

## **APPENDIX A. HAC TEST PLOTS**

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Test Laboratory: HCT CO., LTD.

Ambient Temperature / Channel 21.3 °C /1013

Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz; Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: E Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

DASY4 Configuration:

- Probe: ER3DV6 - SN2343; ConvF(1, 1, 1); Calibrated: 2009-05-22
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn869; Calibrated: 2009-09-18
- Phantom: HAC Test Arch; Type: SD HAC P01 BA

**E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1):**

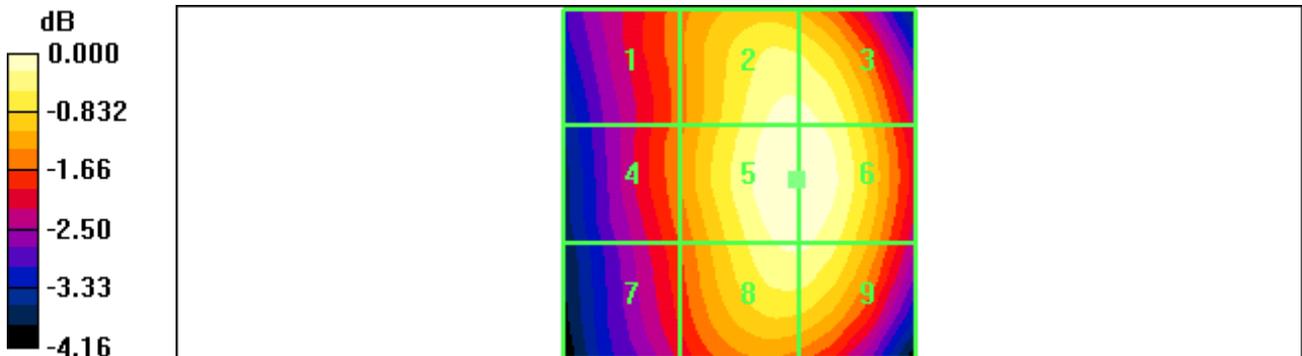
Measurement grid: dx=5mm, dy=5mm  
 Maximum value of peak Total field = 61.7 V/m  
 Probe Modulation Factor = 0.960  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 85.9 V/m; Power Drift = -0.020 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
52.2 M4	60.6 M4	60.6 M4
Grid 4	Grid 5	Grid 6
52.6 M4	61.7 M4	61.7 M4
Grid 7	Grid 8	Grid 9
51.0 M4	60.1 M4	60.1 M4

**Cursor:**

Total = 61.7 V/m  
 E Category: M4  
 Location: -8, -0.5, 369.9 mm



0 dB = 61.7V/m

Test Laboratory: HCT CO., LTD.

Ambient Temperature / Channel 21.3 °C /384

Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: E Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

DASY4 Configuration:

- Probe: ER3DV6 - SN2343; ConvF(1, 1, 1); Calibrated: 2009-05-22
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn869; Calibrated: 2009-09-18
- Phantom: HAC Test Arch; Type: SD HAC P01 BA

**E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1):**

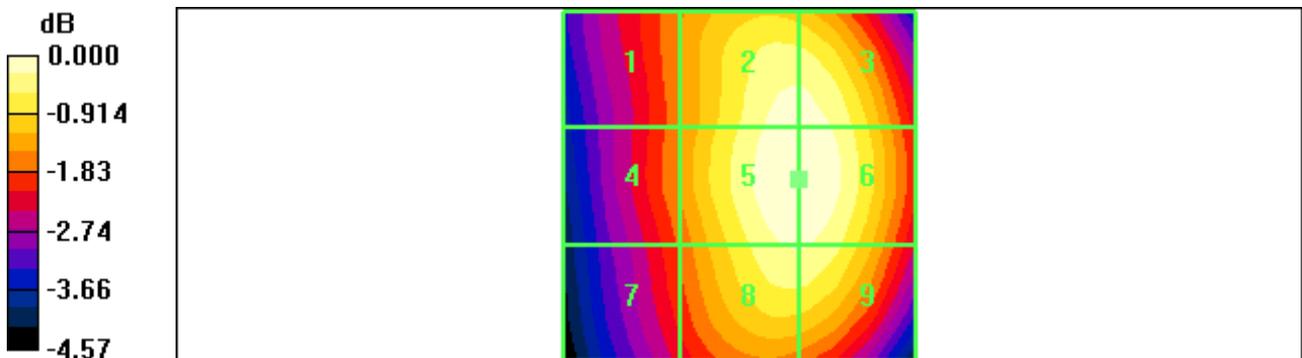
Measurement grid: dx=5mm, dy=5mm  
 Maximum value of peak Total field = 70.7 V/m  
 Probe Modulation Factor = 0.960  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 97.9 V/m; Power Drift = -0.060 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
59.3 M4	69.6 M4	69.6 M4
Grid 4	Grid 5	Grid 6
59.7 M4	70.7 M4	70.7 M4
Grid 7	Grid 8	Grid 9
57.7 M4	68.5 M4	68.5 M4

**Cursor:**

Total = 70.7 V/m  
 E Category: M4  
 Location: -8.5, -1, 369.9 mm



0 dB = 70.7V/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /777  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: CDMA 835MHz FCC; Frequency: 848.31 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: E Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**DASY4 Configuration:**

- Probe: ER3DV6 - SN2343; ConvF(1, 1, 1); Calibrated: 2009-05-22
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn869; Calibrated: 2009-09-18
- Phantom: HAC Test Arch; Type: SD HAC P01 BA

**E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1):**

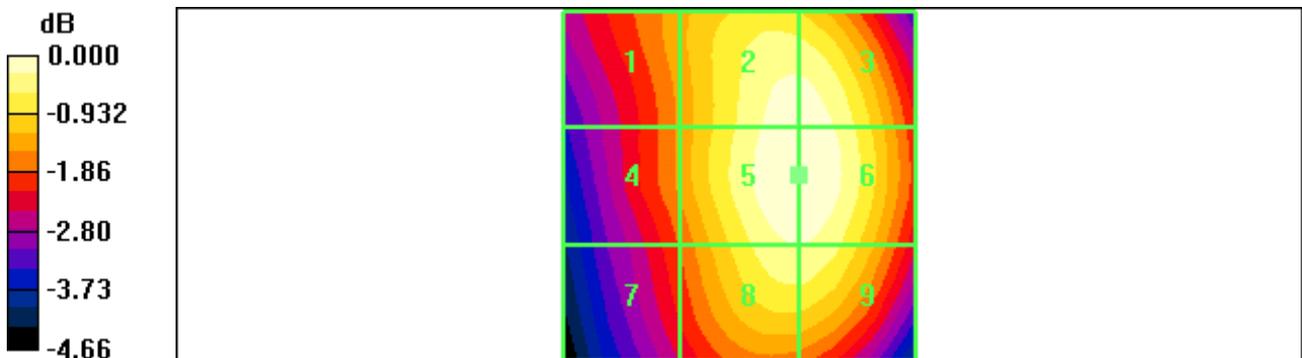
Measurement grid: dx=5mm, dy=5mm  
 Maximum value of peak Total field = 60.7 V/m  
 Probe Modulation Factor = 0.960  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 83.7 V/m; Power Drift = 0.012 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
52.0 M4	59.9 M4	59.9 M4
Grid 4	Grid 5	Grid 6
51.3 M4	60.7 M4	60.7 M4
Grid 7	Grid 8	Grid 9
49.2 M4	58.6 M4	58.6 M4

**Cursor:**

Total = 60.7 V/m  
 E Category: M4  
 Location: -8.5, -1.5, 369.9 mm



0 dB = 60.7V/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /25  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: E Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

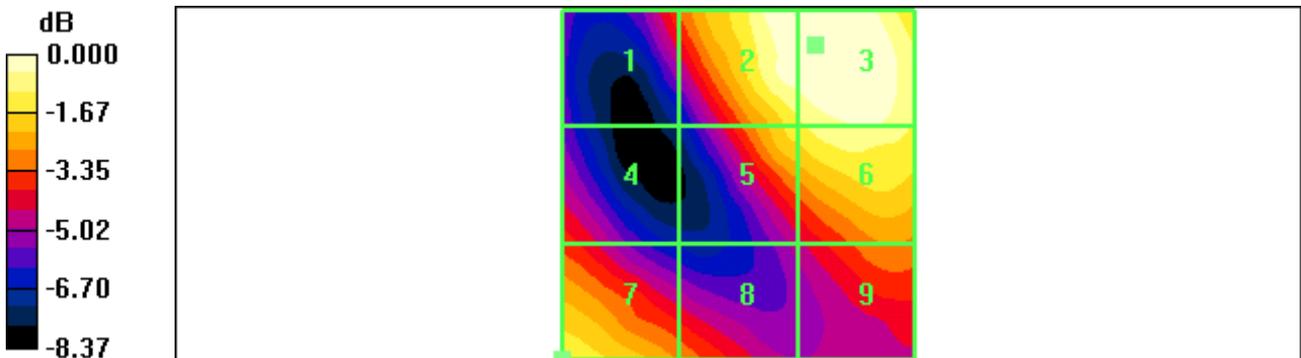
DASY4 Configuration:  
 - Probe: ER3DV6 - SN2343; ConvF(1, 1, 1); Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**E Scan - ER3D - 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 = 50.0 V/m  
 Probe Modulation Factor = 0.967  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 31.0 V/m; Power Drift = 0.020 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
34.1 M4	49.3 M4	50.0 M4
Grid 4	Grid 5	Grid 6
33.3 M4	43.3 M4	46.9 M4
Grid 7	Grid 8	Grid 9
43.7 M4	36.1 M4	36.3 M4

**Cursor:**  
 Total = 50.0 V/m  
 E Category: M4  
 Location: -11, -20, 369.9 mm



0 dB = 50.0V/m

Test Laboratory: HCT CO., LTD.

Ambient Temperature / Channel 21.3 °C /600

Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: E Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

DASY4 Configuration:

- Probe: ER3DV6 - SN2343; ConvF(1, 1, 1); Calibrated: 2009-05-22
- Sensor-Surface: (Fix Surface)
- Electronics: DAE4 Sn869; Calibrated: 2009-09-18
- Phantom: HAC Test Arch; Type: SD HAC P01 BA

**E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1):**

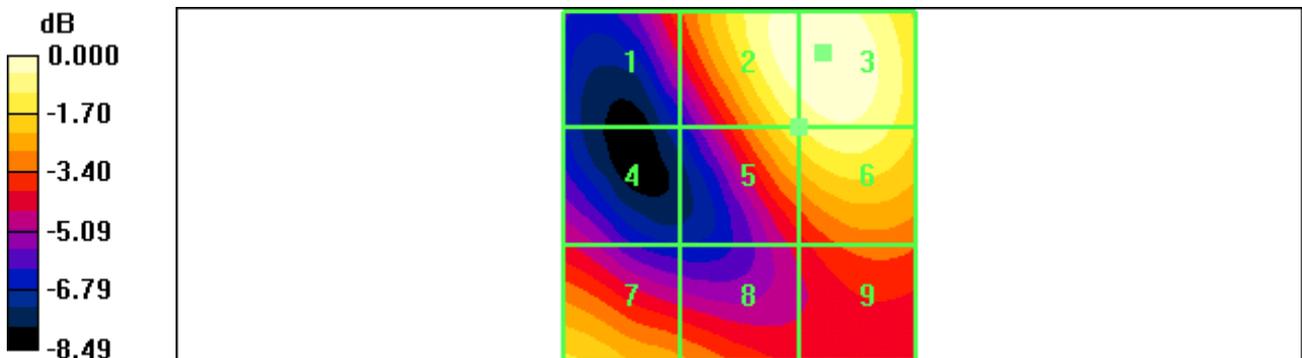
Measurement grid: dx=5mm, dy=5mm  
 Maximum value of peak Total field = 47.8 V/m  
 Probe Modulation Factor = 0.967  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 31.3 V/m; Power Drift = 0.150 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
31.9 M4	47.2 M4	47.8 M4
Grid 4	Grid 5	Grid 6
28.9 M4	41.9 M4	44.5 M4
Grid 7	Grid 8	Grid 9
39.9 M4	35.2 M4	33.3 M4

**Cursor:**

Total = 47.8 V/m  
 E Category: M4  
 Location: -12, -19, 369.9 mm



0 dB = 47.8V/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /1175  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: PCS 1900MHz FCC; Frequency: 1908.75 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: E Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

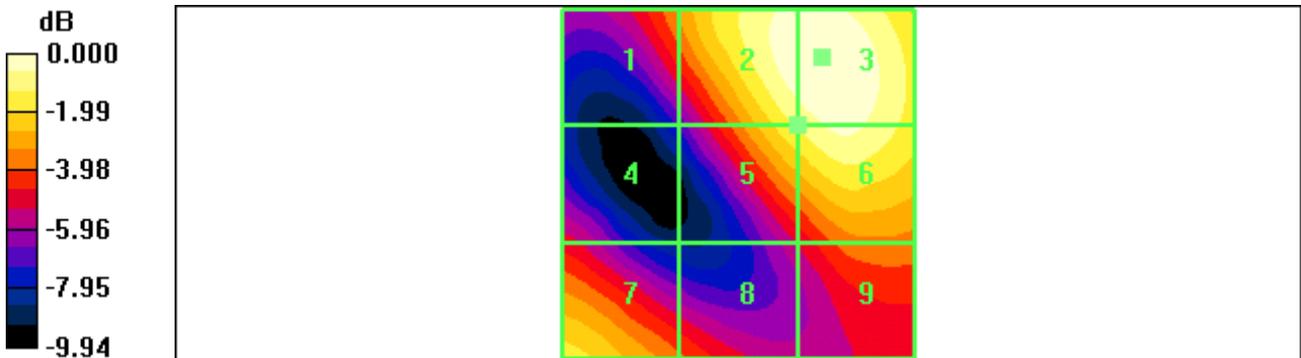
DASY4 Configuration:  
 - Probe: ER3DV6 - SN2343; ConvF(1, 1, 1); Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**E Scan - ER3D - 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 = 49.2 V/m  
 Probe Modulation Factor = 0.967  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 32.1 V/m; Power Drift = 0.080 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak E-field in V/m

Grid 1 33.8 M4	Grid 2 48.3 M4	Grid 3 49.2 M4
Grid 4 28.1 M4	Grid 5 42.9 M4	Grid 6 46.7 M4
Grid 7 40.8 M4	Grid 8 31.9 M4	Grid 9 33.0 M4

**Cursor:**  
 Total = 49.2 V/m  
 E Category: M4  
 Location: -12, -18, 369.9 mm



0 dB = 49.2V/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /1013  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

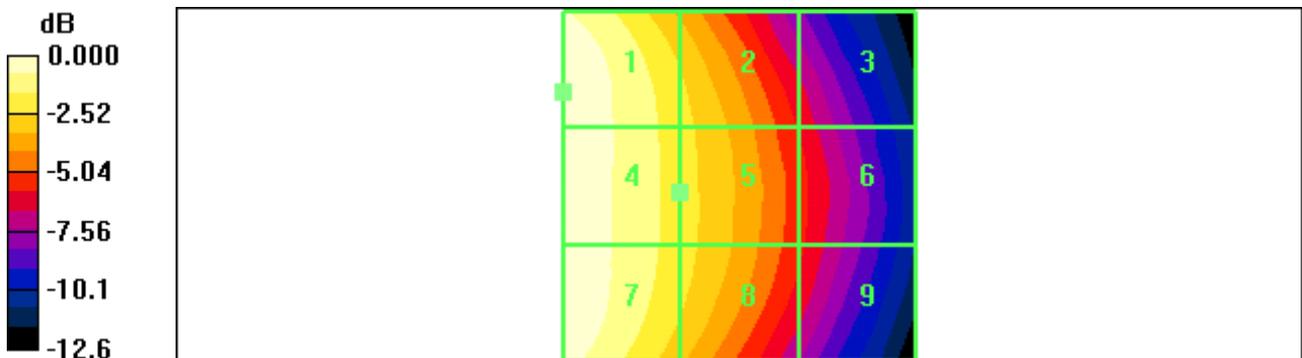
DASY4 Configuration:  
 - Probe: H3DV6 - SN6101; ; Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**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 = 0.111 A/m  
 Probe Modulation Factor = 0.877  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 0.092 A/m; Power Drift = -0.036 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.111 M4	0.087 M4	0.056 M4
Grid 4	Grid 5	Grid 6
0.110 M4	0.088 M4	0.059 M4
Grid 7	Grid 8	Grid 9
0.110 M4	0.087 M4	0.058 M4

**Cursor:**  
 Total = 0.111 A/m  
 H Category: M4  
 Location: 25, -13.5, 369.4 mm



0 dB = 0.111A/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /384  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: CDMA 835MHz FCC; Frequency: 824.7 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

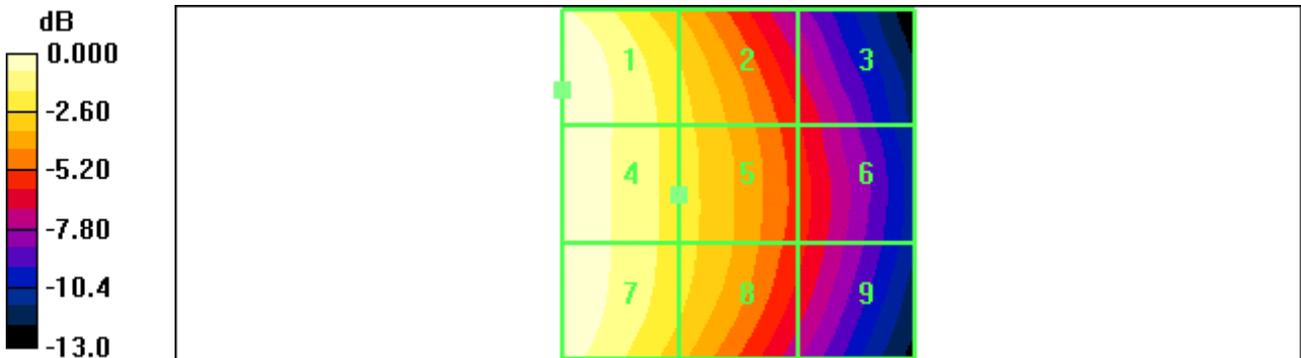
DASY4 Configuration:  
 - Probe: H3DV6 - SN6101; ; Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**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 = 0.111 A/m  
 Probe Modulation Factor = 0.877  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 0.091 A/m; Power Drift = 0.070 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.111 M4	0.086 M4	0.056 M4
Grid 4	Grid 5	Grid 6
0.111 M4	0.087 M4	0.059 M4
Grid 7	Grid 8	Grid 9
0.110 M4	0.087 M4	0.057 M4

**Cursor:**  
 Total = 0.111 A/m  
 H Category: M4  
 Location: 25, -13.5, 369.4 mm



0 dB = 0.111A/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /777  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: CDMA 835MHz FCC; Frequency: 848.31 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

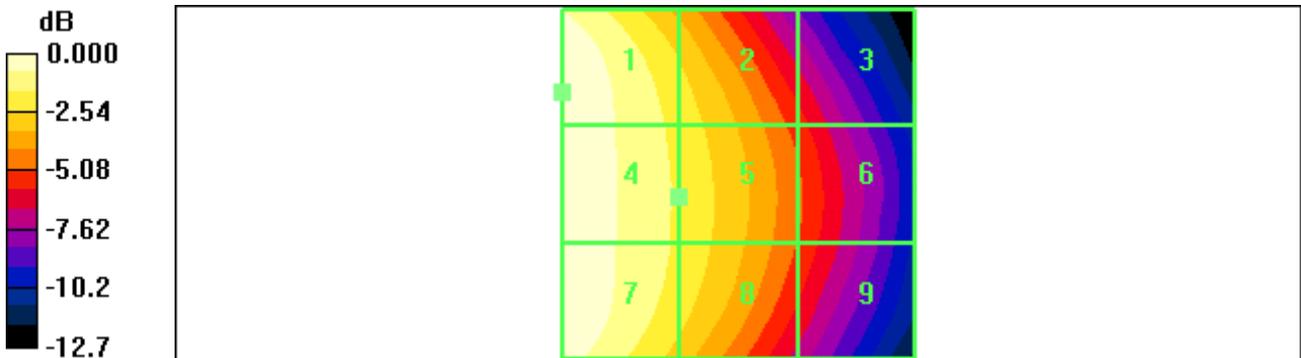
DASY4 Configuration:  
 - Probe: H3DV6 - SN6101; ; Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**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 = 0.115 A/m  
 Probe Modulation Factor = 0.877  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 0.102 A/m; Power Drift = 0.190 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.115 M4	0.092 M4	0.061 M4
Grid 4	Grid 5	Grid 6
0.114 M4	0.093 M4	0.065 M4
Grid 7	Grid 8	Grid 9
0.114 M4	0.093 M4	0.064 M4

**Cursor:**  
 Total = 0.115 A/m  
 H Category: M4  
 Location: 25, -13, 369.4 mm



0 dB = 0.115A/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /25  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

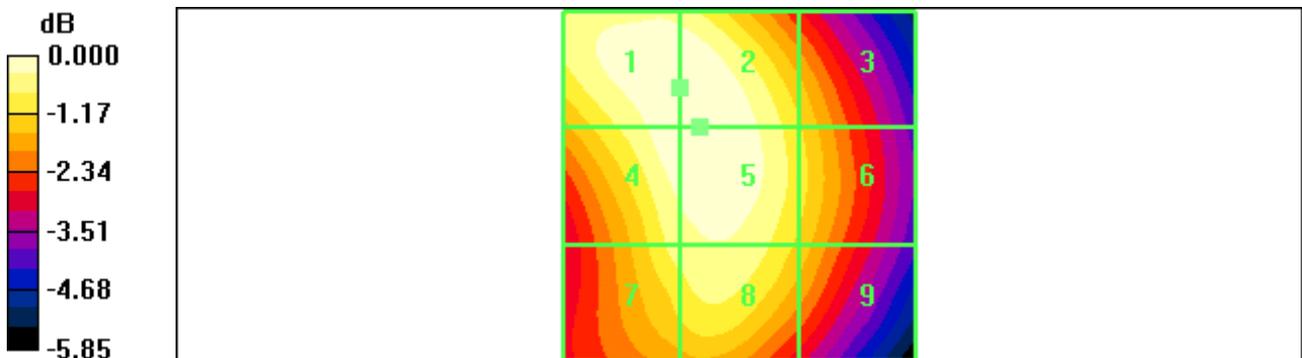
DASY4 Configuration:  
 - Probe: H3DV6 - SN6101; ; Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**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 = 0.090 A/m  
 Probe Modulation Factor = 0.770  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 0.125 A/m; Power Drift = 0.077 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.090 M4	0.090 M4	0.079 M4
Grid 4	Grid 5	Grid 6
0.090 M4	0.090 M4	0.080 M4
Grid 7	Grid 8	Grid 9
0.084 M4	0.086 M4	0.078 M4

**Cursor:**  
 Total = 0.090 A/m  
 H Category: M4  
 Location: 8.5, -14, 369.4 mm



0 dB = 0.090A/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /600  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

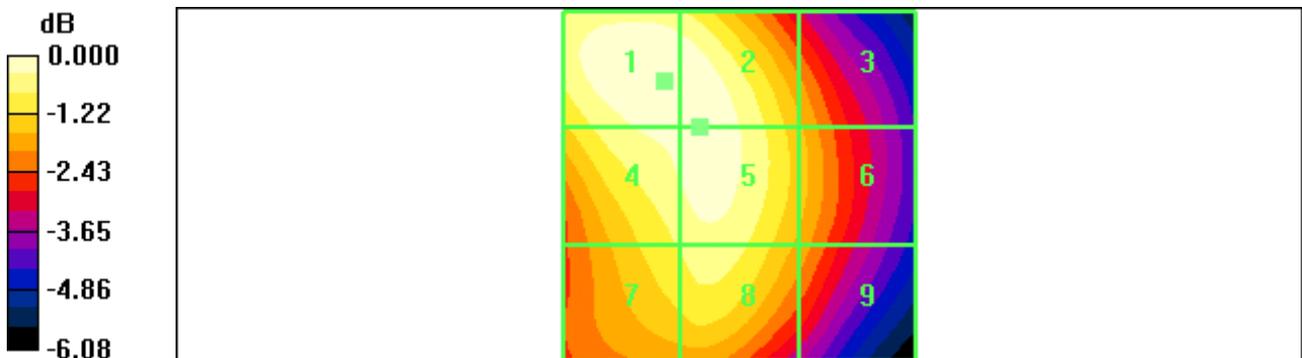
DASY4 Configuration:  
 - Probe: H3DV6 - SN6101; ; Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**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 = 0.100 A/m  
 Probe Modulation Factor = 0.770  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 0.139 A/m; Power Drift = -0.042 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.100 M4	0.100 M4	0.084 M4
Grid 4	Grid 5	Grid 6
0.098 M4	0.099 M4	0.085 M4
Grid 7	Grid 8	Grid 9
0.091 M4	0.094 M4	0.082 M4

**Cursor:**  
 Total = 0.100 A/m  
 H Category: M4  
 Location: 10.5, -15, 369.4 mm



0 dB = 0.100A/m

Test Laboratory: HCT CO., LTD.  
 Ambient Temperature / Channel 21.3 °C /1175  
 Test Date Feb.15, 2010

**DUT: Lion; Type: Bar; Serial: #1**

Communication System: PCS 1900MHz FCC; Frequency: 1908.75 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $\sigma = 0$  mho/m,  $\epsilon_r = 1$ ;  $\rho = 1$  kg/m<sup>3</sup>  
 Phantom section: H Device Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

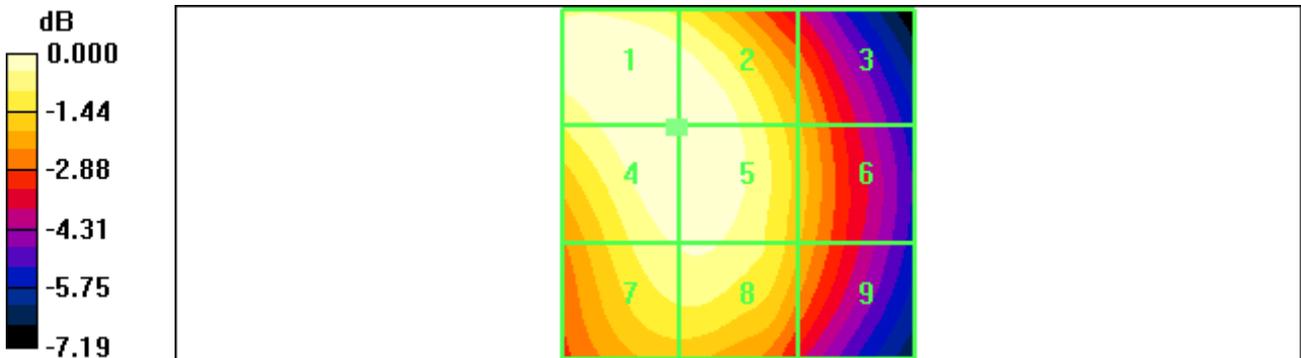
DASY4 Configuration:  
 - Probe: H3DV6 - SN6101; ; Calibrated: 2009-05-22  
 - Sensor-Surface: (Fix Surface)  
 - Electronics: DAE4 Sn869; Calibrated: 2009-09-18  
 - Phantom: HAC Test Arch; Type: SD HAC P01 BA

**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 = 0.107 A/m  
 Probe Modulation Factor = 0.770  
 Device Reference Point: 0.000, 0.000, 353.7 mm  
 Reference Value = 0.153 A/m; Power Drift = -0.017 dB  
**Hearing Aid Near-Field Category: M4 (AWF 0 dB)**

Peak H-field in A/m

Grid 1	Grid 2	Grid 3
0.107 M4	0.107 M4	0.087 M4
Grid 4	Grid 5	Grid 6
0.107 M4	0.107 M4	0.089 M4
Grid 7	Grid 8	Grid 9
0.102 M4	0.102 M4	0.087 M4

**Cursor:**  
 Total = 0.107 A/m  
 H Category: M4  
 Location: 9, -8, 369.4 mm



0 dB = 0.107A/m