

Recognized by the  
Federal Communications Commission  
**Anechoic chamber registration no.: 90462 (FCC)**  
**Anechoic chamber registration no.: 3463 (IC)**  
TCB ID: DE 0001



Accredited by the  
German Accreditation Council  
DAR-Registration Number  
DAT-P-176/94-D1



Independent ETSI  
compliance test house



## Accredited Bluetooth<sup>®</sup> Test Facility (BQTF)

|                             |                                               |
|-----------------------------|-----------------------------------------------|
| <b>Test report no.</b>      | <b>: 2-4288-01-01/06</b>                      |
| <b>Applicant</b>            | <b>: Hörmann KG</b><br><b>Antriebstechnik</b> |
| <b>Type</b>                 | <b>: FCT-3b-315 MHz</b>                       |
| <b>Test Standard</b>        | <b>: FCC Part 15 / RSS210</b>                 |
| <b>FCC ID</b>               | <b>: PZI-315FCT3B</b>                         |
| <b>Certification No. IC</b> | <b>: 4205A-315FCT3B</b>                       |

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## 1 General information

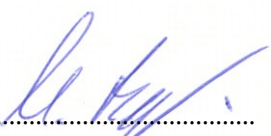
### 1.1 Administrative data of the test facility

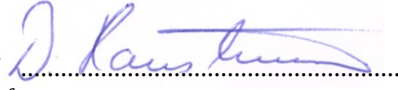
#### 1.1.1 Identification of the testing laboratory

|                                     |                                                                                                                                       |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Company name:                       | Cetecom ICT Services GmbH                                                                                                             |
| Address:                            | Untertürkheimerstr. 6-10<br>D-66117 Saarbruecken<br>Germany                                                                           |
| Laboratory accreditation:           | DAR-Registration No. DAT-P-176/94-D1<br>Bluetooth Qualification Test Facility (BQTF)<br>Federal Communications Commission (FCC)       |
| Responsible for testing laboratory: | Identification/Registration No : 90462<br>Michael Berg<br>Phone: +49 681 598 0<br>Fax: +49 681 598 9075<br>email: info@ict.cetecom.de |

### 1.2 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

 /   
.....  
Responsible for testing laboratory  
(Michael Berg / Dirk Hausknecht)

 /   
.....  
Responsible for test report  
(Michael Berg / Dirk Hausknecht)

## 1.3 Details of Applicant

Name : Hörmann KG Antriebstechnik  
Address : Michaelisstr. 1  
City : D-33803 Steinhagen  
Country : Germany  
Phone : +49 (0) 5204 9 22-0  
Fax : +49 (0) 5204 9 22 1 20  
Contact : Mr. Franz Ziesché  
Phone : +49(0)5204-922-341  
Fax : +49(0)5204-922-340  
e-mail : f.ziesche.ast@hoermann.de

## 1.4 Application Details

Date of receipt of application : 2006-04-13  
Date of receipt of test item : 2006-04-21  
Date(s) of test : 2006-04-21  
Date of report : 2006-04-21

## 1.5 Test Item

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

|                                                  |                                                  |
|--------------------------------------------------|--------------------------------------------------|
| Company Number:                                  | 4205A                                            |
| Type of equipment                                | : Remote control                                 |
| Model name                                       | : Tx: FCT-3b-315 MHz                             |
| Manufacturer                                     | : Geba Handels- und Entwicklungsgesellschaft mbH |
| Address                                          | : Wecostraße 7-11                                |
| City                                             | : D-53783 Eitorf                                 |
| Country                                          | : Germany                                        |
| Tested to Radio Standards Specification(RSS) No. | : 210 ISSUE 6                                    |
| Open Area Test Site Industry Canada Number       | : 3463                                           |
| Frequency Range (or fixed frequency)             | : 315 MHz                                        |
| R F: Power in Watts                              | : -/-                                            |
| Field Strength (at what distance)                | : 67.78dBµV/m AV @ 3m                            |
| Antenna Information                              | : Tx: Print antenna                              |
|                                                  | -                                                |
| Occupied Bandwidth (99% BW) [kHz]:               | 10.02 kHz                                        |
| Emission Designator(TRC-43)                      | : 10K1A1D                                        |
| Transmitter Spurious (worst case)                | : 120.22 µV/m in 3m                              |
| Receiver Spurious (worst case)                   | : -/-                                            |
| IC no.                                           | : 4205A-315FCT3B                                 |
| FCC ID                                           | : PZI-315FCT3B                                   |

### ATTESTATION:

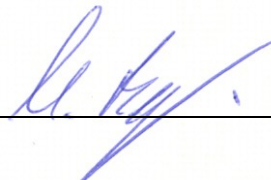
**DECLARATION OF COMPLIANCE:** I declare that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned Industry Canada standard(s); and that the equipment identified in this application has been subjected to all the applicable test conditions specified in the Industry Canada standards and all of the requirements of the standard have been met.

### Laboratory Manager :

2006-04-21  
Date

Michael Berg  
Name

Signature



## 1.6 Test Setup

FCT-3B-315 MHz with test modulation (continuous modulation) for all radiated tests  
FCT-3B-315 MHz with normal modulation for timing measurements

## 1.7 Test Specifications

|             |                         |
|-------------|-------------------------|
| <b>FCC:</b> | <b>CFR Part 15.231</b>  |
| <b>IC:</b>  | <b>RSS 210, ISSUE 6</b> |

## 2 Statement of Compliance

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

### 2.1 Summary of Measurement Results

#### 2.1.1 CFR 47 Part 15 Radio frequency devices

| Section in this Report | Test Name / Section FCC Part 15                                                             | Test Name / Section RSS 210<br>ISSUE 6                       | applicable | Verdict |
|------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------|---------|
| 4.1                    | § 15.35 (c)<br>Timing of the transmitter (Duty cycle correction factor )<br>§15.231 (a) (1) | 6.5 Pulsed Operation<br>6.1.1 (a) Types of Momentary Signals | YES        | PASS    |
| 4.2                    | § 15.231 (b)<br>FIELDSTRENGTH OF<br>FUNDAMENTAL                                             | 6.1.1 (b) Permissible Field Strengths (Momentary Operation)  | YES        | PASS    |
| 4.3                    | § 15.209 (a) (d) / § 15.231(b)<br>FIELDSTRENGTH OF<br>HARMONICS and SPURIOUS                | 6.1.1 (b) Permissible Field Strengths (Momentary Operation)  | YES        | PASS    |
| 4.5                    | §15.231 (c) 20 dB Bandwidth                                                                 | 6.1.1 (c) Bandwidth of Momentary Signals                     | YES        | PASS    |
| 4.6                    | § 15.109<br>Receiver spurious emissions (radiated)                                          | 7.3 Receiver Spurious Emissions (Radiated)                   | NO         |         |
| 4.7                    | § 15.107 / 15.207 Conducted Limits                                                          | Section 6.6 , 7.4                                            | NO         |         |
|                        |                                                                                             |                                                              |            |         |
|                        |                                                                                             |                                                              |            |         |
|                        |                                                                                             |                                                              |            |         |

### 3 Measurements and results

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 4 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber.

The receiving antennas are conform with specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test set-ups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received.

The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.4-2003 clause 4.2.

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

9 kHz – 150 kHz: Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.

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

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

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

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

All measurement settings are according to FCC 15.231 and 15.209

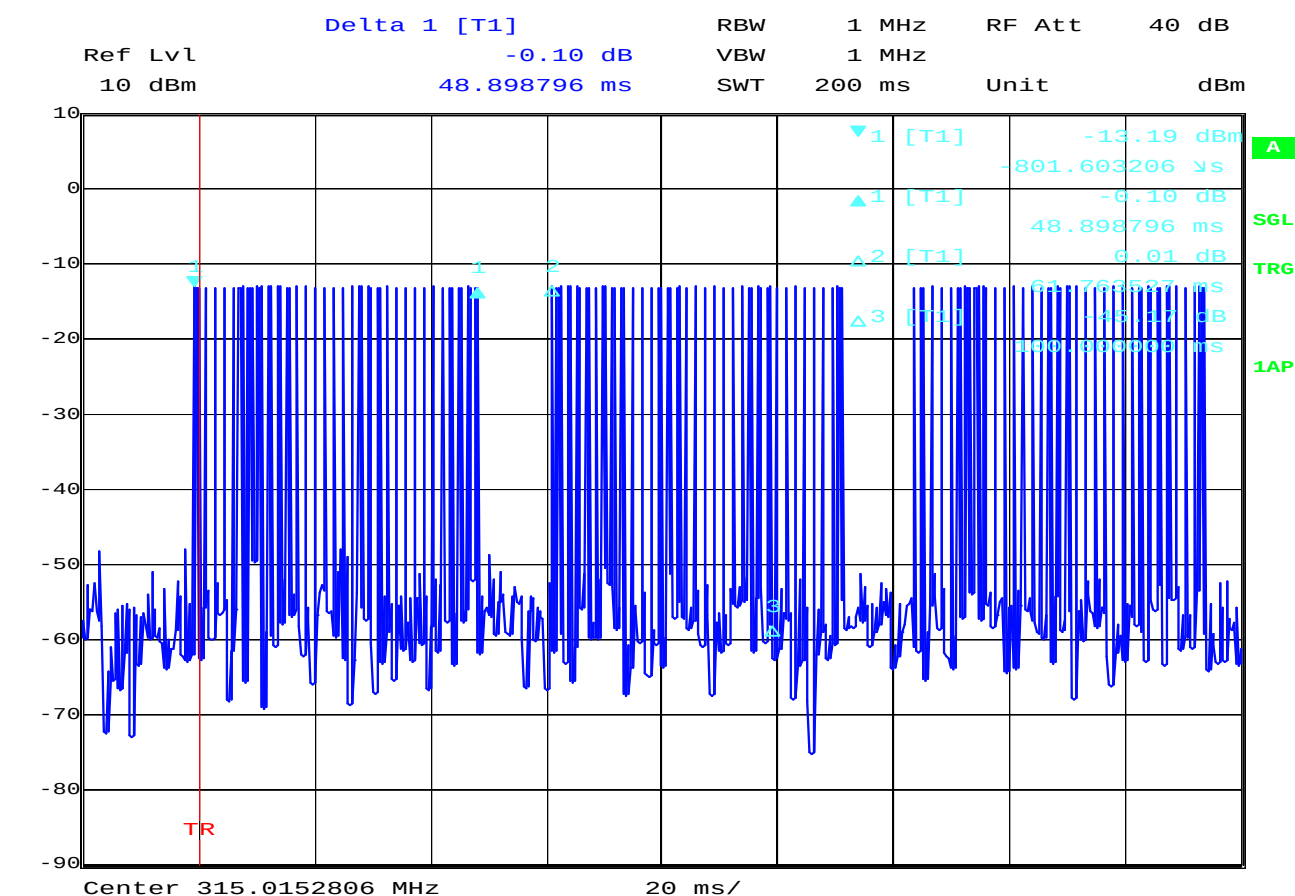


## 4 FCC Part 15 Subpart C

### 4.1 Timing of the transmitter

#### Reference

|      |                                       |
|------|---------------------------------------|
| FCC: | CFR Part SUBCLAUSE § 15.35 (c)        |
| IC:  | RSS 210, ISSUE 6 6.5 Pulsed operation |



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**Tx on = 48.9 ms + 38.25 ms in 100 ms ; Tx off = 12.9 ms in 100 ms ; on-time from 50 % inside the data packet !**  
**Duty cycle correction factor =  $20 \log t_{on} / 100 \text{ ms} = 87.1 \text{ ms} \times 50\% / 100 \text{ ms} = -7.22 \text{ dB}$**

**Limits:** § 15.35 (c)

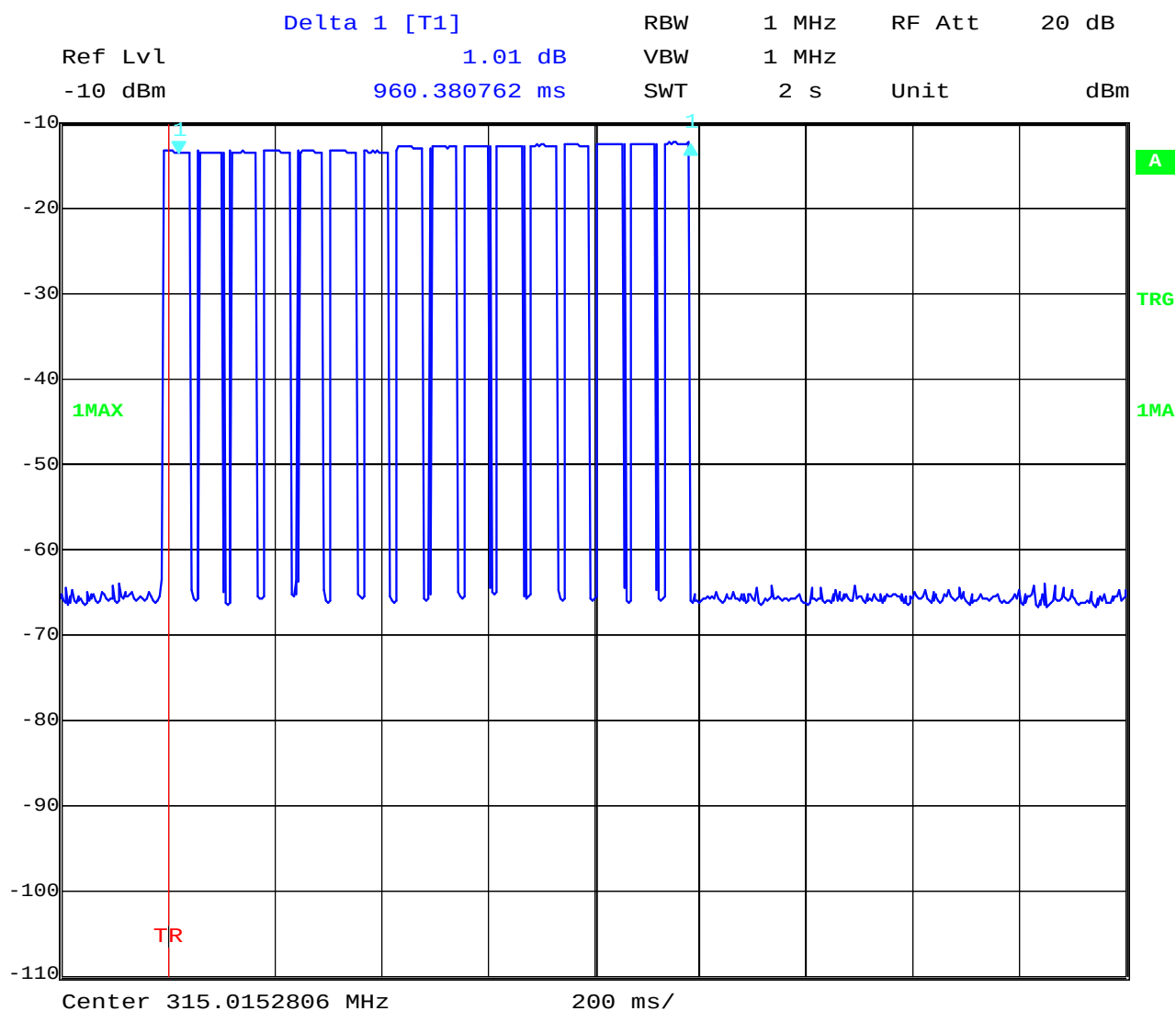
(c) Unless otherwise specified, e.g. Section 15.255(b), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED :  
 ( see test equipment listing)

## Periodic operation in the band 40.66 - 40.70 MHz and above 70 MHz.

### Reference

|      |                                                     |
|------|-----------------------------------------------------|
| FCC: | CFR Part SUBCLAUSE § 15.231 (a) (1)                 |
| IC:  | RSS 210, ISSUE 6 1.1 (a) Types of Momentary Signals |



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960.4 ms after releasing the button , the transmitters stopped.

### Limits: § 15.231 (a) (1)

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED :  
( see test equipment listing)

## 4.2 Field strength of the fundamental

### Reference

|      |                                                                               |
|------|-------------------------------------------------------------------------------|
| FCC: | CFR Part SUBCLAUSE § 15.209 (a)                                               |
| IC:  | RSS 210, ISSUE 6, 6.1.1 (b) Permissible Field Strengths (Momentary Operation) |

### Maximum output power (average) - (radiated)

| TEST CONDITIONS                              |                                 | MAXIMUM POWER ( $\mu\text{V/m}$ )               |                              |                                                  |
|----------------------------------------------|---------------------------------|-------------------------------------------------|------------------------------|--------------------------------------------------|
|                                              |                                 | Peak                                            | Duty cycle correction factor | Average                                          |
| $T_{\text{nom}} +23\text{ }^{\circ}\text{C}$ | $V_{\text{nom}} 9.0\text{V DC}$ | 5623.4 $\mu\text{V}$<br>75.0 dB $\mu\text{V/m}$ | -7.22 dB                     | 2449.1 $\mu\text{V}$<br>67.78 dB $\mu\text{V/m}$ |
| Final Result                                 |                                 | PASS                                            |                              |                                                  |
| Measurement uncertainty                      |                                 | $\pm 3\text{dB}$                                |                              |                                                  |

RBW/VBW : 1 MHz

### Limits

### SUBCLAUSE § 15.231 (b)

In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the following:

| Fundamental Frequency (MHz) | Field Strength of Fundamental (microvolts/meter) | Field Strength of Spurious Emissions (microvolts/meter) |
|-----------------------------|--------------------------------------------------|---------------------------------------------------------|
| 40.66 - 40.70               | 2,250                                            | 225                                                     |
| 70 - 130                    | 1,250                                            | 125                                                     |
| 130 - 174                   | 1,250 to 3,750 **                                | 125 to 375 **                                           |
| 174 - 260                   | 3,750                                            | 375                                                     |
| 260 - 470                   | 3,750 to 12,500 **                               | 375 to 1,250 **                                         |
| Above 470                   | 12,500                                           | 1,250                                                   |

\*\* linear interpolations

[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz,  $\mu\text{V/m}$  at 3 meters =  $56.81818(F) - 6136.3636$ ; for the band 260-470 MHz,  $\mu\text{V/m}$  at 3 meters =  $41.6667(F) - 7083.3333$ . The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

**Limit 315 MHz = 6041.6772  $\mu\text{V/m}$  or 75.62 dB $\mu\text{V/m}$  Average**

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED :  
( see test equipment listing)

## 4.3 Field strength of the harmonics and the spurious

### 4.3.1 Harmonics and Spurious

#### Reference

|      |                                                                               |
|------|-------------------------------------------------------------------------------|
| FCC: | CFR Part SUBCLAUSE § 15.231 (b)                                               |
| IC:  | RSS 210, ISSUE 6, 6.1.1 (b) Permissible Field Strengths (Momentary Operation) |

### 315 MHz

| EMISSION LIMITATIONS (Harmonics) |  |                                                    |                                                      |                                                                  |                        |
|----------------------------------|--|----------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------|------------------------|
| f<br>(MHz)                       |  | amplitude of<br>emission<br>(dBμV/m)<br>Average/QP | limit<br>max. allowed<br>emmission power<br>(dBμV/m) | actual<br>attenuation<br>below frequency<br>of operation<br>(dB) | results                |
| 315                              |  | 67.8 AV                                            | 75.6                                                 |                                                                  | Operating<br>frequency |
| 630                              |  | -                                                  |                                                      |                                                                  |                        |
| 945                              |  | -                                                  |                                                      |                                                                  |                        |
| 1260                             |  | 33.2 AV                                            | 55.6                                                 | 34.6                                                             | pass                   |
| 1575                             |  | 31.4 AV                                            | 54*                                                  | 36.4                                                             | pass                   |
| 1890                             |  | 32.1 AV                                            | 55.6                                                 | 35.7                                                             | pass                   |
| 2205                             |  | 34.4 AV                                            | 55.6                                                 | 33.7                                                             | pass                   |
| 2520                             |  | -                                                  |                                                      |                                                                  |                        |
| 2835                             |  | -                                                  |                                                      |                                                                  |                        |
| 3150                             |  | -                                                  |                                                      |                                                                  |                        |
| Measurement uncertainty          |  |                                                    | ± 3dB                                                |                                                                  |                        |

<1 GHz RBW/VBW 100 KHz

>1GHz: Average, RBW 1MHz, VBW 1 MHz

\*Restricted Band

### Limits

### SUBCLAUSE § 15.231 (b)

| Fundamental<br>Frequency<br>(MHz) | Field Strength of<br>Fundamental<br>(microvolts/meter) | Field Strength of<br>Spurious Emissions<br>(microvolts/meter) |
|-----------------------------------|--------------------------------------------------------|---------------------------------------------------------------|
| 40.66 - 40.70                     | 2,250                                                  | 225                                                           |
| 70 - 130                          | 1,250                                                  | 125                                                           |
| 130 - 174                         | 1,250 to 3,750 **                                      | 125 to 375 **                                                 |
| 174 - 260                         | 3,750                                                  | 375                                                           |
| 260 - 470                         | 3,750 to 12,500 **                                     | 375 to 1,250 **                                               |
| Above 470                         | 12,500                                                 | 1,250                                                         |

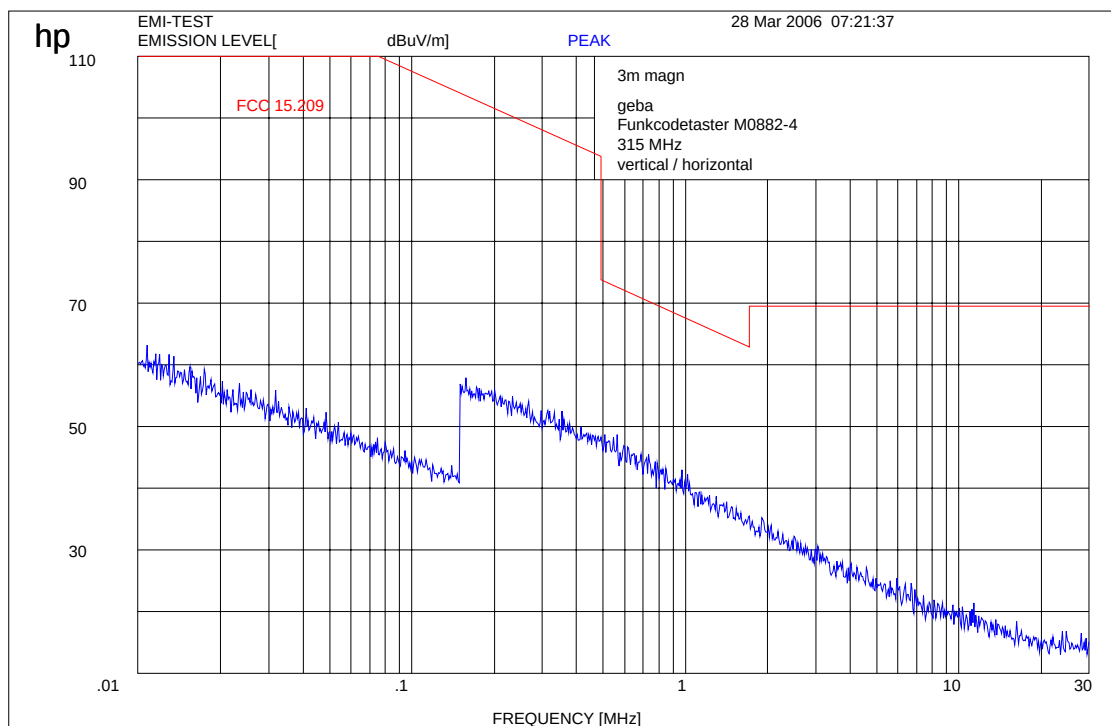
\*\* linear interpolations

Limit: 55.6 dBμV/m or 602.56 μV/m

## 4.4 Plots of measurements

Plot 1:

**Part 15.209 Magnetics TX (Plot is valid for all channels)**



**(to convert the measuring distance from 3m to 30m and 30 to 300m a correction factor from 40 dB/decade was used.)**

Measurement distance 3m

This measurement was done in 3 polarisation's, the plot shows the worst case

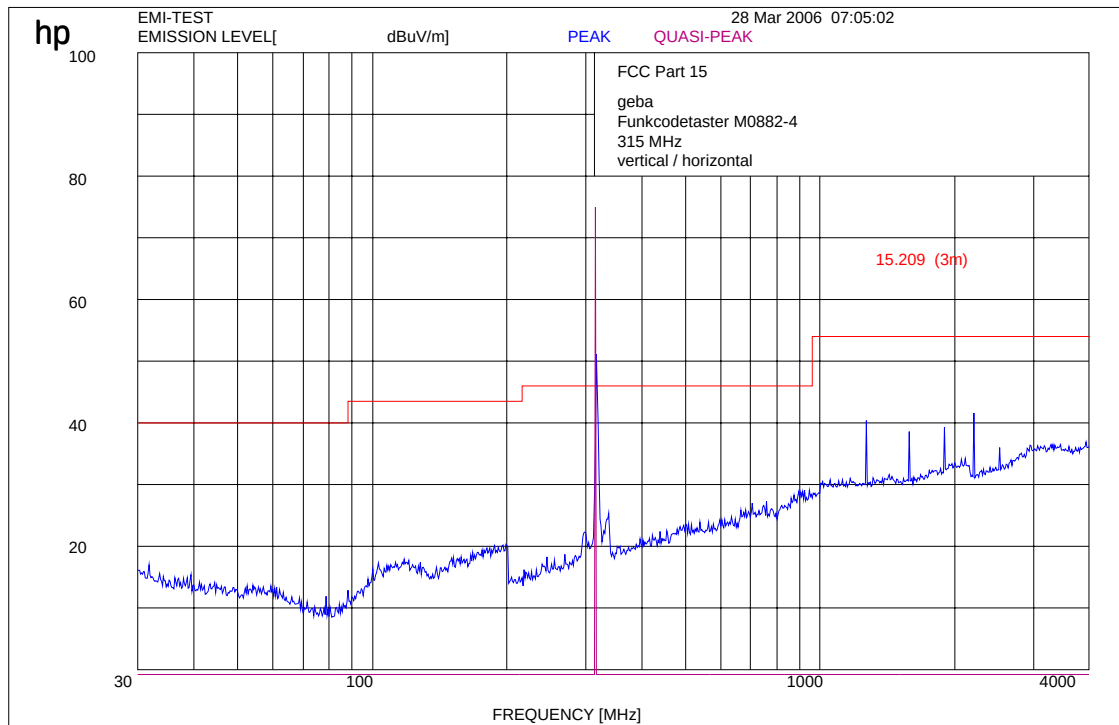
### Limits

### SUBCLAUSE § 15.209

| Frequency (MHz) | Field strength (µV/m) | Measurement distance (m) |
|-----------------|-----------------------|--------------------------|
| 0.0009 – 0.490  | 2400/F(kHz)           | 300                      |
| 0.490 – 1.705   | 24000/F(kHz)          | 30                       |
| 1.705 - 30      | 30                    | 30                       |
| 30 - 88         | 100                   | 3                        |
| 88 - 216        | 150                   | 3                        |
| 216 - 960       | 200                   | 3                        |
| above 960       | 500                   | 3                        |

Plot 2:

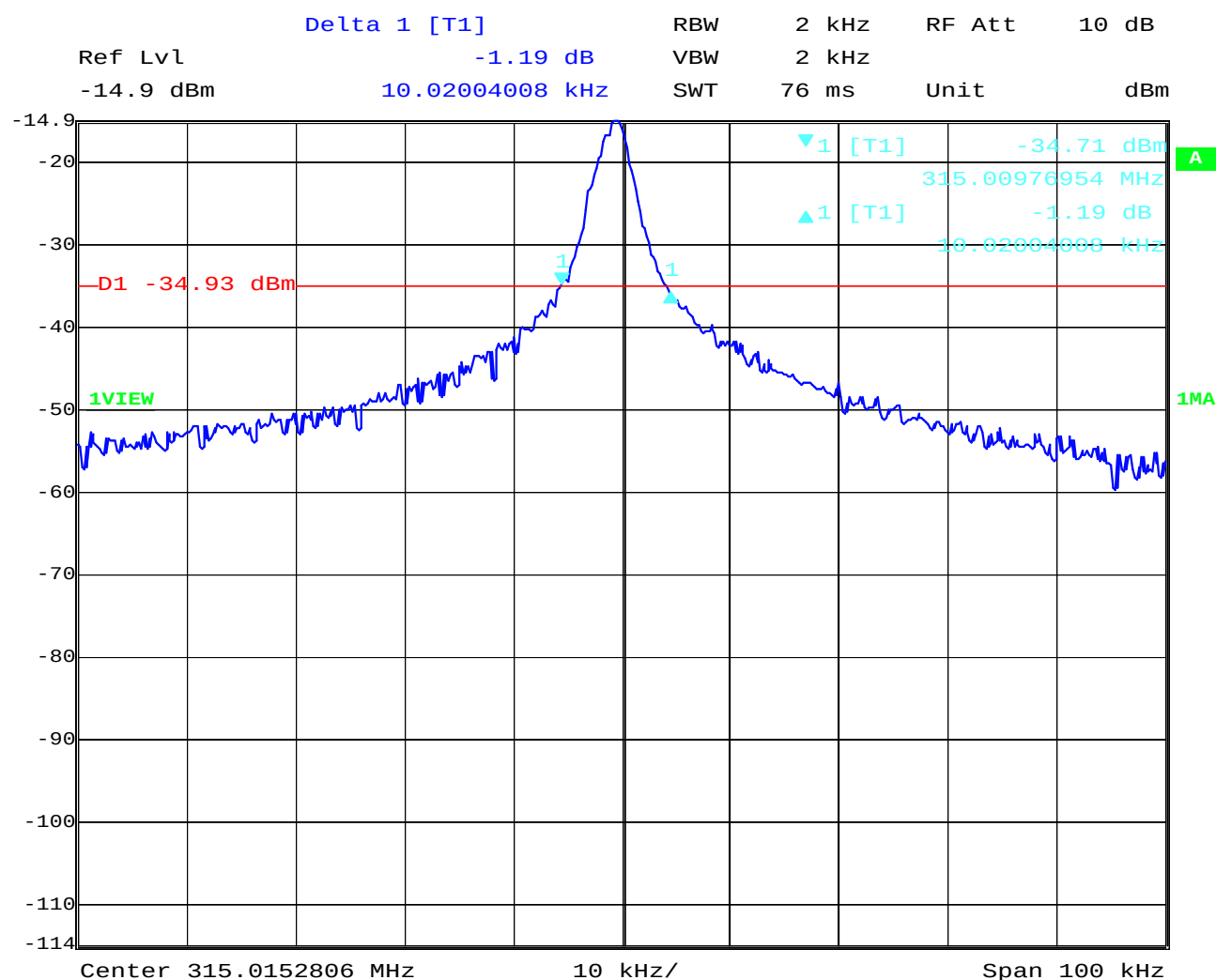
**Tx (30 MHz to 4 GHz)**



## 4.5 Bandwidth of emission

### Reference

FCC: CFR Part SUBCLAUSE § 15.231 (c)  
IC: RSS 210, ISSUE 6,



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20dB Bnadwidth : 10.020 kHz

### Limits

### SUBCLAUSE § 15.231 (c)

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Limit: 315 MHz = 787.5 KHz

## Used Testequipment

| Device                    | Manufacturer | Type      | S/N Number | Inv. No. Cetecom |
|---------------------------|--------------|-----------|------------|------------------|
| Spektrum Analyser         | HP           | 8566B     | 2747A05306 | 300001000        |
| Spektrum Analyser Display | HP           | 85662A    | 2816A16541 | 300002297        |
| Quasi-Peak-Adapter        | HP           | 85650A    | 2811A01131 | 300000999        |
| Power Dupply              | HP           | 6032A     | 2818A03450 | 300001040        |
| Power Attenuator          | Byrd         | 8325      | 1530       | 300001595        |
| Bikonical Antenna         | EMCO         | 3104      | 3758       | 300001602        |
| Log. Period. Antenna      | EMCO         | 3146      | 2130       | 300001603        |
| Double Ridged Antenna     | EMCO         | HP 3115P  | 3088       | 300001032        |
| Active Loop Antenna       | EMCO         | 6502      | 2210       | 300001015        |
| Antenna VDE/FCC           |              | HP11965B  |            | 300002298        |
| SRM-Drive                 | HP           | 9144A     | 2823e46556 | 300001044        |
| Software                  | HP           | EMI       |            | 300000983        |
| Busisolator               | Kontron      |           |            | 300001056        |
| Absorberhalle             | MWB          |           | 87400/02   | 300000996        |
| Salzsäule                 | Kontron      |           |            | 300001055        |
| Antenna                   | R&S          | HMO20     | 832211/003 | 300002243        |
| Indukt.Tast Antenna       | R&S          | HFH 2 Z4  | 881468/026 | 300001464        |
| System-Rack               | HP I.V.      | 85900     | *          | 300000222        |
| Spectrum Analyzer         | HP           | 8566B     | 2747A05275 | 300000219        |
| Quasi-Peak-Adapter        | HP           | 85650A    | 2811A01135 | 300000216        |
| RF-Preselector            | HP           | 85685A    | 2837A00779 | 300000218        |
| Rahmen Antenne            | R&S          | HFH2-Z2   | 891847-35  | 300001169        |
| Leitungsteiler            | HP           | 11850C    |            | 300000997        |
| Breitband-Hornantenne EMI | HP           | 35155P    |            | 300002300        |
| PC                        | HP           | Vectra VL |            | 300001688        |
| VHF Meßantenne            | Schwarzbeck  | VHA 9103  |            | 300001778        |
| Spectrum Analyzer Display | HP           | 85662A    | 2816A16497 | 300001690        |
| VHF Meßantenna            | Schwarzbeck  | VHA 9103  |            | 300001780        |
| Biconical Antenna         | EMCO         | 3104 C    | 9909-4868  | 300002590        |

## SRD Laboratory:

| Device                          | 300001207 | Type           | S/N Number | Inv. No. Cetecom |
|---------------------------------|-----------|----------------|------------|------------------|
| Spectrum Analyzer               | 300001208 | 494AP          | B010241    | 300000863        |
| Spectrum Analyzer               | HP        | 71210A (70000) | 2731A02347 | 300000321        |
| Spectrum Analyzer Display       | HP        | 70206A         | 2840A01553 | 300002017        |
| Reference Frequency             | HP        | 70310A         | 2736A00707 | 300002018        |
| Local Oscillator                | HP        | 70900A         | 2842A02221 | 300002019        |
| ZF-Modul 10Hz-300 kHz           | HP        | 70902A         | 2840A02145 | 300002020        |
| ZF-Modul 100 kHz-3 MHz          | HP        | 70903A         | 2835A01069 | 300002021        |
| HF-Teil für 71210A 100Hz- 22GHz | HP        | 70908A         |            | 300002022        |
| Spectrum Analyzer 2             | HP        | 85660B         | 3138A07614 |                  |
| Spectrum Analyzer Display 2     | HP        | 85662A         | 3144A20627 |                  |



|                                |                 |           |            |           |
|--------------------------------|-----------------|-----------|------------|-----------|
| Signal Generator DC-600 KHz    | HP              | 8904A     | 2822A01213 | 300001157 |
| Signal Generator DC-600 KHz    | HP              | 8904A     | 2822A01214 | 300001158 |
| Powersupply                    | HP              | 6038A     | 3122A11097 | 300001204 |
| Netznachbildung                | R&S             | ESH3-Z5   | 828576/020 | 300001210 |
| Amplituden Controller          | R&S             | SMDU-Z2   | 871829/051 | 300002309 |
| Trenntrafo                     | Erfi            | 913501    |            | 300001205 |
| Trenntrafo                     | Grundig         | RT5A      | 9242       | 300001627 |
| Relais Matrix                  | HP              | 3488A     | 2719A15013 | 300001156 |
| Multimeter                     | Siemens         | Multizet  |            | 300001102 |
| Peak Power Calibrator          | HP              | 8900B     |            | 300001084 |
| Schallgeber                    | Schomandl       | SG 1      | 10159      | 300001209 |
| Schallgeber                    | Schomandl       | SG 2      | 10176      | 300002473 |
| Filter                         | FSY Microwave   |           |            | 300001206 |
| Attenuatorer                   | Pro Nova        |           |            | 300002476 |
| Klimaschrank                   | Heraeus Voetsch | VUK04/500 |            | 300001012 |
| Spectrum Analyzer 3            | HP              | 8566A     | 1925A00257 | 300001098 |
| Spectrum Analyzer Display 3    | HP              | 85662     | 1925A00860 | 300002306 |
| Oszilloscope                   | Tektronix       | 2432      | 110261     | 300001165 |
| Radiocom. Analyzer             | R&S             | CMTA 54   | 894043/010 | 300001175 |
| Powersupply                    | HP              | 6038A     | 2848A07027 | 300001174 |
| Signal Generator 0.01-1280 MHz | HP              | 8662A     | 2224A01012 | 300001110 |
| Signal Generator (Funktionen)  | R&S             | AFGU      | 862490/032 | 300001201 |
| Trenntrafo                     | Erfi            | MPL       | 91350      | 300001155 |
| Relais Matrix                  | R&S             | PSU       | 893285/020 | 300001173 |
| Power Meter                    | HP              | 436A      | 2101A12378 | 300001136 |
| Powersensor                    | HP              | 8484A     | 2237A10156 | 300001140 |
| Powersensor                    | HP              | 8482A     | 2237A06016 | 300001139 |
| Relais Matrix                  | R&S             | PSU       | 282628/004 | 300001214 |
| Powersupply                    | Zentro          |           | 2007       | 300001109 |
| Oszilloscope                   | Tektronix       | 7633      |            | 300001111 |
| Klimaschrank                   | Heraeus Voetsch | VUK04/500 | 32926      | 300001500 |
| Quasi-Peak Adapter             | HP              | 85650A    | 2811A01204 | 300002308 |
| Radiocom. Analyzer             | R&S             | CMTA 84   | 894199/012 | 300001176 |
| Oszilloscope                   | HP              | 54510A    | 3022A02062 | 300001202 |
| Funkmeßplatz                   | Schomandl       | FD1000    | 34982      | 300001115 |
| Signal Generator               | R&S             | SMPC      | 882416/019 | 300001162 |
| Frequency counter              | HP              | 5340A     | 2116A08138 | 300001104 |
| Power Meter                    | HP              | 436A      | 2031U01461 | 300001105 |
| Powersensor                    | HP              | 8482A     |            | 300001106 |
| Powersensor                    | HP              | 8484A     |            | 300001107 |
| Powersensor                    | HP              | 8485A     |            | 300001108 |
| Powersupply                    | HP              | 6038A     | 2752A04866 | 300001161 |
| Reflectionsmeter               | R&S             | NAP       | 879191     | 300001132 |
| Signal Generator NF            | R&S             | SPN       | 880139/068 | 300001142 |
| Trenntrafo                     | Erfi            | MPL       | 91350      | 300001151 |
| Attenuator                     | JFW             | 30 db     | 1350h/104  | 300001703 |
| Attenuator                     | JFW             | 10 db     | 1350h/103  | 300001704 |
| Attenuator                     | JFW             | 20 db     | 1350h/106  | 300001705 |
| Attenuator                     | JFW             | 20 db     | 1350h/105  | 300001766 |
| Filter                         | Spinner         | 153755    |            | 300001791 |

|                                |                 |           |            |           |
|--------------------------------|-----------------|-----------|------------|-----------|
| Powersensor                    | HP              | 8484A     | 2237A10494 | 300001666 |
| Powersupply                    | HP              | 6038A     | 3122A11097 | 300001204 |
| Netznachbildung                | R&S             | ESH3-Z5   | 828576/020 | 300001210 |
| Amplituden Controller          | R&S             | SMDU-Z2   | 871829/051 | 300002309 |
| Trenntrafo                     | Erfi            | 913501    |            | 300001205 |
| Trenntrafo                     | Grundig         | RT5A      | 9242       | 300001627 |
| Relais Matrix                  | HP              | 3488A     | 2719A15013 | 300001156 |
| Multimeter                     | Siemens         | Multizet  |            | 300001102 |
| Peak Power Calibrator          | HP              | 8900B     |            | 300001084 |
| Schallgeber                    | Schomandl       | SG 1      | 10159      | 300001209 |
| Schallgeber                    | Schomandl       | SG 2      | 10176      | 300002473 |
| Filter                         | FSY Microwave   |           |            | 300001206 |
| Attenuatorer                   | Pro Nova        |           |            | 300002476 |
| Klimaschrank                   | Heraeus Voetsch | VUK04/500 |            | 300001012 |
| Spectrum Analyzer 3            | HP              | 8566A     | 1925A00257 | 300001098 |
| Spectrum Analyzer Display 3    | HP              | 85662     | 1925A00860 | 300002306 |
| Oszilloscope                   | Tektronix       | 2432      | 110261     | 300001165 |
| Radiocom. Analyzer             | R&S             | CMTA 54   | 894043/010 | 300001175 |
| Powersupply                    | HP              | 6038A     | 2848A07027 | 300001174 |
| Signal Generator 0.01-1280 MHz | HP              | 8662A     | 2224A01012 | 300001110 |
| Signal Generator (Funktionen)  | R&S             | AFGU      | 862490/032 | 300001201 |
| Trenntrafo                     | Erfi            | MPL       | 91350      | 300001155 |
| Relais Matrix                  | R&S             | PSU       | 893285/020 | 300001173 |
| Power Meter                    | HP              | 436A      | 2101A12378 | 300001136 |
| Powersensor                    | HP              | 8484A     | 2237A10156 | 300001140 |
| Powersensor                    | HP              | 8482A     | 2237A06016 | 300001139 |
| Relais Matrix                  | R&S             | PSU       | 282628/004 | 300001214 |
| Powersupply                    | Zentro          |           | 2007       | 300001109 |
| Oszilloscope                   | Tektronix       | 7633      |            | 300001111 |
| Klimaschrank                   | Heraeus Voetsch | VUK04/500 | 32926      | 300001500 |
| Quasi-Peak Adapter             | HP              | 85650A    | 2811A01204 | 300002308 |
| Radiocom. Analyzer             | R&S             | CMTA 84   | 894199/012 | 300001176 |
| Oszilloscope                   | HP              | 54510A    | 3022A02062 | 300001202 |
| Funkmeßplatz                   | Schomandl       | FD1000    | 34982      | 300001115 |
| Signal Generator               | R&S             | SMPC      | 882416/019 | 300001162 |
| Frequency counter              | HP              | 5340A     | 2116A08138 | 300001104 |
| Power Meter                    | HP              | 436A      | 2031U01461 | 300001105 |
| Powersensor                    | HP              | 8482A     |            | 300001106 |
| Powersensor                    | HP              | 8484A     |            | 300001107 |
| Powersensor                    | HP              | 8485A     |            | 300001108 |
| Powersupply                    | HP              | 6038A     | 2752A04866 | 300001161 |
| Reflectionsmeter               | R&S             | NAP       | 879191     | 300001132 |
| Signal Generator NF            | R&S             | SPN       | 880139/068 | 300001142 |
| Trenntrafo                     | Erfi            | MPL       | 91350      | 300001151 |
| Attenuator                     | JFW             | 30 db     | 1350h/104  | 300001703 |
| Attenuator                     | JFW             | 10 db     | 1350h/103  | 300001704 |
| Attenuator                     | JFW             | 20 db     | 1350h/106  | 300001705 |
| Attenuator                     | JFW             | 20 db     | 1350h/105  | 300001766 |
| Filter                         | Spinner         | 153755    |            | 300001791 |
| Powersensor                    | HP              | 8484A     | 2237A10494 | 300001666 |

|                               |                    |                          |            |           |
|-------------------------------|--------------------|--------------------------|------------|-----------|
| Powersensor                   | HP                 | 8485A                    | 2238A00849 | 300001668 |
| Bandfilter                    | Telonic            | TTF7255EE                | 20293-11   | 300001300 |
| Bandfilter                    | Telonic            | TTF12555EE               | 20292-6    | 300001302 |
| Bandfilter                    | Telonic            | TTF25055EE               | 20291-8    | 300001304 |
| Bandfilter                    | Telonic            | TTF50055EE               | 20290-7    | 300001305 |
| Bandfilter                    | Telonic            | TTF100055EE              | 20289-7    | 300001307 |
| Bandfilter                    | Telonic            | TTA300055EESN            | 20370-2    | 300001312 |
| Bandstop                      | Telonic            | TTR3753EE1               | 30013-1    | 300001314 |
| Bandstop                      | Telonic            | TTR723EE                 | 20417-2    | 300001316 |
| Bandstop                      | Telonic            | TTR95-3EE                | 20372-4    | 300001318 |
| Bandstop                      | Telonic            | TTR1903EE                | 30036-4    | 300001320 |
| Bandstop                      | Telonic            | TTR3753EE                | 20369-5    | 300001321 |
| Bandstop                      | Telonic            | TTR750-3EE1              | 90177-1    | 300002387 |
| Highpass                      | Pro Nova           | HDP120-6GG               | ohne       | 300001348 |
| Highpass                      | Pro Nova           | HMC500-6AA               | HJ67-01?   | 300001350 |
| Highpass                      | Narda              | NHP 9000                 | 0004       | 300001362 |
| Highpass                      | Narda              | HDP16-6GH                | JV70-01    | 300001364 |
| Highpass                      | RSD                | HDP50-6GH,<br>HDP200-6GG |            | 300001371 |
| Highpass                      | RSD                | 2099-02-01               |            | 300000370 |
| Signal Generator 0.1-2060 MHz | HP                 | 8657A                    | 2838U00736 | 300001009 |
| Radio Code Analyzer           | Schlumberger       | SL4922                   |            | 300001038 |
| Signal Analyzer               | B&K                | 2033                     |            | 300001047 |
| Frequency counter             | HP                 | 5386A                    | 2704A01243 | 300000998 |
| Laufzeitelement               | WR-Elektronik      |                          |            | 300001036 |
| Powersupply Stromversorgung   | Syston             | M5P 40/15A               | 828233     | 300001291 |
| Powersupply                   | Heiden             | 1108-32                  | 1701       | 300001392 |
| Powersupply                   | Heiden             | 1108-32                  | 1802       | 300001383 |
| Powersupply                   | Heiden             | 1108-32                  | 003202     | 300001187 |
| Powersupply                   | Zentro             | LA 2x30/5GB1             | 2011       | 300001276 |
| Powersupply                   | Zentro             | LA 2x30/5GB2             | 2012       | 300001275 |
| Powersupply                   | Zentro             | LA 30/5GA                | 2041,2042  | 300001287 |
| Trenntrafo                    | Grundig            | RT5A                     | 8781       | 300001277 |
| Trenntrafo                    | Grundig            | RT5A                     | 9242       | 300001263 |
| Multimeter                    | Goerz Elektro      | Unigor 6e P              | 911 355    | 300001625 |
| Multimeter                    | Goerz Elektro      | Unigor 6e P              | 911 391    | 300001281 |
| Climatic Box                  | Heraeus Voetsch    | VUK04/500                | 32679      | 300000299 |
| Powersensor + Att.            | HP                 | 8482B                    | 2703A02586 | 300001492 |
| Attenuator 30 dB              | HP                 | 8498A                    | 1801A02445 | 300001475 |
| Signal Generator NF           | HP                 |                          | 2822A01203 | 300001004 |
| Attenuator                    | Spinner            | BN 534171 D              | 51881      | 300001516 |
| Attenuator coaxial            | Bird               | 8325                     | 2429       | 300001513 |
| Impulsbegrenzer               | R&S                | ESH 3 Z2                 |            | 300001460 |
| 4Port Box                     | R&S                | 4Port Box                | 860457/005 | 300001472 |
| Signal Generator 0.1-4200 MHz | HP                 | 8665A                    | 2833A0011  | 300002299 |
| NF-Spektrumanalyzer           | B&K                | 2033A                    |            | 300002301 |
| Swissphone Freifeld-Messbox   | Swissphone Schweiz |                          |            | 300002302 |
| Trenntrafo regelbar           | Grundig            | RT5H                     | 9242       | 300001628 |
| Signal Generator              | HP                 | 8111A                    | 2215G00867 | 300001117 |

## 6 Annex B: Photographs of Test site

Photo 1 (Radiated Emissions):

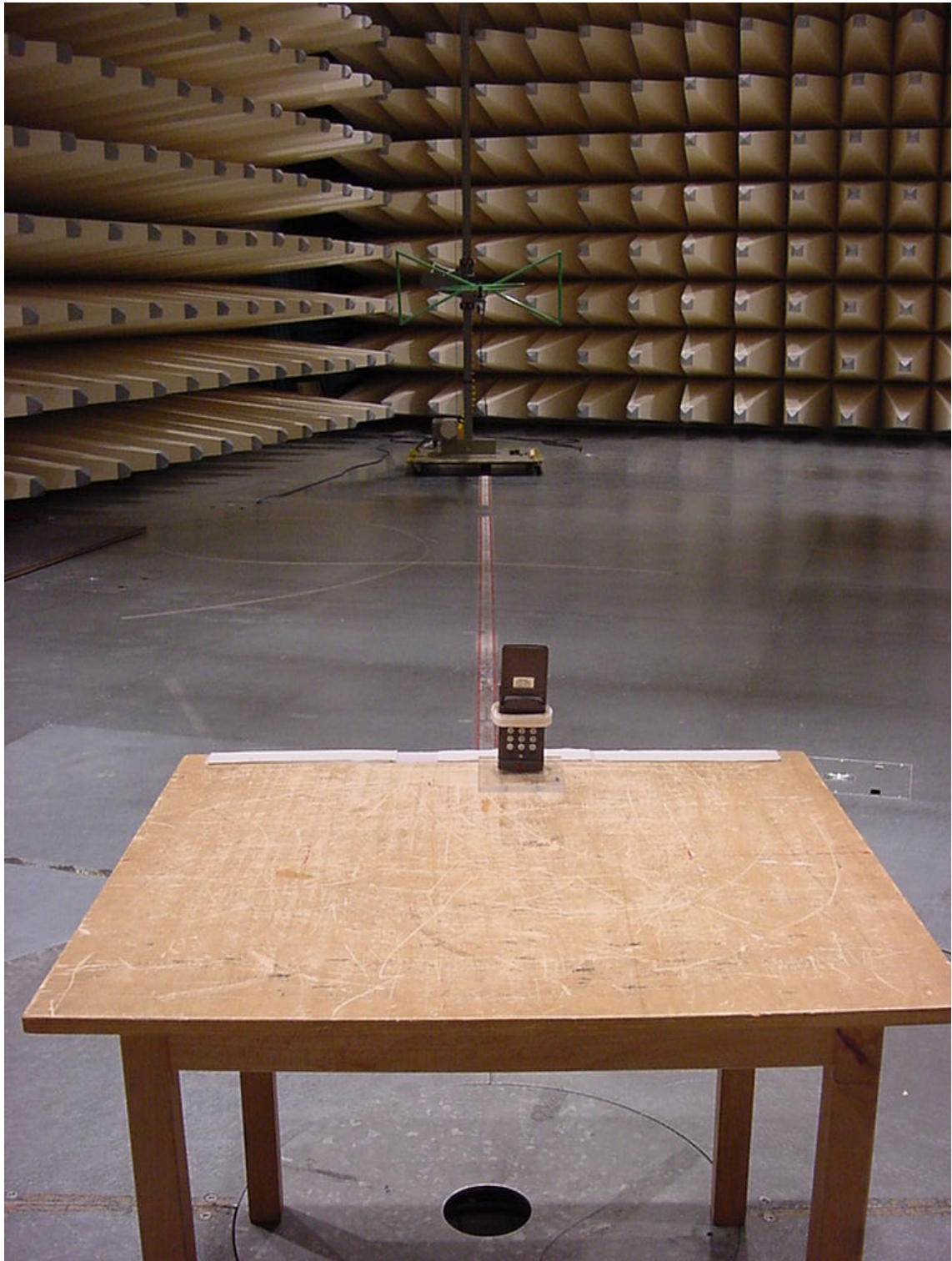




Photo 2 (Radiated Emissions):



Photo 3 (Radiated Emissions):





## 7 Annex C: External Photographs of the Equipment

Photo 1:



Photo 2:





## 8 Annex D: INTERNAL PHOTOGRAPHS OF THE EQUIPMENT

Photo 1:



Photo 2:

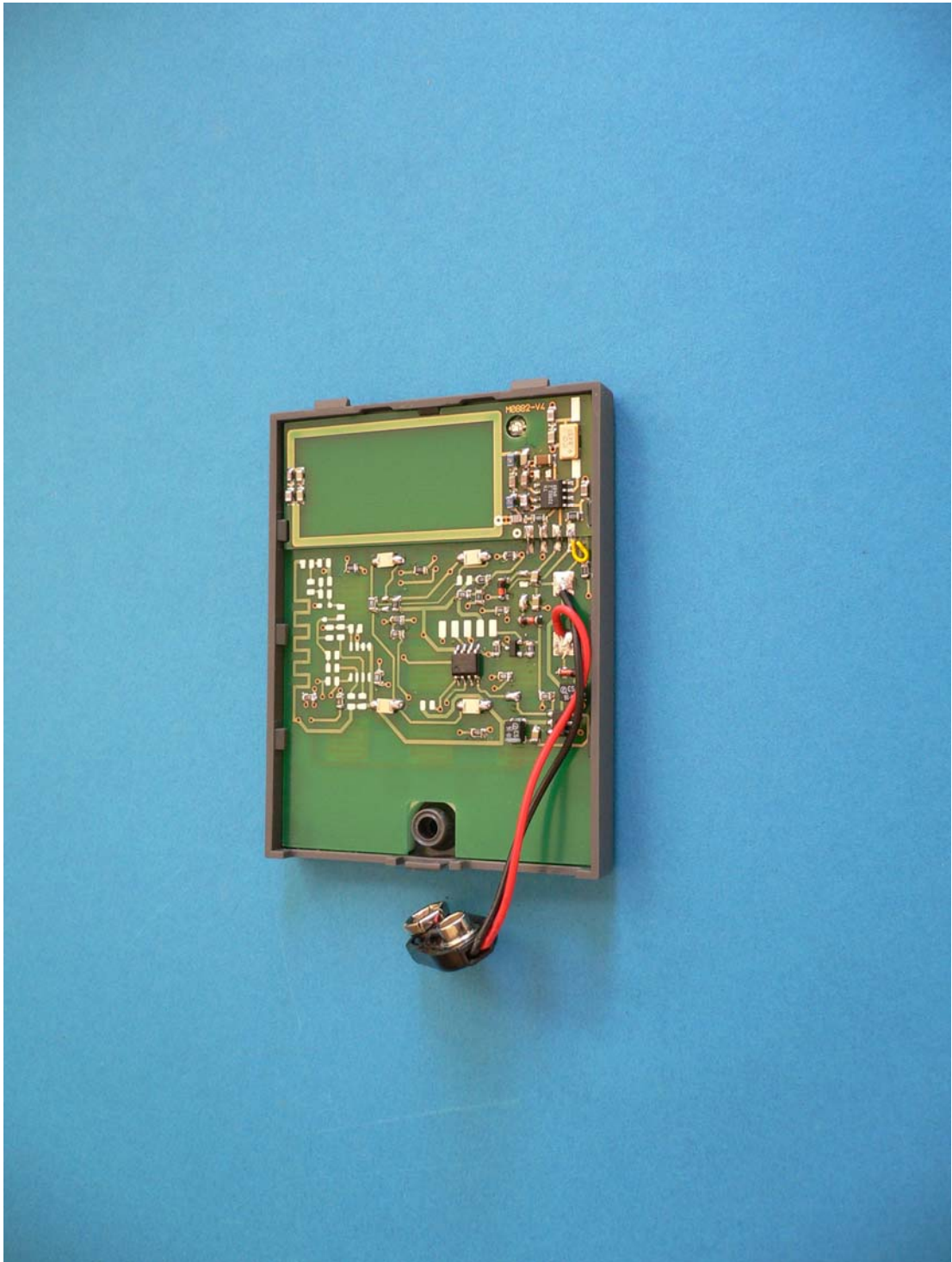




Photo 3:

