SAR Test Report

Report No.: AGC06P120801S1

FCC ID : UOSAM298

PRODUCT

DESIGNATION : mobile phone

BRAND NAME : AMGOO

MODEL NAME : AM298

CLIENT: Amgoo Telecom Co., Ltd.

DATE OF ISSUE: Aug. 13,2012

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

REPORT VERSION: V1.0

Attestation of Global Compliance(Shenzhen) Co., Ltd.

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Test Report Certification				
Applicant Name	:	Amgoo Telecom Co., Ltd.		
Applicant Address :		6/F,Block 3,Tongjian Building,Middle Shennan Rd, Futian District, Shenzhen, China		
Manufacturer Name	:	WATER WORLD TECHNOLOGY CO., LTD.		
Manufacturer Address	:	6 Floor, Block B, Digital Building, Garden City, No.1079 Nanhai Road, Nanshan, District, Shenzhen, Guangdong, P.R.China		
Product Designation	:	mobile phone		
Brand Name	-	AMGOO		
Model Name	:	AM298		
EUT Voltage	:	DC3.7V by battery		
Applicable Standard	:	FCC Oet65 Supplement C June 2001 IEEE Std. 1528-2003,47CFR § 2.1093		
Test Date	:	Aug. 11,2012		
		MAX SAR MEASUREMENT(1g)		
Test Results	:	Head:0.948 W/Kg (Scaling SAR=1.006 W/Kg)		
		Body:0.711W/Kg		
		Attestation of Global Compliance(Shenzhen) Co., Ltd.		
Performed Location		2 F, Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park,		
		Gushu, Xixiang Street, Bao'an District, Shenzhen, China		

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TABLE OF CONTENTS

1. GENERAL INFORMATION	3
1.1. EUT DESCRIPTION	4
1.3. TEST ENVIRONMENT	
2. SAR MEASUREMENT SYSTEM	5
2.1. COMOSAR SYSTEM DESCRIPTION	
2.3 ROBOT	
2.4. VIDEO POSITIONING SYSTERM	
2.5. DEVICE HOLDER	
2.6. SAM TWIN PHANTOM	9
3. TISSUE SIMULATING LIQUID	10
3.1. THE COMPOSITION OF THE TISSUE SIMULATING LIQUID	10
3.2. TISSUE CALIBRATION RESULT	
3.3. TISSUE DIELECTRIC PARAMETERS FOR HEAD AND BODY PHANTOMS	
4. SAR MEASUREMENT PROCEDURE	13
4.1. SAR SYSTEM VALIDATION	
4.2. SAR MEASUREMENT PROCEDURE	15
5. SAR EXPOSURE LIMITS	16
6. TEST EQUIPMENT LIST	17
7. MEASUREMENT UNCERTAINTY	18
8. CONDUCTED POWER MEASUREMENT	19
9. TEST RESULTS	20
9.1. SAR TEST RESULTS SUMMARY	20
APPENDIX A. SAR SYSTEM VALIDATION DATA	25
APPENDIX B. SAR MEASUREMENT DATA	29
APPENDIX C. TEST SETUP PHOTOGRAPHS &EUT PHOTOGRAPS	73
APPENDIX D. PROBE CALIBRATION DATA	84
APPENDIX E DIPOLE CALIBRATION DATA	Q3

Report No.:AGC06P120801S1 Page 3 of 110

1. General Information

1.1. EUT Description

201 200011pti			
General Information			
Product Designation	mobile phone		
Test Model	AM298		
Hardware Version	T181-MB-V0.2		
Software Version	N/A		
Device Category	Portable		
RF Exposure Environment	Uncontrolled		
Antenna Type	Internal		
GSM			
Support Band	☐ GSM 900 ☐ DCS 1800 (U.S. Bands)		
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		
Antenna Gain	1.0dBi		
Max. Output Power (Avg. Burst Power)	GSM850: 31.63dBm (32.74dBm Peak Power) PCS1900:28.72dBm (29.76 dBm Peak Power)		
Max. Output Power (Radiated)	GSM850: 30.57dBm- ERP PCS1900: 28.43dBm- EIRP		
Accessories			
Battery	Brand name: AMGOO Model No. : BL-4BB Voltage and Capacitance: 3.7V/650mAh		
Adapter	Brand name: AMGOO Model No. : CH4 Input& Output: AC :100-240V DC:5V		
Earphone	Brand name: AMGOO Model No. : AM298		

Note: The sample used for testing is end product.

Report No.:AGC06P120801S1 Page 4 of 110

1.2. Test Procedure

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT Communicate with CMU 200, and test them respectively at U.S. bands

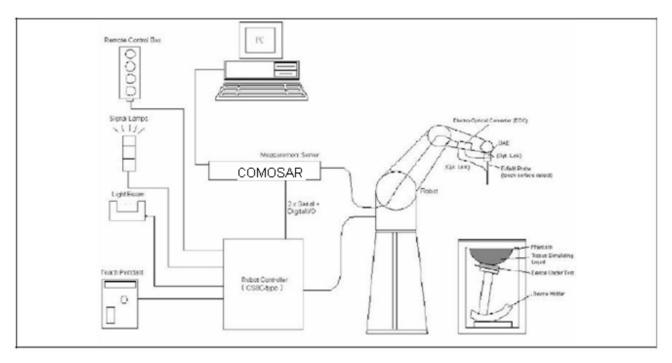
1.3. Test Environment

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:

34 A standard high precision 6-axis robot with controller, teach pendant and software.

An arm extension for accommodating the data acquisition electronics (DAE).

- ³/₄ A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection,
- collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital Communicate Mobile phone 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.
- 3/4 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.
- 3/4 The phantom, the device holder and other accessories according to the targeted measurement.

2.1.1. Applications

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

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 applications utilize a 10mm² step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

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

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 applications 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.

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

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

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

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 Specification

Model	SSE5			
Manufacture	Satimo			
frequency	0.3 GHz-6GHz			
	Linearity:±0.2dB(300 MHz-6GHz)			
Dynamic	0.01W/Kg-100W/Kg			
Range	Linearity:±0.2dB			
Dimensions	Overall length:330mm			
	Length of individual dipoles:4.5mm			
	Maximum external diameter:8mm			
	Probe Tip external diameter:5mm			
	Distance between dipoles/ probe			
	extremity:2.7mm			
Appli-mobile	High precision dosimetric measurements in any exposure scenario			
phone	(e.g., very strong gradient fields). Only probe which enables			
	compliance testing for frequencies up to 6 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 application:

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

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.

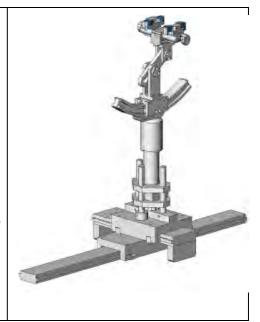


2.5. Device Holder

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 ϵr =3 and loss tangent δ = 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.

Report No.:AGC06P120801S1 Page 10 of 110

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	1.39	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 .

Head Tissue Stimulant Measurement					
Frequency (MHz)	Description	Dielectric F	Tissue Temp [°C]		
900MHz	Reference result ±5% window	εr 41.5 39.425-43.575	δ[s/m] 0.97 0.9215-1.0185	N/A	
	Aug. 11,2012	41.48	0.99	21	

Body Tissue Stimulant Measurement					
Frequency (MHz)	Description	Dielectric	Tissue Temp [°C]		
900MHz	Reference result ±5% window	εr 55.0 52.25-57.75	δ[s/m] 1.05 0.9975-1.1028	N/A	
	Aug. 11,2012	55.25	1.01	21	

Head Tissue Stimulant Measurement						
Frequency (MHz)	Description	Dielectric	Parameters	Tissue Temp [°C]		
1900MHz	Reference result ±5% window	εr 40.00 38.00-42.00	δ[s/m] 1.40 1.33-1.47	N/A		
	Aug. 11,2012	39.79	1.39	21		

Body Tissue Stimulant Measurement					
Frequency (MHz)	Description	Dielectric	Tissue Temp [°C]		
1900MHz	Reference result ±5% window	εr 53.30 50.64-55.97	δ[s/m] 1.52 1.44-1.60	N/A	
	Aug. 11,2012	53.24	1.51	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.

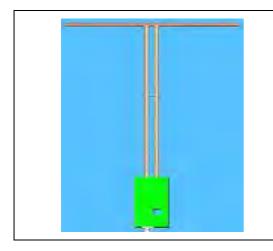
Target Frequency	head		bo	ody
(MHz)	εr	σ (S/m)	εr	σ (S/m)
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	1.01	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

⁽ ε_r = relative permittivity, σ_s = conductivity and ρ_s = 1000 kg/m₃)

SAR Measurement Procedure 4.

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 specifications in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical Specifications for the dipoles.

Frequency	L (mm)	h (mm)	d (mm)
900 MHz	149.0	83.3	3.6
1900MHz	68	39.5	3.6

Report No.:AGC06P120801S1 Page 14 of 110

4.1.2. Validation Result

System Performance Check at 900 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]				
900MHz	Reference result ± 10% window	10.9 9.81 to 11.99	6.99 6.29 to 7.69	N/A				
	Aug. 11,2012	10.56	6.54	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				
	Aug. 11,2012	41.74	21.50	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,

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

σ: represents the simulated tissue conductivity

p: represents the tissue density

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

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

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

The area scan is then run to establish the peak SAR location (interpolated resolution set at 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 location were found during the same configuration or test mode, Zoom scan shall performed on each peak SAR location, only the peak point with maximum SAR value will be reported for the configuration or test mode.

Report No.:AGC06P120801S1 Page 16 of 110

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 location which is deemed as "Uncontrolled Environment" which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

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

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for brain or body)	1.60 W/kg

6. Test Equipment List

Equipment description	Manufacturer/Mo del	Identification No.	Identification No. Current calibration date Next calil dat		
SAR Probe	Satimo	SN_3511_EP132	12/09/2011	12/08/2012	
Phantom	Satimo	SN_4511_SAM90	N_4511_SAM90 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	03/30/2012	03/29/2013	
Network Analyzer	Rhode & Schwarz ZVA	SN100132	02/07/2012	02/06/2013	

Note: Per KDB 50824 Dipole SAR Validation Verification, 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 6 GHz averaged over 1 gram / 10 gram.										
Error Description	Sec	Tol	Prob.	Div.	(Ci)	(Ci)	Std.	Std.	(Vi)	
·		(±%)	Dist.		1g	10g	Unc.	Unc.	Veff	
							(1g) (±%)	(10g)(±%)		
Measurement System		_		1	l	l	l	l	.1	
Probe Calibration	E.2.1	6	N	1	1	1	6	6	00	
Axial Isotropy	E.2.2	3	R	√3	$(1-c_p)^{1/2}$	$(1-c_p)^{1/2}$	1.22474	1.22474	00	
Hemispherical Isotropy	E.2.2	5	R	√3	√C _p	√C _p	2.04124	2.04124	00	
Boundary Effects	E.2.3	1	R	√3	1	1	0.57735	0.57735	00	
Linearity	E.2.4	5	R	√3	1	1	2.88675	2.88675	00	
System Detection	E.2.5	1	R	√3	1	1	0.57735	0.57735	00	
Limits										
Readout Electronics	E.2.6	0.5	N	1	1	1	0.5	0.5	00	
Response Time	E.2.7	0.2	R	√3	1	1	0.11547	0.11547	00	
Integration Time	E.2.8	2	R	√3	1	1	1.1547	1.1547	00	
RF Ambient Noise	E.6.1	3	R	√3	1	1	1.73205	1.73205	00	
Probe Positioner	E.6.2	2	R	√3	1	1	1.1547	1.1547	00	
Mechanical Tolerance										
Probe Positioning with	E.63	1	R	√3	1	1	0.57735	0.57735	00	
Respect to Phantom Shell										
Extrapolation,interpolation	E.5.2	1.5	R	√3	1	1	0.86603	0.86603	80	
and Integration Algorithms for										
Max. SAR Evaluation										
Dipole				_	1		1			
Device Positioning	8,E.4.2	1	N	√3	1	1	0.57735	0.57735	N-1	
Power Drift	8.6.6.2	2	R	√3	1	1	1.1547	1.1547	00	
Phantom and Tissue										
Parameters		1	1		T	1	T	1	1	
Phantom Uncertainty	E.3.1	4	R	√3	1	1	2.3094	2.3094	00	
Liquid Conductivity (target)	E.3.2	5	R	√3	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	√3	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	М	
Combined Standard			RSS				8.09272	7.9296		
Uncertainty										
Expanded Uncertainty			k				16.18544	15.8592		
(95%CONFIDENCE										
INTERVAL)										

8. Conducted Power Measurement

Mode	Eroguepov(MHz)	Peak	Avg. Burst	Duty cycle	Frame				
Wiode	Frequency(MHz)	Power	Power(dBm)	Factor(dBm)	Power(dBm)				
Maximum Power<1>									
	824.2	32.74	31.63	-9	22.63				
GSM850	836.6	32.61	31.51	-9	22.51				
	848.8	32.55	31.37	-9	22.37				
	1850.2	29.76	28.72	-9	19.73				
PCS1900	1880	29.63	28.73	-9	19.72				
	1909.8	29.64	28.72	-9	19.71				
Maximum Power	Maximum Power<1>								
GSM850	824.2	32.56	31.48	-9	22.48				
PCS1900	1909.8	29.53	28.42	-9	19.42				

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

Report No.:AGC06P120801S1 Page 20 of 110

9. Test Results

9.1. SAR Test Results Summary

9.1.1. Test position and configuration

Head SAR was performed with the device configured in the positions according to IEEE1528, and Body SAR was performed with the device 15mm from the phantom. Body SAR was also performed with the headset attached and without.

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 operation mode represents the maximum SAR situation, when 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

During the head SAR test, the device was transmitting with maximum 1 uplink timeslot; during the body SAR test .Additionally, this device doesn't support dual transfer mode (DTM).

9.1.5. Test Result

SAR MEASUREMENT	
Ambient Temperature (°C) : 21 ± 2	Relative Humidity (%): 55
Liquid Temperature (°C) : 21 ± 2	Depth of Liquid (cm):>15
Product: mobile phone	

Product: mobile phone

Test Mode: GSM850 with GMSK modulation

Configuration		Antenna Frequency		Avg. Burst	Power	SAR	Limit		
SIM	Position	Status	Position	channel	MHz	Power (dBm)	Drift (<±0.2 dB)	(1g) (W/kg)	(W/kg)
				128	824.2	31.63	0.02	0.948	1.6
		Cheek	Fixed	190	836.6	31.51	0.01	0.940	1.6
	Left			251	848.8	31.37	-0.01	0.934	1.6
	Head	Tilted	Fixed	128	824.2	31.63			1.6
				190	836.6	31.51	-0.02	0.726	1.6
-15				251	848.8	31.37			1.6
<1>		Cheek	Fixed	128	824.2	31.63			1.6
				190	836.6	31.51	-0.04	0.445	1.6
	Right			251	848.8	31.37			1.6
	Head			128	824.2	31.63			1.6
		Tilted	Fixed	190	836.6	31.51	-0.05	0.333	1.6
				251	848.8	31.37			1.6
<2>	Left	Cheek	Fixed	128	824.2	31.48	0.04	0.615	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.

SAR MEASUREMENT	
Ambient Temperature (°C) : 21 ± 2	Relative Humidity (%): 55
Liquid Temperature (°C) : 21 ± 2	Depth of Liquid (cm):>15

Product: mobile phone

Test Mode: GSM850 with GMSK modulation

Configuration		Antenna	Frequency		Avg. Burst	Power	SAR	Limit	
SIM	Position	Status	Position	chann el	MHz	Power (dBm)	Drift (<±0.2 dB)	(1g) (W/kg)	(W/kg)
	D - de			128	824.2	31.63			1.6
	Body back	MS	Fixed	190	836.6	31.51	-0.01	0.711	1.6
	Dack			251	848.8	31.37			1.6
		MS		128	824.2	31.63			1.6
<1>	Body Front		Fixed	190	836.6	31.51	-0.06	0.377	1.6
	Tiont			251	848.8	31.37			1.6
		MS		128	824.2	31.63			1.6
Boo bac	Body	with		190	836.6	31.51	-0.02	0.637	1.6
	Dack	Earphone	251	848.8	31.37			1.6	

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

SAR MEASUREMENT	
Ambient Temperature (°C) : 21 ± 2	Relative Humidity (%): 55
Liquid Temperature (°C) : 21 ± 2	Depth of Liquid (cm):>15
Product: mobile phone	

Test Mode: PCS1900 with GMSK modulation

Configuration		Fred Antenna		uency	Avg. Burst	Power	SAR	Limit	
SIM	Position	Status	Position	channel	MHz	Power (dBm)	Drift (<±0.2 dB)	(1g) (W/kg)	(W/kg)
				512	1850.2	28.72	1		1.6
		Cheek	Fixed	661	1880.0	28.73	-0.06	0.380	1.6
	Left			810	1909.8	28.72	1		1.6
	Head	Tilted	Fixed	512	1850.2	28.72			1.6
				661	1880.0	28.73	-0.05	0.530	1.6
<1>				810	1909.8	28.72			1.6
		Cheek	Fixed	512	1850.2	28.72	0.03	0.820	1.6
				661	1880.0	28.73	-0.01	0.868	1.6
	Right			810	1909.8	28.72	0.01	0.899	1.6
	Head			512	1850.2	28.72	1	0.845	1.6
		Tilted	Fixed	661	1880.0	28.73	-0. 02	0.862	1.6
				810	1909.8	28.72	-0.04	0.797	1.6
<2>	Right	Cheek	Fixed	810	1909.8	28.42	0.01	0.342	1.6

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

SAR MEASUREMENT	
Ambient Temperature (°C) : 21 ± 2	Relative Humidity (%): 55
Liquid Temperature (°C) : 21 ± 2	Depth of Liquid (cm):>15
Product: mobile phone	

Test Mode: GSM1900 with GMSK modulation

Configuration			Freq	Frequency		Power	SAR		
SIM	Position	Status	Antenna Position	chann el	MHz	Burst Power (dBm)	Drift (<±0.2 dB)	(1g) (W/kg)	Limit (W/kg)
	5 .	MS Fixed		512	1850.2	28.72			1.6
	Body Back		Fixed	661	1880.0	28.73	0.01	0.430	1.6
	Dack			810	1909.8	28.72			1.6
		Body Front MS Fixed	Fixed	128	824.2	31.63			1.6
<1>				190	836.6	31.51	-0.06	0.156	1.6
	Front			251	848.8	31.37			1.6
	Body back	' I with I Fixed I	128	824.2	31.63			1.6	
			Fixed	190	836.6	31.51	-0.02	0.078	1.6
				251	848.8	31.37			1.6

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

Date: Aug. 11,2012

Page 25 of 110

Appendix A. SAR System Validation Data

Test Laboratory: AGC Lab

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; Conv.F=6.79 Frequency: 850 MHz; Medium parameters used: f = 850 MHz; $\sigma = 0.99$ mho/m; $\epsilon r = 41.48$; $\rho = 1000$ kg/m³;

Phantom section: Flat Section ; Input Power=10dBm Ambient temperature ($^{\circ}$ C): 21, Liquid temperature ($^{\circ}$ C): 21

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

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

· Phantom: SAM1; Type: SAM

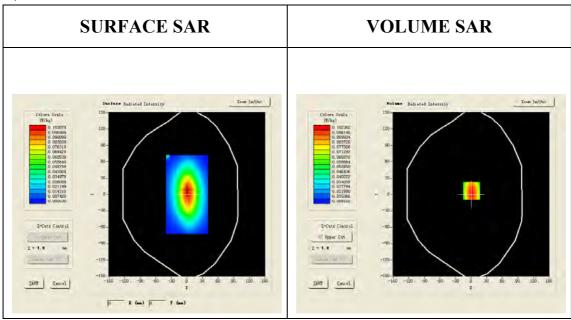
Measurement SW: OpenSAR V4_02_01

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

dy=8mm

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

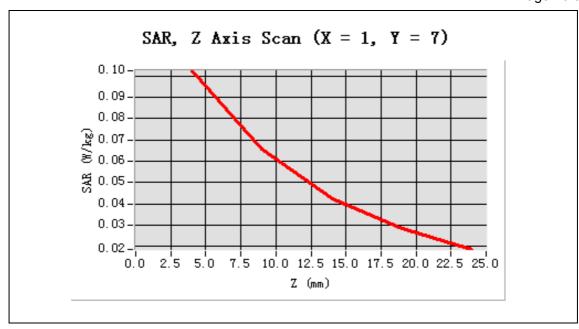
dy=8mm, dz=5mm

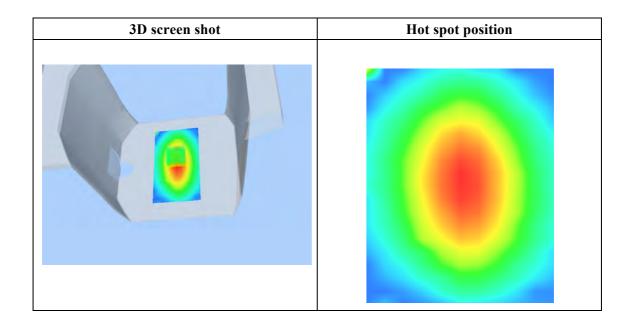


Maximum location: X=1.00, Y=7.00

SAR 10g (W/Kg)	0.065419
SAR 1g (W/Kg)	0.105640

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1024	0.0657	0.0426	0.0283





Page 27 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

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;

Conv.F=6.42Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon r = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Flat Section ; Input Power=10dBm Ambient temperature ($^{\circ}$ C): 21, Liquid temperature ($^{\circ}$ C): 21

Satimo Configuration:

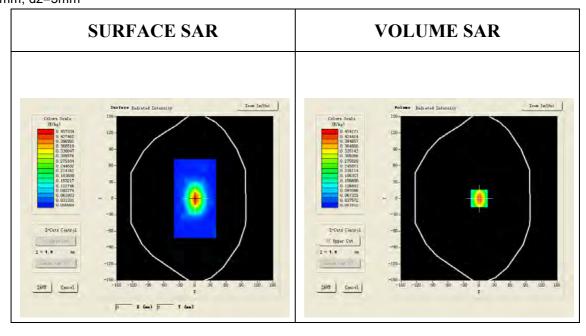
Probe:SSE5; Calibrated: 12/09/2011

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

· Phantom: SAM1; Type: SAM

Measurement SW: OpenSAR V4_02_01

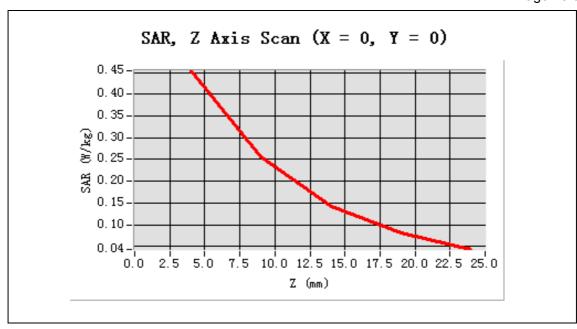
Configuration/System Check PCS1900 Head/Area Scan: Measurement grid: dx=8mm,dy=8mm Configuration/System Check PCS1900 Head/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm

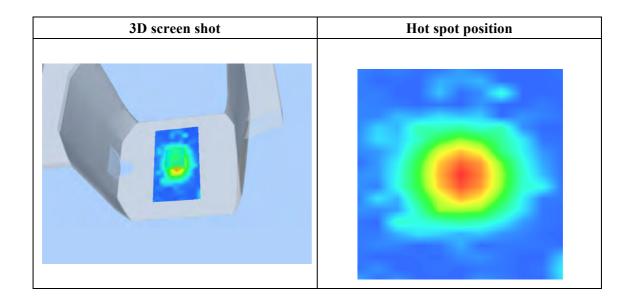


Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	0.214961
SAR 1g (W/Kg)	0.417386

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4542	0.2566	0.1434	0.0811





Page 29 of 110

Appendix B. SAR measurement Data

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Low-Touch-Left<SIM 1> DUT: mobile phone ; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3; Conv.F=6.79 Frequency: 824.2 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m; $\epsilon r = 41.48$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Left Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

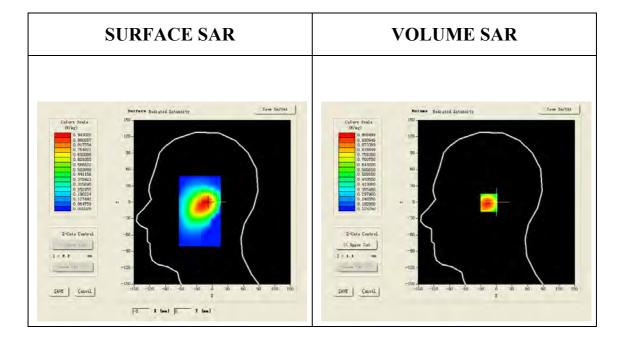
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Low-Touch-Left/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Low-Touch-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

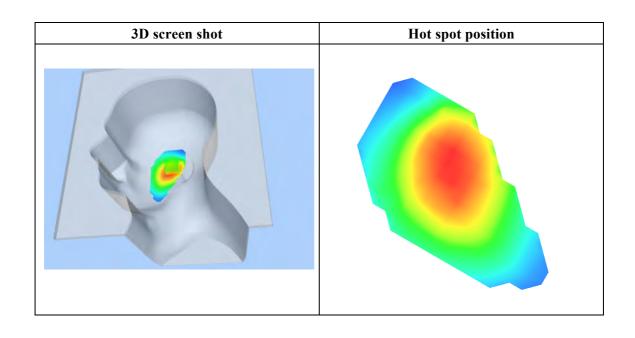
Area Scan	sam_direct_droit2_surf8mm.txt	
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast	
Phantom	Left head	
Device Position	Cheek	
Band	GSM850	
Channels	Low	
Signal	TDMA (Crest factor: 8.0)	



Maximum location: X=-11.00, Y=-1.00

SAR 10g (W/Kg)	0.636872	
SAR 1g (W/Kg)	0.948423	

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9885	0.6963	0.5058	0.3835
1	SAR, Z	Axis Scan	(X = -11,	Y = -1)	
	. 9 -				
	1.8-				
	. 7 –				
(€	1.6-				
SAR	.5-				
	. 4 -				
0	0.0 2.5	5.0 7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	ī. o
			Z (mm)		



Page 31 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Middle-Touch-Left<SIM 1> DUT: mobile phone ; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79 Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m; $\epsilon r = 41.48$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Left Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

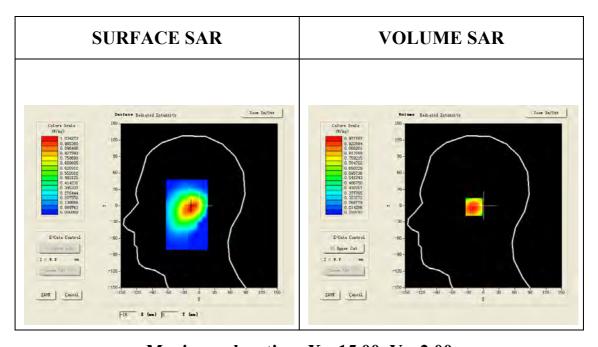
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4 02 01

Configuration/GSM850 Mid Touch-Left/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Touch-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

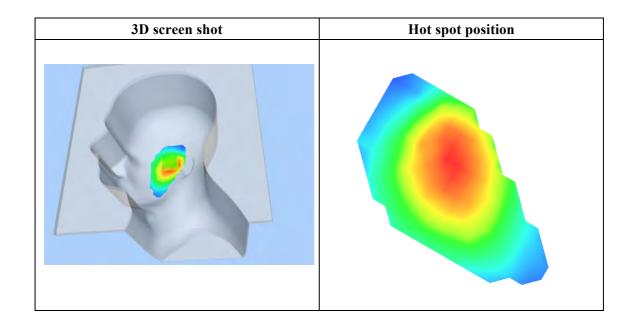
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.0)



Maximum location: X=-15.00, Y=-2.00

SAR 10g (W/Kg)	0.661251
SAR 1g (W/Kg)	0.939644

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9772	0.7468	0.5627	0.4160
			.		
	SAR, Z	Axis Scan	(X = -15,	Y = -2)	
1	.0-				.
0	. 9-		\perp		
0	. 8 -				
_					
χ, υ	. 7 –				
SAR (#/kg)	. 6 -	 	$\overline{}$		-
∞, 0	.5-				
0	. 4 -				
U	.3- 	.0 7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	i . 0
			Z (mm)		



Page 33 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 High-Touch-Left<SIM 1>
DUT: mobile phone ; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79 Frequency: 848.8 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m; $\epsilon r = 41.48$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Left Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

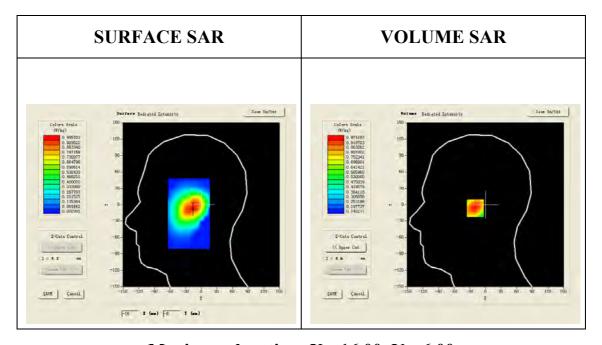
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 High-Touch-Left/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 High-Touch-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

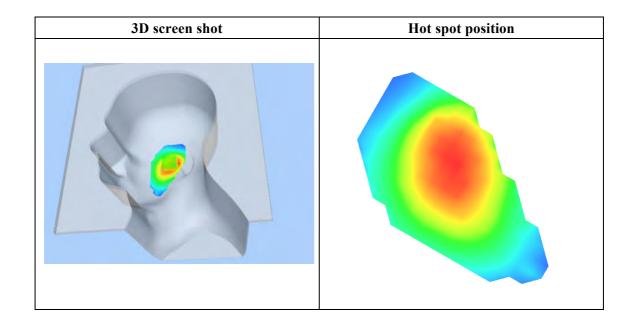
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Left head		
Device Position	Cheek		
Band	gSM850		
Channels	High		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-16.00, Y=-6.00

SAR 10g (W/Kg)	0.668560	
SAR 1g (W/Kg)	0.934478	

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9742	0.7690	0.5921	0.4412
SAR (W/kg)		Axis Scan		l.	0.1112
C).3- 0.0 2.5 5		12.5 15.0 17.5 (mm)	5 20.0 22.5 25	. 0



Page 35 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Mid-Tilt-left<SIM 1> DUT: mobile phone ; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty

Cycle: 1:8.3; Conv.F=6.79; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m;

 ϵr =41.48 ; ρ = 1000 kg/m³ ; Phantom section: Left Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

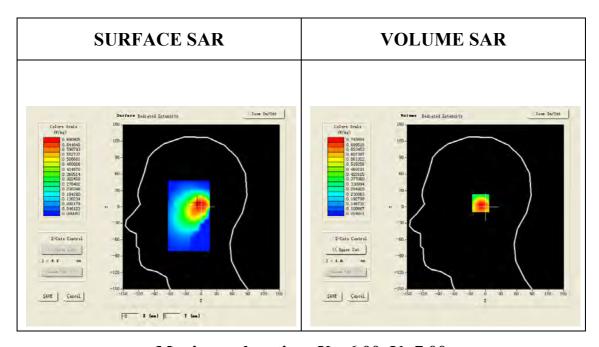
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Mid Tilt-Left/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Tilt-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,dz=5mm;

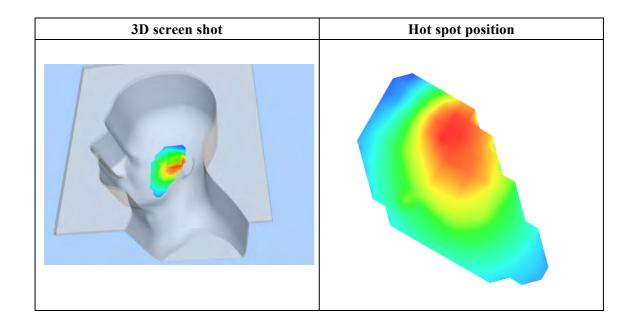
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Left head		
Device Position	evice Position Tilt		
Band	d GSM850		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-6.00, Y=7.00

SAR 10g (W/Kg)	0.475224
SAR 1g (W/Kg)	0.726161

Z (mm)	0.00		4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000		0.7456	0.5314	0.3794	0.2719
	SAR, Z Axis Scan $(X = -6, Y = 7)$					
U	0.7-					
0	1.6-					
(2)). 5 -		\wedge			
SAR). 4-					-
0	1.3-				\leftarrow	-
0	0.0 2.5	5.0	7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	5. 0
	Z (nm)					



Page 37 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Middle-Touch-Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3; Conv.F=6.79; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m;

 $\epsilon r = 41.48; \rho = 1000 \text{ kg/m}^3$; Phantom section: Right Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

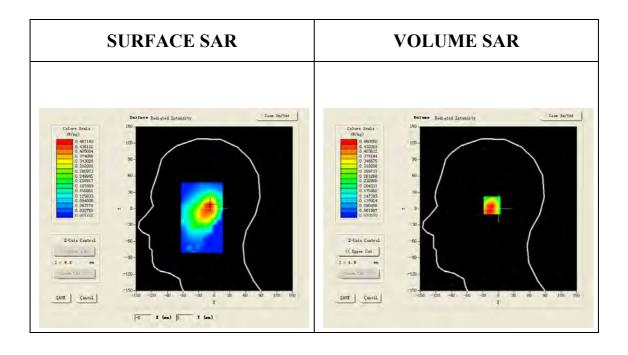
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Mid Touch-Right/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Touch-Right/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

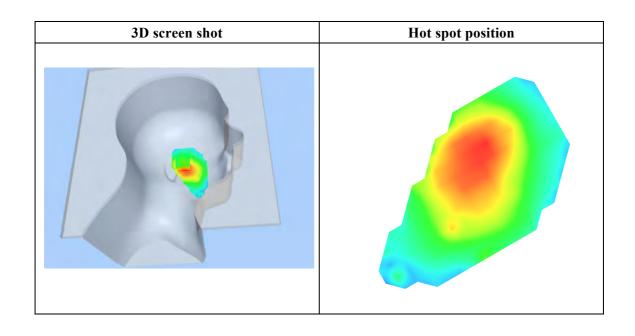
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Cheek		
Band	GSM850		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-9.00, Y=6.00

SAR 10g (W/Kg)	0.285086
SAR 1g (W/Kg)	0.445025

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4535	0.3145	0.2158	0.1462
	SAR, Z	Axis Scan	(X = -9,	Y = 6)	
0	. 45 -				i
0	. 40 –	\longrightarrow			
0	. 35 –	+			
(#/kg)	. 30 –				
. €	. 25 -				
3	. 20 -		\sim		
	. 15 -				
0	0.0 2.5 5	5.0 7.5 10.0	12 5 15 0 17	5 20.0 22.5 25	
	0.0 2.3 3		Z (mm)	3 20.0 22.3 23	. 0



Page 39 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Mid-Tilt-Right<SIM 1>

DUT: mobile phone ; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m; $\epsilon r = 41.48$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

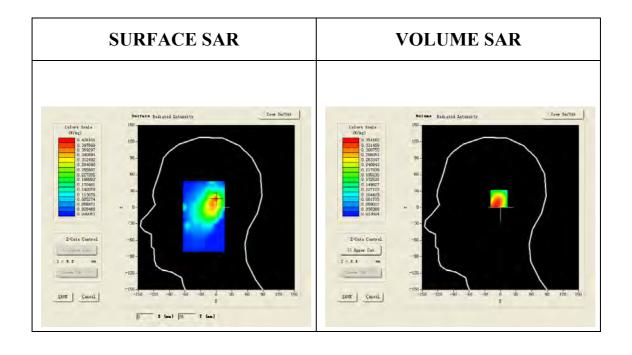
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Mid Tilt-Right/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Tilt-Right/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

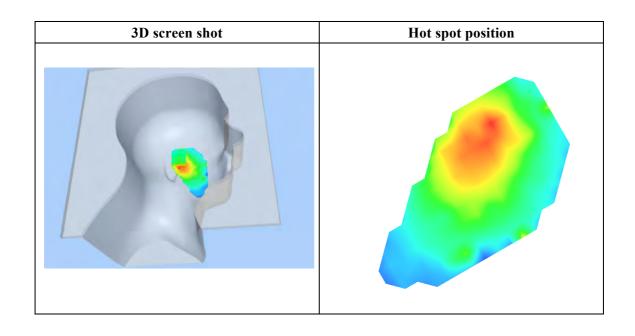
Area Scan	sam_direct_droit2_surf8mm.txt		
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Tilt		
Band	GSM850		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=0.00, Y=16.00

SAR 10g (W/Kg)	0.197943
SAR 1g (W/Kg)	0.332949

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3313	0.1996	0.1232	0.0803
	SAR, Z	Axis Scan	(X = 0,	Y = 16)	
C). 33 -				1
C). 30 –	$\overline{}$			-
0	1. 25 -				
(%)					
) ≨). 20 -	++	++++		
SAR.	. 15-				
C	0.10-		1		
C	0.05-				
	0.0 2.5 5	5.0 7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	6.0
		:	Z (mm)		



Page 41 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Low-Touch-Left<SIM 2>
DUT: mobile phone ; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79 Frequency: 824.2 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m; $\epsilon r = 41.48$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Left Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

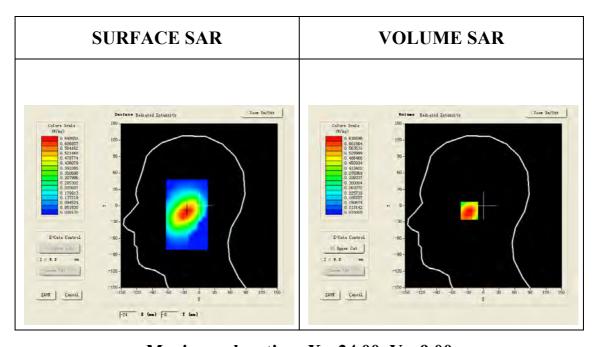
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4 02 01

Configuration/GSM850 Low-Touch-Left/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Low-Touch-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

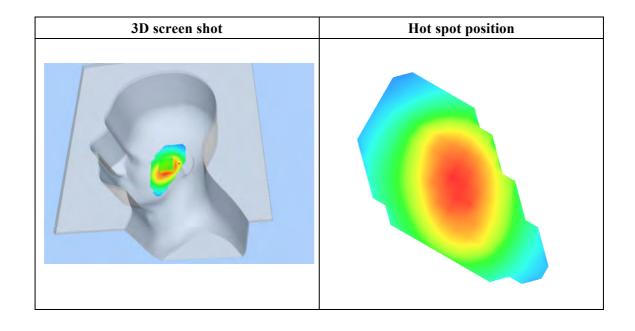
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Left head		
Device Position	Cheek		
Band	GSM850		
Channels	Low		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-24.00, Y=-9.00

SAR 10g (W/Kg)	0.408405
SAR 1g (W/Kg)	0.615156

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6386	0.4365	0.3073	0.2262
		Axis Scan	(X = -24,	₹ = −9)	1
0). 6 -				
		$\backslash \backslash $			
ر 0).5-				
(#/kg)). 4				
SAR			\setminus		
۰, ۵). 3 -				
0	0.2- 0.0 2.5 5	.0 7.5 10.0	12 5 15 0 17	5 20.0 22.5 25	
	0.0 2.0 0		Z (mm)	0 20.0 22.0 20	



Page 43 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Mid- Body-Back (MS)<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 1.01$ mho/m; $\epsilon r = 55.25$;

 ρ = 1000 kg/m³ ;

Phantom section: Flat Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

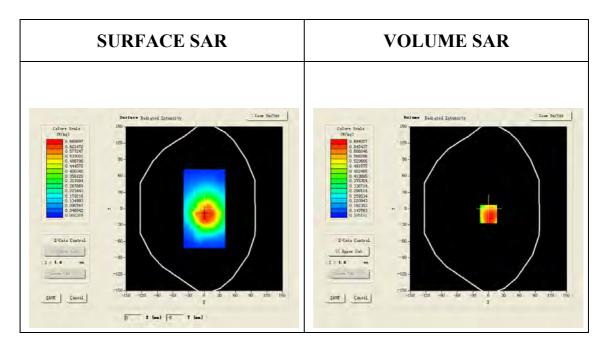
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Mid Body-Back/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

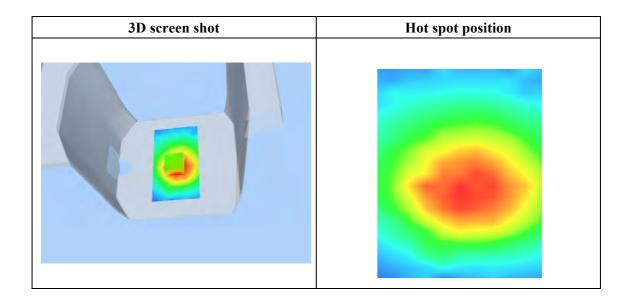
Area Scan	surf_sam_plan.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Validation plane		
Device Position	Body		
Band	GSM850		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=0.00, Y=-10.00

SAR 10g (W/Kg)	0.498315
SAR 1g (W/Kg)	0.711445

Z (mm)	0.00	4.00	9.00	14.00	19.00	
SAR (W/Kg)	0.0000	0.6652	0.4908	0.3604	0.2629	
	SAR, Z Axis Scan ($X = 0$, $Y = -10$)					
0	1.7-					
0	. 6 -				-	
, kg)	.5-					
SAR (W/kg)	. 4 -					
SAR						
0	.3-		 	$\overline{}$	-	
0	0.0 2.5 5	.0 7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	5.0	
	Z (mm)					



Page 45 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Mid-Body-Front (MS) <SIM 1>

DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 1.01$ mho/m; $\epsilon r = 55.25$;

 ρ = 1000 kg/m³ ;

Phantom section: Flat Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

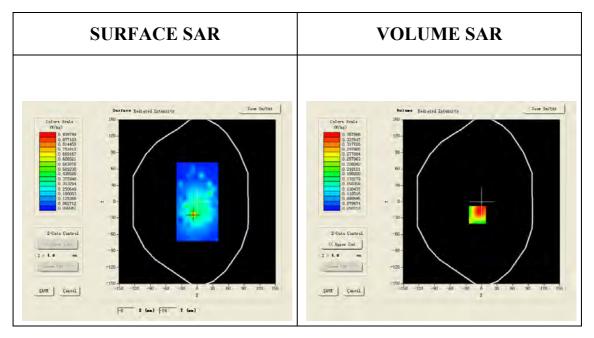
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Mid Body- Front /Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Body- Front /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

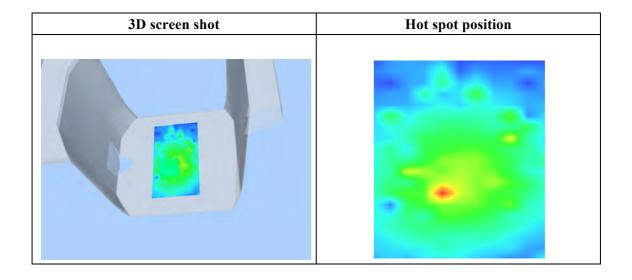
Area Scan	surf_sam_plan.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Validation plane		
Device Position	Body		
Band	GSM850		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-8.00, Y=-24.00

SAR 10g (W/Kg)	0.258643
SAR 1g (W/Kg)	0.376929

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3392	0.2287	0.1656	0.1322
ſ	SAR, Z	Axis Scan	(X = -8,	Y = -24)	_
). 30 –				
(#/kg)					
	1. 20 -				
	0. 15 -	7.5.10.0	10.5.15.0.17	F 00 0 00 F 05	
	0.0 2.5 5		12.5 15.0 17. Z (mm)	5 20.0 22.5 25	. 0



Page 47 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

GSM 850 Mid- Body- Back (MS with earphone) <SIM 1>

DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: GSM 850; Duty Cycle: 1:8.3;

Conv.F=6.79; Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; $\sigma = 1.01$ mho/m; $\epsilon r = 55.25$;

 ρ = 1000 kg/m³;

Phantom section: Flat Section

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

Satimo Configuration:

Probe:SSE5; Calibrated: 12/09/2011

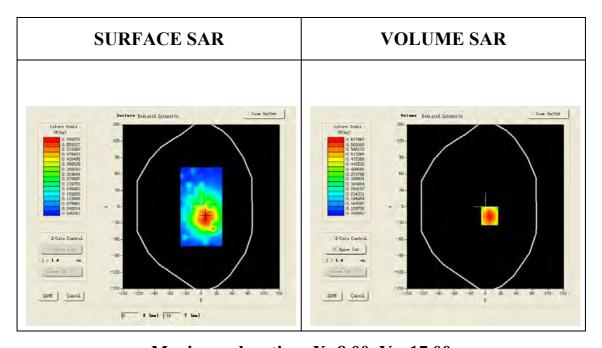
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/GSM850 Mid Body-Back/Area Scan (6x8x1): Measurement grid: dx=20mm, dy=20mm Configuration/GSM850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

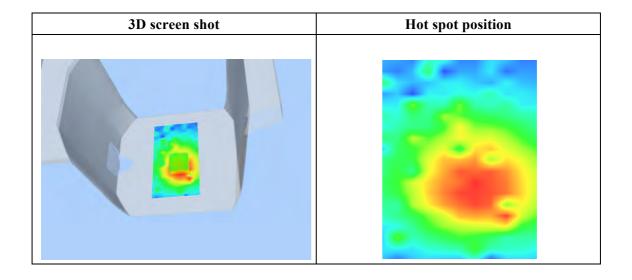
Area Scan	surf_sam_plan.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Validation plane		
Device Position	Body		
Band	GSM850		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=8.00, Y=-17.00

SAR 10g (W/Kg)	0.436430
SAR 1g (W/Kg)	0.636514

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6179	0.4584	0.3352	0.2402
0	SAR, Z	Axis Scan	(X = 8, Y	<u>7</u> = −17)	
kg)	1.5-				
AB.	1.3-				
O	0.0 2.5 5		12.5 15.0 17.5 (mm)	5 20.0 22.5 25	5.0



Page 49 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Touch- Left<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42;Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Left Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

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

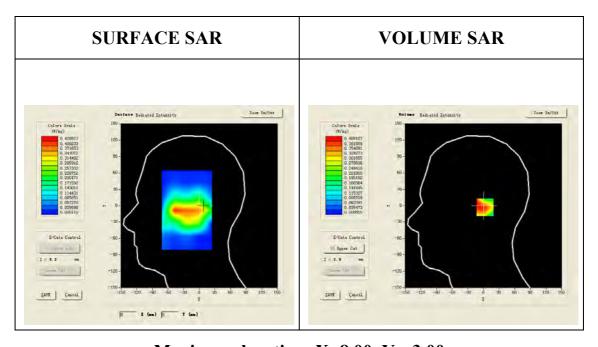
· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Mid Touch-Left/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 Mid Touch-Left/Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

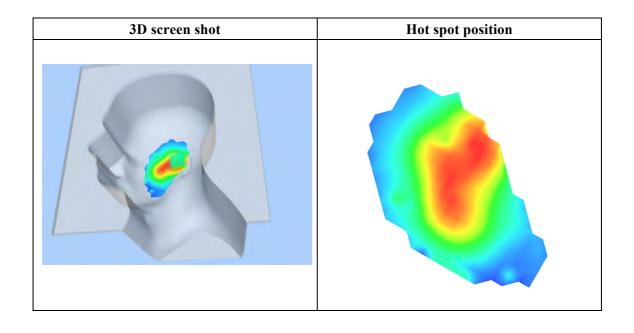
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Left head		
Device Position	Cheek		
Band	GSM1900		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=8.00, Y=-3.00

SAR 10g (W/Kg)	0.209965
SAR 1g (W/Kg)	0.380447

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3967	0.2144	0.1137	0.0607
		Axis Scar	n (X = 8,	y = −3)	1
	. 40 -				
	. 35 -				
	. 30 -	 			
) (%)	. 25 -	$+\lambda +$	\rightarrow		
€ 0	. 20 -	\perp			
SAR	. 15 -				
U	. 10 -				
0	. 03 –				
	0.0 2.5	5.0 7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	i.o
Z (mm)					



Page 51 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Tilt-Left<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42;Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Left Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

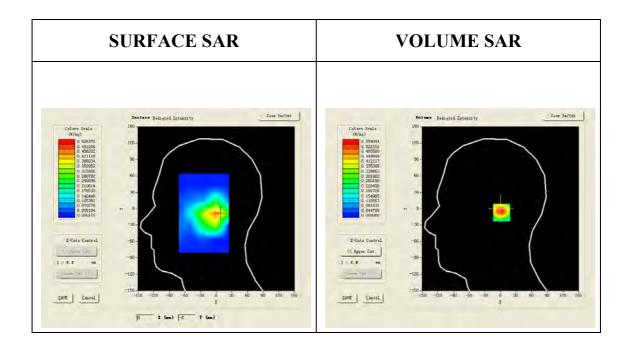
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Mid Tilt-Left/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 Mid Tilt-Left/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

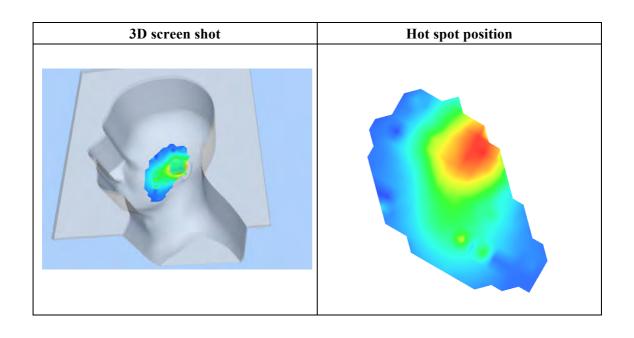
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Left head		
Device Position	Tilt		
Band	GSM1900		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=8.00, Y=-7.00

SAR 10g (W/Kg)	0.270901
SAR 1g (W/Kg)	0.530025

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.5590	0.2810	0.1422	0.0780
	SAR, Z	Axis Scan	(X = 8,	Y = -7)	
0.6	6-				
0.5	5-				
_ 0.4	4	$ \setminus $			
(%/\kg) (%/\kg)	4-				
≥ 0.0	3	\longrightarrow			
Æ		\			
ω 0.2	2-				
0. :	.				
0. (0.0 2.5 5	i i i .0 7.5 10.0	12.5 15.0 17.	5 20.0 22.5 25	. 0
Z (mm)					



Page 53 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Low-Touch- Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42;Frequency: 1850.2 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon r = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

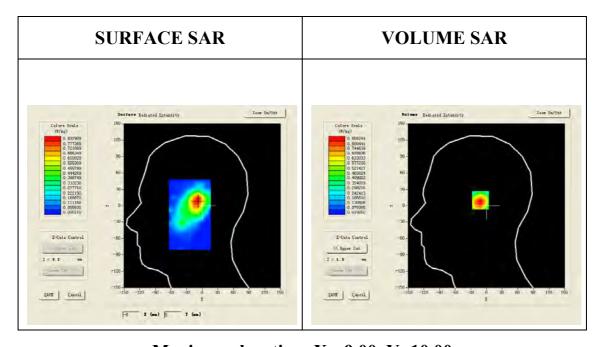
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Low-Touch-Right/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 Low-Touch-Right/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

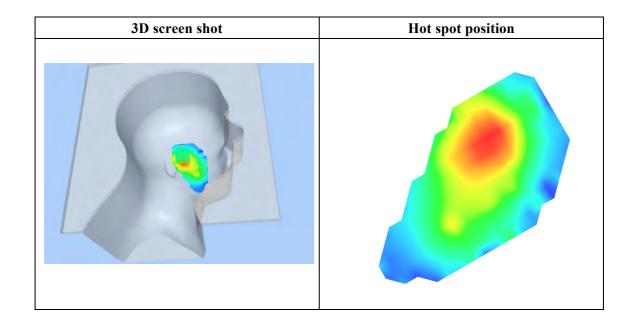
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Cheek		
Band	GSM1900		
Channels	Low		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-9.00, Y=10.00

SAR 10g (W/Kg)	0.454514
SAR 1g (W/Kg)	0.819834

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.8562	0.5109	0.2973	0.1687
	SAR, Z	Axis Scan	(X = -9,	Y = 10)	
0	1.9-				
C). 7 –	\longrightarrow			
(∦/kg)). 5 -				
88 0		\mapsto			
	1.3-		\longrightarrow		
0	1.2-		+	\rightarrow	
0	. 1 –				
	0.0 2.5 5			5 20.0 22.5 25	.0
Z (mm)					



Page 55 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Touch- Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

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

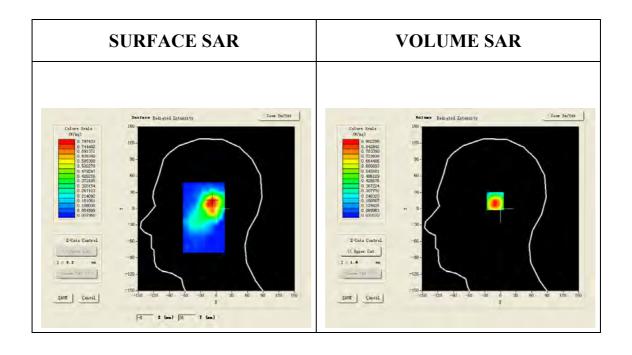
· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Mid Touch-Right/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 Mid Touch-Right/Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

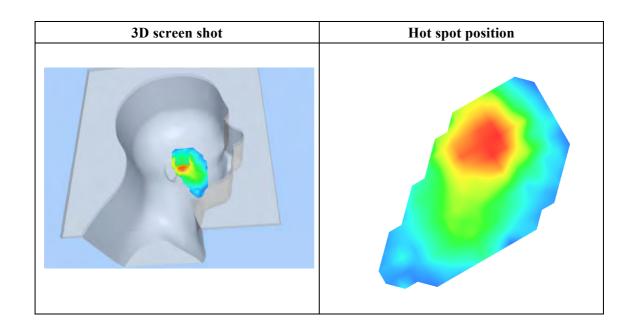
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Cheek		
Band	GSM1900		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-8.00, Y=14.00

SAR 10g (W/Kg)	0.445638
SAR 1g (W/Kg)	0.867983

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9023	0.4628	0.2429	0.1411
	_	Axis Scan	(X = -8,	Y = 14)	1
	0.9-				
	0.8-				
	0.7-				
(#/kg)	1.6-				
					1
SAR o			. 		
	1.3-				-
0	1.2-				-
0). 1 –	 	+++		-
	0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 Z (mm)				



Page 57 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 High-Touch- Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42;Frequency: 1909.8 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39 \text{ mho/m}$; $\epsilon r = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

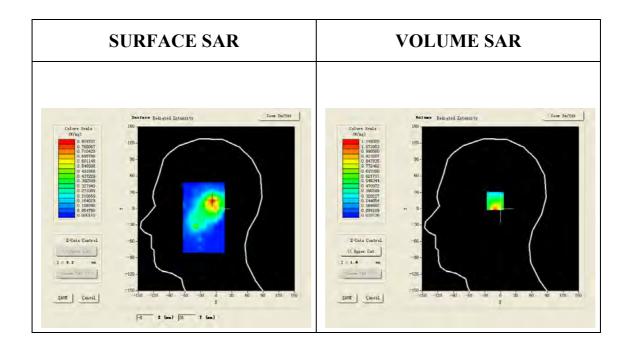
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 High-Touch-Right/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 High-Touch-Right/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

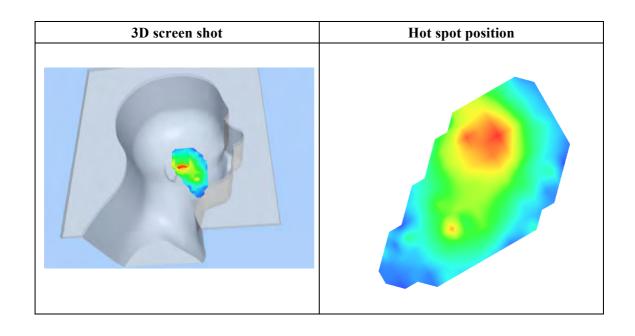
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Cheek		
Band	GSM1900		
Channels	High		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-8.00, Y=15.00

SAR 10g (W/Kg)	0.465470
SAR 1g (W/Kg)	0.899409

Z (mm)	0.00		4.00	9.	00	14.00	19.00
SAR (W/Kg)	0.0000		0.5769	0.39	995	0.2589	0.1515
	SAR,	Z Az	cis Sca	ın (X =	-8,	Y = 15)	
0	. 6 -	V					
0	.5-	\rightarrow	+				
			\mathbf{X}				
(#/kg) 0	. 4 -	-	+				
≥ ,	. з-						
SAR							
	.2-		\rightarrow				
0	. 1 -	_	+++				
	0.0 2.5	5.0	7.5 10.	0 12.5 15	0 17.5	5 20.0 22.	5 25.0
Z (mm)							



Page 59 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Low-Tilt- Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1850.2 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon r = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

. Probe:SSE5; Calibrated: 12/09/2011

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

· Phantom: SAM1; Type: SAM

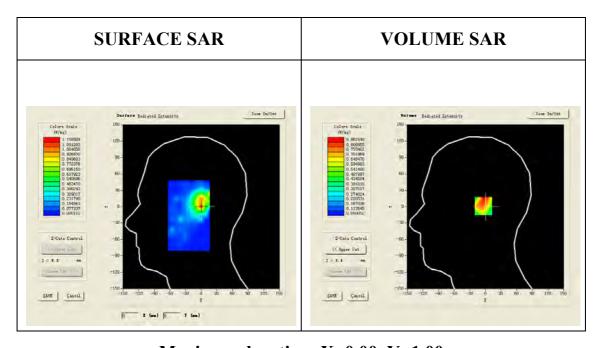
· Measurement SW: OpenSAR V4_02_01

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

Configuration/PCS1900 Low-ilt-Right/Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

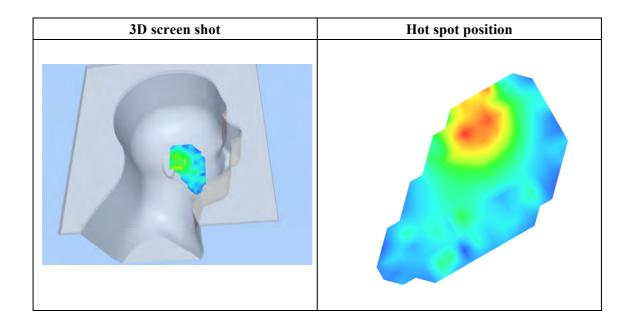
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Tilt		
Band	GSM1900		
Channels	Low		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=0.00, Y=1.00

SAR 10g (W/Kg)	0.573384
SAR 1g (W/Kg)	0.845409

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7754	0.7567	0.6023	0.3733
	SAR, 2	Axis Sca	n (X = 0,	Y = 1)	
₩	1. 6 -				
SAR					
).3-				
U	0.2- 0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 Z (mm)				



Page 61 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Tilt- Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

. Probe:SSE5; Calibrated: 12/09/2011

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

Phantom: SAM1; Type: SAM

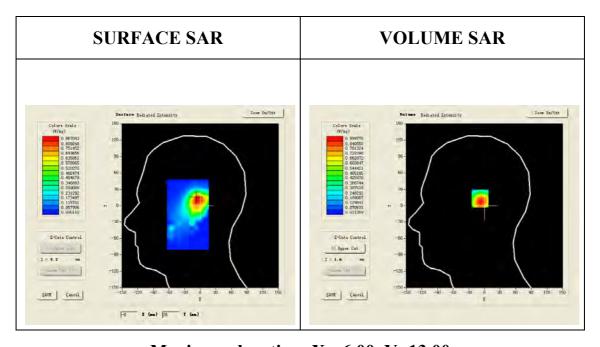
· Measurement SW: OpenSAR V4_02_01

 $\textbf{Configuration/PCS1900 Mid Tilt-Right/Area Scan: Measurement grid:} \ dx = 20 \text{mm}, \ dy = 20 \text{mm}$

Configuration/PCS1900 Mid Tilt-Right/Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

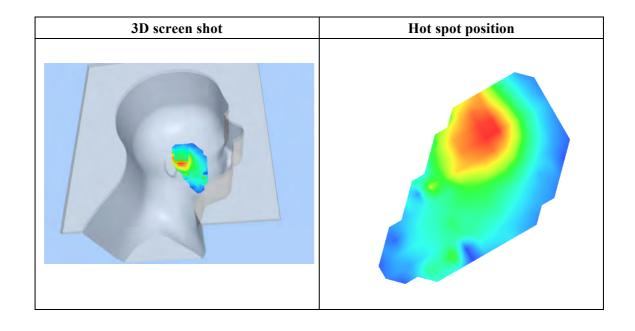
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Tilt		
Band	GSM1900		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-6.00, Y=13.00

SAR 10g (W/Kg)	0.467286
SAR 1g (W/Kg)	0.861652

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.8670	0.4908	0.2738	0.1534
	SAR, Z	Axis Scan	(X = -6,	Y = 13)	
	1.9-				1
	1.8-				
(∦/kg)	1.0-				
SAR 0	1.4-				
	1.3-				
U	1.2-				
0	0.1-	0.0 7.5 10.0	10.5.15.0.17	5 00 0 00 5 05	
	0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 Z (mm)				



Page 63 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 High-Tilt- Right<SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1909.8 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39$ mho/m; $\epsilon r = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

. Probe:SSE5; Calibrated: 12/09/2011

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

· Phantom: SAM1; Type: SAM

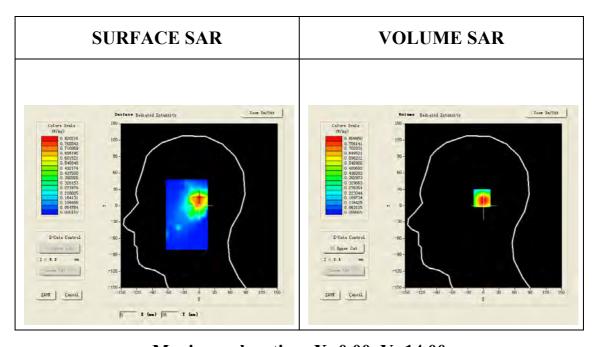
· Measurement SW: OpenSAR V4_02_01

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

Configuration/PCS1900 High-Tilt-Right/Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

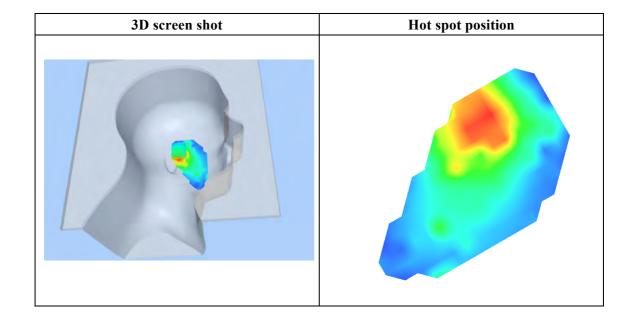
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Tilt		
Band	GSM1900		
Channels	High		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=0.00, Y=14.00

SAR 10g (W/Kg)	0.413270
SAR 1g (W/Kg)	0.796608

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.8082	0.4159	0.2159	0.1209
0	SAR, Z	Axis Scar	(X = 0,	Y = 14)	. 1
	. 7 -				
	. 6 -	\rightarrow			
%/kg 0	.5-	+			
#	. 4 -				
Ĭ	. 2-				
	. 1 –		+	+	
, and a				5 20.0 22.5 25	. o
		2	(mm)		



Page 65 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 High-Touch- Right<SIM 2> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42;Frequency: 1909.8 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.39 \text{ mho/m}$; $\epsilon r = 39.79$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Right Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

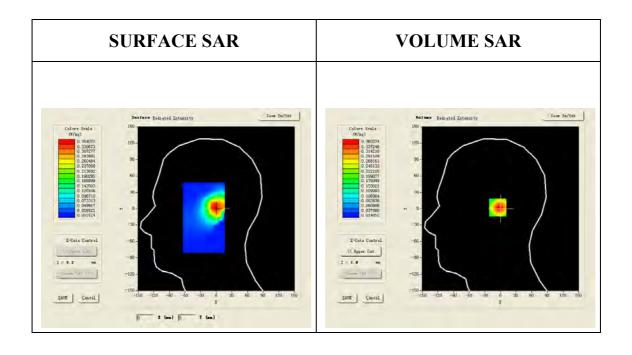
· Sensor-Surface: 4mm (Mechanical Surface Detection)

· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 High-Touch-Right/Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 High-Touch-Right/Zoom Scan: Measurement grid: dx=8mm, dy=8mm, dz=5mm;

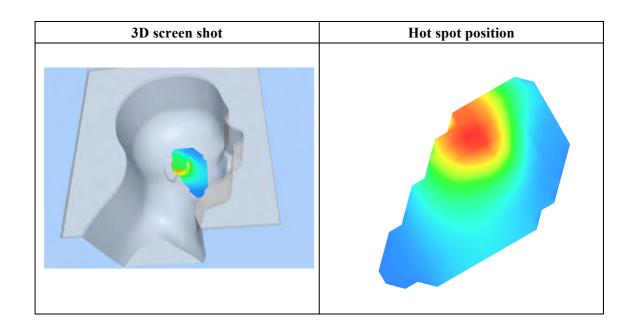
Area Scan	sam_direct_droit2_surf8mm.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Right head		
Device Position	Cheek		
Band	GSM1900		
Channels	High		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-1.00, Y=2.00

SAR 10g (W/Kg)	0.195667
SAR 1g (W/Kg)	0.342245

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3603	0.2100	0.1238	0.0762
		Axis Scar	n (X = −1,	¥ = 2)	_
	1. 36 -				
	1. 25 -				
). 15				
	0.05 - 0.0 2.5 5	5.0 7.5 10.0	12 5 15 0 17	E 20 0 22 E 25	
	0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 Z (mm)				



Page 67 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Body- Back(MS) <SIM 1> DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.51$ mho/m; $\epsilon r = 53.24$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Flat Section

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

Satimo Configuration:

· Probe:SSE5; Calibrated: 12/09/2011

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

· Phantom: SAM1; Type: SAM

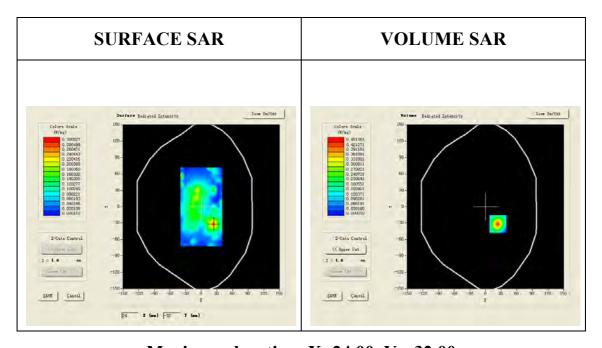
· Measurement SW: OpenSAR V4_02_01

 $\textbf{Configuration/PCS1900 Mid Body-Back/Area Scan: Measurement grid:} \ dx = 20 \text{mm}, \ dy = 20 \text{mm}$

Configuration/PCS1900 Mid Body-Back/Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

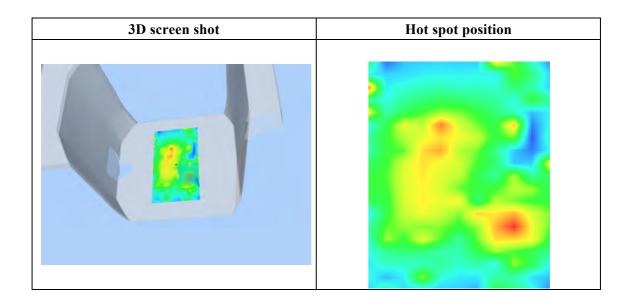
Area Scan	surf_sam_plan.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Validation plane		
Device Position	Body		
Band	GSM1900		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=24.00, Y=-32.00

SAR 10g (W/Kg)	0.213508
SAR 1g (W/Kg)	0.429872

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4514	0.3403	0.2068	0.0852
C	SAR, Z	Axis Scan			0.0852
С	0. 1 -		12.5 15.0 17.1 (mm)	5 20.0 22.5 25	5.0



Page 69 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Body -Front (MS) <SIM 1>

DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.51$ mho/m; $\epsilon r = 53.24$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Flat Section

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

Satimo Configuration:

. Probe:SSE5; Calibrated: 12/09/2011

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

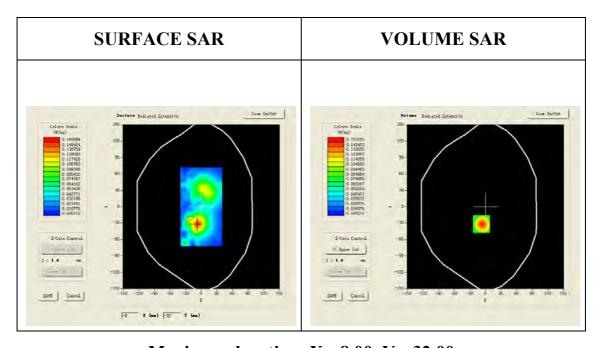
· Phantom: SAM1; Type: SAM

· Measurement SW: OpenSAR V4_02_01

Configuration/PCS1900 Mid Body- Front /Area Scan: Measurement grid: dx=20mm, dy=20mm Configuration/PCS1900 Mid Body- Front /Zoom Scan: Measurement grid: dx=8mm,

dy=8mm, dz=5mm;

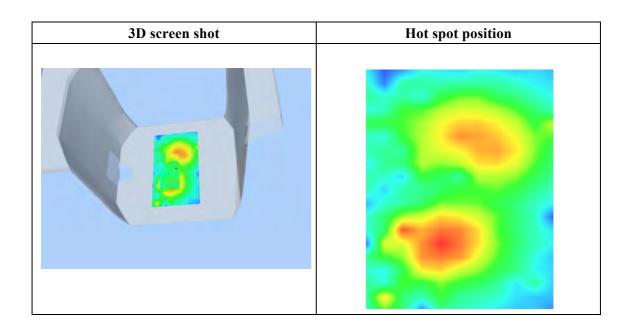
Area Scan	surf_sam_plan.txt		
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Very fast		
Phantom	Validation plane		
Device Position	Body		
Band	GSM1900		
Channels	Middle		
Signal	TDMA (Crest factor: 8.0)		



Maximum location: X=-8.00, Y=-32.00

SAR 10g (W/Kg)	0.088107
SAR 1g (W/Kg)	0.155650

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1533	0.0942	0.0577	0.0356
	SAR, Z	Axis Scan	(X = -8,	y = −32)	.
). 14 –	$\downarrow + \downarrow$	+		-
c). 12-	\perp			
/kg)	0.10-	+ $+$ $+$ $+$			
ڪ ڇ(). 08 –	++	+		
). 06 –		\longrightarrow		
c). 04 –		\rightarrow	\Box	
С). 02-			5 00 0 00 5 00	
	0.0 2.5 5		12.5 15.0 17. Z (mm)	5 20.0 22.5 25	5. 0



Page 71 of 110

Test Laboratory: AGC Lab Date: Aug. 11,2012

PCS 1900 Mid-Body- Back (MS with earphone) <SIM 1>

DUT: mobile phone; Type: AM298

Communication System: Generic GSM; Communication System Band: PCS 1900; Duty Cycle: 1:8.3;

Conv.F=6.42; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; $\sigma = 1.51$ mho/m; $\epsilon r = 53.24$;

 $\rho = 1000 \text{ kg/m}^3$;

Phantom section: Flat Section

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

Satimo Configuration:

. Probe:SSE5; Calibrated: 12/09/2011

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

· Phantom: SAM1; Type: SAM

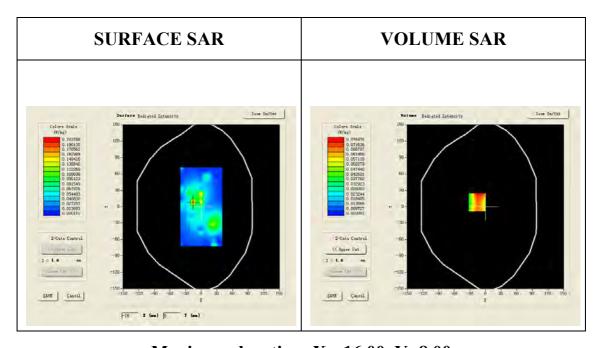
· Measurement SW: OpenSAR V4_02_01

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

Configuration/PCS1900 Mid Body-Back/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=-16.00, Y=8.00

SAR 10g (W/Kg)	0.045554
SAR 1g (W/Kg)	0.077917

Z (mm)	0.00	4.00	9.00	14.00	19.00		
SAR (W/Kg)	0.0000	0.0684	0.0478	0.0304	0.0166		
	SAR, Z Axis Scan (X = -16, Y = 8)						
رو	0.06						
	0.03 -						
0.01 - 0.0 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 Z (mm)							

