



## 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. : 1-0648-01-05/08  
Type identification : Confidea DU  
Applicant : televic nv.  
FCC ID : WM7CONFIDEADU  
IC Certification No : 7932A-CONFIDEADU  
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:**

2009-03-10            Marco Bertolino  
Date                  Name



Signature

**Technical responsibility for area of testing:**

2009-03-10            Stefan Bös  
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

|                   |                         |
|-------------------|-------------------------|
| <b>Name:</b>      | televic nv.             |
| <b>Street:</b>    | Leo Bekaertlaan 1       |
| <b>Town:</b>      | 8870 Izegem             |
| <b>Country:</b>   | BELGIUM                 |
| <b>Telephone:</b> | +32 51 30 30 45         |
| <b>Fax:</b>       | +32 51 33 18 86         |
| <b>Contact:</b>   | John Gesquiere          |
| <b>E-mail:</b>    | j.gesquiere@televic.com |
| <b>Telephone:</b> | +32 51 30 30 45         |

## 1.4 Application details

|  |  |
|--|--|
| <b>Date of receipt of order:</b>                         | 2008-08-18                             |
| <b>Date of receipt of test item:</b>                     | 2008-08-18                             |
| <b>Date of start test:</b>                               | 2008-08-18                             |
| <b>Date of end test:</b>                                 | 2009-03-10                             |
| <b>Persons(s) who have been present during the test:</b> | Mr. Carl Lylon<br>Development engineer |

## 2 Test standard/s:

|                   |         |   |
|-------------------|---------|---|
| 47 CFR Part 15    | 2007-09 | Title 47 of the Code of Federal Regulations; Chapter I-Federal Communications Commission<br>subchapter A - general, Part 15-Radio frequency devices                           |
| RSS - 210 Issue 7 | 2007-06 | Spectrum Management and Telecommunications - Radio Standards Specification<br>Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment |

### 3 Technical tests

#### 3.1 Details of manufacturer

|          |                          |
|----------|--------------------------|
| Name:    | <b>televic nv.</b>       |
|          |                          |
|          |                          |
| Street:  | <b>Leo Bekaertlaan 1</b> |
| Town:    | <b>8870 Izegem</b>       |
| Country: | <b>BELGIUM</b>           |

#### 3.1.1 Test item

|                        |   |
|------------------------|---|
| Kind of test item :    | <b>Wireless Discussion System 2.4 / 5 GHz</b>   |
| Type identification :  | <b>Confidea DU</b>                              |
|                        |   |
| S/N serial number :    | <b>0x22 radiated EUT<br/>0x25 conducted EUT</b> |
| HW hardware status :   | <b>0.01</b>                                     |
| SW software status :   | <b>-/-</b>                                      |
| Frequency Band [MHz] : | <b>ISM band 2.400 - 2.483,5 MHz</b>             |
| Type of Modulation :   | <b>OFDM</b>                                     |
| Number of channels :   | <b>11</b>                                       |
| Antenna :              | <b>Integrated antenna</b>                       |
| Power Supply :         | <b>115 V / 15 V AC / DC power supply</b>        |
| Temperature Range :    | <b>-/- °C to -/- °C</b>                         |

**Max. power radiated:** **16.98 dBm**  
**Max. power conducted:** **14.88 dBm**

**FCC ID:** **WM7CONFIDEADU**  
**IC:** **7932A-CONFIDEADU**

**3.1.2 Additional EUT information For IC Canada (appendix 2)**

|   |  |
|---|--|
| IC Registration Number:                                 | <b>7932A-CONFIDEADU</b>  |
| Model Name:   | <b>Confidea DU</b>   |
| Manufacturer (complete Address):                        | <b>televic nv.<br/>Leo Bekaertlaan 1<br/>8870 Izegem<br/>BELGIUM</b> |
| Tested to Radio Standards Specification (RSS) No.:      | <b>RSS-210 Issue 7</b>   |
| Open Area Test Site Industry Canada Number:             | <b>IC 3462C-1</b>  |
| Frequency Range (or fixed frequency) [MHz]:             | <b>ISM band 2400 – 2483.5 MHz</b>                                    |
| RF: Power [W] (max):                                    | <b>OFDM:<br/>Rad. EIRP: 49.89 mW<br/>Conducted: 30.76 mW</b>         |
| Antenna Type:   | <b>Integrated antenna</b>  |
| Occupied Bandwidth (99% BW) [MHz]:                      | <b>OFDM 6 dB: 16.533 MHz<br/>OFDM 20 dB: 19.739 MHz</b>              |
| Type of Modulation:                                     | <b>OFDM</b>  |
| Emission Designator (TRC-43):                           | <b>16M5G7D<br/>19M7G7D</b>   |
| Transmitter Spurious (worst case) [dB $\mu$ V/m in 3m]: | <b>29.77</b>   |
| Receiver Spurious (worst case) [dB $\mu$ V/m in 3m]:    | <b>29.27</b>   |

**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: 2009-03-10

### 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: **7932A**
2. MODEL NUMBER: **Confidea DU**
3. MANUFACTURER: **televic nv.**
4. TYPE OF EVALUATION: **(c) RF Evaluation**

- Evaluated against exposure limits: General Public Use  Controlled Use
- Duty cycle used in evaluation: 40 % highest applicable duty cycle
- Standard used for evaluation: RSS-102 Issue 2 (2005-11)
- Measurement distance: 0.20 m
- RF value: 0.099 V/m  A/m  W/m<sup>2</sup>

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

### 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 <sub>nom</sub> | °C   | <b>20</b>           |
| Nominal Humidity     | H <sub>nom</sub> | %    | <b>54</b>           |
| Nominal Power Source | V <sub>nom</sub> | V    | <b>115 V / 15 V</b> |

Type of power source: **AC / DC 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  | 2009-03-10 | -/-    |

| 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.

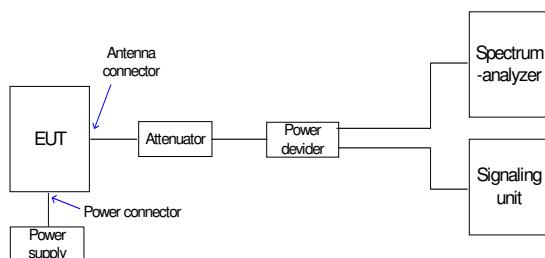
Antennas are confirmed with ANSI C63.2-1996 item 15.

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, bi-conical 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

Confidea: Reference document for the initiation of the EUT's and further important settings.

This document is provided by televic n.v.!

Test report: 1-0648-1-10/08 Confidea WCAP

## 5.3 Additional comments

-/-

## 5.4 Antenna gain

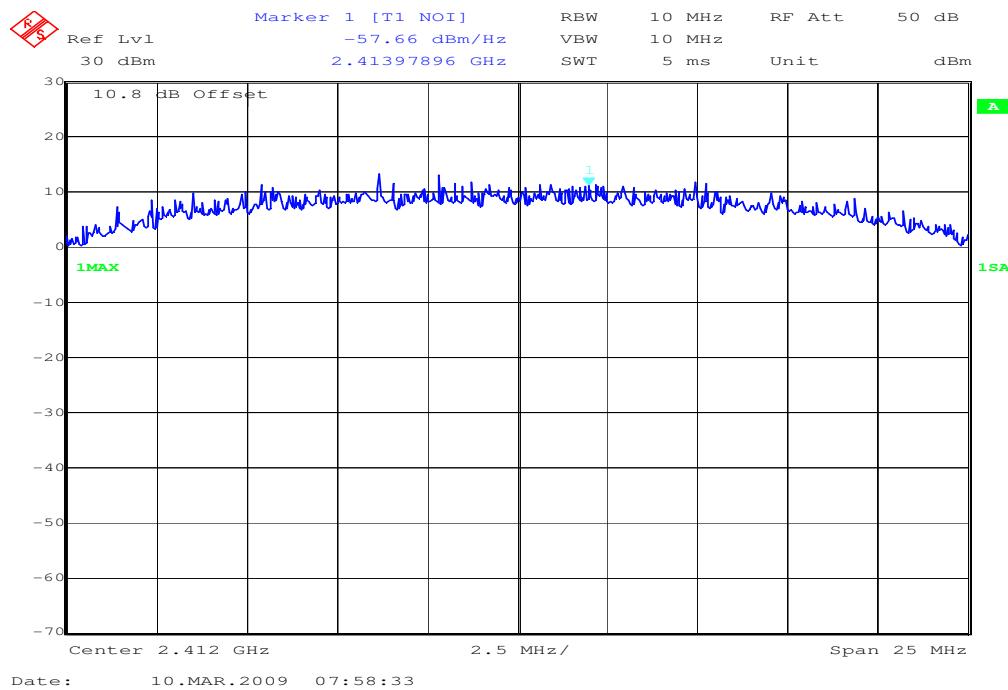
The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

|  | low channel (1)<br>2412 MHz | mid channel (6)<br>2437 MHz | high channel (11)<br>2462 MHz |
|--|-----------------------------|-----------------------------|-------------------------------|
| Conducted power [dBm]<br><i>(measured)</i> | <b>14.88</b>                | 14.06                       | 13.55                         |
| Radiated power [dBm]<br><i>(measured)</i>  | <b>16.98</b>                | 16.79                       | 15.90                         |
| Gain [dBi]<br><i>(calculated)</i>          | 2.10                        | <b>2.73</b>                 | 2.35                          |

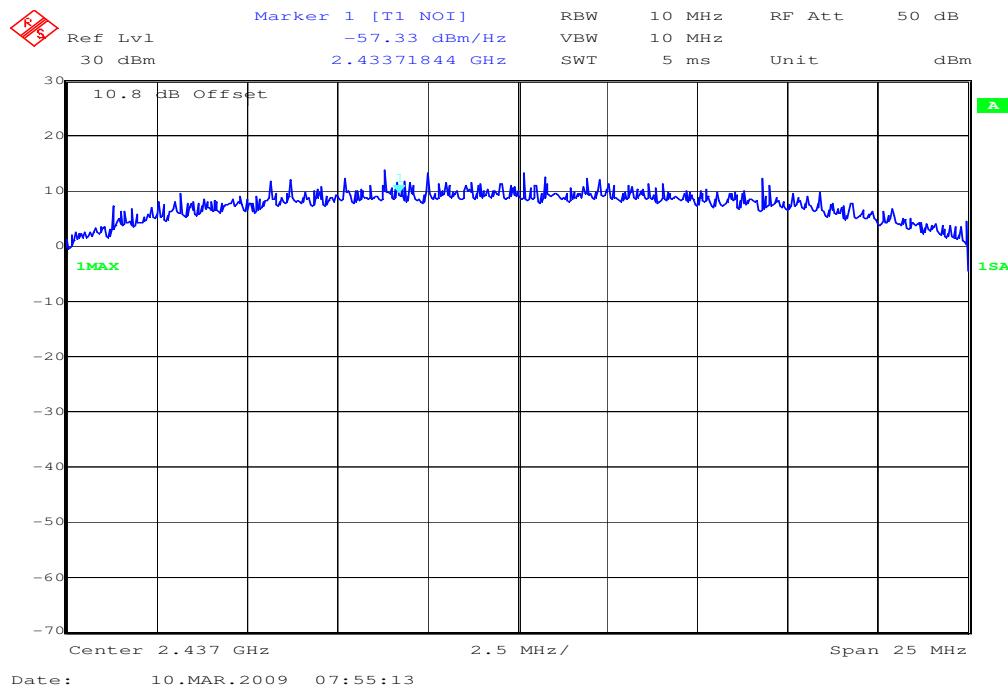
## 5.5 Peak Power Spectral density (digitally modulated systems) §15.247(e)

### OFDM

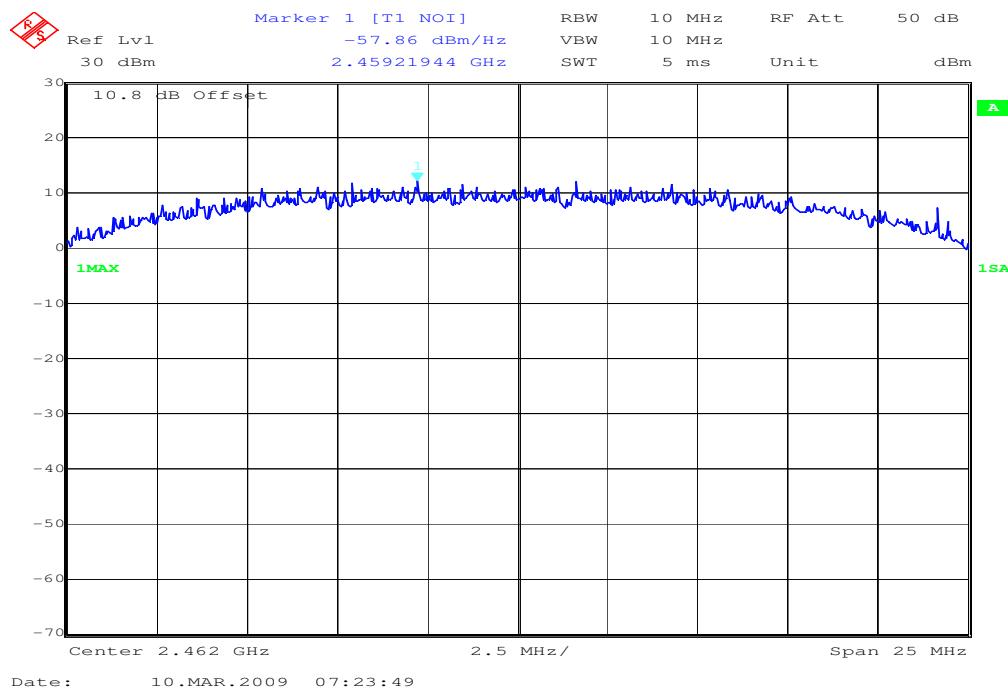
Plot 1: (result calculated by the Signal analyzer FSIQ from Rohde & Schwarz)



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



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



Results:

- Plot 1: Power density: - 57.66 dBm/Hz = - 22.86 dBm / 3 kHz
- Plot 2: Power density: - 57.33 dBm/Hz = - 22.53 dBm / 3 kHz
- Plot 3: Power density: - 57.86 dBm/Hz = - 23.06 dBm / 3 kHz

Correction factor from dBm/Hz to dBm/3 kHz is +34.8 dB

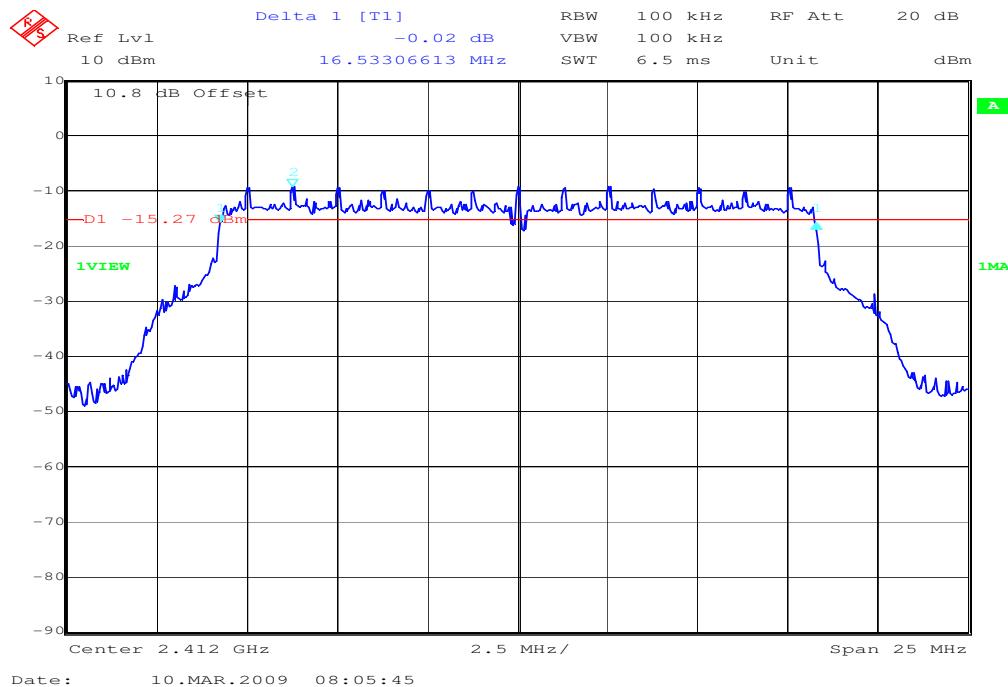
Limits:

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

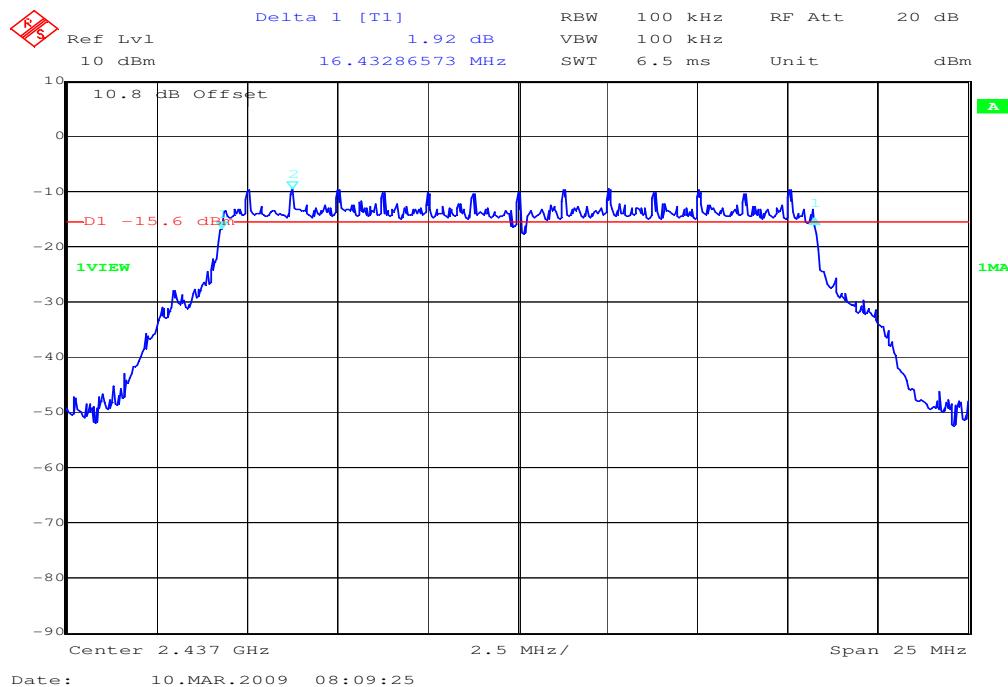
## 5.6 Spectrum Bandwidth of a DSSS System / 6 dB Bandwidth §15.247(a)(2)

### OFDM

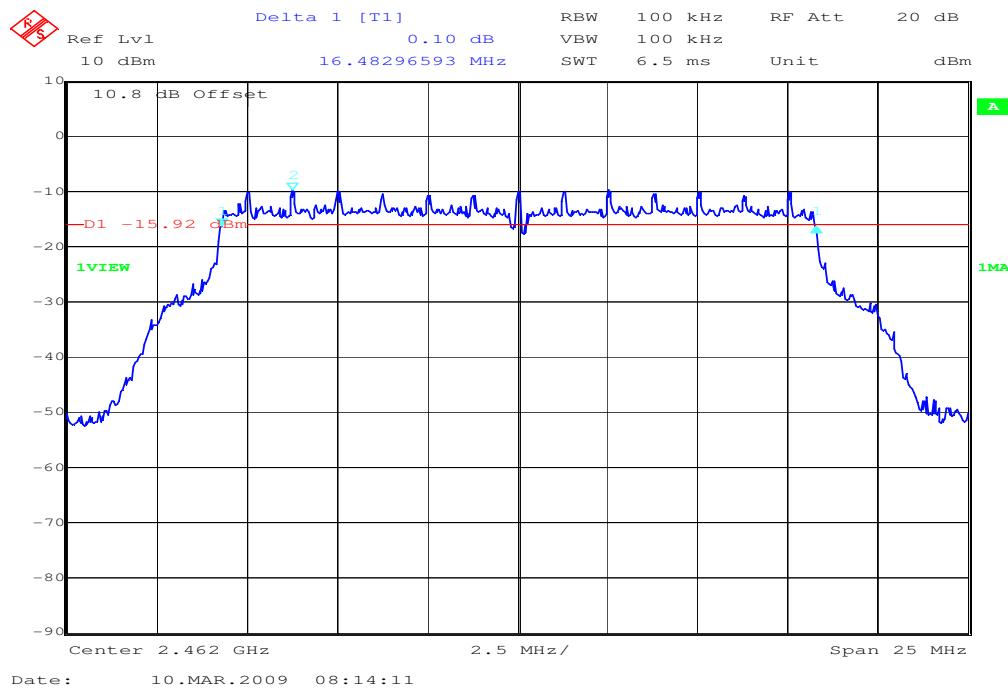
Plot 1:



Plot 2:



Plot 3:



## Results:

| Test conditions         |                  | 6 dB BANDWIDTH [MHz] |        |        |
|-------------------------|------------------|----------------------|--------|--------|
| Frequency [MHz]         |                  | 2412                 | 2437   | 2462   |
| T <sub>nom</sub>        | V <sub>nom</sub> | 16.533               | 16.433 | 16.483 |
| Measurement uncertainty |                  | ± 10 kHz             |        |        |

RBW: 100 kHz / VBW 100 kHz

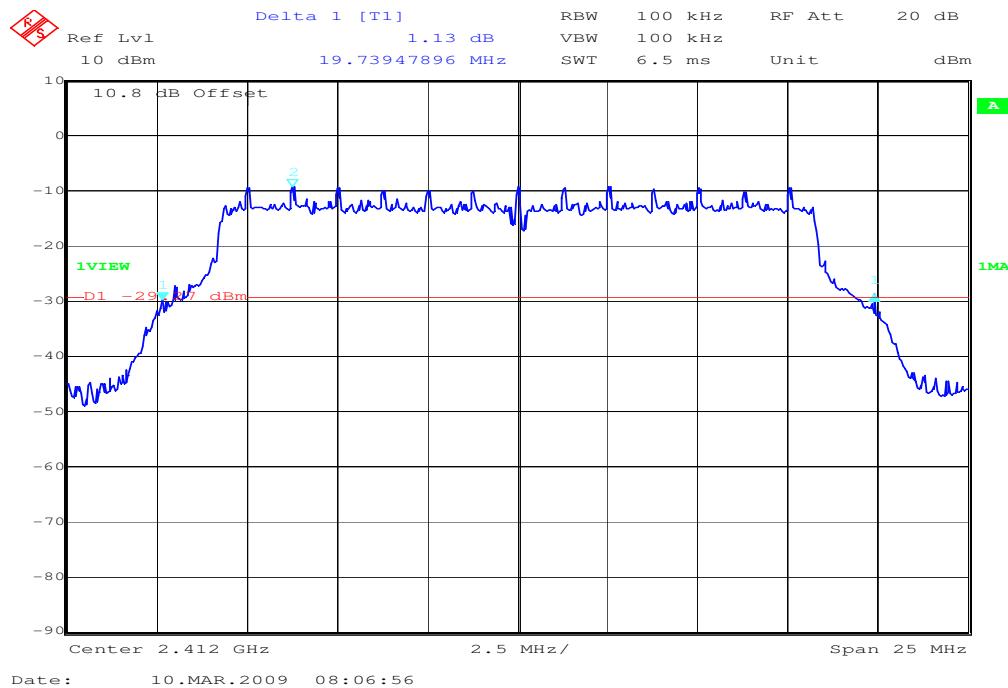
## Limits:

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

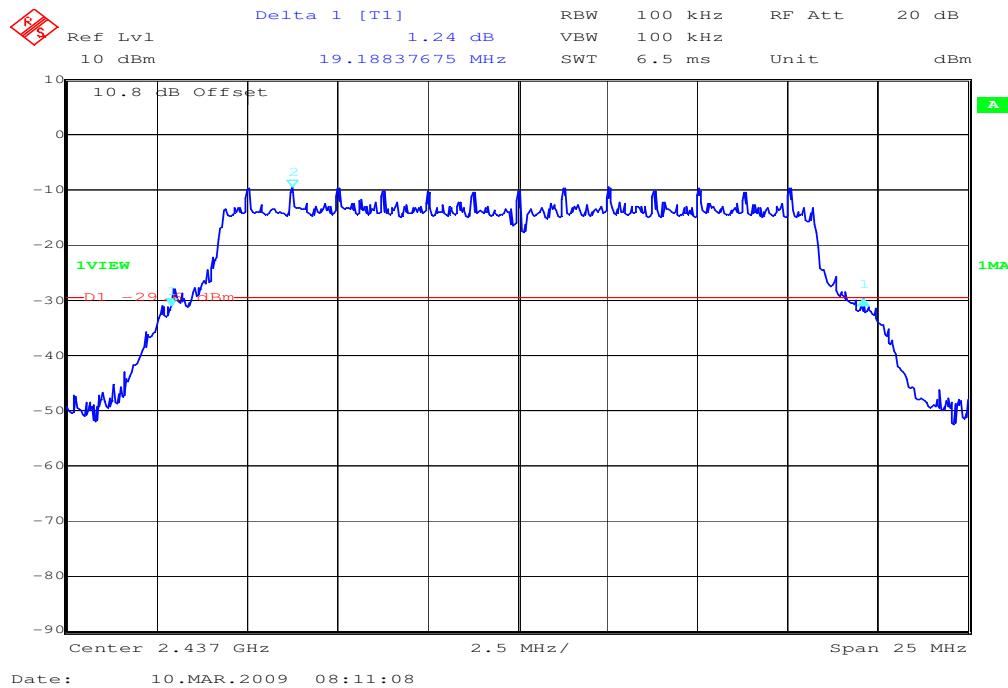
## 5.7 Spectrum Bandwidth of a DS-SS System / 20 dB Bandwidth

### OFDM

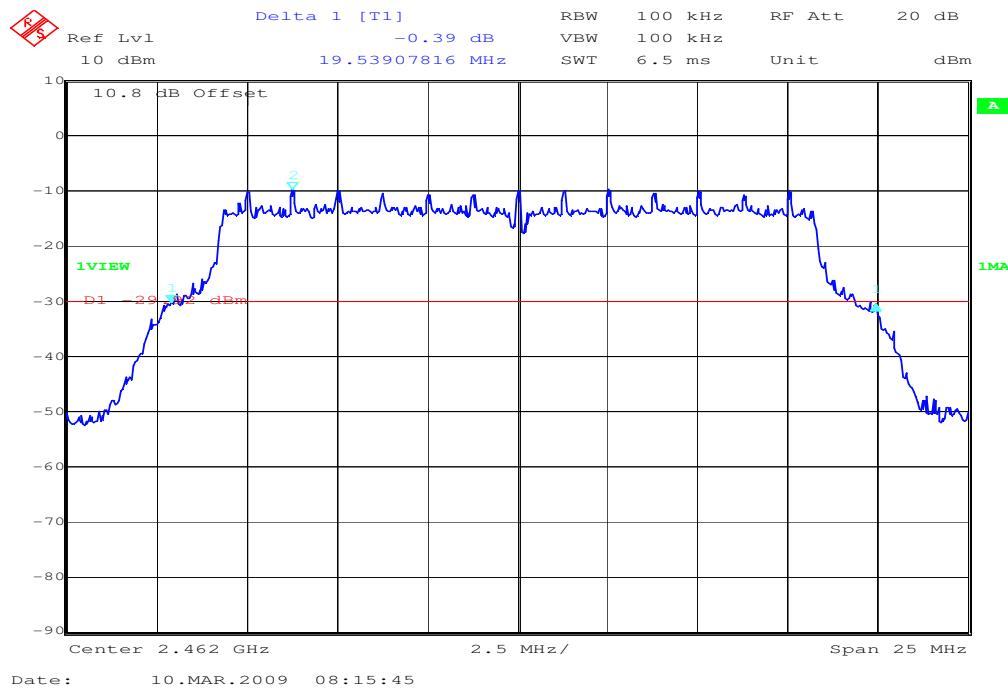
Plot 1:



Plot 2:



Plot 3:



Results:

| Test conditions         |                  | 20 dB BANDWIDTH [MHz] |        |        |
|-------------------------|------------------|-----------------------|--------|--------|
| Frequency [MHz]         |                  | 2412                  | 2437   | 2462   |
| T <sub>nom</sub>        | V <sub>nom</sub> | <b>19.739</b>         | 19.188 | 19.539 |
| Measurement uncertainty |                  | ± 10 kHz              |        |        |

RBW: 100 kHz / VBW 100 kHz

Limits:

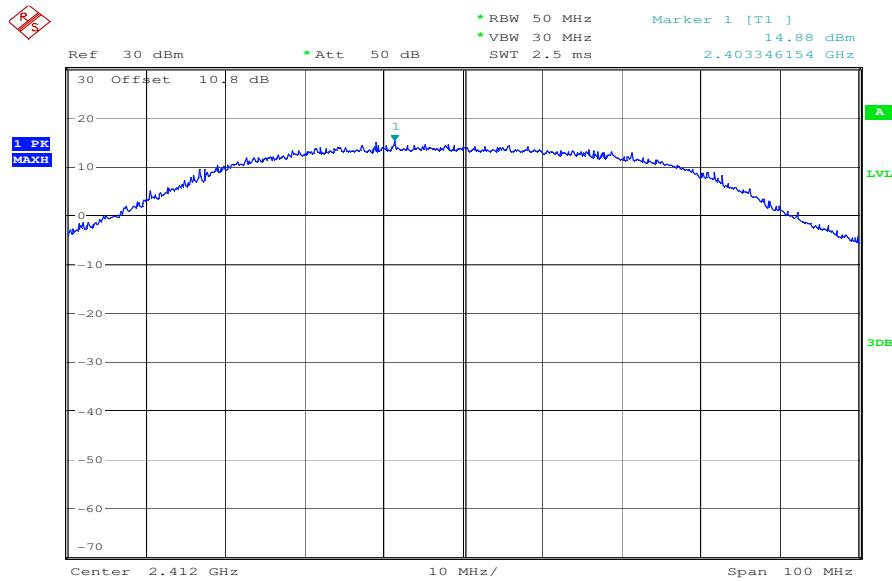
Under normal test conditions only

&gt; 500 kHz

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

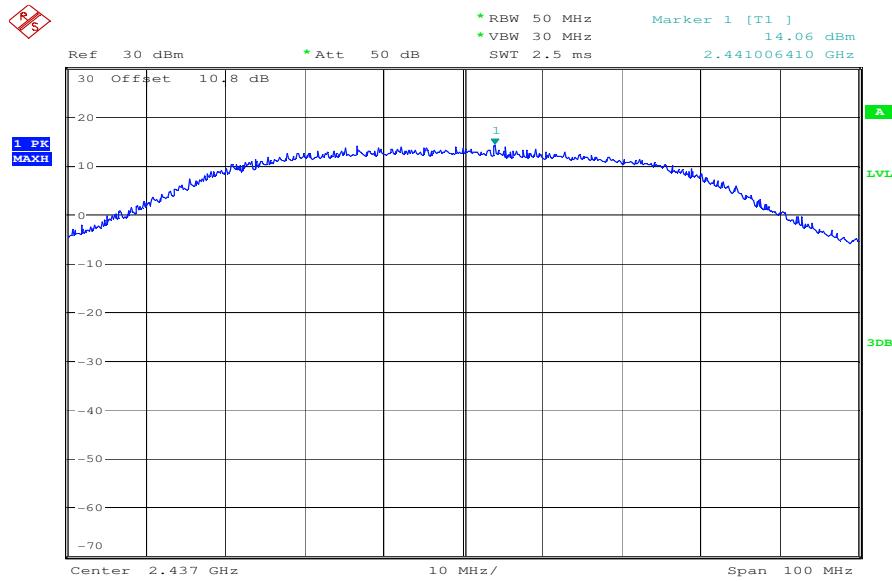
### OFDM

Plot 1:



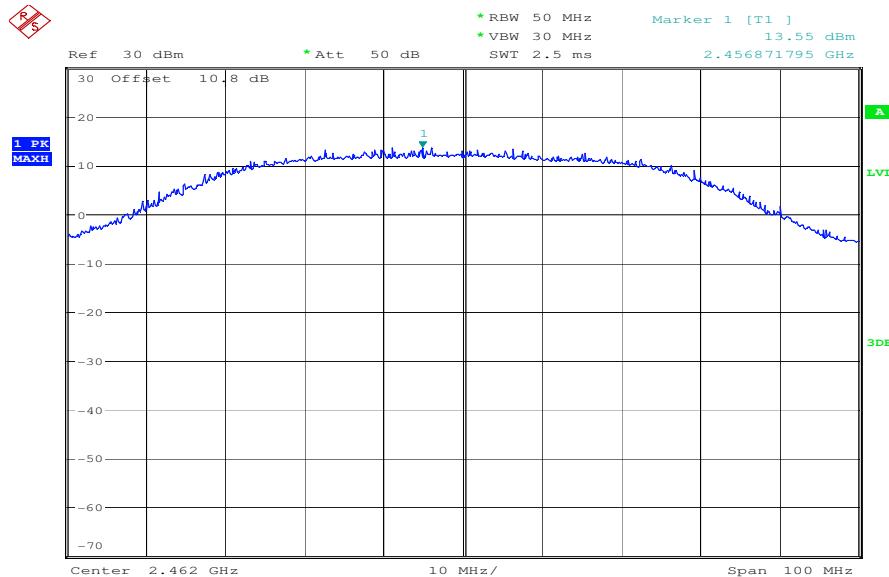
Date: 10.MAR.2009 10:05:04

Plot 2:



Date: 10.MAR.2009 10:07:06

Plot 3:



Date: 10.MAR.2009 10:09:38

Results:

| Test conditions         |                  | Max. peak output power [dBm] |       |       |
|-------------------------|------------------|------------------------------|-------|-------|
|                         |                  | 2412                         | 2437  | 2462  |
| T <sub>nom</sub>        | V <sub>nom</sub> | 14.88                        | 14.06 | 13.55 |
| Measurement uncertainty |                  | ± 3 dB                       |       |       |

RBW / VBW: 50 MHz / 30 MHz

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/cm<sup>2</sup>)

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: 16.98 dBm (49.89 mW)

calculated at distance of 20 cm:

$$\text{power density} = 49.89 / 4\pi 20^2 = 0.0099 \text{ mW/cm}^2$$

Limit:

1mW/cm<sup>2</sup> 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)****OFDM**

Results:

| Test conditions         |                  | Max. peak output power EIRP [dBm] |       |       |
|-------------------------|------------------|-----------------------------------|-------|-------|
| Frequency [MHz]         |                  | 2412                              | 2437  | 2462  |
| T <sub>nom</sub>        | V <sub>nom</sub> | <b>16.98</b>                      | 16.78 | 15.90 |
| Measurement uncertainty |                  | ±3dB                              |       |       |

RBW / VBW: 10 MHz

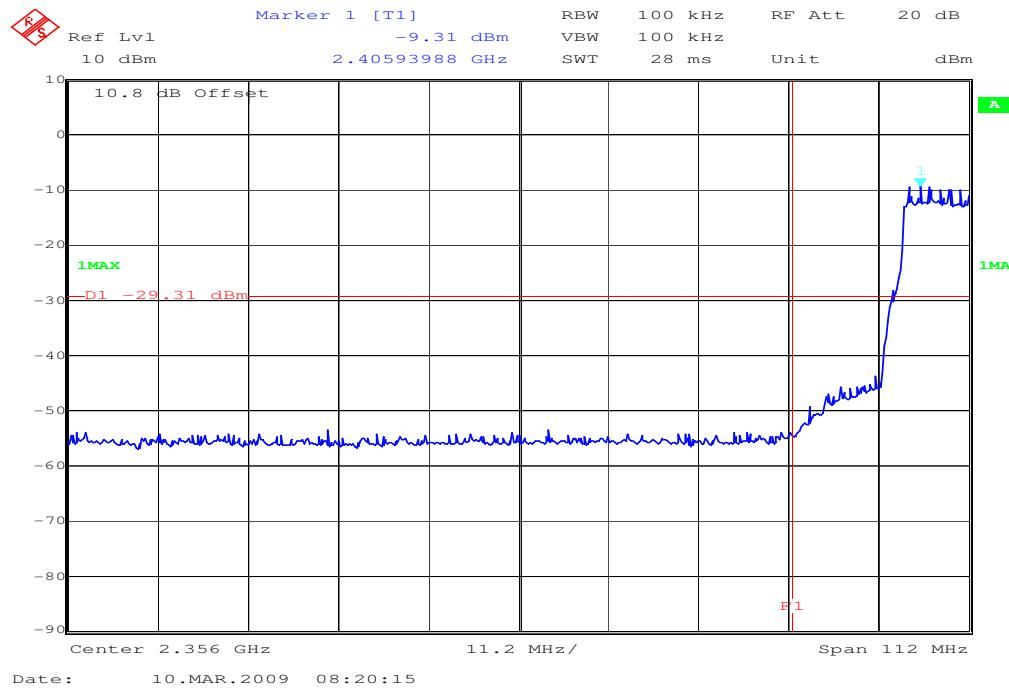
Measured at a distance of 3m

Limits:

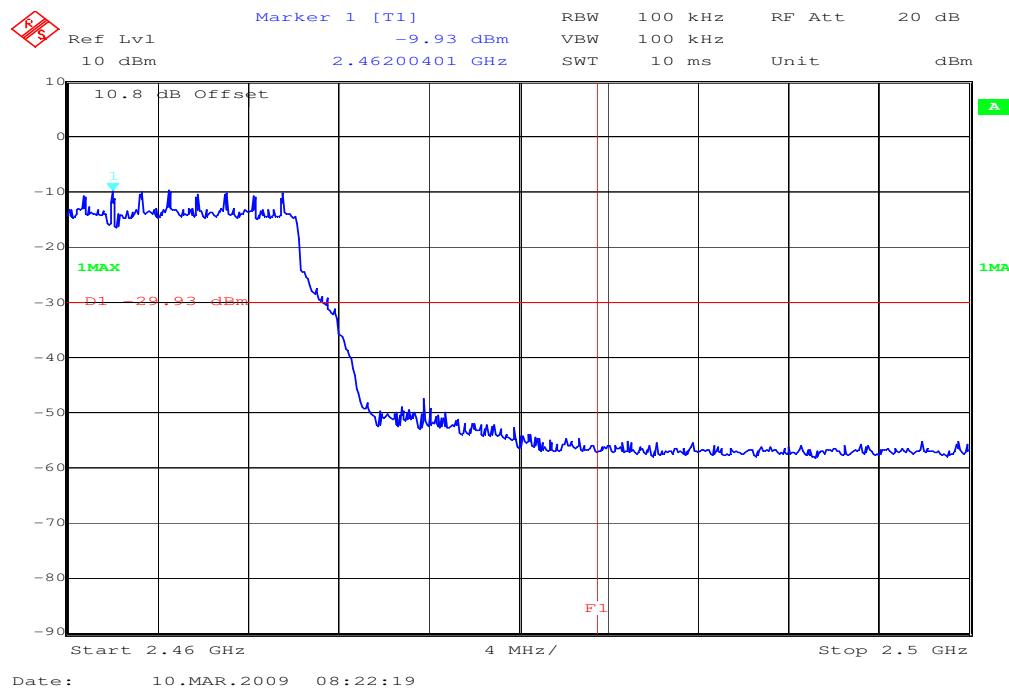
|  |               |
|--|---------------|
| Under normal test conditions only, for frequency range 2400-2483.5 MHz | Max. 1.0 Watt |
|--|---------------|

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

Plot 1: lowest channel



Plot 2: highest channel



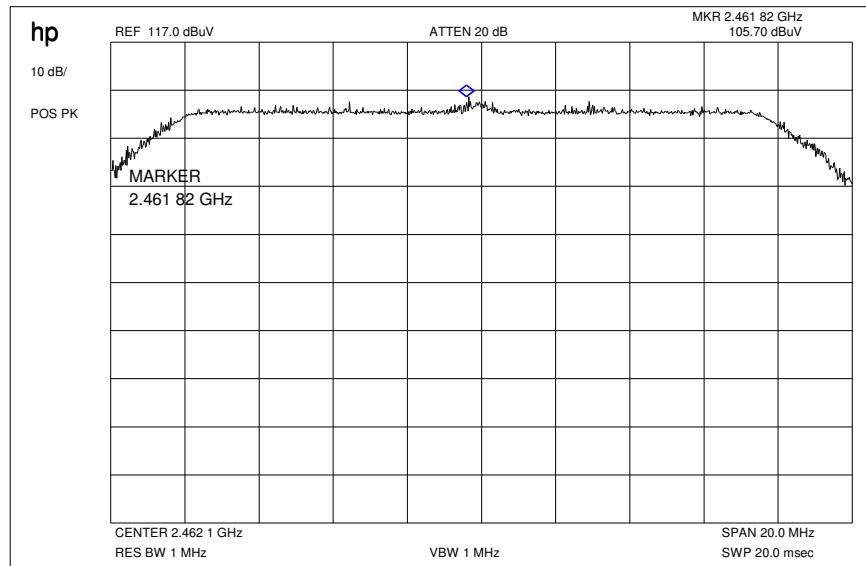
Limits:

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

### OFDM

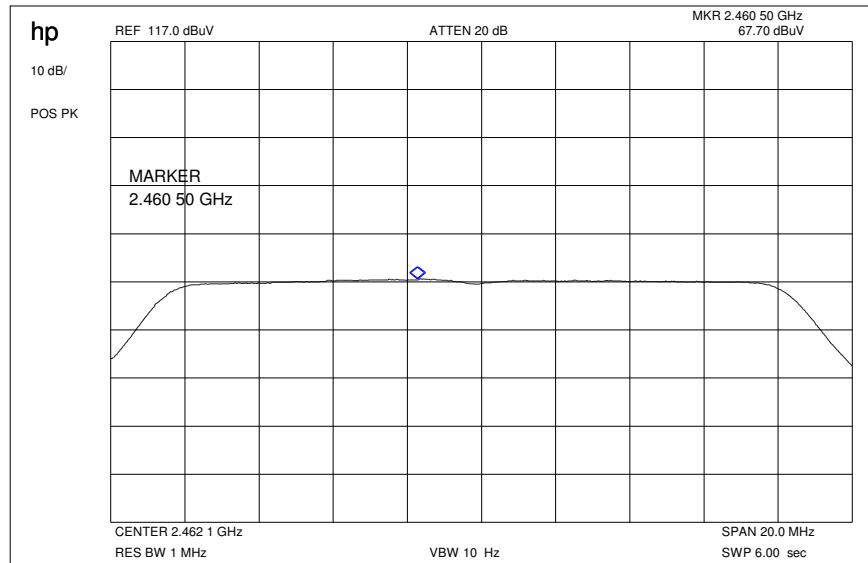
Plot 1: Max field strength in 3m distance (single frequency) peak



Result:

| Frequency | Meter reading | Correction factor | Results |
|-----------|---------------|-------------------|---------|
| 2462 MHz  | 105.70        | -6.4 dB           | 99.30   |

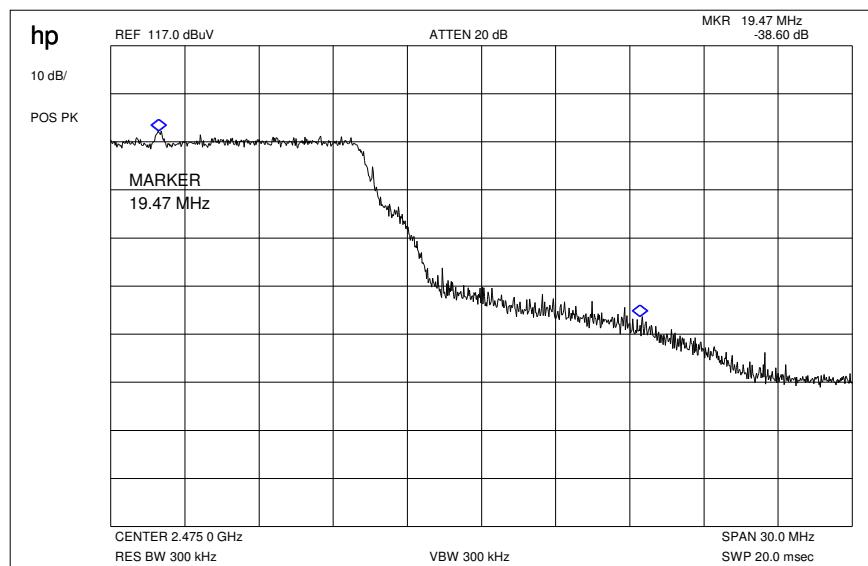
Plot 2: Max field strength in 3m distance (single frequency) average



Result:

| Frequency | Meter reading | Correction factor | Results |
|-----------|---------------|-------------------|---------|
| 2462 MHz  | 67.70         | -6.4 dB           | 61.30   |

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



Result:

Marker-Delta-Value: -38.60 dB

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

## Results &amp; Limits:

## Radiated field strength

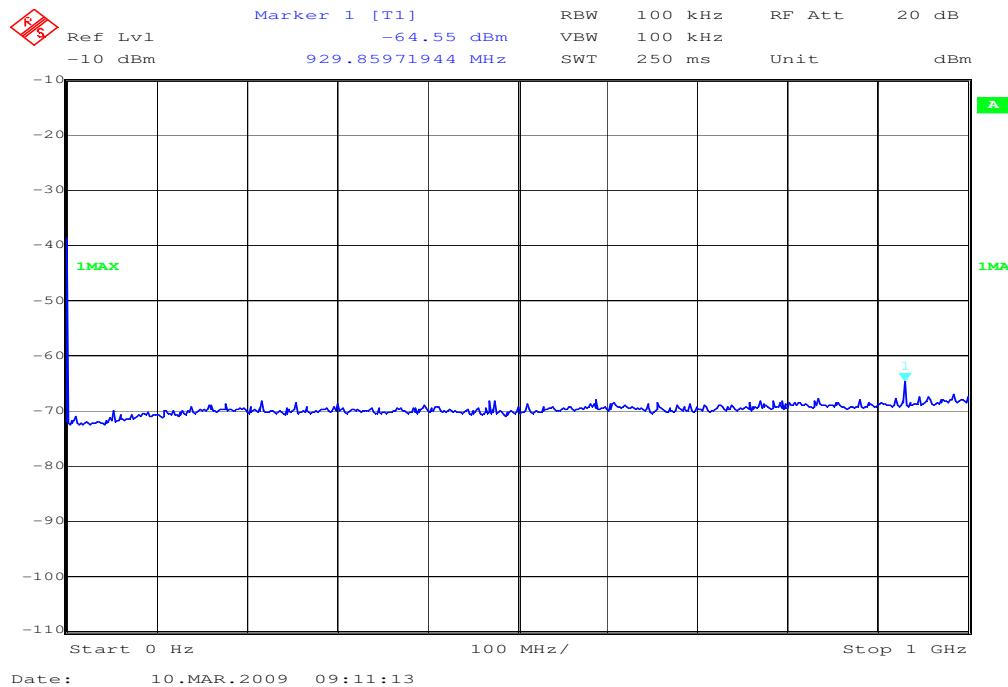
The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

| high channel       | setup                      | measured value (3m) | correction factor (3m) | calculated value (3m) |
|--------------------|----------------------------|---------------------|------------------------|-----------------------|
| Max. peak value    | 1 MHz RBW<br>1 MHz VBW     | 105.70 dB $\mu$ V/m | -6.4 dB                | 99.30 dB $\mu$ V/m    |
| Max. average value | 1 MHz RBW<br>10 Hz VBW     | 67.70 dB $\mu$ V/m  | -6.4 dB                | 61.30 dB $\mu$ V/m    |
| Delta value        | Peak<br>300 kHz<br>RBW/VBW | -38.60 dB           |                        |                       |
| Value at band edge | limit 54 dB $\mu$ V/m      |                     |                        | 22.70 dB $\mu$ V/m    |
| Statement:         |                            |                     |                        | <b>Complies</b>       |

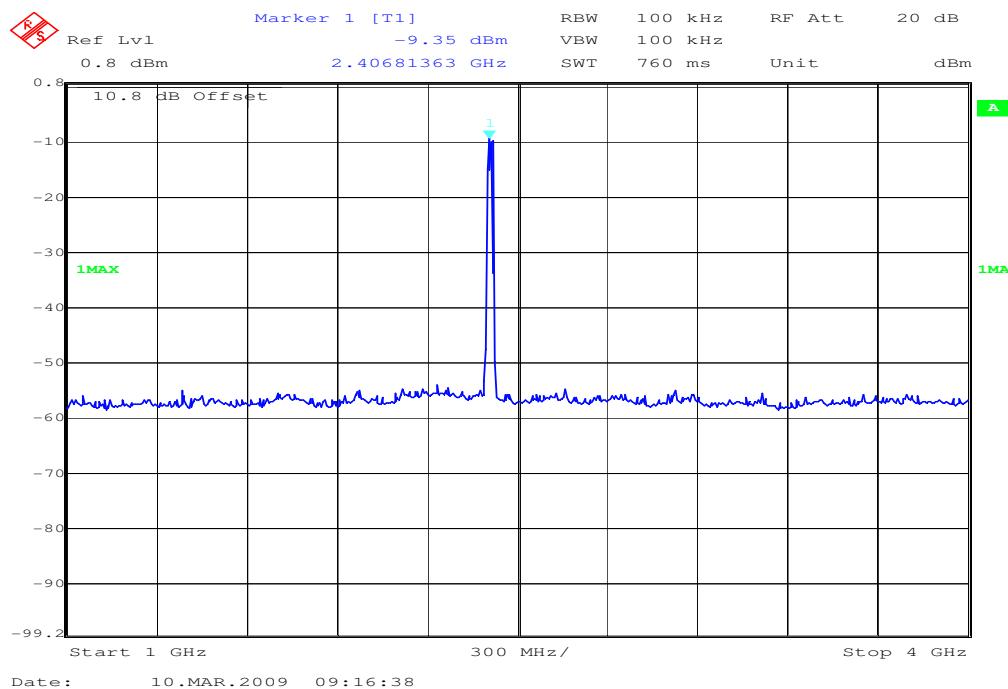
## 5.12 Spurious Emissions - conducted (Transmitter) §15.247 (c)

### OFDM

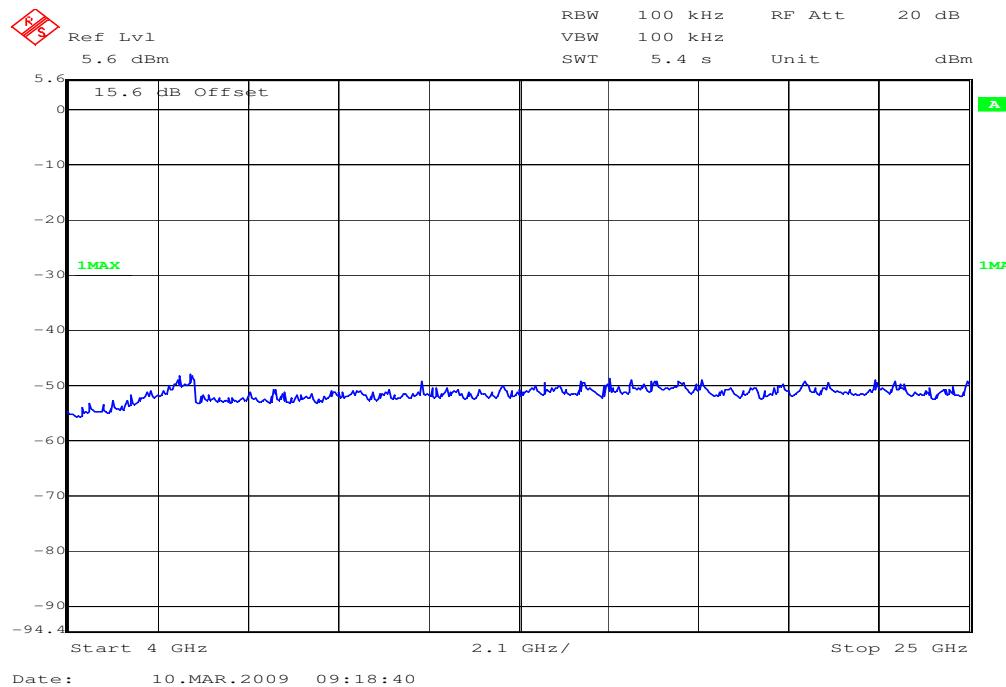
Plot 1: Lowest Channel



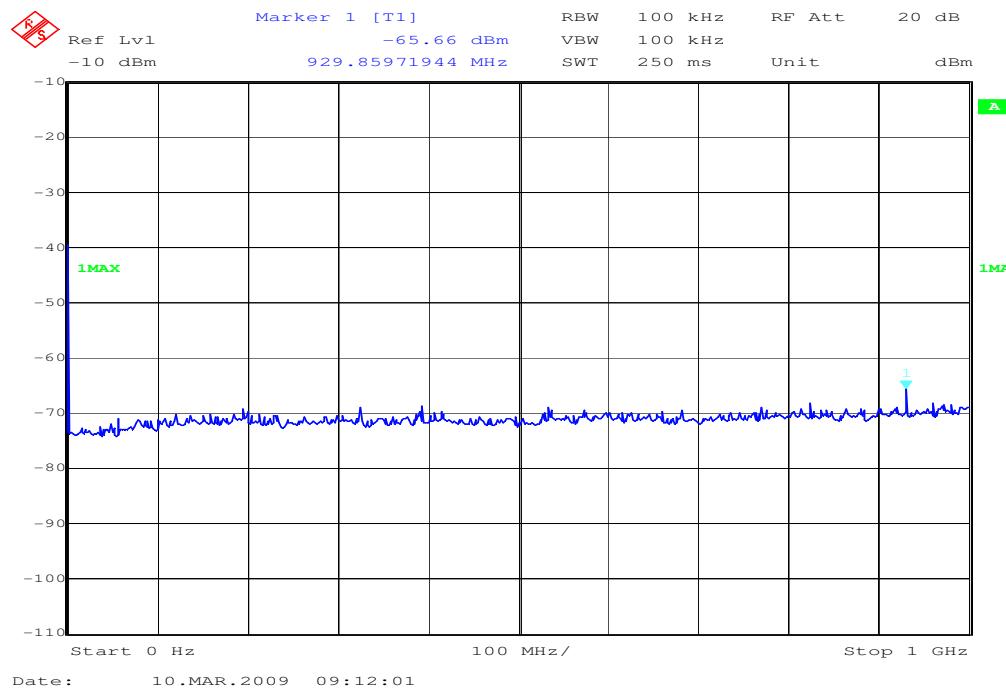
Plot 2: Lowest Channel



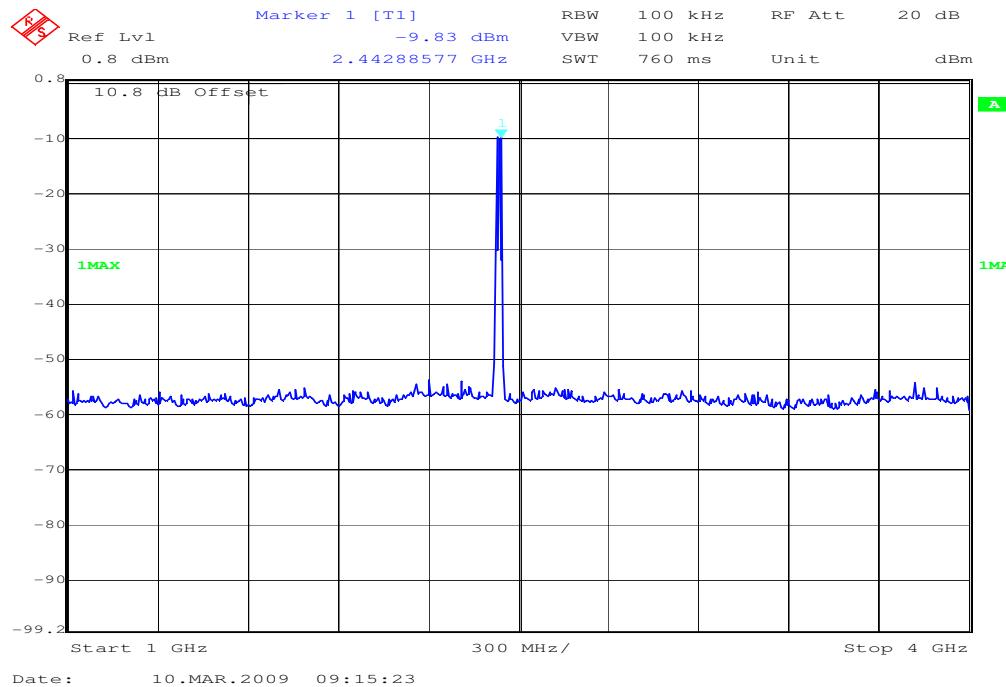
Plot 3: Lowest Channel



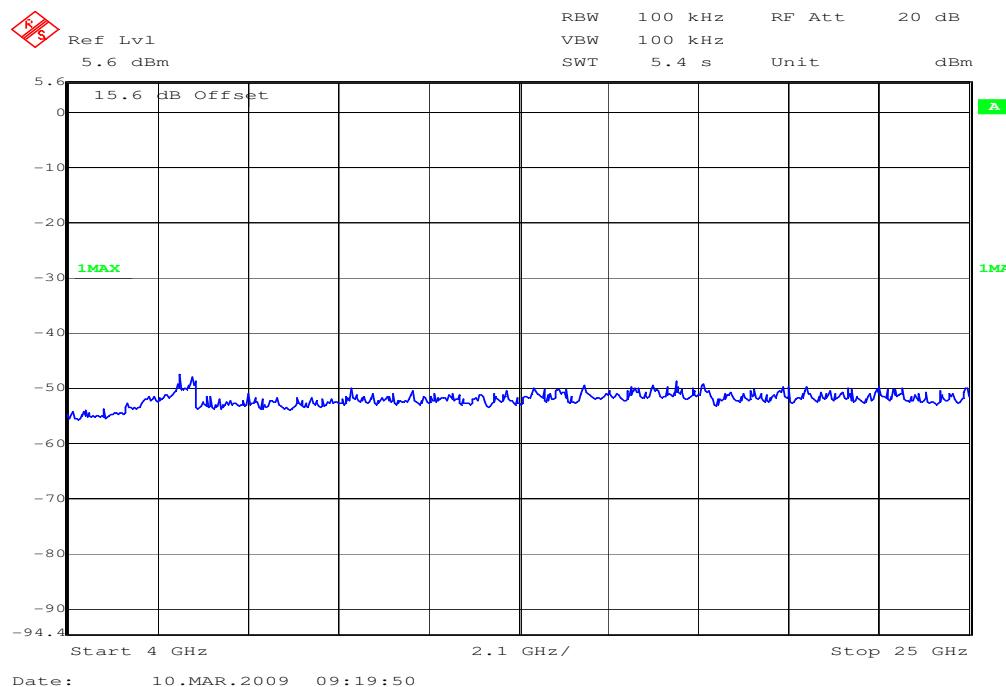
Plot 4: Middle Channel



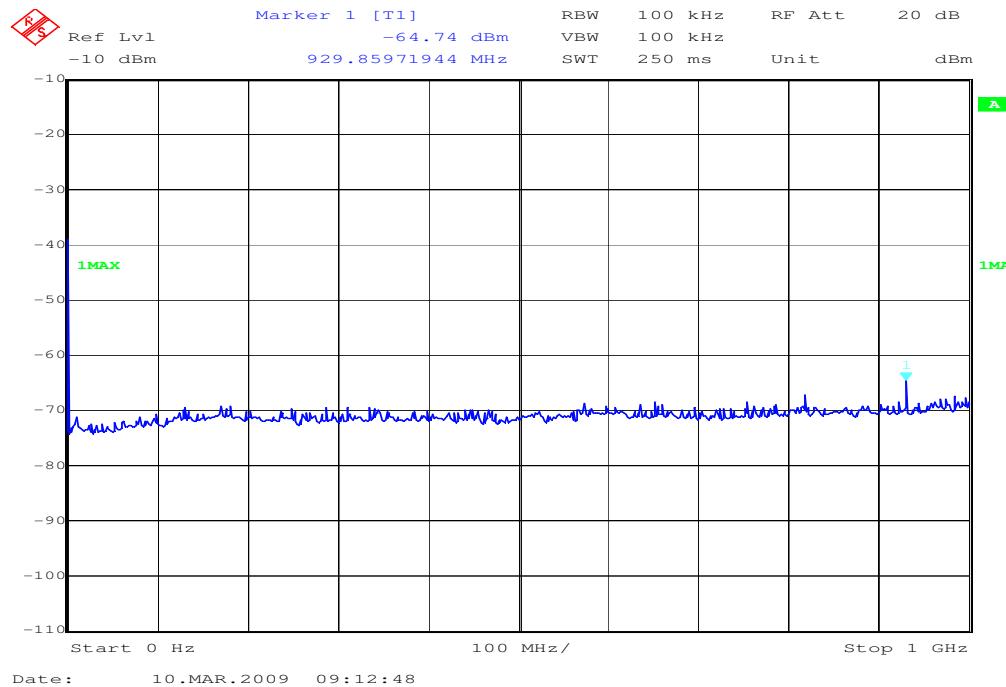
Plot 5: Middle Channel



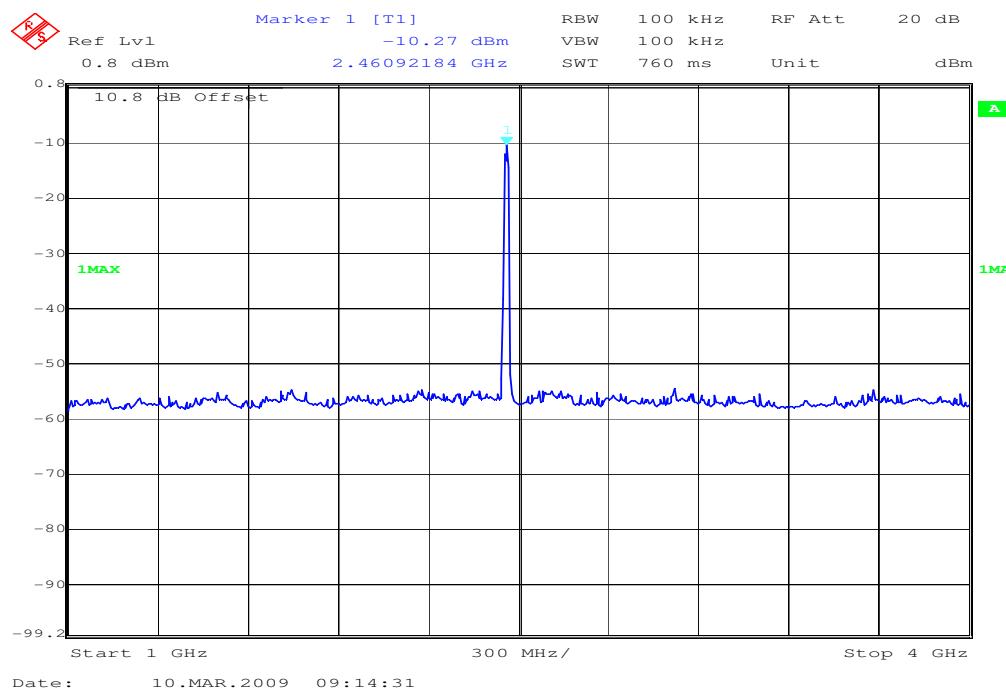
Plot 6: Middle Channel



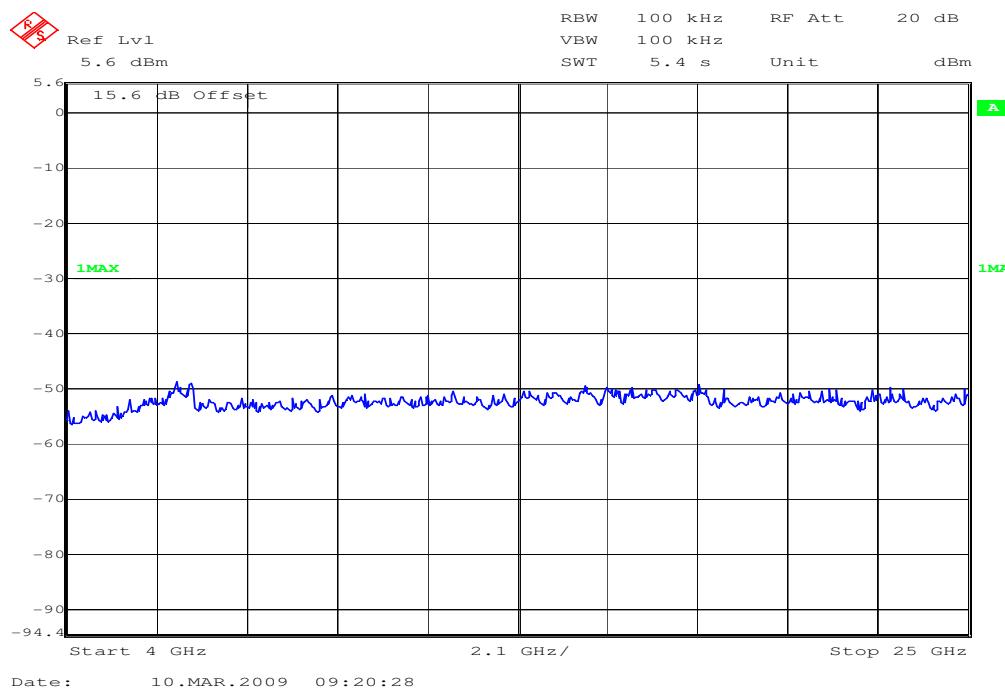
Plot 7: Highest Channel



Plot 8: Highest Channel



Plot 9: Highest Channel



## Result &amp; Limits:

| Emission Limitations    |  |                             |                                   |  |                     |
|-------------------------|--|-----------------------------|-----------------------------------|--|---------------------|
| f [MHz]                 |  | amplitude of emission [dBm] | limit max. allowed emission power | actual attenuation below frequency of operation [dB] | results             |
| 2412                    |  | -9.35                       | 30 dBm                            |  | Operating frequency |
|                         |  | No critical peaks detected. | -20 dBc                           |  |                     |
|                         |  |                             |                                   |  |                     |
| 2437                    |  | -9.83                       | 30 dBm                            |  | Operating frequency |
|                         |  | No critical peaks detected. | -20 dBc                           |  |                     |
|                         |  |                             |                                   |  |                     |
| 2462                    |  | -10.27                      | 30 dBm                            |  | Operating frequency |
|                         |  | No critical peaks detected. | -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 §15.205(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

### OFDM

Plot 1: 0.03 - 1 GHz (lowest channel)

#### Information

EUT: SCDw 9000 AP + FRA012-S24-1 + confidea CIV + FRA030E-S15-I

Serial Number: 0x11 + R301212401 + 19 + R33E11501

Test Description: FCC @ 10 m

Operating Conditions: Transmit bottom frequency (2412 MHz)

Operator Name: Folz

Comment: Powered with AC 115V/ 60 Hz

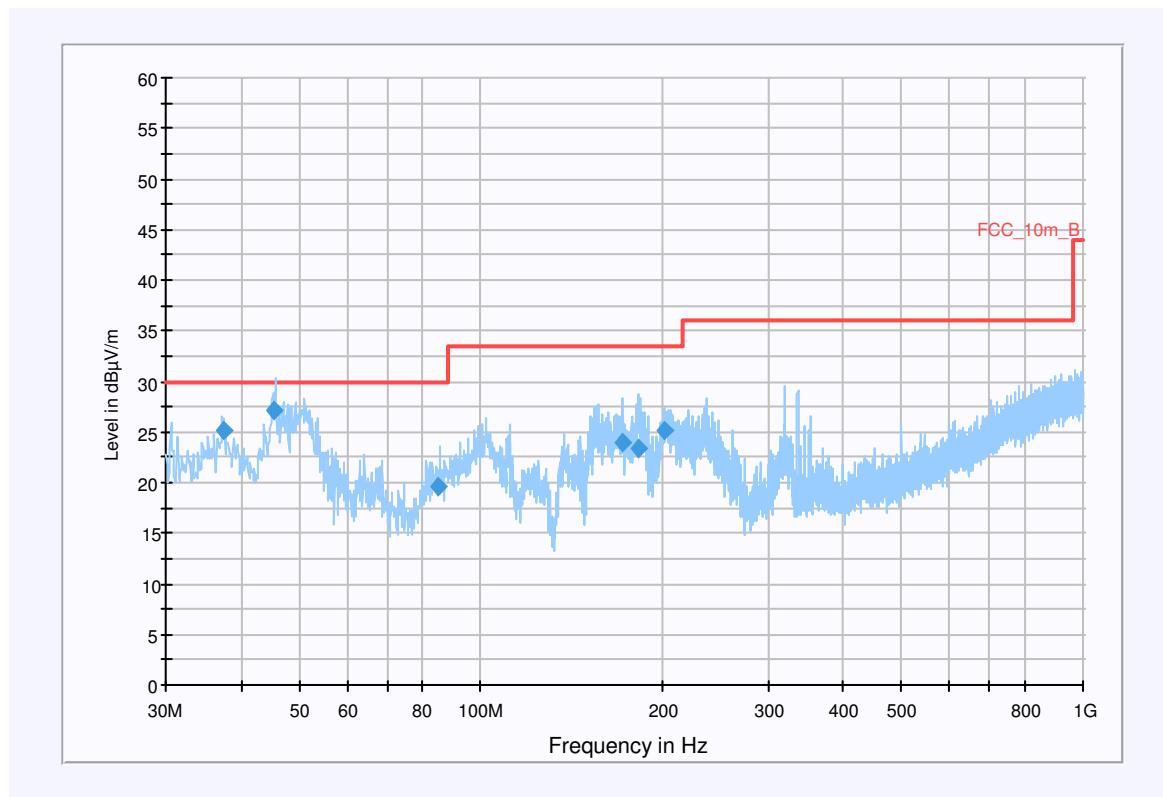
#### Scan Setup: FCC\_Fin [EMI radiated]

Hardware Setup: EMI radiated\Electric Field (NOS)

Level Unit: dB $\mu$ V/m

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

#### FCC\_10m(B)\_4



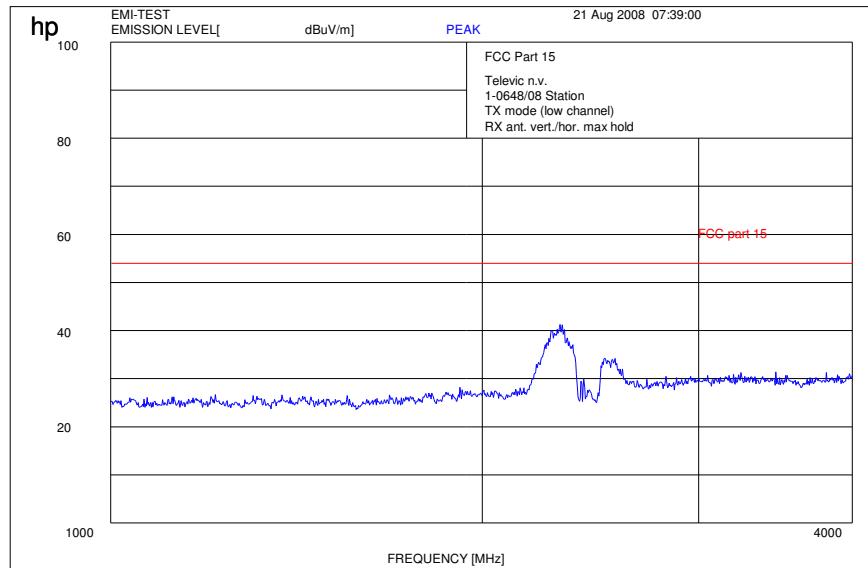
#### Final Measurement Detector 1

| Frequency (MHz) | QuasiPeak (dB $\mu$ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 37.356450       | 25.1                     | 15000.000       | 120.000         | 100.0               | V        | 231.0                    | 13.4       | 4.9         | 30.0                 |         |
| 45.265400       | 27.0                     | 15000.000       | 120.000         | 127.0               | V        | 130.0                    | 13.5       | 3.0         | 30.0                 |         |
| 84.962200       | 19.6                     | 15000.000       | 120.000         | 220.0               | V        | 280.0                    | 10.2       | 10.4        | 30.0                 |         |
| 171.993800      | 24.0                     | 15000.000       | 120.000         | 114.0               | V        | 231.0                    | 10.2       | 9.5         | 33.5                 |         |
| 182.844100      | 23.3                     | 15000.000       | 120.000         | 134.0               | V        | 195.0                    | 10.8       | 10.2        | 33.5                 |         |
| 202.214450      | 25.2                     | 15000.000       | 120.000         | 100.0               | V        | 221.0                    | 12.0       | 8.3         | 33.5                 |         |

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

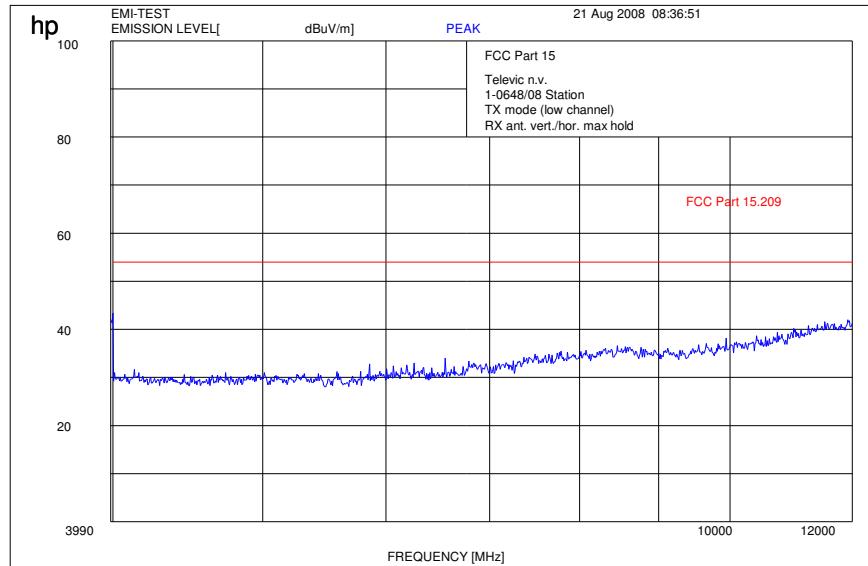
|                  |  |
|------------------|--|
|                  | Subrange 1   |
| Frequency Range: | 30MHz - 2GHz   |
| Receiver:        | Receiver [ESCI 3]<br>@ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009  |
| Signal Path:     | without Notch<br>FW 1.0  |
| Antenna:         | VULB 9163<br>SN 9163-295, FW ---, CAL 08.04.2010<br>Correction Table (vertical): VULP6113<br>Correction Table (horizontal): VULP6113<br>Correction Table: Cabel with switch (0408) |
| Antenna Tower:   | Tower [EMCO 2090 Antenna Tower]<br>@ GPIB0 (ADR 8), FW REV 3.12  |
| Turntable:       | Turntable [EMCO Turntable]<br>@ GPIB0 (ADR 9), FW REV 3.12   |

Plot 2: 1 - 4 GHz (lowest channel)

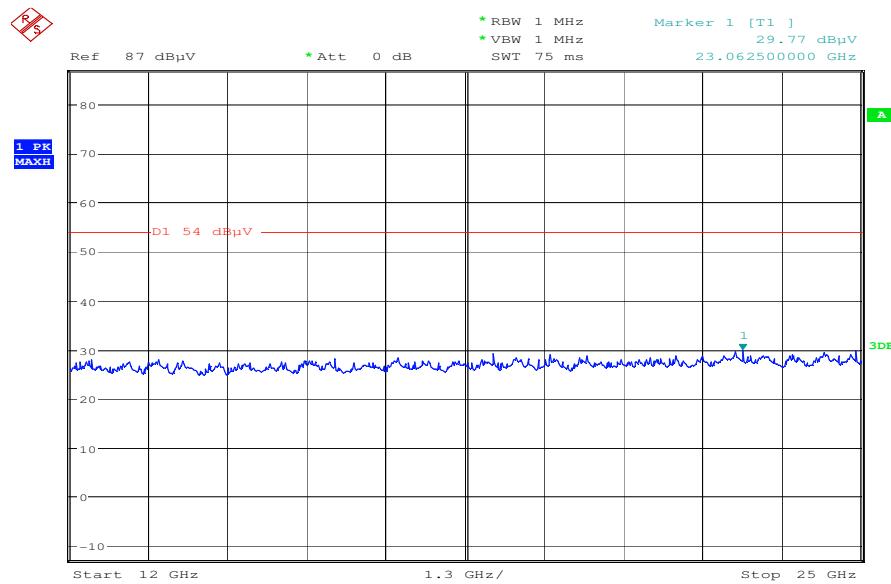


The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 4 - 12 GHz (lowest channel)



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



Date: 26.AUG.2008 09:43:38

Plot 5: 0.03 - 1 GHz (middle channel)

## Information

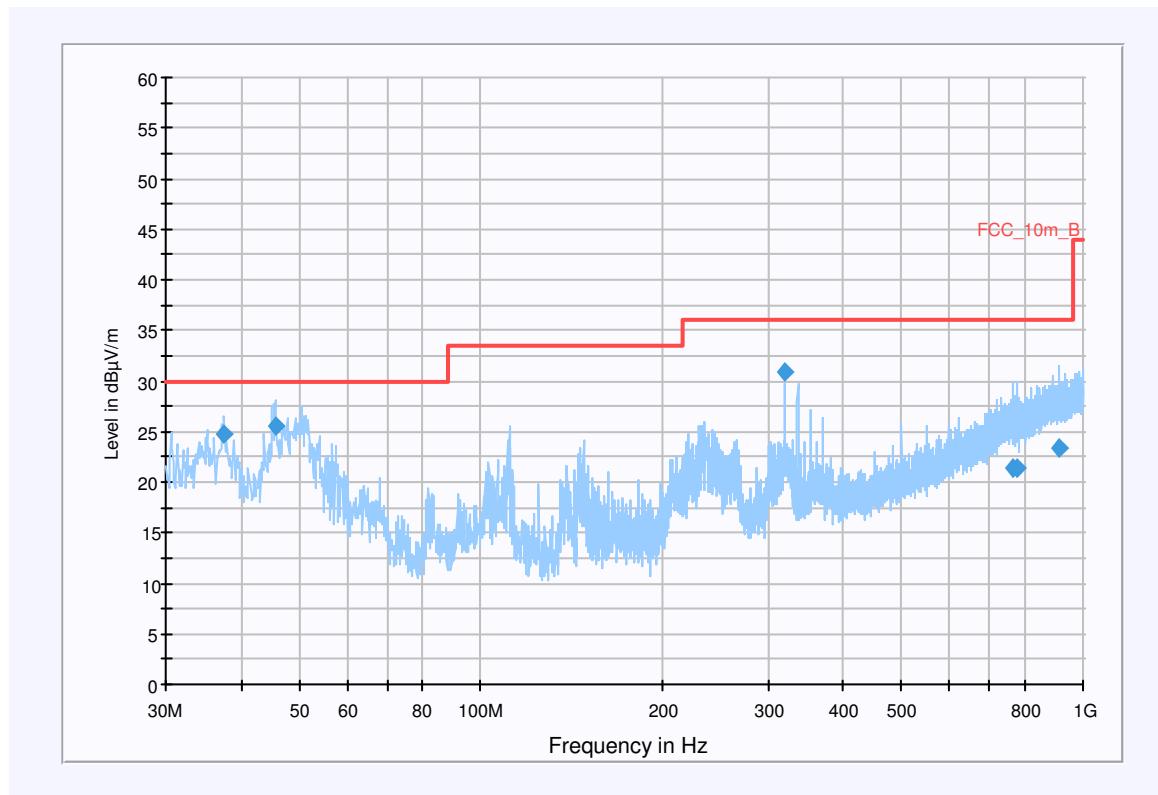
EUT: SCDw 9000 AP + FRA012-S24-1 + confidea CIV + FRA030E-S15-I  
 Serial Number: 0x11 + R301212401 + 19 + R33E11501  
 Test Description: FCC @ 10 m  
 Operating Conditions: Transmit mid frequency (2437 MHz)  
 Operator Name: Folz  
 Comment: Powered with AC 115V/ 60 Hz

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

Hardware Setup: EMI radiated\Electric Field (NOS)  
 Level Unit: dB $\mu$ V/m

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

## FCC\_10m(B)\_4



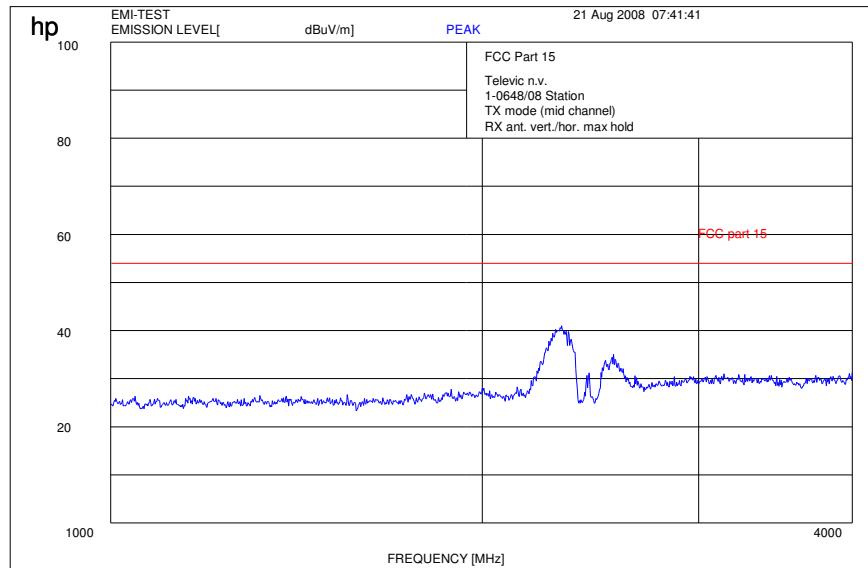
## Final Measurement Detector 1

| Frequency (MHz) | QuasiPeak (dB $\mu$ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 37.525450       | 24.8                     | 15000.000       | 120.000         | 100.0               | V        | 61.0                     | 13.4       | 5.2         | 30.0                 |         |
| 45.729150       | 25.5                     | 15000.000       | 120.000         | 100.0               | V        | 162.0                    | 13.5       | 4.5         | 30.0                 |         |
| 319.497600      | 30.8                     | 15000.000       | 120.000         | 115.0               | V        | 280.0                    | 15.3       | 5.2         | 36.0                 |         |
| 763.550300      | 21.3                     | 15000.000       | 120.000         | 220.0               | V        | 63.0                     | 24.3       | 14.7        | 36.0                 |         |
| 777.346300      | 21.3                     | 15000.000       | 120.000         | 220.0               | H        | 237.0                    | 24.4       | 14.7        | 36.0                 |         |
| 911.626850      | 23.3                     | 15000.000       | 120.000         | 140.0               | V        | 221.0                    | 26.2       | 12.7        | 36.0                 |         |

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

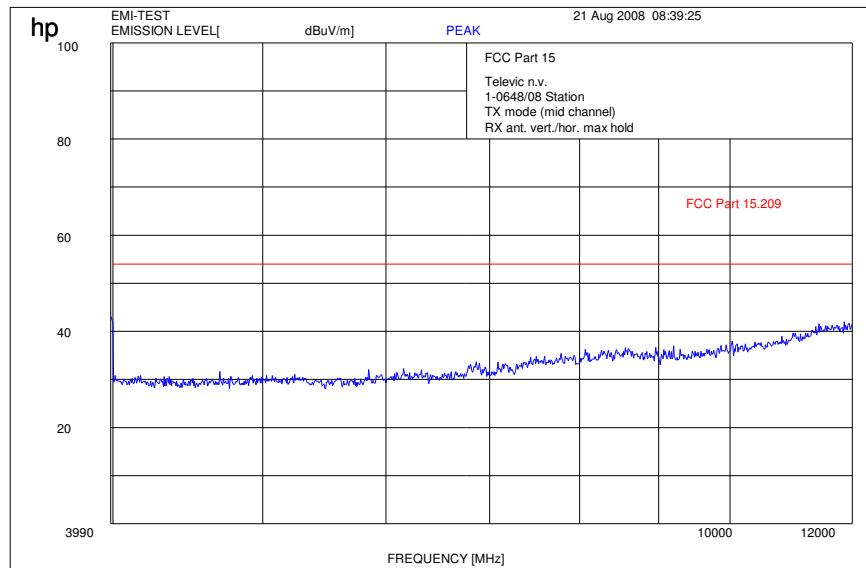
|                  |  |
|------------------|--|
| Frequency Range: | Subrange 1<br>30MHz - 2GHz   |
| Receiver:        | Receiver [ESCI 3]<br>@ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009  |
| Signal Path:     | without Notch<br>FW 1.0  |
| Antenna:         | VULB 9163<br>SN 9163-295, FW ---, CAL 08.04.2010<br>Correction Table (vertical): VULP6113<br>Correction Table (horizontal): VULP6113<br>Correction Table: Cabel with switch (0408) |
| Antenna Tower:   | Tower [EMCO 2090 Antenna Tower]<br>@ GPIB0 (ADR 8), FW REV 3.12  |
| Turntable:       | Turntable [EMCO Turntable]<br>@ GPIB0 (ADR 9), FW REV 3.12   |

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)

## Information

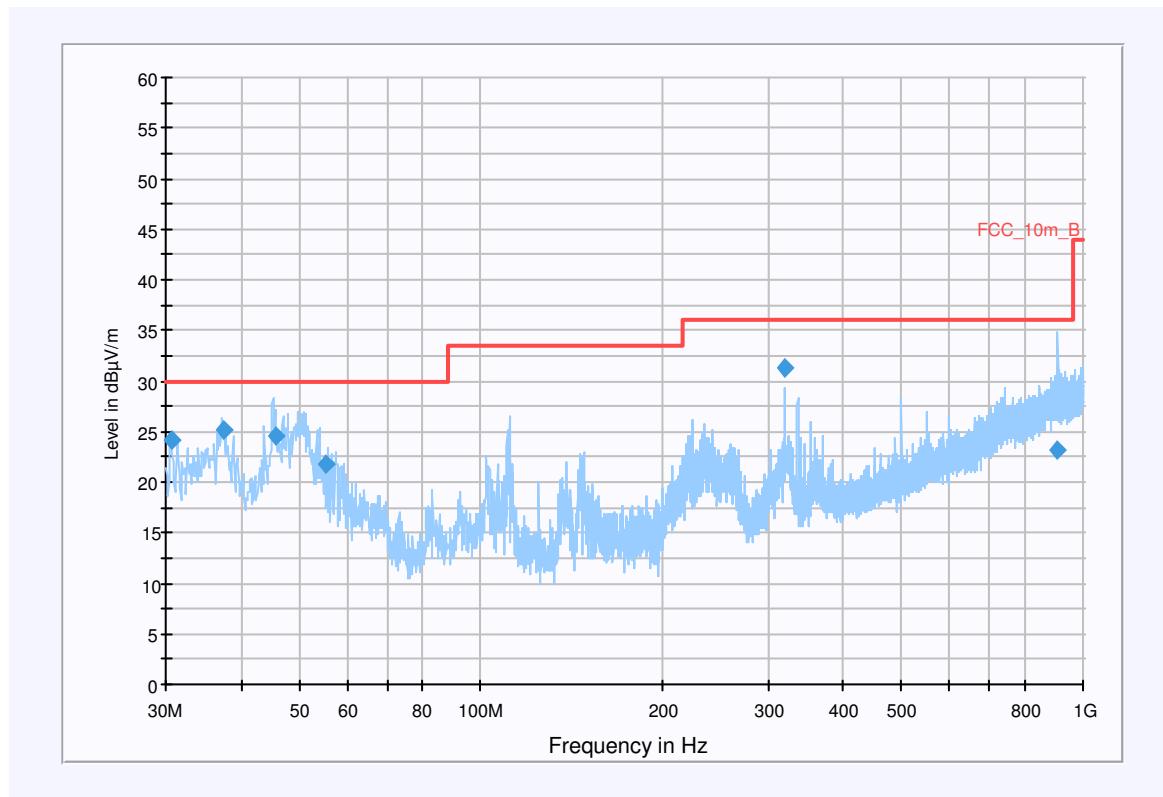
EUT: SCDw 9000 AP + FRA012-S24-1 + confidea CIV + FRA030E-S15-I  
 Serial Number: 0x11 + R301212401 + 19 + R33E11501  
 Test Description: FCC @ 10 m  
 Operating Conditions: Transmit top frequency (2462 MHz)  
 Operator Name: Folz  
 Comment: Powered with AC 115V/ 60 Hz

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

Hardware Setup: EMI radiated\Electric Field (NOS)  
 Level Unit: dB $\mu$ V/m

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

## FCC\_10m(B)\_4



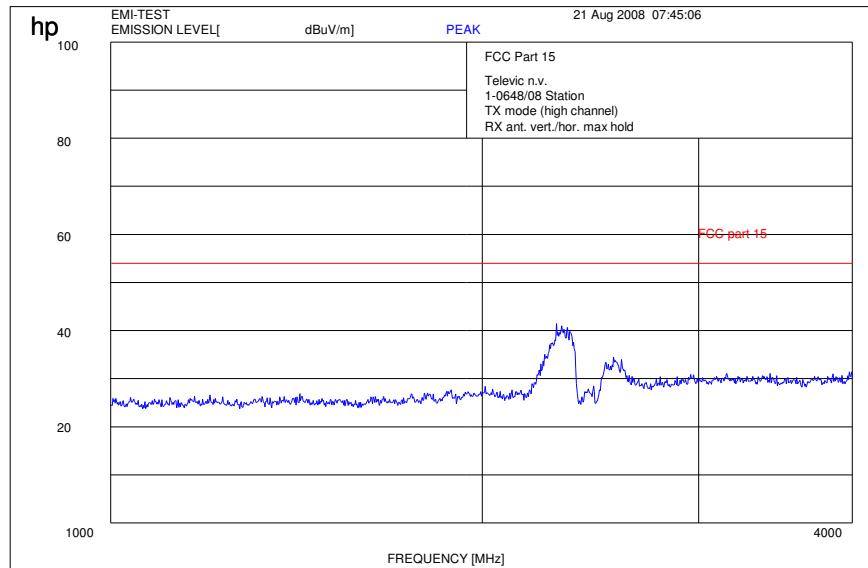
## Final Measurement Detector 1

| Frequency (MHz) | QuasiPeak (dB $\mu$ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 30.634996       | 24.1                     | 15000.000       | 120.000         | 115.0               | V        | 132.0                    | 12.7       | 5.9         | 30.0                 |         |
| 37.361100       | 25.2                     | 15000.000       | 120.000         | 100.0               | V        | 314.0                    | 13.4       | 4.8         | 30.0                 |         |
| 45.715950       | 24.5                     | 15000.000       | 120.000         | 114.0               | V        | 138.0                    | 13.5       | 5.5         | 30.0                 |         |
| 55.303050       | 21.7                     | 15000.000       | 120.000         | 172.0               | V        | 235.0                    | 13.1       | 8.3         | 30.0                 |         |
| 319.478650      | 31.2                     | 15000.000       | 120.000         | 100.0               | V        | 281.0                    | 15.3       | 4.8         | 36.0                 |         |
| 908.304400      | 23.3                     | 15000.000       | 120.000         | 161.0               | V        | 238.0                    | 26.2       | 12.7        | 36.0                 |         |

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

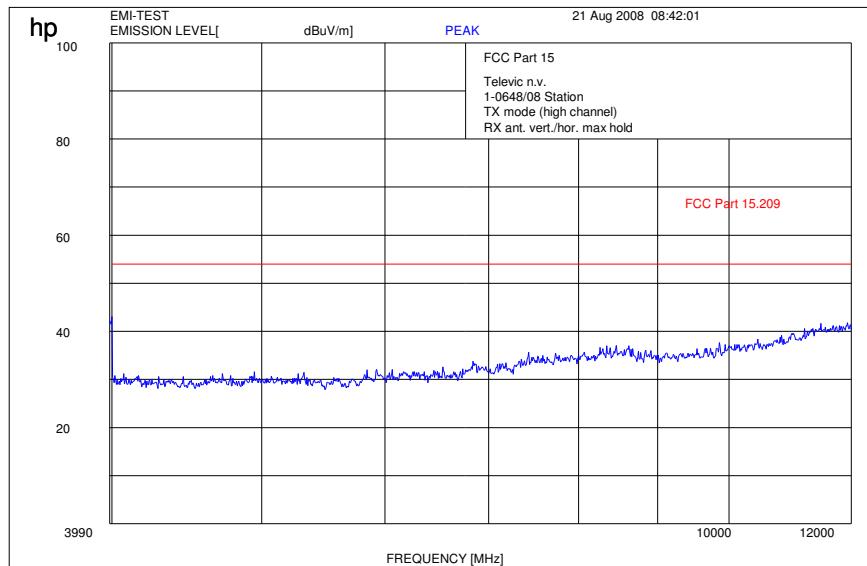
|                  |  |
|------------------|--|
|                  | Subrange 1   |
| Frequency Range: | 30MHz - 2GHz   |
| Receiver:        | Receiver [ESCI 3]<br>@ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009  |
| Signal Path:     | without Notch<br>FW 1.0  |
| Antenna:         | VULB 9163<br>SN 9163-295, FW ---, CAL 08.04.2010<br>Correction Table (vertical): VULP6113<br>Correction Table (horizontal): VULP6113<br>Correction Table: Cabel with switch (0408) |
| Antenna Tower:   | Tower [EMCO 2090 Antenna Tower]<br>@ GPIB0 (ADR 8), FW REV 3.12  |
| Turntable:       | Turntable [EMCO Turntable]<br>@ GPIB0 (ADR 9), FW REV 3.12   |

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 [dB $\mu$ V/m] | F [MHz]                     | Detector | Level [dB $\mu$ V/m] | F [MHz]                     | Detector | Level [dB $\mu$ V/m] |
| No critical peaks detected.      |          |                      | No critical peaks detected. |          |                      | No critical peaks detected. |          |                      |
|                                  |          |                      |                             |          |                      |                             |          |                      |
|                                  |          |                      |                             |          |                      |                             |          |                      |
|                                  |          |                      |                             |          |                      |                             |          |                      |
|                                  |          |                      |                             |          |                      |                             |          |                      |
|                                  |          |                      |                             |          |                      |                             |          |                      |
| Measurement uncertainty          |          |                      | $\pm 3$ 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 $\mu$ 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                        |

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

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

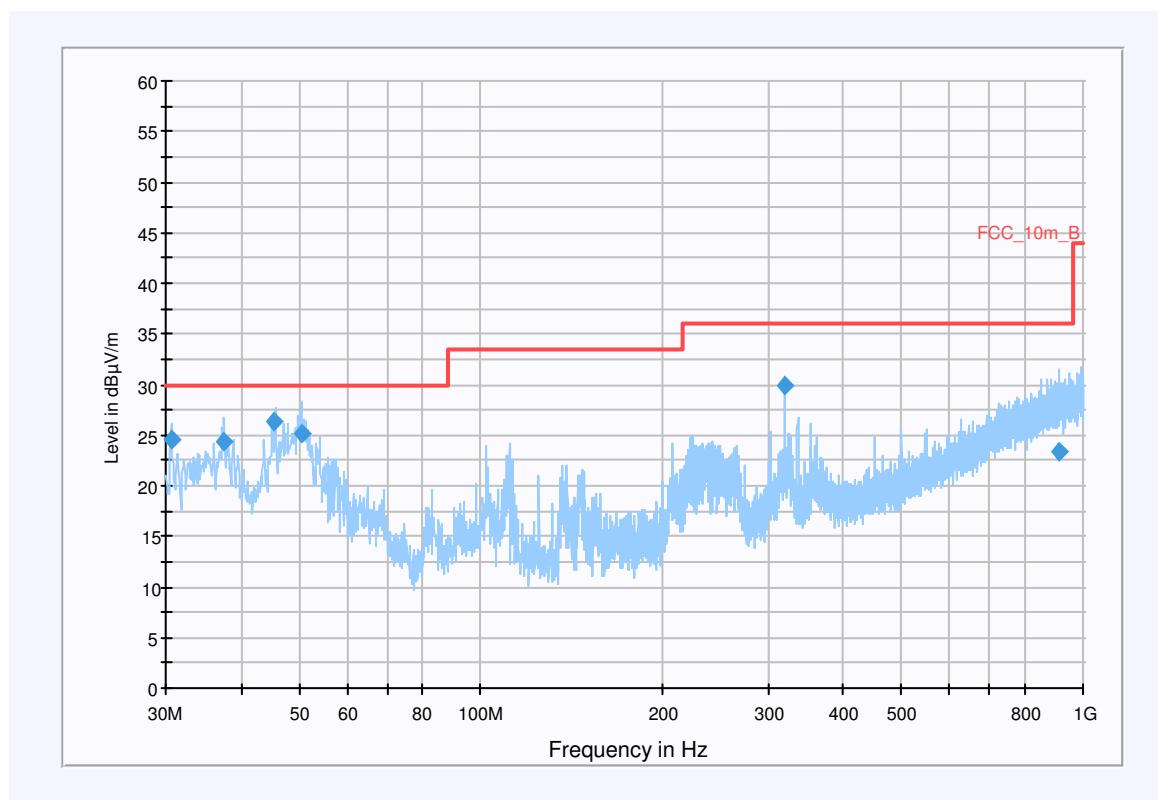
### Information

EUT: SCDw 9000 AP + FRA012-S24-1 + confidea CIV + FRA030E-S15-I  
 Serial Number: 0x11 + R301212401 + 19 + R33E11501  
 Test Description: FCC @ 10 m  
 Operating Conditions: Receive (2,4GHz)  
 Operator Name: Folz  
 Comment: Powered with AC 115V/ 60 Hz

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

|                 |                                   |                     |                   |                 |
|-----------------|-----------------------------------|---------------------|-------------------|-----------------|
| Hardware Setup: | EMI radiated\Electric Field (NOS) |                     |                   |                 |
| Level Unit:     | dB $\mu$ V/m                      |                     |                   |                 |
| <b>Subrange</b> | <b>Detectors</b>                  | <b>IF Bandwidth</b> | <b>Meas. Time</b> | <b>Receiver</b> |
| 30MHz - 1GHz    | QuasiPeak                         | 120kHz              | 15s               | Receiver        |

### FCC\_10m(B)\_4



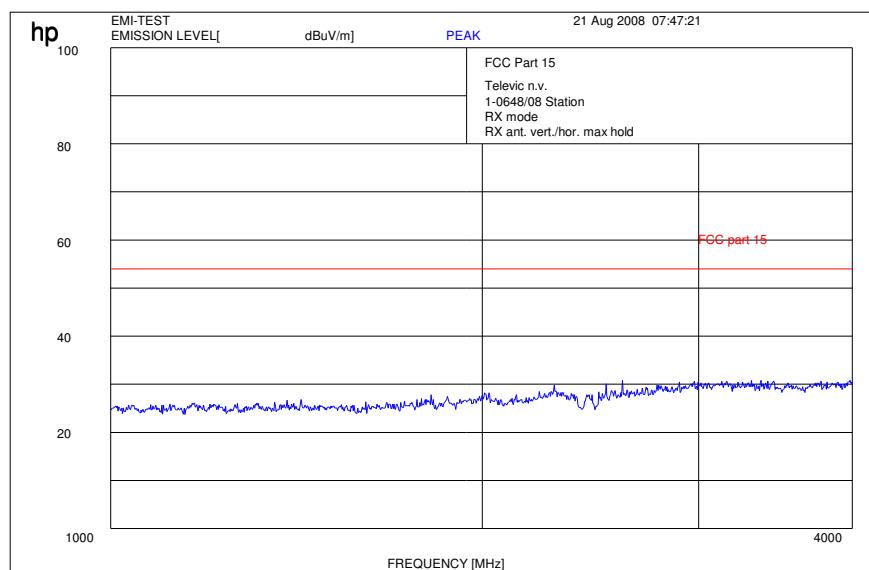
### Final Measurement Detector 1

| Frequency (MHz) | QuasiPeak (dB $\mu$ V/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) | Comment |
|-----------------|--------------------------|-----------------|-----------------|---------------------|----------|--------------------------|------------|-------------|----------------------|---------|
| 30.615250       | 24.5                     | 15000.000       | 120.000         | 115.0               | V        | 86.0                     | 12.7       | 5.5         | 30.0                 |         |
| 37.535350       | 24.3                     | 15000.000       | 120.000         | 100.0               | V        | 38.0                     | 13.4       | 5.7         | 30.0                 |         |
| 45.250350       | 26.3                     | 15000.000       | 120.000         | 100.0               | V        | 181.0                    | 13.5       | 3.7         | 30.0                 |         |
| 50.413200       | 25.1                     | 15000.000       | 120.000         | 100.0               | V        | 211.0                    | 13.6       | 4.9         | 30.0                 |         |
| 319.475700      | 29.9                     | 15000.000       | 120.000         | 100.0               | V        | 277.0                    | 15.3       | 6.1         | 36.0                 |         |
| 909.887950      | 23.3                     | 15000.000       | 120.000         | 178.0               | H        | 145.0                    | 26.2       | 12.7        | 36.0                 |         |

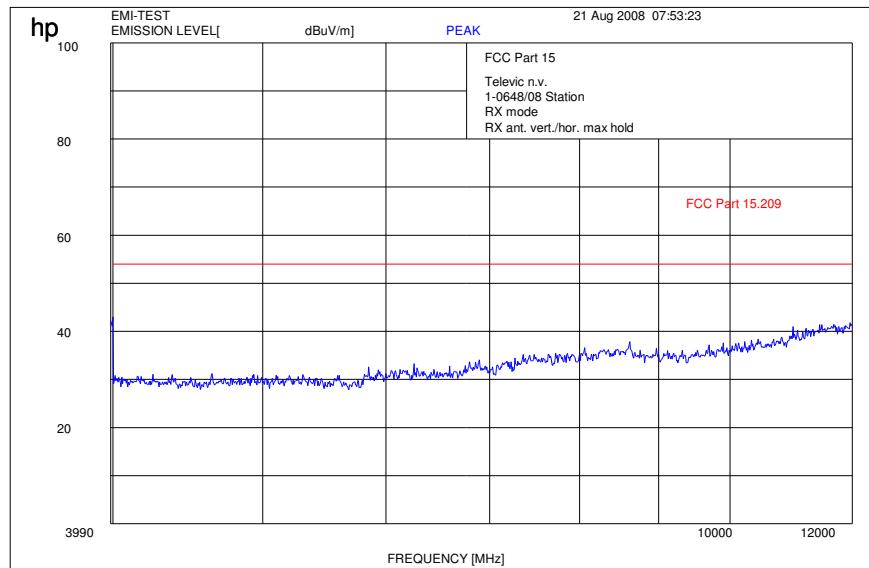
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

|                  |  |
|------------------|--|
|                  | Subrange 1   |
| Frequency Range: | 30MHz - 2GHz   |
| Receiver:        | Receiver [ESCI 3]<br>@ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009  |
| Signal Path:     | without Notch<br>FW 1.0  |
| Antenna:         | VULB 9163<br>SN 9163-295, FW ---, CAL 08.04.2010<br>Correction Table (vertical): VULP6113<br>Correction Table (horizontal): VULP6113<br>Correction Table: Cabel with switch (0408) |
| Antenna Tower:   | Tower [EMCO 2090 Antenna Tower]<br>@ GPIB0 (ADR 8), FW REV 3.12  |
| Turntable:       | Turntable [EMCO Turntable]<br>@ GPIB0 (ADR 9), FW REV 3.12   |

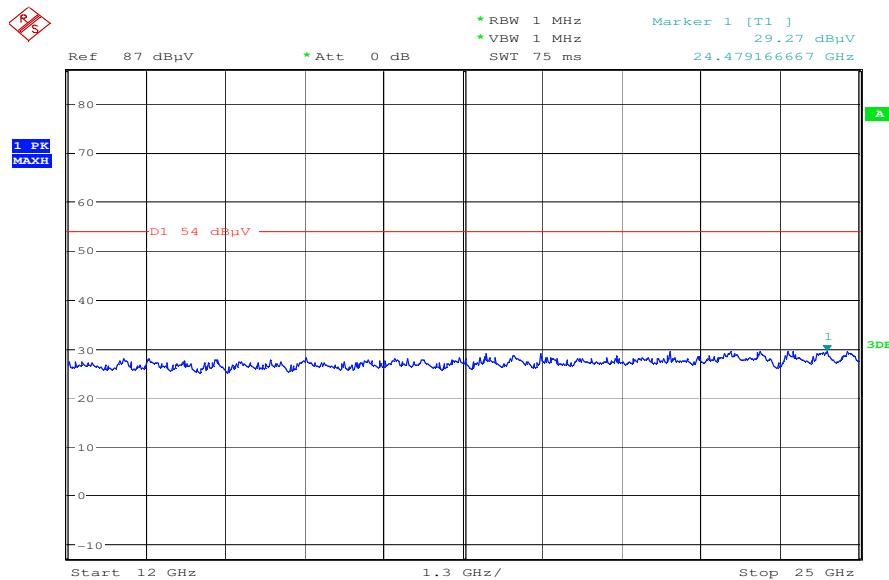
Plot 2: 1 - 4 GHz vertical / horizontal (receiver)



Plot 3: 4 - 12 GHz (receiver)



Plot 4: 12 - 25 GHz (receiver)



Date: 26.AUG.2008 09:42:52

Results:

| Spurious Emissions level [dB $\mu$ V/m] |            |                         |
|---|------------|-------------------------|
| f[MHz]                                  | Detector   | Level<br>[dB $\mu$ V/m] |
| No critical peaks detected.             |            |                         |
|   |            |                         |
|   |            |                         |
|   |            |                         |
|   |            |                         |
|   |            |                         |
|   |            |                         |
| Measurement uncertainty                 | $\pm 3$ dB |                         |

$f < 1$  GHz : RBW/VBW: 100 kHz

$f \geq 1$  GHz : RBW/VBW: 1 MHz

See above plots

Measurement distance see table

Limits: § 15.109

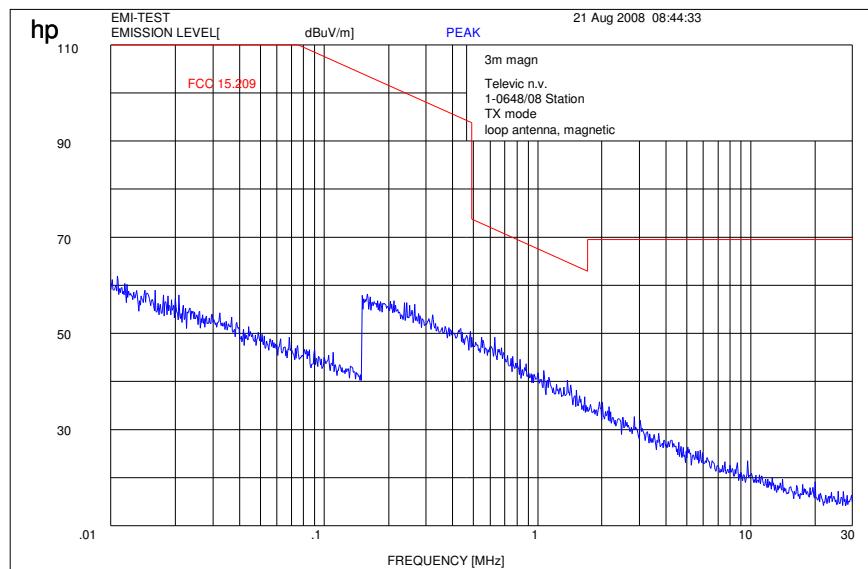
| Frequency (MHz) | Field strength (dB $\mu$ V/m) | Measurement distance (m) |
|-----------------|-------------------------------|--------------------------|
| 30 - 88         | 30.0                          | 10                       |
| 88 - 216        | 33.5                          | 10                       |
| 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:

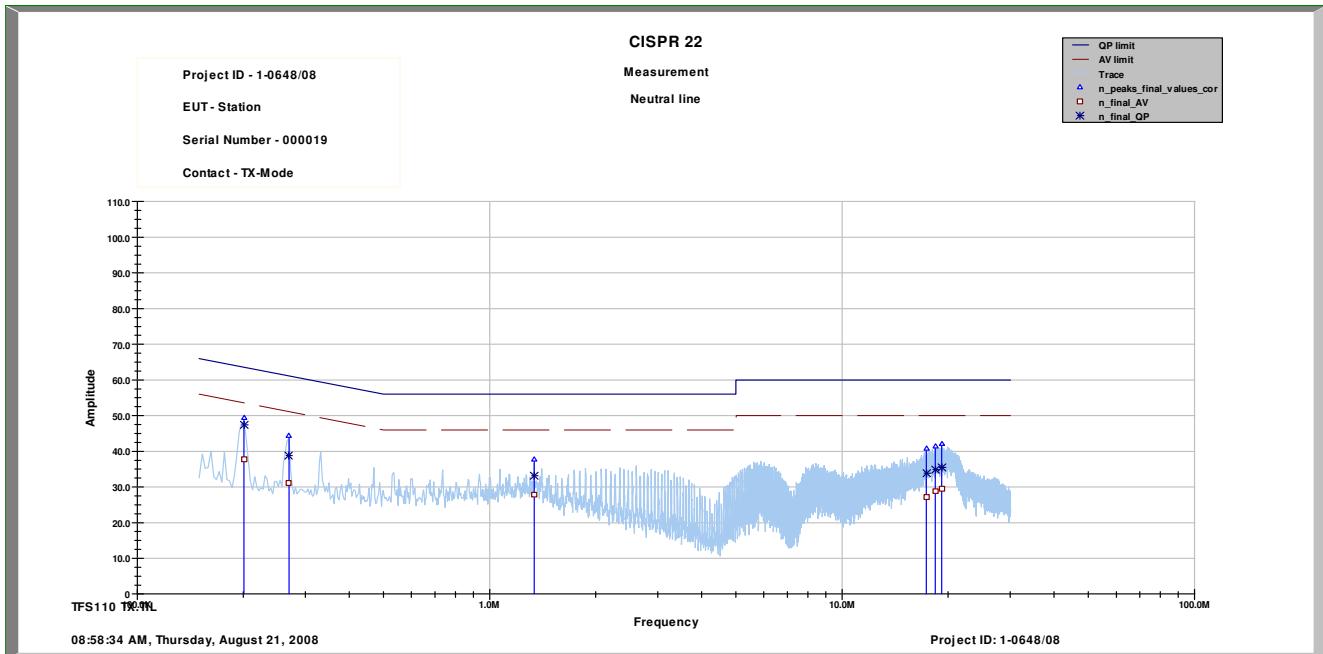


Limits:

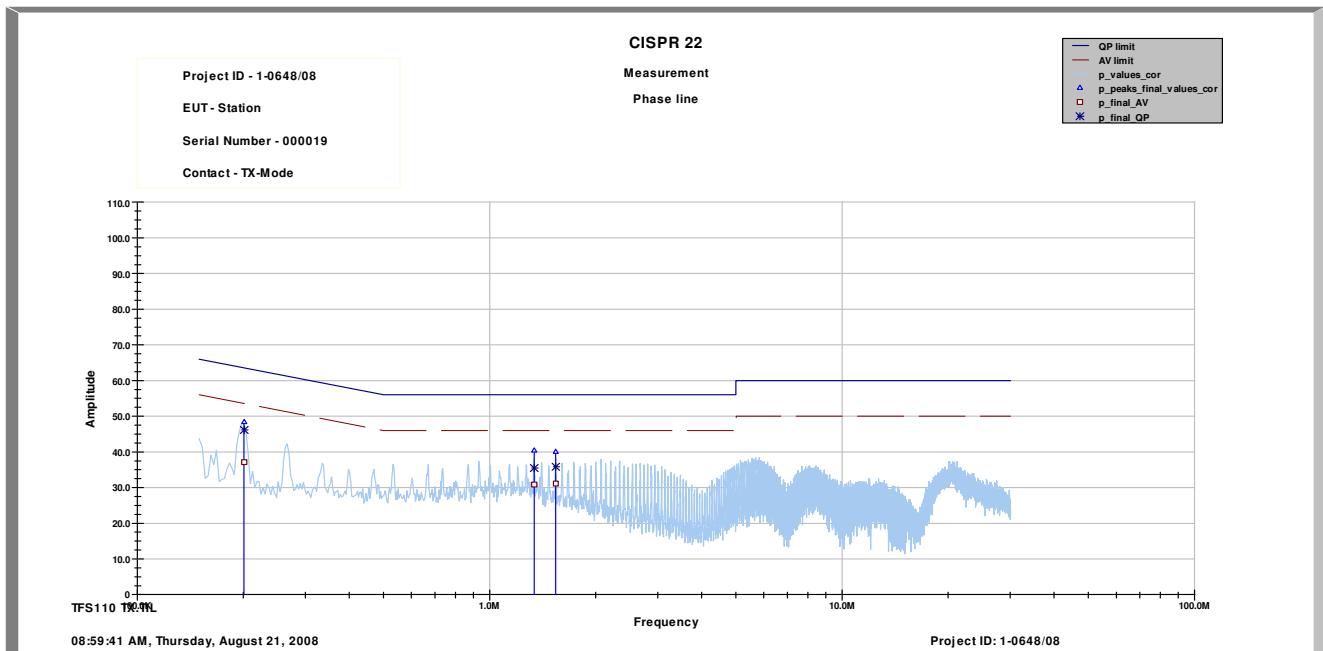
| Frequency (MHz) | Field strength ( $\mu$ V/m) | Measurement distance (m) |
|-----------------|-----------------------------|--------------------------|
| 0.009 – 0.490   | 2400/F(kHz)                 | 300                      |
| 0.490 – 1.705   | 24000/F(kHz)                | 30                       |
| 1.705 – 30.0    | 30 / 29.5 dB $\mu$ V/m      | 30                       |
| 30 - 88         | 100 / 40 dB $\mu$ V/m       | 3                        |
| 88 - 216        | 150 / 43.5 dB $\mu$ V/m     | 3                        |
| 216 - 960       | 200 / 46 dB $\mu$ V/m       | 3                        |
| above 960       | 54 dB $\mu$ V/m             | 3                        |

## 5.16 Conducted Emissions <30 MHz §15.107/207

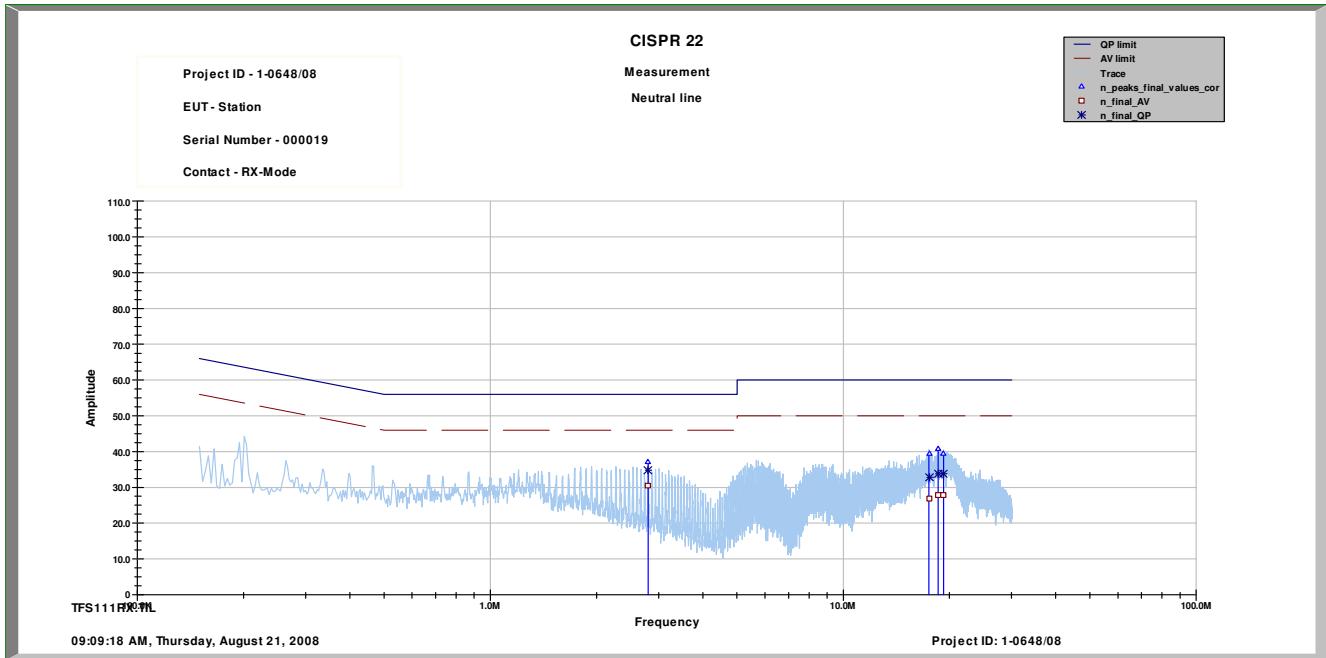
Plot 1: Neutral line TX mode



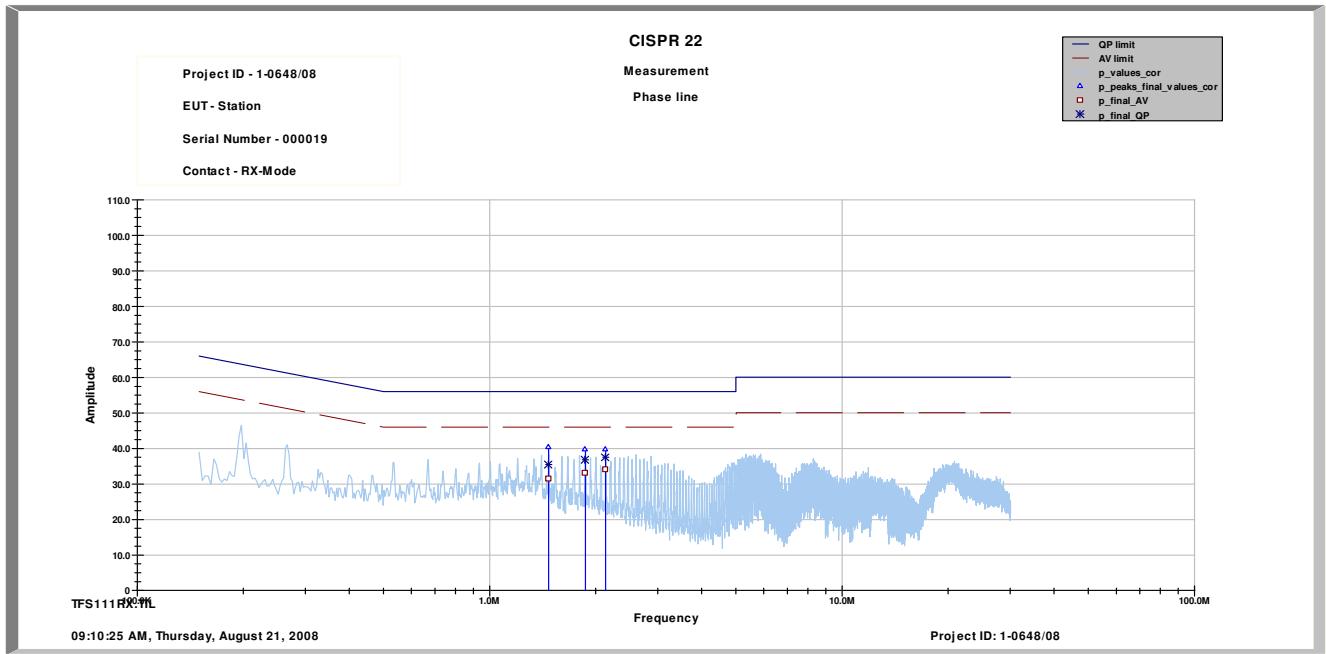
Plot 2: Phase line TX mode



Plot 3: Neutral line RX mode



Plot 4: Phase line RX mode



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         | 2747A05306       | 300001000        | 05.10.2006                         | 24                 | 05.10.2008       |
| 5  | Spektrum Analyzer Display 85662A | HP         | 2816A16541       | 300002297        | 05.10.2006                         | 24                 | 05.10.2008       |
| 6  | Quasi-Peak-Adapter 85650A        | HP         | 2811A01131       | 300000999        | 05.10.2006                         | 24                 | 05.10.2008       |
| 7  | RF-Preselector 85685A            | HP         | 2837A00779       | 300000218        | 08.11.2006                         | 24                 | 08.11.2008       |
| 8  | PC Vectra VL                     | HP         |                  | 300001688        | n.a.                               |                    |                  |
| 9  | Software EMI                     | HP         |                  | 300000983        | n.a.                               |                    |                  |
| 10 | Measurement System 2             |            |                  |                  |                                    |                    |                  |
| 11 | FSP 30                           | R&S        | 100623           | ICT 300003464    | 05.10.2007                         | 24                 | 15.10.2009       |
| 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    |             | 300003575        | 02.04.2007       | 24                 | 02.04.2009       |
| 2  | CBT              | R&S    | 100313      | 300003516        | 24.10.2006       | 24                 | 24.10.2008       |
| 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       |

***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  | 01.08.2006       | 24                 | 01.08.2008       |
| 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  | 01.08.2006       | 36                 | 01.08.2009       |
| 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  | 01.08.2006       | 36                 | 01.08.2009       |
| 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  | 01.08.2006       | 36                 | 01.08.2009       |
| 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 NRV                             | R&S         | 835430/044     | 3000002681-0004  | 01.08.2006       | 24                 | 01.08.2008       |
| 26 | Power Sensor NRV-Z1                         | R&S         | 833894/012     | 3000002681-0013  | 01.08.2006       | 24                 | 01.08.2008       |
| 27 | Power Sensor NRV-Z1                         | R&S         | 833894/011     | 3000002681-0010  | 01.08.2006       | 24                 | 01.08.2008       |
| 28 | Rubidium Standard RUB                       | R&S         |                | 3000002681-0009  | 01.08.2006       | 24                 | 01.08.2008       |
| 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  | 01.08.2006       | 24                 | 01.08.2008       |
| 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 Signaling 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 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        | 31.01.2009       | 24                 | 31.01.20011      |
| 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:



Photo 15:



Photo 16:

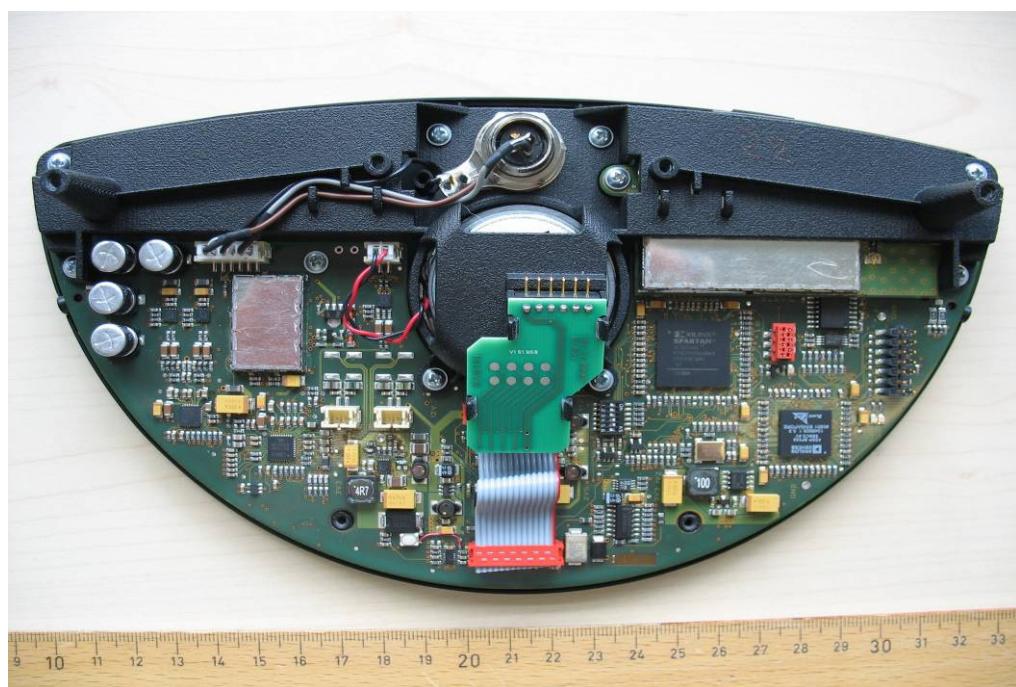


Photo 17:



Photo 18:



Photo 19:

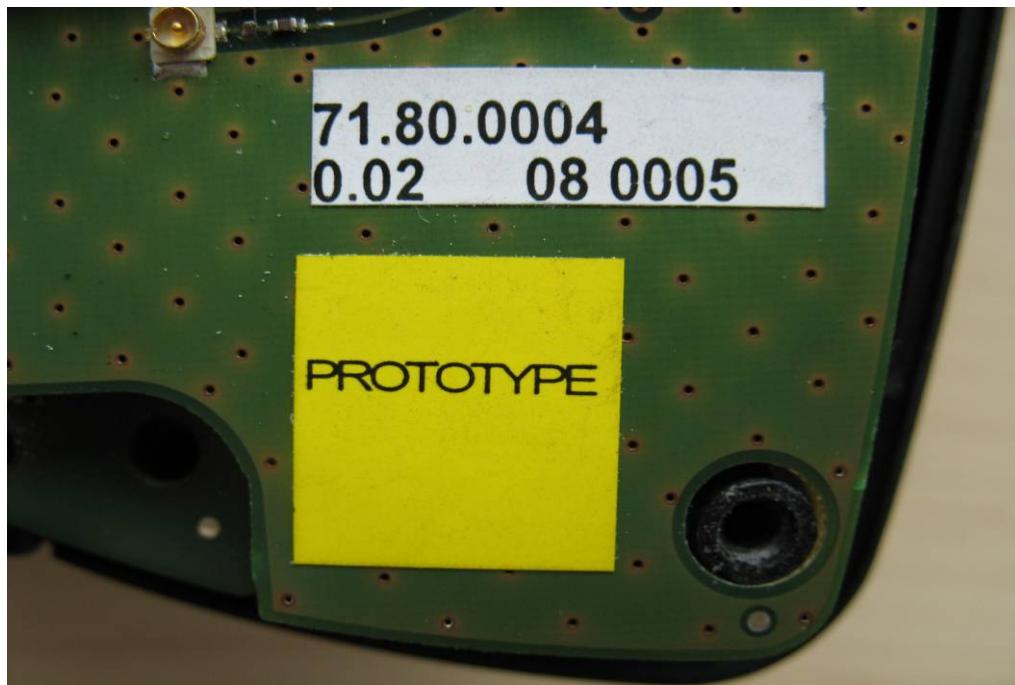


Photo 20:

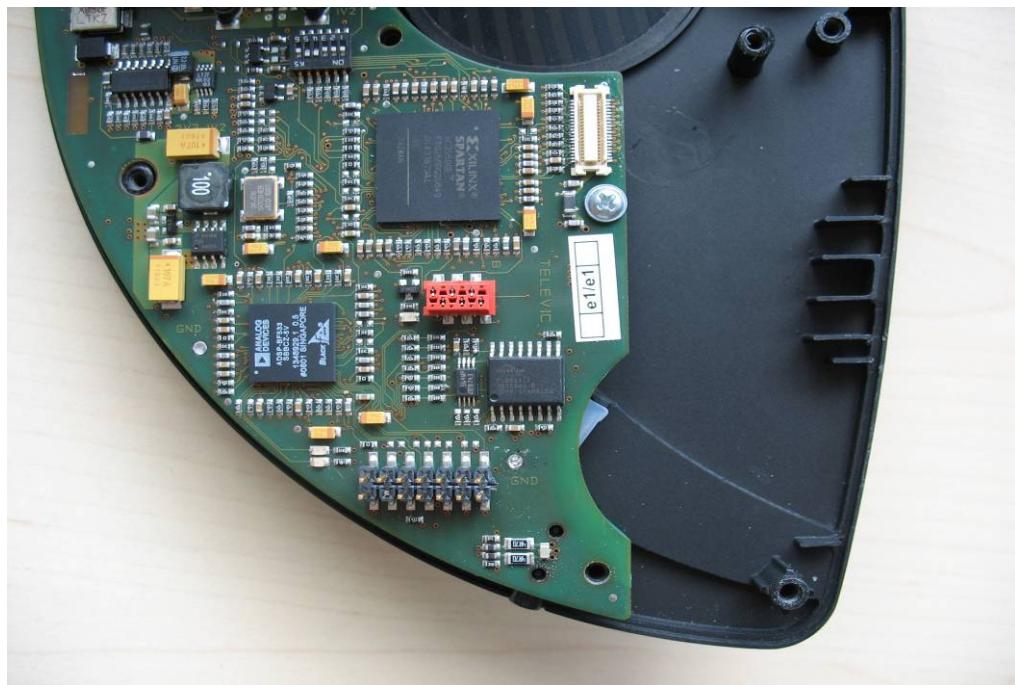


Photo 21:

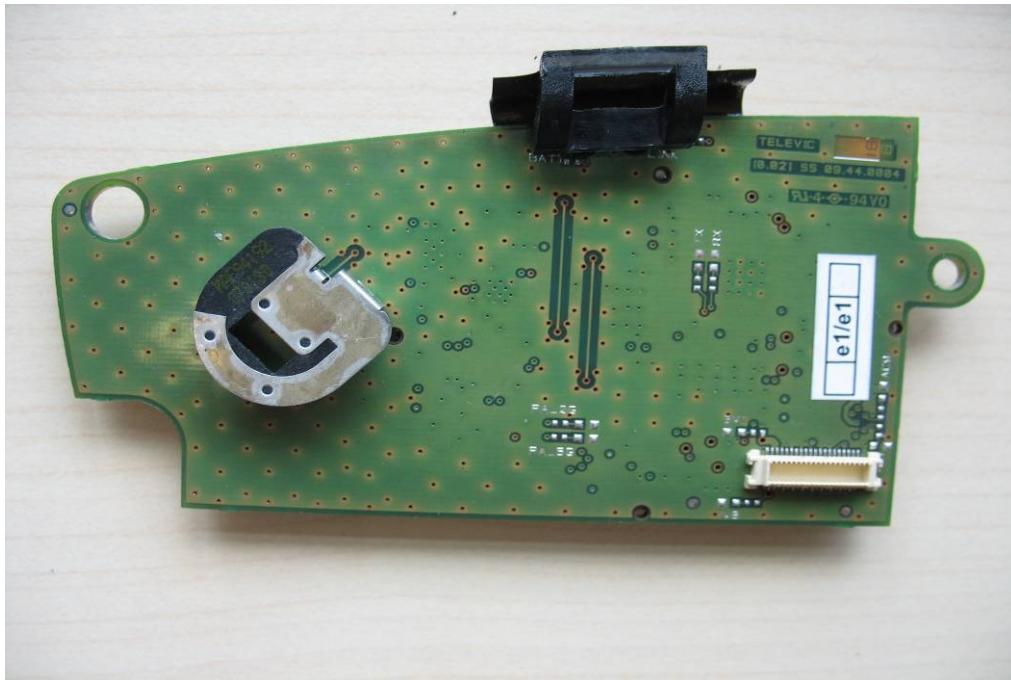


Photo 22:

