

Straubing, July 3, 2006

**TEST - REPORT**

**No. 50217-060417-2 (Edition 1)**

**for**

**Comfort Access System**

**Applicant:** Bayerische Motoren Werke AG

**Test Specifications:** FCC Code of Federal Regulations,  
CFR 47, Part 15,  
Sections 15.205, 15.207 and 15.209

Industry Canada Radio Standards  
Specifications  
RSS-Gen Issue 1, Section 7.2.2 and  
RSS-210 Issue 6, Sections 2.2, 2.6  
(Category I Equipment)

**Note:**

The test data of this report is related only to the individual item which has been tested. This report shall not be reproduced except in full extent without the written approval of the testing laboratory.

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## 1 Description of the Equipment Under Test (EUT)

| General data of EUT             |                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------|
| Type designation <sup>1</sup> : | Comfort Access System                                                                 |
| Parts <sup>2</sup> :            | ---                                                                                   |
| Serial number(s):               | Sample no. A (unmodulated)<br>Sample no. D (modulated)                                |
| Manufacturer:                   | Huf Hülsbeck & Fürst GmbH & Co. KG<br>Steege Strasse 17<br>D-42551 Velbert<br>Germany |
| Type of equipment:              |                                                                                       |
| Version:                        | As delivered                                                                          |
| FCC ID:                         | LX8CAS93                                                                              |
| Additional parts/accessories:   | ---                                                                                   |

| Technical data of EUT                   |                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------|
| Application frequency range:            | N/A (general requirements)                                                             |
| Frequency range:                        | 122.50 kHz - 127.50 kHz                                                                |
| Operating frequency:                    | 125.28 kHz                                                                             |
| Type of modulation:                     | 100 % ASK                                                                              |
| Pulse train:                            | ca. 485 ms (test modes)                                                                |
| Pulse width:                            | ca. 42 ms (test modes)                                                                 |
| Number of RF-channels:                  | 1                                                                                      |
| Channel spacing:                        | N/A (wideband)                                                                         |
| Bit rate:                               | 4 kBd                                                                                  |
| Designation of emissions <sup>3</sup> : | 24K0A1D                                                                                |
| Type of antenna:                        | integrated                                                                             |
| Size/length of antenna:                 | see photographs of EUT                                                                 |
| Connection of antenna:                  | <input type="checkbox"/> detachable <input checked="" type="checkbox"/> not detachable |
| Type of power supply:                   | DC supply                                                                              |
| Specifications for power supply:        | nominal voltage: 14.0 V<br>minimum voltage: 9.0 V<br>maximum voltage: 16.0 V           |

<sup>1</sup> Type designation of the system if EUT consists of more than one part.

<sup>2</sup> Type designations of the parts of the system, if applicable.

<sup>3</sup> Also known as "Class of Emission".

## 2 Administrative Data

| Application details       |                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------|
| Applicant (full address): | Bayerische Motoren Werke AG<br>BMW Haus<br>Petuelring 130<br>D-80788 München<br>Germany |
| Contact person:           | Mr. Richard Hochleitner                                                                 |
| Contract identification:  | ---                                                                                     |
| Receipt of EUT:           | May 10, 2006 and June 28, 2006                                                          |
| Date(s) of test:          | May 15 and 22, 2006<br>June 2, 29 and 30, 2006                                          |
| Note(s):                  | ---                                                                                     |

| Report details |                |
|----------------|----------------|
| Report number: | 50217-060417-2 |
| Edition:       | 1              |
| Issue date:    | July 3, 2006   |

### 3 Identification of the Test Laboratory

| Details of the Test Laboratory          |                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------|
| Company name:                           | Senton GmbH EMI/EMC Test Center                                                   |
| Address:                                | Aeussere Fruehlingstrasse 45<br>D-94315 Straubing<br>Germany                      |
| Laboratory accreditation:               | DAR-Registration No. DAT-P-171/94-02                                              |
| FCC test site registration number       | 90926                                                                             |
| Industry Canada test site registration: | IC 3050                                                                           |
| Contact person:                         | Mr. Johann Roidt<br><br>Phone: (+49) (0)9421 5522-0<br>Fax: (+49) (0)9421 5522-99 |

## 4 Summary

### Summary of test results

The tested sample complies with the requirements set forth in the

**Code of Federal Regulations CFR 47, Part 15, Sections 15.205, 15.207 and 15.209**

of the Federal Communication Commission (FCC) and the

**Radio Standards Specifications**

**RSS-Gen Issue 1, Section 7.2.2 and**

**RSS-210 Issue 6, Sections 2.2, 2.6 (Category I Equipment)**

of Industry Canada (IC).

### Personnel involved in this report

Laboratory Manager:



Mr. Johann Roidt

Responsible for testing:



Mr. Rainer Heller

Responsible for test report:

Mr. Rainer Heller

## 5 Operation Mode and Configuration of EUT

### Operation Mode(s)

- **"Cabrio function mode"**  
continuous transmission with (sample no. D) and without modulation (sample no. A)  
supply voltage 14 V DC
- **"Access control mode"**  
continuous transmission with (sample no. D) and without modulation (sample no. A)  
supply voltage 14 V DC

**Note:** "Cabrio function mode" and "Access control mode" are test modes to simplify testing. Typical transmission has a period form of 39 ms (as stated by applicant) and is triggered by manual handle operation.

### Configuration(s) of EUT

The device was tested as a stand-alone device with external dc supply voltage.

Final tests were performed with EUT in vertical position (standard position). However, additional prescans of radiated emission in the frequency range 9 kHz to 30 MHz were performed with EUT in horizontal position as described in "6.3 Radiated Emission Measurement 9 kHz to 30 MHz".

### List of ports and cables

| <i>Port</i> | <i>Description</i> | <i>Classification<sup>4</sup></i> | <i>Cable type</i> | <i>Cable length</i> |
|-------------|--------------------|-----------------------------------|-------------------|---------------------|
| 1           | DC supply lines    | dc power                          | Unshielded        | 80 cm               |

### List of devices connected to EUT

| <i>Item</i>          | <i>Description</i> | <i>Type Designation</i> | <i>Serial no. or ID</i> | <i>Manufacturer</i> |
|----------------------|--------------------|-------------------------|-------------------------|---------------------|
| No devices connected |                    |                         |                         |                     |

### List of support devices

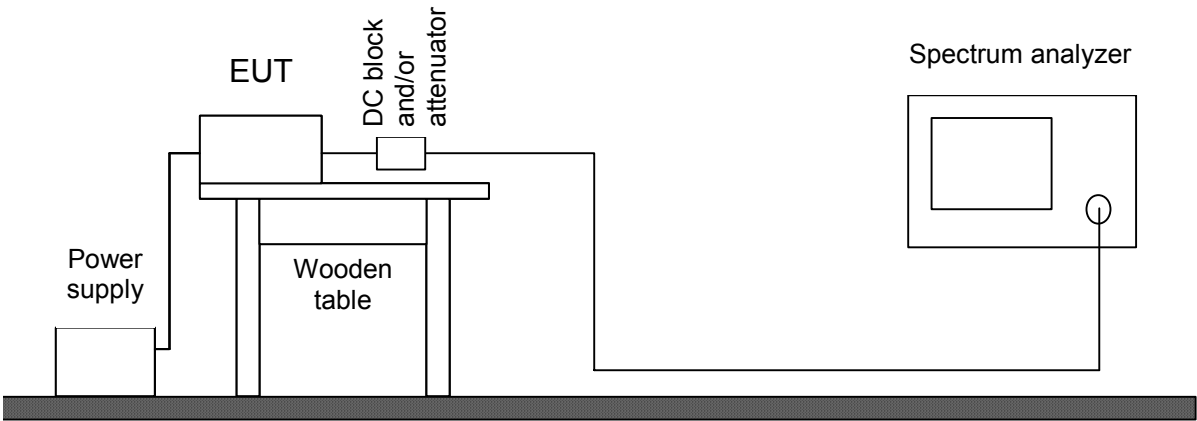
| <i>Item</i>             | <i>Description</i> | <i>Type Designation</i> | <i>Serial no. or ID</i> | <i>Manufacturer</i> |
|-------------------------|--------------------|-------------------------|-------------------------|---------------------|
| No support devices used |                    |                         |                         |                     |

<sup>4</sup> Ports shall be classified as ac power, dc power or signal/control port

6 Measurement Procedures

6.1 Bandwidth Measurements

| Measurement Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rules and specifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CFR 47 Part 2, section 2.202(a)<br>CFR 47 Part 15, section 15.215(c)<br>IC RSS-Gen Issue 1, sections 4.4.1 and 4.4.2<br>IC RSS-210 Issue 6, section A1.1.3<br>ANSI C63.4, annex H.6 |
| Guide:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ANSI C63.4 / IC RSS-Gen Issue 1, sections 4.4.1 and 4.4.2                                                                                                                           |
| Measurement setup:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Conducted: See below<br><input checked="" type="checkbox"/> Radiated: Radiated Emission Measurement 9 kHz to 30 MHz (6.3)                                  |
| <p>If antenna is detachable bandwidth measurements shall be performed at the antenna connector (conducted measurement) when the transmitter is adjusted in accordance with the tune-up procedure, if applicable. The RF output terminals are connected to a spectrum analyzer. If required, a resistive matching network equal to the impedance specified or employed for the antenna is used as well as dc block and appropriate attenuators (50 Ohms). The electrical characteristics of the radio frequency load attached to the output terminals shall be stated, if applicable.</p> <p>If radiated measurements are performed the same test setups and instruments are used as with radiated emission measurements for the appropriate frequency range.</p> <p>The analyzer settings are specified by the test description of the appropriate test record(s).</p> |                                                                                                                                                                                     |

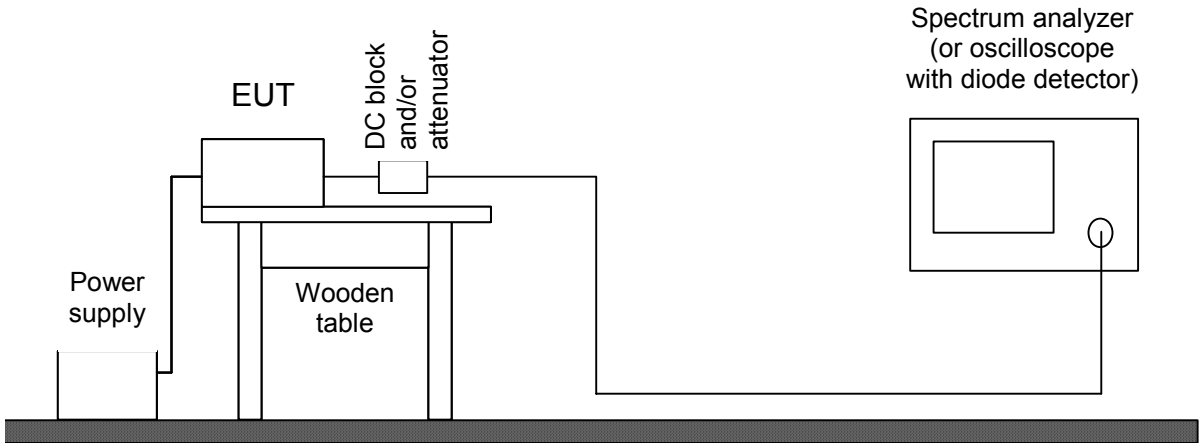


Test instruments used for conducted measurements:

| Used                     | Type              | Model   | Serial No. or ID         | Manufacturer    |
|--------------------------|-------------------|---------|--------------------------|-----------------|
| <input type="checkbox"/> | Spectrum Analyzer | FSP 30  | 100063                   | Rohde & Schwarz |
| <input type="checkbox"/> | EMI test receiver | ESPI7   | 836914/0002              | Rohde & Schwarz |
| <input type="checkbox"/> | EMI test receiver | ESMI    | 839379/013<br>839587/006 | Rohde & Schwarz |
| <input type="checkbox"/> | Power meter       | NRVS    | 836856/015               | Rohde & Schwarz |
| <input type="checkbox"/> | Peak power sensor | NRV-Z31 | 8579604.03               | Rohde & Schwarz |
| <input type="checkbox"/> | Power sensor      | NRV-Z52 | 837901/030               | Rohde & Schwarz |
| <input type="checkbox"/> | Power sensor      | NRV-Z4  | 863828/015               | Rohde & Schwarz |
| <input type="checkbox"/> | DC-block          | 7006    | A2798                    | Weinschel       |
| <input type="checkbox"/> | Attenuator        | 4776-10 | 9412                     | Narda           |
| <input type="checkbox"/> | Attenuator        | 4776-20 | 9503                     | Narda           |

6.2 Pulse Train Measurement

| Measurement Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rules and specifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CFR 47 Part 15, section 15.35(c)<br>IC RSS-Gen Issue 1, section 4.3                                                                                                                        |
| Guide:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ANSI C63.4                                                                                                                                                                                 |
| Measurement setup:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Conducted: See below (direct connection or via test fixture)<br><input checked="" type="checkbox"/> Radiated: Radiated Emission Measurement 9 kHz to 30 MHz (6.3) |
| <p>If antenna is detachable pulse train measurements shall be performed at the antenna connector (conducted measurement). The RF output terminals are connected to a spectrum analyzer or to a diode detector in combination with an oscilloscope. If required, a resistive matching network equal to the impedance specified or employed for the antenna is used as well as dc block and appropriate attenuators (50 Ohms). The electrical characteristics of the radio frequency load attached to the output terminals shall be stated, if applicable.</p> <p>If antenna is not detachable a test fixture may be used instead of direct connection to RF output terminals.</p> <p>If radiated measurements are performed similar test setups and instruments are used as with radiated emission measurements for the appropriate frequency range. However, the spectrum analyzer may be replaced by a diode detector connected to an oscilloscope.</p> |                                                                                                                                                                                            |

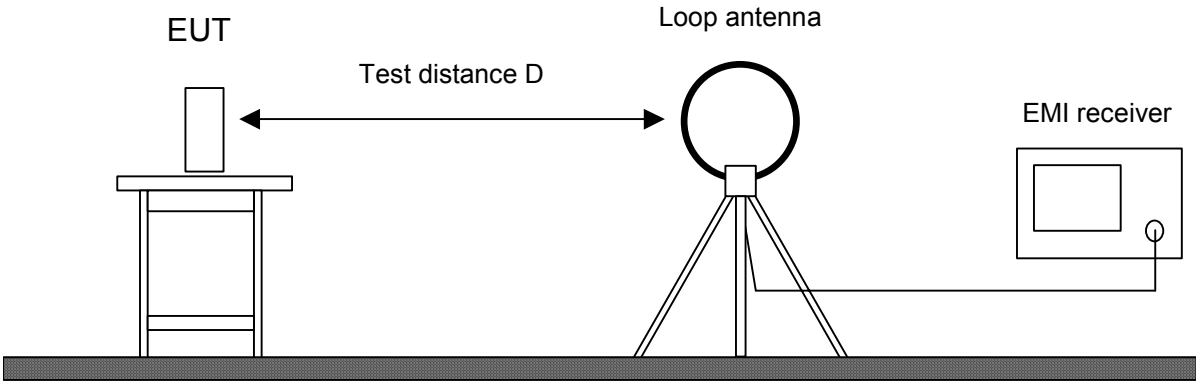


Test instruments used:

| Used                     | Type                    | Model           | Serial No. or ID         | Manufacturer    |
|--------------------------|-------------------------|-----------------|--------------------------|-----------------|
| <input type="checkbox"/> | Spectrum Analyzer       | FSP 30          | 100063                   | Rohde & Schwarz |
| <input type="checkbox"/> | EMI test receiver       | ESPI7           | 836914/0002              | Rohde & Schwarz |
| <input type="checkbox"/> | EMI test receiver       | ESMI            | 839379/013<br>839587/006 | Rohde & Schwarz |
| <input type="checkbox"/> | Diode detector negative | 8473D           | 01492                    | Hewlett Packard |
| <input type="checkbox"/> | Oscilloscope            | 54602B          | US35060304               | Hewlett Packard |
| <input type="checkbox"/> | Digital Oscilloscope    | Wave Surfer 452 | LCRY0301J11938           | LeCroy          |
| <input type="checkbox"/> | Test probe              | TP01            | 001                      | Senton          |
| <input type="checkbox"/> | DC-block                | 7006            | A2798                    | Weinschel       |
| <input type="checkbox"/> | Attenuator              | 4776-10         | 9412                     | Narda           |
| <input type="checkbox"/> | Attenuator              | 4776-20         | 9503                     | Narda           |

6.3 Radiated Emission Measurement 9 kHz to 30 MHz

| Measurement Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Rules and specifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CFR 47 Part 15, sections 15.205 and 15.209<br>IC RSS-210 Issue 6, sections 2.2 and 2.6 |
| Guide:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANSI C63.4                                                                             |
| <p>Radiated emission in the frequency range 9 kHz to 30 MHz is measured using an active loop antenna. First the whole spectrum of emission caused by the equipment is recorded at a distance of 3 meters in a fully or semi anechoic room with the detector of the spectrum analyzer or EMI receiver set to peak. This configuration is also used for recording the spectrum of intentional radiators.</p> <p>Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing. EUT is rotated all around to find the maximum levels of emissions. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.</p> <p>If worst case emission of the EUT cannot be recorded with EUT in standard position and loop antenna in vertical polarization the EUT (or the radiating part of the EUT) is rotated by 90 degrees instead of changing the loop antenna to horizontal polarization. This procedure is selected to minimize the influence of the environment (e.g. effects caused by the floor especially with longer distances).</p> <p>Final measurement is performed at a test distance D of 30 meters using an open field test site. In case the regulation requires testing at other distances, the result is extrapolated by either making measurements at an additional distance D of 10 meters to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). In cases of very low emissions measurements are performed at shorter distances and results are extrapolated to the required distance. The provisions of CFR 47 Part 15 sections 15.31(d) and (f)(2) apply. According to CFR 47 Part 15 section 15.209(d) final measurement is performed with detector function set to quasi-peak except for the frequency bands 9 to 90 kHz and 110 to 490 kHz where, for non-pulsed operation, average detector is employed.</p> <p>If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35(c). If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.</p> |                                                                                        |

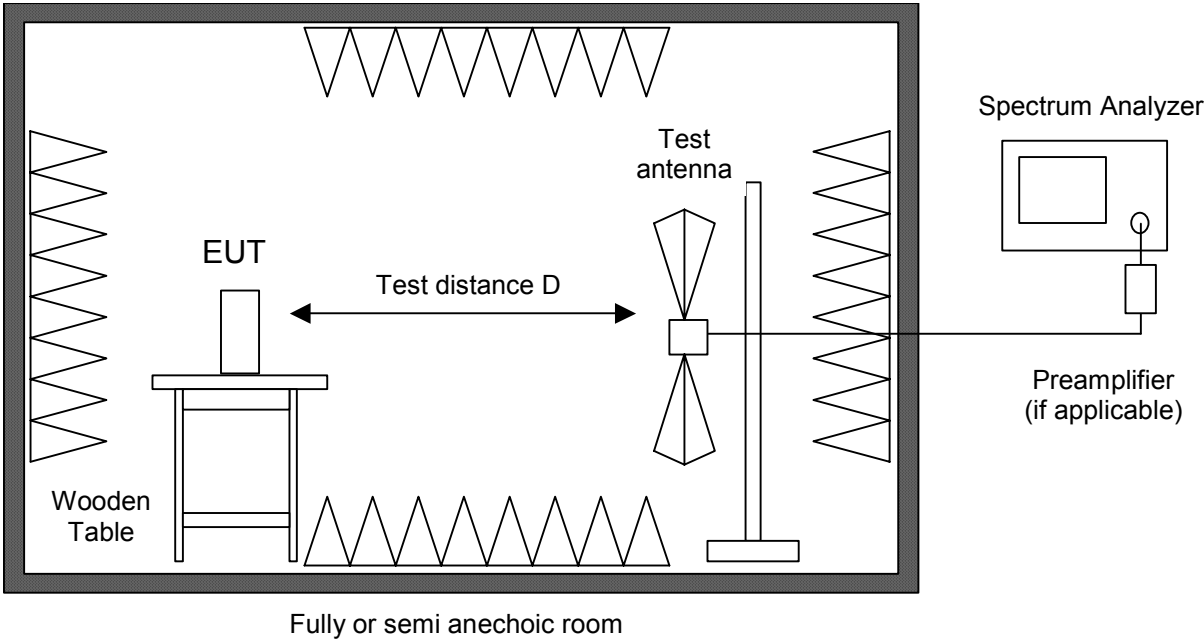


Test instruments used:

| Used                                | Type                 | Model    | Serial No. or ID         | Manufacturer       |
|-------------------------------------|----------------------|----------|--------------------------|--------------------|
| <input checked="" type="checkbox"/> | Spectrum Analyzer    | FSP 30   | 100063                   | Rohde & Schwarz    |
| <input type="checkbox"/>            | EMI test receiver    | ESMI     | 839379/013<br>839587/006 | Rohde & Schwarz    |
| <input checked="" type="checkbox"/> | Test receiver        | ESHS 10  | 860043/016               | Rohde & Schwarz    |
| <input type="checkbox"/>            | Preamplifier         | CPA9231A | 3393                     | Schaffner          |
| <input checked="" type="checkbox"/> | Loop antenna         | HFH2-Z2  | 882964/1                 | Rohde & Schwarz    |
| <input checked="" type="checkbox"/> | Fully anechoic room  | No. 2    | 1452                     | Albatross Projects |
| <input checked="" type="checkbox"/> | Semi-anechoic room   | No. 3    | 1453                     | Siemens            |
| <input checked="" type="checkbox"/> | Open field test site | EG 1     | 1450                     | Senton             |

6.4 Radiated Emission in Fully or Semi Anechoic Room

| Measurement Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Rules and specifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CFR 47 Part 15, section 15.209<br>IC RSS-210 Issue 6, section 2.6 |
| Guide:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ANSI C63.4                                                        |
| <p>Radiated emission in fully or semi anechoic room is measured in the frequency range from 30 MHz to the maximum frequency as specified in CFR 47 Part 15 section 15.33.</p> <p>Measurements are made in both the horizontal and vertical planes of polarization in a fully anechoic room using a spectrum analyzer with the detector function set to peak and resolution as well as video bandwidth set to 100 kHz (below 1 GHz) or 1 MHz (above 1 GHz).</p> <p>Testing up to 1 GHz is performed with a linear polarized logarithmic periodic antenna combined with a 4:1 broadband dipole ("Trilog broadband antenna"). For testing above 1 GHz horn antennas are used.</p> <p>All tests below 18 GHz are performed at a test distance D of 3 meters. For higher frequencies the test distance is reduced (e.g. to 1 meter) due to the sensitivity of the measuring instrument(s) and the test results are calculated according to CFR 47 Part 15 section 15.31(f)(1) using an extrapolation factor of 20 dB/decade. If required, preamplifiers are used for the whole frequency range. Special care is taken to avoid overload, using appropriate attenuators and filters, if necessary.</p> <p>If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35(c). If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.</p> <p>Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.</p> <p>During testing the EUT is rotated all around to find the maximum levels of emissions. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.</p> <p>For final testing below 1 GHz an open field test-site is used and the plots recorded in the fully or semi anechoic room are indicated as prescans.</p> |                                                                   |

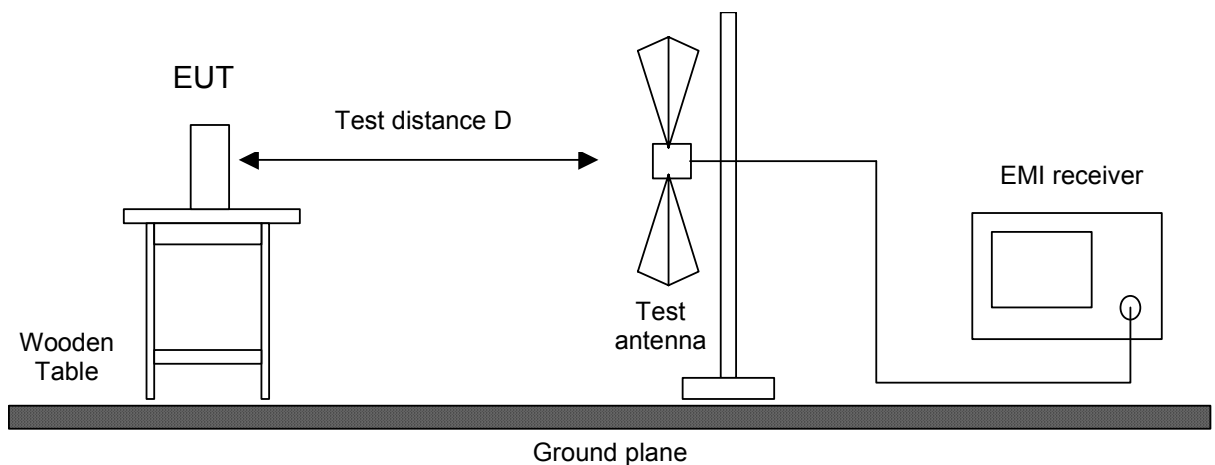


Test instruments used:

| Used                                | Type                     | Model                | Serial No. or ID         | Manufacturer       |
|-------------------------------------|--------------------------|----------------------|--------------------------|--------------------|
| <input checked="" type="checkbox"/> | Spectrum Analyzer        | FSP 30               | 100063                   | Rohde & Schwarz    |
| <input type="checkbox"/>            | Spectrum analyzer        | R 3271               | 05050023                 | Advantest          |
| <input type="checkbox"/>            | EMI test receiver        | ESMI                 | 839379/013<br>839587/006 | Rohde & Schwarz    |
| <input checked="" type="checkbox"/> | Preamplifier             | CPA9231A             | 3393                     | Schaffner          |
| <input type="checkbox"/>            | Preamplifier             | R14601               |                          | Advantest          |
| <input type="checkbox"/>            | Preamplifier 1-8 GHz     | AFS3-00100800-32-LN  | 847743                   | Miteq              |
| <input type="checkbox"/>            | Preamplifier 0.5-8 GHz   | AMF-4D-005080-25-13P | 860149                   | Miteq              |
| <input type="checkbox"/>            | Preamplifier 8-18 GHz    | ACO/180-3530         | 32641                    | CTT                |
| <input type="checkbox"/>            | External Mixer           | WM782A               | 845881/005               | Tektronix          |
| <input type="checkbox"/>            | Harmonic Mixer           | FS-Z30               | 843389/007               | Rohde & Schwarz    |
|                                     | Accessories              |                      |                          |                    |
| <input checked="" type="checkbox"/> | Trilog broadband antenna | VULB 9163            | 9163-188                 | Schwarzbeck        |
| <input type="checkbox"/>            | Horn antenna             | 3115                 | 9508-4553                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-03              | 9112-1003                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-04              | 9112-1001                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-05              | 9112-1001                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-06              | 9112-1001                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-07              | 9112-1008                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-08              | 9112-1002                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-09              | 9403-1025                | EMCO               |
| <input type="checkbox"/>            | Horn antenna             | 3160-10              | 399185                   | EMCO               |
| <input checked="" type="checkbox"/> | Fully anechoic room      | No. 2                | 1452                     | Albatross Projects |
| <input type="checkbox"/>            | Semi-anechoic room       | No. 3                | 1453                     | Siemens            |

## 6.5 Radiated Emission at Open Field Test Site

| Measurement Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                   |
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| Rules and specifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CFR 47 Part 15, section 15.209<br>IC RSS-210 Issue 6, section 2.6 |
| Guide:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ANSI C63.4                                                        |
| <p>Radiated emission at open field test site is measured in the frequency range 30 MHz to 1 GHz using a biconical antenna up to 300 MHz and a logarithmic periodic antenna above. The measurement bandwidth of the test receiver is set to 120 kHz with quasi-peak detector selected.</p> <p>If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35(c). If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.</p> <p>Hand-held or body-worn devices are tested in the position producing the highest emission relative to the limit as verified by prescans in the fully anechoic room. EUT is rotated all around and receiving antenna is raised and lowered within 1 meter to 4 meters to find the maximum levels of emission. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.</p> <p>For measuring emissions of intentional radiators and receivers a test distance D of 3 meters is selected. Testing of unintentional radiators is performed at a distance of 10 meters. If limits specified for 3 meters shall be used for measurements performed at 10 meters distance the limits are calculated according to CFR 47 Part 15 section 15.31(d) and (f)(1) using an inverse linear-distance extrapolation factor of 20 dB/decade.</p> |                                                                   |

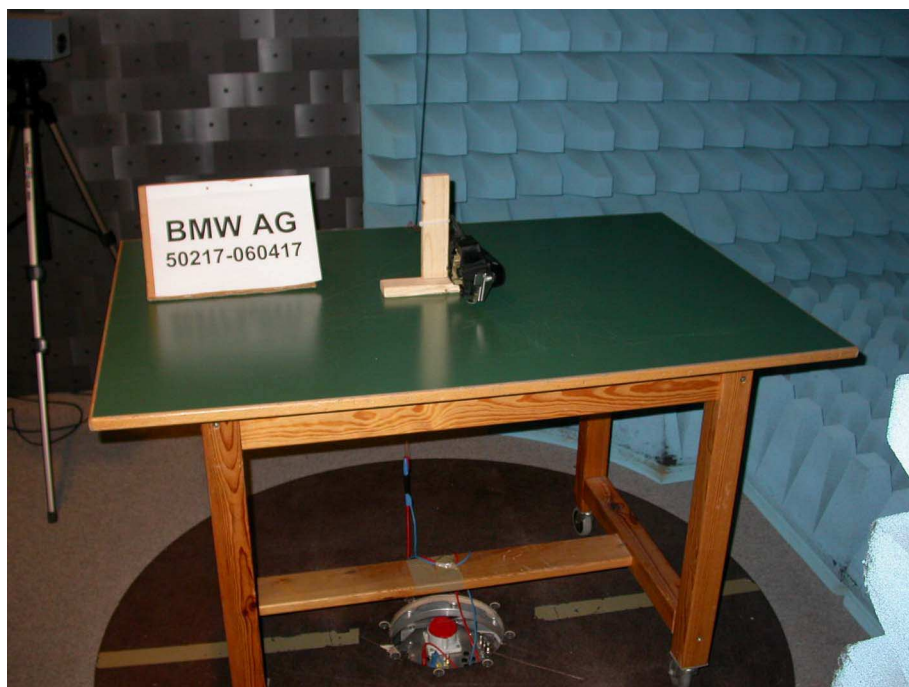


Test instruments used:

| Used                                | Type                 | Model       | Serial No. or ID | Manufacturer    |
|-------------------------------------|----------------------|-------------|------------------|-----------------|
| <input checked="" type="checkbox"/> | EMI receiver         | ESVP        | 881120/024       | Rohde & Schwarz |
| <input checked="" type="checkbox"/> | Biconical antenna    | EG 1 HK 116 | 842204/001       | Rohde & Schwarz |
| <input checked="" type="checkbox"/> | Log. per. antenna    | EG 1 HL 223 | 841516/023       | Rohde & Schwarz |
| <input checked="" type="checkbox"/> | Open field test site | EG 1        | 1450             | Senton          |

## **7      Photographs Taken During Testing**

**Test setup for radiated emission measurement 9 kHz – 30 MHz**



**Test setup for radiated emission measurement 9 kHz – 30 MHz  
- continued -**



**Test setup for radiated emission measurement 9 kHz – 30 MHz  
- continued -**



EUT in horizontal position (for prescans only)

**Test setup for radiated emission measurement 9 kHz – 30 MHz  
- continued -**



**Test setup for radiated emission measurement  
(fully anechoic room)**



**Test setup for radiated emission measurement  
(fully anechoic room) - continued -**



**Test setup for radiated emission measurement  
(open field test site)**



**Test setup for radiated emission measurement  
(open field test site) - continued -**



## 8 Test Results

| FCC CFR 47 Parts 2 and 15 |                                                      |             |                                    |
|---------------------------|------------------------------------------------------|-------------|------------------------------------|
| <i>Section(s)</i>         | <i>Test</i>                                          | <i>Page</i> | <i>Result</i>                      |
| 2.1046(a)                 | Conducted output power                               | ---         | Not applicable                     |
| 2.202(a)                  | Occupied bandwidth                                   | 28          | Recorded                           |
| 15.35(c)                  | Pulse train measurement for pulsed operation         | 33          | Recorded                           |
| 15.205(a)                 | Restricted bands of operation                        | 36          | Test passed                        |
| 15.207                    | Conducted AC powerline emission<br>150 kHz to 30 MHz | ---         | Not applicable<br>(battery supply) |
| 15.205(b)<br>15.209       | Radiated emission<br>9 kHz to 30 MHz                 | 39          | Test passed                        |
| 15.205(b)<br>15.209       | Radiated emission<br>30 MHz to 1 GHz                 | 41          | Test passed                        |

| IC RSS-Gen Issue 1 |                                                                     |             |                                    |
|--------------------|---------------------------------------------------------------------|-------------|------------------------------------|
| <i>Section(s)</i>  | <i>Test</i>                                                         | <i>Page</i> | <i>Result</i>                      |
| 4.6                | Transmitter output power (conducted)                                | ---         | Not applicable                     |
| 4.4.1              | Occupied Bandwidth                                                  | 28          | Recorded                           |
| 4.3                | Pulsed operation                                                    | 33          | Recorded                           |
| 7.2.2              | Transmitter AC power lines conducted emissions<br>150 kHz to 30 MHz | ---         | Not applicable<br>(battery supply) |

| IC RSS-210 Issue 6 |                                                    |             |               |
|--------------------|----------------------------------------------------|-------------|---------------|
| <i>Section(s)</i>  | <i>Test</i>                                        | <i>Page</i> | <i>Result</i> |
| 2.2(a)             | Restricted bands and unwanted emission frequencies | 36          | Test passed   |
| 2.2(b)(c)<br>2.6   | Unwanted emissions<br>9 kHz to 30 MHz              | 39          | Test passed   |
| 2.2(b)(c)<br>2.6   | Unwanted emissions<br>30 MHz to 1 GHz              | 41          | Test passed   |

## 8.1 Occupied Bandwidth

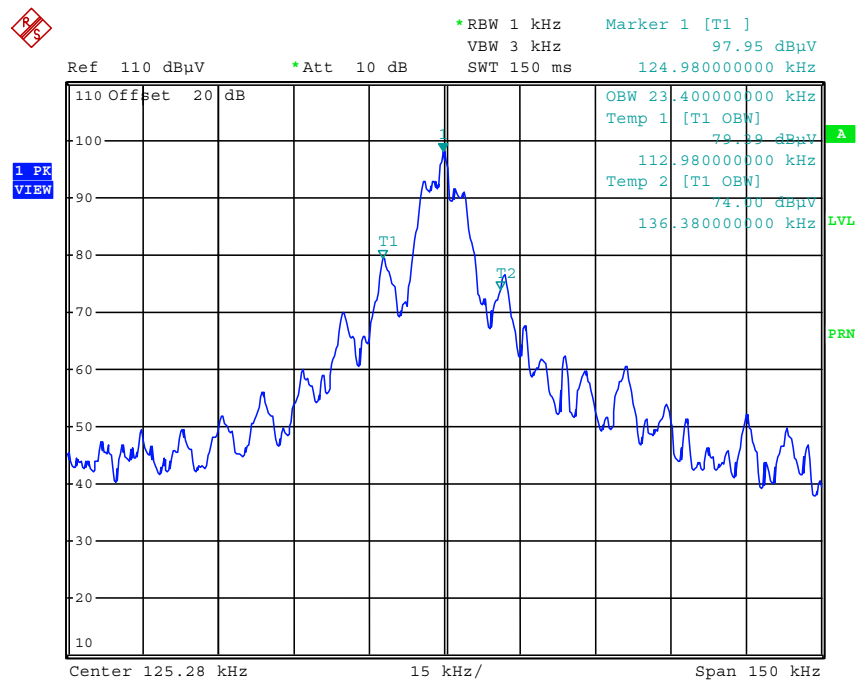
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Rules and specifications: | CFR 47 Part 2, section 2.202(a)<br>ANSI C63.4, annex H.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Guide:                    | ANSI C63.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |
| Description:              | <p>The occupied bandwidth according to CFR 47 Part 2, section 2.202(a), is measured as the 99% emission bandwidth, i.e. below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5% of the total mean power radiated by a given emission.</p> <p>The occupied bandwidth according to ANSI C63.4, annex H.6; is measured as the frequency range defined by the points that are 26 dB down relative to the maximum level of the modulated carrier.</p> <p>The resolution bandwidth of the spectrum analyzer shall be set to a value greater than 5.0% of the allowed bandwidth. If no bandwidth specifications are given, the following guidelines are used:</p> |                              |
|                           | Fundamental frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Minimum resolution bandwidth |
|                           | 9 kHz to 30 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1 kHz                        |
|                           | 30 MHz to 1000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10 kHz                       |
|                           | 1000 MHz to 40 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 100 kHz                      |
|                           | The video bandwidth shall be at least three times greater than the resolution bandwidth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Measurement procedure:    | Bandwidth Measurements (6.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                              |

|               |                                  |
|---------------|----------------------------------|
| Date of test: | June 30, 2006                    |
| Test site:    | Fully anechoic room, cabin no. 3 |

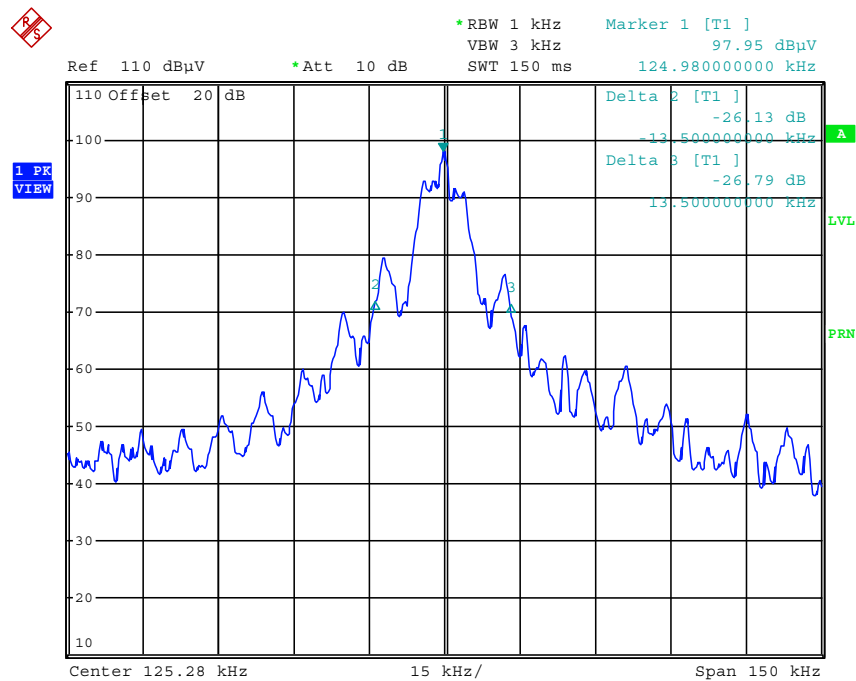
|                              |                                      |                                     |
|------------------------------|--------------------------------------|-------------------------------------|
| Operating mode:              | Cabrio function mode with modulation | Access control mode with modulation |
| Occupied Bandwidth (99 %):   | <b>23.4 kHz</b>                      | <b>38.1 kHz</b>                     |
| Occupied Bandwidth (-26 dB): | <b>27.0 kHz</b>                      | <b>41.1 kHz</b>                     |

Comment: Operating in cabrio function mode with modulation

Occupied Bandwidth (99 %):

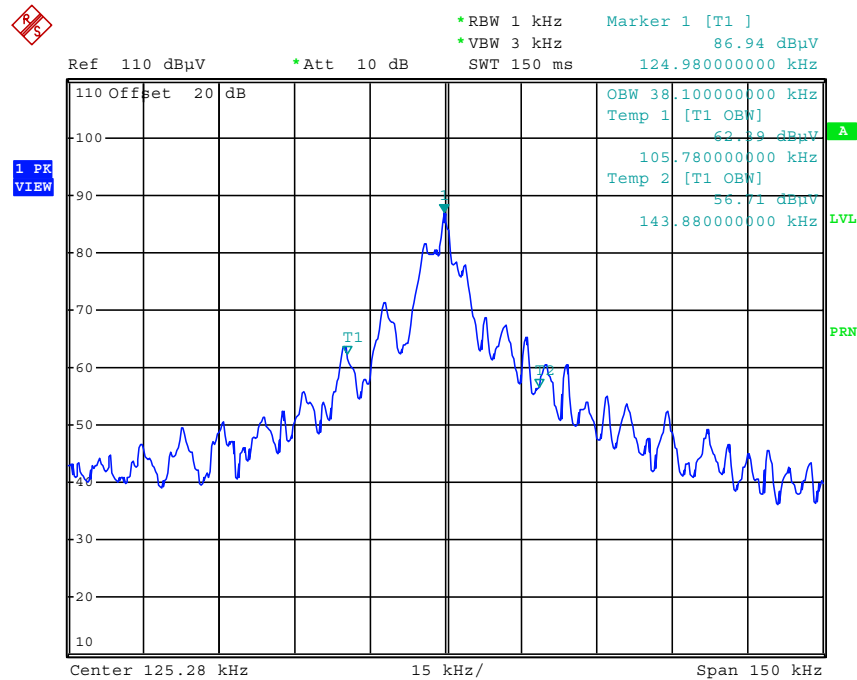


Occupied Bandwidth (-26 dB):

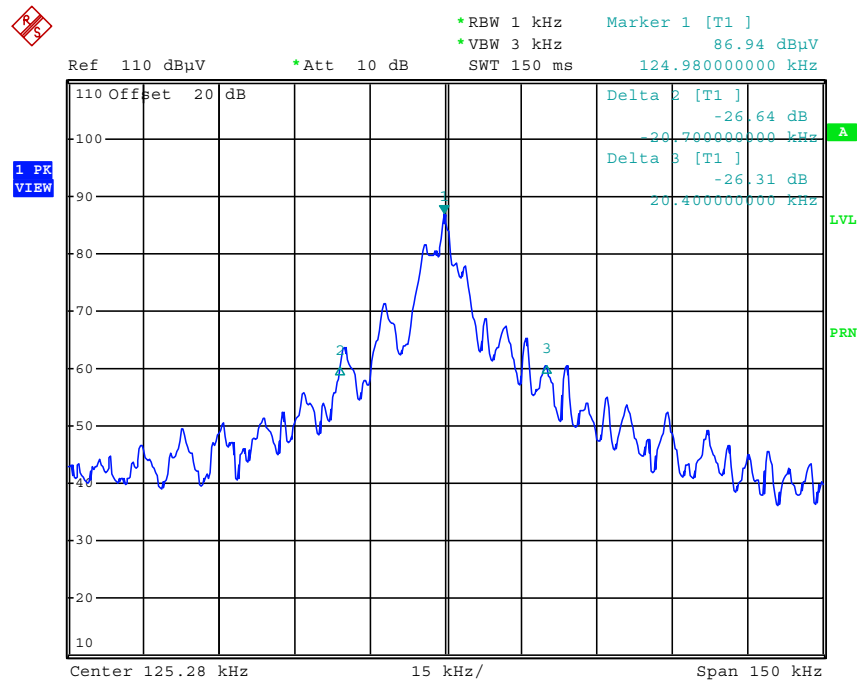


Comment: Operating in access control mode with modulation

Occupied Bandwidth (99 %):



Occupied Bandwidth (-26 dB):



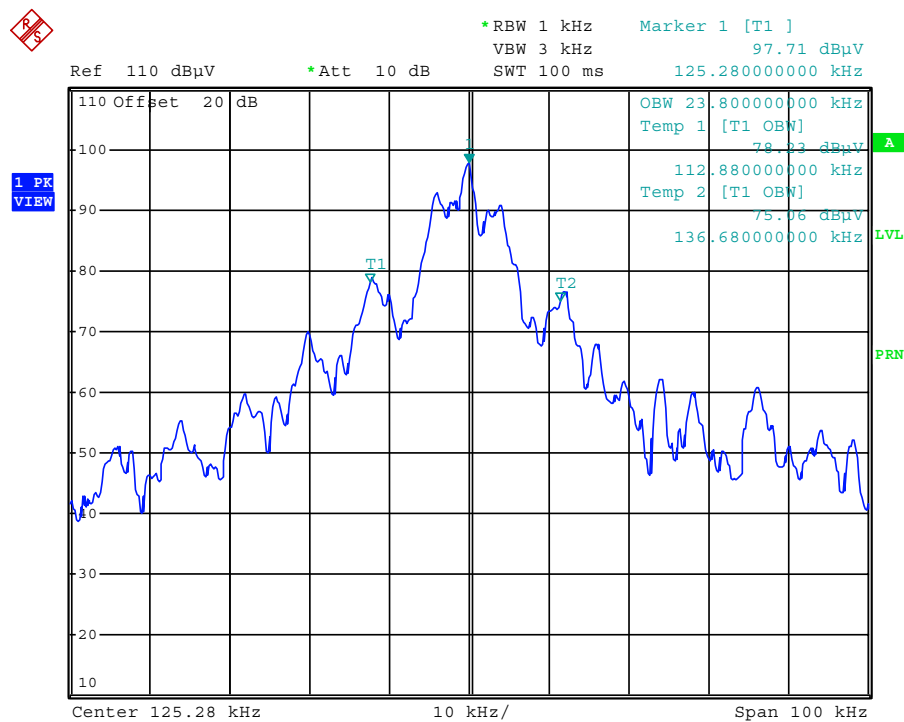
## Occupied Bandwidth (continued)

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rules and specifications: | IC RSS-Gen Issue 1, section 4.4.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Guide:                    | IC RSS-Gen Issue 1, section 4.4.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Description:              | <p>If not specified in the applicable RSS the occupied bandwidth is measured as the 99% emission bandwidth.</p> <p>The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth.</p> <p>The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is also recorded. The span between the two recorded frequencies is the occupied bandwidth.</p> |
| Measurement procedure:    | Bandwidth Measurements (6.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

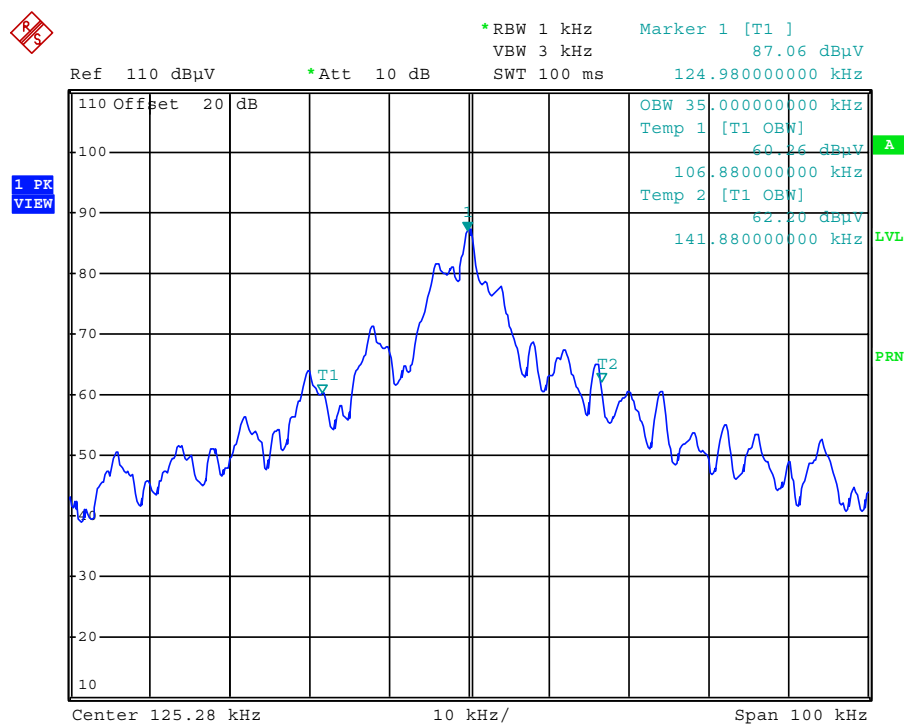
|               |                                  |
|---------------|----------------------------------|
| Date of test: | June 30, 2006                    |
| Test site:    | Fully anechoic room, cabin no. 3 |

|                            |                                      |                                     |
|----------------------------|--------------------------------------|-------------------------------------|
| Operating mode:            | Cabrio function mode with modulation | Access control mode with modulation |
| Occupied Bandwidth (99 %): | <b>23.8 kHz</b>                      | <b>35.0 kHz</b>                     |

Comment: Operating in cabrio function mode with modulation



Comment: Operating in access control mode with modulation



## 8.2 Pulse Train Measurement

|                           |                                                                     |
|---------------------------|---------------------------------------------------------------------|
| Rules and specifications: | CFR 47 Part 15, section 15.35(c)<br>IC RSS-Gen Issue 1, section 4.3 |
| Guide:                    | ANSI C63.4                                                          |
| Measurement procedure:    | Pulse Train Measurement (6.2)                                       |

|               |                                  |
|---------------|----------------------------------|
| Date of test: | June 29, 2006                    |
| Test site:    | Fully anechoic room, cabin no. 2 |

### Calculation of pulse train correction:

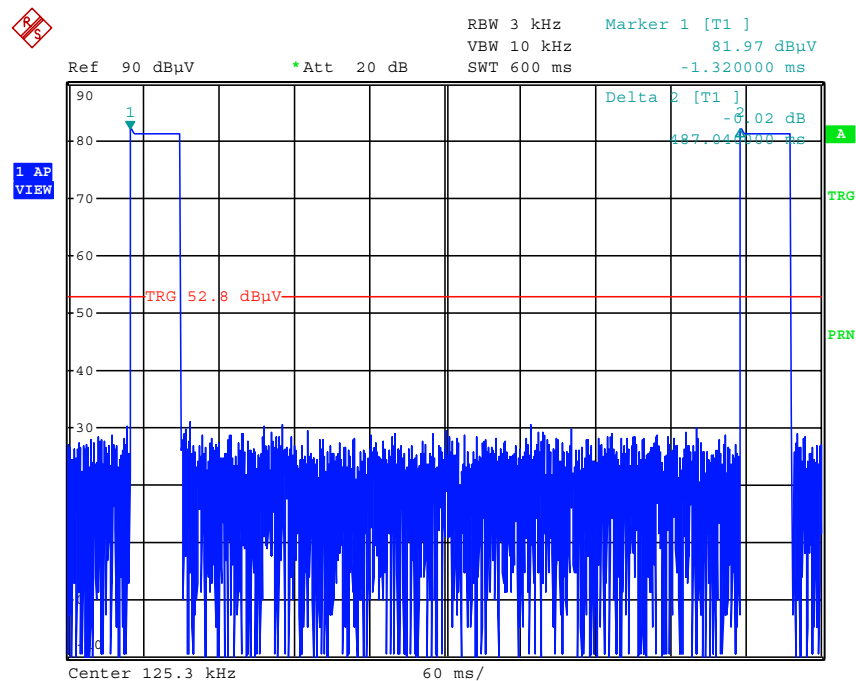
| Cabrio function mode without modulation |              |   |                                                       |
|-----------------------------------------|--------------|---|-------------------------------------------------------|
| TX-On-Time (worst case):                | $T_{on}$     | = | 41.84 ms                                              |
| Pulse Train Time:                       | $T_{pt}$     | = | 487.04 ms                                             |
| Period Time:                            | $T_{period}$ | = | 100 ms                                                |
| Pulse Train Correction:                 | $C_{pt}$     | = | $20 \cdot \text{Log}(T_{on} / T_{period}) \text{ dB}$ |
|                                         |              | = | <b>-7.57 dB</b>                                       |
| Access control mode without modulation  |              |   |                                                       |
| TX-On-Time (worst case):                | $T_{on}$     | = | 41.72 ms                                              |
| Pulse Train Time:                       | $T_{pt}$     | = | 484.64 ms                                             |
| Period Time:                            | $T_{period}$ | = | 100 ms                                                |
| Pulse Train Correction:                 | $C_{pt}$     | = | $20 \cdot \text{Log}(T_{on} / T_{period}) \text{ dB}$ |
|                                         |              | = | <b>-7.59 dB</b>                                       |

**Note 1:** "Cabrio function mode" and "Access control mode" are test modes to simplify testing. Typical transmission has a period form of 39 ms (as stated by applicant) and is triggered by manual handle operation.

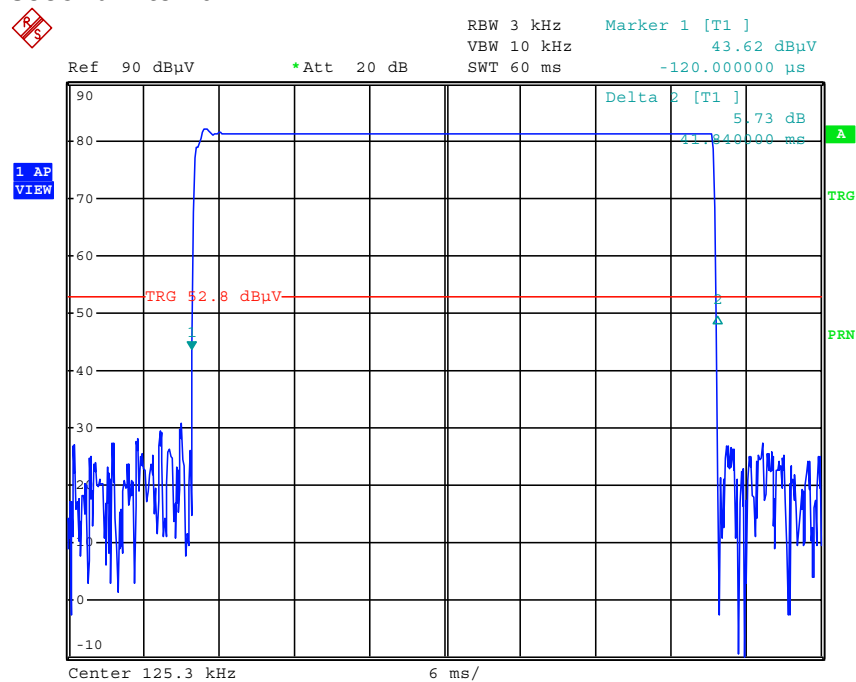
Comment:

### Operating in cabrio function mode with modulation

**Total Pulse Train:**

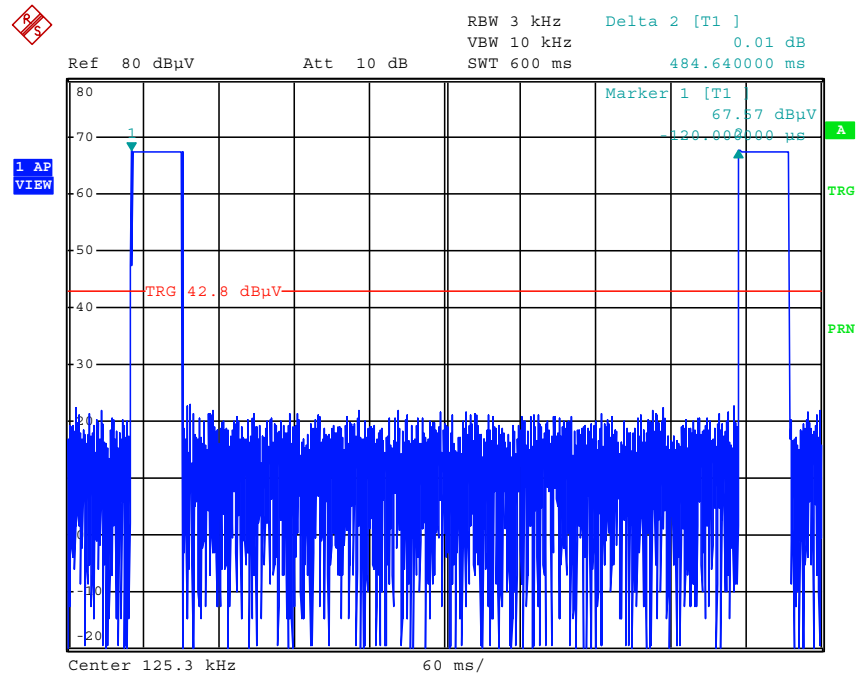


**Worst case 0.1 second interval:**

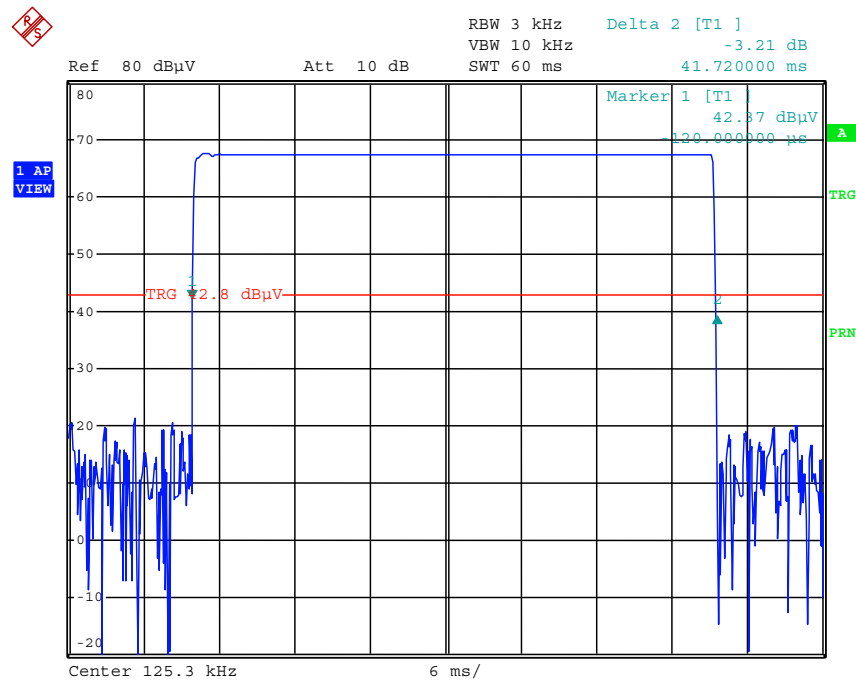


Comment: Operating in access control mode without modulation

Total Pulse Train:



Worst case 0.1 second interval:

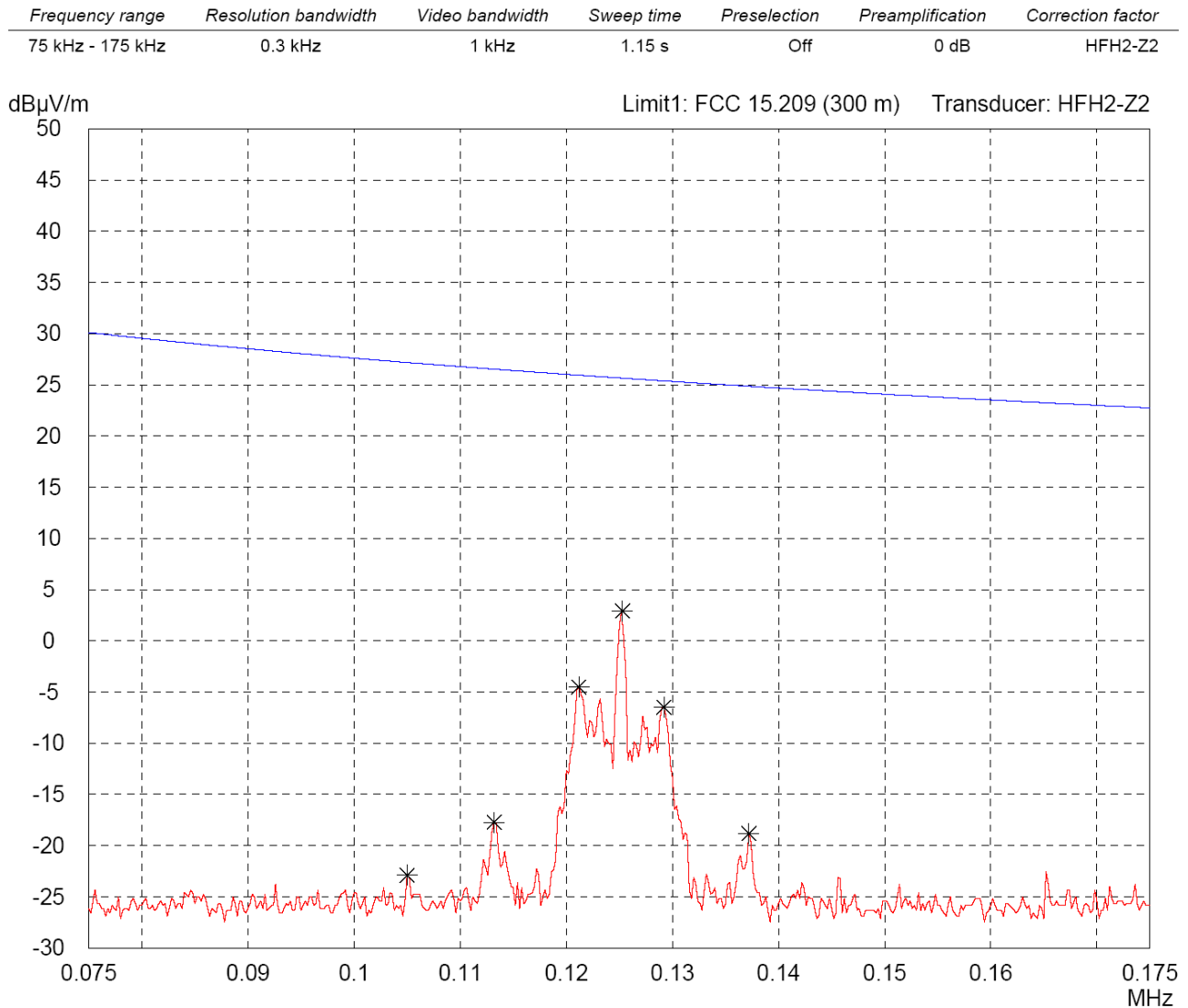


### 8.3 Restricted Bands of Operation

|                           |                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rules and specifications: | CFR 47 Part 15, section 15.205(a)<br>IC RSS-210 Issue 6, section 2.2(a)                                                                                |
| Guide:                    | ANSI C63.4                                                                                                                                             |
| Limit:                    | Only spurious emissions are permitted in any of the frequency bands listed in CFR 47 Part 15, section 15.205(a) or IC RSS-210 Issue 6, section 2.2(a). |
| Measurement procedure:    | Radiated Emission Measurement 9 kHz to 30 MHz (6.3)                                                                                                    |
| Restricted band:          | 90 kHz to 110 kHz                                                                                                                                      |

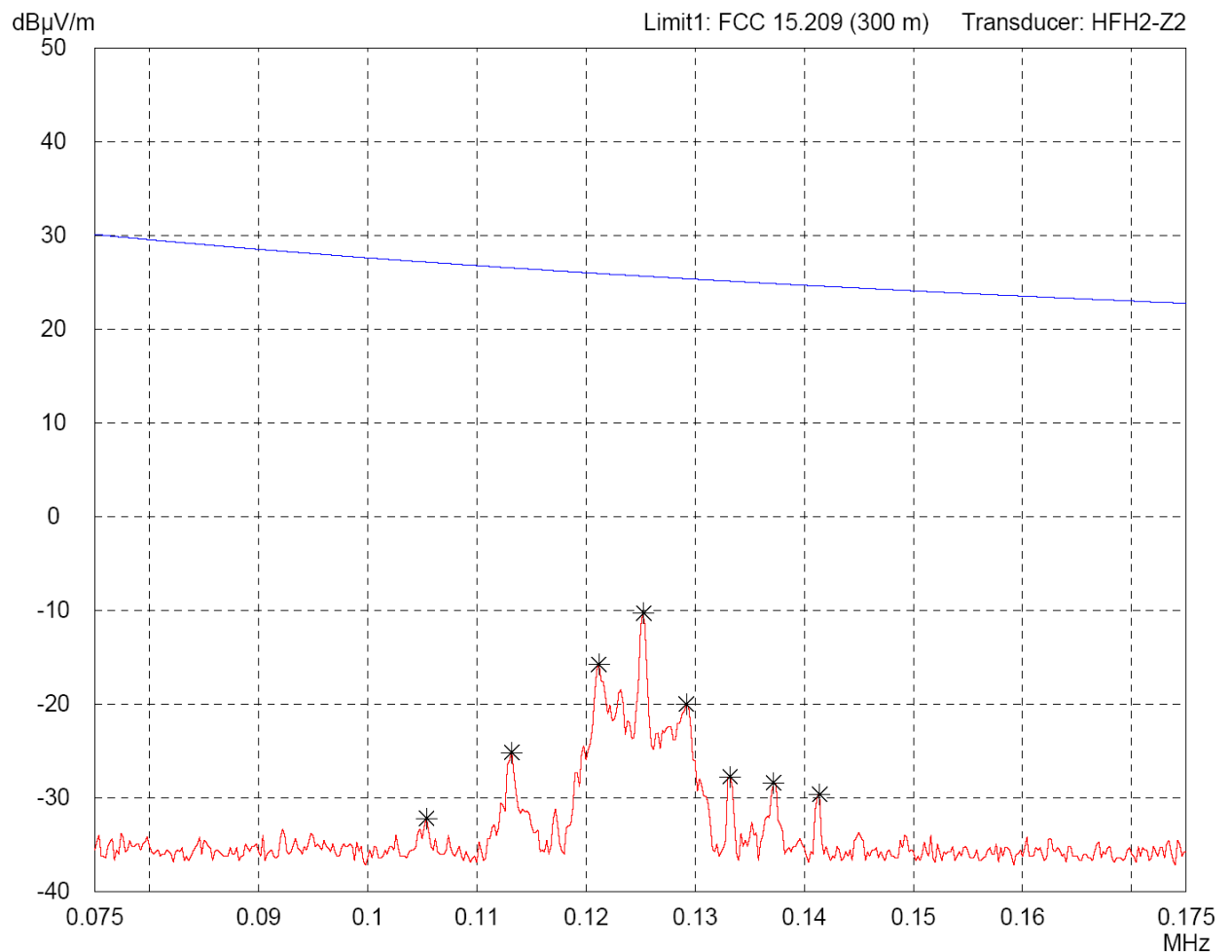
|              |             |
|--------------|-------------|
| Test Result: | Test passed |
|--------------|-------------|

|                         |                                                   |
|-------------------------|---------------------------------------------------|
| Comment:                | Operating in cabrio function mode with modulation |
| Date of test:           | June 30, 2006                                     |
| Test site:              | Semi anechoic room, cabin no. 3                   |
| Referred test distance: | 300 m                                             |
| Measurement distance:   | 8.5 m                                             |
| Extrapolation factor:   | -47.8 dB/dec                                      |
| Restricted band:        | 90 kHz to 110 kHz                                 |



|                         |                                                  |
|-------------------------|--------------------------------------------------|
| Comment:                | Operating in access control mode with modulation |
| Date of test:           | June 30, 2006                                    |
| Test site:              | Semi anechoic room, cabin no. 3                  |
| Referred test distance: | 300 m                                            |
| Measurement distance:   | 8.5 m                                            |
| Extrapolation factor:   | -48.2 dB/dec                                     |
| Restricted band:        | 90 kHz to 110 kHz                                |

| Frequency range  | Resolution bandwidth | Video bandwidth | Sweep time | Preselection | Preamplification | Correction factor |
|------------------|----------------------|-----------------|------------|--------------|------------------|-------------------|
| 75 kHz - 175 kHz | 0.3 kHz              | 1 kHz           | 1.15 s     | Off          | 0 dB             | HFH2-Z2           |



#### 8.4 Radiated Emission Measurement 9 kHz to 30 MHz

|                                                                                                           |                                                                                        |                                    |                                      |                                 |
|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------|--------------------------------------|---------------------------------|
| Rules and specifications:                                                                                 | CFR 47 Part 15, sections 15.205 and 15.209<br>IC RSS-210 Issue 6, sections 2.2 and 2.6 |                                    |                                      |                                 |
| Guide:                                                                                                    | ANSI C63.4                                                                             |                                    |                                      |                                 |
| Limit:                                                                                                    | Frequency of Emission (MHz)                                                            | Field Strength ( $\mu\text{V/m}$ ) | Field Strength (dB $\mu\text{V/m}$ ) | Measurement Distance d (meters) |
|                                                                                                           | 0.009 - 0.490                                                                          | 2400/F(kHz)                        | 67.6 - 20 · log(F(kHz))              | 300                             |
|                                                                                                           | 0.490 - 1.705                                                                          | 24000/F(kHz)                       | 87.6 - 20 · log(F(kHz))              | 30                              |
|                                                                                                           | 1.705 - 30.000                                                                         | 30                                 | 29.5                                 | 30                              |
| Additionally, the level of any unwanted emissions shall not exceed the level of the fundamental emission. |                                                                                        |                                    |                                      |                                 |
| Measurement procedure:                                                                                    | Radiated Emission Measurement 9 kHz to 30 MHz (6.3)                                    |                                    |                                      |                                 |

|               |                      |
|---------------|----------------------|
| Date of test: | June 2, 2006         |
| Test site:    | Open field test site |

|              |             |
|--------------|-------------|
| Test Result: | Test passed |
|--------------|-------------|

Comment: Operating in cabrio function mode without modulation

| Frequency<br>(MHz) | Detector | Distance  |           |          | Reading Value |              | Correction<br>Factor<br>(dB/m) | Extrapolation<br>Factor |       | Pulse Train<br>Correction<br>(dB) | Final<br>Value<br>(dBµV/m) | Limit<br>(dBµV/m) | Margin<br>(dB) |
|--------------------|----------|-----------|-----------|----------|---------------|--------------|--------------------------------|-------------------------|-------|-----------------------------------|----------------------------|-------------------|----------------|
|                    |          | d1<br>(m) | d2<br>(m) | d<br>(m) | d1<br>(dBµV)  | d2<br>(dBµV) |                                | (dB/dec)                | (dB)  |                                   |                            |                   |                |
| 0.12528            | PK       | 10        | 30        | 300      | 56.3          | 33.5         | 20.0                           | -47.8                   | -47.8 |                                   | 5.7                        | 45.6              | 39.9           |
| 0.12528            | PK       | 10        | 30        | 300      | 56.3          | 33.5         | 20.0                           | -47.8                   | -47.8 | -7.6                              | -1.9                       | 25.6              | 27.5           |
| 0.25056            | PK       |           | 10        | 300      |               | 26.3         | 20.0                           | -40.0                   | -59.1 | -7.6                              | -20.4                      | 19.6              | 40.0           |
| 0.37584            | PK       |           | 10        | 300      |               | 23.4         | 20.0                           | -40.0                   | -59.1 | -7.6                              | -23.3                      | 16.1              | 39.4           |
| 0.50120            | QP       |           | 3         | 30       |               | 23.2         | 20.0                           | -40.0                   | -40.0 |                                   | 3.2                        | 33.6              | 30.4           |
| 0.62640            | QP       |           | 3         | 30       |               | 32.8         | 20.0                           | -40.0                   | -40.0 |                                   | 12.8                       | 31.7              | 18.9           |

**Note:** In cabrio function mode with modulation peak level at 125.28 kHz is 7.2 dB lower than without modulation, i.e. -1.5 dBµV/m at 300 m distance.

Comment: Operating in access control mode without modulation

| Frequency<br>(MHz) | Detector | Distance  |           |          | Reading Value |              | Correction<br>Factor<br>(dB/m) | Extrapolation<br>Factor |       | Pulse Train<br>Correction<br>(dB) | Final<br>Value<br>(dBµV/m) | Limit<br>(dBµV/m) | Margin<br>(dB) |
|--------------------|----------|-----------|-----------|----------|---------------|--------------|--------------------------------|-------------------------|-------|-----------------------------------|----------------------------|-------------------|----------------|
|                    |          | d1<br>(m) | d2<br>(m) | d<br>(m) | d1<br>(dBµV)  | d2<br>(dBµV) |                                | (dB/dec)                | (dB)  |                                   |                            |                   |                |
| 0.12528            | PK       | 10        | 30        | 300      | 42.8          | 19.8         | 20.0                           | -48.2                   | -48.2 |                                   | -8.4                       | 45.6              | 54.1           |
| 0.12528            | PK       | 10        | 30        | 300      | 42.8          | 19.8         | 20.0                           | -48.2                   | -48.2 | -7.6                              | -16.0                      | 25.6              | 41.6           |
| 0.25056            | PK       |           | 3         | 300      |               | 35.2         | 20.0                           | -40.0                   | -80.0 | -7.6                              | -32.4                      | 19.6              | 52.0           |
| 0.37584            | PK       |           | 3         | 300      |               | 43.5         | 20.0                           | -40.0                   | -80.0 | -7.6                              | -24.1                      | 16.1              | 40.2           |
| 0.50120            | QP       |           | 3         | 30       |               | 20.6         | 20.0                           | -40.0                   | -40.0 |                                   | 0.6                        | 33.6              | 33.0           |
| 0.62640            | QP       |           | 3         | 30       |               | 22.1         | 20.0                           | -40.0                   | -40.0 |                                   | 2.1                        | 31.7              | 29.6           |

**Note:** In access control mode with modulation peak level at 125.28 kHz is 7.2 dB lower than without modulation, i.e. -15.6 dBµV/m at 300 m distance.

#### Sample calculation of final values:

$$\text{Extrapolation Factor (dB/decade)} = \begin{cases} -40 \text{ (dB/decade)} & \text{if } d_1 = d_2 \\ \frac{\text{Reading Value } d_2 \text{ (dB}\mu\text{V)} - \text{Reading Value } d_1 \text{ (dB}\mu\text{V)}}{\text{Log}(d_2) - \text{Log}(d_1)} & \text{if } d_1 \neq d_2 \end{cases}$$

$$\text{Extrapolation Factor (dB)} = (\text{Log}(d) - \text{Log}(d_2)) \cdot \text{Extrapolation Factor (dB/decade)}$$

$$\text{Final Value (dB}\mu\text{V/m)} = \text{Reading Value } d_2 \text{ (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} + \text{Extrapolation Factor (dB)} + \text{Pulse Train Correction (dB)}$$

Note: Extrapolation factor (dB) and final value (dBµV/m) are relating to distance d.

## 8.5 Radiated Emission Measurement 30 MHz to 1 GHz

|                           |                                                                                                           |                                    |                                      |
|---------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------|
| Rules and specifications: | CFR 47 Part 15, section 15.209<br>IC RSS-210 Issue 6, section 2.6                                         |                                    |                                      |
| Guide:                    | ANSI C63.4                                                                                                |                                    |                                      |
| Limit:                    | Frequency of Emission (MHz)                                                                               | Field Strength ( $\mu\text{V/m}$ ) | Field Strength (dB $\mu\text{V/m}$ ) |
|                           | 30 - 88                                                                                                   | 100                                | 40.0                                 |
|                           | 88 - 216                                                                                                  | 150                                | 43.5                                 |
|                           | 216 - 960                                                                                                 | 200                                | 46.0                                 |
|                           | Above 960                                                                                                 | 500                                | 54.0                                 |
|                           | Additionally, the level of any unwanted emissions shall not exceed the level of the fundamental emission. |                                    |                                      |
| Measurement procedures:   | Radiated Emission in Fully or Semi Anechoic Room (6.4)<br>Radiated Emission at Open Field Test Site (6.5) |                                    |                                      |

|                |                                                                                                           |
|----------------|-----------------------------------------------------------------------------------------------------------|
| Date of test:  | June 2, 2006                                                                                              |
| Test site:     | Frequencies $\leq 1$ GHz: Open field test site<br>Frequencies $> 1$ GHz: Fully anechoic room, cabin no. 2 |
| Test distance: | 3 meters                                                                                                  |

|              |             |
|--------------|-------------|
| Test Result: | Test passed |
|--------------|-------------|

Comment: Operating in cabrio function mode without modulation

| Frequency<br>(MHz) | Antenna<br>Polarization | Detector   | Receiver<br>Reading<br>(dBμV) | Correction<br>Factor<br>(dB/m) | Pulse Train<br>Correction<br>(dB) | Final<br>Value<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------------|------------|-------------------------------|--------------------------------|-----------------------------------|----------------------------|-------------------|----------------|
| 33.330             | vertical                | Quasi-Peak | 13.5                          | 13.6                           |                                   | 27.1                       | 40.0              | 12.9           |
| 40.090             | vertical                | Quasi-Peak | 13.2                          | 11.9                           |                                   | 25.1                       | 40.0              | 14.9           |
| 40.480             | vertical                | Quasi-Peak | 11.7                          | 11.8                           |                                   | 23.5                       | 40.0              | 16.5           |
| 42.700             | vertical                | Quasi-Peak | 12.8                          | 11.4                           |                                   | 24.2                       | 40.0              | 15.8           |
| 64.150             | vertical                | Quasi-Peak | 11.1                          | 9.6                            |                                   | 20.7                       | 40.0              | 19.3           |
| 72.160             | vertical                | Quasi-Peak | 11.7                          | 9.5                            |                                   | 21.2                       | 40.0              | 18.8           |
| 77.790             | vertical                | Quasi-Peak | 13.0                          | 9.4                            |                                   | 22.4                       | 40.0              | 17.6           |
| 80.200             | vertical                | Quasi-Peak | 12.3                          | 9.5                            |                                   | 21.8                       | 40.0              | 18.2           |
| 156.000            | horizontal              | Quasi-Peak | 1.0                           | 14.4                           |                                   | 15.4                       | 43.5              | 28.1           |
| 168.000            | horizontal              | Quasi-Peak | 0.5                           | 15.0                           |                                   | 15.5                       | 43.5              | 28.0           |
| 336.760            | horizontal              | Quasi-Peak | 8.3                           | 17.0                           |                                   | 25.3                       | 46.0              | 20.7           |
| 344.770            | horizontal              | Quasi-Peak | 8.1                           | 17.3                           |                                   | 25.4                       | 46.0              | 20.6           |
| 360.820            | horizontal              | Quasi-Peak | 7.9                           | 17.7                           |                                   | 25.6                       | 46.0              | 20.4           |

Comment: Operating in cabrio function mode without modulation

| Frequency<br>(MHz) | Antenna<br>Polarization | Detector   | Receiver<br>Reading<br>(dBμV) | Correction<br>Factor<br>(dB/m) | Pulse Train<br>Correction<br>(dB) | Final<br>Value<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------------|------------|-------------------------------|--------------------------------|-----------------------------------|----------------------------|-------------------|----------------|
| 33.330             | vertical                | Quasi-Peak | 11.0                          | 13.6                           |                                   | 24.6                       | 40.0              | 15.4           |
| 40.090             | vertical                | Quasi-Peak | 11.2                          | 11.9                           |                                   | 23.1                       | 40.0              | 16.9           |
| 64.150             | vertical                | Quasi-Peak | 9.7                           | 9.6                            |                                   | 19.3                       | 40.0              | 20.7           |
| 72.160             | vertical                | Quasi-Peak | 12.2                          | 9.5                            |                                   | 21.7                       | 40.0              | 18.3           |
| 80.200             | vertical                | Quasi-Peak | 12.5                          | 9.5                            |                                   | 22.0                       | 40.0              | 18.0           |
| 156.000            | horizontal              | Quasi-Peak | 1.0                           | 14.4                           |                                   | 15.4                       | 43.5              | 28.1           |
| 168.000            | horizontal              | Quasi-Peak | 1.0                           | 15.0                           |                                   | 16.0                       | 43.5              | 27.5           |
| 336.760            | horizontal              | Quasi-Peak | 8.9                           | 17.0                           |                                   | 25.9                       | 46.0              | 20.1           |
| 344.770            | horizontal              | Quasi-Peak | 8.5                           | 17.3                           |                                   | 25.8                       | 46.0              | 20.2           |
| 360.820            | horizontal              | Quasi-Peak | 8.0                           | 17.7                           |                                   | 25.7                       | 46.0              | 20.3           |

#### Sample calculation of final values:

$$\text{Final Value (dB}\mu\text{V/m)} = \text{Reading Value (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} + \text{Pulse Train Correction (dB)}$$

## 9 Referenced Regulations

All tests were performed with reference to the following regulations and standards:

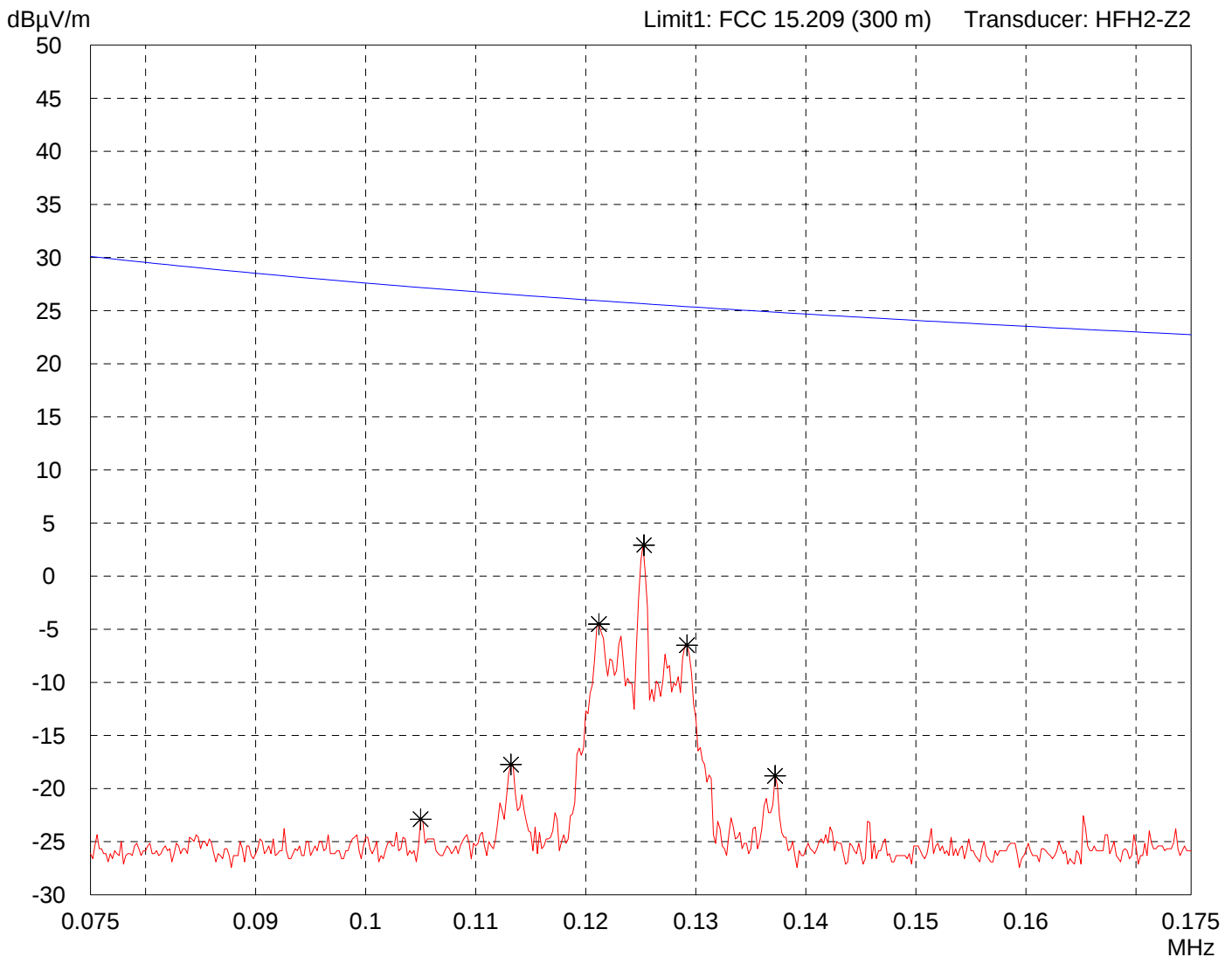
|                                     |                          |                                                                                                                                                                                                         |                                                      |
|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <input checked="" type="checkbox"/> | CFR 47 Part 2            | Code of Federal Regulations Part 2 (Frequency allocation and radio treaty matters; General rules and regulations) of the Federal Communication Commission (FCC)                                         | October 10, 2004                                     |
| <input checked="" type="checkbox"/> | CFR 47 Part 15           | Code of Federal Regulations Part 15 (Radio Frequency Devices) of the Federal Communication Commission (FCC)                                                                                             | September 19, 2005                                   |
| <input checked="" type="checkbox"/> | ANSI C63.4               | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz                                     | December 11, 2003<br>(published on January 30, 2004) |
| <input checked="" type="checkbox"/> | RSS-Gen                  | Radio Standards Specification RSS-Gen Issue 1 containing General Requirements and Information for the Certification of Radiocommunication Equipment, published by Industry Canada                       | September 2005                                       |
| <input checked="" type="checkbox"/> | RSS-210                  | Radio Standards Specification RSS-210 Issue 6 for Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, published by Industry Canada                         | September 2005                                       |
| <input type="checkbox"/>            | RSS-310                  | Radio Standards Specification RSS-310 Issue 1 for Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category II Equipment, published by Industry Canada                        | September 2005                                       |
| <input checked="" type="checkbox"/> | RSS-102                  | Radio Standards Specification RSS-102 Issue 2: Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)                                                                | November 2005                                        |
| <input type="checkbox"/>            | ICES-003                 | Interference-Causing Equipment Standard ICES-003 Issue 4 for Digital Apparatus, published by Industry Canada                                                                                            | February 7, 2004                                     |
| <input checked="" type="checkbox"/> | CISPR 22                 | Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurement" | 1997                                                 |
| <input type="checkbox"/>            | CAN/CSA-CEI/IEC CISPR 22 | Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment                                                                                              | 2002                                                 |
| <input checked="" type="checkbox"/> | TRC-43                   | Notes Regarding Designation of Emission (Including Necessary Bandwidth and Classification), Class of Station and Nature of Service, published by Industry Canada                                        | October 9, 1982                                      |

## **10 Charts taken during testing**

# Radiated Emission Test (Restricted Bands) 75 kHz - 175 kHz acc. to FCC Part 15.205

|                                                                            |                                  |                                                                                                                                                                                                                                                                                                                |  |
|----------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Model:<br><b>Comfort Access System</b>                                     |                                  | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br>- with modulation<br><br>- operating in cabrio function mode<br><br>- EUT in vertical position<br><br>Referred test distance: 300 m<br>Measurement distance: 8.5 m<br>Extrapolation factor: -47.8 dB/dec<br>-----> Offset = -74 dB |  |
| Serial no.:<br><b>Sample no. D</b>                                         |                                  |                                                                                                                                                                                                                                                                                                                |  |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                           |                                  |                                                                                                                                                                                                                                                                                                                |  |
| Test site:<br><b>Semi anechoic room, cabin no. 3</b>                       |                                  |                                                                                                                                                                                                                                                                                                                |  |
| Tested on:<br><b>Test distance 300 meters (recorded in 8.5 m distance)</b> |                                  |                                                                                                                                                                                                                                                                                                                |  |
| Date of test:<br><b>06/30/2006</b>                                         | Operator:<br><b>R. Heller</b>    | Restricted band: 90 kHz - 110 kHz                                                                                                                                                                                                                                                                              |  |
| Test performed:<br><b>by hand</b>                                          | File name:<br><b>default.emi</b> |                                                                                                                                                                                                                                                                                                                |  |
| Detector:<br><b>Peak</b>                                                   |                                  | List of values:<br><b>Selected by hand</b>                                                                                                                                                                                                                                                                     |  |

| Frequency range  | Resolution bandwidth | Video bandwidth | Sweep time | Preselection | Preamplification | Correction factor |
|------------------|----------------------|-----------------|------------|--------------|------------------|-------------------|
| 75 kHz - 175 kHz | 0.3 kHz              | 1 kHz           | 1.15 s     | Off          | 0 dB             | HFH2-Z2           |



|                              |                                        |
|------------------------------|----------------------------------------|
| Result:<br><b>Limit kept</b> | Project file:<br><b>50217-060417-2</b> |
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Radiated Emission Test (Restricted Bands) 75 kHz - 175 kHz  
acc. to FCC Part 15.205

|                                                                     |                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model:<br>Comfort Access System                                     | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br>- with modulation<br><br>- operating in cabrio function mode<br><br>- EUT in vertical position<br><br>Referred test distance: 300 m<br>Measurement distance: 8.5 m<br>Extrapolation factor: -47.8 dB/dec<br>-----> Offset = -74 dB<br><br>Restricted band: 90 kHz - 110 kHz |
| Serial no.:<br>Sample no. D                                         |                                                                                                                                                                                                                                                                                                                                                         |
| Applicant:<br>Bayerische Motoren Werke AG                           |                                                                                                                                                                                                                                                                                                                                                         |
| Test site:<br>Semi anechoic room, cabin no. 3                       |                                                                                                                                                                                                                                                                                                                                                         |
| Tested on:<br>Test distance 300 meters (recorded in 8.5 m distance) |                                                                                                                                                                                                                                                                                                                                                         |
| Date of test:<br>06/30/2006                                         | Operator:<br>R. Heller                                                                                                                                                                                                                                                                                                                                  |
| Test performed:<br>by hand                                          | File name:<br>default.emi                                                                                                                                                                                                                                                                                                                               |

Detector:  
Peak

List of values:  
Selected by hand

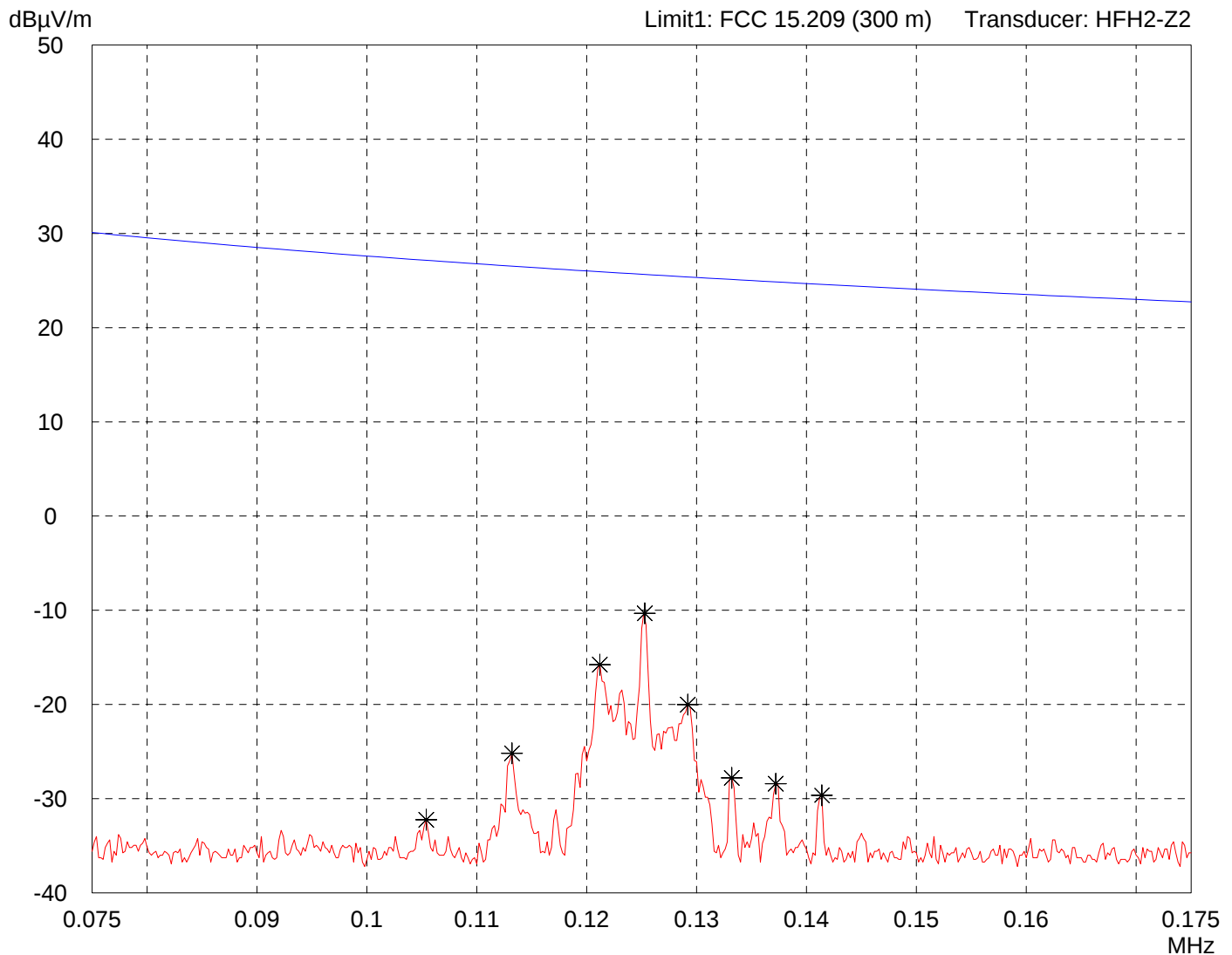
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|-----------------------|---------------------------------|---------------------|
| Result:<br>Limit kept | Project file:<br>50217-060417-2 | Page 46 of 56 Pages |
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# Radiated Emission Test (Restricted Bands) 75 kHz - 175 kHz acc. to FCC Part 15.205

|                                                                            |                                  |                                                                                                                                                                                                                                                                                                                                                  |  |
|----------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Model:<br><b>Comfort Access System</b>                                     |                                  | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br>- with modulation<br><br>- operating in access mode<br><br>- EUT in vertical position<br><br>Referred test distance: 300 m<br>Measurement distance: 8.5 m<br>Extrapolation factor: -48.2 dB/dec<br>-----> Offset = -74.6 dB<br><br>Restricted band: 90 kHz - 110 kHz |  |
| Serial no.:<br><b>Sample no. D</b>                                         |                                  |                                                                                                                                                                                                                                                                                                                                                  |  |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                           |                                  |                                                                                                                                                                                                                                                                                                                                                  |  |
| Test site:<br><b>Semi anechoic room, cabin no. 3</b>                       |                                  |                                                                                                                                                                                                                                                                                                                                                  |  |
| Tested on:<br><b>Test distance 300 meters (recorded in 8.5 m distance)</b> |                                  |                                                                                                                                                                                                                                                                                                                                                  |  |
| Date of test:<br><b>06/30/2006</b>                                         | Operator:<br><b>R. Heller</b>    |                                                                                                                                                                                                                                                                                                                                                  |  |
| Test performed:<br><b>by hand</b>                                          | File name:<br><b>default.emi</b> |                                                                                                                                                                                                                                                                                                                                                  |  |
| Detector:<br><b>Peak</b>                                                   |                                  | List of values:<br><b>Selected by hand</b>                                                                                                                                                                                                                                                                                                       |  |

| Frequency range  | Resolution bandwidth | Video bandwidth | Sweep time | Preselection | Preamplification | Correction factor |
|------------------|----------------------|-----------------|------------|--------------|------------------|-------------------|
| 75 kHz - 175 kHz | 0.3 kHz              | 1 kHz           | 1.15 s     | Off          | 0 dB             | HFH2-Z2           |



|                              |                                        |
|------------------------------|----------------------------------------|
| Result:<br><b>Limit kept</b> | Project file:<br><b>50217-060417-2</b> |
| Page 47 of 56 Pages          |                                        |

Radiated Emission Test (Restricted Bands) 75 kHz - 175 kHz  
acc. to FCC Part 15.205

|                                                                     |                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model:<br>Comfort Access System                                     | Comment:<br><br>- with supply voltage 14 V DC<br>- transmitting continuously<br>- with modulation<br><br>- operating in access mode<br><br>- EUT in vertical position<br><br>Referred test distance: 300 m<br>Measurement distance: 8.5 m<br>Extrapolation factor: -48.2 dB/dec<br>-----> Offset = -74.6 dB<br><br>Restricted band: 90 kHz - 110 kHz |
| Serial no.:<br>Sample no. D                                         |                                                                                                                                                                                                                                                                                                                                                      |
| Applicant:<br>Bayerische Motoren Werke AG                           |                                                                                                                                                                                                                                                                                                                                                      |
| Test site:<br>Semi anechoic room, cabin no. 3                       |                                                                                                                                                                                                                                                                                                                                                      |
| Tested on:<br>Test distance 300 meters (recorded in 8.5 m distance) |                                                                                                                                                                                                                                                                                                                                                      |
| Date of test:<br>06/30/2006         Operator:<br>R. Heller          |                                                                                                                                                                                                                                                                                                                                                      |
| Test performed:<br>by hand         File name:<br>default.emi        |                                                                                                                                                                                                                                                                                                                                                      |

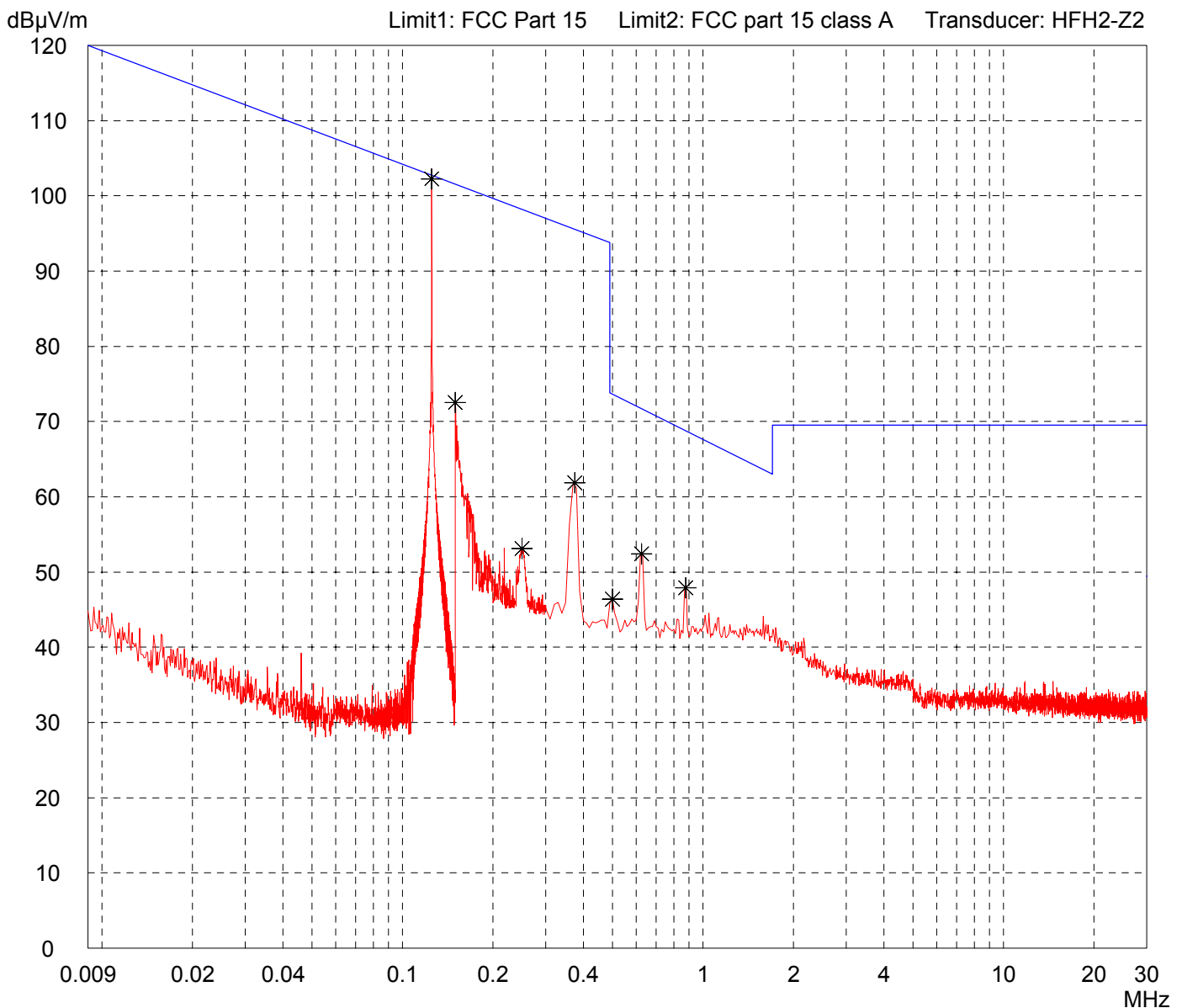
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|-------------------|-------------------------------------|
| Detector:<br>Peak | List of values:<br>Selected by hand |
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| Result:<br>Limit kept | Project file:<br>50217-060417-2 | Page 48 of 56 Pages |
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# Radiated Emission Test 9 kHz - 30 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                               |                           |                                                                                                                                                       |
|---------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model:<br>Comfort Access System                               |                           | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in cabrio function mode<br><br>- EUT in vertical position |
| Serial no.:<br>Sample no. A                                   |                           |                                                                                                                                                       |
| Applicant:<br>Bayerische Motoren Werke AG                     |                           |                                                                                                                                                       |
| Test site:<br>Fully anechoic room, cabin no. 2                |                           |                                                                                                                                                       |
| Tested on:<br>Test distance 3 metres<br>Vertical polarization |                           |                                                                                                                                                       |
| Date of test:<br>05/22/2006                                   | Operator:<br>R. Heller    | List of values:<br>Selected by hand                                                                                                                   |
| Test performed:<br>by hand                                    | File name:<br>default.emi |                                                                                                                                                       |
| Detector:<br>Peak                                             |                           |                                                                                                                                                       |



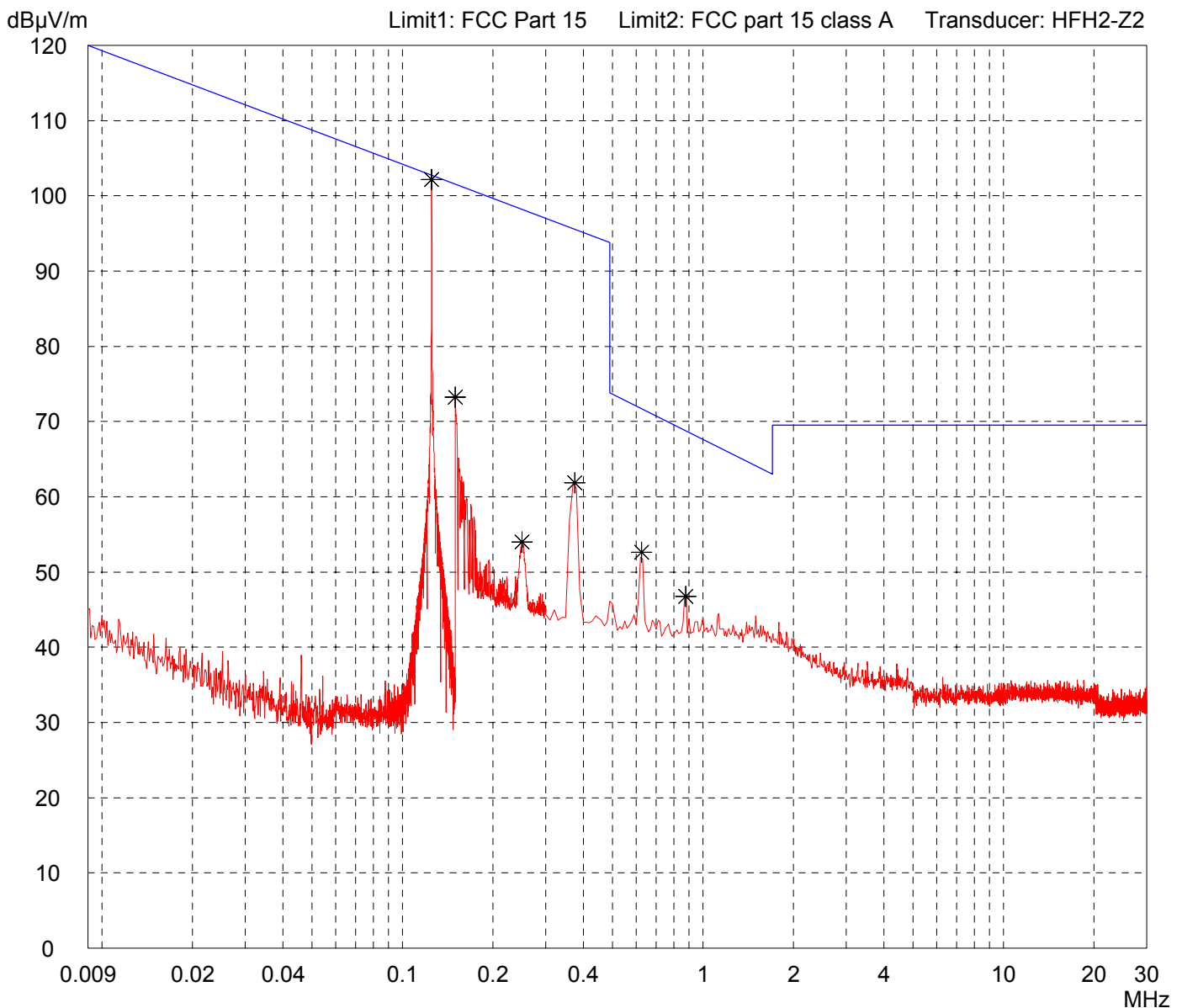
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|--------------------|--------------------------------|---------------------|
| Result:<br>Prescan | Project file:<br>50217-60417-2 | Page 49 of 56 Pages |
|--------------------|--------------------------------|---------------------|

# Radiated Emission Test 9 kHz - 30 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                                             |                                                                                                                                                         |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model:<br><b>Comfort Access System</b>                                      | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in cabrio function mode<br><br>- EUT in horizontal position |
| Serial no.:<br><b>Sample no. A</b>                                          |                                                                                                                                                         |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                            |                                                                                                                                                         |
| Test site:<br><b>Fully anechoic room, cabin no. 2</b>                       |                                                                                                                                                         |
| Tested on:<br><b>Test distance 3 metres</b><br><b>Vertical polarization</b> |                                                                                                                                                         |
| Date of test:<br><b>05/22/2006</b>                                          | Operator:<br><b>R. Heller</b>                                                                                                                           |
| Test performed:<br><b>by hand</b>                                           | File name:<br><b>default.emi</b>                                                                                                                        |

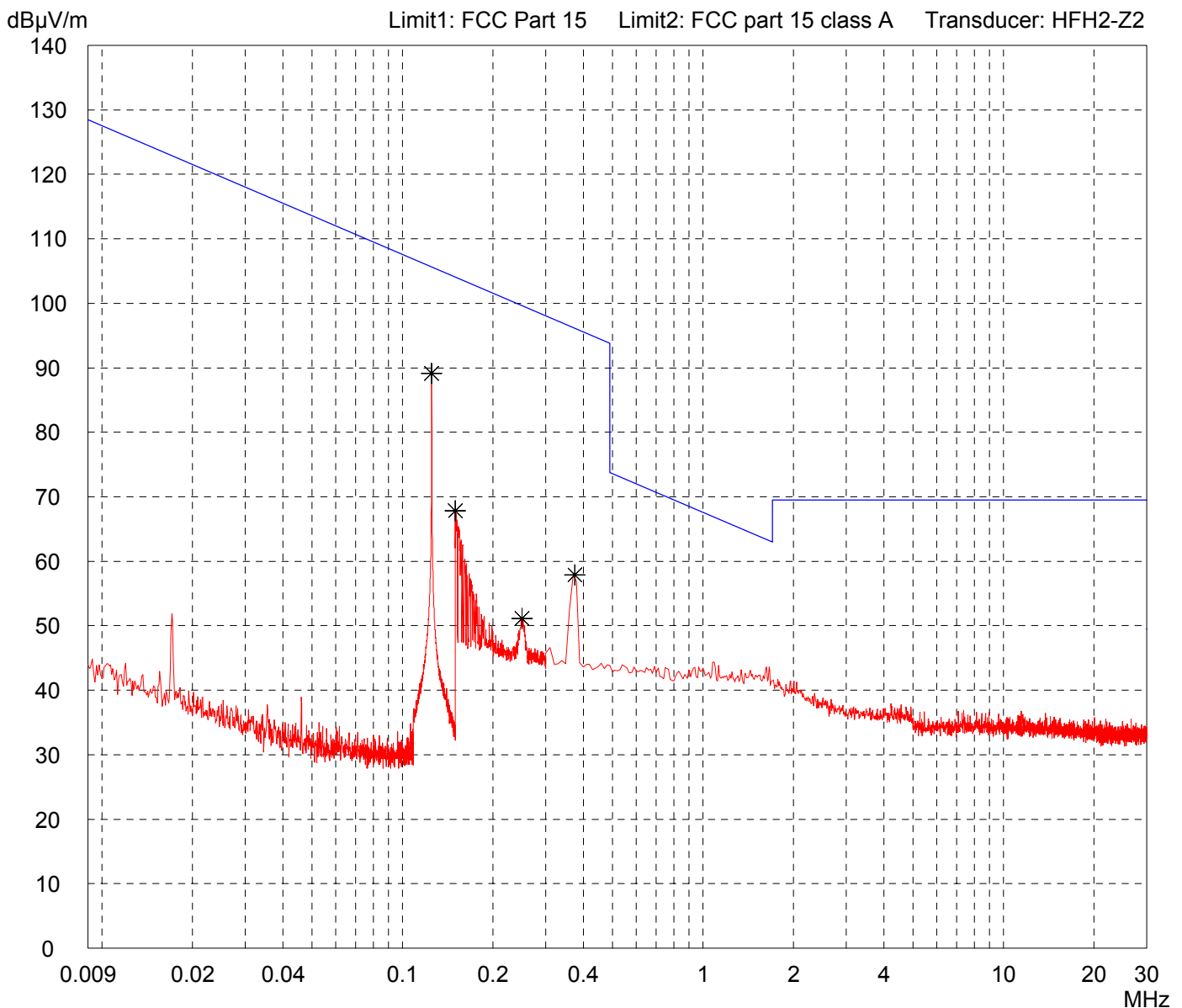
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|--------------------------|--------------------------------------------|
| Detector:<br><b>Peak</b> | List of values:<br><b>Selected by hand</b> |
|--------------------------|--------------------------------------------|



|                           |                                       |
|---------------------------|---------------------------------------|
| Result:<br><b>Prescan</b> | Project file:<br><b>50217-60417-2</b> |
|                           | Page 50 of 56 Pages                   |

# Radiated Emission Test 9 kHz - 30 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                               |                           |                                                                                                                                                      |
|---------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model:<br>Comfort Access System                               |                           | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in access control mode<br><br>- EUT in vertical position |
| Serial no.:<br>Sample no. A                                   |                           |                                                                                                                                                      |
| Applicant:<br>Bayerische Motoren Werke AG                     |                           |                                                                                                                                                      |
| Test site:<br>Fully anechoic room, cabin no. 2                |                           |                                                                                                                                                      |
| Tested on:<br>Test distance 3 metres<br>Vertical polarization |                           |                                                                                                                                                      |
| Date of test:<br>05/22/2006                                   | Operator:<br>R. Heller    | List of values:<br>Selected by hand                                                                                                                  |
| Test performed:<br>by hand                                    | File name:<br>default.emi |                                                                                                                                                      |
| Detector:<br>Peak                                             |                           |                                                                                                                                                      |



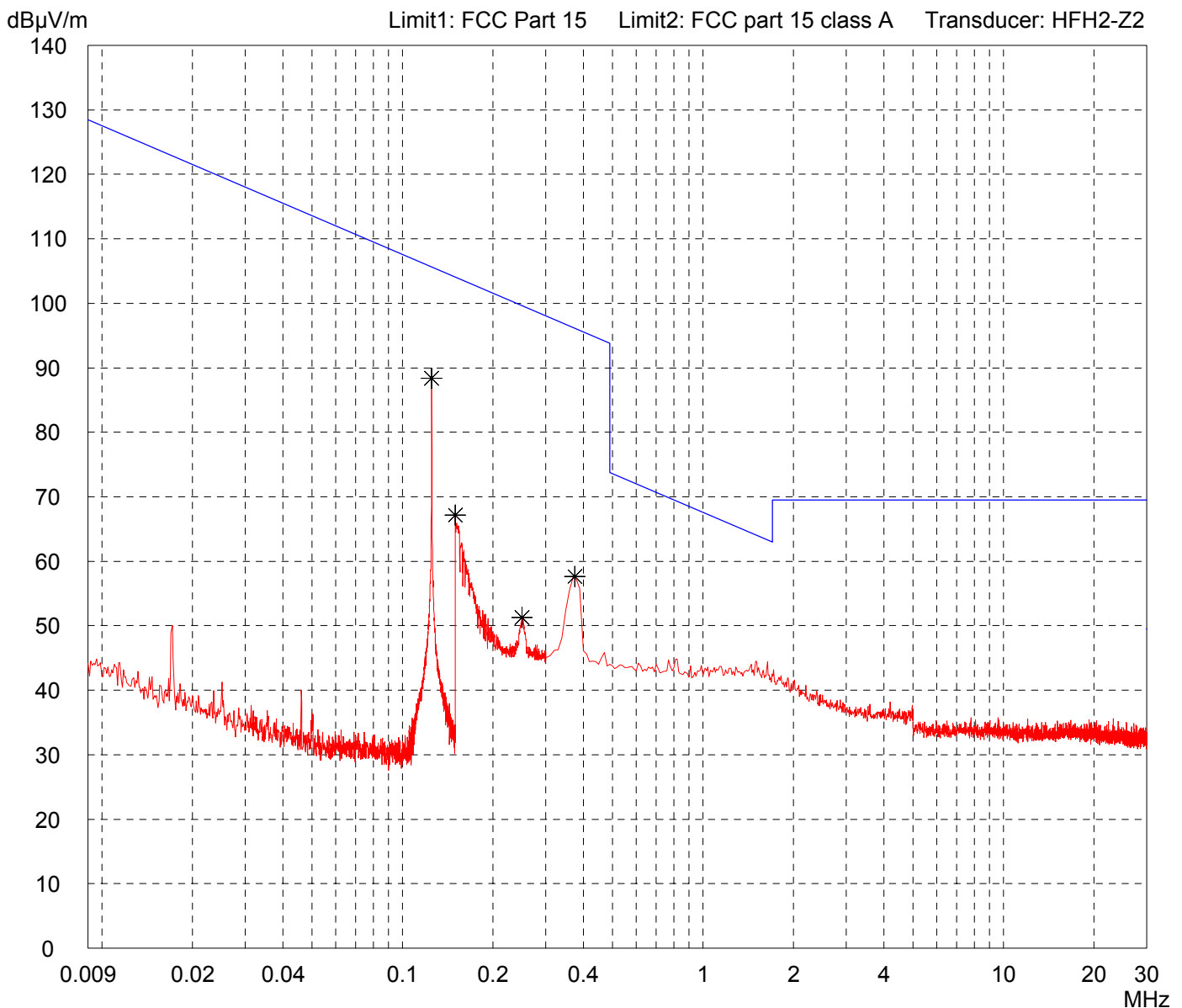
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| Result:<br>Prescan | Project file:<br>50217-60417-2 | Page 51 of 56 Pages |
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# Radiated Emission Test 9 kHz - 30 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                                             |                                                                                                                                                        |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model:<br><b>Comfort Access System</b>                                      | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in access control mode<br><br>- EUT in horizontal position |
| Serial no.:<br><b>Sample no. A</b>                                          |                                                                                                                                                        |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                            |                                                                                                                                                        |
| Test site:<br><b>Fully anechoic room, cabin no. 2</b>                       |                                                                                                                                                        |
| Tested on:<br><b>Test distance 3 metres</b><br><b>Vertical polarization</b> |                                                                                                                                                        |
| Date of test:<br><b>05/22/2006</b>                                          | Operator:<br><b>R. Heller</b>                                                                                                                          |
| Test performed:<br><b>by hand</b>                                           | File name:<br><b>default.emi</b>                                                                                                                       |

|                          |                                            |
|--------------------------|--------------------------------------------|
| Detector:<br><b>Peak</b> | List of values:<br><b>Selected by hand</b> |
|--------------------------|--------------------------------------------|



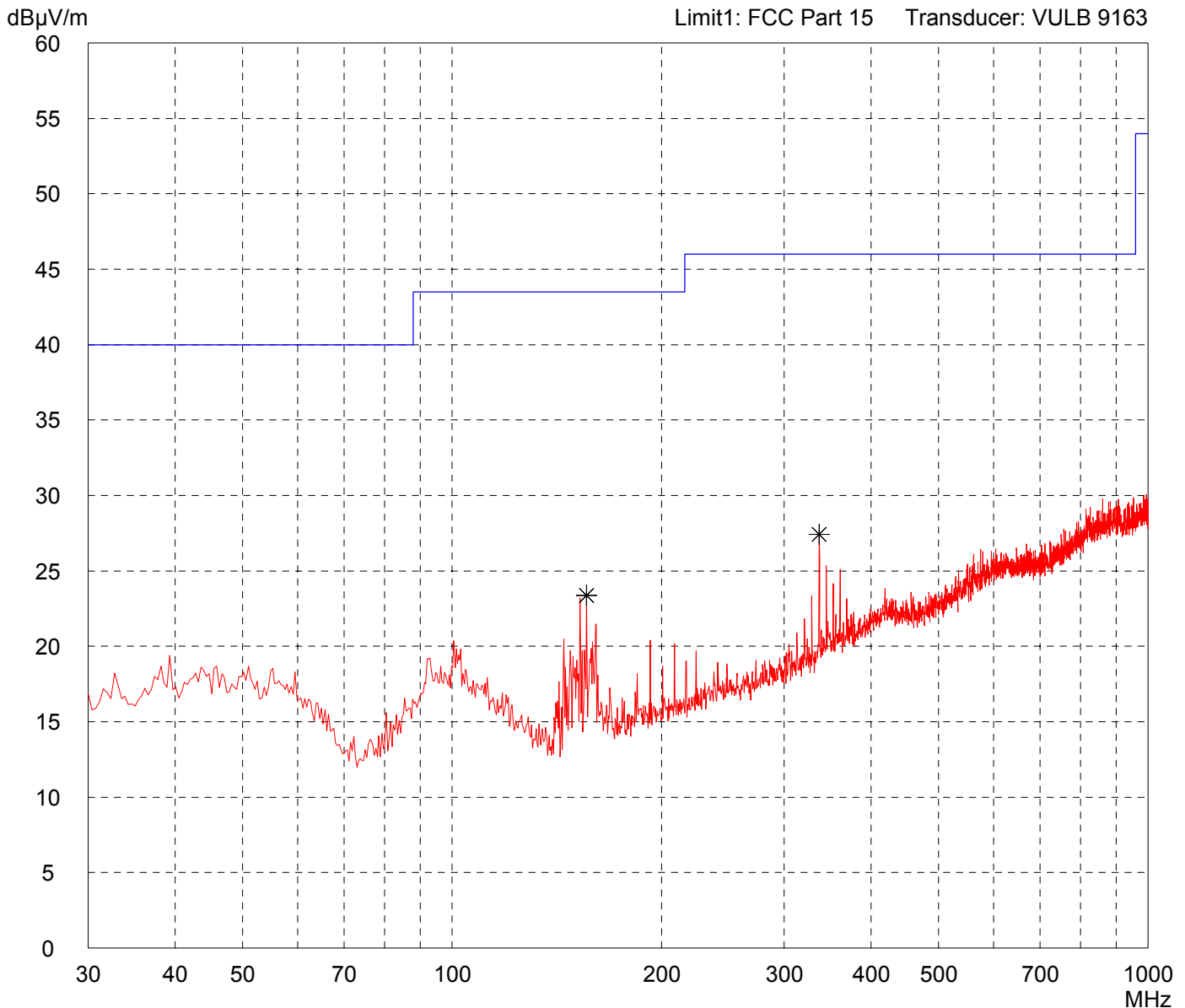
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| Result:<br><b>Prescan</b> | Project file:<br><b>50217-60417-2</b> |
| Page 52 of 56 Pages       |                                       |

# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                                         |                                                                                                                     |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Model:<br><b>Comfort Access System</b>                                  | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in cabrio function mode |
| Serial no.:<br><b>Sample no. A</b>                                      |                                                                                                                     |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                        |                                                                                                                     |
| Test site:<br><b>Fully anechoic room, cabin no. 2</b>                   |                                                                                                                     |
| Tested on:<br><b>Test distance 3 metres<br/>Horizontal Polarization</b> |                                                                                                                     |
| Date of test:<br><b>05/15/2006</b>                                      | Operator:<br><b>R. Heller</b>                                                                                       |
| Test performed:<br><b>automatically</b>                                 | File name:<br><b>default.emi</b>                                                                                    |

|                          |                                            |
|--------------------------|--------------------------------------------|
| Detector:<br><b>Peak</b> | List of values:<br><b>Selected by hand</b> |
|--------------------------|--------------------------------------------|



|                           |                                       |
|---------------------------|---------------------------------------|
| Result:<br><b>Prescan</b> | Project file:<br><b>50217-60417-2</b> |
|---------------------------|---------------------------------------|

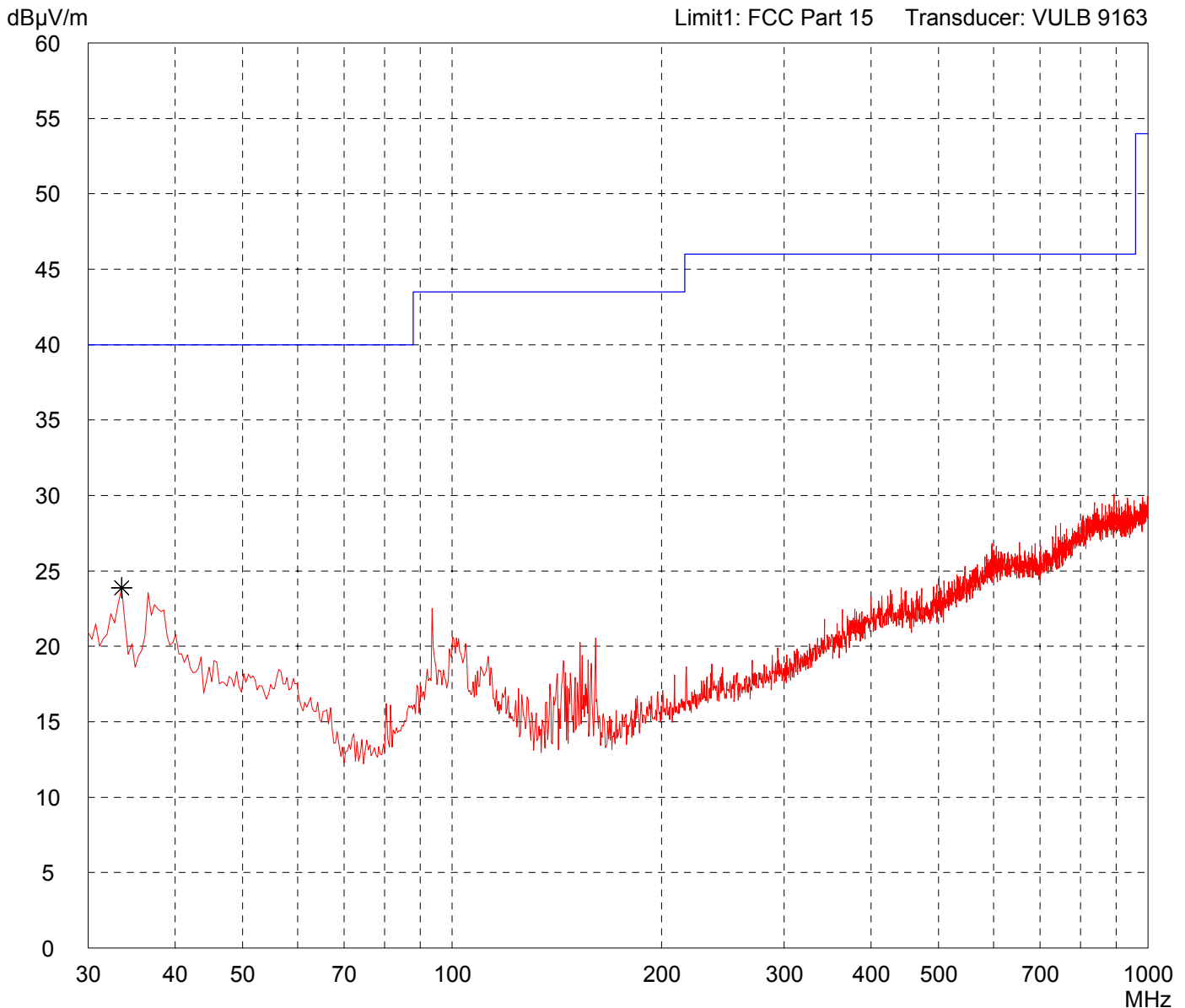
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# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                                       |                                                                                                                     |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Model:<br><b>Comfort Access System</b>                                | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in cabrio function mode |
| Serial no.:<br><b>Sample no. A</b>                                    |                                                                                                                     |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                      |                                                                                                                     |
| Test site:<br><b>Fully anechoic room, cabin no. 2</b>                 |                                                                                                                     |
| Tested on:<br><b>Test distance 3 metres<br/>Vertical Polarization</b> |                                                                                                                     |
| Date of test:<br><b>05/15/2006</b>                                    | Operator:<br><b>R. Heller</b>                                                                                       |
| Test performed:<br><b>automatically</b>                               | File name:<br><b>default.emi</b>                                                                                    |

|                          |                                            |
|--------------------------|--------------------------------------------|
| Detector:<br><b>Peak</b> | List of values:<br><b>Selected by hand</b> |
|--------------------------|--------------------------------------------|



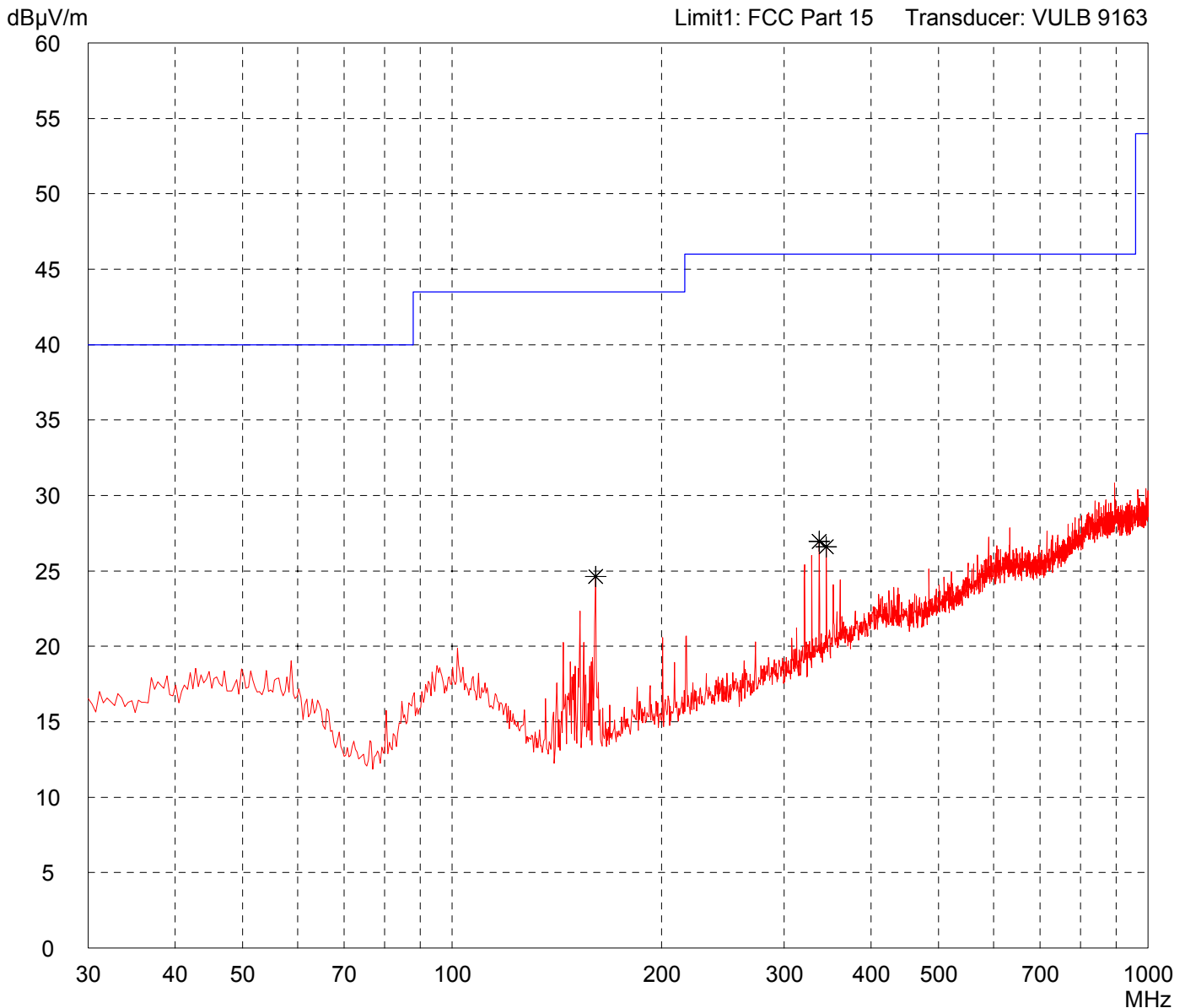
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|---------------------------|---------------------------------------|
| Result:<br><b>Prescan</b> | Project file:<br><b>50217-60417-2</b> |
|                           | Page 54 of 56 Pages                   |

# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                                         |                                                                                                                    |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Model:<br><b>Comfort Access System</b>                                  | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in access control mode |
| Serial no.:<br><b>Sample no. A</b>                                      |                                                                                                                    |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                        |                                                                                                                    |
| Test site:<br><b>Fully anechoic room, cabin no. 2</b>                   |                                                                                                                    |
| Tested on:<br><b>Test distance 3 metres<br/>Horizontal Polarization</b> |                                                                                                                    |
| Date of test:<br><b>05/15/2006</b>                                      | Operator:<br><b>R. Heller</b>                                                                                      |
| Test performed:<br><b>automatically</b>                                 | File name:<br><b>default.emi</b>                                                                                   |

|                          |                                            |
|--------------------------|--------------------------------------------|
| Detector:<br><b>Peak</b> | List of values:<br><b>Selected by hand</b> |
|--------------------------|--------------------------------------------|



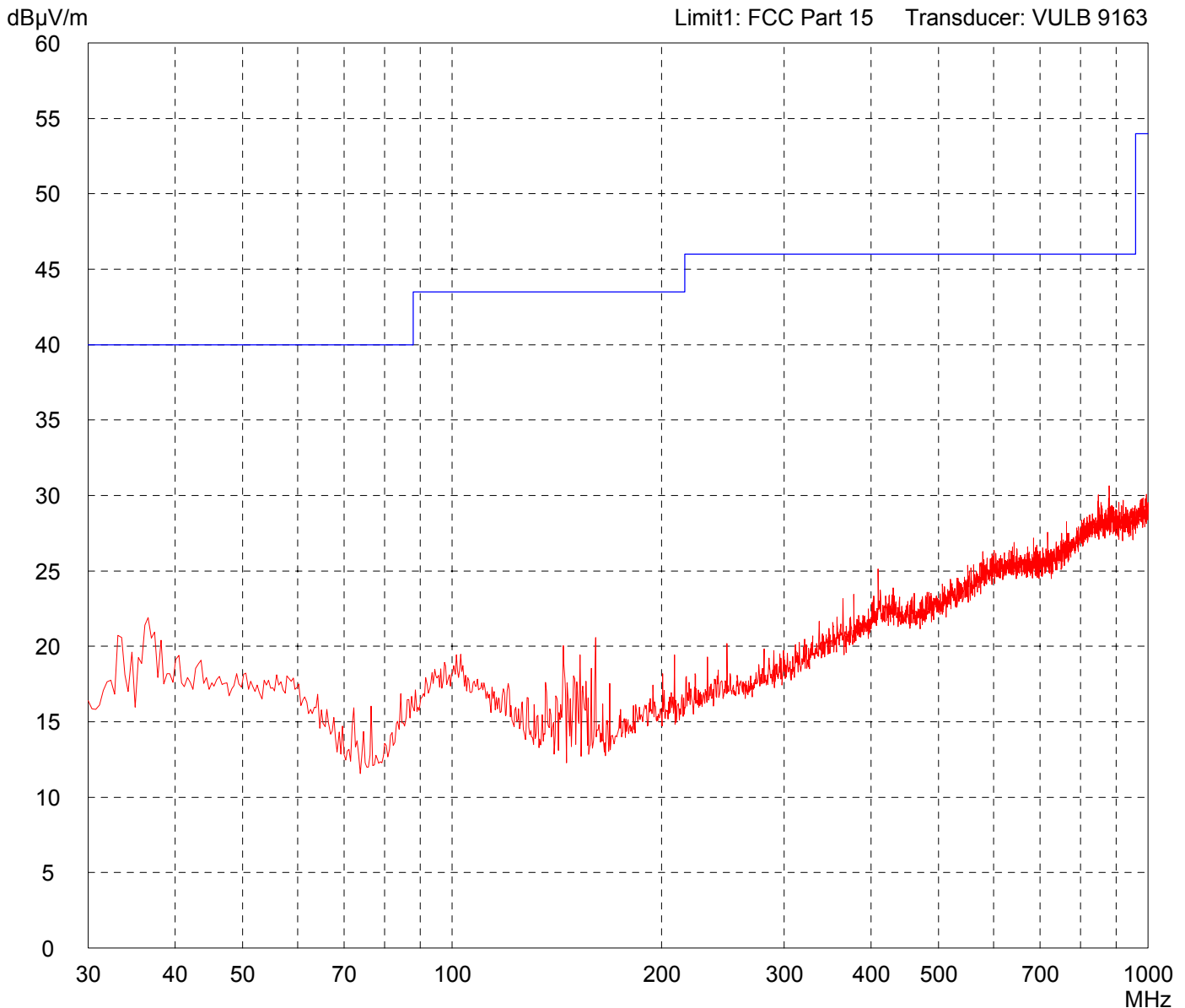
|                           |                                       |
|---------------------------|---------------------------------------|
| Result:<br><b>Prescan</b> | Project file:<br><b>50217-60417-2</b> |
|                           | Page 55 of 56 Pages                   |

# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

|                                                                       |                                                                                                                    |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Model:<br><b>Comfort Access System</b>                                | Comment:<br>- with supply voltage 14 V DC<br>- transmitting continuously<br><br>- operating in access control mode |
| Serial no.:<br><b>Sample no. A</b>                                    |                                                                                                                    |
| Applicant:<br><b>Bayerische Motoren Werke AG</b>                      |                                                                                                                    |
| Test site:<br><b>Fully anechoic room, cabin no. 2</b>                 |                                                                                                                    |
| Tested on:<br><b>Test distance 3 metres<br/>Vertical Polarization</b> |                                                                                                                    |
| Date of test:<br><b>05/15/2006</b>                                    | Operator:<br><b>R. Heller</b>                                                                                      |
| Test performed:<br><b>automatically</b>                               | File name:<br><b>default.emi</b>                                                                                   |

|                          |                                        |
|--------------------------|----------------------------------------|
| Detector:<br><b>Peak</b> | List of values:<br><b>10 dB Margin</b> |
|                          | <b>50 Subranges</b>                    |



|                           |                                       |
|---------------------------|---------------------------------------|
| Result:<br><b>Prescan</b> | Project file:<br><b>50217-60417-2</b> |
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