



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.: 3462C-1 (IC)

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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Test report no. : 1-0685-01-19/08-B
**Type identification : MMS+WLAN a/b/g Modul für Monitore
M8100-66490 antenna**
Applicant : Philips Medizin Systeme Böblingen GmbH
FCC ID : PQC-WLANBV1
IC Certification No : 3549C-WLANBV1
**Test standards : 47 CFR Part 15
RSS - 210 Issue 7**

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1 General information

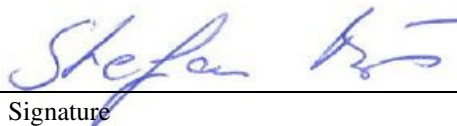
1.1 Notes

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:

2009-02-18

Stefan Bös



Date

Name

Signature

2009-02-18

Marco Bertolino



Date

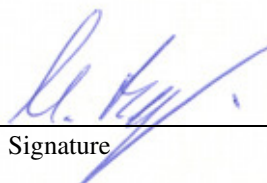
Name

Signature

Technical responsibility for area of testing:

2009-02-18

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: | Philips Medizin Systeme Böblingen GmbH |
| Street: | Hewlett-Packard-Strasse 2 |
| Town: | 71034 Böblingen |
| Country: | Germany |
| Telephone: | -/- |
| Fax: | +49-7031-463 2944 |
| Contact: | Herrn Stefan Breuer |
| E-mail: | stefan.breuer@philips.com |
| Telephone: | +49-7031-463 2321 |

1.4 Application details

| | |
|--|------------|
| Date of receipt of order: | 2008-10-25 |
| Date of receipt of test item: | 2008-10-01 |
| Date of start test: | 2008-10-01 |
| Date of end test: | 2009-01-28 |
| Persons(s) who have been present during the test: | -/- |

2 Test standard/s:

| | | |
|-------------------|---------|---|
| 47 CFR Part 15 | 2007-09 | 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: | Philips Medizin Systeme Böblingen GmbH |
| Street: | Hewlett-Packard-Strasse 2 |
| Town: | 71034 Böblingen |
| Country: | Germany |

3.1.1 Test item

| | | |
|----------------------|---|--|
| Kind of test item | : | Module for healthcare monitoring systems |
| Type identification | : | MMS+WLAN a/b/g Modul für Monitore M8100-66490 antenna |
| S/N serial number | : | FH 830 00187 |
| HW hardware status | : | 0839 |
| SW software status | : | -/- |
| Frequency Band [MHz] | : | ISM Band 5725 – 5850 MHz |
| Type of Modulation | : | OFDM |
| Number of channels | : | 4 |
| Antenna | : | PCB antenna 1 M8100-66490 |
| Power Supply | : | 5 V / 500 mA DC over USB interface |
| Temperature Range | : | -20 °C to +55 °C |

OFDM mode: Max. power radiated: 21.74 dBm

FCC ID: PQC-WLANBV1
IC: 3549C-WLANBV1

3.1.2 Additional EUT information For IC Canada (appendix 2)

| | |
|--|---|
| IC Registration Number: | 3549C-WLANBV1 |
| Model Name: | MMS+WLAN a/b/g Modul für Monitore |
| Manufacturer (complete Address): | Philips Medizin Systeme Böblingen GmbH Hewlett-Packard-Strasse 2 71034 Böblingen Germany |
| 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]: | ISM Band 5725 – 5850 MHz |
| RF: Power [W] (max): | OFDM: Rad. EIRP: 149.28 mW Conducted: 114.29 mW |
| Antenna Type: | PCB antenna 1 M8100-66490 |
| Occupied Bandwidth (99% BW) [kHz]: | Not performed! |
| Type of Modulation: | OFDM |
| Emission Designator (TRC-43): | Not performed! |
| Transmitter Spurious (worst case) [dBµV/m in 3m]: | 52.99 |
| Receiver Spurious (worst case) [dBµV/m in 3m]: | 51.20 |

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: 2009-02-18

Signature:



Test engineer: Marco Bertolino

Date: 2009-02-18

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: **3549C**
2. MODEL NUMBER: **MMS+WLAN a/b/g Modul für Monitore**
3. MANUFACTURER: **Philips Medizin Systeme Böblingen GmbH**
4. TYPE OF EVALUATION: **(c) RF Evaluation**

(c) RF Evaluation

- Evaluated against exposure limits: General Public Use Controlled Use
- Duty cycle used in evaluation: 99 %
- Standard used for evaluation: RSS-102 Issue 2 (2005-11)
- Measurement distance: 0.20 m
- RF value: 0.297 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: Dipl.-Ing. (FH) Stefan Bös
Title: Project Engineer
Company: Cetecom ICT Services GmbH

Name: Dipl.-Ing. (FH) Marco Bertolino
Title: Engineer
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 | 20 |
| Nominal Humidity | H _{nom} | % | 52 |
| Nominal Power Source | V _{nom} | V | 5 V / 500 mA |

Type of power source: DC over USB interface

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 | 2009-02-18 | -/- |

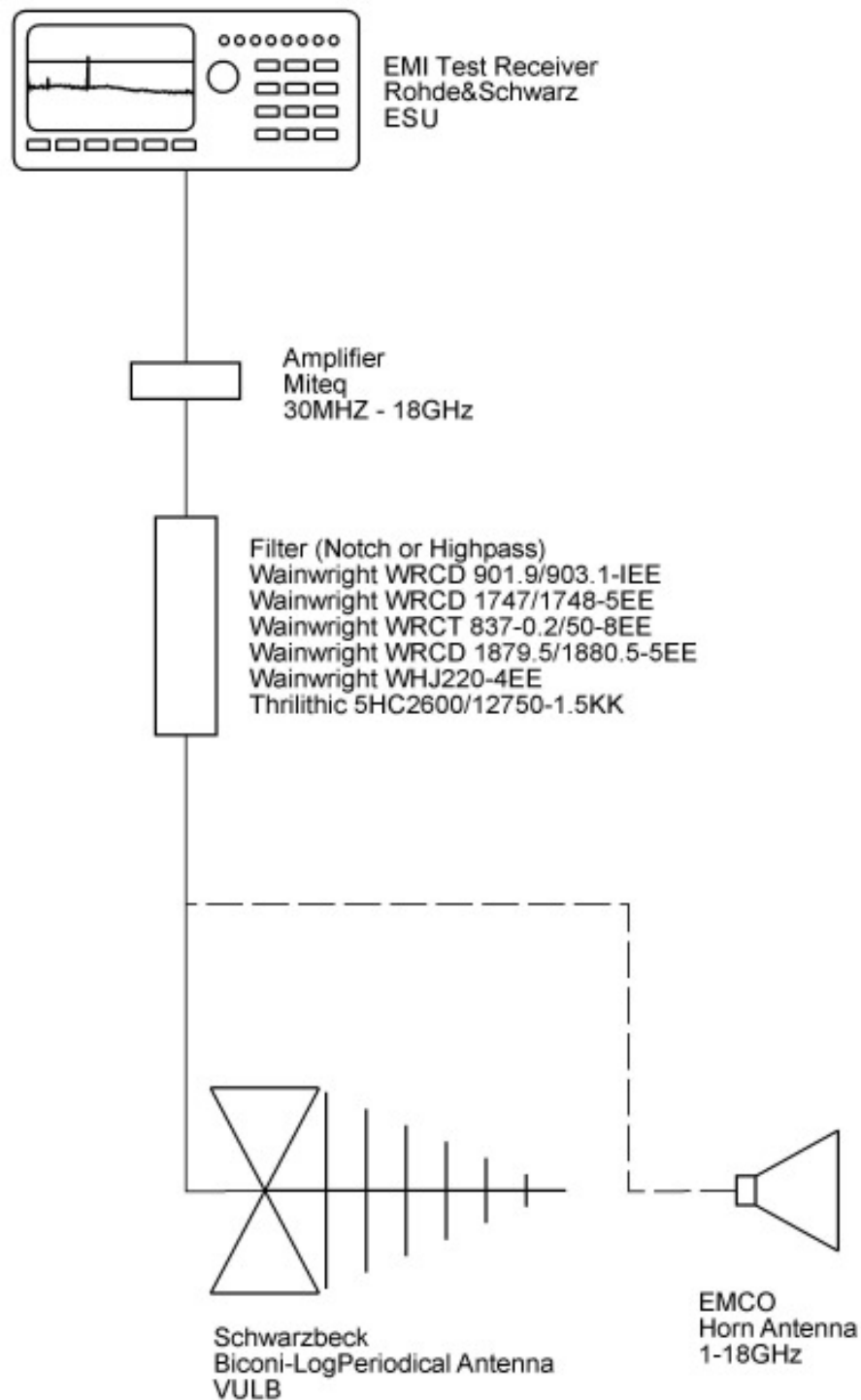
| Test Specification Clause | Test Case | Pass | Fail | Not applicable | Not performed |
|---------------------------|---|------|------|----------------|---------------|
| None | Antenna Gain | | | | Yes |
| §15.247 (e) | Peak power spectral density | | | | Yes |
| §15.247(a)(2) | Spectrum Bandwidth 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 |

For the PCB antenna 1 are only delta measurements performed.

5 RF measurement testing

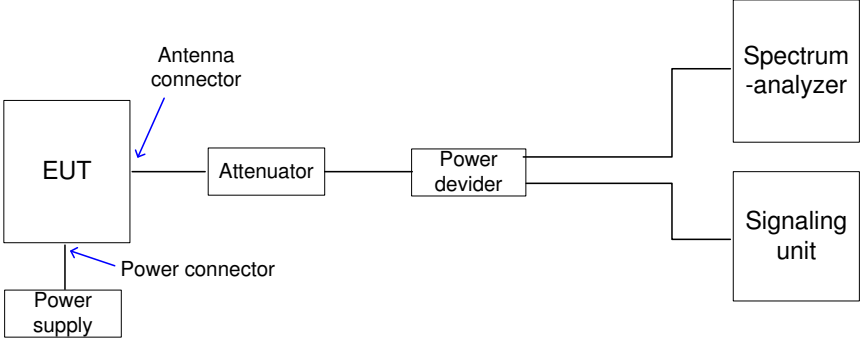
5.1 Description of test set-up

5.1.1 Radiated measurements



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

Test report: 1- 0685-01-21/08 full test with rod antenna

5.3 Additional comments

For the PCB antenna 1 only delta measurements were performed.

The followings power settings are declared by the manufacture. All measurements are performed with the specified settings.

target power file for AR6000 802.11a/b/g with super a/g TB111 Reference Design card

11a Target Power table:

Rules:

- # 1. up to a maximum of 8 test frequencies
- # 2. test frequencies DO NOT need to cover the entire range of 5180-5850. It is allowed to provide data for a smaller range. for all channels outside of test frequencies range, target power will be assumed 0dB.
- # 3. specify mask/PER limited target power for various rates

#BEGIN_11a_TARGET_POWER_TABLE

| # test_frequencies | 6-24_target | 36_target | 48_target | 54_target |
|--------------------|-------------|-----------|-----------|-----------|
| 5180 | 15 | 15 | 15 | 15 |
| 5240 | 15 | 15 | 15 | 15 |
| 5320 | 15 | 15 | 15 | 15 |
| 5440 | 15 | 15 | 15 | 15 |
| 5460 | 15 | 15 | 15 | 15 |
| 5500 | 15 | 15 | 15 | 15 |
| 5700 | 15 | 15 | 15 | 15 |
| 5745 | 15 | 15 | 15 | 15 |

#END_11a_TARGET_POWER_TABLE

11b Target Power table:

Rules:

- # 1. Need to define exactly 2 test frequencies in 2.412 - 2.484 G range.
- # 2. test frequencies DO NOT need to cover the entire range of 2412-2484. It is allowed to provide data for a smaller range. for all channels outside of test frequencies range, target power will be assumed 0dB.
- # 3. specify mask/PER limited target power for various rates

#BEGIN_11b_TARGET_POWER_TABLE

| # test_frequencies | 1_target | 2_target | 5.5_target | 11_target |
|--------------------|----------|----------|------------|-----------|
| 2412 | 15 | 15 | 15 | 15 |
| 2484 | 15 | 15 | 15 | 15 |

#END_11b_TARGET_POWER_TABLE

ofdm@2p4 Target Power table:

Rules:

- # 1. up to a maximum of 3 test frequencies in 2.412 - 2.484 G range
- # 2. test frequencies DO NOT need to cover the entire range of 2412-2484. It is allowed to provide data for a smaller range. for all channels outside of test frequencies range, target power will be assumed 0dB.

3. specify mask/PER limited target power for various rates

#

#BEGIN_11g_TARGET_POWER_TABLE

test_frequencies 6-24_target 36_target 48_target 54_target

2412 15 15 15 15

2437 15 15 15 15

2472 15 15 15 15

#END_11g_TARGET_POWER_TABLE

Test Groups:

Rules:

#

1. Specify up to 8 band edges for each test group.

#

2. If no backoff desired at a band edge, give a large number (e.g, 30) so

#

that the driver determined limit becomes the target power.

#

#BEGIN_TEST_GROUPS

Test Group 1: US and CANADA (FCC)

| # | test_group_code | BE1 | BE2 | BE3 | BE4 | BE5 | BE6 | BE7 | BE8 | |
|---|-----------------|------|------|------|------|------|------|------|------|-----------------------|
| | 0x10 | 5180 | 5200 | 5260 | 5320 | 5500 | 5520 | 5700 | 5745 | |
| | | 11 | 11 | 15 | 15 | 17 | 17 | 17 | 17 | # Band Edge Max Power |
| | | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | # in-band flag |

Test Group 3: US and CANADA (FCC) 802.11b mode CTL

| # | test_group_code | BE1 | BE2 | BE3 | |
|---|-----------------|------|------|------|-----------------------|
| | 0x11 | 2412 | 2437 | 2442 | |
| | | 17 | 18 | 17 | # Band Edge Max Power |
| | | 1 | 0 | 1 | # in-band flag |

Test Group 4: US and CANADA (FCC) 802.11g mode CTL

| # | test_group_code | BE1 | BE2 | BE3 | BE4 | |
|---|-----------------|------|------|------|------|-----------------------|
| | 0x12 | 2412 | 2417 | 2457 | 2462 | |
| | | 16 | 18 | 18 | 17 | # Band Edge Max Power |
| | | 0 | 1 | 0 | 0 | # in-band flag |

Test Group 6: JAPAN (MKK)

| # | test_group_code | BE1 | BE2 | |
|---|-----------------|------|------|-----------------------|
| | 0x40 | 5170 | 5230 | |
| | | 17 | 17 | # Band Edge Max Power |
| | | 0 | 0 | # in-band flag |

Test Group 7: EUROPE (ETSI)

| # | test_group_code | BE1 | BE2 | BE3 | BE4 | BE5 | BE6 | BE7 | |
|---|-----------------|------|------|------|------|------|------|------|-----------------------|
| | 0x30 | 5180 | 5320 | 5500 | 5700 | 5745 | 5765 | 5825 | |
| | | 17 | 17 | 17 | 17 | 17 | 17 | 17 | # Band Edge Max Power |
| | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | # in-band flag |

Test Group 8: EUROPE (ETSI) 802.11b mode CTL

| # | test_group_code | BE1 | BE2 | BE3 | |
|---|-----------------|------|------|------|-----------------------|
| | 0x31 | 2412 | 2417 | 2472 | |
| | | 16 | 16 | 16 | # Band Edge Max Power |
| | | 0 | 1 | 0 | # in-band flag |

#END_TEST_GROUPS

5.4 Manufacturer's Declaration

The manufacturer attests that the power settings used for testing are part of the firmware and cannot be changed by the user or host. These settings are specific for different countries and are related to the local requirements. The following measurements were performed with the specific power settings fulfilling the requirements of the FCC- and IC- rules.

5.5 Antenna gain

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> | 20.58 | 20.57 | 20.55 |
| Radiated power [dBm] <i>(measured)</i> | 21.74 | 20.73 | 19.94 |
| Gain [dBi] <i>(calculated)</i> | 1.16 | 0.16 | 0.61 |

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

Not performed!

Low data rate

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

High data rate

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 |
|-----------------------------------|---|

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

Not performed!

Low data rate

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 6 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|----------------------|------|------|
| Frequency [MHz] | | 5735 | 5775 | 5835 |
| T _{nom} | V _{nom} | -- | -- | -- |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

High data rate

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 6 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|----------------------|------|------|
| Frequency [MHz] | | 5735 | 5775 | 5835 |
| T _{nom} | V _{nom} | -- | -- | -- |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

Limits:

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

5.8 Spectrum Bandwidth of a DSSS System / 20 dB Bandwidth

Not performed!

Low data rate

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 20 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|-----------------------|------|------|
| Frequency [MHz] | | 5735 | 5775 | 5835 |
| T _{nom} | V _{nom} | -- | -- | -- |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

High data rate

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | 20 dB BANDWIDTH [MHz] | | |
|-------------------------|------------------|-----------------------|------|------|
| Frequency [MHz] | | 5735 | 5775 | 5835 |
| T _{nom} | V _{nom} | -- | -- | -- |
| Measurement uncertainty | | ±1kHz | | |

RBW: 100 kHz / VBW 100 kHz

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

Not performed!

Plot 1:

Plot 2:

Plot 3:

Results:

| Test conditions | | Max. peak output power [dBm] | | |
|----------------------------|------------------|------------------------------|------|------|
| | | 5735 | 5775 | 5785 |
| 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: 21.74 dBm (149.28 mW)

calculated at distance of 20 cm:

$$\text{power density} = 149.28 / 4\pi 20^2 = 0.0297 \text{ mW/cm}^2$$

Limit:

1mW/ cm² is the reference level for general public exposure according to the OET Bulletin 65,
Edition 97-01 Table 1.

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

Results:

| Test conditions | | Max. peak output power EIRP [dBm] | | |
|-------------------------|------------------|-----------------------------------|-------|-------|
| Frequency [MHz] | | 5745 | 5775 | 5825 |
| T _{nom} | V _{nom} | 21.74 | 20.73 | 19.94 |
| Measurement uncertainty | | ±3dB | | |

Limits:

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

5.11 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)). |
|-----------------------------------|--|

5.12 Band-edge compliance of radiated emissions §15.205

Not performed!

The measurement is not mandatory for the highest 5 GHz WLAN band.
There are no restricted bands in the range of 2 * bandwidth beside the used band.

Note:

Restricted band low = 5350 MHz – 5460 MHz

Restricted band high = 7250 MHz – 7750 MHz

Low channel

Plot 1: Max field strength in 3m distance (single frequency) peak

Result:

| Frequency | Meter reading | Correction factor | Results |
|-----------|---------------|-------------------|---------|
| MHz | dBµV/m | -6.4 dB | dBµV/m |

Plot 2: Max field strength in 3m distance (single frequency) average

Result:

| Frequency | Meter reading | Correction factor | Results |
|-----------|---------------|-------------------|---------|
| MHz | dBµV/m | -6.4 dB | dBµV/m |

Plot 3: Marker-Delta Method RBW/VBW = 1% of span

Result:

Marker-Delta-Value: dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands)

Results & Limits:

Radiated field strength

The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

| high channel | setup | measured value (3m) | correction factor (3m) | calculated value (3m) |
|--------------------|----------------------------|---------------------|------------------------|-----------------------|
| Max. peak value | 1 MHz RBW 1 MHz VBW | dB μ V/m | -6.4 dB | dB μ V/m |
| Max. average value | 1 MHz RBW 10 Hz VBW | dB μ V/m | -6.4 dB | dB μ V/m |
| Delta value | Peak 300 kHz RBW/VBW | dB | | |
| Value at band edge | limit 54 dB μ V/m | | | dB μ V/m |
| Statement: | | | | Complies |

High channel

Plot 1: Max field strength in 3m distance (single frequency) peak

Result:

| Frequency | Meter reading | Correction factor | Results |
|-----------|---------------|-------------------|---------|
| MHz | dBµV/m | -6.4 dB | dBµV/m |

Plot 2: Max field strength in 3m distance (single frequency) average

Result:

| Frequency | Meter reading | Correction factor | Results |
|-----------|---------------|-------------------|---------|
| MHz | dBµV/m | -6.4 dB | dBµV/m |

Plot 3: Marker-Delta Method RBW/VBW = 1% of span

Result:

Marker-Delta-Value: dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands)

Results & Limits:

Radiated field strength

The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

| high channel | setup | measured value (3m) | correction factor (3m) | calculated value (3m) |
|--------------------|----------------------------|---------------------|------------------------|-----------------------|
| Max. peak value | 1 MHz RBW 1 MHz VBW | dBµV/m | -6.4 dB | dBµV/m |
| Max. average value | 1 MHz RBW 10 Hz VBW | dBµV/m | -6.4 dB | dBµV/m |
| Delta value | Peak 300 kHz RBW/VBW | dB | | |
| Value at band edge | limit 54 dBµV/m | | | dBµV/m |
| Statement: | | | | Complies |

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

Not performed!

Low data rate

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 |
| 5735 | -- | -- | 30 dBm | -- | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 5775 | -- | -- | 30 dBm | -- | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 5835 | -- | -- | 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.

Not performed!

High data rate

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 |
| 5735 | -- | -- | 30 dBm | -- | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 5775 | -- | -- | 30 dBm | -- | Operating frequency |
| | | | -20 dBc | | |
| | | | | | |
| | | | | | |
| 5835 | -- | -- | 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.

5.14 Spurious Emissions - radiated (Transmitter) §15.209

Low data rate

Plot 1: 0.03 - 1 GHz (lowest channel)

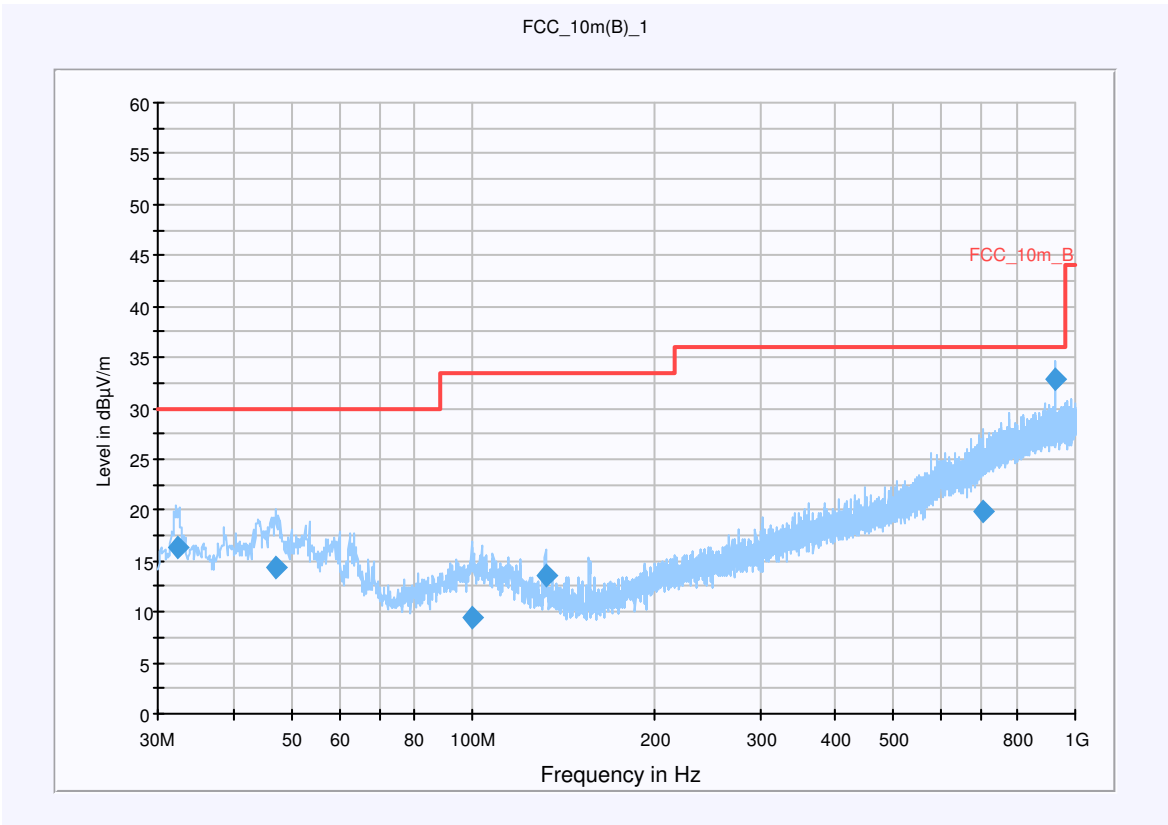
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Mode A 6 Mbits; Ch 5.745 Ghz; Output Power = 17.0
 Operator Name: ZAK
 Comment: Powered with DC 5 V

Scan Setup: FCC_Fin [EMI radiated]

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

Subrange 30 MHz - 1 GHz **Detectors** QuasiPeak **IF Bandwidth** 120 kHz **Meas. Time** 15 s **Receiver** 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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.433750 | 16.3 | 15000.000 | 120.000 | 100.0 | V | -1.0 | 12.9 | 13.7 | 30.0 | |
| 46.966500 | 14.3 | 15000.000 | 120.000 | 367.0 | H | 134.0 | 13.5 | 15.7 | 30.0 | |
| 99.817350 | 9.4 | 15000.000 | 120.000 | 200.0 | V | 217.0 | 12.3 | 24.1 | 33.5 | |
| 132.009550 | 13.5 | 15000.000 | 120.000 | 128.0 | V | 308.0 | 9.5 | 20.0 | 33.5 | |
| 703.332550 | 19.9 | 15000.000 | 120.000 | 200.0 | H | 69.0 | 22.7 | 16.1 | 36.0 | |
| 928.561000 | 32.9 | 15000.000 | 120.000 | 163.0 | V | 226.0 | 25.9 | 3.1 | 36.0 | |

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

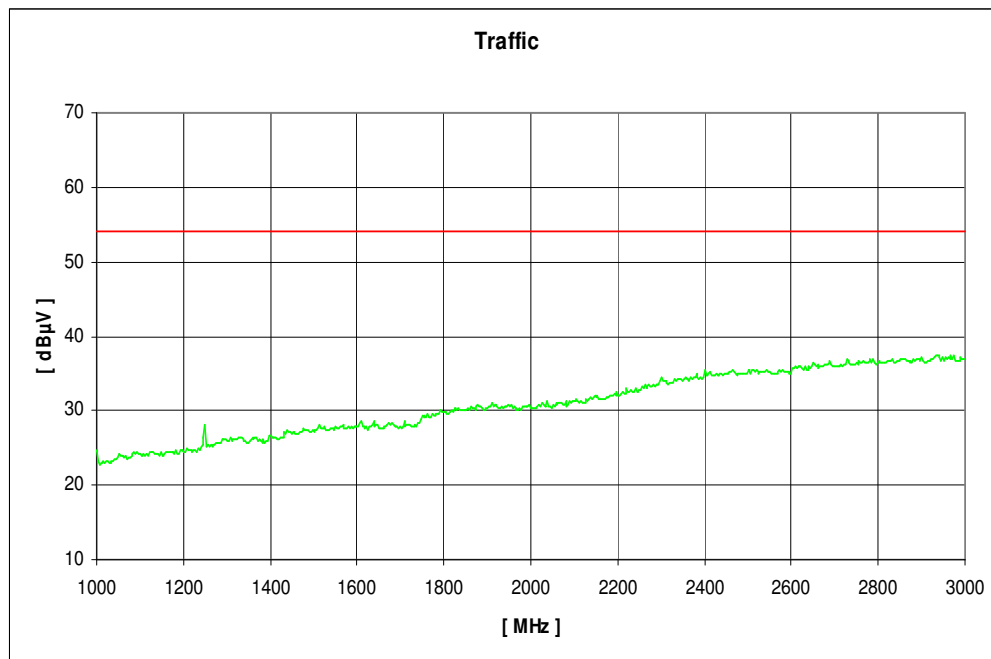
| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 2 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113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

Plot 2: 1 - 3 GHz (lowest channel)

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Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5745 MHz 6 Mbps 17 dBm | HW: | |
| Operator: | MUY | SW: | |
| Start of Test : | 23.01.2009 12:36:49 | Vmin: | |
| Standard: | FCC_15_407_5000 | Vnom: | 5 V DC |
| Signalling Unit: | | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 1000 | Stop Freq. [MHz] | 3000 |

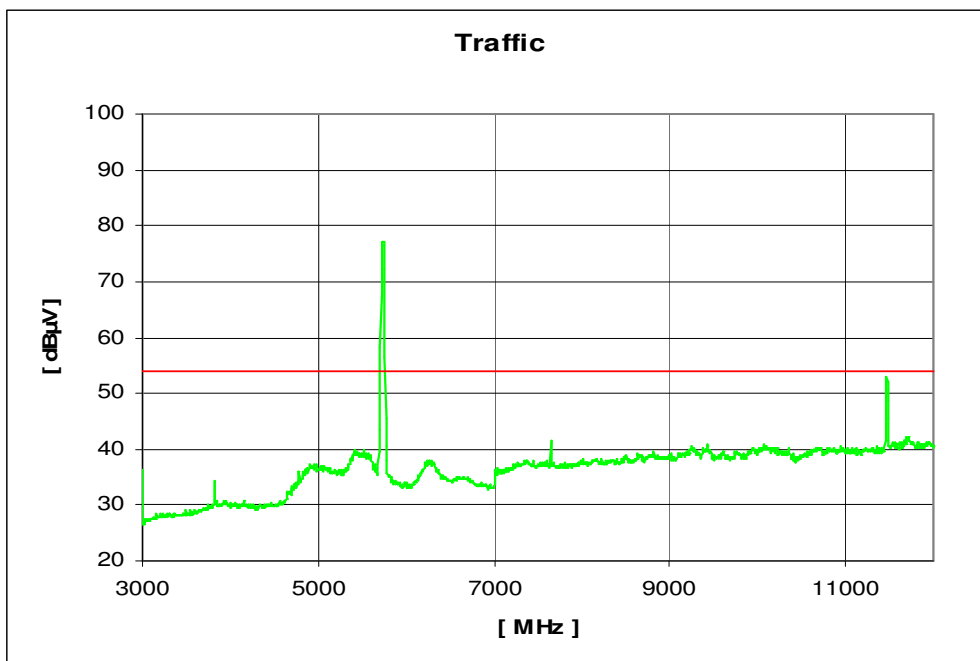


Plot 3: 3 - 12 GHz (lowest channel)

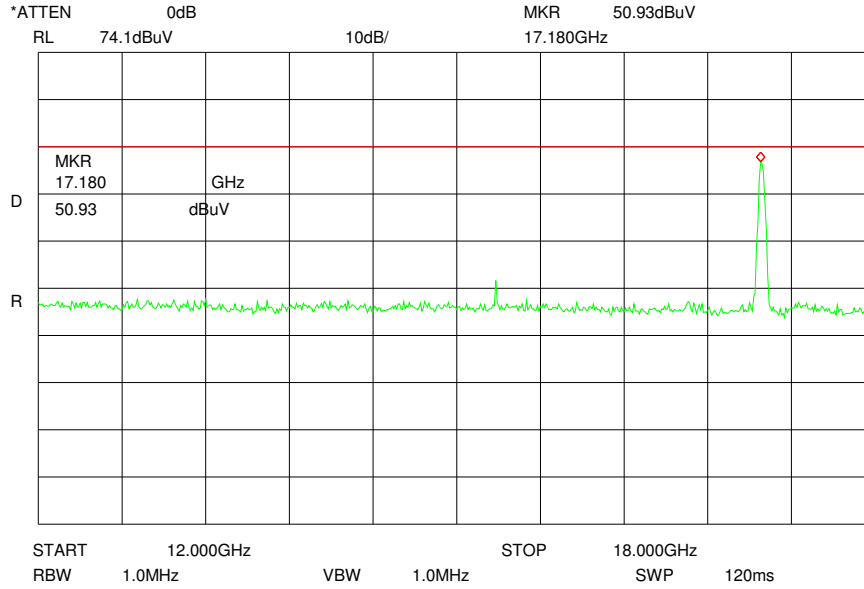
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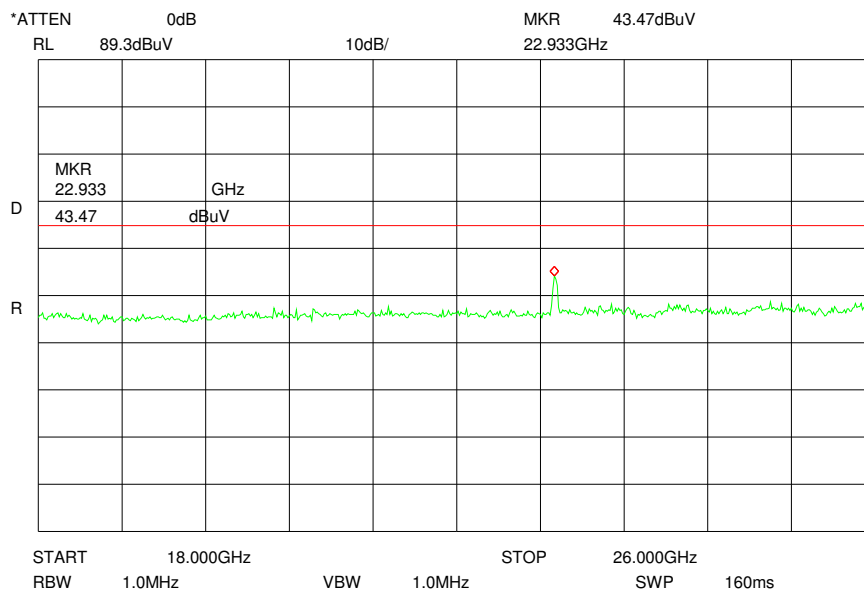
| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5745 MHz 6 Mbps | HW: | |
| Operator: | 17 dBm | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 12:49:46 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 3000 | Stop Freq. [MHz] | 12000 |



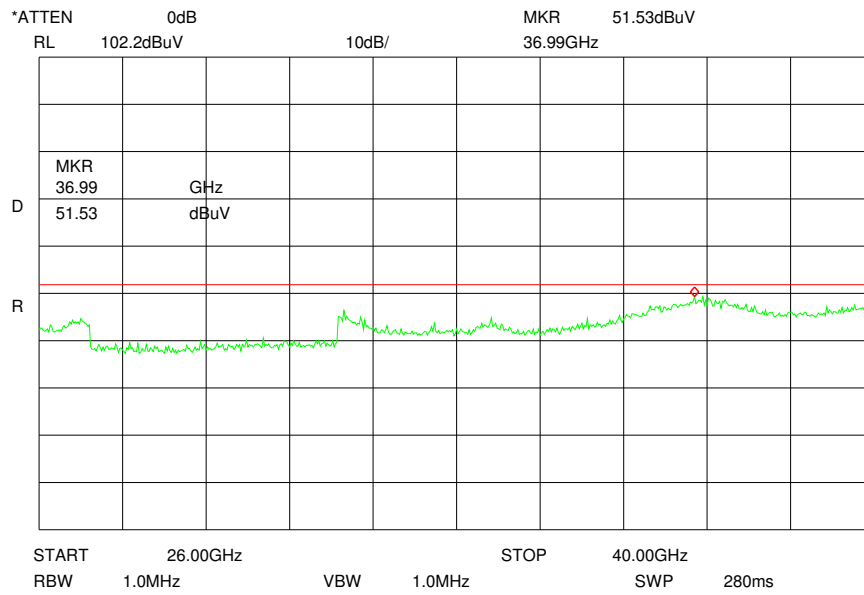
Plot 4: 12 - 18 GHz (valid for all channels)



Plot 5: 18 - 26 GHz (valid for all channels)



Plot 6: 26 - 50 GHz (valid for all channels)



Plot 7: 0.03 - 1 GHz (middle channel)

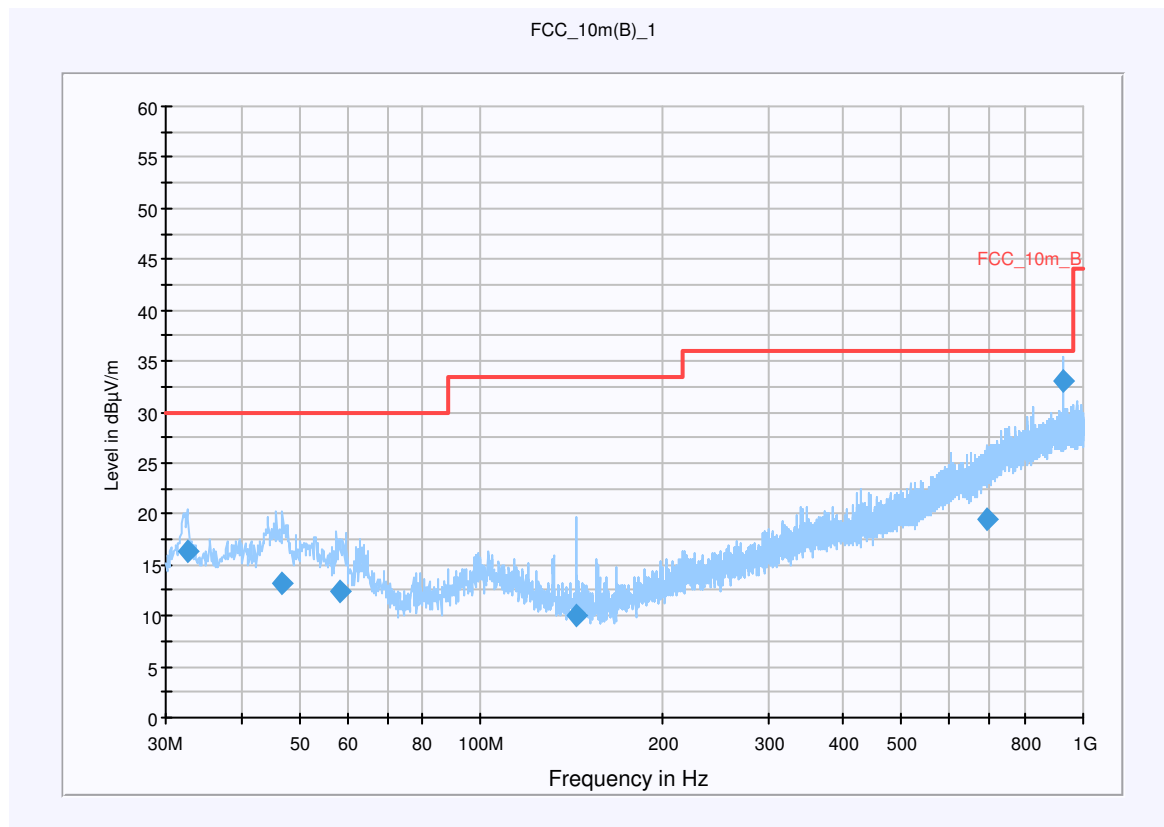
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Mode A 6 Mbits; Ch 5.775 Ghz; Output Power = 17.0
 Operator Name: ZAK
 Comment: Powered with DC 5 V

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.566200 | 16.4 | 15000.000 | 120.000 | 100.0 | V | 22.0 | 12.9 | 13.6 | 30.0 | |
| 46.836950 | 13.2 | 15000.000 | 120.000 | 200.0 | V | 9.0 | 13.5 | 16.8 | 30.0 | |
| 58.238100 | 12.5 | 15000.000 | 120.000 | 126.0 | H | 13.0 | 12.2 | 17.5 | 30.0 | |
| 144.048950 | 9.9 | 15000.000 | 120.000 | 200.0 | V | 228.0 | 9.0 | 23.6 | 33.5 | |
| 689.922600 | 19.4 | 15000.000 | 120.000 | 400.0 | H | 202.0 | 22.3 | 16.6 | 36.0 | |
| 928.670950 | 33.0 | 15000.000 | 120.000 | 145.0 | H | 233.0 | 25.9 | 3.0 | 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 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 |

Plot 9: 3 - 12 GHz (middle channel)

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Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5775 MHz 6 Mbps | HW: | |
| Operator: | 17 dBm | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 12:57:32 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 3000 | Stop Freq. [MHz] | 12000 |



Plot 10: 0.03 - 1 GHz (highest channel)

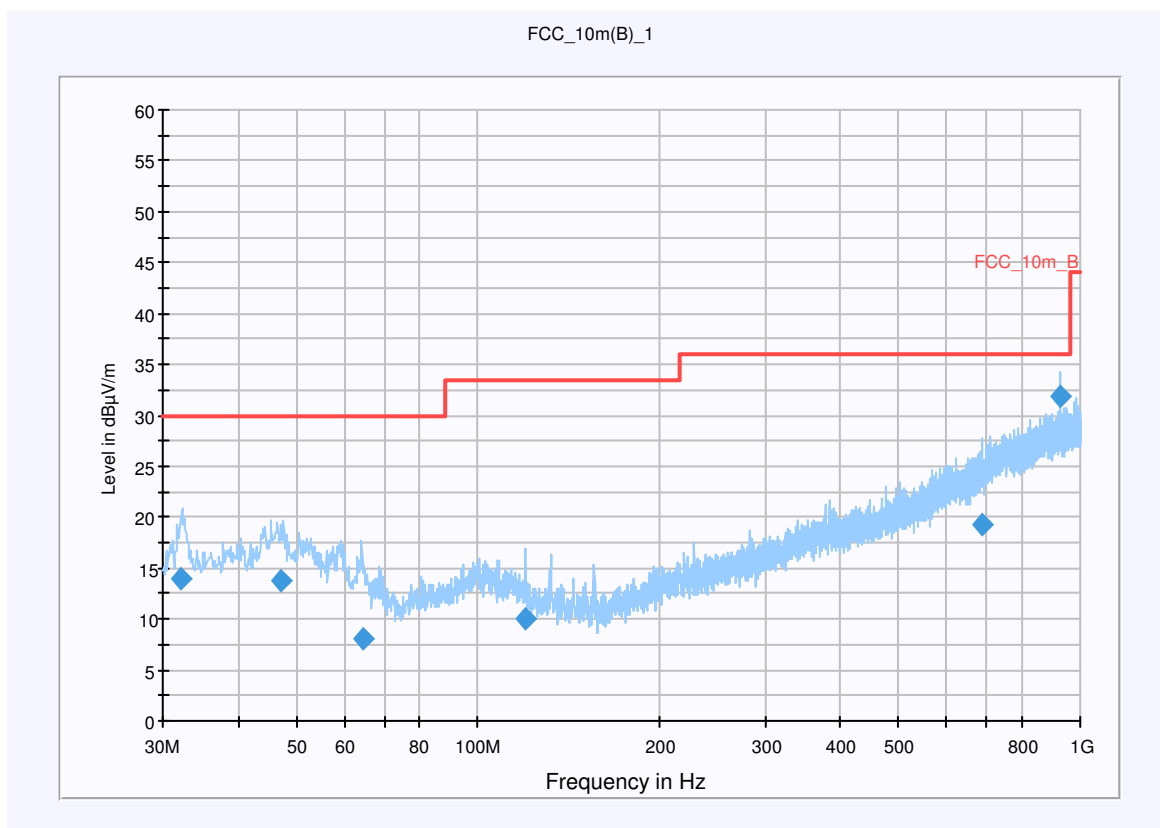
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Mode A 6 Mbits; Ch 5.825 Ghz; Output Power = 17.0
 Operator Name: ZAK
 Comment: Powered with DC 5 V

Scan Setup: FCC_Fin [EMI radiated]

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

Subrange 30 MHz - 1 GHz **Detectors** QuasiPeak **IF Bandwidth** 120 kHz **Meas. Time** 15 s **Receiver** 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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.143850 | 13.9 | 15000.000 | 120.000 | 189.0 | V | 233.0 | 12.8 | 16.1 | 30.0 | |
| 47.019650 | 13.8 | 15000.000 | 120.000 | 148.0 | H | 233.0 | 13.5 | 16.2 | 30.0 | |
| 64.572900 | 8.0 | 15000.000 | 120.000 | 100.0 | V | 143.0 | 10.7 | 22.0 | 30.0 | |
| 120.265800 | 10.1 | 15000.000 | 120.000 | 139.0 | V | 35.0 | 10.5 | 23.4 | 33.5 | |
| 688.255350 | 19.4 | 15000.000 | 120.000 | 136.0 | H | 278.0 | 22.3 | 16.6 | 36.0 | |
| 928.602700 | 31.8 | 15000.000 | 120.000 | 176.0 | H | 36.0 | 25.9 | 4.2 | 36.0 | |

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

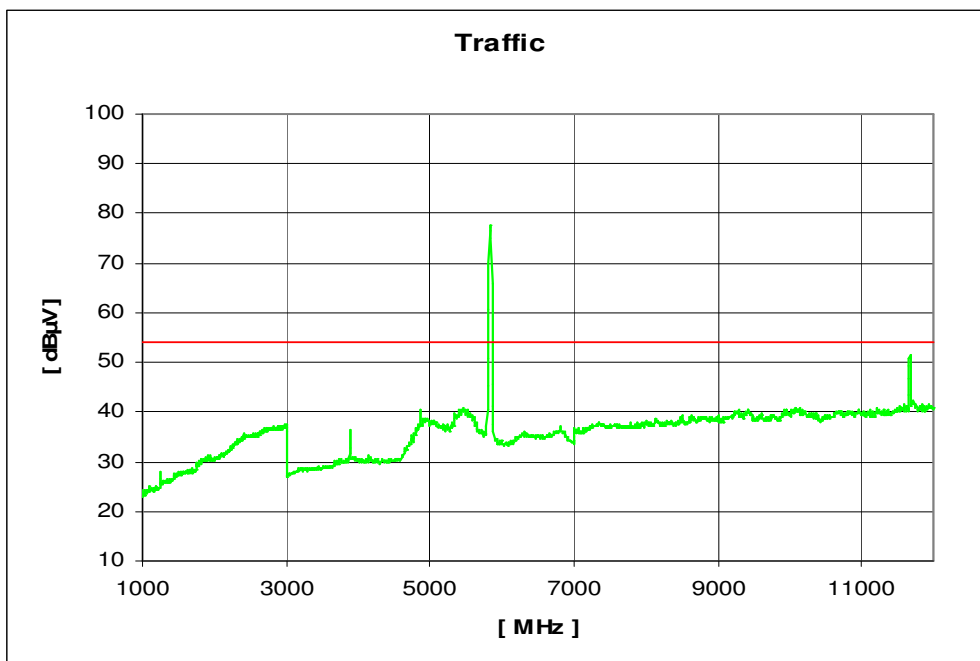
| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 2 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113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

Plot 11: 1 - 12 GHz (highest channel)

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Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g | Polarisation: | Vertikal |
| Manufacturer: | Module | Battery: | AC/DC Power Supply |
| IMEI: | Ohillios Medizin Systeme | HW: | |
| Operator: | PCB Ant. 1 | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 11:41:54 | Vnom: | 230 |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 1000 | Stop Freq. [MHz] | 12000 |



Results:

| Spurious Emissions level [dB μ V/m] | | | | | | | | |
|---|----------|----------------------|-------------|----------|----------------------|-------------|----------|----------------------|
| 5745 MHz | | | 5775 MHz | | | 5825 MHz | | |
| F | Detector | Level [dB μ V/m] | F | Detector | Level [dB μ V/m] | F | Detector | Level [dB μ V/m] |
| 928.561 MHz | QP | 32.90 | 928.671 MHz | QP | 33.00 | 928.603 MHz | QP | 31.80 |
| 11.471 GHz | AV | 52.99 | 11.551 GHz | AV | 51.68 | 11.671 GHz | AV | 51.53 |
| 17.180 GHz | PP | 50.93 | | | | | | |
| 22.933 GHz | PP | 43.47 | | | | | | |
| 36.99 GHz | PP | 51.53 | | | | | | |
| 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 (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 |

High data rate:

Plot 1: 0.03 - 1 GHz (lowest channel)

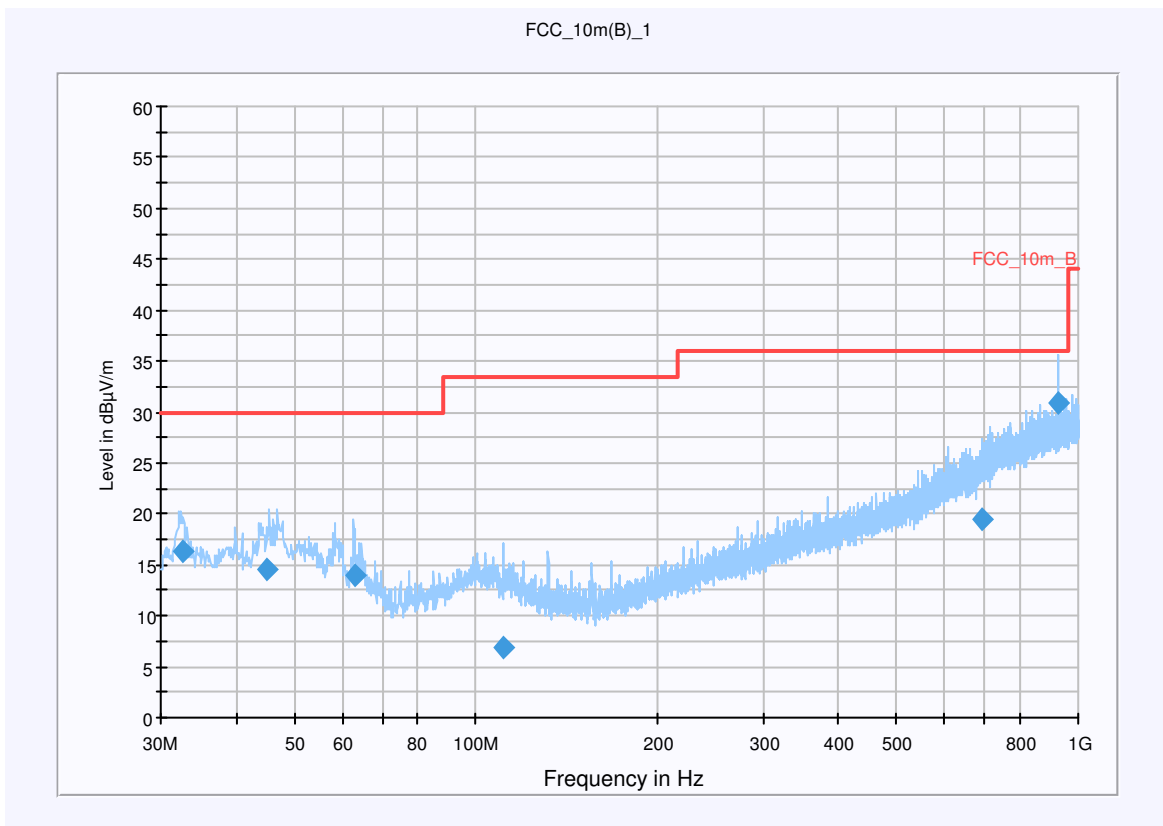
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Mode A 54 Mbits; Ch 5.745 Ghz; Output Power = 17.0
 Operator Name: ZAK
 Comment: Powered with DC 5 V

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.605950 | 16.3 | 15000.000 | 120.000 | 100.0 | V | 40.0 | 12.9 | 13.7 | 30.0 | |
| 44.998750 | 14.5 | 15000.000 | 120.000 | 182.0 | V | 233.0 | 13.4 | 15.5 | 30.0 | |
| 62.941950 | 13.9 | 15000.000 | 120.000 | 100.0 | H | 67.0 | 11.1 | 16.1 | 30.0 | |
| 111.448100 | 7.0 | 15000.000 | 120.000 | 150.0 | H | 44.0 | 11.3 | 26.5 | 33.5 | |
| 692.370800 | 19.5 | 15000.000 | 120.000 | 318.0 | H | 99.0 | 22.4 | 16.5 | 36.0 | |
| 928.665550 | 30.8 | 15000.000 | 120.000 | 356.0 | H | 231.0 | 25.9 | 5.2 | 36.0 | |

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

| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 2 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 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 |

Plot 2: 1 - 3 GHz (lowest channel)

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Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5745 MHz 54 Mbps | HW: | |
| Operator: | 17 dBm | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 12:39:58 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 1000 | Stop Freq. [MHz] | 3000 |

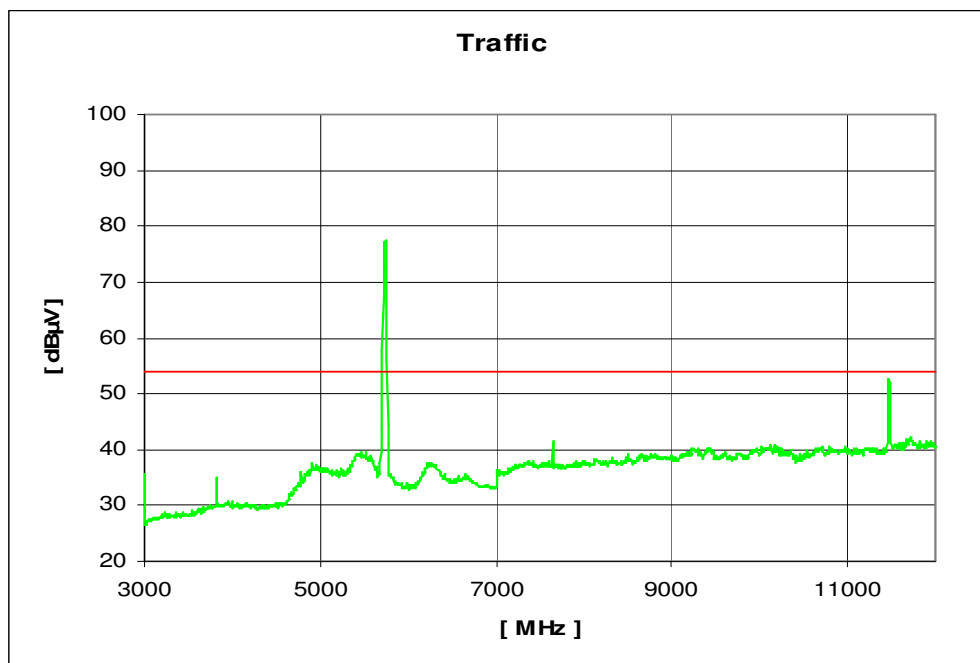


Plot 3: 3 - 12 GHz (lowest channel)

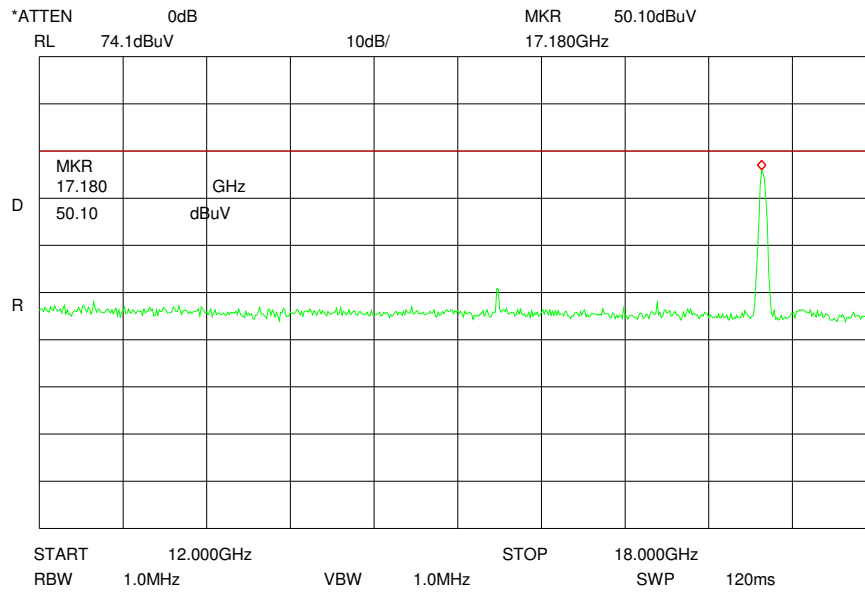
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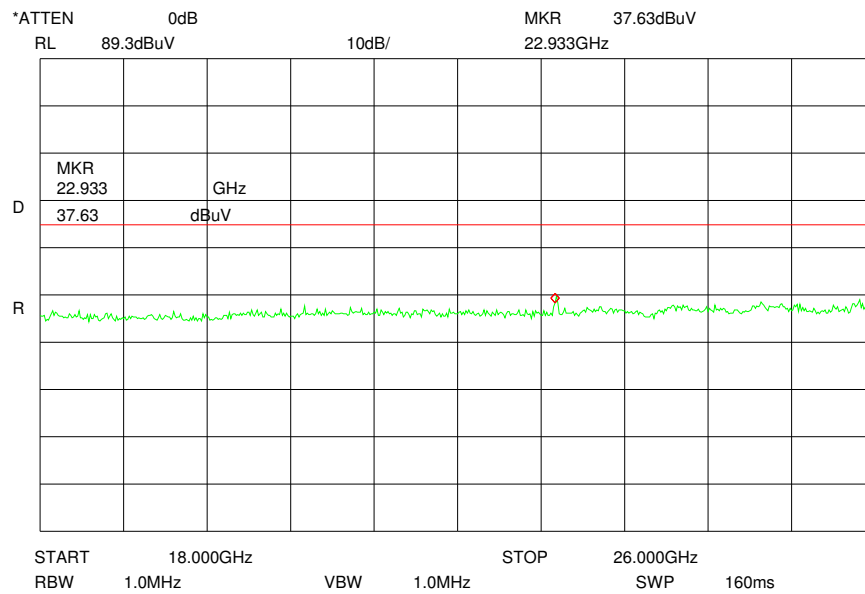
| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5745 MHz 54 Mbps | HW: | |
| Operator: | 17 dBm | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 12:43:33 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 3000 | Stop Freq. [MHz] | 12000 |



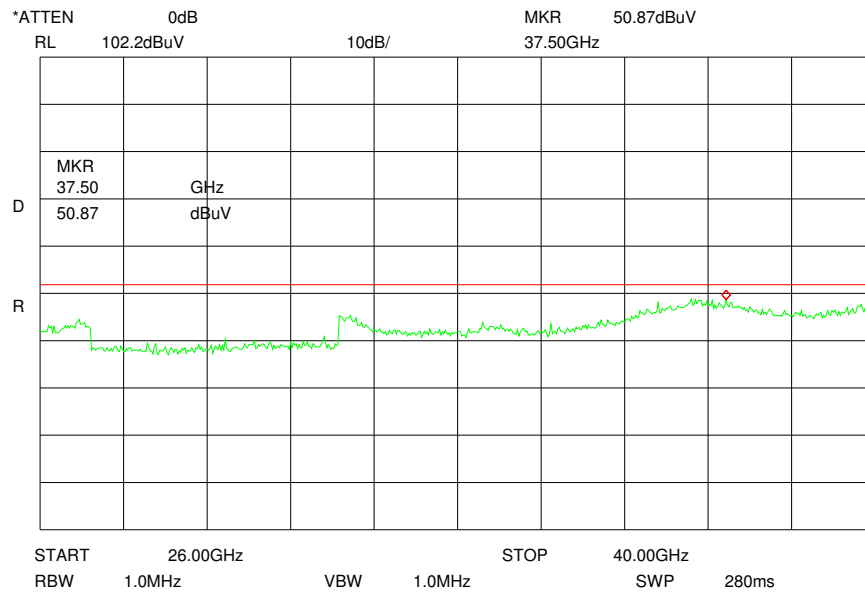
Plot 4: 12 - 18 GHz (valid for all channels)



Plot 5: 18 - 26 GHz (valid for all channels)



Plot 6: 26 - 50 GHz (valid for all channels)



Plot 7: 0.03 - 1 GHz (middle channel)

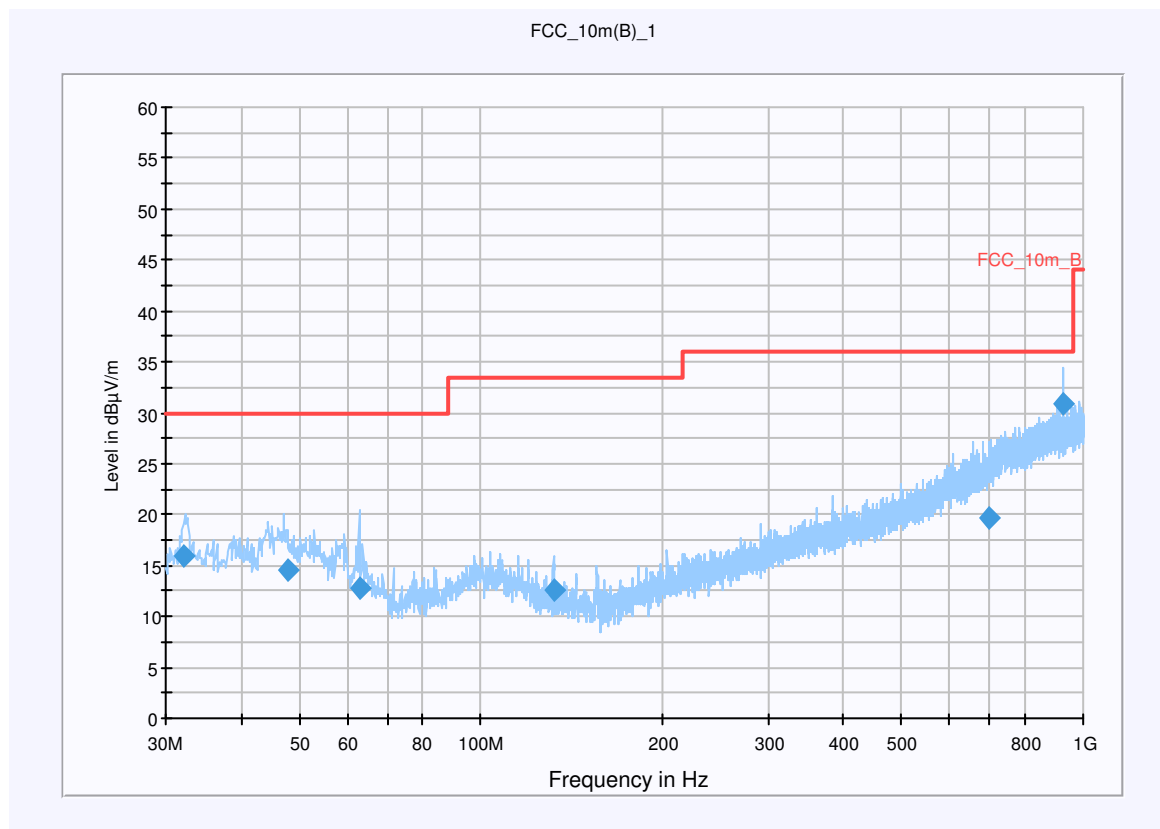
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Mode A 54 Mbits; Ch 5.775 Ghz; Output Power = 17.0
 Operator Name: ZAK
 Comment: Powered with DC 5 V

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.094050 | 15.9 | 15000.000 | 120.000 | 100.0 | V | 50.0 | 12.8 | 14.1 | 30.0 | |
| 47.692800 | 14.6 | 15000.000 | 120.000 | 151.0 | V | 212.0 | 13.5 | 15.4 | 30.0 | |
| 63.205400 | 12.8 | 15000.000 | 120.000 | 381.0 | H | 139.0 | 11.1 | 17.2 | 30.0 | |
| 132.097000 | 12.5 | 15000.000 | 120.000 | 123.0 | V | 74.0 | 9.5 | 21.0 | 33.5 | |
| 700.023050 | 19.7 | 15000.000 | 120.000 | 100.0 | H | 5.0 | 22.6 | 16.3 | 36.0 | |
| 928.618400 | 30.9 | 15000.000 | 120.000 | 325.0 | H | 113.0 | 25.9 | 5.1 | 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 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 |

Plot 8: 1 - 3 GHz (middle channel)

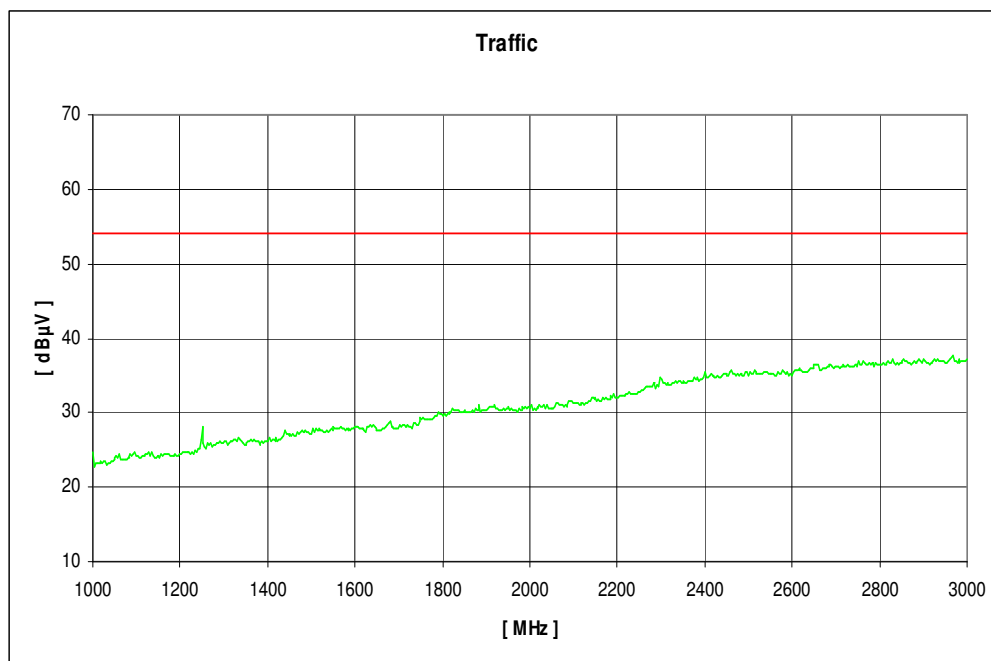
CETECOM ICT Services GmbH

Projekt- Nr.:1-0685_08-1-19

| | | | |
|------------------|--|---------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Ohillios Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5775 MHz 54 Mbps 17 dBm | HW: | |
| Operator: | MUY | SW: | |
| Start of Test : | 23.01.2009 12:27:35 | Vmin: | |
| Standard: | FCC_15_407_5000 | Vnom: | 5 V DC |
| Signalling Unit: | | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |

Start Freq. [MHz]: 1000

Stop Freq. [MHz] 3000

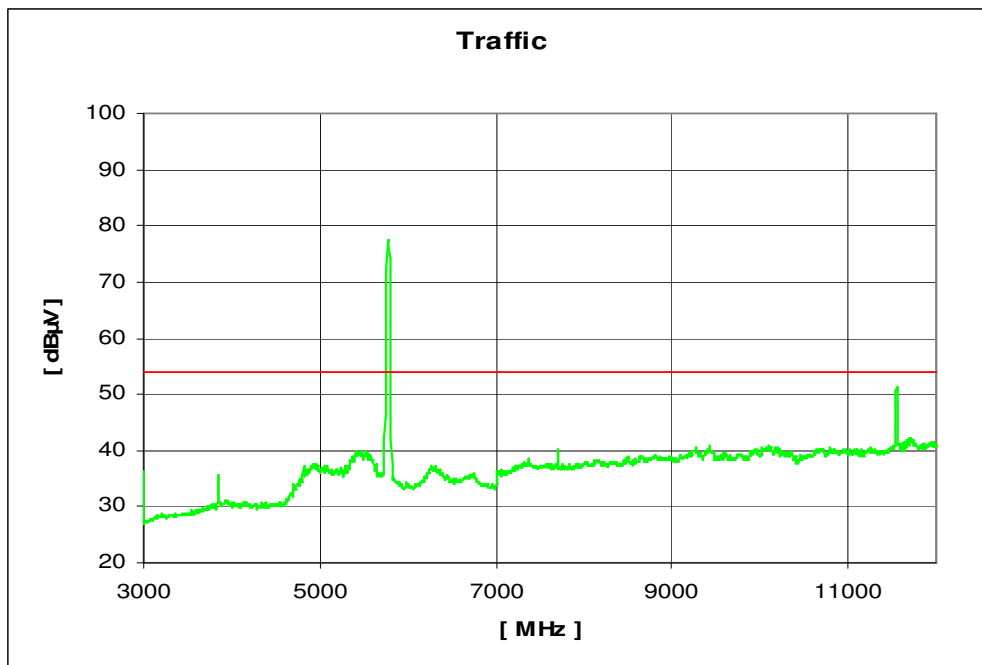


Plot 9: 3 - 12 GHz (middle channel)

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Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5775 MHz 54 Mbps | HW: | |
| Operator: | 17 dBm | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 13:02:46 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 3000 | Stop Freq. [MHz] | 12000 |



Plot 10: 0.03 - 1 GHz (highest channel)

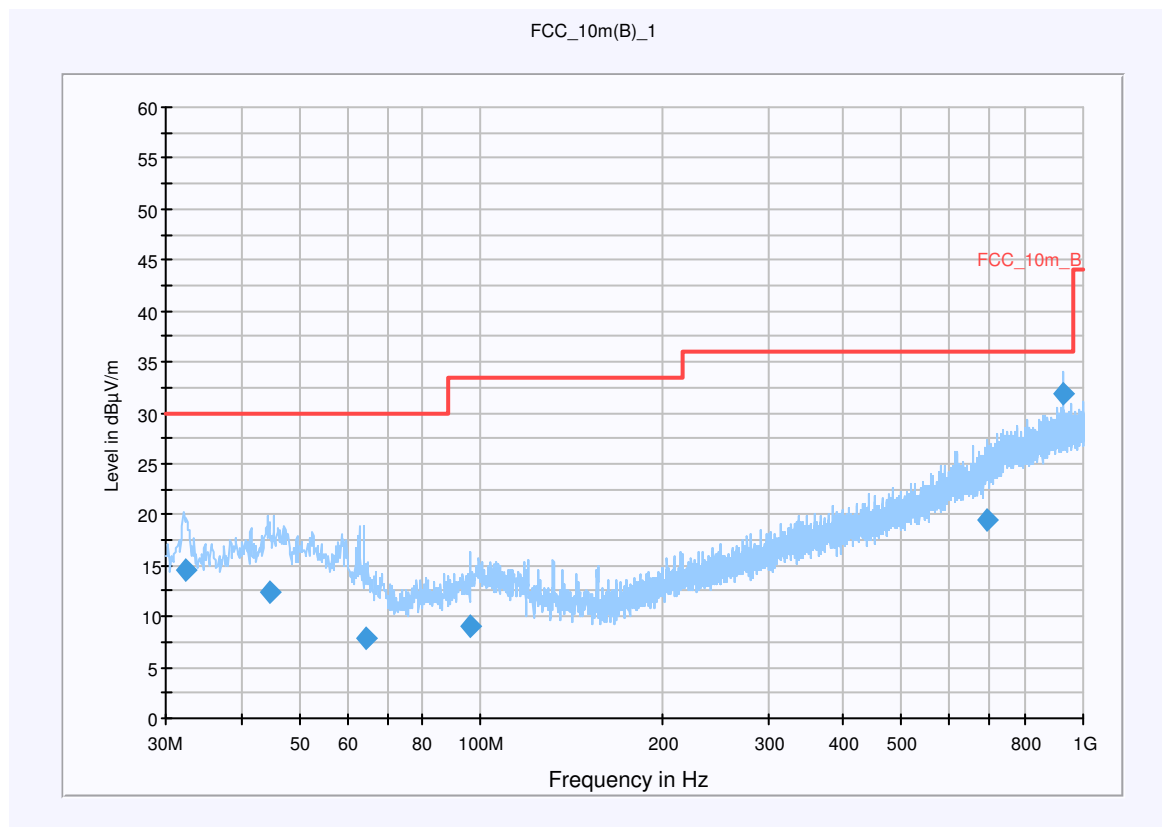
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Mode A 54 Mbits; Ch 5.825 Ghz; Output Power = 17.0
 Operator Name: ZAK
 Comment: Powered with DC 5 V

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.283750 | 14.5 | 15000.000 | 120.000 | 134.0 | V | 233.0 | 12.9 | 15.5 | 30.0 | |
| 44.735600 | 12.3 | 15000.000 | 120.000 | 153.0 | V | 308.0 | 13.4 | 17.7 | 30.0 | |
| 64.552750 | 7.9 | 15000.000 | 120.000 | 372.0 | V | 43.0 | 10.7 | 22.1 | 30.0 | |
| 95.849900 | 9.0 | 15000.000 | 120.000 | 138.0 | V | 221.0 | 11.7 | 24.5 | 33.5 | |
| 694.608500 | 19.5 | 15000.000 | 120.000 | 114.0 | V | 0.0 | 22.5 | 16.5 | 36.0 | |
| 928.641850 | 31.8 | 15000.000 | 120.000 | 400.0 | V | 248.0 | 25.9 | 4.2 | 36.0 | |

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

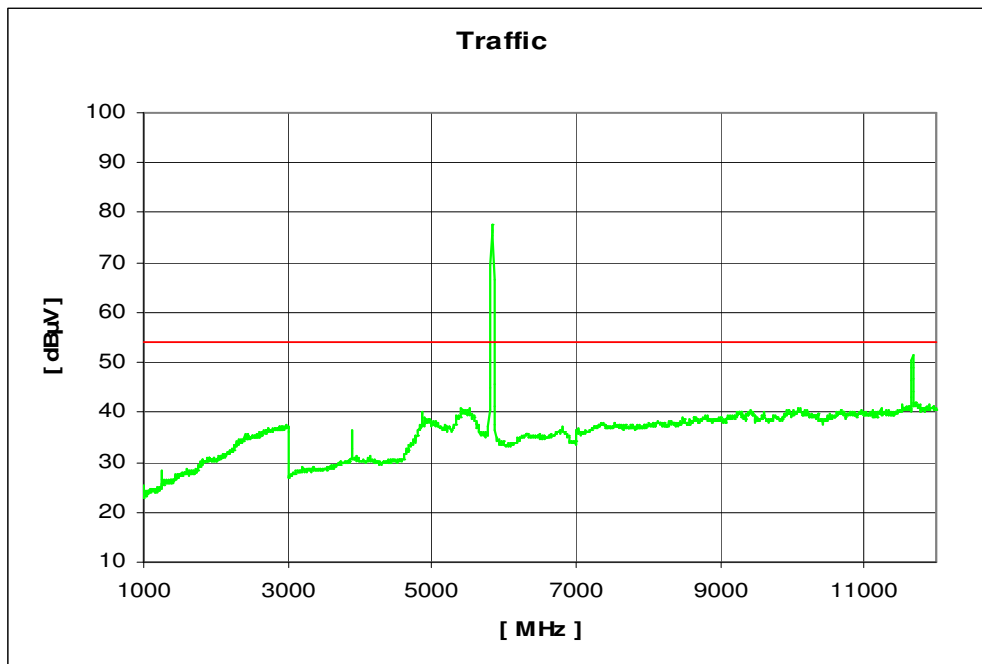
| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 2 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113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

Plot 11: 1 - 3 GHz (highest channel)

CETECOM ICT Services GmbH

Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Ohillios Medizin Systeme | Battery: | AC/DC Power Supply |
| | PCB Ant. 1 5825 MHz 54 | | |
| IMEI: | Mbps | HW: | |
| Operator: | MUY | SW: | |
| Start of Test : | 23.01.2009 12:06:41 | Vmin: | |
| Standard: | FCC_15_407_5000 | Vnom: | 5 V DC |
| Signalling Unit: | | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 1000 | Stop Freq. [MHz] | 12000 |



Results:

| Spurious Emissions level [dB μ V/m] | | | | | | | | |
|---|----------|----------------------|-------------|----------|----------------------|-------------|----------|----------------------|
| 5745 MHz | | | 5775 MHz | | | 5825 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] |
| 928.666 MHz | QP | 30.80 | 928.618 MHz | QP | 30.9 | 928.642 MHz | QP | 31.80 |
| 11.471 GHz | AV | 52.80 | 11.551 GHz | AV | 51.46 | 11.671 MHz | AV | 51.43 |
| 17.180 GHz | PP | 50.10 | | | | | | |
| 22.933 GHz | PP | 37.63 | | | | | | |
| 37.500 GHz | PP | 50.87 | | | | | | |
| 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 (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 (Receiver) §15.109 / 209

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

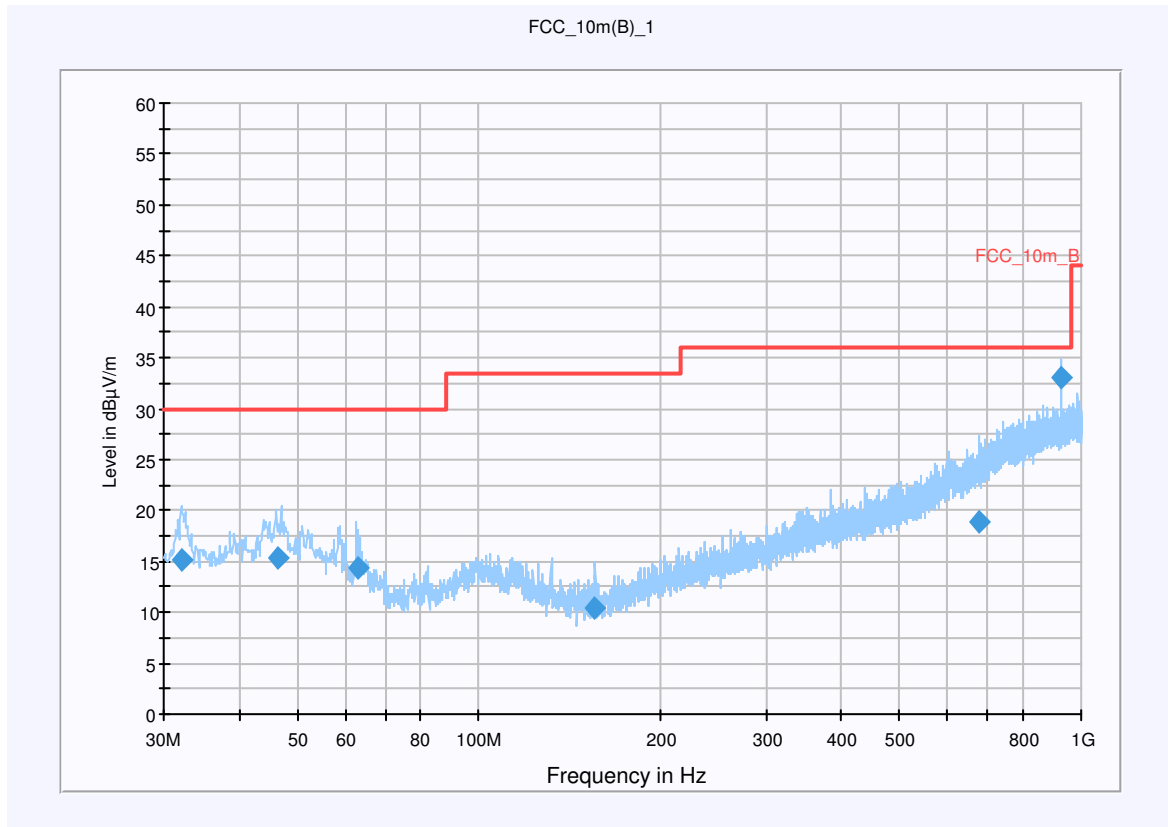
Common Information

EUT: Philips Medizin MMS + WLAN a/b/g/ Modul
 Serial Number: Antenna M8100-66490
 Test Description: FCC part 15.247
 Operating Conditions: Wlan Rx Mode
 Operator Name: ZAK
 Comment: Powered with DC 5 V

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 |
|-----------------|--------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------|---------|
| 32.087650 | 15.1 | 15000.000 | 120.000 | 175.0 | V | 143.0 | 12.8 | 14.9 | 30.0 | |
| 46.554550 | 15.4 | 15000.000 | 120.000 | 183.0 | V | 220.0 | 13.5 | 14.6 | 30.0 | |
| 63.092000 | 14.3 | 15000.000 | 120.000 | 159.0 | V | 182.0 | 11.1 | 15.7 | 30.0 | |
| 155.920300 | 10.5 | 15000.000 | 120.000 | 135.0 | V | 269.0 | 9.3 | 23.0 | 33.5 | |
| 675.292250 | 19.0 | 15000.000 | 120.000 | 400.0 | H | 168.0 | 21.9 | 17.0 | 36.0 | |
| 928.629550 | 33.0 | 15000.000 | 120.000 | 200.0 | V | 236.0 | 25.9 | 3.0 | 36.0 | |

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

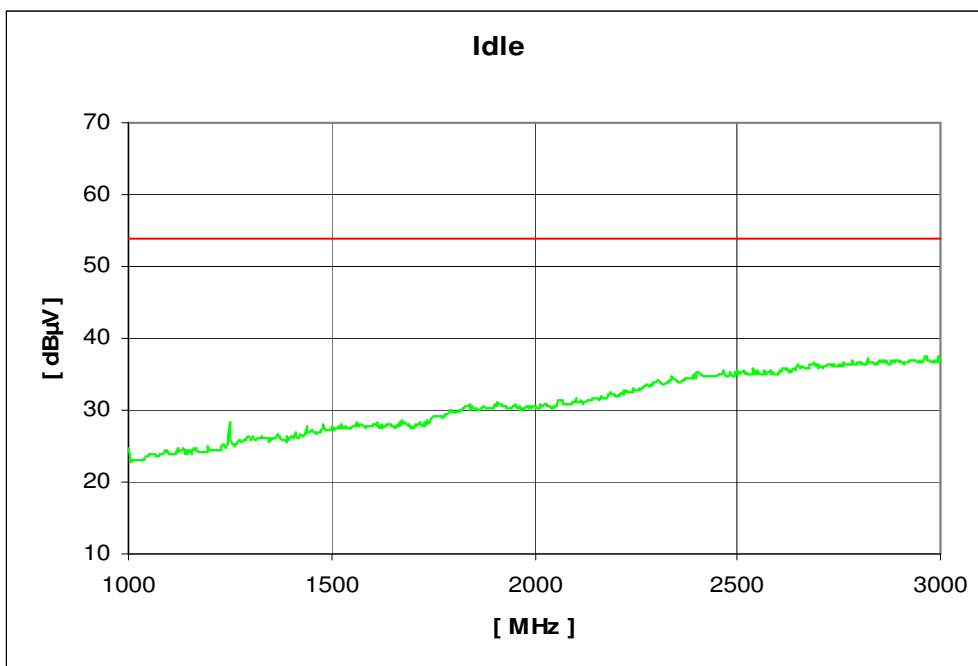
| Subrange 1 | |
|------------------|--|
| Frequency Range: | 30 MHz - 2 GHz |
| Receiver: | Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009 |
| Signal Path: | without Notch FW 1.0 |
| Antenna: | VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113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

Plot 2: 1 - 3 GHz vertical / horizontal (receiver)

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Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g | Polarisation: | Vertikal |
| Manufacturer: | Module | Battery: | AC/DC Power Supply |
| IMEI: | Phillips Medizin Systeme | HW: | |
| Operator: | PCB Ant. 1 RX | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 13:29:00 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 1000 | Stop Freq. [MHz] | 3000 |

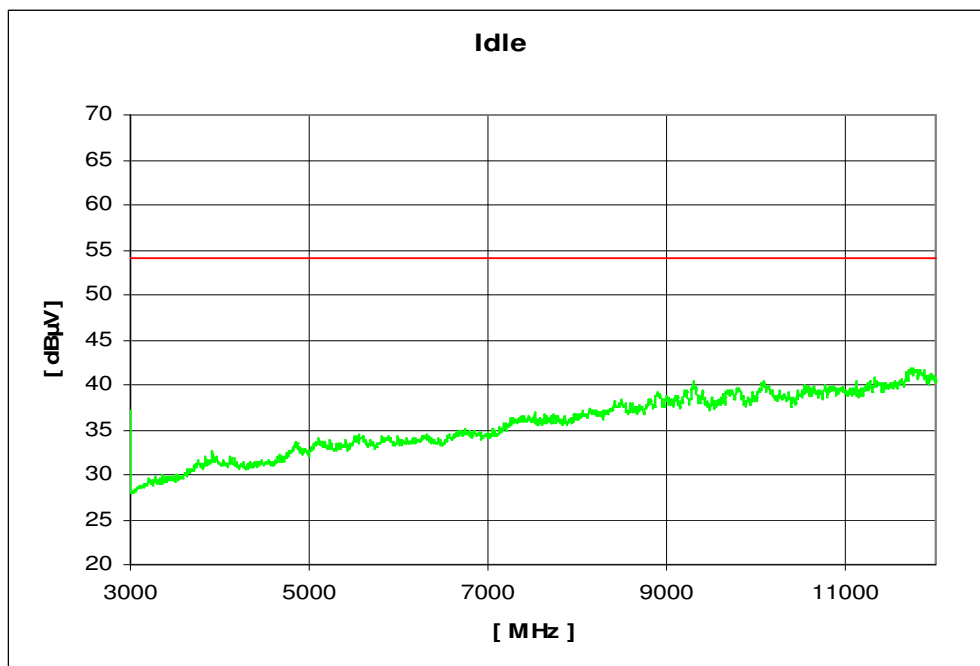


Plot 3: 3 - 12 GHz (receiver)

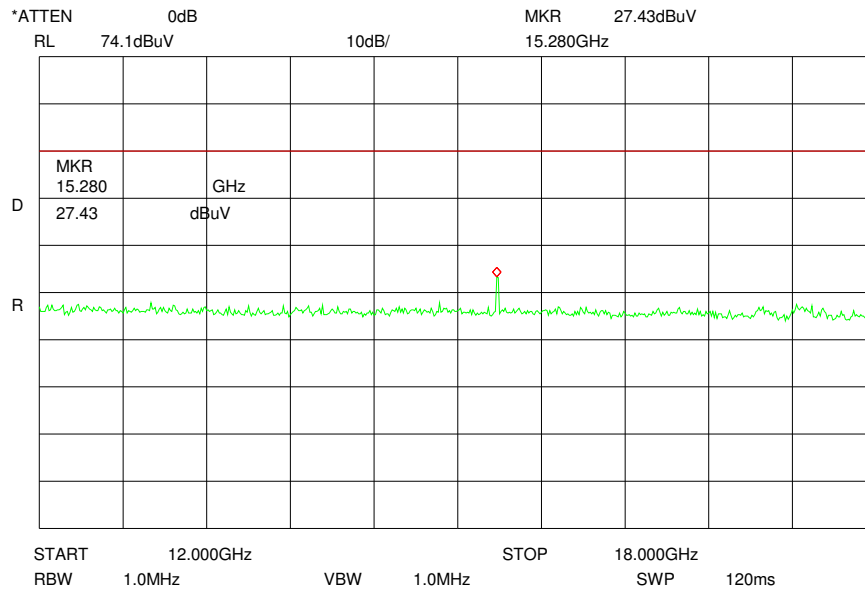
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Projekt- Nr.:1-0685_08-1-19

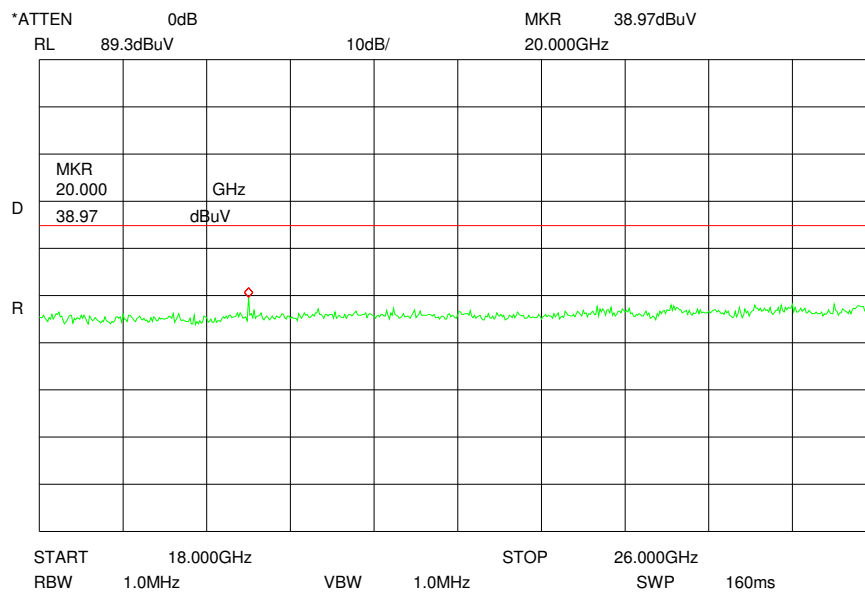
| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g | Polarisation: | Vertikal |
| Manufacturer: | Module | Battery: | AC/DC Power Supply |
| IMEI: | Phillips Medizin Systeme | HW: | |
| Operator: | PCB Ant. 1 RX | SW: | |
| Start of Test : | MUY | Vmin: | |
| Standard: | 23.01.2009 13:34:43 | Vnom: | 5 V DC |
| Signalling Unit: | FCC_15_407_5000 | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_407_5000\Transducer_FCC_15_407_5000.xls | | |
| Start Freq. [MHz]: | 3000 | Stop Freq. [MHz] | 12000 |



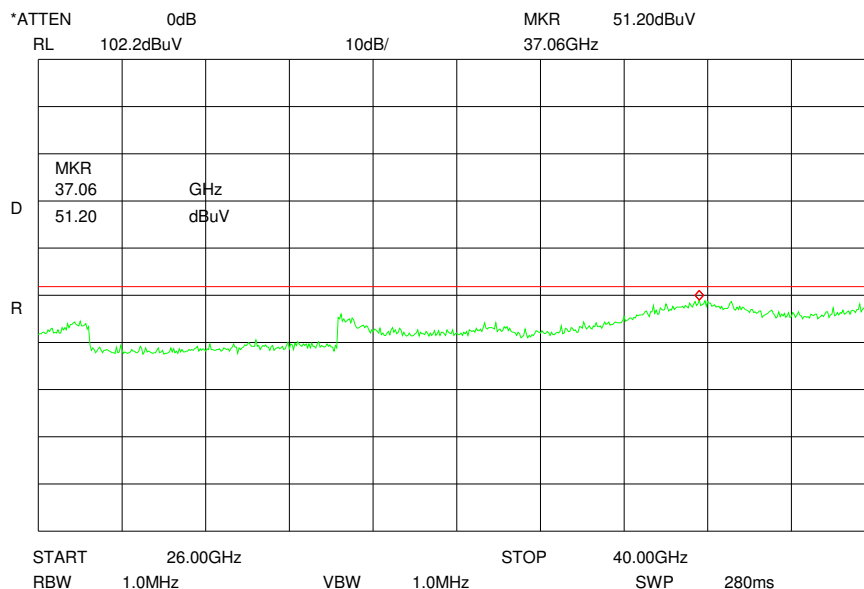
Plot 4: 12 - 18 GHz (receiver)



Plot 5: 18 - 26 GHz (receiver)



Plot 4: 26 - 50 GHz (receiver)



Results:

| Spurious Emissions level [dB μ V/m] | | |
|---|----------|----------------------|
| f | Detector | Level [dB μ V/m] |
| 928.630 MHz | OP | 33.00 |
| 15.280 GHz | PP | 27.43 |
| 20.000 GHz | PP | 38.97 |
| 37.060 MHz | PP | 51.20 |
| Measurement uncertainty | | ± 3 dB |

f < 1 GHz : RBW/VBW: 100 kHz f \geq 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 |

5.16 Spurious Emissions - radiated <30 MHz §15.209

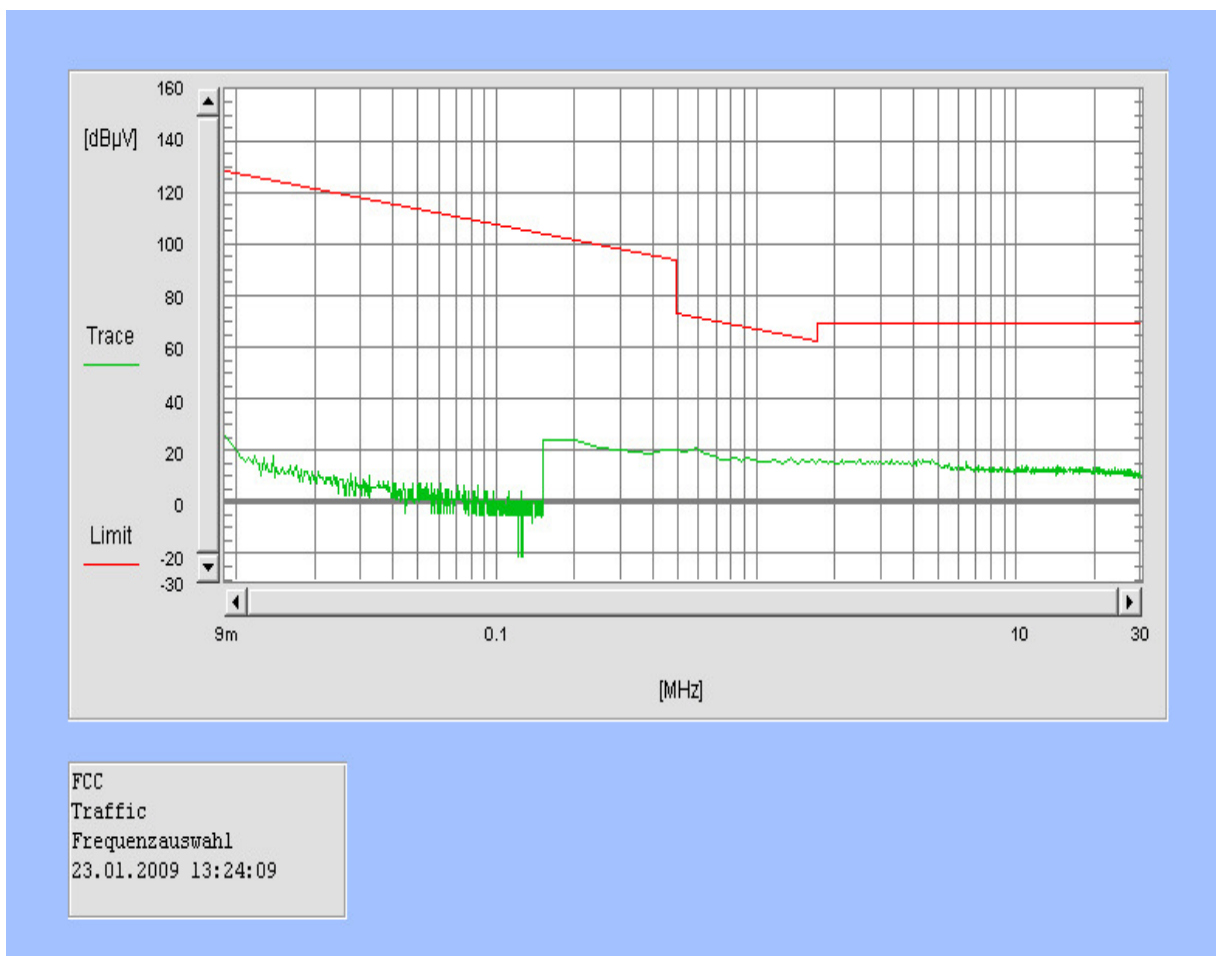
Measured at 3 m distance.
 Values recalculated with 40 dB/decade according to FCC rules.

Plot 1: TX mode

CETECOM ICT Services GmbH

Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|--------------------|
| EUT: | MMS+WLAN a/b/g Module | Polarisation: | Vertikal |
| Manufacturer: | Phillips Medizin Systeme | Battery: | AC/DC Power Supply |
| IMEI: | PCB Ant. 1 5775 MHz 54 Mbps 17 dBm | HW: | |
| Operator: | MUY | SW: | |
| Start of Test : | 23.01.2009 13:13:52 | Vmin: | |
| Standard: | FCC_15_209 | Vnom: | 5 V DC |
| Signalling Unit: | | Vmax: | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_209\Transducer_FCC_15_209.xls | | |
| Start Freq. [MHz]: | 0,009 | Stop Freq. [MHz] | 30 |

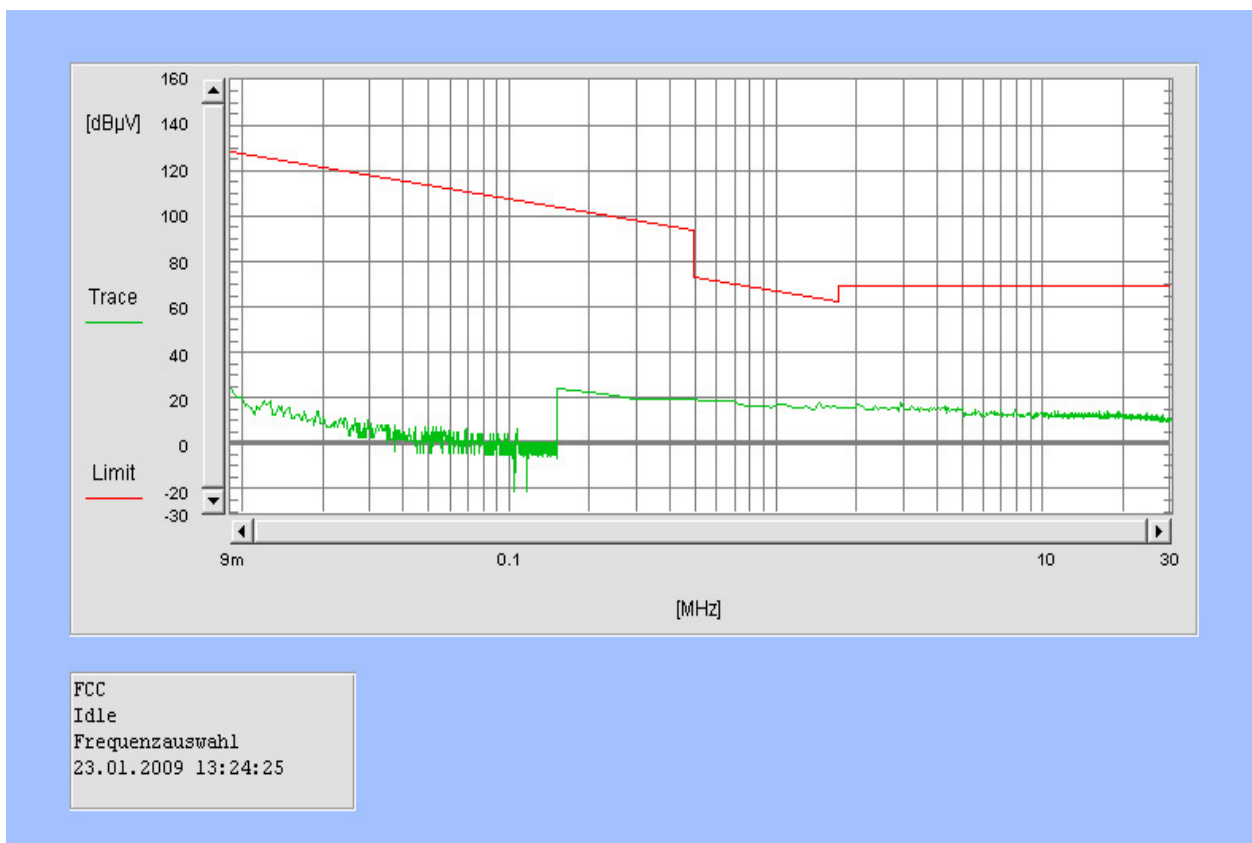


Plot 2: RX mode

CETECOM ICT Services GmbH

Projekt- Nr.:1-0685_08-1-19

| | | | |
|--------------------|--|------------------|-------------|
| EUT: | MMS+WLAN a/b/g | Polarisation: | Vertikal |
| | Module | | AC/DC Power |
| | Phillips Medizin | Battery: | Supply |
| Manufacturer: | Systeme | HW: | |
| IMEI: | PCB Ant. 1 RX | SW: | |
| Operator: | MUY | Vmin: | |
| Start of Test : | 23.01.2009 13:19:36 | Vnom: | 5 V DC |
| Standard: | FCC_15_209 | Vmax: | |
| Signalling Unit: | | | |
| Transducer-File: | C:\Spurious_neu\Messparameter\FCC_15_209\Transducer_FCC_15_209.xls | | |
| Start Freq. [MHz]: | 0,009 | Stop Freq. [MHz] | 30 |



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 |

5.17 Conducted Emissions <30 MHz §15.107/207

Not performed!

Plot 1: Phase line
Plot 2: Neutral line

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 | 01.08.2006 | 24 | 01.08.2008 |

| | | | | | | | |
|----|--|----------------|----------------|-----------------|------------|----|------------|
| 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 | -/- | -/- | -/- | -/- |

Anechoic chamber A:

| No. | Instrument/Ancillary | Manufacturer | Type | Serial-No. | Internal identification |
|---------------------------------------|--------------------------|-----------------|-----------------------------------|-------------------------|-------------------------|
| Radiated emission in chamber A | | | | | |
| A-1 | Spectrum Analyzer | Rohde & Schwarz | ESU26 | 100037 | 300003555 |
| A-2 | Signal Generator | Rohde & Schwarz | SMR20B11 | 1104.0002.20 | 300003593 |
| A-3 | RF System Panel | Rohde & Schwarz | TS RSP | --- | 300003556 |
| A-4 | Relais Matrix | Rohde & Schwarz | PSN | 860673/009 | 300001385 |
| A-5 | Horn Antenna | EMCO | 3115 | 9709-5290 | 300000212 |
| A-6 | Bilog.-Log. Antenna | Schwarzbeck | VULB 9163 | 02/00 | 300003696 |
| A-7 | Notch Filter GSM 900 | Wainwright | WRCD 901.9/903.1EE | 9 | --- |
| A-8 | Notch Filter GSM 1800 | Wainwright | WRCD 1747/1748-5EE | 1 | --- |
| A-9 | Notch Filter GSM 1900 | Wainwright | WRCD 1879.5/1880.5EE | 9 | --- |
| A-10 | Notch Filter GSM 850 | Wainwright | WRCT 837-0.2/50-8EE | 1 | --- |
| A-11 | Notch Filter UMTS | Wainwright | WRCD 1800/2000-0.2/40-5EEK | 2 | --- |
| A-12 | Notch Filter ISM 2400 | Wainwright | WRCG 2400/ 2483-2375/2505-50/10SS | 26 | --- |
| A-13 | High Pass Filter 1.1 GHz | Wainwright | WHK 1.1/15G-10SS | --- | --- |
| A-14 | High Pass Filter 2.6 GHz | Wainwright | WHKX 2.6/18G-12SS | --- | --- |
| A-15 | High Pass Filter 7 GHz | Wainwright | WHKX 7.0/18G-8SS | --- | --- |
| A-14 | Amplifier | Miteq | AFS4-00201800-15-10P-6 | US42-0050 2650-28-5A | 300003204 |
| A-16 | Controller | Inn co | CO 2000 | 2020507 | --- |
| A-17 | DC Power Supply | Hewlet Packard | HP6632A | --- | 300000924 |
| A-18 | Computer | F+W | --- | --- | 300003303 |