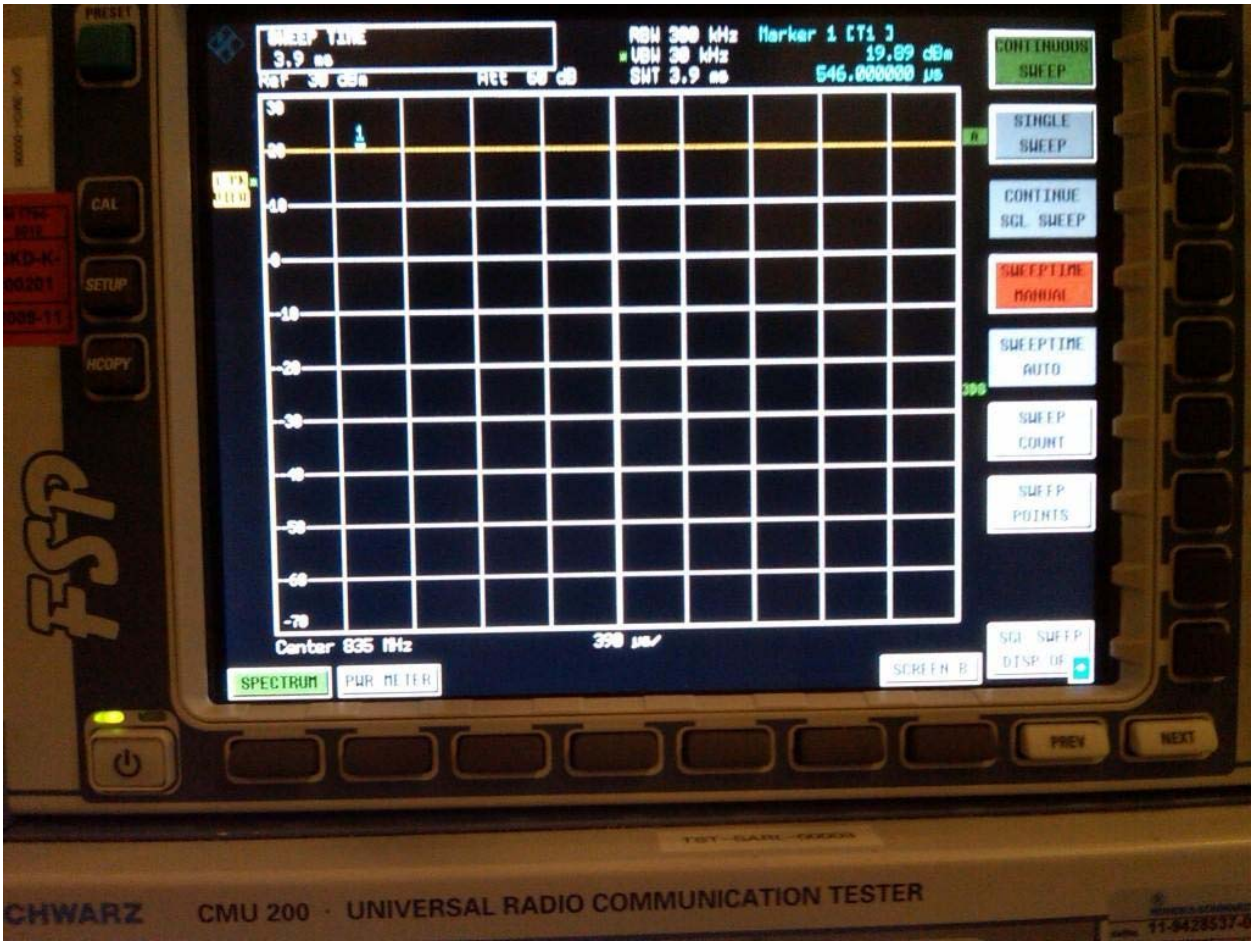
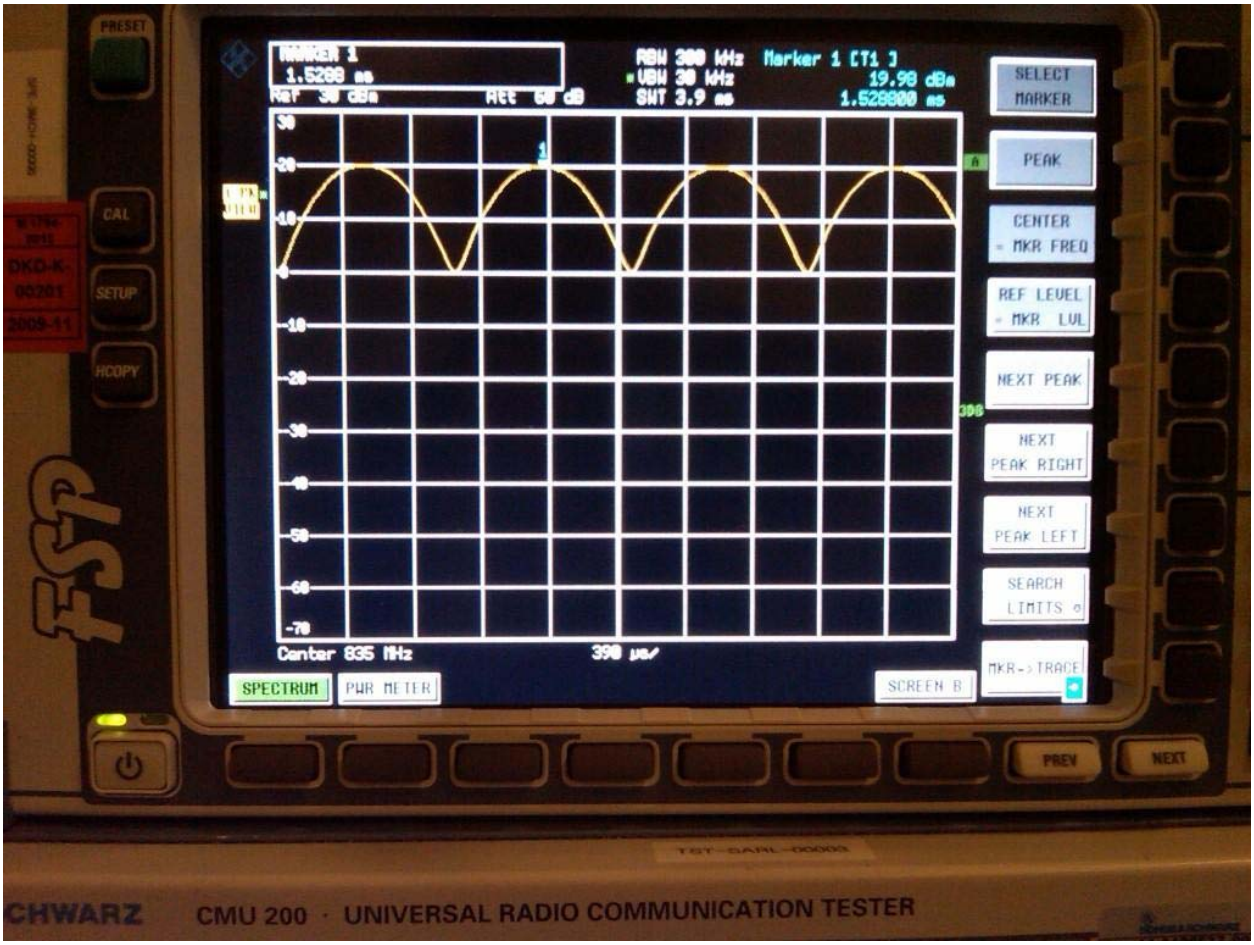
Annex A: Measurement data and plots

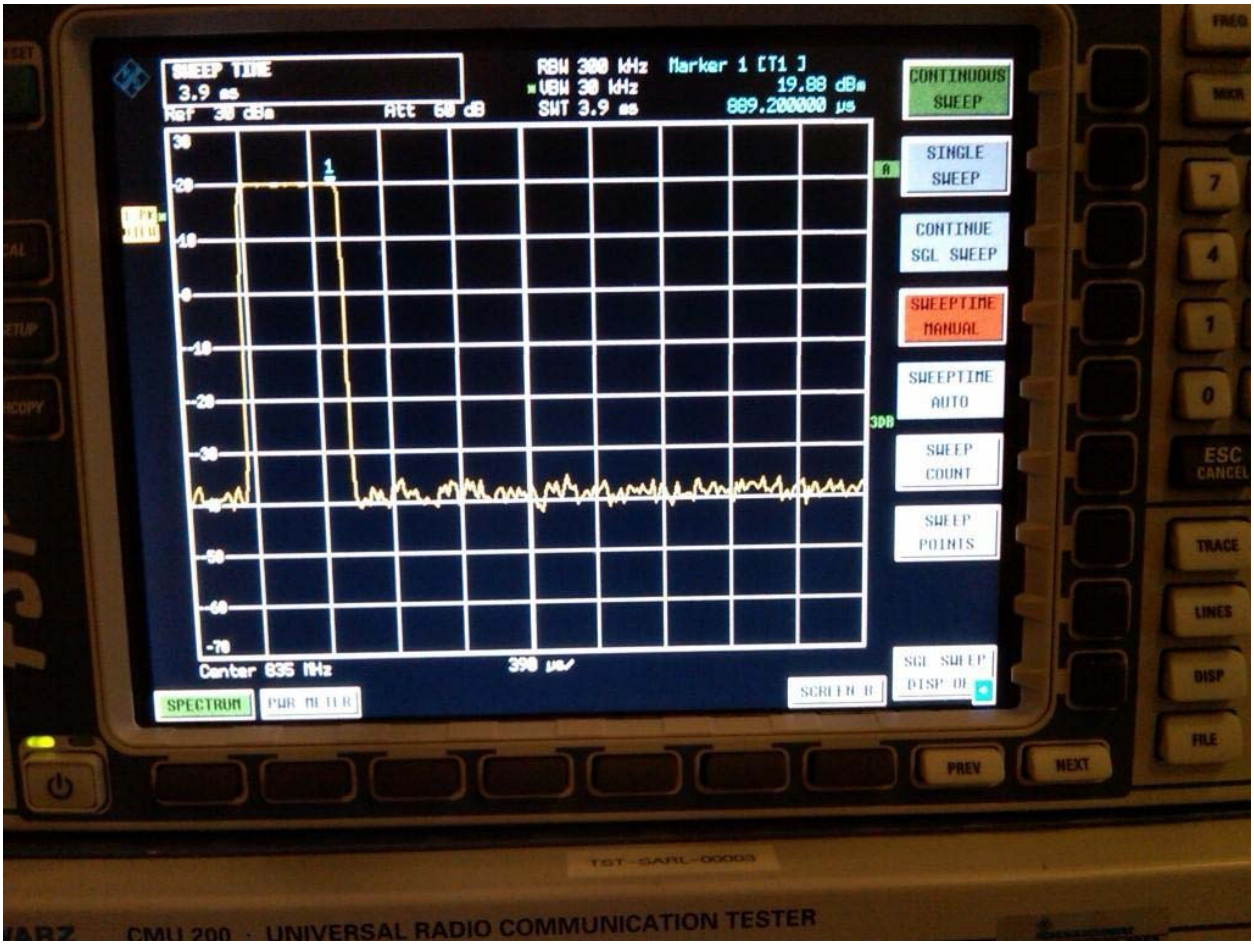
A.1 Spectrum analyser plots: CW, 80%AM, GSM and WCDMA signals



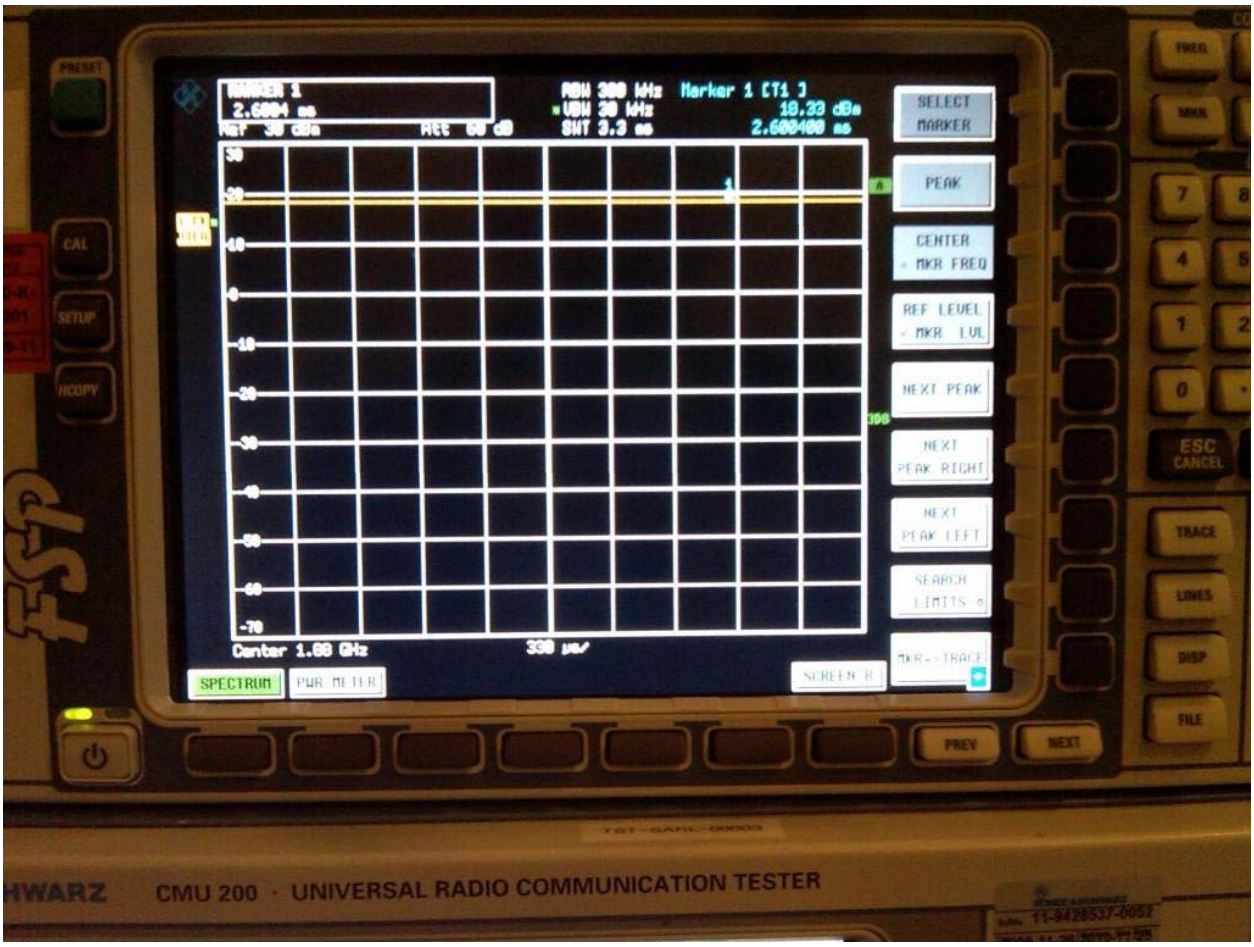
0 Hz Span CW Plot (835 MHz)



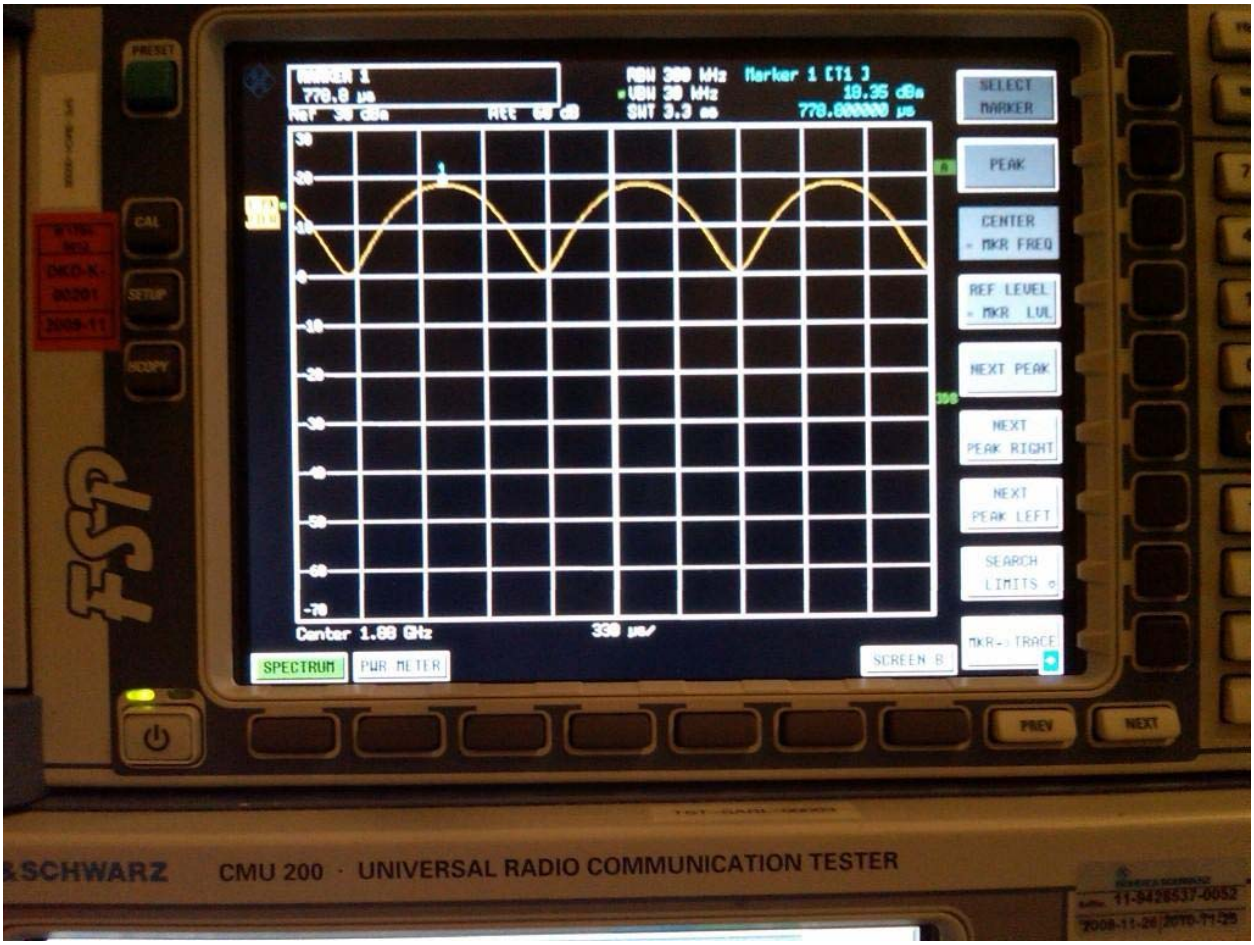
0 Hz Span 80% AM Plot (835 MHz)



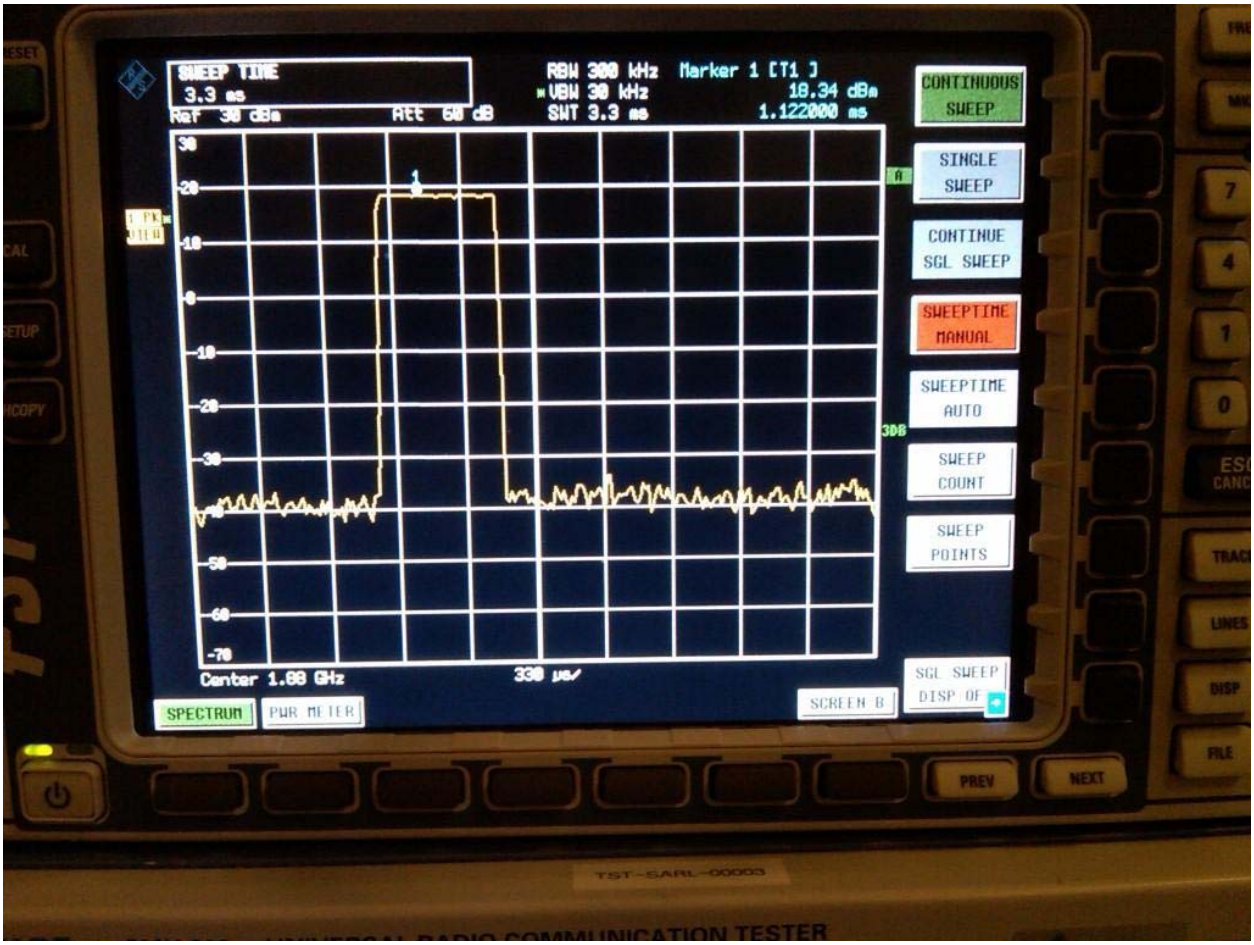
0 Hz Span GSM (835 MHz)



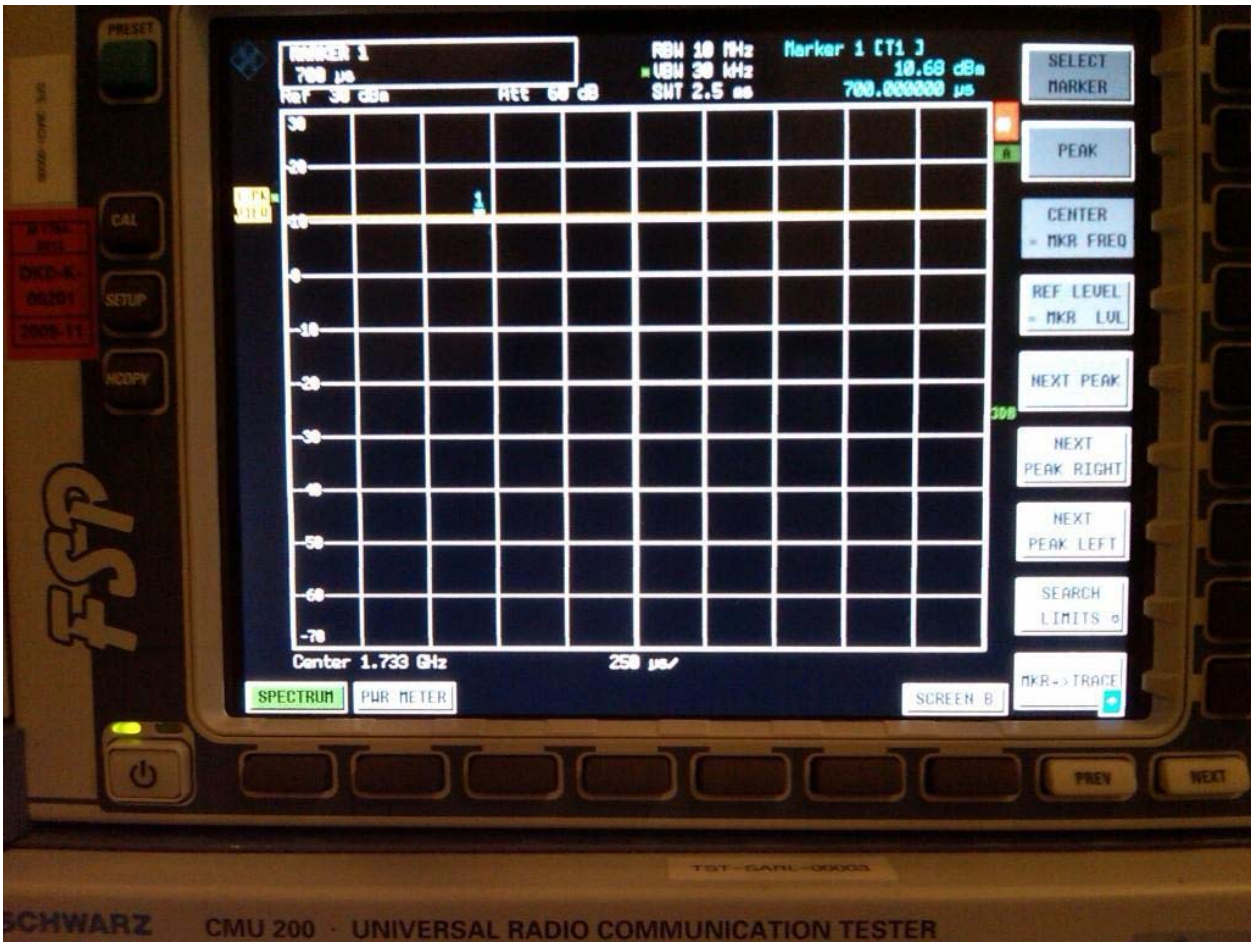
0 Hz Span CW Plot (1880 MHz)



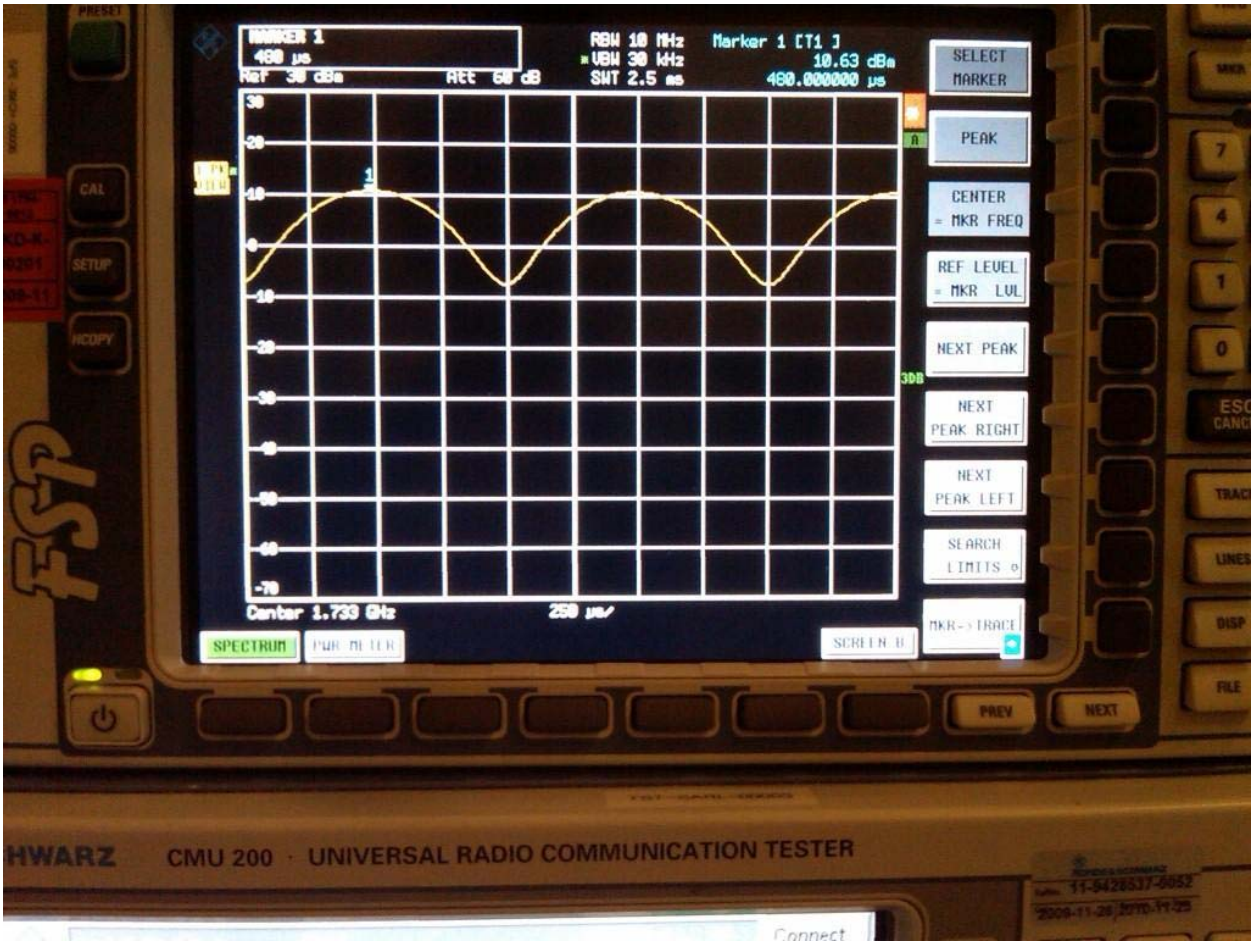
0 Hz Span 80% AM Plot (1880 MHz)



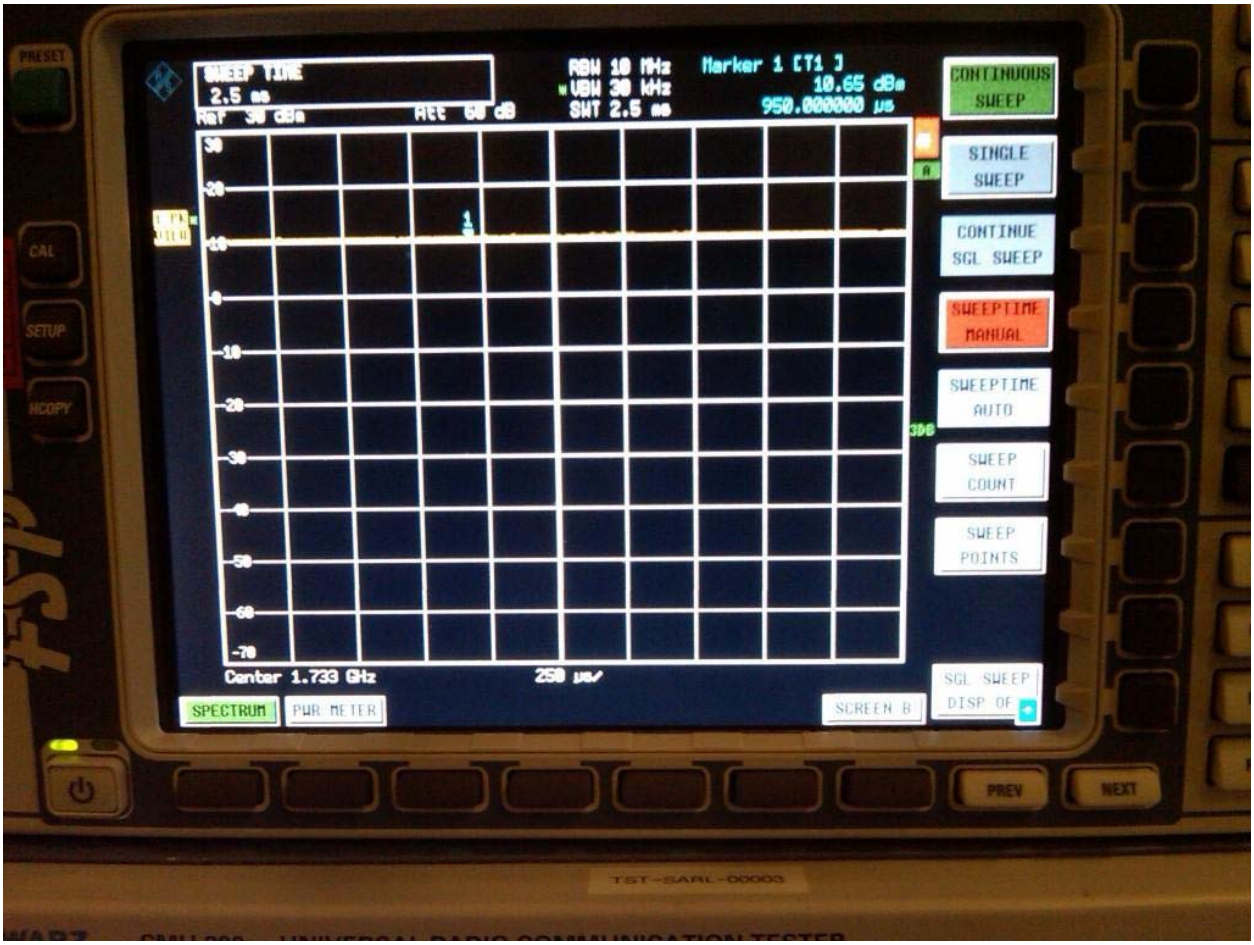
0 Hz Span GSM (1880 MHz)



0 Hz Span CW Plot (1733 MHz)



0 Hz Span 80% AM Plot (1733 MHz)



0 Hz Span WCDMA (1733 MHz)

A.2 Dipole validation and probe modulation factor plots

Date/Time: 4/14/2010 1:51:22 PM

File Name: HAC_E_Dipole_835MHz_20dBm.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

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 = 105.2 V/m; Power Drift = 0.212 dB

Maximum value of Total (measured) = 166.9 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 = 168.1 V/m

Probe Modulation Factor = 1.00

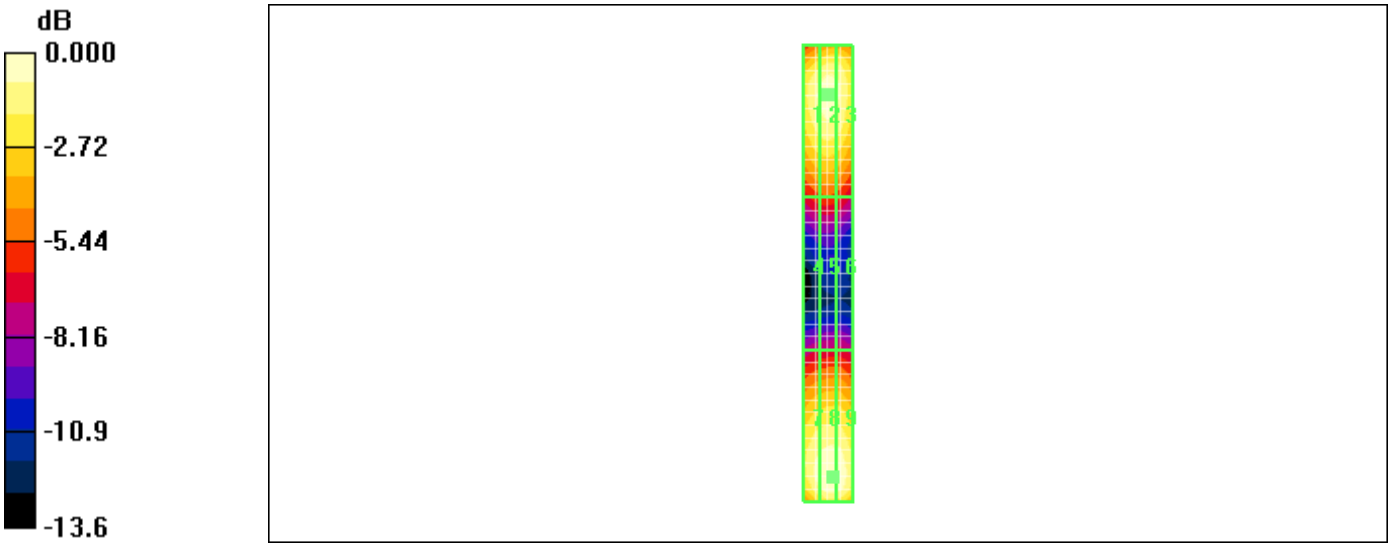
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 105.2 V/m; Power Drift = 0.212 dB

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

Peak E-field in V/m

Grid 1 **155.3 M4**	Grid 2 **161.8 M4**	Grid 3 **156.4 M4**
Grid 4 **87.4 M4**	Grid 5 **88.8 M4**	Grid 6 **85.7 M4**
Grid 7 **160.2 M4**	Grid 8 **168.1 M4**	Grid 9 **166.8 M4**



0 dB = 168.1V/m

Date/Time: 4/14/2010 1:32:40 PM

File Name: HAC_E_Dipole_835MHz_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

Program Name: HAC RF E Dipole

Communication System: GSM 850; Frequency: 835 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 - 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 = 35.6 V/m; Power Drift = 0.022 dB

Maximum value of Total (measured) = 55.5 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 = 55.9 V/m

Probe Modulation Factor = 1.00

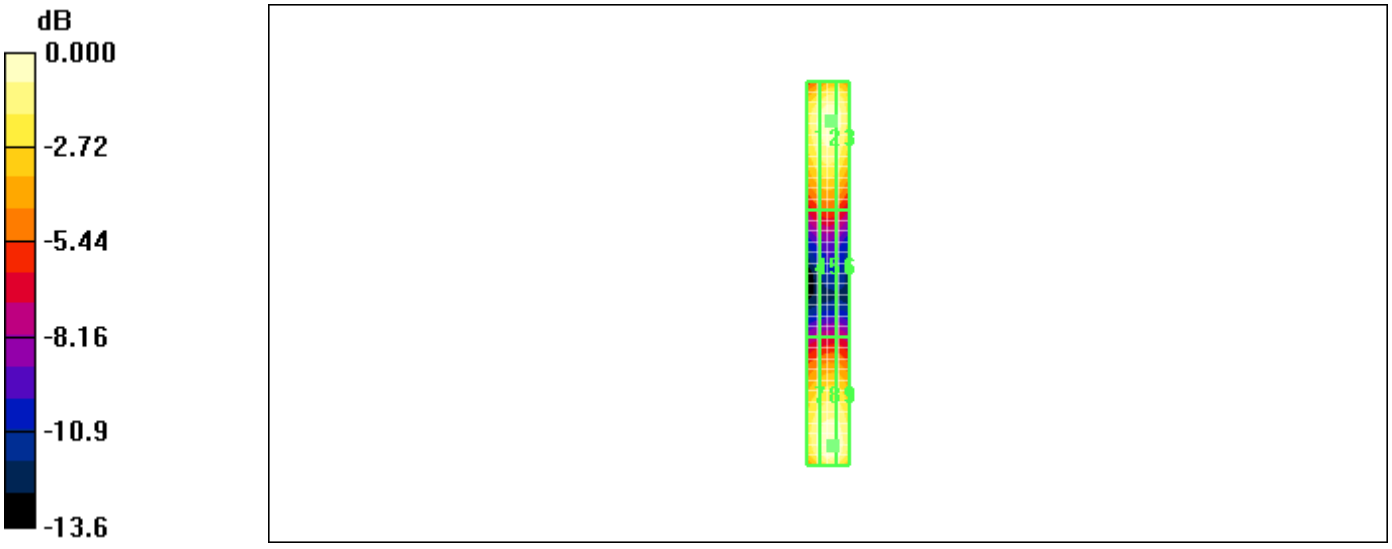
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 35.6 V/m; Power Drift = 0.022 dB

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

Peak E-field in V/m

Grid 1 **52.3 M4**	Grid 2 **54.9 M4**	Grid 3 **54.3 M4**
Grid 4 **29.5 M4**	Grid 5 **30.4 M4**	Grid 6 **29.6 M4**
Grid 7 **53.2 M4**	Grid 8 **55.9 M4**	Grid 9 **55.4 M4**



0 dB = 55.9V/m

Date/Time: 4/14/2010 2:07:37 PM

File Name: HAC_E_Dipole_835MHz_CW_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 103.6 V/m; Power Drift = 0.170 dB

Maximum value of Total (measured) = 161.8 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 = 162.1 V/m

Probe Modulation Factor = 1.00

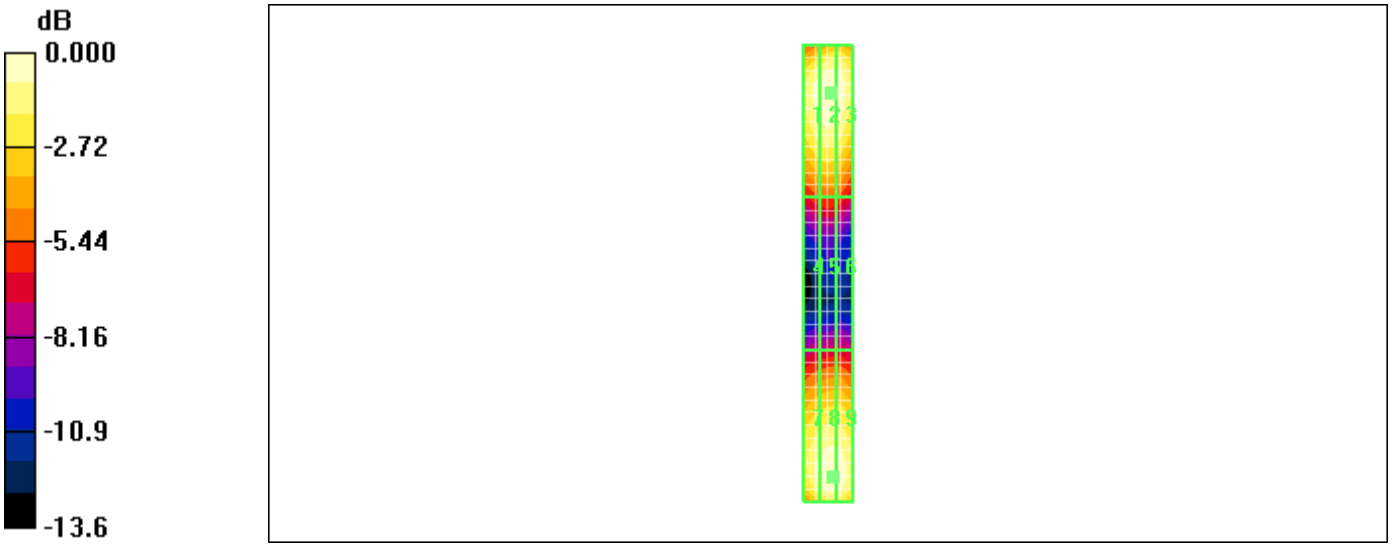
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 103.6 V/m; Power Drift = 0.170 dB

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

Peak E-field in V/m

Grid 1 **155.1 M4**	Grid 2 **162.1 M4**	Grid 3 **160.4 M4**
Grid 4 **86.1 M4**	Grid 5 **88.5 M4**	Grid 6 **86.7 M4**
Grid 7 **152.4 M4**	Grid 8 **161.3 M4**	Grid 9 **160.1 M4**



0 dB = 162.1V/m

Date/Time: 4/14/2010 2:15:19 PM

File Name: HAC_E_Dipole_835MHz_AM80%_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

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 = 65.3 V/m; Power Drift = 0.021 dB

Maximum value of Total (measured) = 101.1 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 = 101.8 V/m

Probe Modulation Factor = 1.00

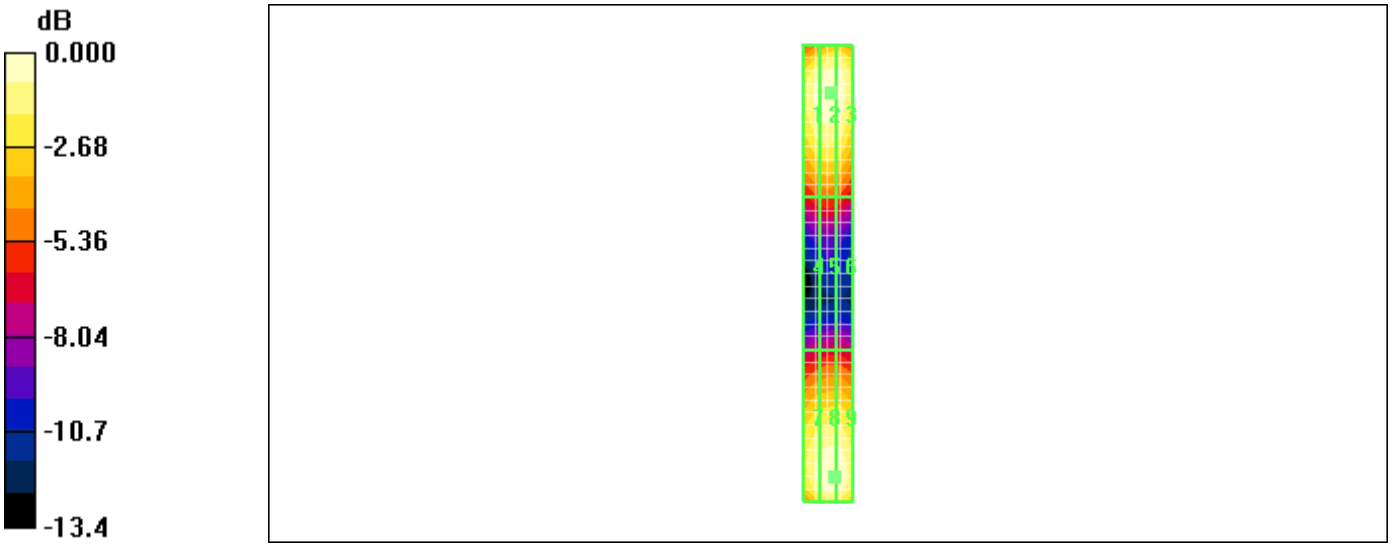
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 65.3 V/m; Power Drift = 0.021 dB

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

Peak E-field in V/m

Grid 1 **97.2 M4**	Grid 2 **101.3 M4**	Grid 3 **100.5 M4**
Grid 4 **54.8 M4**	Grid 5 **56.0 M4**	Grid 6 **54.8 M4**
Grid 7 **95.9 M4**	Grid 8 **101.8 M4**	Grid 9 **101.4 M4**



0 dB = 101.8V/m

Date/Time: 4/14/2010 3:15:46 PM

File Name: HAC_E_Dipole_1880MHz_20dBm.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 146.4 V/m; Power Drift = 0.043 dB

Maximum value of Total (measured) = 132.6 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 = 133.2 V/m

Probe Modulation Factor = 1.00

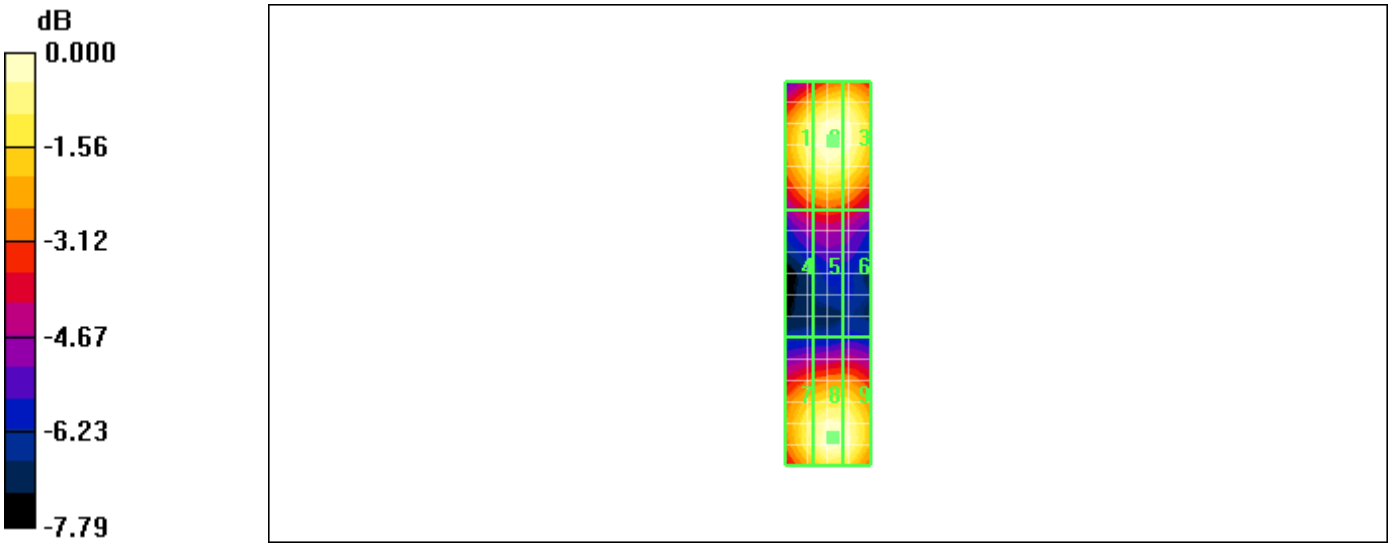
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 146.4 V/m; Power Drift = 0.043 dB

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

Peak E-field in V/m

Grid 1 **126.7 M2**	Grid 2 **133.2 M2**	Grid 3 **131.5 M2**
Grid 4 **89.8 M3**	Grid 5 **92.5 M3**	Grid 6 **90.2 M3**
Grid 7 **124.5 M2**	Grid 8 **132.8 M2**	Grid 9 **131.2 M2**



0 dB = 133.2V/m

Date/Time: 4/14/2010 2:49:55 PM

File Name: HAC_E_Dipole_1880MHz_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 18.7 V/m; Power Drift = 0.024 dB

Maximum value of Total (measured) = 37.6 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 = 38.2 V/m

Probe Modulation Factor = 1.00

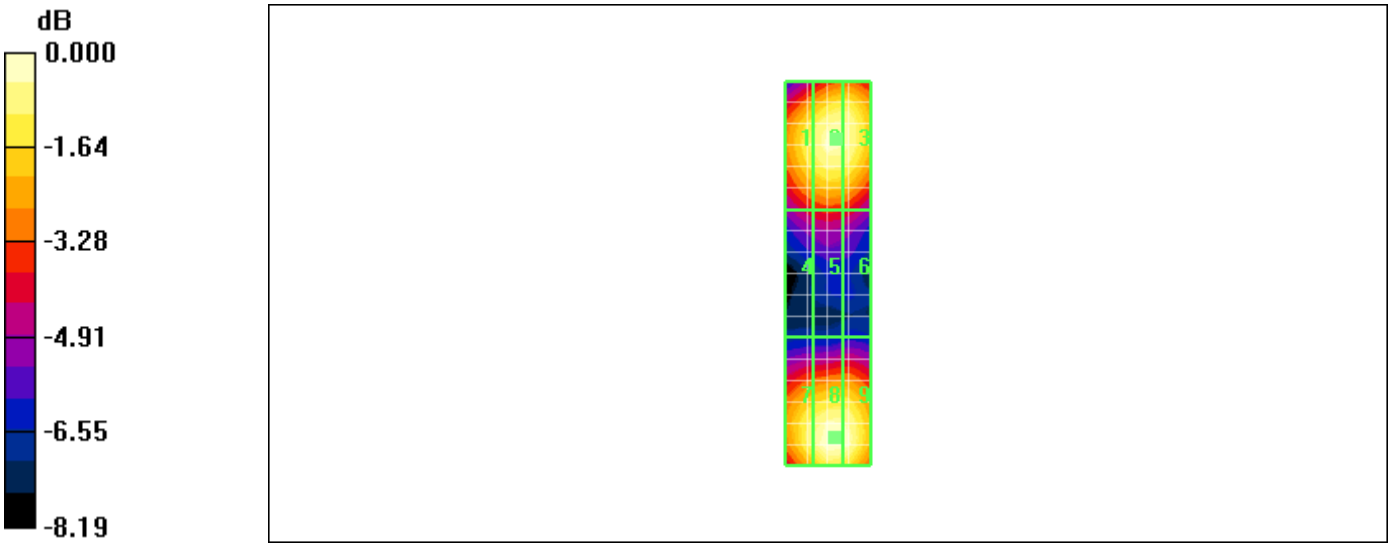
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 18.7 V/m; Power Drift = 0.024 dB

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

Peak E-field in V/m

Grid 1 **34.6 M4**	Grid 2 **37.0 M4**	Grid 3 **36.8 M4**
Grid 4 **24.6 M4**	Grid 5 **25.6 M4**	Grid 6 **25.0 M4**
Grid 7 **35.7 M4**	Grid 8 **38.2 M4**	Grid 9 **37.8 M4**



0 dB = 38.2V/m

Date/Time: 4/14/2010 3:20:34 PM

File Name: HAC_E_Dipole_1880MHz_CW_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 120.0 V/m; Power Drift = -0.137 dB

Maximum value of Total (measured) = 104.3 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 = 105.7 V/m

Probe Modulation Factor = 1.00

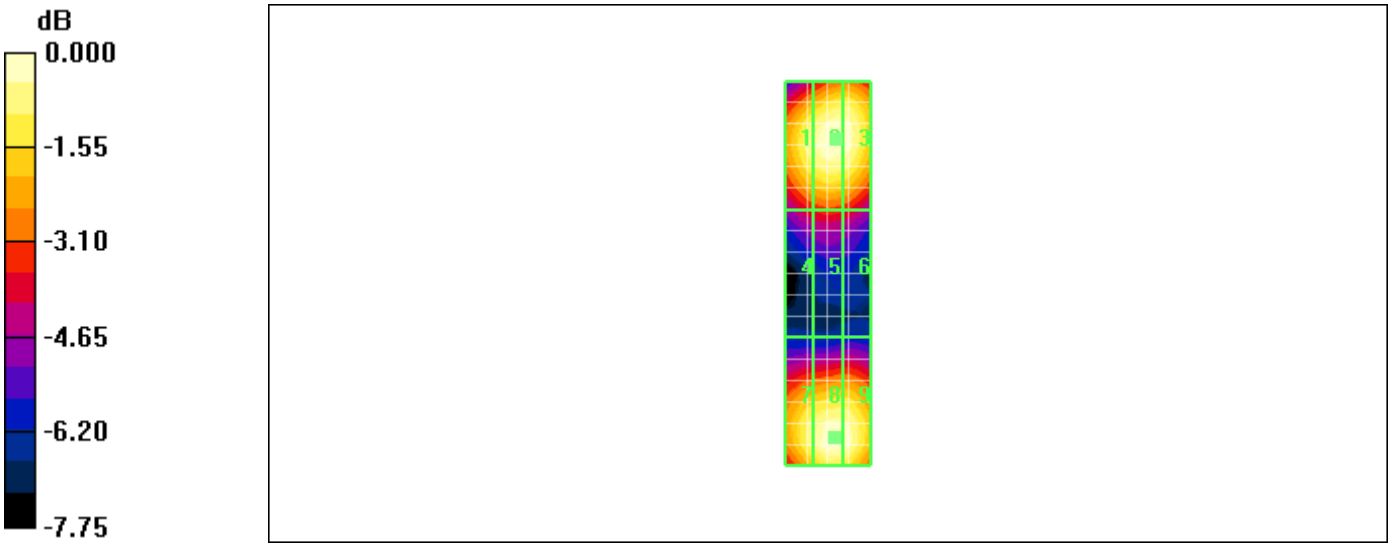
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 120.0 V/m; Power Drift = -0.137 dB

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

Peak E-field in V/m

Grid 1 **99.7 M3**	Grid 2 **104.9 M3**	Grid 3 **104.5 M3**
Grid 4 **70.9 M3**	Grid 5 **73.3 M3**	Grid 6 **71.7 M3**
Grid 7 **99.4 M3**	Grid 8 **105.7 M3**	Grid 9 **104.7 M3**



0 dB = 105.7V/m

Date/Time: 4/14/2010 3:25:19 PM

File Name: HAC_E_Dipole_1880MHz_AM80%_GSM.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF E Dipole

Communication System: AM; 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 = 73.8 V/m; Power Drift = 0.032 dB

Maximum value of Total (measured) = 67.0 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 = 67.6 V/m

Probe Modulation Factor = 1.00

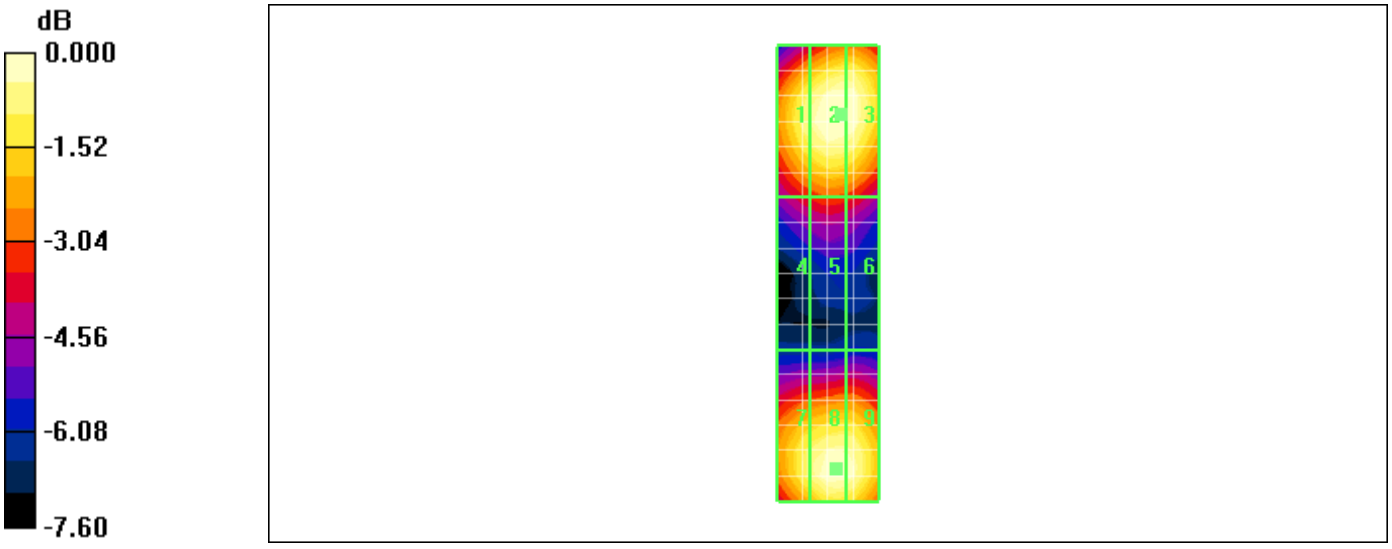
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 73.8 V/m; Power Drift = 0.032 dB

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

Peak E-field in V/m

Grid 1 **64.0 M3**	Grid 2 **67.6 M3**	Grid 3 **67.5 M3**
Grid 4 **45.6 M4**	Grid 5 **47.7 M4**	Grid 6 **46.7 M4**
Grid 7 **63.0 M4**	Grid 8 **67.1 M3**	Grid 9 **66.6 M3**



0 dB = 67.6V/m

Date/Time: 4/14/2010 3:03:45 PM

File Name: HAC_E_Dipole_1733MHz_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF E Dipole

Communication System: WCDMA FDD IV; Frequency: 1732.6 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 - 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 = 56.1 V/m; Power Drift = -0.076 dB

Maximum value of Total (measured) = 48.7 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 = 49.3 V/m

Probe Modulation Factor = 1.00

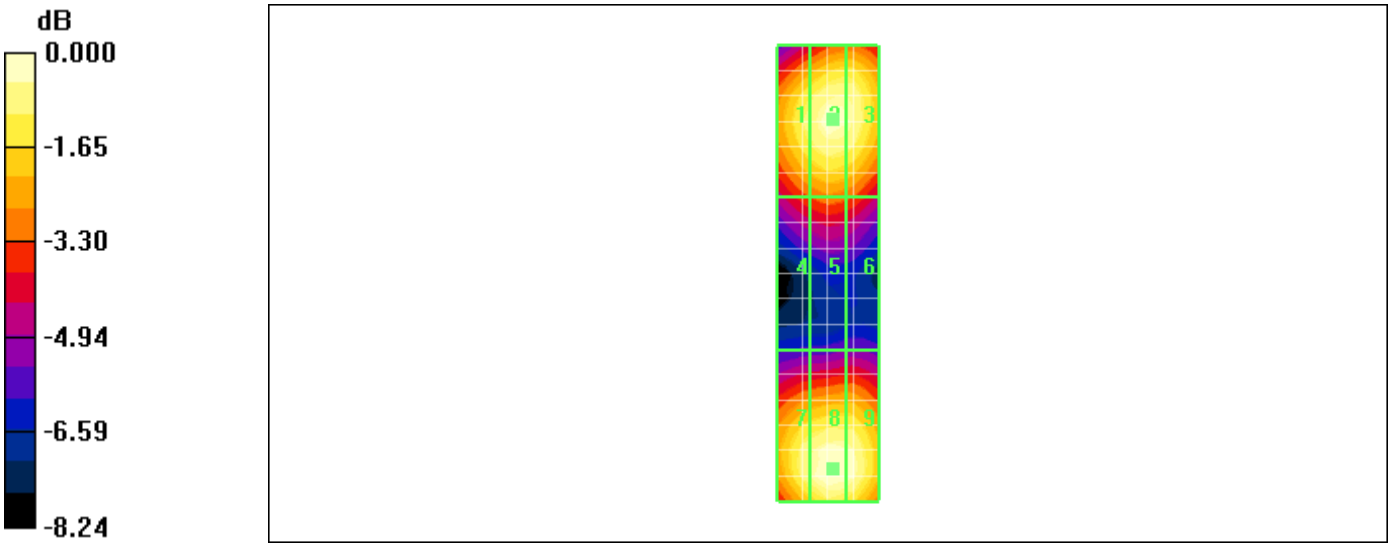
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 56.1 V/m; Power Drift = -0.076 dB

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

Peak E-field in V/m

Grid 1 **45.2 M4**	Grid 2 **47.7 M4**	Grid 3 **47.3 M4**
Grid 4 **33.9 M4**	Grid 5 **35.3 M4**	Grid 6 **34.6 M4**
Grid 7 **46.9 M4**	Grid 8 **49.3 M4**	Grid 9 **48.7 M4**



0 dB = 49.3V/m

Date/Time: 4/14/2010 3:39:31 PM

File Name: HAC_E_Dipole_1733MHz_CW_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF E Dipole

Communication System: CW; Frequency: 1733 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 = 53.9 V/m; Power Drift = 0.051 dB

Maximum value of Total (measured) = 47.6 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 = 48.0 V/m

Probe Modulation Factor = 1.00

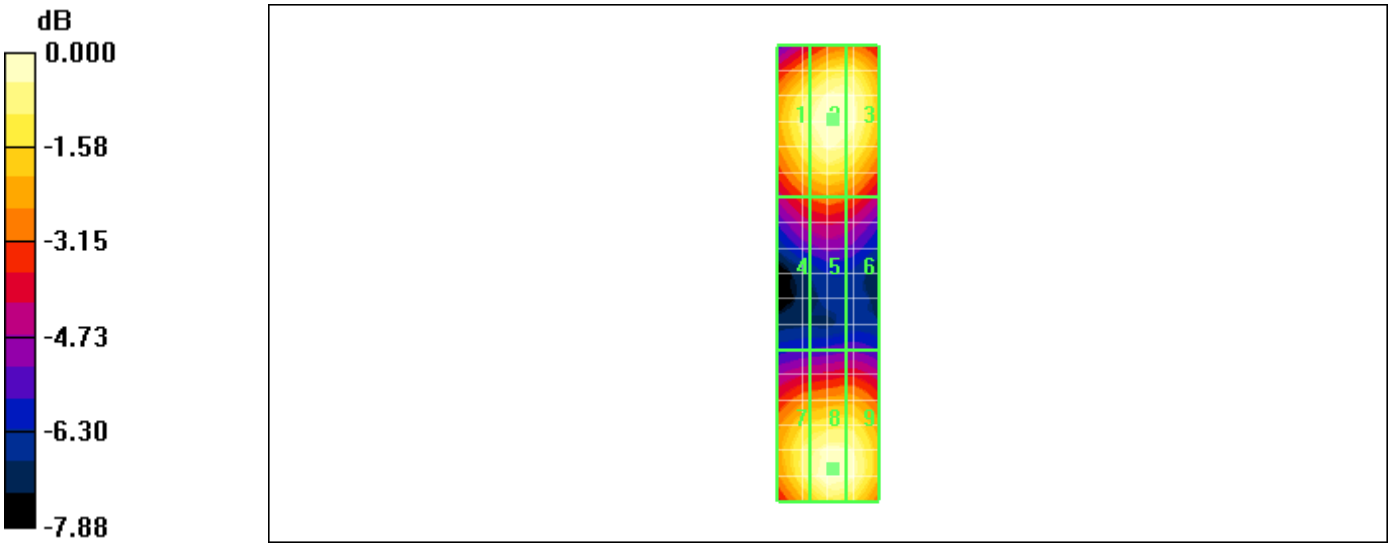
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 53.9 V/m; Power Drift = 0.051 dB

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

Peak E-field in V/m

Grid 1 **45.6 M4**	Grid 2 **47.8 M4**	Grid 3 **47.4 M4**
Grid 4 **33.8 M4**	Grid 5 **35.0 M4**	Grid 6 **34.3 M4**
Grid 7 **45.3 M4**	Grid 8 **48.0 M4**	Grid 9 **47.6 M4**



0 dB = 48.0V/m

Date/Time: 4/14/2010 3:44:09 PM

File Name: HAC_E_Dipole_1733MHz_AM80%.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF E Dipole

Communication System: AM; Frequency: 1733 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 = 33.7 V/m; Power Drift = 0.007 dB

Maximum value of Total (measured) = 30.4 V/m

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

Maximum value of peak Total field = 30.7 V/m

Probe Modulation Factor = 1.00

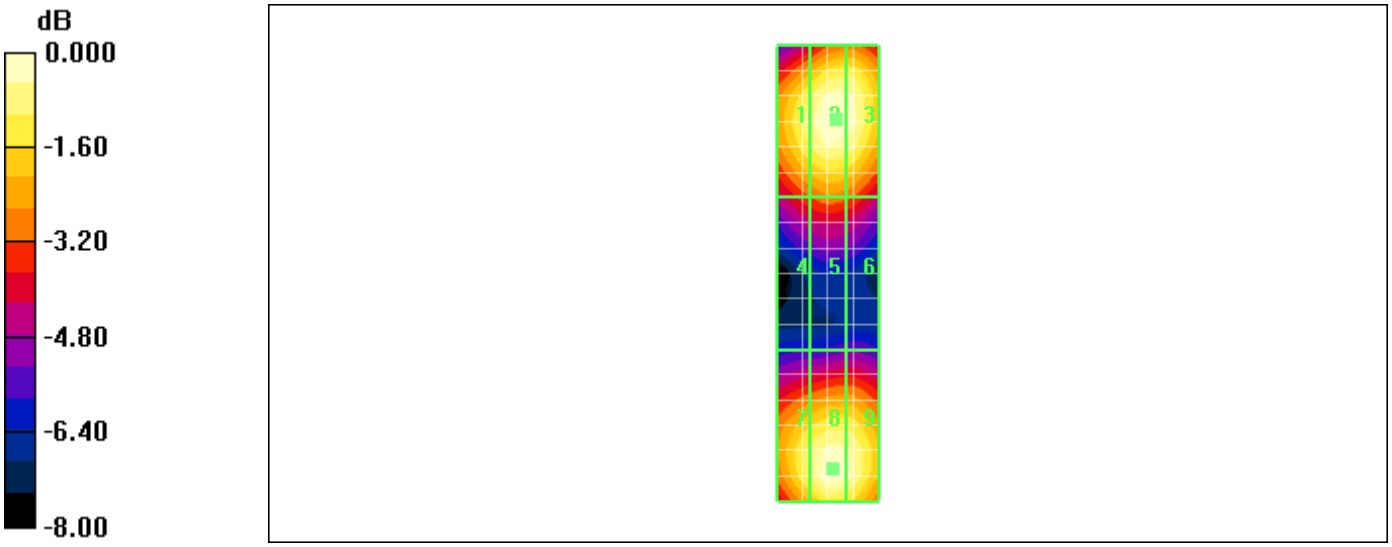
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 33.7 V/m; Power Drift = 0.007 dB

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

Peak E-field in V/m

Grid 1 **28.5 M4**	Grid 2 **30.5 M4**	Grid 3 **30.2 M4**
Grid 4 **21.2 M4**	Grid 5 **22.3 M4**	Grid 6 **21.8 M4**
Grid 7 **28.4 M4**	Grid 8 **30.7 M4**	Grid 9 **30.0 M4**



0 dB = 30.7V/m

Date/Time: 4/15/2010 10:32:34 AM

File Name: HAC_H_Dipole_835MHz_20dBm.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

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 (5x13x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.520 A/m; Power Drift = -0.055 dB

Maximum value of Total (measured) = 0.486 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 = 0.487 A/m

Probe Modulation Factor = 1.00

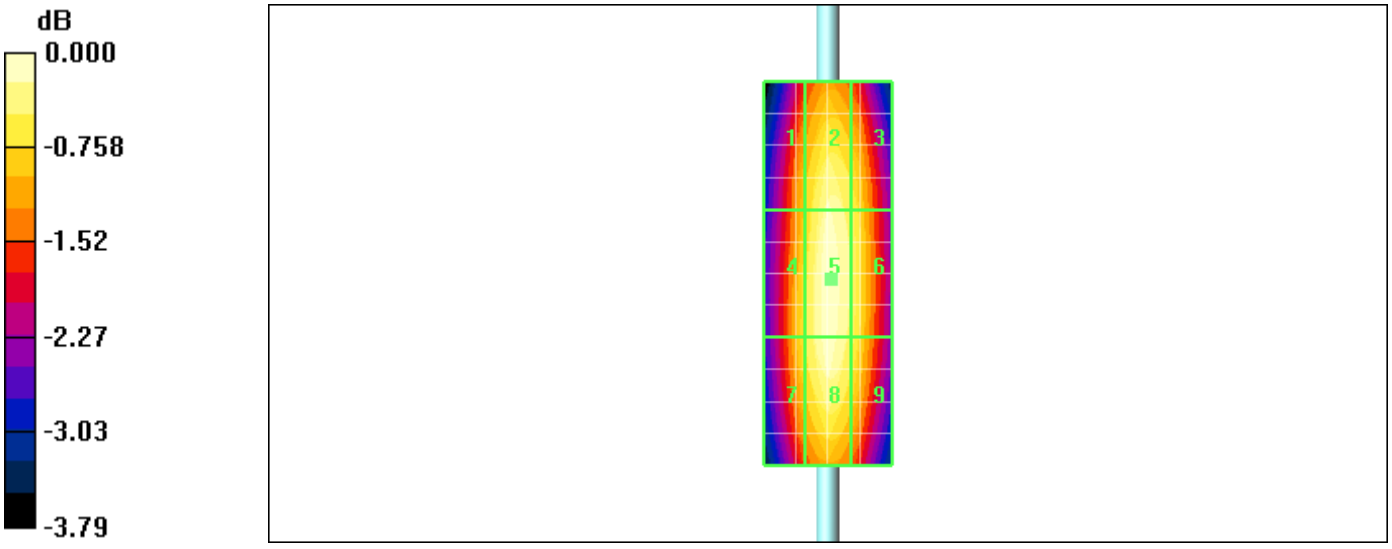
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.520 A/m; Power Drift = -0.055 dB

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

Peak H-field in A/m

Grid 1 **0.447 M4**	Grid 2 **0.477 M4**	Grid 3 **0.465 M4**
Grid 4 **0.460 M4**	Grid 5 **0.487 M4**	Grid 6 **0.472 M4**
Grid 7 **0.459 M4**	Grid 8 **0.484 M4**	Grid 9 **0.467 M4**



0 dB = 0.487A/m

Date/Time: 4/15/2010 9:58:44 AM

File Name: HAC_H_Dipole_835MHz_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

Program Name: HAC RF H3DV6 Dipole

Communication System: GSM 850; Frequency: 835 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 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 = 0.185 A/m; Power Drift = -0.012 dB

Maximum value of Total (measured) = 0.173 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 = 0.173 A/m

Probe Modulation Factor = 1.00

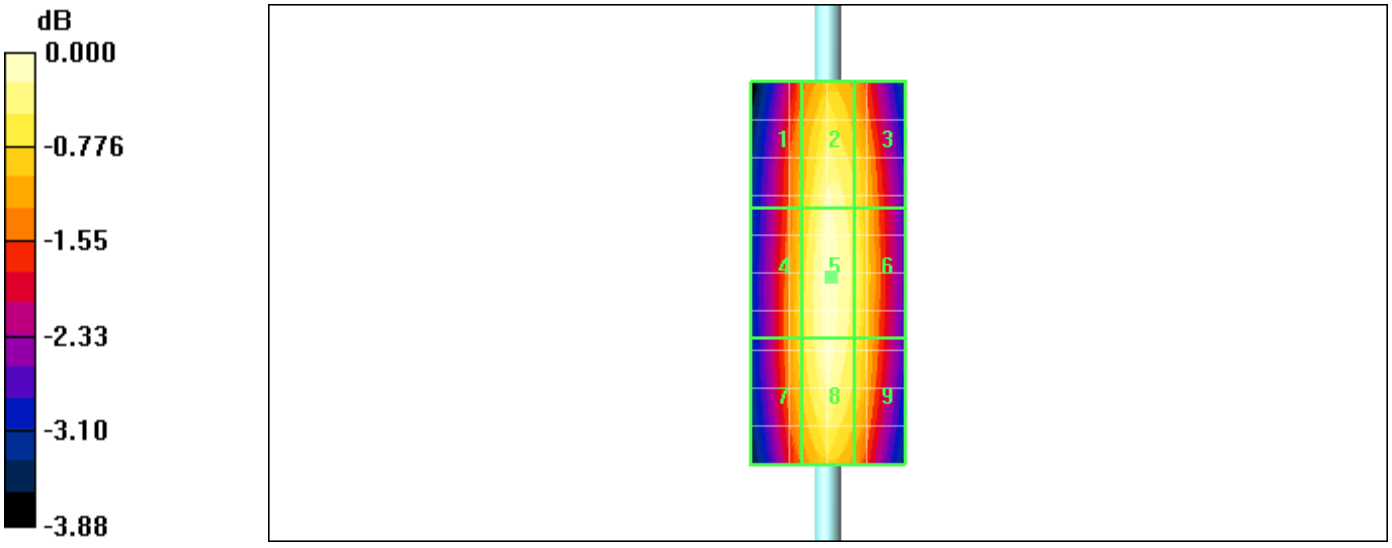
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.185 A/m; Power Drift = -0.012 dB

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

Peak H-field in A/m

Grid 1 **0.156 M4**	Grid 2 **0.170 M4**	Grid 3 **0.164 M4**
Grid 4 **0.161 M4**	Grid 5 **0.173 M4**	Grid 6 **0.166 M4**
Grid 7 **0.161 M4**	Grid 8 **0.172 M4**	Grid 9 **0.164 M4**



0 dB = 0.173A/m

Date/Time: 4/15/2010 10:09:37 AM

File Name: HAC_H_Dipole_835MHz_CW_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

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 = 0.510 A/m; Power Drift = -0.100 dB

Maximum value of Total (measured) = 0.478 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 = 0.479 A/m

Probe Modulation Factor = 1.00

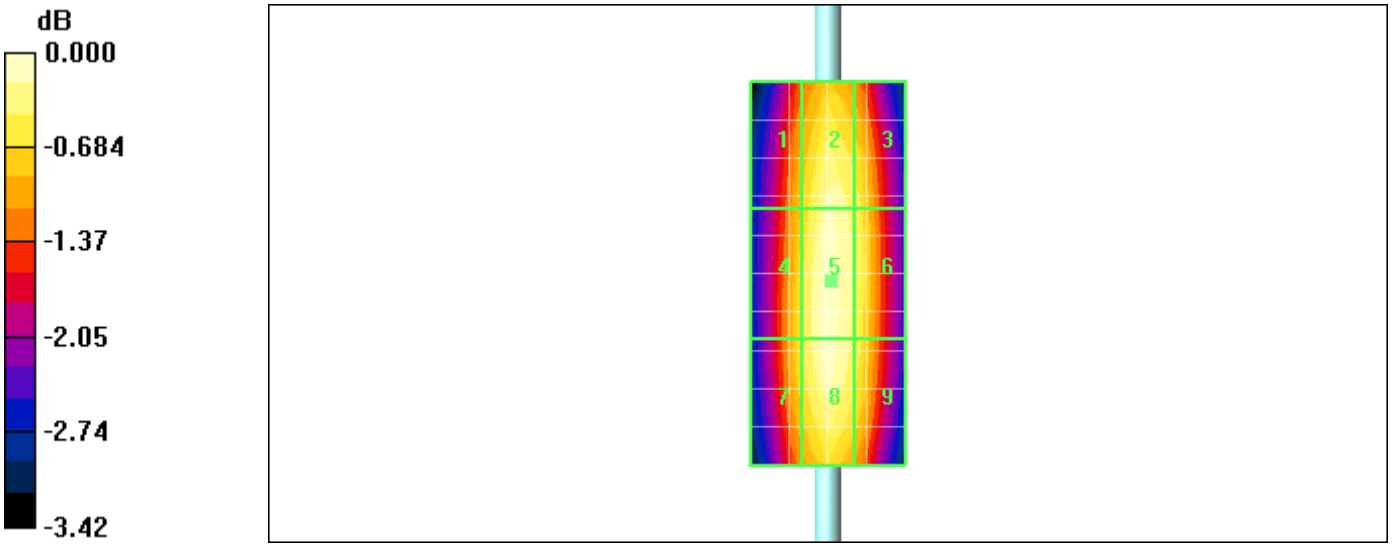
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.510 A/m; Power Drift = -0.100 dB

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

Peak H-field in A/m

Grid 1 **0.441 M4**	Grid 2 **0.471 M4**	Grid 3 **0.460 M4**
Grid 4 **0.454 M4**	Grid 5 **0.479 M4**	Grid 6 **0.466 M4**
Grid 7 **0.454 M4**	Grid 8 **0.477 M4**	Grid 9 **0.461 M4**



0 dB = 0.479A/m

Date/Time: 4/15/2010 10:13:59 AM

File Name: HAC_H_Dipole_835MHz_AM80%_GSM_mod.da4

DUT: HAC-Dipole 835 MHz; Type: D835V3;

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 = 0.330 A/m; Power Drift = 0.013 dB

Maximum value of Total (measured) = 0.312 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 = 0.312 A/m

Probe Modulation Factor = 1.00

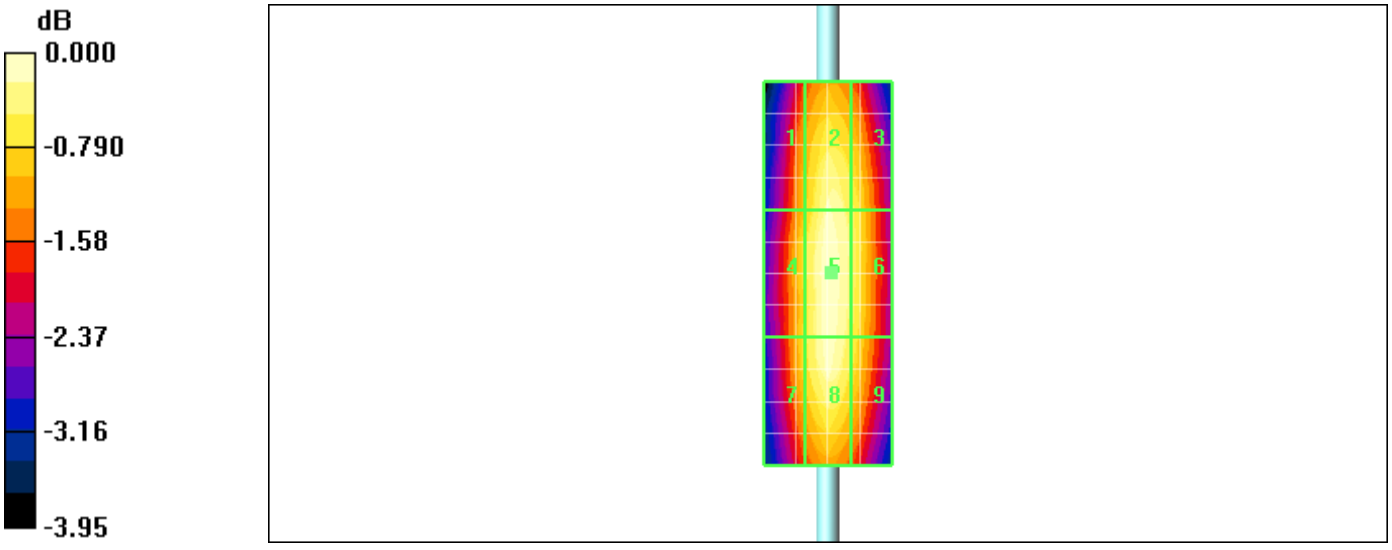
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.330 A/m; Power Drift = 0.013 dB

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

Peak H-field in A/m

Grid 1 **0.284 M4**	Grid 2 **0.306 M4**	Grid 3 **0.298 M4**
Grid 4 **0.292 M4**	Grid 5 **0.312 M4**	Grid 6 **0.301 M4**
Grid 7 **0.291 M4**	Grid 8 **0.310 M4**	Grid 9 **0.297 M4**



0 dB = 0.312A/m

Date/Time: 4/15/2010 11:30:33 AM

File Name: HAC_H_Dipole_1880MHz_20dBm.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 0.495 A/m; Power Drift = 0.075 dB

Maximum value of Total (measured) = 0.471 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 = 0.473 A/m

Probe Modulation Factor = 1.00

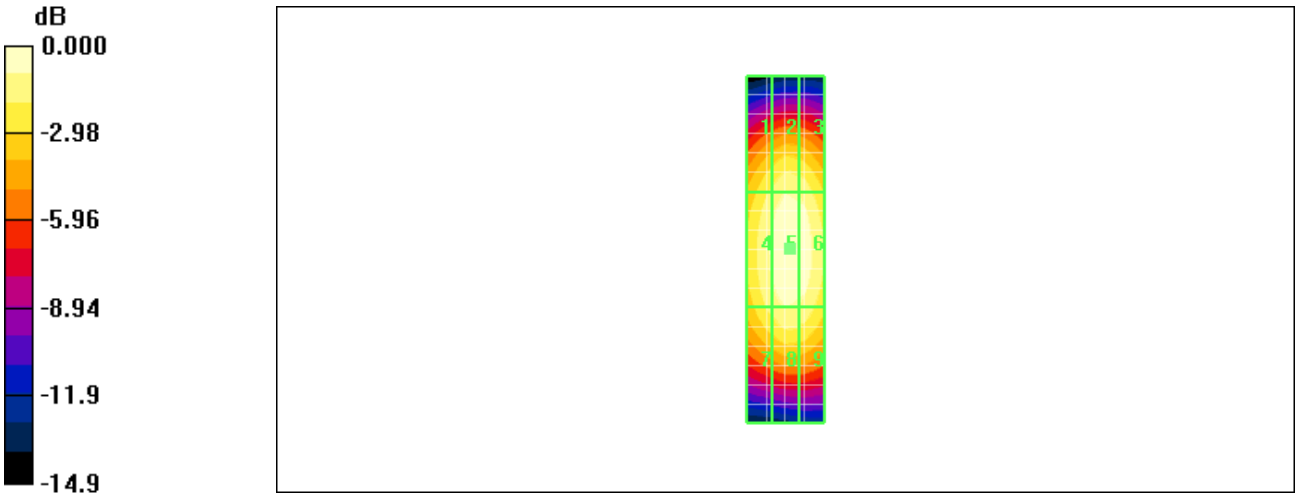
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.495 A/m; Power Drift = 0.075 dB

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

Peak H-field in A/m

Grid 1 **0.388 M2**	Grid 2 **0.422 M2**	Grid 3 **0.414 M2**
Grid 4 **0.433 M2**	Grid 5 **0.473 M2**	Grid 6 **0.461 M2**
Grid 7 **0.395 M2**	Grid 8 **0.425 M2**	Grid 9 **0.417 M2**



0 dB = 0.473A/m

Date/Time: 4/15/2010 10:41:35 AM

File Name: HAC_H_Dipole_1880MHz_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 0.163 A/m; Power Drift = -0.012 dB

Maximum value of Total (measured) = 0.150 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 = 0.151 A/m

Probe Modulation Factor = 1.00

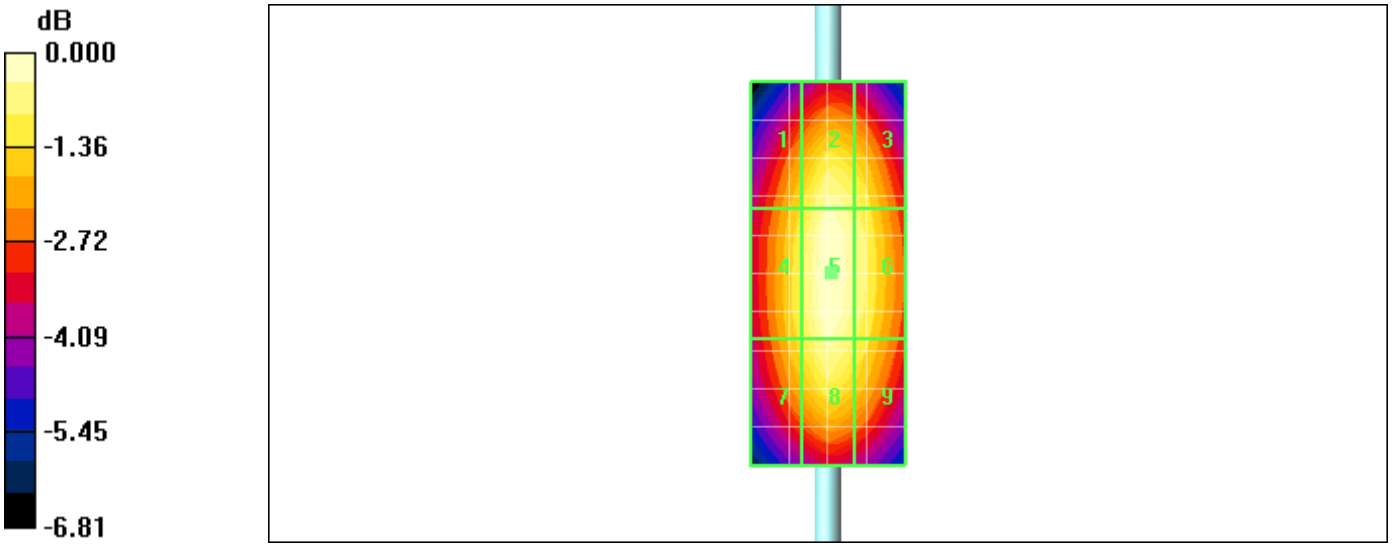
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.163 A/m; Power Drift = -0.012 dB

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

Peak H-field in A/m

Grid 1 **0.131 M4**	Grid 2 **0.146 M3**	Grid 3 **0.139 M4**
Grid 4 **0.137 M4**	Grid 5 **0.151 M3**	Grid 6 **0.143 M3**
Grid 7 **0.133 M4**	Grid 8 **0.145 M3**	Grid 9 **0.138 M4**



0 dB = 0.151A/m

Date/Time: 4/15/2010 11:07:54 AM

File Name: HAC_H_Dipole_1880MHz_CW_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 0.402 A/m; Power Drift = -0.049 dB

Maximum value of Total (measured) = 0.381 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 = 0.383 A/m

Probe Modulation Factor = 1.00

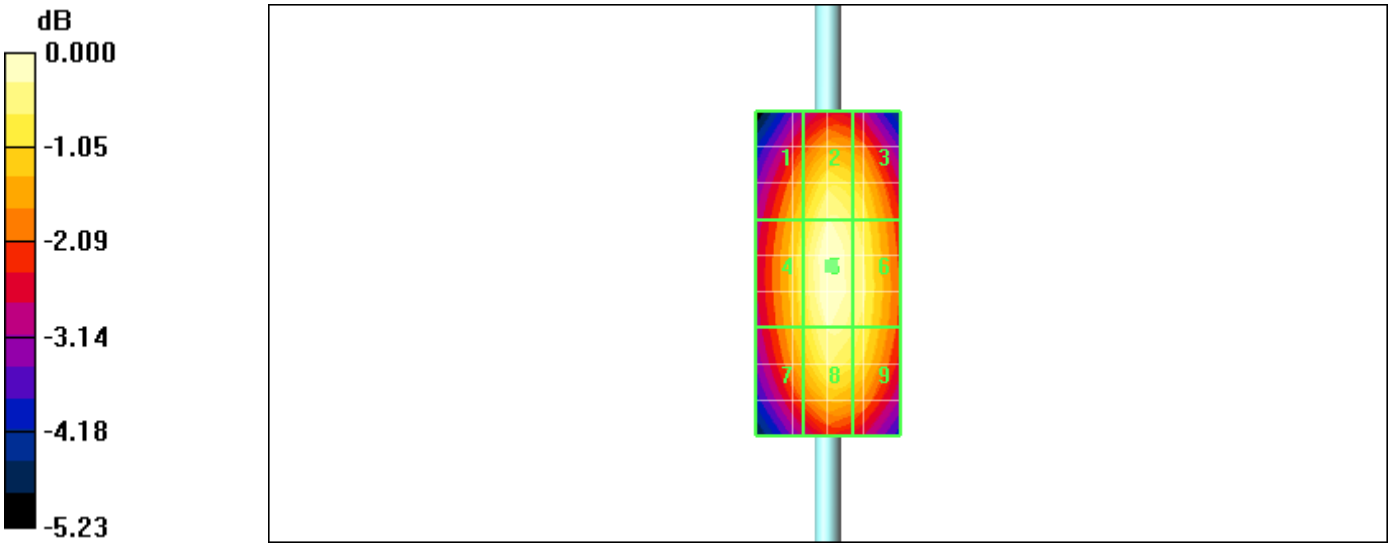
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.402 A/m; Power Drift = -0.049 dB

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

Peak H-field in A/m

Grid 1 **0.341 M2**	Grid 2 **0.370 M2**	Grid 3 **0.360 M2**
Grid 4 **0.351 M2**	Grid 5 **0.383 M2**	Grid 6 **0.370 M2**
Grid 7 **0.343 M2**	Grid 8 **0.371 M2**	Grid 9 **0.361 M2**



0 dB = 0.383A/m

Date/Time: 4/15/2010 11:11:44 AM

File Name: HAC_H_Dipole_1880MHz_AM80%_GSM_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

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 = 0.267 A/m; Power Drift = -0.024 dB

Maximum value of Total (measured) = 0.250 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 = 0.251 A/m

Probe Modulation Factor = 1.00

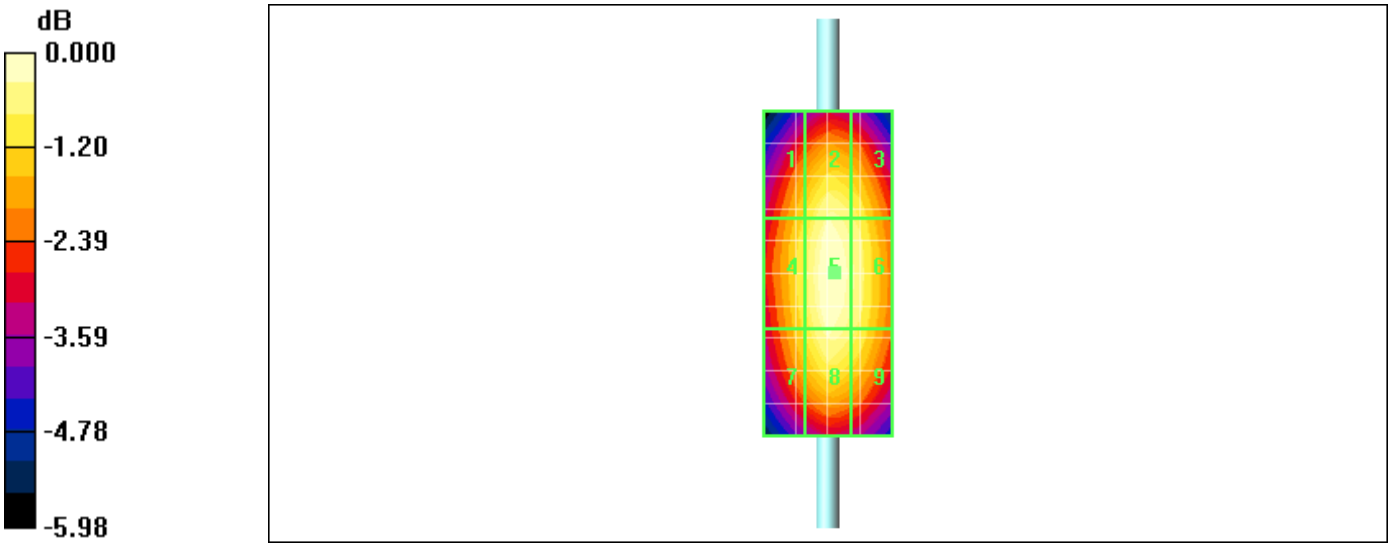
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.267 A/m; Power Drift = -0.024 dB

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

Peak H-field in A/m

Grid 1 **0.223 M3**	Grid 2 **0.241 M3**	Grid 3 **0.235 M3**
Grid 4 **0.230 M3**	Grid 5 **0.251 M3**	Grid 6 **0.242 M3**
Grid 7 **0.224 M3**	Grid 8 **0.243 M3**	Grid 9 **0.236 M3**



0 dB = 0.251A/m

Date/Time: 4/15/2010 11:02:54 AM

File Name: HAC_H_Dipole_1733MHz_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF H3DV6 Dipole

Communication System: WCDMA FDD IV; Frequency: 1732.6 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 - 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 = 0.191 A/m; Power Drift = -0.069 dB

Maximum value of Total (measured) = 0.178 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 = 0.179 A/m

Probe Modulation Factor = 1.00

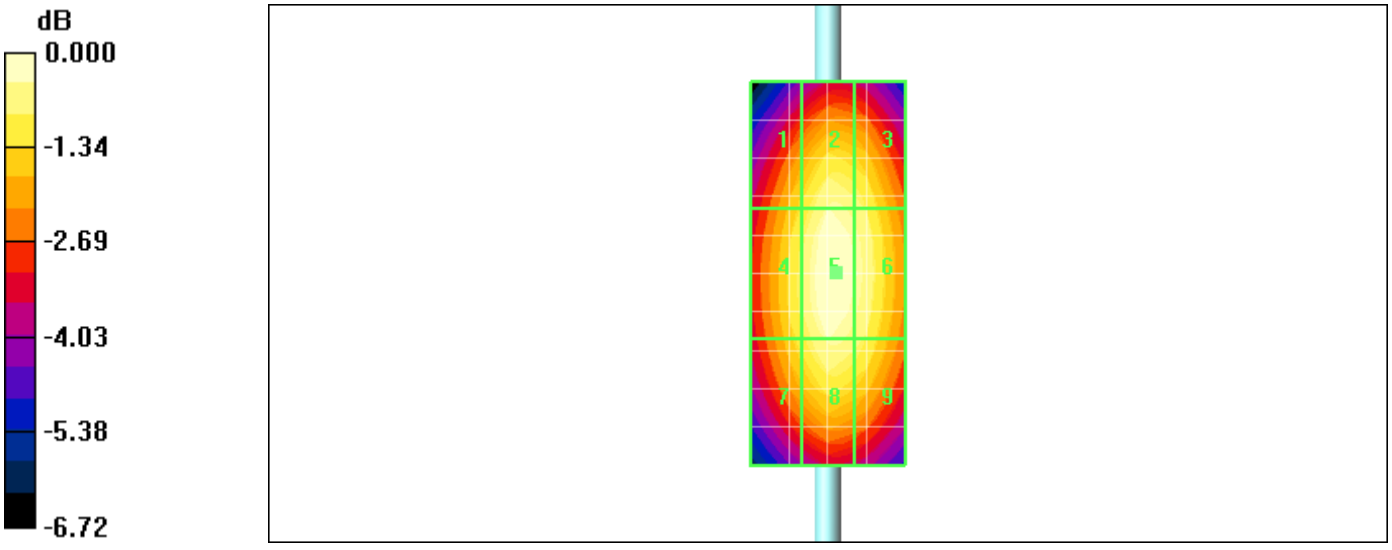
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.191 A/m; Power Drift = -0.069 dB

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

Peak H-field in A/m

Grid 1 **0.156 M4**	Grid 2 **0.171 M4**	Grid 3 **0.167 M4**
Grid 4 **0.164 M4**	Grid 5 **0.179 M4**	Grid 6 **0.174 M4**
Grid 7 **0.159 M4**	Grid 8 **0.171 M4**	Grid 9 **0.167 M4**



0 dB = 0.179A/m

Date/Time: 4/15/2010 11:40:17 AM

File Name: HAC_H_Dipole_1733MHz_CW_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF H3DV6 Dipole

Communication System: CW; Frequency: 1733 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 = 0.182 A/m; Power Drift = -0.023 dB

Maximum value of Total (measured) = 0.171 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 = 0.172 A/m

Probe Modulation Factor = 1.00

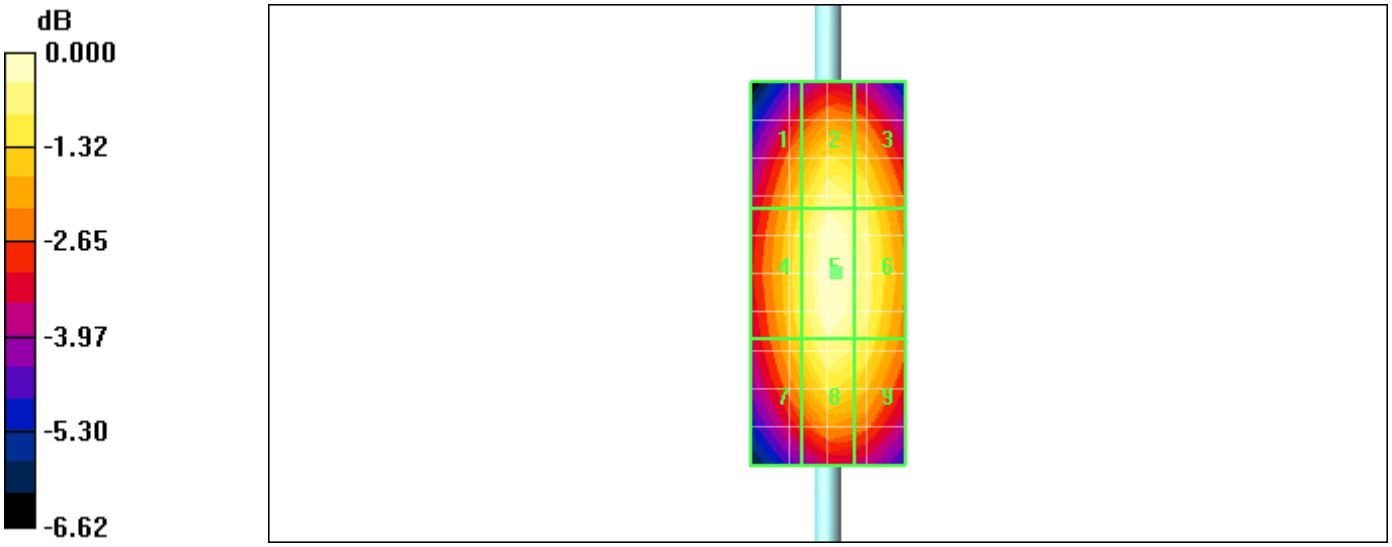
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.182 A/m; Power Drift = -0.023 dB

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

Peak H-field in A/m

Grid 1 **0.149 M4**	Grid 2 **0.164 M4**	Grid 3 **0.160 M4**
Grid 4 **0.155 M4**	Grid 5 **0.172 M4**	Grid 6 **0.165 M4**
Grid 7 **0.150 M4**	Grid 8 **0.164 M4**	Grid 9 **0.159 M4**



0 dB = 0.172A/m

Date/Time: 4/15/2010 11:44:41 AM

File Name: HAC_H_Dipole_1733MHz_AM80%_WCDMA_mod.da4

DUT: HAC Dipole 1880 MHz; Type: CD1880V3;

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; Frequency: 1733 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 = 0.116 A/m; Power Drift = -0.001 dB

Maximum value of Total (measured) = 0.109 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 = 0.109 A/m

Probe Modulation Factor = 1.00

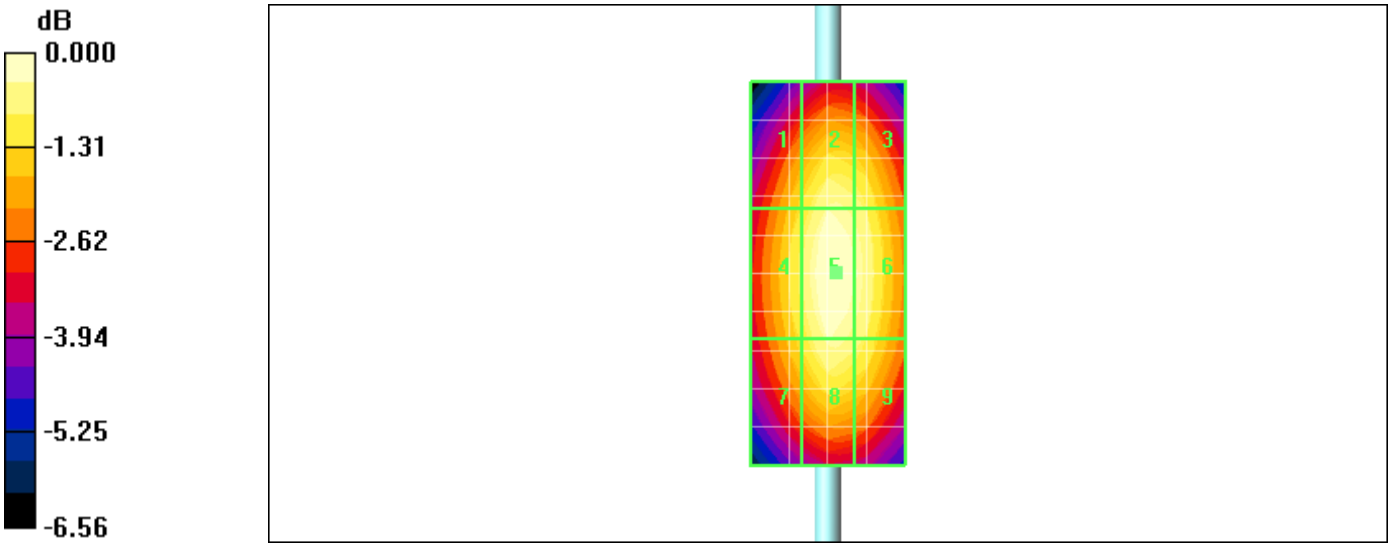
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.116 A/m; Power Drift = -0.001 dB

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

Peak H-field in A/m

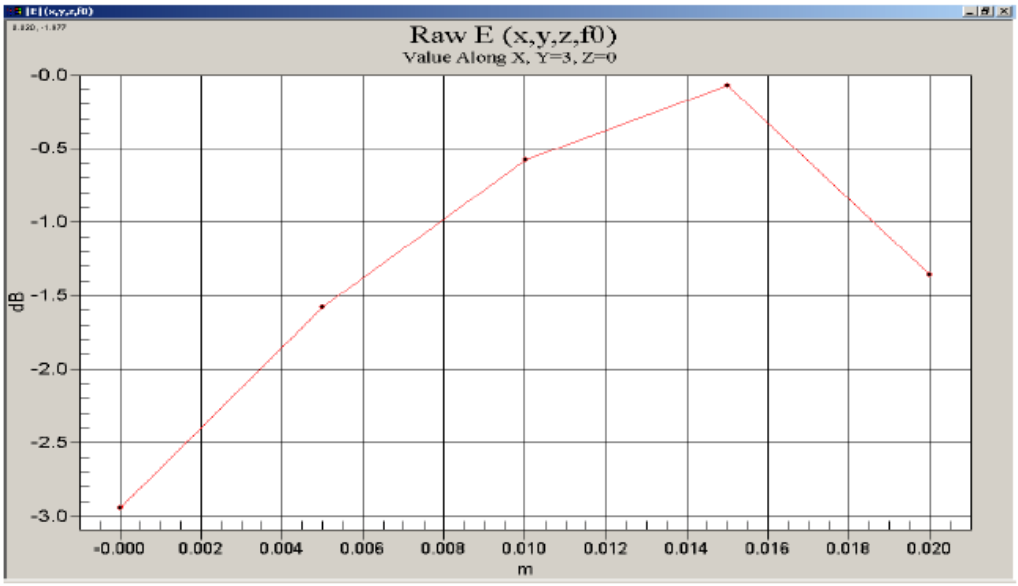
Grid 1 **0.095 M4**	Grid 2 **0.104 M4**	Grid 3 **0.102 M4**
Grid 4 **0.100 M4**	Grid 5 **0.109 M4**	Grid 6 **0.106 M4**
Grid 7 **0.096 M4**	Grid 8 **0.105 M4**	Grid 9 **0.102 M4**



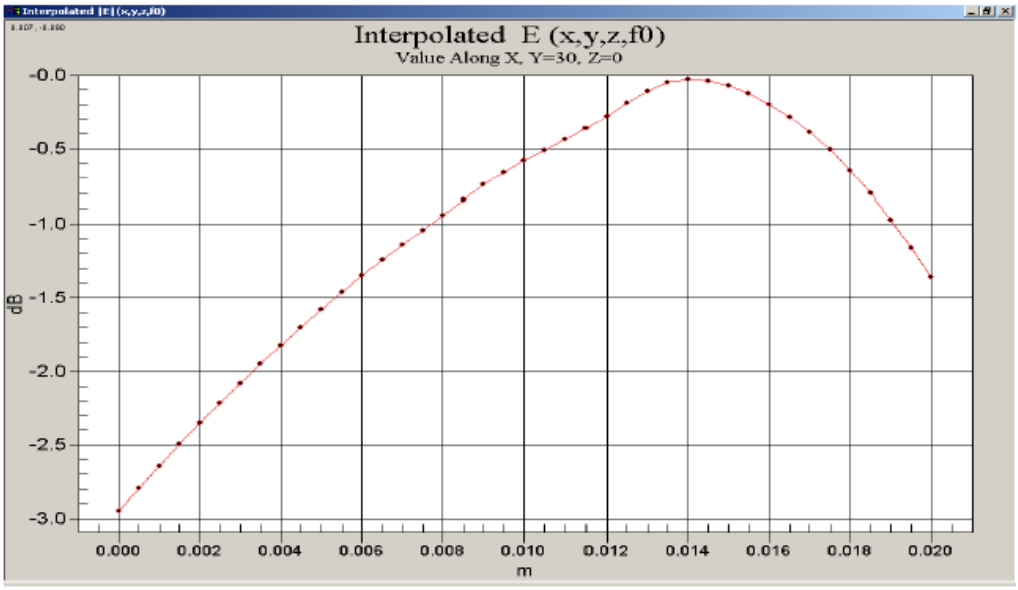
0 dB = 0.109A/m

Justification of Step Size and Interpolation

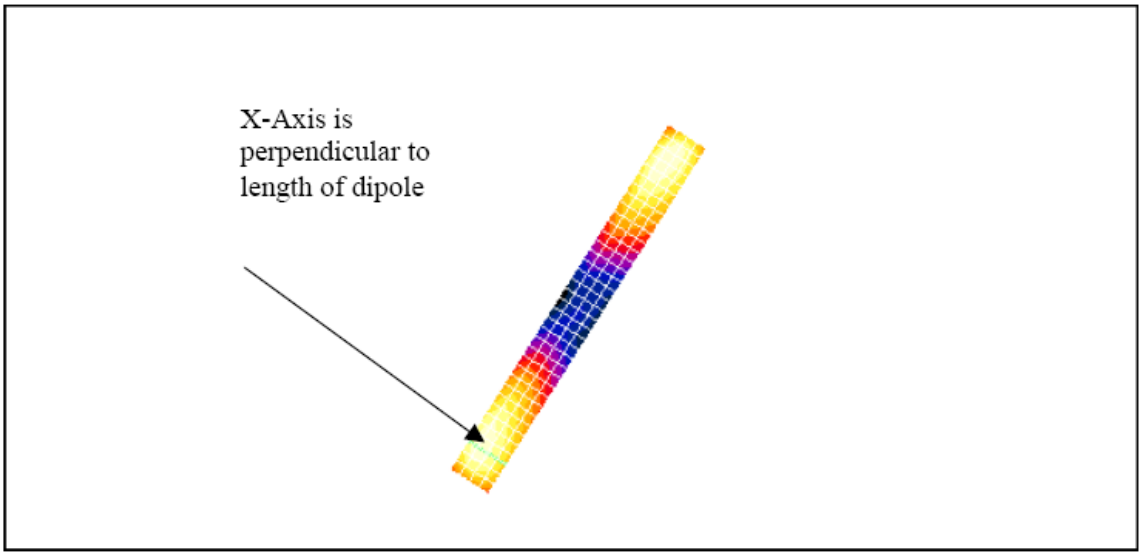
This section demonstrates that a 5mm step size with interpolation provides sufficient resolution for RF emissions measurements. The DASY 4 uses interpolation algorithms to derive 9 interpolated points between every measured point.



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)

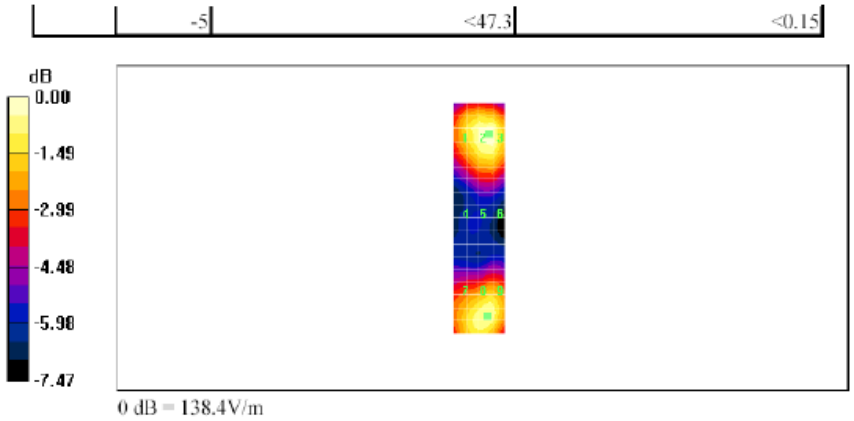
E in V/m (Time averaged)

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**

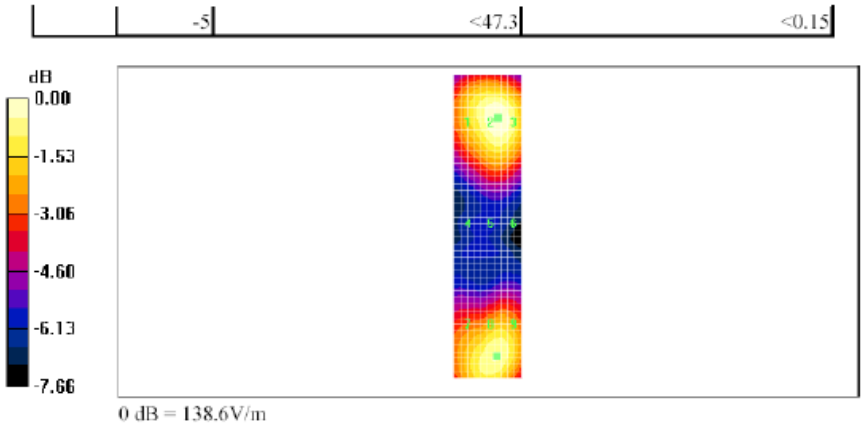
E in V/m (Slot averaged)

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

Page 2 of 2



0 dB = 138.6V/m

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

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**

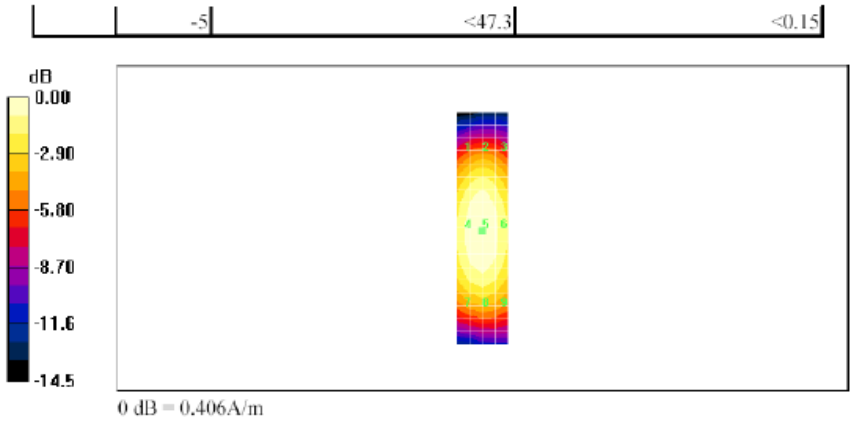
H in A/m (Slot averaged)

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

Page 2 of 2



0 dB = 0.406A/m

file://C:\Program%20Files\DASY4\Print_Templates\HAC_H_Dipole_CW%201880_5%... 14/07/2005

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**

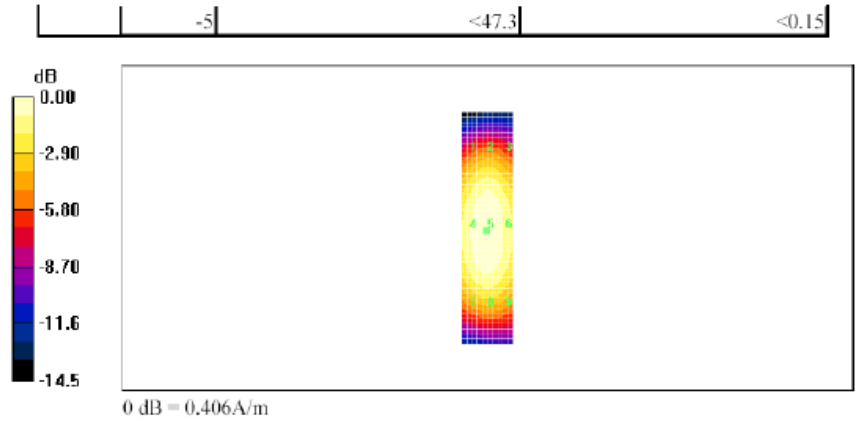
H in A/m (Slot averaged)

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

Page 2 of 2



0 dB = 0.406A/m

Date/Time: 4/20/2010 8:23:50 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM850_low_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

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

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ 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 = 79.0 V/m; Power Drift = -0.050 dB

Maximum value of Total (measured) = 61.0 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 = 178.1 V/m

Probe Modulation Factor = 2.90

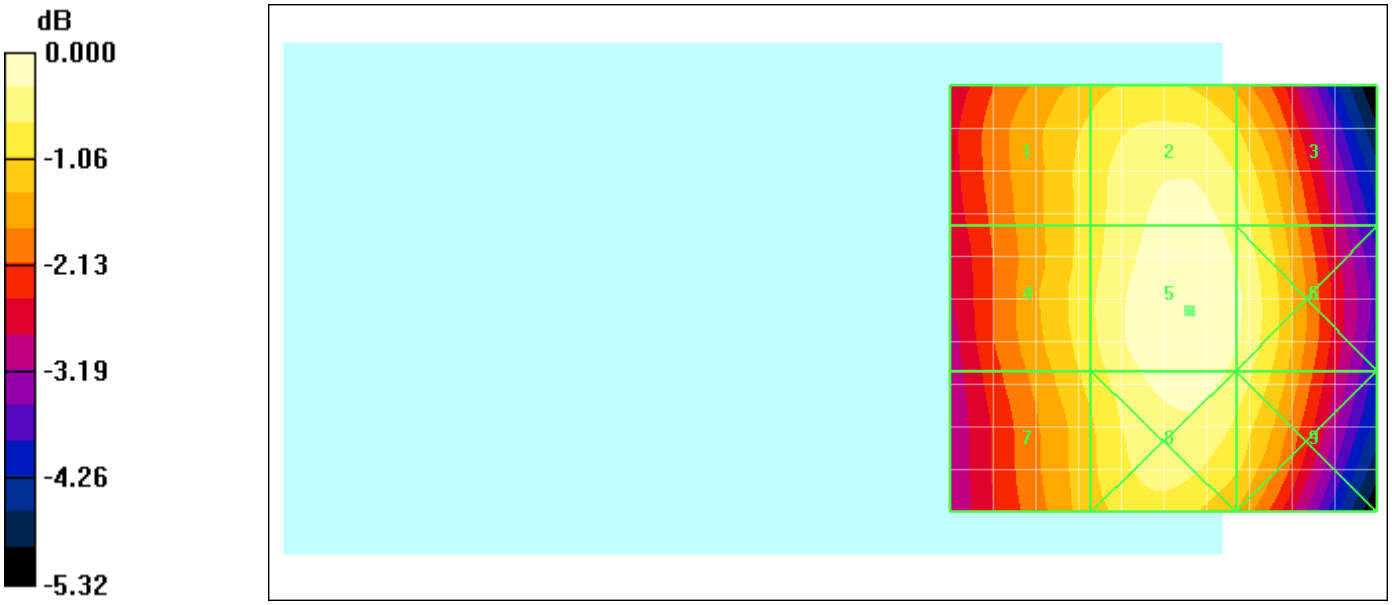
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 79.0 V/m; Power Drift = -0.050 dB

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

Peak E-field in V/m

Grid 1 **161.2 M3**	Grid 2 **174.0 M3**	Grid 3 **168.3 M3**
Grid 4 **163.1 M3**	Grid 5 **178.1 M3**	Grid 6 **172.5 M3**
Grid 7 **160.4 M3**	Grid 8 **174.9 M3**	Grid 9 **169.0 M3**



0 dB = 178.1V/m

Date/Time: 4/20/2010 8:39:16 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM850_mid_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

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 = 91.0 V/m; Power Drift = -0.005 dB

Maximum value of Total (measured) = 71.5 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 208.1 V/m

Probe Modulation Factor = 2.90

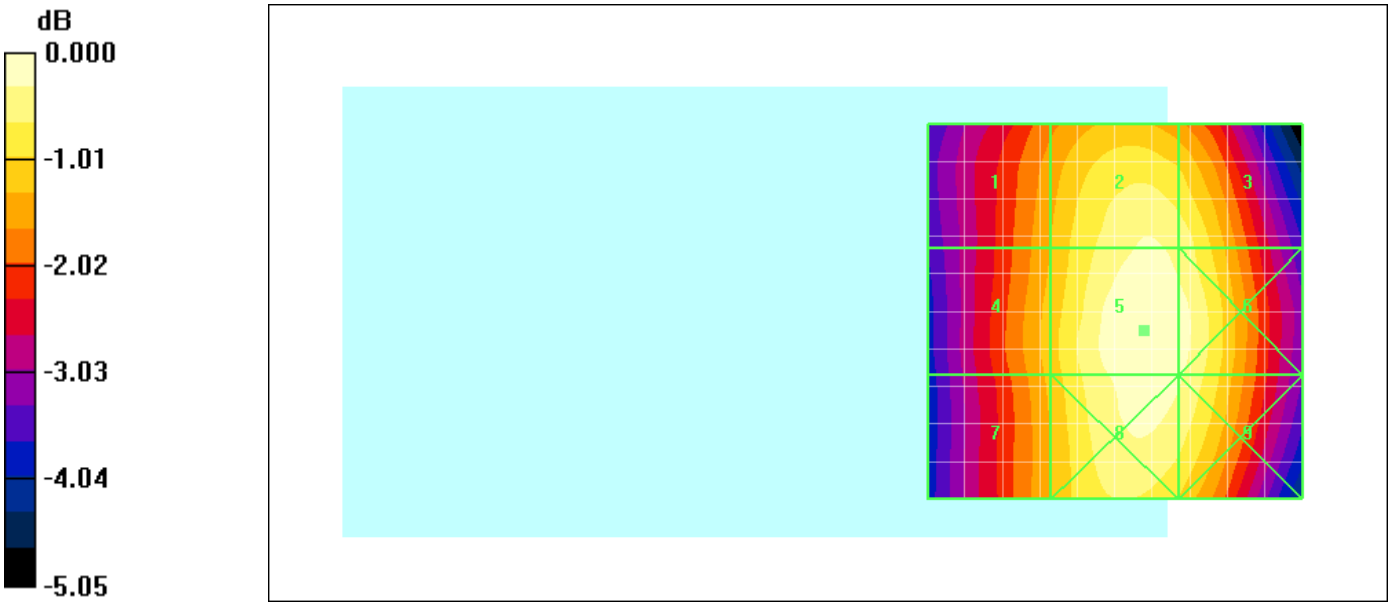
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 91.0 V/m; Power Drift = -0.005 dB

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

Peak E-field in V/m

Grid 1 **178.7 M3**	Grid 2 **201.4 M3**	Grid 3 **197.9 M3**
Grid 4 **182.5 M3**	Grid 5 **208.1 M3**	Grid 6 **204.0 M3**
Grid 7 **180.9 M3**	Grid 8 **205.6 M3**	Grid 9 **201.6 M3**



0 dB = 208.1V/m

Date/Time: 4/20/2010 8:46:53 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM850_high_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

Communication System: GSM 850; Frequency: 848.8 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 = 95.0 V/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 74.5 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 216.2 V/m

Probe Modulation Factor = 2.90

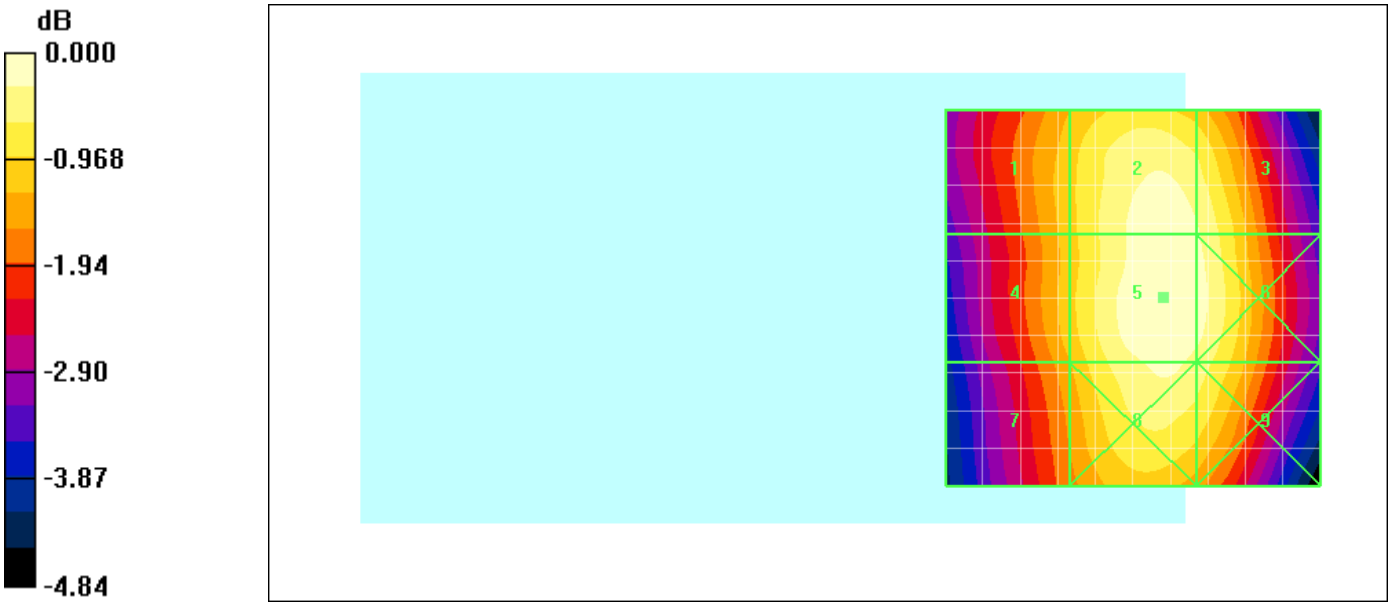
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 95.0 V/m; Power Drift = -0.016 dB

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

Peak E-field in V/m

Grid 1 **191.6 M3**	Grid 2 **213.7 M3**	Grid 3 **209.3 M3**
Grid 4 **191.1 M3**	Grid 5 **216.2 M3**	Grid 6 **212.0 M3**
Grid 7 **186.2 M3**	Grid 8 **210.4 M3**	Grid 9 **205.8 M3**



0 dB = 216.2V/m

Date/Time: 4/20/2010 8:57:26 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM850_high_Chan_Telecoil.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

Communication System: GSM 850; Frequency: 848.8 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 = 93.6 V/m; Power Drift = 0.015 dB

Maximum value of Total (measured) = 73.5 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 213.7 V/m

Probe Modulation Factor = 2.90

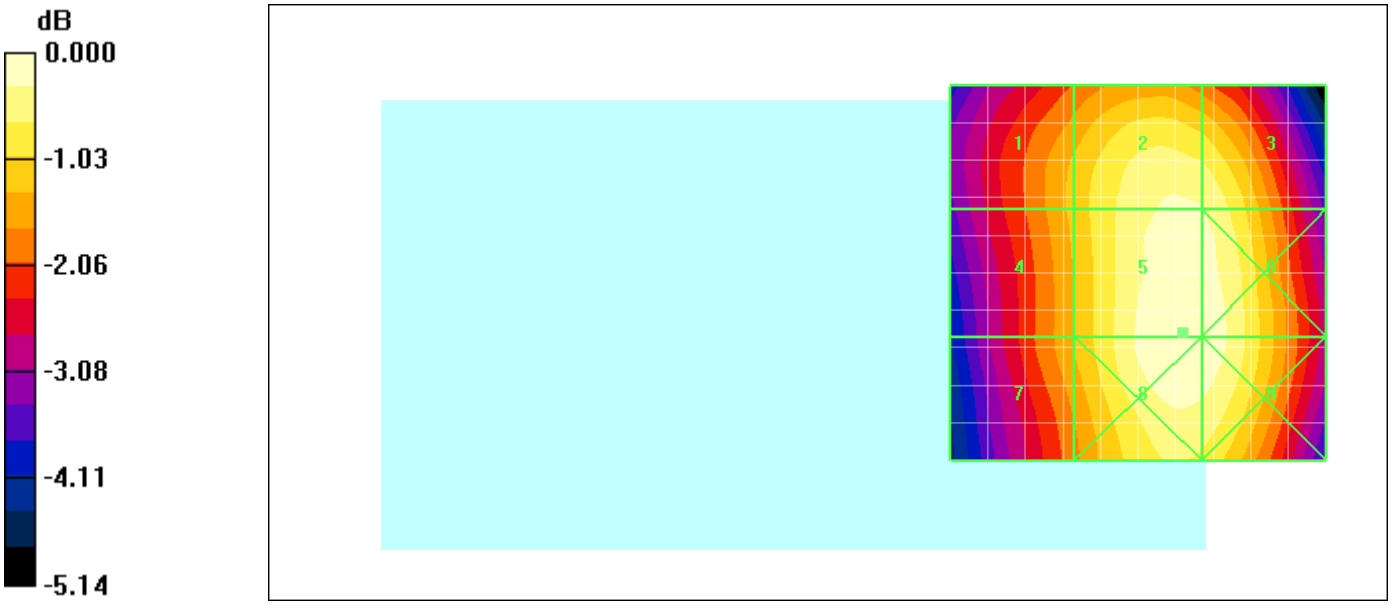
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 93.6 V/m; Power Drift = 0.015 dB

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

Peak E-field in V/m

Grid 1 **185.5 M3**	Grid 2 **207.0 M3**	Grid 3 **205.6 M3**
Grid 4 **185.3 M3**	Grid 5 **213.7 M3**	Grid 6 **212.4 M3**
Grid 7 **183.3 M3**	Grid 8 **213.6 M3**	Grid 9 **212.4 M3**



0 dB = 213.7V/m

Date/Time: 4/20/2010 9:04:34 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM1900_low_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

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

Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ 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 = 0.038 dB

Maximum value of Total (measured) = 24.0 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 = 50.5 V/m

Probe Modulation Factor = 2.77

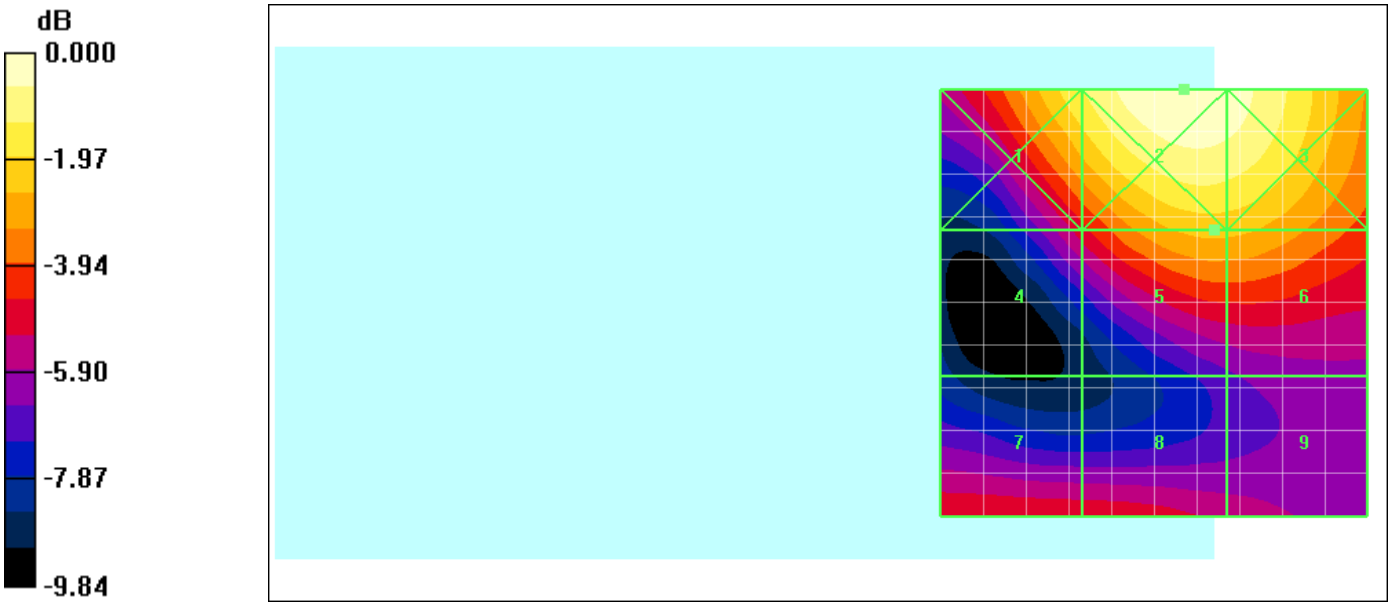
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 14.7 V/m; Power Drift = 0.038 dB

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

Peak E-field in V/m

Grid 1 **57.2 M3**	Grid 2 **66.6 M3**	Grid 3 **64.5 M3**
Grid 4 **38.1 M4**	Grid 5 **50.5 M3**	Grid 6 **50.4 M3**
Grid 7 **39.5 M4**	Grid 8 **39.2 M4**	Grid 9 **36.1 M4**



0 dB = 66.6V/m

Date/Time: 4/20/2010 9:11:42 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM1900_mid_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

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 = 15.4 V/m; Power Drift = 0.044 dB

Maximum value of Total (measured) = 27.9 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 = 59.5 V/m

Probe Modulation Factor = 2.77

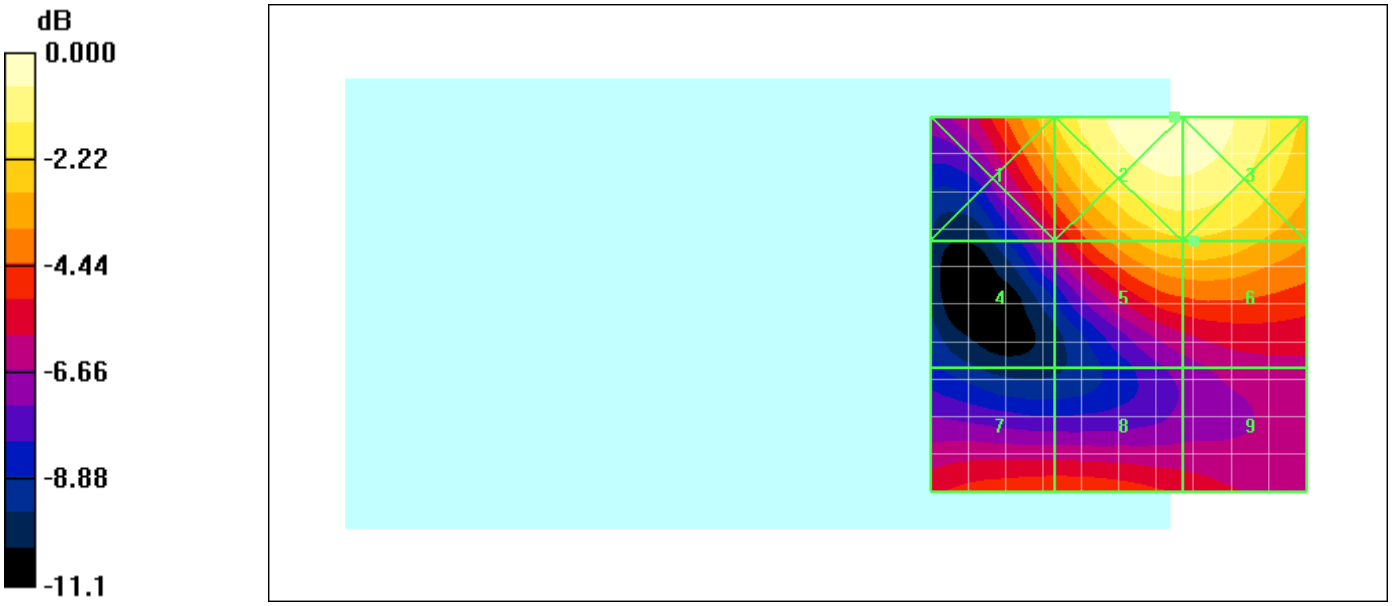
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 15.4 V/m; Power Drift = 0.044 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
60.6 M3	**77.7 M3**	**77.6 M3**
Grid 4	Grid 5	Grid 6
39.1 M4	**59.4 M3**	**59.5 M3**
Grid 7	Grid 8	Grid 9
46.3 M4	**46.4 M4**	**42.4 M4**



0 dB = 77.7V/m

Date/Time: 4/20/2010 9:17:34 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM1900_high_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

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 = 19.4 V/m; Power Drift = -0.079 dB

Maximum value of Total (measured) = 27.5 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 63.5 V/m

Probe Modulation Factor = 2.77

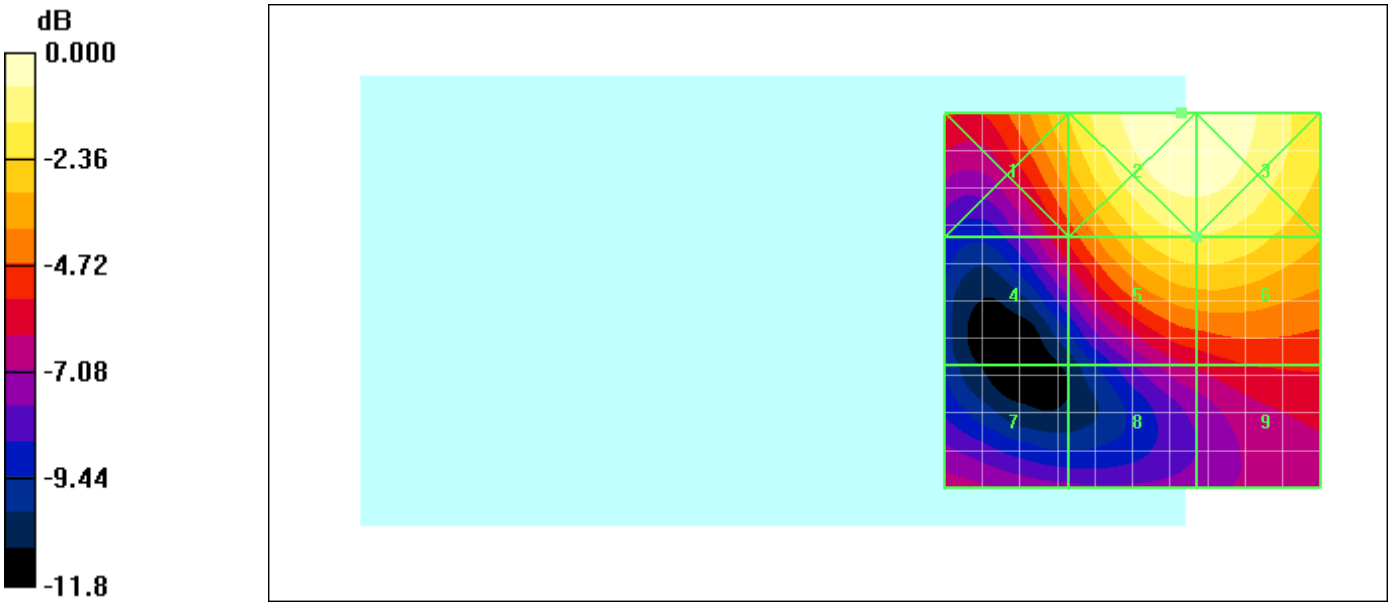
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.4 V/m; Power Drift = -0.079 dB

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

Peak E-field in V/m

Grid 1 **58.7 M3**	Grid 2 **76.5 M3**	Grid 3 **76.1 M3**
Grid 4 **41.9 M4**	Grid 5 **63.5 M3**	Grid 6 **63.5 M3**
Grid 7 **35.7 M4**	Grid 8 **37.9 M4**	Grid 9 **41.3 M4**



0 dB = 76.5V/m

Date/Time: 4/20/2010 9:27:16 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_GSM1900_high_Chan_Telecoil.da4

DUT: BlackBerry Smartphone; Type: Sample

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 = 19.2 V/m; Power Drift = -0.033 dB

Maximum value of Total (measured) = 27.3 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 = 71.3 V/m

Probe Modulation Factor = 2.77

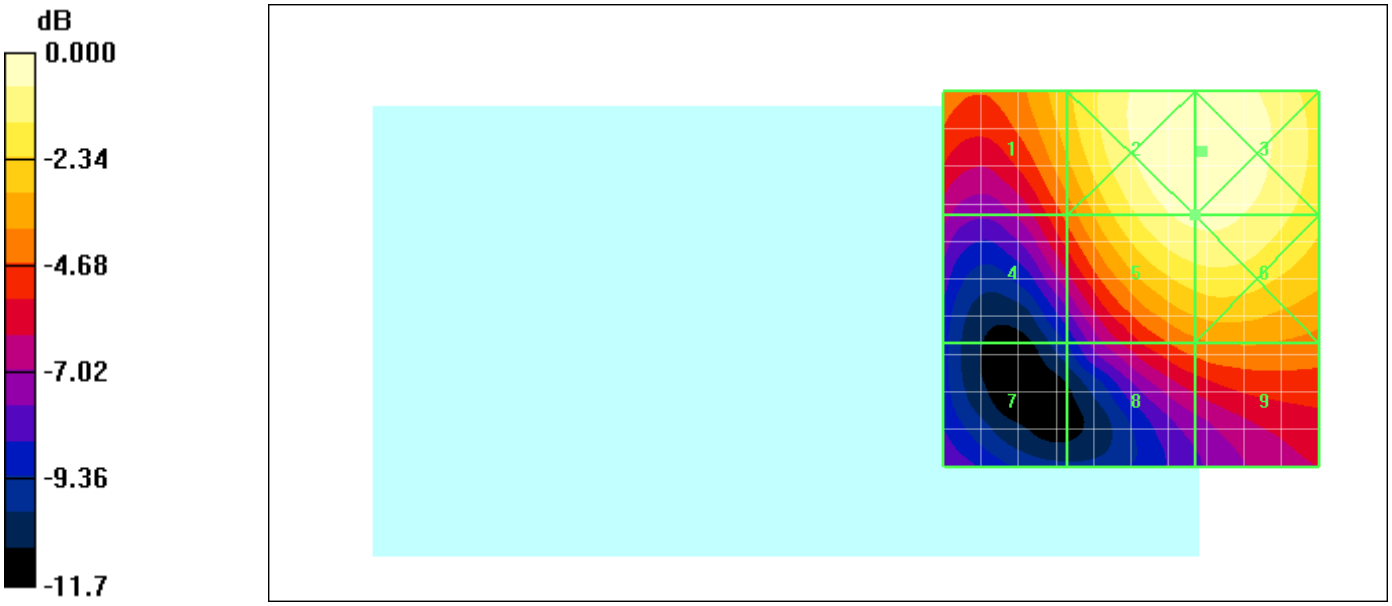
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.2 V/m; Power Drift = -0.033 dB

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

Peak E-field in V/m

Grid 1 **57.0 M3**	Grid 2 **75.9 M3**	Grid 3 **76.0 M3**
Grid 4 **45.7 M4**	Grid 5 **71.3 M3**	Grid 6 **71.6 M3**
Grid 7 **31.2 M4**	Grid 8 **47.4 M3**	Grid 9 **49.0 M3**



0 dB = 76.0V/m

Date/Time: 4/20/2010 9:37:19 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_UMTS_Band_IV_low_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD IV; Frequency: 1712.4 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 - 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 = 27.6 V/m; Power Drift = -0.027 dB

Maximum value of Total (measured) = 36.4 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 = 29.3 V/m

Probe Modulation Factor = 0.970

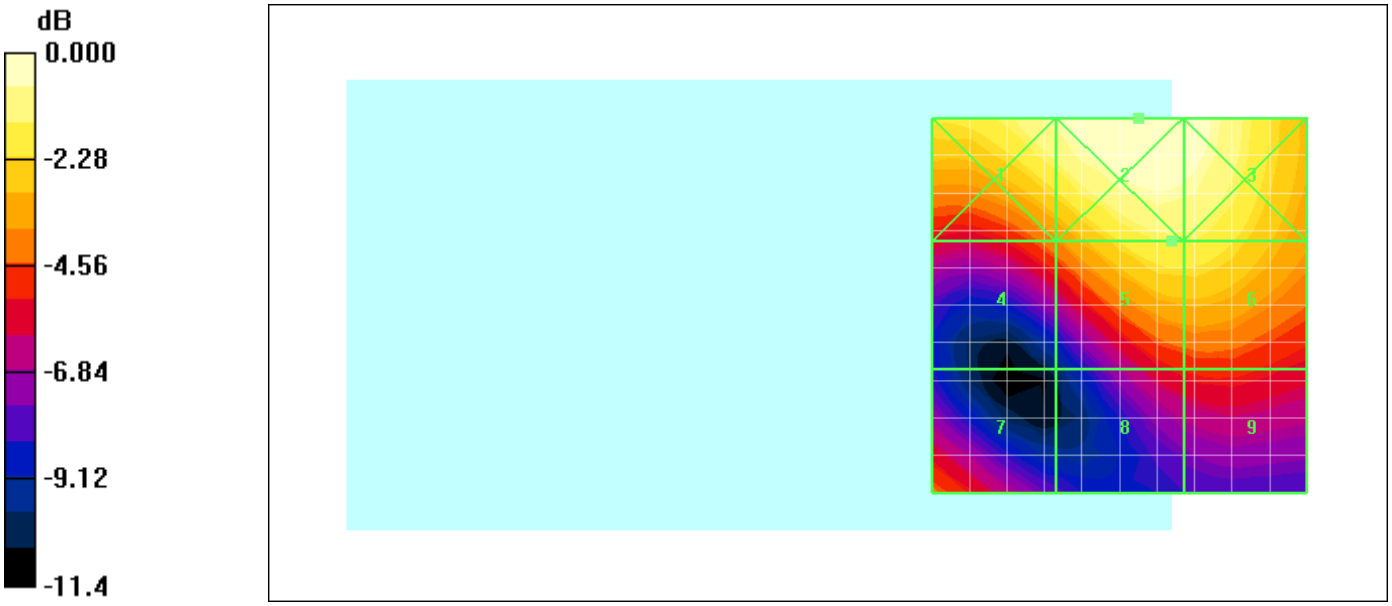
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 27.6 V/m; Power Drift = -0.027 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
32.5 M4	**35.5 M4**	**34.3 M4**
Grid 4	Grid 5	Grid 6
22.4 M4	**29.3 M4**	**29.2 M4**
Grid 7	Grid 8	Grid 9
21.5 M4	**19.4 M4**	**19.9 M4**



0 dB = 35.5V/m

Date/Time: 4/20/2010 9:48:32 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_UMTS_Band_IV_mid_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD IV; Frequency: 1732.6 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 = 22.1 V/m; Power Drift = -0.026 dB

Maximum value of Total (measured) = 34.5 V/m

E Scan - ER3D - 2007: 15 mm from Probe Center to the Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 26.0 V/m

Probe Modulation Factor = 0.970

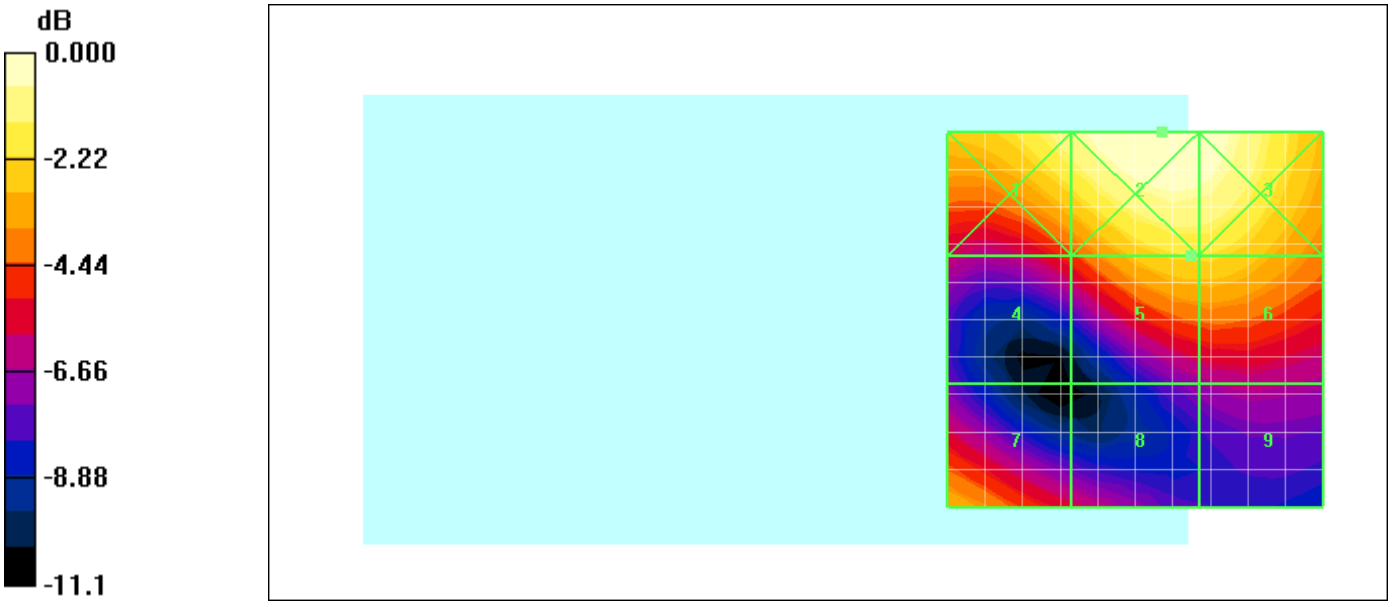
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 22.1 V/m; Power Drift = -0.026 dB

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

Peak E-field in V/m

Grid 1 **29.9 M4**	Grid 2 **33.6 M4**	Grid 3 **32.6 M4**
Grid 4 **19.4 M4**	Grid 5 **26.0 M4**	Grid 6 **26.0 M4**
Grid 7 **23.3 M4**	Grid 8 **17.3 M4**	Grid 9 **16.1 M4**



0 dB = 33.6V/m

Date/Time: 4/20/2010 9:55:57 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_UMTS_Band_IV_high_Chan.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD IV; Frequency: 1752.6 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 = 20.3 V/m; Power Drift = 0.135 dB

Maximum value of Total (measured) = 33.4 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 = 25.0 V/m

Probe Modulation Factor = 0.970

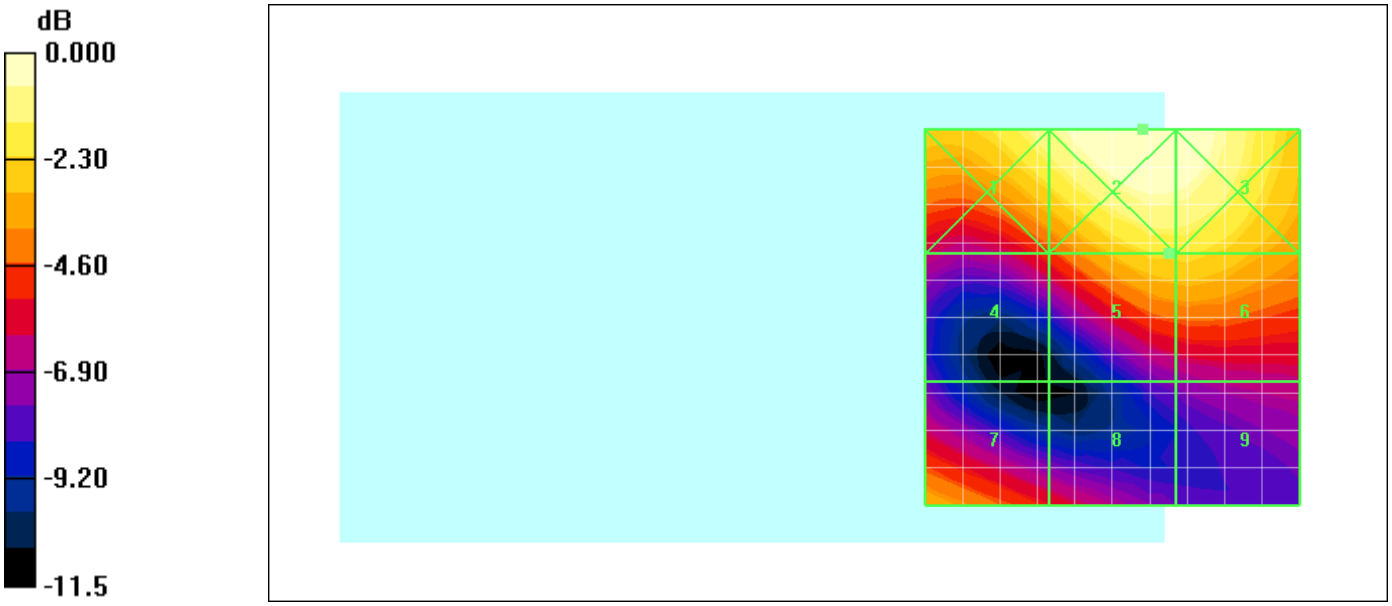
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 20.3 V/m; Power Drift = 0.135 dB

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

Peak E-field in V/m

Grid 1	Grid 2	Grid 3
28.6 M4	**32.4 M4**	**31.9 M4**
Grid 4	Grid 5	Grid 6
18.2 M4	**25.0 M4**	**25.0 M4**
Grid 7	Grid 8	Grid 9
22.1 M4	**17.2 M4**	**15.4 M4**



0 dB = 32.4V/m

Date/Time: 4/20/2010 10:04:44 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_E_UMTS_Band_IV_low_Chan_Telecoil.da4

DUT: BlackBerry Smartphone; Type: Sample

Program Name: HAC RF ER3D Device

Communication System: WCDMA FDD IV; Frequency: 1712.4 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 = 26.7 V/m; Power Drift = -0.018 dB

Maximum value of Total (measured) = 35.6 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 = 31.0 V/m

Probe Modulation Factor = 0.970

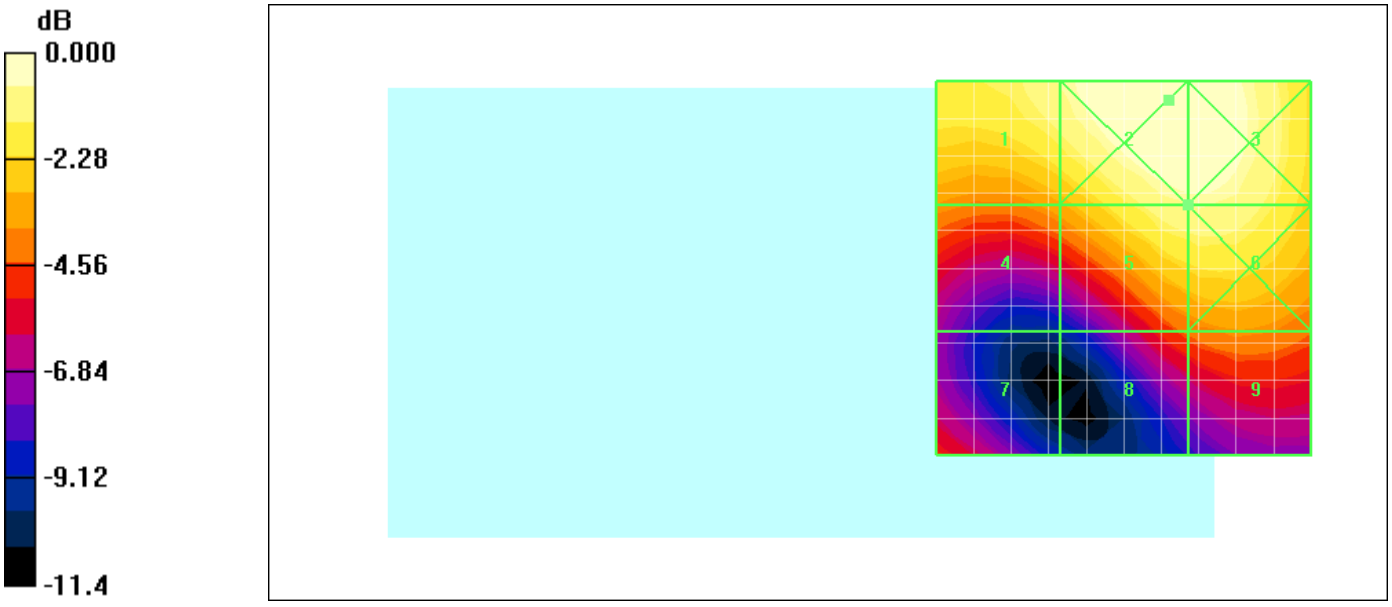
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 26.7 V/m; Power Drift = -0.018 dB

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

Peak E-field in V/m

Grid 1 **30.9 M4**	Grid 2 **34.6 M4**	Grid 3 **34.5 M4**
Grid 4 **23.5 M4**	Grid 5 **31.0 M4**	Grid 6 **31.1 M4**
Grid 7 **19.2 M4**	Grid 8 **20.8 M4**	Grid 9 **22.2 M4**



0 dB = 34.6V/m

Date/Time: 4/20/2010 10:30:29 PM

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 = 0.069 A/m; Power Drift = -0.081 dB

Maximum value of Total (measured) = 0.131 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 = 0.351 A/m

Probe Modulation Factor = 2.77

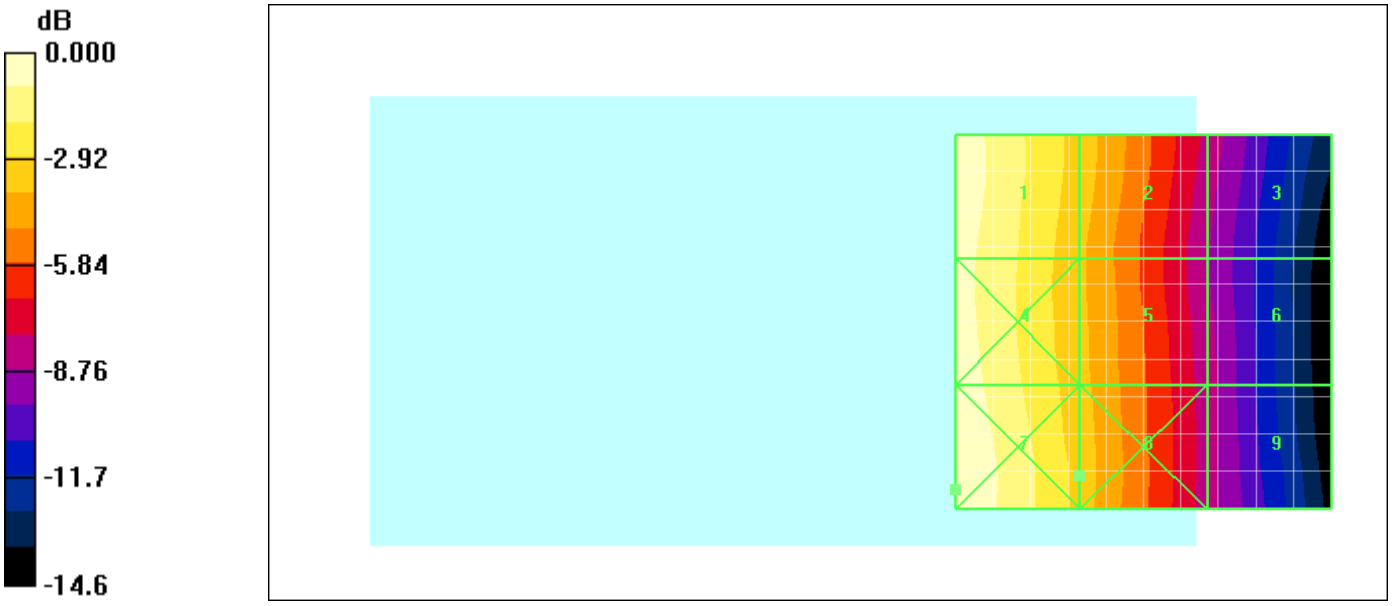
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.069 A/m; Power Drift = -0.081 dB

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

Peak H-field in A/m

Grid 1 **0.351 M4**	Grid 2 **0.248 M4**	Grid 3 **0.145 M4**
Grid 4 **0.349 M4**	Grid 5 **0.243 M4**	Grid 6 **0.140 M4**
Grid 7 **0.364 M4**	Grid 8 **0.249 M4**	Grid 9 **0.141 M4**



0 dB = 0.364A/m

Date/Time: 4/20/2010 10:39:04 PM

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: 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 = 0.079 A/m; Power Drift = -0.034 dB

Maximum value of Total (measured) = 0.151 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 = 0.408 A/m

Probe Modulation Factor = 2.77

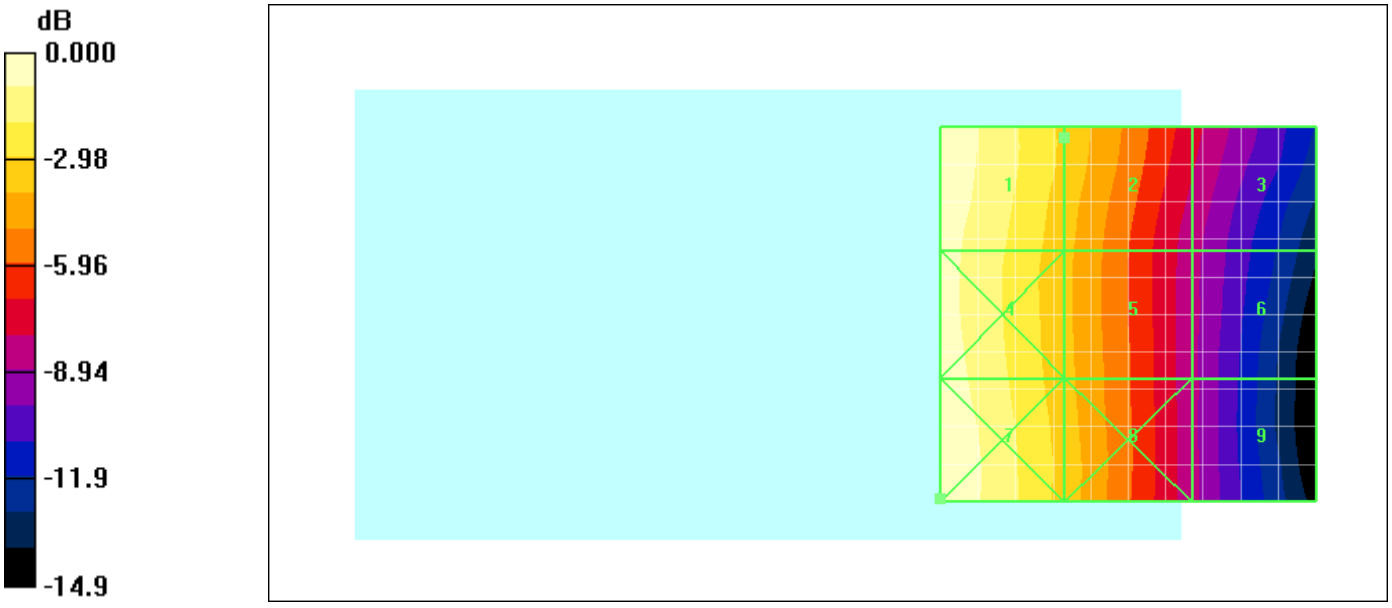
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.079 A/m; Power Drift = -0.034 dB

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

Peak H-field in A/m

Grid 1 **0.408 M4**	Grid 2 **0.290 M4**	Grid 3 **0.176 M4**
Grid 4 **0.400 M4**	Grid 5 **0.276 M4**	Grid 6 **0.157 M4**
Grid 7 **0.419 M4**	Grid 8 **0.285 M4**	Grid 9 **0.156 M4**



0 dB = 0.419A/m

Date/Time: 4/20/2010 10:46:31 PM

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 = 0.102 A/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 0.183 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 = 0.463 A/m

Probe Modulation Factor = 2.77

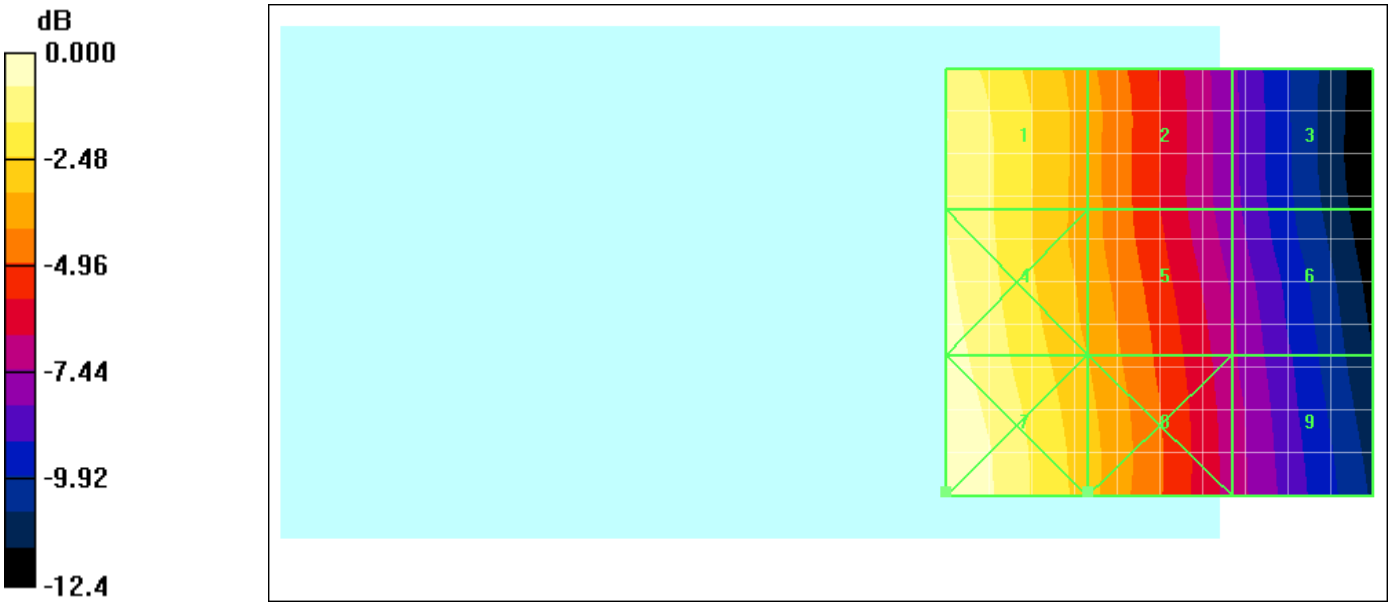
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.102 A/m; Power Drift = -0.016 dB

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

Peak H-field in A/m

Grid 1 **0.463 M3**	Grid 2 **0.330 M4**	Grid 3 **0.203 M4**
Grid 4 **0.481 M3**	Grid 5 **0.347 M4**	Grid 6 **0.220 M4**
Grid 7 **0.507 M3**	Grid 8 **0.362 M4**	Grid 9 **0.227 M4**



0 dB = 0.507A/m

Date/Time: 4/20/2010 10:53:58 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_H_GSM_850_high_chan_Telecoil.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: 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 = 0.101 A/m; Power Drift = 0.068 dB

Maximum value of Total (measured) = 0.185 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 = 0.468 A/m

Probe Modulation Factor = 2.77

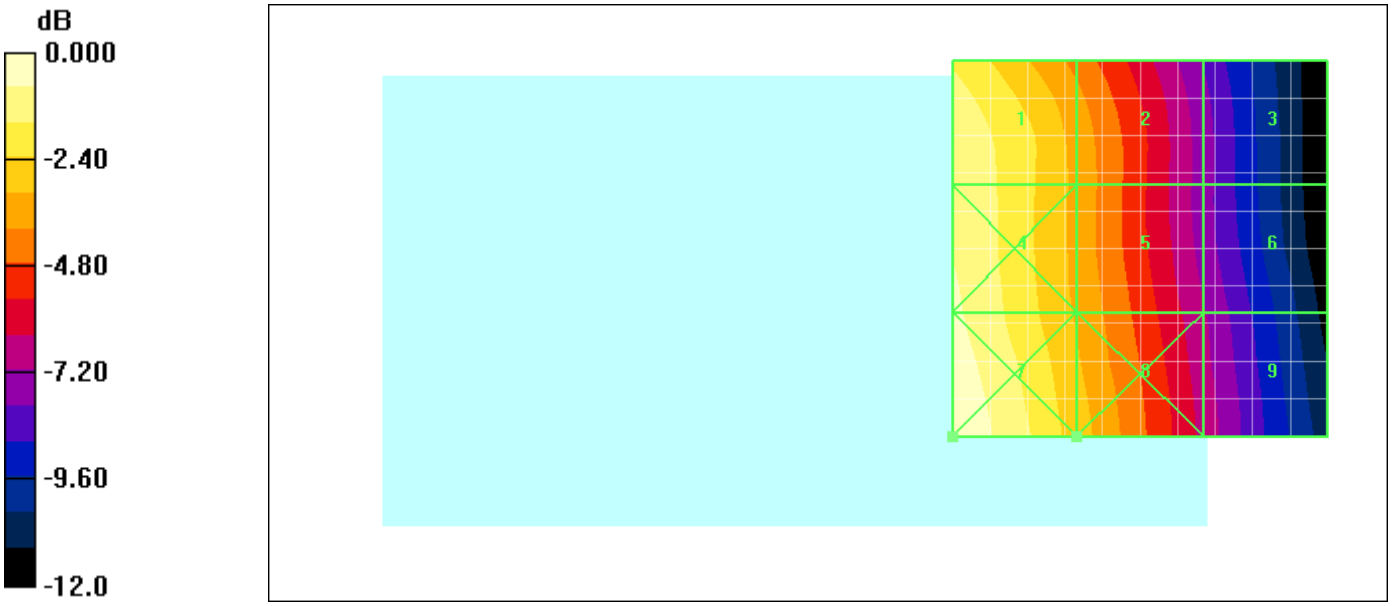
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.101 A/m; Power Drift = 0.068 dB

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

Peak H-field in A/m

Grid 1 **0.468 M3**	Grid 2 **0.346 M4**	Grid 3 **0.213 M4**
Grid 4 **0.476 M3**	Grid 5 **0.351 M4**	Grid 6 **0.226 M4**
Grid 7 **0.512 M3**	Grid 8 **0.372 M4**	Grid 9 **0.238 M4**



0 dB = 0.512A/m

Date/Time: 4/20/2010 11:02:00 PM

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 = 0.065 A/m; Power Drift = 0.154 dB

Maximum value of Total (measured) = 0.081 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 = 2.54

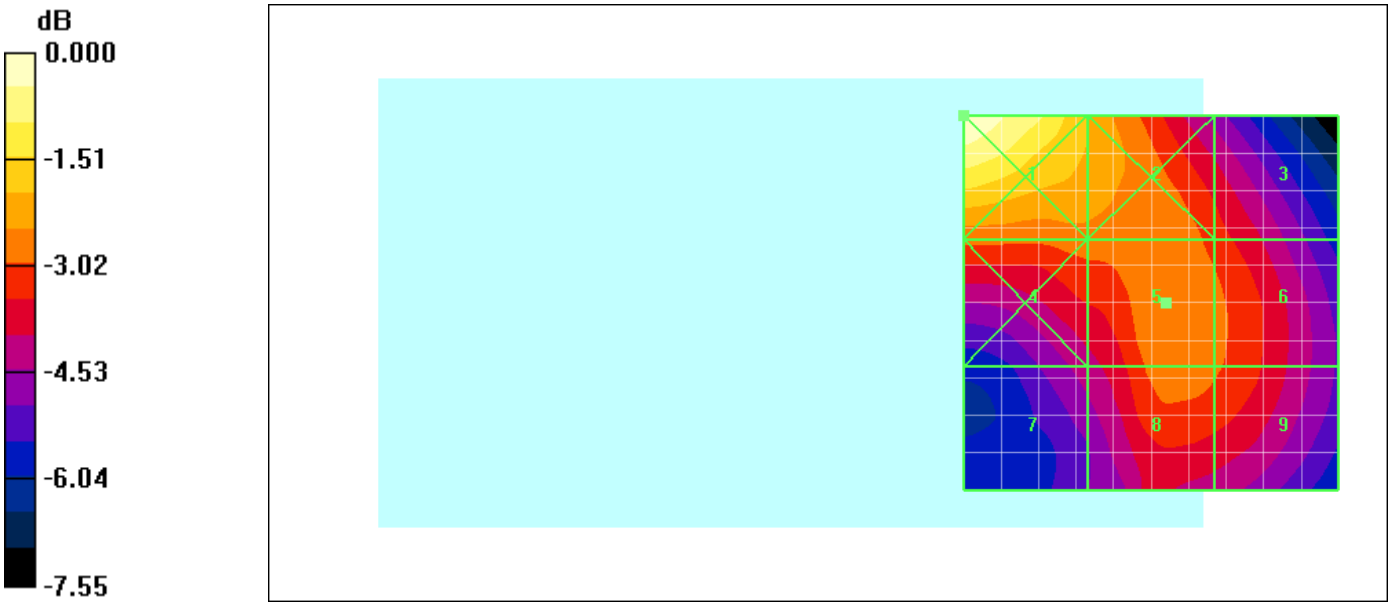
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.065 A/m; Power Drift = 0.154 dB

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

Peak H-field in A/m

Grid 1 **0.206 M3**	Grid 2 **0.164 M3**	Grid 3 **0.142 M3**
Grid 4 **0.151 M3**	Grid 5 **0.154 M3**	Grid 6 **0.149 M3**
Grid 7 **0.127 M4**	Grid 8 **0.151 M3**	Grid 9 **0.147 M3**



0 dB = 0.206A/m

Date/Time: 4/20/2010 11:08:14 PM

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 = 0.073 A/m; Power Drift = 0.177 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 = 0.172 A/m

Probe Modulation Factor = 2.54

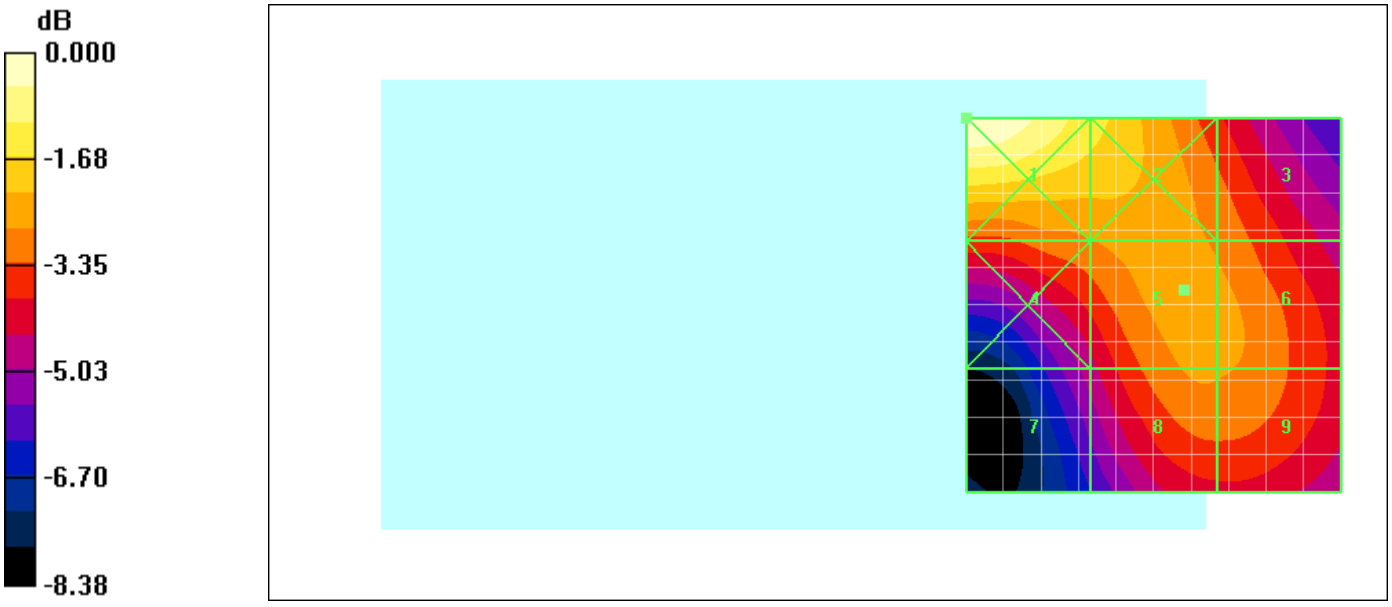
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.073 A/m; Power Drift = 0.177 dB

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

Peak H-field in A/m

Grid 1 **0.229 M3**	Grid 2 **0.194 M3**	Grid 3 **0.164 M3**
Grid 4 **0.165 M3**	Grid 5 **0.172 M3**	Grid 6 **0.170 M3**
Grid 7 **0.134 M4**	Grid 8 **0.168 M3**	Grid 9 **0.168 M3**



0 dB = 0.229A/m

Date/Time: 4/20/2010 11:15:09 PM

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 = 0.071 A/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 0.094 A/m

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

Maximum value of peak Total field = 0.165 A/m

Probe Modulation Factor = 2.54

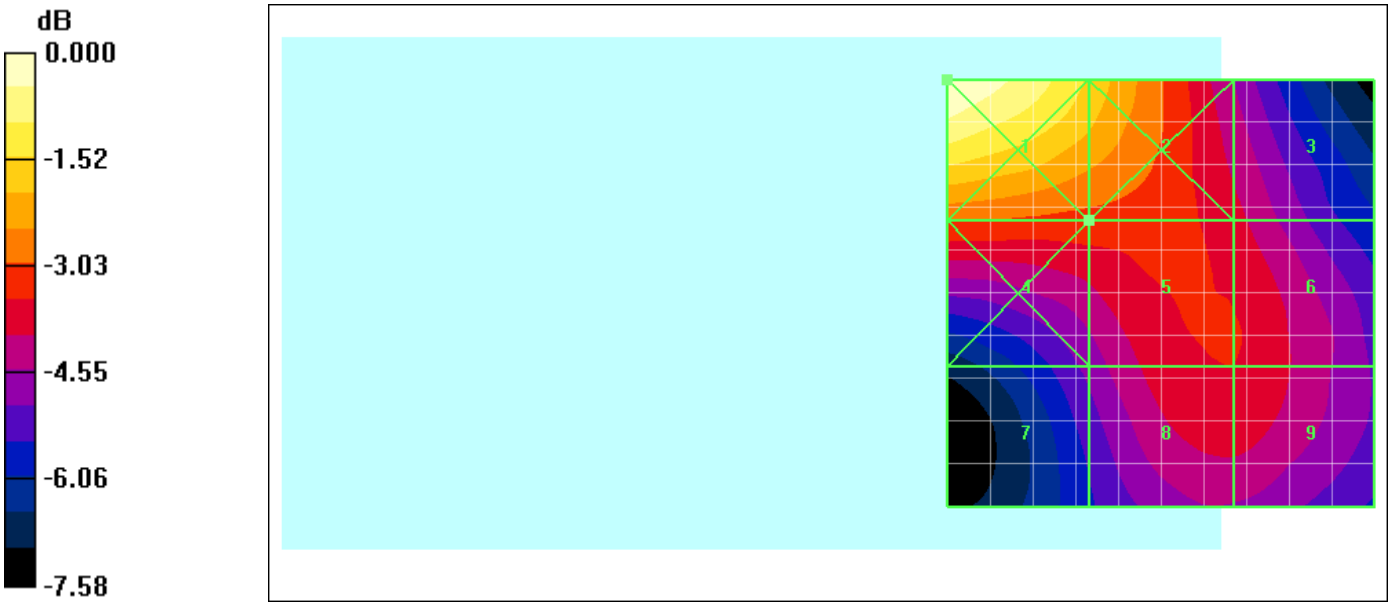
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.071 A/m; Power Drift = -0.016 dB

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

Peak H-field in A/m

Grid 1 **0.238 M3**	Grid 2 **0.198 M3**	Grid 3 **0.153 M3**
Grid 4 **0.169 M3**	Grid 5 **0.165 M3**	Grid 6 **0.159 M3**
Grid 7 **0.136 M4**	Grid 8 **0.159 M3**	Grid 9 **0.159 M3**



0 dB = 0.238A/m

Date/Time: 4/20/2010 11:23:06 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_H_GSM_1900_mid_chan_Telecoil.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 = 0.073 A/m; Power Drift = -0.061 dB

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

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

Maximum value of peak Total field = 0.176 A/m

Probe Modulation Factor = 2.54

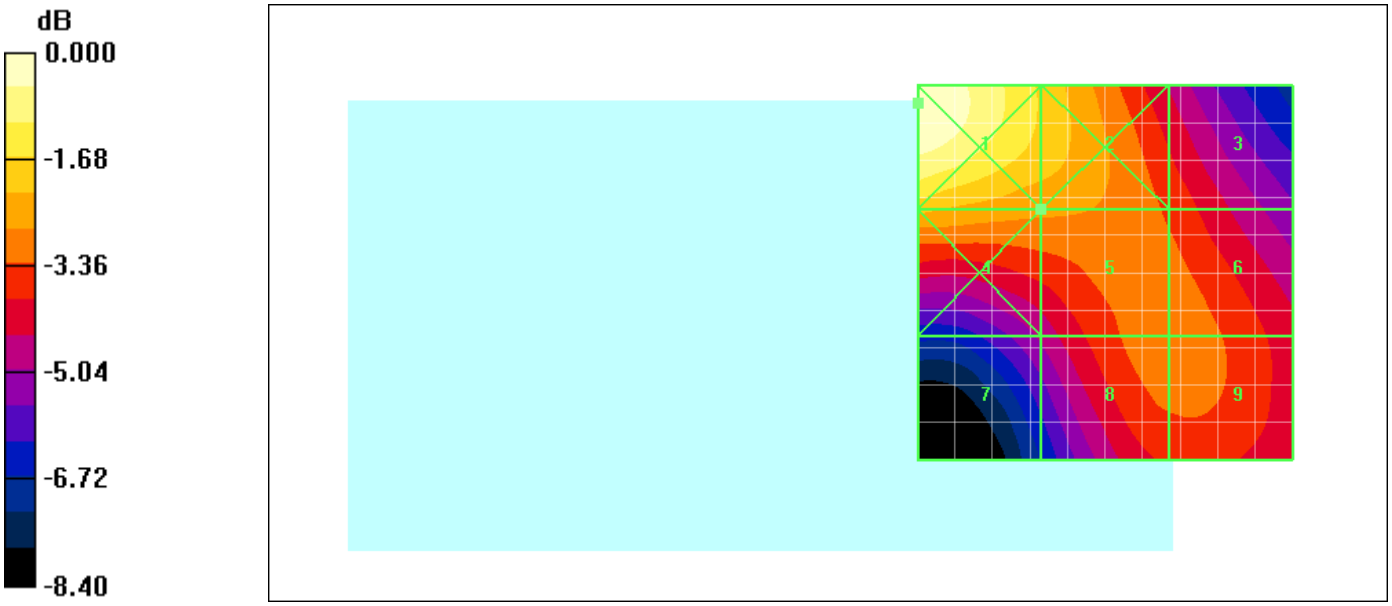
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.073 A/m; Power Drift = -0.061 dB

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

Peak H-field in A/m

Grid 1 **0.239 M3**	Grid 2 **0.196 M3**	Grid 3 **0.161 M3**
Grid 4 **0.189 M3**	Grid 5 **0.176 M3**	Grid 6 **0.169 M3**
Grid 7 **0.136 M4**	Grid 8 **0.169 M3**	Grid 9 **0.169 M3**



0 dB = 0.239A/m

Date/Time: 4/20/2010 11:31:47 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_H_UMTS_Band_IV_low_chan.da4

DUT: BlackBerry Smartphone

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD IV; Frequency: 1712.4 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 = 0.101 A/m; Power Drift = -0.100 dB

Maximum value of Total (measured) = 0.125 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 = 0.098 A/m

Probe Modulation Factor = 0.960

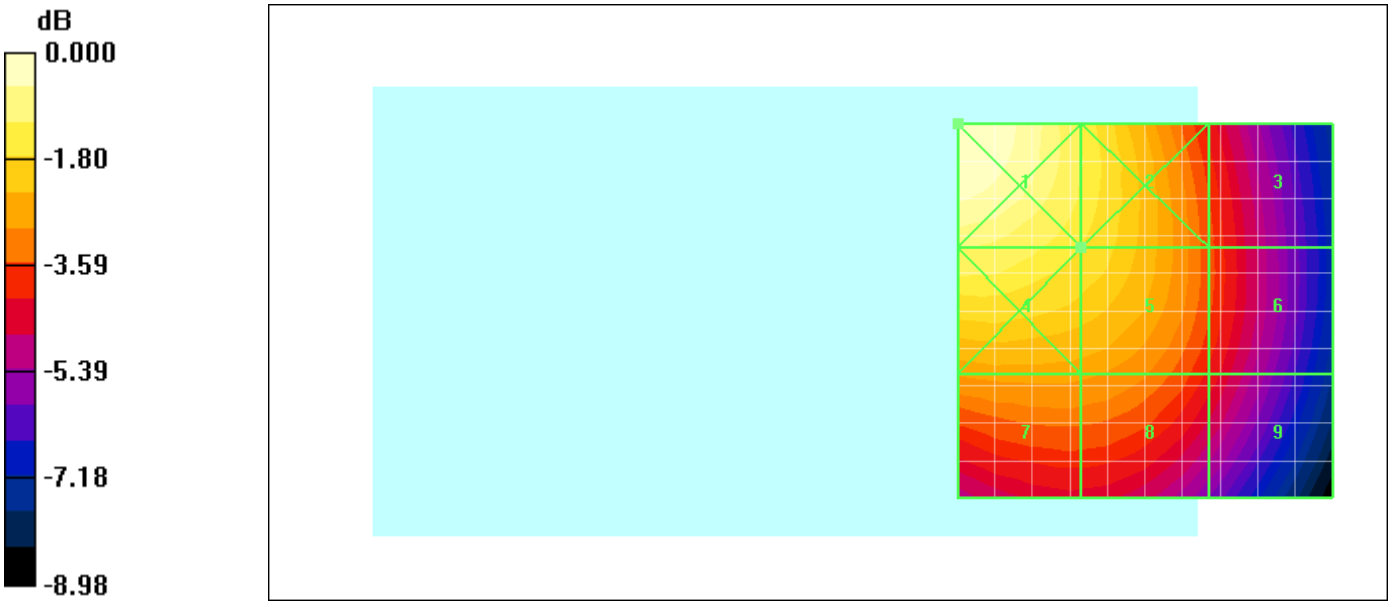
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.101 A/m; Power Drift = -0.100 dB

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

Peak H-field in A/m

Grid 1 **0.120 M4**	Grid 2 **0.101 M4**	Grid 3 **0.078 M4**
Grid 4 **0.105 M4**	Grid 5 **0.098 M4**	Grid 6 **0.078 M4**
Grid 7 **0.086 M4**	Grid 8 **0.086 M4**	Grid 9 **0.073 M4**



0 dB = 0.120A/m

Date/Time: 4/20/2010 11:39:04 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_H_UMTS_Band_IV_mid_chan.da4

DUT: BlackBerry Smartphone

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD IV; Frequency: 1732.6 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 = 0.102 A/m; Power Drift = -0.035 dB

Maximum value of Total (measured) = 0.116 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 = 0.094 A/m

Probe Modulation Factor = 0.960

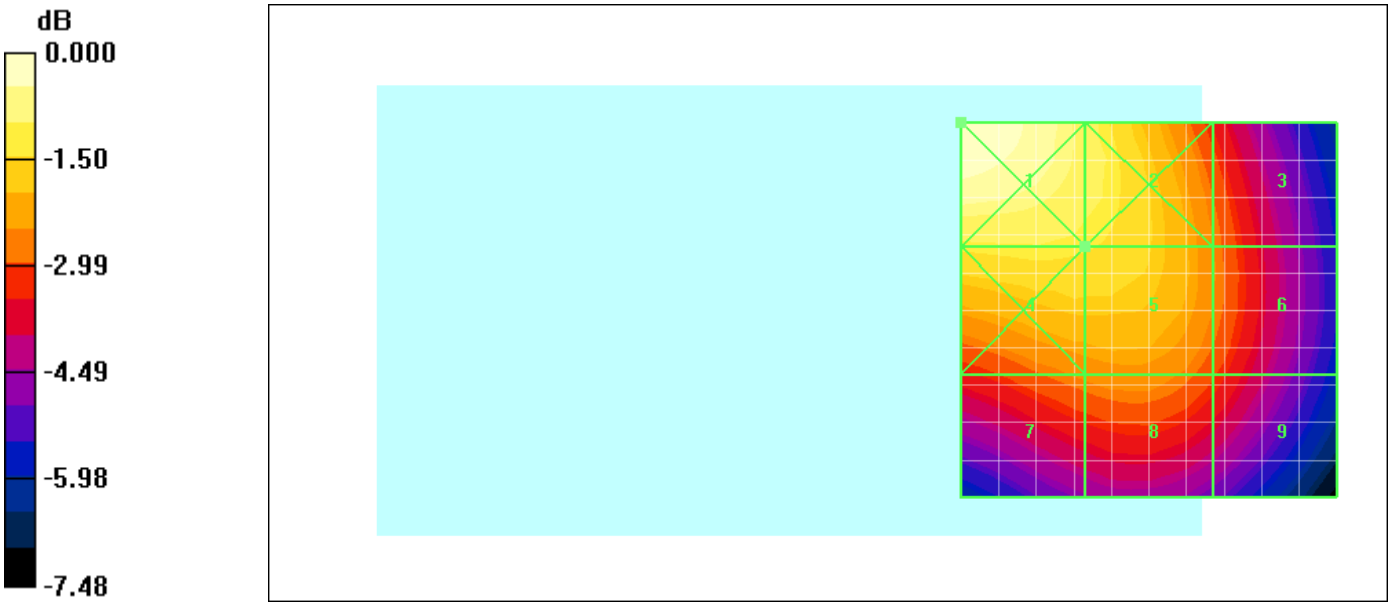
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.102 A/m; Power Drift = -0.035 dB

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

Peak H-field in A/m

Grid 1 **0.111 M4**	Grid 2 **0.098 M4**	Grid 3 **0.081 M4**
Grid 4 **0.095 M4**	Grid 5 **0.094 M4**	Grid 6 **0.081 M4**
Grid 7 **0.081 M4**	Grid 8 **0.082 M4**	Grid 9 **0.076 M4**



0 dB = 0.111A/m

Date/Time: 4/20/2010 11:45:21 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_H_UMTS_Band_IV_high_chan.da4

DUT: BlackBerry Smartphone

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD IV; Frequency: 1752.6 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 = 0.097 A/m; Power Drift = 0.008 dB

Maximum value of Total (measured) = 0.108 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 = 0.088 A/m

Probe Modulation Factor = 0.960

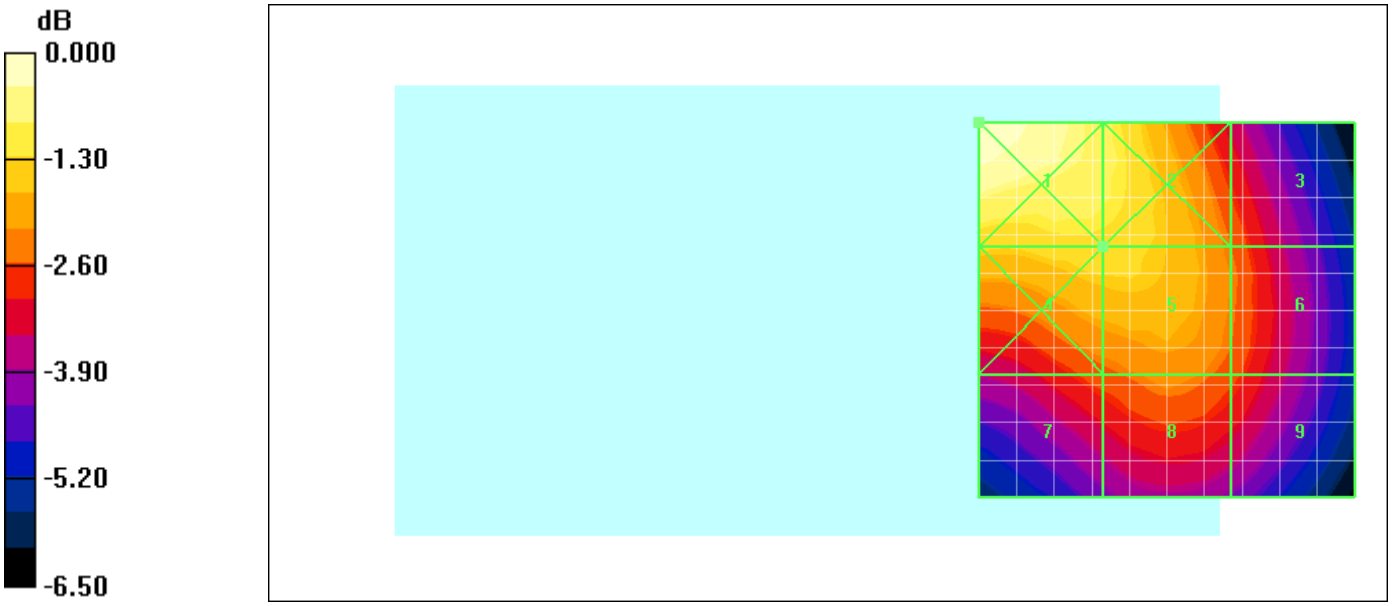
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.097 A/m; Power Drift = 0.008 dB

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

Peak H-field in A/m

Grid 1 **0.104 M4**	Grid 2 **0.092 M4**	Grid 3 **0.077 M4**
Grid 4 **0.089 M4**	Grid 5 **0.088 M4**	Grid 6 **0.078 M4**
Grid 7 **0.076 M4**	Grid 8 **0.079 M4**	Grid 9 **0.075 M4**



0 dB = 0.104A/m

Date/Time: 4/20/2010 11:52:53 PM

Test Laboratory: RIM TESTING SERVICES

File Name: HAC_H_UMTS_Band_IV_low_chan_Telecoil.da4

DUT: BlackBerry Smartphone

Program Name: HAC RF H3DV6 Device

Communication System: WCDMA FDD IV; Frequency: 1712.4 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 = 0.098 A/m; Power Drift = 0.062 dB

Maximum value of Total (measured) = 0.125 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 = 0.103 A/m

Probe Modulation Factor = 0.960

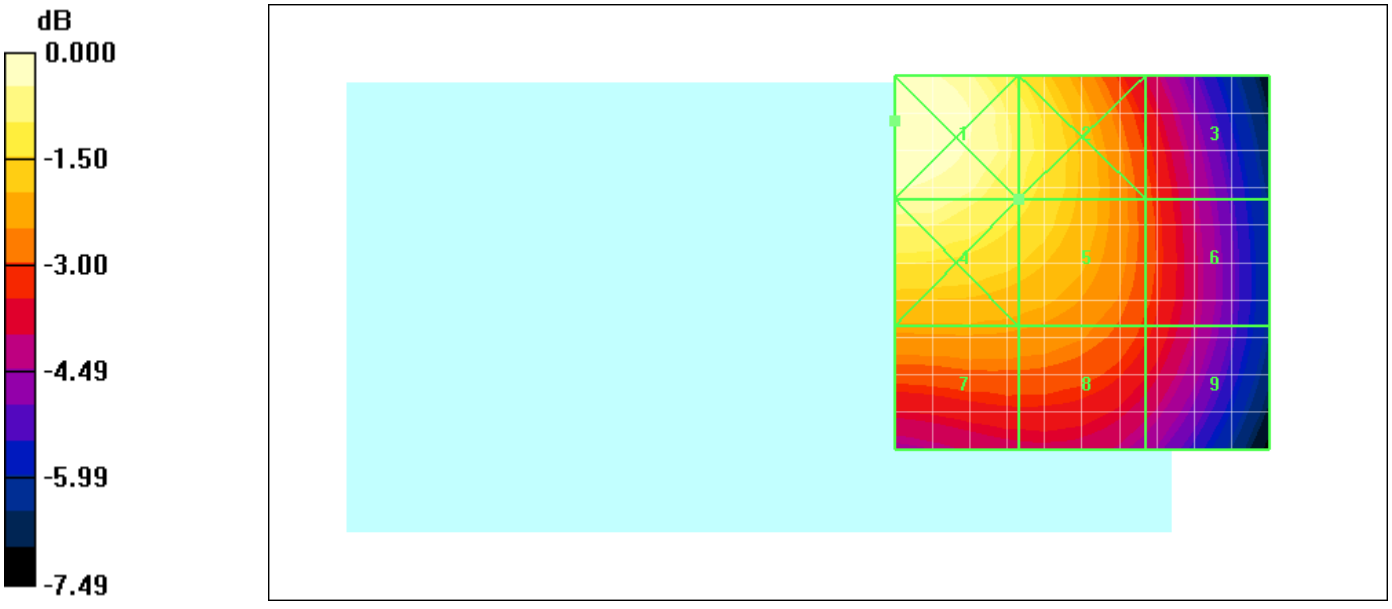
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.098 A/m; Power Drift = 0.062 dB

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

Peak H-field in A/m

Grid 1 **0.120 M4**	Grid 2 **0.106 M4**	Grid 3 **0.083 M4**
Grid 4 **0.112 M4**	Grid 5 **0.103 M4**	Grid 6 **0.084 M4**
Grid 7 **0.091 M4**	Grid 8 **0.091 M4**	Grid 9 **0.081 M4**



0 dB = 0.120A/m