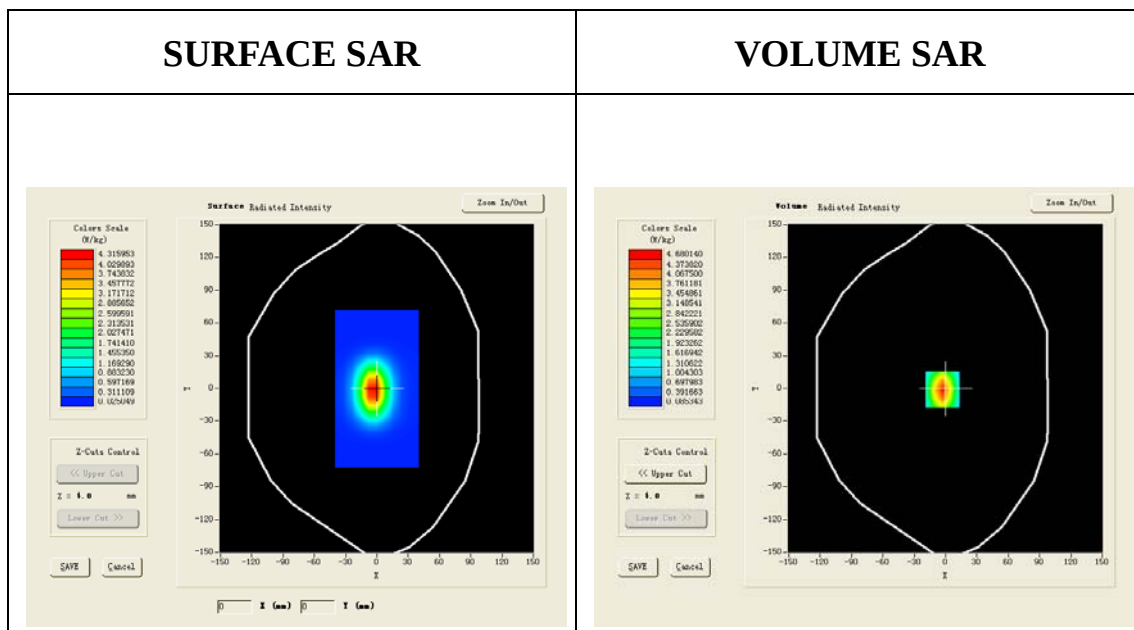
Satimo Configuration:

Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

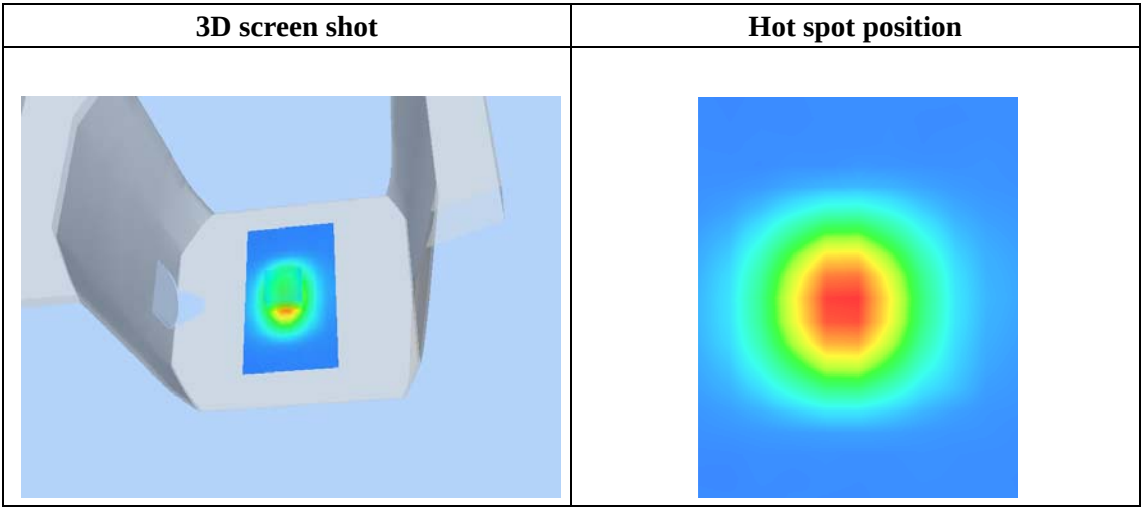
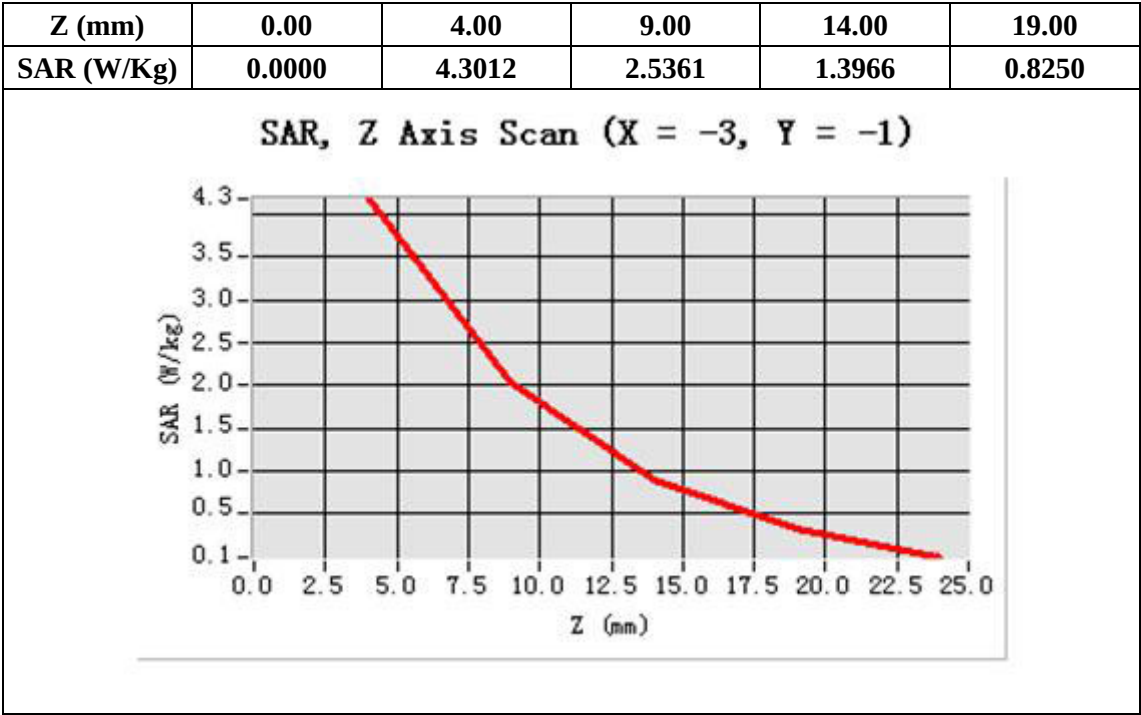
Configuration/System Check PCS1900 Head/Area Scan: Measurement grid: dx=8mm, dy=8mm

Configuration/System Check PCS1900 Head/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm



Maximum location: X=-3.00, Y=-1.00

SAR 10g (W/Kg)	2.183678
SAR 1g (W/Kg)	4.304323



Test Laboratory: AGC Lab

Date: MAR.18,2012

System Check Head 2450MHz

DUT: Dipole 2450 MHz ; Type: SID 2450

Communication System: CW; Communication System Band: D1900 (2450.0 MHz); Duty Cycle:1:1;ConvF=6.42

Frequency: 2450 MHz; Medium parameters used: $f = 2450$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 38.57$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section ; Input Power=20dBm

Ambient temperature (°C): 21, Liquid temperature (°C): 21

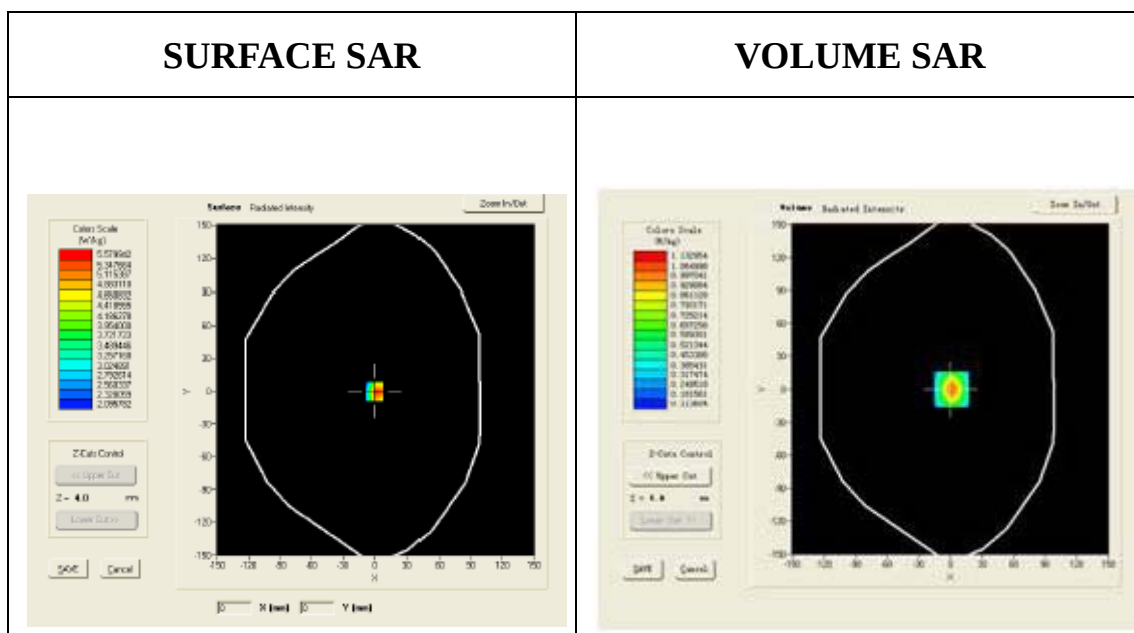
Satimo Configuration:

Probe:SSE5; Calibrated: 09/12/2011

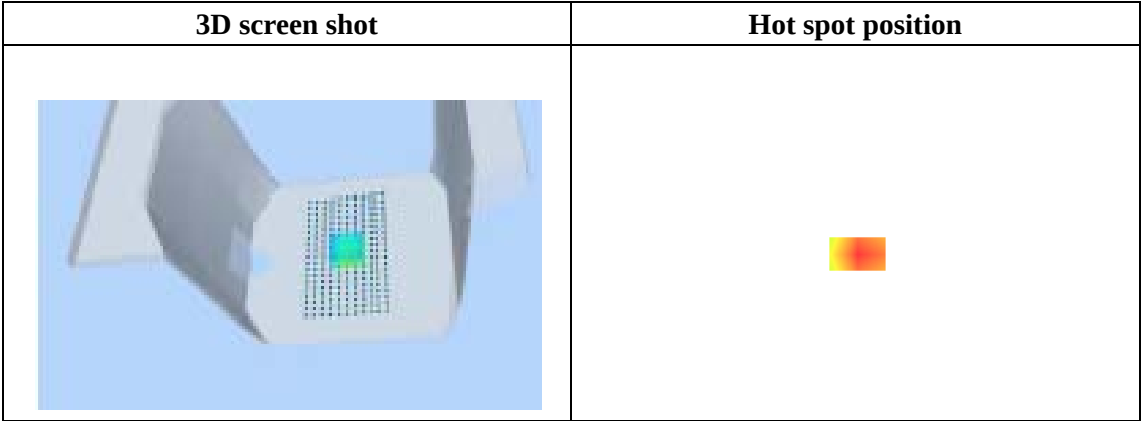
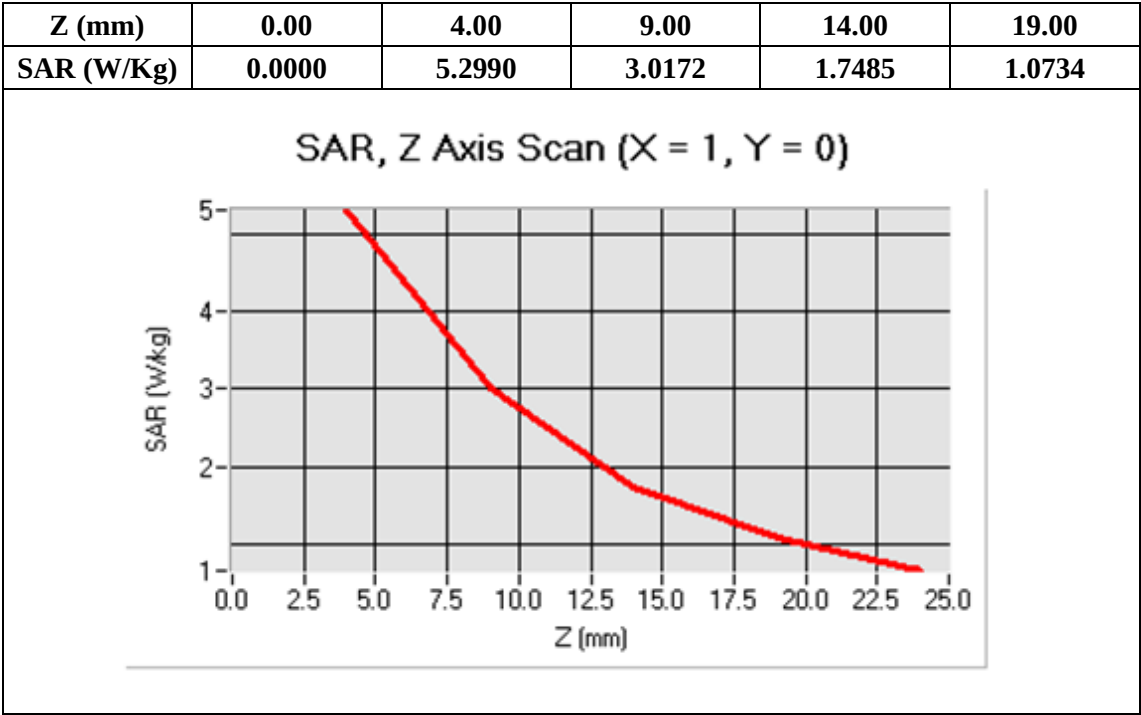
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/System Check PCS1900 Head/Area Scan: Measurement grid: dx=8mm,
dy=8mm

Configuration/System Check PCS1900 Head/Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm

**Maximum location: X=-1.00, Y=1.00**

SAR 10g (W/Kg)	2.36802
SAR 1g (W/Kg)	4.78736



Appendix B. SAR measurement Data

Test Laboratory: AGC Lab

date: MAR.18,2012

GSM 850 Low-body bottom(1up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -1 Slot; Communication System Band: GSM850; Duty Cycle: 1:8.3 ;
 Frequency: 824.2 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$ kg/m³ ; Phantom section: Flat Section
 Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

Satimo Configuration:

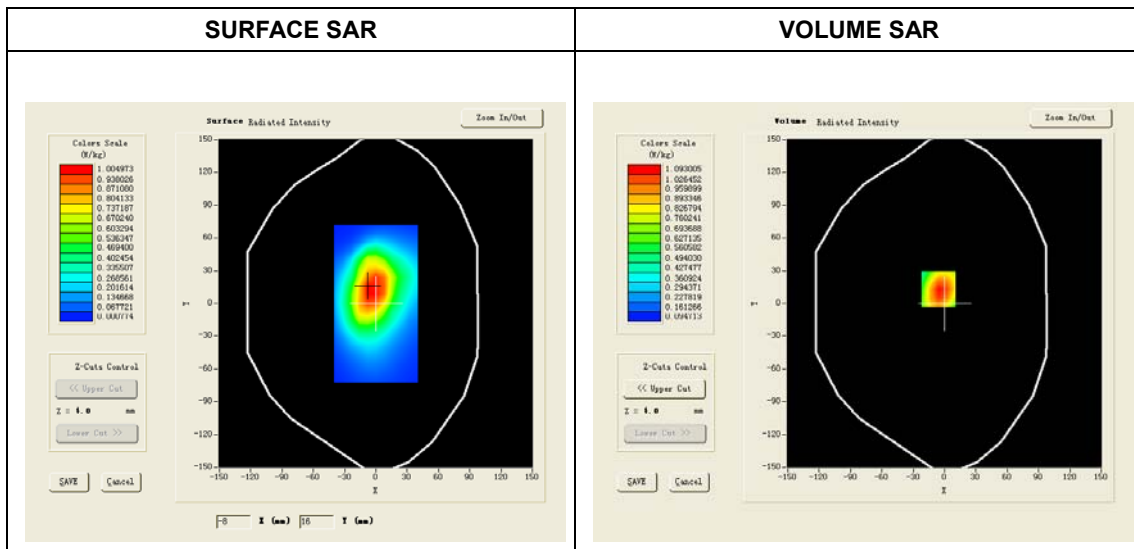
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Low Body- bottom /Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

Configuration/GPRS850 Low Body- bottom /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

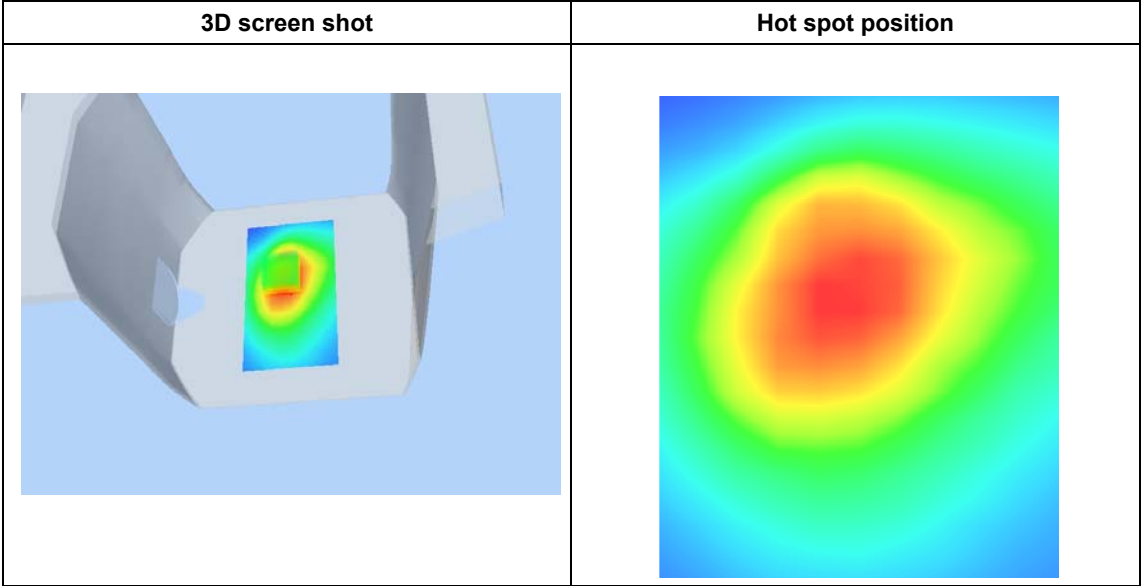
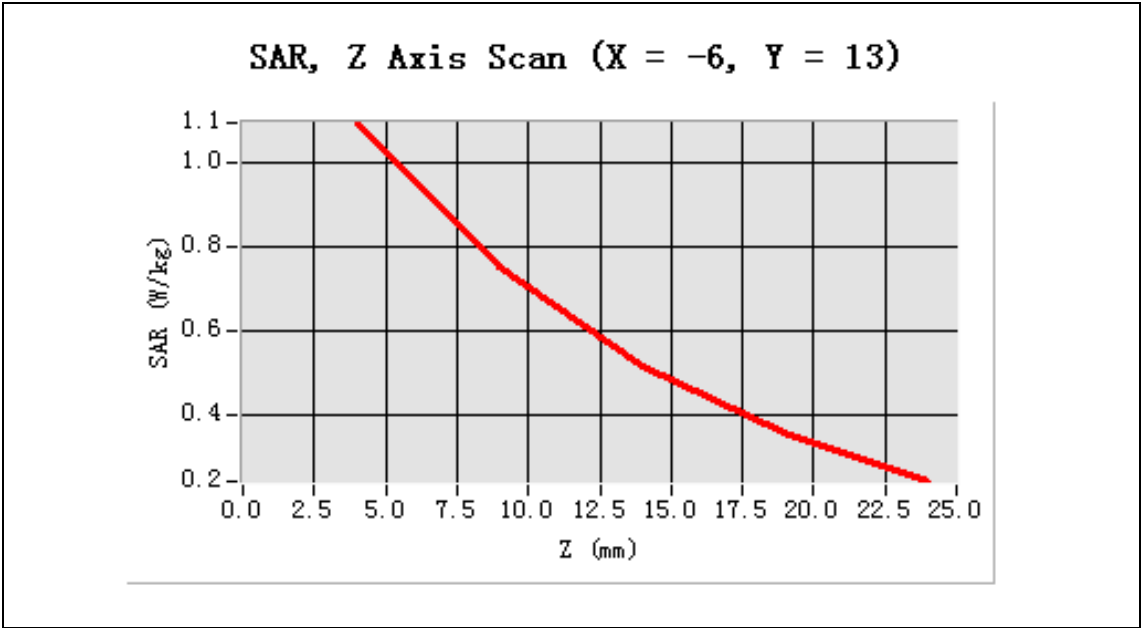
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.0)



Maximum location: X=-6.00, Y=13.00

SAR 10g (W/Kg)	0.668519
SAR 1g (W/Kg)	1.044794

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.0930	0.7509	0.5168	0.3578



Test Laboratory: AGC Lab

date: MAR.18,2012

GSM 850 Mid-body Bottom(1up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -1 Slot; Communication System Band: GSM850; Duty Cycle: 1:8.3 ;
Frequency: 836.6 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$
kg/m³ ; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

Satimo Configuration:

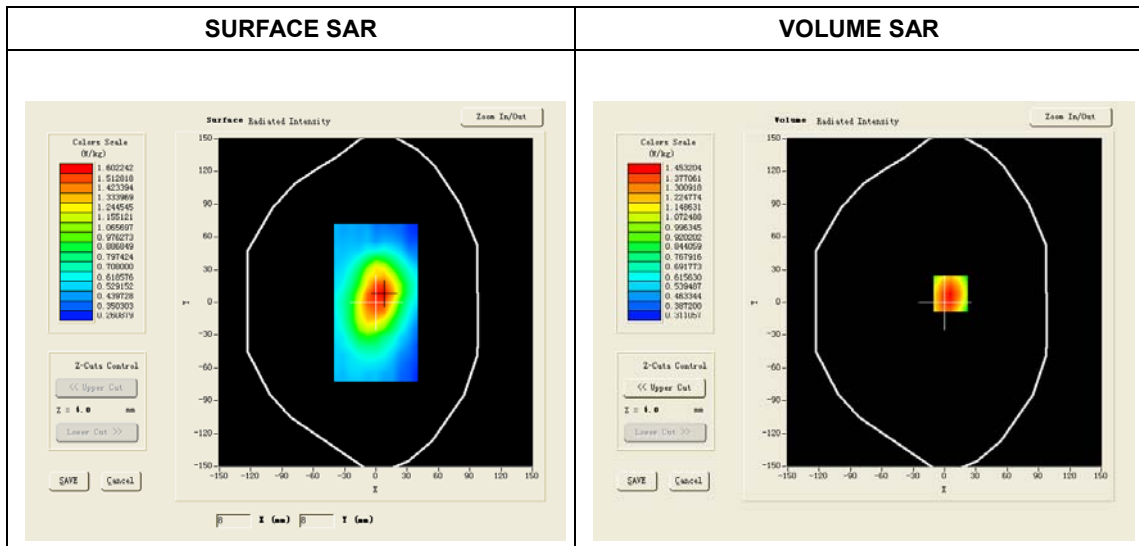
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Mid Body-Bottom/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

**Configuration/GPRS850 Mid Body-Bottom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;**

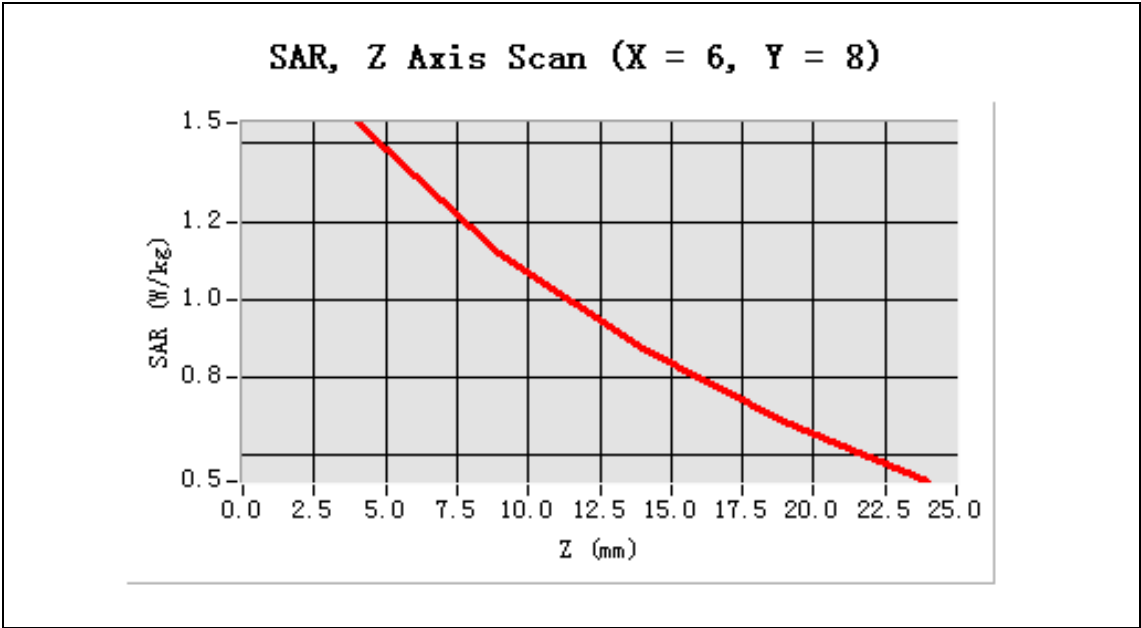
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.0)



Maximum location: X=6.00, Y=8.00

SAR 10g (W/Kg)	1.021210
SAR 1g (W/Kg)	1.400929

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.4532	1.1210	0.8719	0.6845



Test Laboratory: AGC Lab

date: MAR.18,2012

GSM 850 High-body Bottom(1up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -1 Slot; Communication System Band: GSM850; Duty Cycle: 1:8.3 ;
Frequency: 848.8 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$
kg/m³ ; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

Satimo Configuration:

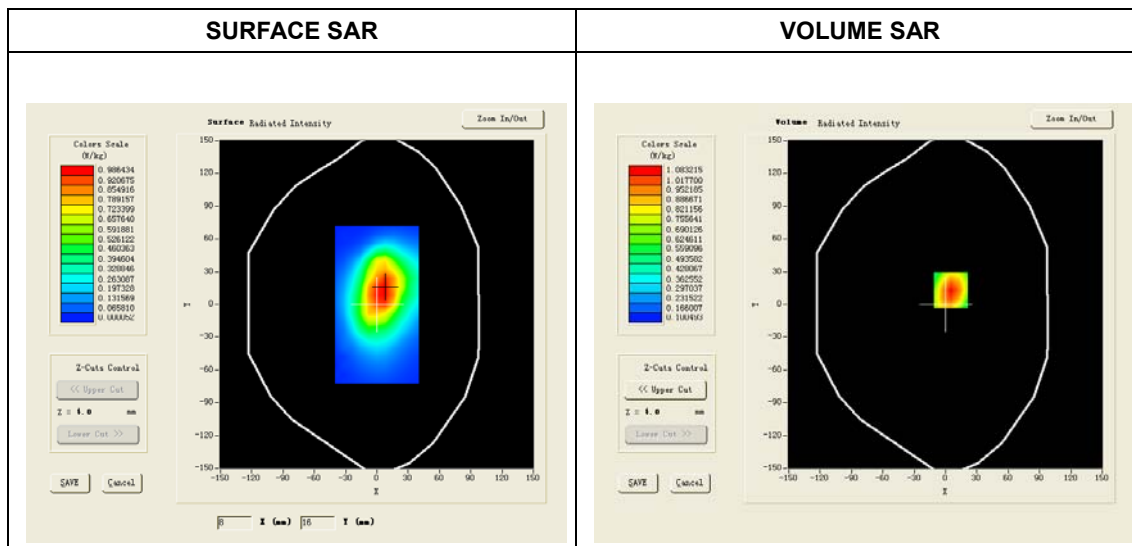
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 High Body-Bottom/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

**Configuration/GPRS850 High Body-Bottom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;**

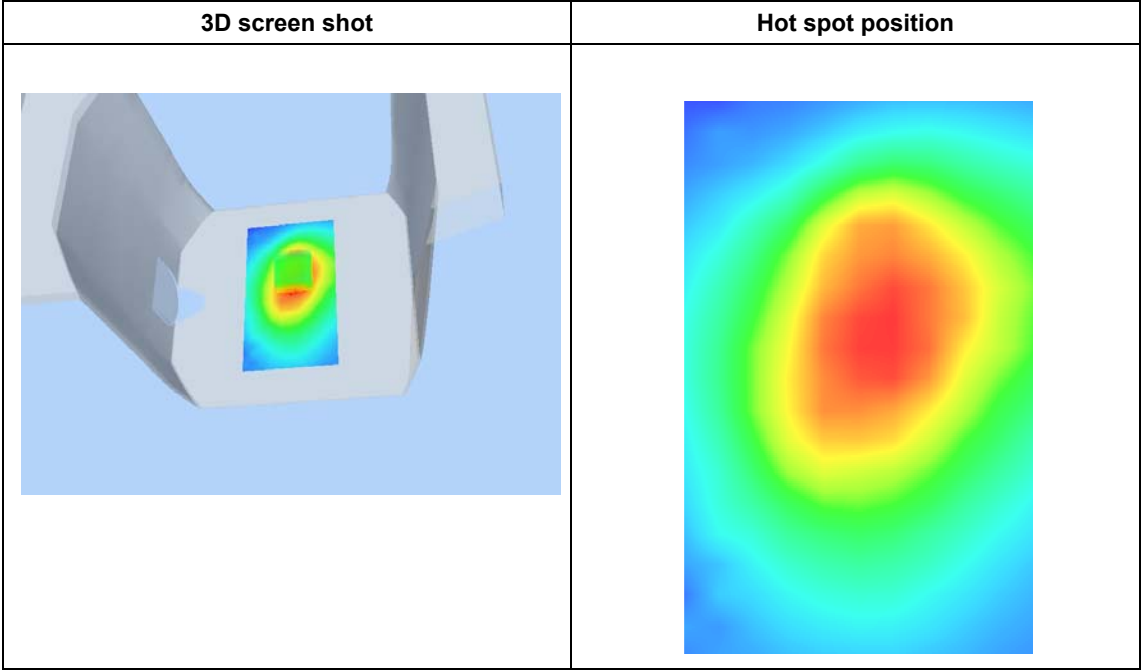
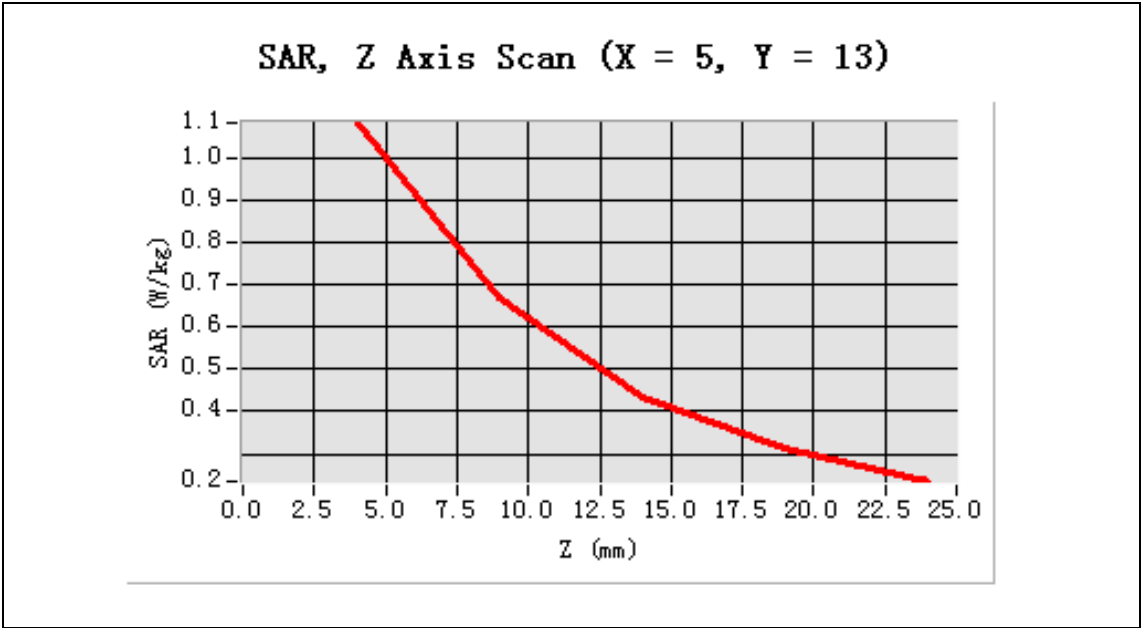
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	TDMA (Crest factor: 8.0)



Maximum location: X=5.00, Y=13.00

SAR 10g (W/Kg)	0.630010
SAR 1g (W/Kg)	1.026816

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.0832	0.6681	0.4351	0.3114



Test Laboratory: AGC Lab

date: MAR.18,2012

GSM 850 Mid-body Bottom(2up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ;
Frequency: 836.6 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$
kg/m³ ; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

Satimo Configuration:

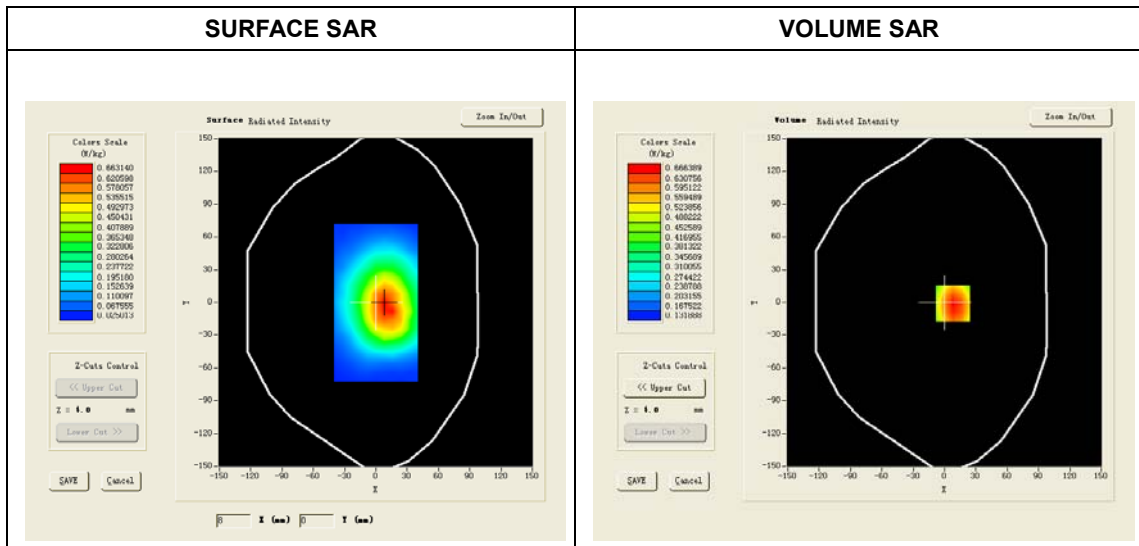
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Mid Body-Bottom/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

**Configuration/GPRS850 Mid Body-Bottom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;**

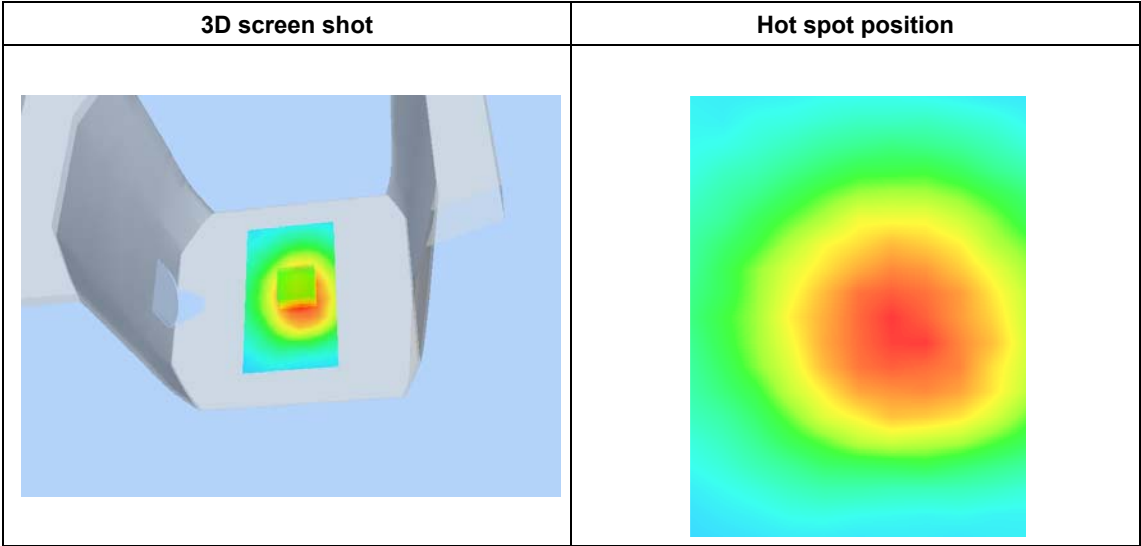
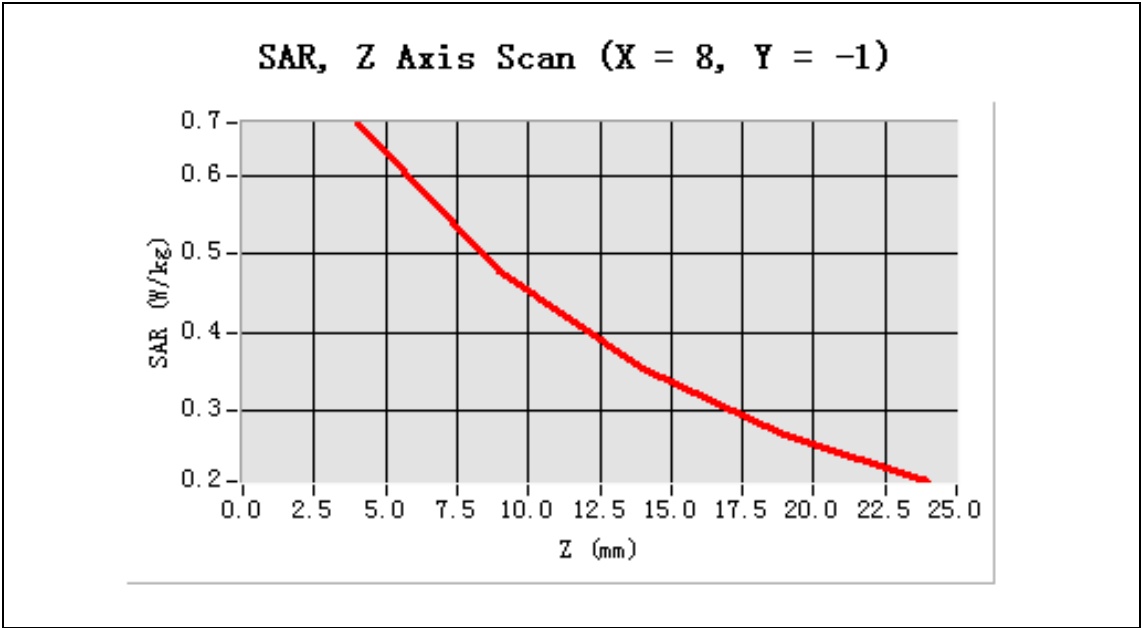
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 4.0)



Maximum location: X=8.00, Y=-1.00

SAR 10g (W/Kg)	0.447883
SAR 1g (W/Kg)	0.640614

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6664	0.4779	0.3529	0.2709



Test Laboratory: AGC Lab

date: MAR.18,2012

GPRS 850 Mid-Body-bottom (3up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -3 Slot; Communication System Band: GSM 850; Duty Cycle: 1:2.8 ;
Frequency: 836.6 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$
kg/m³ ; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

Satimo Configuration:

Probe:SSE5; Calibrated: 09/12/2011

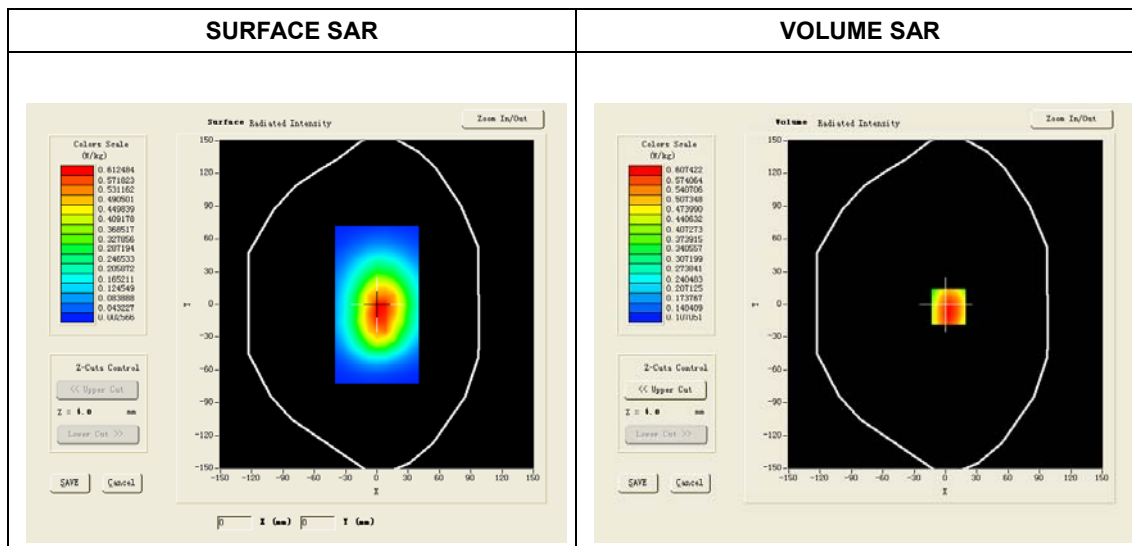
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Mid Body-Bottom/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

Configuration/GPRS850 Mid Body-Bottom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

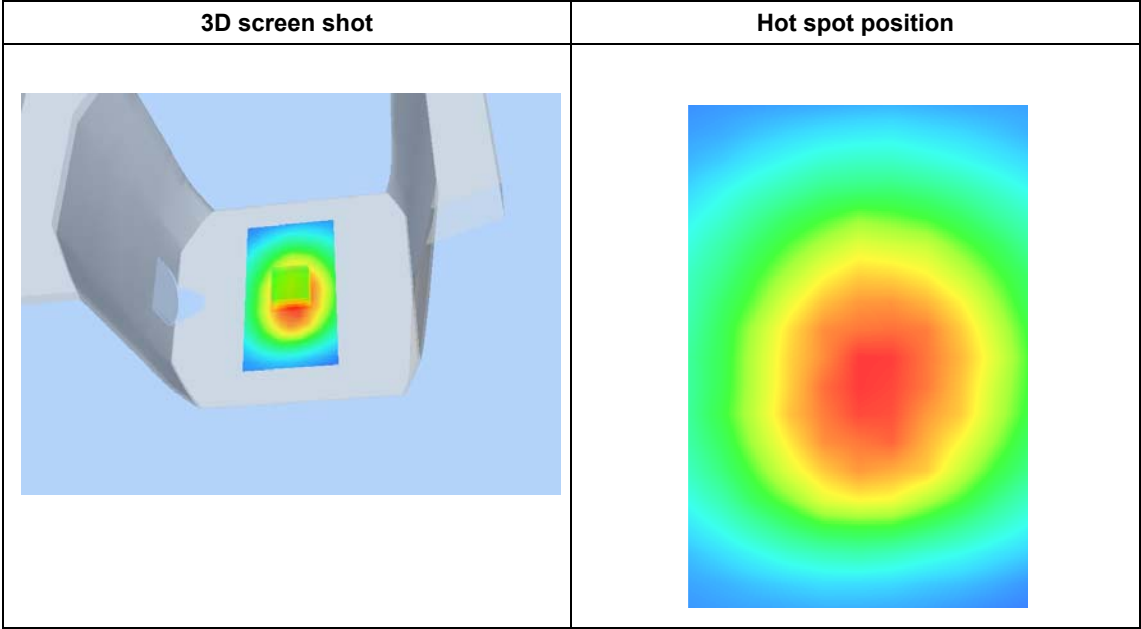
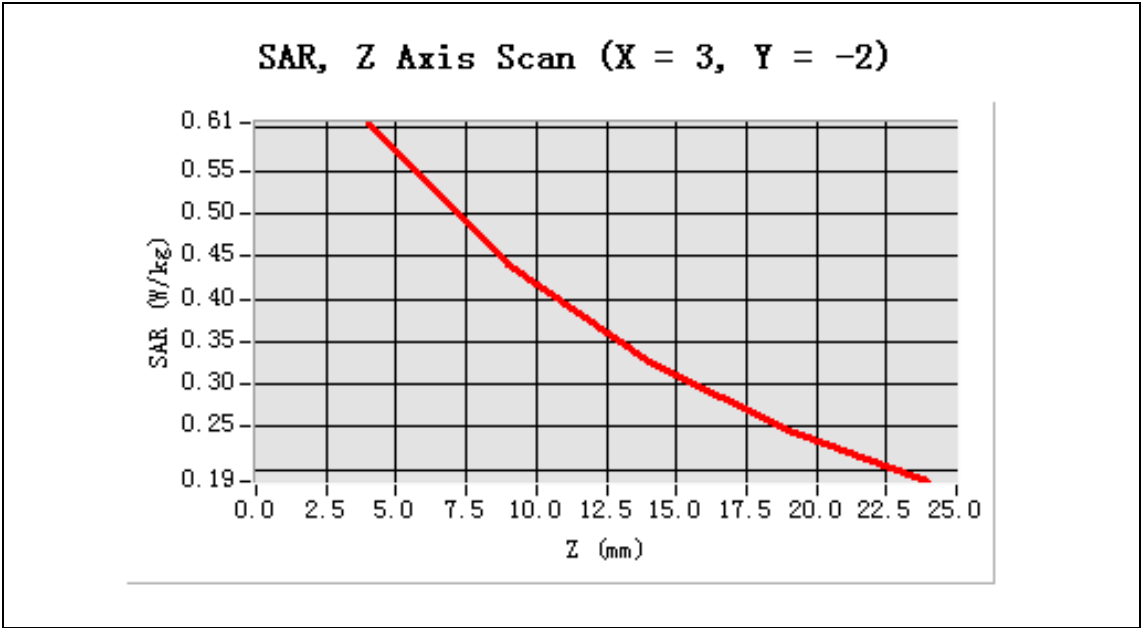
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor:2.7)



Maximum location: X=3.00, Y=-2.00

SAR 10g (W/Kg)	0.441722
SAR 1g (W/Kg)	0.631435

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6062	0.4405	0.3256	0.2463



Test Laboratory: AGC Lab

date: MAR.18,2012

GPRS 850 Mid-body-Bottom (4up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -4 Slot; Communication System Band: GSM 850; Duty Cycle: 1:2.1 ;
Frequency: 836.6 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$
kg/m³ ; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

Satimo Configuration:

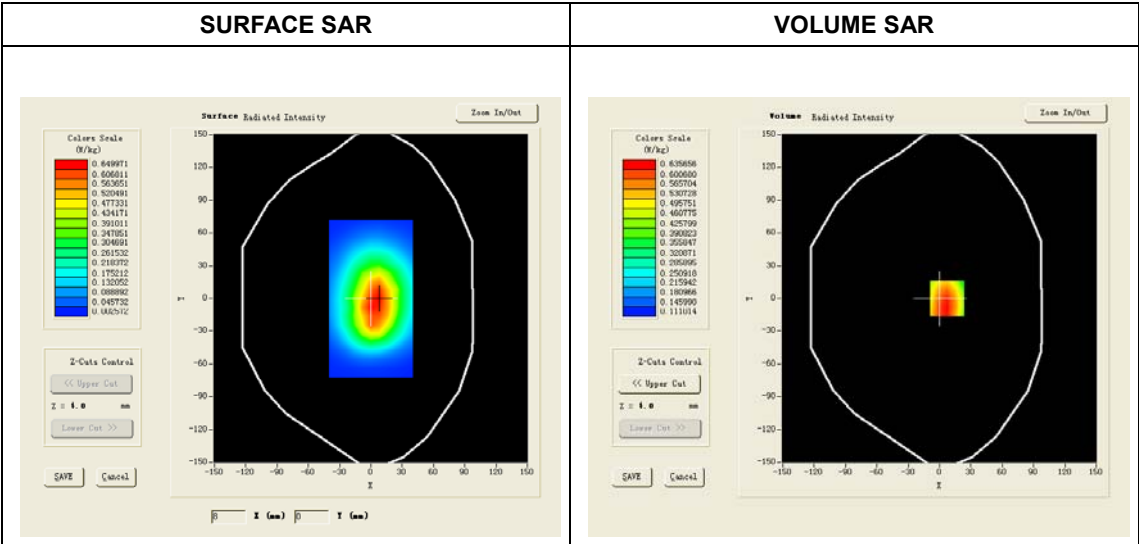
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Mid Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

**Configuration/GPRS850 Mid Body-Bottom/Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;**

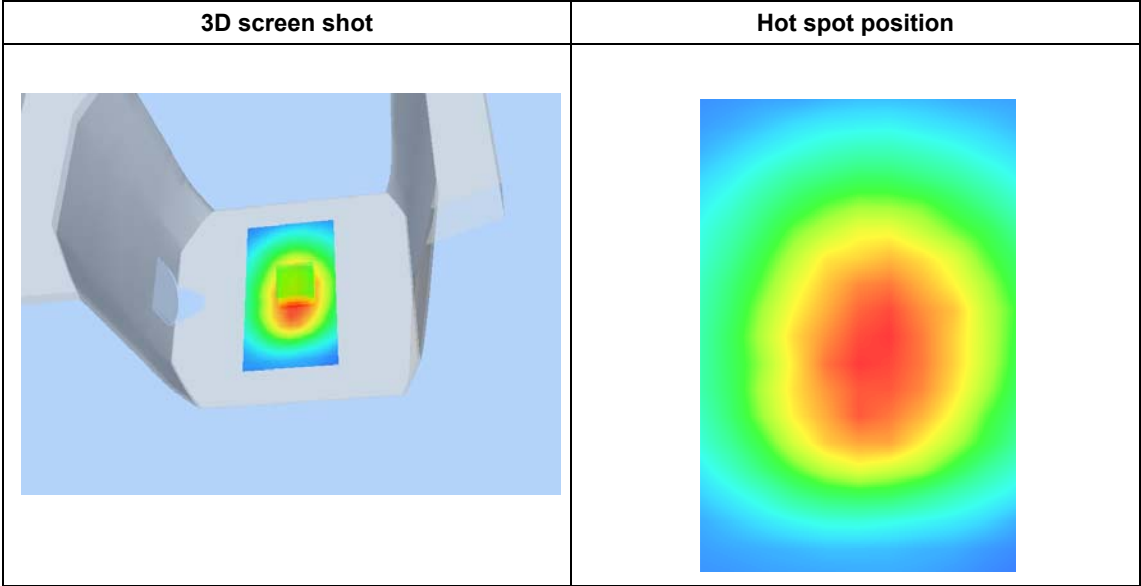
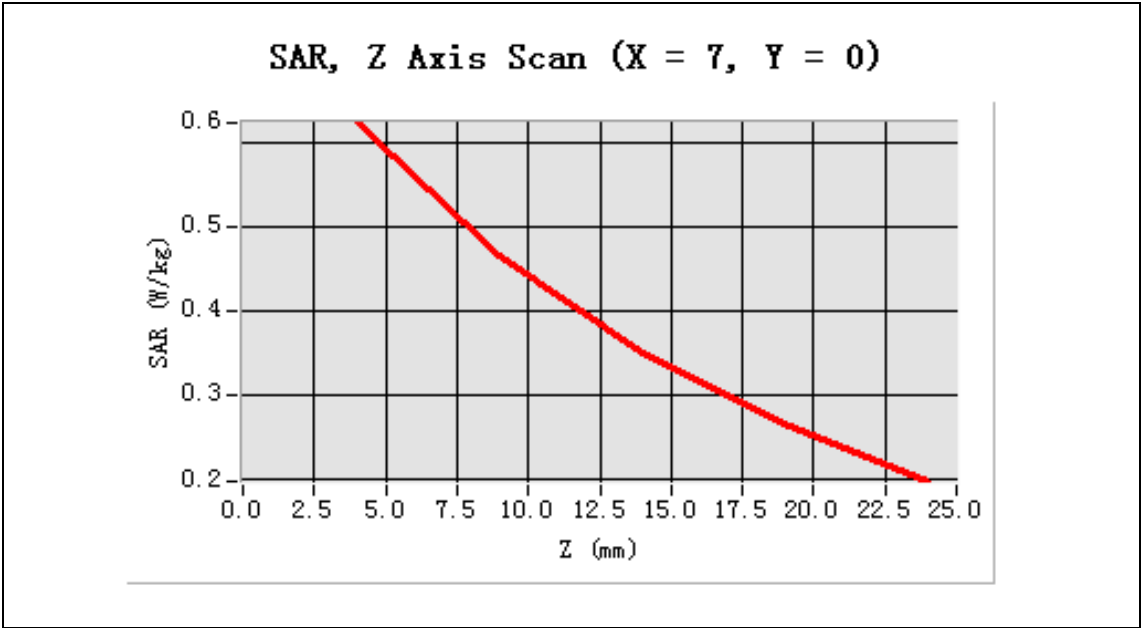
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 2.0)



Maximum location: X=7.00, Y=0.00

SAR 10g (W/Kg)	0.467734
SAR 1g (W/Kg)	0.658635

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6233	0.4664	0.3505	0.2649



Test Laboratory: AGC Lab

data: MAR.18,2012

GPRS 850 Mid-horizontal-touch(1up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS-1 Slot; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Frequency: 836.6 MHz; Medium parameters used: $f = 835$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 40.69$; $\rho = 1000$

kg/m³; Phantom section: Flat Section

Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

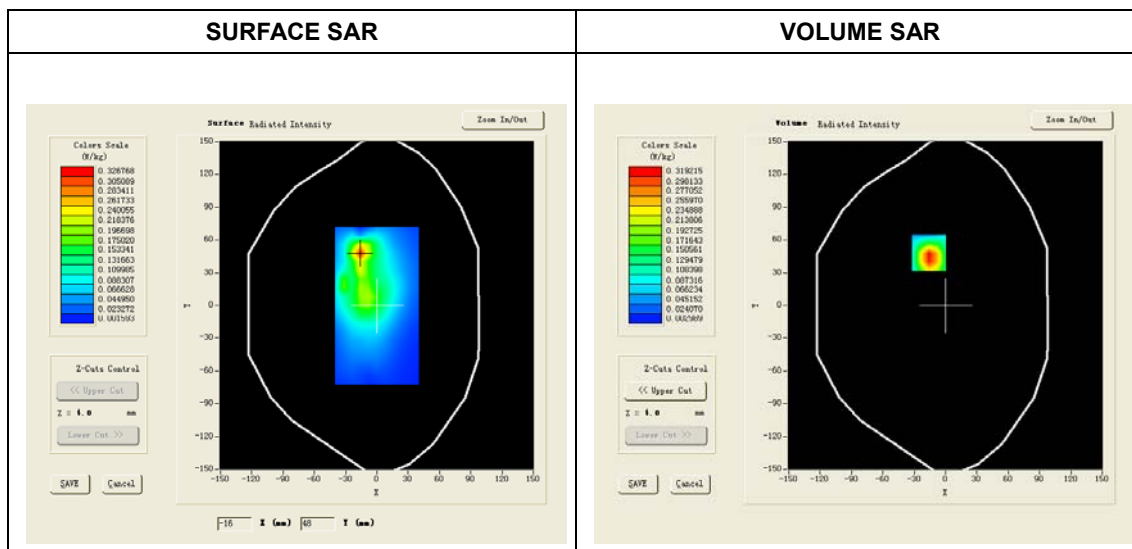
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Mid-horizontal-touch /Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

Configuration/GPRS850 Mid-horizontal-touch /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

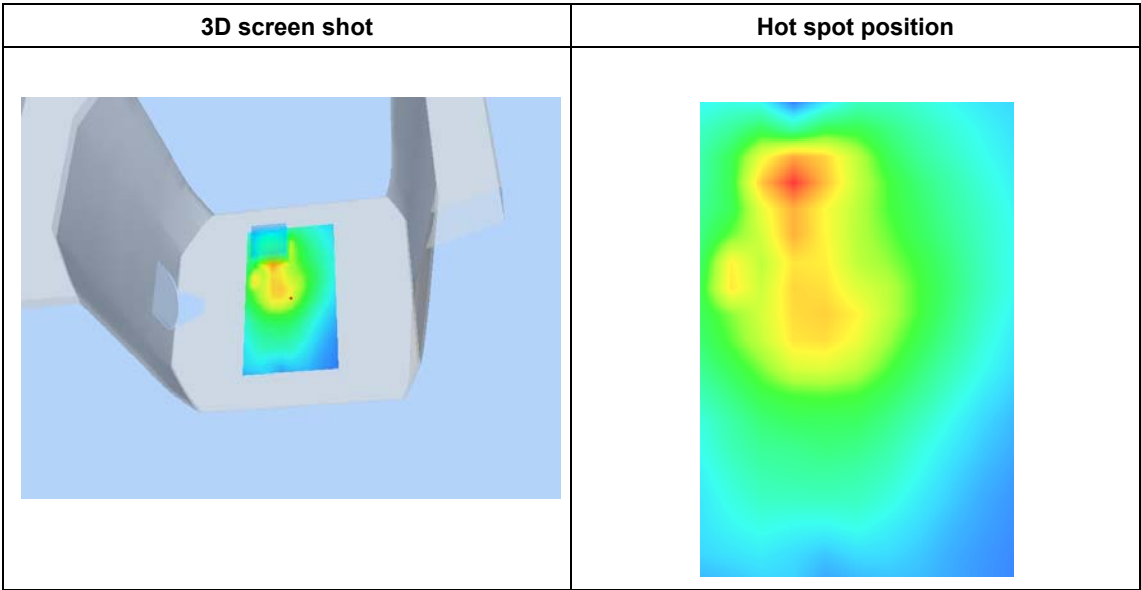
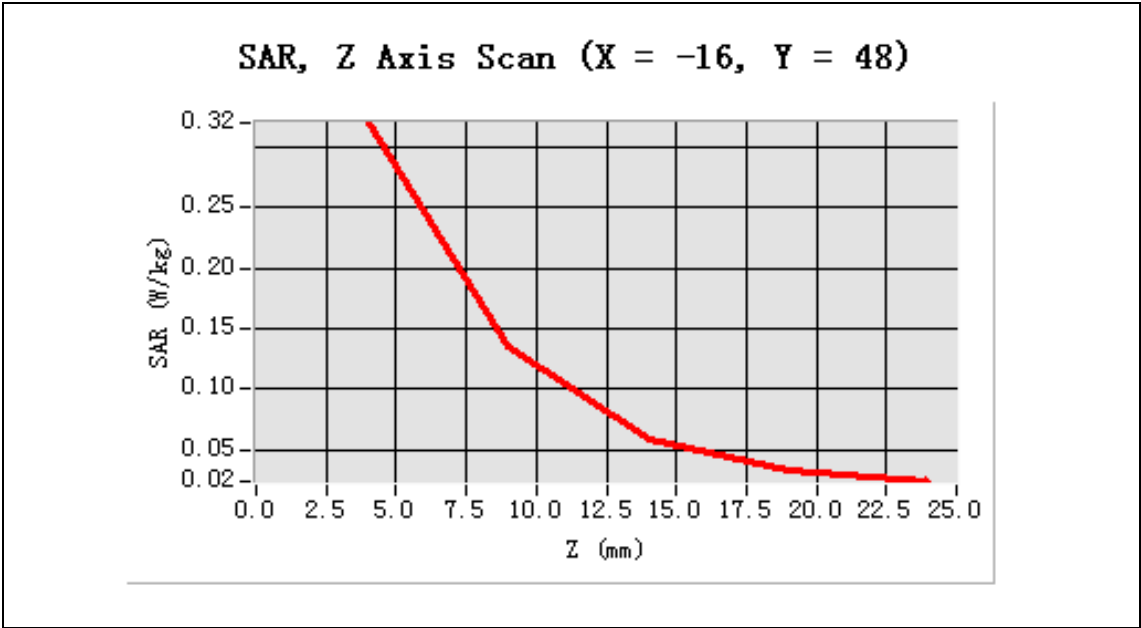
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor:8.0)



Maximum location: X=-16.00, Y=48.00

SAR 10g (W/Kg)	0.141120
SAR 1g (W/Kg)	0.310754

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3192	0.1348	0.0594	0.0338



Test Laboratory: AGC Lab
 GPRS 850 Mid-vertical-touch (1up)
 DUT: Tablet PC; Type: VS14445

data: MAR.18,2012

Communication System: GPRS-1 Slot; Communication System Band: GSM 850; Duty Cycle: 1:8.3;
 Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ϵ_r = 40.69; ρ = 1000

kg/m³ ; Phantom section: Flat Section

Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

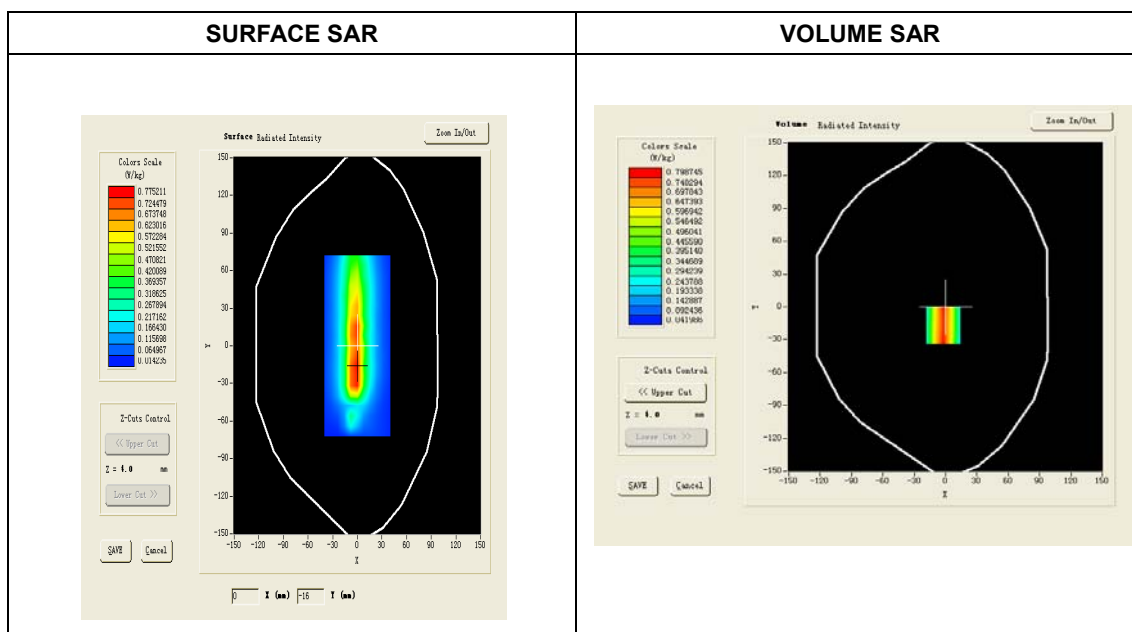
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS850 Mid- vertical -touch /Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

Configuration/GPRS850 Mid- vertical -touch /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

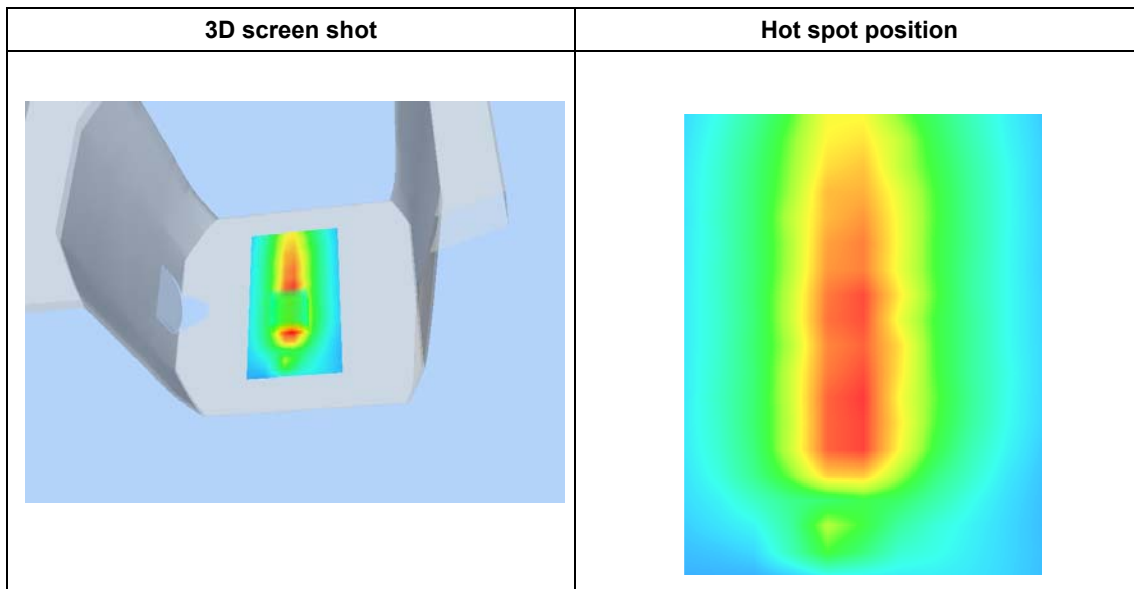
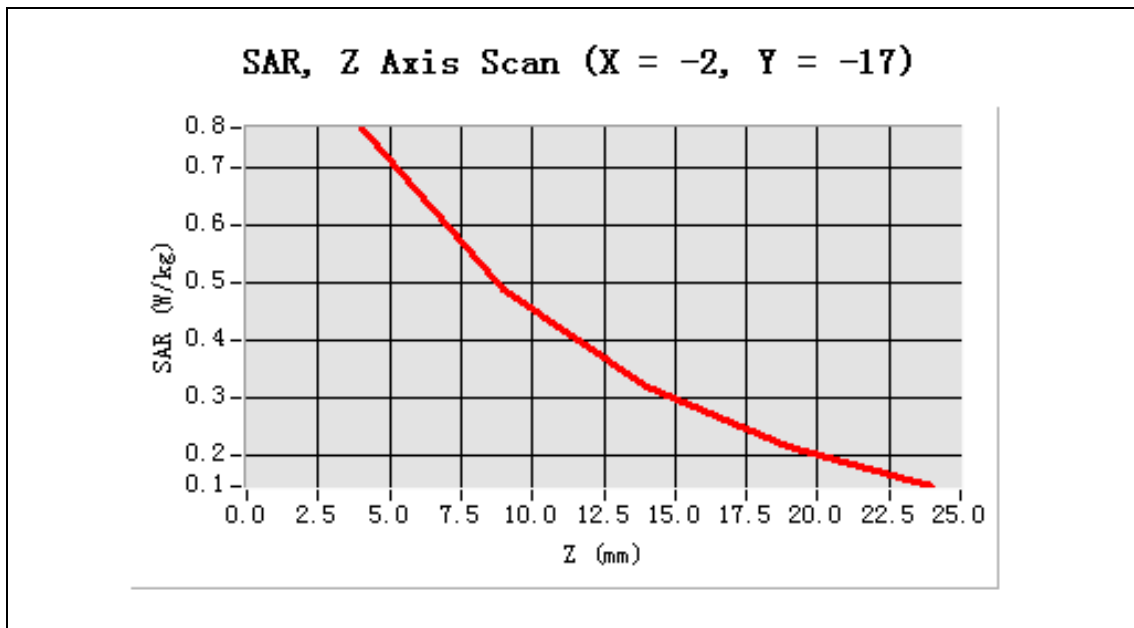
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor:8.0)



Maximum location: X=-2.00, Y=-17.00

SAR 10g (W/Kg)	0.435781
SAR 1g (W/Kg)	0.734231

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7694	0.4895	0.3181	0.2155



Test Laboratory: AGC Lab
WCDMA Band V Mid-Body-Towards Phantom (RMC)
DUT: Tablet PC; Type: VS14445

Date: MAR.18,2012

Communication Tablet PC System: UMTS; Communication Tablet PC System Band: BAND V UTRA/FDD ;
DutyCycle:1: 1; Conv.F=6.79

Frequency: 835 MHz; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 40.69$; $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Flat Section

Ambient temperature ($^{\circ}\text{C}$):21, Liquid temperature ($^{\circ}\text{C}$):21

Satimo Configuration:

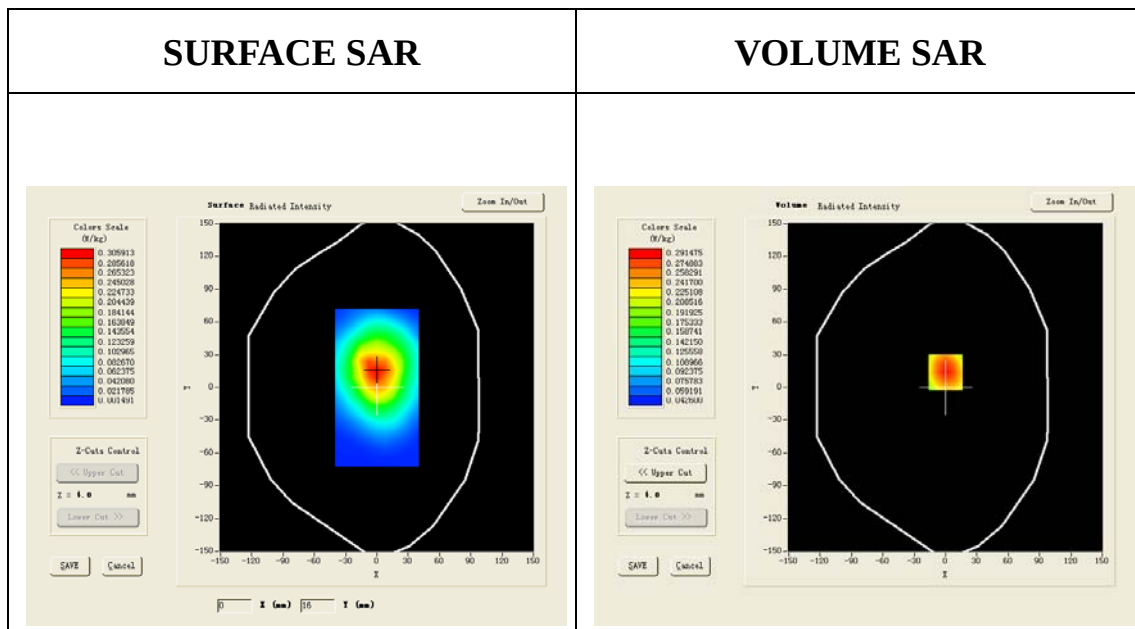
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ WCDMA Band V Mid Body-Front/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

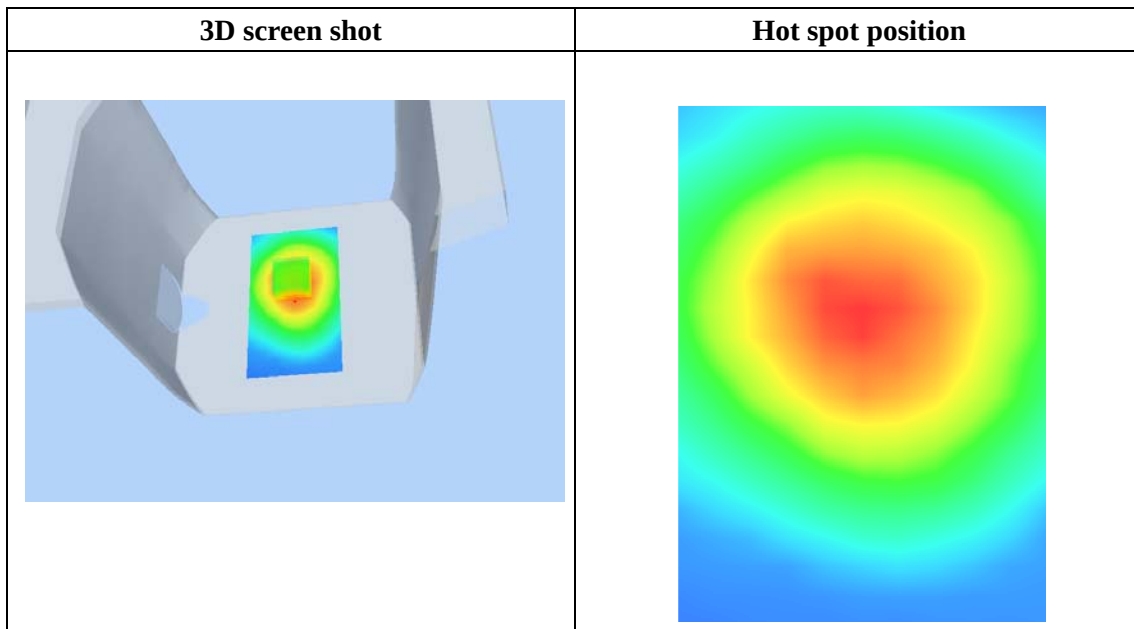
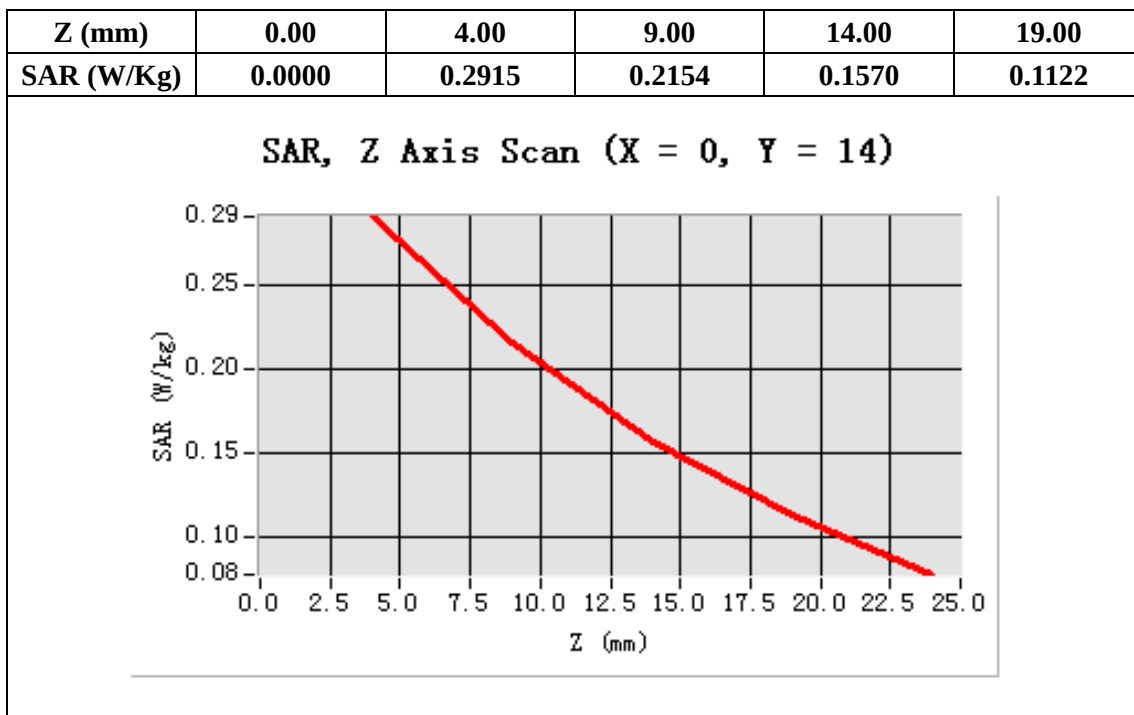
Configuration/ WCDMA Band V Mid Body-Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Front
Band	WCDMA Band V
Channels	Middle
Signal	TDMA (Crest factor: 1.0)



Maximum location: X=0.00, Y=14.00

SAR 10g (W/Kg)	0.208683
SAR 1g (W/Kg)	0.301222



Test Laboratory: AGC Lab

Date: MAR.18,2012

WCDMA Band V Mid-body- Towards Grounds(RMC)

DUT: Tablet PC; Type:VS14445

Communication Tablet PC System: UMTS; Communication Tablet PC System Band: BAND V UTRA/FDD ; DutyCycle:1: 1;
Conv.F=6.79

Frequency: 835 MHz; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 40.69$; $\rho = 1000$

kg/m^3 ; Phantom section: Flat Section

Ambient temperature ($^{\circ}\text{C}$):21, Liquid temperature ($^{\circ}\text{C}$):21

Satimo Configuration:

Probe:SSE5; Calibrated: 09/12/2011

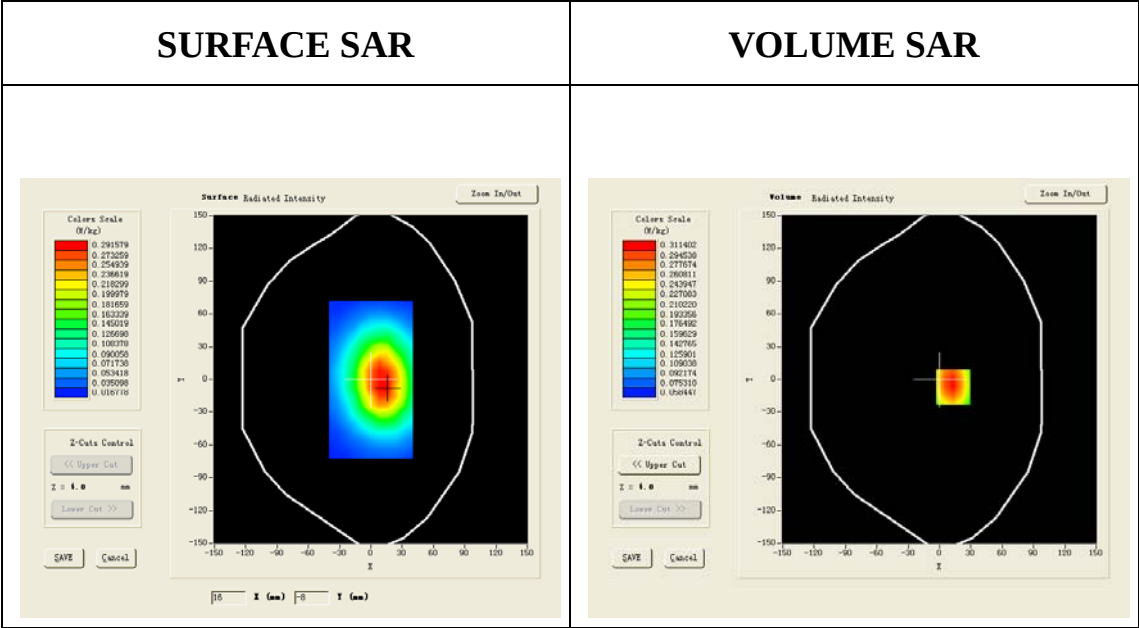
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ WCDMA Band V Mid Body- Bottom /Area Scan (6x8x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$

Configuration/ WCDMA Band V Mid Body- Bottom /Zoom Scan (5x5x7)/Cube 0: Measurement grid:

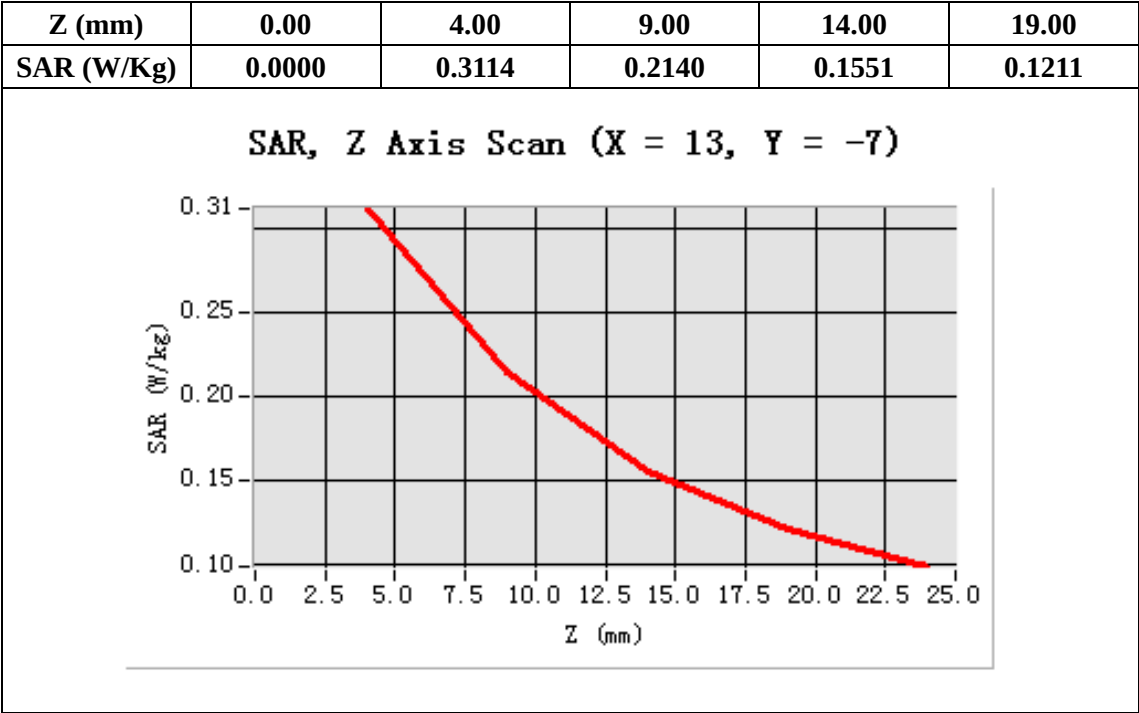
$dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$;

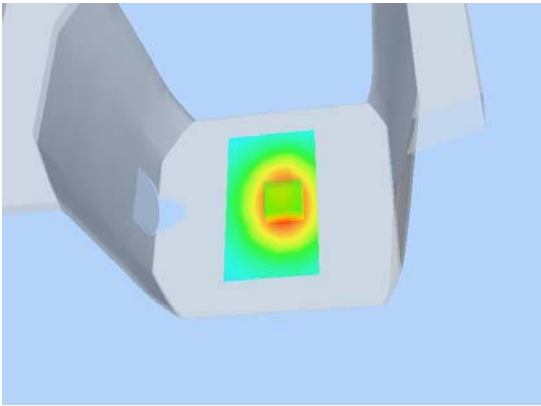
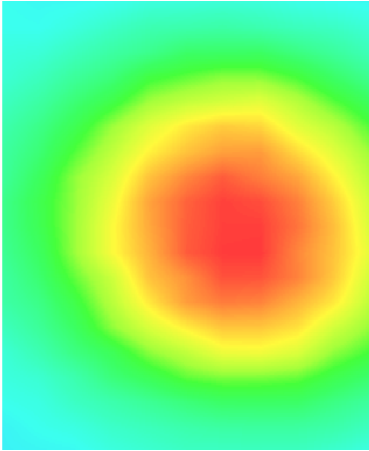
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7, $dx=8\text{mm}$ $dy=8\text{mm}$ $dz=5\text{mm}$, Very fast
Phantom	Validation plane
Device Position	Body Bottom
Band	WCDMA Band V
Channels	Middle
Signal	TDMA (Crest factor: 1.0)



Maximum location: X=13.00, Y=-7.00

SAR 10g (W/Kg)	0.206206
SAR 1g (W/Kg)	0.300022



3D screen shot	Hot spot position
 A 3D CAD model of a mechanical part, possibly a bracket or housing, is shown. A rectangular area on the front face of the part is highlighted with a color-coded thermal map. The map shows a central red/orange region, indicating a high-temperature hot spot, surrounded by yellow and green areas, indicating decreasing temperature. The background is a solid light blue.	 A 2D heatmap visualization of the hot spot position. It features a circular, concentric pattern of colors. The center is a bright red, transitioning through orange and yellow to a green outer ring. The background is a uniform light blue.

Test Laboratory: AGC Lab**Date: MAR.18,2012****WCDMA Band V Mid-body- Towards Grounds(HSDPA)****DUT:Tablet PC; Type:VS14445**

Communication Tablet PC System: UMTS; Communication Tablet PC System Band: BAND V UTRA/FDD ; DutyCycle:1: 1;
Conv.F=6.79

Frequency: 835 MHz; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.97 \text{ mho/m}$; $\epsilon_r = 53.26$; $\rho = 1000$

kg/m³ ; Phantom section: Flat Section

Ambient temperature (°C):21, Liquid temperature (°C):21

Satimo Configuration:

Probe:SSE5; Calibrated: 09/12/2011

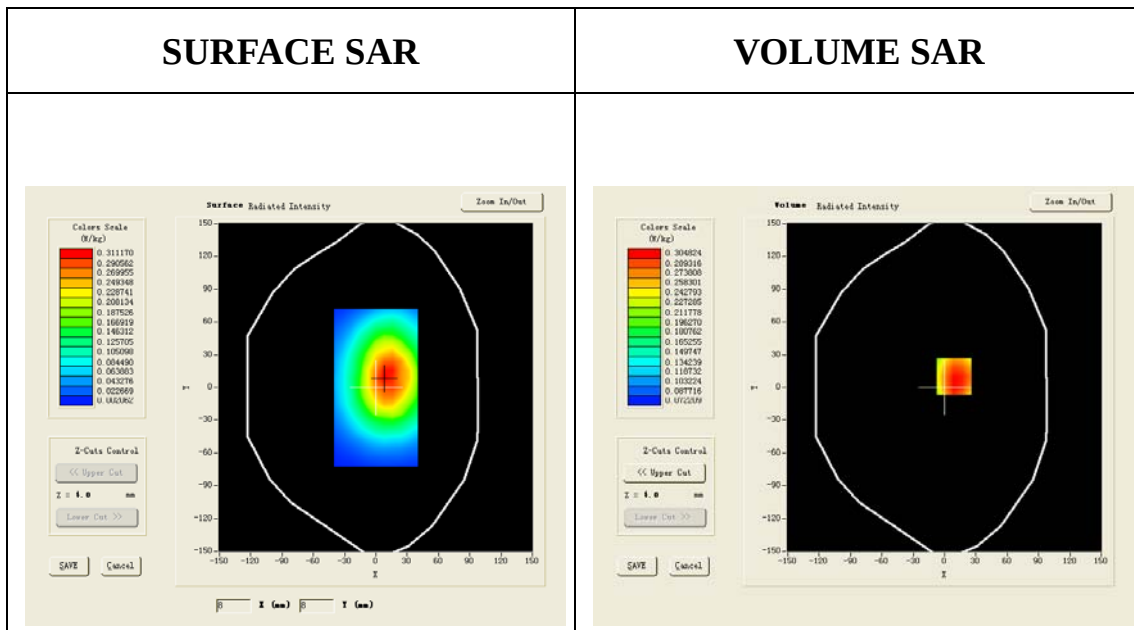
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ WCDMA Band V Mid Body- Bottom /Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm

Configuration/ WCDMA Band V Mid Body- Bottom /Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=8mm,dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Bottom
Band	WCDMA Band V
Channels	Middle
Signal	TDMA (Crest factor: 1.0)

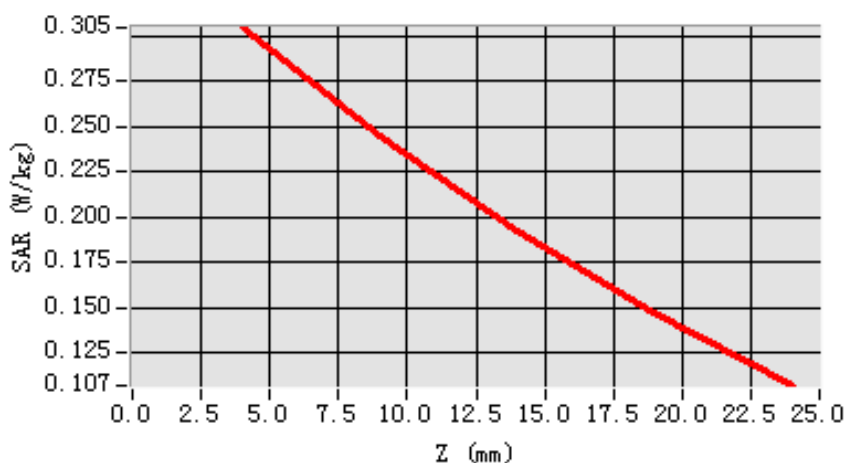


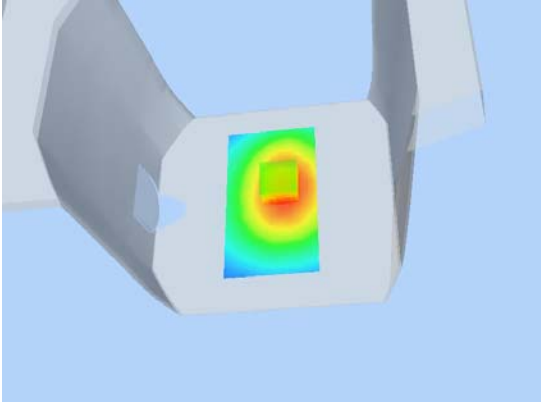
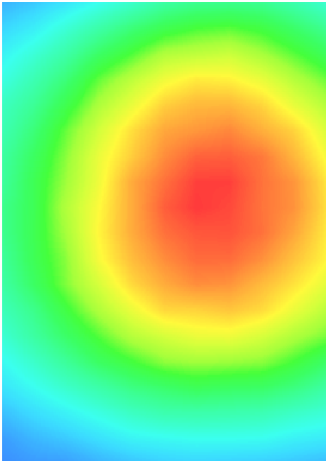
Maximum location: X=9.00, Y=10.00

SAR 10g (W/Kg)	0.239327
SAR 1g (W/Kg)	0.320471

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3047	0.2454	0.1927	0.1465

SAR, Z Axis Scan (X = 9, Y = 10)



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Low-Body Bottom(1up)

DUT: Tablet PC; Type: VS14445

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

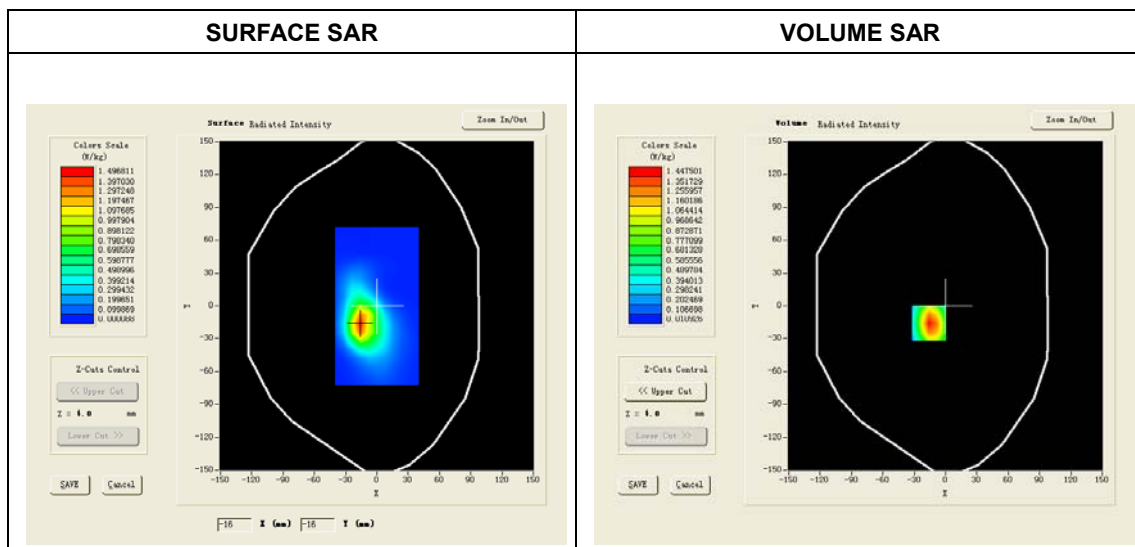
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Low Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

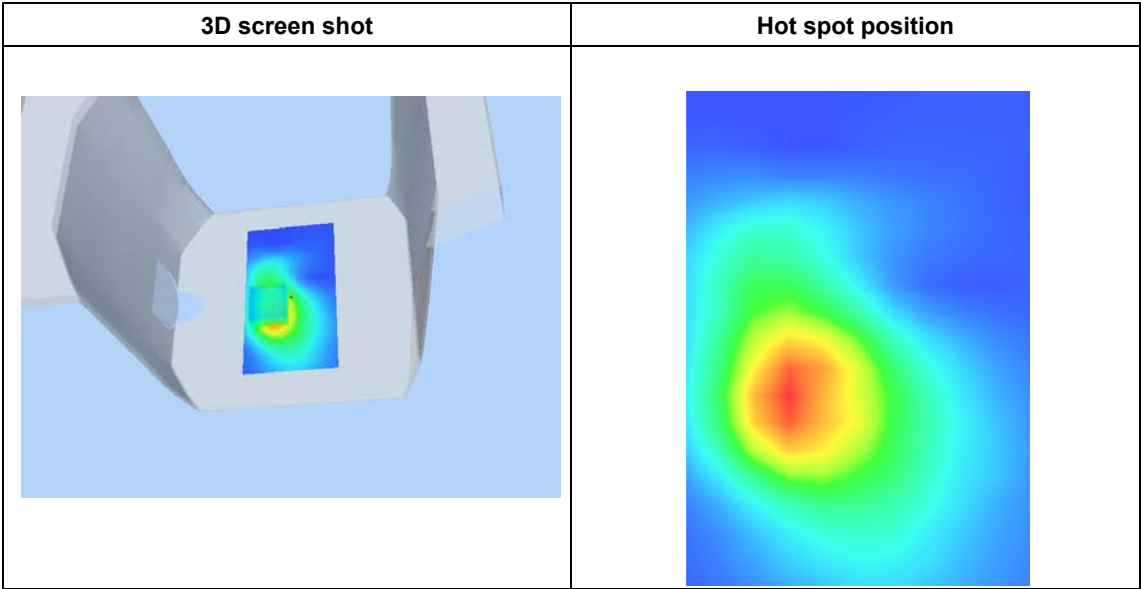
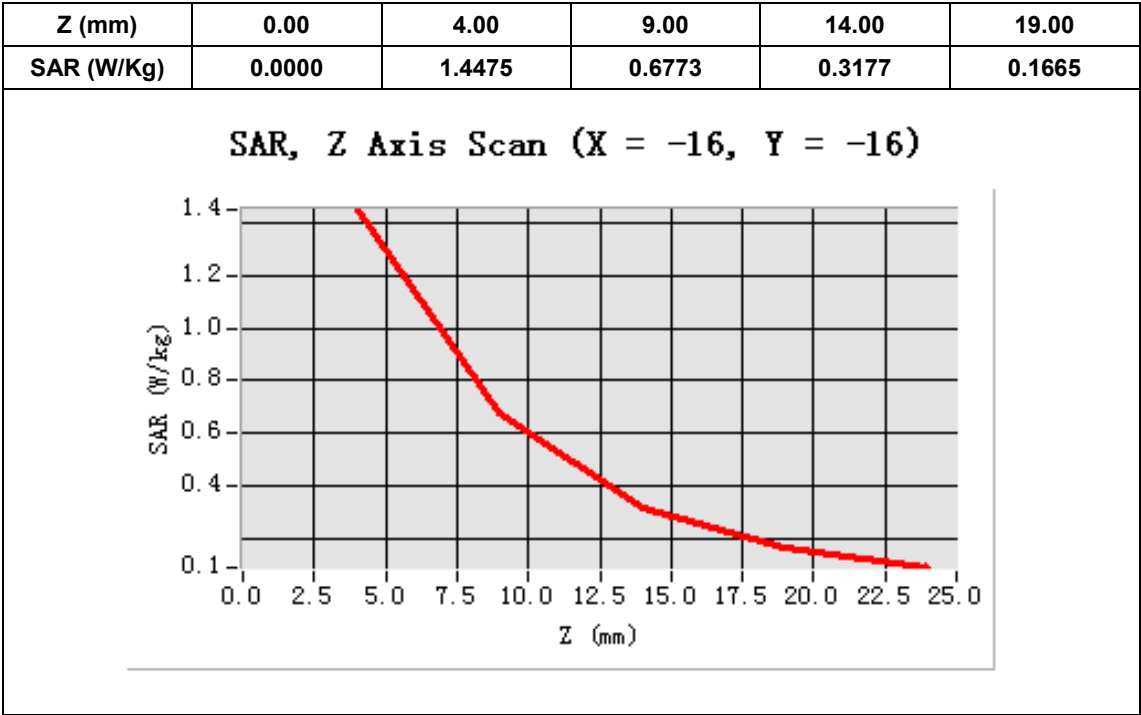
Configuration/PCS1900 Low Body-Bottom/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	TDMA (Crest factor: 8.0)



Maximum location: X=-16.00, Y=-16.00

SAR 10g (W/Kg)	0.657942
SAR 1g (W/Kg)	1.365708



Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Mid-Body Bottom(1up)

DUT: Tablet PC; Type: VS14445

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

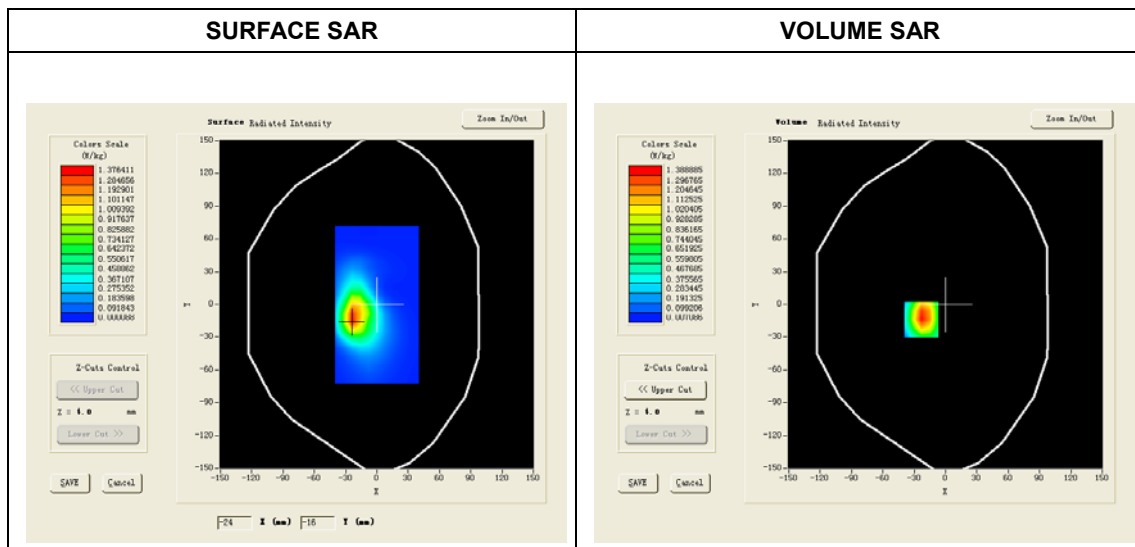
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Mid Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

Configuration/PCS1900 Mid Body-Bottom/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

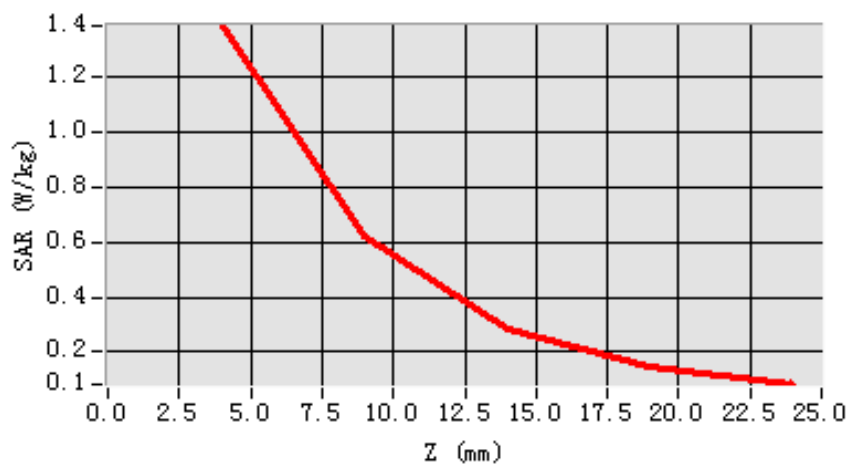


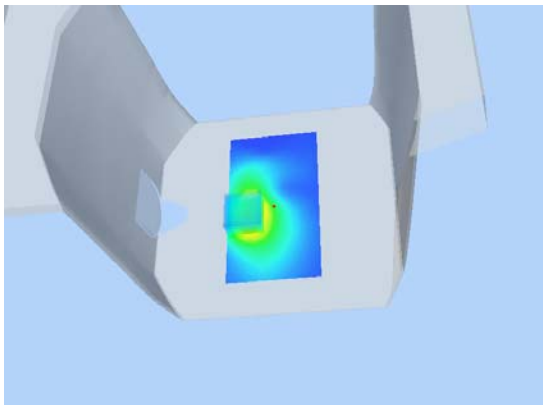
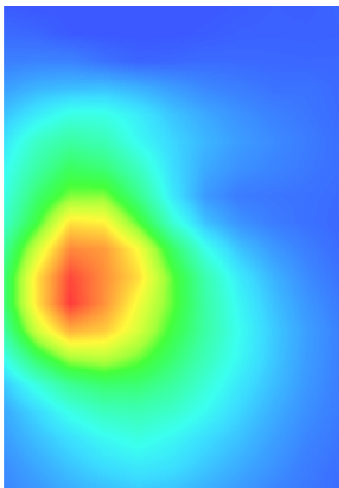
Maximum location: X=-23.00, Y=-14.00

SAR 10g (W/Kg)	0.624499
SAR 1g (W/Kg)	1.320149

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.3889	0.6251	0.2816	0.1447

SAR, Z Axis Scan (X = -23, Y = -14)



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 High-Body Bottom(1up)

DUT: Tablet PC; Type: VS14445

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

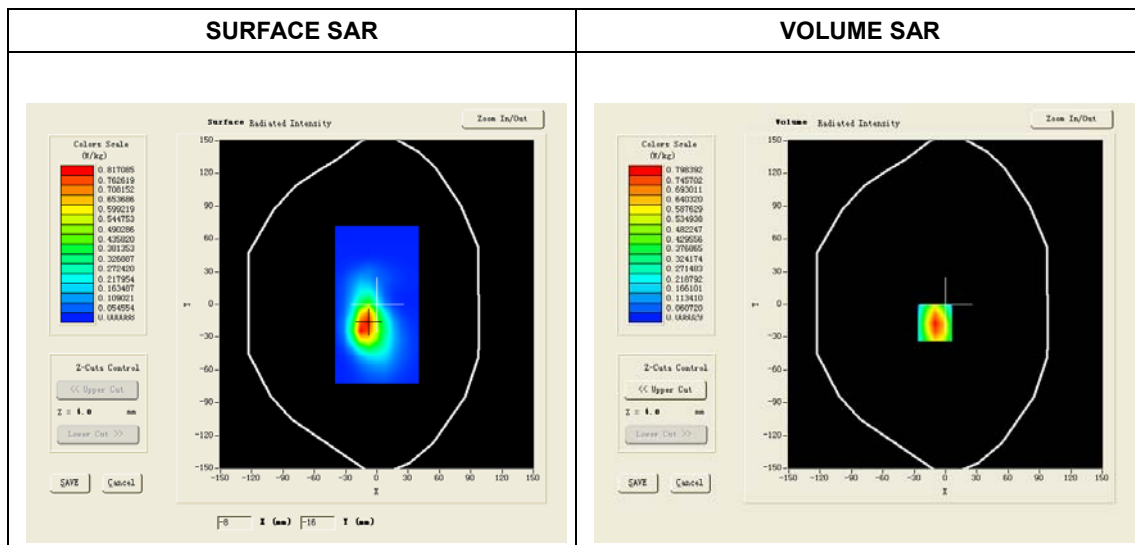
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 High Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

Configuration/PCS1900 High Body-Bottom/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.0)

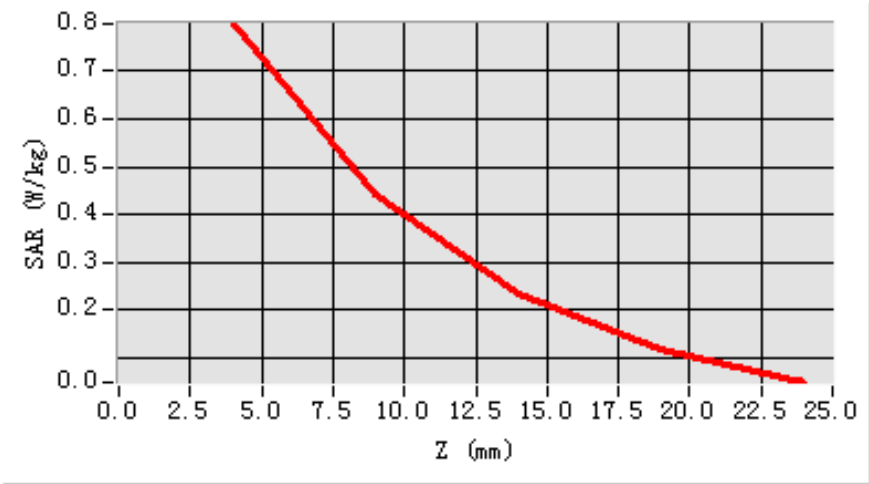


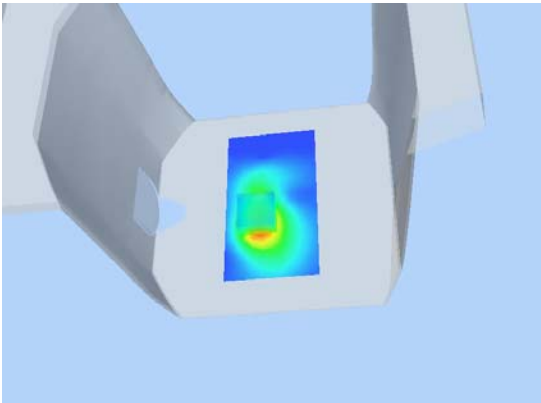
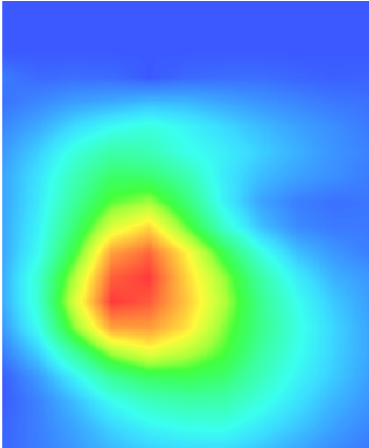
Maximum location: X=-10.00, Y=-17.00

SAR 10g (W/Kg)	0.377553
SAR 1g (W/Kg)	0.741481

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7984	0.4407	0.2327	0.1172

SAR, Z Axis Scan (X = -10, Y = -17)



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Mid-Body Bottom (2up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS-2 Slot; Communication System Band: PCS1900; Duty Cycle: 1:4.2 ;

Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section

Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

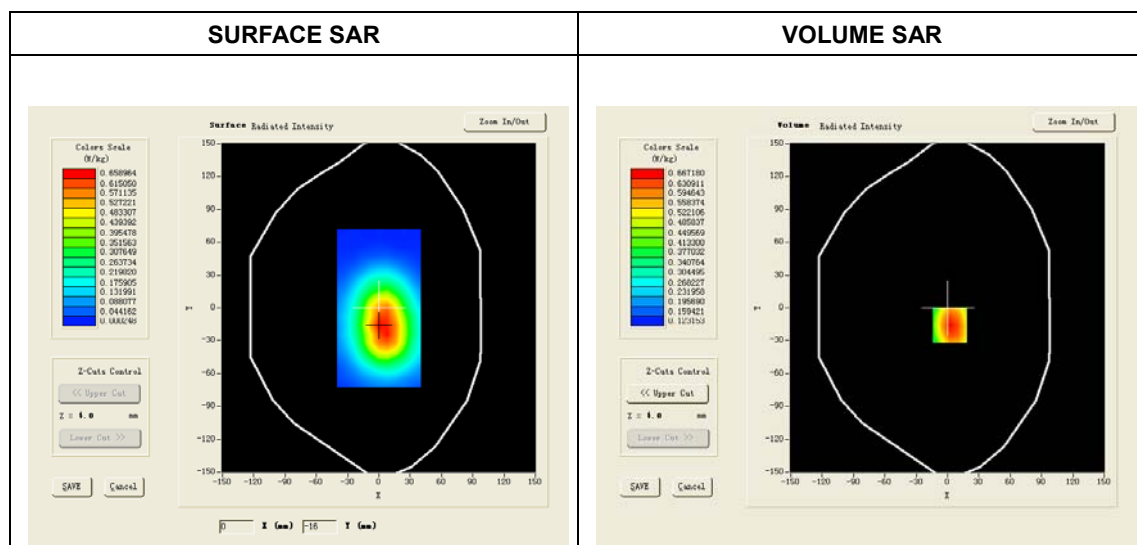
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS1900 Mid Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

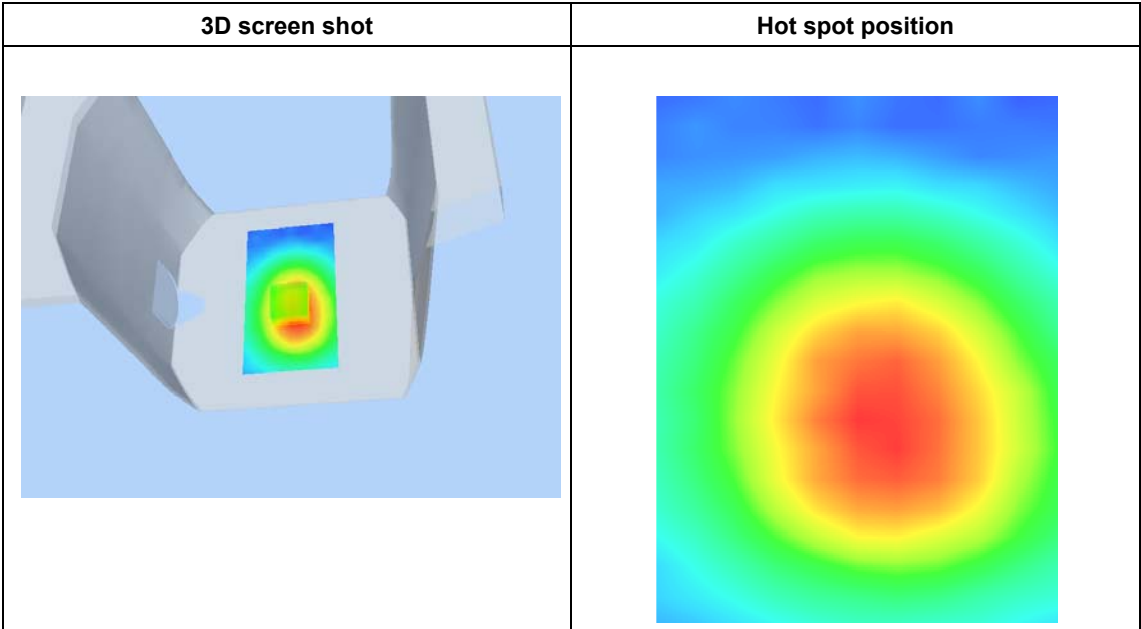
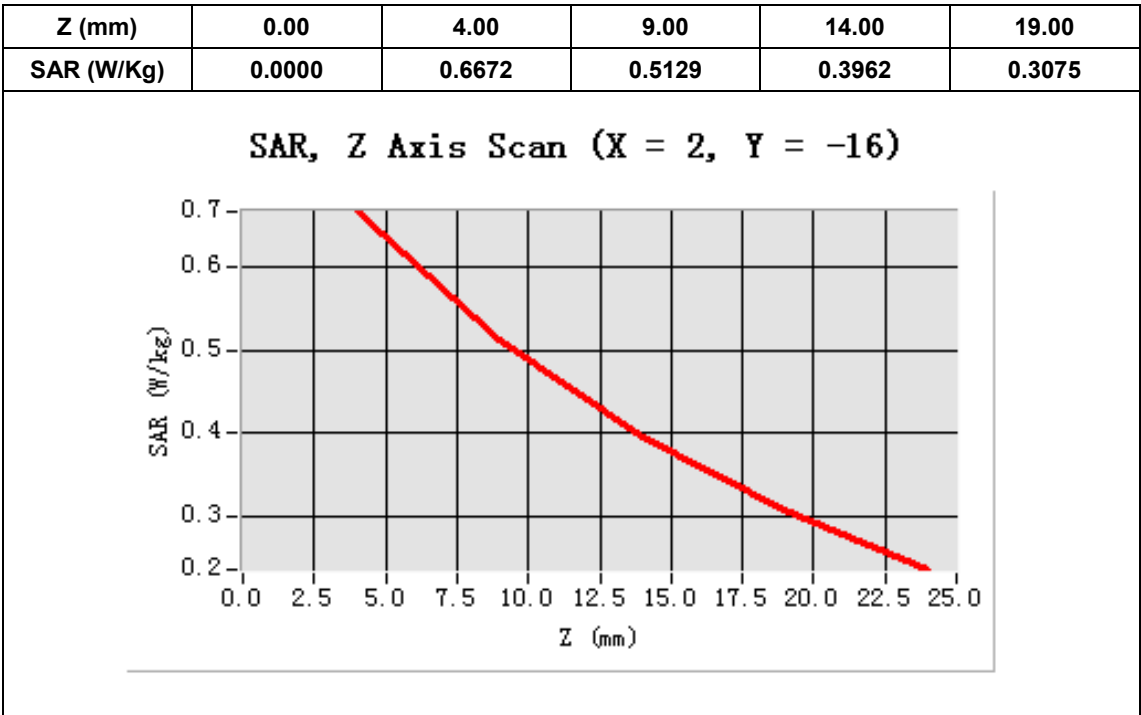
Configuration/GPRS1900 Mid Body-Bottom/Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)



Maximum location: X=2.00, Y=-16.00

SAR 10g (W/Kg)	0.499695
SAR 1g (W/Kg)	0.696457



Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Mid-Body Bottom (3up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS-3 Slot; Communication System Band: PCS 1900; Duty Cycle:1:2.8 ;

Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$ $\rho = 1000$

kg/m³ ; Phantom section: Flat Section

Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

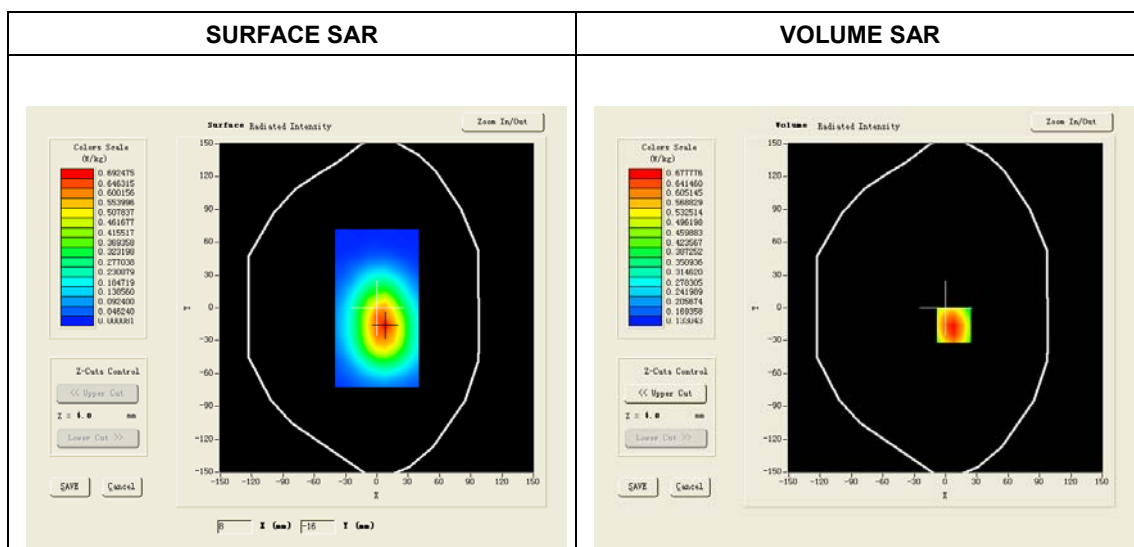
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS1900 Mid Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

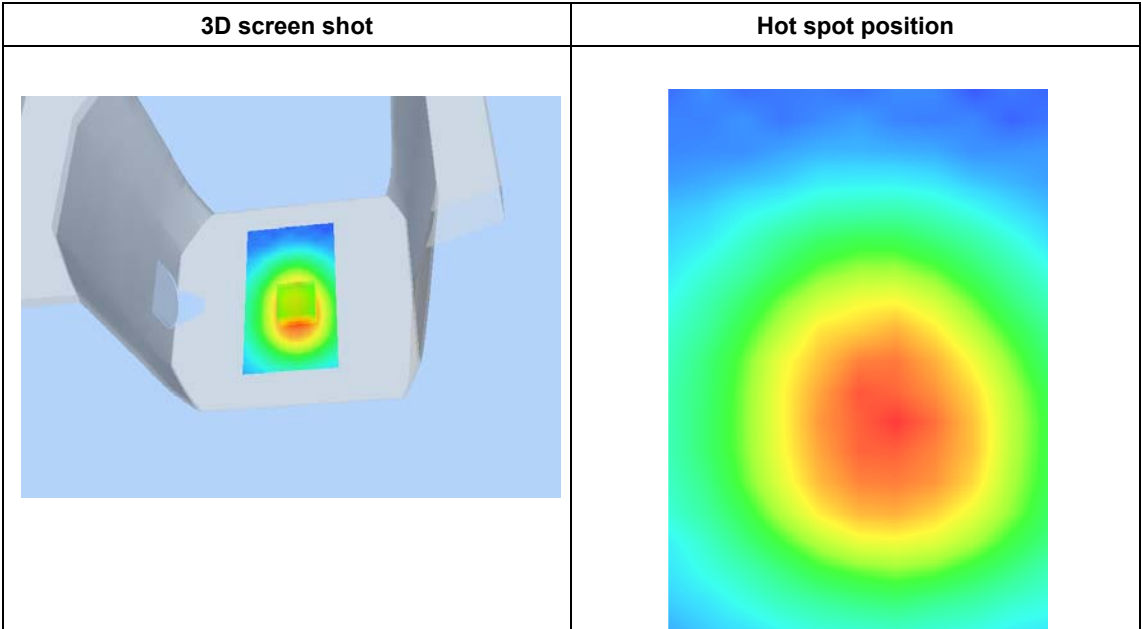
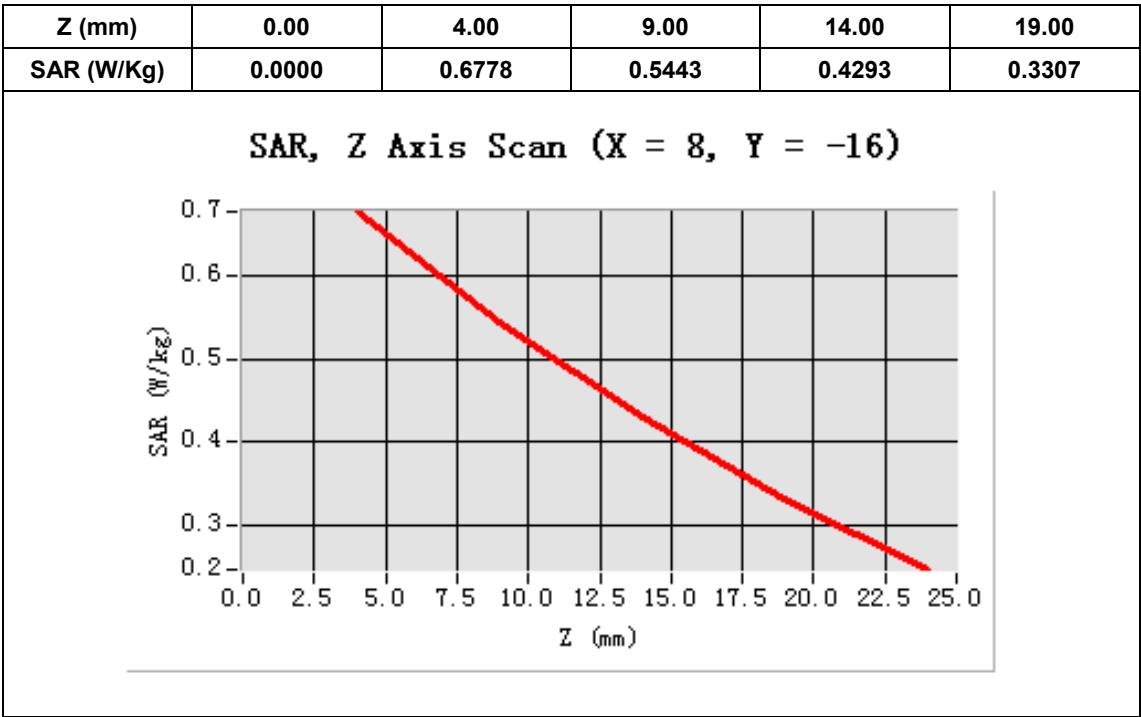
Configuration/GPRS1900 Mid Body-Bottom/Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 2.7)



Maximum location: X=8.00, Y=-16.00

SAR 10g (W/Kg)	0.516721
SAR 1g (W/Kg)	0.708798



Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Mid-Body Bottom (4up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS-4 Slot; Communication System Band: PCS 1900; Duty Cycle:1:2.1 ; Frequency: 1880 MHz;
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³ ; Phantom section: Flat Section
Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

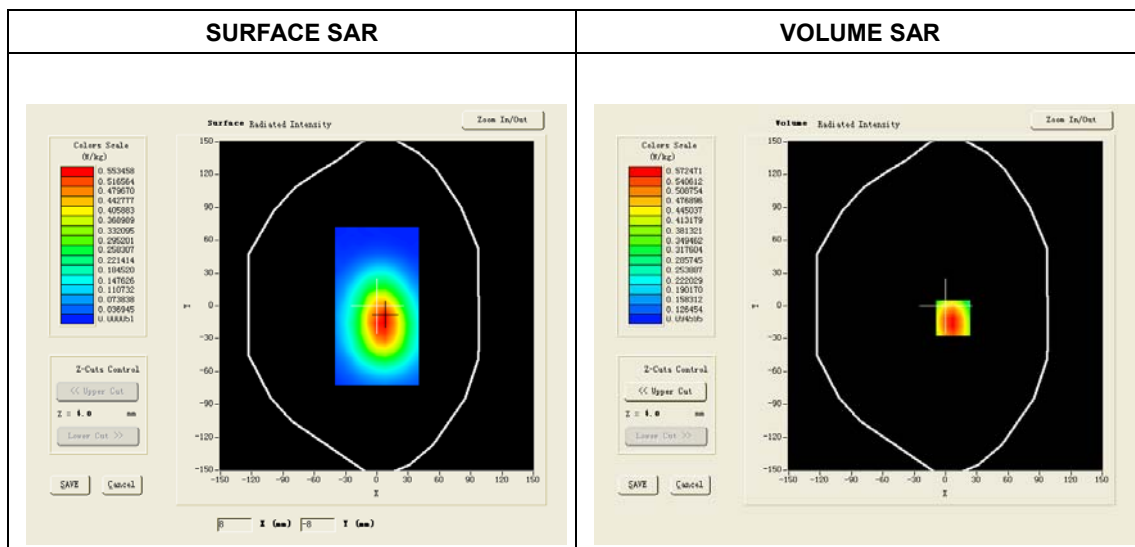
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS1900 Mid Body-Bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

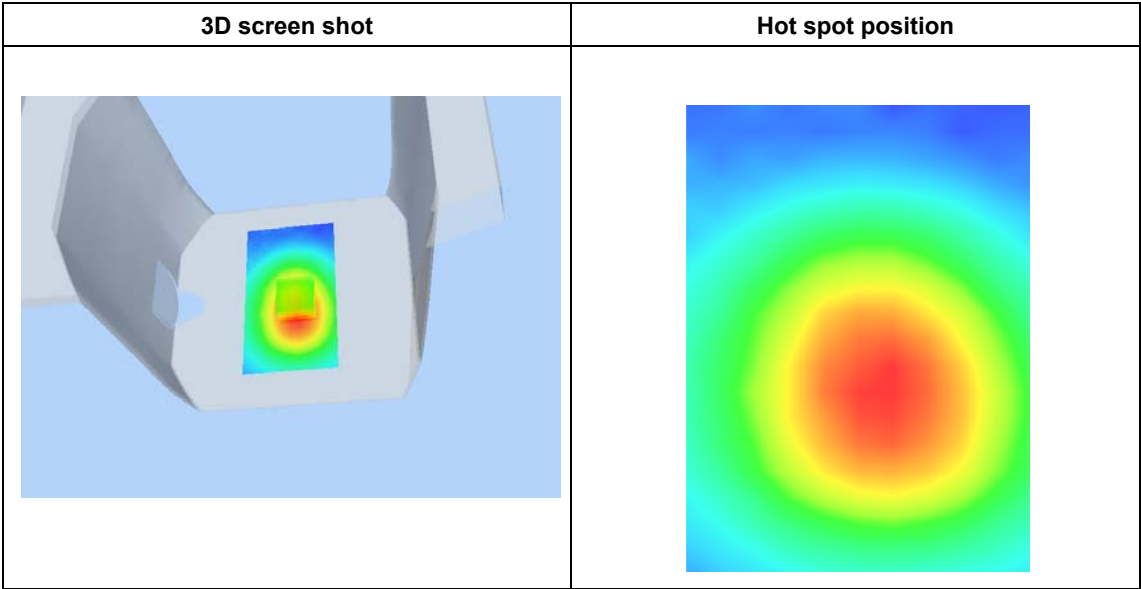
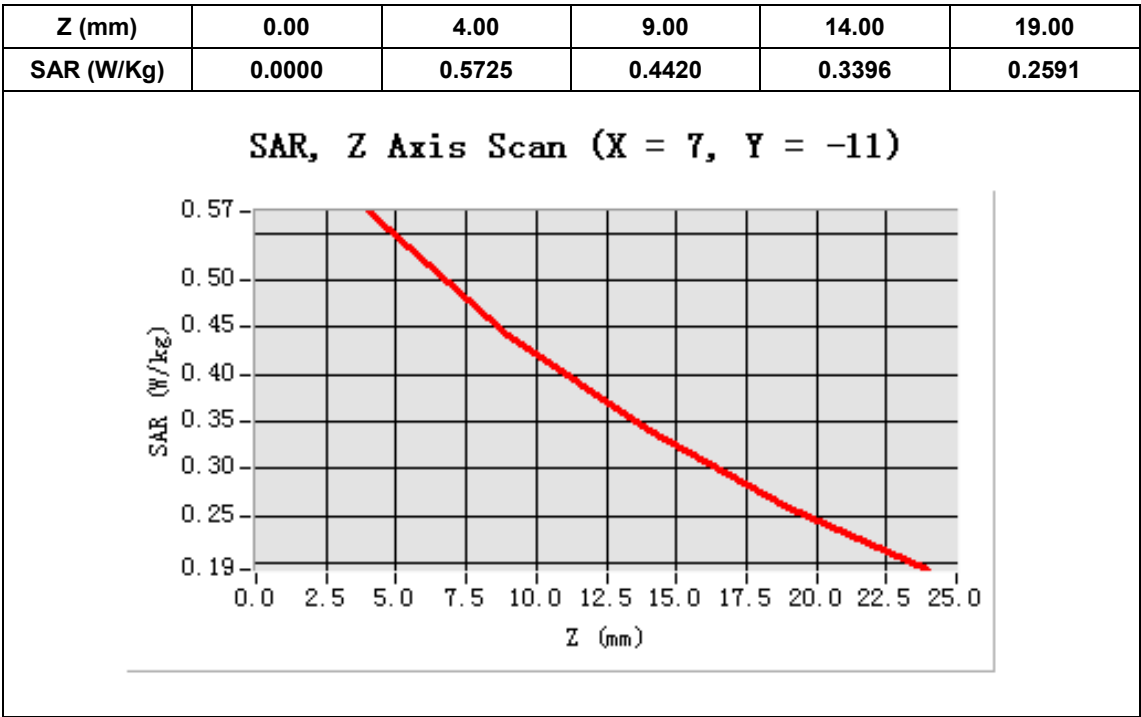
Configuration/GPRS1900 Mid Body-Bottom/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 2.0)



Maximum location: X=7.00, Y=-11.00

SAR 10g (W/Kg)	0.393195
SAR 1g (W/Kg)	0.554022



Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Mid-horizontal-touch(1up)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -1 Slot; Communication System Band: PCS 1900; Duty Cycle:

1:8.3 ; Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$

kg/m³ ; Phantom section: Flat Section

Ambient temperature (°C): 21.0, Liquid temperature (°C): 21.0

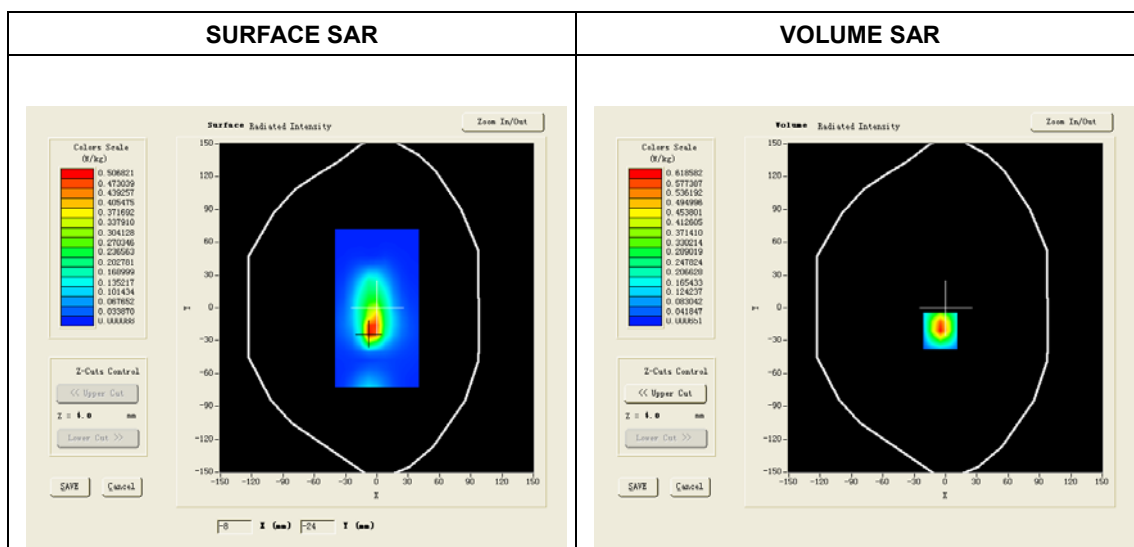
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS1900 Mid-horizontal-touch /Area Scan: Measurement grid: dx=20mm, dy=20mm

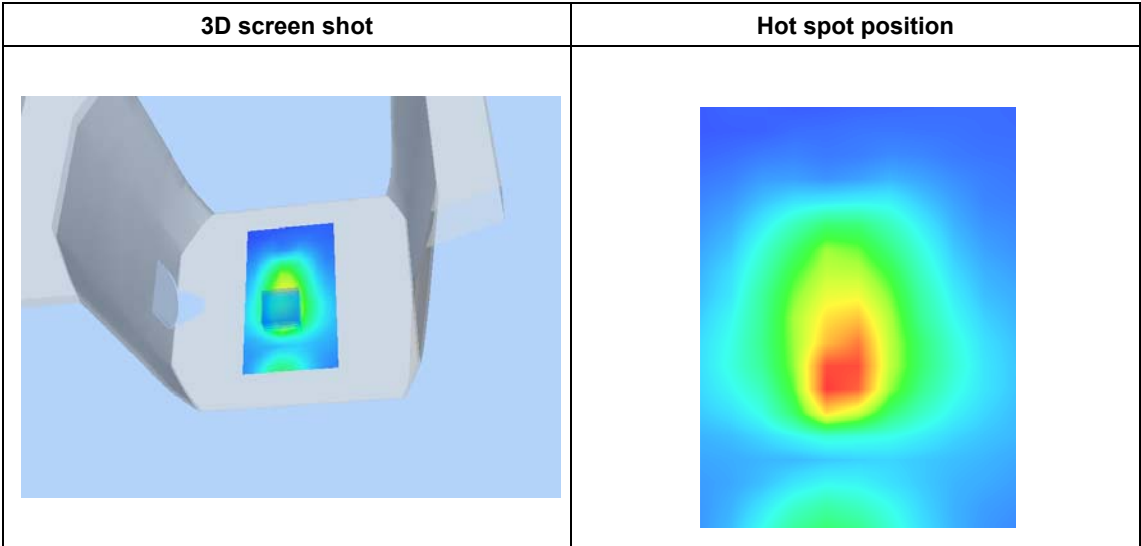
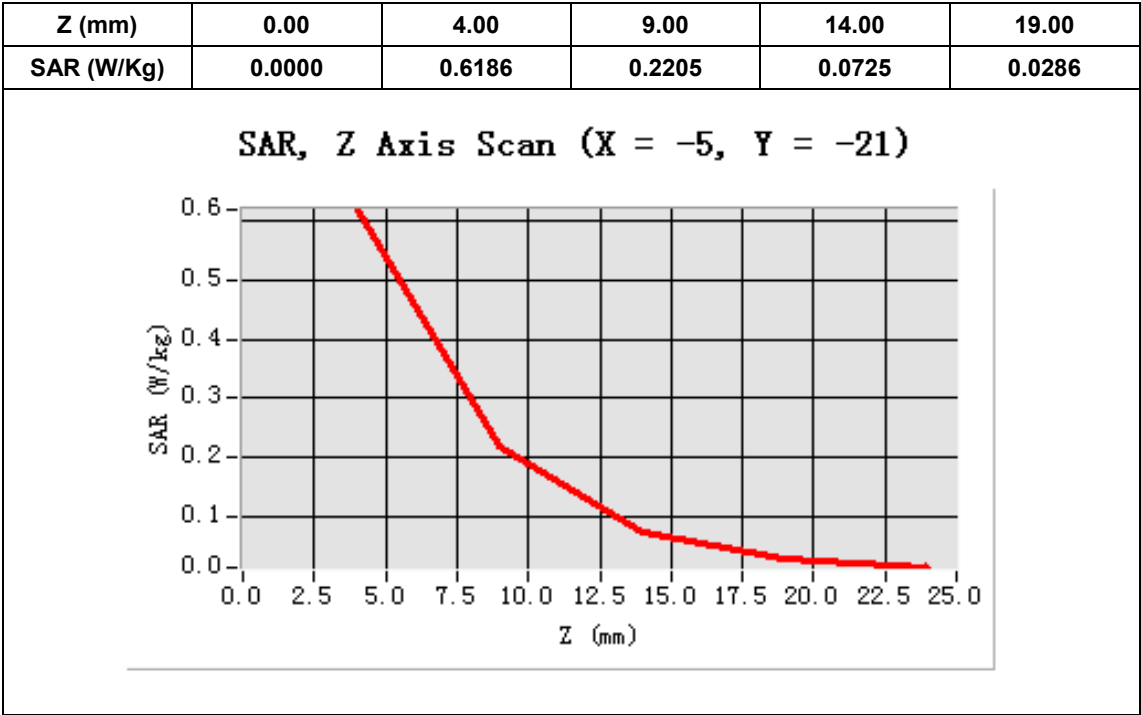
Configuration/GPRS1900 Mid Mid-horizontal-touch /Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)



Maximum location: X=-5.00, Y=-21.00

SAR 10g (W/Kg)	0.231880
SAR 1g (W/Kg)	0.583512



Test Laboratory: AGC Lab

data: MAR.18,2012

PCS 1900 Mid-body-vertical-touch (1up with headset)

DUT: Tablet PC; Type: VS14445

Communication System: GPRS -1 Slot; Communication System Band: PCS 1900; Duty Cycle:

1:8.3 ; Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$;

$\rho = 1000\text{kg/m}^3$; Phantom section: Flat Section

Ambient temperature ($^{\circ}\text{C}$): 21.0, Liquid temperature ($^{\circ}\text{C}$): 21.0

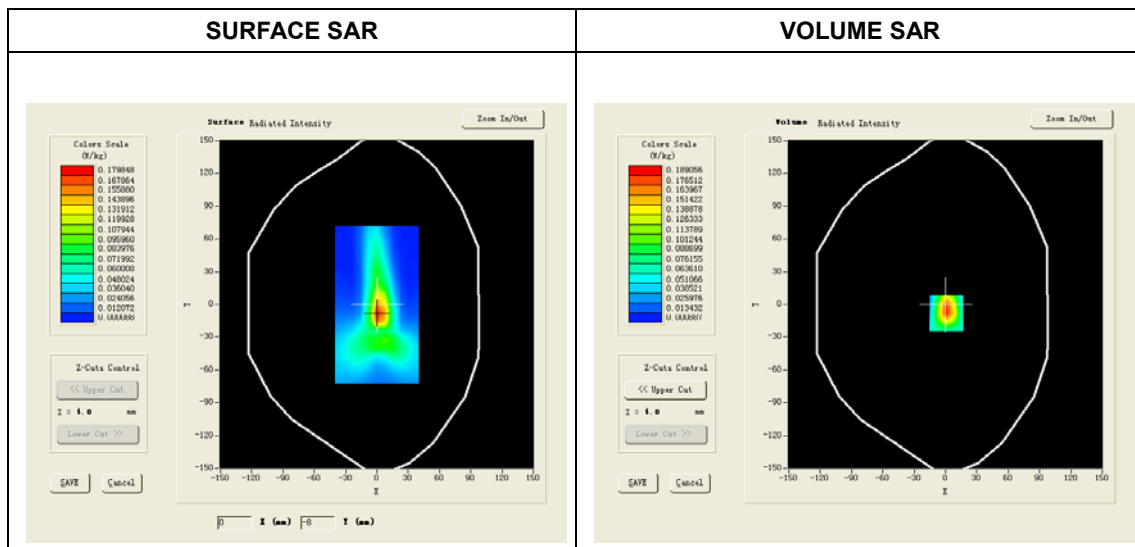
Satimo Configuration:

- Probe:SSE5; Calibrated: 09/12/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/GPRS1900 Mid body-vertical-touch /Area Scan: Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$

Configuration/GPRS1900 Mid body-vertical-touch /Zoom Scan: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

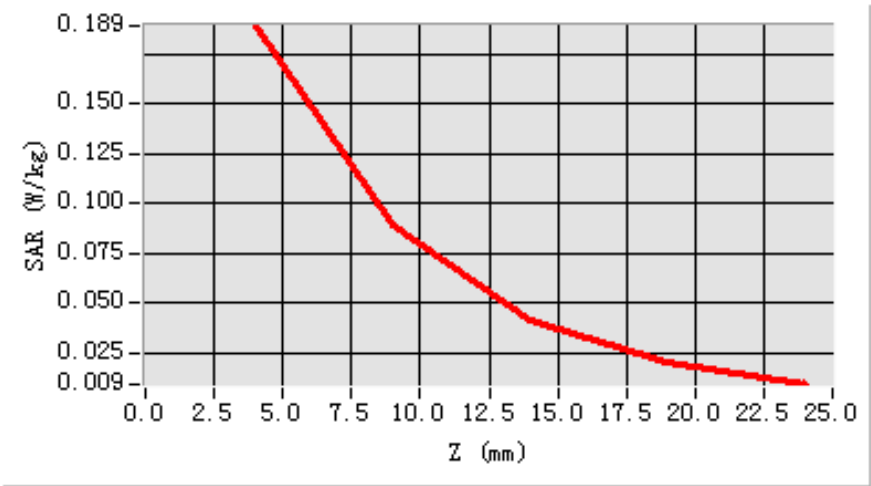


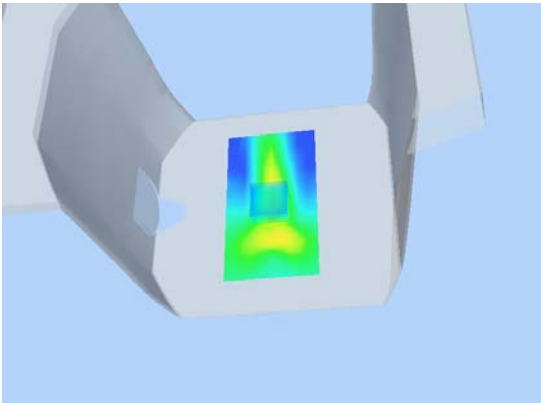
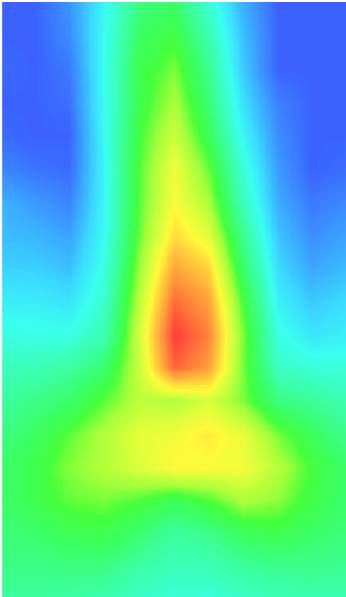
Maximum location: X=1.00, Y=-8.00

SAR 10g (W/Kg)	0.078457
SAR 1g (W/Kg)	0.175037

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1891	0.0897	0.0415	0.0202

SAR, Z Axis Scan (X = 1, Y = -8)



3D screen shot	Hot spot position
	

Test Laboratory: AGC Lab

Date: MAR.18,2012

WCDMA Band II Mid-Body-Towards Phantom (RMC)

DUT: Tablet PC; Type:VS14445

Communication Tablet PC System: UMTS; Communication Tablet PC System Band: Band II UTRA/FDD ;Duty Cycle:1:1;ConvF=6.42

Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$;

$\rho = 1000$ kg/m³ ; Phantom section: Left Section

Ambient temperature (°C):21, Liquid temperature (°C):21

Satimo Configuration:

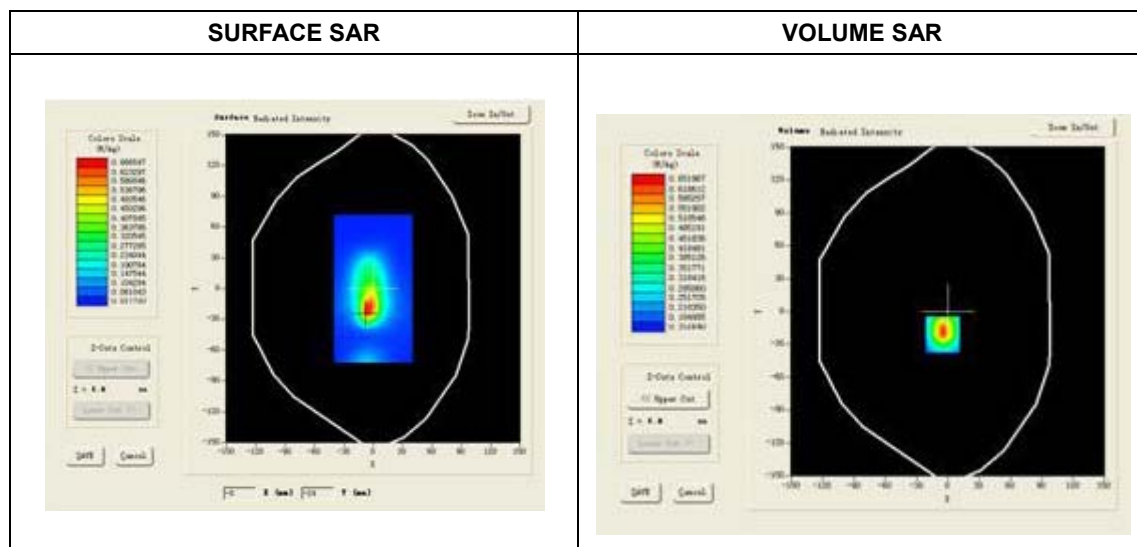
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ WCDMA Band II Mid-Body-Towards Phantom /Area Scan: Measurement grid: dx=20mm, dy=20mm

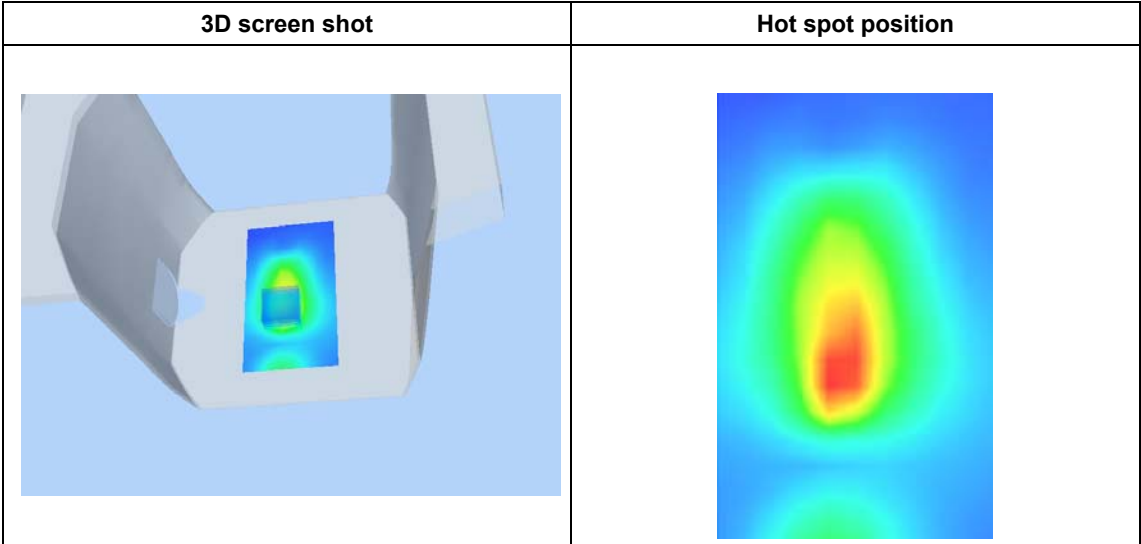
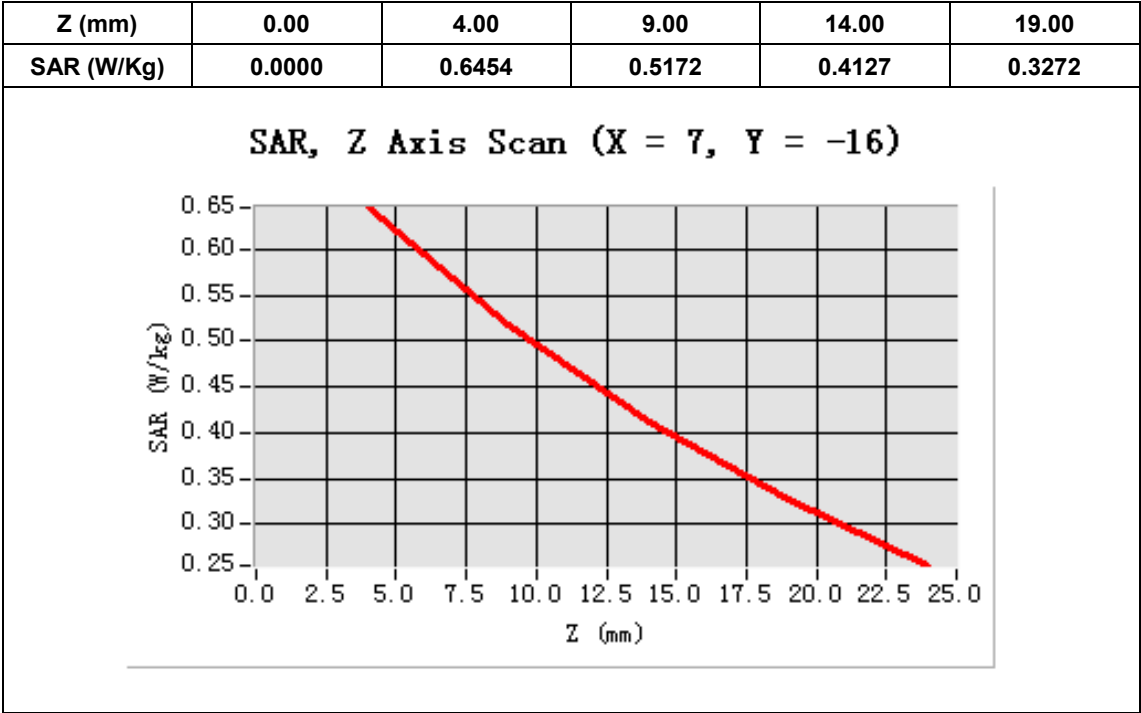
Configuration/ WCDMA Band II Mid-Body-Towards Phantom /Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Front
Band	WCDMA band II
Channels	Middle
Signal	TDMA (Crest factor: 1.0)



Maximum location: X=7.00, Y=-16.00

SAR 10g (W/Kg)	0.477497
SAR 1g (W/Kg)	0.634126



Test Laboratory: AGC Lab

Date: MAR.18,2012

WCDMA band II Mid-Body-towards ground (RMC)

DUT: Tablet PC; Type: VS14445

Communication Tablet PC System: UMTS; Communication Tablet PC System Band: Band II UTRA/FDD ;Duty Cycle:1:1;
convF=6.42

Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section

Ambient temperature (°C):21, Liquid temperature (°C):21

Satimo Configuration:

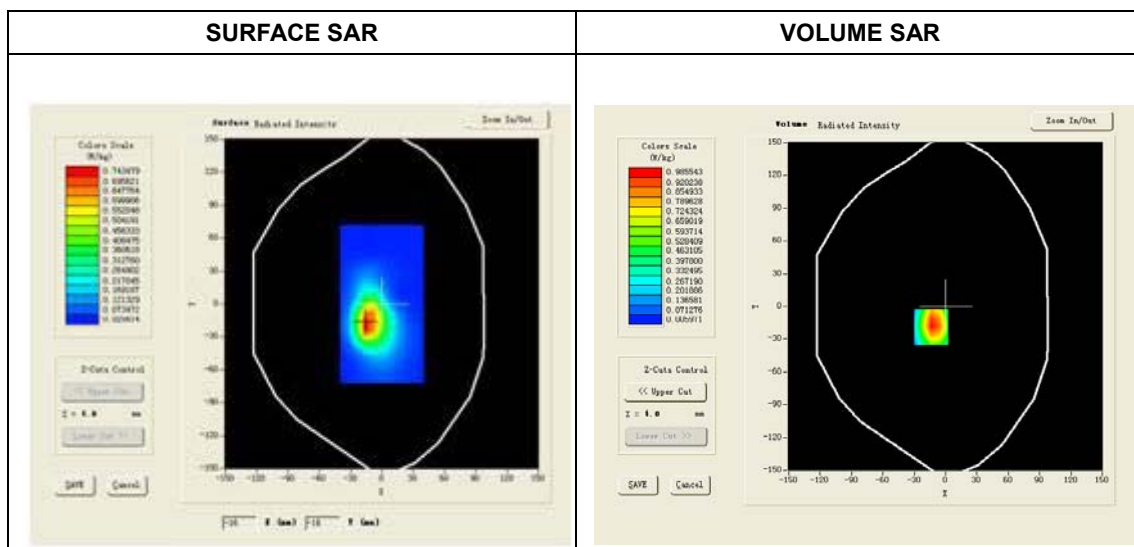
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ WCDMA band II Mid-Body-towards ground /Area Scan: Measurement grid: dx=20mm, dy=20mm

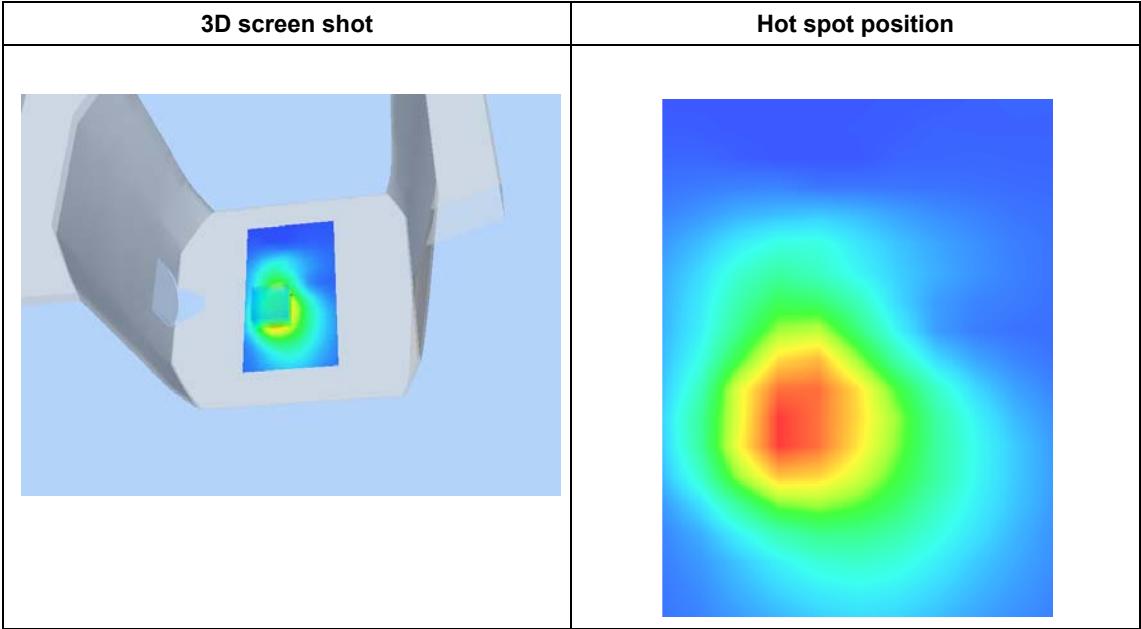
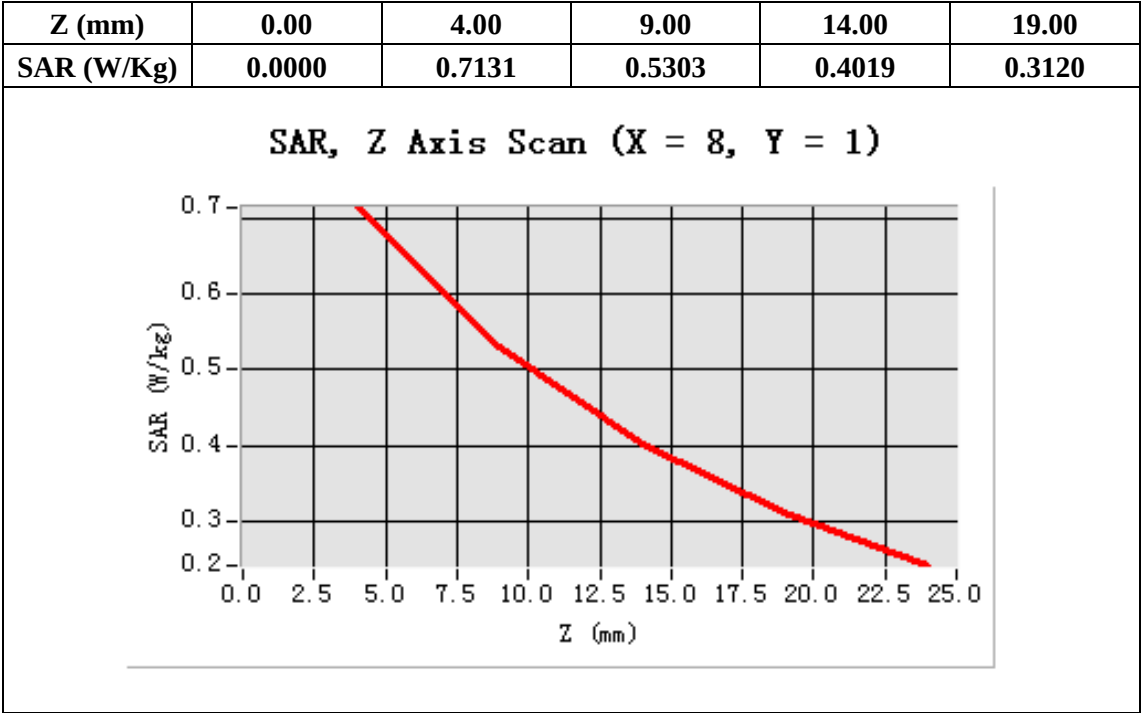
Configuration/ WCDMA band II Mid-Body-towards ground /Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Bottom
Band	WCDMA band II
Channels	Middle
Signal	TDMA (Crest factor: 1.0)



Maximum location: X=-14.00, Y=-19.00

SAR 10g (W/Kg)	0.500425
SAR 1g (W/Kg)	0.692235



Test Laboratory: AGC Lab**Date: MAR.18,2012****WCDMA band II Mid-Body-towards ground (HSDPA)****DUT: Tablet PC; Type:VS14445**

Communication Tablet PC System: UMTS; Communication Tablet PC System Band: Band II UTRA/FDD ;Duty Cycle:1:1;
convF=6.42

Frequency: 1880 MHz; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.17$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section

Ambient temperature (°C):21, Liquid temperature (°C):21

Satimo Configuration:

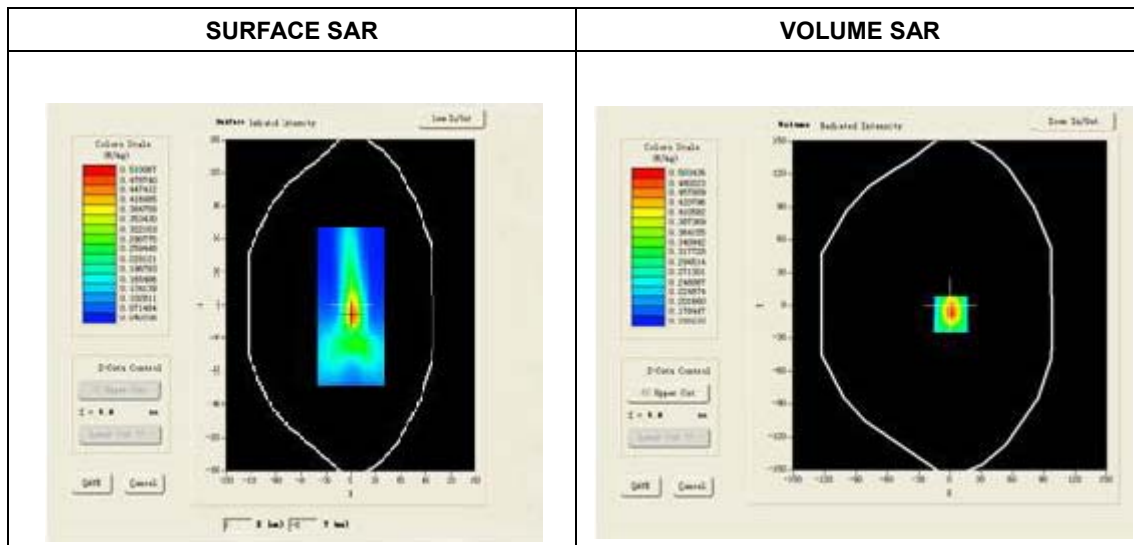
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ WCDMA band II Mid Body-bottom/Area Scan: Measurement grid: dx=20mm, dy=20mm

**Configuration/ WCDMA band II Mid Body-bottom/Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;**

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Bottom
Band	WCDMA band II
Channels	Middle
Signal	TDMA (Crest factor: 1.0)

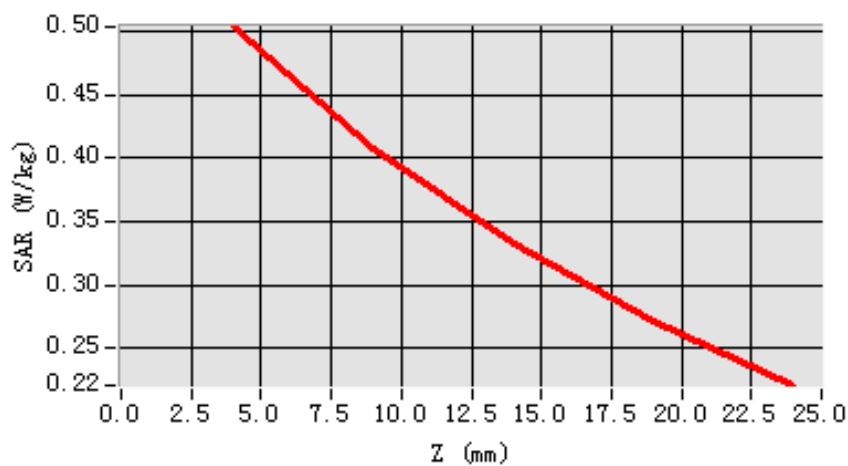


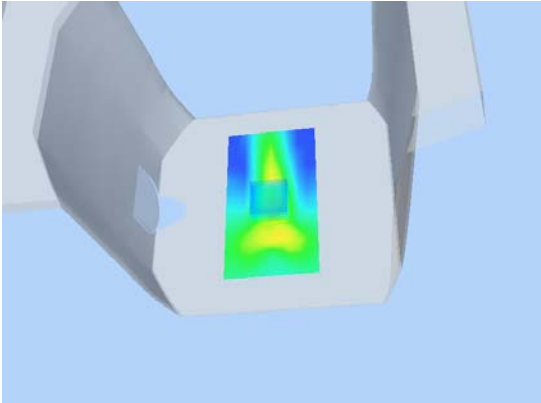
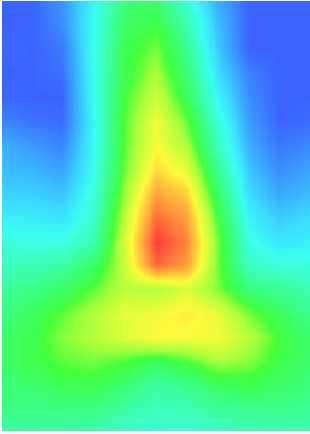
Maximum location: X=1.00, Y=-8.00

SAR 10g (W/Kg)	0.411530
SAR 1g (W/Kg)	0.532124

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.5034	0.4084	0.3328	0.2723

SAR, Z Axis Scan (X = 1, Y = -8)



3D screen shot	Hot spot position
 A 3D perspective view of a mechanical component, possibly a valve or fitting, rendered in a light gray color. A rectangular inset in the center of the component displays a color-coded thermal map, showing a bright yellow and red area indicating a hot spot.	 A 2D thermal map showing a hot spot. The map uses a color scale from blue (cool) to red (hot). A bright yellow and red area is visible in the center, indicating the location of the hot spot. The map is set against a white background.

Test Laboratory: AGC Lab**Date: MAR.18,2012****802.11b Mid-Body-towards ground****DUT: Tablet PC; Type:VS14445**

Communication System: Wi-Fi; Communication System Band: 802.11b ;Duty Cycle:1:1; convF=6.42

Frequency: 2442 MHz; Medium parameters used: $f = 2442$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 38.57$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section

Ambient temperature (°C):21, Liquid temperature (°C):21

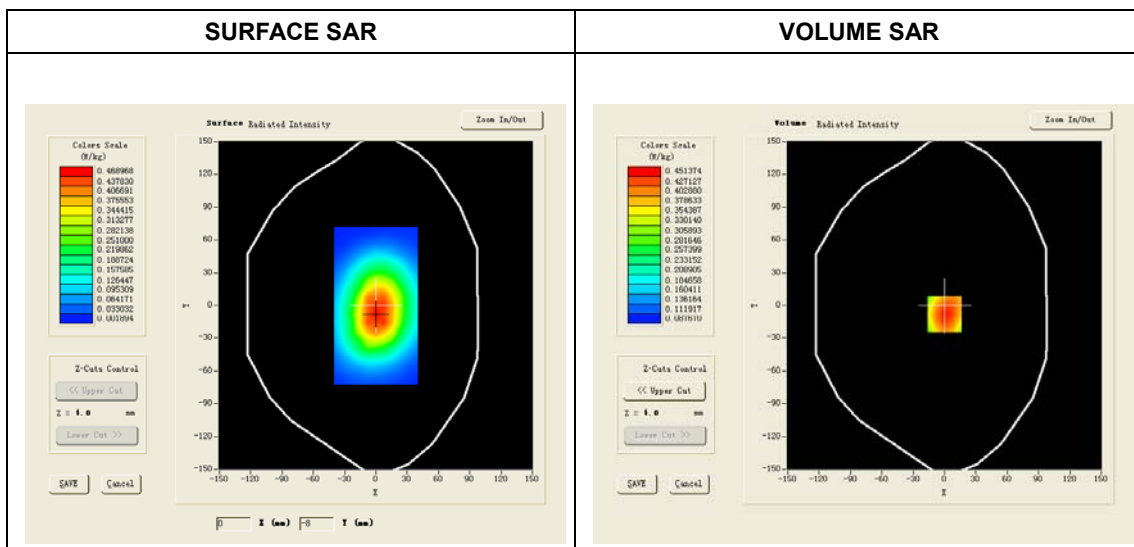
Satimo Configuration:

Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ 802.11b Mid Body- towards ground /Area Scan: Measurement grid: dx=20mm, dy=20mm**Configuration/ 802.11b Mid Body- towards ground /Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;**

Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Bottom
Band	WCDMA band II
Channels	Middle
Signal	TDMA (Crest factor: 1.0)

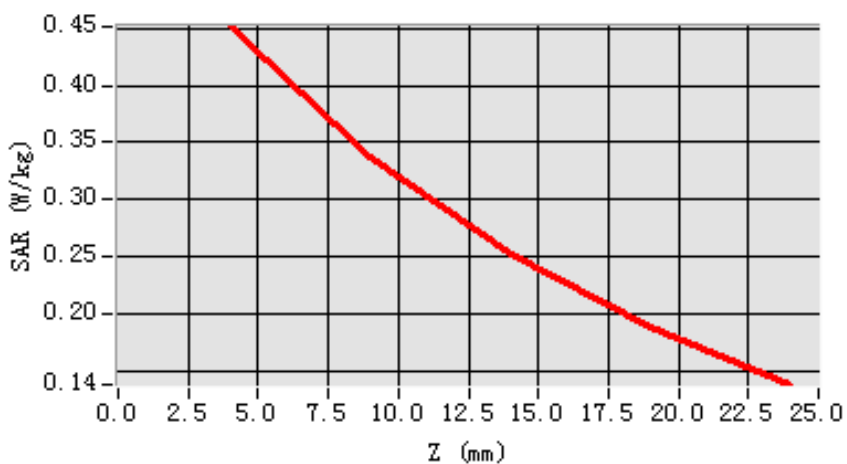


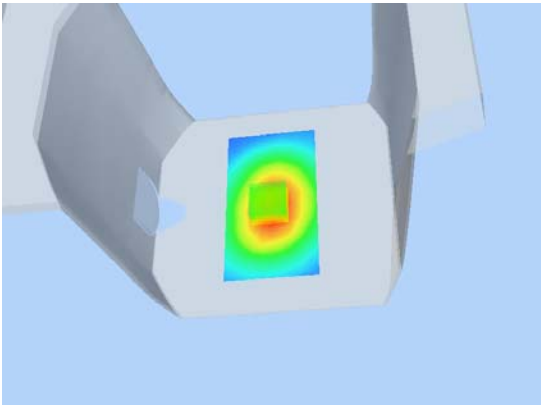
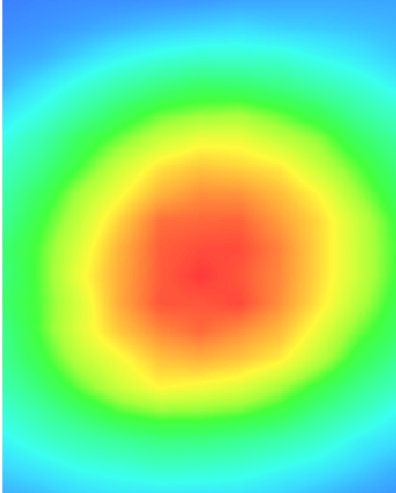
Maximum location: X=0.00, Y=-8.00

SAR 10g (W/Kg)	0.330491
SAR 1g (W/Kg)	0.467264

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4514	0.3377	0.2527	0.1890

SAR, Z Axis Scan (X = 0, Y = -8)



3D screen shot	Hot spot position
 A 3D perspective view of a grey mechanical component. A rectangular area on its front face is highlighted with a color-coded heatmap, showing a central red/orange region transitioning to yellow, green, and blue towards the edges.	 A 2D rectangular heatmap showing a circular hot spot. The center is a solid red color, surrounded by concentric rings of orange, yellow, green, and finally blue at the outer edges.

Test Laboratory: AGC Lab

Date: MAR.18,2012

802.11b Mid-Body-towards phantom

DUT: Tablet PC; Type:VS14445

Communication System: Wi-Fi; Communication System Band: 802.11b ;Duty Cycle:1:1; convF=6.42

Frequency: 2442 MHz; Medium parameters used: $f = 2442$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 38.57$; $\rho = 1000$ kg/m³ ;

Phantom section: Flat Section

Ambient temperature (°C):21, Liquid temperature (°C):21

Satimo Configuration:

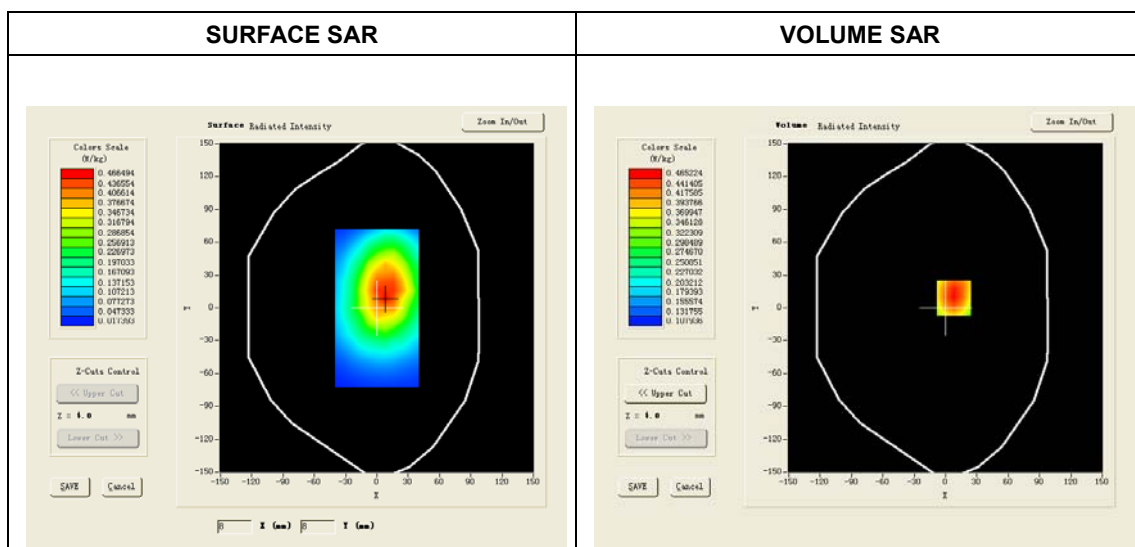
Probe:SSE5; Calibrated: 09/12/2011

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4_02_01

Configuration/ 802.11b Mid Body- towards phantom /Area Scan: Measurement grid: dx=20mm, dy=20mm

Configuration/ 802.11b Mid Body- towards phantom /Zoom Scan: Measurement grid: dx=8mm,
dy=8mm, dz=5mm;

Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Validation plane
Device Position	Body Bottom
Band	WCDMA band II
Channels	Middle
Signal	TDMA (Crest factor: 1.0)

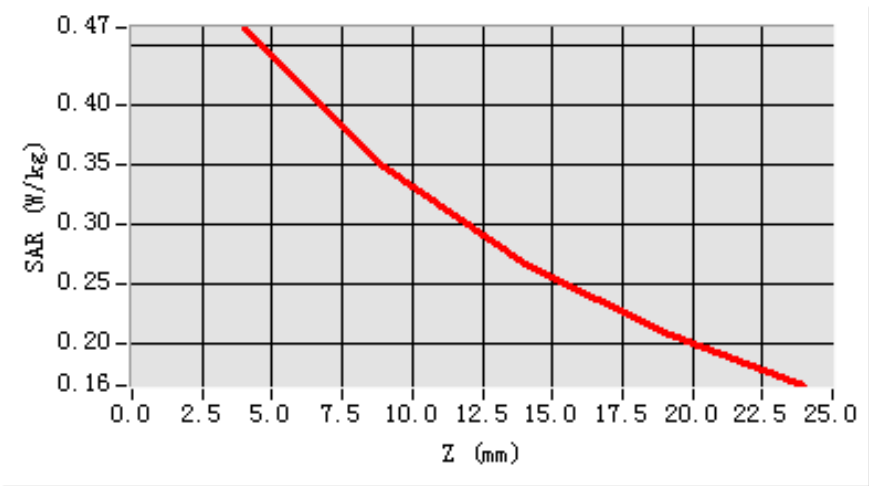


Maximum location: X=8.00, Y=9.00

SAR 10g (W/Kg)	0.349938
SAR 1g (W/Kg)	0.483473

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4652	0.3481	0.2660	0.2088

SAR, Z Axis Scan (X = 8, Y = 9)



3D screen shot	Hot spot position
