



A Test Lab Techno Corp.

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HAC EVALUATION REPORT



Test Report No.	: 0808FS12
Applicant	: Hewlett-Packard Company
Trade Name	: Hewlett-Packard
Model Number	: HSTNH-I18C
EUT Type	: PDA Phone
FCC ID	: B94HHI18C
Dates of Test	: Aug. 23 ~ Aug. 24, 2008
Test Environment	: Ambient Temperature : 22 ± 2 °C Relative Humidity : 40 - 70 %
FCC Rule Part(s)	: FCC 47 CFR § 20.19.
HAC Standard	: ANSI C63.19-2006
C63.19 HAC Rated Category	: M3 (RF EMISSIONS)
Test Lab.	: Chang-An Lab

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full.


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Testing Center Manager


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1. Description of Equipment Under Test (EUT)

Applicant :

Hewlett-Packard Company
3000 Hanover Street, Palo Alto, California 94304, U.S.A.

Manufacturer : Inventec Appliances Co., LTD.
Manufacturer Address : No.37 Wugong 5th Rd. Wugu Shiong, Taipei, Taiwan
EUT Type : PDA Phone
Trade Name : Hewlett-Packard
Model Number : HSTNH-I18C
FCC ID : B94HHI18C
Max. Output Power : 1.738 W (32.4 dBm) GSM 850
1.096 W (30.4 dBm) PCS 1900
0.224 W (23.5 dBm) WCDMA Band V
0.191 W (22.8 dBm) WCDMA Band II
Tx Frequency : 824.2 - 848.8 MHz (GSM 850)
1850.2 - 1909.8 MHz (PCS 1900)
826.6 - 846.4 MHz (WCDMA Band V)
1852.6 - 1907.4 MHz (WCDMA Band II)
HW Version : DVT3
SW Version : E3-0088
Antenna Gain : -2.50 dBi (GSM 850 / WCDMA Band V)
1.00 dBi (PCS 1900 / WCDMA Band II)
Antenna Type : Internal Type
Battery Option : Standard
Model No.: HSTNH-K18B-S (3.7V 1940mAh)
Test Device : Production Unit
Device Category : Portable

This wireless portable device has performed Hearing Aid Compatibility (HAC) measurements for the portable cellular phone. The measurements were performed to ensure compliance to the ANSI C63.19-2006 standards.



2. Introduction

The A Test Lab Techno Corp. has performed measurements of the maximum potential exposure to the user of **Hewlett-Packard Company Trade Name: Hewlett-Packard Model(s) : HSTNH-I18C**. The test procedures, as described in ANSI C63.19-2006 standard were employed. A description of the product and operating configuration, detailed summary of the test results, methodology and procedures used in the equipment are included within this test report.



3. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	Dosimetric E-Filed Probe	ER3DV6	2302	May. 19, 2008	May. 19, 2009
SPEAG	Dosimetric H-Filed Probe	H3DV6	6187	May. 19, 2008	May. 19, 2009
SPEAG	835 MHz System Validation Kit	CD835V3	1017	Jul. 16, 2008	Jul. 16, 2009
SPEAG	1880 MHz System Validation Kit	CD1880V3	1036	Jul. 16, 2008	Jul. 16, 2009
SPEAG	Data Acquisition Electronics	DAE4	779	Nov. 30, 2007	Nov. 30, 2008
SPEAG	Device Holder	N/A	N/A	NCR	
SPEAG	Phantom	SAM V4.0	TP-1150	NCR	
SPEAG	Robot	Staubli TX90XL	F07/564ZA1/C/01	NCR	
SPEAG	Software	DASY5 V5.0 Build 91	N/A	NCR	
SPEAG	Software	SEMCAD X V12.4 Build 52	N/A	NCR	
SPEAG	Measurement Server	SE UMS 011 AA	1025	NCR	
Agilent	Wireless Communication Test Set	CMU200	112387	Oct. 24, 2007	Oct. 24, 2008
Agilent	Spectrum Analyzer(ESA-L)	E4408B	MY45107753	Jun. 05, 2008	Jun. 05, 2009
R&S	Spectrum Analyzer(FSL)	FSL6	100410	Feb. 19, 2008	Feb. 19, 2009
Agilent	Signal Generator	E8257D	MY44320425	Jul. 03, 2008	Jul. 03, 2009
R&S	Power Sensor	NRP-Z22	100179	May. 03, 2008	May. 03, 2009
Agilent	Dual Directional Coupler	778D	50334	NCR	
Mini-Circuits	Power Amplifier	ZVE-8G	D042005 671800514	NCR	
Mini-Circuits	Power Amplifier	ZHL-42W-SMA	D111103#5	NCR	

Table 1. Test Equipment List



4. Validation

Validations of the DASY5 v5.0 test system were performed using the measurement equipment listed in Section 3. All validations occur in free space using the DASY5 test arch. Note that the 10mm probe to dipole separation is measured from the top edge of the dipole to the calibration reference point of the probe. SPEAG uses the center point of the probe sensor(s) as the reference point when establishing targets for their dipoles. Therefore, because SPEAG's dipoles and targets are used, it is appropriate to measure the 10mm separation distance to the center of the sensors as they do. This reference point was used for validation only. Validations were performed at 835 MHz and/or 1880 MHz. These frequencies are within each operating band and are within 2MHz of the mid-band frequency of the test device.

Validations were performed to verify that measured E-field and H-field values are within +/- 25% from the target reference values provided by the manufacturer (Ref: Appendix D). Per Section 4.2.2.1 of the standard, "Values within +/-25% are acceptable, of which 12% is deviation and 13% is measurement uncertainty." Therefore, the E-Field and H-Field dipole verification results, shown in Table 2 & 3, are in accordance with the acceptable parameters defined by the standard.

Dipole	Freq. (MHz)	Protocol	Input Power (mW)	Target for Dipole (V/m)	E-Field Results (V/m)	Deviation	Date
SN:1017	835	CW	100	165.3	173.9	5.20%	Aug. 23, 2008
SN:1036	1880	CW	100	141.8	149.2	5.22%	Aug. 23, 2008

Table 2. Dipole E-Field Measurement Summary

Dipole	Freq. (MHz)	Protocol	Input Power (mW)	Target for Dipole (A/m)	H-Field Results (A/m)	Deviation	Date
SN:1017	835	CW	100	0.443	0.475	7.22%	Aug. 23, 2008
SN:1036	1880	CW	100	0.466	0.477	2.36%	Aug. 23, 2008

Table 3. Dipole H-Field Measurement Summary

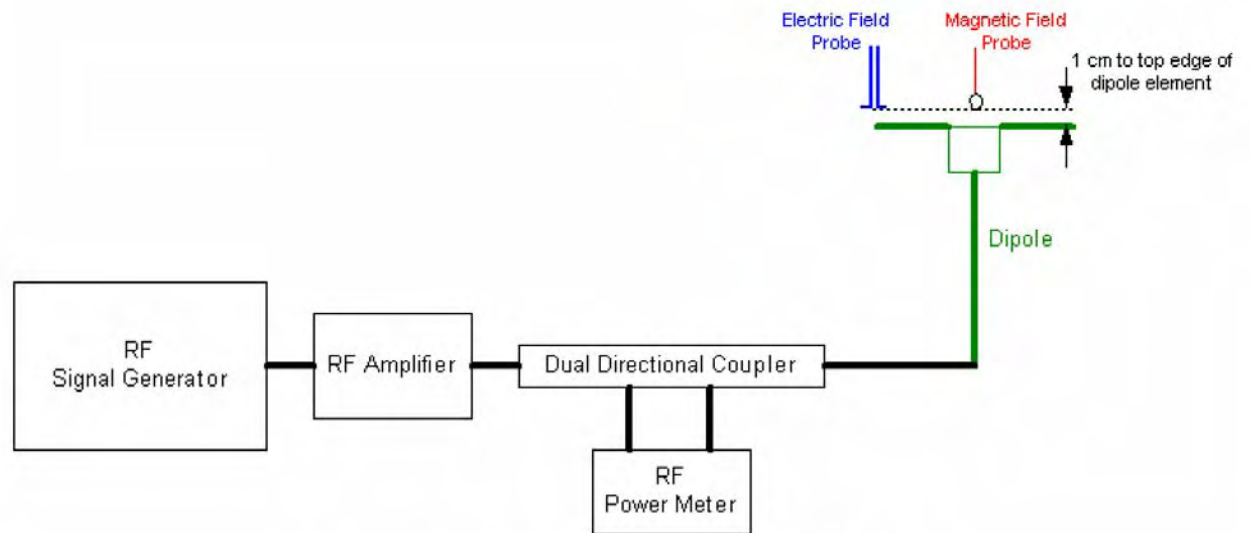


Figure 1. WD dipole calibration procedure

5. Probe Modulation Factor

After every probe calibration, the response of the probe to each applicable modulated signal (CDMA, GSM, WCDMA (UMTS), etc) must be assessed at both 835 MHz, 1880 MHz. The response of the probe system to a CW field at the frequency(s) of interest is compared to its response to a modulated signal with equal peak amplitude. For each PMF assessment, a Signal Generator was used to replace the original CW signal with the desired modulated signal. The PMF results are shown in Table 4. RF Field Probe Modulation Response was measured with the field probe and associated measurement equipment. The PMF was measured per ANSI C63.19-2006 using a signal generator as follows:

1. Illuminate a dipole with a CW signal at the intended measured frequency.
2. Fix the probe at a set location relative to the dipole; typically located at the field reference point.
3. Record the reading of the probe measurement system of the CW signal.
4. Substitute a modulated signal of the same amplitude, using the same modulation as that used by the intended WD for the CW signal.
5. Record the reading of the probe measurement system of the modulated signal.
6. The ratio of the CW to modulated signal reading is the probe modulation factor.
7. Spectrum analyzer settings:
 - Center Frequency: nominal center frequency of channel
 - Span: zero
 - Resolution bandwidth $\geq$ emission bandwidth
 - Video bandwidth $\geq$ 20 kHz.
 - Detection: RMS detection.
 - Trigger: Video or IF trigger, adjusted to give a stable display of the transmission.
 - Sweep rate: Set to show a complete transmission cycle.
 - Line max hold may be used temporarily to ease the peak reading.

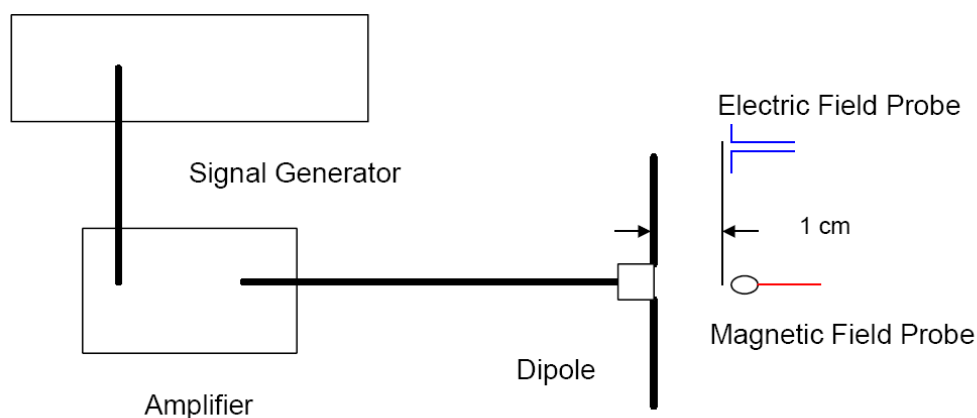


Figure 2. Dipole calibration procedure



Formula between PMF and test results

1. HAC test of device and determine the maximum value (M) of grids.
2. Determine the value (P) of PMF according to (M).
3. Find the maximum value (F) from the other data.

$$R = P * F$$

Example:

E-Field Maximum value (M) = 52, Maximum value (F) = 51.8, PMF (P) = 2.82

$R = 51.8 * 2.82 = 146.076 \text{ V/m}$

Frequency (MHz)	Protocol	E-Field Probe SN:2302		H-Field Probe SN:6187	
		E-Field (V/m)	E-Field Modulation Factor	H-Field (A/m)	H-Field Modulation Factor
835.0	GSM	< 47	2.81	< 0.14	2.01
		47 - 63	2.82	0.14 - 0.19	2.32
		63 - 84	2.82	0.19 - 0.25	2.57
		84 - 112	2.83	0.25 - 0.34	2.77
		112 - 150	2.84	0.34 - 0.45	2.88
		150 - 200	2.84	0.45 - 0.60	2.91
		200 - 266	2.85	0.60 - 0.80	2.84
		266 - 355	2.85	0.80 - 1.07	2.69
		355 - 473	2.86	1.07 - 1.43	2.46
		473 - 631	2.86	1.43 - 1.91	2.18
		631 - 841	2.87	1.91 - 2.54	1.87
		841 - 1122	2.88	2.54 - 3.39	1.56
1880.0	GSM	< 47	2.96	< 0.14	2.95
		47 - 63	2.95	0.14 - 0.19	2.91
		63 - 84	2.94	0.19 - 0.25	2.86
		84 - 112	2.93	0.25 - 0.34	2.76
		112 - 150	2.92	0.34 - 0.45	2.64
		150 - 200	2.91	0.45 - 0.60	2.50
		200 - 266	2.90	0.60 - 0.80	2.34
		266 - 355	2.89	0.80 - 1.07	2.17
		355 - 473	2.88	1.07 - 1.43	1.98
		473 - 631	2.87	1.43 - 1.91	1.79
		631 - 841	2.86	1.91 - 2.54	1.61
		841 - 1122	2.85	2.54 - 3.39	1.42



Frequency (MHz)	Protocol	E-Field Probe SN:2302		H-Field Probe SN:6187	
		E-Field (V/m)	E-Field Modulation Factor	H-Field (A/m)	H-Field Modulation Factor
835.0	WCDMA(UMTS)	< 47	1.07	< 0.14	0.86
		47 - 63	1.04	0.14 - 0.19	0.86
		63 - 84	1.01	0.19 - 0.25	0.85
		84 - 112	0.98	0.25 - 0.34	0.83
		112 - 150	0.95	0.34 - 0.45	0.81
		150 - 200	0.92	0.45 - 0.60	0.78
		200 - 266	0.89	0.60 - 0.80	0.75
		266 - 355	0.87	0.80 - 1.07	0.72
		355 - 473	0.84	1.07 - 1.43	0.68
		473 - 631	0.82	1.43 - 1.91	0.64
		631 - 841	0.79	1.91 - 2.54	0.61
		841 - 1122	0.77	2.54 - 3.39	0.56
1880.0	WCDMA(UMTS)	< 47	0.90	< 0.14	0.81
		47 - 63	0.89	0.14 - 0.19	0.76
		63 - 84	0.89	0.19 - 0.25	0.71
		84 - 112	0.89	0.25 - 0.34	0.65
		112 - 150	0.89	0.34 - 0.45	0.59
		150 - 200	0.89	0.45 - 0.60	0.52
		200 - 266	0.89	0.60 - 0.80	0.46
		266 - 355	0.89	0.80 - 1.07	0.39
		355 - 473	0.89	1.07 - 1.43	0.33
		473 - 631	0.88	1.43 - 1.91	0.28
		631 - 841	0.88	1.91 - 2.54	0.23
		841 - 1122	0.88	2.54 - 3.39	0.19

Table 4. PMF Measurement Summary

Note: PMF measurements were verified at WD's power as an input to the dipole.



6. Test Results

The phone was tested in all normal configurations for the ear use. A DUT is mounted in the device holder equivalent as for classic dosimetric measurements. The acoustic output of the DUT shall coincide with the center point of the area formed by the dielectric wire and the middle bar of the arch's top frame. The DUT shall be moved vertically upwards until it touches the frame. The fine adjustment is possible by sliding the complete DUT holder on the yellow base plate of the Test Arch phantom. These test configurations are tested at the high, middle and low frequency channels of each applicable operating mode; for example, GSM, WCDMA (UMTS), CDMA and TDMA.

CDMA Devices setup for HAC Measurement.

The signal was setup by creating and maintaining an over the coaxial connection between the DUT and an R&S CMU200 Wireless Communications Test Set. The CDMA radio is available on CDMA 2000(1X) and IS-95. The test equipment was configured to use "all up bits" for RC1 / SO2 on J-STD-008 for CDMA 1900 and TSB-84 for CDMA 800 MHz. The Wideband and Zero Span spectrum analyzer plots are shown in Appendix A.

The DASY5 v5.0 measurement system specified in section 3.1 was utilized within the intended operations as set by the SPEAG™ setup. The default settings for the grid spacing of the scan were set to 5mm as shown in the Field plots included in Appendix B and C. The 5cm x 5cm area measurement grid is centered on the acoustic output of the device. The Test Arch provided by SPEAG is used to position the DUT. The WD reference plane is parallel to the device and contains the highest point on its contour in the area of the phone that normally rests against the user's ear. The measurement plane contains the nearest point on the probe sensor(s) relative to the WD. The pictures of the setup are included in 7.3.

WCDMA Devices setup for HAC Measurement.

The following procedures are applicable to WCDMA handsets operating under 3GPP Release 99 and Release 5. The default test configuration is to measure HAC with an established radio link between the DUT and a communication test set using a 12.2 kbps RMC (reference measurement channel) configured in Test Loop Mode 1. HAC is selectively confirmed for other physical channel configurations (DPCH & DPCH_n) according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. Maximum output power is verified according to 3GPP TS 34.121 and HAC must be measured according to these maximum output conditions.

HSDPA Devices setup for HAC Measurement.

Body HAC is not required for handsets with HSDPA capabilities when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC. Otherwise, HAC is measured for HSDPA, using FRC, with the body exposure configuration that results in the highest HAC in 12.2 RMC for that RF channel.



The device is positioned such that the WD reference plane is located 10mm from, and parallel to, the measurement plane. This is in accordance with section 4.3 of the standard, which states that “The WD reference plane is a plane parallel with the front “face” of the WD and containing the highest point on its contour in the area of the phone that normally rests against the user’s ear.”

The following figure shows the position of the measurement grid with respect to a typical device under test.

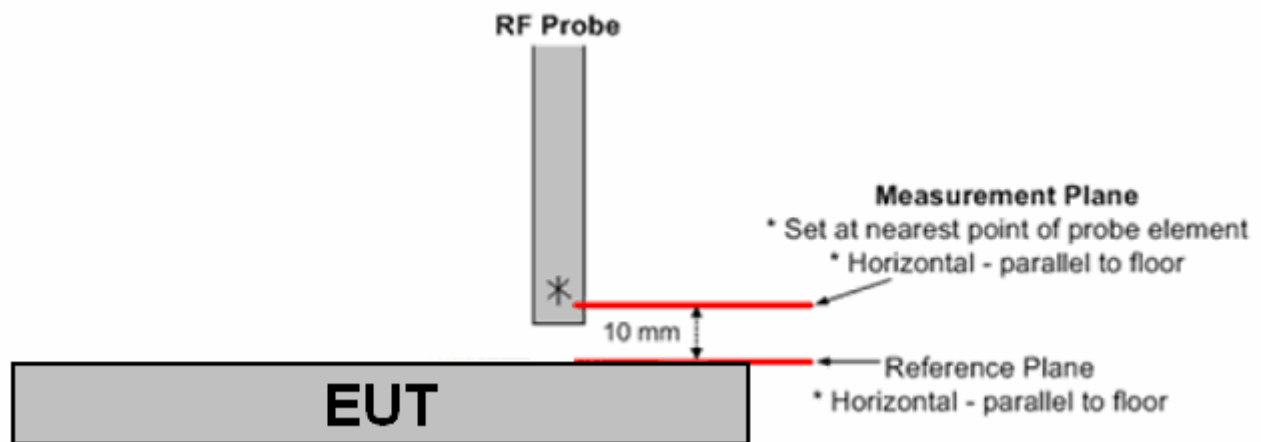


Figure 3. Clarification of Figure A-2 from the Standard

The HAC Rating results for E-Field and H-field are shown in 7.1 and 7.2. Also shown are the measured conducted output powers, the measured drifts, excluded areas, and the peak fields. PMF measurements are taken from Section 5. The worst-case test conditions are indicated with bold numbers in the tables and are detailed in Appendix C: HAC distribution plots for E-Field and H-Field.

Drift was measured using the typical DASY5 v5.0 measurement routines. The field is measured at the reference location (center of the ear piece) at the beginning of the test. Then after completion of the E or H field measurement, the probe returns to the same reference location and takes another measurement. The drift is the delta between these two values and is included in the test report scans.

The cellular phone model covered by this report has the following battery options:

Battery : HSTNH-K18B-S (3.7V 1940mAh)



6.1 HAC E-Field measurement results:

Band	Rating	E-Field
GSM 850	M3	149.6 to 266.1 V/m
	M4	< 149.6 V/m
PCS 1900	M3	47.3 to 84.1 V/m
	M4	< 47.3 V/m
WCDMA Band V	M3	199.5 to 354.8
	M4	< 199.5
WCDMA Band II	M3	63.1 to 112.2
	M4	< 63.1

Table 5. Emissions Limits

Band	Channel	Conducted Power (dBm)	Measured PMF	Drift (dB)	Excluded Cells	Peak Field (V/m)	Rating
GSM 850	128	32.4	2.82	-0.062	2.3.6	216.5	M3
	190	32.4	2.83	-0.009	2.3.6	233.3	M3
	251	32.4	2.82	0.040	2.3.6	221.0	M3
PCS 1900	512	30.4	2.96	-0.028	1.2.3	83.6	M3
	661	29.8	2.96	-0.030	1.2.3	80.4	M3
	810	29.4	2.96	0.002	1.2.3	73.9	M3
WCDMA Band II	9263	23.5	0.90	-0.119	1.2.3	19.7	M4
	9400	21.4	0.90	0.015	1.2.3	12.5	M4
	9537	21.3	0.90	-0.066	1.2.3	11.9	M4
WCDMA Band V	4133	22.8	1.07	0.062	2.3.6	37.6	M4
	4180	22.7	1.04	0.020	2.3.6	49.6	M4
	4232	22.8	1.07	0.079	2.3.6	44.3	M4

Note:

1. HAC E-Field measurement results for the portable cellular telephone at highest possible output power.



6.2 HAC H-Field measurement results:

Band	Rating	H-Field
GSM 850	M3	0.45 to 0.80 A/m
	M4	< 0.45 A/m
PCS 1900	M3	0.14 to 0.25 A/m
	M4	<0.14 A/m
WCDMA Band V	M3	0.60 to 1.07
	M4	< 0.60
WCDMA Band II	M3	0.19 to 0.34
	M4	< 0.19

Table 6. Emissions Limits

Band	Channel	Conducted Power (dBm)	Measured PMF	Drift (dB)	Excluded Cells	Peak Field (A/m)	Rating
GSM 850	128	32.4	2.32	-0.148	1.4.7	0.233	M4
	190	32.4	2.32	-0.020	1.4.7	0.245	M4
	251	32.4	2.32	0.048	1.4.7	0.234	M4
PCS 1900	512	30.4	2.95	0.040	1.4.7	0.218	M3
	661	29.8	2.95	-0.048	1.4.7	0.189	M3
	810	29.4	2.95	-0.062	1.2.4	0.184	M3
WCDMA Band II	9263	23.5	0.81	-0.189	7.8.9	0.057	M4
	9400	21.4	0.81	-0.103	7.8.9	0.036	M4
	9537	21.3	0.81	-0.032	1.4.7	0.034	M4
WCDMA Band V	4133	22.8	0.86	0.187	1.4.7	0.037	M4
	4180	22.7	0.86	0.015	1.4.7	0.052	M4
	4232	22.8	0.86	0.173	1.4.7	0.044	M4

Note:

1. HAC H-Field measurement results for the portable cellular telephone at highest possible output power.

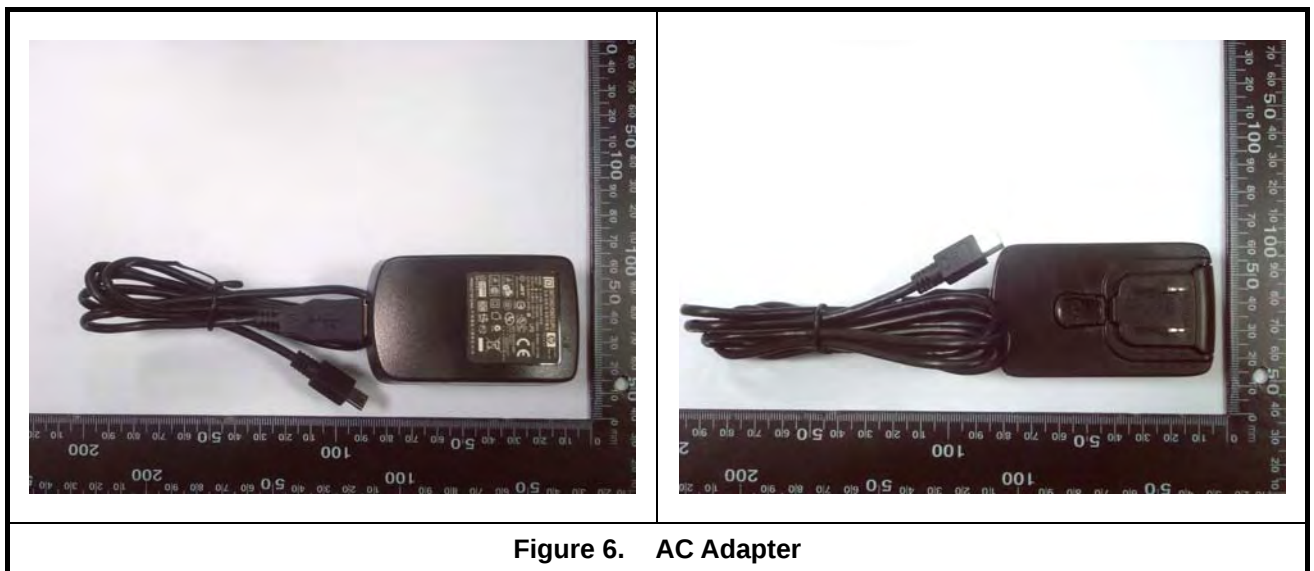
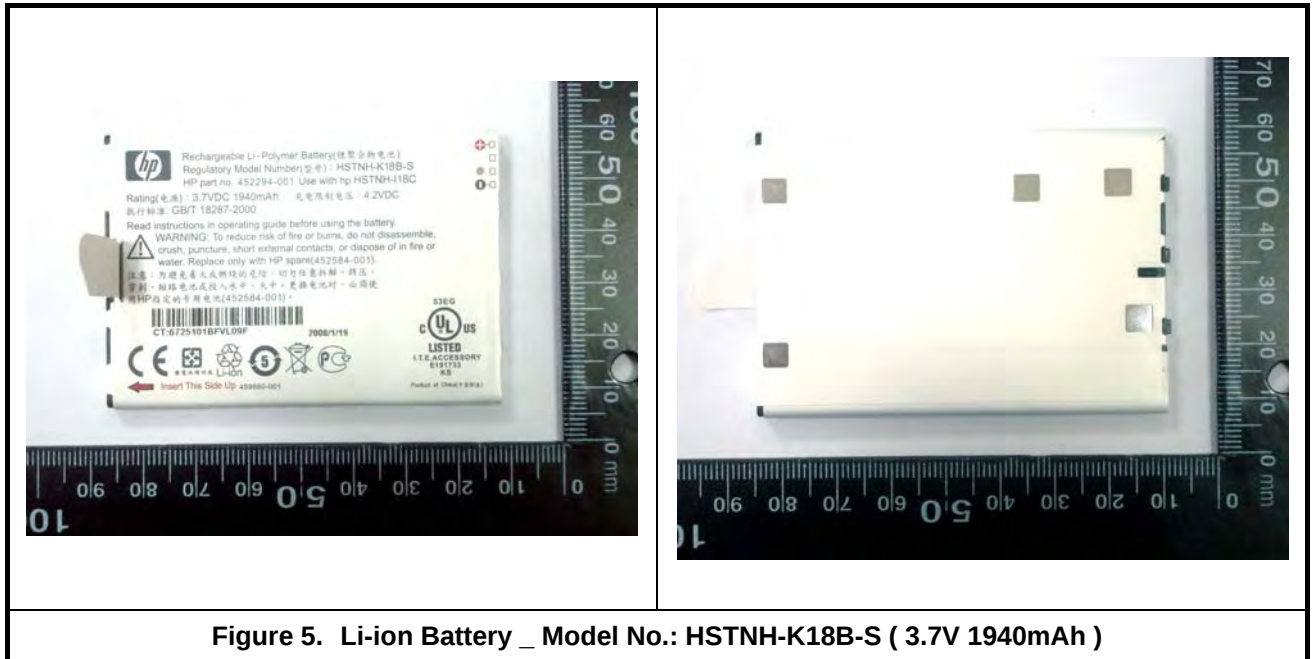
6.3 Description of the Device under Test (DUT)

Modes and Bands of Operation	GSM 850	PCS 1900	WCDMA Band V	WCDMA Band II
Modulation Mode	GMSK	GMSK	QPSK	QPSK
Duty Cycle	1/8.3	1/8.3	1/1	1/1
Transmitter Frequency Range (MHz)	824.2 - 848.8	1850.2 -1909.8	826.6 - 846.4	1852.6 - 1907.4

6.3.1 Picture of Device



6.3.2 Picture of Accessories



6.3.3 Test Setup Photo

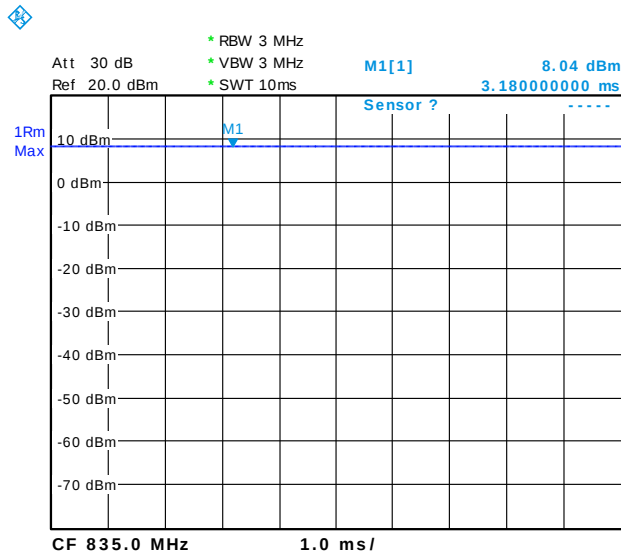


Figure 7. Setup Photo

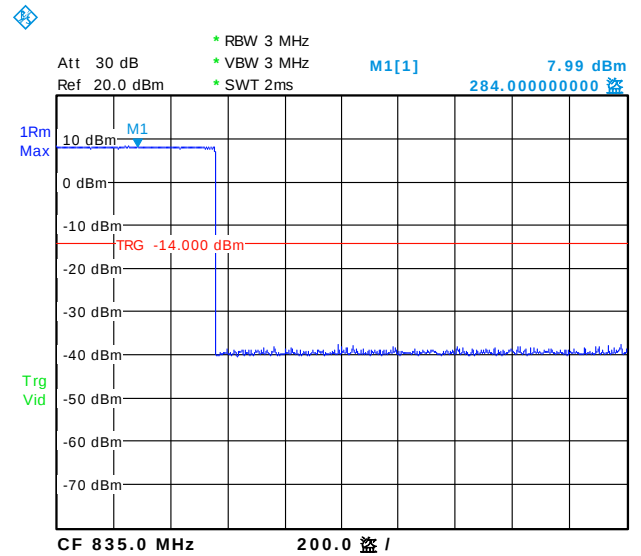


Appendix A - Details of WD signal

GSM 835 MHz

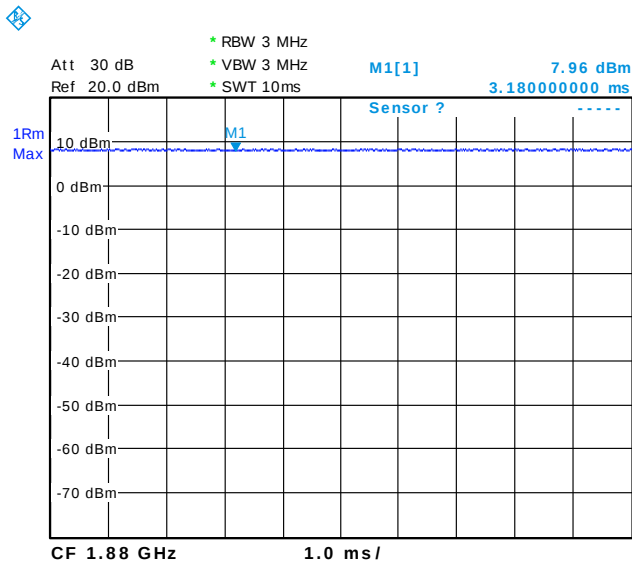


CW Signal

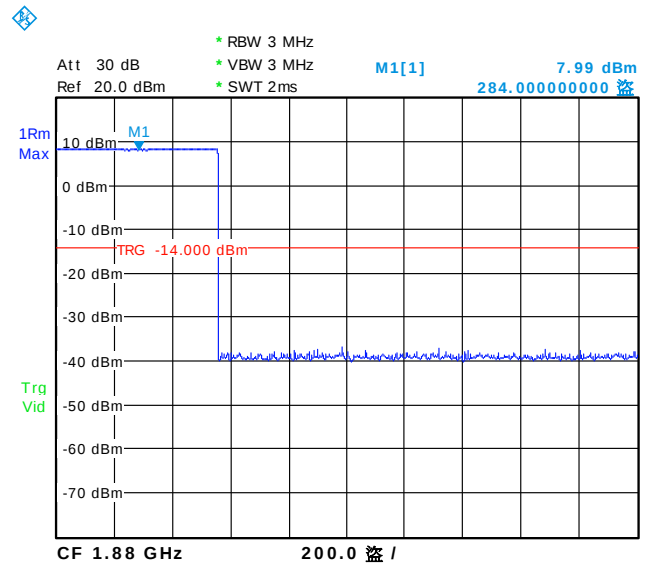


GSM Signal

GSM 1880 MHz



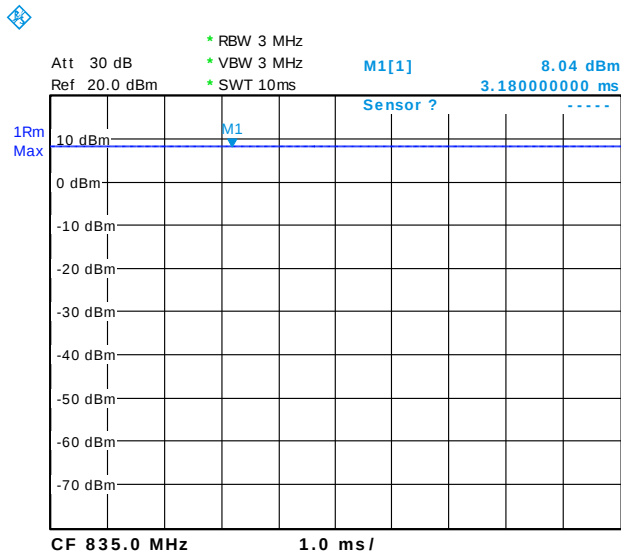
CW Signal



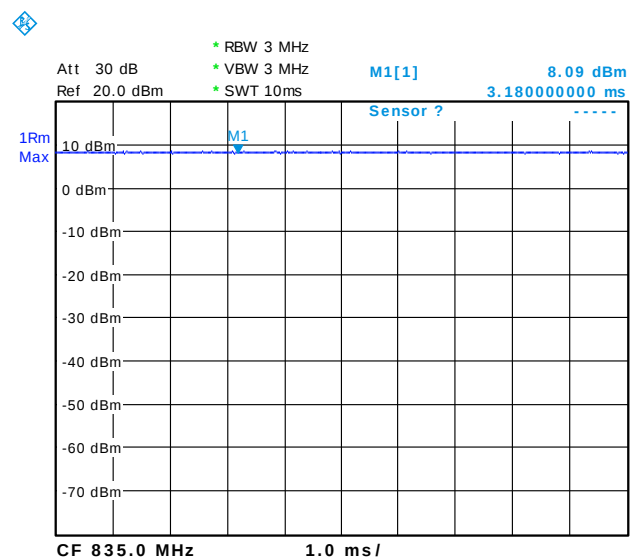
GSM Signal



WCDMA (UMTS) 835 MHz

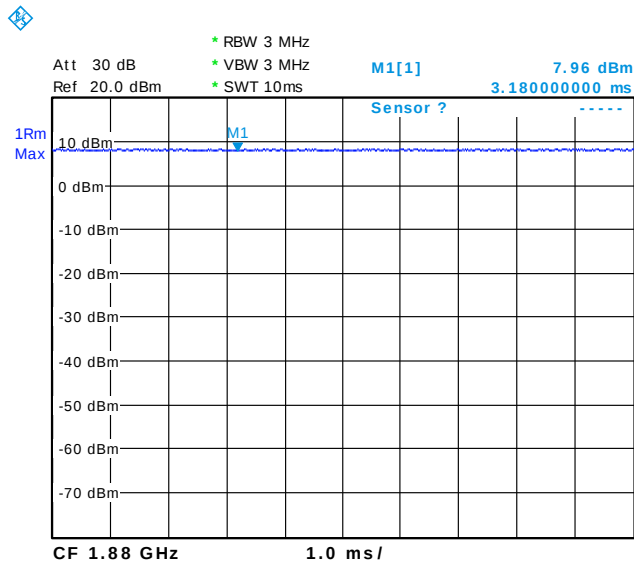


CW Signal

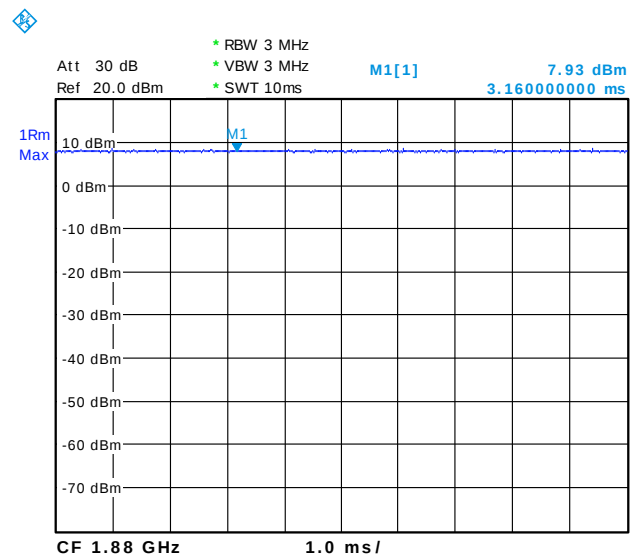


WCDMA(UMTS) Signal

WCDMA (UMTS) 1880 MHz



CW Signal



WCDMA(UMTS) Signal



Appendix B - Validation

See following Attached Pages for HAC distribution plots for E-Field and H-Field.



Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 7:31:16 PM

HAC_System Performance Check at 835MHz_20080823_E

DUT: Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN:1017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Dipole Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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 = 173.9 V/m

Probe Modulation Factor = 1

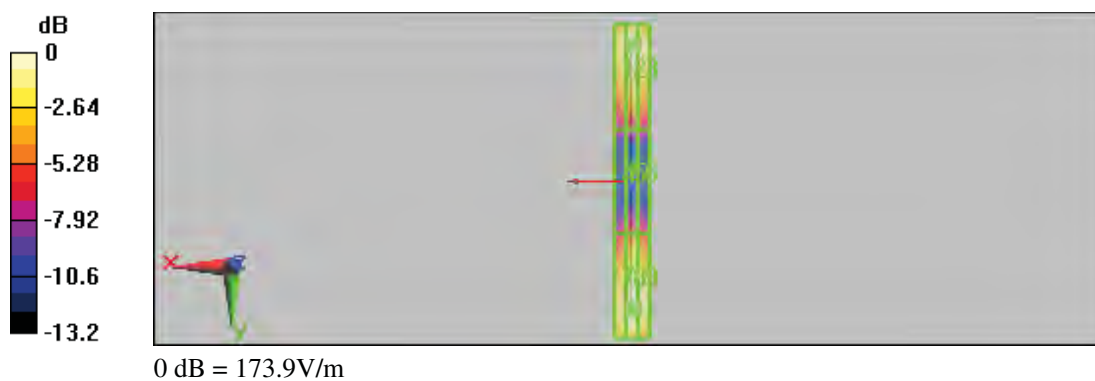
Device Reference Point: 0, 0, 354.7 mm

Reference Value = 130.0 V/m; Power Drift = -0.017 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 163.6 M4	Grid 2 171.3 M4	Grid 3 167.1 M4
Grid 4 88.7 M4	Grid 5 93.3 M4	Grid 6 91.5 M4
Grid 7 165.6 M4	Grid 8 173.9 M4	Grid 9 170.6 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 7:06:45 PM

HAC_System Performance Check at 835MHz_20080823_H

DUT: Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN:1017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Dipole Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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 = 0.475 A/m

Probe Modulation Factor = 1

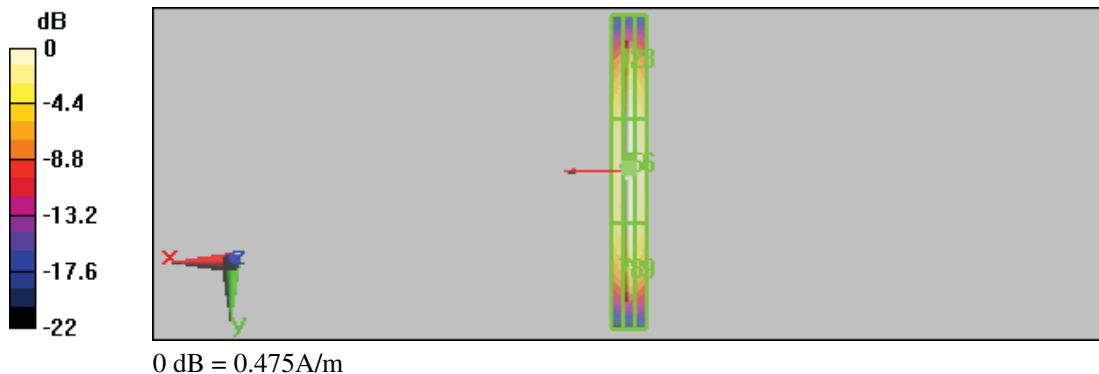
Device Reference Point: 0, 0, 354.7 mm

Reference Value = 0.506 A/m; Power Drift = -0.060 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.394 M4	Grid 2 0.423 M4	Grid 3 0.408 M4
Grid 4 0.444 M4	Grid 5 0.475 M4	Grid 6 0.459 M4
Grid 7 0.390 M4	Grid 8 0.419 M4	Grid 9 0.404 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 7:46:37 PM

HAC_System Performance Check at 1880MHz_20080823_E

DUT: Dipole 1880 MHz; Type: CD1880V3; Serial: CD1880V3 - SN:1036

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Dipole Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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 = 149.2 V/m

Probe Modulation Factor = 1

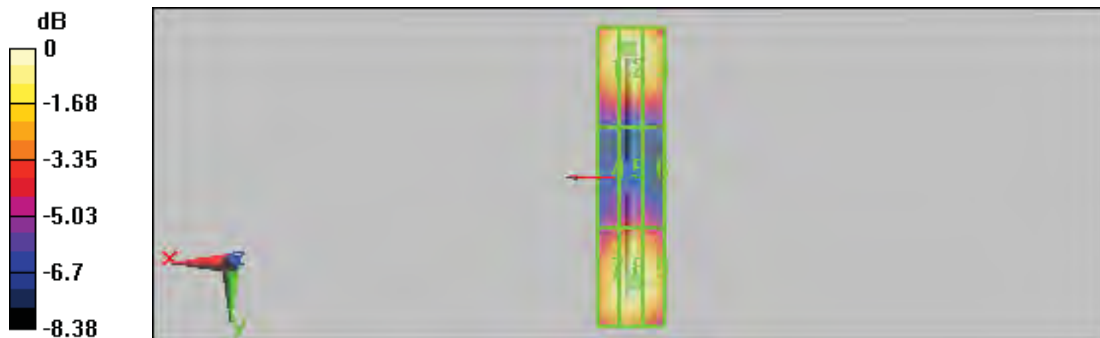
Device Reference Point: 0, 0, 354.7 mm

Reference Value = 145.1 V/m; Power Drift = 0.023 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak E-field in V/m

Grid 1 145.5 M2	Grid 2 149.2 M2	Grid 3 142.0 M2
Grid 4 91.9 M3	Grid 5 97.2 M3	Grid 6 94.8 M3
Grid 7 138.1 M2	Grid 8 143.7 M2	Grid 9 140.4 M2



0 dB = 149.2V/m



Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 8:00:05 PM

HAC_System Performance Check at 1880MHz_20080823_H

DUT: Dipole 1880 MHz; Type: CD1880V3; Serial: CD1880V3 - SN:1036

Communication System: CW; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Dipole Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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 = 0.477 A/m

Probe Modulation Factor = 1

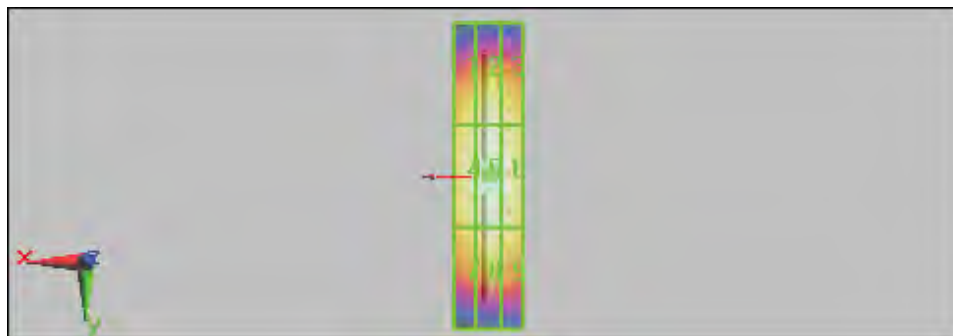
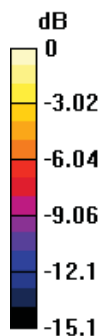
Device Reference Point: 0, 0, 354.7 mm

Reference Value = 0.506 A/m; Power Drift = 0.013 dB

Hearing Aid Near-Field Category: M2 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.409 M2	Grid 2 0.444 M2	Grid 3 0.426 M2
Grid 4 0.444 M2	Grid 5 0.477 M2	Grid 6 0.462 M2
Grid 7 0.397 M2	Grid 8 0.430 M2	Grid 9 0.417 M2



0 dB = 0.477A/m



Appendix C - HAC distribution plots for E-Field and H-Field

See following Attached Pages for HAC distribution plots for E-Field and H-Field.



Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 11:35:38 PM

HAC_GSM850 CH128_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: GSM850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 216.5 V/m

Probe Modulation Factor = 2.82

Device Reference Point: 0, 0, 353.7 mm

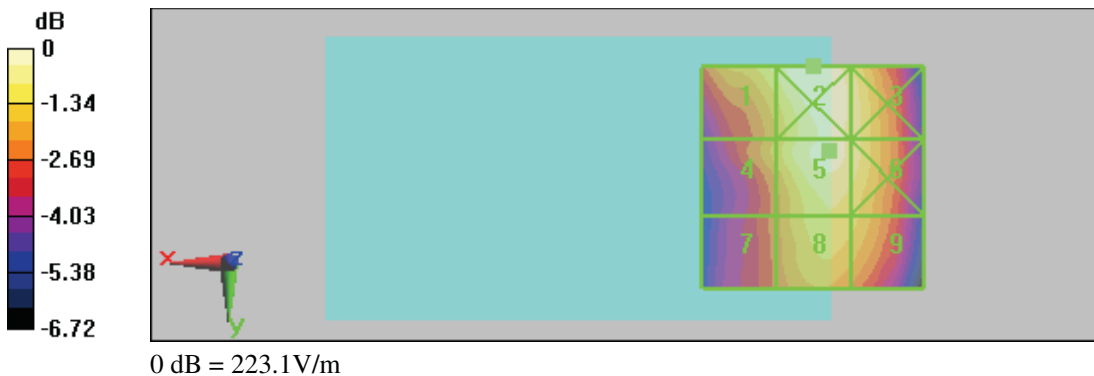
Reference Value = 78.6 V/m; Power Drift = -0.062 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1 205.7 M3	Grid 2 223.1 M3	Grid 3 210.2 M3
Grid 4 185.6 M3	Grid 5 216.5 M3	Grid 6 209.1 M3
Grid 7 169.2 M3	Grid 8 201.2 M3	Grid 9 195.8 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 11:42:09 PM

HAC_GSM850 CH190_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 233.3 V/m

Probe Modulation Factor = 2.83

Device Reference Point: 0, 0, 353.7 mm

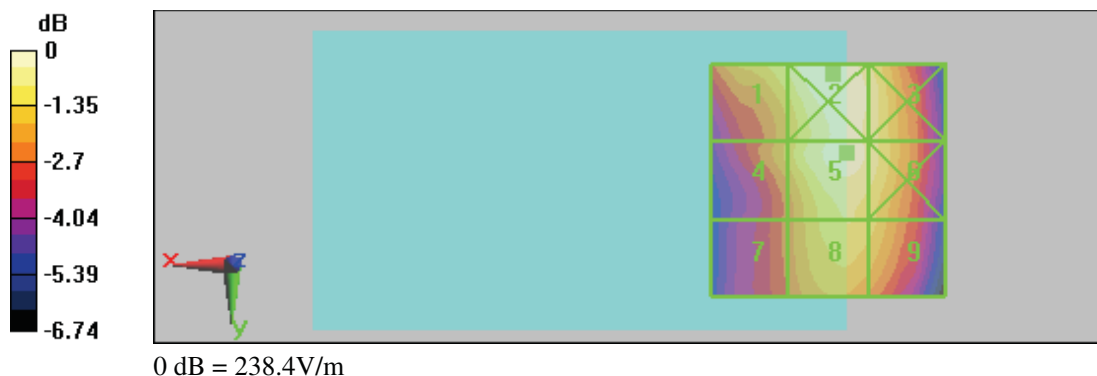
Reference Value = 83.5 V/m; Power Drift = -0.00949 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1 220.5 M3	Grid 2 238.4 M3	Grid 3 225.2 M3
Grid 4 198.6 M3	Grid 5 233.3 M3	Grid 6 224.5 M3
Grid 7 180.4 M3	Grid 8 215.4 M3	Grid 9 209.6 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 11:48:20 PM

HAC_GSM850 CH251_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 221.0 V/m

Probe Modulation Factor = 2.82

Device Reference Point: 0, 0, 353.7 mm

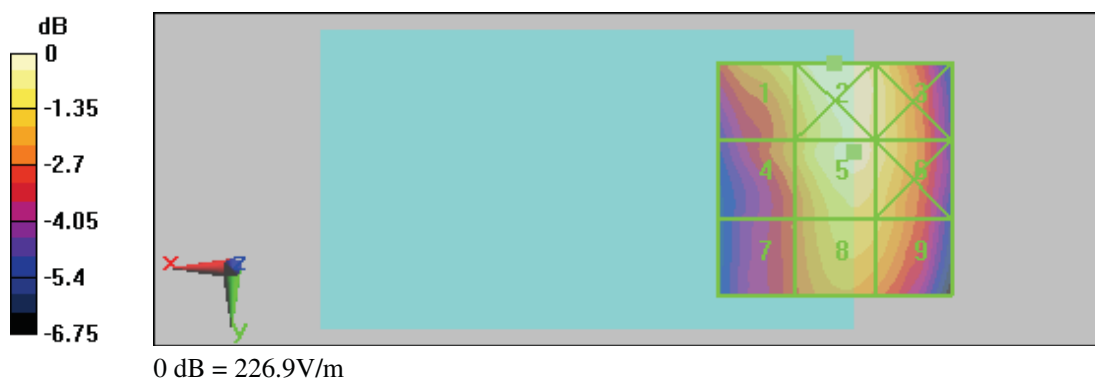
Reference Value = 78.7 V/m; Power Drift = 0.040 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1 208.2 M3	Grid 2 226.9 M3	Grid 3 214.3 M3
Grid 4 185.7 M3	Grid 5 221.0 M3	Grid 6 213.2 M3
Grid 7 168.8 M3	Grid 8 203.7 M3	Grid 9 198.9 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 1:25:55 AM

HAC_PCS CH512_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: PCS; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 83.6 V/m

Probe Modulation Factor = 2.96

Device Reference Point: 0, 0, 353.7 mm

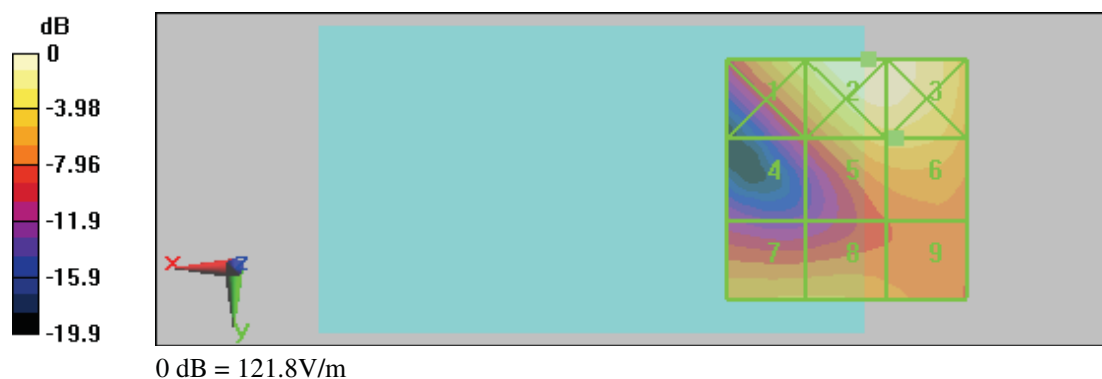
Reference Value = 15.6 V/m; Power Drift = -0.028 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1 92.3 M2	Grid 2 121.8 M2	Grid 3 118.6 M2
Grid 4 41.9 M4	Grid 5 82.9 M3	Grid 6 83.6 M3
Grid 7 68.3 M3	Grid 8 68.3 M3	Grid 9 61 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 12:07:31 AM

HAC_PCS CH661_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: PCS; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 80.4 V/m

Probe Modulation Factor = 2.96

Device Reference Point: 0, 0, 353.7 mm

Reference Value = 16.7 V/m; Power Drift = -0.030 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1 88.6 M2	Grid 2 115.2 M2	Grid 3 110.2 M2
Grid 4 42.6 M4	Grid 5 80.3 M3	Grid 6 80.4 M3
Grid 7 63 M3	Grid 8 64 M3	Grid 9 58.9 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 12:17:24 AM

HAC_PCS CH810_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 73.9 V/m

Probe Modulation Factor = 2.96

Device Reference Point: 0, 0, 353.7 mm

Reference Value = 15 V/m; Power Drift = 0.0023 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
78.6 M3	104.9 M2	100.5 M2
Grid 4	Grid 5	Grid 6
38.3 M4	73.9 M3	73.9 M3
Grid 7	Grid 8	Grid 9
53.8 M3	55 M3	51.5 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 1:43:48 AM

HAC_WCDMA Band II CH9262_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band II; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 19.7 V/m

Probe Modulation Factor = 0.900

Device Reference Point: 0, 0, 353.7 mm

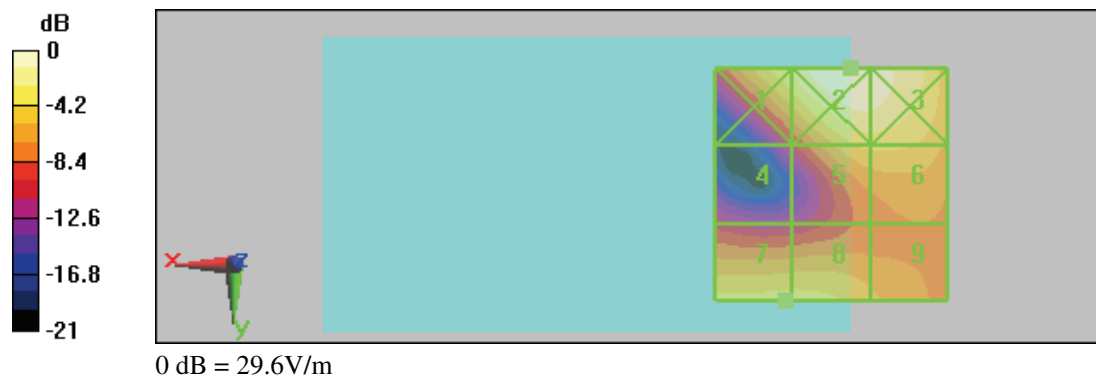
Reference Value = 11.6 V/m; Power Drift = -0.119 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
22.6 M4	29.6 M4	28.2 M4
Grid 4	Grid 5	Grid 6
9.26 M4	19.3 M4	19.4 M4
Grid 7	Grid 8	Grid 9
19.7 M4	19.6 M4	16.3 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 1:51:28 AM

HAC_WCDMA Band II CH9400_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band II; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 12.5 V/m

Probe Modulation Factor = 0.900

Device Reference Point: 0, 0, 353.7 mm

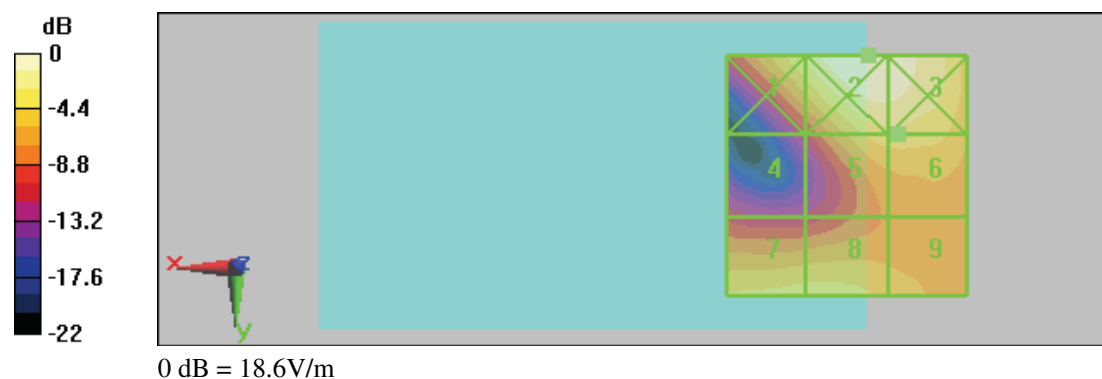
Reference Value = 7.51 V/m; Power Drift = 0.015 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 13.8 M4	Grid 2 18.6 M4	Grid 3 17.9 M4
Grid 4 5.51 M4	Grid 5 12.4 M4	Grid 6 12.5 M4
Grid 7 12.3 M4	Grid 8 12.4 M4	Grid 9 10.7 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 1:57:25 AM

HAC_WCDMA Band II CH9538_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 11.9 V/m

Probe Modulation Factor = 0.900

Device Reference Point: 0, 0, 353.7 mm

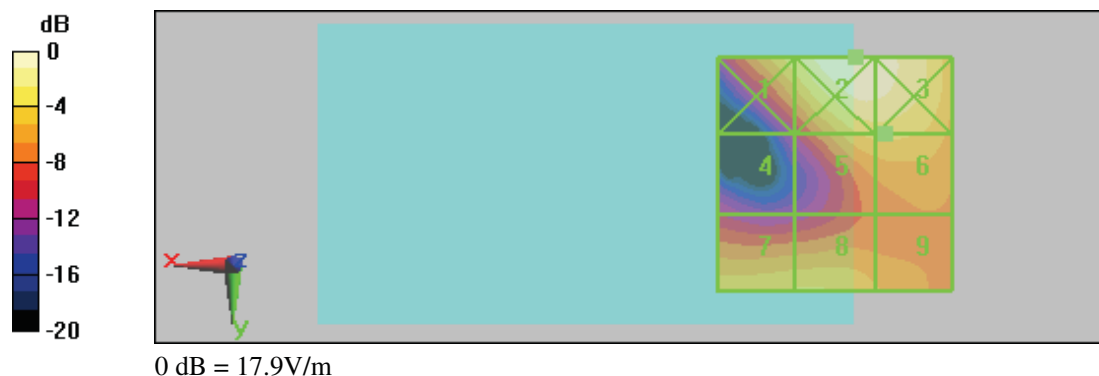
Reference Value = 6.65 V/m; Power Drift = -0.066 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 13 M4	Grid 2 17.9 M4	Grid 3 17.1 M4
Grid 4 5.41 M4	Grid 5 11.8 M4	Grid 6 11.9 M4
Grid 7 11.6 M4	Grid 8 11.7 M4	Grid 9 10.1 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 2:15:22 AM

HAC_WCDMA Band V CH4132_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band V; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 37.6 V/m

Probe Modulation Factor = 1.07

Device Reference Point: 0, 0, 353.7 mm

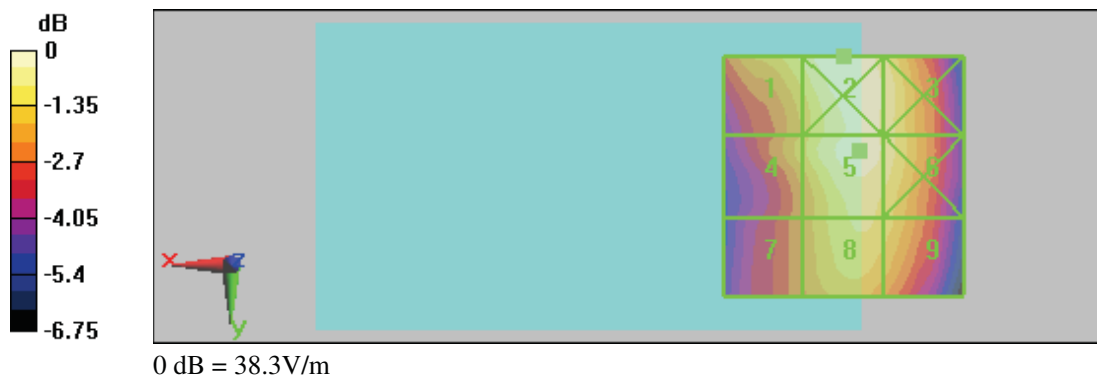
Reference Value = 35.9 V/m; Power Drift = 0.062 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
35.1 M4	38.3 M4	36.1 M4
Grid 4	Grid 5	Grid 6
32.3 M4	37.6 M4	36 M4
Grid 7	Grid 8	Grid 9
29.7 M4	35 M4	33.9 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 2:21:40 AM

HAC_WCDMA Band V CH4183_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band V; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 49.6 V/m

Probe Modulation Factor = 1.04

Device Reference Point: 0, 0, 353.7 mm

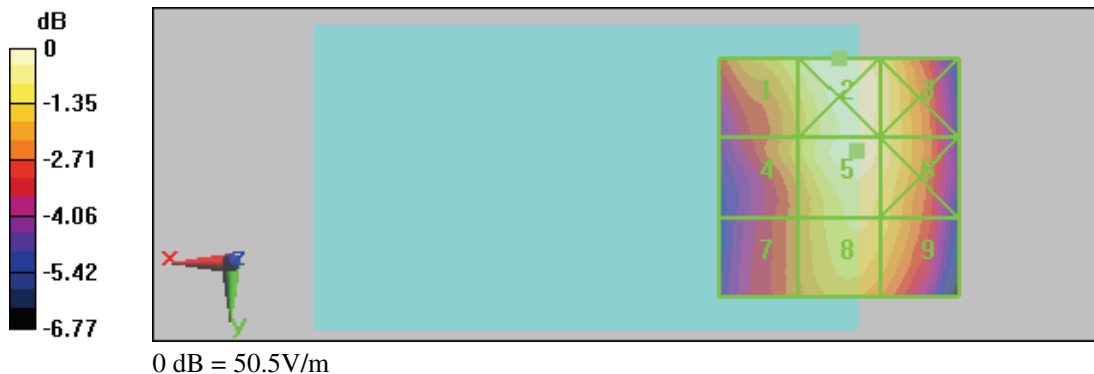
Reference Value = 48.3 V/m; Power Drift = 0.020 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 46.6 M4	Grid 2 50.5 M4	Grid 3 47.6 M4
Grid 4 42.7 M4	Grid 5 49.6 M4	Grid 6 47.5 M4
Grid 7 39.1 M4	Grid 8 46.1 M4	Grid 9 44.7 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/24/2008 2:27:45 AM

HAC_WCDMA Band V CH4233_E

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band V; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: E Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ER3DV6 - SN2302; ConvF(1, 1, 1); Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

E Scan - ER3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 44.3 V/m

Probe Modulation Factor = 1.07

Device Reference Point: 0, 0, 353.7 mm

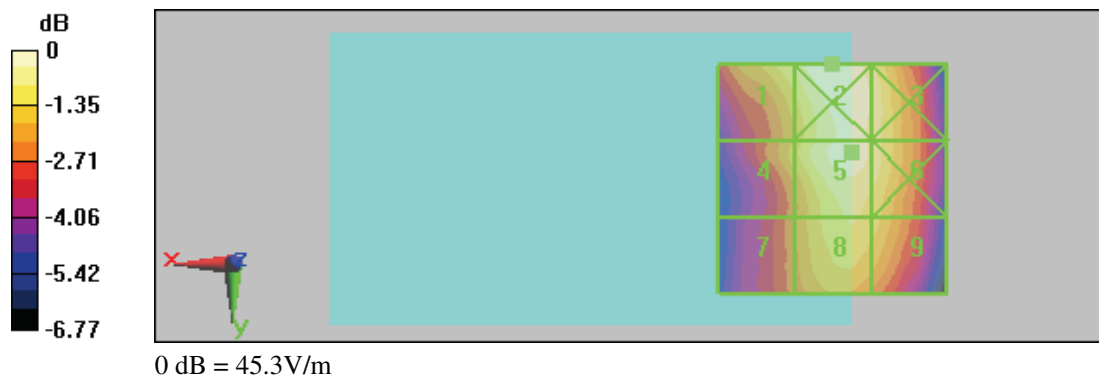
Reference Value = 41.6 V/m; Power Drift = 0.079 dB

Test Arch Compensation is Applied.

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
41.4 M4	45.3 M4	42.8 M4
Grid 4	Grid 5	Grid 6
37.8 M4	44.3 M4	42.6 M4
Grid 7	Grid 8	Grid 9
34.5 M4	41 M4	39.9 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 9:09:24 PM

HAC_GSM850 CH128_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: GSM850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.233 A/m

Probe Modulation Factor = 2.32

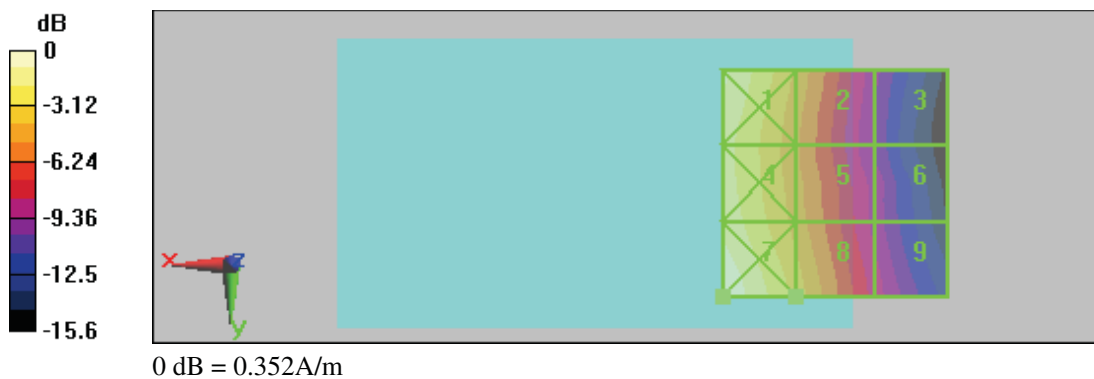
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.067 A/m; Power Drift = -0.148 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1 0.325 M4	Grid 2 0.213 M4	Grid 3 0.113 M4
Grid 4 0.305 M4	Grid 5 0.208 M4	Grid 6 0.117 M4
Grid 7 0.352 M4	Grid 8 0.233 M4	Grid 9 0.130 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 9:15:22 PM

HAC_GSM850 CH190_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.245 A/m

Probe Modulation Factor = 2.32

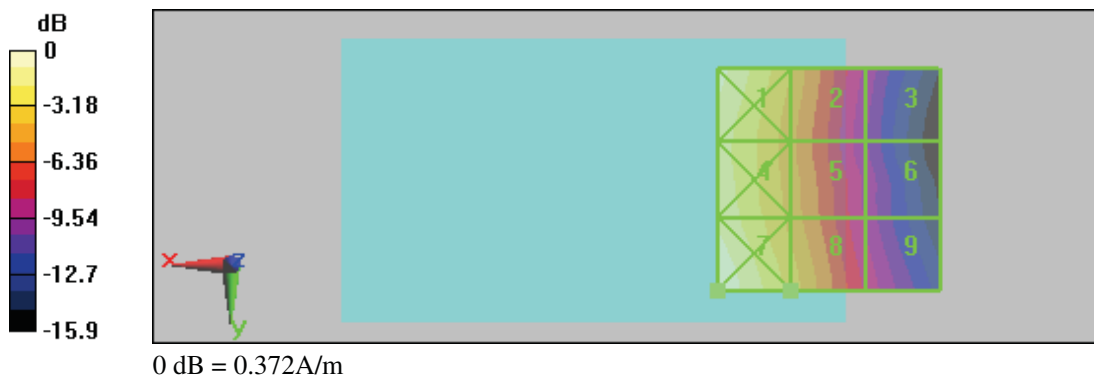
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.071 A/m; Power Drift = -0.020 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1 0.347 M4	Grid 2 0.227 M4	Grid 3 0.121 M4
Grid 4 0.324 M4	Grid 5 0.220 M4	Grid 6 0.121 M4
Grid 7 0.372 M4	Grid 8 0.245 M4	Grid 9 0.137 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 9:21:36 PM

HAC_GSM850 CH251_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.234 A/m

Probe Modulation Factor = 2.32

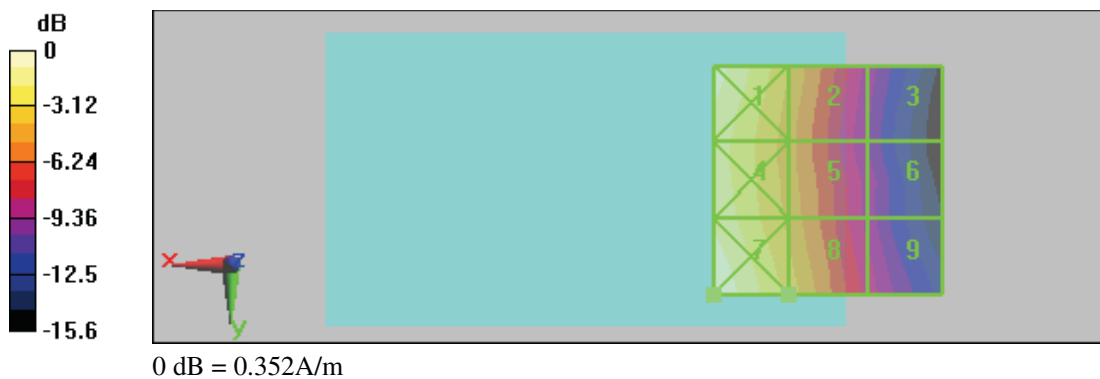
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.067 A/m; Power Drift = 0.048 dB

Hearing Aid Near-Field Category: M4 (AWF -5 dB)

Peak H-field in A/m

Grid 1 0.334 M4	Grid 2 0.219 M4	Grid 3 0.116 M4
Grid 4 0.307 M4	Grid 5 0.211 M4	Grid 6 0.116 M4
Grid 7 0.352 M4	Grid 8 0.234 M4	Grid 9 0.130 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 9:28:55 PM

HAC_PCS CH512_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: PCS; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0 \text{ mho/m}$, $\epsilon_r = 1$; $\rho = 1 \text{ kg/m}^3$

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

$dx=5\text{mm}$, $dy=5\text{mm}$

Maximum value of peak Total field = 0.218 A/m

Probe Modulation Factor = 2.95

Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.070 A/m; Power Drift = 0.040 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1 0.246 M3	Grid 2 0.194 M3	Grid 3 0.174 M3
Grid 4 0.193 M3	Grid 5 0.218 M3	Grid 6 0.212 M3
Grid 7 0.196 M3	Grid 8 0.218 M3	Grid 9 0.212 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 9:36:13 PM

HAC_PCS CH661_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: PCS; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.189 A/m

Probe Modulation Factor = 2.95

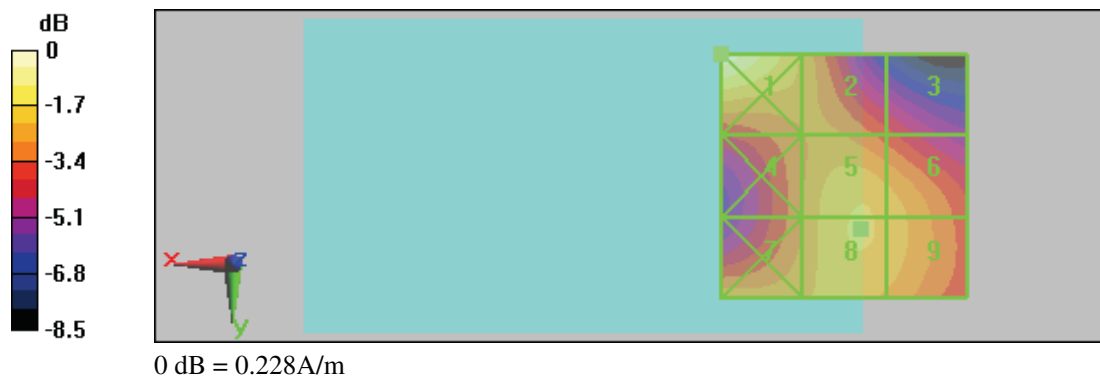
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.060 A/m; Power Drift = -0.048 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.228 M3	0.173 M3	0.149 M3
Grid 4	Grid 5	Grid 6
0.164 M3	0.189 M3	0.184 M3
Grid 7	Grid 8	Grid 9
0.175 M3	0.189 M3	0.185 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 9:43:29 PM

HAC_PCS CH810_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.184 A/m

Probe Modulation Factor = 2.95

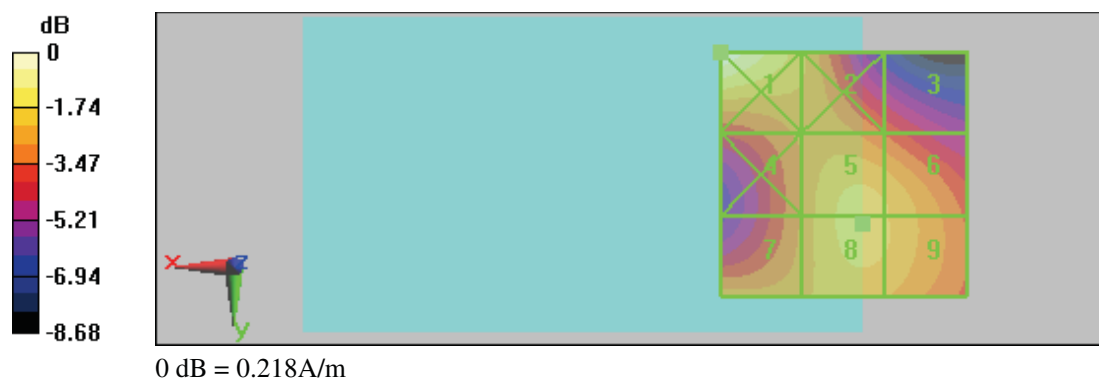
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.059 A/m; Power Drift = -0.062 dB

Hearing Aid Near-Field Category: M3 (AWF -5 dB)

Peak H-field in A/m

Grid 1 0.218 M3	Grid 2 0.170 M3	Grid 3 0.145 M3
Grid 4 0.159 M3	Grid 5 0.184 M3	Grid 6 0.180 M3
Grid 7 0.165 M3	Grid 8 0.184 M3	Grid 9 0.180 M3





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 10:02:03 PM

HAC_WCDMA Band II CH9262_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band II; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.057 A/m

Probe Modulation Factor = 0.810

Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.068 A/m; Power Drift = -0.189 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.056 M4	Grid 2 0.050 M4	Grid 3 0.046 M4
Grid 4 0.051 M4	Grid 5 0.057 M4	Grid 6 0.056 M4
Grid 7 0.057 M4	Grid 8 0.057 M4	Grid 9 0.056 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 10:08:16 PM

HAC_WCDMA Band II CH9400_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band II; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.036 A/m

Probe Modulation Factor = 0.810

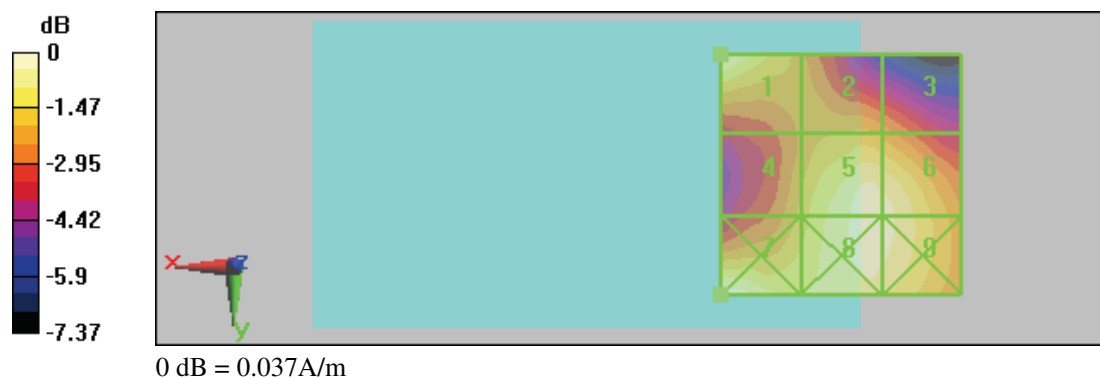
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.041 A/m; Power Drift = -0.103 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.036 M4	Grid 2 0.030 M4	Grid 3 0.029 M4
Grid 4 0.030 M4	Grid 5 0.036 M4	Grid 6 0.036 M4
Grid 7 0.037 M4	Grid 8 0.036 M4	Grid 9 0.036 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 10:14:13 PM

HAC_WCDMA Band II CH9538_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.034 A/m

Probe Modulation Factor = 0.810

Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.040 A/m; Power Drift = -0.032 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.036 M4	Grid 2 0.029 M4	Grid 3 0.027 M4
Grid 4 0.030 M4	Grid 5 0.034 M4	Grid 6 0.033 M4
Grid 7 0.034 M4	Grid 8 0.034 M4	Grid 9 0.033 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 10:30:44 PM

HAC_WCDMA Band V CH4132_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band V; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.037 A/m

Probe Modulation Factor = 0.860

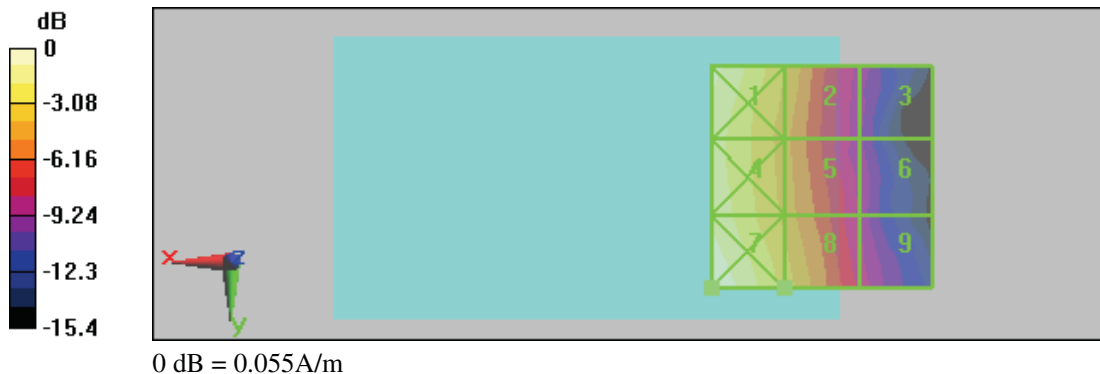
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.029 A/m; Power Drift = 0.187 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.051 M4	Grid 2 0.034 M4	Grid 3 0.018 M4
Grid 4 0.048 M4	Grid 5 0.033 M4	Grid 6 0.018 M4
Grid 7 0.055 M4	Grid 8 0.037 M4	Grid 9 0.021 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 10:36:37 PM

HAC_WCDMA Band V CH4183_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band V; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.052 A/m

Probe Modulation Factor = 0.860

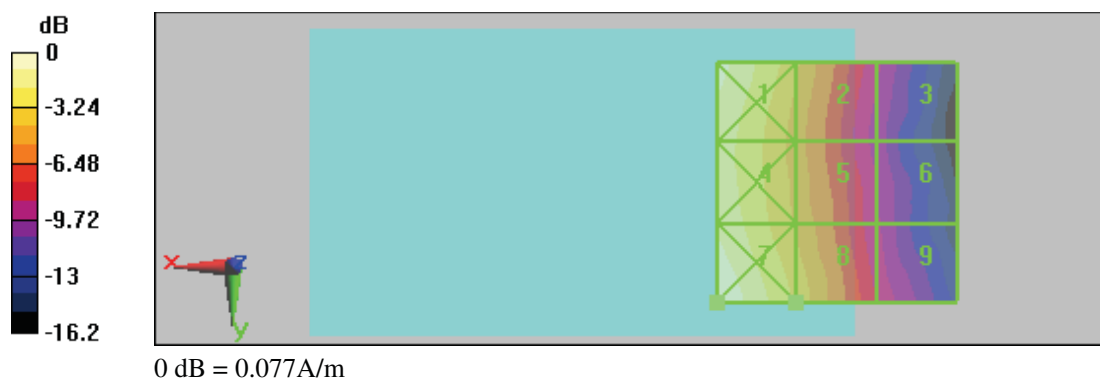
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.040 A/m; Power Drift = 0.015 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.072 M4	Grid 2 0.048 M4	Grid 3 0.026 M4
Grid 4 0.067 M4	Grid 5 0.046 M4	Grid 6 0.026 M4
Grid 7 0.077 M4	Grid 8 0.052 M4	Grid 9 0.028 M4





Test Laboratory: A Test Lab Techno Corp.

Date/Time: 8/23/2008 10:43:10 PM

HAC_WCDMA Band V CH4233_H

DUT: HSTNH-I18C; Type: PDA Phone; Serial: 351602000125260

Communication System: WCDMA Band V; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Device Section

Measurement Standard: DASYS (IEEE/IEC)

DASY5 Configuration:

- Probe: H3DV6 - SN6187; ; Calibrated: 5/19/2008
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn779; Calibrated: 11/30/2007
- Phantom: HAC Test Arch 4.6; Type: SD HAC P01 BA; Serial: 1038
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

H Scan - H3DV6 - measurement distance from the probe sensor center to the Device = 10mm/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.044 A/m

Probe Modulation Factor = 0.860

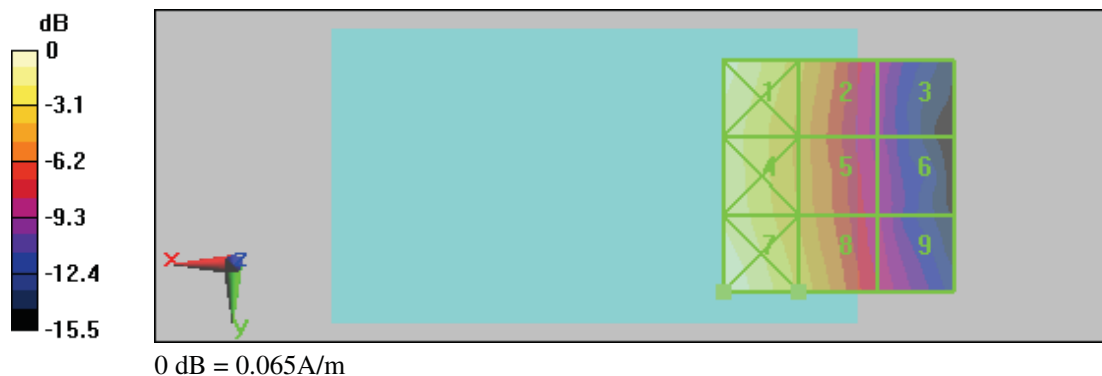
Device Reference Point: 0, 0, 353.7 mm

Reference Value = 0.034 A/m; Power Drift = 0.173 dB

Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak H-field in A/m

Grid 1 0.062 M4	Grid 2 0.042 M4	Grid 3 0.023 M4
Grid 4 0.057 M4	Grid 5 0.040 M4	Grid 6 0.023 M4
Grid 7 0.065 M4	Grid 8 0.044 M4	Grid 9 0.025 M4





Appendix D - Calibration

All of the instruments Calibration information are listed below.

- Dipole _ CD835V3 SN:1017 Calibration No.CD835V3-1017_Jul08
- Dipole _ CD1880V3 SN:1036 Calibration No.CD1880V3-1036_Jul08
- Probe _ ER3DV6 SN: 2302 Calibration No. ER3-2302_May08
- Probe _ H3DV6 SN: 6187 Calibration No. H3-6187_May08
- DAE _ DAE4 SN:779 Calibration No.DAE4-779_Nov07