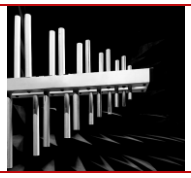
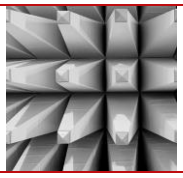




CETECOM ICT Services
consulting - testing - certification

TEST REPORT

DAkkS Deutsche Akkreditierungsstelle D-PL-12076-01-01

Test report no.: 1-3314-01-03/11-A

Testing laboratory

CETECOM ICT Services GmbH
Untertuerkheimer Strasse 6 – 10
66117 Saarbruecken / Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
Internet: http://www.cetecom.com
e-mail: ict@cetecom.com

Accredited test laboratory:
The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025
DAR registration number: D-PL-12076-01-01

Area of Testing: Radio/Satellite Communications

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
Phone: +1-519-888-7465

Manufacturer

Research In Motion Limited
305 Phillip Street
Waterloo, ON N2L 3W8 / Canada

Test standard/s

47 CFR Part 15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices
RSS - 210 Issue 8	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

For further applied test standards please refer to section 3 of this test report.

Test item

Kind of test item:	**Mobile phone with GSM / GPRS / Edge, WCDMA / HSDPA, Bluetooth® 2.1 EDR, WLAN b / g / n – HT20, NFC, GPS**
Model name:	**RDD71UW**
FCC ID:	**L6ARDD70UW**
IC:	**2503A-RDD70UW**
Frequency:	**ISM – band 2400 MHz to 2483.5 MHz (lowest channel 2402 MHz; highest channel 2480 MHz)**
Power supply:	**3.7 V DC by battery EM1 + charger PSM04R-050CHW2**
Temperature range:	**-/-**

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test performed:

cn=Marco Bertolino, o=CETECOM ICT Services GmbH, ou=BTL-100826, email=marco.bertolino@cetecom.com, c=DE
2011.05.20 12:52:17 +02'00'

Marco Bertolino

Test report authorised:

cn=Stefan Boes, o=Cetecom ICT Services GmbH, ou=BOE-100817, email=Stefan.Boes@cetecom.com, c=DE
2011.05.20 14:16:39 +02'00'

Stefan Bös

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.
This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

2.2 Application details

Date of receipt of order:	2011-04-15
Date of receipt of test item:	2011-04-21
Start of test:	2011-04-22
End of test:	2011-04-26
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Version	Test standard description
47 CFR Part 15	2009-10	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices
RSS - 210 Issue 8	2010-12	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

4 Test environment

Temperature:	T_{nom}	+24 °C during room temperature tests
	T_{max}	-/- °C during high temperature test
	T_{min}	-/- °C during low temperature test
Relative humidity content:		40 %
Air pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	3.7 V DC by battery EM1 +
	V_{max}	**charger PSM04R-050CHW2**
	V_{min}	-/- V
		-/- V

5 Test item

Kind of test item	:	Mobile phone with GSM / GPRS / Edge, WCDMA / HSDPA, Bluetooth® 2.1 EDR, WLAN b / g / n – HT20, NFC, GPS
Type identification	:	RDD71UW
S/N serial number	:	CER-39234-001
IMEI		004402.24.059357.8
PIN		27259D1D
HW hardware status	:	Rev. 1 (11-Apr-11)
SW software status	:	8.0.0.167
Frequency band [MHz]	:	ISM – band 2400 MHz to 2483.5 MHz (lowest channel 2402 MHz; highest channel 2480 MHz)
Type of modulation	:	FHSS technology with GFSK, Pi/4 DQPSK and 8 DPSK modulation.
Number of channels	:	79
Antenna	:	Integrated PCB antenna
Power supply	:	3.7 V DC by battery EM1 + charger PSM04R-050CHW2
Temperature range	:	No information available!

6 Test laboratories sub-contracted

None

7 Summary of measurement results

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

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15 RSS 210, Issue 8, Annex 8	Passed	2011-05-20	Delta tests according to customer test plan!

Test specification clause	Test case	Temperature conditions	Power source voltages	Mode	Pass	Fail	NA	NP	Results (max.)
§15.205 RSS-210	Band edge compliance radiated	Nominal	Nominal	GFSK Pi/4 DQPSK 8 DPSK	☒ ☒ ☒	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	complies
§15.247(d) RSS-210	TX spurious emissions radiated	Nominal	Nominal	GFSK Pi/4 DQPSK 8 DPSK	☒ ☒ ☒	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	complies
§15.209(a) RSS-Gen	TX spurious emissions radiated < 30 MHz	Nominal	Nominal	GFSK Pi/4 DQPSK 8 DPSK	☒ ☒ ☒	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	complies

Note: NA = Not Applicable; NP = Not Performed

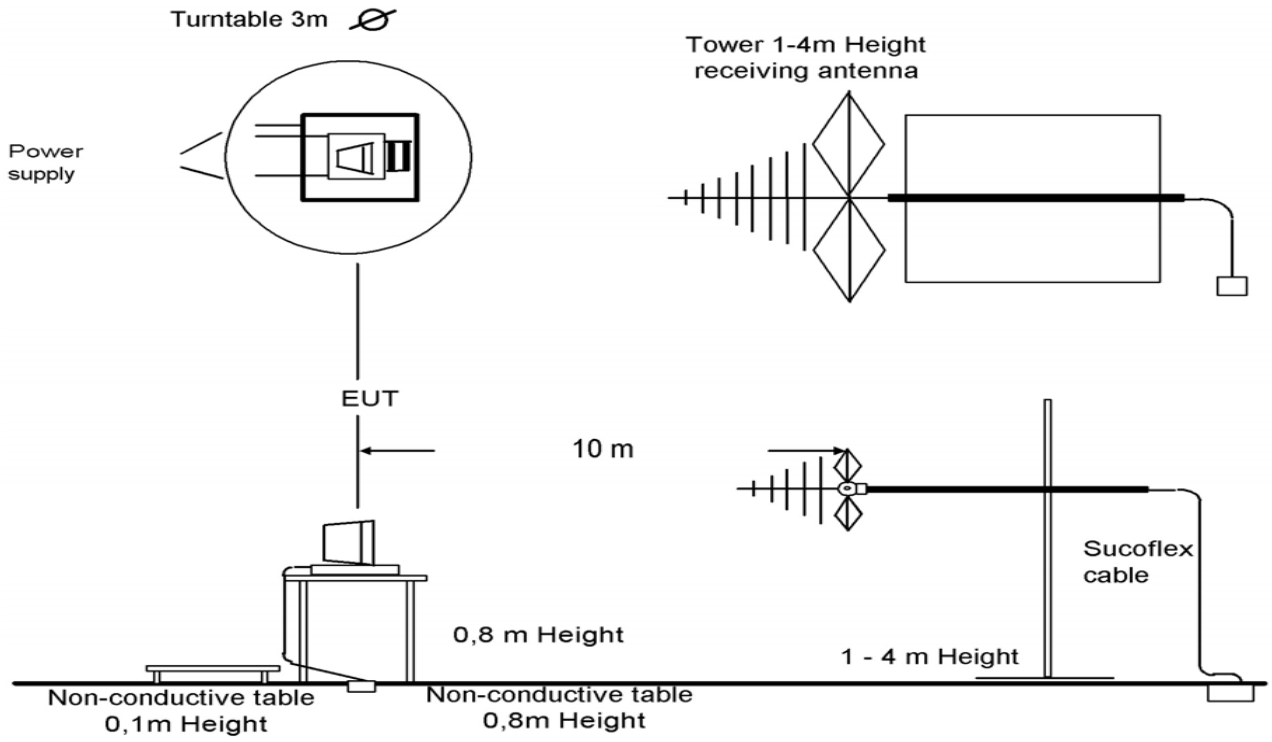
8 RF measurement testing

8.1 Description of test setup

8.1.1 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 C63.4-2009 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 C63-4-2009 clause 4.2.
Antennas are confirmed with ANSI C63.2-1996 item 15.

Semi anechoic chamber



Picture 1: Diagram radiated measurements

9 kHz - 30 MHz:	active loop antenna
30 MHz – 1 GHz:	tri-log antenna
> 1 GHz:	horn antenna

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.

8.2 Additional comments

The Bluetooth® word mark and logos are owned by the Bluetooth SIG Inc. and any use of such marks by Cetecom ICT Services GmbH is under license.

Reference documents: None

Special test descriptions: None

Configuration descriptions: TX tests: were performed with x-DH5 packets and static PRBS pattern payload.
RX/Standby tests: BT test mode enabled, scan enabled, TX Idle

Test mode:

☒ Bluetooth Test mode loop back enabled
(EUT is controlled over CBT/CMU)

☐ Special software is used.
EUT is transmitting pseudo random data by itself

9 Measurement results

9.1 Band edge compliance radiated

Description:

Measurement of the radiated band edge compliance. The EUT is turned in the position that results in the maximum level at the band edge. Then a sweep over the corresponding restricted band is performed. The EUT is set to single channel mode and the transmit channel is channel 00 for the lower restricted band and channel 78 for the upper restricted band. The measurement is repeated for all modulations. Measurement distance is 3m.

Measurement:

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Video bandwidth:	10 Hz
Resolution bandwidth:	1 MHz
Span:	Lower Band: 2300 – 2400 MHz Higher Band: 2480 – 2500 MHz
Trace-Mode:	Max Hold

Limits:

FCC	IC
CFR Part 15.205	RSS 210, Issue 8
Band edge compliance radiated	
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).	
54 dBµV/m AVG	

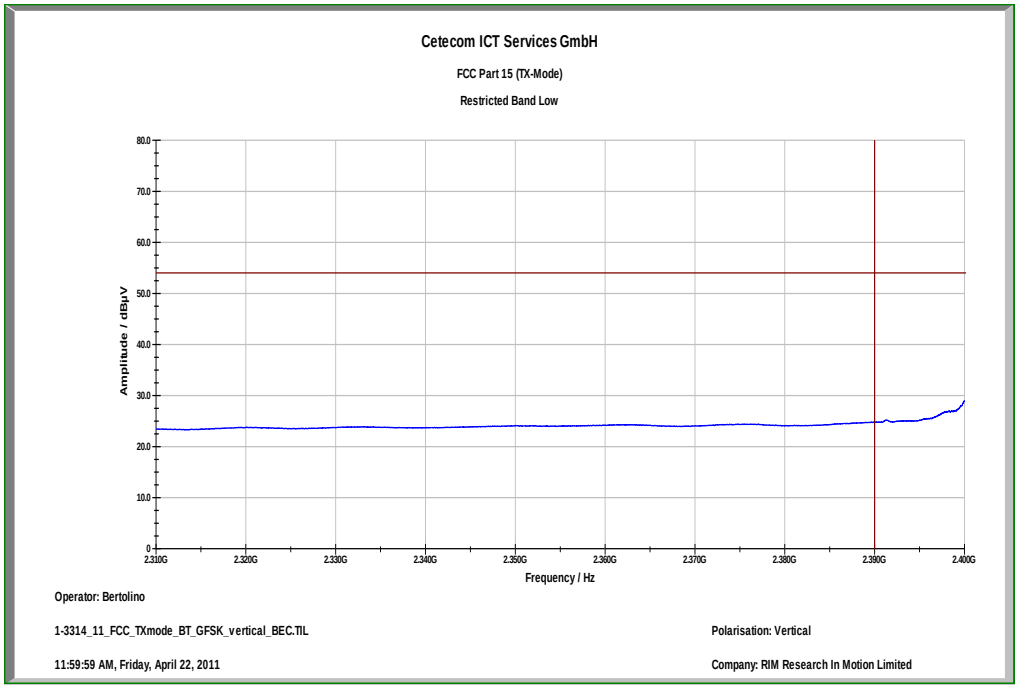
Results:

Szenario	Band edge compliance radiated [dBµV/m]		
Modulation	GFSK	Pi/4 DQPSK	8DPSK
Lower restricted band	< 54	< 54	< 54
Upper restricted band	< 54	< 54	< 54
Measurement uncertainty	± 3 dB		

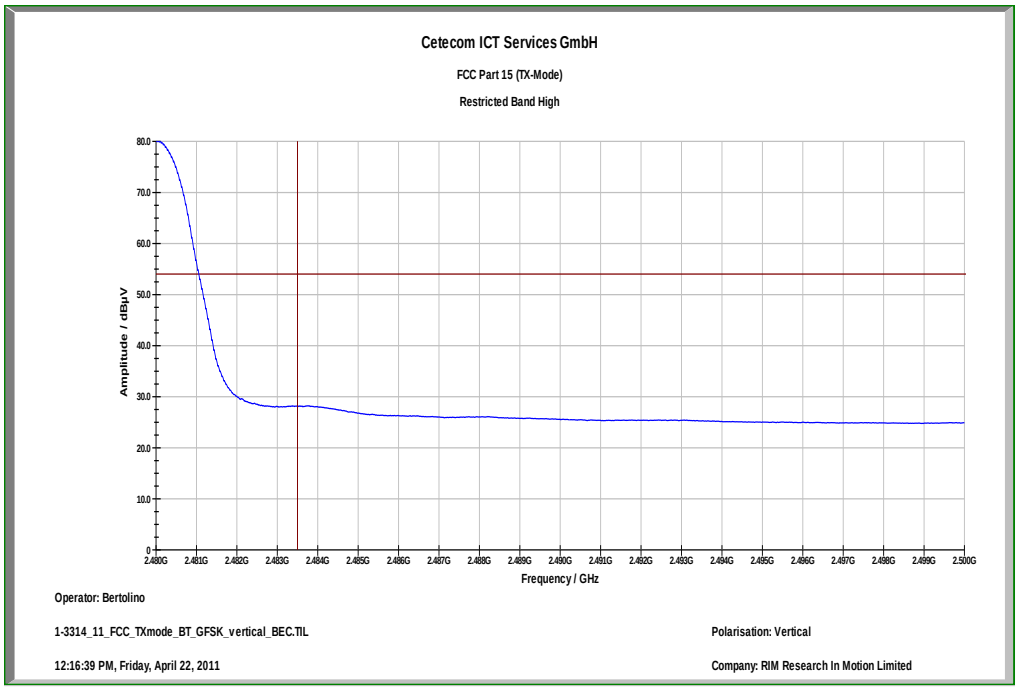
Result: **The result of the measurement is passed.**

Plots:

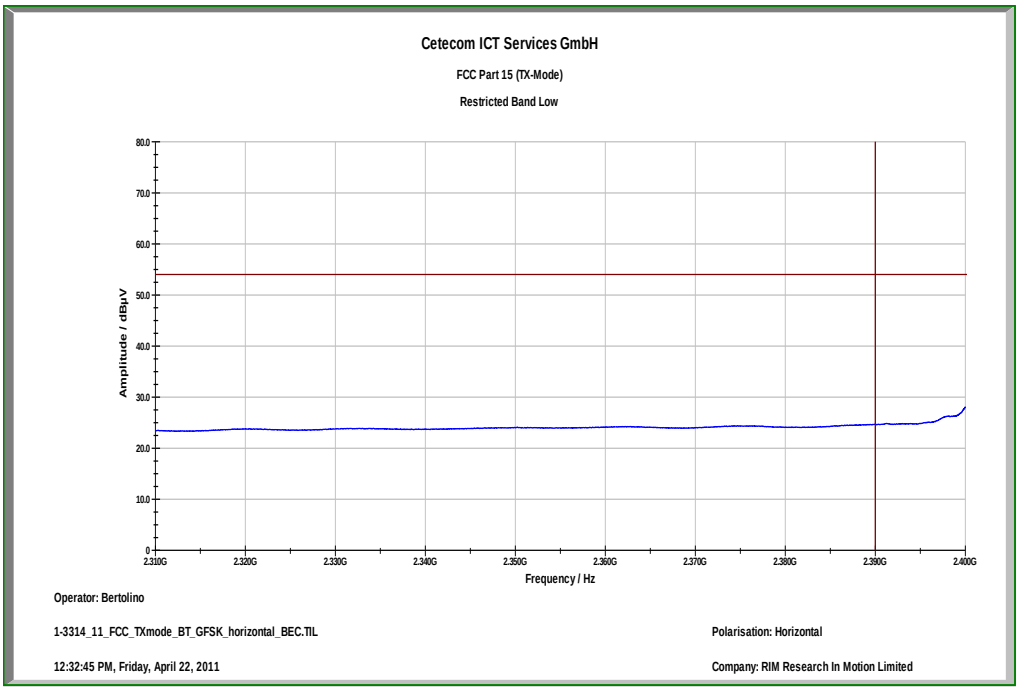
Plot 1: Lower band edge, GFSK modulation, vertical polarization



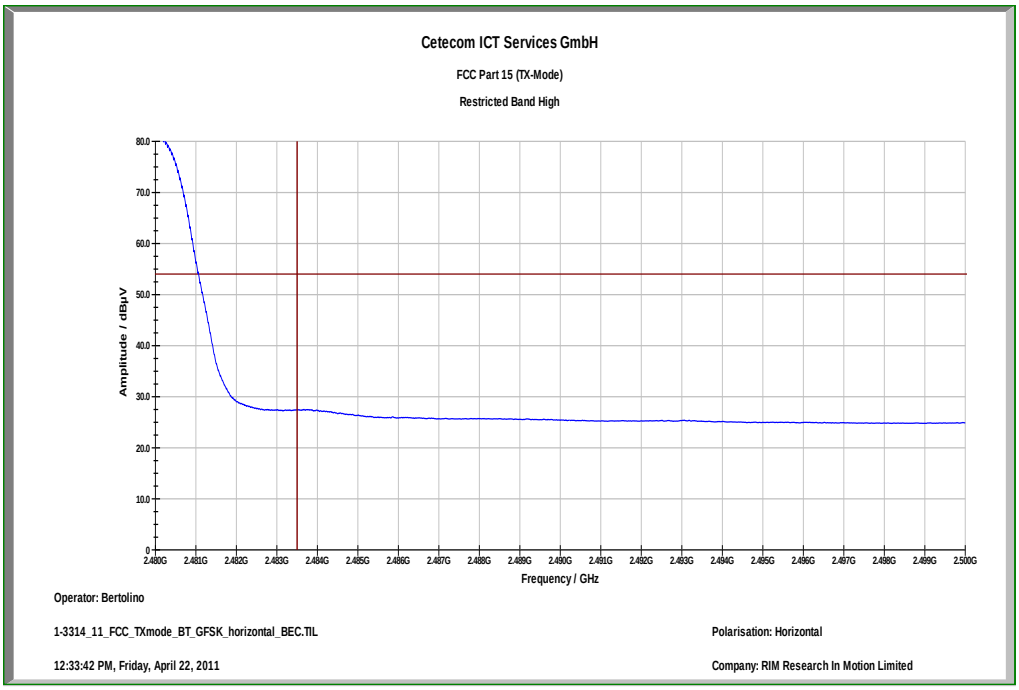
Plot 2: Upper band edge, GFSK modulation, vertical polarization



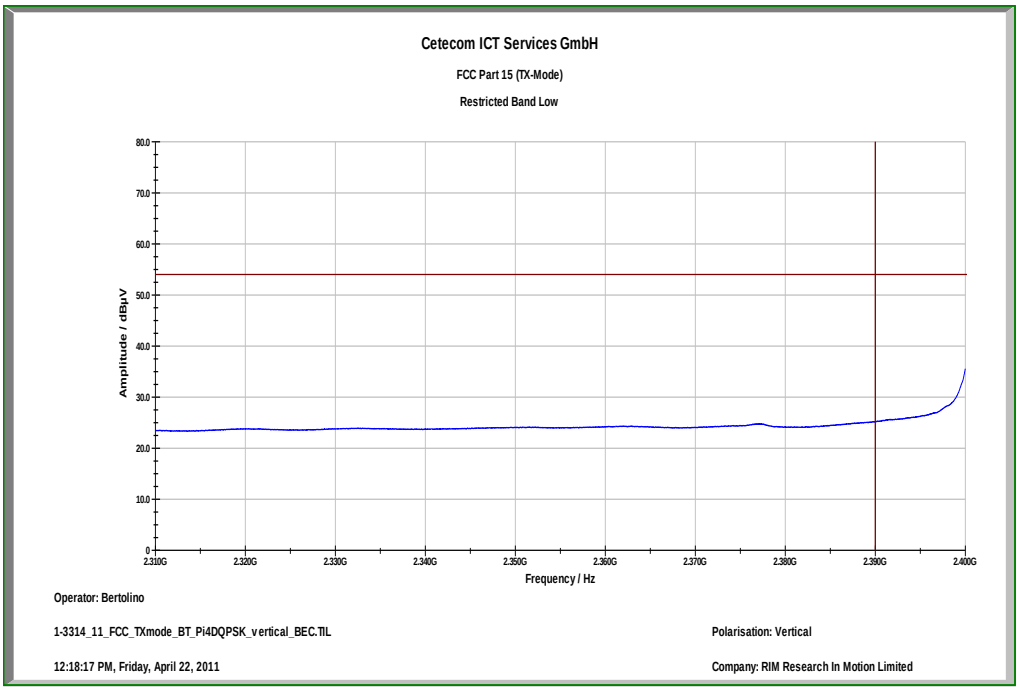
Plot 3: Lower band edge, GFSK modulation, horizontal polarization



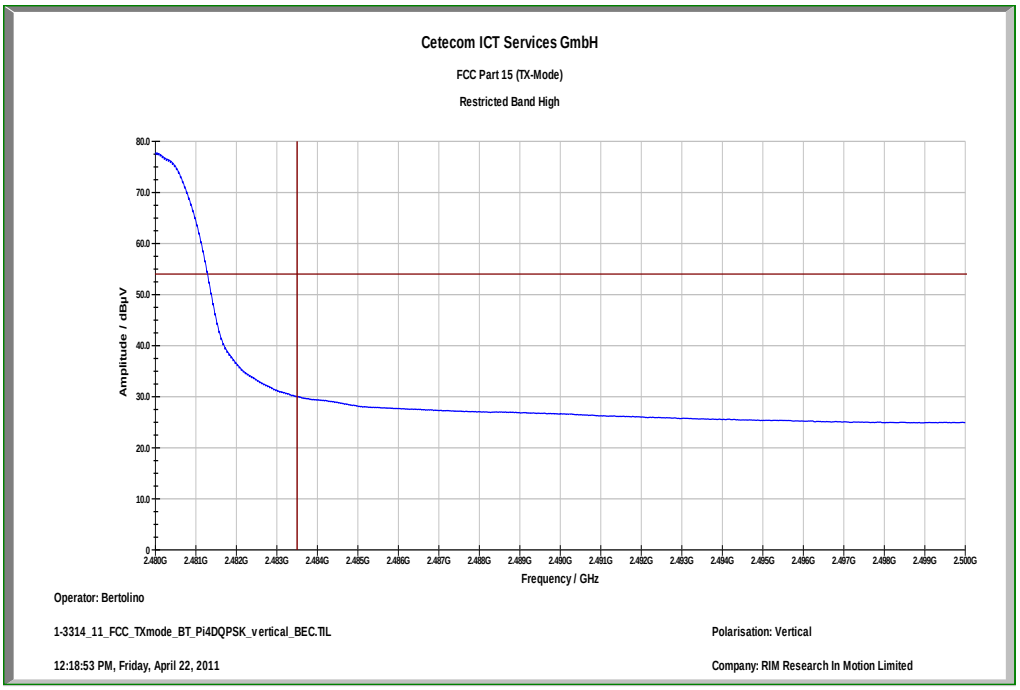
Plot 4: Upper band edge, GFSK modulation, horizontal polarization



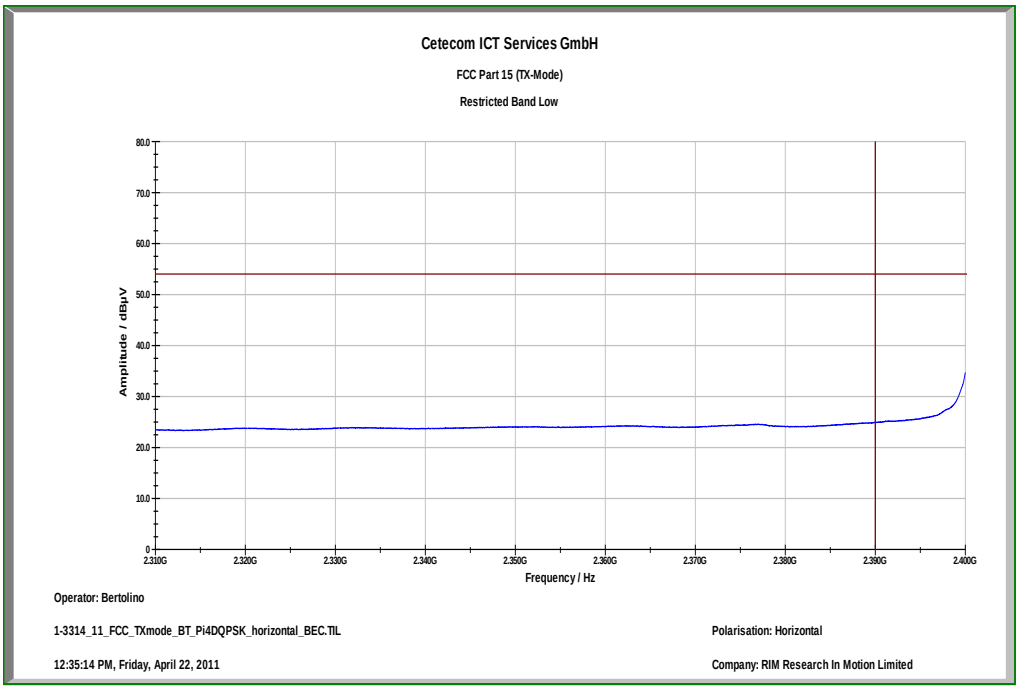
Plot 5: Lower band edge, Pi/4 DQPSK modulation, vertical polarization



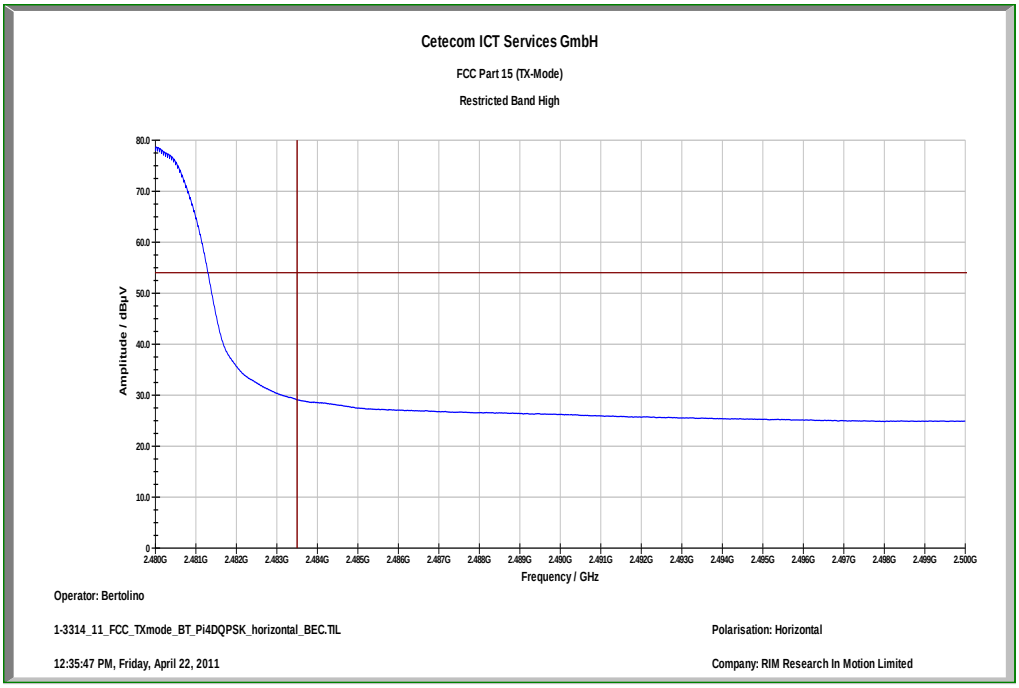
Plot 6: Upper band edge, Pi/4 DQPSK modulation, vertical polarization



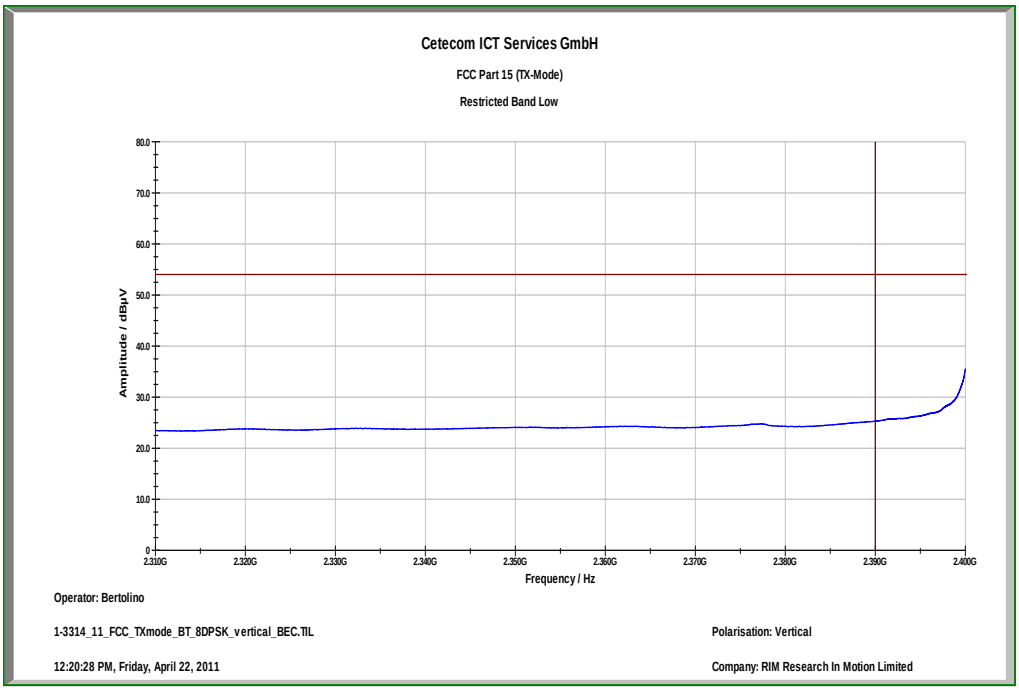
Plot 7: Lower band edge, Pi/4 DQPSK modulation, horizontal polarization



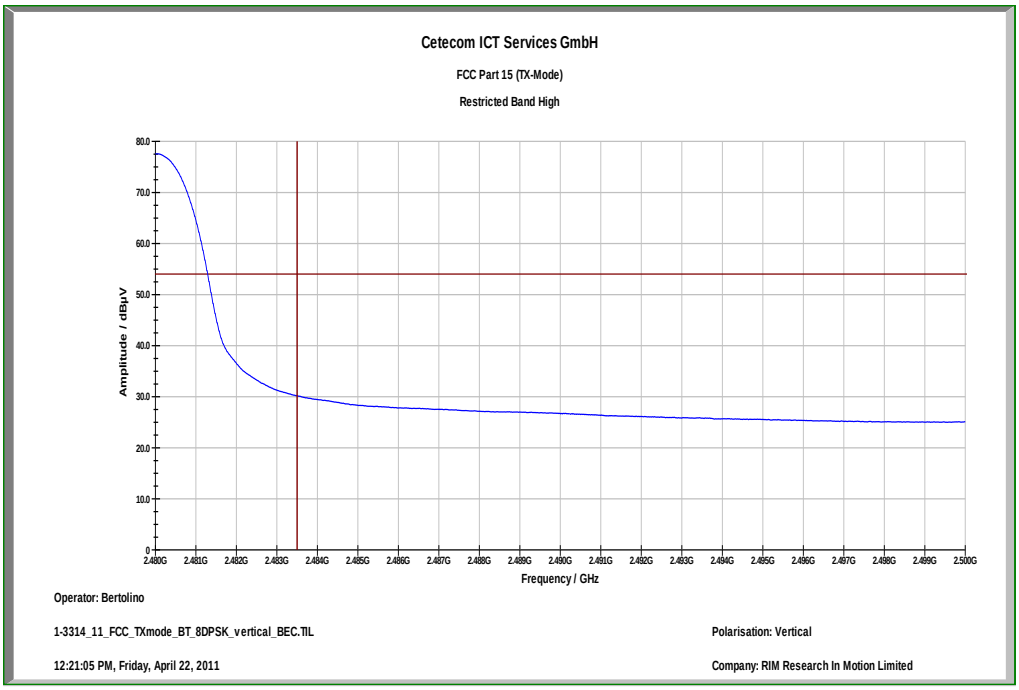
Plot 8: Upper band edge, Pi/4 DQPSK modulation, horizontal polarization



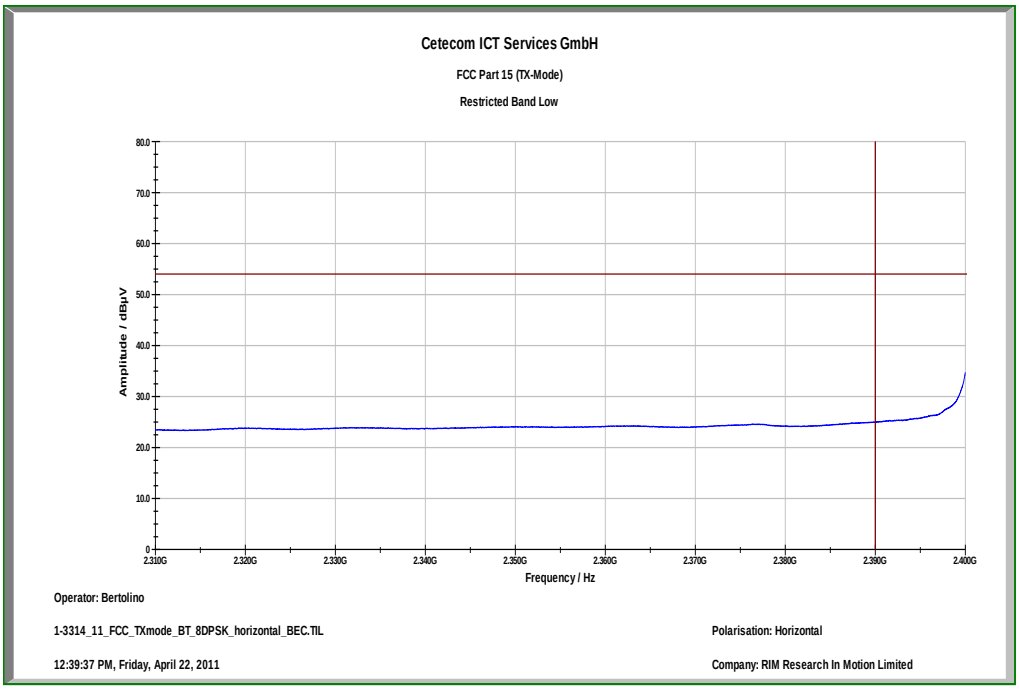
Plot 9: Lower band edge, 8 DPSK modulation, vertical polarization



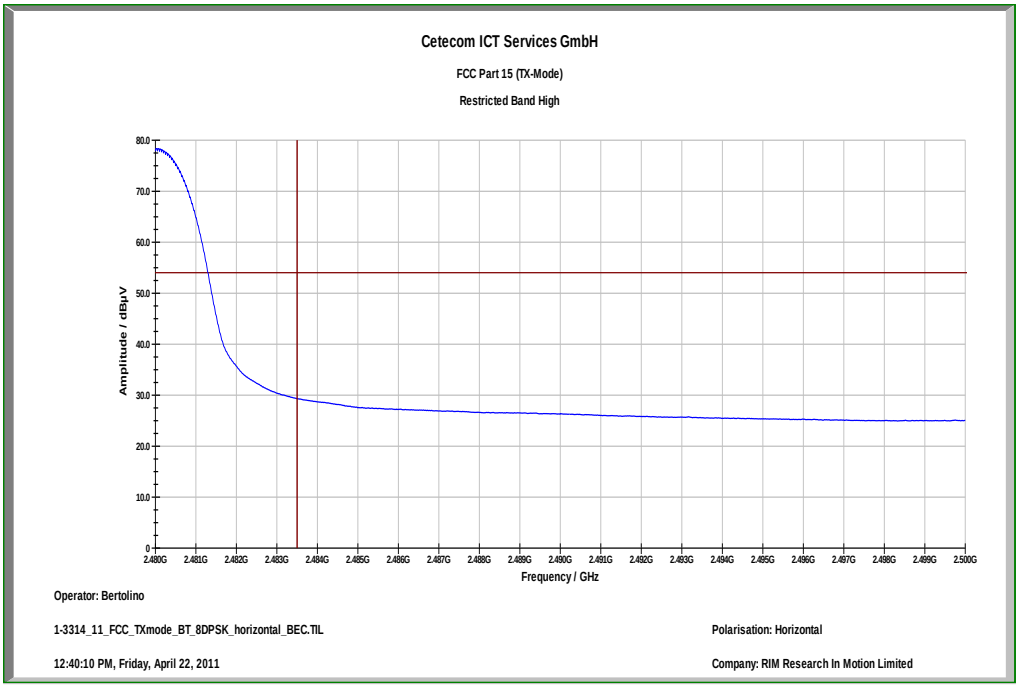
Plot 10: Upper band edge, 8 DPSK modulation, vertical polarization



Plot 11: Lower band edge, 8 DPSK modulation, horizontal polarization



Plot 12: Upper band edge, 8 DPSK modulation, horizontal polarization



9.2 TX spurious emissions radiated

Description:

Measurement of the radiated spurious emissions in transmit mode. The EUT is set to single channel mode and the transmit channel is channel 00, channel 39 and channel 78. The measurement is performed in the mode with the highest output power.

Measurement:

Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	Sweep: 100 kHz Remeasurement: 10 Hz
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Span:	30 MHz to 26 GHz
Trace-Mode:	Max Hold
Measured Modulation:	☒ GFSK ☒ Pi/4 DQPSK ☒ 8DPSK

The modulation with the highest output power was used to perform the transmitter spurious emissions. If spurious were detected a re-measurement was performed on the detected frequency with each modulation.

Limits:

FCC	IC	
CFR Part 15.247(d)	RSS 210, Issue 8	
TX spurious emissions radiated		
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. 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)).		
§15.209		
Frequency (MHz)	Field strength (dBµV/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

Results: GFSK modulation

TX spurious emissions radiated [dBµV/m]								
2402 MHz			2441 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
No emissions detected between 1 GHz and 12.75 GHz			No emissions detected between 1 GHz and 12.75 GHz			No emissions detected between 1 GHz and 12.75 GHz		
For emissions above 12.75 GHz, please take a look at the plots.			For emissions above 12.75 GHz, please take a look at the plots.			For emissions above 12.75 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

Result: **The result of the measurement is passed.**

Results: Pi/4 DQPSK modulation

TX spurious emissions radiated [dBµV/m]								
2402 MHz			2441 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
No emissions detected between 1 GHz and 12.75 GHz			No emissions detected between 1 GHz and 12.75 GHz			No emissions detected between 1 GHz and 12.75 GHz		
For emissions above 12.75 GHz, please take a look at the plots.			For emissions above 12.75 GHz, please take a look at the plots.			For emissions above 12.75 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

Result: **The result of the measurement is passed.**

Results: 8 DPSK modulation

TX spurious emissions radiated [dBµV/m]								
2402 MHz			2441 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
No emissions detected between 1 GHz and 12.75 GHz			No emissions detected between 1 GHz and 12.75 GHz			No emissions detected between 1 GHz and 12.75 GHz		
For emissions above 12.75 GHz, please take a look at the plots.			For emissions above 12.75 GHz, please take a look at the plots.			For emissions above 12.75 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

Result: **The result of the measurement is passed.**

Plots: GFSK modulation

Plot 1: 30 MHz to 1 GHz, lowest channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

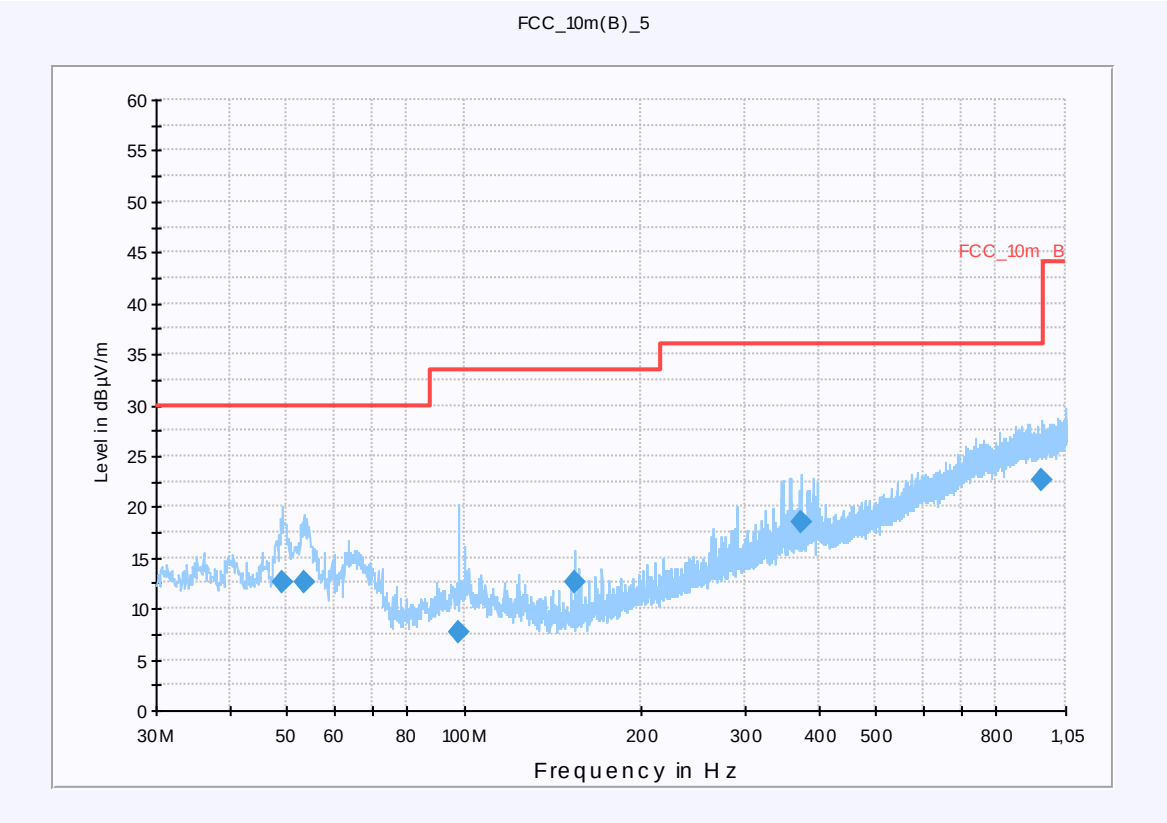
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT DH5 CH: 0
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

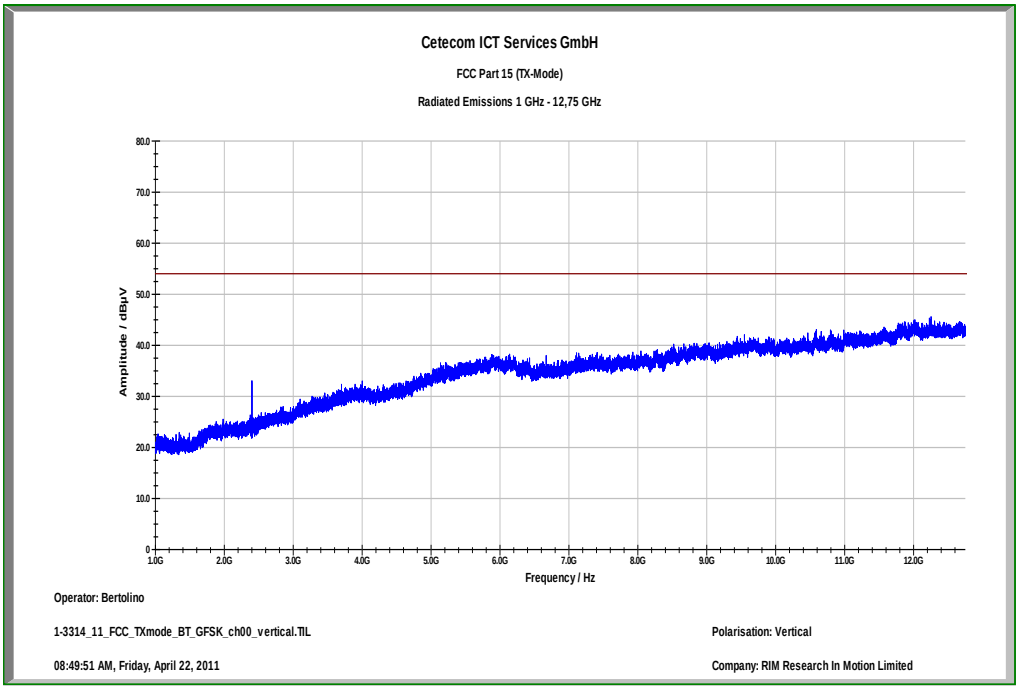
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
49.200000	12.7	15000.000	120.000	244.0	V	224.0	13.4	17.3	30.0	
53.400000	12.6	15000.000	120.000	166.0	V	108.0	13.0	17.4	30.0	
97.920000	7.7	15000.000	120.000	148.0	V	64.0	11.6	25.8	33.5	
153.840000	12.6	15000.000	120.000	98.0	V	122.0	9.0	20.9	33.5	
372.840000	18.5	15000.000	120.000	98.0	V	72.0	16.5	17.5	36.0	
956.400000	22.6	15000.000	120.000	270.0	H	-2.0	25.4	13.4	36.0	

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

	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

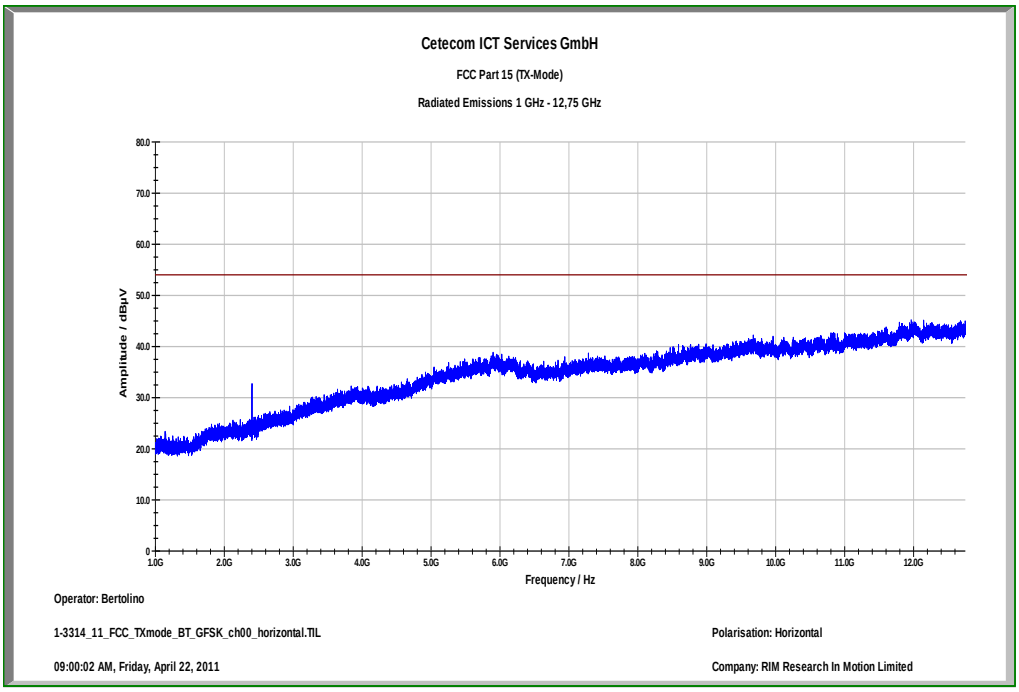
EMC 32 Version 8.10.00

Plot 2: 1 GHz to 12.75 GHz, lowest channel, vertical polarization



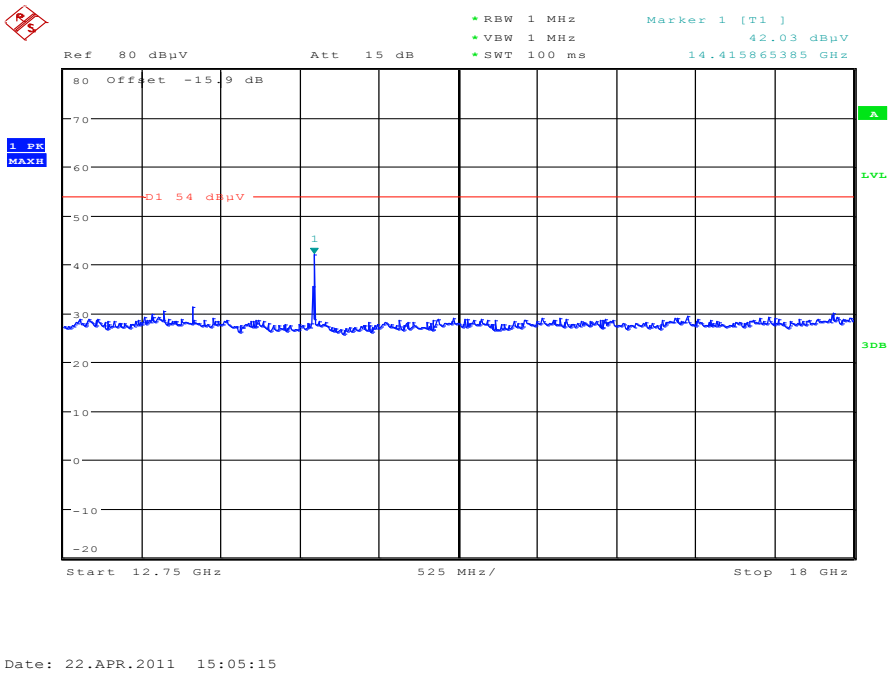
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 1 GHz to 12.75 GHz, lowest channel, horizontal polarization

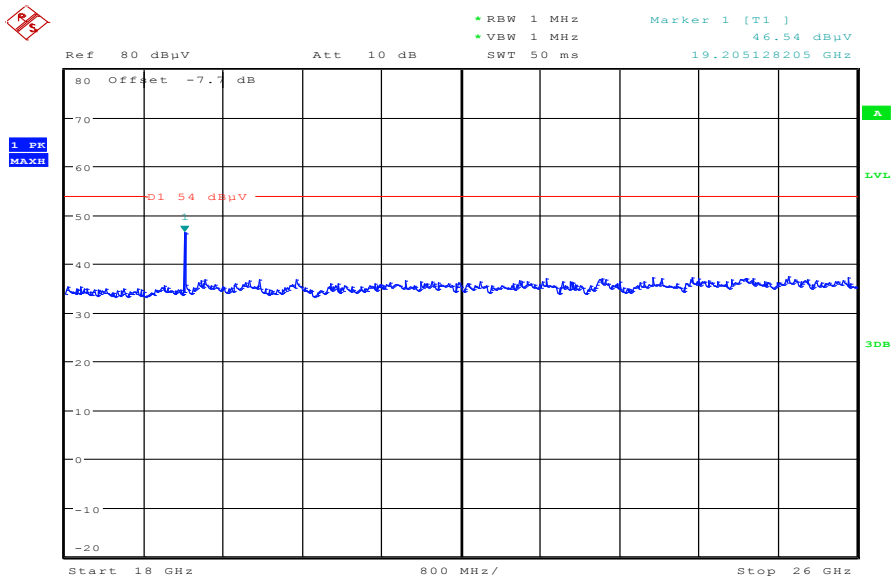


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: 12.75 GHz to 18 GHz, lowest channel, vertical & horizontal polarization



Plot 5: 18 GHz to 26 GHz, lowest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:35:40

Plot 6: 30 MHz to 1 GHz, middle channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

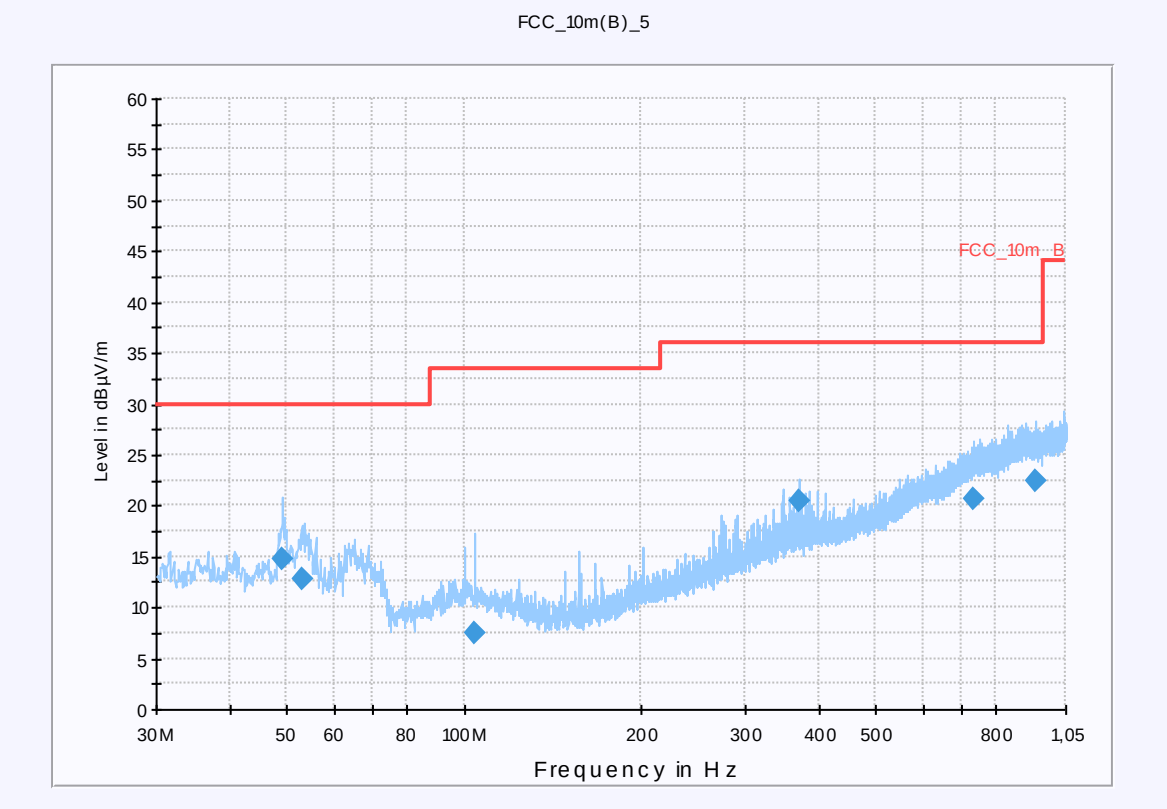
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT DH5 CH: 39
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

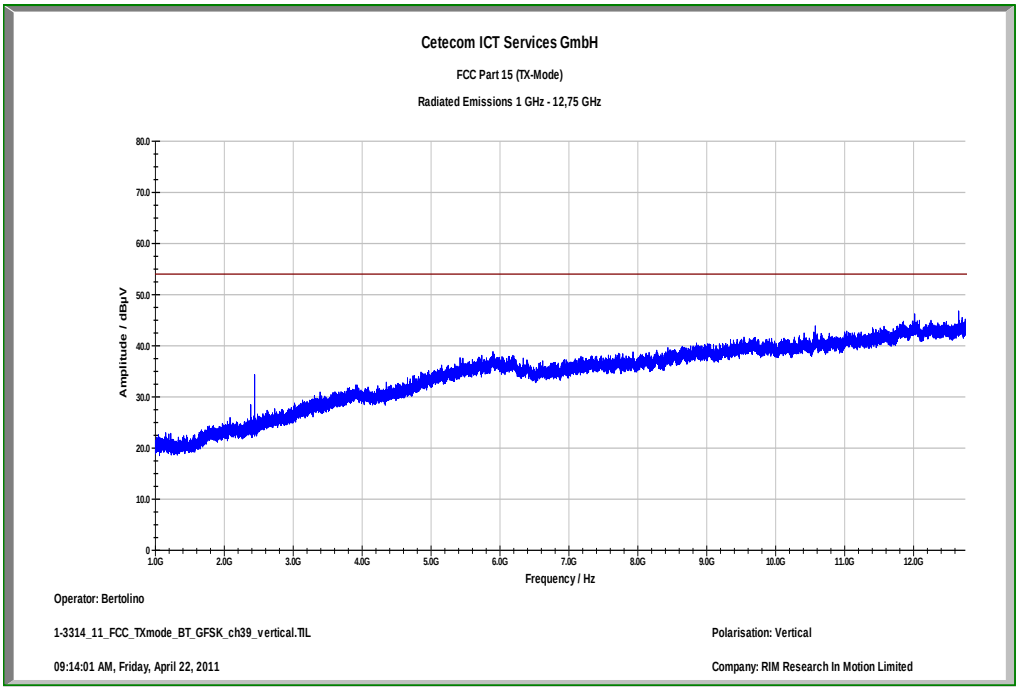
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
49.200000	14.7	15000.000	120.000	98.0	V	-2.0	13.4	15.3	30.0	
53.040000	12.8	15000.000	120.000	221.0	V	118.0	13.1	17.2	30.0	
104.160000	7.4	15000.000	120.000	200.0	V	61.0	11.5	26.1	33.5	
370.800000	20.5	15000.000	120.000	106.0	V	230.0	16.4	15.5	36.0	
730.800000	20.6	15000.000	120.000	190.0	H	147.0	23.2	15.4	36.0	
936.360000	22.5	15000.000	120.000	270.0	V	212.0	25.3	13.5	36.0	

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

	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

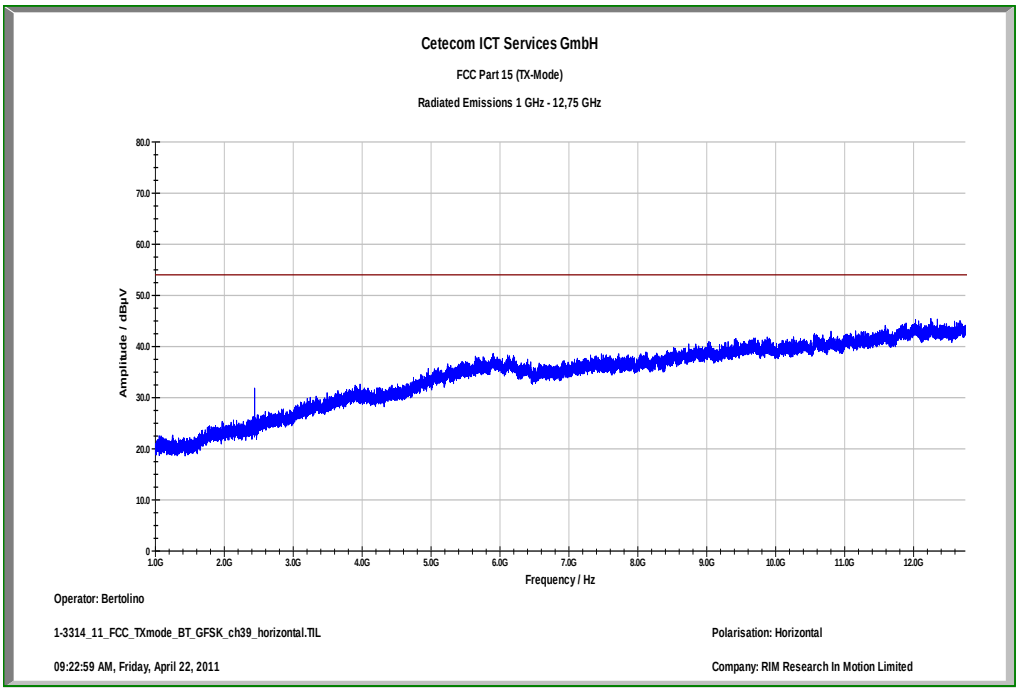
EMC 32 Version 8.10.00

Plot 7: 1 GHz to 12.75 GHz, middle channel, vertical polarization



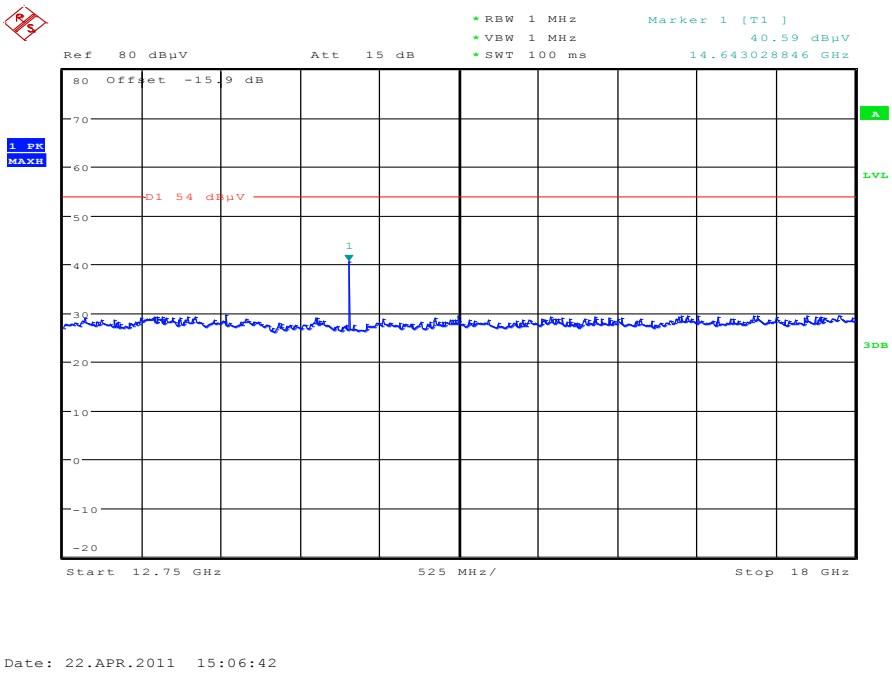
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 8: 1 GHz to 12.75 GHz, middle channel, horizontal polarization

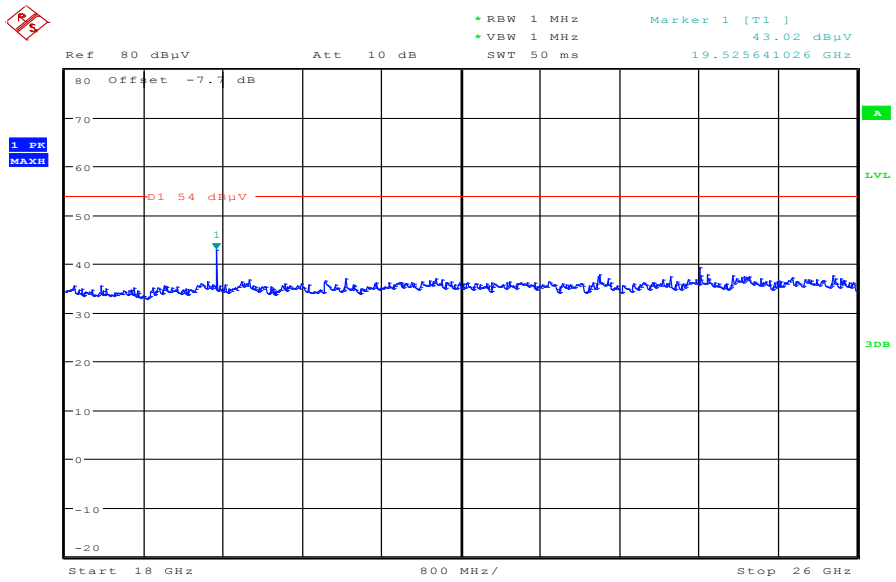


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 9: 12.75 GHz to 18 GHz, middle channel, vertical & horizontal polarization



Plot 10: 18 GHz to 26 GHz, middle channel, vertical & horizontal polarization



Date: 22.APR.2011 15:38:54

Plot 11: 30 MHz to 1 GHz, highest channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

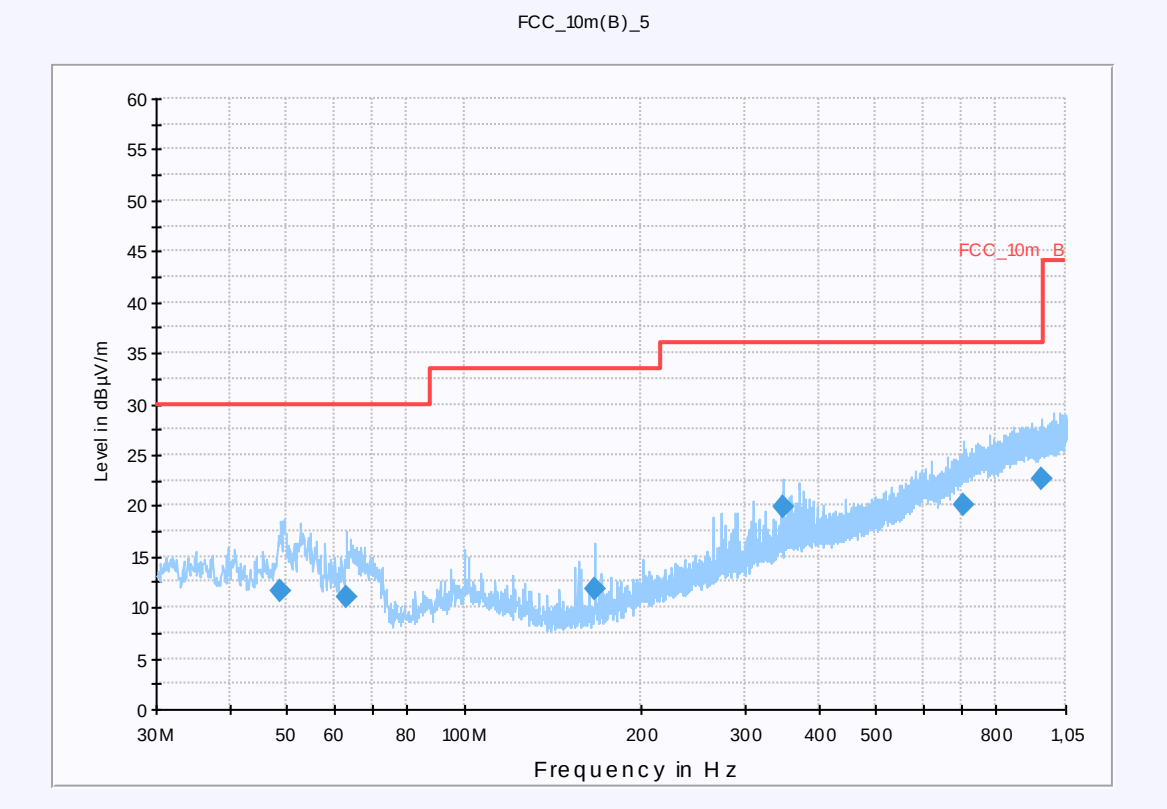
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT DH5 CH: 78
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

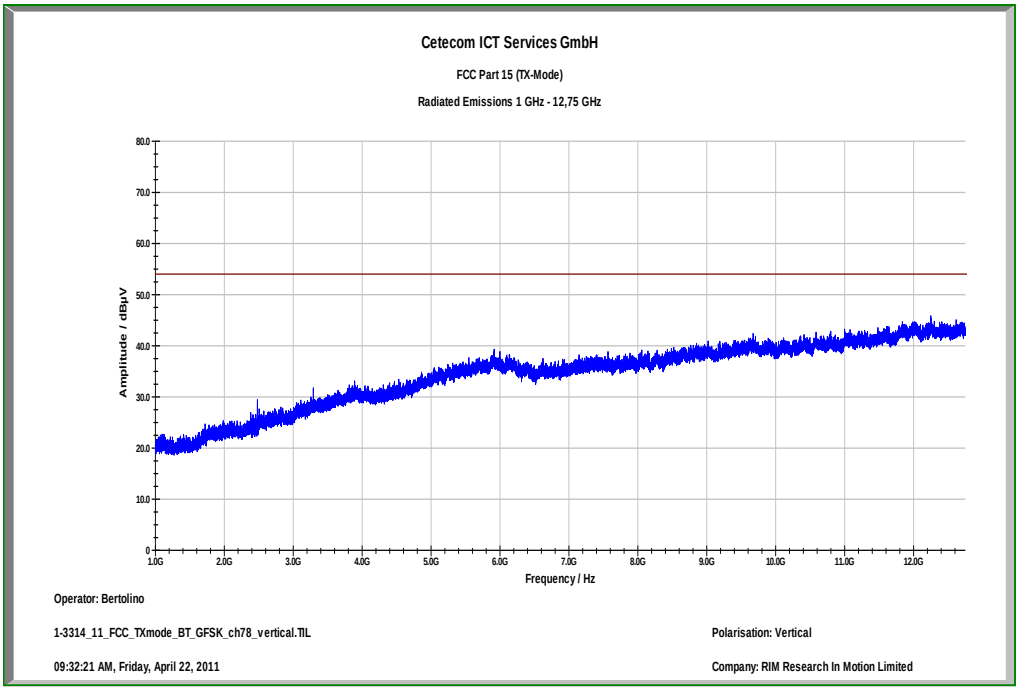
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
48.720000	11.6	15000.000	120.000	200.0	V	231.0	13.3	18.4	30.0	
63.240000	11.0	15000.000	120.000	221.0	V	55.0	10.8	19.0	30.0	
166.920000	11.8	15000.000	120.000	212.0	V	295.0	9.6	21.7	33.5	
348.960000	20.0	15000.000	120.000	98.0	V	-2.0	16.0	16.0	36.0	
704.640000	20.0	15000.000	120.000	270.0	V	231.0	22.6	16.0	36.0	
957.480000	22.6	15000.000	120.000	181.0	V	158.0	25.4	13.4	36.0	

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

	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

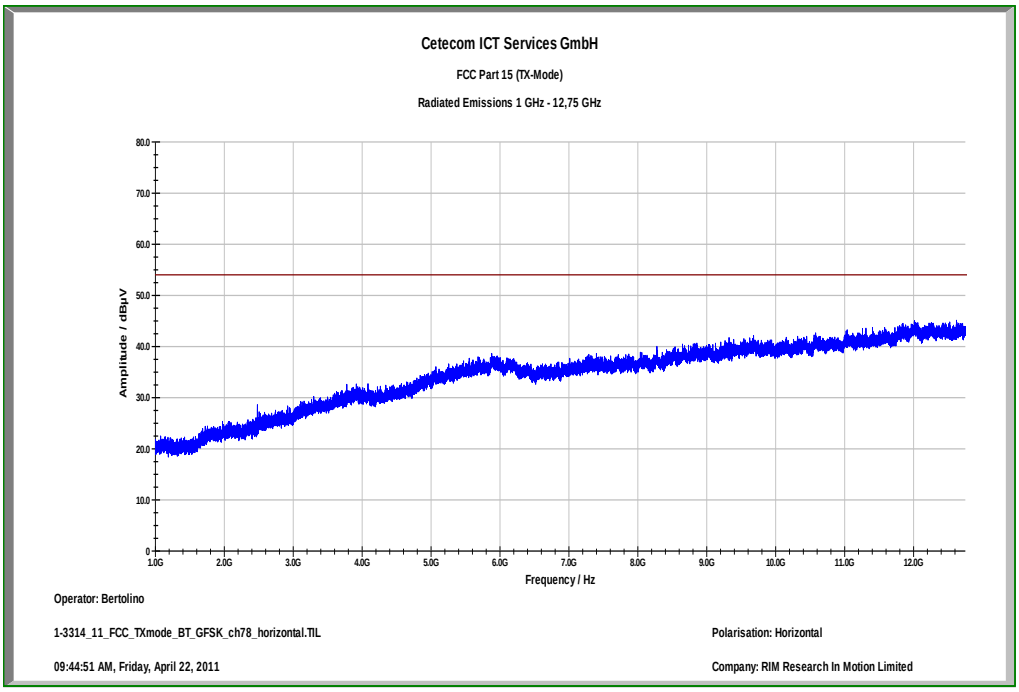
EMC 32 Version 8.10.00

Plot 12: 1 GHz to 12.75 GHz, highest channel, vertical polarization



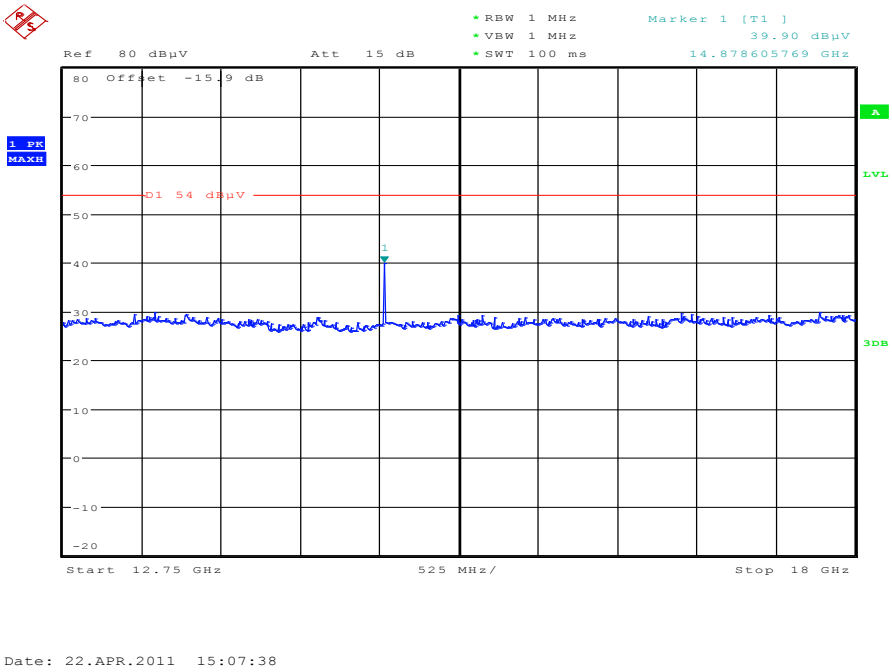
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 13: 1 GHz to 12.75 GHz, highest channel, horizontal polarization

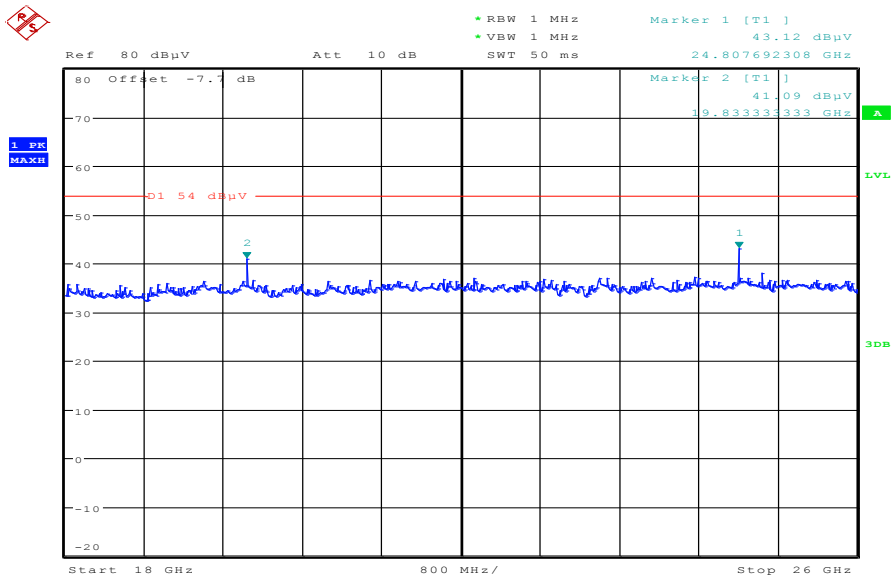


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 14: 12.75 GHz to 18 GHz, highest channel, vertical & horizontal polarization



Plot 15: 18 GHz to 26 GHz, highest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:41:53

Plots: Pi/4 DQPSK modulation

Plot 1: 30 MHz to 1 GHz, lowest channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

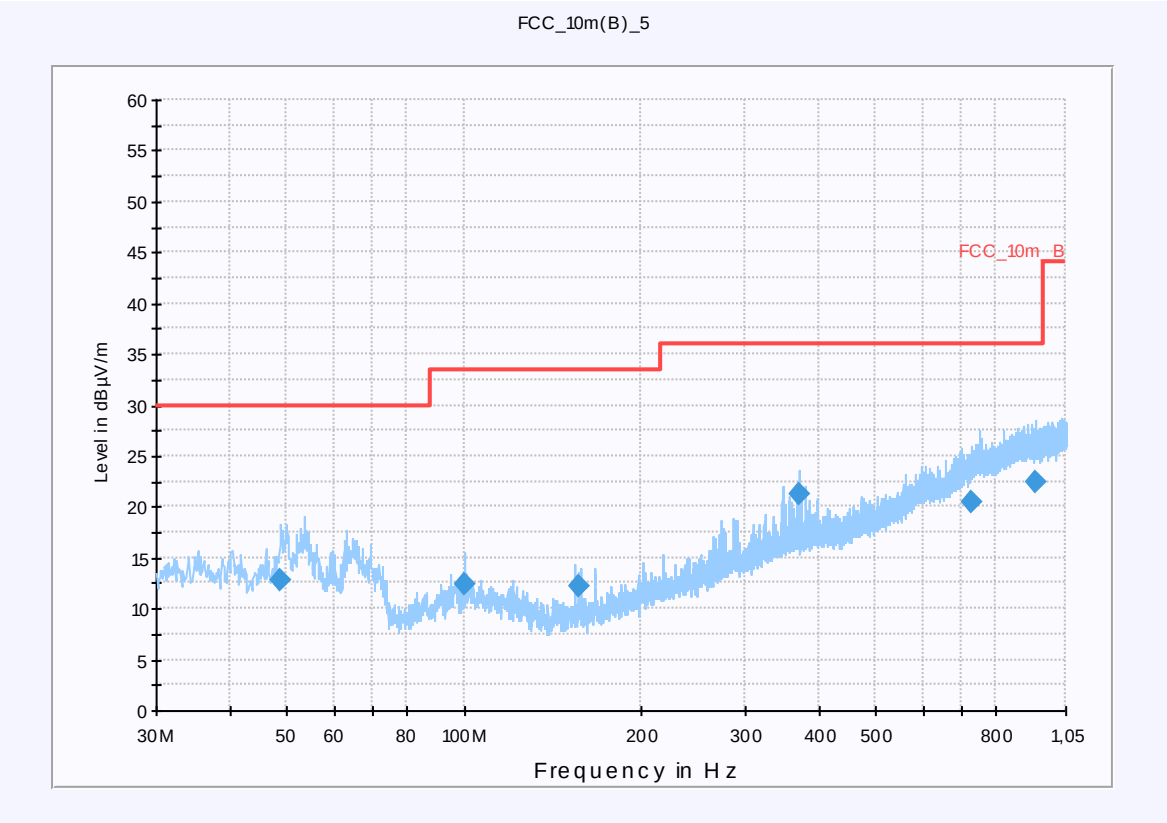
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT 2-DH5 CH: 0
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

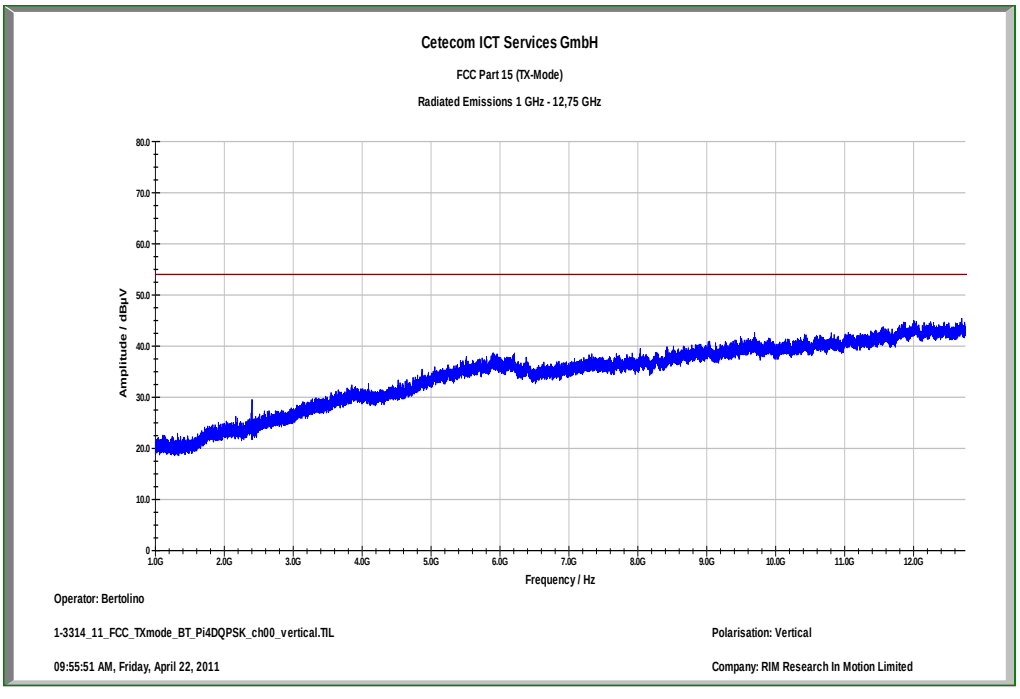
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
48.720000	12.8	15000.000	120.000	158.0	V	-2.0	13.3	17.2	30.0	
99.960000	12.4	15000.000	120.000	214.0	V	347.0	11.9	21.1	33.5	
156.120000	12.3	15000.000	120.000	125.0	V	115.0	9.1	21.2	33.5	
370.680000	21.3	15000.000	120.000	98.0	V	88.0	16.4	14.7	36.0	
728.880000	20.5	15000.000	120.000	270.0	V	142.0	23.2	15.5	36.0	
934.560000	22.5	15000.000	120.000	262.0	V	296.0	25.3	13.5	36.0	

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

	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

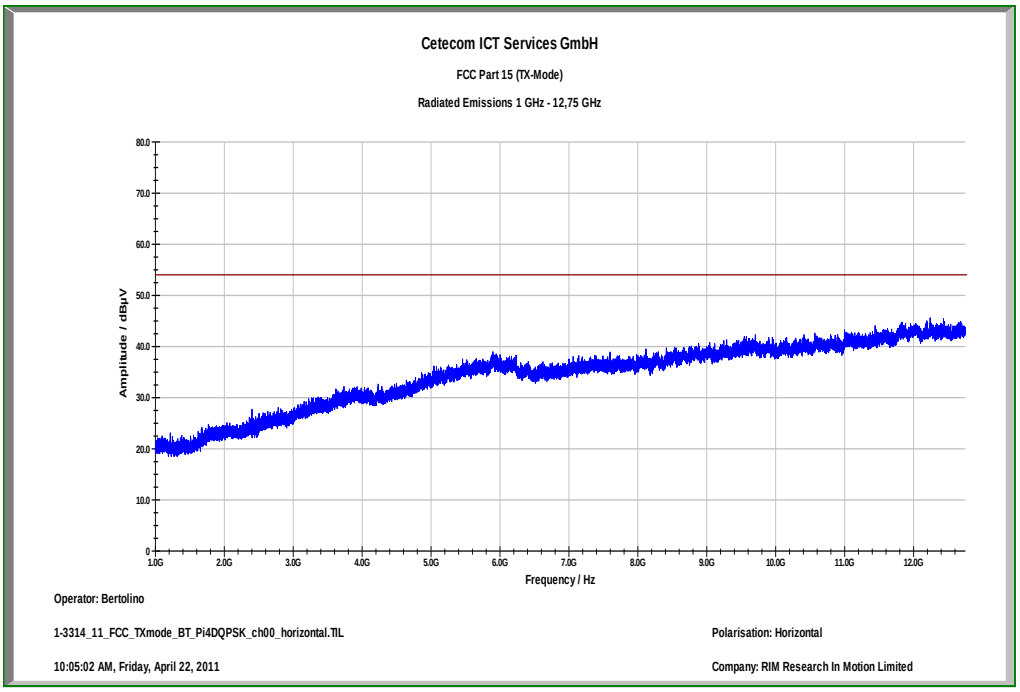
EMC 32 Version 8.10.00

Plot 2: 1 GHz to 12.75 GHz, lowest channel, vertical polarization



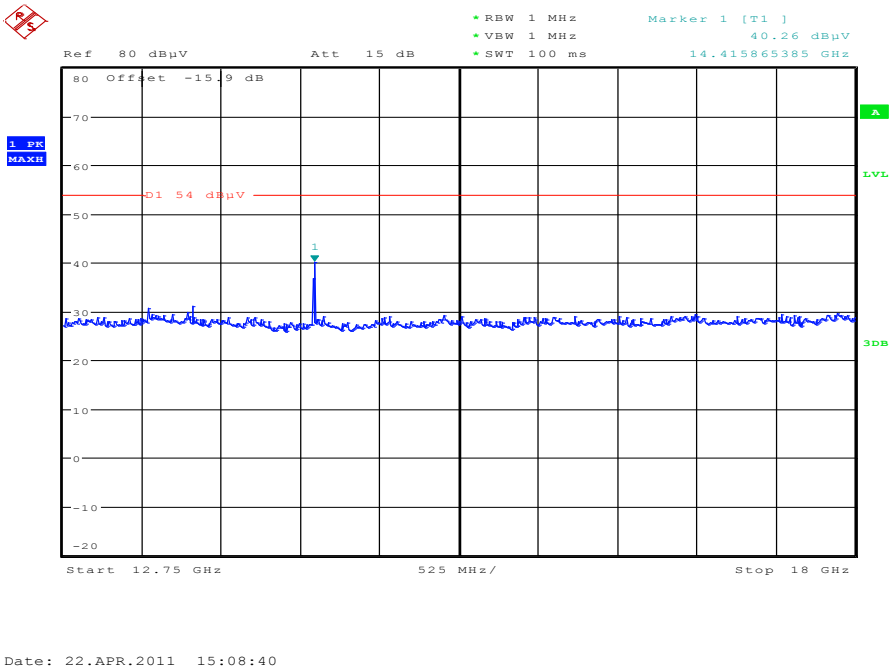
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 1 GHz to 12.75 GHz, lowest channel, horizontal polarization



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

Plot 4: 12.75 GHz to 18 GHz, lowest channel, vertical & horizontal polarization



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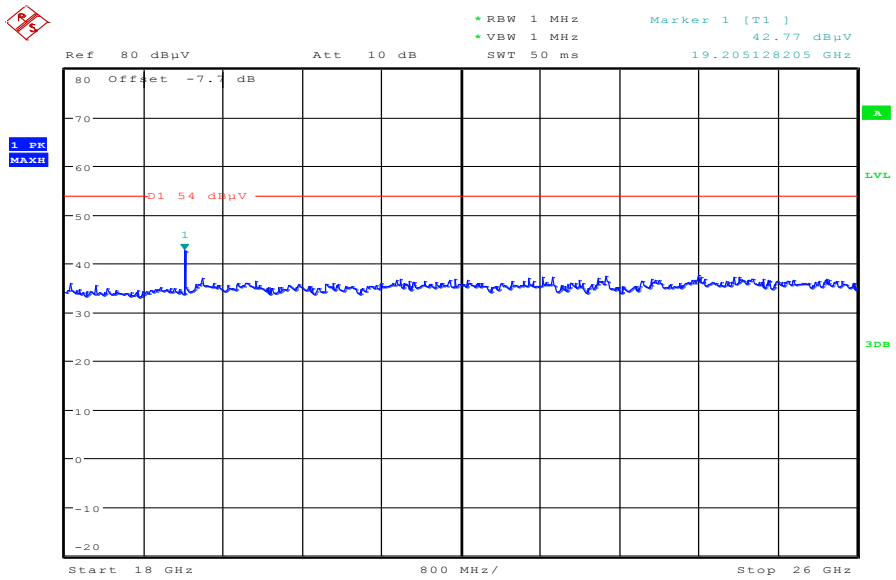
Plot 5: 18 GHz to 26 GHz, lowest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:43:41

Plot 6: 30 MHz to 1 GHz, middle channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

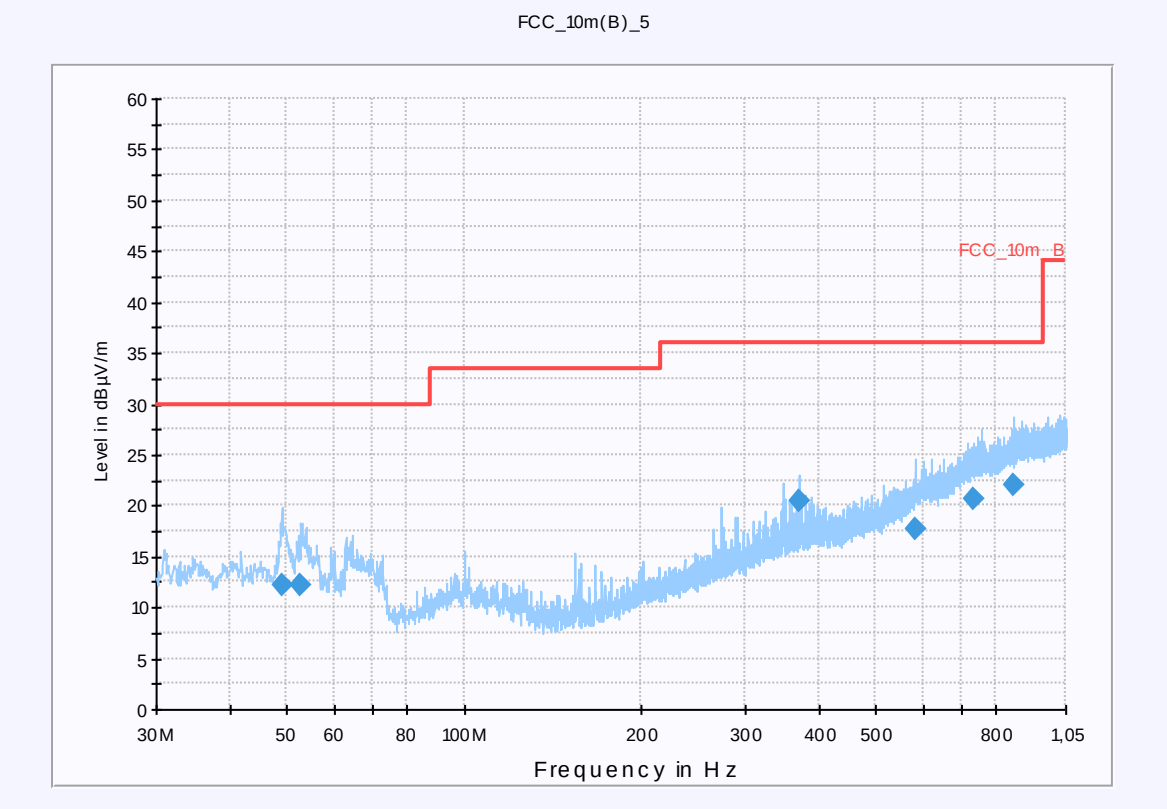
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT 2-DH5 CH: 39
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

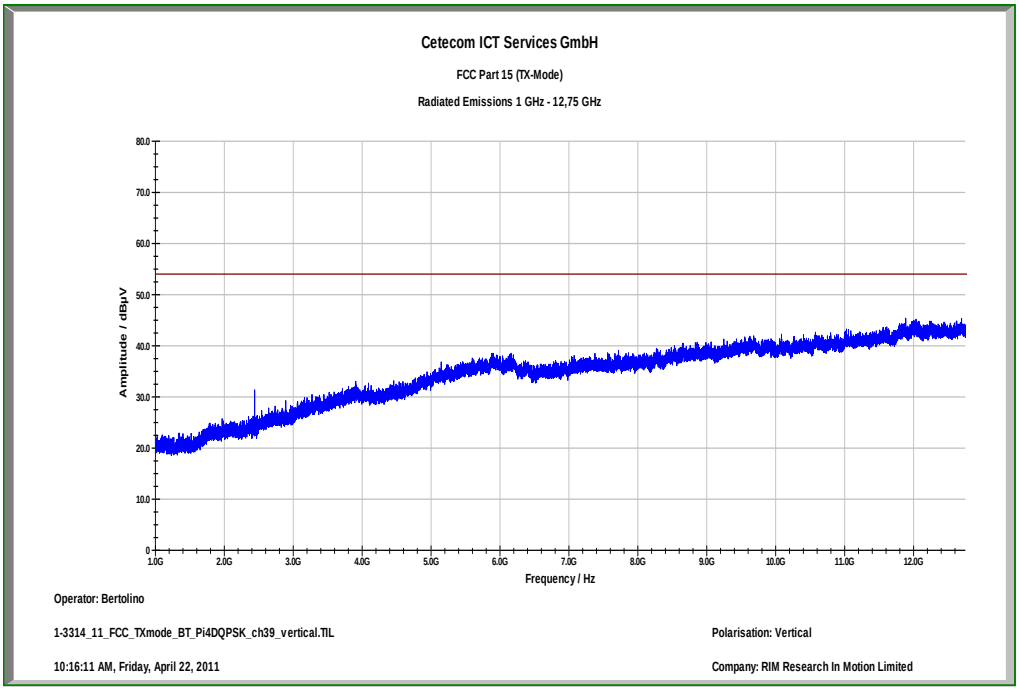
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
48.960000	12.2	15000.000	120.000	270.0	V	185.0	13.4	17.8	30.0	
52.800000	12.2	15000.000	120.000	116.0	V	158.0	13.1	17.8	30.0	
370.680000	20.5	15000.000	120.000	98.0	V	238.0	16.4	15.5	36.0	
583.680000	17.8	15000.000	120.000	126.0	V	-2.0	20.3	18.2	36.0	
731.880000	20.6	15000.000	120.000	190.0	H	209.0	23.2	15.4	36.0	
858.600000	22.1	15000.000	120.000	178.0	V	251.0	24.7	13.9	36.0	

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

	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

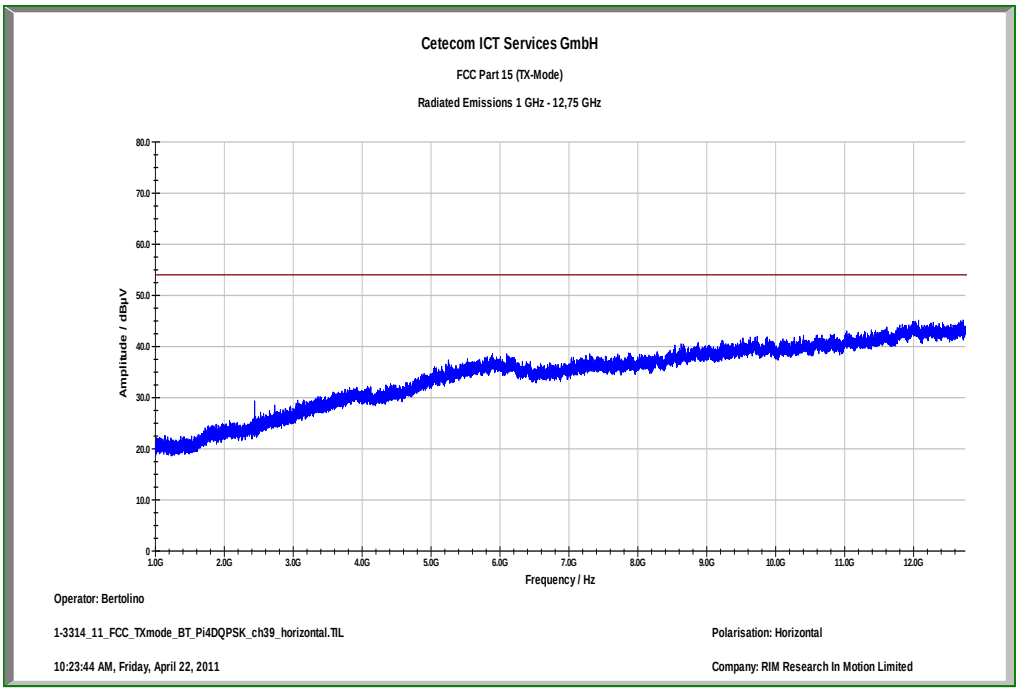
EMC 32 Version 8.10.00

Plot 7: 1 GHz to 12.75 GHz, middle channel, vertical polarization



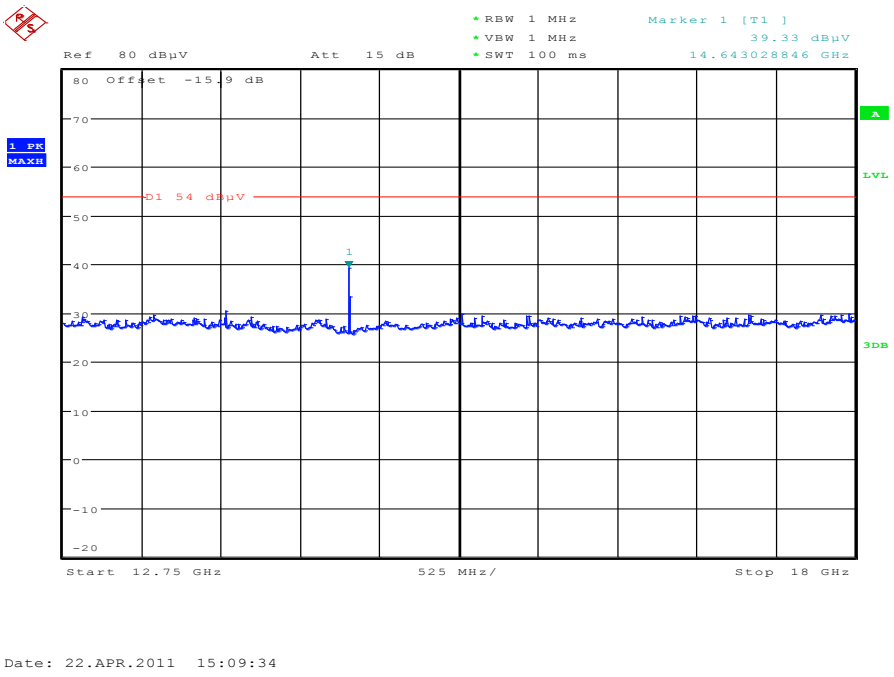
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 8: 1 GHz to 12.75 GHz, middle channel, horizontal polarization

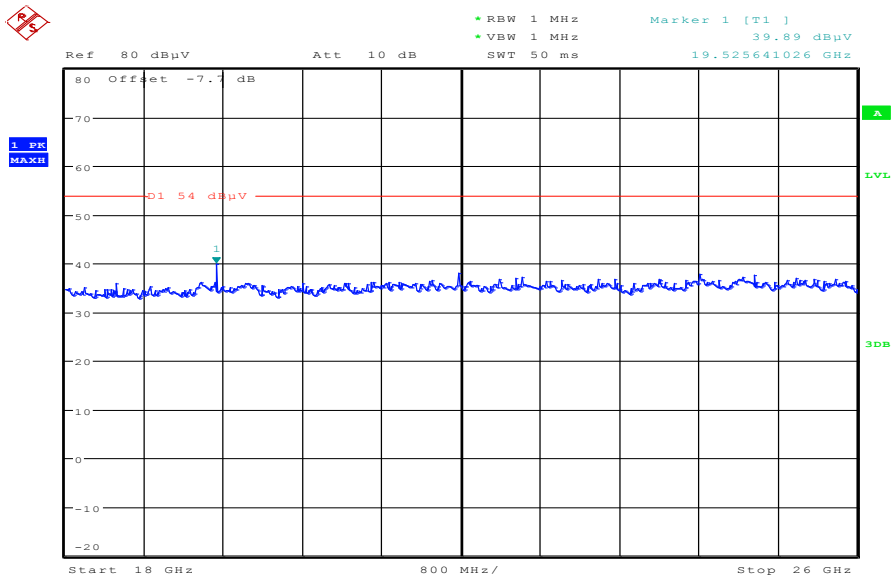


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 9: 12.75 GHz to 18 GHz, middle channel, vertical & horizontal polarization



Plot 10: 18 GHz to 26 GHz, middle channel, vertical & horizontal polarization



Date: 22.APR.2011 15:44:55

Plot 11: 30 MHz to 1 GHz, highest channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

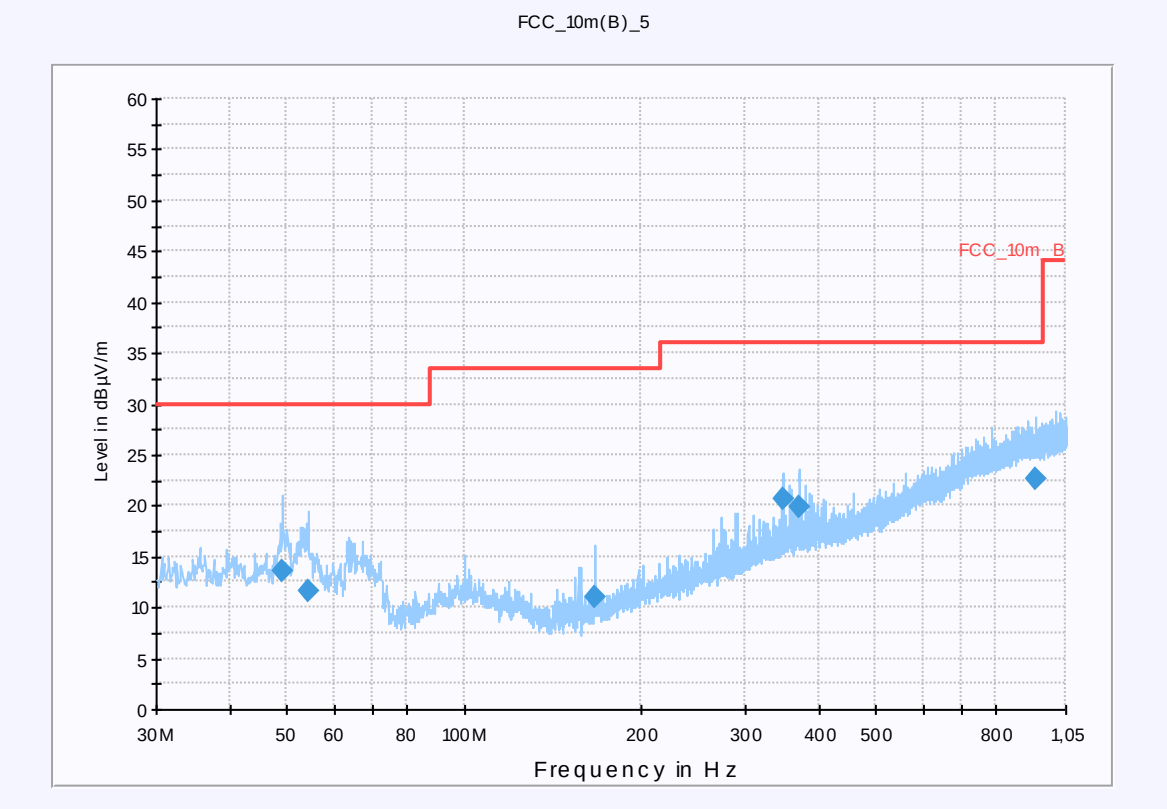
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT 2-DH5 CH: 78
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

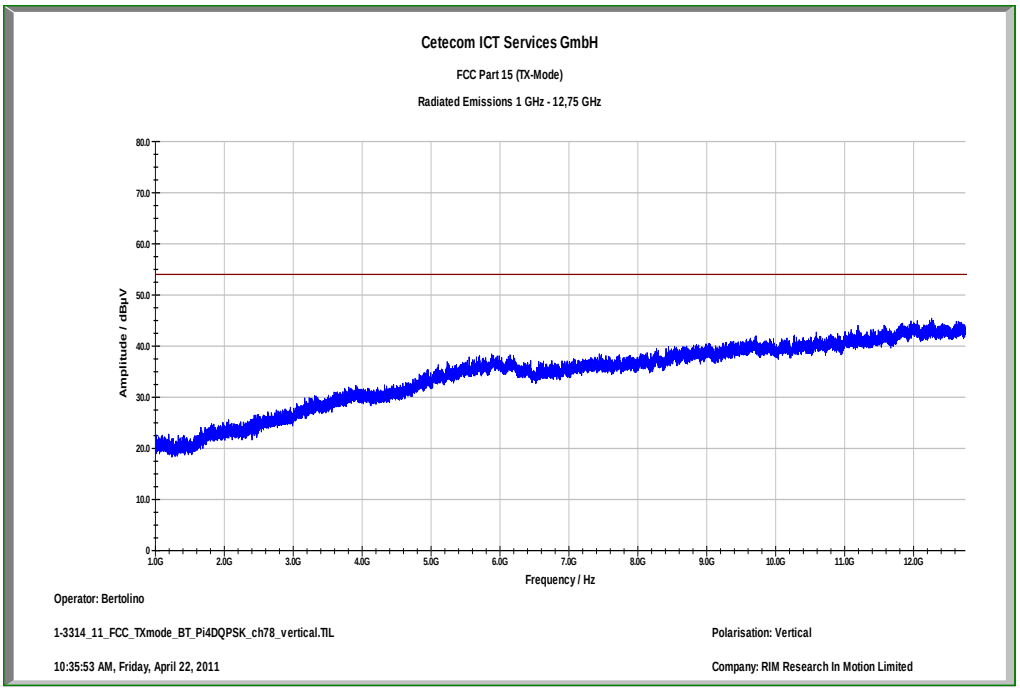
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
49.200000	13.5	15000.000	120.000	136.0	V	29.0	13.4	16.5	30.0	
54.480000	11.6	15000.000	120.000	137.0	V	145.0	12.9	18.4	30.0	
166.920000	11.0	15000.000	120.000	131.0	V	19.0	9.6	22.5	33.5	
346.800000	20.6	15000.000	120.000	98.0	V	359.0	16.0	15.4	36.0	
370.560000	19.9	15000.000	120.000	117.0	V	359.0	16.4	16.1	36.0	
935.400000	22.6	15000.000	120.000	115.0	H	187.0	25.3	13.4	36.0	

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

	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

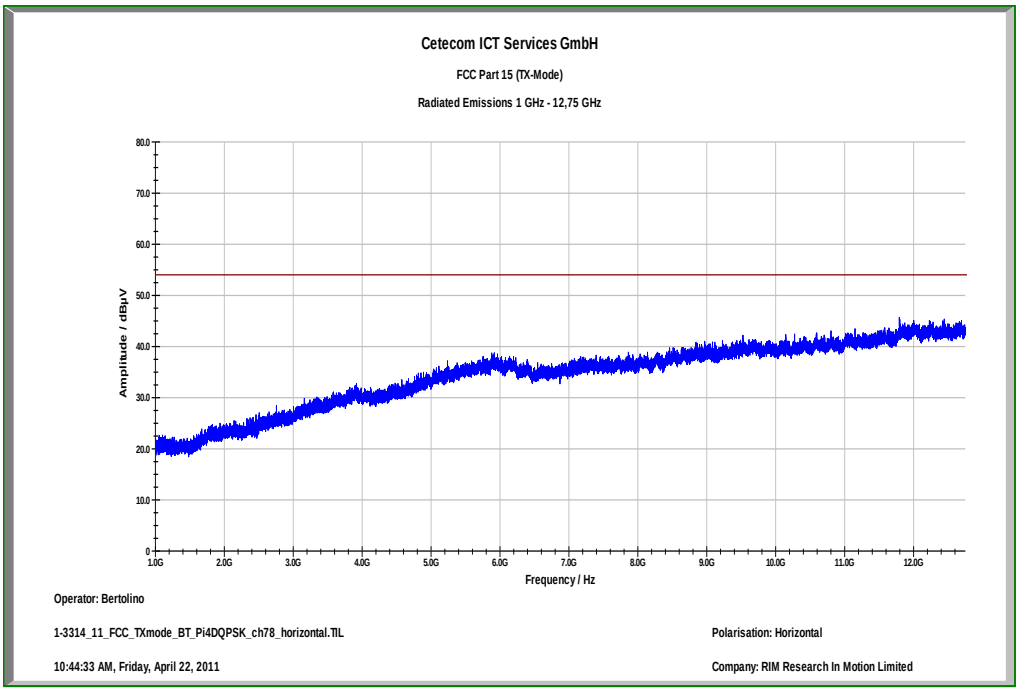
EMC 32 Version 8.10.00

Plot 12: 1 GHz to 12.75 GHz, highest channel, vertical polarization



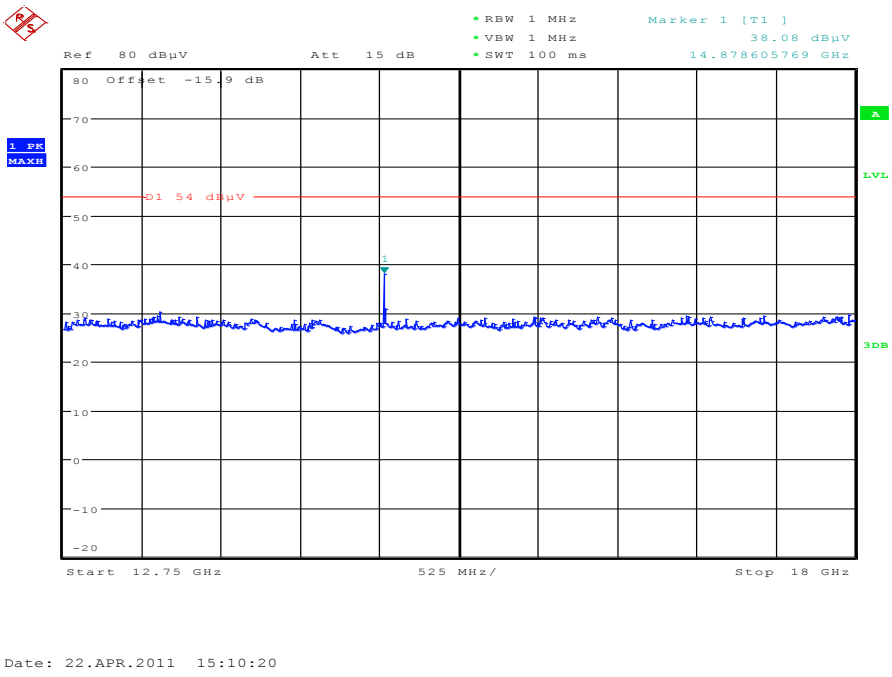
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 13: 1 GHz to 12.75 GHz, highest channel, horizontal polarization

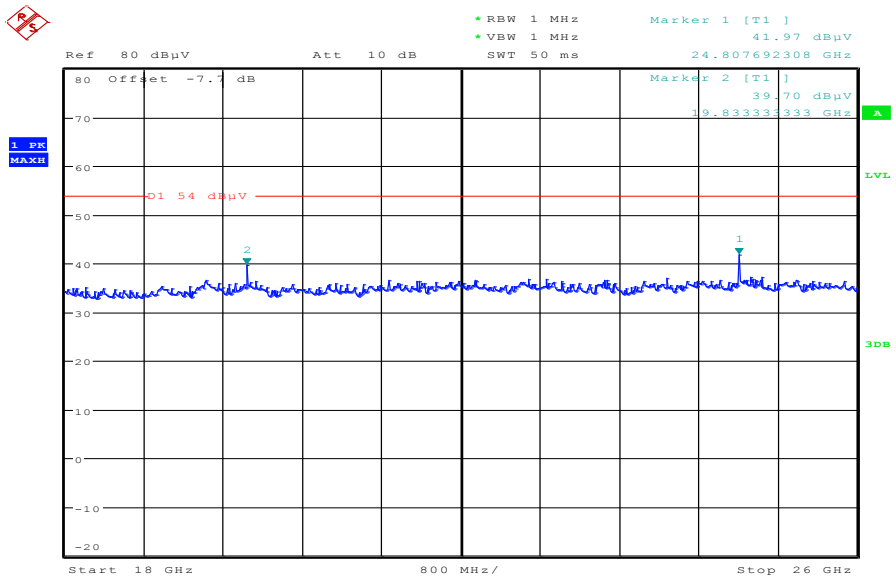


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 14: 12.75 GHz to 18 GHz, highest channel, vertical & horizontal polarization



Plot 15: 18 GHz to 26 GHz, highest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:45:45

Plots: 8 PDSK modulation

Plot 1: 30 MHz to 1 GHz, lowest channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

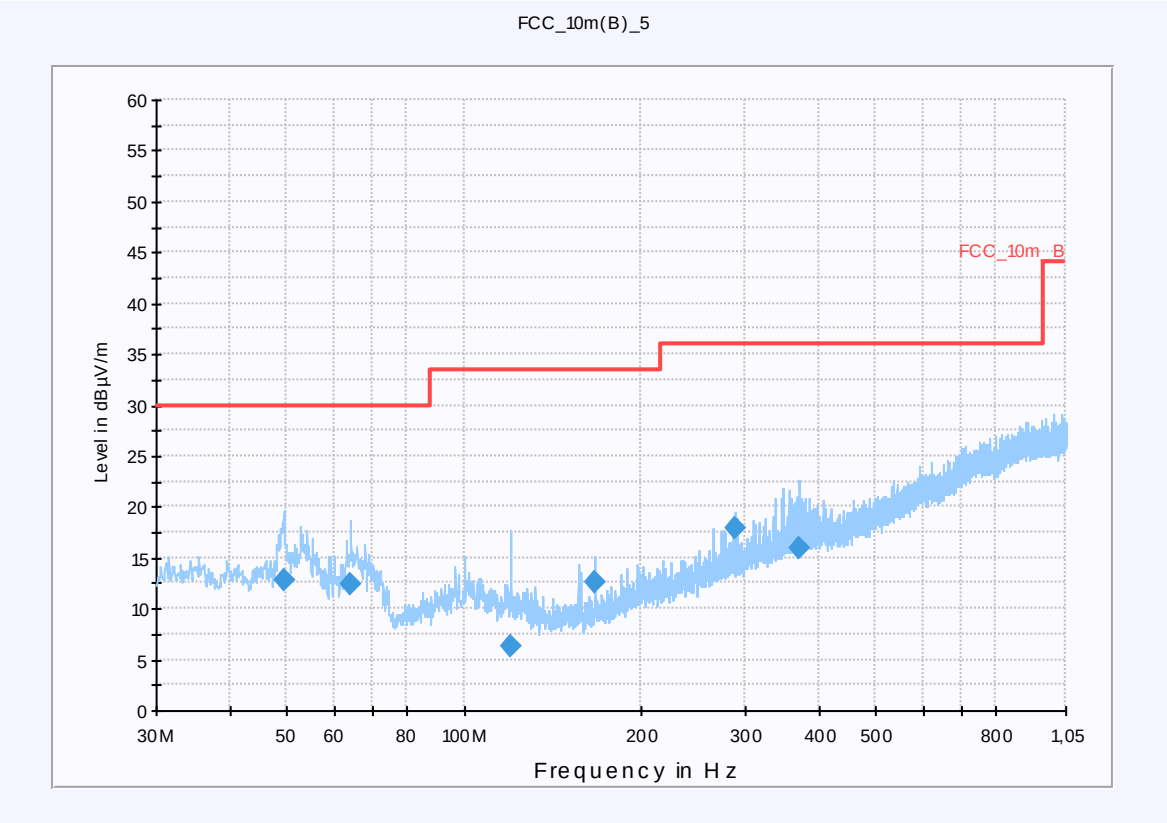
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT 3-DH5 CH:0
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

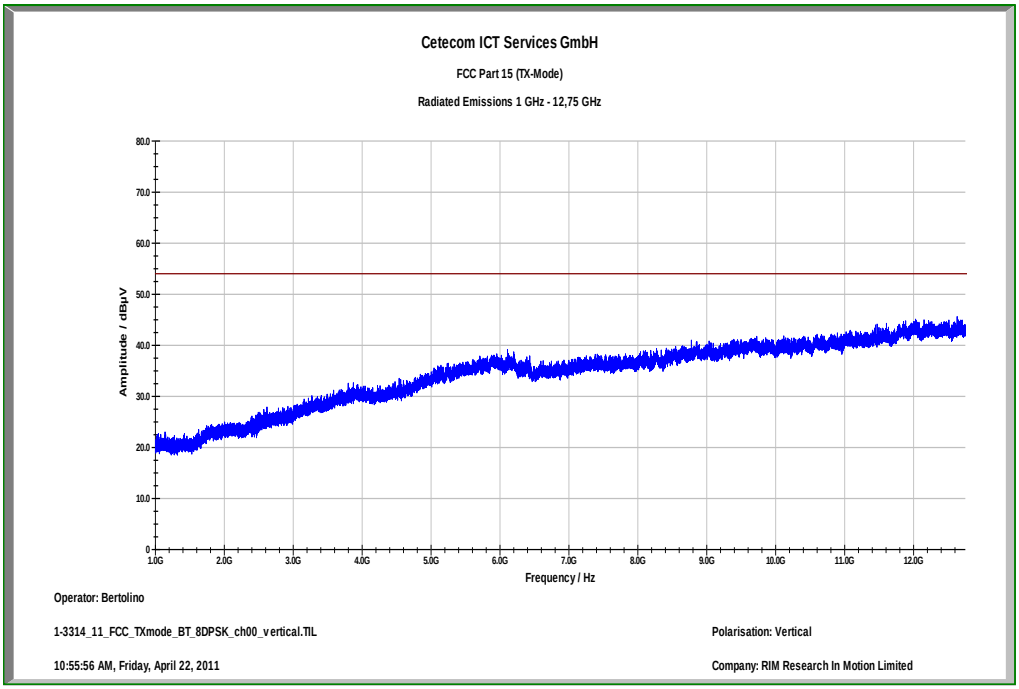
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
49.440000	12.8	15000.000	120.000	167.0	V	241.0	13.4	17.2	30.0	
64.200000	12.3	15000.000	120.000	166.0	V	63.0	10.6	17.7	30.0	
119.760000	6.2	15000.000	120.000	125.0	H	-2.0	10.3	27.3	33.5	
166.920000	12.6	15000.000	120.000	124.0	V	289.0	9.6	20.9	33.5	
288.240000	17.8	15000.000	120.000	253.0	H	63.0	14.2	18.2	36.0	
370.440000	15.8	15000.000	120.000	106.0	V	224.0	16.4	20.2	36.0	

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

	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

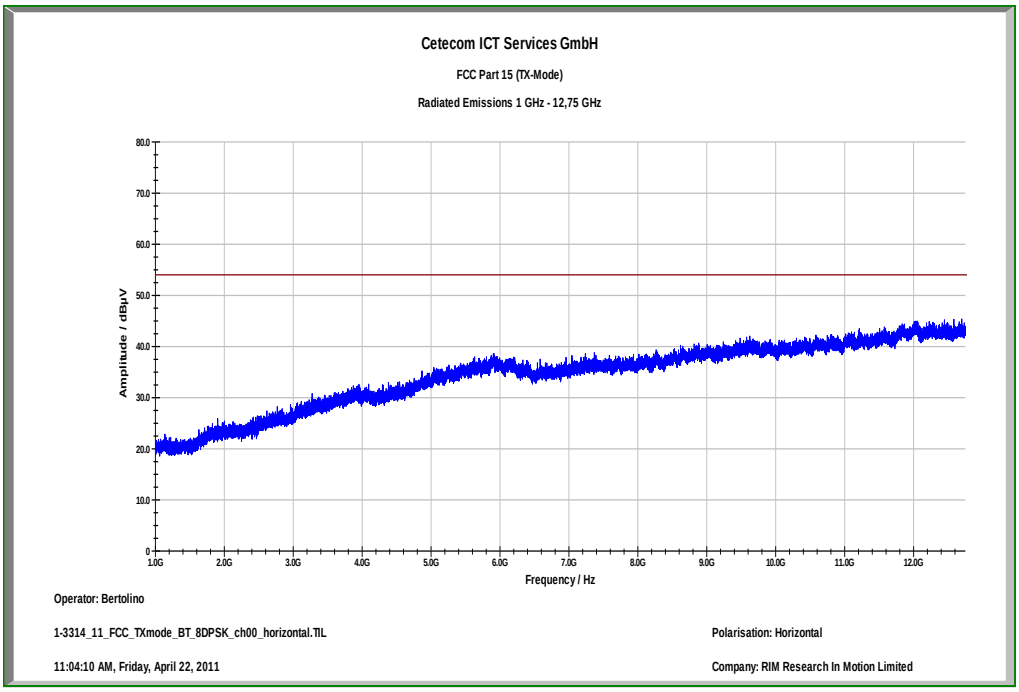
EMC 32 Version 8.10.00

Plot 2: 1 GHz to 12.75 GHz, lowest channel, vertical polarization



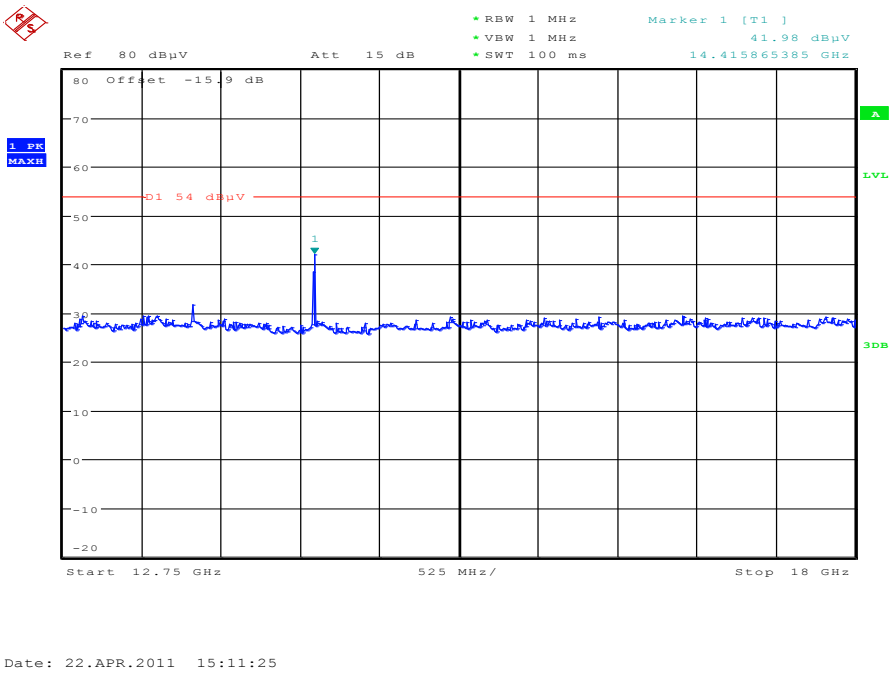
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 1 GHz to 12.75 GHz, lowest channel, horizontal polarization

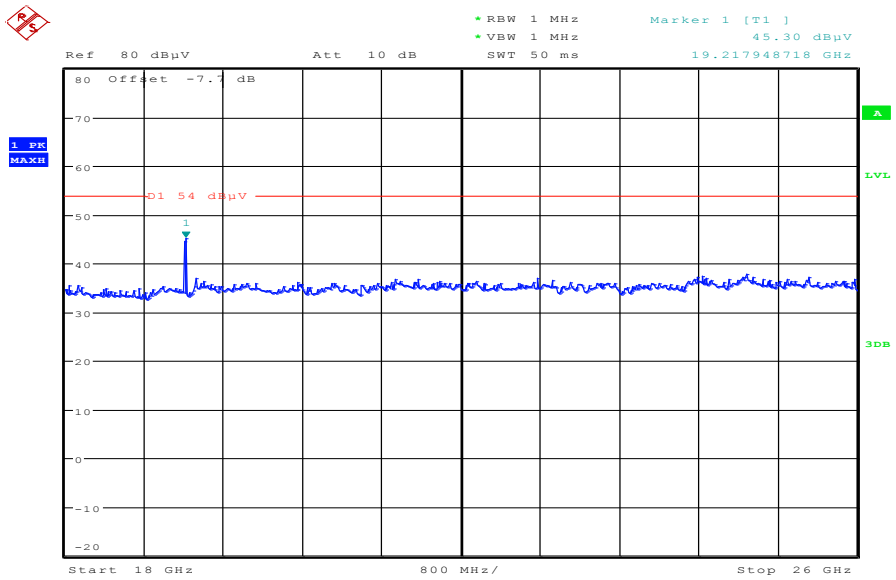


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: 12.75 GHz to 18 GHz, lowest channel, vertical & horizontal polarization



Plot 5: 18 GHz to 26 GHz, lowest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:47:04

Plot 6: 30 MHz to 1 GHz, middle channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

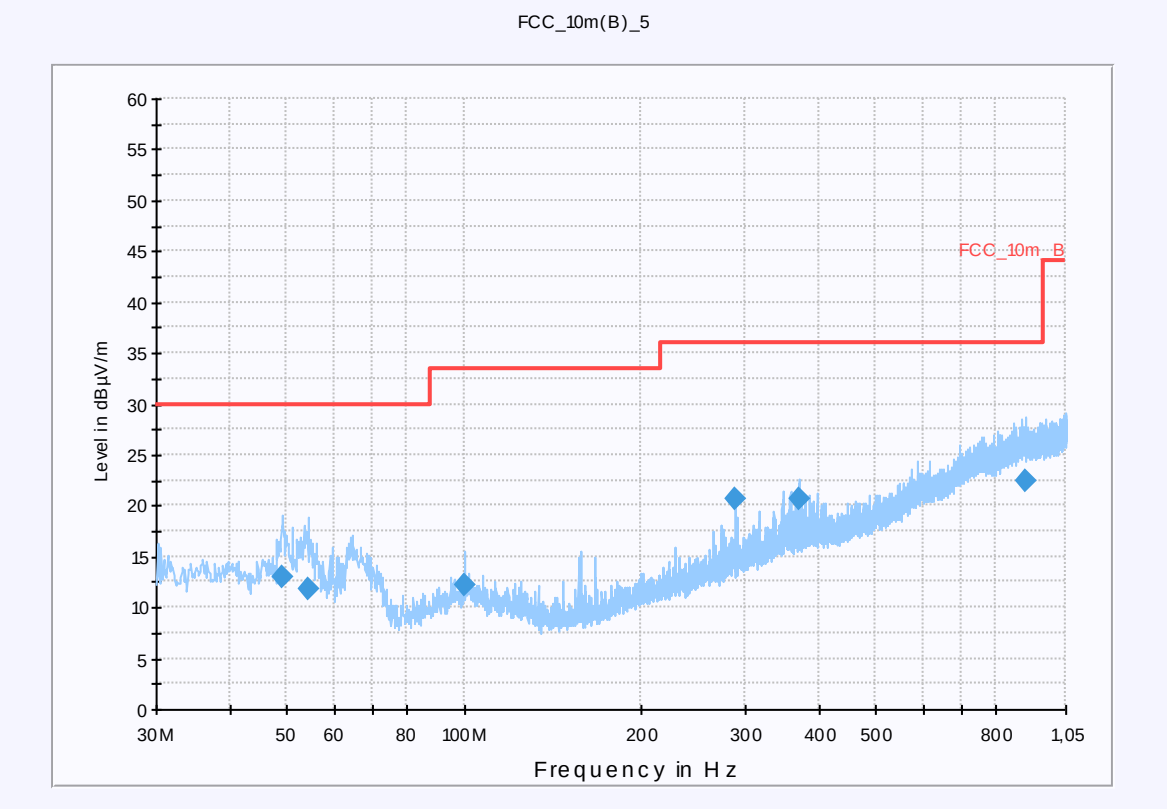
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT 3-DH5 CH:39
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

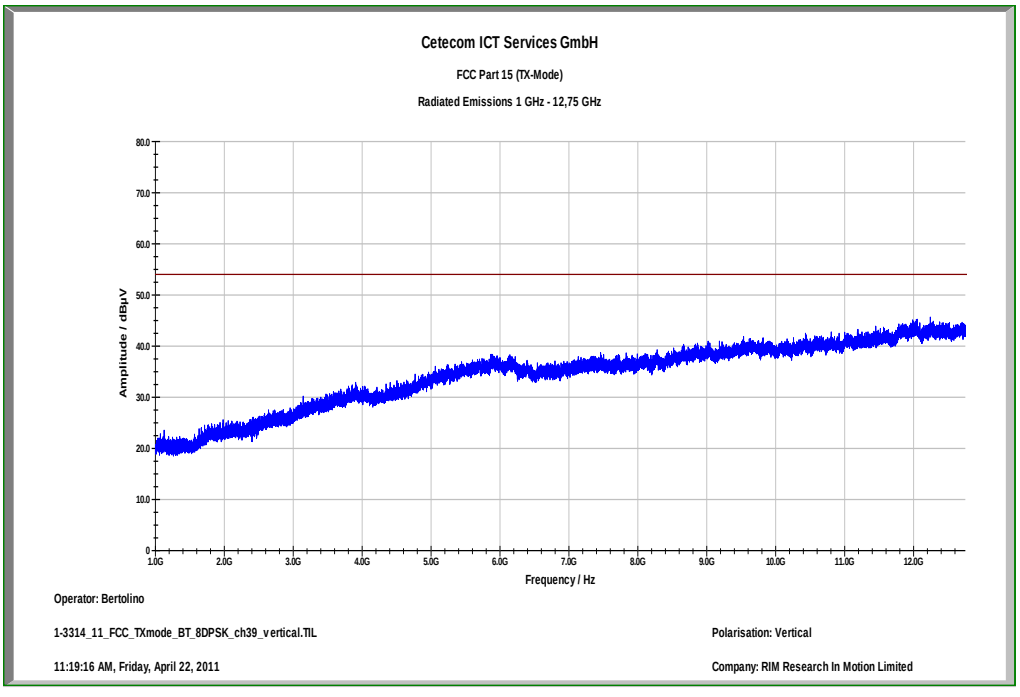
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
49.080000	13.0	15000.000	120.000	137.0	V	212.0	13.4	17.0	30.0	
54.360000	11.7	15000.000	120.000	137.0	V	189.0	12.9	18.3	30.0	
99.960000	12.2	15000.000	120.000	126.0	V	-2.0	11.9	21.3	33.5	
288.360000	20.7	15000.000	120.000	232.0	H	48.0	14.2	15.3	36.0	
370.560000	20.6	15000.000	120.000	106.0	V	48.0	16.4	15.4	36.0	
898.320000	22.5	15000.000	120.000	178.0	V	313.0	25.2	13.5	36.0	

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

	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

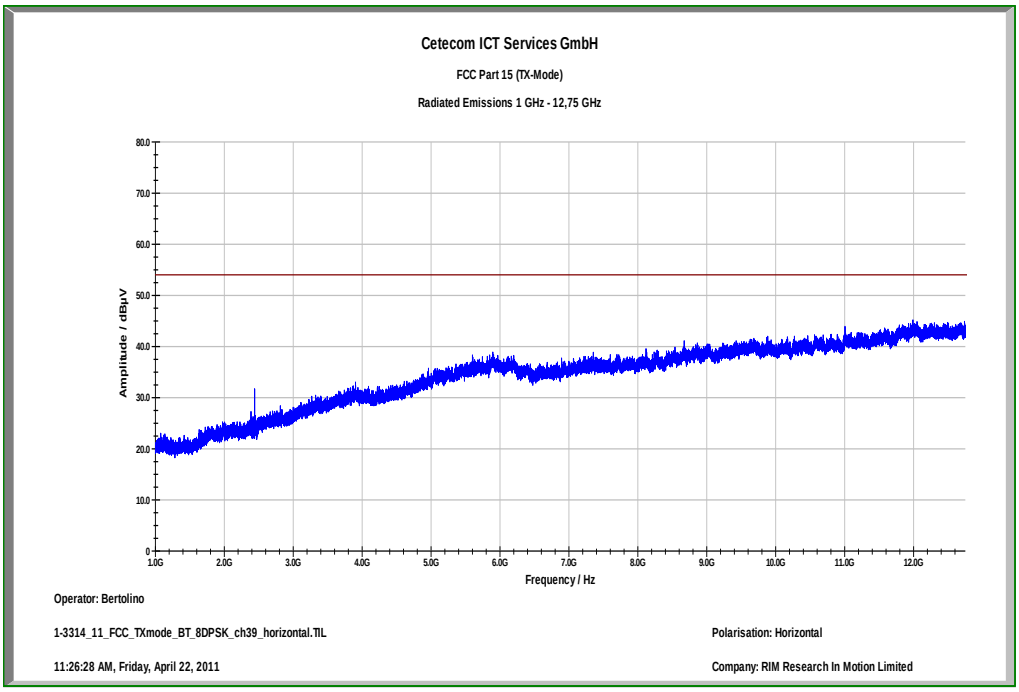
EMC 32 Version 8.10.00

Plot 7: 1 GHz to 12.75 GHz, middle channel, vertical polarization



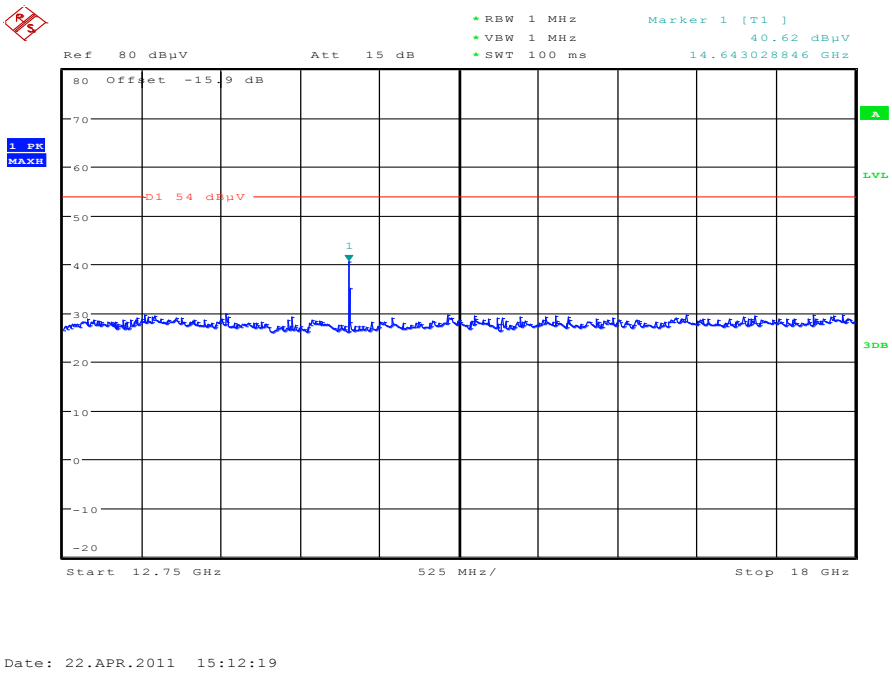
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 8: 1 GHz to 12.75 GHz, middle channel, horizontal polarization

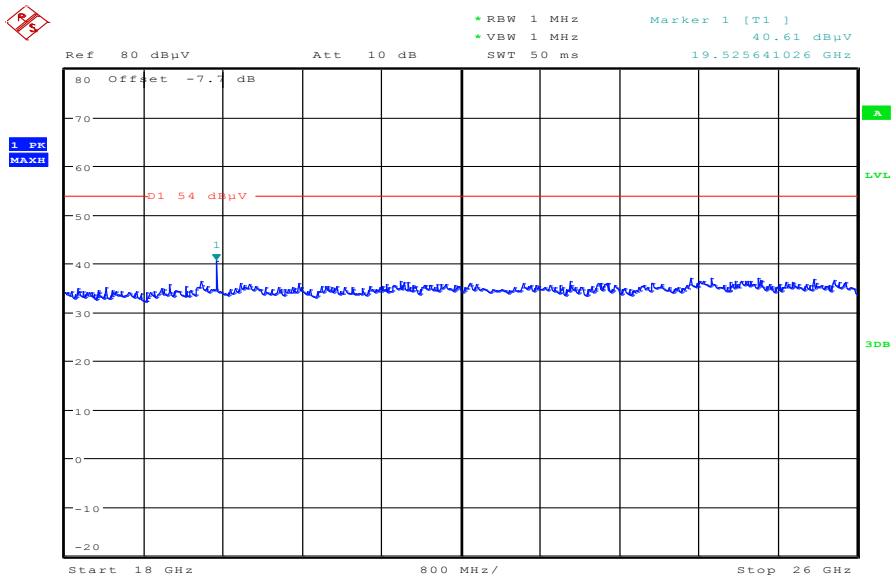


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 9: 12.75 GHz to 18 GHz, middle channel, vertical & horizontal polarization



Plot 10: 18 GHz to 26 GHz, middle channel, vertical & horizontal polarization



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Plot 11: 30 MHz to 1 GHz, highest channel, vertical & horizontal polarization

CETECOM ICT Services GmbH

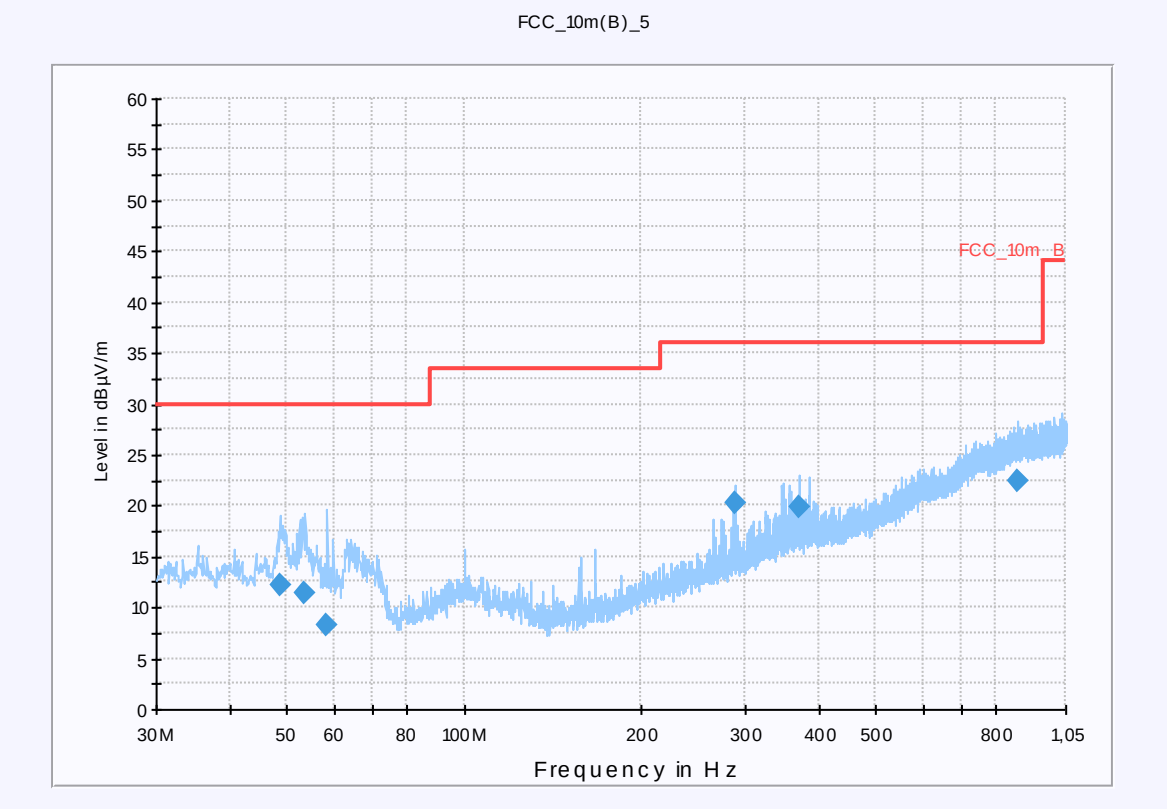
Common Information

EUT:	RDD71UW 148 + Captive cable charger Rev4.0
Serial Number:	CER-39234-001 Rev1 11-Apr-11(sample 23) + DW-17957-003
Test Description:	FCC Part 15 C
Operating Conditions:	BT 3-DH5 CH:78
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 - 2 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

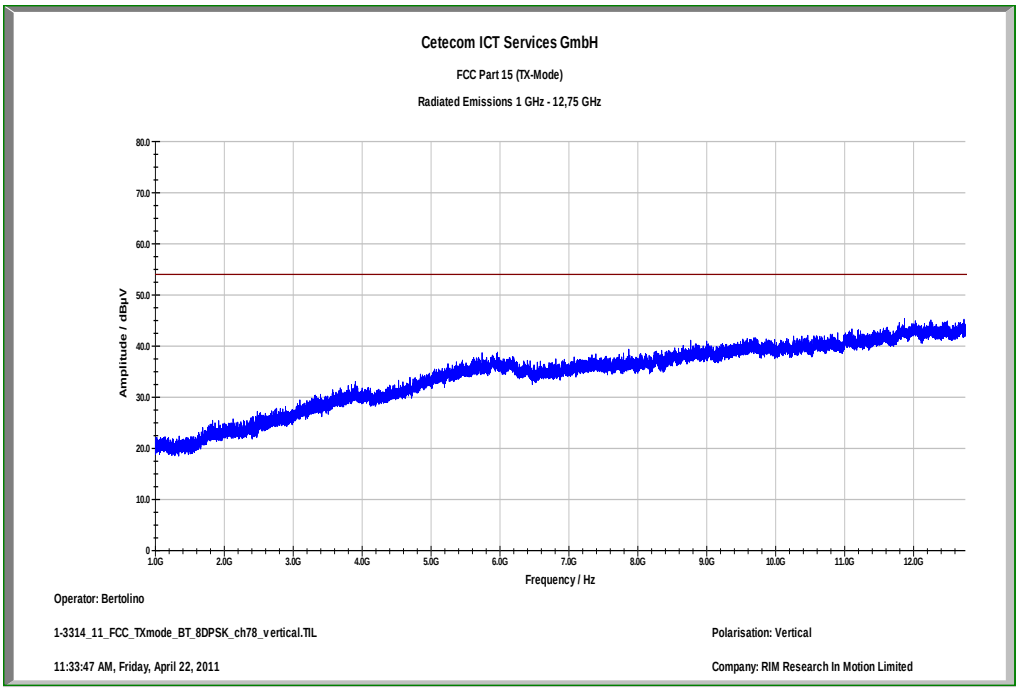
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
48.600000	12.2	15000.000	120.000	127.0	V	337.0	13.3	17.8	30.0	
53.760000	11.5	15000.000	120.000	168.0	V	-2.0	13.0	18.5	30.0	
58.560000	8.3	15000.000	120.000	136.0	H	-2.0	12.0	21.7	30.0	
288.360000	20.3	15000.000	120.000	270.0	H	68.0	14.2	15.7	36.0	
370.800000	19.9	15000.000	120.000	98.0	V	91.0	16.4	16.1	36.0	
872.040000	22.4	15000.000	120.000	217.0	V	-2.0	24.8	13.6	36.0	

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

	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

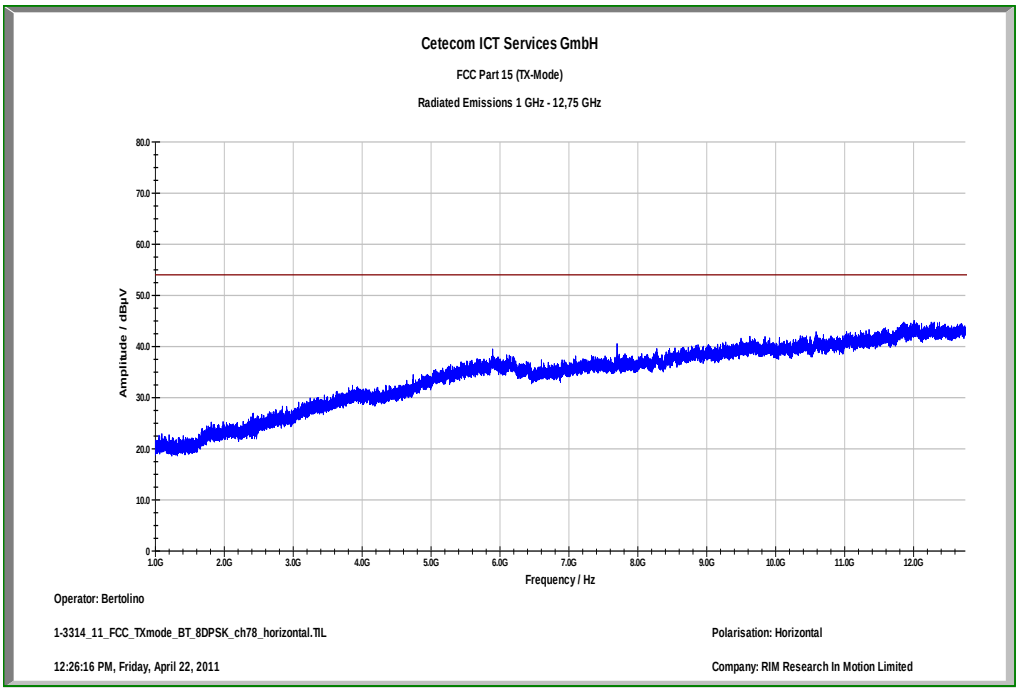
EMC 32 Version 8.10.00

Plot 12: 1 GHz to 12.75 GHz, highest channel, vertical polarization



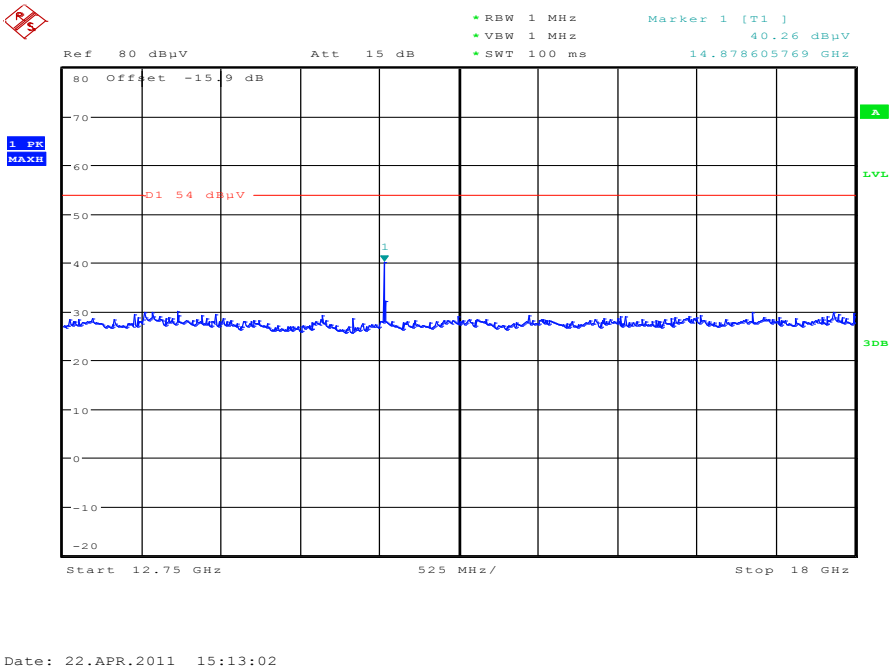
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 13: 1 GHz to 12.75 GHz, highest channel, horizontal polarization



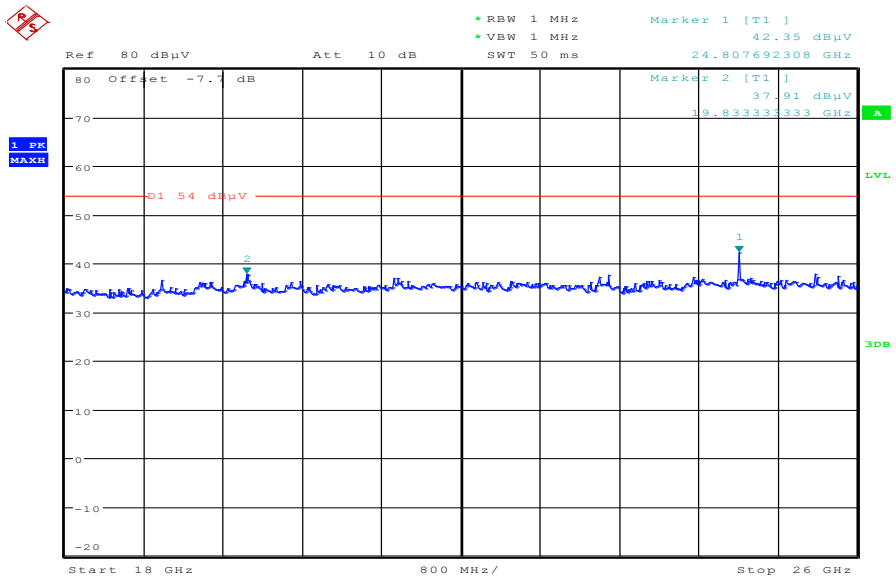
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 14: 12.75 GHz to 18 GHz, highest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:13:02

Plot 15: 18 GHz to 26 GHz, highest channel, vertical & horizontal polarization



Date: 22.APR.2011 15:50:01

9.3 TX spurious emissions radiated < 30 MHz

Description:

Measurement of the radiated spurious emissions in transmit mode below 30 MHz. The EUT is set to single channel mode and the transmit channel is channel 39. This measurement is representative for all channels and modes. If critical peaks are found channel 00 and channel 78 will be measured too. The measurement is performed in the mode with the highest output power. The limits are recalculated to a measurement distance of 3 m with 40 dB/decade according CFR Part 2.

Measurement:

Measurement parameter	
Detector:	Peak / Quasi peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace-Mode:	Max Hold

Limits:

FCC		IC
CFR Part 15.209(a)		RSS 210, Issue 8
TX spurious emissions radiated < 30 MHz		
Frequency (MHz)	Field strength (dBµV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Result: GFSK modulation

TX spurious emissions radiated < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No critical peaks found.		
Measurement uncertainty	± 3 dB	

Result: **The result of the measurement is passed.**

Result: Pi/4 DQPSK modulation

TX spurious emissions radiated < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No critical peaks found.		
Measurement uncertainty	± 3 dB	

Result: **The result of the measurement is passed.**

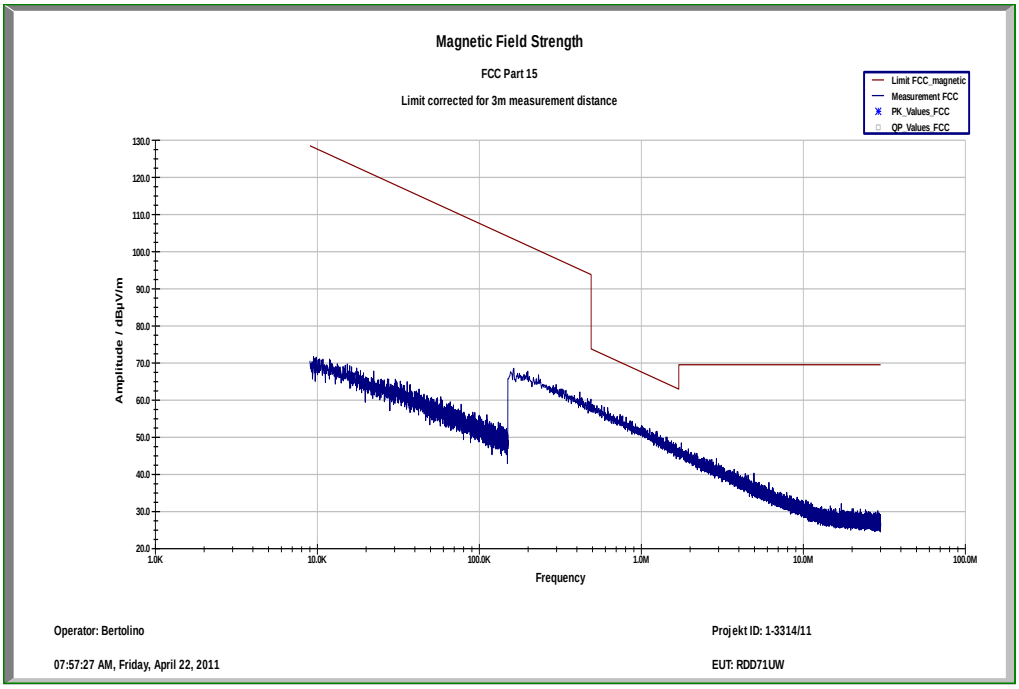
Result: 8 DPSK modulation

TX spurious emissions radiated < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No critical peaks found.		
Measurement uncertainty	± 3 dB	

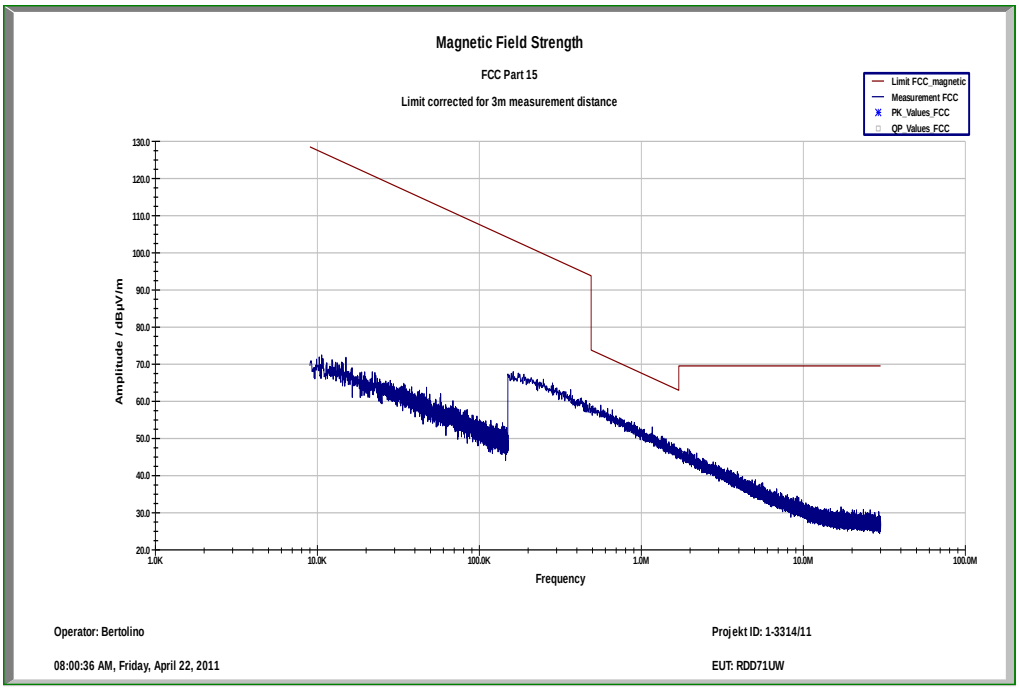
Result: **The result of the measurement is passed.**

Plots:

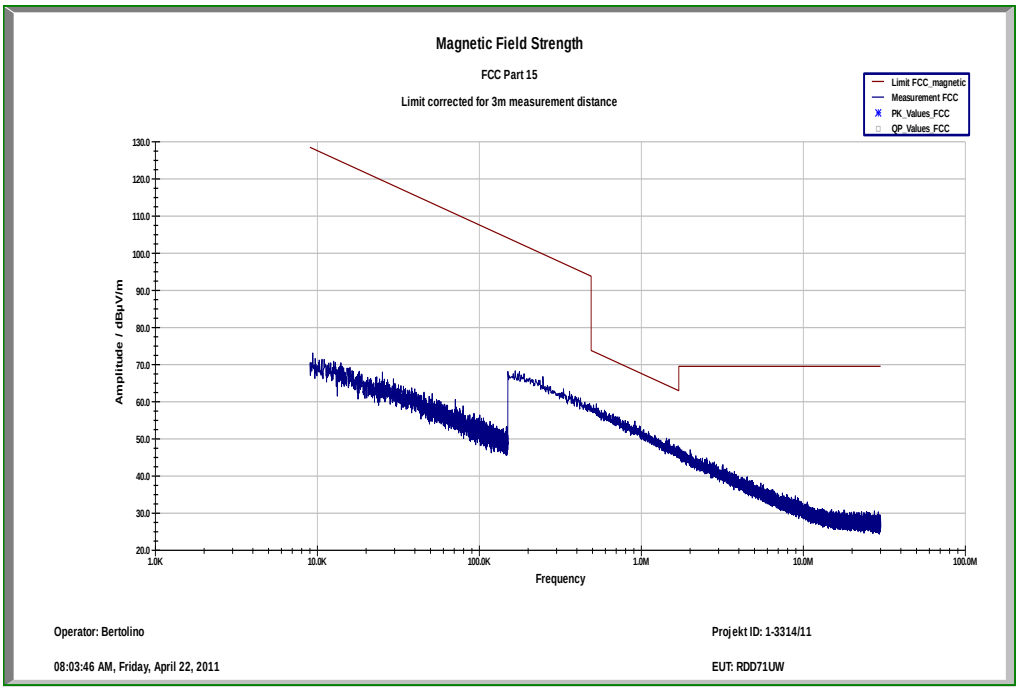
Plot 1: Lowest channel, GFSK modulation, 9 kHz to 30 MHz



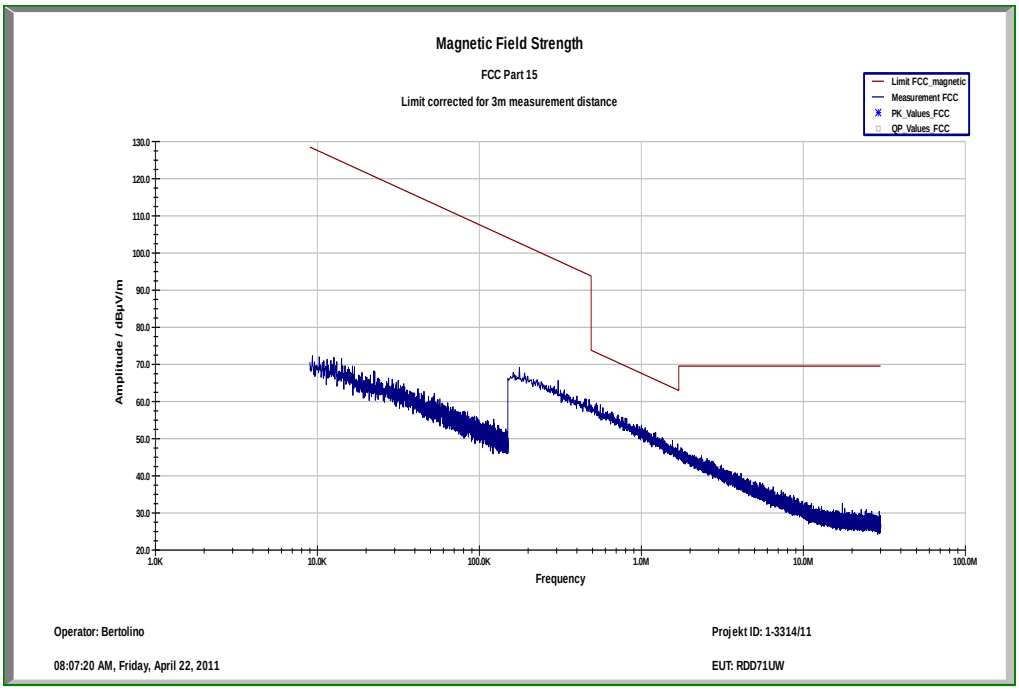
Plot 2: Middle channel, GFSK modulation, 9 kHz to 30 MHz



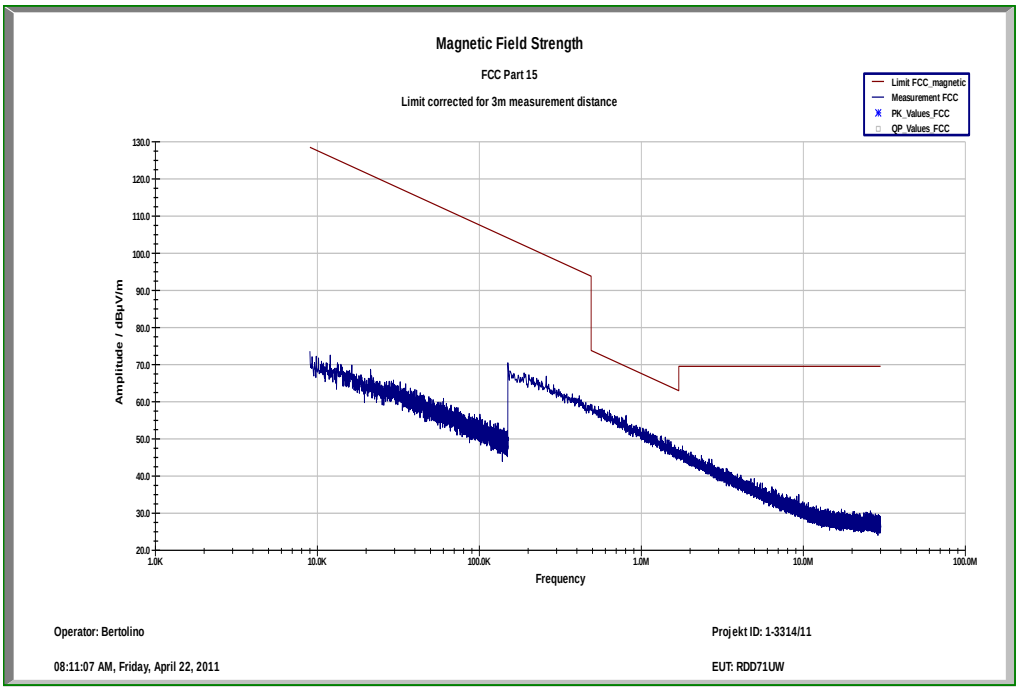
Plot 3: Highest channel, GFSK modulation, 9 kHz to 30 MHz



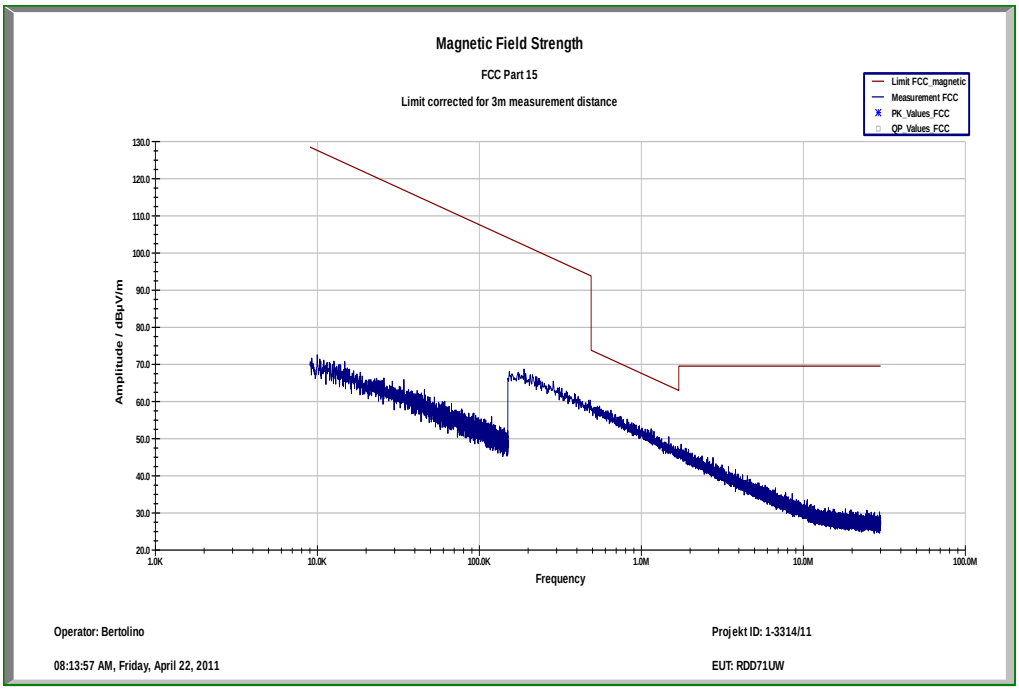
Plot 4: Lowest channel, Pi/4 DQPSK modulation, 9 kHz to 30 MHz



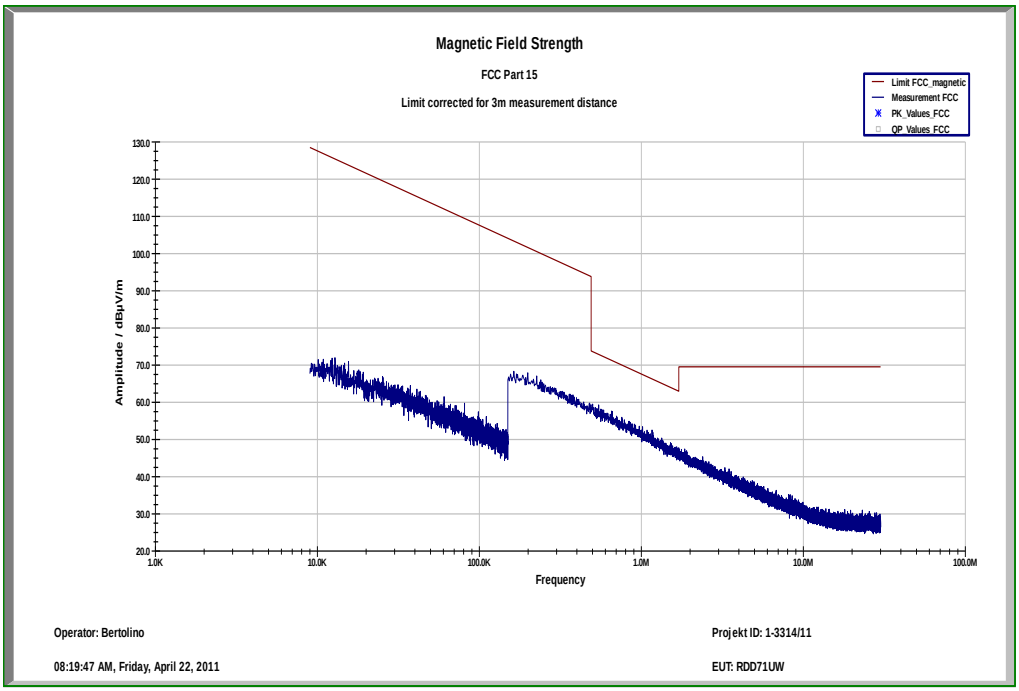
Plot 5: Middle channel, Pi/4 DQPSK modulation, 9 kHz to 30 MHz



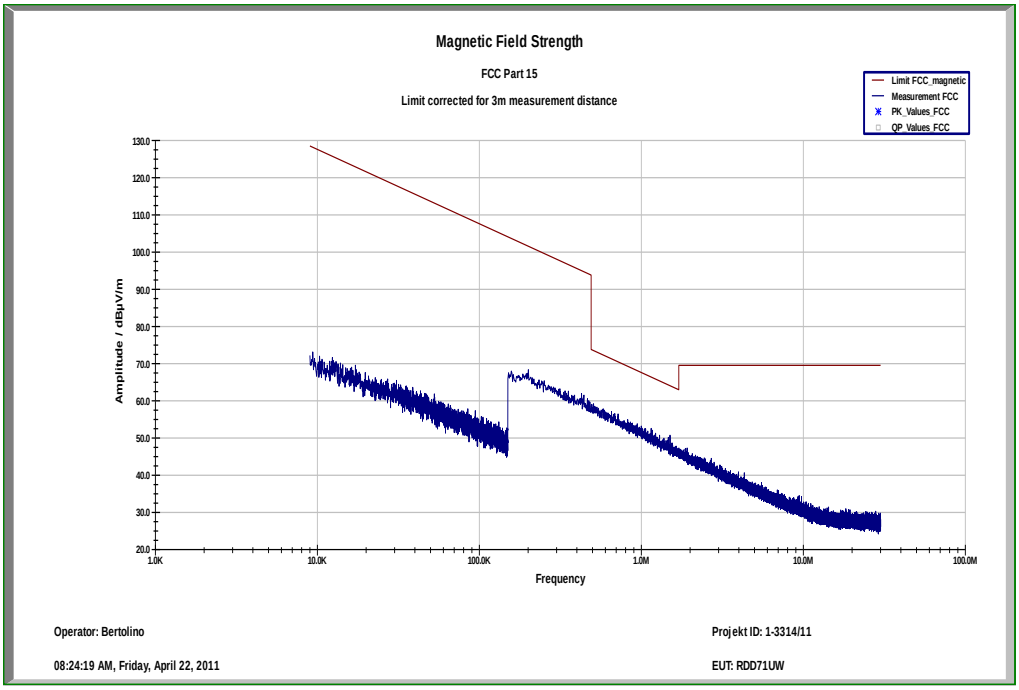
Plot 6: Highest channel, Pi/4 DQPSK modulation, 9 kHz to 30 MHz



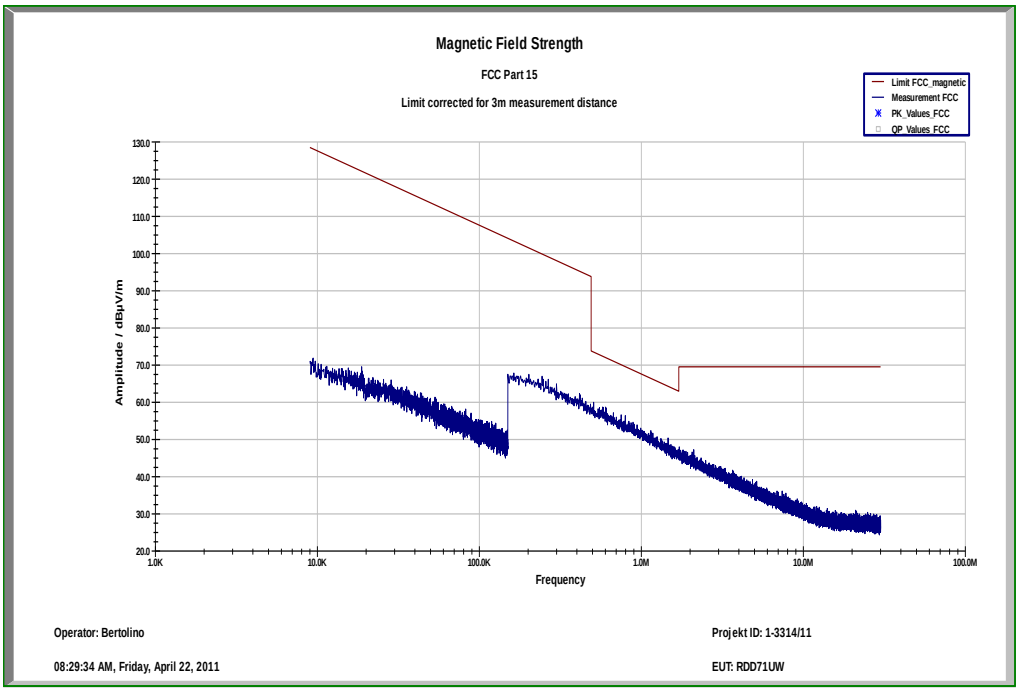
Plot 7: Lowest channel, 8 DPSK modulation, 9 kHz to 30 MHz



Plot 8: Middle channel, 8 DPSK modulation, 9 kHz to 30 MHz



Plot 9: Highest channel, 8 DPSK modulation, 9 kHz to 30 MHz



10 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Labor/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
2	n. a.	software	SPS_PHE 1.4f	Spitzberger & Spieß	B5981; 5D1081;B5979	300000210	ne		
3	n. a.	EMI Test Receiver	ESCI 1166.5950.03	R&S	100083	300003312	k	05.01.2011	05.01.2013
4	n. a.	Analyzer-Reference-System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	k	01.06.2009	01.06.2011
5	n. a.	Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379	ev		
6	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
7	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
8	n. a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
9	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	01.04.2010	01.04.2012
10	n. a.	Spectrum-Analyzer	FSU26	R&S	200809	300003874	k	10.01.2011	10.01.2013
11	n. a.	Isolating Transformer	RT5A	Grundig	8041	300001626	g		
12	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKI!	05.03.2009	05.09.2011
13	n. a.	Active Loop Antenna	6502	EMCO	2210	300001015	ne		
14	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996		23.03.2009	
15	n. a.	Relais Matrix	PSU	R&S	890167/024	300001168	ne		
16	n. a.	Isolating Transformer	RT5A	Grundig	9242	300001263	ne		
17	n. a.	Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997	ne		
18	n. a.	Switch / Control Unit	3488A	HP	2605e08770	300001443	ne		
19	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
20	n. a.	Band Reject filter	WRCG2400/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
21	n. a.	TILE-Software Emission	Quantum Change, Modell TILE-ICS/FULL	EMCO	none	300003451	ne		
22	n. a.	PSA Spectrum Analyzer 3 Hz - 26.5 GHz	E4440A	Agilent Technologies	MY48250080	300003812	k	08.09.2010	08.09.2012
23	n. a.	RF Filter Section 9kHz - 1GHz	N9039A	Agilent Technologies	MY48260003	300003825	vIKI!	08.09.2010	08.09.2012

24	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vlKl!	17.12.2008	17.12.2011
25	11b	Microwave System Amplifier, 0.5-26.5 GHz; 25 dB gain	83017A	HP Meßtechnik	00419	300002268	ev	10.03.2011	
26	A026	Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda		300000787	ne		
27	A029	Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda		300002442	ne		
28	n. a.	Spectrum analyser 20 Hz – 50 GHz	FSU50	R&S	200012	300003443	k	2010-07-01	2012-07-01
29	n. a.	CBT (Bluetooth Tester + EDR Signalling)	CBT 1153.9000K35, CBT-B55, CBT-K55	R&S	100313	300003516	vlKl!	13.09.2010	13.09.2012

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlkl!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

Annex A Document history

Version	Applied changes	Date of release
1.0	Initial release	2011-05-05

Annex B 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