



Accredited testing-laboratory

DAR registration number: DAT-P-176/94-D1

**Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97**

Recognized by the Federal Communications Commission

Anechoic chamber registration no.: 90462 (FCC)

Anechoic chamber registration no.: 3463A-1 (IC)

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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Test report no. : 4-3101-01-07A/08
Type identification : BlackBerry Smartphone Model RBZ41GW
Applicant : Research In Motion Limited
FCC ID : L6ARBZ40GW
IC Certification No : 2503A-RBZ40GW
Test standards : 47 CFR Part 15
RSS - 210 Issue 7

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1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

Test laboratory manager:

2008-10-03	Karsten Gerald	
Date	Name	Signature

Technical responsibility for area of testing:

2008-10-03	Michael Berg	
Date	Name	Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

e-mail: info@ICT.cetecom.de

Internet: http://www.cetecom-ict.de

State of accreditation: The test laboratory (area of testing) is accredited according to
DIN EN ISO/IEC 17025
DAR registration number: DAT-P-176/94-D1

Accredited by: Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97

Testing location, if different from CETECOM ICT Services GmbH:

Name :
Street :
Town :
Country :
Phone :
Fax :

1.3 Details of applicant

Name:	Research In Motion Limited
Street:	305 Phillip Street
Town:	Waterloo, ON N2L 3W8
Country:	Canada
Telephone:	
Fax:	
Contact:	Masud Attayi
E-mail:	mattayi@rim.com
Telephone:	+1-519-888-7465
	+1-519-888-6906

1.4 Application details

Date of receipt of order:	2008-07-30
Date of receipt of test item:	2008-08-08
Date of start test:	2008-09-05
Date of end test:	2008-09-22
Persons(s) who have been present during the test:	-/-

2 Test standard/s:

47 CFR Part 15	2007-09	Title 47 of the Code of Federal Regulations; Chapter I- Federal Communications Commission subchapter A - general, Part 15-Radio frequency devices
RSS - 210 Issue 7	2007-06	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

3 Technical tests

3.1 Details of manufacturer

Name:	Research In Motion Limited
Street:	295 Phillip Street
Town:	Waterloo, ON N2L 3W8
Country:	Canada

3.1.1 Test item

Kind of test item	:	PDA GSM850/900/1800/1900 / EDGE /BT / WLAN
Type identification	:	BlackBerry Smartphone Model RBZ41GW
S/N serial number	:	20761AF2 / IMEI: 004401133436077
HW hardware status	:	CER-17672-001 Rev 2
SW software status	:	v4.6.1.18 (platform 4.2.0.24)
Frequency Band [MHz]	:	ISM 2.400 - 2.483,5
Type of Modulation	:	FHSS
Number of channels	:	79
Antenna	:	Integrated antenna
Power Supply	:	3.7 V DC by Lithium Ion battery BAT-17720-002
Temperature Range	:	-10 °C to +55 °C

FCC ID: L6ARBZ40GW
 IC: 2503A-RBZ40GW

Note:
 The current test report documents partial testing only.

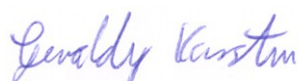
3.1.2 Additional EUT information For IC Canada (appendix 2)

IC Registration Number:	2503A-RBZ40GW
Model Name:	BlackBerry Smartphone Model RBZ41GW
Manufacturer (complete Address):	Research In Motion Limited 295 Phillip Street Waterloo, ON N2L 3W8 Canada
Tested to Radio Standards Specification (RSS) No.:	RSS-210 Issue 7
Open Area Test Site Industry Canada Number:	IC 3463A-1
Frequency Range (or fixed frequency) [MHz]:	2400 – 2483.5 MHz
RF: Power [W] (max):	not tested
Antenna Type:	integrated antenna
Occupied Bandwidth (99% BW) [kHz]:	not tested
Type of Modulation:	GFSK, Pi/4 DQPSK, 8 DPSK
Emission Designator (TRC-43):	not tested
Transmitter Spurious (worst case) [μ V/m in 3m]:	no critical peaks detected
Receiver Spurious (worst case) [μ V/m in 3m]:	not tested

ATTESTATION:

I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all applicable test conditions specified in the departmental standards and all of the requirements of the standards have been met.

Signature:



Test engineer: Karsten Gerald Date: 2008-10-03

Note:

The current test report documents partial testing only.

3.1.3 EUT operating modes

EUT operating mode no. *)	Description of operating modes	Additional information
Op. 0	Normal mode	Normal temperature and power source conditions
Op. 1		low temperature, low power source conditions
Op. 2		low temperature, high power source conditions
Op. 3		high temperature, low power source conditions
Op. 4		high temperature, high power source conditions

*) EUT operating mode no. is used to simplify the test plan

3.1.4 Extreme conditions testing values

Description	Shortcut	Unit	Value
Nominal Temperature	T _{nom}	°C	20
Nominal Humidity	H _{nom}	%	46
Nominal Power Source	V _{nom}	V	3.7

Type of power source: **3.7 V DC by Lithium Ion battery BAT-17720-002**

Deviations from these values are reported in chapter 2

Note:

The current test report documents partial testing only.

4 Summary of Measurement Results and list of all performed test cases

- No deviations from the technical specifications were ascertained
- There were deviations from the technical specifications ascertained

TC identifier	Description	verdict	date	Remark
RF-Testing	FCC Part 15 §15.247 - CANADA RSS-210	passed	2008-05-03	partial testing only

Test Specification Clause	Test Case	Modulation	Pass	Fail	N/A	Not performed
None	Antenna Gain	GFSK				X
§15.247(a1)	Carrier frequency separation	GFSK				X
§15.247(a1)	Number of hopping channels	GFSK				X
§15.247(a)(1)(iii)	Time of occupancy (dwell time)	--				X
§15.247(e)	Power Spectral density (Hybrid system in Inquiry mode/Page scan)	--				X
§15.247(a)(1)	Spectrum Bandwidth of a FHSS System / 20dB Bandwith	GFSK Pi/4 DQPSK 8 DPSK				X
§ 15.247 (b)(1)	Maximum output power (conducted)	GFSK Pi/4 DQPSK 8 DPSK				X
§ 15.247 (b)(1)	Max. peak output power (radiated)	GFSK				X
§ 15.247 (d)	Band-edge compliance of conducted emissions	GFSK Pi/4 DQPSK 8 DPSK				X
§ 15.205	Band-edge compliance of radiated emissions	GFSK Pi/4 DQPSK 8 DPSK	Yes Yes Yes			
§ 15.247 (d)	Spurious Emission - conducted (Transmitter)	GFSK Pi/4 DQPSK 8 DPSK				X
§ 15.247 (d)	Spurious Emission - radiated (Transmitter) >30 MHz	GFSK	Yes			
§ 15.109	Spurious Emissions - radiated (Receiver)	GFSK				X
§ 15.209	Spurious Emissions - radiated (Transmitter) <30 MHz	GFSK	Yes			
§ 15.107/207	Conducted Emissions <30 MHz	GFSK				X

5 RF measurement testing

5.1 Description of test set-up

5.1.1 Radiated measurements

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 25 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63-4-2003 clause 4.2.

Antennas are confirmed with ANSI C63.2-1996 item 15.

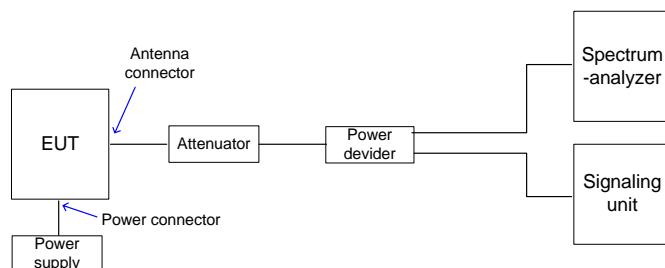
- 9 kHz - 150 kHz: Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.
- 150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.
- 30 MHz - 200 MHz: Quasi Peak measurement, 120 kHz Bandwidth, biconical antenna
- 200MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, log periodic antenna
- >1GHz: Average, RBW 1MHz, VBW 10 Hz, waveguide horn

All measurements are done in accordance with the Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems DA 00-705 and Appendix A “BLUETOOTH APPROVALS”

The EUT is powered by an external power supply with nominal voltage. The signalling is performed from outside the chamber with a signalling unit (CMU200 or other) by air link using signalling antenna.

5.1.2 Conducted measurements

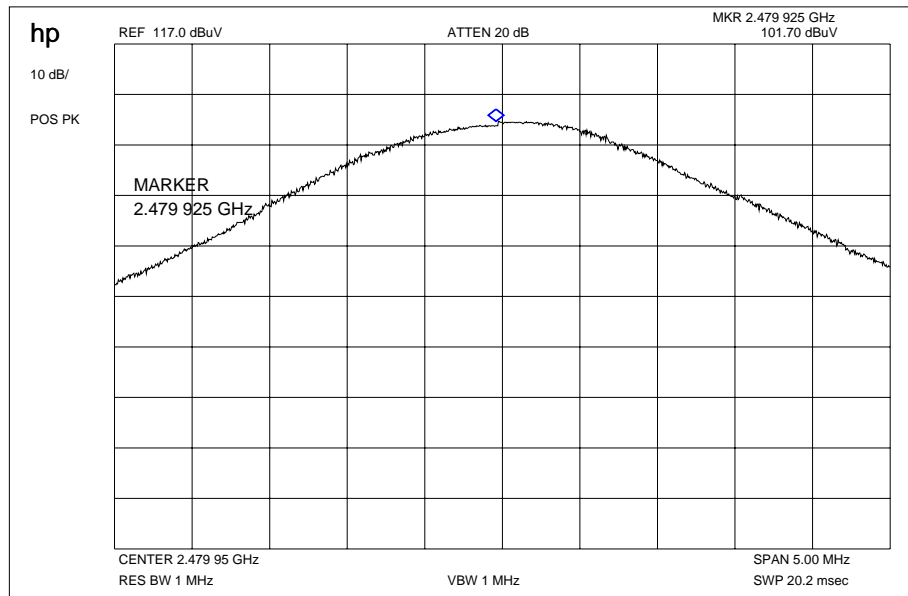
The EUT’s RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is first 10dB attenuated before it is power divided (~6dB loss per branch). One of the signal paths is connected to the communication base Station (CMU200 or other), the other one is connected to the spectrum analyzer. The specific losses for both signal paths are first checked within a calibration. The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, signalling unit and the spectrum analyzer are impedance matched on 50 Ohm.



5.2 Band-edge compliance of radiated emissions §15.205

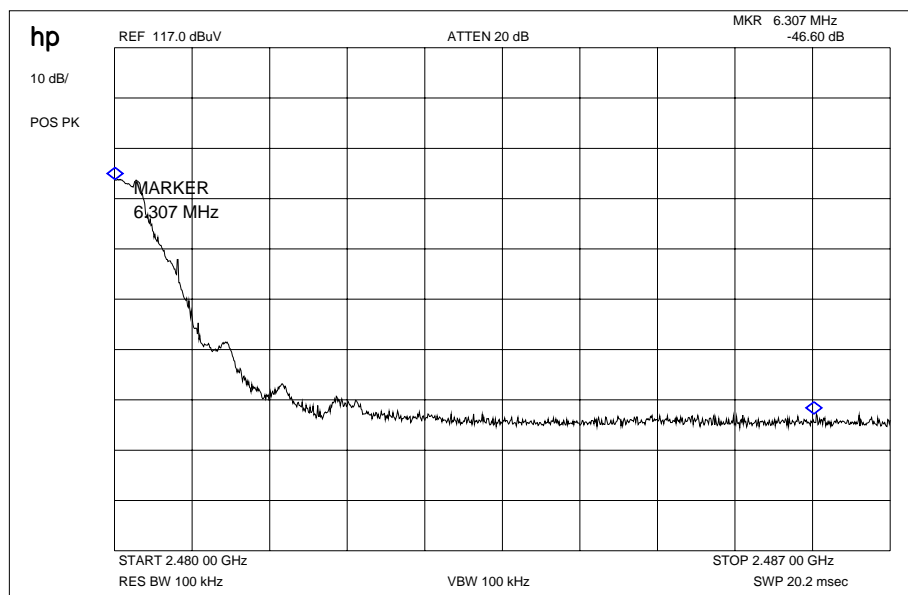
Modulation: GFSK

Plot 1: Max field strength in 3m distance (single frequency)



Result: 101.7 dB μ V/m

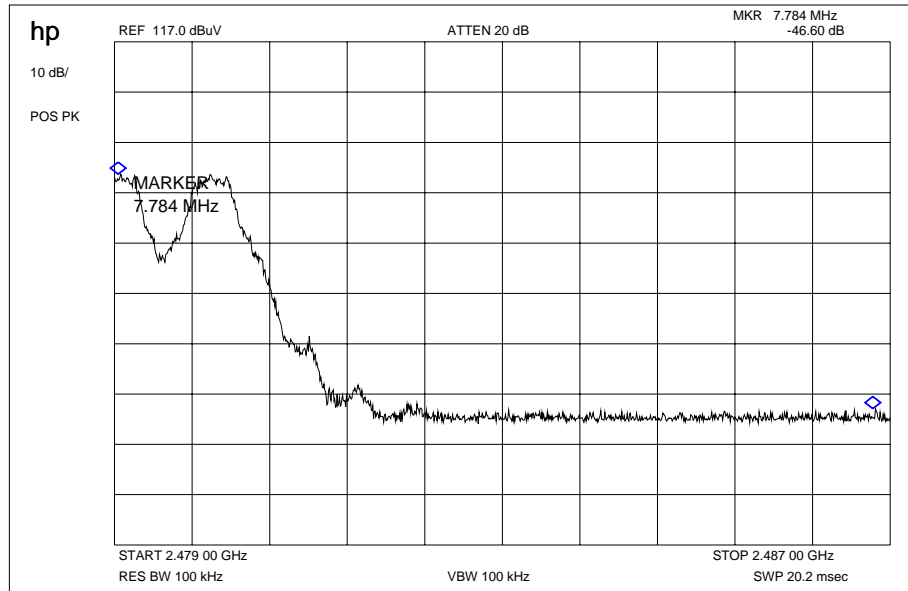
Plot 2: Marker-Delta Method (single carrier)



Marker-Delta-Value: 46.6 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands).

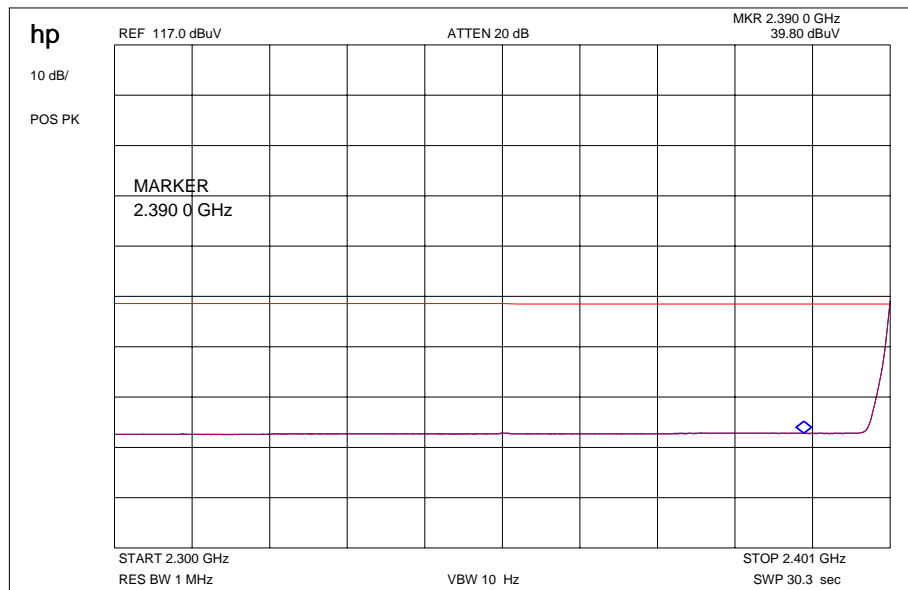
Plot 3: Marker-Delta Method (hopping)



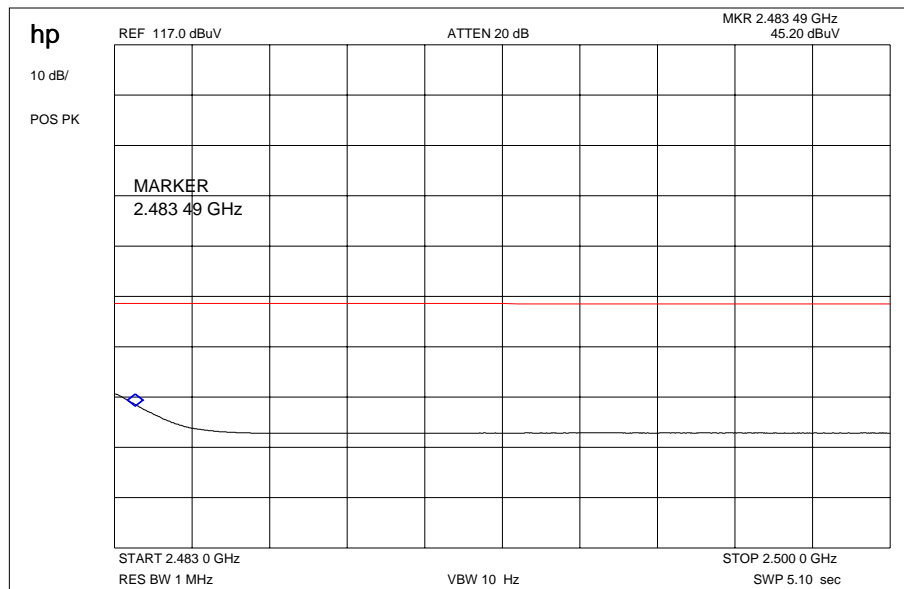
Marker-Delta-Value: 46.6 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands).

Plot 4: Restricted Bands low



Plot 5: Restricted Bands high



Results & Limits:

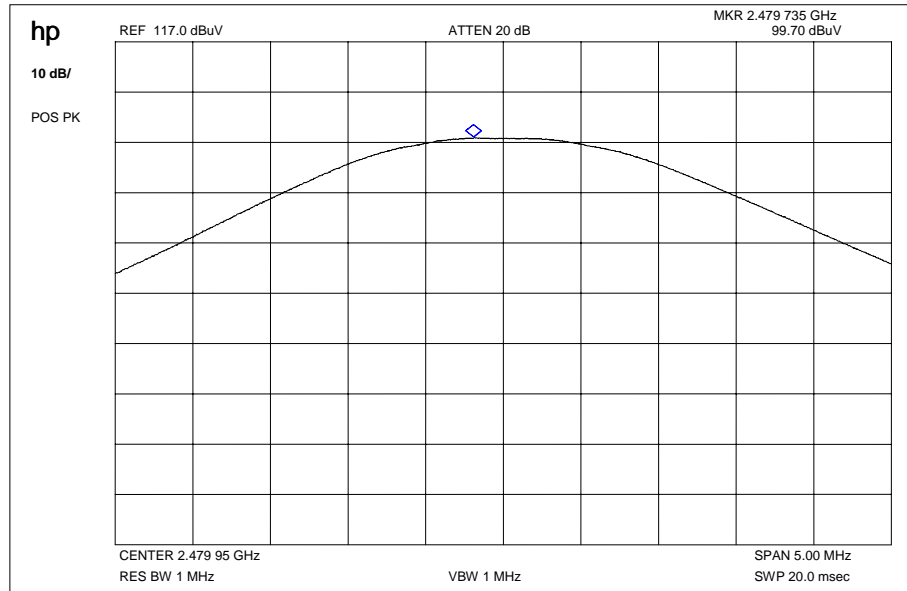
Radiated field strength

The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

high channel	setup	measured value (3m)	correction factor (3m)	calculated value (3m)
Max. peak value	1 MHz RBW 1 MHz VBW	101.7 dB μ V/m	-6.3	95.4 dB μ V/m
Max. average value	Calculated with duty cycle correction factor	95.4 dB μ V/m peak	-1,07dB duty cycle correction factor (worst case DH5)	94.33 dB μ V/m
Delta value	Peak 100 kHz RBW/VBW	46.6 dB (single carrier) 46.6 dB (hopping mode)	-	-
Value at band edge	limit 54 dB μ V/m			47.7 dB μ V/m (single carrier) 47.7 dB μ V/m (hopping mode)
Statement:				Complies

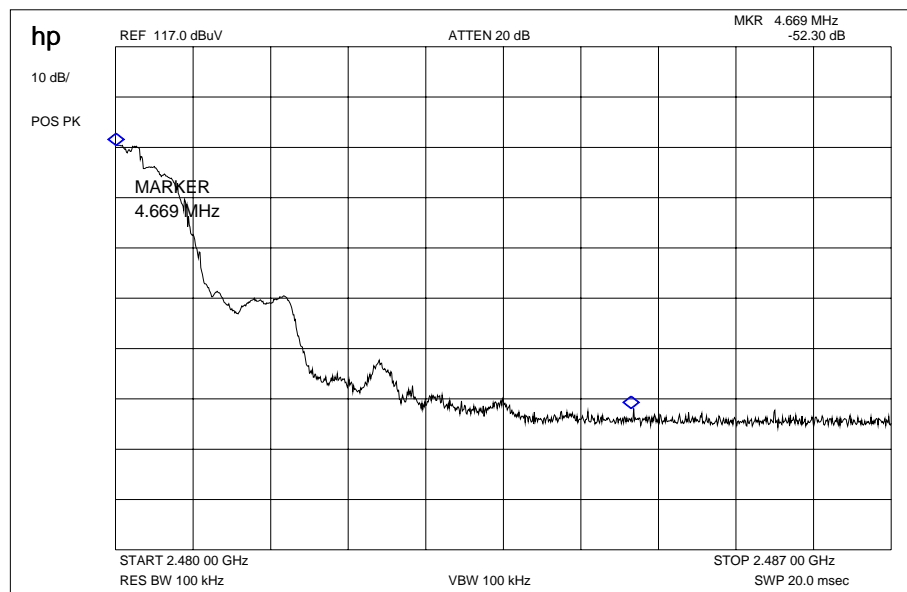
Modulation: Pi/4 DQPSK

Plot 1: Max field strength in 3m distance (single frequency)



Result: 99.7 dB μ V/m

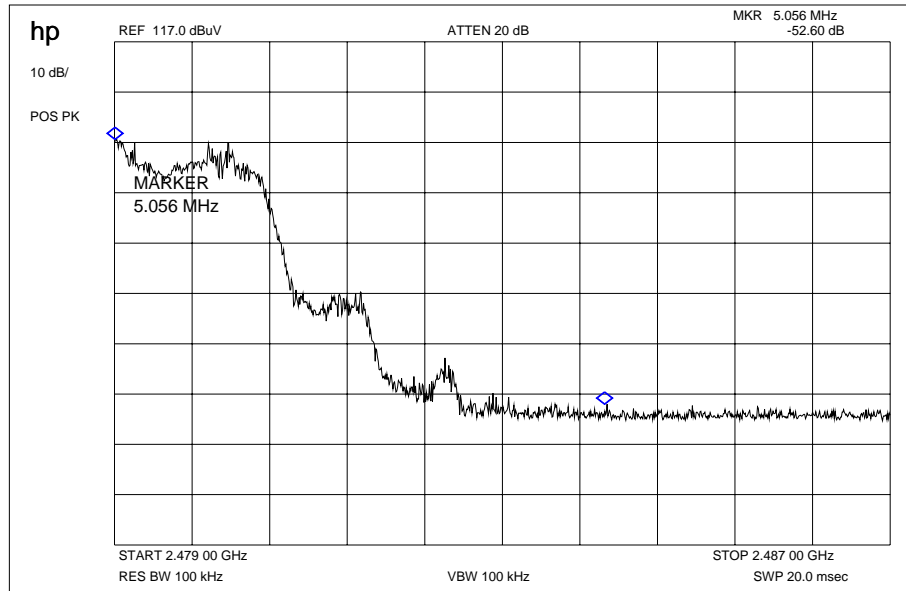
Plot 2: Marker-Delta Method (single carrier)



Marker-Delta-Value: 52.3 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands).

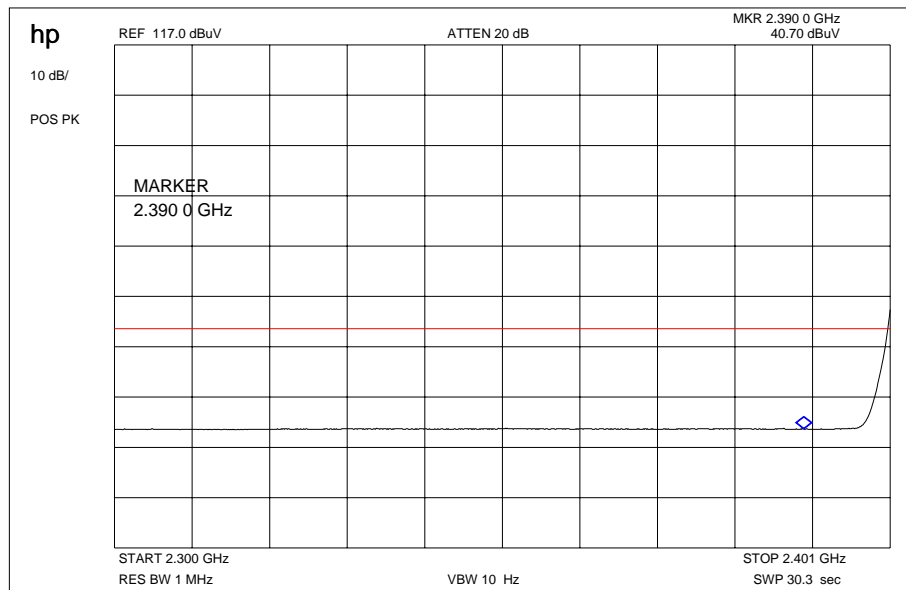
Plot 3: Marker-Delta Method (hopping)



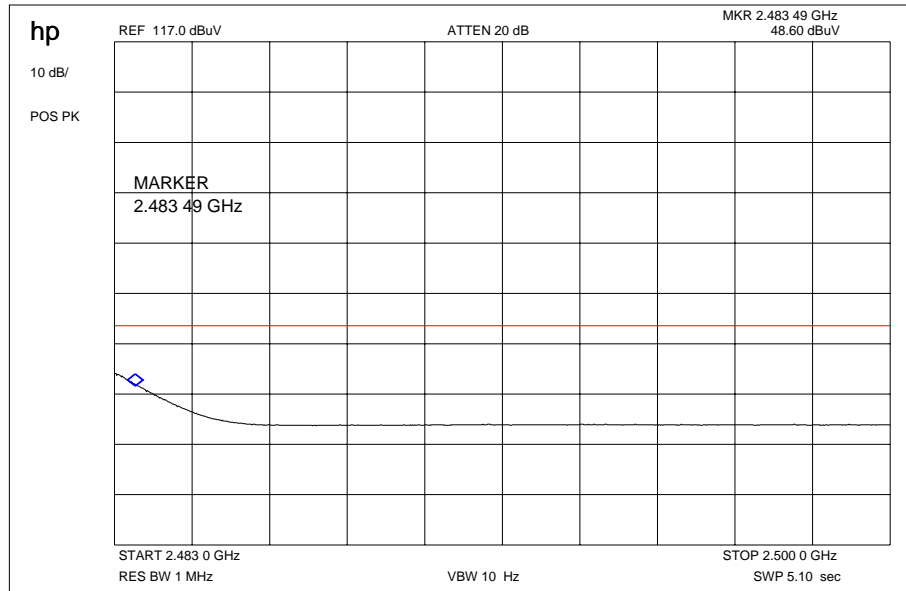
Marker-Delta-Value: 52.6 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands).

Plot 4: Restricted Bands low



Plot 5: Restricted Bands high



Results & Limits:

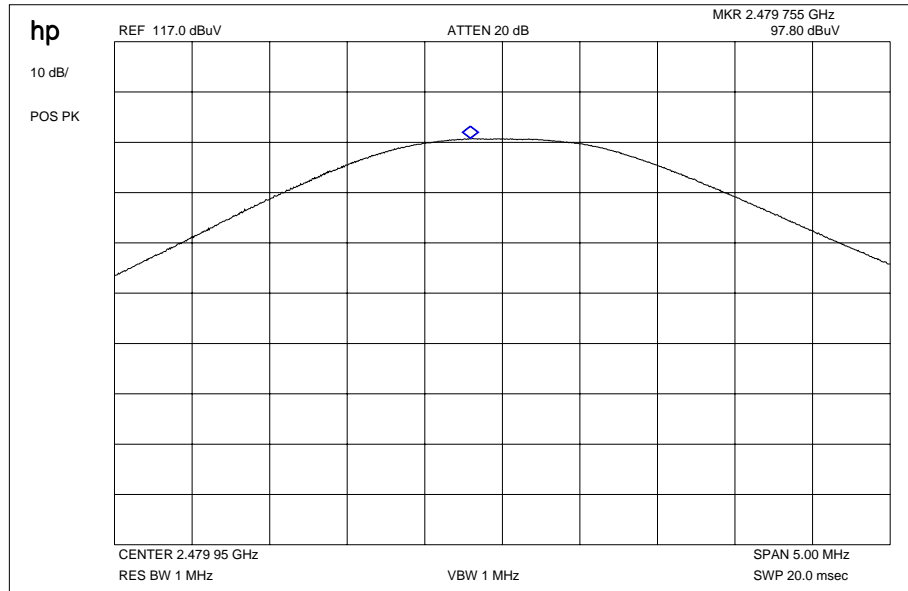
Radiated field strength

The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

high channel	setup	measured value (3m)	correction factor (3m)	calculated value (3m)
Max. peak value	1 MHz RBW 1 MHz VBW	99.7 dB μ V/m	-6.3	93.4 dB μ V/m
Max. average value	Calculated with duty cycle correction factor	93.4 dB μ V/m peak	-1,07dB duty cycle correction factor (worst case DH5)	92.33 dB μ V/m
Delta value	Peak 100 kHz RBW/VBW	52.3 dB (single carrier) 52.6 dB (hopping mode)	-	-
Value at band edge	limit 54 dB μ V/m			40.0 dB μ V/m (single carrier) 39.7 dB μ V/m (hopping mode)
Statement:				Complies

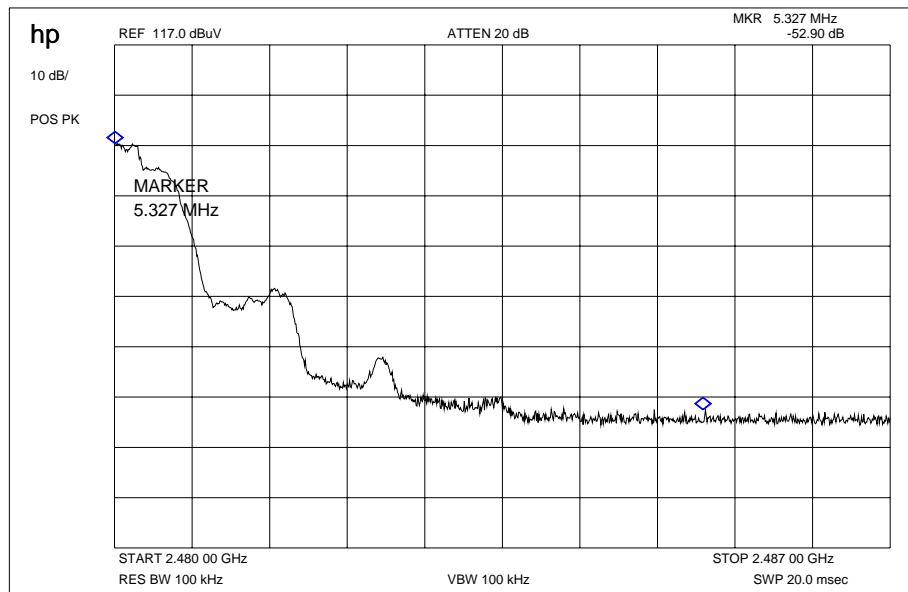
Modulation: 8 DPSK

Plot 1: Max field strength in 3m distance (single frequency)



Result: 97.8 dB μ V/m

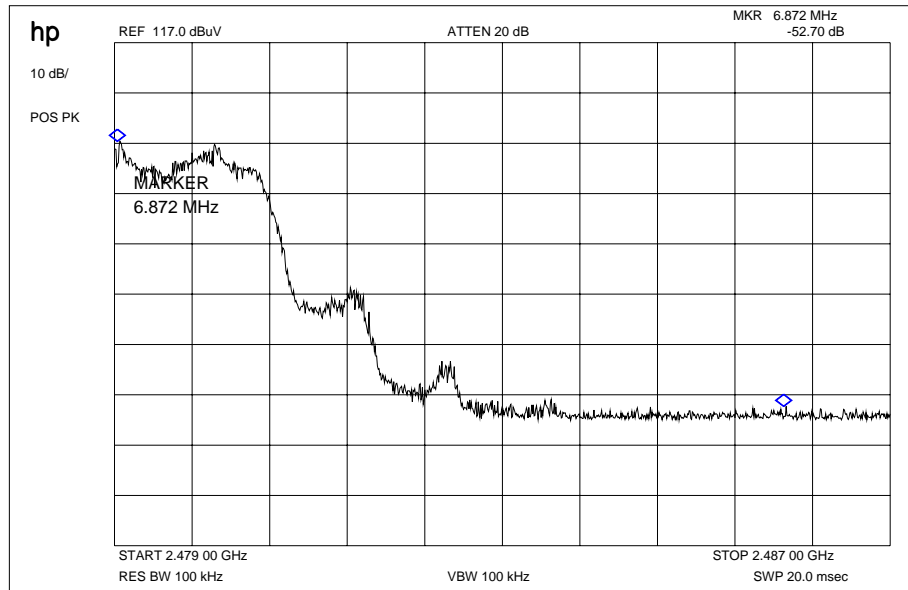
Plot 2: Marker-Delta Method (single carrier)



Marker-Delta-Value: 52.90 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands).

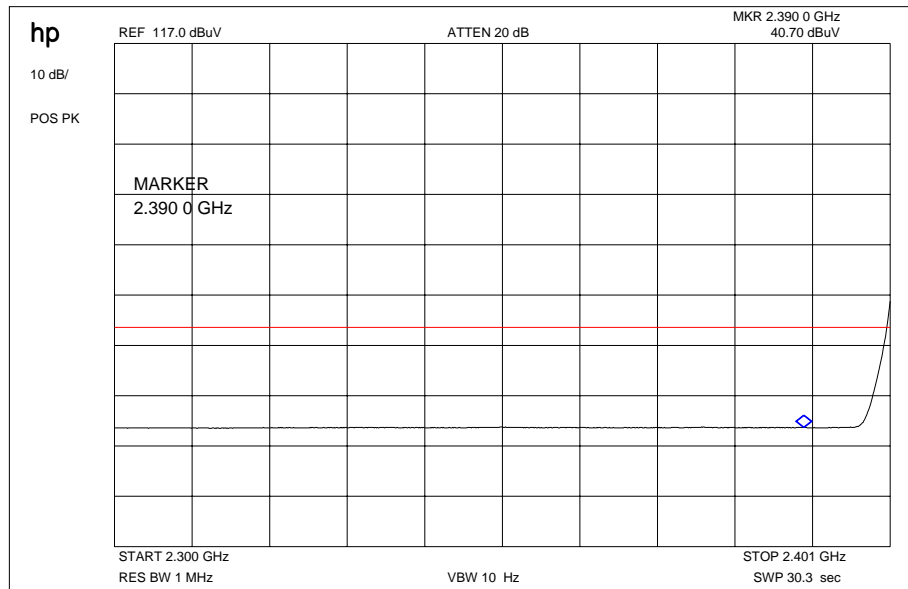
Plot 3: Marker-Delta Method (hopping)



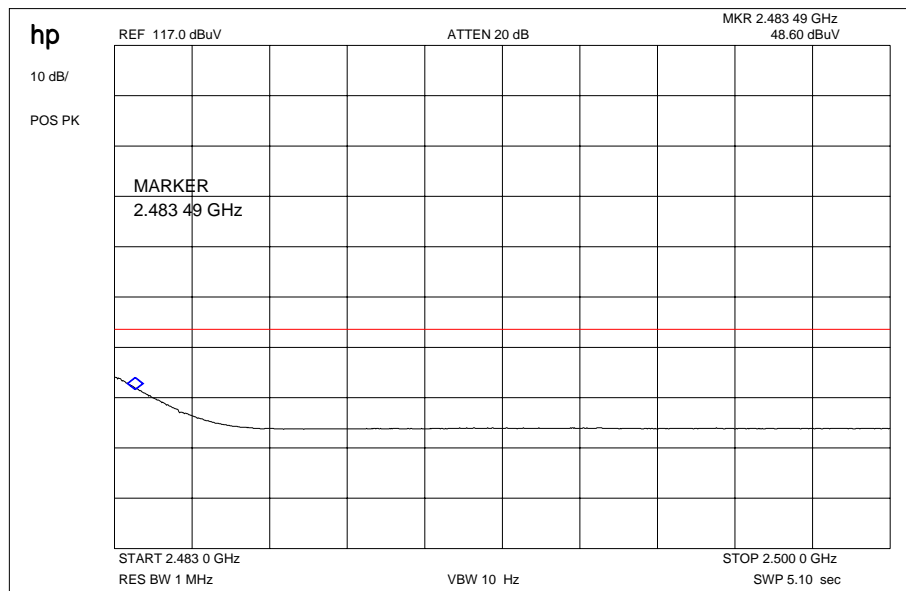
Marker-Delta-Value: 52.70 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands).

Plot 4: Restricted Bands low



Plot 5: Restricted Bands high



Results & Limits:

Radiated field strength

The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

high channel	setup	measured value (3m)	correction factor (3m)	calculated value (3m)
Max. peak value	1 MHz RBW 1 MHz VBW	97.8 dB μ V/m	-6.3	91.5 dB μ V/m
Max. average value	Calculated with duty cycle correction factor	91.5 dB μ V/m peak	-1,07dB duty cycle correction factor (worst case DH5)	90.43 dB μ V/m
Delta value	Peak 100 kHz RBW/VBW	52.90 dB (single carrier) 52.70 dB (hopping mode)	-	-
Value at band edge	limit 54 dB μ V/m			37.5 dB μ V/m (single carrier) 37.7 dB μ V/m (hopping mode)
Statement:				Complies

5.3 Spurious Emissions > 30 MHz- radiated (Transmitter) § 15.247 (c)(1)

Modulation: GFSK

Plot 1: 0.03 - 1 GHz vertical/horizontal (lowest channel)

Information

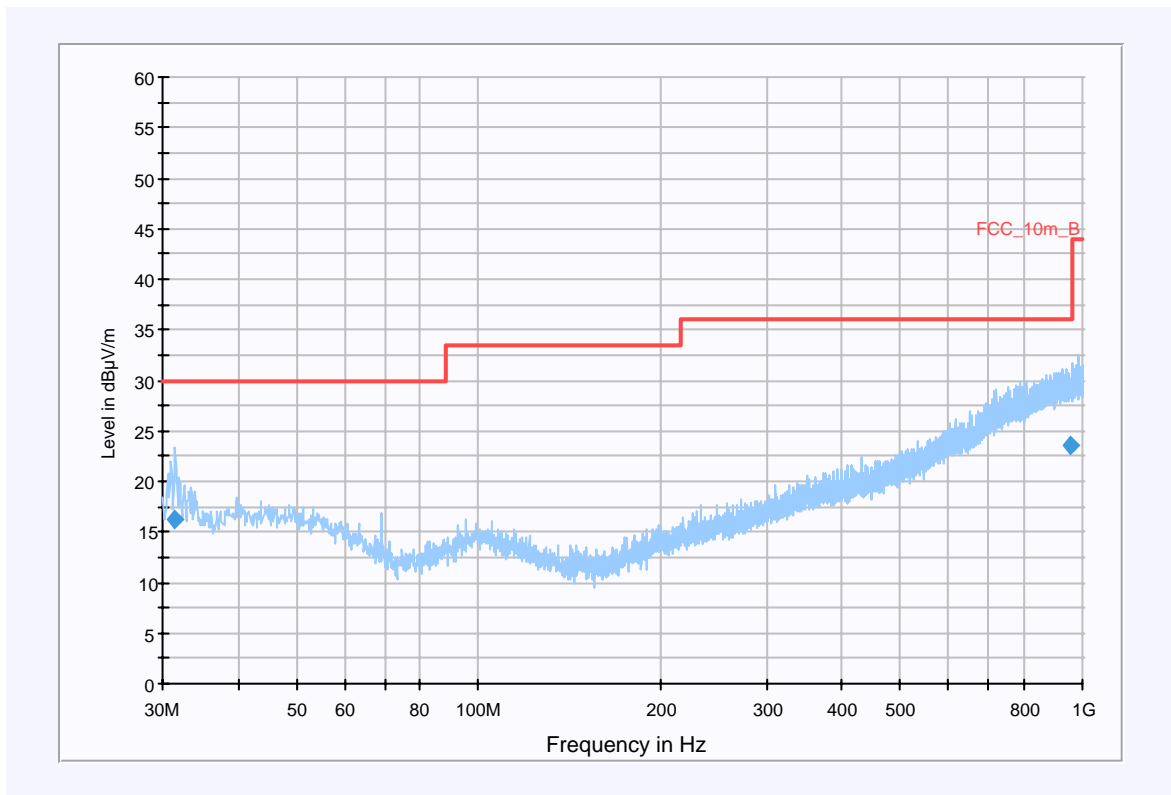
EUT: RIM Blackberry Smartphone Model RBZ41GW
 Serial Number: PIN 20761805, IMEI 004401133435822
 Test Description: FCC @ 10 m
 Operating Conditions: BT channel 0
 Operator Name:
 Comment: Powered with AC 115V/ 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: EMI radiated\Electric Field (NOS)
 Level Unit: dBµV/m

Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30MHz - 1GHz QuasiPeak 120kHz 15s Receiver

FCC_Short_1GHz



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.474800	16.3	1000.000	120.000	120.0	V	330.0	12.8	13.7	30.0	
958.611250	23.5	1000.000	120.000	120.0	H	-1.0	26.5	12.5	36.0	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

Frequency Range: 30MHz - 2GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009

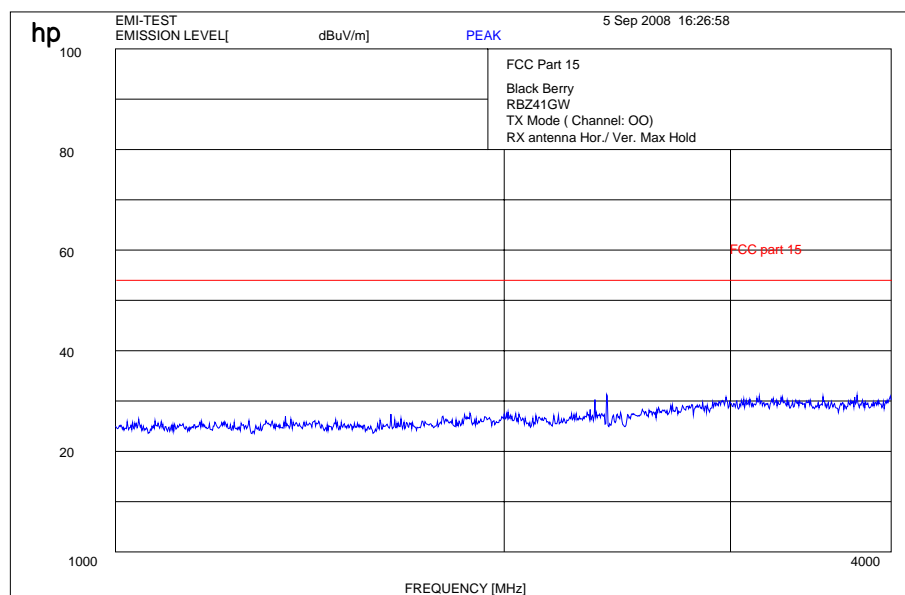
Signal Path: without Notch
FW 1.0

Antenna: VULB 9163
SN 9163-295, FW ---, CAL 08.04.2010
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table: Cabel with switch (0408)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

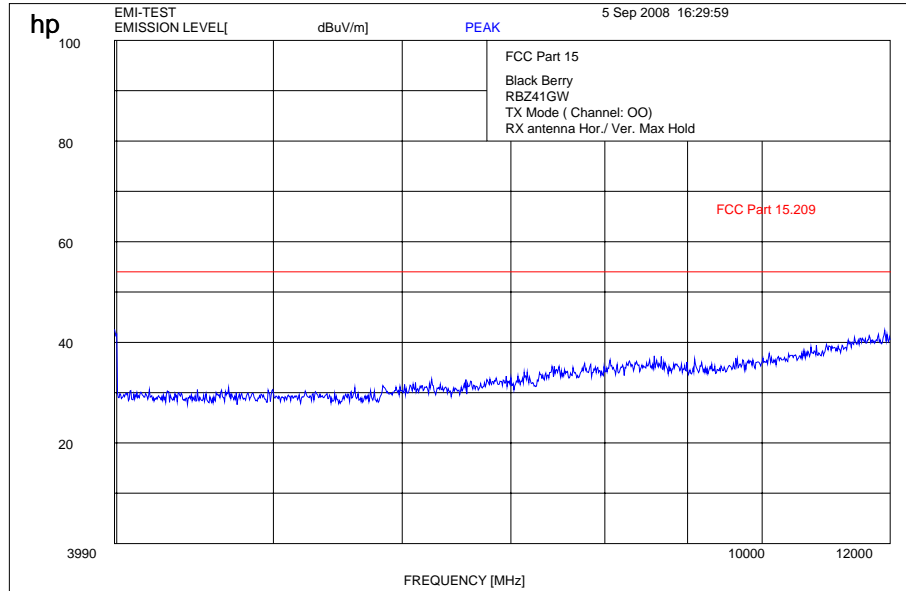
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9)

Plot 2: 1 - 4 GHz vertical/horizontal (lowest channel)

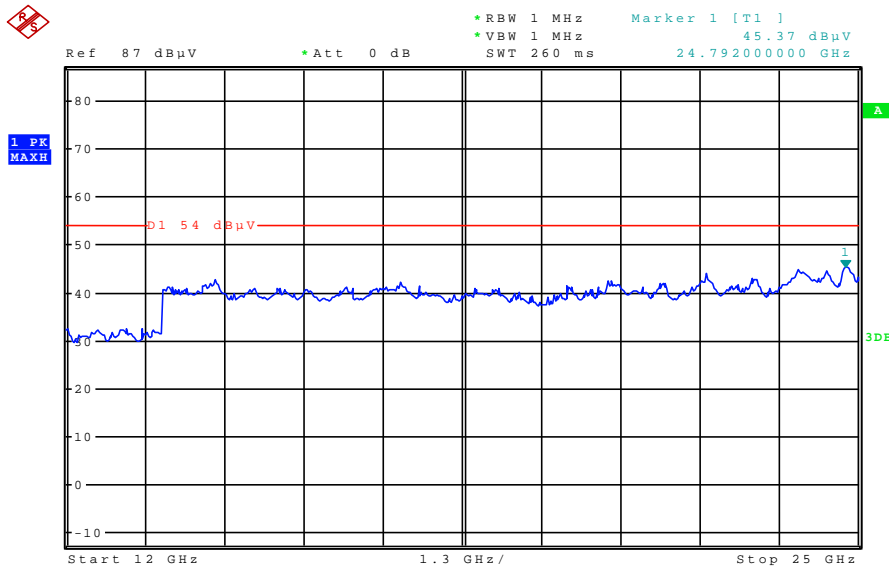


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 4 - 12 GHz vertical/horizontal (lowest channel)



Plot 4: 12 - 25 GHz vertical/horizontal (valid for all channels)



Plot 5: 0.03 - 1 GHz vertical/horizontal (middle channel)

Information

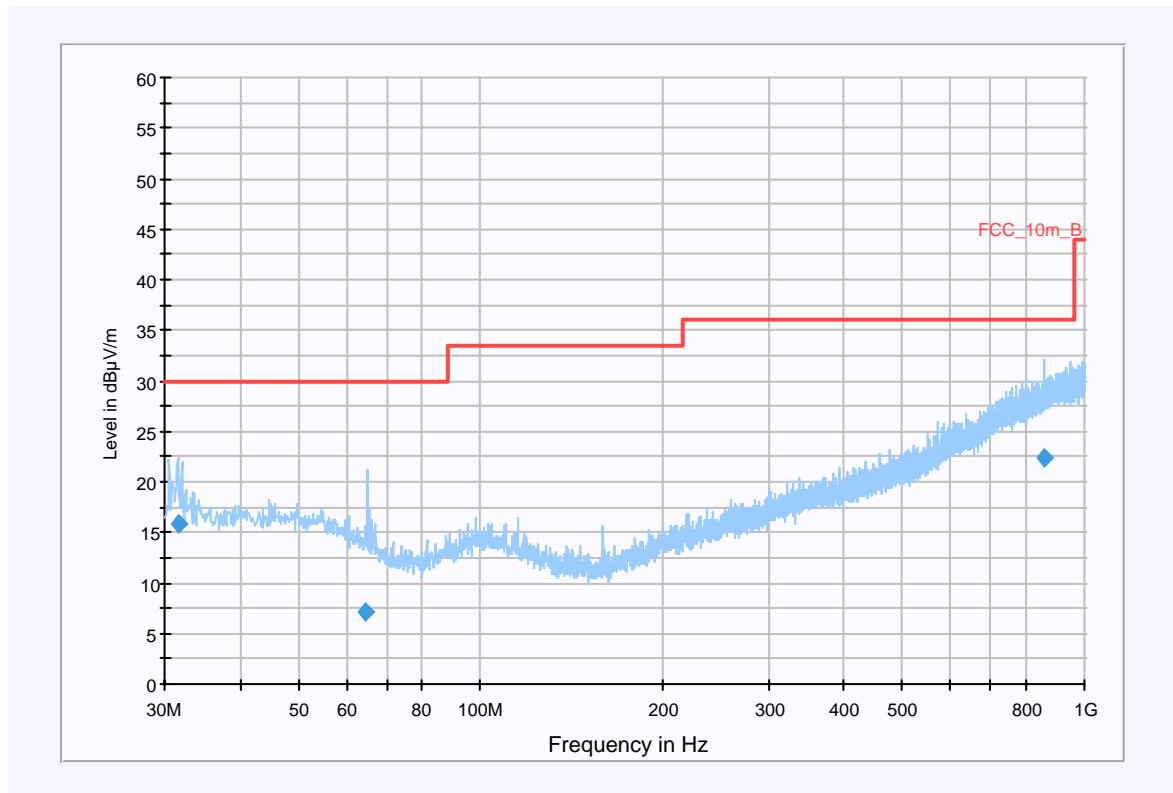
EUT: RIM Blackberry Smartphone Model RBZ41GW
 Serial Number: PIN 20761805, IMEI 004401133435822
 Test Description: FCC @ 10 m
 Operating Conditions: BT channel 39
 Operator Name:
 Comment: Powered with AC 115V/ 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: EMI radiated\Electric Field (NOS)
 Level Unit: dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

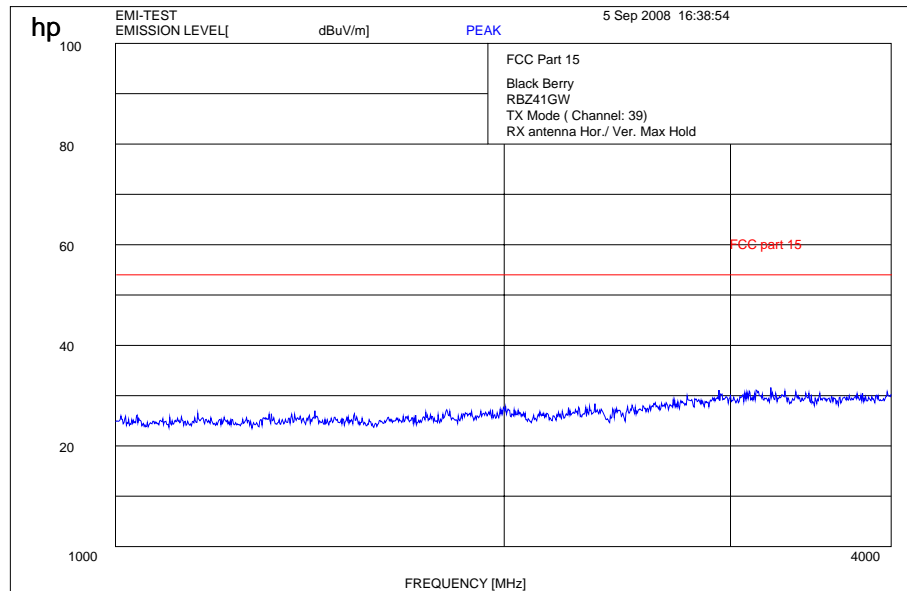
FCC_Short_1GHz



Final Measurement Detector 1

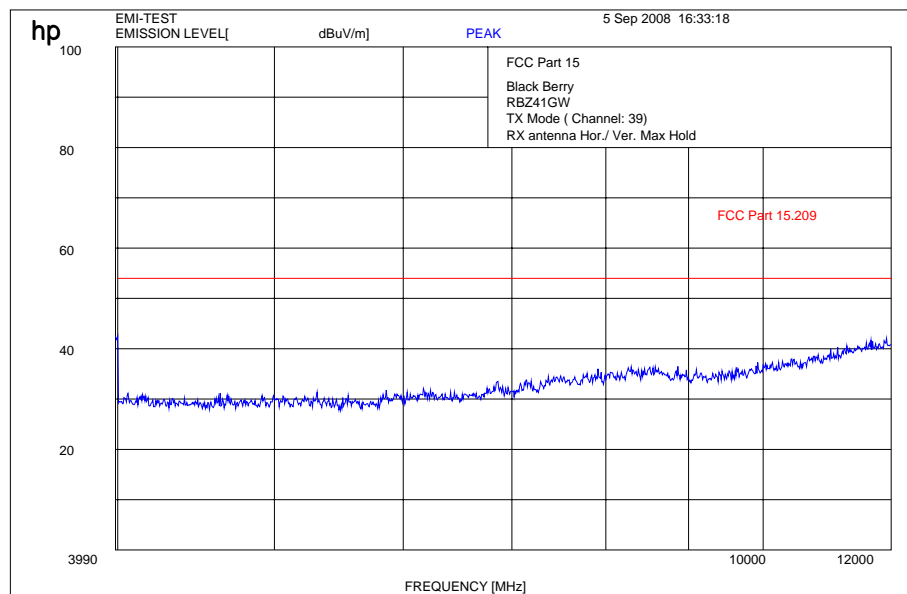
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.587200	15.9	1000.000	120.000	120.0	V	192.0	12.8	14.1	30.0	
64.626000	7.1	1000.000	120.000	120.0	V	57.0	10.8	22.9	30.0	
856.276100	22.4	1000.000	120.000	120.0	H	127.0	25.5	13.6	36.0	

Plot 6: 1 - 4 GHz vertical/horizontal (middle channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 7: 4 - 12 GHz vertical/horizontal (middle channel)



Plot 8: 0.03 - 1 GHz vertical/horizontal (highest channel)

Information

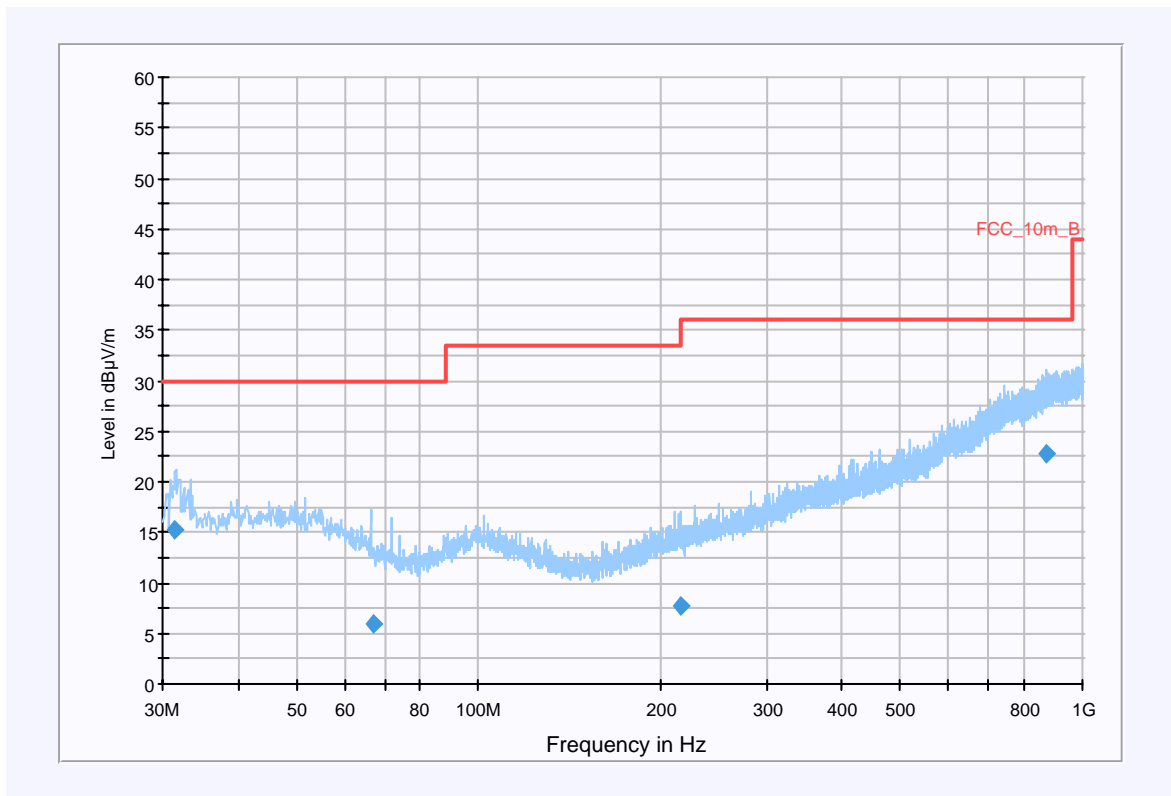
EUT: RIM Blackberry Smartphone Model RBZ41GW
 Serial Number: PIN 20761805, IMEI 004401133435822
 Test Description: FCC @ 10 m
 Operating Conditions: BT channel 78
 Operator Name:
 Comment: Powered with AC 115V/ 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: EMI radiated\Electric Field (NOS)
 Level Unit: dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

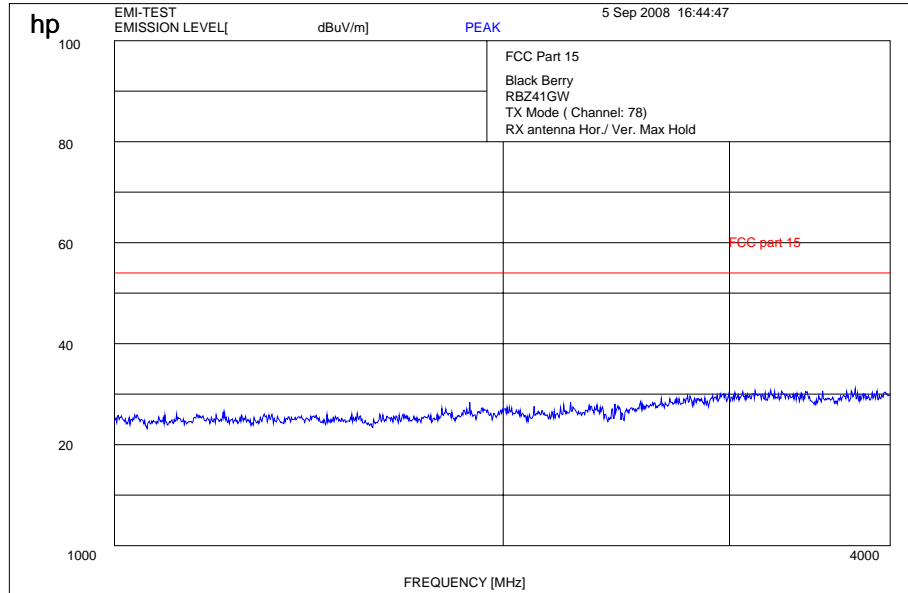
FCC_Short_1GHz



Final Measurement Detector 1

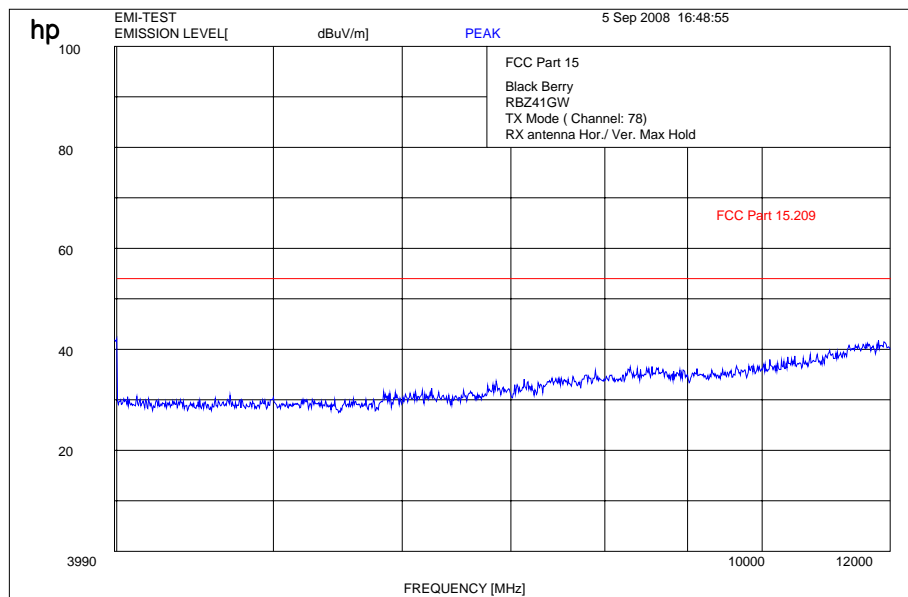
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.426100	15.3	1000.000	120.000	120.0	V	136.0	12.8	14.7	30.0	
67.024250	5.9	1000.000	120.000	120.0	V	57.0	10.3	24.1	30.0	
215.871500	7.8	1000.000	120.000	120.0	V	120.0	12.5	25.7	33.5	
874.044850	22.8	1000.000	120.000	120.0	V	208.0	25.7	13.2	36.0	

Plot 9: 1 - 4 GHz vertical/horizontal (highest channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 10: 4 - 12 GHz vertical/horizontal (highest channel)



Results:

SPURIOUS EMISSIONS LEVEL (dB μ V/m)								
2402 MHz			2441 MHz			2480 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
No critical peaks detected!			No critical peaks detected!			No critical peaks detected!		
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW/VBW: 1 MHz

Limits: § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Limits: § 15.209

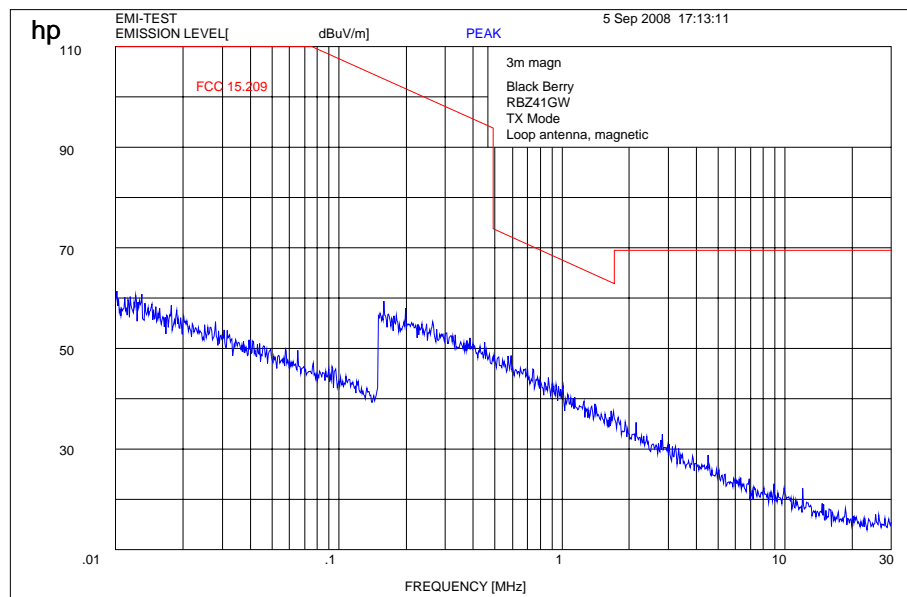
Frequency [MHz]	Field strength [μ V/m]	Measurement distance (m)
30 - 88	100 (40 dB μ V/m)	3
88 - 216	150 (43.5 dB μ V/m)	3
216 - 960	200 (46 dB μ V/m)	3
above 960	500 (54 dB μ V/m)	3

5.4 Spurious Emissions < 30 MHz - Transmitter radiated § 15.209

Modulation: GFSK

Measured at 10 m distance.
 Values recalculated with 40 dB/decade according to FCC rules.

Plot 1:



Limits:

Frequency (MHz)	Field strength ($\mu\text{V}/\text{m}$)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30 / 29.5 dB $\mu\text{V}/\text{m}$	30

6 Test equipment and ancillaries used for tests

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

Anechoic chamber C:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Anechoic chamber	MWB	87400/02	300000996	Monthly verification		
2	System-Rack 85900	HP I.V.	*	300000222	n.a.		
3	Measurement System 1						
4	Spektrum Analyzer 8566B	HP	2747A05306	300001000	05.10.2006	24	05.10.2008
5	Spektrum Analyzer Display 85662A	HP	2816A16541	300002297	05.10.2006	24	05.10.2008
6	Quasi-Peak-Adapter 85650A	HP	2811A01131	300000999	05.10.2006	24	05.10.2008
7	RF-Preselector 85685A	HP	2837A00779	300000218	08.11.2006	24	08.11.2008
8	PC Vectra VL	HP		300001688	n.a.		
9	Software EMI	HP		300000983	n.a.		
10	Measurement System 2						
11	FSP 30	R&S	100623	ICT 300003464	05.10.2007	24	15.10.2009
12	PC	F+W			n.a.		
13	TILE	TILE			n.a.		
14	Biconical antenna	EMCO	S/N: 860 942/003		Monthly verification (System cal.)		
15	Log. Period. Antenna 3146	EMCO	2130	300001603	Monthly verification (System cal.)		
16	Double Ridged Antenna HP 3115P	EMCO	3088	300001032	Monthly verification (System cal.)		
17	Active Loop Antenna 6502	EMCO	2210	300001015	Monthly verification (System cal.)		
18	Power Supply 6032A	HP	2818A03450	300001040	12.05.2007	36	12.05.2010
19	Busisolator	Kontron		300001056	n.a.		
20	Leitungsteiler 11850C	HP		300000997	Monthly verification (System cal.)		
21	Power attenuator 8325	Byrd	1530	300001595	Monthly verification (System cal.)		
22	Band reject filter WRCG1855/1910	Wainwright	7	300003350	Monthly verification (System cal.)		
23	Band reject filter WRCG2400/2483	Wainwright	11	300003351	Monthly verification (System cal.)		
24	CBT	R&S	100313	300003516	24.10.2006	24	24.10.2008

Anechoic chamber F:

No.	Instrument/Ancillary	Manufacturer	Type	Serial-No.	Internal identification
Radiated emission in chamber F					
F-1	Control Computer	F+W		FW0502032	300003303
F-2	Bilog antenna	Chase	CBL 6112A	2110	300000573
F-3a	Amplifier	Veritech Microwave Inc.	0518C-138	- / -	- / -
F-4b	Switch	HP	3488A	- / -	300000368
F-5	EMI Test receiver	R&S	ESCI	100083	300003312
F-6	Turntable Controller	EMCO	1061 3M	1218	300000661
F-7	Tower Controller	EMCO	1051 Controller	1262	300000625
F-8	Tower	EMCO	1051 Tower	1262	300000625
F-9	Ultra Notch-Filter Rejected band Ch. 62	WRCD		9	
Radiated immunity in chamber F					
F-10	Control Computer	F+W		FW0502032	300003303
F-11	Signal Generator	R&S	SML 03	102519	300003407
F-12	RF-Amplifier	ar	50W1000	12932	300001438
F-13	Directional Coupler	ar	DC 3010	12708	300001428
F-14	Logper Antenna	R&S	HL023A1	323704/016	300001476
F-15	RF-Amplifier	ar	60S1G3	313649	300003410
F-16	Directional Coupler	ar	DC7144A	312786	300003411
F-17	Horn Antenna	ar	AT 4002	19739	300000633
F-18	Power Meter	R&S	NRV	860327/024	F033
F-19	Power sensor	R&S	URV5-Z2	839080/005	300002844.02
F-20	Power sensor	R&S	URV5-Z2	830755/057	F032
Harmonics and flicker in front of chamber F					
F-21	Flicker and Harmonics Test System	Spitzenberger & Spies	PHE4500/B I PHE4500/B II	B5983 B5984	300000210
F-22	Control Unit	Spitzenberger & Spies	STE	B5980	300000210
F-23	Power Amplifier	Spitzenberger & Spies	EP 4500/B	B5976	300000210
F-24	Conect Panel	Spitzenberger & Spies	Conect panel	B5982	300000210
F-25	Power Supply	Spitzenberger & Spies	NT-EP 4500	B3977	300000210
F-26	Additional transformer	Spitzenberger & Spies	UT-EP 4500	B5978	300000210
F-27	Analyzer Reference System	Spitzenberger & Spies	ARS 16/1	A3509 07/0 0205	300003314
F-26	Power Supply	Hewlett Packard	6032 A	2920 A 04466	300000580