

## TEST REPORT

Test Report No.: 1-2031-01-14/10



### Testing Laboratory

**CETECOM ICT Services GmbH**  
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#### 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  
 Postleitzahl Waterloo, ON N2L 3W8/Canada  
 Phone: +1-519-888-7465  
 Fax: +1-519-888-6906  
 Contact: Masud Attayi  
 e-mail: [mattayi@rim.com](mailto:mattayi@rim.com)

### Manufacturer

Same as Applicant

### Test Standard/s

47CFR15	2008-07	Subpart B - Unintentional Radiators
ICES-003, Issue 4	2004-02	Interference-Causing Equipment Standard Digital Apparatus

### Test Item

**Kind of test item:** Smartphone  
**Model name:** Blackberry CPR 9765 rev. E / POP  
**24562-911 rev. B**  
 FCC ID: L6ARCV70UW  
 IC: 2503A-RCV70UW  
 S/N serial number: IMEI: 004401135855050  
 HW hardware status: Rev. E  
 SW software status: 6.2.0.16 (Feb. 07 2010)  
 Power Supply: Fixed blade charger HDW-24481-001 / 100120  
 Folding blade charger HDW-17955-001 / 100120  
 100-240 V / 50 – 60 Hz

pictures of the EUT see ANNEX B (document: 1-2031-01-14\_10\_ANNEX\_B)

**Test performed:**

**Test Report authorised:**

\_\_\_\_\_  
 Jens Hennemann

\_\_\_\_\_  
 Uli Kraus



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## 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:	2010-02-11
Date of receipt of test item:	2010-02-25
Start of test:	2010-02-25
End of test:	2010-02-26
Person(s) present during the test:	- / -

## 3 Test standard/s:

Test Standard	Version	Test Standard Description
FCC 47 CFR Ch. I § 101.115	2008-07	Directional antennas
ICES-003, Issue 4	2004-03	Interference-Causing Equipment Standard Digital Aparatus

## 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

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## 6 Information about Test Conditions

### 6.1 Test Item

<b>Kind of test item</b> :	<b>Smartphone</b>		
<b>Type identification</b> :	<b>Blackberry CPR 9765 rev. E / POP 24562-911 rev. B</b>		
<b>Equipment classification:</b>	Equipment for fixed use		
<b>Environment classification:</b>	Residential, commercial and light industry		
<b>Supply voltage</b> :	AC 115 V/ 60 Hz		
<b>Ports</b> : <b>(maximum cable lengths declared by manufacturer)</b>	<b>Description</b>	<b>Direction</b>	
	multifunction port	in- / output	
	3,5 mm stereo jack	in- / output	
<b>Is mounting position / usual operating position defined?</b>			No
<b>Additional information:</b>			
The radio part was tested with FCC ID: L6ARCV70UW			

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

short description*)	EUT	Type	S/N serial number	HW hardware status	SW software status
EUT A	smartphone	RIM Blackberry CPR 9765 rev. E / POP 24562-911 rev. B	IMEI: 004401135855 050	Rev. E	6.2.0.16 (Feb 07 2010)

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

## 6.3 Auxiliary Equipment (AE): Type, S/N etc. and Short Descriptions

AE description*)	Auxiliary equipment	Type	S/N serial number	HW hardware status	SW software status
AE A	Notebook	Sony Personal Computer PCG-382	28206051 5002204	C3LPH13M	Microsoft Windows Vista Home Premium
AE B	USB cable	HDW-06620-055 / 100120	unknown	unknown	unknown
AE C	BT handsfree kit	VM-605 HDW-23438-001 / 100120	911LI03560376	FCC ID: TT2BHF700 IC: 6329A-BHF700	unknown
AE D	Fixed blade charger	HDW-24481-001 / 100120	0349	unknown	unknown
AE E	Premium stereo headset	HDW-15766-005 / 100121	unknown	unknown	unknown
AE F	Stereo headset	HDW-24529-001 / 100121	unknown	unknown	unknown
AE G	BT-headset	HSO HDW-23439-001 / 100120	unknown	unknown	unknown
AE H	Folding blade charger	HDW-17955-001 / 100120	unknown	unknown	unknown
AE I	Stereo headset	HDW-14322-003 / 100122	unknown	unknown	unknown

\*) AE short description is used to simplify the identification of the auxiliary equipment in this test report.

## 6.4 EUT Set-up(s)

EUT set-up no. *)	Combination of EUT and AE	Remarks
set. 1	EUT A + AE B + AE D	setup for conducted emission on AC
set. 2	EUT A + AE A + AE B + AE C	setup for radiated emission
set. 3	EUT A + AE B + AE D + AE E	setup for radiated emission
set. 4	EUT A + AE F	setup for radiated emission
set. 5	EUT A + AE G + AE H	setup for radiated emission
set. 6	EUT A + AE B + AE D + AE I	setup for radiated emission

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

## 6.5 EUT Operating Modes

<b>EUT operating mode no. *)</b>	<b>Description of operating modes</b>	<b>Additional information</b>
<b>op. 1</b>	TCH 850 + charging	(set. 1) conducted emission
<b>op. 2</b>	IDLE 850 + charging via USB + BT connection	(set. 2) radiated emission
<b>op. 3</b>	IDLE 1900 + charging	(set. 3) radiated emission
<b>op. 4</b>	IDLE UMTS FDD II	(set. 4) radiated emission
<b>op. 5</b>	IDLE UMTS FDD V + charging + BT connection	(set. 5) radiated emission
<b>op. 6</b>	IDLE 850 + charging	(set. 6) radiated emission

\*) 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 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 Ø.

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								
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#### 8.1.2 Test Plan

<b>EUT set-up</b>	set. 1		
<b>Operating mode</b>	<b>Port / Line</b>	<b>Limit</b>	<b>Result</b>
op. 1 (TCH 850 + charging)	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)

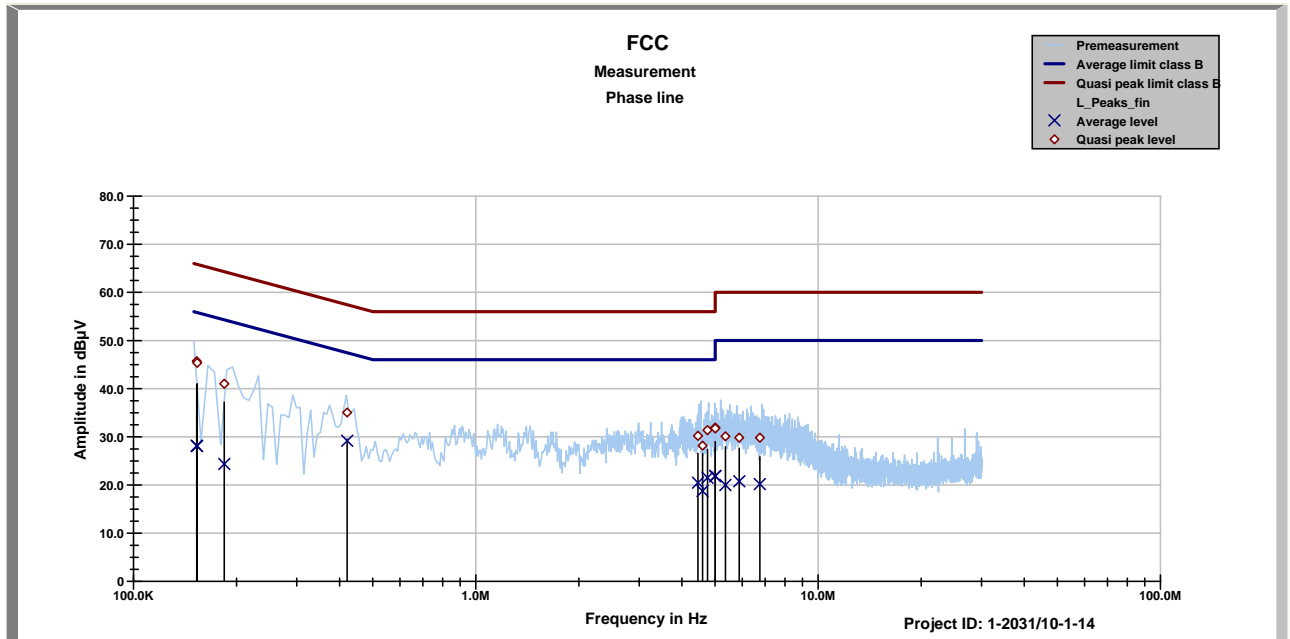
Frequency- range	FCC part 15 B Class B		FCC part 15 B Class A	
	Quasi-Peak (dBµV)	Average (dBµV)	Quasi-Peak (dBµV)	Average (dBµV)
0,15 MHz – 0,5 MHz	66-56	56-46	79	66
0,5 MHz -5 MHz	56	46	73	60
5 MHz -30 MHz	60	50	73	60

#### 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	893045/004	300000584	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



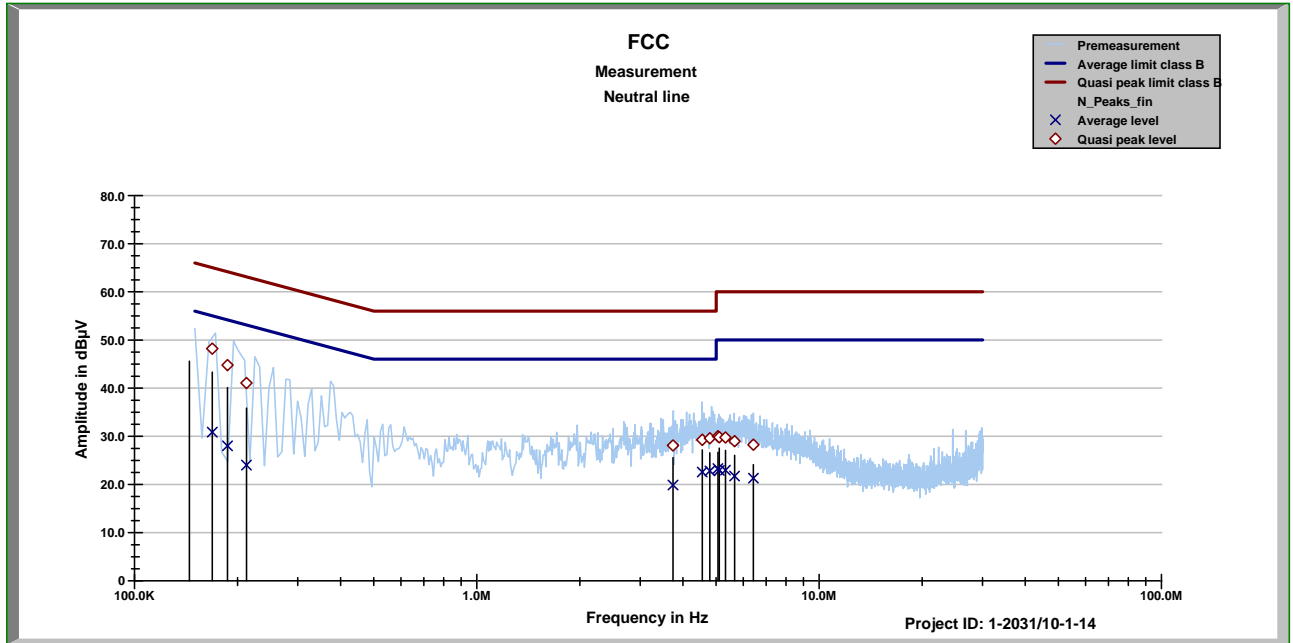
FCC  
Phase line tbl

Project ID: 1-2031/10-1-14

11:52:07 AM, Friday, February 26, 2010

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.15289	45.71	20.13	28.14	27.78
0.15348	45.36	20.45	28.10	27.81
0.18424	41.02	23.27	24.36	30.66
0.4208	35.04	22.40	29.18	19.08
4.454	30.20	25.80	20.47	25.53
4.5927	28.17	27.83	18.74	27.26
4.7469	31.37	24.63	21.51	24.49
5.0025	31.90	28.10	21.90	28.10
5.0033	31.74	28.26	21.82	28.18
5.3565	30.10	29.90	19.99	30.01
5.8782	29.81	30.19	20.77	29.23
6.749	29.81	30.19	20.17	29.83

Project ID - 1-2031/10-1-14  
 EUT - RCV71UW + HDW-24481-001  
 Serial Number - 004401135855050 + 0349  
 Operating mode - GSM 850 + charging



FCC  
Neutral line tbl

Project ID: 1-2031/10-1-14

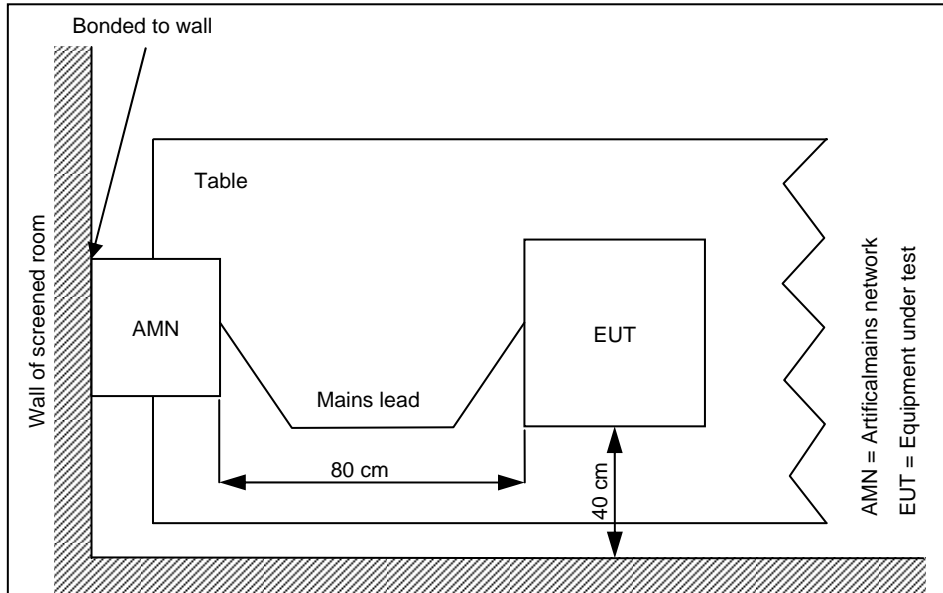
11:52:07 AM, Friday, February 26, 2010

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.16867	48.19	16.84	30.86	24.61
0.18693	44.76	19.41	28.02	26.93
0.21229	41.06	22.06	24.02	30.20
3.7394	28.10	27.90	19.87	26.13
4.5518	29.27	26.73	22.58	23.42
4.7904	29.58	26.42	22.80	23.20
5.0609	29.99	30.01	23.30	26.70
5.1057	29.79	30.21	22.89	27.11
5.3209	29.76	30.24	22.96	27.04
5.657	28.98	31.02	21.74	28.26
6.4213	28.24	31.76	21.30	28.70

Project ID - 1-2031/10-1-14  
 EUT - RCV71UW + HDW-24481-001  
 Serial Number - 004401135855050 + 0349  
 Operating mode - GSM 850 + charging

### 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 21					
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### 8.2.2 Test Plan

EUT set-up	set. 2 + set. 3 + set. 4 + set. 5 + set. 6		
Operating mode	Application	Limit	Result
op. 2 (IDLE 850 + charging via USB + BT connection) (set. 2)	Enclosure	FCC part 15 B Class B	passed
op. 3 (IDLE 1900 + charging) (set. 3)	Enclosure	FCC part 15 B Class B	passed
op. 4 (IDLE UMTS FDD II) (set. 4)	Enclosure	FCC part 15 B Class B	passed
op. 5 (IDLE UMTS FDD V + charging + BT connection) (set. 5)	Enclosure	FCC part 15 B Class B	passed
op. 6 (IDLE 850 + charging) (set. 6)	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 B
30 MHz – 88 MHz	30 dB $\mu$ V/m	39,1 dB $\mu$ V/m
88 MHz – 216 MHz	33,5 dB $\mu$ V/m	43,5 dB $\mu$ V/m
216 MHz – 960 MHz	36 dB $\mu$ V/m	46,4 dB $\mu$ V/m
960 MHz – 40000 MHz	44 dB $\mu$ V/m	49,5 dB $\mu$ V/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	---	04/2010	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

### 8.2.5 Test Results

set. 2

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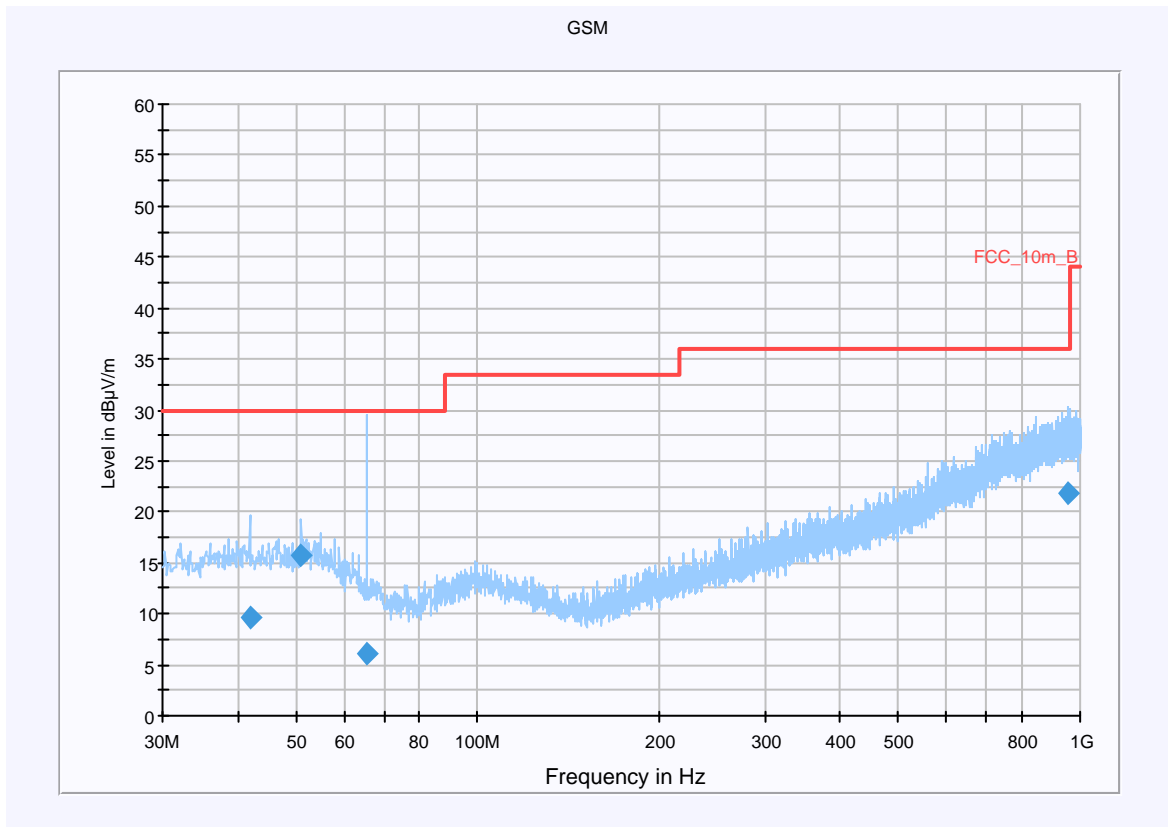
#### Common Information

EUT: RCV71UW + USB cable (HDW-06620-055 / 100120) + VMO (HDW-23438-001 / 100120)  
 Serial Number: IMEI: 004401135855050 + VMO: 911LI03560376  
 Test Description: FCC part 15 B class B @ 10 m  
 Operating Conditions: IDLE 850 + charging + BT connection to VMO  
 Operator Name: Hennemann  
 Comment: - / -

#### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Level Unit: dB $\mu$ V/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 (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V/m)	Comment
42.118900	9.7	5000.000	120.000	154.0	V	118.0	13.4	20.3	30.0	
50.975800	15.7	5000.000	120.000	198.0	V	76.0	13.3	14.3	30.0	
65.447650	6.2	5000.000	120.000	361.0	H	273.0	10.3	23.8	30.0	
956.090250	21.7	5000.000	120.000	198.0	V	161.0	25.4	14.3	36.0	

set. 3

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**Common Information**

EUT: RCV71UW + USB cable (HDW-06620-055 / 100120) + Fixed Blade charger (HDW-24481-001 / 100120) + Premium Stere Headset (HDW-15766-005 / 100121)

Serial Number: IMEI: 004401135855050 + Fixed Blade charger: 0349

Test Description: FCC part 15 B class B @ 10 m

Operating Conditions: idle 1900 + charging

Operator Name: Hennemann

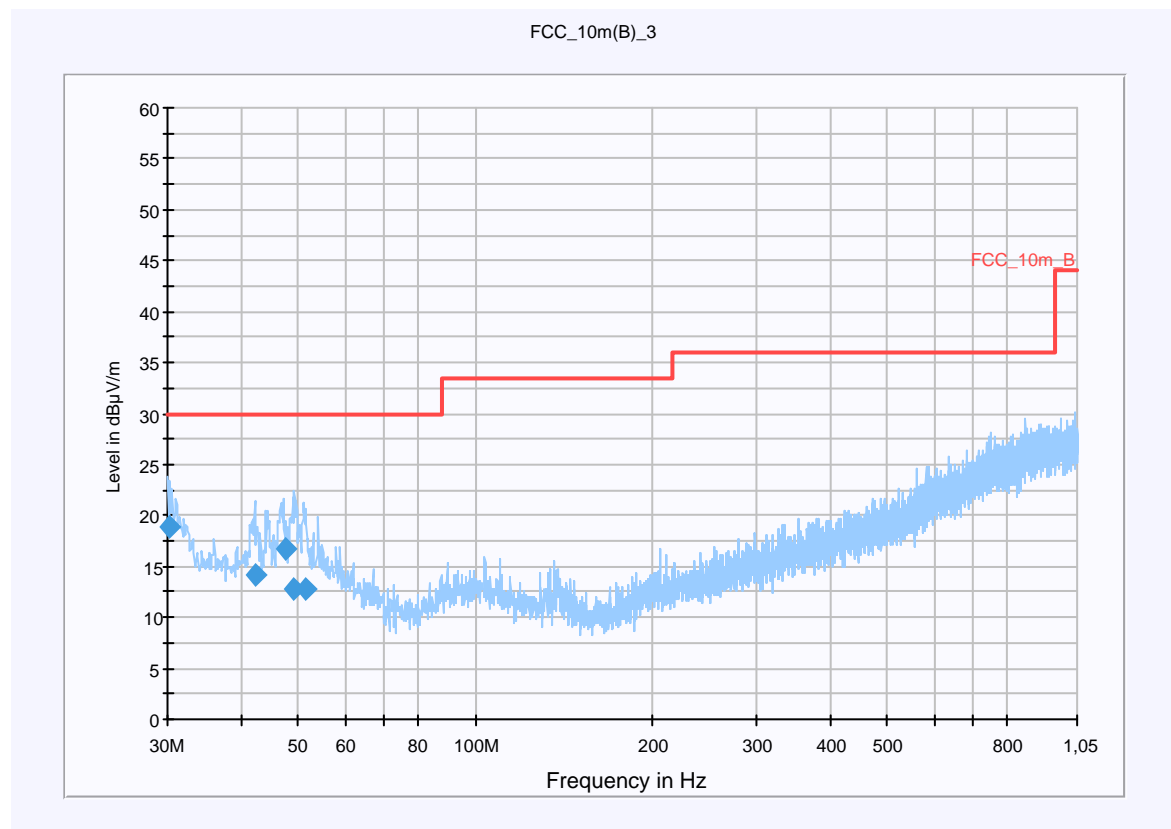
Comment: AC: 115 V / 60 Hz

**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
30.299475	18.8	15000.000	120.000	98.0	V	50.0	12.5	11.2	30.0	
42.201600	14.2	15000.000	120.000	98.0	V	143.0	13.4	15.8	30.0	
47.610300	16.8	15000.000	120.000	192.0	V	45.0	13.3	13.2	30.0	
48.987000	12.8	15000.000	120.000	179.0	V	105.0	13.4	17.2	30.0	
51.673950	12.7	15000.000	120.000	116.0	V	6.0	13.2	17.3	30.0	

set. 4

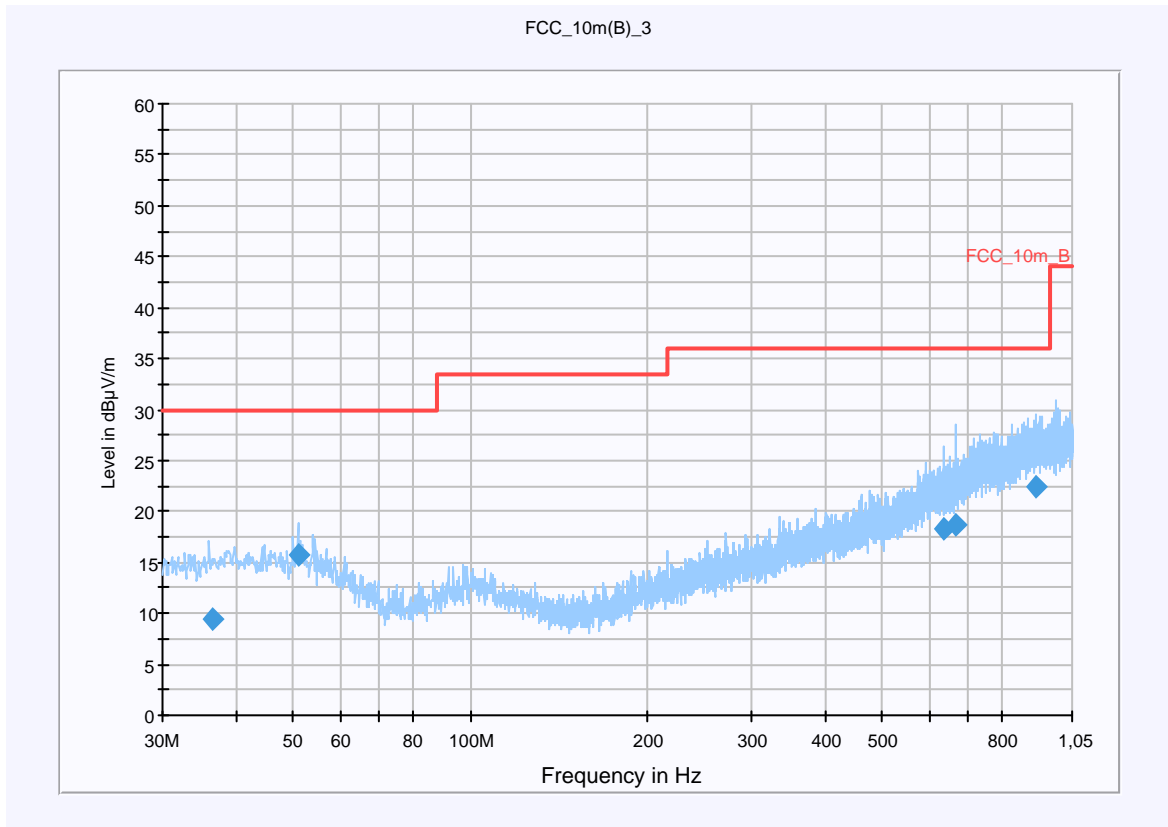
**CETECOM ICT Services GmbH**

**Common Information**

EUT: RCV71UW + Stereo Headset (HDW-24529-001 / 100121)  
 Serial Number: IMEI: 004401135855050  
 Test Description: FCC part 15 B class B @ 10 m  
 Operating Conditions: UMTS FDD 2 idle  
 Operator Name: Hennemann  
 Comment: - / -

**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
36.507900	9.5	15000.000	120.000	116.0	V	245.0	13.2	20.5	30.0	
50.988900	15.7	15000.000	120.000	149.0	V	39.0	13.3	14.3	30.0	
633.862200	18.2	15000.000	120.000	116.0	H	313.0	21.0	17.8	36.0	
665.387400	18.7	15000.000	120.000	105.0	H	234.0	21.5	17.3	36.0	
914.501100	22.4	15000.000	120.000	220.0	V	150.0	25.2	13.6	36.0	



set. 5

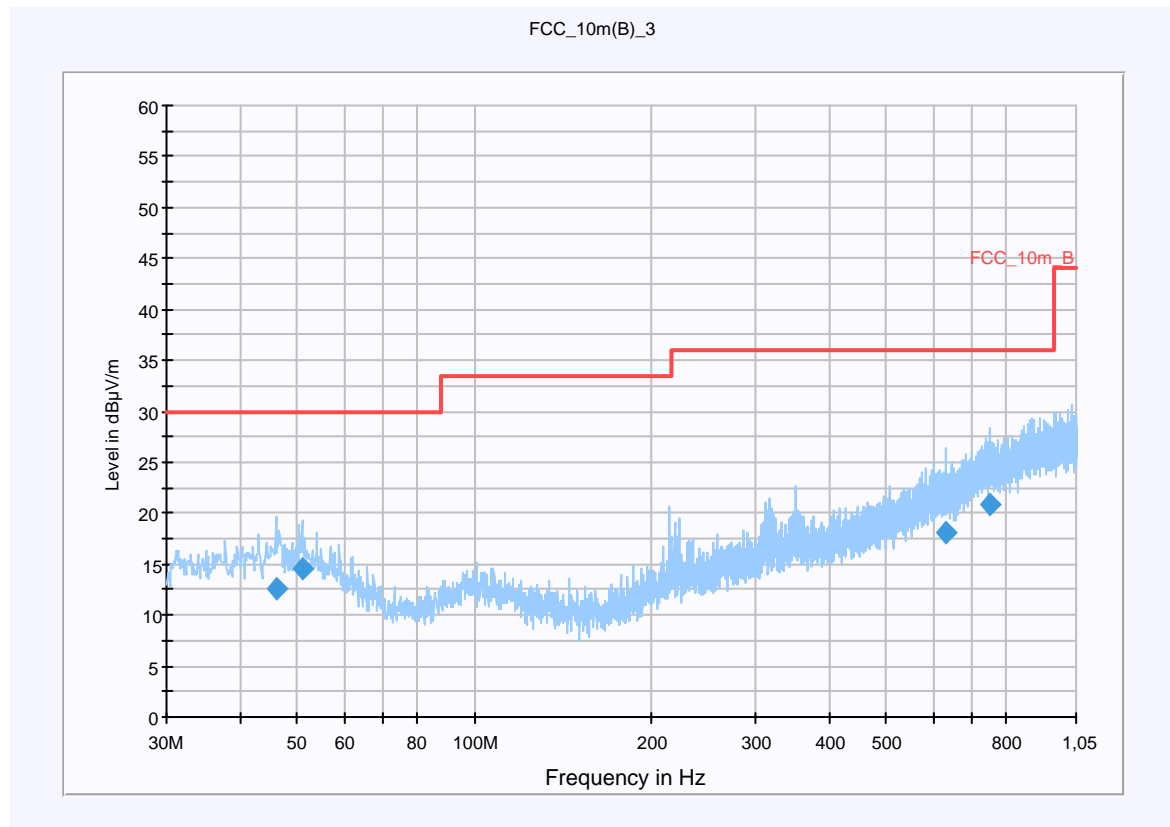
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**Common Information**

EUT: RCV71UW + BT Headset (HSO HDW-23439-001 / 100120) +  
 Folding Blade Charger (HDW-17955-001 / 100120)  
 Serial Number: IMEI: 004401135855050  
 Test Description: FCC part 15 B class B @ 10 m  
 Operating Conditions: UMTS FDD 5 idle + charging  
 Operator Name: Hennemann  
 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
46.165050	12.5	15000.000	120.000	216.0	V	151.0	13.3	17.5	30.0	
51.026550	14.6	15000.000	120.000	124.0	V	141.0	13.3	15.4	30.0	
630.965550	18.2	15000.000	120.000	216.0	H	48.0	21.0	17.8	36.0	
750.478800	20.8	15000.000	120.000	187.0	V	243.0	23.6	15.2	36.0	

set. 6

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**Common Information**

EUT: RCV71UW + USB cable (HDW-06620-055 / 100120) + Fixed Blade charger (HDW-24481-001 / 100120) + Stereo Headset (HDW-15766-005)

Serial Number: IMEI: 004401135855050 + Fixed Blade charger: 0349

Test Description: FCC part 15 B class B @ 10 m

Operating Conditions: idle 850 + charging

Operator Name: Lang

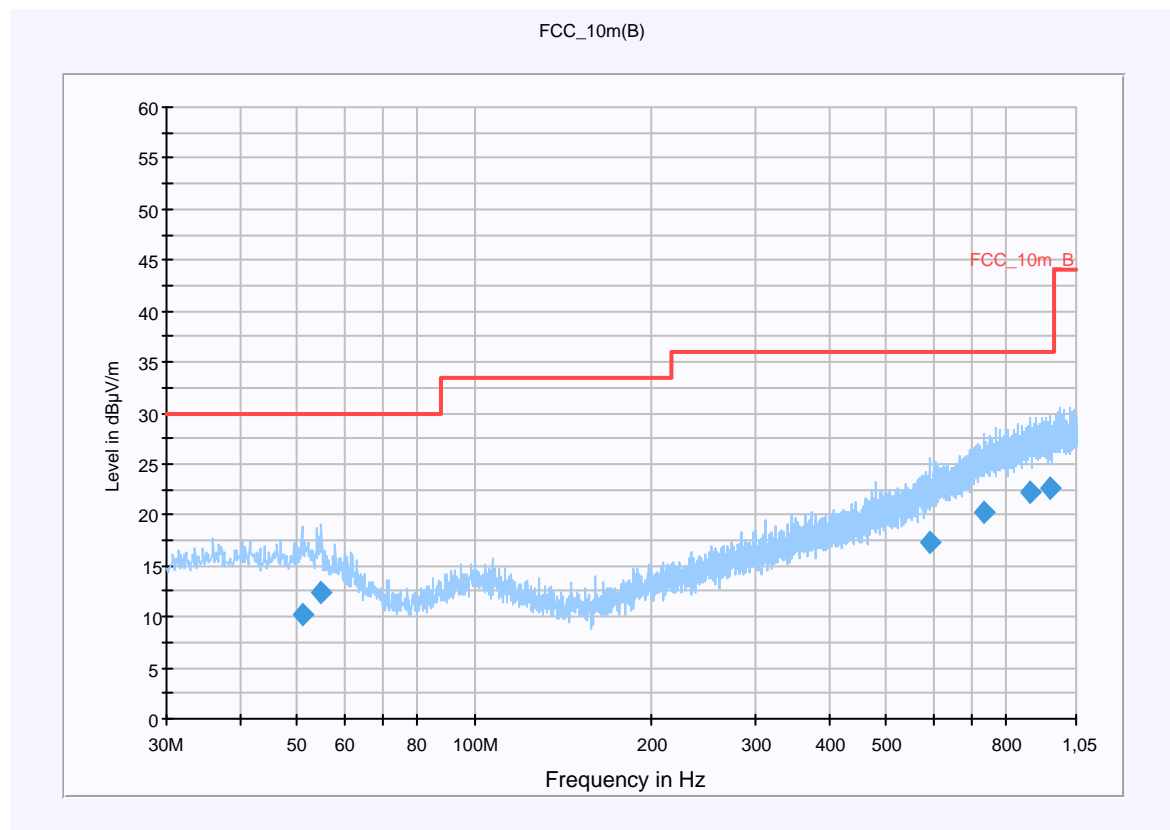
Comment: AC: 115 V / 60 Hz

**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



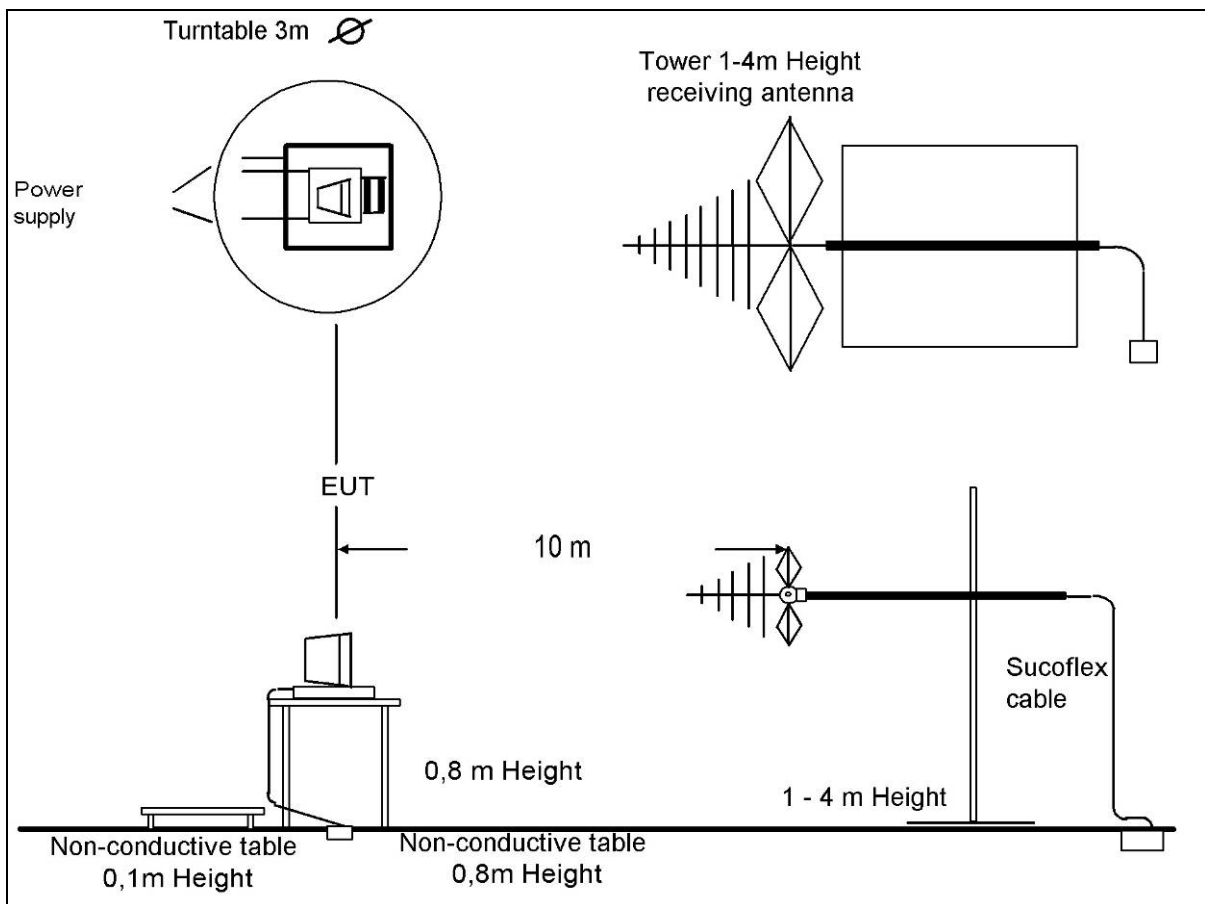
**Final Result 1**

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
50.939400	10.3	15000.000	120.000	140.0	V	87.0	13.3	19.7	30.0	
54.964050	12.3	15000.000	120.000	287.0	V	339.0	12.9	17.7	30.0	
593.481600	17.3	15000.000	120.000	342.0	V	279.0	20.6	18.7	36.0	
729.697950	20.3	15000.000	120.000	400.0	V	104.0	23.1	15.7	36.0	
876.395100	22.3	15000.000	120.000	300.0	V	124.0	24.9	13.7	36.0	
944.823750	22.6	15000.000	120.000	190.0	V	300.0	25.3	13.4	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
Software version:	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 21	F 29	F 30	F 33						
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### 8.2.8.2 Test Plan

EUT set-up	set. 2 + set. 3 + set. 4 + set. 5 + set. 6		
Operating mode	Application	Limit	Result
op. 2 (IDLE 850 + charging via USB + BT connection) (set. 2)	Enclosure	47CFR15: (FCC part 15 B) Class B	passed
op. 3 (IDLE 1900 + charging) (set. 3)	Enclosure	47CFR15: (FCC part 15 B) Class B	passed
op. 4 (IDLE UMTS FDD II) (set. 4)	Enclosure	47CFR15: (FCC part 15 B) Class B	passed
op. 5 (IDLE UMTS FDD V + charging + BT connection) (set. 5)	Enclosure	47CFR15: (FCC part 15 B) Class B	passed
op. 6 (IDLE 850 + charging) (set. 6)	Enclosure	47CFR15: (FCC part 15 B) Class B	passed

<b>Remarks:</b>	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 dB $\mu$ V/m	49,1 dB $\mu$ V/m
88 MHz – 216 MHz	43,5 dB $\mu$ V/m	53,5 dB $\mu$ V/m
216 MHz – 960 MHz	46 dB $\mu$ V/m	56,4 dB $\mu$ V/m
960 MHz – 18000 MHz	54 dB $\mu$ V/m	59,5 dB $\mu$ V/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
<b>FSU 26</b>	200809	300003874	01/2011	12 month
<b>Horn Antenna</b>	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

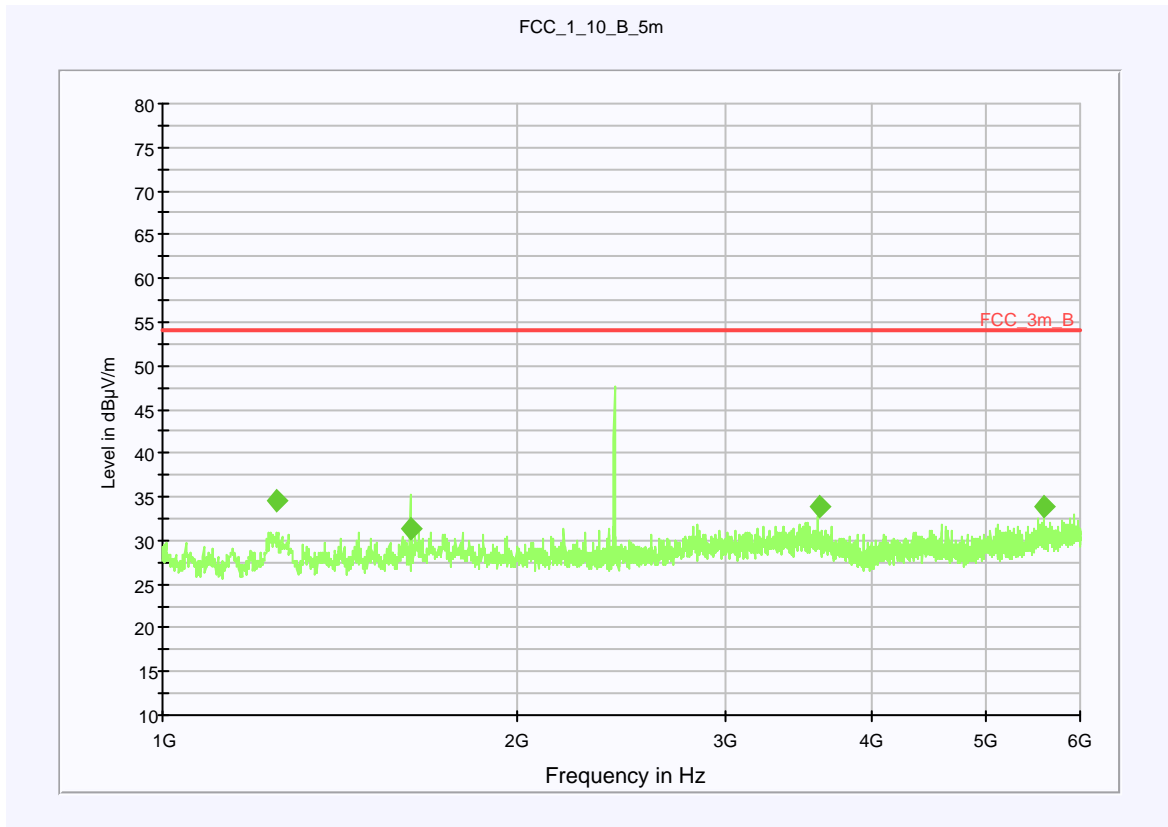
### 8.2.8.5 Test Results

set. 2

#### CETECOM ICT Services GmbH

#### Common Information

EUT: RCV71UW + USB cable (HDW-06620-055 / 100120) + VMO (HDW-23438-001 / 100120)  
 Serial Number: IMEI: 004401135855050 + VMO: 911LI03560376  
 Test Description: FCC part 15 B class B  
 Operating Conditions: IDLE 850 + charging + BT connection to VMO  
 Operator Name: Hennemann  
 Comment: 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
1250.476250	34.5	1.000	1000.000	100.0	H	330.0	-2.0	
1621.824824	31.3	1.000	1000.000	100.0	V	32.0	-3.9	
3603.146400	34.0	1.000	1000.000	100.0	V	136.0	-1.6	
5586.711703	33.8	1.000	1000.000	100.0	H	156.0	0.5	

set. 3

**CETECOM ICT Services GmbH**

**Common Information**

EUT: RCV71UW + USB cable (HDW-06620-055 / 100120) + Fixed Blade charger (HDW-24481-001 / 100120) + Premium Stere Headset (HDW-15766-005 / 100121)

Serial Number: IMEI: 004401135855050 + Fixed Blade charger: 0349

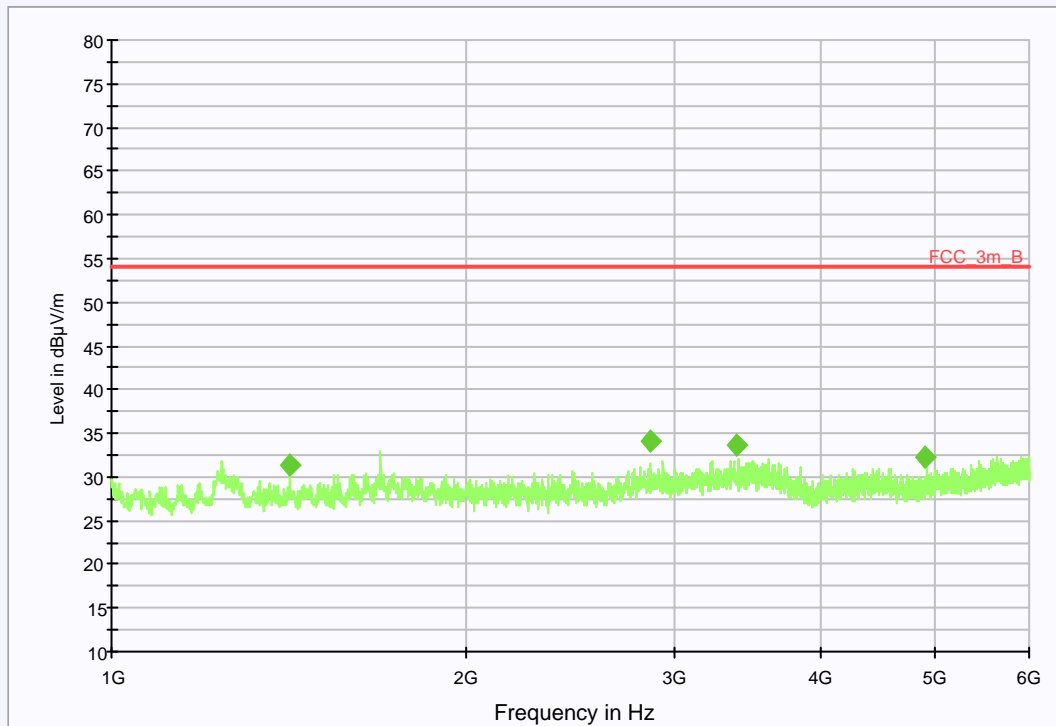
Test Description: FCC part 15 B class B

Operating Conditions: idle 1900 + charging

Operator Name: Hennemann

Comment: AC: 115 V / 60 Hz

FCC\_1\_10\_B\_5m



**Final Result 2**

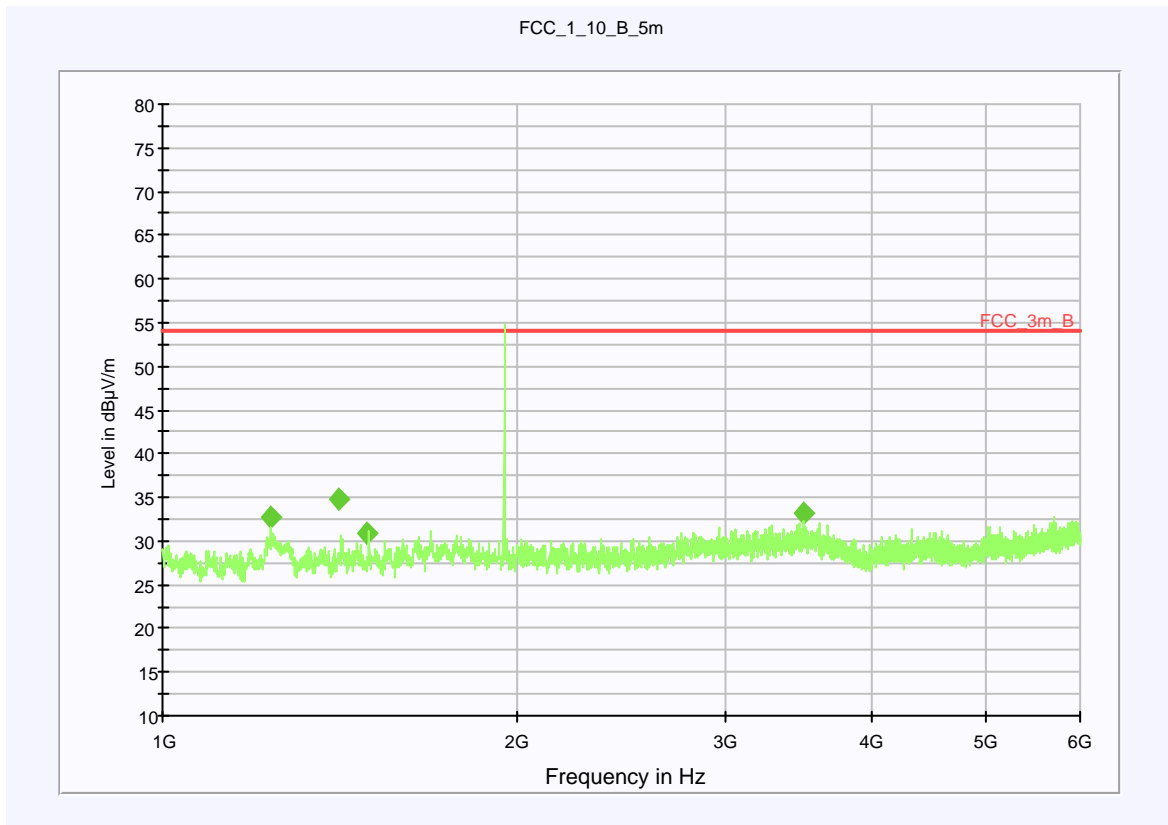
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
1414.201425	31.4	1.000	1000.000	100.0	H	159.0	-4.6	
2863.257051	34.0	1.000	1000.000	100.0	H	155.0	-2.4	
3390.733632	33.6	1.000	1000.000	100.0	H	46.0	-1.8	
4898.497586	32.2	1.000	1000.000	100.0	H	78.0	-1.1	

set. 4

**CETECOM ICT Services GmbH**

**Common Information**

EUT:	RCV71UW + Stereo Headset (HDW-24529-001 / 100121)
Serial Number:	IMEI: 004401135855050
Test Description:	FCC part 15 B class B
Operating Conditions:	UMTS FDD 2 idle
Operator Name:	Hennemann
Comment:	- / -



**Final Result 2**

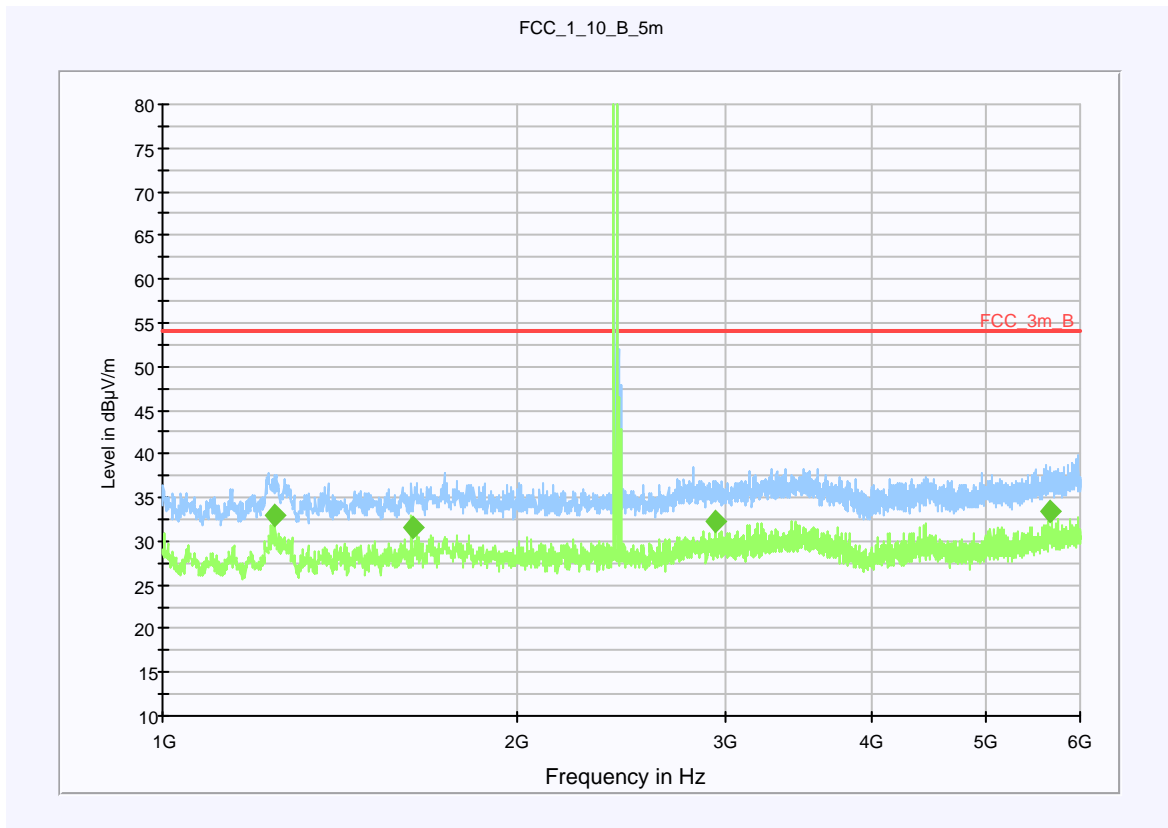
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Comment
1233.799580	32.8	1.000	1000.000	100.0	V	153.0	-2.9	
1410.796650	34.7	1.000	1000.000	100.0	V	45.0	-4.6	
1492.896535	30.8	1.000	1000.000	100.0	V	112.0	-4.5	
3492.457664	33.1	1.000	1000.000	100.0	V	294.0	-1.8	

set. 5

**CETECOM ICT Services GmbH**

**Common Information**

EUT: RCV71UW + BT Headset (HSO HDW-23439-001 / 100120) +  
 Folding Blade Charger (HDW-17955-001 / 100120)  
 Serial Number: IMEI: 004401135855050  
 Test Description: FCC part 15 B class B  
 Operating Conditions: UMTS FDD 5 idle + charging  
 Operator Name: Hennemann  
 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
1244.901312	32.9	1.000	1000.000	100.0	V	168.0	-2.3	
1629.066636	31.5	1.000	1000.000	100.0	V	159.0	-3.9	
2944.745004	32.3	1.000	1000.000	100.0	V	318.0	-2.4	
5664.705190	33.4	1.000	1000.000	100.0	V	312.0	0.7	



set. 6

**CETECOM ICT Services GmbH**

**Common Information**

EUT: RCV71UW + USB cable (HDW-06620-055 / 100120) + Fixed Blade charger (HDW-24481-001 / 100120) + Stereo Headset (HDW-15766-005)

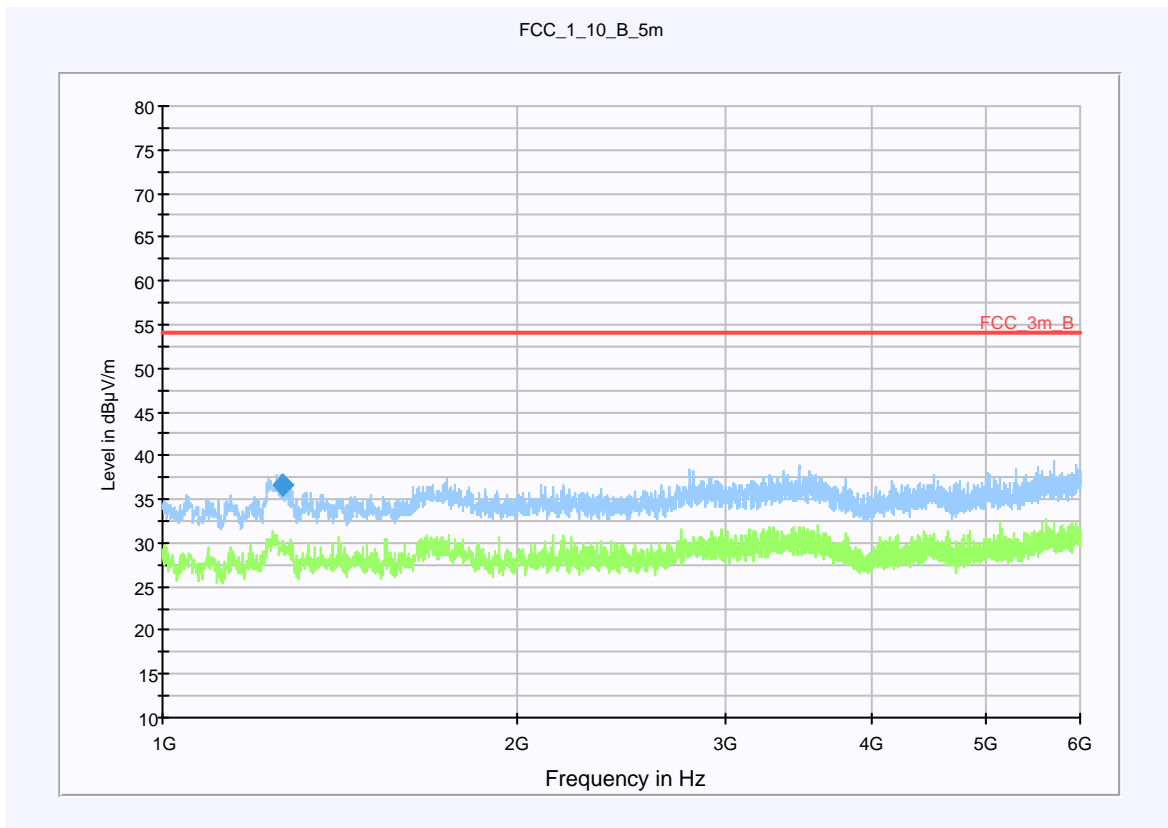
Serial Number: IMEI: 004401135855050 + Fixed Blade charger: 0349

Test Description: FCC part 15 B class B @ 10 m

Operating Conditions: idle 850 + charging

Operator Name: Lang

Comment: AC: 115 V / 60 Hz



**Final Result 1**

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1263.916978	36.5	1.000	1000.000	100.0	H	76.0	-2.8	17.5	54.0	

### 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

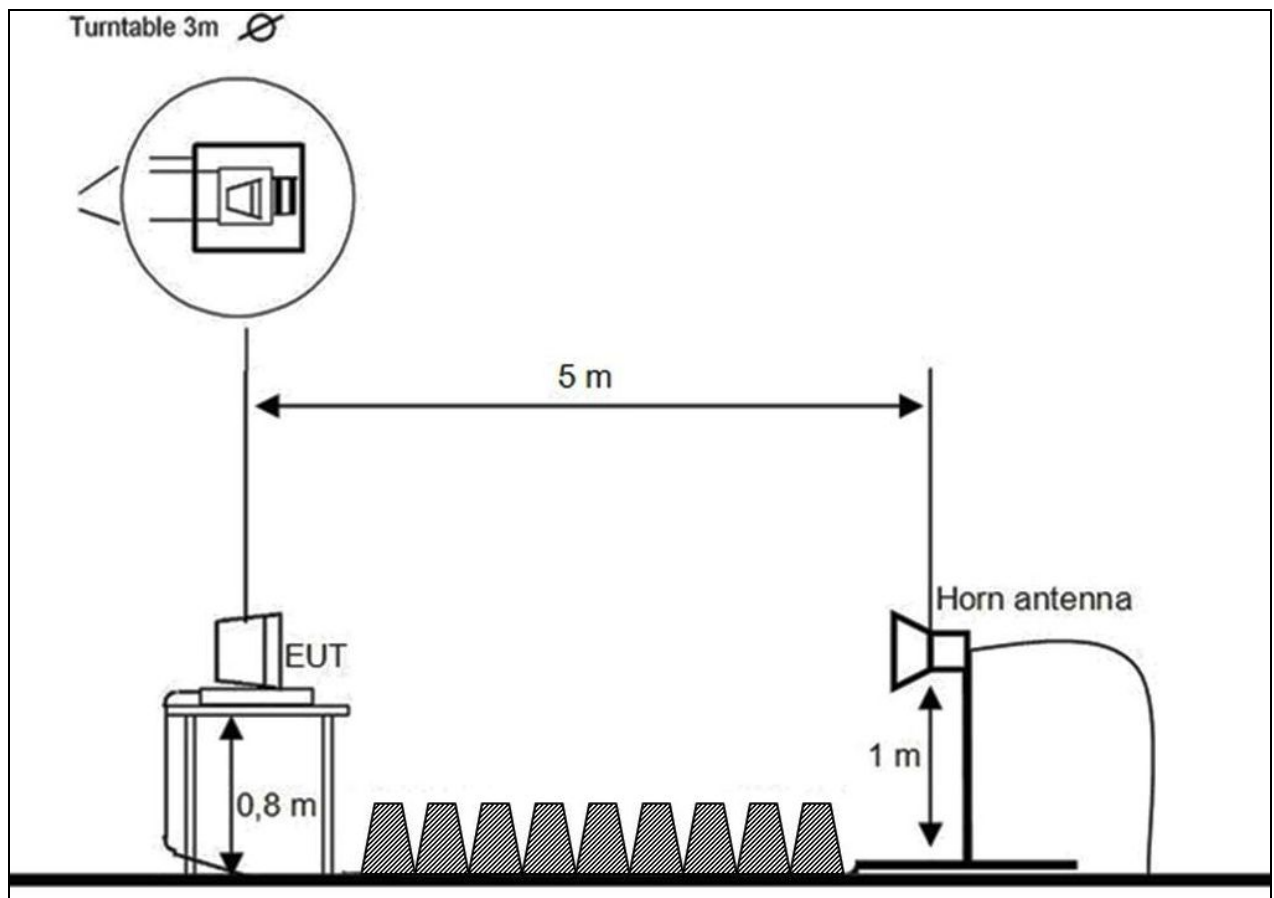
Antenna: BBHA 9120 B  
 Correction Table (vertical): BBHA9120  
 Correction Table (horizontal): BBHA9120  
 Correction Table: Cable\_Horn\_EN (0909)

Antenna Tower: Generic Tripod [Generic Tripod]  
 @ GPIB0 (ADR 19), SN ?

Turntable: Turntable [EMCO Turntable]  
 @ GPIB0 (ADR 9), FW REV 3.12

Software version: 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
<b>Radiated emission in chamber F</b>					
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	
<b>Radiated immunity in chamber F</b>					
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
<b>Harmonics and flicker in front of chamber F</b>					
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
<b>Radiated emission in chamber F &gt; 1GHz</b>					
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
<b>Conducted emission in chamber G</b>					
G-1	EMI Receiver	Hewlett Packard	8542 E	3617A0017 0	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
<b>Conducted immunity in chamber G</b>					
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	Transformer for 50Hz Loop Antenna	EM-Test	MC2630	0200-10	300002659.01
G-25	50Hz Loop Antenna	EM-Test	MS 100	none	300002659
<b>Surge, Burst, Dips and Interruptions in chamber G</b>					
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
<b>ESD in chamber G</b>					
G-30	ESD generator	Schaffner	NSG 435	308	300002249
<b>Emission on bench in chamber G</b>					
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 EUT and set-up see ANNEX B (document: 1-2031-01-14\_10\_ANNEX\_B)

## Annex B: Photographs of the EUT

pictures of the EUT and set-up see ANNEX B (document: 1-2031-01-14\_10\_ANNEX\_B)

## Annex C: Document history

Version	Applied changes	Date of release
	Initial release	2010-03-12

## 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