JQA File No. : KL80050309
Issued Date : September 12, 2005

TEST REPORT (SAR EVALUATION)

APPLICANT	:	Sharp Corporation, Communication Systems Group
ADDRESS	:	2-13-1, Iida, Hachihonmatsu, Higashi-Hiroshima City, Hiroshima, 739-0192, Japan
APPLICANT	:	GSM900/1800/1900 GPRS Phone
MODEL NO.	:	GX40
SERIAL NO.	:	004400/01/630087/1
FCC ID	:	APYHRO00042
TEST STANDARD	:	CFR 47 FCC Rules and Regulations Part 2
TESTING LOCATION	:	Japan Quality Assurance Organization KITA-KANSAI Testing Center 1-7-7, Ishimaru, Minoh-shi, Osaka 562-0027, Japan
TEST RESULTS	:	**Passed**
DATE OF TEST	:	August 31, 2005 - September 1, 2005

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Japan Quality Assurance Organization
KITA-KANSAI Testing Center
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DEFINITIONS FOR ABBREVIATION AND SYMBOLS USED IN THIS TEST REPORT

"EUT" means Equipment Under the Test.
"N/A" means that Not Applicable.
"N/T" means that Not Tested.

☒ - indicates that the listed condition, standard or equipment is applicable for this report.
☐ - indicates that the listed condition, standard or equipment is not applicable for this report.

Documentation

1 Test Regulation

Applied Standard : CFR 47 FCC Rules and Regulations Part 2
Radio-frequency Radiation Exposure Evaluation (§2.1091 and §2.1093)

Test Procedure : FCC/OET Bulletin 65 Supplement C (June 2001) and IEEE Std.1528–2003

Exposure Limits : ANSI/IEEE Std. C95.1–1992

2 Test Location

KITA-KANSAI Testing Center
7-7, Ishimaru, 1-chome, Minoh-shi, Osaka, 562-0027, Japan
KAMEOKA EMC Branch
9-1, Ozaki, Inukanno, Nishibetsuin-cho, Kameoka-shi, Kyoto, 621-0126, Japan

3 Recognition of Test Laboratory

JQA KITA-KANSAI Testing Center Testing Department EMC Division is recognized under ISO/IEC 17025 by following accreditation bodies and the test facility of Testing Division is registered by the following bodies.

VLAC Code : VLAC-001-2 (Effective through : April 3, 2006)
NVLAP Lab Code : 200191-0 (Effective through : June 30, 2006)
BSMI Recognition No. : SL2-IS-E-6006, SL2-IN-E-6006, SL2-AI-E-6006
(Effective through : September 14, 2007)

VCCI Registration No. : R-006, R-008, R-1117, C-006, C-007, C-1674, C-2143
(Effective through : April 3, 2006)
FCC Registration No. : 683630 (Effective through : June 30, 2006)

Accredited as conformity assessment body for Japan electrical appliances and material law by METI.
(Effective through : February 24, 2007)
Accredited as conformity assessment body for Article 2, Paragraph 8, Item 5 on law for implementation of the Mutual Recognition between Japan and the European Community by METI.
(Effective through : August 7, 2007)

4 Description of the Equipment Under Test

1.	Manufacturer	:	Sharp Corporation, Communication Systems Group 2-13-1, Iida, Hachihonmatsu, Higashi-Hiroshima City, Hiroshima, 739-0192, Japan
2.	Products	:	GSM900/1800/1900 GPRS Phone
3.	Model No.	:	GX40
4.	Serial No.	:	004400/01/630087/1
5.	Product Type	:	Pre-production
6.	Date of Manufacture	:	August, 2005
7.	Transmitting Frequency	:	1850.20 MHz – 1909.80 MHz
8.	Receiving Frequency	:	1930.20 MHz – 1989.80 MHz
9.	Max. RF Output Power (Conducted / Peak)	:	29.52 dBm
10.	Antenna	:	L type antenna Length 38.0 mm / Width 13.62 mm
11.	Battery Option	:	Lithium-ion Battery Pack XN-1BT30 (780mAh)
12.	Power Rating	:	3.9VDC
13.	EUT Grounding	:	None
14.	Device Category	:	Portable Device (§2.1093)
15.	Exposure Category	:	General Population/Uncontrolled Exposure
16.	FCC Rule Part(s)	:	24(E)
17.	EUT Authorization	:	Certification
18.	Received Date of EUT	:	August 31, 2005

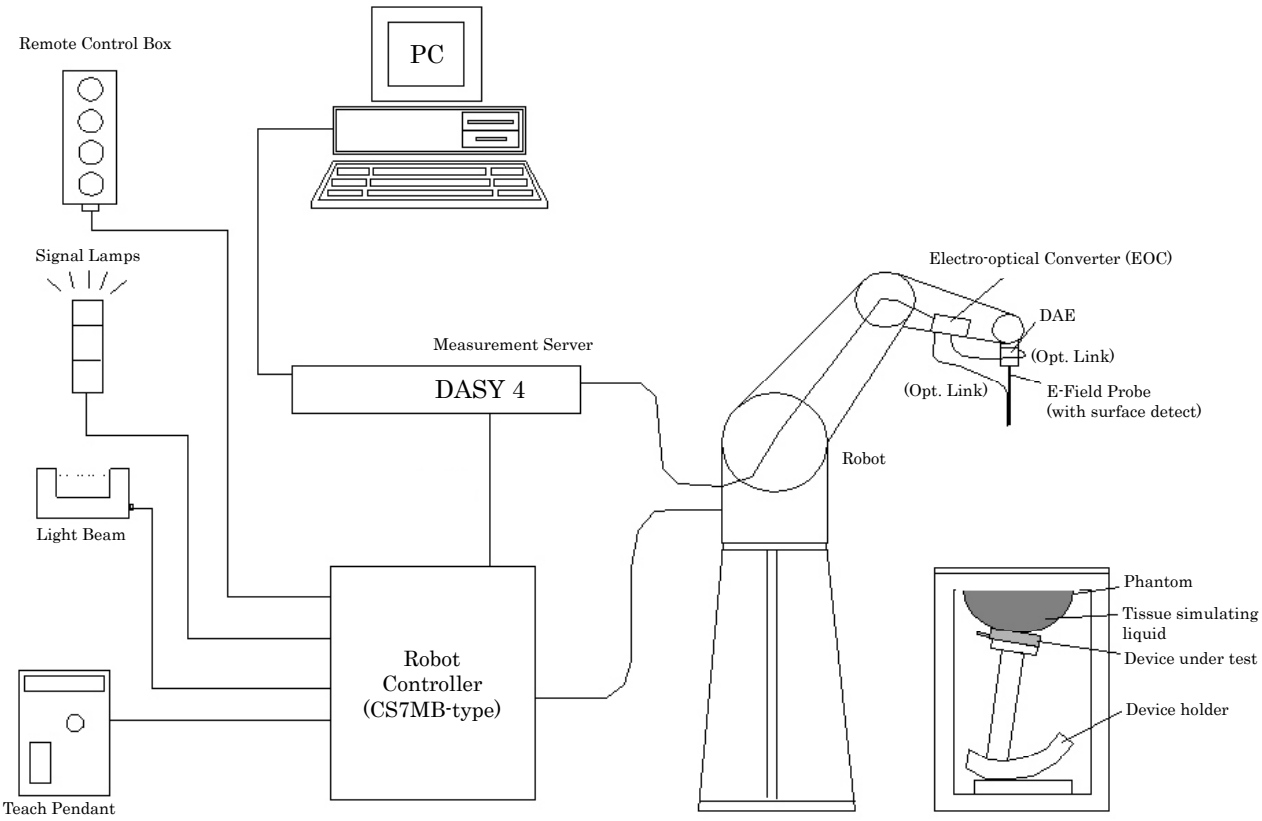
NOTE 1 : This device contains GSM 900 MHz and DCS 1800 MHz functions not operational in U.S. territories. This report is only appliance for PCS 1900 MHz band.

NOTE 2 : Information for Bluetooth Function

Transmitting Frequency	:	2402 MHz – 2480 MHz
Receiving Frequency	:	2402 MHz – 2480 MHz
Antenna Type	:	L type (inside)
Antenna Dimensions	:	Length 19.2 mm / Width 3.49 mm

5 Measurement System Diagram

These measurements are performed using the DASY4 automated dosimetric assessment system (manufactured by Schmid & Partner Engineering AG (SPEAG) in Zürich, Switzerland). It consists of high precision robotics system, cell controller system, DASY4 measurement server, personal computer with DASY4 software, data acquisition electronic (DAE) circuit, the Electro-optical converter (EOC), near-field probe, and the twin SAM phantom containing the equivalent tissue. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF).
The Robot is connected to the cell controller to allow software manipulation of the robot. The DAE is connected to the EOC. The DAE performs the signal amplification, signal multiplexing, A/D conversion, offset measurements, mechanical surface detection, collision detection, etc. The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the DASY4 measurement server.



6 System Components

6.1 Probe Specification

Construction : Symmetrical design with triangular core
Built-in optical fiber for surface detection system
Built-in shielding against static changes

Calibration : In air form 10 MHz to 2.5 GHz
In head tissue simulating liquid (HSL) and
muscle tissue simulating liquid
900 MHz (accuracy ± 11.0%; k=2)
1810 MHz (accuracy ± 11.0%; k=2)
2450 MHz (accuracy ± 11.8%; k=2)

Frequency : 10 MHz to 3 GHz (dosimetry);
Linearity: ±0.2 dB (30 MHz to 3 GHz)

Directivity : ± 0.2 dB in HSL (rotation around probe axis)
± 0.4 dB in HSL (rotation normal probe axis)

Dynamic Range : 5 μW/g to >100 mW/g; Linearity: ± 0.2 dB

Surface Detection : ± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces

Dimensions : Overall length 330 mm
Tip length 16 mm
Body diameter 12 mm
Tip diameter 6.8 mm
Distance from probe tip to dipole centers 2.7 mm

6.2 Twin SAM Phantom

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of left and right head phone usage as well as body mounted usage at the flat phantom region. A cover prevents 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 with the robot.

Shell Thickness : 2 ± 0.2 mm
Filling Volume : Volume Approx. 25 liters
Dimensions : 810 × 1000 × 500 mm (H × L × W)

6.3 Mounting Device for Transmitters

The Mounting Device enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

6.4 Typical Composition of Ingredients for Liquid Tissue

Ingredients (% by weight)	Frequency (MHz)					
	835		1900		2450	
	Head	Body	Head	Body	Head	Body
Water	41.45	52.40	54.90	40.40	62.70	73.20
Salt (NaCl)	1.45	1.40	0.18	0.50	0.50	0.04
Sugar	56.00	45.00	0.00	58.00	0.00	0.00
HEC	1.00	1.00	0.00	1.00	0.00	0.00
Bactericide	0.10	0.10	0.00	0.10	0.00	0.00
Triton X-100	0.00	0.00	0.00	0.00	36.80	0.00
DGBE	0.00	0.00	44.92	0.00	0.00	26.70

Salt : 99+% Pure Sodium Chloride Sugar : 98+% Pure Sucrose
Water : De-ionized, 16 MΩ+ resistivity HEC : Hydroxyethyl Cellulose
DGBE : 99+% Di (ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra pure) : Polyethylene glycol mono [4-(1,1,3,3-tetramethylbuthyl)phenyl]ether

The composition of ingredients is according to FCC/OET Bulletin 65 Supplement C.

7 Measurement Process

Area Scan for Maximum Search :

The SAR distribution at the exposed side of the head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 10 mm × 10 mm. The evaluation on the measured area scan gives the interpolated maximum (hot spot) of the measured area.

Cube Scan for Spatial Peak SAR Evaluation :

The 1g and 10g peak evaluations were available for the predefined cube 5×5×7 scans. The grid spacing was 8 mm × 8 mm × 5 mm. The first procedure is an extrapolation to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume in a 1mm grid (35000 points). In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is moved around until the highest averaged SAR is found. This last procedure is repeated for a 10g cube. If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

Extrapolation :

The extrapolation is based on a least square algorithm. Through the points in the first 3 cm in all z-axis, polynomials of order four are calculated. This polynomial is then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from one another.

Interpolation :

The maximum interpolated value is serched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) are computed by the 3D spline algorithm. The 3D spline is composed of three one-dimensional splines with the “Not a knot” –condition (x, y and z –directions). The volume is integrated with the trapezoidal algorithm.

8 Measurement Uncertainties

8.1 Uncertainties for System Validation

Uncertainty Component	Uncertainty value (%)	Probability distribution	Divisor	c_i (1g)	c_i (10g)	Standard Uncertainty (%)		v_i
						1g	10g	
Measurement System								
Probe calibration	4.8	Normal	1	1	1	4.8	4.8	∞
Axial isotropy	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Hemispherical isotropy	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Boundary effect	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Detection limits	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Readout electronics	1.0	Normal	1	1	1	1.0	1.0	∞
Response time	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Integration time	0.0	Rectangular	√3	1	1	0.0	0.0	∞
RF ambient conditions	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Mechanical tolerance	0.4	Rectangular	√3	1	1	0.2	0.2	∞
Probe positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Extrapolation, interpolation and integration algorithms	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Dipole								
Dipole axis to liquid distance	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Input power and SAR drift measurement	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Physical parameters								
Phantom uncertainty	4.0	Rectangular	√3	1	1	2.3	2.3	∞
Liquid conductivity - deviation from target values	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	2.5	Normal	1	0.64	0.43	1.6	1.1	∞
Liquid Permittivity - deviation from target values	5.0	Rectangular	√3	0.6	0.49	1.7	1.4	∞
Liquid Permittivity - measurement uncertainty	2.5	Normal	1	0.6	0.49	1.5	1.2	∞
Combined Standard Uncertainty						8.4	8.1	
Expanded Uncertainty (k=2) (confidence interval of 95%)						16.8	16.2	

NOTE : The above measurement uncertainties are according to IEEE Std.1528–2003.

8.2 Uncertainties for SAR Measurement

Uncertainty Component	Uncertainty value (%)	Probability distribution	Divisor	c_i (1g)	c_i (10g)	Standard Uncertainty (%)		v_i
						1g	10g	
Measurement System								
Probe calibration	4.8	Normal	1	1	1	4.8	4.8	∞
Axial isotropy	4.7	Rectangular	√3	0.7	0.7	1.9	1.9	∞
Hemispherical isotropy	9.6	Rectangular	√3	0.7	0.7	3.9	3.9	∞
Boundary effect	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Detection limits	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Readout electronics	1.0	Normal	1	1	1	1.0	1.0	∞
Response time	0.8	Rectangular	√3	1	1	0.5	0.5	∞
Integration time	2.6	Rectangular	√3	1	1	1.5	1.5	∞
RF ambient conditions	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Mechanical tolerance	0.4	Rectangular	√3	1	1	0.2	0.2	∞
Probe positioning	2.9	Rectangular	√3	1	1	1.7	1.7	∞
Extrapolation, interpolation and integration algorithms	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Test Sample Related								
Device positioning	3.4	Normal	1	1	1	3.4	3.4	23
Device holder uncertainty	4.6	Normal	1	1	1	4.6	4.6	5
Output power drift	5.0	Rectangular	√3	1	1	2.9	2.9	∞
Physical parameters								
Phantom uncertainty	4.0	Rectangular	√3	1	1	2.3	2.3	∞
Liquid conductivity - deviation from target values	5.0	Rectangular	√3	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	2.5	Normal	1	0.64	0.43	1.6	1.1	∞
Liquid Permittivity - deviation from target values	5.0	Rectangular	√3	0.6	0.49	1.7	1.4	∞
Liquid Permittivity - measurement uncertainty	2.5	Normal	1	0.6	0.49	1.5	1.2	∞
Combined Standard Uncertainty						10.8	10.6	
Expanded Uncertainty (k=2) (confidence interval of 95%)						21.6	21.2	

NOTE : The above measurement uncertainties are according to IEEE Std. 1528–2003.

9 Equipment Under Test Modification

☒ - No modifications were conducted by JQA to achieve compliance to the limitations.
☐ - To achieve compliance to the limitations, the following changes were made by JQA during the compliance test.

The modifications will be implemented in all production models of this equipment.

Applicant : Not Applicable
Date : Not Applicable
Typed Name : Not Applicable
Position : Not Applicable

10 Responsible Party

Responsible Party of Test Item (Product)

Responsible Party :

Contact Person :

Signatory

11 Deviation from Standard

☒ - No deviations from the standard described in clause 1.
☐ - The following deviations were employed from the standard described in clause 1.

12 Test Results

12.1 SAR Measurement for Head Configuration

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

☒ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Maximum SAR (1g)	0.675 mW/g at	1850.20 MHz
Phantom Position	☐ - Left Head	☒ - Right Head
Device Position	☒ - Cheek/Touch	☐ - Ear/Tilt
Antenna Position	☐ - In ☐ - Out	☒ - Fixed
Modulation Type		GSM

Remarks : _____

12.2 SAR Measurement for Body-worn Configuration

The requirements are ☒ - Applicable [☒ - Tested. ☐ - Not tested by applicant request.]
☐ - Not Applicable

☒ - **Passed** ☐ - **Failed** ☐ - **Not judged**

Maximum SAR (1g)	0.683 mW/g at	1850.20 MHz
Modulation Type		GSM+GPRS

Remarks : _____

13 Summary

General Remarks :

The EUT was tested according to the requirements of
CFR 47 FCC Rules and Regulations Part 2
under the test configuration, as shown in clause 14 to 15.
The conclusion for the test items of which are required by the applied regulation is indicated under the final judgment.

Final Judgment :

The "as received" sample;

☒ - fulfill the test requirements of the regulation mentioned on clause 1.
☐ - doesn't fulfill the test requirements of the regulation mentioned on clause 1.

Reviewed by:

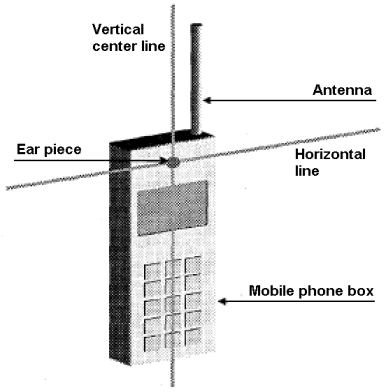
Shigeru Kinoshita
Deputy Manager
Testing Dept. EMC Div.
JQA KITA-KANSAI Testing Center

Tested by:

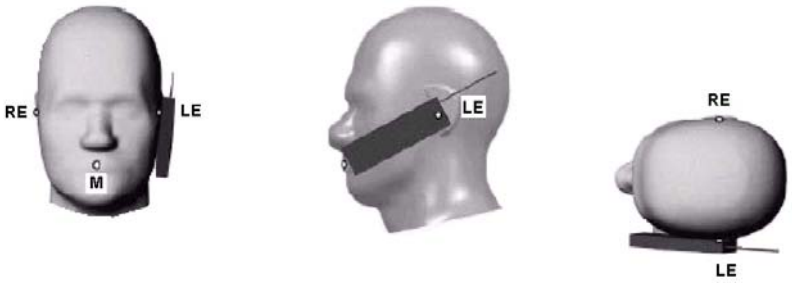
Yasuhisa Sakai
Engineer
Testing Dept. EMC Div.
JQA KITA-KANSAI Testing Center

14 Test Arrangement

14.1 Cheek-Touch Position

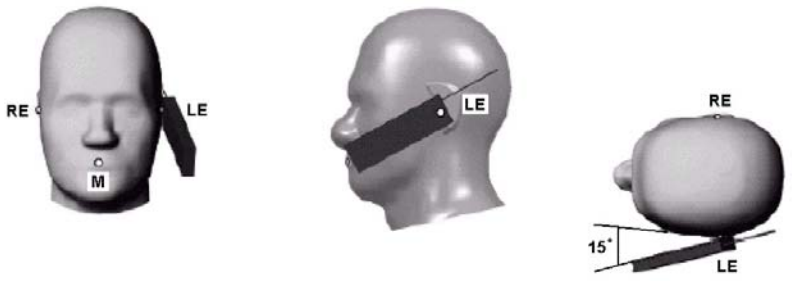


1. Position the device with the vertical center line of the body of the device and the horizontal line crossing the center of the ear piece in a plane parallel to the sagittal plane of the phantom.
2. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the center of the ear piece with the line RE-LE.
3. Translate the mobile phone box towards the phantom with the ear piece aligned with the line RE-LE until the phone touches the ear.
4. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.



14.2 Ear-Tilt Position

1. Position the device in the “Cheek/Touch Position”.
2. While maintaining the device in the reference plane and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.



Configuration 1 (Left Head – Cheek/Touch Position)

This photo is CONFIDENTIAL.
Refer to PDF(TestSetup_Photo_SAR)

Configuration 1 (Left Head – Ear/Tilt Position)

This photo is CONFIDENTIAL.
Refer to PDF(TestSetup_Photo_SAR)

Configuration 2 (Right Head – Cheek/Touch Position)

This photo is CONFIDENTIAL.
Refer to PDF(TestSetup_Photo_SAR)

Configuration 2 (Right Head – Ear/Tilt Position)

This photo is CONFIDENTIAL.
Refer to PDF(TestSetup_Photo_SAR)

14.3 Body-worn Configuration

For body-worn operating configurations, the device is tested against a flat phantom representing the user body. A headset is connected to the device. Belt-clips or holsters are not supplied with the device as an accessory, then the device is 1.5 cm on distance from the flat phantom. It is recommended for testing body-worn SAR compliance.

Configuration 3 (Flat – Body-worn Position)

This photo is CONFIDENTIAL.
Refer to PDF(TestSetup_Photo_SAR)

15 Equipment Under Test Tune-Up Procedures

The following procedures had been used to prepare the EUT for the SAR test.

To setup the desire channel frequency and the maximum output power, a Radio Communication Tester "Rohde & Schwarz, CMU-200" was used to program the EUT.

SM Mobile Station : GSM 1900
Network Support : GSM Mode – Circuit Switched
GPRS Mode – Packet Data (GPRS Level 10 / 2 slot)
Power Control Level (PCL) : 0 (30.0 dBm)

Channel	Frequency
0512	1850.20
0661	1880.00
0810	1909.80

For the Bluetooth transmitter, RF test mode prepared by the manufacturer was used to program the EUT.

Communication system : Bluetooth
Modulation type : Frequency Hopping Spread Spectrum (FHSS)

Channel	Frequency
00	2402.0
39	2441.0
78	2480.0

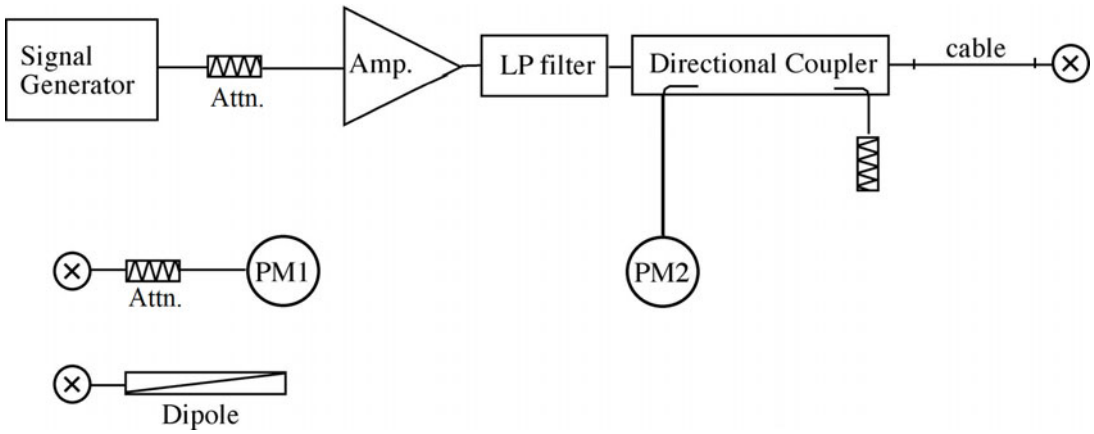
Maximum conducted power was measured by replacing the antenna with an adapter for conductive measurements, before and after the SAR measurements was done.

Appendix A: Test Data

A.1 System Validation

The power meter PM1 (including Attenuator) measures the forward power at the location of the validation dipole connector. The signal generator is adjusted for 250 mW at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2.

The dipole antenna is matched to be used near flat phantom filled with tissue simulating solution. A specific distance holder is used in the positioning of the antenna to ensure correct spacing between the phantom and the dipole.



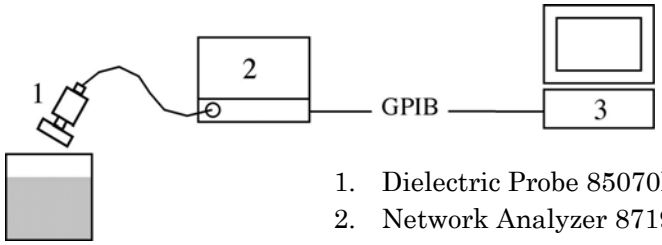
System Validation Results :

System Validation Dipole : D1800V2, S/N: 2d038						
Ambient Conditions : 22°C 59%		Depth of Liquid : 15.0 cm			Date : September 1, 2005	
Liquid		Parameters	Target	Measured	Deviation [%]	Limit [%]
Medium	Temp. [°C]					
Head 1800 MHz	22.0	Permitivity	40.0	40.05	+0.13	± 5
		Conductivity	1.40	1.347	-3.79	± 5
		1g SAR (mW/g)	9.47	9.21	-2.75	± 10
Ambient Conditions : 22°C 66%		Depth of Liquid : 15.0 cm			Date : August 31, 2005	
Muscle 1800 MHz	22.0	Permitivity	53.3	52.97	-0.62	± 5
		Conductivity	1.52	1.461	-3.88	± 5
		1g SAR (mW/g)	9.68	9.56	-1.24	± 10

NOTE : Please refer to attachment for the result presentation in plot format.

A.2 Tissue Verification

The tissue dielectric parameters of the tissue medium at the middle of a device transmission band should be within ±5% of the parameters specified at that target frequency. It is verified by using the dielectric probe and the network analyzer.



1. Dielectric Probe 85070D
2. Network Analyzer 8719ET
3. Personal Computer

Tissue Verification Results :

Ambient Conditions : 22°C 59%					Date : September 1, 2005	
Liquid		Parameters	Target	Measured	Deviation [%]	Limit [%]
Medium	Temp. [°C]					
Head 1900 MHz	22.0	Permitivity	40.0	39.61	-0.98	± 5
		Conductivity	1.40	1.441	+2.93	± 5
Ambient Conditions : 22°C 66%					Date : August 31, 2005	
Muscle 1900 MHz	22.0	Permitivity	53.3	52.70	-1.13	± 5
		Conductivity	1.52	1.583	+4.14	± 5

A.3 SAR Measurement Data

A.3.1 Head Configuration

Modulation Type: GSM (Duty Cycle: 12.0 %, Crest Factor: 8.3)								
Configuration 1 – **Left** Head		Depth of Liquid : 15.0 cm				Date : September 1, 2005		
EUT Set-up Configuration		Frequency		Power [dBm] (Peak)		Limit [mW/g]	**SAR (1g) [mW/g]**	Tissue Temp. [°C]
EUT Position	Antenna	Channel	MHz	Start	End			
Cheek/Touch	Fixed	0512	1850.20	29.52	29.44	1.6	0.612	22.0
		0661	1880.00	29.29	29.21		0.512	22.0
		0810	1909.80	29.02	28.97		0.490	22.0
Ear/Tilt	Fixed	0512	1850.20	--	--	1.6	**	--
		0661	1880.00	29.29	29.21		0.089	22.0
		0810	1909.80	--	--		**	--
Configuration 2 – **Right** Head		Depth of Liquid : 15.0 cm				Date : September 1, 2005		
Cheek/Touch	Fixed	0512	1850.20	29.52	29.44	1.6	0.669	22.0
		0661	1880.00	29.29	29.21		0.518	22.0
		0810	1909.80	29.02	28.97		0.515	22.0
Ear/Tilt	Fixed	0512	1850.20	--	--	1.6	**	--
		0661	1880.00	29.29	29.21		0.071	22.0
		0810	1909.80	--	--		**	--
Bluetooth 00ch (2402MHz) ON								
Cheek/Touch	Fixed	0512	1850.20	29.52	29.44	1.6	0.651	22.0
Bluetooth 39ch (2441MHz) ON								
Cheek/Touch	Fixed	0512	1850.20	29.52	29.44	1.6	0.641	22.0
Bluetooth 78ch (2480MHz) ON								
Cheek/Touch	Fixed	0512	1850.20	29.52	29.44	1.6	**0.675**	22.0

NOTES : 1. Transmitter power was measured at the antenna-conducted terminal.

2. The SAR result marked at ** is optional, because the SAR measured at the middle channel for that configuration is at least 3.0 dB lower than the SAR limit.

3. Please refer to attachment for the result presentation in plot format.

A.3.2 Body-worn Configuration

Modulation Type: GSM (Duty Cycle: 12.0 %, Crest Factor: 8.3)								
Configuration 3 – **Flat**		Depth of Liquid : 15.0 cm				Date : August 31, 2005		
EUT Set-up Configuration		Frequency		Power [dBm] (Peak)		Limit [mW/g]	**SAR (1g) [mW/g]**	Tissue Temp. [°C]
Separation	Antenna	Channel	MHz	Start	End			
1.5 cm	Fixed	0512	1850.20	29.52	29.43	1.6	0.279	22.0
		0661	1880.00	29.29	29.22		0.203	22.0
		0810	1909.80	29.02	28.97		0.163	22.0
Bluetooth 00ch (2402MHz) ON								
1.5 cm	Fixed	0512	1850.20	29.52	29.43	1.6	0.273	22.0
Bluetooth 39ch (2441MHz) ON								
1.5 cm	Fixed	0512	1850.20	29.52	29.43	1.6	0.266	22.0
Bluetooth 78ch (2480MHz) ON								
1.5 cm	Fixed	0512	1850.20	29.52	29.43	1.6	0.264	22.0
Modulation Type: GSM+GPRS (Duty Cycle: 25.0 %, Crest Factor: 4)								
Configuration 3 – **Flat**		Depth of Liquid : 15.0 cm				Date : August 31, 2005		
1.5 cm	Fixed	0512	1850.20	29.52	29.36	1.6	**0.683**	22.0
		0661	1880.00	29.27	29.15		0.496	22.0
		0810	1909.80	28.99	28.89		0.385	22.0

NOTES : 1. Transmitter power was measured at the antenna-conducted terminal.

2. The SAR result marked at ** is optional, because the SAR measured at the middle channel for that configuration is at least 3.0 dB lower than the SAR limit.

3. Please refer to attachment for the result presentation in plot format.

Appendix B: Test Instruments

B.1 SAR Measurement

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
E-Field Probe	ET3DV6	SPEAG	S-2	2004/12	1 Year
DAE	DAE3 V1	SPEAG	S-3	2004/12	1 Year
Robot	RX60L	Stäubli	S-7	N/A	N/A
Probe Alignment Unit	LB1RX60L	SPEAG	S-13	N/A	N/A
Universal Radio Communication Tester	CMU200	Rohde & Schwarz	B-21	2005/4	1 Year

B.2 System Validation and Tissue Verification

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Network Analyzer	8719ET	Agilent	B-53	2004/9	1 Year
Dielectric Probe	85070D	Agilent	B-54	N/A	N/A
1800 MHz Dipole	D1800V2	SPEAG	S-5	2004/12	2 Years
Signal Generator	MG3681A	Anritsu	B-3	2005/2	1 Year
Power Amplifier	A0840-3833-R	B&R	A-34	N/A	N/A
Power Meter	E4417A	Agilent	B-51	2005/8	1 Year
Power Sensor	E9300B	Agilent	B-32	2005/5	1 Year

B.3 Antenna-Conducted Power Measurement

Type	Model	Manufacturer	ID No.	Last Cal.	Interval
Power Meter	E4417A	Agilent	B-51	2005/8	1 Year
Power Sensor	E9321A	Agilent	B-52	2005/5	1 Year
Attenuator	4T-10	Weinschel	D-73	2005/5	1 Year
Attenuator	4T-10	Weinschel	D-74	2005/5	1 Year

Appendix C: Attachments

Exhibit	Contents	No. of page(s)
1	System Validation Plots	2
2	SAR Test Plots	22
3	Dosimetric E-Field Probe – ET3DV6, S/N: 1679	9
4	System Validation Dipole – D1800V2, S/N: 2d038	9
5	Transmitted Duty Cycle Plots	1
6	EUT Photographs	1