

5 TEST CONDITIONS AND RESULTS

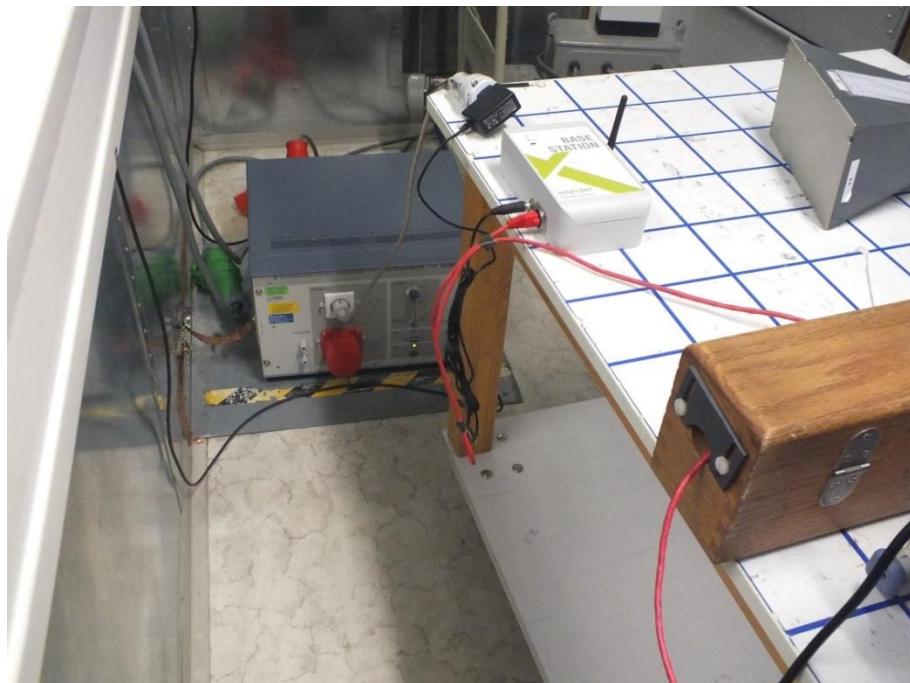
5.1 AC power line conducted emissions

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



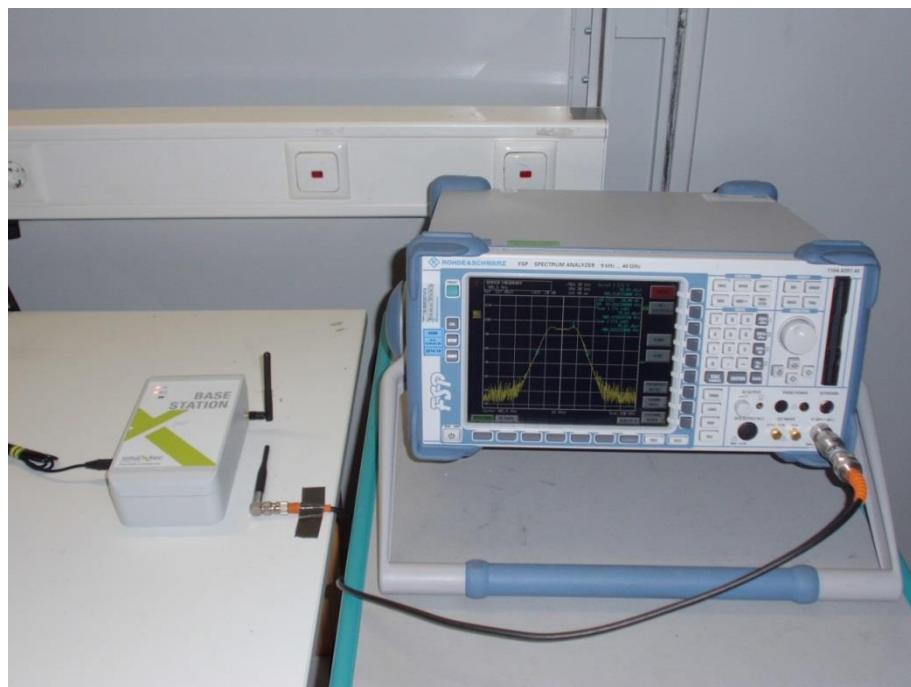
5.2 EBW and OBW

For test instruments and accessories used see section 6 Part **MB**.

5.2.1 Description of the test location

Test location: Shielded room 4

5.2.2 Photo documentation of the test set-up



5.2.3 Applicable standard

According to FCC Part 15, Section 15.247(a)(2):

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 – 2483.5 MHz and 5725 – 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.2.4 Description of Measurement

The bandwidth was measured at an amplitude level reduced from the reference level of a modulated channel by a ratio of -6 dB. The reference level is the level of the highest signal amplitude observed at the transmitter at either the fundamental frequency or the first order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical. An alternative is to use the bandwidth measurement of the analyser.

Spectrum analyser settings:

RBW: 100 kHz, VBW: 300 kHz, Detector: Peak, Sweep time: 40 ms

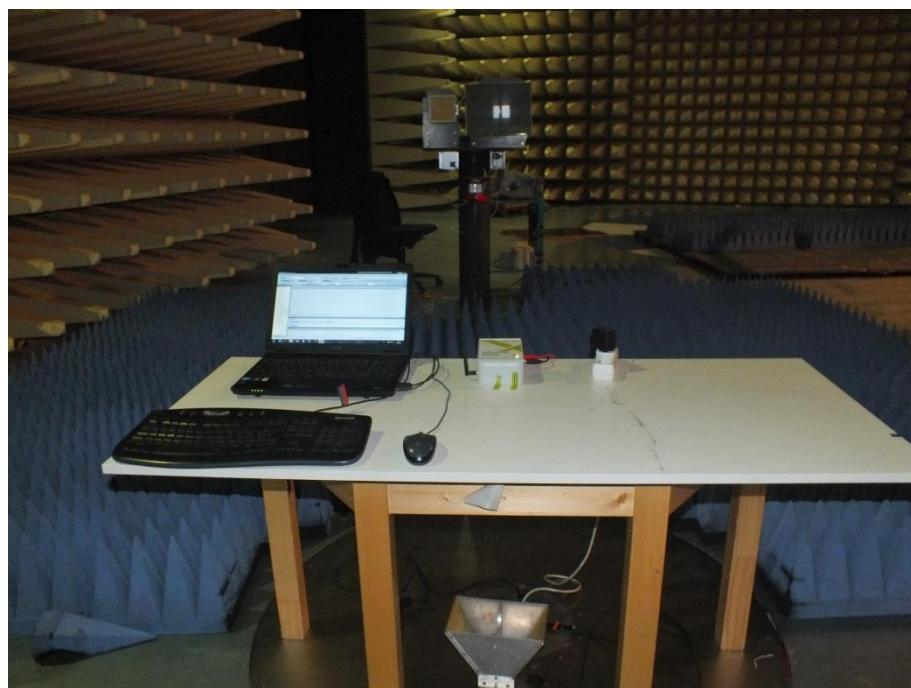
5.3 Maximum peak radiated output power

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

5.3.1 Description of the test location

Test location: Anechoic chamber 1

5.3.2 Photo documentation of the test set-up



5.3.3 Applicable standard

According to FCC Part 15, Section 15.247(b)(3):

For systems using digital modulation in the 2400-2483.5 MHz and 5725 – 5850 MHz bands, the maximum peak output power of the transmitter shall not exceed 1 Watt. The limit is based on transmitting antennas of directional gain that do not exceed 6 dBi.

5.3.4 Description of Measurement

The maximum peak conducted output power is obtained through a radiated measurement and from the obtained value the antenna gain will be subtracted.

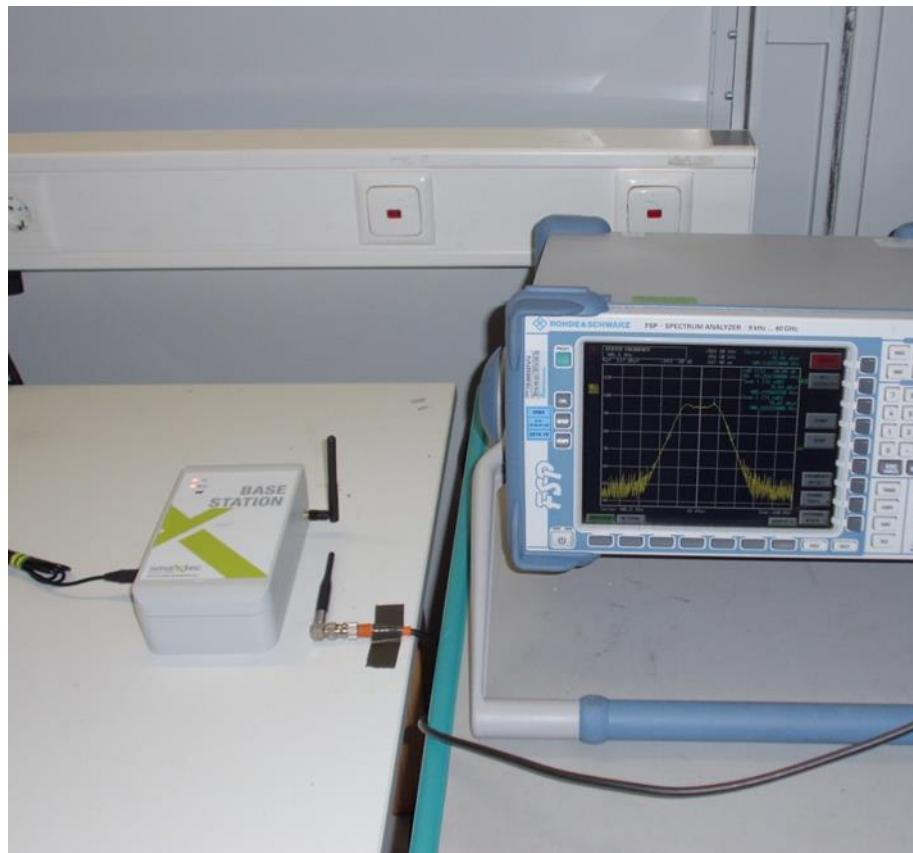
5.4 Power spectral density

For test instruments and accessories used see section 6 Part **MB**.

5.4.1 Description of the test location

Test location: Shielded room 4

5.4.2 Photo documentation of the test set-up



5.4.3 Applicable standard

According to FCC Part 15, Section 15.247(e):

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

5.4.4 Description of Measurement

The measurement is performed using the procedure 10.2 set out in KDB-558074. The PKPSD is measured relatively. The max peak was located and with the spectrum analyser and a marker set to peak.

Spectrum analyser settings:

RBW: 3 kHz, VBW: 10 kHz, Detector: Peak, Sweep time: 10 s,

5.6 Radiated emissions in restricted bands

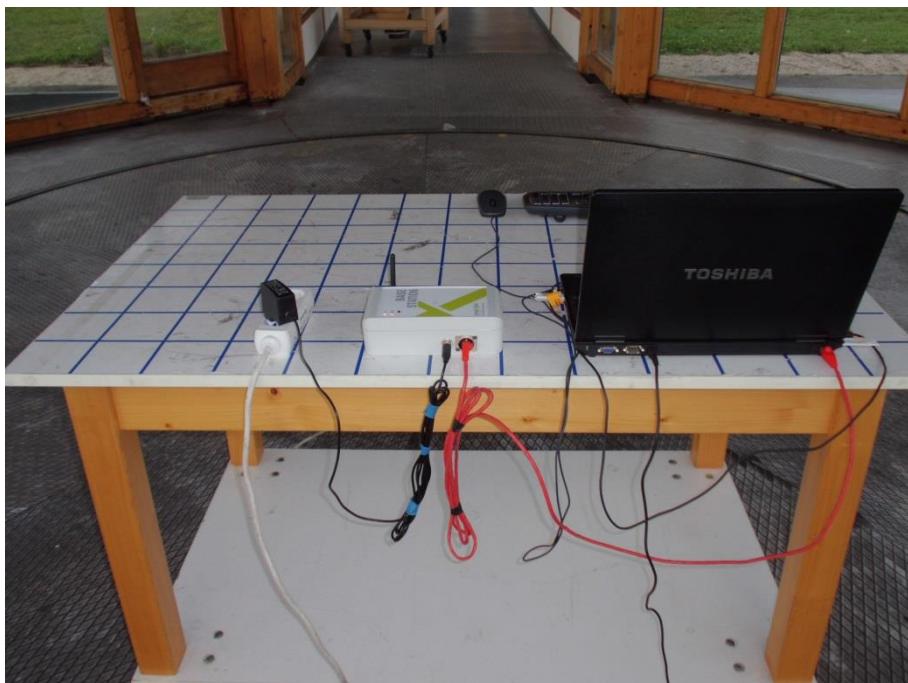
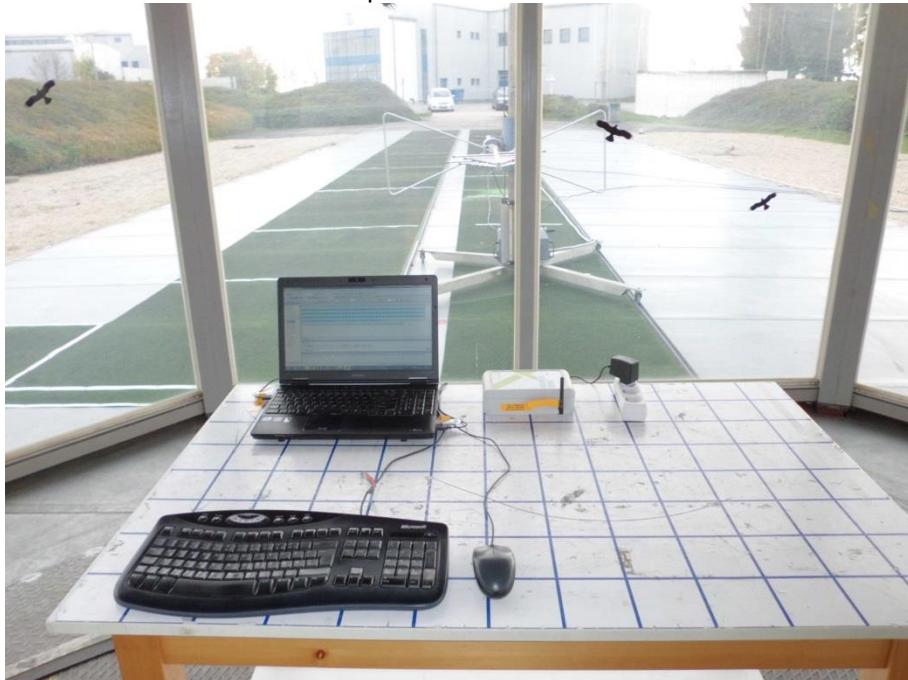
For test instruments and accessories used see section 6 Part **SER 2, SER 3**.

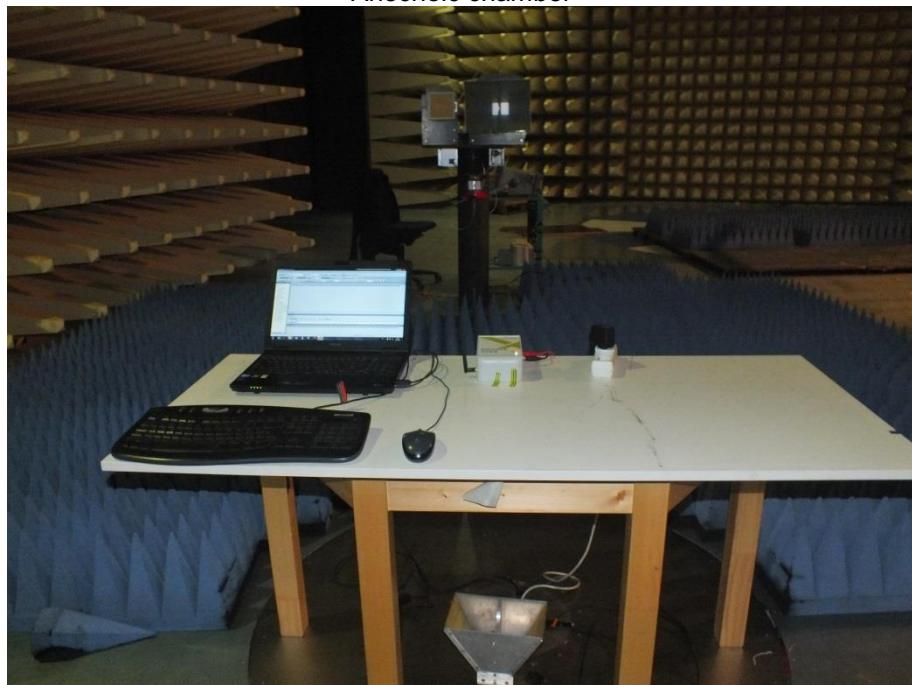
5.6.1 Description of the test location

Test location: OATS 1
Test location: Anechoic chamber 1
Test distance: 3 m

5.6.2 Photo documentation of the test set-up

Open area test site



Anechoic chamber


5.6.3 Applicable standard

According to FCC Part 15, Section 15.205(a):

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

5.6.4 Description of Measurement

The frequency range from 80 MHz to 25 GHz is measured using general limits.

Spectrum analyser settings:

RBW: 1 MHz, VBW: 3 MHz, Sweep: Auto, Detector function: Peak

5.6.1 Test result

Lowest frequency: CH11						
Test conditions: 1 TX , power settings 0xAB (15 dBm)						
Chain1			Test results			
Start f (MHz)	Stop f (MHz)	RBW (kHz)	Maximum emission (MHz)	AV Limit (dB μ V/m)	Margin (dB)	
30	1000	100	900	37.8	46	-8.2
1000	2400	1000	2357	45.5	54	-8.5
2483.5	5000	1000	3622	41.7	54	-12.3
5000	15000	1000	9618	51.6	54	-2.4
15000	25000	1000	24900	45.1	54	-8.9
Measurement uncertainty			± 3 dB			