

## 5 TEST CONDITIONS AND RESULTS

### 5.1 Conducted emissions

For test instruments and accessories used see section 6 Part A 4.

#### 5.1.1 Description of the test location

Test location:                   Shielded Room S2

#### 5.1.2 Photo documentation of the test set-up



#### 5.1.3 Description of Measurement

The final level, expressed in dB $\mu$ V, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the FCC Limit or to the CISPR limit.

To convert between dB $\mu$ V and  $\mu$ V, the following conversions apply:

$$\text{dB}\mu\text{V} = 20(\log \mu\text{V})$$

$$\mu\text{V} = 10^{(\text{dB}\mu\text{V}/20)}$$

Conducted emissions on the 60 Hz power interface of the EUT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection and a Line Impedance Stabilization Network (LISN) with 50 $\Omega$ /50  $\mu$ H (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimetres above the floor and is positioned 40 centimetres from the vertical ground plane (wall) of the screen room. If the minimum limit margin appears to be less than 20 dB with a peak mode measurement, the emissions are remeasured using a tuned receiver with quasi-peak and average detection and recorded on the data sheets.

## 5.2 Maximum Peak Output Power Conducted

For test instruments and accessories used see section 6 Part CPC 3.

### 5.2.1 Description of the test location

Test location: AREA4

### 5.2.2 Photo documentation of the test set-up



### 5.2.3 Description of Measurement

Maximum conducted peak output power:

The transmitter output was connected to the spectrum analyzer through an attenuator. The center frequency of the spectrum analyzer is set to the fundamental frequency using 1 MHz RBW and 300 kHz VBW. The span of the spectrum analyzer should be larger than the Emission Bandwidth (EBW). To get the total power of the occupied bandwidth the function "Channel Power Measurement" of the analyzer has been used. The channel bandwidth has been set to EBW. With peak detector and power mode "Max Hold" the result is the summed maximum output power of the EBW.

Analyzer settings:

Detector: Max. peak

RBW: 1 MHz

VBW: 300 kHz

Sweep Time: Coupled

### 5.3 Transmitter spurious emissions

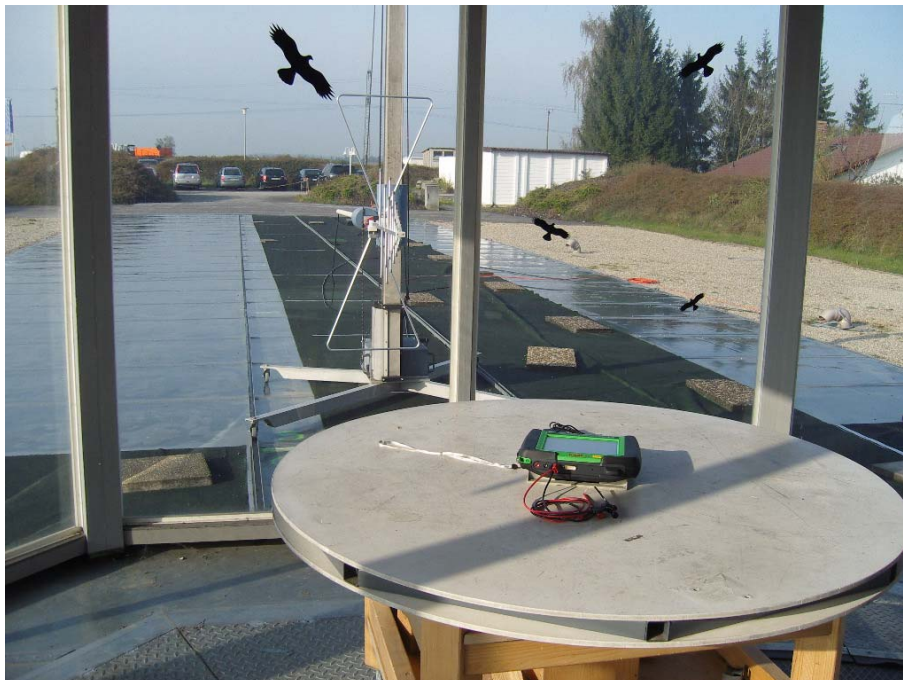
For test instruments and accessories used see section 6 Part SER 2 and SER 3.

#### 5.3.1 Description of the test location

Test location: OATS1  
Test location: Anechoic Chamber2

Test distance: 3 metres  
Test distance: 3 metres

#### 5.3.2 Photo documentation of the test set-up



FCC ID: V74-KTS340



### 5.3.3 Applicable standard

According to FCC Part 15 Subpart 15.247 (d): In any 100 kHz bandwidth outside the frequency bands 2400 – 2483.50 MHz and 5725 – 5850 MHz, the digitally modulated radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limit specified in §15.209(a) (see §15.205(c)).

### 5.3.4 Description of Measurement

Radiated spurious emissions from the EUT are measured in the frequency range of 30 MHz to 1000 MHz using a tuned receiver and appropriate broadband linearly polarized antennas. The measurements are made with 120 kHz/6 dB bandwidth and quasi-peak detection. The EUT is placed on a 1.0 X 1.5 metres non-conducting table 80 centimetres above the ground plane. The set up of the Equipment under test will be in accordance to ANSI C63.4-2003.

The antenna was positioned 3 metres horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 metres, measurement scans are made with both horizontal and vertical antenna polarization's and the EUT are rotated 360 degrees.

The final level, expressed in dB $\mu$ V/m, is arrived by taking the reading from the EMI receiver (Level dB $\mu$ V) and adding the correction factors and cable loss factor (Factor dB) to it. This is done automatically in the EMI receiver, where the correction factors are stored.

The radiated emissions from the EUT are measured in the frequency range of 1 GHz to maximum frequency as specified in section 15.33, using a Spectrum Analyzer and appropriate linearly polarized antennas. The EUT is placed on a 1.0 X 1.5 metres non-conducting table 80 centimetres above the ground plane. The set up of the EUT will be in accordance to ANSI C63.4-2003. The antenna was positioned 3 m horizontally from the EUT.