HEARING AID COMPATIBILITY

RF EMISSION TEST REPORT

Model No.	:	RM-375
Applicant	:	Nokia Inc.
Address of Applicant	:	12278 Scripps Summit Dr. San Diego CA92131 USA
FCC ID		QMNRM-375
Date of Receipt	:	2008-04-03
Date of Test(s)	:	2008-04-29 ~ 2008-04-30
Date of Issue	:	2008-05-07

EUT Type	CDMA 2000 1xRTT Mobile Phone
Tx Frequency	CDMA Cellular (824.70 MHz ~ 848.31 MHz) CDMA PCS (1851.25 MHz ~ 1908.75 MHz)
FCC Classification	Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s)	§ 20.19
HAC Standard	ANSI PC63.19 – 2006 V3.12

C63.19-2006 HAC Category : M4 (RF EMISSIONS CATEGORY)

Tested by	:	**Leo Kim**		**2008-05-07**
Approved by	:	**Jim Kim**		**2008-05-07**

Contents

1. General Information

1.1 Testing Laboratory

SGS Testing Korea Co., Ltd.

Wireless Div. 2FL, 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea 435-040

Telephone : +82 +31 428 5700

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Homepage : www.electrolab.kr.sgs.com

1.2 Details of Applicant

Applicant : Nokia Inc.

Address : 12278 Scripps Summit Dr. San Diego CA92131 USA

Contact Person : Stephen Walmsley

Phone No. : +1 604 456 5544

Fax No. : -

1.3 Version of Report

Version Number	Date	Revision
00	2008-05-07	Initial issue

1.4 Description of EUT(s)

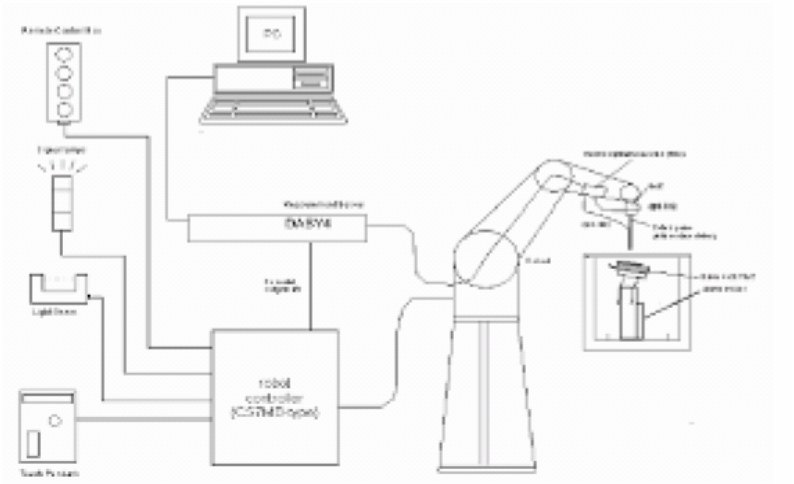
EUT Type	: CDMA 2000 1xRTT Mobile Phone
Model	: RM-375
FCC ID	: QMNRM-375
Hardware Version	: 4000
Software Version	: DS_1100B_GEN
Mode of Operation	: CDMA Tri Band (AWS band not reported in the HAC report)
Serial Number (MEID)	: 268435456102530144
Max Conducted Power	: CDMA Cellular (24.65 dBm) CDMA PCS (23.85 dBm)
Duty Cycle	: 100%
Tx Frequency Range	: CDMA Cellular : 824.7 ~ 848.31 MHz CDMA PCS : 1851.25 ~ 1908.75 MHz
Antenna	: Fixed Internal

1.5 Test Environment

Ambient temperature	: 22.2 ° C ± 2
Tissue Simulating Liquid	: 22.2 ° C ± 2
Relative Humidity	: < 60 %

1.6 HAC Measurement System

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium IV computer, near-field probe, probe alignment sensor. The robot is a six-axis industrial robot performing precise movements. A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC consists of the HP Pentium IV computer with Windows XP system and HAC Measurement Software DASY4, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.



<Figure-1> HAC Test Measurement Set-up

1.7 System Components

E-Field Probe

Construction	One dipole parallel, two dipoles normal to probe axis built-in shielding against static charges PEEK enclosure material	
Calibration	In air from 100 MHz to 3.0 GHz (absolute accuracy ±6.0%, k=2)	
Frequency	40 MHz to > 6 GHz (can be extended to < 20MHz) Linearity: ±0.2 dB (100 MHz to 3 GHz)	
Directivity	±0.2 dB in air (rotation around probe axis) ±0.4 dB in air (rotation normal to probe axis)	
Dynamic Range	2 V/m to > 1000 V/m ; Linearity : ±0.2 dB	
Dimensions	Overall length: 330 mm (Tip:16 mm) Tip diameter: 8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.5 mm	
Application	General near-field measurements up to 6 GHz Field component measurements Fast automatic scanning in phantoms	

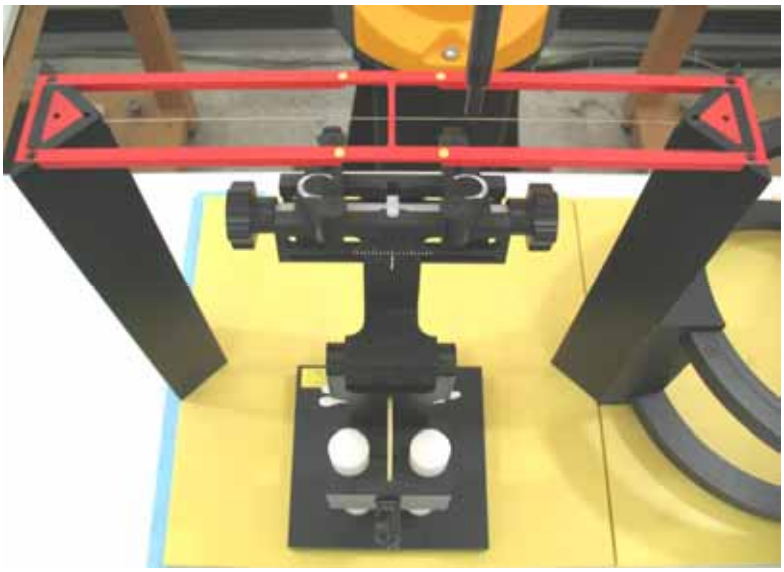
H-Field Probe

Construction	Three concentric loop sensors with 3.8 mm loop diameters resistively loaded detector diodes for linear response built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)	
Frequency	200 MHz to > 3 GHz (absolute accuracy ±6.0 %, k=2); Output linearized	
Directivity	±0.2 dB (spherical isotropy error)	
Dynamic Range	10 mA/m to 2 A/m at 1 GHz	
E-Field Interference	< 10 % at 3 GHz (for plane wave)	
Dimensions	Overall length: 330 mm (Tip:40 mm) Tip diameter: 6 mm (Body: 12 mm) Distance from probe tip to dipole centers: 3 mm	
Application	General magnetic near-field measurements up to 3 GHz (in air or liquids) Field component measurements Surface current measurements Low interaction with measured field	

Phantom & Phone positioner

The Test Arch phantom should be positioned horizontally on a stable surface. 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.

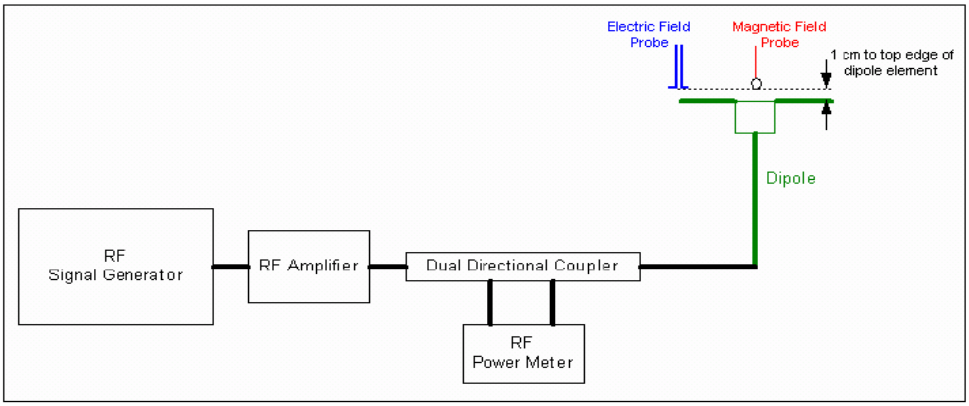
The devices can be easily, accurately, and repeatable positioned according to the FCC specifications.



<Figure-2> HAC Phantom & Phone positioner

1.8 HAC System Verification

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of system in order to guarantee reproducible result. The system performance check uses normal HAC measurements in a simplified setup with fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.



<Figure-3> Calibration Procedure

Place a dipole antenna meeting the requirements given in ANSI-PC63.19 in the position normally occupied by the WD. The dipole antenna serves as a known source for an electrical and magnetic output. Position the E-field and H-field probes so that:

- the probes and their cables are parallel to the coaxial feed of the dipole antenna
- the probe cables and the coaxial feed of the dipole antenna approach the measurement area from opposite directions; and
- the probes are 10 mm from the surface of the dipole elements.

Scan the length of the dipole with both E-field and H-field probes and record the maximum values for each. Compare the readings to expected values.

Validation Results

E-Field

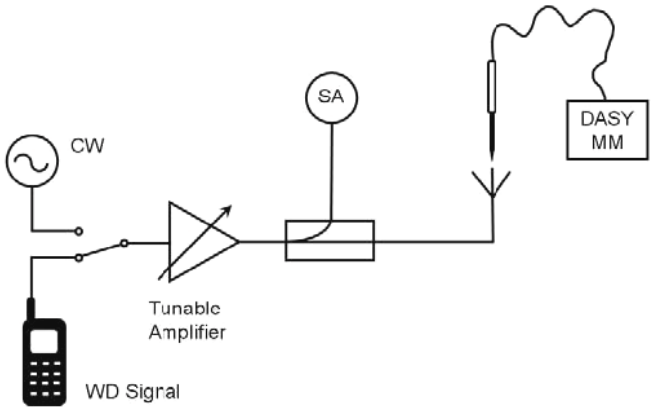
Frequency (MHz)	Input Power (dBm)	Measured Value (V/m)	Target Value (V/m)	Deviation (%)
835	20	151.8	161.8	-6.18
1880	20	134.4	136.1	-1.24

H-Field

Frequency (MHz)	Input Power (dBm)	Measured Value (A/m)	Target Value (A/m)	Deviation (%)
835	20	0.408	0.447	-8.72
1880	20	0.429	0.453	-5.30

1.9 RF Field Probe Modulation Factor

A calibration was made of the modulation response of the probe and its instrumentation chain. This calibration was performed with the field probe, attached to its instrumentation. The response of the probe system to a CW field at the frequency of interest is compared to its response to a modulated signal with equal peak amplitude to that of a CW signal. The field level of the test signals are ensured to be more than 10 dB above the ambient level and the noise floor of the instrumentation being used. The ratio of the CW reading to that taken with a modulated reading was applied to the DUT measurements. All voice modes for this device have been investigated in this section of the report. According to the FCC 3G Measurement Procedures, May 2006 for RF Emissions, variations in peak field and power readings.



<Fig- 4 > PMF

This was done using the following procedure:

1. The probe was illuminated with a CW signal at the intended measurement frequency and wireless device power.
2. The probe was positioned at the field maxima over the dipole antenna (determined after an area scan over the dipole) illuminated with the CW signal.
3. The reading of the probe measurement system of the CW signal at the maximum point was recorded.
4. Using a Spectrum Analyzer, the modulated signal adjusted with the same peak level of the CW signal was determined.
5. The probe measurement system reading was recorded with the modulated signal. The appropriate system crest factors for the modulation type were configured in the software to the system measurements.
6. The ratio of the CW reading to modulated signal reading is the probe modulation factor (PMF) for the modulation and field probe combination. This was repeated for 80% AM.
7. Steps 1-6 were repeated at all frequency bands and for both E and H field probes.

Modulation Factor

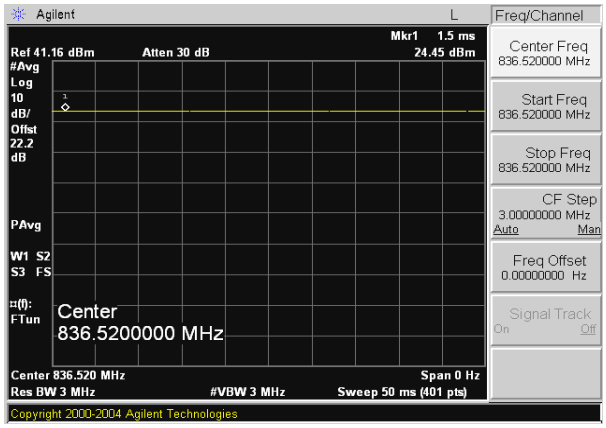
E-Field

Frequency (MHz)	Mode	Measured Value (V/m)	Probe Modulation Factor
836.52	CW	157.4	-
	AM	98.13	1.604
	CDMA (Full Rate)	159.0	0.990
	CDMA (1/8 Rate)	57.45	2.74
1880	CW	158.1	-
	AM	98.9	1.559
	CDMA (Full Rate)	158.3	0.999
	CDMA (1/8 Rate)	54.90	2.88

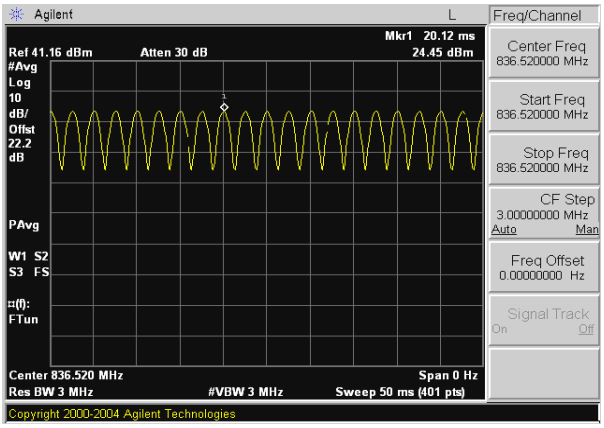
H-Filed

Frequency (MHz)	Mode	Measured Value (A/m)	Probe Modulation Factor
836.52	CW	0.598	-
	AM	0.371	1.612
	CDMA (Full Rate)	0.605	0.988
	CDMA (1/8 Rate)	0.220	2.72
1880	CW	0.500	-
	AM	0.310	1.613
	CDMA (Full Rate)	0.540	0.926
	CDMA (1/8 Rate)	0.177	2.83

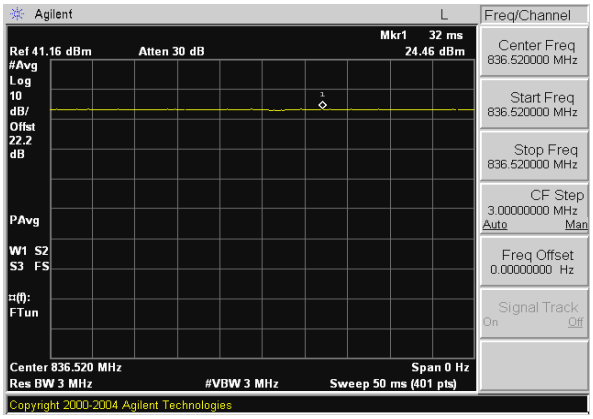
Spectrum Plots for RF Field Probe Modulation Factor



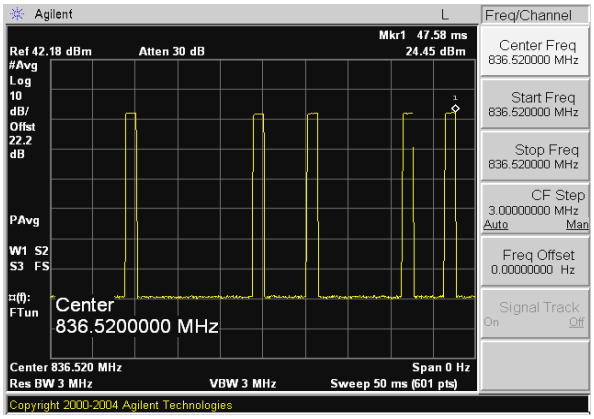
Cellular – SG_CW



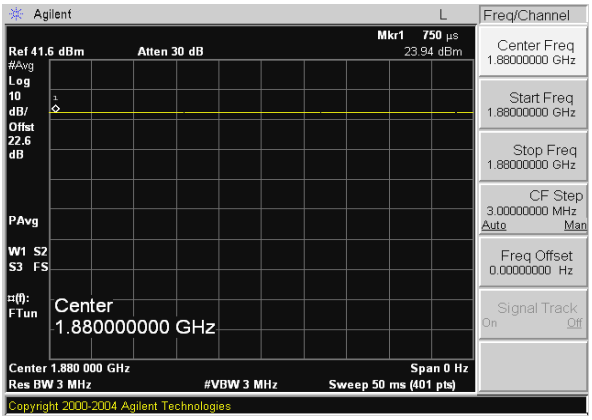
Cellular – SG_AM 80%



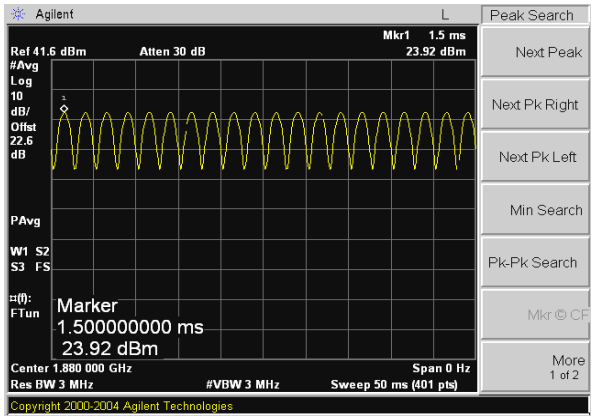
Cellular – WD



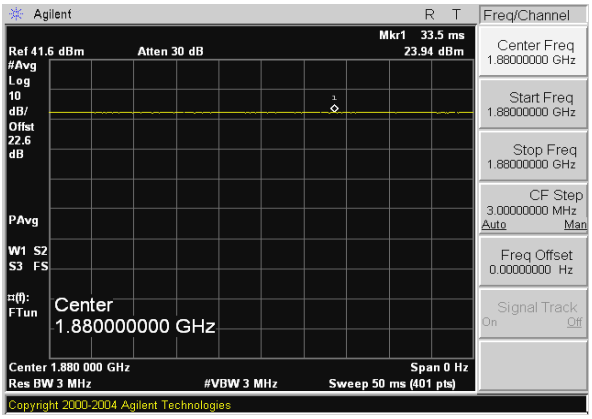
Cellular – WD_1/8



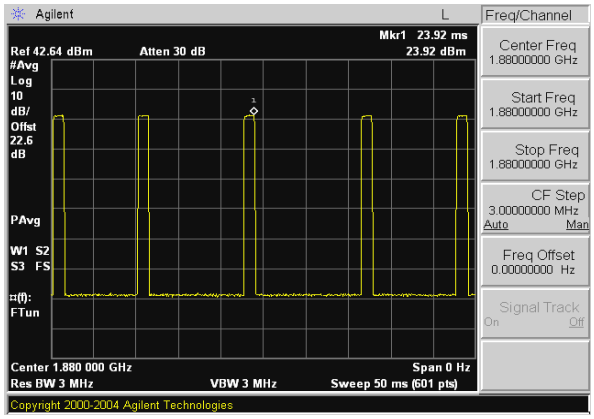
PCS – SG_CW



PCS – SG_AM80%



PCS – WD



PCS – WD_1/8

1.10 DUT Positioning

<Figure-5> illustrate the references and reference plane that shall be used in the WD emissions measurement.

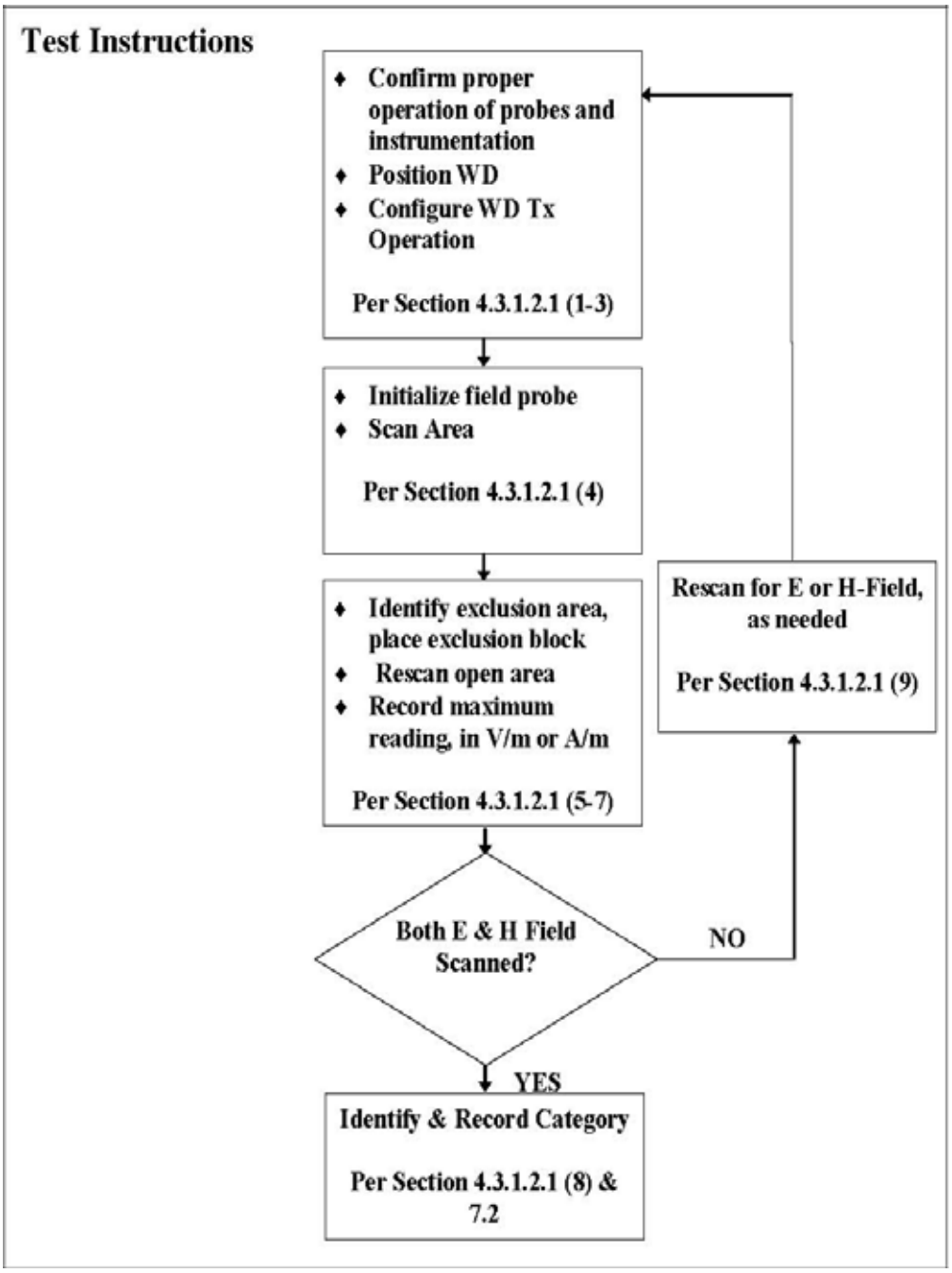
1. The grid is 5 cm by 5 cm area that is divided into 9 evenly sized blocks or sub-grids.
2. The grid is centered on the audio frequency output transducer of the WD (speaker or T-coil).
3. The grid is in a reference plane, which is defined as the planar area that contains the highest point in the area of the phone that normally rests against the user's ear. It is parallel to the centerline of the receiver area of the phone and is defined by the points of the receiver-end of the WD handset, which, in normal handset use, rest against the ear.
4. The measurement plane is parallel to, and 1.0 cm in front of, the reference plane.

<Figure-5> WD reference and plane for RF emission measurements

1.11 Test Procedure

The following illustrate a typical RF emission test scan over a wireless communication device :

1. Confirm proper operation of the field probe, probe measurement system, other instrumentation, and the positioning system.
2. DUT is positioned in its intended test position, acoustic output point of the device perpendicular to the field probe.
3. The DUT operation for maximum rated RF output power was configured and confirmed with the base station simulator, at the test channel and other normal operating parameters as intended for the test. The battery was ensured to be fully charged before each test.
4. The center sub-grid was centered over the center of the acoustic output also audio band magnetic output, if applicable. The DUT audio output was positioned tangent to the measurement plane.
5. A surface calibration was performed before each setup change to ensure repeatable spacing and proper maintenance of the measurement plane using the test Arch.
6. The measurement system measured the field strength at the reference location.
7. Measurements at 5 mm increments in the 5 * 5 cm region were performed and record. A 360 °C rotation about the azimuth axis at the maximum interpolated position was measured. For the worst-case condition, the peak reading from this rotation was used in re-evaluating the HAC category.
8. The system performed a drift evaluation by measuring the field at the reference location.
9. Steps 1-8 were done for both the E and H- Field measurements.



< Figure- 6> Test Instructions

1.12 Standard & Limit

The ANSI Standard ANSI C63.19:2006 represents performance requirements for acceptable interoperability of hearing aids with wireless communications devices. When these parameters are met, a hearing aid operates acceptably in close proximity to a wireless communications device.

Standard	Technology	AWF (dB)
TIA/EIA/IS-2000	CDMA	0
TIA/EIA-136	TDMA (50 Hz)	0
J-STD-007	GSM (217)	-5
TI/TIP1/3GPP	UMTS (WCDMA)	0
iDEN™	TDMA (22 and 11 Hz)	0

<Table-1> Articulation Weighting Factor (AWF)

Category	Telephone RF Parameters				
Near Field	AWF	E-Field Emissions		H-Field Emissions	
< 960 MHz					
Category M1	0	631.0 – 1122.0	V/m	1.91 – 3.39	A/m
	-5	473.2 – 841.4	V/m	1.43 – 2.54	A/m
Category M2	0	354.8 – 631.0	V/m	1.07 – 1.91	A/m
	-5	266.1 – 473.2	V/m	0.80 – 1.43	A/m
Category M3	0	199.5 – 354.8	V/m	0.6 – 1.07	A/m
	-5	149.6 – 266.1	V/m	0.45 – 0.80	A/m
Category M4	0	< 199.5	V/m	< 0.60	A/m
	-5	< 149.6	V/m	< 0.45	A/m
> 960 MHz					
Category M1	0	199.5 – 354.8	V/m	0.6 – 1.07	A/m
	-5	149.6 – 266.1	V/m	0.45 – 0.80	A/m
Category M2	0	112.2 – 199.5	V/m	0.34 – 0.60	A/m
	-5	84.1 – 149.6	V/m	0.25 – 0.45	A/m
Category M3	0	63.1 – 112.2	V/m	0.19 – 0.34	A/m
	-5	47.3 – 84.1	V/m	0.14 – 0.25	A/m
Category M4	0	< 63.1	V/m	< 0.19	A/m
	-5	< 47.3	V/m	< 0.14	A/m

<Table- 2 > Telephone near-field categories in linear units

2. Measurement Equipment

Maunfacturer	Device	Type	Serial Number	Due date of Calibration
Stäubli	Robot	RX90BL	F03/5W05A1/A/01	N/A
SPEAG	Probe	H3DV6	6206	September 25, 2008
SPEAG	Probe	ER3DV6	2375	July 18, 2008
SPEAG	Dipole Validation Kits	CD835V3	1081	July 12, 2008
SPEAG	Dipole Validation Kits	CD1880V3	1063	July 12, 2008
Agilent	Dual Directional Coupler	778D	50454	December 6, 2008
SPEAG	Data acquisition Electronics	DAE3	567	August 30, 2008
SPEAG	Software	DASY 4 V4.7	-	N/A
SPEAG	Test Arch	SD HAC P01 BB	1065	N/A
R & S	Universal Radio Communication Tester	CMU 200	109495	December 6, 2008
Empower RF Systems, Inc.	Power Amplifier	2001-BBS3Q7ECK	1032 D/C 0336	May 11, 2008
Agilent	Power Meter	E4419B	GB43311126	December 6, 2008
Agilent	Power Sensor	E9300H	MY41495308 MY41495314	December 6, 2008
Agilent	Signal Generator	E4421B	MY43350132	December 6, 2008

3.Summary of Results

3.1 3G Measurement Conditions – May/June 2006

Sample pre-testing of the various modes were performed at the worst case probe location as part of subset testing justification.

See below for measured conducted power for applicable device modes.

Conducted Power Table

Band	Channel	CDMA2000 RC	S02 (dBm)	S09 (dBm)	S032(+SCH) (dBm)	S032(+F-SCH) (dBm)	S055 (dBm)
CDMA 850	384	(Fwd1,Rvs1)	24.03				24.10
		(Fwd2,Rvs2)		24.14			24.13
		(Fwd3,Rvs3)	**24.18**		23.32	23.89	24.13
		(Fwd4,Rvs3)	24.13		23.34	23.74	24.17
		(Fwd5,Rvs4)		24.08			24.14

Band	Channel	CDMA2000 RC	S02 (dBm)	S09 (dBm)	S032(+SCH) (dBm)	S032(+F-SCH) (dBm)	S055 (dBm)
PCS 1900	600	(Fwd1,Rvs1)	23.44				23.43
		(Fwd2,Rvs2)		23.47			23.45
		(Fwd3,Rvs3)	**23.48**		22.68	23.02	23.43
		(Fwd4,Rvs3)	23.48		22.66	23.01	23.35
		(Fwd5,Rvs4)		23.42			23.39

3.2 Test Data

Results of E-Field Emission

CDMA Mode	Channel	Frequency (MHz)	Conducted Power(dBm)	PMF	Power Drift (dB)	Peak Field (V/m)	Result (M-Rating)
Cellular	1013	824.70	24.45	0.990	-0.009	76.4	M4
Cellular	384	836.52	24.18	0.990	0.004	82.1	M4
Cellular	777	848.31	23.89	0.990	0.041	93.2	M4
PCS	25	1851.25	23.44	0.999	-0.043	59.0	M4
PCS	600	1880.00	23.46	0.999	-0.114	53.3	M4
PCS	1175	1908.75	23.40	0.999	-0.018	57.3	M4

Result of H-Field Emission

CDMA Mode	Channel	Frequency (MHz)	Conducted Power(dBm)	PMF	Power Drift (dB)	Peak Field (A/m)	Result (M-Rating)
Cellular	1013	824.70	24.39	0.988	-0.178	0.084	M4
Cellular	384	836.52	24.20	0.988	0.019	0.085	M4
Cellular	777	848.31	23.94	0.988	-0.020	0.102	M4
PCS	25	1851.25	23.42	0.926	0.007	0.124	M4
PCS	600	1880.00	23.48	0.926	0.141	0.117	M4
PCS	1175	1908.75	23.38	0.926	-0.042	0.122	M4

Appendix

List

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		- CDMA PCS Test
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Appendix D	Calibration Certificate	- E-Field PROBE
		- H-Field PROBE
		- DIPOLE
		- DAE

Appendix A

Test Setup Photographs

- Please see the attachment

Appendix B

Test Plot – DASY4 Report

835 MHz Validation Test – (E-Field)

Date/Time: 2008-04-30 9:35:34

Test Laboratory: SGS Testing Korea
File Name: HAC_E_Validation_835.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: N/A
Program Name: HAC E Dipole

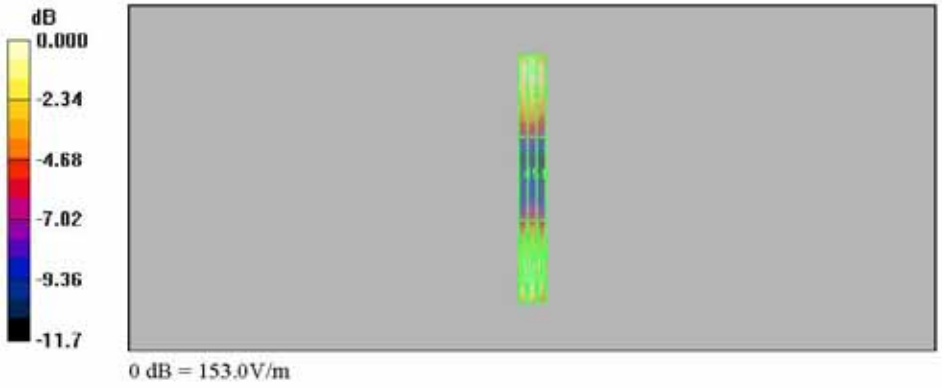
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Dipole Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan - ER3DV6 - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 151.8 V/m
Probe Modulation Factor = 1.00
Device Reference Point: 0.000, 0.000, 354.7 mm
Reference Value = 116.0 V/m; Power Drift = -0.076 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **149.4 M4**	Grid 2 **151.8 M4**	Grid 3 **143.0 M4**
Grid 4 **82.1 M4**	Grid 5 **83.8 M4**	Grid 6 **80.4 M4**
Grid 7 **150.0 M4**	Grid 8 **153.0 M4**	Grid 9 **145.3 M4**



0 dB = 153.0V/m

1880 MHz Validation Test – (E-Field)

Date/Time: 2008-04-30 10:29:39

Test Laboratory: SGS Testing Korea
File Name: HAC_E_Validation_1880.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: N/A
Program Name: HAC E Dipole

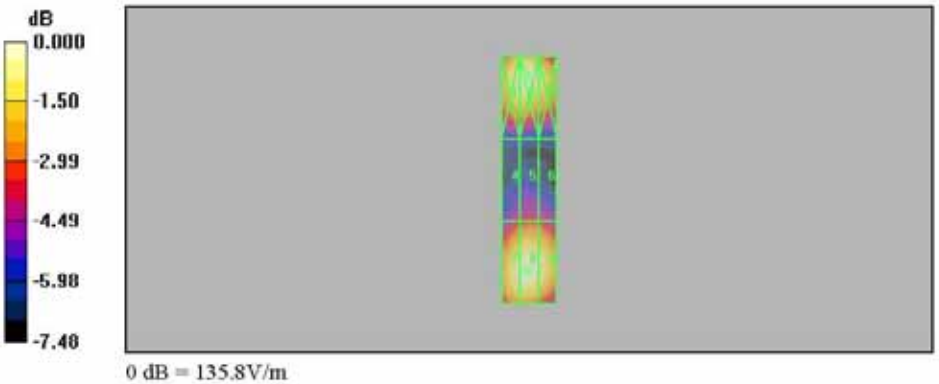
Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Dipole Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan - ER3DV6 - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 134.4 V/m
Probe Modulation Factor = 1.00
Device Reference Point: 0.000, 0.000, 354.7 mm
Reference Value = 136.5 V/m; Power Drift = 0.000 dB
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **133.8 M2**	Grid 2 **135.8 M2**	Grid 3 **126.6 M2**
Grid 4 **88.0 M3**	Grid 5 **91.9 M3**	Grid 6 **89.8 M3**
Grid 7 **131.4 M2**	Grid 8 **134.4 M2**	Grid 9 **128.1 M2**



0 dB = 135.8V/m

835 MHz Validation Test – (H-Field)

Date/Time: 2008-04-30 9:49:28

Test Laboratory: SGS Testing Korea
File Name: HAC_H_Validation_835.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: N/A
Program Name: HAC H Dipole

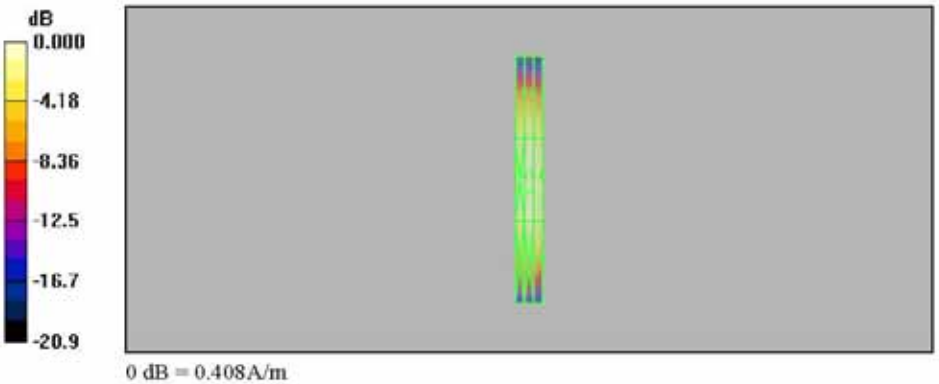
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Dipole Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan - H3DV6 - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.408 A/m
Probe Modulation Factor = 1.00
Device Reference Point: 0.000, 0.000, 354.7 mm
Reference Value = 0.430 A/m; Power Drift = -0.118 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.337 M4**	Grid 2 **0.349 M4**	Grid 3 **0.331 M4**
Grid 4 **0.393 M4**	Grid 5 **0.408 M4**	Grid 6 **0.386 M4**
Grid 7 **0.356 M4**	Grid 8 **0.371 M4**	Grid 9 **0.351 M4**



0 dB = 0.408A/m

1880 MHz Validation Test – (H-Field)

Date/Time: 2008-04-30 10:17:12

Test Laboratory: SGS Testing Korea
File Name: HAC_H_Validation_1880.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: N/A
Program Name: HAC H Dipole

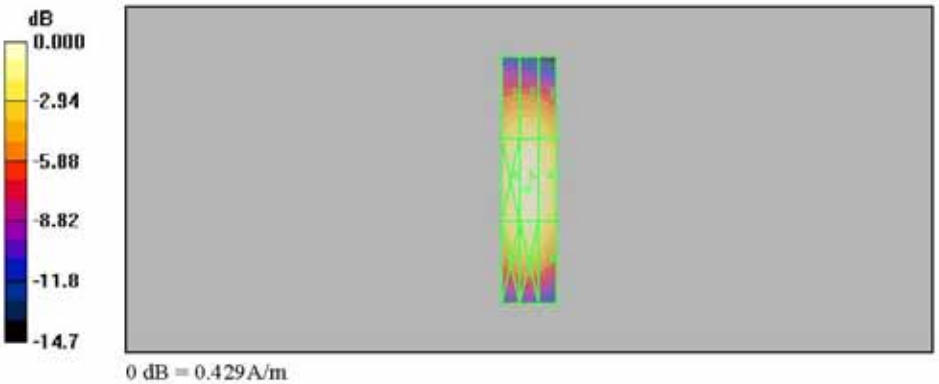
Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Dipole Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan - H3DV6 - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.429 A/m
Probe Modulation Factor = 1.00
Device Reference Point: 0.000, 0.000, 354.7 mm
Reference Value = 0.449 A/m; Power Drift = 0.038 dB
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.365 M2**	Grid 2 **0.374 M2**	Grid 3 **0.353 M2**
Grid 4 **0.415 M2**	Grid 5 **0.429 M2**	Grid 6 **0.405 M2**
Grid 7 **0.384 M2**	Grid 8 **0.401 M2**	Grid 9 **0.378 M2**



0 dB = 0.429 A/m

CDMA Cellular Test – (E-Field)

Date/Time: 2008-04-30 1:40:17

Test Laboratory: SGS Testing Korea
File Name: HAC_E_Cell_Low.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC E Device

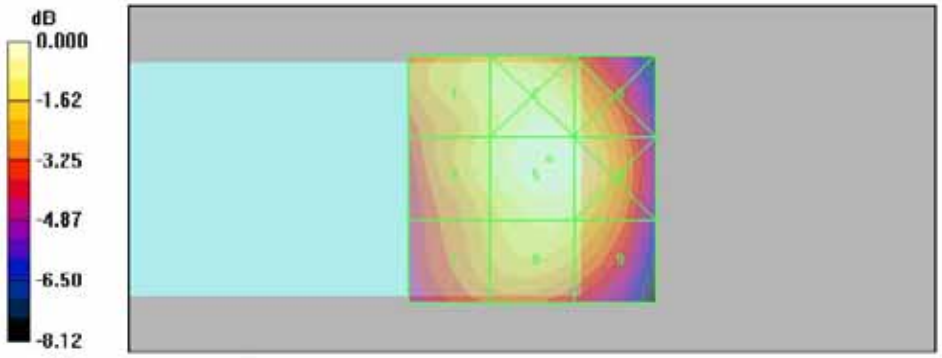
Communication System: CDMA 835MHz; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan_Cell_Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 76.4 V/m
Probe Modulation Factor = 0.990
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 80.5 V/m; Power Drift = -0.009 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **68.1 M4**	Grid 2 **74.0 M4**	Grid 3 **71.0 M4**
Grid 4 **68.0 M4**	Grid 5 **76.4 M4**	Grid 6 **74.0 M4**
Grid 7 **61.6 M4**	Grid 8 **68.4 M4**	Grid 9 **66.2 M4**



0 dB = 76.4V/m

Date/Time: 2008-04-30 1:27:20

Test Laboratory: SGS Testing Korea
File Name: HAC_E_Cell_Mid.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC E Device

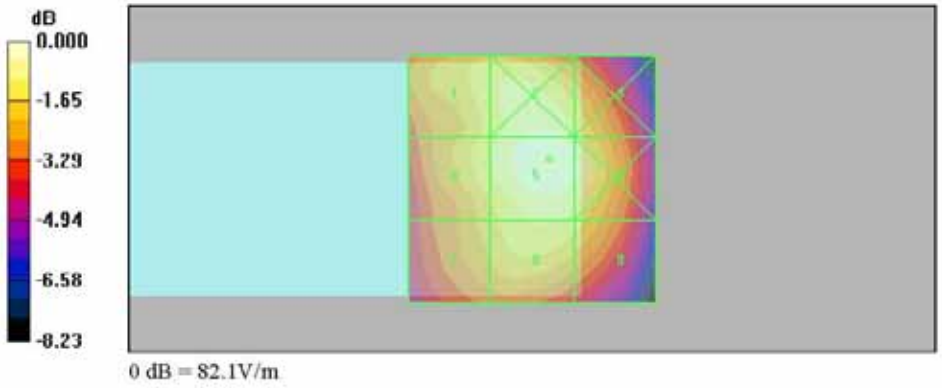
Communication System: CDMA 835MHz; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan_Cell_Mid/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 82.1 V/m
Probe Modulation Factor = 0.990
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 85.5 V/m; Power Drift = 0.004 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **71.6 M4**	Grid 2 **78.8 M4**	Grid 3 **74.7 M4**
Grid 4 **72.5 M4**	Grid 5 **82.1 M4**	Grid 6 **78.6 M4**
Grid 7 **66.3 M4**	Grid 8 **73.2 M4**	Grid 9 **70.4 M4**



0 dB = 82.1V/m

Date/Time: 2008-04-30 1:18:07

Test Laboratory: SGS Testing Korea
File Name: HAC_E_Cell_High.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC E Device

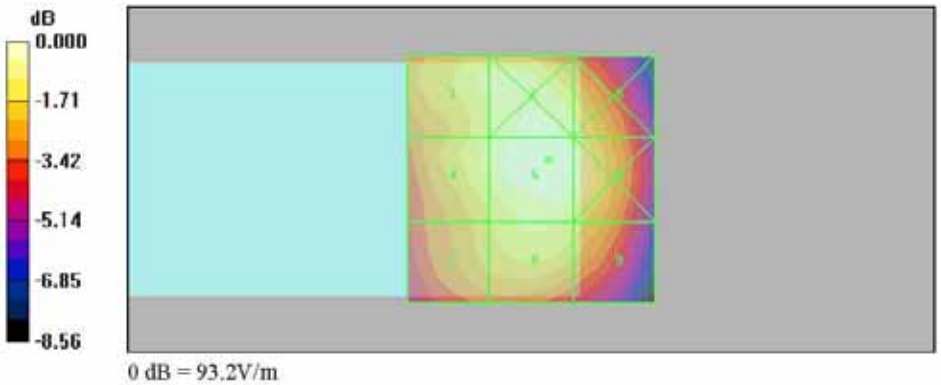
Communication System: CDMA 835MHz; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan_Cell_High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 93.2 V/m
Probe Modulation Factor = 0.990
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 98.7 V/m; Power Drift = 0.041 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **83.6 M4**	Grid 2 **90.4 M4**	Grid 3 **85.5 M4**
Grid 4 **83.9 M4**	Grid 5 **93.2 M4**	Grid 6 **89.6 M4**
Grid 7 **76.0 M4**	Grid 8 **83.3 M4**	Grid 9 **79.5 M4**



0 dB = 93.2V/m

CDMA PCS Test – (E-Field)

Date/Time: 2008-04-30 2:12:50

Test Laboratory: SGS Testing Korea
File Name: HAC_E_PCS_Low.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC E Device

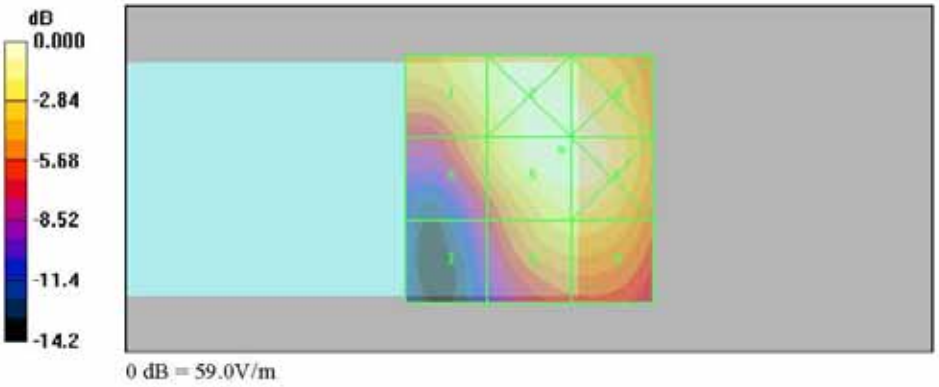
Communication System: PCS 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan_PCS_Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 59.0 V/m
Probe Modulation Factor = 0.999
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 53.2 V/m; Power Drift = -0.043 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **51.1 M4**	Grid 2 **58.4 M4**	Grid 3 **58.0 M4**
Grid 4 **41.3 M4**	Grid 5 **59.0 M4**	Grid 6 **58.7 M4**
Grid 7 **25.7 M4**	Grid 8 **46.0 M4**	Grid 9 **46.2 M4**



0 dB = 59.0V/m

Date/Time: 2008-04-30 2:04:02

Test Laboratory: SGS Testing Korea
File Name: HAC_E_PCS_Mid.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC E Device

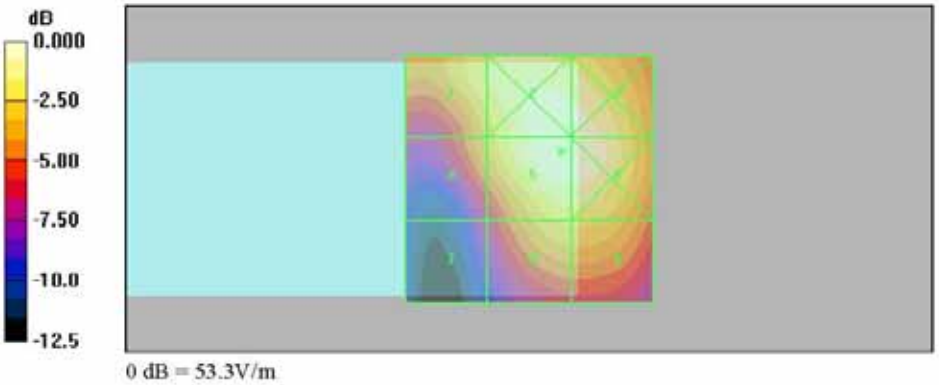
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan_PCS_Mid/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 53.3 V/m
Probe Modulation Factor = 0.999
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 48.7 V/m; Power Drift = -0.114 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **44.1 M4**	Grid 2 **52.2 M4**	Grid 3 **52.0 M4**
Grid 4 **37.2 M4**	Grid 5 **53.3 M4**	Grid 6 **53.2 M4**
Grid 7 **24.5 M4**	Grid 8 **41.2 M4**	Grid 9 **41.3 M4**



0 dB = 53.3V/m

Date/Time: 2008-04-30 1:51:02

Test Laboratory: SGS Testing Korea
File Name: HAC_E_PCS_High.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC E Device

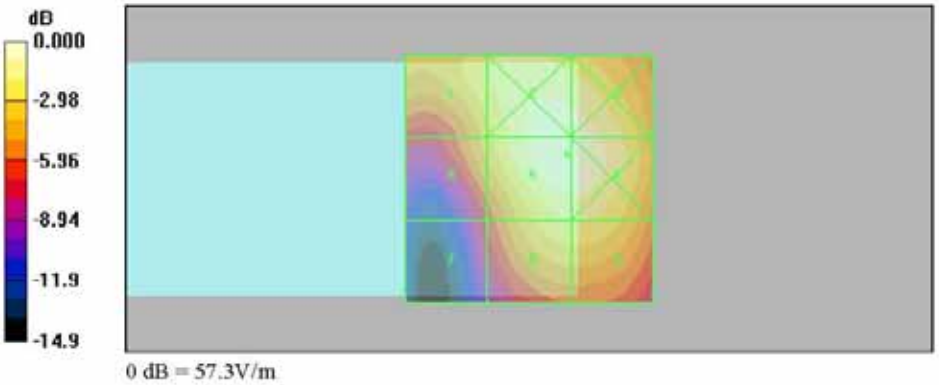
Communication System: PCS 1900; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: E Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2375; ConvF(1, 1, 1); Calibrated: 2007-07-18
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

E Scan_PCS_High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 57.3 V/m
Probe Modulation Factor = 0.999
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 51.8 V/m; Power Drift = -0.018 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **45.1 M4**	Grid 2 **55.8 M4**	Grid 3 **55.4 M4**
Grid 4 **38.5 M4**	Grid 5 **57.3 M4**	Grid 6 **57.3 M4**
Grid 7 **26.5 M4**	Grid 8 **45.7 M4**	Grid 9 **45.8 M4**



0 dB = 57.3V/m

CDMA Cellular Test – (H-Field)

Date/Time: 2008-04-30 11:55:50

Test Laboratory: SGS Testing Korea
File Name: HAC_H_Cell_Low.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC H Device

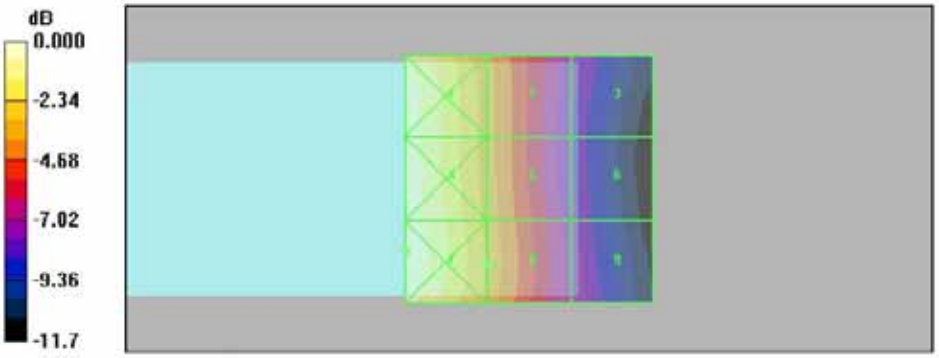
Communication System: CDMA 835MHz; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan_Cell_Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.084 A/m
Probe Modulation Factor = 0.988
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.070 A/m; Power Drift = -0.178 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.118 M4**	Grid 2 **0.082 M4**	Grid 3 **0.052 M4**
Grid 4 **0.120 M4**	Grid 5 **0.083 M4**	Grid 6 **0.052 M4**
Grid 7 **0.122 M4**	Grid 8 **0.084 M4**	Grid 9 **0.053 M4**



0 dB = 0.122A/m

Date/Time: 2008-04-30 11:48:06

Test Laboratory: SGS Testing Korea
File Name: HAC_H_Cell_Mid.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC H Device

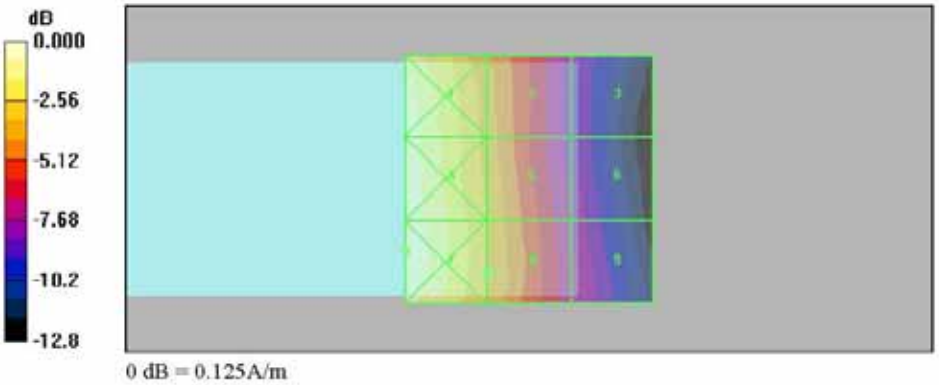
Communication System: CDMA 835MHz; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan_Cell_Mid/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.085 A/m
Probe Modulation Factor = 0.988
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.069 A/m; Power Drift = 0.019 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.120 M4**	Grid 2 **0.082 M4**	Grid 3 **0.049 M4**
Grid 4 **0.123 M4**	Grid 5 **0.084 M4**	Grid 6 **0.051 M4**
Grid 7 **0.125 M4**	Grid 8 **0.085 M4**	Grid 9 **0.054 M4**



0 dB = 0.125A/m

Date/Time: 2008-04-30 11:40:40

Test Laboratory: SGS Testing Korea
File Name: HAC_H_Cell_High.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC H Device

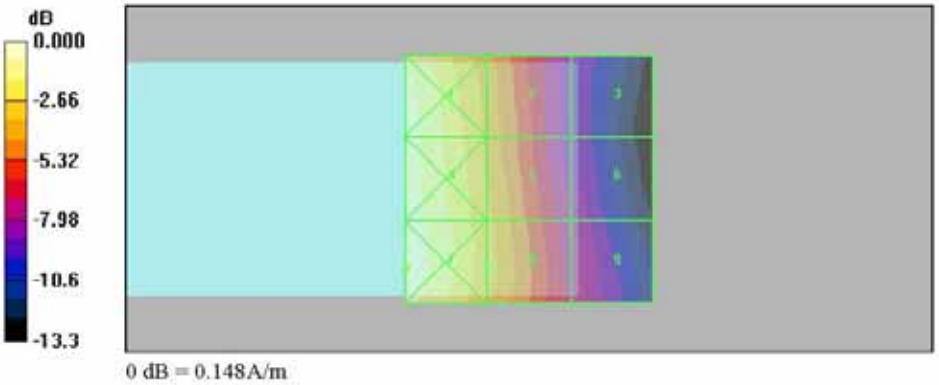
Communication System: CDMA 835MHz; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan_Cell_High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.102 A/m
Probe Modulation Factor = 0.988
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.081 A/m; Power Drift = -0.020 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.141 M4**	Grid 2 **0.096 M4**	Grid 3 **0.056 M4**
Grid 4 **0.144 M4**	Grid 5 **0.101 M4**	Grid 6 **0.060 M4**
Grid 7 **0.148 M4**	Grid 8 **0.102 M4**	Grid 9 **0.063 M4**



0 dB = 0.148A/m

CDMA PCS Test – (H-Field)

Date/Time: 2008-04-30 11:17:35

Test Laboratory: SGS Testing Korea
File Name: HAC_H_PCS_Low.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC H Device

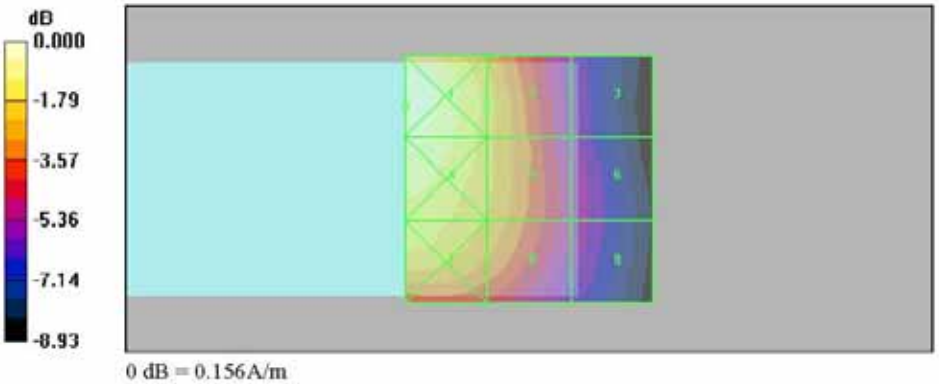
Communication System: PCS 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan_PCS_Low/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.124 A/m
Probe Modulation Factor = 0.926
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.116 A/m; Power Drift = 0.007 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.156 M4**	Grid 2 **0.124 M4**	Grid 3 **0.082 M4**
Grid 4 **0.150 M4**	Grid 5 **0.122 M4**	Grid 6 **0.086 M4**
Grid 7 **0.132 M4**	Grid 8 **0.117 M4**	Grid 9 **0.085 M4**



0 dB = 0.156A/m

Date/Time: 2008-04-30 10:59:02

Test Laboratory: SGS Testing Korea
File Name: HAC_H_PCS_Mid.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC H Device

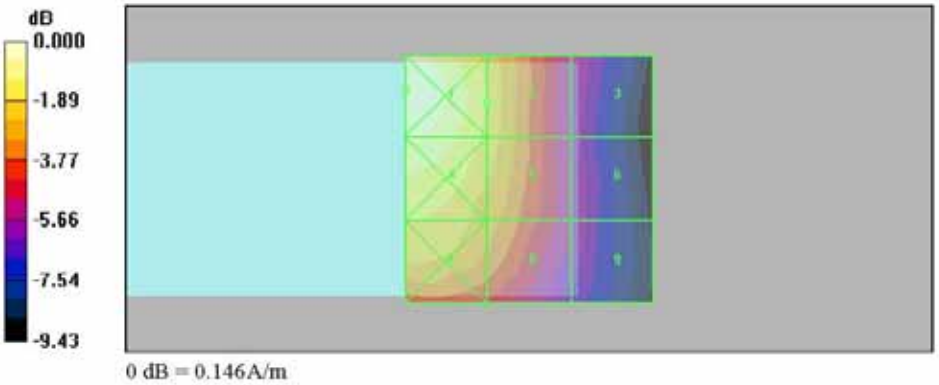
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan_PCS_Mid/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.117 A/m
Probe Modulation Factor = 0.926
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.103 A/m; Power Drift = 0.141 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.146 M4**	Grid 2 **0.117 M4**	Grid 3 **0.078 M4**
Grid 4 **0.137 M4**	Grid 5 **0.115 M4**	Grid 6 **0.077 M4**
Grid 7 **0.118 M4**	Grid 8 **0.105 M4**	Grid 9 **0.077 M4**



0 dB = 0.146A/m

Date/Time: 2008-04-30 11:09:25

Test Laboratory: SGS Testing Korea
File Name: HAC_H_PCS_High.da4

DUT: RM-375; Type: Folder; Serial: N/A
Program Name: HAC H Device

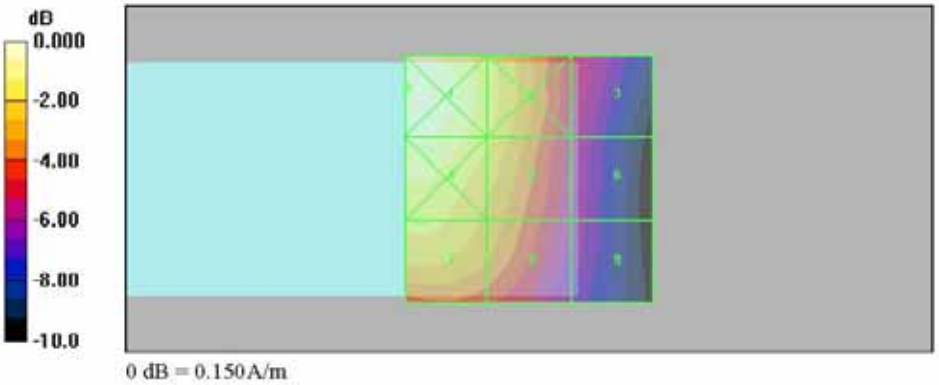
Communication System: PCS 1900; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: H3DV6 - SN6206; ; Calibrated: 2007-09-25
- Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn567; Calibrated: 2007-09-20
- Phantom: HAC Test Arch with Coil; Type: SD HAC P01 BA; Serial: 100x
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

H Scan_PCS_High/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm
Maximum value of peak Total field = 0.122 A/m
Probe Modulation Factor = 0.926
Device Reference Point: 0.000, 0.000, 353.7 mm
Reference Value = 0.107 A/m; Power Drift = -0.042 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.150 M4**	Grid 2 **0.124 M4**	Grid 3 **0.084 M4**
Grid 4 **0.141 M4**	Grid 5 **0.121 M4**	Grid 6 **0.079 M4**
Grid 7 **0.122 M4**	Grid 8 **0.108 M4**	Grid 9 **0.075 M4**



0 dB = 0.150 A/m

Appendix C
Uncertainty

HAC Uncertainty Budget

Error Description	Uncertainty Value	Prob. Dist.	Div.	(Ci) E	(Ci) H	Std. Unc. E	Std. Unc. H
Measurement System							
Probe Calibration	± 5.1 %	N	1	1	1	± 5.1 %	± 5.1 %
Axial Isotropy	± 4.7 %	R	√3	1	1	± 2.7 %	± 2.7 %
Sensor Displacement	± 16.5 %	R	√3	1	0.145	± 9.5 %	± 1.4 %
Boundary Effects	± 2.4 %	R	√3	1	1	± 1.4 %	± 1.4 %
Linearity	± 4.7 %	R	√3	1	1	± 2.7 %	± 2.7 %
Scaling to Peak Envelope Power	± 2.0 %	R	√3	1	1	± 1.2 %	± 1.2 %
System Detection Limit	± 4.7 %	R	√3	1	1	± 0.6 %	± 0.6 %
Readout Electronics	± 2.0 %	N	1	1	1	± 0.3 %	± 0.3 %
Response Time	± 1.0 %	R	√3	1	1	± 0.5 %	± 0.5 %
Integration Time	± 0.3 %	R	√3	1	1	± 1.5 %	± 1.5 %
RF Ambient Conditions	± 0.8 %	R	√3	1	1	± 1.7 %	± 1.7 %
RF Reflections	± 2.6 %	R	√3	1	1	± 6.9 %	± 6.9 %
Probe Positioner	± 3.0 %	R	√3	1	0.67	± 0.7 %	± 0.5 %
Probe Positioning	± 12.0 %	R	√3	1	0.67	± 2.7 %	± 1.8 %
Extrap. and Interpolation	± 1.2 %	R	√3	1	1	± 0.6 %	± 0.6 %
Test Sample Related							
Device Positioning Vertical	± 4.7 %	R	√3	1	0.67	± 2.7 %	± 1.8 %
Device Positioning Lateral	± 1.0 %	R	√3	1	1	± 0.6 %	± 0.6 %
Device Holder and Phantom	± 2.4 %	R	√3	1	1	± 1.4 %	± 1.4 %
Power Drift	± 5.0%	R	√3	1	1	± 2.9 %	± 2.9 %
Phantom and Setup Related							
Phantom Thickness	± 2.4 %	R	√3	1	0.67	± 1.4 %	± 0.9 %
Combined Std. Uncertainty						± 14.7 %	± 10.9 %
Expanded Std. Uncertainty on Field						± 29.4 %	± 21.8 %