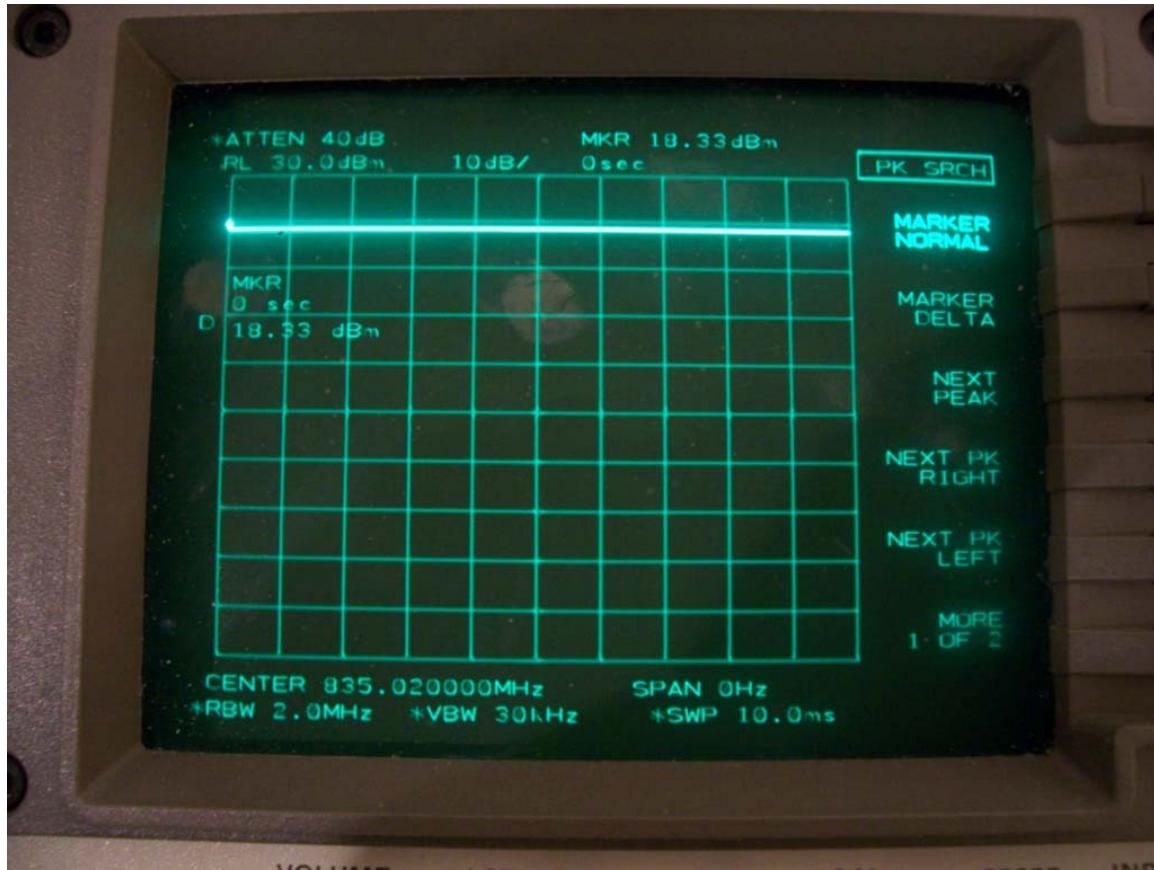


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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

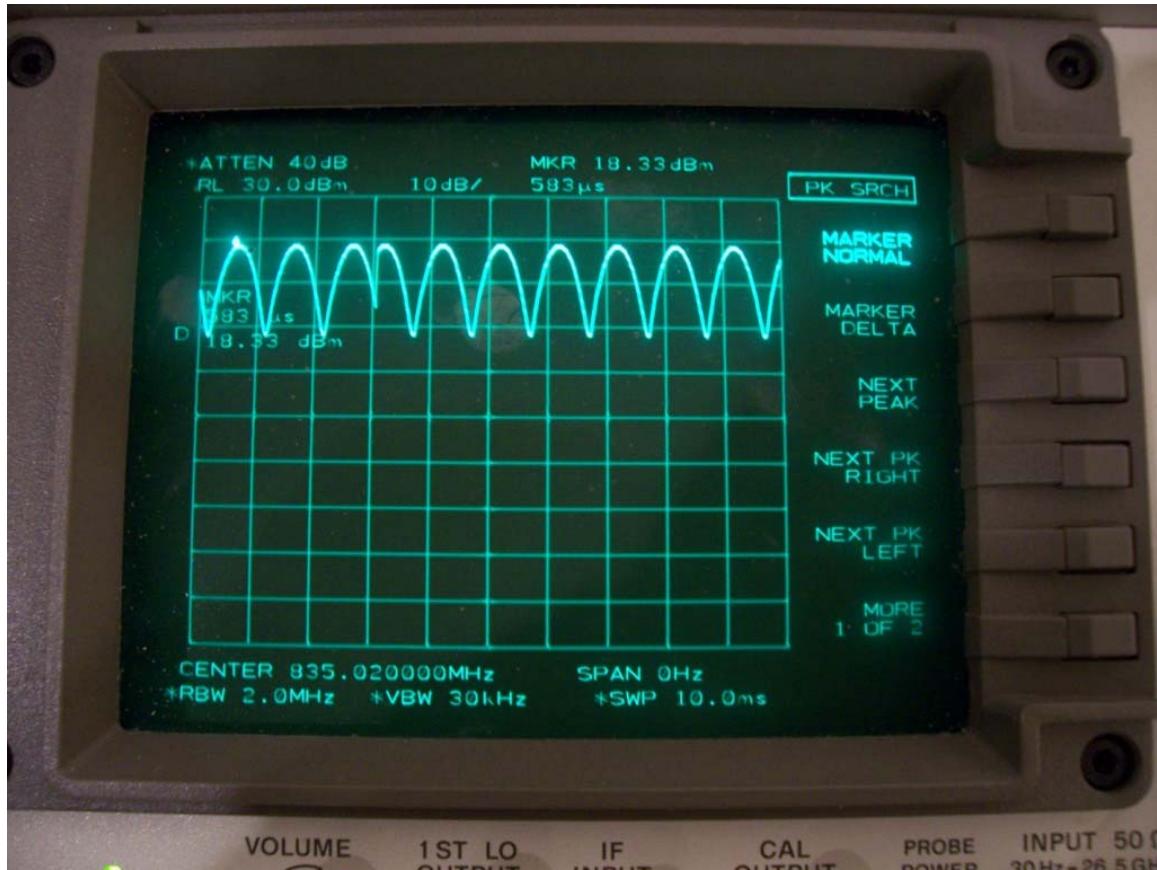
Annex A: Measurement plots and data

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



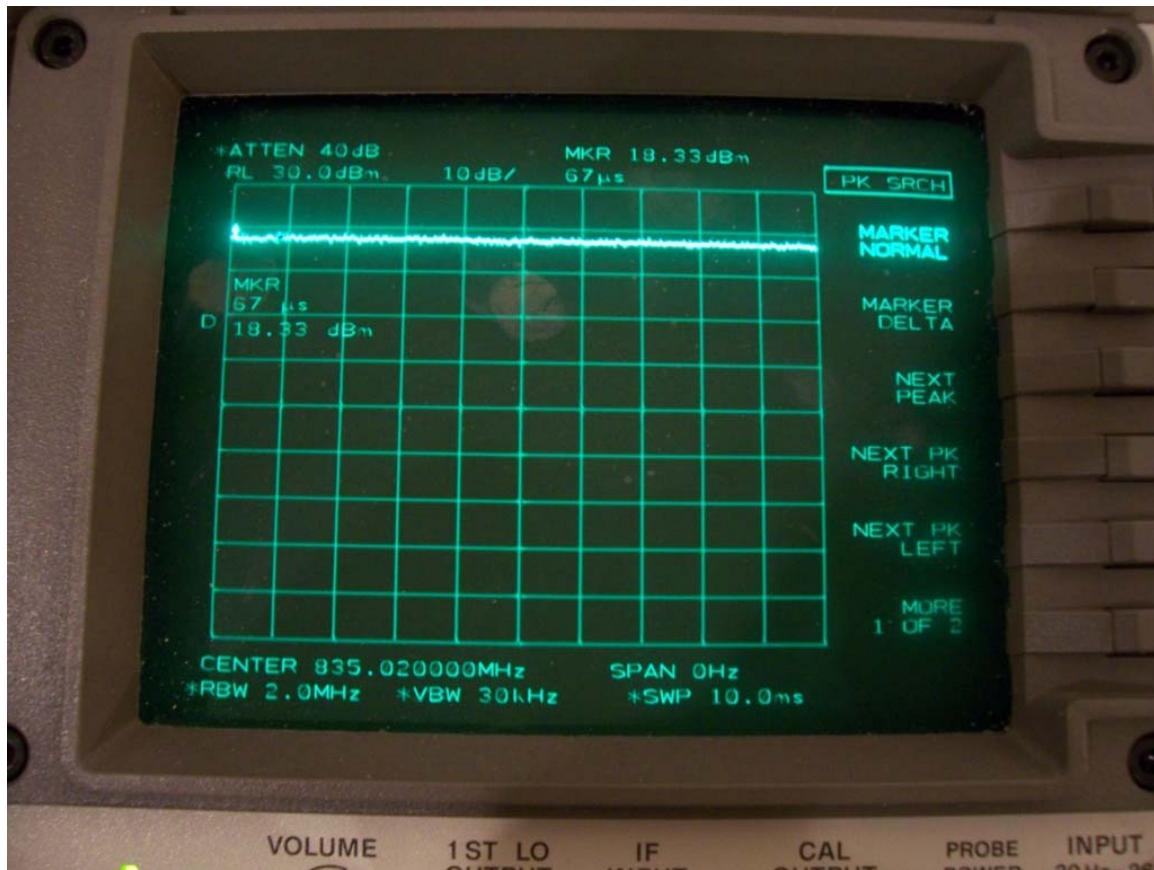
0 Hz Span CW Plot (835MHz)

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1 FCC ID L6ARBS20CW



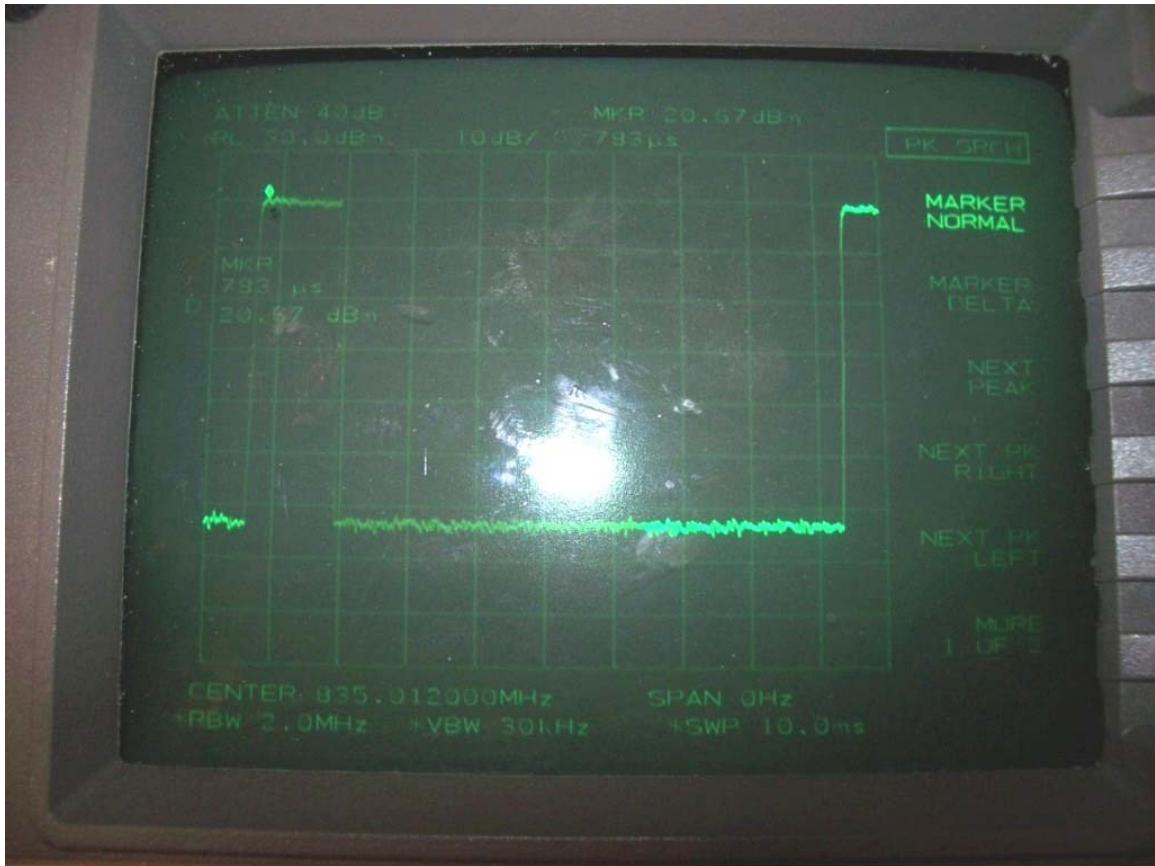
0 Hz Span 80% AM Plot (835MHz)

RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW	Page 3(69)
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1 FCC ID L6ARBS20CW



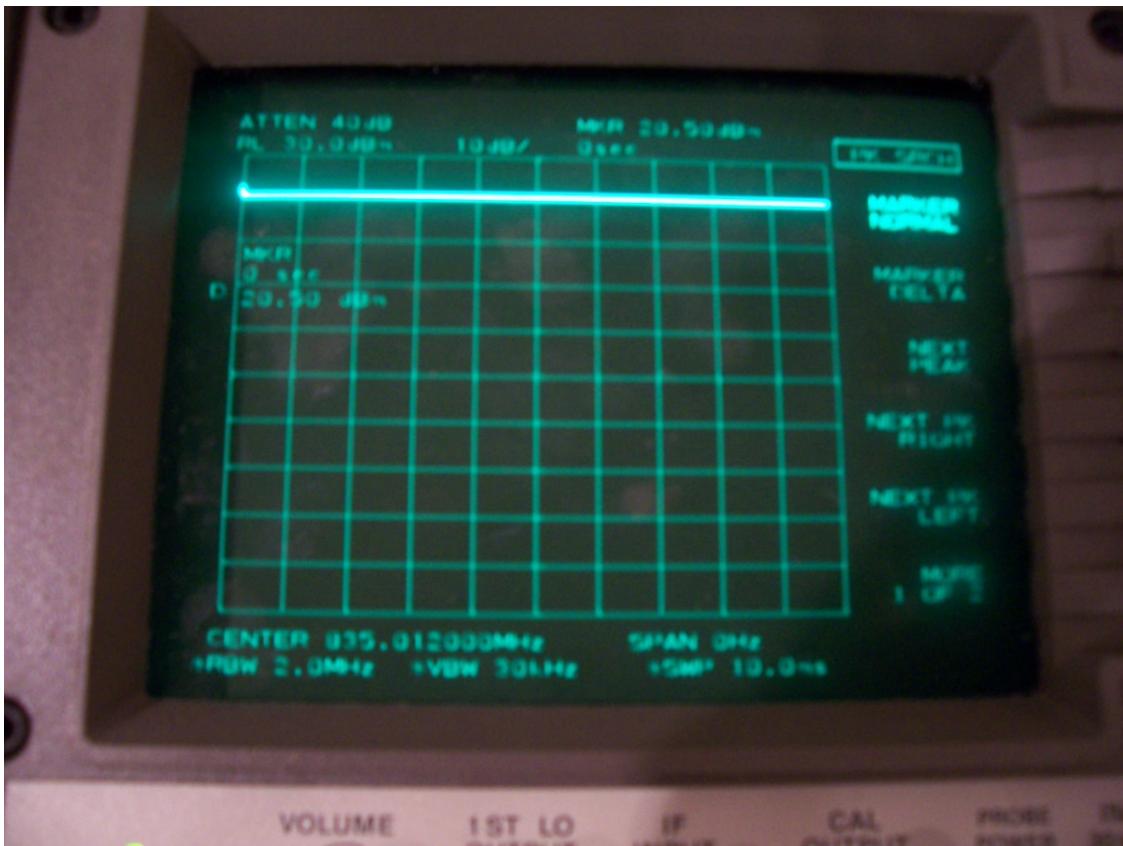
0 Hz Span CDMA Full Rate (835MHz)

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1



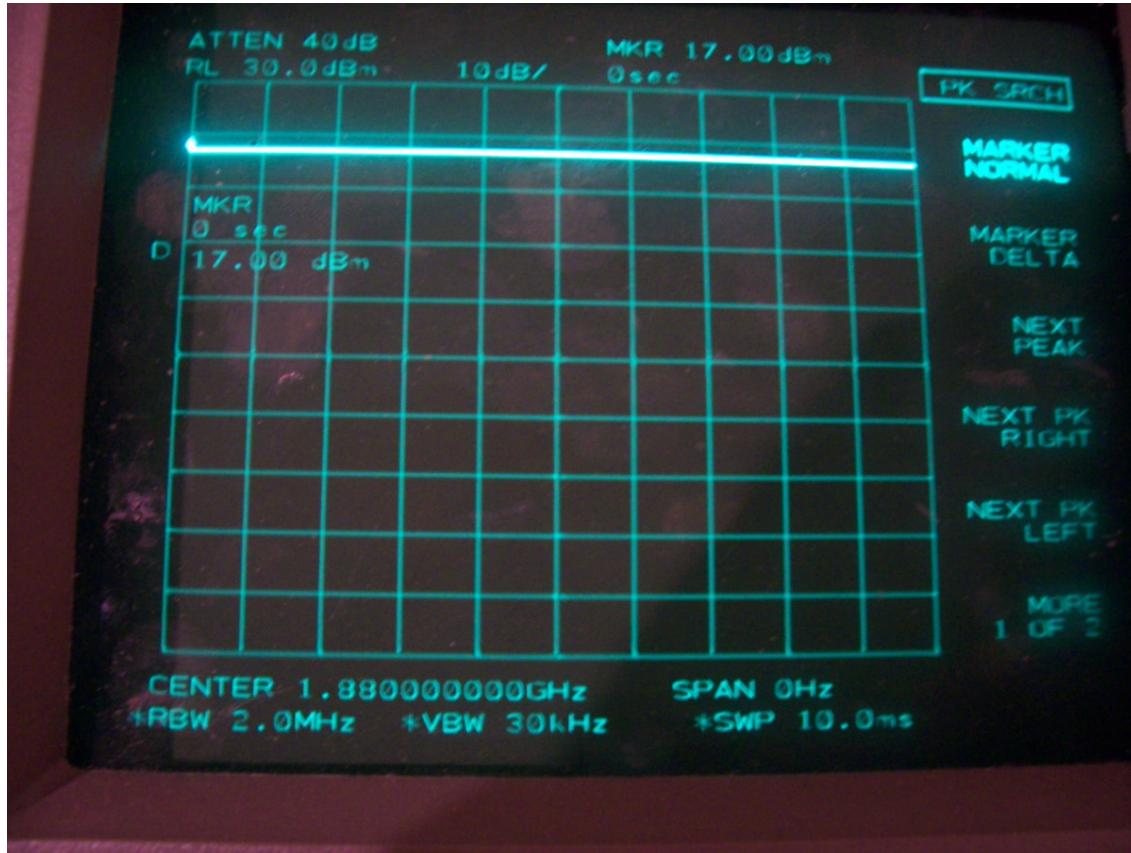
0 Hz Span CDMA 1/8 Rate (835MHz)

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW



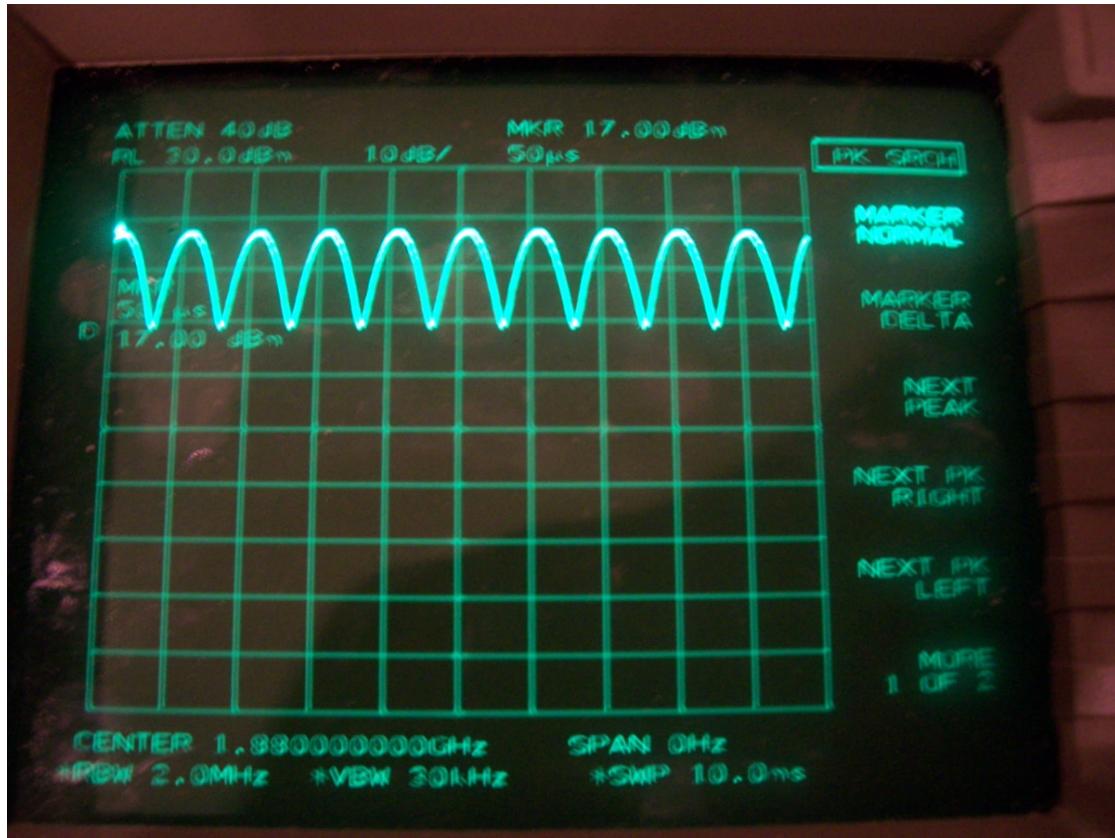
0 Hz Span CW for CDMA 1/8 Rate (835MHz)

RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW	Page 6(69)
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1



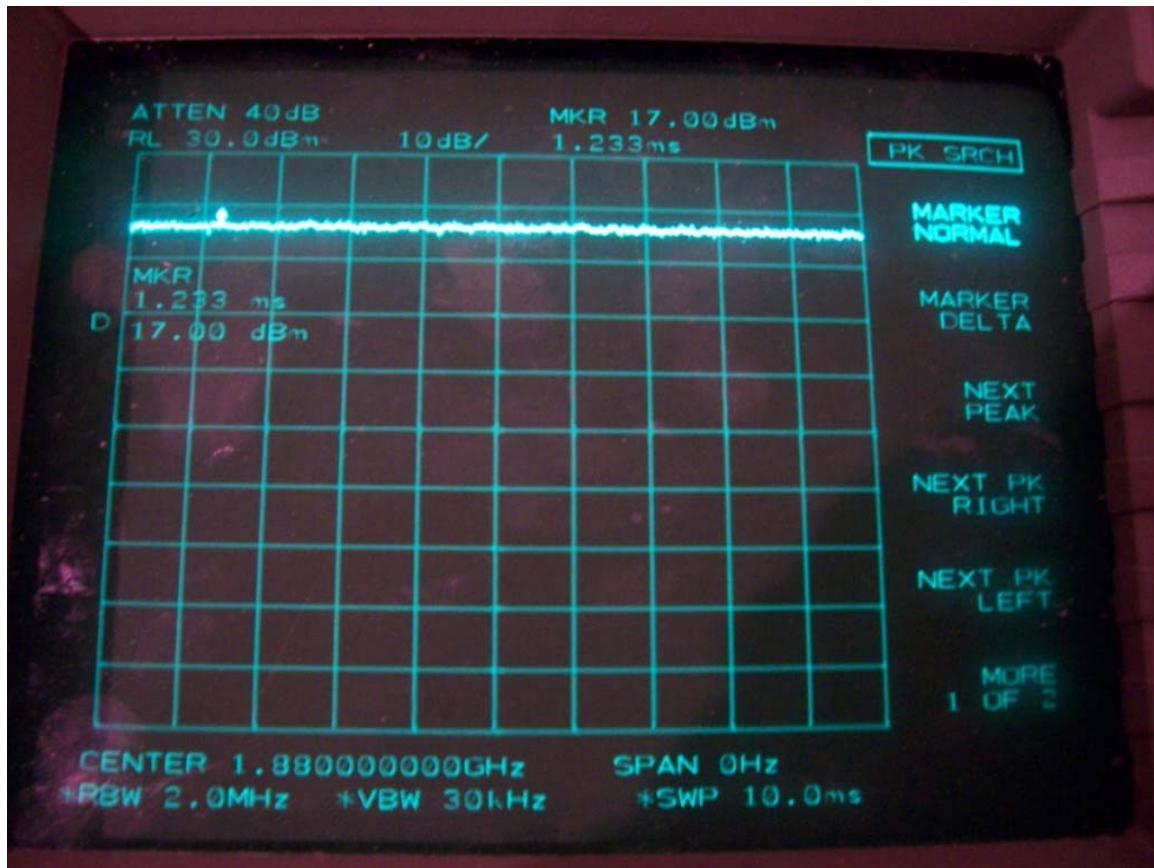
0 Hz Span CW Plot (1880MHz)

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1 FCC ID L6ARBS20CW



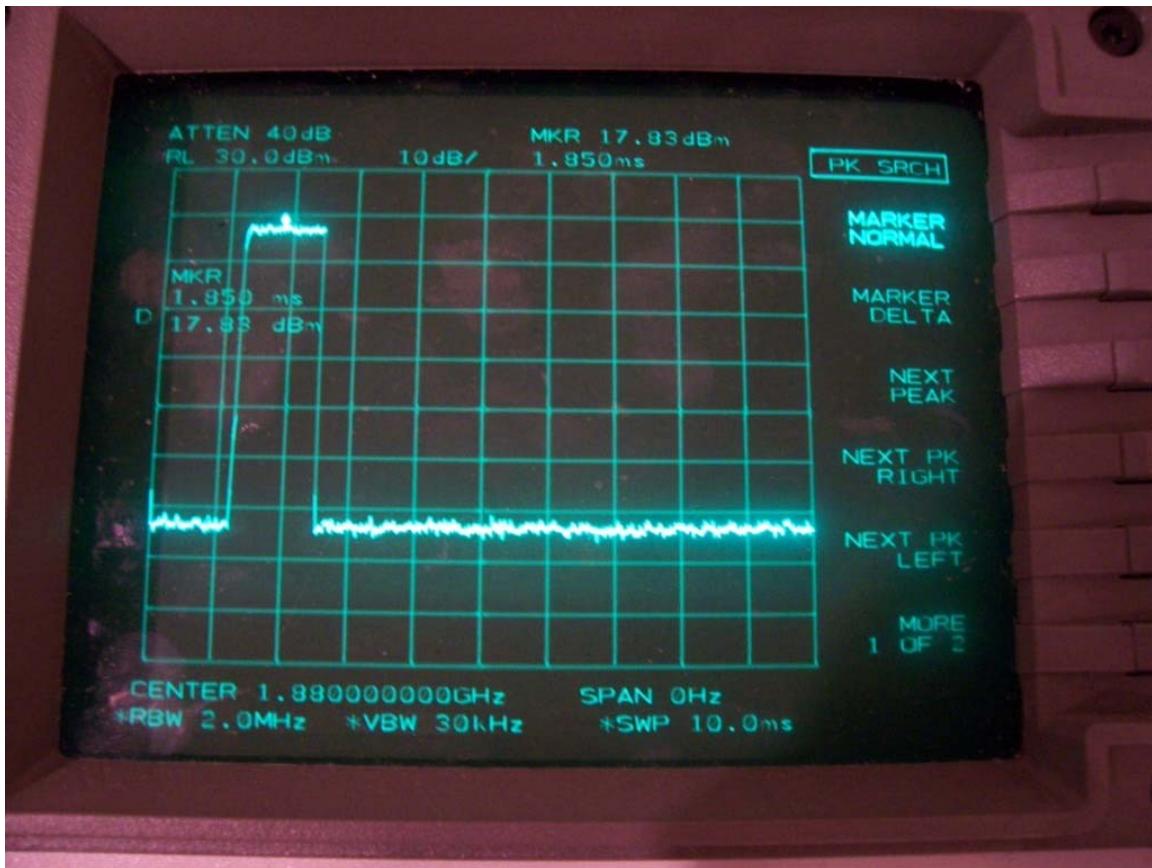
0 Hz Span 80% AM Plot (1880MHz)

RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW	Page 8(69)
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1



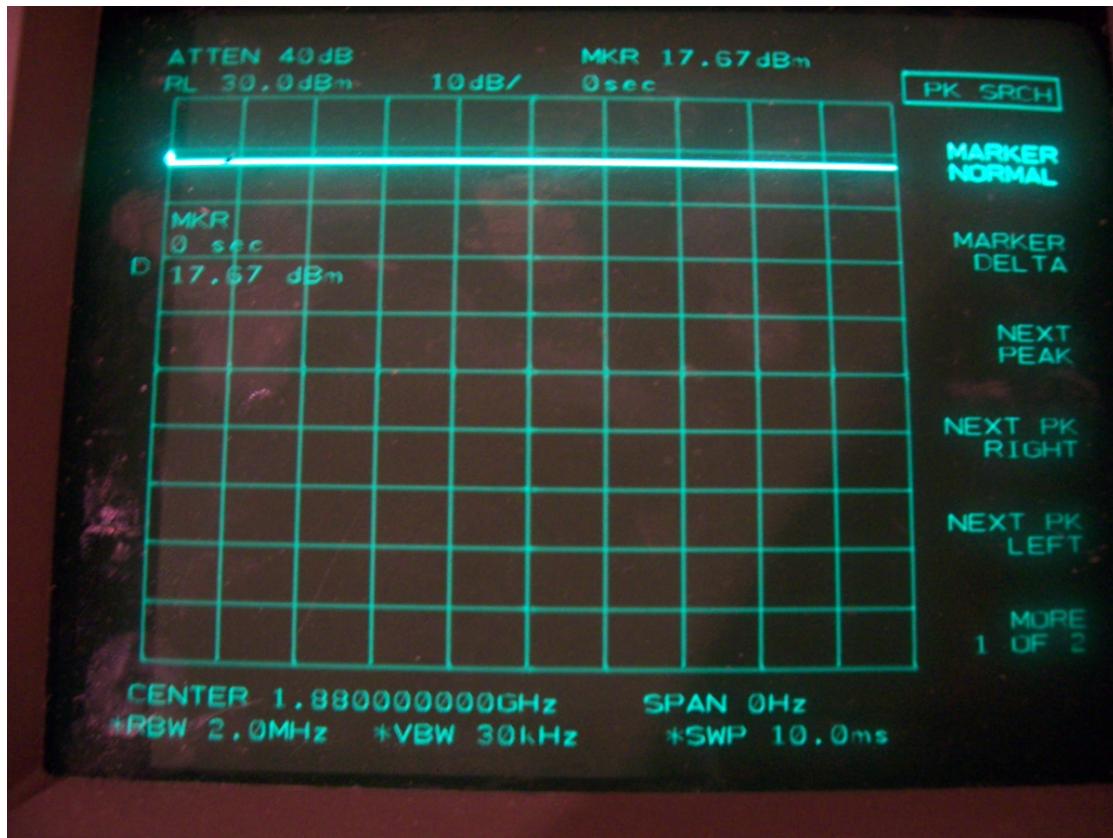
0 Hz Span CDMA Full Rate (1880MHz)

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0 Hz Span CDMA 1/8 Rate (1880MHz)

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0 Hz Span CW for CDMA 1/8 Rate (1880MHz)

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A.2 Dipole validation and probe modulation factor plots

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 1:25:56 PM

Test Laboratory: RTS

HAC_E_835MHz_CW_20dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 58.9 V/m; Power Drift = 0.001 dB

Maximum value of Total (measured) = 174.3 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 177.3 V/m

Probe Modulation Factor = 1.00

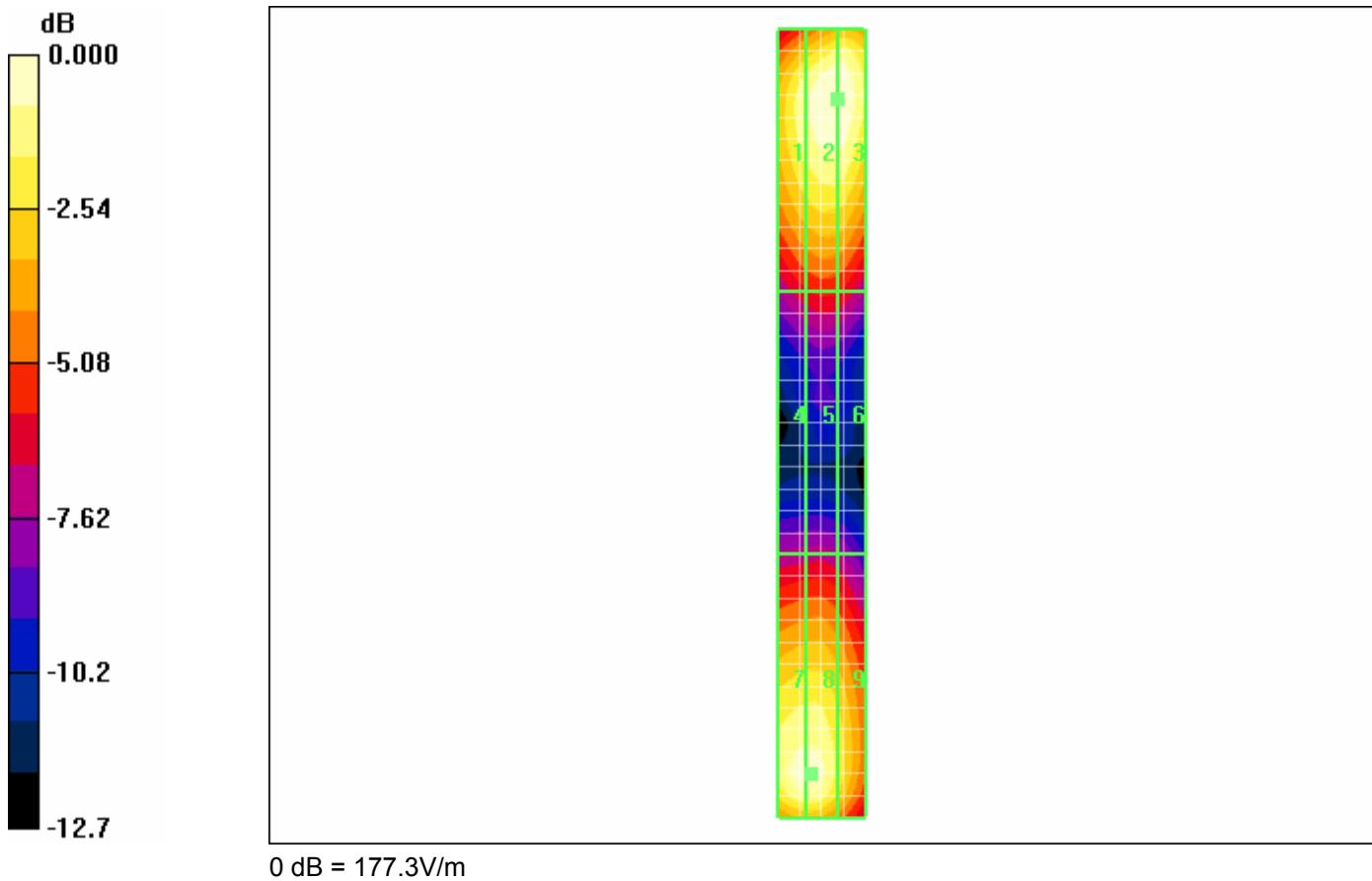
Reference Value = 58.9 V/m; Power Drift = 0.001 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
160.8	177.3	177.3
Grid	Grid	Grid
88.2	92.4	91.0
Grid	Grid	Grid
169.3	169.6	144.7



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW		
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 1:33:27 PM

Test Laboratory: RTS

HAC_E_835MHz_CW_18_33dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 46.2 V/m; Power Drift = -0.033 dB

Maximum value of Total (measured) = 137.5 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 139.7 V/m

Probe Modulation Factor = 1.00

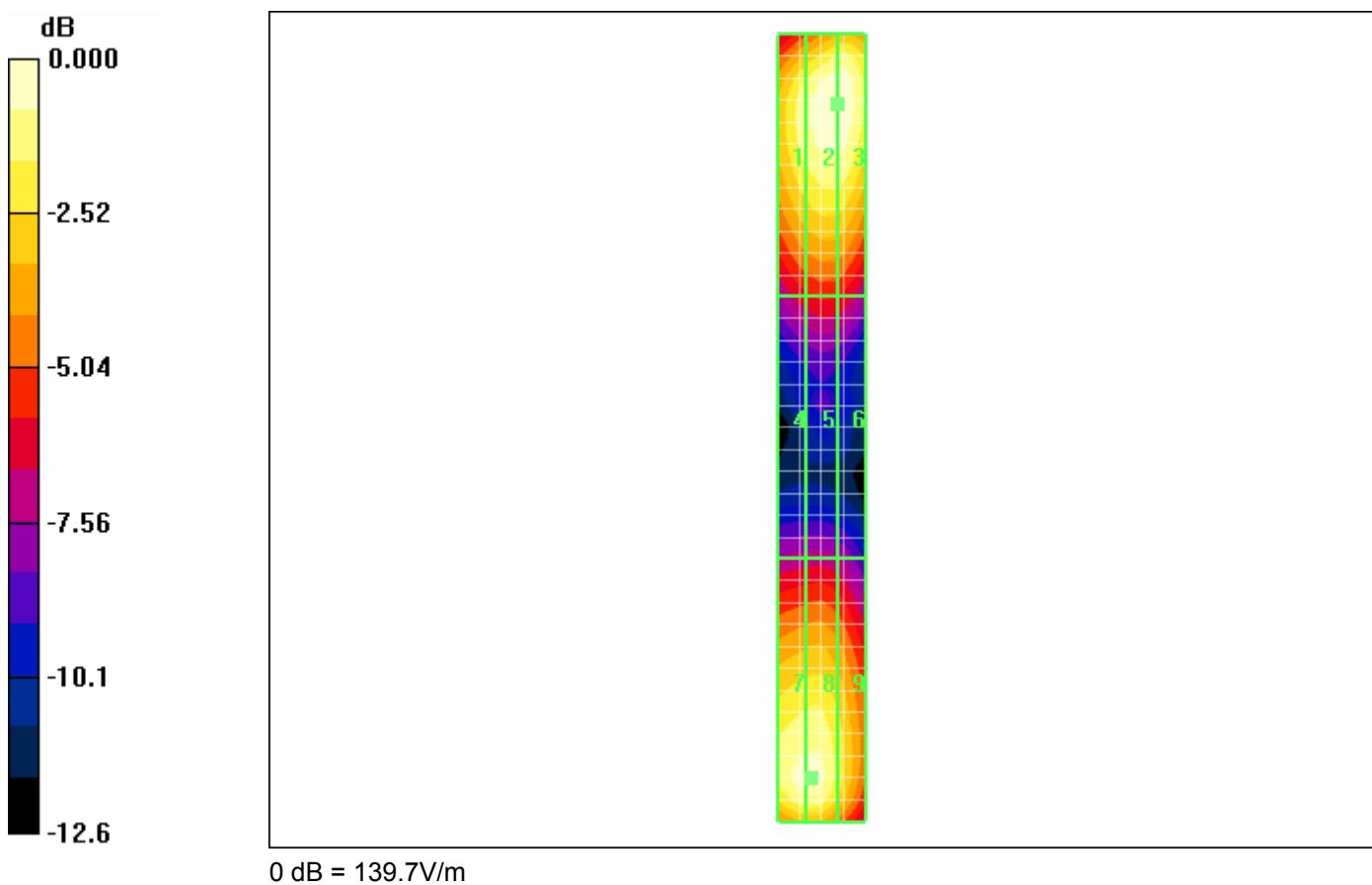
Reference Value = 46.2 V/m; Power Drift = -0.033 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
126.0	139.7	139.7
Grid	Grid	Grid
69.6	72.7	71.9
Grid	Grid	Grid
132.5	133.0	114.4



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 1:51:57 PM

Test Laboratory: RTS

HAC_E_CDMA835MHz_FullRate_18_3dBm

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

Communication System: CDMA 800; Frequency: 835 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 46.1 V/m; Power Drift = -0.105 dB

Maximum value of Total (measured) = 138.6 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 141.8 V/m

Probe Modulation Factor = 1.00

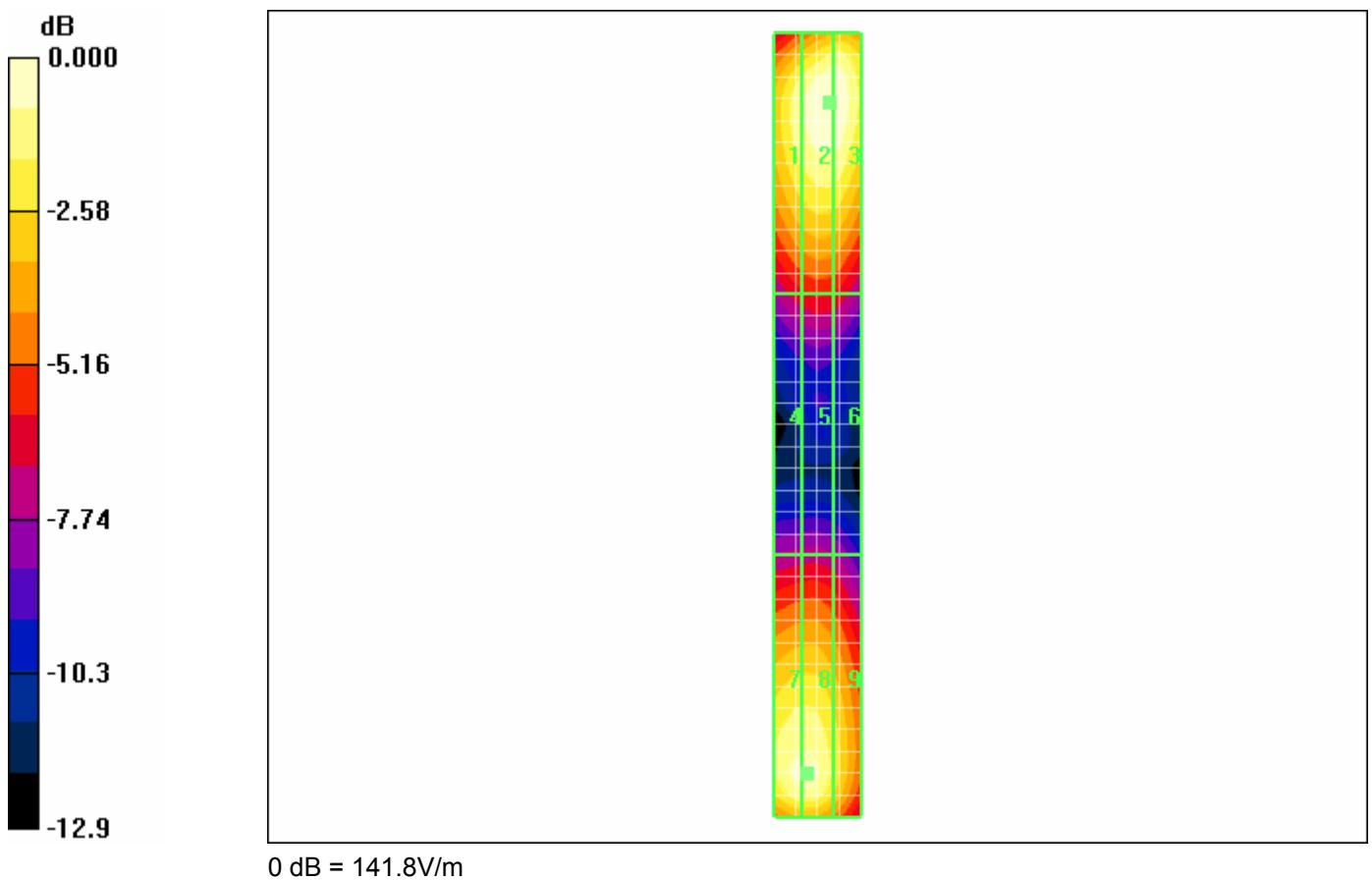
Reference Value = 46.1 V/m; Power Drift = -0.105 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
129.0	141.8	141.6
Grid	Grid	Grid
69.6	72.5	71.2
Grid	Grid	Grid
133.3	133.7	115.3



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Date/Time: 21/08/2007 1:40:48 PM

Test Laboratory: RTS

HAC_E_835MHz_AM80%_18_33dBm

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

Communication System: 80 % AM; Frequency: 835 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 29.7 V/m; Power Drift = 0.011 dB

Maximum value of Total (measured) = 87.3 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 88.5 V/m

Probe Modulation Factor = 1.00

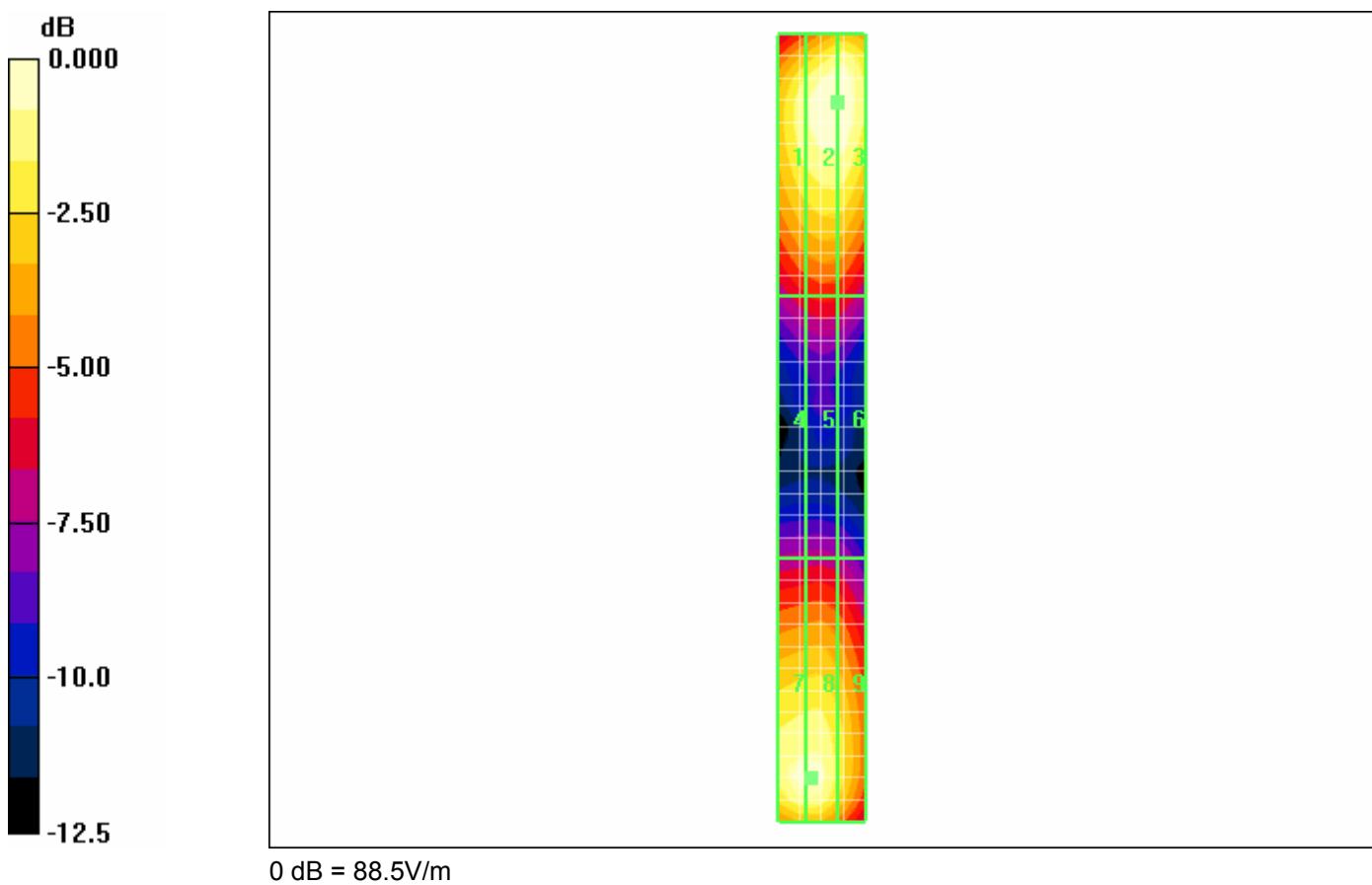
Reference Value = 29.7 V/m; Power Drift = 0.011 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak E-field in V/m

Grid	Grid	Grid
80.3	88.5	88.5
Grid	Grid	Grid
44.8	46.8	46.2
Grid	Grid	Grid
83.8	84.3	72.6



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 22/08/2007 9:37:47 AM

Test Laboratory: RTS

HAC_E_835MHz_CW_20_67dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 62.1 V/m; Power Drift = -0.015 dB

Maximum value of Total (measured) = 186.6 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 189.9 V/m

Probe Modulation Factor = 1.00

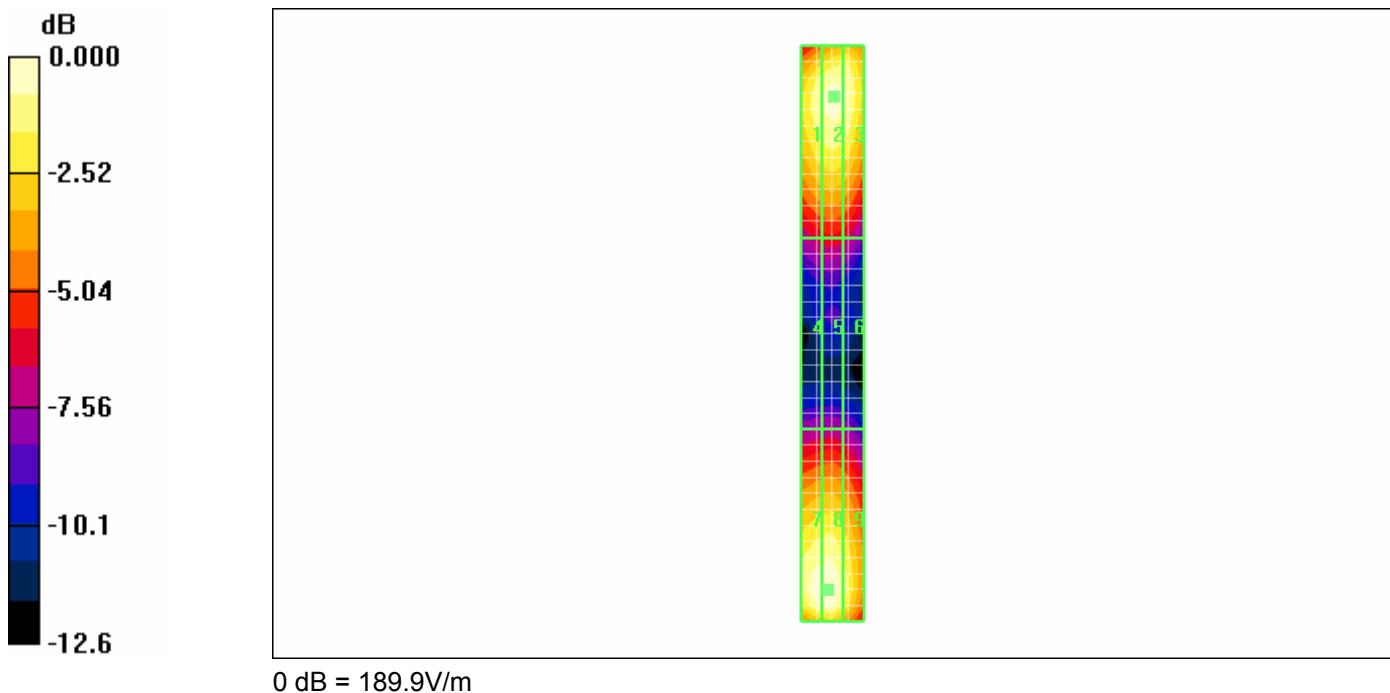
Reference Value = 62.1 V/m; Power Drift = -0.015 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
172.0	180.1	177.3
Grid	Grid	Grid
92.7	95.1	90.9
Grid	Grid	Grid
186.9	189.9	166.7



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Date/Time: 21/08/2007 2:13:46 PM

Test Laboratory: RTS

HAC_E_CDMA835MHz_eighth_20_67dBm

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

Communication System: CDMA 800; Frequency: 835 MHz; Duty Cycle: 1:8

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x37x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 20.5 V/m; Power Drift = 0.131 dB

Maximum value of Total (measured) = 65.4 V/m

E Scan - ER probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x361x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 65.7 V/m

Probe Modulation Factor = 1.00

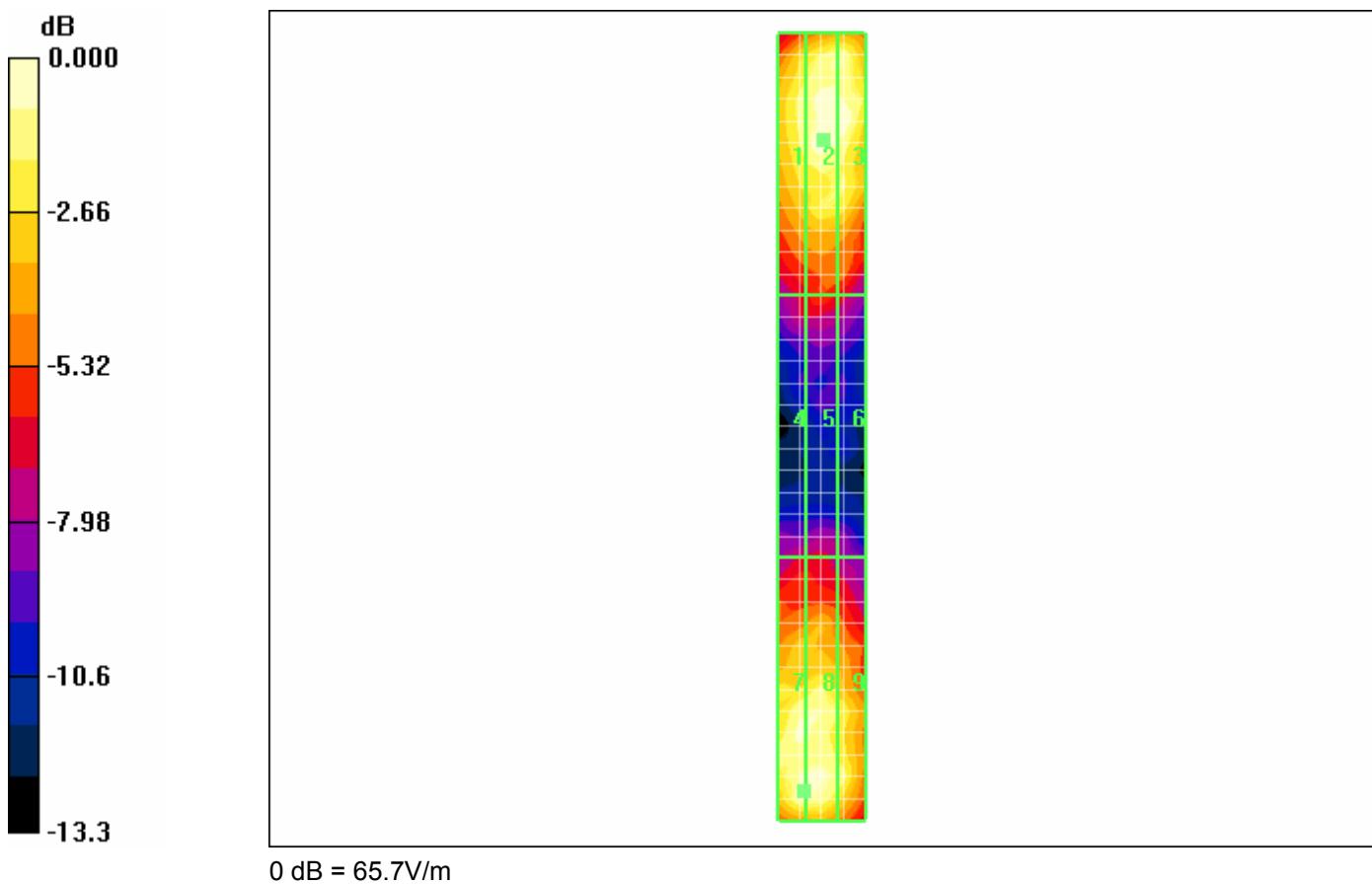
Reference Value = 20.5 V/m; Power Drift = 0.131 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
57.7	65.7	65.6
Grid	Grid	Grid
31.5	35.2	32.0
Grid	Grid	Grid
63.0	62.9	58.8



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 12:18:58 PM

Test Laboratory: RTS

HAC_E_1880MHz_CW_20dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 73.1 V/m; Power Drift = 0.035 dB

Maximum value of Total (measured) = 141.2 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 144.1 V/m

Probe Modulation Factor = 1.00

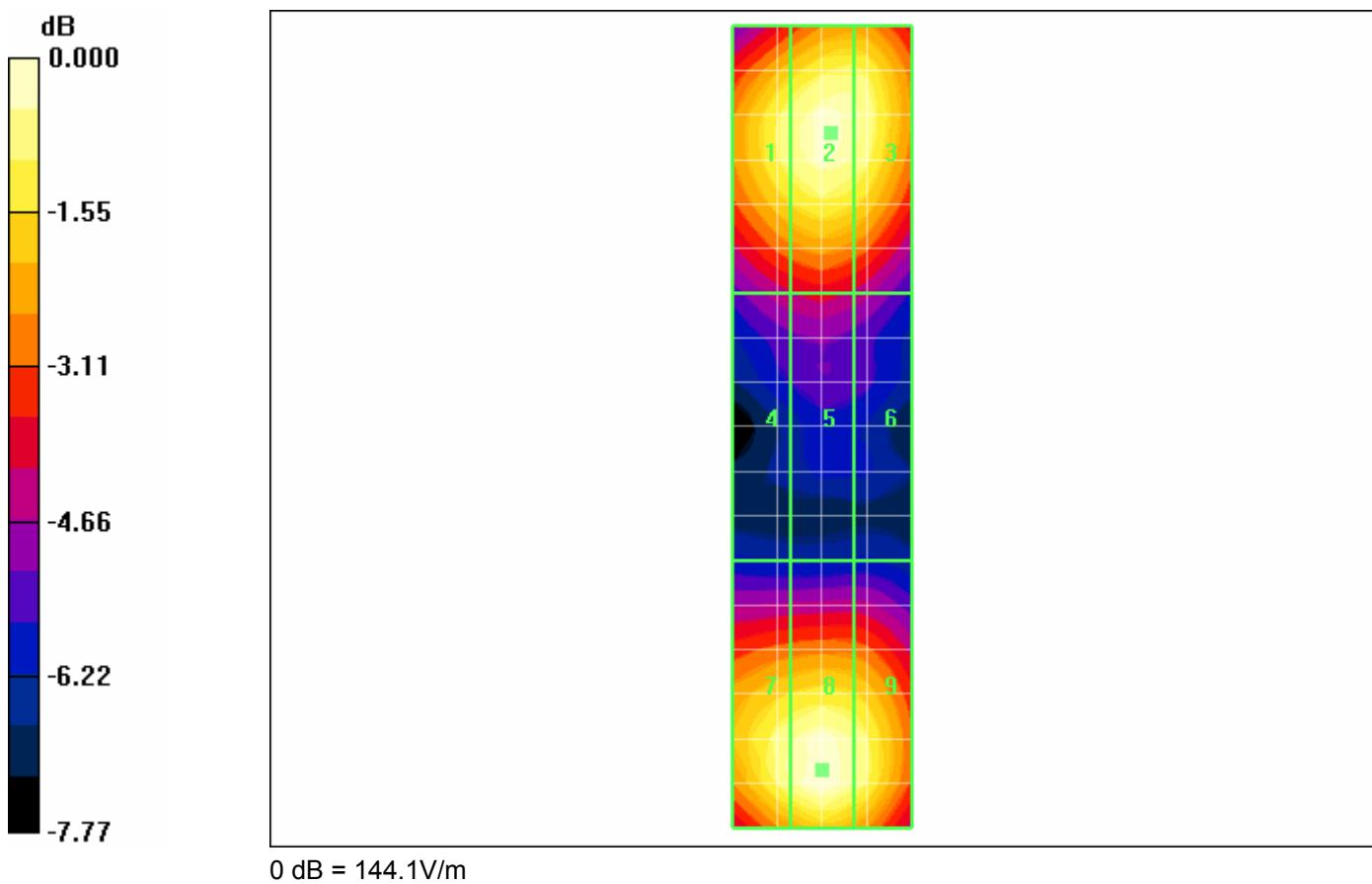
Reference Value = 73.1 V/m; Power Drift = 0.035 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
133.8	139.7	137.8
Grid	Grid	Grid
89.2	92.4	88.7
Grid	Grid	Grid
137.7	144.1	137.8



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 12:26:50 PM

Test Laboratory: RTS

HAC_E_1880MHz_CW_17_0dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 50.0 V/m; Power Drift = 0.061 dB

Maximum value of Total (measured) = 96.3 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 95.2 V/m

Probe Modulation Factor = 1.00

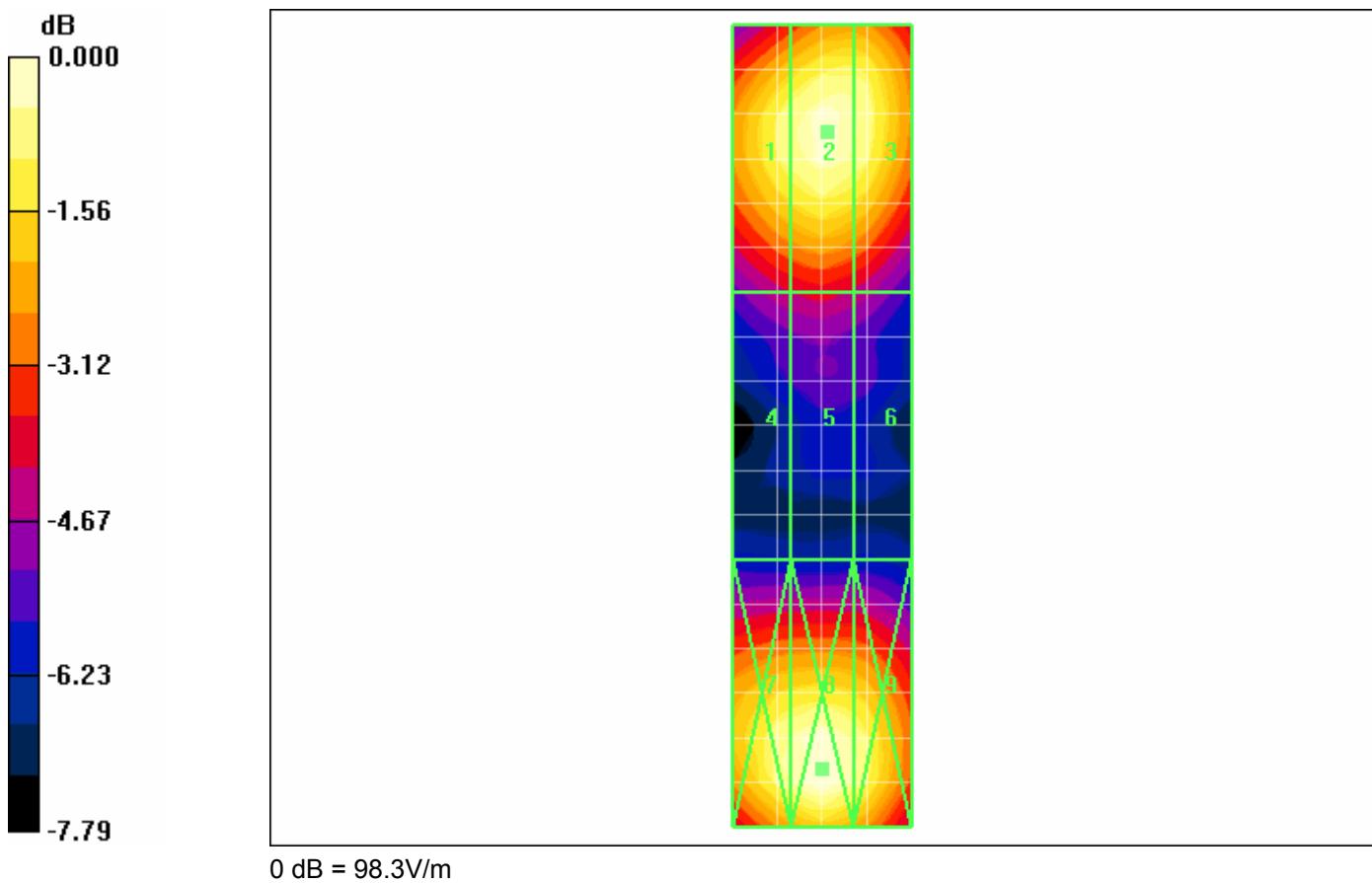
Reference Value = 50.0 V/m; Power Drift = 0.061 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
91.4	95.2	93.5
Grid	Grid	Grid
61.1	63.1	60.4
Grid	Grid	Grid
94.5	98.3	93.8



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 12:37:57 PM

Test Laboratory: RTS

HAC_E_CDMA1880MHz_FullRate_17_0dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 52.4 V/m; Power Drift = -0.229 dB

Maximum value of Total (measured) = 98.9 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 101.0 V/m

Probe Modulation Factor = 1.00

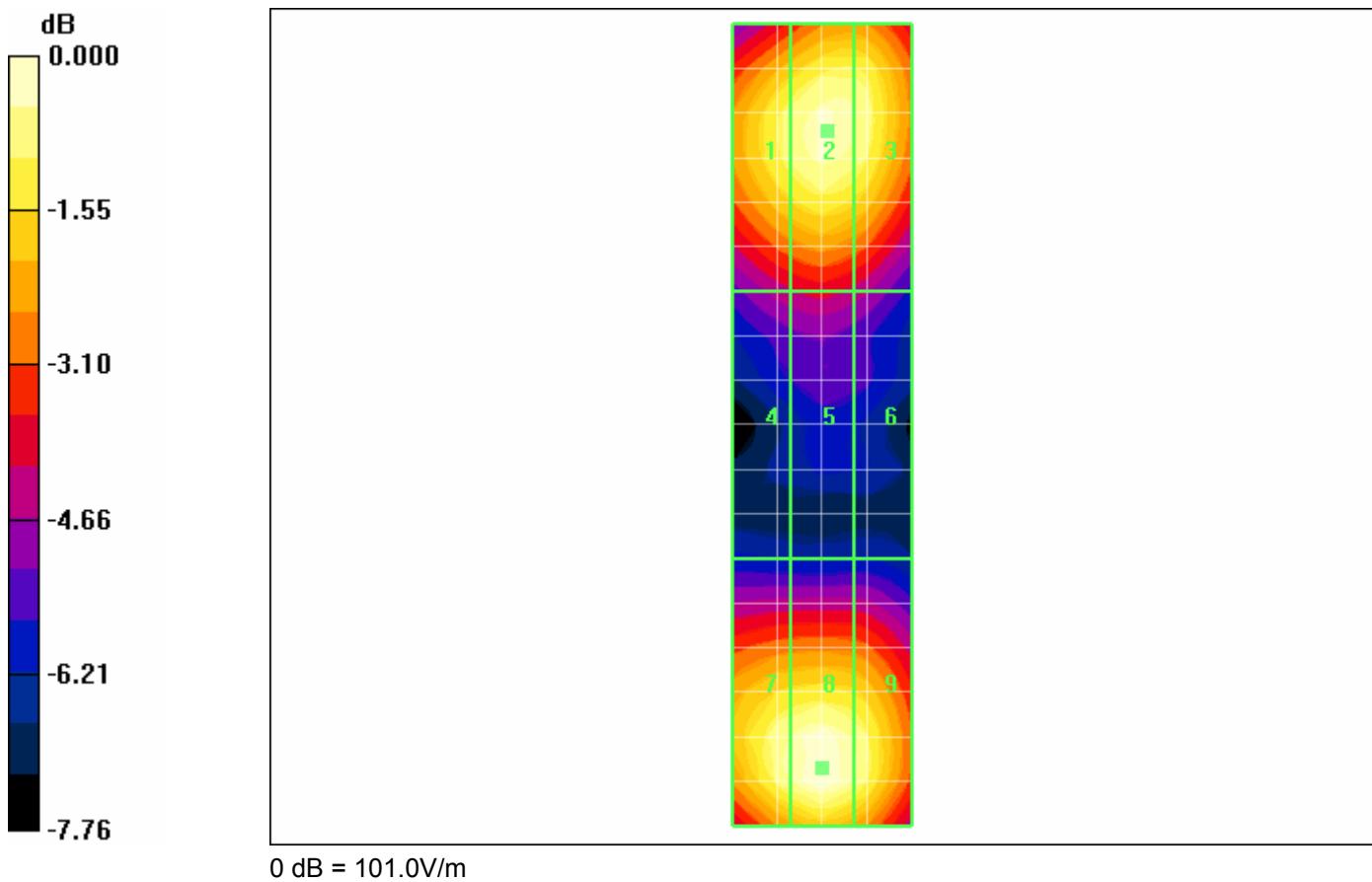
Reference Value = 52.4 V/m; Power Drift = -0.229 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak E-field in V/m

Grid	Grid	Grid
93.1	97.2	95.6
Grid	Grid	Grid
62.4	64.5	61.8
Grid	Grid	Grid
97.1	101.0	96.6



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW		
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 12:30:58 PM

Test Laboratory: RTS

HAC_E_1880MHz_80%AM_17_0dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 32.0 V/m; Power Drift = -0.004 dB

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

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 62.4 V/m

Probe Modulation Factor = 1.00

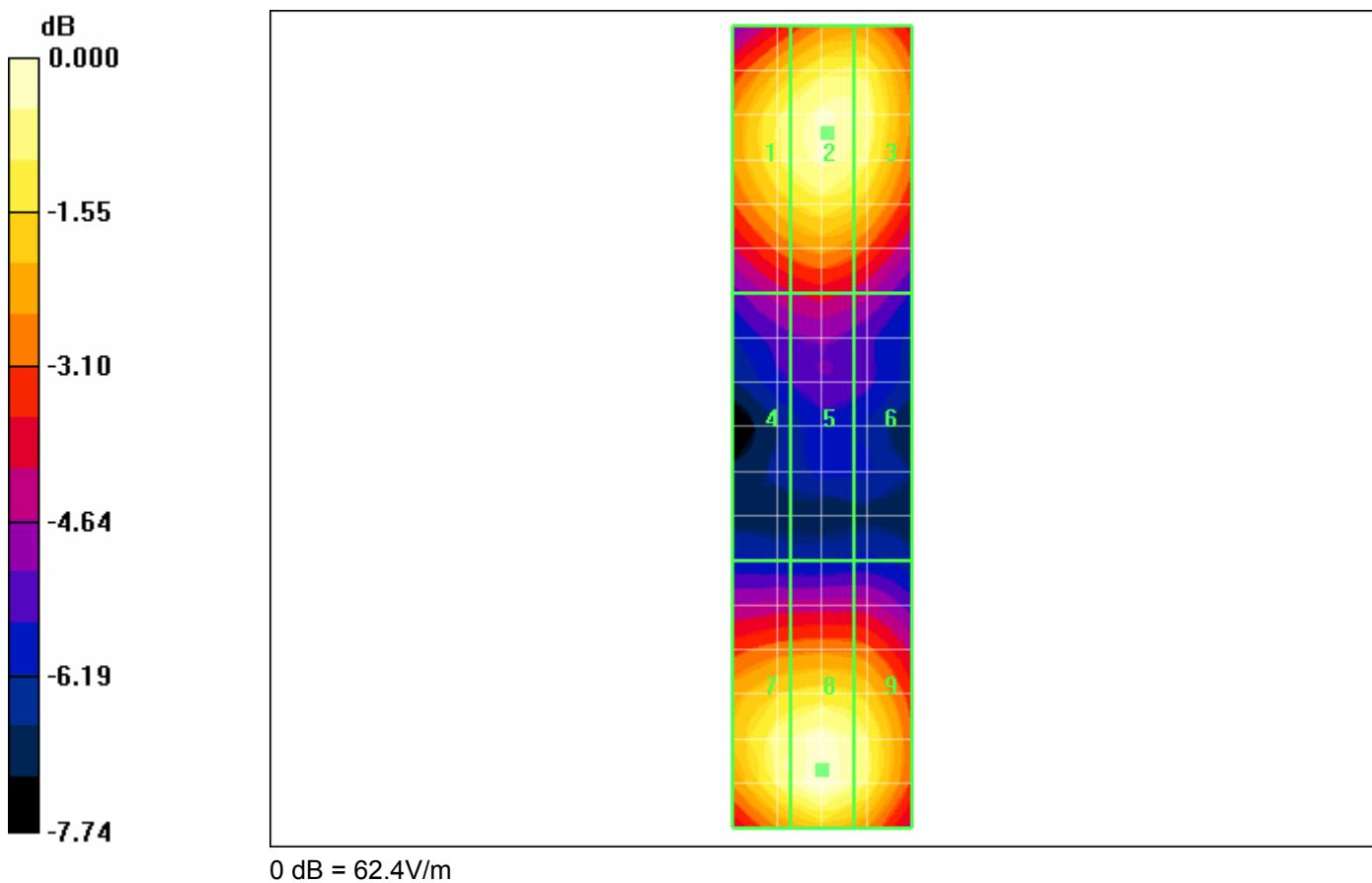
Reference Value = 32.0 V/m; Power Drift = -0.004 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak E-field in V/m

Grid	Grid	Grid
57.7	60.1	59.3
Grid	Grid	Grid
38.7	40.0	38.3
Grid	Grid	Grid
59.8	62.4	59.6



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW		
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 22/08/2007 9:22:38 AM

Test Laboratory: RTS

HAC_E_1880MHz_CW_17_8dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 57.0 V/m; Power Drift = 0.004 dB

Maximum value of Total (measured) = 109.5 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 112.8 V/m

Probe Modulation Factor = 1.00

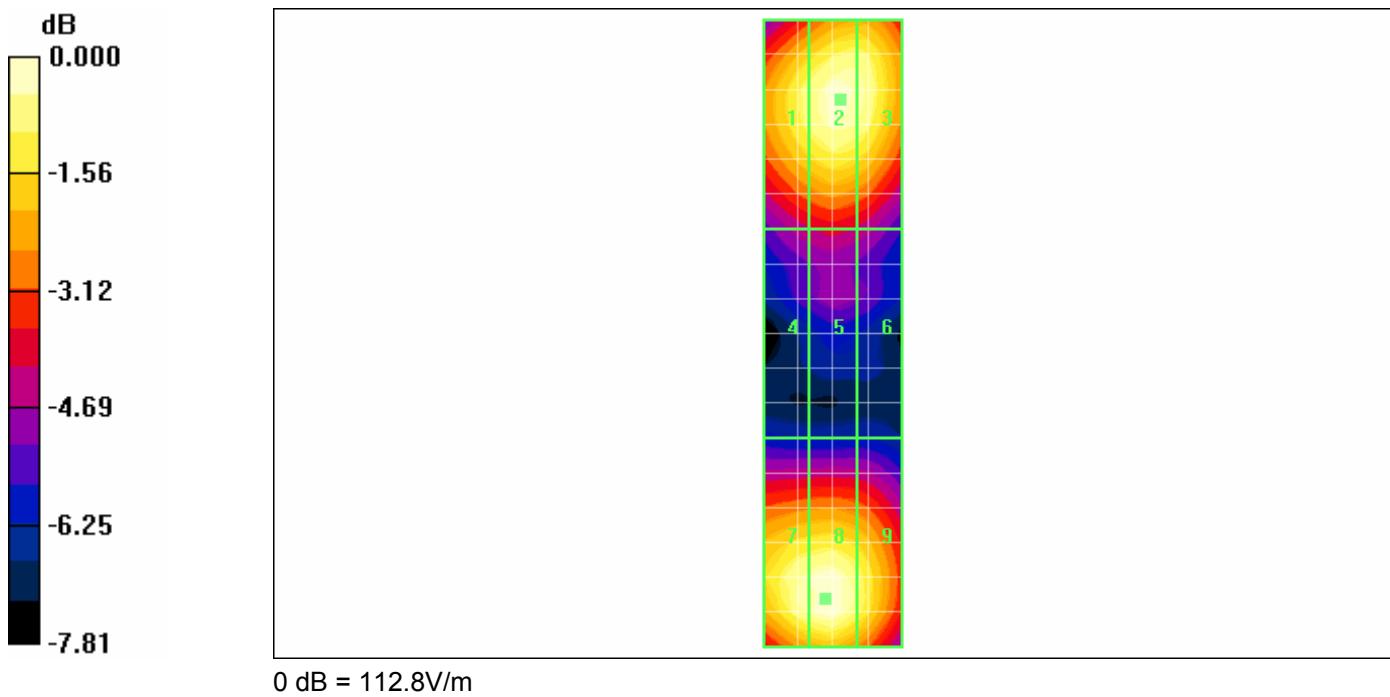
Reference Value = 57.0 V/m; Power Drift = 0.004 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
104.0	109.4	108.3
Grid	Grid	Grid
69.4	72.0	69.2
Grid	Grid	Grid
110.0	112.8	104.6



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 12:43:38 PM

Test Laboratory: RTS

HAC_E_CDMA1880MHz_eighth_17_8dBm

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

Communication System: CDMA 1900; Frequency: 1880 MHz; Duty Cycle: 1:8

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: ER3DV6 - SN2285; ConvF(1, 1, 1); Calibrated: 12/03/2007
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 19.7 V/m; Power Drift = 0.112 dB

Maximum value of Total (measured) = 39.5 V/m

E Scan - ER probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 41.2 V/m

Probe Modulation Factor = 1.00

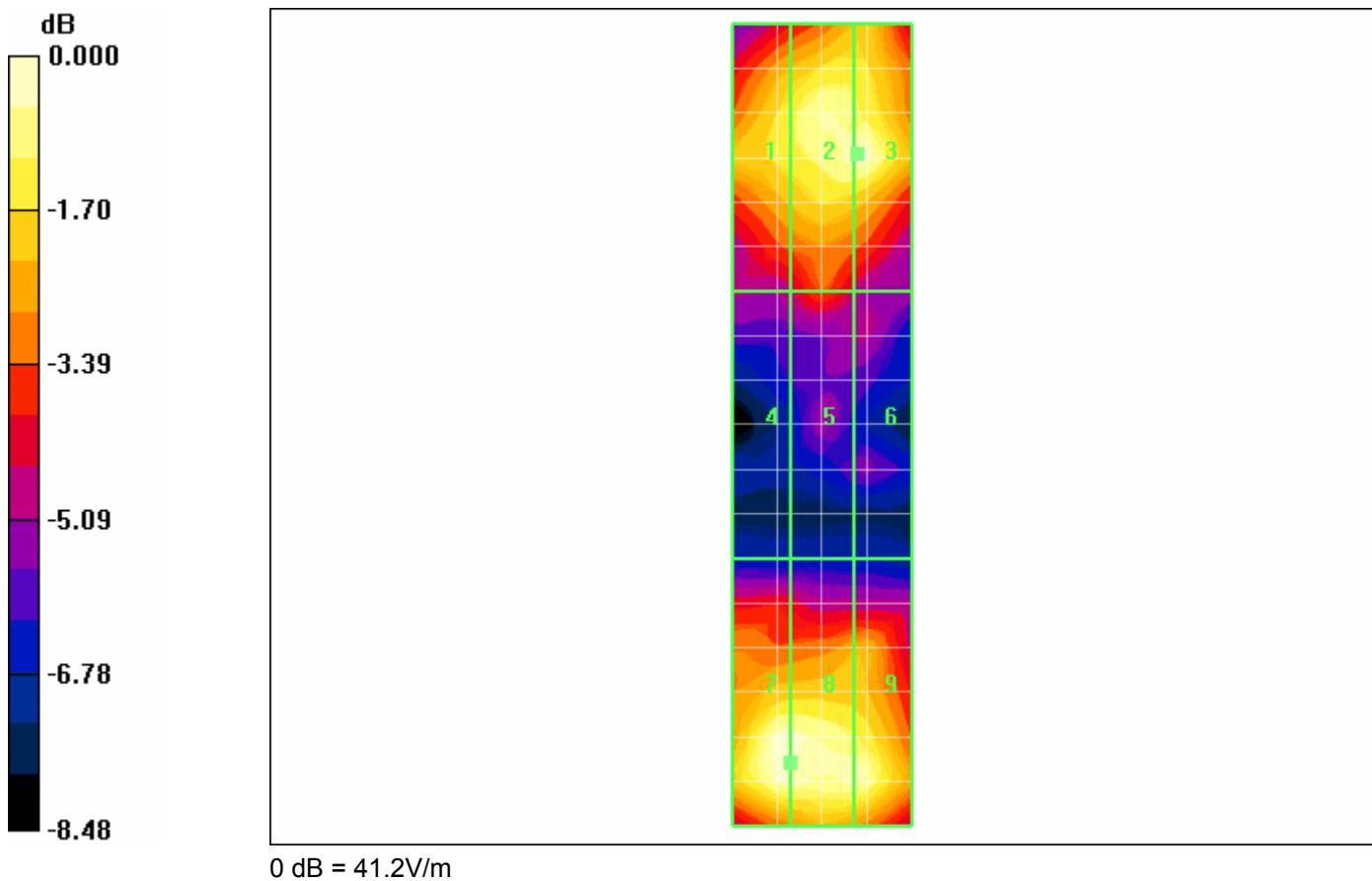
Reference Value = 19.7 V/m; Power Drift = 0.112 dB

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

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Peak E-field in V/m

Grid	Grid	Grid
36.0	40.0	40.1
Grid	Grid	Grid
24.1	27.9	24.1
Grid	Grid	Grid
41.2	41.2	39.7



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 2:51:01 PM

Test Laboratory: RTS

HAC_H_835MHz_CW_20dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(5x15x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.489 A/m; Power Drift = 0.027 dB

Maximum value of Total (measured) = 0.460 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(41x141x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.461 A/m

Probe Modulation Factor = 1.00

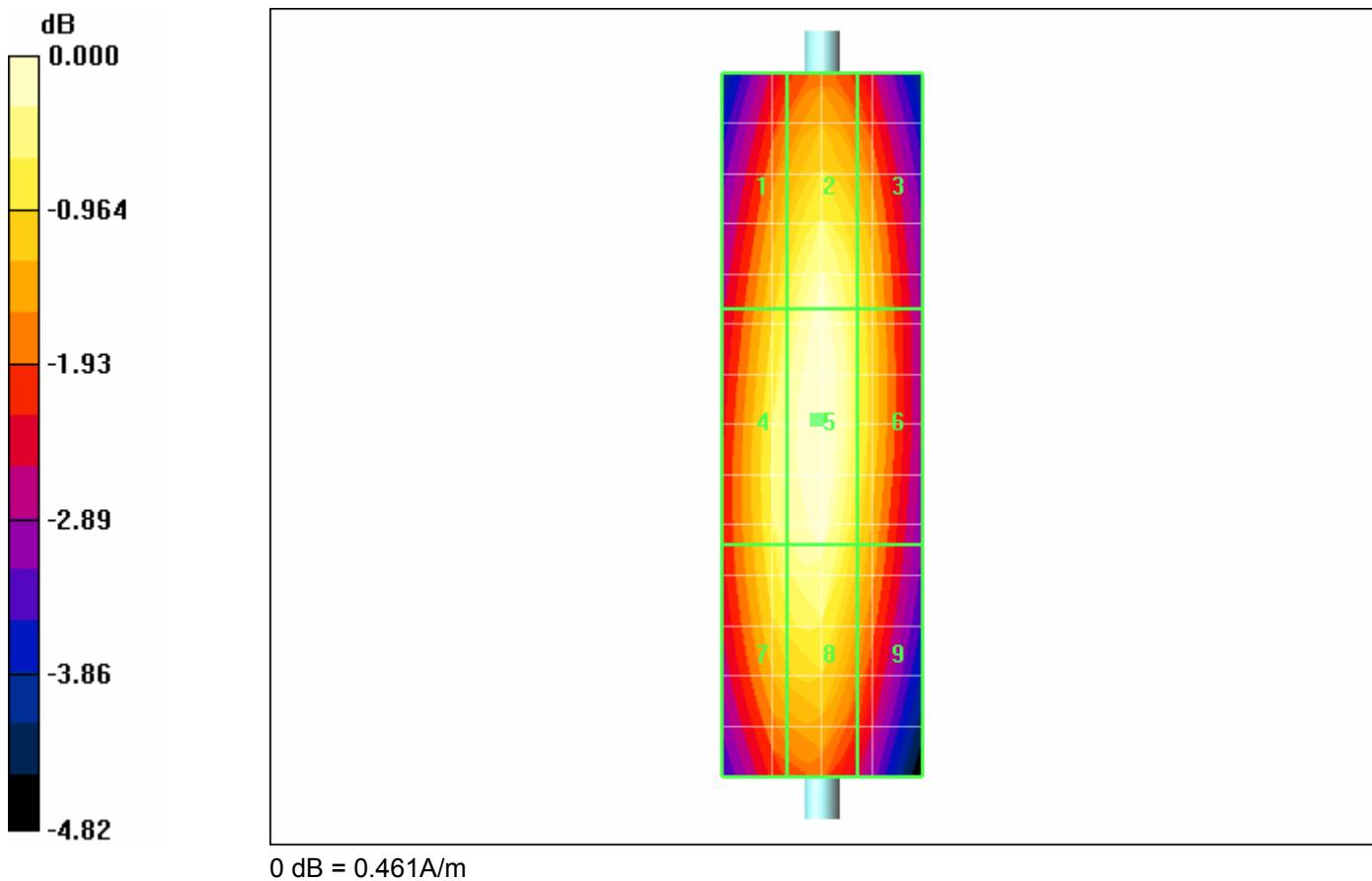
Reference Value = 0.489 A/m; Power Drift = 0.027 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak H-field in A/m

Grid	Grid	Grid
0.430	0.451	0.428
Grid	Grid	Grid
0.448	0.461	0.432
Grid	Grid	Grid
0.440	0.449	0.415



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 2:42:10 PM

Test Laboratory: RTS

HAC_H_835MHz_CW_18_33dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(5x15x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.381 A/m; Power Drift = 0.047 dB

Maximum value of Total (measured) = 0.361 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(41x141x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.362 A/m

Probe Modulation Factor = 1.00

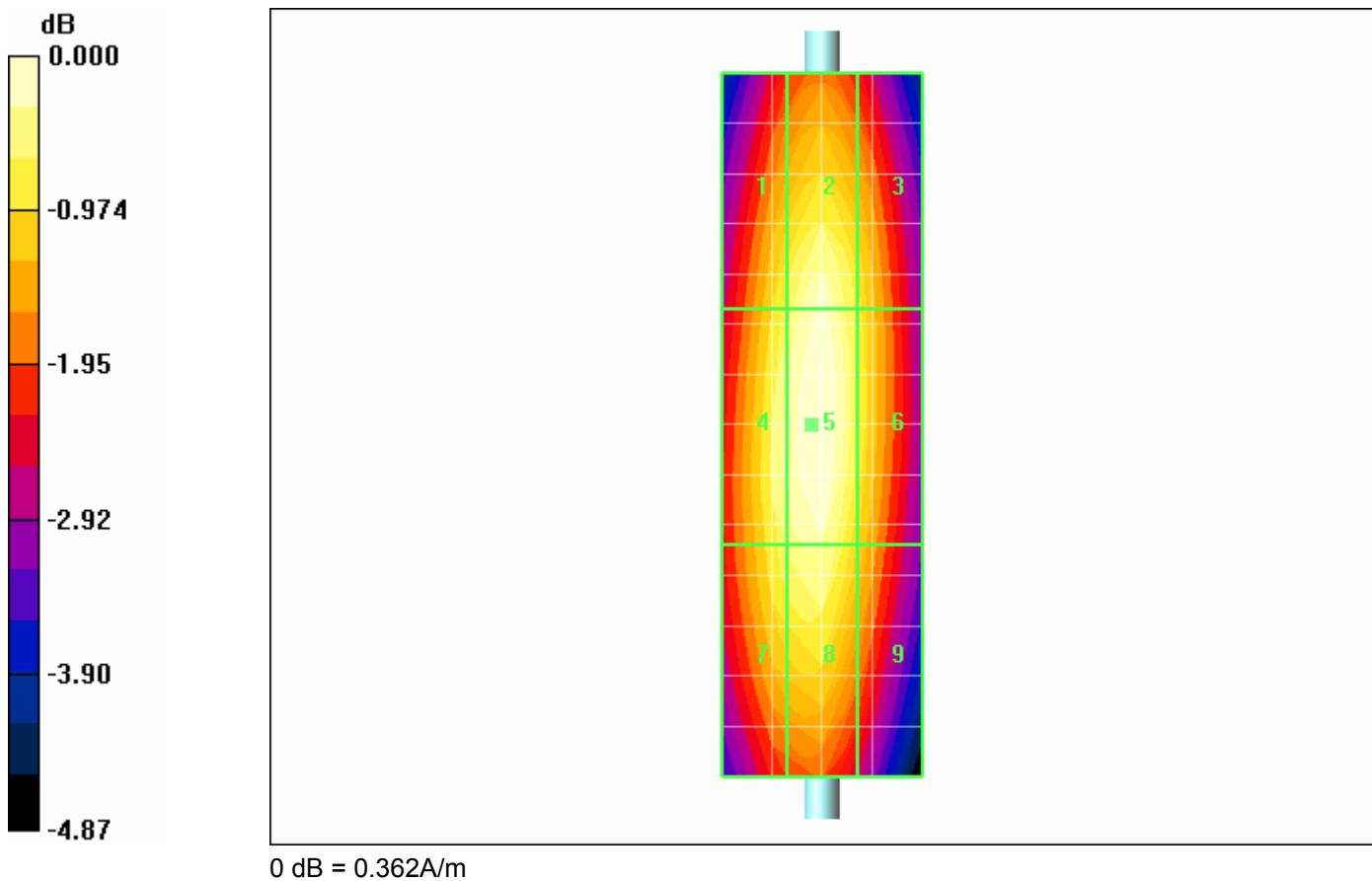
Reference Value = 0.381 A/m; Power Drift = 0.047 dB

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

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Peak H-field in A/m

Grid	Grid	Grid
0.340	0.354	0.334
Grid	Grid	Grid
0.352	0.362	0.337
Grid	Grid	Grid
0.343	0.350	0.323



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 2:37:02 PM

Test Laboratory: RTS

HAC_H_CDMA_835MHz_18_33dBm

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

Communication System: CDMA 800; Frequency: 835 MHz; Duty Cycle: 1:1

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(5x15x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.376 A/m; Power Drift = -0.040 dB

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

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(41x141x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.351 A/m

Probe Modulation Factor = 1.00

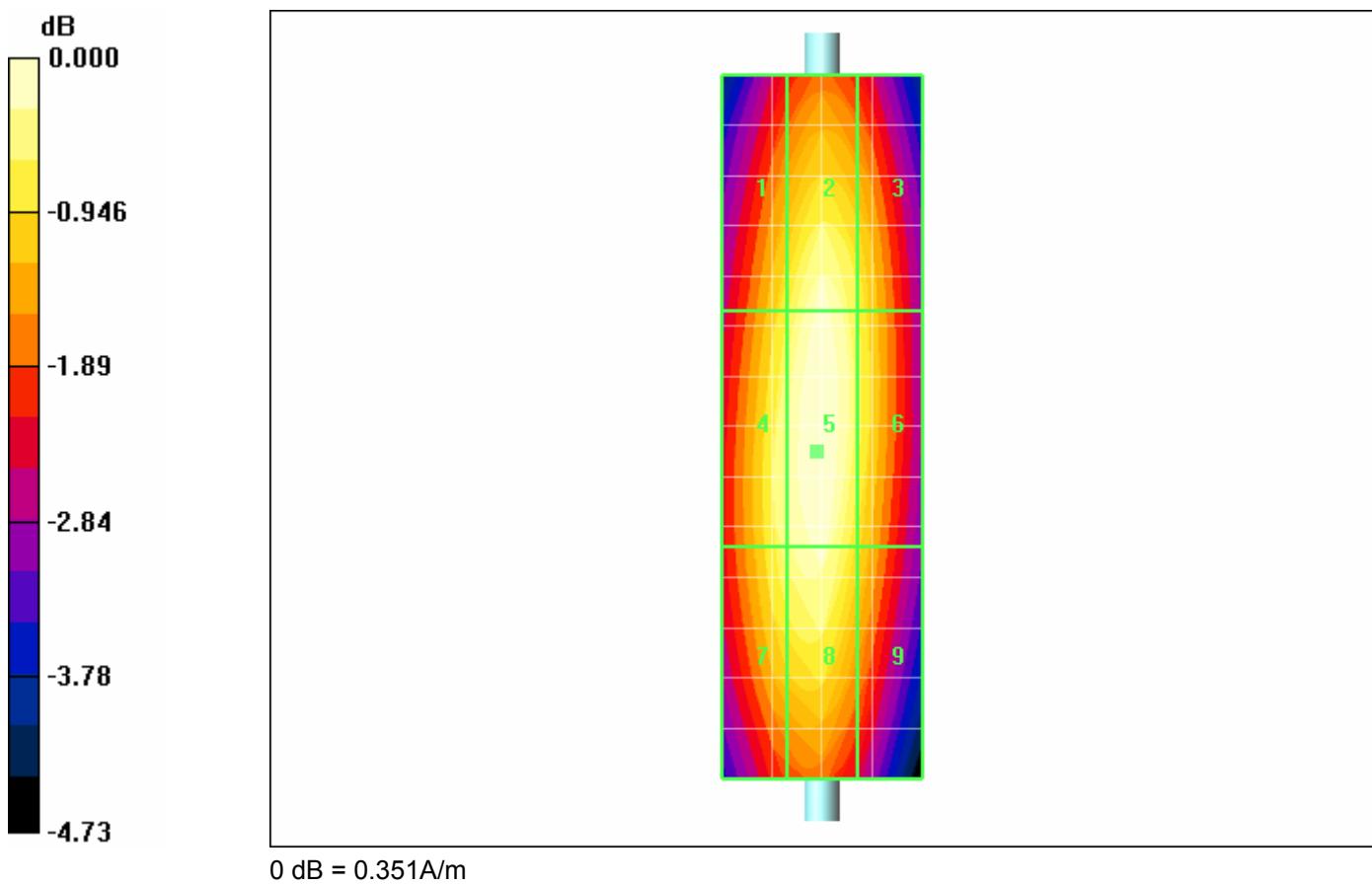
Reference Value = 0.376 A/m; Power Drift = -0.040 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak H-field in A/m

Grid	Grid	Grid
0.326	0.344	0.328
Grid	Grid	Grid
0.340	0.351	0.331
Grid	Grid	Grid
0.336	0.344	0.319



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW		
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 2:47:00 PM

Test Laboratory: RTS

HAC_H_835MHz_80%am_18_33dBm

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

Communication System: 80% AM; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $\sigma = 0 \text{ mho/m}$, $\epsilon_r = 1$; $\rho = 1 \text{ kg/m}^3$

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(5x15x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.221 A/m; Power Drift = 0.012 dB

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

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(41x141x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.207 A/m

Probe Modulation Factor = 1.00

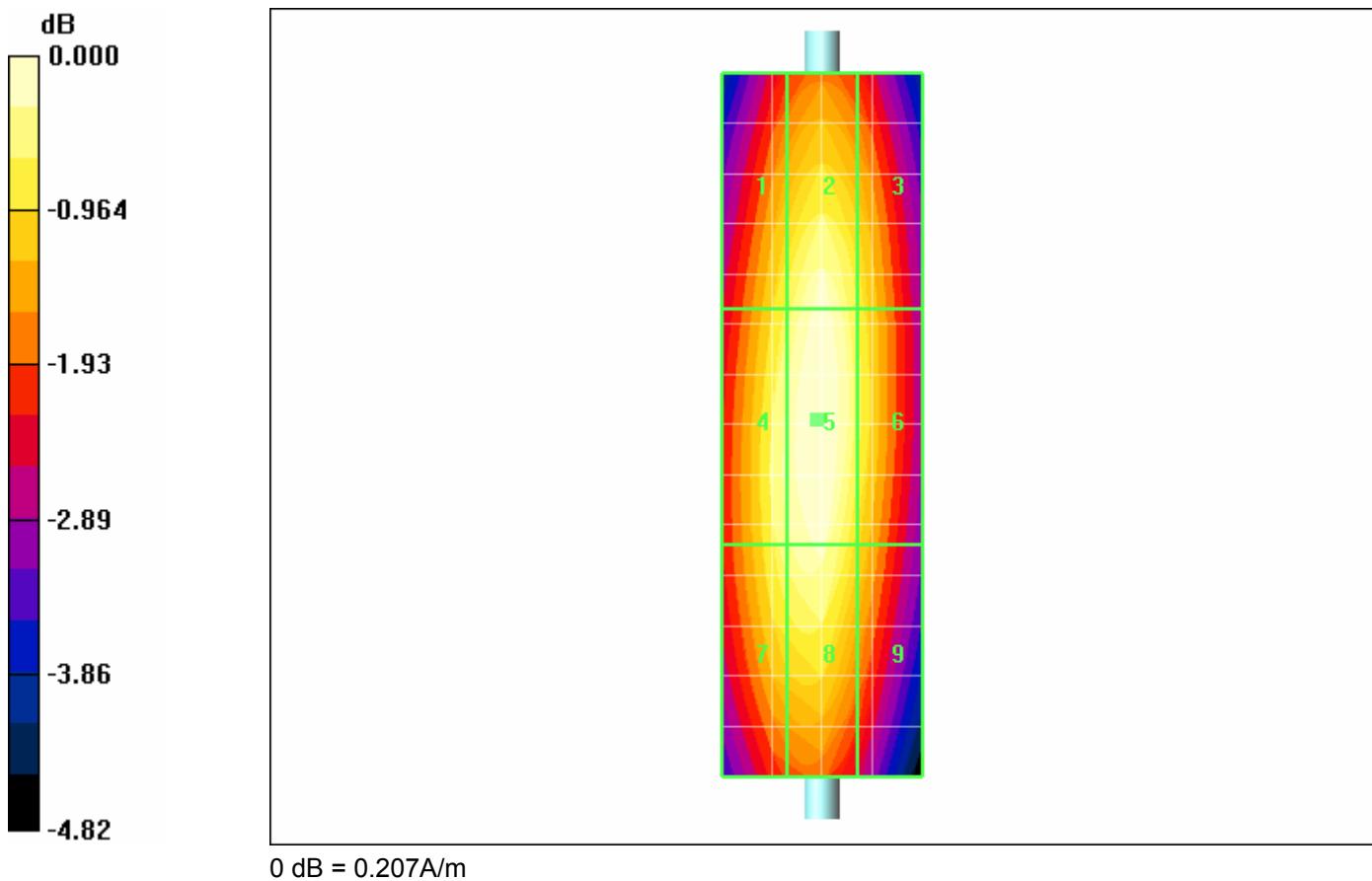
Reference Value = 0.221 A/m; Power Drift = 0.012 dB

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

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Peak H-field in A/m

Grid	Grid	Grid
0.194	0.203	0.192
Grid	Grid	Grid
0.202	0.207	0.195
Grid	Grid	Grid
0.198	0.202	0.187



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW		
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 22/08/2007 9:51:03 AM

Test Laboratory: RTS

HAC_H_835MHz_CW_20_67dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (5x15x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.500 A/m; Power Drift = 0.006 dB

Maximum value of Total (measured) = 0.469 A/m

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test (41x141x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.473 A/m

Probe Modulation Factor = 1.00

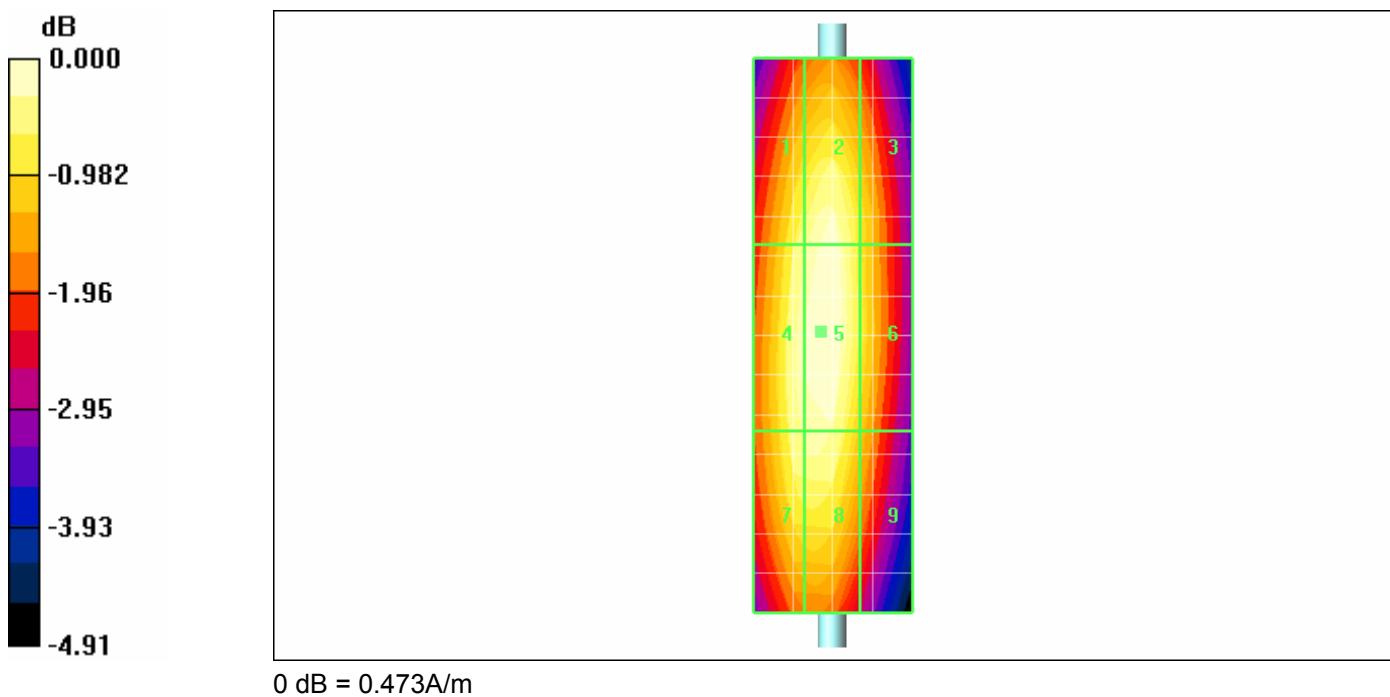
Reference Value = 0.500 A/m; Power Drift = 0.006 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak H-field in A/m

Grid	Grid	Grid
0.454	0.466	0.431
Grid	Grid	Grid
0.467	0.473	0.436
Grid	Grid	Grid
0.459	0.461	0.417



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW	Page 46(69)
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Date/Time: 21/08/2007 2:32:04 PM

Test Laboratory: RTS

HAC_H_CDMA_835MHz_eighth_20_67dBm

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

Communication System: CDMA 800; Frequency: 835 MHz; Duty Cycle: 1:8

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(5x15x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.171 A/m; Power Drift = -0.017 dB

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

H Scan - H3DV5 probe center 10mm above CD835 Dipole/Hearing Aid Compatibility Test

(41x141x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.175 A/m

Probe Modulation Factor = 1.00

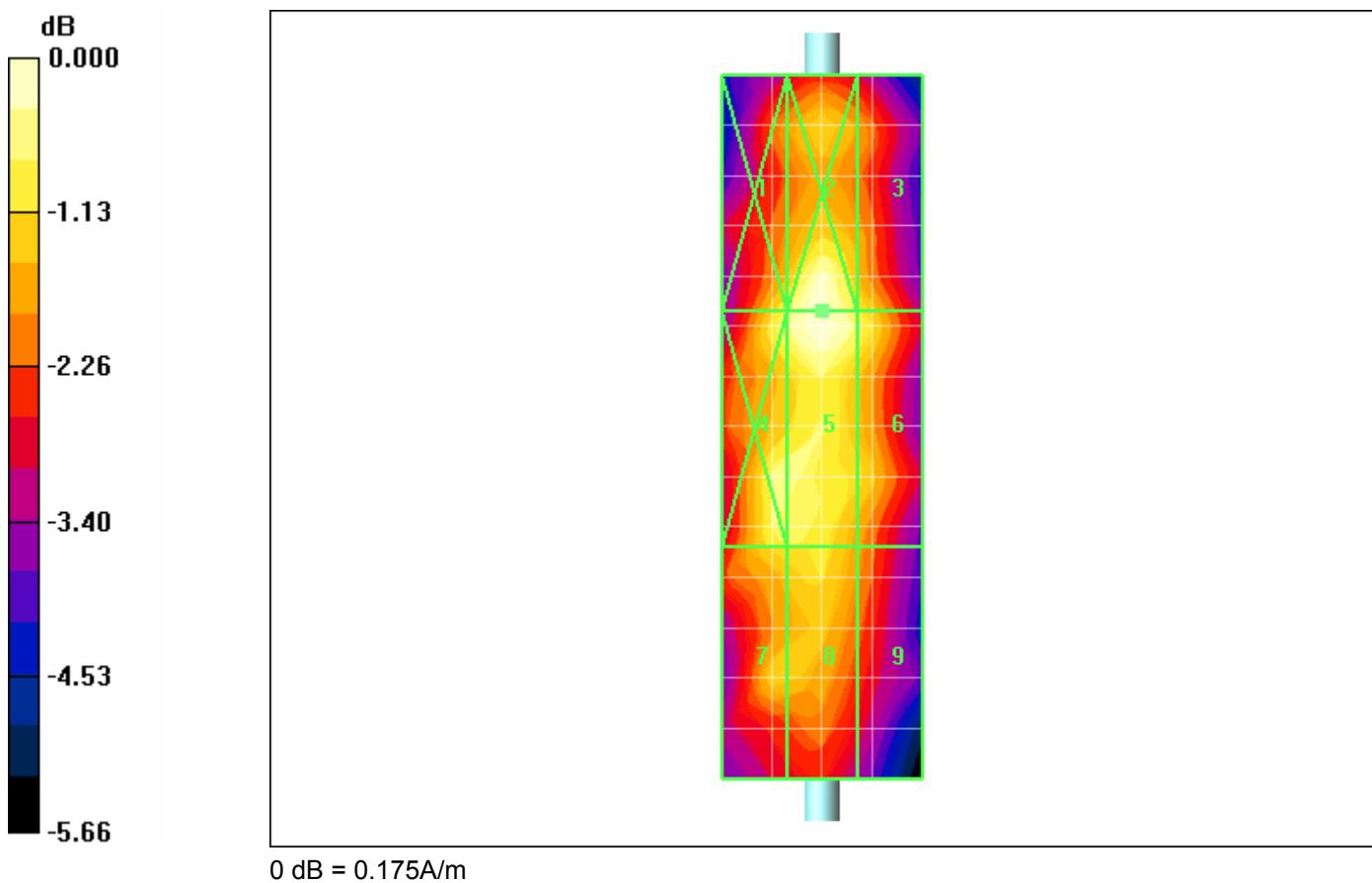
Reference Value = 0.171 A/m; Power Drift = -0.017 dB

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

RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW	Page 47(69)
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak H-field in A/m

Grid	Grid	Grid
0.163	0.175	0.162
Grid	Grid	Grid
0.168	0.175	0.164
Grid	Grid	Grid
0.159	0.160	0.144



RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW	Page 48(69)
Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Date/Time: 22/08/2007 10:15:36 AM

Test Laboratory: RTS

HAC_H_1880MHz_CW_20dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.515 A/m; Power Drift = 0.005 dB

Maximum value of Total (measured) = 0.485 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.489 A/m

Probe Modulation Factor = 1.00

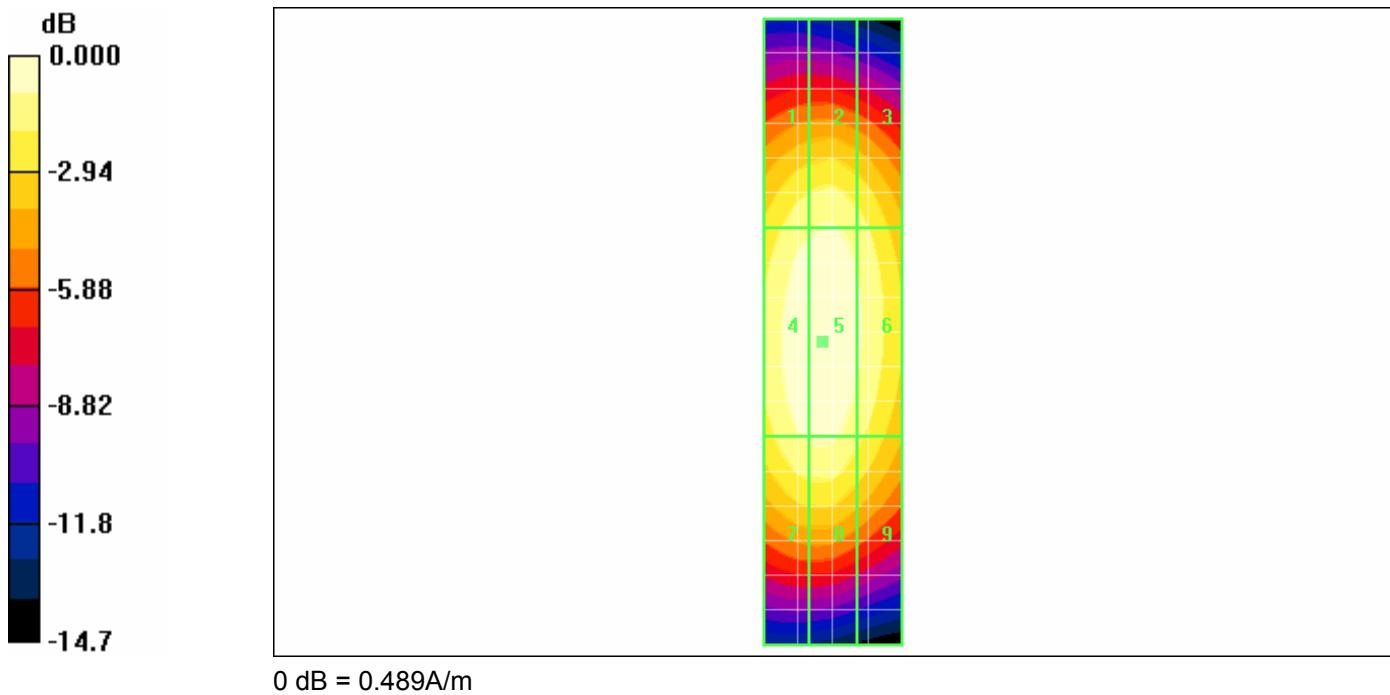
Reference Value = 0.515 A/m; Power Drift = 0.005 dB

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

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1

Peak H-field in A/m

Grid	Grid	Grid
0.432	0.444	0.412
Grid	Grid	Grid
0.482	0.489	0.449
Grid	Grid	Grid
0.444	0.449	0.404



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Date/Time: 22/08/2007 10:02:00 AM

Test Laboratory: RTS

HAC_H_1880MHz_CW_17_0dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.353 A/m; Power Drift = -0.007 dB

Maximum value of Total (measured) = 0.333 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.336 A/m

Probe Modulation Factor = 1.00

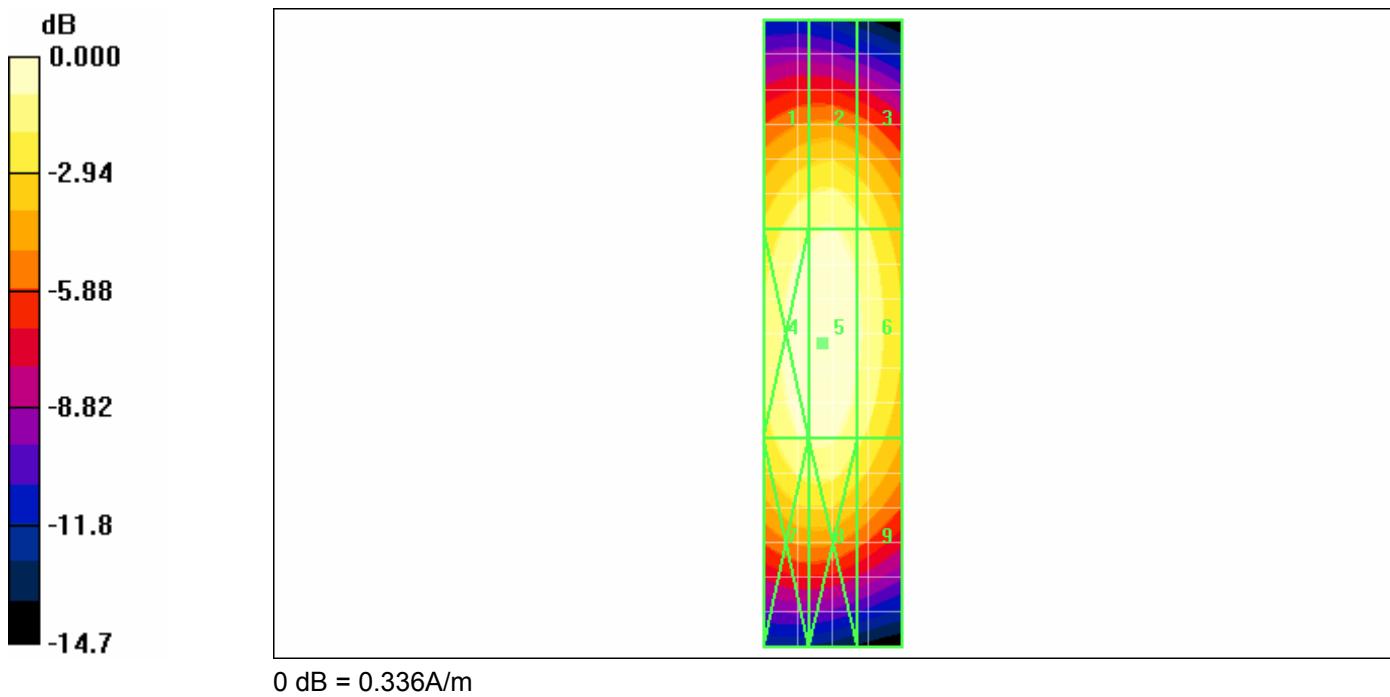
Reference Value = 0.353 A/m; Power Drift = -0.007 dB

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

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Peak H-field in A/m

Grid	Grid	Grid
0.296	0.304	0.283
Grid	Grid	Grid
0.331	0.336	0.308
Grid	Grid	Grid
0.305	0.308	0.277



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 21/08/2007 3:16:56 PM

Test Laboratory: RTS

HAC_H_CDMA1880MHz_FullRate_17dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.346 A/m; Power Drift = -0.172 dB

Maximum value of Total (measured) = 0.321 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.322 A/m

Probe Modulation Factor = 1.00

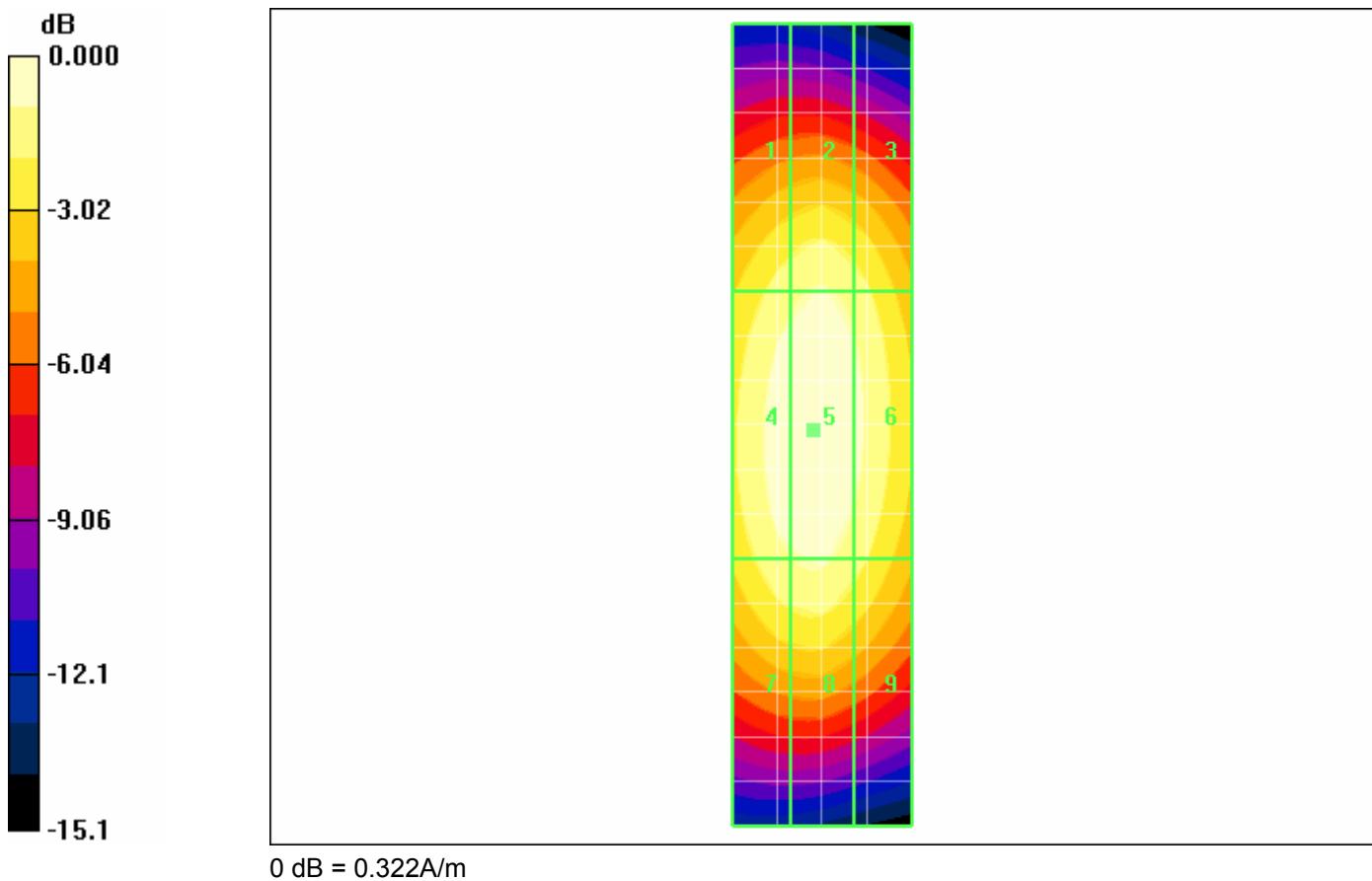
Reference Value = 0.346 A/m; Power Drift = -0.172 dB

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

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Peak H-field in A/m

Grid	Grid	Grid
0.277	0.291	0.273
Grid	Grid	Grid
0.312	0.322	0.299
Grid	Grid	Grid
0.287	0.293	0.270



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 22/08/2007 10:11:34 AM

Test Laboratory: RTS

HAC_H_1880MHz_80%AM_17_0dBm

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

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

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

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.226 A/m; Power Drift = 0.031 dB

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

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.215 A/m

Probe Modulation Factor = 1.00

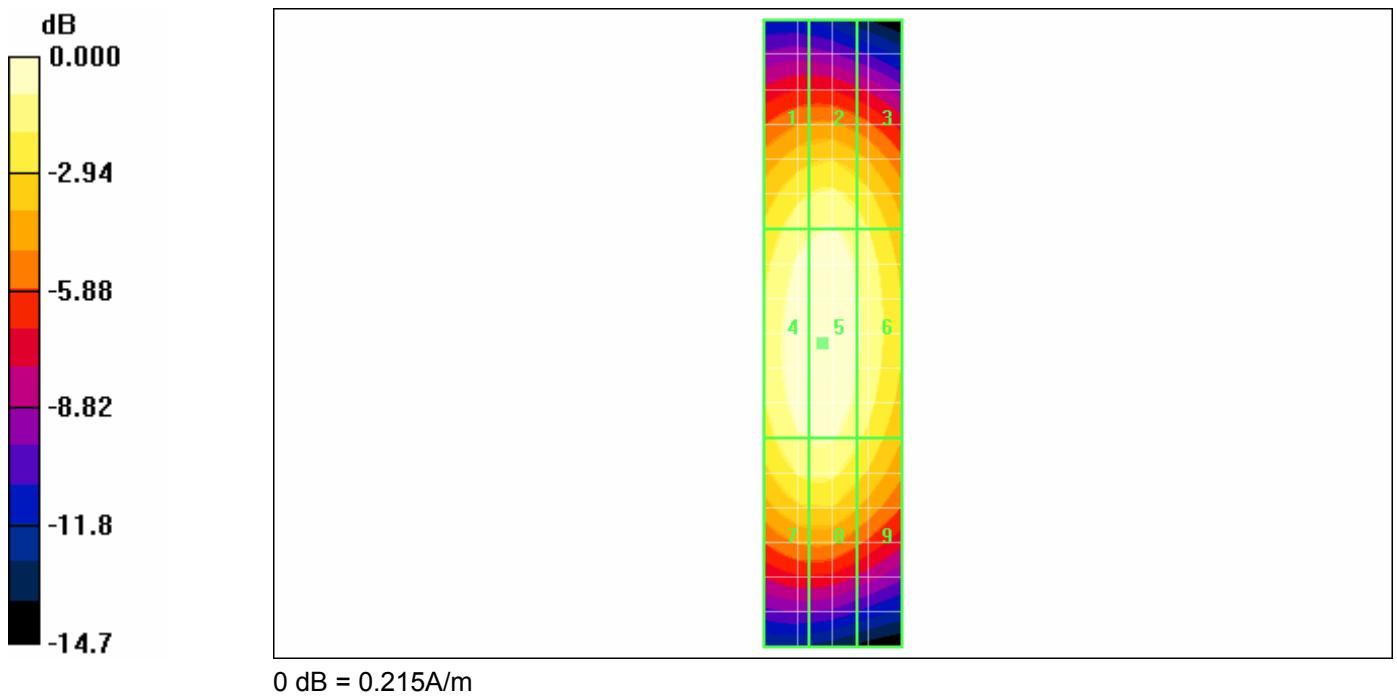
Reference Value = 0.226 A/m; Power Drift = 0.031 dB

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

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Peak H-field in A/m

Grid	Grid	Grid
0.189	0.195	0.181
Grid	Grid	Grid
0.211	0.215	0.196
Grid	Grid	Grid
0.194	0.196	0.176



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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1	FCC ID L6ARBS20CW

Date/Time: 22/08/2007 10:06:56 AM

Test Laboratory: RTS

HAC_H_1880MHz_CW_17_67dBm

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

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

Medium parameters used: $\sigma = 0 \text{ mho/m}$, $\epsilon_r = 1$; $\rho = 1 \text{ kg/m}^3$

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.371 A/m; Power Drift = -0.036 dB

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

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.350 A/m

Probe Modulation Factor = 1.00

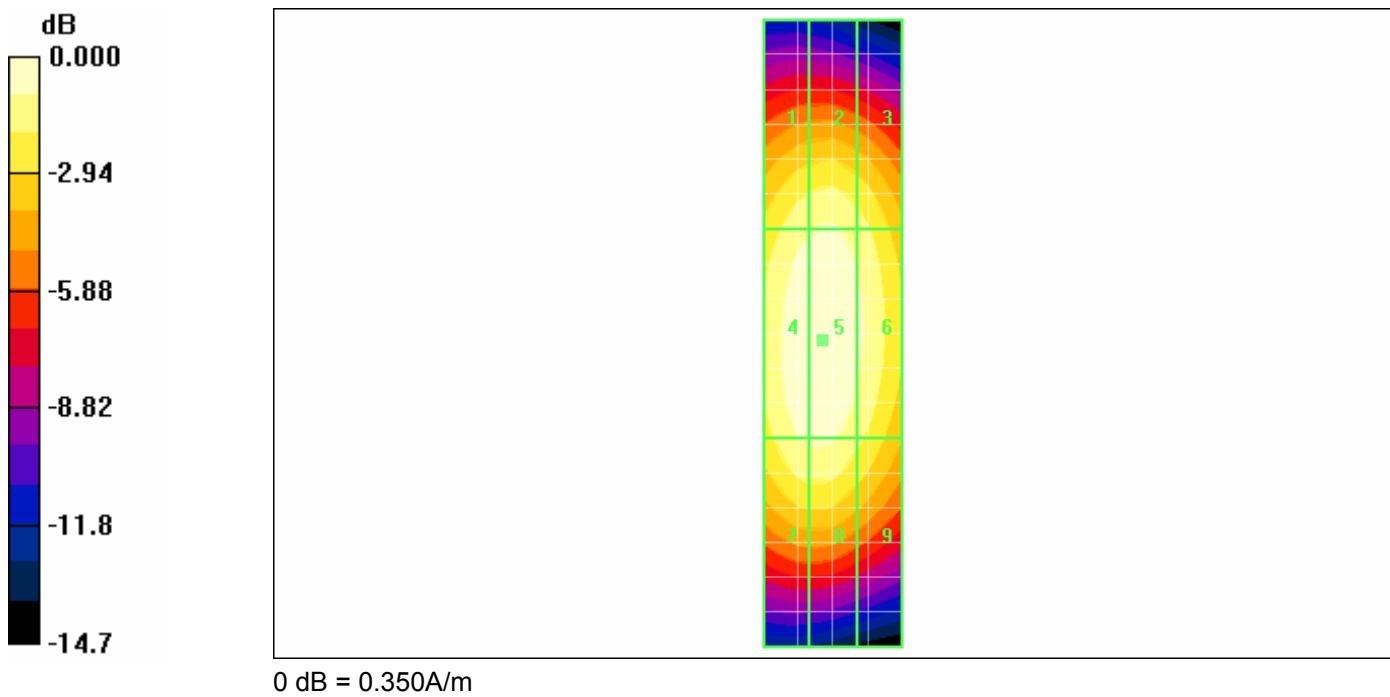
Reference Value = 0.371 A/m; Power Drift = -0.036 dB

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

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Peak H-field in A/m

Grid	Grid	Grid
0.310	0.318	0.297
Grid	Grid	Grid
0.345	0.350	0.323
Grid	Grid	Grid
0.319	0.321	0.289



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Date/Time: 21/08/2007 3:25:32 PM

Test Laboratory: RTS

HAC_H_CDMA1880MHz_eighth_17_83dBm

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

Communication System: CDMA 1900; Frequency: 1880 MHz; Duty Cycle: 1:8

Medium parameters used: $\sigma = 0 \text{ mho/m}$, $\epsilon_r = 1$; $\rho = 1 \text{ kg/m}^3$

Phantom section: E Device Section

DASY4 Configuration:

- Probe: H3DV6 - SN6105; ; Calibrated: 15/11/2006
- Sensor-Surface: 0mm (Fix Surface)Sensor-Surface: (Fix Surface)
- Electronics: DAE3 Sn472; Calibrated: 07/03/2007
- Phantom: HAC Test Arch; Type: SD HAC P01 BA;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (5x19x1): Measurement grid: dx=5mm, dy=5mm

Probe Modulation Factor = 1.00

Reference Value = 0.147 A/m; Power Drift = -0.187 dB

Maximum value of Total (measured) = 0.145 A/m

H Scan - H3DV5 probe center 10mm above CD1880 Dipole/Hearing Aid Compatibility Test (41x181x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of peak Total field = 0.145 A/m

Probe Modulation Factor = 1.00

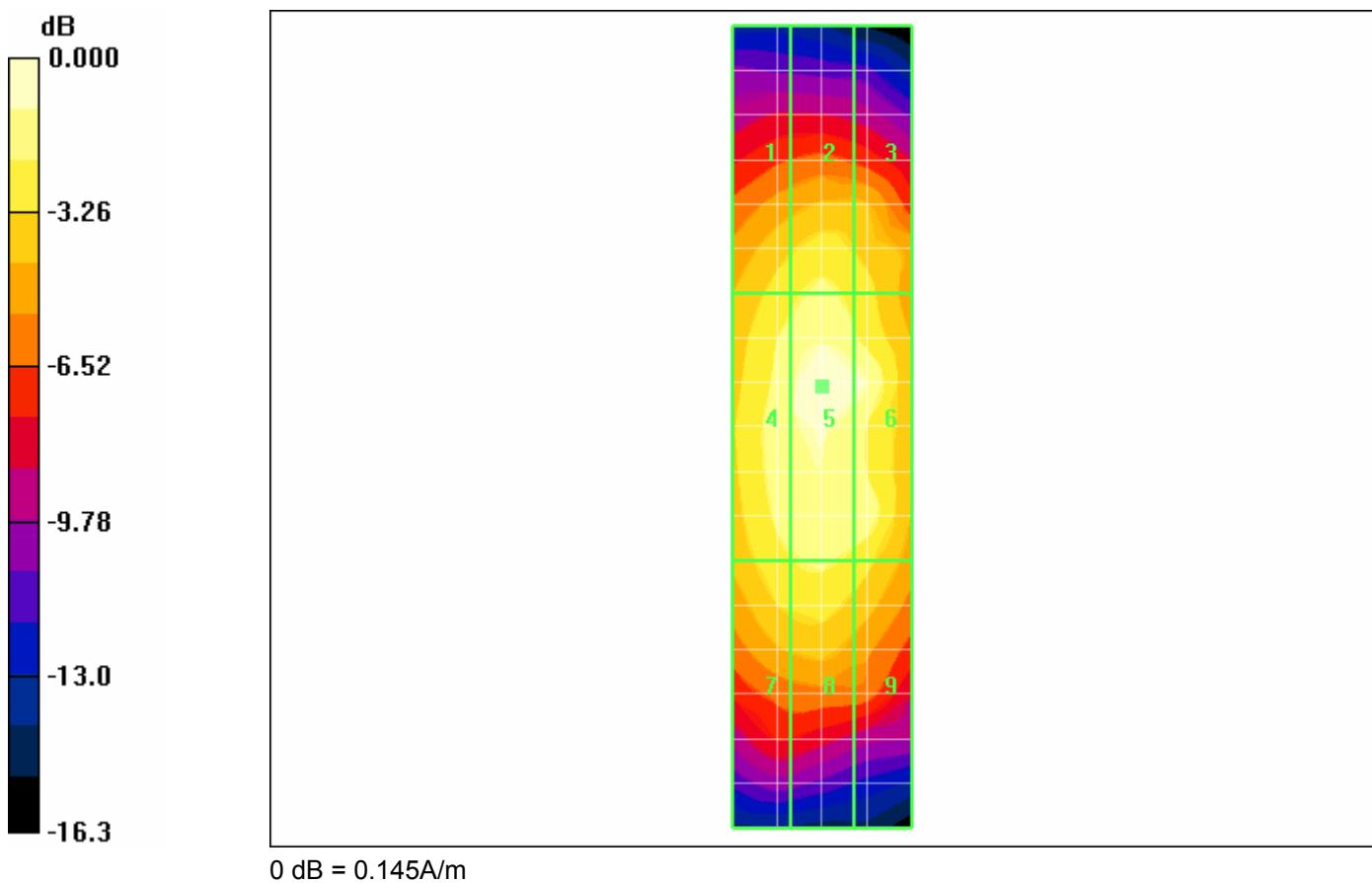
Reference Value = 0.147 A/m; Power Drift = -0.187 dB

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

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Peak H-field in A/m

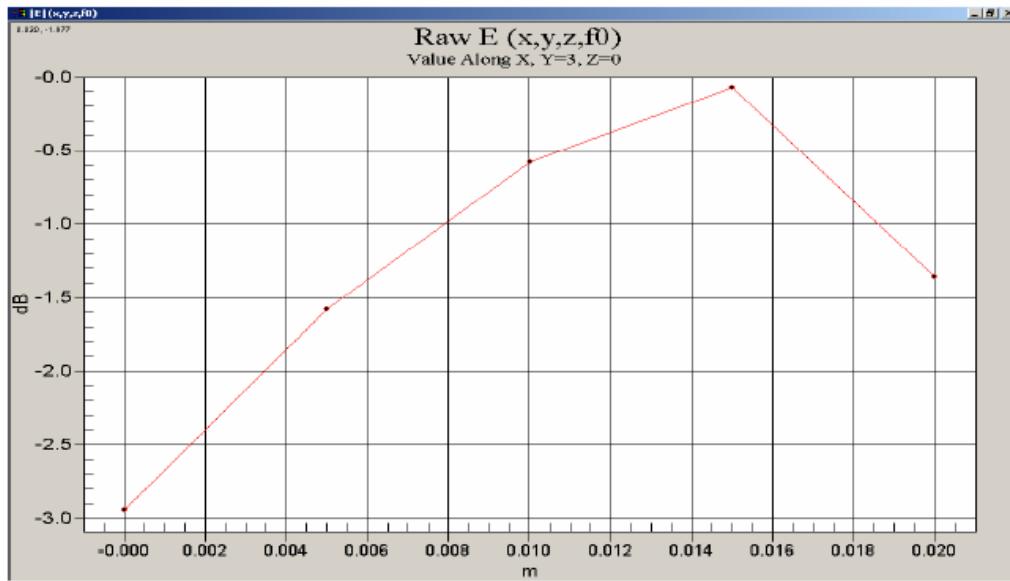
Grid	Grid	Grid
0.110	0.117	0.109
Grid	Grid	Grid
0.126	0.145	0.136
Grid	Grid	Grid
0.113	0.116	0.109



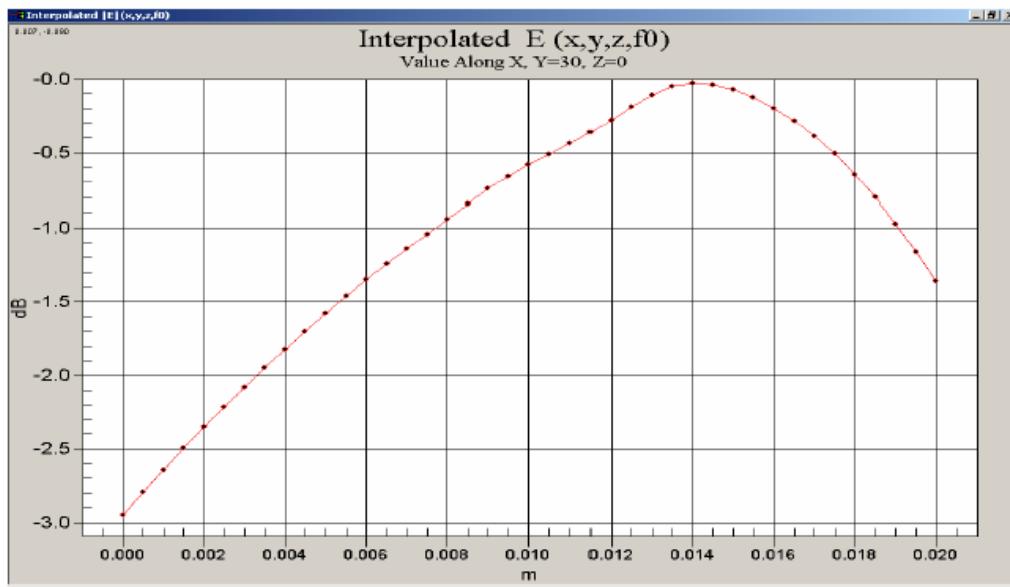
RTS RIM Testing Services	Document Annex A to Hearing Aid Compatibility RF Emissions Test Report for BlackBerry® Smartphone Model RBS21CW		
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Justification of Step Size and Interpolation

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

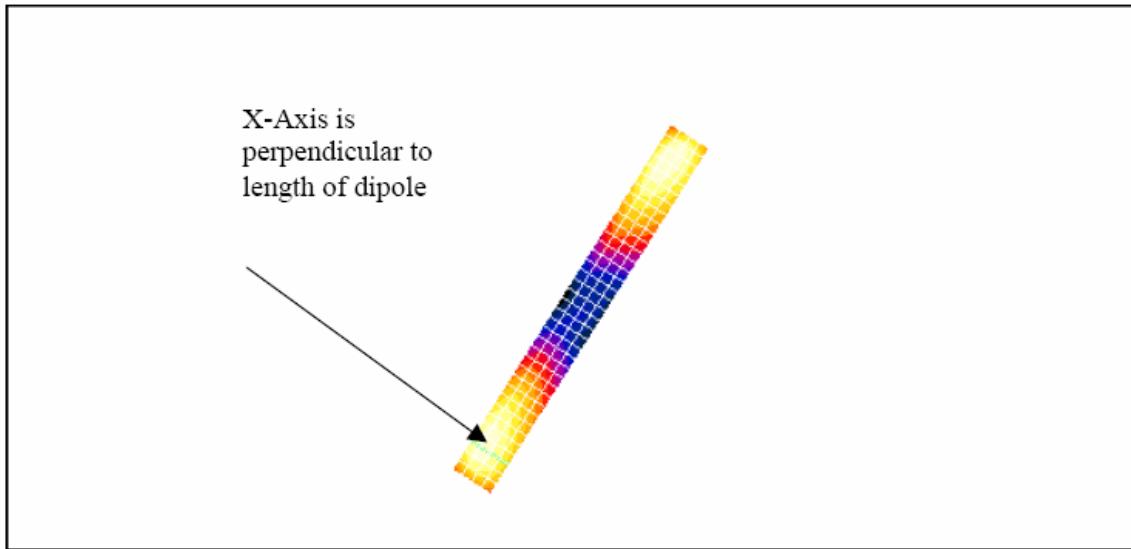


The figure above shows the raw measured field strength perpendicular to the length of the validation dipole. The TCB guidance slides require the 3dB width to be much larger than the step size. The width between -3dB points is > 21mm, at least 4 times the step size.



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

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

Comparison of 5mm and 2mm step sizes

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

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

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

Phantom section: H Device Section

DASY4 Configuration:

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

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):

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

Maximum value of Total (measured) = 134.8 V/m

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of Total field (slot averaged) = 131.0 V/m

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

E in V/m (Time averaged) E in V/m (Slot averaged)

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

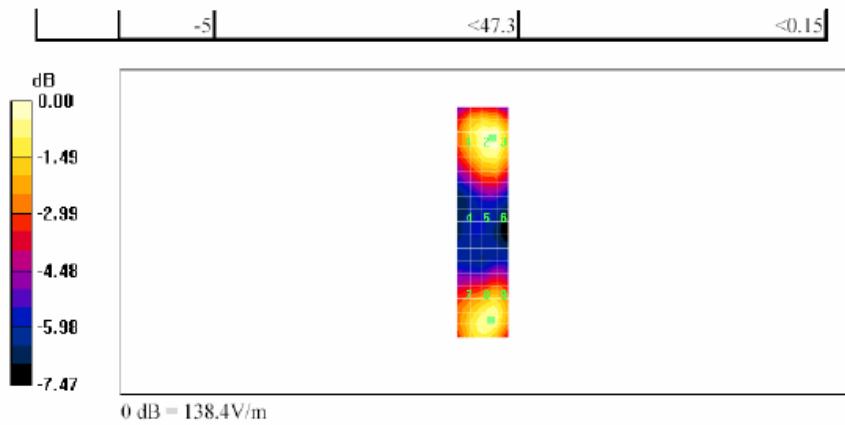
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

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

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_2mm step_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

Phantom section: H Device Section

DASY4 Configuration:

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

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total (measured) = 138.0 V/m

E Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total field (slot averaged) = 131.2 V/m

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

E in V/m (Time averaged) E in V/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
123.1	138.6	138.6	123.1	138.6	138.6
81.4	92.1	91.6	81.4	92.1	91.6
121.3	131.2	131.0	121.3	131.2	131.0

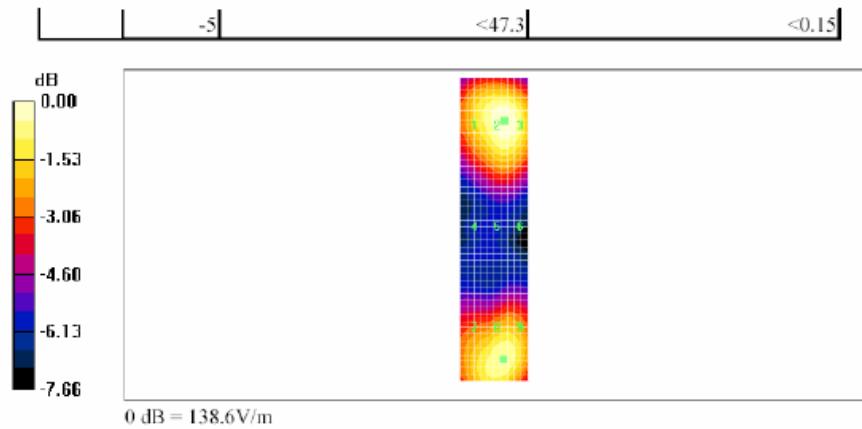
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

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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, $\epsilon_r = 1$; $\rho = 1$ kg/m³

Phantom section: H Dipole Section

DASY4 Configuration:

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

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (5x19x1):

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

Maximum value of Total (measured) = 0.406 A/m

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (41x181x1):

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

Maximum value of Total field (slot averaged) = 0.406 A/m

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

H in A/m (Time averaged) H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
0.342	0.359	0.344	0.342	0.359	0.344
0.389	0.406	0.389	0.389	0.406	0.389
0.363	0.378	0.363	0.363	0.378	0.363

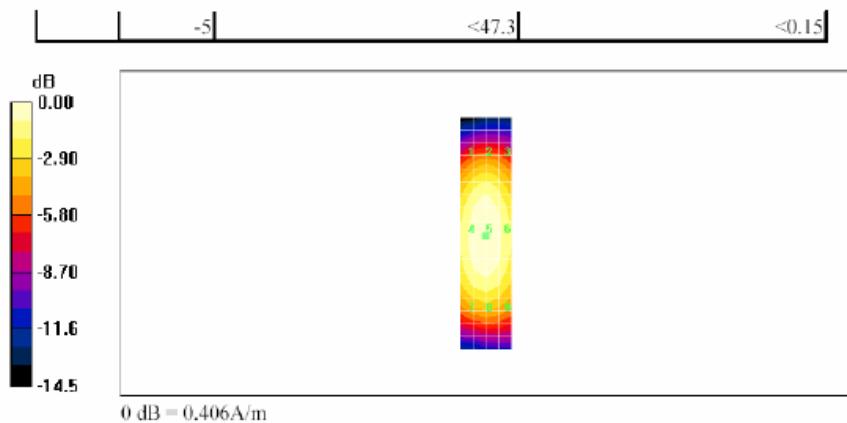
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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

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Lab: RIM Testing Services (RTS)

HAC_H_Dipole_CW 1880_2 mm step_07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

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

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

Phantom section: H Dipole Section

DASY4 Configuration:

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

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (11x46x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total (measured) = 0.406 A/m

H Scan 10mm above CD 1880 MHz/Hearing Aid Compatibility Test (101x451x1):

Measurement grid: dx=2mm, dy=2mm

Maximum value of Total field (slot averaged) = 0.406 A/m

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

H in A/m (Time averaged) H in A/m (Slot averaged)

Grid 1	Grid 2	Grid 3	Grid 1	Grid 2	Grid 3
0.347	0.361	0.348	0.347	0.361	0.348
0.394	0.406	0.391	0.394	0.406	0.391
0.367	0.380	0.365	0.367	0.380	0.365

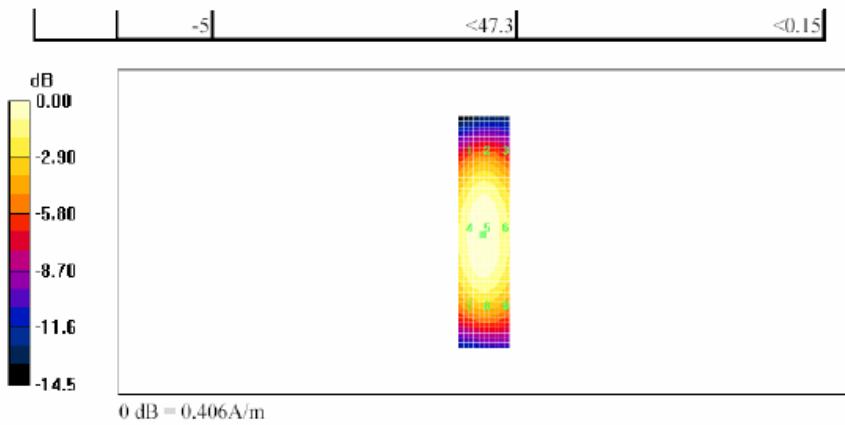
Category	AWF (dB)	Limits for E-Field Emissions (V/m)	Limits for H-Field Emissions (A/m)
M1	0	199.5 - 354.8	0.6 - 1.07
	-5	149.6 - 266.1	0.45 - 0.8
M2	0	112.2 - 199.5	0.34 - 0.6
	-5	84.1 - 149.6	0.25 - 0.45
M3	0	63.1 - 112.2	0.19 - 0.34
	-5	47.3 - 84.1	0.15 - 0.25
M4	0	<63.1	<0.19

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Author Data Daoud Attayi	Dates of Test 21-22 Aug , 2007	Report No RTS-0736-0708-15 Rev1 FCC ID L6ARBS20CW

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