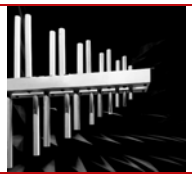
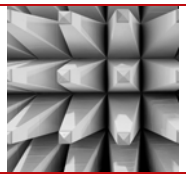




CETECOM™
CETECOM ICT Services
consulting - testing - certification

TEST REPORT

Test Report No.: 1-2190-01-12/10

Deutscher Akkreditierungs Rat DAR

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
Internet: http://www.cetecom-ict.de
e-mail: info@ict.cetecom.de

Accredited Test Laboratory:
The test laboratory is accredited according to:
DIN EN ISO/IEC 17025
DAR registration number: DGA-PL-176/94-D1

The area of testing is recognized by the FCC and IC.
Anechoic chamber registration no.: 90462 (FCC)
Anechoic chamber registration no.: 3462C-1 (IC)
Certification ID: DE 0001 (FCC)
Accreditation ID: DE 0002 (IC)

Applicant

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

Manufacturer

Same as Applicant

Test Standard/s

47CFR15	2009-10	Subpart B - Unintentional Radiators
ICES-003, Issue 4	2004-02	Interference-Causing Equipment Standard Digital Apparatus

Test Item

Kind of test item:	**Blackberry GSM Phone**
Model name:	**RDB71UW**
FCC ID:	L6ARDB70UW
IC:	2503A-RDB70UW
S/N serial number:	IMEI:004401136104904
HW hardware status:	CER-31896-001 Rev 1
SW software status:	Bundle: 1019 OS: v5.0.0.606 Platform: 6.3.0.1
Power Supply:	Battery powered; While charging 115 V / 60 Hz

pictures of the EUT see ANNEX B (document: 1-2190-01-12_10_ANNEX_A_B

Test performed:

cn=David Lang, o=CETECOM ICT Services GmbH, ou=LNG-100407, email=info@ict.cetecom.de, c=DE
2010.04.23 12:25:15 +02'00'

David Lang

Test Report authorised:

cn=Ralf Hoehn, o=CETECOM ICT Services GmbH, ou=HON-100128, email=info@ict.cetecom.de, c=DE
2010.04.23 13:12:16 +02'00'

Ralf Hoehn

DIN EN ISO/IEC 17025 CETECOM Accredited EMC Laboratory CETECOM ICT Services GmbH Untertürkheimer Str. 6-10 DE-66117 Saarbrücken DGA-PL-176/94-D1

1 Table of contents

2 General information

2.1 Notes

The test results of this test report relate exclusively to the test item specified in this test report. 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 CETECOM ICT Services GmbH.

2.2 Application details

Date of receipt of order:	2010-04-15
Date of receipt of test item:	2010-04-09
Start of test:	2010-04-19
End of test:	2010-04-20
Person(s) present during the test:	---

3 Test standard/s:

Test Standard	Version	Test Standard Description
47CFR15	2009-10	Subpart B - Unintentional Radiators
ICES-003, Issue 4	2004-02	Interference-Causing Equipment Standard Digital Apparatus

4 Test Environment

Temperature:	20°C – 25°C
Relative humidity content:	30 % - 50 %
Air pressure:	1020 hPa
Power supply:	230 V / 50 Hz

5 Test Laboratories sub-contracted

---

6 Information about Test Conditions

6.1 Test Item

Kind of test item :	**Blackberry GSM Phone**		
Type identification :	**RDB71UW**		
Equipment classification:	Equipment for portable use		
Environment classification:	Residential, commercial and light industry		
Supply voltage :	Battery powered: while charging 115 V/ 60 Hz		
Ports :	**Description**	**Direction**	**Length**
(maximum cable lengths declared by manufacturer)	USB port	In / output	< 3m
	Headset port	In / output	< 3m
Is mounting position / usual operating position defined?			No
Additional information:			

6.2 EUT: Type, S/N etc. and Short Descriptions Used in this Test Report

short descrip-tion*)	EUT	Type	S/N serial number	HW hardware status	SW software status
EUT A	Mobile Phone	RDB71UW	IMEI: 004401136104904	CER-31896-001 Rev 1	Bundle: 1019 OS: v5.0.0.606 Platform: 6.3.0.1
EUT B	Hands Free Set	HDW-23438-001	1001LI03683364	2010-04	2010-04
EUT C	AC/DC Adaptor	HDW-24481-001	---	RIM-C-0004ADUUS-001	---
EUT D	Premium Stereo Headset	HDW-15766-005	---	2010-04	---
EUT E	Standard Stereo Headset	HDW-24529-001	---	2010-04	---
EUT F	Bluetooth Headset	HDW-23439-001	---	2010-04	2010-04
EUT G	AC/DC Adaptor	HDW-17955-001	---	2010-04	---
EUT H	AC/DC Adaptor	HDW-24481-001	---	PSM04A-050QRIM-R	---
EUT I	Stereo Headset	HDW-14322-003	---	2010-04	---
EUT J	USB Cable	HDW-06610-005	---	2010-04	---

*) EUT short description is used to simplify the identification of the EUT in this test report.

6.3 EUT Set-up(s)

EUT set-up no.*)	Combination of EUT and AE	Remarks
set. 1	EUT A + EUT B + EUT J	Radiated emission
set. 2	EUT A + EUT C + EUT D + EUT J	Radiated emission
set. 3	EUT A + EUT E	Radiated emission
set. 4	EUT A + EUT F + EUT G	Radiated emission
set. 5	EUT A + EUT H + EUT I + EUT J	Radiated emission
set. 6	EUT A + EUT G	Conducted emission
set. 7	EUT A + EUT C + EUT J	Conducted emission

*) EUT set-up no. is used to simplify the identification of the EUT set-up in this test report.

6.4 EUT Operating Modes

EUT operating mode no.*)	Description of operating modes	Additional information
op. 1	GSM 850 idle	---
op. 2	PCS 1900 idle + charging	---
op. 3	FDD IV idle	---
op. 4	GSM 850 traffic + charging	Call established
op. 5	FDD IV traffic + charging	Call established

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

7 Summary of Test Results

☒ No deviations from the technical specifications were ascertained
☐ There were deviations from the technical specifications ascertained

7.1 Emission

7.1.1 Enclosure

EMI Phenomenon	Frequency range	Basic standard	Result
Radiated Interference Field Strength	30 - 1000 MHz	FCC Part 15 Class B	passed
Radiated Interference Field Strength	1 - 10 GHz	FCC Part 15 Class B	passed

7.1.2 AC Mains Power Input/Output Ports

EMI Phenomenon	Frequency range	Basic standard	Result
Conducted interference voltage	0,15– 30 MHz	FCC Part 15 Class B	passed

Remarks:

NA1	Not tested because not required by used standard
NA2	Test not applicable because port does not exists
NA3	Test not applicable because port only for services
NA4	Test not applicable because port lengths not longer than 3m
NA5	Not tested because not required by customer
NA6	Not tested because used frequency < 108 MHz

7.2 Measurement and Test Set-up

Note: The test configuration is in accordance with the requirements given in the standards in point 3

7.3 Measurement uncertainty

The uncertainty of the measurement equipment fulfils CISPR 16 and the related European and national standards.

The semi anechoic chamber fulfils the requirements of CISPR 16-1 (ANSI C63.4) for a test volume of 3m ∅.

Measurement uncertainty calculations are on file and available from the test laboratory upon request.

8 Detailed test results - Emission

8.1 Conducted Emission

8.1.1 Instrumentation for Test (see equipment list)

G 1	G 2	F 21									

8.1.2 Test Plan

EUT set-up	Operating mode	Port / Line	Limit	Result
Set. 6	Op. 5	AC power line	47CFR15: (FCC part 15 B) Class B	passed
Set. 7	Op. 4	AC power line	47CFR15: (FCC part 15 B) Class B	passed

Remark :	Powered by external power supply (115V / 60Hz)

8.1.3 Conducted Limits (Power-Line)

	FCC part 15 B Class B		FCC part 15 B Class A	
Frequency- range	Quasi-Peak (dBµV)	Average (dBµV)	Quasi-Peak (dBµV)	Average (dBµV)
0,15 MHz – 0,5 MHz	66-56	56-46	79	66
0,5 MHz -5 MHz	56	46	73	60
5 MHz -30 MHz	60	50	73	60

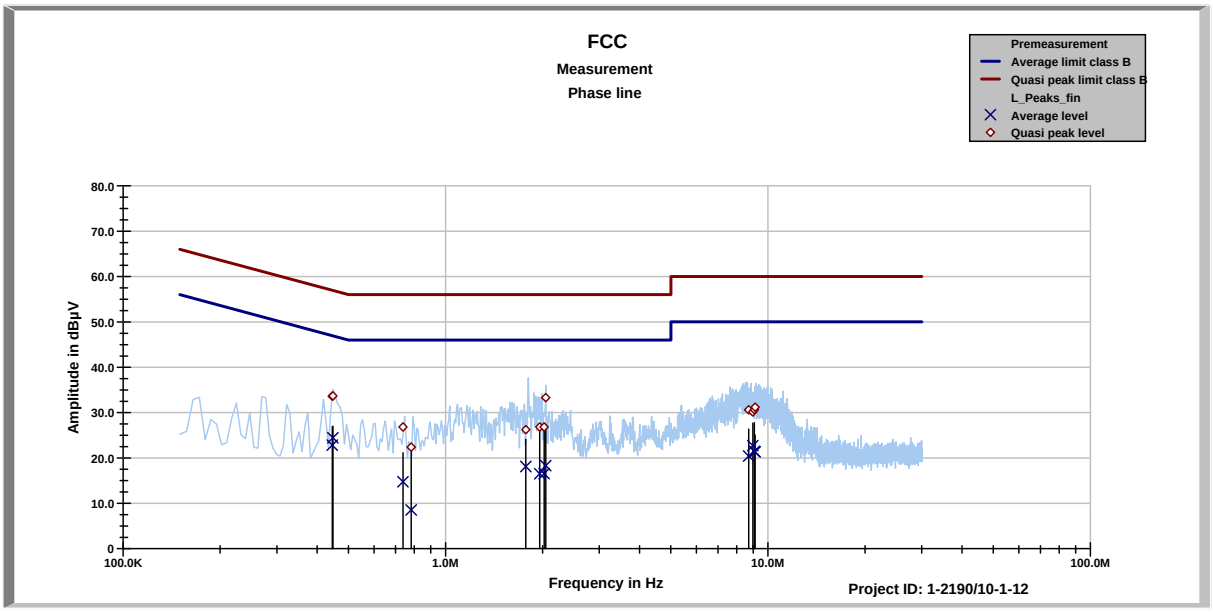
8.1.4 Calibration Information

Device	Serial number	ICT Number	Calibration valid until	Calibration interval
HP 8542 EMI Receiver with RF Filter Unit	3617A00170	300000568	01 / 2011	12 month
VISN ESH 3-Z5	892475/017	300002209	01 / 2012	24 month

Remarks: All emission components and the shielded room were checked weekly
Cable loss: 0.6 to 2.4 dB (150kHz to 30 MHz)

8.1.5 Test Results of Main

Set. 6 / Op. 5

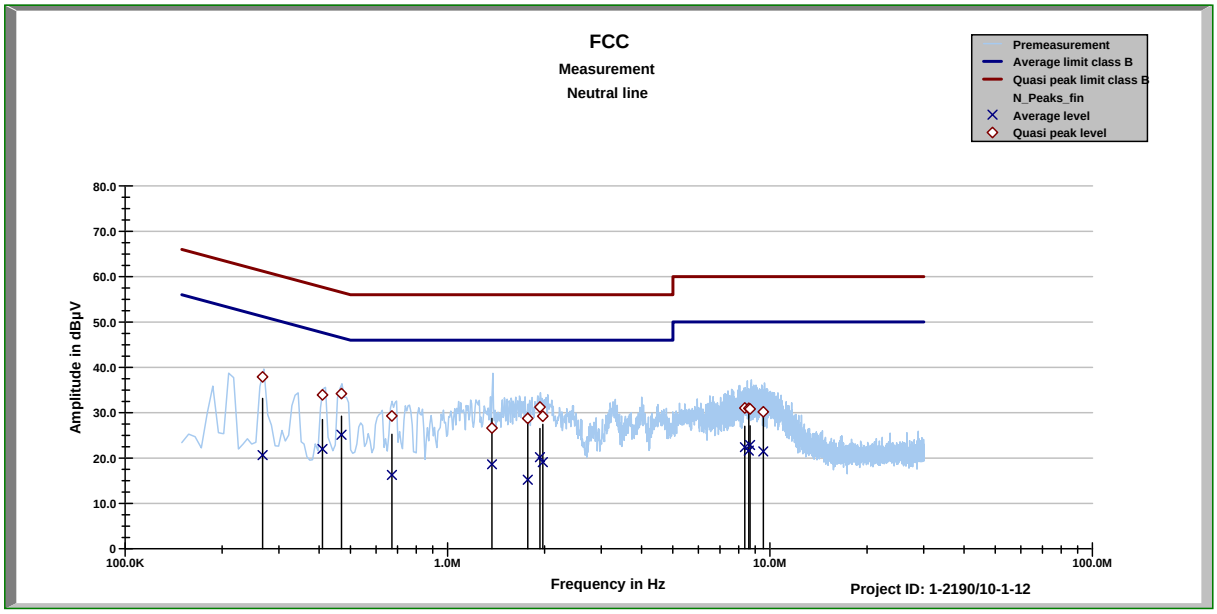


FCC
Phase line tbl
Project ID: 1-2190/10-1-12

09:53:33 AM, Tuesday, April 20, 2010

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.44525	33.62	23.35	22.80	24.76
0.44742	33.66	23.26	24.45	23.05
0.73833	26.82	29.18	14.73	31.27
0.78242	22.39	33.61	8.53	37.47
1.774	26.23	29.77	18.10	27.90
1.9601	26.81	29.19	16.50	29.50
2.0216	26.81	29.19	16.52	29.48
2.045	33.28	22.72	18.28	27.72
8.7125	30.59	29.41	20.41	29.59
8.9661	30.12	29.88	22.70	27.30
9.0717	30.64	29.36	21.42	28.58
9.1184	31.18	28.82	21.35	28.65

Project ID - 1-2190/10-1-12
EUT - RDB71UW + AC/DC Adaptor: HDW-19955-001
Serial Number - IMEI:004401136104904
Operating mode - FDD 4 traffic



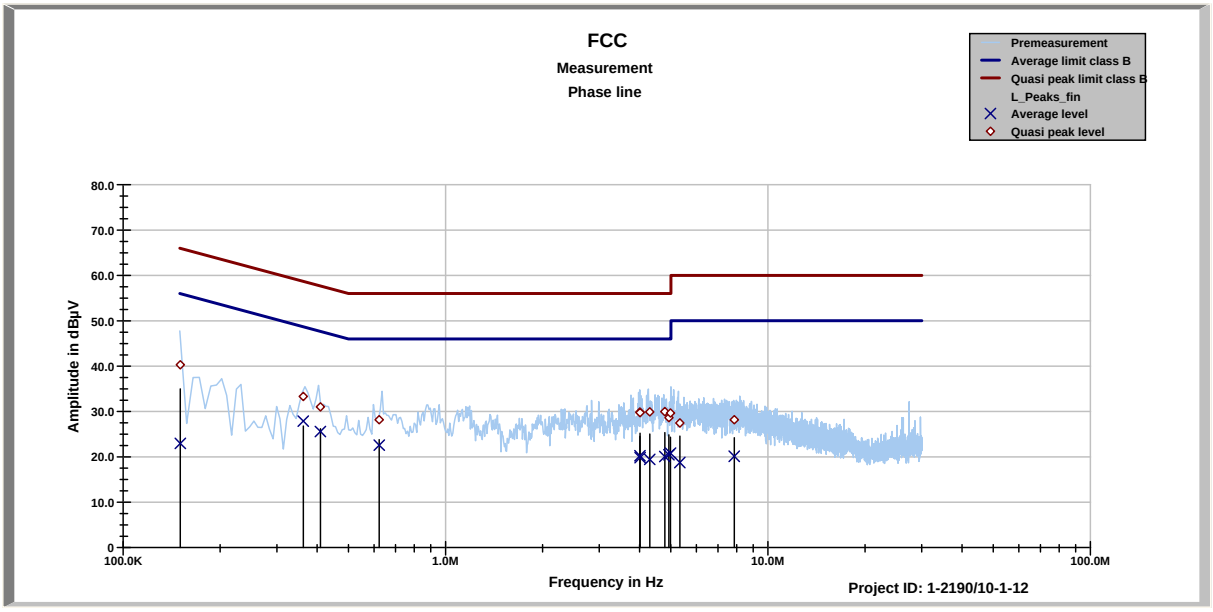
FCC
Neutral line tbl
Project ID: 1-2190/10-1-12

09:53:33 AM, Tuesday, April 20, 2010

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.26691	37.89	23.32	20.64	32.02
0.40948	33.92	23.74	22.00	26.59
0.46894	34.21	22.32	25.11	21.78
0.67204	29.29	26.71	16.26	29.74
1.3738	26.62	29.38	18.62	27.38
1.773	28.73	27.27	15.22	30.78
1.9349	31.23	24.77	20.20	25.80
1.9744	29.22	26.78	19.08	26.92
8.3516	31.03	28.97	22.39	27.61
8.5953	30.97	29.03	21.63	28.37
8.6679	30.81	29.19	22.86	27.14
9.5275	30.17	29.83	21.47	28.53

Project ID - 1-2190/10-1-12
EUT - RDB71UW + AC/DC Adaptor: HDW-19955-001
Serial Number - IMEI:004401136104904
Operating mode - FDD 4 traffic

Set. 7 / Op. 4

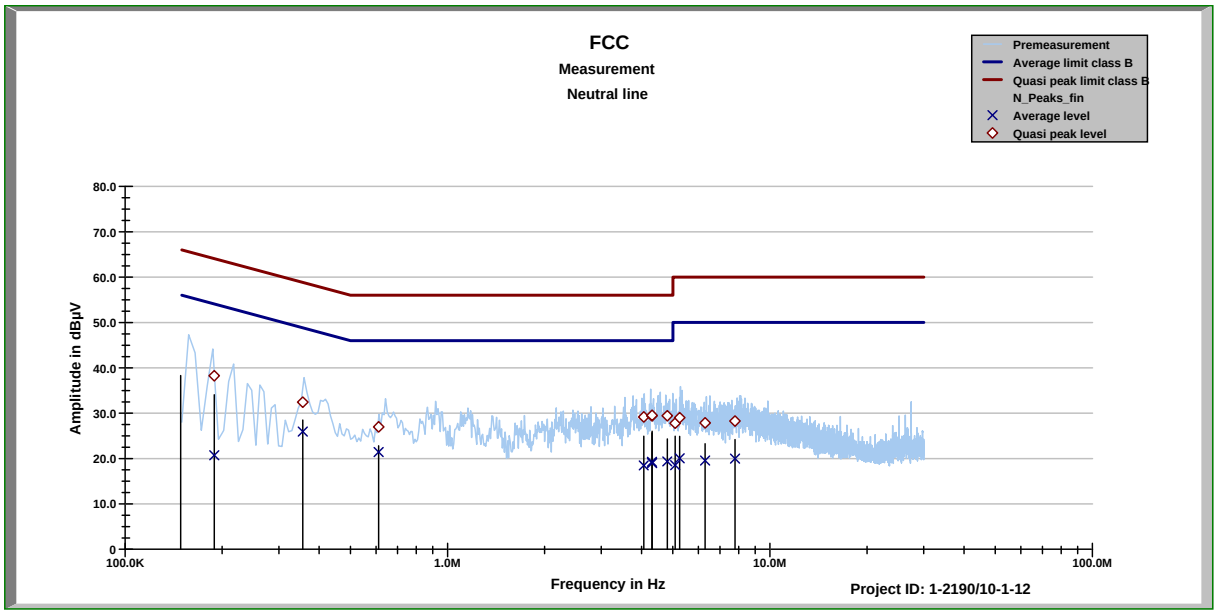


FCC
Phase line tbl
Project ID: 1-2190/10-1-12

10:12:07 AM, Tuesday, April 20, 2010

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.15053	40.30	25.67	22.94	33.05
0.36223	33.31	25.37	27.86	22.07
0.40931	31.01	26.65	25.58	23.01
0.62266	28.17	27.83	22.56	23.44
4.0078	29.85	26.15	20.24	25.76
4.0097	29.74	26.26	19.83	26.17
4.2968	29.89	26.11	19.42	26.58
4.7841	29.96	26.04	20.04	25.96
4.9268	28.62	27.38	20.45	25.55
4.9835	29.65	26.35	20.78	25.22
5.3294	27.45	32.55	18.73	31.27
7.8574	28.17	31.83	20.12	29.88

Project ID - 1-2190/10-1-12
EUT - RDB71UW + AC/DC Adaptor: HDW-24481-001 (ADUUS-001) + USB Cable: HDW-06610-005 (1,5m)
Serial Number - IMEI:004401136104904
Operating mode - GSM 850 traffic



FCC
Neutral line tbl
Project ID: 1-2190/10-1-12

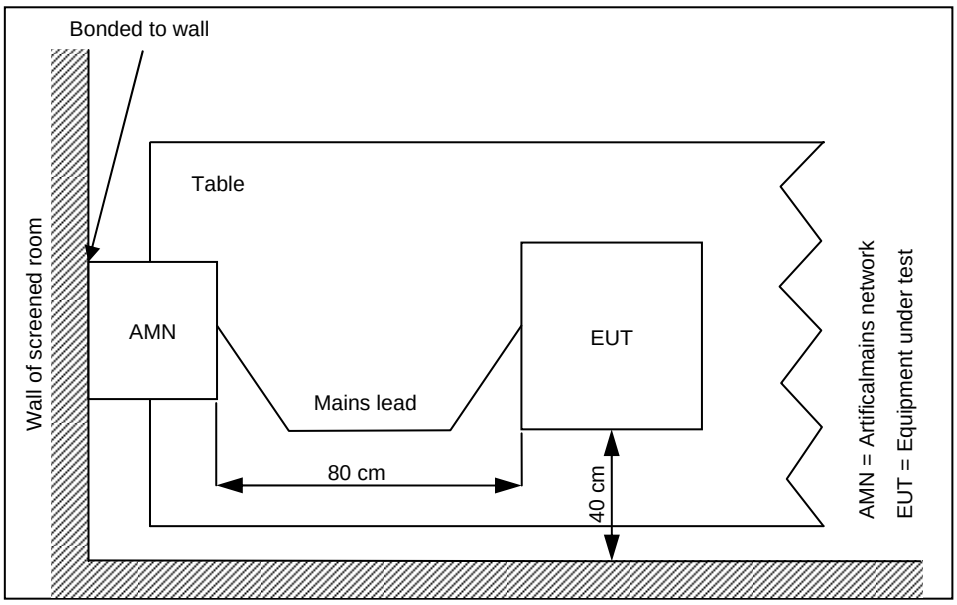
10:12:07 AM, Tuesday, April 20, 2010

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.18904	38.24	25.84	20.70	34.19
0.35565	32.43	26.40	25.94	24.18
0.61143	26.97	29.03	21.43	24.57
4.0586	29.16	26.84	18.47	27.53
4.3022	29.40	26.60	19.28	26.72
4.3071	29.51	26.49	18.98	27.02
4.7994	29.42	26.58	19.35	26.65
5.08	27.78	32.22	18.52	31.48
5.2489	29.00	31.00	20.02	29.98
6.2917	27.86	32.14	19.55	30.45
7.7857	28.26	31.74	19.98	30.02

Project ID - 1-2190/10-1-12
EUT - RDB71UW + AC/DC Adaptor: HDW-24481-001 (ADUUS-001) + USB Cable: HDW-06610-005 (1,5m)
Serial Number - IMEI:004401136104904
Operating mode - GSM 850 traffic

8.1.6 Test Set-up

According to EMC basic standard **ANSI 63.4**



8.2 Electromagnetic Radiated Emissions (Distance 10 m)

8.2.1 Instrumentation for Test (see equipment list)

F 1	F 2	F 4b	F 5	F 6	F 7	F 21					

8.2.2 Test Plan

EUT set-up	Operating mode	Application	Limit	Result
Set. 1	Op. 1	Enclosure	FCC part 15 B Class B	passed
Set. 2	Op. 2	Enclosure	FCC part 15 B Class B	passed
Set. 3	Op. 3	Enclosure	FCC part 15 B Class B	passed
Set. 4	Op. 2	Enclosure	FCC part 15 B Class B	passed
Set. 5	Op. 3	Enclosure	FCC part 15 B Class B	passed

Remarks:	Powered by external power supply (115V / 60Hz)

8.2.3 Radiated Limits

Frequency-range	FCC part 15 B Class B	FCC part 15 B Class A
30 MHz – 88 MHz	30 dBµV/m	39,1 dBµV/m
88 MHz – 216 MHz	33,5 dBµV/m	43,5 dBµV/m
216 MHz – 960 MHz	36 dBµV/m	46,4 dBµV/m
960 MHz – 40000 MHz	44 dBµV/m	49,5 dBµV/m
	* This values are recalculated from the class B limits at 3 m antenna distance in §15.109 (g 2) of the FCC rules	.

8.2.4 Calibration Information

Device	Serial number	ICT Number	Calibration valid until	Calibration interval
ESCI 3 Receiver	100083/003	300003312	01/2011	12 month
Trilog Antenna	9163-295	---	04/2012	24 month
Remarks: System check of all relevant devices and the chamber (weekly) Cable loss: 0.5 to 4.2 dB (30 MHz to 2 GHz); the cable and connectors loss is re-measured every 3 month				

8.2.5 Test Results

Set 1

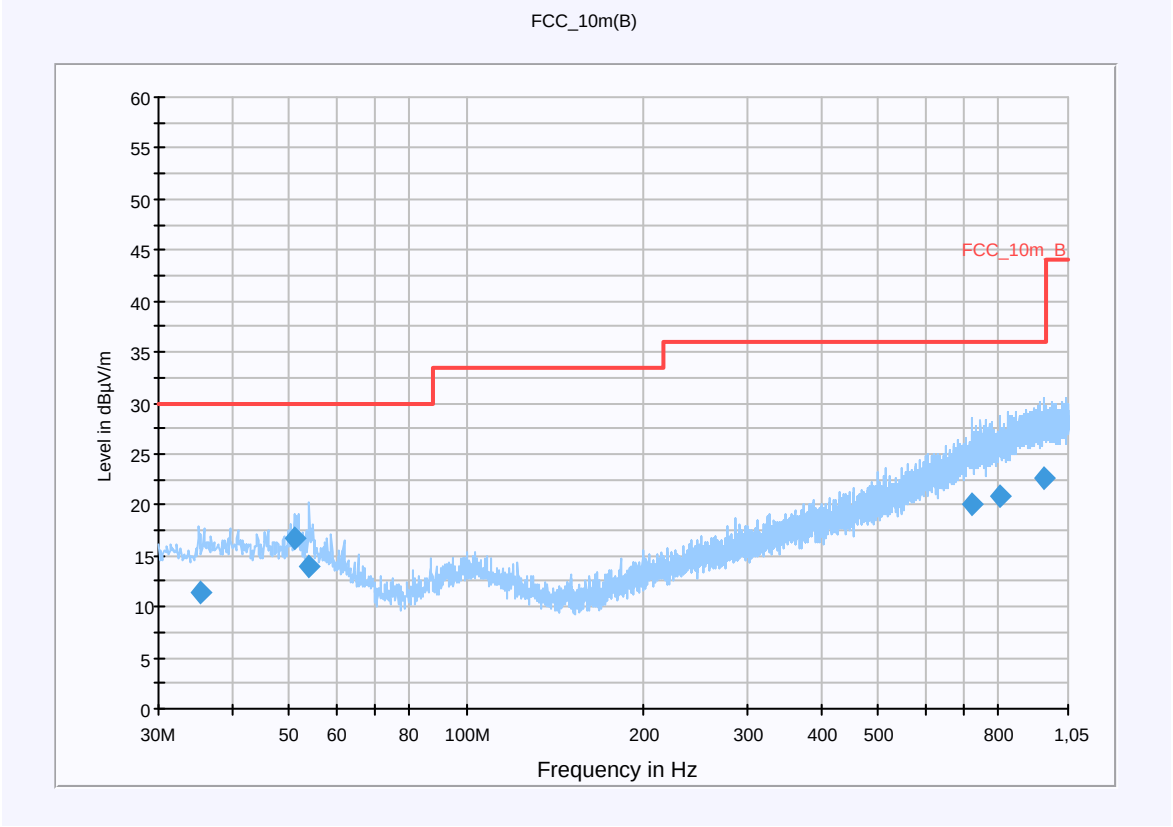
Common Information

EUT:	RDB71UW + USB cable 1,5 m: HDW-06610-005 + VMO: HDW-23438-001
Serial Number:	IMEI:004401136104904 + unknown + 1001LI03683364
Test Description:	FCC Part 15 B @ 10m < 1GHz
Operating Conditions:	GSM 850 idle + Bluetooth paired
Operator Name:	Langer
Comment:	batterypowered + USB connected + batterypowered

Scan Setup: STAN_Fin [EMI radiated]

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

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1,05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 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
35.413350	11.3	15000.000	120.000	200.0	V	273.0	13.1	18.7	30.0	
51.005700	16.8	15000.000	120.000	100.0	V	229.0	13.3	13.2	30.0	
54.025350	13.9	15000.000	120.000	200.0	V	195.0	13.0	16.1	30.0	
719.707950	20.1	15000.000	120.000	200.0	V	173.0	22.9	15.9	36.0	
802.894350	20.9	15000.000	120.000	100.0	V	210.0	23.8	15.1	36.0	
954.953550	22.7	15000.000	120.000	200.0	V	241.0	25.4	13.3	36.0	

Set 2

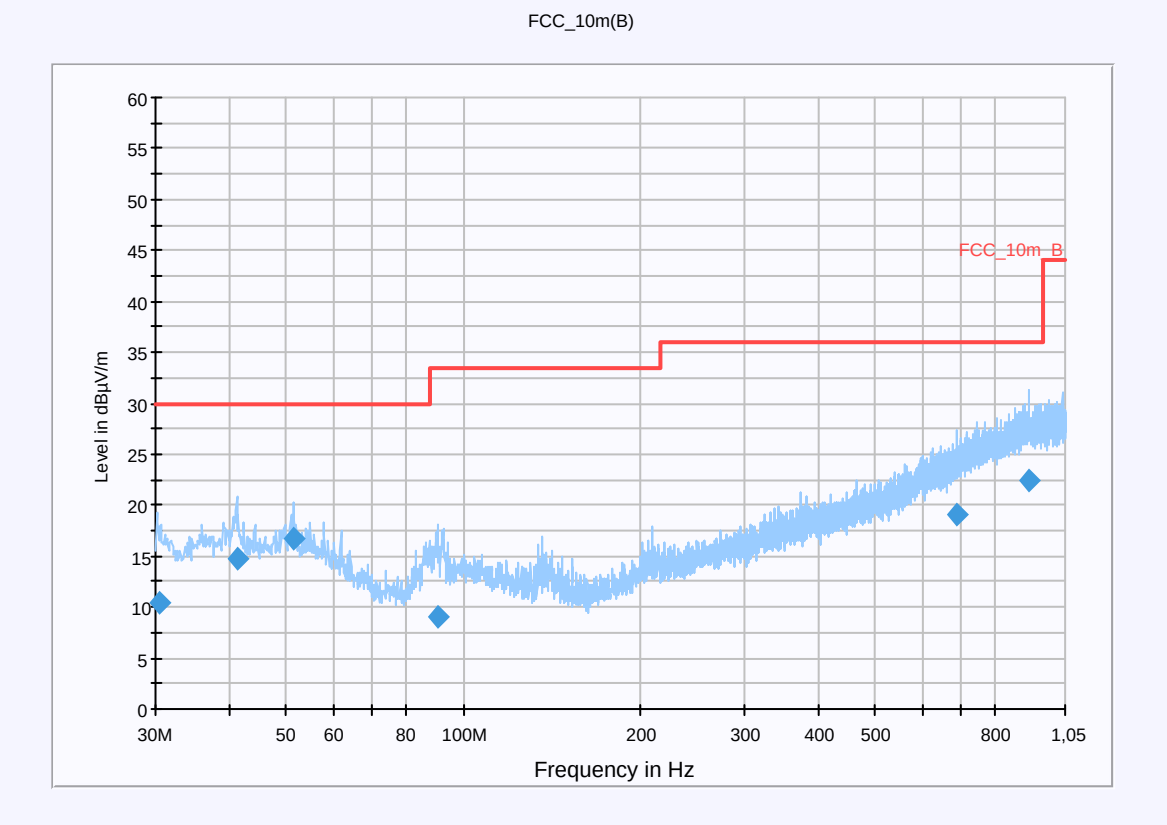
Common Information

EUT:	RDB71UW + HDW-06610-005 + HDW-24481-001 (ADUUS-001) + HDW-15766-005
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B @ 10 mm
Operating Conditions:	PCS 1900 idle
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

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

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1,05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 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
30.453142	10.3	15000.000	120.000	198.0	V	83.0	12.6	19.7	30.0	
41.314500	14.8	15000.000	120.000	98.0	V	184.0	13.4	15.2	30.0	
51.620400	16.8	15000.000	120.000	98.0	V	145.0	13.2	13.2	30.0	
90.358200	9.0	15000.000	120.000	304.0	V	51.0	10.6	24.5	33.5	
685.624200	19.2	15000.000	120.000	198.0	V	193.0	22.0	16.8	36.0	
912.333600	22.5	15000.000	120.000	334.0	H	187.0	25.2	13.5	36.0	

Set 3

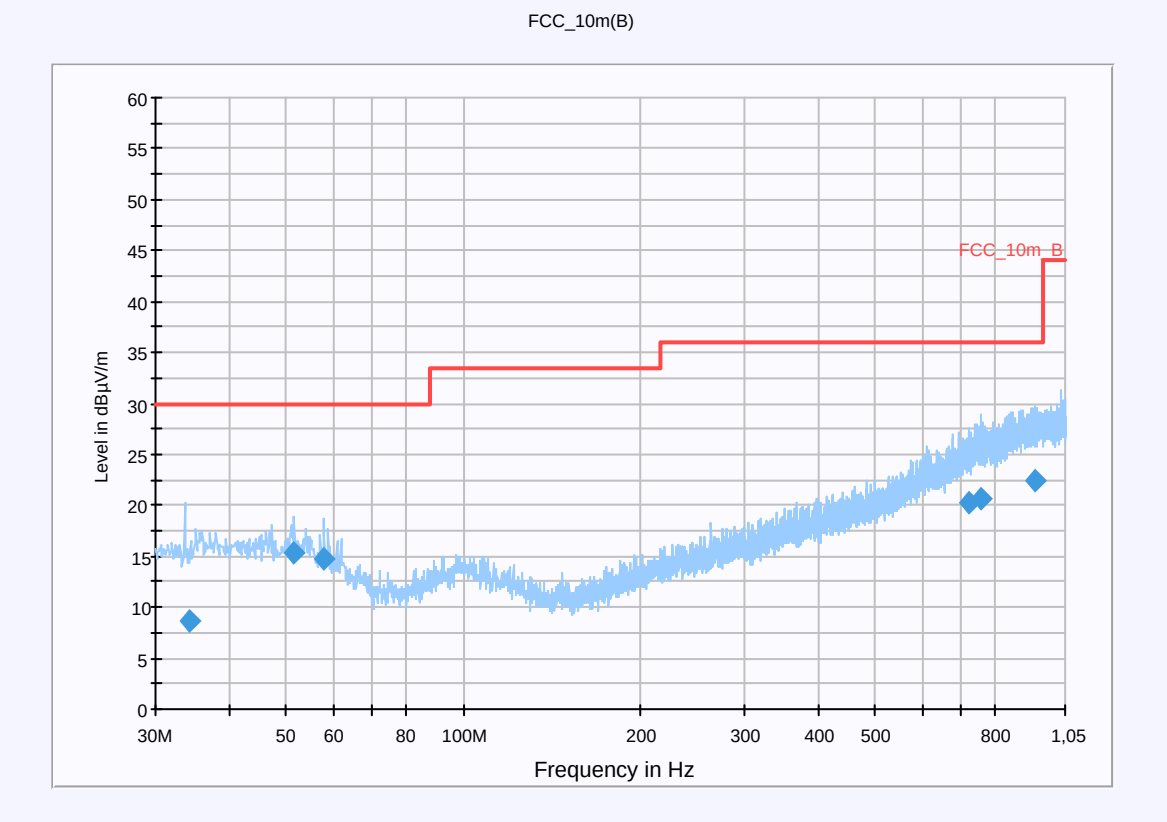
Common Information

EUT:	RDB71UW + HDW-24529-001
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B @ 10 mm
Operating Conditions:	FDD 4 idle
Operator Name:	Langer
Comment:	batterypowered

Scan Setup: STAN_Fin [EMI radiated]

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

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1,05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 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
34.190250	8.7	15000.000	120.000	226.0	V	217.0	12.9	21.3	30.0	
51.615750	15.3	15000.000	120.000	198.0	V	40.0	13.2	14.7	30.0	
58.012650	14.7	15000.000	120.000	116.0	V	38.0	12.1	15.3	30.0	
722.686950	20.2	15000.000	120.000	198.0	V	148.0	23.0	15.8	36.0	
756.017550	20.7	15000.000	120.000	400.0	V	114.0	23.6	15.3	36.0	
932.301450	22.5	15000.000	120.000	400.0	V	303.0	25.3	13.5	36.0	

Set 4

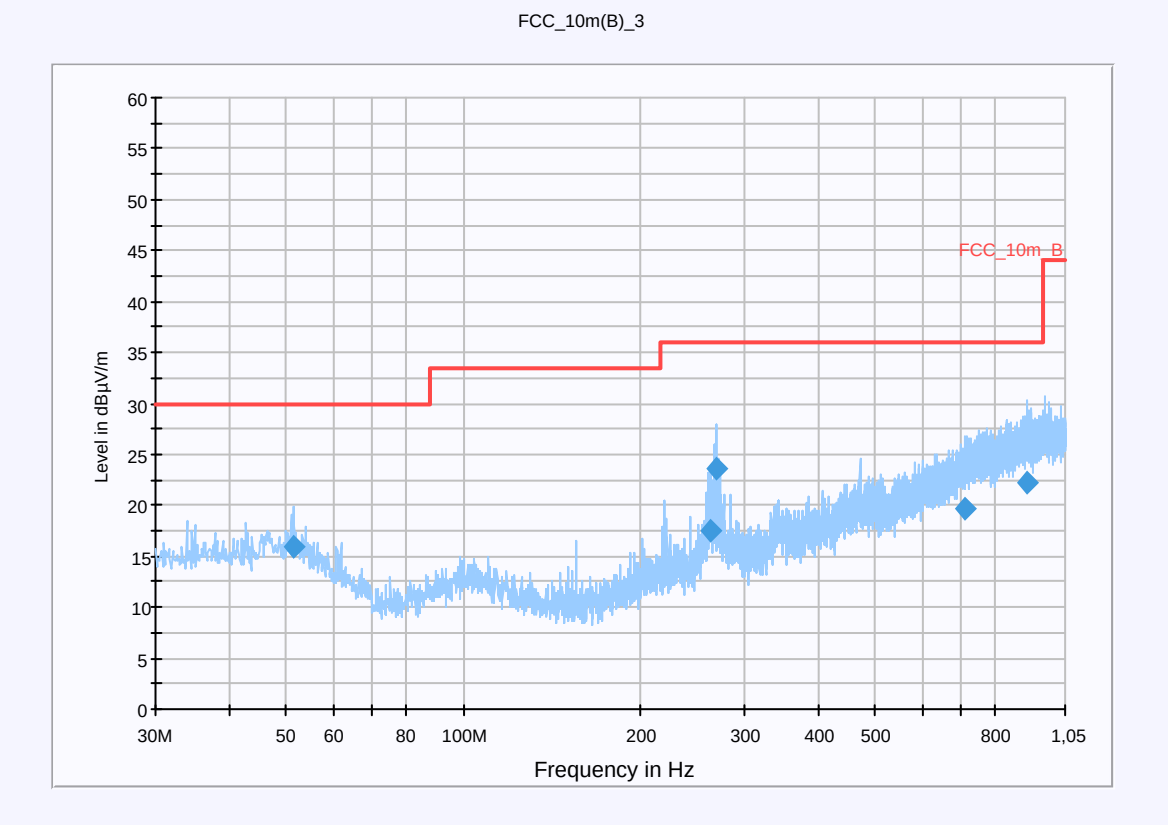
Common Information

EUT:	RDB71UW + HDW-23439-001 + HDW-17955-001
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B
Operating Conditions:	PCS 1900 idle, BT Headset paired
Operator Name:	Lang
Comment:	AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

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

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1,05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 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
51.606300	16.0	15000.000	120.000	220.0	V	225.0	13.2	14.0	30.0	
262.701150	17.6	15000.000	120.000	126.0	V	232.0	13.5	18.4	36.0	
269.689200	23.7	15000.000	120.000	98.0	V	-3.0	13.7	12.3	36.0	
708.753150	19.7	15000.000	120.000	98.0	V	135.0	22.6	16.3	36.0	
907.508850	22.3	15000.000	120.000	169.0	H	23.0	25.2	13.7	36.0	

Set 5

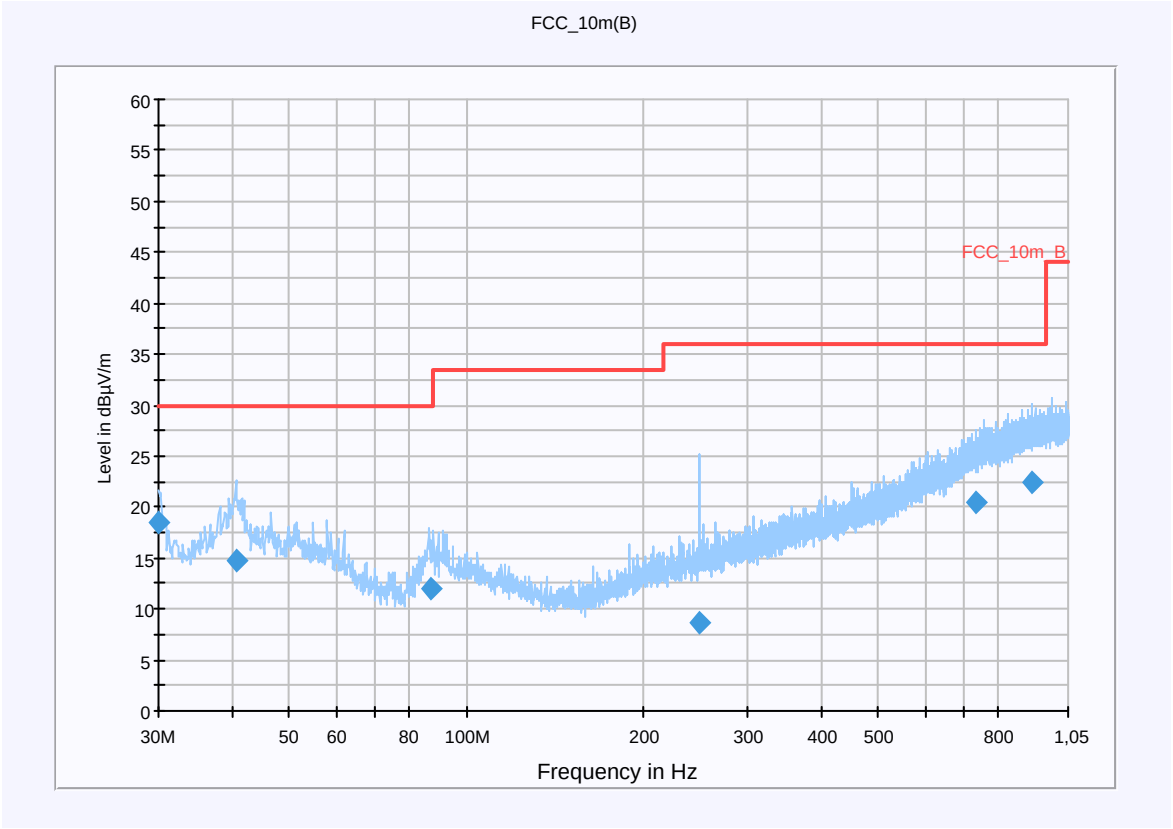
Common Information

EUT:	RDB71UW + FBCharger: HDW-24484-001 (050QRIM-R) + USB cable 1,5 m: HDW-06610-005 + SH: HDW-14322-003
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B @ 10 mm
Operating Conditions:	FDD 4 idle
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

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

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1,05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

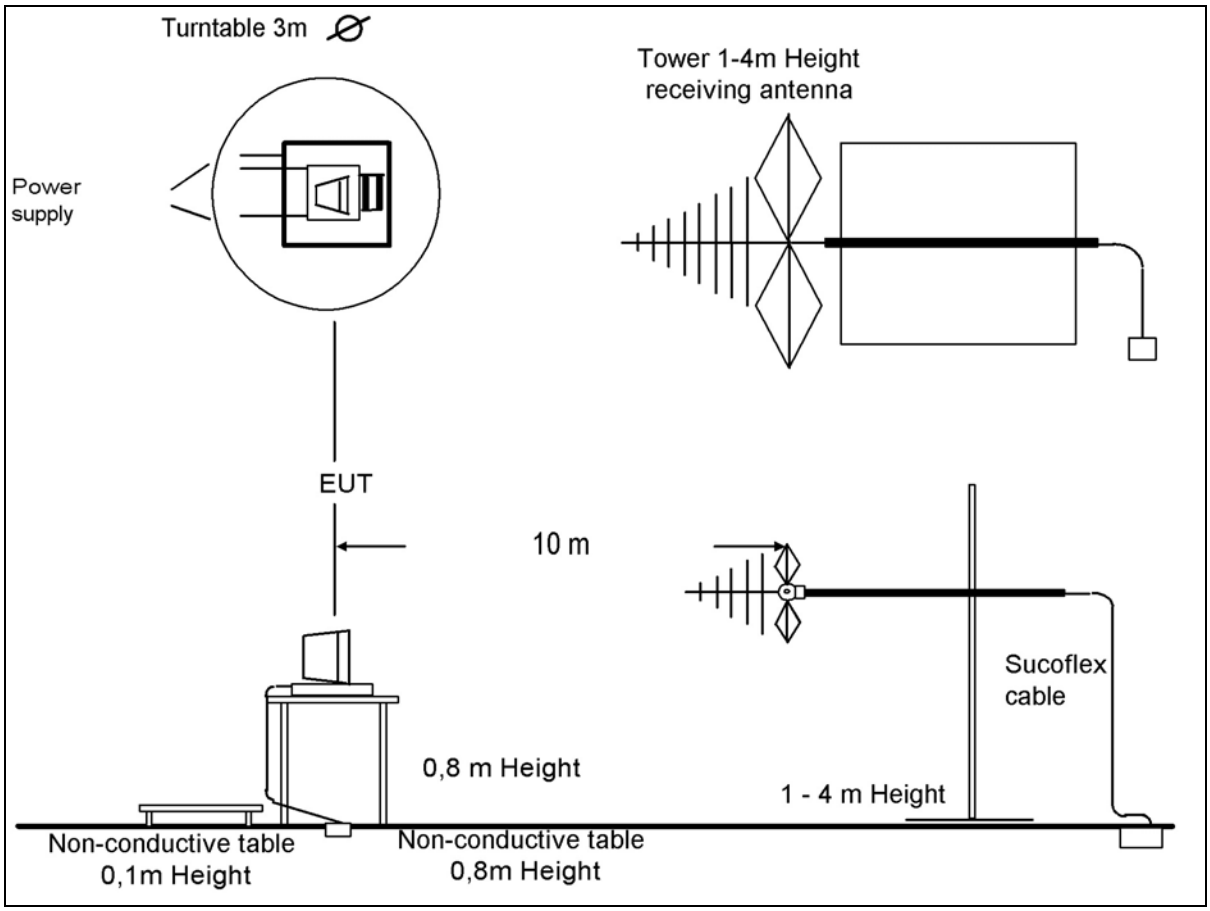
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
30.025425	18.6	15000.000	120.000	98.0	V	32.0	12.5	11.4	30.0	
40.627800	14.7	15000.000	120.000	198.0	V	127.0	13.4	15.3	30.0	
87.070650	12.1	15000.000	120.000	133.0	V	71.0	10.1	17.9	30.0	
248.141550	8.7	15000.000	120.000	400.0	H	328.0	13.2	27.3	36.0	
733.647450	20.5	15000.000	120.000	210.0	H	170.0	23.2	15.5	36.0	
910.864500	22.5	15000.000	120.000	296.0	H	-1.0	25.2	13.5	36.0	

8.2.6 Hardware Set-up

Subrange 1

Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12
	EMC 32 Version 8.10.00

8.2.7 Test Set-up



8.2.8 Electromagnetic Radiated Emissions (Distance 5 m)

8.2.8.1 Instrumentation for Test (see equipment list)

F 1	F 6	F 7	F 21	F 29	F 30	F 33					

8.2.8.2 Test Plan

EUT set-up	Operating mode	Application	Limit	Result
Set. 1	Op. 1	Enclosure	FCC part 15 B Class B	passed
Set. 2	Op. 2	Enclosure	FCC part 15 B Class B	passed
Set. 3	Op. 3	Enclosure	FCC part 15 B Class B	passed
Set. 4	Op. 2	Enclosure	FCC part 15 B Class B	passed
Set. 5	Op. 3	Enclosure	FCC part 15 B Class B	passed

Remarks:	The measured values are recalculated from 5m to 3m distance. Powered by external power supply (115V / 60Hz).

8.2.8.3 Radiated Limits

Frequency- range	47CFR15: (FCC part 15 B) Class B	47CFR15: (FCC part 15 B) Class A *
30 MHz – 88 MHz	40 dBµV/m	49,1 dBµV/m
88 MHz – 216 MHz	43,5 dBµV/m	53,5 dBµV/m
216 MHz – 960 MHz	46 dBµV/m	56,4 dBµV/m
960 MHz – 18000 MHz	54 dBµV/m	59,5 dBµV/m
		* This values are recalculated from the class A limits at 10 m antenna distance in §15.109 (g 2) of the FCC rules.

8.2.8.4 Calibration Information

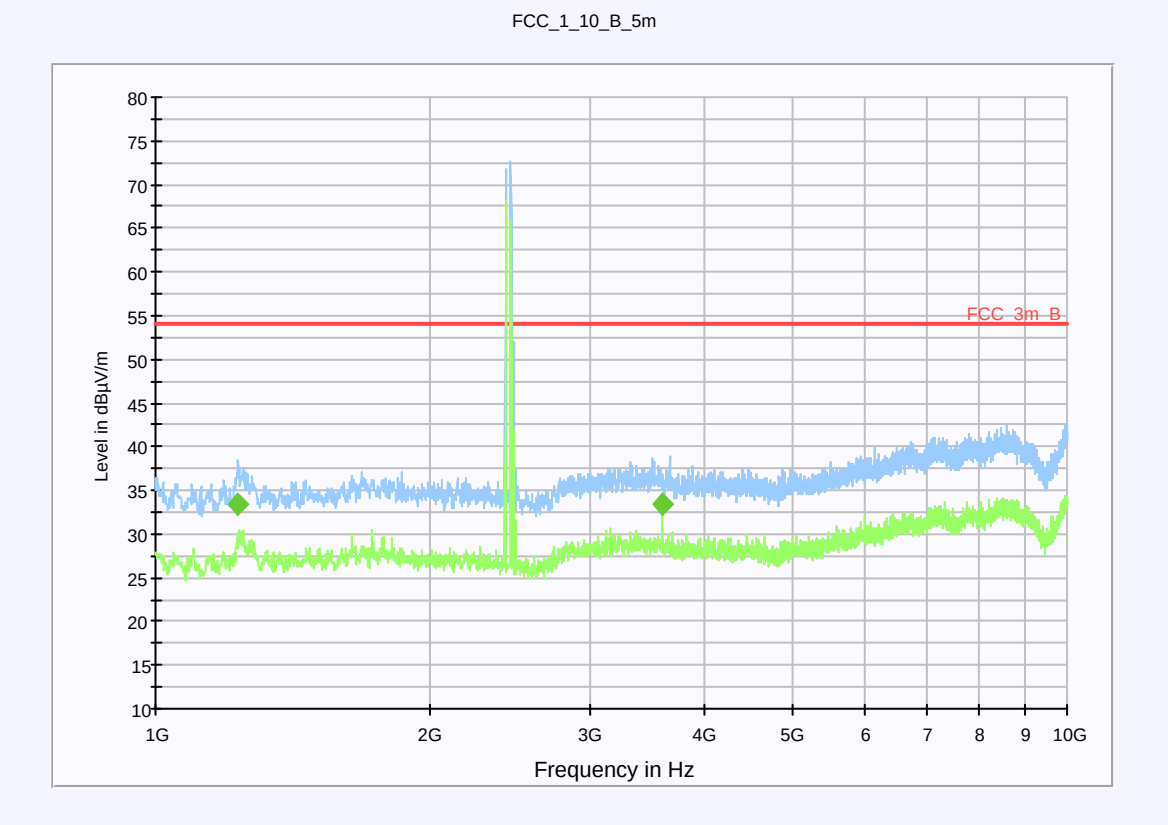
Device	Serial number	ICT Number	Calibration valid until	Calibration interval
FSU 26	200809	300003874	01/2011	12 month
Horn Antenna	9120B188	300003896	04/2010	24 month
Remarks: System check of all relevant devices and the chamber (weekly) Cable loss: 0.5 to 4.2 dB (30 MHz to 2 GHz); the cable and connectors loss is re-measured every 3 month				

8.2.8.5 Test Results

Set 1

Common Information

EUT:	RDB71UW + USB cable 1,5 m: HDW-06610-005 + VMO: HDW-23438-001
Serial Number:	IMEI:004401136104904 + unknown + 1001LI03683364
Test Description:	FCC Part 15 B @ 5m 1-10GH
Operating Conditions:	GSM 850 idle + Bluetooth paired
Operator Name:	Langer
Comment:	batterypowered + USB connected + batterypowered, BT carrier @ 2,4 GHz



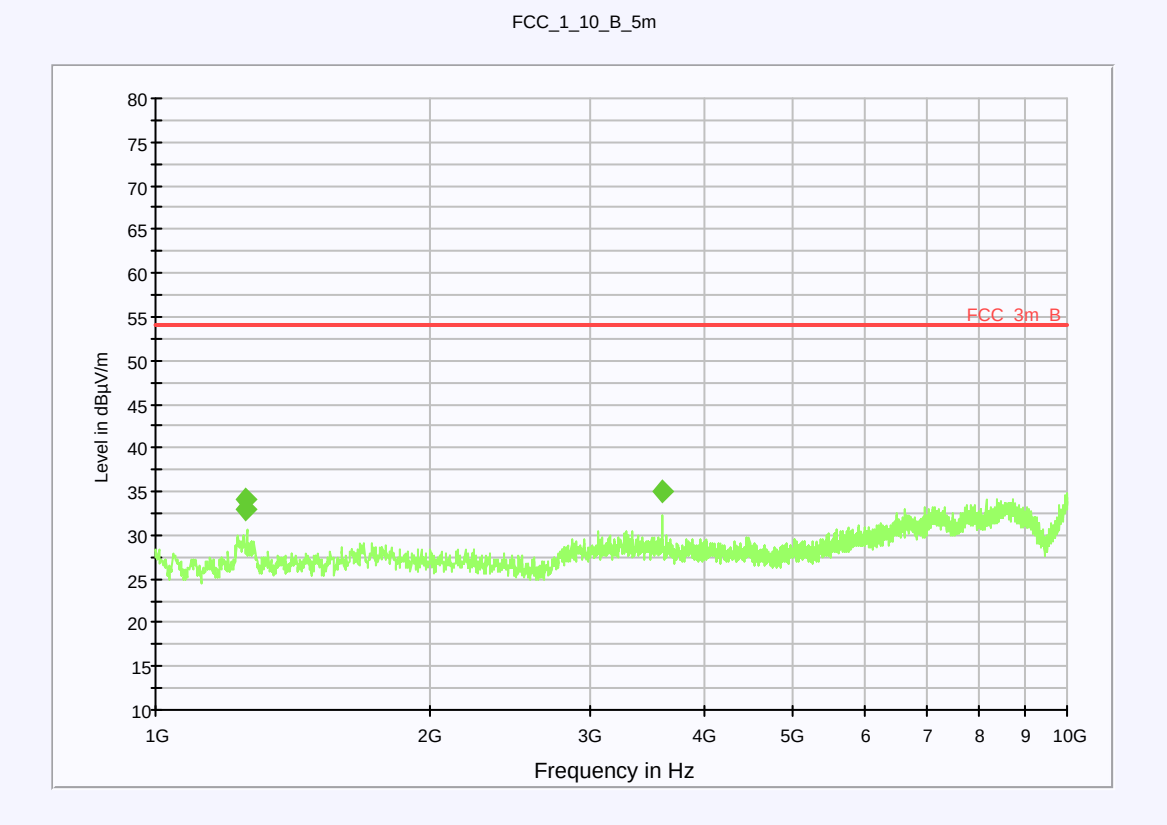
Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
1231.554327	33.5	1.000	1000.000	100.0	H	32.0	-3.1	
3598.825683	33.3	1.000	1000.000	100.0	H	17.0	-1.6	

Set 2

Common Information

EUT:	RDB71UW + HDW-06610-005 + HDW-24481-001 (ADUUS-001) + HDW-15766-005
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B
Operating Conditions:	PCS 1900 idle
Operator Name:	Lang
Comment:	AC 115 V / 60 Hz



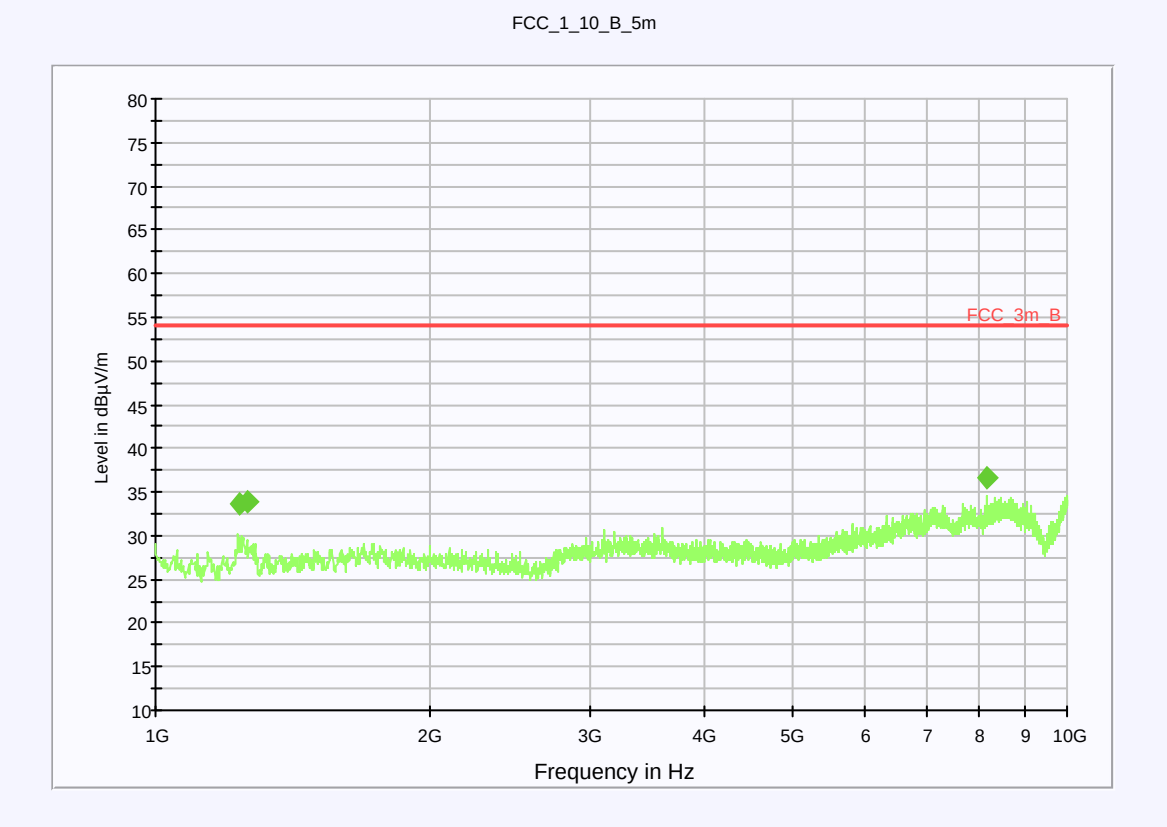
Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
1252.630389	34.1	1.000	1000.000	100.0	V	100.0	-2.1	
1258.657285	32.9	1.000	1000.000	100.0	V	171.0	-2.5	
3603.763786	35.1	1.000	1000.000	100.0	V	74.0	-1.6	

Set 3

Common Information

EUT:	RDB71UW + HDW-24529-001
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B
Operating Conditions:	FDD 4 idle
Operator Name:	Lang
Comment:	battery powered



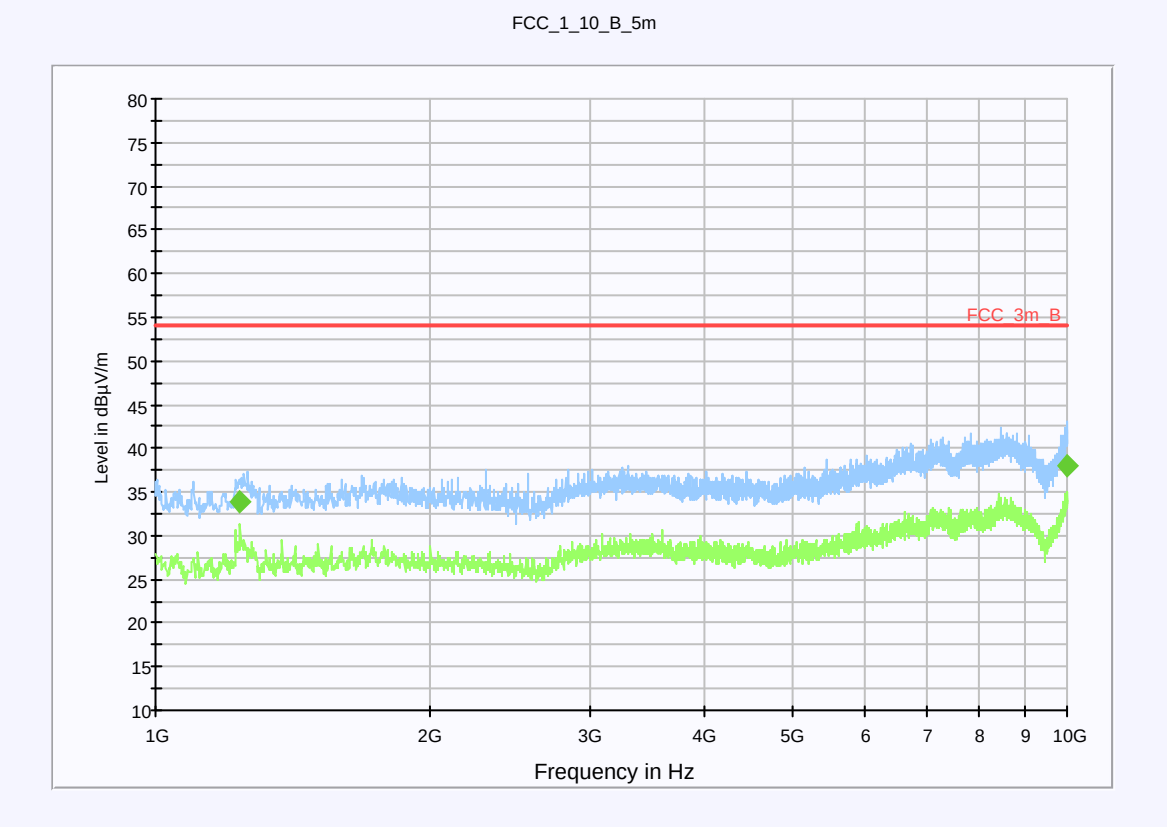
Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
1233.985458	33.7	1.000	1000.000	100.0	H	36.0	-2.9	
1261.985350	33.9	1.000	1000.000	100.0	V	116.0	-2.7	
8164.589744	36.6	1.000	1000.000	100.0	H	22.0	3.8	

Set 4

Common Information

EUT:	RDB71UW + HDW-23439-001 + HDW-17955-001
Serial Number:	IMEI:004401136104904
Test Description:	FCC part 15 B Class B
Operating Conditions:	PCS 1900 idle, BT Headset paired
Operator Name:	Lang
Comment:	AC: 115 V / 60 Hz



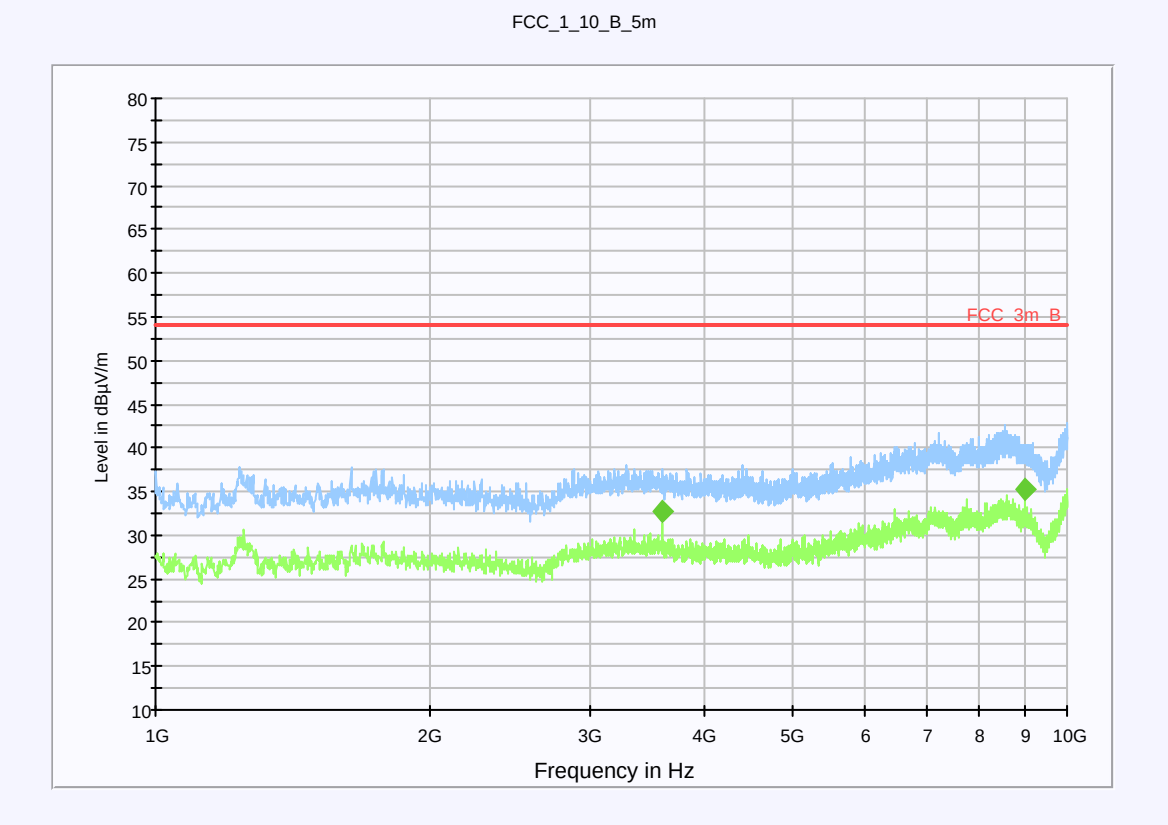
Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
1239.771820	33.9	1.000	1000.000	100.0	H	243.0	-2.6	
9981.426658	38.0	1.000	1000.000	100.0	V	323.0	4.7	

Set 5

Common Information

EUT:	RDB71UW + FBCharger: HDW-24484-001 (050QRIM-R) + USB cable 1,5 m: HDW-06610-005 + SH: HDW-14322-003
Serial Number:	IMEI:004401136104904
Test Description:	FCC Part 15B B 1-10 GHz @ 5m
Operating Conditions:	FDD 4 idle
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz



Final Result 2

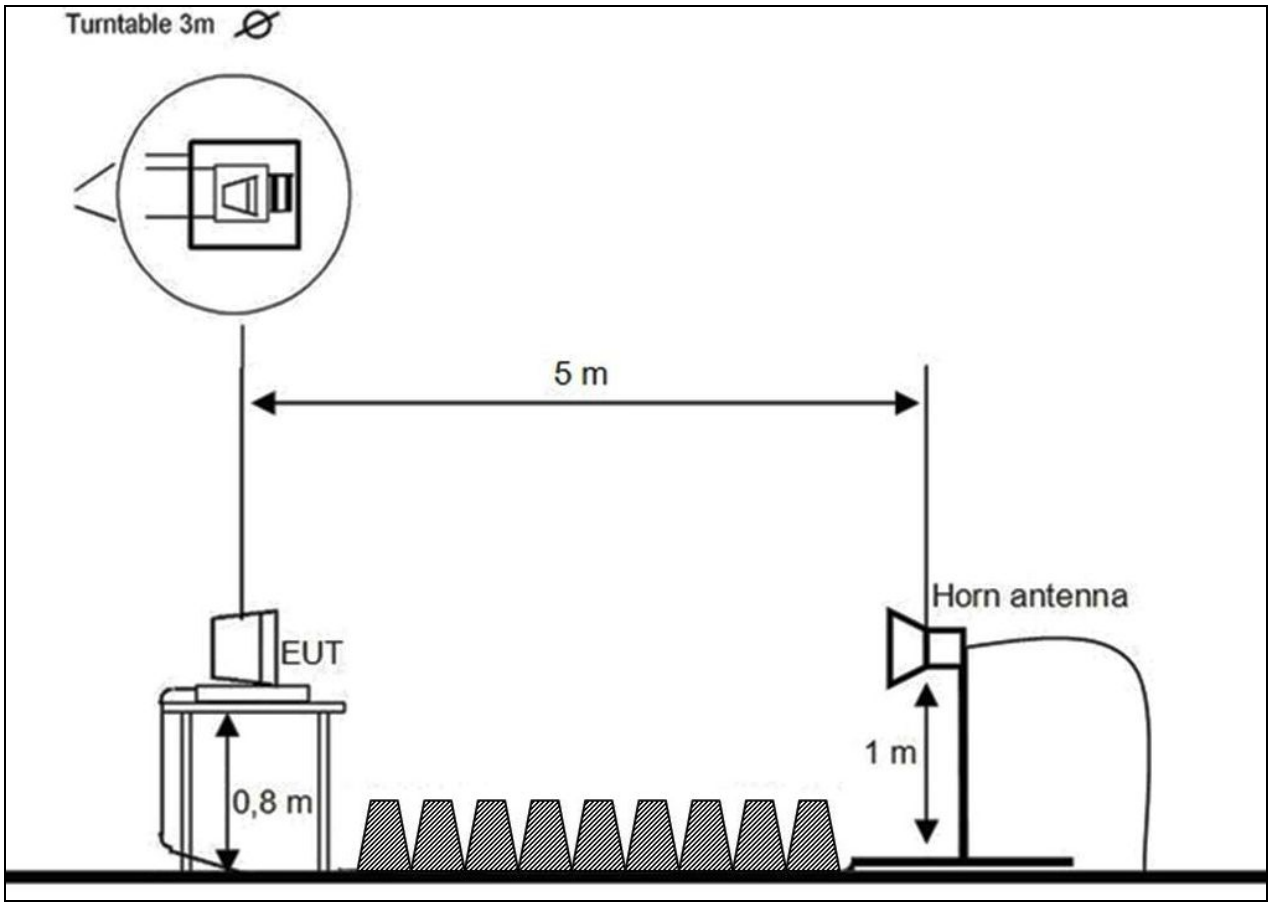
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
3601.010398	32.7	1.000	1000.000	100.0	H	131.0	-1.6	
9003.896123	35.3	1.000	1000.000	100.0	V	226.0	3.3	

8.2.8.6 Hardware Set-up

Subrange 1

Frequency Range:	1 GHz - 10 GHz
Receiver:	FSU 26 [FSU 26] @ GPIB0 (ADR 21), SN 200809/026, FW 4.41
Signal Path:	1_6_EN FW 1.0 Correction Table: 3_5m Correction Table: LNA_EN
Antenna:	BBHA 9120 B Correction Table (vertical): BBHA9120 Correction Table (horizontal): BBHA9120 Correction Table: Cable_Horn_EN (0909)
Antenna Tower:	Generic Tripod [Generic Tripod] @ GPIB0 (ADR 19), SN ?
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12
	EMC 32 Version 8.10.00

8.2.8.7 Test Set-up



9 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

No.	Instrument/Ancillary	Manufacturer	Type	Serial-No.	Internal identification
	Radiated emission in chamber F				
F-1	Control Computer	F+W		FW0502032	300003303
F-2	Trilog-Antenna	Schwarzbeck	VULB 9163	9163-295	---
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 Interface-Box	EMCO / ETS-LINDGREN	Model 105637	44583	300003747
F-7	Tower/Turntable Controller	EMCO / ETS-LINDGREN	Model 2090	64672	300003746
F-8	Tower	EMCO / ETS-LINDGREN	Model 2175	64762	300003745
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	100W1000 M1	12951	300000529
F-13	Directional Coupler	ar	DC 3010	12708	300001428
F-14	Stacked Logper Antenna	Schwarzbeck	STLP9128 E	9128 E 013	300003408
F-15	RF-Amplifier	ar	60S1G3	313649	300003410
F-15b	RF-Amplifier 0.8 – 4 GHz	BONN	BLMA 0840-2000/100D	076820B	300003783
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-28	Power Supply	Hewlett Packard	6032 A	2920 A 04466	300000580
	Radiated emission in chamber F > 1GHz				
F-29	Horn antenna	Schwarzbeck	BBHA 9120 B	9120B188	300003896
F-30	Amplifier	ProNova	0518C-138	005	F 024
F-31	Amplifier	Miteq	42-00502650-28-5A	1103782	300003379
F-32	Horn antenna	Emco	3115	9709-5289	300000213
F-33	Spectrum Analyzer	R&S	FSU 26	200809	300003874
F-34	Loop antenna	EMCO	6502	8905-2342	300000256

No.	Instrument/Ancillary	Manufacturer	Type	Serial-No.	Internal identification
	Conducted emission in chamber G				
G-1	EMI Receiver	Hewlett Packard	8542 E	3617A00170	300000568
G-2	V-ISN	Rohde & Schwarz	ESH 3-Z5	892475/017	300002209
G-2a	V-ISN	Rohde & Schwarz	ESH 2-Z5	892602/024	300000587
G-3	2-Wire ISN	Schaffner	ISN T200	19075	300003422
G-4	4-Wire ISN	Schaffner	ISN T400	22325	300003423
G-5	Shielded wire ISN	Schaffner	ISN ST08	22583	300003433
G-6	Unshielded 8 wire ISN	Teseq	ISN T800	26113	300003833
G-7	Unshielded 8 wire ISN	Teseq	ISN T8-Cat. 6	26374	300003851
G-8	RF Current probe	FCC	F-33-4	46	300003257
G-9	V-ISN	Schaffner	ISN PLC-150	21579	300003318
G-10	V-ISN	Schaffner	ISN PLC-25-30	21584	300003319
G 10a	PLC Filter	TESEQ	Filter PLC	23436	300003598
G 10b	Coupling unit 75 Ohm	Fiedler	AC	----	300003272.04
	Conducted immunity in chamber G				
G-11	Signal generator	HP	8657A	2838 A 00638	300000369
G-12	RF-Amplifier	BONN	BSA 0125-75	066502-01	300003545
G-13	Power Meter	R&S	URV 5	837723/025	300002844.01
G-14	Power Sensor	R&S	URV 5-Z2	832874/021	300002239
G-15	Directional coupler	emv	DC 2000	9401-1677	300000592
G-16	Attenuator 6dB	Alan	50HP6-100 N	121048 0348	300003148
G-17	EM-Injection Clamp	FCC	203i	232	300000626
G-18	CDN	FCC	FCC-801-M3-16	237	300000627
G-19	CDN	FCC	FCC-801-T2	78	300000629
G-20	CDN	FCC	FCC-801-AF 2	62	300000630
G-21	CDN	FCC	FCC-801-AF 4	61	300000631
G-22	CDN	FCC	FCC-801-M1	2027	300002761
G-23	CDN	Lüthi	CDN 801-M2/M3	9350105	300000534
G-24	Transformator for 50Hz Loop Antenna	EM-Test	MC2630	0200-10	300002659.01
G-25	50Hz Loop Antenna	EM-Test	MS 100	none	300002659
	Surge, Burst, Dips and Interruptions in chamber G				
G-26	Hybrid-Generator	EM-Test	UCS 500M6	0399-07	300002599
G-27	Motor Variac	EM-Test	MV 2616	0600-01	300002658
G-28	Capacitive Coupling Clamp	MWB	KKS 100	---	300000589
G-29	Coupling Decoupling Network	EMC-Partner	CDN-UTP	00014	300003226
	ESD in chamber G				
G-30	ESD generator	Schaffner	NSG 435	308	300002249
	Emission on bench in chamber G				
G-31	Absorbing Clamp	R&S	MDS-21	832 231/006	300000527

10 Observations

No observations, exceeding those reported with the single test cases, have been made.

Annex A: Photographs of the test set-up

pictures of the test set-up see ANNEX A (document: 1-2166-01-10_10_ANNEX_A_B)

Annex B: Photographs of the EUT

pictures of the EUT see ANNEX B (document: 1-2166-01-10_10_ANNEX_A_B)

Annex C: Document history

Version	Applied changes	Date of release
	Initial release	2010-04-23

Annex D: Further information

Glossary

DUT	-	Device under Test
EMC	-	Electromagnetic Compatibility
EUT	-	Equipment under Test
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	not applicable
S/N	-	Serial Number
SW	-	Software