



Accredited testing-laboratory

DAR registration number: DGA-PL-176/94-D1

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

Recognized by the Federal Communications Commission

Anechoic chamber registration no.: 90462 (FCC)

Anechoic chamber registration no.: 3462C-1 (IC)

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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

Test report no. : 1-2031-01-08/10
Type identification : RCV71UW
Applicant : Research In Motion Limited
FCC ID : L6ARCV70UW
IC Certification No : 2503A-RCV70UW
Test standards : 47 CFR Part 15
RSS - 210 Issue 7

Table of contents

| | | |
|----------|---|-----------|
| 1 | General information | 3 |
| 1.1 | Notes | 3 |
| 1.2 | Testing laboratory | 4 |
| 1.3 | Details of applicant | 4 |
| 1.4 | Application details | 4 |
| 2 | Test standard/s | 5 |
| 3 | Technical tests | 6 |
| 3.1 | Details of manufacturer | 6 |
| 3.1.1 | Test item | 6 |
| 3.1.2 | Additional EUT information for IC Canada (appendix 2) | 7 |
| 3.1.3 | RF Technical Brief Cover Sheet acc. To RSS-102 | 8 |
| 3.1.4 | EUT operating modes | 9 |
| 3.1.5 | Extreme conditions testing values | 9 |
| 4 | Summary of Measurement Results and list of all performed test cases | 10 |
| 5 | RF measurement testing | 11 |
| 5.1 | Description of test set-up | 11 |
| 5.1.1 | Radiated measurements | 11 |
| 5.1.2 | Conducted measurements | 11 |
| 5.2 | Referenced documents | 12 |
| 5.3 | Additional comments | 12 |
| 5.4 | Antenna gain | 12 |
| 5.5 | Carrier frequency separation §15.247(a)(1) | 13 |
| 5.6 | Number of hopping channels §15.247(a)(1) | 14 |
| 5.7 | Time of occupancy (dwell time) §15.247(a)(1)(iii) | 15 |
| 5.8 | Power Spectral density (Hybrid system in Inquiry mode/Page scan) §15.247(e) | 16 |
| 5.9 | Spectrum Bandwidth of a FHSS System / 20dB Bandwidth §15.247(a)(1) | 17 |
| 5.10 | Maximum output power (conducted) § 15.247 (b)(1) | 18 |
| 5.11 | Max. peak output power (radiated) § 15.247 (b)(1) | 19 |
| 5.12 | Band-edge compliance of conducted emissions §15.247 (d) | 20 |
| 5.13 | Band-edge compliance of radiated emissions §15.205 | 22 |
| 5.14 | Spurious Emissions - conducted (Transmitter) § 15.247 (c)(1) | 25 |
| 5.15 | Spurious Emissions > 30 MHz- radiated (Transmitter) § 15.247 (c)(1) | 28 |
| 5.16 | Spurious Emissions - radiated (Receiver) § 15.109 | 49 |
| 5.17 | Spurious Emissions < 30 MHz - Transmitter radiated § 15.209 | 51 |
| 5.18 | Conducted Emissions <30 MHz § 15.107/207 | 52 |
| 6 | Test equipment and ancillaries used for tests | 53 |

1 General information

1.1 Notes

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

Test laboratory manager:

2010-03-26

Stefan Bös


Signature

Date


Name

Signature

Technical responsibility for area of testing:

2010-03-26

Michael Berg


Signature

Date

Name

Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

e-mail: info@ICT.cetecom.de

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

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

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

Testing location, if different from CETECOM ICT Services GmbH:

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

1.3 Details of applicant

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

1.4 Application details

| | |
|--|-------------------|
| Date of receipt of order: | 2010-02-11 |
| Date of receipt of test item: | 2010-02-22 |
| Date of start test: | 2010-02-22 |
| Date of end test | 2010-03-24 |
| Persons(s) who have been present during the test: | -/- |

2 Test standard/s

| | | |
|--------------------------|----------------|---|
| 47 CFR Part 15 | 2009-10 | Title 47 of the Code of Federal Regulations; Chapter I- Federal Communications Commission subchapter A - general, Part 15-Radio frequency devices |
| RSS - 210 Issue 7 | 2007-06 | Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment |

3 Technical tests

3.1 Details of manufacturer

| | |
|----------|----------------------------|
| Name: | Research In Motion Limited |
| Street: | 305 Phillip Street |
| Town: | Waterloo, ON N2L 3W8 |
| Country: | Canada |

3.1.1 Test item

| | | |
|----------------------|---|--|
| Kind of test item | : | Mobile Phone |
| Type identification | : | RCV71UW |
| S/N serial number | : | Rad. FCC Sample 58 Stratus 125 RCV71UW CER-27174-001-Rev2 |
| HW hardware status | : | - |
| SW software status | : | - |
| Frequency Band [MHz] | : | ISM 2.400 - 2.483,5 |
| Type of Modulation | : | FHSS |
| Number of channels | : | 79 |
| Antenna | : | Integrated antenna |
| Power Supply | : | 3.7 V DC supplied by Li-Ion-Battery |

Max. power radiated: 13.47 dBm
Max. power conducted: Not performed

FCC ID: L6ARCV70UW
IC: 2503A-RCV70UW

3.1.2 Additional EUT information for IC Canada (appendix 2)

| | |
|---|--|
| IC Registration Number: | 2503A-RCV70UW |
| Model Name: | RCV71UW |
| Manufacturer (complete Address): | Research In Motion Limited 305 Phillip Street Waterloo, ON N2L 3W8 Canada |
| Tested to Radio Standards Specification (RSS) No.: | RSS-210 Issue 7 |
| Open Area Test Site Industry Canada Number: | IC 3462C-1 |
| Frequency Range (or fixed frequency) [MHz]: | 2400 – 2483.5 MHz |
| RF: Power [W] (max): | Rad. EIRP: 22.2 mW Conducted : not performed |
| Antenna Type: | Integrated antenna |
| Occupied Bandwidth (99% BW) [kHz]: | not performed |
| Type of Modulation: | GFSK, Pi/4 DQPSK, 8 DPSK |
| Emission Designator (TRC-43): | not performed |
| Transmitter Spurious (worst case) [μ V/m in 3m]: | 384.6 |
| Receiver Spurious (worst case) [μ V/m in 3m]: | not performed |

ATTESTATION:

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

Signature:



Test engineer: Stefan Bös

Date: 2010-03-26

3.1.3 RF Technical Brief Cover Sheet acc. To RSS-102

All Fields must be completed with the requested information or the following codes: N/A for Not Applicable, N/P for Not Performed or N/V for Not Available. Where applicable, check appropriate box.

1. COMPANY NUMBER: **2503A**
2. MODEL NUMBER: **RCV71UW**
3. MANUFACTURER: **Research In Motion Limited**
4. TYPE OF EVALUATION: **N.A.**

(c) RF Evaluation

- Evaluated against exposure limits: General Public Use Controlled Use
- Duty cycle used in evaluation: %
- Standard used for evaluation: RSS-102 Issue 2 (2005-11)
- Measurement distance: 0.20 m
- RF value: _____ * V/m A/m W/m²

Measured Computed Calculated

Declaration of RF Exposure Compliance

ATTESTATION:

I attest that the information provided in this test report are correct; that a Technical Brief was prepared and the information it contains is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed and that the device meets the SAR and/or RF exposure limits of RSS-102.



Name: Stefan Bös
Company: Cetecom ICT Services GmbH

3.1.4 EUT operating modes

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

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

3.1.5 Extreme conditions testing values

| Description | Shortcut | Unit | Value |
|----------------------|------------------|------|--------------|
| Nominal Temperature | T _{nom} | °C | 23 |
| Nominal Humidity | H _{nom} | % | 53 |
| Nominal Power Source | V _{nom} | V | 3.7 V |

Type of power source: **DC supplied by Li-Ion-Battery**

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

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

| TC identifier | Description | verdict | date | Remark |
|---------------|--------------------------------------|---------|------------|--------|
| RF-Testing | FCC Part 15 §15.247 - CANADA RSS-210 | Pass | 2010-03-26 | -/- |

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

5 RF measurement testing

5.1 Description of test set-up

5.1.1 Radiated measurements

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

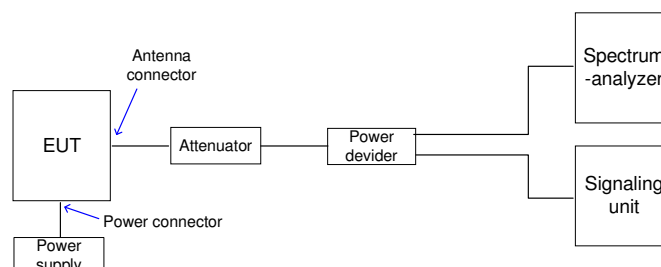
- 9 kHz - 150 kHz: Quasi Peak measurement, 200 Hz Bandwidth, active loop antenna.
- 150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, active loop antenna.
- 30 MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, Trilog antenna
- >1GHz: Average, RBW 1MHz, VBW 10 Hz, waveguide horn

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

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

5.1.2 Conducted measurements

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



5.2 Referenced documents

None

5.3 Additional comments

None

5.4 Antenna gain

Not performed

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

| | low channel | mid channel | high channel |
|--|-------------|-------------|--------------|
| | 2402 MHz | 2441 MHz | 2480 MHz |
| Conducted power [dBm] Measured, GFSK modulation | | | |
| Radiated power [dBm] Measured, GFSK modulation | | | |
| Gain [dBi] Calculated | | | |

5.5 Carrier frequency separation §15.247(a)(1)

Not performed

Modulation: GFSK

Plot 1 of 1:

Result: Channel separation is: ~ 1 MHz

Limits:

| | |
|-----------------------------------|---|
| Under normal test conditions only | Minimum 25 kHz or 20 dB Bandwidth of the hopping system |
|-----------------------------------|---|

5.6 Number of hopping channels §15.247(a)(1)

Not performed

Modulation: GFSK

Plot 1 of 2:

Plot 2 of 2:

Result: The number of hopping channels is: 79

Limits:

| | |
|-----------------------------------|--------------------------------------|
| Under normal test conditions only | at least 15 non-overlapping channels |
|-----------------------------------|--------------------------------------|

5.7 Time of occupancy (dwell time) §15.247(a)(1)(iii)

For Bluetooth devices:

The dwell time of 0.4 s within a 31.6 second period in data mode is independent from the packet type (packet length). The calculation for a 31.6 second period is as follows:

Dwell time = time slot length * hop rate / number of hopping channels * 31.6 s

Example for a DH1 packet (with a maximum length of one time slot)

Dwell time = $625 \mu\text{s} * 1600 \text{ 1/s} / 79 * 31.6 \text{ s} = 0.4 \text{ s}$ (in a 31.6 s period)

For multi-slot packet the hopping is reduced according to the length of the packet.

Example for a DH5 packet (with a maximum length of five time slots)

Dwell time = $5 * 625 \mu\text{s} * 1600 * 1/5 * 1/s / 79 * 31.6 \text{ s} = 0.4 \text{ s}$ (in a 31.6 s period)

This is according to the Bluetooth Core Specification V 1.1 & V 1.2 & V2.0 (+ critical errata) for all Bluetooth devices.

Therefore, all Bluetooth devices comply with the FCC dwell time requirement in the data mode.

This was checked during the Bluetooth Qualification tests.

The Dwell time in hybrid mode is approximately 2.6 ms (in a 12.8s period)

5.8 Power Spectral density (Hybrid system in Inquiry mode/Page scan) §15.247(e)

Not performed

Plot 1 of 1:

Not applicable

Result: Power density: - dBm/Hz = - dBm / 3 kHz
Correction factor from dBm/Hz to dBm / 3 kHz is +34,8 dB

Limits:

| | |
|-----------------------------------|---|
| Under normal test conditions only | For digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission |
|-----------------------------------|---|

5.9 Spectrum Bandwidth of a FHSS System / 20dB Bandwidth §15.247(a)(1)

Not performed

Result:

| Modulation Frequency [MHz] | 20 dB BANDWIDTH [kHz] | | |
|-------------------------------|-----------------------|------|------|
| | 2402 | 2441 | 2480 |
| <i>GFSK</i> | | | |
| <i>Pi/4 DQPSK</i> | | | |
| <i>8DPSK</i> | | | |
| Measurement uncertainty | ±1kHz | | |

RBW / VBW as provided in the „Measurement Guidelines“ (DA 00-705, March 30, 2000)

RBW: 10 kHz / VBW 10 kHz

Limits:

| | |
|-----------------------------------|--|
| Under normal test conditions only | <p>GFSK < 1000 kHz</p> <p>Pi/4 DQPSK < 1500</p> <p>8DPSK < 1500</p> |
|-----------------------------------|--|

5.10 Maximum output power (conducted) § 15.247 (b)(1)

Not performed

Results:

| Modulation Frequency [MHz] | Max. peak output power [dBm] | | |
|-------------------------------|------------------------------|------|------|
| | 2402 | 2441 | 2480 |
| <i>GFSK</i> | | | |
| <i>Pi/4 DQPSK</i> | | | |
| <i>8DPSK</i> | | | |
| Measurement uncertainty | ±2dB | | |

RBW / VBW: 3 MHz

Limits:

| | |
|--|---------------|
| Under normal test conditions only, for frequency range 2400-2483.5 MHz | Max. 1.0 Watt |
|--|---------------|

5.11 Max. peak output power (radiated) § 15.247 (b)(1)

Modulation: GFSK

Results:

| Test conditions | | Max. peak output power EIRP [dBm] | | |
|-------------------------|------------------|-----------------------------------|-----------------------|-----------------------|
| Frequency [MHz] | | 2402 | 2442 | 2480 |
| T _{nom} | V _{nom} | 11.35 (h) 7.95 (v) | 11.92 (h) 9.21 (v) | 13.47 (h) 9.94 (v) |
| Measurement uncertainty | | ±3dB | | |

RBW / VBW: 3 MHz

Measured at a distance of 3m

Modulation: Pi/4-DQPSK

Results:

| Test conditions | | Max. peak output power EIRP [dBm] | | |
|-------------------------|------------------|-----------------------------------|-----------------------|-----------------------|
| Frequency [MHz] | | 2402 | 2442 | 2480 |
| T _{nom} | V _{nom} | 11.19 (h) 7.76 (v) | 11.69 (h) 8.97 (v) | 13.36 (h) 9.56 (v) |
| Measurement uncertainty | | ±3dB | | |

RBW / VBW: 3 MHz

Measured at a distance of 3m

Modulation: 8DPSK

Results:

| Test conditions | | Max. peak output power EIRP [dBm] | | |
|-------------------------|------------------|-----------------------------------|-----------------------|------------------------|
| Frequency [MHz] | | 2402 | 2442 | 2480 |
| T _{nom} | V _{nom} | 11.71 (h) 8.06 (v) | 12.40 (h) 9.25 (v) | 13.41 (h) 10.18 (v) |
| Measurement uncertainty | | ±3dB | | |

RBW / VBW: 3 MHz

Measured at a distance of 3m

Limits:

| | |
|--|---------------|
| Under normal test conditions only, for frequency range 2400-2483.5 MHz | Max. 1.0 Watt |
|--|---------------|

5.12 Band-edge compliance of conducted emissions §15.247 (d)

Not performed

Modulation: GFSK

Plot 1 of 4 (hopping off, lowest frequency):

Plot 2 of 4 (hopping on, lowest frequency):

Plot 3 of 4 (hopping off, highest frequency):

Plot 4 of 4 (hopping on, highest frequency):

Results:

| SZENARIO | DELTA VALUE [DB] |
|--------------------------------|------------------|
| hopping off, lowest frequency | > 20 dB |
| hopping on, lowest frequency | > 20 dB |
| hopping off, highest frequency | > 20 dB |
| hopping on, highest frequency | > 20 dB |
| Measurement uncertainty | ±1,5dB |

Modulation: Pi/4 DQPSK

Plot 1 of 4 (hopping off, lowest frequency):

Plot 2 of 4 (hopping on, lowest frequency):

Plot 3 of 4 (hopping off, highest frequency):

Plot 4 of 4 (hopping on, highest frequency):

Results:

| SZENARIO | DELTA VALUE [DB] |
|--------------------------------|------------------|
| hopping off, lowest frequency | > 20 dB |
| hopping on, lowest frequency | > 20 dB |
| hopping off, highest frequency | > 20 dB |
| hopping on, highest frequency | > 20 dB |
| Measurement uncertainty | ±1,5dB |

CETECOM ICT Services GmbH

Test report no.: 1-2031-01-08/10

Modulation: 8 DPSK

Plot 1 of 4 (hopping off, lowest frequency):

Plot 2 of 4 (hopping on, lowest frequency):

Plot 3 of 4 (hopping off, highest frequency):

Plot 4 of 4 (hopping on, highest frequency):

Results:

| SZENARIO | DELTA VALUE [DB] |
|--------------------------------|------------------|
| hopping off, lowest frequency | > 20 dB |
| hopping on, lowest frequency | > 20 dB |
| hopping off, highest frequency | > 20 dB |
| hopping on, highest frequency | > 20 dB |
| Measurement uncertainty | ±1,5dB |

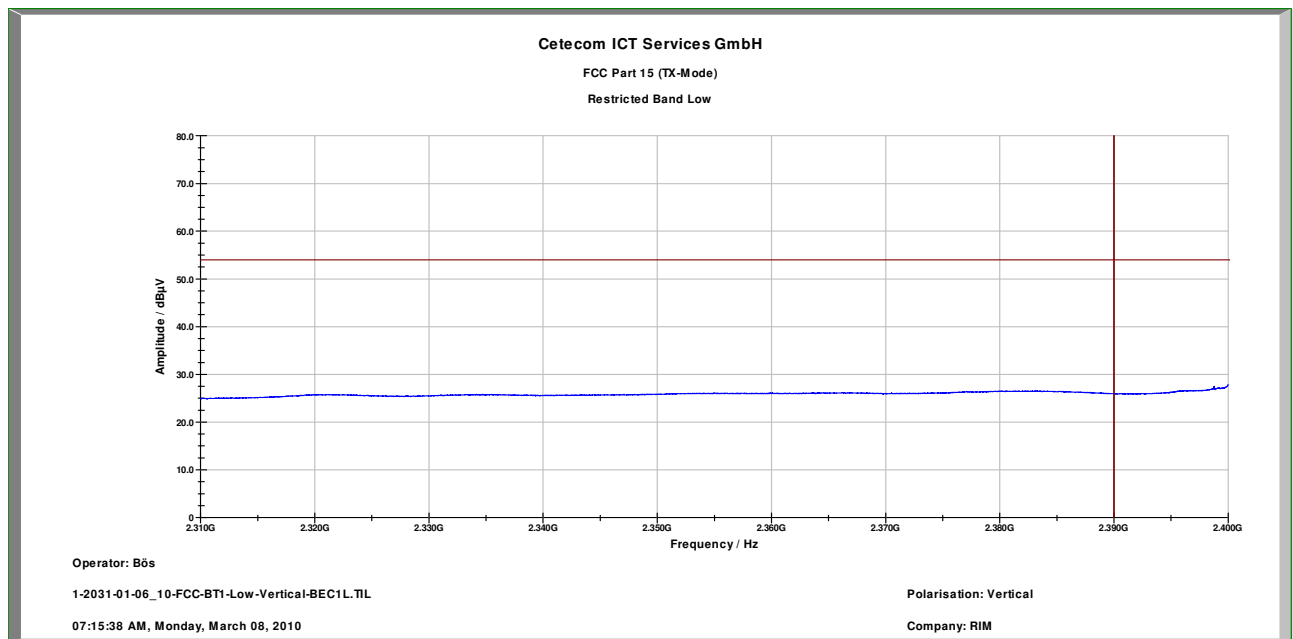
Limits:

| | |
|-----------------------------------|--|
| Under normal test conditions only | 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)). |
|-----------------------------------|--|

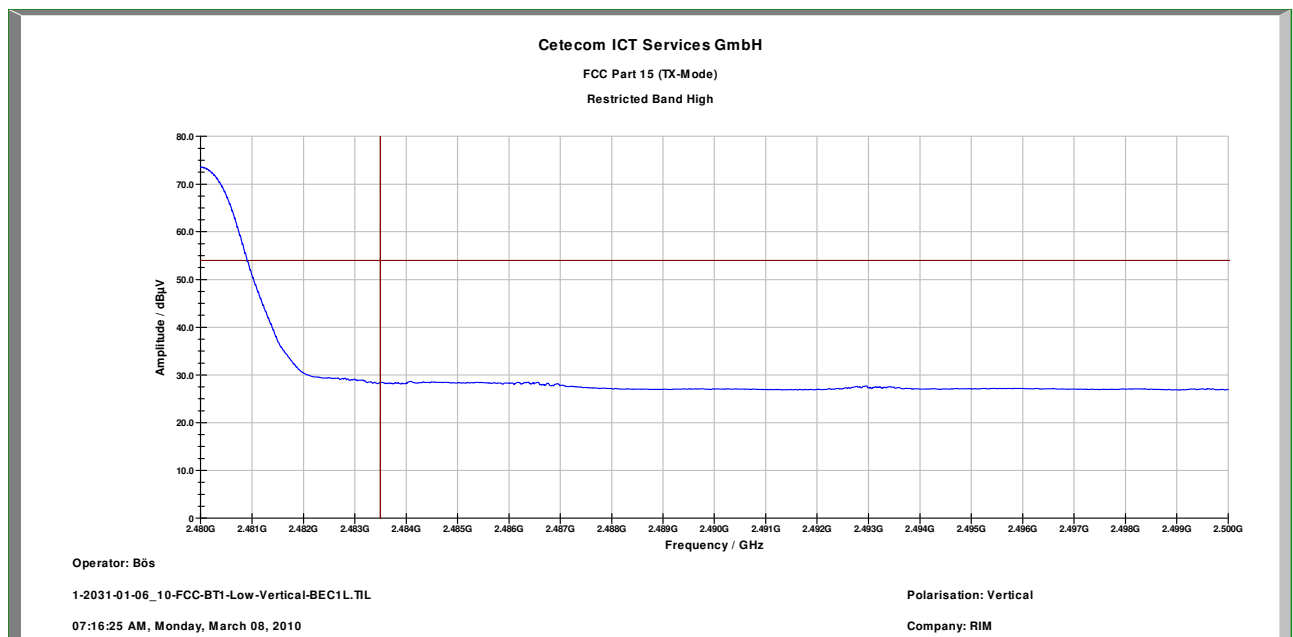
5.13 Band-edge compliance of radiated emissions §15.205

Modulation: GFSK

Plot 1: Band Edge Low (worst case for both polarizations)

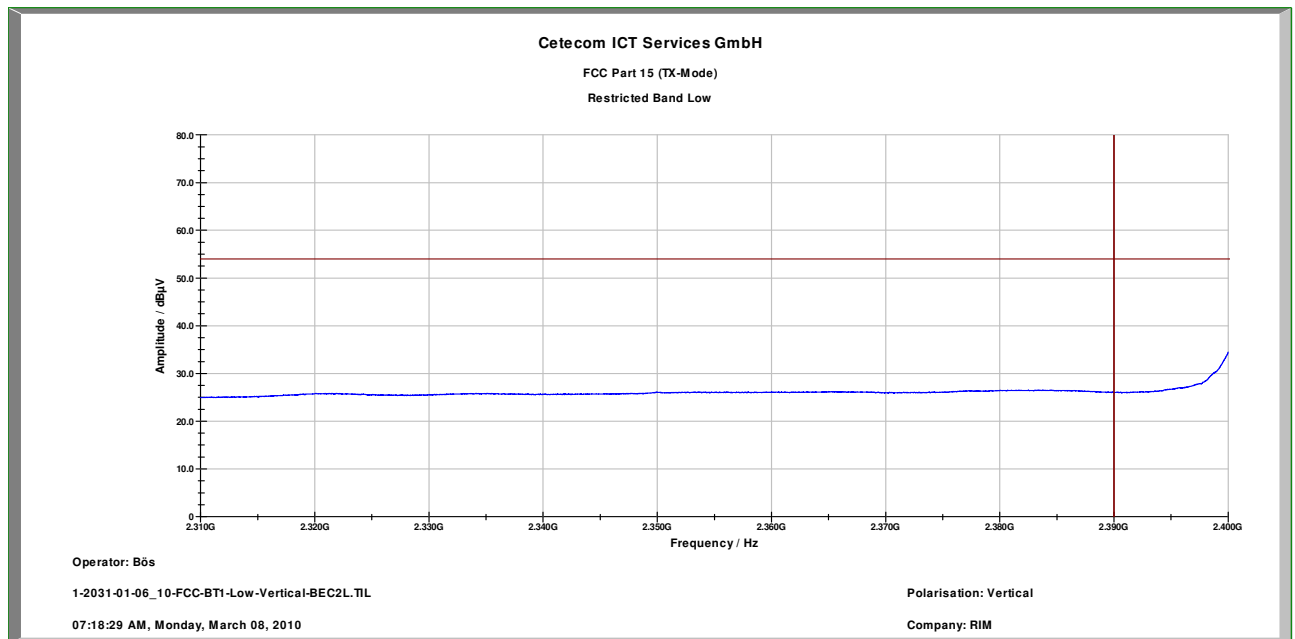


Plot 2: Band Edge High (worst case for both polarizations)

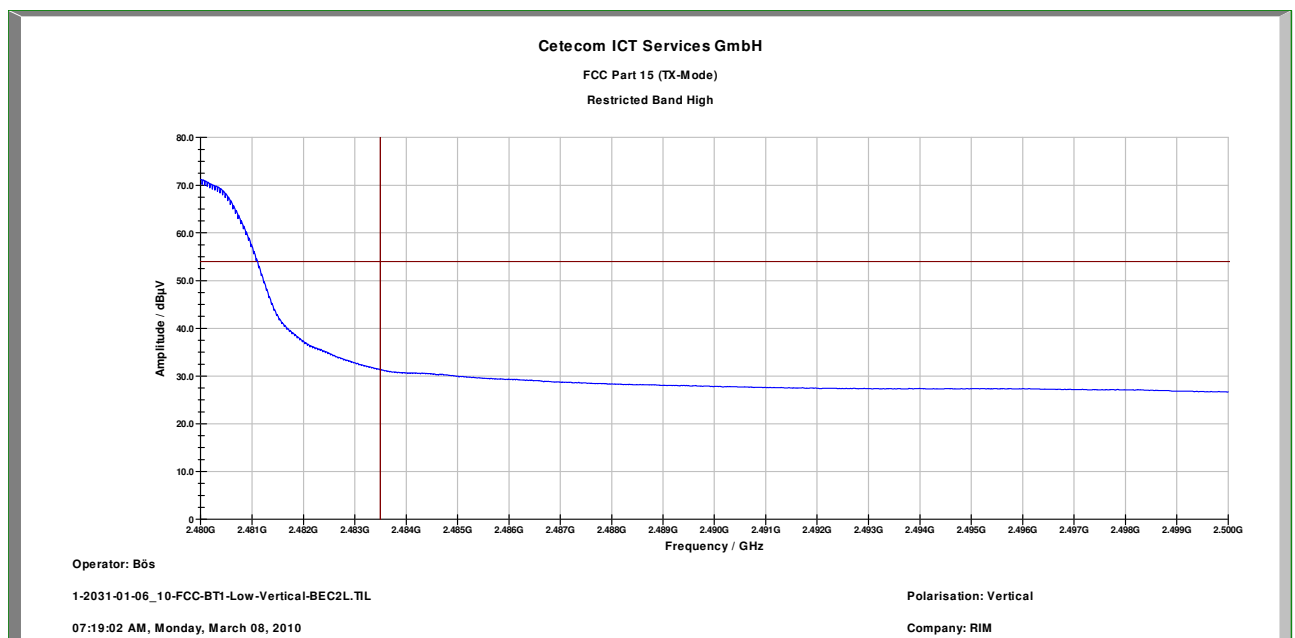


Modulation: Pi/4-DQPSK

Plot 3: Band Edge Low (worst case for both polarizations)

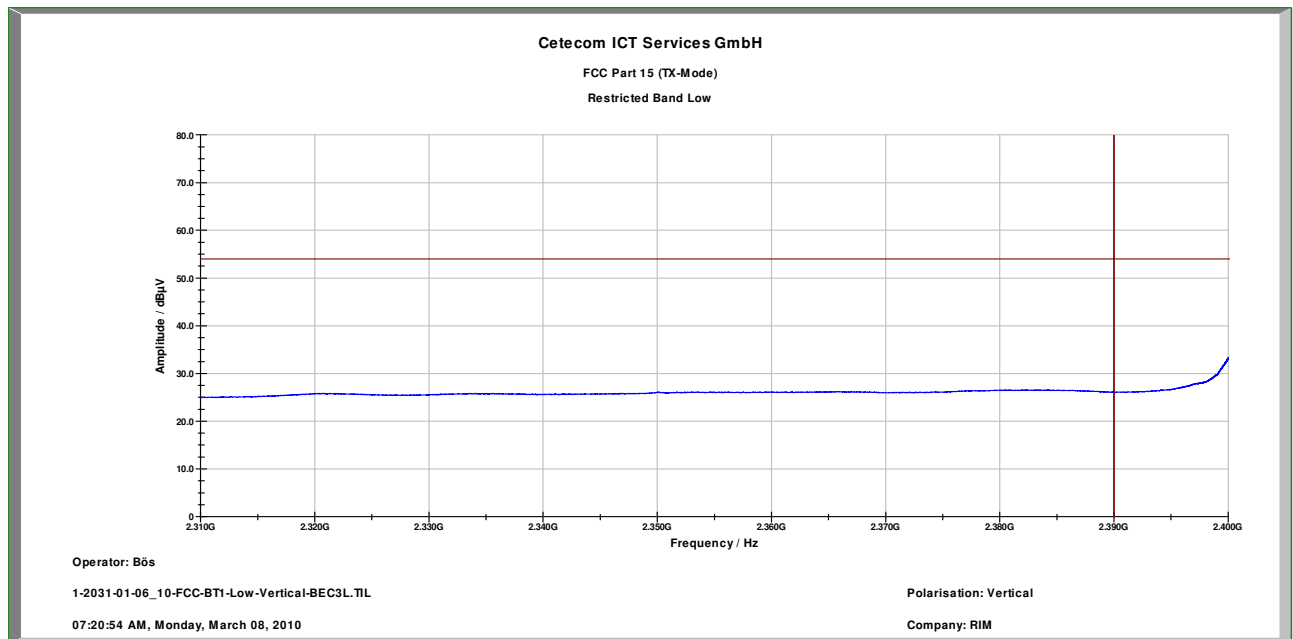


Plot 4: Band Edge High (worst case for both polarizations)

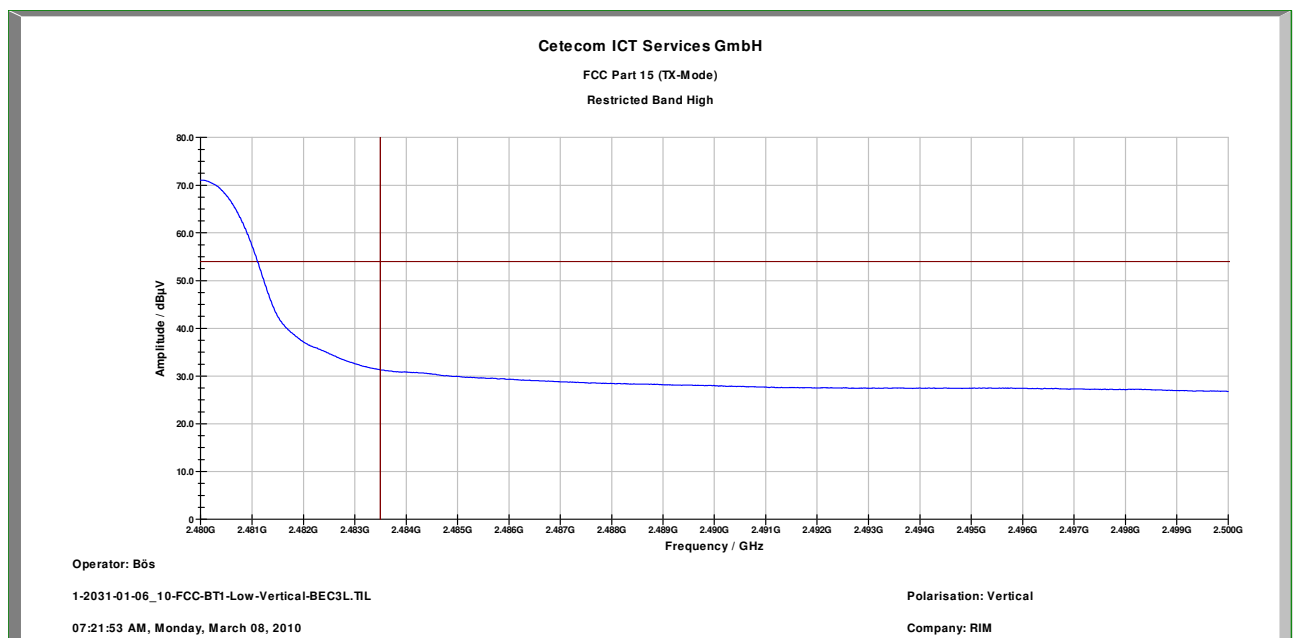


Modulation: 8-DPSK

Plot 5: Band Edge Low (worst case for both polarizations)



Plot 6: Band Edge High (worst case for both polarizations)



5.14 Spurious Emissions - conducted (Transmitter) § 15.247 (c)(1)

Not performed

Modulation: GFSK

Plot 1 of 3: lowest channel

Plot 2 of 3: middle channel

Plot 3 of 3: highest channel

Result & Limits:

| Emission Limitation | | | | | |
|-------------------------|--|-----------------------------|-----------------------------------|--|---------------------|
| f [MHz] | | amplitude of emission [dBm] | limit max. allowed emission power | actual attenuation below frequency of operation [dB] | results |
| 2402 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| 2441 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| 2480 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| Measurement uncertainty | | ± 3dB | | | |

F < 1 GHz: RBW: 100 kHz VBW: 100 kHz
 F > 1 GHz: RBW: 1 MHz VBW: 1 MHz

CETECOM ICT Services GmbH

Test report no.: 1-2031-01-08/10

Modulation: Pi/4 DQPSK

Plot 1 of 3: lowest channel

Plot 2 of 3: middle channel

Plot 3 of 3: highest channel

Result & Limits:

| Emission Limitation | | | | | |
|-------------------------|--|-----------------------------|-----------------------------------|--|---------------------|
| f [MHz] | | amplitude of emission [dBm] | limit max. allowed emission power | actual attenuation below frequency of operation [dB] | results |
| 2402 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| 2441 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| 2480 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| Measurement uncertainty | | | ± 3dB | | |

F < 1 GHz: RBW: 100 kHz VBW: 100 kHz
 F > 1 GHz: RBW: 1 MHz VBW: 1 MHz

Modulation: 8 DPSK

Plot 1 of 3: lowest channel

Plot 2 of 3: middle channel

Plot 3 of 3: highest channel

Result & Limits:

| Emission Limitation | | | | | |
|-------------------------|--|-----------------------------|-----------------------------------|--|---------------------|
| f [MHz] | | amplitude of emission [dBm] | limit max. allowed emission power | actual attenuation below frequency of operation [dB] | results |
| 2402 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| 2441 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| 2480 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | complies |
| | | | | | |
| Measurement uncertainty | | | ± 3dB | | |

F < 1 GHz: RBW: 100 kHz VBW: 100 kHz
 F > 1 GHz: RBW: 1 MHz VBW: 1 MHz

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

Note: For emissions that fall into restricted bands you find the radiated emissions later in the report.

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

Modulation: GFSK

Plot 1: 0.03 - 1 GHz (lowest channel)

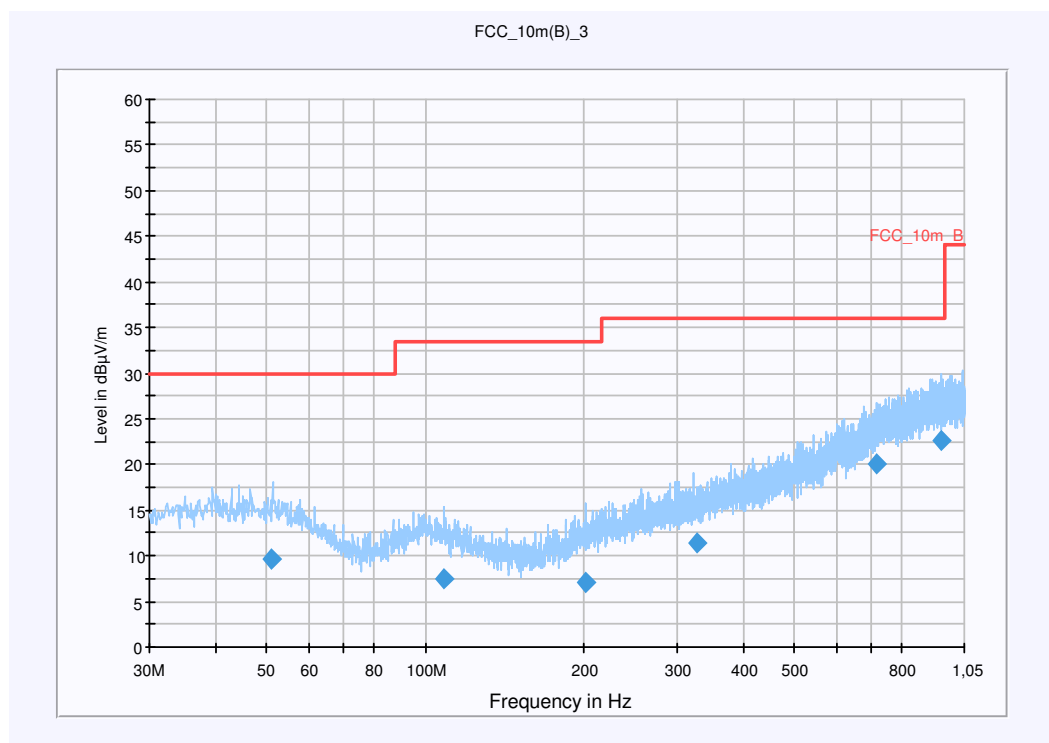
Common Information

| | |
|-----------------------|----------------------|
| EUT: | RIM RCV71UW |
| Serial Number: | IMEI:004401135855050 |
| Test Description: | FCC Part 15C @ 10 m |
| Operating Conditions: | BT TX CH 0 (GFSK) |
| Operator Name: | Kraus |
| Comment: | Powered with Battery |

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 50.909700 | 9.7 | 15000.000 | 120.000 | 98.0 | H | 236.0 | 13.3 | 20.3 | 30.0 | |
| 108.582000 | 7.4 | 15000.000 | 120.000 | 214.0 | H | 128.0 | 11.1 | 26.1 | 33.5 | |
| 201.476550 | 7.1 | 15000.000 | 120.000 | 98.0 | H | 221.0 | 11.7 | 26.4 | 33.5 | |
| 325.837650 | 11.4 | 15000.000 | 120.000 | 210.0 | H | 53.0 | 15.3 | 24.6 | 36.0 | |
| 717.542100 | 20.1 | 15000.000 | 120.000 | 220.0 | H | 141.0 | 22.8 | 15.9 | 36.0 | |
| 947.017350 | 22.6 | 15000.000 | 120.000 | 220.0 | H | 306.0 | 25.3 | 13.4 | 36.0 | |

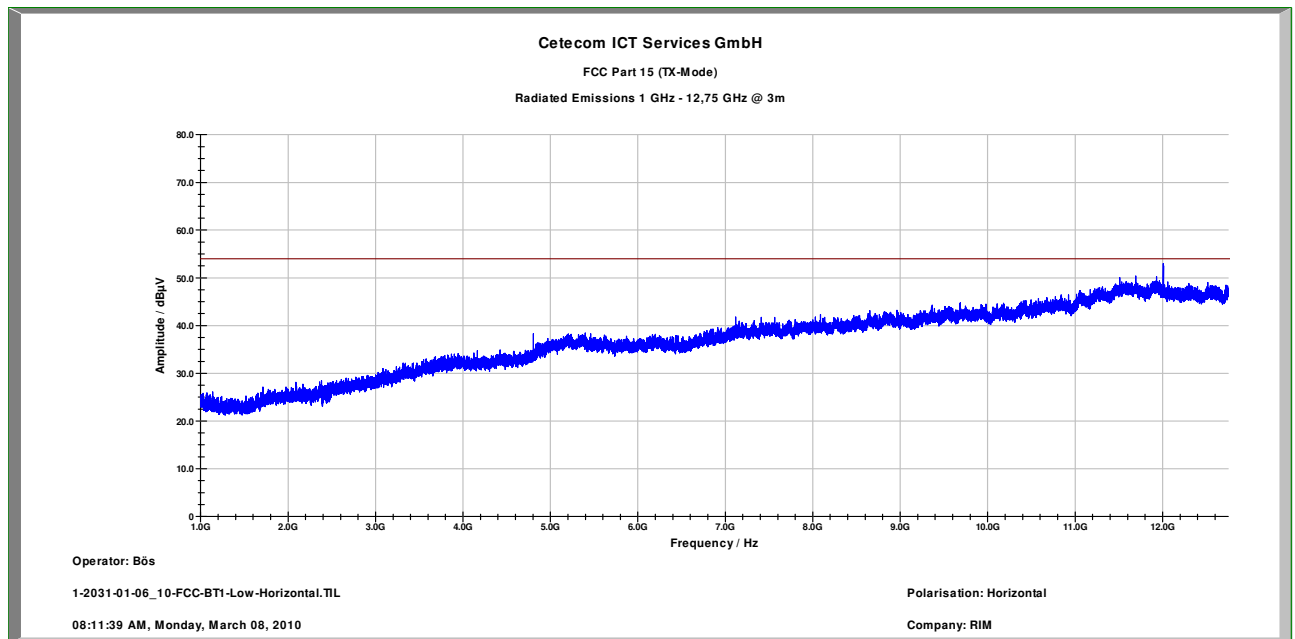
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

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 |

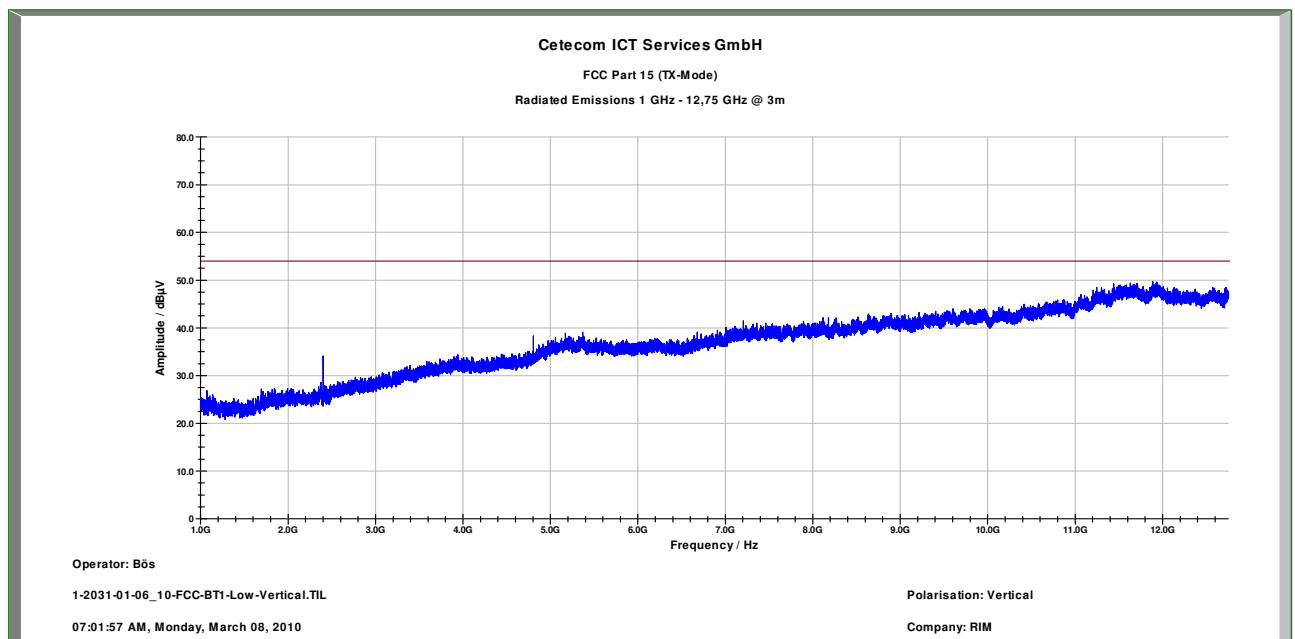
EMC 32 Version 8.10.00

Plot 2: 1 – 12.75 GHz horizontal (lowest channel)



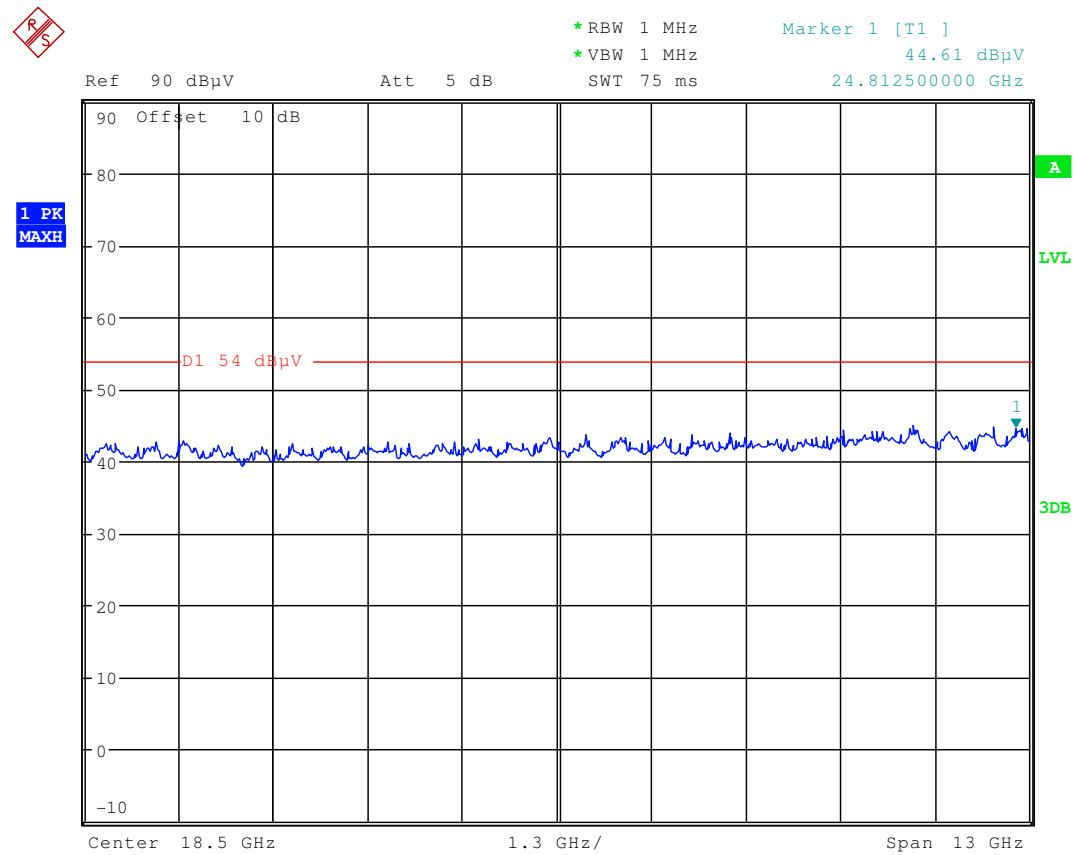
Carrier suppressed with a rejection filter

Plot 3: 1 – 12.75 GHz vertical (lowest channel)



Carrier suppressed with a rejection filter

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



Plot 5: 0.03 - 1 GHz (middle channel)

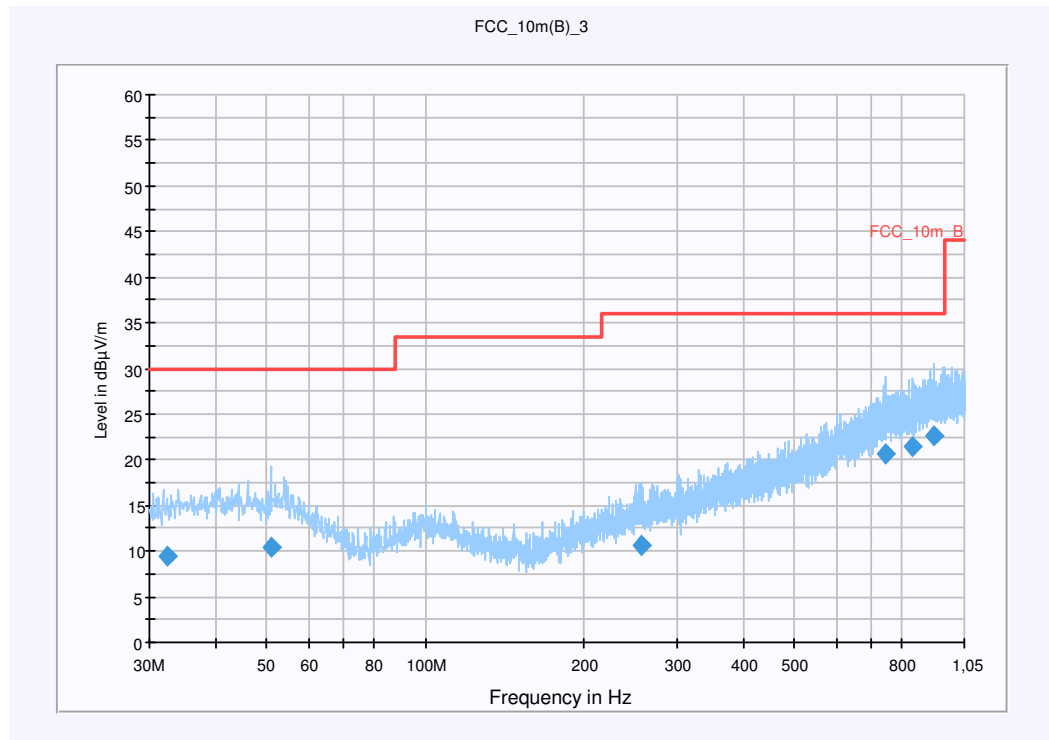
Common Information

| | |
|-----------------------|----------------------|
| EUT: | RIM RCV71UW |
| Serial Number: | IMEI:004401135855050 |
| Test Description: | FCC Part 15C @ 10 m |
| Operating Conditions: | BT TX CH 39 (GFSK) |
| Operator Name: | Kraus |
| Comment: | Powered with Battery |

Scan Setup: STAN_Fin [EMI radiated]

| | |
|-----------------|----------------------|
| Hardware Setup: | Electric Field (NOS) |
| Level Unit: | dB μ 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 μ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB μ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 32.485500 | 9.4 | 15000.000 | 120.000 | 198.0 | V | 38.0 | 12.8 | 20.6 | 30.0 | |
| 51.173550 | 10.5 | 15000.000 | 120.000 | 220.0 | V | 74.0 | 13.3 | 19.5 | 30.0 | |
| 255.717900 | 10.7 | 15000.000 | 120.000 | 98.0 | V | 9.0 | 13.4 | 25.3 | 36.0 | |
| 742.961700 | 20.7 | 15000.000 | 120.000 | 220.0 | V | 27.0 | 23.4 | 15.3 | 36.0 | |
| 839.933550 | 21.5 | 15000.000 | 120.000 | 139.0 | H | 221.0 | 24.4 | 14.5 | 36.0 | |
| 921.093900 | 22.5 | 15000.000 | 120.000 | 220.0 | H | 261.0 | 25.3 | 13.5 | 36.0 | |

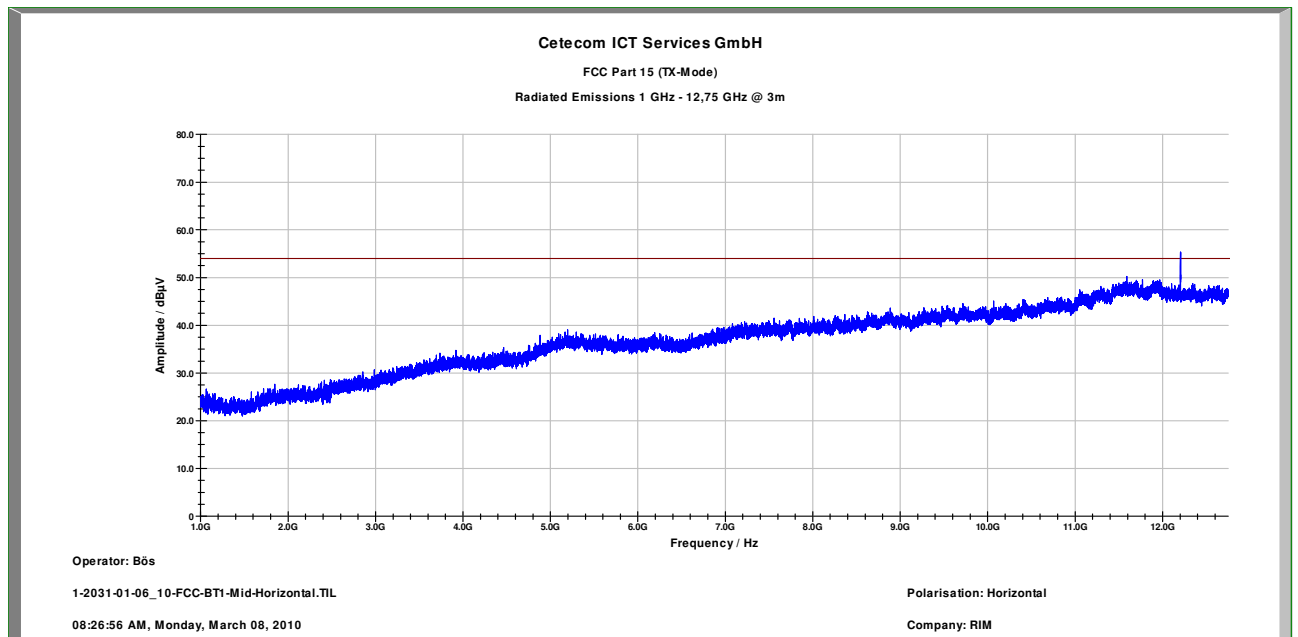
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

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 |

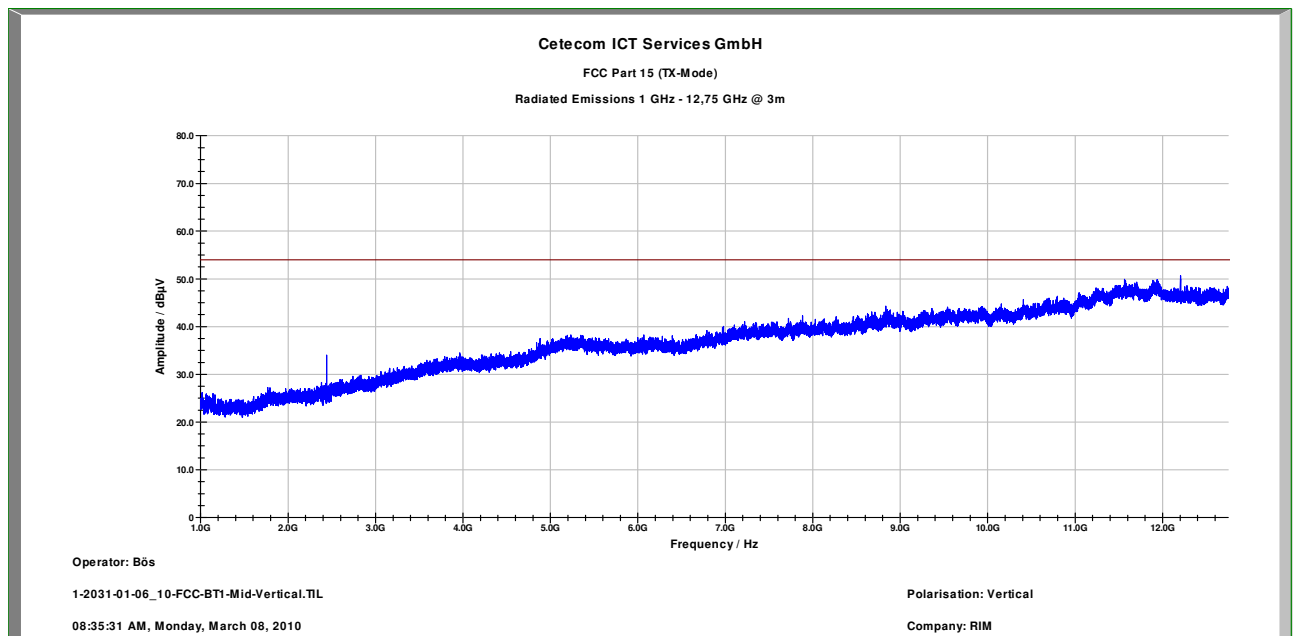
EMC 32 Version 8.10.00

Plot 6: 1 – 12.75 GHz horizontal (middle channel)



Carrier suppressed with a rejection filter

Plot 7: 1 – 12.75 GHz vertical (middle channel)



Carrier suppressed with a rejection filter

Plot 8: 0.03 - 1 GHz (highest channel)

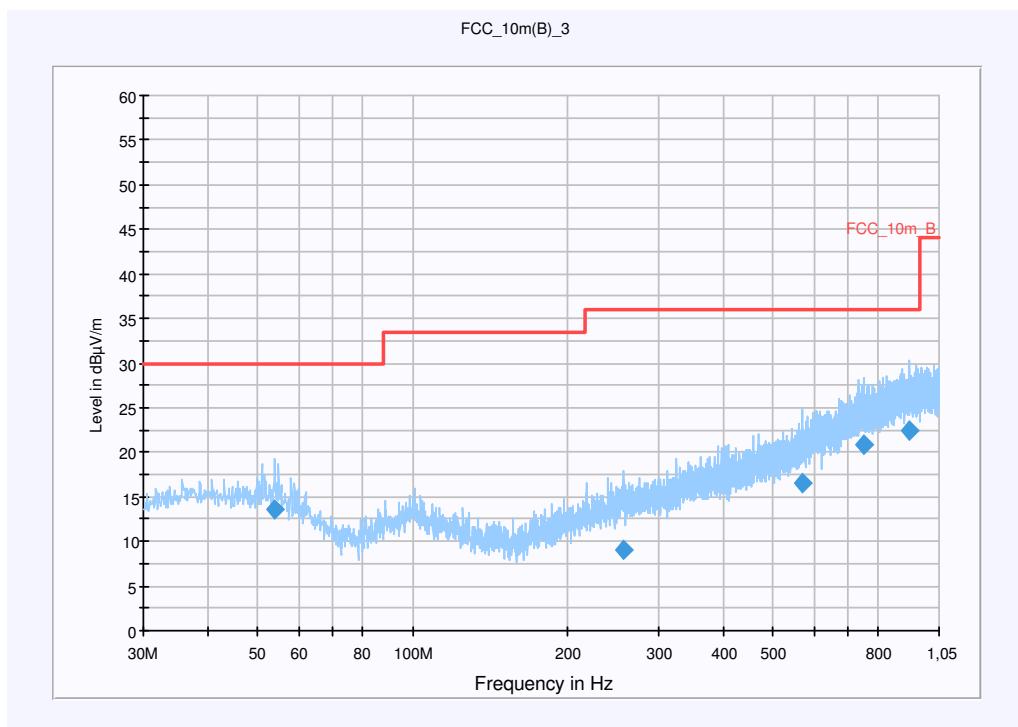
Common Information

| | |
|-----------------------|----------------------|
| EUT: | RIM RCV71UW |
| Serial Number: | IMEI:004401135855050 |
| Test Description: | FCC Part 15C @ 10 m |
| Operating Conditions: | BT TX CH 78 (GFSK) |
| Operator Name: | Kraus |
| Comment: | Powered with Battery |

Scan Setup: STAN_Fin [EMI radiated]

| | |
|-----------------|----------------------|
| Hardware Setup: | Electric Field (NOS) |
| Level Unit: | dB μ 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 μ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB μ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 54.013800 | 13.6 | 15000.000 | 120.000 | 200.0 | V | 88.0 | 13.0 | 16.4 | 30.0 | |
| 255.606600 | 9.1 | 15000.000 | 120.000 | 220.0 | H | 119.0 | 13.4 | 26.9 | 36.0 | |
| 571.677450 | 16.6 | 15000.000 | 120.000 | 214.0 | V | 58.0 | 20.0 | 19.4 | 36.0 | |
| 751.396500 | 20.8 | 15000.000 | 120.000 | 113.0 | H | 283.0 | 23.6 | 15.2 | 36.0 | |
| 916.810800 | 22.5 | 15000.000 | 120.000 | 220.0 | H | 158.0 | 25.3 | 13.5 | 36.0 | |

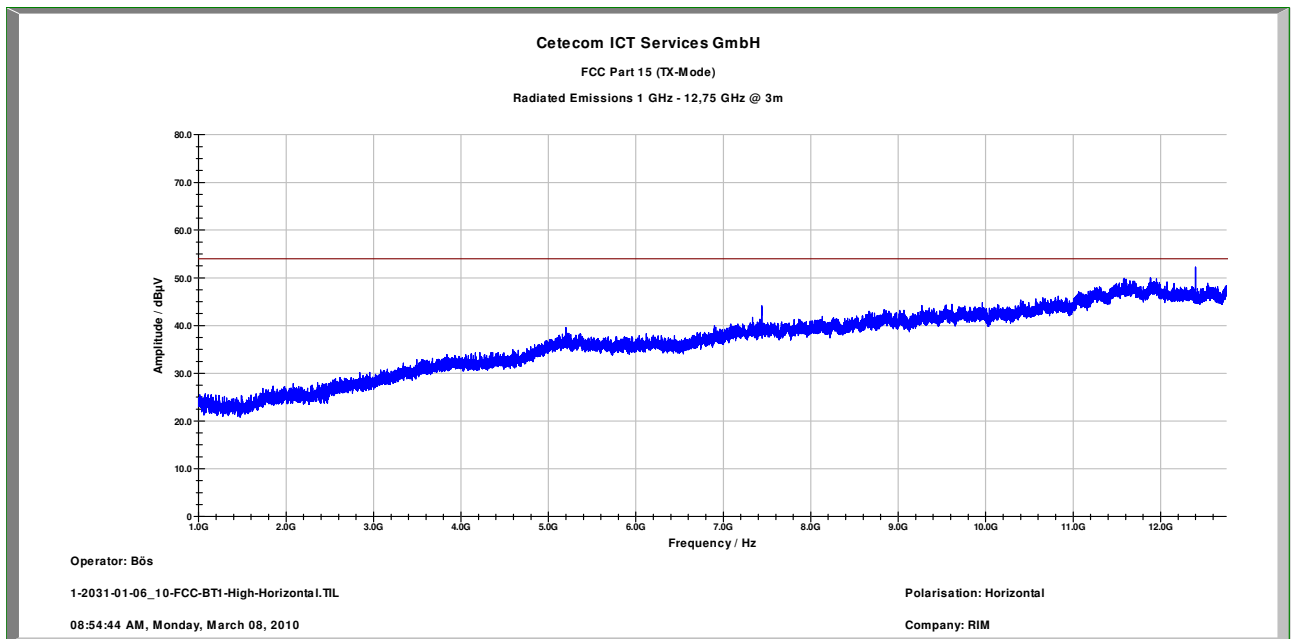
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

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 |

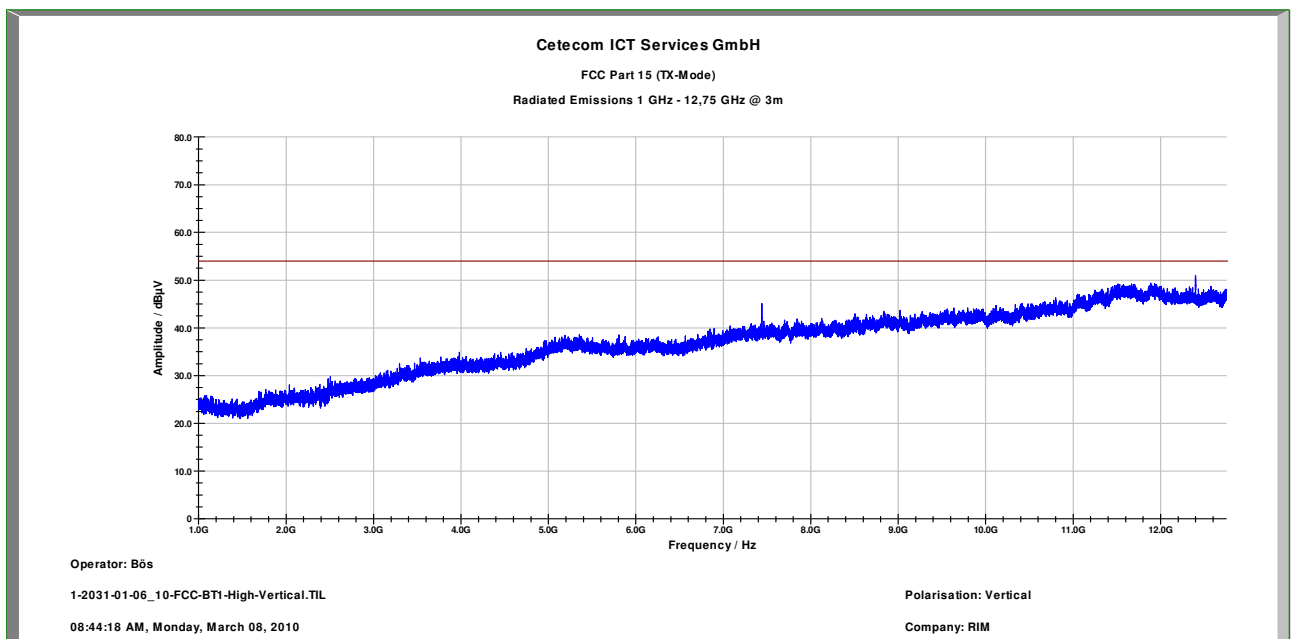
EMC 32 Version 8.10.00

Plot 9: 1 – 12.75 GHz horizontal (highest channel)



Carrier suppressed with a rejection filter

Plot 10: 1 – 12.75 GHz vertical (highest channel)



Carrier suppressed with a rejection filter

Modulation: 8-DPSK

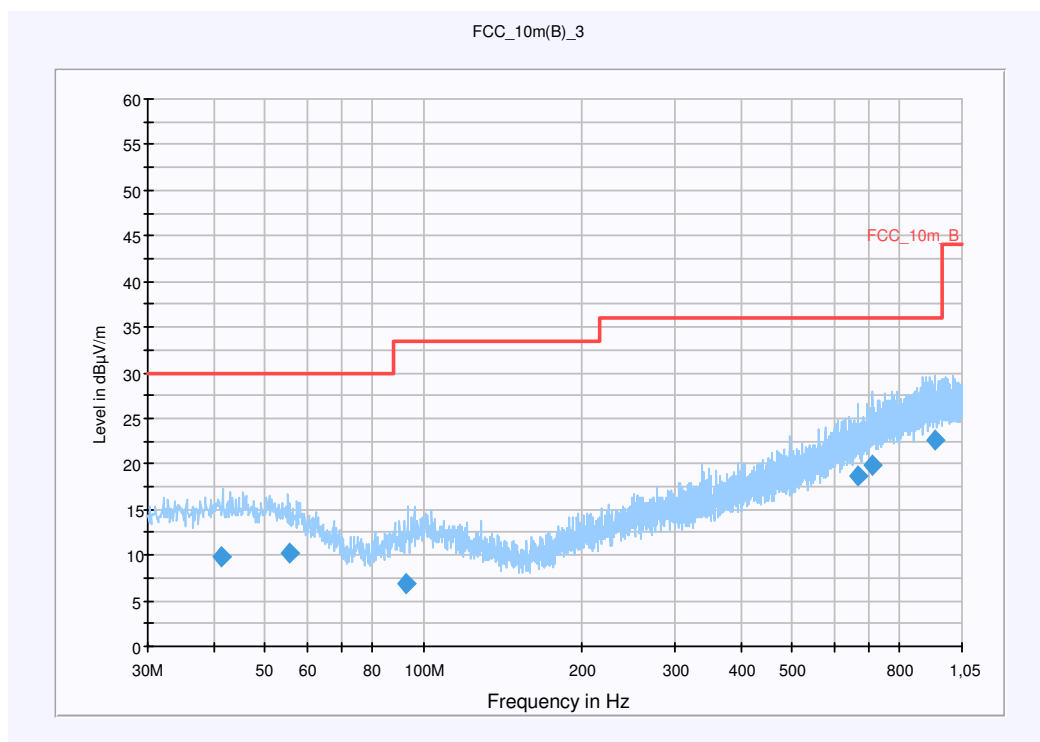
Plot 1: 0.03 - 1 GHz (lowest channel)

Common Information

| | |
|-----------------------|----------------------|
| EUT: | RIM RCV71UW |
| Serial Number: | IMEI:004401135855050 |
| Test Description: | FCC Part 15C @ 10 m |
| Operating Conditions: | BT TX CH 0 (8DPSK) |
| Operator Name: | Lang |
| Comment: | Powered with Battery |

Scan Setup: STAN_Fin [EMI radiated]

| | | | | |
|-------------------|----------------------|---------------------|-------------------|-----------------|
| Hardware Setup: | Electric Field (NOS) | | | |
| Level Unit: | dB μ 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 μ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB μ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 41.230950 | 9.8 | 15000.000 | 120.000 | 213.0 | H | 29.0 | 13.4 | 20.2 | 30.0 | |
| 55.553400 | 10.2 | 15000.000 | 120.000 | 220.0 | V | 184.0 | 12.7 | 19.8 | 30.0 | |
| 92.904000 | 6.9 | 15000.000 | 120.000 | 113.0 | V | 323.0 | 10.9 | 26.6 | 33.5 | |
| 667.817100 | 18.8 | 15000.000 | 120.000 | 220.0 | H | 136.0 | 21.5 | 17.2 | 36.0 | |
| 708.046500 | 19.8 | 15000.000 | 120.000 | 220.0 | V | 49.0 | 22.6 | 16.2 | 36.0 | |
| 933.917700 | 22.6 | 15000.000 | 120.000 | 220.0 | V | 49.0 | 25.3 | 13.4 | 36.0 | |

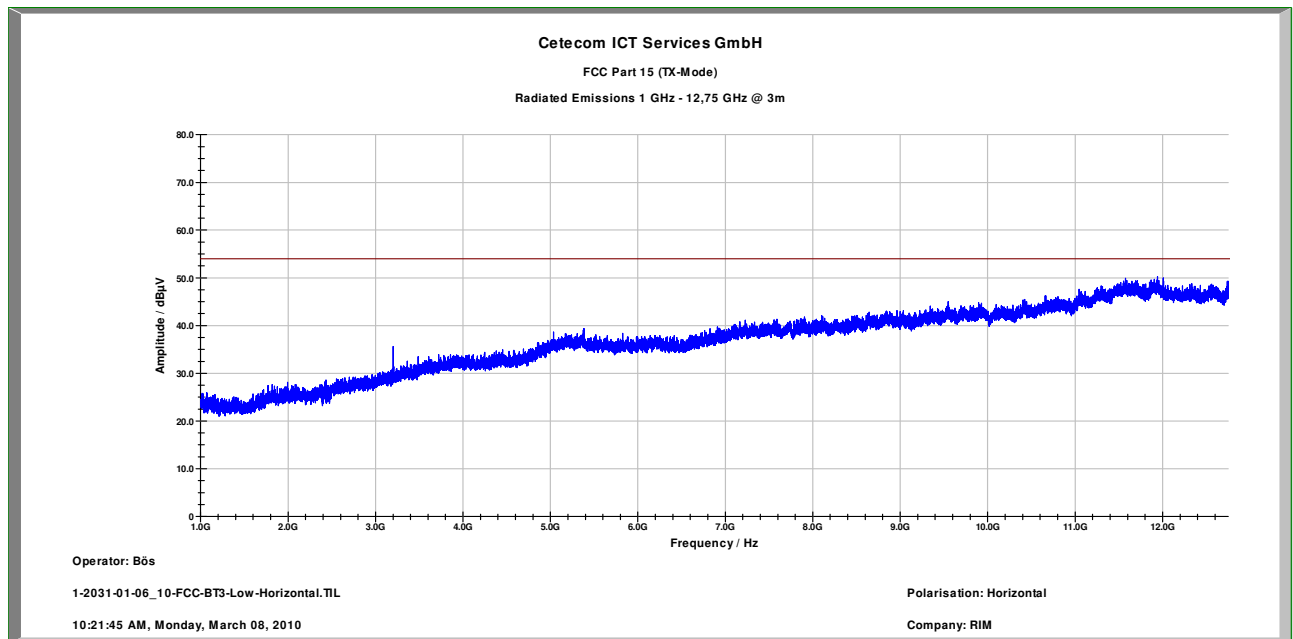
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

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 |

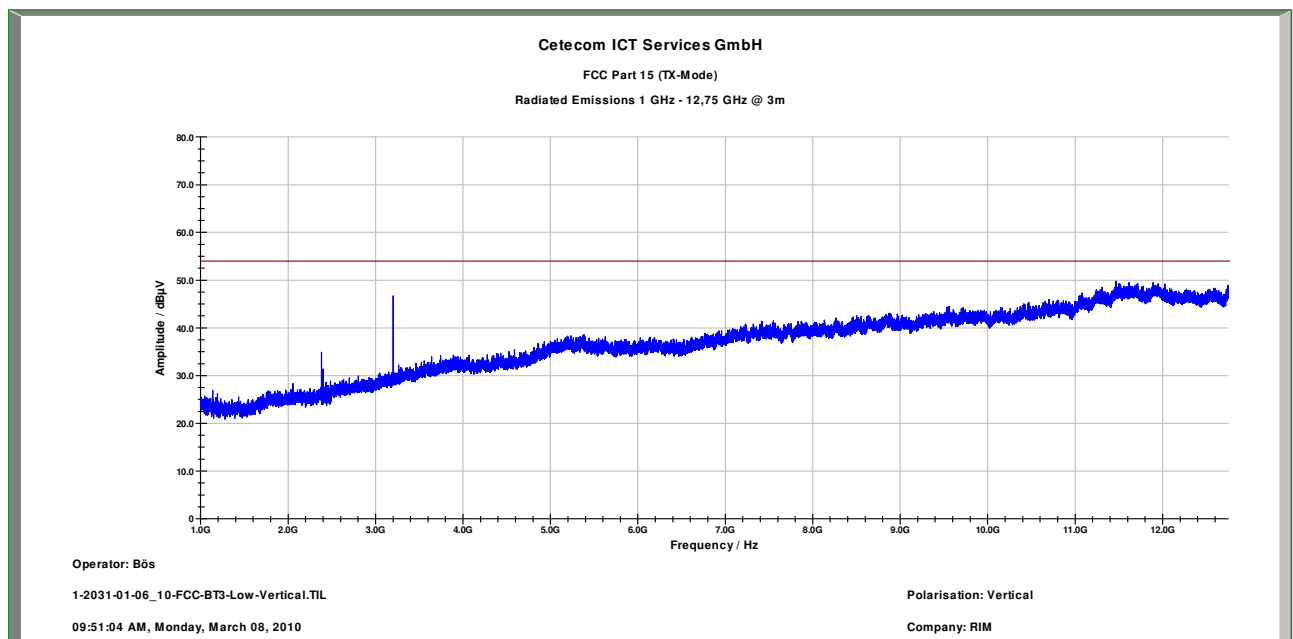
EMC 32 Version 8.10.00

Plot 2: 1 – 12.75 GHz horizontal (lowest channel)



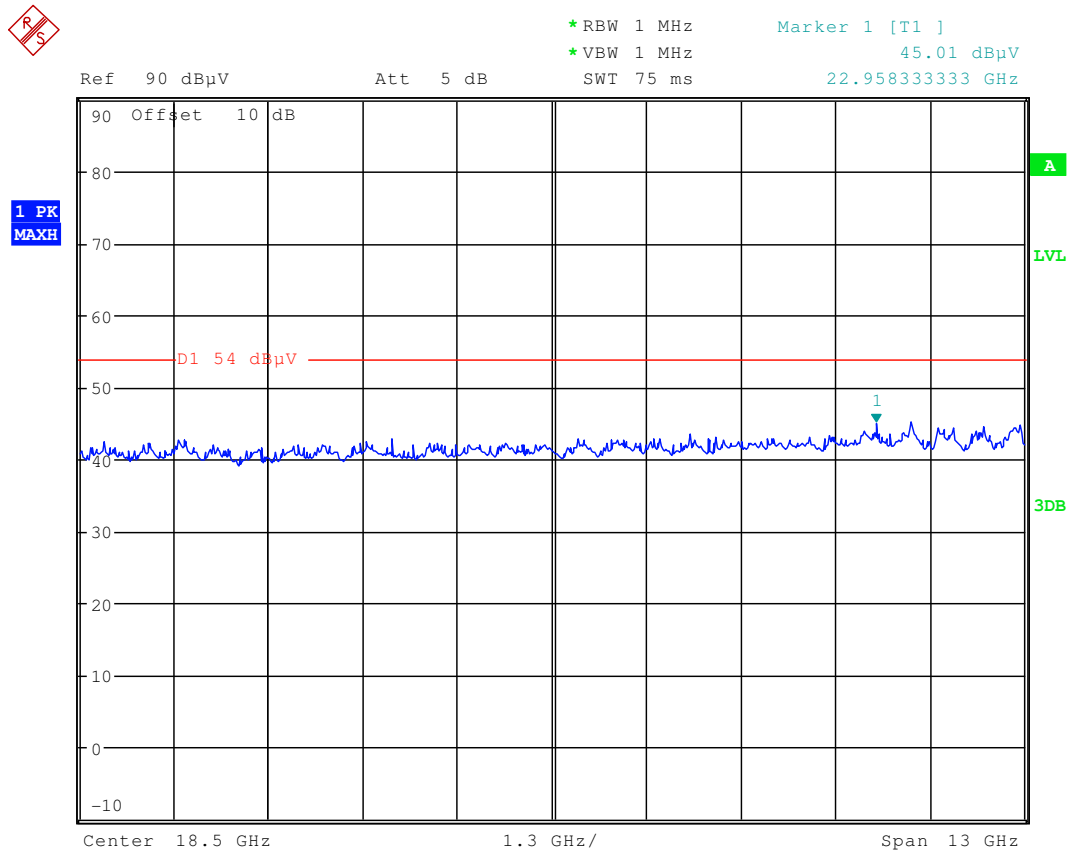
Carrier suppressed with a rejection filter

Plot 3: 1 – 12.75 GHz vertical (lowest channel)



Carrier suppressed with a rejection filter

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



CETECOM ICT Services GmbH

Test report no.: 1-2031-01-08/10

Plot 5: 0.03 - 1 GHz (middle channel)

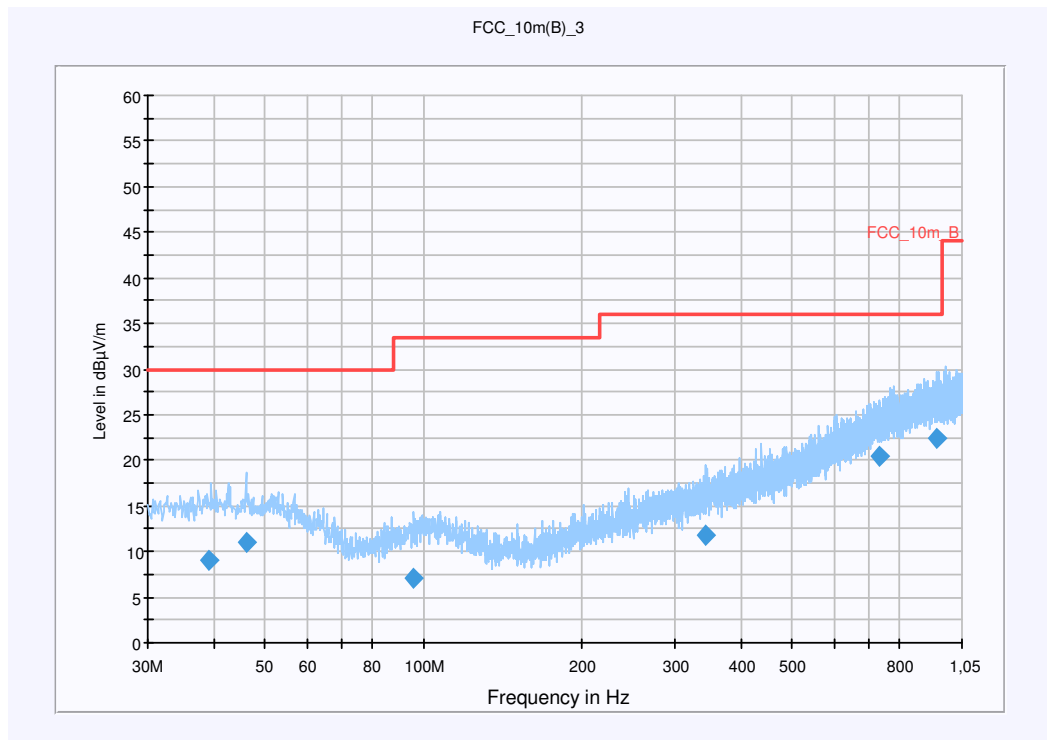
Common Information

| | |
|-----------------------|----------------------|
| EUT: | RIM RCV71UW |
| Serial Number: | IMEI:004401135855050 |
| Test Description: | FCC Part 15C @ 10 m |
| Operating Conditions: | BT TX CH 39 (8DPSK) |
| Operator Name: | Lang |
| Comment: | Powered with Battery |

Scan Setup: STAN_Fin [EMI radiated]

| | |
|-----------------|----------------------|
| Hardware Setup: | Electric Field (NOS) |
| Level Unit: | dB μ 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 μ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB μ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 39.067800 | 9.1 | 15000.000 | 120.000 | 220.0 | V | 62.0 | 13.4 | 20.9 | 30.0 | |
| 46.044000 | 11.0 | 15000.000 | 120.000 | 98.0 | V | 231.0 | 13.3 | 19.0 | 30.0 | |
| 95.819700 | 7.0 | 15000.000 | 120.000 | 208.0 | H | 61.0 | 11.3 | 26.5 | 33.5 | |
| 342.817500 | 11.8 | 15000.000 | 120.000 | 220.0 | V | 216.0 | 15.8 | 24.2 | 36.0 | |
| 734.357700 | 20.5 | 15000.000 | 120.000 | 220.0 | H | 195.0 | 23.2 | 15.5 | 36.0 | |
| 943.771650 | 22.5 | 15000.000 | 120.000 | 220.0 | V | 79.0 | 25.3 | 13.5 | 36.0 | |

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

Subrange 1

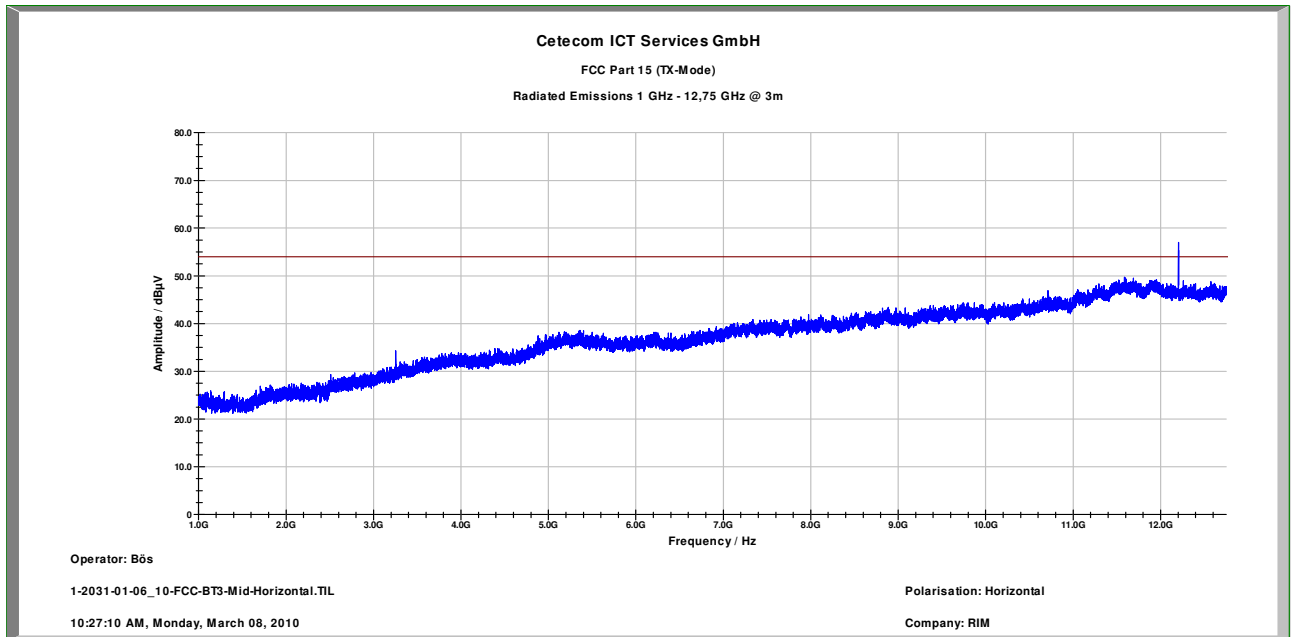
| | |
|------------------|--|
| Frequency Range: | 30 MHz - 2 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 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

CETECOM ICT Services GmbH

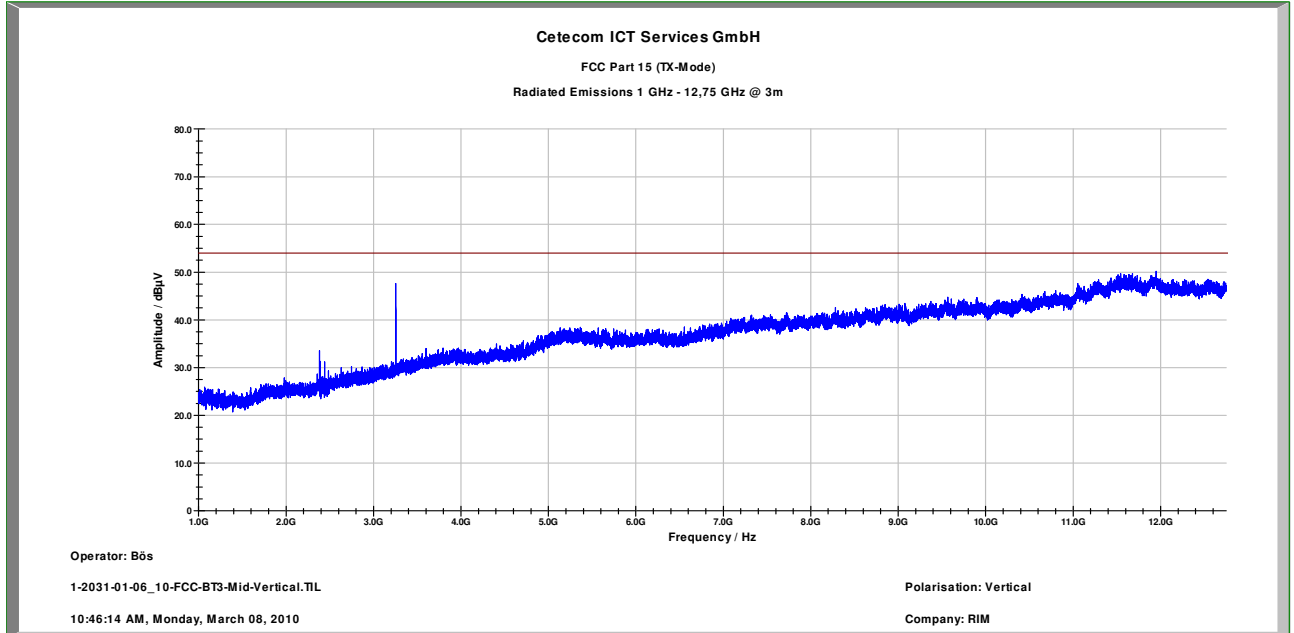
Test report no.: 1-2031-01-08/10

Plot 6: 1 – 12.75 GHz horizontal (middle channel)



Carrier suppressed with a rejection filter

Plot 7: 1 – 12.75 GHz vertical (middle channel)



Carrier suppressed with a rejection filter

Plot 8: 0.03 - 1 GHz (highest channel)

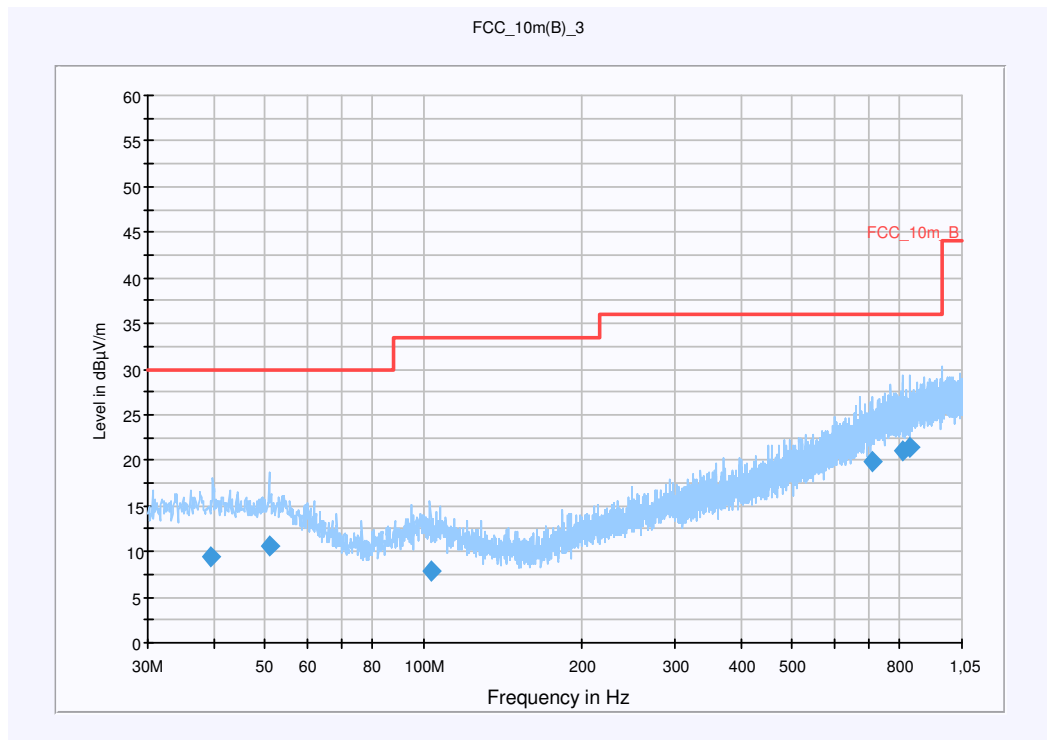
Common Information

EUT: RIM RCV71UW
 Serial Number: IMEI:004401135855050
 Test Description: FCC Part 15C @ 10 m
 Operating Conditions: BT TX CH 78 (8DPSK)
 Operator Name: ZAK
 Comment: Powered with Battery

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 39.395550 | 9.5 | 15000.000 | 120.000 | 209.0 | V | 250.0 | 13.4 | 20.5 | 30.0 | |
| 51.281850 | 10.7 | 15000.000 | 120.000 | 220.0 | V | 68.0 | 13.2 | 19.3 | 30.0 | |
| 103.336050 | 7.8 | 15000.000 | 120.000 | 118.0 | H | 225.0 | 11.6 | 25.7 | 33.5 | |
| 711.784950 | 20.0 | 15000.000 | 120.000 | 118.0 | V | 200.0 | 22.7 | 16.0 | 36.0 | |
| 809.609700 | 21.0 | 15000.000 | 120.000 | 154.0 | H | 76.0 | 23.9 | 15.0 | 36.0 | |
| 836.847450 | 21.4 | 15000.000 | 120.000 | 220.0 | V | 49.0 | 24.4 | 14.6 | 36.0 | |

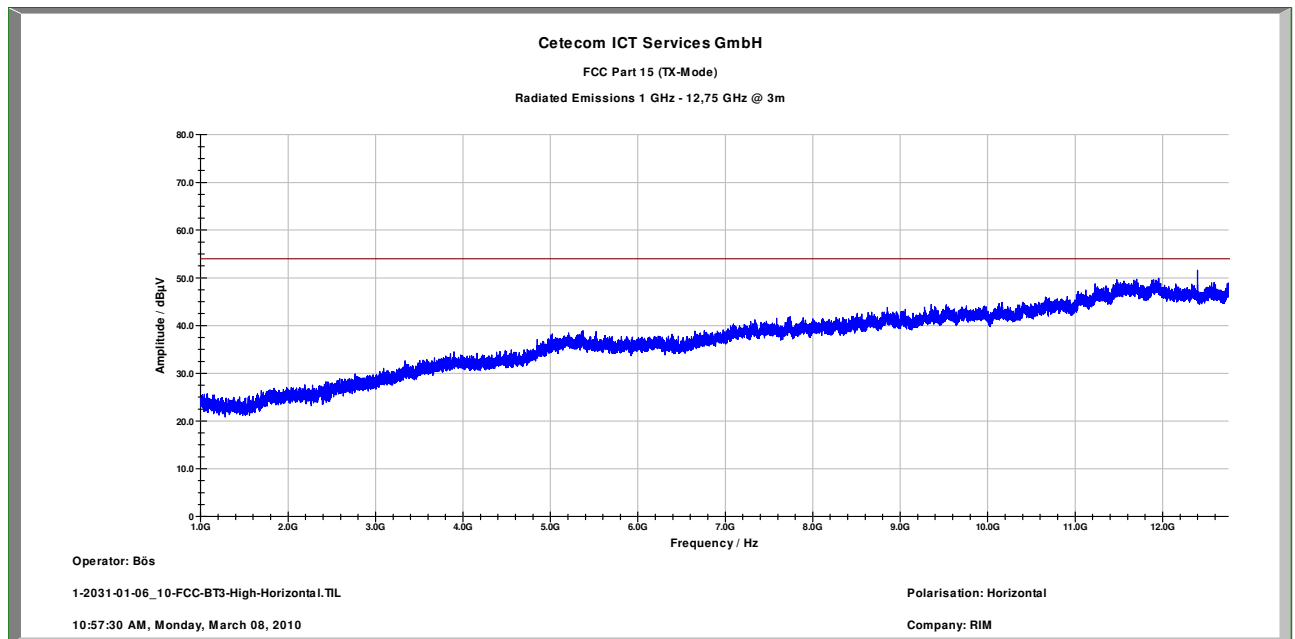
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

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 |

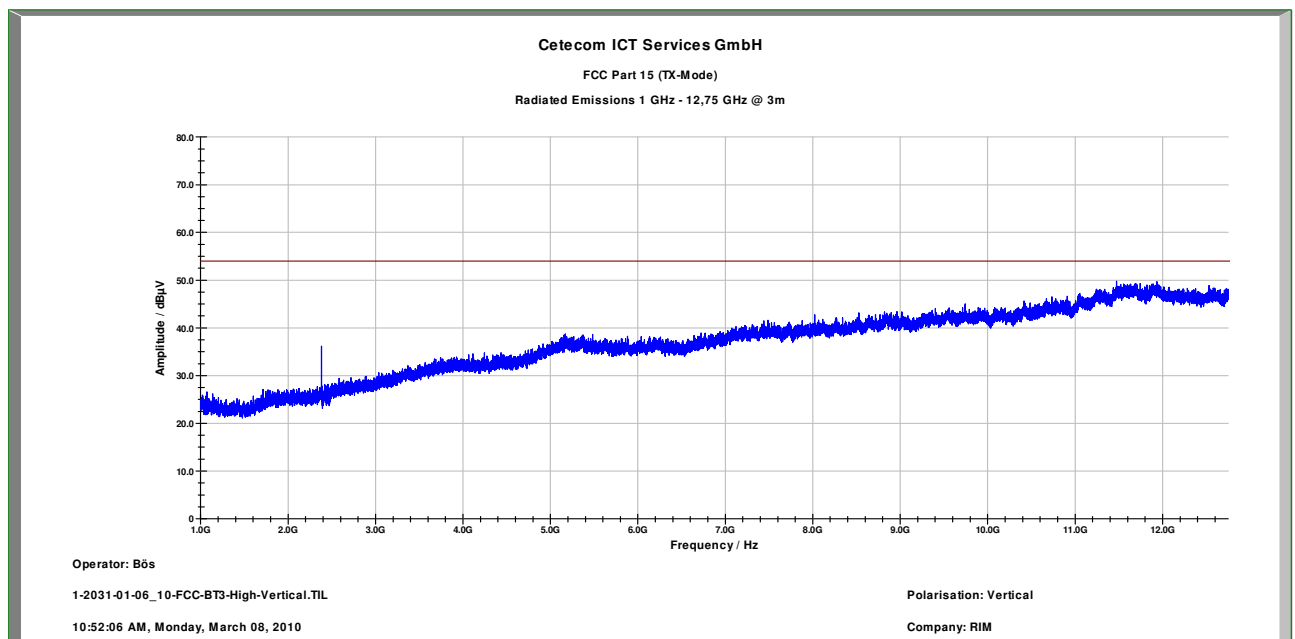
EMC 32 Version 8.10.00

Plot 9: 1 – 12.75 GHz horizontal (highest channel)



Carrier suppressed with a rejection filter

Plot 10: 1 – 12.75 GHz vertical (highest channel)



Carrier suppressed with a rejection filter

CETECOM ICT Services GmbH

Test report no.: 1-2031-01-08/10

Results: GFSK-Modulation

| SPURIOUS EMISSIONS LEVEL (dB μ V/m) | | | | | | | | |
|---|----------|----------------------|-----------|----------|----------------------|-----------|----------|----------------------|
| 2402 MHz | | | 2441 MHz | | | 2480 MHz | | |
| F [MHz] | Detector | Level [dB μ V/m] | F [MHz] | Detector | Level [dB μ V/m] | F [MHz] | Detector | Level [dB μ V/m] |
| 4804 (h) | Pk | 44.7 | 12205 (h) | Pk | 51.2 | 7440 (v) | Pk | 47.2 |
| 4804 (v) | Pk | 45.5 | 12205 (v) | Pk | 51.3 | 12400 (h) | Pk | 50.6 |
| 11693(h) | Pk | 48.6 | | | | 12400 (v) | Pk | 50.8 |
| 12010.6 (h) | Pk | 51.7 | | | | | | |
| | | | | | | | | |
| Measurement uncertainty | | | ±3 dB | | | | | |

f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW = 1 MHz / VBW = 10 Hz

Results: 8-DPSK-Modulation

| SPURIOUS EMISSIONS LEVEL (dB μ V/m) | | | | | | | | |
|---|----------|----------------------|-----------|----------|----------------------|-----------|----------|----------------------|
| 2402 MHz | | | 2441 MHz | | | 2480 MHz | | |
| F [MHz] | Detector | Level [dB μ V/m] | F [MHz] | Detector | Level [dB μ V/m] | F [MHz] | Detector | Level [dB μ V/m] |
| 3203 (h) | Pk | 34.4 | 3255 (h) | Pk | 32.1 | 12400 (h) | Pk | 48.6 |
| 3203 (v) | Pk | 40.3 | 3255 (v) | Pk | 41.0 | | | |
| | | | 12205 (h) | Pk | 48.3 | | | |
| | | | | | | | | |
| | | | | | | | | |
| Measurement uncertainty | | | ±3 dB | | | | | |

f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW = 1 MHz / VBW = 10 Hz

Limits: § 15.247 (c)

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

Limits: § 15.209

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

5.16 Spurious Emissions - radiated (Receiver) § 15.109

Modulation: GFSK

Plot 1: 0.03 - 1 GHz vertical/horizontal (receiver)

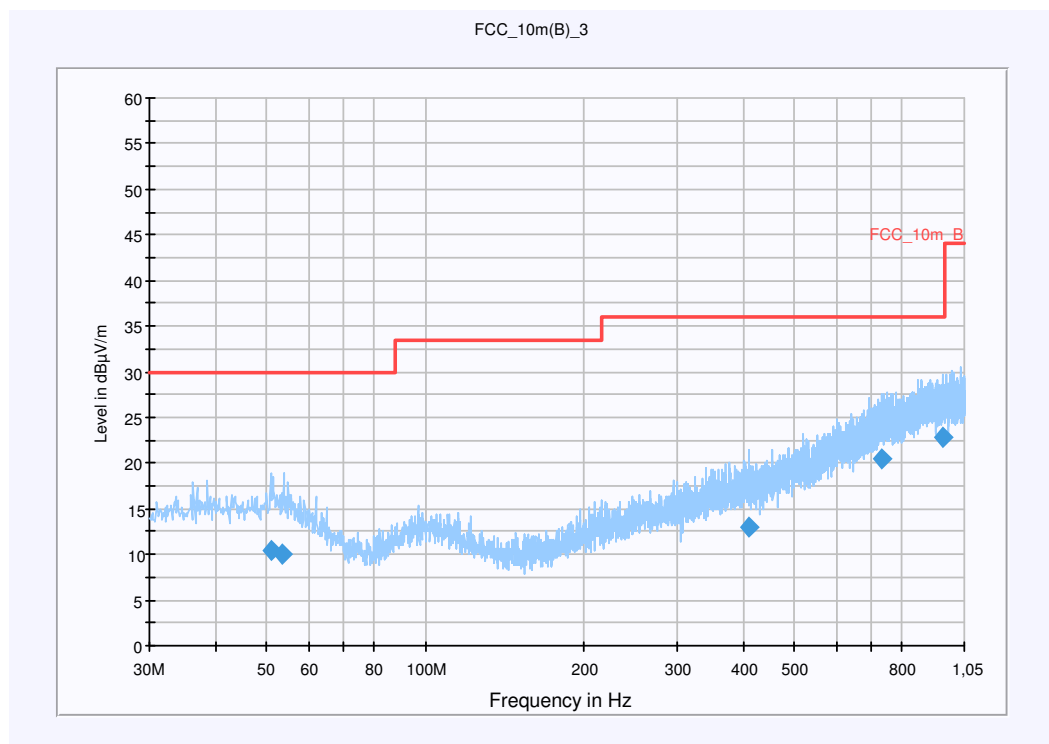
Common Information

| | |
|-----------------------|----------------------|
| EUT: | RIM RCV71UW |
| Serial Number: | IMEI:004401135855050 |
| Test Description: | FCC Part 15C @ 10 m |
| Operating Conditions: | BT RX (GFSK) |
| Operator Name: | Kraus |
| Comment: | Powered with Battery |

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 50.939700 | 10.5 | 15000.000 | 120.000 | 98.0 | V | 226.0 | 13.3 | 19.5 | 30.0 | |
| 53.748600 | 10.1 | 15000.000 | 120.000 | 210.0 | V | 99.0 | 13.0 | 19.9 | 30.0 | |
| 409.871550 | 13.1 | 15000.000 | 120.000 | 223.0 | V | 143.0 | 17.1 | 22.9 | 36.0 | |
| 731.382150 | 20.4 | 15000.000 | 120.000 | 223.0 | V | 63.0 | 23.2 | 15.6 | 36.0 | |
| 952.699800 | 22.8 | 15000.000 | 120.000 | 207.0 | H | 27.0 | 25.4 | 13.2 | 36.0 | |

CETECOM ICT Services GmbH

Test report no.: 1-2031-01-08/10

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

Results:

See above plots

Measurement distance see table

Limits: § 15.109

| Frequency (MHz) | Field strength ($\mu\text{V/m}$) | Measurement distance (m) |
|-----------------|------------------------------------|--------------------------|
| 30 - 88 | 100 (40 dB $\mu\text{V/m}$) | 3 |
| 88 - 216 | 150 (43.5 dB $\mu\text{V/m}$) | 3 |
| 216 - 960 | 200 (46 dB $\mu\text{V/m}$) | 3 |
| above 960 | 500 (54 dB $\mu\text{V/m}$) | 3 |

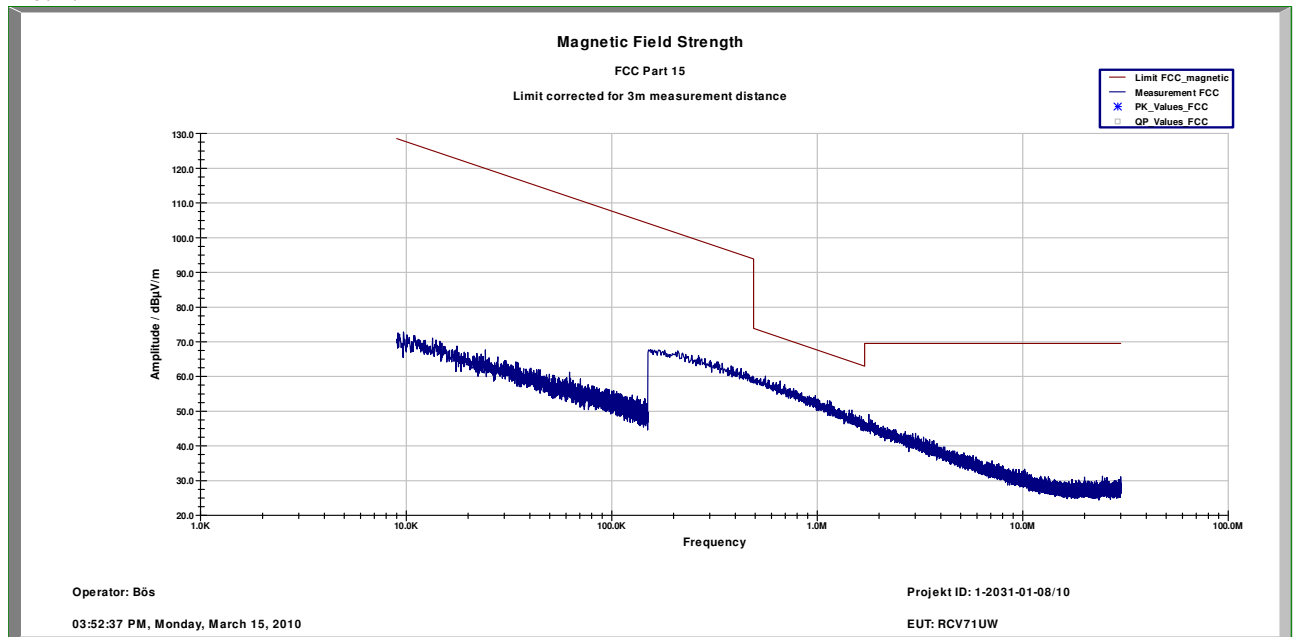
5.17 Spurious Emissions < 30 MHz - Transmitter radiated § 15.209

Modulation: valid for all modes

Measured at 3 m distance.

Values recalculated with 40 dB/decade according to FCC rules.

Plot 1:



Limits:

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

5.18 Conducted Emissions <30 MHz § 15.107/207

Not performed

Modulation: GFSK

Plot 1:

Limits:

| | |
|-----------------------------------|-----------|
| Under normal test conditions only | See plots |
|-----------------------------------|-----------|

6 Test equipment and ancillaries used for tests

In order to simplify the identification of the equipment used at each specific test, each item of test equipment and ancillaries are provided with an identifier or number in the equipment list below.

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).

| No. | Labor / Item | Equipment | Type | Manufact. | Serial No. | INV. No Cetecom | Kal. Art | Last Calibration | Next Calibration |
|-----|--------------|--|--|------------------------|------------|-----------------|------------|------------------|------------------|
| 1 | n. a. | System Autoranging DC power supply, 60Vdc, 50A, 1200 W | 6032A | HP Meßtechnik | 2818A03450 | 300001040 | Ve | 08.01.2009 | 08.01.2012 |
| 2 | n. a. | PowerAttenuator Double-Ridged | 8325 | Byrd | 1530 | 300001595 | vl | | |
| 3 | n. a. | Waveguide Horn Antenna 1-26.5GHz | 3115 | EMCO | 8812-3088 | 300001032 | KI ! | 05.03.2009 | 05.03.2011 |
| 4 | n. a. | Active Loop Antenna | 6502 | EMCO | 2210 | 300001015 | ne | | |
| 5 | n. a. | Anechoic chamber | | MWB | 87400/02 | 300000996 | | | |
| 6 | Spec.A. 2_2e | System-Rack | 85900 | HP I.V. | * | 300000222 | ne | | |
| 7 | 9 | Artificial Mains 9 kHz to 30 MHz, 4 x 25 Ampere | ESH3-Z5 | R&S | 828576/020 | 300001210 | Ve | 06.01.2010 | 06.01.2012 |
| 8 | n. a. | Relais Matrix | 3488A | HP Meßtechnik | 2719A15013 | 300001156 | ne | | |
| 9 | n. a. | Relais Matrix | PSU | R&S | 890167/024 | 300001168 | ne | | |
| 10 | n. a. | Isolating Transformer | RT5A | Grundig | 9242 | 300001263 | ne | | |
| 11 | n. a. | Three-Way Power Splitter, 50 Ohm | 11850C | HP Meßtechnik | | 300000997 | ne | | |
| 12 | n. a. | Switch / Control Unit | 3488A | HP | 2605e08770 | 300001443 | ne | | |
| 13 | n. a. | Band Reject filter | WRCG1855/191 0-1835/1925-40/8SS | Wainwright | 7 | 300003350 | ev | | |
| 14 | n. a. | Band Reject filter | WRCG2400/248 3-2375/2505-50/10SS Quantum | Wainwright | 11 | 300003351 | ev | | |
| 15 | n. a. | TILE-Software Emission | Change, Modell TILE-ICS/FULL | EMCO | none | 300003451 | ne | | |
| 16 | n. a. | Highpass Filter | WHKX2.9/18G-12SS | Wainwright | 1 | 300003492 | ev | | |
| 17 | n. a. | Highpass Filter | WHK1.1/15G-10SS | Wainwright | 3 | 300003255 | ev | | |
| 18 | n. a. | Highpass Filter | WHKX7.0/18G-8SS | Wainwright | 18 | 300003789 | ne | | |
| 19 | n. a. | PSA Spectrum Analyzer 3 Hz - 26.5 GHz | E4440A | Agilent Vertr. Bad Hom | MY48250080 | 300003812 | k | 05.08.2008 | 05.08.2010 |
| 20 | n. a. | MXG Microwave Analog Signal Generator | N5183A | Agilent Vertr. Bad Hom | MY47420220 | 300003813 | k | 06.08.2008 | 06.08.2010 |
| 21 | n. a. | RF Filter Section 9kHz - 1GHz | N9039A | Agilent Vertr. Bad Hom | MY48260003 | 300003825 | vl KI ! | 19.08.2008 | 19.08.2010 |
| 22 | n. a. | TRILOG Super Breitband Antenne | VULB9163 | Schwarzbeck | 371 | 300003854 | vl KI ! | 17.12.2008 | 17.12.2010 |
| 23 | n. a. | CBT (Bluetooth EDR Signalisierung) | CBT 1153.9000K35, CBT-B55, CBT-K55 | R&S | 100313 | 300003516 | k | 03.09.2008 | 03.09.2010 |