



HAC RF TEST REPORT

No. 2011HAC00037

For

TCT Mobile Limited

GSM dual band mobile phone

B11S Lite US

one touch 390A

With

Hardware Version: PIO

Software Version: H30

FCCID: RAD213

Results Summary: M Category = M3

Issued Date: 2011-11-22



No. DGA-PL-114/01-02

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

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1 Test Laboratory

1.1 Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
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1.2 Testing Environment

Temperature: 18°C~25 °C,
Relative humidity: 30%~ 70%
Ground system resistance: < 0.5 Ω

Ambient noise is checked and found very low and in compliance with requirement of standards.
Reflection of surrounding objects is minimized and in compliance with requirement of standards.

1.3 Project Data

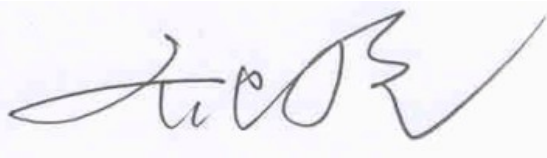
Project Leader: Qi Dianyuan
Test Engineer: Lin Hao
Testing Start Date: November 15, 2011
Testing End Date: November 15, 2011

1.4 Signature



Lin Hao

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)



Xiao Li

Deputy Director of the laboratory
(Approved this test report)

2 Client Information

2.1 Applicant Information

Company Name: TCT Mobile Limited
 Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
 Pudong Area Shanghai, P.R. China. 201203
 City: Shanghai
 Postal Code: 201203
 Country: P. R. China
 Telephone: 0086-21-61460890
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2.2 Manufacturer Information

Company Name: TCT Mobile Limited
 Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
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 City: Shanghai
 Postal Code: 201203
 Country: P. R. China
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3 Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1 About EUT

EUT Description: GSM dual band mobile phone
 Model Name: B11S Lite US
 Marketing Name: one touch 390A
 Frequency Band: GSM 850/1900

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	012897000010400 / 012897000010251	PIO	H30

*EUT ID: is used to identify the test sample in the lab internally.

3.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	CAB2450000C1	/	BYD

*AE ID: is used to identify the test sample in the lab internally

4 CONDUCTED OUTPUT POWER MEASUREMENT

4.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMU-200) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured output power should be greater and within 5% than EMI measurement.

4.2 Conducted Power

GSM 850MHZ	Conducted Power (dBm)		
	Channel 251(848.8MHz)	Channel 190(836.6MHz)	Channel 128(824.2MHz)
	32.98	33.03	33.12
GSM 1900MHZ	Conducted Power (dBm)		
	Channel 810(1909.8MHz)	Channel 661(1880MHz)	Channel 512(1850.2MHz)
	30.90	30.92	30.87

5. Reference Documents

5.1 Reference Documents for testing

The following document listed in this section is referred for testing.

Reference	Title	Version
ANSI C63.19-2007	American National Standard for Methods of Measurement of Compatibility between Wireless Communication Devices and Hearing Aids	2007 Edition

6 OPERATIONAL CONDITIONS DURING TEST

6.1 HAC MEASUREMENT SET-UP

These measurements are performed using the DASY5 NEO automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Stäubli), robot controller, Intel Core2 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 Intel Core2 1.86 GHz computer with Windows XP system and HAC Measurement Software DASY5 NEO, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) 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.

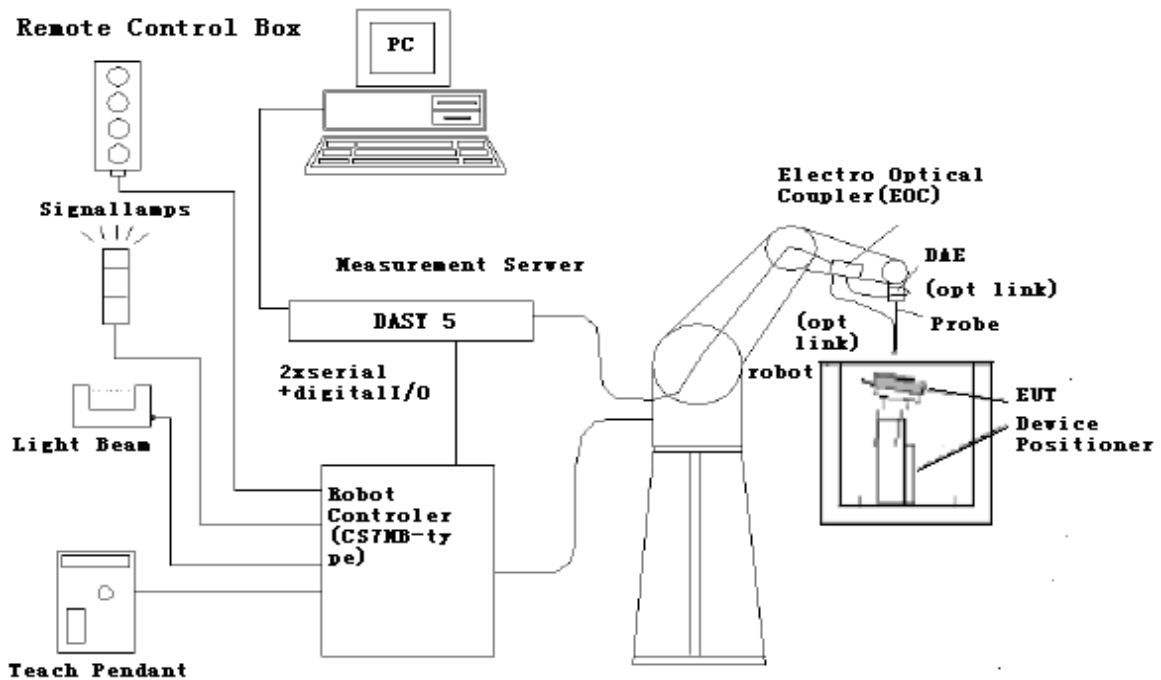


Fig. 1 HAC Test Measurement Set-up

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

6.2 Probe Specification

6.2.1 E-Field Probe Description

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 $\pm 6.0\%$, $k=2$)
Frequency	40 MHz to > 6 GHz (can be extended to < 20 MHz) 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



[ER3DV6]

Application General near-field measurements up to 6 GHz
Field component measurements
Fast automatic scanning in phantoms

6.2.2 H-Field Probe Description

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., glycoether)



[H3DV6]

Frequency 200 MHz to 3 GHz (absolute accuracy $\pm 6.0\%$, $k=2$); 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 the measured field

6.3 Test Arch 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. It enables easy and well defined positioning of the phone and validation dipoles as well as simple teaching of the robot (Dimensions: 370 x 370 x 370 mm).

The Phone Positioner supports accurate and reliable positioning of any phone with effect on near field $< \pm 0.5$ dB.

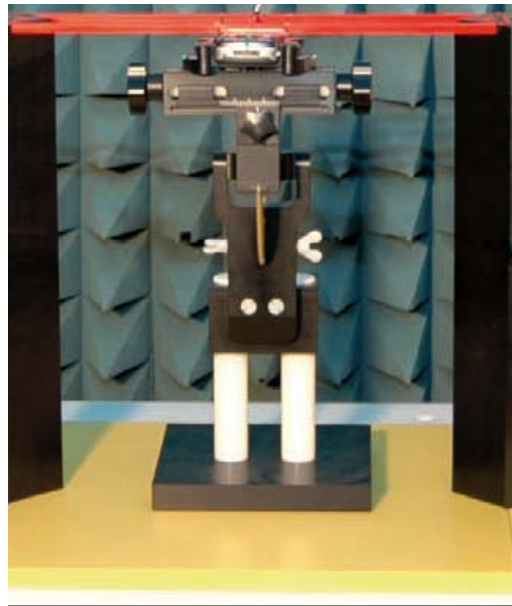


Fig. 2 HAC Phantom & Device Holder

6.4 Robotic System Specifications

Specifications

Positioner: Stäubli Unimation Corp. Robot Model: RX160L

Repeatability: ± 0.02 mm

No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Intel Core2

Clock Speed: 1.86 GHz

Operating System: Windows XP

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic

Software: DASY5 software

Connecting Lines: Optical downlink for data and status info.

Optical uplink for commands and clock

7 EUT ARRANGEMENT

7.1 WD RF Emission Measurements Reference and Plane

Figure 4 illustrates the references and reference plane that shall be used in the WD emissions measurement.

- The grid is 5 cm by 5 cm area that is divided into 9 evenly sized blocks or sub-grids.
- The grid is centered on the audio frequency output transducer of the WD (speaker or T-coil).
- The grid is located by reference to a reference plane. This reference plane is the planar area that contains the highest point in the area of the WD that normally rests against the user's ear
- The measurement plane is located parallel to the reference plane and 15 mm from it, out from

the phone. The grid is located in the measurement plane.

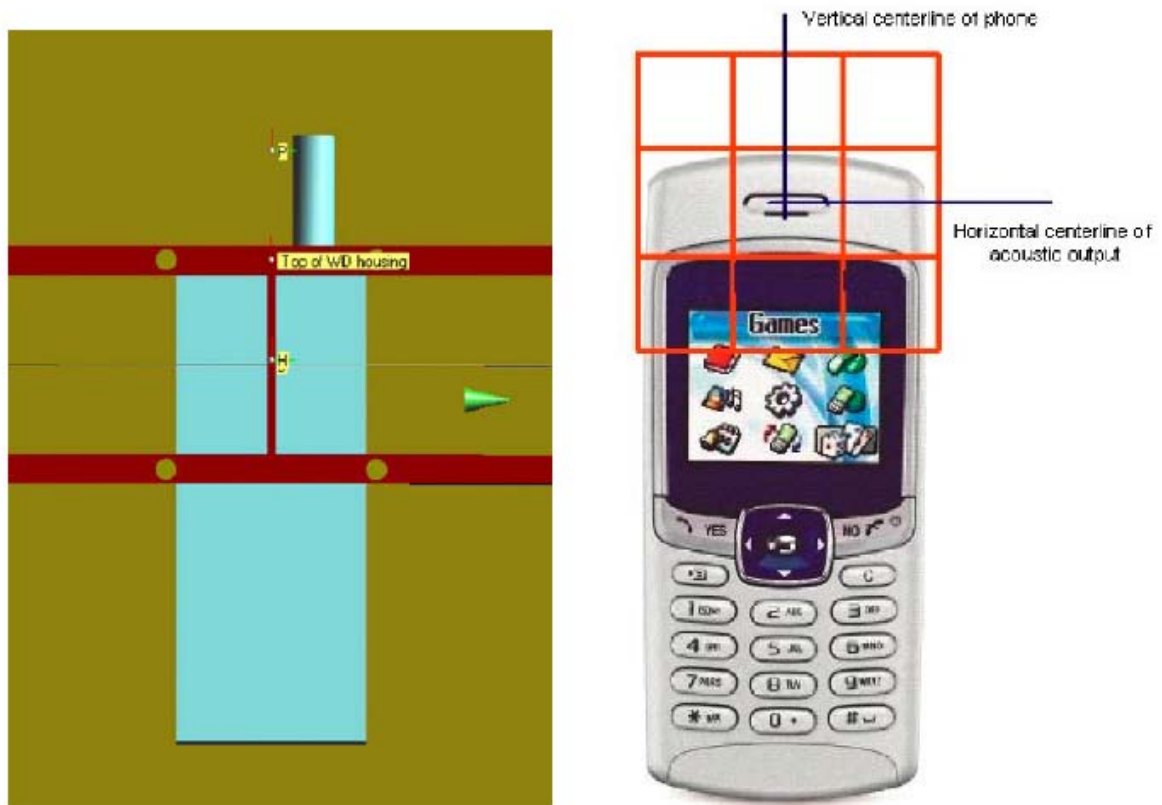


Fig. 3 WD reference and plane for RF emission measurements

8 SYSTEM VALIDATION

8.1 Validation Procedure

Place a dipole antenna meeting the requirements given in ANSI C63.19 D.5 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
- The center point of the probe element(s) are 10 mm from the closest surface of the dipole elements.

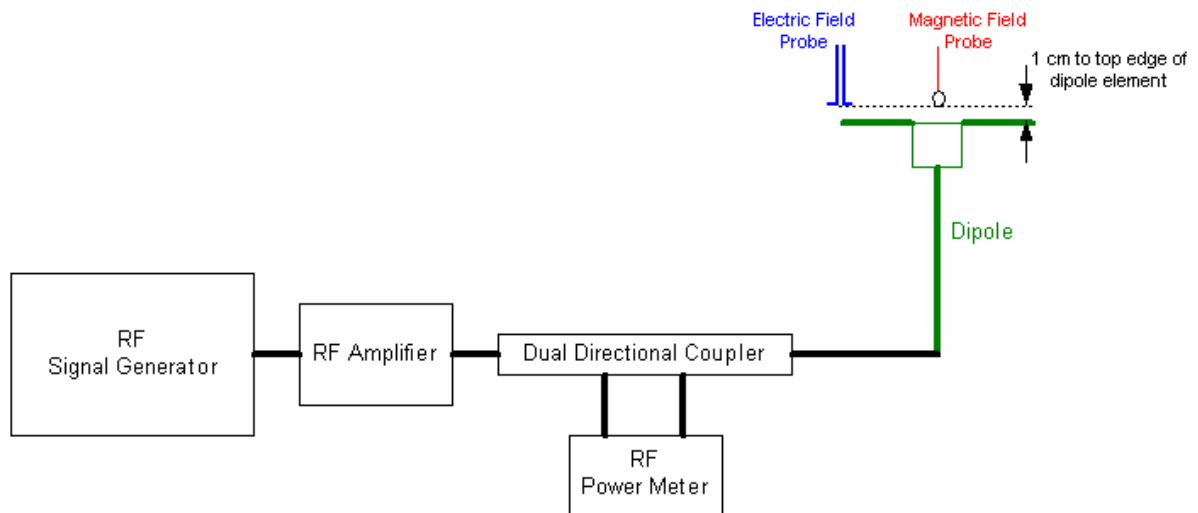


Fig. 4 Dipole Validation Setup

8.2 Validation Result

E-Field Scan							
Mode	Frequency (MHz)	Input Power (mW)	Power	Measured ¹ Value(V/m)	Target ² Value(V/m)	Deviation ³ (%)	Limit ⁴ (%)
CW	835	100		168.7	163.9	+2.93%	± 25
CW	1880	100		141.7	137.7	+2.90%	± 25
H-Field Scan							
Mode	Frequency (MHz)	Input Power (mW)	Power	Measured Value(A/m)	Target Value(A/m)	Deviation (%)	Limit (%)
CW	835	100		0.447	0.458	-2.40%	± 25
CW	1880	100		0.451	0.463	-2.59%	± 25

Notes:

1. Please refer to the attachment for detailed measurement data and plot.
2. Target value is provided by SPEAD in the calibration certificate of specific dipoles.
3. Deviation (%) = 100 * (Measured value minus Target value) divided by Target value.
4. ANSI C63.19 requires values within ± 25% are acceptable, of which 12% is deviation and 13% is measurement uncertainty. Values independently validated for the dipole actually used in the measurements should be used, when available.

9 Probe Modulation Factor

The Probe Modulation Factor (PMF) is defined as the ratio of the field readings for a CW and a modulated signal with the equivalent Field Envelope Peak as defined in ANSI C63.19 (Chapter C.3.1). Calibration shall be made of the modulation response of the probe and its instrumentation chain. This Calibration shall be performed with the field probe, attached to the instrumentation that is to be used with it during the measurement. 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. The field level of the test signals shall be more than 10dB 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 field shall be applied to the readings taken of modulated fields of the specified type.

9.1 Modulation Factor Test Procedure

This may be done using the following procedure:

1. Fix the field probe in a set location relative to a field generating device, such as the reference dipole antenna, as illustrated in Figure 6.
2. Illuminate the probe using the wireless device connected to the reference dipole with a test signal at the intended measurement frequency, Ensure there is sufficient field coupling between the probe and the antenna so the resulting reading is greater than 10 dB above the probe system noise floor but within the systems operating range.
3. Record the amplitude applied to the antenna during transmission and the field strength measured by the E-field probe located near the tip of the dipole antenna
4. Replace the wireless device with an RF signal generator producing an unmodulated CW signal and set to the wireless device operating frequency.
5. Set the amplitude of the unmodulated signal to equal that recorded from the wireless device.
6. Record the reading of the probe measurement system of the unmodulated signal.
7. The ratio, in linear units, of the probe reading in Step 6) to the reading in Step 3) is the E-field modulation factor. $PMF_E = E_{CW} / E_{mod}$ ($PMF_H = H_{CW} / H_{mod}$)
8. Repeat the previous steps using the H-field probe, except locate the probe at the center of the dipole.

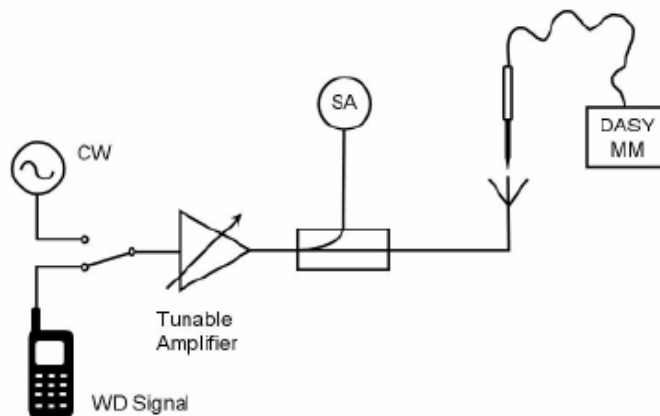


Fig. 5 Probe Modulation Factor Test Setup

9.2 Modulation Factor

9.2.1 E-Field

Frequency (MHz)	Mode	Input Power (mW)	E-Field Measured Value (V/m)	Probe Modulation Factor
835	CW	100	163.9	\
	GSM	100	60.2	2.88
1880	CW	100	137.7	\
	GSM	100	46.6	2.88

9.2.2 H-Field

Frequency (MHz)	Mode	Input Power (mW)	H-Field Measured Value (A/m)	Probe Modulation Factor
835	CW	100	0.458	\
	GSM	100	0.147	2.88
1880	CW	100	0.463	\
	GSM	100	0.143	2.88

10 RF TEST PROCEDURES

The evaluation was performed with the following procedure:

- 1) Confirm proper operation of the field probe, probe measurement system and other instrumentation and the positioning system.
- 2) Position the WD in its intended test position. The gauge block can simplify this positioning. Note that a separate E-field and H-field gauge block will be needed if the center of the probe sensor elements are at different distances from the tip of the probe.
- 3) Configure the WD normal operation for maximum rated RF output power, at the desired channel and other operating parameters (e.g., test mode), as intended for the test.
- 4) The center sub-grid shall centered on the center of the T-Coil mode axial measurement point or the acoustic output, as appropriate. Locate the field probe at the initial test position in the 50 mm by 50 mm grid, which is contained in the measurement plane. If the field alignment method is used, align the probe for maximum field reception.
- 5) Record the reading.
- 6) Scan the entire 50 mm by 50 mm region in equally spaced increments and record the reading at each measurement point. The distance between measurement points shall be sufficient to assure the identification of the maximum reading.
- 7) Identify the five contiguous sub-grids around the center sub-grid with the lowest maximum field strength readings. Thus the six areas to be used to determine the WD's highest emissions are identified and outlined for the final manual scan. Please note that a maximum of five blocks can be excluded for both E-field and H-field measurements for the WD output being measured. Stated another way, the center sub-grid and three others must be common to both the E-field and H-field measurements.
- 8) Identify the maximum field reading within the non-excluded sub-grids identified in Step 7)
- 9) Convert the maximum field strength reading identified in Step 8) to V/m or A/m, as appropriate. For probes which require a probe modulation factor, this conversion shall be done using the appropriate probe modulation factor and the calibration.
- 10) Repeat Step 1) through Step 10) for both the E-field and H-field measurements.
- 11) Compare this reading to the categories in ANSI C63.19 Clause 7 and record the resulting category. The lowest category number listed in 7.2, Table 7.4, or Table 7.5 obtained in Step 10) for either E- or H-field determines the M category for the audio coupling mode assessment. Record the WD category rating.

11 HAC RF TEST DATA SUMMARY

11.1 Measurement Results (E-Field)

Slide down

Frequency		AWF	Measured Value (V/m)	Power Drift (dB)	Category
MHz	Channel				
GSM 850					
848.8	251	-5	152.1	-0.054	M3 (see Fig B.1)
836.6	190	-5	162.8	-0.103	M3 (see Fig B.2)
824.2	128	-5	133.0	-0.067	M4 (see Fig B.3)
GSM 1900					
1909.8	810	-5	71.1	-0.060	M3 (see Fig B.4)
1880	661	-5	72.7	-0.024	M3 (see Fig B.5)
1850.2	512	-5	54.1	-0.030	M3 (see Fig B.6)

Slide up

Frequency		AWF	Measured Value (V/m)	Power Drift (dB)	Category
MHz	Channel				
GSM 850					
848.8	251	-5	176.3	-0.012	M3 (see Fig B.7)
836.6	190	-5	197.2	0.020	M3 (see Fig B.8)
824.2	128	-5	148.9	-0.147	M4 (see Fig B.9)
GSM 1900					
1909.8	810	-5	45.5	0.035	M4 (see Fig B.10)
1880	661	-5	49.7	-0.141	M3 (see Fig B.11)
1850.2	512	-5	44.1	-0.12	M4 (see Fig B.12)

11.2 Measurement Results (H-Field)

Slide down

Frequency		AWF	Measured Value (A/m)	Power Drift (dB)	Category
MHz	Channel				
GSM 850					
848.8	251	-5	0.242	0.00981	M4 (see Fig B.13)
836.6	190	-5	0.260	0.016	M4 (see Fig B.14)
824.2	128	-5	0.247	-0.014	M4 (see Fig B.15)
GSM 1900					
1909.8	810	-5	0.230	0.071	M3 (see Fig B.16)
1880	661	-5	0.226	0.00978	M3 (see Fig B.17)
1850.2	512	-5	0.160	-0.0096	M3 (see Fig B.18)

Slide up

Frequency		AWF	Measured Value (A/m)	Power Drift (dB)	Category
MHz	Channel				
GSM 850					
848.8	251	-5	0.162	0.048	M4 (see Fig B.19)
836.6	190	-5	0.237	0.00596	M4 (see Fig B.20)
824.2	128	-5	0.192	0.00209	M4 (see Fig B.21)
GSM 1900					
1909.8	810	-5	0.136	-0.044	M4 (see Fig B.22)
1880	661	-5	0.147	-0.038	M3 (see Fig B.23)
1850.2	512	-5	0.117	-0.0054	M4 (see Fig B.24)

11.3 Total M-rating

Mode	Maximum value of peak Total E-Field (V/m)	Maximum value of peak Total H-Field (A/m)	E-Field M Rating	H-Field M Rating	Total M Rating
GSM 850 Slide down	162.8	0.260	M3 (AWF -5 dB)	M4 (AWF -5 dB)	M3 (see Fig B.25)
GSM 1900 Slide down	72.7	0.230	M3 (AWF -5 dB)	M3 (AWF -5 dB)	M3 (see Fig B.26)
GSM 850 Slide up	197.2	0.237	M3 (AWF -5 dB)	M4 (AWF -5 dB)	M3 (see Fig B.27)
GSM 1900 Slide up	49.7	0.147	M3 (AWF -5 dB)	M3 (AWF -5 dB)	M3 (see Fig B.28)

12 ANSI C 63.19-2007 LIMITS

Table 1: Telephone near-field categories in linear units

Category		Telephone RF parameters < 960 MHz			
Near field	AWF	E-field emissions		H-field emissions	
Category M1/T1	0	631.0 to 1122.0	V/m	1.91 to 3.39	A/m
	-5	473.2 to 841.4	V/m	1.43 to 2.54	A/m
Category M2/T2	0	354.8 to 631.0	V/m	1.07 to 1.91	A/m
	-5	266.1 to 473.2	V/m	0.80 to 1.43	A/m
Category M3/T3	0	199.5 to 354.8	V/m	0.60 to 1.07	A/m
	-5	149.6 to 266.1	V/m	0.45 to 0.80	A/m
Category M4/T4	0	< 199.5	V/m	< 0.60	A/m
	-5	< 149.6	V/m	< 0.45	A/m
Category		Telephone RF parameters > 960 MHz			
Near field	AWF	E-field emissions		H-field emissions	
Category M1/T1	0	199.5 to 354.8	V/m	0.60 to 1.07	A/m

	-5	149.6 to 266.1	V/m	0.45 to 0.80	A/m
Category M2/T2	0	112.2 to 199.5	V/m	0.34 to 0.60	A/m
	-5	84.1 to 149.6	V/m	0.25 to 0.45	A/m
Category M3/T3	0	63.1 to 112.2	V/m	0.19 to 0.34	A/m
	-5	47.3 to 84.1	V/m	0.14 to 0.25	A/m
Category M4/T4	0	< 63.1	V/m	< 0.19	A/m
	-5	< 47.3	V/m	< 0.14	A/m

13 MEASUREMENT UNCERTAINTY

No.	Error source	Type	Uncertainty Value (%)	Prob. Dist.	k	c_i E	c_i \sqrt{H}	Standard Uncertainty (%) u_i (%) E	Standard Uncertainty (%) u_i (%) H	Degree of freedom V_{eff} or ν_i
Measurement System										
1	Probe Calibration	B	5.	N	1	1	1	5.1	5.1	∞
2	Axial Isotropy	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
3	Sensor Displacement	B	16.5	R	$\sqrt{3}$	1	0.145	9.5	1.4	∞
4	Boundary Effects	B	2.4	R	$\sqrt{3}$	1	1	1.4	1.4	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
6	Scaling to Peak Envelope Power	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
7	System Detection Limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
8	Readout Electronics	B	0.3	N	1	1	1	0.3	0.3	∞
9	Response Time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration Time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
11	RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	RF Reflections	B	12.0	R	$\sqrt{3}$	1	1	6.9	6.9	∞
13	Probe Positioner	B	1.2	R	$\sqrt{3}$	1	0.67	0.7	0.5	∞
14	Probe Positioning	A	4.7	R	$\sqrt{3}$	1	0.67	2.7	1.8	∞

15	Extra. And Interpolation	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test Sample Related										
16	Device Positioning Vertical	B	4.7	R	$\sqrt{3}$	1	0.67	2.7	1.8	∞
17	Device Positioning Lateral	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
18	Device Holder and Phantom	B	2.4	R	$\sqrt{3}$	1	1	1.4	1.4	∞
19	Power Drift	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and Setup related										
20s	Phantom Thickness	B	2.4	R	$\sqrt{3}$	1	0.67	1.4	0.9	∞
Combined standard uncertainty(%)								14.7	10.9	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N	k=2			29.4	21.8	

14 MAIN TEST INSTRUMENTS

Table 2: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	E-Field Probe	ER3DV6	2428	October 19, 2011	One year
02	H-Field Probe	H3DV6	6260	October 19, 2011	One year
03	HAC Dipole	CD835V3	1023	October 20, 2011	Two years
04	HAC Dipole	CD1880V3	1018	October 20, 2011	Two years
05	BTS	CMU 200	105948	August 24, 2011	One year
06	DAE	SPEAG DAE4	777	July 8, 2011	One year

15 CONCLUSION

The HAC measurement indicates that the EUT complies with the HAC limits of the ANSI C63.19-2007. The total M-ratings are **M3** for **GSM 850** and **GSM 1900**.

END OF REPORT BODY

ANNEX A TEST LAYOUT



Picture A1: HAC RF System Layout

ANNEX B TEST PLOTS

HAC RF E-Field GSM 850 High – Slide down

Date/Time: 11/15/2011 4:19:01 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 152.1 V/m

Probe Modulation Factor = 2.88

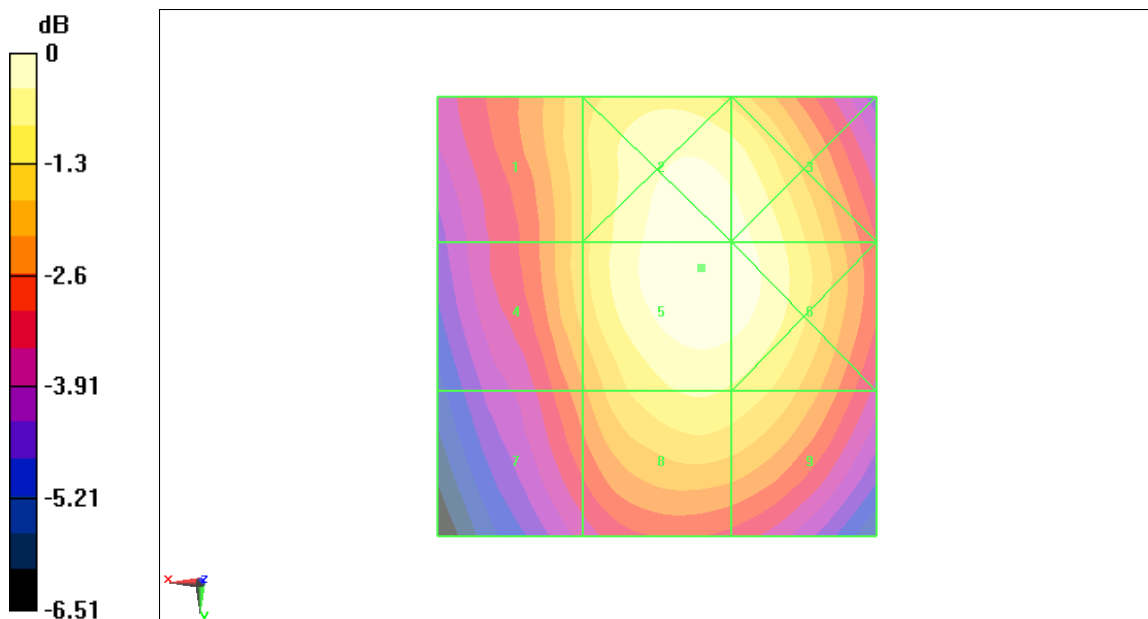
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 68.1 V/m; Power Drift = -0.054 dB

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

Peak E-field in V/m

Grid 1 129.6 M4	Grid 2 150.6 M3	Grid 3 148.4 M4
Grid 4 128.7 M4	Grid 5 152.1 M3	Grid 6 149.8 M3
Grid 7 117.0 M4	Grid 8 138.7 M4	Grid 9 136.7 M4



0 dB = 152.1V/m

Fig B.1 HAC RF E-Field GSM 850 High

HAC RF E-Field GSM 850 Middle – Slide down

Date/Time: 11/15/2011 10:55:56 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 162.8 V/m

Probe Modulation Factor = 2.88

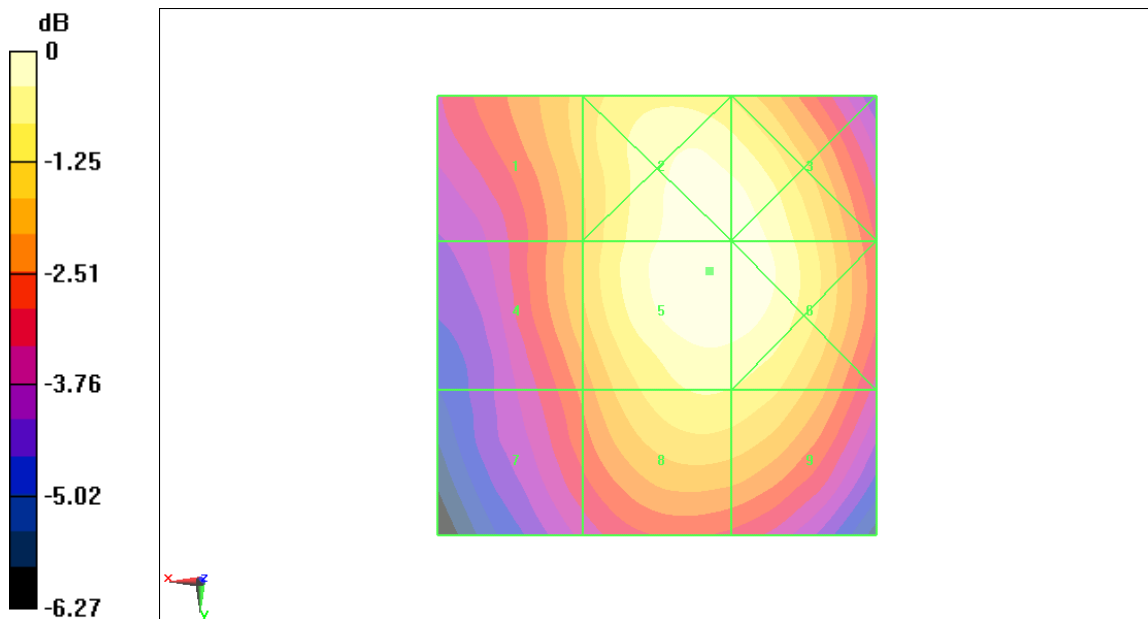
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 75.6 V/m; Power Drift = -0.103 dB

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

Peak E-field in V/m

Grid 1 137.5 M4	Grid 2 161.4 M3	Grid 3 160.7 M3
Grid 4 134.7 M4	Grid 5 162.8 M3	Grid 6 162.1 M3
Grid 7 124.0 M4	Grid 8 148.6 M4	Grid 9 147.6 M4



0 dB = 162.8V/m

Fig B.2 HAC RF E-Field GSM 850 Middle

HAC RF E-Field GSM 850 Low – Slide down

Date/Time: 11/15/2011 4:24:59 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 133.0 V/m

Probe Modulation Factor = 2.88

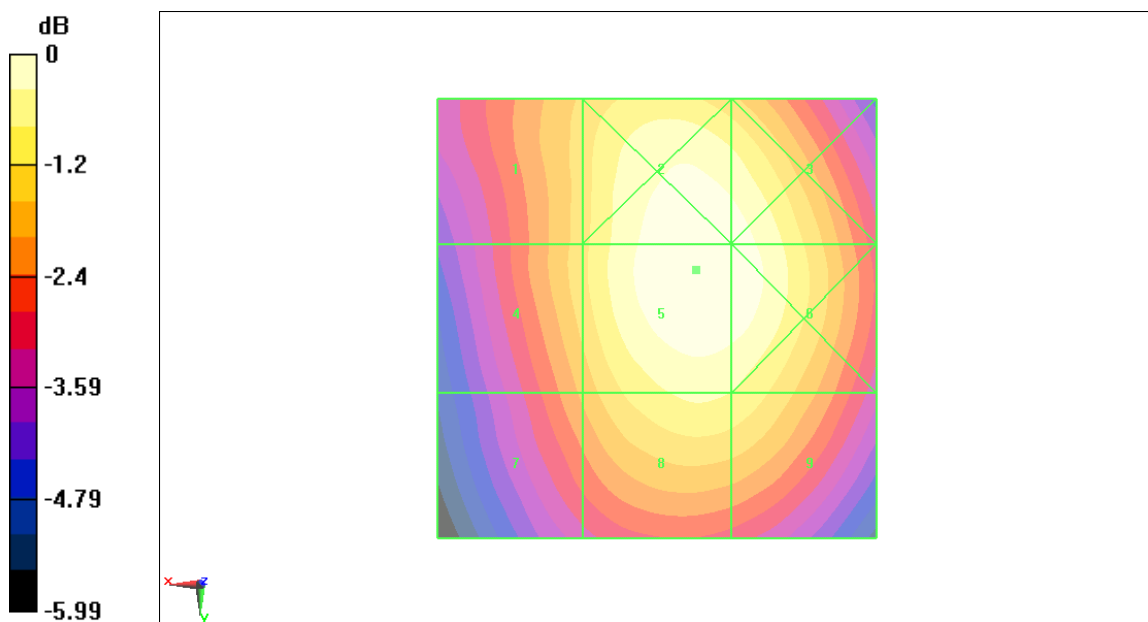
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 60.3 V/m; Power Drift = -0.067 dB

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

Peak E-field in V/m

Grid 1 114.1 M4	Grid 2 132.3 M4	Grid 3 130.7 M4
Grid 4 114.6 M4	Grid 5 133.0 M4	Grid 6 132.1 M4
Grid 7 106.9 M4	Grid 8 122.7 M4	Grid 9 121.1 M4



0 dB = 133.0V/m

Fig B.3 HAC RF E-Field GSM 850 Low

HAC RF E-Field GSM 1900 High – Slide down

Date/Time: 11/15/2011 4:06:31 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 71.1 V/m

Probe Modulation Factor = 2.88

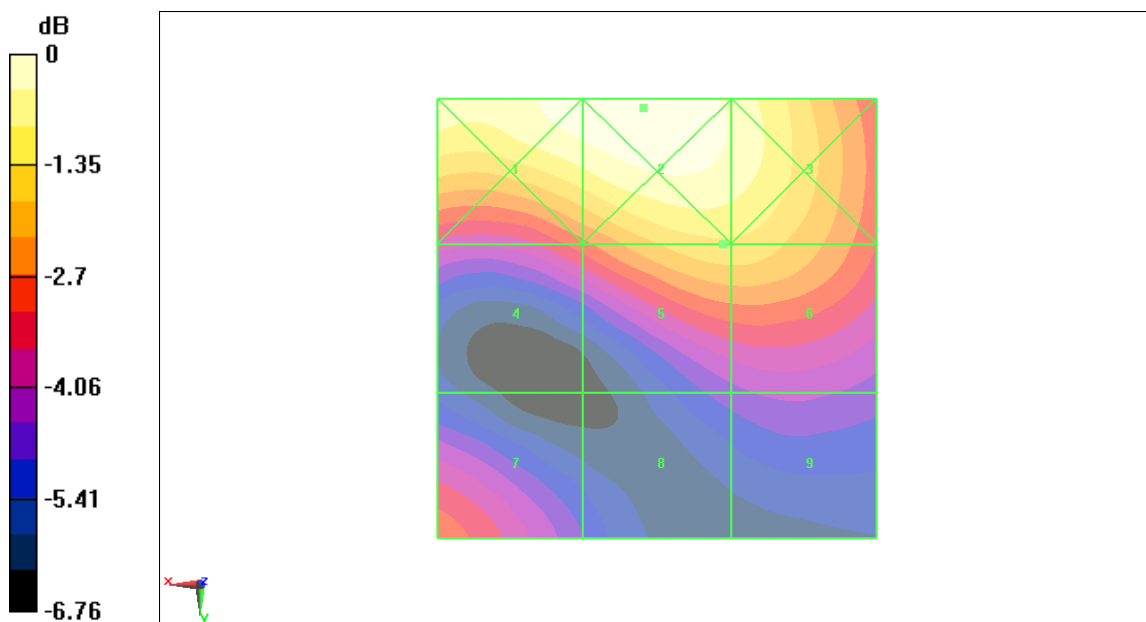
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 19.7 V/m; Power Drift = -0.060 dB

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

Peak E-field in V/m

Grid 1 82.2 M3	Grid 2 83.8 M3	Grid 3 79.2 M3
Grid 4 60.4 M3	Grid 5 71.1 M3	Grid 6 71 M3
Grid 7 60.1 M3	Grid 8 49 M3	Grid 9 50.7 M3



0 dB = 83.8V/m

Fig B.4 HAC RF E-Field GSM 1900 High

HAC RF E-Field GSM 1900 Middle – Slide down

Date/Time: 11/15/2011 10:44:56 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 72.7 V/m

Probe Modulation Factor = 2.88

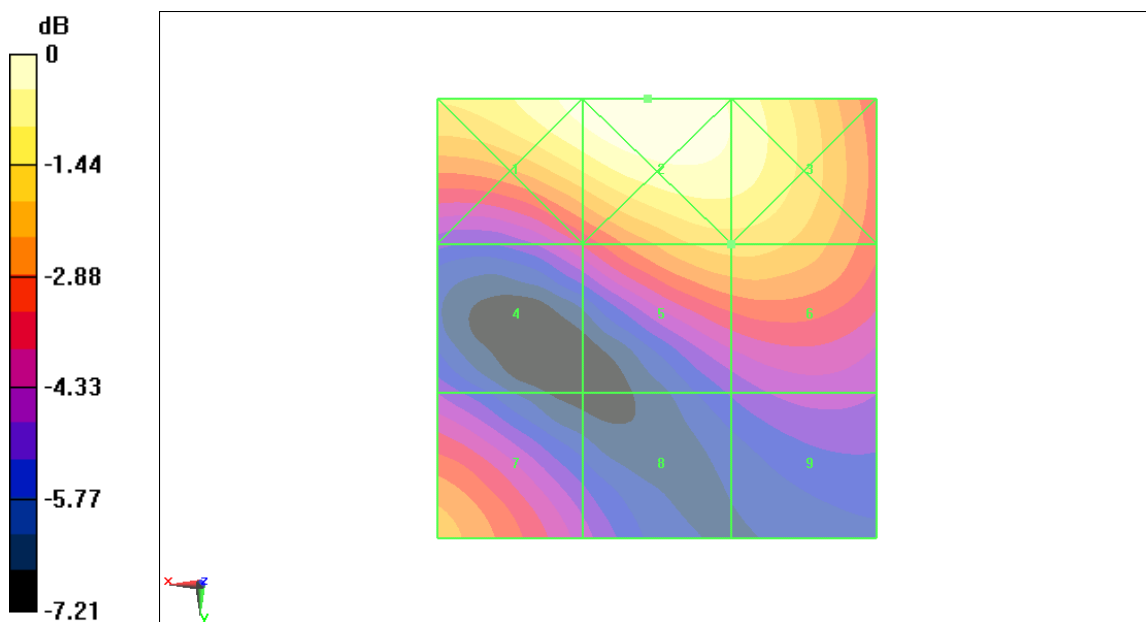
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 19.2 V/m; Power Drift = -0.024 dB

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

Peak E-field in V/m

Grid 1 85.7 M2	Grid 2 88.4 M2	Grid 3 83.5 M3
Grid 4 57.4 M3	Grid 5 72.7 M3	Grid 6 72.7 M3
Grid 7 69.2 M3	Grid 8 52.4 M3	Grid 9 52.2 M3



0 dB = 88.4V/m

Fig B.5 HAC RF E-Field GSM 1900 Middle

HAC RF E-Field GSM 1900 Low – Slide down

Date/Time: 11/15/2011 4:11:51 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 54.1 V/m

Probe Modulation Factor = 2.88

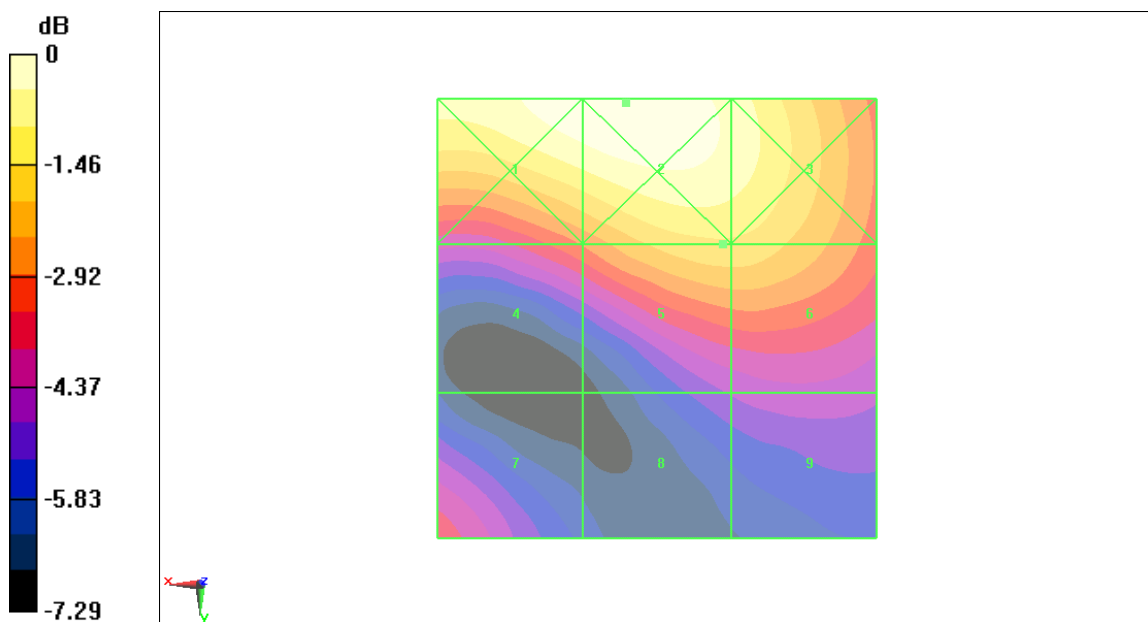
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 15.6 V/m; Power Drift = -0.030 dB

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

Peak E-field in V/m

Grid 1 63.8 M3	Grid 2 64.5 M3	Grid 3 60.2 M3
Grid 4 46.5 M4	Grid 5 54.1 M3	Grid 6 54 M3
Grid 7 42.8 M4	Grid 8 37.1 M4	Grid 9 38.4 M4



0 dB = 64.5V/m

Fig B.6 HAC RF E-Field GSM 1900 Low

HAC RF E-Field GSM 850 High – Slide up

Date/Time: 11/15/2011 4:36:18 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 176.3 V/m

Probe Modulation Factor = 2.88

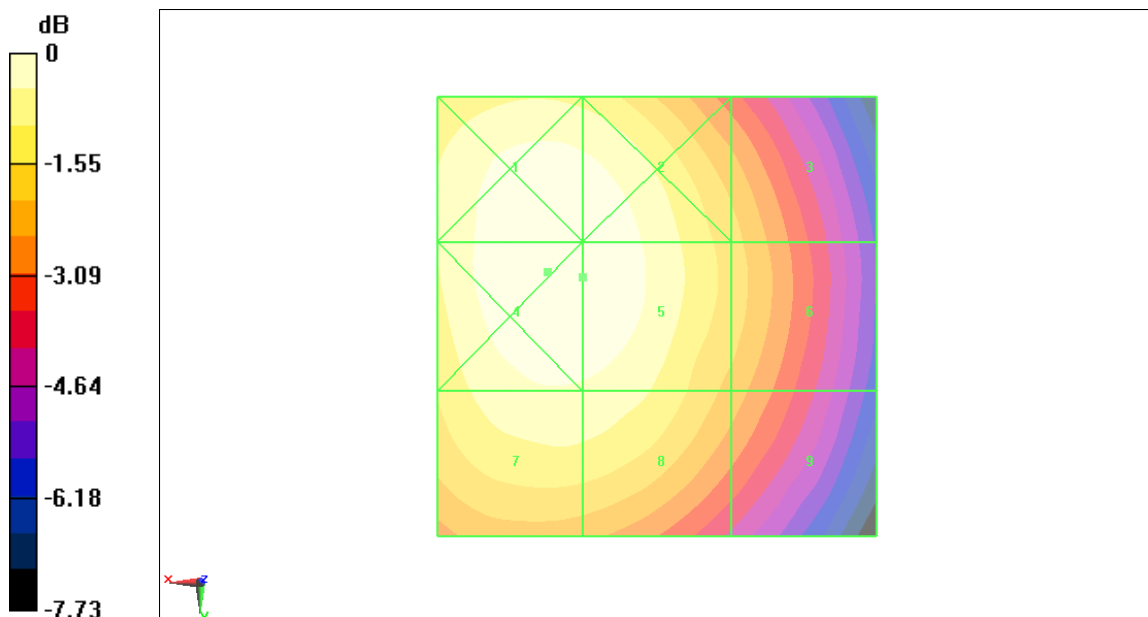
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 71.6 V/m; Power Drift = -0.012 dB

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

Peak E-field in V/m

Grid 1 176.1 M3	Grid 2 175.2 M3	Grid 3 143.3 M4
Grid 4 177.1 M3	Grid 5 176.3 M3	Grid 6 145.0 M4
Grid 7 166.1 M3	Grid 8 165.3 M3	Grid 9 136.4 M4



0 dB = 177.1V/m

Fig B.7 HAC RF E-Field GSM 850 High

HAC RF E-Field GSM 850 Middle – Slide up

Date/Time: 11/15/2011 11:04:05 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 197.2 V/m

Probe Modulation Factor = 2.88

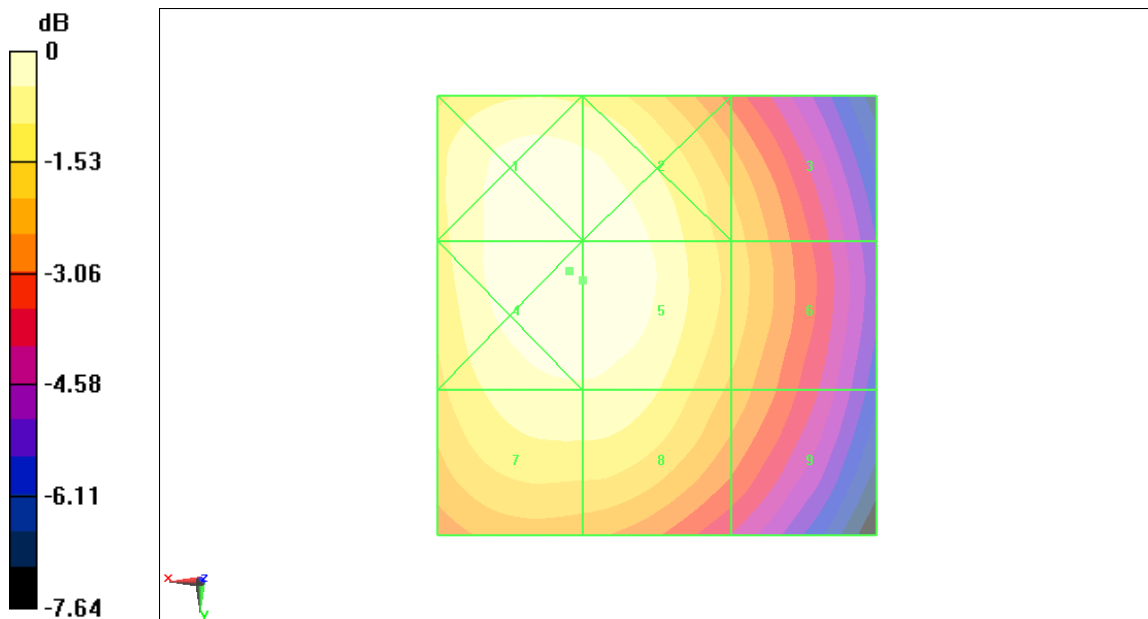
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 82.9 V/m; Power Drift = 0.020 dB

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

Peak E-field in V/m

Grid 1 195.5 M3	Grid 2 195.3 M3	Grid 3 160.9 M3
Grid 4 197.3 M3	Grid 5 197.2 M3	Grid 6 162.6 M3
Grid 7 184.6 M3	Grid 8 184.6 M3	Grid 9 154.0 M3



0 dB = 197.3V/m

Fig B.8 HAC RF E-Field GSM 850 Middle

HAC RF E-Field GSM 850 Low – Slide up

Date/Time: 11/15/2011 4:31:03 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 148.9 V/m

Probe Modulation Factor = 2.88

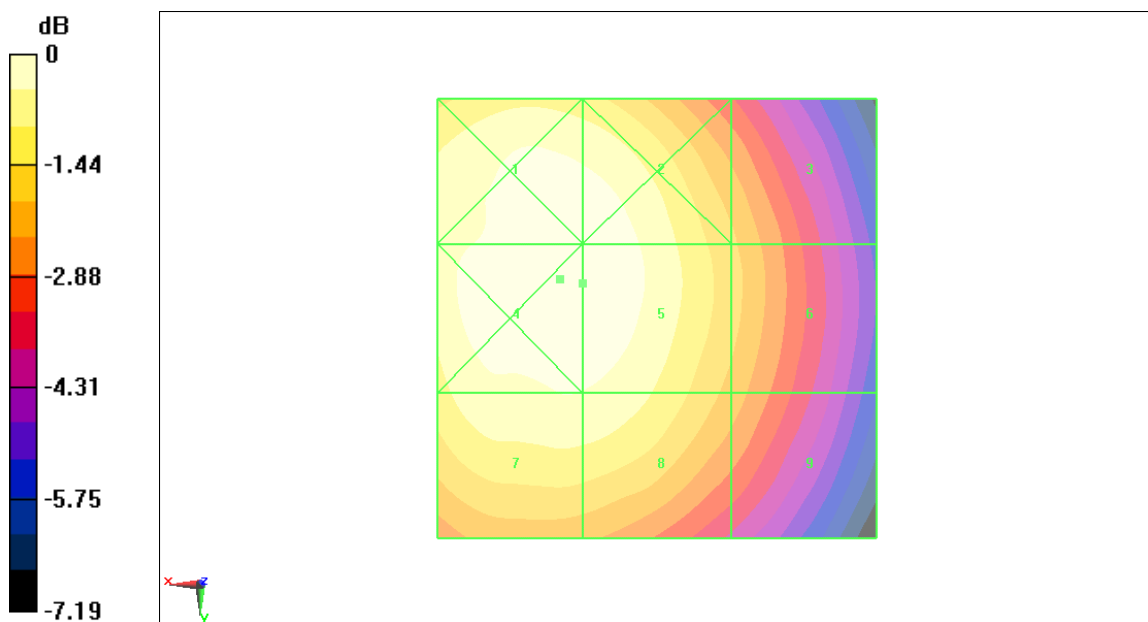
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 61.1 V/m; Power Drift = -0.147 dB

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

Peak E-field in V/m

Grid 1 148.1 M4	Grid 2 147.6 M4	Grid 3 121.4 M4
Grid 4 149.5 M4	Grid 5 148.9 M4	Grid 6 122.9 M4
Grid 7 141.7 M4	Grid 8 141.3 M4	Grid 9 117.3 M4



0 dB = 149.5V/m

Fig B.9 HAC RF E-Field GSM 850 Low

HAC RF E-Field GSM 1900 High – Slide up

Date/Time: 11/15/2011 4:48:36 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 45.5 V/m

Probe Modulation Factor = 2.88

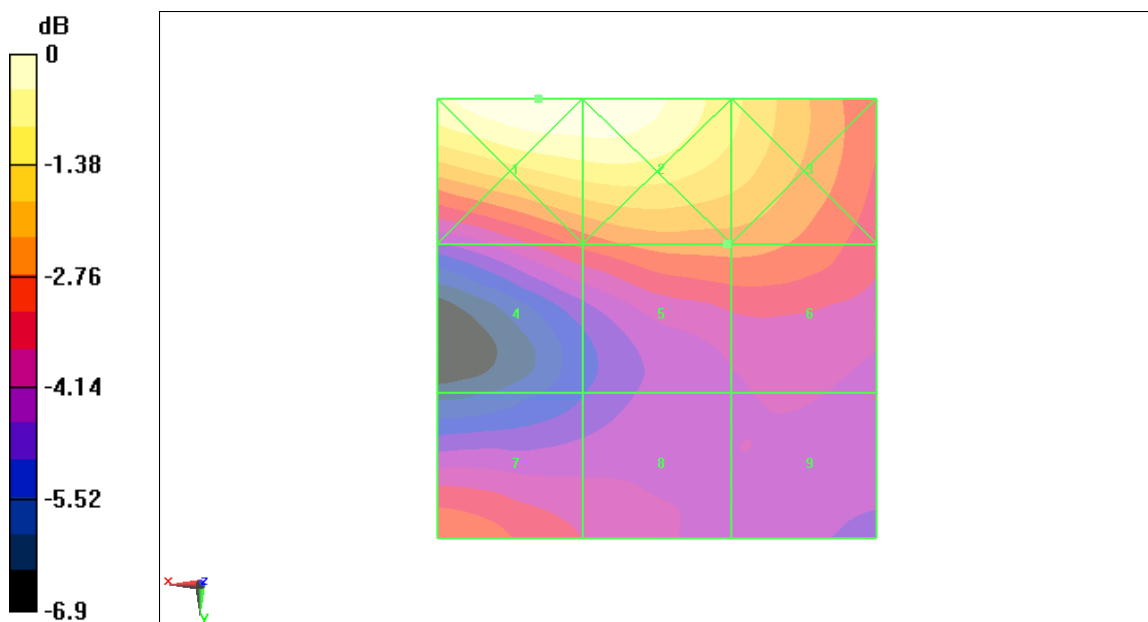
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 12.3 V/m; Power Drift = 0.035 dB

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

Peak E-field in V/m

Grid 1 60.9 M3	Grid 2 60.5 M3	Grid 3 52.8 M3
Grid 4 42.8 M4	Grid 5 45.5 M4	Grid 6 45.5 M4
Grid 7 43.9 M4	Grid 8 39.9 M4	Grid 9 38.1 M4



0 dB = 60.9V/m

Fig B.10 HAC RF E-Field GSM 1900 High

HAC RF E-Field GSM 1900 Middle – Slide up

Date/Time: 11/15/2011 11:10:19 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 49.7 V/m

Probe Modulation Factor = 2.88

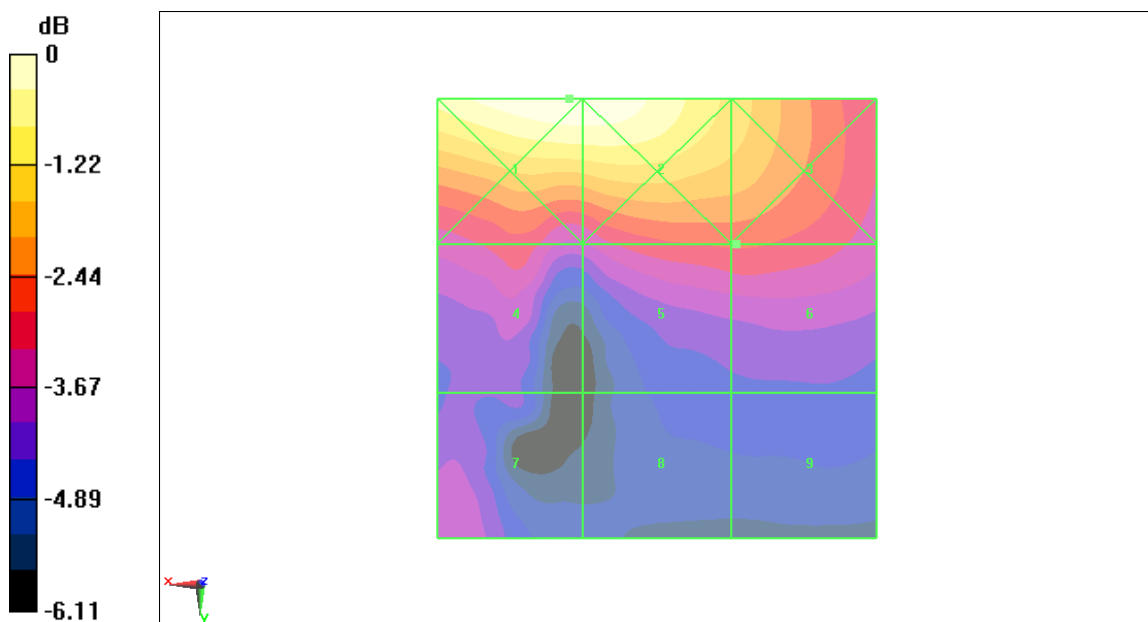
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 17.2 V/m; Power Drift = -0.141 dB

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

Peak E-field in V/m

Grid 1 68.4 M3	Grid 2 68.4 M3	Grid 3 58.5 M3
Grid 4 48.4 M3	Grid 5 49.7 M3	Grid 6 49.7 M3
Grid 7 44.9 M4	Grid 8 40.4 M4	Grid 9 40.7 M4



0 dB = 68.4V/m

Fig B.11 HAC RF E-Field GSM 1900 Middle

HAC RF E-Field GSM 1900 Low – Slide up

Date/Time: 11/15/2011 4:42:22 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 44.1 V/m

Probe Modulation Factor = 2.88

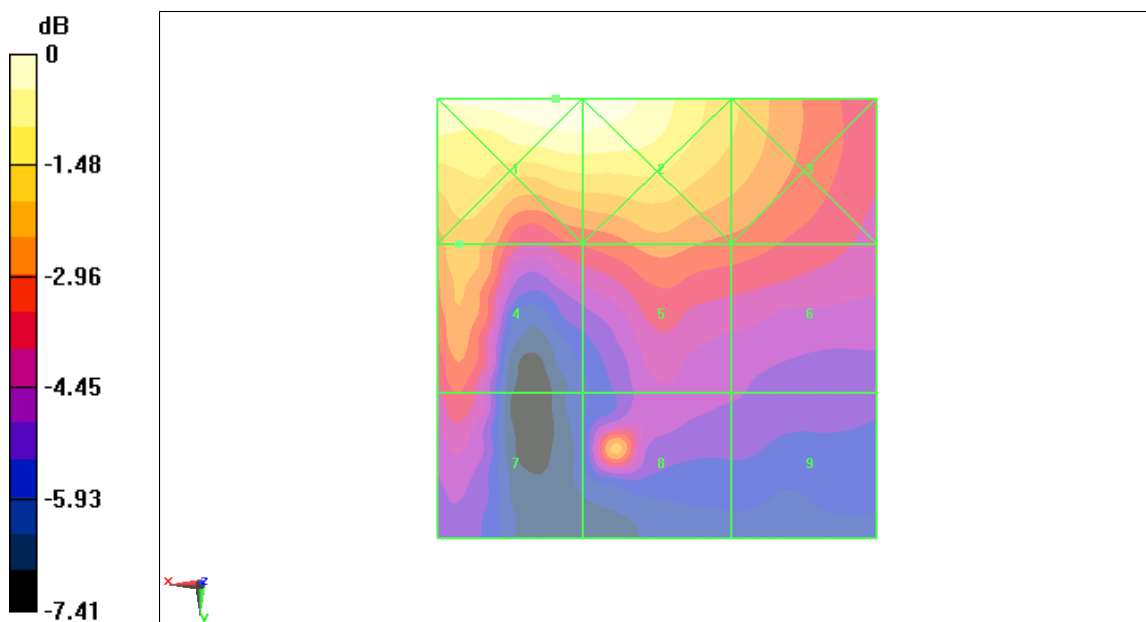
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 14 V/m; Power Drift = -0.12 dB

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

Peak E-field in V/m

Grid 1 56.8 M3	Grid 2 56.5 M3	Grid 3 45.9 M4
Grid 4 44.1 M4	Grid 5 41.7 M4	Grid 6 39.7 M4
Grid 7 38.2 M4	Grid 8 43.8 M4	Grid 9 32.4 M4



0 dB = 56.8V/m

Fig B.12 HAC RF E-Field GSM 1900 Low

HAC RF H-Field GSM 850 High – Slide down

Date/Time: 11/15/2011 2:00:09 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.242 A/m

Probe Modulation Factor = 2.88

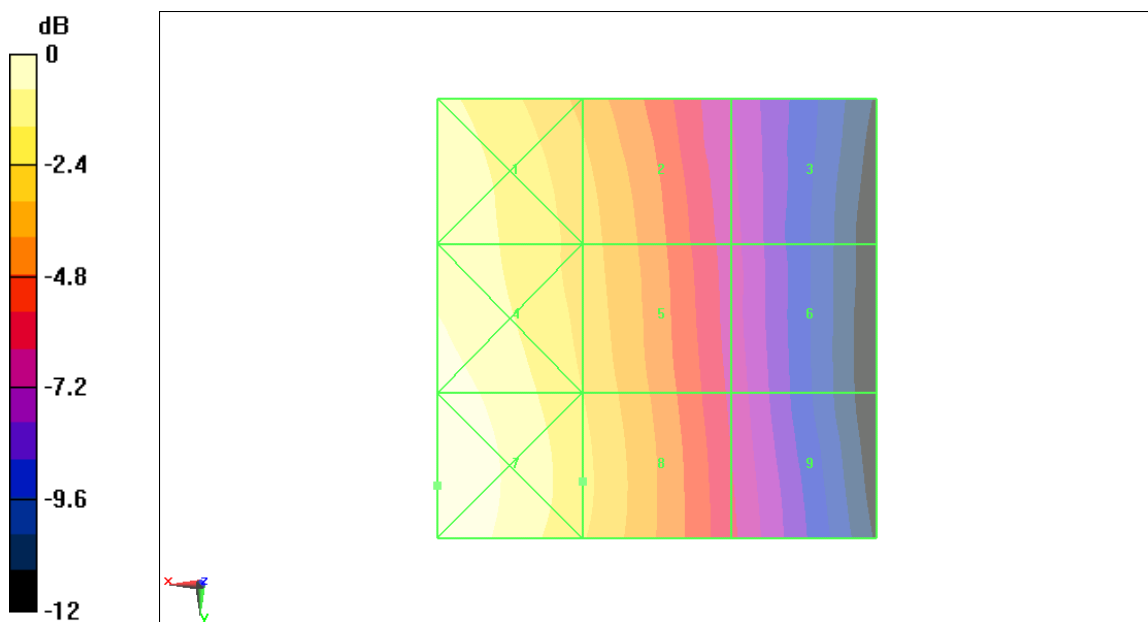
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.071 A/m; Power Drift = 0.00981 dB

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

Peak H-field in A/m

Grid 1 0.269 M4	Grid 2 0.225 M4	Grid 3 0.141 M4
Grid 4 0.297 M4	Grid 5 0.236 M4	Grid 6 0.145 M4
Grid 7 0.310 M4	Grid 8 0.242 M4	Grid 9 0.152 M4



0 dB = 0.310A/m

Fig B.13 HAC RF H-Field GSM 850 High

HAC RF H-Field GSM 850 Middle – Slide down

Date/Time: 11/15/2011 10:21:09 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.260 A/m

Probe Modulation Factor = 2.88

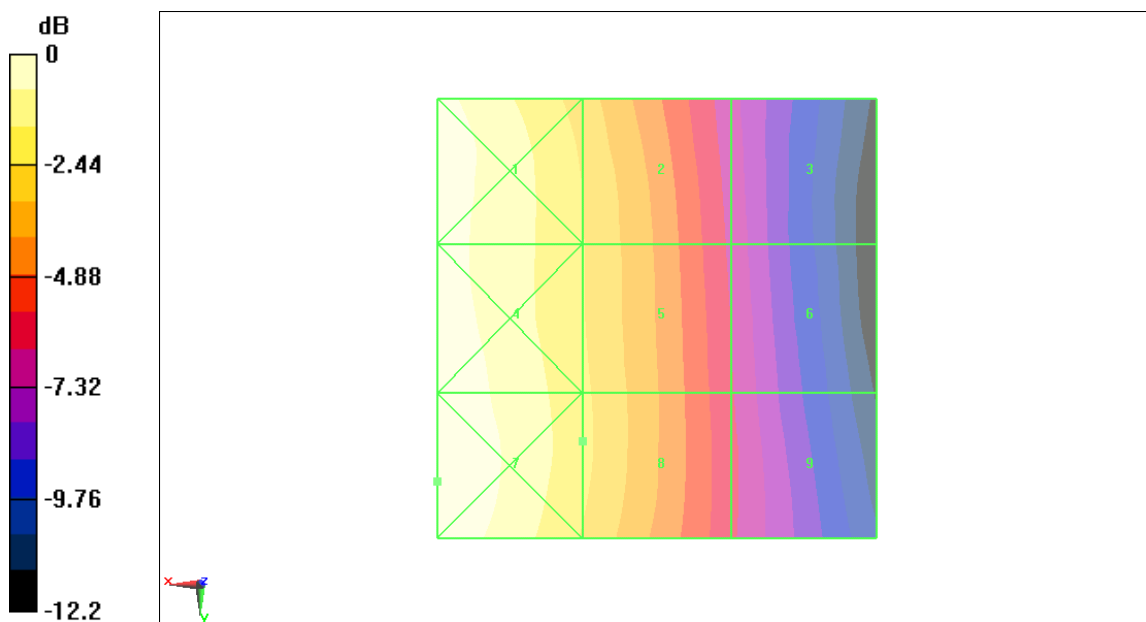
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.079 A/m; Power Drift = 0.016 dB

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

Peak H-field in A/m

Grid 1 0.318 M4	Grid 2 0.254 M4	Grid 3 0.155 M4
Grid 4 0.327 M4	Grid 5 0.258 M4	Grid 6 0.160 M4
Grid 7 0.334 M4	Grid 8 0.260 M4	Grid 9 0.162 M4



0 dB = 0.334A/m

Fig B.14 HAC RF H-Field GSM 850 Middle

HAC RF H-Field GSM 850 Low – Slide down

Date/Time: 11/15/2011 2:14:22 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.247 A/m

Probe Modulation Factor = 2.88

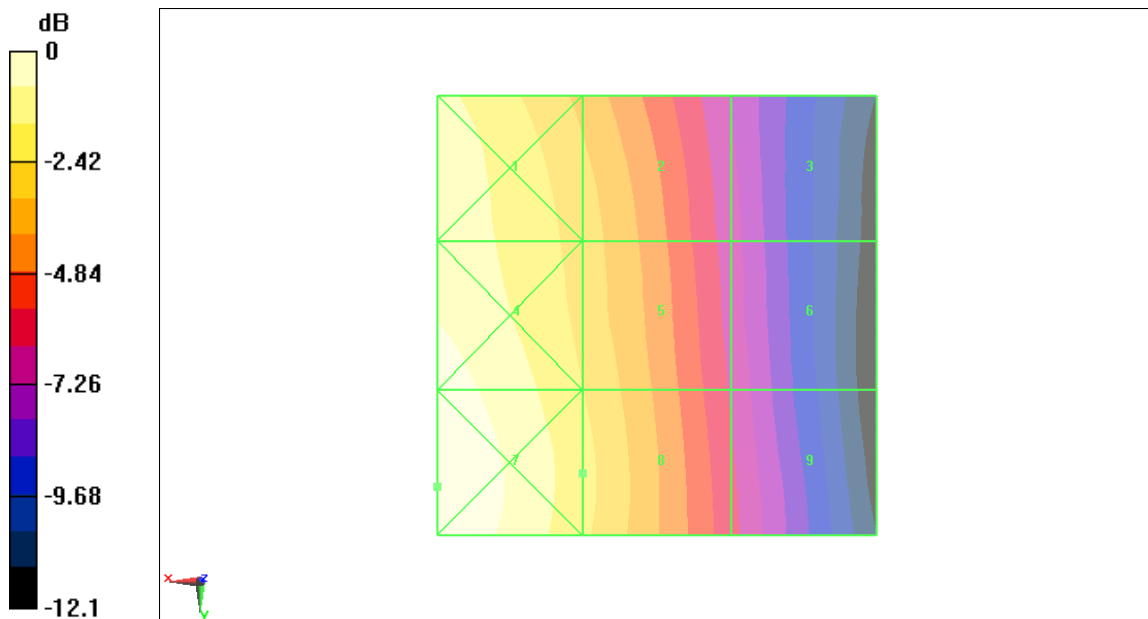
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.072 A/m; Power Drift = -0.014 dB

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

Peak H-field in A/m

Grid 1 0.279 M4	Grid 2 0.229 M4	Grid 3 0.143 M4
Grid 4 0.302 M4	Grid 5 0.240 M4	Grid 6 0.149 M4
Grid 7 0.316 M4	Grid 8 0.247 M4	Grid 9 0.155 M4



0 dB = 0.316A/m

Fig B.15 HAC RF H-Field GSM 850 Low

HAC RF H-Field GSM 1900 High – Slide down

Date/Time: 11/15/2011 3:53:48 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.230 A/m

Probe Modulation Factor = 2.88

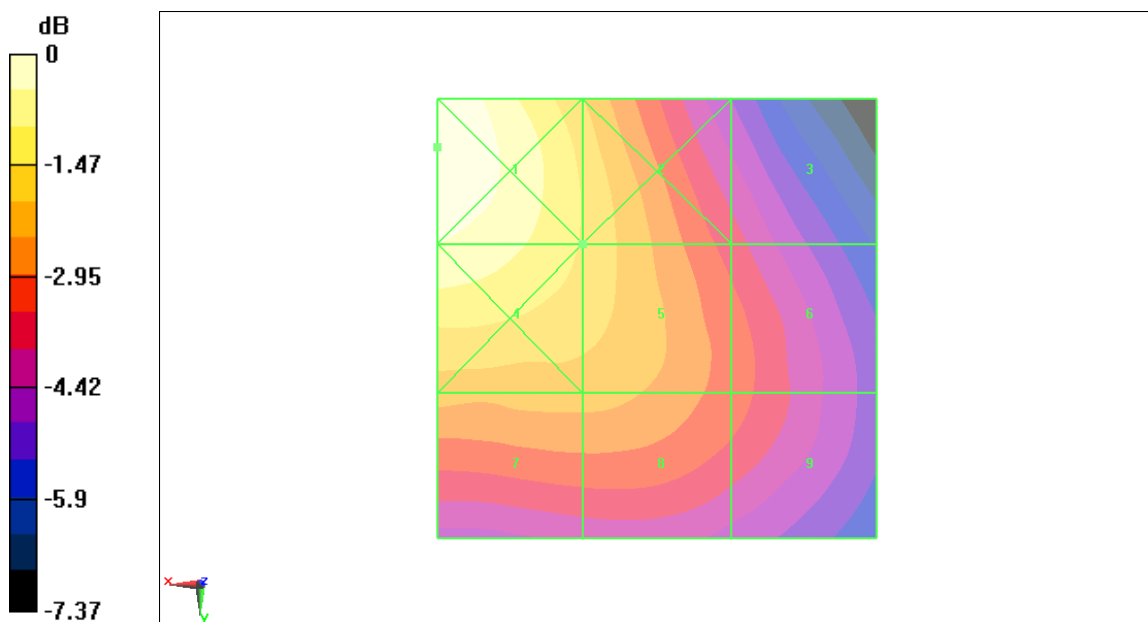
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.077 A/m; Power Drift = 0.071 dB

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

Peak H-field in A/m

Grid 1 0.274 M2	Grid 2 0.231 M3	Grid 3 0.180 M3
Grid 4 0.259 M2	Grid 5 0.230 M3	Grid 6 0.191 M3
Grid 7 0.212 M3	Grid 8 0.211 M3	Grid 9 0.190 M3



0 dB = 0.274A/m

Fig B.16 HAC RF H-Field GSM 1900 High

HAC RF H-Field GSM 1900 Middle – Slide down

Date/Time: 11/15/2011 10:27:17 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.226 A/m

Probe Modulation Factor = 2.88

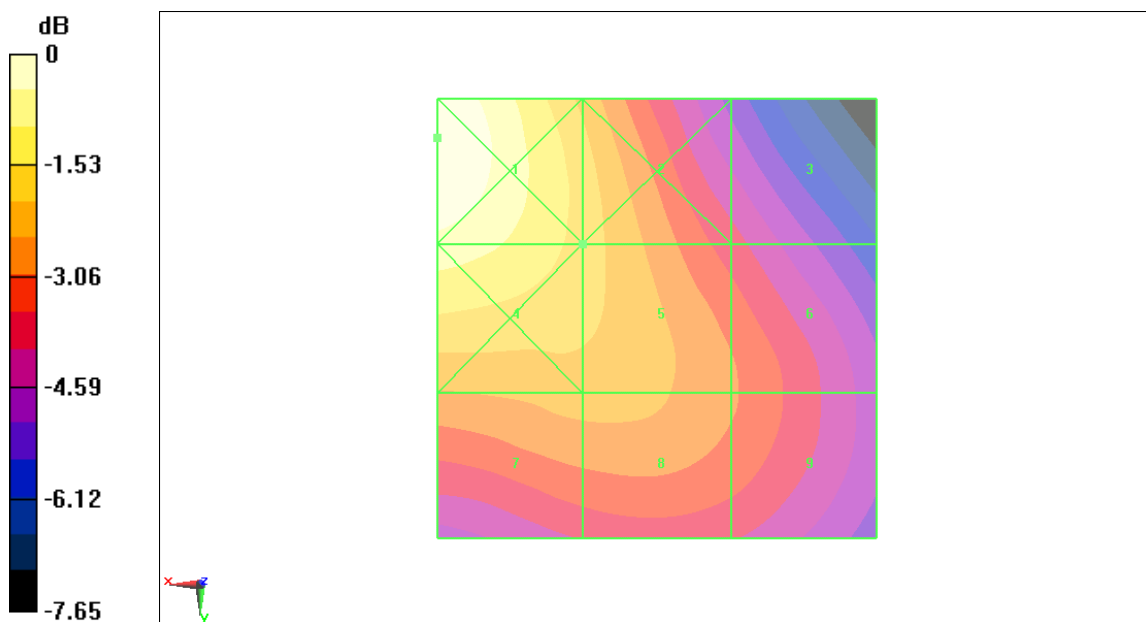
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.077 A/m; Power Drift = 0.00978 dB

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

Peak H-field in A/m

Grid 1 0.276 M2	Grid 2 0.226 M3	Grid 3 0.177 M3
Grid 4 0.256 M2	Grid 5 0.226 M3	Grid 6 0.196 M3
Grid 7 0.212 M3	Grid 8 0.212 M3	Grid 9 0.196 M3



0 dB = 0.276A/m

Fig B.17 HAC RF H-Field GSM 1900 Middle

HAC RF H-Field GSM 1900 Low – Slide down

Date/Time: 11/15/2011 3:48:16 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.160 A/m

Probe Modulation Factor = 2.88

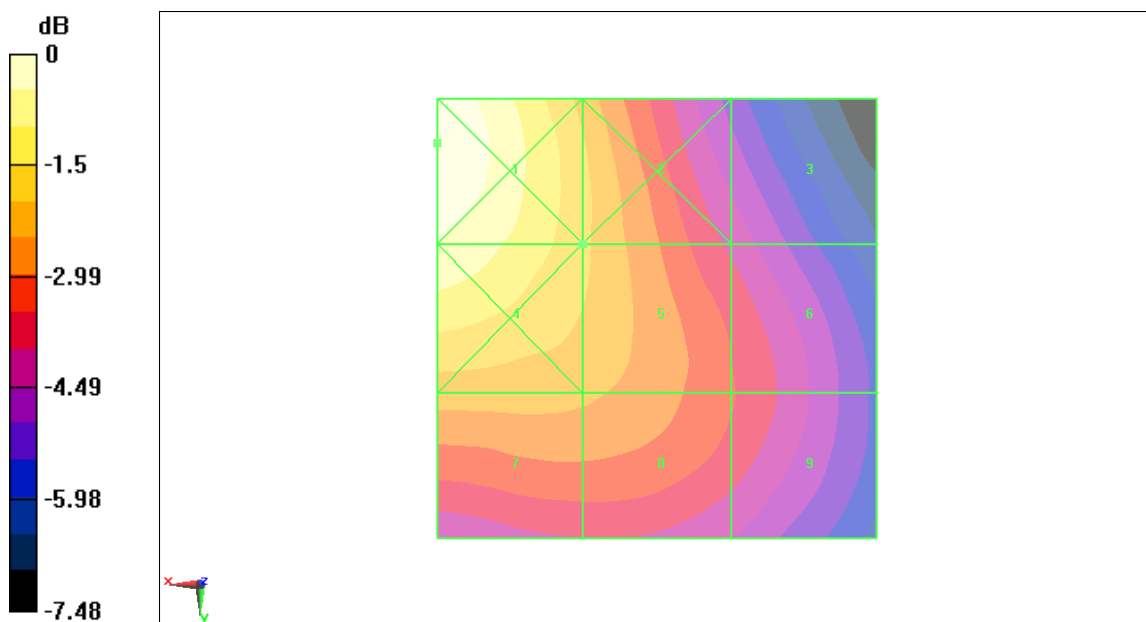
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.053 A/m; Power Drift = -0.0096 dB

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

Peak H-field in A/m

Grid 1 0.198 M3	Grid 2 0.160 M3	Grid 3 0.124 M4
Grid 4 0.187 M3	Grid 5 0.160 M3	Grid 6 0.133 M4
Grid 7 0.153 M3	Grid 8 0.151 M3	Grid 9 0.133 M4



0 dB = 0.198A/m

Fig B.18 HAC RF H-Field GSM 1900 Low

HAC RF H-Field GSM 850 High – Slide up

Date/Time: 11/15/2011 2:27:46 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.162 A/m

Probe Modulation Factor = 2.88

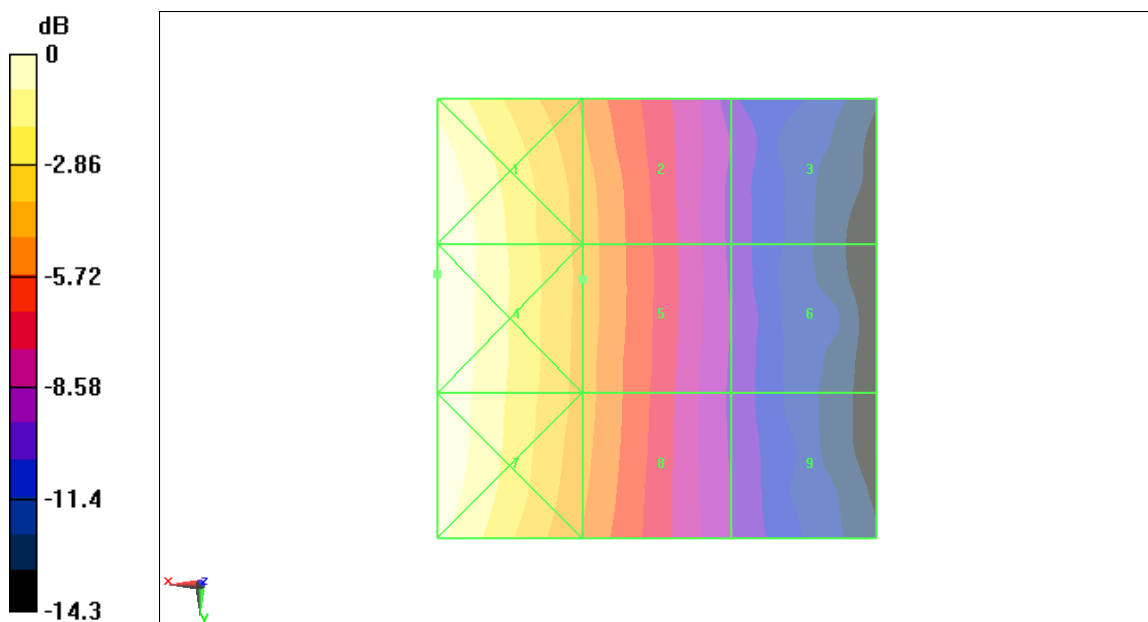
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.043 A/m; Power Drift = 0.048 dB

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

Peak H-field in A/m

Grid 1 0.260 M4	Grid 2 0.162 M4	Grid 3 0.087 M4
Grid 4 0.261 M4	Grid 5 0.162 M4	Grid 6 0.088 M4
Grid 7 0.258 M4	Grid 8 0.160 M4	Grid 9 0.088 M4



0 dB = 0.261A/m

Fig B.19 HAC RF H-Field GSM 850 High

HAC RF H-Field GSM 850 Middle – Slide up

Date/Time: 11/15/2011 10:13:23 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.237 A/m

Probe Modulation Factor = 2.88

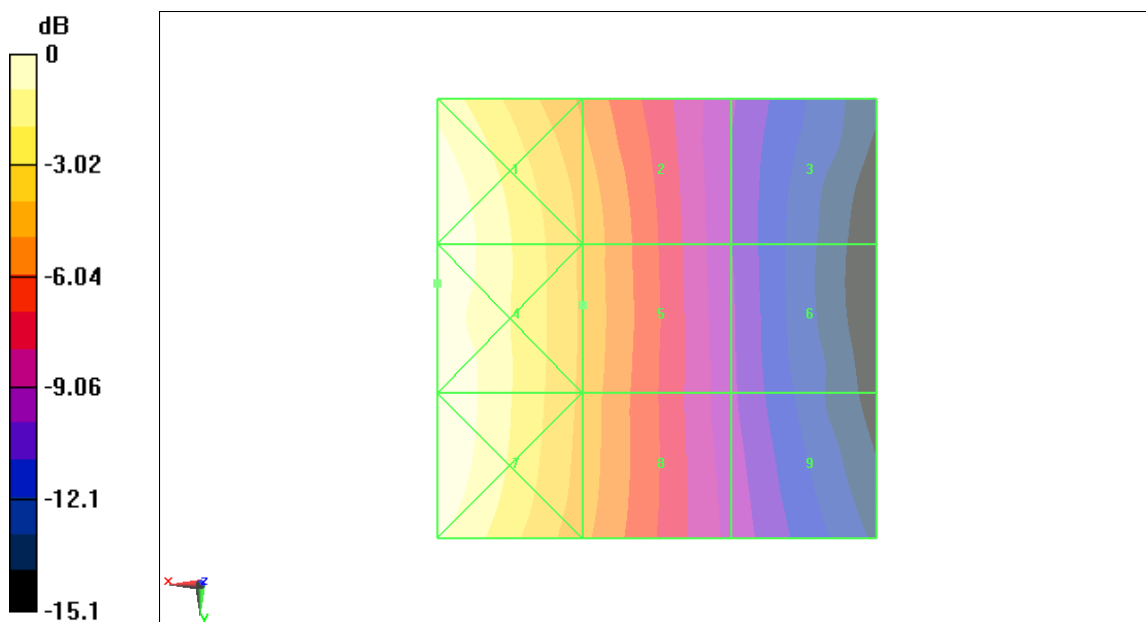
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.063 A/m; Power Drift = 0.00596 dB

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

Peak H-field in A/m

Grid 1 0.380 M4	Grid 2 0.237 M4	Grid 3 0.123 M4
Grid 4 0.384 M4	Grid 5 0.237 M4	Grid 6 0.124 M4
Grid 7 0.383 M4	Grid 8 0.235 M4	Grid 9 0.131 M4



0 dB = 0.384A/m

Fig B.20 HAC RF H-Field GSM 850 Middle

HAC RF H-Field GSM 850 Low – Slide up

Date/Time: 11/15/2011 3:16:13 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.192 A/m

Probe Modulation Factor = 2.88

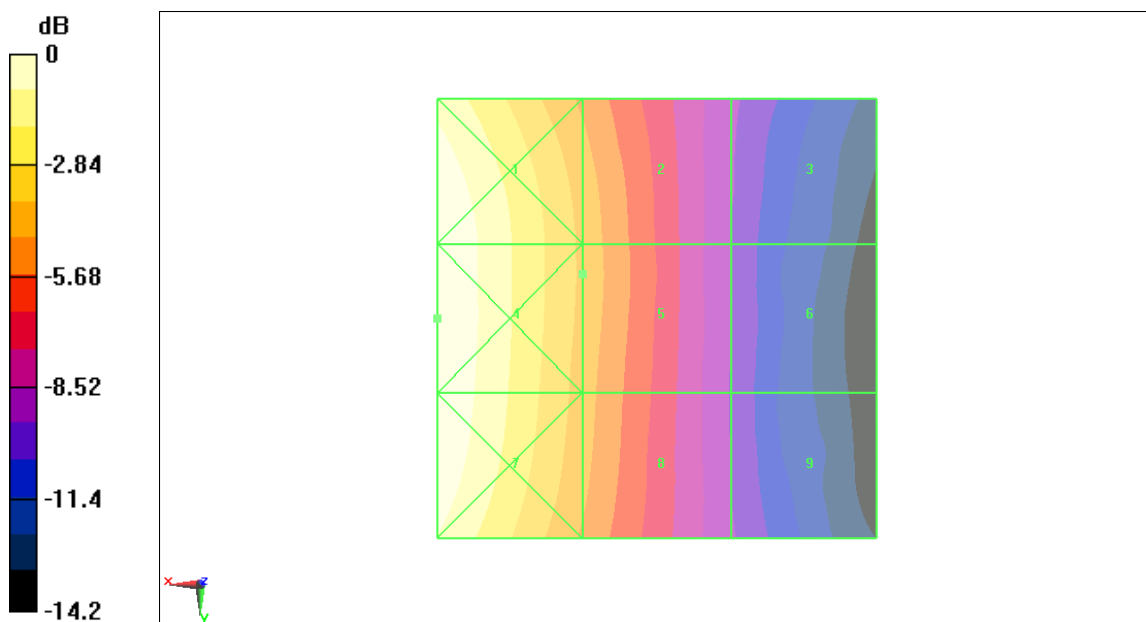
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.051 A/m; Power Drift = 0.00209 dB

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

Peak H-field in A/m

Grid 1 0.303 M4	Grid 2 0.192 M4	Grid 3 0.105 M4
Grid 4 0.304 M4	Grid 5 0.192 M4	Grid 6 0.103 M4
Grid 7 0.301 M4	Grid 8 0.187 M4	Grid 9 0.104 M4



0 dB = 0.304A/m

Fig B.21 HAC RF H-Field GSM 850 Low

HAC RF H-Field GSM 1900 High – Slide up

Date/Time: 11/15/2011 3:34:03 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.136 A/m

Probe Modulation Factor = 2.88

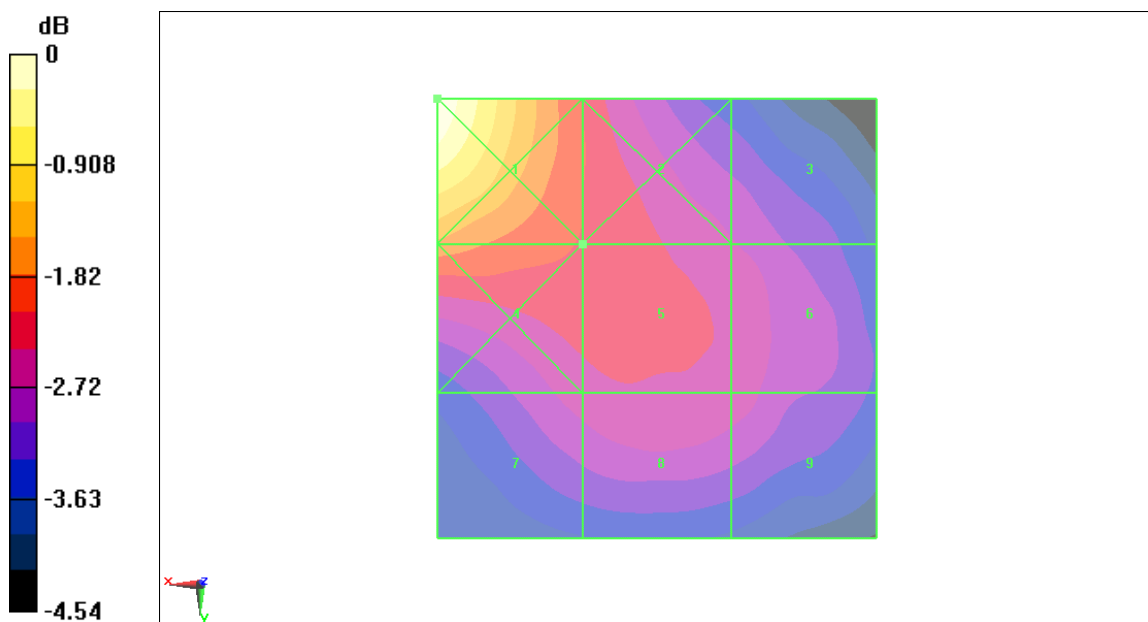
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.050 A/m; Power Drift = -0.044 dB

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

Peak H-field in A/m

Grid 1 0.174 M3	Grid 2 0.137 M4	Grid 3 0.128 M4
Grid 4 0.145 M3	Grid 5 0.136 M4	Grid 6 0.131 M4
Grid 7 0.130 M4	Grid 8 0.131 M4	Grid 9 0.130 M4



0 dB = 0.174A/m

Fig B.22 HAC RF H-Field GSM 1900 High

HAC RF H-Field GSM 1900 Middle – Slide up

Date/Time: 11/15/2011 10:03:15 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.147 A/m

Probe Modulation Factor = 2.88

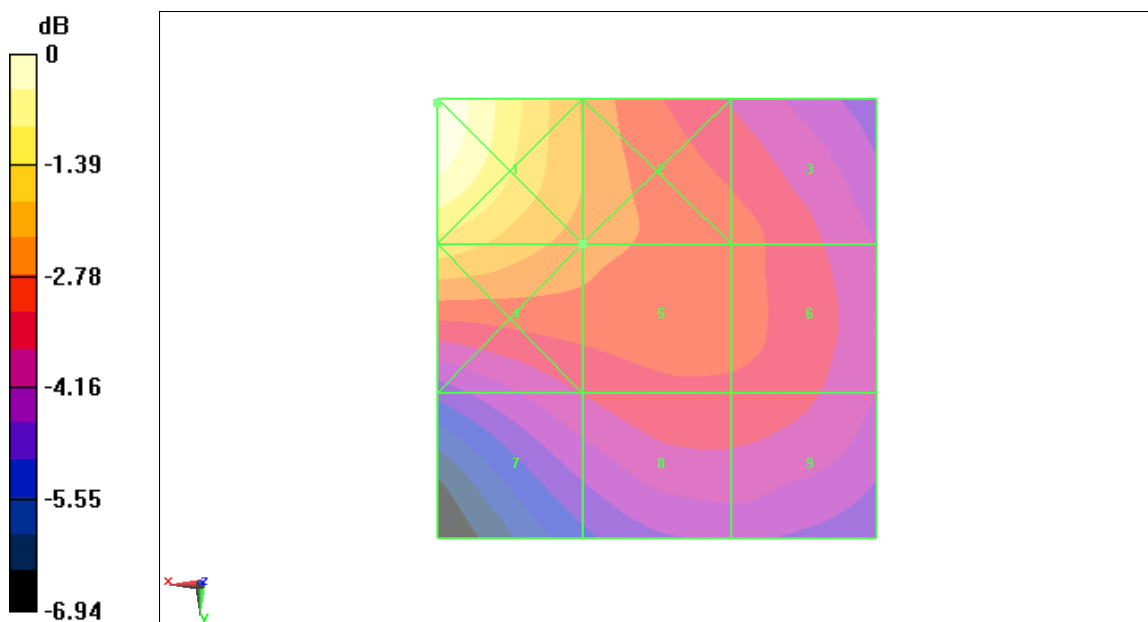
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.052 A/m; Power Drift = -0.038 dB

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

Peak H-field in A/m

Grid 1 0.196 M3	Grid 2 0.150 M3	Grid 3 0.138 M4
Grid 4 0.164 M3	Grid 5 0.147 M3	Grid 6 0.138 M4
Grid 7 0.128 M4	Grid 8 0.134 M4	Grid 9 0.134 M4



0 dB = 0.196A/m

Fig B.23 HAC RF H-Field GSM 1900 Middle

HAC RF H-Field GSM 1900 Low – Slide up

Date/Time: 11/15/2011 3:39:56 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: DCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Probe: H3DV6 - SN6260;

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.117 A/m

Probe Modulation Factor = 2.88

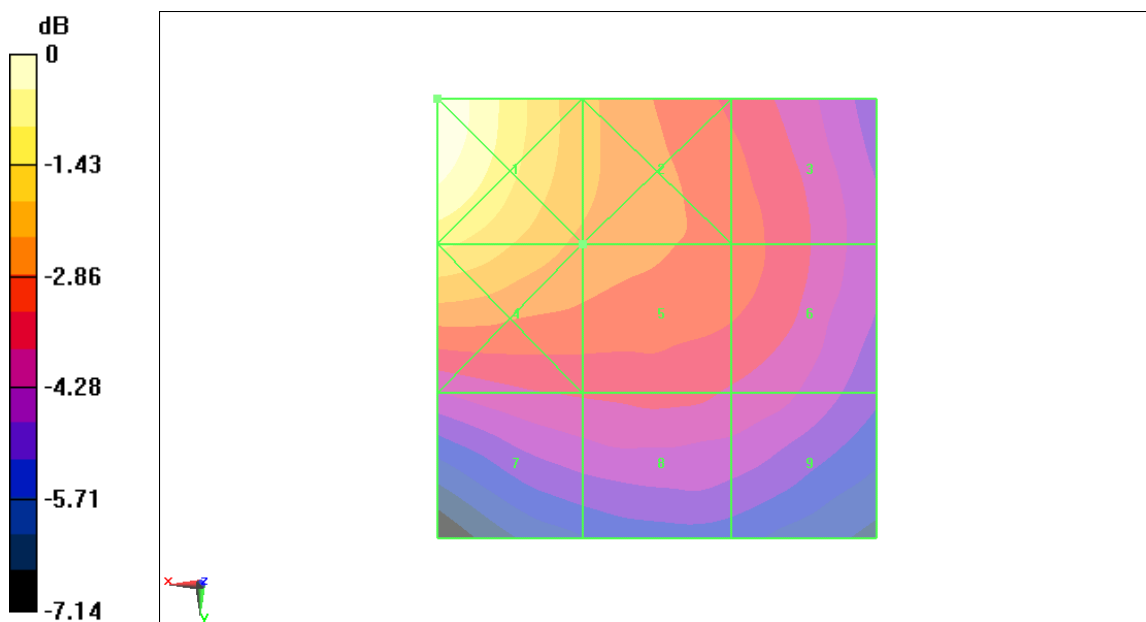
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.041 A/m; Power Drift = -0.0054 dB

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

Peak H-field in A/m

Grid 1 0.156 M3	Grid 2 0.122 M4	Grid 3 0.110 M4
Grid 4 0.134 M4	Grid 5 0.117 M4	Grid 6 0.110 M4
Grid 7 0.101 M4	Grid 8 0.103 M4	Grid 9 0.100 M4



0 dB = 0.156A/m

Fig B.24 HAC RF H-Field GSM 1900 Low

Total M-rating of GSM 850 MHz Band – Slide down

Date/Time: 11/15/2011 10:55:56 AM, Date/Time: 11/15/2011 10:21:09 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428 Probe: H3DV6 - SN6260; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 162.8 V/m

Probe Modulation Factor = 2.88

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 75.6 V/m; Power Drift = -0.103 dB

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

Peak E-field in V/m

Grid 1 137.5 M4	Grid 2 161.4 M3	Grid 3 160.7 M3
Grid 4 134.7 M4	Grid 5 162.8 M3	Grid 6 162.1 M3
Grid 7 124.0 M4	Grid 8 148.6 M4	Grid 9 147.6 M4

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.260 A/m

Probe Modulation Factor = 2.88

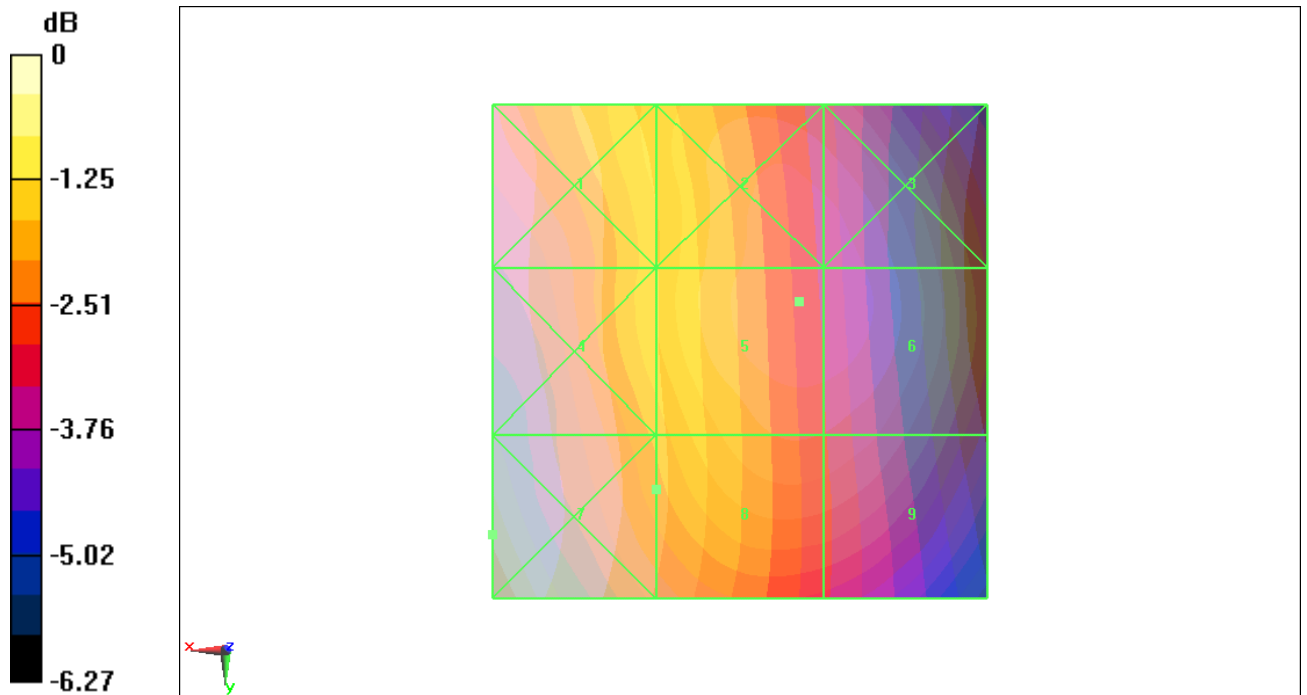
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.079 A/m; Power Drift = 0.016 dB

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

Peak H-field in A/m

Grid 1 0.318 M4	Grid 2 0.254 M4	Grid 3 0.155 M4
Grid 4 0.327 M4	Grid 5 0.258 M4	Grid 6 0.160 M4
Grid 7 0.334 M4	Grid 8 0.260 M4	Grid 9 0.162 M4



0 dB = 162.8V/m

RF RESULTS AND M-RATING	E-Field M Rating	M3 (AWF -5 dB)
	H-Field M Rating	M4 (AWF -5 dB)
	Total M Rating	M3

Fig B.25 Total M-rating of GSM 850

Total M-rating of GSM 1900 MHz Band – Slide down

Date/Time: 11/15/2011 10:44:56 AM, Date/Time: 11/15/2011 3:53:48 PM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: PCS 1900; Frequency: 1880 MHz; Frequency: 1909.8 MHz;

Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428 Probe: H3DV6 - SN6260; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 72.7 V/m

Probe Modulation Factor = 2.88

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 19.2 V/m; Power Drift = -0.024 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
85.7 M2	88.4 M2	83.5 M3
Grid 4	Grid 5	Grid 6
57.4 M3	72.7 M3	72.7 M3
Grid 7	Grid 8	Grid 9
69.2 M3	52.4 M3	52.2 M3

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.230 A/m

Probe Modulation Factor = 2.88

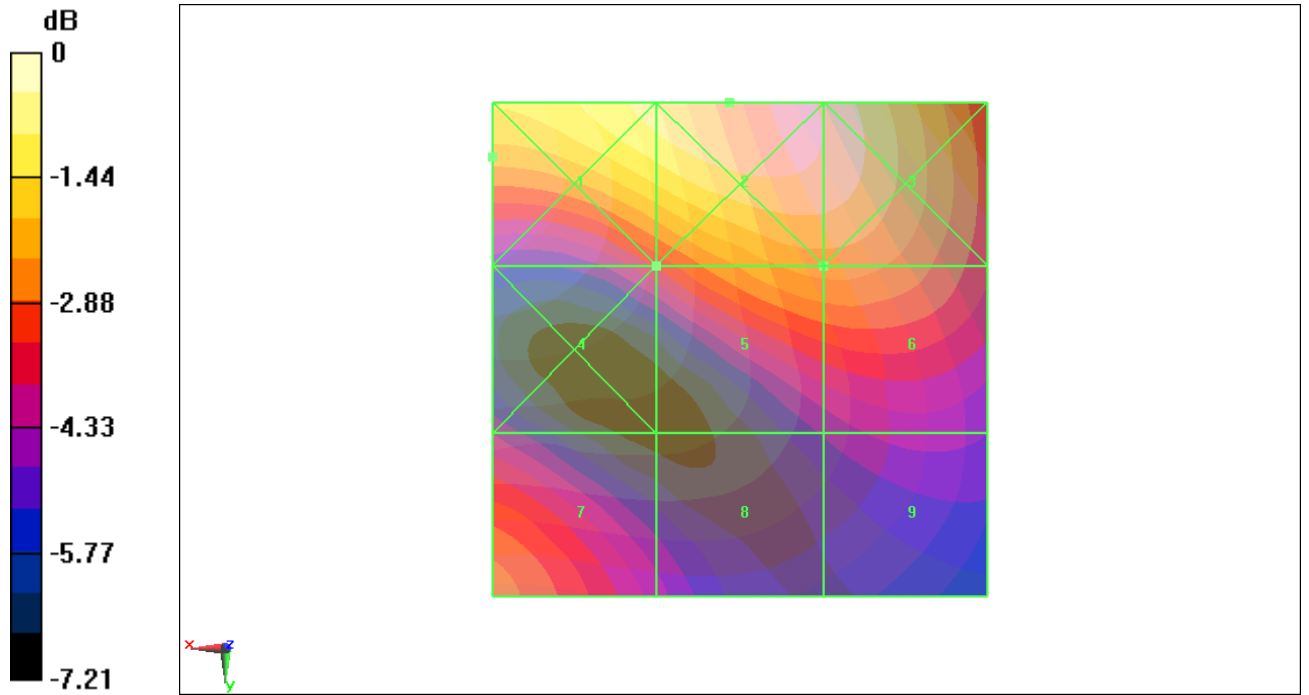
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.077 A/m; Power Drift = 0.071 dB

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

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.274 M2	0.231 M3	0.180 M3
Grid 4	Grid 5	Grid 6
0.259 M2	0.230 M3	0.191 M3
Grid 7	Grid 8	Grid 9
0.212 M3	0.211 M3	0.190 M3



0 dB = 88.4V/m

RF RESULTS AND M-RATING	E-Field M Rating	M3 (AWF -5 dB)
	H-Field M Rating	M3 (AWF -5 dB)
	Total M Rating	M3

Fig B.26 Total M-rating of GSM 1900

Total M-rating of GSM 850 MHz Band – Slide up

Date/Time: 11/15/2011 11:04:05 AM, Date/Time: 11/15/2011 10:13:23 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428 Probe: H3DV6 - SN6260; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 197.2 V/m

Probe Modulation Factor = 2.88

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 82.9 V/m; Power Drift = 0.020 dB

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

Peak E-field in V/m

Grid 1 195.5 M3	Grid 2 195.3 M3	Grid 3 160.9 M3
Grid 4 197.3 M3	Grid 5 197.2 M3	Grid 6 162.6 M3
Grid 7 184.6 M3	Grid 8 184.6 M3	Grid 9 154.0 M3

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.237 A/m

Probe Modulation Factor = 2.88

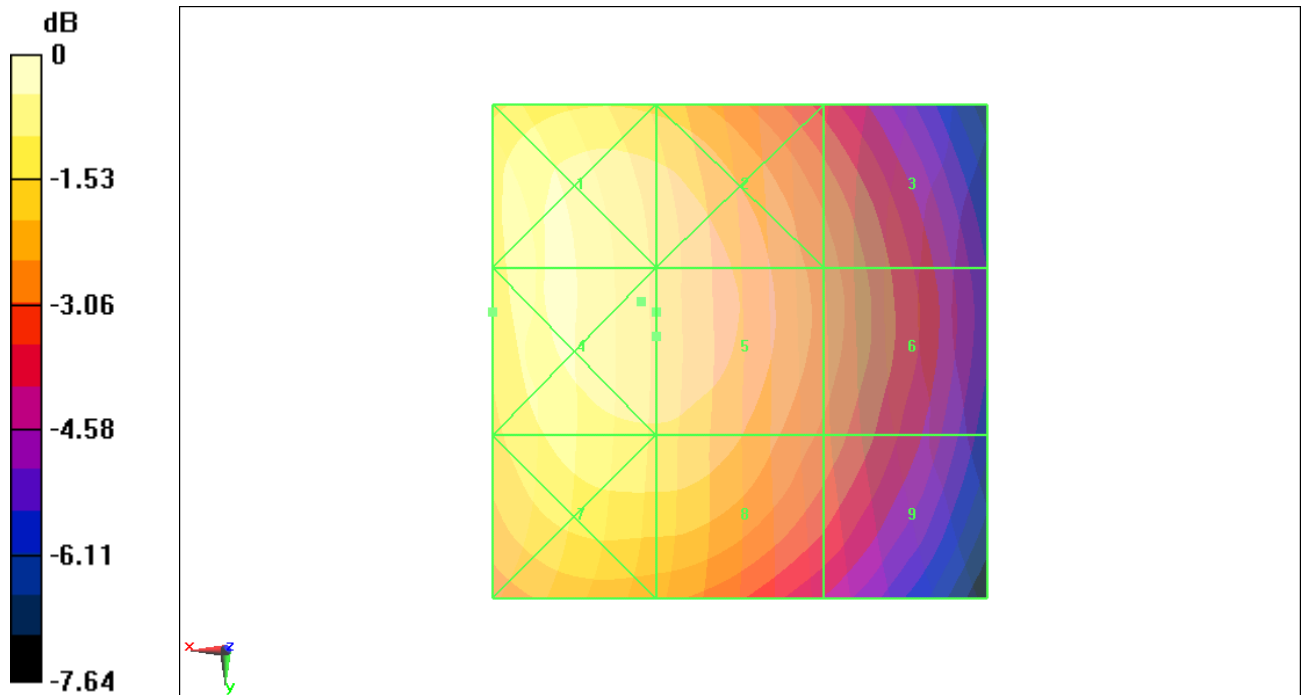
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.063 A/m; Power Drift = 0.00596 dB

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

Peak H-field in A/m

Grid 1 0.380 M4	Grid 2 0.237 M4	Grid 3 0.123 M4
Grid 4 0.384 M4	Grid 5 0.237 M4	Grid 6 0.124 M4
Grid 7 0.383 M4	Grid 8 0.235 M4	Grid 9 0.131 M4



0 dB = 197.3V/m

RF RESULTS AND M-RATING	E-Field M Rating	M3 (AWF -5 dB)
	H-Field M Rating	M4 (AWF -5 dB)
	Total M Rating	M3

Fig B.27 Total M-rating of GSM 850

Total M-rating of GSM 1900 MHz Band – Slide up

Date/Time: 11/15/2011 11:10:19 AM, Date/Time: 11/15/2011 10:03:15 AM

Electronics: DAE4 Sn777

Medium: Air

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

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2428 Probe: H3DV6 - SN6260; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 49.7 V/m

Probe Modulation Factor = 2.88

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 17.2 V/m; Power Drift = -0.141 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
68.4 M3	68.4 M3	58.5 M3
Grid 4	Grid 5	Grid 6
48.4 M3	49.7 M3	49.7 M3
Grid 7	Grid 8	Grid 9
44.9 M4	40.4 M4	40.7 M4

Configuration/H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device

2/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.147 A/m

Probe Modulation Factor = 2.88

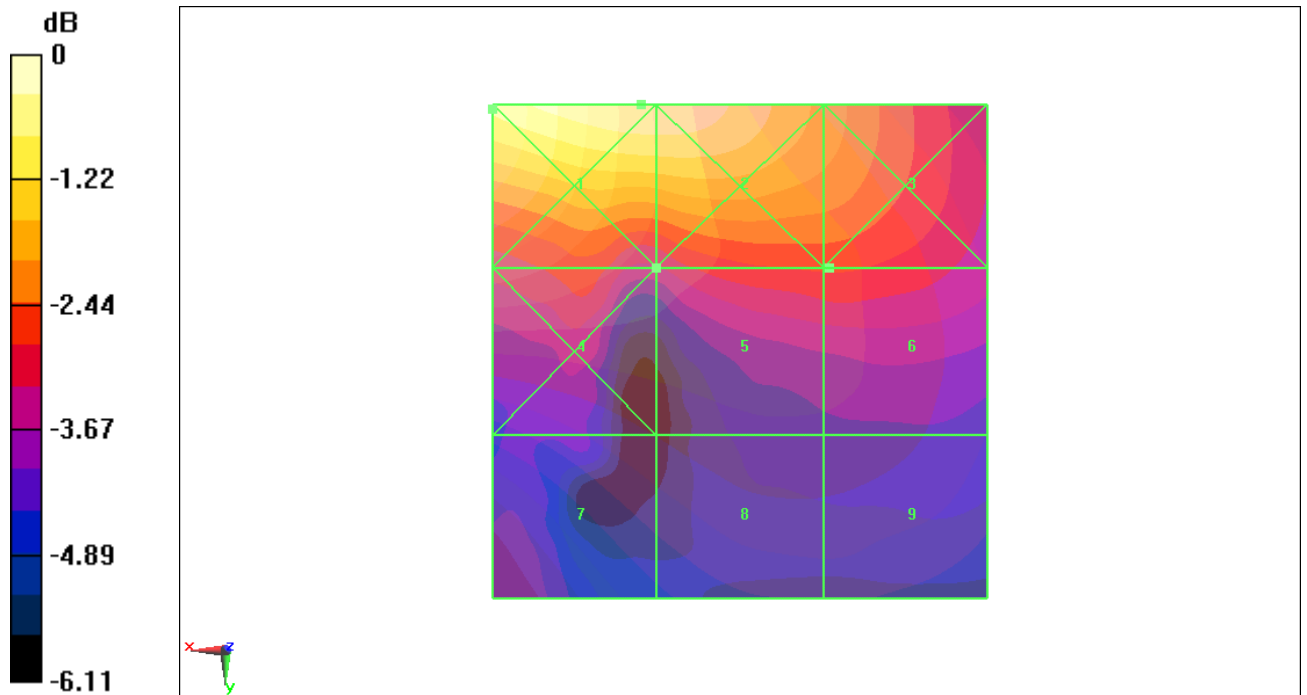
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.052 A/m; Power Drift = -0.038 dB

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

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.196 M3	0.150 M3	0.138 M4
Grid 4	Grid 5	Grid 6
0.164 M3	0.147 M3	0.138 M4
Grid 7	Grid 8	Grid 9
0.128 M4	0.134 M4	0.134 M4



0 dB = 68.4V/m

RF RESULTS AND M-RATING	E-Field M Rating	M3 (AWF -5 dB)
	H-Field M Rating	M3 (AWF -5 dB)
	Total M Rating	M3

Fig B.28 Total M-rating of GSM 1900

ANNEX C SYSTEM VALIDATION RESULT

E SCAN of Dipole 835 MHz

Date/Time: 11/15/2011 8:27:40 AM

Electronics: DAE4 Sn777

Medium: Air

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

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

Probe: ER3DV6 - SN2428;ConvF(1, 1, 1)

E Scan - 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 = 168.7 V/m

Probe Modulation Factor = 1

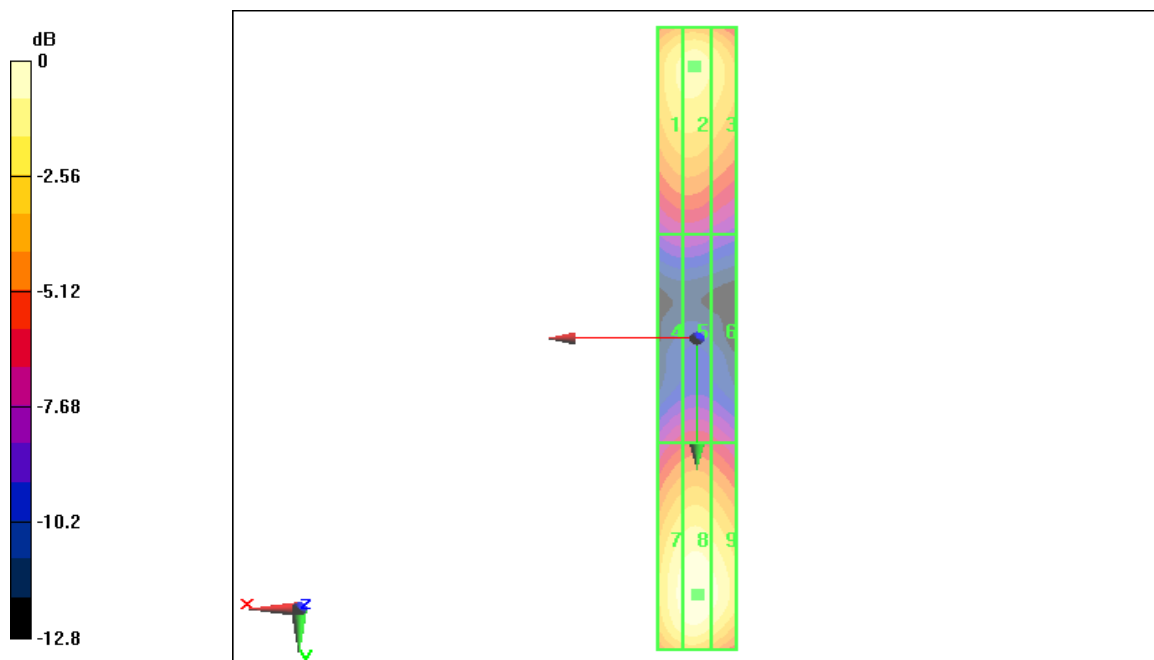
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 120.1 V/m; Power Drift = -0.060 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
144.0 M4	146.1 M4	138.5 M4
Grid 4	Grid 5	Grid 6
80.5 M4	83.0 M4	79.3 M4
Grid 7	Grid 8	Grid 9
161.3 M4	168.7 M4	160.8 M4



0 dB = 168.7V/m

H SCAN of Dipole 835 MHz

Date/Time: 11/15/2011 8:45:21 AM

Electronics: DAE4 Sn777

Medium: Air

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

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

Probe: H3DV6 - SN6260;

H Scan - 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 = 0.447 A/m

Probe Modulation Factor = 1

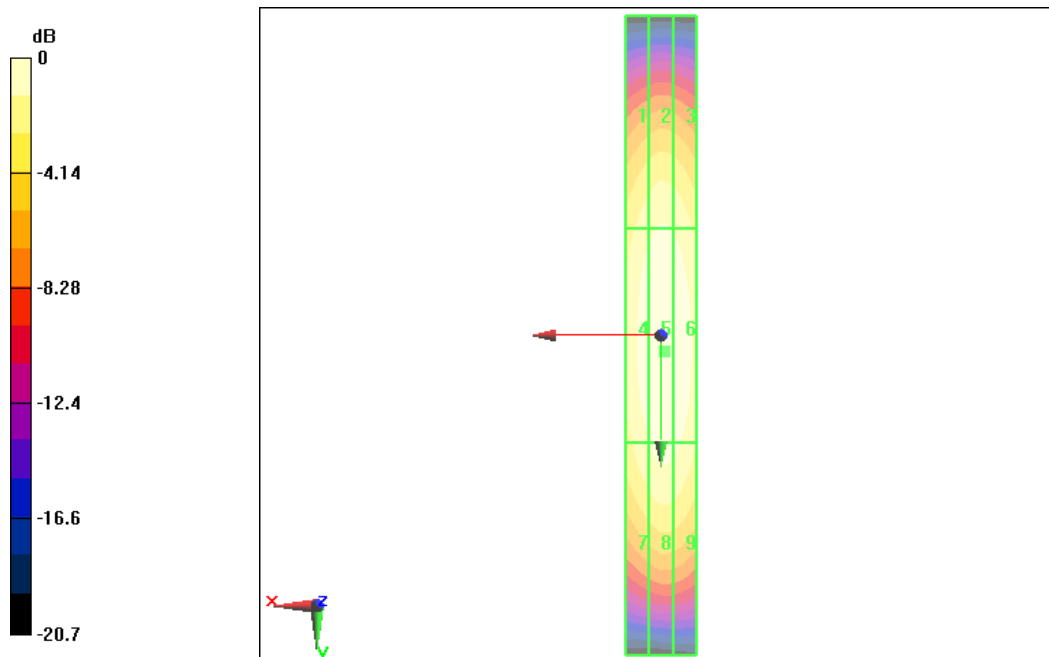
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.471 A/m; Power Drift = 0.065 dB

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

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.361 M4	0.386 M4	0.372 M4
Grid 4	Grid 5	Grid 6
0.421 M4	0.447 M4	0.432 M4
Grid 7	Grid 8	Grid 9
0.370 M4	0.397 M4	0.390 M4



0 dB = 0.447A/m

E SCAN of Dipole 1880 MHz

Date/Time: 11/15/2011 9:10:29 AM

Electronics: DAE4 Sn777

Medium: Air

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

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Probe: ER3DV6 - SN2428;ConvF(1, 1, 1)

E Scan - 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 = 141.7 V/m

Probe Modulation Factor = 1

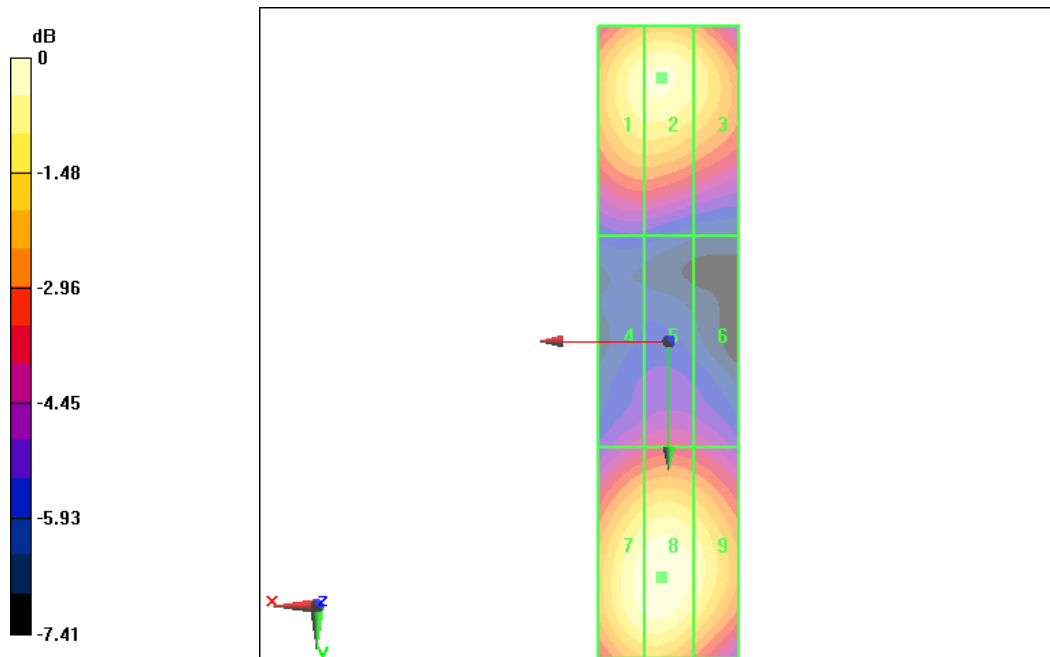
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 146.6 V/m; Power Drift = -0.093 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
132.6 M2	132.4 M2	127.3 M2
Grid 4	Grid 5	Grid 6
90.6 M3	92.4 M3	90.2 M3
Grid 7	Grid 8	Grid 9
138.4 M2	141.7 M2	132.5 M2



0 dB = 141.7V/m

H SCAN of Dipole 1880 MHz

Date/Time: 11/15/2011 9:32:23 AM

Electronics: DAE4 Sn777

Medium: Air

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

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Probe: H3DV6 - SN6260;

H Scan - 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 = 0.451 A/m

Probe Modulation Factor = 1

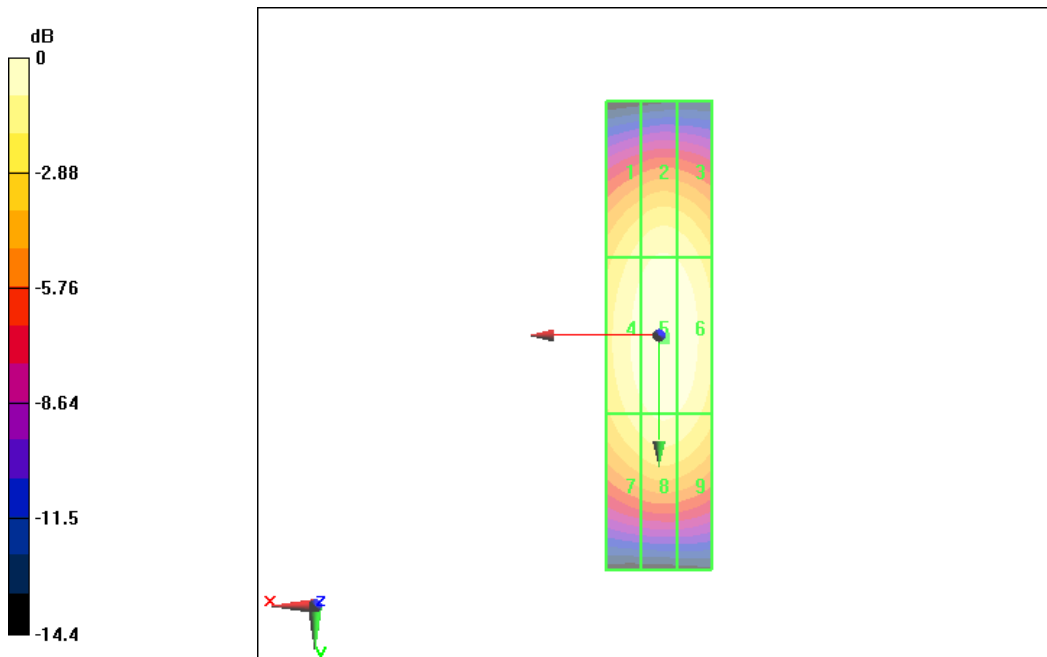
Device Reference Point: 0, 0, -6.3 mm

Reference Value = 0.463 A/m; Power Drift = -0.084 dB

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

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.370 M2	0.393 M2	0.382 M2
Grid 4	Grid 5	Grid 6
0.415 M2	0.451 M2	0.421 M2
Grid 7	Grid 8	Grid 9
0.375 M2	0.401 M2	0.393 M2



0 dB = 0.451A/m