



EMI - T E S T R E P O R T

- FCC Part 15.247, RSS247 -

Type / Model Name : Element Verio CIP Platform

Product Description : Blood glucose meter with Bluetooth 4.0 Low Energy

Applicant : Lifescan Scotland Ltd.

Address : Beechwood Park North
INVERNESS, IV2 3ED, SCOTLAND

Manufacturer : Lifescan, Division of Cilag GmbH International

Address : Gubelstrasse 34
6300 ZUG, SWITZERLAND

Licence holder : Lifescan, Division of Cilag GmbH International

Address : Gubelstrasse 34
6300 ZUG, SWITZERLAND

Test Result according to the standards listed in clause 1 test standards:

POSITIVE

Test Report No. :

T38836-14-02GK

27. July 2017

Date of issue



Deutsche
Akkreditierungsstelle
D-PL-12030-01-01
D-PL-12030-01-02

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 A - General (September 2015)

Part 15, Subpart A, Section 15.31	Measurement standards
Part 15, Subpart A, Section 15.33	Frequency range of radiated measurements
Part 15, Subpart A, Section 15.35	Measurement detector functions and bandwidths

FCC Rules and Regulations Part 15, Subpart C - Intentional Radiators (September 2015)

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 15.205	Restricted bands of operation
Part 15, Subpart C, Section 15.207	Conducted limits
Part 15, Subpart C, Section 15.209	Radiated emission limits, general requirements
Part 15, Subpart C, Section 15.247	Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz

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 558074 D01 v04

Guidance for performing compliance measurements on DTS
operating under §15.247, April 5, 2017.

2 EQUIPMENT UNDER TEST

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

2.2 Equipment type

BLE device

2.3 Short description of the equipment under test (EUT)

The EUT is a Bluetooth 4.0 Low Energy system integrated in a blood glucose meter. The EUT is compatible with the standard 802.15.1. It supports the 2.4 GHz frequency band. A single PCB antenna is used within the system. The EUT must be controlled via terminal programm to select the modulation and data rate manually. A personal computer was used to control the settings of the EUT.

Number of tested samples: 2 (1 radiated and 1 conducted sample)

Serial number (radiated sample): Z2KGMN5Z

Serial number (conducted sample): Z2KGMN66

Firmware version of system microcontroller: N/A

Firmware version of BLE chip: DTM firmware : 99.11.69

EUT configuration:

(The CDF filled by the applicant can be viewed at the test laboratory.)

2.4 Variants of the EUT

The Element Verio Platform consists of 2 devices: One Touch Verio Flex and One Touch UltraPlus Flex
The difference between the two devices is the colour of the cabinet and the different strip port connectors.

2.5 Operation frequency and channel plan

The operating frequency is 2400 MHz to 2483.5 MHz.

Channel plan BT-Standard 802.15.1:

Channel	Frequency	Channel	Frequency
37	2402	18	2442
0	2404	19	2444
1	2406	20	2446
2	2408	21	2448
3	2410	22	2450
4	2412	23	2452
5	2414	24	2454
6	2416	25	2456
7	2418	26	2458
8	2420	27	2460
9	2422	28	2462
10	2424	29	2464
38	2426	30	2466
11	2428	31	2468
12	2430	32	2470
13	2432	33	2472
14	2434	34	2474
15	2436	35	2476
16	2438	36	2478
17	2440	39	2480

Note: the marked frequencies are determined for final testing.

2.6 Transmit operating modes

The EUT uses GFSK modulation and may provide following data rates:

- 1000 kbps (kbps = kilobits per second)

2.7 Antennas

The following antennas shall be used with the EUT:

Number	Characteristic	Certification name	Plug	Frequency range (GHz)	Gain (dBi)
1	Omni	PCB antenna	none	2.4 - 2.4835	0

2.8 Power supply system utilised

Power supply voltage, V_{nom} : 3 V DC (battery powered)

2.9 Peripheral devices and interface cables

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

- Laptop _____ Model : Fujitsu Siemens E700 _____
- _____ Model : _____
- _____ Model : _____

2.10 Determination of worst case conditions for final measurement

Measurements are made in all three orthogonal axes.

The tests are carried out in the following frequency band:

2400 MHz – 2483.5 MHz

For the final test the following channels and test modes are selected:

Available channels	Tested channels	Power setting	Modulation	Data rate
00 to 39	37, 18, 39	(-4 dBm)	GFSK	1000 kbps

- TX continuous mode, 802.15.1

2.10.1 Test jig

2.10.2 Test software

The test software nRFgo (Direct Test Mode) was used to set the EUT into test mode.

3 TEST RESULT SUMMARY

BLE device using digital modulation:

Operating in the 2400 MHz – 2483.5 MHz:

FCC Rule Part	RSS Rule Part	Description	Result
15.207(a)	RSS-Gen, 8.8	AC power line conducted emissions	not applicable
15.247(a)(2)	RSS247, 6.2.4(1)	-6 dB EBW	passed
15.247(b)(3)	RSS247, 6.2.4(1)	Maximum peak conducted output power	passed
15.247(b)(4)		Defacto limit	not applicable
15.247(d)	RSS247, 6.2.4(2)	Out-of-band emission, radiated	passed
15.247(d)	RSS-Gen, 8.9	Emissions in restricted bands	passed
15.247(e)	RSS247, 6.2.4(1)	PSD	passed
15.35(c)	RSS-Gen, 6.10	Pulsed operation	not applicable
15.203	RSS-Gen, 6.6	Antenna requirement	passed
-	RSS-Gen, 6.6	99 % Bandwidth	passed

The mentioned new RSS Rule Parts in the above table are related to:

RSS Gen, Issue 4, November 2014

RSS 247, Issue 1, May 2015

3.1 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 : 24 May 2016

Testing concluded on : 24 May 2016

Checked by: Tested by:

Klaus Gegenfurtner
Teamleader Radio

Konrad Graßl
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 acc. to CISPR 16-4-2 / 11.2003 „Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements“ and is documented in the quality system acc. to DIN EN ISO/IEC 17025. For all measurements shown in this report, the measurement uncertainty of the test laboratory, CSA Group Bayern GmbH, is below the measurement uncertainty as defined by CISPR. Therefore, no special measures must be taken into consideration with regard to the limits according to CISPR. 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 power line conducted emissions	0.15 MHz to 30 MHz	95%	± 3.29 dB
EBW and OBW	2400 MHz to 30000 MHz	95%	$\pm 2.5 \times 10^{-7}$
Output power ERP, radiated	1000 MHz to 7000 MHz	95%	± 2.71 dB
Field strength of the fundamental	1000 MHz to 7000 MHz	95%	± 2.71 dB
Power spectral density	2400 MHz to 3000 MHz	95%	± 0.62 dB
Spurious Emissions, conducted	9 kHz to 10000 MHz	95%	± 2.15 dB
Spurious Emissions, conducted	10000 MHz to 40000 MHz	95%	± 3.47 dB
Spurious Emissions, radiated	9 kHz to 30 MHz	95%	± 3.53 dB
Spurious Emissions, radiated	30 MHz to 1000 MHz	95%	± 4.44 dB
Spurious Emissions, radiated	1000 MHz to 30000 MHz	95%	± 2.34 dB
Spurious Emissions, radiated	30000 MHz to 40000 MHz	95%	± 5.13 dB

4.4 Measurement protocol for FCC and ISED

4.4.1 General information

The Open Area test site is a listed Open Site under the Canadian Test-Sites File-No:

IC 3009A-1

The Anechoic chamber is a listed test site under the Canadian Test-Sites File-No:

IC 3009A-2

In compliance with RSS 247 testing for RSS compliance may be achieved by following the procedures set out in ANSI C63.10 and applying the CISPR 22 limits.

4.4.1.1 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.

4.4.1.2 Details of test procedures

The test methods used comply with CISPR Publication 22, EN 55022 - "Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement" and with ANSI C63.10 - "Testing Unlicensed Wireless Devices". In compliance with 47 CFR Part 15 Subpart A, Section 15.38 testing for FCC compliance may be achieved by following the procedures set out in ANSI C63.10 and applying the CISPR 22 limits.

5 TEST CONDITIONS AND RESULTS

5.1 AC power line conducted emissions

Remarks: Not applicable, because the EUT has no AC mains power port.

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 6

5.2.2 Photo documentation of the test set-up

Please see Attachment B

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 for EBW:

RBW: 100 kHz, VBW: 300 kHz, Detector: Max peak, Sweep time: 5 s, Span: 2 EBW;

Spectrum analyser settings for OBW:

RBW: 1-5% OBW, VBW: 3 RBW, Detector: Max peak, Sweep time: 5 s, Span: 2 OBW;

5.2.5 Test result

EBW

Channel	Centre frequency (MHz)	6 dB bandwidth (kHz)	Minimum limit (MHz)
37	2402	695.30	0.5
18	2442	680.30	0.5
39	2480	675.90	0.5

OBW

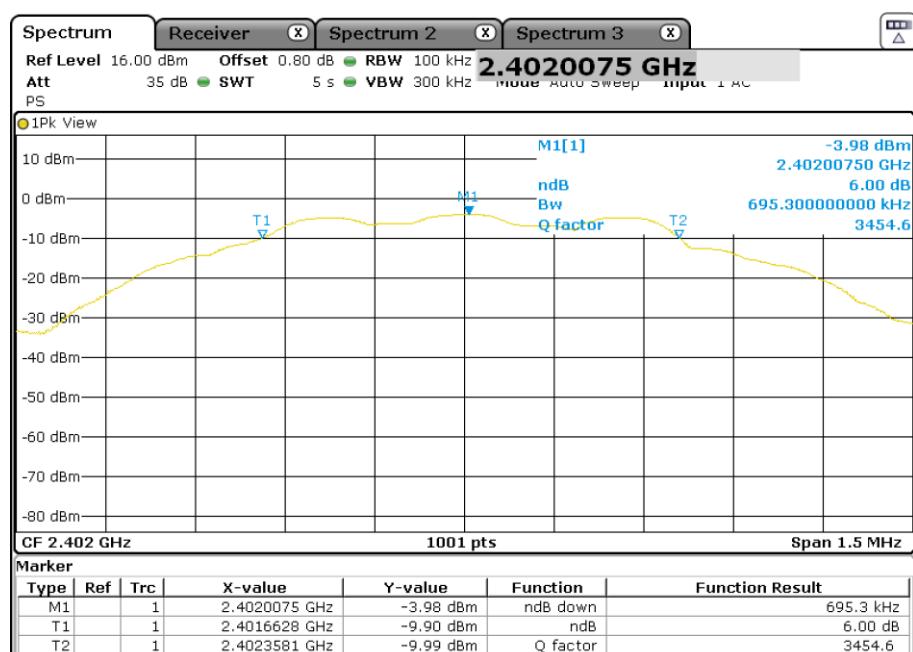
Channel	Centre frequency (MHz)	99 % bandwidth (kHz)
37	2402	1022.50
18	2442	1017.50
39	2480	1010.50

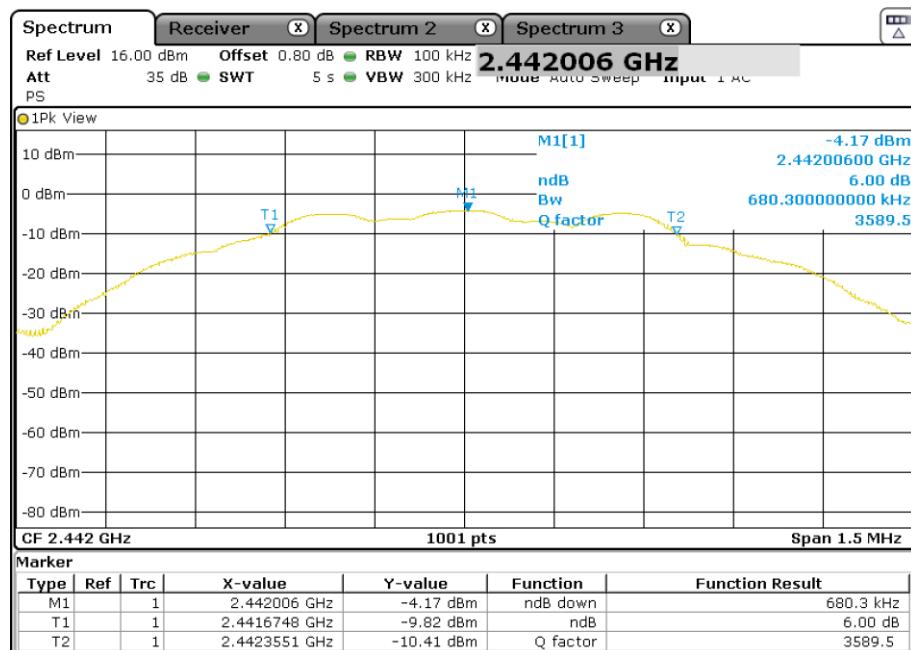
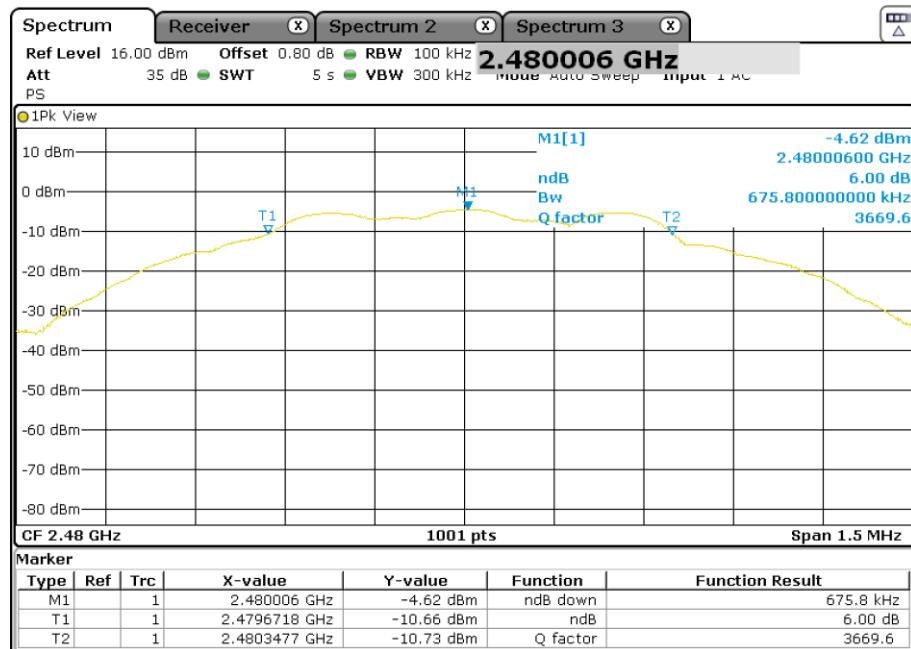
The requirements are **FULFILLED**.

Remarks: For detailed test result please see the following test protocols

5.2.6 Test protocols EBW

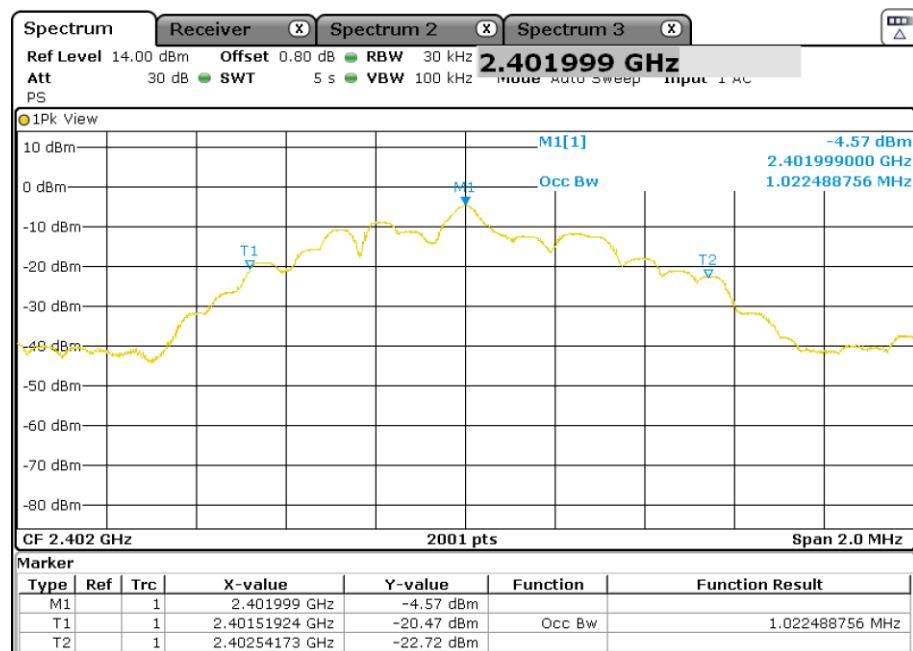
Channel 37 (2402 MHz)



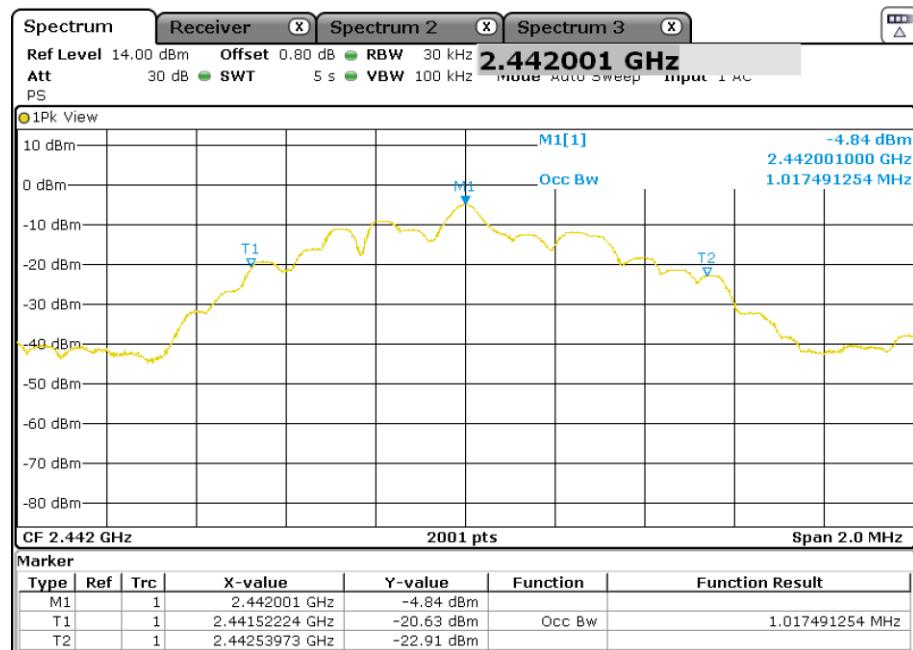
Channel 18 (2442 MHz)

Channel 39 (2480 MHz)


5.2.7 Test protocols OBW

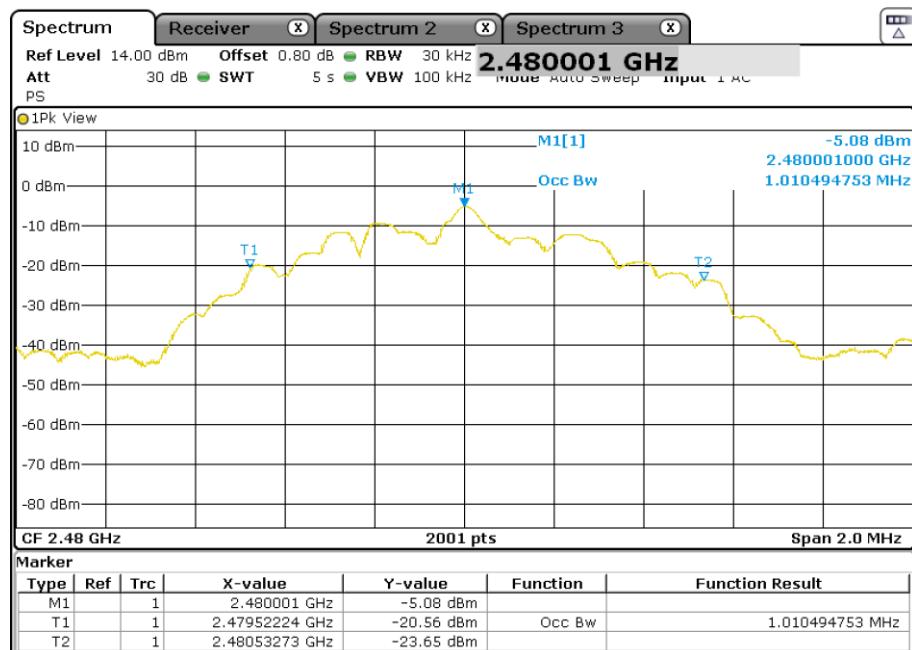
Channel 37 (2402 MHz)



Channel 18 (2442 MHz)



Channel 39 (2480 MHz)



5.3 Maximum peak conducted output power

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

5.3.1 Description of the test location

Test location: Shielded room 6

5.3.2 Photo documentation of the test set-up

Please see Attachment B

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 measured using a peak power meter following the procedure set out in KDB 558074, item 9.1.2. The EUT is set in TX continuous mode while measuring.

5.3.5 Test result

		Test results conducted		
		A [Pmax] (dBm)	Limit (dBm)	Margin (dB)
Lowest frequency: CH37				
T_{nom}	V_{nom}	-3.9	30.0	-33.9
Middle frequency: CH18				
T_{nom}	V_{nom}	-4.0	30.0	-34.0
Highest frequency: CH39				
T_{nom}	V_{nom}	-4.6	30.0	-34.6

Peak Power Limit according to FCC Part 15, Section 15.247(b)(3):

Frequency (MHz)	Peak Power Limit	
	(dBm)	(Watt)
902-928	30	1.0
2400-2483.5	30	1.0
5725-5850	30	1.0

The requirements are **FULFILLED**.

Remarks:

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 6

5.4.2 Photo documentation of the test set-up

Please see Attachment B

5.4.3 Applicable standard

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

For digitally modulated systems, the power spectral density radiated 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 radiated 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. Therefore the PKPSD is measured conducted. The max peak was located and measured with the spectrum analyser and the marker set to peak. The maximum antenna gain being computed in paragraph 5.9 of this test report is used to calculate the maximum peak power spectral density.

Spectrum analyser settings:

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

5.4.5 Test result

	Test results conducted		
	PD [Pmax] (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Lowest frequency: 2402 MHz			
	-16.3	8.0	-24.3
Middle frequency: 2442 MHz			
	-16.8	8.0	-24.8
Highest frequency: 2480 MHz			
	-17.3	8.0	-25.3

Power spectral density limit according to FCC Part 15, Section 15.247(e):

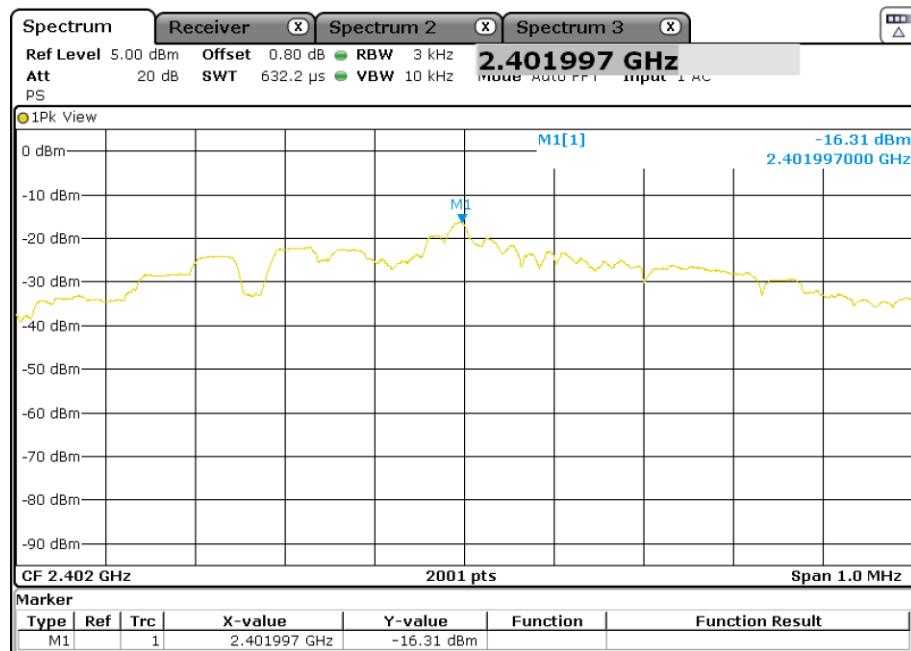
Frequency (MHz)	Power spectral density limit conducted
	(dBm/3 kHz)
2400 - 2483.5	8

The requirements are **FULFILLED**.

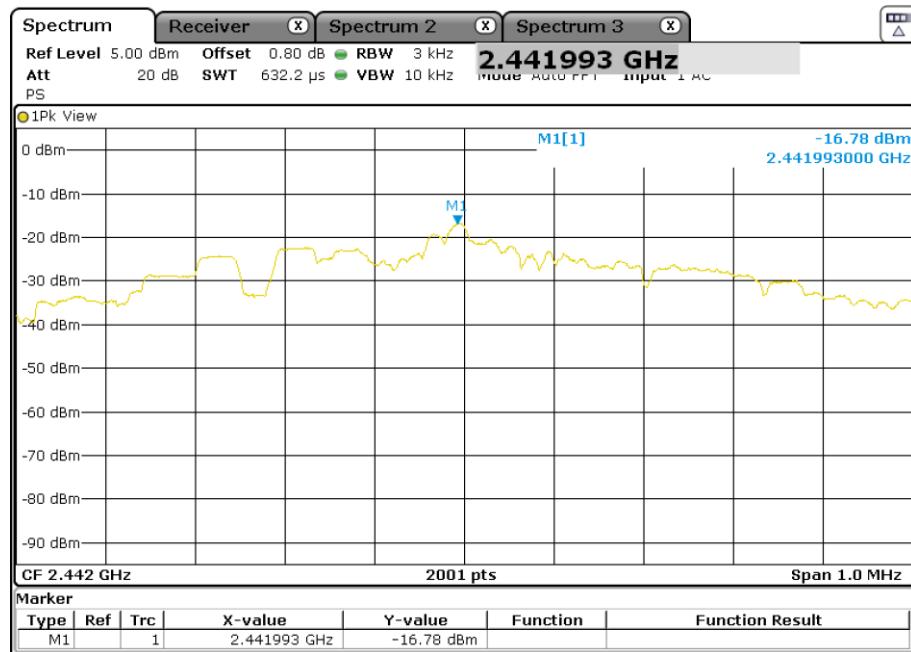
Remarks: For detailed test result please see the following test protocols

5.4.6 Test protocols

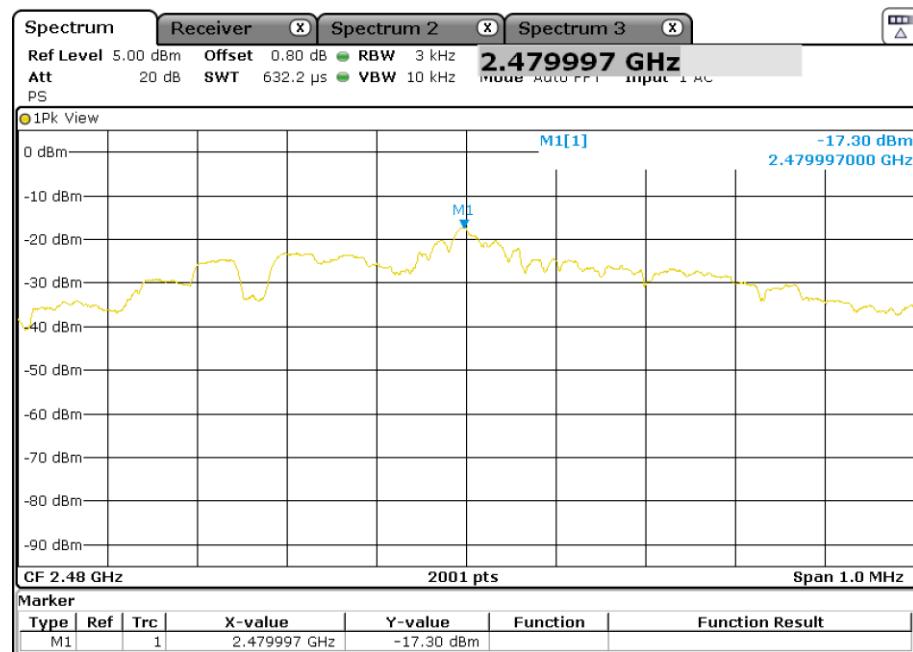
Channel 37 (2402 MHz)



Channel 18 (2442 MHz)



Channel 39 (2480 MHz)



5.5 Radiated emissions in restricted bands

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

5.5.1 Description of the test location

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

5.5.2 Photo documentation of the test set-up

Please see Attachment B

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).

5.5.3 Description of Measurement

The restricted bands are measured radiated. The span of the spectrum analyser is set wide enough to capture the restricted band and measure the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation. The restricted bands are measured falling emissions into it and the nearest restricted band are checked for emissions also the restricted band for the harmonics of the carrier.

Test receiver settings for SER2:

RBW: 120 MHz, Detector: Quasi peak, Mes. Time: 1 s,

Spectrum analyser settings for SER3:

RBW: 1 MHz, VBW: 3 MHz, Detector: Max. peak, Trace: Max. hold, Sweep: Auto

5.5.1 Test result

Note: Pre-measurements have shown there are no detectable values below 30 MHz.

Emissions 30 MHz – 1000 MHz

Frequency (MHz)	Reading Vert. (dB μ V)	Reading Hor. (dB μ V)	Correct. Vert. (dB)	Correct. Hor. (dB)	Level Vert. (dB μ V/m)	Level Hor. (dB μ V/m)	Limit (dB μ V/m)	Dlimit (dB)
35.00	11.8	2.1	13.9	12.7	25.7	14.8	40.0	-14.3
77.73	9.1	8.5	11.7	11.4	20.8	19.9	40.0	-19.2
138.30	1.9	10.7	13.3	14.1	15.2	24.8	43.5	-18.7
205.60	8.6	16.7	11.5	12.2	20.1	28.9	43.5	-14.6
369.10	1.7	3.4	18.9	18.6	20.6	22.0	46.0	-24.0
432.50	1.8	1.4	20.7	20.4	22.5	21.8	46.0	-23.5
616.80	2.4	4.1	25.7	25.5	28.1	29.6	46.0	-16.4

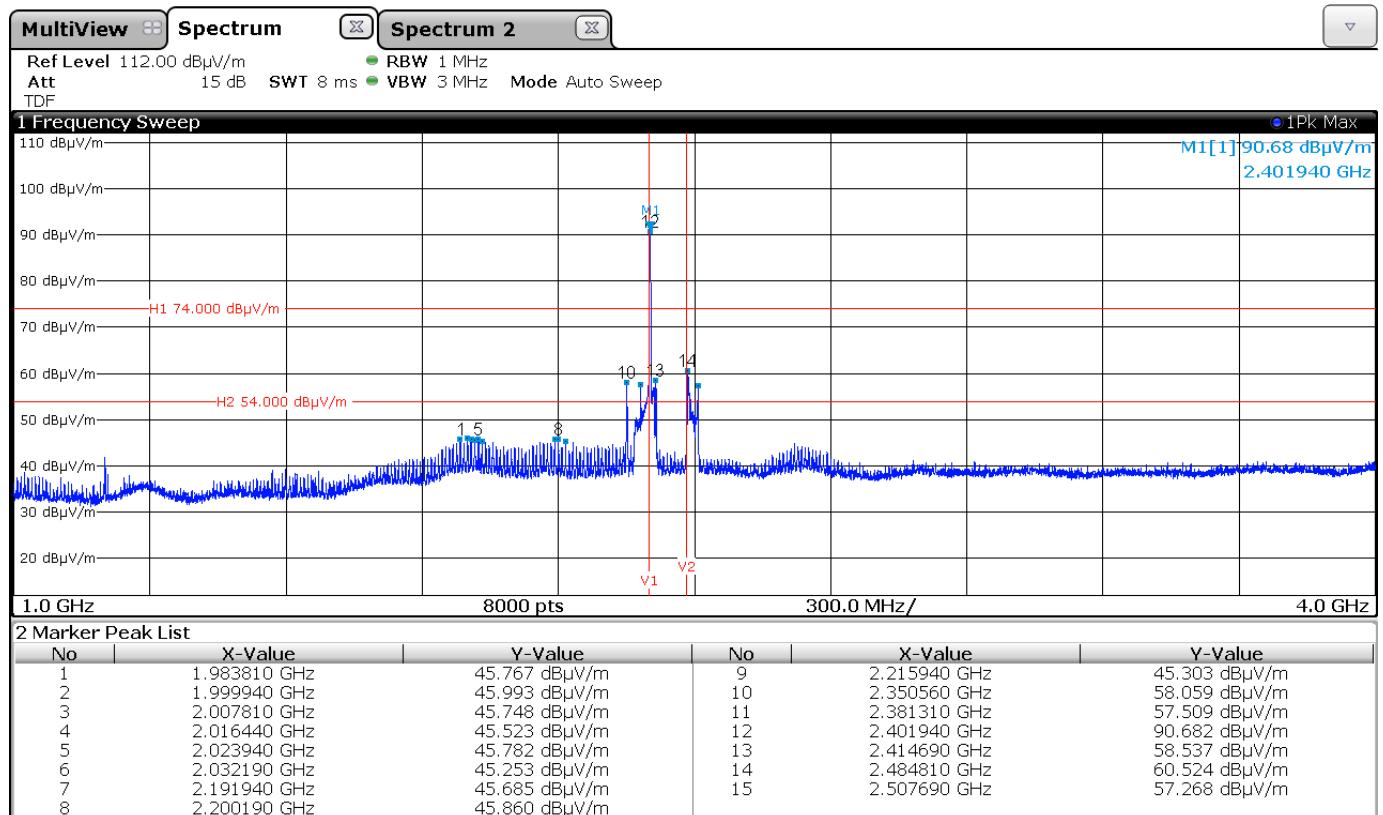
Note: The table shows only values of the noise floor of OATS 1. No values could be detected belonging to the EUT.

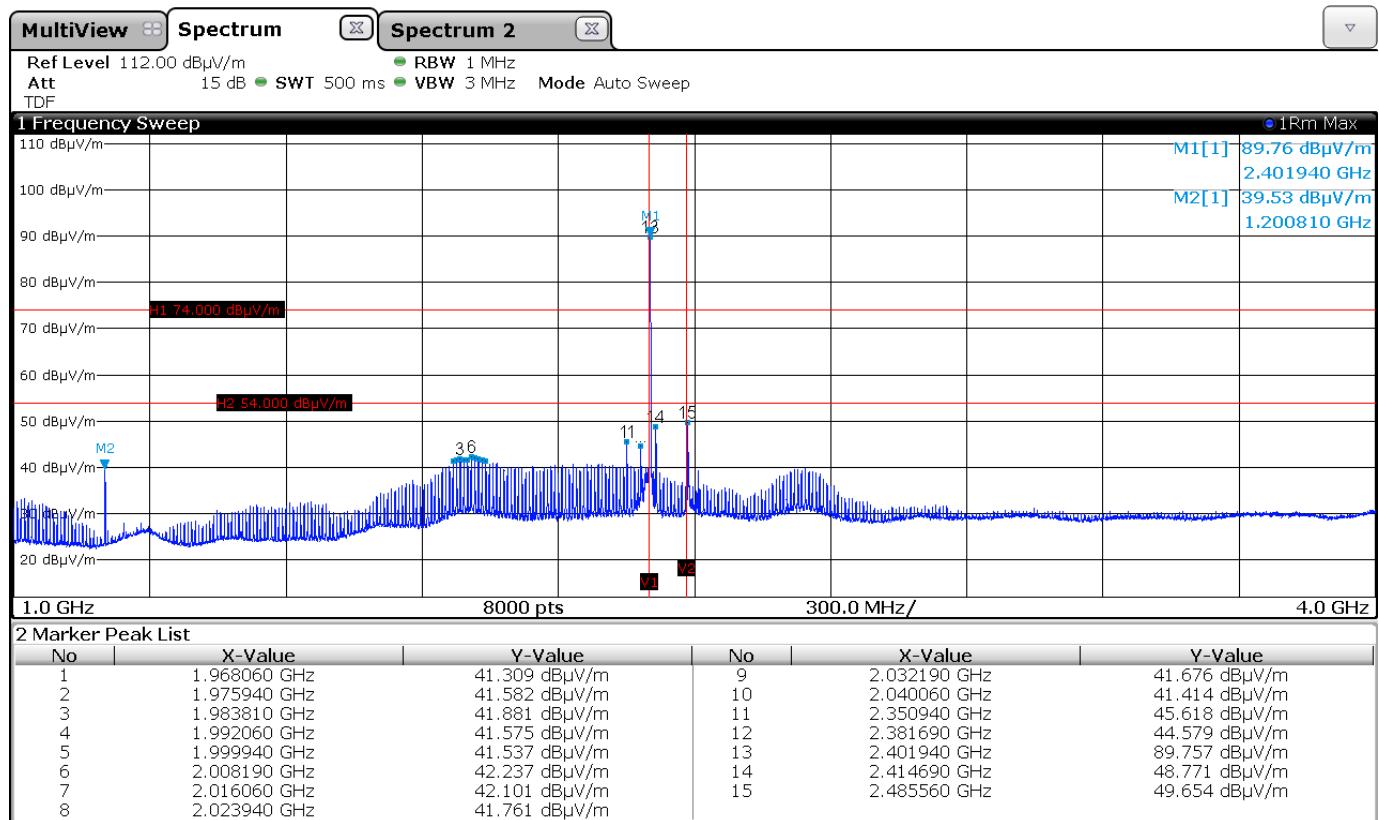
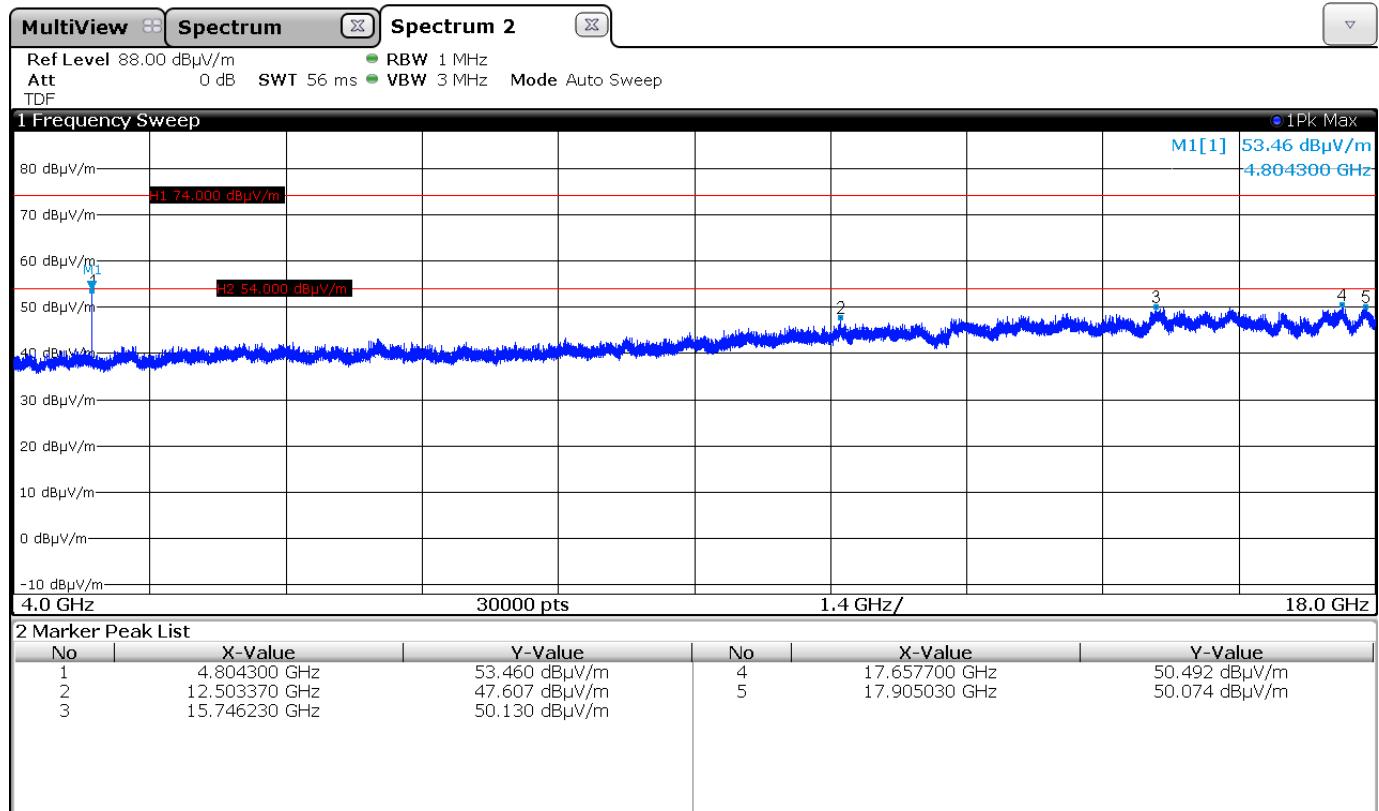
Emissions 1 GHz – 25 GHz

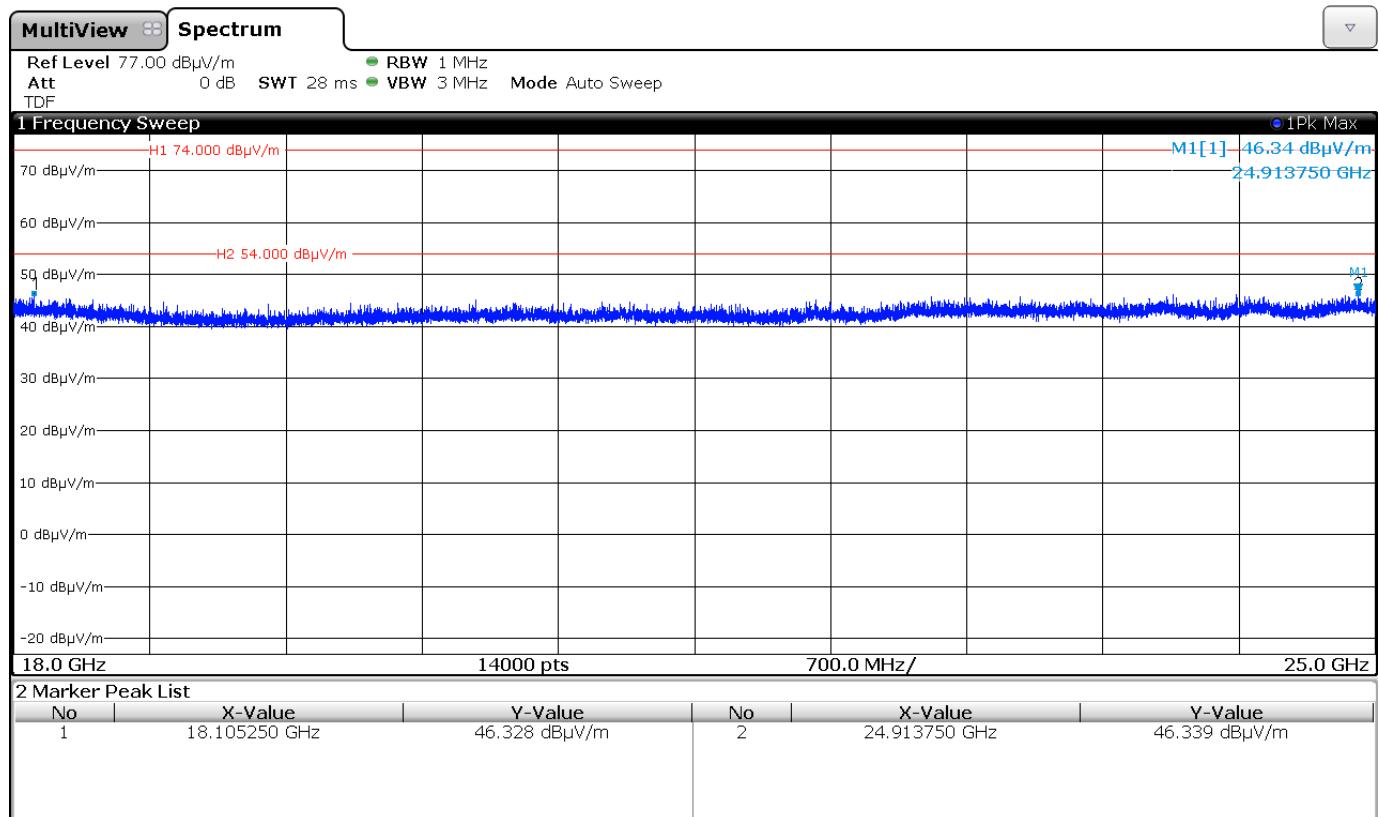
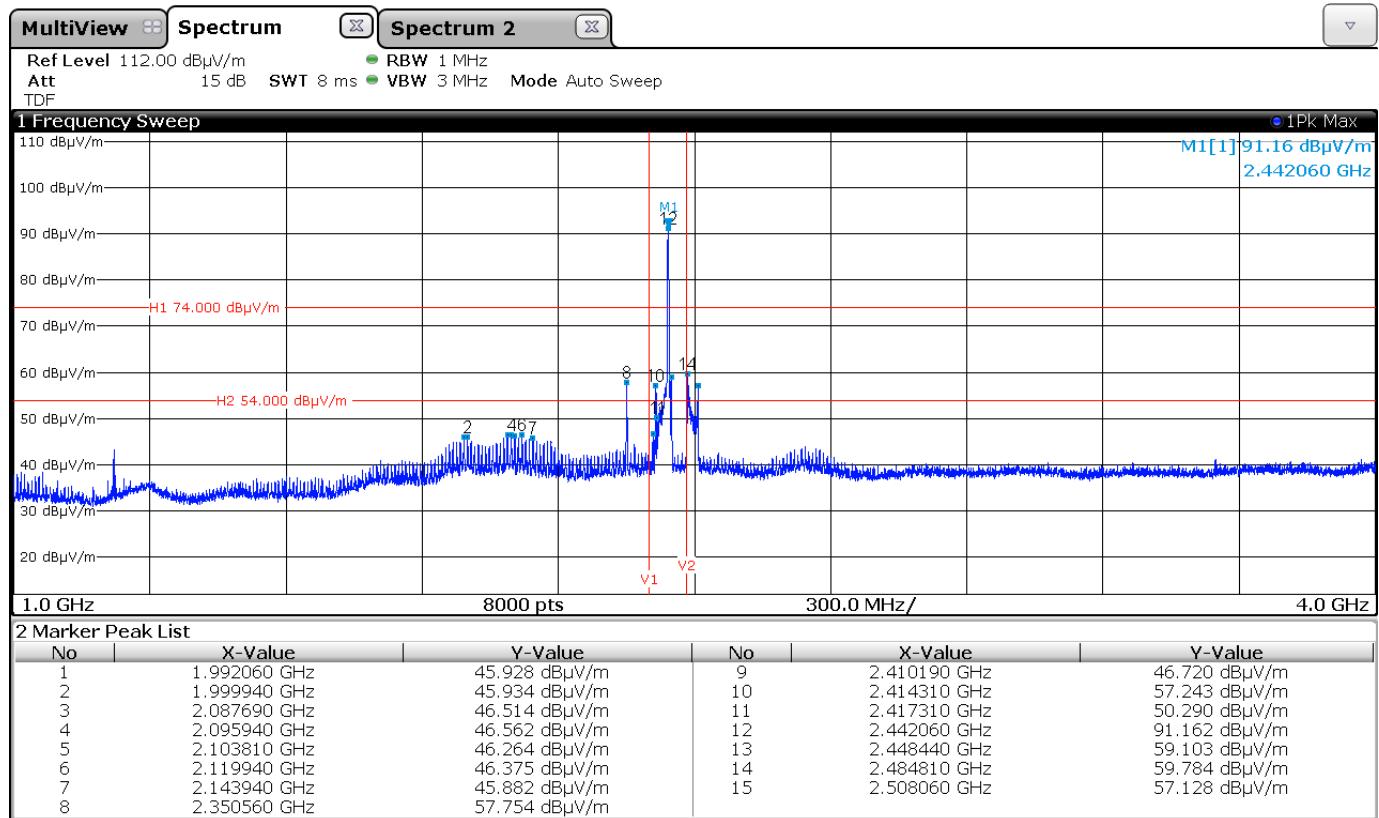
Note: If the peak measurement fulfills the peak limit and the average limit than no further RMS measurement was performed. The plots show the worst case.

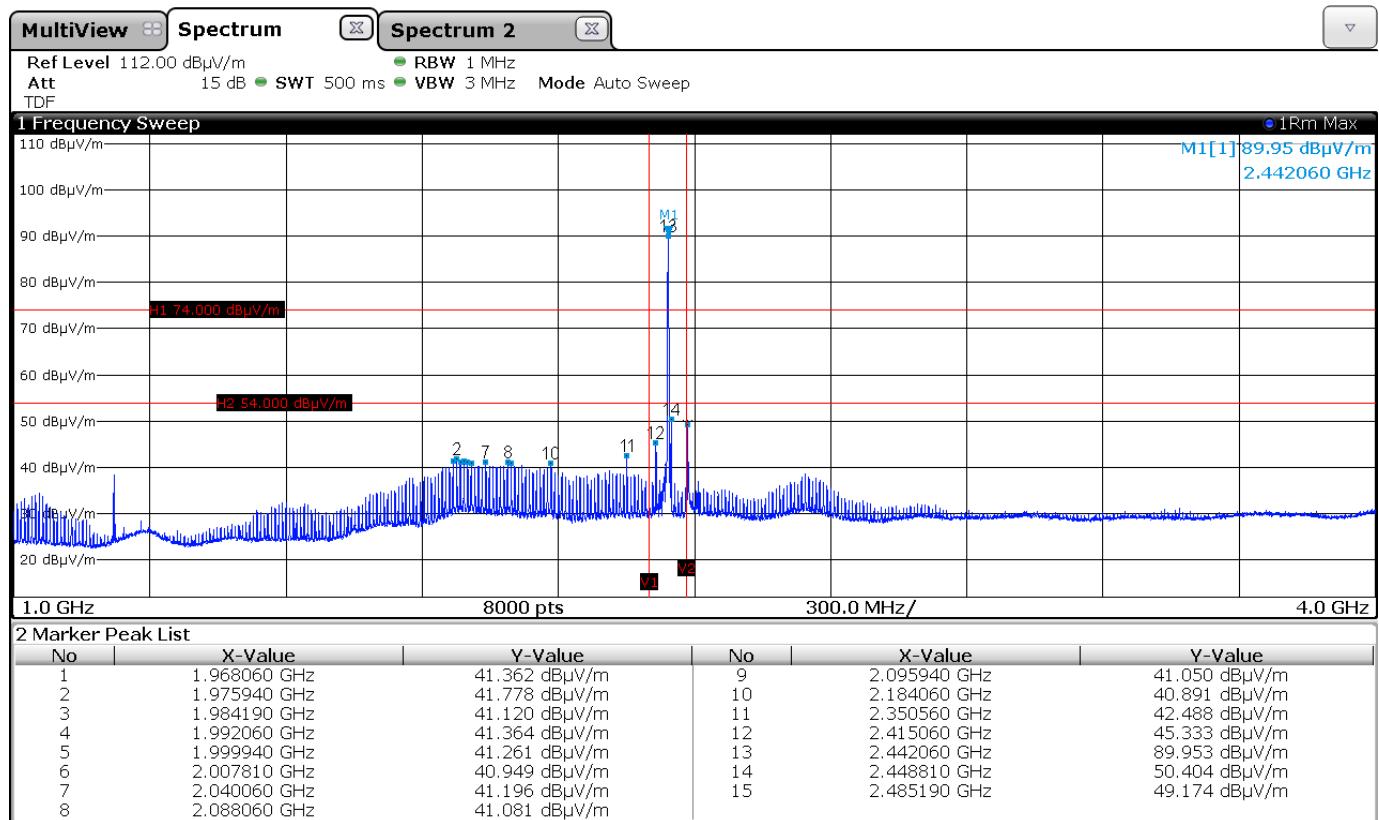
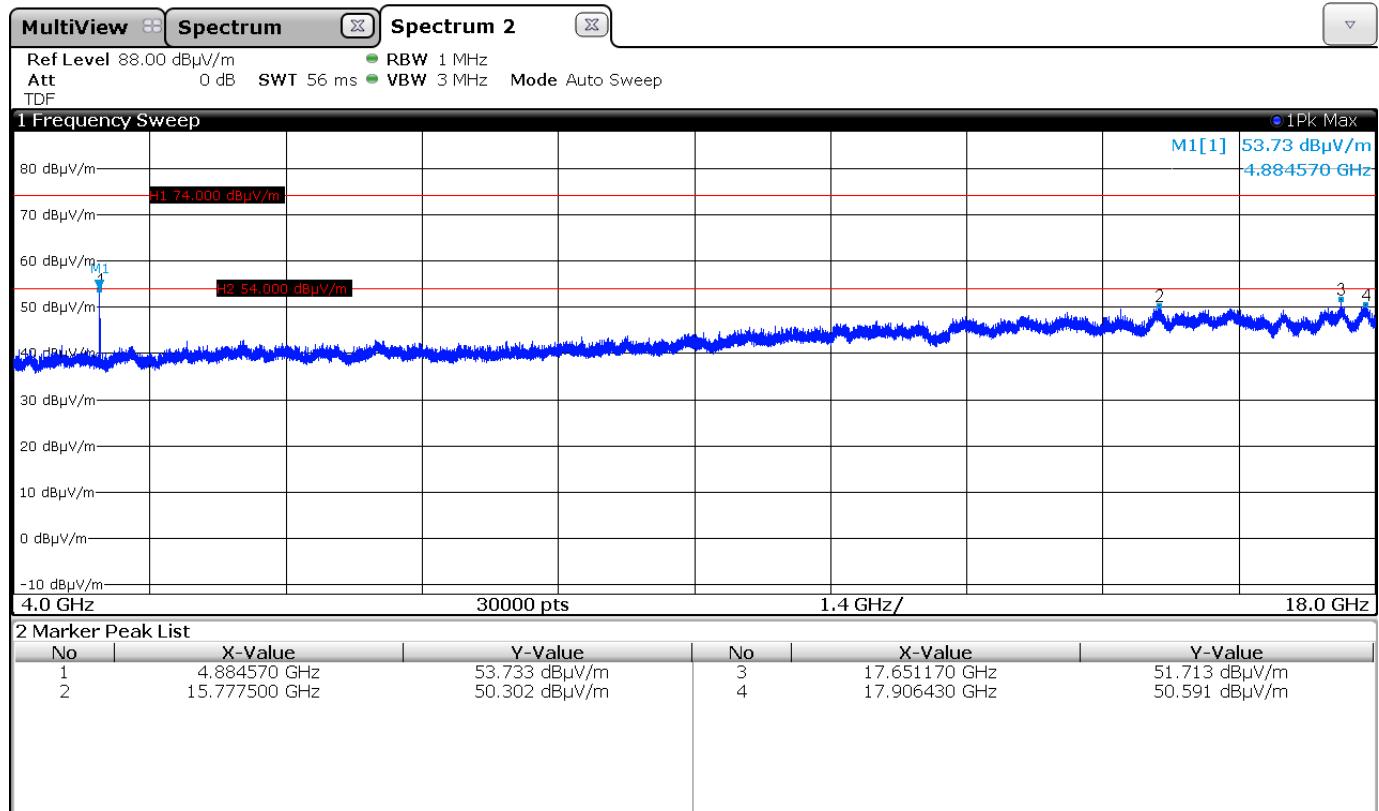
Channel 37

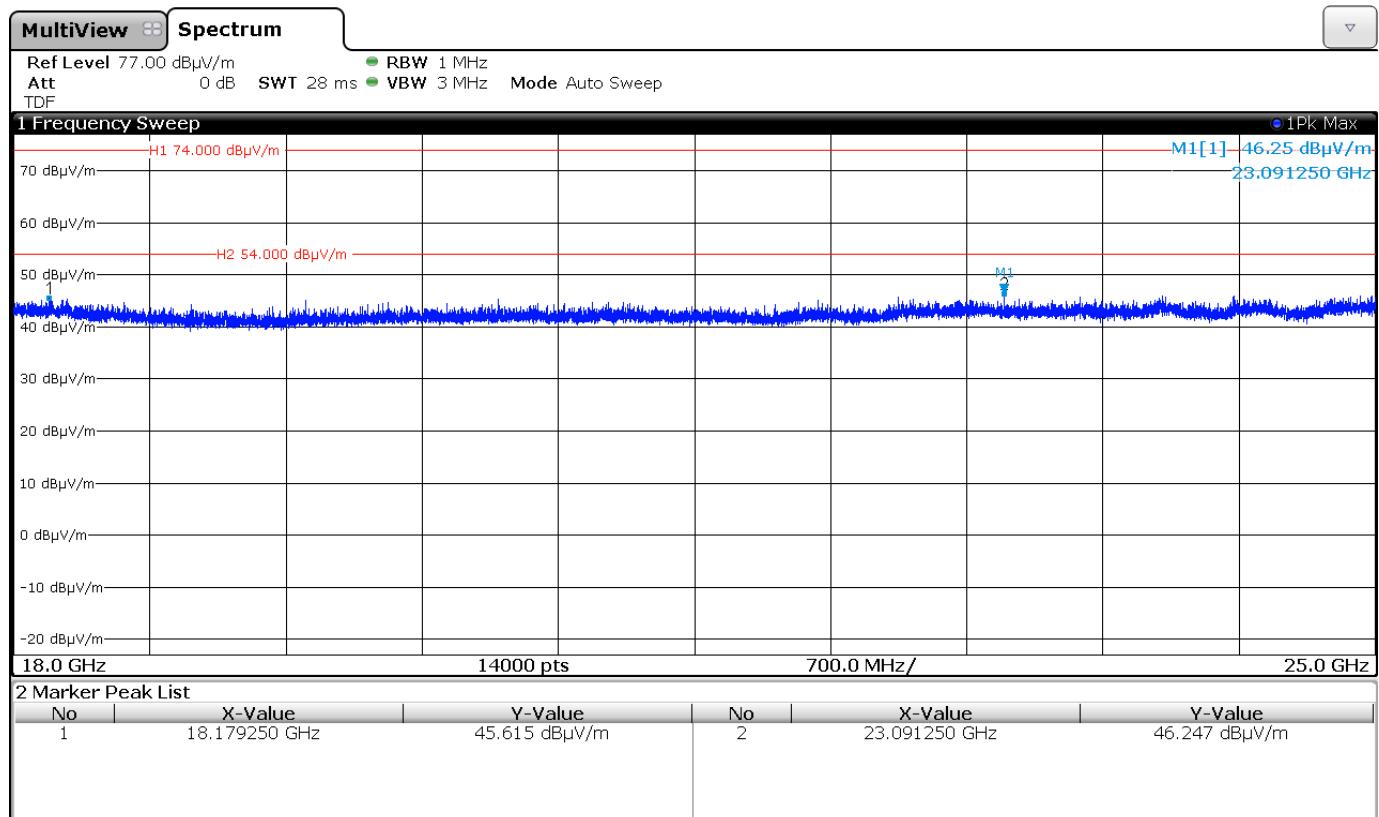
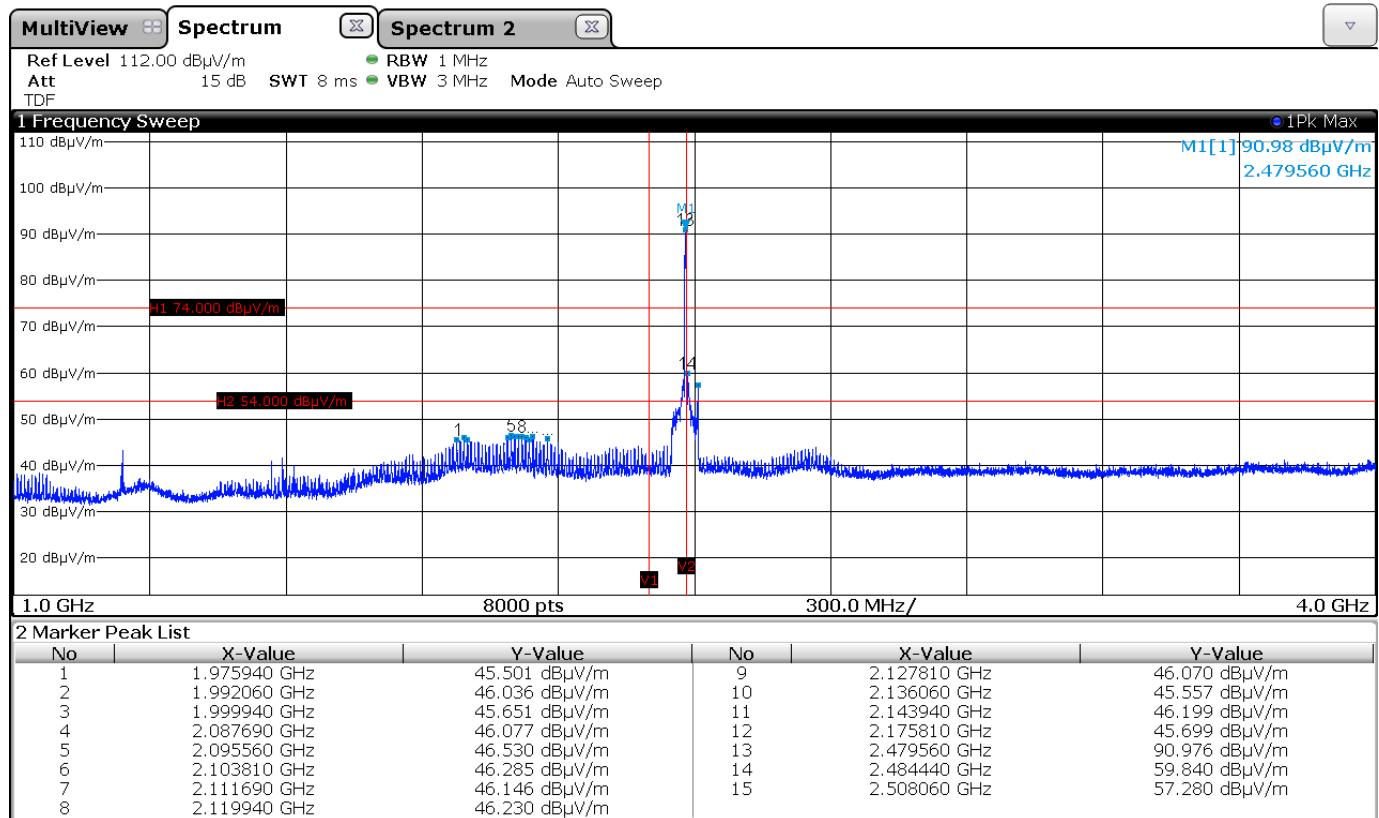
Peak measurement

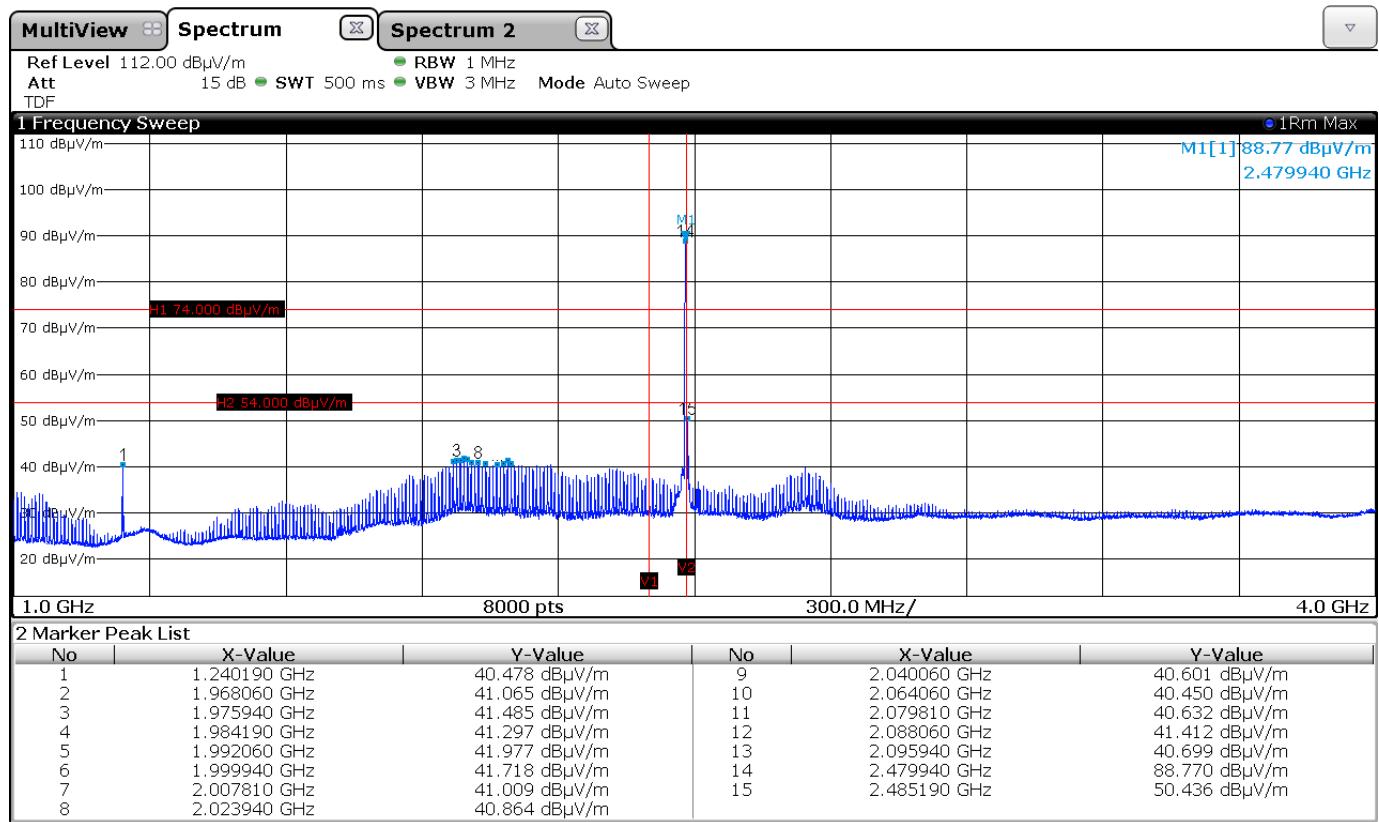
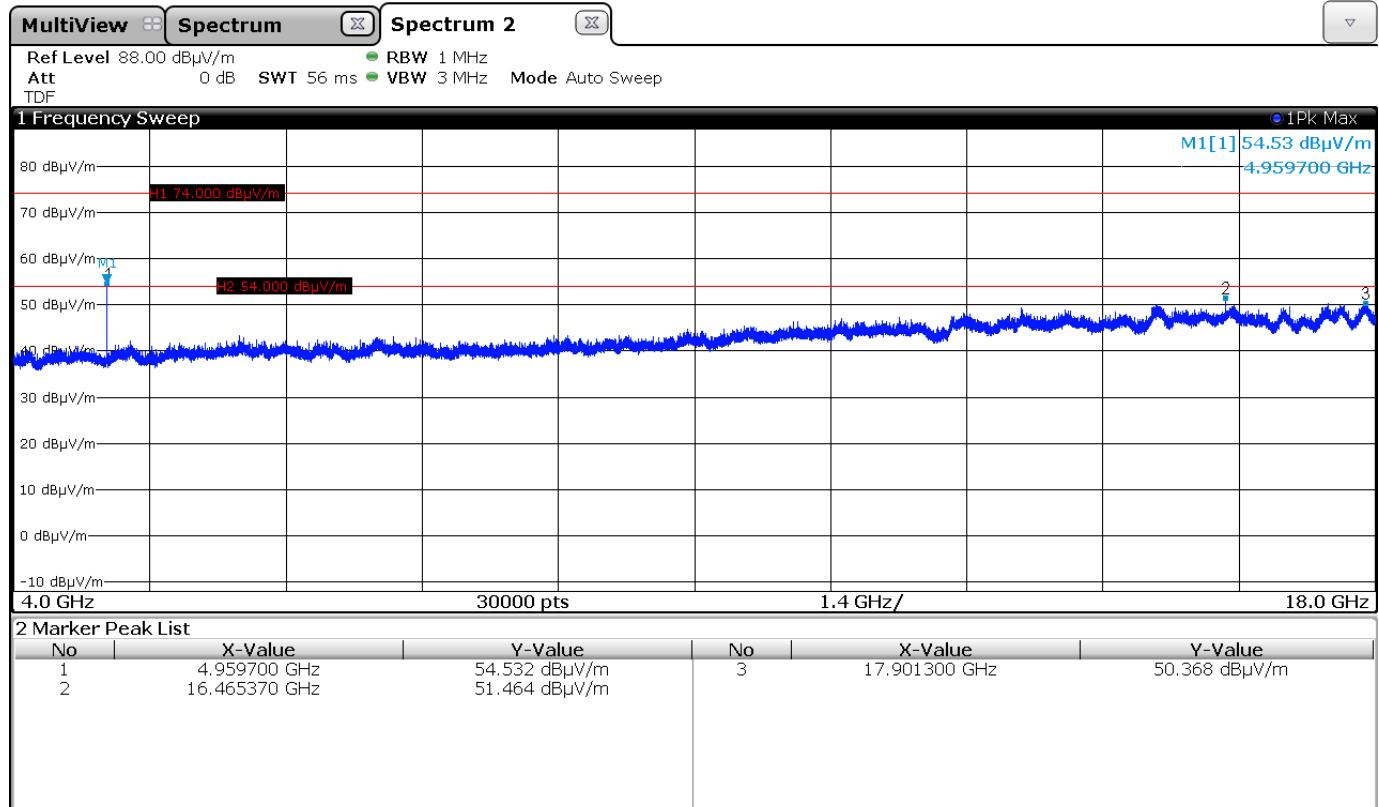


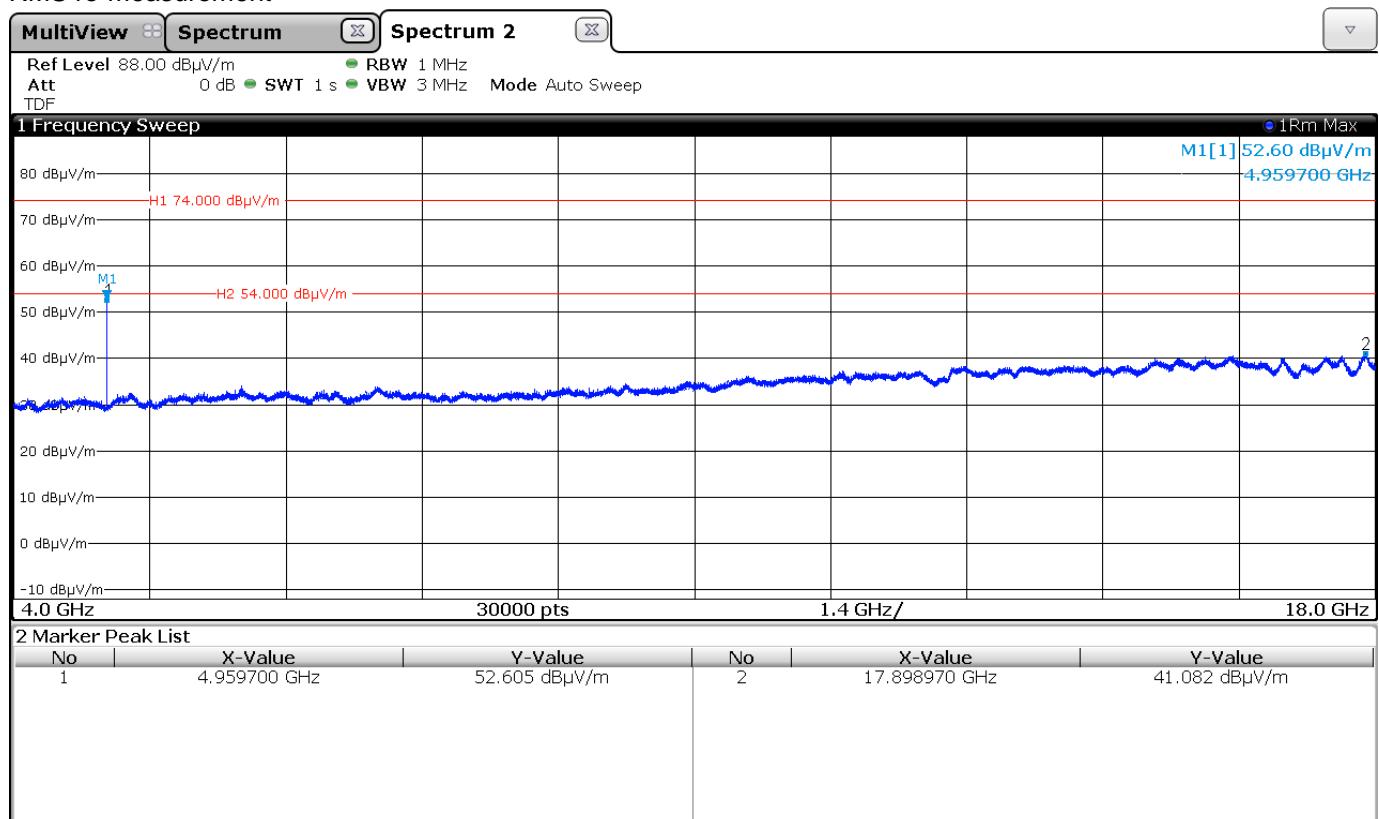
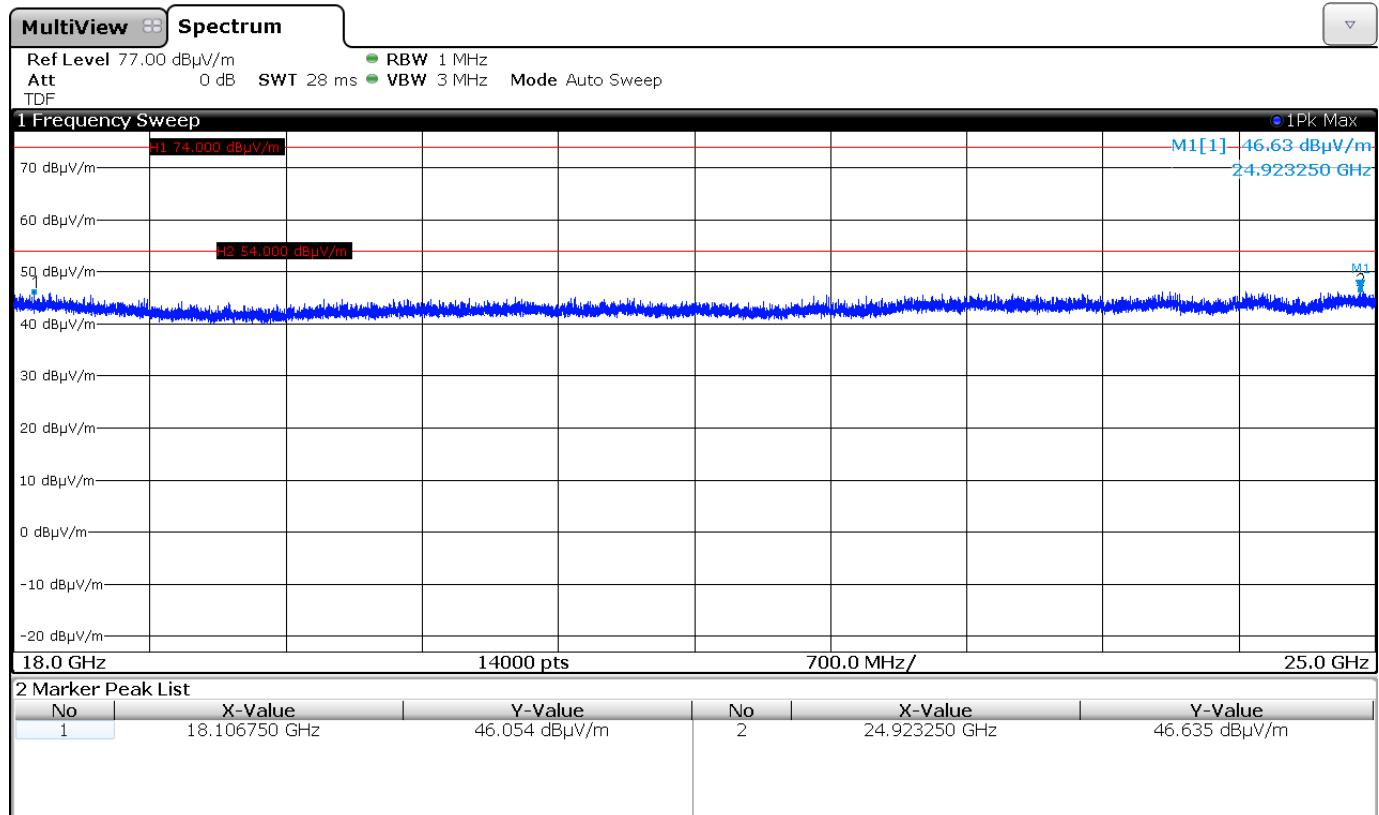
RMS re-measurement

Peak measurement


Peak measurement

Channel 18
Peak measurement


RMS re-measurement

Peak measurement


Peak measurement

Channel 39
Peak measurement


RMS re-measurement

Peak measurement


RMS re-measurement

Peak measurement


Radiated limits according to FCC Part 15 Section 15.209(a) for spurious emissions which fall in restricted bands:

Frequency (MHz)	Field strength of spurious emissions		Measurement distance (metres)
	(μ V/m)	dB(μ V/m)	
0.009-0.490	2400/F (kHz)		300 30 30 3 3 3
0.490-1.705	24000/F (kHz)		
1.705-30	30	29.5	
30-88	100	40	
88-216	150	43.5	
216-960	200	46	
Above 960	500	54	3

Restricted bands of operation:

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.41425 – 8.41475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	Above 38.6

The requirements are **FULFILLED**.

Remarks: The measurement was performed up to the 10th harmonic. The complete frequency range up to .25 GHz was evaluated against the general limit.

5.6 Spurious emissions radiated

Remarks: Not applicable. All emissions of the EUT are below the general limit (please see clause 5.5),
Therefore a spurious emissions measurement is not necessary.

5.7 Antenna application

5.7.1 Applicable standard

According to FCC Part 15C, Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit that broken antennas can be replaced by the user, but the use of a standard antenna jack is prohibited.

The EUT has an integrated antenna. No other antenna can be used with the device.

The supplied antenna meets the requirements of part 15.203 and 15.204.

5.7.2 Antenna requirements

According to FCC Part 15C, Section 15.247(b)(4):

The conducted output power limit specified in paragraph (b) of 15.247 is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from intentional radiator shall be reduced below the stated values in paragraph (b)(1), (b)(2) and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Defacto EIRP-Limit:

$$P_{out} = 30 - (G_x - 6);$$

Antenna	Gx	Cond. limit	max. G	A [P20]	Limit P _{out}	Reduction
	(dBi)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
PCB	0.0	30.0	6.0	-3.9	36.0	-39.9

Remarks: No power reduction results from the defacto limit.

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.
CPC 3	ESR 7	02-02/03-13-001	19/06/2018	19/06/2017		
	VLP-1602 PRO	02-02/50-10-015				
	KK-SF104-11SMA-11N-2M	02-02/50-14-006				
MB	ESR 7	02-02/03-13-001	19/06/2018	19/06/2017		
	VLP-1602 PRO	02-02/50-10-015				
	KK-SF104-11SMA-11N-2M	02-02/50-14-006				
SER 2	ESR 7	02-02/03-13-001	19/06/2018	19/06/2017		
	VULB 9168	02-02/24-05-005	12/04/2018	12/04/2017	12/10/2017	12/04/2017
	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 3	FSW43	02-02/11-15-001	07/04/2018	07/04/2017		
	AMF-6D-01002000-22-10P	02-02/17-15-004				
	3117	02-02/24-05-009	10/05/2018	10/05/2017		
	BBHA 9170	02-02/24-05-015	24/05/2019	24/05/2016	09/12/2017	09/12/2016
	R1 _ 18 - 40 GHz	02-02/30-09-002			07/06/2017	07/06/2016
	HM 8143	02-02/50-10-016				
	KMS102-1 m	02-02/50-11-014				
	KMS102-0.2 m	02-02/50-11-016				
	SF104/11N/11N/300MM	02-02/50-13-008				
	NMS111-GL200SC01-NMS1	02-02/50-16-040				