

# CETECOM ICT Services GmbH

Radio Satellite Communication

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RSC14

issued test report consists of 31 Pages

Page 1 (31)

Recognized by the  
Federal Communications Commission  
**FCC–Identification Number: 90462**  
**TCB ID: DE 0001**



**Anechoic chamber registration no.: 3463 (IC)**

Accredited by the  
German Accreditation Council  
**DAR–Registration Number**  
**TTI–P–G 081/94–D0**



Independent ETSI  
compliance test house



**Accredited Bluetooth™ Test Facility (BQTF)**

**Test Report No.: 2\_4133-01-01-A/05**  
**FCC Part 74.861 / CANADA RSS-123**  
**SK2-A**  
**FCC ID : DMOB1FPXD**  
**IC : 2099A-FPSK**

CETECOM – ICT Services GmbH  
Untertürkheimerstr. 6-10  
66117 Saarbrücken, Germany

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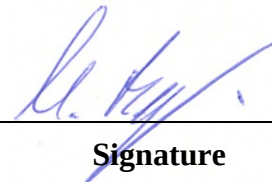
## 1 General Information

### 1.1 Notes

The test results of this test report relate exclusively to the test item specified in 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.

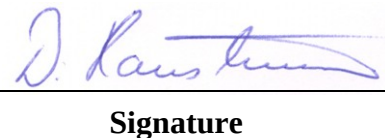
### Test Laboratory Manager:

|            |         |         |
|------------|---------|---------|
| 2005-10-24 | RSC8411 | Berg M. |
| Date       | Section | Name    |

  
Signature

### Technical Responsibility for Area of Testing:

|            |         |               |
|------------|---------|---------------|
| 2005-10-24 | RSC8412 | Hausknecht D. |
| Date       | Section | Name          |

  
Signature

## 1.2    Testing Laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

Telephone     : + 49 681 598 - 0

Telefax        : + 49 681 598 - 9075

E-mail         : info@ict.cetecom.de

Internet        : www.cetecom-ict.de

### **Accredited testing laboratory**

**The Test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025.**

**DAR-registration number : TTI-P-G 166/98-30**

**Accredited Bluetooth™ Test Facility (BQTF)**

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## 1.3    Details of Applicant

**Name         : Sennheiser electronic GmbH & Co. KG**

**Street        : Am Labor 1**

**City          : D-30900 Wedemark**

**Country      : Germany**

**Telephone : +49 (0) 5130 600-0**

**Telefax     : +49 (0) 5130 600-330**

**Contact     : Mr.Volker Bartsch**

**Telephone : +49 (0) 5130 600-465**

**E-mail      : bartschv@sennheiser.com**

## 1.4 Application Details

**Date of receipt of application     : 2005-10-14**

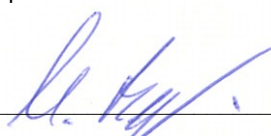
**Date of receipt of test item       : 2005-10-19**

**Date of test                         : 2005-10-21**

## 1.5 TEST ITEM

Type of equipment : Low power auxiliary equipment  
Type designation : SK2-A  
Manufacturer : Dynatron Industrial Co. Ltd  
Street : No. 89, Din Pin Rd., Ray Fong Industrial Area,  
City : Ray Fong Town, Taipei Hsien  
Country : Taiwan  
Serial number :  
Additional information :  
Frequency : 719 to 721 MHz  
Emission designator: 122KF3E (2x max. Audio Frequency + 2x max. FM Deviation)  
Number of channels : 4  
Antenna : Tx:  $\lambda/4$  monopole antenna  
Power supply : Tx: 9V DC Battery  
Output power : 5.9 mW  
Occupied bandwidth : 140.280 kHz  
Transmitter spurious : -40.2 dBm  
Receiver spurious : - dB $\mu$ V/m in 3m  
Temperature range : -30°C - +50°C  
FCC ID : DMOB1FPXD  
IC : 2099A-FPSK

**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.

Signature: 

Date: 2005-04-28 Michael Berg : Test management  
NAME AND TITLE (Please print or type):

## **1.6    Test Specifications:**

**FCC Part 74 Subpart H  
CANADA RSS-123**

## **2        Technical Test**

### **2.1    Summary of Test Results**

#### **TEST PROCEDURE**

**All tests were done in accordance with the EIA/TIA 603.**

**THE SUBSTITUTION METHOD ( TIA/EIA 603) WAS USED.**

**This products fulfills also the requirements for CANADA RSS-123**

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

**Final verdict : PASS**

## 2.2    Test report

### TEST REPORT

Test report no.: 2\_4133-01-01-A/05

## TEST REPORT REFERENCE

### LIST OF MEASUREMENTS

| PARAMETER TO BE MEASURED                                        | PAGE |
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**Equipment under test** : SK2  
**Ambient temperature** : 23°C  
**Relative humidity** : 44%

## OUTPUT POWER (radiated)

## FCC Rule Part 74.861 (e)(1)(ii)

### Method of measurement:

#### Measuring the EIRP of Spurious/Harmonic Emissions using Substitution Method

- (a) The measurements was performed with full rf output power and modulation.
- (b) Test was performed at listed 3m test site (listed with FCC, IC).
- (c) The transmitter under test was placed at the specified height on a non-conducting turntable (80 cm height)
- (d) The BICONILOG antenna (20 MHz to 1 GHz) or HORN antenna (1 GHz to 18 GHz) was used for measuring.
- (e) Load an appropriate correction factors file in EMI Receiver for correcting the field strength reading level  
Total Correction Factor recorded in the EMI Receiver = Cable Loss + Antenna Factor  
 $E \text{ (dBuV/m)} = \text{Reading (dBuV)} + \text{Total Correction Factor (dB/m)}$
- (f) Set the EMI Receiver and #2 as follows:
  - Center Frequency: test frequency
  - Resolution BW: 100 kHz
  - Video BW: same
  - Detector Mode: positive
  - Average: off
  - Span: 3 x the signal bandwidth
- (g) The test antenna was lowered or raised from 1 to 4 meters until the maximum signal level was detected.
- (h) The transmitter was rotated through 360° about a vertical axis until a higher maximum signal was received.
- (i) The test antenna was lowered or raised again from 1 to 4 meters until a maximum was obtained. This level was recorded.
- (j) The recorded reading was corrected to the true field strength level by adding the antenna factor, cable loss and subtracting the pre-amplifier gain.
- (k) The above steps were repeated with both transmitters' antenna and test receiving antenna placed in vertical and horizontal polarization. Both readings with the antennas placed in vertical and horizontal polarization shall be recorded.
- (l) Repeat for all different test signal frequencies

#### Measuring the EIRP of Spurious/Harmonic Emissions using Substitution Method

- (a) Set the EMI Receiver (for measuring E-Field) and Receiver #2 (for measuring EIRP) as follows:
  - Center Frequency : equal to the signal source
  - Resolution BW : 10 kHz
  - Video BW : same
  - Detector Mode : positive
  - Average : off
  - Span : 3 x the signal bandwidth
- (b) Load an appropriate correction factors file in EMI Receiver for correcting the field strength reading level  
Total Correction Factor recorded in the EMI Receiver = Cable Loss + Antenna Factor  
 $E \text{ (dBuV/m)} = \text{Reading (dBuV)} + \text{Total Correction Factor (dB/m)}$
- (c) Select the frequency and E-field levels for ERP/EIRP measurements.
- (d) Substitute the EUT by a signal generator and one of the following transmitting antenna (substitution antenna):  
.DIPOLE antenna for frequency from 30-1000 MHz or .HORN antenna for frequency above 1 GHz }.

#### REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17-24

**Equipment under test : SK2**  
**Ambient temperature : 23°C**  
**Relative humidity : 44%**

- (e) Mount the transmitting antenna at 1.5 meter high from the ground plane.
- (f) Use one of the following antenna as a receiving antenna: .DIPOLE antenna for frequency from 30-1000 MHz or .HORN antenna for frequency above 1 GHz }.
- (g) If the DIPOLE antenna is used, tune it's elements to the frequency as specified in the calibration manual.
- (h) Adjust both transmitting and receiving antenna in a VERTICAL polarization.
- (i) Tune the EMI Receivers to the test frequency.
- (j) Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
- (k) The transmitter was rotated through 360 o about a vertical axis until a higher maximum signal was received.
- (l) Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
- (m) Adjust input signal to the substitution antenna until an equal or a known related level to that detected from the transmitter was obtained in the test receiver.
- (n) Record the power level read from the Average Power Meter and calculate the ERP/EIRP as follows:  
 **$P = P1 - L1 = (P2 + L2) - L1 = P3 + A + L2 - L1$**   
 **$EIRP = P + G1 = P3 + L2 - L1 + A + G1$**   
 **$ERP = EIRP - 2.15 \text{ dB}$**   
Total Correction factor in EMI Receiver # 2 =  $L2 - L1 + G1$   
Where: P: Actual RF Power fed into the substitution antenna port after corrected.  
P1: Power output from the signal generator  
P2: Power measured at attenuator A input  
P3: Power reading on the Average Power Meter  
EIRP: EIRP after correction  
ERP: ERP after correction
- (o) Adjust both transmitting and receiving antenna in a HORIZONTAL polarization, then repeat step (k) to (o)
- (p) Repeat step (d) to (o) for different test frequency
- (q) Repeat steps (c) to (j) with the substitution antenna oriented in horizontal polarization.
- (r) Actual gain of the EUT's antenna is the difference of the measured EIRP and measured RF power at the RF port. Correct the antenna gain if necessary.:

Equipment under test : SK2  
 Ambient temperature : 23°C  
 Relative humidity : 44%

## Results:

| TEST CONDITIONS                                                         |       | TRANSMITTER ERP (mW) |  |  |  |  |  |
|-------------------------------------------------------------------------|-------|----------------------|--|--|--|--|--|
| Frequency (MHz)                                                         |       | 720.850              |  |  |  |  |  |
| T <sub>nom</sub> ( 23 )°C                                               | 9.0 V | 5.9                  |  |  |  |  |  |
| antenna gain                                                            |       | 0 dB                 |  |  |  |  |  |
| Maximum deviation from output power under extreme test conditions (dBc) |       | ±0.4 dB              |  |  |  |  |  |
| Measurement uncertainty                                                 |       | ±0.5dB               |  |  |  |  |  |

## Sample calculation:

| Freq    | SA Reading | SG Setting | Ant. gain | Dipol gain | Cable loss | ERP Result | ERP Result |  |  |
|---------|------------|------------|-----------|------------|------------|------------|------------|--|--|
| MHz     | dBμV       | dBm        | dBm       | dBd        | dB         | dBm        | mW         |  |  |
| 720.850 | 86.8       | 11.5       | -         | 0.0        | 2.8        | 7.7        | 5.9        |  |  |
|         |            |            |           |            |            |            |            |  |  |

ERP = SG (dBm) - Cable Loss (dB) + Ant. gain (dBd)

## LIMIT

FCC Rule Part 74.861

| Frequency range<br>MHz | Power level conducted<br>mW |
|------------------------|-----------------------------|
| 54-72, 76-88, 174-216  | 50                          |
| 470-608, 614-806       | 250                         |

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED  
 (for reference numbers see test equipment listing)  
 17-24

**Equipment under test** : SK2  
**Ambient temperature** : 23°C  
**Relative humidity** : 44%

**AFC FREQ ERROR vs. VOLTAGE****FCC Rule Part 74.861****Method of measurement:**

The EUT was fixed in test fixture to a resistive coaxial attenuator of normal load impedance, and the un-modulated carrier was measured by means of a spectrum analyzer .

The input voltage was varied in an range from 6.5V to 9.0V and the maximum change in frequency was noted within one minute.

The temperature tests were performed for each frequency range on one channel

**720.85 MHz**

| <b>Voltage<br/>(V)</b> | <b>Frequency Error<br/>(Hz)</b> | <b>Frequency Error<br/>(%)</b> | <b>Frequency Error<br/>(ppm)</b> |
|------------------------|---------------------------------|--------------------------------|----------------------------------|
| <b>6.5</b>             | <b>78</b>                       | <b>0,00001082</b>              | <b>0,1082</b>                    |
| <b>7.0</b>             | <b>78</b>                       | <b>0,00001082</b>              | <b>0,1082</b>                    |
| <b>7.5</b>             | <b>78</b>                       | <b>0,00001082</b>              | <b>0,1082</b>                    |
| <b>8.0</b>             | <b>78</b>                       | <b>0,00001082</b>              | <b>0,1082</b>                    |
| <b>8.5</b>             | <b>82</b>                       | <b>0,00001138</b>              | <b>0,1138</b>                    |
| <b>9.0</b>             | <b>90</b>                       | <b>0,00001249</b>              | <b>0,1249</b>                    |

**LIMIT****FCC Rule Part 74.861(4)**

|                                                                          |
|--------------------------------------------------------------------------|
| <b>The frequency tolerance of the transmitter shall be 0.005 percent</b> |
|--------------------------------------------------------------------------|

**Equipment under test** : SK2  
**Ambient temperature** : 23°C  
**Relative humidity** : 44%

**AFC FREQ ERROR vs. TEMPERATURE****Method of measurement:**

The EUT was connected to a resistive coaxial attenuator of normal load impedance, and the un-modulated carrier was measured by means of a spectrum analyzer .

With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours . Power was applied and the maximum change in frequency was noted within one minute.

With power OFF , the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency error was noted within one minute .

The temperature tests were performed for each frequency range on one channel

**720.850 MHz**

| <b>TEMPERATURE<br/>(°C)</b> | <b>Frequency Error<br/>(Hz)</b> | <b>Frequency Error<br/>(%)</b> | <b>Frequency Error<br/>(ppm)</b> |
|-----------------------------|---------------------------------|--------------------------------|----------------------------------|
| -30                         | -3237                           | 0,00044905                     | 4,4905                           |
| -20                         | -3315                           | 0,00045987                     | 4,5987                           |
| -10                         | -1189                           | 0,00016494                     | 1,6494                           |
| ±0,0                        | +140                            | 0,00001942                     | 0,1942                           |
| +10                         | +532                            | 0,00007380                     | 0,7380                           |
| +20                         | +90                             | 0,00001249                     | 0,1249                           |
| +30                         | -232                            | 0,00003218                     | 0,3218                           |
| +40                         | -381                            | 0,00005285                     | 0,5285                           |
| +50                         | -939                            | 0,00013026                     | 1,3026                           |

**LIMIT****FCC Rule Part 74.861**

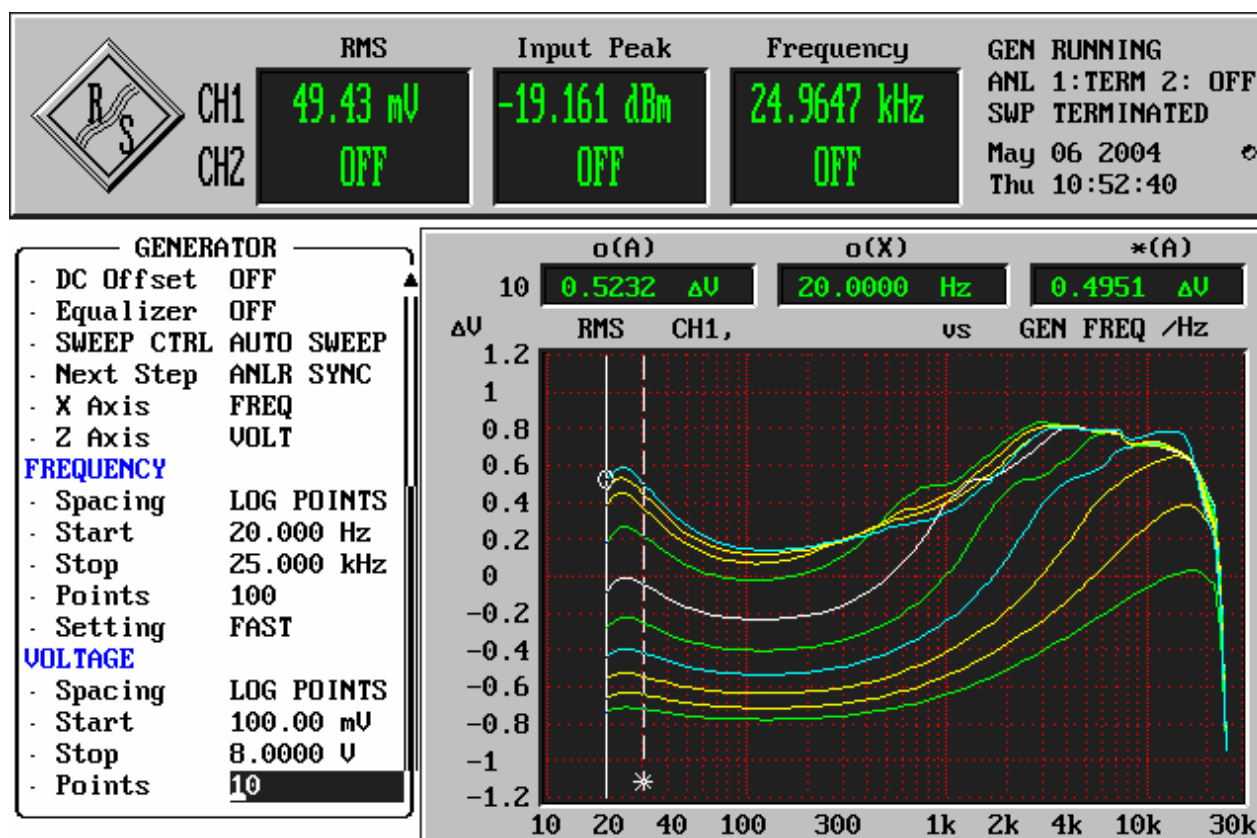
|                                                                          |
|--------------------------------------------------------------------------|
| <b>The frequency tolerance of the transmitter shall be 0.005 percent</b> |
|--------------------------------------------------------------------------|

Equipment under test : SK2  
 Ambient temperature : 23°C  
 Relative humidity : 44%

## CHARACTERISTICS OF THE AUDIO MODULATION CIRCUITRY FCC Rule Part 74 .861(e3)

### Method of measurement :

The audio frequency responds was measured in accordance with EIA/TIA 603.  
 The plots shows 10 curves with different modulation levels, starting from 100 mV to 8000 mV (30%+20 dB Modulation), the frequency is varied from 20 Hz to 25 kHz .



max. measured frequency deviation : ± 46.3 kHz

this measurement is valid for all channels

Limit: max Deviation ±75kHz

Equipment under test : SK2  
 Ambient temperature : 23°C  
 Relative humidity : 44%

## OCCUPIED BANDWIDTH

FCC Rule Part 74.861(e)(3), (5)/ Sec. 2.1049

### Test method :

The audio frequency responds was measured in accordance with EIA/TIA 603.

Data in the plots show that all sidebands between 50 & 100% for the authorized bandwidth are attenuated by at least 25dB. From 100 to 250% of the authorized bandwidth they are attenuated by at least 35dB and beyond 250% 43 log(Po) dB. The plot shows the transmitter modulated with 15000 Hz (the highest modulation frequency), adjusted for 50% modulation plus 16 dB. The spectrum analyzer was set with the un-modulated carrier at the top of the screen. The test procedure diagram and occupied bandwidth plots follow.

| TEST CONDITIONS           |                         | OCCUPIED BANDWIDTH ( kHz ) |  |  |  |  |  |
|---------------------------|-------------------------|----------------------------|--|--|--|--|--|
| Frequency (MHz)           |                         | 720.850                    |  |  |  |  |  |
| T <sub>nom</sub> ( 23 )°C | V <sub>nom</sub> (9.0)V | 140.280                    |  |  |  |  |  |
| max. Deviation (FM)       |                         | 46.2 kHz                   |  |  |  |  |  |
| Measurement uncertainty   |                         | ±0.5%                      |  |  |  |  |  |

### Limits

FCC Rule Part 74.861(e)(5)

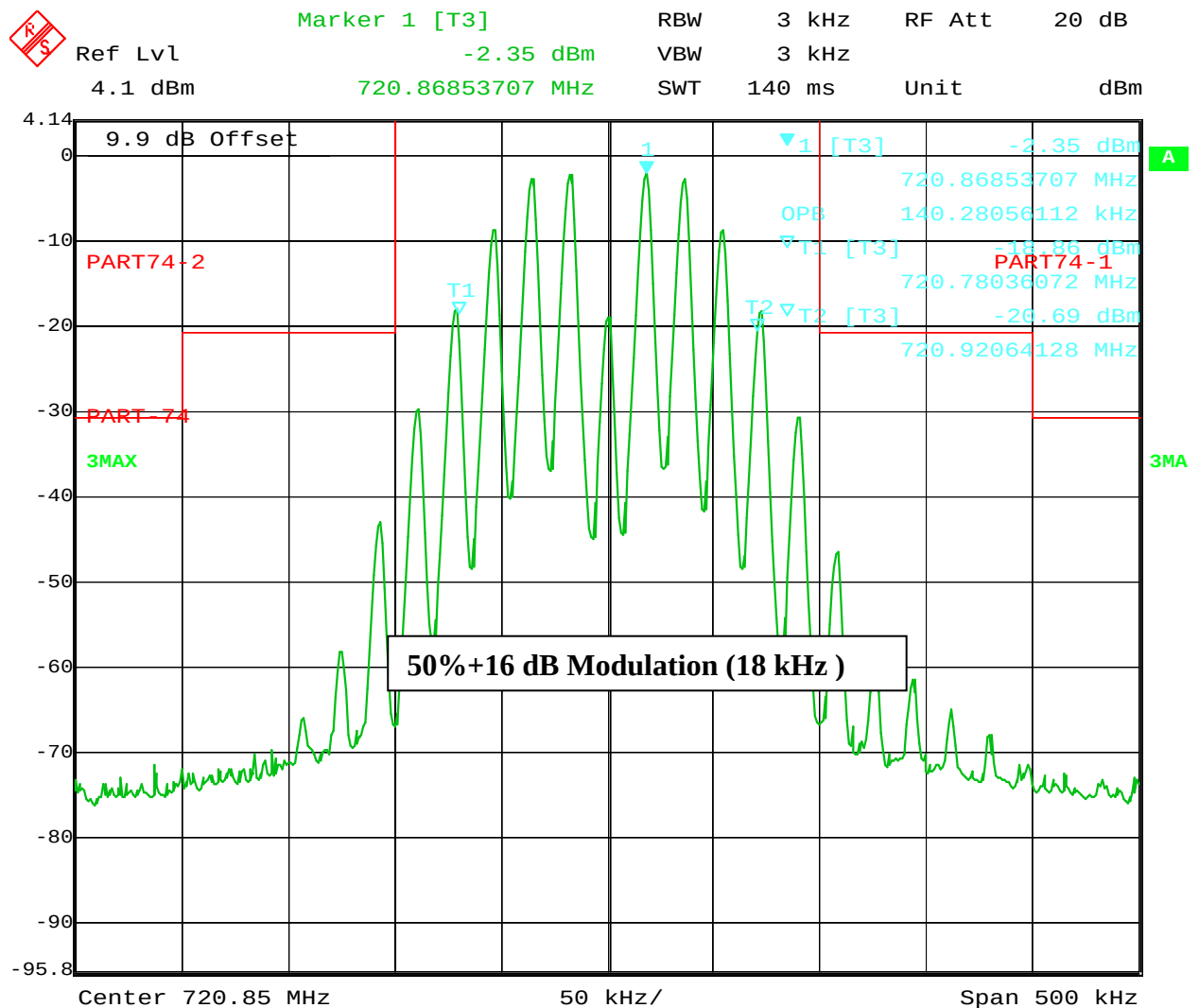
The operating bandwidth shall not exceed 200 kHz

Equipment under test : SK2  
Ambient temperature : 23°C  
Relative humidity : 44%

## OCCUPIED BANDWIDTH

FCC Rule Part 74.861(e)(3), (5)/ Sec. 2.989

Frequency: 720.850 MHz / max. deviation :  $\pm 46.2$  kHz (Limit  $\pm 75$  kHz )



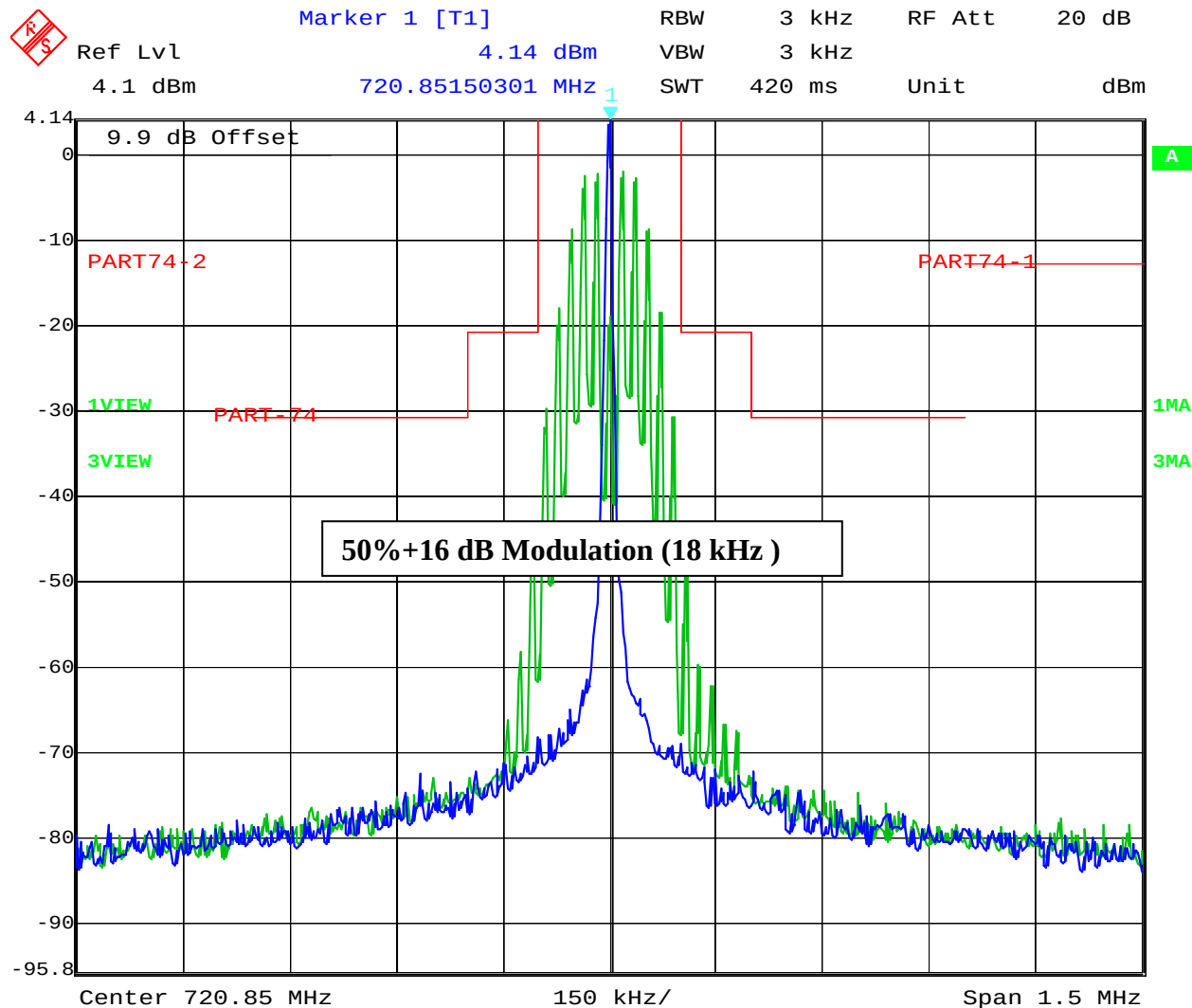
Date: 21.OCT.2005 11:08:05



Equipment under test : SK2  
Ambient temperature : 23°C  
Relative humidity : 44%

Emission mask FCC 74 861(e)(6)

720.850 MHz



Date: 21.OCT.2005 11:06:50

## Limits

## FCC Rule Part 74.861(e)(6)

| $f \pm 100 \text{ kHz to } f \pm 200 \text{ kHz}$ | $f \pm 200 \text{ kHz to } f \pm 500 \text{ kHz}$ | $f \pm 500 \text{ kHz}$                                                               |
|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------|
| 25 dBc                                            | 35 dBc                                            | -43 +10 log <sub>10</sub> (mean output power in watts) dB below the mean output power |

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED  
(for reference numbers see test equipment listing)

**Equipment under test** : SK2  
**Ambient temperature** : 23°C  
**Relative humidity** : 44%

## RADIATED EMISSIONS

## FCC Rule Part 74 subpart H

### Test procedure

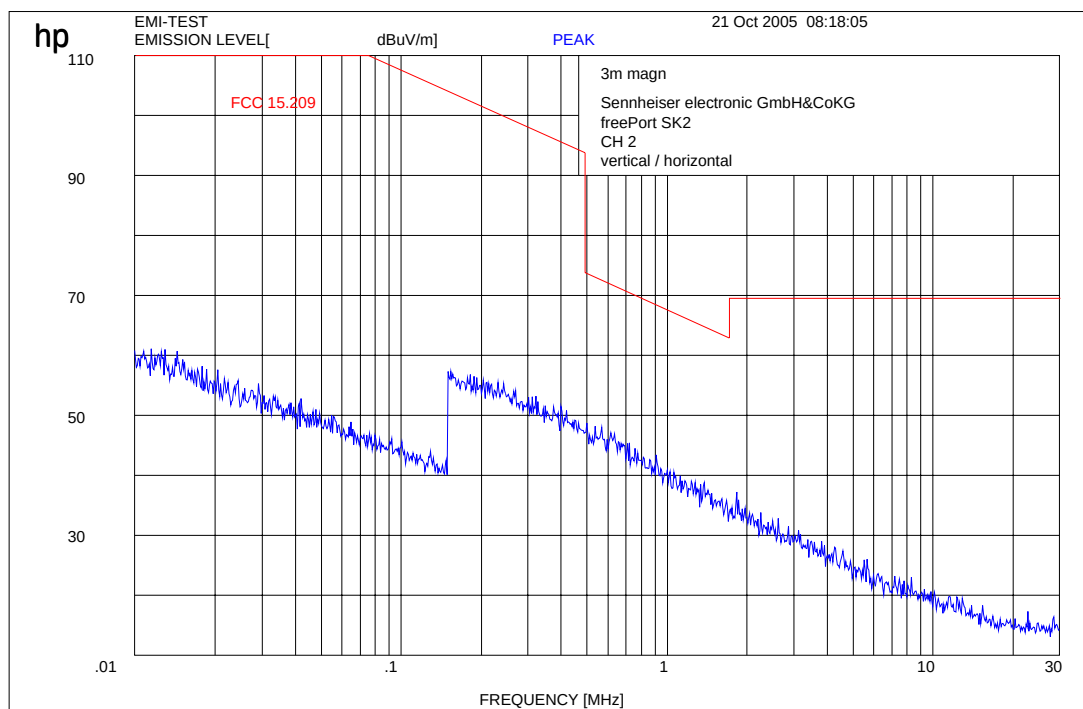
- 1). On a test site, the EUT shall be placed on a turntable, and in the position closest to the normal use as declared by the user.
- 2). The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the frequency of the transmitter.
- 3). The output of the test antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- 4). The transmitter shall be switched on, if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- 5). The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- 6). The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- 7). The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- 8). The maximum signal level detected by the measuring receiver shall be noted.
- 9). The transmitter shall be replaced by a substitution antenna (tuned dipole for f less than 1GHz and horn for frequency higher than 1GHz).
- 10). The substitution antenna shall be oriented for vertical polarization and the length (if a dipole antenna is used) of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- 11). The substitution antenna shall be connected to a calibrated signal generator.
- 12). If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- 13). The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- 14). The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- 15). The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- 16). The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.
- 17). The measure of the effective radiated power is the larger of the two levels recorded, at the input to the substitution antenna, corrected for the gain of the substitution antenna if necessary.
- 18). Repeat above substitution measurement procedure for fundamental and all harmonica emissions.



Equipment under test : SK2  
Ambient temperature : 23°C  
Relative humidity : 44%

**RADIATED EMISSIONS**  
(this plot is valid for all channels)  
*Part 15.209 Magnetics*

**FCC Rule Part 74 subpart H**

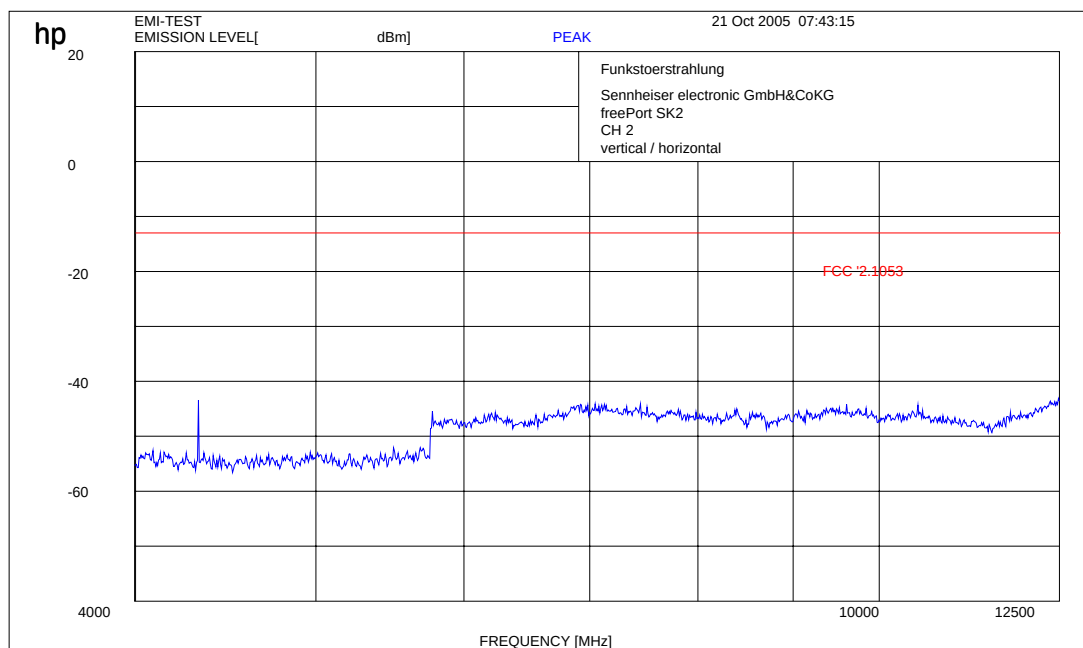
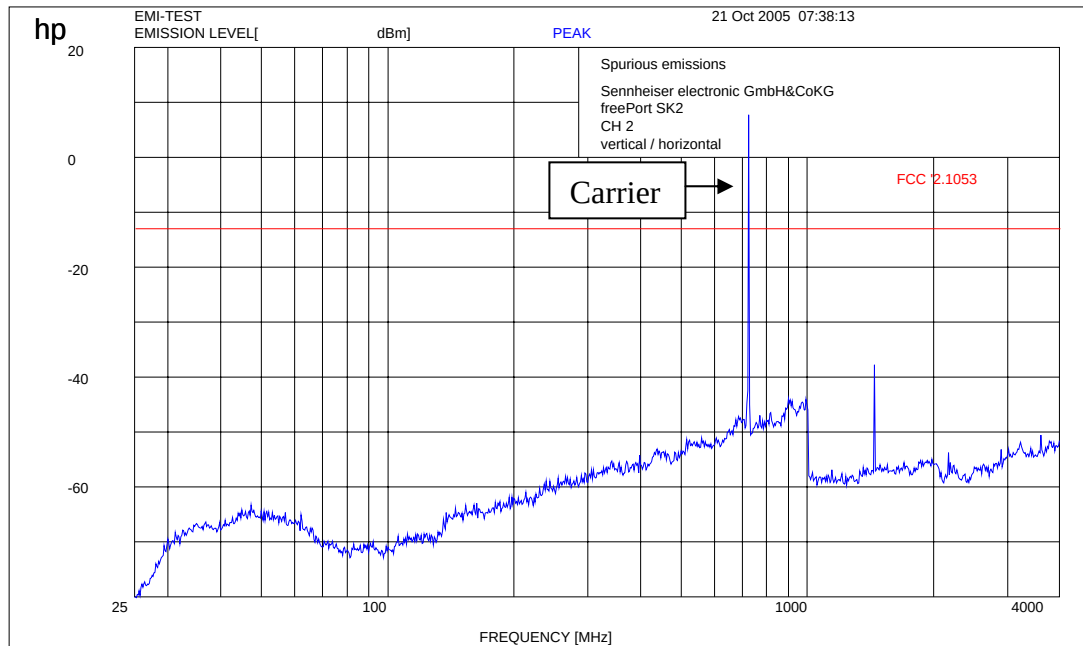


Equipment under test : SK2  
Ambient temperature : 23°C  
Relative humidity : 44%

## RADIATED EMISSIONS

720.850 MHz

## FCC Rule Part 74 subpart H



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED  
(for reference numbers see test equipment listing)

**TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS**

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

| No | Instrument/Ancillary         | Type      | Manufacturer    | Serial No.  | Calibrated |
|----|------------------------------|-----------|-----------------|-------------|------------|
| 01 | Spectrum Analyzer            | 8566 A    | Hewlett-Packard | 1925A00257  | Yes        |
| 02 | Analyzer Display             | 8566 A    | Hewlett-Packard | 1925A00860  | Yes        |
| 03 | Oscilloscope                 | 7633      | Tektronix       | 230054      | Yes        |
| 04 | Radio Communication Analyzer | CMTA 54   | Rohde & Schwarz | 894 043/010 | Yes        |
| 05 | System Power Supply          | 6038 A    | Hewlett-Packard | 2848A07027  | Yes        |
| 06 | Signal Generator             | 8111 A    | Hewlett-Packard | 2215G00867  | Yes        |
| 07 | Signal Generator             | 8662 A    | Hewlett-Packard | 2224A01012  | Yes        |
| 08 | Function Generator           | AFGU      | Rohde & Schwarz | 862 480/032 | Yes        |
| 09 | Regulating Transformer       | MPL       | Erfi            | 91350       | n.a.       |
| 10 | LISN                         | NNLA 8120 | Schwarzbeck     | 8120331     | Yes        |
| 11 | Relay-Matrix                 | PSU       | Rohde & Schwarz | 893 285/020 | Yes        |
| 12 | Power-Meter                  | 436 A     | Hewlett-Packard | 2101A12378  | Yes        |
| 13 | Power-Sensor                 | 8484 A    | Hewlett-Packard | 2237A10156  | Yes        |
| 14 | Power-Sensor                 | 8482 A    | Hewlett-Packard | 2237A00616  | Yes        |
| 15 | Modulation Meter             | 9008      | Racal-Dana      | 2647        | Yes        |
| 16 | Frequency Counter            | 5340 A    | Hewlett-Packard | 1532A03899  | Yes        |
| 17 | Anechoic Chamber             | ---       | MWB             | 87400/002   | Yes        |
| 18 | Spectrum Analyzer            | 85660 B   | Hewlett-Packard | 2747A05306  | Yes        |
| 19 | Analyzer Display             | 85662 A   | Hewlett-Packard | 2816A16541  | Yes        |
| 20 | Quasi Peak Adapter           | 85650 A   | Hewlett-Packard | 2811A01131  | Yes        |
| 21 | RF-Preselector               | 85685 A   | Hewlett-Packard | 2833A00768  | Yes        |
| 22 | Biconical Antenna            | 3104      | Emco            | 3758        | Yes        |
| 23 | Log. Per. Antenna            | 3146      | Emco            | 2130        | Yes        |
| 24 | Double Ridged Horn           | 3115      | Emco            | 3088        | Yes        |
| 25 | EMI-Testreceiver             | ESAI      | Rohde & Schwarz | 863 180/013 | Yes        |
| 26 | EMI-Analyzer-Display         | ESAI-D    | Rohde & Schwarz | 862 771/008 | Yes        |
| 27 | Biconical Antenna            | HK 116    | Rohde & Schwarz | 888 945/013 | Yes        |
| 28 | Log. Per. Antenna            | HL 223    | Rohde & Schwarz | 825 584/002 | Yes        |
| 29 | Relay-Switch-Unit            | RSU       | Rohde & Schwarz | 375 339/002 | Yes        |
| 30 | Highpass                     | HM985955  | FSY Microwave   | 001         | n.a.       |
| 31 | Amplifier                    | P42-GA29  | Tron-Tech       | B 23602     | Yes        |
| 32 | Anechoic Chamber             |           | Frankonia       |             | Yes        |
| 33 | Control Computer             | PSM 7     | Rohde & Schwarz | 834 621/004 | Yes        |
| 34 | EMI Test Receiver            | ESMI      | Rohde & Schwarz | 827 063/010 | Yes        |
| 35 | EMI Test Receiver            | Display   | Rohde & Schwarz | 829 808/010 | Yes        |

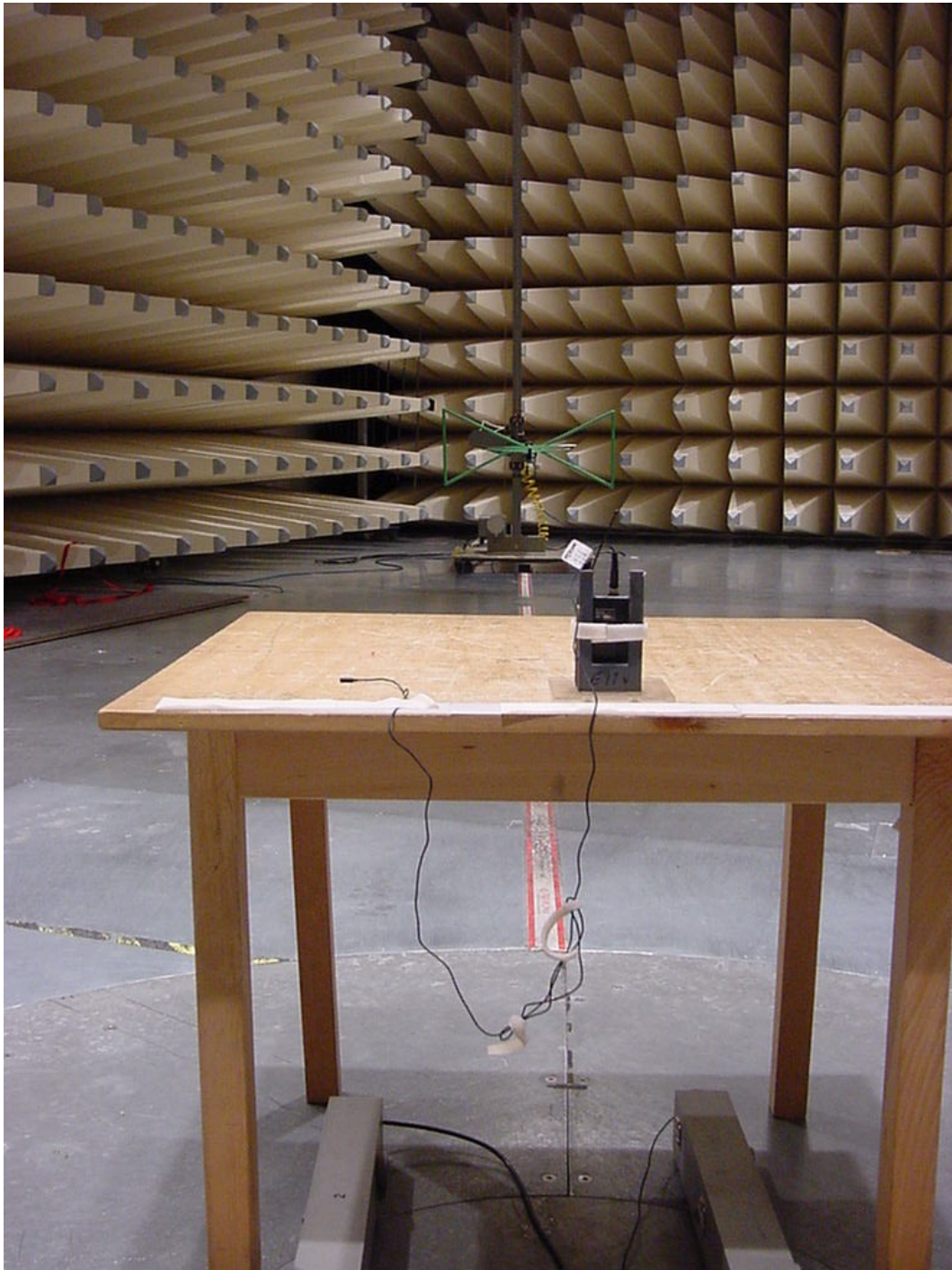
**TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS**

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

| No | Instrument/Ancillary                  | Type      | Manufacturer    | Serial No.   | Calibrated |
|----|---------------------------------------|-----------|-----------------|--------------|------------|
| 36 | Control Computer                      | HD 100    | Deisel          | 100/322/93   | n.a.       |
| 37 | Relay Matrix                          | PSN       | Rohde & Schwarz | 829 065/003  | Yes        |
| 38 | Control Unit                          | GB 016 A2 | Rohde & Schwarz | 344 122/008  | Yes        |
| 39 | Relay Switch Unit                     | RSU       | Rohde & Schwarz | 316 790/001  | Yes        |
| 40 | Power Supply                          | 6032A     | Hewlett Packard | 2846A04063   | Yes        |
| 41 | Spectrum Monitor                      | EZM       | Rohde & Schwarz | 883 720/006  | n.a.       |
| 42 | Measuring Receiver                    | ESH 3     | Rohde & Schwarz | 890 174/002  | Yes        |
| 43 | Measuring Receiver                    | ESVP      | Rohde & Schwarz | 891 752/005  | Yes        |
| 44 | Bicon Ant. 20-300MHz                  | HK 116    | Rohde & Schwarz | 833 162/011  | Yes        |
| 45 | Logper Ant. 0.3-1 GHz                 | HL 223    | Rohde & Schwarz | 832 914/010  | Yes        |
| 46 | Amplifier 0.1-4 GHz                   | AFS4      | Miteq Inc.      | 206461       | Yes        |
| 47 | Logper Ant. 1-18 GHz                  | HL 024 A2 | Rohde & Schwarz | 342 662/002  | Yes        |
| 48 | Polarisation Network                  | HL 024 Z1 | Rohde & Schwarz | 341 570/002  | Yes        |
| 49 | Double Ridged Horn Antenna 1-26.5 GHz | 3115      | EMCO            | 9107-3696    | Yes        |
| 50 | Microw. Sys. Amplifier 0.5- 26.5 GHz  | 8317A     | Hewlett Packard | 3123A00105   | Yes        |
| 51 | Audio Analyzer                        | UPD       | Rohde & Schwarz | 1030.7500.04 | Yes        |
| 52 | Controler                             | PSM 7     | Rohde & Schwarz | 883 086/026  | Yes        |
| 53 | DC V-Network                          | ESH3-Z6   | Rohde & Schwarz | 861 406/005  | Yes        |
| 54 | DC V-Network                          | ESH3-Z6   | Rohde & Schwarz | 893 689/012  | Yes        |
| 55 | AC 2 Phase V-Network                  | ESH3-Z5   | Rohde & Schwarz | 861 189/014  | Yes        |
| 56 | AC 2 Phase V-Network                  | ESH3-Z5   | Rohde & Schwarz | 894 981/019  | Yes        |
| 57 | AC-3 Phase V-Network                  | ESH2-Z5   | Rohde & Schwarz | 882 394/007  | Yes        |
| 58 | Power Supply                          | 6032A     | Rohde & Schwarz | 2933A05441   | Yes        |
| 59 | RF-Test Receiver                      | ESVP.52   | Rohde & Schwarz | 881 487/021  | Yes        |
| 60 | Spectrum Monitor                      | EZM       | Rohde & Schwarz | 883 086/026  | n.a.       |
| 61 | RF-Test Receiver                      | ESH3      | Rohde & Schwarz | 881 515/002  | Yes        |
| 62 | Relay Matrix                          | PSU       | Rohde & Schwarz | 882 943/029  | Yes        |
| 63 | Relay Matrix                          | PSU       | Rohde & Schwarz | 828 628/007  | Yes        |
| 64 | Spectrum Analyzer                     | FSIQ 26   | Rohde & Schwarz | 119.6001.27  | Yes        |
| 65 | Spectrum Analyzer                     | HP 8565E  | Hewlett Packard | 3473A00773   | Yes        |
| 68 |                                       |           |                 |              |            |

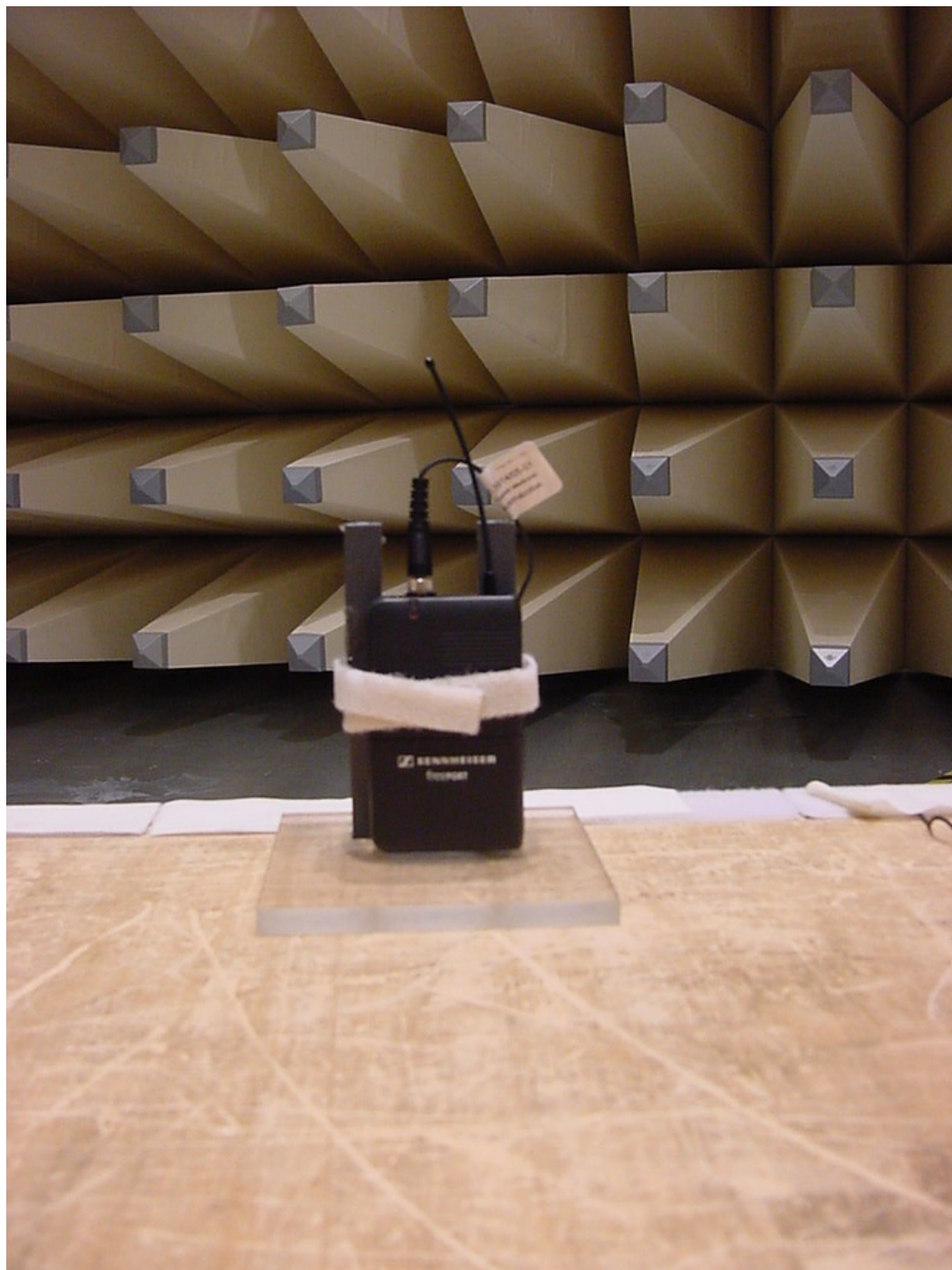


**Test setup**  
**Radiated Emissions**  
**SK2**





Test site  
Radiated Emissions  
SK2



## Photographs of the equipment

SK2





SK2

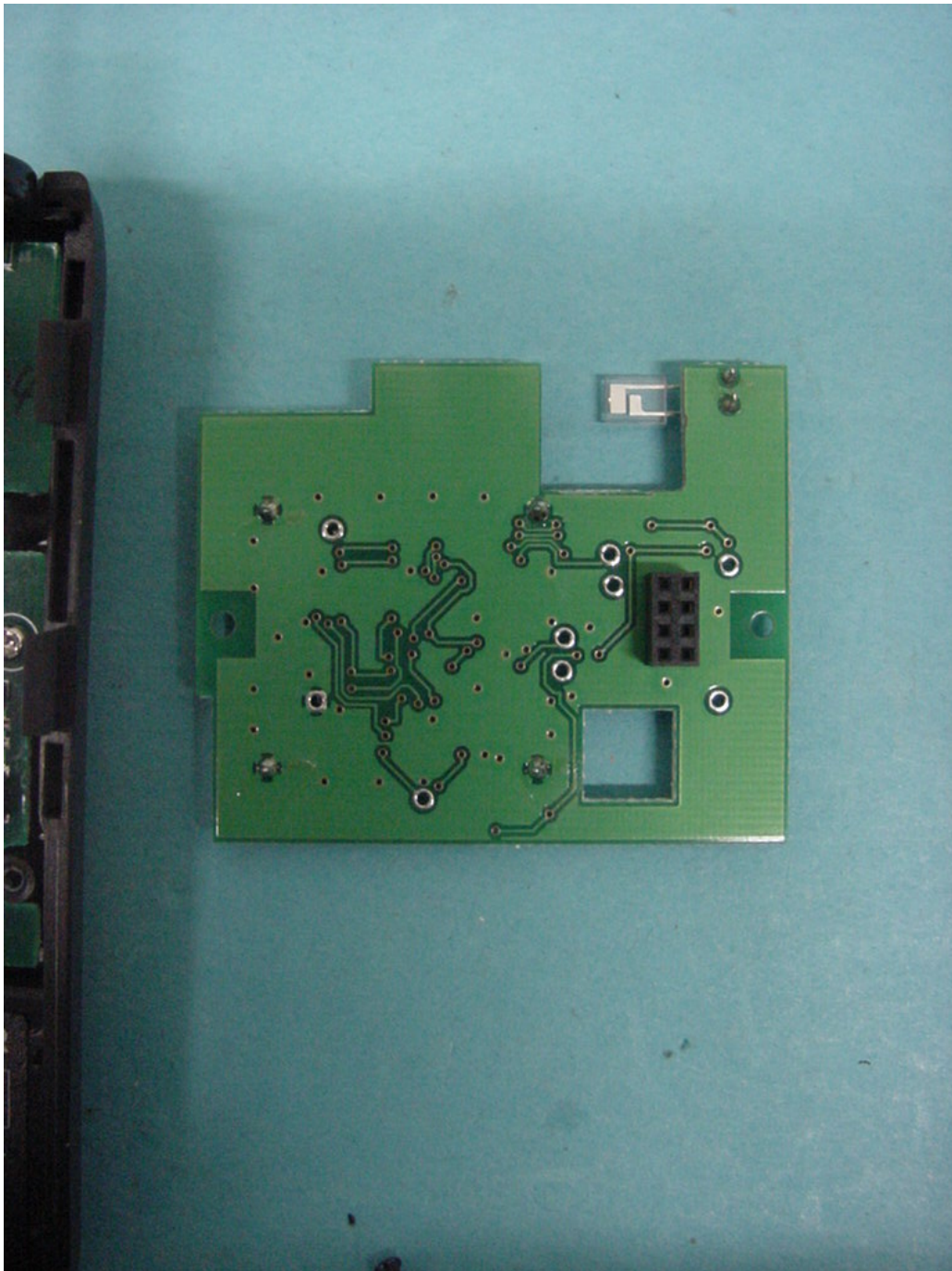


SK2

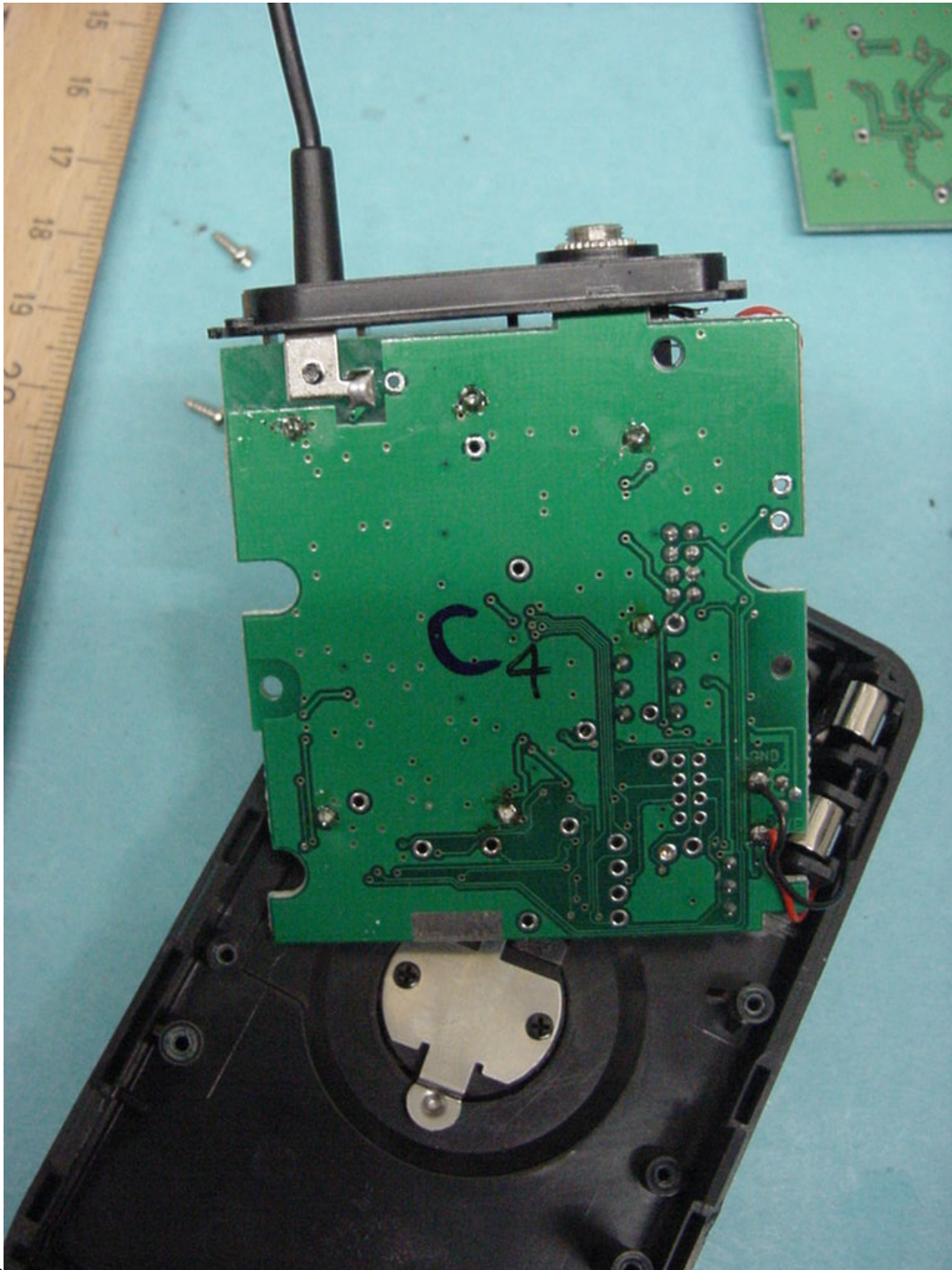




SK2.



SK2





SK2

