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Annex A: Measurement data and plots

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A.1 Dipole validation plots

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Date/Time: 6/9/2010 2:30:14 PM

Test Laboratory: RIM Testing Services

HAC_E_Dipole_CW835_20.00dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3

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

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

Phantom section: 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 = 100.5 V/m; Power Drift = 0.226 dB

Maximum value of Total (measured) = 161.6 V/m

E Scan - measurement distance from the probe sensor center to

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CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):

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

Maximum value of peak Total field = 162.5 V/m

Probe Modulation Factor = 1.00


Device Reference Point: 0.000, 0.000, -6.30 mm

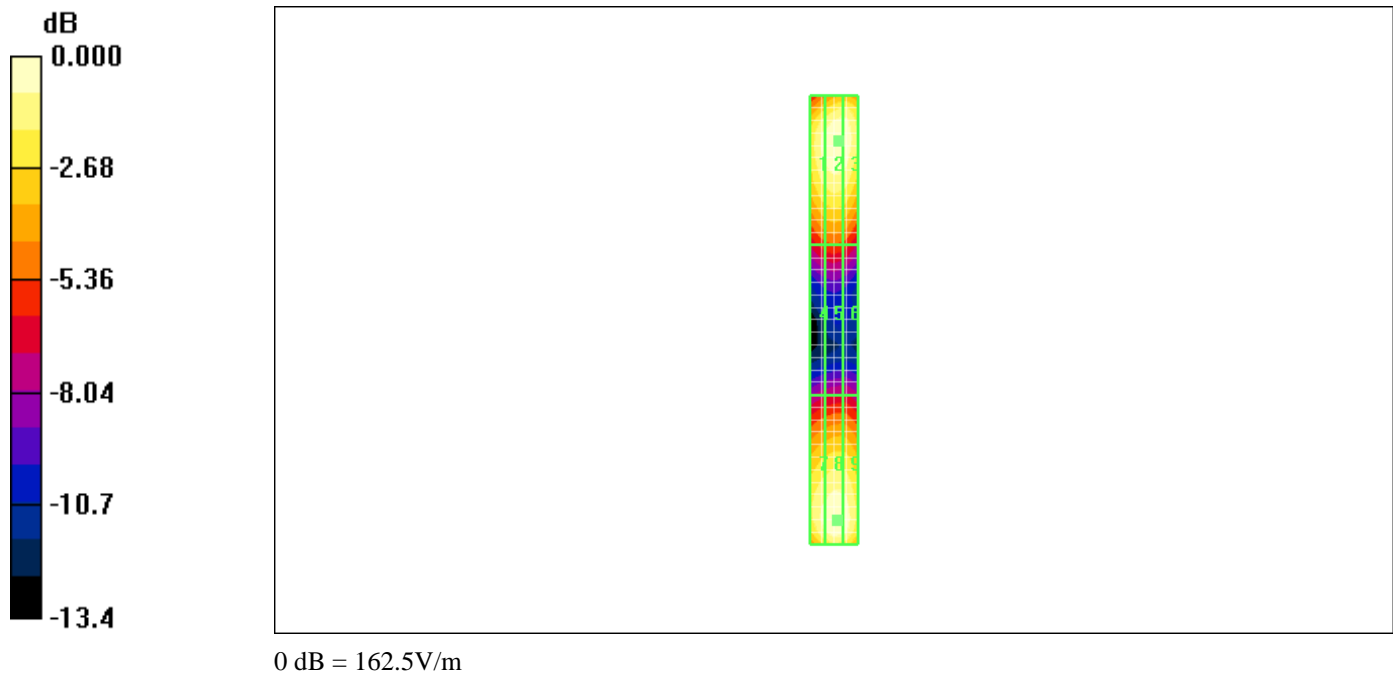
Reference Value = 100.5 V/m; Power Drift = 0.226 dB


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

Peak E-field in V/m

Grid 1 154.2 M4	Grid 2 162.5 M4	Grid 3 161.6 M4
Grid 4 85.0 M4	Grid 5 87.4 M4	Grid 6 85.3 M4
Grid 7 154.7 M4	Grid 8 162.0 M4	Grid 9 159.9 M4

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Date/Time: 6/9/2010 2:46:41 PM

Test Laboratory: RIM Testing Services

HAC_E_Dipole_CW1880_20.00dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

Phantom section: 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 = 144.9 V/m; Power Drift = 0.048 dB

Maximum value of Total (measured) = 126.8 V/m

E Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of peak Total field = 128.4 V/m

Probe Modulation Factor = 1.00


Device Reference Point: 0.000, 0.000, -6.30 mm

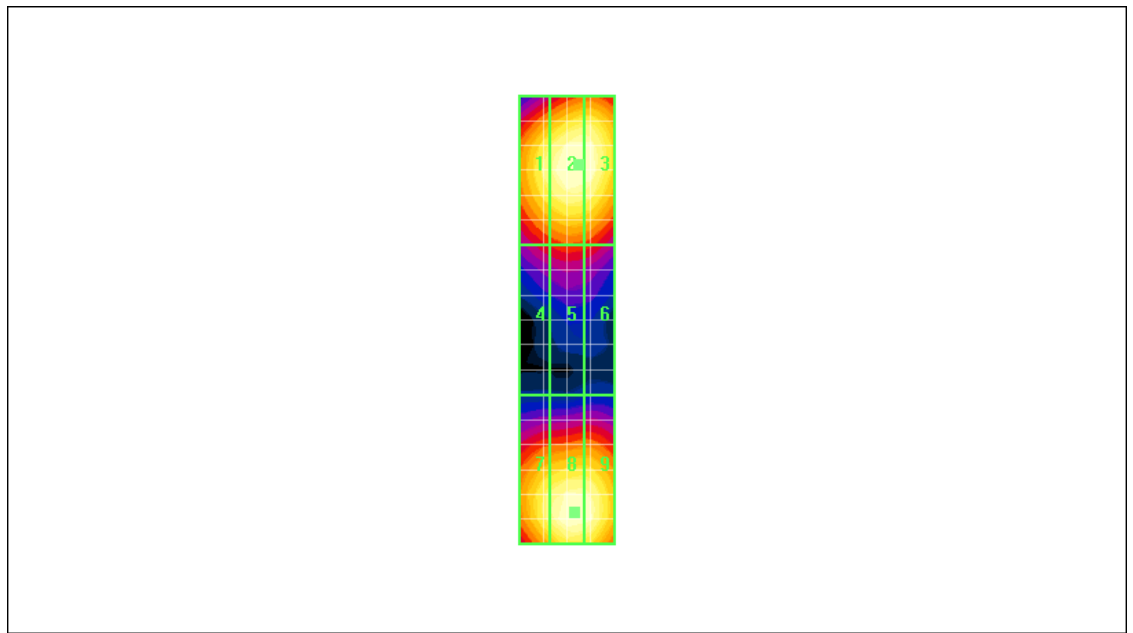
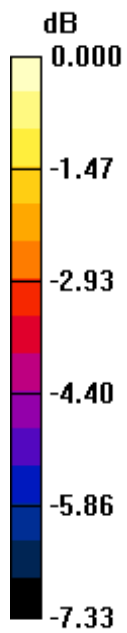
Reference Value = 144.9 V/m; Power Drift = 0.048 dB

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


Peak E-field in V/m

Grid 1 120.5 M2	Grid 2 128.0 M2	Grid 3 127.7 M2
Grid 4 87.4 M3	Grid 5 91.2 M3	Grid 6 90.0 M3
Grid 7 120.7 M2	Grid 8 128.4 M2	Grid 9 127.2 M2

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0 dB = 128.4V/m

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Date/Time: 6/9/2010 3:16:35 PM

Test Laboratory: RIM Testing Services

HAC_H_Dipole_CW835_20.00dBm

DUT: HAC-Dipole 835 MHz; Type: D835V3

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

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

Phantom section: 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 = 0.484 A/m; Power Drift = 0.030 dB

Maximum value of Total (measured) = 0.459 A/m

H Scan - measurement distance from the probe sensor center to

CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.459 A/m

Probe Modulation Factor = 1.00


Device Reference Point: 0.000, 0.000, -6.30 mm

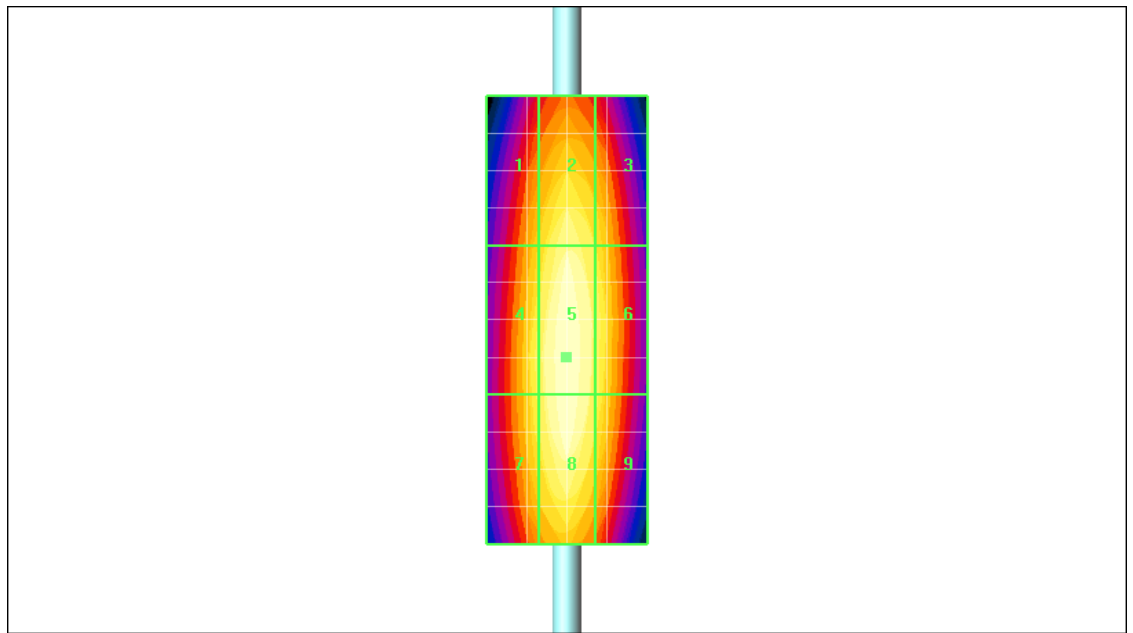
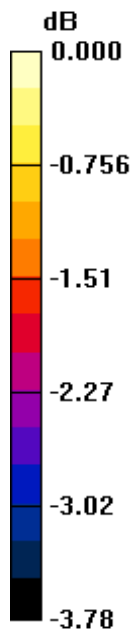
Reference Value = 0.484 A/m; Power Drift = 0.030 dB

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


Peak H-field in A/m

Grid 1 0.423 M4	Grid 2 0.445 M4	Grid 3 0.432 M4
Grid 4 0.440 M4	Grid 5 0.459 M4	Grid 6 0.442 M4
Grid 7	Grid 8	Grid 9

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0 dB = 0.459A/m

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Date/Time: 6/9/2010 2:57:22 PM

Test Laboratory: RIM Testing Services

HAC_H_Dipole_CW1880_20.00dBm

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

Phantom section: 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 (5x19x1):

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

Probe Modulation Factor = 1.00


Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.480 A/m; Power Drift = 0.003 dB

Maximum value of Total (measured) = 0.453 A/m

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of peak Total field = 0.453 A/m

Probe Modulation Factor = 1.00


Device Reference Point: 0.000, 0.000, -6.30 mm

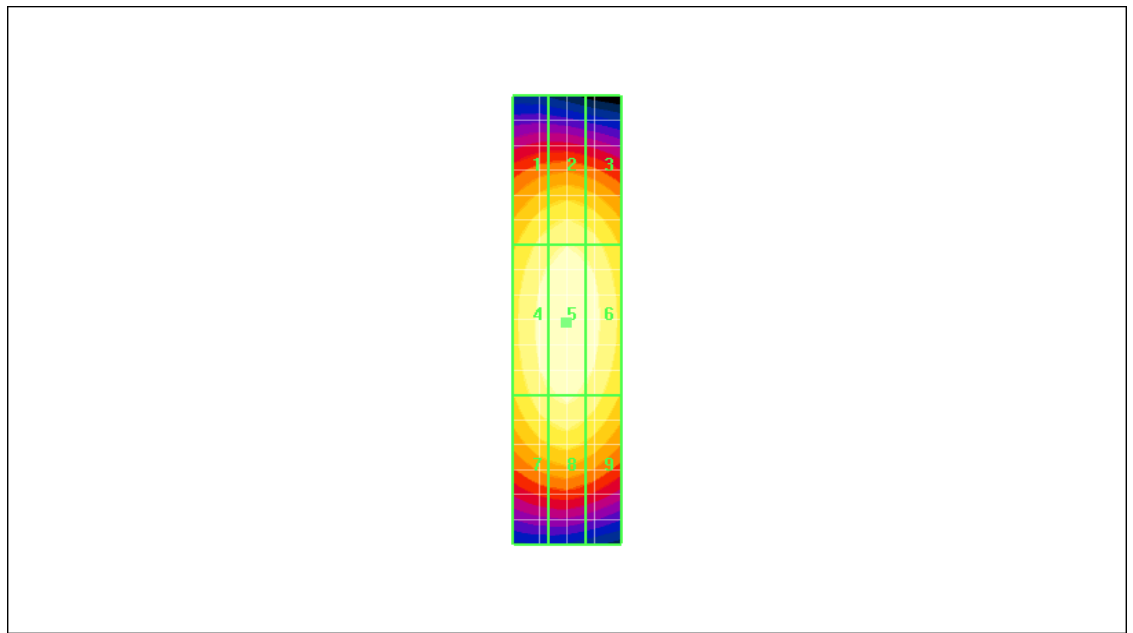
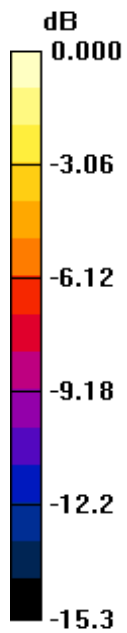
Reference Value = 0.480 A/m; Power Drift = 0.003 dB

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


Peak H-field in A/m

Grid 1 0.384 M2	Grid 2 0.403 M2	Grid 3 0.390 M2
Grid 4 0.431 M2	Grid 5 0.453 M2	Grid 6 0.433 M2
Grid 7 0.398 M2	Grid 8 0.415 M2	Grid 9 0.394 M2

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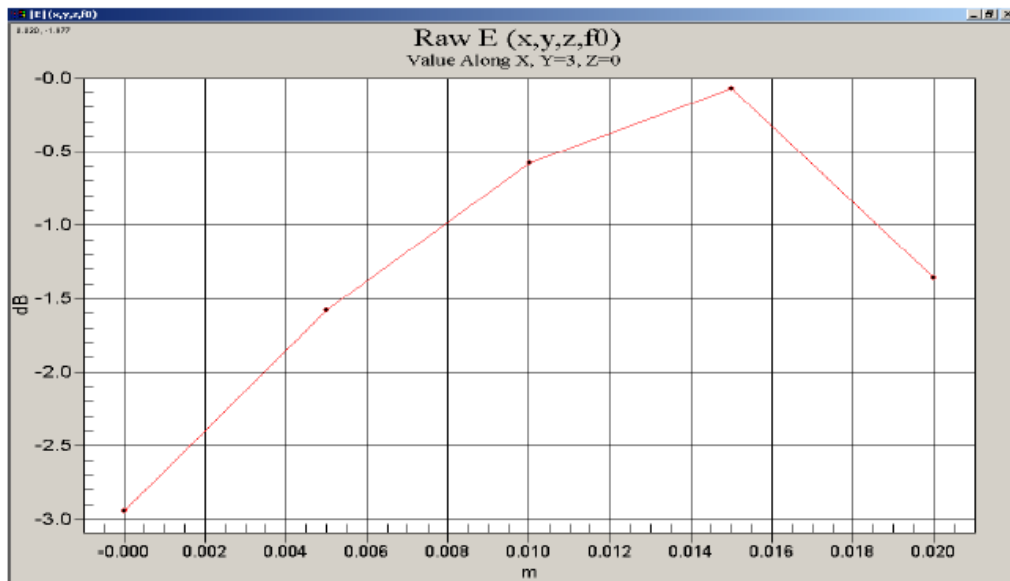


0 dB = 0.453A/m

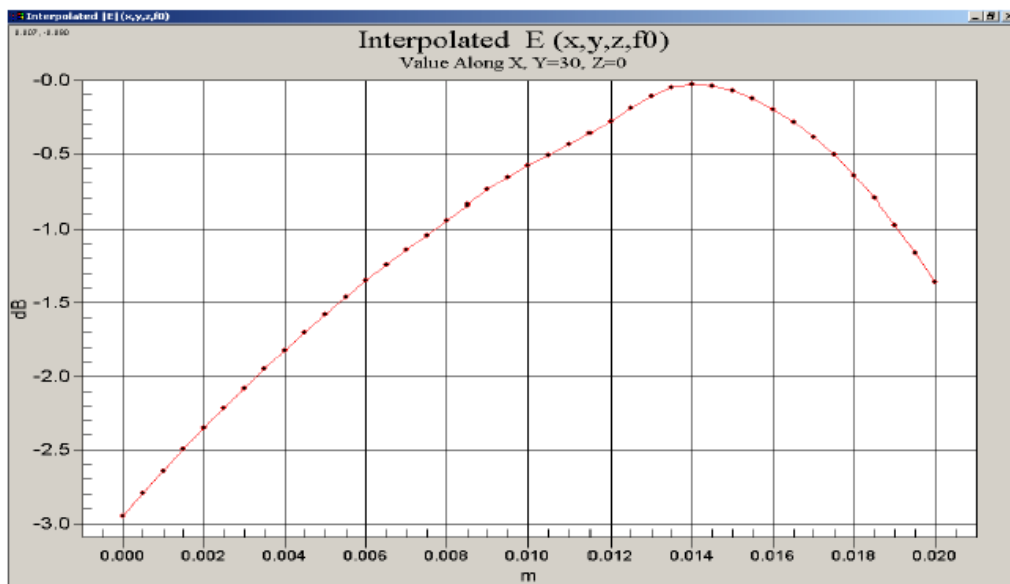
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Justification of Step Size and Interpolation


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.

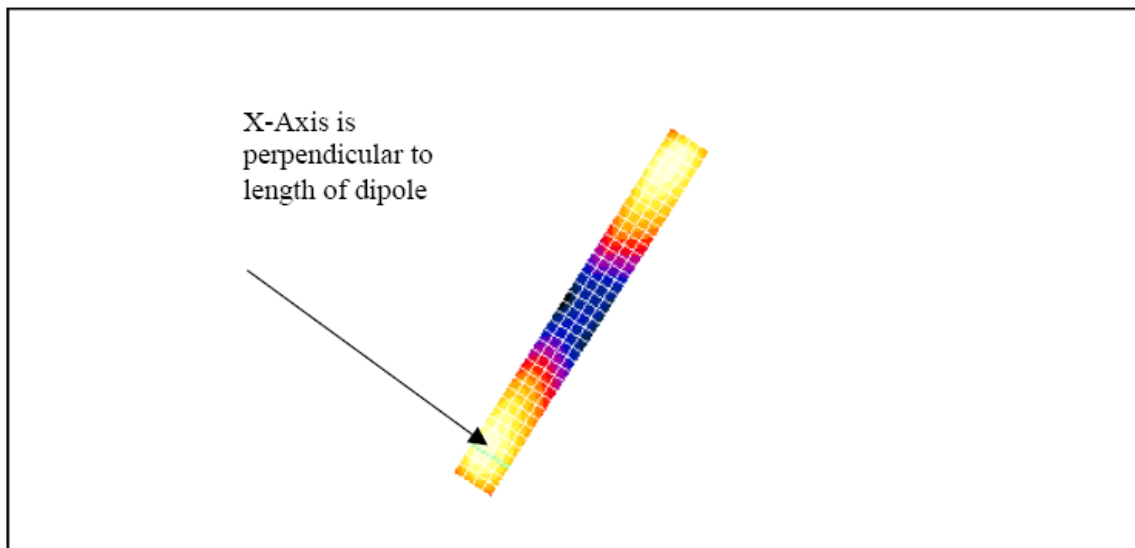


The figure above shows the raw measured field strength perpendicular to the length of the validation dipole. The TCB guidance slides require the 3dB width to be much larger than the step size. The width between -3dB points is > 21mm, at least 4 times the step size.



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


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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.

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

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) E in V/m (Slot averaged)

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

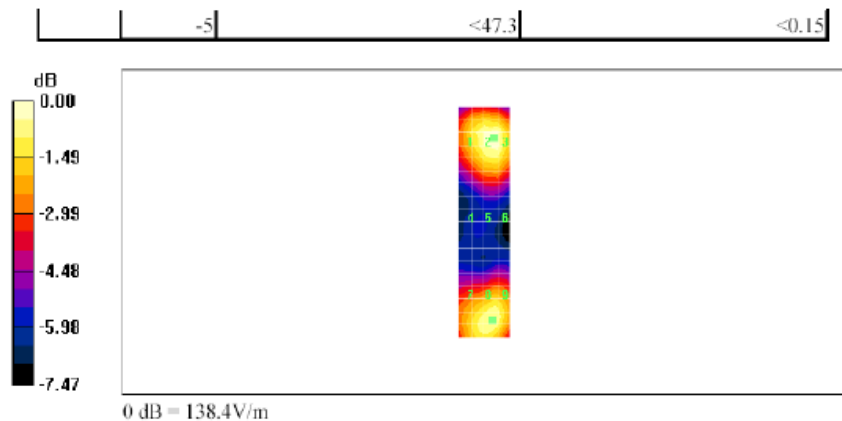
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

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) E in V/m (Slot averaged)

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

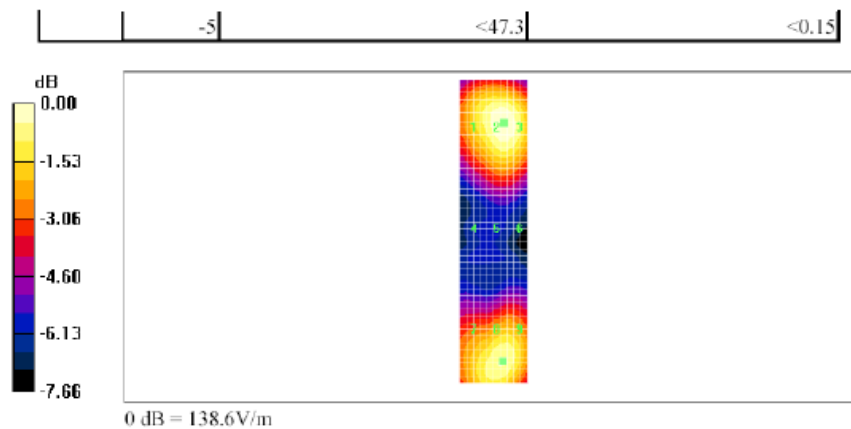
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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) H in A/m (Slot averaged)

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

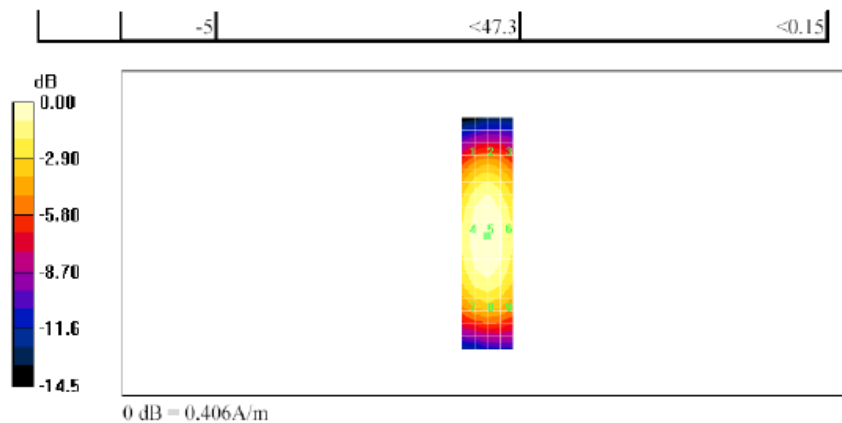
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

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) H in A/m (Slot averaged)

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

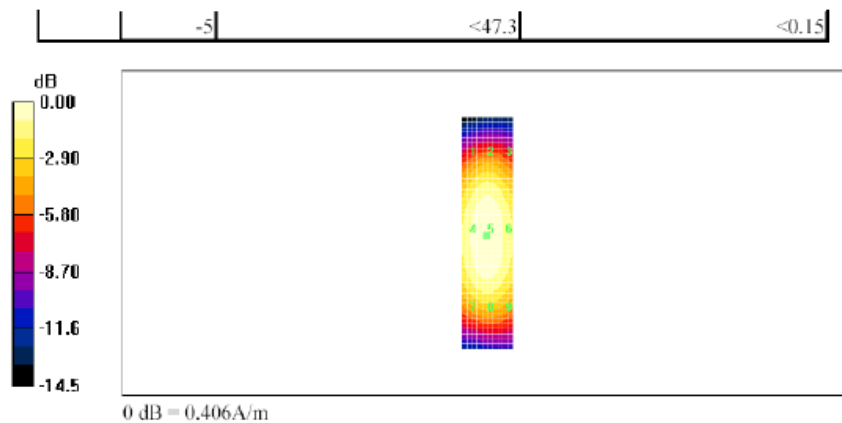
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

file://C:\Program%20Files\DASY4\Print_Templates\HAC_H_Dipole_CW%201880_2%... 14/07/2005


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


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file://C:\Program%20Files\DASY4\Print_Templates\HAC_H_Dipole_CW%201880_2%... 14/07/2005

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A.2 RF emission field plots

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Date/Time: 6/9/2010 4:51:05 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 119.0 V/m; Power Drift = -0.054 dB

Maximum value of Total (measured) = 92.7 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

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Maximum value of peak Total field = 93.9 V/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

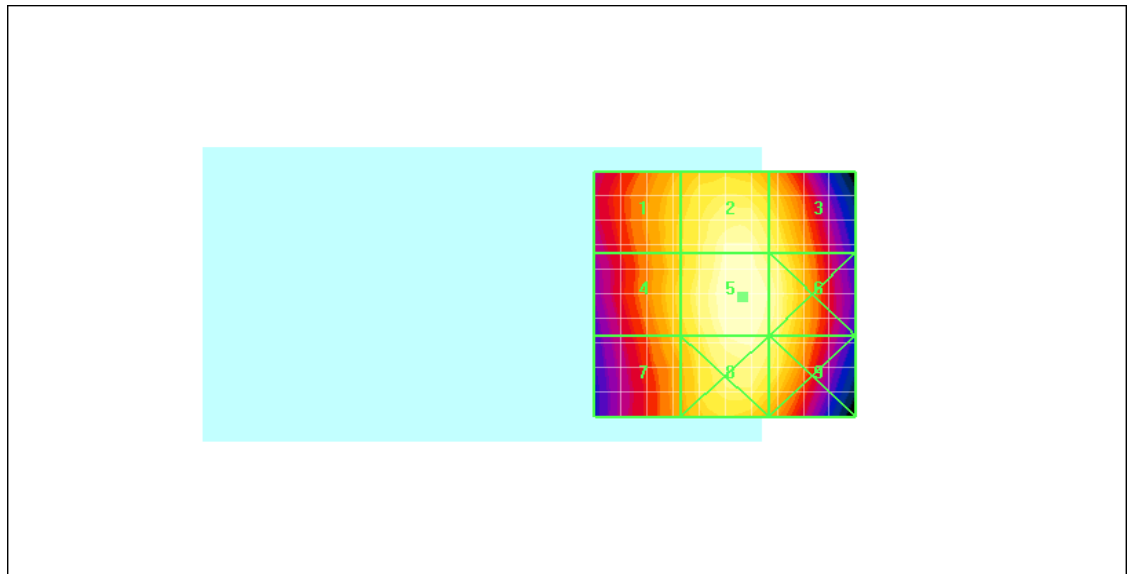
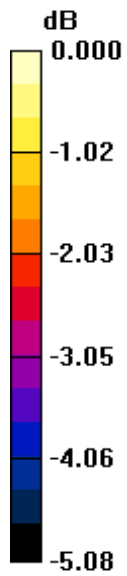
Reference Value = 119.0 V/m; Power Drift = -0.054 dB

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


Peak E-field in V/m

Grid 1 84.4 M4	Grid 2 92.3 M4	Grid 3 89.0 M4
Grid 4 84.8 M4	Grid 5 93.9 M4	Grid 6 91.7 M4
Grid 7 83.1 M4	Grid 8 92.3 M4	Grid 9 89.6 M4

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0 dB = 93.9V/m

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Date/Time: 6/9/2010 5:00:27 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 124.3 V/m; Power Drift = -0.005 dB

Maximum value of Total (measured) = 97.5 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

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Maximum value of peak Total field = 98.8 V/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

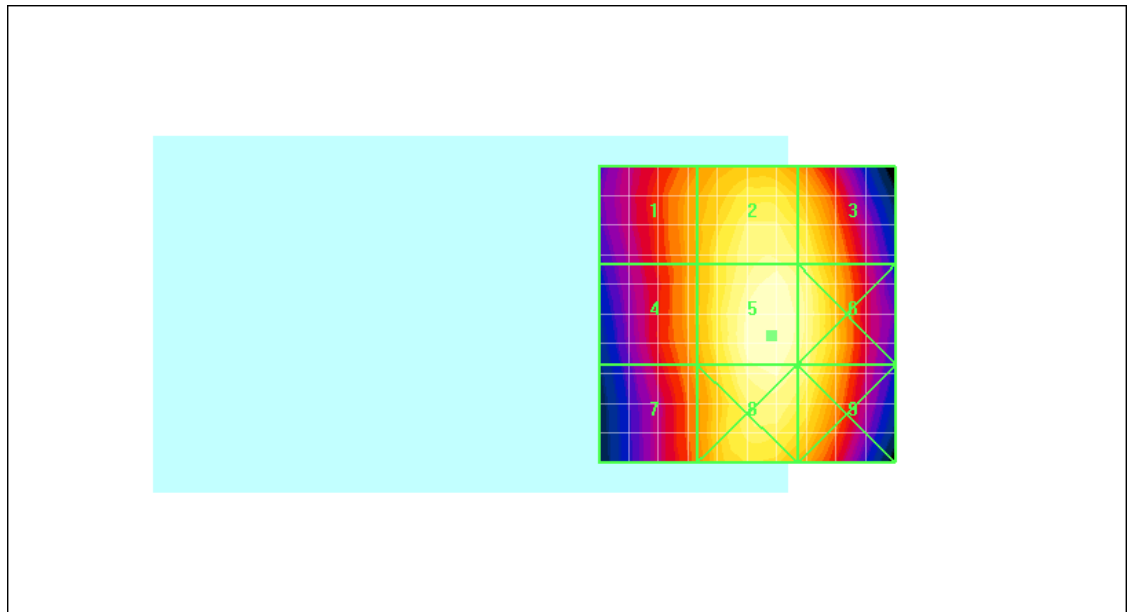
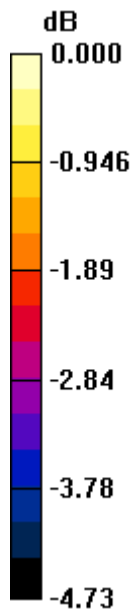
Reference Value = 124.3 V/m; Power Drift = -0.005 dB

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


Peak E-field in V/m

Grid 1 86.0 M4	Grid 2 95.8 M4	Grid 3 94.1 M4
Grid 4 86.1 M4	Grid 5 98.8 M4	Grid 6 96.6 M4
Grid 7 84.5 M4	Grid 8 97.3 M4	Grid 9 95.2 M4

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0 dB = 98.8V/m

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Date/Time: 6/9/2010 5:05:23 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 116.8 V/m; Power Drift = -0.153 dB

Maximum value of Total (measured) = 90.5 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

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Maximum value of peak Total field = 91.8 V/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

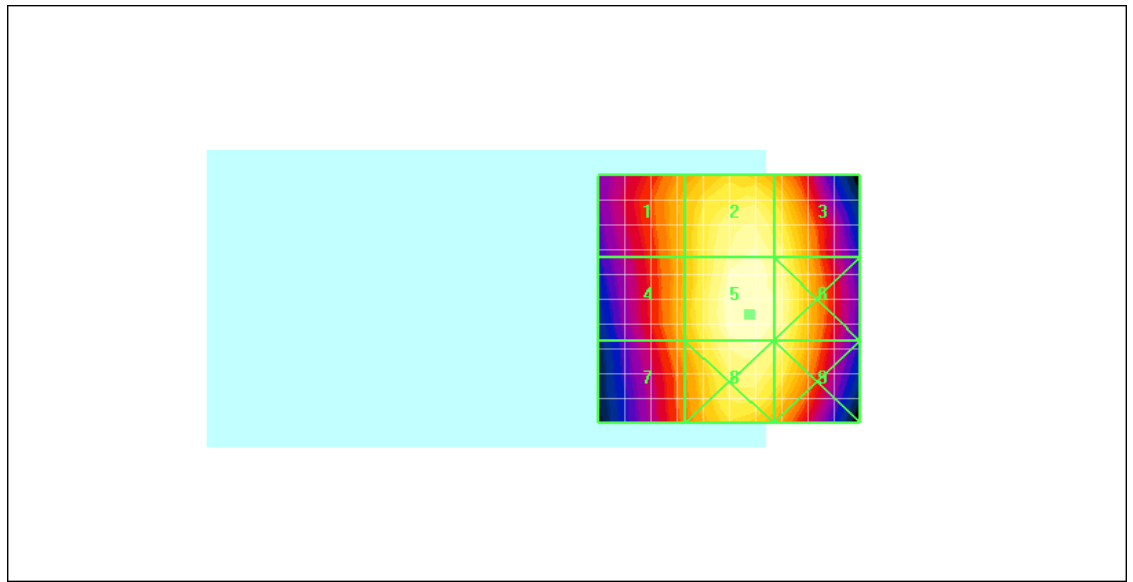
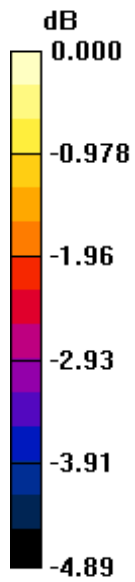
Reference Value = 116.8 V/m; Power Drift = -0.153 dB

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


Peak E-field in V/m

Grid 1 80.5 M4	Grid 2 90.1 M4	Grid 3 88.2 M4
Grid 4 80.5 M4	Grid 5 91.8 M4	Grid 6 90.3 M4
Grid 7 79.2 M4	Grid 8 90.1 M4	Grid 9 88.2 M4

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0 dB = 91.8V/m

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Date/Time: 6/9/2010 5:15:35 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_mid_chan_one_eighth

DUT: BlackBerry Smartphone;

Communication System: CDMA 800 1/8 th; Frequency: 836.52 MHz;Duty Cycle: 1:8.3

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

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 = 45.1 V/m; Power Drift = 0.084 dB

Maximum value of Total (measured) = 35.2 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

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dx=5mm, dy=5mm

Maximum value of peak Total field = 89.4 V/m

Probe Modulation Factor = 2.53


Device Reference Point: 0.000, 0.000, -6.30 mm

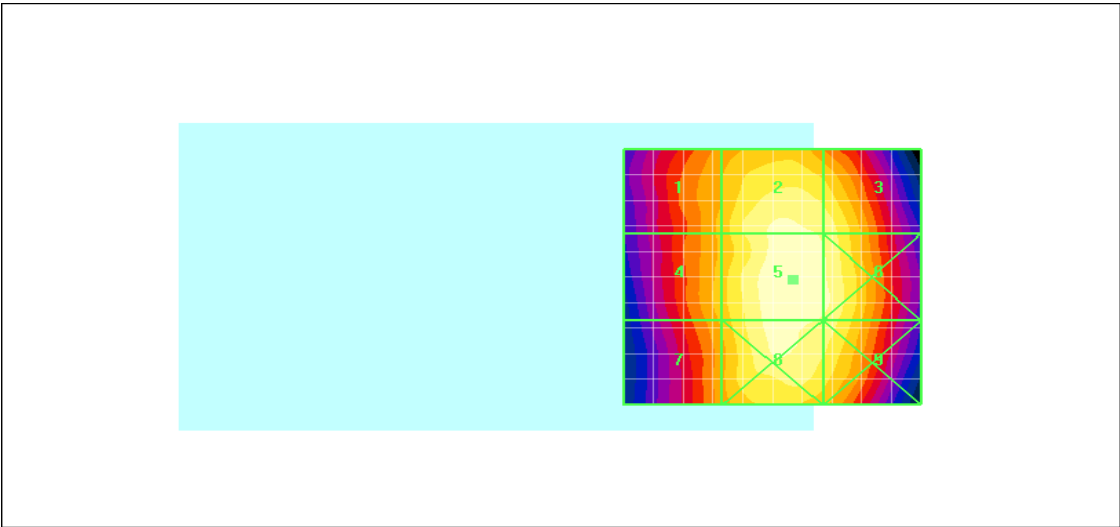
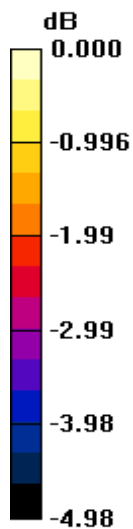
Reference Value = 45.1 V/m; Power Drift = 0.084 dB

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


Peak E-field in V/m

Grid 1 78.1 M4	Grid 2 87.2 M4	Grid 3 85.5 M4
Grid 4 78.9 M4	Grid 5 89.4 M4	Grid 6 87.1 M4
Grid 7 77.7 M4	Grid 8 87.7 M4	Grid 9 85.5 M4

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0 dB = 89.4V/m

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Date/Time: 6/9/2010 11:40:54 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_800_mid chan_T_Coil_Center

DUT: BlackBerry Smartphone;

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

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

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 = 131.3 V/m; Power Drift = -0.173 dB

Maximum value of Total (measured) = 101.9 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

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Maximum value of peak Total field = 100.9 V/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

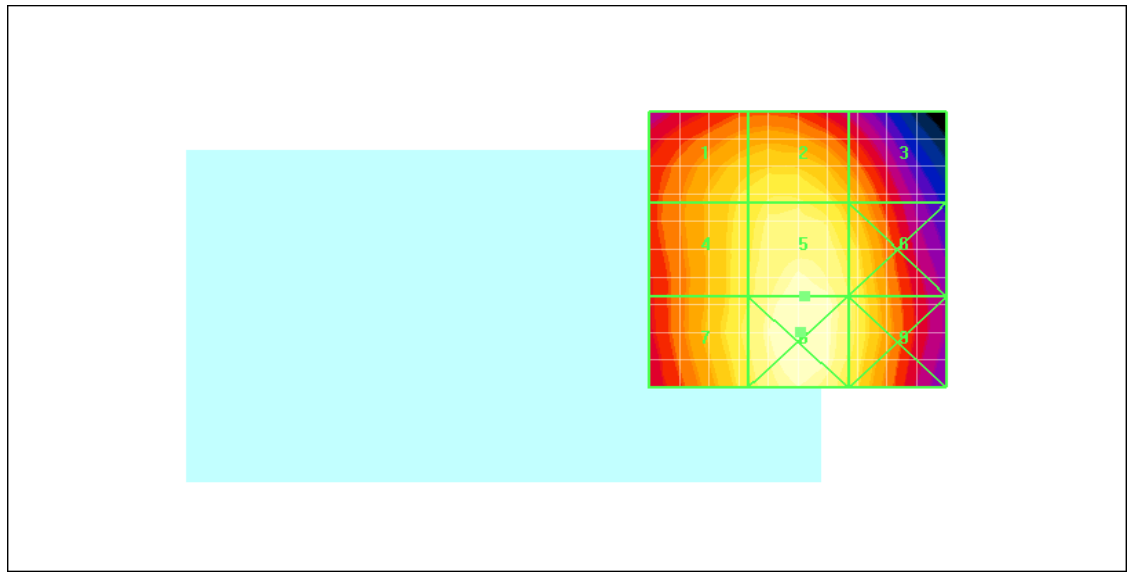
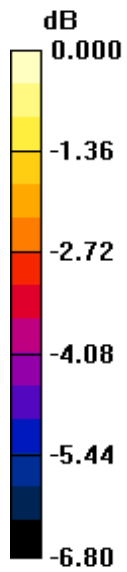
Reference Value = 131.3 V/m; Power Drift = -0.173 dB

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


Peak E-field in V/m

Grid 1 91.0 M4	Grid 2 93.8 M4	Grid 3 86.4 M4
Grid 4 92.9 M4	Grid 5 100.9 M4	Grid 6 94.6 M4
Grid 7 94.2 M4	Grid 8 103.0 M4	Grid 9 95.1 M4

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0 dB = 103.0V/m

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Date/Time: 6/9/2010 6:27:00 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 45.0 V/m; Power Drift = -0.027 dB

Maximum value of Total (measured) = 56.6 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

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Maximum value of peak Total field = 48.7 V/m

Probe Modulation Factor = 0.980


Device Reference Point: 0.000, 0.000, -6.30 mm

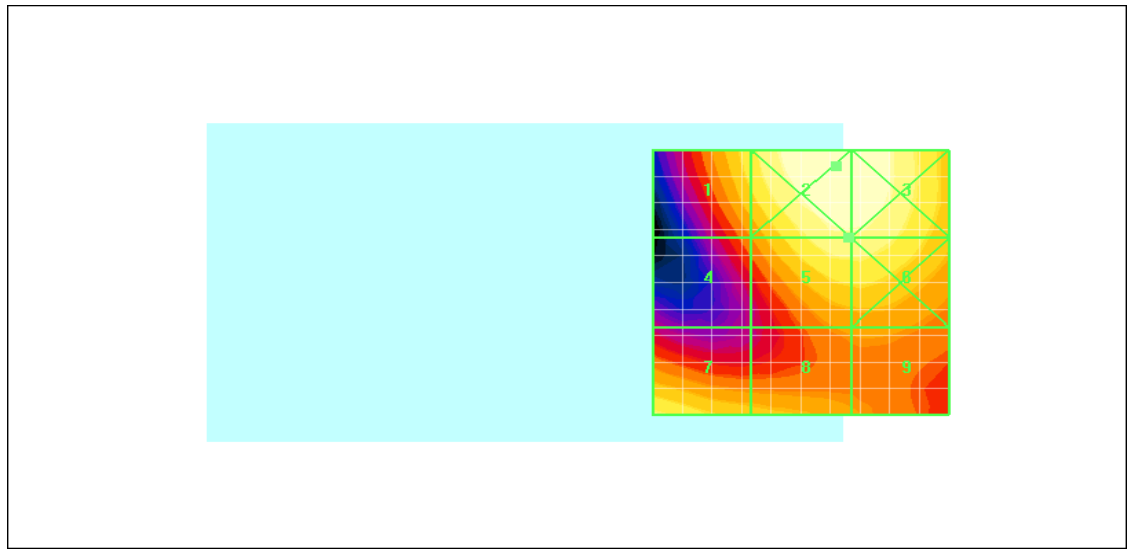
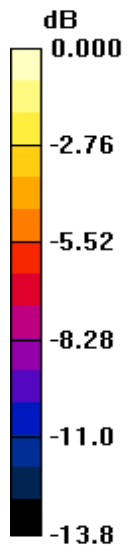
Reference Value = 45.0 V/m; Power Drift = -0.027 dB

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


Peak E-field in V/m

Grid 1 43.5 M4	Grid 2 55.7 M4	Grid 3 55.2 M4
Grid 4 32.8 M4	Grid 5 48.7 M4	Grid 6 48.7 M4
Grid 7 46.4 M4	Grid 8 39.3 M4	Grid 9 34.0 M4

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0 dB = 55.7V/m

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Date/Time: 6/9/2010 6:32:47 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 33.0 V/m; Power Drift = -0.096 dB

Maximum value of Total (measured) = 42.6 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

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Maximum value of peak Total field = 36.3 V/m

Probe Modulation Factor = 0.980


Device Reference Point: 0.000, 0.000, -6.30 mm

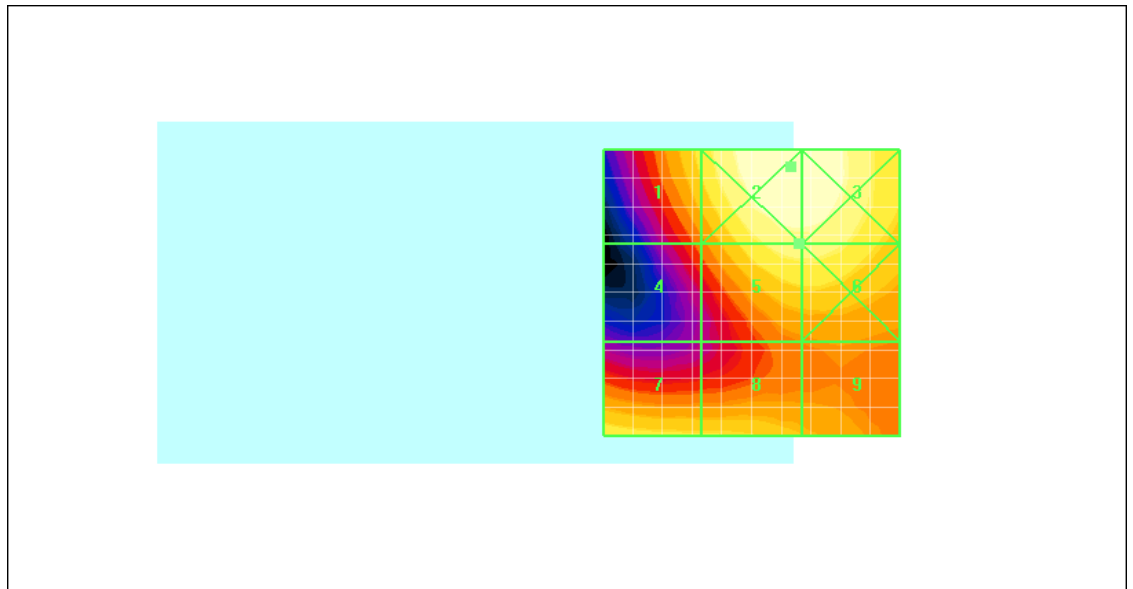
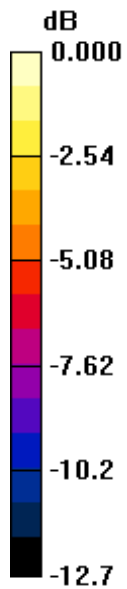
Reference Value = 33.0 V/m; Power Drift = -0.096 dB

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


Peak E-field in V/m

Grid 1 32.5 M4	Grid 2 42.0 M4	Grid 3 41.8 M4
Grid 4 24.8 M4	Grid 5 36.3 M4	Grid 6 36.3 M4
Grid 7 33.7 M4	Grid 8 32.1 M4	Grid 9 28.9 M4

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0 dB = 42.0V/m

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Date/Time: 6/9/2010 6:40:13 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 29.9 V/m; Power Drift = -0.052 dB

Maximum value of Total (measured) = 37.8 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

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Maximum value of peak Total field = 32.3 V/m

Probe Modulation Factor = 0.980


Device Reference Point: 0.000, 0.000, -6.30 mm

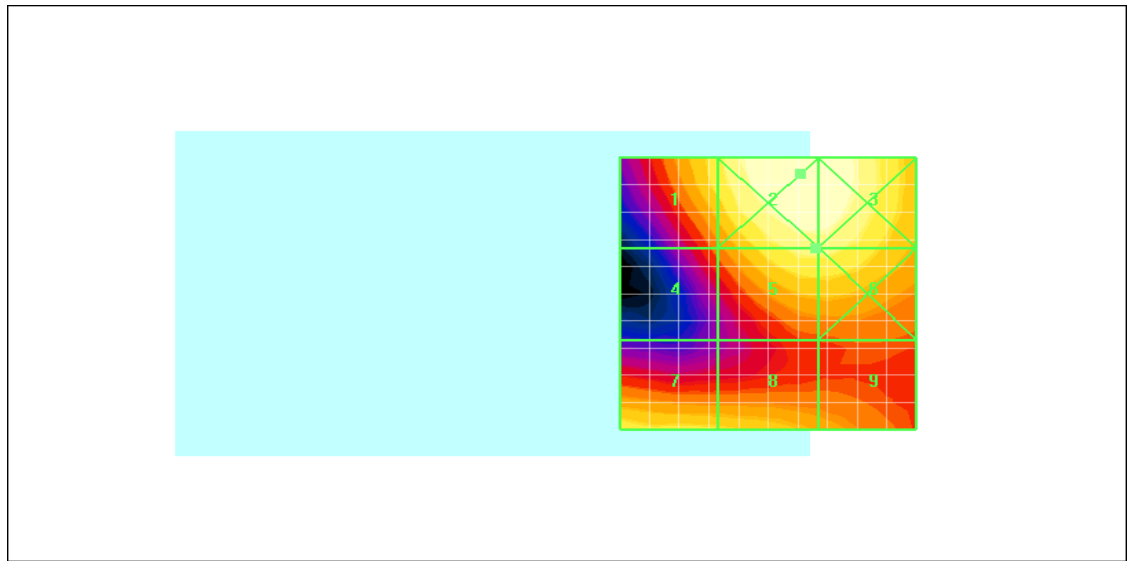
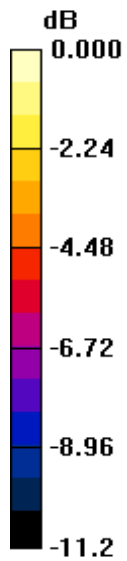
Reference Value = 29.9 V/m; Power Drift = -0.052 dB

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


Peak E-field in V/m

Grid 1 30.3 M4	Grid 2 37.2 M4	Grid 3 36.9 M4
Grid 4 23.4 M4	Grid 5 32.3 M4	Grid 6 32.3 M4
Grid 7 30.7 M4	Grid 8 29.3 M4	Grid 9 25.8 M4

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0 dB = 37.2V/m

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Date/Time: 6/9/2010 6:11:29 PM

Test Laboratory: RIM Testing Services

HAC_E_CDMA_1900_low_chan_one_eigth

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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 15.5 V/m; Power Drift = -0.092 dB

Maximum value of Total (measured) = 17.8 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

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dx=5mm, dy=5mm

Maximum value of peak Total field = 40.3 V/m

Probe Modulation Factor = 2.49


Device Reference Point: 0.000, 0.000, -6.30 mm

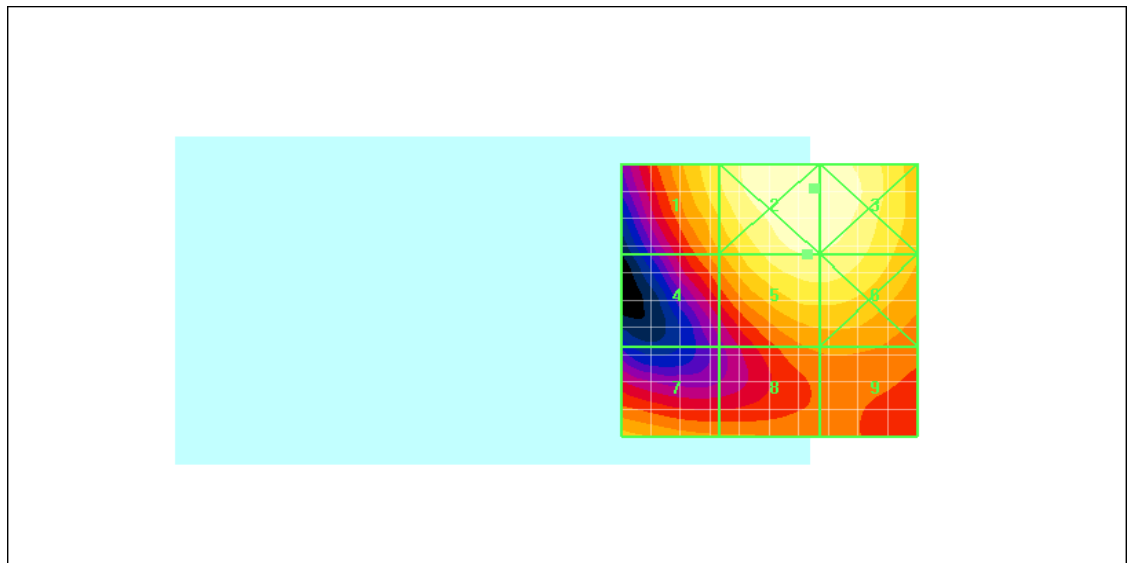
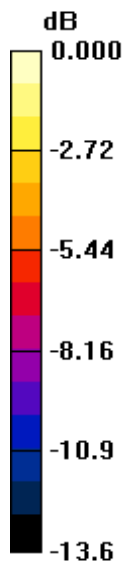
Reference Value = 15.5 V/m; Power Drift = -0.092 dB

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


Peak E-field in V/m

Grid 1 36.6 M4	Grid 2 44.6 M4	Grid 3 44.5 M4
Grid 4 28.8 M4	Grid 5 40.3 M4	Grid 6 40.0 M4
Grid 7 31.1 M4	Grid 8 27.6 M4	Grid 9 27.5 M4

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0 dB = 44.6V/m

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Date/Time: 6/9/2010 6:46:02 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, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

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 = 41.6 V/m; Power Drift = -0.072 dB

Maximum value of Total (measured) = 52.3 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

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Maximum value of peak Total field = 50.9 V/m

Probe Modulation Factor = 0.980


Device Reference Point: 0.000, 0.000, -6.30 mm

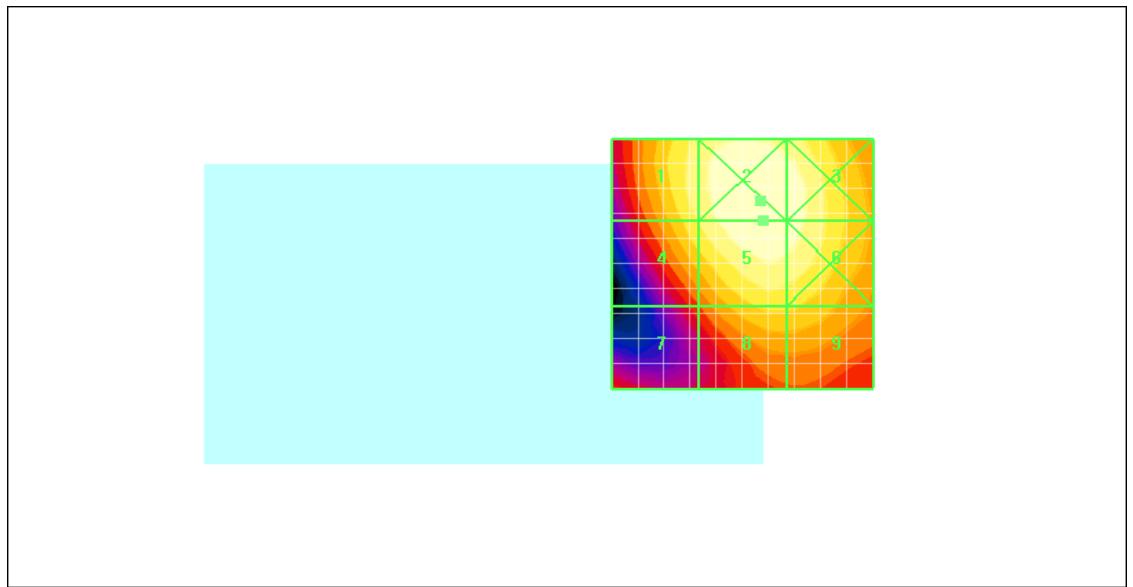
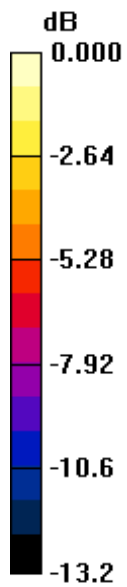
Reference Value = 41.6 V/m; Power Drift = -0.072 dB

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


Peak E-field in V/m

Grid 1 44.9 M4	Grid 2 51.6 M4	Grid 3 50.0 M4
Grid 4 42.2 M4	Grid 5 50.9 M4	Grid 6 49.4 M4
Grid 7 27.7 M4	Grid 8 38.9 M4	Grid 9 38.6 M4

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0 dB = 51.6V/m

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Date/Time: 6/9/2010 8:50:17 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.104 A/m; Power Drift = -0.024 dB

Maximum value of Total (measured) = 0.201 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

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Maximum value of peak Total field = 0.201 A/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

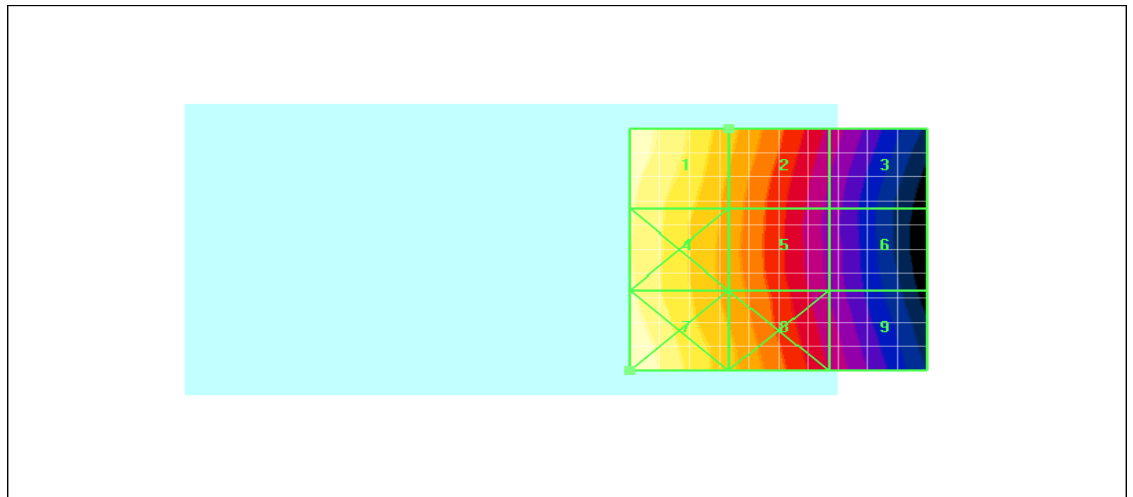
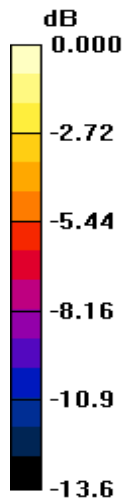
Reference Value = 0.104 A/m; Power Drift = -0.024 dB

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


Peak H-field in A/m

Grid 1 0.201 M4	Grid 2 0.140 M4	Grid 3 0.087 M4
Grid 4 0.188 M4	Grid 5 0.130 M4	Grid 6 0.079 M4
Grid 7 0.203 M4	Grid 8 0.140 M4	Grid 9 0.088 M4

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0 dB = 0.203A/m

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Date/Time: 6/9/2010 8:56:47 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.110 A/m; Power Drift = -0.113 dB

Maximum value of Total (measured) = 0.207 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

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Maximum value of peak Total field = 0.209 A/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

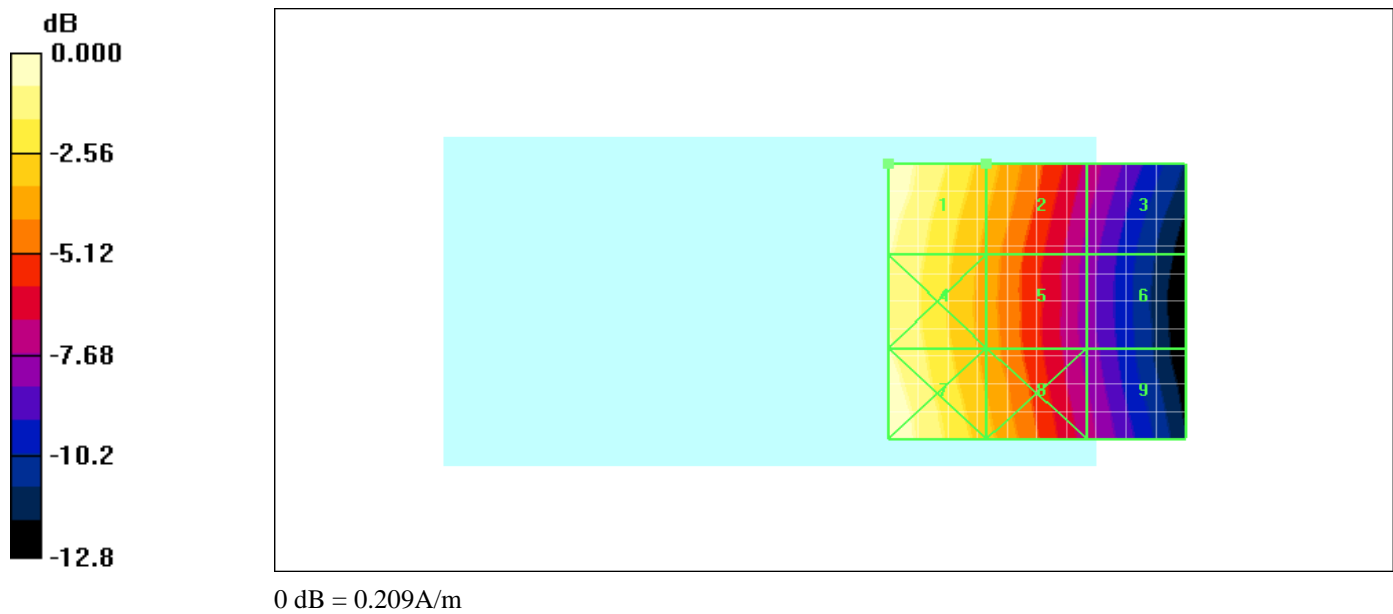
Reference Value = 0.110 A/m; Power Drift = -0.113 dB


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

Peak H-field in A/m

Grid 1 0.209 M4	Grid 2 0.149 M4	Grid 3 0.093 M4
Grid 4 0.192 M4	Grid 5 0.137 M4	Grid 6 0.084 M4
Grid 7 0.208 M4	Grid 8 0.148 M4	Grid 9 0.091 M4

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Date/Time: 6/9/2010 9:02:16 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: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.112 A/m; Power Drift = -0.007 dB

Maximum value of Total (measured) = 0.204 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

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Maximum value of peak Total field = 0.195 A/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

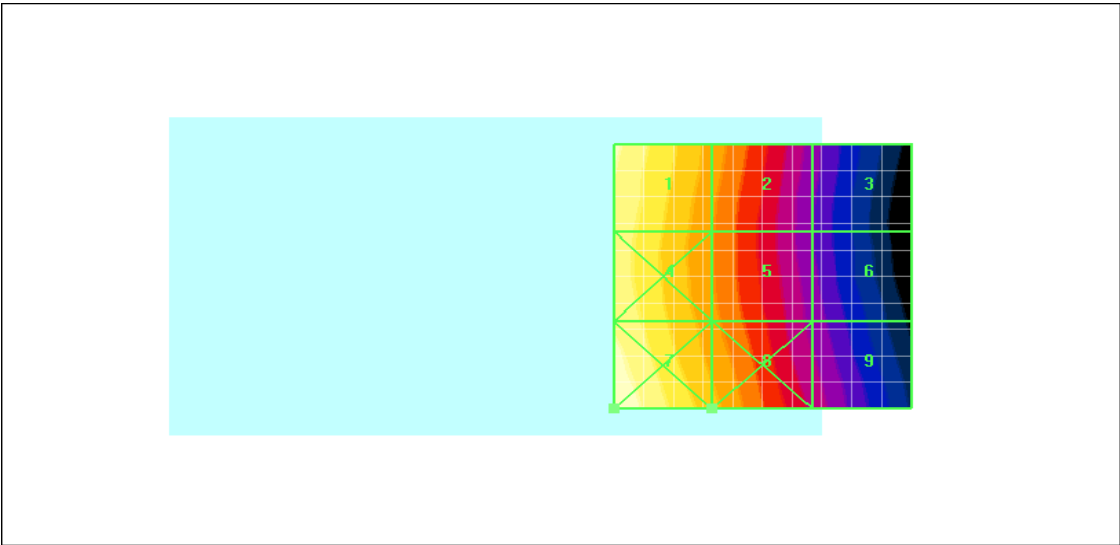
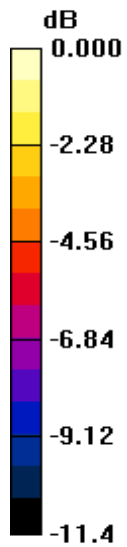
Reference Value = 0.112 A/m; Power Drift = -0.007 dB


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

Peak H-field in A/m

Grid 1 0.195 M4	Grid 2 0.141 M4	Grid 3 0.090 M4
Grid 4 0.187 M4	Grid 5 0.138 M4	Grid 6 0.092 M4
Grid 7 0.206 M4	Grid 8 0.151 M4	Grid 9 0.100 M4

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Date/Time: 6/9/2010 9:09:46 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_mid_chan_one_eighth

DUT: BlackBerry Smartphone

Communication System: CDMA 800 1/8 th; Frequency: 836.52 MHz;Duty Cycle: 1:8.3

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

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 = 0.039 A/m; Power Drift = 0.054 dB

Maximum value of Total (measured) = 0.074 A/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

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dx=5mm, dy=5mm

Maximum value of peak Total field = 0.182 A/m

Probe Modulation Factor = 2.46


Device Reference Point: 0.000, 0.000, -6.30 mm

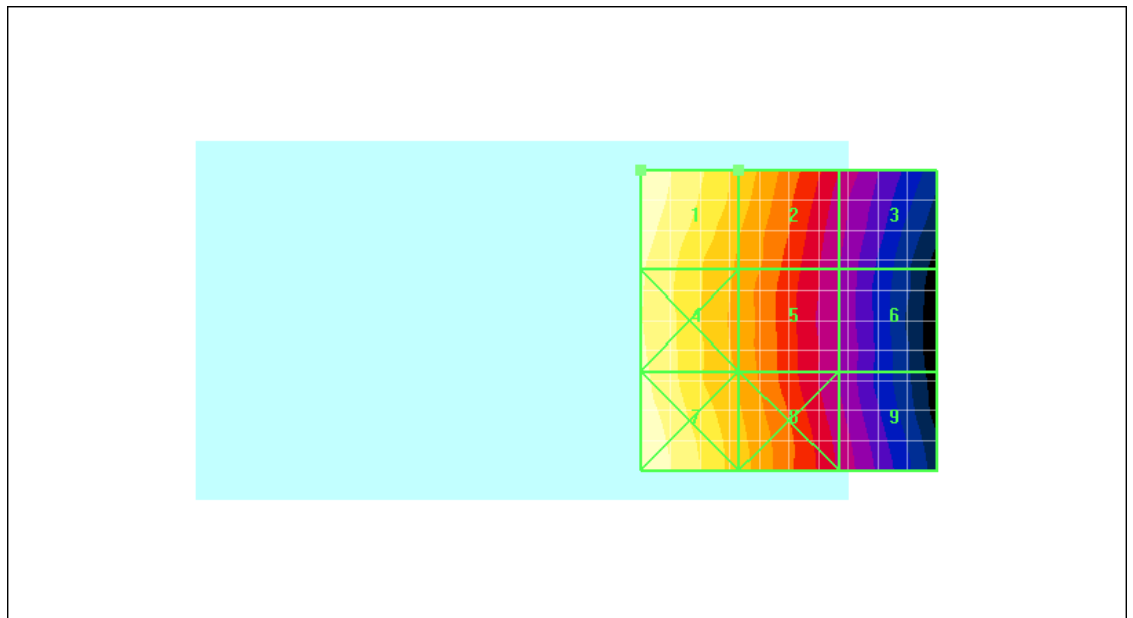
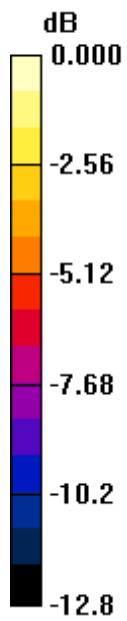
Reference Value = 0.039 A/m; Power Drift = 0.054 dB

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


Peak H-field in A/m

Grid 1 0.182 M4	Grid 2 0.131 M4	Grid 3 0.083 M4
Grid 4 0.168 M4	Grid 5 0.121 M4	Grid 6 0.075 M4
Grid 7 0.181 M4	Grid 8 0.128 M4	Grid 9 0.082 M4

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0 dB = 0.182A/m

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Date/Time: 6/9/2010 9:21:19 PM

Test Laboratory: RIM Testing Services

HAC_H_CDMA_800_mid_chan_T_Coil_Center

DUT: BlackBerry Smartphone

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

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

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 = 0.109 A/m; Power Drift = 0.039 dB

Maximum value of Total (measured) = 0.195 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

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Maximum value of peak Total field = 0.197 A/m

Probe Modulation Factor = 1.01


Device Reference Point: 0.000, 0.000, -6.30 mm

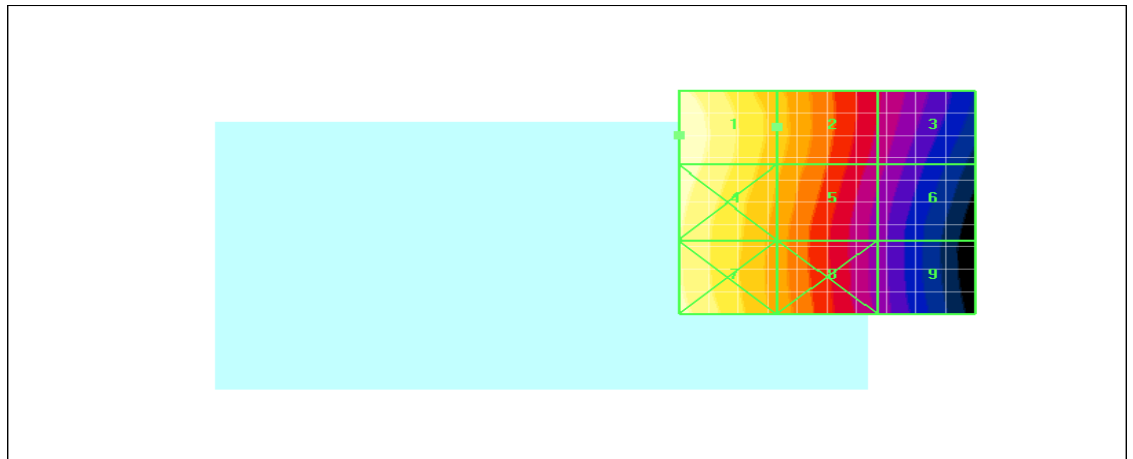
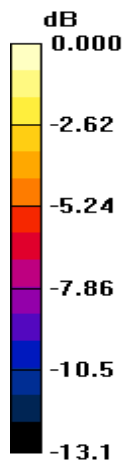
Reference Value = 0.109 A/m; Power Drift = 0.039 dB

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


Peak H-field in A/m

Grid 1 0.197 M4	Grid 2 0.140 M4	Grid 3 0.090 M4
Grid 4 0.193 M4	Grid 5 0.136 M4	Grid 6 0.084 M4
Grid 7 0.186 M4	Grid 8 0.129 M4	Grid 9 0.078 M4

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0 dB = 0.197A/m

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Date/Time: 6/9/2010 9:38:39 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.138 A/m; Power Drift = 0.062 dB

Maximum value of Total (measured) = 0.147 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

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Maximum value of peak Total field = 0.127 A/m

Probe Modulation Factor = 0.960


Device Reference Point: 0.000, 0.000, -6.30 mm

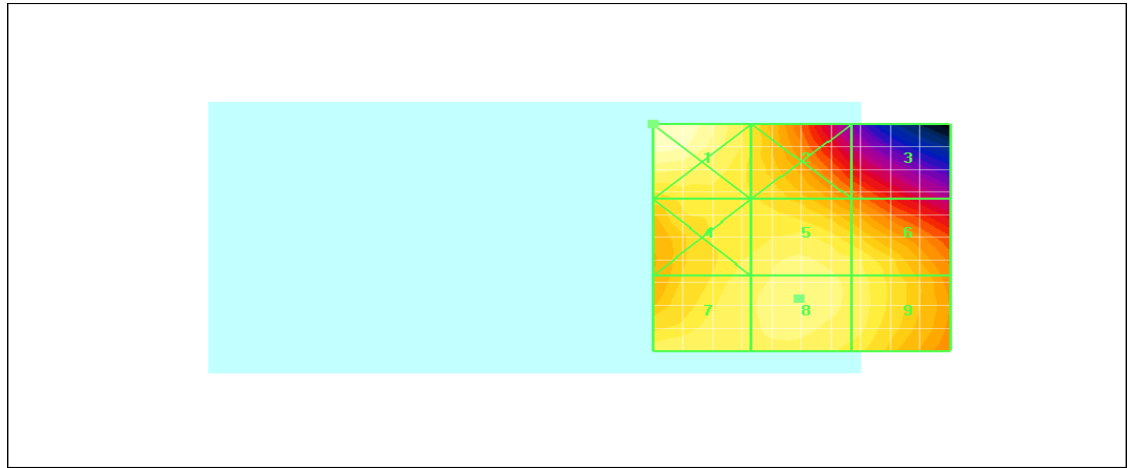
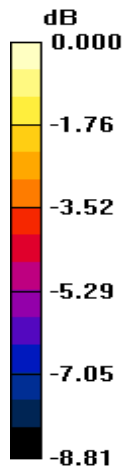
Reference Value = 0.138 A/m; Power Drift = 0.062 dB

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


Peak H-field in A/m

Grid 1 0.141 M4	Grid 2 0.116 M4	Grid 3 0.099 M4
Grid 4 0.122 M4	Grid 5 0.126 M4	Grid 6 0.122 M4
Grid 7 0.124 M4	Grid 8 0.127 M4	Grid 9 0.123 M4

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0 dB = 0.141A/m

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Date/Time: 6/9/2010 9:44:48 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.108 A/m; Power Drift = 0.142 dB

Maximum value of Total (measured) = 0.105 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

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Maximum value of peak Total field = 0.101 A/m

Probe Modulation Factor = 0.960


Device Reference Point: 0.000, 0.000, -6.30 mm

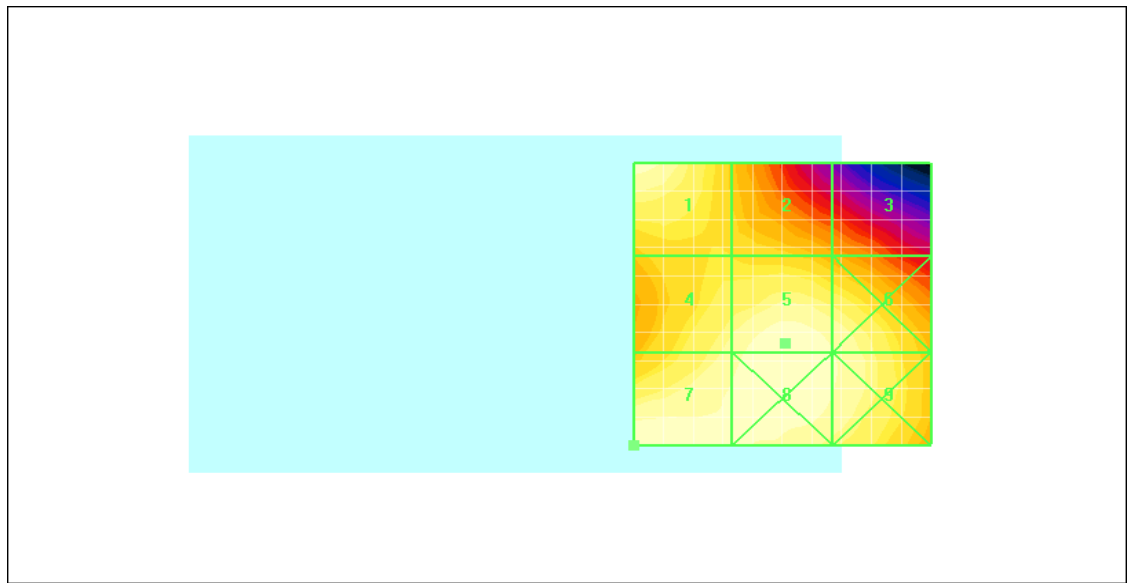
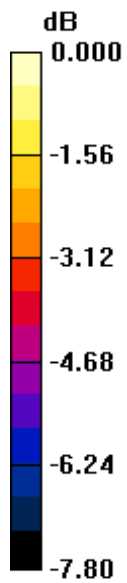
Reference Value = 0.108 A/m; Power Drift = 0.142 dB

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


Peak H-field in A/m

Grid 1 0.097 M4	Grid 2 0.084 M4	Grid 3 0.078 M4
Grid 4 0.093 M4	Grid 5 0.098 M4	Grid 6 0.095 M4
Grid 7 0.101 M4	Grid 8 0.099 M4	Grid 9 0.096 M4

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0 dB = 0.101A/m

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Date/Time: 6/9/2010 9:55:31 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.016 dB

Maximum value of Total (measured) = 0.102 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

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Maximum value of peak Total field = 0.098 A/m

Probe Modulation Factor = 0.960


Device Reference Point: 0.000, 0.000, -6.30 mm

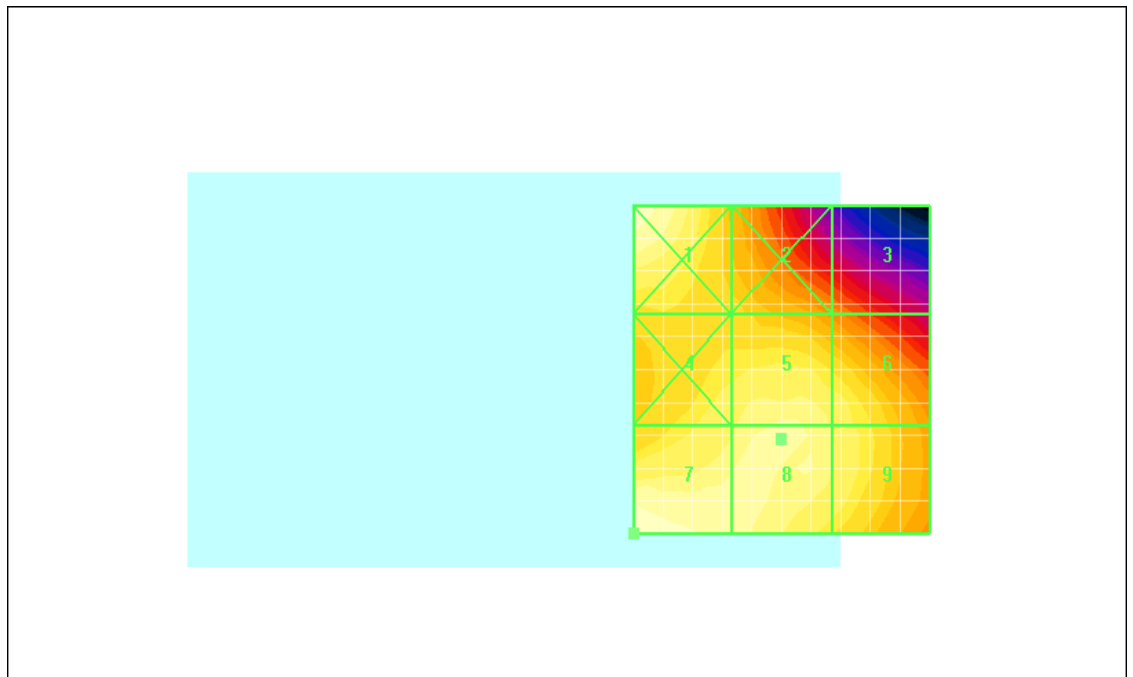
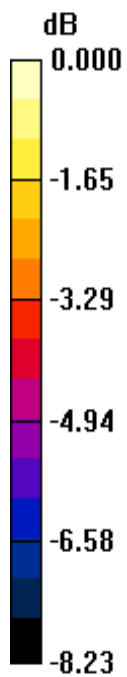
Reference Value = 0.100 A/m; Power Drift = 0.016 dB

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


Peak H-field in A/m

Grid 1 0.094 M4	Grid 2 0.079 M4	Grid 3 0.071 M4
Grid 4 0.086 M4	Grid 5 0.090 M4	Grid 6 0.086 M4
Grid 7 0.098 M4	Grid 8 0.091 M4	Grid 9 0.087 M4

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0 dB = 0.098A/m

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Date/Time: 6/9/2010 10:02:55 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.050 A/m; Power Drift = 0.024 dB

Maximum value of Total (measured) = 0.057 A/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid:

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dx=5mm, dy=5mm

Maximum value of peak Total field = 0.124 A/m

Probe Modulation Factor = 2.32


Device Reference Point: 0.000, 0.000, -6.30 mm

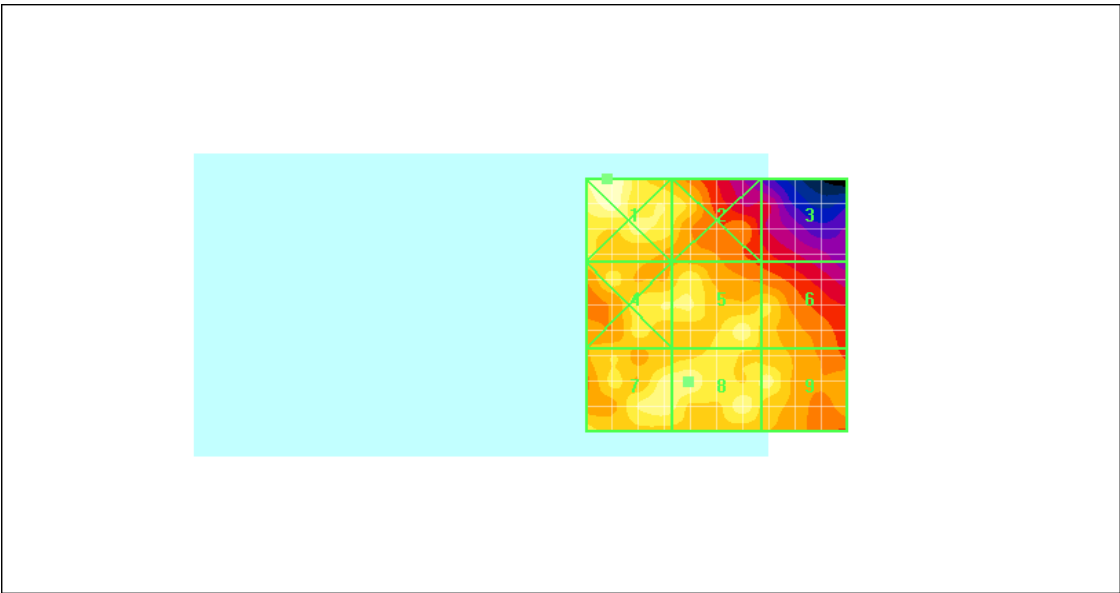
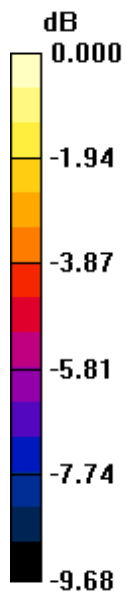
Reference Value = 0.050 A/m; Power Drift = 0.024 dB

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


Peak H-field in A/m

Grid 1 0.134 M4	Grid 2 0.113 M4	Grid 3 0.085 M4
Grid 4 0.117 M4	Grid 5 0.121 M4	Grid 6 0.110 M4
Grid 7 0.122 M4	Grid 8 0.124 M4	Grid 9 0.120 M4

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0 dB = 0.134A/m

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Date/Time: 6/9/2010 10:10:07 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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

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 = 0.139 A/m; Power Drift = 0.017 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

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Maximum value of peak Total field = 0.127 A/m

Probe Modulation Factor = 0.960


Device Reference Point: 0.000, 0.000, -6.30 mm

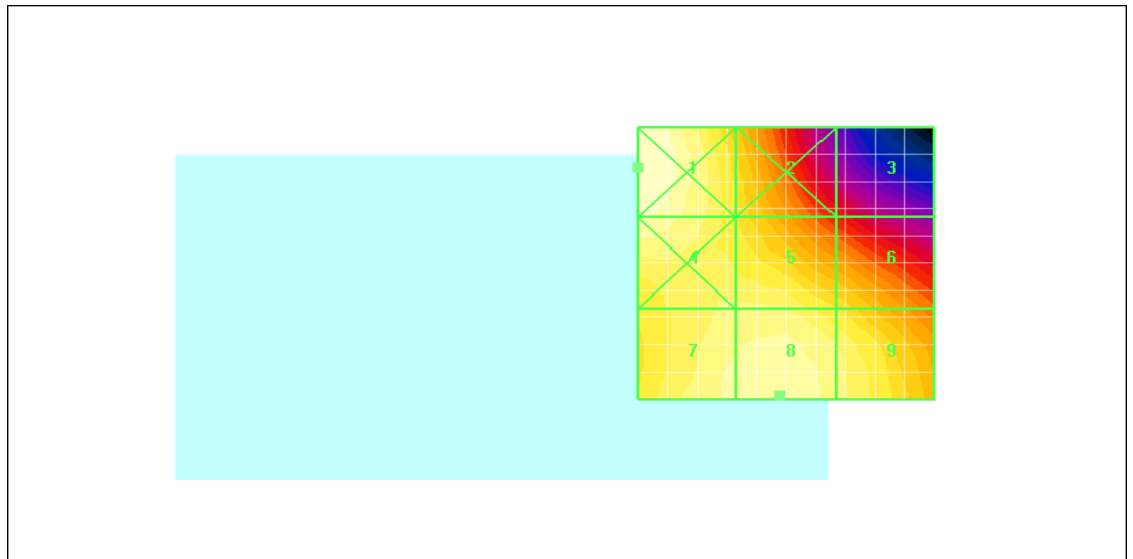
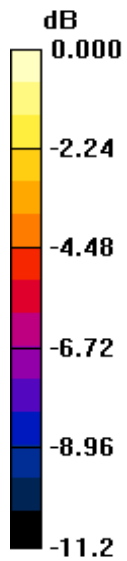
Reference Value = 0.139 A/m; Power Drift = 0.017 dB

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

Peak H-field in A/m

Grid 1 0.139 M4	Grid 2 0.108 M4	Grid 3 0.076 M4
Grid 4 0.129 M4	Grid 5 0.118 M4	Grid 6 0.108 M4
Grid 7 0.124 M4	Grid 8 0.127 M4	Grid 9 0.119 M4

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0 dB = 0.139A/m