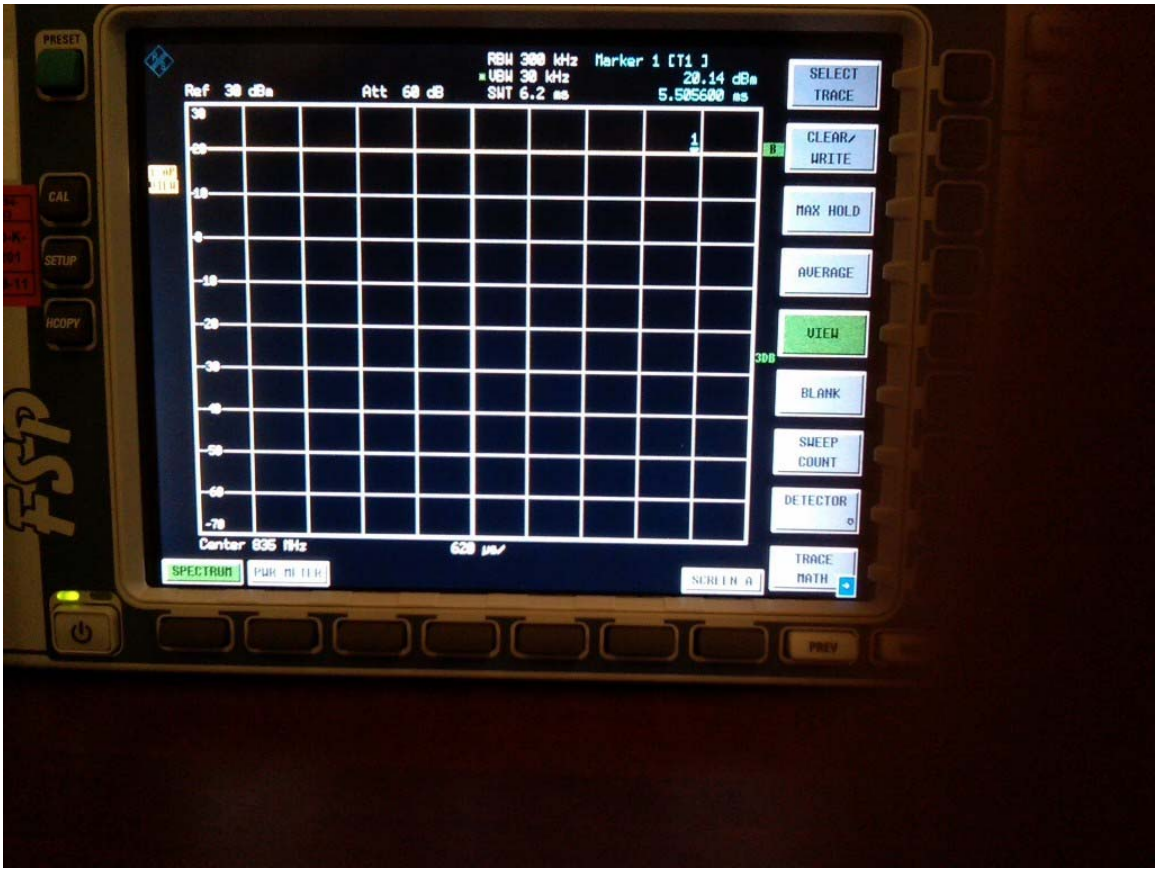
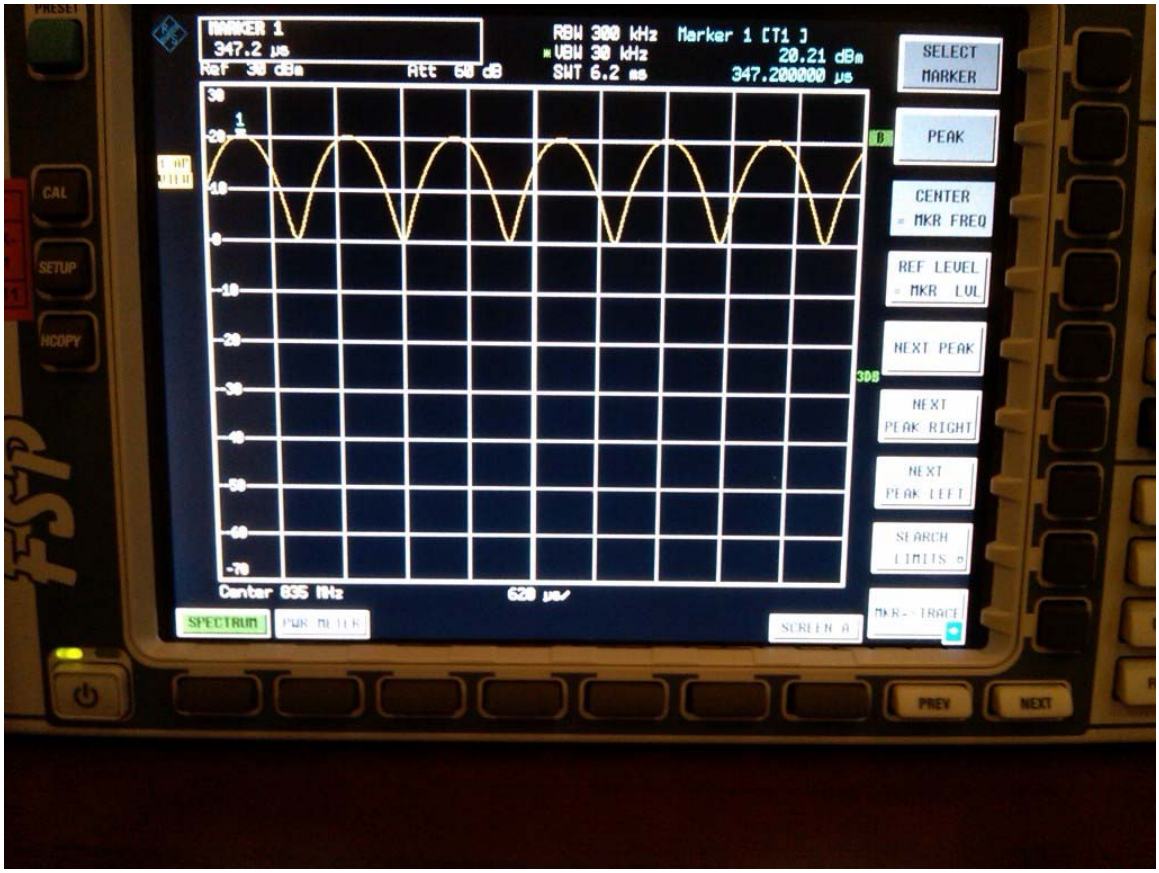
Annex A: Measurement data and plots

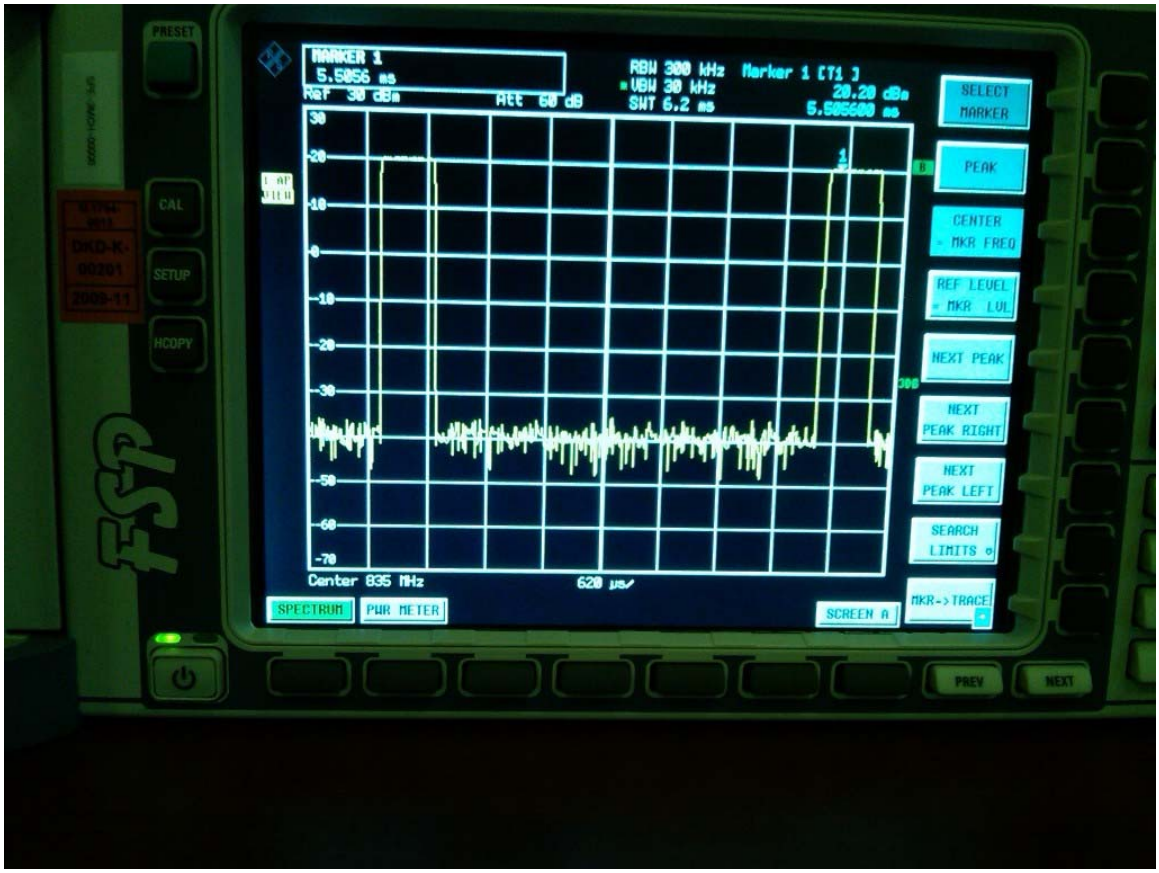
A.1 Spectrum analyser plots: CW, 80%AM, GSM and WCDMA signals



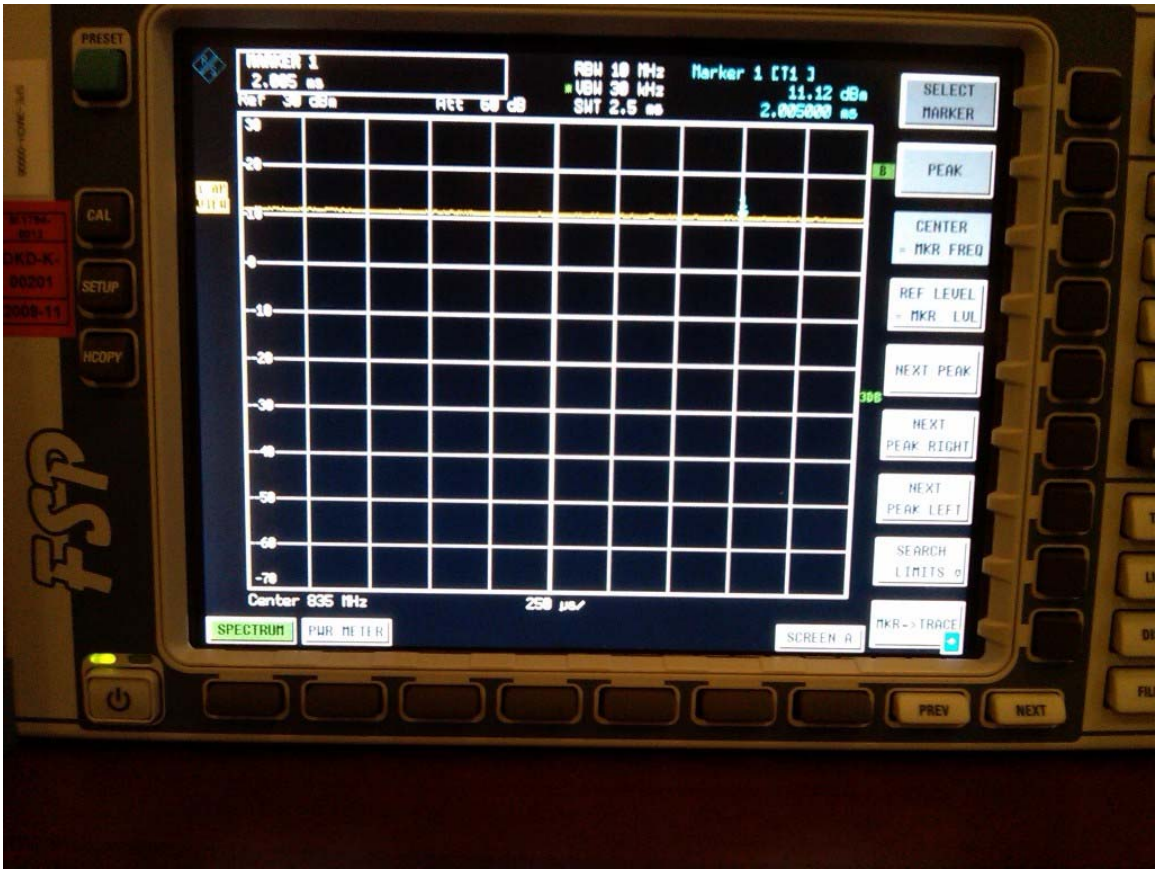
0 Hz Span CW Plot (835MHz)



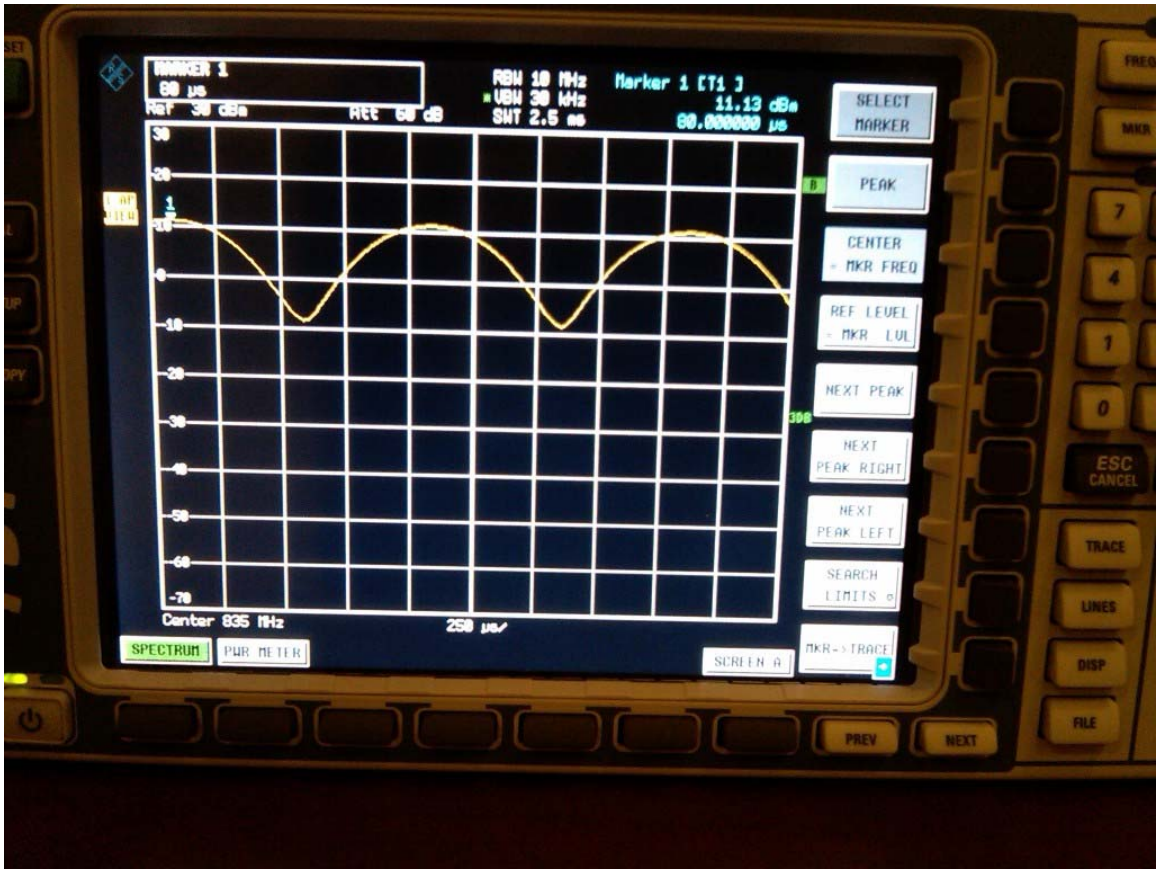
0 Hz Span 80% AM Plot (835MHz)



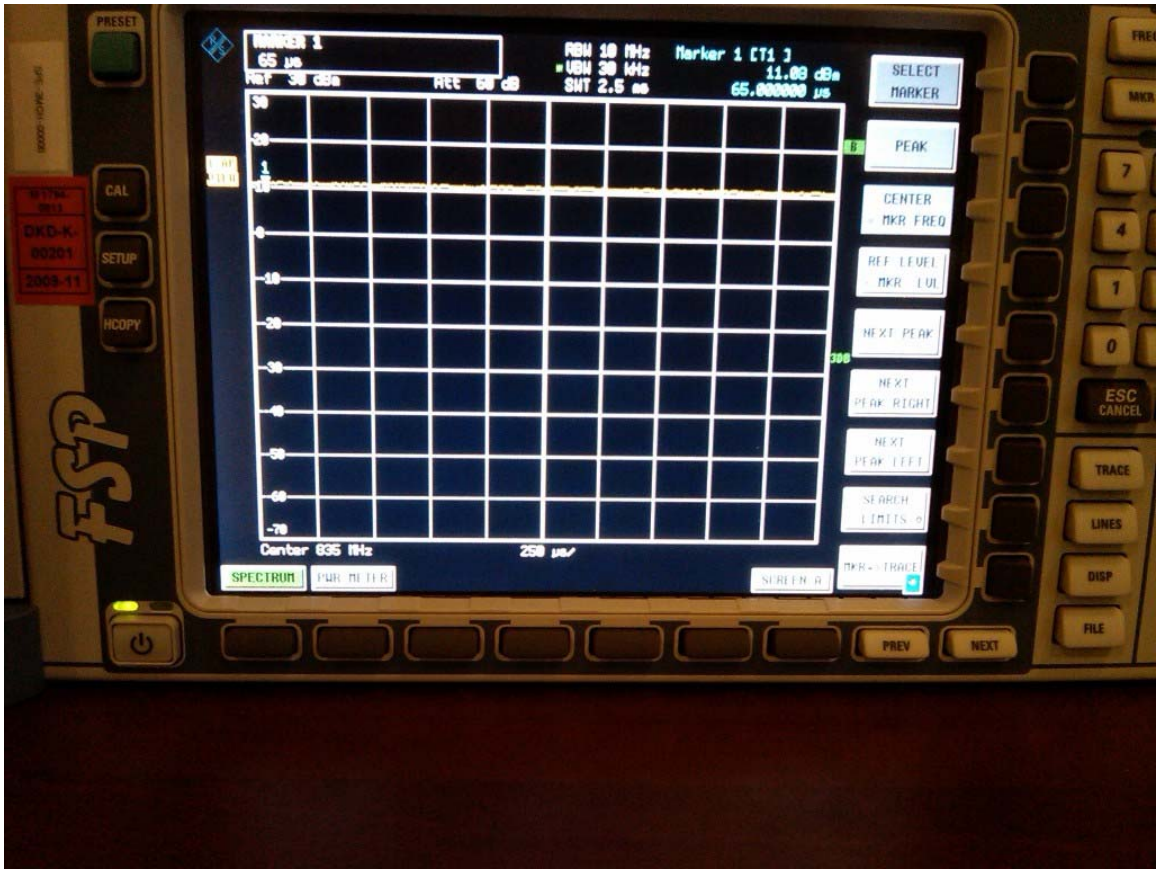
0 Hz Span GSM (835MHz)



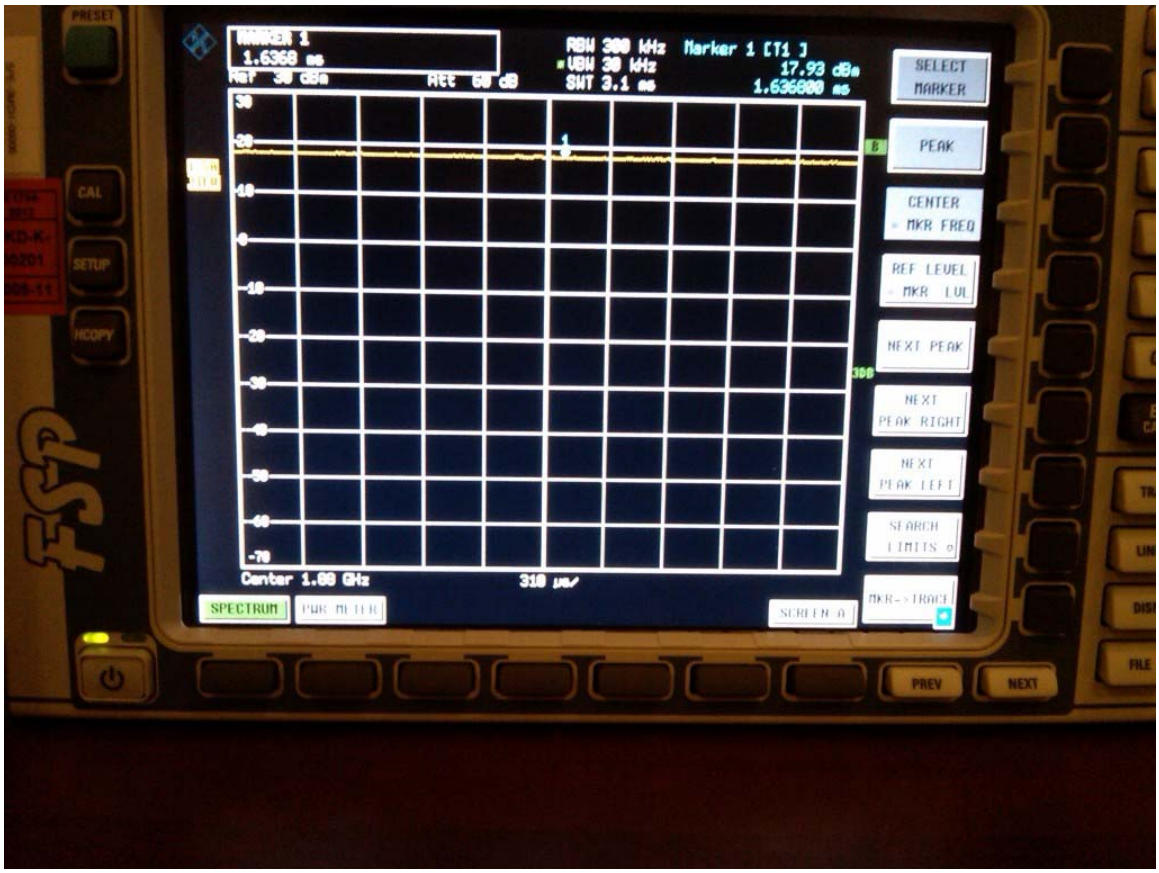
0 Hz Span CW Plot (835MHz)



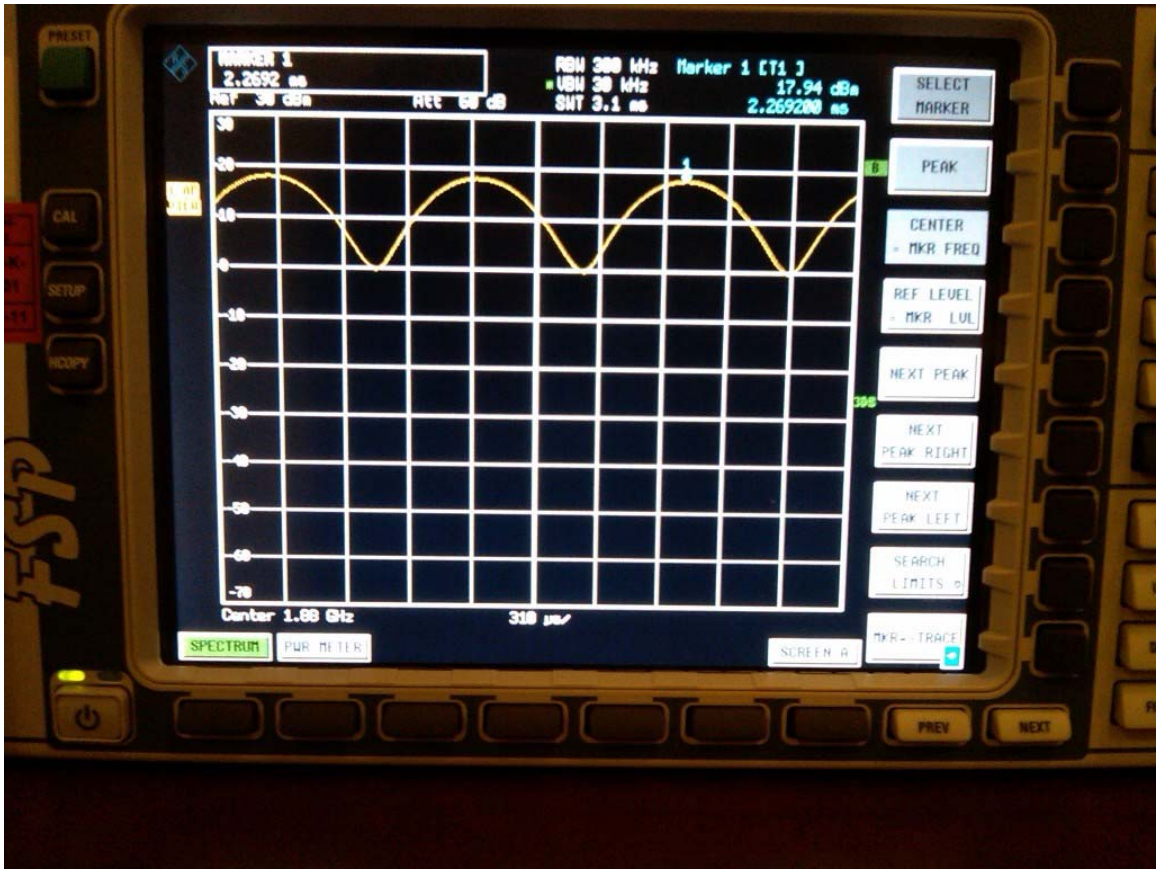
0 Hz Span 80% AM Plot (835MHz)



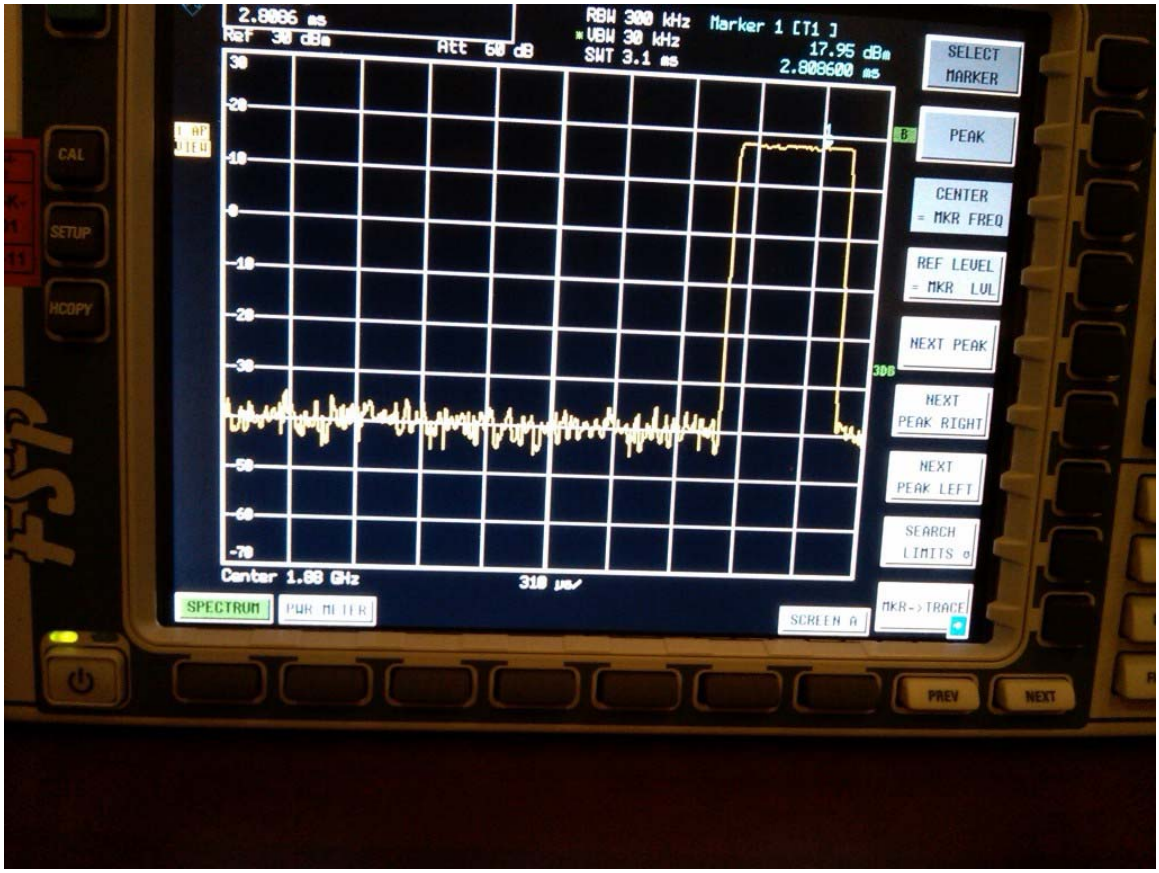
0 Hz Span WCDMA (835MHz)



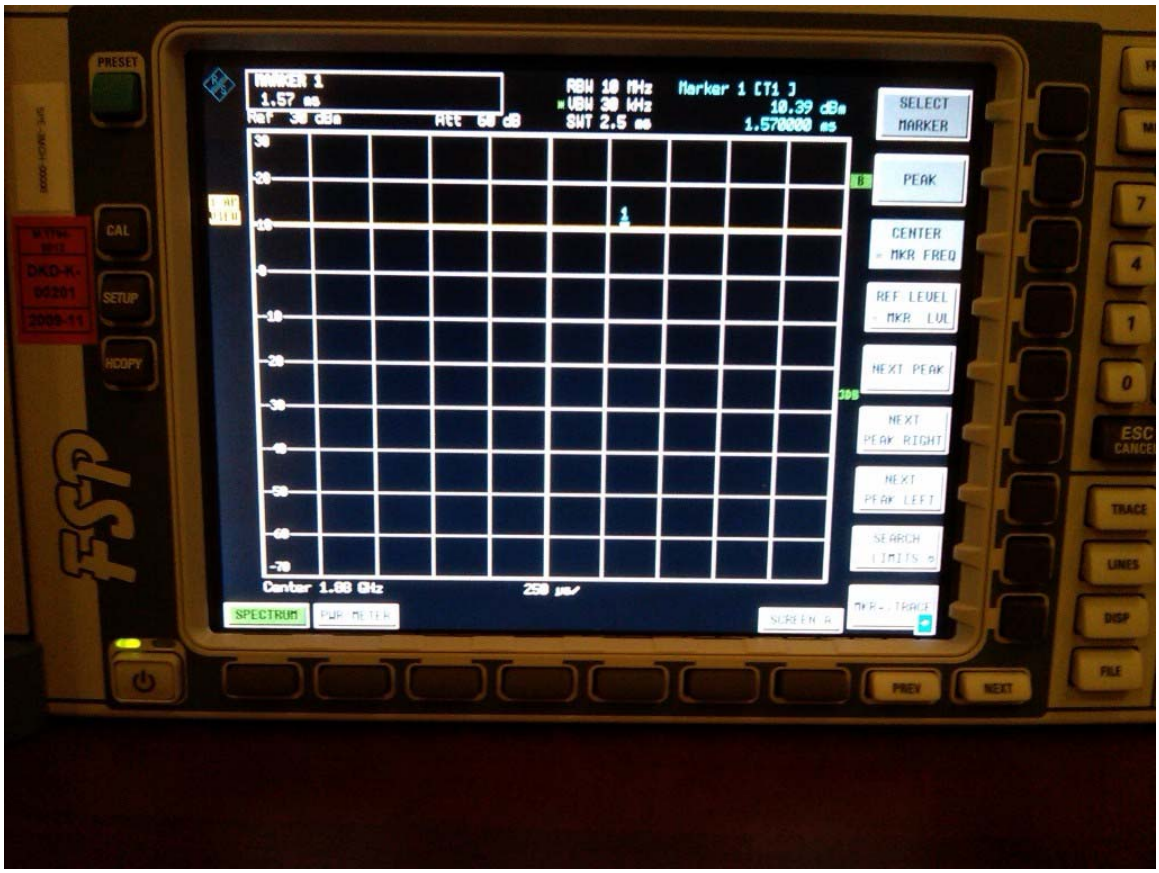
0 Hz Span CW Plot (1880MHz)



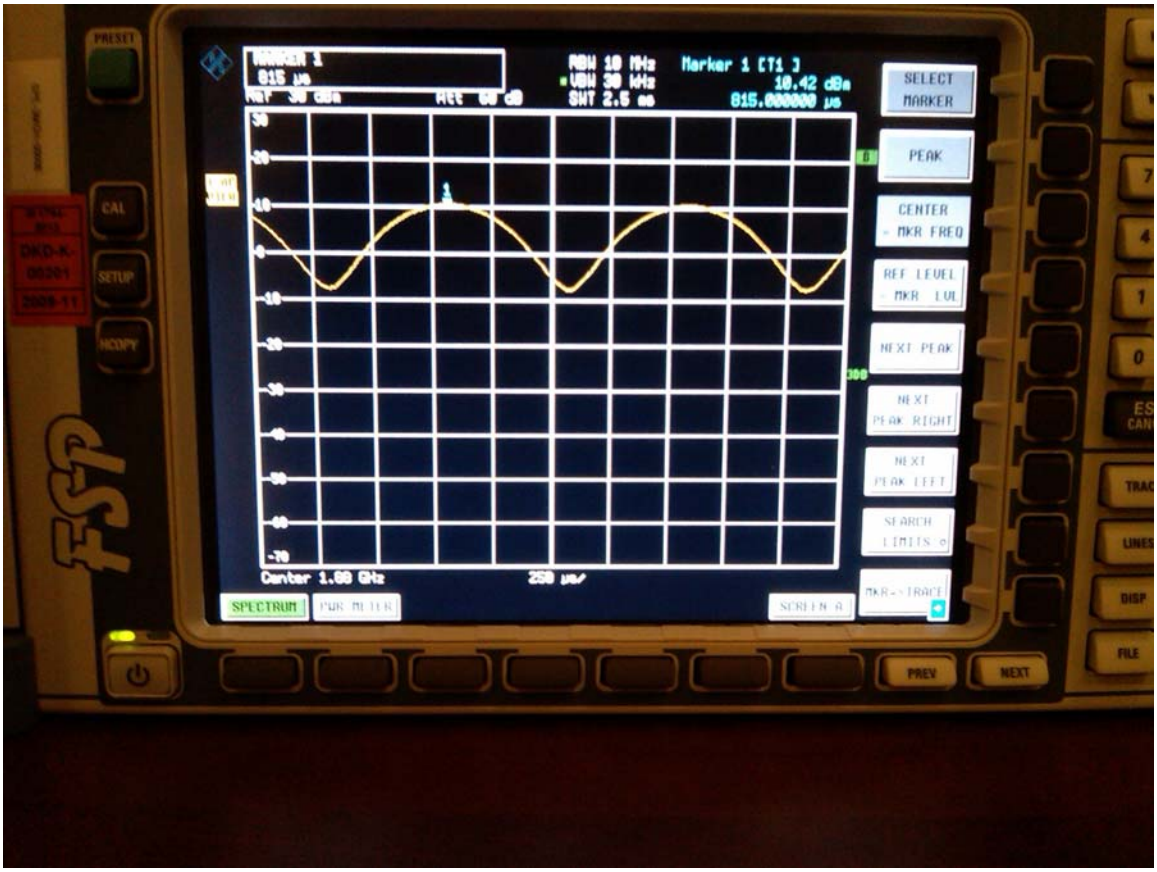
0 Hz Span 80% AM Plot (1880MHz)



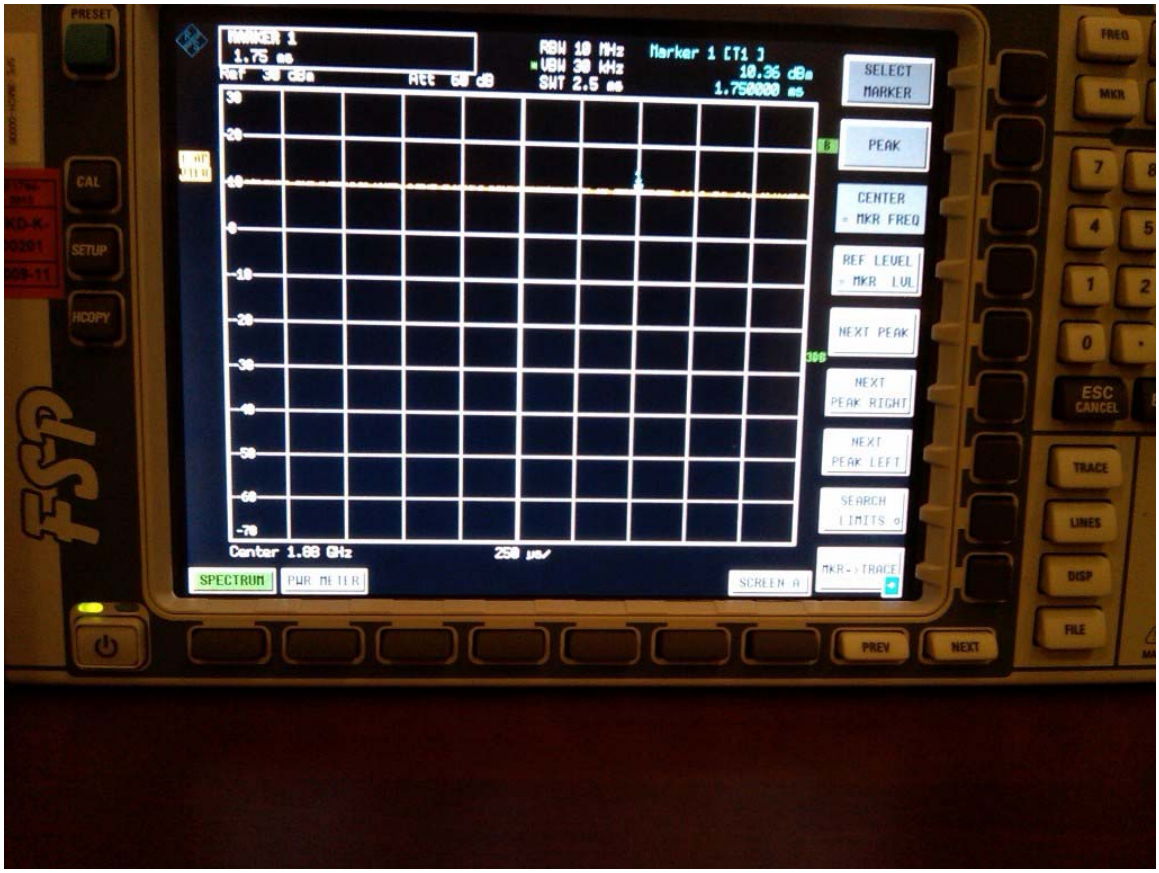
0 Hz Span GSM (1880MHz)



0 Hz Span CW Plot (1880MHz)



0 Hz Span 80% AM Plot (1880MHz)



0 Hz Span WCDMA (1880MHz)

A.2 Dipole validation and probe modulation factor plots

Date/Time: 2/26/2010 5:37:12 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 128.0 V/m; Power Drift = 0.027 dB

Maximum value of Total (measured) = 174.7 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 = 177.7 V/m

Probe Modulation Factor = 1.00

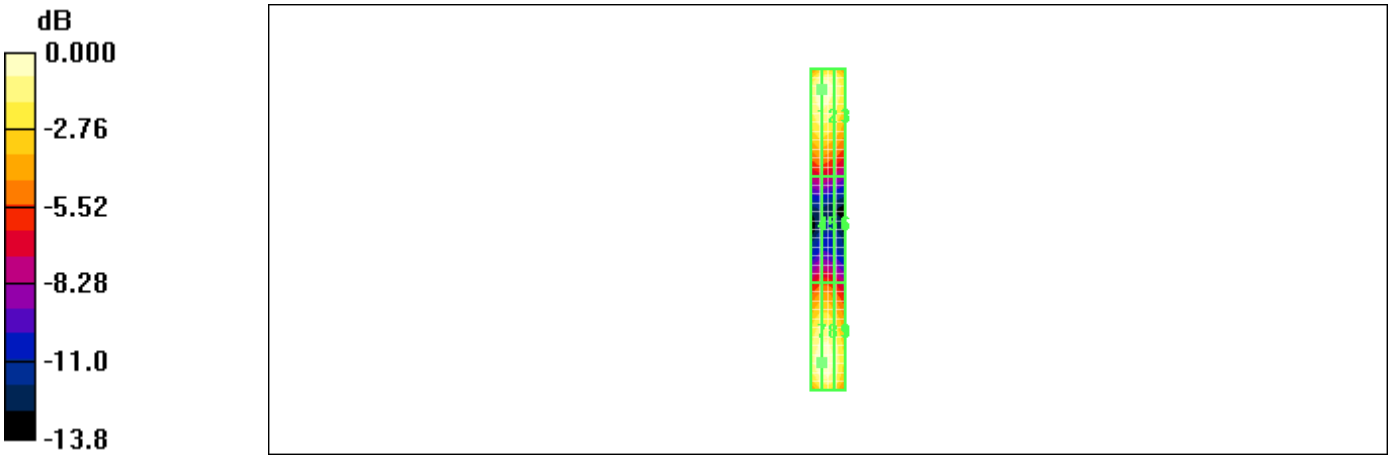
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 128.0 V/m; Power Drift = 0.027 dB

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

Peak E-field in V/m

Grid 1 **173.7 M4**	Grid 2 **173.7 M4**	Grid 3 **161.2 M4**
Grid 4 **92.7 M4**	Grid 5 **93.3 M4**	Grid 6 **86.1 M4**
Grid 7 **177.7 M4**	Grid 8 **177.7 M4**	Grid 9 **158.8 M4**



0 dB = 177.7V/m

Date/Time: 3/4/2010 11:41:24 AM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_CW_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 108.1 V/m; Power Drift = -0.048 dB

Maximum value of Total (measured) = 169.4 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 = 170.3 V/m

Probe Modulation Factor = 1.00

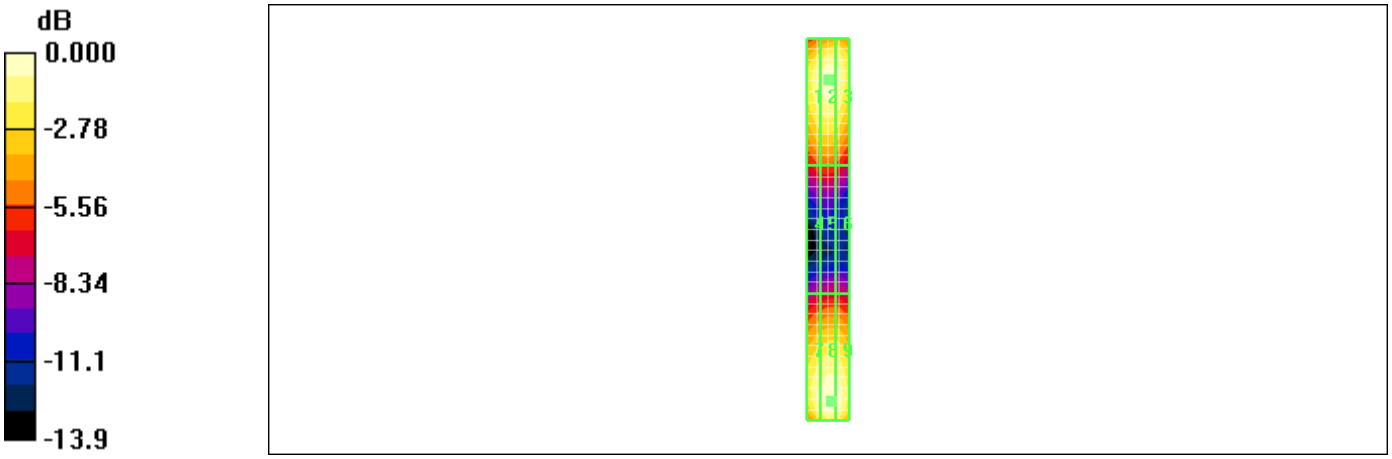
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 108.1 V/m; Power Drift = -0.048 dB

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

Peak E-field in V/m

Grid 1 **157.1 M4**	Grid 2 **163.3 M4**	Grid 3 **160.3 M4**
Grid 4 **89.5 M4**	Grid 5 **90.8 M4**	Grid 6 **87.2 M4**
Grid 7 **160.0 M4**	Grid 8 **170.3 M4**	Grid 9 **167.8 M4**



0 dB = 170.3V/m

Date/Time: 3/4/2010 12:47:29 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_AM80%_GSM_modda4.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 69.5 V/m; Power Drift = 0.031 dB

Maximum value of Total (measured) = 108.6 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 = 109.6 V/m

Probe Modulation Factor = 1.00

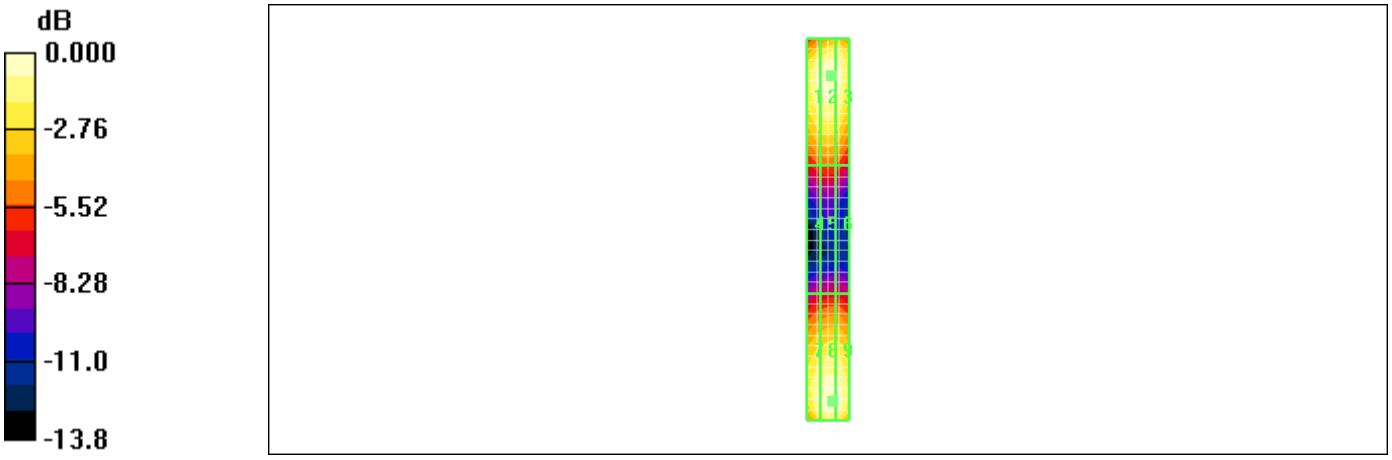
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 69.5 V/m; Power Drift = 0.031 dB

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

Peak E-field in V/m

Grid 1 **102.8 M4**	Grid 2 **106.6 M4**	Grid 3 **105.8 M4**
Grid 4 **58.2 M4**	Grid 5 **59.2 M4**	Grid 6 **57.5 M4**
Grid 7 **102.7 M4**	Grid 8 **109.6 M4**	Grid 9 **108.5 M4**



0 dB = 109.6V/m

Date/Time: 3/4/2010 11:06:08 AM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

Communication System: GSM 850; Frequency: 835 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 - 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 = 37.8 V/m; Power Drift = -0.093 dB

Maximum value of Total (measured) = 58.6 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 = 58.8 V/m

Probe Modulation Factor = 1.00

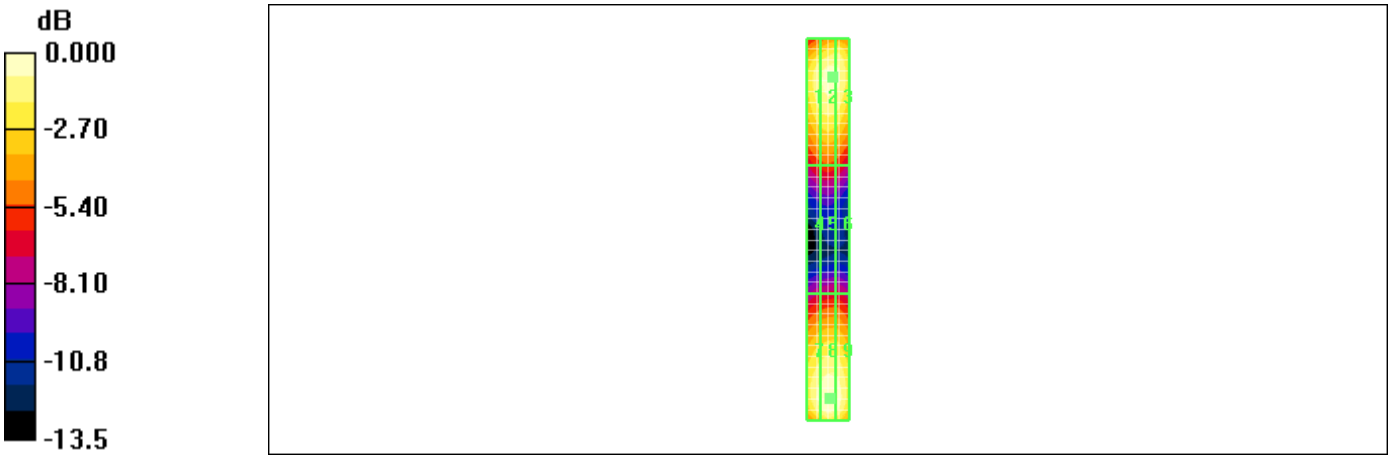
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 37.8 V/m; Power Drift = -0.093 dB

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

Peak E-field in V/m

Grid 1 **53.2 M4**	Grid 2 **55.7 M4**	Grid 3 **55.4 M4**
Grid 4 **30.1 M4**	Grid 5 **30.9 M4**	Grid 6 **29.9 M4**
Grid 7 **55.9 M4**	Grid 8 **58.8 M4**	Grid 9 **57.7 M4**



0 dB = 58.8V/m

Date/Time: 3/4/2010 12:58:46 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_CW_WCDMA_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 45.5 V/m; Power Drift = 0.013 dB

Maximum value of Total (measured) = 62.9 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 = 64.7 V/m

Probe Modulation Factor = 1.00

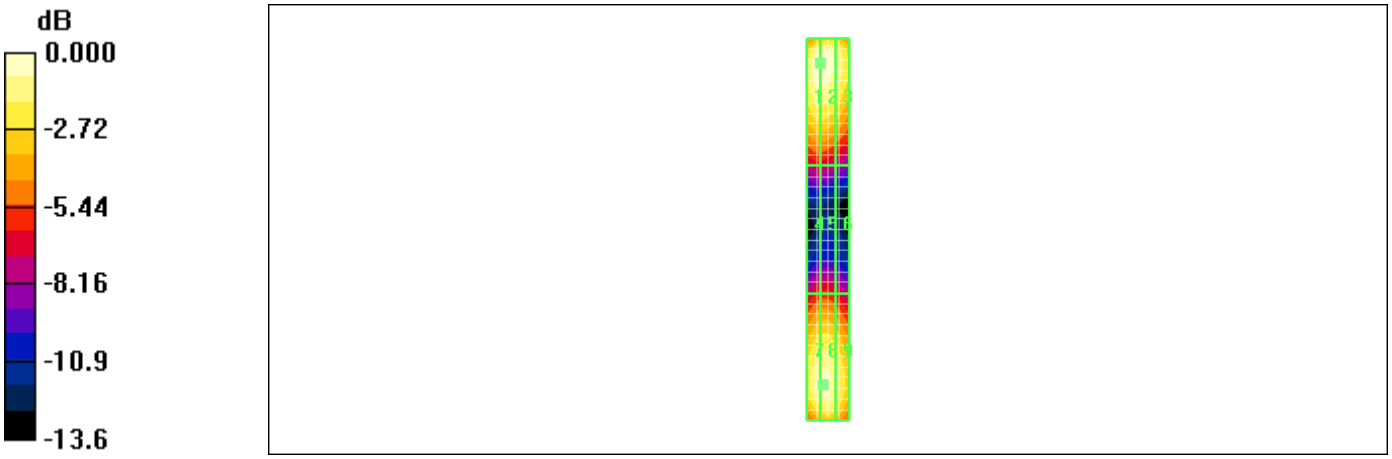
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 45.5 V/m; Power Drift = 0.013 dB

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

Peak E-field in V/m

Grid 1 **64.7 M4**	Grid 2 **64.7 M4**	Grid 3 **59.7 M4**
Grid 4 **32.7 M4**	Grid 5 **32.9 M4**	Grid 6 **30.6 M4**
Grid 7 **60.4 M4**	Grid 8 **60.9 M4**	Grid 9 **56.1 M4**



0 dB = 64.7V/m

Date/Time: 3/4/2010 1:06:20 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_AM80%_WCDMA.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 29.0 V/m; Power Drift = 0.032 dB

Maximum value of Total (measured) = 39.7 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 = 40.7 V/m

Probe Modulation Factor = 1.00

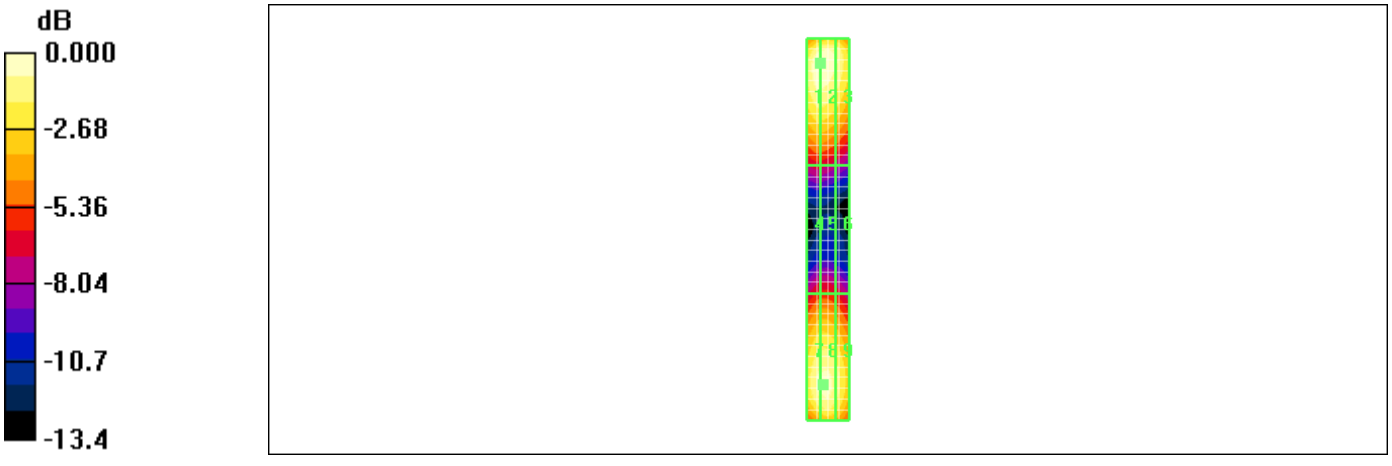
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 29.0 V/m; Power Drift = 0.032 dB

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

Peak E-field in V/m

Grid 1 **40.7 M4**	Grid 2 **40.7 M4**	Grid 3 **37.8 M4**
Grid 4 **20.8 M4**	Grid 5 **20.9 M4**	Grid 6 **19.6 M4**
Grid 7 **38.4 M4**	Grid 8 **38.6 M4**	Grid 9 **35.5 M4**



0 dB = 40.7V/m

Date/Time: 3/4/2010 11:18:41 AM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_835MHz_WCDMA_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF E Dipole

Communication System: WCDMA FDD V; Frequency: 836.4 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 - 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 = 38.7 V/m; Power Drift = 0.038 dB

Maximum value of Total (measured) = 61.4 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 = 61.5 V/m

Probe Modulation Factor = 1.00

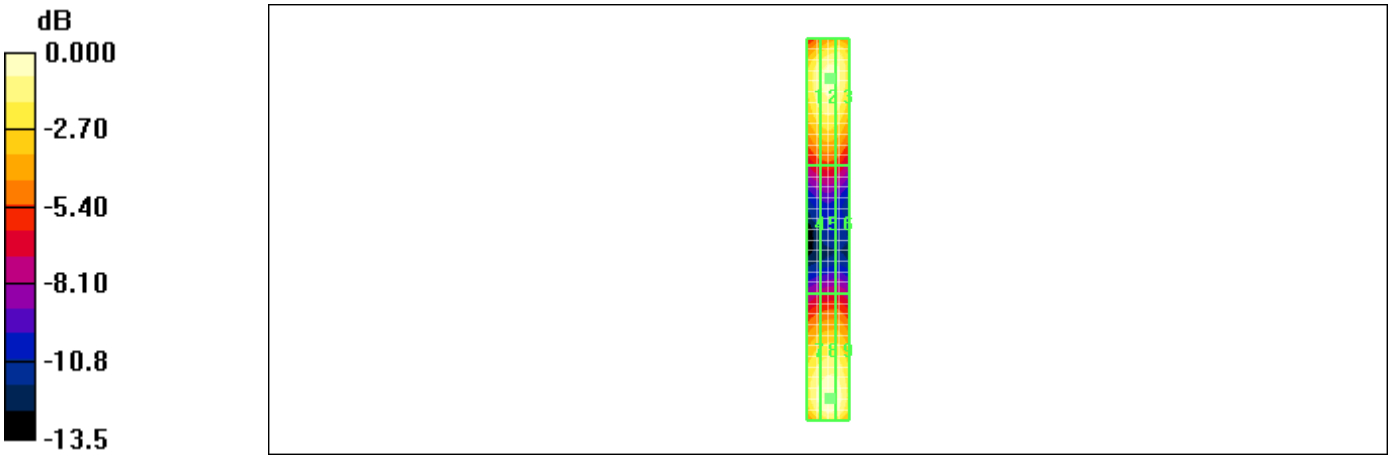
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 38.7 V/m; Power Drift = 0.038 dB

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

Peak E-field in V/m

Grid 1 **56.0 M4**	Grid 2 **58.6 M4**	Grid 3 **58.0 M4**
Grid 4 **30.9 M4**	Grid 5 **31.6 M4**	Grid 6 **30.7 M4**
Grid 7 **58.7 M4**	Grid 8 **61.5 M4**	Grid 9 **60.3 M4**



0 dB = 61.5V/m

Date/Time: 2/26/2010 5:31:16 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

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 = 138.0 V/m; Power Drift = -0.068 dB

Maximum value of Total (measured) = 128.6 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 = 131.5 V/m

Probe Modulation Factor = 1.00

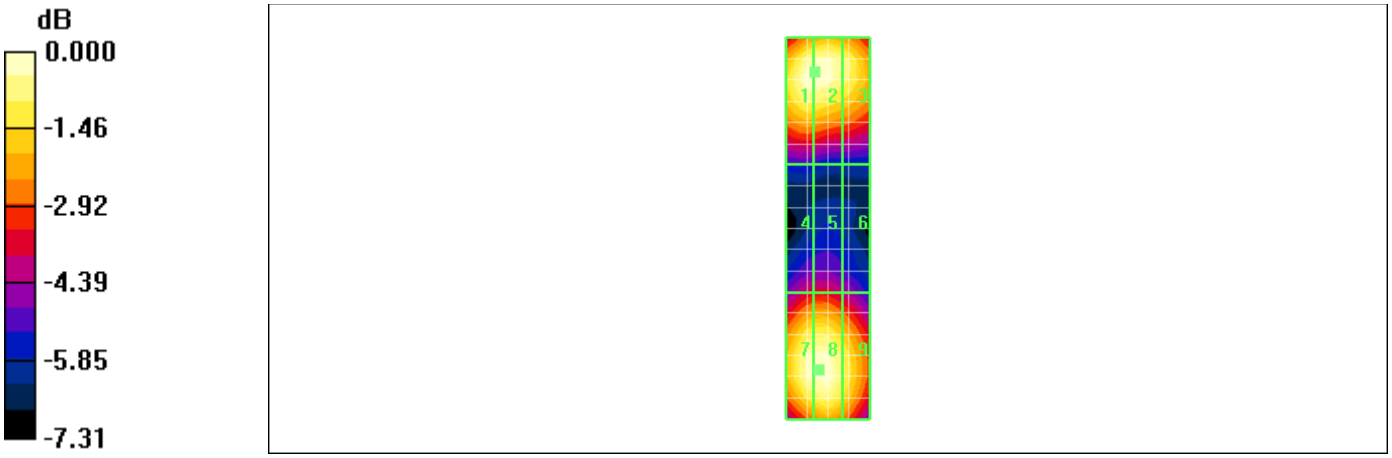
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 138.0 V/m; Power Drift = -0.068 dB

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

Peak E-field in V/m

Grid 1 **131.2 M2**	Grid 2 **131.5 M2**	Grid 3 **123.6 M2**
Grid 4 **86.6 M3**	Grid 5 **87.2 M3**	Grid 6 **81.3 M3**
Grid 7 **129.7 M2**	Grid 8 **130.5 M2**	Grid 9 **119.6 M2**



0 dB = 131.5V/m

Date/Time: 3/4/2010 2:26:01 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz_CW_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 105.6 V/m; Power Drift = -0.024 dB

Maximum value of Total (measured) = 99.7 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 = 100.9 V/m

Probe Modulation Factor = 1.00

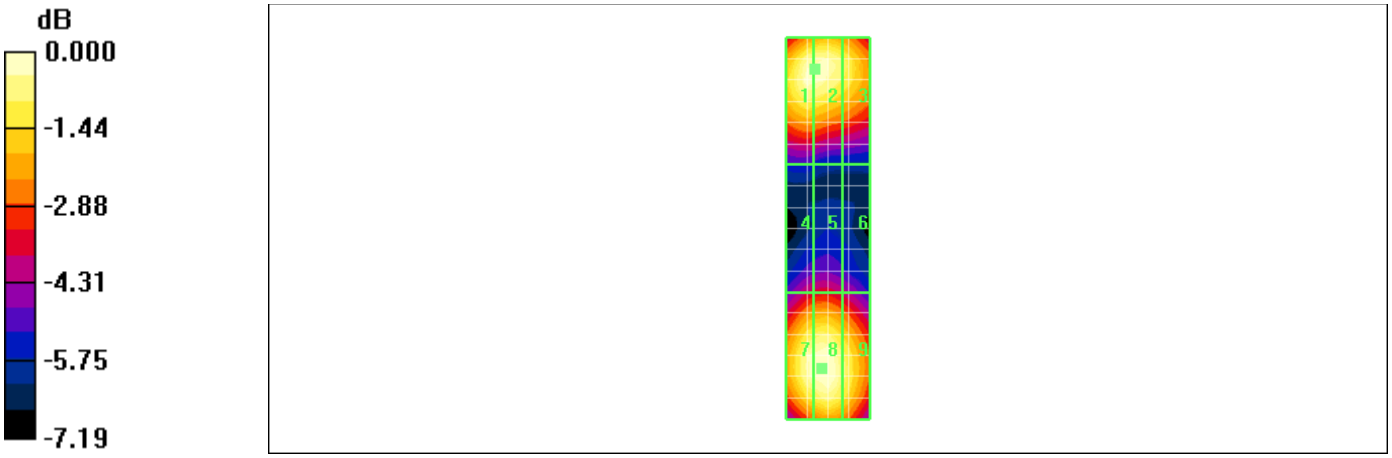
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 105.6 V/m; Power Drift = -0.024 dB

Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **99.7 M3**	Grid 2 **99.8 M3**	Grid 3 **92.6 M3**
Grid 4 **66.5 M3**	Grid 5 **67.4 M3**	Grid 6 **63.5 M3**
Grid 7 **99.5 M3**	Grid 8 **100.9 M3**	Grid 9 **93.6 M3**



0 dB = 100.9V/m

Date/Time: 3/4/2010 2:32:58 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz_AM80%_GSM.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 66.9 V/m; Power Drift = -0.043 dB

Maximum value of Total (measured) = 63.3 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 = 63.9 V/m

Probe Modulation Factor = 1.00

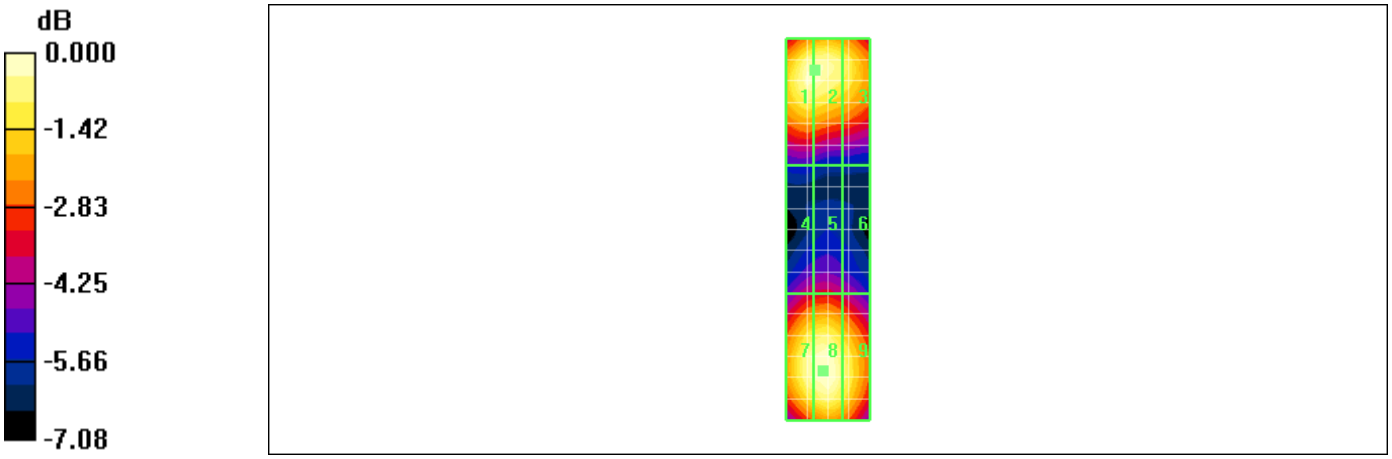
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 66.9 V/m; Power Drift = -0.043 dB

Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **62.8 M4**	Grid 2 **62.8 M4**	Grid 3 **58.7 M4**
Grid 4 **42.1 M4**	Grid 5 **42.8 M4**	Grid 6 **40.4 M4**
Grid 7 **62.7 M4**	Grid 8 **63.9 M3**	Grid 9 **59.5 M4**



0 dB = 63.9V/m

Date/Time: 3/4/2010 1:58:33 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: GSM 1900; Frequency: 1880 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

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 = 19.1 V/m; Power Drift = -0.041 dB

Maximum value of Total (measured) = 36.3 V/m

H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 36.8 V/m

Probe Modulation Factor = 1.00

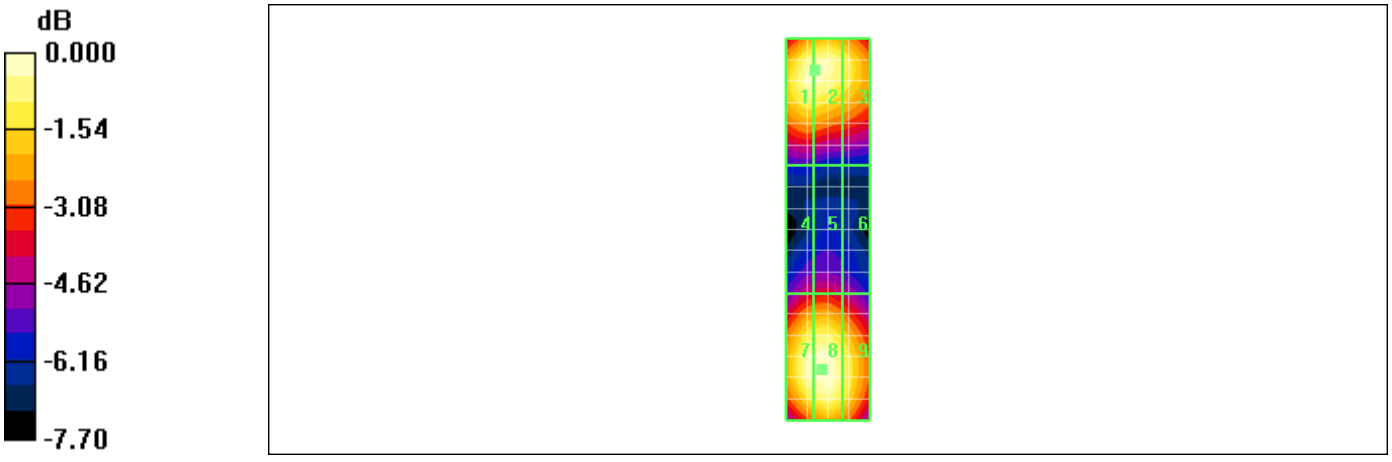
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.1 V/m; Power Drift = -0.041 dB

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

Peak E-field in V/m

Grid 1 **36.1 M4**	Grid 2 **36.1 M4**	Grid 3 **33.5 M4**
Grid 4 **23.6 M4**	Grid 5 **24.0 M4**	Grid 6 **22.4 M4**
Grid 7 **36.4 M4**	Grid 8 **36.8 M4**	Grid 9 **33.8 M4**



0 dB = 36.8V/m

Date/Time: 3/4/2010 2:39:01 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz_CW_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 44.9 V/m; Power Drift = 0.016 dB

Maximum value of Total (measured) = 42.2 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 = 42.7 V/m

Probe Modulation Factor = 1.00

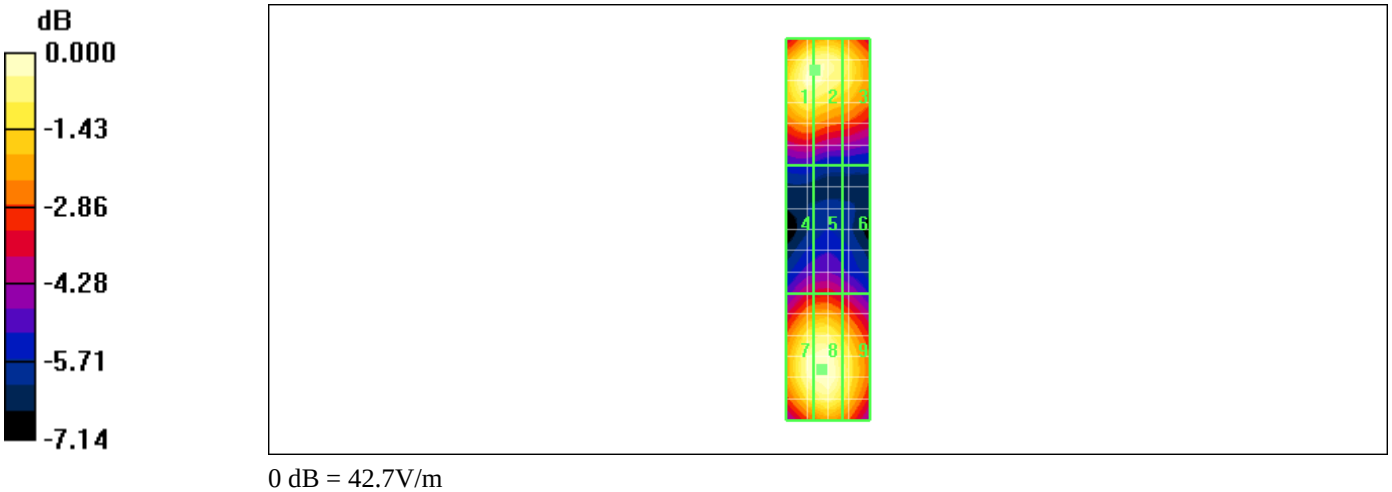
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 44.9 V/m; Power Drift = 0.016 dB

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

Peak E-field in V/m

Grid 1 **42.0 M4**	Grid 2 **42.0 M4**	Grid 3 **39.2 M4**
Grid 4 **28.3 M4**	Grid 5 **28.7 M4**	Grid 6 **26.9 M4**
Grid 7 **42.2 M4**	Grid 8 **42.7 M4**	Grid 9 **39.6 M4**



0 dB = 42.7V/m

Date/Time: 3/4/2010 2:43:38 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz_AM80%_WCDMA.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF E Dipole

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 - 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 = 28.9 V/m; Power Drift = 0.055 dB

Maximum value of Total (measured) = 27.2 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 = 27.4 V/m

Probe Modulation Factor = 1.00

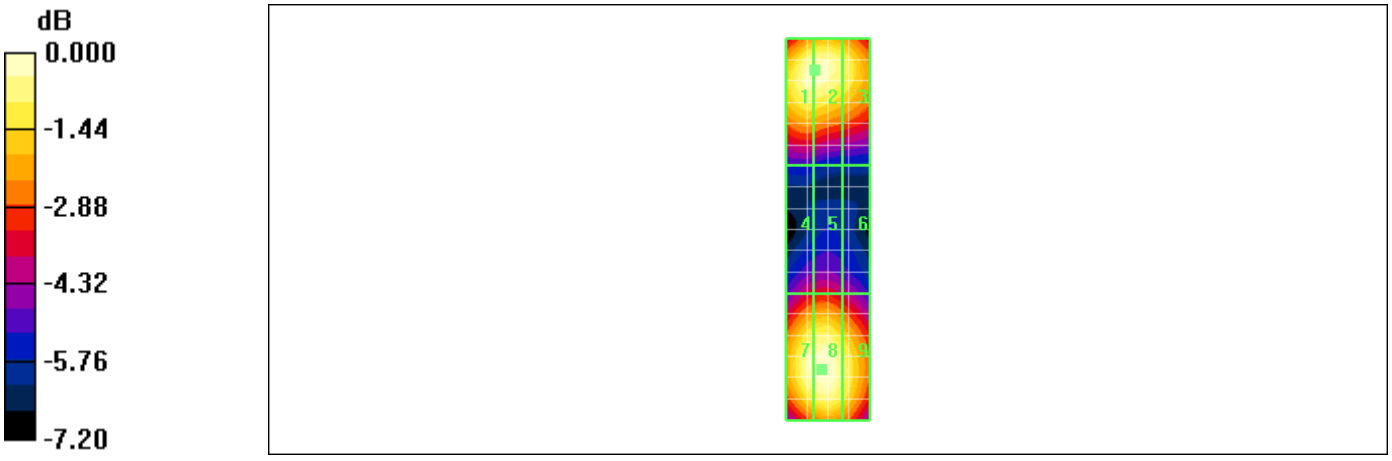
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 28.9 V/m; Power Drift = 0.055 dB

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

Peak E-field in V/m

Grid 1 **27.0 M4**	Grid 2 **27.1 M4**	Grid 3 **25.2 M4**
Grid 4 **18.2 M4**	Grid 5 **18.5 M4**	Grid 6 **17.3 M4**
Grid 7 **27.0 M4**	Grid 8 **27.4 M4**	Grid 9 **25.4 M4**



0 dB = 27.4V/m

Date/Time: 3/4/2010 2:05:47 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_Dipole_1880MHz_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

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

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

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 = 24.1 V/m; Power Drift = 0.004 dB

Maximum value of Total (measured) = 45.9 V/m

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

dx=5mm, dy=5mm

Maximum value of peak Total field = 46.5 V/m

Probe Modulation Factor = 1.00

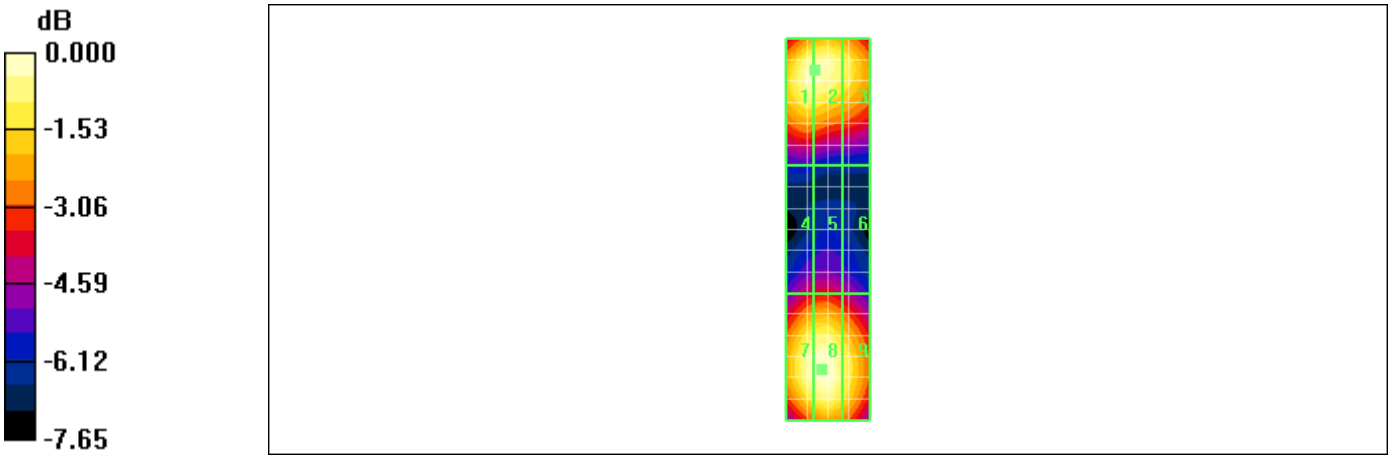
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 24.1 V/m; Power Drift = 0.004 dB

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

Peak E-field in V/m

Grid 1 **45.5 M4**	Grid 2 **45.6 M4**	Grid 3 **42.4 M4**
Grid 4 **30.2 M4**	Grid 5 **30.7 M4**	Grid 6 **28.6 M4**
Grid 7 **45.8 M4**	Grid 8 **46.5 M4**	Grid 9 **42.7 M4**



0 dB = 46.5V/m

Date/Time: 3/1/2010 9:24:08 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: CW; Frequency: 835 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 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.523 A/m; Power Drift = -0.122 dB

Maximum value of Total (measured) = 0.492 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.492 A/m

Probe Modulation Factor = 1.00

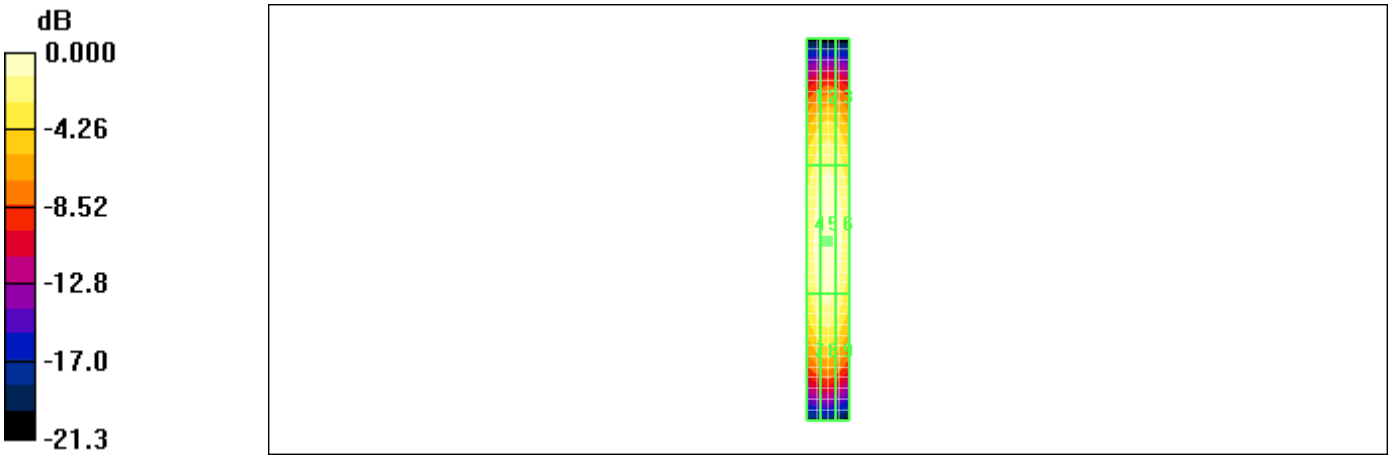
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.523 A/m; Power Drift = -0.122 dB

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

Peak H-field in A/m

Grid 1 **0.397 M4**	Grid 2 **0.416 M4**	Grid 3 **0.397 M4**
Grid 4 **0.466 M4**	Grid 5 **0.492 M4**	Grid 6 **0.469 M4**
Grid 7 **0.426 M4**	Grid 8 **0.444 M4**	Grid 9 **0.417 M4**



0 dB = 0.492A/m

Date/Time: 3/4/2010 4:23:41 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz_CW_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: CW; Frequency: 835 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 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.546 A/m; Power Drift = 0.046 dB

Maximum value of Total (measured) = 0.518 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.518 A/m

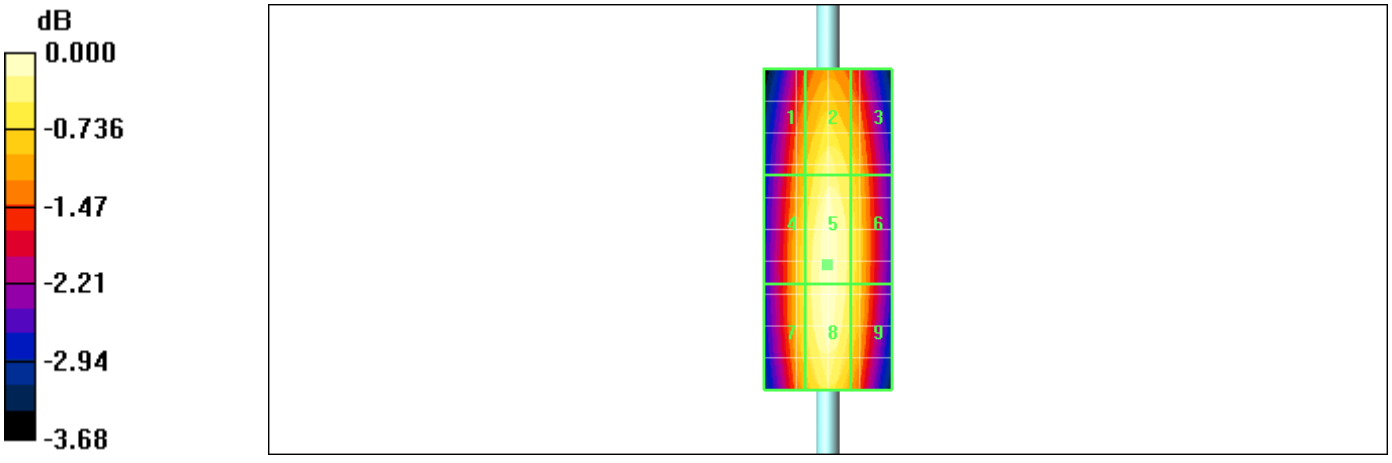
Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.546 A/m; Power Drift = 0.046 dB

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

Grid 1 **0.476 M4**	Grid 2 **0.501 M4**	Grid 3 **0.486 M4**
Grid 4 **0.494 M4**	Grid 5 **0.518 M4**	Grid 6 **0.498 M4**
Grid 7 **0.494 M4**	Grid 8 **0.518 M4**	Grid 9 **0.496 M4**



0 dB = 0.518A/m

Date/Time: 3/4/2010 4:28:17 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz_AM80%_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; 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

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.354 A/m; Power Drift = 0.082 dB

Maximum value of Total (measured) = 0.335 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 = 0.335 A/m

Probe Modulation Factor = 1.00

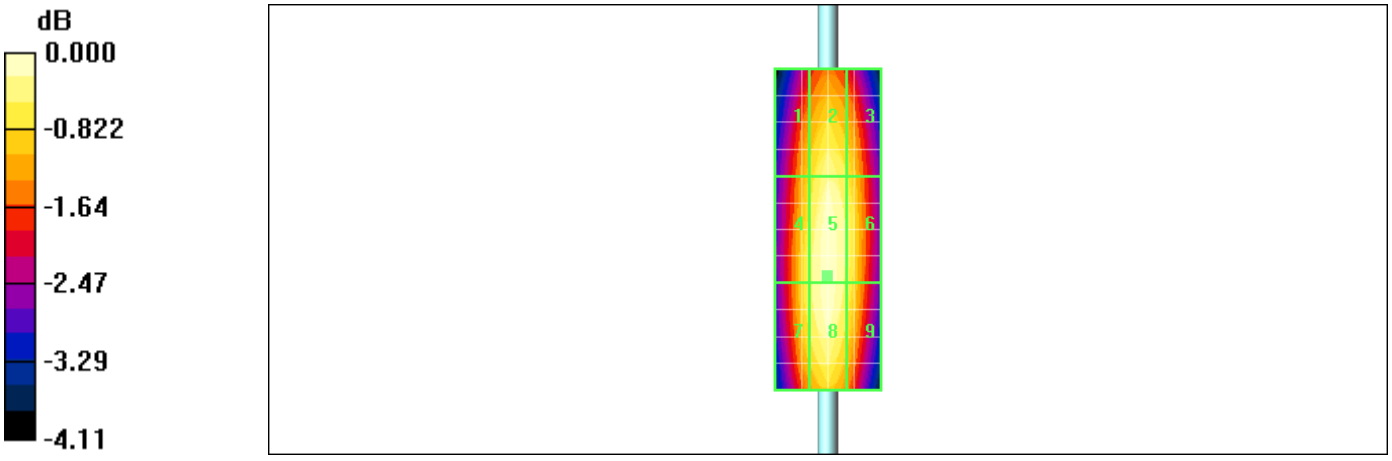
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.354 A/m; Power Drift = 0.082 dB

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

Peak H-field in A/m

Grid 1 **0.307 M4**	Grid 2 **0.324 M4**	Grid 3 **0.314 M4**
Grid 4 **0.321 M4**	Grid 5 **0.335 M4**	Grid 6 **0.323 M4**
Grid 7 **0.321 M4**	Grid 8 **0.335 M4**	Grid 9 **0.320 M4**



0 dB = 0.335A/m

Date/Time: 3/4/2010 4:00:04 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: GSM 850; Frequency: 835 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 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.198 A/m; Power Drift = 0.024 dB

Maximum value of Total (measured) = 0.185 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.185 A/m

Probe Modulation Factor = 1.00

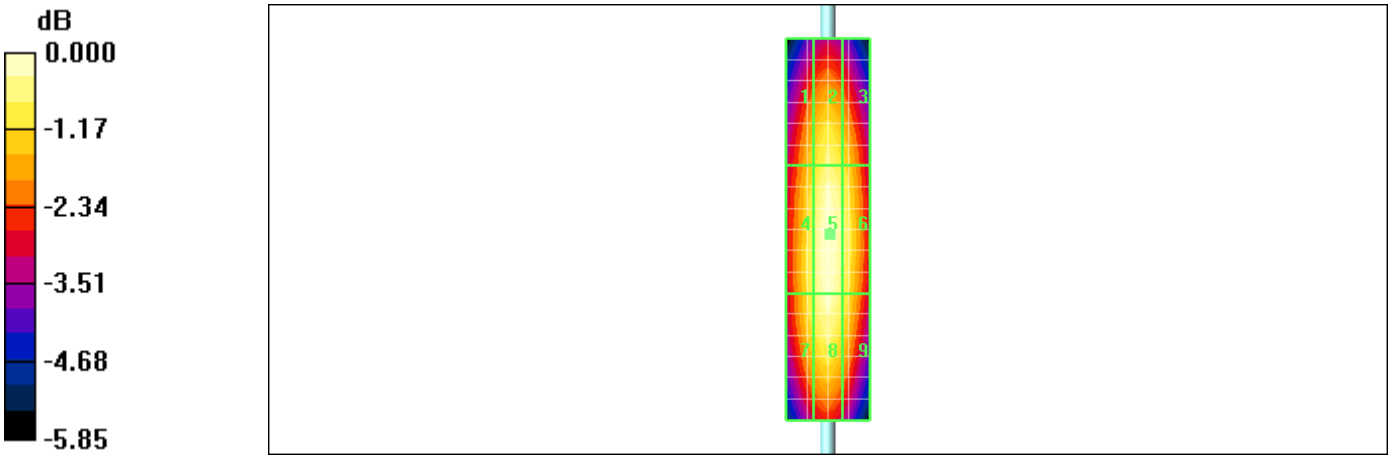
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.198 A/m; Power Drift = 0.024 dB

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

Peak H-field in A/m

Grid 1 **0.162 M4**	Grid 2 **0.172 M4**	Grid 3 **0.166 M4**
Grid 4 **0.173 M4**	Grid 5 **0.185 M4**	Grid 6 **0.176 M4**
Grid 7 **0.171 M4**	Grid 8 **0.182 M4**	Grid 9 **0.172 M4**



0 dB = 0.185A/m

Date/Time: 3/4/2010 4:32:13 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz_CW_WCDMA_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: CW; Frequency: 835 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 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.196 A/m; Power Drift = 0.031 dB

Maximum value of Total (measured) = 0.182 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid:

dx=5mm, dy=5mm

Maximum value of peak Total field = 0.182 A/m

Probe Modulation Factor = 1.00

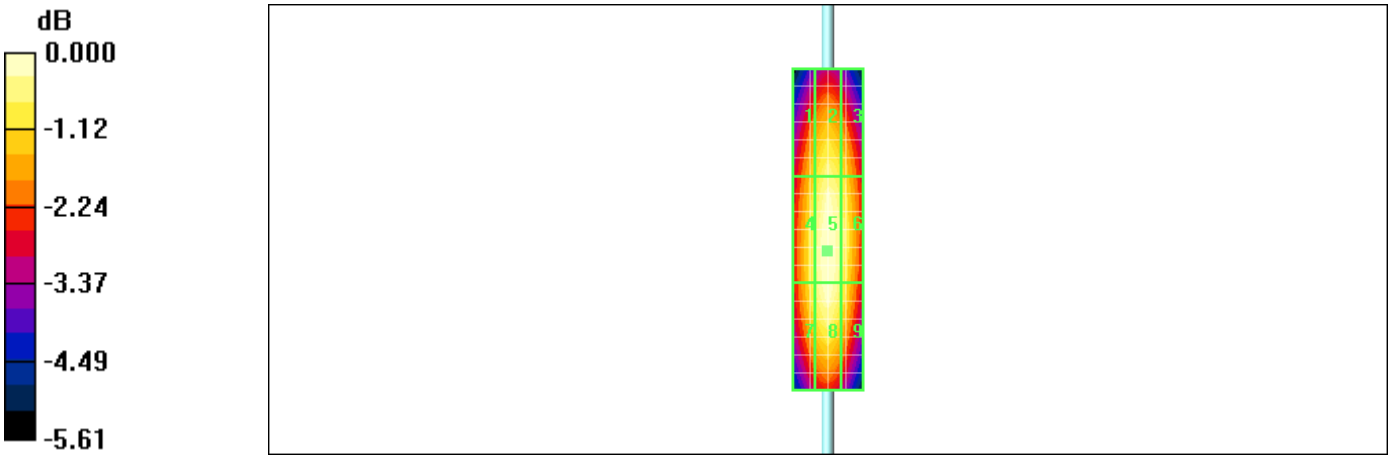
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.196 A/m; Power Drift = 0.031 dB

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

Peak H-field in A/m

Grid 1 **0.162 M4**	Grid 2 **0.171 M4**	Grid 3 **0.165 M4**
Grid 4 **0.173 M4**	Grid 5 **0.182 M4**	Grid 6 **0.174 M4**
Grid 7 **0.172 M4**	Grid 8 **0.180 M4**	Grid 9 **0.171 M4**



0 dB = 0.182A/m

Date/Time: 3/4/2010 4:42:45 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz_AM80%_WCDMA_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; 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

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.120 A/m; Power Drift = 0.140 dB

Maximum value of Total (measured) = 0.115 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.115 A/m

Probe Modulation Factor = 1.00

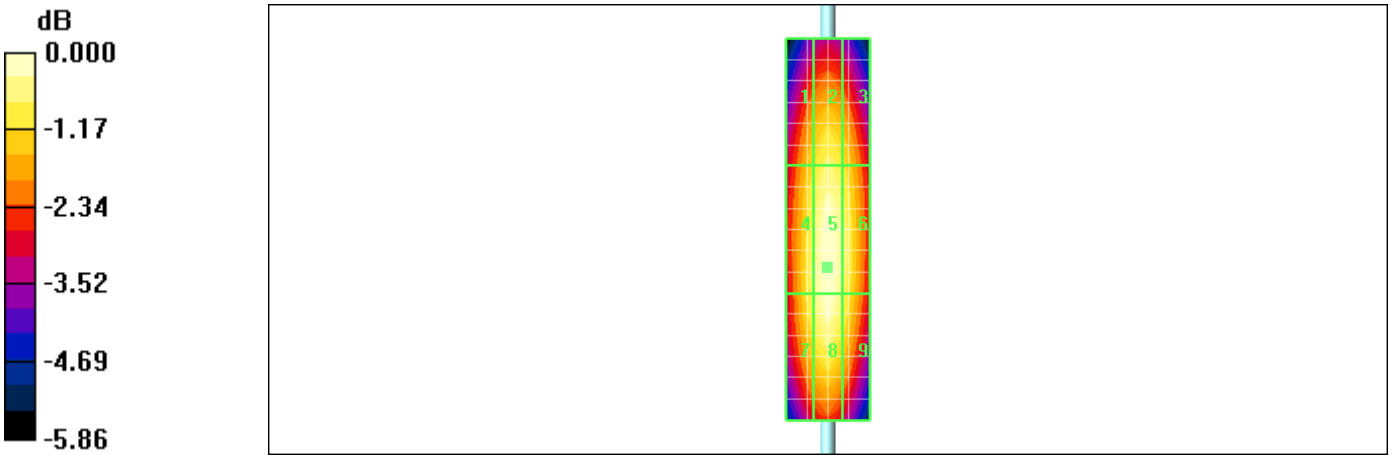
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.120 A/m; Power Drift = 0.140 dB

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

Peak H-field in A/m

Grid 1 **0.102 M4**	Grid 2 **0.107 M4**	Grid 3 **0.103 M4**
Grid 4 **0.108 M4**	Grid 5 **0.115 M4**	Grid 6 **0.109 M4**
Grid 7 **0.108 M4**	Grid 8 **0.114 M4**	Grid 9 **0.108 M4**



0 dB = 0.115A/m

Date/Time: 3/4/2010 4:06:09 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_835MHz_WCDMA_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: WCDMA FDD V; 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

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x11x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.195 A/m; Power Drift = 0.053 dB

Maximum value of Total (measured) = 0.181 A/m

H Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.181 A/m

Probe Modulation Factor = 1.00

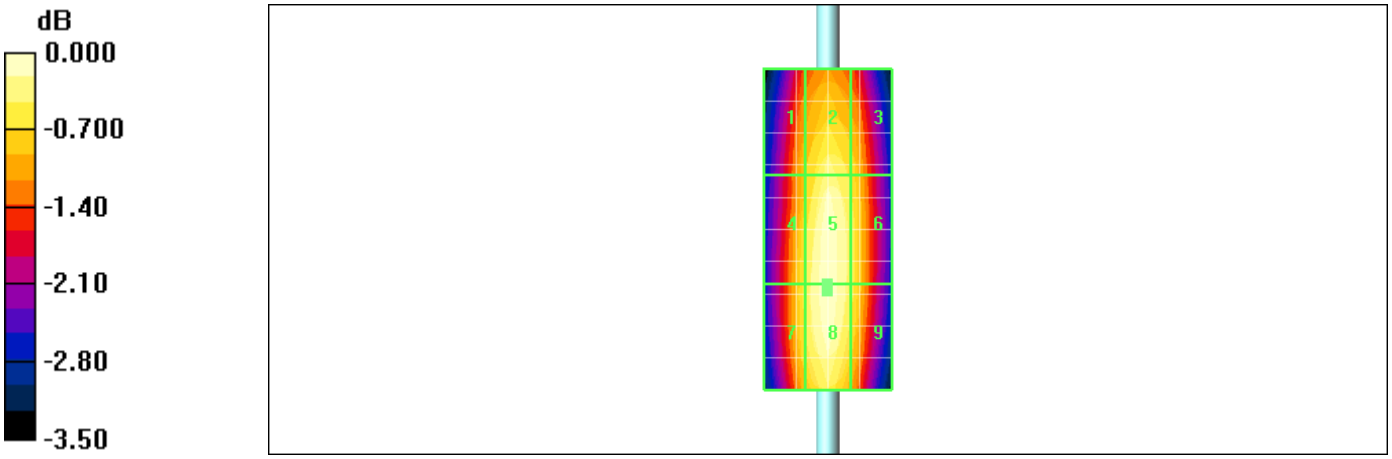
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.195 A/m; Power Drift = 0.053 dB

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

Peak H-field in A/m

Grid 1 **0.167 M4**	Grid 2 **0.174 M4**	Grid 3 **0.171 M4**
Grid 4 **0.173 M4**	Grid 5 **0.181 M4**	Grid 6 **0.175 M4**
Grid 7 **0.174 M4**	Grid 8 **0.181 M4**	Grid 9 **0.174 M4**



0 dB = 0.181A/m

Date/Time: 3/1/2010 9:32:45 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

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

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.493 A/m; Power Drift = -0.036 dB

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

H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.464 A/m

Probe Modulation Factor = 1.00

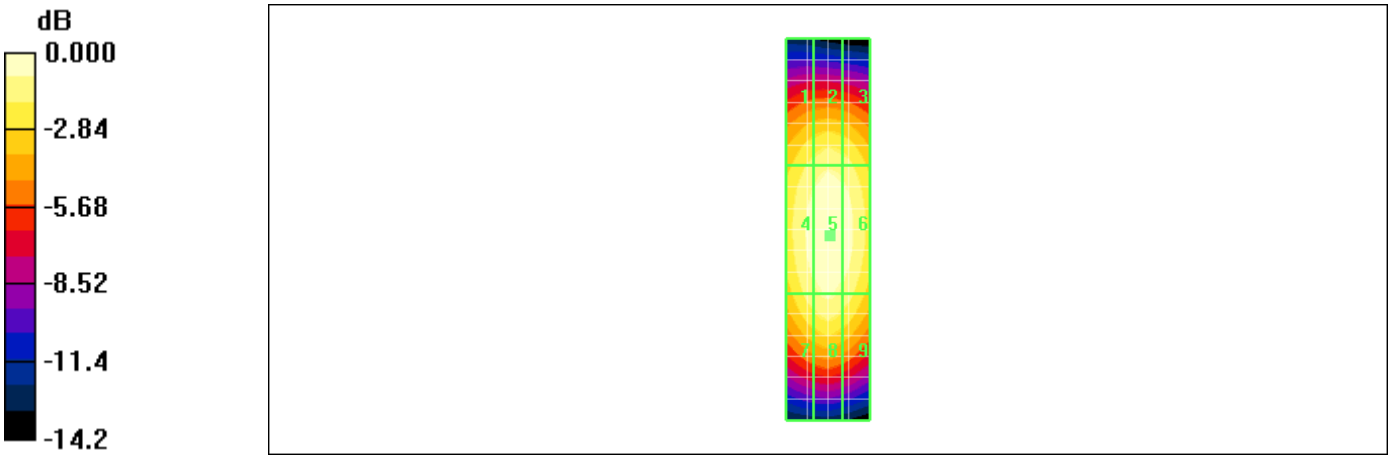
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.493 A/m; Power Drift = -0.036 dB

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

Peak H-field in A/m

Grid 1 **0.391 M2**	Grid 2 **0.410 M2**	Grid 3 **0.398 M2**
Grid 4 **0.438 M2**	Grid 5 **0.464 M2**	Grid 6 **0.446 M2**
Grid 7 **0.403 M2**	Grid 8 **0.427 M2**	Grid 9 **0.405 M2**



0 dB = 0.464A/m

Date/Time: 3/4/2010 3:36:14 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz_CW_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

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

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 11/13/2009
- 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 (5x10x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.384 A/m; Power Drift = 0.005 dB

Maximum value of Total (measured) = 0.362 A/m

H Scan - measurement distance from the probe sensor center to CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x91x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.362 A/m

Probe Modulation Factor = 1.00

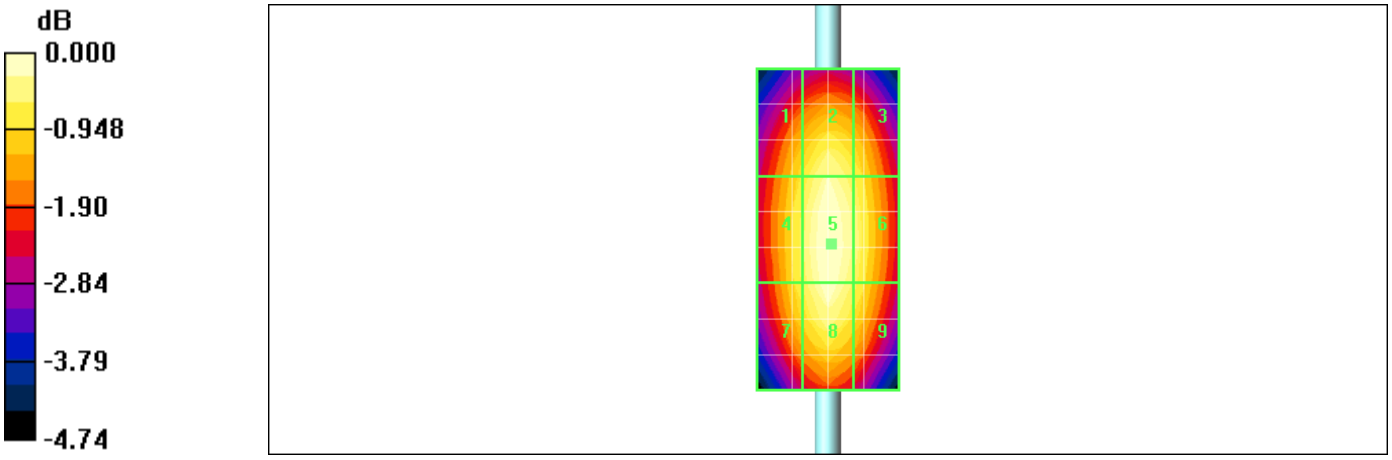
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.384 A/m; Power Drift = 0.005 dB

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

Peak H-field in A/m

Grid 1 **0.331 M3**	Grid 2 **0.350 M2**	Grid 3 **0.338 M3**
Grid 4 **0.341 M2**	Grid 5 **0.362 M2**	Grid 6 **0.348 M2**
Grid 7 **0.339 M3**	Grid 8 **0.357 M2**	Grid 9 **0.342 M2**



0 dB = 0.362A/m

Date/Time: 3/4/2010 3:40:18 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz_AM80%_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.249 A/m; Power Drift = 0.016 dB

Maximum value of Total (measured) = 0.234 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 = 0.234 A/m

Probe Modulation Factor = 1.00

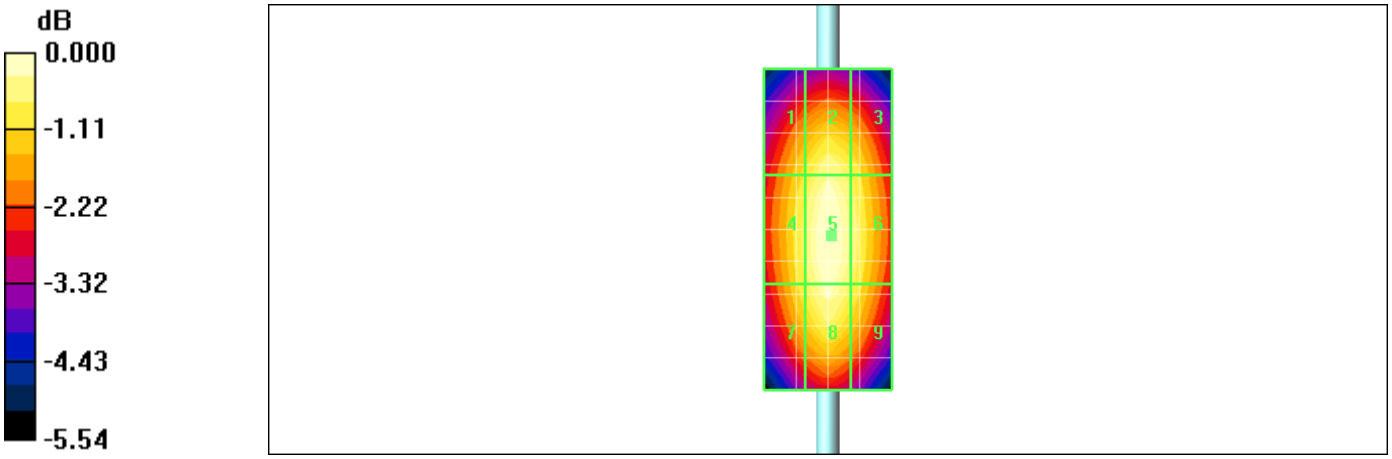
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.249 A/m; Power Drift = 0.016 dB

Hearing Aid Near-Field Category: M3 (AWF 0 dB)

Peak H-field in A/m

Grid 1 **0.210 M3**	Grid 2 **0.224 M3**	Grid 3 **0.216 M3**
Grid 4 **0.219 M3**	Grid 5 **0.234 M3**	Grid 6 **0.223 M3**
Grid 7 **0.215 M3**	Grid 8 **0.229 M3**	Grid 9 **0.218 M3**



0 dB = 0.234A/m

Date/Time: 3/4/2010 3:28:50 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: GSM 1900; Frequency: 1880 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.145 A/m; Power Drift = 0.018 dB

Maximum value of Total (measured) = 0.134 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 = 0.134 A/m

Probe Modulation Factor = 1.00

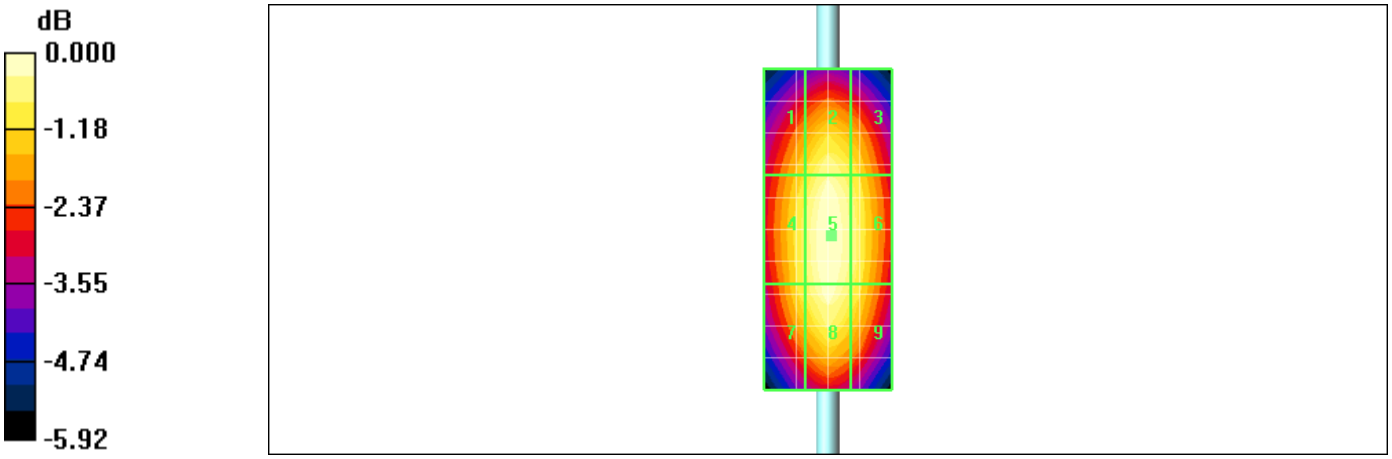
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.145 A/m; Power Drift = 0.018 dB

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

Peak H-field in A/m

Grid 1 **0.119 M4**	Grid 2 **0.128 M4**	Grid 3 **0.122 M4**
Grid 4 **0.126 M4**	Grid 5 **0.134 M4**	Grid 6 **0.128 M4**
Grid 7 **0.124 M4**	Grid 8 **0.132 M4**	Grid 9 **0.125 M4**



0 dB = 0.134A/m

Date/Time: 3/4/2010 3:43:53 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz_CW_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: CW; Frequency: 1880 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.164 A/m; Power Drift = 0.026 dB

Maximum value of Total (measured) = 0.153 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 = 0.154 A/m

Probe Modulation Factor = 1.00

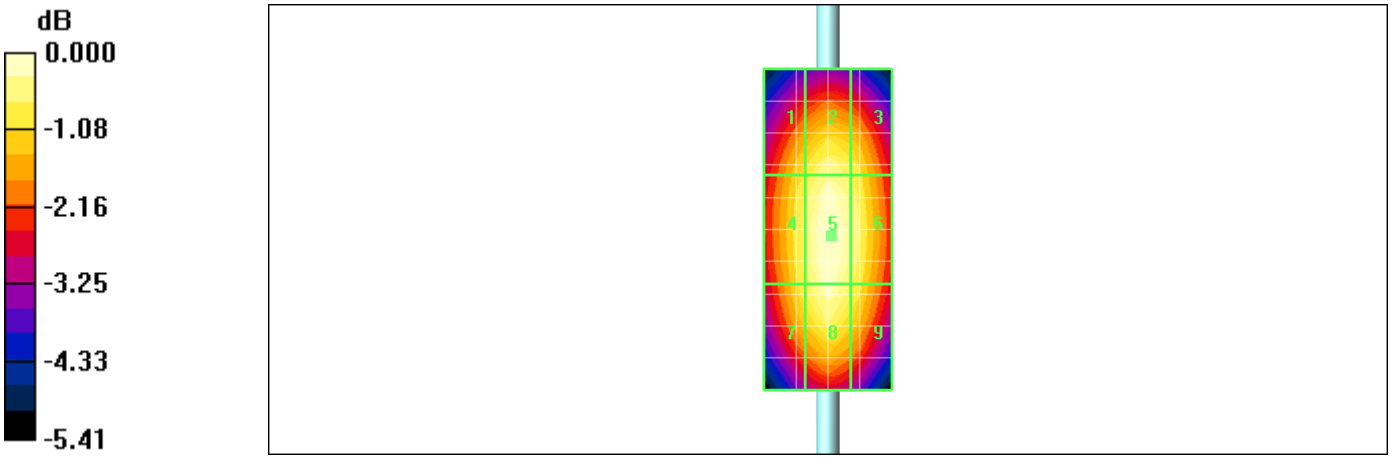
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.164 A/m; Power Drift = 0.026 dB

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

Peak H-field in A/m

Grid 1 **0.139 M4**	Grid 2 **0.147 M4**	Grid 3 **0.143 M4**
Grid 4 **0.145 M4**	Grid 5 **0.154 M4**	Grid 6 **0.148 M4**
Grid 7 **0.142 M4**	Grid 8 **0.150 M4**	Grid 9 **0.144 M4**



0 dB = 0.154A/m

Date/Time: 3/4/2010 3:47:16 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz_AM80%_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.104 A/m; Power Drift = 0.005 dB

Maximum value of Total (measured) = 0.098 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 = 0.098 A/m

Probe Modulation Factor = 1.00

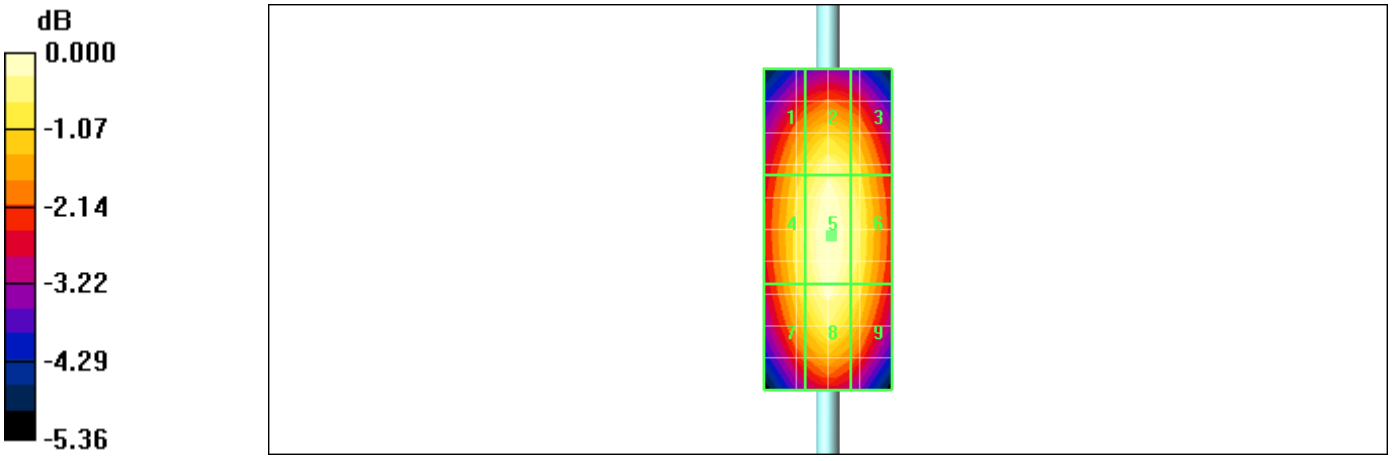
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.104 A/m; Power Drift = 0.005 dB

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

Peak H-field in A/m

Grid 1 **0.089 M4**	Grid 2 **0.094 M4**	Grid 3 **0.091 M4**
Grid 4 **0.093 M4**	Grid 5 **0.098 M4**	Grid 6 **0.094 M4**
Grid 7 **0.091 M4**	Grid 8 **0.096 M4**	Grid 9 **0.092 M4**



0 dB = 0.098A/m

Date/Time: 3/4/2010 3:23:31 PM

Test Laboratory: RIM Testing Services

File Name: HAC_H_Dipole_1880MHz_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: Not Specified

Program Name: HAC RF H3DV6 Dipole

Communication System: WCDMA FDD II; Frequency: 1880 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.168 A/m; Power Drift = -0.004 dB

Maximum value of Total (measured) = 0.160 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 = 0.160 A/m

Probe Modulation Factor = 1.00

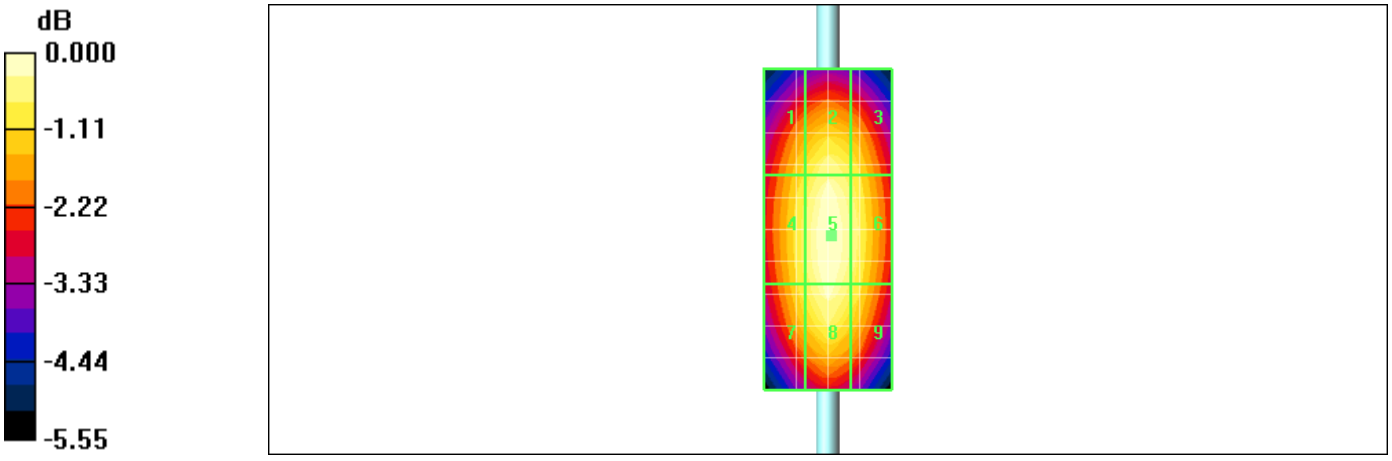
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.168 A/m; Power Drift = -0.004 dB

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

Peak H-field in A/m

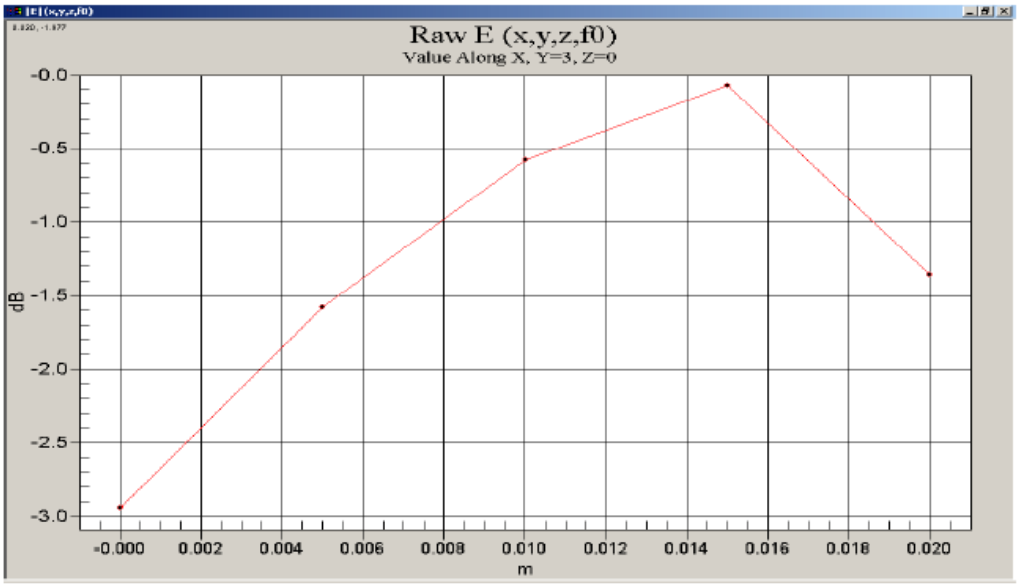
Grid 1 **0.144 M4**	Grid 2 **0.153 M4**	Grid 3 **0.147 M4**
Grid 4 **0.150 M4**	Grid 5 **0.160 M4**	Grid 6 **0.153 M4**
Grid 7 **0.147 M4**	Grid 8 **0.156 M4**	Grid 9 **0.149 M4**



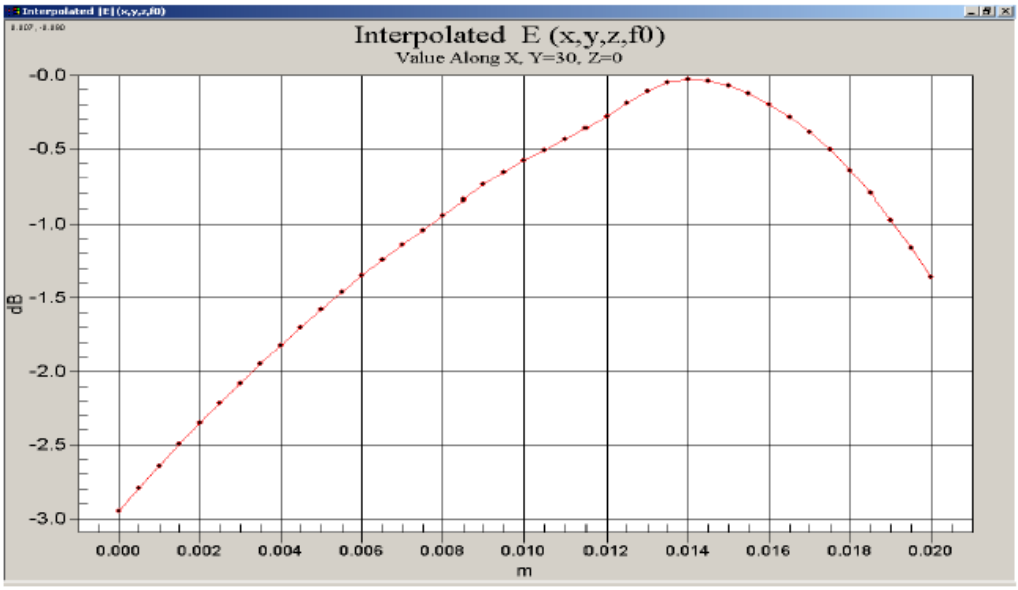
0 dB = 0.160A/m

Justification of Step Size and Interpolation

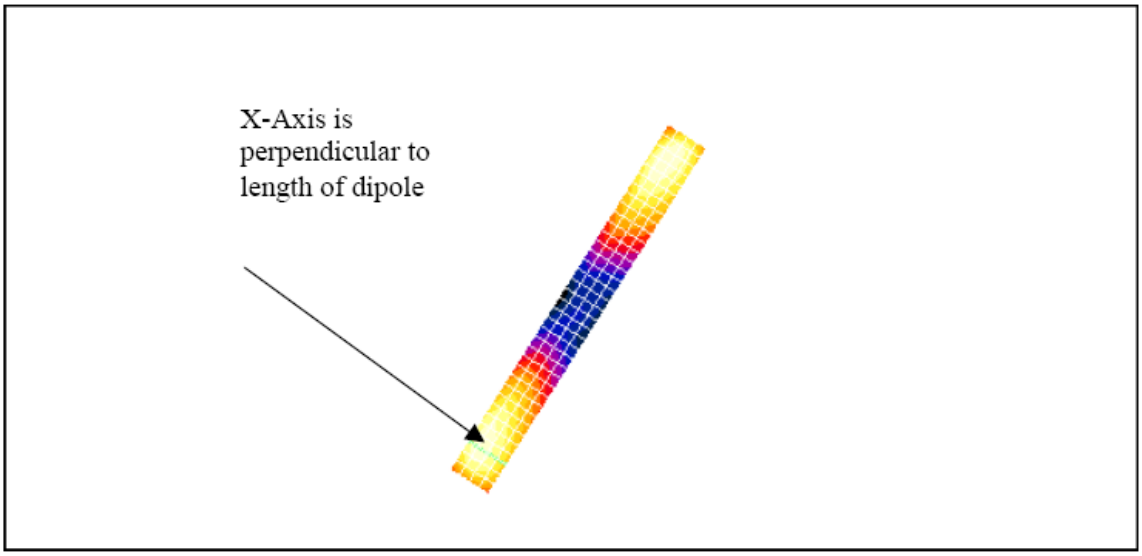
This section demonstrates that a 5mm step size with interpolation provides sufficient resolution for RF emissions measurements. The DASY 4 uses interpolation algorithms to derive 9 interpolated points between every measured point.



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: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ 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)

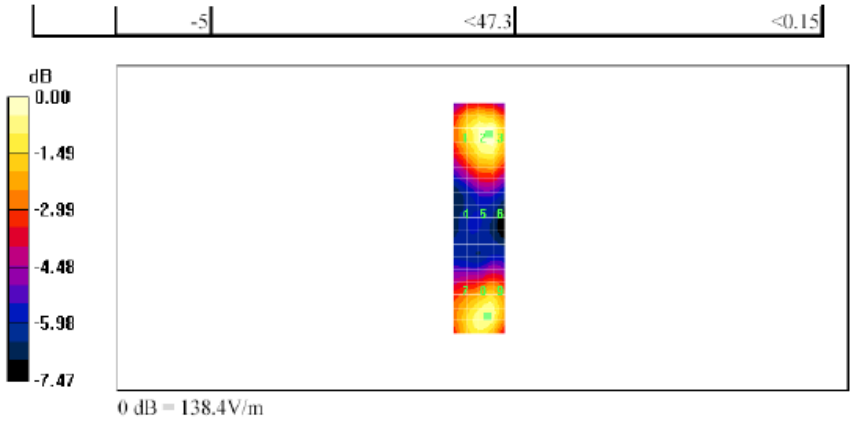
E in V/m (Time averaged)

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

E in V/m (Slot averaged)

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



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: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ 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)

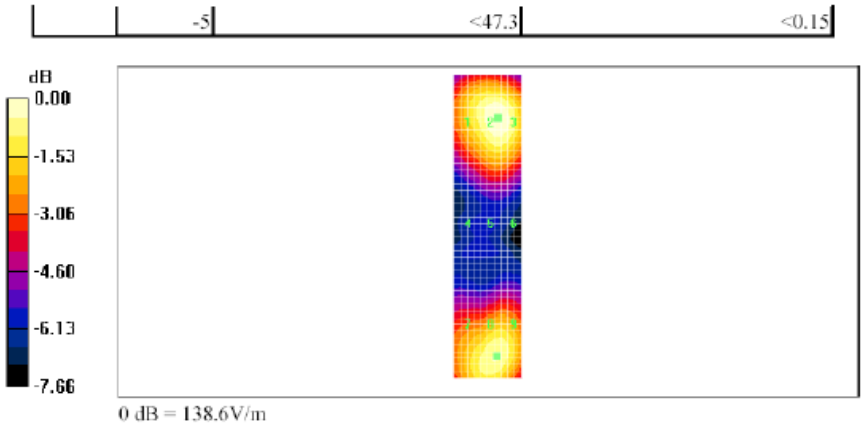
Grid 1	Grid 2	Grid 3
123.1	**138.6**	**138.6**
Grid 4	Grid 5	Grid 6
81.4	**92.1**	**91.6**
Grid 7	Grid 8	Grid 9
121.3	**131.2**	**131.0**

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

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



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)

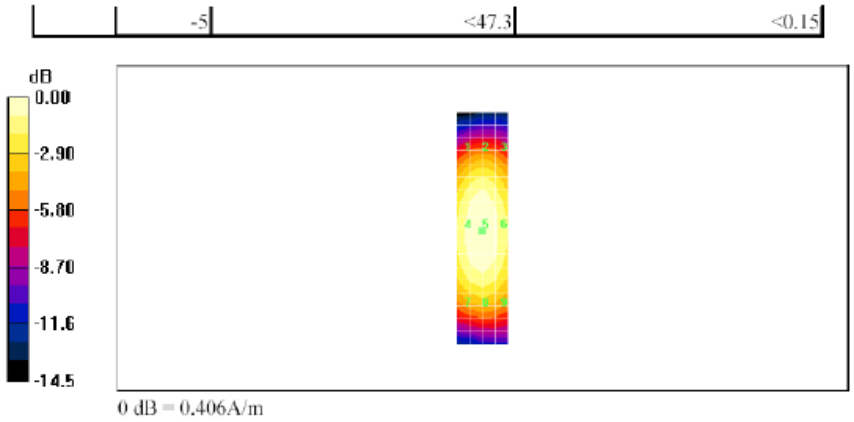
Grid 1	Grid 2	Grid 3
0.342	**0.359**	**0.344**
Grid 4	Grid 5	Grid 6
0.389	**0.406**	**0.389**
Grid 7	Grid 8	Grid 9
0.363	**0.378**	**0.363**

H in A/m (Slot averaged)

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

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: $\sigma = 0$ 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 (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)

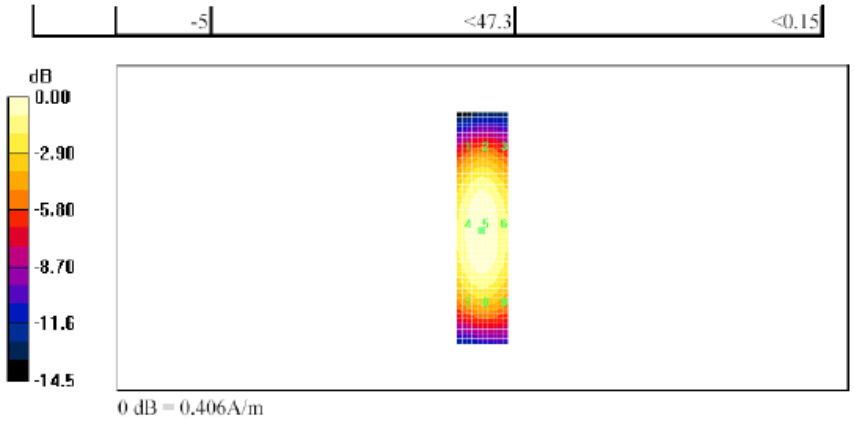
H in A/m (Time averaged)

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



Date/Time: 2/26/2010 3:08:29 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_GSM_850_low chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 = 90.3 V/m; Power Drift = -0.061 dB

Maximum value of Total (measured) = 69.0 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 = 200.3 V/m

Probe Modulation Factor = 2.90

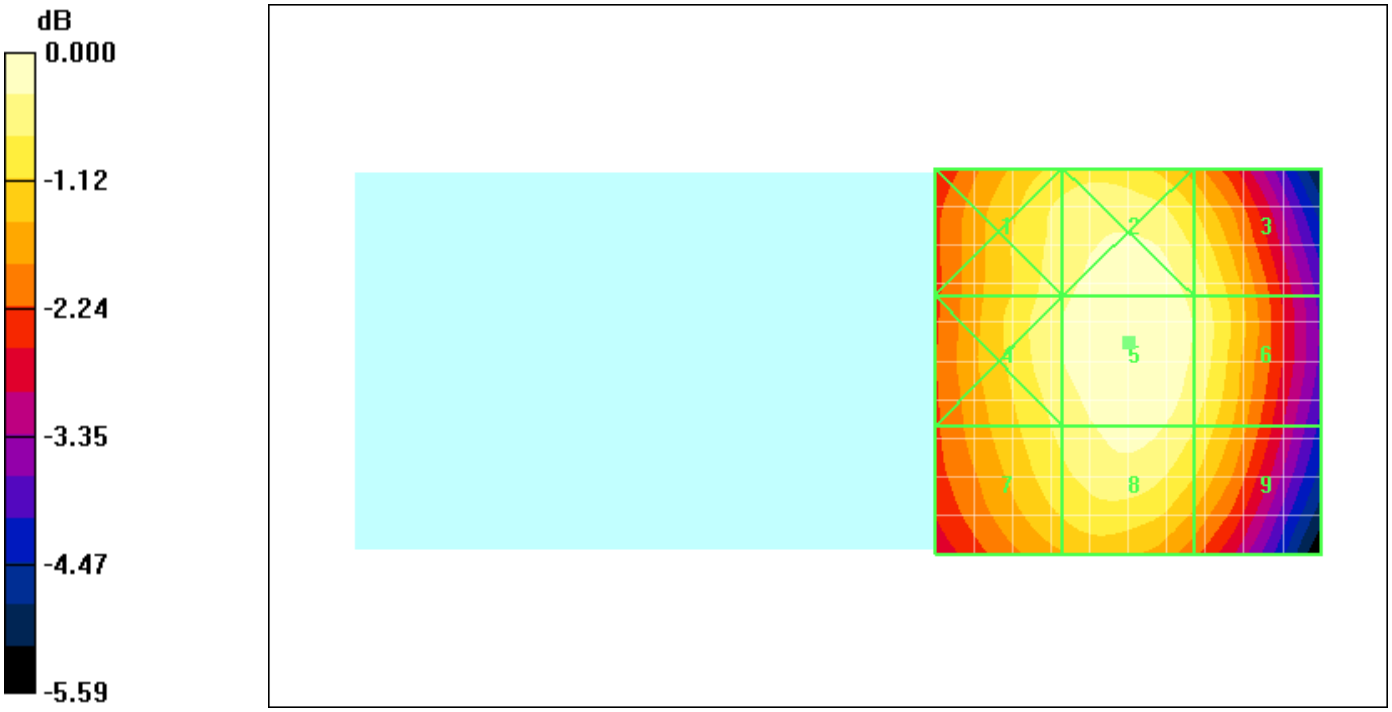
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 90.3 V/m; Power Drift = -0.061 dB

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

Peak E-field in V/m

Grid 1 **190.1 M3**	Grid 2 **198.0 M3**	Grid 3 **189.2 M3**
Grid 4 **192.4 M3**	Grid 5 **200.3 M3**	Grid 6 **191.6 M3**
Grid 7 **186.2 M3**	Grid 8 **195.1 M3**	Grid 9 **184.2 M3**



0 dB = 200.3V/m

Date/Time: 2/26/2010 3:16:20 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_GSM_850_mid chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

Communication System: GSM 850; Frequency: 836.8 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 = 101.0 V/m; Power Drift = 0.110 dB

Maximum value of Total (measured) = 78.1 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 = 227.4 V/m

Probe Modulation Factor = 2.90

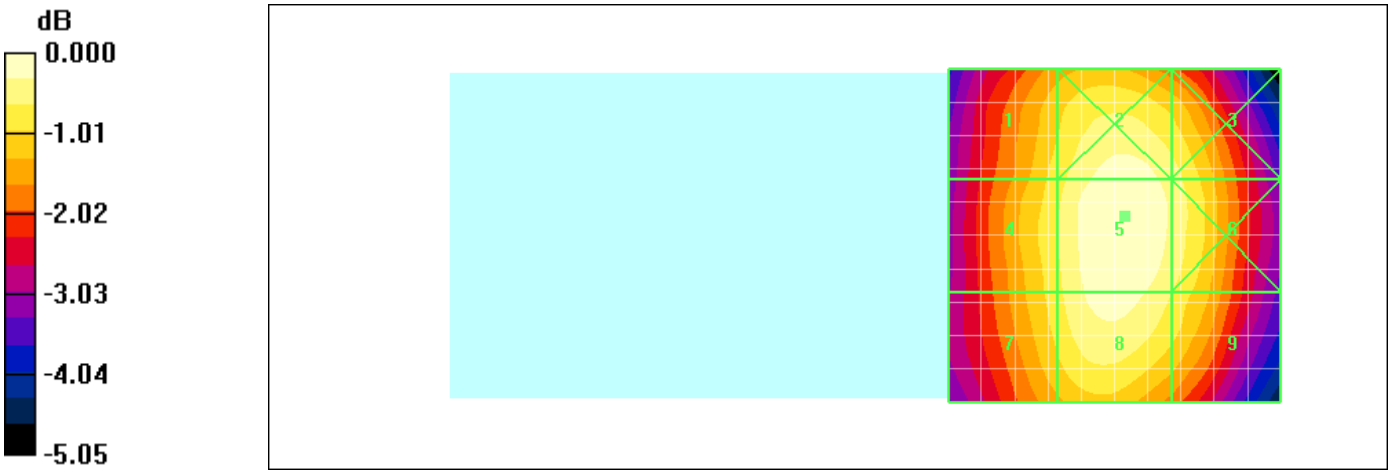
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 101.0 V/m; Power Drift = 0.110 dB

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

Peak E-field in V/m

Grid 1 **207.3 M3**	Grid 2 **223.4 M3**	Grid 3 **214.9 M3**
Grid 4 **210.8 M3**	Grid 5 **227.4 M3**	Grid 6 **217.6 M3**
Grid 7 **208.3 M3**	Grid 8 **222.6 M3**	Grid 9 **210.9 M3**



0 dB = 227.4V/m

Date/Time: 2/26/2010 3:21:57 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_GSM_850_high chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

Communication System: GSM 850; Frequency: 848.8 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 = 101.8 V/m; Power Drift = 0.170 dB

Maximum value of Total (measured) = 79.7 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

Maximum value of peak Total field = 233.6 V/m

Probe Modulation Factor = 2.90

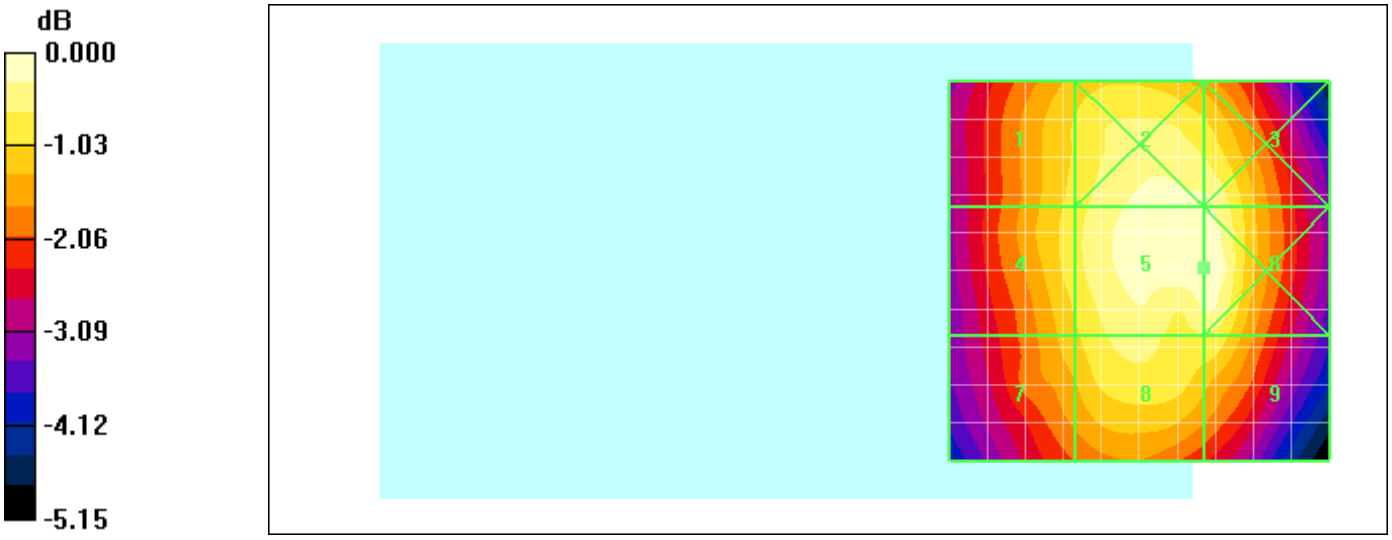
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 101.8 V/m; Power Drift = 0.170 dB

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

Peak E-field in V/m

Grid 1 **211.6 M3**	Grid 2 **227.5 M3**	Grid 3 **226.8 M3**
Grid 4 **213.5 M3**	Grid 5 **233.6 M3**	Grid 6 **233.6 M3**
Grid 7 **206.0 M3**	Grid 8 **220.1 M3**	Grid 9 **215.9 M3**



0 dB = 233.6V/m

Date/Time: 2/26/2010 3:53:30 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_UMTS_band_V_850_low_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 = 109.5 V/m; Power Drift = -0.011 dB

Maximum value of Total (measured) = 83.9 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

Maximum value of peak Total field = 88.4 V/m

Probe Modulation Factor = 1.05

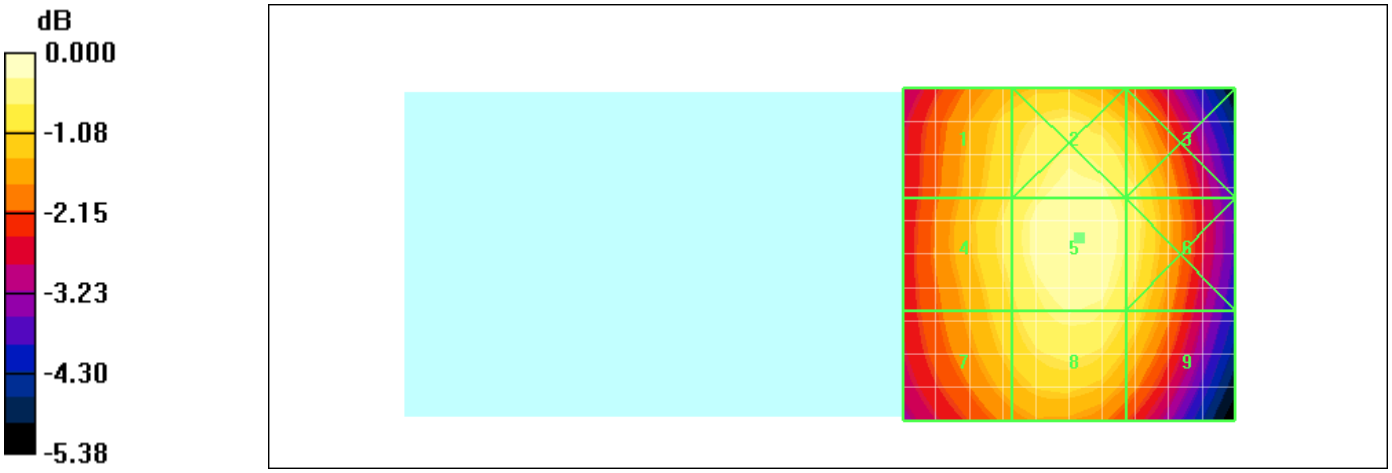
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 109.5 V/m; Power Drift = -0.011 dB

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

Peak E-field in V/m

Grid 1 **82.4 M4**	Grid 2 **87.1 M4**	Grid 3 **84.1 M4**
Grid 4 **83.6 M4**	Grid 5 **88.4 M4**	Grid 6 **85.0 M4**
Grid 7 **81.5 M4**	Grid 8 **85.8 M4**	Grid 9 **82.0 M4**



0 dB = 88.4V/m

Date/Time: 2/26/2010 3:59:30 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_UMTS_band_V_850_mid_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD V; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 = 120.8 V/m; Power Drift = 0.021 dB

Maximum value of Total (measured) = 93.3 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 = 98.3 V/m

Probe Modulation Factor = 1.05

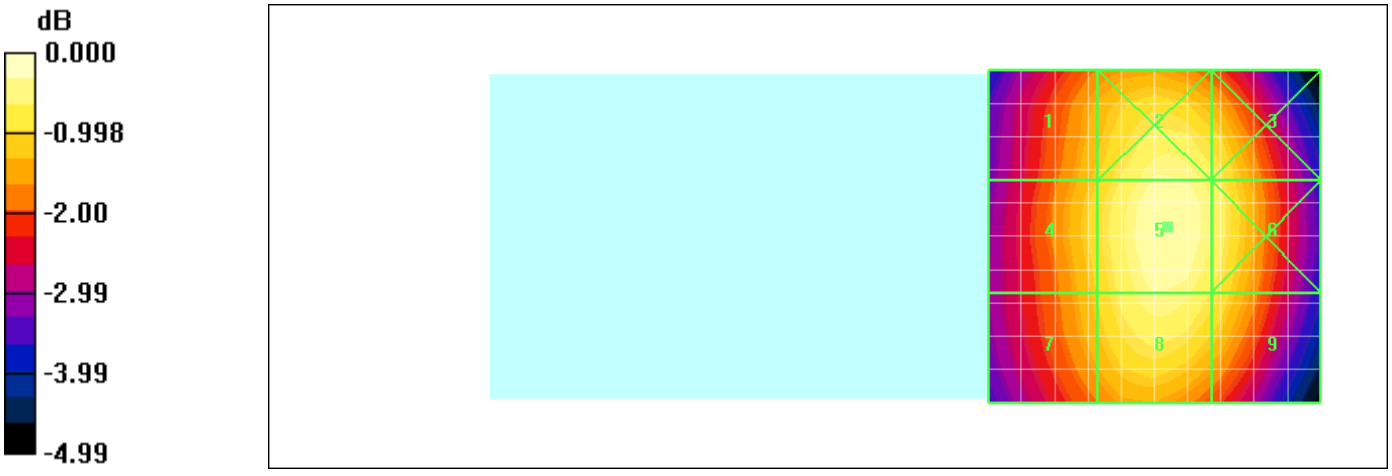
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 120.8 V/m; Power Drift = 0.021 dB

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

Peak E-field in V/m

Grid 1 **88.8 M4**	Grid 2 **96.4 M4**	Grid 3 **93.7 M4**
Grid 4 **90.6 M4**	Grid 5 **98.3 M4**	Grid 6 **95.0 M4**
Grid 7 **89.0 M4**	Grid 8 **96.0 M4**	Grid 9 **92.4 M4**



0 dB = 98.3V/m

Date/Time: 2/26/2010 4:04:31 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_UMTS_band_V_850_high_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD V; Frequency: 846.6 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 = 120.7 V/m; Power Drift = -0.063 dB

Maximum value of Total (measured) = 92.2 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 = 97.1 V/m

Probe Modulation Factor = 1.05

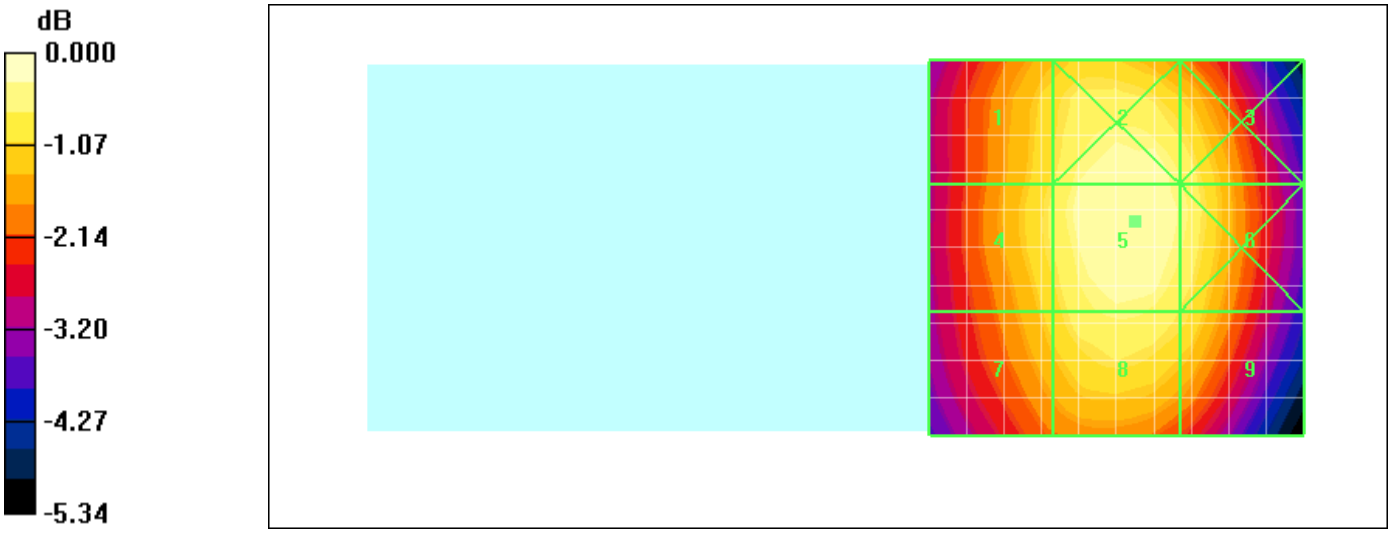
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 120.7 V/m; Power Drift = -0.063 dB

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

Peak E-field in V/m

Grid 1 **90.2 M4**	Grid 2 **96.5 M4**	Grid 3 **93.5 M4**
Grid 4 **91.1 M4**	Grid 5 **97.1 M4**	Grid 6 **94.3 M4**
Grid 7 **88.2 M4**	Grid 8 **93.7 M4**	Grid 9 **90.8 M4**



0 dB = 97.1V/m

Date/Time: 2/26/2010 3:32:11 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_GSM_1900_low chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 = 17.2 V/m; Power Drift = -0.028 dB

Maximum value of Total (measured) = 23.4 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 = 51.4 V/m

Probe Modulation Factor = 2.74

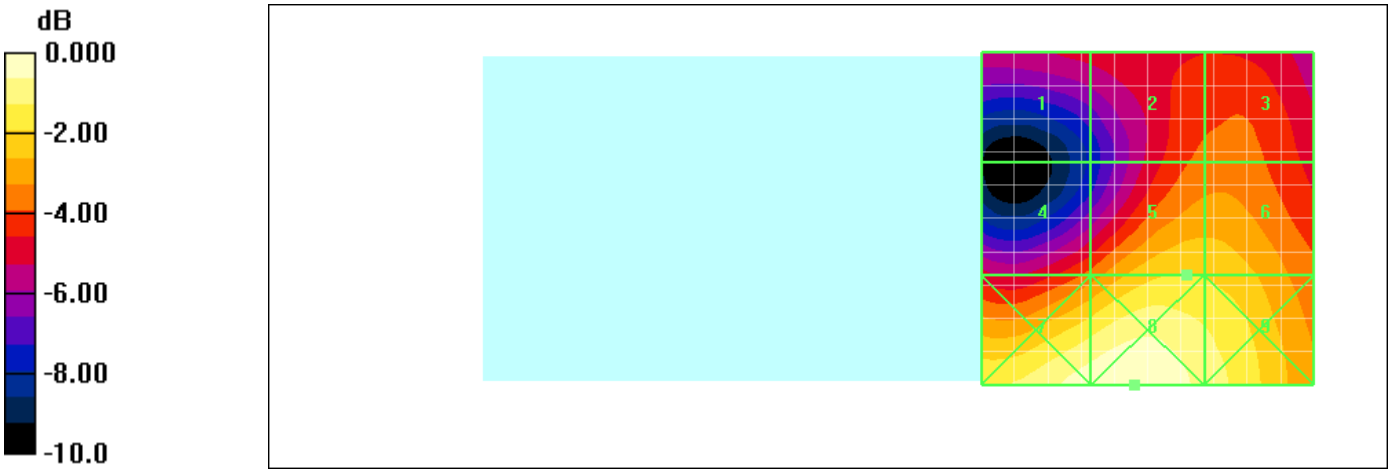
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 17.2 V/m; Power Drift = -0.028 dB

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

Peak E-field in V/m

Grid 1 **36.0 M4**	Grid 2 **41.8 M4**	Grid 3 **42.4 M4**
Grid 4 **42.1 M4**	Grid 5 **51.4 M3**	Grid 6 **50.9 M3**
Grid 7 **62.7 M3**	Grid 8 **64.4 M3**	Grid 9 **58.1 M3**



0 dB = 64.4V/m

Date/Time: 2/26/2010 3:37:36 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_GSM_1900_mid_chan.da4

DUT: BlackBerry Smartphone; Type: Clamshell; Serial: Not Specified

Program Name: HAC RF ER3D Device

Communication System: GSM 1900; Frequency: 1880 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 = 16.8 V/m; Power Drift = -0.054 dB

Maximum value of Total (measured) = 26.0 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 = 54.6 V/m

Probe Modulation Factor = 2.74

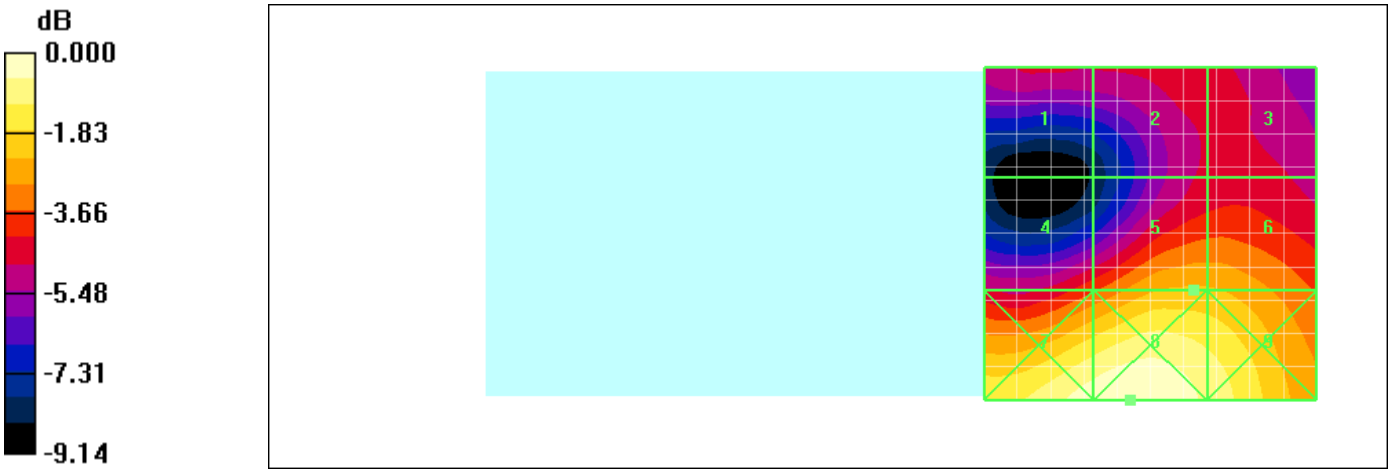
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 16.8 V/m; Power Drift = -0.054 dB

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

Peak E-field in V/m

Grid 1 **41.4 M4**	Grid 2 **41.7 M4**	Grid 3 **42.3 M4**
Grid 4 **46.5 M4**	Grid 5 **54.6 M3**	Grid 6 **54.5 M3**
Grid 7 **69.6 M3**	Grid 8 **71.4 M3**	Grid 9 **65.5 M3**



0 dB = 71.4V/m

Date/Time: 2/26/2010 3:44:50 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_GSM_1900_high_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

Communication System: GSM 1900; Frequency: 1909.8 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 = 13.9 V/m; Power Drift = -0.063 dB

Maximum value of Total (measured) = 25.6 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 = 51.5 V/m

Probe Modulation Factor = 2.74

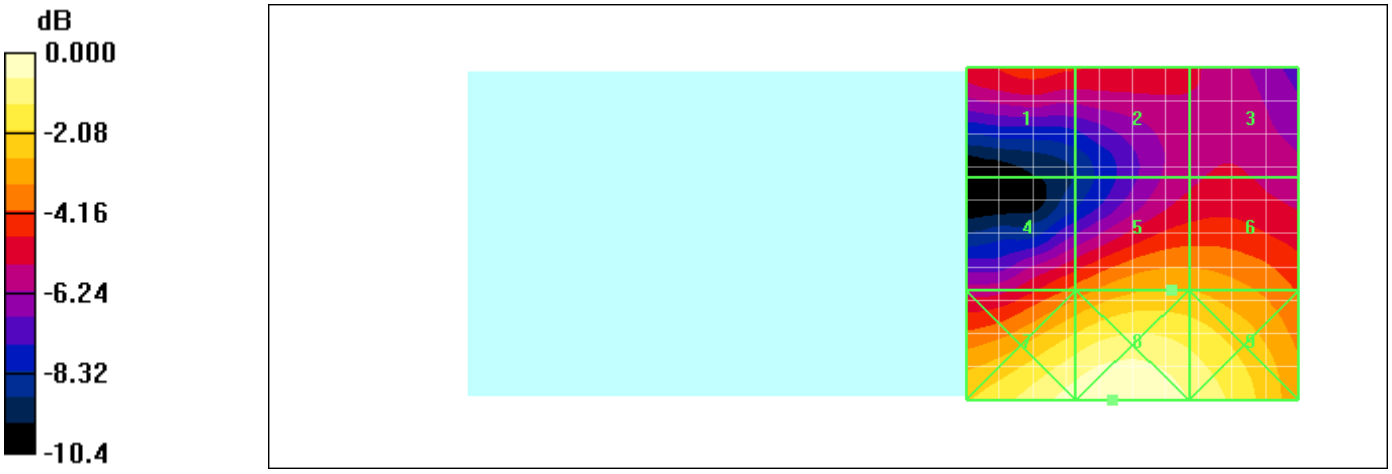
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 13.9 V/m; Power Drift = -0.063 dB

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

Peak E-field in V/m

Grid 1 **41.9 M4**	Grid 2 **40.7 M4**	Grid 3 **37.9 M4**
Grid 4 **45.2 M4**	Grid 5 **51.5 M3**	Grid 6 **51.2 M3**
Grid 7 **67.8 M3**	Grid 8 **70.5 M3**	Grid 9 **65.1 M3**



0 dB = 70.5V/m

Date/Time: 2/26/2010 4:32:58 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_UMTS_band_II_1900_low chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 = 20.4 V/m; Power Drift = -0.068 dB

Maximum value of Total (measured) = 28.7 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

Maximum value of peak Total field = 21.4 V/m

Probe Modulation Factor = 0.920

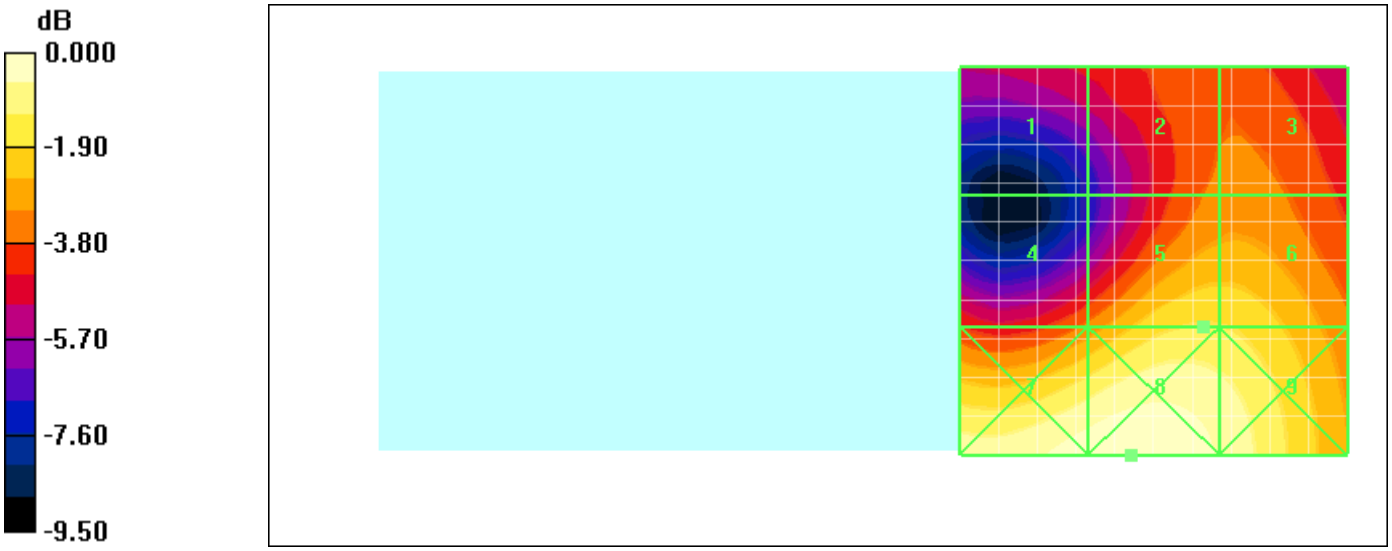
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 20.4 V/m; Power Drift = -0.068 dB

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

Peak E-field in V/m

Grid 1 **15.0 M4**	Grid 2 **17.4 M4**	Grid 3 **17.6 M4**
Grid 4 **17.5 M4**	Grid 5 **21.4 M4**	Grid 6 **21.3 M4**
Grid 7 **25.9 M4**	Grid 8 **26.5 M4**	Grid 9 **24.4 M4**



0 dB = 26.5V/m

Date/Time: 2/26/2010 4:47:38 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_UMTS_band_II_1900_mid chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

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

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 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 = 17.6 V/m; Power Drift = 0.059 dB

Maximum value of Total (measured) = 27.6 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 = 19.7 V/m

Probe Modulation Factor = 0.920

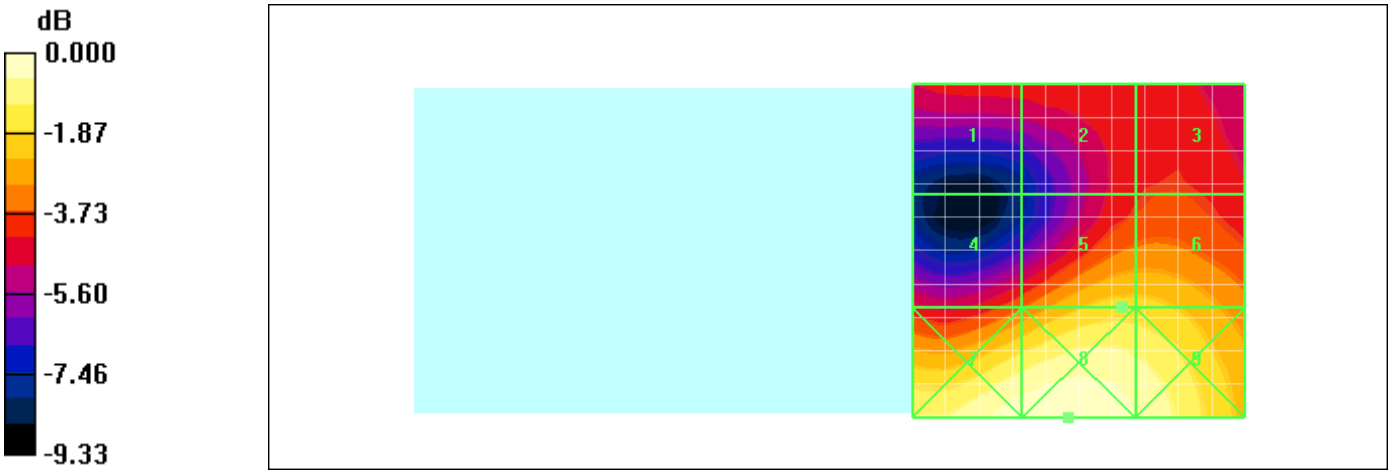
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 17.6 V/m; Power Drift = 0.059 dB

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

Peak E-field in V/m

Grid 1 **15.0 M4**	Grid 2 **15.2 M4**	Grid 3 **15.5 M4**
Grid 4 **16.4 M4**	Grid 5 **19.7 M4**	Grid 6 **19.6 M4**
Grid 7 **24.9 M4**	Grid 8 **25.4 M4**	Grid 9 **23.7 M4**



0 dB = 25.4V/m

Date/Time: 2/26/2010 4:53:26 PM

Test Laboratory: RIM Testing Services

File Name: HAC_E_UMTS_band_II_1900_high chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD II; Frequency: 1907.6 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 = 14.7 V/m; Power Drift = 0.093 dB

Maximum value of Total (measured) = 28.2 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 = 18.3 V/m

Probe Modulation Factor = 0.920

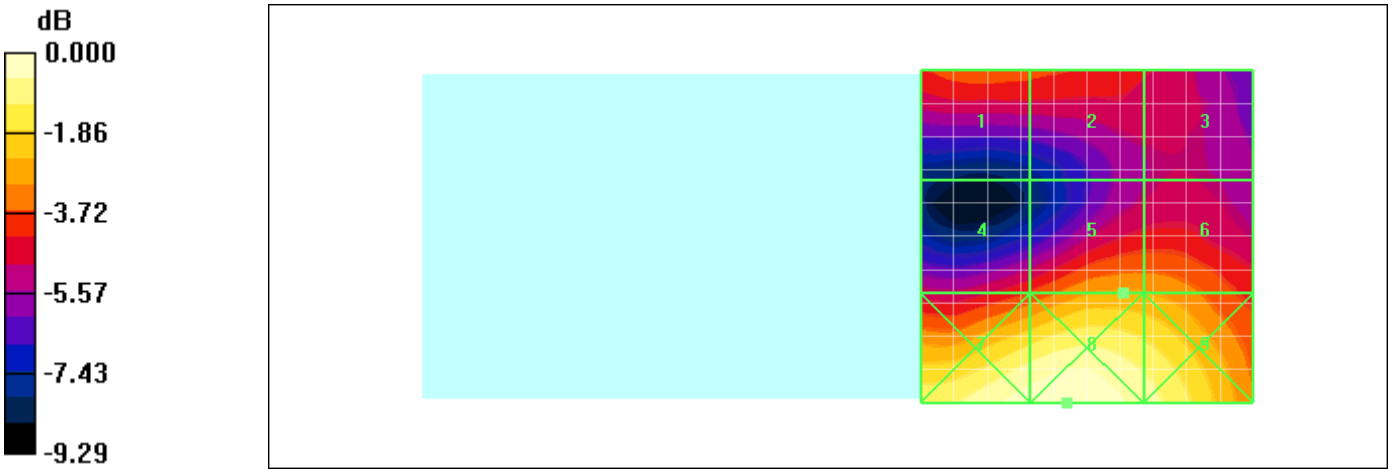
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 14.7 V/m; Power Drift = 0.093 dB

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

Peak E-field in V/m

Grid 1 **16.5 M4**	Grid 2 **16.2 M4**	Grid 3 **14.7 M4**
Grid 4 **15.9 M4**	Grid 5 **18.3 M4**	Grid 6 **18.2 M4**
Grid 7 **25.3 M4**	Grid 8 **26.0 M4**	Grid 9 **23.4 M4**



0 dB = 26.0V/m

Date/Time: 3/1/2010 10:00:49 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_GSM_850_low_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: GSM 850; Frequency: 824.2 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.085 A/m; Power Drift = -0.020 dB

Maximum value of Total (measured) = 0.167 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 = 0.320 A/m

Probe Modulation Factor = 2.80

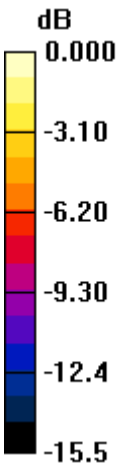
Device Reference Point: 0.000, 0.000, -6.30 mm

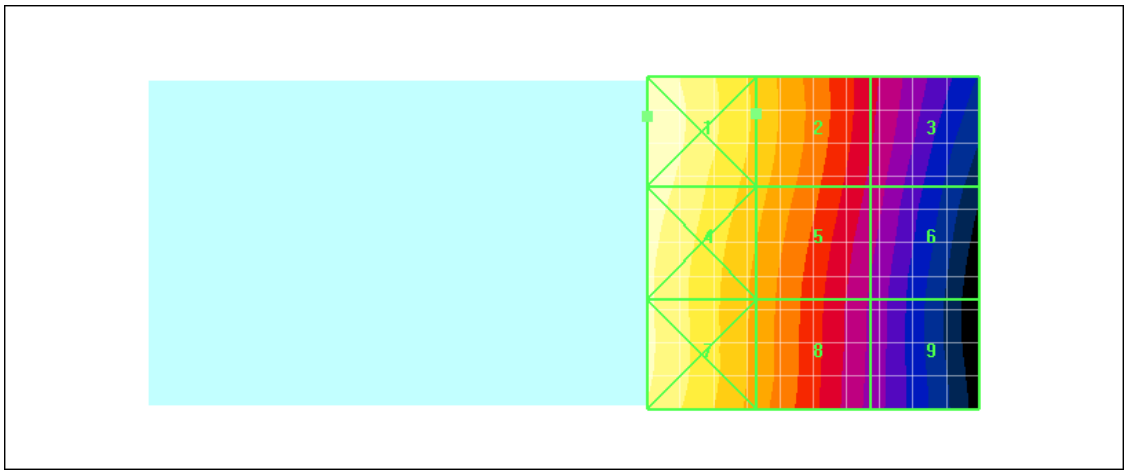
Reference Value = 0.085 A/m; Power Drift = -0.020 dB

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

Peak H-field in A/m

Grid 1 **0.467 M3**	Grid 2 **0.320 M4**	Grid 3 **0.189 M4**
Grid 4 **0.447 M4**	Grid 5 **0.305 M4**	Grid 6 **0.176 M4**
Grid 7 **0.425 M4**	Grid 8 **0.281 M4**	Grid 9 **0.159 M4**





0 dB = 0.467A/m

Date/Time: 3/1/2010 10:08:53 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_GSM_850_mid_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: GSM 850; Frequency: 836.8 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.103 A/m; Power Drift = 0.151 dB

Maximum value of Total (measured) = 0.186 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 = 0.372 A/m

Probe Modulation Factor = 2.80

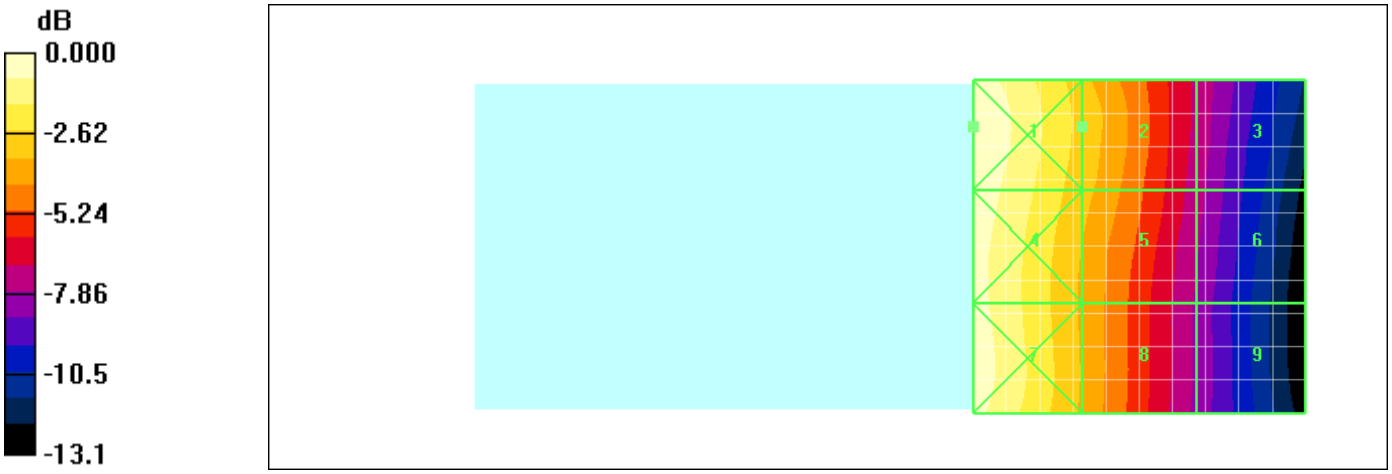
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.103 A/m; Power Drift = 0.151 dB

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

Peak H-field in A/m

Grid 1 **0.521 M3**	Grid 2 **0.372 M4**	Grid 3 **0.229 M4**
Grid 4 **0.506 M3**	Grid 5 **0.361 M4**	Grid 6 **0.222 M4**
Grid 7 **0.502 M3**	Grid 8 **0.346 M4**	Grid 9 **0.209 M4**



0 dB = 0.521A/m

Date/Time: 3/1/2010 10:15:03 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_GSM_850_high_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: GSM 850; Frequency: 848.8 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.117 A/m; Power Drift = -0.034 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

Maximum value of peak Total field = 0.389 A/m

Probe Modulation Factor = 2.80

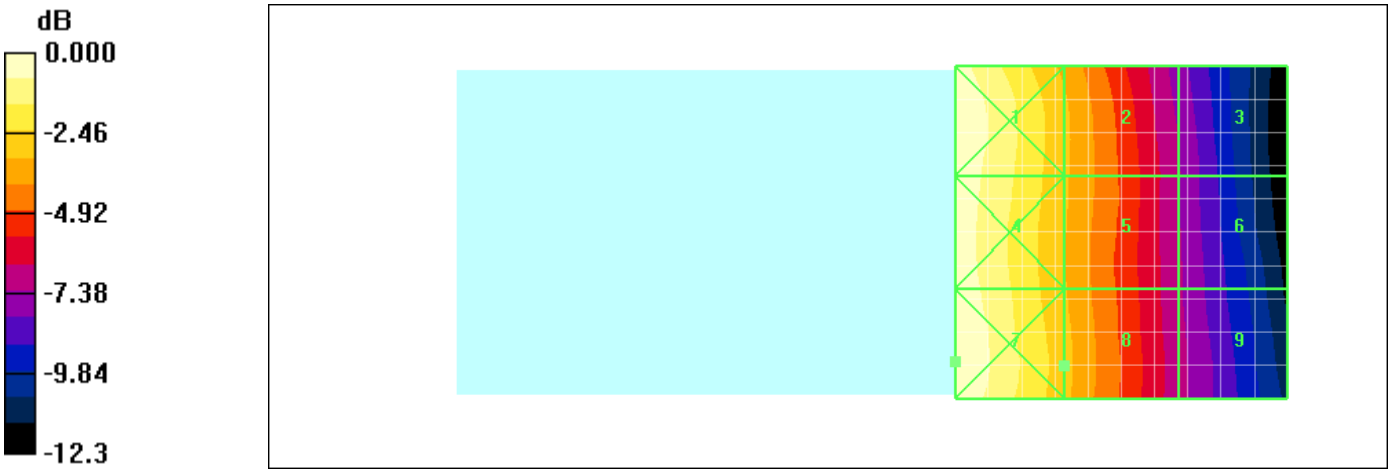
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.117 A/m; Power Drift = -0.034 dB

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

Peak H-field in A/m

Grid 1 **0.543 M3**	Grid 2 **0.384 M4**	Grid 3 **0.238 M4**
Grid 4 **0.534 M3**	Grid 5 **0.381 M4**	Grid 6 **0.239 M4**
Grid 7 **0.547 M3**	Grid 8 **0.389 M4**	Grid 9 **0.244 M4**



0 dB = 0.547A/m

Date/Time: 3/1/2010 10:52:11 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_UMTS_band_V_850_low_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD V; Frequency: 826.4 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.106 A/m; Power Drift = 0.016 dB

Maximum value of Total (measured) = 0.193 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 = 0.137 A/m

Probe Modulation Factor = 1.01

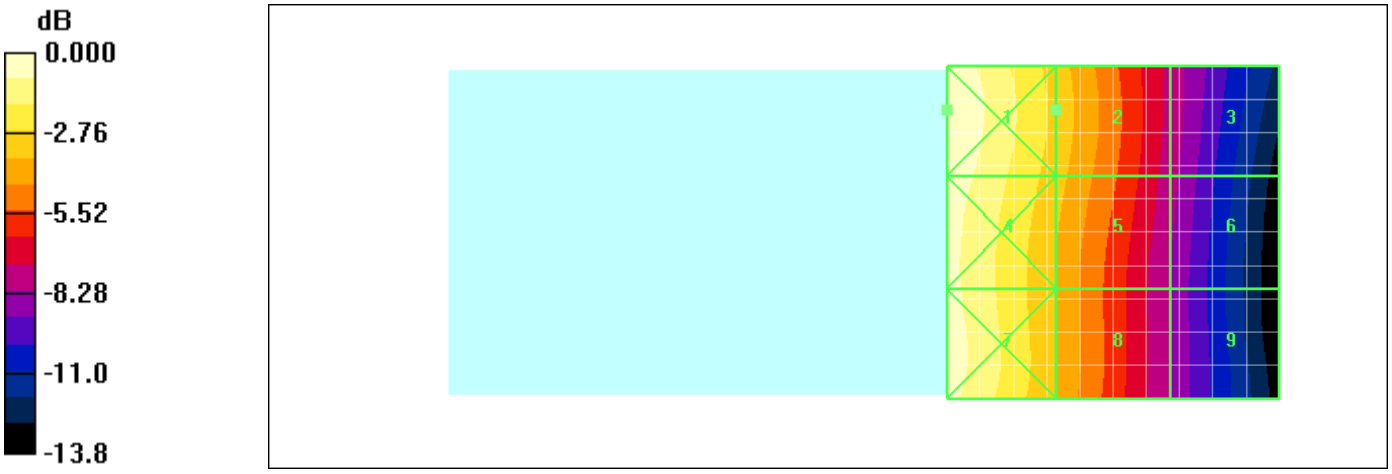
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.106 A/m; Power Drift = 0.016 dB

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

Peak H-field in A/m

Grid 1 **0.195 M4**	Grid 2 **0.137 M4**	Grid 3 **0.081 M4**
Grid 4 **0.189 M4**	Grid 5 **0.133 M4**	Grid 6 **0.079 M4**
Grid 7 **0.186 M4**	Grid 8 **0.128 M4**	Grid 9 **0.075 M4**



0 dB = 0.195A/m

Date/Time: 3/1/2010 10:57:22 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_UMTS_band_V_850_mid_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD V; Frequency: 836.4 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.121 A/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 0.216 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 = 0.156 A/m

Probe Modulation Factor = 1.01

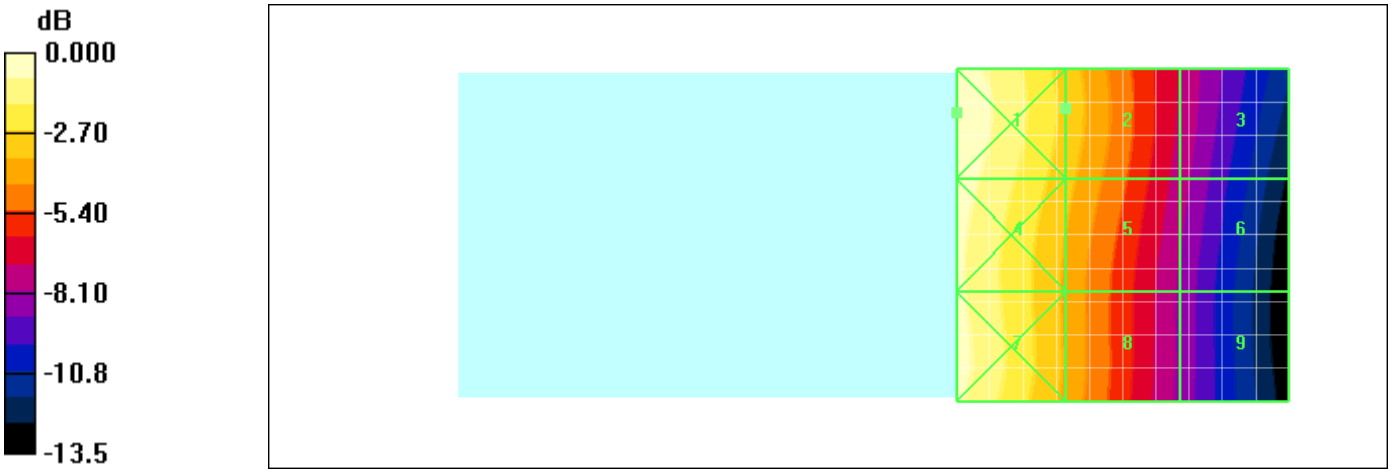
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.121 A/m; Power Drift = -0.016 dB

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

Peak H-field in A/m

Grid 1 **0.218 M4**	Grid 2 **0.156 M4**	Grid 3 **0.095 M4**
Grid 4 **0.210 M4**	Grid 5 **0.150 M4**	Grid 6 **0.092 M4**
Grid 7 **0.207 M4**	Grid 8 **0.143 M4**	Grid 9 **0.085 M4**



0 dB = 0.218A/m

Date/Time: 3/1/2010 11:03:10 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_UMTS_band_V_850_high_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD V; Frequency: 846.6 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.119 A/m; Power Drift = 0.083 dB

Maximum value of Total (measured) = 0.213 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 = 0.154 A/m

Probe Modulation Factor = 1.01

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.119 A/m; Power Drift = 0.083 dB

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

Peak H-field in A/m

Grid 1 **0.215 M4**	Grid 2 **0.154 M4**	Grid 3 **0.094 M4**
Grid 4 **0.207 M4**	Grid 5 **0.149 M4**	Grid 6 **0.091 M4**
Grid 7 **0.204 M4**	Grid 8 **0.142 M4**	Grid 9 **0.085 M4**

0 dB = 0.215A/m

Date/Time: 3/1/2010 10:24:01 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_GSM_1900_low_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: GSM 1900; Frequency: 1850.2 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.053 A/m; Power Drift = -0.109 dB

Maximum value of Total (measured) = 0.080 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 = 0.156 A/m

Probe Modulation Factor = 2.70

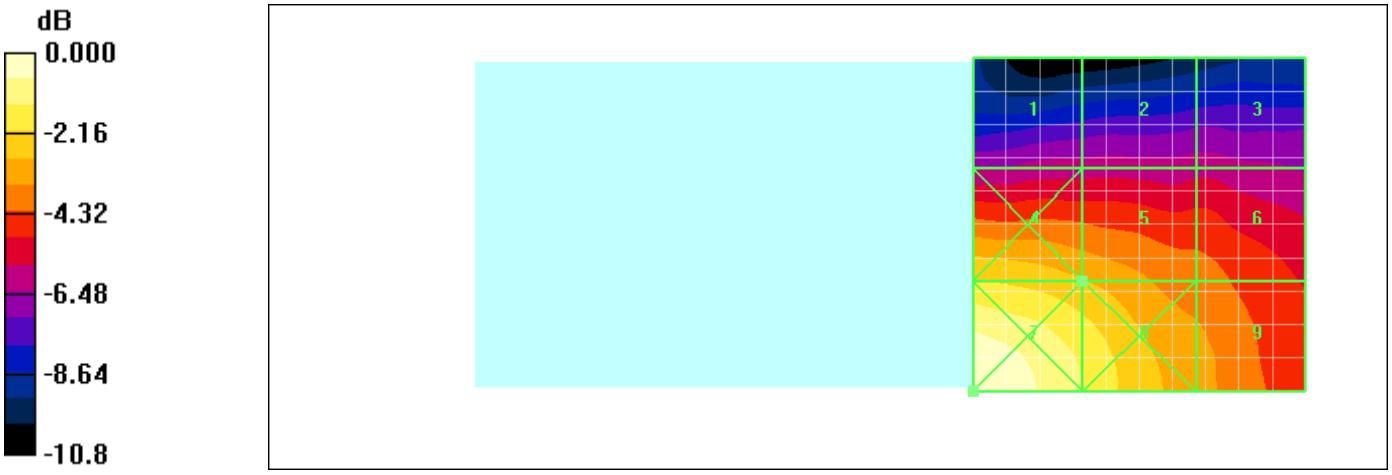
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.053 A/m; Power Drift = -0.109 dB

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

Peak H-field in A/m

Grid 1 **0.107 M4**	Grid 2 **0.108 M4**	Grid 3 **0.108 M4**
Grid 4 **0.170 M3**	Grid 5 **0.156 M3**	Grid 6 **0.138 M4**
Grid 7 **0.216 M3**	Grid 8 **0.183 M3**	Grid 9 **0.148 M3**



0 dB = 0.216A/m

Date/Time: 3/1/2010 10:29:10 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_GSM_1900_mid_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: GSM 1900; Frequency: 1880 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.059 A/m; Power Drift = 0.108 dB

Maximum value of Total (measured) = 0.090 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 = 0.168 A/m

Probe Modulation Factor = 2.70

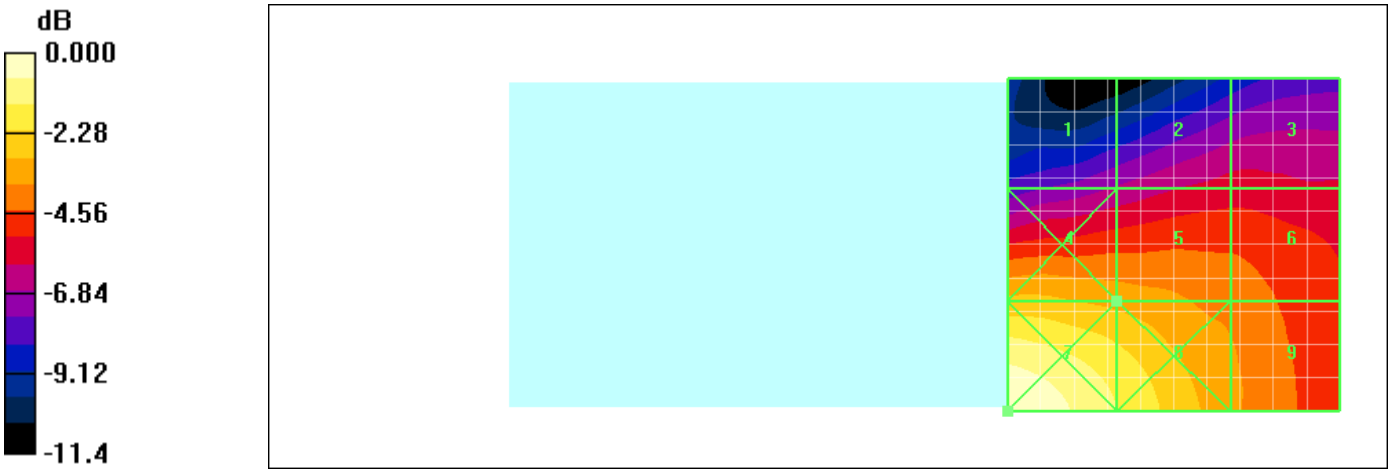
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.059 A/m; Power Drift = 0.108 dB

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

Peak H-field in A/m

Grid 1 **0.113 M4**	Grid 2 **0.127 M4**	Grid 3 **0.127 M4**
Grid 4 **0.177 M3**	Grid 5 **0.168 M3**	Grid 6 **0.154 M3**
Grid 7 **0.244 M3**	Grid 8 **0.205 M3**	Grid 9 **0.161 M3**



0 dB = 0.244A/m

Date/Time: 3/1/2010 10:34:53 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_GSM_1900_high_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: GSM 1900; Frequency: 1909.8 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.052 A/m; Power Drift = 0.157 dB

Maximum value of Total (measured) = 0.095 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 = 0.161 A/m

Probe Modulation Factor = 2.70

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.052 A/m; Power Drift = 0.157 dB

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

Peak H-field in A/m

Grid 1 **0.115 M4**	Grid 2 **0.109 M4**	Grid 3 **0.102 M4**
Grid 4 **0.179 M3**	Grid 5 **0.161 M3**	Grid 6 **0.125 M4**
Grid 7 **0.258 M2**	Grid 8 **0.197 M3**	Grid 9 **0.135 M4**

0 dB = 0.258A/m

Date/Time: 3/1/2010 11:10:53 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_UMTS_band_II_1900_low_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD II; Frequency: 1852.4 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.067 A/m; Power Drift = 0.070 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 = 0.070 A/m

Probe Modulation Factor = 0.960

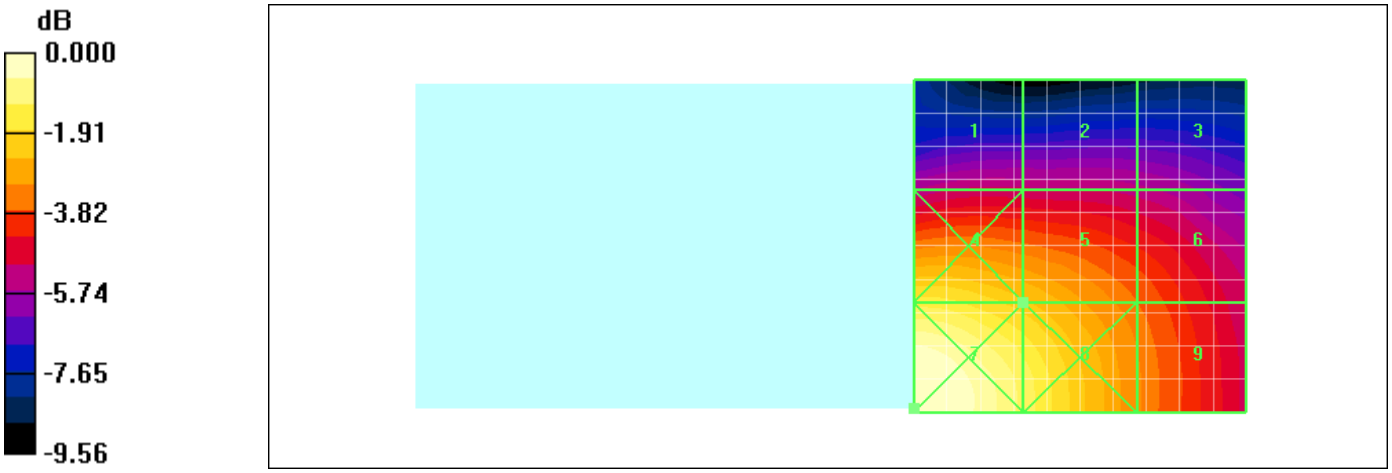
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.067 A/m; Power Drift = 0.070 dB

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

Peak H-field in A/m

Grid 1 **0.051 M4**	Grid 2 **0.050 M4**	Grid 3 **0.049 M4**
Grid 4 **0.076 M4**	Grid 5 **0.070 M4**	Grid 6 **0.060 M4**
Grid 7 **0.093 M4**	Grid 8 **0.079 M4**	Grid 9 **0.063 M4**



0 dB = 0.093A/m

Date/Time: 3/1/2010 11:17:11 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_UMTS_band_II_1900_mid_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD II; 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.065 A/m; Power Drift = -0.031 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 = 0.067 A/m

Probe Modulation Factor = 0.960

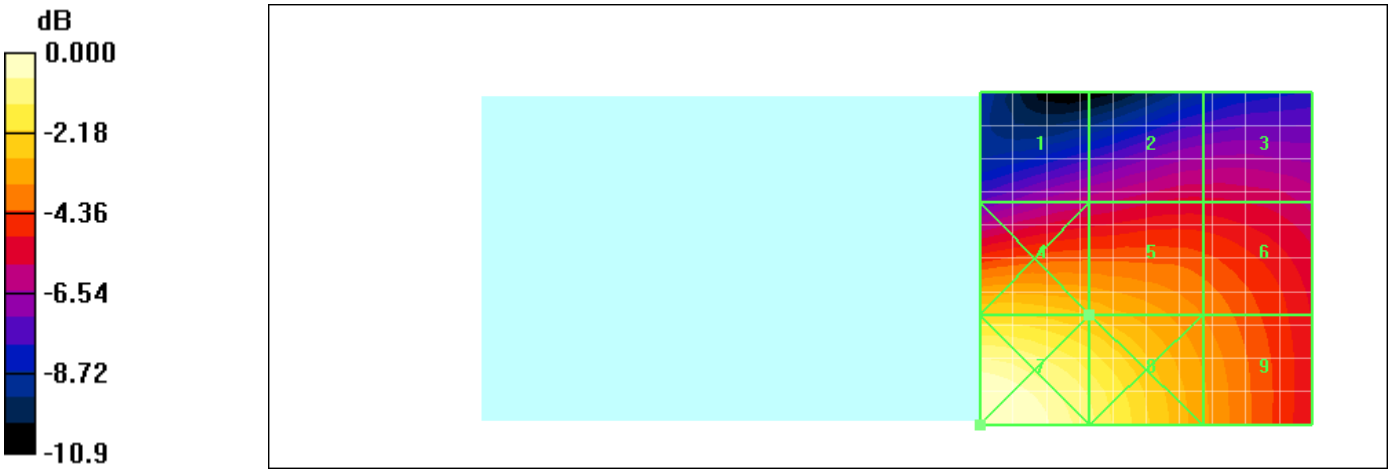
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.065 A/m; Power Drift = -0.031 dB

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

Peak H-field in A/m

Grid 1 **0.045 M4**	Grid 2 **0.048 M4**	Grid 3 **0.048 M4**
Grid 4 **0.070 M4**	Grid 5 **0.067 M4**	Grid 6 **0.059 M4**
Grid 7 **0.093 M4**	Grid 8 **0.080 M4**	Grid 9 **0.062 M4**



0 dB = 0.093A/m

Date/Time: 3/1/2010 11:23:32 AM

Test Laboratory: RIM Testing Services

File Name: HAC_H_UMTS_band_II_1900_high_chan.da4

DUT: BlackBerry Smartphone;

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD II; Frequency: 1907.6 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 - SN6105; ; Calibrated: 11/13/2009
- 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 = 0.061 A/m; Power Drift = -0.119 dB

Maximum value of Total (measured) = 0.098 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 = 0.062 A/m

Probe Modulation Factor = 0.960

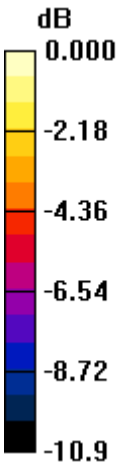
Device Reference Point: 0.000, 0.000, -6.30 mm

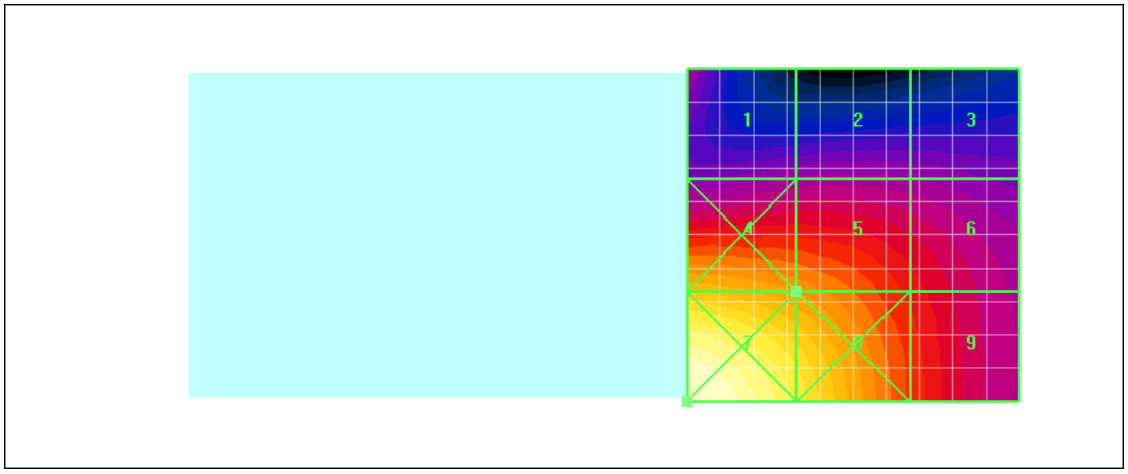
Reference Value = 0.061 A/m; Power Drift = -0.119 dB

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

Peak H-field in A/m

Grid 1 **0.044 M4**	Grid 2 **0.043 M4**	Grid 3 **0.043 M4**
Grid 4 **0.068 M4**	Grid 5 **0.062 M4**	Grid 6 **0.052 M4**
Grid 7 **0.094 M4**	Grid 8 **0.075 M4**	Grid 9 **0.054 M4**





0 dB = 0.094A/m