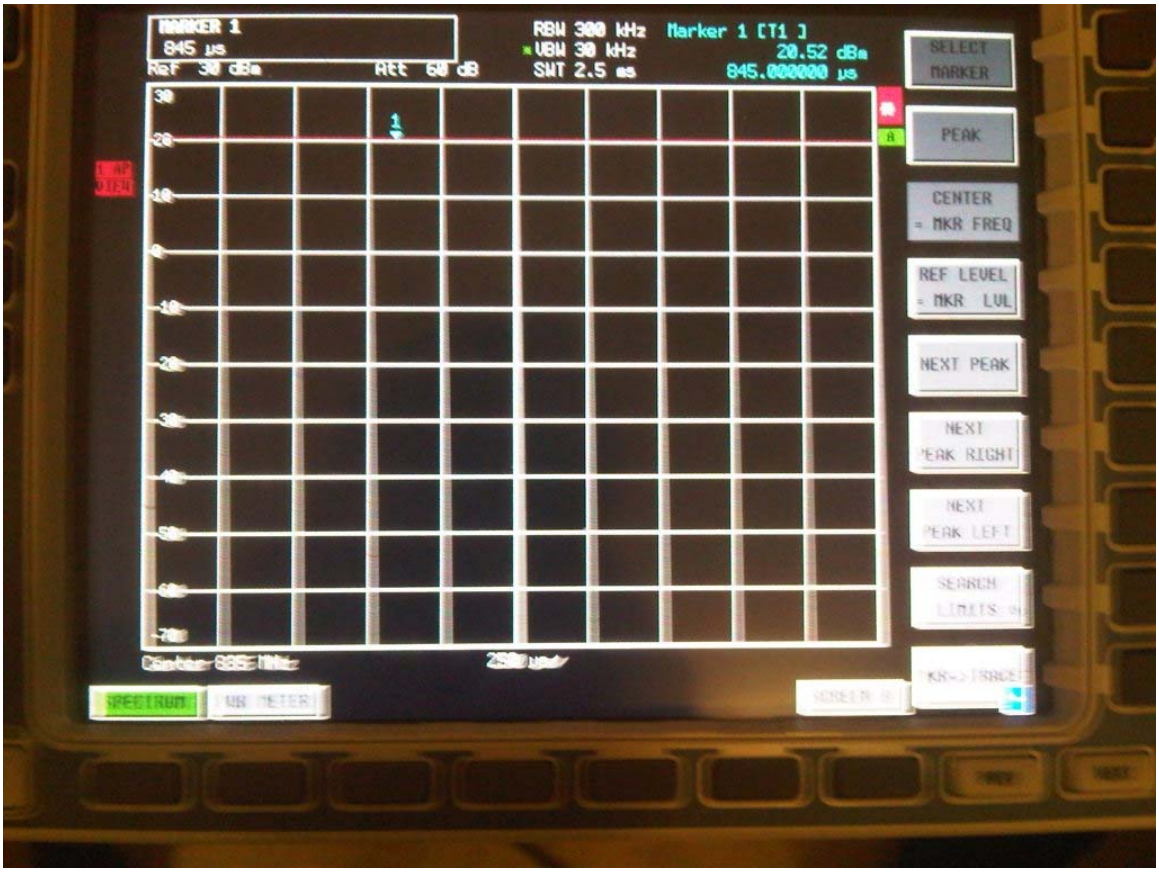
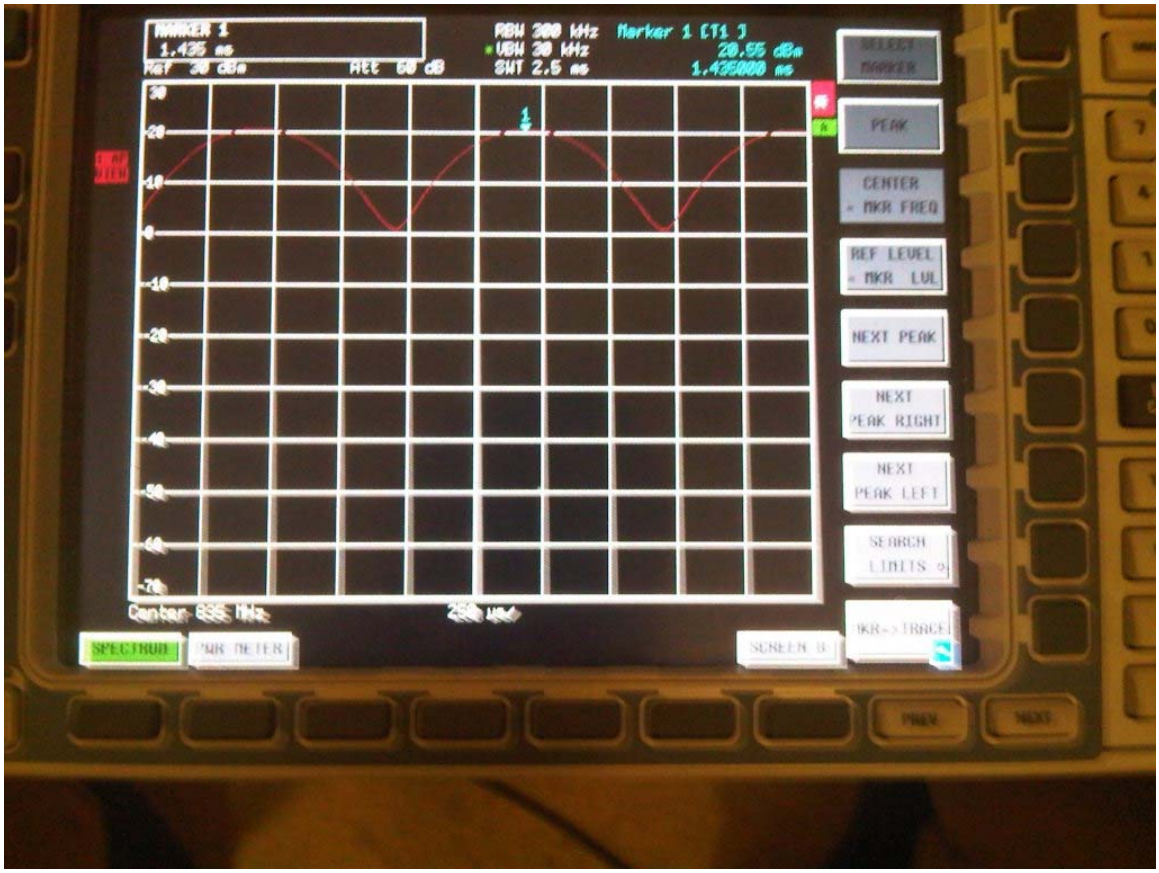
Annex A: Measurement data and plots

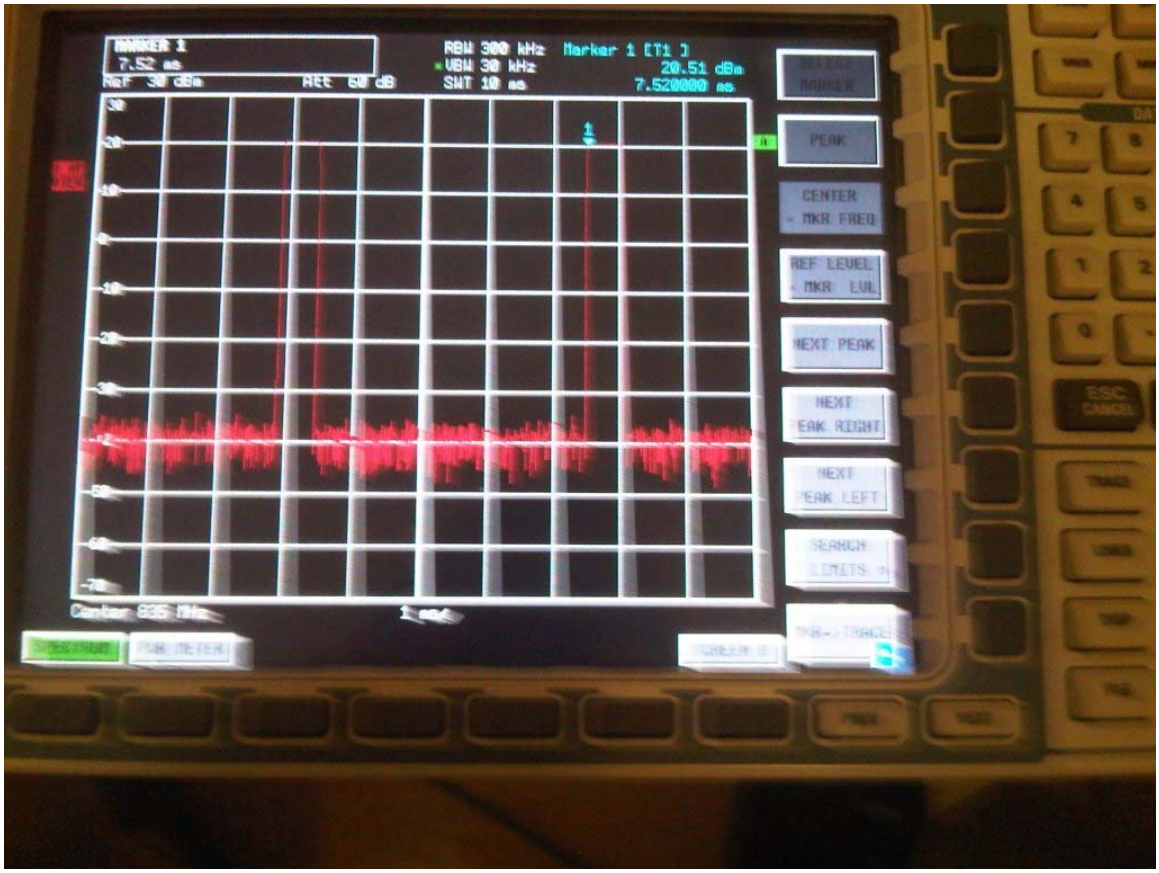
A.1 Spectrum analyser plots: CW, 80%AM, GSM and CDMA signals



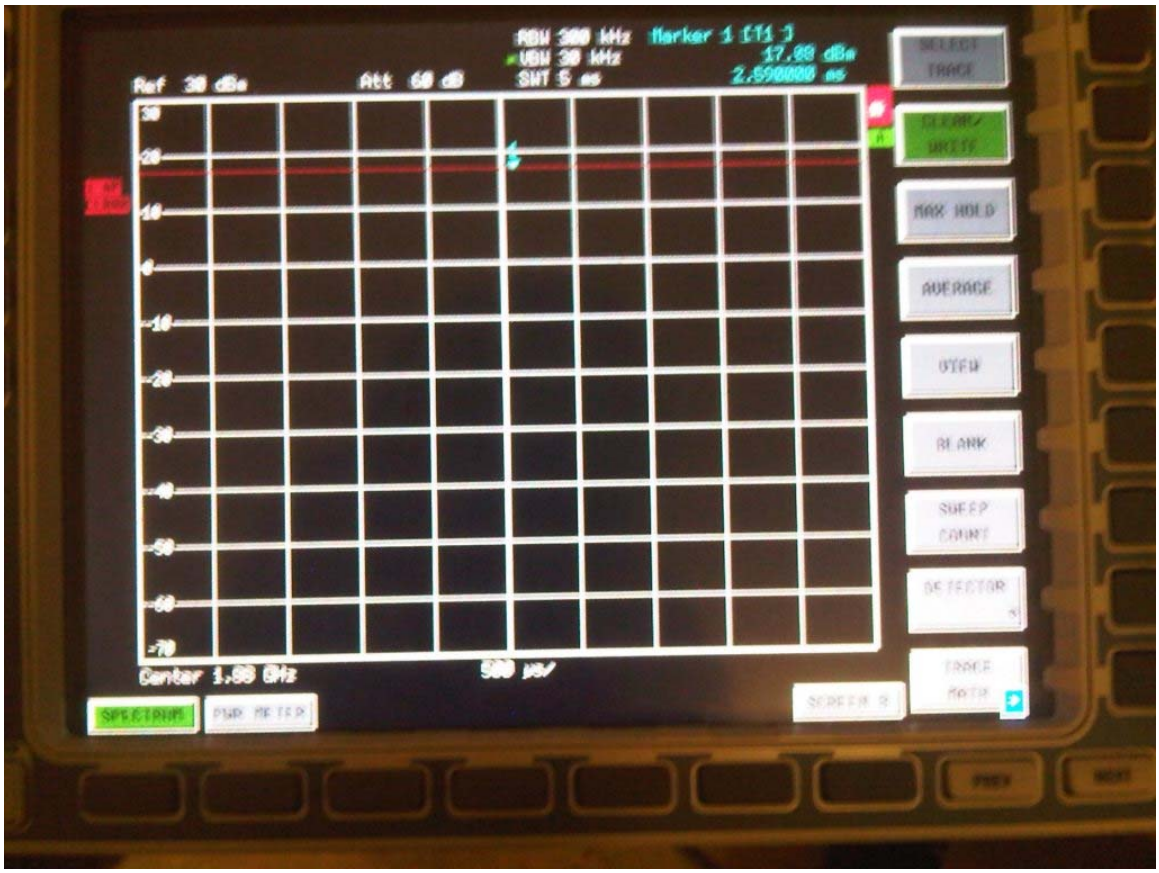
0 Hz Span CW Plot (835MHz)



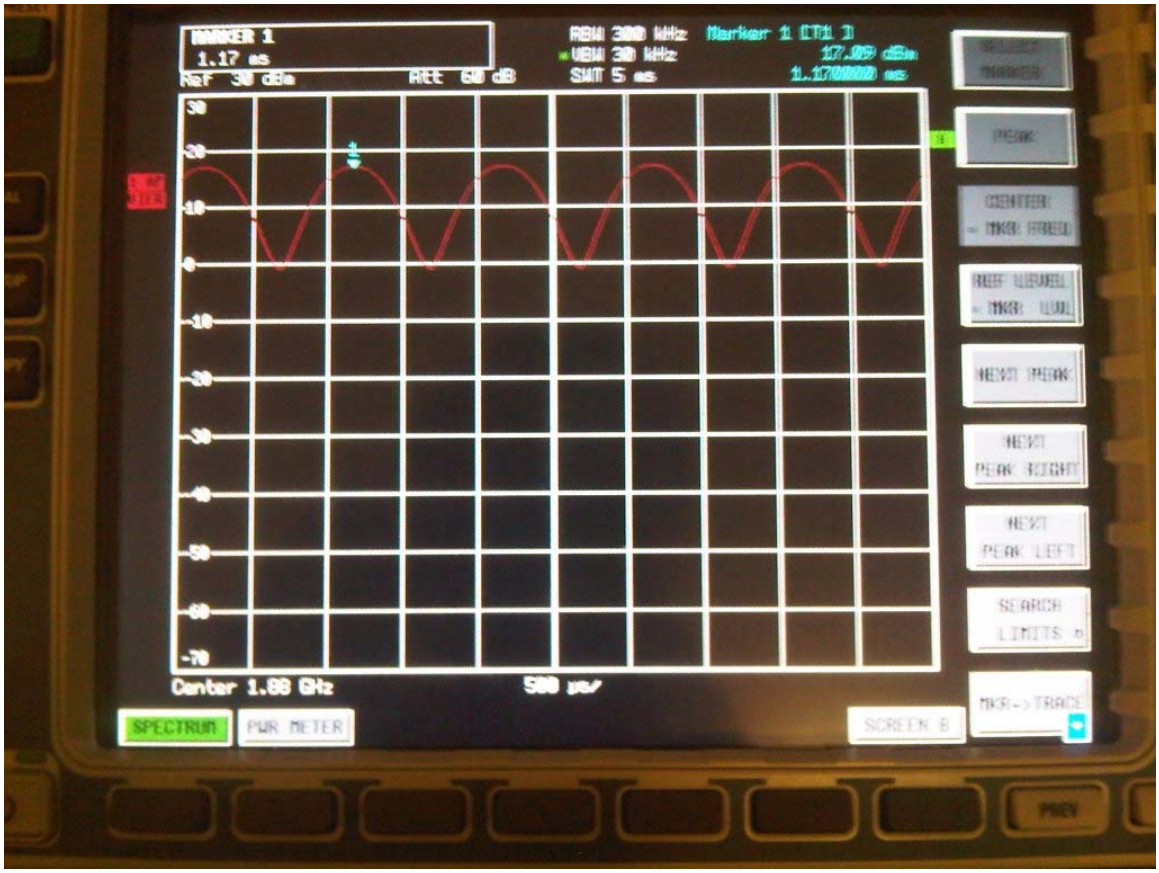
0 Hz Span 80% AM Plot (835MHz)



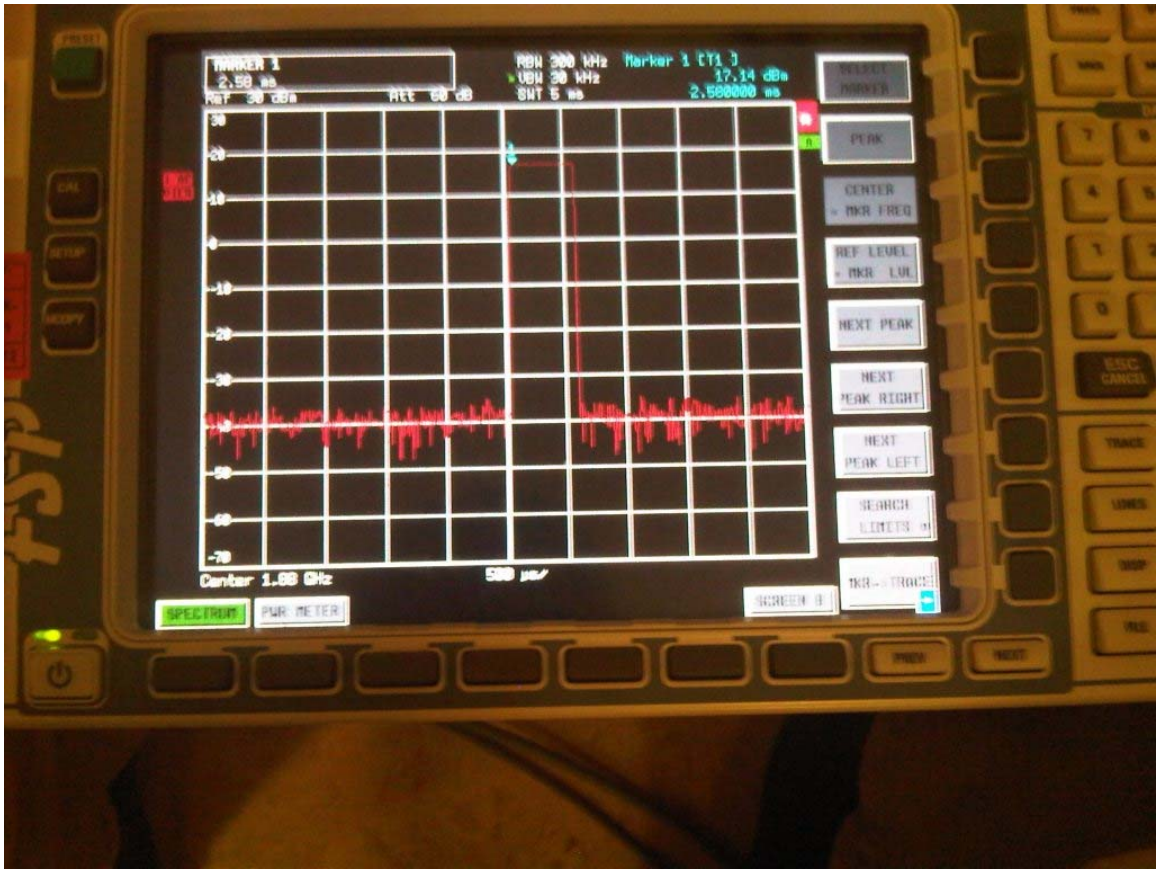
0 Hz Span GSM (835MHz)



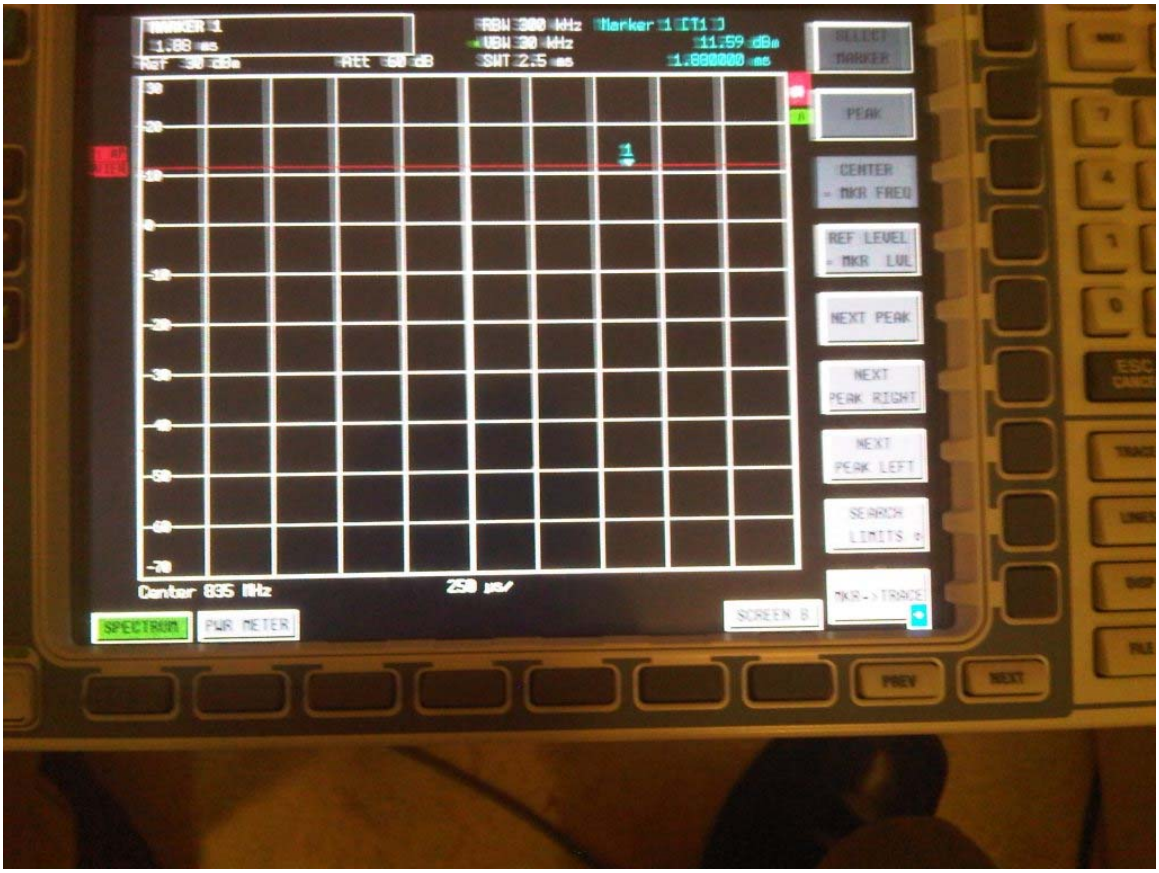
0 Hz Span CW Plot (1880MHz)



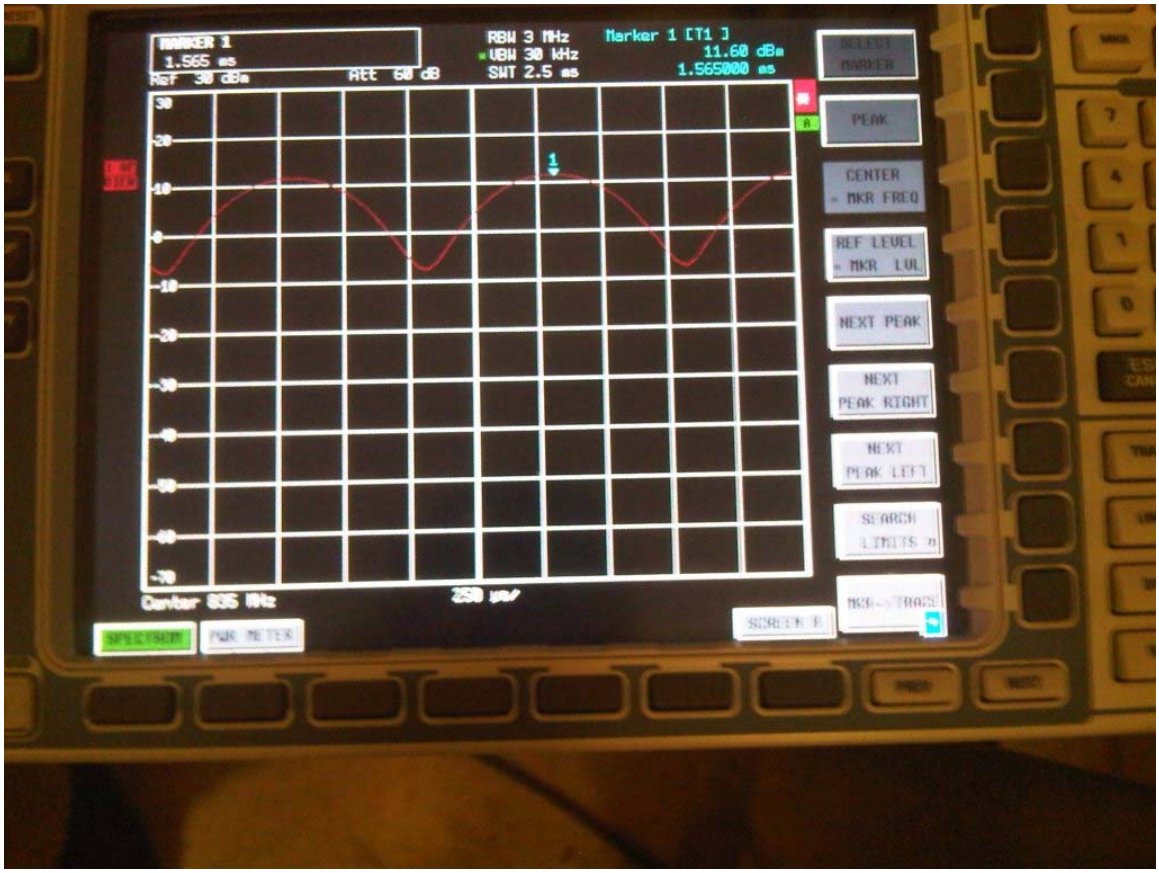
0 Hz Span 80% AM Plot (1880MHz)



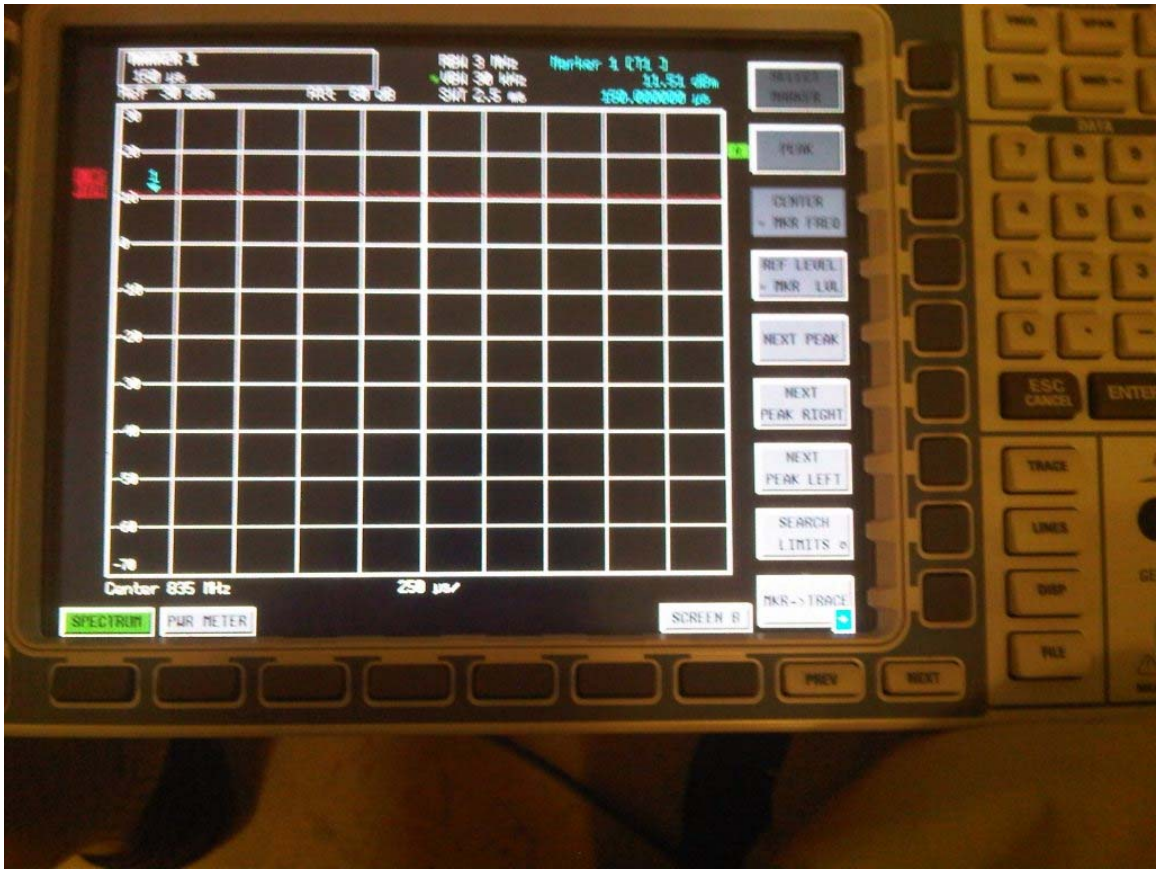
0 Hz Span GSM (1880MHz)



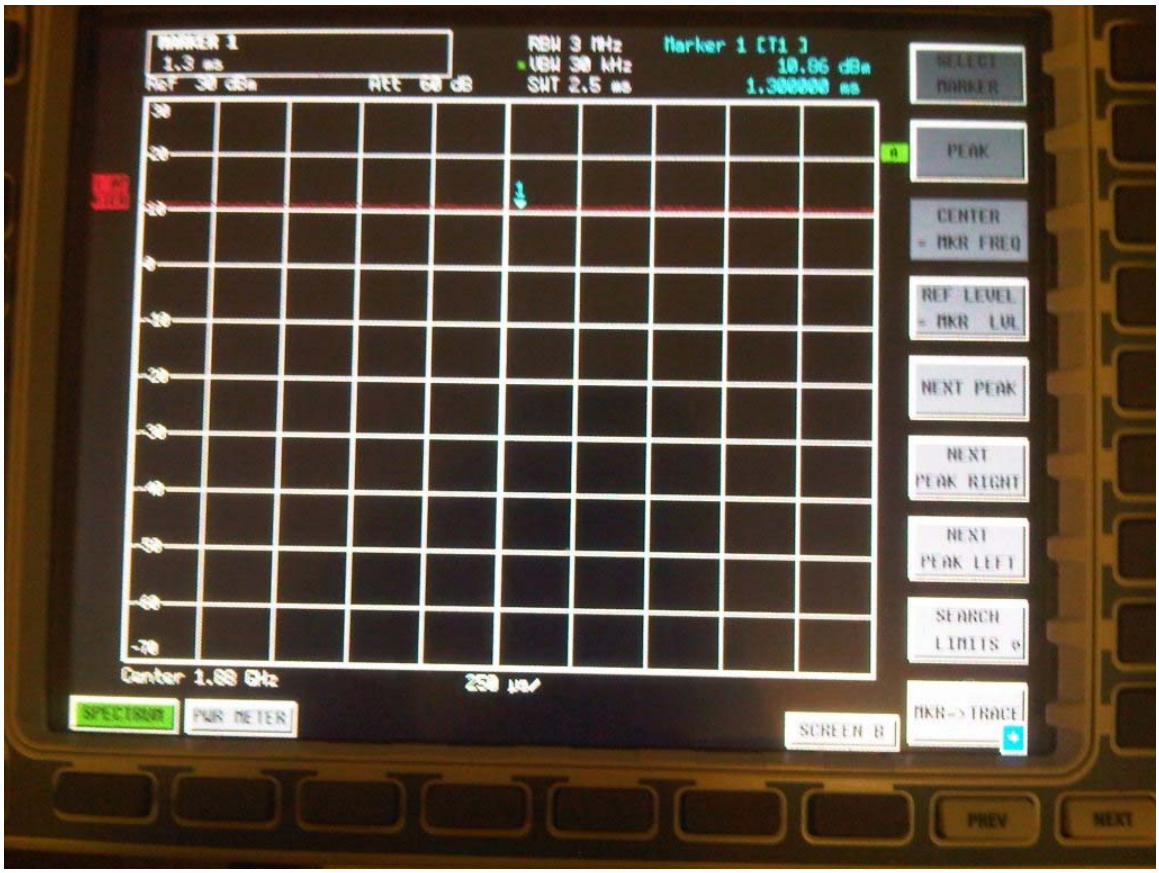
0 Hz Span CW Plot (835MHz)



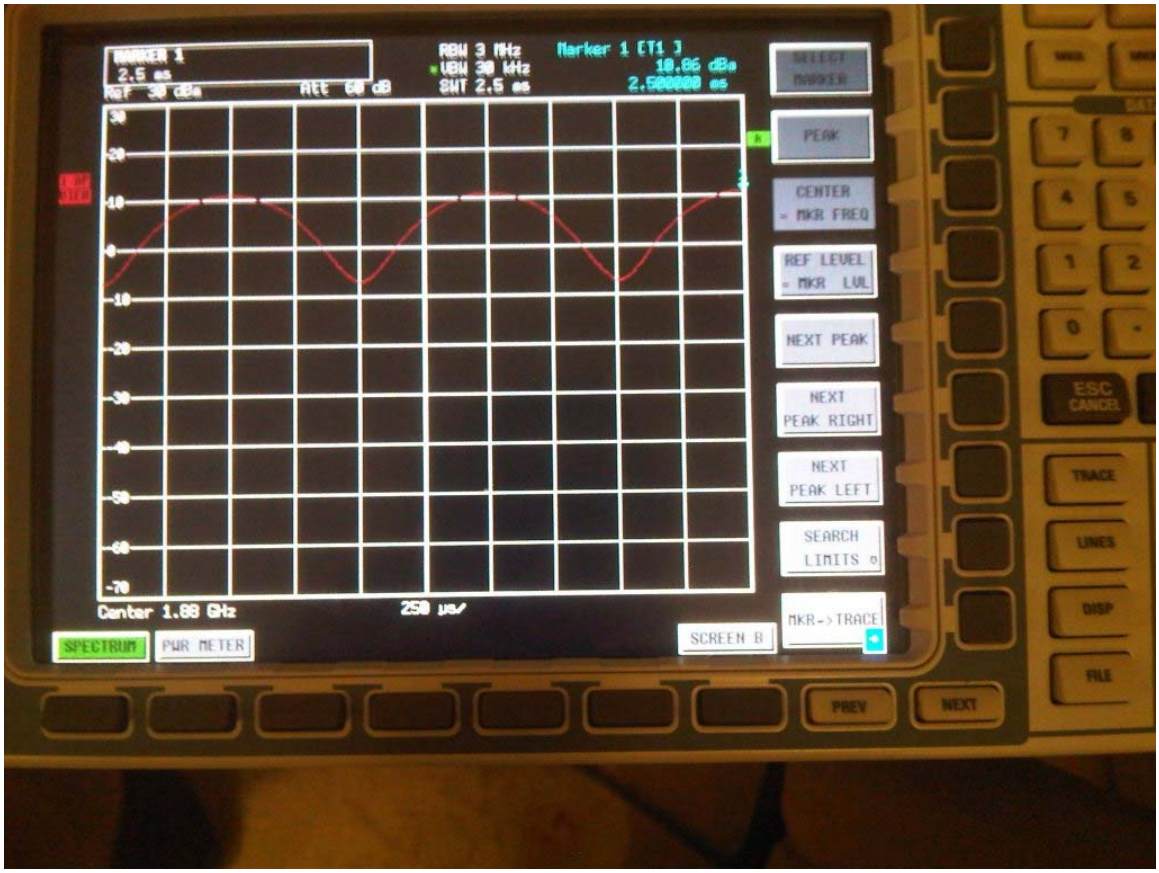
0 Hz Span 80% AM Plot (835MHz)



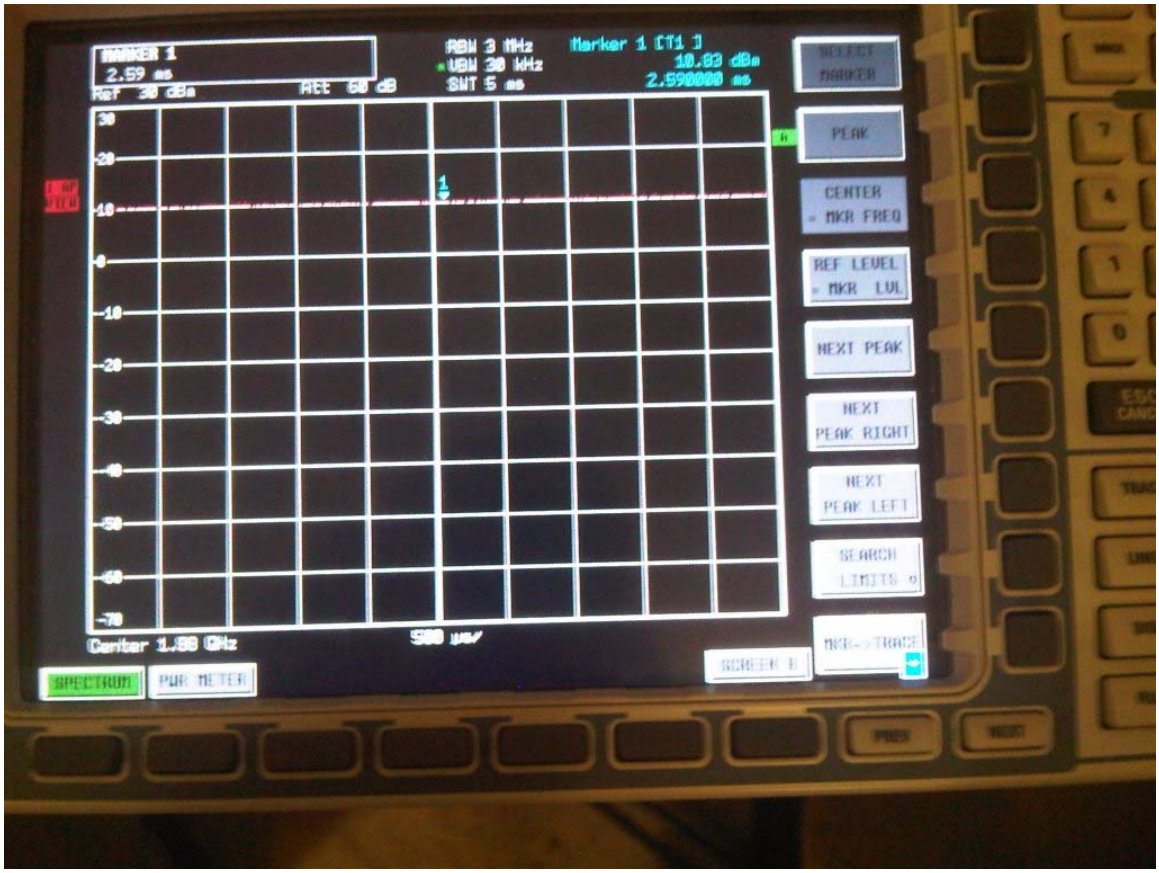
0 Hz Span CDMA (835MHz)



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: 24/03/2009 12:57:06 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 103.3 V/m; Power Drift = 0.000 dB

Maximum value of Total (measured) = 168.4 V/m

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 169.7 V/m

Probe Modulation Factor = 1.00

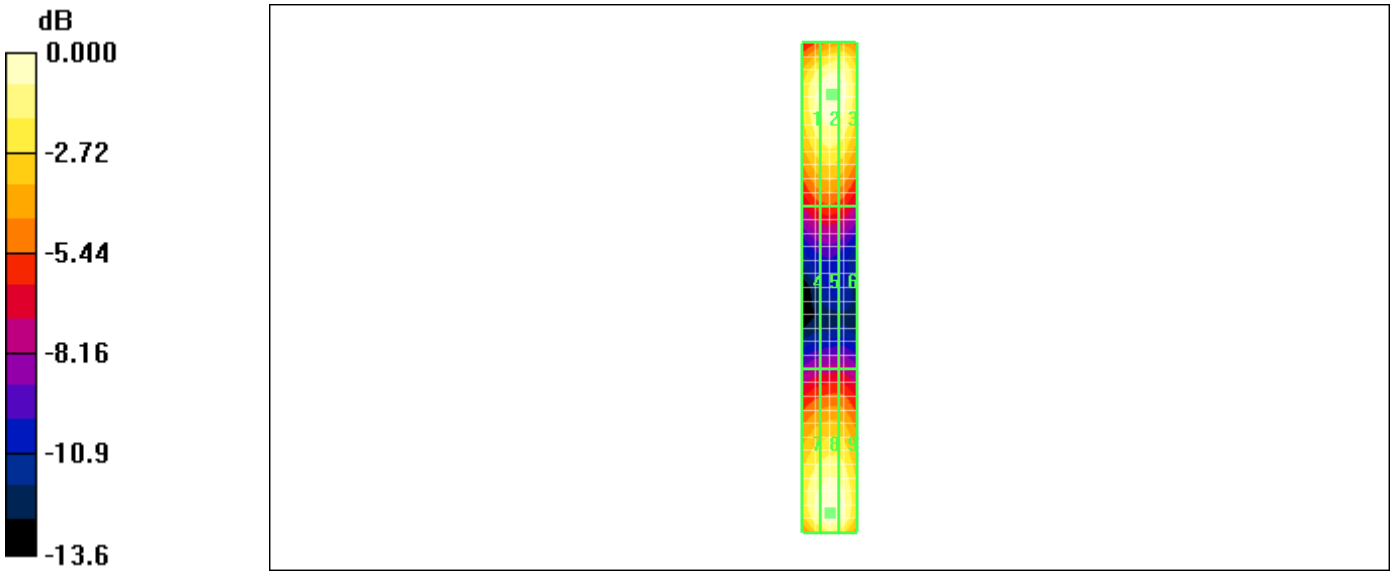
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 103.3 V/m; Power Drift = 0.000 dB

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

Peak E-field in V/m

Grid 1 **158.7 M4**	Grid 2 **166.5 M4**	Grid 3 **164.5 M4**
Grid 4 **88.1 M4**	Grid 5 **90.2 M4**	Grid 6 **87.4 M4**
Grid 7 **161.8 M4**	Grid 8 **169.7 M4**	Grid 9 **164.5 M4**



0 dB = 169.7V/m

Date/Time: 20/03/2009 4:33:39 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 110.3 V/m; Power Drift = 0.103 dB

Maximum value of Total (measured) = 182.7 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 = 185.3 V/m

Probe Modulation Factor = 1.00

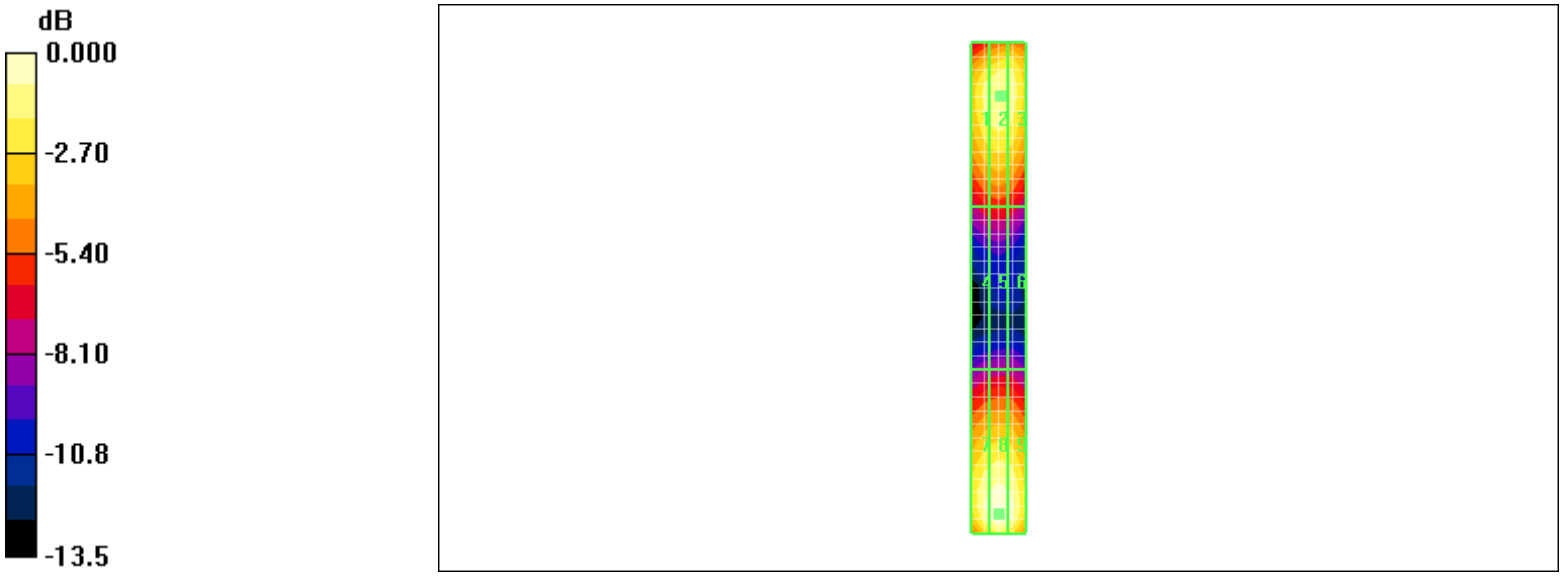
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 110.3 V/m; Power Drift = 0.103 dB

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

Peak E-field in V/m

Grid 1 **159.9 M4**	Grid 2 **166.9 M4**	Grid 3 **165.0 M4**
Grid 4 **91.2 M4**	Grid 5 **93.8 M4**	Grid 6 **91.0 M4**
Grid 7 **175.2 M4**	Grid 8 **185.3 M4**	Grid 9 **178.8 M4**



0 dB = 185.3V/m

Date/Time: 20/03/2009 4:51:53 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 76.9 V/m; Power Drift = -0.027 dB

Maximum value of Total (measured) = 124.3 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 = 126.0 V/m

Probe Modulation Factor = 1.00

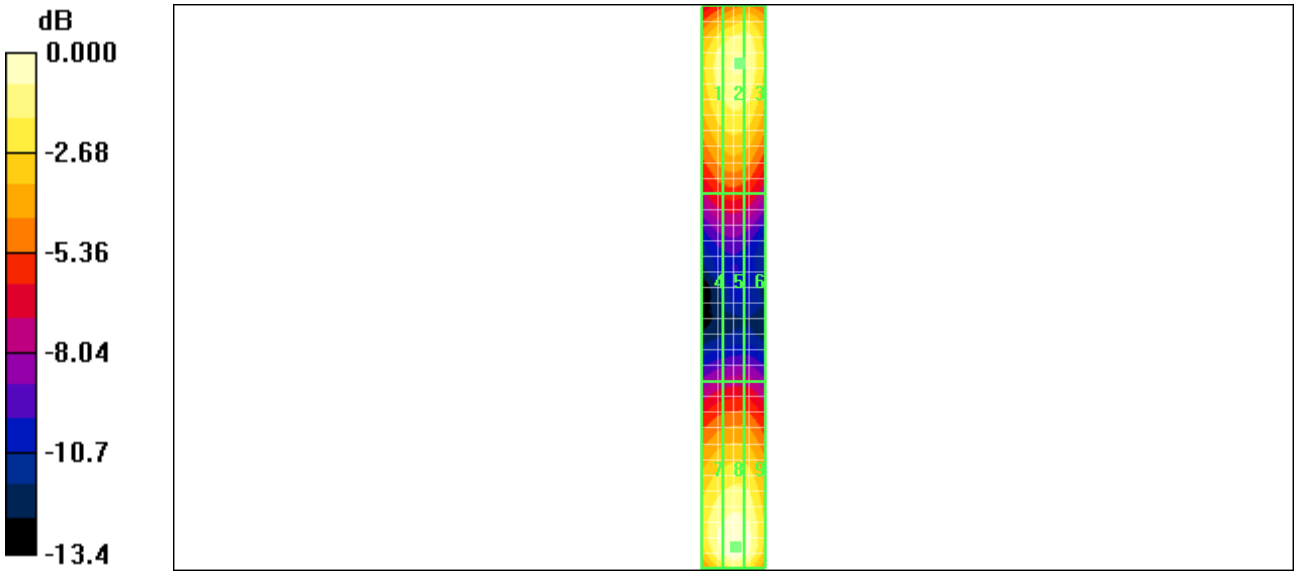
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 76.9 V/m; Power Drift = -0.027 dB

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

Peak E-field in V/m

Grid 1 **110.2 M4**	Grid 2 **114.5 M4**	Grid 3 **113.7 M4**
Grid 4 **64.0 M4**	Grid 5 **65.3 M4**	Grid 6 **63.4 M4**
Grid 7 **119.4 M4**	Grid 8 **126.0 M4**	Grid 9 **121.9 M4**



0 dB = 126.0V/m

Date/Time: 20/03/2009 4:17:25 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 37.6 V/m; Power Drift = 0.127 dB

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

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 63.2 V/m

Probe Modulation Factor = 1.00

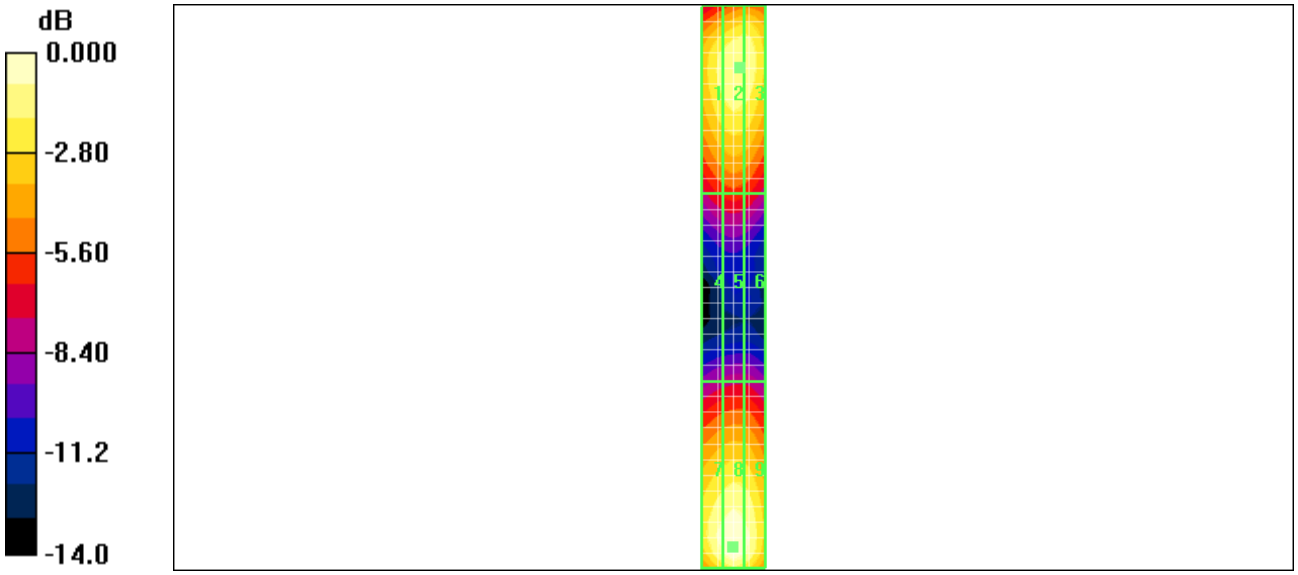
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 37.6 V/m; Power Drift = 0.127 dB

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

Peak E-field in V/m

Grid 1 **53.7 M4**	Grid 2 **56.9 M4**	Grid 3 **56.5 M4**
Grid 4 **30.9 M4**	Grid 5 **31.9 M4**	Grid 6 **31.1 M4**
Grid 7 **59.8 M4**	Grid 8 **63.2 M4**	Grid 9 **60.1 M4**



0 dB = 63.2V/m

Date/Time: 20/03/2009 4:43:42 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 39.6 V/m; Power Drift = 0.000 dB

Maximum value of Total (measured) = 65.1 V/m

E Scan - measurement distance from the probe sensor center to CD835 Dipole = 10mm/Hearing Aid Compatibility Test (41x361x1):

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

Maximum value of peak Total field = 65.9 V/m

Probe Modulation Factor = 1.00

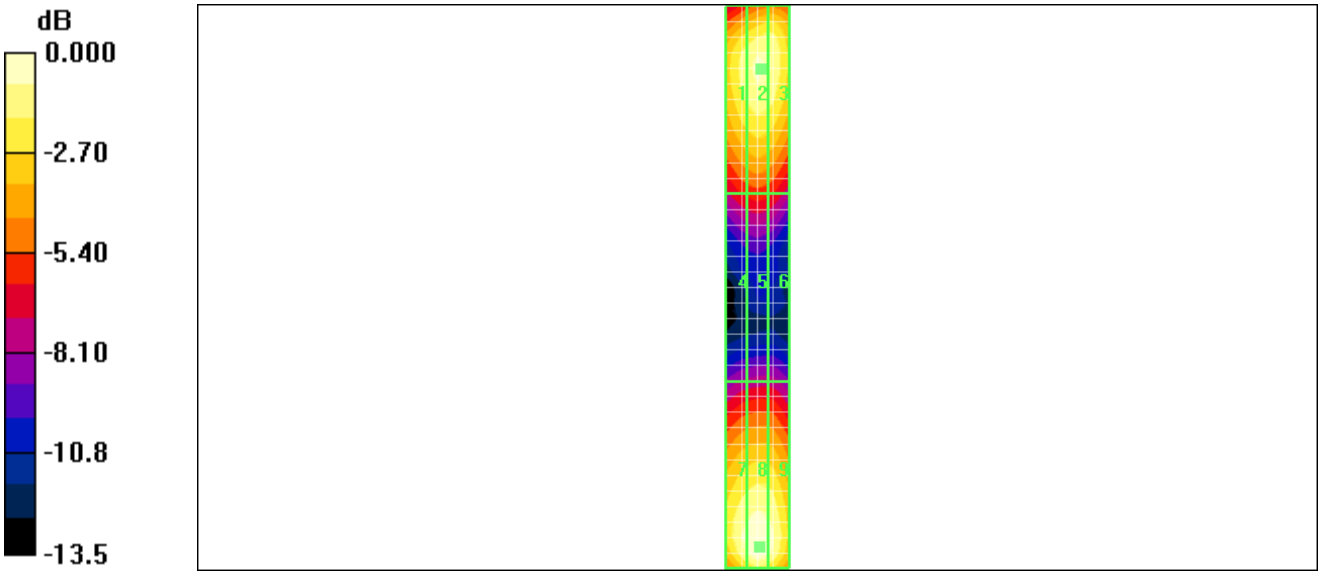
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 39.6 V/m; Power Drift = 0.000 dB

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

Peak E-field in V/m

Grid 1 **57.5 M4**	Grid 2 **60.8 M4**	Grid 3 **60.2 M4**
Grid 4 **33.0 M4**	Grid 5 **34.1 M4**	Grid 6 **33.1 M4**
Grid 7 **62.1 M4**	Grid 8 **65.9 M4**	Grid 9 **63.2 M4**



0 dB = 65.9V/m

Date/Time: 20/03/2009 5:01:10 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 25.8 V/m; Power Drift = -0.097 dB

Maximum value of Total (measured) = 42.0 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 = 42.5 V/m

Probe Modulation Factor = 1.00

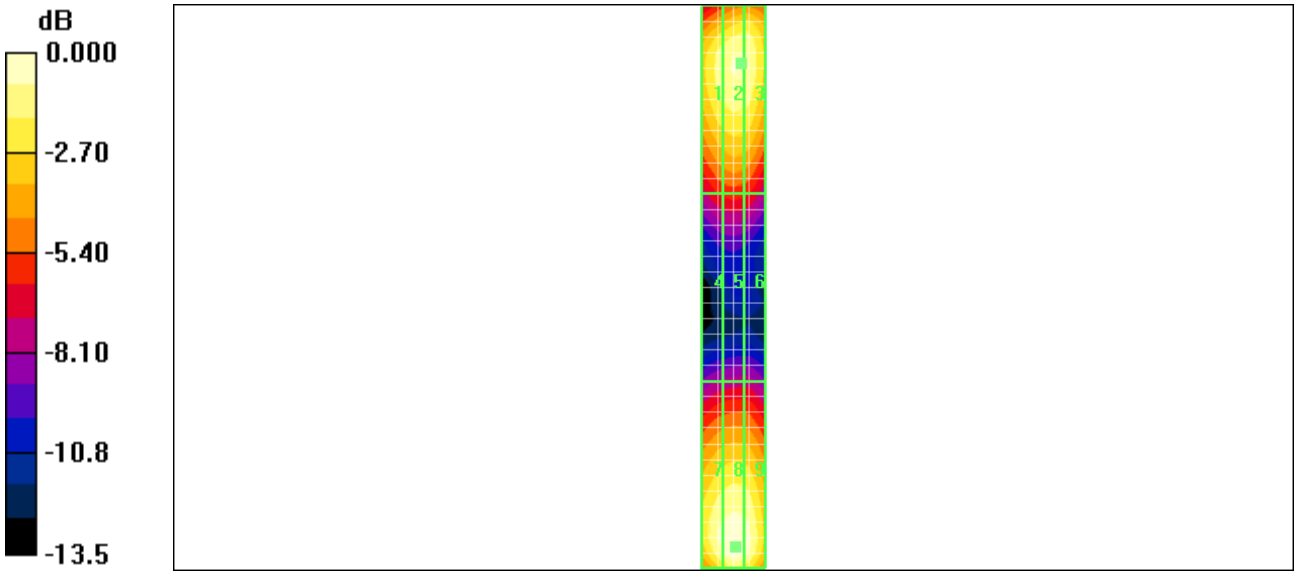
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 25.8 V/m; Power Drift = -0.097 dB

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

Peak E-field in V/m

Grid 1 **37.1 M4**	Grid 2 **39.0 M4**	Grid 3 **38.9 M4**
Grid 4 **21.3 M4**	Grid 5 **21.7 M4**	Grid 6 **21.4 M4**
Grid 7 **40.3 M4**	Grid 8 **42.5 M4**	Grid 9 **40.9 M4**



0 dB = 42.5V/m

Date/Time: 20/03/2009 4:07:44 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 41.2 V/m; Power Drift = -0.033 dB

Maximum value of Total (measured) = 68.6 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 = 69.0 V/m

Probe Modulation Factor = 1.00

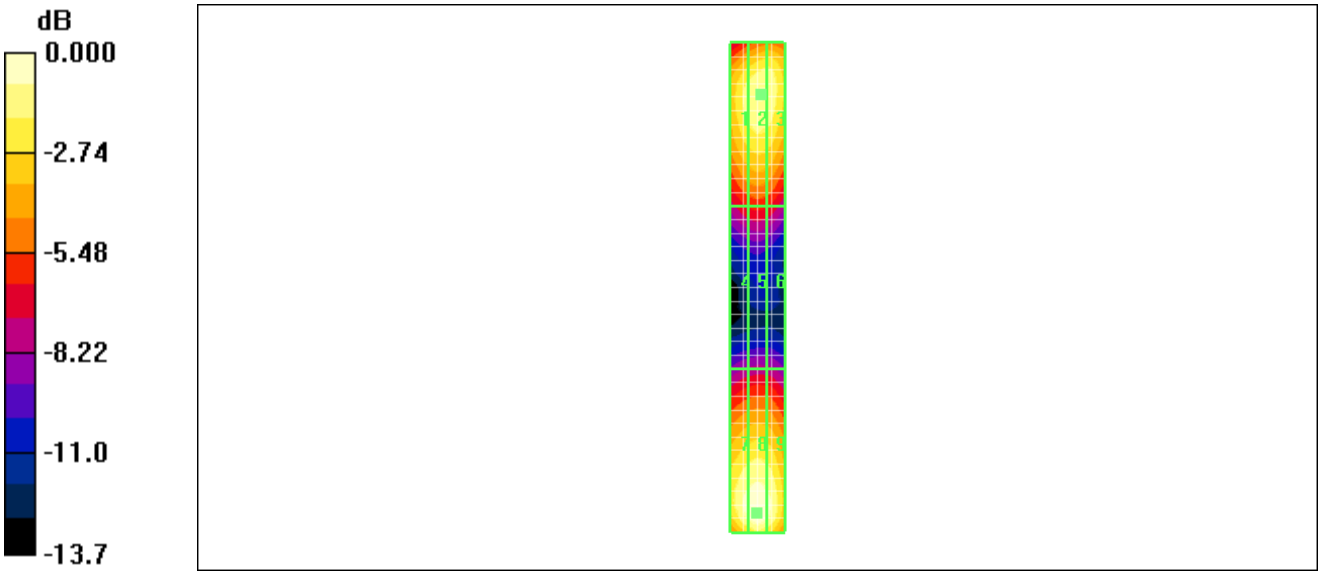
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 41.2 V/m; Power Drift = -0.033 dB

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

Peak E-field in V/m

Grid 1 **59.0 M4**	Grid 2 **62.4 M4**	Grid 3 **61.8 M4**
Grid 4 **33.6 M4**	Grid 5 **34.8 M4**	Grid 6 **33.8 M4**
Grid 7 **65.7 M4**	Grid 8 **69.0 M4**	Grid 9 **65.8 M4**



0 dB = 69.0V/m

Date/Time: 24/03/2009 1:10:29 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 150.0 V/m; Power Drift = -0.118 dB

Maximum value of Total (measured) = 129.2 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 = 130.9 V/m

Probe Modulation Factor = 1.00

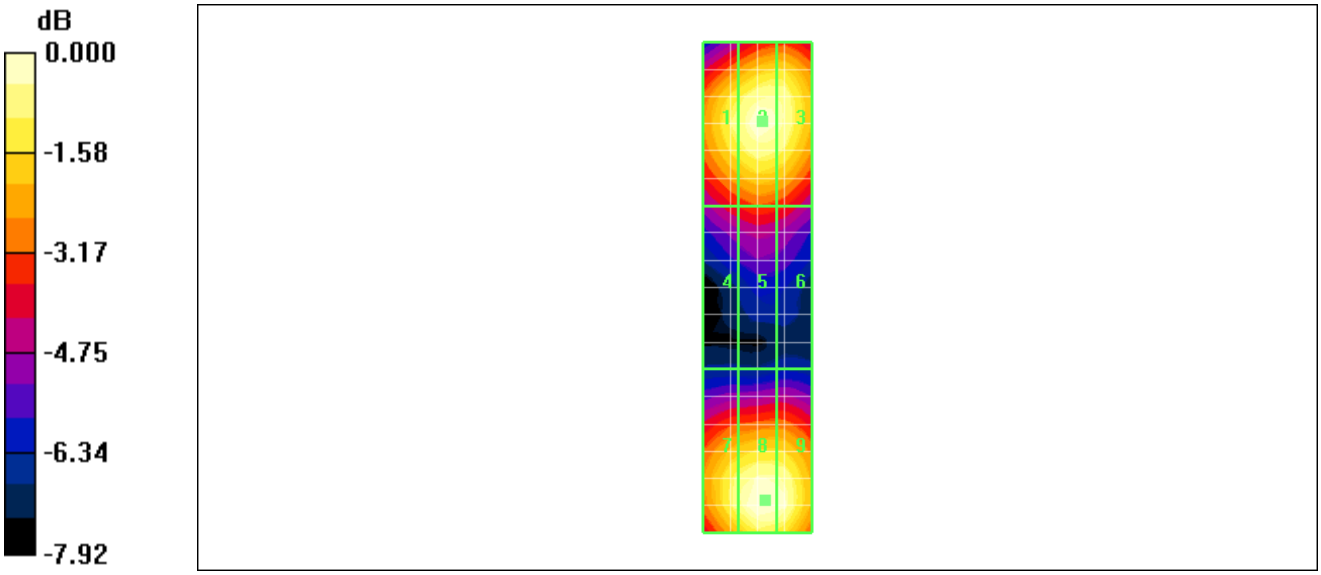
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 150.0 V/m; Power Drift = -0.118 dB

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

Peak E-field in V/m

Grid 1 **120.6 M2**	Grid 2 **127.3 M2**	Grid 3 **125.6 M2**
Grid 4 **86.7 M3**	Grid 5 **91.2 M3**	Grid 6 **89.0 M3**
Grid 7 **122.4 M2**	Grid 8 **130.9 M2**	Grid 9 **129.7 M2**



0 dB = 130.9V/m

Date/Time: 20/03/2009 3:12:30 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 107.4 V/m; Power Drift = -0.077 dB

Maximum value of Total (measured) = 92.8 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 = 93.8 V/m

Probe Modulation Factor = 1.00

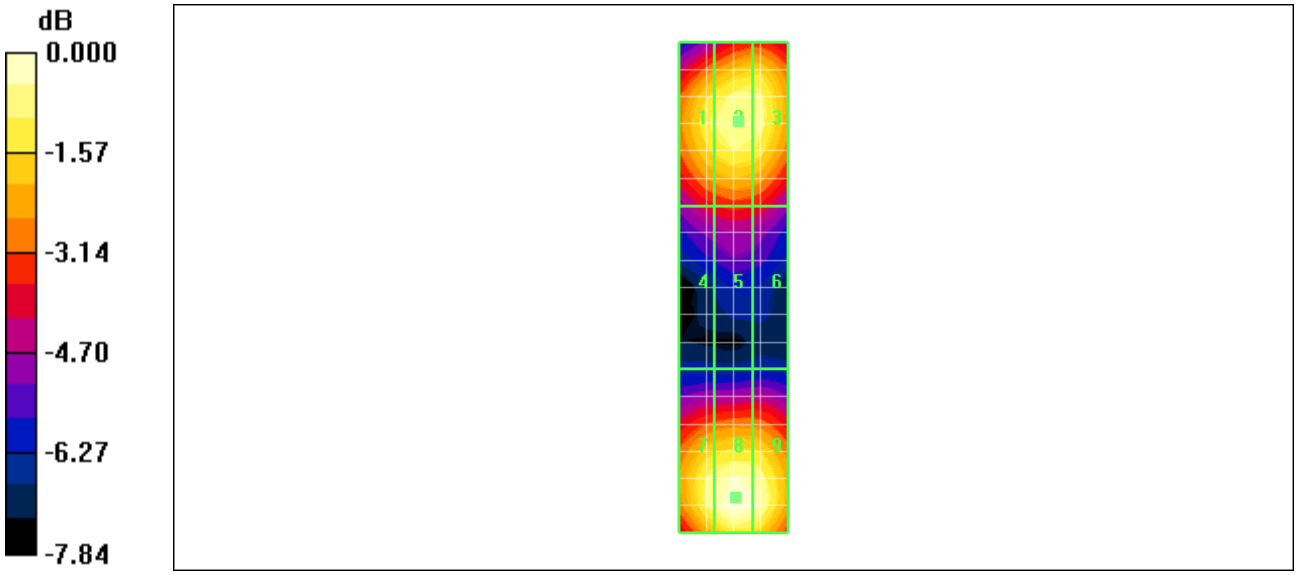
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 107.4 V/m; Power Drift = -0.077 dB

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

Peak E-field in V/m

Grid 1 **84.5 M3**	Grid 2 **88.2 M3**	Grid 3 **87.4 M3**
Grid 4 **61.4 M4**	Grid 5 **63.6 M3**	Grid 6 **62.5 M4**
Grid 7 **88.8 M3**	Grid 8 **93.8 M3**	Grid 9 **91.8 M3**



0 dB = 93.8V/m

Date/Time: 20/03/2009 3:25:36 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 67.7 V/m; Power Drift = -0.011 dB

Maximum value of Total (measured) = 59.2 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 = 59.8 V/m

Probe Modulation Factor = 1.00

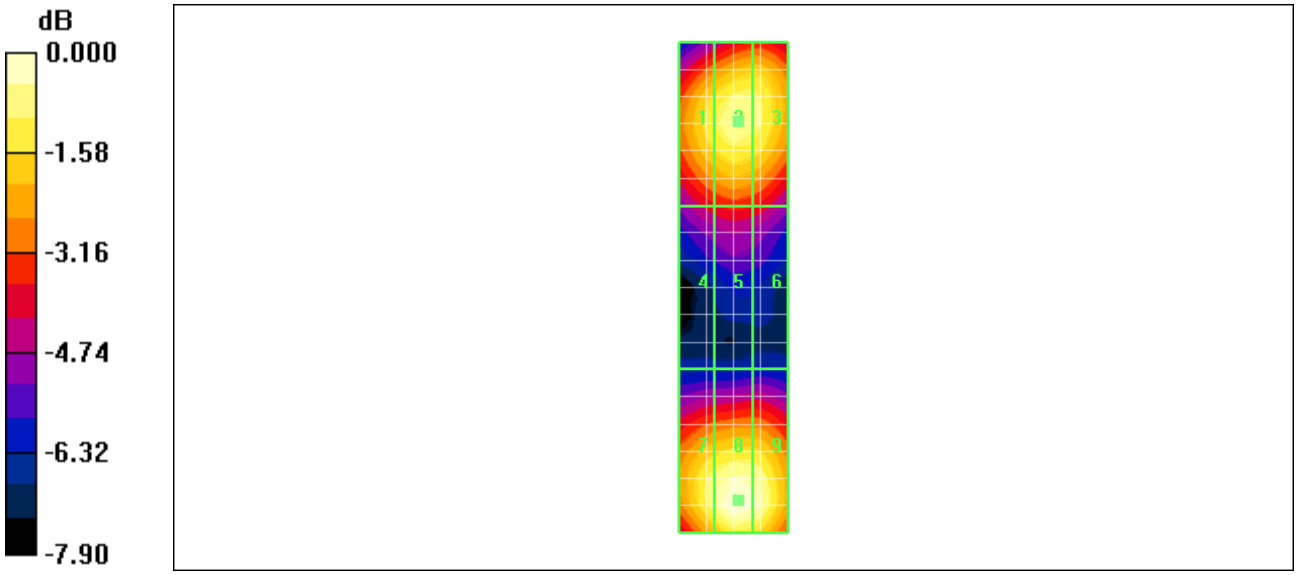
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 67.7 V/m; Power Drift = -0.011 dB

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

Peak E-field in V/m

Grid 1 **52.9 M4**	Grid 2 **55.4 M4**	Grid 3 **54.7 M4**
Grid 4 **38.8 M4**	Grid 5 **40.4 M4**	Grid 6 **39.5 M4**
Grid 7 **56.0 M4**	Grid 8 **59.8 M4**	Grid 9 **58.7 M4**



0 dB = 59.8V/m

Date/Time: 20/03/2009 2:51:56 PM

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: $\sigma = 0$ 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 36.2 V/m; Power Drift = -0.009 dB

Maximum value of Total (measured) = 31.6 V/m

E Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 32.1 V/m

Probe Modulation Factor = 1.00

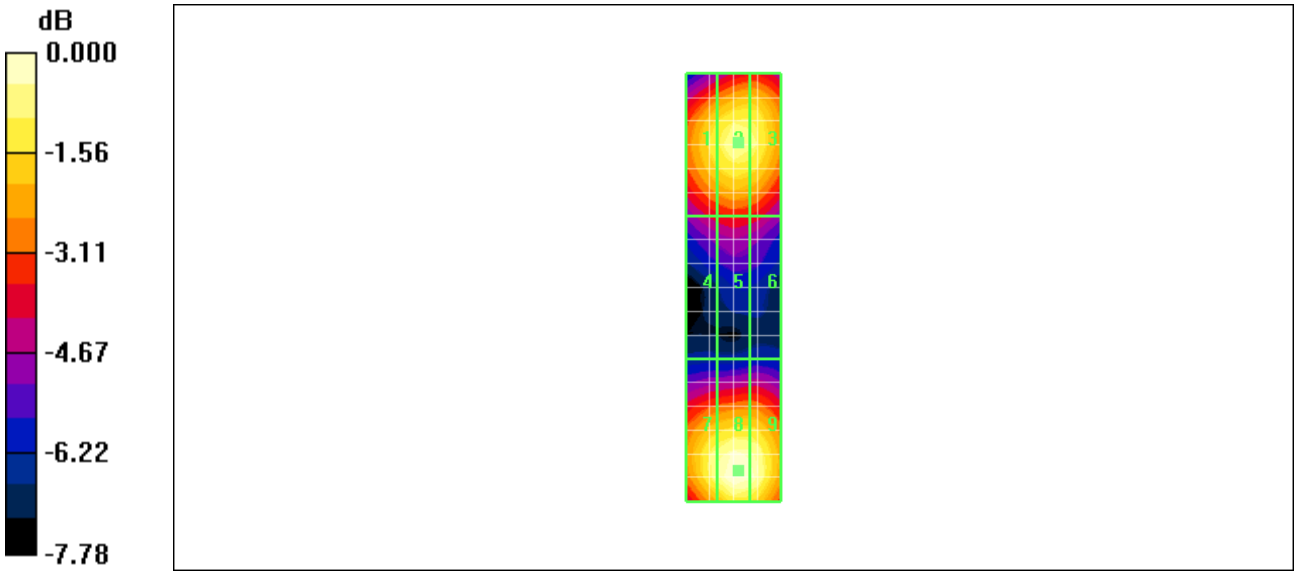
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 36.2 V/m; Power Drift = -0.009 dB

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

Peak E-field in V/m

Grid 1 **28.2 M4**	Grid 2 **29.6 M4**	Grid 3 **29.3 M4**
Grid 4 **20.7 M4**	Grid 5 **21.5 M4**	Grid 6 **21.0 M4**
Grid 7 **30.2 M4**	Grid 8 **32.1 M4**	Grid 9 **31.5 M4**



0 dB = 32.1V/m

Date/Time: 20/03/2009 3:19:28 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 53.6 V/m; Power Drift = -0.164 dB

Maximum value of Total (measured) = 45.9 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 = 46.5 V/m

Probe Modulation Factor = 1.00

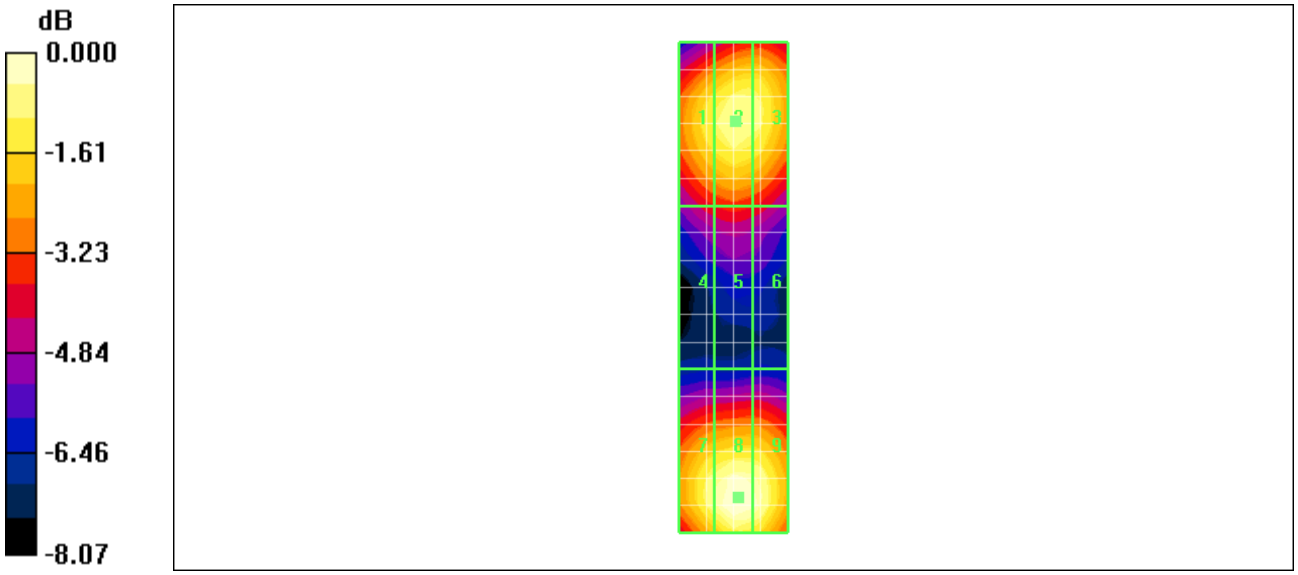
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 53.6 V/m; Power Drift = -0.164 dB

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

Peak E-field in V/m

Grid 1 **41.4 M4**	Grid 2 **43.3 M4**	Grid 3 **42.6 M4**
Grid 4 **30.3 M4**	Grid 5 **31.4 M4**	Grid 6 **30.4 M4**
Grid 7 **43.7 M4**	Grid 8 **46.5 M4**	Grid 9 **45.6 M4**



0 dB = 46.5V/m

Date/Time: 20/03/2009 3:32:28 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 34.1 V/m; Power Drift = -0.073 dB

Maximum value of Total (measured) = 29.7 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 = 30.1 V/m

Probe Modulation Factor = 1.00

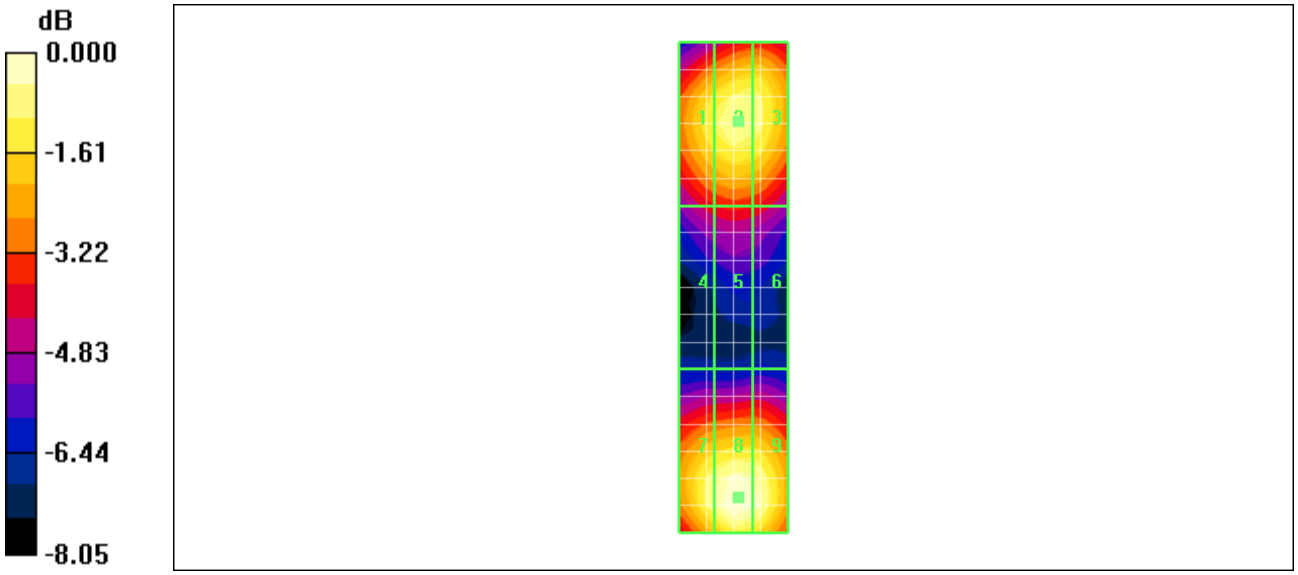
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 34.1 V/m; Power Drift = -0.073 dB

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

Peak E-field in V/m

Grid 1 **26.7 M4**	Grid 2 **28.0 M4**	Grid 3 **27.7 M4**
Grid 4 **19.5 M4**	Grid 5 **20.2 M4**	Grid 6 **19.8 M4**
Grid 7 **28.4 M4**	Grid 8 **30.1 M4**	Grid 9 **29.6 M4**



0 dB = 30.1V/m

Date/Time: 20/03/2009 3:00:38 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 53.3 V/m; Power Drift = -0.133 dB

Maximum value of Total (measured) = 45.9 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 = 46.5 V/m

Probe Modulation Factor = 1.00

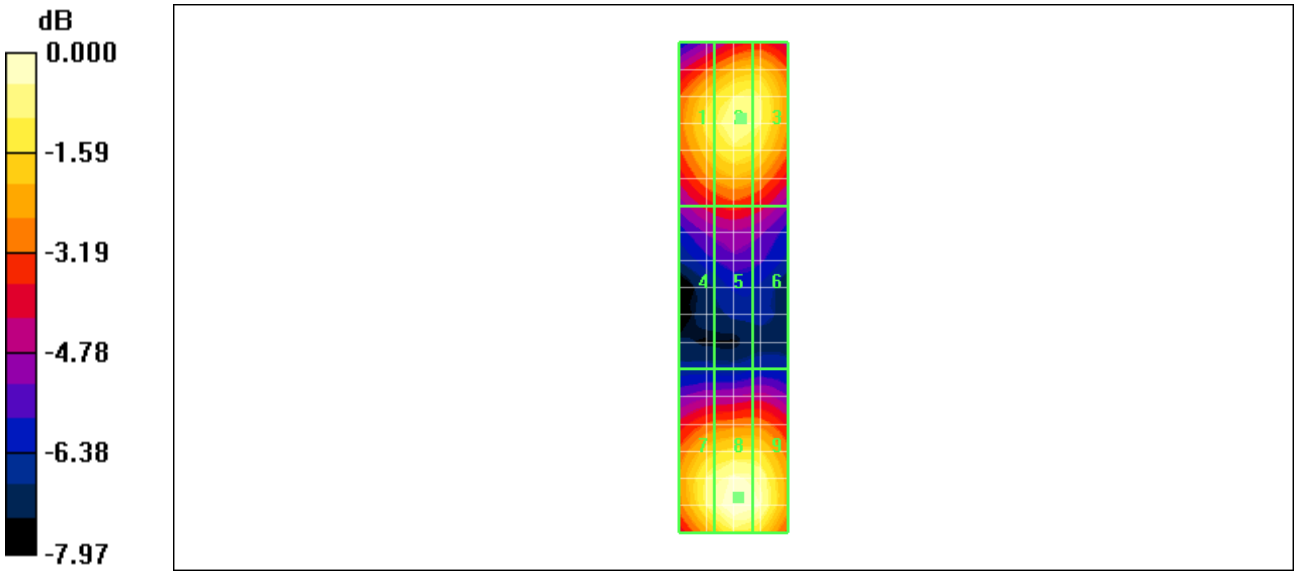
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 53.3 V/m; Power Drift = -0.133 dB

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

Peak E-field in V/m

Grid 1 **40.9 M4**	Grid 2 **42.8 M4**	Grid 3 **42.5 M4**
Grid 4 **30.1 M4**	Grid 5 **31.4 M4**	Grid 6 **30.3 M4**
Grid 7 **43.9 M4**	Grid 8 **46.5 M4**	Grid 9 **45.8 M4**



0 dB = 46.5V/m

Date/Time: 24/03/2009 12:16:40 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.028 dB

Maximum value of Total (measured) = 0.479 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 = 0.481 A/m

Probe Modulation Factor = 1.00

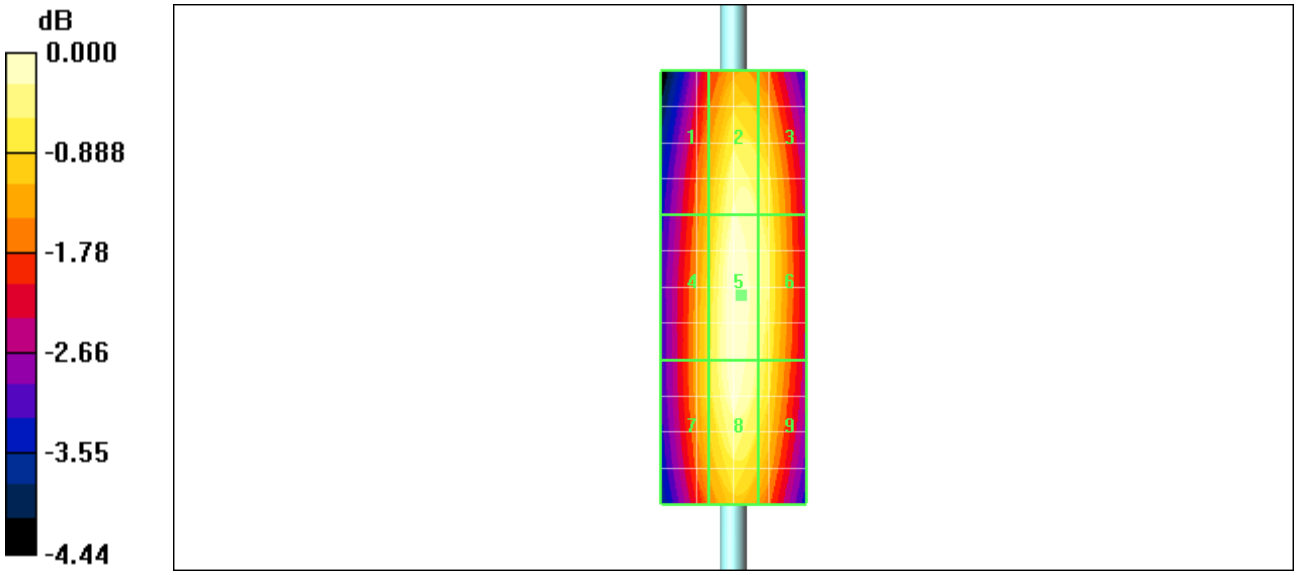
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.508 A/m; Power Drift = 0.028 dB

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

Peak H-field in A/m

Grid 1 **0.429 M4**	Grid 2 **0.472 M4**	Grid 3 **0.463 M4**
Grid 4 **0.444 M4**	Grid 5 **0.481 M4**	Grid 6 **0.469 M4**
Grid 7 **0.444 M4**	Grid 8 **0.479 M4**	Grid 9 **0.462 M4**



0 dB = 0.481A/m

Date/Time: 20/03/2009 5:14:23 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.524 A/m; Power Drift = 0.149 dB

Maximum value of Total (measured) = 0.497 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 = 0.499 A/m

Probe Modulation Factor = 1.00

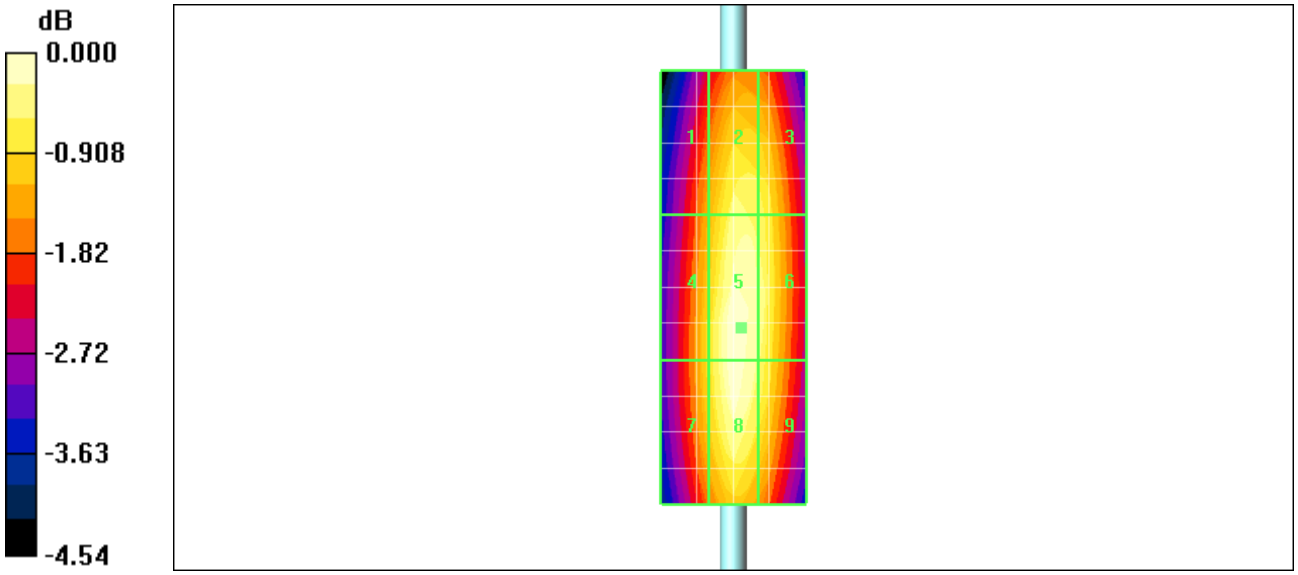
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.524 A/m; Power Drift = 0.149 dB

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

Peak H-field in A/m

Grid 1 **0.436 M4**	Grid 2 **0.478 M4**	Grid 3 **0.473 M4**
Grid 4 **0.455 M4**	Grid 5 **0.499 M4**	Grid 6 **0.482 M4**
Grid 7 **0.455 M4**	Grid 8 **0.496 M4**	Grid 9 **0.478 M4**



0 dB = 0.499A/m

Date/Time: 20/03/2009 5:21:57 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.376 A/m; Power Drift = -0.095 dB

Maximum value of Total (measured) = 0.348 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 = 0.349 A/m

Probe Modulation Factor = 1.00

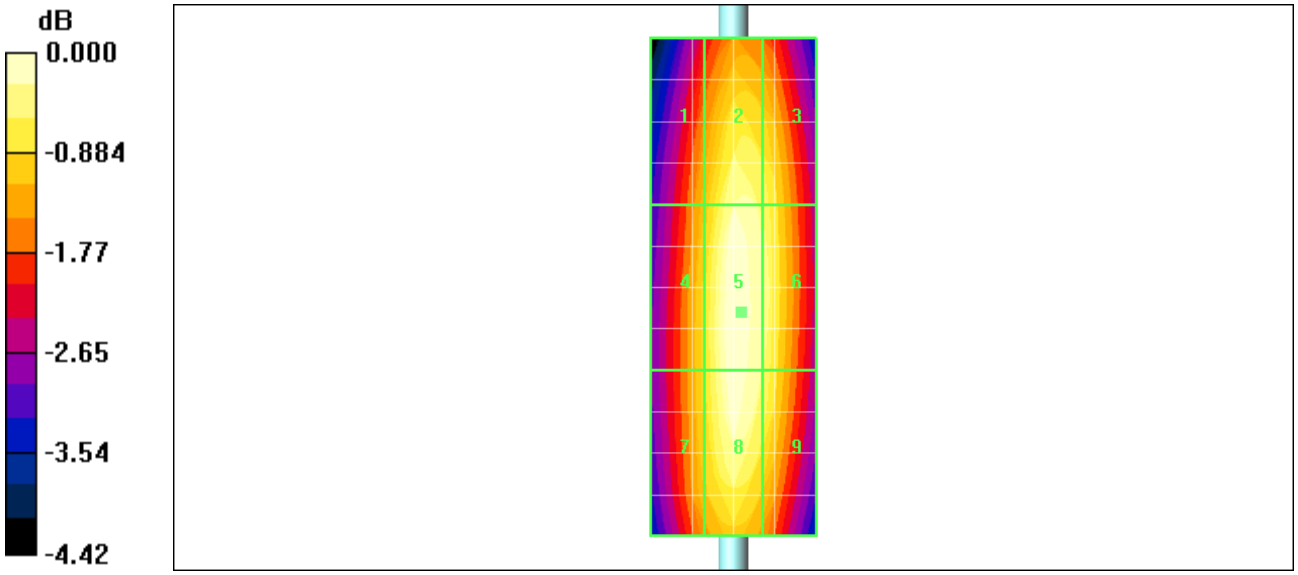
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.376 A/m; Power Drift = -0.095 dB

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

Peak H-field in A/m

Grid 1 **0.310 M4**	Grid 2 **0.339 M4**	Grid 3 **0.333 M4**
Grid 4 **0.320 M4**	Grid 5 **0.349 M4**	Grid 6 **0.339 M4**



0 dB = 0.349A/m

Date/Time: 20/03/2009 5:34:34 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.191 A/m; Power Drift = 0.021 dB

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

Probe Modulation Factor = 1.00

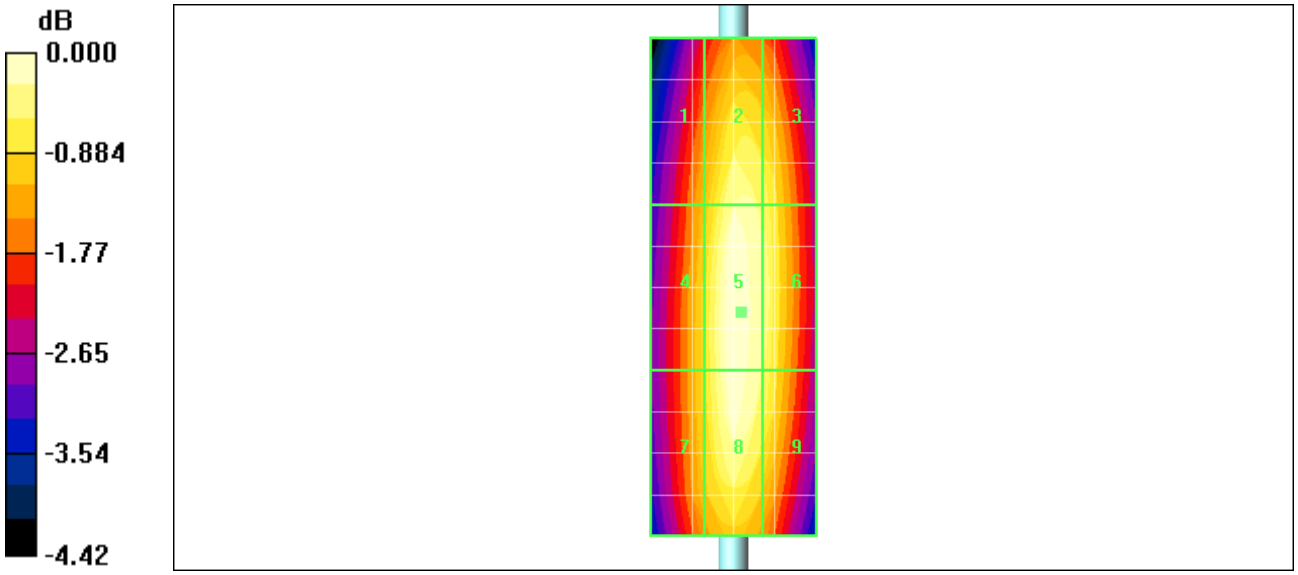
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.191 A/m; Power Drift = 0.021 dB

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

Peak H-field in A/m

Grid 1 **0.159 M4**	Grid 2 **0.174 M4**	Grid 3 **0.169 M4**
Grid 4 **0.163 M4**	Grid 5 **0.179 M4**	Grid 6 **0.173 M4**
Grid 7 **0.163 M4**	Grid 8 **0.179 M4**	Grid 9 **0.170 M4**



0 dB = 0.349A/m

Date/Time: 20/03/2009 5:18:22 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.186 A/m; Power Drift = -0.009 dB

Maximum value of Total (measured) = 0.174 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 = 0.175 A/m

Probe Modulation Factor = 1.00

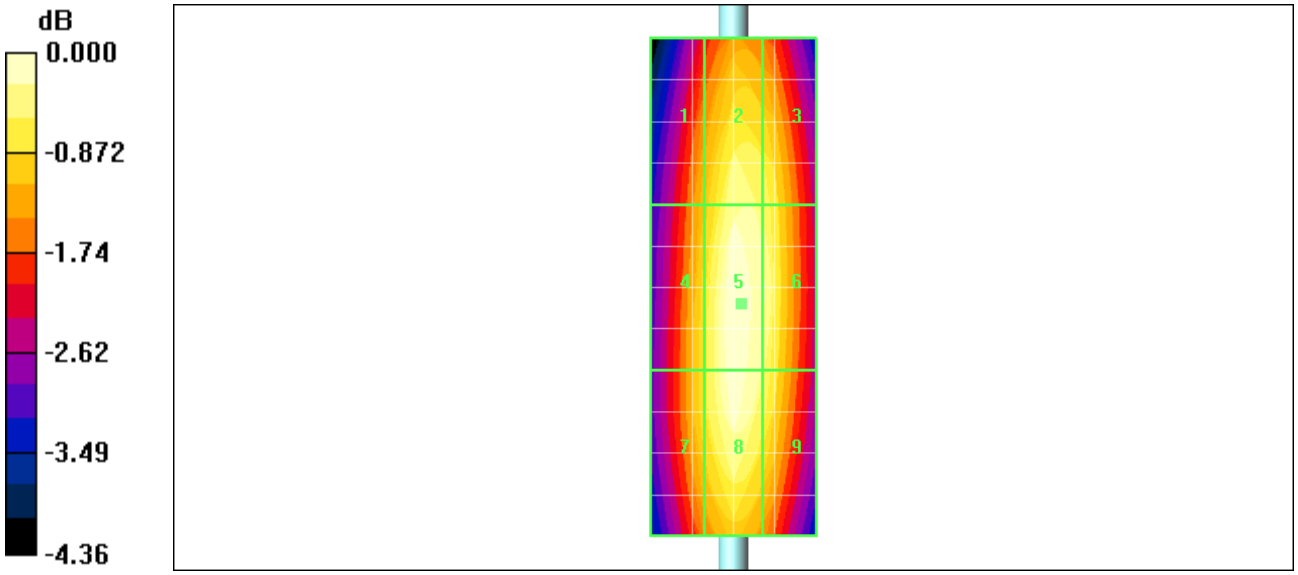
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.186 A/m; Power Drift = -0.009 dB

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

Peak H-field in A/m

Grid 1 **0.156 M4**	Grid 2 **0.169 M4**	Grid 3 **0.167 M4**
Grid 4 **0.162 M4**	Grid 5 **0.175 M4**	Grid 6 **0.170 M4**
Grid 7 **0.162 M4**	Grid 8 **0.174 M4**	Grid 9 **0.168 M4**



0 dB = 0.175A/m

Date/Time: 20/03/2009 5:25:07 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.122 A/m; Power Drift = 0.059 dB

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

H Scan - measurement distance from the probe sensor center to

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

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

Maximum value of peak Total field = 0.115 A/m

Probe Modulation Factor = 1.00

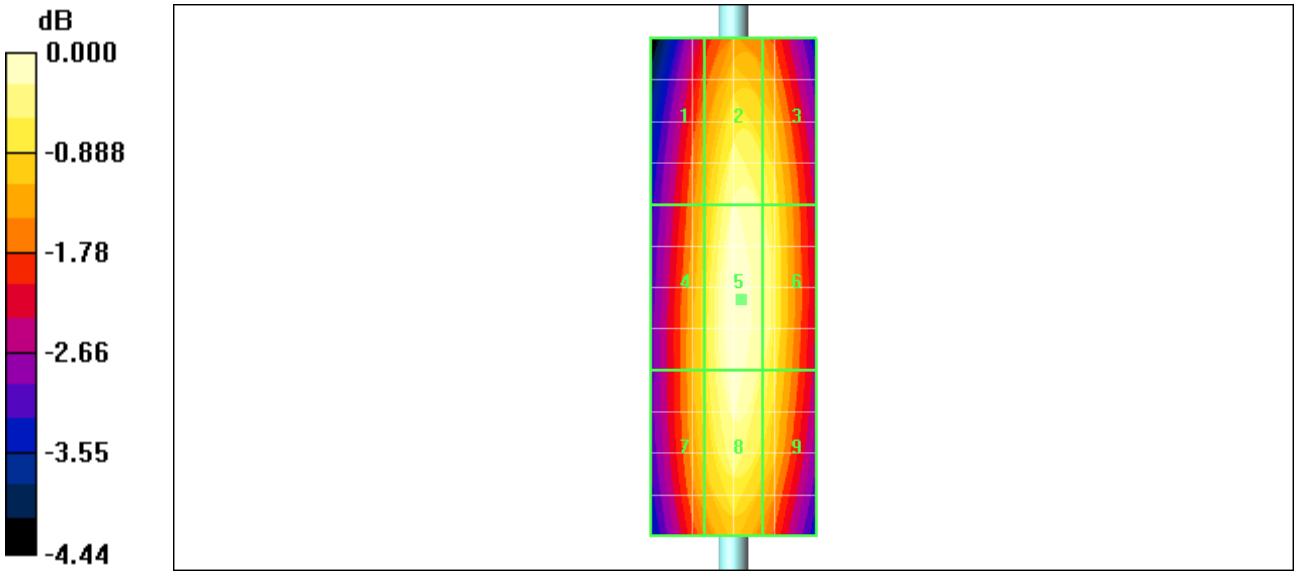
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.122 A/m; Power Drift = 0.059 dB

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

Peak H-field in A/m

Grid 1 **0.103 M4**	Grid 2 **0.112 M4**	Grid 3 **0.110 M4**
Grid 4 **0.106 M4**	Grid 5 **0.115 M4**	Grid 6 **0.112 M4**
Grid 7 **0.106 M4**	Grid 8 **0.114 M4**	Grid 9 **0.110 M4**



0 dB = 0.115A/m

Date/Time: 20/03/2009 5:42:12 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.200 A/m; Power Drift = -0.161 dB

Maximum value of Total (measured) = 0.186 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 = 0.187 A/m

Probe Modulation Factor = 1.00

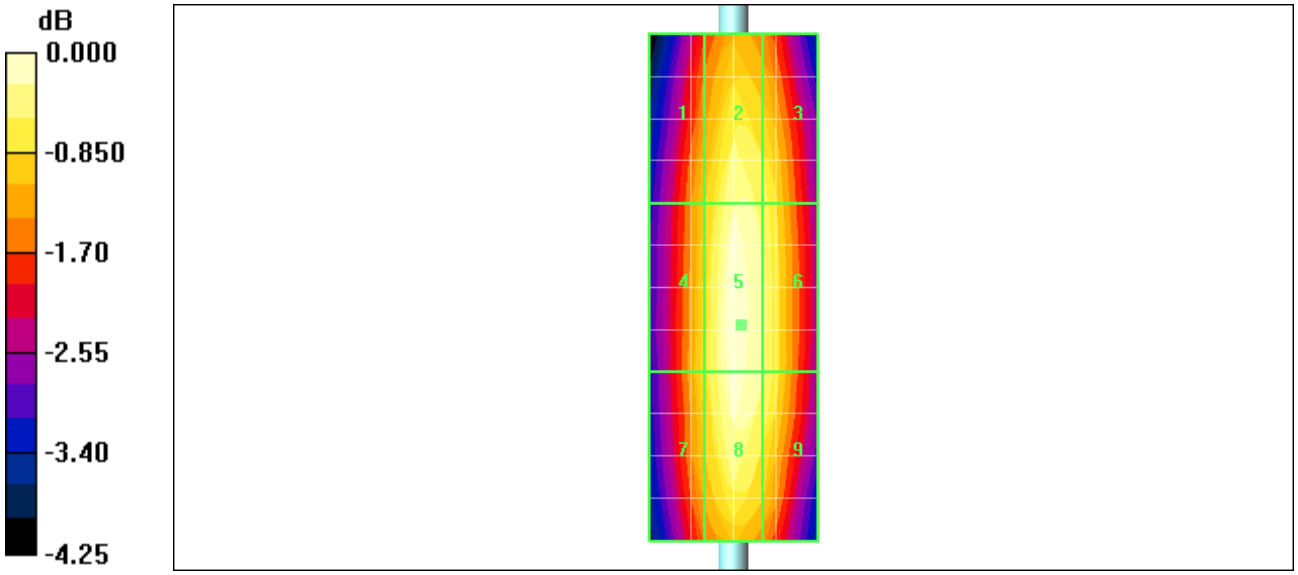
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.200 A/m; Power Drift = -0.161 dB

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

Peak H-field in A/m

Grid 1 **0.169 M4**	Grid 2 **0.181 M4**	Grid 3 **0.178 M4**
Grid 4 **0.173 M4**	Grid 5 **0.187 M4**	Grid 6 **0.181 M4**
Grid 7 **0.173 M4**	Grid 8 **0.185 M4**	Grid 9 **0.181 M4**



0 dB = 0.187A/m

Date/Time: 24/03/2009 12:01:46 PM

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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.505 A/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 0.475 A/m

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.477 A/m

Probe Modulation Factor = 1.00

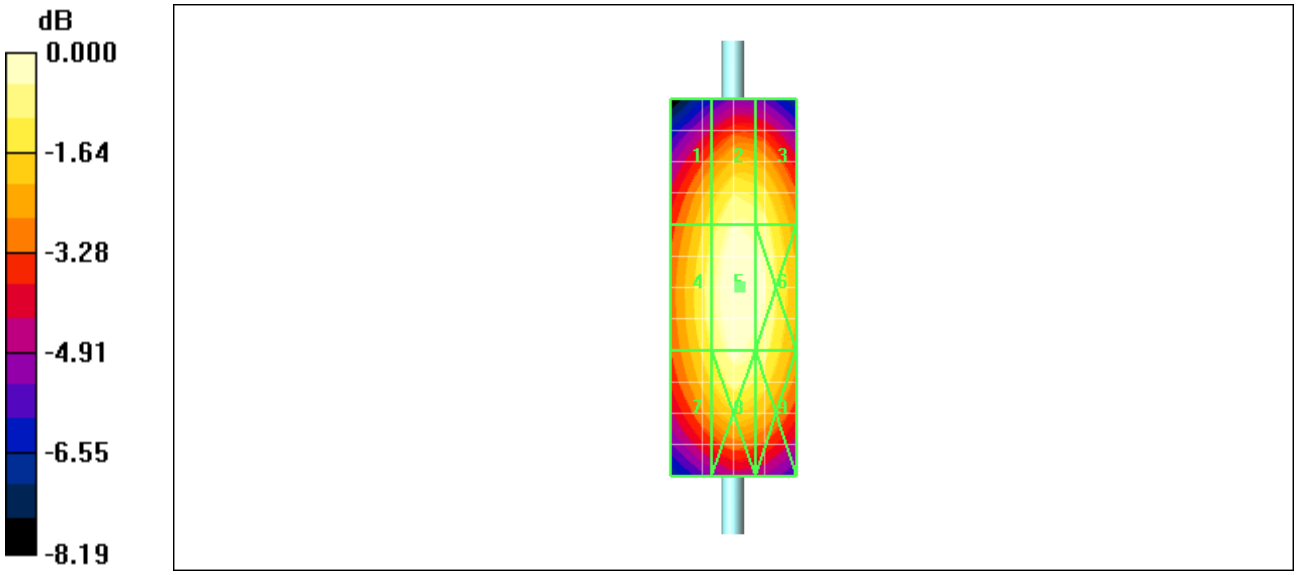
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.505 A/m; Power Drift = -0.016 dB

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

Peak H-field in A/m

Grid 1 **0.413 M2**	Grid 2 **0.454 M2**	Grid 3 **0.445 M2**
Grid 4 **0.439 M2**	Grid 5 **0.477 M2**	Grid 6 **0.465 M2**
Grid 7 **0.422 M2**	Grid 8 **0.460 M2**	Grid 9 **0.445 M2**



0 dB = 0.477A/m

Date/Time: 24/03/2009 11:05:55 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.349 A/m; Power Drift = 0.016 dB

Maximum value of Total (measured) = 0.326 A/m

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.328 A/m

Probe Modulation Factor = 1.00

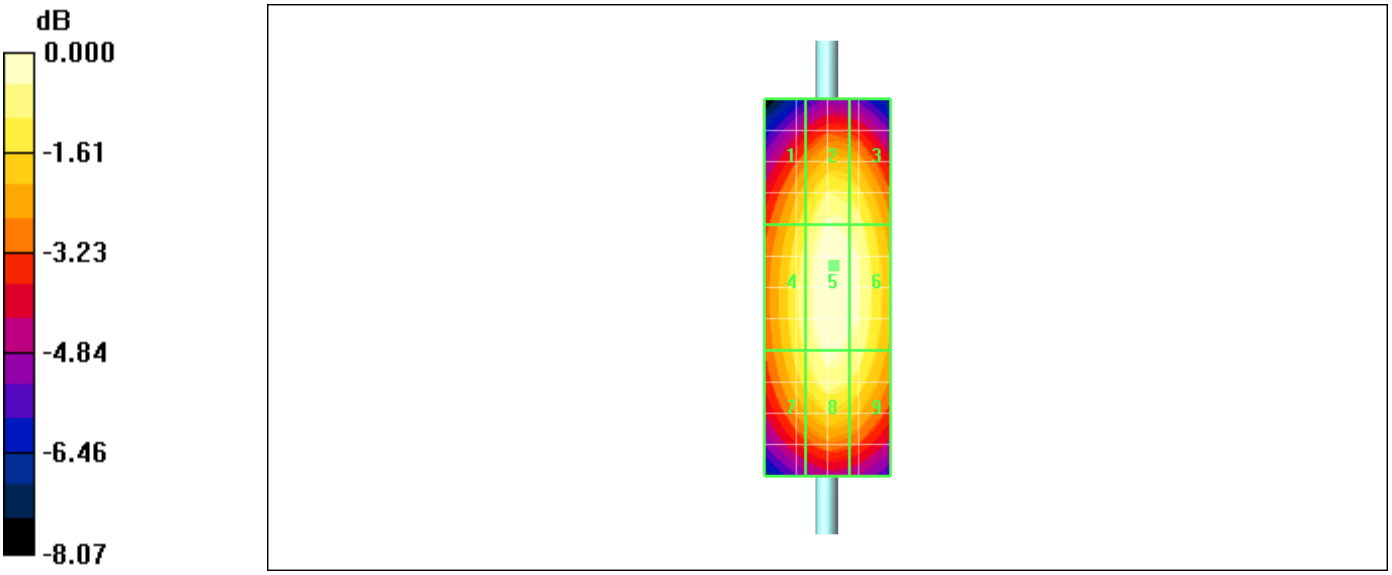
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.349 A/m; Power Drift = 0.016 dB

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

Peak H-field in A/m

Grid 1 **0.285 M3**	Grid 2 **0.315 M3**	Grid 3 **0.308 M3**
Grid 4 **0.303 M3**	Grid 5 **0.328 M3**	Grid 6 **0.320 M3**
Grid 7 **0.294 M3**	Grid 8 **0.317 M3**	Grid 9 **0.309 M3**



0 dB = 0.328A/m

Date/Time: 24/03/2009 11:33:20 AM

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: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.223 A/m; Power Drift = 0.136 dB

Maximum value of Total (measured) = 0.211 A/m

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.212 A/m

Probe Modulation Factor = 1.00

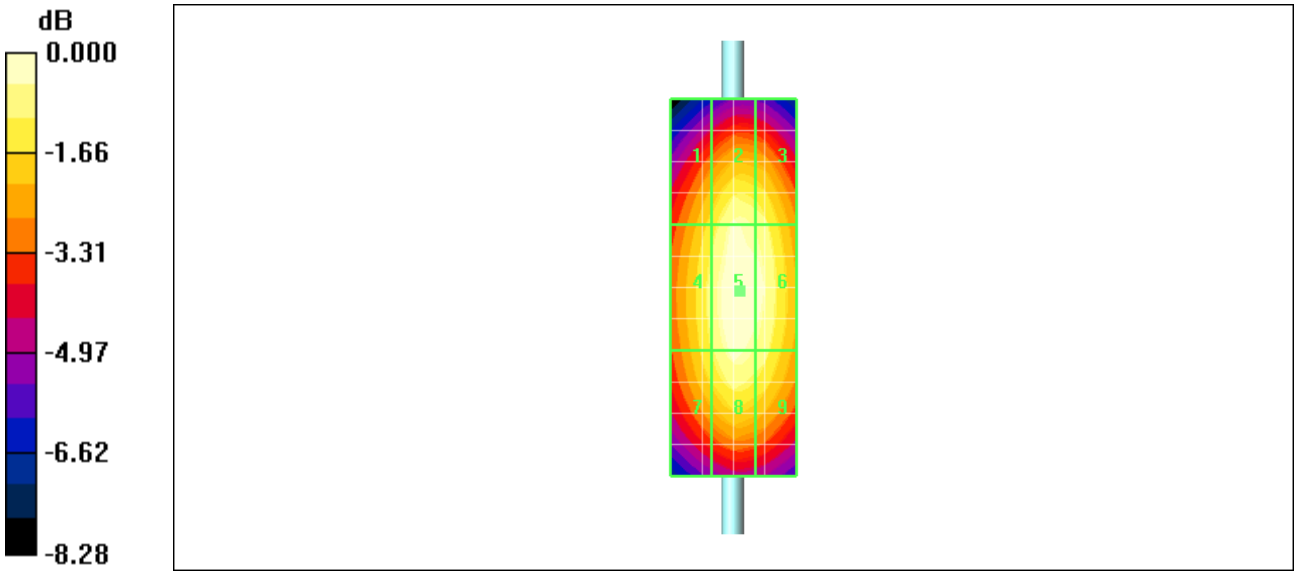
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.223 A/m; Power Drift = 0.136 dB

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

Peak H-field in A/m

Grid 1 **0.181 M4**	Grid 2 **0.203 M3**	Grid 3 **0.197 M3**
Grid 4 **0.193 M3**	Grid 5 **0.212 M3**	Grid 6 **0.206 M3**
Grid 7 **0.188 M4**	Grid 8 **0.204 M3**	Grid 9 **0.197 M3**



0 dB = 0.212A/m

Date/Time: 24/03/2009 10:40:43 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.139 A/m; Power Drift = -0.054 dB

Maximum value of Total (measured) = 0.129 A/m

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.129 A/m

Probe Modulation Factor = 1.00

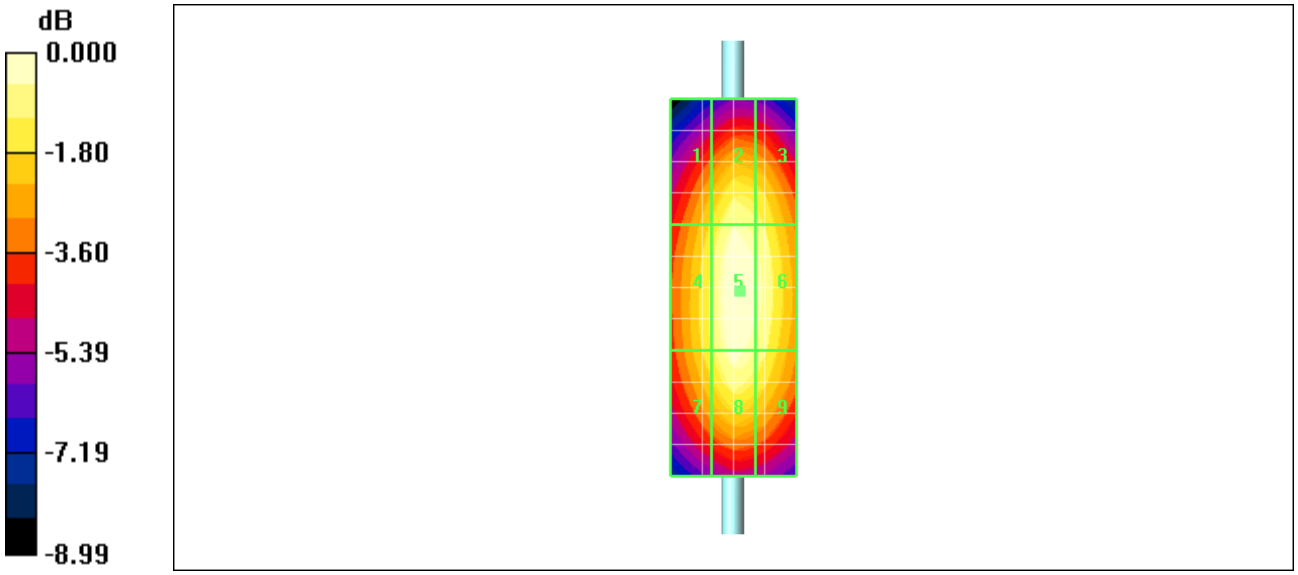
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.139 A/m; Power Drift = -0.054 dB

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

Peak H-field in A/m

Grid 1 **0.107 M4**	Grid 2 **0.121 M4**	Grid 3 **0.117 M4**
Grid 4 **0.115 M4**	Grid 5 **0.129 M4**	Grid 6 **0.124 M4**
Grid 7 **0.112 M4**	Grid 8 **0.125 M4**	Grid 9 **0.119 M4**



0 dB = 0.129A/m

Date/Time: 24/03/2009 11:15:36 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.172 A/m; Power Drift = -0.013 dB

Maximum value of Total (measured) = 0.162 A/m

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.162 A/m

Probe Modulation Factor = 1.00

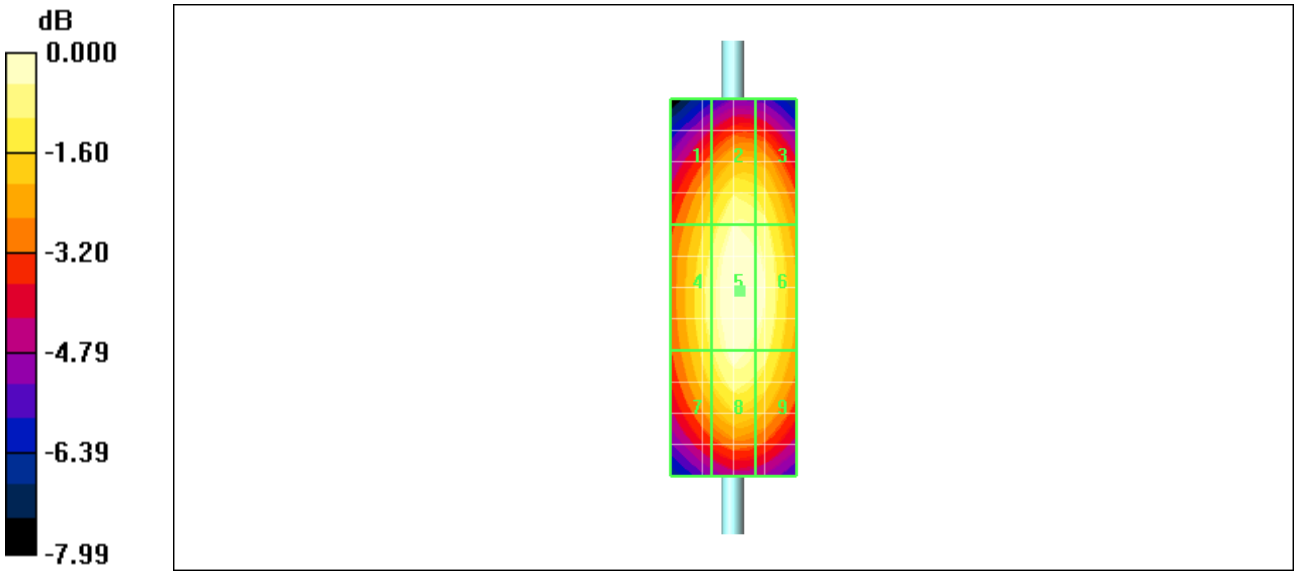
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.172 A/m; Power Drift = -0.013 dB

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

Peak H-field in A/m

Grid 1 **0.140 M4**	Grid 2 **0.154 M4**	Grid 3 **0.151 M4**
Grid 4 **0.149 M4**	Grid 5 **0.162 M4**	Grid 6 **0.158 M4**
Grid 7 **0.145 M4**	Grid 8 **0.157 M4**	Grid 9 **0.152 M4**



0 dB = 0.162A/m

Date/Time: 24/03/2009 11:43:27 AM

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: RF Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.111 A/m; Power Drift = -0.115 dB

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

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.104 A/m

Probe Modulation Factor = 1.00

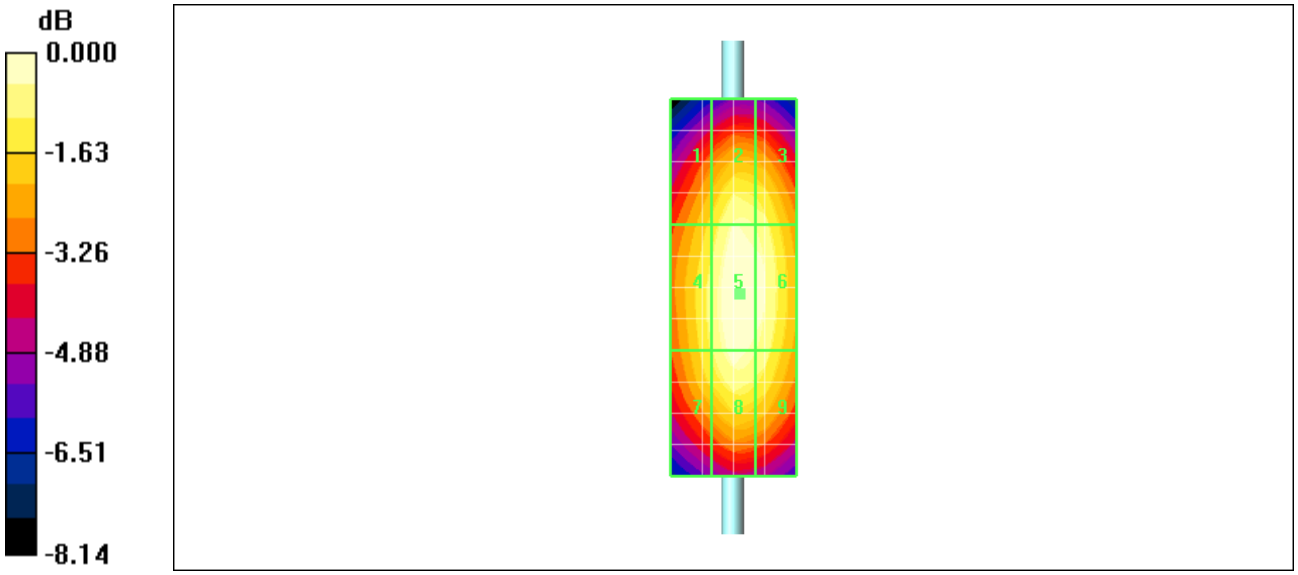
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.111 A/m; Power Drift = -0.115 dB

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

Peak H-field in A/m

Grid 1 **0.089 M4**	Grid 2 **0.099 M4**	Grid 3 **0.097 M4**
Grid 4 **0.095 M4**	Grid 5 **0.104 M4**	Grid 6 **0.102 M4**
Grid 7 **0.093 M4**	Grid 8 **0.101 M4**	Grid 9 **0.098 M4**



0 dB = 0.104A/m

Date/Time: 24/03/2009 10:56:34 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

H Scan - measurement distance from the probe sensor center to CD1880 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 = 0.179 A/m; Power Drift = 0.001 dB

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

H Scan - measurement distance from the probe sensor center to

CD1880 Dipole = 10mm/Hearing Aid Compatibility Test (41x121x1):

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

Maximum value of peak Total field = 0.169 A/m

Probe Modulation Factor = 1.00

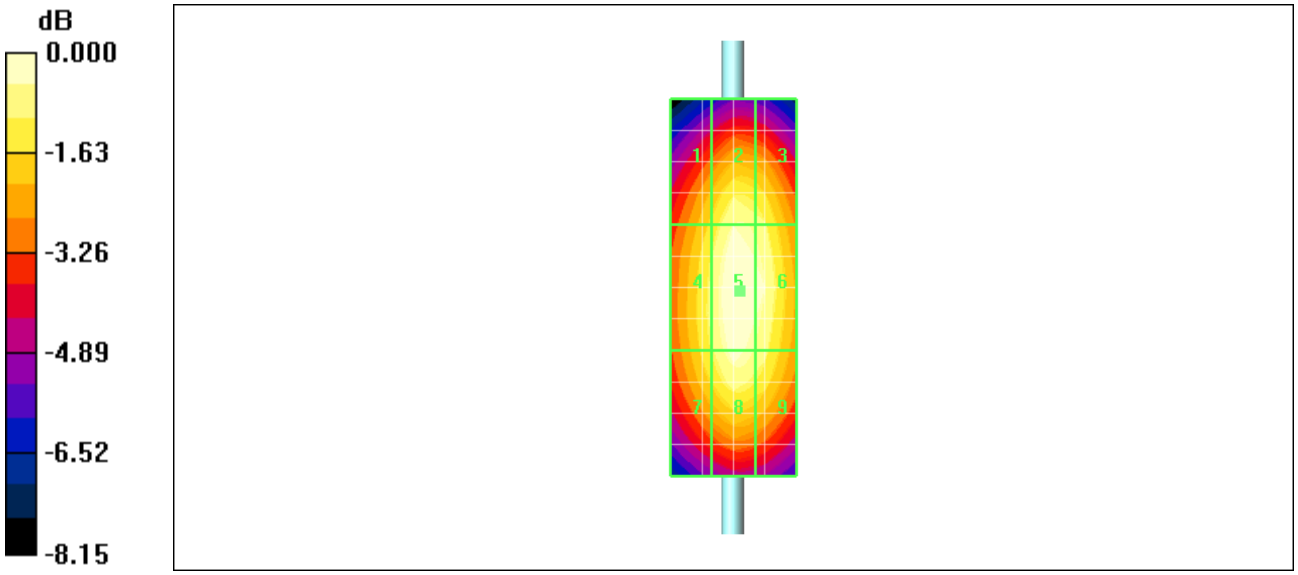
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.179 A/m; Power Drift = 0.001 dB

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

Peak H-field in A/m

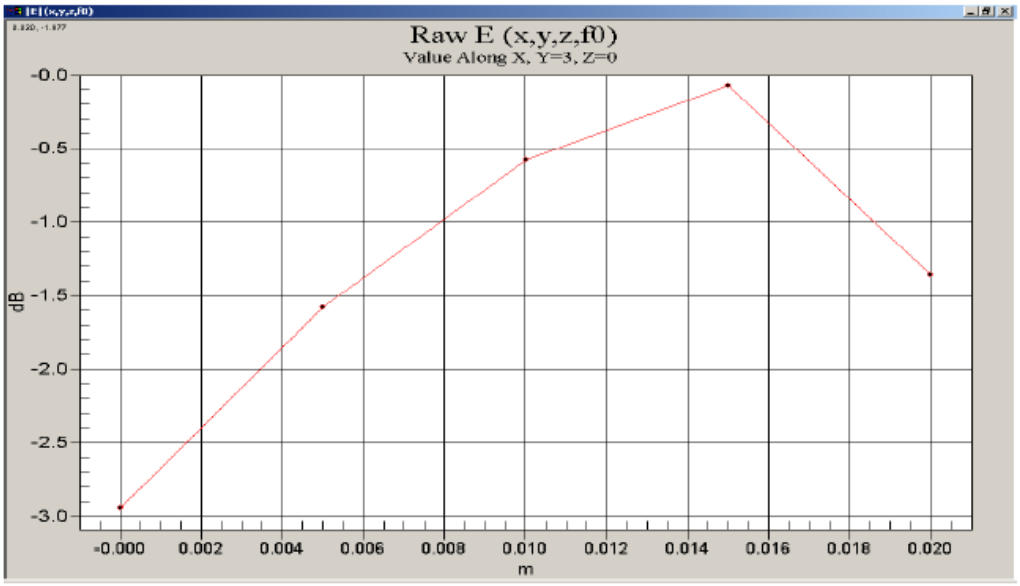
Grid 1 **0.143 M4**	Grid 2 **0.160 M4**	Grid 3 **0.156 M4**
Grid 4 **0.153 M4**	Grid 5 **0.169 M4**	Grid 6 **0.165 M4**
Grid 7 **0.150 M4**	Grid 8 **0.163 M4**	Grid 9 **0.157 M4**



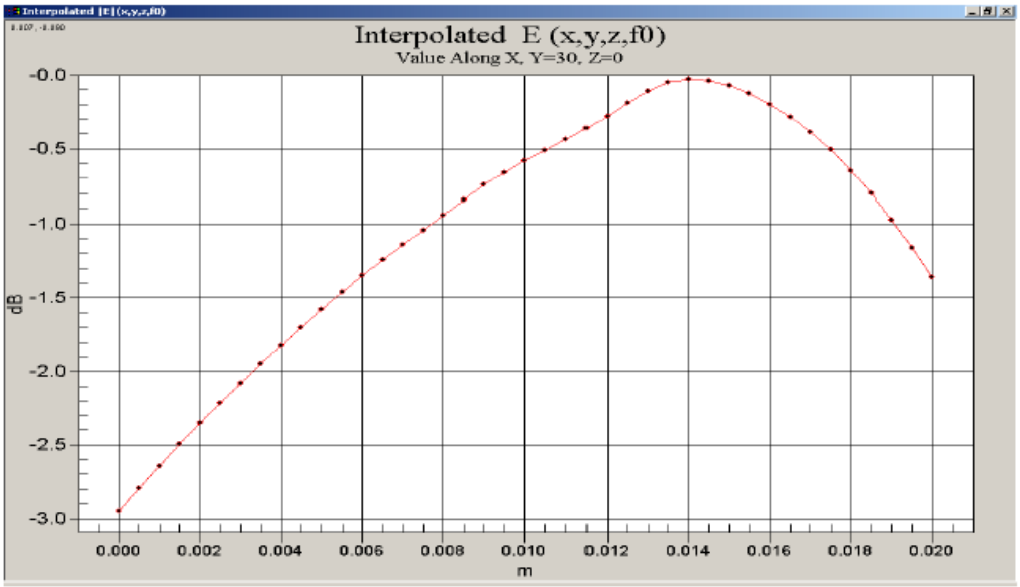
0 dB = 0.169A/m

Justification of Step Size and Interpolation

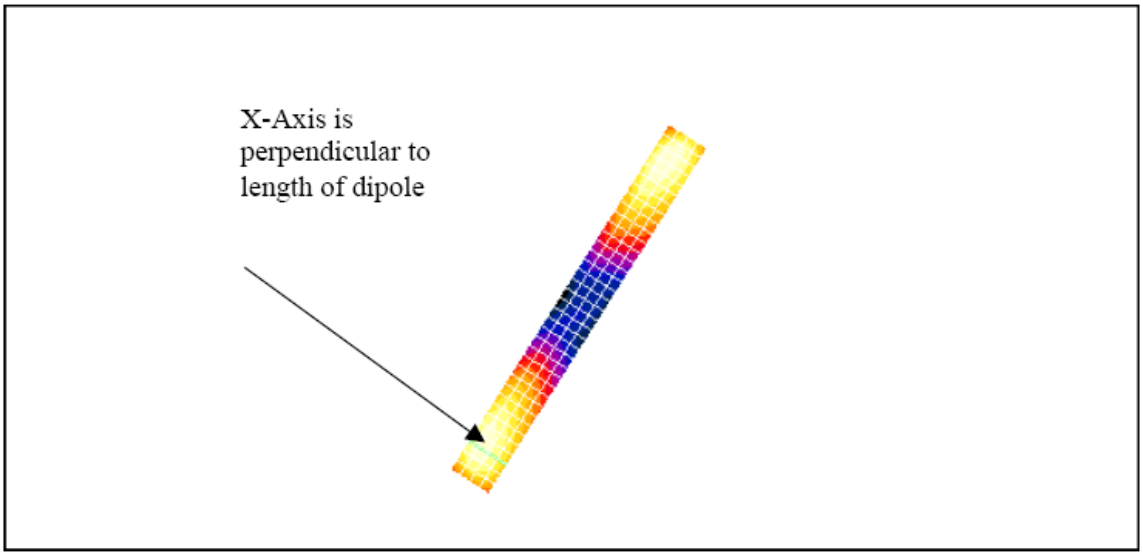
This section demonstrates that a 5mm step size with interpolation provides sufficient resolution for RF emissions measurements. The DASY 4 uses interpolation algorithms to derive 9 interpolated points between every measured point.



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**

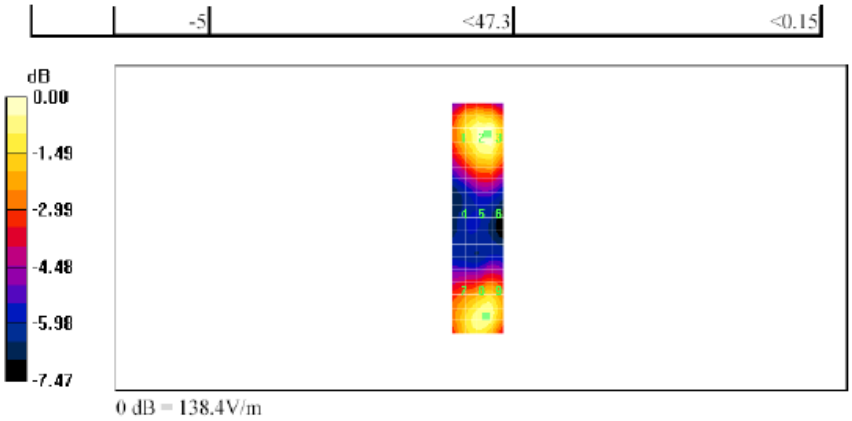
E in V/m (Slot averaged)

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 11:35:24 AM

Page 2 of 2



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

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

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_2mm step_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

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

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

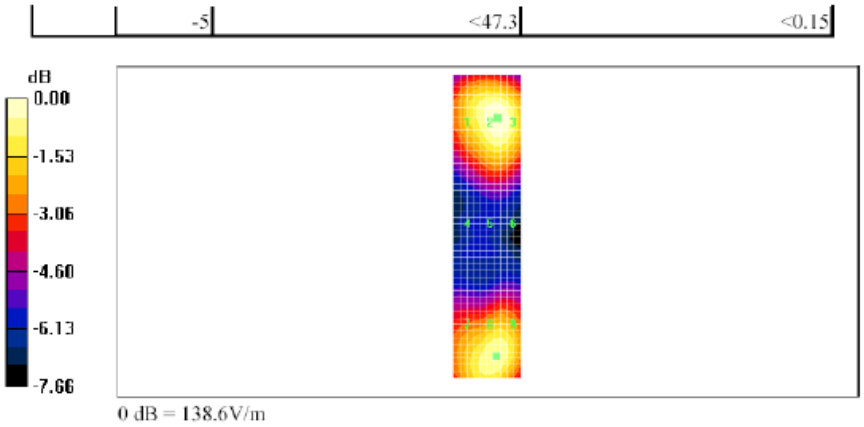
E in V/m (Time averaged)

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

E in V/m (Slot averaged)

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

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



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

Lab: RIM Testing Services (RTS)

HAC_H_Dipole_CW 1880_5 mm step_07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

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

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

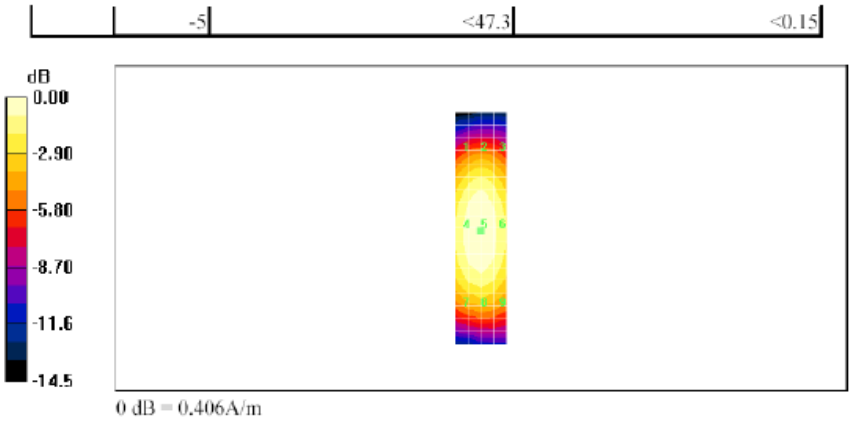
H in A/m (Time averaged)

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

H in A/m (Slot averaged)

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

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



0 dB = 0.406A/m

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

Lab: RIM Testing Services (RTS)

HAC_H_Dipole_CW 1880_2 mm step_07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

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

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

H in A/m (Time averaged)

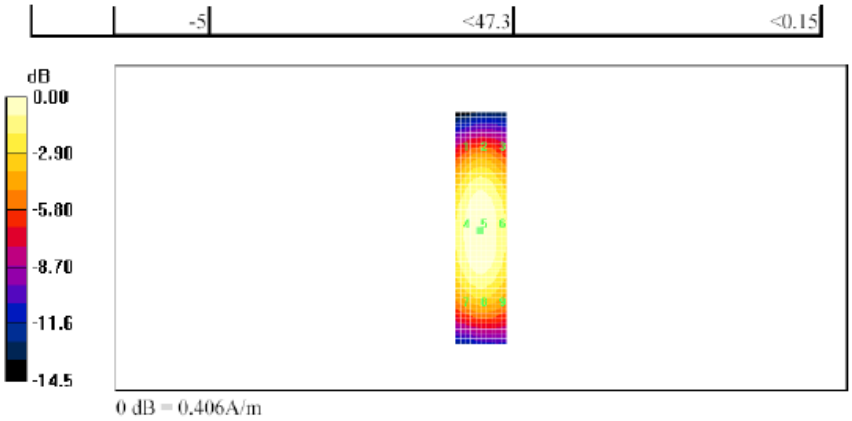
Grid 1 **0.347**	Grid 2 **0.361**	Grid 3 **0.348**
Grid 4 **0.394**	Grid 5 **0.406**	Grid 6 **0.391**
Grid 7 **0.367**	Grid 8 **0.380**	Grid 9 **0.365**

H in A/m (Slot averaged)

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

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

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



0 dB = 0.406A/m

A.3 RF emissions and ambient noise plots

Date/Time: 24/03/2009 4:25:02 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 70.8 V/m; Power Drift = -0.038 dB

Maximum value of Total (measured) = 56.1 V/m

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

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

Maximum value of peak Total field = 165.2 V/m

Probe Modulation Factor = 2.93

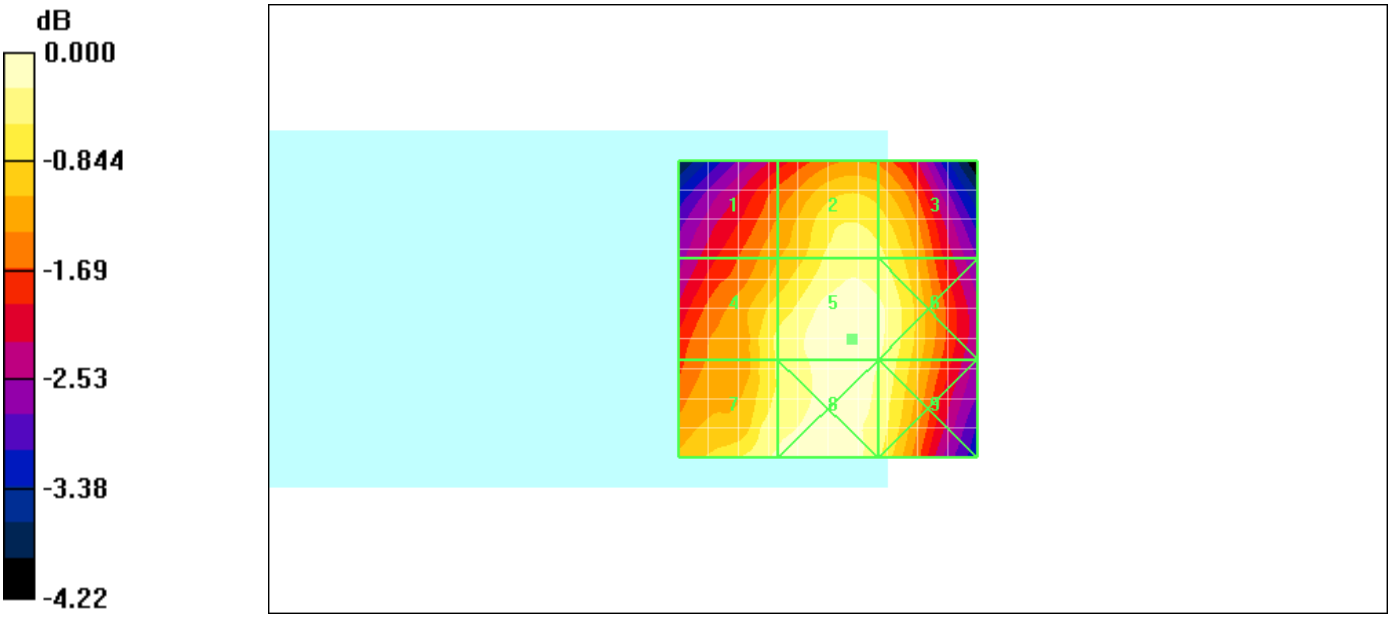
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 70.8 V/m; Power Drift = -0.038 dB

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

Peak E-field in V/m

Grid 1 **144.8 M4**	Grid 2 **158.6 M3**	Grid 3 **156.5 M3**
Grid 4 **155.8 M3**	Grid 5 **165.2 M3**	Grid 6 **161.4 M3**
Grid 7 **161.1 M3**	Grid 8 **164.0 M3**	Grid 9 **160.1 M3**



0 dB = 165.2V/m

Date/Time: 24/03/2009 4:32:33 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 85.6 V/m; Power Drift = -0.078 dB

Maximum value of Total (measured) = 70.9 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 = 202.3 V/m

Probe Modulation Factor = 2.93

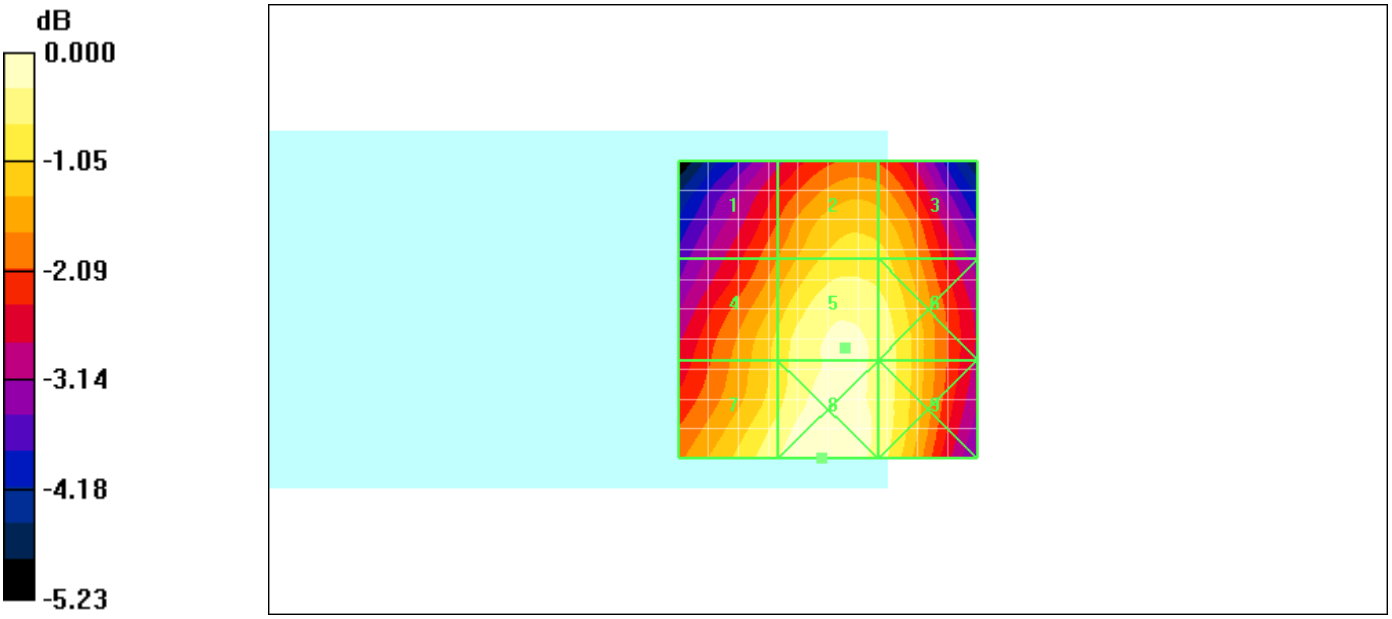
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 85.6 V/m; Power Drift = -0.078 dB

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

Peak E-field in V/m

Grid 1 **170.9 M3**	Grid 2 **189.4 M3**	Grid 3 **187.9 M3**
Grid 4 **187.5 M3**	Grid 5 **202.3 M3**	Grid 6 **198.6 M3**
Grid 7 **199.7 M3**	Grid 8 **208.6 M3**	Grid 9 **198.8 M3**



0 dB = 208.6V/m

Date/Time: 24/03/2009 4:39:06 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: 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 88.0 V/m; Power Drift = 0.121 dB

Maximum value of Total (measured) = 73.1 V/m

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

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

Maximum value of peak Total field = 211.2 V/m

Probe Modulation Factor = 2.93

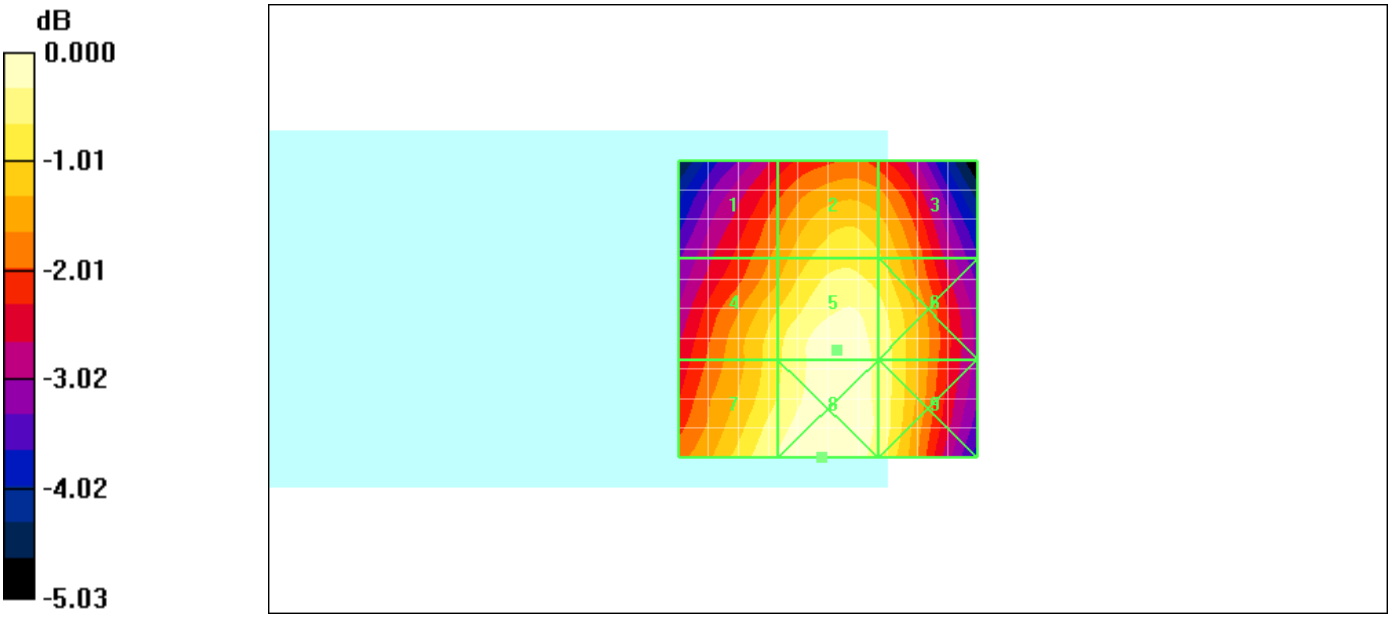
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 88.0 V/m; Power Drift = 0.121 dB

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

Peak E-field in V/m

Grid 1 **180.0 M3**	Grid 2 **197.4 M3**	Grid 3 **192.7 M3**
Grid 4 **197.1 M3**	Grid 5 **211.2 M3**	Grid 6 **204.6 M3**
Grid 7 **207.6 M3**	Grid 8 **214.9 M3**	Grid 9 **205.1 M3**



0 dB = 214.9V/m

Date/Time: 24/03/2009 5:14:08 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 82.7 V/m; Power Drift = 0.145 dB

Maximum value of Total (measured) = 68.4 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 = 65.1 V/m

Probe Modulation Factor = 0.960

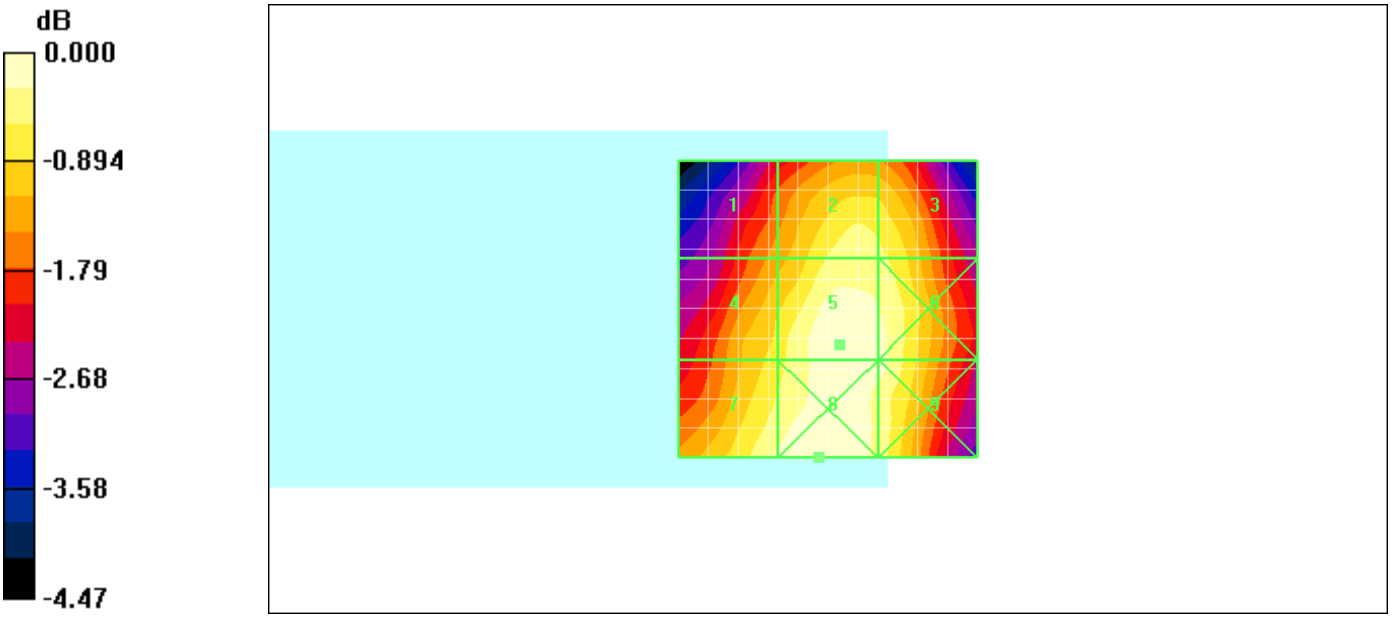
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 82.7 V/m; Power Drift = 0.145 dB

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

Peak E-field in V/m

Grid 1 **56.5 M4**	Grid 2 **62.8 M4**	Grid 3 **62.0 M4**
Grid 4 **60.5 M4**	Grid 5 **65.1 M4**	Grid 6 **64.1 M4**
Grid 7 **64.0 M4**	Grid 8 **65.7 M4**	Grid 9 **64.1 M4**



0 dB = 65.7V/m

Date/Time: 24/03/2009 5:20:22 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 86.9 V/m; Power Drift = -0.109 dB

Maximum value of Total (measured) = 73.1 V/m

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

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

Maximum value of peak Total field = 68.3 V/m

Probe Modulation Factor = 0.960

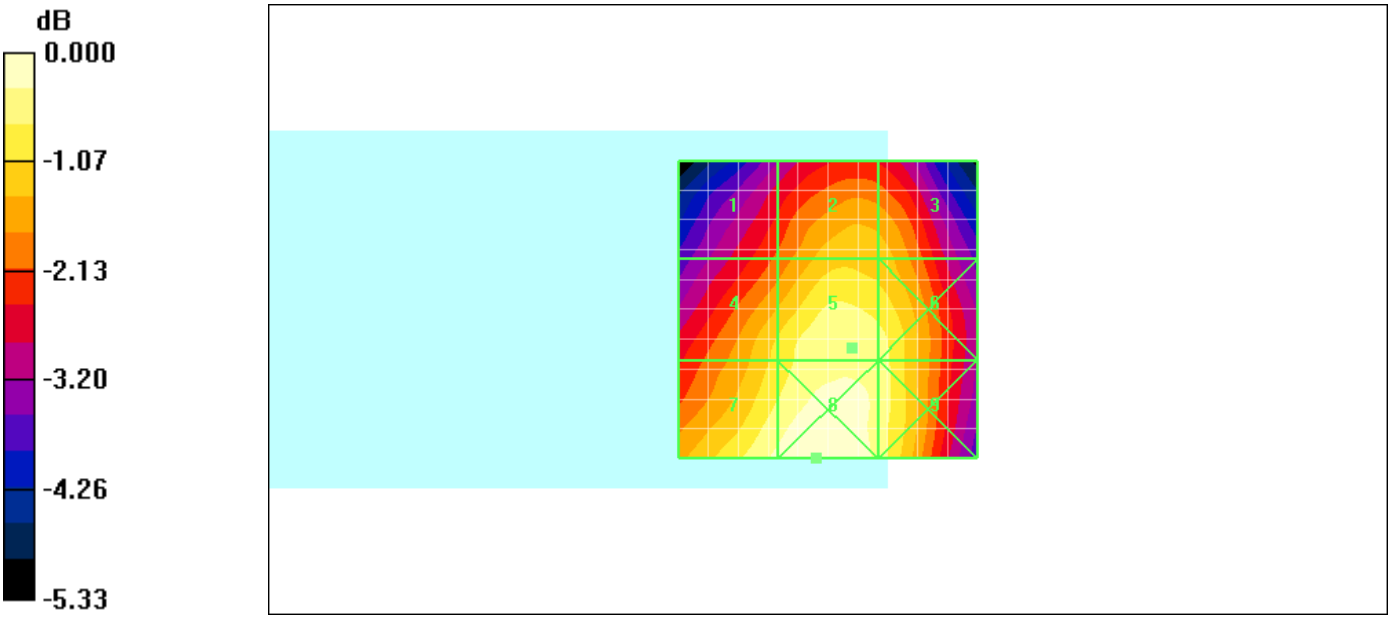
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 86.9 V/m; Power Drift = -0.109 dB

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

Peak E-field in V/m

Grid 1 **55.6 M4**	Grid 2 **61.8 M4**	Grid 3 **61.2 M4**
Grid 4 **63.1 M4**	Grid 5 **67.1 M4**	Grid 6 **66.0 M4**
Grid 7 **68.3 M4**	Grid 8 **70.3 M4**	Grid 9 **66.5 M4**



0 dB = 70.3V/m

Date/Time: 24/03/2009 5:25:31 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 96.6 V/m; Power Drift = -0.049 dB

Maximum value of Total (measured) = 80.2 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 = 74.3 V/m

Probe Modulation Factor = 0.960

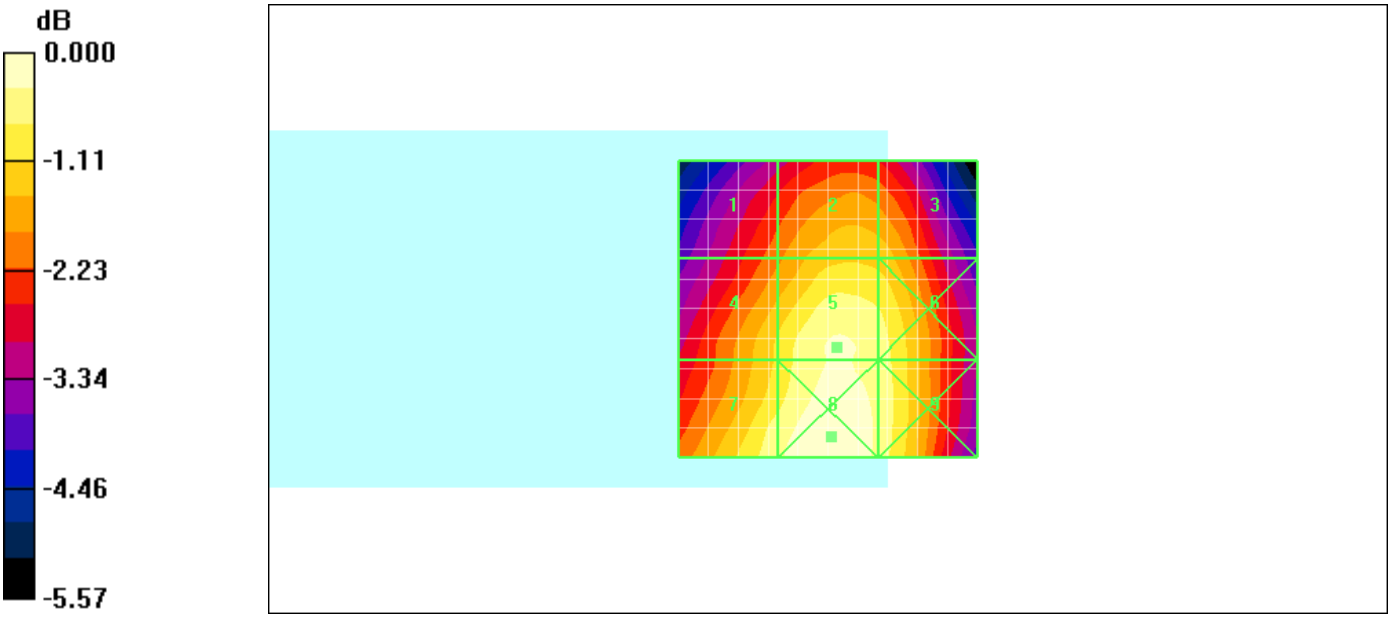
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 96.6 V/m; Power Drift = -0.049 dB

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

Peak E-field in V/m

Grid 1 **61.6 M4**	Grid 2 **67.6 M4**	Grid 3 **67.0 M4**
Grid 4 **68.5 M4**	Grid 5 **74.3 M4**	Grid 6 **72.5 M4**
Grid 7 **73.1 M4**	Grid 8 **77.1 M4**	Grid 9 **73.2 M4**



0 dB = 77.1V/m

Date/Time: 24/03/2009 4:45:24 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 16.3 V/m; Power Drift = -0.210 dB

Maximum value of Total (measured) = 24.8 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 = 67.1 V/m

Probe Modulation Factor = 2.92

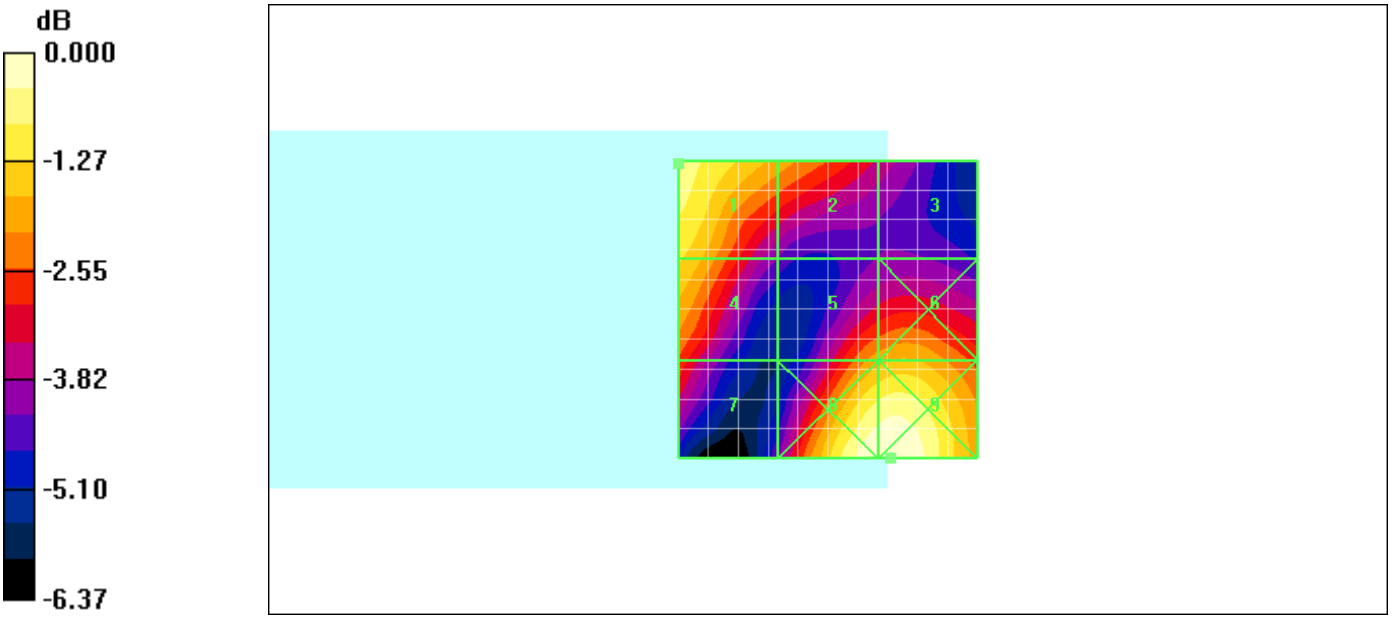
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 16.3 V/m; Power Drift = -0.210 dB

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

Peak E-field in V/m

Grid 1 **67.1 M3**	Grid 2 **58.5 M3**	Grid 3 **48.6 M3**
Grid 4 **62.9 M3**	Grid 5 **58.3 M3**	Grid 6 **59.9 M3**
Grid 7 **53.7 M3**	Grid 8 **71.9 M3**	Grid 9 **72.3 M3**



0 dB = 72.3V/m

Date/Time: 24/03/2009 4:50:48 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 16.6 V/m; Power Drift = 0.160 dB

Maximum value of Total (measured) = 23.7 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 = 66.5 V/m

Probe Modulation Factor = 2.92

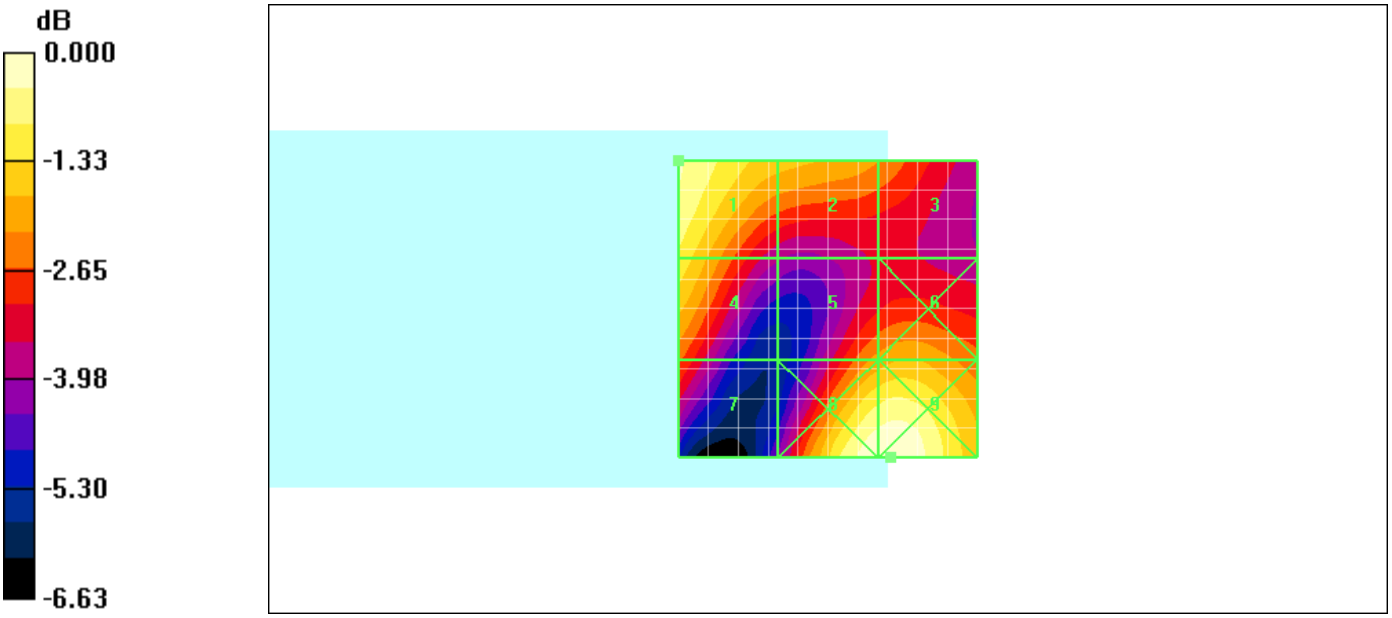
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 16.6 V/m; Power Drift = 0.160 dB

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

Peak E-field in V/m

Grid 1 **66.5 M3**	Grid 2 **58.0 M3**	Grid 3 **54.0 M3**
Grid 4 **61.9 M3**	Grid 5 **55.0 M3**	Grid 6 **56.7 M3**
Grid 7 **51.9 M3**	Grid 8 **68.9 M3**	Grid 9 **69.4 M3**



0 dB = 69.4V/m

Date/Time: 24/03/2009 4:57:03 PM

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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 18.9 V/m; Power Drift = 0.155 dB

Maximum value of Total (measured) = 23.5 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 = 64.3 V/m

Probe Modulation Factor = 2.92

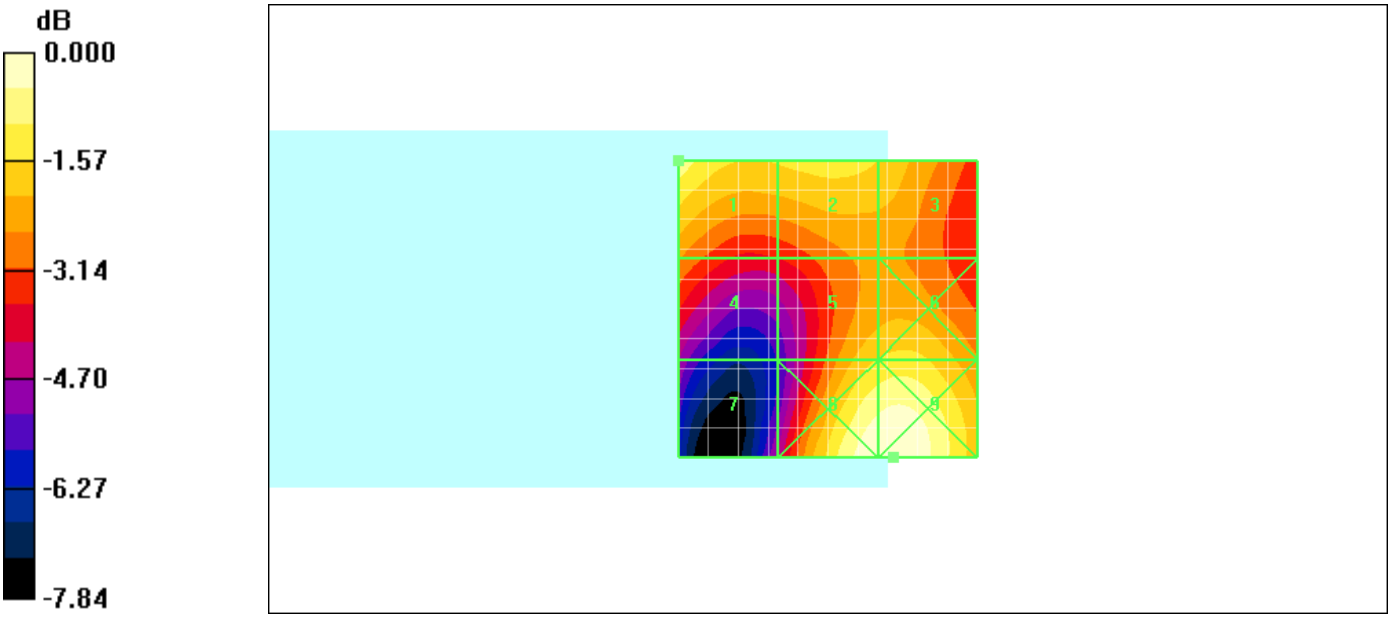
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 18.9 V/m; Power Drift = 0.155 dB

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

Peak E-field in V/m

Grid 1 **64.3 M3**	Grid 2 **58.5 M3**	Grid 3 **57.3 M3**
Grid 4 **51.2 M3**	Grid 5 **57.6 M3**	Grid 6 **58.6 M3**
Grid 7 **40.7 M4**	Grid 8 **68.1 M3**	Grid 9 **68.6 M3**



0 dB = 68.6V/m

Date/Time: 24/03/2009 5:44:20 PM

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: 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.6 V/m; Power Drift = 0.025 dB

Maximum value of Total (measured) = 30.3 V/m

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

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

Maximum value of peak Total field = 25.4 V/m

Probe Modulation Factor = 1.00

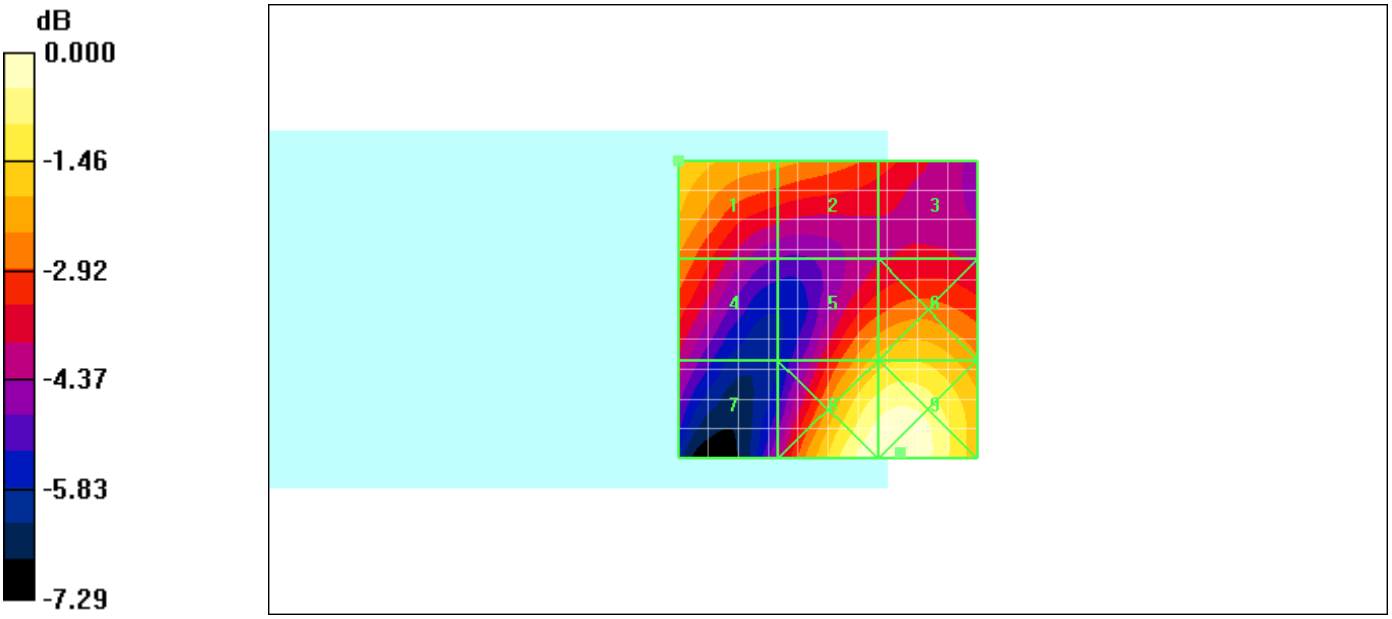
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.6 V/m; Power Drift = 0.025 dB

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

Peak E-field in V/m

Grid 1 **25.4 M4**	Grid 2 **23.5 M4**	Grid 3 **21.3 M4**
Grid 4 **22.9 M4**	Grid 5 **25.0 M4**	Grid 6 **25.7 M4**
Grid 7 **19.3 M4**	Grid 8 **30.1 M4**	Grid 9 **30.4 M4**



0 dB = 30.4V/m

Date/Time: 24/03/2009 5:50:23 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.6 V/m; Power Drift = 0.287 dB

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

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

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

Maximum value of peak Total field = 25.1 V/m

Probe Modulation Factor = 1.00

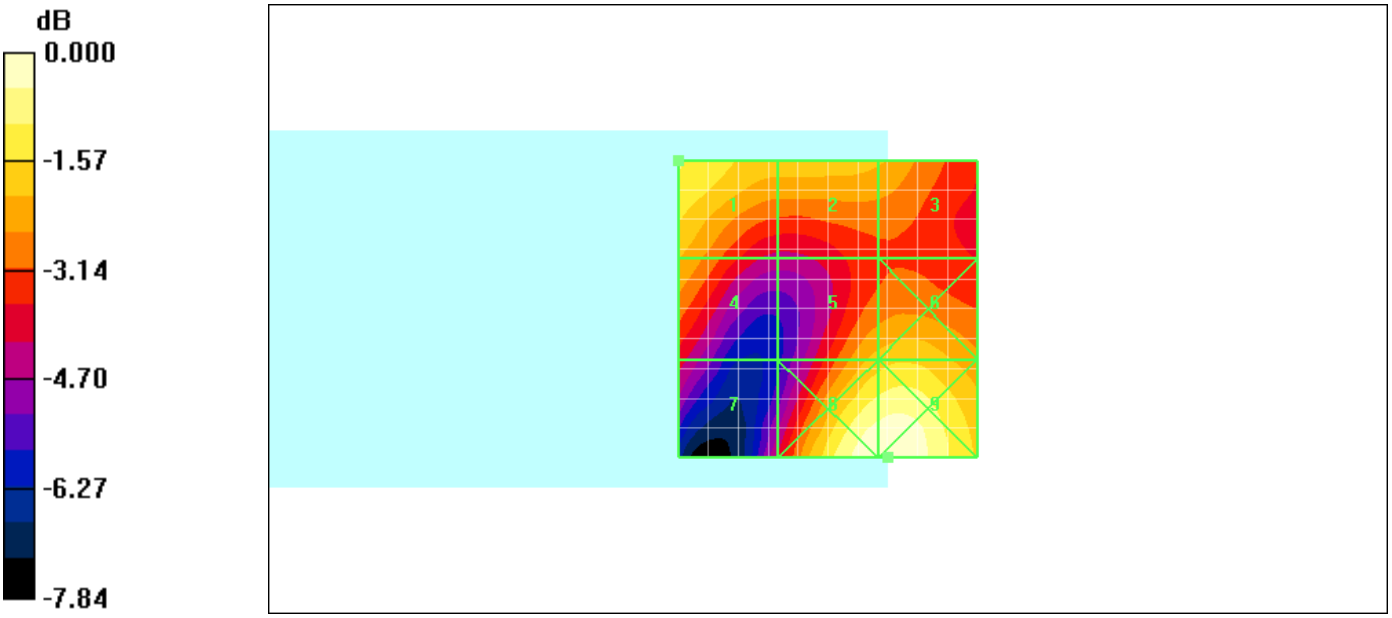
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 19.6 V/m; Power Drift = 0.287 dB

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

Peak E-field in V/m

Grid 1 **25.1 M4**	Grid 2 **23.0 M4**	Grid 3 **22.4 M4**
Grid 4 **22.3 M4**	Grid 5 **22.8 M4**	Grid 6 **23.4 M4**
Grid 7 **18.1 M4**	Grid 8 **28.1 M4**	Grid 9 **28.2 M4**



0 dB = 28.2V/m

Date/Time: 24/03/2009 5:56:08 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: 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 Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 20.1 V/m; Power Drift = -0.006 dB

Maximum value of Total (measured) = 24.7 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 = 24.7 V/m

Probe Modulation Factor = 1.00

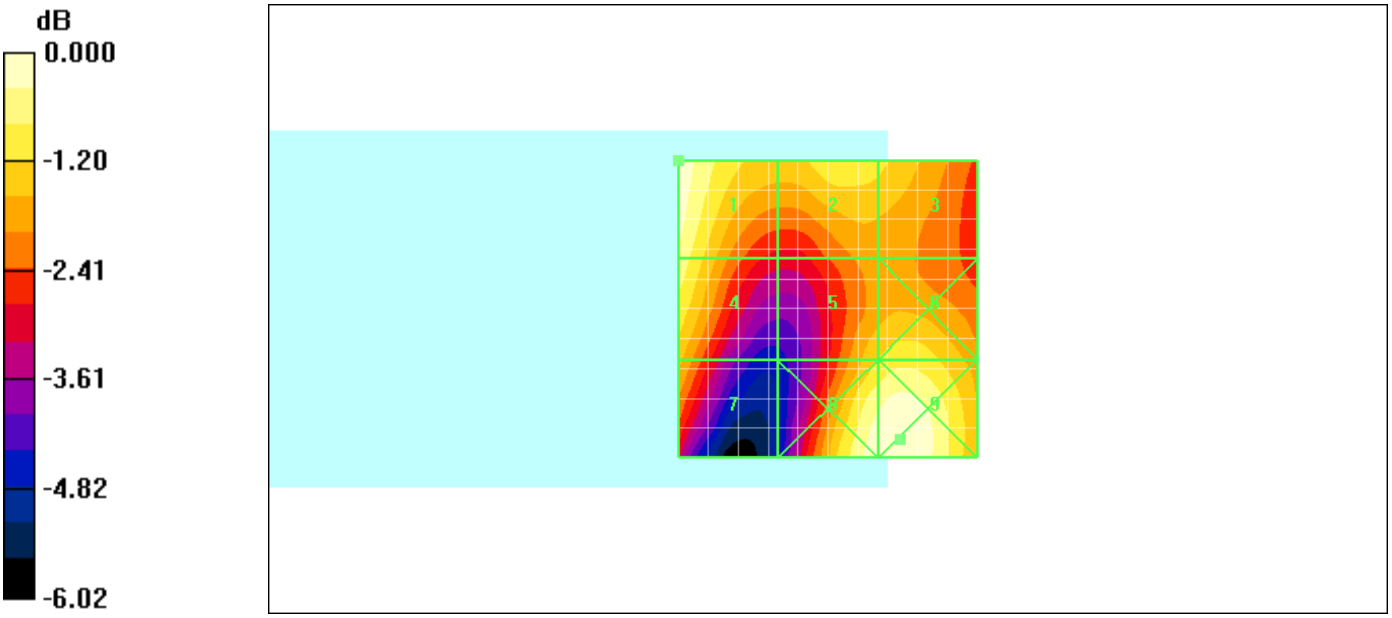
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 20.1 V/m; Power Drift = -0.006 dB

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

Peak E-field in V/m

Grid 1 **24.7 M4**	Grid 2 **22.7 M4**	Grid 3 **22.0 M4**
Grid 4 **23.4 M4**	Grid 5 **21.7 M4**	Grid 6 **22.3 M4**
Grid 7 **21.0 M4**	Grid 8 **24.3 M4**	Grid 9 **24.8 M4**



0 dB = 24.8V/m

Date/Time: 24/03/2009 6:10:10 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.110 A/m; Power Drift = -0.048 dB

Maximum value of Total (measured) = 0.152 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 = 0.425 A/m

Probe Modulation Factor = 2.79

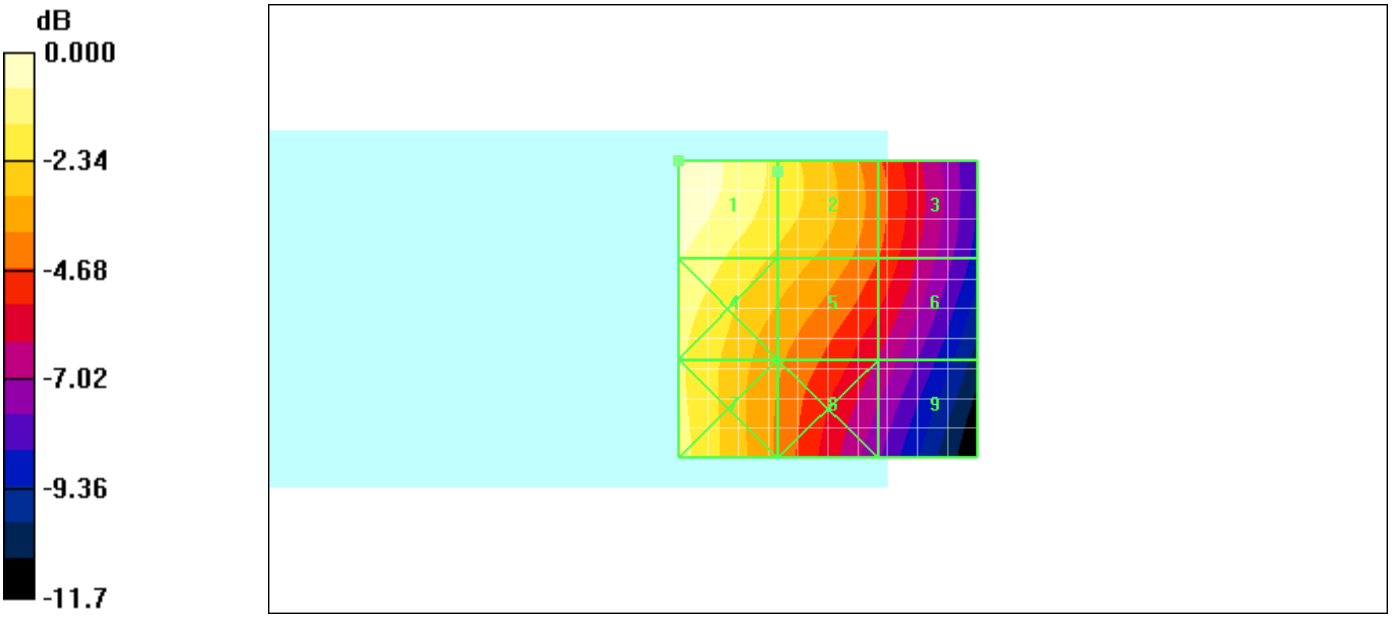
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.110 A/m; Power Drift = -0.048 dB

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

Peak H-field in A/m

Grid 1 **0.425 M4**	Grid 2 **0.347 M4**	Grid 3 **0.259 M4**
Grid 4 **0.391 M4**	Grid 5 **0.319 M4**	Grid 6 **0.248 M4**
Grid 7 **0.367 M4**	Grid 8 **0.278 M4**	Grid 9 **0.206 M4**



0 dB = 0.425A/m

Date/Time: 24/03/2009 6:17:55 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.123 A/m; Power Drift = 0.135 dB

Maximum value of Total (measured) = 0.169 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 = 0.473 A/m

Probe Modulation Factor = 2.79

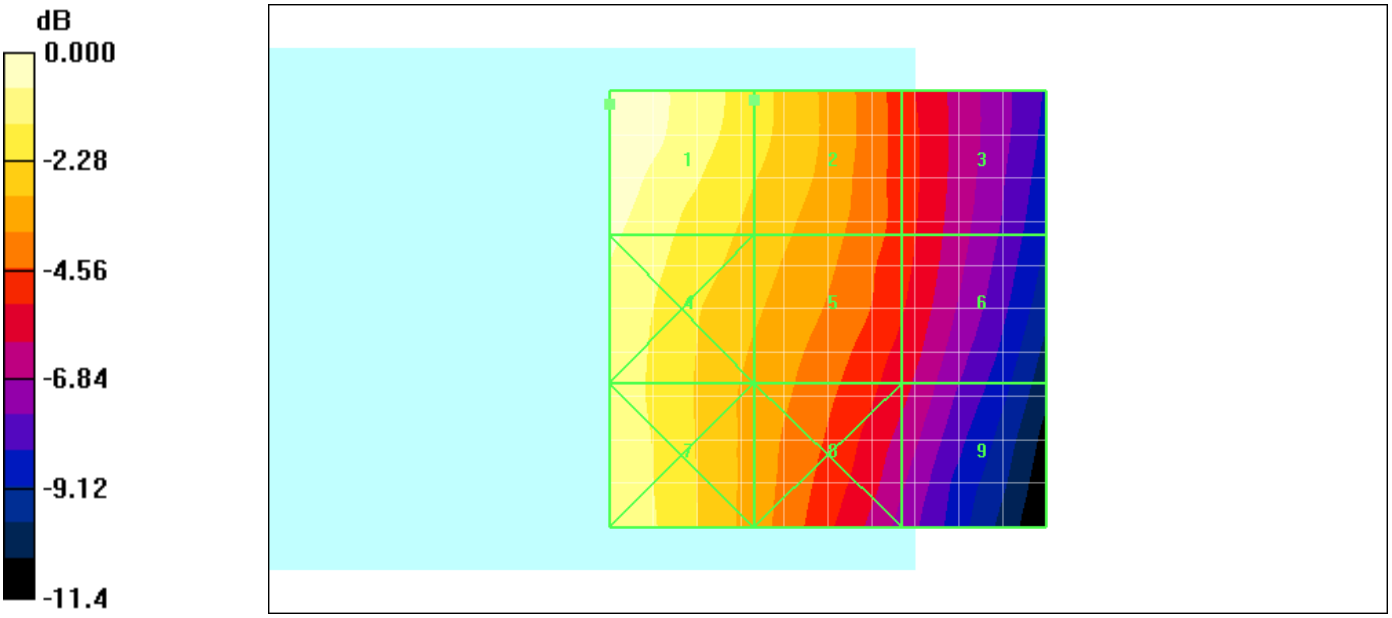
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.123 A/m; Power Drift = 0.135 dB

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

Peak H-field in A/m

Grid 1 **0.473 M3**	Grid 2 **0.378 M4**	Grid 3 **0.270 M4**
Grid 4 **0.441 M4**	Grid 5 **0.354 M4**	Grid 6 **0.267 M4**
Grid 7 **0.435 M4**	Grid 8 **0.326 M4**	Grid 9 **0.243 M4**



0 dB = 0.473A/m

Date/Time: 24/03/2009 6:23:50 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.125 A/m; Power Drift = -0.051 dB

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

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

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

Maximum value of peak Total field = 0.500 A/m

Probe Modulation Factor = 2.79

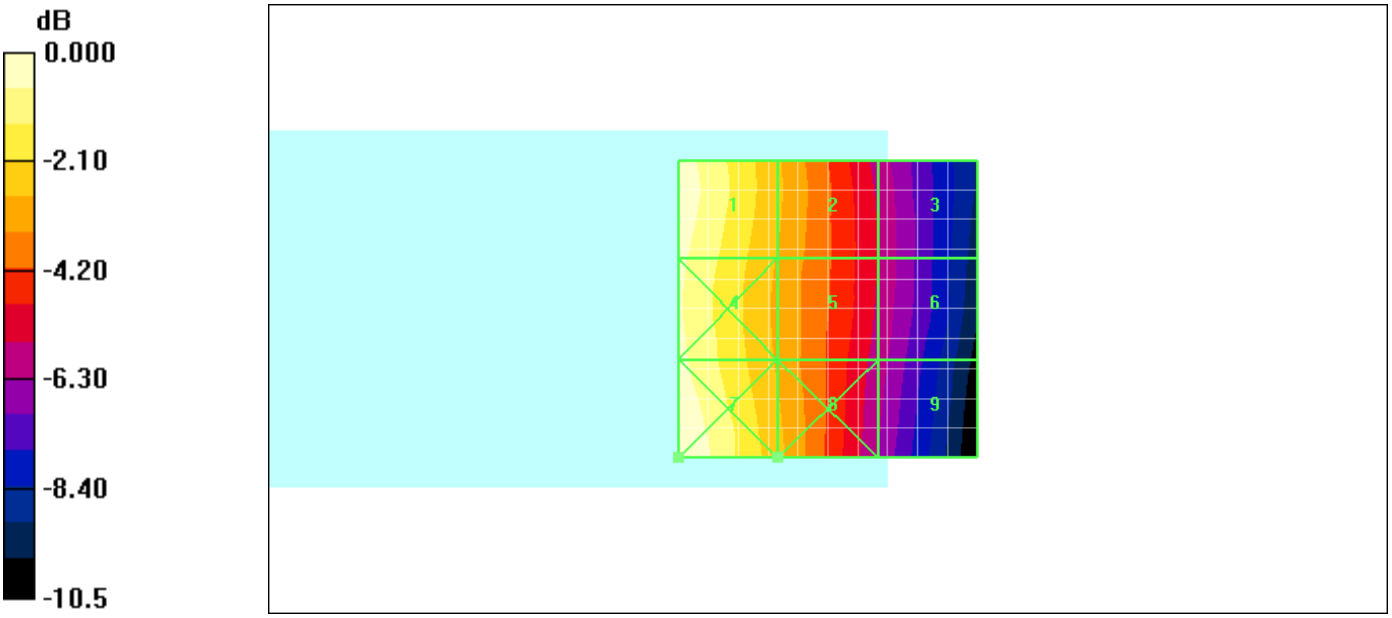
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.125 A/m; Power Drift = -0.051 dB

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

Peak H-field in A/m

Grid 1 **0.500 M3**	Grid 2 **0.381 M4**	Grid 3 **0.270 M4**
Grid 4 **0.488 M3**	Grid 5 **0.373 M4**	Grid 6 **0.270 M4**
Grid 7 **0.516 M3**	Grid 8 **0.385 M4**	Grid 9 **0.260 M4**



0 dB = 0.516A/m

Date/Time: 24/03/2009 7:11:11 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.148 A/m; Power Drift = -0.016 dB

Maximum value of Total (measured) = 0.194 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 = 0.183 A/m

Probe Modulation Factor = 0.940

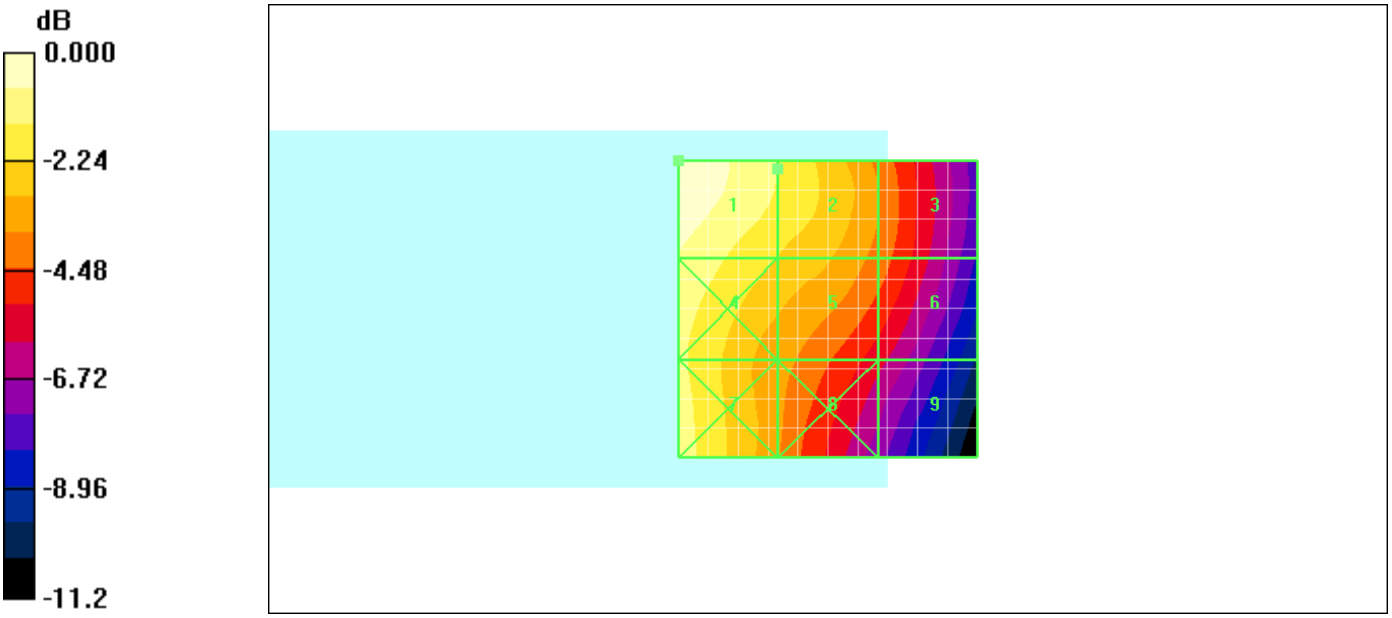
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.148 A/m; Power Drift = -0.016 dB

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

Peak H-field in A/m

Grid 1 **0.183 M4**	Grid 2 **0.154 M4**	Grid 3 **0.119 M4**
Grid 4 **0.167 M4**	Grid 5 **0.141 M4**	Grid 6 **0.115 M4**
Grid 7 **0.161 M4**	Grid 8 **0.124 M4**	Grid 9 **0.095 M4**



0 dB = 0.183A/m

Date/Time: 24/03/2009 7:20:04 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.146 A/m; Power Drift = -0.099 dB

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

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

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

Maximum value of peak Total field = 0.161 A/m

Probe Modulation Factor = 0.940

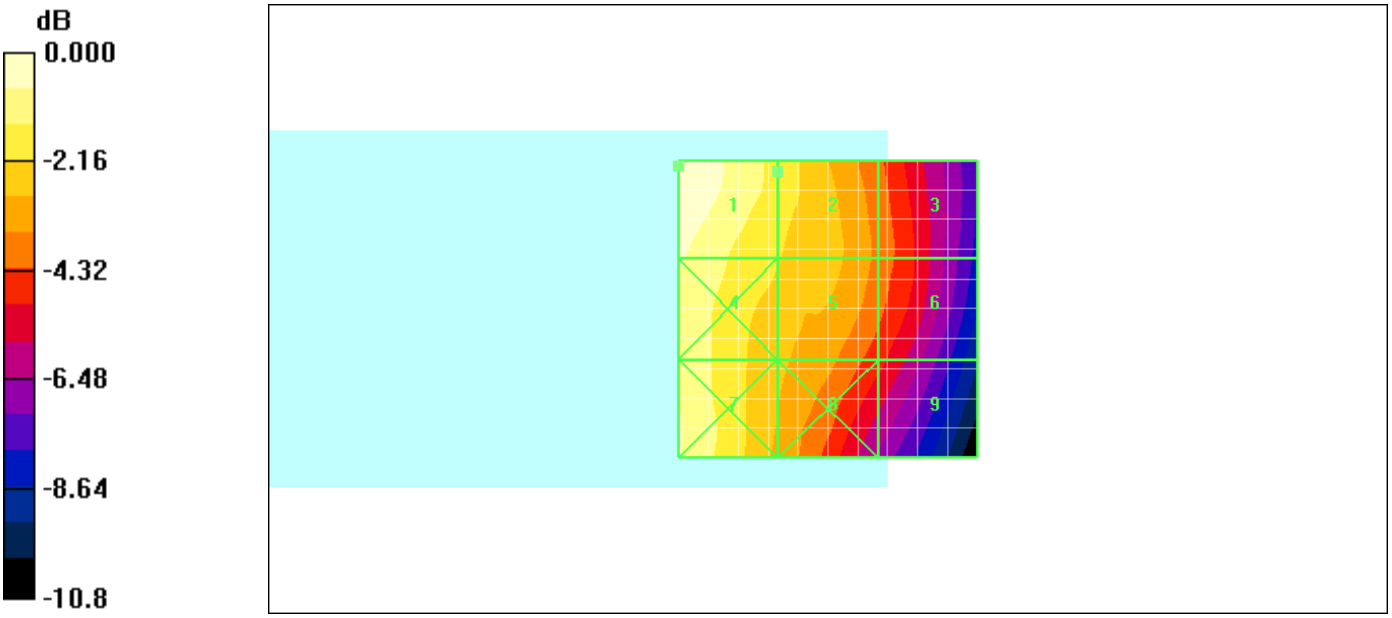
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.146 A/m; Power Drift = -0.099 dB

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

Peak H-field in A/m

Grid 1 **0.161 M4**	Grid 2 **0.133 M4**	Grid 3 **0.104 M4**
Grid 4 **0.150 M4**	Grid 5 **0.127 M4**	Grid 6 **0.104 M4**
Grid 7 **0.149 M4**	Grid 8 **0.118 M4**	Grid 9 **0.093 M4**



0 dB = 0.161A/m

Date/Time: 24/03/2009 7:27:17 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.127 A/m; Power Drift = -0.010 dB

Maximum value of Total (measured) = 0.188 A/m

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

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

Maximum value of peak Total field = 0.168 A/m

Probe Modulation Factor = 0.940

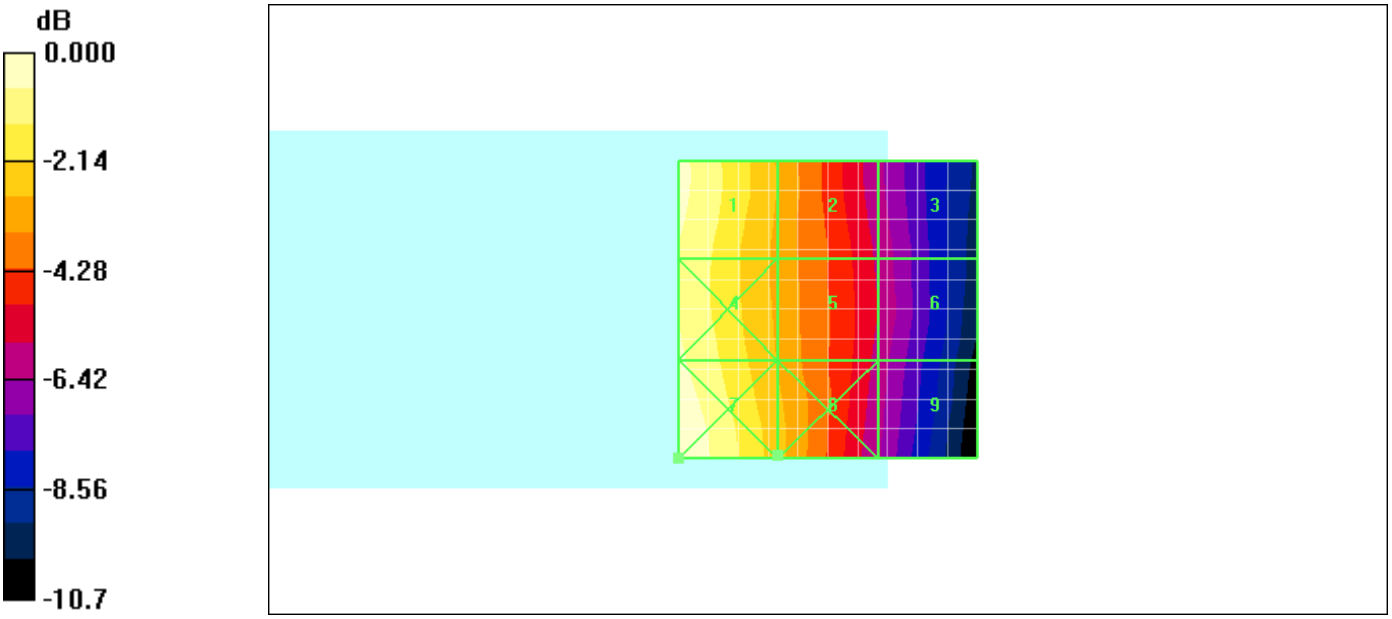
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.127 A/m; Power Drift = -0.010 dB

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

Peak H-field in A/m

Grid 1 **0.168 M4**	Grid 2 **0.127 M4**	Grid 3 **0.090 M4**
Grid 4 **0.165 M4**	Grid 5 **0.127 M4**	Grid 6 **0.092 M4**
Grid 7 **0.177 M4**	Grid 8 **0.132 M4**	Grid 9 **0.089 M4**



0 dB = 0.177A/m

Date/Time: 24/03/2009 6:49:52 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.069 A/m; Power Drift = 0.065 dB

Maximum value of Total (measured) = 0.071 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 = 0.179 A/m

Probe Modulation Factor = 2.54

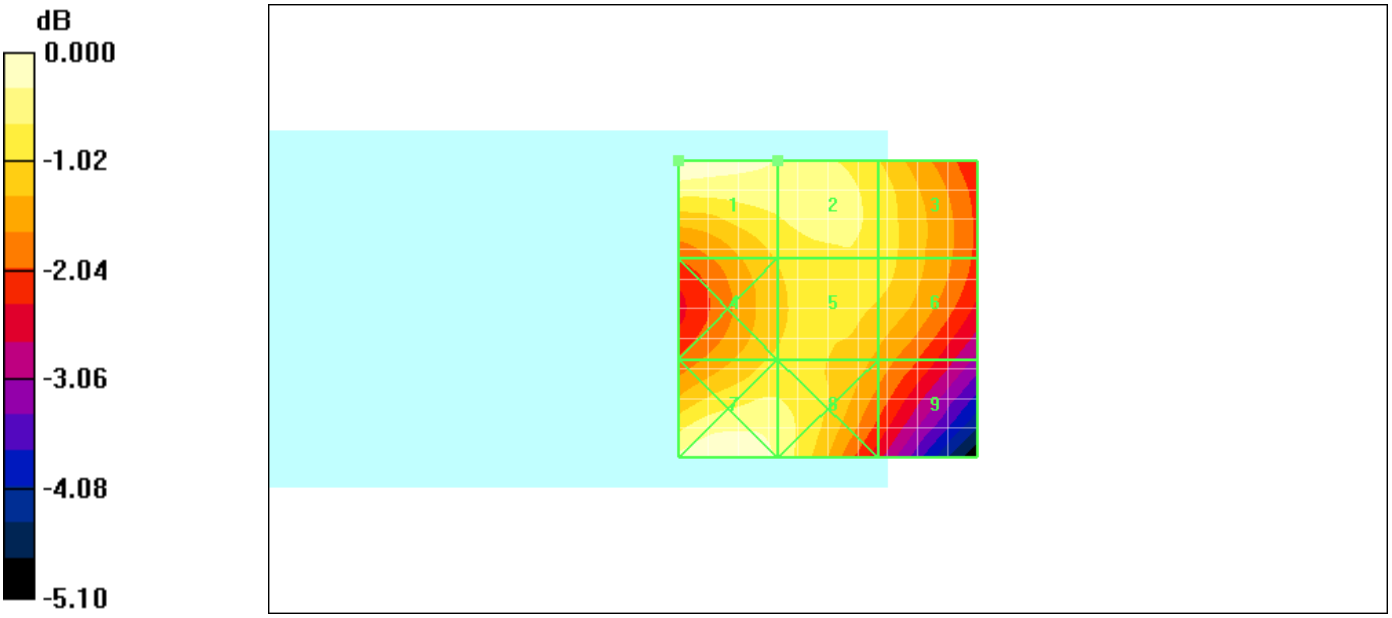
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.069 A/m; Power Drift = 0.065 dB

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

Peak H-field in A/m

Grid 1 **0.179 M3**	Grid 2 **0.172 M3**	Grid 3 **0.163 M3**
Grid 4 **0.160 M3**	Grid 5 **0.165 M3**	Grid 6 **0.162 M3**
Grid 7 **0.178 M3**	Grid 8 **0.171 M3**	Grid 9 **0.151 M3**



0 dB = 0.179A/m

Date/Time: 24/03/2009 6:56:16 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.080 A/m; Power Drift = -0.064 dB

Maximum value of Total (measured) = 0.083 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 = 0.212 A/m

Probe Modulation Factor = 2.54

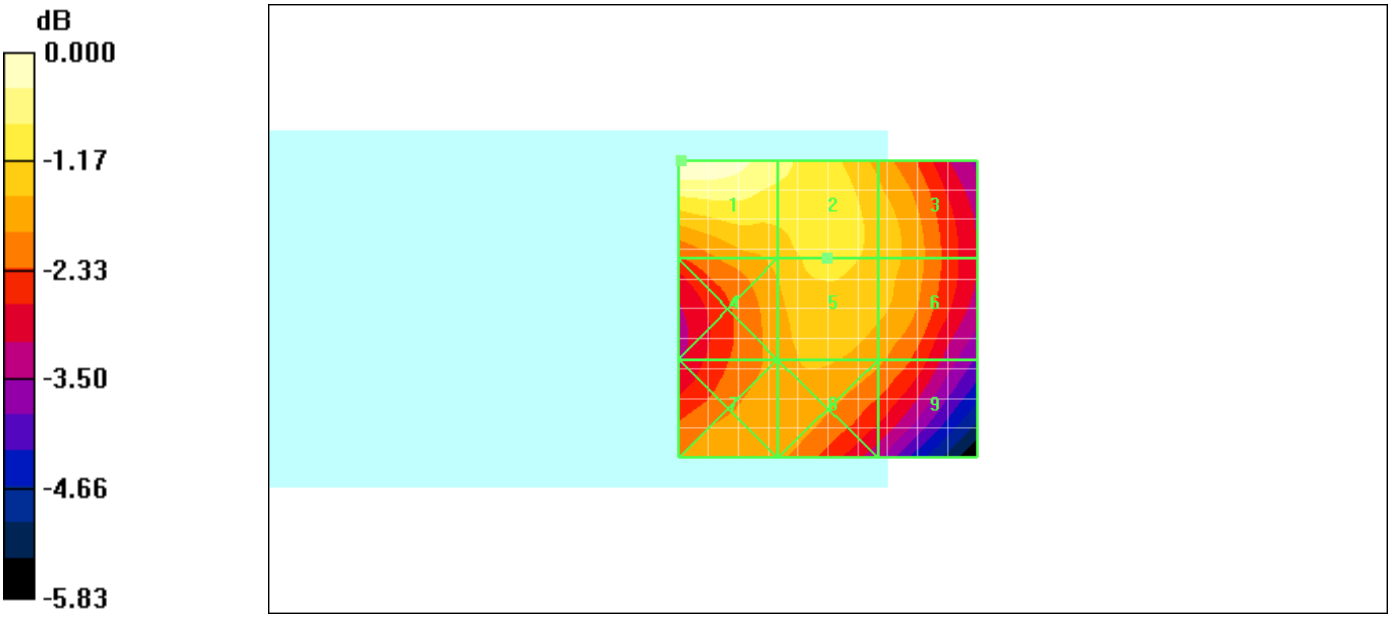
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.080 A/m; Power Drift = -0.064 dB

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

Peak H-field in A/m

Grid 1 **0.212 M3**	Grid 2 **0.197 M3**	Grid 3 **0.183 M3**
Grid 4 **0.180 M3**	Grid 5 **0.188 M3**	Grid 6 **0.182 M3**
Grid 7 **0.175 M3**	Grid 8 **0.178 M3**	Grid 9 **0.171 M3**



0 dB = 0.212A/m

Date/Time: 24/03/2009 7:02:08 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = -0.050 dB

Maximum value of Total (measured) = 0.085 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 = 0.216 A/m

Probe Modulation Factor = 2.54

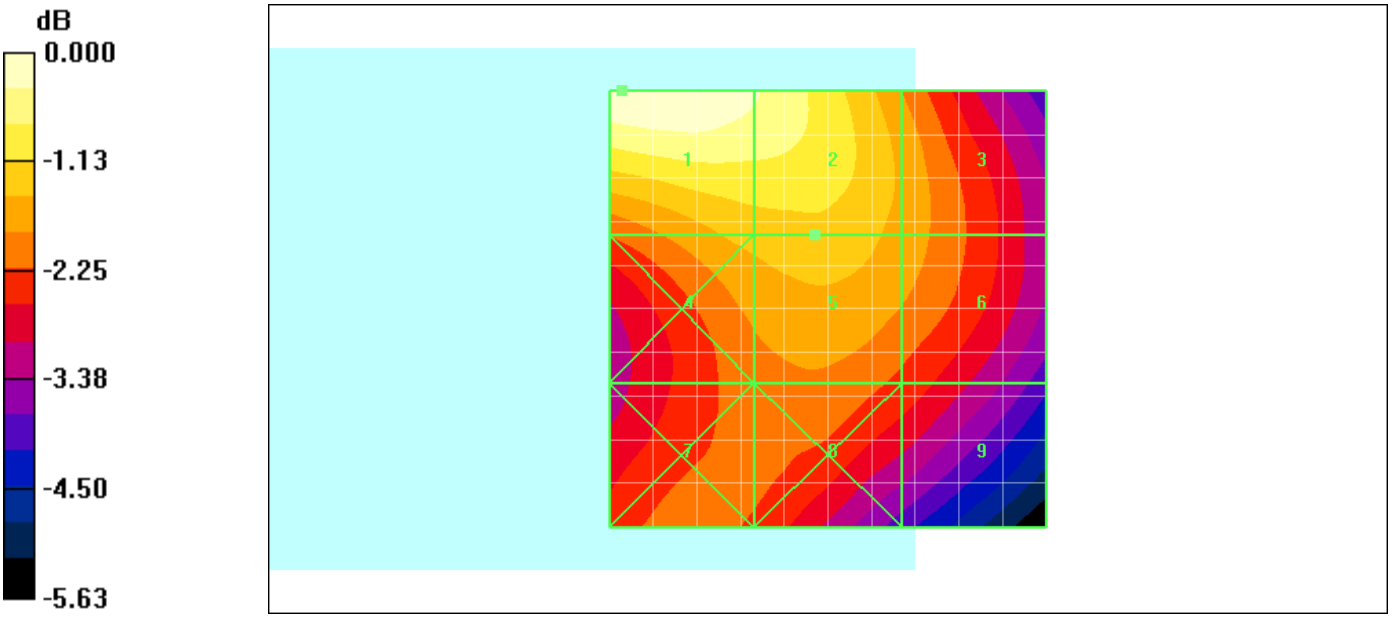
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.078 A/m; Power Drift = -0.050 dB

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

Peak H-field in A/m

Grid 1 **0.216 M3**	Grid 2 **0.208 M3**	Grid 3 **0.180 M3**
Grid 4 **0.185 M3**	Grid 5 **0.187 M3**	Grid 6 **0.179 M3**
Grid 7 **0.171 M3**	Grid 8 **0.173 M3**	Grid 9 **0.165 M3**



0 dB = 0.216A/m

Date/Time: 24/03/2009 7:40:22 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.084 A/m; Power Drift = 0.039 dB

Maximum value of Total (measured) = 0.083 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 = 0.080 A/m

Probe Modulation Factor = 0.960

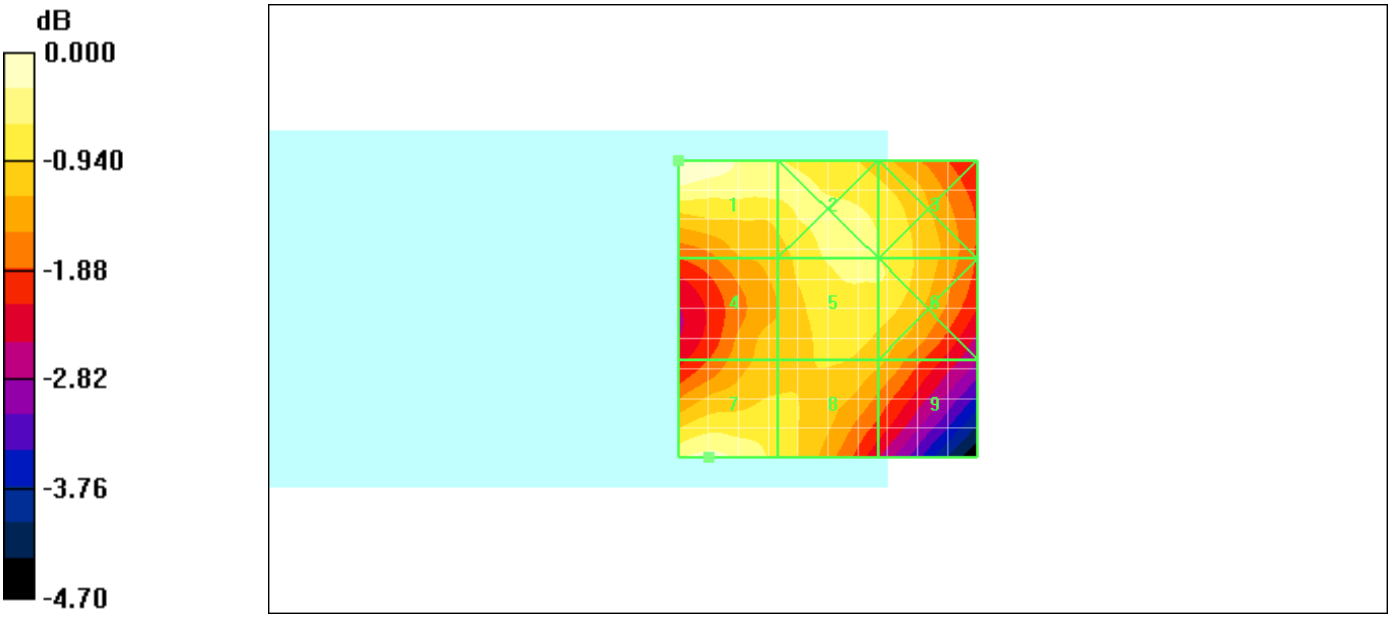
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.084 A/m; Power Drift = 0.039 dB

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

Peak H-field in A/m

Grid 1 **0.080 M4**	Grid 2 **0.075 M4**	Grid 3 **0.075 M4**
Grid 4 **0.071 M4**	Grid 5 **0.075 M4**	Grid 6 **0.075 M4**
Grid 7 **0.078 M4**	Grid 8 **0.074 M4**	Grid 9 **0.070 M4**



0 dB = 0.080A/m

Date/Time: 24/03/2009 7:46:26 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = 0.087 A/m; Power Drift = -0.021 dB

Maximum value of Total (measured) = 0.092 A/m

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

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

Maximum value of peak Total field = 0.088 A/m

Probe Modulation Factor = 0.960

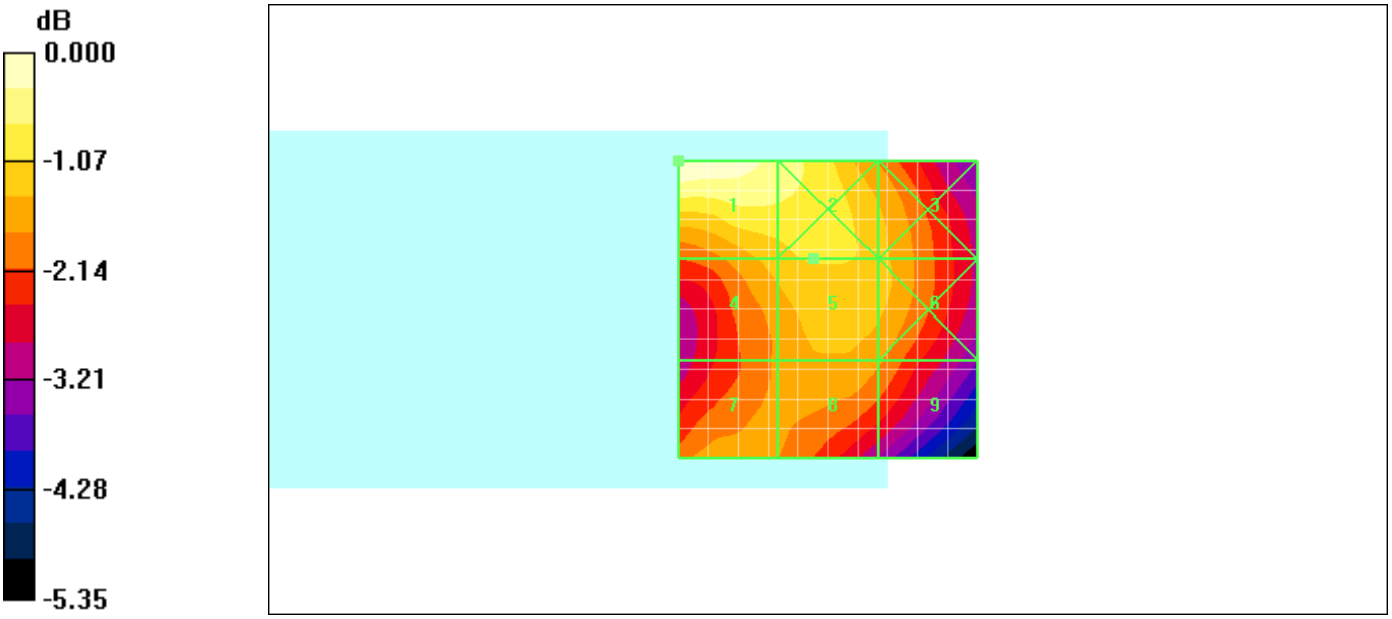
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.087 A/m; Power Drift = -0.021 dB

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

Peak H-field in A/m

Grid 1 **0.088 M4**	Grid 2 **0.083 M4**	Grid 3 **0.076 M4**
Grid 4 **0.076 M4**	Grid 5 **0.078 M4**	Grid 6 **0.076 M4**



0 dB = 0.088A/m

Date/Time: 24/03/2009 7:52:14 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 - SN6105; ; Calibrated: 10/11/2008
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 03/03/2009
- Phantom: HAC Test Arch with AMCC; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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 = -0.138 dB

Maximum value of Total (measured) = 0.092 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 = 0.089 A/m

Probe Modulation Factor = 0.960

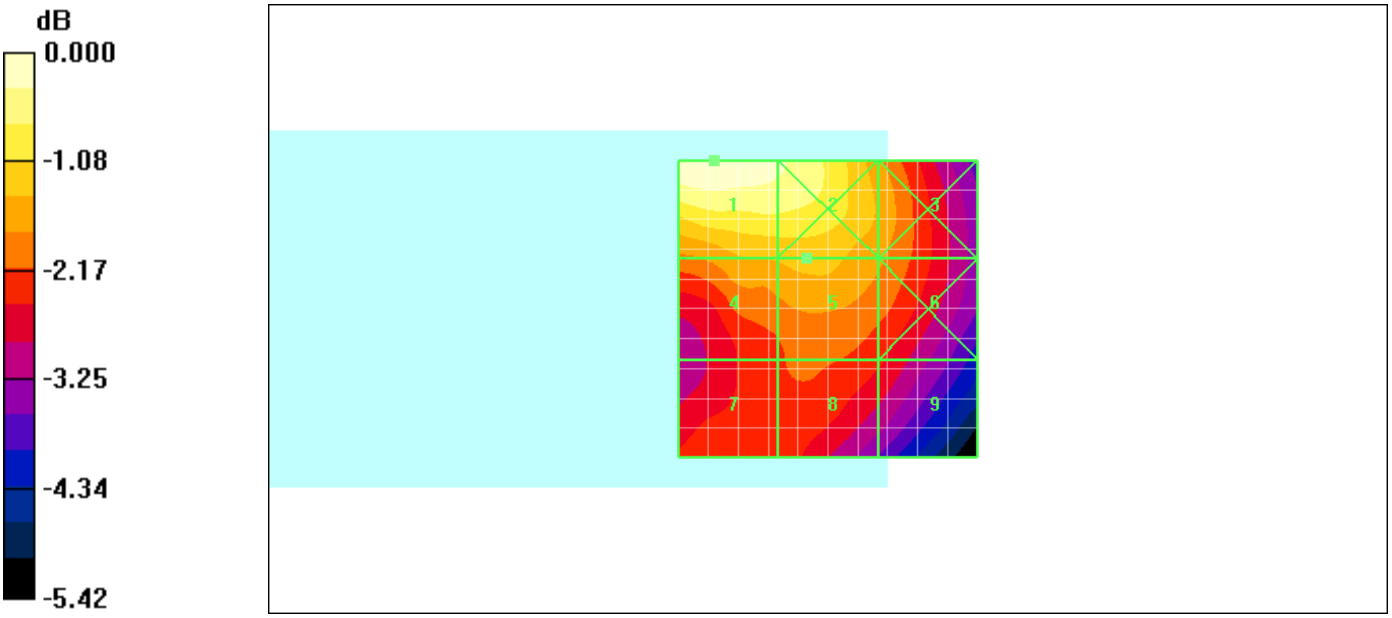
Device Reference Point: 0.000, 0.000, -6.30 mm

Reference Value = 0.083 A/m; Power Drift = -0.138 dB

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

Peak H-field in A/m

Grid 1 **0.089 M4**	Grid 2 **0.086 M4**	Grid 3 **0.075 M4**
Grid 4 **0.076 M4**	Grid 5 **0.077 M4**	Grid 6 **0.073 M4**
Grid 7 **0.069 M4**	Grid 8 **0.070 M4**	Grid 9 **0.067 M4**



0 dB = 0.089A/m