5 TEST CONDITIONS AND RESULTS

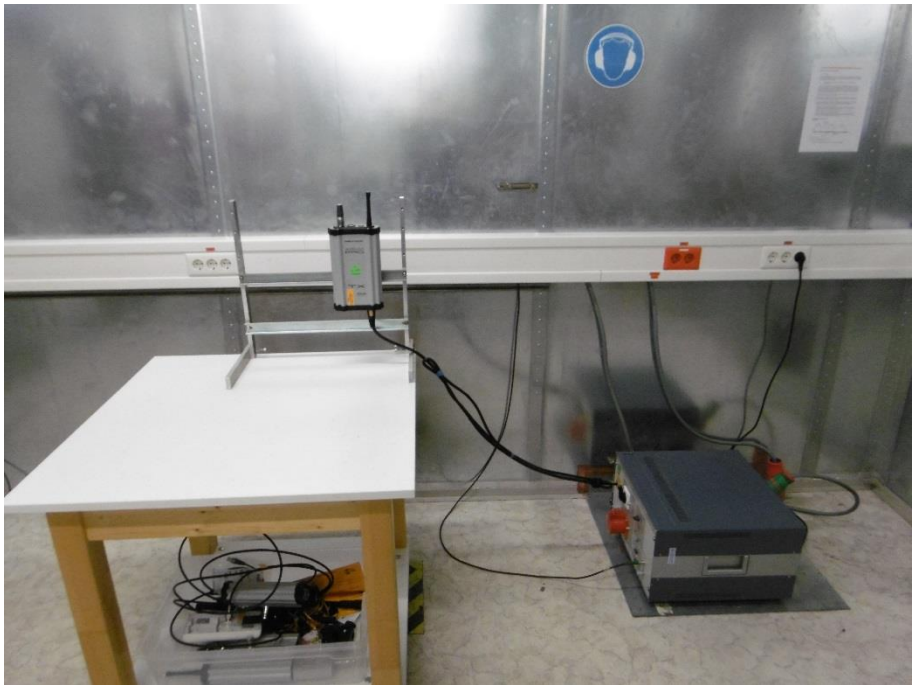
5.1 AC power line conducted emissions

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



5.1.3 Applicable standard

According to FCC Part 15, Section 15.207(a):
Except as shown in paragraphs (b) and (c) of this Section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the given limits.

5.1.4 Description of Measurement

The measurements are performed following the procedures set out in ANSI C63.10 described under item 4.4.3. If the minimum limit margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver with quasi-peak and average detection and recorded on the data sheets.

5.1.5 Test result

Frequency range: 0.15 MHz - 30 MHz

Min. limit margin 12.4 dB at 0.208 MHz

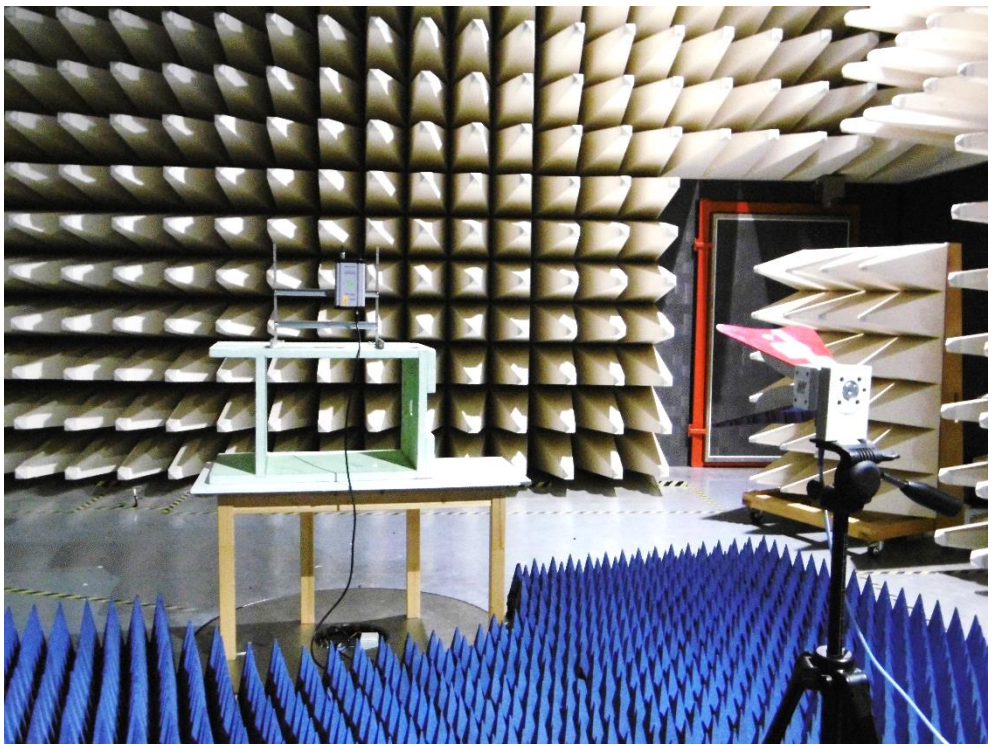
5.3 Maximum conducted output power

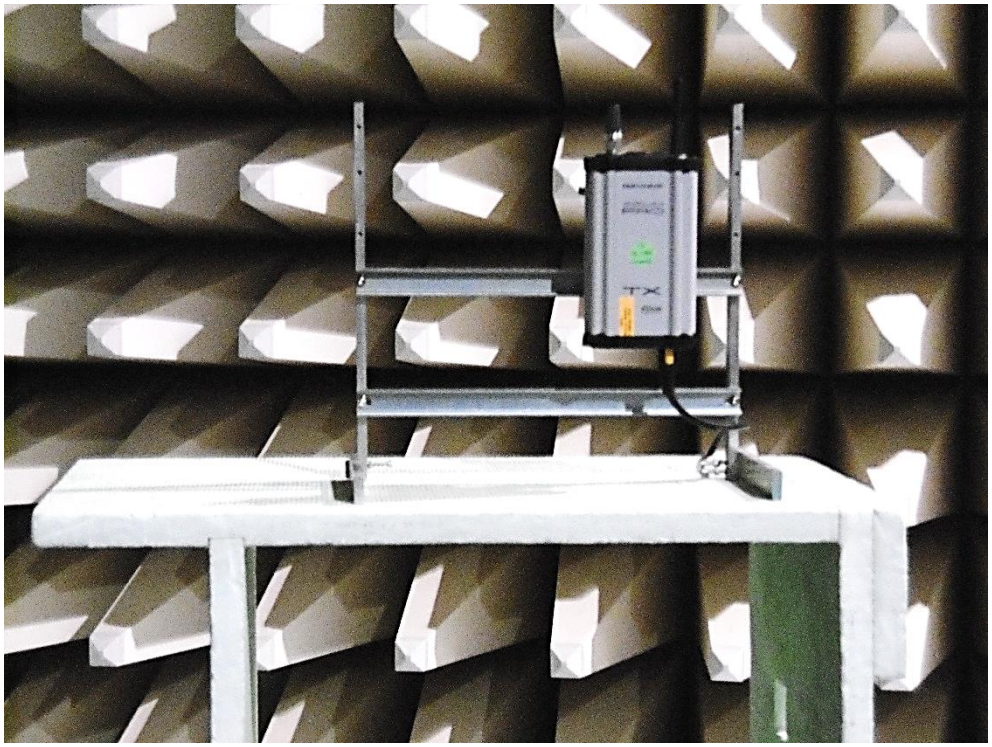
For test instruments and accessories used see section 6 Part **CPR 3**.

5.3.1 Description of the test location

Test location: Anechoic chamber 1
Test distance: 3 m

5.3.2 Photo documentation of the test set-up





5.3.3 Applicable standard

According to FCC Part 15, Section 15.407(a)(3):
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

5.3.4 Description of Measurement

The maximum conducted output power is measured using a spectrum analyser with the function “integrated band power measurement” following the procedure set out in KDB 789033 D02, item E b) Method SA-1. The EUT is set in TX continuous mode while measuring. The resulting values are listed in the following tables.

Spectrum analyser settings:
RBW: 1 MHz, VBW: 3 MHz, Detector: RMS (power averaging), Number of points: 10000,
Sweep time: 500 µs, Band power function;

5.3.5 Test result

802.11a, 6 Mbps, 1TX		Test results conducted				
Port 1		P [max] (dBm)	Gain (dBi)	A [max] (dBm)	Limit (dBm)	Min Margin (dB)
Lowest						
T_{nom}	V_{nom}	24.1	2.0	22.1	30.0	-7.9
Middle						
T_{nom}	V_{nom}	24.5	2.0	22.5	30.0	-7.5
Highest						
T_{nom}	V_{nom}	24.0	2.0	22.0	30.0	-8.0

Note: Pmax in EIRP.

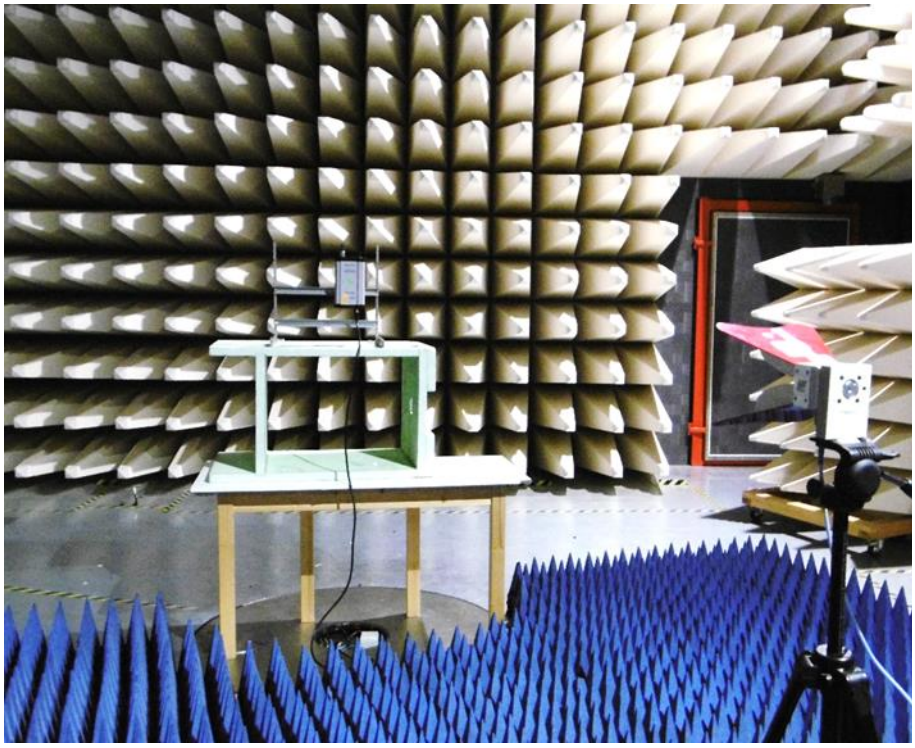
5.5 Defacto limit

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

5.5.1 Description of the test location

Test location: Anechoic chamber 1
Test distance: 3 m

5.5.2 Photo documentation of the test set-up



5.5.3 Applicable standard

According to FCC Part 15, Section 15.407(a)(3):
If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.5.4 Test result

The amount of reduction is calculated using the following formula: Pout = 30 – (Gx – 6);
Where
Pout = maximum conducted output power
Gx = antenna gain of the applied antenna

Output power:

Antenna	Gx	Cond. limit	G	Amax	Limit P_{out}	Reduction	P set
	(dBi)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)	5 GHz
SOA-2456/360/1/0/V	2.0	30.0	6.0	22.5	34.0	0.0	Pmax

5.6 Unwanted emissions

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

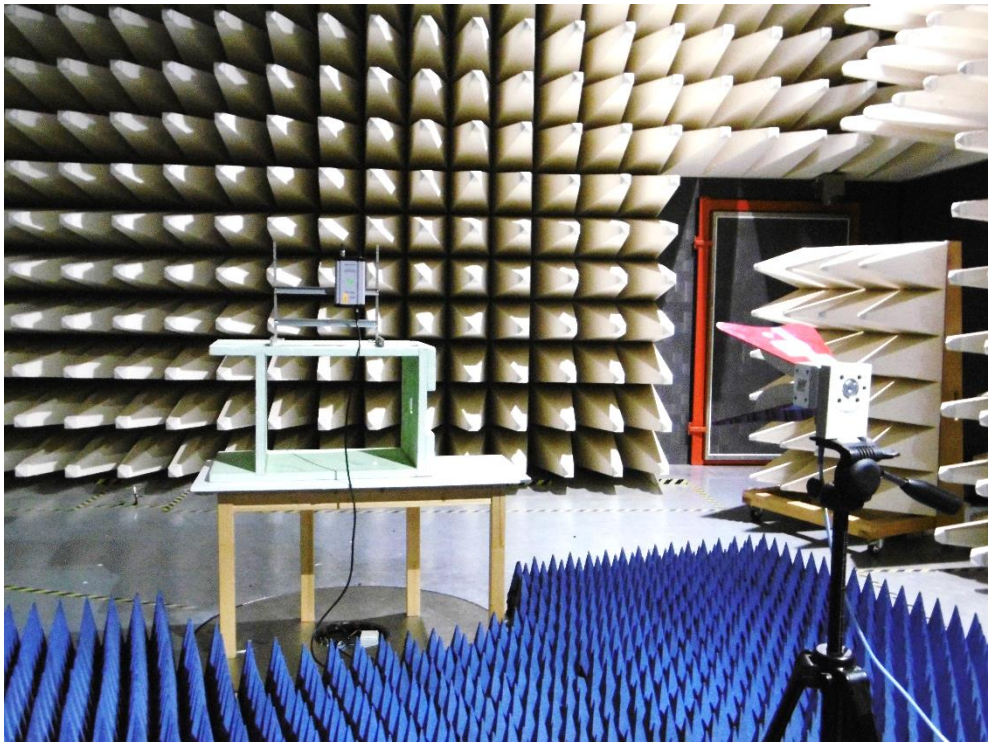
5.6.1 Description of the test location

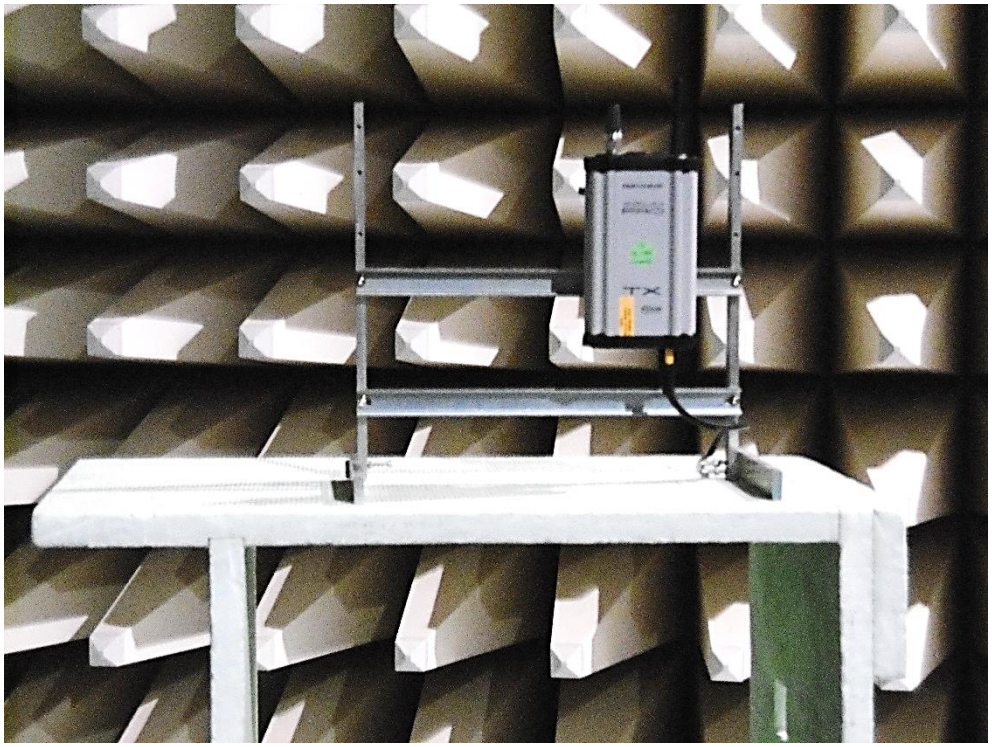
Test location: OATS 1
Test location: Anechoic chamber 1
Test distance: 3 m

5.6.2 Photo documentation of the test set-up

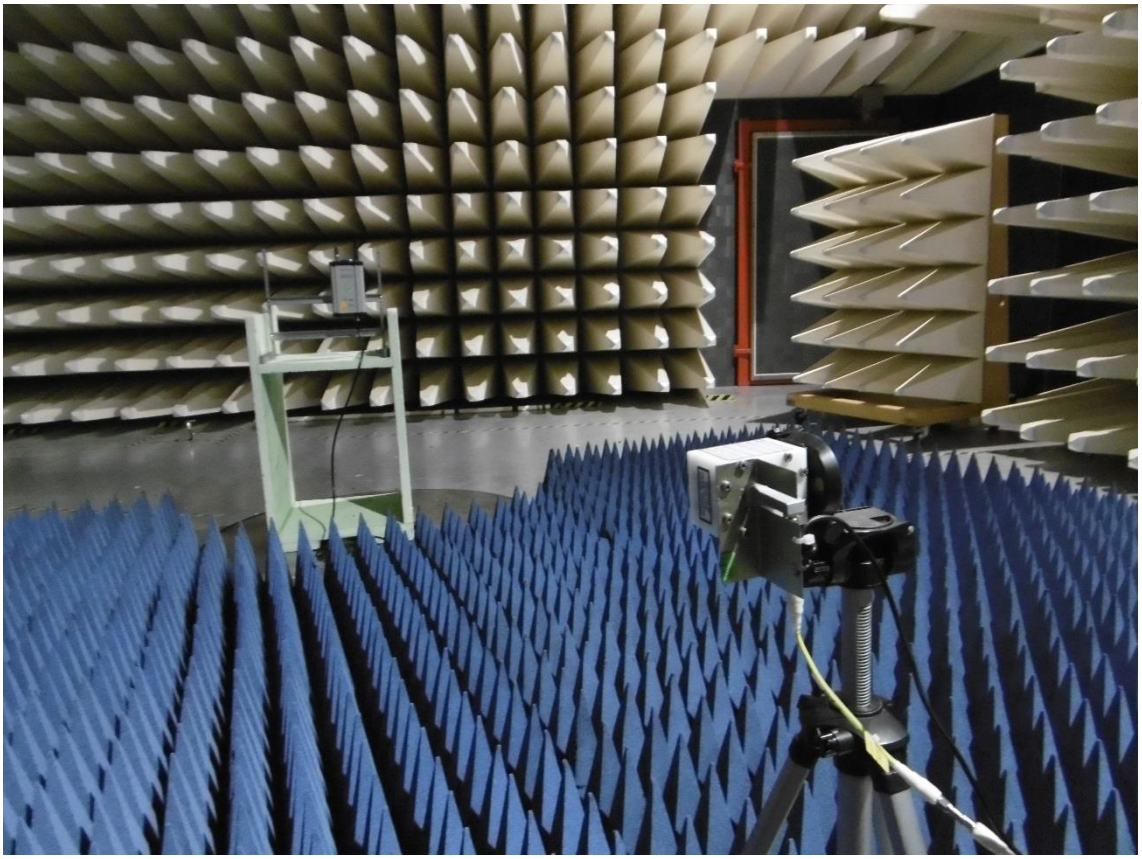
30 MHz – 1 GHz

1 GHz – 18 GHz





18 GHz – 40 GHz



5.6.3 Applicable standard

According to FCC Part 15E, Section 15.407(b):
For transmitters operating in the defined bands shall not exceed the appropriate emission limit outside of the operating bands.
In addition, radiated emissions which fall in the restricted bands, as defined in Section15.205(a), must also comply with the radiated emission limit specified in Section15.209(a) (see Section15.205(c)).

Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII- band 5725-5850 MHz. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz. However, an out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

5.6.4 Description of Measurement

Undesirable emissions are measured using a spectrum analyser and following the procedures according the OET 789033, item G. Up from 4-8 GHz a 3 HP filter is used. . If the emission level of the EUT in peak mode complies with the average limit then testing will be stopped and peak values of the EUT will be reported, otherwise, the emission will be measured in average mode again and reported.

Spectrum analyser settings for peak values 1 GHz – 40 GHz:
RBW: 1 MHz, VBW: 3 MHz, Detector: max peak, Sweep: 100 ms, Trace mode: max hold;

Spectrum analyser settings for average values 1 GHz – 40 GHz:
RBW: 1 MHz VBW: 3 MHz Detector: RMS, Sweep: 100 ms, Trace mode: max hold;