

FCC ID: OHCMETDGS2 IC ID: 10671A-METDGS2

5 TEST CONDITIONS AND RESULTS

5.1 Conducted emissions

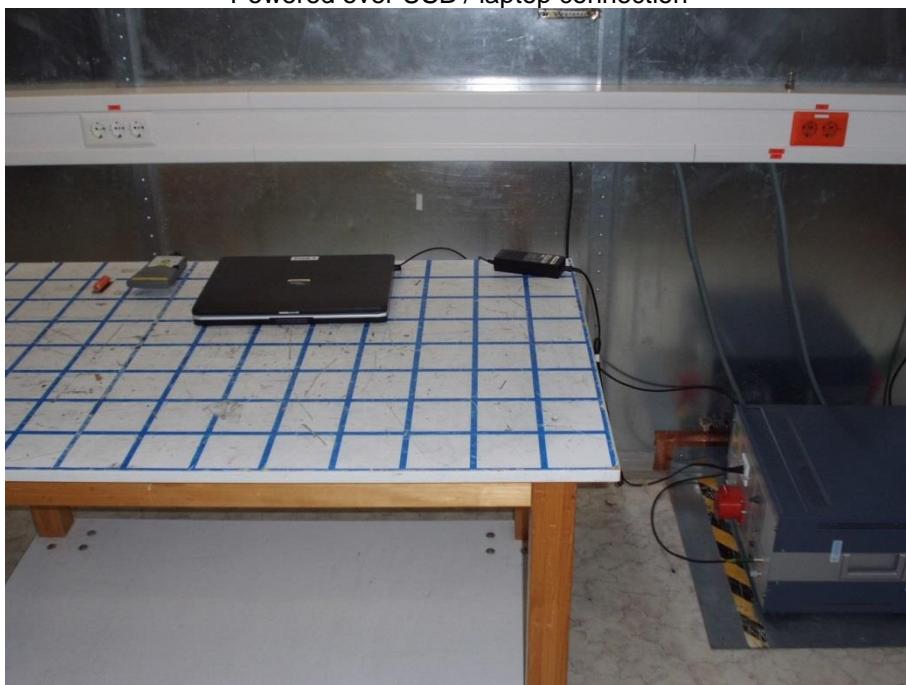
For test instruments and accessories used see section 6 Part A 4.

5.1.1 Description of the test location

Test location: Shielded Room S2

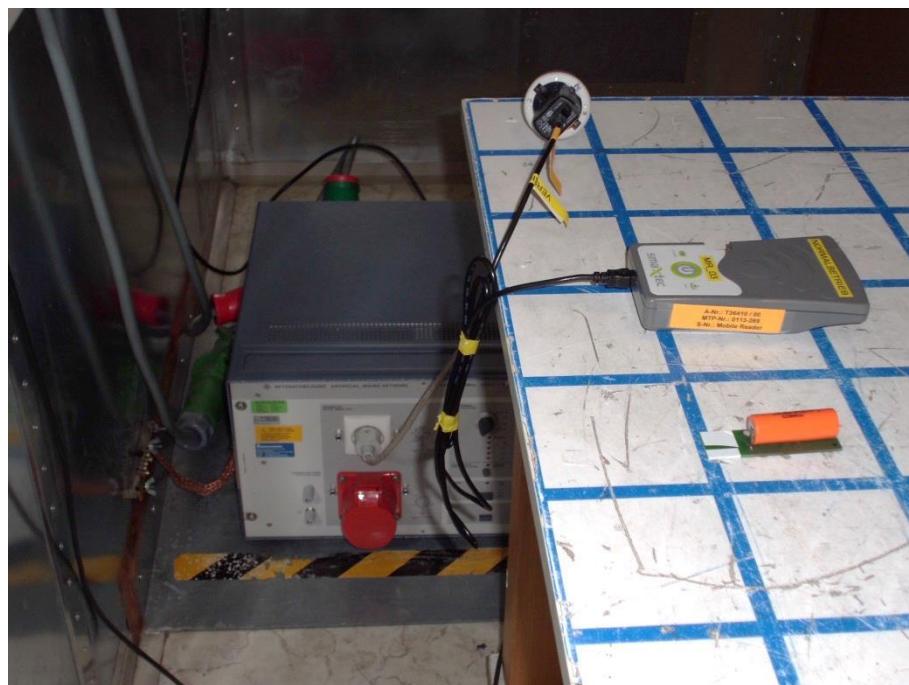
5.1.2 Photo documentation of the test set-up

Powered over USB / laptop connection



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Powered over charger unit



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5.2 Radiated emission of the fundamental wave

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

5.2.1 Description of the test location

Test location: OATS 1
Test distance: 3 m

5.2.2 Photo documentation of the test set-up

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5.3 Spurious emissions radiated

For test instruments and accessories used see section 6 Part **SER1, SER 2, SER 3**.

5.3.1 Description of the test location

Test location: OATS 1
Test location: Anechoic chamber 2
Test distance: 3 m

5.3.2 Photo documentation of the test set-up

Powered over USB / laptop connection



Powered over charger unit

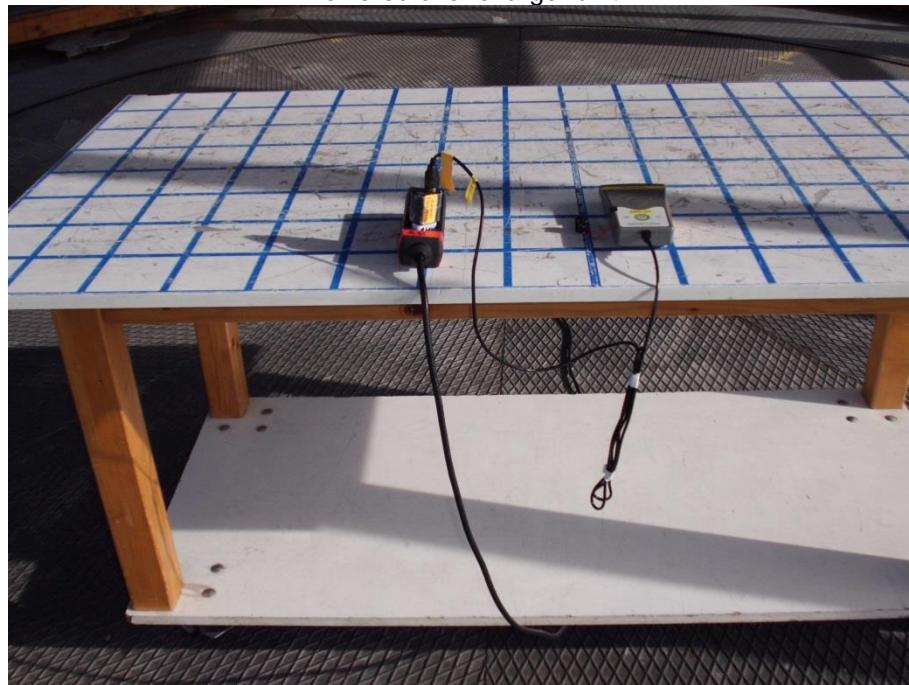


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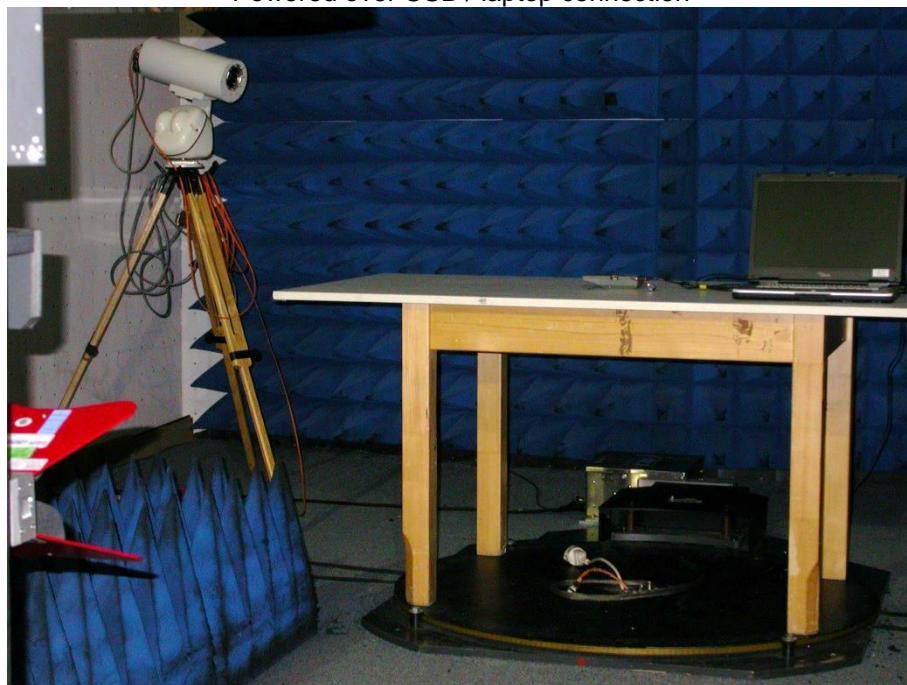


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5.3.3 Applicable standard

According to FCC Part 15C, Section 15.249 (d):

Emission radiated outside of the specified frequency bands, except harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limit in FCC Part 15C, Section 15.209, whichever is the lesser attenuation.

5.3.4 Description of Measurement

The magnetic field strength of spurious emission from the EUT is measured in an open area test site in the frequency range of 9 kHz to 30 MHz using a tuned receiver and a shielded loop antenna. The set up of the EUT and the measurement procedure is in accordance to ANSI C63.4, Item 8.3.

The radiated power of the spurious emission from the EUT is measured in a test setup following the procedures set out in ANSI C63.4, Item 8.3.

The EUT is measured in TX continuous mode modulated under normal conditions.

EMI test receiver settings:

9 kHz – 150 kHz: RBW: 200 Hz
150 kHz – 30 MHz: RBW: 9 kHz

Spectrum analyser settings:

1000 MHz – 40 GHz RBW: 1 MHz

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5.4 20 dB bandwidth

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

5.4.1 Description of the test location

Test location: AREA4

5.4.2 Photo documentation of the test set-up



5.4.3 Applicable standard

According to FCC Part 15, Section 15.215(c):

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in Section 15.217 through Section 15.257, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule section under which the equipment is operated.

5.4.4 Description of Measurement

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio of -20 dB. The reference level is the level of the highest signal amplitude observed from the transmitter at the fundamental frequency. Alternative is the x-dB-down function of the analyser used. The EBW is then directly shown in the marker display. The measurement is performed radiated with normal modulation and a transfer rate means the worst case.

Spectrum analyser settings:

RBW: 10 kHz
Sweep time: Auto

VBW: 30 kHz
Detector: Max. peak

Span: 200 kHz
Trace Mode: Max hold

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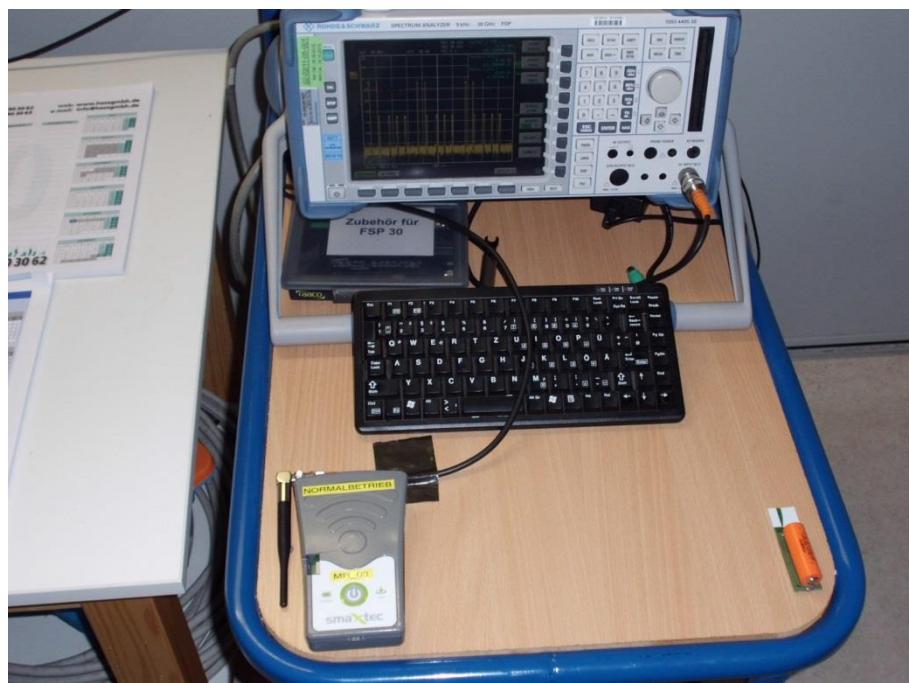
5.5 Correction for pulse operation (duty cycle)

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

5.5.1 Description of the test location

Test location: AREA4

5.5.2 Photo documentation of the test set-up



5.5.3 Applicable standard

According to FCC Part 15A, Section 15.35(c):

When the radiated emission limits are expressed in terms of average value and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete puls train, including blanking intervals, as long as the pulse train does not exceed 0.1s. In cases where the puls train exceeds 0.1s, the measured field strength shall be determined from the average absolute voltage during a 0.1s interval during which the field strength is at its maximum. The exact method of calculating the average field strength shall be submitted.

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5.7 Receiver radiated emissions

For test instruments and accessories used see section 6 Part **SER2** and **SER3**.

5.7.1 Description of the test location

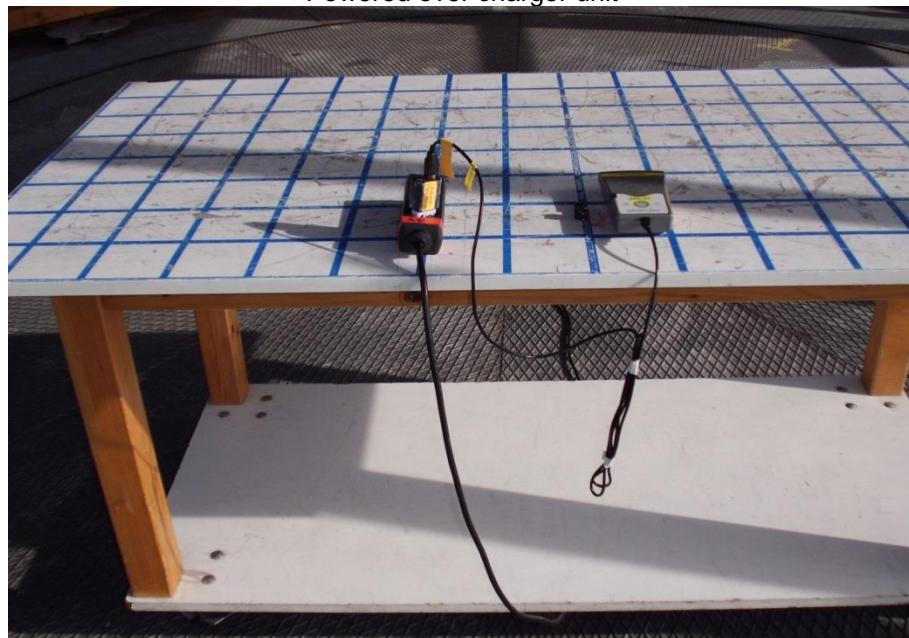
Test location: OATS 1
Test location: Anechoic chamber 2
Test distance: 3 m

5.7.2 Photo documentation of the test set-up

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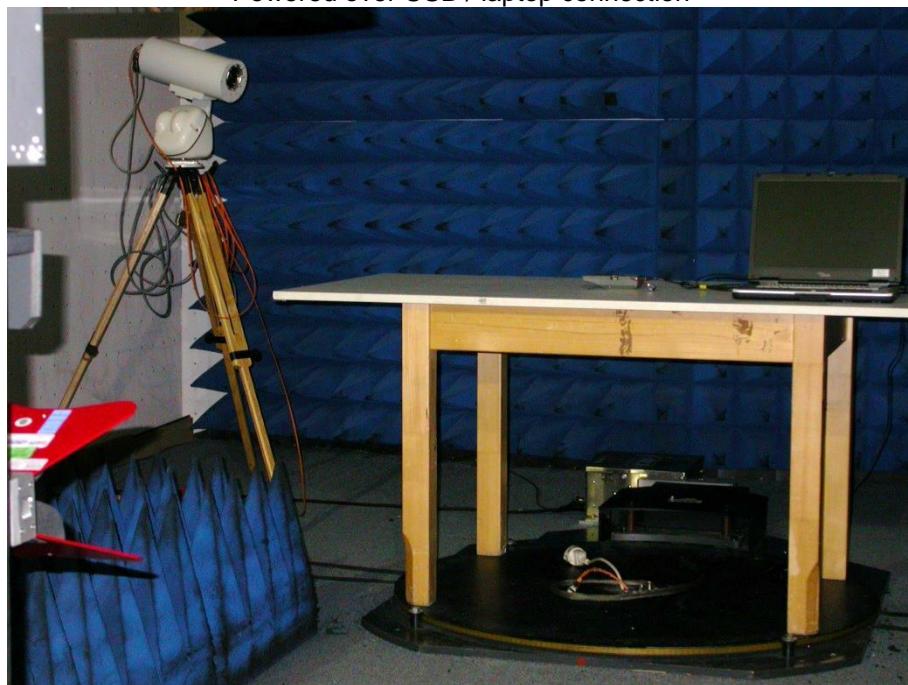


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5.7.3 Applicable standard

According to FCC Part 15C, Section 15.109(a):

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 m shall not exceed the given limit.

5.7.4 Description of Measurement

The field strength of radiated emissions from the EUT is measured in a test setup following the procedures set out in ANSI C63.4, Item 8.3.

The EUT is measured in RX continuous mode under normal conditions.

EMI test receiver settings:

150 kHz – 30 MHz: RBW: 9 kHz

Spectrum analyser settings:

1000 MHz – 40 GHz RBW: 1 MHz

5.7.5 Test result f < 1 GHz

Powered over USB / laptop connection

Frequency (MHz)	Reading level QP (dB μ V)	Reading level AV (dB μ V)	Bandwidth (kHz)	Correction factor (dB/m)	Corrected level QP dB(μ V/m)	Corrected level AV dB(μ V/m)	Limit dB(μ V/m)	Delta (dB)
30*	11.1	-	120	12.6	23.7	-	40.0	-16.3
150*	-0.5	-	120	14.0	13.5	-	43.5	-30.0
300*	2.3	-	120	16.3	18.6	-	46.0	-27.4
450*	1.1	-	120	20.3	21.4	-	46.0	-24.6
750*	-1.0	-	120	26.4	25.4	-	46.0	-20.6
1000*	-0.4	-	120	30.2	29.8	-	54.0	-24.2

*) Ambient noise

Note: The correction factor includes cable loss and antenna factor.

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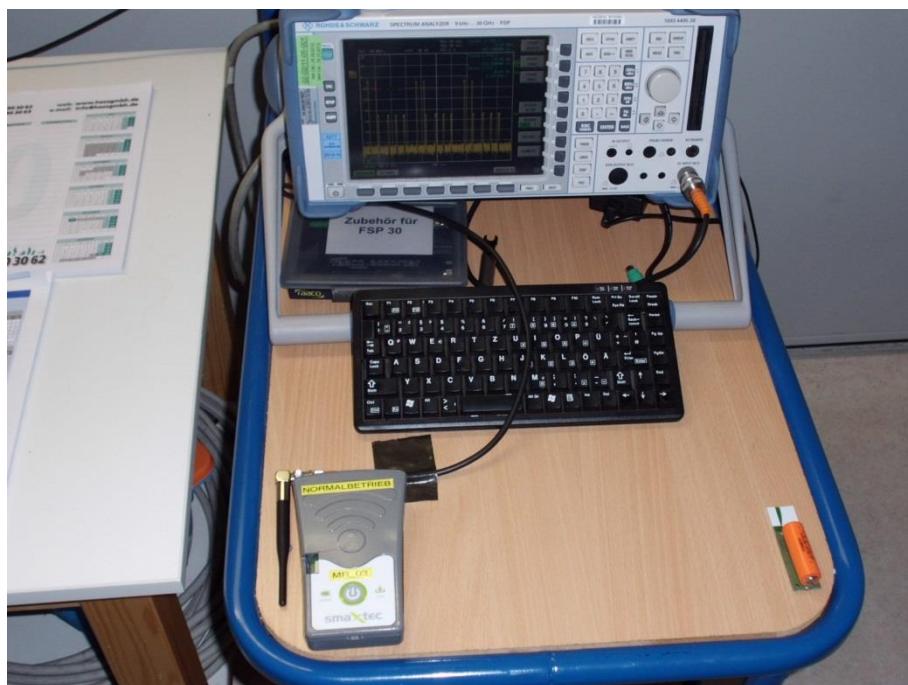
5.8 Occupied bandwidth

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

5.8.1 Description of the test location

Test location: AREA4

5.8.2 Photo documentation of the test set-up



5.8.3 Applicable standard

According to RSS-Gen, 4.6.1:

When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99 % emission bandwidth, as calculated or measured.

5.8.4 Description of Measurement

The bandwidth was measured with the function “bandwidth measurement” of the spectrum analyser.

The measurement is performed radiated with normal modulation and a transfer rate means the worst case.

Spectrum analyser settings:

RBW: 10 kHz
Sweep time: Auto

VBW: 30 kHz
Detector: Max. peak

Span: 200 kHz
Trace Mode: Max hold