Annex A: Measurement data and plots

A.1 Dipole validation plots

Date/Time: 8/11/2010 1:19:04 PM

Test Laboratory: RIM Testing Services

HAC_E_Dipole_835MHz

DUT: HAC-Dipole 835 MHz; Type: D835V3

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

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x37x1):

Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 103.5 V/m; Power Drift = 0.023 dB

Maximum value of Total (measured) = 166.2 V/m

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 = 1.00

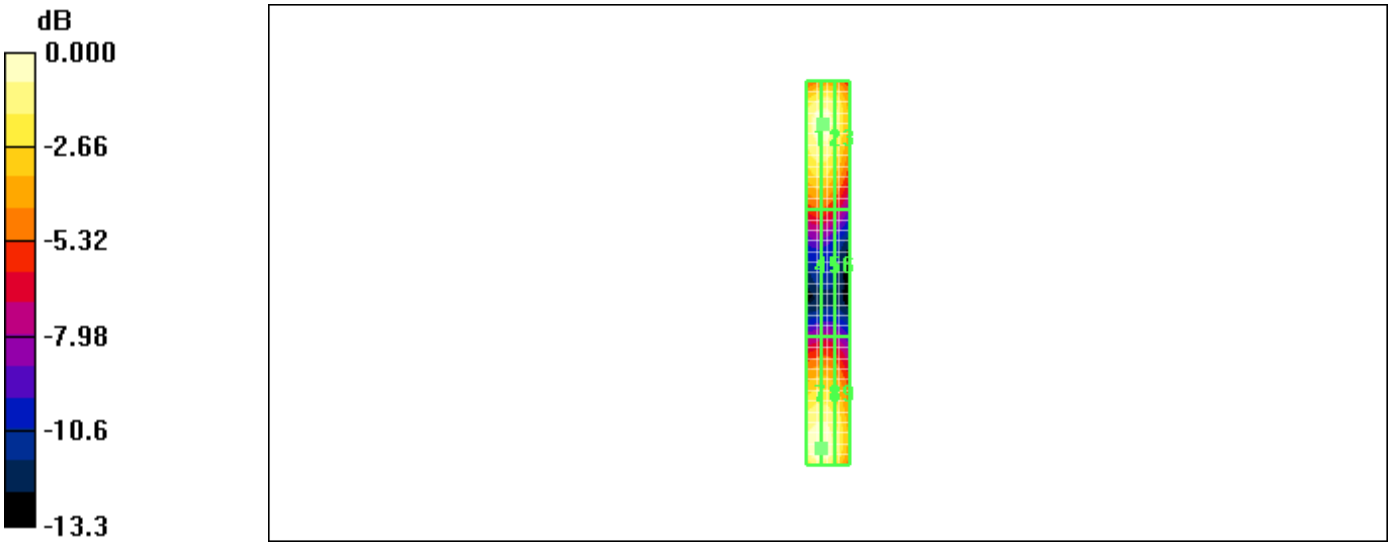
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 103.5 V/m; Power Drift = 0.023 dB

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

Peak E-field in V/m

Grid 1 **160.3 M4**	Grid 2 **161.2 M4**	Grid 3 **146.0 M4**
Grid 4 **91.9 M4**	Grid 5 **91.9 M4**	Grid 6 **80.1 M4**
Grid 7 **168.7 M4**	Grid 8 **168.7 M4**	Grid 9 **146.6 M4**



0 dB = 168.7V/m

Date/Time: 8/11/2010 1:31:19 PM

Test Laboratory: RIM Testing Services

HAC_E_Dipole_1880MHz

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (5x19x1):

Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 141.6 V/m; Power Drift = 0.039 dB

Maximum value of Total (measured) = 126.4 V/m

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 = 128.9 V/m

Probe Modulation Factor = 1.00

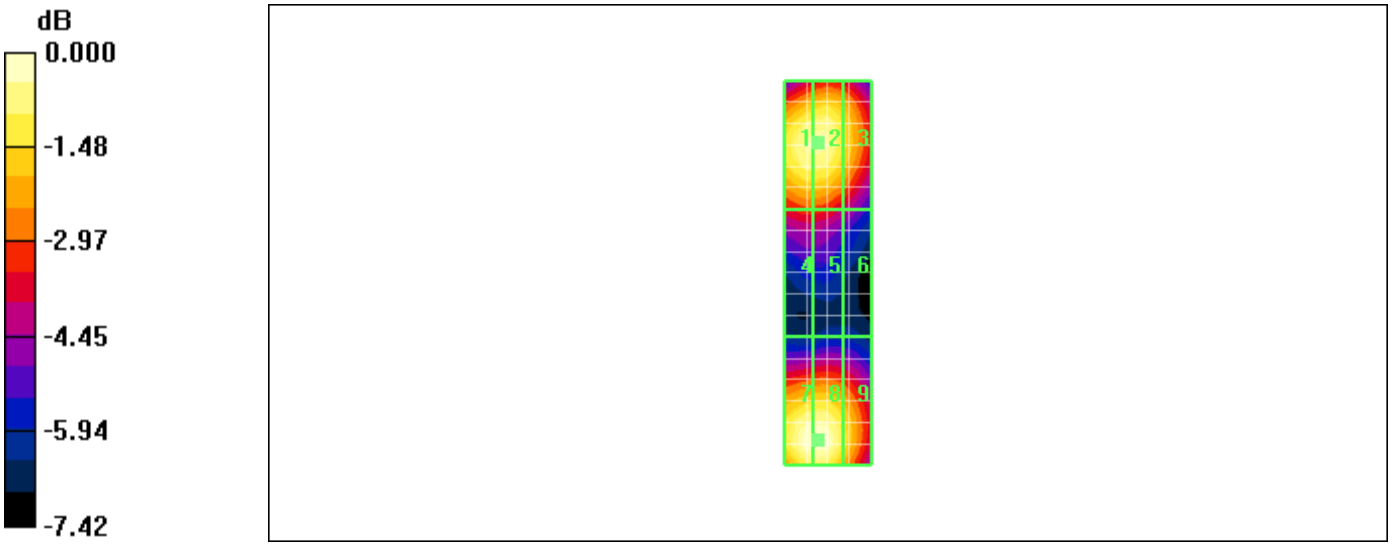
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 141.6 V/m; Power Drift = 0.039 dB

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

Peak E-field in V/m

Grid 1 **123.3 M2**	Grid 2 **123.4 M2**	Grid 3 **112.4 M2**
Grid 4 **90.8 M3**	Grid 5 **90.7 M3**	Grid 6 **81.4 M3**
Grid 7 **128.8 M2**	Grid 8 **128.9 M2**	Grid 9 **114.0 M2**



0 dB = 128.9V/m

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Test Laboratory: RIM Testing Services

HAC_H_Dipole_835MHz

DUT: HAC-Dipole 835 MHz; Type: D835V3

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

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (5x13x1):

Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.478 A/m; Power Drift = -0.024 dB

Maximum value of Total (measured) = 0.464 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.469 A/m

Probe Modulation Factor = 1.00

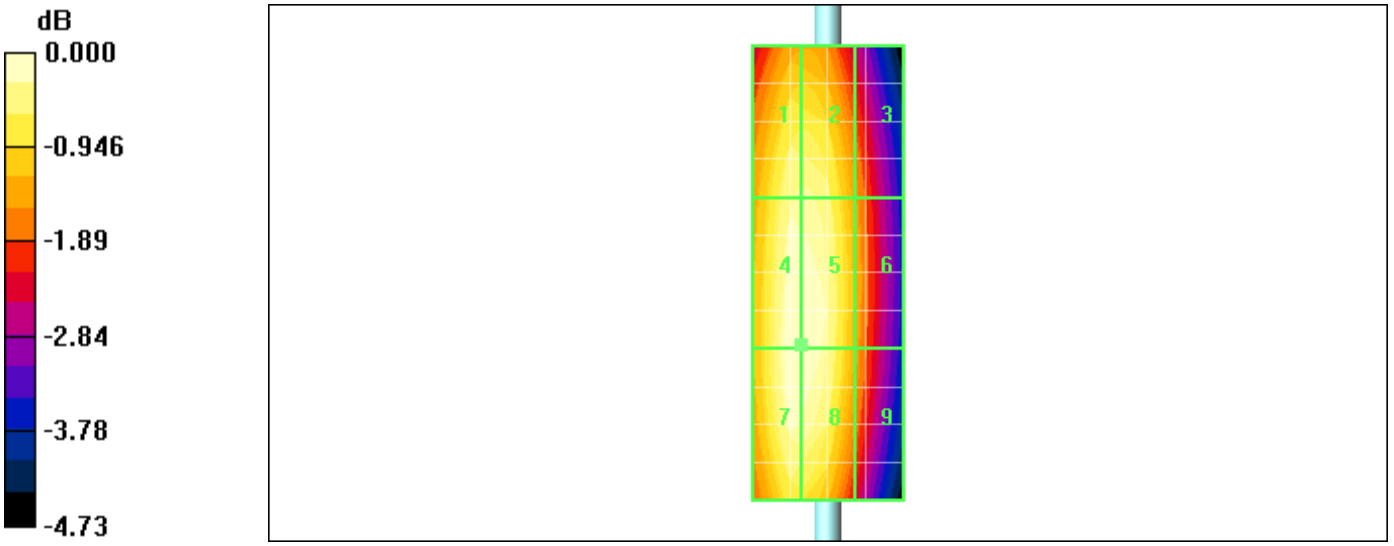
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.478 A/m; Power Drift = -0.024 dB

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

Peak H-field in A/m

Grid 1 **0.455 M4**	Grid 2 **0.455 M4**	Grid 3 **0.401 M4**
Grid 4 **0.469 M4**	Grid 5 **0.469 M4**	Grid 6 **0.409 M4**
Grid 7 **0.469 M4**	Grid 8 **0.469 M4**	Grid 9 **0.404 M4**



0 dB = 0.469A/m

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Test Laboratory: RIM Testing Services

HAC_H_Dipole_1880MHz

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (5x11x1):

Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.449 A/m; Power Drift = 0.023 dB

Maximum value of Total (measured) = 0.434 A/m

H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x101x1):

Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.440 A/m

Probe Modulation Factor = 1.00

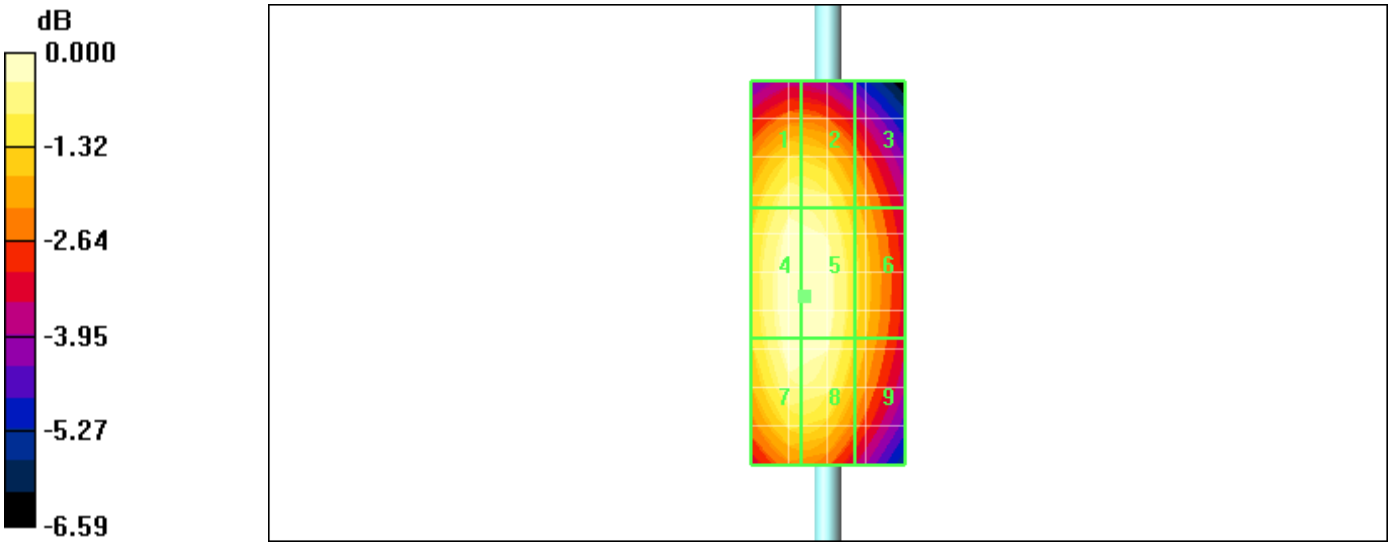
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.449 A/m; Power Drift = 0.023 dB

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

Peak H-field in A/m

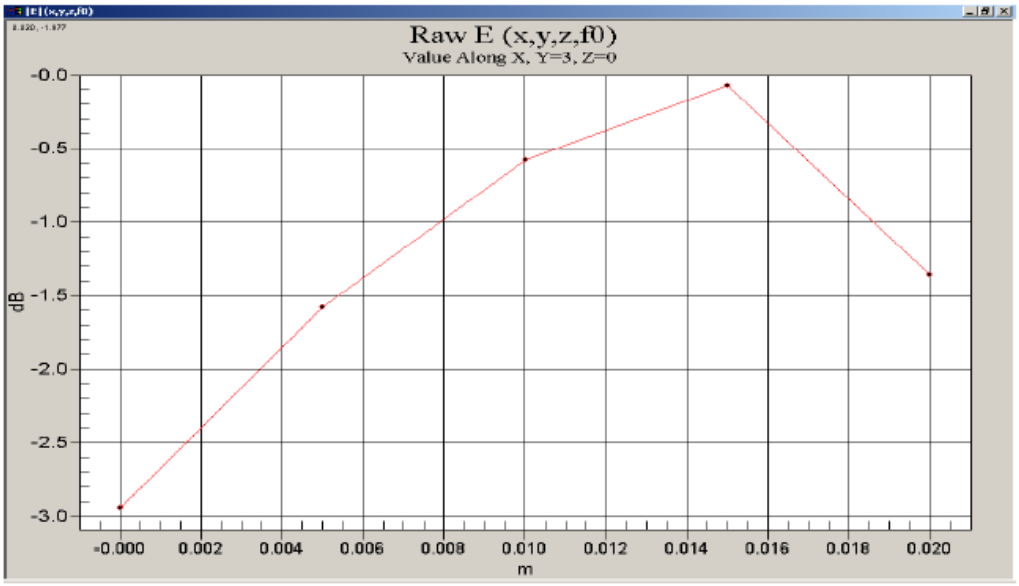
Grid 1 **0.419 M2**	Grid 2 **0.419 M2**	Grid 3 **0.369 M2**
Grid 4 **0.440 M2**	Grid 5 **0.440 M2**	Grid 6 **0.388 M2**
Grid 7 **0.436 M2**	Grid 8 **0.436 M2**	Grid 9 **0.380 M2**



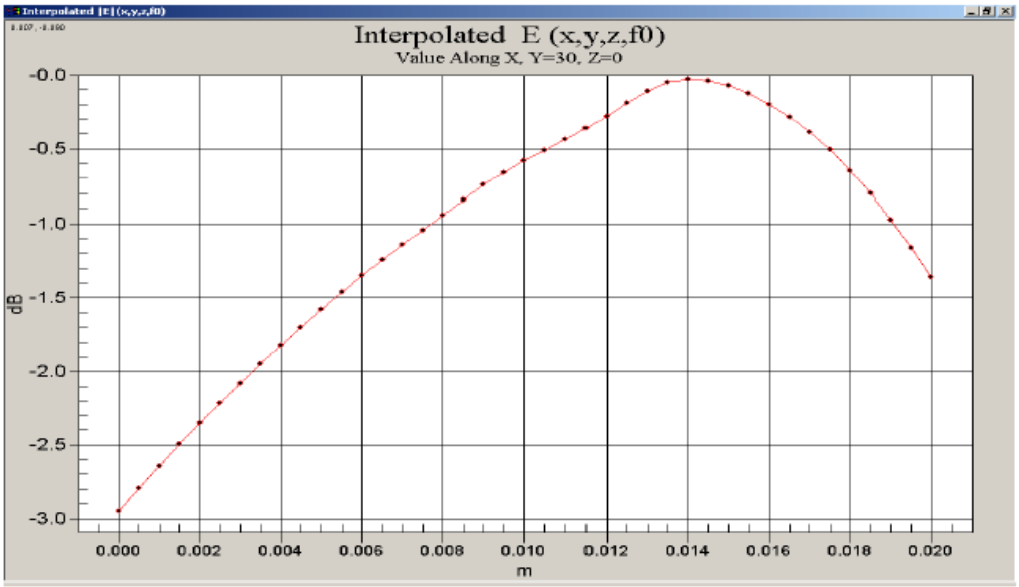
0 dB = 0.440A/m

Justification of Step Size and Interpolation

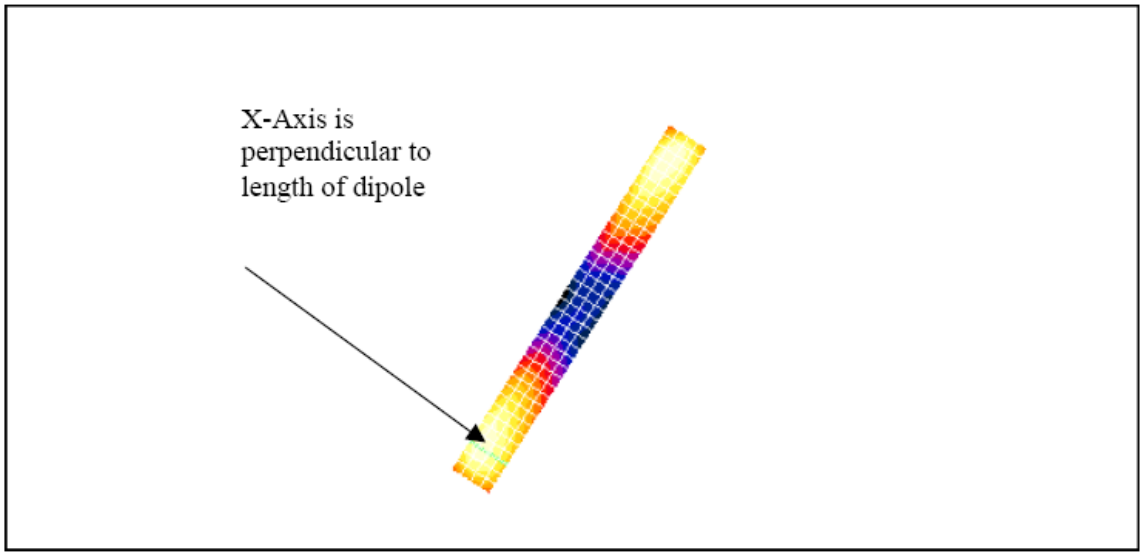
This section demonstrates that a 5mm step size with interpolation provides sufficient resolution for RF emissions measurements. The DASY 4 uses interpolation algorithms to derive 9 interpolated points between every measured point.



The figure above shows the raw measured field strength perpendicular to the length of the validation dipole. The TCB guidance slides require the 3dB width to be much larger than the step size. The width between -3dB points is > 21mm, at least 4 times the step size.



This figure shows the interpolated field strength perpendicular to the dipole. The interpolated points follow the raw points with no inconsistencies.



The green line in this figure shows the axis along which the points lie.

Comparison of 5mm and 2mm step sizes

An additional set of measurements was taken: dipole validations were performed using 5mm and 2mm step sizes. The delta between the two readings is insignificant for both field types (< 0.4% for E and 0% for H), demonstrating that 5mm is sufficient. The plots follow.

Date/Time: 14/07/2005 11:35:24 AM

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Air Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of Total (measured) = 134.8 V/m

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of Total field (slot averaged) = 131.0 V/m
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

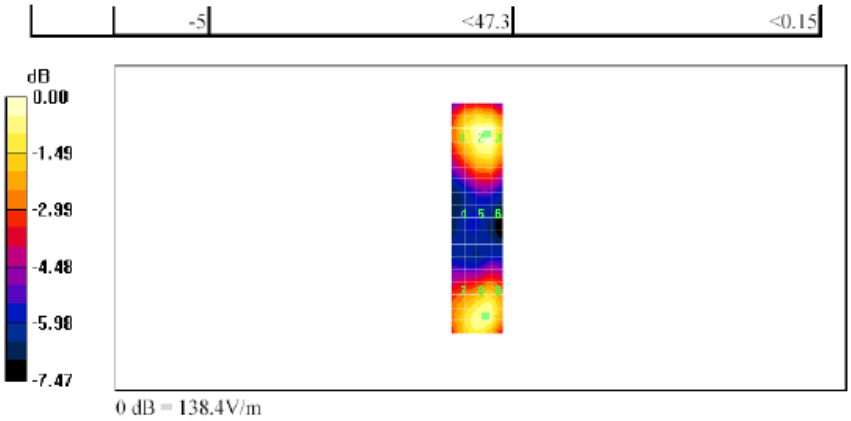
E in V/m (Time averaged)

Grid 1 **123.2**	Grid 2 **138.1**	Grid 3 **138.4**
Grid 4 **80.9**	Grid 5 **92.3**	Grid 6 **92.2**
Grid 7 **119.8**	Grid 8 **131.0**	Grid 9 **130.7**

E in V/m (Slot averaged)

Grid 1 **123.2**	Grid 2 **138.1**	Grid 3 **138.4**
Grid 4 **80.9**	Grid 5 **92.3**	Grid 6 **92.2**
Grid 7 **119.8**	Grid 8 **131.0**	Grid 9 **130.7**

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19



Date/Time: 14/07/2005 11:44:51 AM

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_2mm step_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Air Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3
Phantom section: H Device Section

DASY4 Configuration:
- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):
Measurement grid: dx=2mm, dy=2mm
Maximum value of Total (measured) = 138.0 V/m

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):
Measurement grid: dx=2mm, dy=2mm
Maximum value of Total field (slot averaged) = 131.2 V/m
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

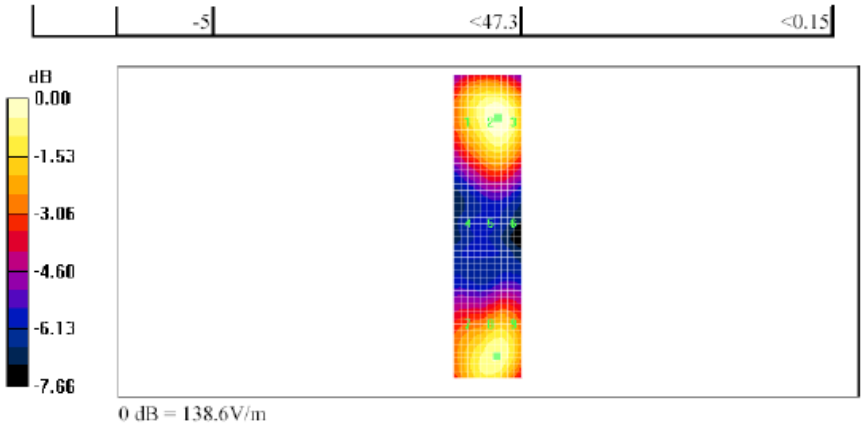
E in V/m (Time averaged)

Grid 1	Grid 2	Grid 3
123.1	**138.6**	**138.6**
Grid 4	Grid 5	Grid 6
81.4	**92.1**	**91.6**
Grid 7	Grid 8	Grid 9
121.3	**131.2**	**131.0**

E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3
123.1	**138.6**	**138.6**
Grid 4	Grid 5	Grid 6
81.4	**92.1**	**91.6**
Grid 7	Grid 8	Grid 9
121.3	**131.2**	**131.0**

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19



0 dB = 138.6V/m

Date/Time: 14/07/2005 12:43:02 PM

Lab: RIM Testing Services (RTS)

HAC_H_Dipole_CW 1880_5 mm step_07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

DASY4 Configuration:
- Probe: H3DV6 - SN6105; ; Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of Total (measured) = 0.406 A/m

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):
Measurement grid: dx=5mm, dy=5mm
Maximum value of Total field (slot averaged) = 0.406 A/m
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

H in A/m (Time averaged)

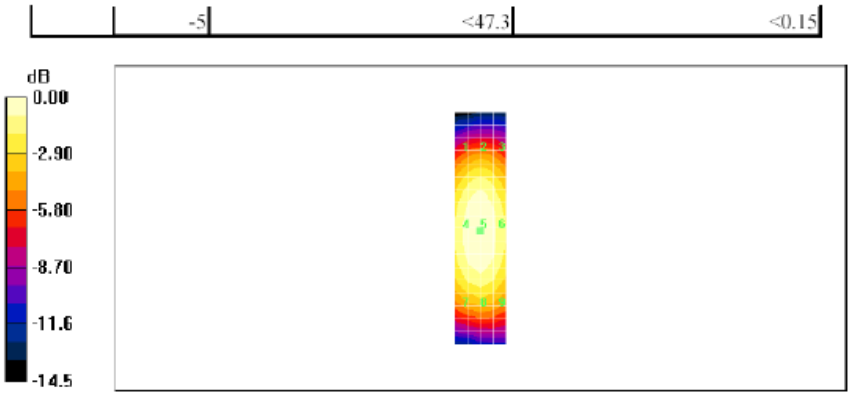
Grid 1 **0.342**	Grid 2 **0.359**	Grid 3 **0.344**
Grid 4 **0.389**	Grid 5 **0.406**	Grid 6 **0.389**
Grid 7 **0.363**	Grid 8 **0.378**	Grid 9 **0.363**

H in A/m (Slot averaged)

Grid 1 **0.342**	Grid 2 **0.359**	Grid 3 **0.344**
Grid 4 **0.389**	Grid 5 **0.406**	Grid 6 **0.389**
Grid 7 **0.363**	Grid 8 **0.378**	Grid 9 **0.363**

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

Date/Time: 14/07/2005 12:43:02 PM



0 dB = 0.406A/m

Date/Time: 14/07/2005 12:53:40 PM

Lab: RIM Testing Services (RTS)

HAC_H_Dipole_CW 1880_2 mm step_07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Air Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3
Phantom section: H Dipole Section

DASY4 Configuration:
- Probe: H3DV6 - SN6105; ; Calibrated: 10/12/2004
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/01/2005
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):
Measurement grid: dx=2mm, dy=2mm
Maximum value of Total (measured) = 0.406 A/m

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):
Measurement grid: dx=2mm, dy=2mm
Maximum value of Total field (slot averaged) = 0.406 A/m
Hearing Aid Near-Field Category: M2 (AWF 0 dB)

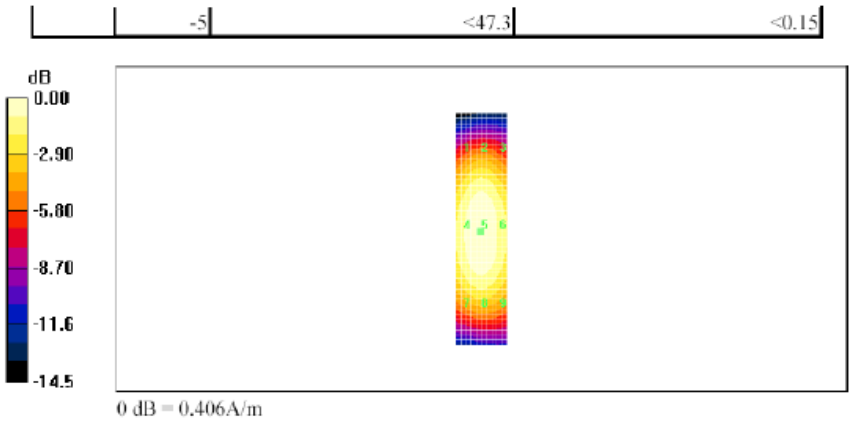
H in A/m (Time averaged)

Grid 1 **0.347**	Grid 2 **0.361**	Grid 3 **0.348**
Grid 4 **0.394**	Grid 5 **0.406**	Grid 6 **0.391**
Grid 7 **0.367**	Grid 8 **0.380**	Grid 9 **0.365**

H in A/m (Slot averaged)

Grid 1 **0.347**	Grid 2 **0.361**	Grid 3 **0.348**
Grid 4 **0.394**	Grid 5 **0.406**	Grid 6 **0.391**
Grid 7 **0.367**	Grid 8 **0.380**	Grid 9 **0.365**

Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19



0 dB = 0.406A/m

A.2 RF emission field plots

Date/Time: 8/16/2010 6:50:53 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_low_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 824.7 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 117.7 V/m; Power Drift = 0.010 dB

Maximum value of Total (measured) = 91.0 V/m

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 = 91.9 V/m

Probe Modulation Factor = 1.01

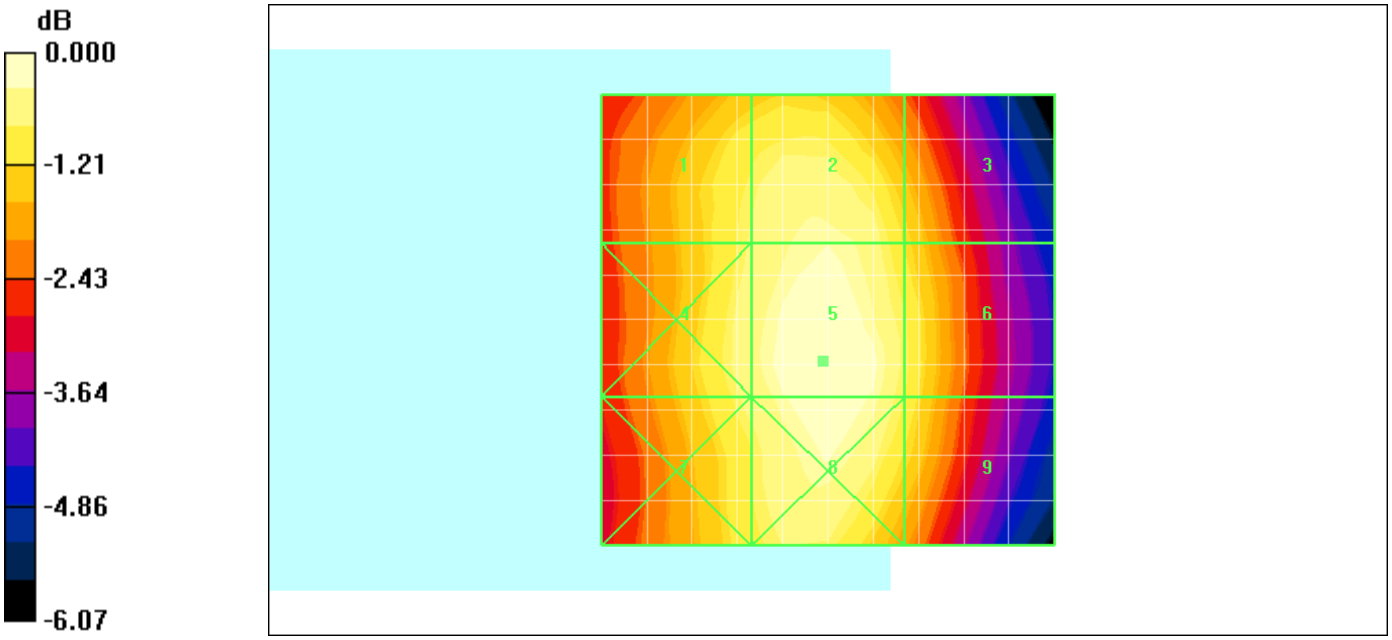
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 117.7 V/m; Power Drift = 0.010 dB

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

Peak E-field in V/m

Grid 1 **85.1 M4**	Grid 2 **88.6 M4**	Grid 3 **81.2 M4**
Grid 4 **86.9 M4**	Grid 5 **91.9 M4**	Grid 6 **84.5 M4**
Grid 7 **85.8 M4**	Grid 8 **90.8 M4**	Grid 9 **83.6 M4**



0 dB = 91.9V/m

Date/Time: 8/16/2010 6:55:42 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_mid_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 106.9 V/m; Power Drift = -0.120 dB

Maximum value of Total (measured) = 81.3 V/m

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 = 82.2 V/m

Probe Modulation Factor = 1.01

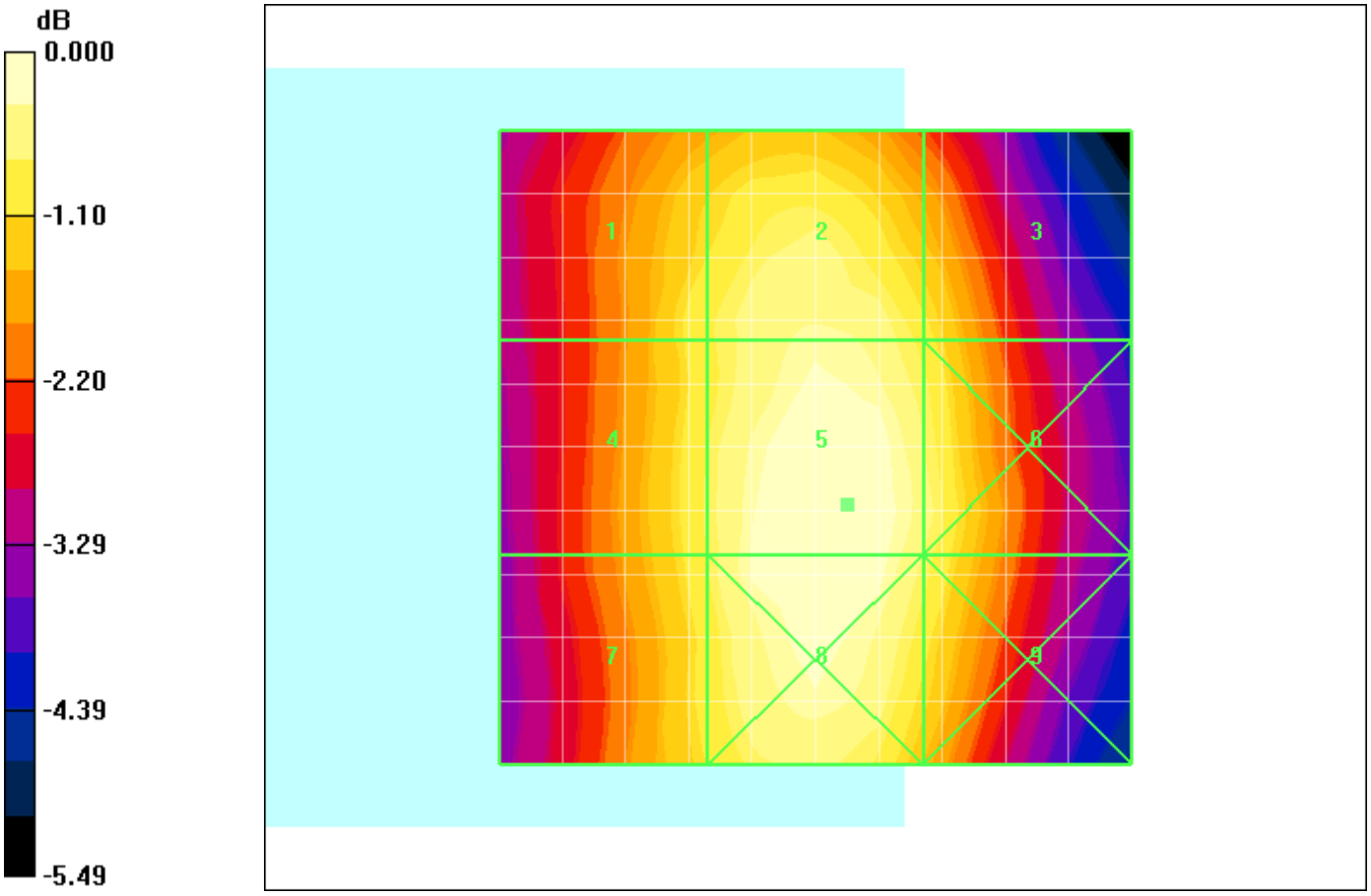
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 106.9 V/m; Power Drift = -0.120 dB

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

Peak E-field in V/m

Grid 1 **75.3 M4**	Grid 2 **79.2 M4**	Grid 3 **74.8 M4**
Grid 4 **75.9 M4**	Grid 5 **82.2 M4**	Grid 6 **77.9 M4**
Grid 7 **75.7 M4**	Grid 8 **81.7 M4**	Grid 9 **76.8 M4**



0 dB = 82.2V/m

Date/Time: 8/16/2010 7:00:30 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_high_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 118.2 V/m; Power Drift = -0.061 dB

Maximum value of Total (measured) = 90.6 V/m

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 = 91.7 V/m

Probe Modulation Factor = 1.01

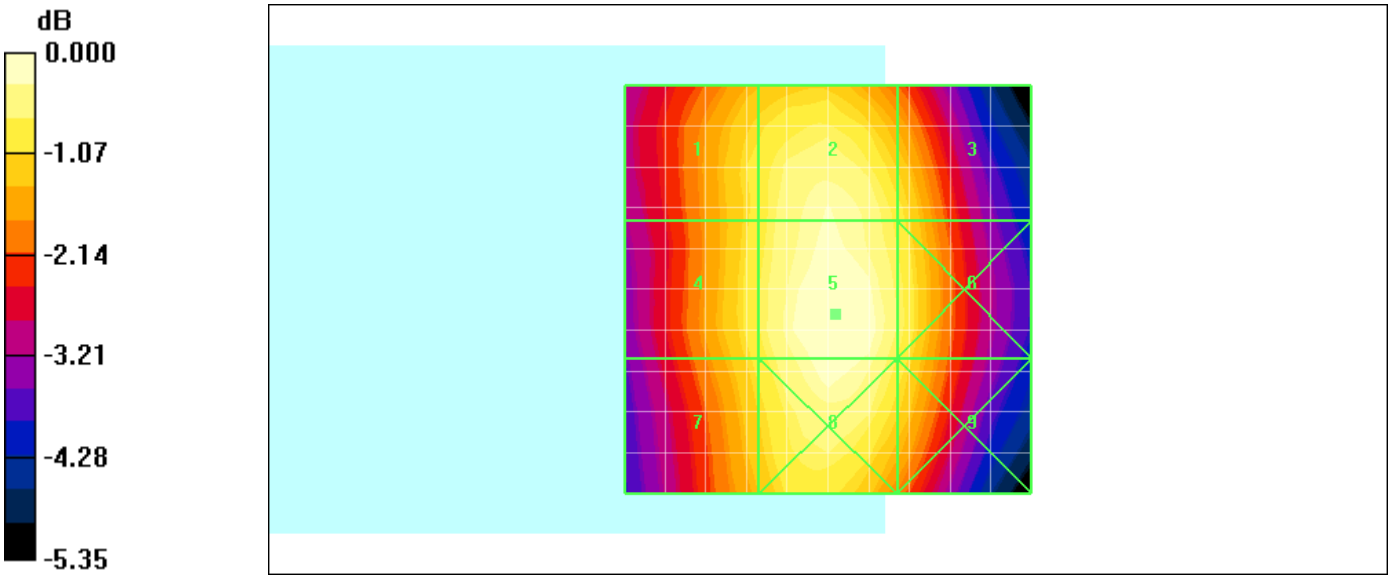
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 118.2 V/m; Power Drift = -0.061 dB

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

Peak E-field in V/m

Grid 1 **83.5 M4**	Grid 2 **89.3 M4**	Grid 3 **83.9 M4**
Grid 4 **84.5 M4**	Grid 5 **91.7 M4**	Grid 6 **85.9 M4**
Grid 7 **83.2 M4**	Grid 8 **90.5 M4**	Grid 9 **84.3 M4**



0 dB = 91.7V/m

Date/Time: 8/16/2010 6:42:14 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_low_chan_one_eight

DUT: BlackBerry Smartphone; Type

Communication System: CDMA 800 1/8 th; Frequency: 824.7 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 42.1 V/m; Power Drift = 0.045 dB

Maximum value of Total (measured) = 34.4 V/m

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 = 86.5 V/m

Probe Modulation Factor = 2.53

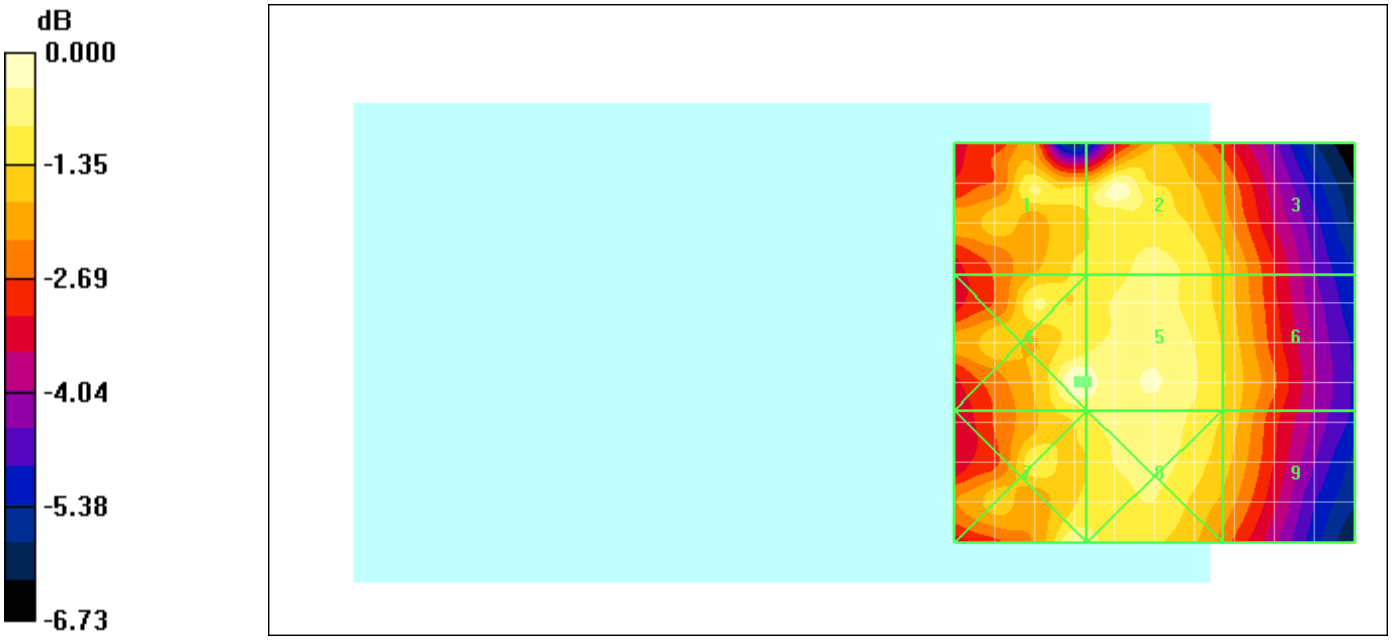
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 42.1 V/m; Power Drift = 0.045 dB

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

Peak E-field in V/m

Grid 1 **79.6 M4**	Grid 2 **86.0 M4**	Grid 3 **73.2 M4**
Grid 4 **87.5 M4**	Grid 5 **86.5 M4**	Grid 6 **75.4 M4**
Grid 7 **84.2 M4**	Grid 8 **83.3 M4**	Grid 9 **74.7 M4**



0 dB = 87.5V/m

Date/Time: 8/16/2010 7:07:50 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_low_chan_T_Coil_Center

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 824.7 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 115.7 V/m; Power Drift = -0.090 dB

Maximum value of Total (measured) = 88.1 V/m

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 = 87.8 V/m

Probe Modulation Factor = 1.01

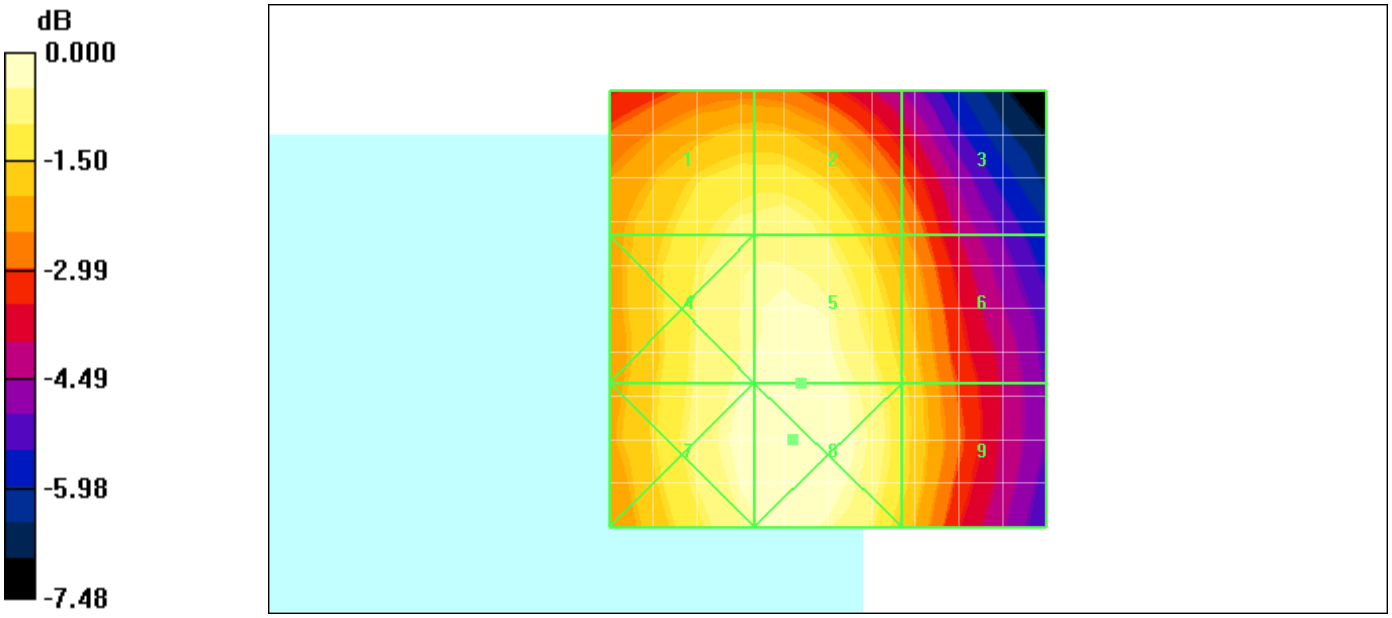
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 115.7 V/m; Power Drift = -0.090 dB

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

Peak E-field in V/m

Grid 1 **82.5 M4**	Grid 2 **83.2 M4**	Grid 3 **68.8 M4**
Grid 4 **86.0 M4**	Grid 5 **87.8 M4**	Grid 6 **76.0 M4**
Grid 7 **87.3 M4**	Grid 8 **89.1 M4**	Grid 9 **77.0 M4**



0 dB = 89.1V/m

Date/Time: 8/16/2010 7:14:32 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_1900_low_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 50.6 V/m; Power Drift = -0.001 dB

Maximum value of Total (measured) = 53.8 V/m

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 = 47.6 V/m

Probe Modulation Factor = 0.980

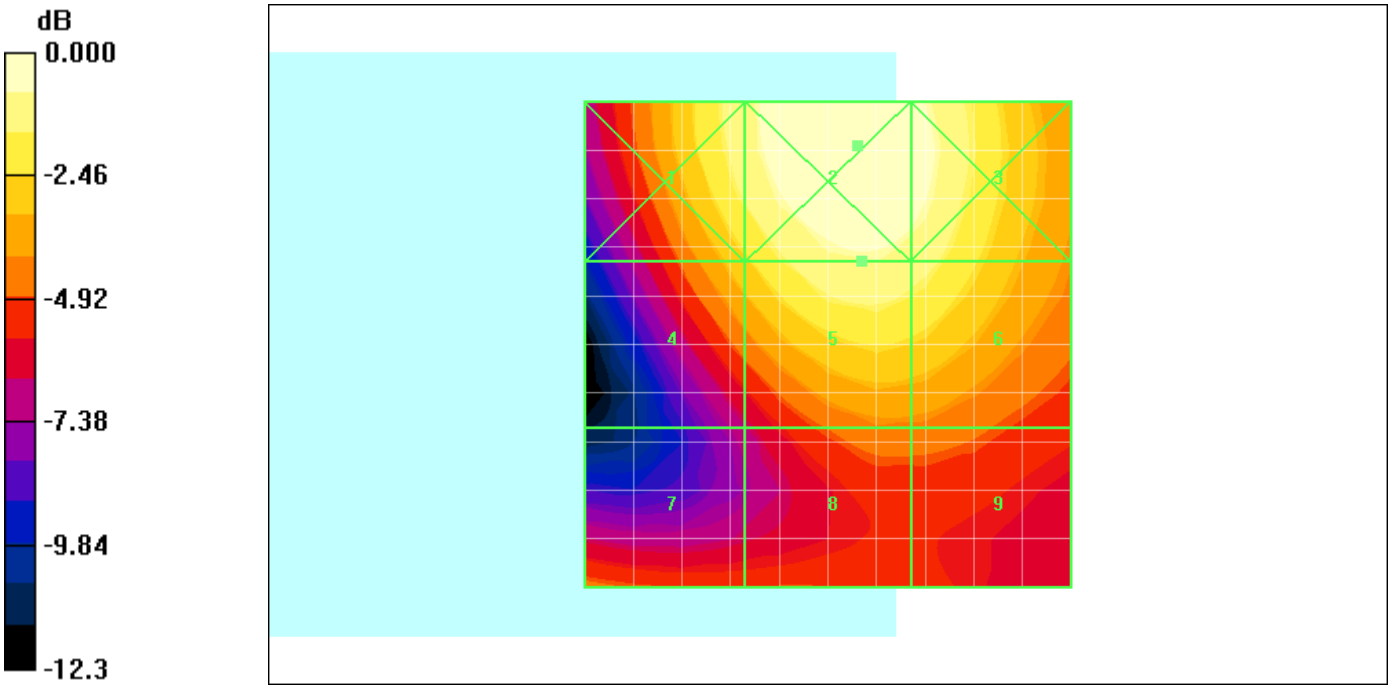
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 50.6 V/m; Power Drift = -0.001 dB

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

Peak E-field in V/m

Grid 1 **47.0 M4**	Grid 2 **53.1 M4**	Grid 3 **50.7 M4**
Grid 4 **39.2 M4**	Grid 5 **47.6 M4**	Grid 6 **46.1 M4**
Grid 7 **31.3 M4**	Grid 8 **32.4 M4**	Grid 9 **32.2 M4**



0 dB = 53.1V/m

Date/Time: 8/16/2010 7:19:31 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_1900_mid_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 31.8 V/m; Power Drift = 0.014 dB

Maximum value of Total (measured) = 37.6 V/m

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 = 32.0 V/m

Probe Modulation Factor = 0.980

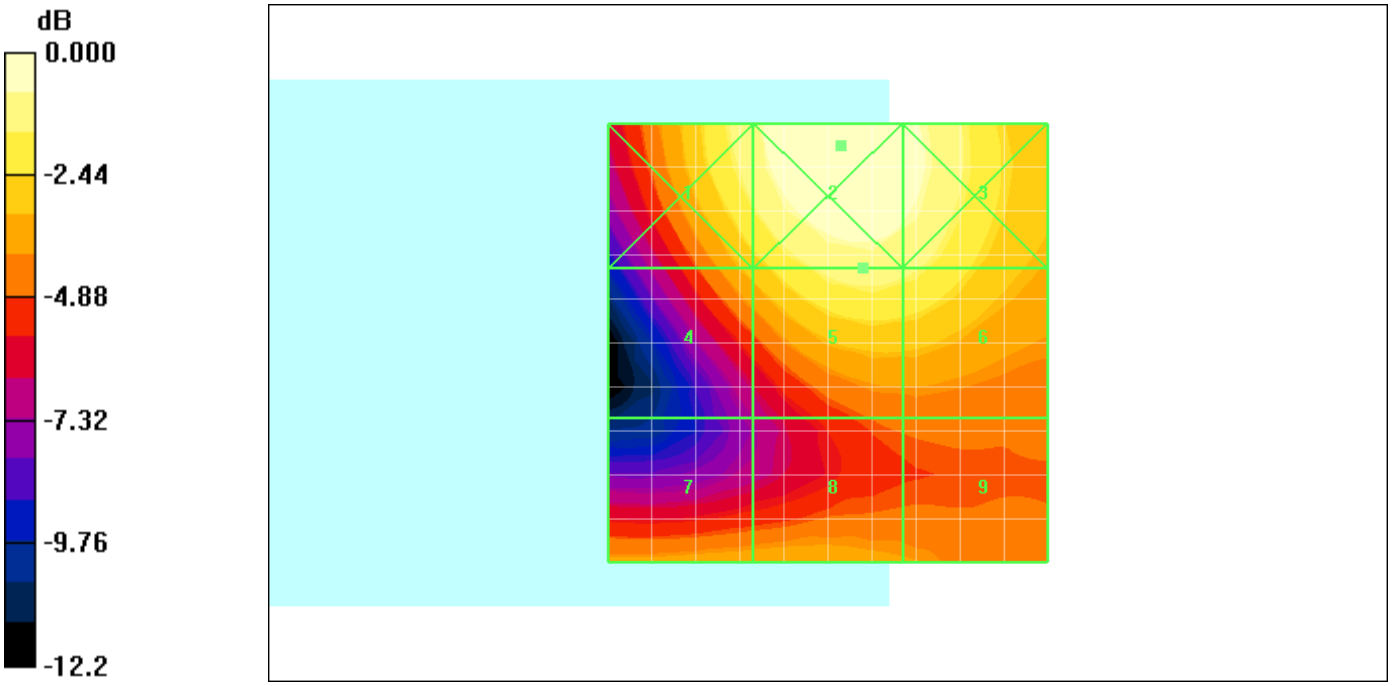
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 31.8 V/m; Power Drift = 0.014 dB

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

Peak E-field in V/m

Grid 1 **33.1 M4**	Grid 2 **37.1 M4**	Grid 3 **35.2 M4**
Grid 4 **26.6 M4**	Grid 5 **32.0 M4**	Grid 6 **31.4 M4**
Grid 7 **24.8 M4**	Grid 8 **25.2 M4**	Grid 9 **23.7 M4**



0 dB = 37.1V/m

Date/Time: 8/16/2010 7:24:39 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_1900_high_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1908.5 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 29.1 V/m; Power Drift = -0.167 dB

Maximum value of Total (measured) = 34.2 V/m

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 = 28.8 V/m

Probe Modulation Factor = 0.980

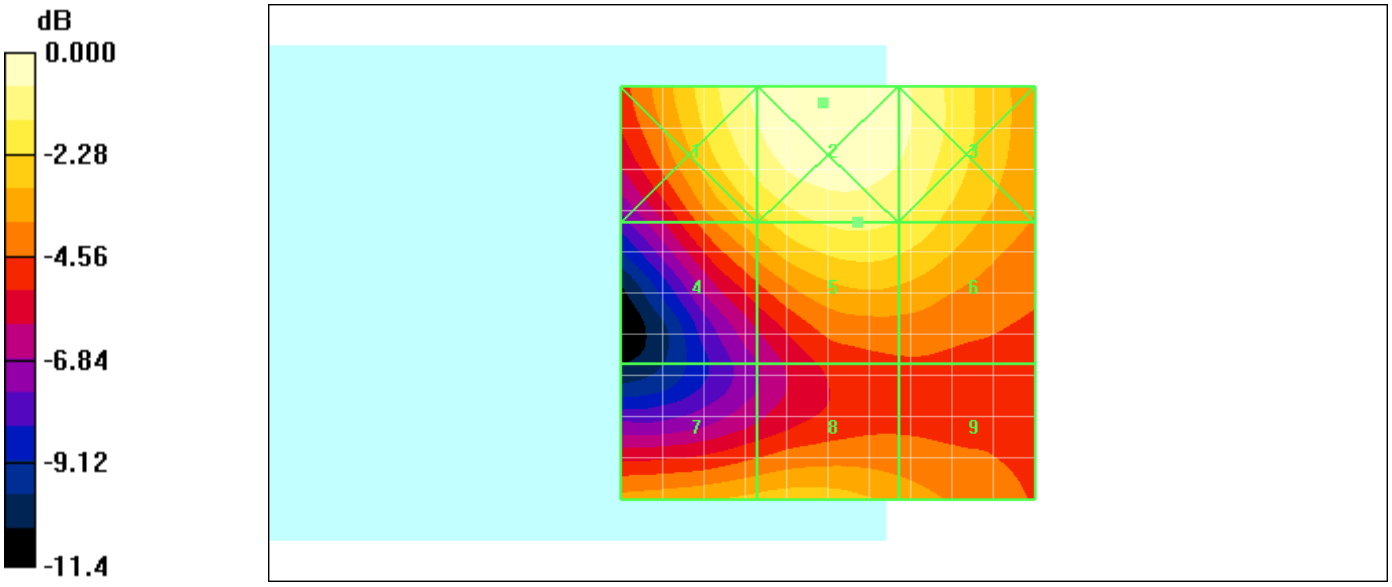
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 29.1 V/m; Power Drift = -0.167 dB

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

Peak E-field in V/m

Grid 1 **31.5 M4**	Grid 2 **33.6 M4**	Grid 3 **31.6 M4**
Grid 4 **25.0 M4**	Grid 5 **28.8 M4**	Grid 6 **28.1 M4**
Grid 7 **24.5 M4**	Grid 8 **25.1 M4**	Grid 9 **23.1 M4**



0 dB = 33.6V/m

Date/Time: 8/16/2010 7:30:22 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_1900_low_chan_one_eighth

DUT: BlackBerry Smartphone

Communication System: CDMA 1900 1/8 th; Frequency: 1851.25 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 17.4 V/m; Power Drift = 0.058 dB

Maximum value of Total (measured) = 20.5 V/m

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 = 44.1 V/m

Probe Modulation Factor = 2.49

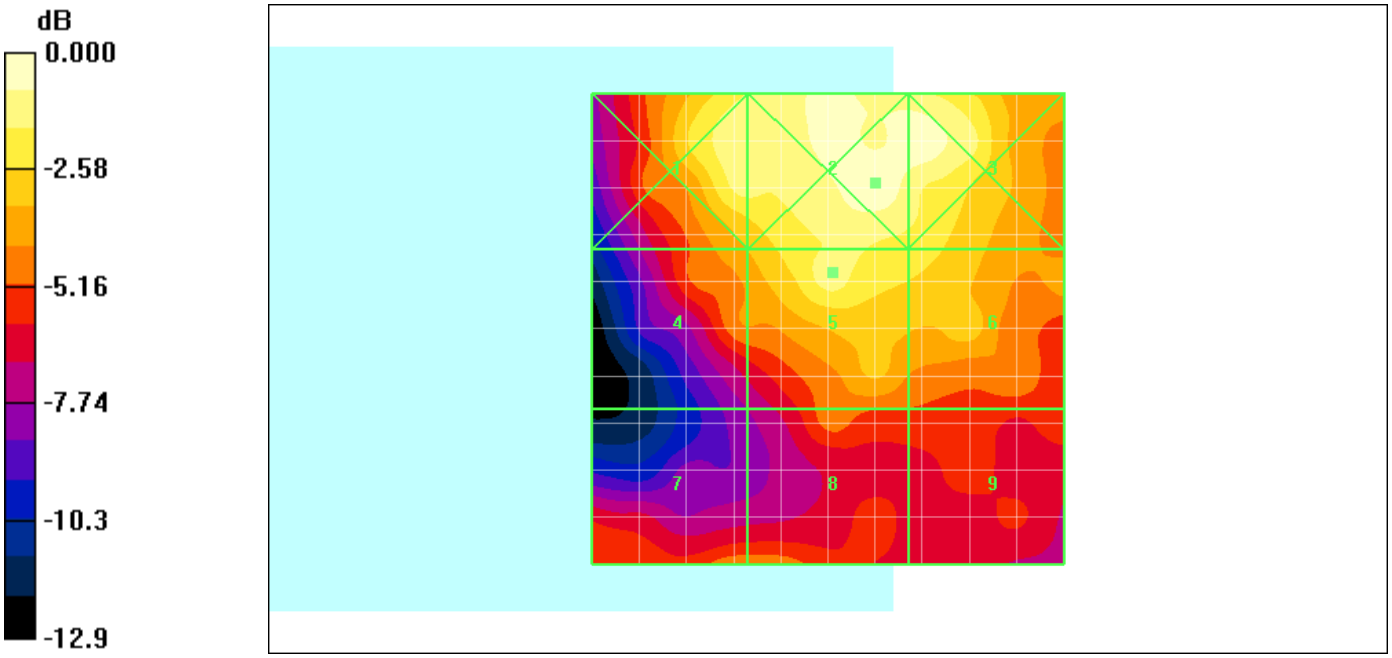
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 17.4 V/m; Power Drift = 0.058 dB

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

Peak E-field in V/m

Grid 1 **46.2 M4**	Grid 2 **51.2 M4**	Grid 3 **49.7 M4**
Grid 4 **34.7 M4**	Grid 5 **44.1 M4**	Grid 6 **40.5 M4**
Grid 7 **31.0 M4**	Grid 8 **31.1 M4**	Grid 9 **28.3 M4**



0 dB = 51.2V/m

Date/Time: 8/16/2010 7:36:26 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_1900_low_chan_T_Coil_Center

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/8/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 49.1 V/m; Power Drift = 0.029 dB

Maximum value of Total (measured) = 53.0 V/m

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 = 51.8 V/m

Probe Modulation Factor = 0.980

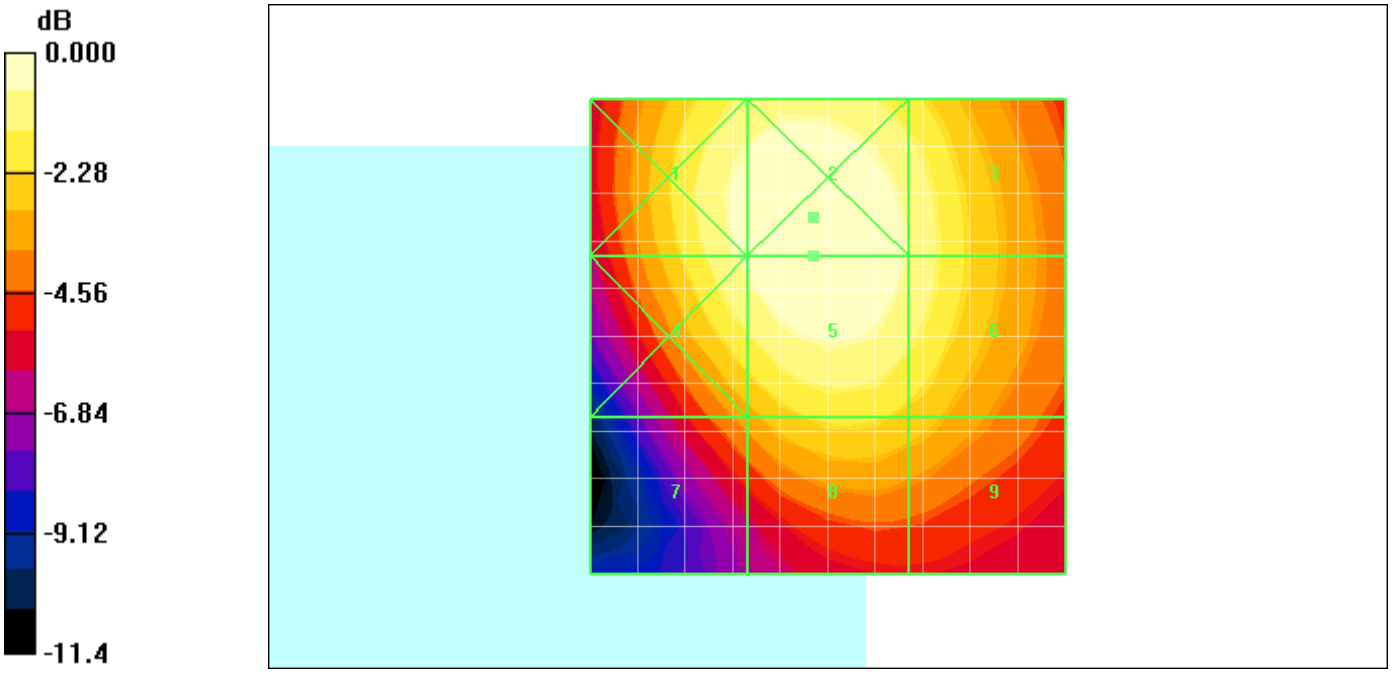
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 49.1 V/m; Power Drift = 0.029 dB

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

Peak E-field in V/m

Grid 1 **49.6 M4**	Grid 2 **52.2 M4**	Grid 3 **47.1 M4**
Grid 4 **48.7 M4**	Grid 5 **51.8 M4**	Grid 6 **47.1 M4**
Grid 7 **35.2 M4**	Grid 8 **41.0 M4**	Grid 9 **38.9 M4**



0 dB = 52.2V/m

Date/Time: 8/16/2010 11:40:45 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_low_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 824.7 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.086 A/m; Power Drift = -0.088 dB

Maximum value of Total (measured) = 0.177 A/m

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 = 0.125 A/m

Probe Modulation Factor = 1.01

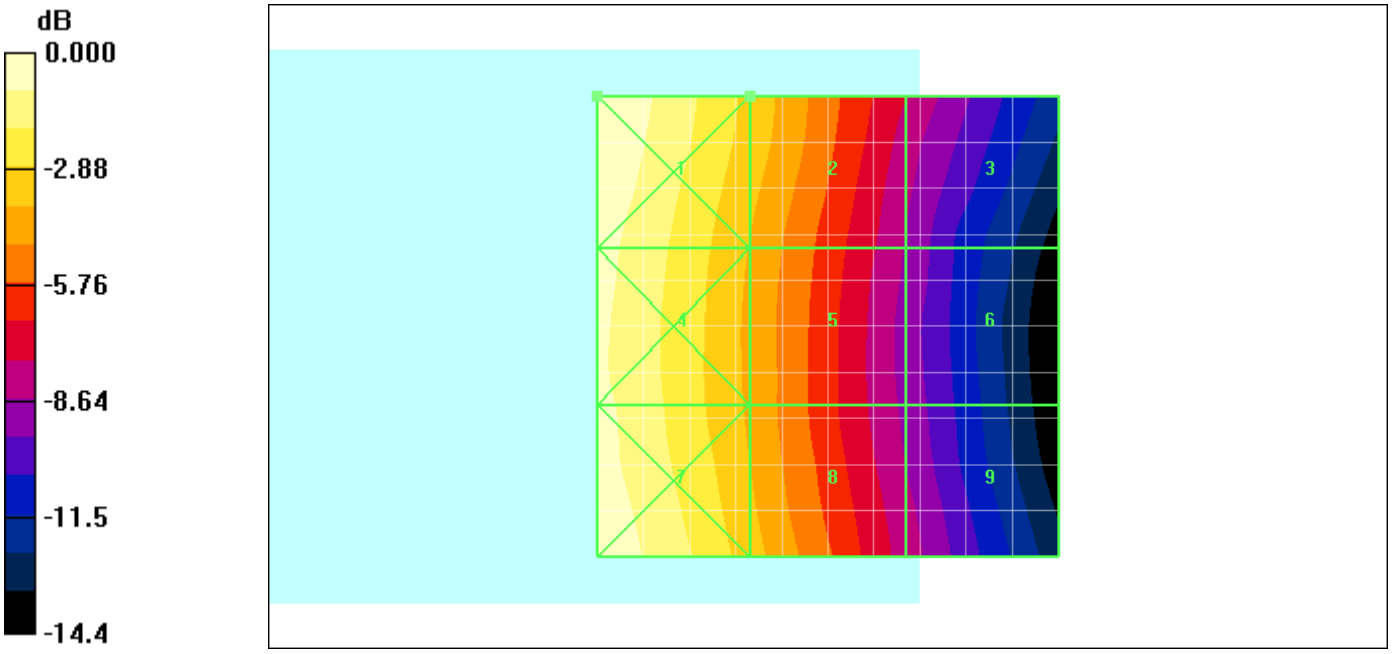
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.086 A/m; Power Drift = -0.088 dB

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

Peak H-field in A/m

Grid 1 **0.179 M4**	Grid 2 **0.125 M4**	Grid 3 **0.074 M4**
Grid 4 **0.167 M4**	Grid 5 **0.115 M4**	Grid 6 **0.066 M4**
Grid 7 **0.178 M4**	Grid 8 **0.122 M4**	Grid 9 **0.071 M4**



0 dB = 0.179A/m

Date/Time: 8/16/2010 11:45:57 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_mid_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 836.52 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.082 A/m; Power Drift = 0.034 dB

Maximum value of Total (measured) = 0.163 A/m

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 = 0.165 A/m

Probe Modulation Factor = 1.01

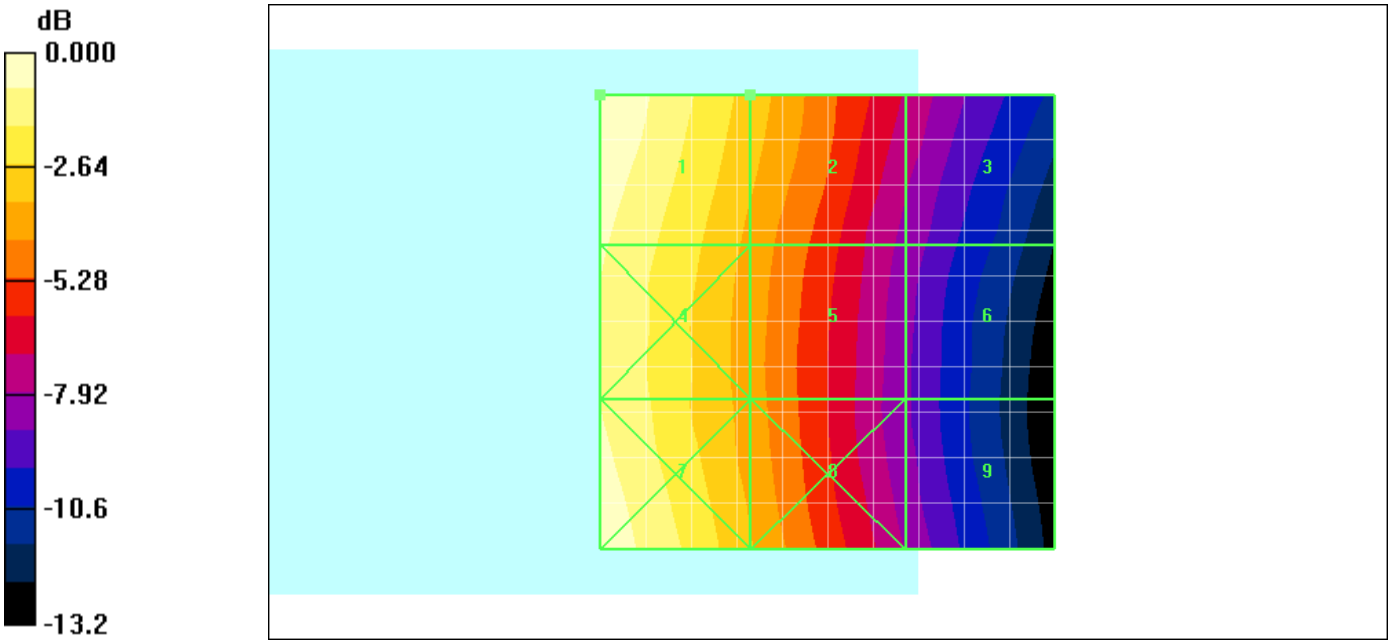
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.082 A/m; Power Drift = 0.034 dB

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

Peak H-field in A/m

Grid 1 **0.165 M4**	Grid 2 **0.117 M4**	Grid 3 **0.073 M4**
Grid 4 **0.151 M4**	Grid 5 **0.107 M4**	Grid 6 **0.064 M4**
Grid 7 **0.160 M4**	Grid 8 **0.111 M4**	Grid 9 **0.066 M4**



0 dB = 0.165A/m

Date/Time: 8/16/2010 11:52:26 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_high_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:1

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.098 A/m; Power Drift = 0.262 dB

Maximum value of Total (measured) = 0.191 A/m

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 = 0.180 A/m

Probe Modulation Factor = 1.01

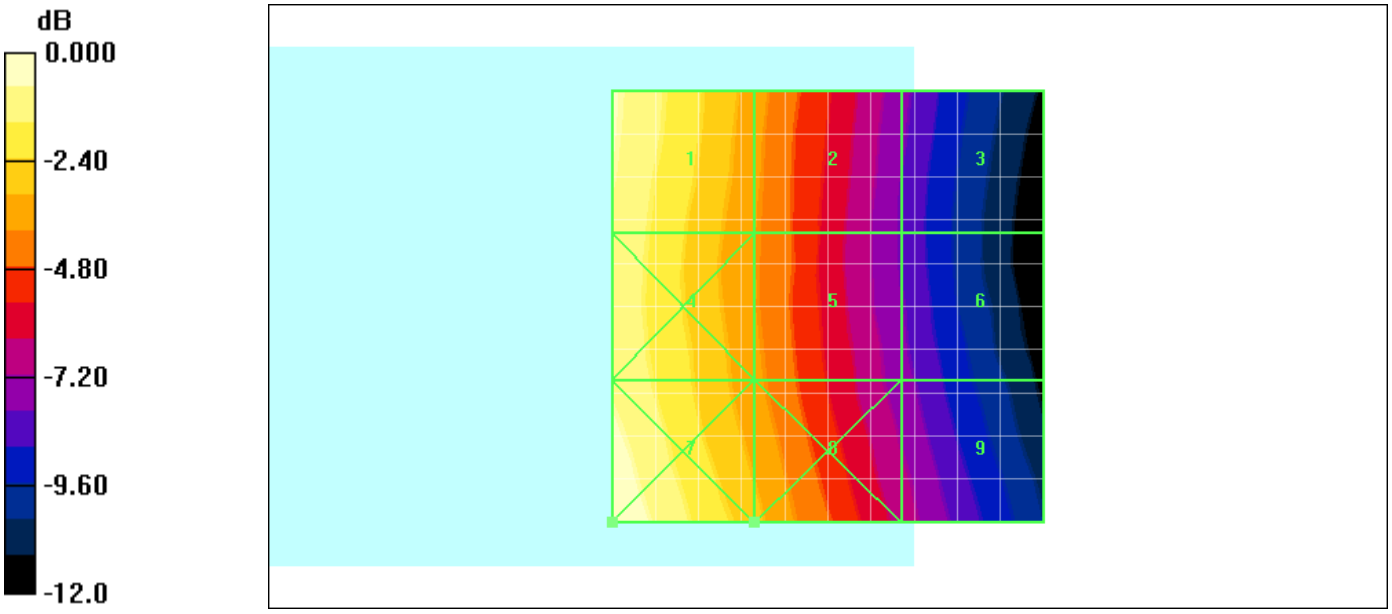
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.098 A/m; Power Drift = 0.262 dB

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

Peak H-field in A/m

Grid 1 **0.180 M4**	Grid 2 **0.128 M4**	Grid 3 **0.080 M4**
Grid 4 **0.175 M4**	Grid 5 **0.126 M4**	Grid 6 **0.081 M4**
Grid 7 **0.193 M4**	Grid 8 **0.139 M4**	Grid 9 **0.090 M4**



0 dB = 0.193A/m

Date/Time: 8/16/2010 11:57:58 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_high_chan_one_eighth

DUT: BlackBerry Smartphone

Communication System: CDMA 800 1/8 th; Frequency: 848.52 MHz;Duty Cycle: 1:8.3

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1 kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.036 A/m; Power Drift = 0.106 dB

Maximum value of Total (measured) = 0.068 A/m

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 = 0.124 A/m

Probe Modulation Factor = 2.46

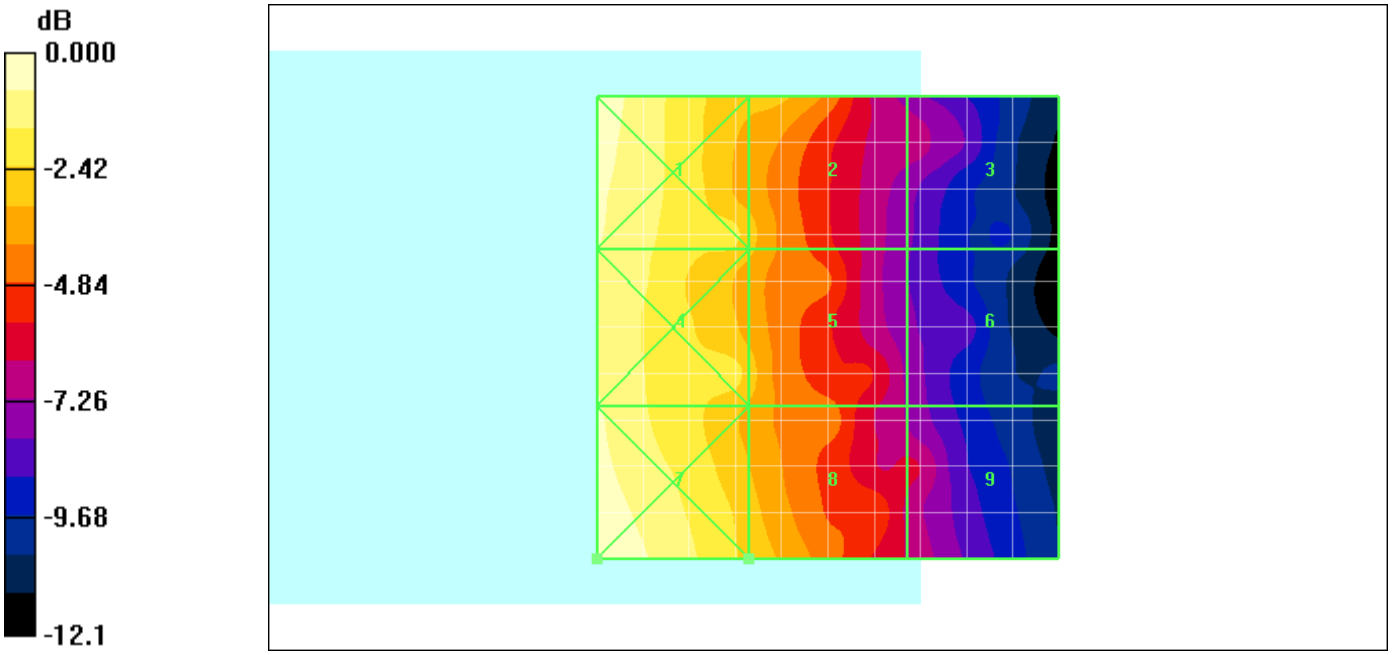
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.036 A/m; Power Drift = 0.106 dB

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

Peak H-field in A/m

Grid 1 **0.162 M4**	Grid 2 **0.122 M4**	Grid 3 **0.077 M4**
Grid 4 **0.155 M4**	Grid 5 **0.122 M4**	Grid 6 **0.072 M4**
Grid 7 **0.168 M4**	Grid 8 **0.124 M4**	Grid 9 **0.082 M4**



0 dB = 0.168A/m

Date/Time: 8/17/2010 12:04:29 AM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_high_chan_T_Coil_Canter

DUT: BlackBerry Smartphone

Communication System: CDMA 800; Frequency: 848.52 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.100 A/m; Power Drift = -0.028 dB

Maximum value of Total (measured) = 0.171 A/m

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 = 0.120 A/m

Probe Modulation Factor = 1.01

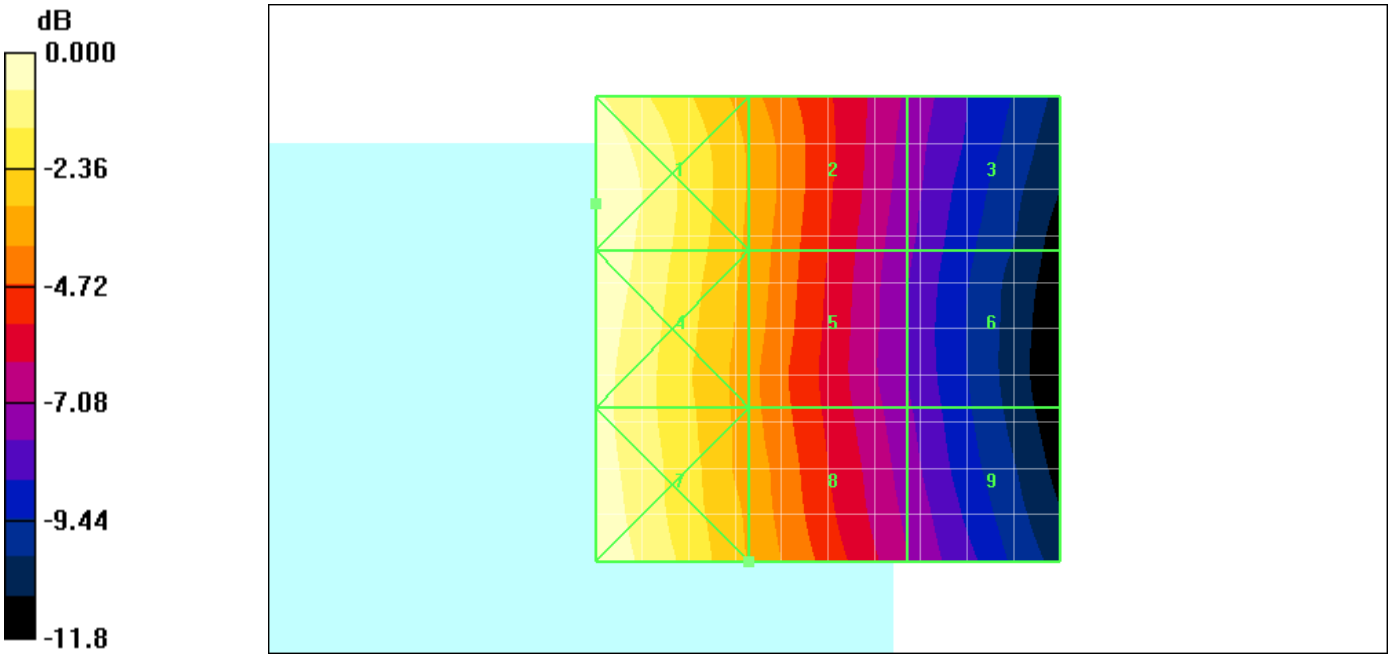
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.100 A/m; Power Drift = -0.028 dB

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

Peak H-field in A/m

Grid 1 **0.173 M4**	Grid 2 **0.120 M4**	Grid 3 **0.076 M4**
Grid 4 **0.171 M4**	Grid 5 **0.118 M4**	Grid 6 **0.072 M4**
Grid 7 **0.171 M4**	Grid 8 **0.120 M4**	Grid 9 **0.077 M4**



0 dB = 0.173A/m

Date/Time: 8/16/2010 7:45:23 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_1900_low_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.125 A/m; Power Drift = -0.073 dB

Maximum value of Total (measured) = 0.144 A/m

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 = 0.112 A/m

Probe Modulation Factor = 0.960

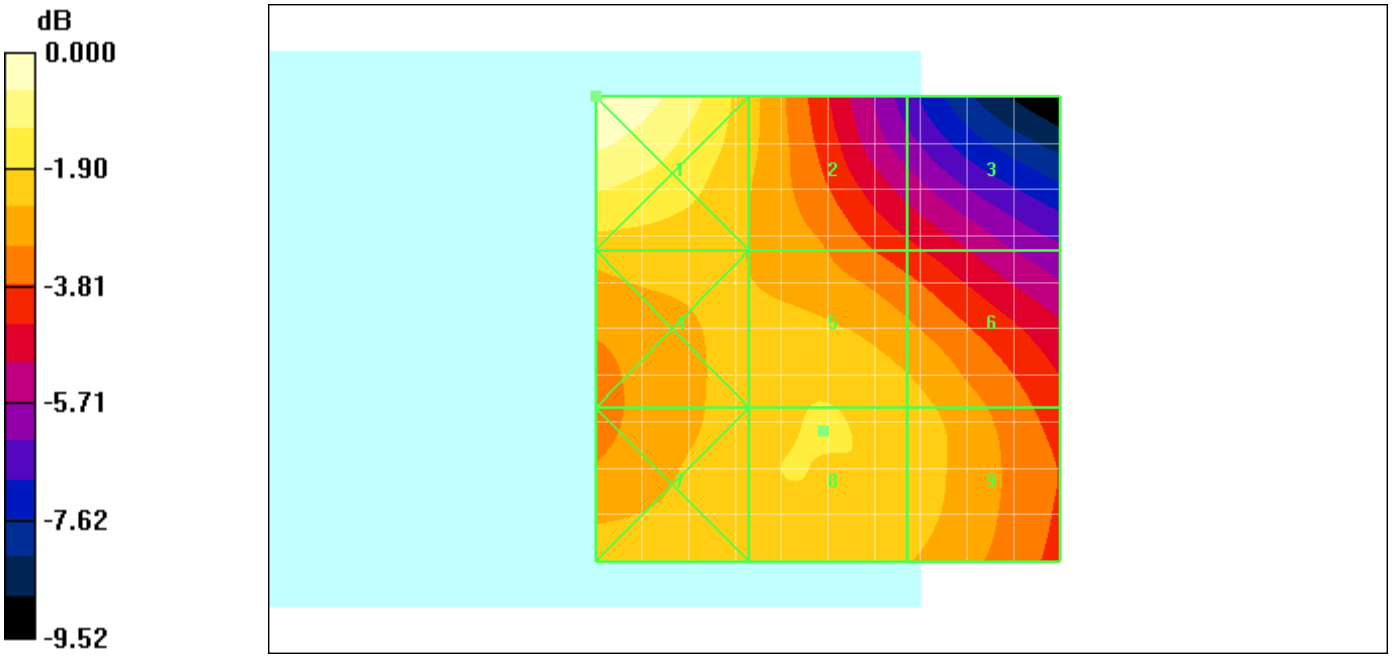
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.125 A/m; Power Drift = -0.073 dB

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

Peak H-field in A/m

Grid 1 **0.138 M4**	Grid 2 **0.106 M4**	Grid 3 **0.085 M4**
Grid 4 **0.108 M4**	Grid 5 **0.111 M4**	Grid 6 **0.106 M4**
Grid 7 **0.109 M4**	Grid 8 **0.112 M4**	Grid 9 **0.108 M4**



0 dB = 0.138A/m

Date/Time: 8/16/2010 7:51:44 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_1900_mid_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.096 A/m; Power Drift = 0.044 dB

Maximum value of Total (measured) = 0.097 A/m

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 = 0.086 A/m

Probe Modulation Factor = 0.960

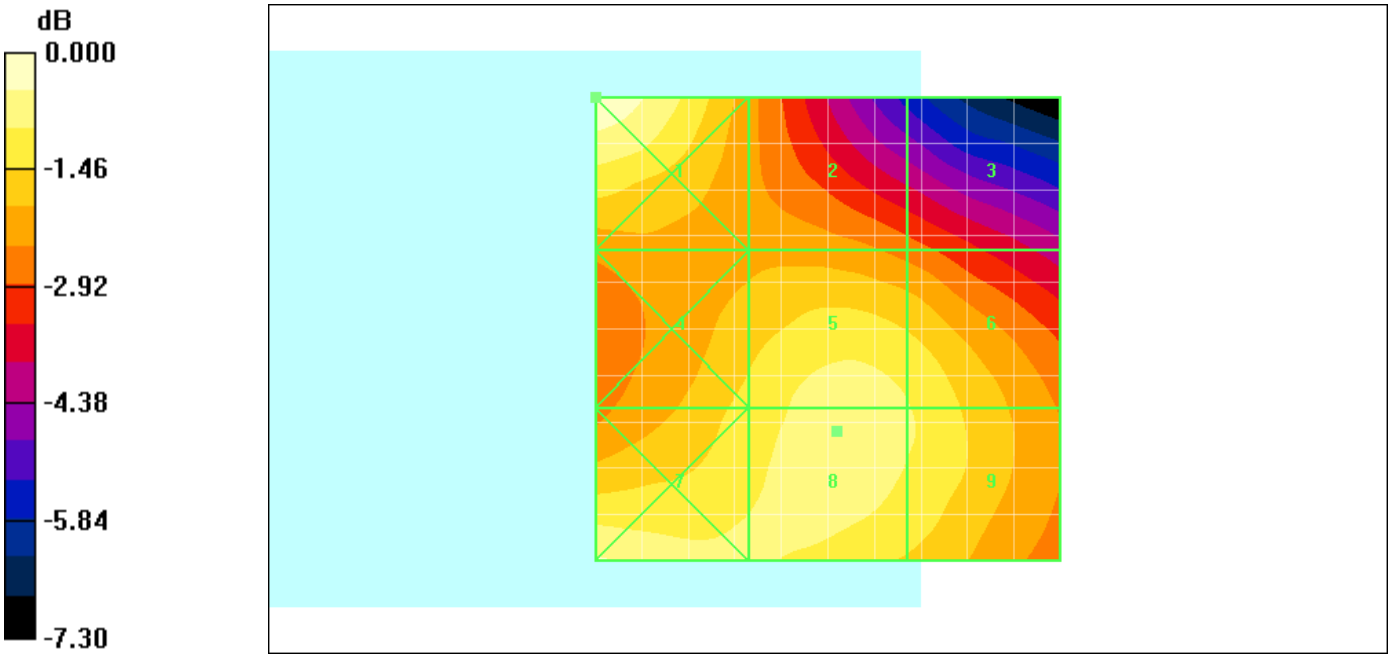
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.096 A/m; Power Drift = 0.044 dB

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

Peak H-field in A/m

Grid 1 **0.093 M4**	Grid 2 **0.073 M4**	Grid 3 **0.069 M4**
Grid 4 **0.080 M4**	Grid 5 **0.086 M4**	Grid 6 **0.083 M4**
Grid 7 **0.089 M4**	Grid 8 **0.086 M4**	Grid 9 **0.084 M4**



0 dB = 0.093A/m

Date/Time: 8/16/2010 7:56:41 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_1900_high_chan

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1908.5 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.091 A/m; Power Drift = 0.246 dB

Maximum value of Total (measured) = 0.093 A/m

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 = 0.081 A/m

Probe Modulation Factor = 0.960

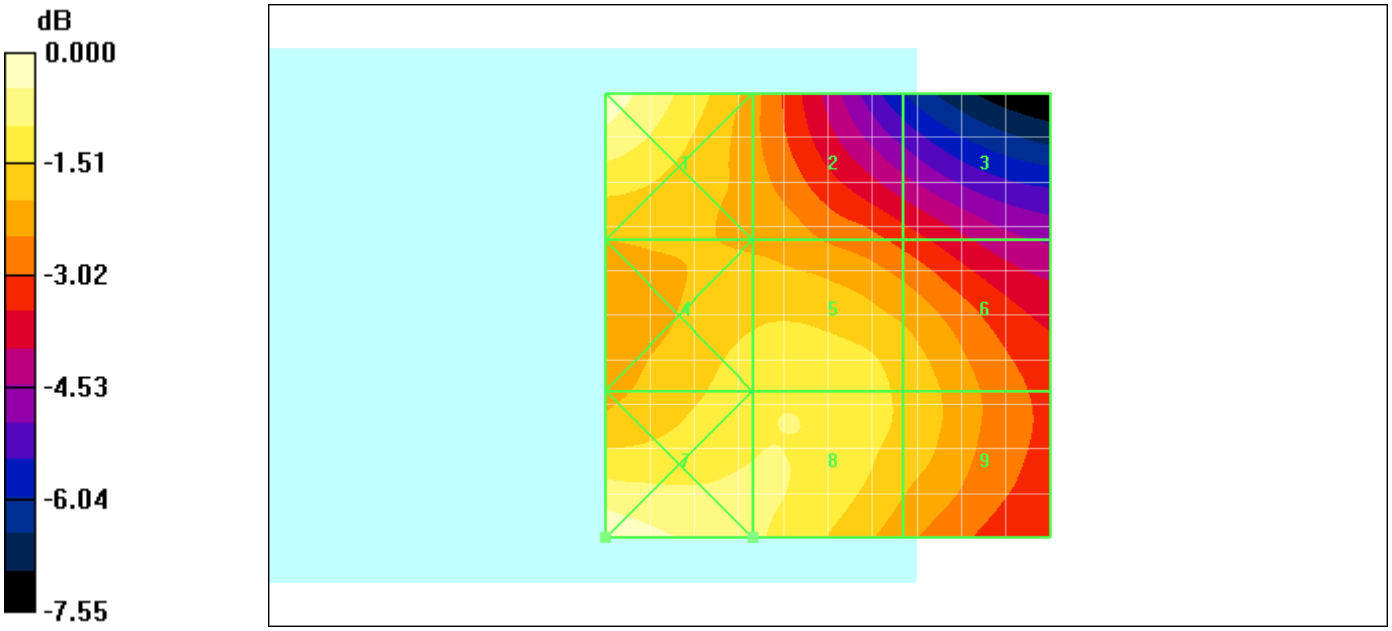
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.091 A/m; Power Drift = 0.246 dB

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

Peak H-field in A/m

Grid 1 **0.088 M4**	Grid 2 **0.071 M4**	Grid 3 **0.062 M4**
Grid 4 **0.079 M4**	Grid 5 **0.080 M4**	Grid 6 **0.075 M4**
Grid 7 **0.090 M4**	Grid 8 **0.081 M4**	Grid 9 **0.075 M4**



0 dB = 0.090A/m

Date/Time: 8/16/2010 8:01:54 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_1900_low_chan_one_eighth

DUT: BlackBerry Smartphone

Communication System: CDMA 1900 1/8th; Frequency: 1851.25 MHz;Duty Cycle: 1:8.3

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.043 A/m; Power Drift = 0.012 dB

Maximum value of Total (measured) = 0.052 A/m

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 = 0.109 A/m

Probe Modulation Factor = 2.32

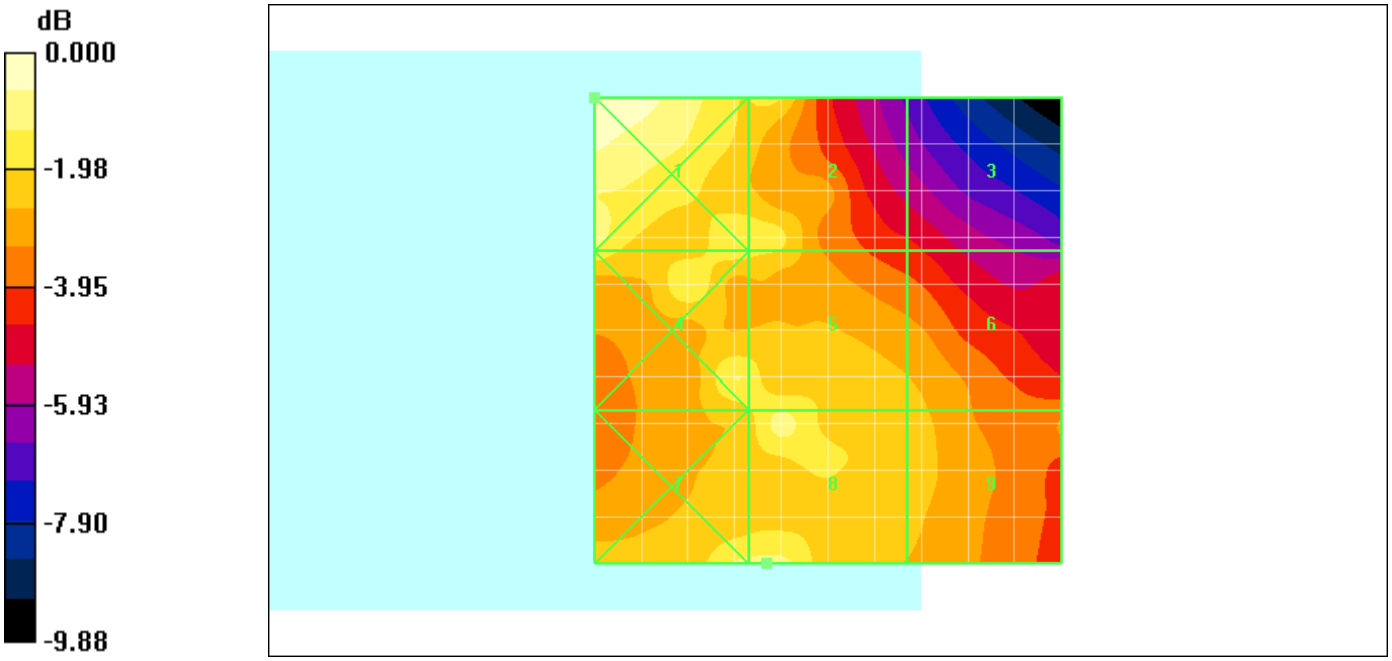
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.043 A/m; Power Drift = 0.012 dB

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

Peak H-field in A/m

Grid 1 **0.122 M4**	Grid 2 **0.102 M4**	Grid 3 **0.074 M4**
Grid 4 **0.105 M4**	Grid 5 **0.104 M4**	Grid 6 **0.093 M4**
Grid 7 **0.108 M4**	Grid 8 **0.109 M4**	Grid 9 **0.094 M4**



0 dB = 0.122A/m

Date/Time: 8/16/2010 8:08:01 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_1900_low_chan_T_Coil_Center

DUT: BlackBerry Smartphone

Communication System: CDMA 1900; Frequency: 1851.25 MHz;Duty Cycle: 1:1

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1$ kg/m^3

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 3/12/2010
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

H Scan - H3DV6 - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (11x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.124 A/m; Power Drift = 0.029 dB

Maximum value of Total (measured) = 0.143 A/m

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 = 0.113 A/m

Probe Modulation Factor = 0.960

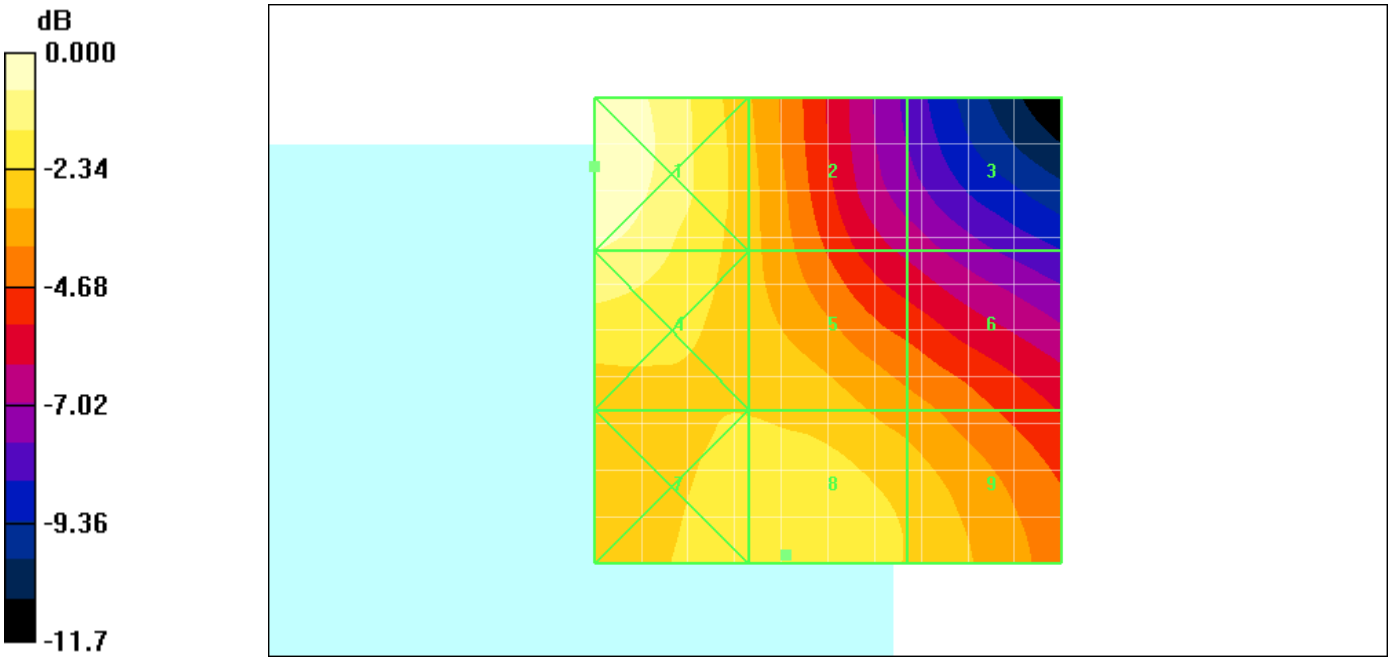
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.124 A/m; Power Drift = 0.029 dB

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

Peak H-field in A/m

Grid 1 **0.138 M4**	Grid 2 **0.100 M4**	Grid 3 **0.066 M4**
Grid 4 **0.126 M4**	Grid 5 **0.105 M4**	Grid 6 **0.092 M4**
Grid 7 **0.111 M4**	Grid 8 **0.113 M4**	Grid 9 **0.105 M4**



0 dB = 0.138A/m