Recognized by the
Federal Communications Commission
**Anechoic chamber registration no.: 90462 (FCC)**
**Anechoic chamber registration no.: IC 3463A-1**
TCB ID: DE 0001

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

# Accredited Bluetooth® Test Facility (BQTF)

| | | |
|---|---|---|
| **Test report no.** | **:** | **1-0433-01-02/08** |
| **Applicant** | **:** | **SOLTEC Soluzioni Tecnologiche Srl** |
| **Type** | **:** | **KIT33039** |
| **Test Standard** | **:** | **FCC Part 15.225 RSS210 Issue 7** |
| **FCC ID** | **:** | **WAKSK33039** |
| **Certification No. IC** | **:** | **-/-** |

# Table of contents

# 1 General information

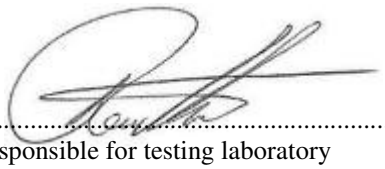
## 1.1. Administrative data of the test facility

### 1.1.1 Identification of the testing laboratory

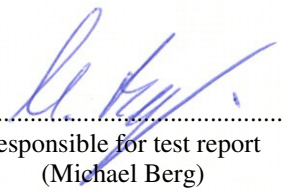
| | |
|---|---|
| Company name: | Cetecom ICT Services GmbH |
| Address: | Untertürkheimerstr. 6-10<br>D-66117 Saarbruecken<br>Germany |
| Laboratory accreditation: | DAR-Registration No. DAT-P-176/94-D1<br>Bluetooth Qualification Test Facility (BQTF)<br><br>Federal Communications Commission (FCC)<br><br>Identification/Registration No : 90462 |
| Responsible for testing laboratory: | Jakob Reschke<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
(Jakob Reschke)



.....
Responsible for test report
(Michael Berg)

## 1.3 Details of Applicant

| | | |
|---|---|---|
| Name | : | SOLTEC Soluzioni Tecnologiche Srl |
| Address | : | Viale Ungheria 125 |
| City | : | 33100 UDINE |
| Country | : | Italy |
| Phone | : | +39 0432 56 12 00 |
| Fax | : | +39 0432 56 85 38 |
| Contact | : | Marco Rossi |
| Phone | : | +39 0432 56 12 00 |
| Fax | : | +39 0432 56 85 38 |
| e-mail | : | soltec@soltecudine.it |

## 1.4 Application Details

| | | |
|---|---|---|
| Date of receipt of application | : | 2008-05-02 |
| Date of receipt of test item | : | 2008-05-02 |
| Date(s) of test | : | 2008-05-02 to 2008-05-06 |
| Date of report | : | 2008-05-06 |

## 1.5 Test Item

| | | |
|---|---|---|
| Type of equipment | : | RFID Reader with Tag |
| Model name | : | KIT33039 |

**Details of Manufacturer**

| | | |
|---|---|---|
| Company | : | SOLTEC Soluzioni Tecnologiche Srl |
| Address | : | Viale Ungheria 125 |
| City | : | 33100 UDINE |
| Country | : | Italy |

| | | |
|---|---|---|
| Tested to Radio Standards Specification(RSS) No. | : | 210 Issue 7 |
| Open Area Test Site Industry Canada Number | : | IC 3463A-1 |
| Temperature Range | : | -20 °C to +50 °C |
| Frequency Range (or fixed frequency) | : | 13.56 MHz |
| Field Strength (at what distance) | : | 68 dBµV/m in 10m |
| Occupied Bandwidth (99% BW) | : | 240 Hz |
| Type of Modulation | : | N0N |
| Antenna Information | : | External PCB antenna with Reverse SMA connector |
| Emission Designator | : | 240HN0N |
| Transmitter Spurious (worst case) | : | -.- |
| IC Reg. no. | : | -/- |
| FCC ID | : | WAKSK33039 |

**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 :**

| 2008-05-06 | Jakob Reschke | |
|---|---|---|
| Date | Name | Signature |

### 1.5.1 Test conditions testing

| Description | Shortcut | Unit | Value |
|---|---|---|---|
| | | | |
| Nominal Temperature / humidity | $T_{nom}$ | °C / % | +23 / 42 |
| Low Temperature | $T_{low}$ | °C | -20 |
| High Temperature | $T_{high}$ | °C | +50 |
| | | | |
| Nominal Power Source | $V_{nom}$ | V | 12.0 |

Type of powersource: V DC

## 1.6 Test Setup

| | | |
|---|---|---|
| Hardware | : | -/- |
| Software | : | -/- |
| Serial number | : | -/- |

## 1.7 Test Specifications

| | |
|---|---|
| **FCC:** | CFR Part 15 – Radio Frequency Devices<br>CFR Part 15.209 – Radiated emission limits.<br>CFR Part 15.207 – Conducted limits<br>CFR Part 15.225 |
| **IC:** | RSS 210, Issue 7<br>Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands):<br>Category I Equipment |

# 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 | applicable | Verdict |
|---|---|---|---|---|
| 4.1 | § 15.35 (c)<br>Timing of the transmitter (Duty cycle correction factor ) | 6.5 Pulsed Operation | NO | |
| 4.2 | § 15.225 (a)<br>Fieldstrength of fundamental | Annex 2.6 | YES | pass |
| 4.3 | § 15.225 (b,c,d)<br>Fieldstrength of harmonics and spurious | Annex 2.6 | YES | pass |
| 4.4 | § 15.225 (e)<br>Frequency tolerance | Annex 2.6 | YES | pass |
| 4.5 | § 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 1 GHz in semi-anechoic chambers or free field. 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.
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 15.209 and 15.207

# 4 FCC Part 15 Subpart C

## 4.1 Timing of the transmitter

**Not applicable**

**Reference**

| | |
|---|---|
| FCC: | CFR Part SUBCLAUSE § 15.35 (c) |
| IC: | RSS 210, ISSUE 7 6.5 Pulsed operation |

**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.

## 4.2 Field strength of the fundamental

**Reference**

| | |
|---|---|
| FCC: | CFR Part SUBCLAUSE § 15.225 (a) |
| IC: | RSS 210, Annex 2.6 |

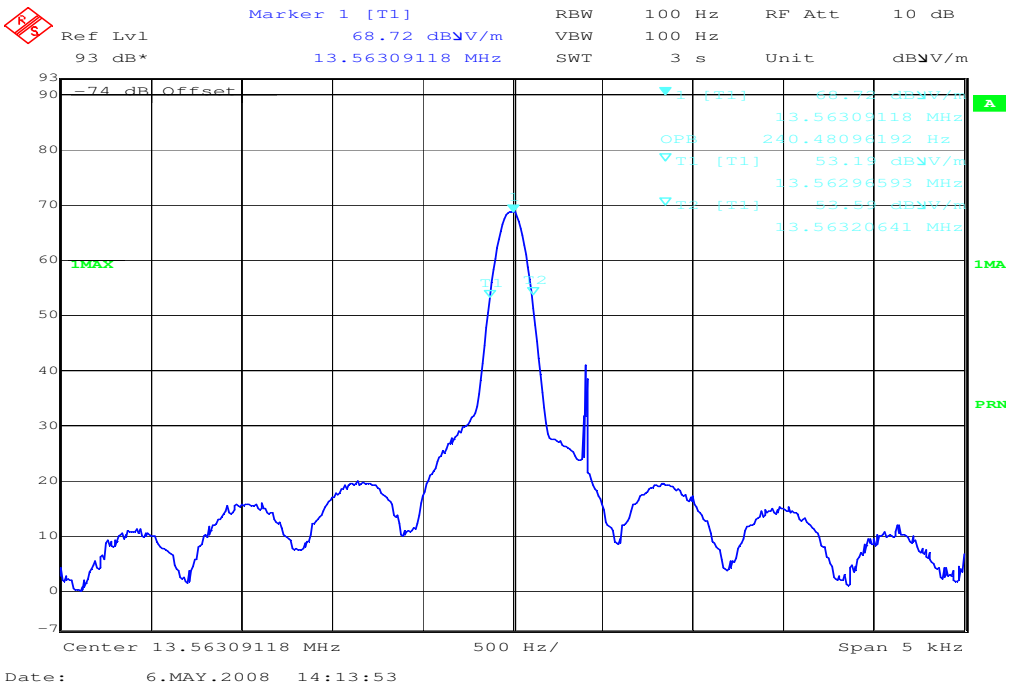
Maximum output power (peak) - (radiated)

Measured at 10m distance, recalculated to 30m according to FCC part15.31 ( f2)

| TEST CONDITIONS | MAXIMUM POWER (dBµV/m) | | |
|---|---|---|---|
| Frequency | | 13.56 MHz | 13.56 MHz |
| | | In 10m | Calculated in 30m |
| $T_{nom}$ +23 °C | | 68 | 48 |
| Measurement uncertainty | ±3dB | | |

RBW/VBW : 200 Hz up to 150 kHz, 9 kHz up to 30 MHz, 120 kHz up to 1 GHz

Plot 1:




**Limits** **SUBCLAUSE § 15.225 (a)**

| Fundamental Frequency (MHz) | Field strength of Fundamental (µV/m) | Measurement Distance (meters) |
|---|---|---|
| 13.553 to 13.567 | 15848 µV/m (84 dBµV/m) | 30 |
| | 158489 µV/m ( 104 dBµV/m) | 10 |
| | | Recalculated acc. to FCC part15.31 (f2) |

## 4.3 Field strength of the harmonics and the spurious

**Reference**

| | |
|---|---|
| FCC: | CFR Part SUBCLAUSE § 15.209 (a) |
| IC: | RSS 210, Annex 2.6 |

| EMISSION LIMITATIONS | | | | | |
|---|---|---|---|---|---|
| f (MHz) | | amplitude of emission (dBµV/m) Average/QP | limit max. allowed field strength | | results |
| 13.56 | | 48 (Peak) | 84 | | Operating frequency |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Measurement uncertainty | | | ± 3dB | | |

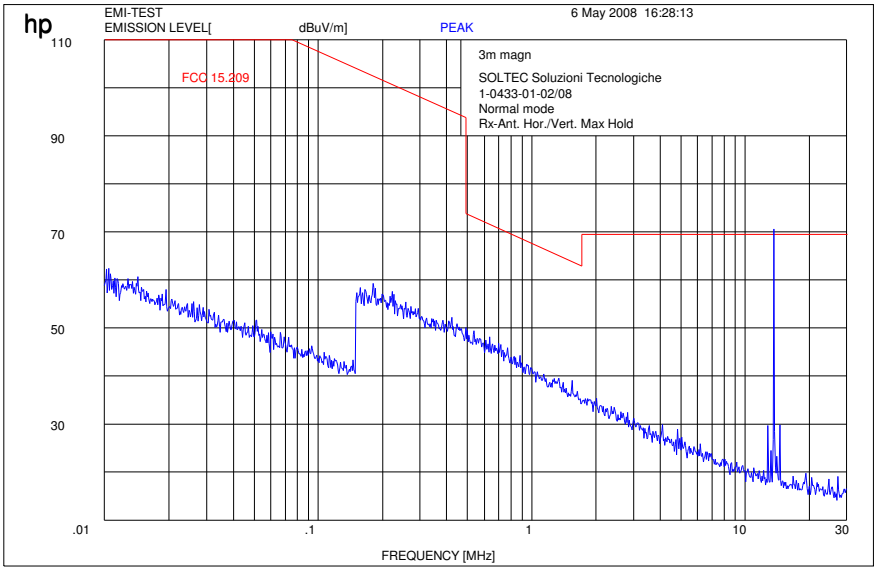
RBW/VBW : 200 Hz up to 150 kHz, 9 kHz up to 30 MHz, 120 kHz up to 1 GHz

**Limits** **SUBCLAUSE § 15.209 (a)**

| Fundamental Frequency (MHz) | Field strength of Fundamental (µV/m) | Measurement Distance (meters) |
|---|---|---|
| 0.009 – 0.490 | 2400 / F (kHz) | 300 |
| 0.490 – 1.705 | 24000 / F (kHz) | 30 |
| 1.705 – 30.0 | 30 (29.5 dBµV/m) | 30 |
| 30.0 – 88.0 | 100 (40 dBµv/m) | 3 |
| 88 – 216 | 150 (43.5 dBµV/m) | 3 |
| 216 – 960 | 200 (46 dBµV/m) | 3 |

## Plots of measurements

Plot 1:
Part 15.209 Magnetics




RBW/VBW : 200 Hz up to 150 kHz, 9 kHz up to 30 MHz, 120 kHz up to 1 GHz

**(to convert the measuring distance from 10m to 30m and 30 to 300m a correction factor from 40 dB/decade was used. Here we use 60 dB to recalculate from 10m to 300m)**

Measurement distance 10 m
This measurement was done in 3 planes, 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 (29.5 dBµV/m) | 30 |
| 30 - 88 | 100 (40 dBµv/m) | 3 |
| 88 - 216 | 150 (43.5 dBµV/m) | 3 |
| 216 - 960 | 200 (46 dBµV/m) | 3 |

Plot 2:

TX (30 MHz to 1 GHz)

**Information**

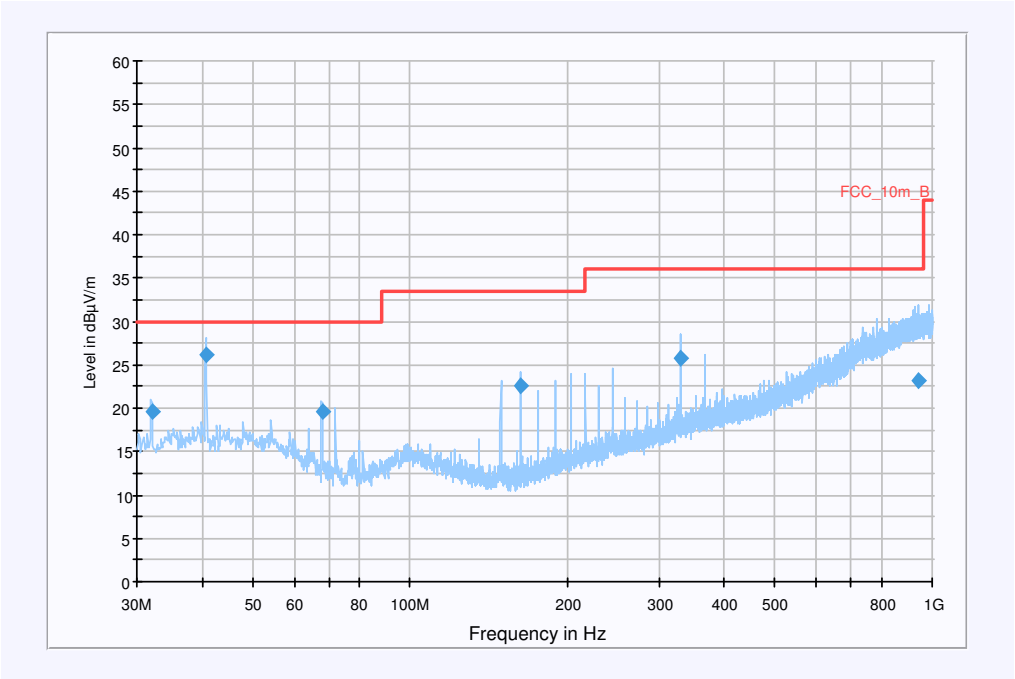
| | |
|---|---|
| EUT: | KIT33039 antenna + board |
| Serial Number: | 081009A + 0810009R |
| Test Description: | FCC@ 10 m |
| Operating Conditions: | Normal mode |
| Operator Name: | Folz |
| Comment: | powered via plug power supply |

**Scan Setup: STAN_Fin [EMI radiated]**

| | |
|---|---|
| Hardware Setup: | EMI radiated\Electric Field (NOS) |
| Level Unit: | dBµV/m |

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

**FCC_Idle_1GHz**




**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| 32.021000 | 19.5 | 1000.000 | 120.000 | 120.0 | V | 344.0 | 12.8 | 10.5 | 30.0 | |
| 40.678550 | 26.2 | 1000.000 | 120.000 | 120.0 | V | 106.0 | 13.6 | 3.8 | 30.0 | |
| 67.827700 | 19.5 | 1000.000 | 120.000 | 120.0 | V | 238.0 | 10.1 | 10.5 | 30.0 | |
| 162.746100 | 22.5 | 1000.000 | 120.000 | 120.0 | V | -1.0 | 9.6 | 11.0 | 33.5 | |
| 330.000250 | 25.7 | 1000.000 | 120.000 | 120.0 | V | 231.0 | 15.6 | 10.3 | 36.0 | |
| 939.200400 | 23.1 | 1000.000 | 120.000 | 120.0 | V | 330.0 | 26.3 | 12.9 | 36.0 | |

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

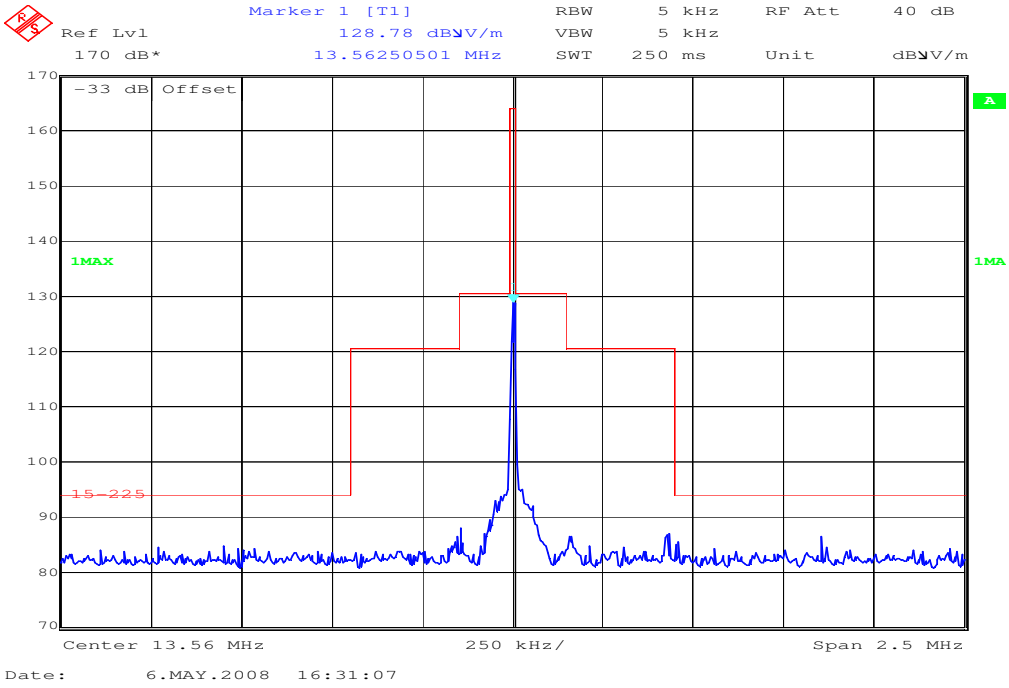
Subrange 1

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

Plot 3

Spectrum mask part15.225 (a,b,c,d)

Limits recalculated from 30m to 30 cm with 40 dB/decade according to FCC 15.31 (f2)




RBW /VBW 5 kHz

The transmitter holds the requirements of FCC 15.225 (a,b,c and d)

## 4.4 Frequency tolerance

### Reference

| | |
|---|---|
| FCC: | CFR Part SUBCLAUSE § 15.225 (e) |
| IC: | RSS 210, Annex 2.6 |

**Operating frequency: 13.56309118 MHz**

| Frequency tolerance | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Over temperature variation | | | Over voltage variation | | | -/- | | |
| Limit is +/- 1.356 kHz | | | Limit is +/- 1.356 kHz | | | | | |
| T (°C)] | Frequency | result | Power voltage | Frequency | result | F [MHz] | Detector | Level [µV/m] |
| -20° | 13.56315130 | Pass | 10.20 V | 13.56309619 | Pass | | | |
| -10° | 13.56315130 | Pass | 10.70 V | 13.56309870 | Pass | | | |
| 0° | 13.56315130 | Pass | 11.20 V | 13.56309870 | Pass | | | |
| 10° | 13.56307365 | Pass | 11.70 V | 13.56309870 | Pass | | | |
| 20° | 13.56309369 | Pass | 12.20 V | 13.56310120 | Pass | | | |
| 30° | 13.56307615 | Pass | 12.70 V | 13.56310120 | Pass | | | |
| 40° | 13.56305110 | Pass | 13.20 V | 13.56310120 | Pass | | | |
| 50° | 13.56300351 | Pass | 13.80 V | 13.56310120 | Pass | | | |
| | | | | | | | | |
| | | | | | | | | |
| Measurement uncertainty | | | ±100 Hz | | | | | |

### Limits SUBCLAUSE § 15.225

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

## 4.5 Conducted Limits

### Reference

| | |
|---|---|
| FCC: | CFR Part 15.207, 15.107 |
| IC: | RSS 210, Issue 7, Section 6.6 , 7.4 |

**Not applicable**

**Limits:** § 15.107 / 15.207

| Frequency of Emission (MHz) | Conducted Limit (dBµV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 – 0.5 | 66 to 56 * | 56 to 46 * |
| 0.5 – 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |

* Decreases with the logarithm of the frequency

# 5 Used Testequipment

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

***Anechoic chamber C:***

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|---|---|---|---|---|---|---|---|
| 1 | Anechoic chamber | MWB | 87400/02 | 300000996 | Monthly verification | | |
| 2 | System-Rack 85900 | HP I.V. | * | 300000222 | n.a. | | |
| 3 | Measurement System 1 | | | | | | |
| 4 | Spektrum Analyzer 8566B | HP | 2747A05306 | 300001000 | 05.10.2006 | 24 | 05.10.2008 |
| 5 | Spektrum Analyzer Display 85662A | HP | 2816A16541 | 300002297 | 05.10.2006 | 24 | 05.10.2008 |
| 6 | Quasi-Peak-Adapter 85650A | HP | 2811A01131 | 300000999 | 05.10.2006 | 24 | 05.10.2008 |
| 7 | RF-Preselector 85685A | HP | 2837A00779 | 300000218 | 08.11.2006 | 24 | 08.11.2008 |
| 8 | PC Vectra VL | HP | | 300001688 | n.a. | | |
| 9 | Software EMI | HP | | 300000983 | n.a. | | |
| 10 | Measurement System 2 | | | | | | |
| 11 | FSP 30 | R&S | 100623 | ICT 300003464 | 05.10.2007 | 24 | 15.10.2009 |
| 12 | PC | F+W | | | n.a. | | |
| 13 | TILE | TILE | | | n.a. | | |
| 14 | Biconical antenna | EMCO | S/N: 860 942/003 | | Monthly verification (System cal.) | | |
| 15 | Log. Period. Antenna 3146 | EMCO | 2130 | 300001603 | Monthly verification (System cal.) | | |
| 16 | Double Ridged Antenna HP 3115P | EMCO | 3088 | 300001032 | Monthly verification (System cal.) | | |
| 17 | Active Loop Antenna 6502 | EMCO | 2210 | 300001015 | Monthly verification (System cal.) | | |
| 18 | Power Supply 6032A | HP | 2818A03450 | 300001040 | 12.05.2007 | 36 | 12.05.2010 |
| 19 | Busisolator | Kontron | | 300001056 | n.a. | | |
| 20 | Leitungsteiler 11850C | HP | | 300000997 | Monthly verification (System cal.) | | |
| 21 | Power attenuator 8325 | Byrd | 1530 | 300001595 | Monthly verification (System cal.) | | |
| 22 | Band reject filter WRCG1855/1910 | Wainwright | 7 | 300003350 | Monthly verification (System cal.) | | |
| 23 | Band reject filter WRCG2400/2483 | Wainwright | 11 | 300003351 | Monthly verification (System cal.) | | |
| | | | | | | | |

***SRD Laboratory Room 002:***

| No | Equipment/Type | Manuf. | Serial Nr. | Inv. No. Cetecom | Last Calibration | Frequency (months) | Next Calibration |
|---|---|---|---|---|---|---|---|
| 1 | System Controller PSM 12 | R&S | 835259/007 | 3000002681-00xx | n.a. | | |
| 2 | Memory Extension PSM-K10 | R&S | To 1 | 3000002681 | n.a. | | |
| 3 | Operating Software PSM-B2 | R&S | To 1 | 3000002681 | n.a. | | |
| 4 | 19'' Monitor | | 22759020-ED | 3000002681 | n.a. | | |
| 5 | Mouse | | LZE 0095/6639 | 3000002681 | n.a. | | |
| 6 | Keyboard | | G00013834L461 | 3000002681 | n.a. | | |
| 7 | Spectrum Analyser FSIQ 26 | R&S | 835540/018 | 3000002681-0005 | 01.08.2006 | 24 | 01.08.2008 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | Tracking Generator FSIQ-B10 | R&S | 835107/015 | 3000002681 | s.No.7 | | |
| 10 | RF-Generator SMIQ03 (B1 Signal) | R&S | 835541/056 | 3000002681-0002 | 01.08.2006 | 36 | 01.08.2009 |
| 11 | Modulation Coder SMIQ-B20 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 12 | Data Generator SMIQ-B11 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 13 | RF Rear Connection SMIQ-B19 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 14 | Fast CPU SM-B50 | R&S | To 10 | 3000002681 | s.No.10 | | |
| 15 | FM Modulator SM-B5 | R&S | 835676/033 | 3000002681 | s.No.10 | | |
| 16 | RF-Generator SMIQ03 (B2 Signal) | R&S | 835541/055 | 3000002681-0001 | 01.08.2006 | 36 | 01.08.2009 |
| 17 | Modulation Coder SMIQ-B20 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 18 | Data Generator SMIQ-B11 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 19 | RF Rear Connection SMIQ-B19 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 20 | Fast CPU SM-B50 | R&S | To 16 | 3000002681 | s.No.16 | | |
| 21 | FM Modulator SM-B5 | R&S | 836061/022 | 3000002681 | s.No.16 | | |
| 22 | RF-Generator SMP03 (B3 Signal) | R&S | 835133/011 | 3000002681-0003 | 01.08.2006 | 36 | 01.08.2009 |
| 23 | Attenuator SMP-B15 | R&S | 835136/014 | 3000002681 | S.No.22 | | |
| 24 | RF Rear Connection SMP-B19 | R&S | 834745/007 | 3000002681 | S.No.22 | | |
| 25 | Power Meter NRVD | R&S | 835430/044 | 3000002681-0004 | 01.08.2006 | 24 | 01.08.2008 |
| 26 | Power Sensor NRVD-Z1 | R&S | 833894/012 | 3000002681-0013 | 01.08.2006 | 24 | 01.08.2008 |
| 27 | Power Sensor NRVD-Z1 | R&S | 833894/011 | 3000002681-0010 | 01.08.2006 | 24 | 01.08.2008 |
| 28 | Rubidium Standard RUB | R&S | | 3000002681-0009 | 01.08.2006 | 24 | 01.08.2008 |
| 29 | Switching and Signal Conditioning Unit SSCU | R&S | 338864/003 | 3000002681-0006 | 01.08.2006 | 24 | 01.08.2008 |
| 30 | Laser Printer HP Deskjet 2100 | HP | N/A | 3000002681-0011 | n.a. | | |
| 31 | 19'' Rack | R&S | 111383630000 04 | 3000002681 | n.a. | | |
| 32 | RF-cable set | R&S | N/A | 3000002681 | n.a. | | |
| 33 | IEEE-cables | R&S | N/A | 3000002681 | n.a. | | |
| 34 | Sampling System FSIQ-B70 | R&S | 835355/009 | 3000002681 | s.No.7 | | |
| 35 | RSP programmable attenuator | R&S | 834500/010 | 3000002681-0007 | 01.08.2006 | 24 | 01.08.2008 |
| 36 | Signalling Unit | R&S | 838312/011 | 3000002681 | n.a. | | |
| 37 | NGPE programmable Power Supply for EUT | R&S | 192.033.41 | 3000002681 | | | |
| 38 | Climatic box VT 4002 | Heraeus Vötsch | 585660468200 10 | 300003019 | 11.05.2007 | 24 | 11.05.2009 |
| 39 | Signaling Unit CMU200 | R&S | 832221/0055 | 300002862 | 12.01.2006 | 24 | 12.01.2008 |
| 40 | Power Splitter 6005-3 | Inmet Corp. | none | 300002841 | 23.12.2006 | 24 | 23.12.2008 |
| 41 | SMA Cables SPS-1151-985-SPS | Insulated Wire | different | different | n.a. | | |
| 42 | CBT32 with EDR Signaling Unit | R&S | | | | | |
| 43 | Coupling unit | Narda | N/A | -- | n.a. | | |
| 44 | 2xSwitch Matrix PSU | R&S | 872584/021 | 300001329 | n.a. | | |
| 45 | RF-cable set | R&S | N/A | different | n.a. | | |
| 46 | IEEE-cables | R&S | N/A | -- | n.a. | | |
| | | | | | | | |

Anmerkung: 3000002681-00xx als Systeme inventarisiert

***Anechoic chamber F:***

| No. | Instrument/Ancillary | Manufacturer | Type | Serial-No. | Internal identification |
|---|---|---|---|---|---|
| | **Radiated emission in chamber F** | | | | |
| F-1 | Control Computer | F+W | | FW0502032 | 300003303 |
| F-2 | Bilog antenna | Chase | CBL 6112A | 2110 | 300000573 |
| F-3a | Amplifier | Veritech Microwave Inc. | 0518C-138 | - / - | - / - |
| F-4b | Switch | HP | 3488A | - / - | 300000368 |
| F-5 | EMI Test receiver | R&S | ESCI | 100083 | 300003312 |
| F-6 | Turntable Controller | EMCO | 1061 3M | 1218 | 300000661 |
| F-7 | Tower Controller | EMCO | 1051 Controller | 1262 | 300000625 |
| F-8 | Tower | EMCO | 1051 Tower | 1262 | 300000625 |
| F-9 | Ultra Notch-Filter Rejected band Ch. 62 | WRCD | | 9 | |
| | **Radiated immunity in chamber F** | | | | |
| F-10 | Control Computer | F+W | | FW0502032 | 300003303 |
| F-11 | Signal Generator | R&S | SML 03 | 102519 | 300003407 |
| F-12 | RF-Amplifier | ar | 50W1000 | 12932 | 300001438 |
| F-13 | Directional Coupler | ar | DC 3010 | 12708 | 300001428 |
| F-14 | Logper Antenna | R&S | HL023A1 | 323704/016 | 300001476 |
| F-15 | RF-Amplifier | ar | 60S1G3 | 313649 | 300003410 |
| F-16 | Directional Coupler | ar | DC7144A | 312786 | 300003411 |
| F-17 | Horn Antenna | ar | AT 4002 | 19739 | 300000633 |
| F-18 | Power Meter | R&S | NRV | 860327/024 | F033 |
| F-19 | Power sensor | R&S | URV5-Z2 | 839080/005 | 300002844.02 |
| F-20 | Power sensor | R&S | URV5-Z2 | 830755/057 | F032 |
| | **Harmonics and flicker in front of chamber F** | | | | |
| F-21 | Flicker and Harmonics Test System | Spitzenberger & Spies | PHE4500/B I<br>PHE4500/B II | B5983<br>B5984 | 300000210 |
| F-22 | Control Unit | Spitzenberger & Spies | STE | B5980 | 300000210 |
| F-23 | Power Amplifier | Spitzenberger & Spies | EP 4500/B | B5976 | 300000210 |
| F-24 | Conect Panel | Spitzenberger & Spies | Conect panel | B5982 | 300000210 |
| F-25 | Power Supply | Spitzenberger & Spies | NT-EP 4500 | B3977 | 300000210 |
| F-26 | Additional transformer | Spitzenberger & Spies | UT-EP 4500 | B5978 | 300000210 |
| F-27 | Analyzer Reference System | Spitzenberger & Spies | ARS 16/1 | A3509 07/0 0205 | 300003314 |
| F-26 | Power Supply | Hewlett Packard | 6032 A | 2920 A 04466 | 300000580 |

# 6 Annex B: Photographs of Test site

Photo 1 (Radiated Emissions):

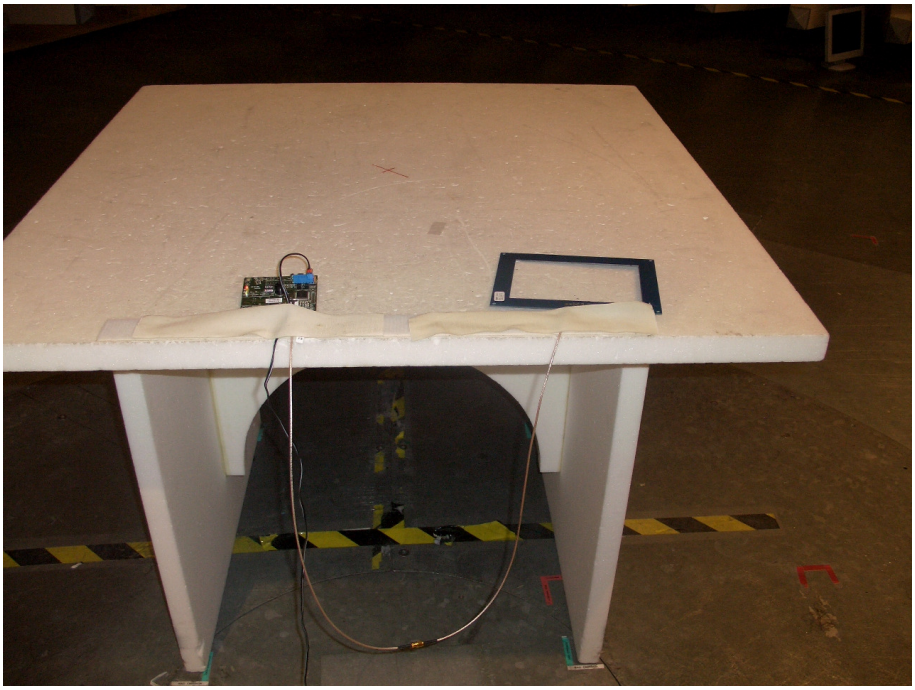


Photo 2 (Radiated Emissions):

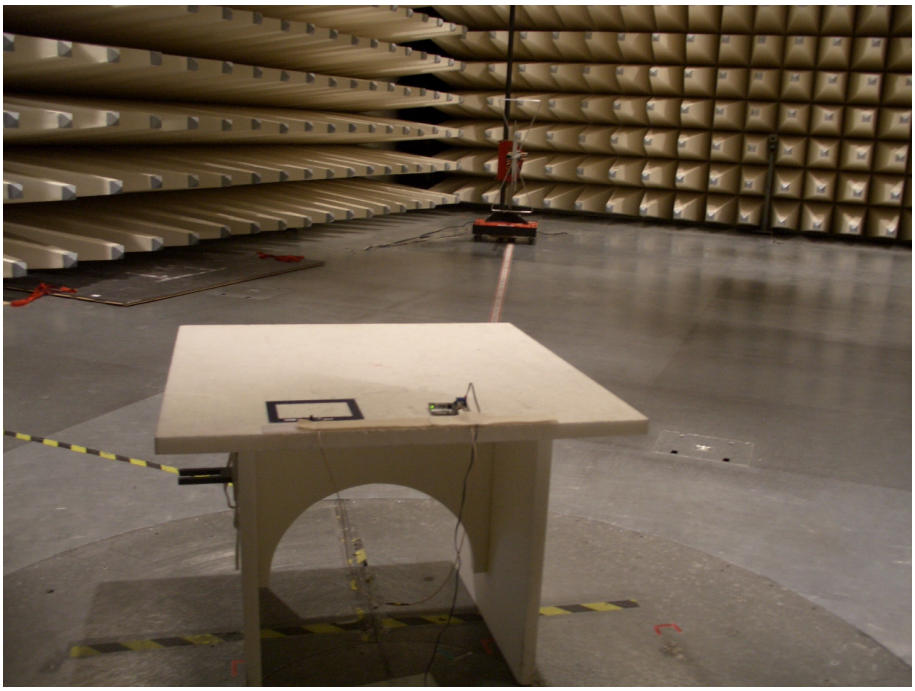


Photo 3 (Radiated Emissions):

# 7 Annex C: External and Internal Photographs of the Equipment

Photo 1:

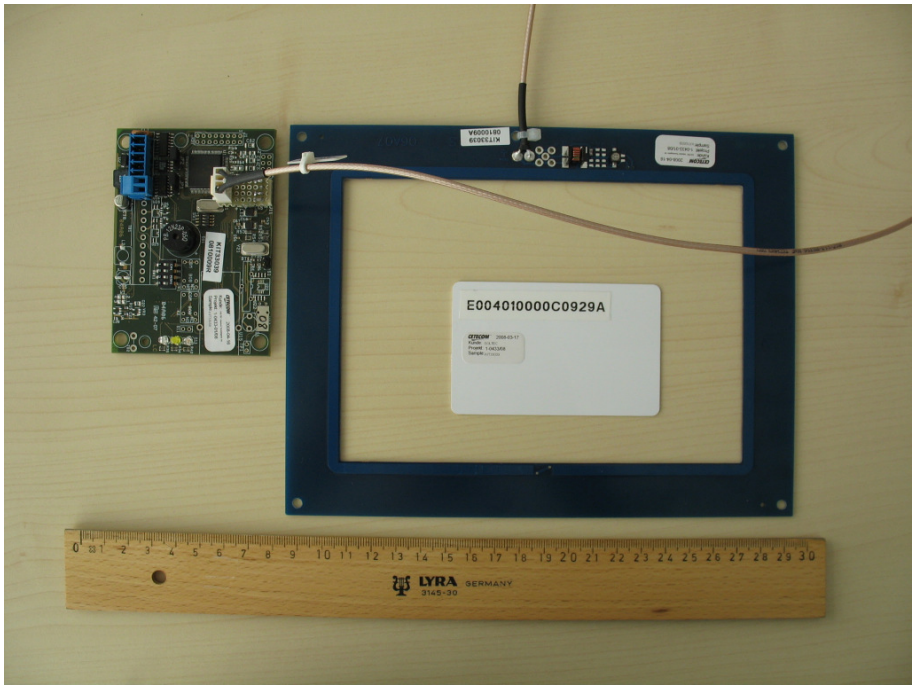



Photo 2:


Photo 3:


KIT33039
0810009A
LYRA
3145-30

Photo 4:

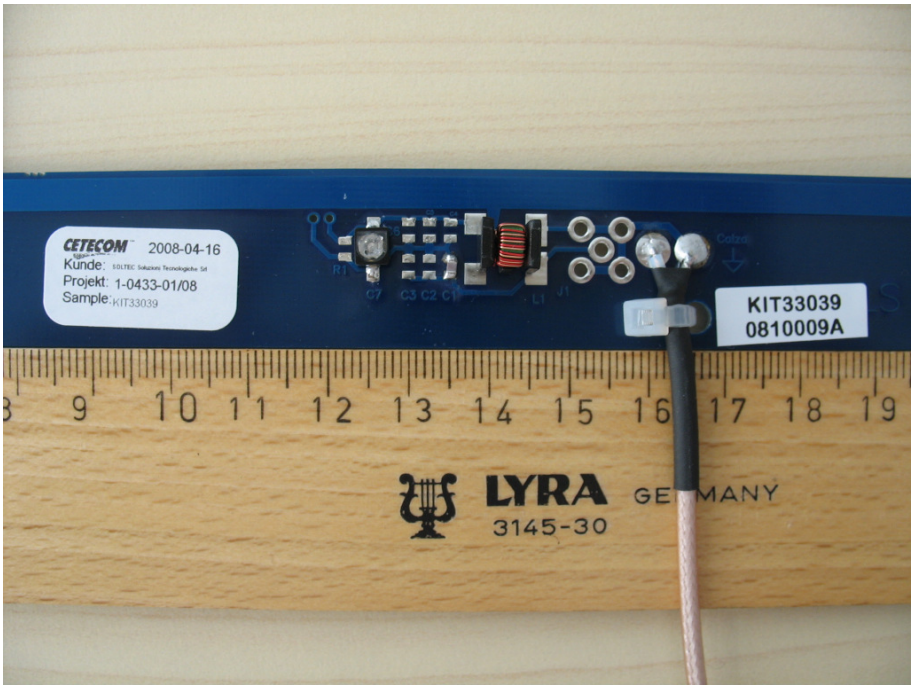

CETECOM 2008-04-16
Kunde:
Projekt: 1-0433-01/08
Sample: KIT33039
KIT33039
0810009A
LYRA
3145-30

Photo 5:

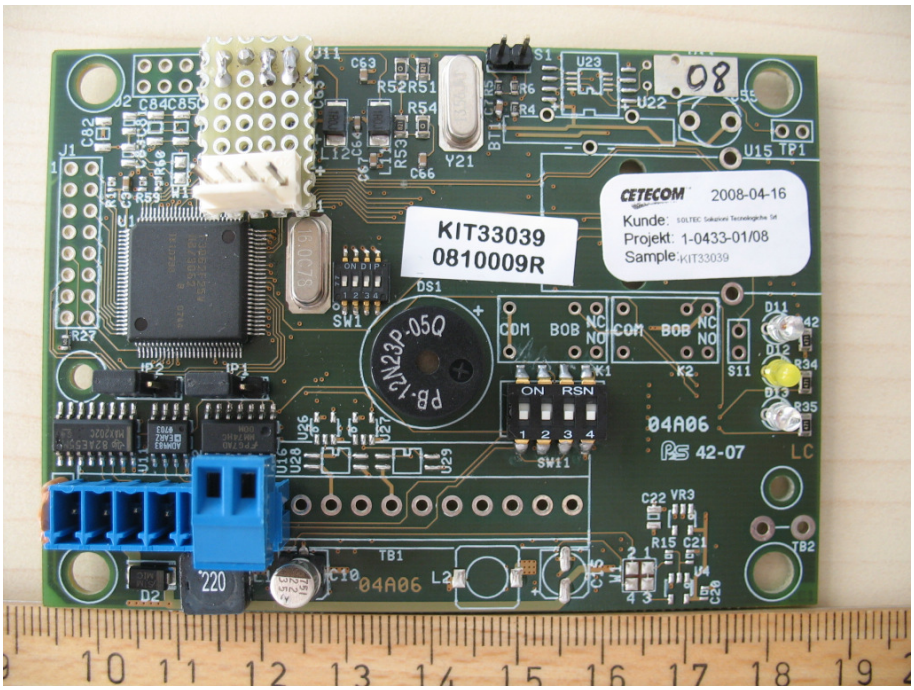



Photo 6: