# 5 TEST CONDITIONS AND RESULTS

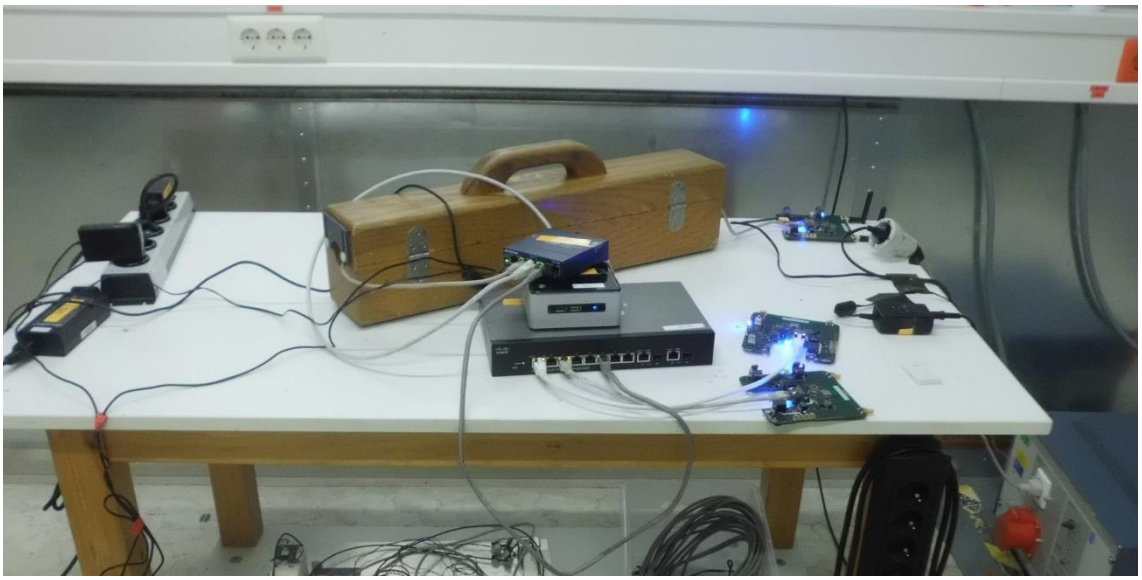
## 5.1 AC power line conducted emissions

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



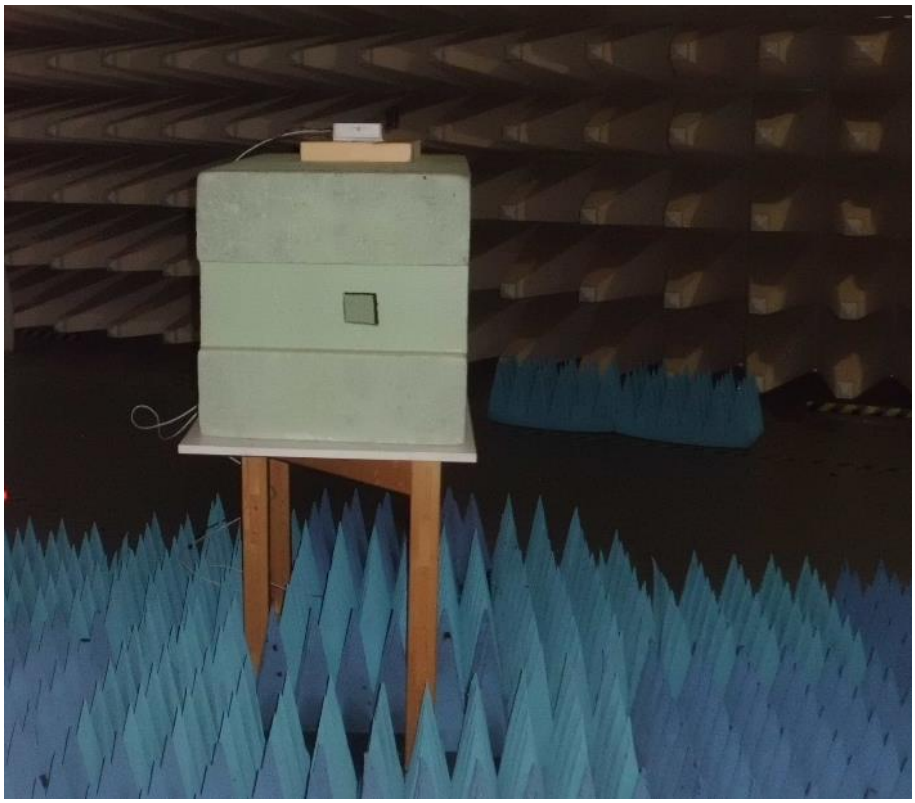
## 5.2 UWB Bandwidth

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

### 5.2.1 Description of the test location

Test location: Shielded room 6

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



### 5.2.3 Applicable standard

According to FCC Part 15, Section 15.519(b):
The UWB bandwidth of a UWB system operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

According to FCC Part 15, Section 15.503(d):
Ultra-wideband (UWB) transmitter. An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

### 5.2.4 Description of Measurement

The measurement was performed conducted with the sample with a SMA connector.
The bandwidth was measured at an amplitude level reduced from the reference level of a modulated channel by a ratio of -10 dB.

Spectrum analyser settings:
RBW: 1 MHz, VBW: 3 MHz, Detector: RMS

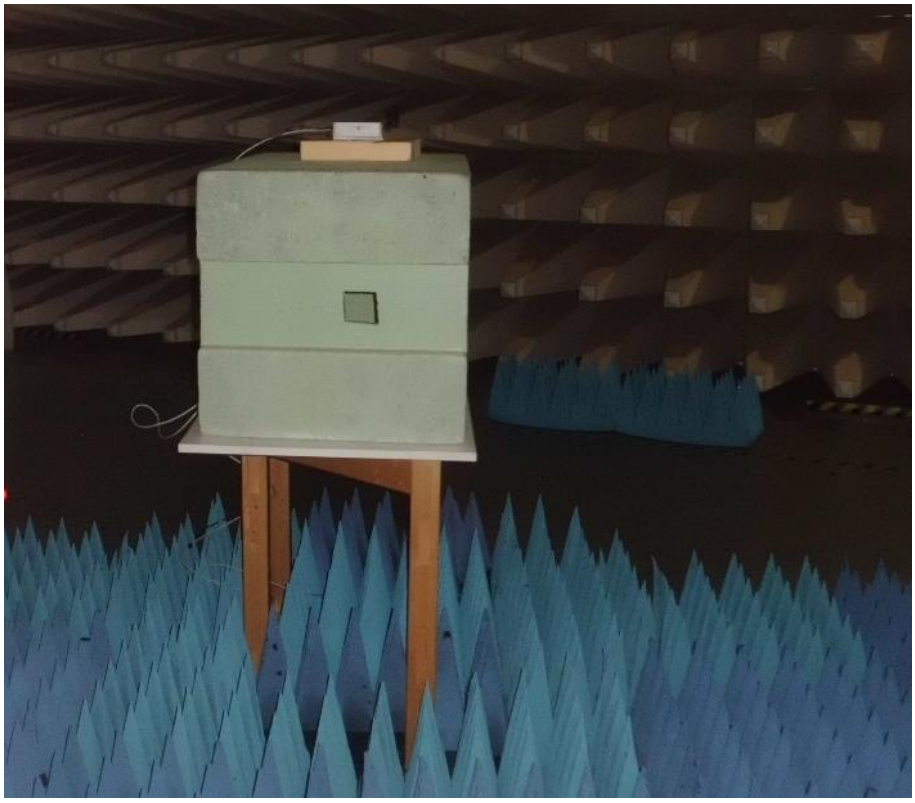
## 5.3 Radiated Emissions 9 kHz to 40 GHz

For test instruments and accessories used see section 6 Part **SER 2, SER3**.

### 5.3.1 Description of the test location

Test location: OATS 1
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 15.519(c):
The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in §15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz.

### 5.3.4 Analyser settings

9 kHz – 150 kHz RBW: 200 Hz

150 kHz - 30 MHz RBW: 9 kHz

30 MHz – 960 MHz RBW: 120 kHz Detector: QP

960 MHz – 40 GHz RBW: 1 MHz VBW: 3 MHz Detector: RMS Sweeptime: 1ms per MHz

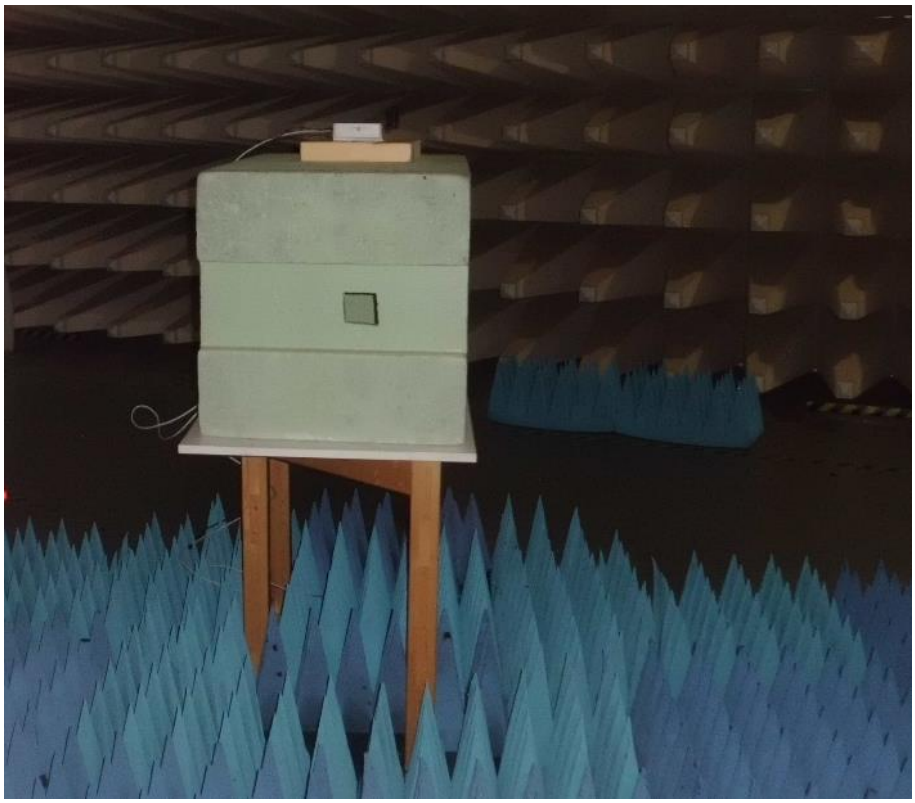
## 5.4 Radiated Emissions at 1164-1240 MHz and 1559-1610 MHz

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

### 5.4.1 Description of the test location

Test location: Anechoic chamber 1

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



### 5.4.3 Applicable standard

According to FCC Part 15, Section 15.519(d):
In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz.

### 5.4.4 Analyser settings

RBW: 1 kHz, VBW: 3 kHz, Detector: RMS, Sweep time: 1 ms/1kHz,

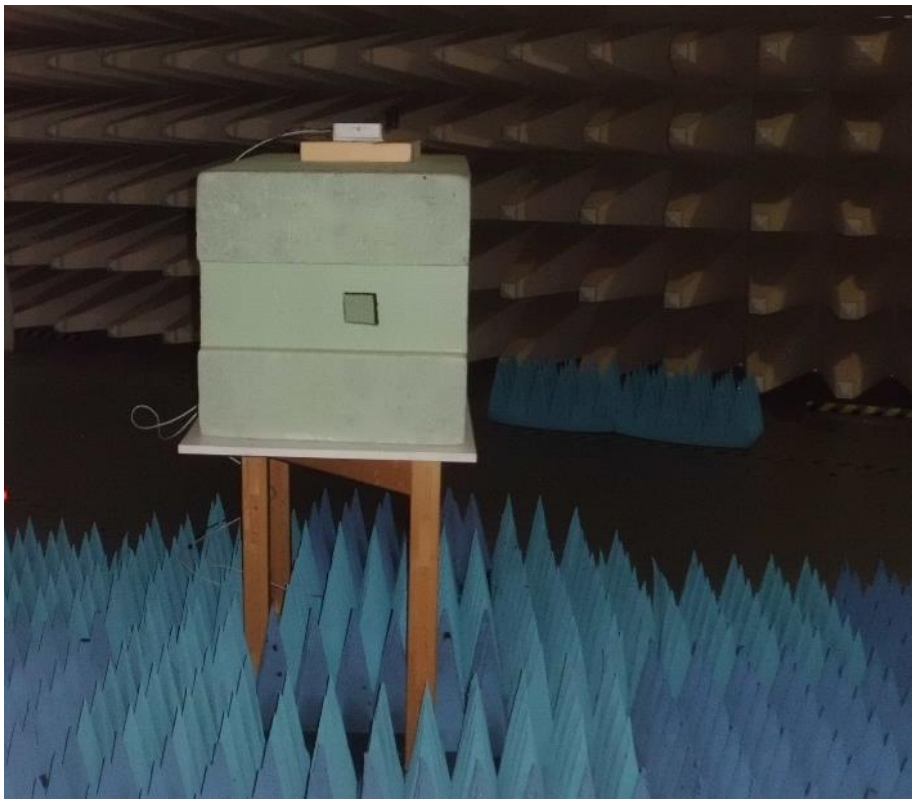
## 5.5 Peak Power radiated

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

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



### 5.5.3 Applicable standard

According to FCC Part 15, Section 15.519(e):
There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs, $f_M$. That limit is 0 dBm EIRP. It is acceptable to employ a different resolution bandwidth, and a correspondingly different peak emission limit, following the procedures described in §15.521.

### 5.5.4 Analyser settings

RBW: 50 MHz, VBW: 80 MHz, Detector: Peak, Trace Mode: Max hold

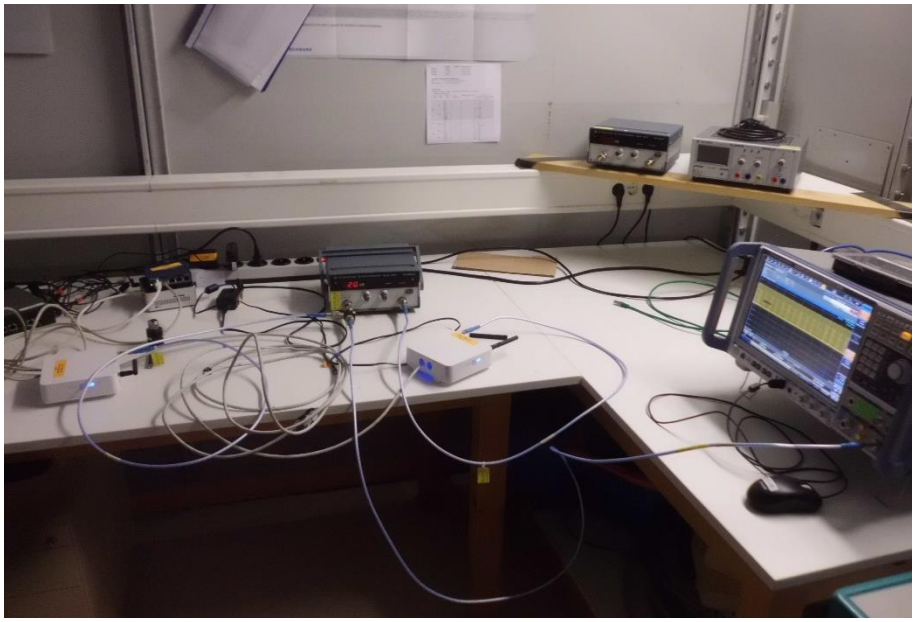
## 5.6 Signal deactivation

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

### 5.6.1 Description of the test location

Test location: Shielded room 6

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



### 5.6.3 Applicable standard

According to FCC Part 15, Section 15.519(a)(1):
A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

### 5.6.4 Description of Measurement

The measurement was performed conducted.

Spectrum analyser settings:
RBW: 80 MHz, VBW: 80 MHz, Detector: peak, zero span