



Accredited testing-laboratory

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

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

Recognized by the Federal Communications Commission

Anechoic chamber registration no.: 90462 (FCC)

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

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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Test report no. : 2-4900-01-12/08
Type identification : MBR W30
Applicant : Ericsson AB
FCC ID : PJWMBRW30
IC Certification No : 287X-MBRW30
Test standards : 47 CFR Part 15
RSS - 210 Issue 7

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1 General information

1.1 Notes


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

Test laboratory manager:

| | | |
|-------------------|------------------------|--|
| 2008-12-12 | Marco Bertolino |  |
| Date | Name | Signature |

| | | |
|-------------------|-------------------|--|
| 2008-12-12 | Stefan Bös |  |
| Date | Name | Signature |

Technical responsibility for area of testing:

| | | |
|-------------------|---------------------|--|
| 2008-12-12 | Michael Berg |  |
| Date | Name | Signature |

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

e-mail: info@ICT.cetecom.de

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

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

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

Testing location, if different from CETECOM ICT Services GmbH:

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

1.3 Details of applicant

| | |
|-------------------|--|
| Name: | Ericsson AB PDU RAN Transmission & Home |
| Street: | Datalinjen 3 |
| Town: | 58112 Linköping |
| Country: | Sweden |
| Telephone: | +46-13-322064 |
| Fax: | +46 10 711 5089 |
| Contact: | Anders Svensson |
| E-mail: | anders.b.svensson@ericsson.com |
| Telephone: | +46 10 711 5064 |

1.4 Application details

| | |
|--|--|
| Date of receipt of order: | 2008-04-17 |
| Date of receipt of test item: | 2008-12-02 |
| Date of start test: | 2008-12-02 |
| Date of end test: | 2008-12-12 |
| Persons(s) who have been present during the test: | Anders Svensson Type Approvals Engineer |

2 Test standard/s:

| | | |
|-------------------|---------|---|
| 47 CFR Part 15 | 2008-07 | 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: | Ericsson AB PDU RAN Transmission & Home |
| Street: | Datalinjen 3 |
| Town: | 58112 Linköping |
| Country: | Sweden |

3.1.1 Test item

| | |
|------------------------|---|
| Kind of test item : | Mobile Broadband Router with UMTS Module F3507 |
| Type identification : | MBR W30 |
| S/N serial number : | S/N: T710000005 MAC: 00135E50F81E IMEI: 355864020613329 |
| HW hardware status : | P2A |
| SW software status : | R12A |
| Frequency Band [MHz] : | ISM 2.400 - 2.483,5 |
| Type of Modulation : | DSSS & OFDM |
| Number of channels : | 11 |
| Antenna : | Two integrated PCB antennas |
| Power Supply : | 115 V AC by power supply |
| Temperature Range : | -20 °C to 55 °C |

Max. power radiated: 19.93 dBm
 Max. power conducted: Not performed!

FCC ID: PJWMBRW30
 IC: 287X-MBRW30

3.1.2 Additional EUT information For IC Canada (appendix 2)

| | |
|--|--|
| IC Registration Number: | 287X-MBRW30 |
| Model Name: | MBR W30 |
| Manufacturer (complete Address): | Ericsson AB Datalinjen 3 58112 Linköping Sweden |
| Tested to Radio Standards Specification (RSS) No.: | RSS-210 Issue 7 |
| Open Area Test Site Industry Canada Number: | IC 3463A-1 |
| Frequency Range (or fixed frequency) [MHz]: | 2400 – 2483.5 MHz |
| RF: Power [W] (max): | DSSS: Rad. EIRP: 51.64 mW Conducted: Not performed! OFDM: Rad. EIRP: 98.40 mW Conducted: Not performed! |
| Antenna Type: | Two integrated PCB antennas |
| Occupied Bandwidth (99% BW) [kHz]: | Not performed! |
| Type of Modulation: | DSSS & OFDM |
| Emission Designator (TRC-43): | Not performed! |
| Transmitter Spurious (worst case) [dBµV/m in 3m]: | 36.21 |
| Receiver Spurious (worst case) [µV/m in 3m]: | 35.51 |

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: Marco Bertolino Date: 2008-12-12

Signature:



Test engineer: Stefan Bös Date: 2008-12-12

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: **287X**
2. MODEL NUMBER: **MBR W30**
3. MANUFACTURER: **Ericsson AB**
4. TYPE OF EVALUATION: **(c) RF Evaluation**

- Evaluated against exposure limits: General Public Use Controlled Use
 - Duty cycle used in evaluation: 100 %
 - Standard used for evaluation: RSS-102 Issue 2 (2005-11)
 - Measurement distance: 0.20 m
 - RF value: 0.196 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 is 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: Marco Bertolino
Title: Dipl.-Ing. (FH)
Company: Cetecom ICT Services GmbH

Name: Stefan Bös
Title: Dipl.-Ing. (FH)
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 | 21 |
| Nominal Humidity | H _{nom} | % | 48 |
| Nominal Power Source | V _{nom} | V | 115 |

Type of power source: AC by power supply

Deviations from these values are reported in chapter 2

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

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

| TC identifier | Description | verdict | date | Remark |
|---------------|--------------------------------------|---------|------------|-----------------------------|
| RF-Testing | FCC Part 15 §15.247 - CANADA RSS-210 | passed | 2008-12-12 | Only delta tests performed! |

| Test Specification Clause | Test Case | Pass | Fail | Not applicable | Not performed |
|---------------------------|---|------|------|----------------|---------------|
| None | Antenna Gain | | | | Yes |
| §15.247 (e) | Peak power spectral density | | | | Yes |
| §15.247(a)(2) | Spectrum Bandwidth of a DSSS System / 6dB BW | | | | Yes |
| §15.247(a)(2) | Spectrum Bandwidth of a DSSS System / 20dB BW | | | | Yes |
| § 15.247 (b)(3) | Maximum output power (conducted) | | | | Yes |
| § 15.247 (b)(3) | Max. peak output power (radiated) | Yes | | | |
| §15.247 (d) | Band-edge compliance of conducted emissions | | | | Yes |
| §15.205 | Band-edge compliance of radiated emissions | | | | Yes |
| §15.247 (d) | Spurious Emission - conducted (Transmitter) | | | | Yes |
| § 15.209 | Spurious Emission - radiated (Transmitter) | Yes | | | |
| § 15.109 | Spurious Emissions - radiated (Receiver) | Yes | | | |
| § 15.209 | Spurious Emissions - radiated <30 MHz | Yes | | | |
| § 15.107/207 | Conducted Emissions <30 MHz | | | | 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 20 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 set-ups 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 MHz: Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.

150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.

30 MHz - 200 MHz: Quasi Peak measurement, 120 kHz Bandwidth, biconical antenna

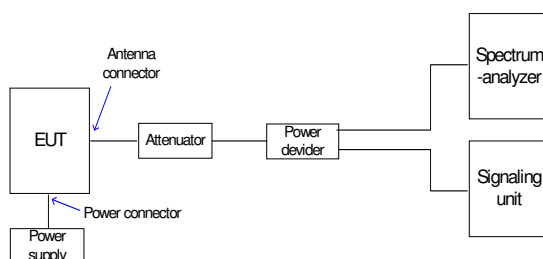
200MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, log periodic antenna

>1GHz: Average, RBW 1MHz, VBW 10 Hz, wave guide horn

All measurement settings are according to FCC 15.209 and 15.207

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 connected to the spectrum analyzer. The specific losses for signal path are first checked within a calibration. The measurement readings on the 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

W3x Series
Fixed Wireless Terminals for WCDMA/HSPA Mobile Networks

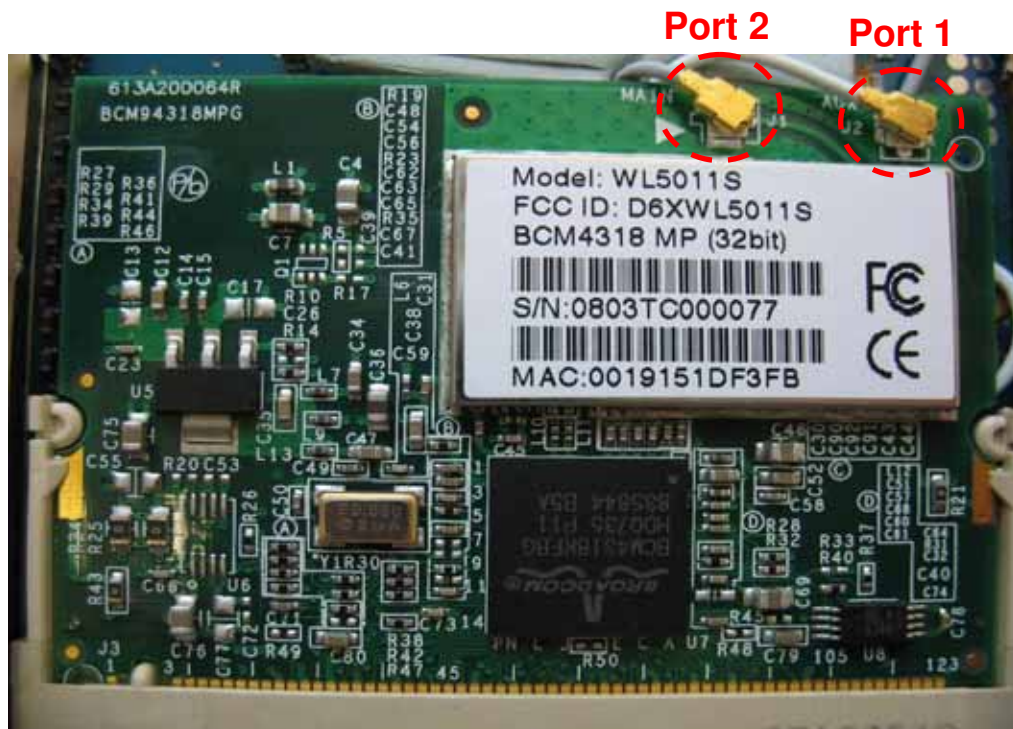
Technical Product Description
Software Release R12

5.3 Additional comments

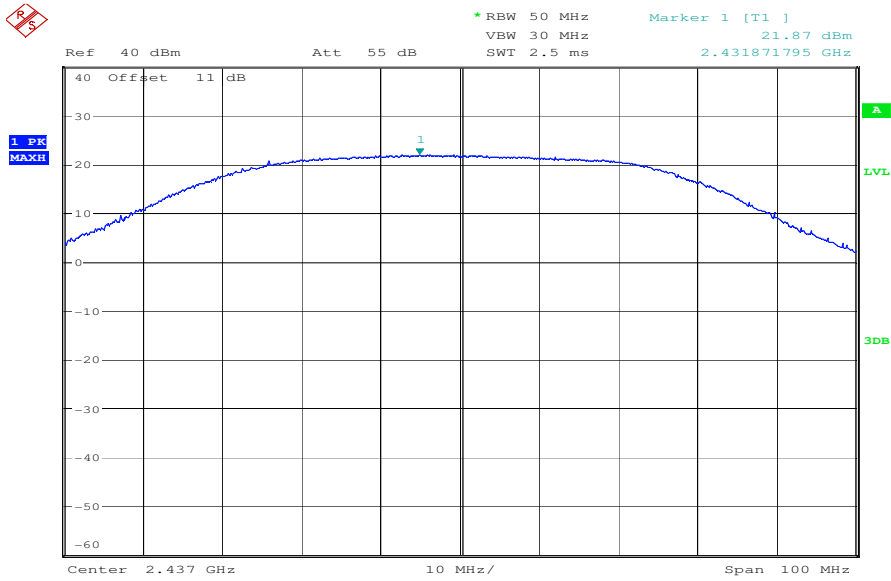
Antennas:

The EUT possess over two integrated PCB antennas of the same kind but 90 degree tilted (one for each polarization). It is not possible that both antennas are in transmitting mode at same time.

Output power verification conducted for both antenna ports:

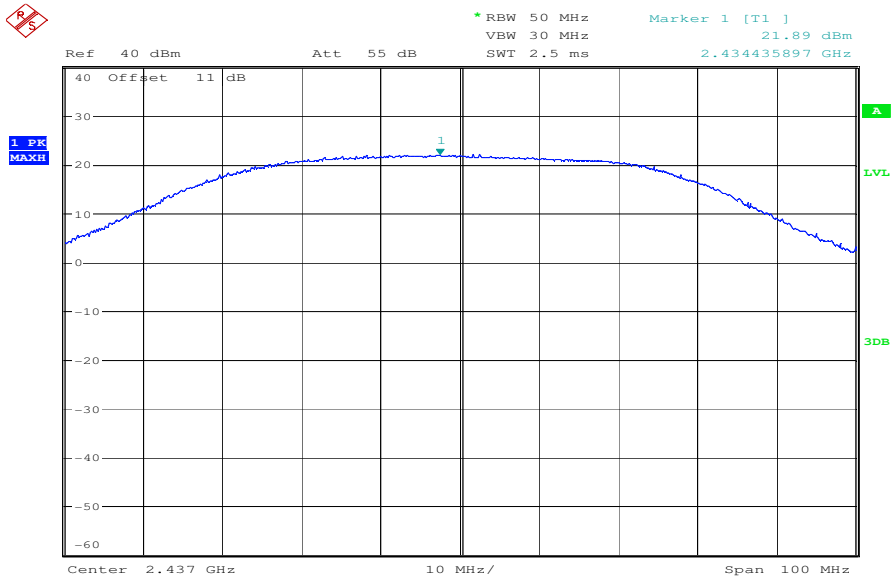


Port 1:



Date: 7.DEC.2008 08:34:50

Port 2:



Date: 7.DEC.2008 08:39:27

Port 1 and port 2 show the same behaviour.

WLAN module:

The wireless LAN module has an own module certification.

FCC ID: D6XWL5011S

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 |
|--|-------------|-------------|--------------|
| Conducted power [dBm] <i>(measured)</i> | -- | -- | -- |
| Radiated power [dBm] <i>(measured)</i> | -- | -- | -- |
| Gain [dBi] <i>(calculated)</i> | -- | -- | -- |

5.5 Peak Power Spectral density (digitally modulated systems) §15.247(e)

Not performed!

DSSS

Plot 1: (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

Plot 2: (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

Plot 3: (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

Results: Plot 1: Power density: - dBm/Hz = - dBm / 3 kHz
 Plot 2: Power density: - dBm/Hz = - dBm / 3 kHz
 Plot 3: Power density: - dBm/Hz = - dBm / 3 kHz

Correction factor from dBm/Hz to dBm/3 kHz is +34,8 dB

OFDM

Plot 1: (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

Plot 2: (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

Plot 3: (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

Results: Plot 1: Power density: - dBm/Hz = - dBm / 3 kHz
 Plot 2: Power density: - dBm/Hz = - dBm / 3 kHz
 Plot 3: 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 |
|-----------------------------------|---|

5.6 Spectrum Bandwidth of a DSSS System / 6 dB Bandwidth §15.247(a)(2)

Not performed!

DSSS

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 6 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|----------------------|------|------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T _{nom} | V _{nom} | | | |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

OFDM

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 6 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|----------------------|------|------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T _{nom} | V _{nom} | | | |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

Limits:

| | |
|-----------------------------------|-----------|
| Under normal test conditions only | > 500 kHz |
|-----------------------------------|-----------|

5.7 Spectrum Bandwidth of a DSSS System / 20 dB Bandwidth

Not performed!

DSSS

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 20 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|-----------------------|------|------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T _{nom} | V _{nom} | | | |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

OFDM

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 20 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|-----------------------|------|------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T _{nom} | V _{nom} | | | |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

5.8 Maximum output power (conducted) §15.247 (b) (3)

Not performed!

DSSS

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | Max. peak output power [dBm] | | |
|----------------------------|-----------|------------------------------|------|------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T_{nom} | V_{nom} | PK | | |
| | | PK corrected | | |
| De facto EIRP (Peak) [dBm] | | | | |
| Antenna gain: [dBi] | | | | |
| Measurement uncertainty | | ±3dB | | |

RBW / VBW: 10 MHz

Remark:

The correction factor is calculated by $10 \times \log(\text{measured BW} / \text{used BW})$ [dB]

Limits:

| | |
|--|------------------------|
| Under normal test conditions only, for frequency range 2400-2483.5 MHz | Max. 1.0 Watt / 30 dBm |
|--|------------------------|

OFDM

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | Max. peak output power [dBm] | | | | | |
|----------------------------|------------------|------------------------------|--|------|--|------|--|
| | | 2412 | | 2437 | | 2462 | |
| Frequency [MHz] | | | | | | | |
| T _{nom} | V _{nom} | PK | | | | | |
| | | PK corrected | | | | | |
| De facto EIRP (Peak) [dBm] | | | | | | | |
| Antenna gain: [dBi] | | | | | | | |
| Measurement uncertainty | | ±3dB | | | | | |

RBW / VBW: 10 MHz

Remark:

The correction factor is calculated by $10 \times \log(\text{measured BW} / \text{used BW})$ [dB]

Limits:

| | |
|--|------------------------|
| Under normal test conditions only, for frequency range 2400-2483.5 MHz | Max. 1.0 Watt / 30 dBm |
|--|------------------------|

MPE calculation

These equations are generally accurate in the far field of an antenna but will over predict power density in the near field, where they could be used for making a “worst case” prediction.

$$S = PG/4\pi R^2$$

where S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units e.g. mW)

G = power gain of the antenna in the direction of interest relative to the isotropic radiator

R = distance to the centre of radiation of the antenna (appropriate units e.g. cm)

Or

$$S = EIRP/4\pi R^2$$

where EIRP = equivalent isotropically radiated power

Calculation:

(Calculated for max. EIRP)

EIRP: 19.93 dBm (98.40mW)

calculated at distance of 20 cm:

$$\text{power density} = 98.40 / 4\pi 20^2 = 0.0196 \text{ mW/ cm}^2$$

Limit:

| |
|---|
| 1mW/ cm ² is the reference level for general public exposure according to the OET Bulletin 65, Edition 97-01 Table 1. |
|---|

5.9 Max. peak output power (radiated) §15.247 (b)(3)

DSSS

Results:

| Test conditions | | Max. peak output power EIRP [dBm] | | |
|-------------------------|------------------|-----------------------------------|--------------|-------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T _{nom} | V _{nom} | 16.88 | 17.13 | 16.93 |
| Measurement uncertainty | | ±3dB | | |

RBW / VBW: 10 MHz

Measured at a distance of 3m

OFDM

Results:

| Test conditions | | Max. peak output power EIRP [dBm] | | |
|-------------------------|------------------|-----------------------------------|-------|--------------|
| Frequency [MHz] | | 2412 | 2437 | 2462 |
| T _{nom} | V _{nom} | 19.34 | 19.72 | 19.93 |
| Measurement uncertainty | | ±3dB | | |

RBW / VBW: 10 MHz

Measured at a distance of 3m

Limits:

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

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

Not performed!

Plot 1: lowest channel

Plot 2: highest channel

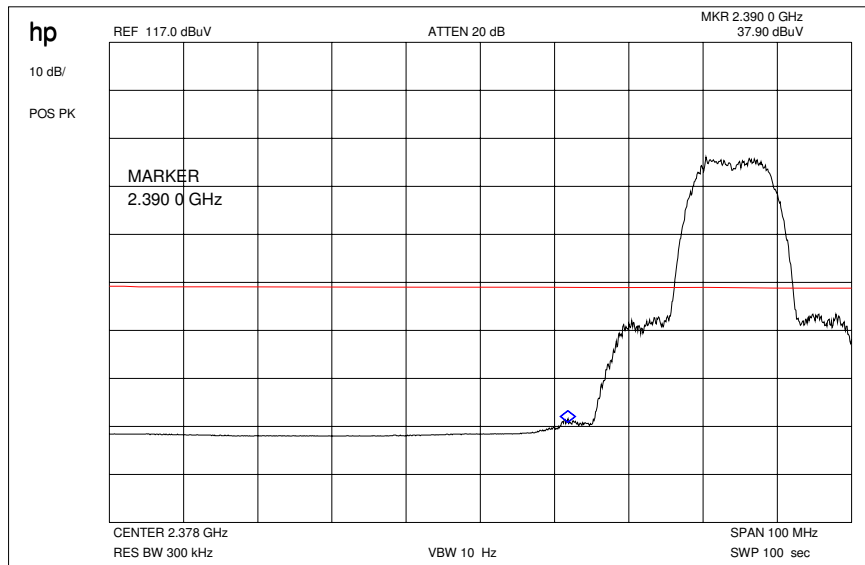
Limits:

| | |
|-----------------------------------|--|
| 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)). |
|-----------------------------------|--|

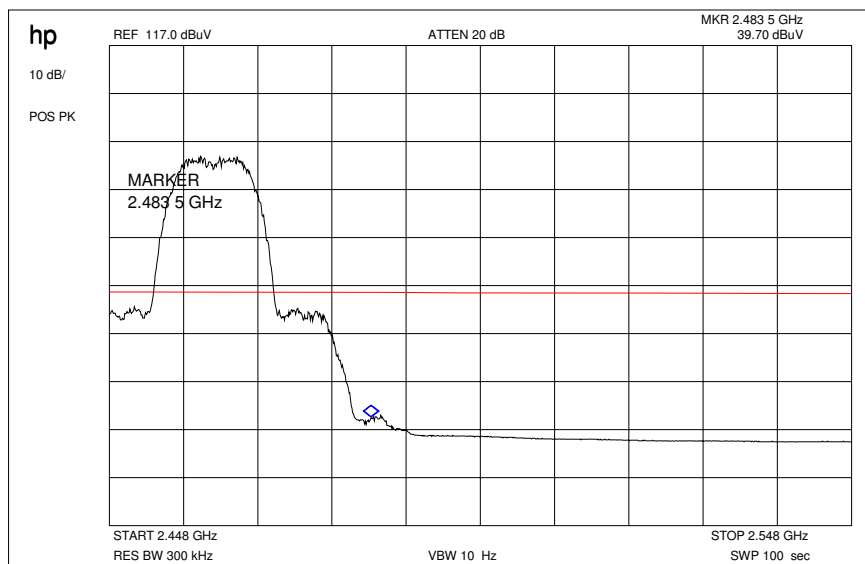
5.11 Band-edge compliance of radiated emissions §15.205

DSSS

Plot 1: b – mode, 11 Mbit/s, channel 1



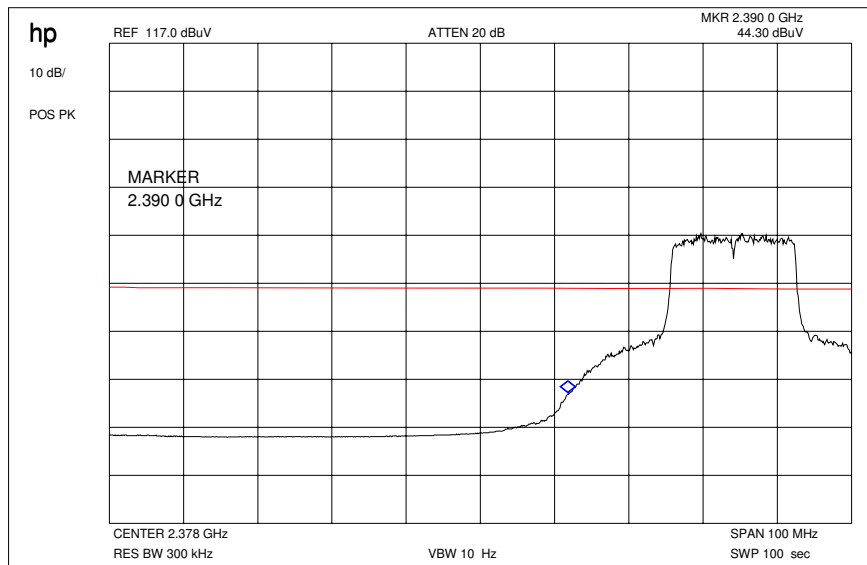
Plot 2: b – mode, 11 Mbit/s, channel 11



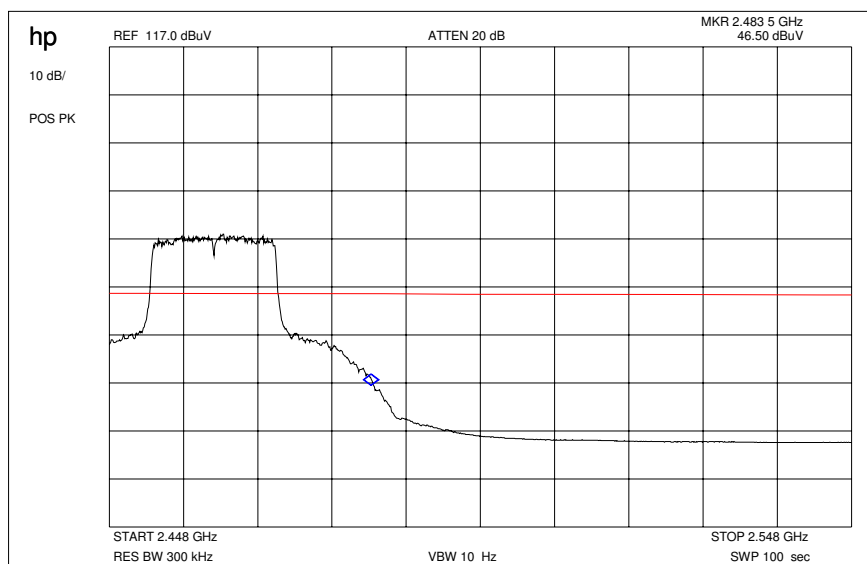
The result of the measurement is passed.

OFDM

Plot 1: g – mode, 54 Mbit/s, channel 1



Plot 2: g – mode, 54 Mbit/s, channel 11



The result of the measurement is passed.

5.12 Spurious Emissions - conducted (Transmitter) §15.247 (c)

Not performed!

DSSS

Plot 1: Lowest Channel

Plot 2: Middle Channel

Plot 3: Highest Channel

Result & Limits:

| Emission Limitations | | | | | |
|-------------------------|--|-----------------------------|-----------------------------------|--|---------------------|
| f [MHz] | | amplitude of emission [dBm] | limit max. allowed emission power | actual attenuation below frequency of operation [dB] | results |
| 2412 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 2437 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 2462 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| Measurement uncertainty | | ± 3dB | | | |

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

OFDM

Plot 1: Lowest Channel

Plot 2: Middle Channel

Plot 3: Highest Channel

Result & Limits:

| Emission Limitations | | | | | |
|-------------------------|--|-----------------------------|-----------------------------------|--|---------------------|
| f [MHz] | | amplitude of emission [dBm] | limit max. allowed emission power | actual attenuation below frequency of operation [dB] | results |
| 2412 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 2437 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 2462 | | | 30 dBm | | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 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.

5.13 Spurious Emissions - radiated (Transmitter) §15.209

Antenna 1, b – mode 11 Mbit/s

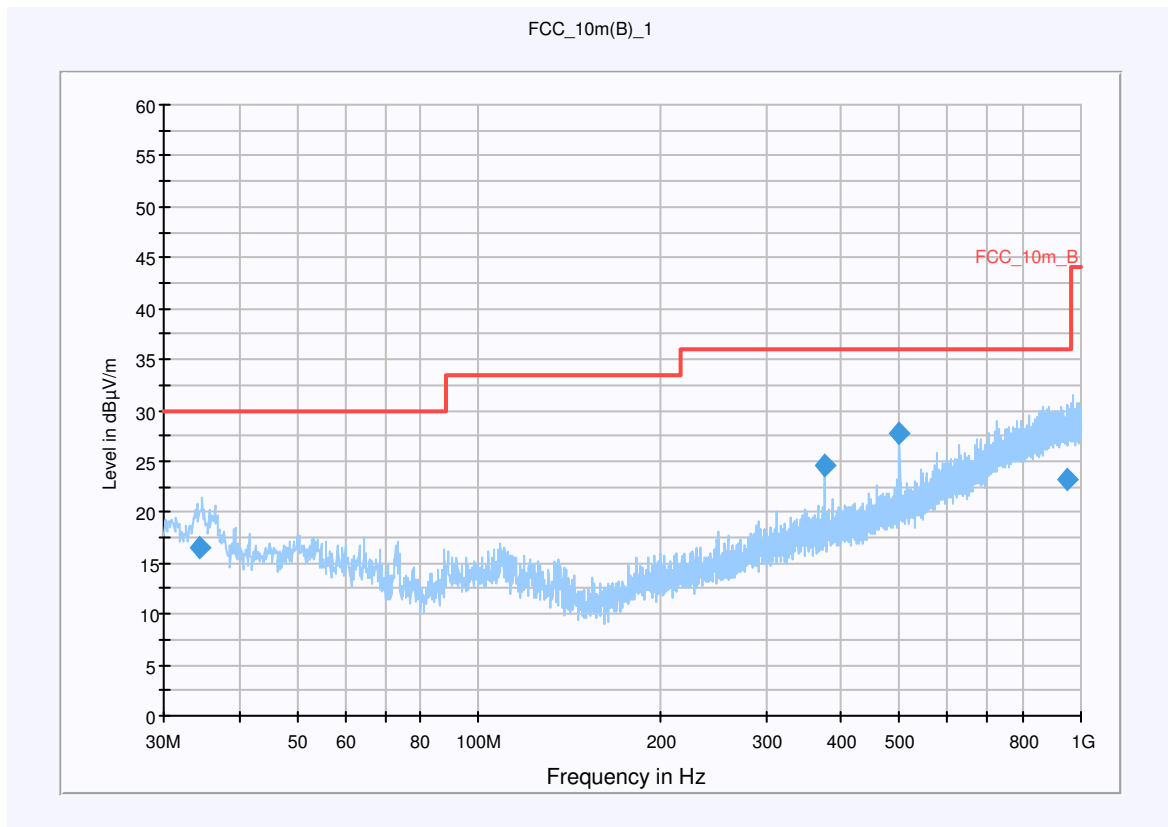
Plot 1: 0.03 - 1 GHz (lowest channel)

Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan mode b; Ch 1; 11 Mbits
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Level Unit: dBµV/m
Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30 MHz - 1 GHz QuasiPeak 120 kHz 15 s Receiver



Final Result 1

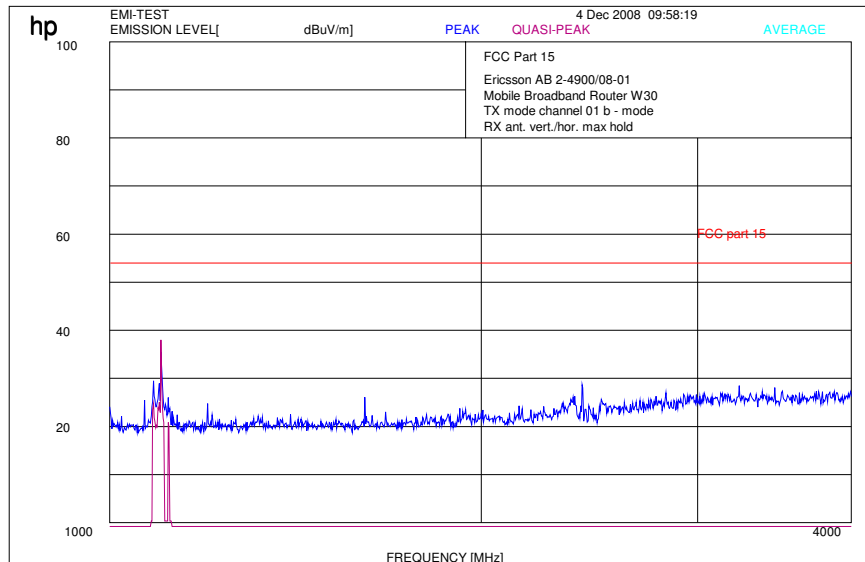
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 34.359450 | 16.5 | 15000.000 | 120.000 | 100.0 | V | 34.0 | 13.1 | 13.5 | 30.0 | |
| 375.002200 | 24.6 | 15000.000 | 120.000 | 100.0 | V | 5.0 | 16.5 | 11.4 | 36.0 | |
| 500.046800 | 27.7 | 15000.000 | 120.000 | 156.0 | H | 269.0 | 18.7 | 8.3 | 36.0 | |
| 946.041200 | 23.2 | 15000.000 | 120.000 | 172.0 | V | 274.0 | 25.9 | 12.8 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 |

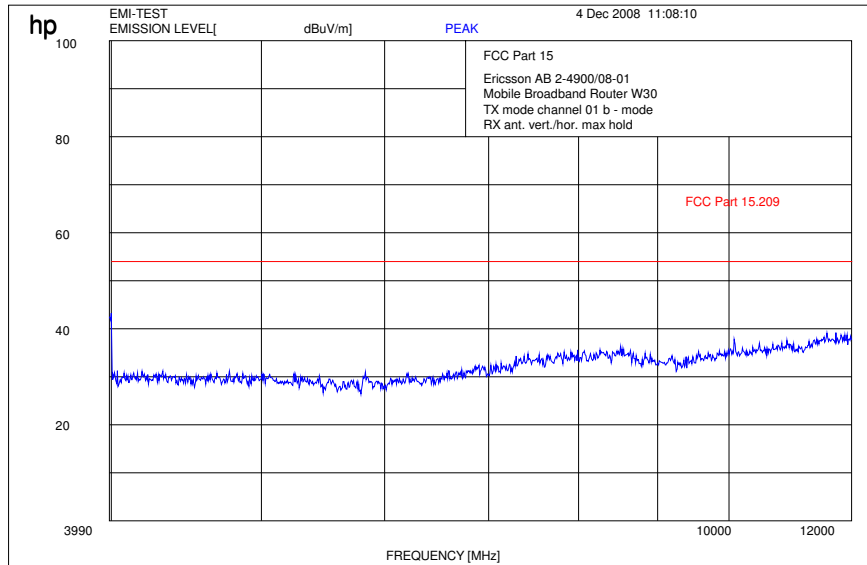
EMC 32 Version 6.30.10 + Service Pack 2

Plot 2: 1 - 4 GHz (lowest channel)

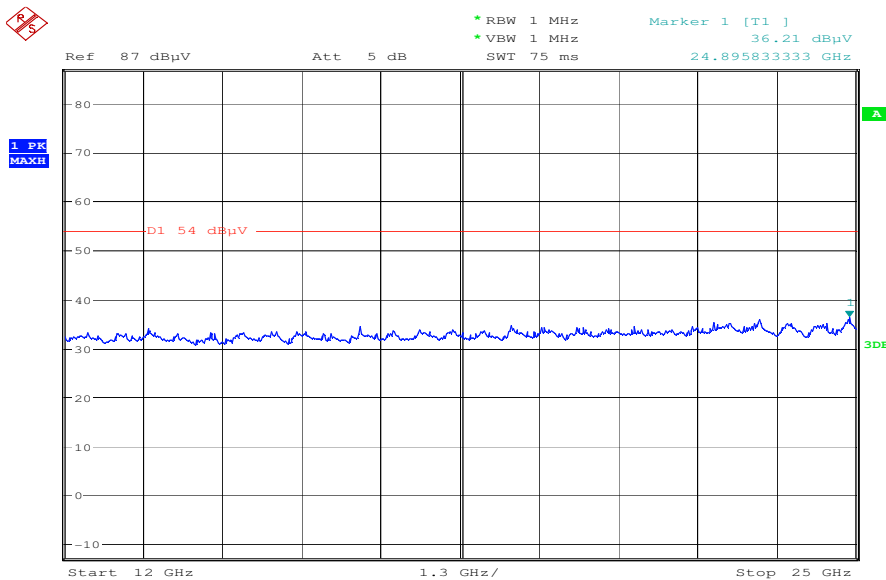


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 4 - 12 GHz (lowest channel)



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



Date: 7.DEC.2008 07:06:47

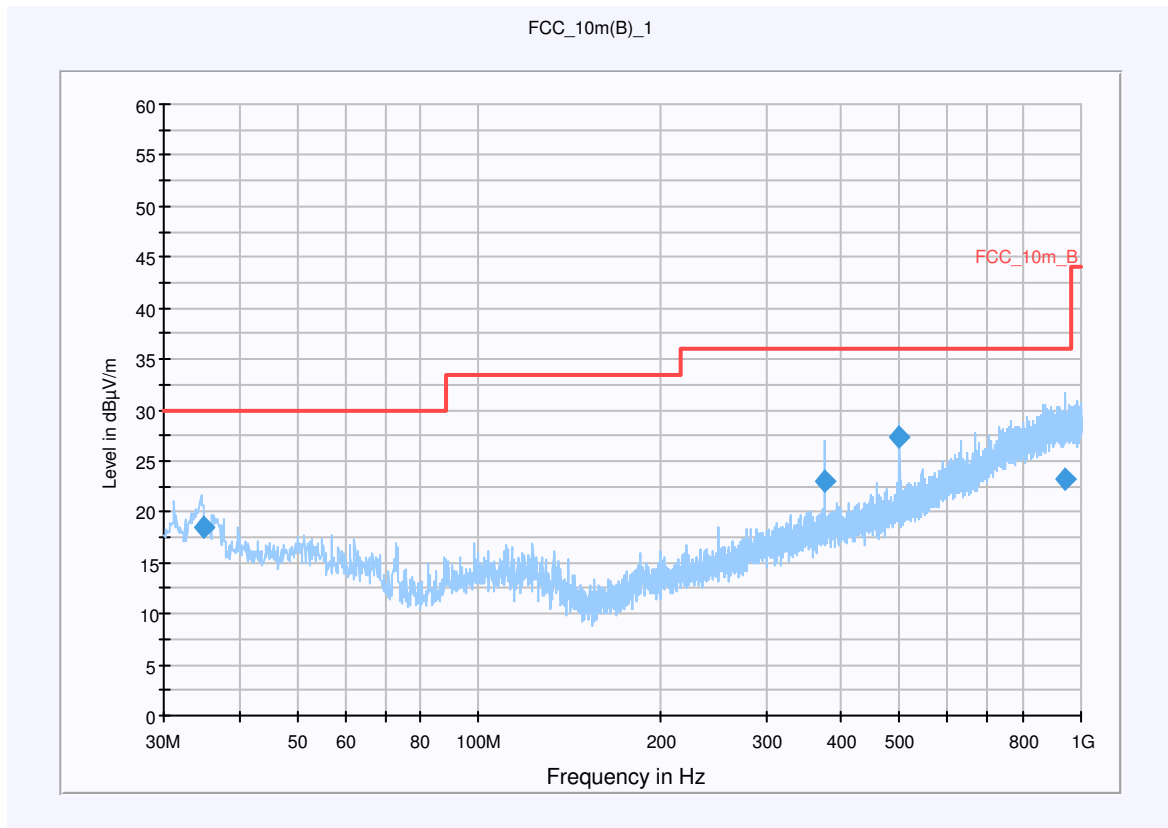
Plot 5: 0.03 - 1 GHz (middle channel)

Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan mode b; Ch 6; 11 Mbits
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Level Unit: dBµV/m
Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30 MHz - 1 GHz QuasiPeak 120 kHz 15 s Receiver



Final Result 1

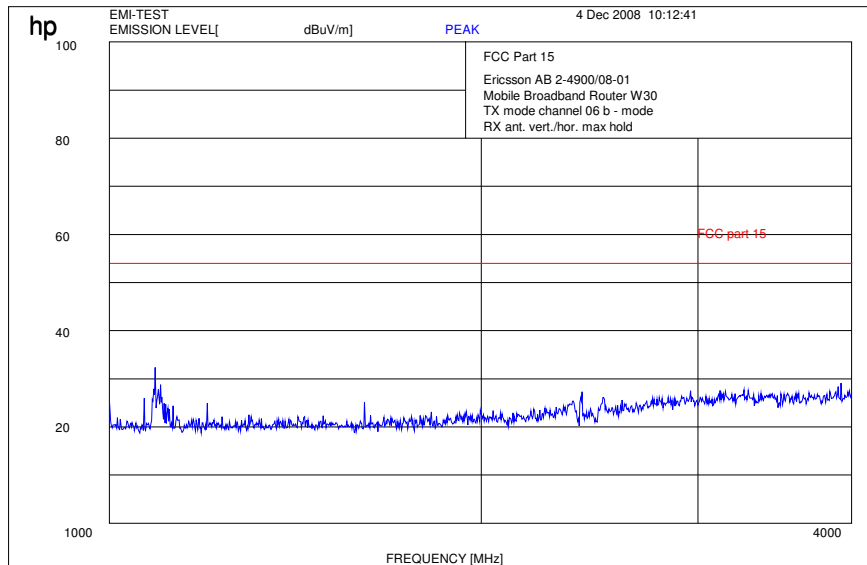
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 34.889950 | 18.4 | 15000.000 | 120.000 | 100.0 | V | 323.0 | 13.1 | 11.6 | 30.0 | |
| 374.996500 | 23.0 | 15000.000 | 120.000 | 100.0 | V | 4.0 | 16.5 | 13.0 | 36.0 | |
| 500.005550 | 27.4 | 15000.000 | 120.000 | 100.0 | V | 182.0 | 18.7 | 8.6 | 36.0 | |
| 937.651150 | 23.1 | 15000.000 | 120.000 | 161.0 | V | 13.0 | 25.9 | 12.9 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 |

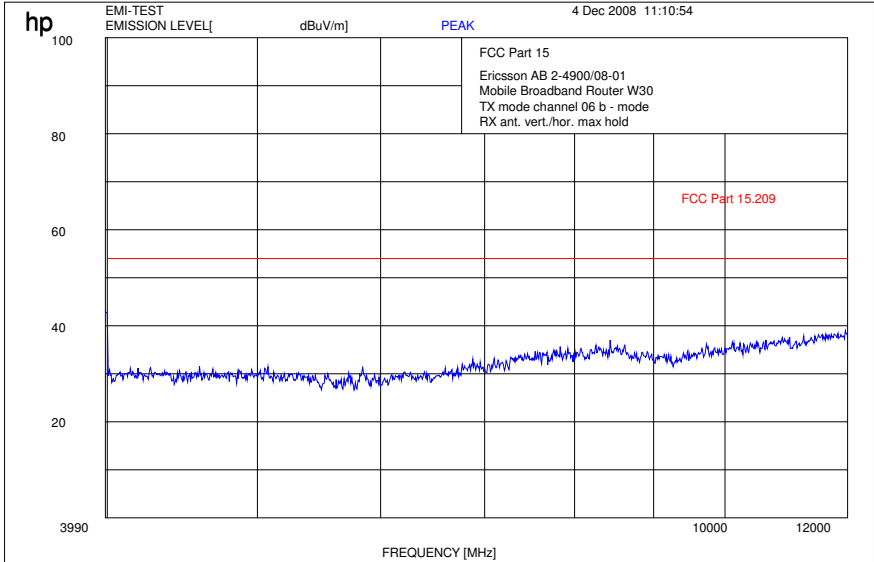
EMC 32 Version 6.30.10 + Service Pack 2

Plot 6: 1 - 4 GHz (middle channel)



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

Plot 7: 4 - 12 GHz (middle channel)



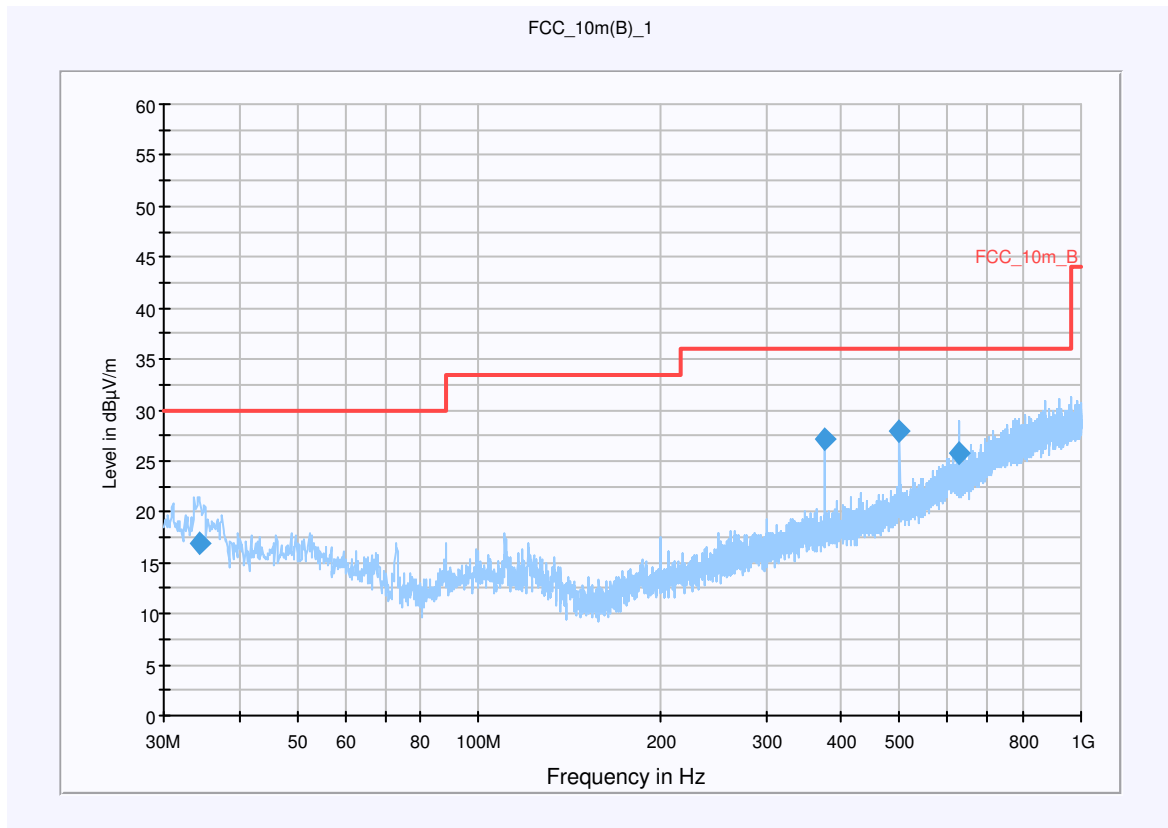
Plot 8: 0.03 - 1 GHz (highest channel)

Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan mode b; Ch 11; 11 Mbits
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Level Unit: dBµV/m
Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30 MHz - 1 GHz QuasiPeak 120 kHz 15 s Receiver



Final Result 1

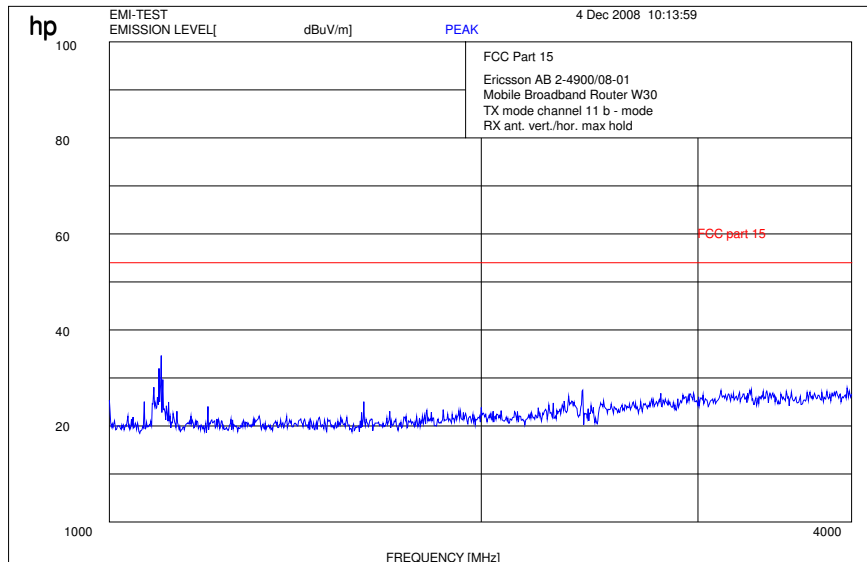
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 34.410400 | 16.9 | 15000.000 | 120.000 | 106.0 | V | 50.0 | 13.1 | 13.1 | 30.0 | |
| 375.013300 | 27.1 | 15000.000 | 120.000 | 383.0 | V | 18.0 | 16.5 | 8.9 | 36.0 | |
| 500.024750 | 27.9 | 15000.000 | 120.000 | 151.0 | H | 93.0 | 18.7 | 8.1 | 36.0 | |
| 625.017750 | 25.8 | 15000.000 | 120.000 | 100.0 | V | 35.0 | 21.1 | 10.2 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 6.30.10 + Service Pack 2

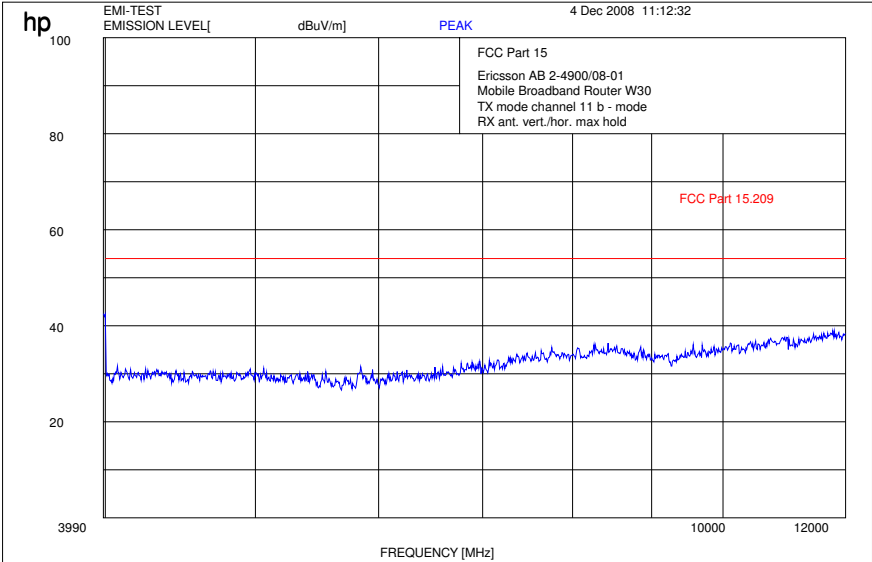
Plot 9: 1 - 4 GHz (highest channel)



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



Plot 10: 4 - 12 GHz (highest channel)



Antenna 1, g – mode 54 Mbit/s

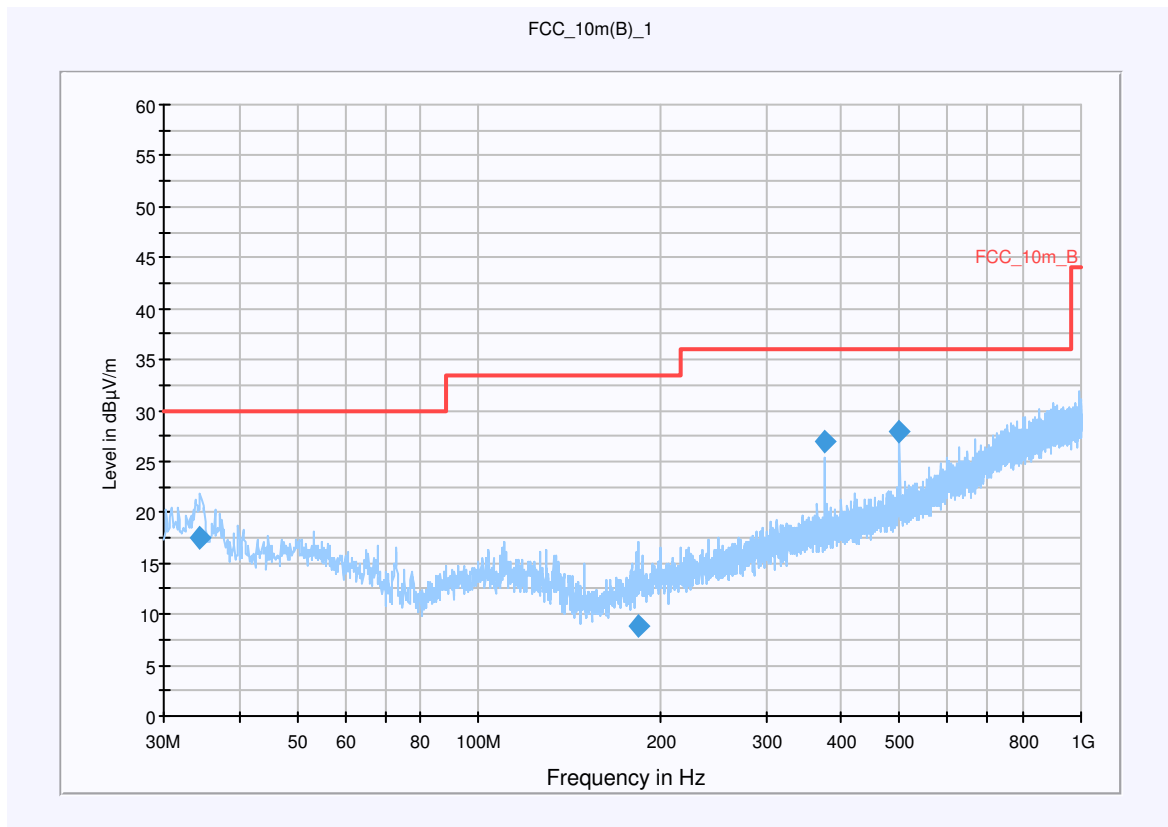
Plot 1: 0.03 - 1 GHz (lowest channel)

Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan mode g; Ch 1; 54 Mbits
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Level Unit: dBµV/m
Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30 MHz - 1 GHz QuasiPeak 120 kHz 15 s Receiver



Final Result 1

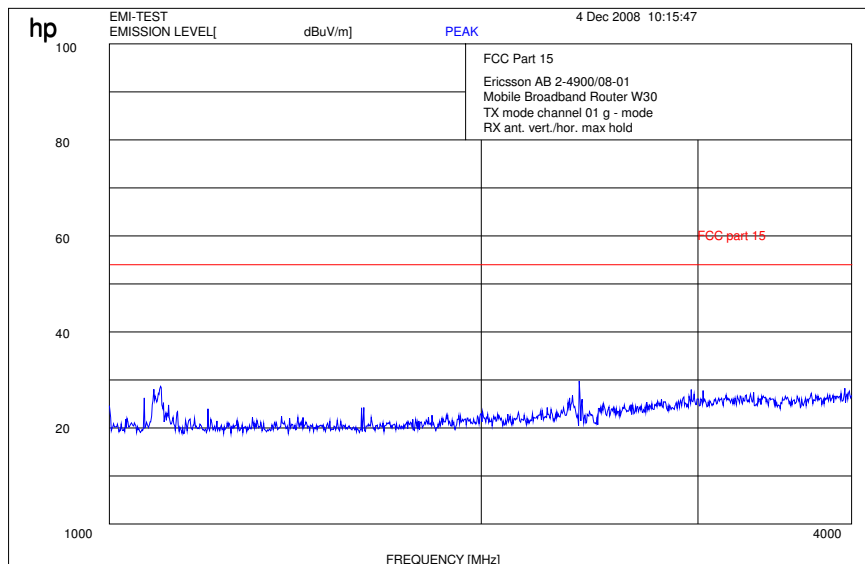
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 34.524350 | 17.5 | 15000.000 | 120.000 | 200.0 | V | 323.0 | 13.1 | 12.5 | 30.0 | |
| 183.924500 | 8.9 | 15000.000 | 120.000 | 100.0 | V | 159.0 | 10.8 | 24.6 | 33.5 | |
| 375.010000 | 27.0 | 15000.000 | 120.000 | 106.0 | V | 40.0 | 16.5 | 9.0 | 36.0 | |
| 500.020700 | 27.9 | 15000.000 | 120.000 | 106.0 | V | 262.0 | 18.7 | 8.1 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 |

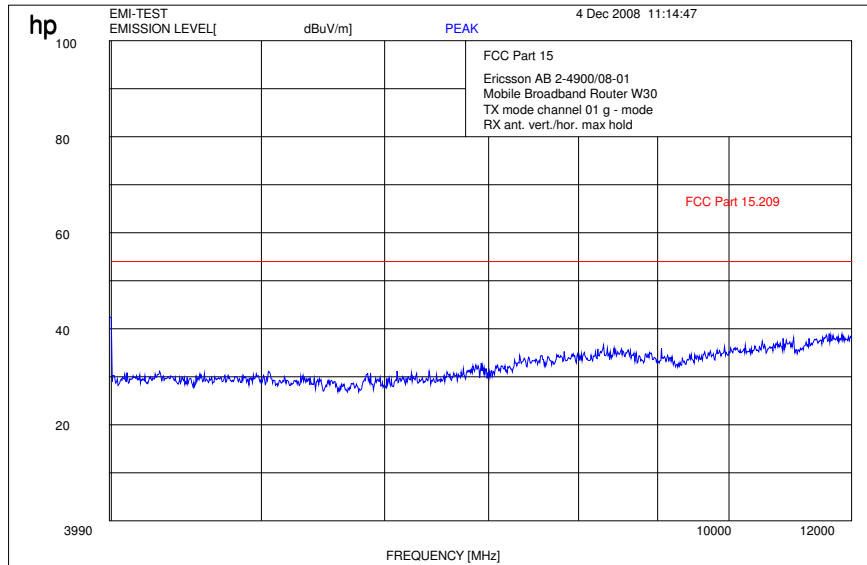
EMC 32 Version 6.30.10 + Service Pack 2

Plot 2: 1 - 4 GHz (lowest channel)

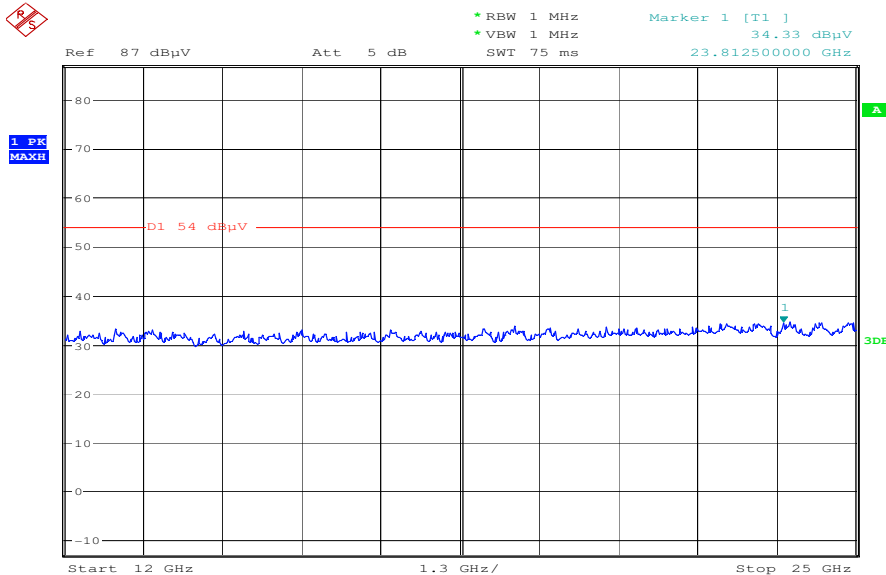


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 4 - 12 GHz (lowest channel)



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



Date: 7.DEC.2008 07:07:41

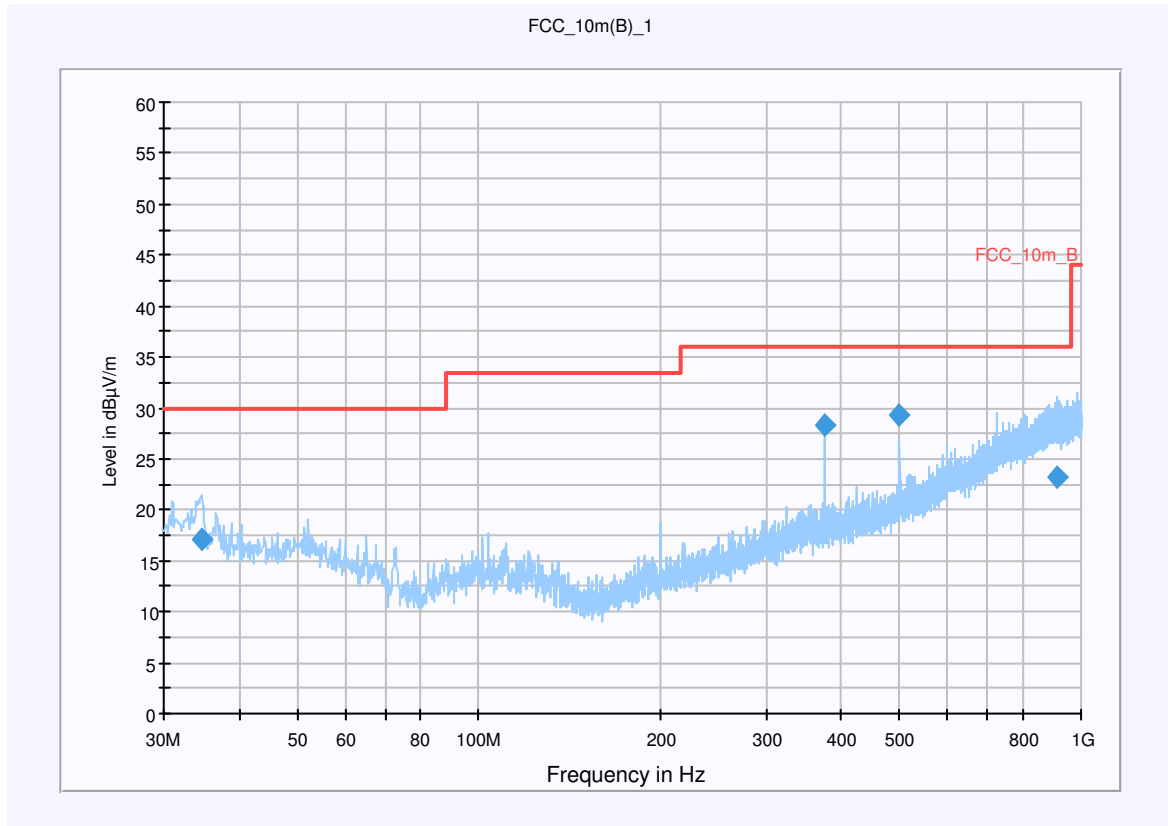
Plot 5: 0.03 - 1 GHz (middle channel)

Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan mode g; Ch 6; 54 Mbits
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Level Unit: dBµV/m
Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30 MHz - 1 GHz QuasiPeak 120 kHz 15 s Receiver



Final Result 1

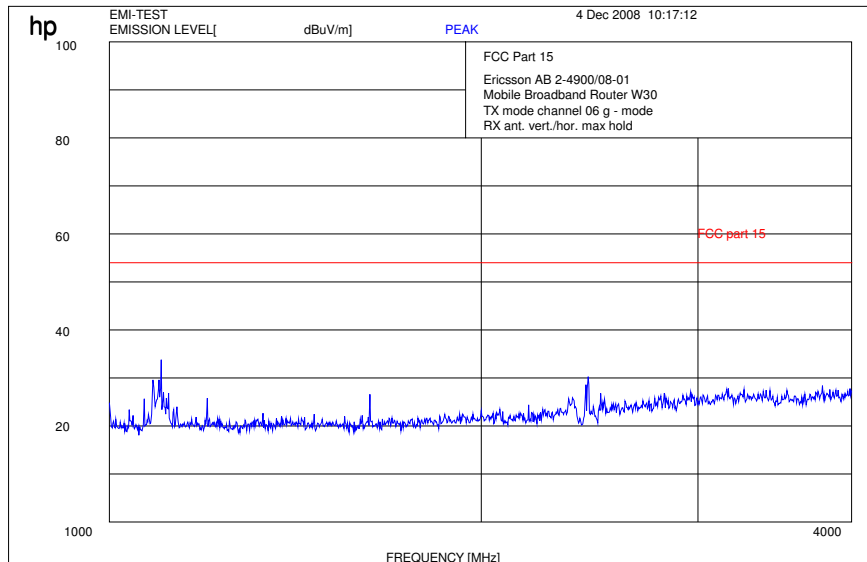
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turtable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|-------------------------|------------|-------------|----------------|---------|
| 34.622050 | 17.2 | 15000.000 | 120.000 | 106.0 | V | 233.0 | 13.1 | 12.8 | 30.0 | |
| 375.021100 | 28.4 | 15000.000 | 120.000 | 384.0 | V | -1.0 | 16.5 | 7.6 | 36.0 | |
| 500.025650 | 29.4 | 15000.000 | 120.000 | 156.0 | H | 275.0 | 18.7 | 6.6 | 36.0 | |
| 911.135850 | 23.1 | 15000.000 | 120.000 | 400.0 | H | 50.0 | 25.8 | 12.9 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 |

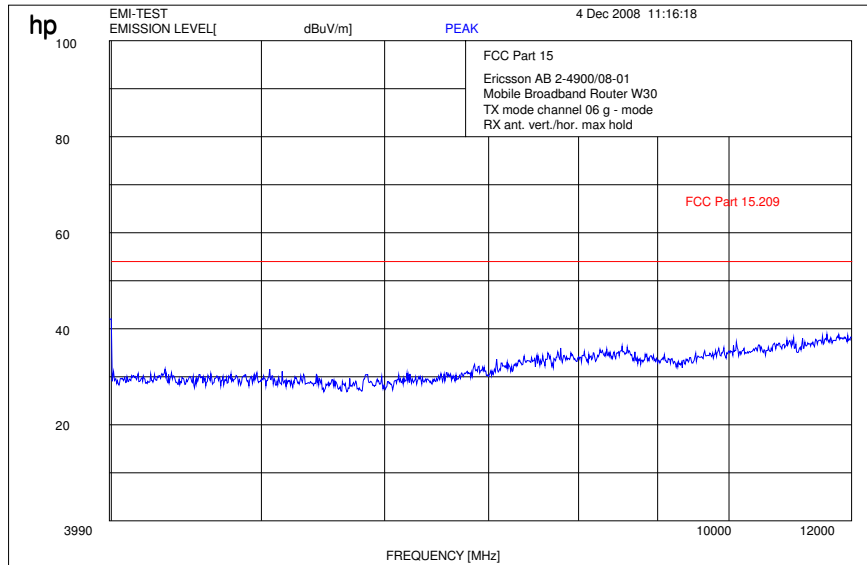
EMC 32 Version 6.30.10 + Service Pack 2

Plot 6: 1 - 4 GHz (middle channel)



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

Plot 7: 4 - 12 GHz (middle channel)



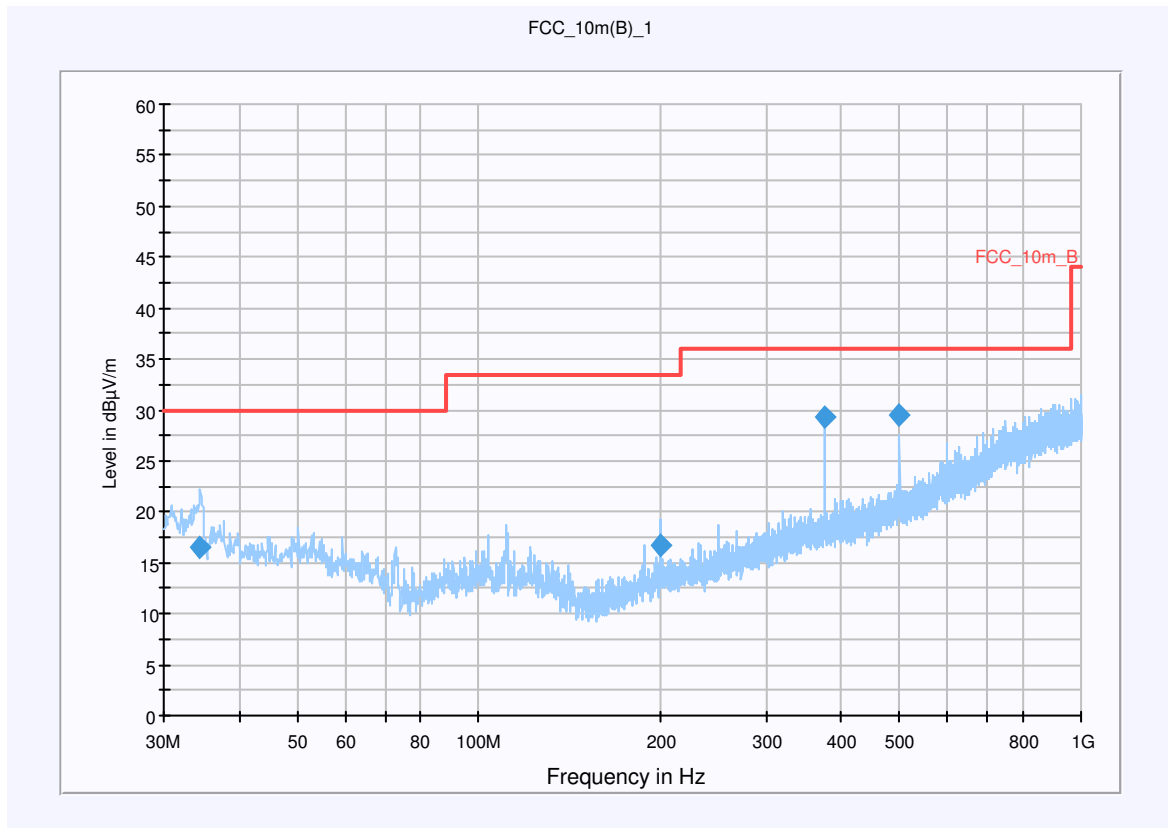
Plot 8: 0.03 - 1 GHz (highest channel)

Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan mode g; Ch 11; 54 Mbps
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Level Unit: dBµV/m
Subrange **Detectors** **IF Bandwidth** **Meas. Time** **Receiver**
 30 MHz - 1 GHz QuasiPeak 120 kHz 15 s Receiver



Final Result 1

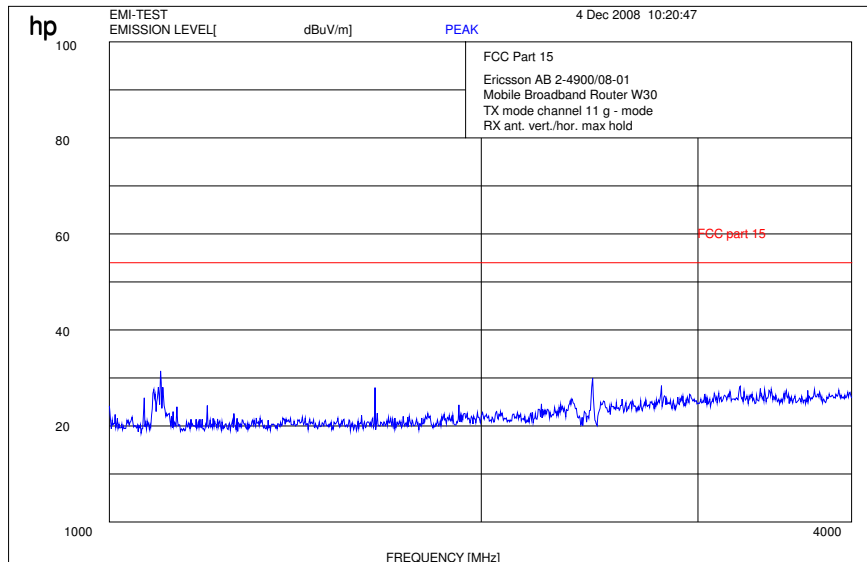
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 34.489250 | 16.5 | 15000.000 | 120.000 | 140.0 | V | 221.0 | 13.1 | 13.5 | 30.0 | |
| 199.987850 | 16.7 | 15000.000 | 120.000 | 114.0 | V | 249.0 | 11.8 | 16.8 | 33.5 | |
| 375.034450 | 29.2 | 15000.000 | 120.000 | 100.0 | V | 0.0 | 16.5 | 6.8 | 36.0 | |
| 500.024600 | 29.5 | 15000.000 | 120.000 | 149.0 | H | 258.0 | 18.7 | 6.5 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 |

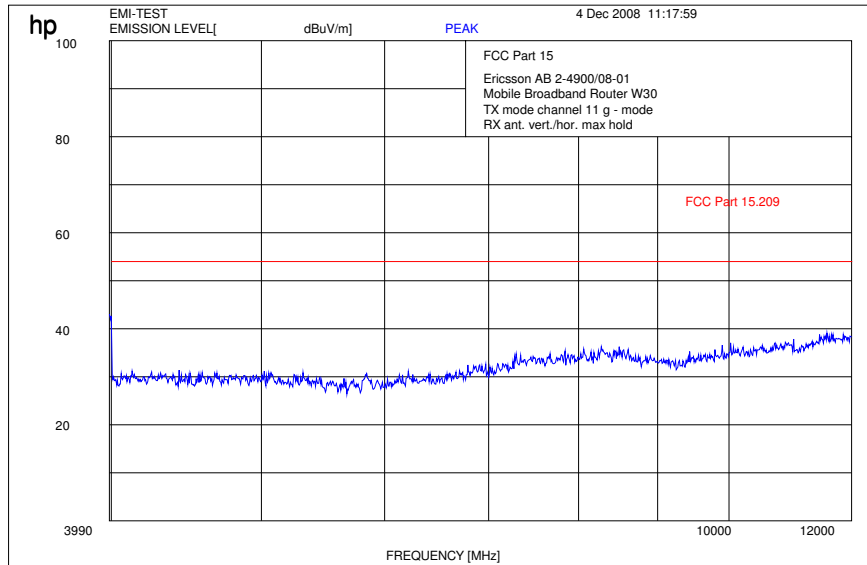
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Plot 9: 1 - 4 GHz (highest channel)



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

Plot 10: 4 - 12 GHz (highest channel)



Results:

| SPURIOUS EMISSIONS LEVEL §15.209 | | | | | | | | |
|----------------------------------|----------|----------------|-----------------------------|----------|----------------|-----------------------------|----------|----------------|
| 2412 MHz | | | 2437 MHz | | | 2462 MHz | | |
| F [MHz] | Detector | Level [dBµV/m] | F [MHz] | Detector | Level [dBµV/m] | F [MHz] | Detector | Level [dBµV/m] |
| No critical peaks detected. | | | No critical peaks detected. | | | No critical peaks detected. | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| Measurement uncertainty | | | ±3 dB | | | | | |

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits: § 15.247 (c)

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

Limits: § 15.109

| Frequency (MHz) | Field strength (dBµV/m) | Measurement distance (m) |
|-----------------|-------------------------|--------------------------|
| 30 - 88 | 30.0 | 10 |
| 88 - 216 | 33.5 | 10 |
| 216 - 960 | 36.0 | 10 |
| above 960 | 54.0 | 3 |

5.14 Spurious Emissions - radiated (Receiver) §15.109 / 209

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

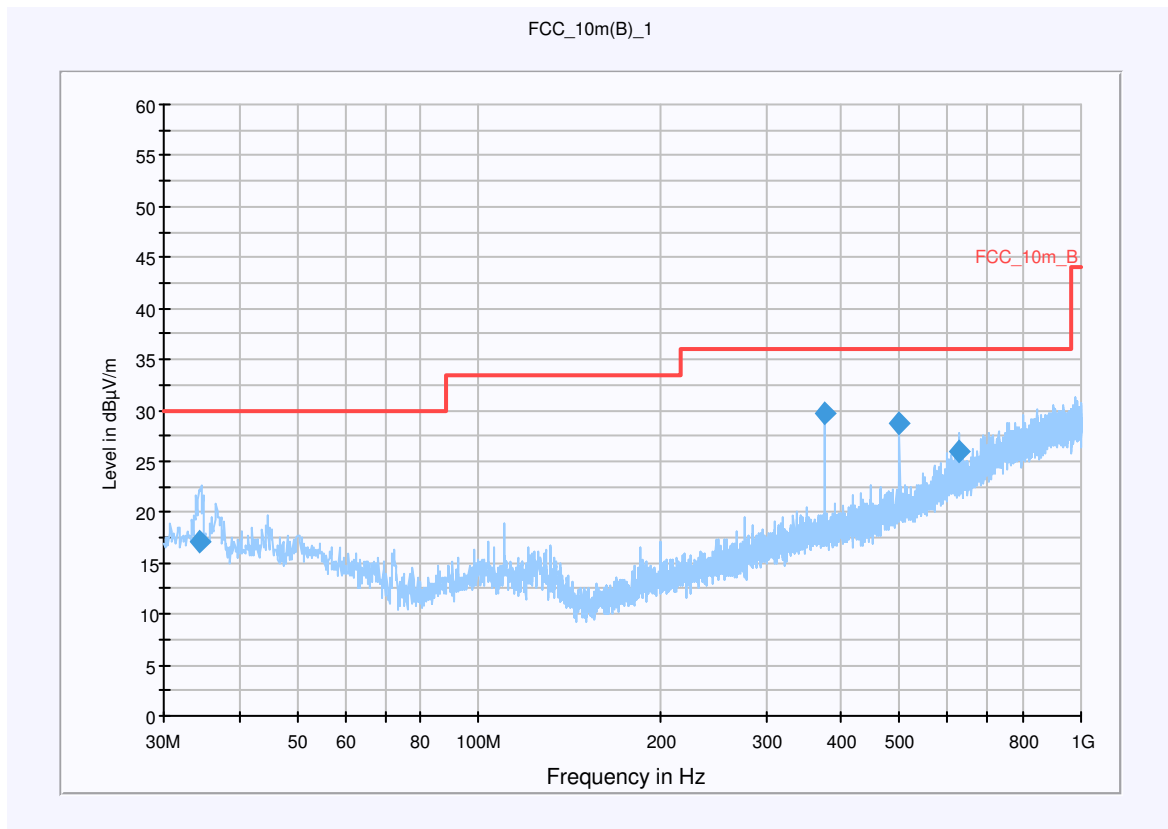
Common Information

EUT: Mobile Broadband Router W30 with Sony Ericsson Module F3507
 Serial Number: T710000005
 Test Description: FCC Part 15 b @ 10 m
 Operating Conditions: W-Lan Rx Mode
 Operator Name: ZAK
 Comment: Powered by 115 V / 60 Hz

Scan Setup: FCC_Fin [EMI radiated]

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

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



Final Result 1

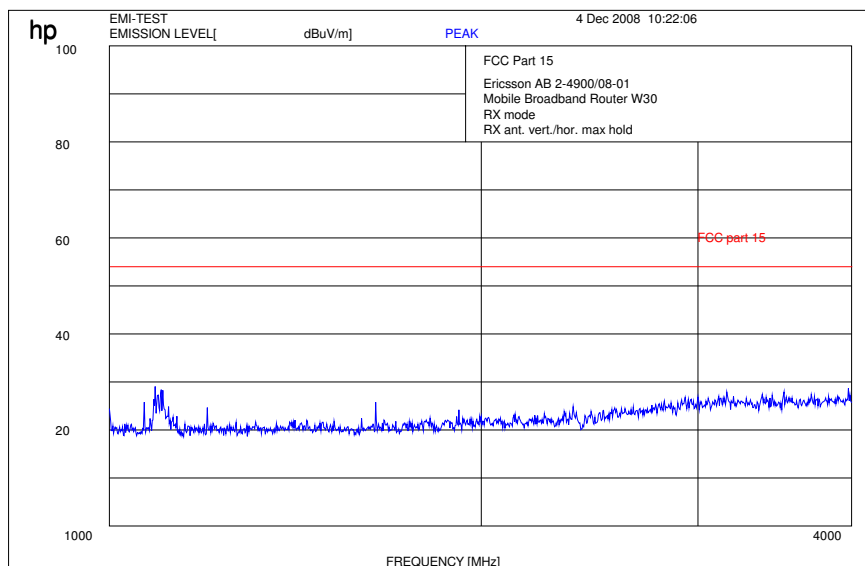
| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 34.532800 | 17.0 | 15000.000 | 120.000 | 100.0 | V | 220.0 | 13.1 | 13.0 | 30.0 | |
| 375.035050 | 29.6 | 15000.000 | 120.000 | 100.0 | V | -1.0 | 16.5 | 6.4 | 36.0 | |
| 500.036750 | 28.8 | 15000.000 | 120.000 | 100.0 | V | 265.0 | 18.7 | 7.2 | 36.0 | |
| 625.028400 | 26.1 | 15000.000 | 120.000 | 200.0 | H | 294.0 | 21.1 | 9.9 | 36.0 | |

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

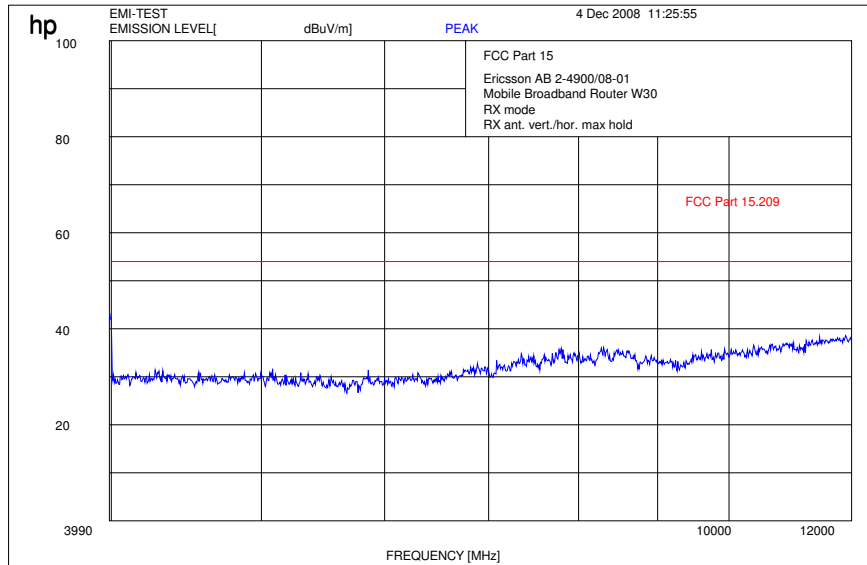
| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 1 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0908) |
| 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 |

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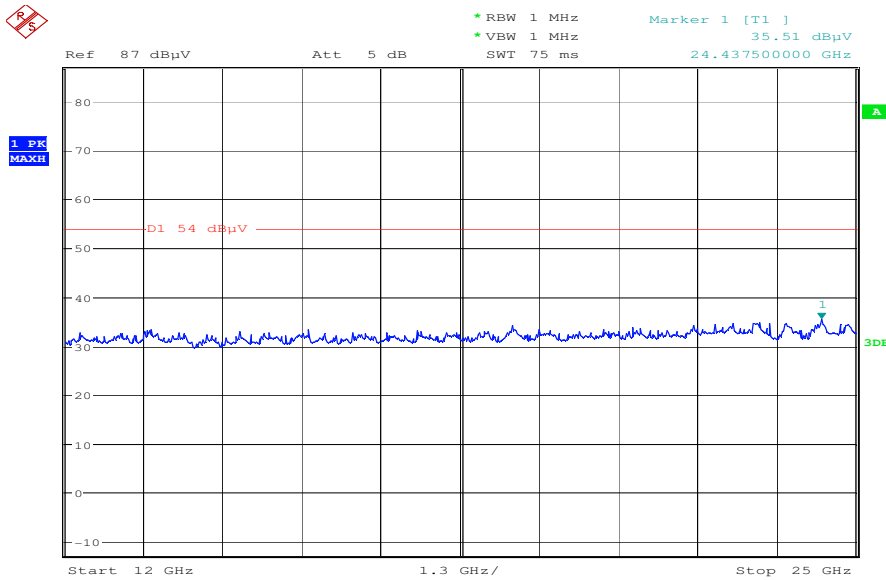
Plot 2: 1 - 4 GHz vertical / horizontal (receiver)



Plot 3: 4 - 12 GHz (receiver)



Plot 4: 12 - 25 GHz (receiver)



Date: 7.DEC.2008 07:08:57

Results:

| Spurious Emissions level [dB μ V/m] | | |
|---|----------|----------------------|
| f[MHz] | Detector | Level [dB μ V/m] |
| No critical peaks detected. | | |
| | | |
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| | | |
| | | |
| | | |
| | | |
| | | |
| Measurement uncertainty | | ±3 dB |

f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW/VBW: 1 MHz

See above plots

Measurement distance see table

Limits: § 15.109

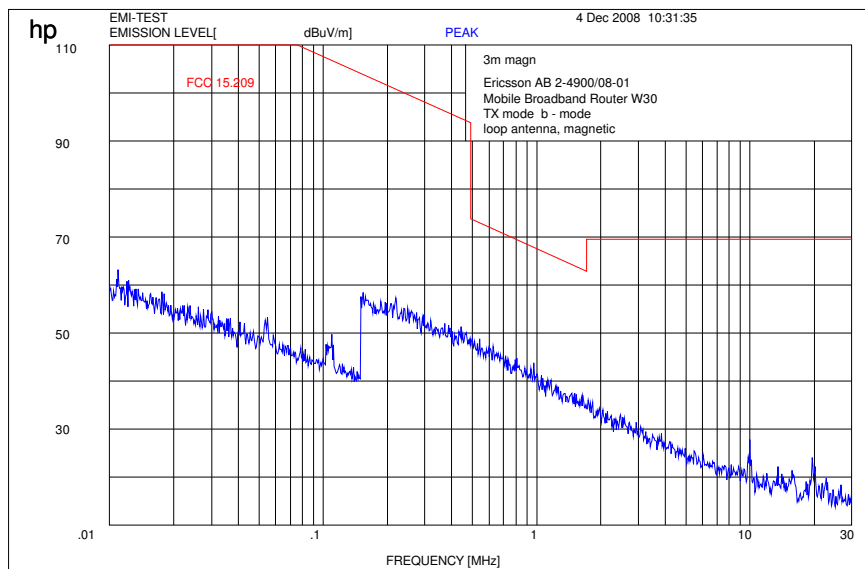
| Frequency (MHz) | Field strength (dB μ V/m) | Measurement distance (m) |
|-----------------|-------------------------------|--------------------------|
| 30 - 88 | 30.0 | 10 |
| 88 - 216 | 33.5 | 10 |
| 216 - 960 | 36.0 | 10 |
| above 960 | 54.0 | 3 |

5.15 Spurious Emissions - radiated < 30 MHz §15.209

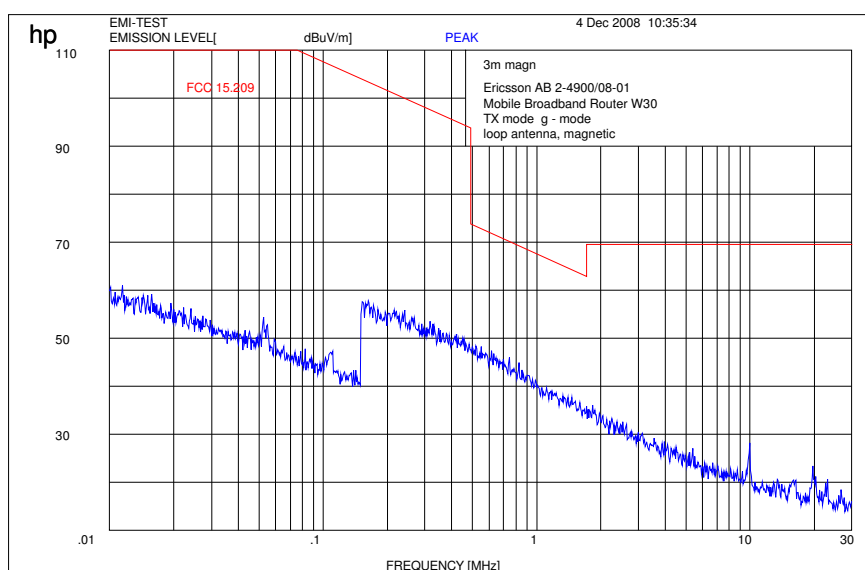
Measured at 3 m distance.

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

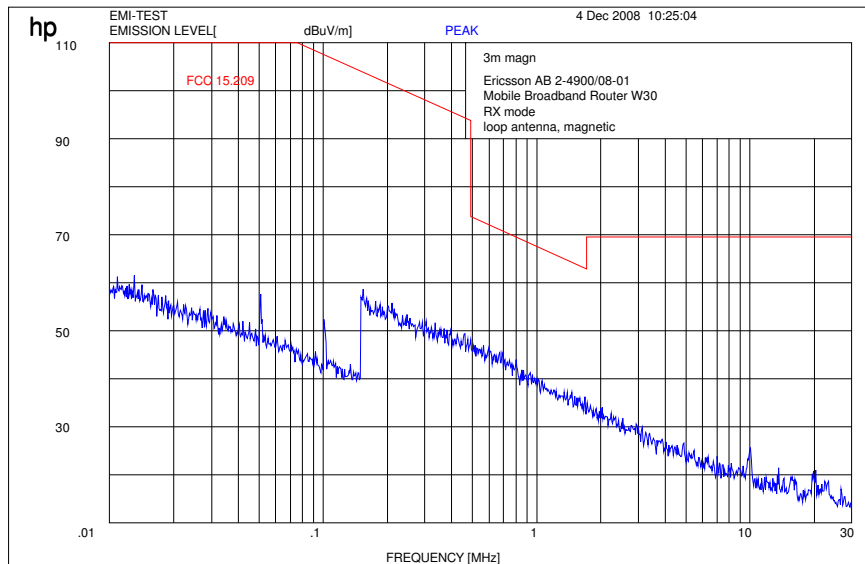
Plot 1: TX mode, b – mode 11 Mbit/s



Plot 2: TX mode, g – mode 54 Mbit/s



Plot 3: RX mode



Limits:

| Frequency (MHz) | Field strength ($\mu\text{V/m}$) | Measurement distance (m) |
|-----------------|------------------------------------|--------------------------|
| 0.009 – 0.490 | 2400/F(kHz) | 300 |
| 0.490 – 1.705 | 24000/F(kHz) | 30 |
| 1.705 – 30.0 | 30 / 29.5 dB $\mu\text{V/m}$ | 30 |
| 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 | 54 dB $\mu\text{V/m}$ | 3 |

5.16 Conducted Emissions < 30 MHz §15.107/207

Not performed!

Plot 1: CISPR 22

We measured in TX and RX mode, L1 and N floating and grounded, max value was hold.

Limits:

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

6 Test equipment and ancillaries used for tests

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

All reported calibration intervals are calibrations according to the EN/ISO/IEC 17025 standard. These calibrations were performed from an accredited external calibration laboratory.

Additional to these calibrations the laboratory performed comparison measurements with other calibrated systems and performed a weekly chamber inspection.

All used devices are connected with a 10 MHz external reference.

According to the manufacturers' instruction is it possible to establish a calibration interval for the FSP unit of 24 month, if the device has an external 10 MHz reference.

Anechoic chamber C:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|----------------------------------|------------|------------------|------------------|------------------------------------|--------------------|------------------|
| 1 | Anechoic chamber | MWB | 87400/02 | 300000996 | Monthly verification | | |
| 2 | System-Rack 85900 | HP I.V. | * | 300000222 | n.a. | | |
| 3 | Measurement System 1 | | | | | | |
| 4 | Spektrum Analyzer 8566B | HP | 3138A07614 | 300001207 | 13.12.2007 | 24 | 13.12.2009 |
| 5 | Spektrum Analyzer Display 85662A | HP | 3144A28627 | 300001208 | 13.12.2007 | 24 | 13.12.2009 |
| 6 | Quasi-Peak-Adapter 85650A | HP | 2811A01204 | 300002308 | 13.12.2007 | 24 | 13.12.2009 |
| 7 | RF-Preselector 85685A | HP | 2837A00778 | 300002448 | 13.12.2007 | 24 | 13.12.2009 |
| 8 | PC Vectra VL | HP | | 300001688 | n.a. | | |
| 9 | Software EMI | HP | | 300000983 | n.a. | | |
| 10 | Measurement System 2 | | | | | | |
| 11 | FSP 30 | R&S | 100886 | 300003575 | 25.08.2008 | 24 | 25.08.2010 |
| 12 | PC | F+W | | | n.a. | | |
| 13 | TILE | TILE | | | n.a. | | |
| 14 | Biconical antenna | EMCO | S/N: 860 942/003 | | Monthly verification (System cal.) | | |
| 15 | Log. Period. Antenna 3146 | EMCO | 2130 | 300001603 | Monthly verification (System cal.) | | |
| 16 | Double Ridged Antenna HP 3115P | EMCO | 3088 | 300001032 | Monthly verification (System cal.) | | |
| 17 | Active Loop Antenna 6502 | EMCO | 2210 | 300001015 | Monthly verification (System cal.) | | |
| 18 | Power Supply 6032A | HP | 2818A03450 | 300001040 | 12.05.2007 | 36 | 12.05.2010 |
| 19 | Busisolator | Kontron | | 300001056 | n.a. | | |
| 20 | Leitungsteiler 11850C | HP | | 300000997 | Monthly verification (System cal.) | | |
| 21 | Power attenuator 8325 | Byrd | 1530 | 300001595 | Monthly verification (System cal.) | | |
| 22 | Band reject filter WRCG1855/1910 | Wainwright | 7 | 300003350 | Monthly verification (System cal.) | | |
| 23 | Band reject filter WRCG2400/2483 | Wainwright | 11 | 300003351 | Monthly verification (System cal.) | | |

System Rack Room 005 :

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|------------------|--------|-------------|------------------|------------------|--------------------|------------------|
| 1 | FSP 30 | R&S | 100886 | 300003575 | 25.08.2008 | 24 | 25.08.2010 |
| 2 | CBT | R&S | 100313 | 300003516 | 03.09.2008 | 24 | 03.09.2010 |
| 3 | Switch Matrix | HP | | 300000929 | n.a. | | |
| 4 | Power Supply | HP | 3041A00544 | 300002270 | 13.05.2007 | 36 | 13.05.2010 |
| 5 | Signal Generator | R&S | 836206/0092 | 300002680 | 30.05.2007 | 36 | 30.05.2010 |

Signalling Units:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|----------------|--------|-------------|------------------|------------------|--------------------|------------------|
| 1 | CBT | R&S | 100313 | 300003516 | 03.09.2008 | 24 | 03.09.2010 |
| 2 | CBT | R&S | 100185 | 300003416 | 27.08.2008 | 24 | 27.08.2010 |
| 3 | CMU-200 | R&S | 103992 | 300003231 | 04.06.2008 | 12 | 04.06.2009 |
| 4 | CMU-200 | R&S | 106240 | 300003321 | 27.08.2008 | 24 | 27.08.2010 |
| 5 | CMU-200 | R&S | 832221/0055 | 300002862 | 20.03.2008 | 24 | 20.03.2010 |

Climatic Box:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|--------------------------|----------------|----------------|------------------|------------------|--------------------|------------------|
| 1 | Climatic box VT 4002 | Heraeus Vötsch | 58566046820010 | 300003019 | 11.05.2007 | 24 | 11.05.2009 |
| 2 | Climatic box CTS T-40/50 | CTS | 064023 | 300003540 | 03.01.2007 | 24 | 03.01.2009 |

SRD Laboratory Room 002:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|---|----------------|----------------|------------------|---------------------------------|--------------------|------------------|
| 1 | System Controller PSM 12 | R&S | 835259/007 | 3000002681-00xx | n.a. | | |
| 2 | Memory Extension PSM-K10 | R&S | To 1 | 3000002681 | n.a. | | |
| 3 | Operating Software PSM-B2 | R&S | To 1 | 3000002681 | n.a. | | |
| 4 | 19" Monitor | | 22759020-ED | 3000002681 | n.a. | | |
| 5 | Mouse | | LZE 0095/6639 | 3000002681 | n.a. | | |
| 6 | Keyboard | | G00013834L461 | 3000002681 | n.a. | | |
| 7 | Spectrum Analyser FSIQ 26 | R&S | 835540/018 | 3000002681-0005 | 10.01.2008 | 24 | 10.01.2010 |
| 8 | Tracking Generator FSIQ-B10 | R&S | 835107/015 | 3000002681 | s.No.7 | | |
| 10 | RF-Generator SMIQ03 (B1 Signal) | R&S | 835541/056 | 3000002681-0002 | 26.08.2008 | 36 | 26.08.2011 |
| 11 | Modulation Coder SMIQ-B20 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 12 | Data Generator SMIQ-B11 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 13 | RF Rear Connection SMIQ-B19 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 14 | Fast CPU SM-B50 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 15 | FM Modulator SM-B5 | R&S | 835676/033 | 3000002681 | s.No.10 | | |
| 16 | RF-Generator SMIQ03 (B2 Signal) | R&S | 835541/055 | 3000002681-0001 | 25.08.2008 | 36 | 25.08.2011 |
| 17 | Modulation Coder SMIQ-B20 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 18 | Data Generator SMIQ-B11 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 19 | RF Rear Connection SMIQ-B19 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 20 | Fast CPU SM-B50 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 21 | FM Modulator SM-B5 | R&S | 836061/022 | 3000002681 | s.No.16 | | |
| 22 | RF-Generator SMP03 (B3 Signal) | R&S | 835133/011 | 3000002681-0003 | 26.08.2008 | 36 | 26.08.2011 |
| 23 | Attenuator SMP-B15 | R&S | 835136/014 | 3000002681 | S.No.22 | | |
| 24 | RF Rear Connection SMP-B19 | R&S | 834745/007 | 3000002681 | S.No.22 | | |
| 25 | Power Meter NRVD | R&S | 835430/044 | 3000002681-0004 | 26.08.2008 | 24 | 26.08.2010 |
| 26 | Power Sensor NRVD-Z1 | R&S | 833894/012 | 3000002681-0013 | 26.08.2008 | 24 | 26.08.2010 |
| 27 | Power Sensor NRVD-Z1 | R&S | 833894/011 | 3000002681-0010 | 26.08.2008 | 24 | 26.08.2010 |
| 28 | Rubidium Standard RUB | R&S | | 3000002681-0009 | 27.08.2008 | 24 | 27.08.2010 |
| 29 | Switching and Signal Conditioning Unit SSCU | R&S | 338864/003 | 3000002681-0006 | Verified with path compensation | | |
| 30 | Laser Printer HP Deskjet 2100 | HP | N/A | 3000002681-0011 | n.a. | | |
| 31 | 19" Rack | R&S | 11138363000004 | 3000002681 | n.a. | | |
| 32 | RF-cable set | R&S | N/A | 3000002681 | n.a. | | |
| 33 | IEEE-cables | R&S | N/A | 3000002681 | n.a. | | |
| 34 | Sampling System FSIQ-B70 | R&S | 835355/009 | 3000002681 | s.No.7 | | |
| 35 | RSP programmable attenuator | R&S | 834500/010 | 3000002681-0007 | 26.08.2008 | 24 | 26.08.2010 |
| 36 | Signalling Unit | R&S | 838312/011 | 3000002681 | n.a. | | |
| 37 | NGPE programmable Power Supply for EUT | R&S | 192.033.41 | 3000002681 | | | |
| 39 | Power Splitter 6005-3 | Inmet Corp. | none | 300002841 | 23.12.2006 | 24 | 23.12.2008 |
| 40 | SMA Cables SPS-1151-985-SPS | Insulated Wire | different | different | n.a. | | |
| 41 | CBT32 with EDR Signalling Unit | R&S | | | | | |
| 42 | Coupling unit | Narda | N/A | -- | n.a. | | |
| 43 | 2xSwitch Matrix PSU | R&S | 872584/021 | 300001329 | n.a. | | |
| 44 | RF-cable set | R&S | N/A | different | n.a. | | |
| 45 | IEEE-cables | R&S | N/A | -- | n.a. | | |

Note: 3000002681-00xx inventoried as a system

SRD Laboratory Room 005:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|----------------------------------|--------|------------|------------------|------------------|--------------------|------------------|
| 1 | Spektrum Analyzer 8566B | HP | 2747A05275 | 300000219 | 18.01.2008 | 24 | 18.01.2010 |
| 2 | Spektrum Analyzer Display 85662A | HP | 2816A16497 | 300001690 | 23.01.2008 | 24 | 23.01.2010 |
| 3 | Quasi-Peak-Adapter 85650A | HP | 2811A01135 | 300000216 | 23.01.2008 | 24 | 23.01.2010 |
| 4 | Power Supply | Heiden | 003202 | 300001187 | 12.05.2007 | 36 | 12.05.2010 |
| 5 | Power Supply | Heiden | 1701 | 300001392 | 12.05.2007 | 36 | 12.05.2010 |

SRD Laboratory Room 011:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|-----------------|--------|------------|------------------|------------------|--------------------|------------------|
| 1 | NRP Power Meter | R&S | 100212 | 300003780 | 27.02.2008 | 24 | 27.02.2010 |

Anechoic chamber F:

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|----|---|--------------------------|------------|------------------|------------------|--------------------|------------------|
| 1 | Control Computer | F+W | FW0502032 | 300003303 | -/- | -/- | -/- |
| 2 | Trilog Antenna | 9163-295 | -/- | -/- | 30.04.2008 | 24 | 30.04.2010 |
| 3 | Amplifier - 0518C-138 | Veritech Micro-wave Inc. | -/- | -/- | -/- | -/- | -/- |
| 4 | Switch - 3488A | HP | | 300000368 | -/- | -/- | -/- |
| 5 | EMI Test receiver - ESCI | R&S | 100083 | 300003312 | 31.01.2007 | 24 | 31.01.2009 |
| 6 | Turntable Controller - 1061 3M | EMCO | 1218 | 300000661 | -/- | -/- | -/- |
| 7 | Tower Controller 1051 Controller | EMCO | 1262 | 300000625 | -/- | -/- | -/- |
| 8 | Tower - 1051 | EMCO | 1262 | 300000625 | -/- | -/- | -/- |
| 10 | Ultra Notch-Filter Rejected band Ch. 62 | WRCD | 9 | -/- | -/- | -/- | -/- |

7 Photographs of the Test Set-up

Photo documentation:

Photo 1:



Photo 2:

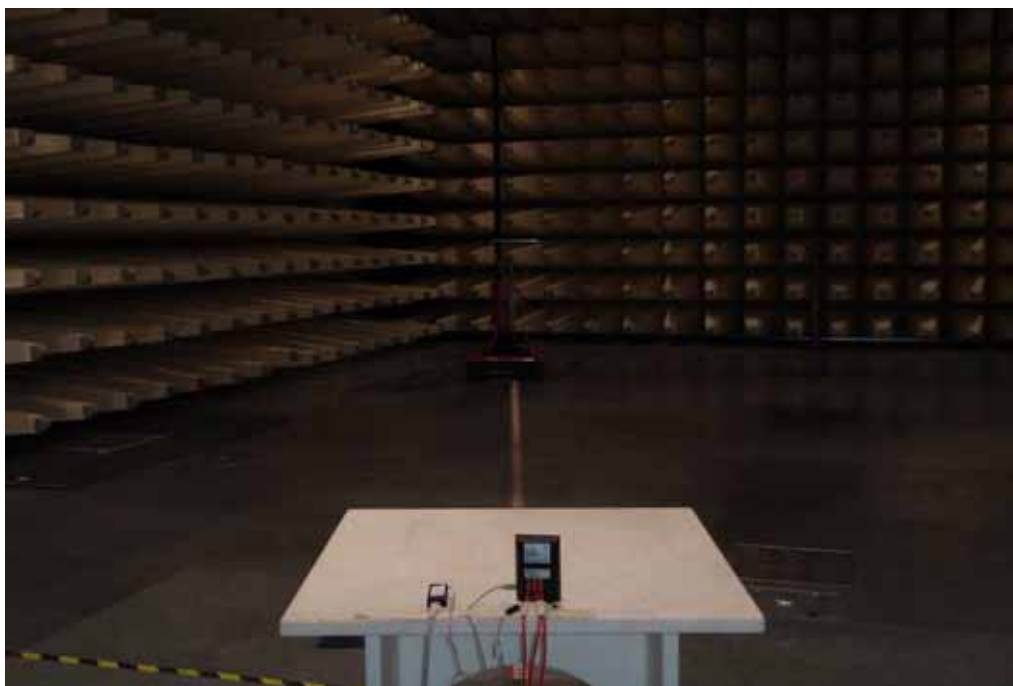


Photo 3:



Photo 4:



8 Photographs of the EUT

Photo documentation:

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 5:



Photo 6:



Photo 7:



Photo 8:



Photo 9:



Photo 10:



Photo 11:



Photo 12:



Photo 13:



Photo 14: GSM / UMTS antenna



Photo 15: GSM / UMTS antenna



Photo 16:



Photo 17:

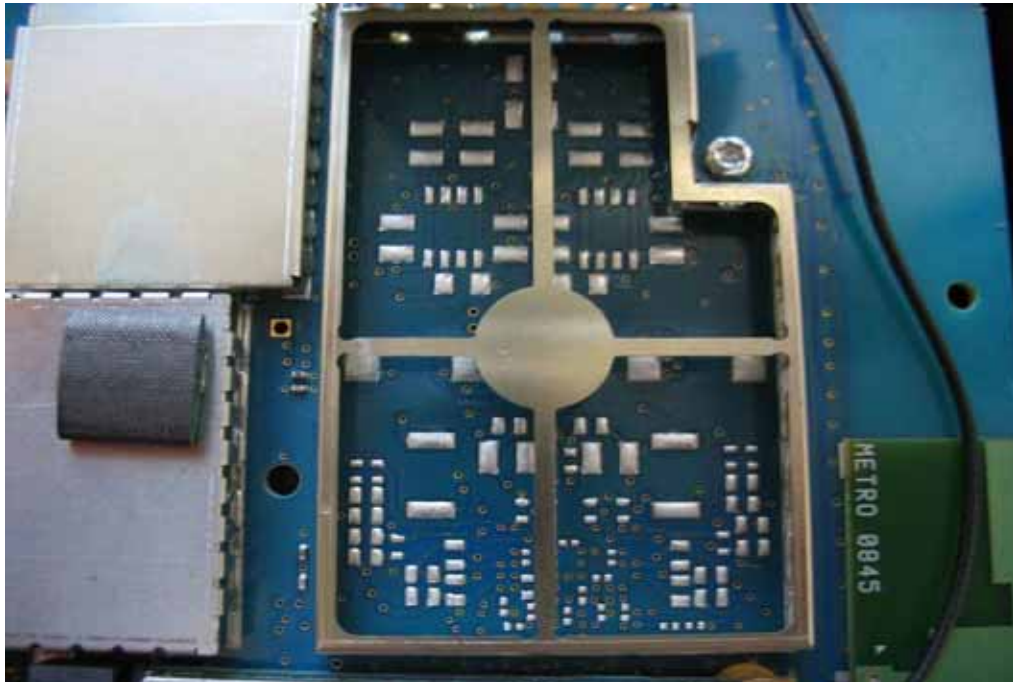


Photo 18:

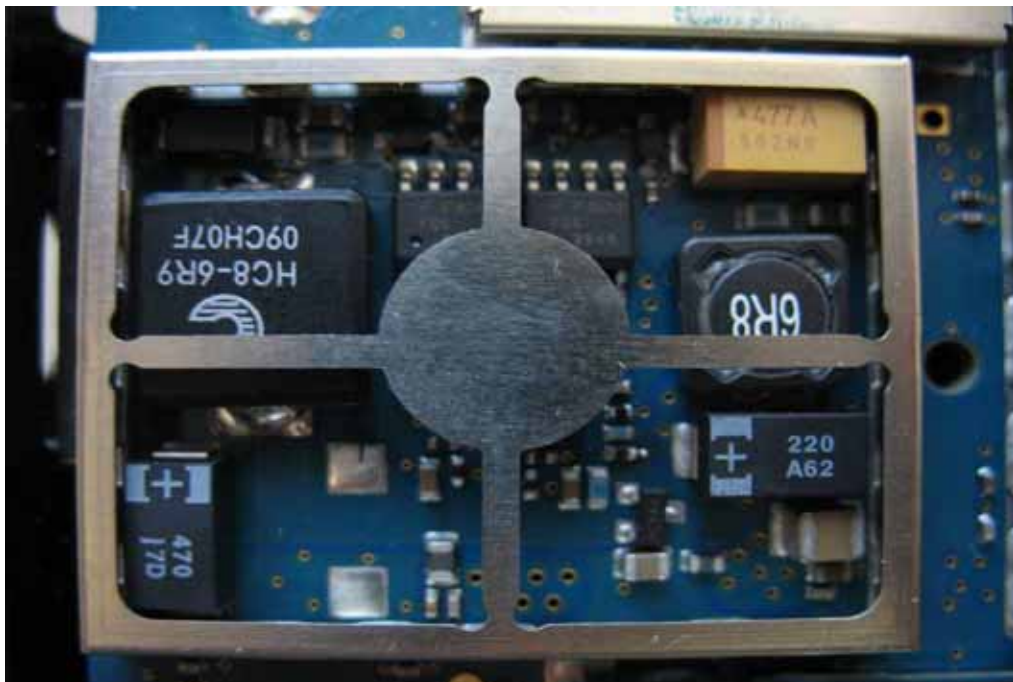


Photo 19:

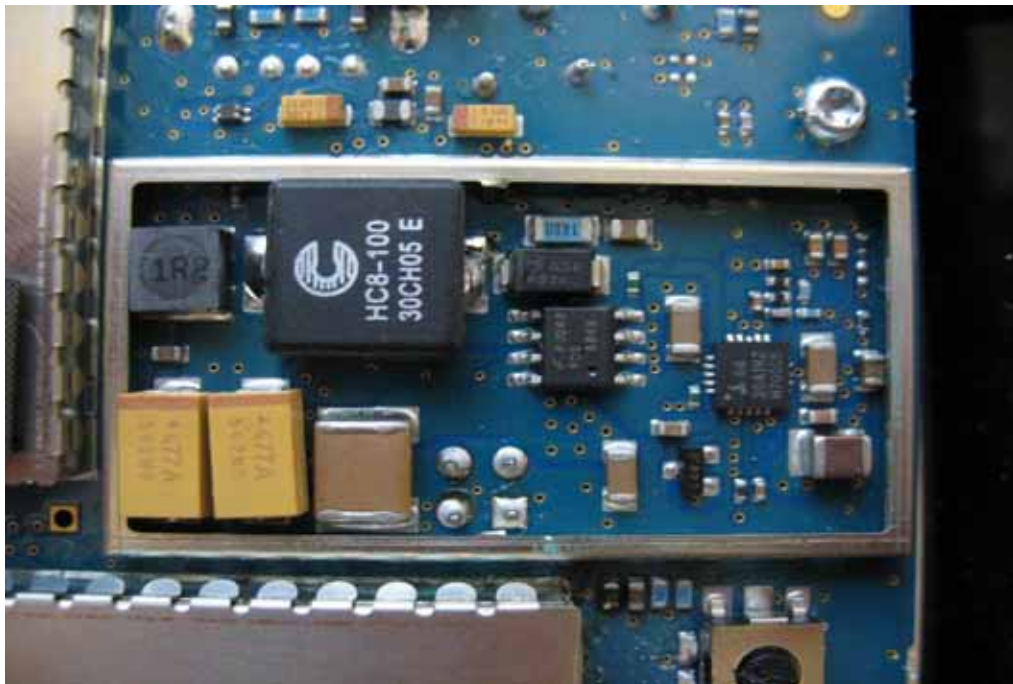


Photo 20:



Photo 21:



Photo 22:



Photo 23:



Photo 24: WLAN antenna

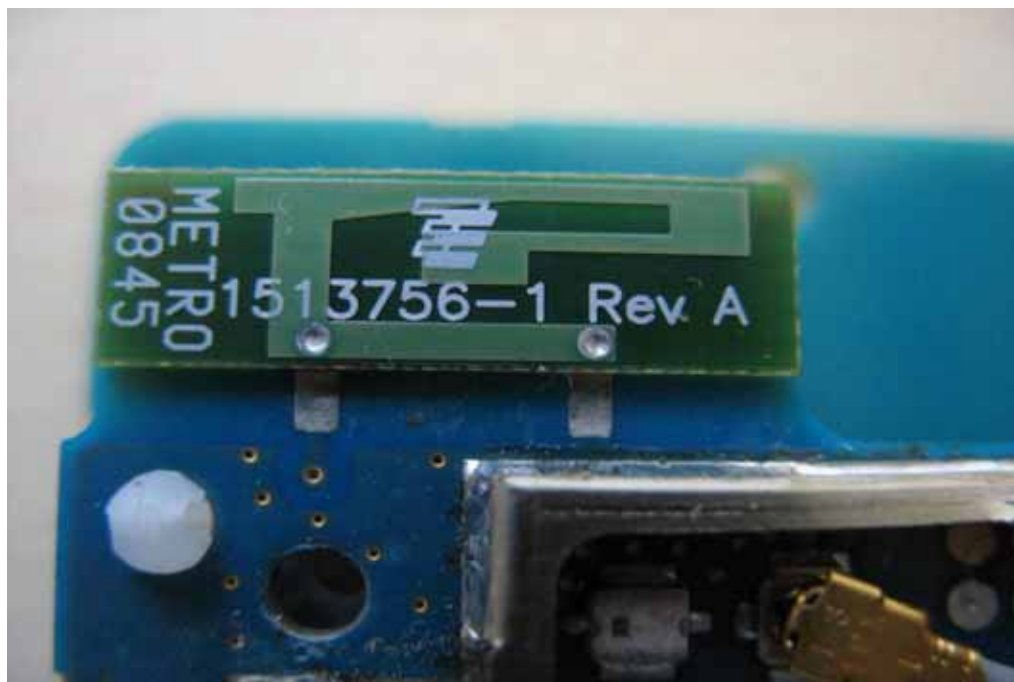


Photo 25: WLAN antenna



Photo 26:

