SAR TEST REPORT

Test Report No. : 32AE0094-HO-D-R2

Applicant	:	**SAMSUNG ELECTRONICS CO., LTD.**
Type of Equipment	:	**850/1900 GSM/GPRS, EDGE Rx only , 850 WCDMA with Bluetooth and WLAN Phone**
Model No.	:	**GT-S5360B**
FCC ID	:	**A3LGTS5360B**
Test regulation	:	**FCC47CFR 2.1093** **FCC OET Bulletin 65, Supplement C (Edition 01-01)**
Test Result	:	**Complied** **FCC 15.247** Head : 0.512W/kg Body-hotspot/Body-worn : 0.392W/kg (10mm distance)

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
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6 This report is a revised version of 32AE0094-HO-D-R1. 32AE0094-HO-D-R1 is replaced with this report.

Date of test: September 2 and 3, 2011

Representative test engineer:

Miyo Kishimoto
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Approved by :

Mitsuru Fujimura
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UL Verification Service

NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address, http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap

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SECTION 1: Customer information

Company Name	SAMSUNG ELECTRONICS CO., LTD.
Address	416, MAETAN 3-DONG, YEONGTONG-GU SUWON-CITY, GYEONGGI-DO 443-742, SOUTH KOREA

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of EUT	850/1900 GSM/GPRS, EDGE Rx only , 850 WCDMA with Bluetooth and WLAN Phone
Model No.	GT-S5360B
Serial No.	R26B610784A
Rating	Li-ion Battery (M/N;EB454357VU) DC3.7V/ 1200mAh
Option Battery	N/A
Body-worn Accessory	Ear phone (typical)
Device category	Portable
Antenna to antenna separation distance	8.2cm from WWAN antenna to WLAN/BT antenna 0cm from WLAN antenna to Bluetooth antenna (shared with BT)
Simultaneous transmission	WWAN can transmit simultaneously with WLAN WWAN can transmit simultaneously with Bluetooth WLAN cannot transmit simultaneously with Bluetooth

2.2 Product description

Radio Specification

GSM

Equipment Type	Transceiver
Frequency of Operation	[Up Link] GSM850: 824 – 849MHz PCS1900: 1850 – 1910MHz [Down Link] GSM850: 869 – 894MHz PCS1900: 1930 – 1990MHz
Type of Modulation	GSM/GPRS (GMSK) , EGPRS(8PSK) RX only
Mobile phone capability	Class B
Multi slots class	Class 12

W-CDMA

Equipment Type	Transceiver
Frequency of Operation	[Up Link] 850 Band V: 824 – 849MHz [Down Link] 850 Band V: 869 – 894MHz
Type of Modulation	QPSK (UP link)
Category for HSDPA	Category 7
Category for HSUPA	N/A

WLAN (IEEE802.11b/g/n-20)

Equipment Type	Transceiver
Mode	IEEE802.11b/g/n HT20
Frequency of Operation	2412-2462MHz
Type of Modulation	DSSS, OFDM

Bluetooth

Equipment Type	Transceiver
Frequency of Operation	2402-2480MHz
Type of Modulation	FHSS

SECTION 3 : Test standard information

3.1 Test Specification

Title : **Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01):**

Supplement C (Edition 01-01) - Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions
OET Bulletin 65 (Edition 97-01) - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

: **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 Supplement C

In additions;

KDB447498 D01(v04):	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
KDB648474D01:	SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas
KDB941225D01(v02):	SAR Measurement Procedures for 3G Devices
KDB941225D02(v02v01):	3GPP R6 HSPA and R7 HSPA+ SAR Guidance
KDB941225D03(v01):	Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE
KDB941225D04(v01):	Evaluating SAR for GSM/(E)GPRS Dual Transfer Mode
KDB94122506(v01):	SAR test procedures for devices incorporating SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities (Hot Spot SAR)
KDB 248227 (rev.1.2):	SAR Measurement Procedures for 802.11a//b/g Transmitters

Reference

[1]ANSI, ANSI/IEEE C95.1-1992: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992.
[2]SPEAG uncertainty document (AN 15-7/AN19-17) for DASY 5 System from SPEAG (Shimid & Partner Engineering AG).

3.2 Procedure

Transmitter	WWAN	WLAN	Bluetooth
Test Procedure	FCC OET BULLETIN 65, SUPPLEMENT C	FCC OET BULLETIN 65, SUPPLEMENT C	Exemption (Power < 12mW)
	SAR	SAR	
Category	FCC47CFR 2.1093	FCC47CFR 2.1093	FCC47CFR 2.1093
Note: UL Japan, Inc. 's SAR Work Procedures 13-EM-W0429 and 13-EM-W0430			

Bluetooth mode is excluded from SAR test since power was 1/2 *60/$f_{[GHz]}$[mW].

3.3 Exposure limit

(A) Limits for Occupational/Controlled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.4	8.0	20.0

(B) Limits for General population/Uncontrolled Exposure (W/kg)

Spatial Average (averaged over the whole body	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.08	1.6	4.0

Occupational/Controlled Environments: are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments: are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

NOTE:GENERAL POPULATION/UNCONTROLLED EXPOSURE
SPATIAL PEAK(averaged over any 1g of tissue) LIMIT
1.6 W/kg

3.4 Test Location

*Shielded room for SAR testings
UL Japan, Inc. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

SECTION 4 : Test result

4.1 Stand-alone SAR result

Mode	1g Head SAR [W/kg]	1g Body/Body-worn SAR [W/kg]
GSM850	0.733	0.850
PCS1900	0.922	0.891
W-CDMA Band V	0.455	0.403
WLAN	0.512	0.392
Bluetooth	Exemption	Exemption

*For the WWAN, refer to report number 32AE0094-HO-B-R1

4.2 Simultaneous transmission SAR result

<Simultaneous Procedure>

This EUT has the unlicensed transmitter such asWLAN (802.11b/g/n) & Bluetooth devices besides licensed transmitter WWAN (GSM/WCDMA), and the following simultaneous transmission is possible.

a) WWAN + WLAN
b) WWAN + Bluetooth

a)WWAN + WLAN

Simultaneous transmitter evaluation based on the KDB648474.
Step1. WWAN antenna is >5cm form Wireless LAN antenna
Step2. WLAN power > 2Pref (=60/$f_{[GHz]}$).
Step3. Stand-alone SAR for WLAN
Step4. Simultaneous transmission is possible (WWAN + WLAN)
Step5. ∑1g SAR (WWAN + WLAN) < 1.6W/kg

Max. ∑1gSAR Measured (WWAN + WLAN) :1.434 W/kg

Step6. No simultaneous transmission SAR

Head SAR				
Test Position	Worst Band	Worst SAR(WWAN)	Worst SAR(WLAN)	∑ 1-g SAR (W/kg)
Left Touch	PCS1900	0.922	0.512	1.434
Body / Body-wornSAR				
Test Position	Worst Band	Worst SAR(WWAN)	Worst SAR(WLAN)	∑ 1-g SAR (W/kg)
Back 10mm	PCS1900	0.891	0.392	1.283

*For the simultaneous transmission, the combination of other mode also satisfies the limit value enough.

b)WWAN + Bluetooth

Simultaneous transmitter evaluation based on the KDB648474.
Step1. WWAN antenna is >5cm form Bluetooth antenna
Step2. Bluetooth power < 2Pref (=60/$f_{[GHz]}$).
Refer to the FCC15.247 test report
Step3. No stand-alone SAR for Bluetooth
Step4. No simultaneous transmission SAR

SECTION 5 : Description of the operating mode

5.1 Output power operating modes

Mode	Duty cycle	Test Frequency	Modulation
11b/g/n	100%	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	11b: DSSS (DBPSK,DQPSK,CCK) 11g/n OFDM (BPSK,QPSK,16QAM,64QAM)

5.2 SAR testing operating modes

The operating mode for SAR testing was decided by the output power

1) WLAN
Test mode : 11b mode
Channel : 6ch 2437MHz
Crest factor : 1

<Decision of test mode >

As a result of FCC15.247 test report, the 11b mode was maximum average power. The 11g/n SAR is not required for other mode because the maximum average output power for other mode is less than 1/4dB higher than that measured 11b mode.

EMC Power (Refer to FCC 15.247 Test report)			
Mode	Data Rate (Mbps)	Freq (MHz)	Measured Cond. Avg Power (dBm)
11b	1	2412 (CH1)	15.19
11b	1	2437 (CH6)	15.48
11b	1	2462 (CH11)	15.62
11g	6	2412 (CH1)	14.30
11g	6	2437 (CH6)	14.48
11g	6	2462 (CH11)	14.65
HT20	6	2412 (CH1)	12.25
HT20	6	2437 (CH6)	12.48
HT20	6	2462(CH 11)	12.62

<Decision of tested channel and data rate >

The channel and data rate for SAR testing were decided by the measured radiated EIRP power of SAR sample.

SAR Power (Data rate check)			
Mode	Data Rate (Mbps)	Freq (MHz)	Measured Radiated EIRP Avg. Power (dBm)
11b	1	2437 (CH6)	18.21
11b	2	2437 (CH6)	18.11
11b	5.5	2437 (CH6)	18.04
11b	11	2437 (CH6)	17.83

SAR Power (Channel check)			
Mode	Data Rate (Mbps)	Freq (MHz)	Measured Radiated EIRP Avg. Power (dBm)
11b	1	2412 (CH1)	17.60
11b	1	2437 (CH6)	18.21
11b	1	2462 (CH11)	17.70

5.3 Confirmation before SAR testing

Correlation of Output Power between EMC and SAR tests
It was checked that the antenna port power was correlated within 0~+5% (FCC requirements)

Max.power SAR sample			Max.power EMC sample	Deviation (%)
Measured Radiated EIRP Avg Power (dBm)	Antenna Gain (dBi)	Calculated conducted Avg. Power (dBm)	Measured cnducted Avg Power (dBm)	
18.21	2.56	15.65	15.62	0.7

Calculated Conducted Avg power (dBm) = [Radiated EIRP Avg Power - Ant. Gain]

5.4 Confirmation after SAR testing

It was checked that the power drift [W] is within +/-5%.The verification of power drift during the SAR test is that DASY5 system calculates the power drift by measureing the e-filed at the same location at beginning and the end of the scan measurement for each test position.

DASY5 system calucation Power drift value[dB] =20log(Ea)/(Eb)
Before SAR testing : Eb[V/m]
After SAR testing : Ea[V/m]

Limit of power drift[W] =+/-5%
X[dB]=10log[P]=10log(1.05/1)=10log(1.05)-10log(1)=0.212dB

from E-filed relations with power.
p=E^2/η=E^2/
Therefore, The correlation of power and the E-filed
XdB=10log(P)=10log(E)^2=20log(E)

Therefore,
The calculated power drift of DASY5 System must be the less than +/-0.212dB.

SECTION6 : Description of the Head/Body-Worn/Body setup

6.1 Test position for Head setup

i)Procedure for SAR testing

The EUT was tested in accordance with FCC OET Bulletin 65 Supplement C: 2001-01 and IEEE 1528: 2003 for both the "Cheek/Touch" and "Ear/Tilt" positions at the left and right sides of the SAM phantom head region. The FCC KDB 648474 D01 was also incorporated.

ii)Test mode

WLAN	**VOIP mode (11b)**

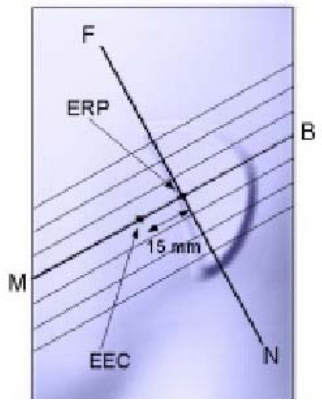
iii)Test position

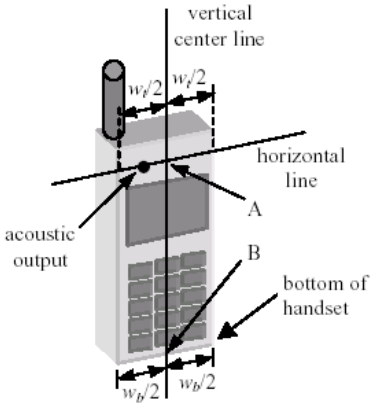
(1) Left cheek
(2) Left tilt
(3) Right cheek
(4) Right tilt

Initial ear position

A handset should be initially positioned with the earpiece region pressed against the ear spacer of a head phantom.

The device should be positioned parallel to the "N-F" line defined along the base of the ear spacer that contains the "ear reference point". The "test device reference point" is aligned to the "ear reference point" on the head phantom and the "vertical centerline" is aligned to the "phantom reference plane".





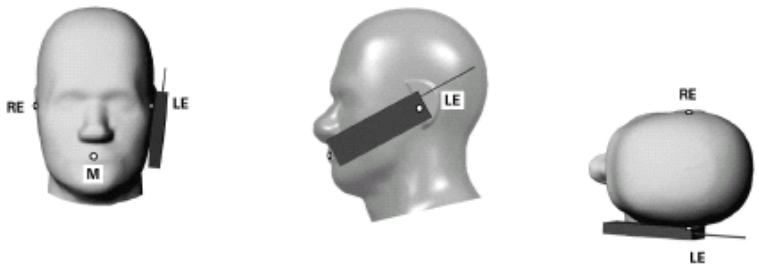
Cheek position

The device is brought toward the mouth of the head phantom by pivoting against the "ear reference point" or along the "N-F" line.

This test position is established:

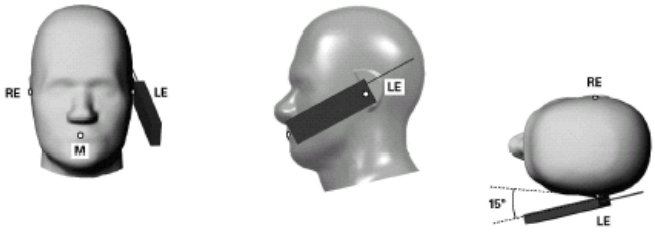
i) When any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom.

ii) (or) When any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use position is in contact with the cheek or mouth of the phantom.



Tilt position

If the earpiece of the handset is not in full contact with the phantom's ear spacer and the peak SAR location for the "Cheek/Touch" position is located at the ear spacer region or corresponds to the earpiece region of the handset, the device should be returned to the "initial ear position" by rotating it away from the mouth until the earpiece is in full contact with the ear spacer. Otherwise the handset should be moved away from the cheek perpendicular to the line passes through both "ear reference points" for approximate 2-3 cm. While it is in this position, the handset is tilted away from the mouth with respect to the "test device reference point" by 15°. After the tilt, it is then moved back toward the head perpendicular to the line passes through both "ear reference points" until the device touches the phantom or the ear spacer. If the antenna touches the head first, the positioning process should be repeated with a tilt angle less than 15° so that the device and its antenna would touch the phantom simultaneously.



<Antenna position>

The antennas use for WWAN and WLAN are both separate in a single fixed position. The antennas are integral part of the device.

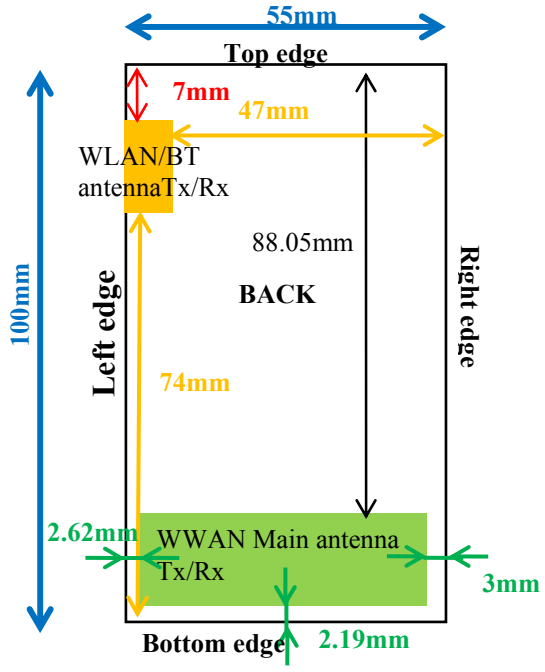
6.2 Description of the Body/ Body-worn setup

i)Procedure for SAR testing

-The tested distance were performed according to the KDB941225 D06 v01 (SAR Evaluation Procedures for portable Devices with Wireless Router Capabilities)
Device dimensions (HxWxD):100x55x12

ii)Test mode

WLAN	**Mobile hotspot** **Data transmission mode (11b)**



Position	WLAN
Front	Tested
Back	Tested
Left edge	Tested
Right edge	Not required
Top edge	Tested
Bottom edge	Not required

NOTE: Test position is required to the edge within 2.5cm from antenna according to the KDB 941225 D06.

(1) Front (10mm) :
The measurement separated 10mm distance between the front face of EUT and flat section of SAM Twin Phantom.
(2) Back (10mm) :
The measurement separated 10mm distance between the back face of EUT and flat section of SAM Twin Phantom.
(3) Left edge (10mm) :
The measurement separated 10mm distance between the left edge of EUT and flat section of SAM Twin Phantom.
(4) Top edge (10mm) :
The measurement separated 10mm distance between the top edge of EUT and flat section of SAM Twin Phantom.

<Antenna position>
The antennas use for WWAN and WLAN are both separate in a single fixed position. The antennas are integral part of the device.

SECTION 7 : Test surrounding

7.1 Measurement uncertainty

The uncertainty budget has been determined for the DASY5 measurement system according to the SPEAG documents[2] and is given in the following Table.

Error Description	Uncertainty value ± %	Probability distribution	divisor	(ci) 1g	Standard Uncertainty (1g)	vi or veff
Measurement System						
Probe calibration	±6.55	Normal	1	1	±6.55	∞
Axial isotropy of the probe	±4.7	Rectangular	√3	0.7	±1.9	∞
Spherical isotropy of the probe	±9.6	Rectangular	√3	0.7	±3.9	∞
Boundary effects	±2.0	Rectangular	√3	1	±1.2	∞
Probe linearity	±4.7	Rectangular	√3	1	±2.7	∞
Detection limit	±1.0	Rectangular	√3	1	±0.6	∞
Readout electronics	±0.3	Normal	1	1	±0.3	∞
Response time	±0.8	Rectangular	√3	1	±0.5	∞
Integration time	±2.6	Rectangular	√3	1	±1.5	∞
RF ambient Noise	±3.0	Rectangular	√3	1	±1.7	∞
RF ambient Reflections	±3.0	Rectangular	√3	1	±1.7	∞
Probe Positioner	±0.8	Rectangular	√3	1	±0.5	∞
Probe positioning	±9.9	Rectangular	√3	1	±5.7	∞
Max.SAR Eval.	±4.0	Rectangular	√3	1	±2.3	∞
Test Sample Related						
Device positioning	±2.9	Normal	1	1	±2.9	7
Device holder uncertainty	±3.6	Normal	1	1	±3.6	7
Power drift	±5.0	Rectangular	√3	1	±2.9	∞
Phantom and Setup						
Phantom uncertainty	±4.0	Rectangular	√3	1	±2.3	∞
Liquid conductivity (target)	±5.0	Rectangular	√3	0.64	±1.8	∞
Liquid conductivity (meas.)	-2.6	Rectangular	1	0.64	±1.7	∞
Liquid permittivity (target)	±5.0	Rectangular	√3	0.6	±1.7	∞
Liquid permittivity (meas.)	+3.9	Rectangular	1	0.6	±2.3	∞
Combined Standard Uncertainty					**±12.907**	
Expanded Uncertainty (k=2)					**±25.8**	

SECTION 8 : Measurement results

8.1 WLAN HEAD SAR

(1)Method of measurement

Step1. The searching for the worst position

The test was performed in condition of the maximum EIRP AVG power.

Note:

(1) The SAR is not required for 11g/n mode because the maximum average output power for 11g/n mode is less than 1/4dB higher than that measured 11b mode.

(2) The other channel was not required since maximum average output power channel SAR vale is less than 0.8W/kg.

(2)Simulated Tissue Liquid Parameter confirmation

The dielectric parameters were checked prior to assessment using the HP85070D dielectric probe kit.

The dielectric parameters measurement is reported in each correspondent section.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS										
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value*1	Measured	Deviation [%]	Limit [%]
3-Sep	24.5	57	HSL 2450	24.3	2450	εr	39.2	38.2	-2.6	+/-5
						σ [mho/m]	1.80	1.87	3.9	+/-5

εr: Relative Permittivity / σ : Coductivity

*1 The Target value is a parameter defined in FCC OET65.

(3)Result of HEAD SAR

HEAD SAR MEASUREMENT RESULTS							
Frequency		Modulation	Phantom Section	EUT Set-up Conditions			SAR(1g) [W/kg]
Channel	[MHz]			Antenna	Position	Separation [mm]	Maximum value of multi-peak
Step.1 Position searching							
6	2437	11b 1Mbps	Left	Fixed	Cheek	0	**0.512**
6	2437	11b 1Mbps	Left	Fixed	Tilt	0	**0.290**
6	2437	11b 1Mbps	Right	Fixed	Cheek	0	**0.213**
6	2437	11b 1Mbps	Right	Fixed	Tilt	0	**0.207**

8.2 WLAN Body/Body-worn SAR

(1)Method of measurement

Step1. The searching for the worst position

The test was performed in condition of the maximum EIRP AVG power.

Note:

(1)The BODY SAR is not required for 11g/n mode because the maximum average output power for 11g/n mode is less than 1/4dB higher than that measured 11b mode.

(2)The other channel was not required since maximum average output power channel SAR vale is less than 0.8W/kg.

(2)Simulated Tissue Liquid Parameter confirmation

The dielectric parameters were checked prior to assessment using the HP85070D dielectric probe kit.

The dielectric parameters measurement is reported in each correspondent section.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS										
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value*1	Measured	Deviation [%]	Limit [%]
2-Sep	24.6	53	MSL 2450	24.2	2450	εr	52.7	51.4	-2.5	+/-5
						σ [mho/m]	1.95	2.01	3.1	+/-5

εr: Relative Permittivity / σ : Coductivity

*1 The Target value is a parameter defined in FCC OET65.

(3)Result of Body / Body-worn SAR

BODY SAR MEASUREMENT RESULTS							
Frequency		Modulation	Phantom Section	EUT Set-up Conditions			SAR(1g) [W/kg]
Channel	[MHz]			Antenna	Position	Separation [mm]	Maximum value of multi-peak
Step.1 Position searching							
6	2437	11b 1Mbps	Flat	Fixed	Front	10	**0.133**
6	2437	11b 1Mbps	Flat	Fixed	Back	10	**0.392**
6	2437	11b 1Mbps	Flat	Fixed	Left	10	**0.217**
6	2437	11b 1Mbps	Flat	Fixed	Top	10	**0.056**

SECTION 9 Test instruments

<EIRP power measurement>

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2011/02/22 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	-	RE	2011/01/19 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2010/11/30 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2011/05/23 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	270875/4(1m) / 284655(5m)	RE	2011/03/02 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2011/03/10 * 12
MSG-05	Signal Generator	Agilent	E4438C	MY45090353	RE	2011/08/30 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	RE	2010/09/10 * 12
MPSE-11	Power sensor	Anritsu	MA2411B	011737	RE	2010/09/10 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2011/08/11 * 12
MCC-129	Microwave Cable(1-33GHz)	HUBER+SUHNER	SF103/11PC3.5-31	54307/3	RE	2011/01/06 * 12

<SAR measurement>

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPM-01	Power Meter	Agilent	E4417A	GB41290639	SAR	2011/02/01 * 12
MPSE-01	Power Sensor	Agilent	E9300B	US40010300	SAR	2011/01/28 * 12
MPSE-03	Power sensor	Agilent	E9327A	US40440576	SAR	2011/02/02 * 12
MAT-15	Attenuator(30dB)	Agilent	8498A	US40010300	SAR	2011/02/16 * 12
MSG-10	Signal Generator	Agilent	N5181A	MY47421098	SAR	2010/09/08 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	SAR	2011/03/10 * 12
MHDC-12	Dual Directional Coupler	Hewlett Packard	772D	2839A0016	SAR	Pre Check
EST-08	Network Analyzer	Agilent	8753ES	US39174808	SAR	2011/05/11 * 12
MDPK-01	Dielectric probe kit	Agilent	85070D	702	SAR	2010/10/25 * 36
EST-46	3.5mm Calibration Kit	Agilent	85052D	MY43252869	SAR	2011/06/13 * 12
MPB-03	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV3	3507	SAR	2011/03/16 * 12
MDAE-01	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	SAR	2011/07/20 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY52.6.1.408	-	SAR	-
COTS-MSAR-02	S-Parameter Network Analyzer	Agilent	-	-	SAR	-
MDA-07	Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	713	SAR	2010/09/06 * 36
MPS-01	SAM Phantom	Schmid&Partner Engineering AG	SAM Twin Phantom V4.0	1196	SAR	Pre Check
MDH-01	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2011/05/26 * 12
MOS-10	Digtal thermometer	HANNA	Checktemp-2	MOS-10	SAR	2011/08/22 * 12
MBM-13	Barometer	Sunoh	SBR121	837	SAR	2011/03/14 * 36
HSL/MSL2450					Daily check	Target value ± 5%
SAR room					Daily check Ambient Noise<0.012W/kg	

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.