



EMI - TEST REPORT

- FCC Part 15.517, -

Type / Model Name : R&S® QPS Walk2000 P2

Product Description : Walk-through security scanner

Applicant : Rohde & Schwarz GmbH & Co. KG

Address : Mühldorfstraße 15

81614 MÜNCHEN, GERMANY

Manufacturer : Rohde & Schwarz GmbH & Co. KG

Address : Mühldorfstraße 15

81614 MÜNCHEN, GERMANY

Test Result according to the standards listed in clause 1 test standards:	POSITIVE
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Test Report No. : 80186184-05 Rev1	31. July 2024 Date of issue
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Deutsche
Akkreditierungsstelle
D-PL-12030-01-03
D-PL-12030-01-04

FCC ID: KVV-QPW2KP2

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ATTACHMENT A as separate supplements

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules and Regulations Part 15, Subpart C - Intentional Radiators (February 2024)

Part 15, Subpart C, Section 15.203	Antenna requirement
Part 15, Subpart C, Section 15.204	External radio frequency power amplifiers and antenna modifications
Part 15, Subpart C, Section 15.207	Conducted limits
Part 15, Subpart C, Section 15.209	Radiated emission limits, general requirements

FCC Rules and Regulations Part 15, Subpart F – Ultra Wideband Operation (February 2024)

Part 15, Subpart F, Section 15.503	Definitions
Part 15, Subpart F, Section 15.505	Cross reference
Part 15, Subpart F, Section 15.517	Technical requirements for indoor UWB systems
Part 15, Subpart F, Section 15.521	Technical requirements applicable to all UWB devices
ANSI C63.10: 2013	Testing Unlicensed Wireless Devices
ETSI TR 100 028 V1.3.1: 2001-03	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the Measurement of Mobile Radio Equipment Characteristics—Part 1 and Part 2
KDB 393764 D01 v02r01 (April 25, 2022)	Ultra-Wideband (UWB) Devices – Frequently Asked Questions

2 EQUIPMENT UNDER TEST

2.1 Information provided by the Client

Please note, we do not take any responsibility for information provided by the client or his representative which may have an influence on the validity of the test results.

2.2 Sampling

The customer is responsible for the choice of sample. Sample configuration, start-up and operation is carried out by the customer or according to his/her instructions.

2.3 Photo documentation of the EUT – Detailed photos see ATTACHMENT A

2.4 Equipment type

UWB Device for Indoor Use

2.5 Short description of the equipment under test (EUT)

The QPS Walk2000 is the next generation of a walk through body scanning, designed to improve individuals' security. The system is meant to be installed in fixed indoor locations, generally in entrances to secured areas. The QPS Walk2000 automatically detects the existence of concealed unauthorized objects on an individual's body. The end device consists of 224 transmitter modules and 448 receiver modules. All measurements were performed on a single transmitter to demonstrate that all requirements are fulfilled.

Number of tested samples: 1
Serial number: 100001
Material number: 1342.5100K02

2.6 Variants of the EUT

There are no variants.

2.7 Operation frequency and channel plan

The operating frequency band is 3100 MHz to 10600 MHz for FCC.

2.8 Transmit operating modes

The signal consists of a single pulse with 12 MHz repetition rate.

2.9 Antenna

The following antennas shall be used with the EUT:

Number	Characteristic	Model number	Plug	f-range (GHz)	Max. Gain (dBi)	Average Gain (dBi)
1	directional linear polarized	1342.4203.00	PCB soldered	3.6 – 9.5	9.9	7.2

2.10 Power supply system utilised

Power supply V_{nom} (Tx module)	5 V DC
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2.11 Peripheral devices and interface cables

The following peripheral devices and interface cables are connected during the measurements:

- | | |
|-------------------|--------------------------------|
| - SMA cable | Model : Commercially available |
| - DC Power Supply | R&S NGT 20 |
| Oscilloscope | R&S RTO2064 |

2.12 Determination of worst case conditions for final measurement

Measurements are made in all three orthogonal axes with horizontal and vertical antenna positions to determine the worst case condition.

2.12.1 Test jig

No test jig is used.

2.12.2 Test software

No special test software is used.

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3 TEST RESULT SUMMARY

FCC Rule Part	Description	Result
15.207(a) 15.521(j)	AC power line conducted emissions	passed
15.517(b) 15.521(e)	UWB Bandwidth	passed
15.209(a) 15.517(c) 15.521(c)(d)(h)	Radiated Emissions 9 kHz to 40 GHz	passed
15.517(d)	Radiated Emissions at 1164-1240 MHz and 1559-1610 MHz	passed
15.517(e) 15.521(g)	Peak Power radiated	passed
15.203 15.521(b)	Antenna requirement	passed ^{*1}
15.204 15.521(b)	External radio frequency power amplifiers and antenna modifications	passed ^{*1}
15.521(a)(f)(i)	Technical requirements applicable to all UWB devices	passed ^{*2}

^{*1} According to the applicant, the EUT has an internal PCB antenna. No other antennas can be connected to the EUT. Therefore, the requirements are regarded as fulfilled.

^{*2} According to the applicant, the EUT will not be used in toys. The imaging system is only employed for its specific purposes, the detection of tags or the transfer of data or voice information is not possible. For details refer to the user manual.

3.1 Revision history of test report

Test report No	Rev.	Issue Date	Changes
80186184-05	0	05 March 2024	Initial test report
80186184-05	1	25 June 2024	Test setup photos removed (attachment) section 4.5: correction to actual distances used in test setup

The test report with the highest revision number replaces the previous test reports.

FCC ID: KVV-QPW2KP2**3.2 Final assessment**

The equipment under test fulfills the EMI requirements cited in clause 1 test standards.

Date of receipt of test sample : acc. to storage records

Testing commenced on : 27 November 2023

Testing concluded on : 30 January 2024

Checked by:

Tested by:

Klaus Gegenfurtner
Teamleader Radio

Franz-Xaver Schrettenbrunner
Radio Team

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

**CSA Group Bayern GmbH
Ohmstrasse 1-4
94342 STRASSKIRCHEN
GERMANY**

4.2 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15 - 35 °C

Humidity: 30 - 60 %

Atmospheric pressure: 86 - 106 kPa

4.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. It is noted that the expanded measurement uncertainty corresponds to the measurement results from the standard measurement uncertainty multiplied by the coverage factor $k = 2$. The true value is located in the corresponding interval with a probability of 95 %. The measurement uncertainty was calculated for all measurements listed in this test report on basis of the ETSI Technical Report TR 100 028 Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1 and Part 2. The results are documented in the quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	$\pm 3.29 \text{ dB}$
20 dB Bandwidth	Center frequency of EUT	95%	$\pm 2.5 \times 10^{-7}$
99% Occupied Bandwidth	Center frequency of EUT	95%	$\pm 2.5 \times 10^{-7}$
Radiated Spurious Emissions	9 kHz to 30 MHz	95%	$\pm 3.53 \text{ dB}$
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	$\pm 3.71 \text{ dB}$
Radiated Spurious Emissions	1000 MHz to 10000 MHz	95%	$\pm 2.34 \text{ dB}$
Peak conducted output power	902 MHz to 928 MHz	95%	$\pm 0.35 \text{ dB}$
Conducted Spurious Emissions	9 kHz to 10000 MHz	95%	$\pm 2.15 \text{ dB}$

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4.4 Conformity Decision Rule

The applied conformity decision rule is based on ILAC G8:09/2019 clause 4.2.1 Binary Statement for Simple Acceptance Rule ($w = 0$).

Details can be found in the procedure CSA_B_V50_29.

4.5 Measurement protocol for FCC and ISED

4.5.1 General information

CSA Group Bayern GmbH is recognized as wireless testing laboratory under the CAB identifier:

FCC: DE 0011

ISED: DE0009

4.5.2 General Standard information

The test methods used comply with ANSI C63.10 - "Testing Unlicensed Wireless Devices".

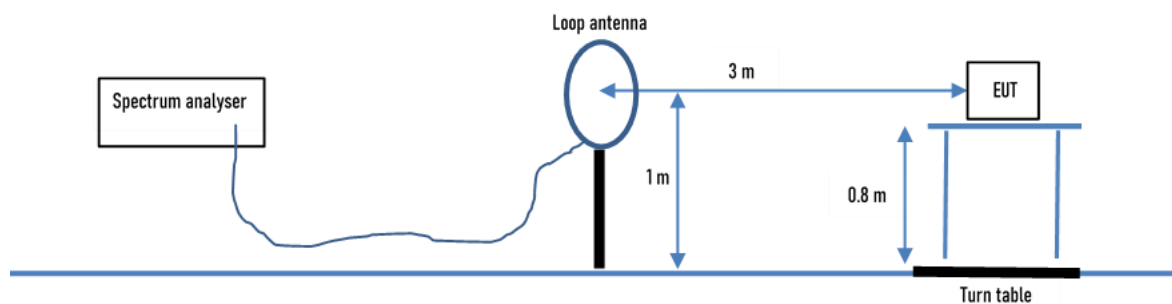
4.5.2.1 Justification

The equipment under test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral using the appropriate impedance characteristic or left unterminated. Where appropriate, cables are manually manipulated with respect to each other thus obtaining maximum disturbances from the unit.

4.5.2.2 Radiated emission

4.5.2.2.1 OATS1 test site (9 kHz - 30 MHz):

Test setup according ANSI C63.10

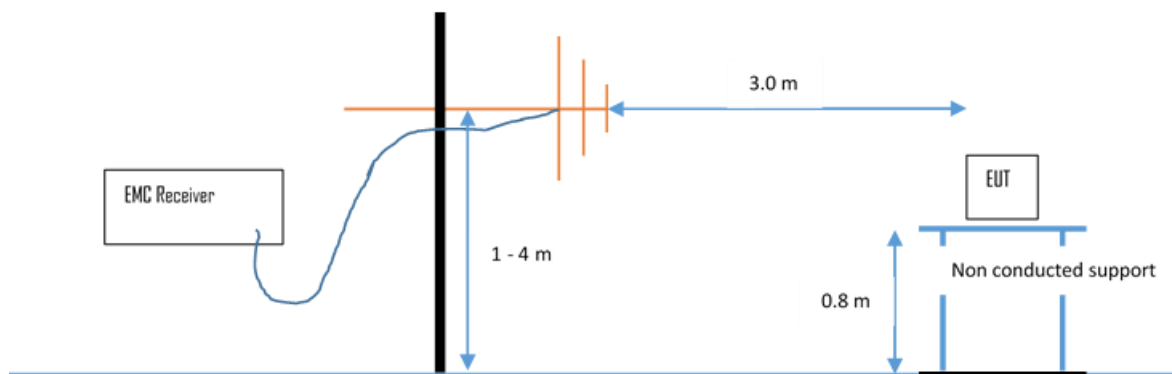


Emissions from the EUT are measured in the frequency range of 9 MHz to 30 MHz using a tuned receiver and a calibrated loop antenna. Table top equipment is placed on a 1.0 X 1.5 m non-conducting table 80 centimetres above the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screened room located outside the test area. The antenna is positioned 3, 10 or 30 metres horizontally from the EUT and is repeated vertically. To locate maximum emissions from the test sample the antenna is varied along the site axis and the EUT is rotated 360 degrees.

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4.5.2.2.2 OATS1 test site (30 MHz - 1 GHz):

Test setup according ANSI C63.10.



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 polarised antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection. Table top equipment is placed on a 1.0 X 1.5 m non-conducting table 80 centimetres above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screened room located outside the test area. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 metres and the EUT is rotated 360 degrees. The final level in dB μ V/m is calculated by taking the reading from the EMI receiver (Level dB μ V) and adding the correction factors and cable loss factor (dB). The FCC limit is subtracted from this result in order to provide the limit margin listed in the measurement protocol.

The resolution bandwidth setting:

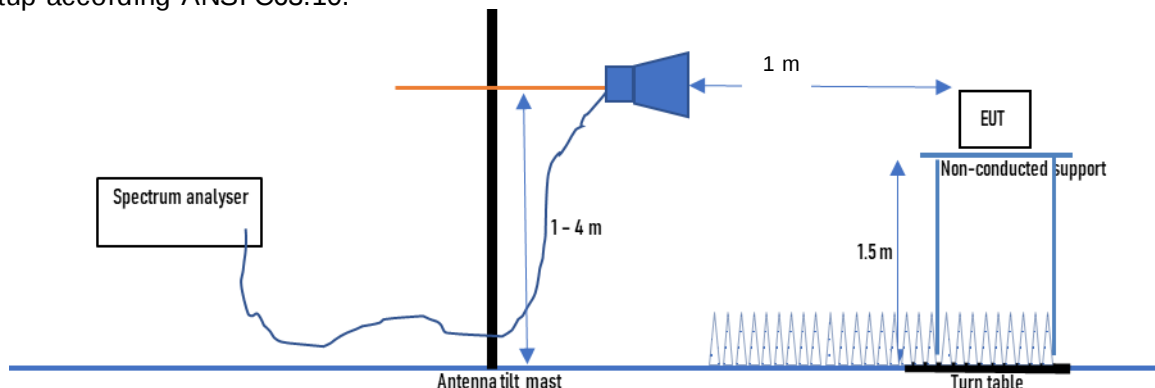
30 MHz – 1000 MHz: RBW: 120 kHz

Example:

Frequency (MHz)	Level (dB μ V)	+	Factor (dB)	=	Level (dB μ V/m)	-	Limit (dB μ V/m)	=	Delta (dB)
719.0	75.0	+	32.6	=	107.6	-	110.0	=	-2.4

4.5.2.2.3 Anechoic chamber 1 (1000 MHz – 18000 MHz)

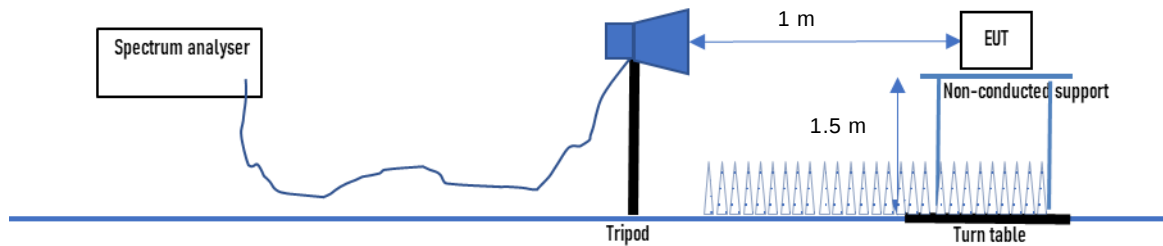
Test setup according ANSI C63.10.



Radiated emissions from the EUT are measured in the frequency range 1 GHz up to 18 GHz as specified in 47 CFR Part 15, Subpart A, Section 15.33, using a spectrum analyser and appropriate linearly polarized antennas. Table top equipment is placed on a non-conducting table, 1.5 metre above the ground plane. The turntable is fully covered with the appropriate absorber (Type VHP-12). Any controlling device is positioned such that it does not significantly influence the measurement results. Interconnecting cables that hang closer than 40 cm to the ground plane are folded back and forth in the center, forming a bundle 30 cm to 40 cm long. Measurements are made in in three orientations of the EUT and the horizontal and vertical polarization planes of measurement antenna in a fully anechoic room. The measurement antenna is adjusted and the EUT orientated to permit the measurement of the maximum emission from the EUT. The conditions determined as worst-case will then be used for the final measurements.

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4.5.2.2.4 Anechoic chamber 1 (18 GHz – 40 GHz)



Emissions from the EUT are measured in the frequency range 18 GHz up to 40 GHz as specified in 47 CFR Part 15, Subpart A, Section 15.33, using a spectrum analyser and appropriate linearly polarized antennas. Table top equipment is placed on a non-conducting table, 1.5 metre above the ground plane. The turntable is fully covered with the appropriate absorber (Type VHP-12). Any controlling device is positioned such that it does not significantly influence the measurement results. Interconnecting cables that hang closer than 40 cm to the ground plane are folded back and forth in the center, forming a bundle 30 cm to 40 cm long. Measurements are made in three orientations of the EUT and the horizontal and vertical polarization planes of measurement antenna in a fully anechoic room. The measurement antenna is adjusted and the EUT orientated to permit the measurement of the maximum emission from the EUT. The conditions determined as worst-case will then be used for the final measurements. Where appropriate, the test distance may be reduced in order to detect emissions under better uncertainty. The limit are adopted.

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

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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: Anechoic chamber 1

The test was performed on the complete device. Measurements show that the emissions must be rather assessed under Subpart 15B according to § 15.521(c).

5.1.2 Photo documentation of the test set-up – Detailed photos see ATTACHMENT B

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.

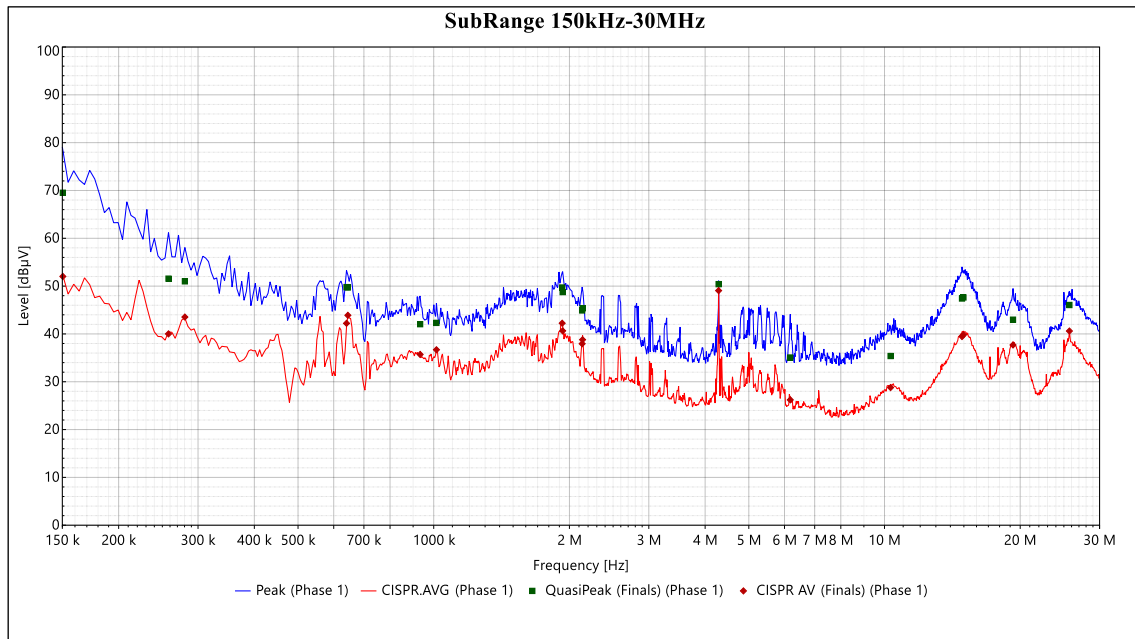
For the measurement, the following accessories according §2.1033 were used:

- --- Model : ---

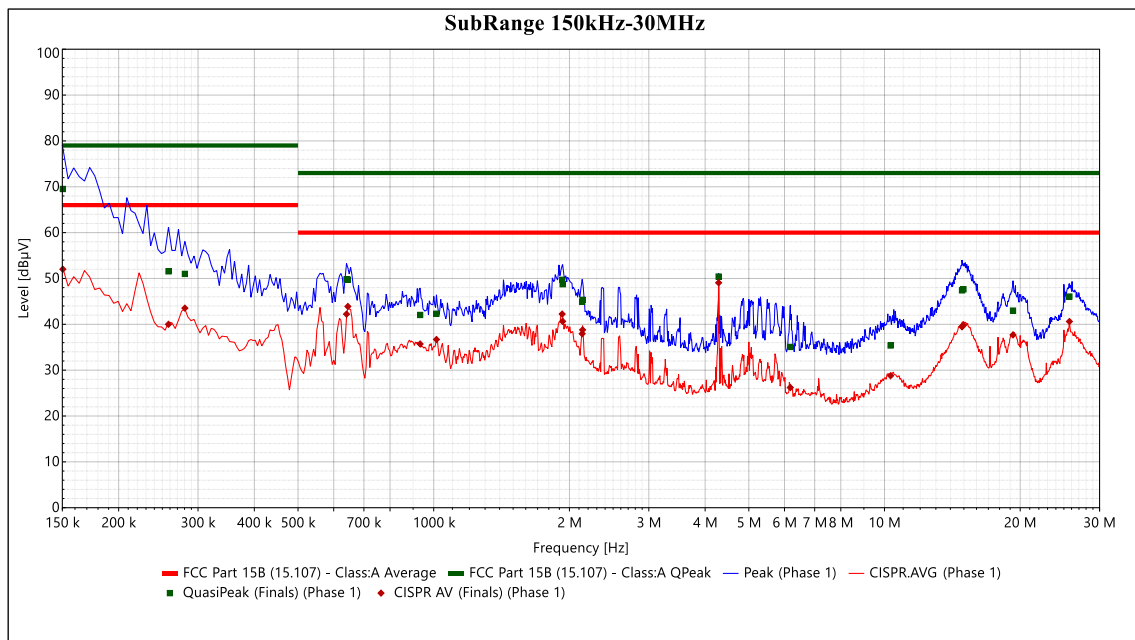
FCC ID: KVV-QPW2KP2

5.1.5 Test result

Phase 1, UWB ON



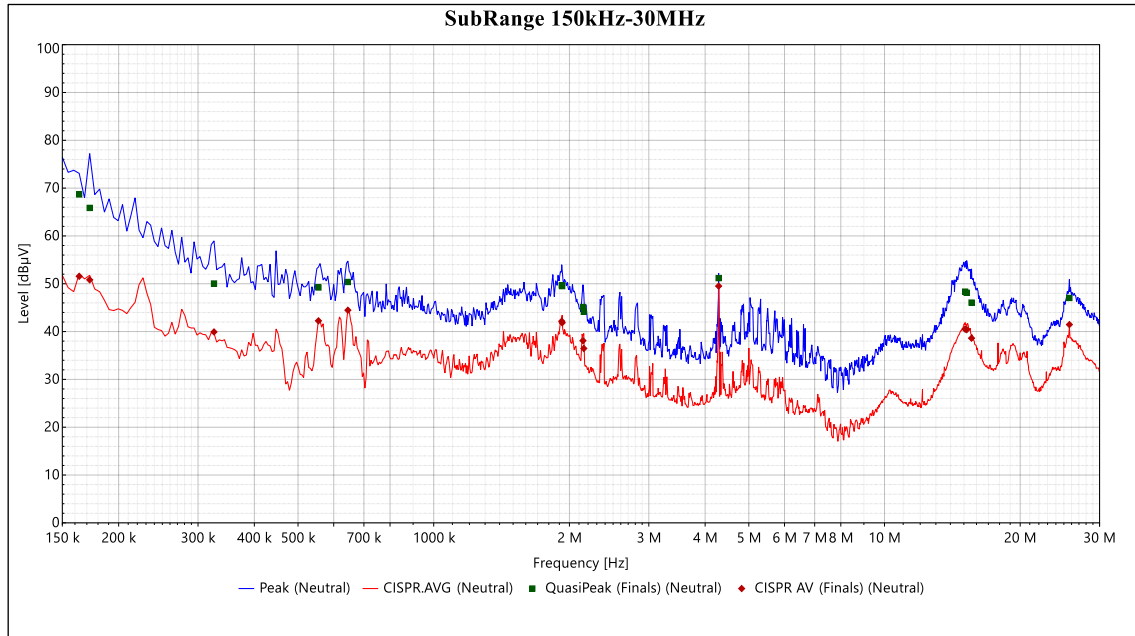
Phase 1, UWB and digital circuitry for UWB generation OFF



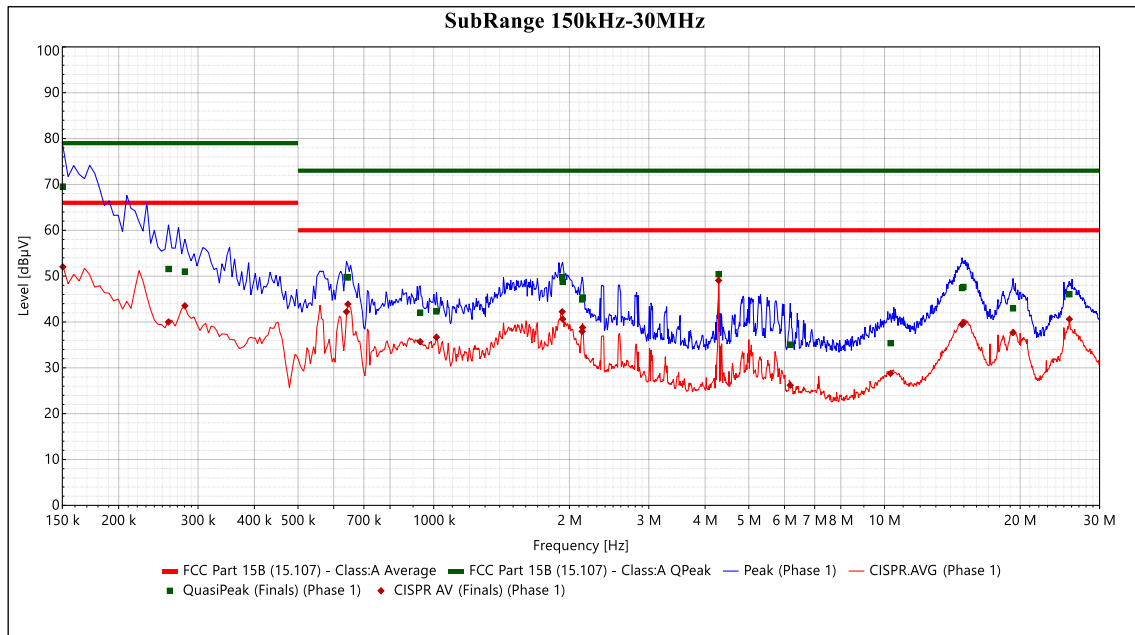
Note: There is no difference between the graphs. According to § 15.521(c), the emissions are assessed under Subpart B, see test report 80186184-04 of test laboratory CSA Group Bayern GmbH.

FCC ID: KVV-QPW2KP2

Neutral, UWB ON



Neutral, UWB and digital circuitry for UWB generation OFF



Note: There is no difference between the graphs. According to § 15.521(c), the emissions are assessed under Subpart B, see test report 80186184-04 of test laboratory CSA Group Bayern GmbH.

The requirements are **FULFILLED**.

Remarks: There is no possibility for the EUT to enable the digital circuitry for UWB without emitting radiation.

FCC ID: KVV-QPW2KP2**5.2 UWB Bandwidth**

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

5.2.1 Description of the test location

Test location: Anechoic chamber 1

5.2.2 Photo documentation of the test set-up – Detailed photos see ATTACHMENT B**5.2.3 Applicable standard**

According to FCC Part 15, Section 15.517(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 bandwidth is measured following the procedure set out in ANSI C63-10, Item 10.1. The measurement was performed radiated at a distance of 3 m. The bandwidth was measured at an amplitude level reduced from the reference level of a modulated channel by a ratio of -10 dB. The EUT is set in TX continuous mode while measuring. The EUT behaves exactly like an UWB transmitter in the R&S®QPS Walk2000 device.

Spectrum analyser settings:

RBW: 1 MHz, VBW: 3 MHz, Detector: Peak

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

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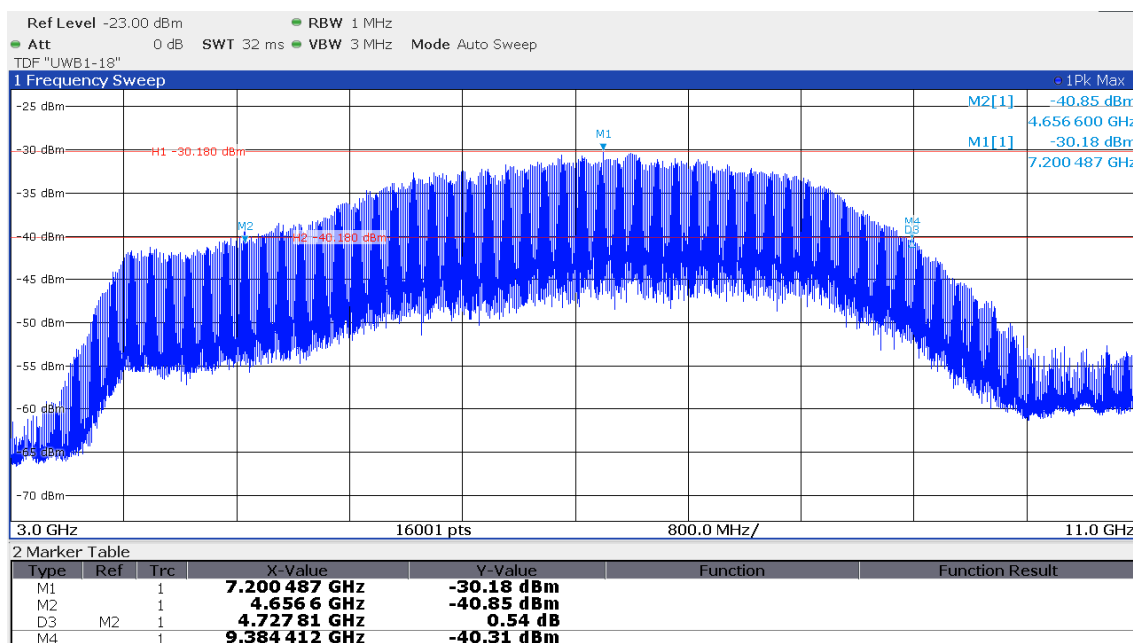
5.2.5 Test result

lowest frequency f_L (MHz)	highest frequency f_H (MHz)	permitted frequency range (GHz)	UWB bandwidth (MHz)	required UWB bandwidth (MHz)	result
4656.6	9384.4	3.1 – 10.6	4727.8	> 500	passed

The requirements are **FULFILLED**.

Remarks: For detailed test results please refer to following test protocols.

5.2.6 Test protocols EBW



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5.3 Radiated Emissions 9 kHz to 40 GHz

For test instruments and accessories used see section 6 Part **SER 1**, and **SER 2** and **SER 3**.

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 – Detailed photos see ATTACHMENT B

5.3.3 Applicable standard

According to FCC Part 15, Section 15.517(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.

According to FCC Part 15, Section 15.521(c):

Emissions from digital circuitry used to enable the operation of the UWB transmitter shall comply with the limits in § 15.209, rather than the limits specified in this subpart, provided it can be clearly demonstrated that those emissions from the UWB device are due solely to emissions from digital circuitry contained within the transmitter and that the emissions are not intended to be radiated from the transmitter's antenna. Emissions from associated digital devices, as defined in § 15.3(k), e.g., emissions from digital circuitry used to control additional functions or capabilities other than the UWB transmission, are subject to the limits contained in Subpart B of this part.

5.3.4 Description of Measurement

The maximum emission is measured following the procedure set out in ANSI C63-10, item 10.2. The EUT is set in TX continuous mode while measuring. The EUT behaves exactly like an UWB transmitter in the R&S®QPS Walk2000 device.

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

for § 15.521(c) additionally:

960 MHz – 40 GHz	RBW: 1 MHz	VBW3: MHz	Detector: Peak/Av	Sweeptime: 100 ms
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The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

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5.3.5 Test result
5.3.5.1 Measurement 9 kHz to 30 MHz

Note: Pre-measurements have shown, there are no detectable emissions in this frequency range. Because of the physical dimensions of the EUT, no emissions can occur.

5.3.5.2 Measurement 30 MHz to 960 MHz

Frequency (MHz)	Reading Vert. (dBµV)	Reading Hor. (dBµV)	Correct. Vert. (dB)	Correct. Hor. (dB)	Level Vert. (dBµV/m)	Level Hor. (dBµV/m)	Limit (dBµV/m)	Dlimit (dB)
70.60	9.3	0.5	15.7	16.1	25.0	16.6	40.0	-15.0
149.24	4.8	0.7	19.5	18.8	24.3	19.5	43.5	-19.2
282.17	3.0	5.3	19.7	20.1	22.7	25.4	46.0	-20.6
300.00	16.1	4.3	20.2	20.8	36.3	25.1	46.0	-9.7
565.50	-2.6	4.4	27.4	27.7	24.8	32.1	46.0	-13.9
700.00	6.8	-1.6	29.8	30.3	36.6	28.7	46.0	-9.4

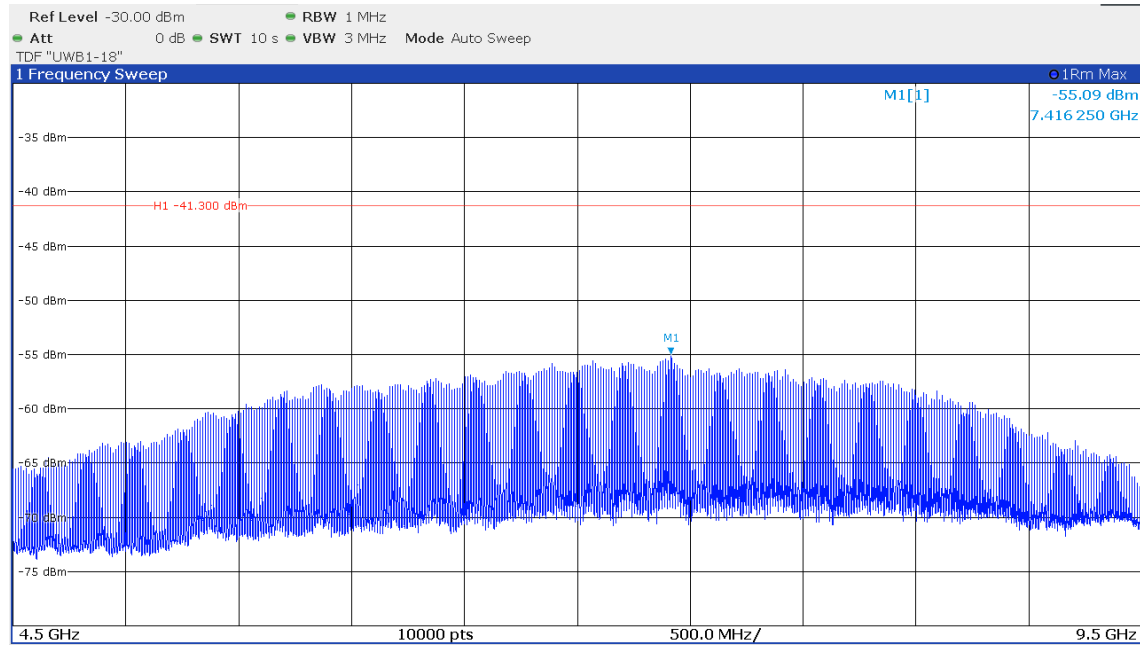
5.3.5.1 Measurement 960 MHz to 40 GHz

According to § 15.521(c), emissions from digital circuitry used to enable the operation of the UWB transmitter shall comply with the limits in § 15.209. The average limit is given by 54 dBµV/m at 3 meter distance, which corresponds to an EIRP of -41.3 dBm according to ANSI C63.10 2013 clause 10.3.9.

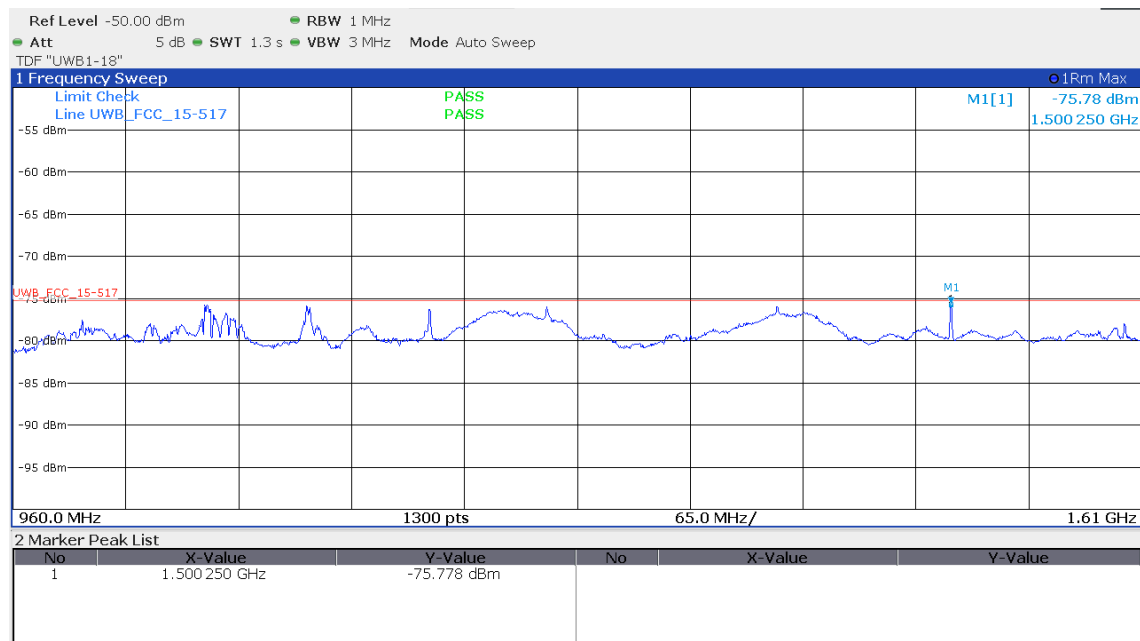
As proven in the following measurements, no emissions outside the UWB transmission can be detected in the frequency range 960 MHz and 40 GHz and the highest emissions occurs by the UWB emission itself, which lies under the UWB limit of -41.3 dBm. Therefore, the requirements according to § 15.209 can be regarded as fulfilled.

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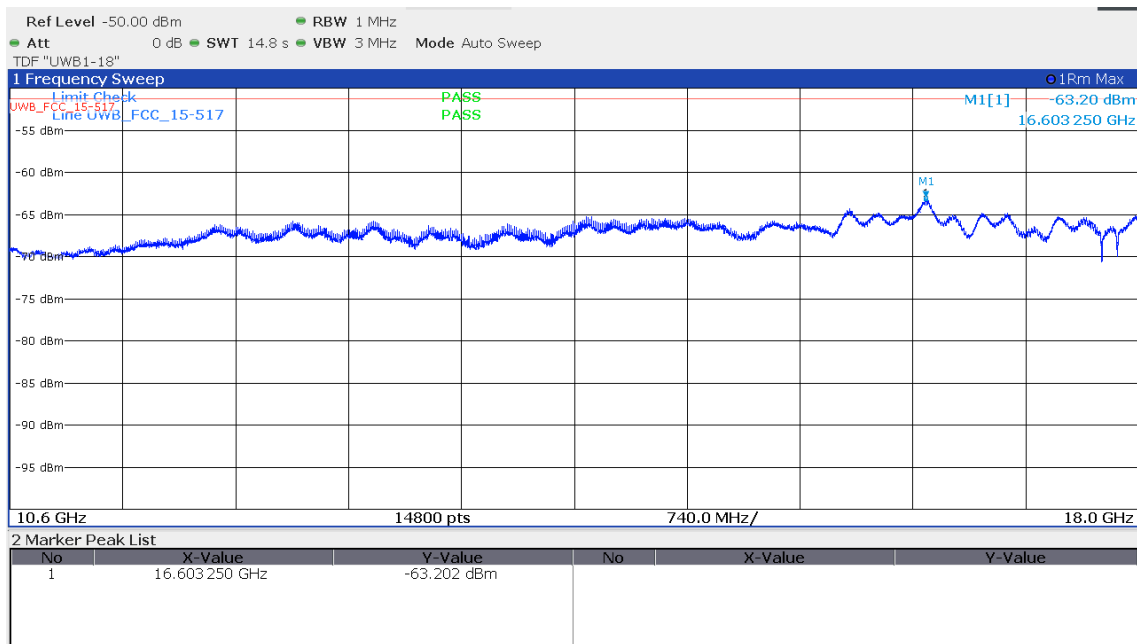
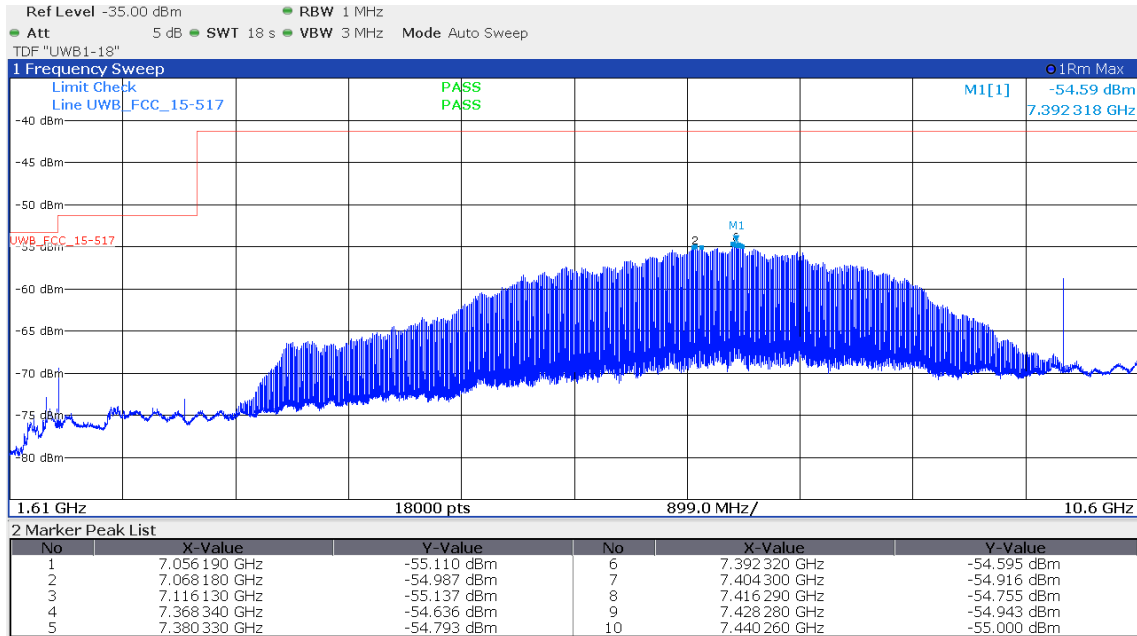
Mean Power



960 MHz to 18 GHz

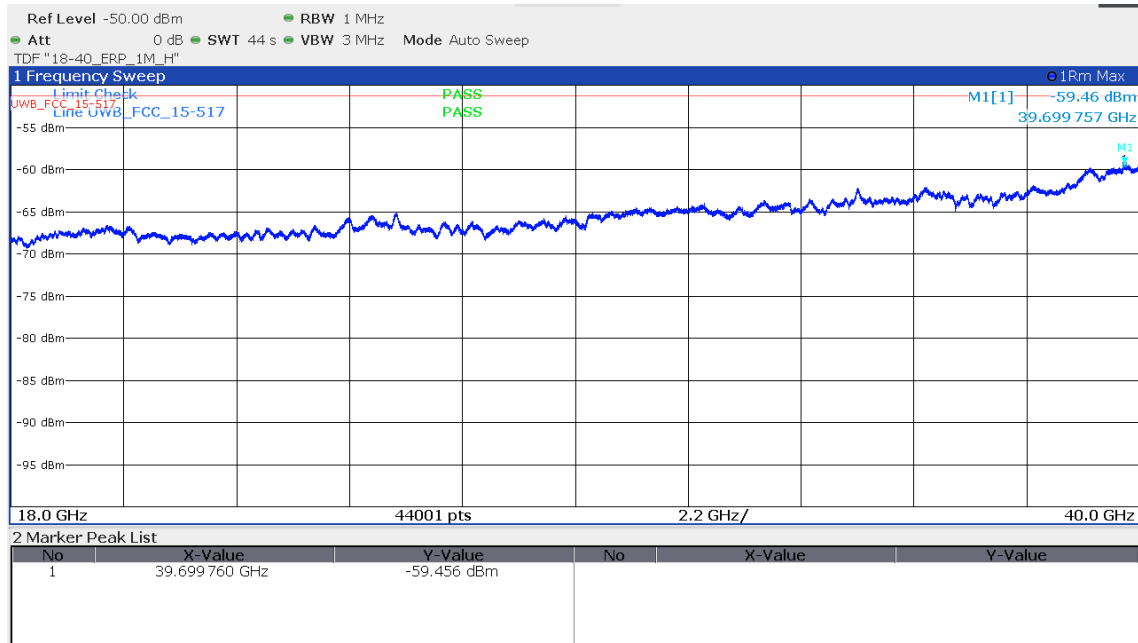


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18 GHz to 40 GHz



Result: Exempt for the UWB transmission, the radiated emissions are due to the digital circuitry of the device. Thus they have to be assessed under Subpart 15B, see test report 80119127-03 of test laboratory CSA Group Bayern GmbH.

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Limits:

Limit according §15.209(a) in the frequency range 9 kHz 960 MHz:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

Limit according §15.517(c) in the frequency range 960 MHz to 40 GHz:

Frequency in MHz	EIRP in dBm
960-1610	-75.3
1610-1990	-53.3
1990-3100	-51.3
3100-10600	-41.3
Above 10600	-51.3

The requirements are **FULFILLED**.

Remarks: There is no possibility for the EUT to enable the digital circuitry for UWB without emitting radiation.

FCC ID: KVV-QPW2KP2**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 – Detailed photos see ATTACHMENT B**5.4.3 Applicable standard**

According to FCC Part 15, Section 15.517(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 Description of Measurement

The spectral line is measured following the procedure set out in ANSI C63-10, item 10.3.10. The EUT is set in TX continuous mode while measuring. The EUT behaves exactly like an UWB transmitter in the R&S®QPS Walk2000 device.

Analyser settings:

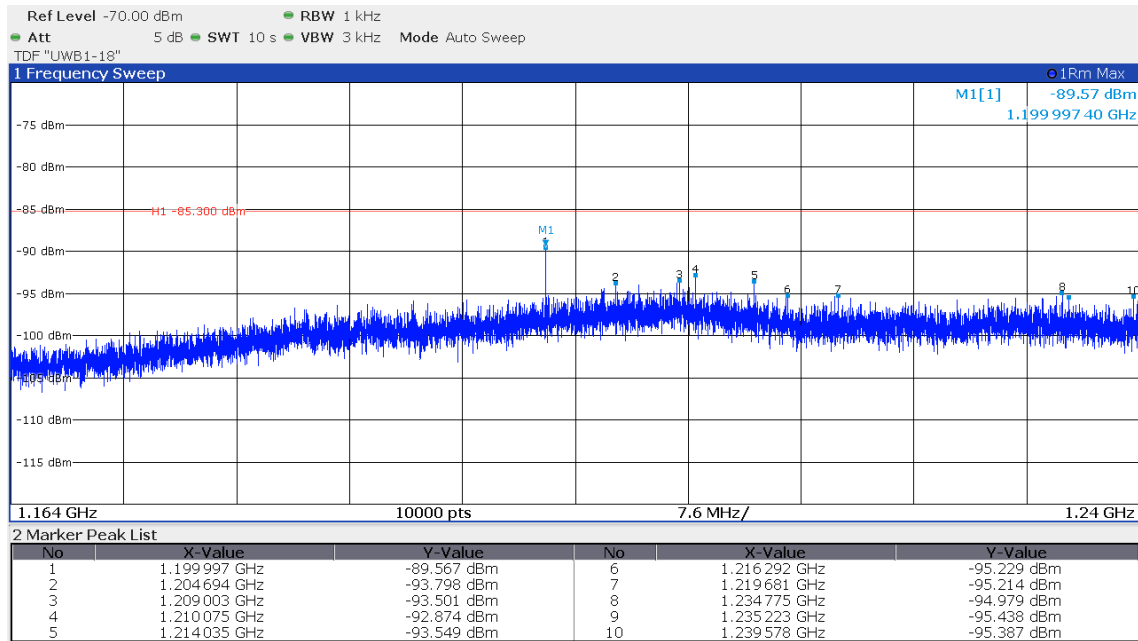
RBW: 1 kHz, VBW: 3 kHz, Detector: RMS, Sweep time: 1 ms/1kHz,

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

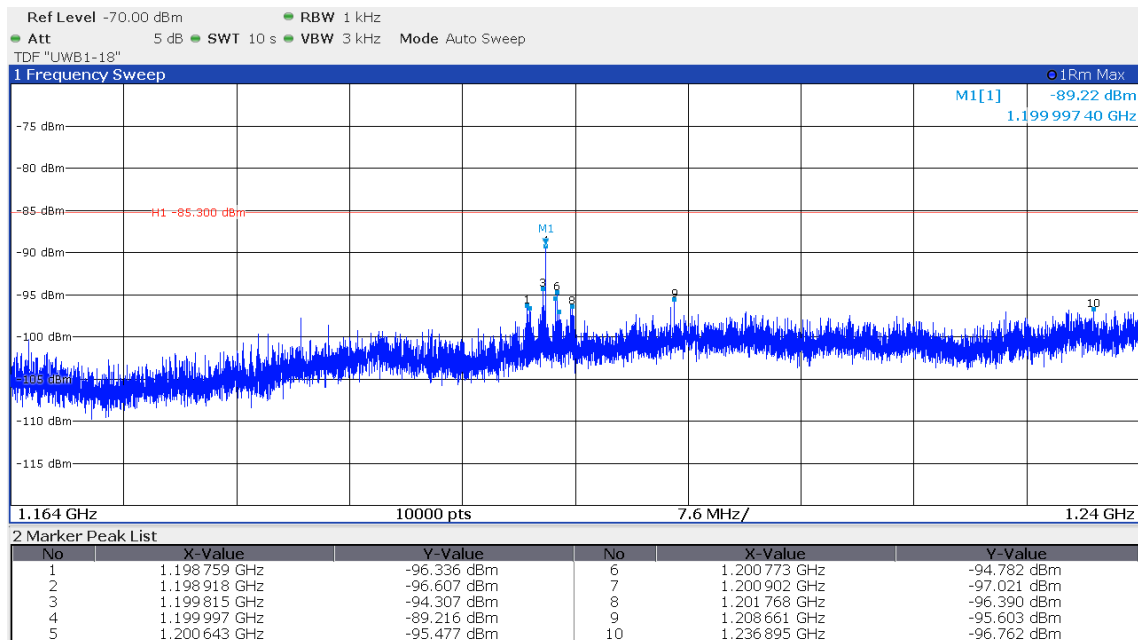
FCC ID: KVV-QPW2KP2

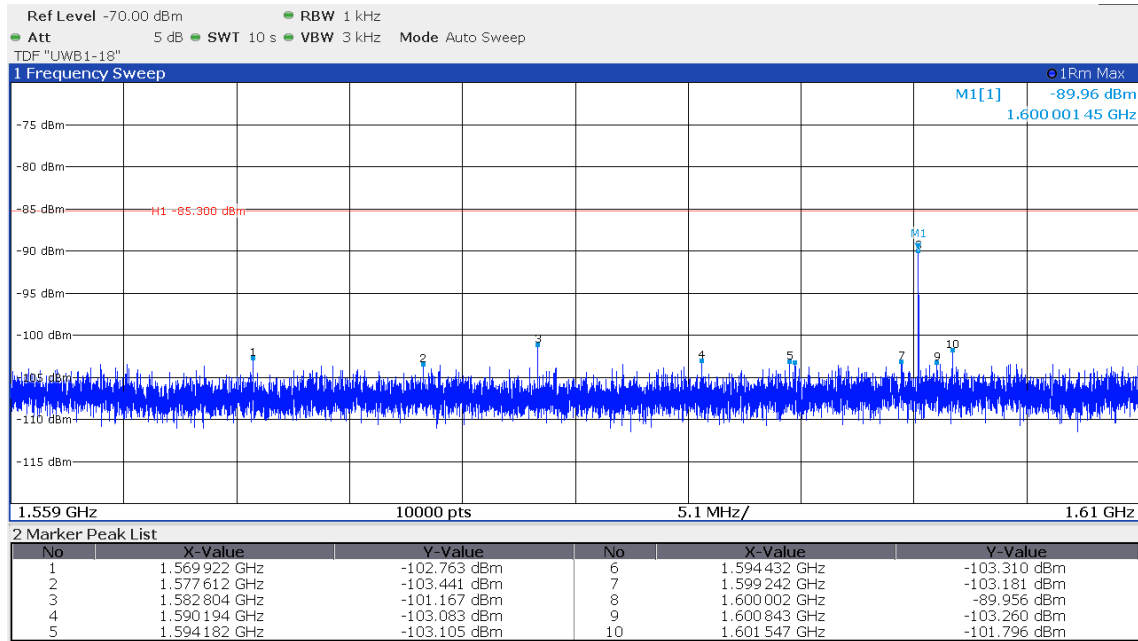
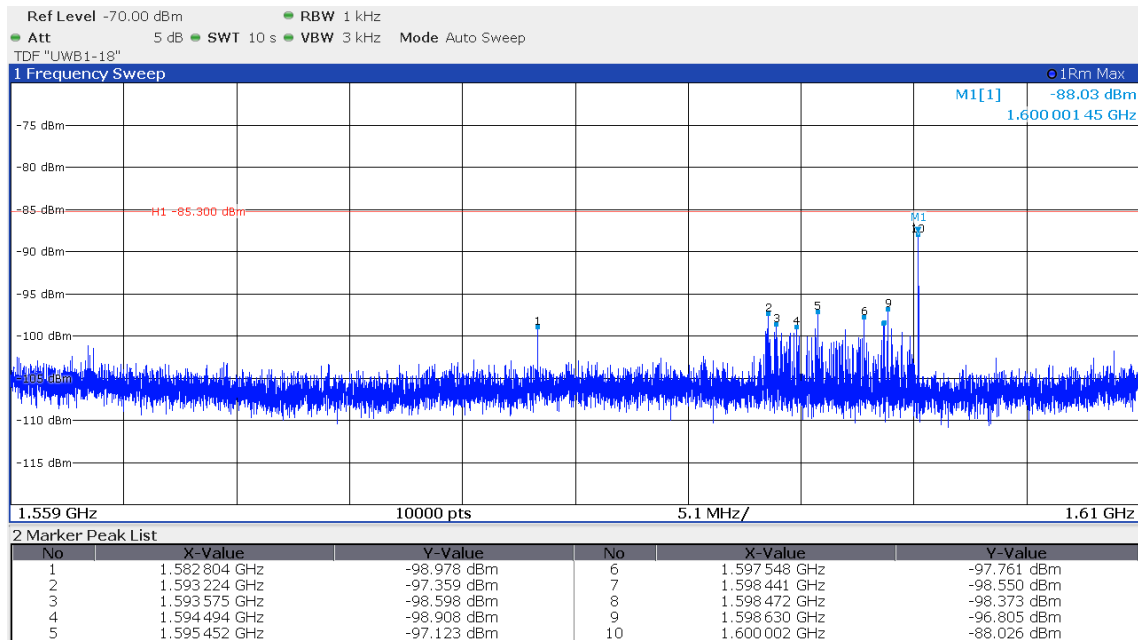
5.4.5 Test result

1164 MHz to 1240 MHz horizontal



1164 MHz to 1240 MHz vertical



FCC ID: KVV-QPW2KP2
1559 MHz to 1610 MHz horizontal

1559 MHz to 1610 MHz vertical


FCC ID: KVV-QPW2KP2

Limit according §15.519(c) in the frequency

Frequency in MHz	EIRP in dBm
1164-1240	-85.3
1559-1610	-85.3

The requirements are **FULFILLED**.

Remarks: None.

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

FCC ID: KVV-QPW2KP2**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 – Detailed photos see ATTACHMENT B**5.5.3 Applicable standard**

According to FCC Part 15, Section 15.517(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 Description of Measurement

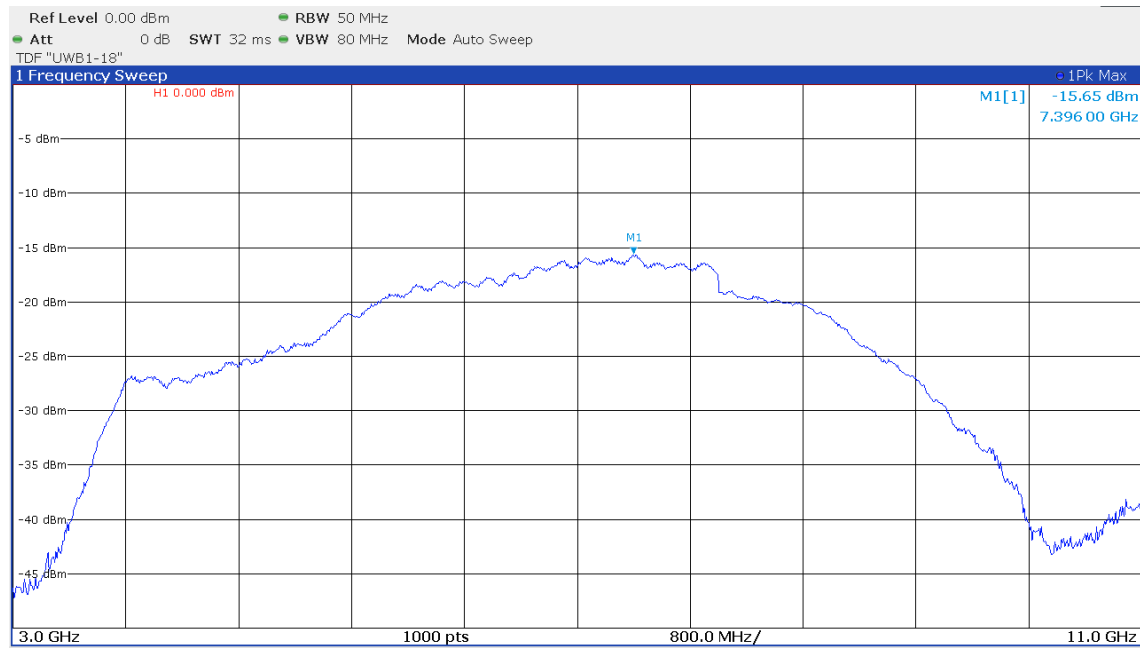
The peak power is measured following the procedure set out in ANSI C63-10, item 10.3.5. The EUT is set in TX continuous mode while measuring. The EUT behaves exactly like an UWB transmitter in the R&S®QPS Walk2000 device.

Analyser settings:

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

FCC ID: KVV-QPW2KP2

5.5.5 Test result



Min. limit margin: -15.7 dB at 7396.0 MHz

The requirements are **FULFILLED**.

Remarks: None.

FCC ID: KVV-QPW2KP2

6 USED TEST EQUIPMENT AND ACCESSORIES

All test instruments used are calibrated and verified regularly. The calibration history is available on request.

Test ID	Model Type	Equipment No.	Next Calib.	Last Calib.	Next Verif.	Last Verif.
A 4	BAT-EMC 2023.0.8.0	01-02/68-13-001				
	ESCI	02-02/03-15-001	03/07/2024	03/07/2023		
	ESH 2 - Z 5	02-02/20-05-004	13/10/2025	13/10/2022	17/04/2024	17/04/2023
	N-4000-BNC	02-02/50-05-138				
	ESH 3 - Z 2	02-02/50-05-155	09/11/2025	09/11/2022	25/01/2024	25/07/2023
CPR 3	ESW26	02-02/03-17-002	08/03/2024	08/03/2023		
	FSW43	02-02/11-15-001	04/05/2024	04/05/2023		
	AMF-6D-01002000-22-10P	02-02/17-15-004				
	3117	02-02/24-05-009	12/07/2024	12/07/2023		
	BAM 4.5-P	02-02/50-17-024				
	NCD	02-02/50-17-025				
	KK-SF106-2X11N-6,5M	02-02/50-18-016				
	BAT-EMC 2023.0.8.0	02-02/68-13-001				
SER 1	ESW26	02-02/03-17-002	08/03/2024	08/03/2023		
	HFH 2 - Z 2	02-02/24-05-020	01/06/2025	01/06/2022	05/09/2024	05/09/2023
	NW-2000-NB	02-02/50-05-113				
	KK-EF393/U-16N-21N20 m	02-02/50-12-018				
	KK-SD_7/8-2X21N-33,0M	02-02/50-15-028				
SER 2	ESW26	02-02/03-17-002	08/03/2024	08/03/2023		
	VULB 9168	02-02/24-05-005	20/04/2024	20/04/2023	03/05/2024	03/05/2023
	NW-2000-NB	02-02/50-05-113				
	KK-EF393/U-16N-21N20 m	02-02/50-12-018				
	KK-SD_7/8-2X21N-33,0M	02-02/50-15-028				
	50F-003 N 3 dB	02-02/50-21-010				
SER 3	AMF-6D-01002000-22-10P	02-02/17-15-004				
	LNA-40-18004000-33-5P	02-02/17-20-002				
	3117	02-02/24-05-009	12/07/2024	12/07/2023		
	BBHA 9170	02-02/24-05-013	21/03/2026	21/03/2023	21/03/2024	21/03/2023
	BAM 4.5-P	02-02/50-17-024				
	NCD	02-02/50-17-025				
	KK-SF106-2X11N-6,5M	02-02/50-18-016				
	KMS116-GL140SE-KMS116	02-02/50-20-026				
	BAT-EMC 2023.0.8.0	02-02/68-13-001				

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.