DAT-PL-162/04-01

TESTING
No. L0570

TEST REPORT

REPORT NUMBER: I11GC7074-FCC-SAR-2

ON

Type of Equipment: GSM/GPRS/EGPRS Mobile Phone
Type of Designation: Sonim XP3300-A-X1
Type Name: P25C005AJ
Manufacturer: Sonim Technologies, Inc

ACCORDING TO

FCC Part 2.1093: Radiofrequency radiation exposure evaluation: portable devices, 2010-10-01
FCC OET Bulletin 65 Supplement C (Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions
IEEE Std 1528™-2003: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

China Telecommunication Technology Labs.

Month date, year
Sep 28, 2011

Signature

He Guili
Director

FCC ID:	WYPP25C005AA
Report Date:	2011-09-28

Test Firm Name:	China Telecommunication Technology Labs
Registration Number:	8426A

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1093. The sample tested was found to comply with the requirements defined in the applied rules.

Table of Contents

1. General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with the requirements of FCC CFR 47 Part 2.1093.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviations from, additions to, or exclusions from the test specifications have been made. See Annex E.

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1.2 Testers

Name: Li Guoqing

Position: Engineer

Department: Department of EMC test

Signature: 李国庆

Editor of this test report:

Name: Li Guoqing

Position: Engineer

Department: Department of EMC test

Date: 2011-09-28

Signature: 李国庆

Technical responsibility for testing:

Name: Zou Dongyi

Position: Manager

Department: Department of EMC test

Date: 2011-09-28

Signature: 邹东屹

1.3 Testing Laboratory information

1.3.1 Location

Name:	China Telecommunication Technology Labs.
Address:	No. 11, Yue Tan Nan Jie, Xi Cheng District, BEIJING P. R. CHINA, 100045
Tel:	+86 10 68094053
Fax:	+86 10 68011404
Email:	emc@chinattl.com

1.3.2 Details of accreditation status

Accredited by:	China National Accreditation Service for Conformity Assessment (CNAS)
Registration number:	CNAS Registration No. CNAS L0570
Standard:	ISO/IEC 17025:2005

1.3.3 Test location, where different from section 1.3.1

Name:	------
Address:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name:	Sonim Technologies, Inc
Address	1875 S. Grant Street, Suite 620 San Mateo, CA 94402
Country:	United States
Telephone:	+1 650 504 4411
Fax:	+1 650 378 8190
Contact:	Jasen Kolev
Telephone:	+1 650 504 4411
Email	jasen@sonimtech.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	--
Address:	--

1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name:	Shenzhen Sang Fei Consumer Communications Co., Ltd.
Address:	11 Science & Technology Rd., Shenzhen Hi-tech Industrial Park, Nanshan District, Shenzhen

2 Test Item

2.1 General Information

Manufacturer:	Sonim Technologies, Inc
Model Name:	Sonim XP3300-A-X1
Type Number:	GSM/GPRS/EGPRS Mobile Phone
Product Name	001800000192270
Serial Number:	Product
Production Status:	2011-06-21
Receipt date of test item:	Sonim Technologies, Inc

2.2 Outline of EUT

EUT is a GSM/GPRS/EGPRS Digital Mobile Phone, supporting GSM850/1900. The device class is class B. For GPRS and EGPRS, the multislot class is 12, which have total 5 timeslots and maximum 4 uplink timeslots.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	handset	Sonim Technologies, Inc	Sonim XP3300-A-X1	001800000 192270	--
B	adapter	Sonim Technologies Inc	DSA-3PFC-05 FUS 050065	--	--
C	battery	ecom instruments GmbH	Ex-BPH 07SC	--	--
D	Earphone	ecom instruments GmbH	Ex-BPH 07 HC	--	--

2.5 Other Information

Version of hardware and software:

HW Version: A

SW Version: 500030SW03A00_Ex-Handy_07_2

Adaptor information:

Input: 100-240VAC 0.3A

Output: 5.0V 0.65A

Battery information: 1750mAh Nominal Voltage: 3.7V

2.6 EUT Photographs

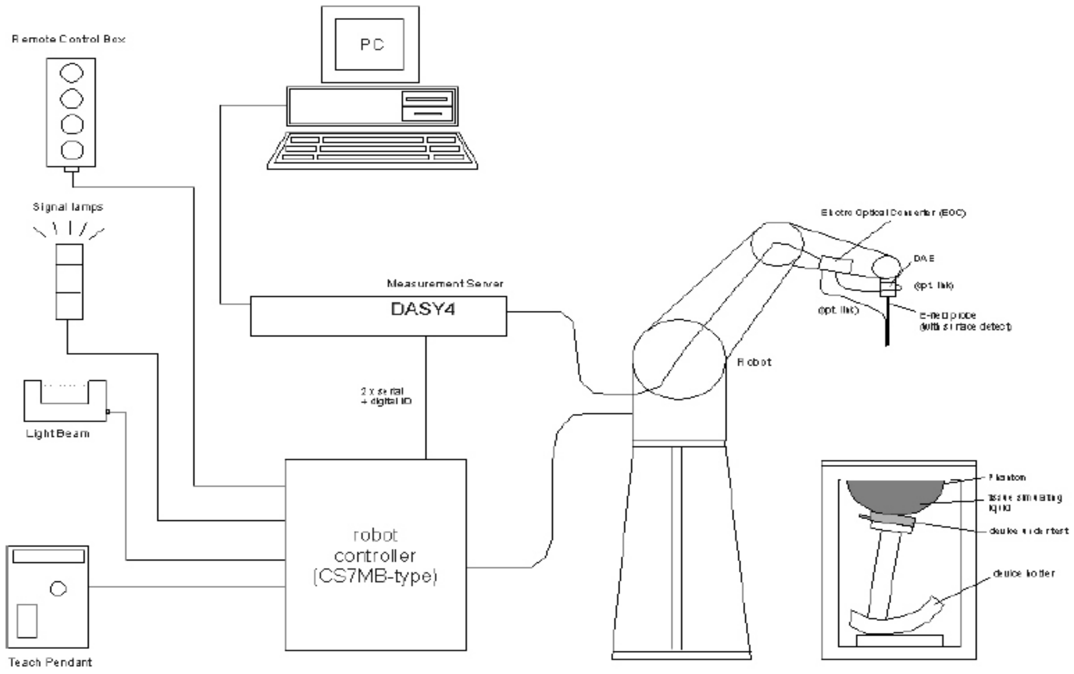
See attachments External and Internal photos.

3 Measurement Systems

3.1 SAR Measurement Systems Setup

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

A cell controller system containing the power supply, robot controller, teach pendant (Joystick) and remote control, is used to drive the robot motors. The PC consists of the Micron Pentium III 800 MHz computer with Windows 2000 system and SAR Measurement Software DASY5, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc., which is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical signal to digital electric signal of the DAE and transfers data to the PC plug-in card.



Demonstration of measurement system setup

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

3.2 E-field Probe

3.2.1 E-field Probe Description

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

Items	Specification
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection System Built-in shielding against static charges PEEK enclosure material(resistant to organic solvents, e.g., glycol)
Calibration	In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at

	frequencies of 450MHz, 900MHz and 1.8GHz (accuracy±8%) Calibration for other liquids and frequencies upon request
Frequency	l 0 MHz to > 6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal probe axis)
Dynamic Range	5u W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surface
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diameter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

3.2.2 E-field Probe Calibration

The Annex C is the copy of the calibration certificate of the used probes.
Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.
The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The free-space E-field measured in the medium correlates to temperature increase in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

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

Where: Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
ΔT = Temperature increase due to RF exposure.
Or

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

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m^3).

3.3 Phantom

The Generic Twin Phantom is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Specifications:
Shell Thickness: 2±0.1mm
Filling Volume: Approx. 20 liters
Dimensions: 810 x l000 x 500 mm (H x L x W)
Liquid depth when testing: at least 150 mm

3.4 Device Holder

In combination with the Generic Twin Phantom V3.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeat ably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom etc).

4 Test Results

4.1 Operational Condition

Specifications FCC OET 65C (01-01), IEEE Std 1528^{TM}-2003
Date of Tests from 2011-06-24 to 2011-06-25
Operation Mode TX at the highest output peak power level
Method of measurement: FCC OET 65C (01-01), IEEE Std 1528^{TM}-2003

4.2 Test Equipment Used

ITEM	TYPE	S/N	CALIBRATION DATE	DUE DATE
probe	EX3DV4	3753	2010-12-13	2011-12-12
DAE	DAE4	913	2010-11-18	2011-11-17
D835V2	dipole	4d038	2010-08-25	2011-08-24
D1900V2	dipole	5d072	2010-08-24	2011-08-23
Power Meter	E4417A	GB41050460	2011-05-25	2012-05-20
Radio Communication Analyzer	CMU200	1100000802	2011-04-02	2012-04-01
Signal Generator	SMP04	100064	2011-05-24	2012-05-23
Power Sensor	E9327A	US40440198	2010-07-13	2011-07-12
Power Sensor	E9327A	US40440326	2010-07-26	2011-07-25
Power Amplifier	150W1000	150W1000	NA	NA
Attenuator	20dB	836471/003	NA	NA
Attenuator	20dB	836471/004	NA	NA
Attenuator	2	BL1250	NA	NA
Attenuator	2	BK774	NA	NA
Dual directional coupler	4242-20	04200	NA	NA
Probe kit	85070E	3G-S-00139	NA	NA
Network Analyzer	8753ES	MY40002093	2011-05-31	2012-05-31

4.3 Applicable Limit Regulations

Item	Limit Level
Local Specific Absorption Rate (SAR) (1g)	1.6W/kg

4.4 Test Results

The EUT complies.

Note:

All measurements are traceable to national standards.

4.5 Test Setup and Procedures

The test setup is showed as in the annex A.

The evaluation was performed according to the following procedure:

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

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15 mm x 15 mm. Based on these data, the area of the maximum absorption was determined by interpolation.

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

a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on the least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

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

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

4.6 Test Environment and Liquid Parameters

4.6.1 Test Environment

Date:	Liquid Temperature (℃)	Ambient Temperature (℃)	Ambient Humidity (%)
	20~~24	20~~25	30~~70
2011-06-24	20.8	20.9	50.0
2011-06-25	20.7	20.9	53.4

4.6.2 Liquid Parameters

2011-06-25

Frequency	Tissue Type	Type	Dielectric Parameters	
			permittivity	conductivity
835 MHz	Head	Target	41.5	0.9
		±5% window	39.4~43.6	0.855~0.945
		Measured	42.95	0.93

2011-06-24

Frequency	Tissue Type	Type	Dielectric Parameters	
			permittivity	conductivity
1900 MHz	Head	Target	40.0	1.40
		±5% window	38.00~42.00	1.33~1.47
		Measured	40.06	1.405

2011-06-25

Frequency	Tissue Type	Type	Dielectric Parameters	
			permittivity	conductivity
835 MHz	Body	Target	55.2	0.97
		±5% window	52.44~57.96	0.922~1.019
		Measured	54.55	1.01

2011-06-24

Frequency	Tissue Type	Type	Dielectric Parameters	
			permittivity	conductivity
1900 MHz	Body	Target	53.3	1.52
		±5% window	50.64～55.97	1.444～1.596
		Measured	51.21	1.522

4.7 System Validation Check

Validation Method:

The setup of system validation check or performance check is demonstrated as figure 5. The amplifier, low pass filter and attenuators are optional. The dipole shall be positioned and centered below the phantom, paralleling to the longest side of the phantom. A low loss and low dielectric constant spacer on the dipole may be used to guarantee the correct distance between the dipole top surface and the phantom bottom surface.

The separation d, which is defined as the distance from the liquid bottom surface to the dipole's central axis at location of the feed-point, should be as following: for 835 MHz dipole, d = 15 mm. The dipole arms shall be parallel to the flat phantom surface.

First the power meter PM1 is connected to the cable and it measures the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the (Att1) value) and the power meter PM2 is read at that level. Then after connecting the cable to the dipole, the signal generator is readjusted for the same reading at the power meter PM2.

The system validation check procedures are the same as all measurement procedures used for compliance tests. A complete 1 g averaged SAR measurement is performed using the flat part of the phantom. The reference dipole input power is adjusted to produce a 1 g averaged SAR value falling in the range of 0.4 – 10 mW/g. The 1 g averaged SAR is measured at 835 MHz using corresponding dipole. Then the results are normalized to 1 W forward input power and compared with the reference SAR values.

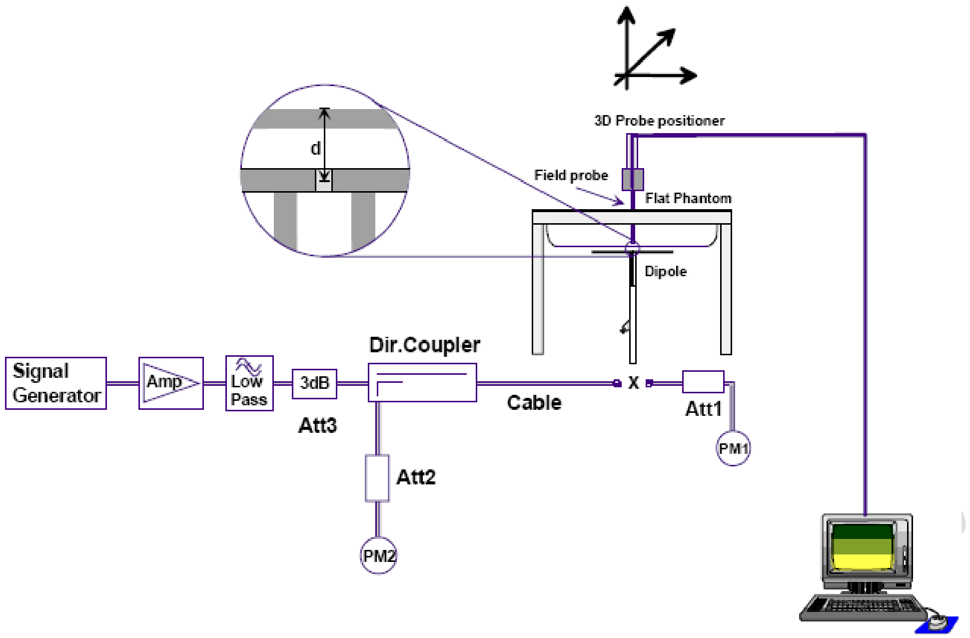


Figure 5 Illustration of system validation test setup

Validation Results

Date:	Tissue	Input Power (dBm)	Measured SAR_{10g} (mW/g)	Normalized to 1W (mW/g)	Targeted SAR_{10g} (mW/g)	Deviation (%) (<±10 %)
2011-06-25	Head 835MHz	24.00	2.45	9.80	9.59	2.2
2011-06-25	Body 835MHz	24.00	2.47	9.88	9.99	-1.1
2011-06-24	Head 1900MHz	24.00	9.74	38.96	39.7	-3.8
2011-06-24	Body 1900MHz	24.00	10.1	40.40	41.8	-3.3

4.8 Conducted Power Measurement

According to FCC OET 65c, Conducted power shall be measured before SAR test. The test setup and method are described as following.

Test setup

The output power measurement test setup is demonstrated as figure 6.

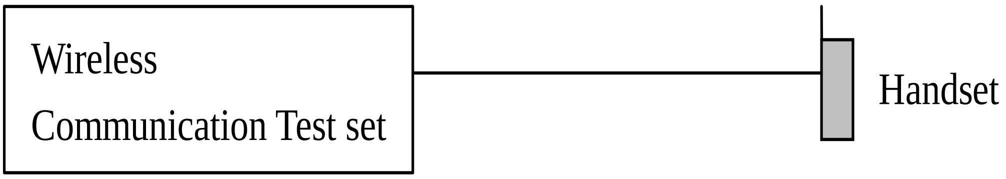


Figure 6 Demonstration of Conducted power measurement

The power control level settings and measurement value are as following table.

For GSM850/EGSM900, the PCL=5, and for DCS1800/PCS1900, PCL=0. For GPRS, the coding scheme used is CS4, and for EGPRS, it is MCS1, i.e. GMSK modulation is used for EGPRS.

System and Channel	Power (dBm)	Average factor (dB)	Time Average (dBm)	Test mode selection
GSM850 Ch128 (1TS)	31.80	-9.03	22.77	For GPRS and EGPRS, only 4 timeslots mode is tested, with the worst case from GSM mode.
GSM850 Ch190 (1TS)	31.80	-9.03	22.77	
GSM850 Ch251 (1TS)	31.70	-9.03	22.67	
GPRS850 Ch190 1TS	31.70	-9.03	22.67	
2TS	30.70	-6.02	24.68	
3TS	29.10	-4.26	24.84	
4TS	**28.50**	**-3.01**	25.49	
EGPRS850 Ch190 1TS	31.70	-9.03	22.67	
2TS	30.70	-6.02	24.68	
3TS	29.10	-4.26	24.84	
4TS	**28.40**	**-3.01**	25.39	
PCS1900 Ch512 (1TS)	28.60	-9.03	19.57	For GPRS and EGPRS, only 4 timeslots mode is tested, with the worst case from GSM mode.
PCS1900 Ch661 (1TS)	28.50	-9.03	19.47	
PCS1900 Ch810 (1TS)	28.50	-9.03	19.47	
GPRS1900 Ch661 1TS	28.40	-9.03	19.37	
2TS	27.40	-6.02	21.38	
3TS	25.50	-4.26	21.24	
4TS	**24.40**	**-3.01**	21.39	
EGPRS1900 Ch661 1TS	28.40	-9.03	19.37	
2TS	27.40	-6.02	21.38	
3TS	25.50	-4.26	21.24	
4TS	**24.40**	**-3.01**	21.39	

Note: For GSM, complete set of tests are performed. For GPRS and EGPRS, only the modes with the maximum time average power values need to be tested respectively, the test mode is the worst case of GSM modes.

4.9 Test Data

4.9.1 Test Specifications

(a) Duty Factor and Crest Factor

For GSM mode (1TS), the duty factor is 1:8.3, and for GPRS and EGPRS, the duty factor is as following table:

Time slots number	Duty Factor
1	1:8.3
2	1:4.15
3	1:2.77
4	1:2

(b) Test configurations pictures:

Configurations	pictures no. in Annex A
Head Right touch position:	2
Head Right tilt position:	3
Head Left touch position:	4
Head Left tilt position:	5
Body SAR Back to the phantom:	6
Body SAR Front to the phantom:	7
Body SAR Front to the phantom with earphone:	8
Body SAR Front to the phantom with Hand-free:	9

(c) Test description for body-worn mode

For common mode, the distance between the handset and the bottom of the flat section is 15 mm; for belt mode, the distance is constrained to the belt thickness.

(d) Liquid recipe

INGREDIENTS	TISSUE TYPE			
	835MHz Head	835MHz body	1900MHz Head	1900MHz body
Water	40.29	50.75	55.24	70.17
DGBE	0	0	44.45	29.44
Sugar	57.90	48.21	0	0
Salt	1.38	0.94	0.31	0.39
Cellulose	0.24	0.00	0	0
Preventol	0.18	0.10	0	0

(e) General Test procedure for body-worn mode

Step 1: GSM850 band, test the middle channel of each of the front side and back side mode with the specified distance between the handset and the bottom of the phantom. Find out the worst case.

Step 2: For the worst case of step 1, test the low and high channel. And then test the low/middle/high channels of back side with belt.

Step 3: Find out the worst case of step 1 and 2, and for this case, test the modes with GPRS and EGPRS with suitable time slots according to the average conducted powers, and Bluetooth and earphone using voice traffic mode.

Step 4: Repeat all the above steps for other bands.

4.9.2 Test Data for Head mode

GSM850 head

Test configuration	Test position	SAR_{1g} [W/kg] / Power Drift [dB]		
		Channel 128 [low] 824.2 MHz	Channel 190 [Mid] 836.6 MHz	Channel 251 [high] 848.8 MHz
Right side of Head	Cheek	0.801 / -0.228	0.844 / -0.081	0.886 / 0.092
	Tilted	-- / --	0.503 / 0	-- / --
Left side of Head	Cheek	0.691 / 0.102	0.826 / -0.062	0.888 / -0.074
	Tilted	-- / --	0.550 / 0.061	-- / --
Left Cheek high channel (Worst case) with additional battery		-- / --	-- / --	0.745 / -0.074

PCS1900 head

Test configuration	Test position	SAR_{1g} [W/kg] / Power Drift [dB]		
		Channel 512 [low] 1850.2 MHz	Channel 661 [Mid] 1880.0 MHz	Channel 810 [high] 1909.8 MHz
Right side of Head	Cheek	-- / --	0.536 / -0.342	-- / --
	Tilted	-- / --	0.177 / -0.093	-- / --
Left side of Head	Cheek	0.454 / 0.016	0.557 / 0.091	0.588 / 0.036
	Tilted	-- / --	0.198 / -0.009	-- / --
Left Cheek high channel (Worst case) with additional battery		-- / --	-- / --	0.414 / -0.055

4.9.3 Test Data for Body-Worn mode

GSM850 body

Test configuration	SAR$_{1g}$ [W/kg] / Power Drift [dB]		
	Channel 128 [low] 824.2 MHz	Channel 190 [Mid] 836.6 MHz	Channel 251 [high] 848.8 MHz
Face towards phantom	0.702 / 0.033	0.758 / 0.030	0.721 / -0.032
Back toward phantom	-- / --	0.506 / 0.068	-- / --
Face toward phantom with earphone	-- / --	0.463 / 0.046	-- / --
Face toward phantom with Hand-free	-- / --	0.725 / 0.053	-- / --
Face toward phantom with BT on	-- / --	0.656 / 0.026	-- / --
Face toward phantom with GPRS (4TS)	1.31 / -0.062	1.22 / 0.169	1.33 / -0.052
Face toward phantom with EGPRS (4TS)	1.27 / -0.173	1.22 / 0.107	1.30 / 0.076
High Channel of Face toward phantom with GPRS (4TS) (worst case) with additional battery	-- / --	-- / --	1.20 / 0.004

PCS1900 body

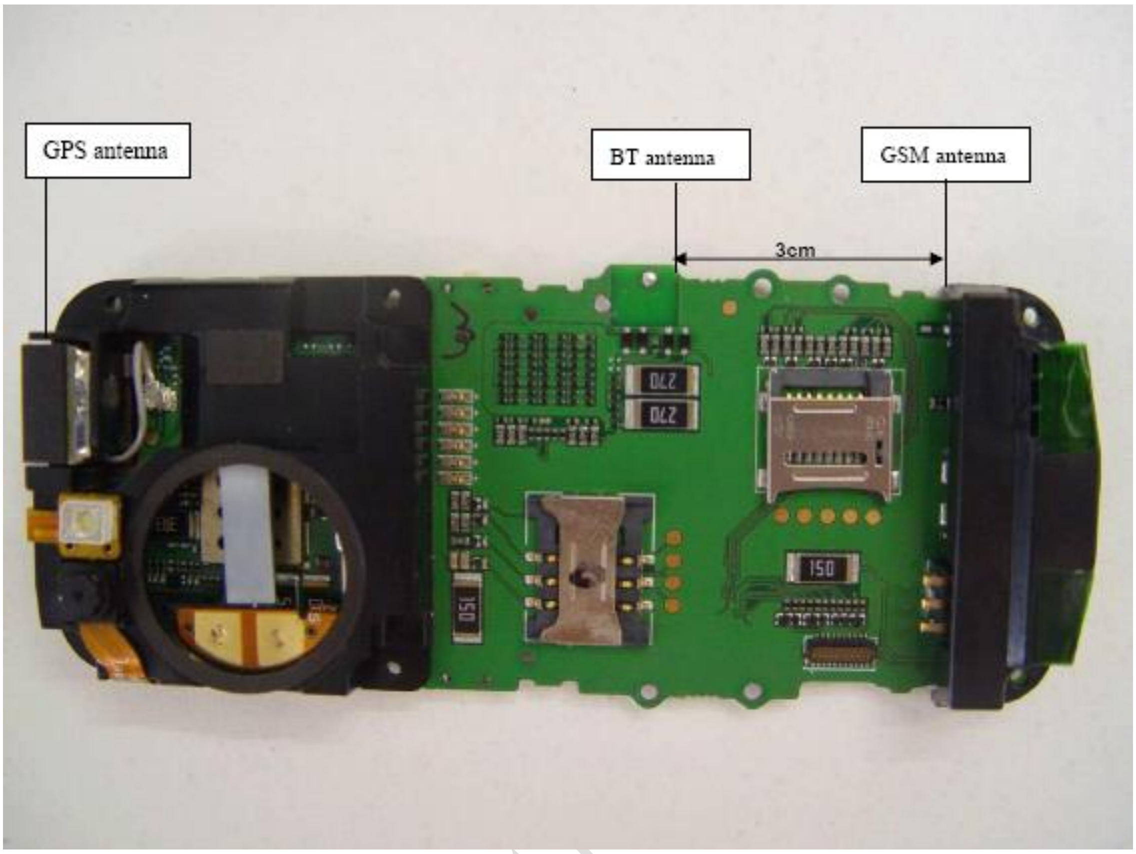
Test configuration	SAR_{1g} [W/kg] / Power Drift [dB]		
	Channel 512 [low] 1850.2 MHz	Channel 661 [Mid] 1880.0 MHz	Channel 810 [high] 1909.8 MHz
Face towards phantom	0.259 / 0.066	0.327 / -0.116	0.274 / 0.036
Back toward phantom	-- / --	0.174 / -0.009	-- / --
Face toward phantom with earphone	-- / --	0.389 / -0.023	-- / --
Face toward phantom with Hand-free	-- / --	0.350 / -0.049	-- / --
Face toward phantom with BT on	-- / --	0.367 / -0.059	-- / --
Face toward phantom with GPRS (4TS)	-- / --	0.570 / -0.106	-- / --
Face toward phantom with EGPRS (4TS)	-- / --	0.532 / -0.135	-- / --
Middle Channel of Face toward phantom with GPRS (4TS) (worst case) with additional battery	-- / --	0.537 -0.258	-- / --

4.9.4 Simultaneous Transmission Consideration

Beside the WWAN transmitter, the EUT has Bluetooth transmitter. From the table of Bluetooth Transmitter Power, the Bluetooth transmitter's maximum power is -3.79dBm (0.41mW), which is lower than the 2.45 GHz band threshold values (12mW), according to FCC KDB 648474 D01 SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas v01r05, so standalone SAR test for Bluetooth transmitter is not required.

Bluetooth Transmitter Power

channel	Frequency (MHz)	Output Power (dBm)
0	2402	-4.16
39	2441	-3.79
78	2480	-4.86



Antenna Location

The distance between Bluetooth antenna and GSM antenna is 3 cm, which is between 2.5 cm and 5 cm, so according to the note 12 of FCC KDB 648474 D01 SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas v01r05, its SAR is considered as 0 in the summing process to determine simultaneous transmission SAR evaluation requirements.

Simultaneous transmission determination:

Maximum SAR of WWAN mode: 1.33 W/kg

SAR of Bluetooth:0 W/kg

The sum of 1-g SAR: 1.33 W/kg < 1.6 W/kg

So, simultaneous transmission SAR test is not necessary.

4.10 Measurement uncertainty

Error Description	Unc. value, ±%	Prob. Dist.	Div.	c_i 1g	c_i 10g	Std.Unc. ±%,1g	Std.Unc. ±%,10g	V_i v_{eff}
Measurement System								
Probe Calibration	5.9	N	1	1	1	5.9	5.9	∞
Axial Isotropy	0.5	R	$\sqrt{3}$	0.7	0.7	0.2	0.2	∞
Hemispherical Isotropy	2.6	R	$\sqrt{3}$	0.7	0.7	1.1	1.1	∞
Boundary Effects	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
Linearity	0.6	R	$\sqrt{3}$	1	1	0.3	0.3	∞
System Detection Limits	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Readout Electronics	0.7	N	1	1	1	0.7	0.7	∞
Response Time	0	R	$\sqrt{3}$	1	1	0	0	∞
Integration Time	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
RF Ambient Noise	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
RF Ambient Reflections	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
Probe Positioner	1.5	R	$\sqrt{3}$	1	1	0.9	0.9	∞
Probe Positioning	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
Max. SAR Eval.	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test Sample Related								
Device Positioning	2.9	N	1	1	1	2.9	2.9	145
Device Holder	3.6	N	1	1	1	3.6	3.6	5
Power Drift	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Dipole Positioning	2.0	N	1	1	1	2.0	2.0	∞
Dipole Input Power	5.0	N	1	1	1	5.0	5.0	∞
Phantom and Setup								
Phantom Uncertainty	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
Liquid Conductivity (target)	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (meas.)	2.5	N	1	0.64	0.43	1.6	1.1	∞
Liquid Permittivity (target)	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (meas.)	2.5	N	1	0.6	0.49	1.5	1.2	∞
Combined Std Uncertainty						±11.2%	±10.9%	387
Expanded Std Uncertainty						**±22.4%**	**±21.8%**	