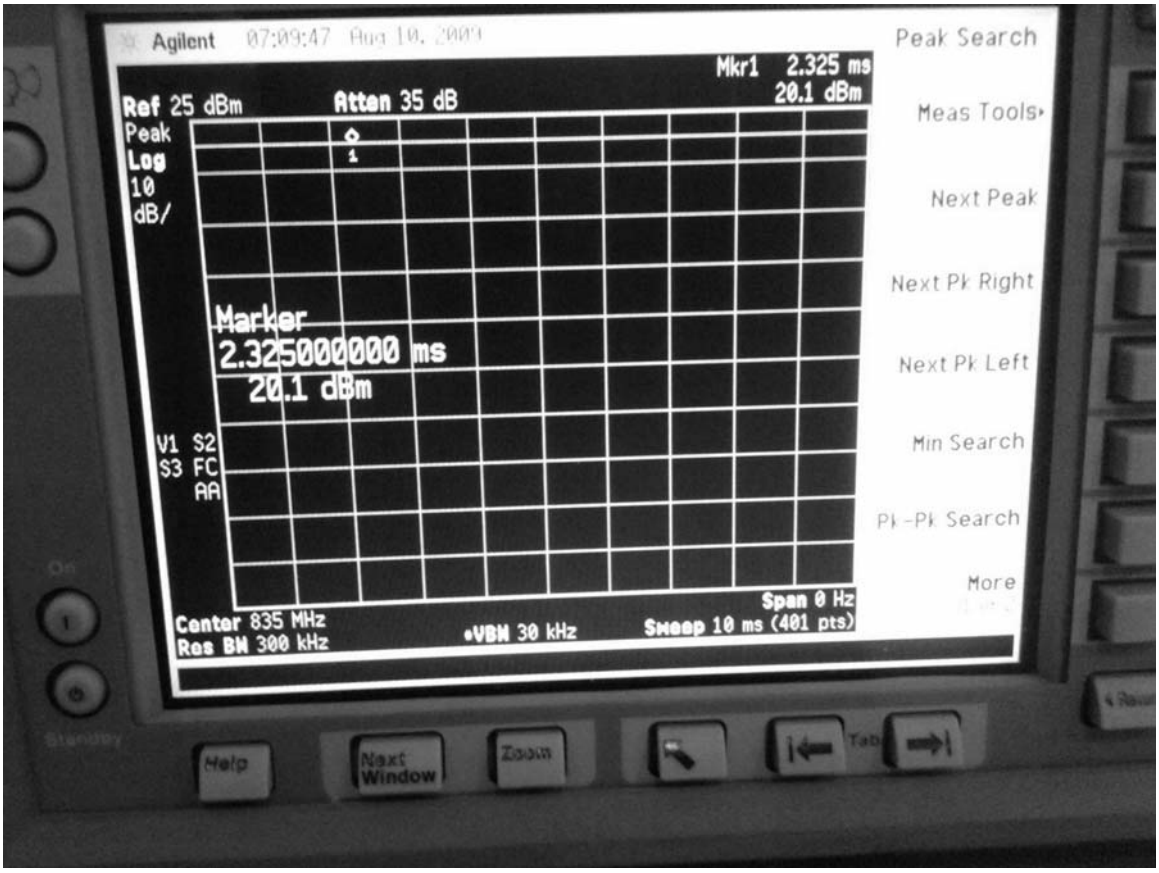
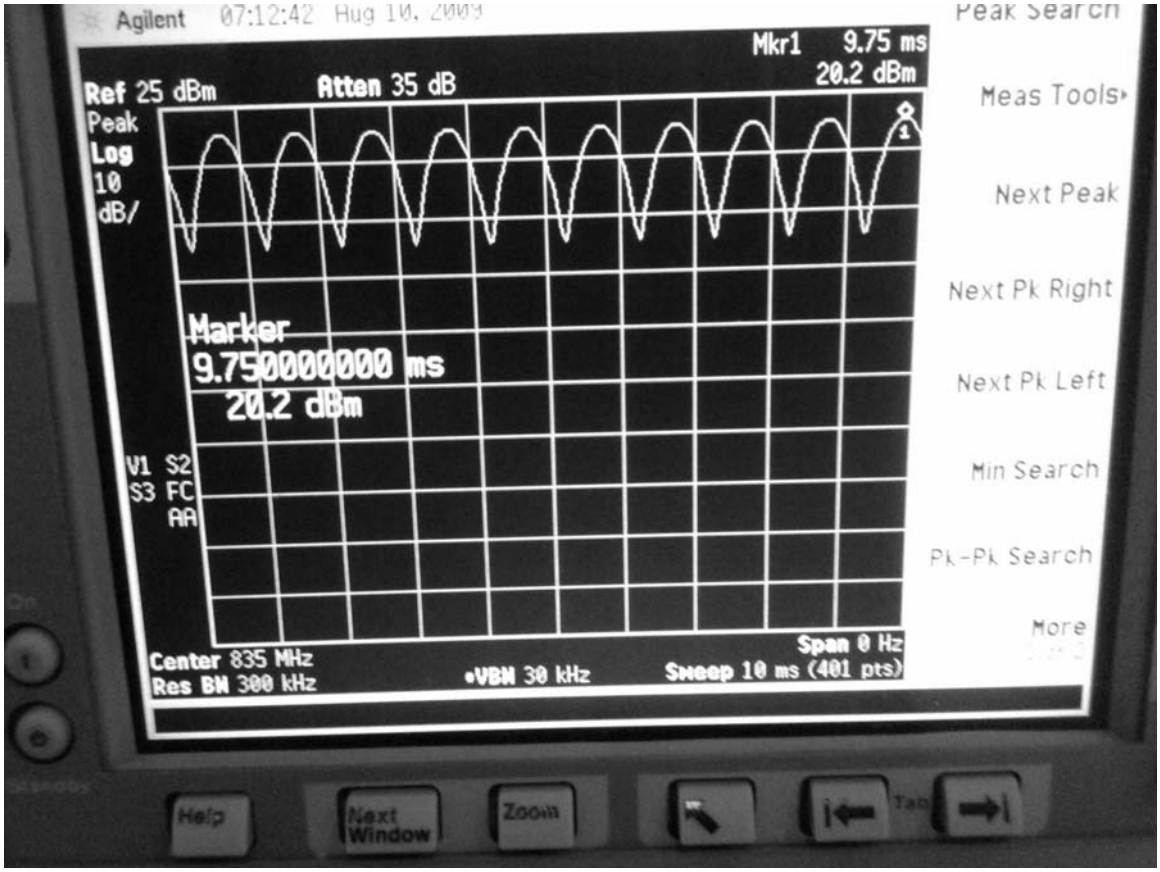
Annex A: Measurement data and plots

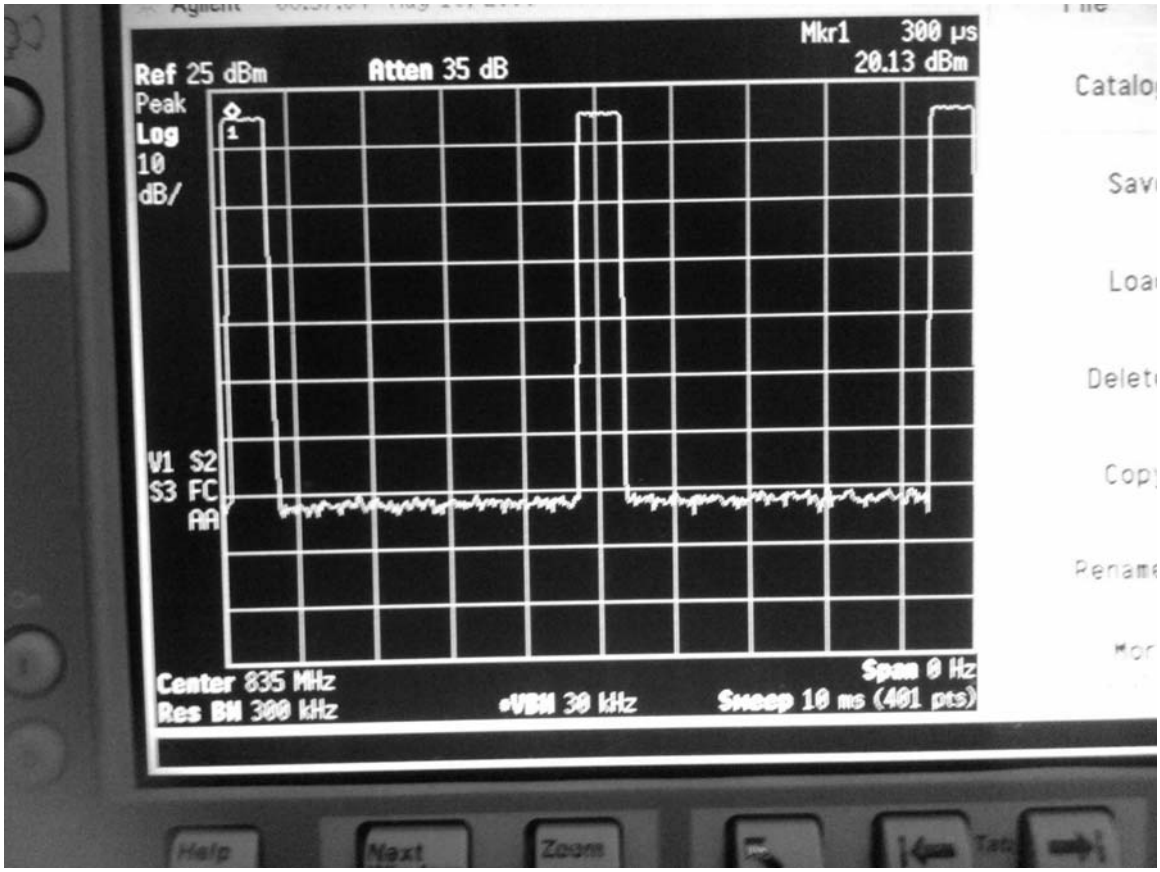
A.1 Spectrum analyser plots: CW, 80%AM, GSM and CDMA signals



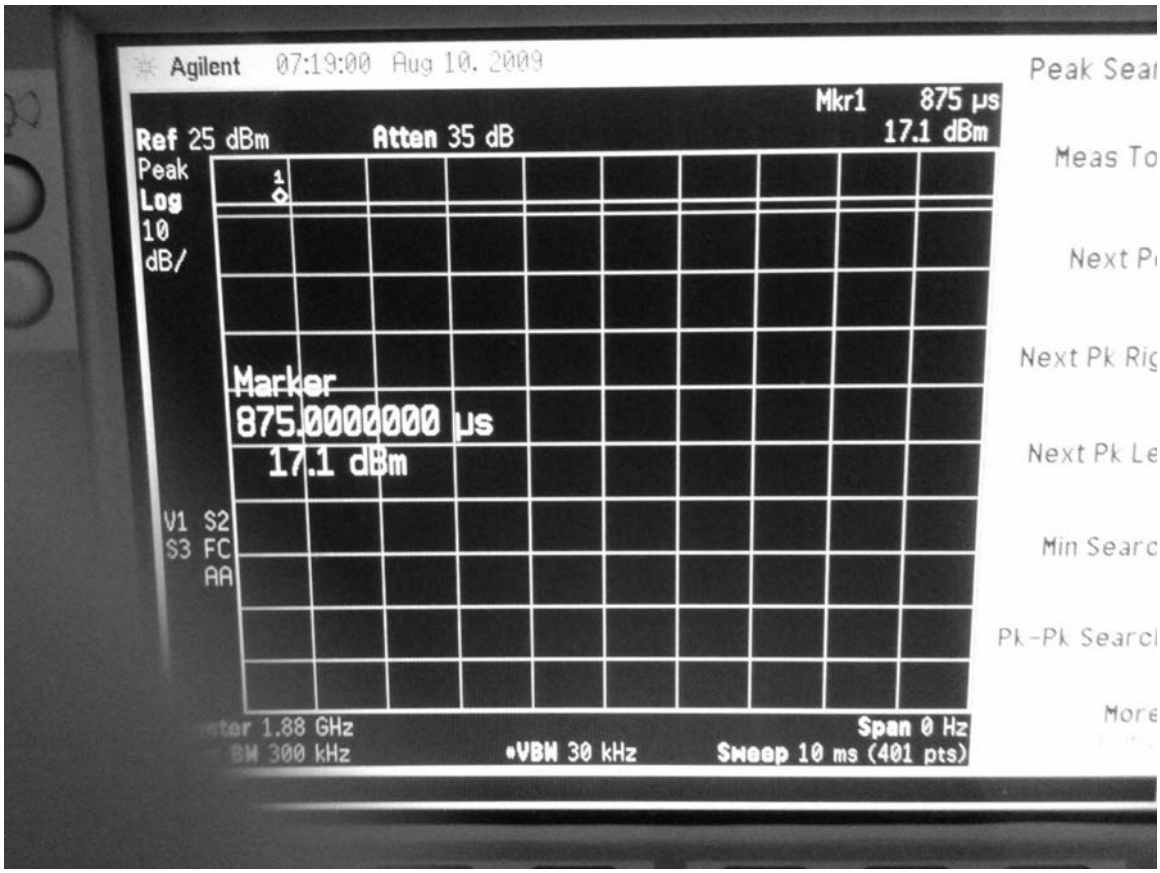
0 Hz Span CW Plot (835MHz)



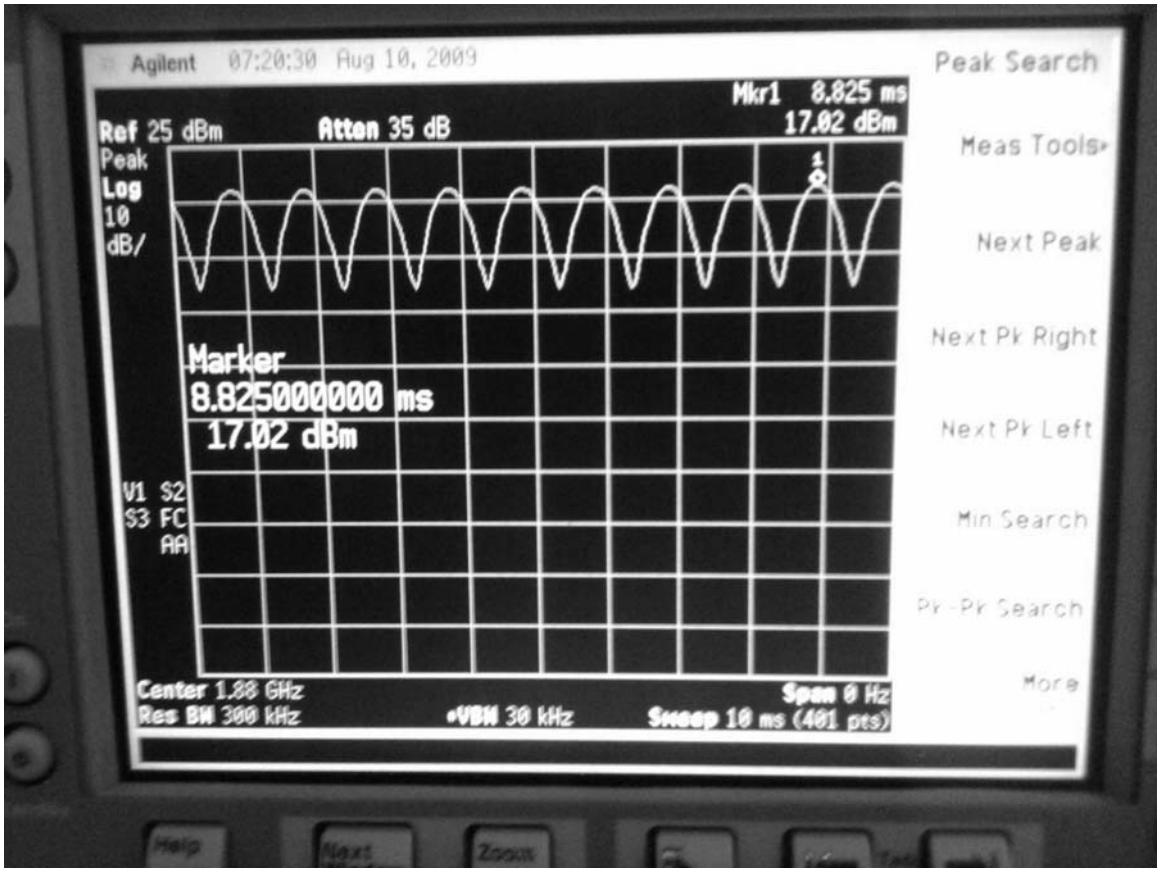
0 Hz Span 80% AM Plot (835MHz)



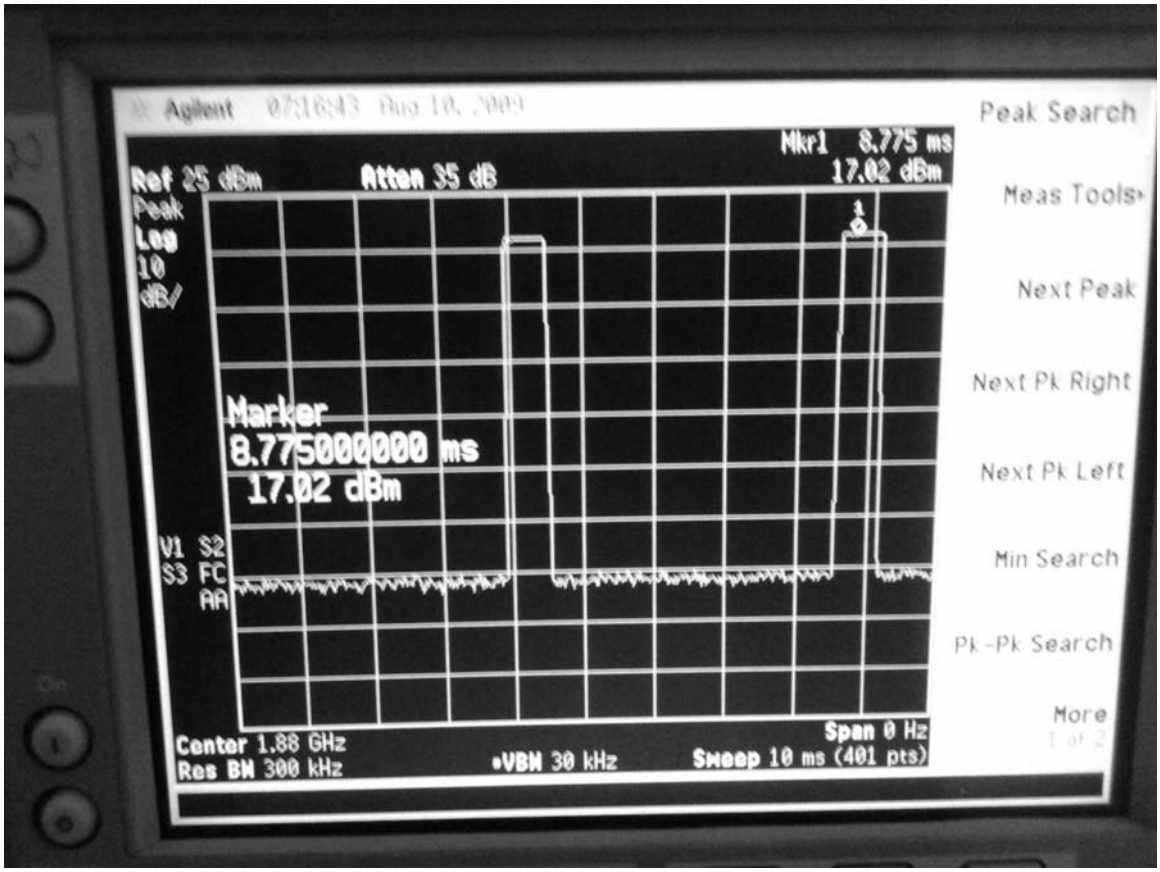
0 Hz Span GSM (835MHz)



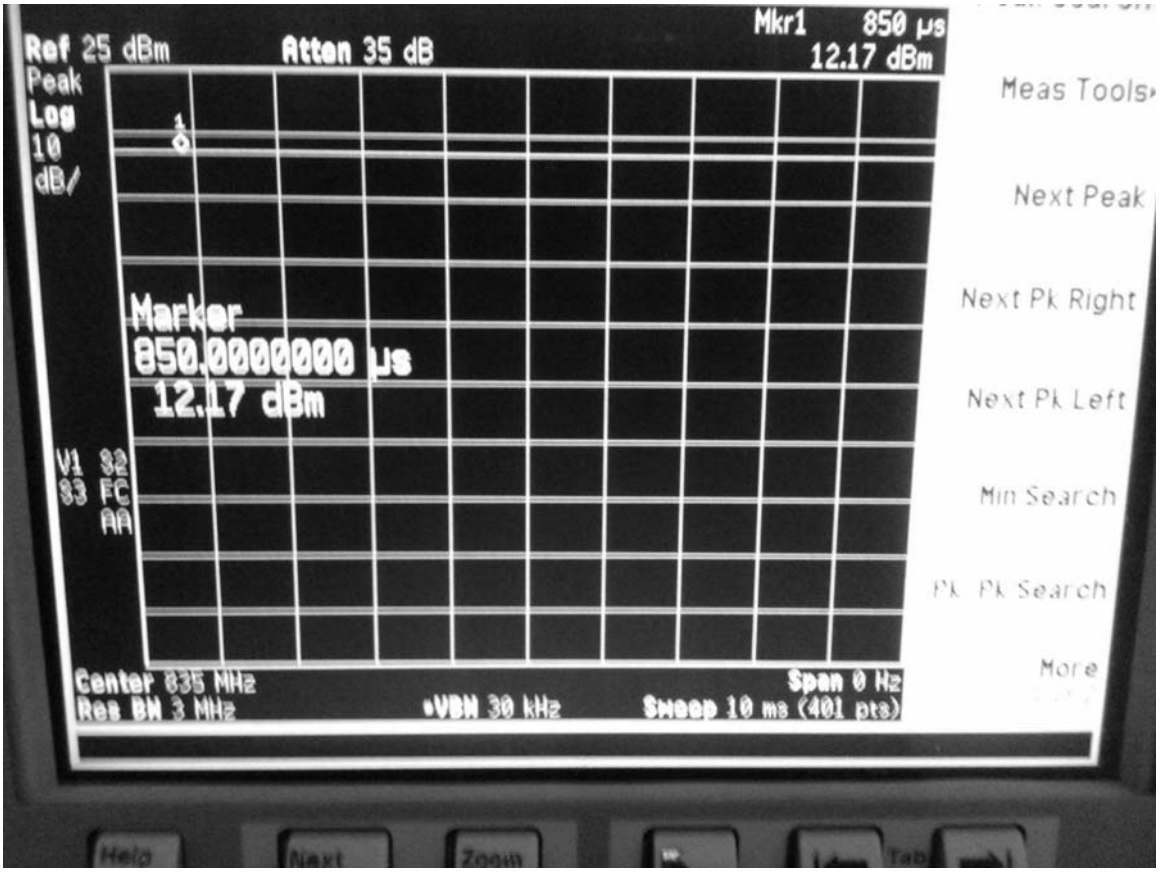
0 Hz Span CW Plot (1880MHz)



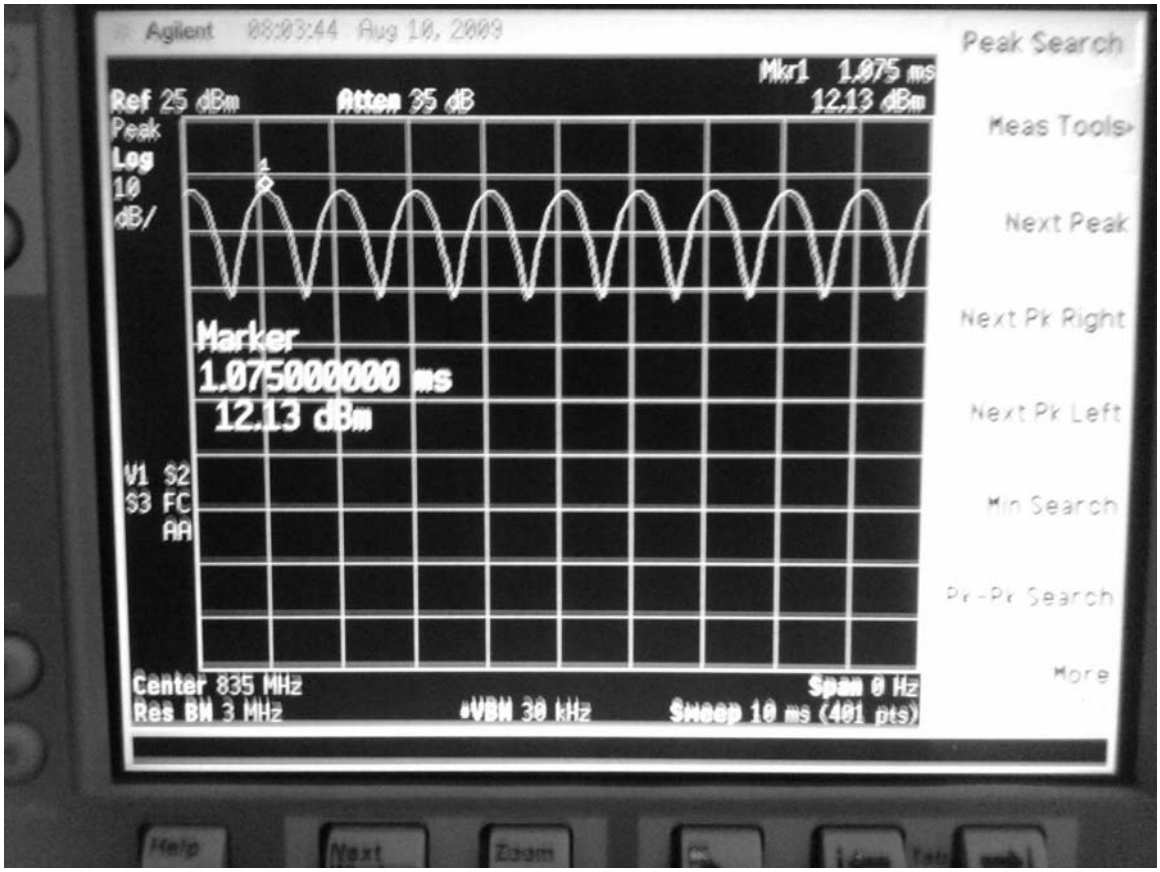
0 Hz Span 80% AM Plot (1880MHz)



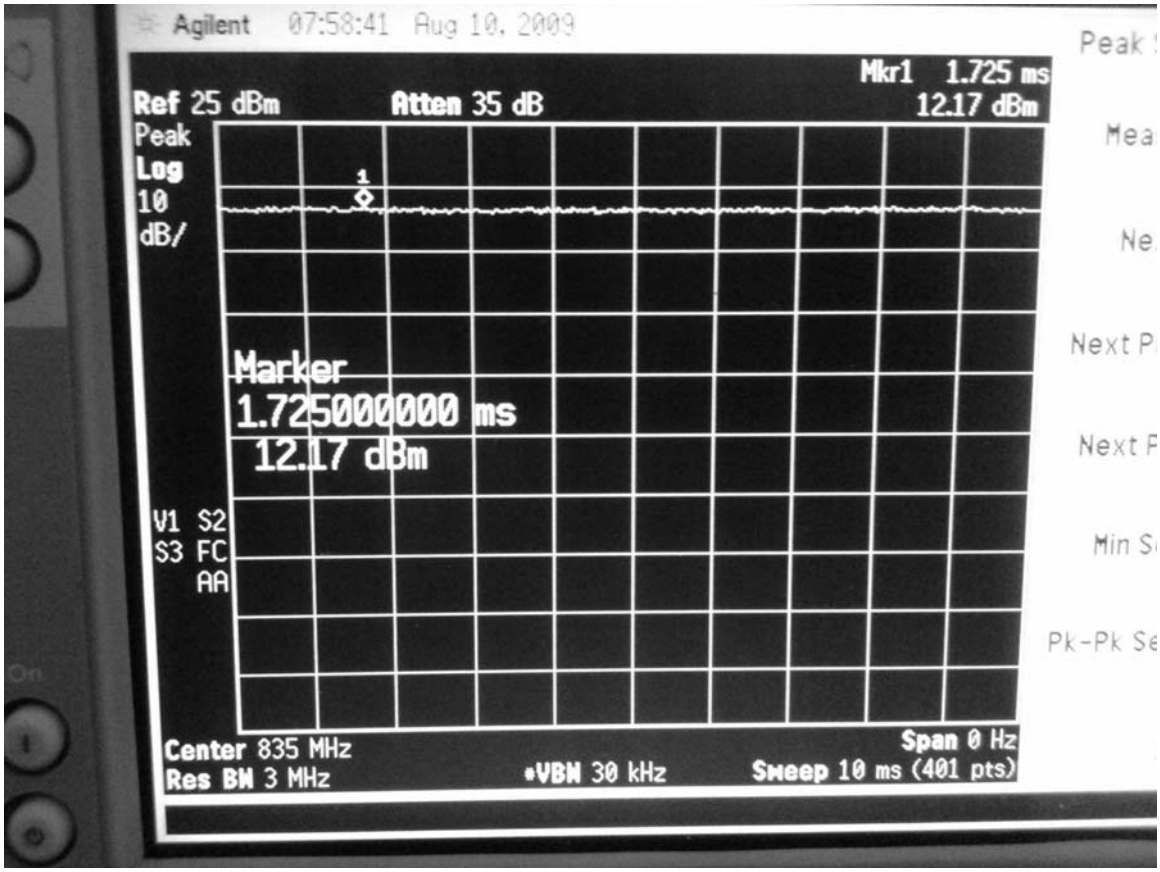
0 Hz Span GSM (1880MHz)



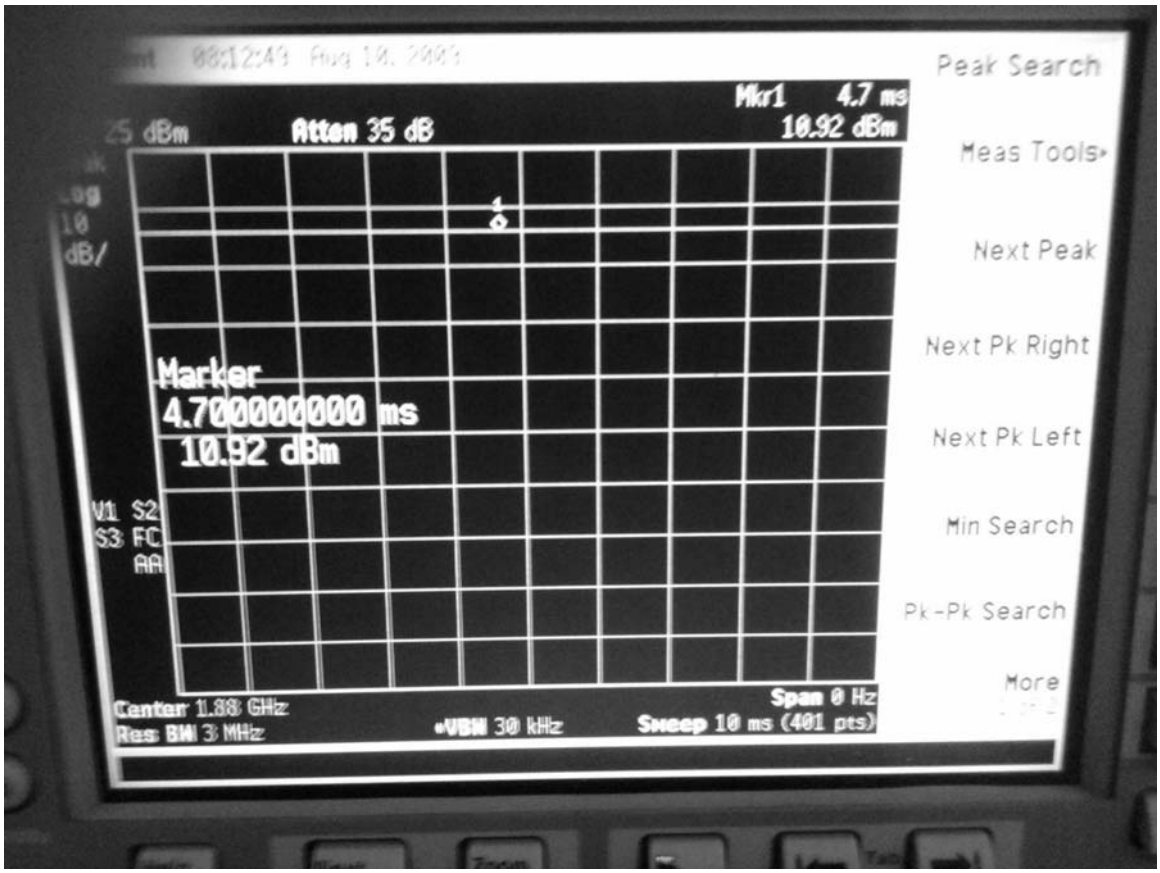
0 Hz Span CW Plot (835MHz)



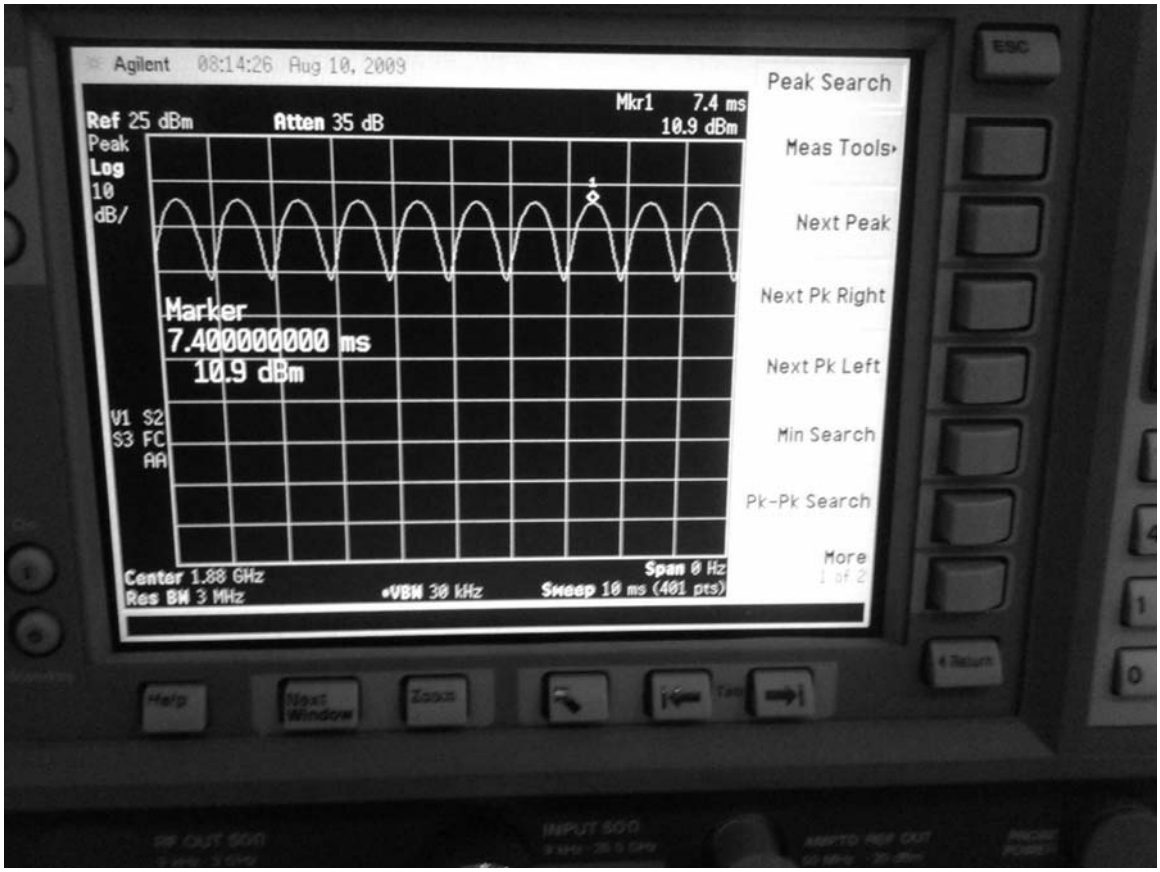
0 Hz Span 80% AM Plot (835MHz)



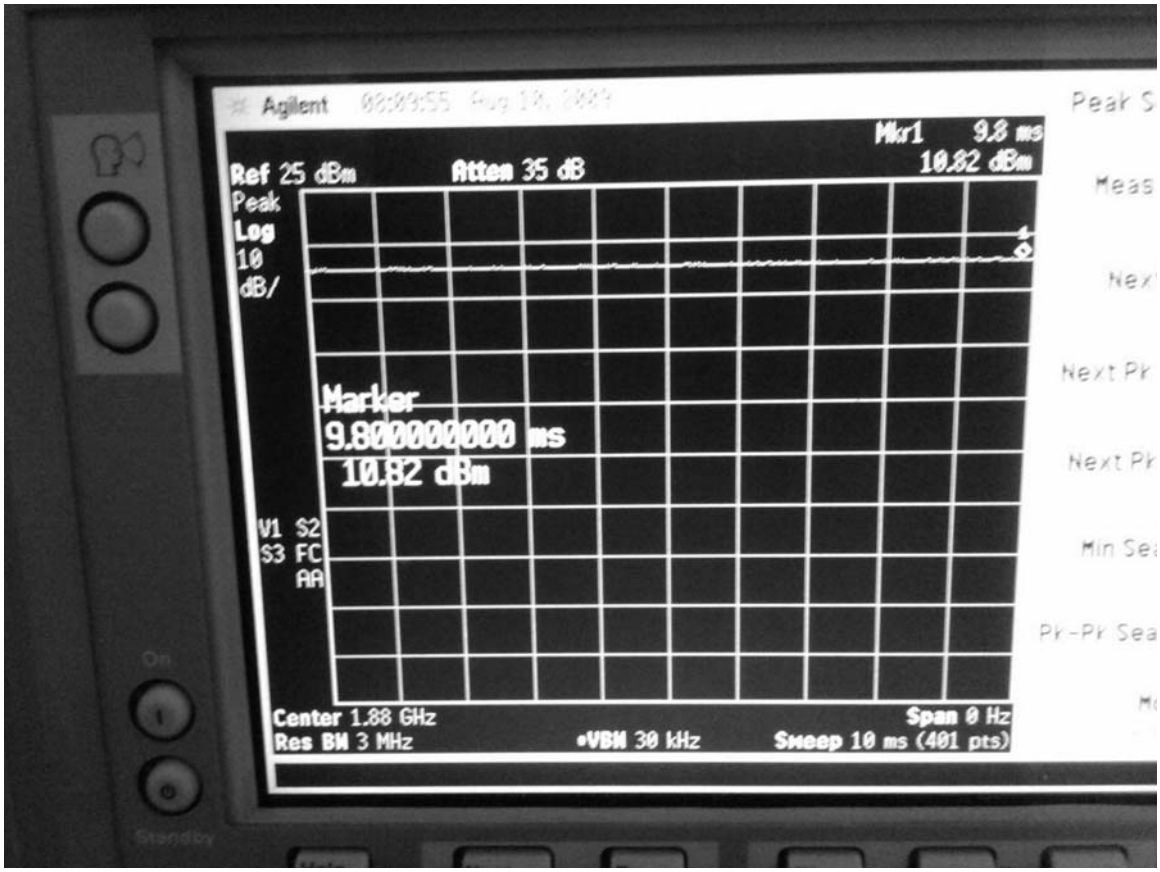
0 Hz Span CDMA (835MHz)



0 Hz Span CW Plot (1880MHz)



0 Hz Span 80% AM Plot (1880MHz)



0 Hz Span CDMA (1880MHz)

A.2 Dipole validation and probe modulation factor plots

Date/Time: 11/08/2009 9:12:23 AM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CW835_20.00dBm.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 102.2 V/m; Power Drift = 0.093 dB

Maximum value of Total (measured) = 160.7 V/m

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 162.8 V/m

Probe Modulation Factor = 1.00

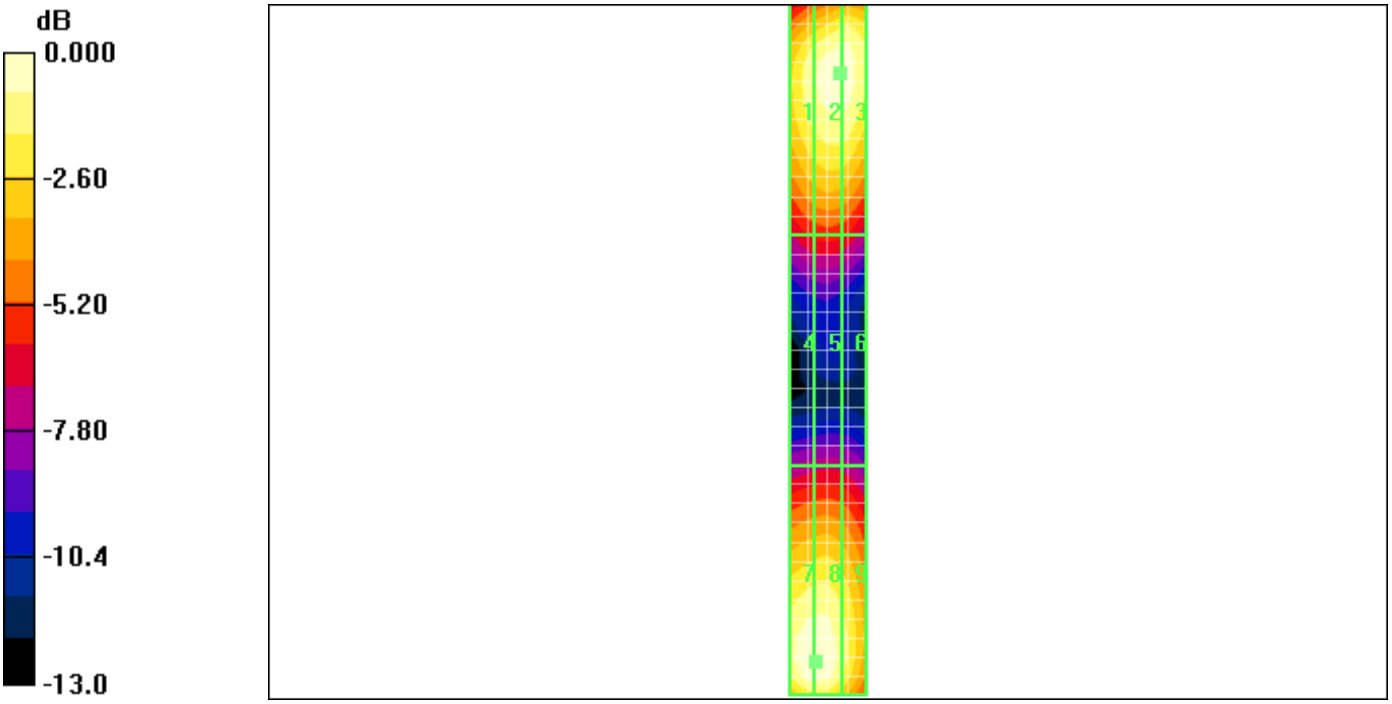
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 102.2 V/m; Power Drift = 0.093 dB

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

Peak E-field in V/m

Grid 1 **147.2 M4**	Grid 2 **158.1 M4**	Grid 3 **158.0 M4**
Grid 4 **83.4 M4**	Grid 5 **85.2 M4**	Grid 6 **83.5 M4**
Grid 7 **162.6 M4**	Grid 8 **162.8 M4**	Grid 9 **142.8 M4**



0 dB = 162.8V/m

Date/Time: 10/08/2009 2:07:16 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CW835_PMF_GSM.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 115.2 V/m; Power Drift = 0.034 dB

Maximum value of Total (measured) = 179.0 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 = 181.3 V/m

Probe Modulation Factor = 1.00

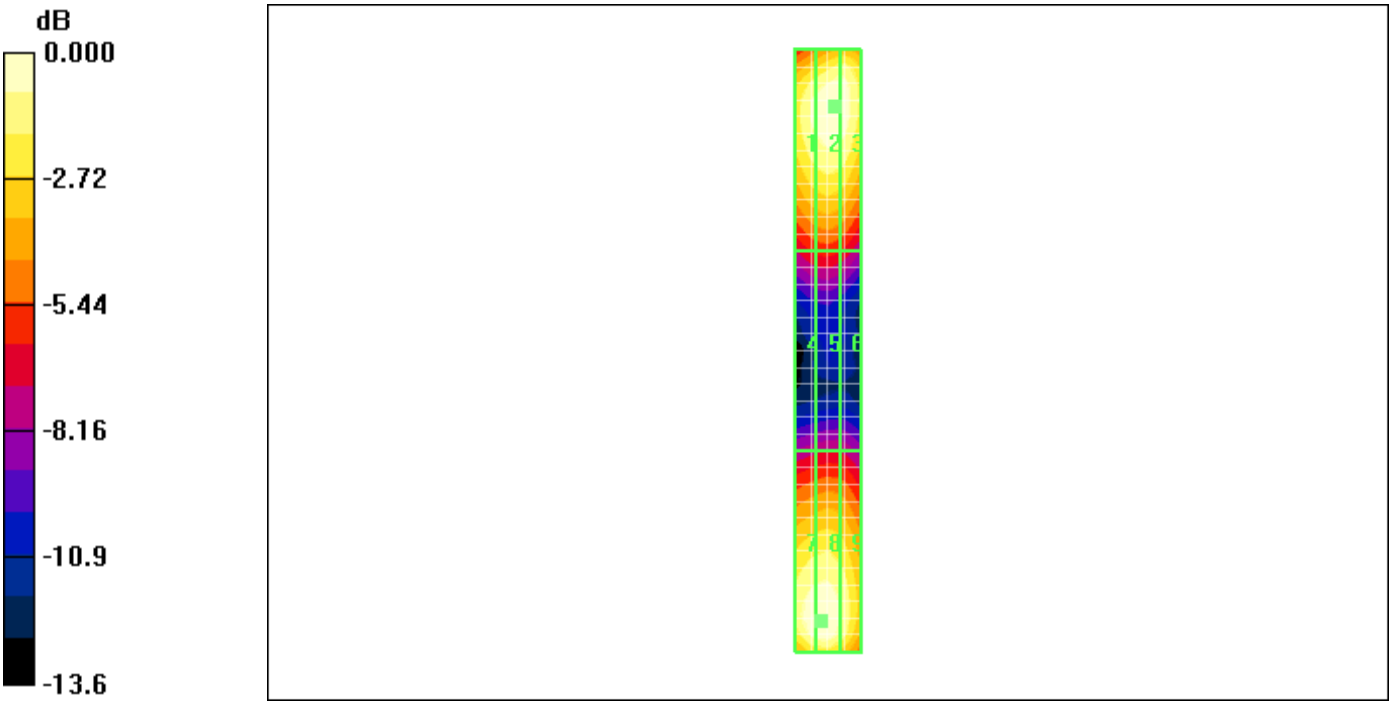
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 115.2 V/m; Power Drift = 0.034 dB

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

Peak E-field in V/m

Grid 1 **170.7 M4**	Grid 2 **178.6 M4**	Grid 3 **177.7 M4**
Grid 4 **90.7 M4**	Grid 5 **92.7 M4**	Grid 6 **88.8 M4**
Grid 7 **179.5 M4**	Grid 8 **181.3 M4**	Grid 9 **167.0 M4**



0 dB = 181.3V/m

Date/Time: 10/08/2009 2:15:53 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_AM835_PMF_GSM.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 72.9 V/m; Power Drift = -0.076 dB

Maximum value of Total (measured) = 112.6 V/m

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 113.6 V/m

Probe Modulation Factor = 1.00

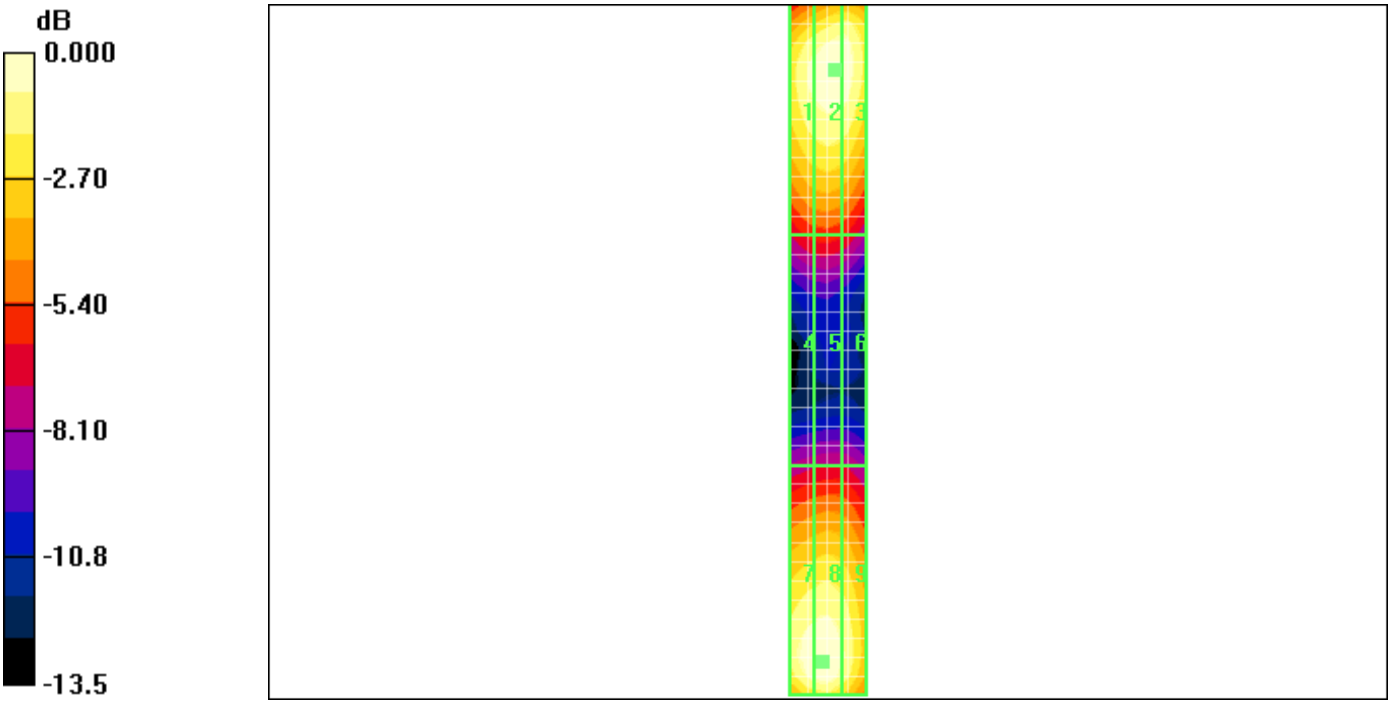
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 72.9 V/m; Power Drift = -0.076 dB

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

Peak E-field in V/m

Grid 1 **106.6 M4**	Grid 2 **110.8 M4**	Grid 3 **110.3 M4**
Grid 4 **57.8 M4**	Grid 5 **58.6 M4**	Grid 6 **56.5 M4**
Grid 7 **112.1 M4**	Grid 8 **113.6 M4**	Grid 9 **105.3 M4**



0 dB = 113.6V/m

Date/Time: 10/08/2009 1:57:31 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_GSM835.da4

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

Program Name: HAC RF E Dipole

Communication System: GSM 850; Frequency: 835 MHz;Duty Cycle: 1:8.3

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 38.5 V/m; Power Drift = 0.115 dB

Maximum value of Total (measured) = 61.9 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 = 62.4 V/m

Probe Modulation Factor = 1.00

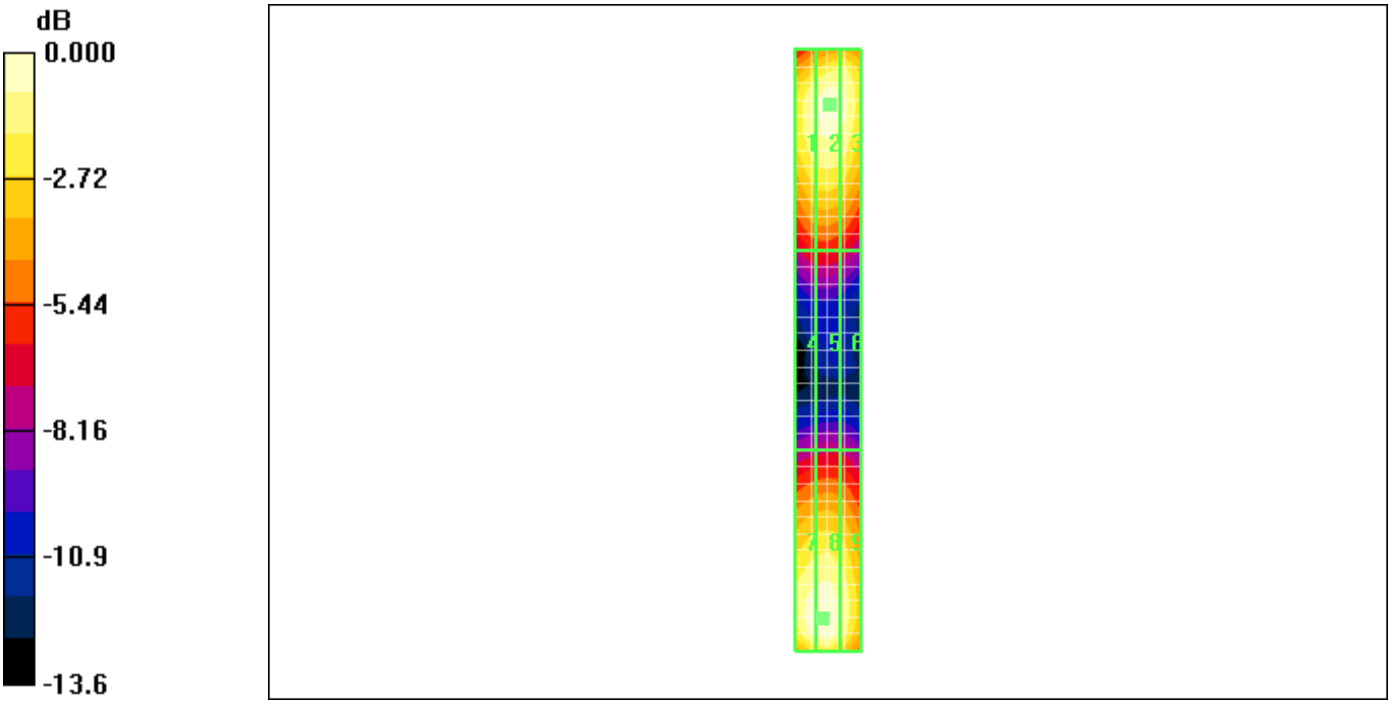
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 38.5 V/m; Power Drift = 0.115 dB

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

Peak E-field in V/m

Grid 1 **57.7 M4**	Grid 2 **60.0 M4**	Grid 3 **58.7 M4**
Grid 4 **31.1 M4**	Grid 5 **31.3 M4**	Grid 6 **29.8 M4**
Grid 7 **61.5 M4**	Grid 8 **62.4 M4**	Grid 9 **57.4 M4**



0 dB = 62.4V/m

Date/Time: 10/08/2009 2:50:29 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CW835_PMF_CDMA.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 44.6 V/m; Power Drift = 0.124 dB

Maximum value of Total (measured) = 70.9 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 = 71.3 V/m

Probe Modulation Factor = 1.00

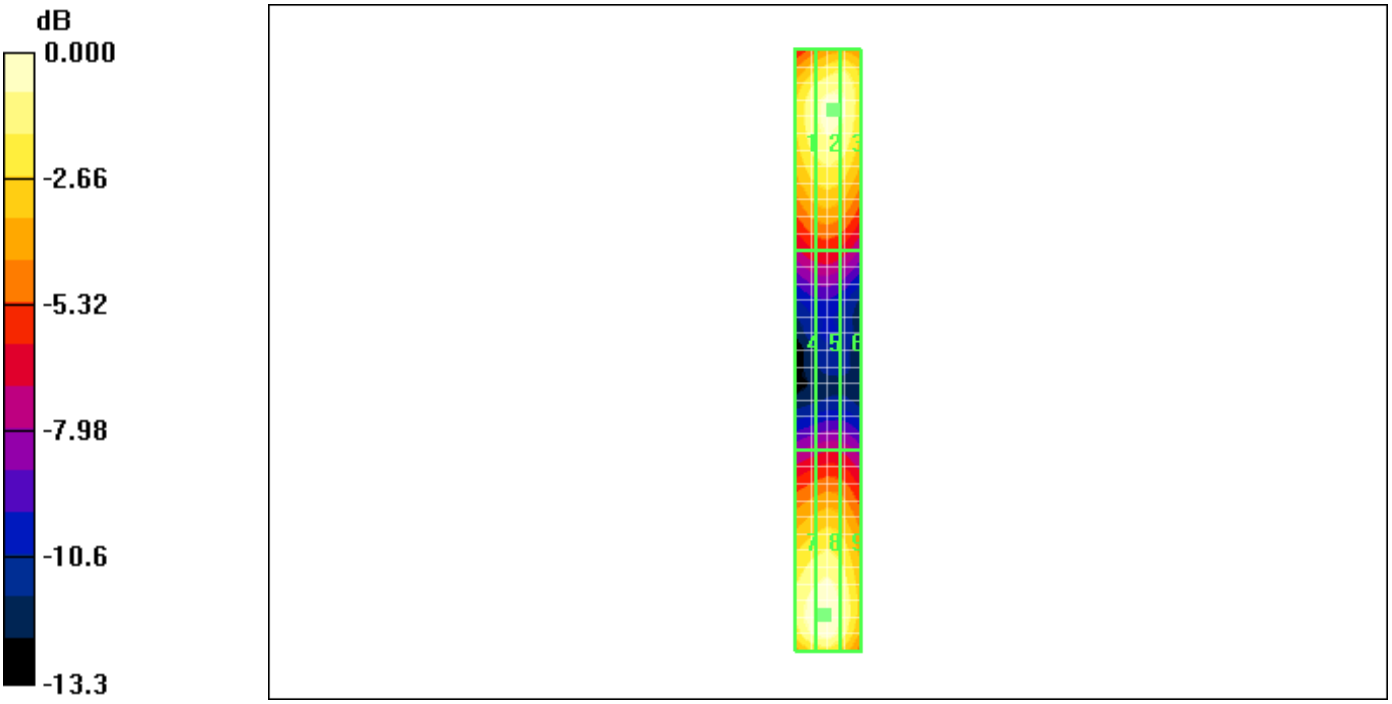
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 44.6 V/m; Power Drift = 0.124 dB

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

Peak E-field in V/m

Grid 1 **64.2 M4**	Grid 2 **66.8 M4**	Grid 3 **66.3 M4**
Grid 4 **35.3 M4**	Grid 5 **35.8 M4**	Grid 6 **34.4 M4**
Grid 7 **69.9 M4**	Grid 8 **71.3 M4**	Grid 9 **66.2 M4**



0 dB = 71.3V/m

Date/Time: 10/08/2009 3:00:52 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_AM835_PMF_CDMA.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 29.9 V/m; Power Drift = -0.094 dB

Maximum value of Total (measured) = 46.6 V/m

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 47.0 V/m

Probe Modulation Factor = 1.00

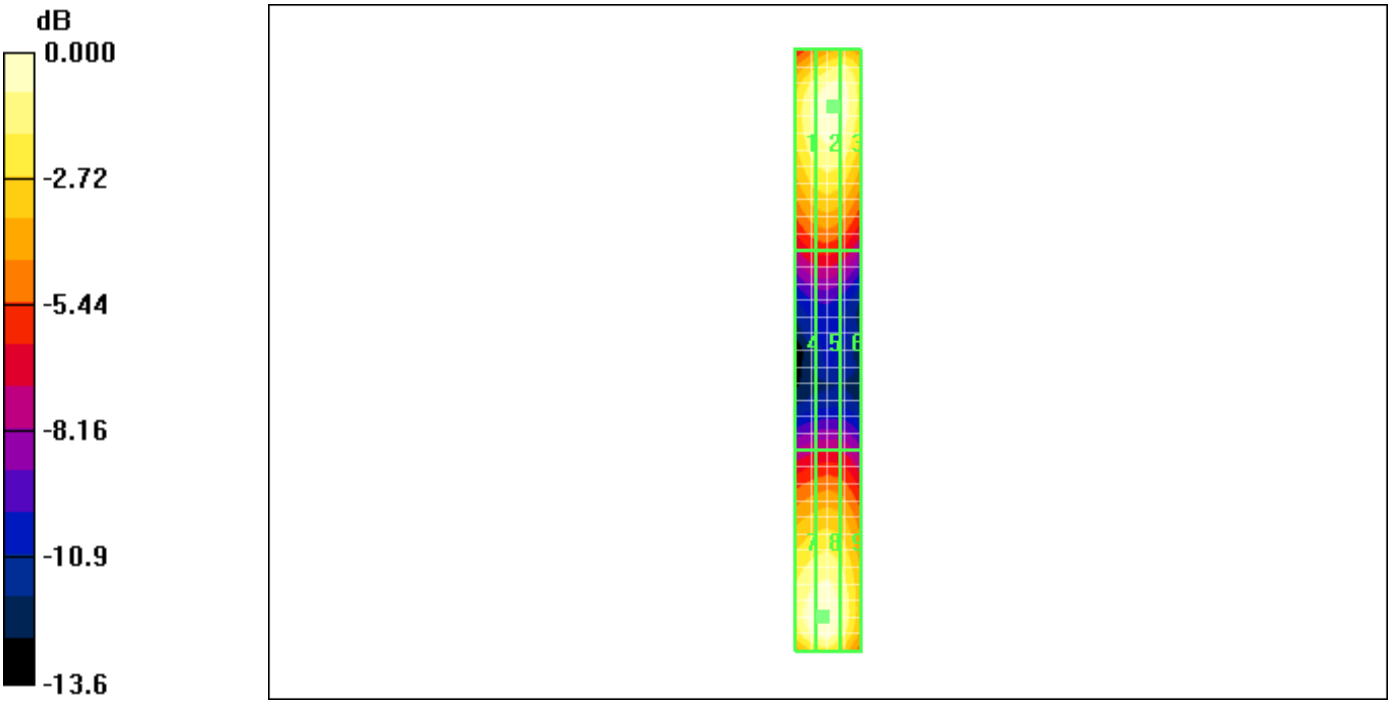
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 29.9 V/m; Power Drift = -0.094 dB

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

Peak E-field in V/m

Grid 1 **43.8 M4**	Grid 2 **45.7 M4**	Grid 3 **45.4 M4**
Grid 4 **23.4 M4**	Grid 5 **23.8 M4**	Grid 6 **22.9 M4**
Grid 7 **46.2 M4**	Grid 8 **47.0 M4**	Grid 9 **43.1 M4**



0 dB = 47.0V/m

Date/Time: 10/08/2009 3:19:19 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CDMA835.da4

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

Program Name: HAC RF E Dipole

Communication System: CDMA 800; 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: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 41.3 V/m; Power Drift = -0.051 dB

Maximum value of Total (measured) = 65.5 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 = 66.0 V/m

Probe Modulation Factor = 1.00

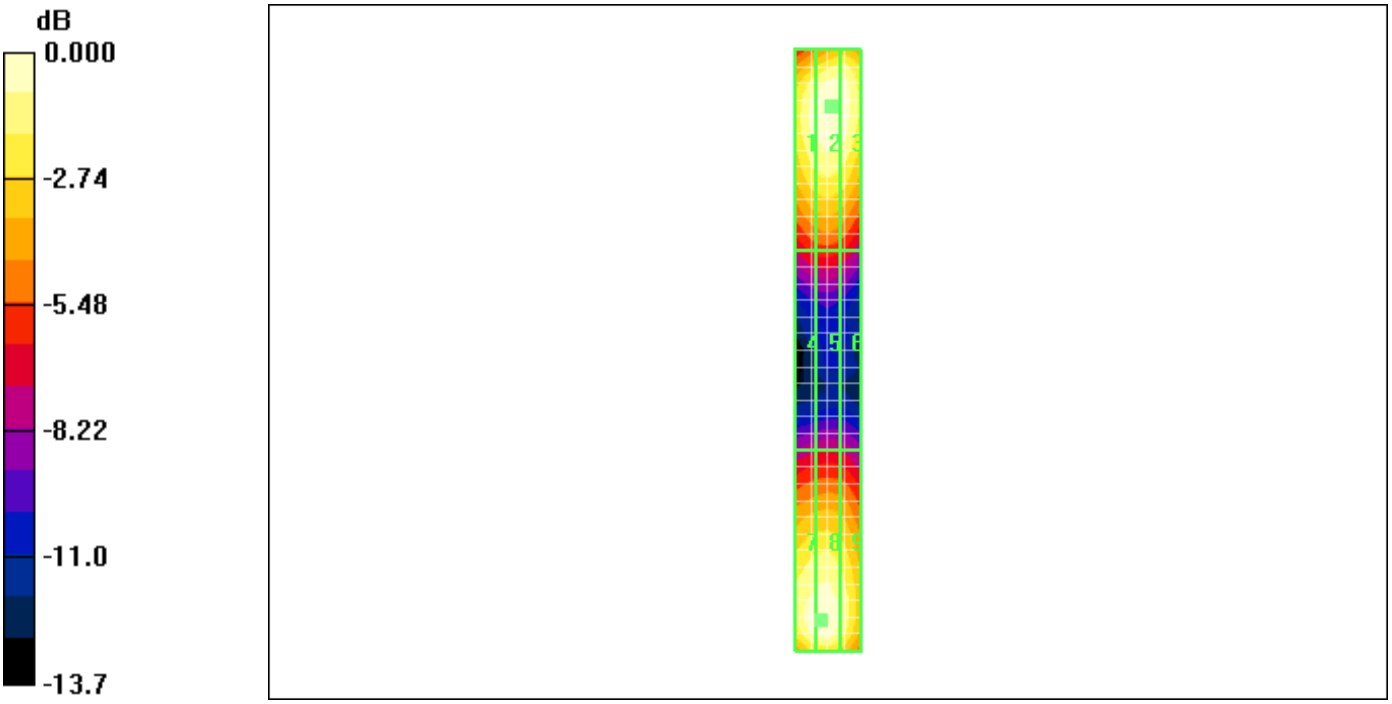
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 41.3 V/m; Power Drift = -0.051 dB

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

Peak E-field in V/m

Grid 1 **63.3 M4**	Grid 2 **66.0 M4**	Grid 3 **65.3 M4**
Grid 4 **33.4 M4**	Grid 5 **33.9 M4**	Grid 6 **32.8 M4**
Grid 7 **64.7 M4**	Grid 8 **65.5 M4**	Grid 9 **60.3 M4**



0 dB = 66.0V/m

Date/Time: 11/08/2009 9:21:32 AM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CW1880_20.00dBm.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 149.6 V/m; Power Drift = -0.059 dB

Maximum value of Total (measured) = 127.9 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 = 129.5 V/m

Probe Modulation Factor = 1.00

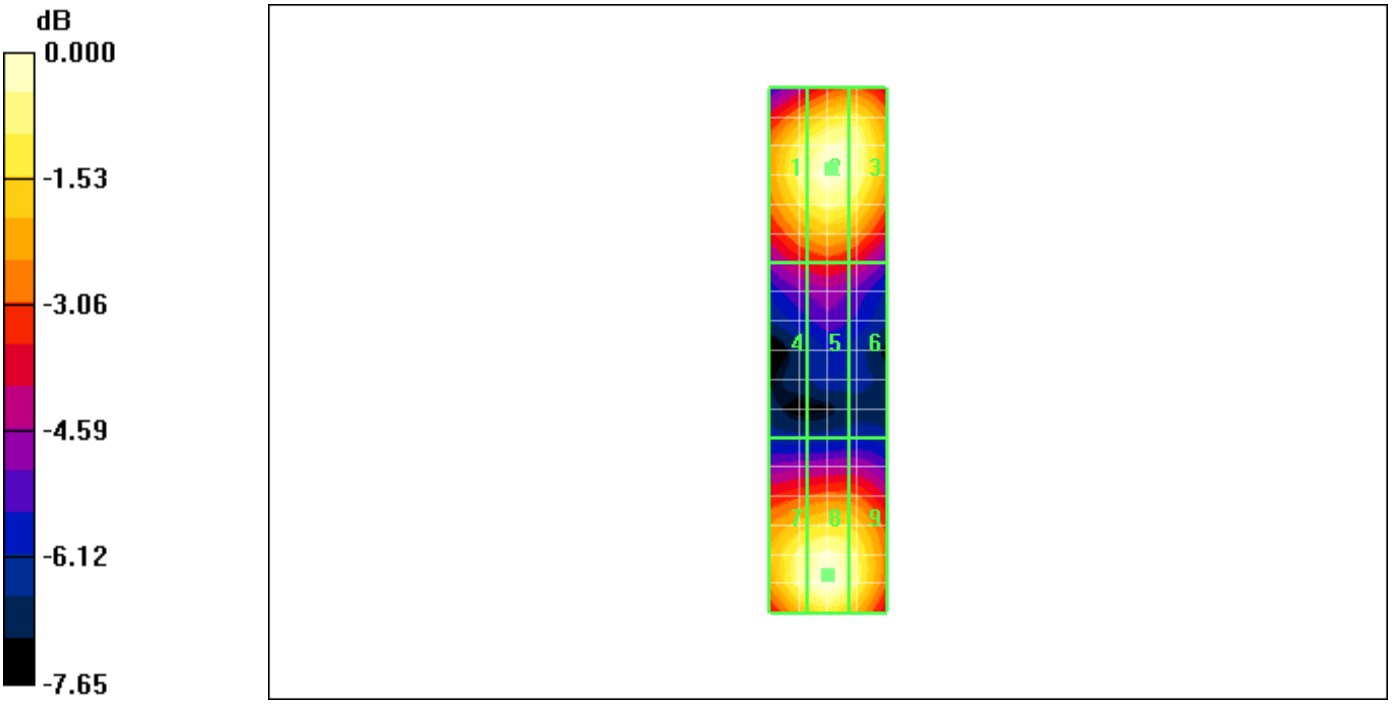
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 149.6 V/m; Power Drift = -0.059 dB

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

Peak E-field in V/m

Grid 1 **121.5 M2**	Grid 2 **126.5 M2**	Grid 3 **125.1 M2**
Grid 4 **85.1 M3**	Grid 5 **88.0 M3**	Grid 6 **84.9 M3**
Grid 7 **125.0 M2**	Grid 8 **129.5 M2**	Grid 9 **123.9 M2**



0 dB = 129.5V/m

Date/Time: 10/08/2009 12:04:32 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CW1880_PMF_GSM.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 108.0 V/m; Power Drift = -0.043 dB

Maximum value of Total (measured) = 94.2 V/m

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 95.7 V/m

Probe Modulation Factor = 1.00

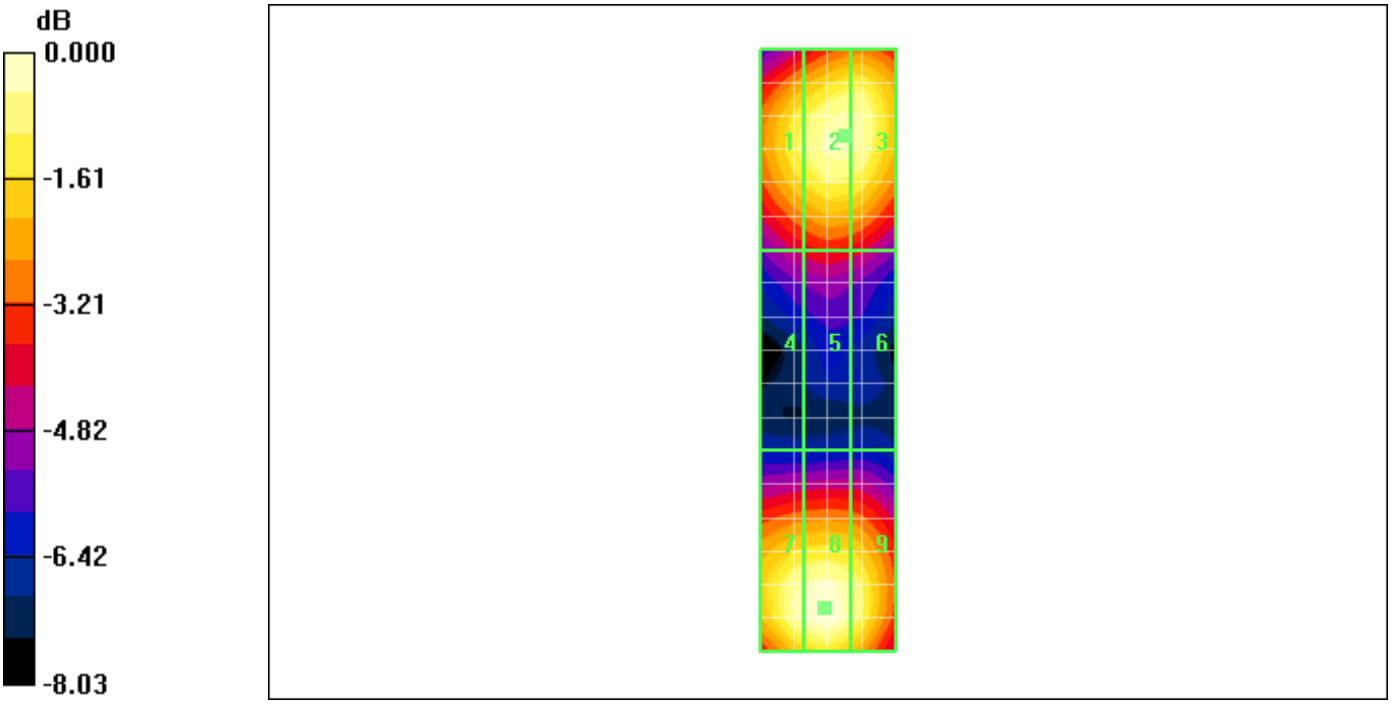
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 108.0 V/m; Power Drift = -0.043 dB

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

Peak E-field in V/m

Grid 1 **87.0 M3**	Grid 2 **92.0 M3**	Grid 3 **91.8 M3**
Grid 4 **60.6 M4**	Grid 5 **63.2 M3**	Grid 6 **61.3 M4**
Grid 7 **93.7 M3**	Grid 8 **95.7 M3**	Grid 9 **90.7 M3**



0 dB = 95.7V/m

Date/Time: 10/08/2009 12:09:30 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_AM_1880_PMF_GSM.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 69.5 V/m; Power Drift = -0.045 dB

Maximum value of Total (measured) = 60.3 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 = 61.2 V/m

Probe Modulation Factor = 1.00

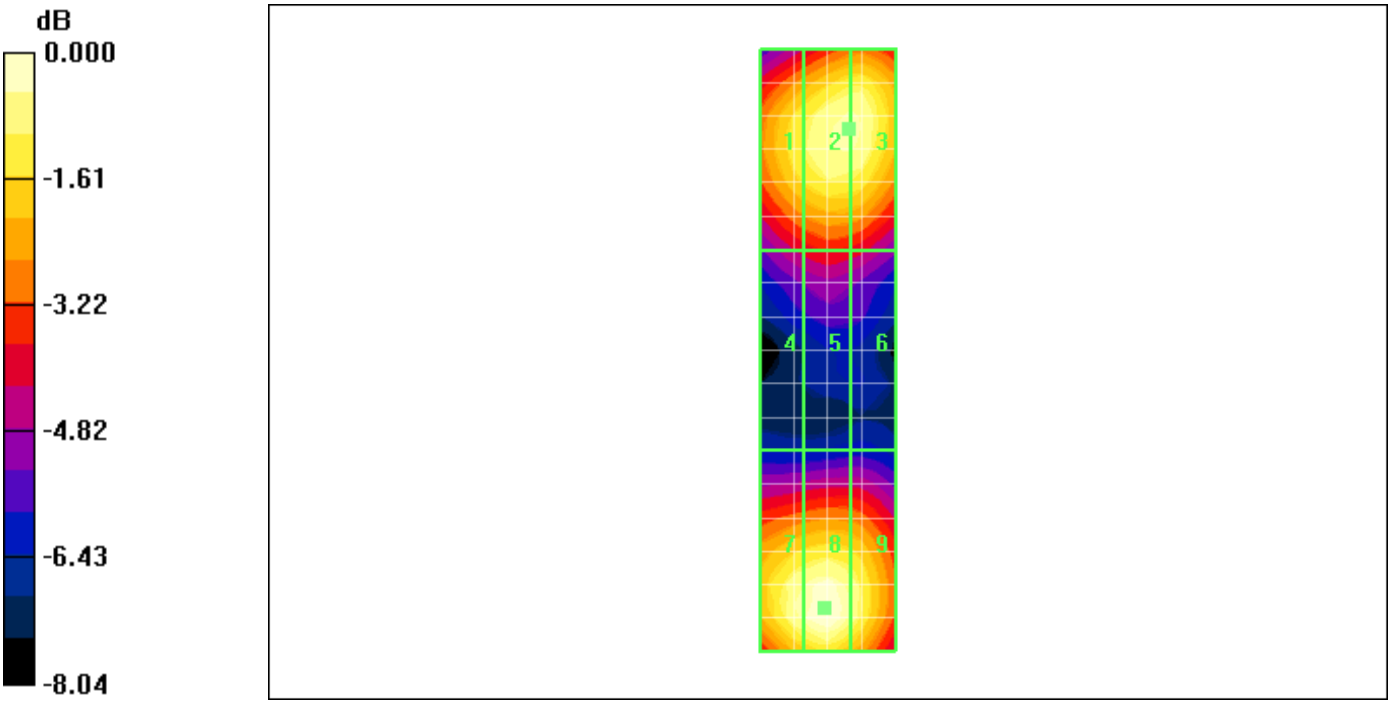
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 69.5 V/m; Power Drift = -0.045 dB

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

Peak E-field in V/m

Grid 1 **54.6 M4**	Grid 2 **58.3 M4**	Grid 3 **58.3 M4**
Grid 4 **38.6 M4**	Grid 5 **40.4 M4**	Grid 6 **39.3 M4**
Grid 7 **59.2 M4**	Grid 8 **61.2 M4**	Grid 9 **57.4 M4**



0 dB = 61.2V/m

Date/Time: 10/08/2009 11:48:16 AM

Test Laboratory: RTS

File Name: HAC_E_Dipole_GSM1880.da4

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

Program Name: HAC RF E Dipole

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: σ = 0 mho/m, ε_r = 1; ρ = 1000 kg/m^3

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 37.7 V/m; Power Drift = -0.035 dB

Maximum value of Total (measured) = 32.7 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 = 33.2 V/m

Probe Modulation Factor = 1.00

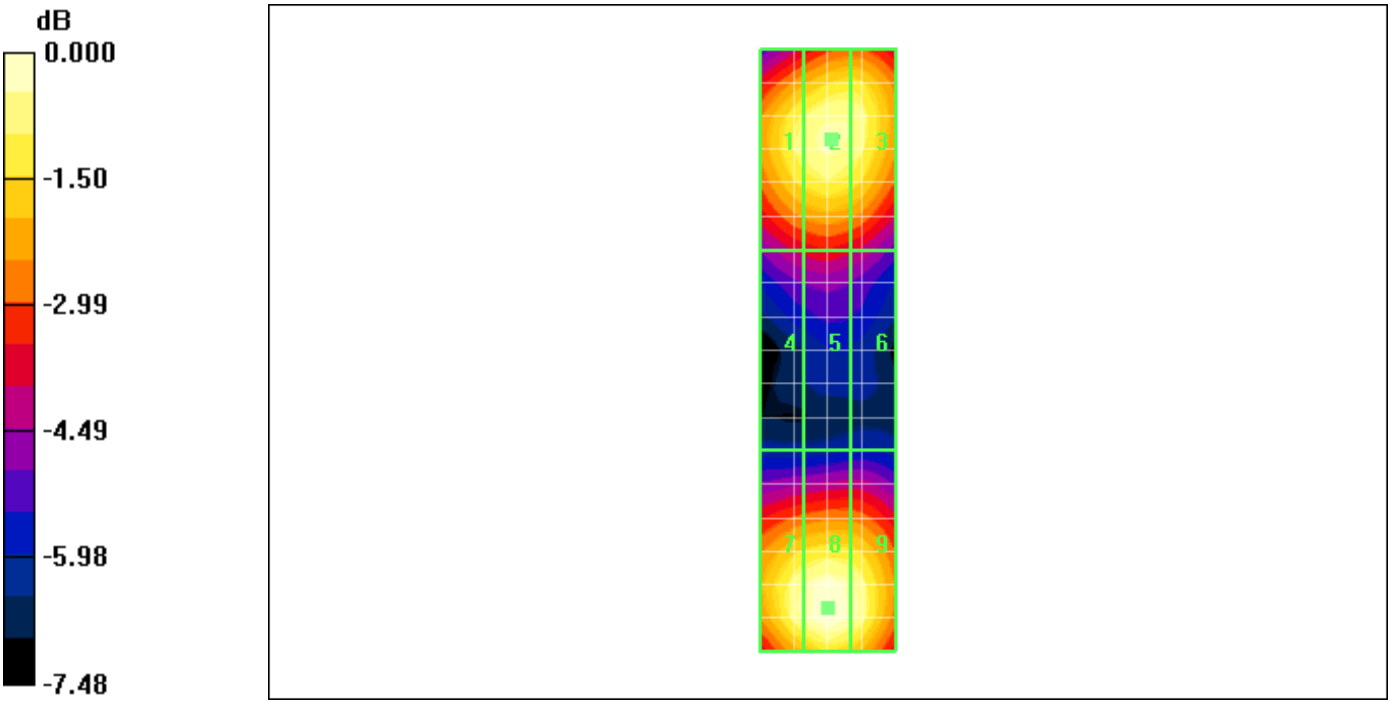
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 37.7 V/m; Power Drift = -0.035 dB

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

Peak E-field in V/m

Grid 1 **30.7 M4**	Grid 2 **31.7 M4**	Grid 3 **31.2 M4**
Grid 4 **21.6 M4**	Grid 5 **22.2 M4**	Grid 6 **21.4 M4**
Grid 7 **32.1 M4**	Grid 8 **33.2 M4**	Grid 9 **32.2 M4**



0 dB = 33.2V/m

Date/Time: 10/08/2009 12:28:30 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CW1880_PMF_CDMA.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 54.2 V/m; Power Drift = -0.155 dB

Maximum value of Total (measured) = 46.9 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 = 47.6 V/m

Probe Modulation Factor = 1.00

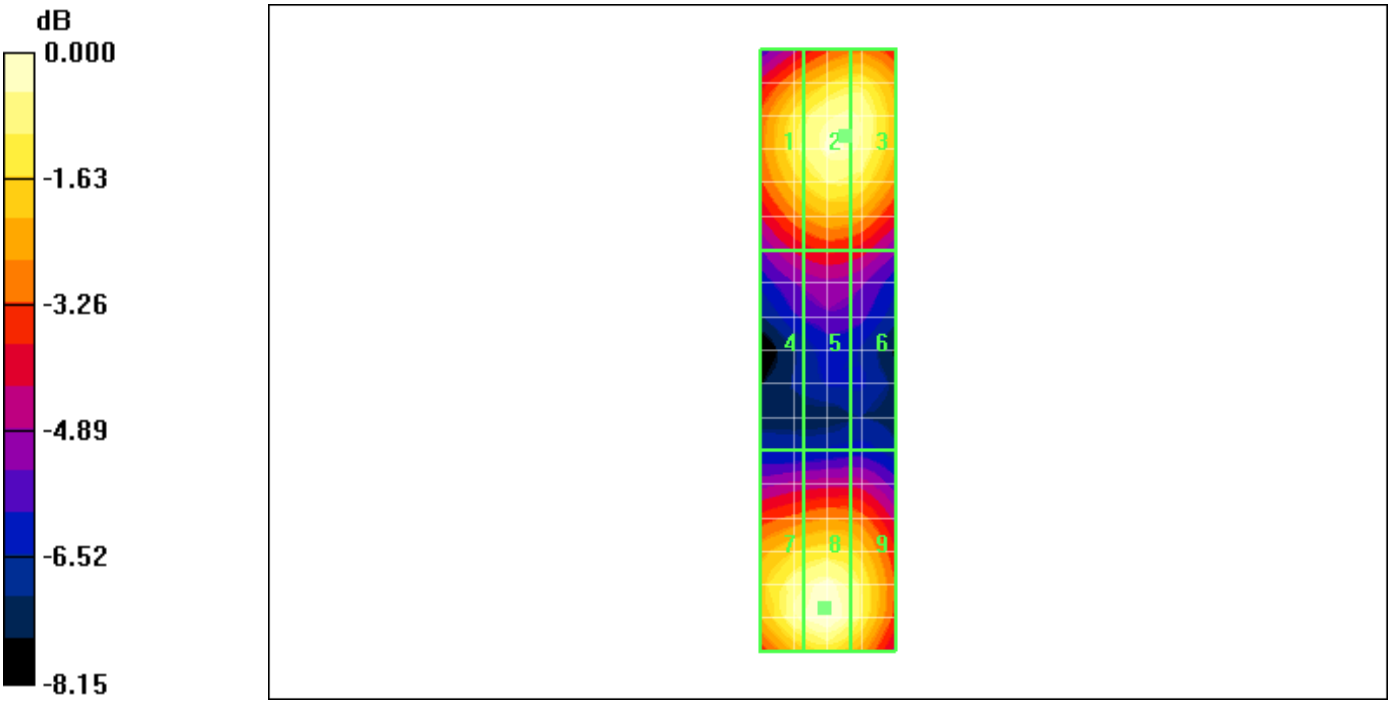
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 54.2 V/m; Power Drift = -0.155 dB

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

Peak E-field in V/m

Grid 1 **43.3 M4**	Grid 2 **45.7 M4**	Grid 3 **45.5 M4**
Grid 4 **30.1 M4**	Grid 5 **31.4 M4**	Grid 6 **30.7 M4**
Grid 7 **46.2 M4**	Grid 8 **47.6 M4**	Grid 9 **44.9 M4**



0 dB = 47.6V/m

Date/Time: 10/08/2009 12:32:52 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_AM_1880_PMF_CDMA.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 34.8 V/m; Power Drift = -0.220 dB

Maximum value of Total (measured) = 30.0 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 = 30.4 V/m

Probe Modulation Factor = 1.00

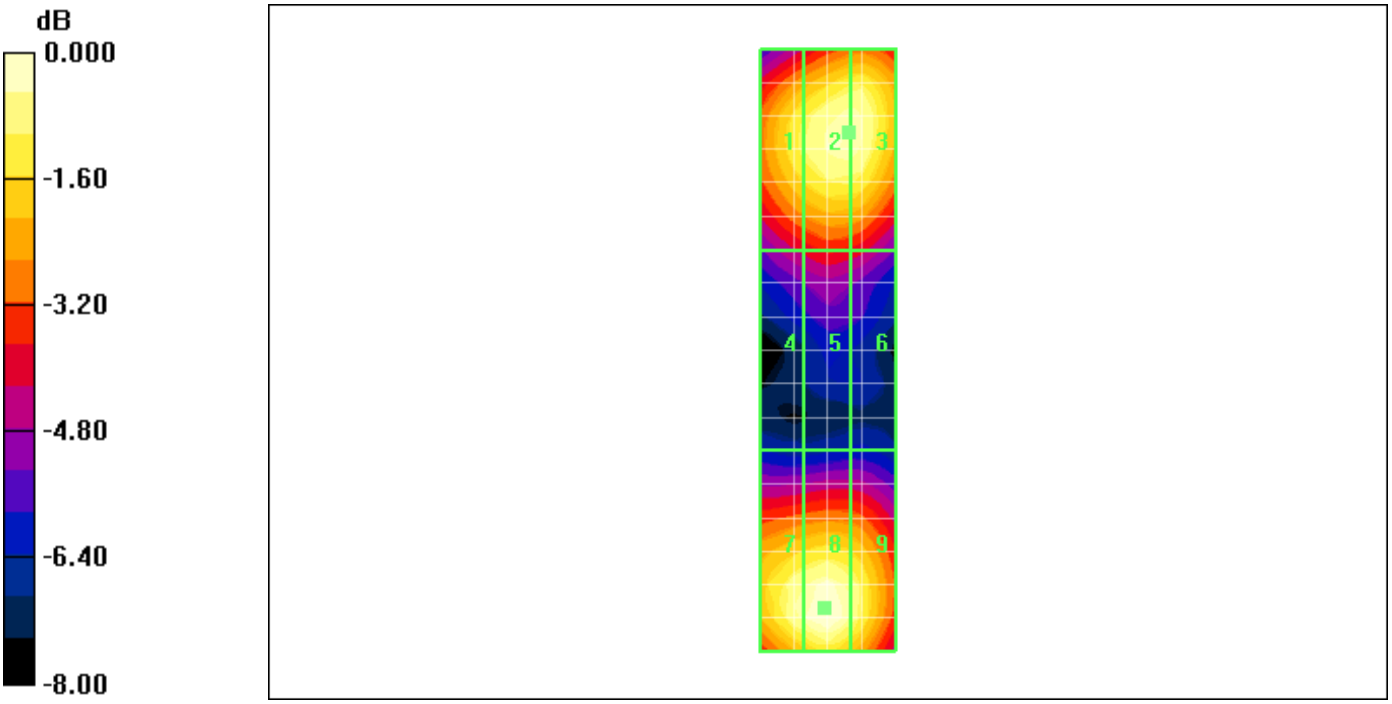
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 34.8 V/m; Power Drift = -0.220 dB

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

Peak E-field in V/m

Grid 1 **27.4 M4**	Grid 2 **29.3 M4**	Grid 3 **29.2 M4**
Grid 4 **19.1 M4**	Grid 5 **20.2 M4**	Grid 6 **19.6 M4**
Grid 7 **29.4 M4**	Grid 8 **30.4 M4**	Grid 9 **28.6 M4**



0 dB = 30.4V/m

Date/Time: 10/08/2009 1:49:49 PM

Test Laboratory: RTS

File Name: HAC_E_Dipole_CDMA1880.da4

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

Program Name: HAC RF E Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 51.9 V/m; Power Drift = 0.138 dB

Maximum value of Total (measured) = 45.1 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 = 45.6 V/m

Probe Modulation Factor = 1.00

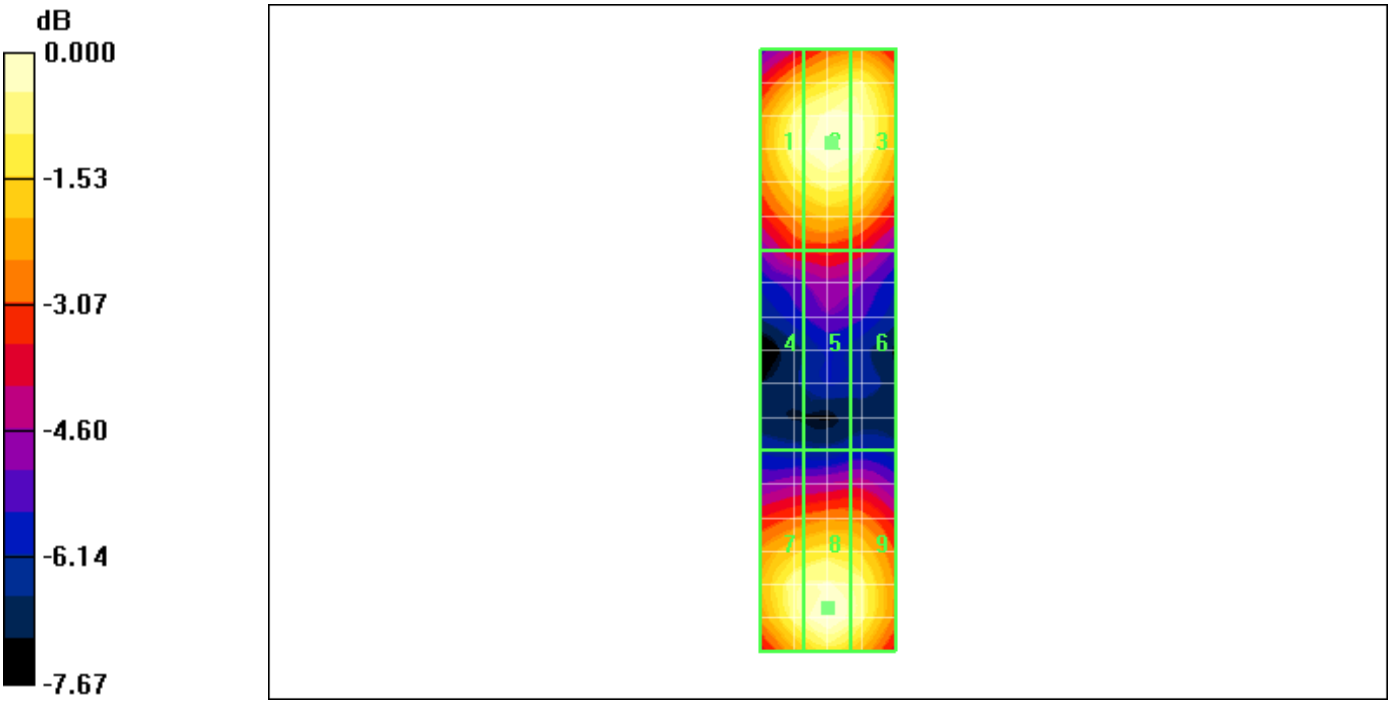
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 51.9 V/m; Power Drift = 0.138 dB

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

Peak E-field in V/m

Grid 1 **43.8 M4**	Grid 2 **44.9 M4**	Grid 3 **44.5 M4**
Grid 4 **30.9 M4**	Grid 5 **31.1 M4**	Grid 6 **30.3 M4**
Grid 7 **44.1 M4**	Grid 8 **45.6 M4**	Grid 9 **43.8 M4**



0 dB = 45.6V/m

Date/Time: 11/08/2009 10:02:03 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CW835_20.00dBm.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.475 A/m; Power Drift = 0.081 dB

Maximum value of Total (measured) = 0.455 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 = 0.455 A/m

Probe Modulation Factor = 1.00

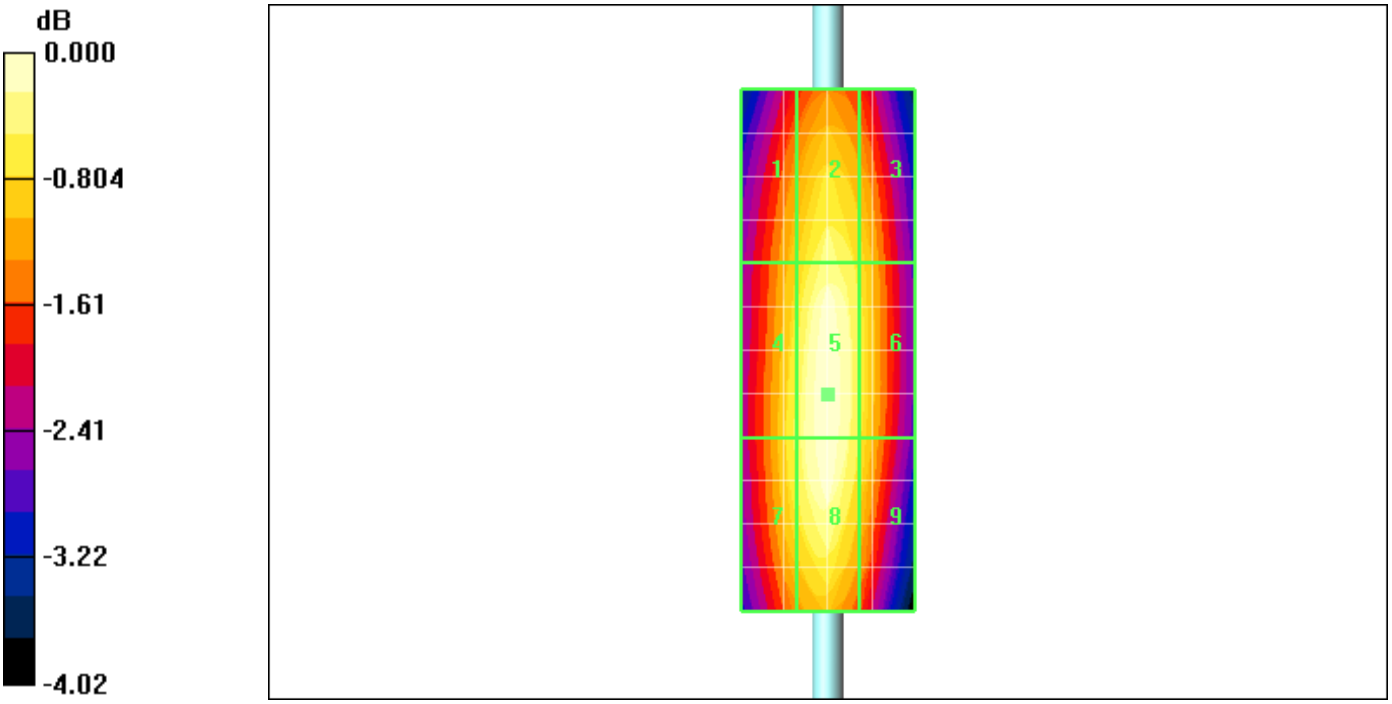
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.475 A/m; Power Drift = 0.081 dB

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

Peak H-field in A/m

Grid 1 **0.416 M4**	Grid 2 **0.435 M4**	Grid 3 **0.423 M4**
Grid 4 **0.433 M4**	Grid 5 **0.455 M4**	Grid 6 **0.432 M4**
Grid 7 **0.433 M4**	Grid 8 **0.454 M4**	Grid 9 **0.428 M4**



0 dB = 0.455A/m

Date/Time: 11/08/2009 10:08:31 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CW835_PMF_GSM.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.508 A/m; Power Drift = -0.030 dB

Maximum value of Total (measured) = 0.477 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 = 0.478 A/m

Probe Modulation Factor = 1.00

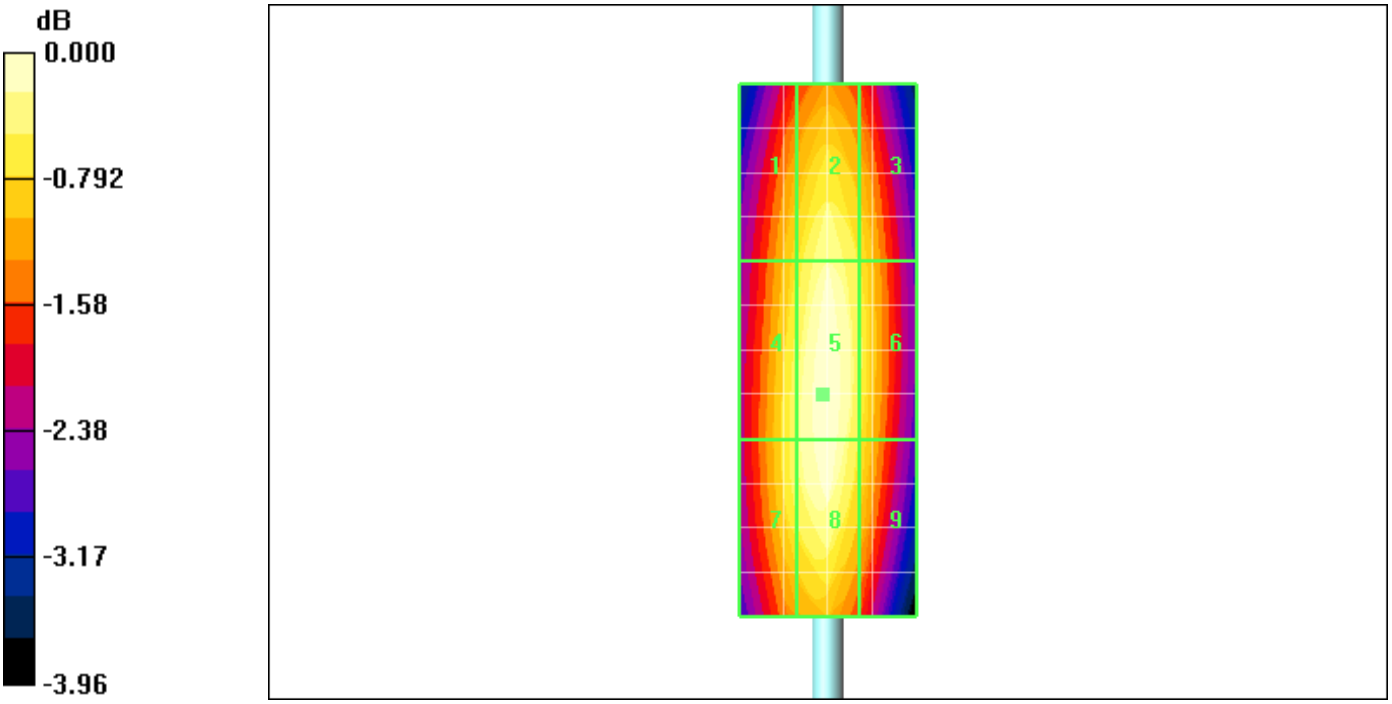
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.508 A/m; Power Drift = -0.030 dB

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

Peak H-field in A/m

Grid 1 **0.444 M4**	Grid 2 **0.464 M4**	Grid 3 **0.448 M4**
Grid 4 **0.460 M4**	Grid 5 **0.478 M4**	Grid 6 **0.455 M4**
Grid 7 **0.460 M4**	Grid 8 **0.475 M4**	Grid 9 **0.449 M4**



0 dB = 0.478A/m

Date/Time: 11/08/2009 10:19:09 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_AM835_PMF_GSM.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.343 A/m; Power Drift = 0.025 dB

Maximum value of Total (measured) = 0.322 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 = 0.322 A/m

Probe Modulation Factor = 1.00

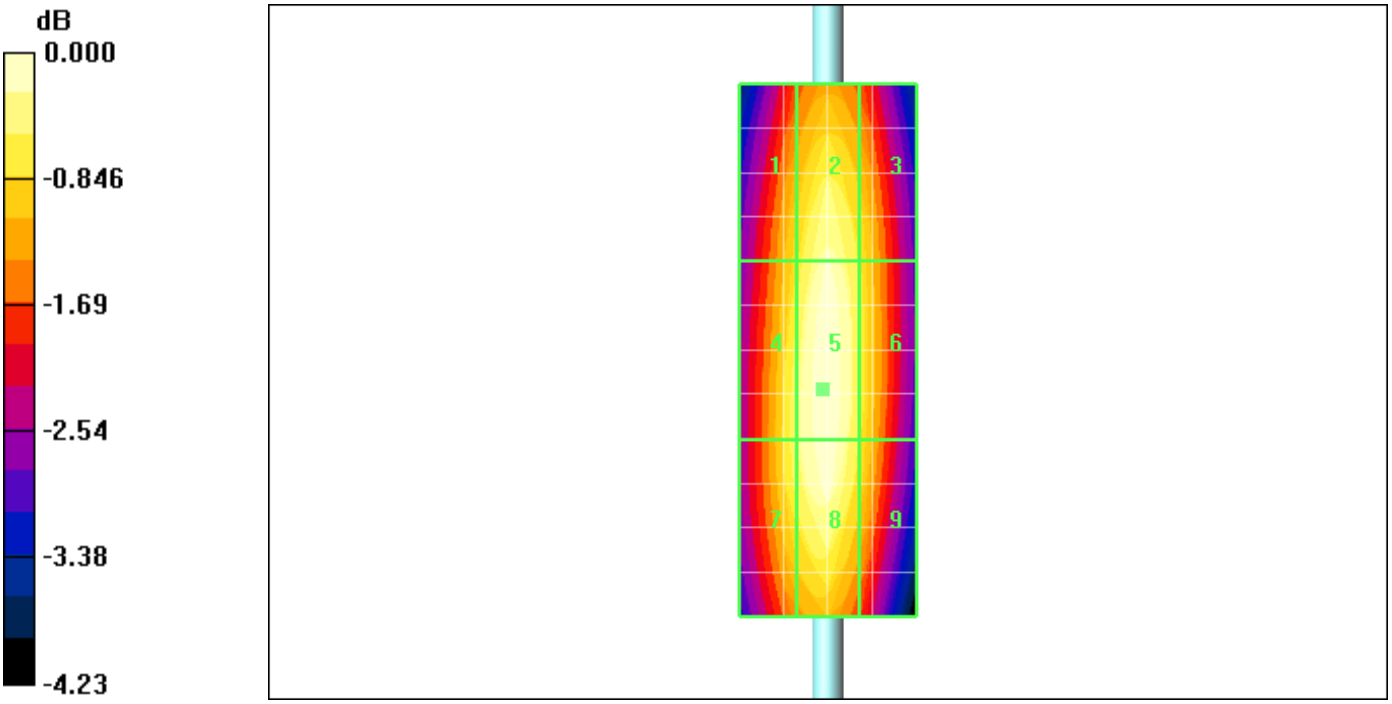
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.343 A/m; Power Drift = 0.025 dB

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

Peak H-field in A/m

Grid 1 **0.298 M4**	Grid 2 **0.314 M4**	Grid 3 **0.300 M4**
Grid 4 **0.309 M4**	Grid 5 **0.322 M4**	Grid 6 **0.305 M4**
Grid 7 **0.309 M4**	Grid 8 **0.321 M4**	Grid 9 **0.301 M4**



0 dB = 0.322A/m

Date/Time: 11/08/2009 10:48:18 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_GSM835.da4

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

Program Name: HAC RF H3DV6 Dipole

Communication System: GSM 850; Frequency: 835 MHz;Duty Cycle: 1:8.3

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.192 A/m; Power Drift = 0.021 dB

Maximum value of Total (measured) = 0.180 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 = 0.180 A/m

Probe Modulation Factor = 1.00

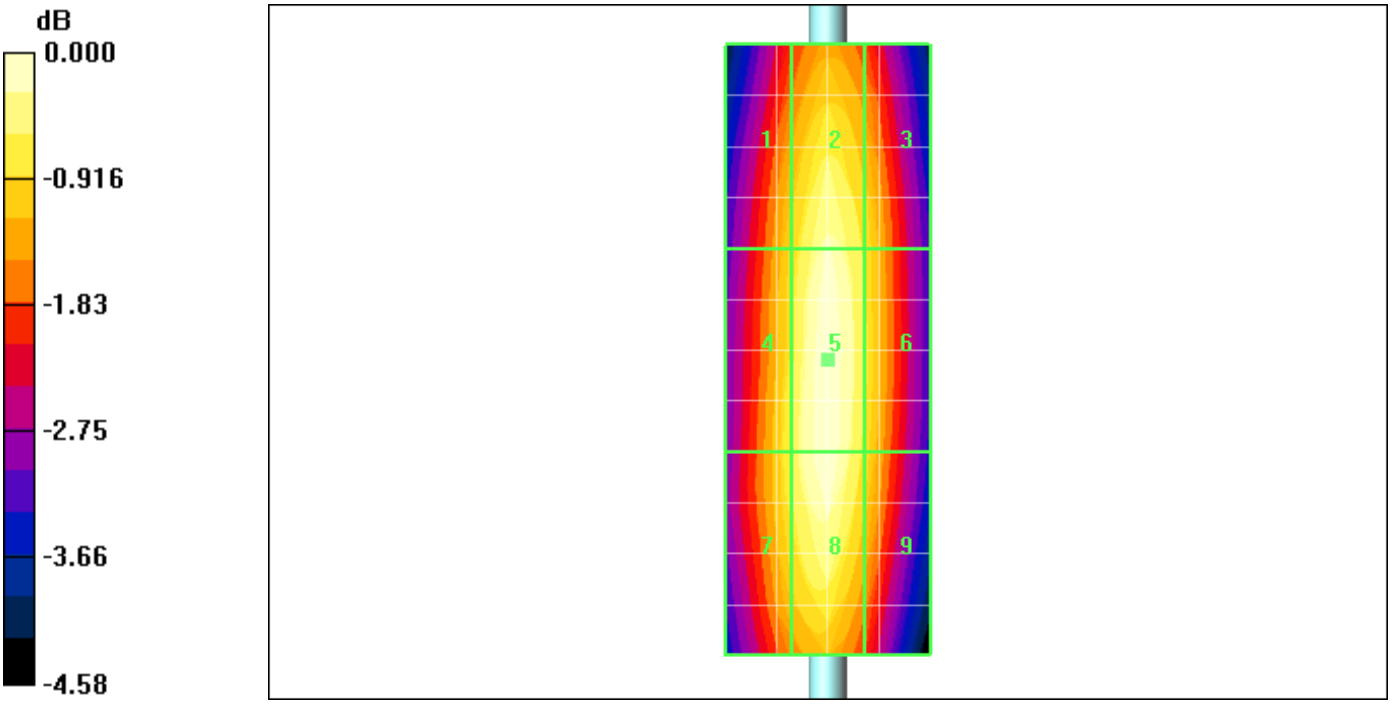
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.192 A/m; Power Drift = 0.021 dB

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

Peak H-field in A/m

Grid 1 **0.164 M4**	Grid 2 **0.175 M4**	Grid 3 **0.167 M4**
Grid 4 **0.170 M4**	Grid 5 **0.180 M4**	Grid 6 **0.169 M4**
Grid 7 **0.170 M4**	Grid 8 **0.179 M4**	Grid 9 **0.166 M4**



0 dB = 0.180A/m

Date/Time: 11/08/2009 10:14:11 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CW835_PMF_CDMA.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.204 A/m; Power Drift = 0.022 dB

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

Probe Modulation Factor = 1.00

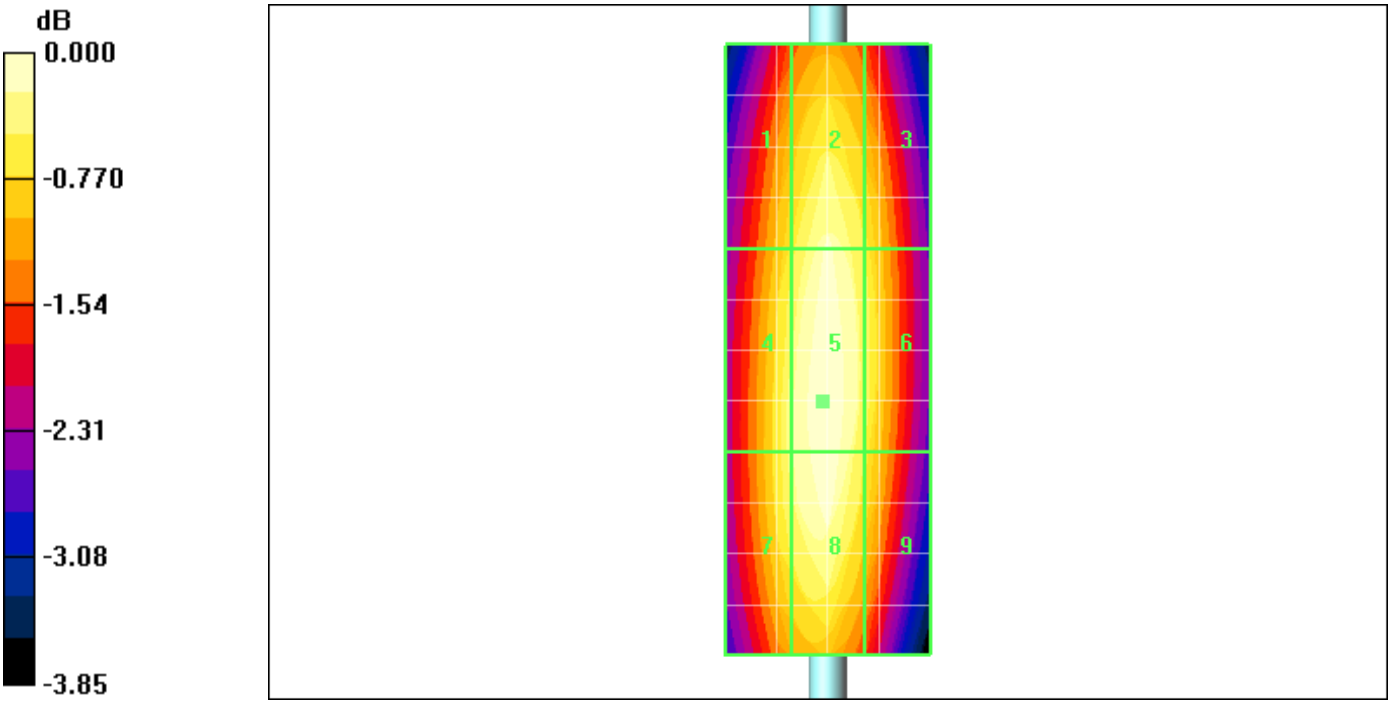
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.204 A/m; Power Drift = 0.022 dB

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

Peak H-field in A/m

Grid 1 **0.179 M4**	Grid 2 **0.187 M4**	Grid 3 **0.181 M4**
Grid 4 **0.185 M4**	Grid 5 **0.191 M4**	Grid 6 **0.183 M4**
Grid 7 **0.185 M4**	Grid 8 **0.190 M4**	Grid 9 **0.181 M4**



0 dB = 0.191A/m

Date/Time: 11/08/2009 10:28:44 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_AM835_PMF_CDMA.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.136 A/m; Power Drift = 0.019 dB

Maximum value of Total (measured) = 0.128 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 = 0.128 A/m

Probe Modulation Factor = 1.00

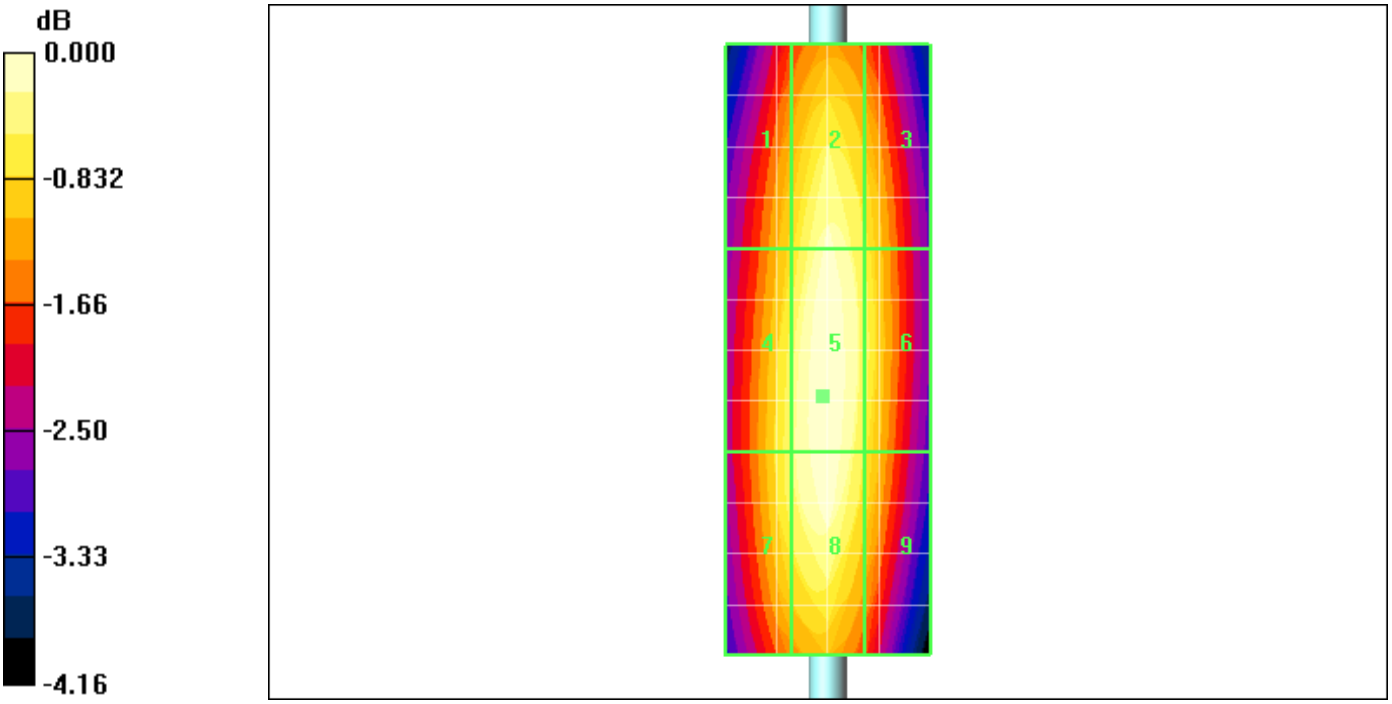
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.136 A/m; Power Drift = 0.019 dB

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

Peak H-field in A/m

Grid 1 **0.118 M4**	Grid 2 **0.125 M4**	Grid 3 **0.121 M4**
Grid 4 **0.123 M4**	Grid 5 **0.128 M4**	Grid 6 **0.122 M4**
Grid 7 **0.123 M4**	Grid 8 **0.128 M4**	Grid 9 **0.120 M4**



0 dB = 0.128A/m

Date/Time: 11/08/2009 10:58:29 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CDMA835.da4

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

Program Name: HAC RF H3DV6 Dipole

Communication System: CDMA 800; 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 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.192 A/m; Power Drift = -0.048 dB

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

Probe Modulation Factor = 1.00

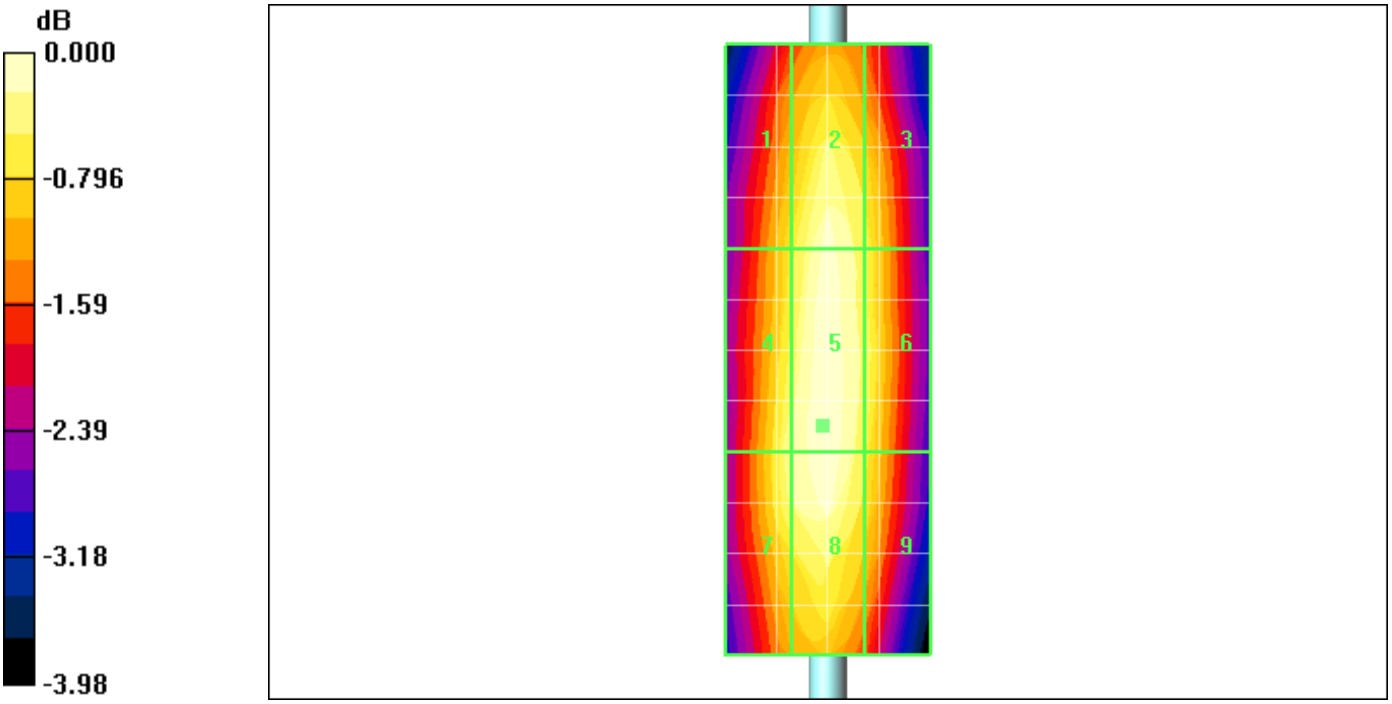
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.192 A/m; Power Drift = -0.048 dB

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

Peak H-field in A/m

Grid 1 **0.166 M4**	Grid 2 **0.175 M4**	Grid 3 **0.170 M4**
Grid 4 **0.174 M4**	Grid 5 **0.178 M4**	Grid 6 **0.171 M4**
Grid 7 **0.174 M4**	Grid 8 **0.177 M4**	Grid 9 **0.169 M4**



0 dB = 0.178A/m

Date/Time: 11/08/2009 11:47:11 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CW1880_20.00dBm.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.493 A/m; Power Drift = -0.077 dB

Maximum value of Total (measured) = 0.451 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 = 0.451 A/m

Probe Modulation Factor = 1.00

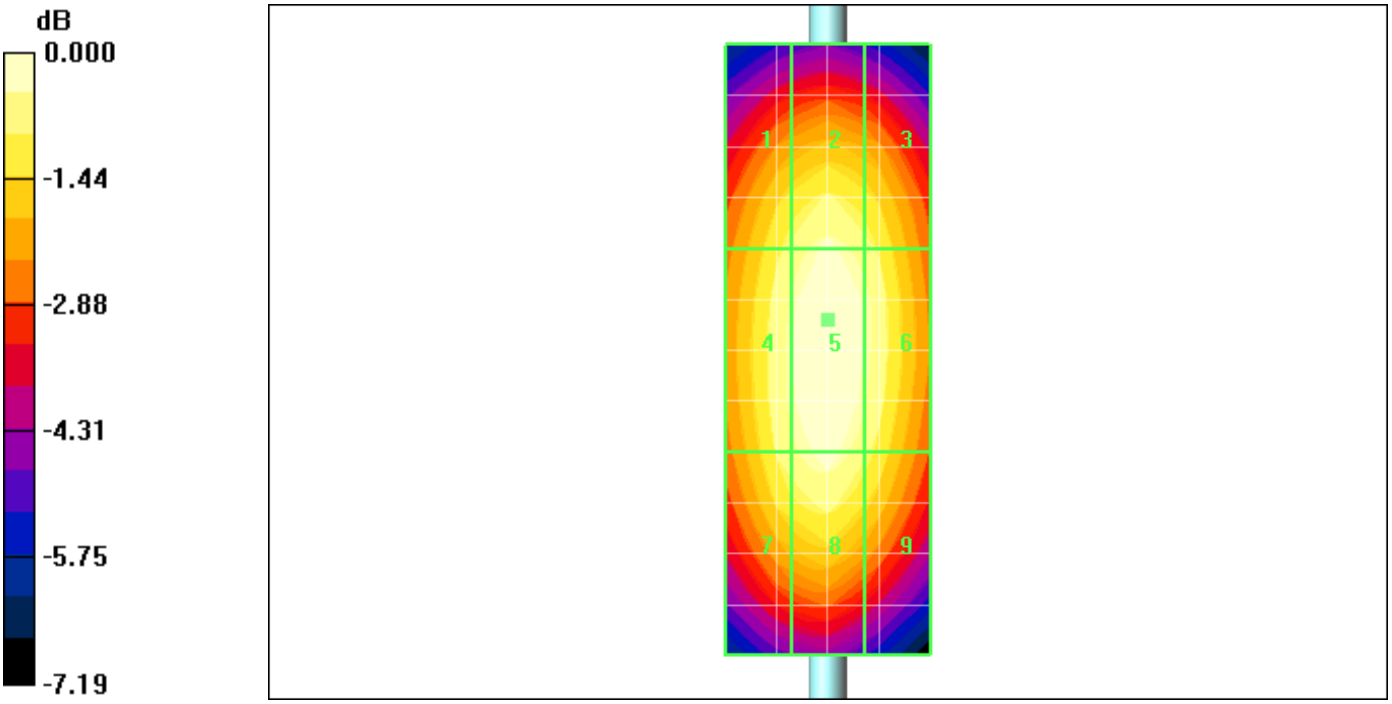
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.493 A/m; Power Drift = -0.077 dB

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

Peak H-field in A/m

Grid 1 **0.415 M2**	Grid 2 **0.433 M2**	Grid 3 **0.418 M2**
Grid 4 **0.433 M2**	Grid 5 **0.451 M2**	Grid 6 **0.435 M2**
Grid 7 **0.422 M2**	Grid 8 **0.436 M2**	Grid 9 **0.415 M2**



0 dB = 0.451A/m

Date/Time: 11/08/2009 11:51:04 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CW1880_PMF_GSM.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.334 A/m; Power Drift = 0.122 dB

Maximum value of Total (measured) = 0.317 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 = 0.317 A/m

Probe Modulation Factor = 1.00

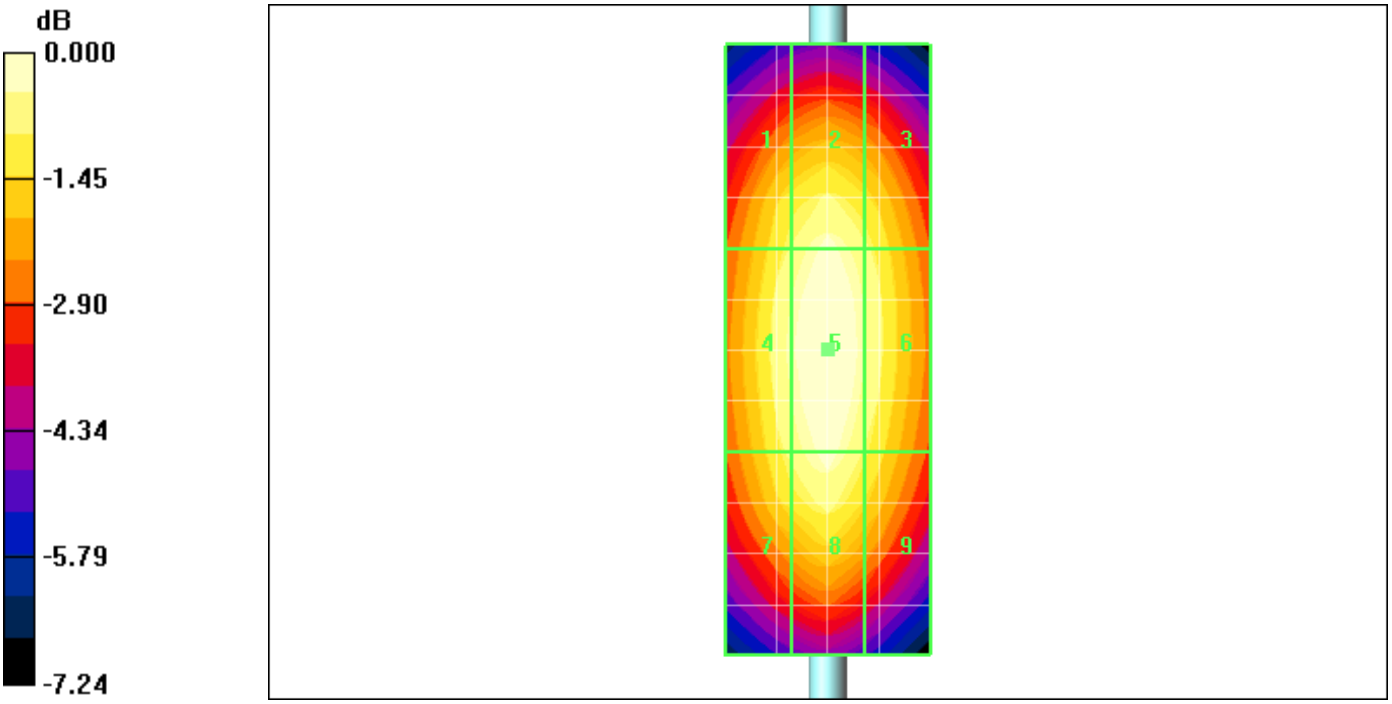
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.334 A/m; Power Drift = 0.122 dB

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

Peak H-field in A/m

Grid 1 **0.291 M3**	Grid 2 **0.305 M3**	Grid 3 **0.291 M3**
Grid 4 **0.304 M3**	Grid 5 **0.317 M3**	Grid 6 **0.301 M3**
Grid 7 **0.293 M3**	Grid 8 **0.306 M3**	Grid 9 **0.287 M3**



0 dB = 0.317A/m

Date/Time: 11/08/2009 12:05:51 PM

Test Laboratory: RTS

File Name: HAC_H_Dipole_AM1880_PMF_GSM.da4

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

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; Frequency: 1880 MHz;Duty Cycle: 1:1

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

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.221 A/m; Power Drift = 0.058 dB

Maximum value of Total (measured) = 0.206 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 = 0.207 A/m

Probe Modulation Factor = 1.00

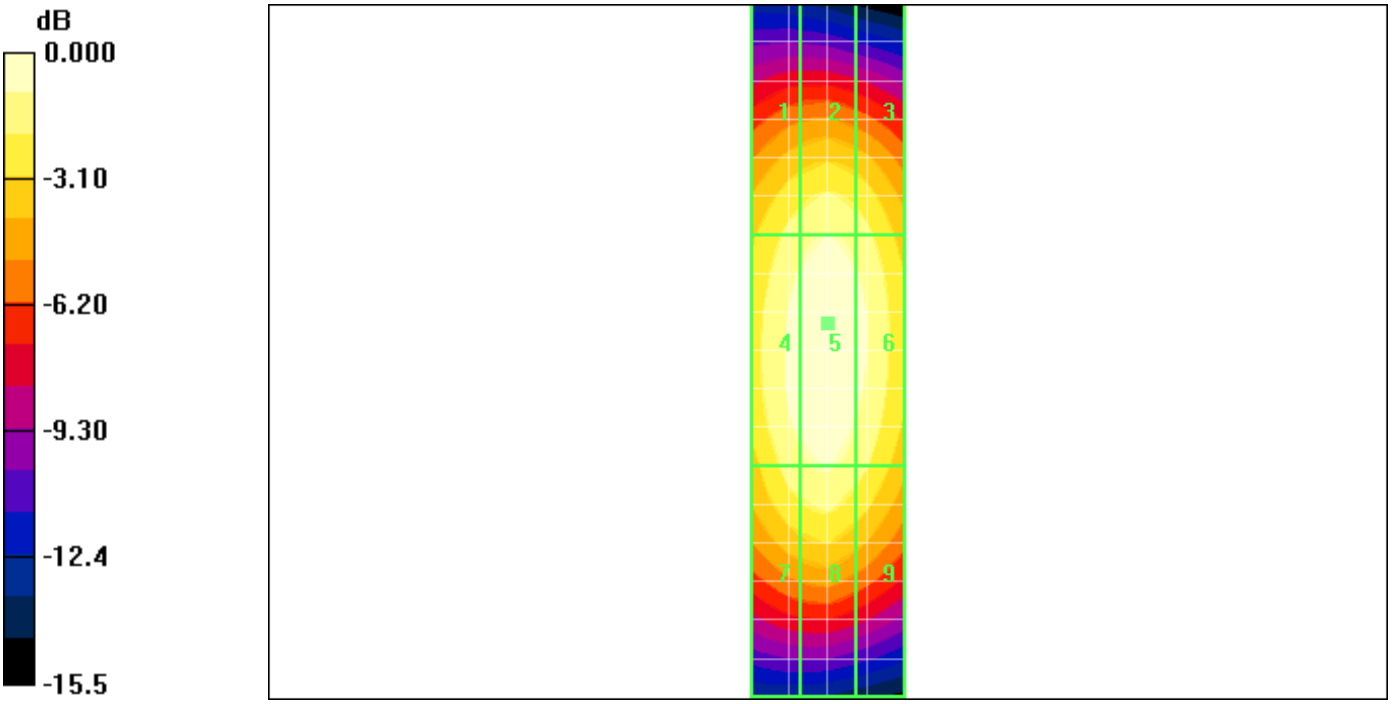
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.221 A/m; Power Drift = 0.058 dB

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

Peak H-field in A/m

Grid 1 **0.176 M4**	Grid 2 **0.185 M4**	Grid 3 **0.176 M4**
Grid 4 **0.196 M3**	Grid 5 **0.207 M3**	Grid 6 **0.194 M3**
Grid 7 **0.179 M4**	Grid 8 **0.187 M4**	Grid 9 **0.173 M4**



0 dB = 0.207A/m

Date/Time: 11/08/2009 11:28:13 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_GSM1880.da4

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

Program Name: HAC RF H3DV6 Dipole

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.151 A/m; Power Drift = -0.003 dB

Maximum value of Total (measured) = 0.141 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 = 0.141 A/m

Probe Modulation Factor = 1.00

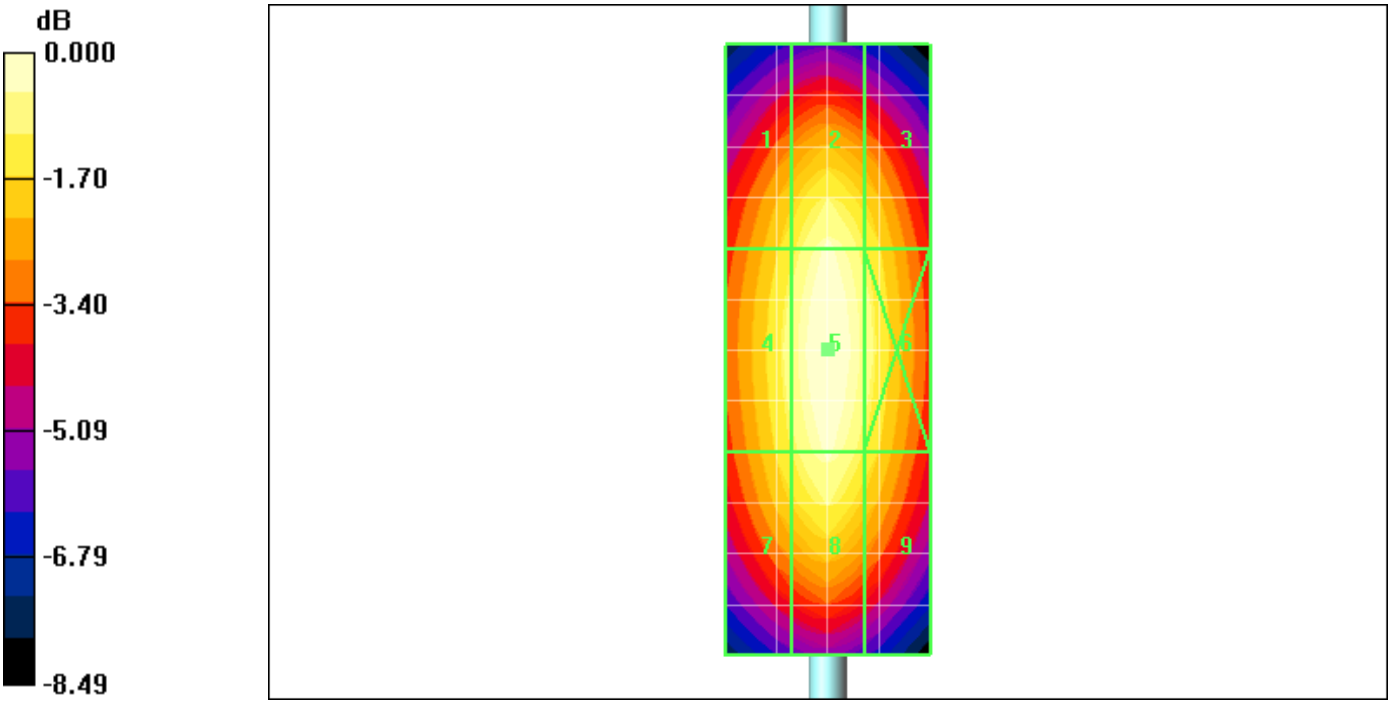
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.151 A/m; Power Drift = -0.003 dB

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

Peak H-field in A/m

Grid 1 **0.122 M4**	Grid 2 **0.134 M4**	Grid 3 **0.124 M4**
Grid 4 **0.129 M4**	Grid 5 **0.141 M3**	Grid 6 **0.130 M4**
Grid 7 **0.124 M4**	Grid 8 **0.134 M4**	Grid 9 **0.123 M4**



0 dB = 0.141A/m

Date/Time: 11/08/2009 11:58:39 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CW1880_PMF_CDMA.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.167 A/m; Power Drift = 0.037 dB

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

Probe Modulation Factor = 1.00

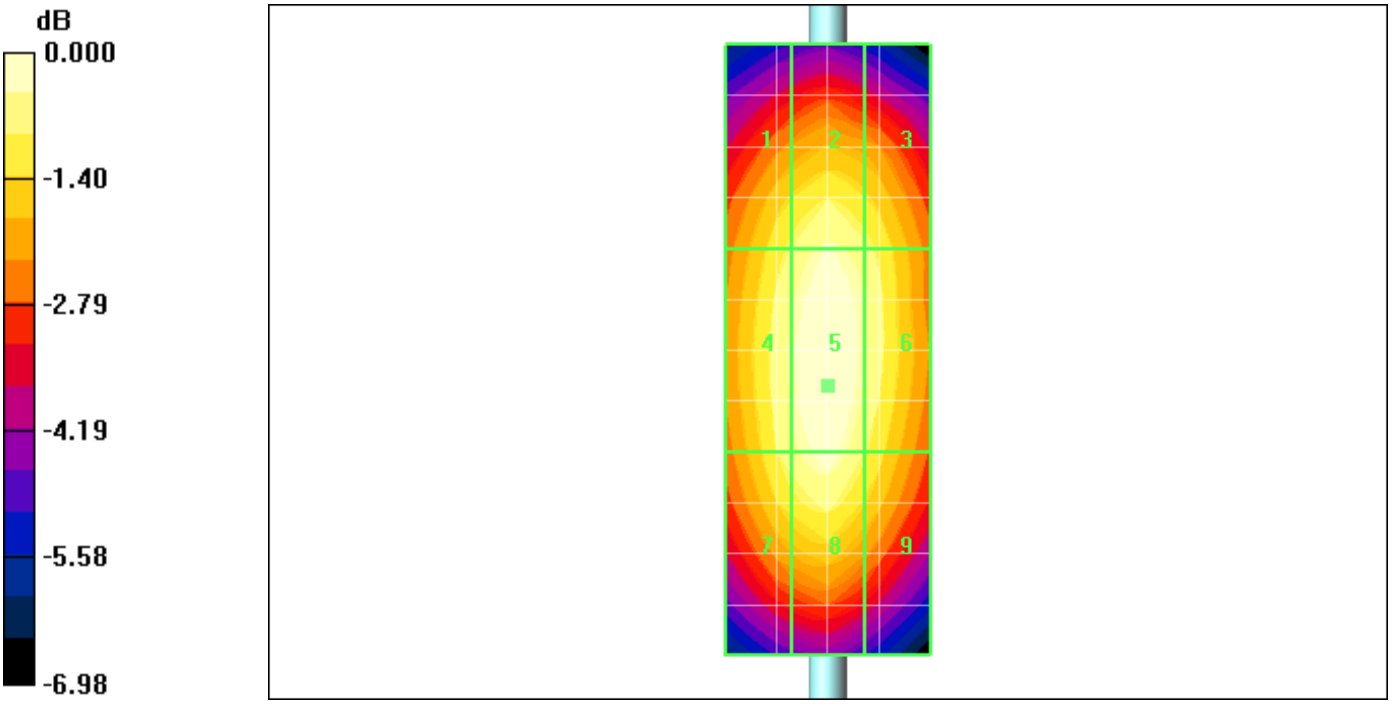
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.167 A/m; Power Drift = 0.037 dB

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

Peak H-field in A/m

Grid 1 **0.140 M4**	Grid 2 **0.146 M4**	Grid 3 **0.141 M4**
Grid 4 **0.146 M4**	Grid 5 **0.153 M4**	Grid 6 **0.146 M4**
Grid 7 **0.143 M4**	Grid 8 **0.149 M4**	Grid 9 **0.139 M4**



0 dB = 0.153A/m

Date/Time: 11/08/2009 12:10:34 PM

Test Laboratory: RTS

File Name: HAC_H_Dipole_AM1880_PMF_CDMA.da4

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

Program Name: HAC RF H3DV6 Dipole

Communication System: AM 80%; Frequency: 1880 MHz;Duty Cycle: 1:1

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

Phantom section: TCoil Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.106 A/m; Power Drift = -0.053 dB

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

H Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 0.098 A/m

Probe Modulation Factor = 1.00

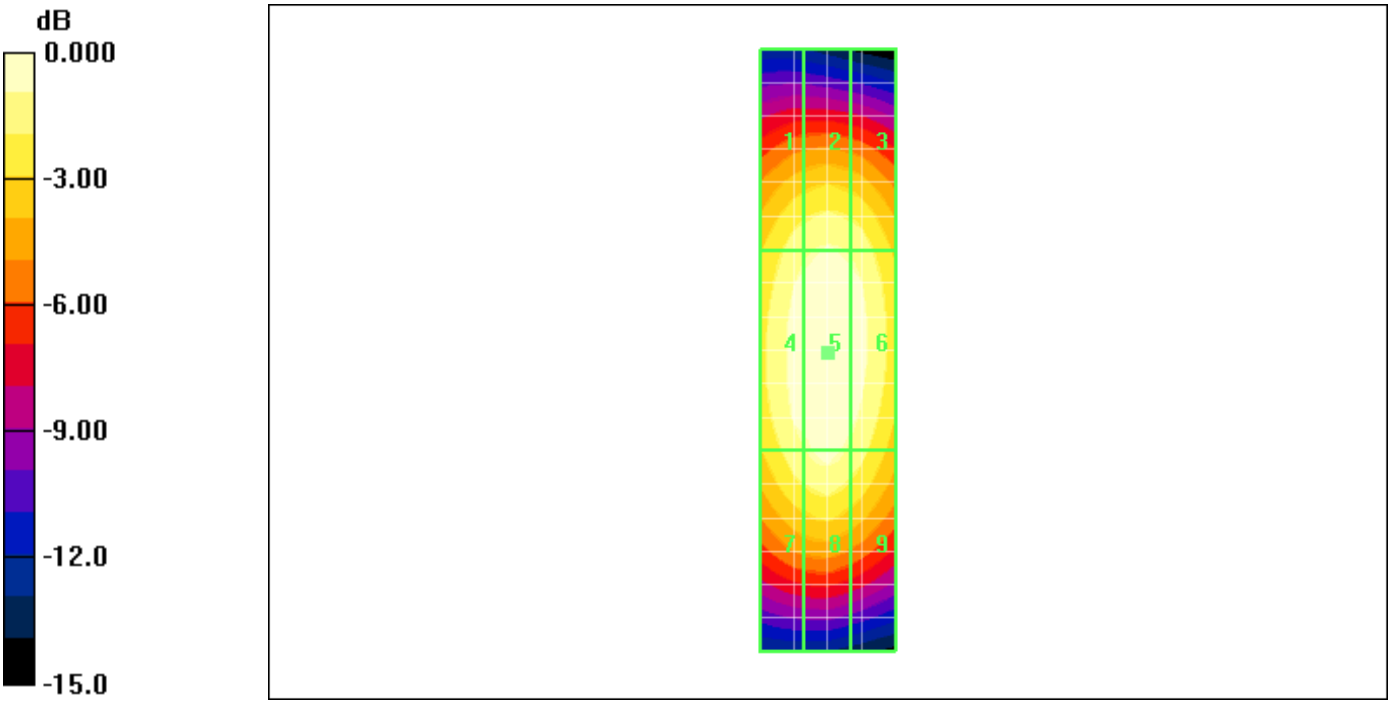
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.106 A/m; Power Drift = -0.053 dB

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

Peak H-field in A/m

Grid 1 **0.085 M4**	Grid 2 **0.089 M4**	Grid 3 **0.086 M4**
Grid 4 **0.094 M4**	Grid 5 **0.098 M4**	Grid 6 **0.094 M4**
Grid 7 **0.087 M4**	Grid 8 **0.091 M4**	Grid 9 **0.085 M4**



0 dB = 0.098A/m

Date/Time: 11/08/2009 11:07:04 AM

Test Laboratory: RTS

File Name: HAC_H_Dipole_CDMA1880.da4

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

Program Name: HAC RF H3DV6 Dipole

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.169 A/m; Power Drift = 0.099 dB

Maximum value of Total (measured) = 0.163 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 = 0.164 A/m

Probe Modulation Factor = 1.00

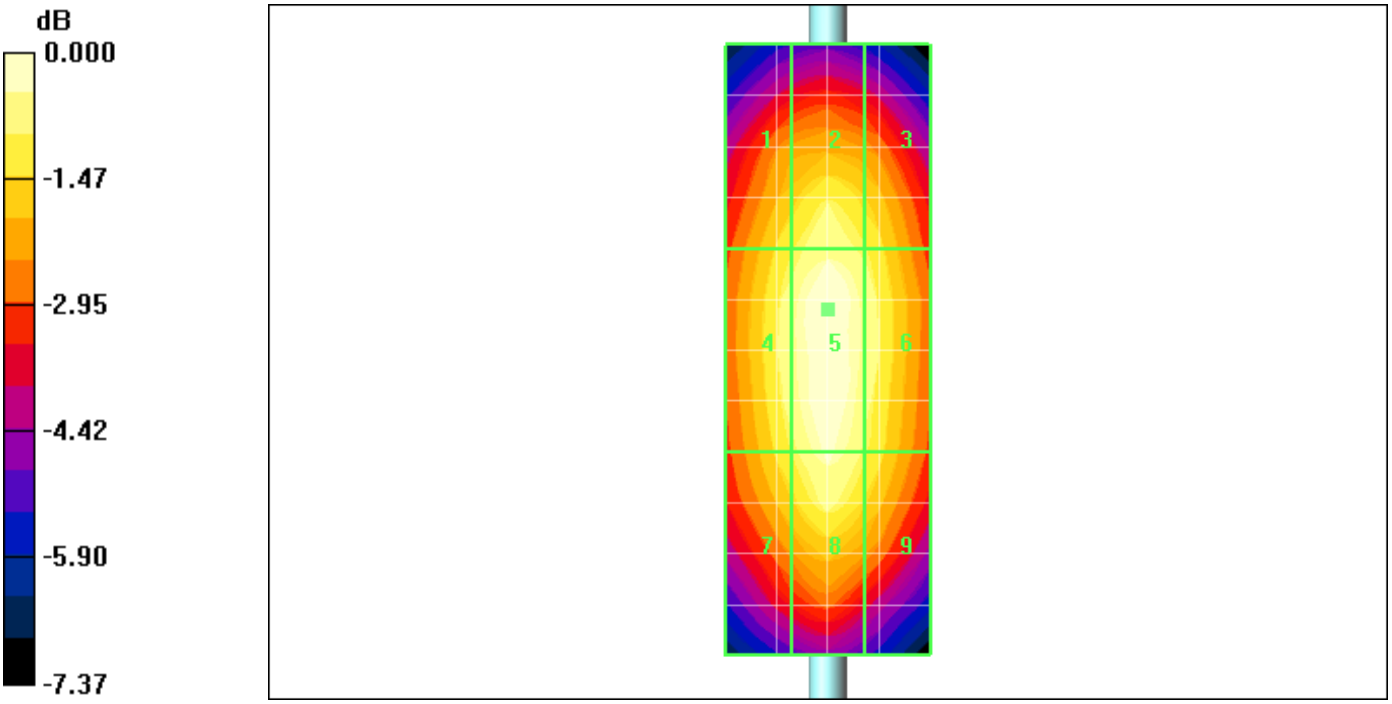
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.169 A/m; Power Drift = 0.099 dB

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

Peak H-field in A/m

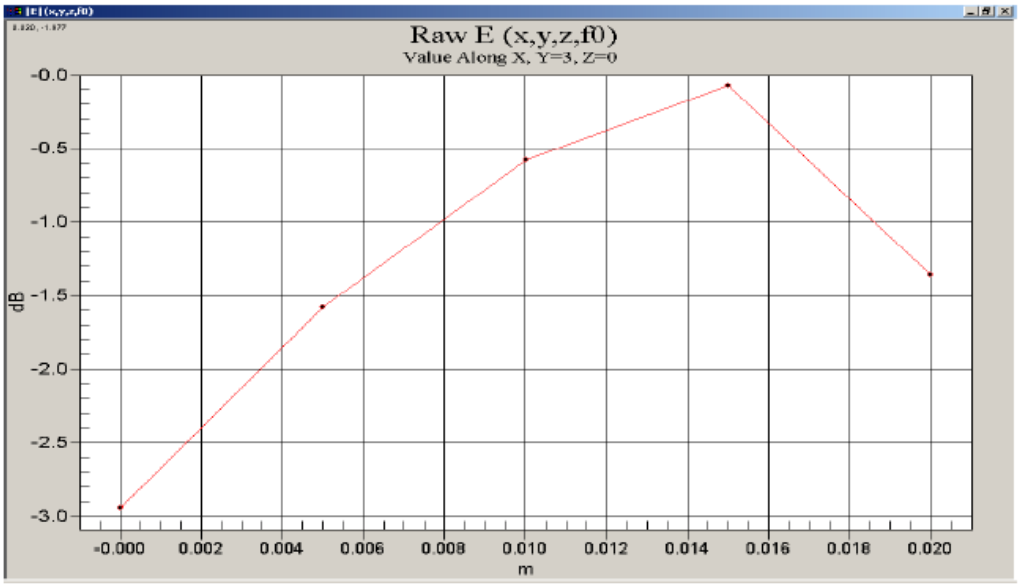
Grid 1 **0.146 M4**	Grid 2 **0.153 M4**	Grid 3 **0.147 M4**
Grid 4 **0.154 M4**	Grid 5 **0.164 M4**	Grid 6 **0.154 M4**
Grid 7 **0.147 M4**	Grid 8 **0.157 M4**	Grid 9 **0.148 M4**



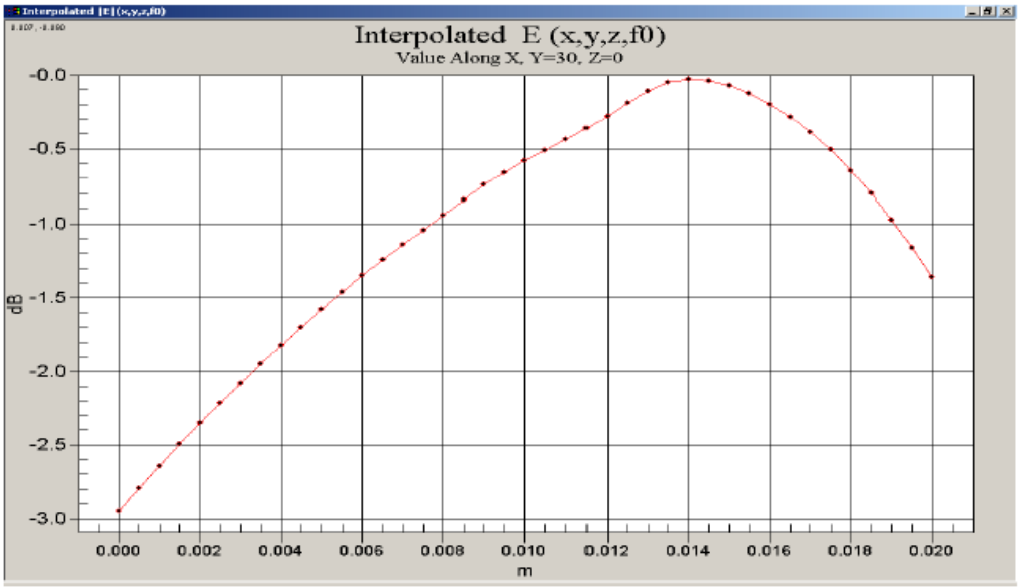
0 dB = 0.164A/m

Justification of Step Size and Interpolation

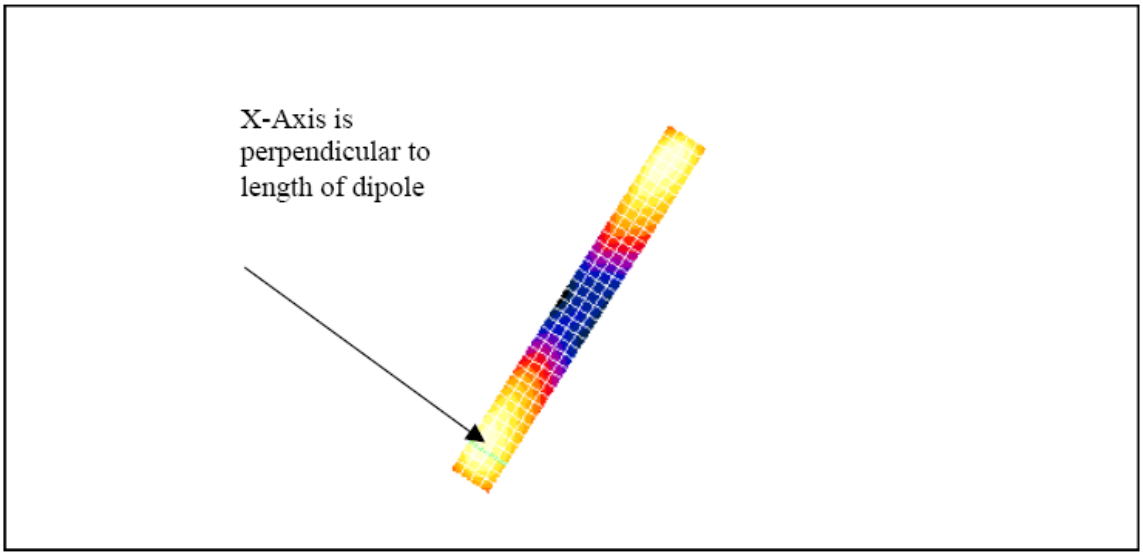
This section demonstrates that a 5mm step size with interpolation provides sufficient resolution for RF emissions measurements. The DASY 4 uses interpolation algorithms to derive 9 interpolated points between every measured point.



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



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



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

Comparison of 5mm and 2mm step sizes

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

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

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

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

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

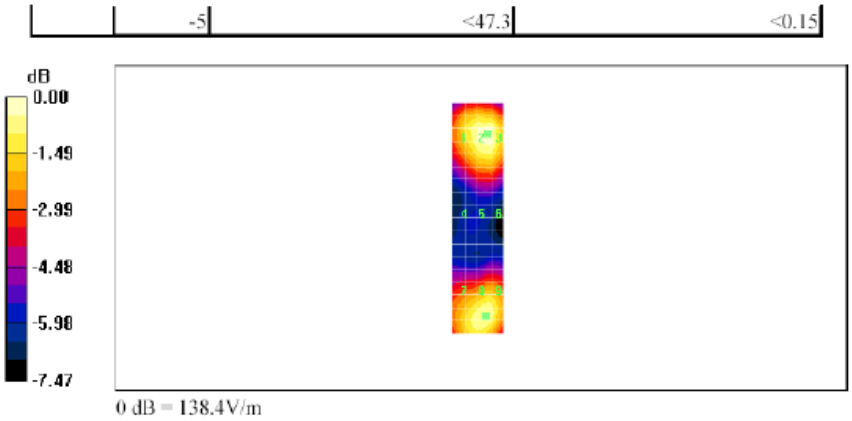
E in V/m (Time averaged)

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

E in V/m (Slot averaged)

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

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



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

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_2mm step_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

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

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

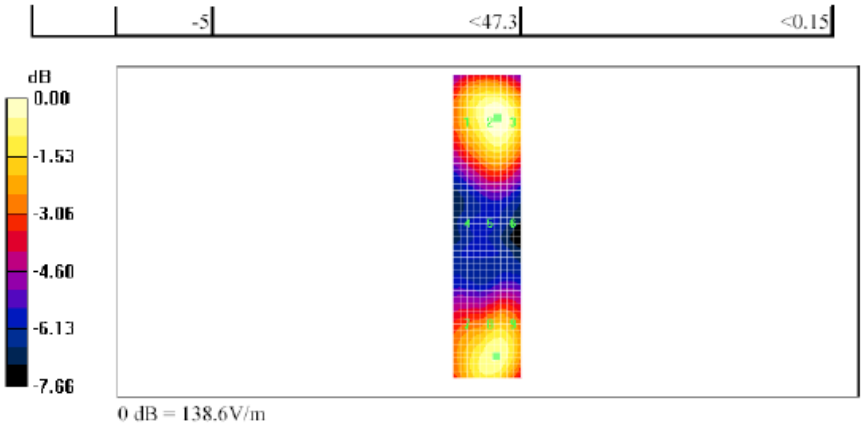
E in V/m (Time averaged)

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

E in V/m (Slot averaged)

Grid 1 **123.1**	Grid 2 **138.6**	Grid 3 **138.6**
Grid 4 **81.4**	Grid 5 **92.1**	Grid 6 **91.6**
Grid 7 **121.3**	Grid 8 **131.2**	Grid 9 **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 12:43:02 PM

Lab: RIM Testing Services (RTS)

HAC_H_Dipole_CW 1880_5 mm step_07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

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

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

H in A/m (Time averaged)

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

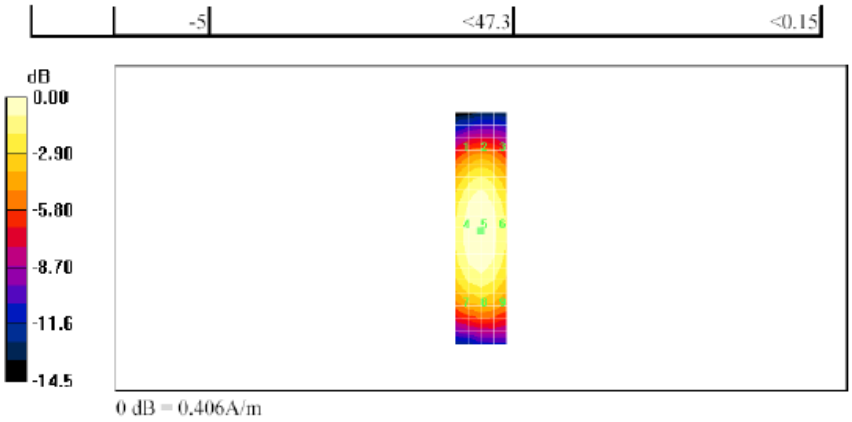
H in A/m (Slot averaged)

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

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

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

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)

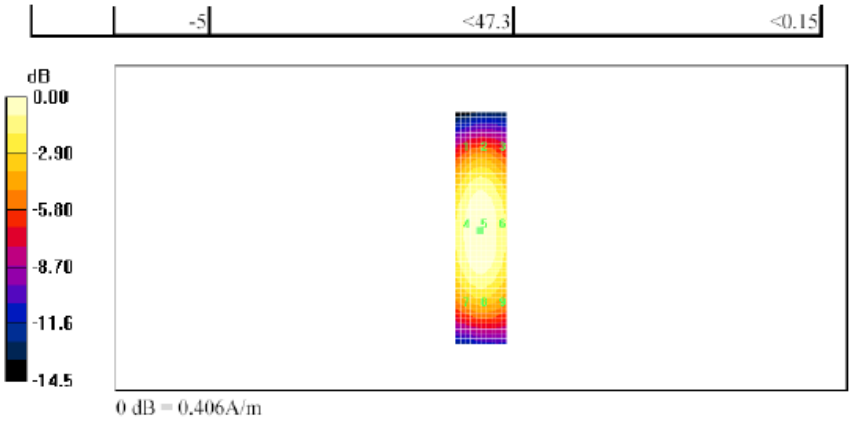
Grid 1 **0.347**	Grid 2 **0.361**	Grid 3 **0.348**
Grid 4 **0.394**	Grid 5 **0.406**	Grid 6 **0.391**
Grid 7 **0.367**	Grid 8 **0.380**	Grid 9 **0.365**

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

A.3 RF emissions plots

Date/Time: 21/08/2009 12:00:37 PM

Test Laboratory: RTS

File Name: HAC_E_GSM850_low_Chan.da4

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

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: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 107.1 V/m; Power Drift = 0.206 dB

Maximum value of Total (measured) = 83.6 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 = 244.8 V/m

Probe Modulation Factor = 2.91

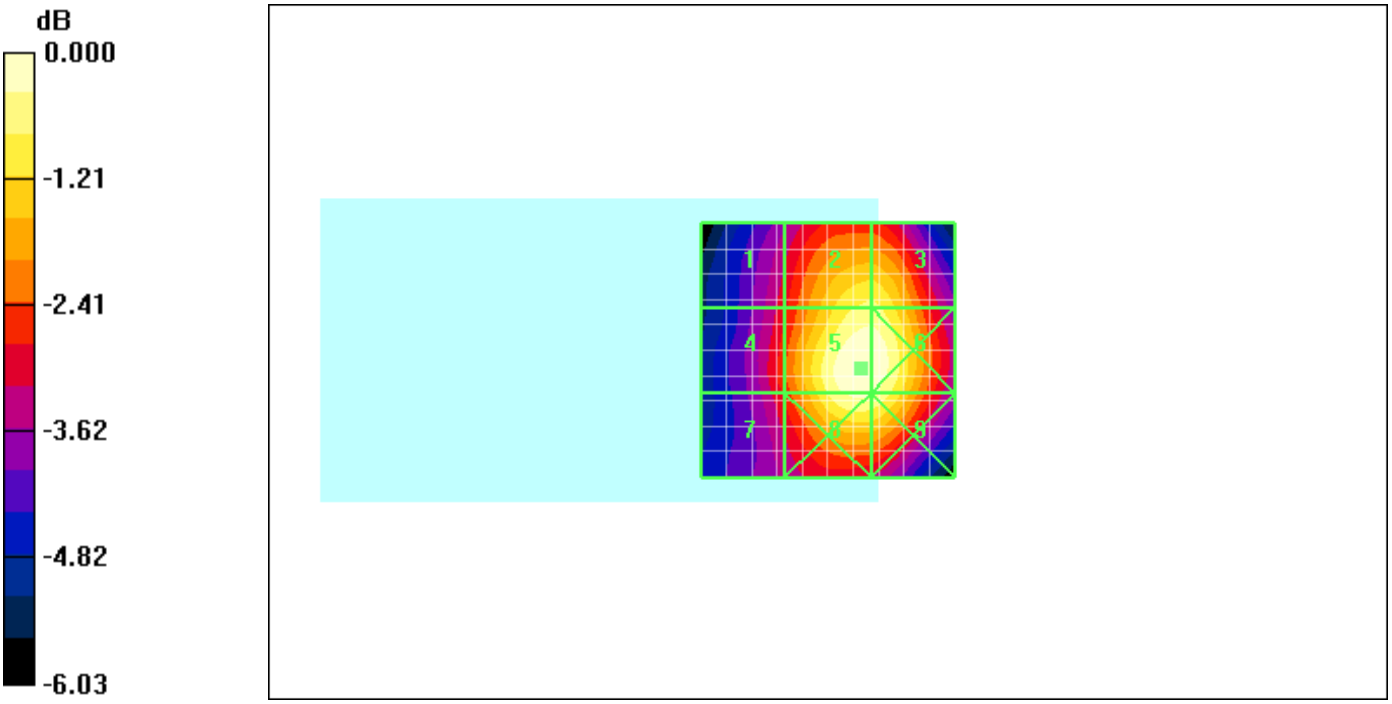
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 107.1 V/m; Power Drift = 0.206 dB

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

Peak E-field in V/m

Grid 1 **175.5 M3**	Grid 2 **226.0 M3**	Grid 3 **226.0 M3**
Grid 4 **184.7 M3**	Grid 5 **244.8 M3**	Grid 6 **243.6 M3**
Grid 7 **179.7 M3**	Grid 8 **236.8 M3**	Grid 9 **235.1 M3**



0 dB = 244.8V/m

Date/Time: 21/08/2009 12:07:20 PM

Test Laboratory: RTS

File Name: HAC_E_GSM850_mid_Chan.da4

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

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: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 116.0 V/m; Power Drift = -0.048 dB

Maximum value of Total (measured) = 88.6 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 = 261.3 V/m

Probe Modulation Factor = 2.91

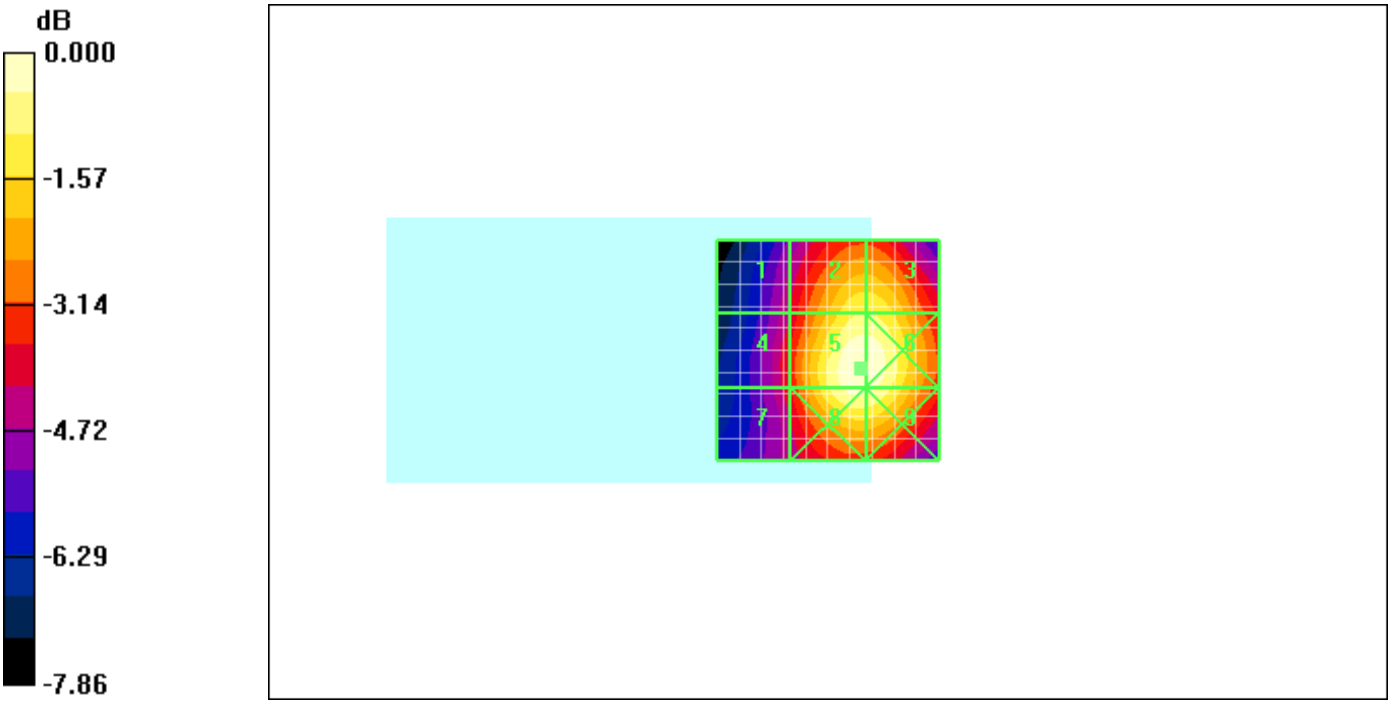
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 116.0 V/m; Power Drift = -0.048 dB

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

Peak E-field in V/m

Grid 1 **163.8 M3**	Grid 2 **233.1 M3**	Grid 3 **233.1 M3**
Grid 4 **174.9 M3**	Grid 5 **261.3 M3**	Grid 6 **260.6 M3**
Grid 7 **171.5 M3**	Grid 8 **253.2 M3**	Grid 9 **251.7 M3**



0 dB = 261.3V/m

Date/Time: 21/08/2009 12:14:04 PM

Test Laboratory: RTS

File Name: HAC_E_GSM850_high_Chan.da4

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

Program Name: HAC RF ER3D Device

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 118.9 V/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 85.8 V/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 253.0 V/m

Probe Modulation Factor = 2.91

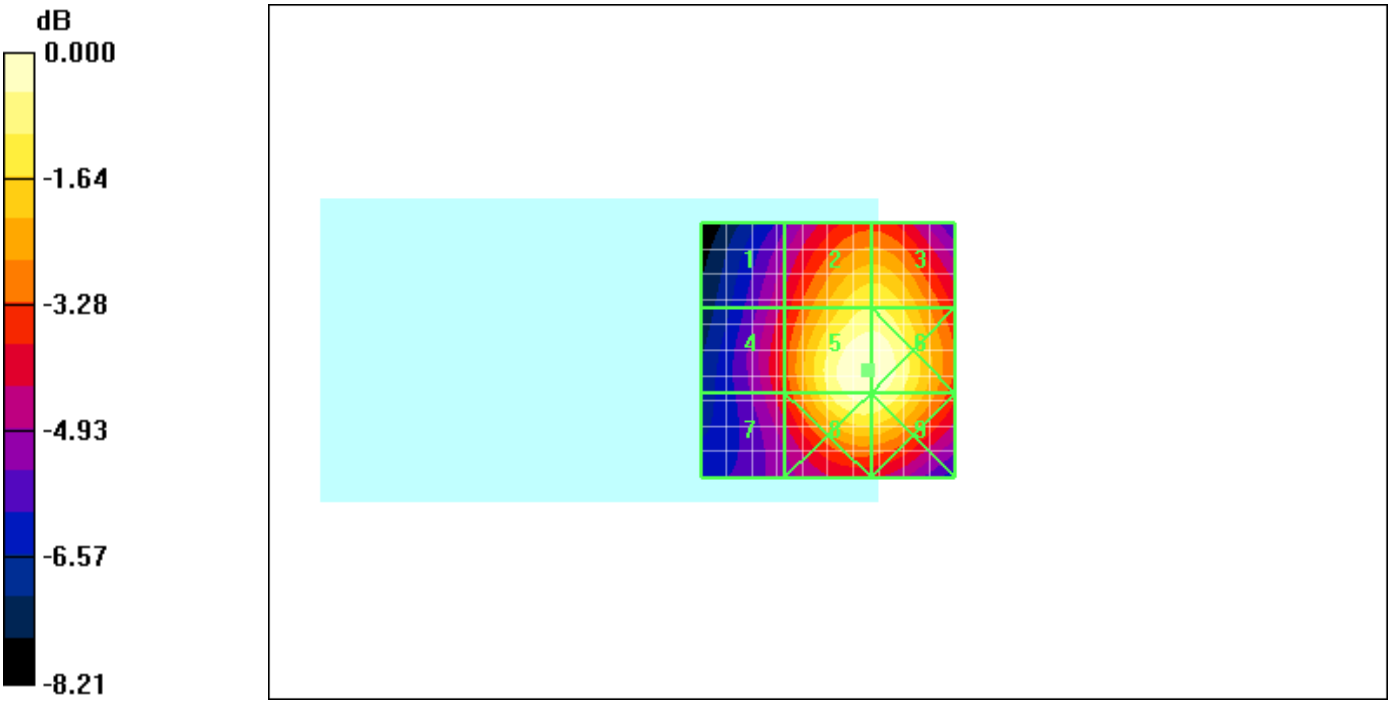
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 118.9 V/m; Power Drift = -0.016 dB

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

Peak E-field in V/m

Grid 1 **157.5 M3**	Grid 2 **224.3 M3**	Grid 3 **224.4 M3**
Grid 4 **170.1 M3**	Grid 5 **253.0 M3**	Grid 6 **252.8 M3**
Grid 7 **164.1 M3**	Grid 8 **244.1 M3**	Grid 9 **242.4 M3**



0 dB = 253.0V/m

Date/Time: 17/08/2009 10:38:06 AM

Test Laboratory: RTS

File Name: HAC_E_CDMA800_low_Chan.da4

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

Program Name: HAC RF ER3D Device

Communication System: CDMA 800; Frequency: 824.7 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: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 81.8 V/m; Power Drift = 0.043 dB

Maximum value of Total (measured) = 66.0 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 = 71.4 V/m

Probe Modulation Factor = 1.08

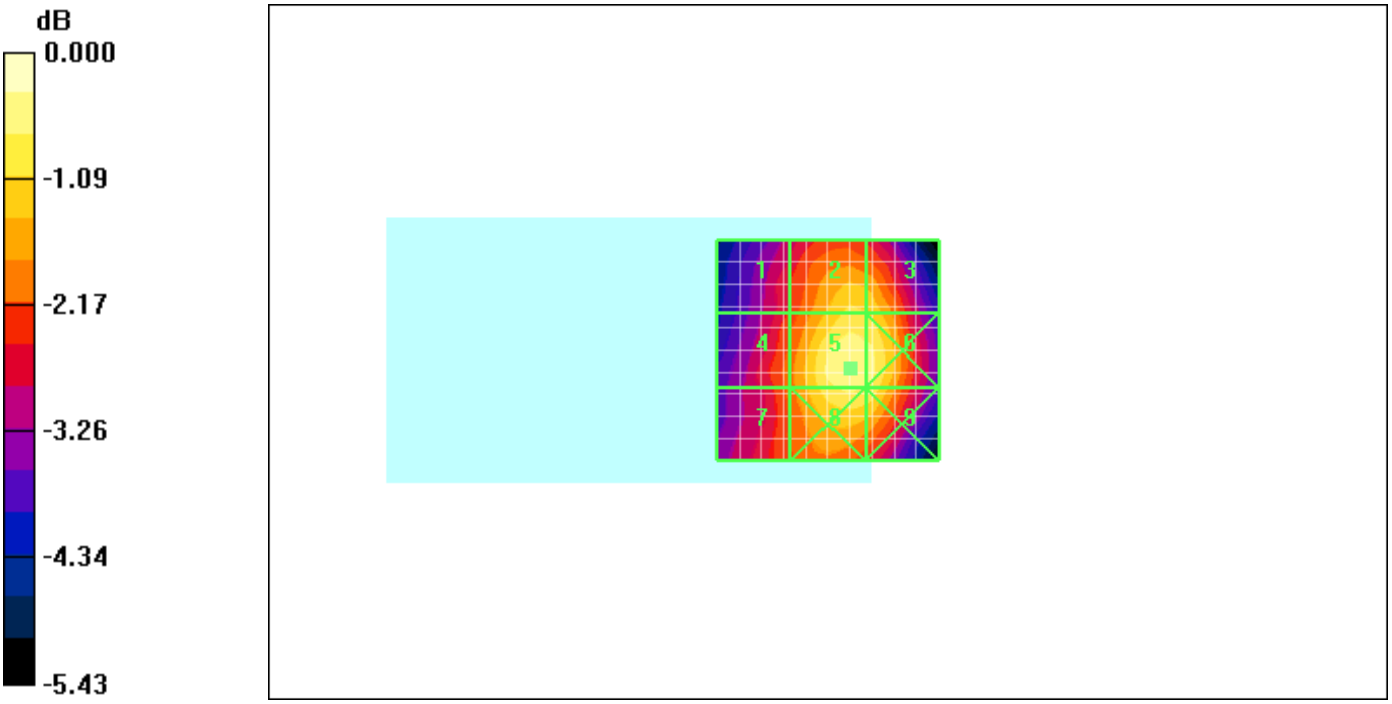
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 81.8 V/m; Power Drift = 0.043 dB

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

Peak E-field in V/m

Grid 1 **56.2 M4**	Grid 2 **66.4 M4**	Grid 3 **65.9 M4**
Grid 4 **59.6 M4**	Grid 5 **71.4 M4**	Grid 6 **70.3 M4**
Grid 7 **59.1 M4**	Grid 8 **69.1 M4**	Grid 9 **68.6 M4**



0 dB = 71.4V/m

Date/Time: 17/08/2009 10:44:22 AM

Test Laboratory: RTS

File Name: HAC_E_CDMA800_mid_Chan.da4

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

Program Name: HAC RF ER3D Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 91.5 V/m; Power Drift = 0.148 dB

Maximum value of Total (measured) = 74.2 V/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 80.6 V/m

Probe Modulation Factor = 1.08

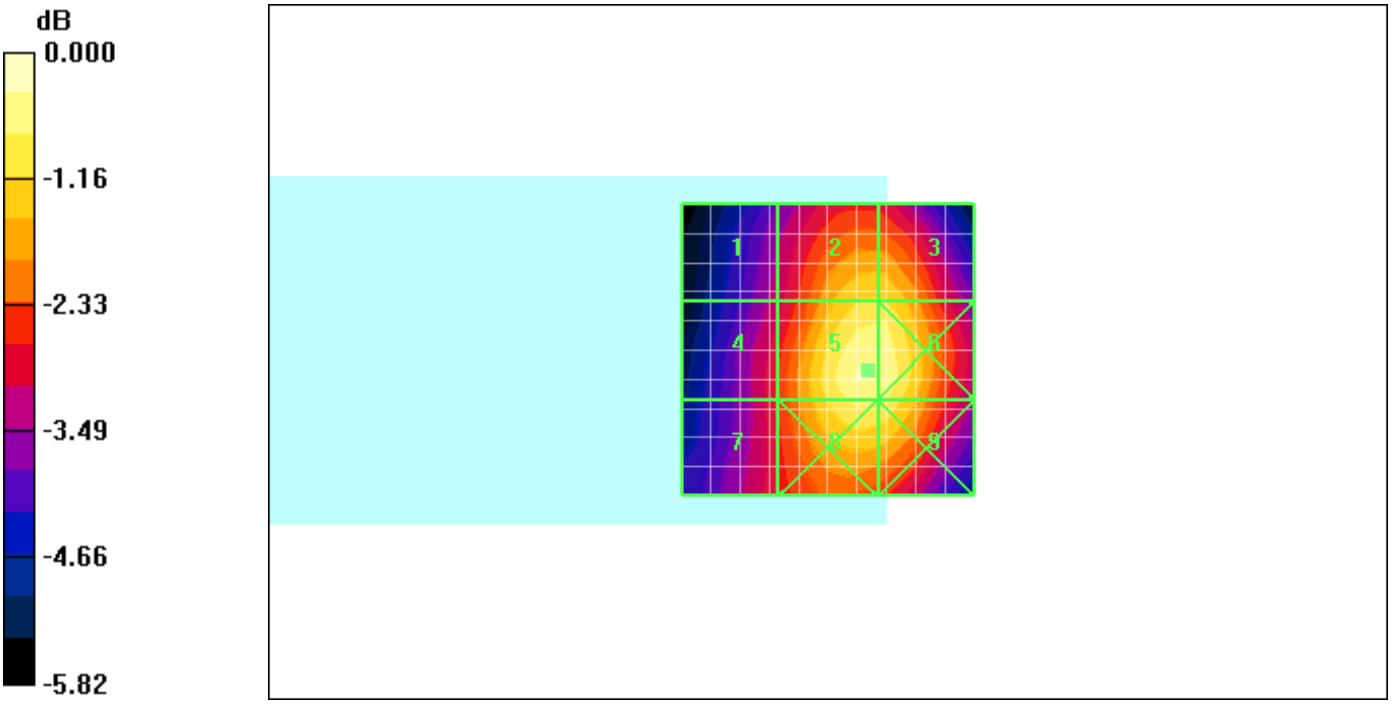
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 91.5 V/m; Power Drift = 0.148 dB

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

Peak E-field in V/m

Grid 1 **58.1 M4**	Grid 2 **74.1 M4**	Grid 3 **74.0 M4**
Grid 4 **62.0 M4**	Grid 5 **80.6 M4**	Grid 6 **80.3 M4**
Grid 7 **61.8 M4**	Grid 8 **77.8 M4**	Grid 9 **77.3 M4**



0 dB = 80.6V/m

Date/Time: 17/08/2009 10:50:36 AM

Test Laboratory: RTS

File Name: HAC_E_CDMA800_high_Chan.da4

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

Program Name: HAC RF ER3D Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 97.0 V/m; Power Drift = 0.068 dB

Maximum value of Total (measured) = 76.4 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 = 83.3 V/m

Probe Modulation Factor = 1.08

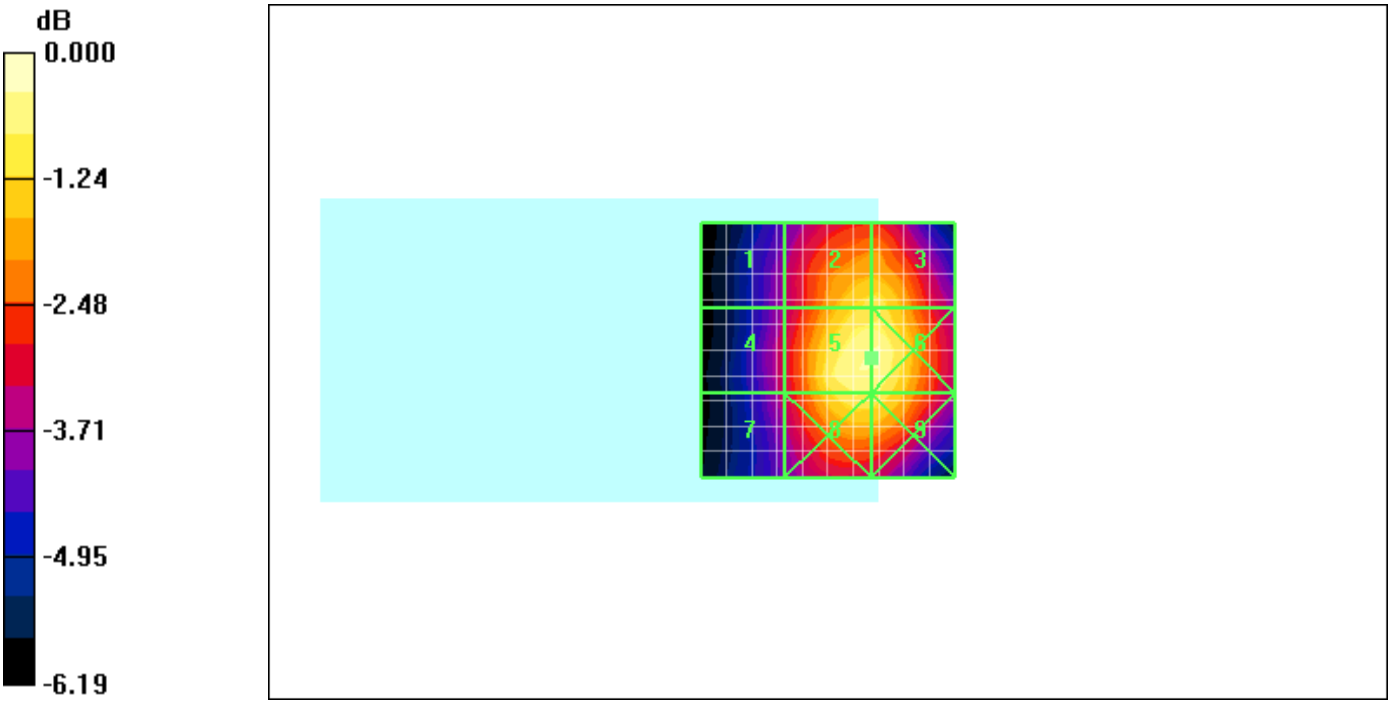
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 97.0 V/m; Power Drift = 0.068 dB

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

Peak E-field in V/m

Grid 1 **57.3 M4**	Grid 2 **77.2 M4**	Grid 3 **77.3 M4**
Grid 4 **60.1 M4**	Grid 5 **83.3 M4**	Grid 6 **83.3 M4**
Grid 7 **58.9 M4**	Grid 8 **79.2 M4**	Grid 9 **78.9 M4**



0 dB = 83.3V/m

Date/Time: 17/08/2009 10:10:17 AM

Test Laboratory: RTS

File Name: HAC_E_GSM1900_Low_Chan.da4

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

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: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 12.6 V/m; Power Drift = 0.002 dB

Maximum value of Total (measured) = 25.4 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 = 53.3 V/m

Probe Modulation Factor = 2.88

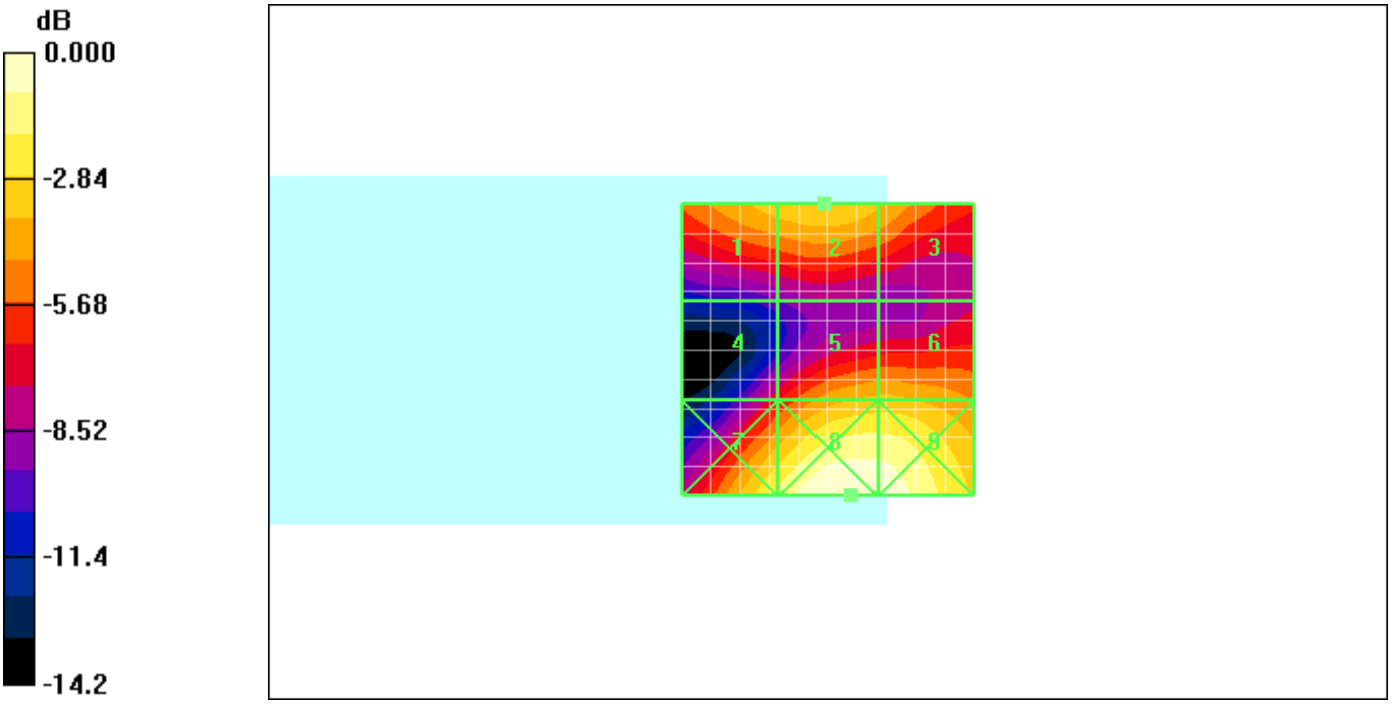
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 12.6 V/m; Power Drift = 0.002 dB

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

Peak E-field in V/m

Grid 1 **50.5 M3**	Grid 2 **53.3 M3**	Grid 3 **48.2 M3**
Grid 4 **33.8 M4**	Grid 5 **48.9 M3**	Grid 6 **49.0 M3**
Grid 7 **61.1 M3**	Grid 8 **73.3 M3**	Grid 9 **72.3 M3**



0 dB = 73.3V/m

Date/Time: 17/08/2009 10:15:28 AM

Test Laboratory: RTS

File Name: HAC_E_GSM1900_Mid_Chan.da4

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

Program Name: HAC RF ER3D Device

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 12.4 V/m; Power Drift = -0.007 dB

Maximum value of Total (measured) = 22.5 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 = 48.2 V/m

Probe Modulation Factor = 2.88

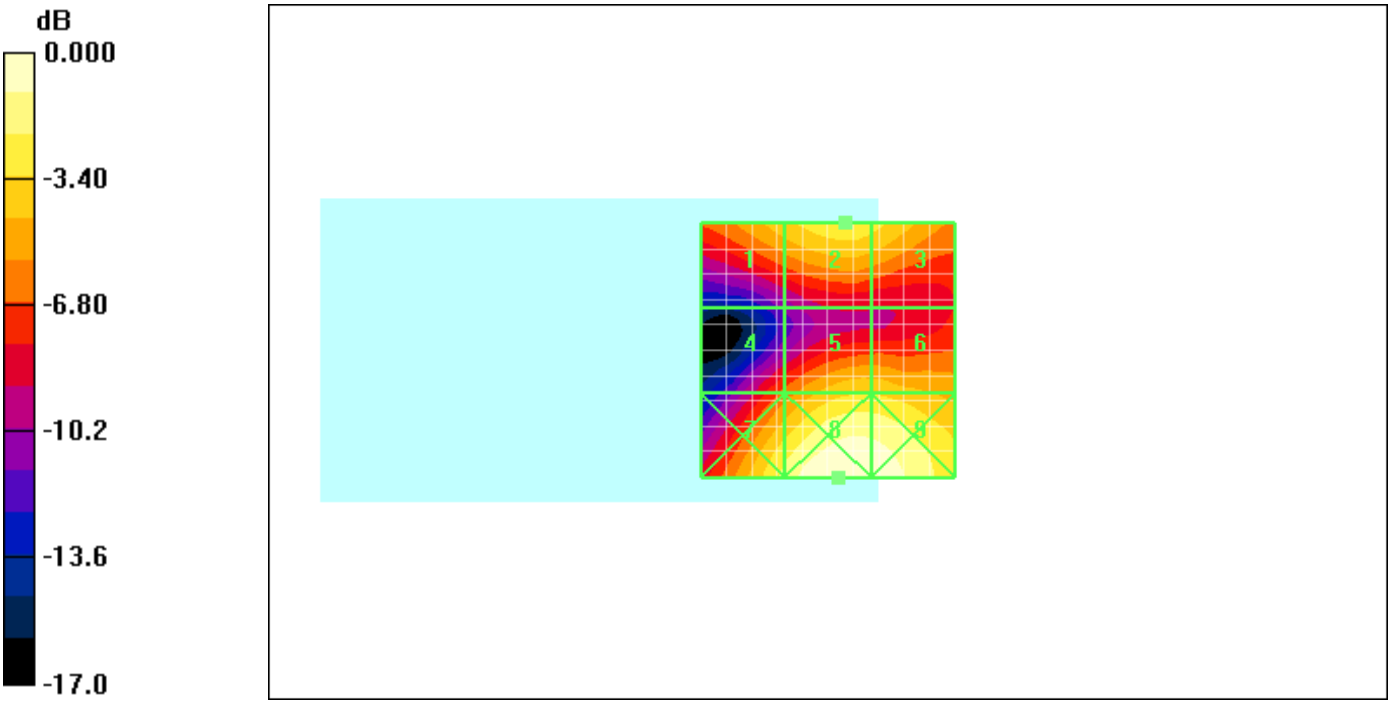
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 12.4 V/m; Power Drift = -0.007 dB

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

Peak E-field in V/m

Grid 1 **42.3 M4**	Grid 2 **48.2 M3**	Grid 3 **46.3 M4**
Grid 4 **31.6 M4**	Grid 5 **44.1 M4**	Grid 6 **44.0 M4**
Grid 7 **52.6 M3**	Grid 8 **65.2 M3**	Grid 9 **63.7 M3**



0 dB = 65.2V/m

Date/Time: 17/08/2009 10:21:10 AM

Test Laboratory: RTS

File Name: HAC_E_GSM1900_High_Chan.da4

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

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: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 11.9 V/m; Power Drift = 0.163 dB

Maximum value of Total (measured) = 19.4 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 = 47.8 V/m

Probe Modulation Factor = 2.88

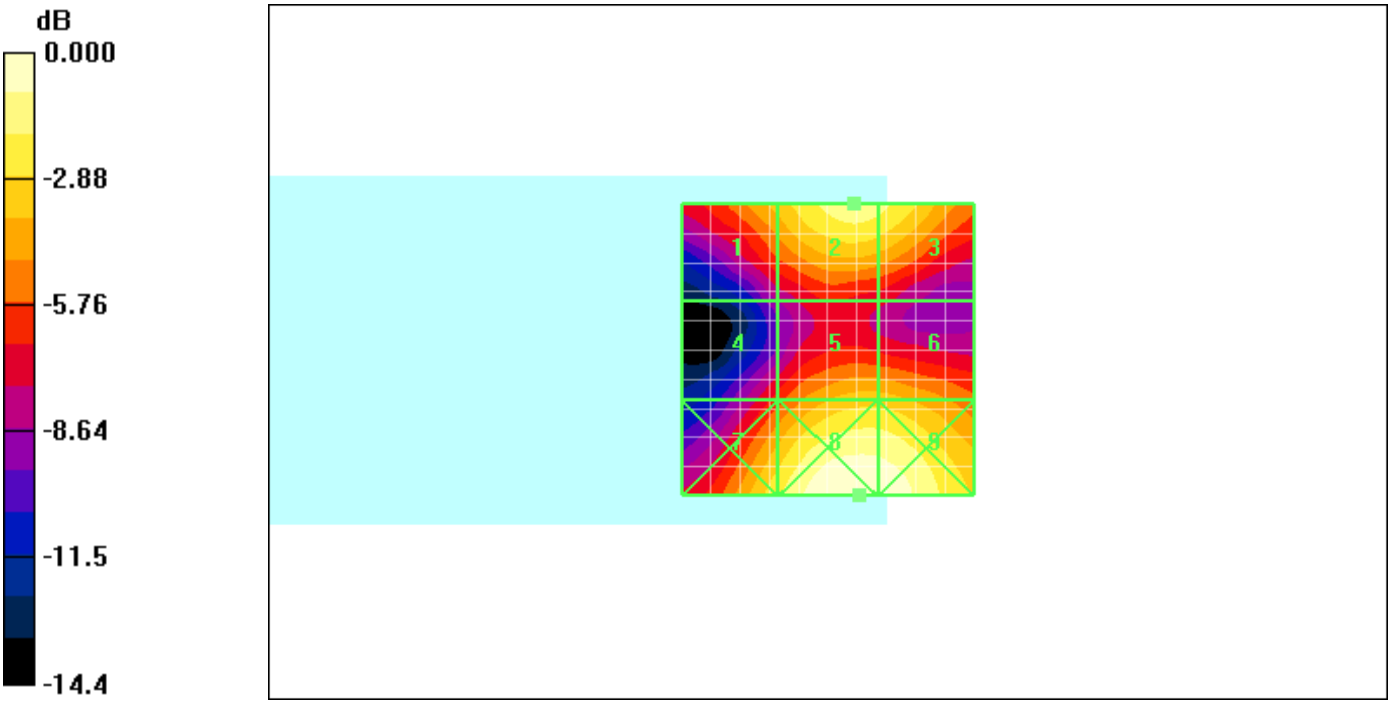
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 11.9 V/m; Power Drift = 0.163 dB

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

Peak E-field in V/m

Grid 1 **38.1 M4**	Grid 2 **47.8 M3**	Grid 3 **46.4 M4**
Grid 4 **27.6 M4**	Grid 5 **38.2 M4**	Grid 6 **38.1 M4**
Grid 7 **44.2 M4**	Grid 8 **55.8 M3**	Grid 9 **55.7 M3**



0 dB = 55.8V/m

Date/Time: 17/08/2009 11:01:22 AM

Test Laboratory: RTS

File Name: HAC_E_CDMA1900_low_Chan.da4

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

Program Name: HAC RF ER3D Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 18.5 V/m; Power Drift = 0.252 dB

Maximum value of Total (measured) = 38.9 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 = 29.6 V/m

Probe Modulation Factor = 1.04

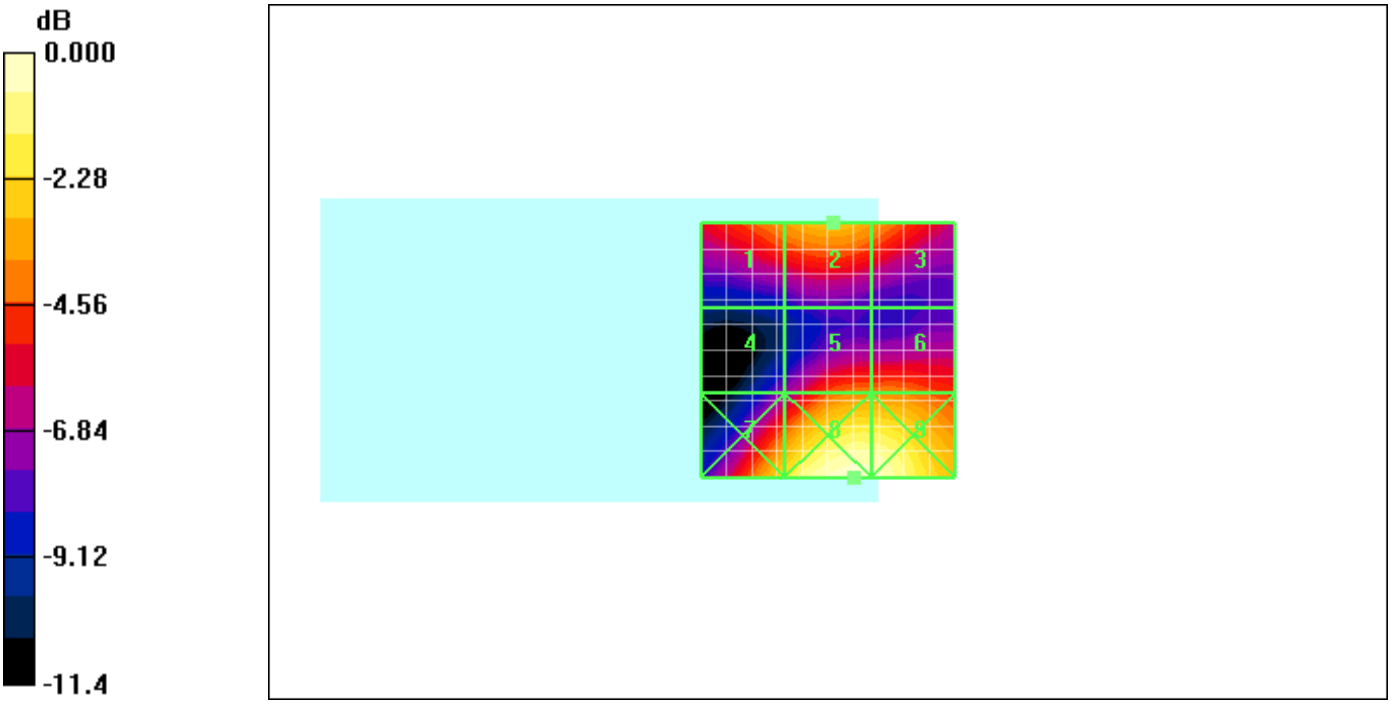
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 18.5 V/m; Power Drift = 0.252 dB

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

Peak E-field in V/m

Grid 1 **27.3 M4**	Grid 2 **29.6 M4**	Grid 3 **27.7 M4**
Grid 4 **18.4 M4**	Grid 5 **26.5 M4**	Grid 6 **26.4 M4**
Grid 7 **32.7 M4**	Grid 8 **40.5 M4**	Grid 9 **39.7 M4**



0 dB = 40.5V/m

Date/Time: 17/08/2009 12:13:01 PM

Test Laboratory: RTS

File Name: HAC_E_CDMA1900_mid_Chan.da4

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

Program Name: HAC RF ER3D Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 18.6 V/m; Power Drift = -0.118 dB

Maximum value of Total (measured) = 32.0 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 = 23.0 V/m

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 18.6 V/m; Power Drift = -0.118 dB

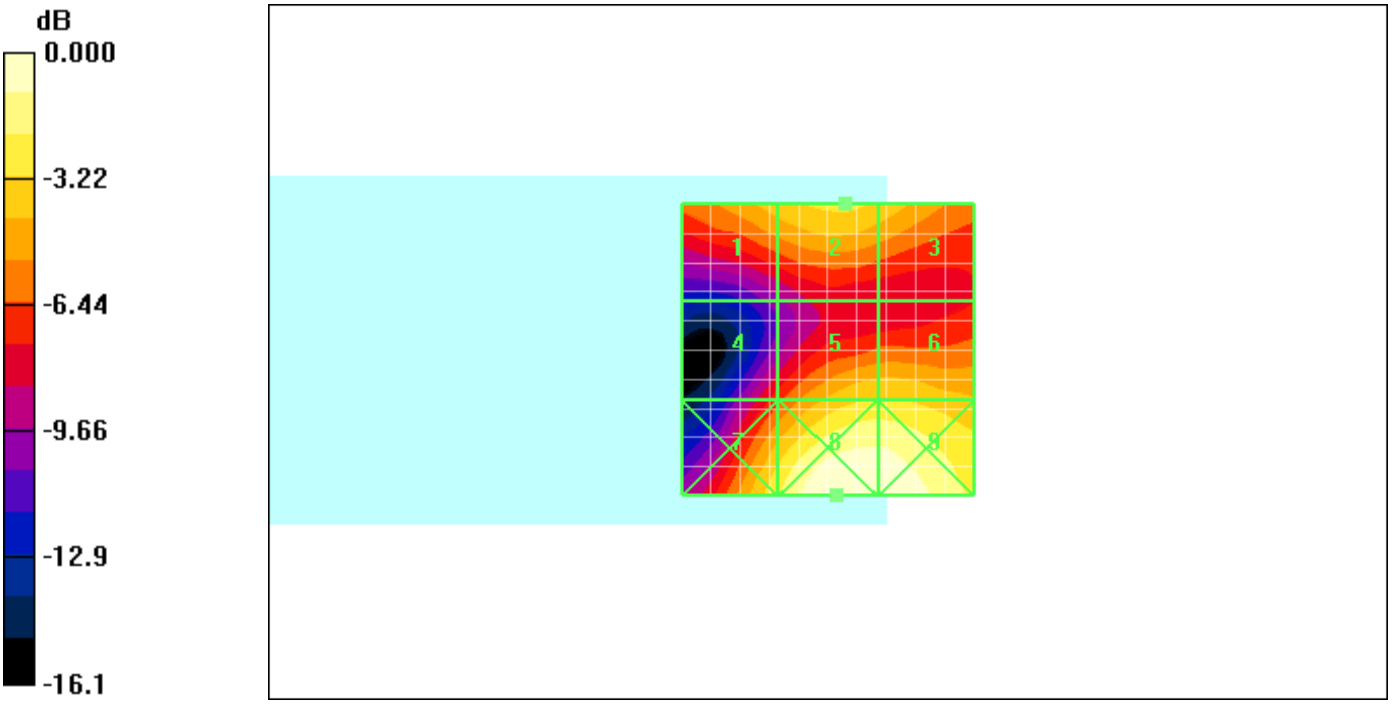
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

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 = 23.9 V/m
Probe Modulation Factor = 1.04
Device Reference Point: 0.000, 0.000, -6.30 mm
Reference Value = 18.6 V/m; Power Drift = -0.118 dB
Hearing Aid Near-Field Category: M4 (AWF 0 dB)

Peak E-field in V/m

Grid 1 **22.0 M4**	Grid 2 **23.9 M4**	Grid 3 **22.7 M4**
Grid 4 **15.6 M4**	Grid 5 **23.6 M4**	Grid 6 **23.6 M4**
Grid 7 **26.1 M4**	Grid 8 **33.7 M4**	Grid 9 **33.5 M4**



0 dB = 32.4V/m

Date/Time: 17/08/2009 12:34:32 PM

Test Laboratory: RTS

File Name: HAC_E_CDMA1900_high_Chan.da4

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

Program Name: HAC RF ER3D Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 08/01/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 17.9 V/m; Power Drift = -0.131 dB

Maximum value of Total (measured) = 27.7 V/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 25.0 V/m

Probe Modulation Factor = 1.04

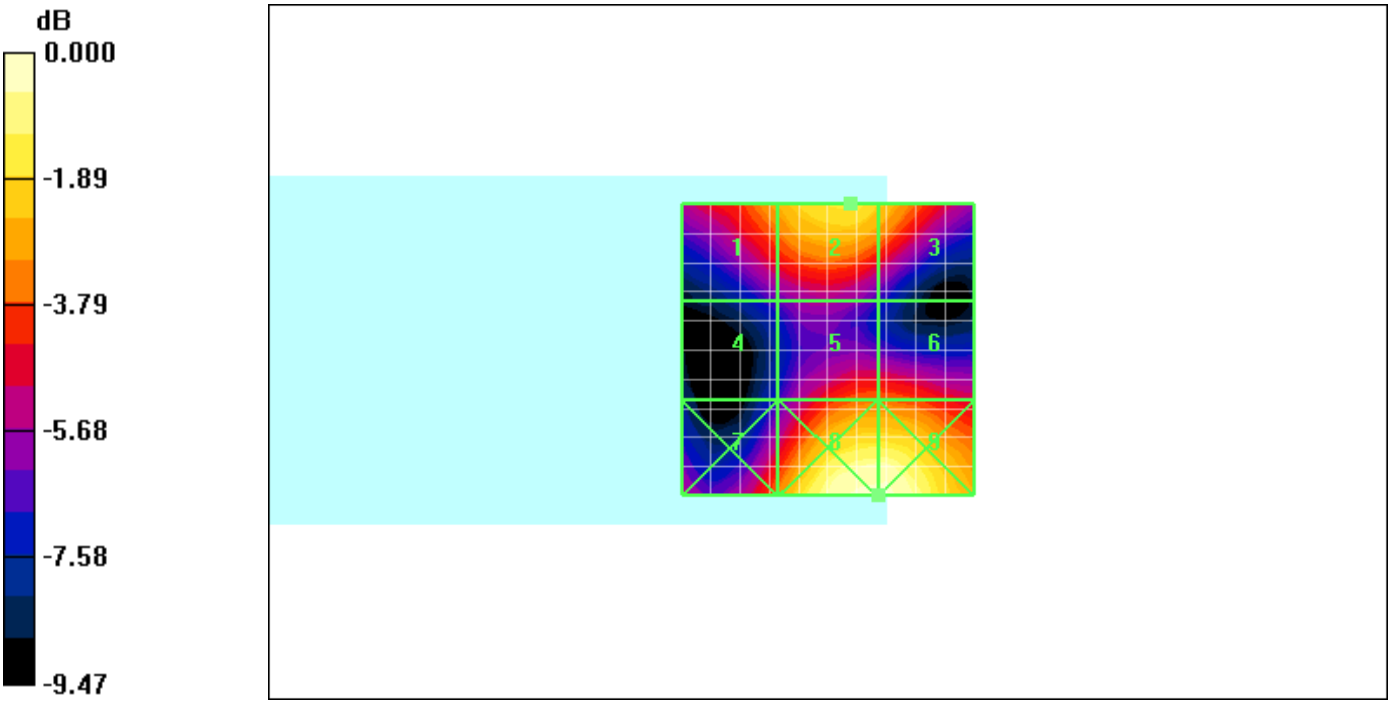
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 17.9 V/m; Power Drift = -0.131 dB

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

Peak E-field in V/m

Grid 1 **21.8 M4**	Grid 2 **25.0 M4**	Grid 3 **23.3 M4**
Grid 4 **14.1 M4**	Grid 5 **19.8 M4**	Grid 6 **19.7 M4**
Grid 7 **20.5 M4**	Grid 8 **29.0 M4**	Grid 9 **29.0 M4**



0 dB = 29.0V/m

Date/Time: 19/08/2009 2:52:51 PM

Test Laboratory: RTS

File Name: HAC_H_GSM850_Low_Chan.da4

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

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 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.121 A/m; Power Drift = 0.044 dB

Maximum value of Total (measured) = 0.164 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 = 0.435 A/m

Probe Modulation Factor = 2.66

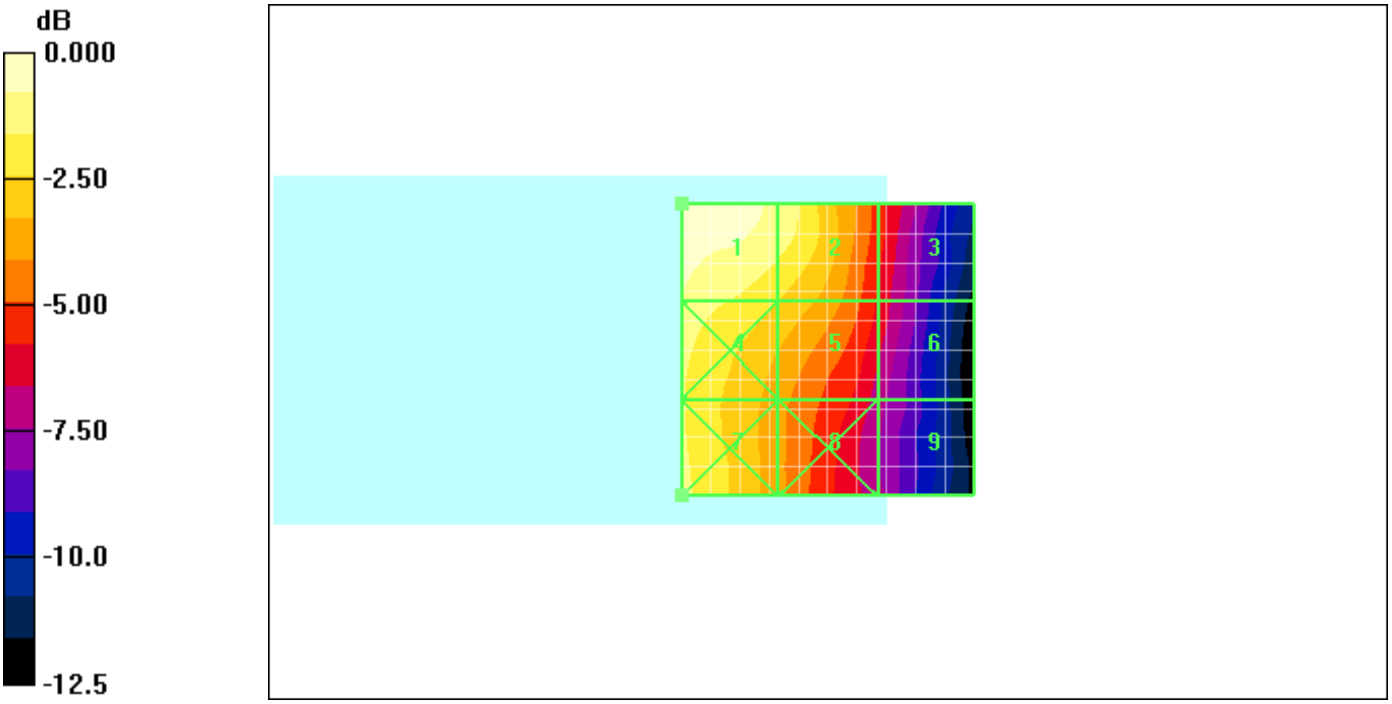
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.121 A/m; Power Drift = 0.044 dB

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

Peak H-field in A/m

Grid 1 **0.435 M4**	Grid 2 **0.382 M4**	Grid 3 **0.236 M4**
Grid 4 **0.391 M4**	Grid 5 **0.327 M4**	Grid 6 **0.221 M4**
Grid 7 **0.373 M4**	Grid 8 **0.280 M4**	Grid 9 **0.193 M4**



0 dB = 0.435A/m

Date/Time: 19/08/2009 3:00:34 PM

Test Laboratory: RTS

File Name: HAC_H_GSM850_Mid_Chan.da4

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

Program Name: HAC RF H3DV6 Device

Communication System: GSM 850; Frequency: 836.8 MHz;Duty Cycle: 1:8.3

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.145 A/m; Power Drift = -0.037 dB

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

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.434 A/m

Probe Modulation Factor = 2.66

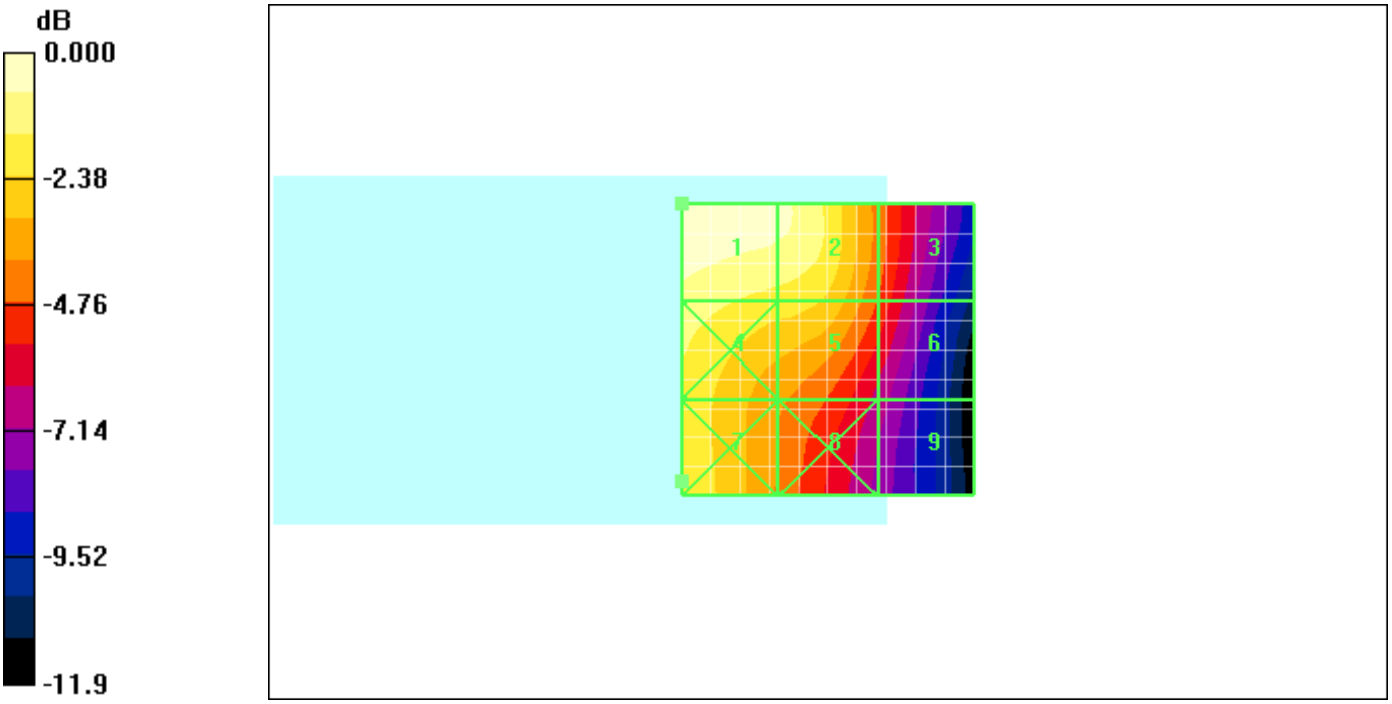
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.145 A/m; Power Drift = -0.037 dB

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

Peak H-field in A/m

Grid 1 **0.434 M4**	Grid 2 **0.403 M4**	Grid 3 **0.267 M4**
Grid 4 **0.386 M4**	Grid 5 **0.348 M4**	Grid 6 **0.250 M4**
Grid 7 **0.363 M4**	Grid 8 **0.281 M4**	Grid 9 **0.203 M4**



0 dB = 0.434A/m

Date/Time: 19/08/2009 3:05:56 PM

Test Laboratory: RTS

File Name: HAC_H_GSM850_High_Chan.da4

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

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 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.172 A/m; Power Drift = 0.118 dB

Maximum value of Total (measured) = 0.174 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 = 0.465 A/m

Probe Modulation Factor = 2.66

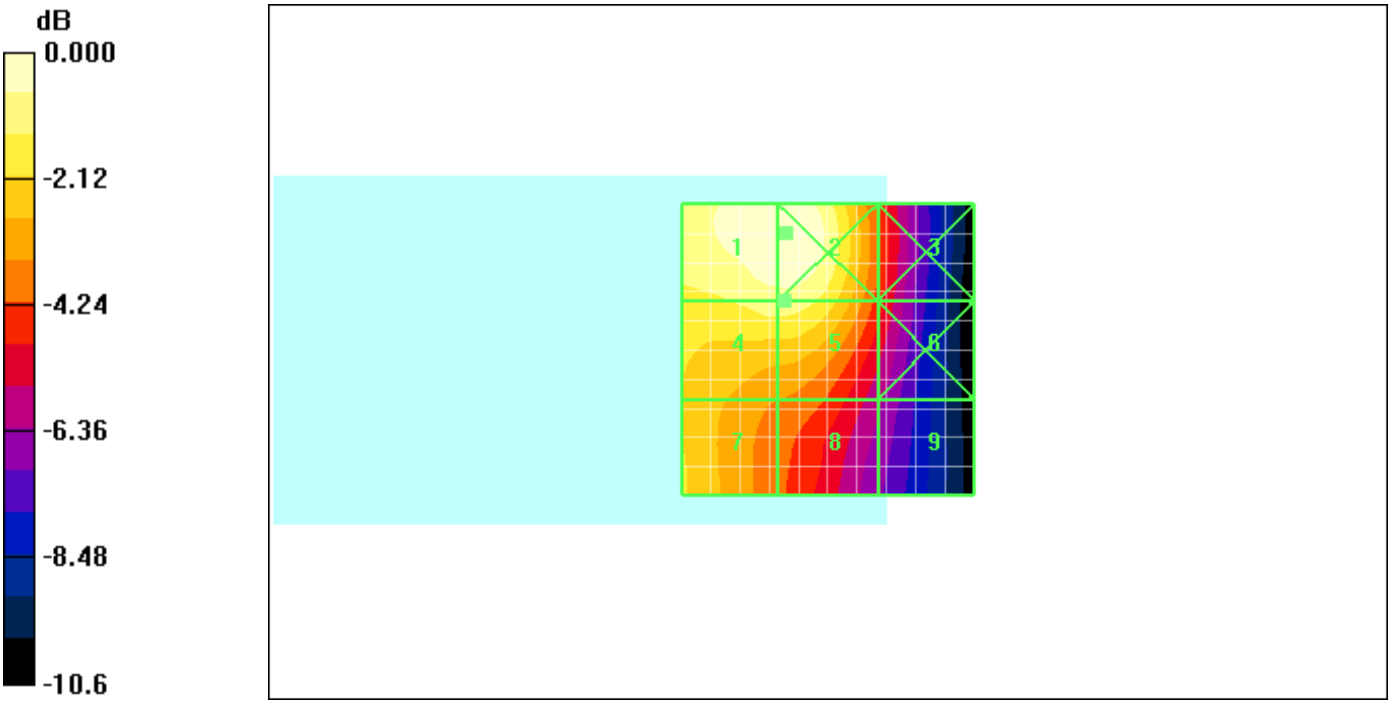
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.172 A/m; Power Drift = 0.118 dB

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

Peak H-field in A/m

Grid 1 **0.465 M3**	Grid 2 **0.468 M3**	Grid 3 **0.293 M4**
Grid 4 **0.416 M4**	Grid 5 **0.417 M4**	Grid 6 **0.278 M4**
Grid 7 **0.372 M4**	Grid 8 **0.312 M4**	Grid 9 **0.232 M4**



0 dB = 0.468A/m

Date/Time: 19/08/2009 3:46:20 PM

Test Laboratory: RTS

File Name: HAC_H_CDMA850_Low_Chan.da4

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

Program Name: HAC RF H3DV6 Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.078 A/m; Power Drift = 0.145 dB

Maximum value of Total (measured) = 0.121 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 = 0.130 A/m

Probe Modulation Factor = 1.07

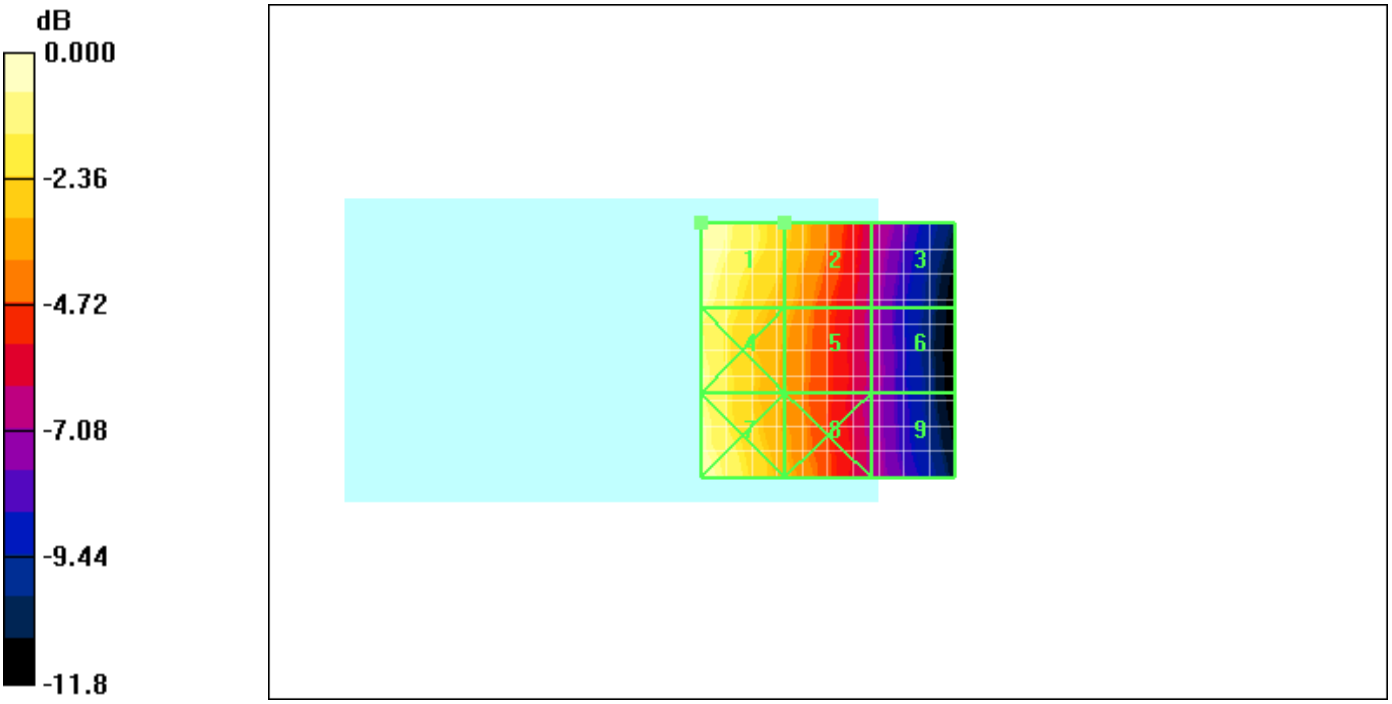
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.078 A/m; Power Drift = 0.145 dB

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

Peak H-field in A/m

Grid 1 **0.130 M4**	Grid 2 **0.101 M4**	Grid 3 **0.065 M4**
Grid 4 **0.121 M4**	Grid 5 **0.093 M4**	Grid 6 **0.062 M4**
Grid 7 **0.126 M4**	Grid 8 **0.093 M4**	Grid 9 **0.062 M4**



0 dB = 0.130A/m

Date/Time: 19/08/2009 3:53:57 PM

Test Laboratory: RTS

File Name: HAC_H_CDMA850_Mid_Chan.da4

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

Program Name: HAC RF H3DV6 Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.092 A/m; Power Drift = -0.149 dB

Maximum value of Total (measured) = 0.133 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 = 0.142 A/m

Probe Modulation Factor = 1.07

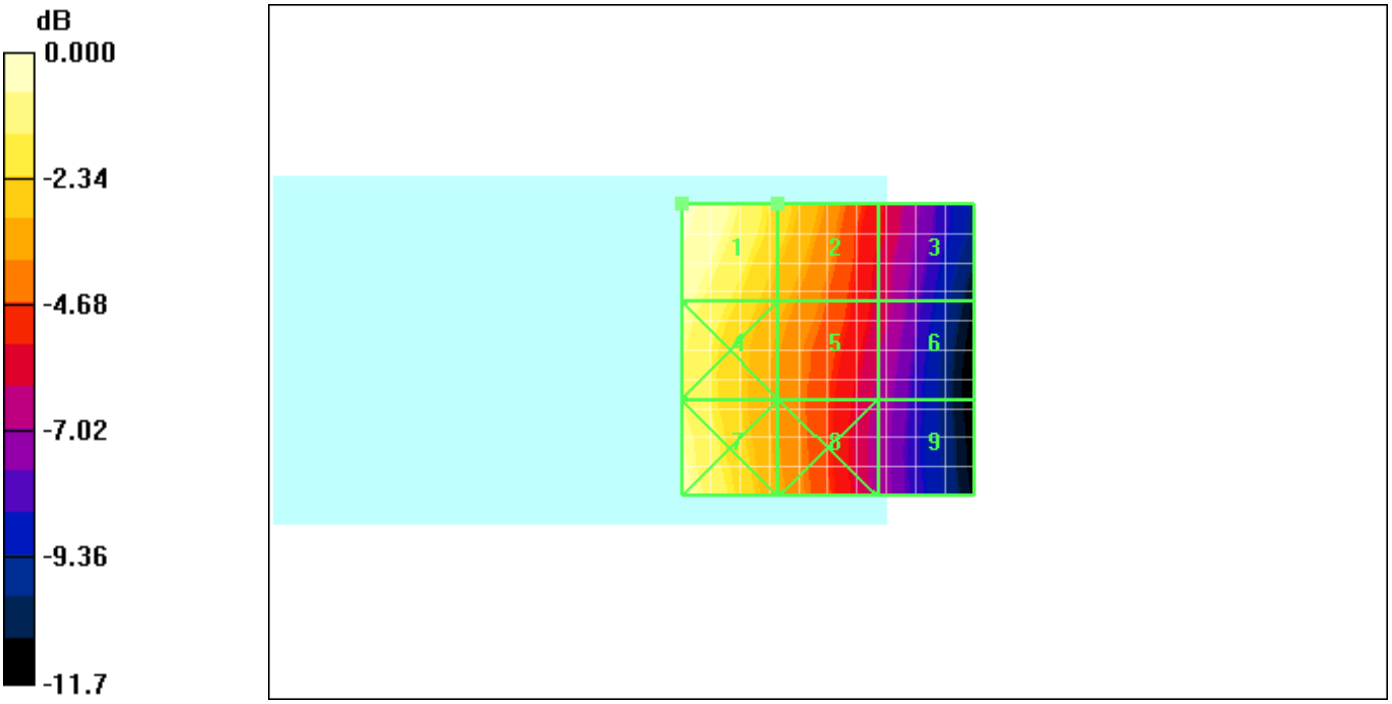
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.092 A/m; Power Drift = -0.149 dB

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

Peak H-field in A/m

Grid 1 **0.142 M4**	Grid 2 **0.113 M4**	Grid 3 **0.078 M4**
Grid 4 **0.133 M4**	Grid 5 **0.102 M4**	Grid 6 **0.073 M4**
Grid 7 **0.136 M4**	Grid 8 **0.100 M4**	Grid 9 **0.068 M4**



0 dB = 0.142A/m

Date/Time: 19/08/2009 3:59:54 PM

Test Laboratory: RTS

File Name: HAC_H_CDMA850_High_Chan.da4

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

Program Name: HAC RF H3DV6 Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.118 A/m; Power Drift = -0.094 dB

Maximum value of Total (measured) = 0.147 A/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.153 A/m

Probe Modulation Factor = 1.07

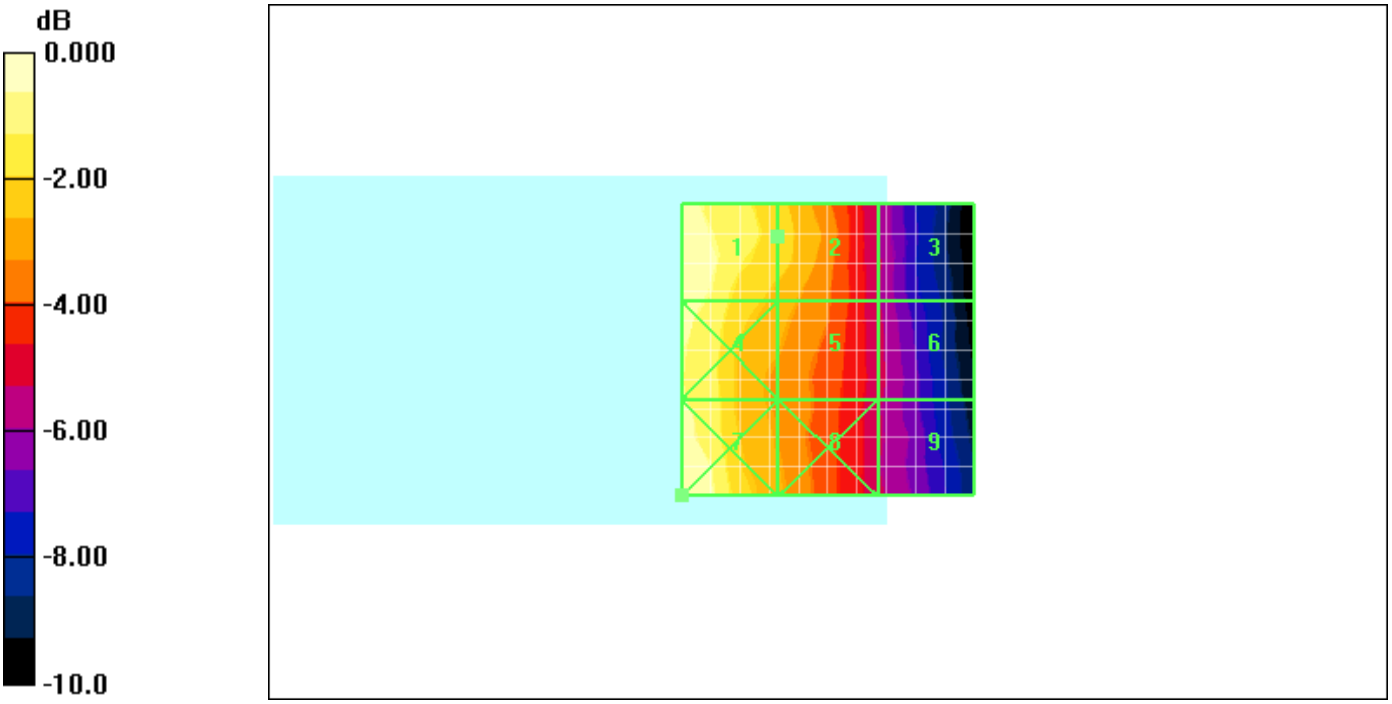
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.118 A/m; Power Drift = -0.094 dB

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

Peak H-field in A/m

Grid 1 **0.153 M4**	Grid 2 **0.130 M4**	Grid 3 **0.087 M4**
Grid 4 **0.148 M4**	Grid 5 **0.121 M4**	Grid 6 **0.088 M4**
Grid 7 **0.157 M4**	Grid 8 **0.117 M4**	Grid 9 **0.087 M4**



0 dB = 0.157A/m

Date/Time: 19/08/2009 3:13:45 PM

Test Laboratory: RTS

File Name: HAC_H_GSM1900_Low_Chan.da4

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

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 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.043 dB

Maximum value of Total (measured) = 0.069 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 = 0.128 A/m

Probe Modulation Factor = 2.25

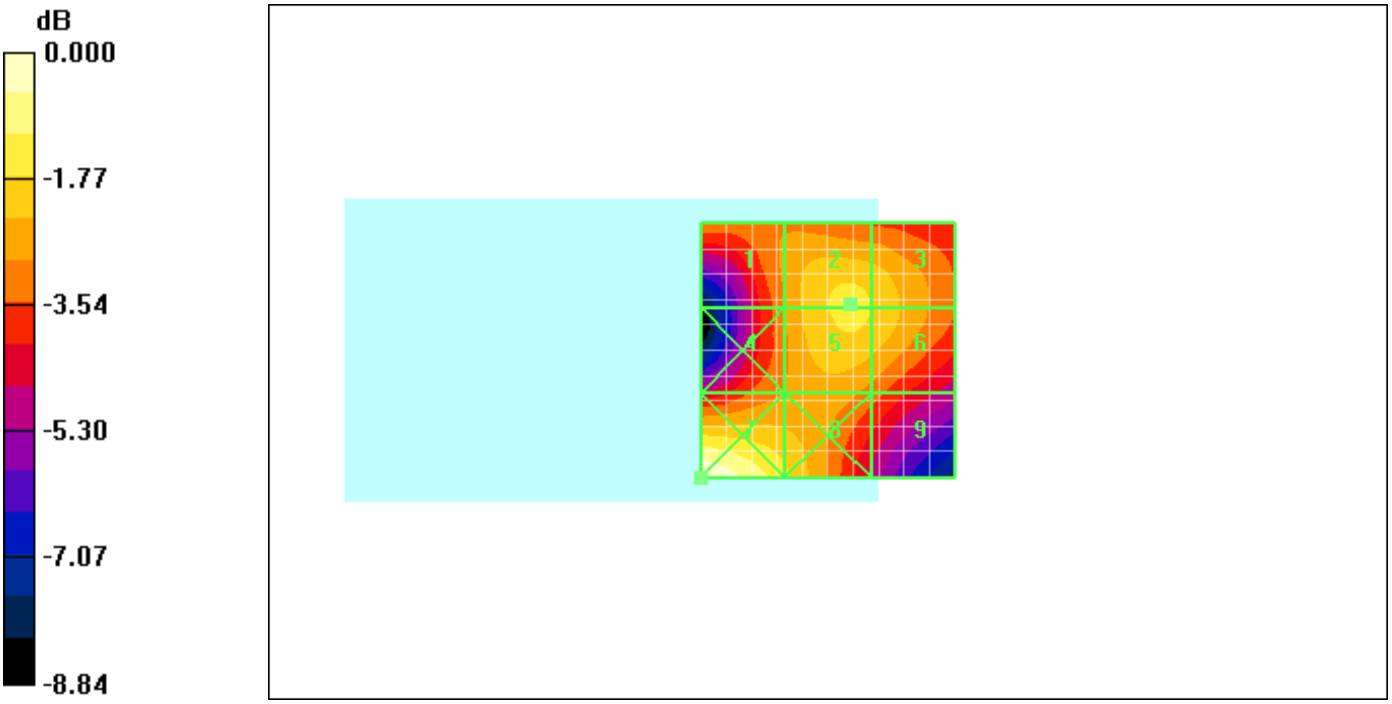
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.065 A/m; Power Drift = 0.043 dB

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

Peak H-field in A/m

Grid 1 **0.112 M4**	Grid 2 **0.128 M4**	Grid 3 **0.126 M4**
Grid 4 **0.111 M4**	Grid 5 **0.128 M4**	Grid 6 **0.126 M4**
Grid 7 **0.154 M3**	Grid 8 **0.128 M4**	Grid 9 **0.106 M4**



0 dB = 0.154A/m

Date/Time: 19/08/2009 3:19:19 PM

Test Laboratory: RTS

File Name: HAC_H_GSM1900_Mid_Chan.da4

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

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 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.060 A/m; Power Drift = -0.038 dB

Maximum value of Total (measured) = 0.063 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 = 0.116 A/m

Probe Modulation Factor = 2.25

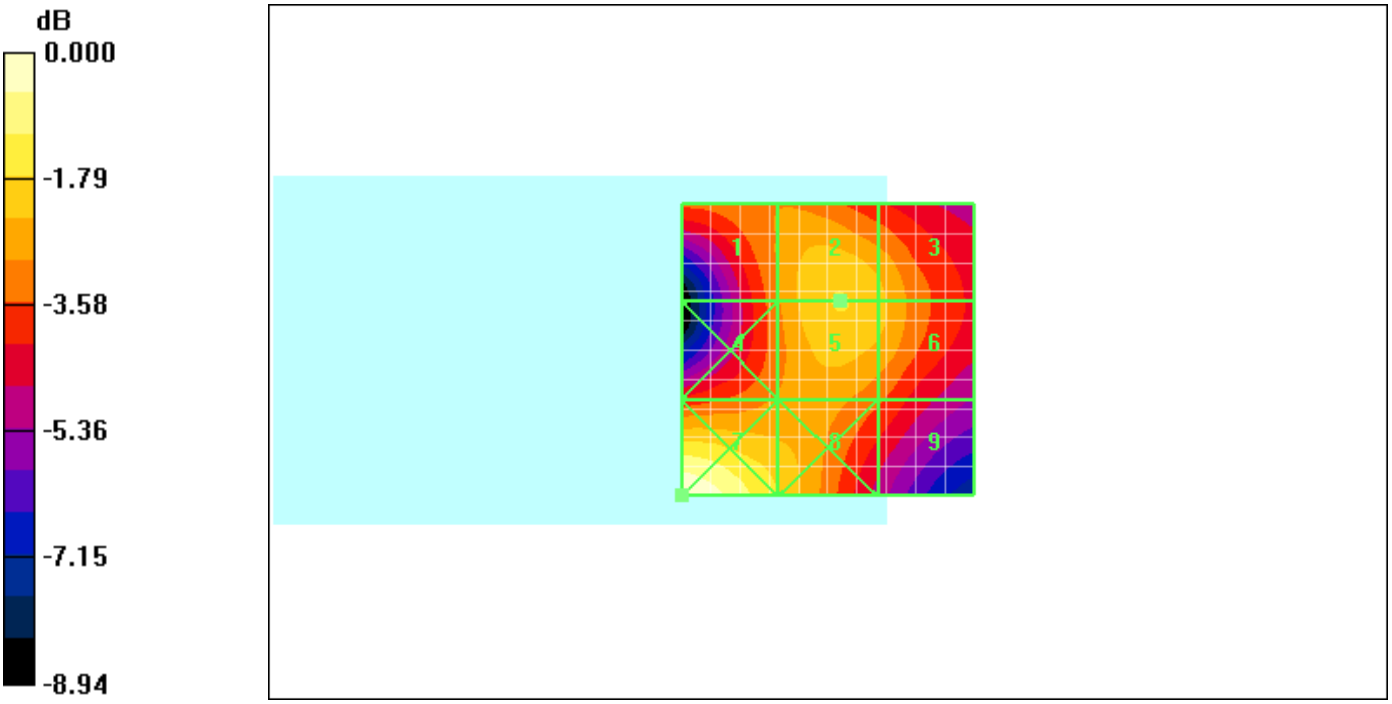
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.060 A/m; Power Drift = -0.038 dB

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

Peak H-field in A/m

Grid 1 **0.102 M4**	Grid 2 **0.116 M4**	Grid 3 **0.111 M4**
Grid 4 **0.102 M4**	Grid 5 **0.116 M4**	Grid 6 **0.111 M4**
Grid 7 **0.142 M3**	Grid 8 **0.116 M4**	Grid 9 **0.096 M4**



0 dB = 0.142A/m

Date/Time: 19/08/2009 3:24:33 PM

Test Laboratory: RTS

File Name: HAC_H_GSM1900_High_Chan.da4

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

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 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.050 A/m; Power Drift = -0.069 dB

Maximum value of Total (measured) = 0.060 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 = 0.097 A/m

Probe Modulation Factor = 2.25

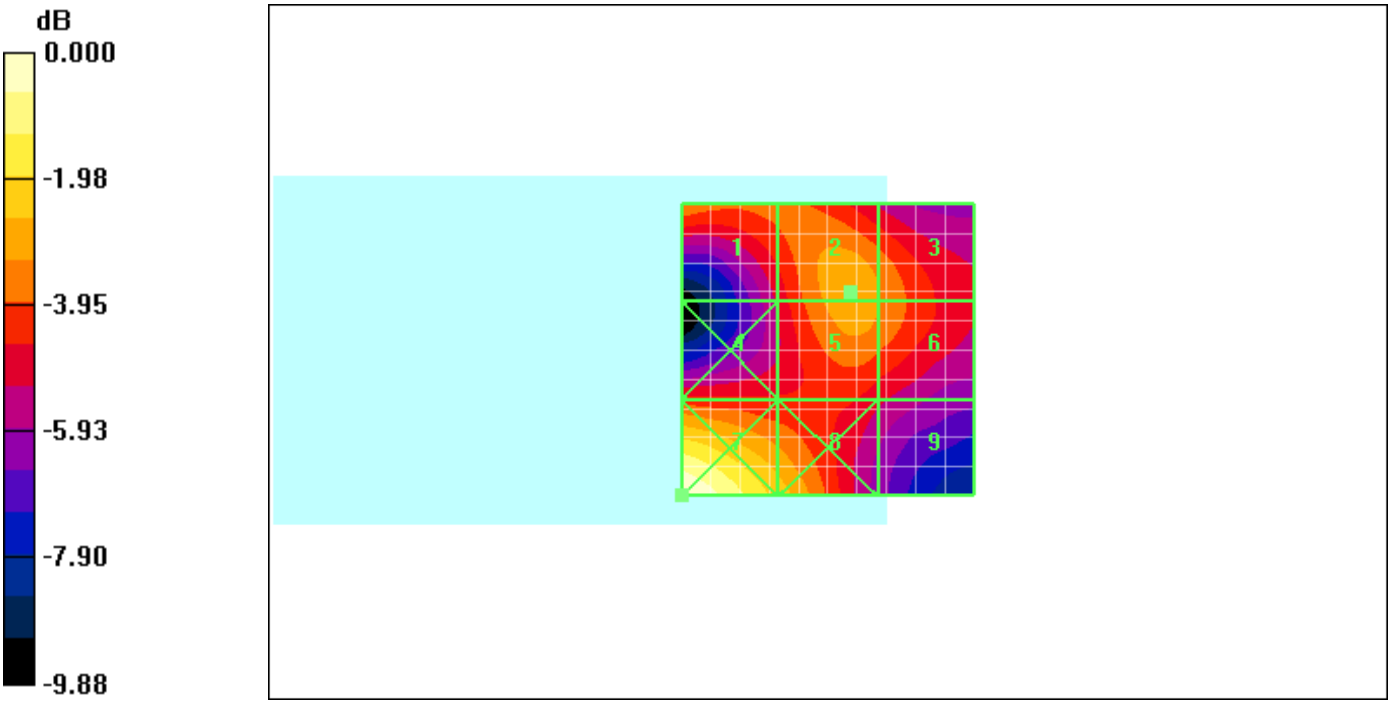
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.050 A/m; Power Drift = -0.069 dB

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

Peak H-field in A/m

Grid 1 **0.091 M4**	Grid 2 **0.097 M4**	Grid 3 **0.093 M4**
Grid 4 **0.082 M4**	Grid 5 **0.097 M4**	Grid 6 **0.093 M4**
Grid 7 **0.134 M4**	Grid 8 **0.104 M4**	Grid 9 **0.075 M4**



0 dB = 0.134A/m

Date/Time: 19/08/2009 4:14:58 PM

Test Laboratory: RTS

File Name: HAC_H_CDMA1900_Low_Chan.da4

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

Program Name: HAC RF H3DV6 Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.091 A/m; Power Drift = -0.147 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 = 0.077 A/m

Probe Modulation Factor = 0.930

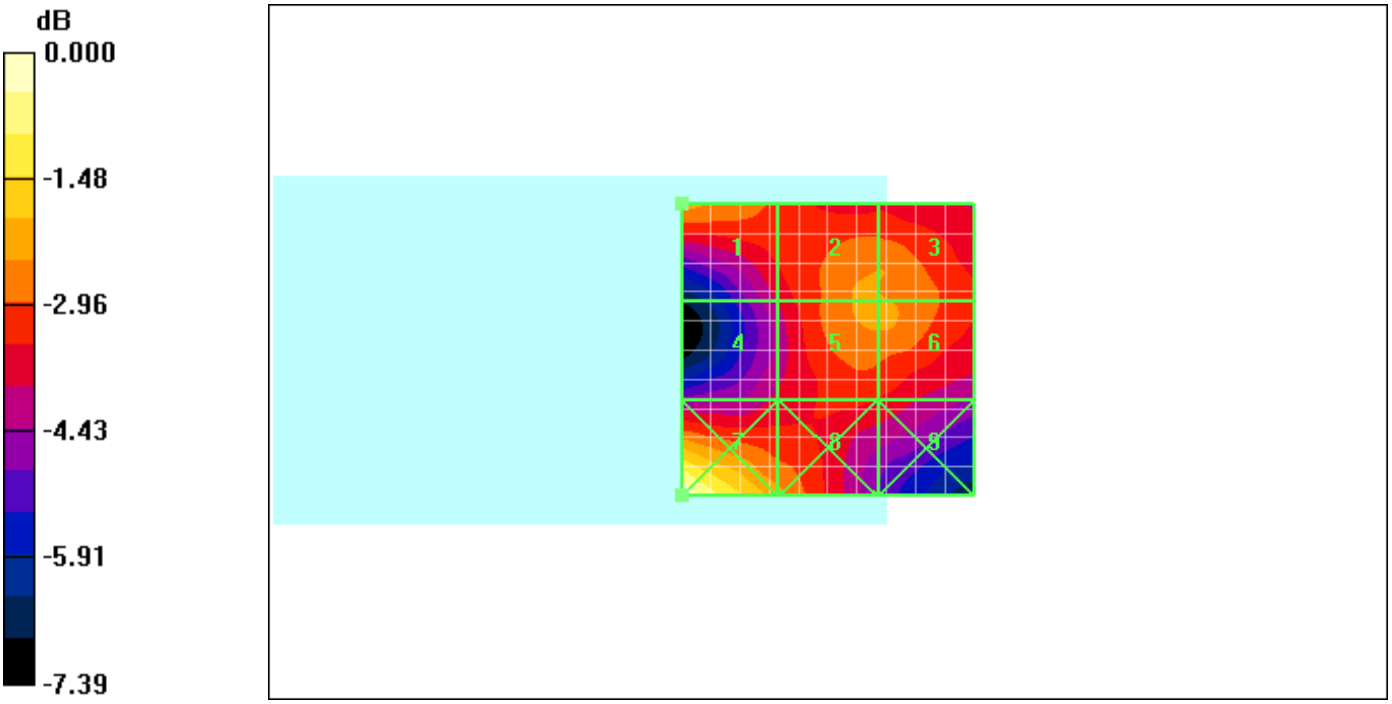
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.091 A/m; Power Drift = -0.147 dB

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

Peak H-field in A/m

Grid 1 **0.077 M4**	Grid 2 **0.076 M4**	Grid 3 **0.076 M4**
Grid 4 **0.064 M4**	Grid 5 **0.077 M4**	Grid 6 **0.077 M4**
Grid 7 **0.100 M4**	Grid 8 **0.077 M4**	Grid 9 **0.067 M4**



0 dB = 0.100A/m

Date/Time: 19/08/2009 4:26:05 PM

Test Laboratory: RTS

File Name: HAC_H_CDMA1900_Mid_Chan.da4

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

Program Name: HAC RF H3DV6 Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.091 A/m; Power Drift = 0.313 dB

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

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.075 A/m

Probe Modulation Factor = 0.930

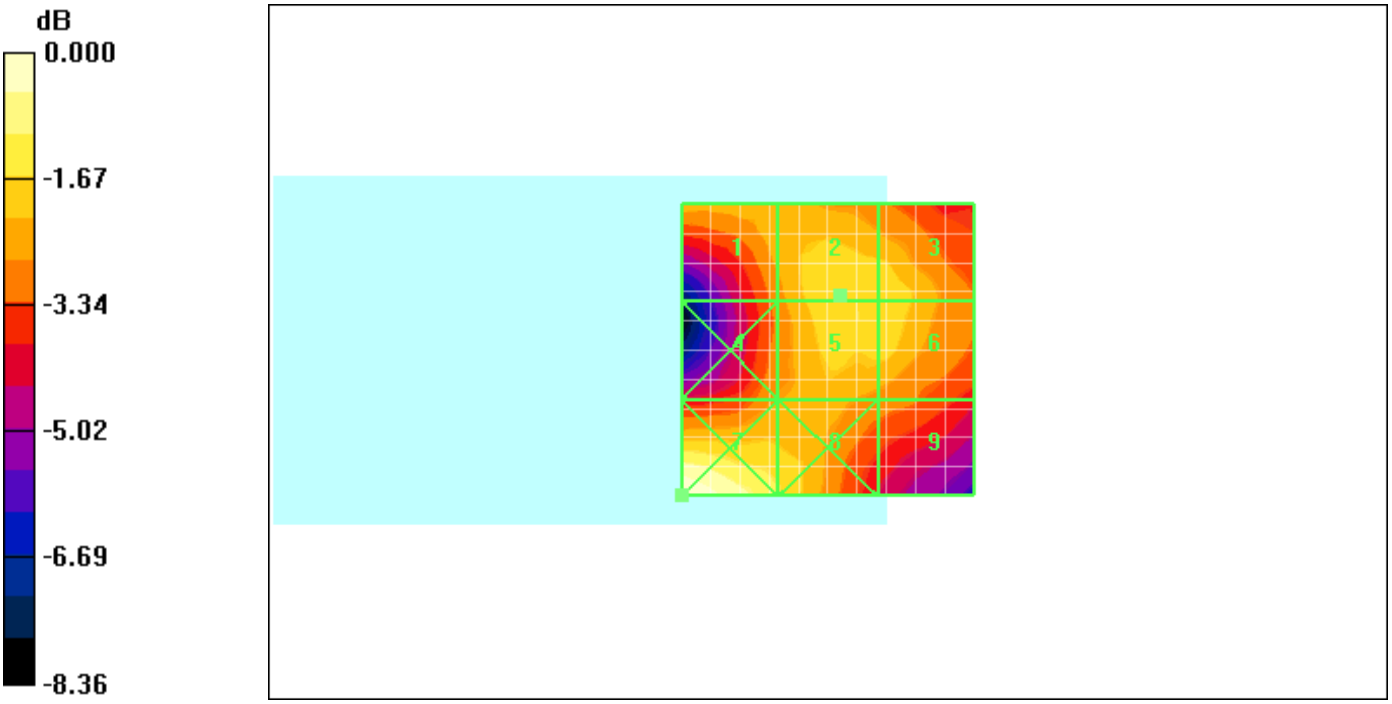
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.091 A/m; Power Drift = 0.313 dB

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

Peak H-field in A/m

Grid 1 **0.068 M4**	Grid 2 **0.075 M4**	Grid 3 **0.074 M4**
Grid 4 **0.066 M4**	Grid 5 **0.075 M4**	Grid 6 **0.074 M4**
Grid 7 **0.091 M4**	Grid 8 **0.075 M4**	Grid 9 **0.064 M4**



0 dB = 0.091A/m

Date/Time: 19/08/2009 4:31:59 PM

Test Laboratory: RTS

File Name: HAC_H_CDMA1900_High_Chan.da4

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

Program Name: HAC RF H3DV6 Device

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

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

Phantom section: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6168; ; Calibrated: 03/03/2009
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- 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 = 0.083 A/m; Power Drift = 0.122 dB

Maximum value of Total (measured) = 0.102 A/m

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

Device/Hearing Aid Compatibility Test (101x101x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.070 A/m

Probe Modulation Factor = 0.930

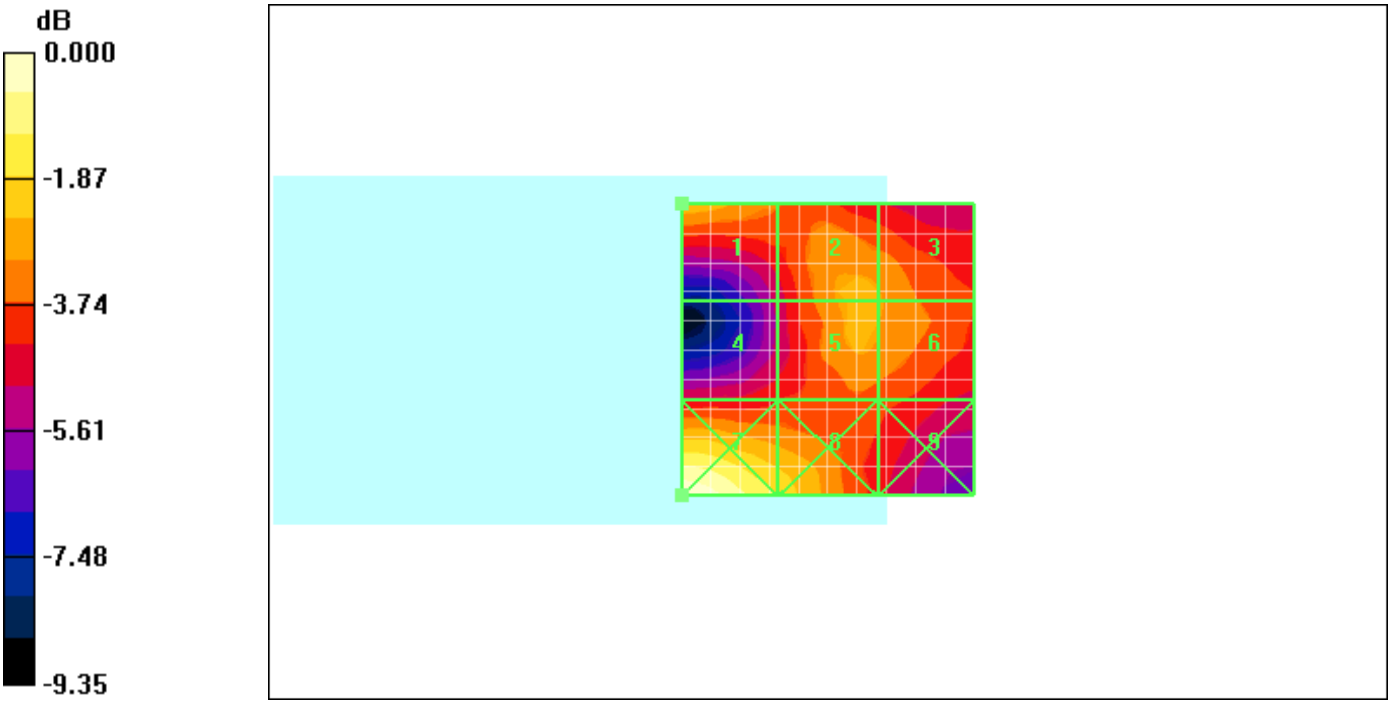
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.083 A/m; Power Drift = 0.122 dB

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

Peak H-field in A/m

Grid 1 **0.070 M4**	Grid 2 **0.068 M4**	Grid 3 **0.067 M4**
Grid 4 **0.057 M4**	Grid 5 **0.068 M4**	Grid 6 **0.067 M4**
Grid 7 **0.095 M4**	Grid 8 **0.076 M4**	Grid 9 **0.060 M4**



0 dB = 0.095A/m