

EMI Test Report

Tested in accordance with
Federal Communications Commission (FCC)
Personal Communications Services
CFR 47, Part 15 Subpart C
&
Industry Canada (IC) RSS-210, RSS-GEN



A division of Research In Motion Limited

REPORT NO.: RTS-1689-1007-14

PRODUCT MODEL NO.: RCM72UW
TYPE NAME: BlackBerry® smartphone
FCC ID: L6ARCM70UW
IC: 2503A-RCM70UW

DATE: August 06, 2010

	EMI Test Report for the BlackBerry® smartphone Model RCM72UW	
Test Report No. RTS-1689-1007-12	Dates of Test June 14 to July 07 and August 23, 2010	FCC ID: L6ARCM70UW IC: 2503A-RCM70UW

tatement of Performance:

The BlackBerry® smartphone, model RCM72UW, part number CER-33221-001 Rev 1, and its accessories perform within the requirements of the test standards when configured and operated under RIM's operation instructions.

Declaration:

We hereby certify that:

The test data reported herein is an accurate record of the performance of the sample(s) tested.

The test results are valid for the tested unit (s) only.

The test equipment used was suitable for the tests performed and within manufacturer's published specifications and operating parameters.

The test methods were consistent with the methods described in the relevant standards.

Documented by:



Mahmood Ahmed
Regulatory Compliance Associate
Date: August 06, 2010

Reviewed by:



Michael Cino
Regulatory Compliance Associate
Date: August 06, 2010

Reviewed and Approved by:



Masud S. Attayi, P.Eng.
Manager, Regulatory Compliance
Date: August 23, 2010

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A. Scope

This report details the results of compliance tests which were performed in accordance to the requirements of:

- o FCC CFR 47 Part 15, Subpart C, October, 2009
- o Industry Canada, RSS-210, Issue 7, June 2007, Low Power Licence-Exempt Radiocommunication Devices
- o Industry Canada, RSS-GEN, Issue 2, June 2007, General Requirements and Information for the Certification of Radiocommunication Equipment

B. Associated Documents

1. RTS-1689-0907-11
2. 9700-9780 Differences

C. Product Identification

Manufactured by Research In Motion Limited whose headquarters is located at:

295 Phillip Street
Waterloo, Ontario
Canada, N2L 3W8
Phone: 519 888 7465
Fax: 519 888 6906

The equipment under test (EUT) was tested at the following locations:

RIM Testing Services EMI test facilities

305 Phillip Street
Waterloo, Ontario
Canada, N2L 3W8
Phone: 519 888 7465
Fax: 519 888 6906

440 Phillip Street
Waterloo, Ontario
Canada, N2L 5R9
Phone: 519 888 7465
Fax: 519 888 6906

The testing was performed from June 14 to July 07 and August 23, 2010.

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The sample EUT included:

SAMPLE	MODEL	CER NUMBER	PIN	Software
1	RCM72UW	CER-33221-001 Rev 1	226DCF5F	V6.0.0.68 (Platform 6.5.0.6) Bundle: 142
2	RCM72UW	CER-33221-001 Rev 1	226DCF62	V6.0.0.68 (Platform 6.5.0.6) Bundle: 142

Sample 1 was used for all AC Line Conducted Emissions testing.

Samples 1 and 2 were used for Bluetooth and 802.11b/g Radiated Emissions testing.

Only the characteristics that may have been affected by the changes from model RCM71UW to model RCM72UW were retested. For more information, see 9700-9780 Differences.

BlackBerry® smartphone Accessories Tested

- 1) Alternate Fixed Blade Charger model RIM-C-4ADUUS-001, part number HDW-24481-001, with an output voltage of 5.0 volts dc, 700 mA and attached USB cable with a lead length of 1.30 metres.
- 2) Fixed Blade Charger model PSM04A-050QRIM, part number HDW-24481-001, with an output voltage of 5.0 volts dc, 700 mA and attached USB cable with a lead length of 1.50 metres.
- 3) Premium Stereo Headset, part number HDW-15766-005.
- 4) Bluetooth Headset, part number HDW-23439-001.
- 5) USB Data Cable, part number HDW-06610-005, 1.50 metres long.
- 6) USB Data Cable, part number HDW-28109-005, 1.30 metres long.
- 7) Charging Pod, part number HDW-24476-001, with an output voltage of 5.0 volts dc, 1600 mA.

D. Support Equipment Used for the Testing of the EUT

No support equipment used. See section *G. Compliance Test Equipment Used*.

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E. Test Results Chart

SPECIFICATION		TEST TYPE	Meets Requirements	TEST DATA
FCC CFR 47	IC			APPEN DIX
Part 15.207	RSS-210 RSS-GEN	Conducted AC Line Emission	Pass	1
Part 15.209 Part 15.247	RSS-210 RSS-GEN	BT Radiated Spurious Emissions and Radiated Band Edge Compliance	Pass	2
Part 15.209 Part 15.247	RSS-210 RSS-GEN	802.11 b/g Radiated Spurious Emissions and Radiated Band Edge Compliance	Pass	2
Part 15.247(a)	RSS-210	BT, 20 dB Bandwidth	See test report RTS-1689-0907-11	-
Part 15.247(a)	RSS-210	BT, Carrier Frequency Separation	See test report RTS-1689-0907-11	-
Part 15.247(a)	RSS-210	BT, Number of Hopping Frequencies	See test report RTS-1689-0907-11	-
Part 15.247(a)	RSS-210	BT, Time of Occupancy (Dwell Time)	See test report RTS-1689-0907-11	-
Part 15.247(b)	RSS-210	BT, Maximum Peak Conducted Output Power	See test report RTS-1689-0907-11	-
Part 15.247(c)	RSS-210	BT, Band-Edge Compliance of RF Conducted Emissions	See test report RTS-1689-0907-11	-
Part 15.247(c)	RSS-210	BT, Spurious RF Conducted Emissions	See test report RTS-1689-0907-11	-
Part 15.247(b)	RSS-210	802.11b/g, 6 dB Bandwidth	See test report RTS-1689-0907-11	-
Part 15.247(b)	RSS-210	802.11b/g, Maximum Conducted Output Power	See test report RTS-1689-0907-11	-
Part 15.247(b)	RSS-210	802.11b/g, Band-Edge	See test report RTS-1689-0907-11	-
Part 15.247(b)	RSS-210	802.11b/g, Peak Power Spectral Density	See test report RTS-1689-0907-11	-
Part 15.247(b)	RSS-210	802.11b/g, Spurious RF Conducted Emissions	See test report RTS-1689-0907-11	-

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F. Summary of Results

1) AC LINE CONDUCTED EMISSIONS

The conducted emissions were measured using the test procedure outlined in CISPR Recommendation 22 through a 50 Ohm Line Impedance Stabilization Network (LISN), which was inserted in the power line to the equipment to provide the specified impedance for measurements. The EUT was placed on a nonconductive wooden table, 80 cm high that was positioned 40 cm from a vertical ground plane. The RF output of the network was connected to an EMI receiver system with characteristics that duplicate those of the receiver specified in CISPR Publication 16.

BlackBerry® smartphone was in battery charging mode. The input voltage was 120 V, 60 Hz.

The following test configurations were measured:

Test Configuration	Operating Mode(s)	Charger + Accessories
1	802.11b Tx	Alternate Fixed Blade Charger + Premium Stereo Headset + 1.3m USB Cable + Charging Pod
2	Bluetooth Tx,	Fixed Blade Charger + Bluetooth Headset + 1.5m USB Cable + Charging Pod

The sample EUT's conducted emissions were compared with respect to the FCC CFR 47 Part 15, Subpart C and IC RSS-210 limits. The sample EUT had a worst case test margin of 7.38 dB below the QP limit at 0.155 MHz using the quasi-peak detector with the Folding Blade Charger in Test Configuration 2.

See APPENDIX 1 for the test data

Measurement Uncertainty ± 3.0 dB

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2) RADIATED EMISSIONS

a) Radiated Spurious and Harmonic Emissions

The EUT was placed on a nonconductive styrofoam table, 80 cm high that was positioned on a remotely controlled turntable. The test distance used between the EUT and the receiving antenna was three metres. The turntable was rotated to determine the azimuth of the peak emissions. Then the emissions were maximized by elevating the antenna in the range of 1 to 4 metres. The maximum emission level was recorded. The frequency range measured was from 30 MHz to 25.0 GHz. Both the horizontal and vertical polarizations of the emissions were measured.

The measurements were done in a semi-anechoic chamber (SAC) below 1 GHz and a fully-anechoic room (FAR) above 1 GHz. The SAC's FCC registration number is **778487** and the Industry Canada (IC) file number is **2503B-1**. The FAR's FCC registration number is **959115** and the IC file number is **2503C-1**.

The EUT was configured and operated to produce the maximum radiated emissions while still keeping within RIM's specifications.

i) The BlackBerry® smartphone was measured in a standalone configuration with Bluetooth transmitting in single frequency mode at middle channel (39) packet types "DH5". The system's radiated emission levels were compared with respect to the FCC CFR 47 Part 15, Subpart C, 15.247 and RSS-210.

ii) The BlackBerry® smartphone was measured in standalone configuration transmitting on channel 6 at 1 Mbps for 802.11b mode. The system's radiated emission levels were compared with respect to the FCC CFR 47 Part 15 Subpart C, 15.247 and RSS-210.

The sample EUT's Radiated emissions were compared with respect to the FCC CFR 47 Part 15, Subpart C and IC RSS-210 limits. All emission level had test margins greater than 25 dB.

b) Band-Edge Compliance of RF Radiated Emissions

The BlackBerry® smartphone met the requirements for band-edge compliance of RF radiated emissions for Bluetooth and 802.11b/g as per the requirements of 15.247, 15.209, and RSS-210/RSS-GEN.

See APPENDIX 2 for the test data.

Measurement Uncertainty ± 4.6 dB

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G. Compliance Test Equipment Used

<u>UNIT</u>	<u>MANUFACTURER</u>	<u>MODEL</u>	<u>SERIAL NUMBER</u>	<u>CAL DUE DATE (YY MM DD)</u>	<u>USE</u>
EMI Test Receiver	Rohde & Schwarz	ESIB 40	100255	10-12-01	Conducted/Radiated Emissions
EMI Test Receiver	Rohde & Schwarz	ESU 40	100162	10-11-29	Conducted/Radiated Emissions
Hybrid Log Antenna	EMC Automation	HLP-3003C	017401	10-09-26	Radiated Emissions
Horn Antenna	CMT	LHA 0180	R52734-001	12-01-21	Radiated Emissions
Horn Antenna	ETS-Lindgren	3117	47563	11-07-15	Radiated Emissions
Preamplifier	Rohde & Schwarz	TS-ANA4-SP	001	11-02-17	Radiated Emissions
Preamplifier	Sonoma	310N/11909A	185831	10-11-14	Radiated Emissions
Preamplifier	Rohde & Schwarz	TS-ANA-SP	001	11-02-19	Radiated Emissions
L.I.S.N.	Rohde & Schwarz	ENV216	100060	10-12-11	Conducted Emissions
Environment Monitor	Control Company	1870	230355190	11-01-08	Radiated Emissions
EMC Analyzer	Agilent	E7405A	US40240226	10-12-10	Radiated Emissions
Environmental Chamber	ESPEC Corp.	SH-240S1	91005607	N/R	Frequency Stability
Bluetooth Tester	Rohde & Schwarz	CBT35	100368	10-11-25	Radiated Emissions
Bluetooth Tester	Rohde & Schwarz	CBT35	100370	10-11-26	Radiated Emissions
Digital Multimeter	Hewlett Packard	34401A	US36042324	10-10-08	Conducted/Radiated Emissions
Environment Monitor	Control Company	1870	230355159	11-01-08	Radiated Emissions

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APPENDIX 1 – AC CONDUCTED EMISSIONS TEST DATA/PLOTS

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AC Conducted Emissions Test Results

Test Configuration: 1

Date of the test: July 01, 2010

The environmental conditions were:

Temperature: 23 °C
Pressure: 1028 mB
Humidity: 25 %

Frequency (MHz)	Line	Reading (QP) (dBμV)	Correction Factor (dB)	Corrected Reading (QP) (dBμV)	Limit (QP) (dBμV)	Limit (AV) (dBμV)	Margin (QP) Limits (dB)
0.177	N	31.54	11.05	42.58	64.63	54.63	-22.04
0.182	L1	35.75	10.99	46.74	64.42	54.42	-17.68
0.348	L1	25.64	10.09	35.73	59.01	49.01	-23.28
0.362	N	25.09	10.08	35.18	58.69	48.69	-23.52
3.494	N	23.22	9.89	33.12	56.00	46.00	-22.89
4.254	N	23.91	9.91	33.82	56.00	46.00	-22.18
4.520	L1	23.43	9.90	33.34	56.00	46.00	-22.66
All other emission levels test margins greater than 25 dB.							
Measurements were done with the quasi-peak detector.							
See figure 1-1 and figure 1-2 for the measurement plot of the L1 and N lines of AC power line conducted emissions.							

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AC Conducted Emissions Test Graphs

Test Configuration: 1

Figure 1-1: L1 lines

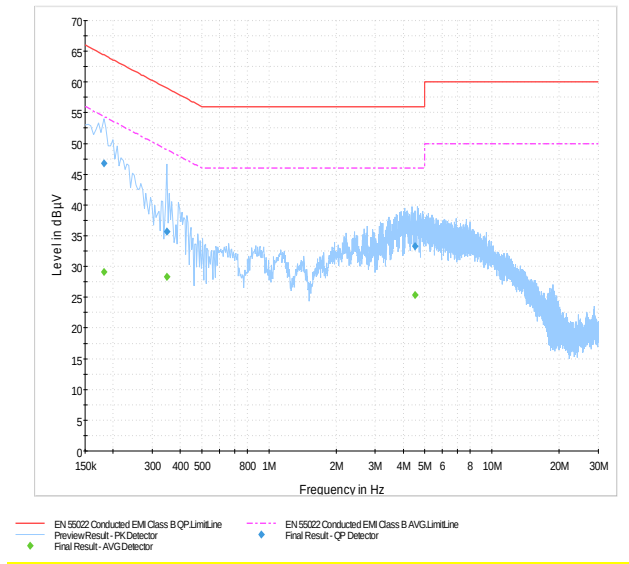
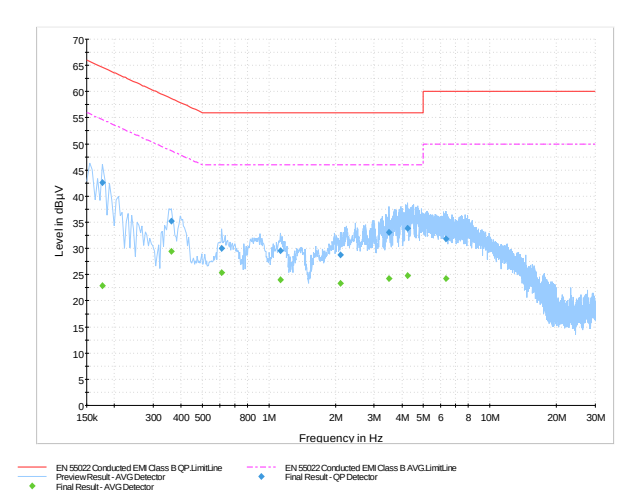


Figure 1-2: N Lines



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AC Conducted Emissions Test Results cont'd

Test Configuration: 2

Date of the test: July 01, 2010

The environmental conditions were:

Temperature: 23 °C
Pressure: 1028 mB
Humidity: 25%

Frequency (MHz)	Line	Reading (QP) (dBµV)	Correction Factor (dB)	Corrected Reading (QP) (dBµV)	Limit (QP) (dBµV)	Limit (AV) (dBµV)	Margin (QP) Limits (dB)
0.155	L1	47.20	11.17	58.37	65.75	55.75	-7.38
0.159	N	45.25	11.17	56.42	65.52	55.52	-9.09
0.164	L1	45.47	11.11	56.58	65.28	55.28	-8.71
0.173	L1	44.86	11.05	55.91	64.84	54.84	-8.93
0.173	N	44.56	11.08	55.64	64.84	54.84	-9.20
0.209	L1	43.74	10.80	54.53	63.26	53.26	-8.73
0.218	L1	43.09	10.73	53.82	62.91	52.91	-9.09
0.240	L1	41.03	10.58	51.61	62.10	52.10	-10.48
0.249	L1	41.42	10.51	51.94	61.79	51.79	-9.85
0.249	N	40.62	10.54	51.15	61.79	51.79	-10.64
0.258	N	40.52	10.47	51.00	61.50	51.50	-10.50
0.263	L1	40.52	10.42	50.94	61.35	51.35	-10.41
0.303	L1	37.02	10.16	47.18	60.16	50.16	-12.98
0.317	L1	36.55	10.14	46.69	59.80	49.80	-13.11
0.339	L1	35.86	10.10	45.96	59.23	49.23	-13.27
0.348	L1	35.89	10.09	45.98	59.01	49.01	-13.03

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AC Conducted Emissions Test Results cont'd

Test Configuration: 2 cont'd

Frequency (MHz)	Line	Reading (QP) (dBμV)	Correction Factor (dB)	Corrected Reading (QP) (dBμV)	Limit (QP) (dBμV)	Limit (AV) (dBμV)	Margin (QP) Limits (dB)
0.348	N	32.73	10.10	42.83	59.01	49.01	-16.18
0.357	L1	34.30	10.08	44.38	58.80	48.80	-14.42
0.357	N	33.13	10.09	43.22	58.80	48.80	-15.58
0.393	L1	32.56	10.02	42.58	58.00	48.00	-15.42
0.434	L1	32.17	9.96	42.13	57.19	47.19	-15.06
0.447	N	29.60	9.95	39.55	56.93	46.93	-17.38
0.479	L1	28.47	9.92	38.39	56.37	46.37	-17.97
0.546	N	27.53	9.89	37.42	56.00	46.00	-18.58
All other emission levels test margins greater than 25 dB.							
Measurements were done with the quasi-peak detector.							
See figure 1-3 and figure 1-4 for the measurement plot of the L1 and N lines of AC power line conducted emissions.							

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AC Conducted Emissions Test Graphs

Test Configuration: 2

Figure 1-3: L1 lines

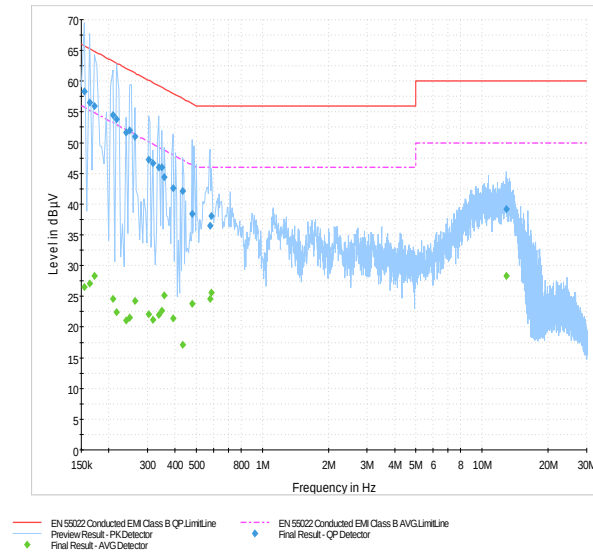
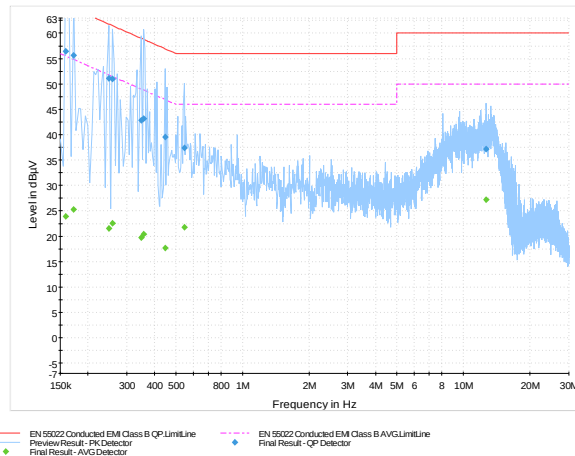


Figure 1-4: N Lines



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APPENDIX 2 – BLUETOOTH AND 802.11b/g RADIATED EMISSIONS TEST DATA

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Radiated Emissions Test Results
Bluetooth Band

Date of Test: June 17, 2010
Measurements were performed by Fahd Faisal.

The environmental test conditions were: Temperature: 23 °C
Pressure: 1014 mb
Relative Humidity: 31%

The test distance was 3.0 metres with a EUT height of 0.8 metres, sweep frequency of 30 MHz to 1 GHz.

The BlackBerry® smartphone in Bluetooth Tx mode was in standalone, vertical position.

The frequency sweep measurements were performed in single frequency mode on channel 39 using packet type “DH5”.

All emissions had a test margin of greater than 25.0 dB.

Date of Test: June 14, 15 and 23, 2010
Measurements were performed by Steven Wang.

The environmental test conditions were: Temperature: 24 °C
Pressure: 1019 – 1023 mb
Relative Humidity: 25 – 30 %

The measurements were performed in single frequency Tx mode using packet type “DH5” on channel 39. The BlackBerry® smartphone was in standalone, vertical position.
The test distance was 3.0 metres with a height of 0.8 metres, 1GHz to 25GHz.

All emissions had a test margin of greater than 25.0 dB.

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Band-Edge Compliance of RF Radiated Emissions Test Results
Bluetooth Band

Date of test: July 07, 2010

Measurements were performed by Fahd Faisal.

The environmental test conditions were: Temperature: 24 °C

Pressure: 1004 mb

Relative Humidity: 31 %

The BlackBerry® smartphone was in standalone, vertical, Pattern type "Static PRBS" in "DH5", "2-DH5" and "3-DH5" modulation during the measurements.

The test distance was 3.0 metres.

Channel	Freq. (MHz)	Rx Antenna		Detector	VBW	Corrected Reading	Delta Marker	Corrected Band edge	Limit	Diff. To Limit
		Type	POL.	(PK, AVE.)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
Low Channel, Packet Type DH5										
0	2402	Horn	V	PK	1 MHz	96.52	53.80	42.72	74	-31.28
0	2402	Horn	H	PK	1 MHz	91.28	49.43	41.85	74	-32.15
0	2402	Horn	V	AVE.	10 Hz	66.53	53.80	12.73	54	-41.27
0	2402	Horn	H	AVE.	10 Hz	63.60	49.43	14.17	54	-39.83
High Channel, Packet Type DH5										
78	2480	Horn	V	PK	1 MHz	97.66	54.19	43.47	74	-30.53
78	2480	Horn	H	PK	1 MHz	92.52	50.11	42.41	74	-31.59
78	2480	Horn	V	AVE.	10 Hz	67.09	54.19	12.90	54	-41.10
78	2480	Horn	H	AVE.	10 Hz	64.43	50.11	14.32	54	-39.68
Low Channel, Packet Type 2-DH5										
0	2402	Horn	V	PK	1 MHz	91.90	48.91	42.99	74	-31.01
0	2402	Horn	H	PK	1 MHz	92.39	49.65	42.74	74	-31.26
0	2402	Horn	V	AVE.	10 Hz	66.31	48.91	17.40	54	-36.60
0	2402	Horn	H	AVE.	10 Hz	60.06	49.65	10.41	54	-43.59
High Channel, Packet Type 2-DH5										
78	2480	Horn	V	PK	1 MHz	94.52	50.10	44.42	74	-29.58
78	2480	Horn	H	PK	1 MHz	91.80	48.72	43.08	74	-30.92
78	2480	Horn	V	AVE.	10 Hz	67.19	50.10	17.09	54	-36.91
78	2480	Horn	H	AVE.	10 Hz	62.59	48.72	13.87	54	-40.13

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Band-Edge Compliance of RF Radiated Emissions Test Results cont'd
Bluetooth Band

Channel	Freq. (MHz)	Rx Antenna		Detector (PK, AVE.)	VBW (MHz)	Corrected Reading (dBuV/m)	Delta Marker (dB)	Corrected Band edge (dBuV/m)	Limit (dBuV/m)	Diff. To Limit (dB)
		Type	POL.							
Low Channel, Packet Type 3-DH5										
0	2402	Horn	V	PK	1 MHz	91.08	49.07	42.01	74	-31.99
0	2402	Horn	H	PK	1 MHz	92.62	47.94	44.68	74	-29.32
0	2402	Horn	V	AVE.	10 Hz	66.98	49.07	17.91	54	-36.09
0	2402	Horn	H	AVE.	10 Hz	62.69	47.94	14.75	54	-39.25
High Channel, Packet Type 3-DH5										
78	2480	Horn	V	PK	1 MHz	93.25	49.53	43.72	74	-30.28
78	2480	Horn	H	PK	1 MHz	90.05	47.37	42.68	74	-31.32
78	2480	Horn	V	AVE.	10 Hz	60.68	49.53	11.15	54	-42.85
78	2480	Horn	H	AVE.	10 Hz	59.05	47.37	11.68	54	-42.32

See figures 2-1 to 2-12 for the plots of the Bluetooth band-edge compliance.

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Bluetooth Band-Edge Compliance of RF Radiated Emissions cont'd

Figure 2-1: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
DH5, Channel 0, Pol: V, Detector: PK

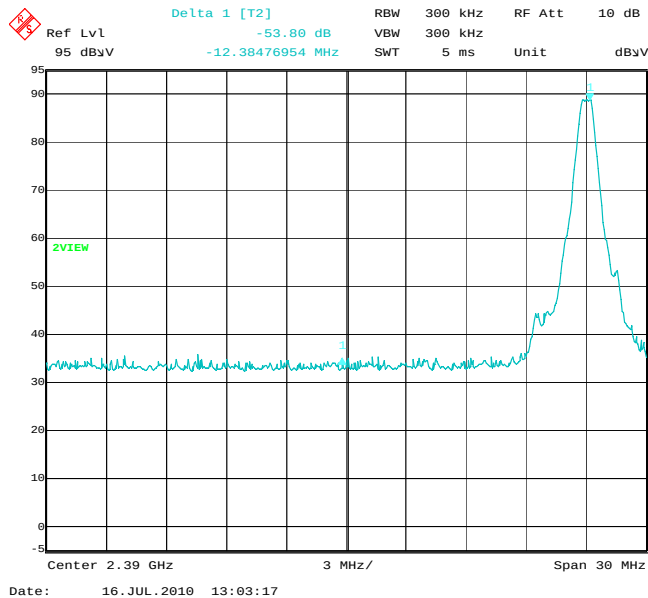


Figure 2-2: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
DH5, Channel 0, Pol: H, Detector: PK

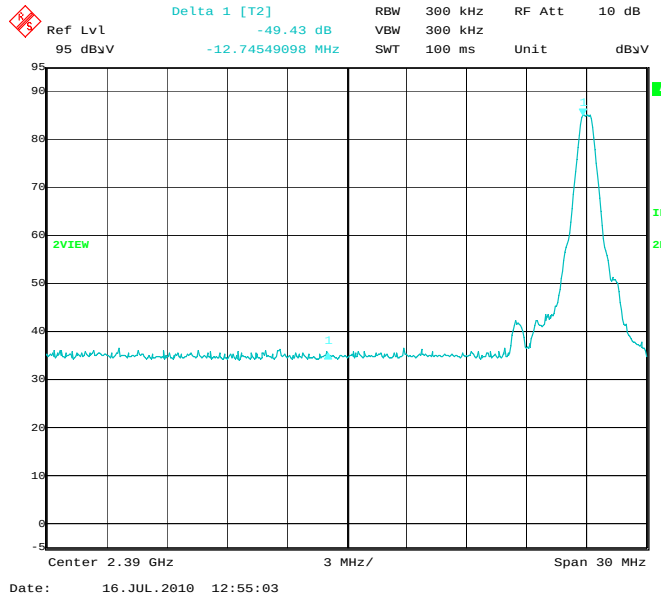


Figure 2-3: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
DH5, Channel 78, Pol: V, Detector: PK

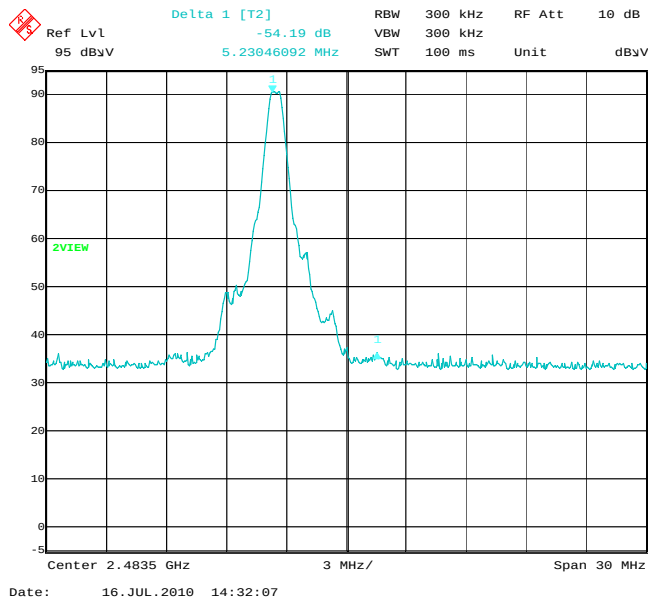
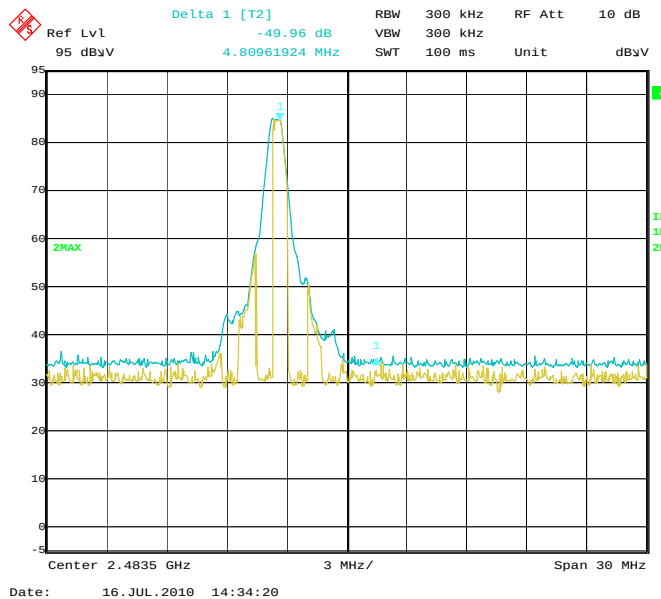


Figure 2-4: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
DH5, Channel 78, Pol: H, Detector: PK



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Bluetooth Band-Edge Compliance of RF Radiated Emissions cont'd

Figure 2-5: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
2-DH5, Channel 0, Pol: V, Detector: PK

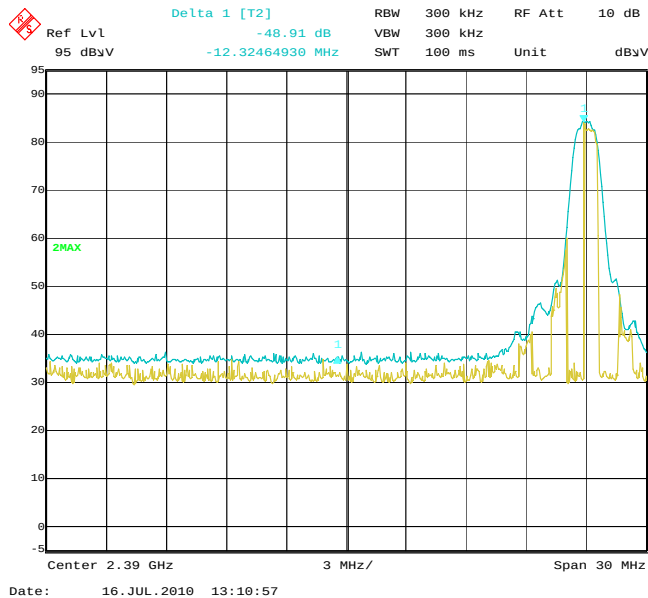


Figure 2-6: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
2-DH5, Channel 0, Pol: H, Detector: PK

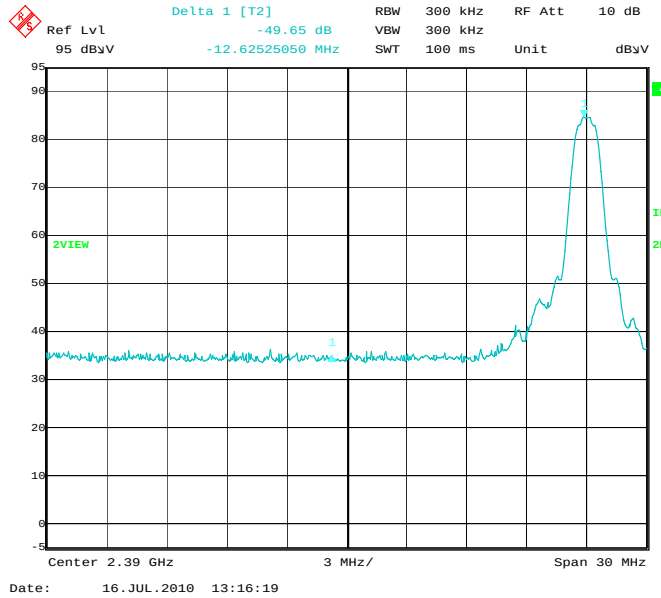


Figure 2-7: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
2-DH5, Channel 78, Pol: V, Detector: PK

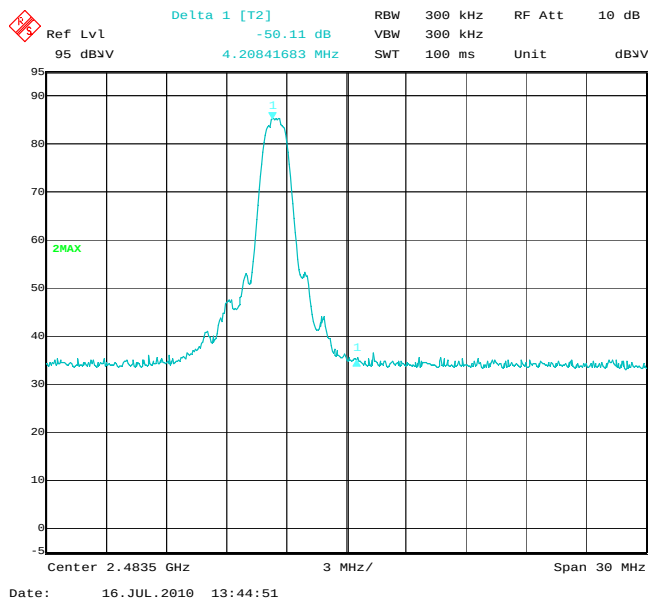
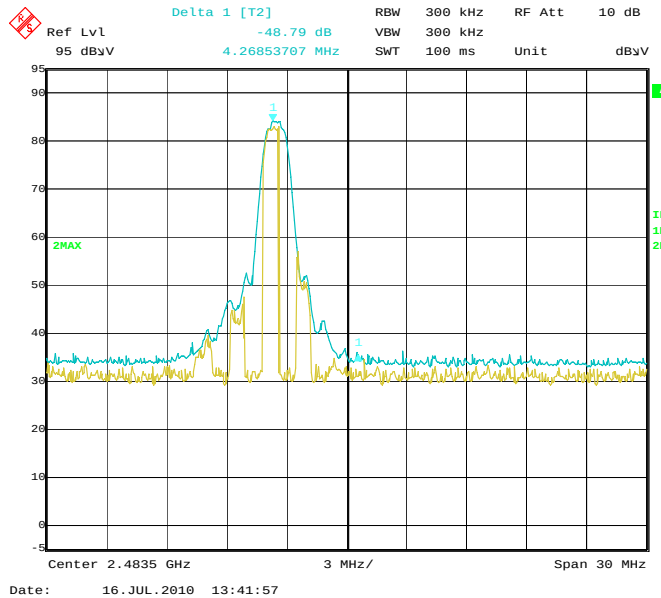


Figure 2-8: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
2-DH5, Channel 78, Pol: H, Detector: PK



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Bluetooth Band-Edge Compliance of RF Radiated Emissions cont'd

Figure 2-9: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
3-DH5, Channel 0, Pol: V, Detector: PK

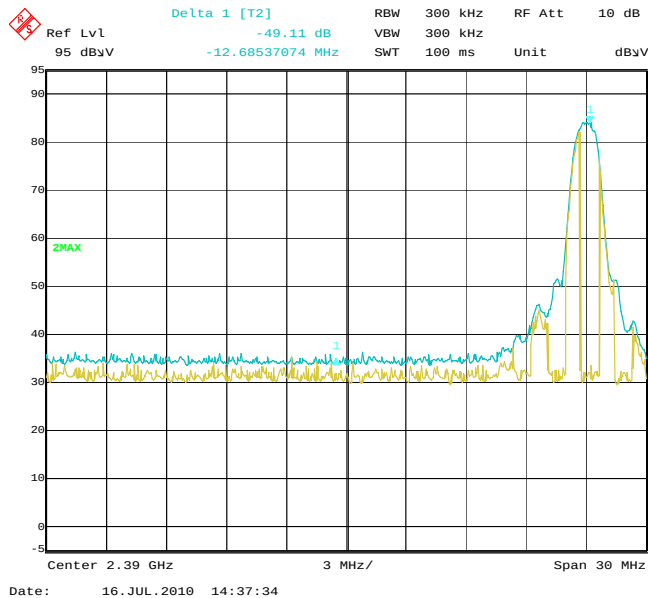


Figure 2-10: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
3-DH5, Channel 0, Pol: H, Detector: PK

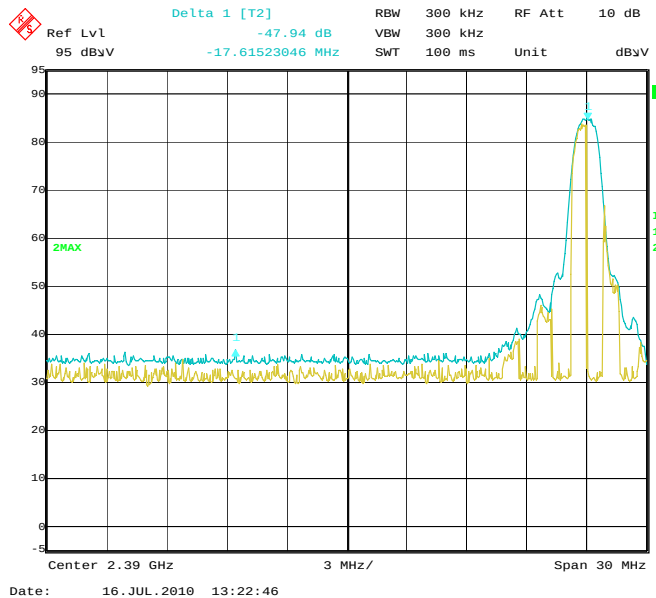


Figure 2-11: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
3-DH5, Channel 78, Pol: V, Detector: PK

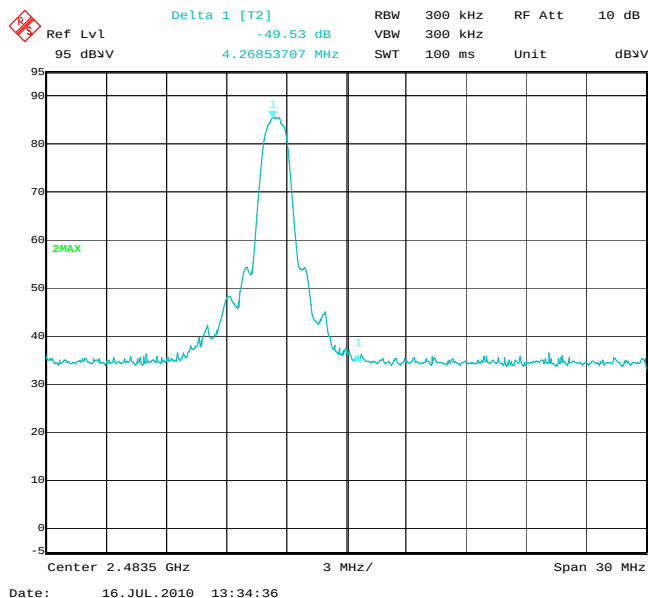
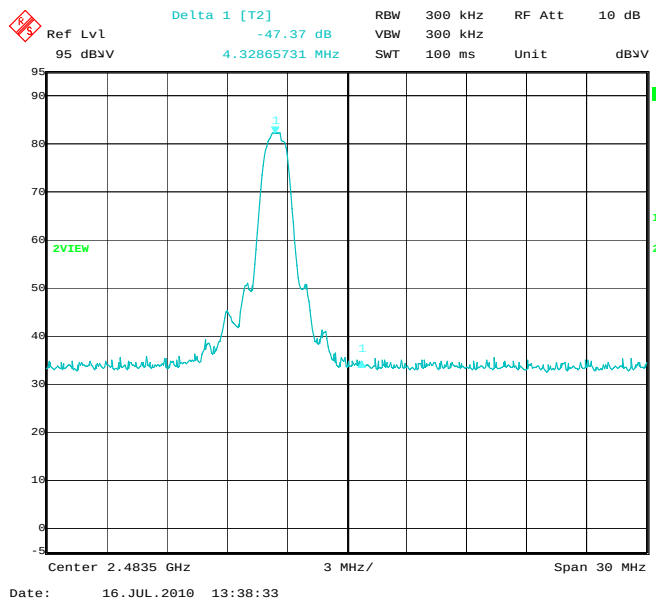


Figure 2-12: Band-Edge Compliance of RF Rad. Emissions.
Bluetooth, Single freq., Static PRBS,
3-DH5, Channel 78, Pol: H, Detector: PK



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Radiated Emissions Test Results cont'd
802.11b Band

Date of Test: June 17, 2010

Measurements were performed by Fahd Faisal.

The environmental test conditions were: Temperature: 22 °C

Pressure: 1000 mb

Relative Humidity: 23 %

The test distance was 3.0 metres with a height of 0.8 metres, 30 MHz to 1000 MHz.

The BlackBerry® smartphone was in standalone, USB up position.

The frequency sweep measurements were performed in 802.11b Tx mode at 1 Mbps on channel 6.

All emissions had a test margin greater than 25.0 dB.

Date of Test: June 21 and 23, 2010

Measurements were performed by Steven Wang.

The environmental test conditions were: Temperature: 24 °C

Pressure: 1019 – 1022 mb

Relative Humidity: 29 – 30 %

The test distance was 1.0 metres with a height of 0.8 metres, 1GHz to 25GHz.

The BlackBerry® smartphone was in standalone, USB up position.

The frequency sweep measurements were performed in 802.11b Tx mode at 1 Mbps on channel 6.

All other emissions, including harmonics, had a test margin greater than 25.0 dB.

		EMI Test Report for the BlackBerry® smartphone Model RCM72UW APPENDIX 2	
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802.11b/g Band-Edge Compliance of RF Radiated Emissions

Date of Tests: August 23, 2010

Measurements performed by Fahd Faisal.

The environmental test conditions were: Temperature: 24 °C
Pressure: 1017 mb
Relative Humidity: 34 %

802.11b Band

The measurements were performed on BlackBerry® smartphone in standalone, vertical configuration on channels 1 and 11 for 802.11b mode at 1 Mbps.

The test distance was 3 metres.

Channel	Freq. (MHz)	Rx Antenna		Detector (MHz)	VBW For Peak (dBuV/m)	Peak Corrected Reading (dBuV/m)	Delta Marker (dB) (dBuV/m)	Corrected Band edge	Limit (dBuV/m)	Diff. To Limit (dB)
		Type	POL.							
1.0	2412.00	Horn	V	PK	1 MHz	49.17	0.00	49.17	74.00	-24.83
1.0	2412.00	Horn	H	PK	1 MHz	51.38	0.00	51.38	74.00	-22.62
1.0	2412.00	Horn	V	AV	10 Hz	36.50	0.00	36.50	54.00	-17.50
1.0	2412.00	Horn	H	AV	10 Hz	40.40	0.00	40.40	54.00	-13.60

Channel	Freq. (MHz)	Rx Antenna		Detector (MHz)	VBW For Peak (dBuV/m)	Peak Corrected Reading (dBuV/m)	Delta Marker (dB) (dBuV/m)	Corrected Band edge	Limit (dBuV/m)	Diff. To Limit (dB)
		Type	POL.							
11.0	2462.00	Horn	V	PK	1 MHz	48.21	0.00	48.21	74.00	-25.79
11.0	2462.00	Horn	H	PK	1 MHz	53.77	0.00	53.77	74.00	-20.23
11.0	2462.00	Horn	V	AV	10 Hz	36.49	0.00	36.49	54.00	-17.51
11.0	2462.00	Horn	H	AV	10 Hz	41.29	0.00	41.29	54.00	-12.71

		EMI Test Report for the BlackBerry® smartphone Model RCM72UW APPENDIX 2	
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Radiated Emissions Test Results cont'd
802.11g Band

The measurements were performed on the BlackBerry® smartphone in standalone, vertical configuration on channels 1 and 11 for 802.11g mode at 6 Mbps.

The test distance was 3 metres.

Channel	Freq. (MHz)	Rx Antenna		Detector (MHz)	VBW For Peak (dBuV/m)	Peak Corrected Reading (dBuV/m)	Delta Marker (dB) (dBuV/m)	Corrected Band edge	Limit (dBuV/m)	Diff. To Limit (dB)
		Type	POL.							
1.0	2412.00	Horn	V	PK	1 MHz	54.42	0.00	54.42	74.00	-19.58
1.0	2412.00	Horn	H	PK	1 MHz	65.21	0.00	65.21	74.00	-8.79
1.0	2412.00	Horn	V	AV	10 Hz	37.14	0.00	37.14	54.00	-16.86
1.0	2412.00	Horn	H	AV	10 Hz	42.68	0.00	42.68	54.00	-11.32

Channel	Freq. (MHz)	Rx Antenna		Detector (MHz)	VBW For Peak (dBuV/m)	Peak Corrected Reading (dBuV/m)	Delta Marker (dB) (dBuV/m)	Corrected Band edge	Limit (dBuV/m)	Diff. To Limit (dB)
		Type	POL.							
11.0	2462.00	Horn	V	PK	1 MHz	55.65	0.00	55.65	74.00	-18.35
11.0	2462.00	Horn	H	PK	1 MHz	61.55	0.00	61.55	74.00	-12.45
11.0	2462.00	Horn	V	AV	10 Hz	37.36	0.00	37.36	54.00	-16.64
11.0	2462.00	Horn	H	AV	10 Hz	42.93	0.00	42.93	54.00	-11.07

See figures 2-13 to 2-16 for the plots of the 802.11b band-edge compliance.
See figures 2-17 to 2-20 for the plots of the 802.11g band-edge compliance.

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802.11b/g Band-Edge Compliance of RF Radiated Emissions cont'd

Figure 2-13: Band-Edge Compliance of RF Radiated Emission
802.11b, Channel 1, 2412 MHz, Max Pol: V,
Detector: PK

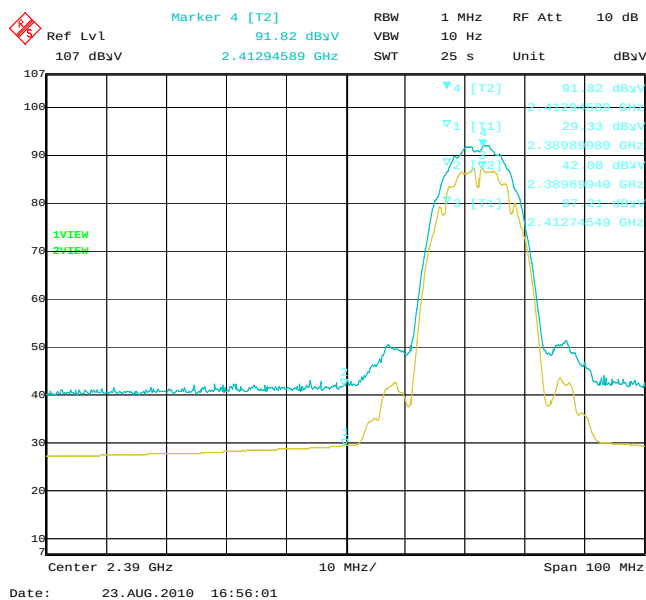


Figure 2-14: Band-Edge Compliance of RF Radiated Emission
802.11b, Channel 1, 2412 MHz, Max Pol: H,
Detector: PK

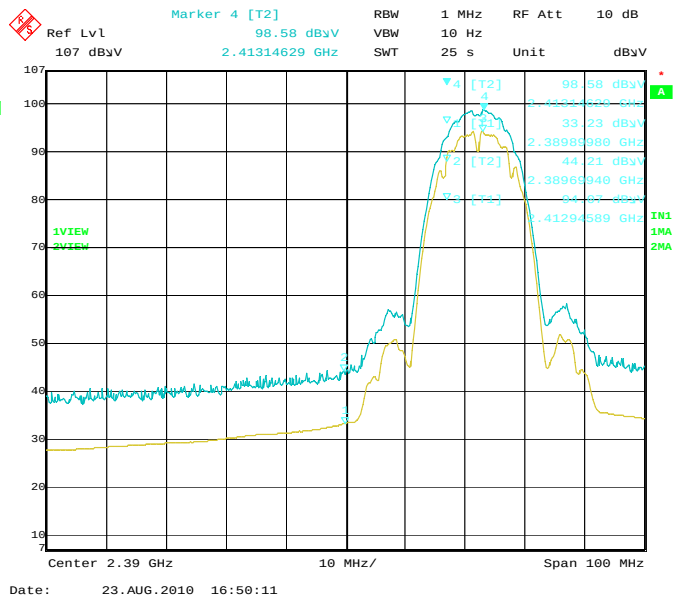


Figure 2-15: Band-Edge Compliance of RF Radiated Emission
802.11b, Channel 11, 2462 MHz, Max Pol: V,
Detector: PK

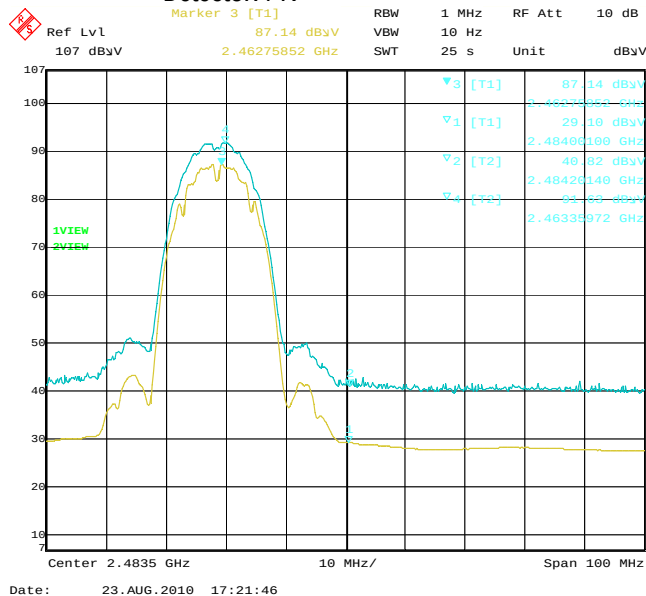
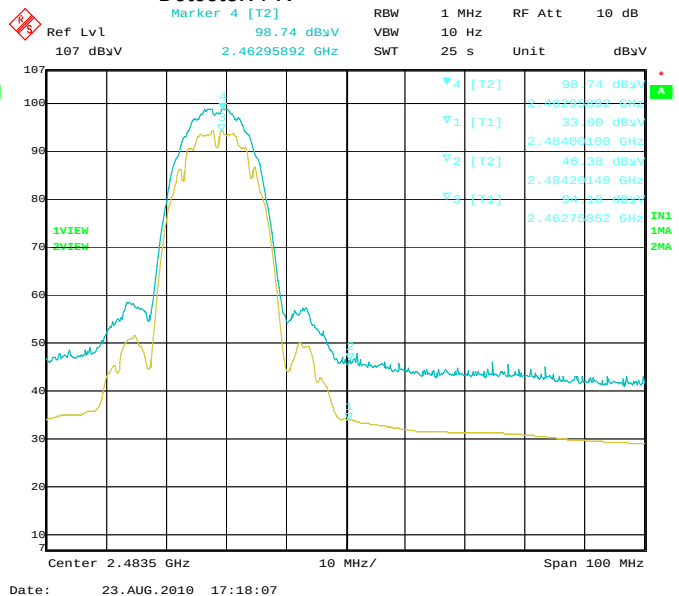


Figure 2-16: Band-Edge Compliance of RF Radiated Emission
802.11b, Channel 11, 2462 MHz, Max Pol: H,
Detector: PK



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Figure 2-17: Band-Edge Compliance of RF Radiated Emission
802.11g, Channel 1, 2412 MHz, Max Pol: V,
Detector: PK

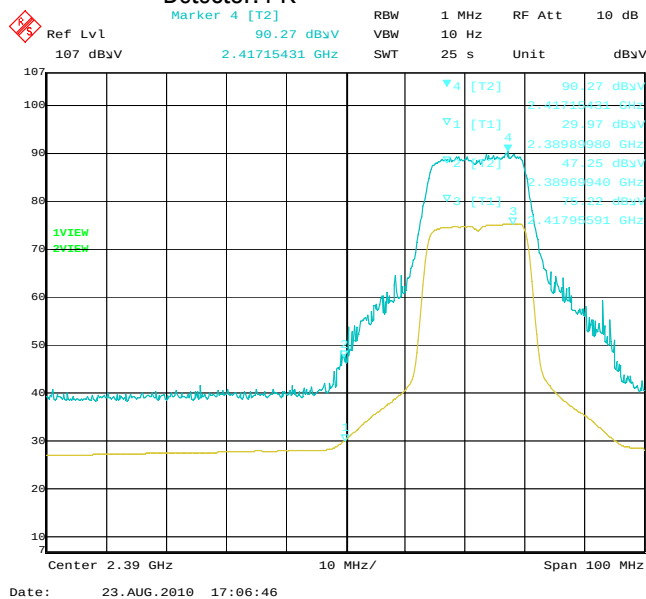


Figure 2-18: Band-Edge Compliance of RF Radiated Emission
802.11g, Channel 1, 2412 MHz, Max Pol: H,
Detector: PK

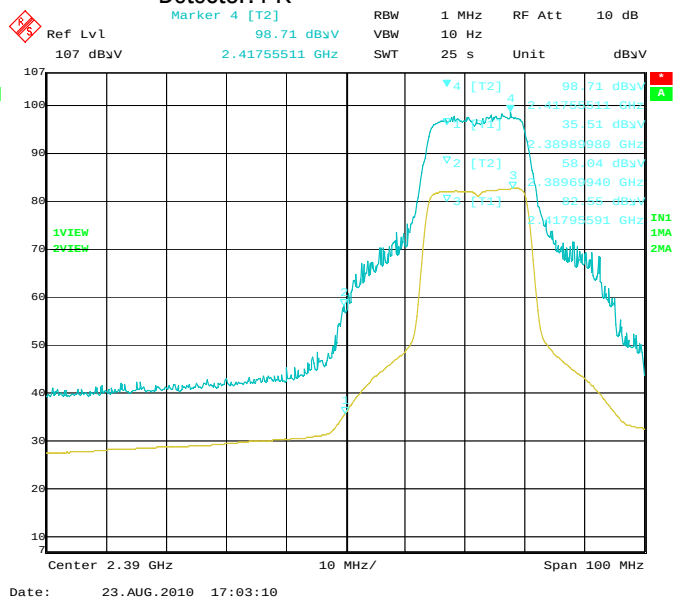


Figure 2-19: Band-Edge Compliance of RF Radiated Emission
802.11g, Channel 11, 2462 MHz, Max Pol: V,
Detector: PK

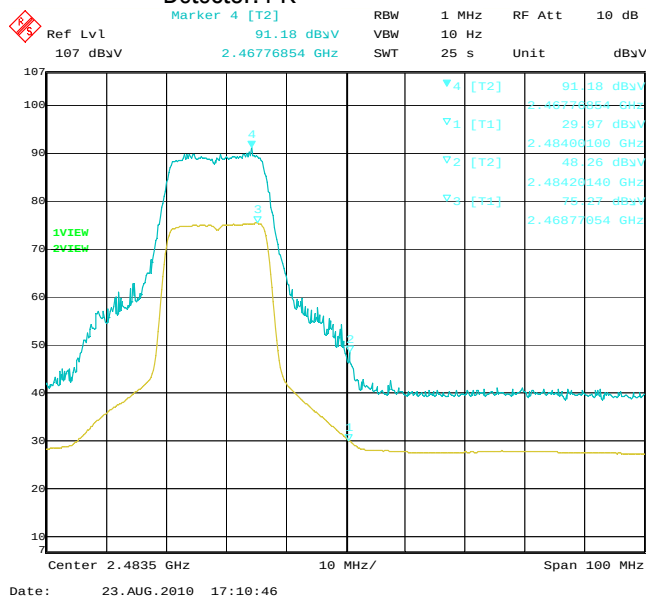


Figure 2-20: Band-Edge Compliance of RF Radiated Emission
802.11g, Channel 11, 2462 MHz, Max Pol: H,
Detector: PK

