Annex A: Measurement data and plots

A.1 MIF validation plots

Test Laboratory: RIM Testing Services

MIF_measurements

DUT: BlackBerry Smartphone

Communication System: UID 0 - n/a
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: TCoil Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA; DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/MIF Measurements/MIF_AM80%_1KHz_Measurement

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-1.31 dB		0.00 dB	Power OK
PMF	3.78 dB	1.545	0.00 dB	Power OK
Detector Level	0.21 dBm		0.00 dB	Power OK
RFAIP	-1.10 dBm		0.00 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_AM10%_1KHz_Measurement

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-9.33 dB		0.00 dB	Power OK
PMF	0.76 dB	1.092	0.00 dB	Power OK
Detector Level	0.51 dBm		0.00 dB	Power OK

RFAIP	-8.83 dBm		0.00 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_AM1%_1KHz_Measurement

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-19.30 dB		0.00 dB	Power OK
PMF	0.08 dB	1.010	0.00 dB	Power OK
Detector Level	0.48 dBm		0.00 dB	Power OK
RFAIP	-18.82 dBm		0.00 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_GSM_Measurement

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	3.46 dB		0.00 dB	Power OK
PMF	9.81 dB	3.093	0.01 dB	Power OK
Detector Level	-2.01 dBm		0.00 dB	Power OK
RFAIP	1.45 dBm		0.01 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_WCDMA_Voice_AMR12_2kps_Measurement

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-15.38 dB		0.05 dB	Power OK
PMF	0.09 dB	1.010	0.00 dB	Power OK
Detector Level	6.96 dBm		0.00 dB	Power OK
RFAIP	-8.42 dBm		0.06 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_WCDMA_voice_AMR4_75kps_Measurement

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-14.47 dB		0.13 dB	Power OK

PMF	0.09 dB	1.011	0.01 dB	Power OK
Detector Level	6.94 dBm		0.03 dB	Power OK
RFAIP	-7.53 dBm		0.15 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_WCDMA_RMC_Measurement 2

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-25.43 dB		0.21 dB	Power OK
PMF	0.07 dB	1.009	0.01 dB	Power OK
Detector Level	6.99 dBm		0.00 dB	Power OK
RFAIP	-18.43 dBm		0.21 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_CDMA FR_Speech_Service_SO3_RC3_Measurement

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-19.71 dB		0.34 dB	Power OK
PMF	0.32 dB	1.037	0.03 dB	Power OK
Detector Level	6.74 dBm		0.03 dB	Power OK
RFAIP	-12.97 dBm		0.38 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_CDMA_1_8th_Speech_Service_SO3_RC1_mute

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	2.76 dB		0.69 dB	Power OK
PMF	9.07 dB	2.840	0.72 dB	Power OK
Detector Level	-1.75 dBm		1.13 dB	Power OK
RFAIP	1.01 dBm		1.83 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11b_Rate_1Mbps

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-12.67 dB		0.03 dB	Power OK
PMF	0.41 dB	1.049	0.02 dB	Power OK
Detector Level	1.45 dBm		0.01 dB	Power OK
RFAIP	-11.22 dBm		0.03 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11b_Rate_2Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-12.01 dB		0.02 dB	Power OK
PMF	0.47 dB	1.055	0.01 dB	Power OK
Detector Level	1.32 dBm		0.01 dB	Power OK
RFAIP	-10.69 dBm		0.03 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11b_Rate_5.5Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-9.59 dB		0.03 dB	Power OK
PMF	0.64 dB	1.077	0.02 dB	Power OK
Detector Level	1.22 dBm		0.00 dB	Power OK
RFAIP	-8.37 dBm		0.03 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11b_Rate_11Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-8.79 dB		0.00 dB	Power OK
PMF	0.77 dB	1.092	0.02 dB	Power OK
Detector Level	1.15 dBm		0.02 dB	Power OK
RFAIP	-7.64 dBm		0.02 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11g_Rate_6Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-10.32 dB		0.03 dB	Power OK
PMF	0.85 dB	1.103	0.03 dB	Power OK
Detector Level	1.39 dBm		0.09 dB	Power OK
RFAIP	-8.94 dBm		0.12 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11g_Rate_9Mbps

Calibration Factors: 1.090, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-9.58 dB		0.02 dB	Power OK
PMF	0.95 dB	1.116	0.03 dB	Power OK
Detector Level	1.31 dBm		0.00 dB	Power OK
RFAIP	-8.27 dBm		0.02 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11g_Rate_18Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-8.34 dB		0.01 dB	Power OK
PMF	1.07 dB	1.130	0.03 dB	Power OK
Detector Level	5.96 dBm		0.00 dB	Power OK
RFAIP	-2.38 dBm		0.02 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11g_Rate_54Mbps

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-8.67 dB		0.02 dB	Power OK
PMF	1.96 dB	1.253	0.06 dB	Power OK
Detector Level	2.96 dBm		0.01 dB	Power OK
RFAIP	-5.70 dBm		0.04 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11a_Rate_6Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-10.44 dB		0.02 dB	Power OK
PMF	0.82 dB	1.099	0.02 dB	Power OK
Detector Level	1.28 dBm		0.01 dB	Power OK
RFAIP	-9.16 dBm		0.03 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11a_Rate_24Mbps

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-8.21 dB		0.03 dB	Power OK
PMF	1.36 dB	1.169	0.03 dB	Power OK
Detector Level	-0.37 dBm		0.02 dB	Power OK
RFAIP	-8.58 dBm		0.05 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11a_Rate_54Mbps

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-8.99 dB		0.01 dB	Power OK
PMF	1.83 dB	1.234	0.03 dB	Power OK
Detector Level	-2.09 dBm		0.01 dB	Power OK
RFAIP	-11.08 dBm		0.02 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11n_Rate_6.5Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-10.33 dB		0.01 dB	Power OK
PMF	0.93 dB	1.113	0.01 dB	Power OK
Detector Level	-1.38 dBm		0.01 dB	Power OK
RFAIP	-11.70 dBm		0.02 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11n_Rate_39Mbps

Calibration Factors: 1.090, 1.090; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-8.25 dB		0.01 dB	Power OK
PMF	1.45 dB	1.182	0.01 dB	Power OK
Detector Level	-4.27 dBm		0.01 dB	Power OK
RFAIP	-12.51 dBm		0.02 dB	(MIF+CF+Detector Level)

Configuration/MIF Measurements/MIF_802.11n_Rate_65Mbps

Calibration Factors: 1.089, 1.089; MIF Scale: 0.00 dB; Coupling Factor (CF): 0.00 dB

Quantity	Value [log]	[linear]	Fluctuation	Remark
MIF	-9.05 dB		0.01 dB	Power OK
PMF	1.86 dB	1.238	0.01 dB	Power OK
Detector Level	-5.76 dBm		0.01 dB	Power OK
RFAIP	-14.81 dBm		0.01 dB	(MIF+CF+Detector Level)

A.2 Dipole validation

Date/Time: 9/19/2013 6:43:59 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_validation_835MHz_09_19_13

DUT: HAC-Dipole 835 MHz; Type: CD835V3; Serial: 1089

Communication System: UID 0 - n/a, CW For MIF; Frequency: 835 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 9.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

CD835 Dipole E-Field measurement (E-field scan for ANSI C63.19-2011 compliance)/E Scan - measurement distance from the probe sensor center to CD835 = 15mm/Hearing Aid Compatibility Test at 15mm distance (41x361x1):

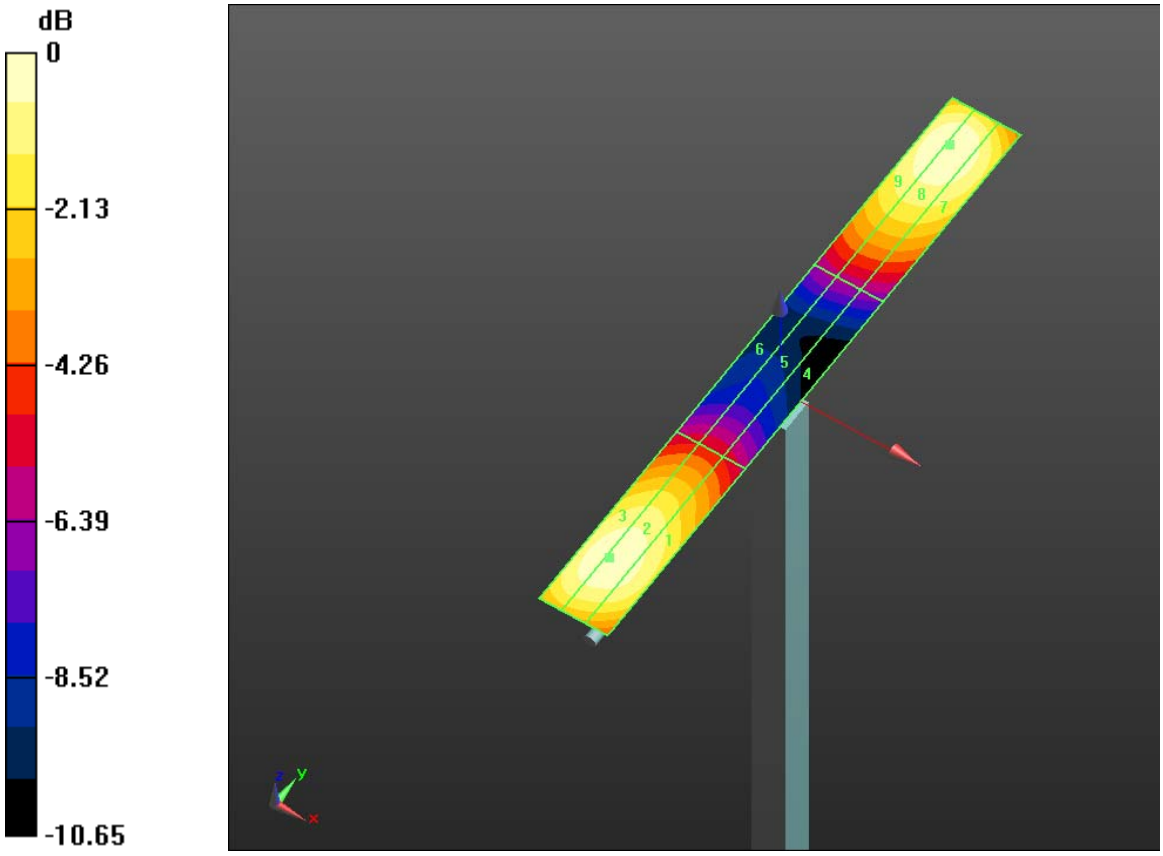
Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 106.5 V/m; Power Drift = 0.02 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 109.0 V/m
Near-field category: M4 (AWF 0 dB)

PMF scaled E-field

Grid 1 **M4** **103.5 V/m**	Grid 2 **M4** **106.9 V/m**	Grid 3 **M4** **106.8 V/m**
Grid 4 **M4** **61.00 V/m**	Grid 5 **M4** **62.16 V/m**	Grid 6 **M4** **61.29 V/m**

Grid 7 **M4**	Grid 8 **M4**	Grid 9 **M4**
104.1 V/m	**109.0 V/m**	**108.7 V/m**

Cursor:
Total = 109.0 V/m
E Category: M4
Location: -2.5, 78, 9.7 mm



0 dB = 109.0 V/m = 40.75 dBV/m

Date/Time: 9/19/2013 6:47:20 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_validation_1880MHz_09_19_13

DUT: HAC Dipole 1880 MHz; Type: CD1880V3; Serial: 1068

Communication System: UID 0 - n/a, CW For MIF; Frequency: 1880 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 9.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

CD1880 Dipole E-Field measurement (E-field scan for ANSI C63.19-2011 compliance)/E Scan - measurement distance from the probe sensor center to CD1880 = 15mm/Hearing Aid Compatibility Test at 15mm distance (41x181x1):

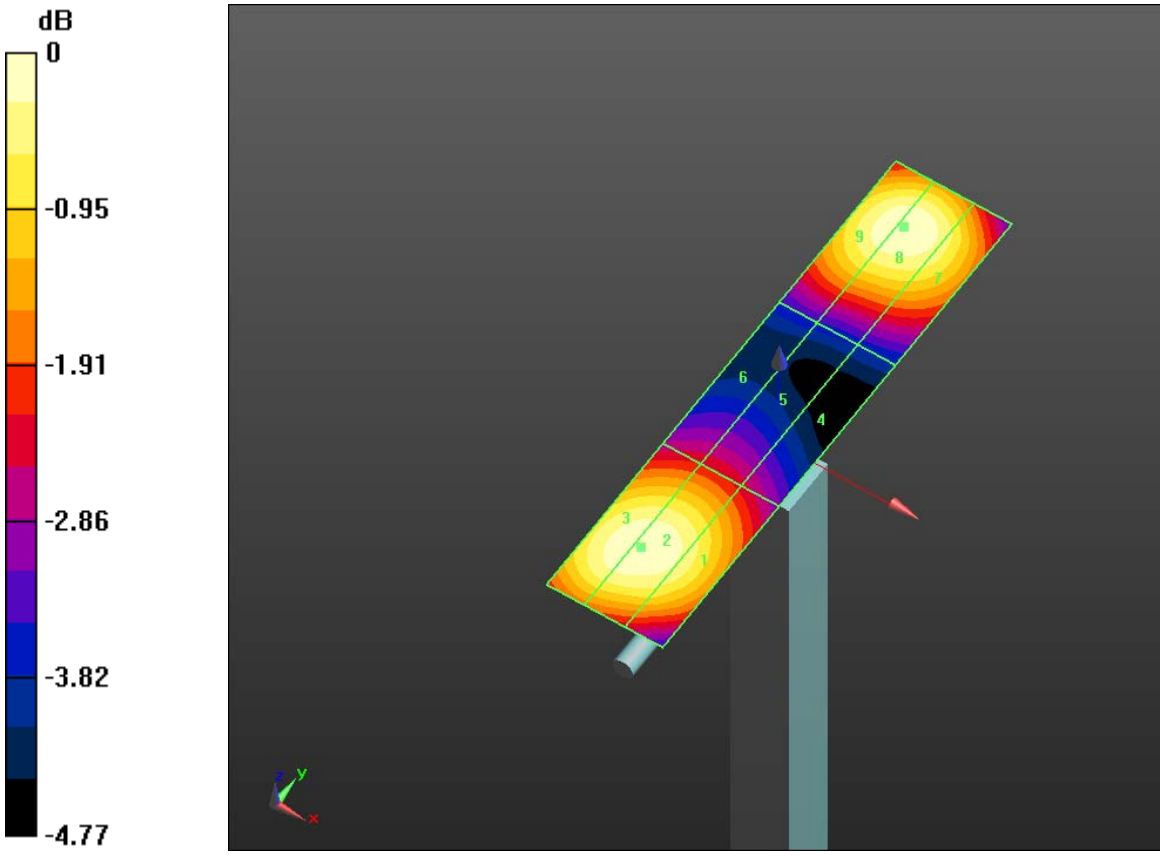
Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 143.6 V/m; Power Drift = -0.01 dB
PMR not calibrated. PMF = 1.000 is applied.
E-field emissions = 84.82 V/m
Near-field category: M3 (AWF 0 dB)

PMF scaled E-field

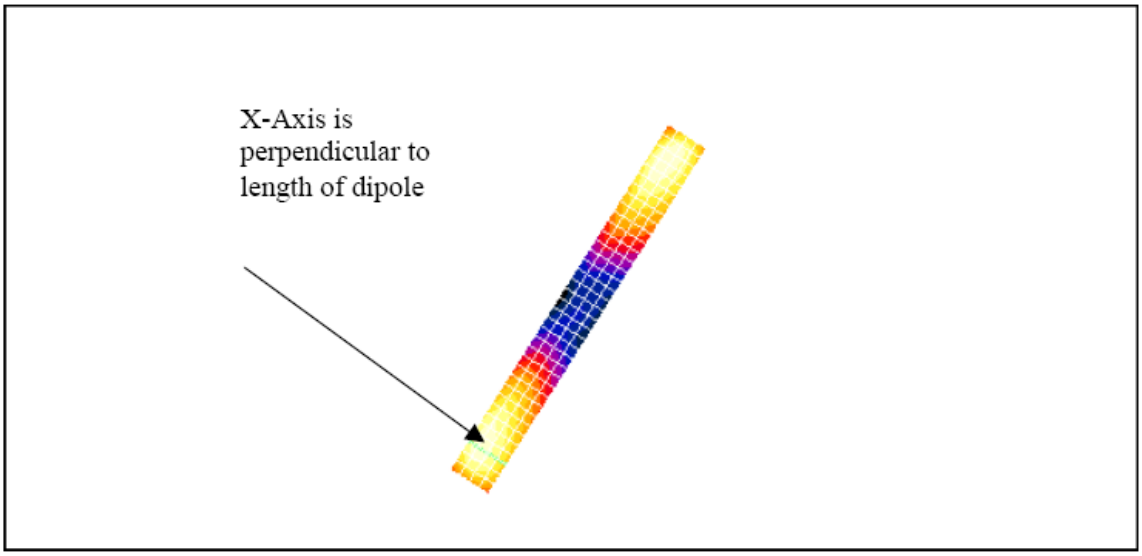
Grid 1 **M3** **81.51 V/m**	Grid 2 **M3** **84.82 V/m**	Grid 3 **M3** **84.69 V/m**
Grid 4 **M3** **64.62 V/m**	Grid 5 **M3** **66.01 V/m**	Grid 6 **M3** **65.64 V/m**
Grid 7 **M3**	Grid 8 **M3**	Grid 9 **M3**

80.77 V/m	**84.68 V/m**	**84.45 V/m**

Cursor:
Total = 84.82 V/m
E Category: M3
Location: -2.5, -32, 9.7 mm



0 dB = 84.82 V/m = 38.57 dBV/m



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

Comparison of 5mm and 2mm step sizes

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

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

Lab: RIM Testing Services (RTS)

Dipole Validation 1880 MHz_E-Field 07_14_05

DUT: HAC Dipole 1880 MHz; Type: CD1880V3

Communication System: CW; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Air Medium parameters used: $\sigma = 0$ mho/m, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: H Device Section

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

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

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

E in V/m (Time averaged)

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

E in V/m (Slot averaged)

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

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

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

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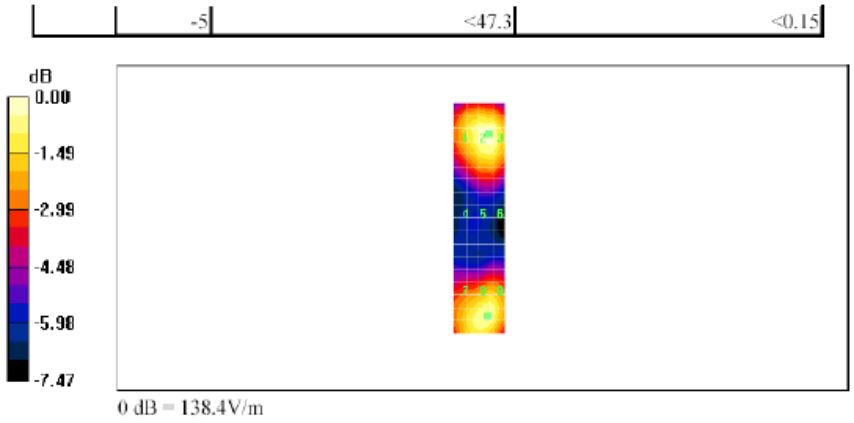

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Date/Time: 14/07/2005 11:44:51 AM

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, $\varepsilon_r = 1$; $\rho = 1000$ kg/m^3
Phantom section: H Device Section

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

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

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

E in V/m (Time averaged)

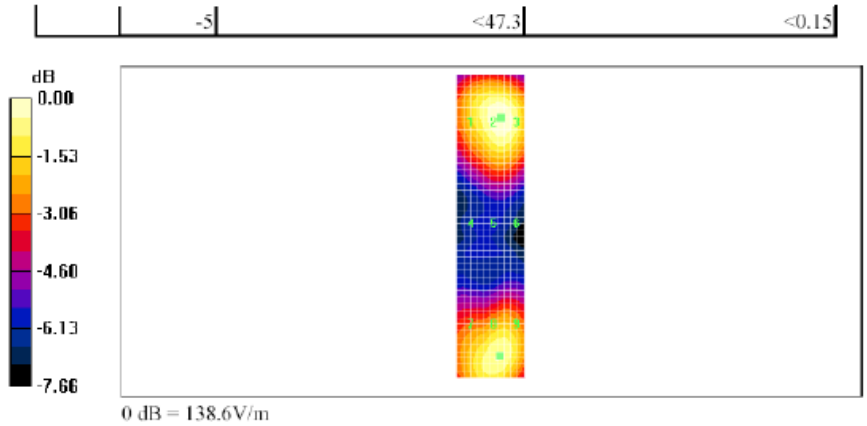
Grid 1	Grid 2	Grid 3
123.1	**138.6**	**138.6**
Grid 4	Grid 5	Grid 6
81.4	**92.1**	**91.6**
Grid 7	Grid 8	Grid 9
121.3	**131.2**	**131.0**

E in V/m (Slot averaged)

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

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

Date/Time: 14/07/2005 11:44:51 AM Page 2 of 2



0 dB = 138.6V/m

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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: 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 (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)

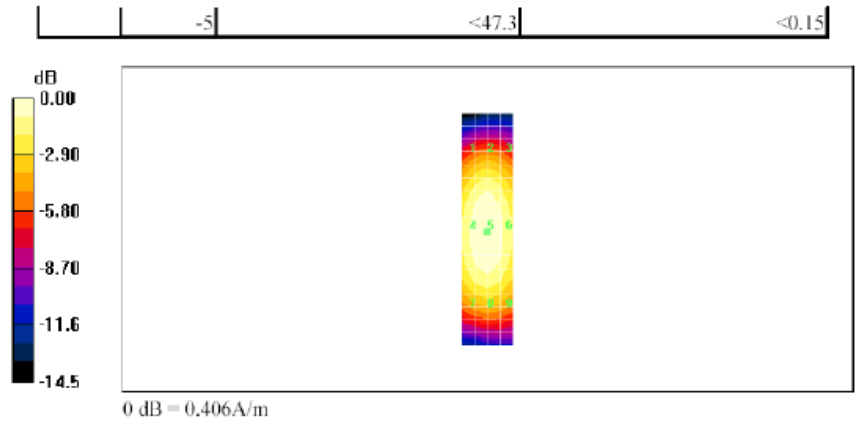
H in A/m (Time averaged)

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



A.3 RF emission field plots

Date/Time: 9/19/2013 4:47:34 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM850

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, GSM 850; Frequency: 824.2 MHz, Frequency: 836.8 MHz, Frequency: 848.8 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field GSM850 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 64.58 V/m; Power Drift = -0.11 dB
Applied MIF = 3.46 dB
RF audio interference level = 38.06 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **36.05 dBV/m**	Grid 2 **M4** **37.1 dBV/m**	Grid 3 **M4** **37.01 dBV/m**
Grid 4 **M4** **37.33 dBV/m**	Grid 5 **M4** **38.06 dBV/m**	Grid 6 **M4** **37.87 dBV/m**

Grid 7 **M4** **38.51 dBV/m**	Grid 8 **M4** **39.03 dBV/m**	Grid 9 **M4** **38.64 dBV/m**

Cursor:
Total = 39.03 dBV/m
E Category: M4
Location: -0.5, 25, 8.7 mm

Device E-Field GSM850 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 61.82 V/m; Power Drift = -0.14 dB
Applied MIF = 3.46 dB
RF audio interference level = 37.83 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **35.31 dBV/m**	Grid 2 **M4** **36.67 dBV/m**	Grid 3 **M4** **36.67 dBV/m**
Grid 4 **M4** **36.85 dBV/m**	Grid 5 **M4** **37.83 dBV/m**	Grid 6 **M4** **37.77 dBV/m**
Grid 7 **M4** **38.33 dBV/m**	Grid 8 **M4** **38.95 dBV/m**	Grid 9 **M4** **38.58 dBV/m**

Cursor:
Total = 38.95 dBV/m
E Category: M4
Location: -1.5, 25, 8.7 mm

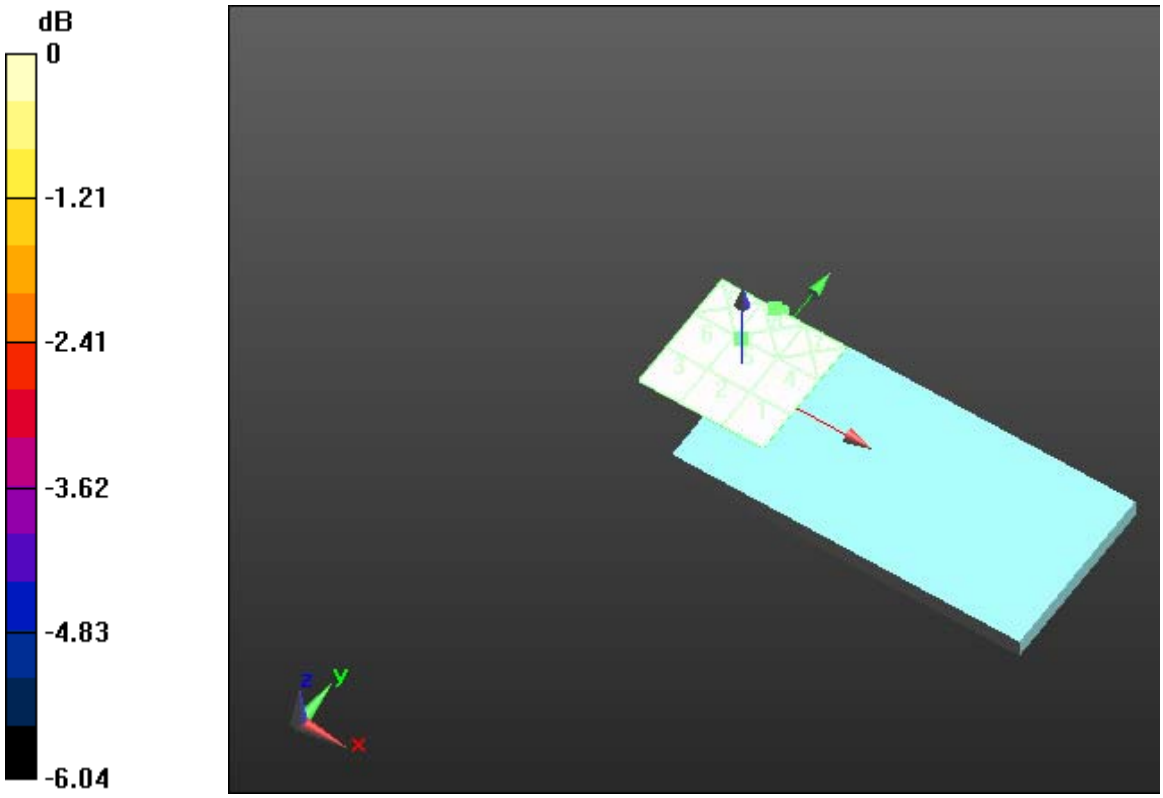
Device E-Field GSM850 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 65.43 V/m; Power Drift = 0.09 dB
Applied MIF = 3.46 dB
RF audio interference level = 38.33 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **36.13 dBV/m**	Grid 2 **M4** **37.68 dBV/m**	Grid 3 **M4** **37.68 dBV/m**
Grid 4 **M4** **37.08 dBV/m**	Grid 5 **M4** **38.33 dBV/m**	Grid 6 **M4** **38.3 dBV/m**
Grid 7 **M4** **38.13 dBV/m**	Grid 8 **M4** **38.96 dBV/m**	Grid 9 **M4** **38.74 dBV/m**

Cursor:
Total = 38.96 dBV/m
E Category: M4
Location: -3.5, 25, 8.7 mm



0 dB = 89.41 V/m = 39.03 dBV/m

Date/Time: 9/19/2013 9:33:50 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM850_Telecoil

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, GSM 850; Frequency: 848.8 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

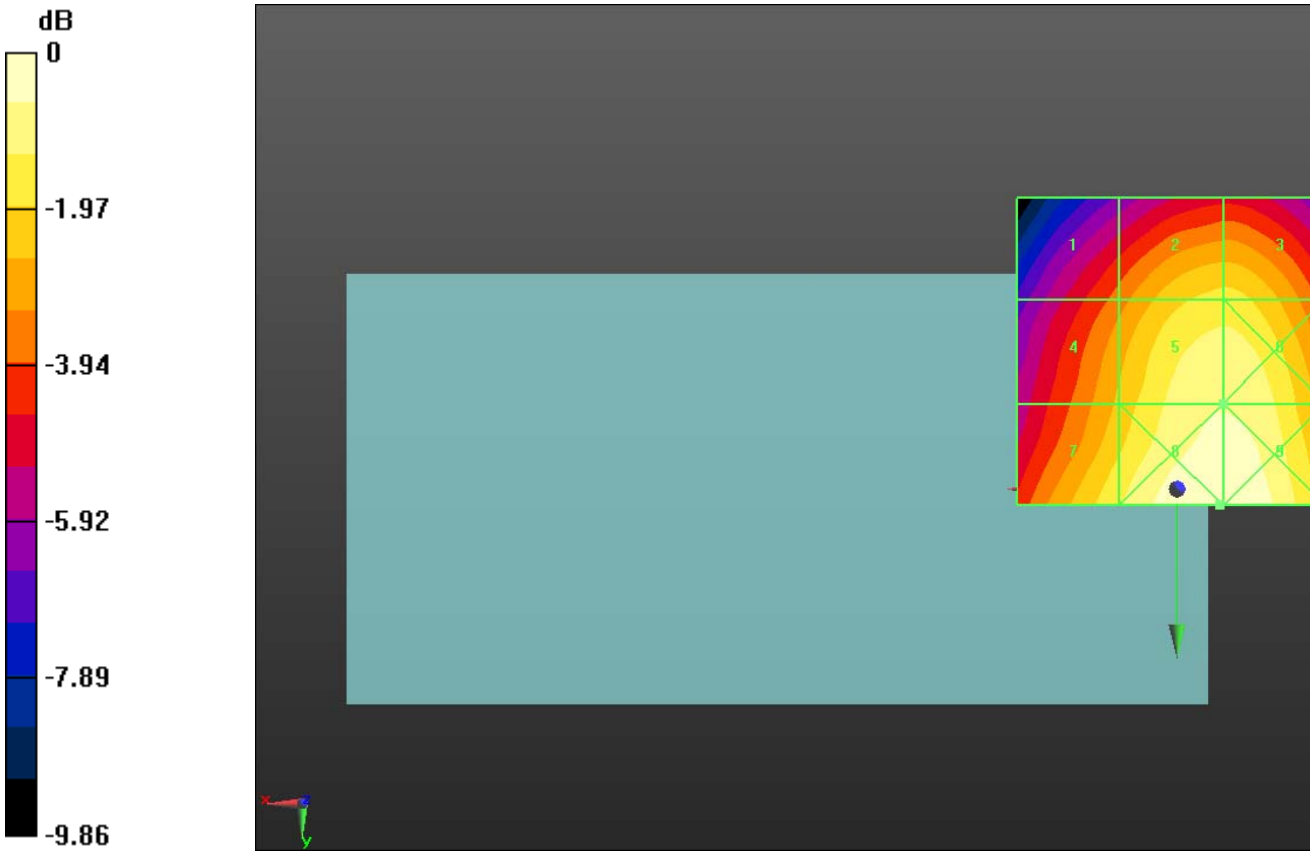
- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field GSM850 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan_telecoil/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 65.79 V/m; Power Drift = -0.18 dB
Applied MIF = 3.46 dB
RF audio interference level = 37.07 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **34.15 dBV/m**	Grid 2 **M4** **36.04 dBV/m**	Grid 3 **M4** **36.05 dBV/m**
Grid 4 **M4** **35.29 dBV/m**	Grid 5 **M4** **37.07 dBV/m**	Grid 6 **M4** **37.07 dBV/m**
Grid 7 **M4** **36.38 dBV/m**	Grid 8 **M4** **37.76 dBV/m**	Grid 9 **M4** **37.76 dBV/m**

Cursor:
Total = 37.76 dBV/m
E Category: M4
Location: -7, 2.6, 8.7 mm



0 dB = 77.30 V/m = 37.76 dBV/m

Date/Time: 9/19/2013 4:24:41 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM1900

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, GSM 1900; Frequency: 1850.2 MHz, Frequency: 1880 MHz, Frequency: 1909.8 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm
Reference Value = 9.680 V/m; Power Drift = -0.19 dB
Applied MIF = 3.46 dB
RF audio interference level = 28.58 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **28.42 dBV/m**	Grid 2 **M4** **28.58 dBV/m**	Grid 3 **M4** **27.67 dBV/m**
Grid 4 **M4** **25.18 dBV/m**	Grid 5 **M4** **28.53 dBV/m**	Grid 6 **M4** **28.9 dBV/m**
Grid 7 **M4**	Grid 8 **M3**	Grid 9 **M3**

28 dBV/m	**32.25 dBV/m**	**32.27 dBV/m**

Cursor:
Total = 32.27 dBV/m
E Category: M3
Location: -9.5, 25, 8.7 mm

Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 10.55 V/m; Power Drift = 0.12 dB
Applied MIF = 3.46 dB
RF audio interference level = 28.54 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **27.15 dBV/m**	Grid 2 **M4** **26.7 dBV/m**	Grid 3 **M4** **26.04 dBV/m**
Grid 4 **M4** **24.28 dBV/m**	Grid 5 **M4** **28.54 dBV/m**	Grid 6 **M4** **28.85 dBV/m**
Grid 7 **M4** **27.69 dBV/m**	Grid 8 **M3** **31.76 dBV/m**	Grid 9 **M3** **31.76 dBV/m**

Cursor:
Total = 31.76 dBV/m
E Category: M3
Location: -8.5, 25, 8.7 mm

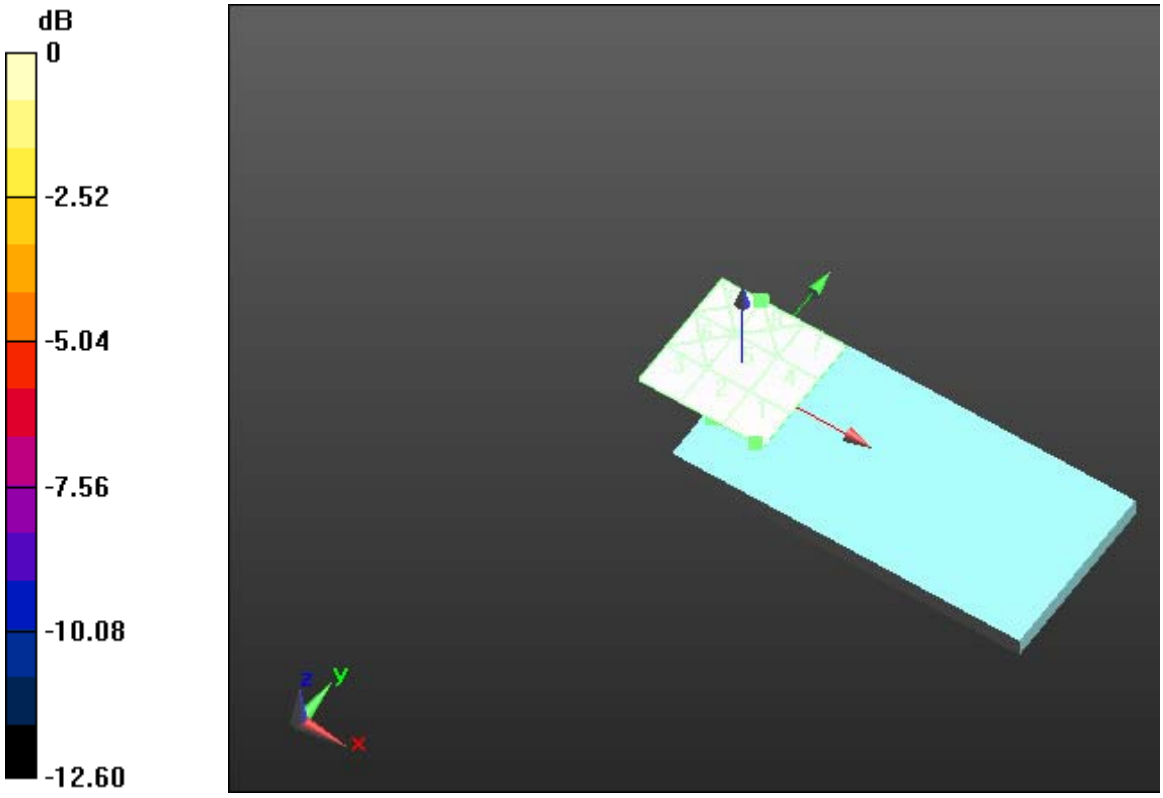
Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 7.599 V/m; Power Drift = -0.10 dB
Applied MIF = 3.46 dB
RF audio interference level = 27.69 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **27.69 dBV/m**	Grid 2 **M4** **27.19 dBV/m**	Grid 3 **M4** **26.24 dBV/m**
Grid 4 **M4** **26.09 dBV/m**	Grid 5 **M4** **26.55 dBV/m**	Grid 6 **M4** **26.99 dBV/m**
Grid 7 **M4** **25.99 dBV/m**	Grid 8 **M3** **30.82 dBV/m**	Grid 9 **M3** **30.82 dBV/m**

Cursor:
Total = 30.82 dBV/m
E Category: M3
Location: -9.5, 25, 8.7 mm



0 dB = 41.05 V/m = 32.27 dBV/m

Date/Time: 9/19/2013 3:57:11 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_V

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, WCDMA FDD V; Frequency: 826.4 MHz, Frequency: 836.4 MHz, Frequency: 846.6 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field UMTS band V measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 67.36 V/m; Power Drift = 0.10 dB
Applied MIF = -15.38 dB
RF audio interference level = 19.61 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **17.65 dBV/m**	Grid 2 **M4** **18.78 dBV/m**	Grid 3 **M4** **18.77 dBV/m**
Grid 4 **M4** **18.8 dBV/m**	Grid 5 **M4** **19.61 dBV/m**	Grid 6 **M4** **19.54 dBV/m**
Grid 7 **M4**	Grid 8 **M4**	Grid 9 **M4**

19.98 dBV/m	**20.45 dBV/m**	**20.06 dBV/m**

Cursor:
Total = 20.45 dBV/m
E Category: M4
Location: -1, 25, 8.7 mm

Device E-Field UMTS band V measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 62.50 V/m; Power Drift = -0.06 dB
Applied MIF = -15.38 dB
RF audio interference level = 19.03 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **16.64 dBV/m**	Grid 2 **M4** **18.01 dBV/m**	Grid 3 **M4** **18 dBV/m**
Grid 4 **M4** **18.01 dBV/m**	Grid 5 **M4** **19.03 dBV/m**	Grid 6 **M4** **18.96 dBV/m**
Grid 7 **M4** **19.38 dBV/m**	Grid 8 **M4** **20.01 dBV/m**	Grid 9 **M4** **19.68 dBV/m**

Cursor:
Total = 20.01 dBV/m
E Category: M4
Location: -2.5, 25, 8.7 mm

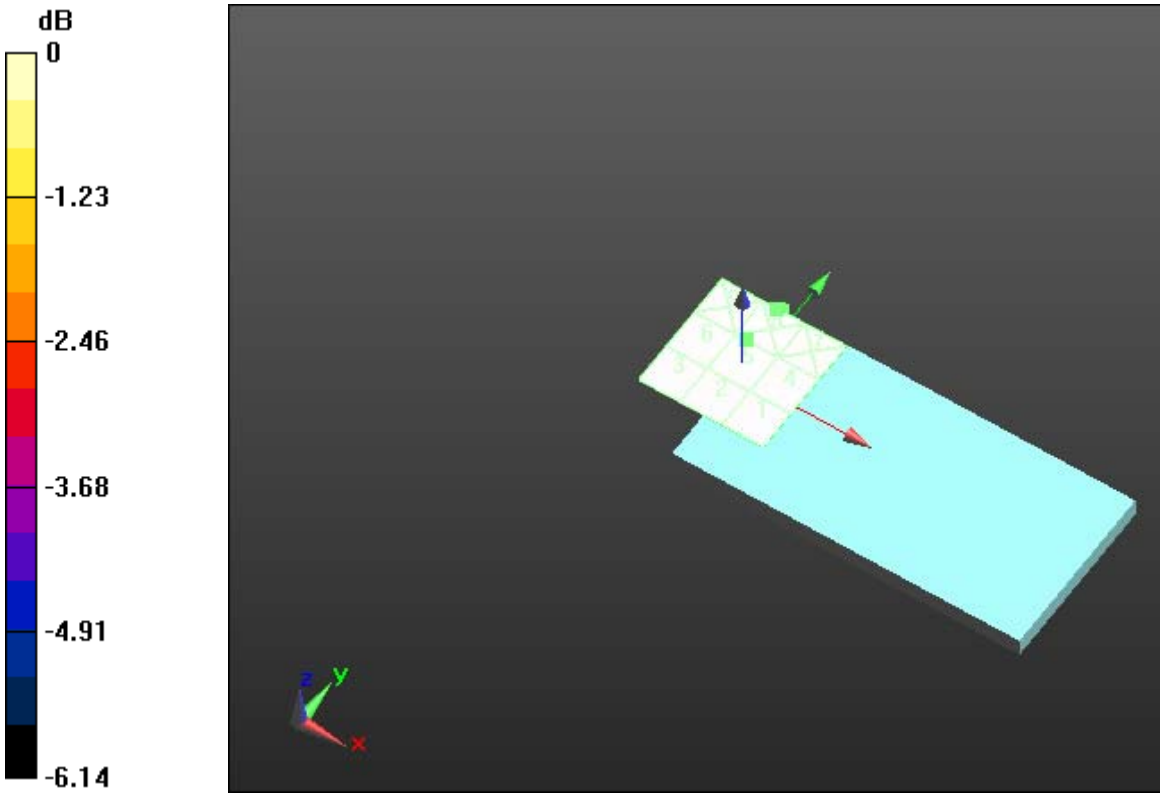
Device E-Field UMTS band V measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 72.39 V/m; Power Drift = -0.19 dB
Applied MIF = -15.38 dB
RF audio interference level = 20.21 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **18.14 dBV/m**	Grid 2 **M4** **19.39 dBV/m**	Grid 3 **M4** **19.29 dBV/m**
Grid 4 **M4** **19.21 dBV/m**	Grid 5 **M4** **20.21 dBV/m**	Grid 6 **M4** **20.01 dBV/m**
Grid 7 **M4** **20.34 dBV/m**	Grid 8 **M4** **21 dBV/m**	Grid 9 **M4** **20.71 dBV/m**

Cursor:
Total = 21.00 dBV/m
E Category: M4
Location: -3, 25, 8.7 mm



0 dB = 10.54 V/m = 20.46 dBV/m

Date/Time: 9/19/2013 4:15:21 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_V_Telecoil

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, WCDMA FDD V; Frequency: 846.6 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

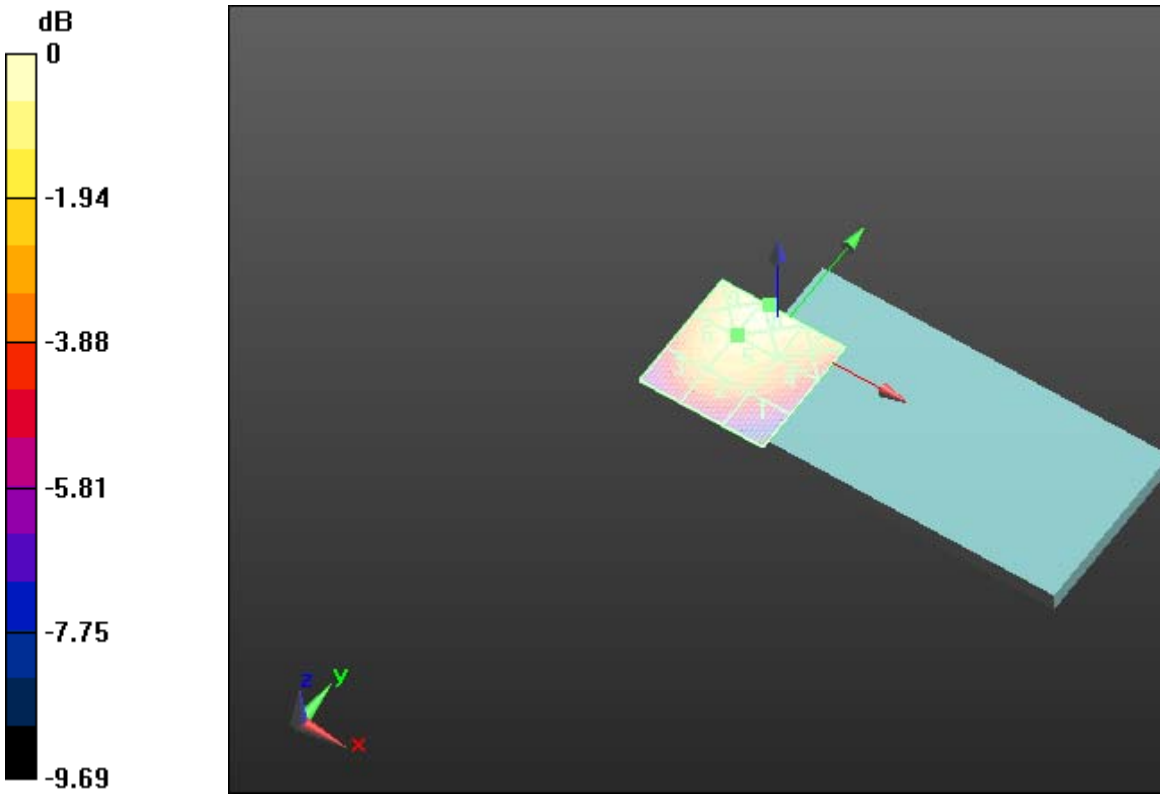
- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field UMTS band V measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan_telecoil/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 71.61 V/m; Power Drift = -0.08 dB
Applied MIF = -15.38 dB
RF audio interference level = 19.04 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **16.37 dBV/m**	Grid 2 **M4** **17.63 dBV/m**	Grid 3 **M4** **17.63 dBV/m**
Grid 4 **M4** **17.67 dBV/m**	Grid 5 **M4** **19.04 dBV/m**	Grid 6 **M4** **19.04 dBV/m**
Grid 7 **M4** **18.85 dBV/m**	Grid 8 **M4** **19.85 dBV/m**	Grid 9 **M4** **19.82 dBV/m**

Cursor:
Total = 19.85 dBV/m
E Category: M4
Location: -5, 2.6, 8.7 mm



0 dB = 9.829 V/m = 19.85 dBV/m

Date/Time: 9/19/2013 7:26:13 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_band_IV

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, WCDMA FDD IV; Frequency: 1712.4 MHz, Frequency: 1732.6 MHz, Frequency: 1752.6 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field UMTS band IV measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 27.57 V/m; Power Drift = -0.11 dB
Applied MIF = -15.38 dB
RF audio interference level = 17.03 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **15.93 dBV/m**	Grid 2 **M4** **14.62 dBV/m**	Grid 3 **M4** **12.43 dBV/m**
Grid 4 **M4** **12.37 dBV/m**	Grid 5 **M4** **16.89 dBV/m**	Grid 6 **M4** **17.03 dBV/m**
Grid 7 **M4**	Grid 8 **M4**	Grid 9 **M4**

17.44 dBV/m	**20.05 dBV/m**	**20.01 dBV/m**

Cursor:
Total = 20.05 dBV/m
E Category: M4
Location: -6.5, 25, 8.7 mm

Device E-Field UMTS band IV measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 25.44 V/m; Power Drift = -0.01 dB
Applied MIF = -15.38 dB
RF audio interference level = 17.23 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **16.34 dBV/m**	Grid 2 **M4** **15.45 dBV/m**	Grid 3 **M4** **12.97 dBV/m**
Grid 4 **M4** **12.29 dBV/m**	Grid 5 **M4** **17.02 dBV/m**	Grid 6 **M4** **17.23 dBV/m**
Grid 7 **M4** **17.22 dBV/m**	Grid 8 **M4** **20.16 dBV/m**	Grid 9 **M4** **20.13 dBV/m**

Cursor:
Total = 20.16 dBV/m
E Category: M4
Location: -7, 25, 8.7 mm

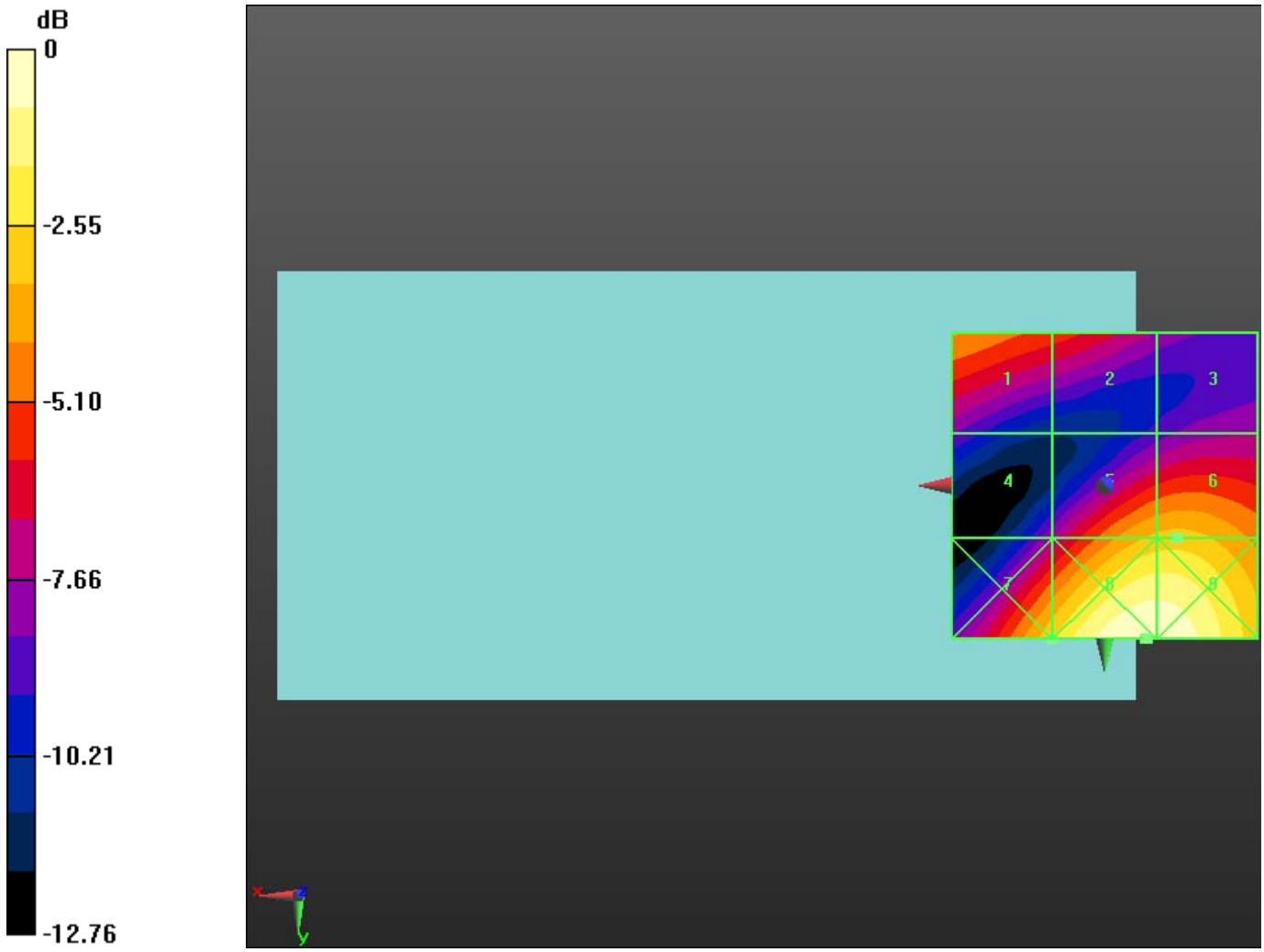
Device E-Field UMTS band IV measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 21.39 V/m; Power Drift = -0.01 dB
Applied MIF = -15.38 dB
RF audio interference level = 16.08 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **15.2 dBV/m**	Grid 2 **M4** **14.75 dBV/m**	Grid 3 **M4** **12.64 dBV/m**
Grid 4 **M4** **11.55 dBV/m**	Grid 5 **M4** **15.83 dBV/m**	Grid 6 **M4** **16.08 dBV/m**
Grid 7 **M4** **16.17 dBV/m**	Grid 8 **M4** **19.2 dBV/m**	Grid 9 **M4** **19.19 dBV/m**

Cursor:
Total = 19.20 dBV/m
E Category: M4
Location: -7, 25, 8.7 mm



0 dB = 10.06 V/m = 20.05 dBV/m

Date/Time: 9/19/2013 8:09:28 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_band_IV_Telecoil

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, WCDMA FDD IV; Frequency: 1732.6 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

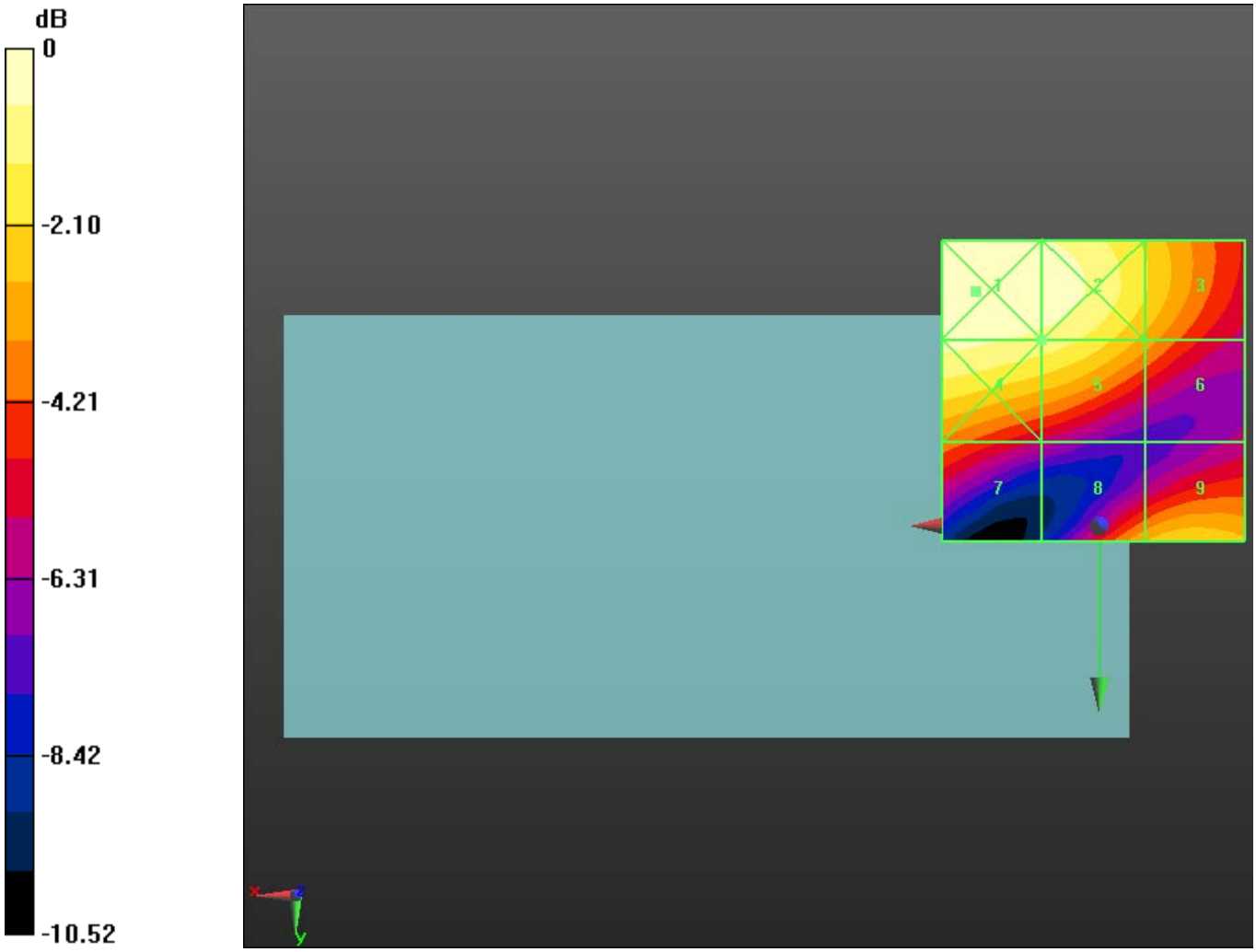
- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field UMTS band IV measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan_telecoil/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 25.08 V/m; Power Drift = -0.02 dB
Applied MIF = -15.38 dB
RF audio interference level = 16.63 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **17.58 dBV/m**	Grid 2 **M4** **17.34 dBV/m**	Grid 3 **M4** **15.59 dBV/m**
Grid 4 **M4** **17.13 dBV/m**	Grid 5 **M4** **16.63 dBV/m**	Grid 6 **M4** **14.54 dBV/m**
Grid 7 **M4** **13.9 dBV/m**	Grid 8 **M4** **14.81 dBV/m**	Grid 9 **M4** **15.49 dBV/m**

Cursor:
Total = 17.58 dBV/m
E Category: M4
Location: 20.5, -38.9, 8.7 mm



0 dB = 7.572 V/m = 17.58 dBV/m

Date/Time: 9/19/2013 4:24:41 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM1900

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, GSM 1900; Frequency: 1850.2 MHz, Frequency: 1880 MHz, Frequency: 1909.8 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 9.680 V/m; Power Drift = -0.19 dB
Applied MIF = 3.46 dB
RF audio interference level = 28.58 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **28.42 dBV/m**	Grid 2 **M4** **28.58 dBV/m**	Grid 3 **M4** **27.67 dBV/m**
Grid 4 **M4** **25.18 dBV/m**	Grid 5 **M4** **28.53 dBV/m**	Grid 6 **M4** **28.9 dBV/m**
Grid 7 **M4**	Grid 8 **M3**	Grid 9 **M3**

28 dBV/m	**32.25 dBV/m**	**32.27 dBV/m**

Cursor:
Total = 32.27 dBV/m
E Category: M3
Location: -9.5, 25, 8.7 mm

Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 10.55 V/m; Power Drift = 0.12 dB
Applied MIF = 3.46 dB
RF audio interference level = 28.54 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **27.15 dBV/m**	Grid 2 **M4** **26.7 dBV/m**	Grid 3 **M4** **26.04 dBV/m**
Grid 4 **M4** **24.28 dBV/m**	Grid 5 **M4** **28.54 dBV/m**	Grid 6 **M4** **28.85 dBV/m**
Grid 7 **M4** **27.69 dBV/m**	Grid 8 **M3** **31.76 dBV/m**	Grid 9 **M3** **31.76 dBV/m**

Cursor:
Total = 31.76 dBV/m
E Category: M3
Location: -8.5, 25, 8.7 mm

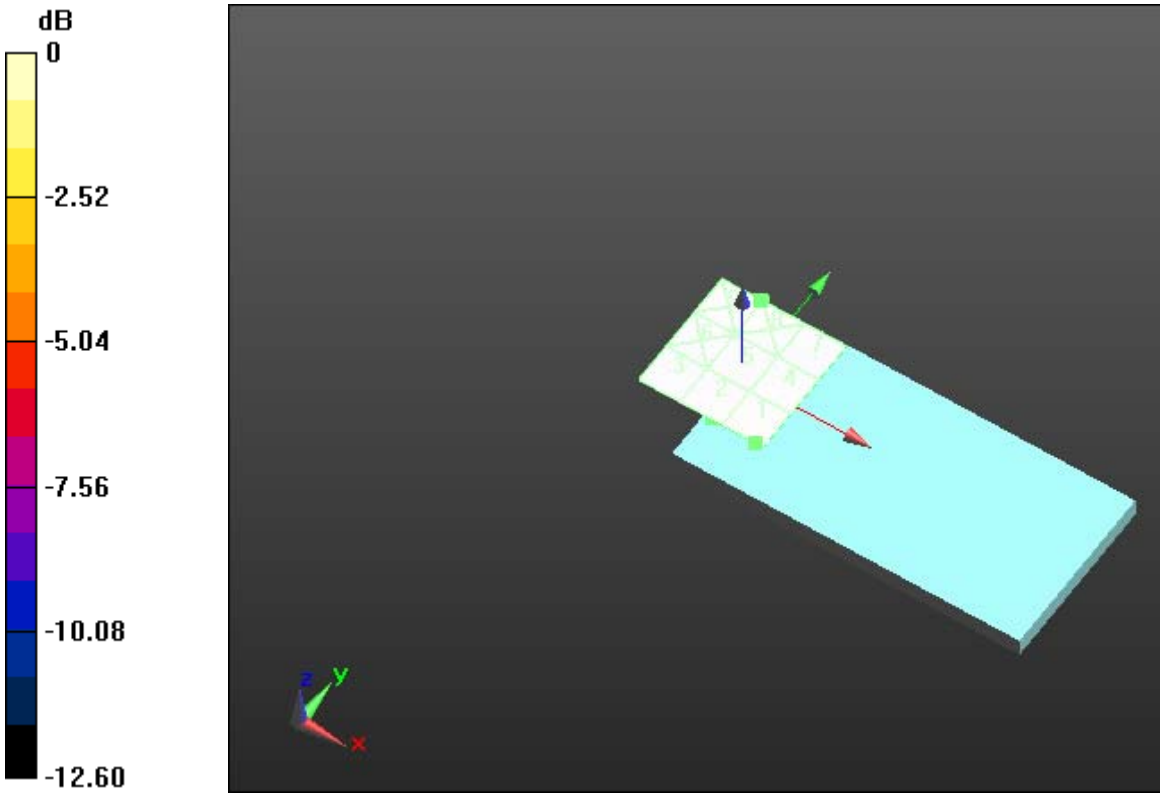
Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 7.599 V/m; Power Drift = -0.10 dB
Applied MIF = 3.46 dB
RF audio interference level = 27.69 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **27.69 dBV/m**	Grid 2 **M4** **27.19 dBV/m**	Grid 3 **M4** **26.24 dBV/m**
Grid 4 **M4** **26.09 dBV/m**	Grid 5 **M4** **26.55 dBV/m**	Grid 6 **M4** **26.99 dBV/m**
Grid 7 **M4** **25.99 dBV/m**	Grid 8 **M3** **30.82 dBV/m**	Grid 9 **M3** **30.82 dBV/m**

Cursor:
Total = 30.82 dBV/m
E Category: M3
Location: -9.5, 25, 8.7 mm



0 dB = 41.05 V/m = 32.27 dBV/m

Date/Time: 9/19/2013 4:41:56 AM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_GSM1900_Telecoil

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, GSM 1900; Frequency: 1850.2 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

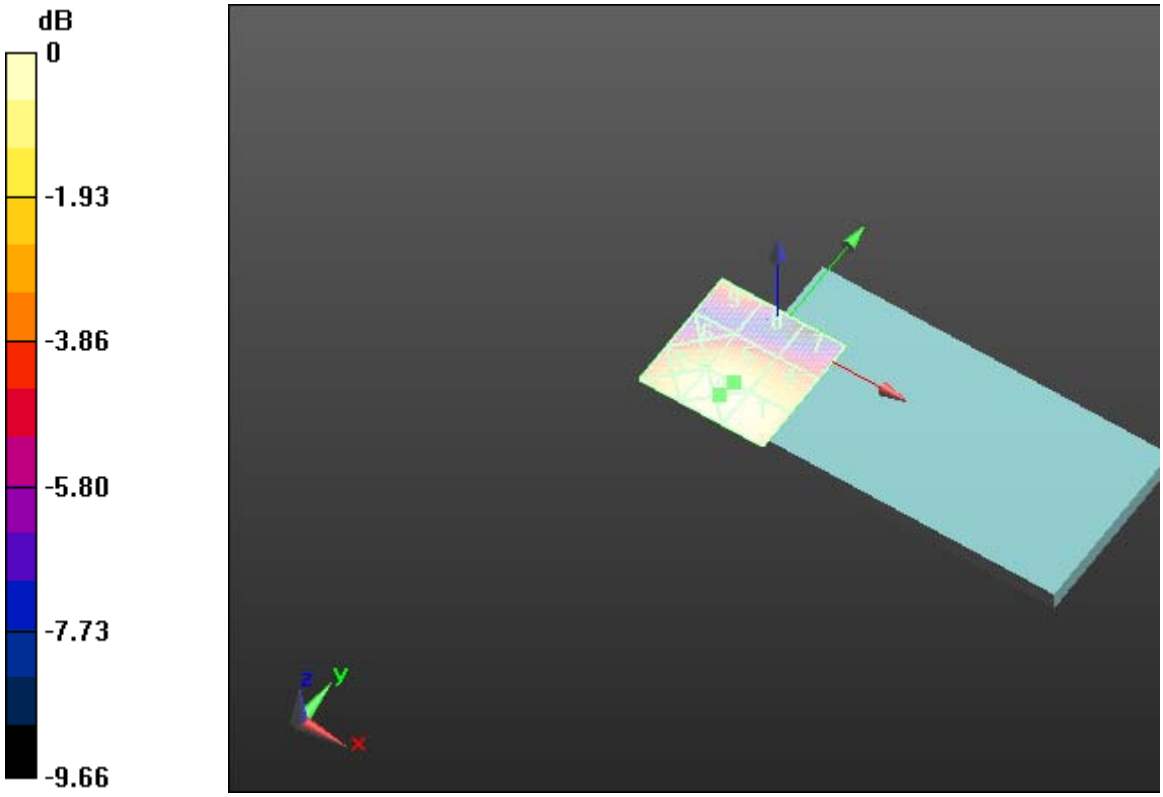
Device E-Field GSM 1900 measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan_telecoil/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 9.983 V/m; Power Drift = -0.06 dB
Applied MIF = 3.46 dB
RF audio interference level = 29.71 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **29.71 dBV/m**	Grid 2 **M4** **29.9 dBV/m**	Grid 3 **M4** **29.41 dBV/m**
Grid 4 **M4** **29.28 dBV/m**	Grid 5 **M4** **29.46 dBV/m**	Grid 6 **M4** **28.83 dBV/m**
Grid 7 **M4**	Grid 8 **M4**	Grid 9 **M4**

26 dBV/m	**26.32 dBV/m**	**27.25 dBV/m**

Cursor:
Total = 29.90 dBV/m
E Category: M4
Location: 2, -37.9, 8.7 mm



0 dB = 31.26 V/m = 29.90 dBV/m

Date/Time: 9/19/2013 8:17:30 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_Band_II

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, WCDMA FDD II; Frequency: 1852.4 MHz, Frequency: 1880 MHz, Frequency: 1907.6 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field UMTS band II measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 17.78 V/m; Power Drift = -0.04 dB
Applied MIF = -15.38 dB
RF audio interference level = 14.33 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **13.14 dBV/m**	Grid 2 **M4** **13.31 dBV/m**	Grid 3 **M4** **12.5 dBV/m**
Grid 4 **M4** **9.57 dBV/m**	Grid 5 **M4** **14.33 dBV/m**	Grid 6 **M4** **14.61 dBV/m**
Grid 7 **M4**	Grid 8 **M4**	Grid 9 **M4**

13.68 dBV/m	**17.73 dBV/m**	**17.73 dBV/m**

Cursor:
Total = 17.73 dBV/m
E Category: M4
Location: -8.5, 25, 8.7 mm

Device E-Field UMTS band II measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Mid_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 16.36 V/m; Power Drift = 0.04 dB
Applied MIF = -15.38 dB
RF audio interference level = 14.14 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **12.76 dBV/m**	Grid 2 **M4** **12.33 dBV/m**	Grid 3 **M4** **11.48 dBV/m**
Grid 4 **M4** **9.91 dBV/m**	Grid 5 **M4** **14.14 dBV/m**	Grid 6 **M4** **14.45 dBV/m**
Grid 7 **M4** **13.23 dBV/m**	Grid 8 **M4** **17.59 dBV/m**	Grid 9 **M4** **17.59 dBV/m**

Cursor:
Total = 17.59 dBV/m
E Category: M4
Location: -8.5, 25, 8.7 mm

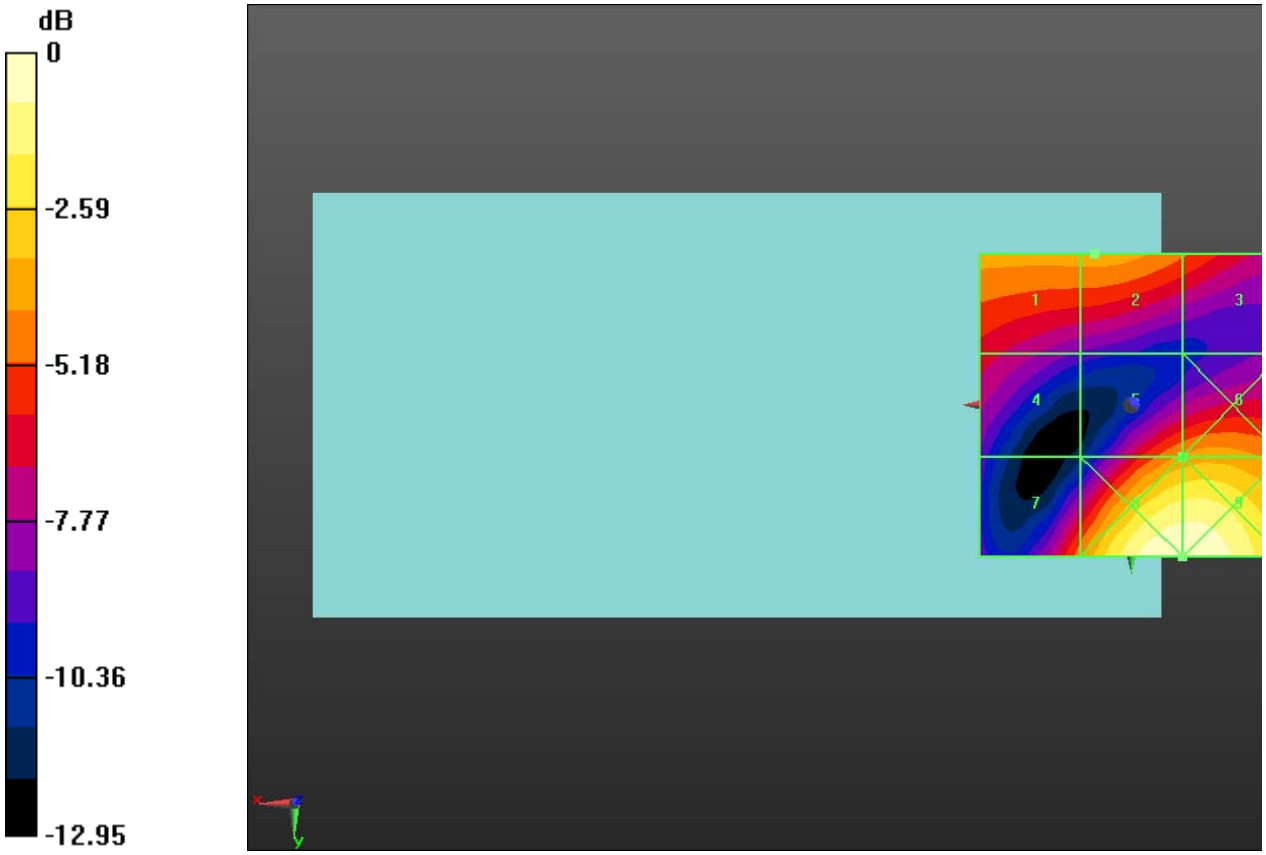
Device E-Field UMTS band II measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_High_Chan/Hearing Aid Compatibility Test (101x101x1):

Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 12.25 V/m; Power Drift = -0.00 dB
Applied MIF = -15.38 dB
RF audio interference level = 12.64 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **12.61 dBV/m**	Grid 2 **M4** **12.64 dBV/m**	Grid 3 **M4** **11.52 dBV/m**
Grid 4 **M4** **10.15 dBV/m**	Grid 5 **M4** **12.33 dBV/m**	Grid 6 **M4** **12.68 dBV/m**
Grid 7 **M4** **11.92 dBV/m**	Grid 8 **M4** **16.42 dBV/m**	Grid 9 **M4** **16.42 dBV/m**

Cursor:
Total = 16.42 dBV/m
E Category: M4
Location: -8.5, 25, 8.7 mm



0 dB = 7.697 V/m = 17.73 dBV/m

Date/Time: 9/19/2013 9:09:55 PM

Test Laboratory: RIM Testing Services

HAC RF_E-Field_UMTS_band_II_Telecoil

DUT: BlackBerry Smartphone; Type: Sample ; Serial: 2FFF5DF6

Communication System: UID 0 - n/a, WCDMA FDD II; Frequency: 1852.4 MHz
Medium parameters used: $\sigma = 0$ S/m, $\varepsilon_r = 1$; $\rho = 0$ kg/m^3
Phantom section: RF Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY Configuration:

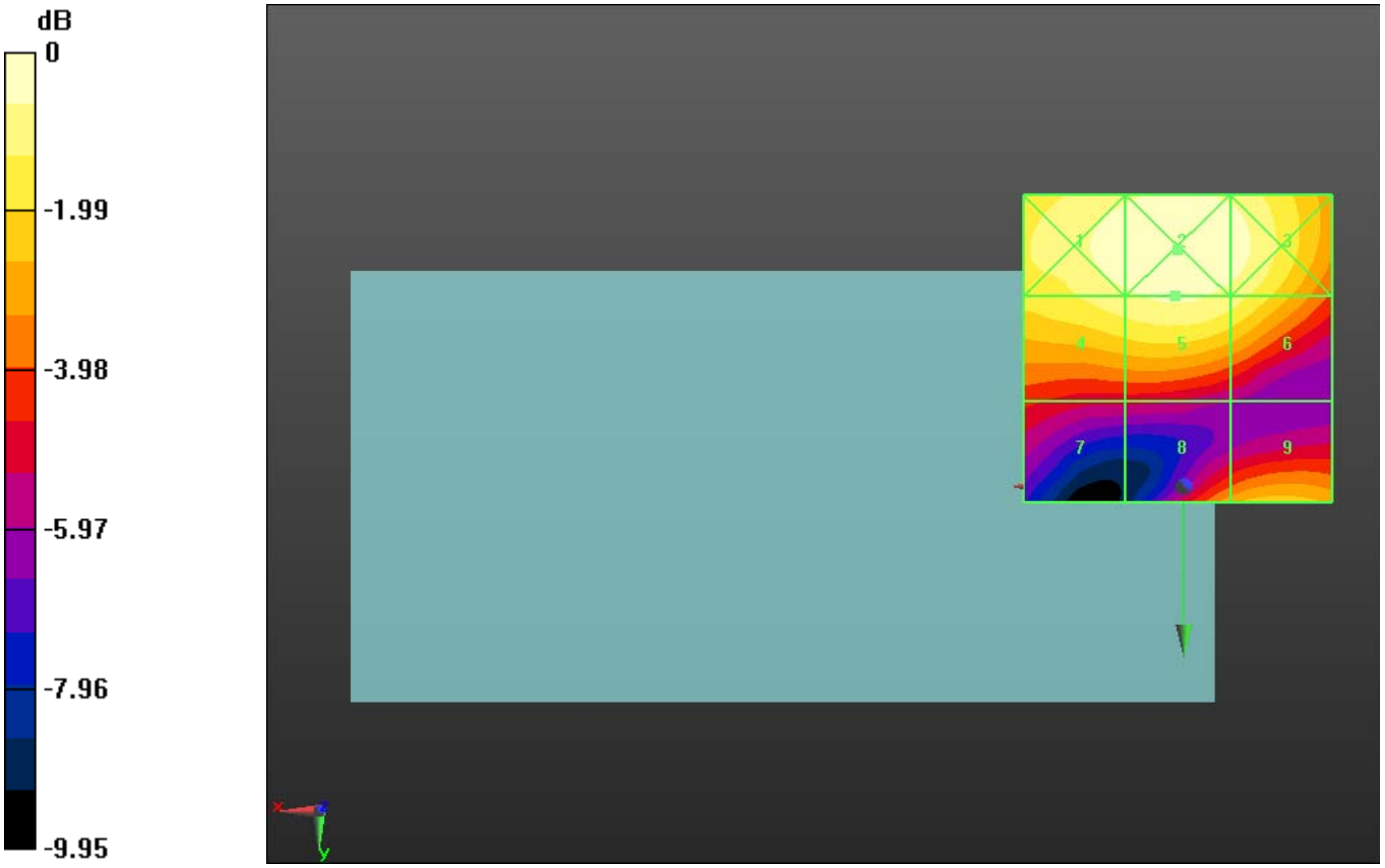
- Probe: ER3DV6 - SN2286; ConvF(1, 1, 1); Calibrated: 1/11/2013;
- Sensor-Surface: (Fix Surface), z = 8.7
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: HAC RF Test Arch with AMCC; Type: SD HAC P01 BA;
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Device E-Field UMTS band II measurement with ER probe/E Scan - ER3D - 2011: 15 mm from Probe Center to the Device_Low_Chan_telecoil/Hearing Aid Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm
Device Reference Point: 0, 0, -6.3 mm
Reference Value = 17.85 V/m; Power Drift = -0.30 dB
Applied MIF = -15.38 dB
RF audio interference level = 14.37 dBV/m
Emission category: M4

MIF scaled E-field

Grid 1 **M4** **14.59 dBV/m**	Grid 2 **M4** **14.89 dBV/m**	Grid 3 **M4** **14.6 dBV/m**
Grid 4 **M4** **14.09 dBV/m**	Grid 5 **M4** **14.37 dBV/m**	Grid 6 **M4** **13.95 dBV/m**
Grid 7 **M4** **10.5 dBV/m**	Grid 8 **M4** **12.02 dBV/m**	Grid 9 **M4** **12.66 dBV/m**

Cursor:
Total = 14.89 dBV/m
E Category: M4
Location: 1, -38.4, 8.7 mm



0 dB = 5.556 V/m = 14.90 dBV/m