



FCC Test Report

Equipment : E700
Brand Name : Cambium Networks
Model No. : cnPilot e700 Outdoor
FCC ID : Z8H89FT0027
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : Point-to-multipoint; Point-to-point
Applicant : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL
60008, USA
Manufacturer : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL
60008, USA

The product sample received on Feb. 13, 2018 and completely tested on Mar. 06, 2018. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.


Cliff Chang
SPORTON INTERNATIONAL INC.





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APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS**APPENDIX B. TEST RESULTS OF DTS BANDWIDTH****APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER****APPENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY****APPENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS****APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS****TEST PHOTOS****PHOTOGRAPHS OF EUT V01**



Summary of Test Result

Conformance Test Specifications				
Report Clause	Ref. Std. Clause	Description	Limit	Result
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	DTS Bandwidth	$\geq 500\text{kHz}$	Complied
3.3	15.247(b)	Maximum Conducted Output Power	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	Non-Restricted Bands: $> 30\text{ dBc}$	Complied
3.6	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied



Revision History



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	n (HT20), ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ac (VHT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11ac VHT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	802.11ac VHT40	40	2TX

Note:

- HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
						2.4GHz	5GHz
1	1	Cambium Networks	P005954	Printed Antenna	I-PEX	8	-
2	2	Cambium Networks	P005954	Printed Antenna	I-PEX	8	-
3	1	Cambium Networks	P005957	Printed Antenna	I-PEX	-	8
4	2	Cambium Networks	P005989	Printed Antenna	I-PEX	-	8

Note: The EUT has four antennas. Array gain: 0dBi

For 2.4GHz function:

For IEEE 802.11n/ac mode (2TX/2RX)

Ant 1 (Port 1) and Ant. 2 (Port 2) can be used as transmitting/receiving antenna.

Ant 1 (Port 1) and Ant. 2 (Port 2) could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11n/ac mode (2TX/2RX)

Ant 3 (Port 1) and Ant. 4 (Port 2) can be used as transmitting/receiving antenna.

Ant 3 (Port 1) and Ant. 4 (Port 2) could transmit/receive simultaneously.



1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20	0.986	0.061	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40	0.967	0.146	2.42m	1k

1.1.4 EUT Operational Condition

EUT Power Type	From PoE		
Beamforming Function	<input type="checkbox"/> With beamforming	<input checked="" type="checkbox"/> Without beamforming	
Test Software Version	QCARCT Version: 3.0.265.0		



1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ FCC KDB 558074 D01 v04
- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location				
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055		
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Serway Li / Eddie Weng	22°C / 54%	Feb. 13, 2018~Feb. 28, 2018
Radiated	03CH01-CB	Caster Chang / Lance Wu / Cola Fan	22°C / 54%	Mar. 01, 2018~Mar. 06, 2018
AC Conduction	CO01-CB	Wei Li	23°C / 60%	Mar. 06, 2018

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74 x10 ⁻⁸	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11ac VHT20_Nss1,(MCS0)_2TX	-
2412MHz	14.5
2417MHz	16.5
2422MHz	20
2427MHz	22
2432MHz	23
2437MHz	23
2442MHz	22.5
2447MHz	21.5
2452MHz	20.5
2457MHz	19.5
2462MHz	14.5
802.11ac VHT40_Nss1,(MCS0)_2TX	-
2422MHz	13.5
2427MHz	13.5
2432MHz	15
2437MHz	17
2442MHz	17
2447MHz	16
2452MHz	14

Note:

- VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	CTX-2.4GHz
2	CTX-5GHz

For operating mode 2 is the worst case and it was record in this test report.

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands Emissions in Restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	CTX-2.4GHz
2	CTX-5GHz

For operating mode 2 is the worst case and it was record in this test report.

Operating Mode > 1GHz	CTX
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The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz+WLAN 5GHz

Refer to Sporton Test Report No.: FA830844 for Co-location RF Exposure Evaluation.

Note 1: The EUT can only be used in Y axis position.

Note 2: PoE information as below:

The EUT was powered by PoE, and the PoE was for measurement only, would not be marked.

Support Unit	Brand Name	Model Name
PoE	LEI	NU60A5550111-I3



2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories
Wall-mounted rack*2

2.5 Support Equipment

For Test Site No: CO01-CB

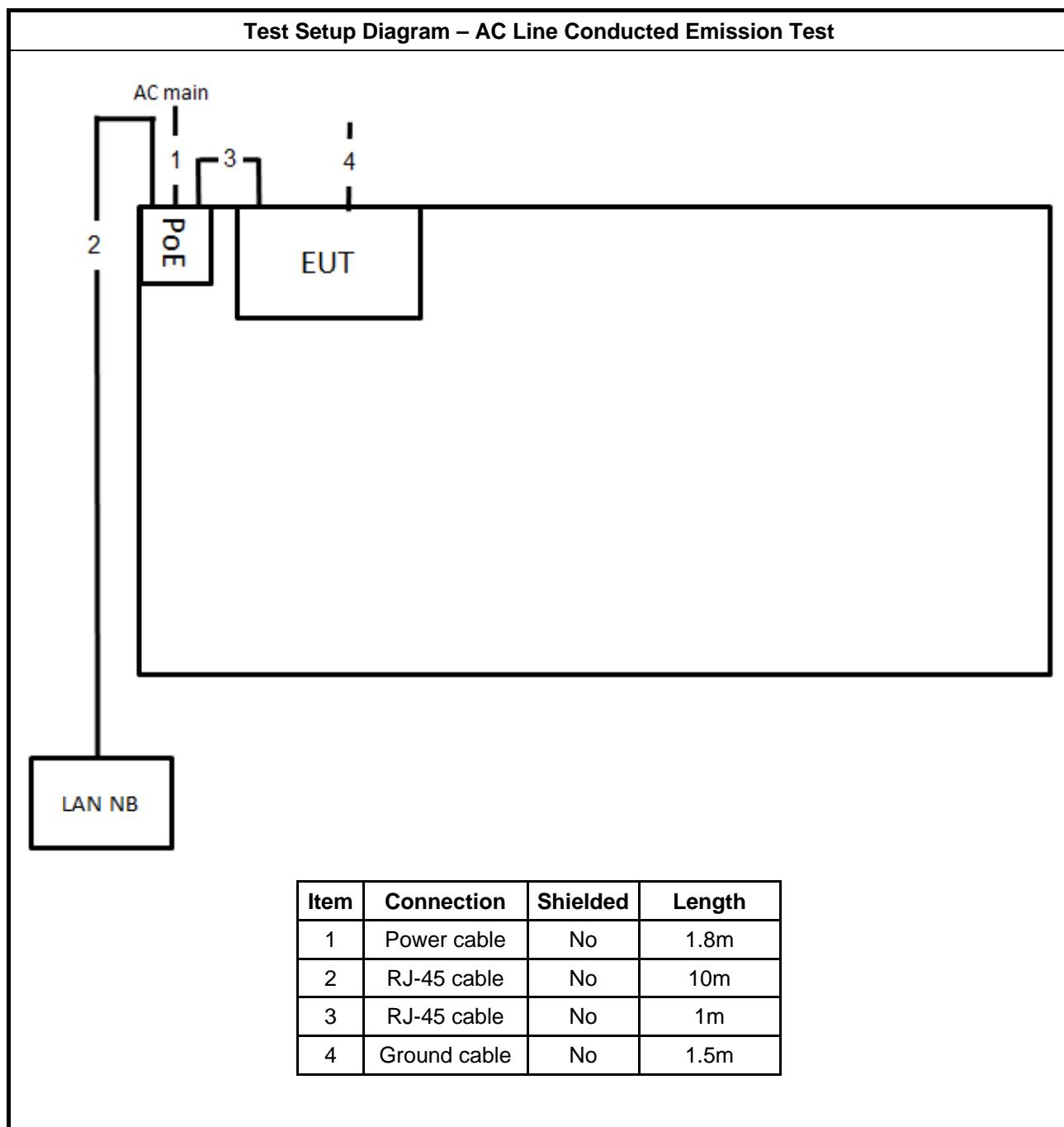
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC
2	PoE	LEI	NU60A5550111-I3	DoC

For Test Site No: 03CH01-CB / TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	PoE	LEI	NU60A5550111-I3	DoC

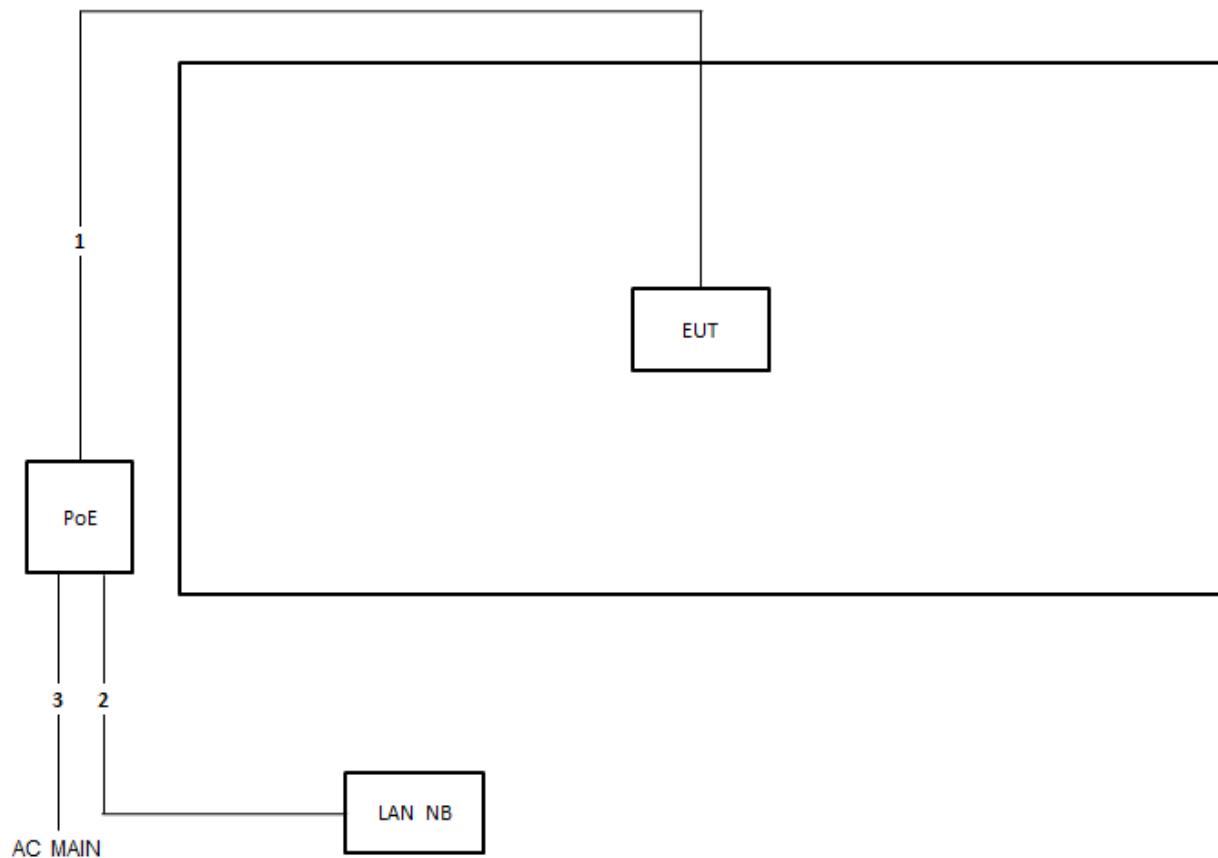


2.6 Test Setup Diagram





Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	1.5m
3	Power cable	No	0.5m



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Measuring Instruments

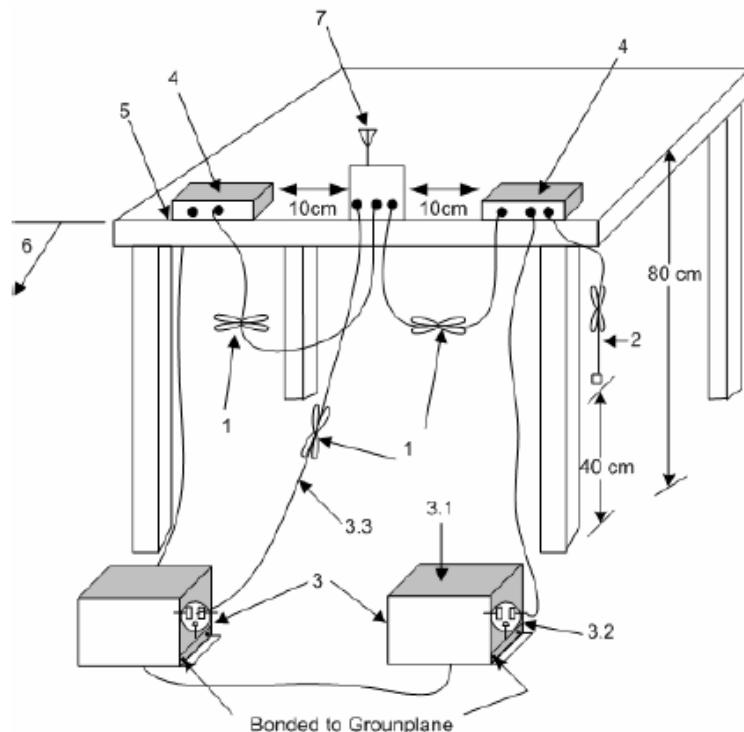
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.

2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.

3.1—All other equipment powered from additional LISN(s).

3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.

3.3—LISN at least 80 cm from nearest part of EUT chassis.

4—Non-EUT components of EUT system being tested.

5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.

6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A



3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth \geq 500 kHz.

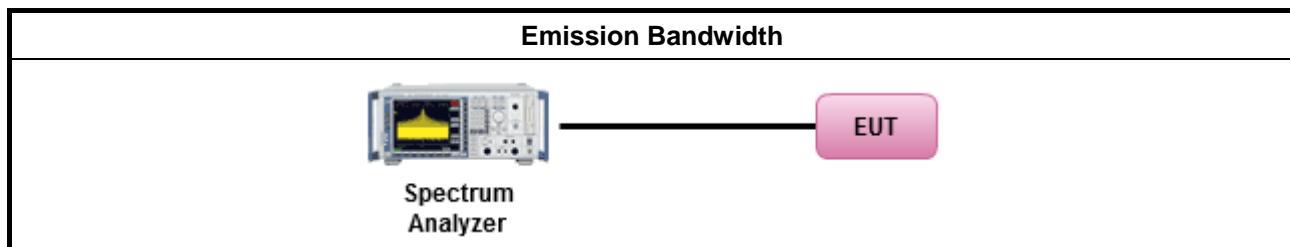
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method
▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	<ul style="list-style-type: none">▪ If $G_{TX} \leq 6 \text{ dBi}$, then $P_{Out} \leq 30 \text{ dBm}$ (1 W)
	<ul style="list-style-type: none">▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6) \text{ dBm}$
	<ul style="list-style-type: none">▪ Point-to-point systems (P2P): If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)/3 \text{ dBm}$
	<ul style="list-style-type: none">▪ Smart antenna system (SAS):<ul style="list-style-type: none">- Single beam: If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)/3 \text{ dBm}$- Overlap beam: If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)/3 \text{ dBm}$- Aggregate power on all beams: If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8\text{dB}$ dBm
<p>P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

3.3.2 Measuring Instruments

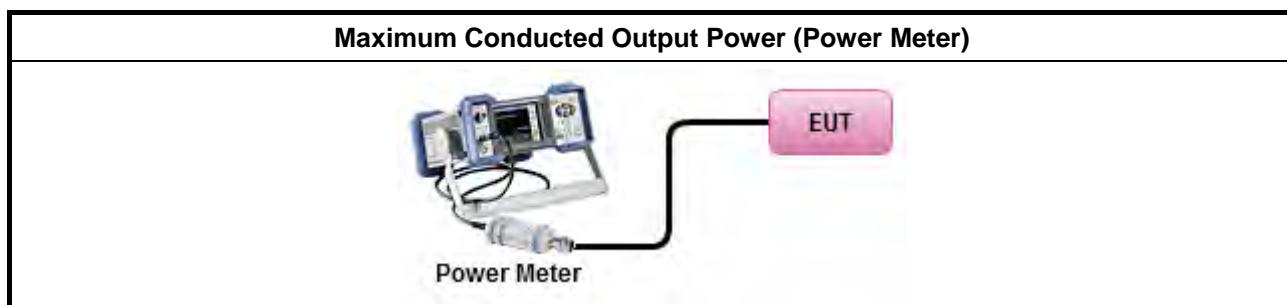
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	<input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW \geq EBW method). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW \geq DTS BW)
▪ Maximum Conducted Output Power	[duty cycle \geq 98% or external video / power trigger] <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed) duty cycle < 98% and average over on/off periods with duty factor <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed) RF power meter and average over on/off periods with duty factor or gated trigger <input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM-G (using an RF average power meter). <input type="checkbox"/> Refer as FCC KDB 558074, clause 9.1.2 PKPM1 Peak power meter method.
▪ For conducted measurement.	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) $\leq 8 \text{ dBm}/3\text{kHz}$

3.4.2 Measuring Instruments

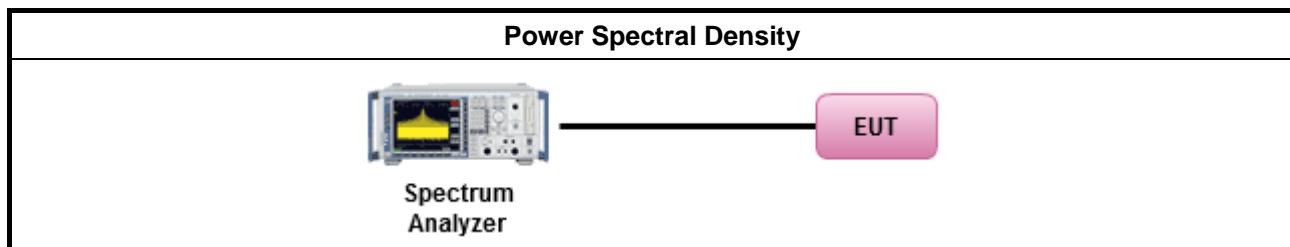
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak). [duty cycle $\geq 98\%$ or external video / power trigger]
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed)
duty cycle $< 98\%$ and average over on/off periods with duty factor
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).
<input type="checkbox"/> Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
▪ For conducted measurement.
▪ If The EUT supports multiple transmit chains using options given below:
<input checked="" type="checkbox"/> Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
<input type="checkbox"/> Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
<input type="checkbox"/> Option 3: Measure and add $10 \log(N) \text{ dB}$, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit.



3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

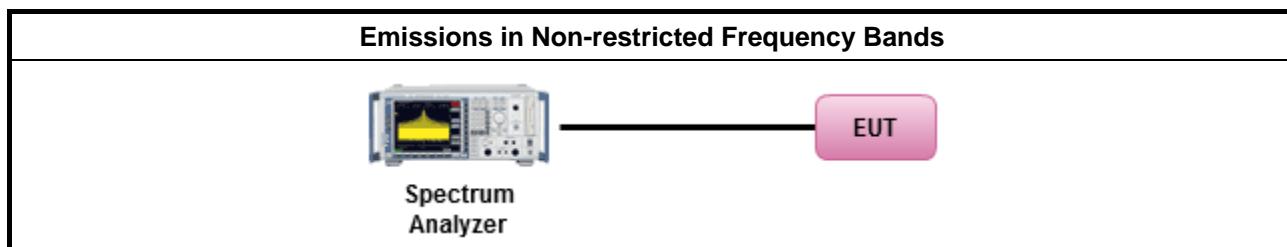
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E



3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

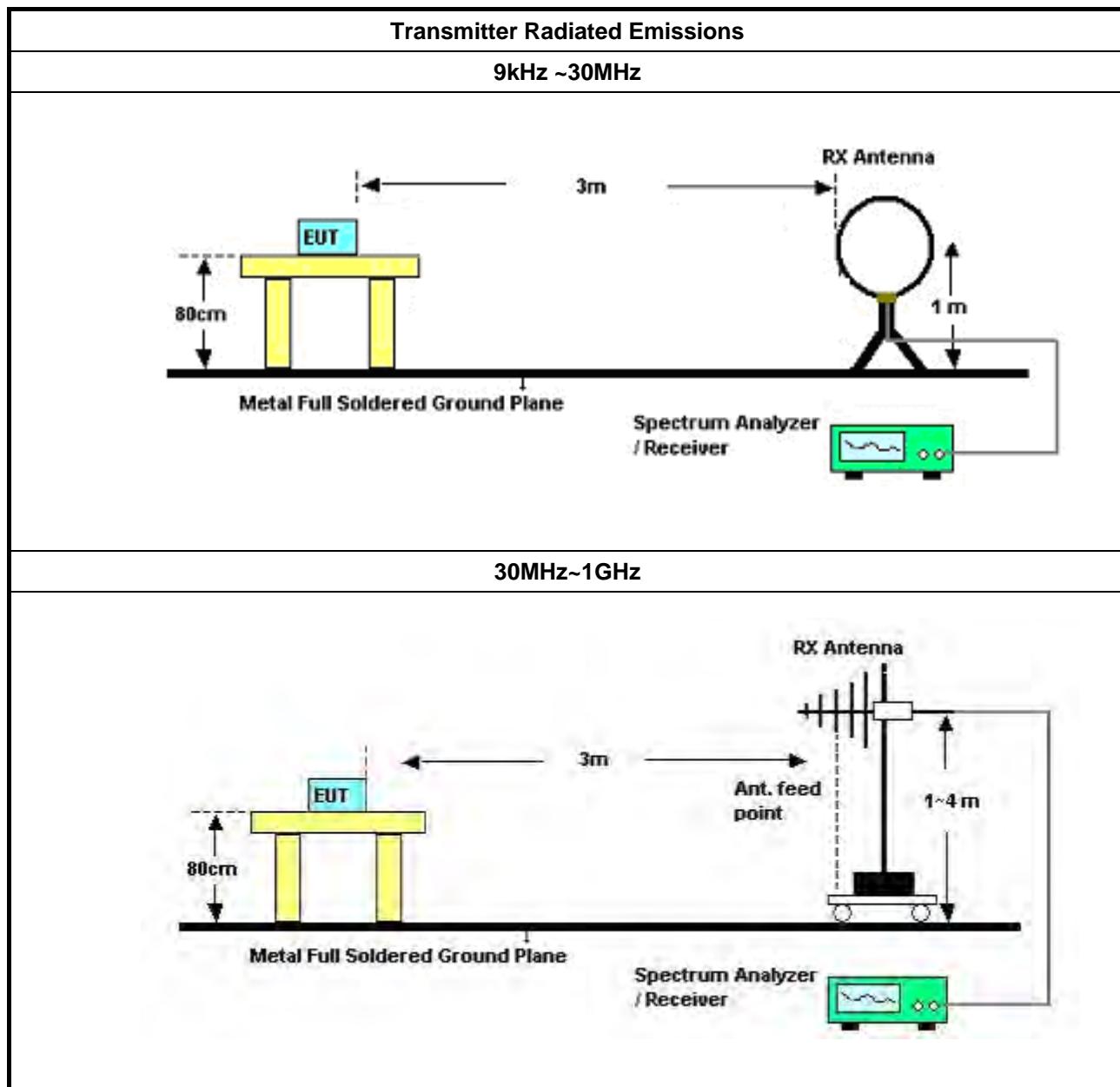
Refer a test equipment and calibration data table in this test report.

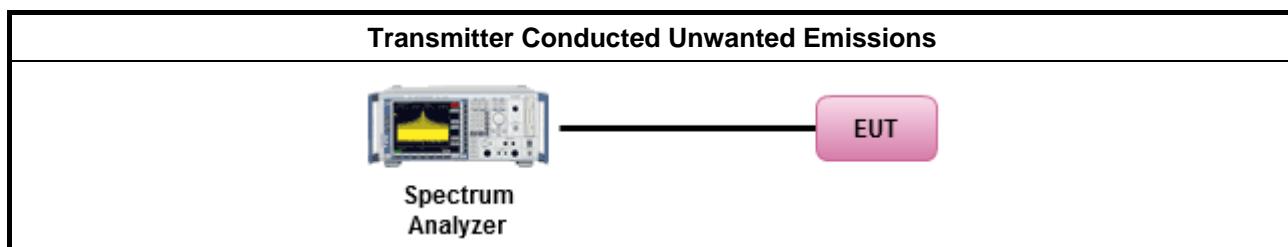
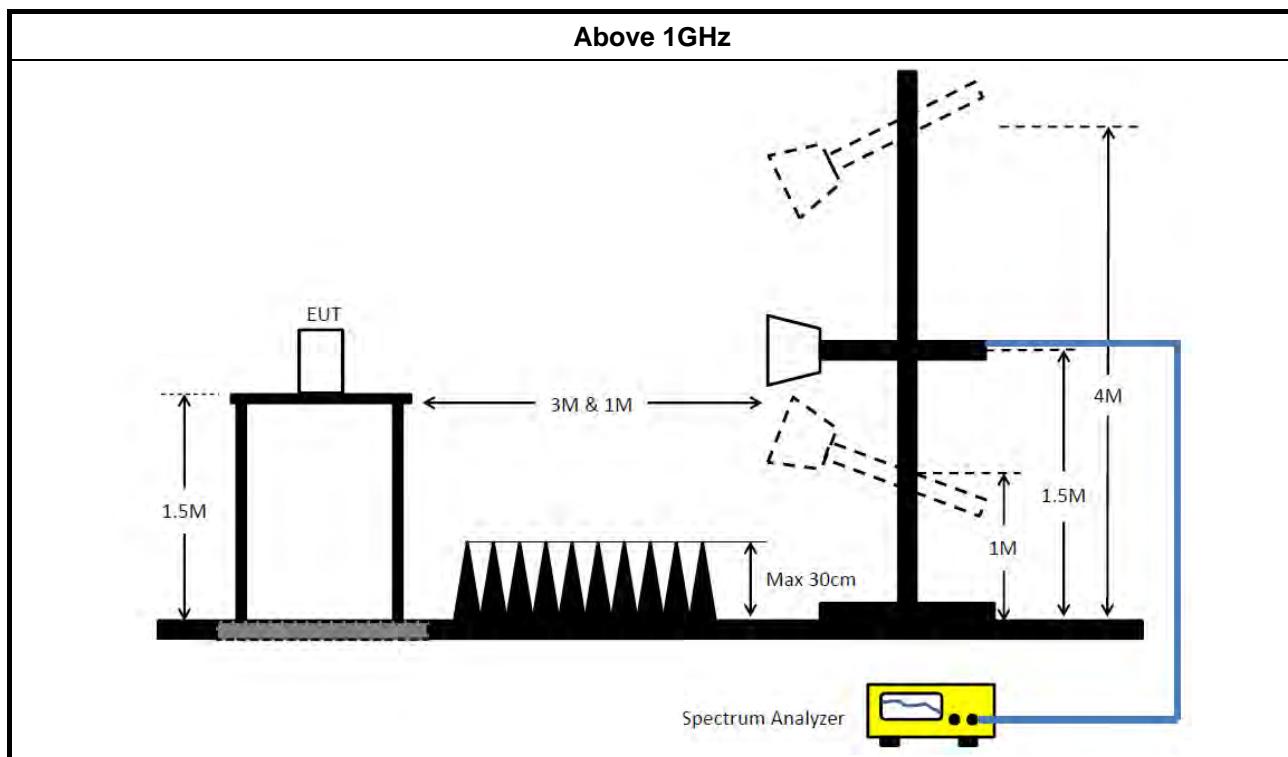


3.6.3 Test Procedures

Test Method	
<ul style="list-style-type: none">▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].	
<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
<ul style="list-style-type: none">▪ For the transmitter unwanted emissions shall be measured using following options below:	
<ul style="list-style-type: none">▪ Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.	
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$)
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 12.2.4 measurement procedure peak limit.
<ul style="list-style-type: none">▪ For the transmitter band-edge emissions shall be measured using following options below:	
	<ul style="list-style-type: none">▪ Refer as FCC KDB 558074 clause 13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	<ul style="list-style-type: none">▪ Refer as FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none">▪ Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
<ul style="list-style-type: none">▪ For conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 12.2.2.	
	<ul style="list-style-type: none">▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below:<ol style="list-style-type: none">(1) Measure and sum the spectra across the outputs or(2) Measure and add $10 \log(N)$ dB
	<ul style="list-style-type: none">▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.6.4 Test Setup





3.6.5 Transmitter Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.6.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 31, 2018	Jan. 30, 2019	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50 -16-2	04083	150kHz ~ 100MHz	Dec. 20, 2017	Dec. 19, 2018	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 29, 2017	Dec. 28, 2018	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 23, 2017	May 22, 2018	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Mar. 15, 2018*	Radiation (03CH01-CB))
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2017	Aug. 29, 2018	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91702 52	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2017	May 01, 2018	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 06, 2017	May 05, 2018	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 11, 2017	Oct. 10, 2018	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 21, 2017	Dec. 20, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)

**FCC Test Report****Report No. : FR830844AA**

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 11, 2017	Oct. 10, 2018	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 20, 2017	Nov. 19, 2018	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

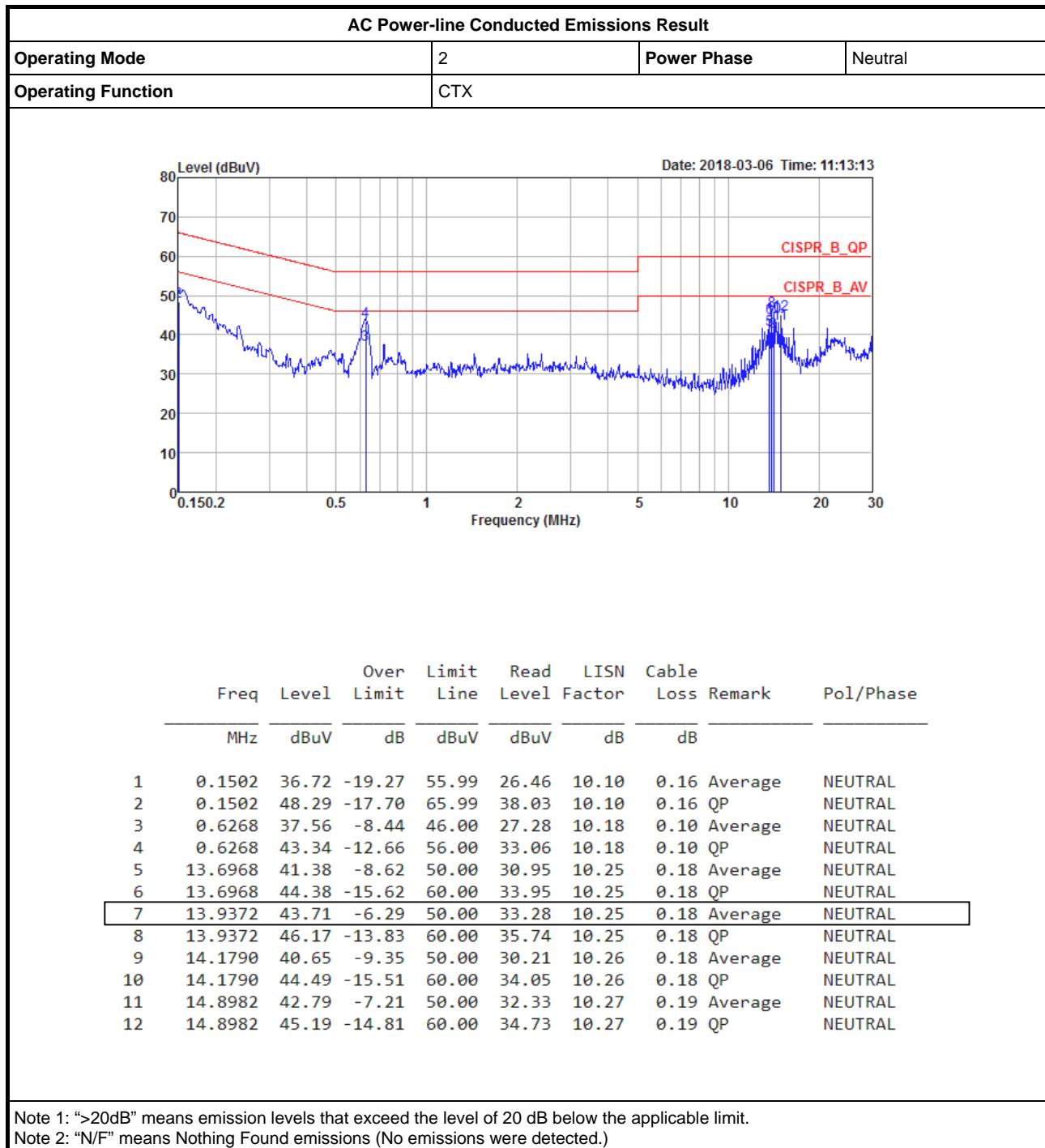
“*” Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.



AC Power-line Conducted Emissions Result

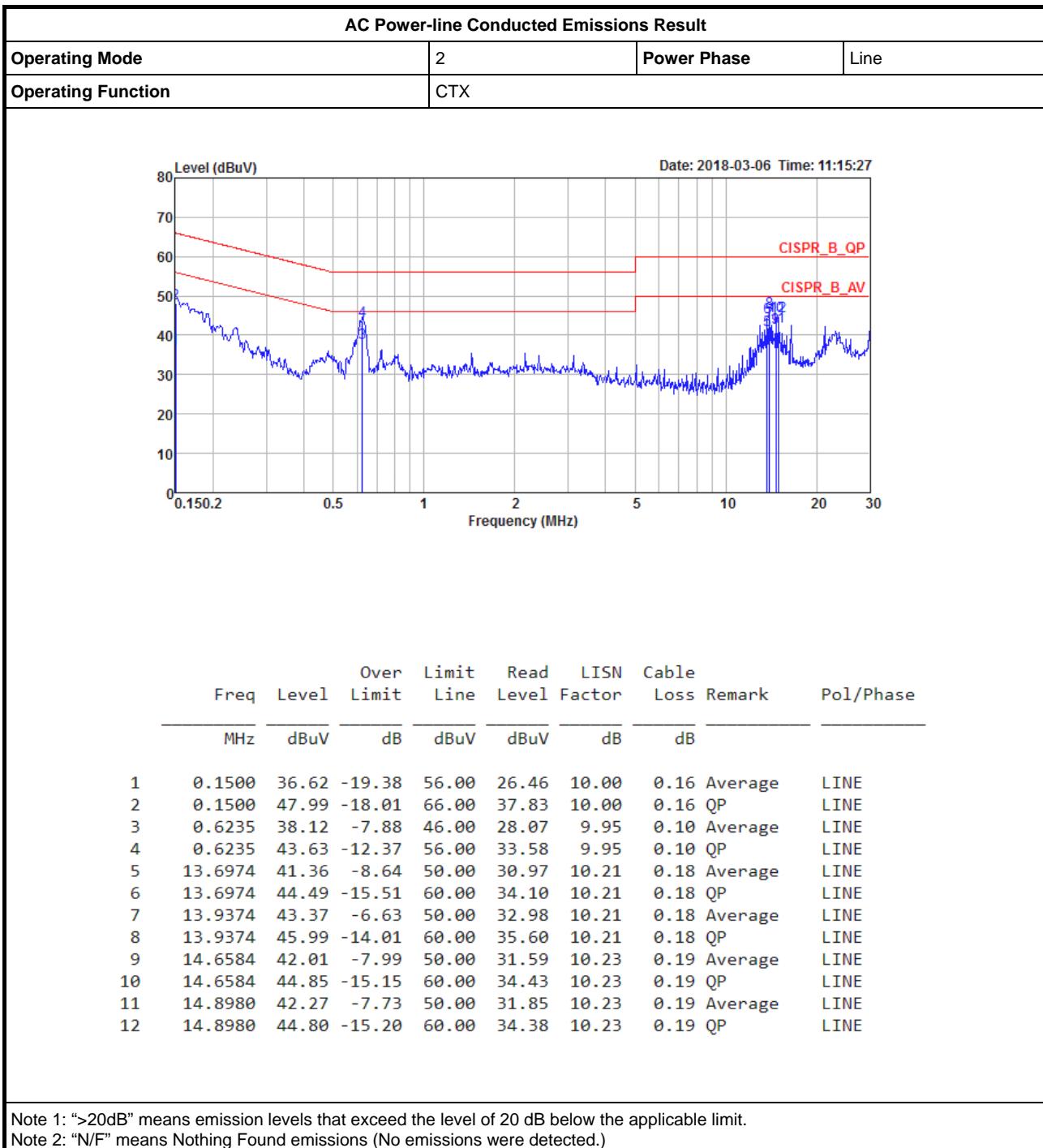
Appendix A





AC Power-line Conducted Emissions Result

Appendix A



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	17.575M	17.616M	17M6D1D	17.55M	17.591M
802.11ac VHT40_Nss1,(MCS0)_2TX	35.3M	36.032M	36M0D1D	33.8M	35.882M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;**Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	17.591M	17.575M	17.591M
2437MHz	Pass	500k	17.55M	17.616M	17.575M	17.616M
2462MHz	Pass	500k	17.575M	17.591M	17.55M	17.591M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.3M	35.982M	35M	35.982M
2437MHz	Pass	500k	35.05M	36.032M	33.8M	35.882M
2452MHz	Pass	500k	35.1M	35.932M	33.8M	35.882M

Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;



EBW Result

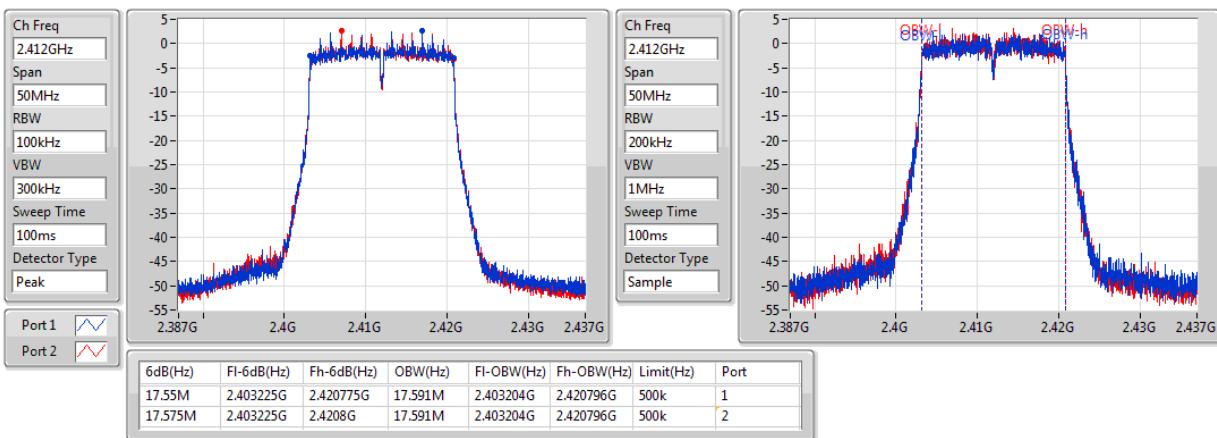
Appendix B

802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

2412MHz

28/02/2018

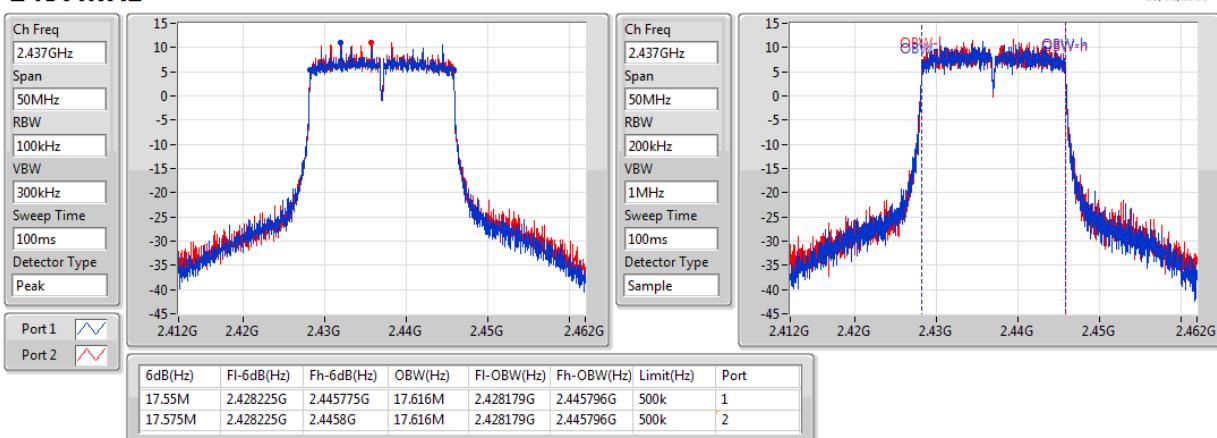


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

2437MHz

28/02/2018

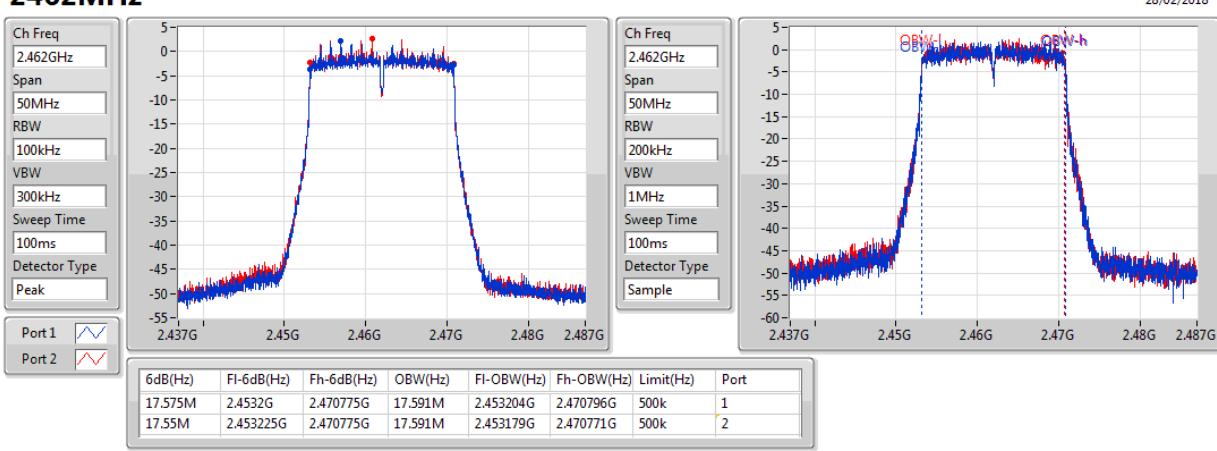


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

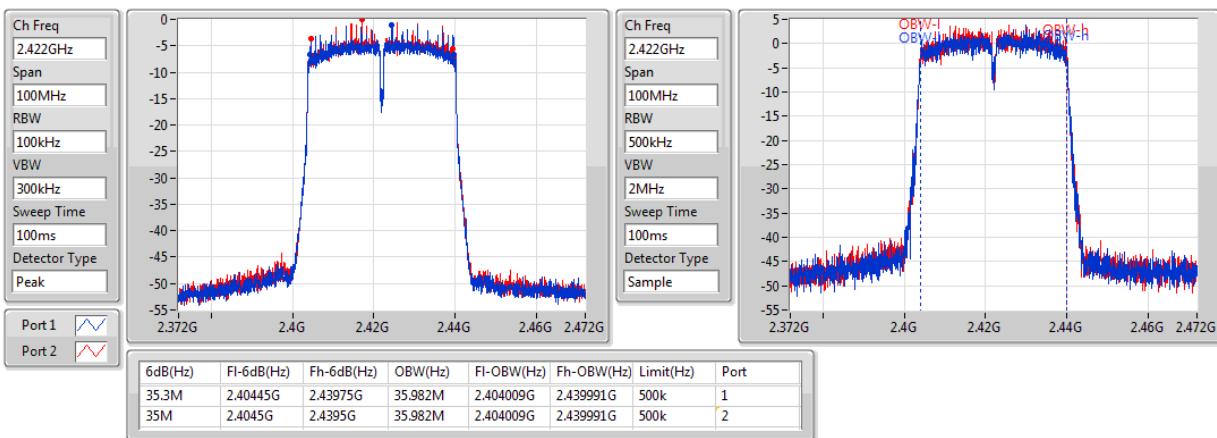
2462MHz

28/02/2018

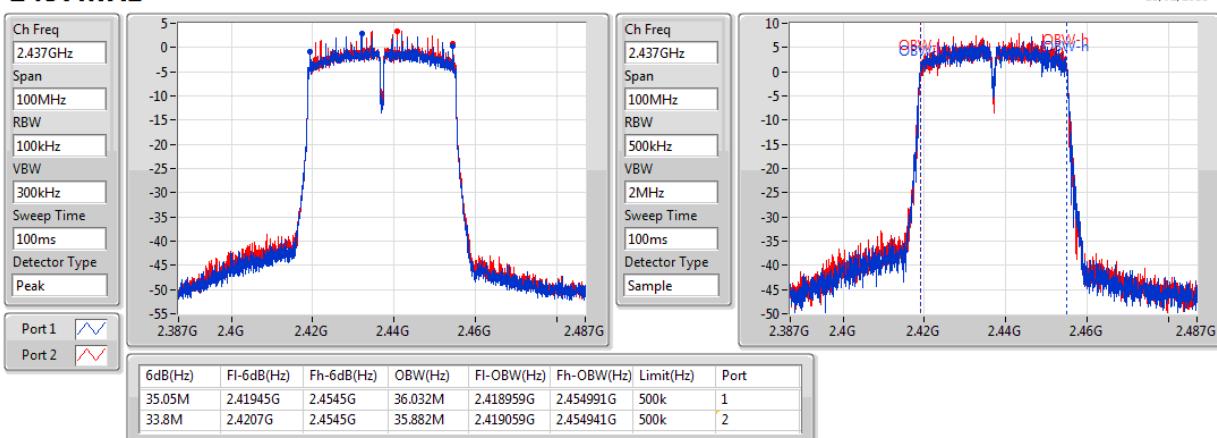


**802.11ac VHT40_Nss1,(MCS0)_2TX****EBW****2422MHz**

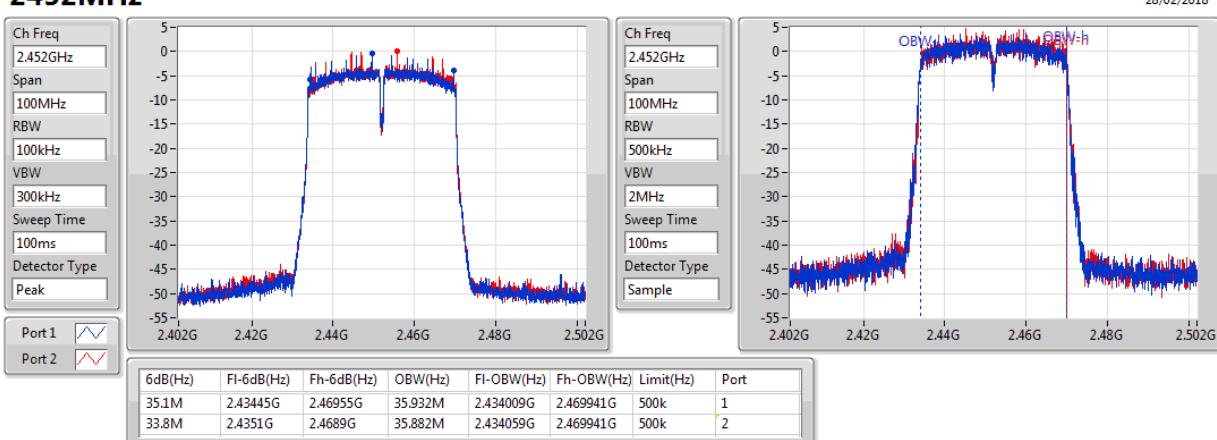
28/02/2018

**802.11ac VHT40_Nss1,(MCS0)_2TX****EBW****2437MHz**

28/02/2018

**802.11ac VHT40_Nss1,(MCS0)_2TX****EBW****2452MHz**

28/02/2018



**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	26.04	0.40179
802.11ac VHT40_Nss1,(MCS0)_2TX	20.54	0.11324

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.00	14.63	14.85	17.75	28.00
2417MHz	Pass	8.00	16.75	16.82	19.80	28.00
2422MHz	Pass	8.00	20.07	20.19	23.14	28.00
2427MHz	Pass	8.00	21.93	22.34	25.15	28.00
2432MHz	Pass	8.00	22.92	23.08	26.01	28.00
2437MHz	Pass	8.00	22.97	23.09	26.04	28.00
2442MHz	Pass	8.00	22.45	22.64	25.56	28.00
2447MHz	Pass	8.00	21.43	21.68	24.57	28.00
2452MHz	Pass	8.00	20.47	20.71	23.60	28.00
2457MHz	Pass	8.00	19.39	19.56	22.49	28.00
2462MHz	Pass	8.00	14.51	14.72	17.63	28.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.00	13.74	14.13	16.95	28.00
2427MHz	Pass	8.00	13.86	14.25	17.07	28.00
2432MHz	Pass	8.00	15.46	15.55	18.52	28.00
2437MHz	Pass	8.00	17.32	17.73	20.54	28.00
2442MHz	Pass	8.00	17.43	17.61	20.53	28.00
2447MHz	Pass	8.00	16.38	16.57	19.49	28.00
2452MHz	Pass	8.00	14.34	14.65	17.51	28.00

DG = Directional Gain; **Port X** = Port X output power

**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ac VHT20_Nss1,(MCS0)_2TX	-0.66
802.11ac VHT40_Nss1,(MCS0)_2TX	-8.15

RBW=3kHz.

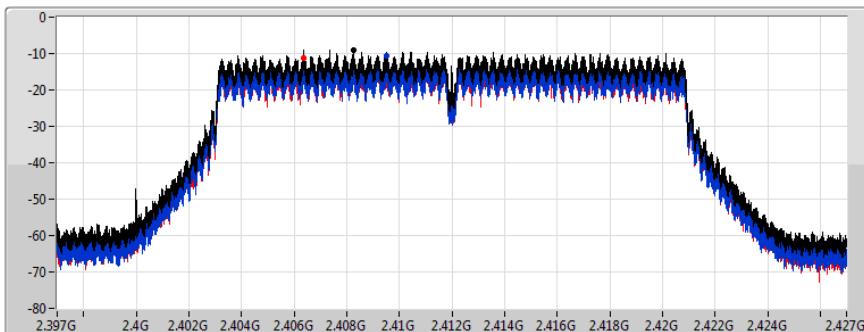
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	8.00	-10.73	-11.21	-8.98	6.00
2437MHz	Pass	8.00	-2.10	-2.89	-0.66	6.00
2462MHz	Pass	8.00	-11.14	-10.90	-9.24	6.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	8.00	-14.31	-13.84	-11.67	6.00
2437MHz	Pass	8.00	-9.49	-10.79	-8.15	6.00
2452MHz	Pass	8.00	-13.88	-12.46	-11.46	6.00

DG = Directional Gain; RBW=3kHz;**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

**802.11ac VHT20_Nss1,(MCS0)_2TX****2412MHz**

Ch Freq
2.412GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak

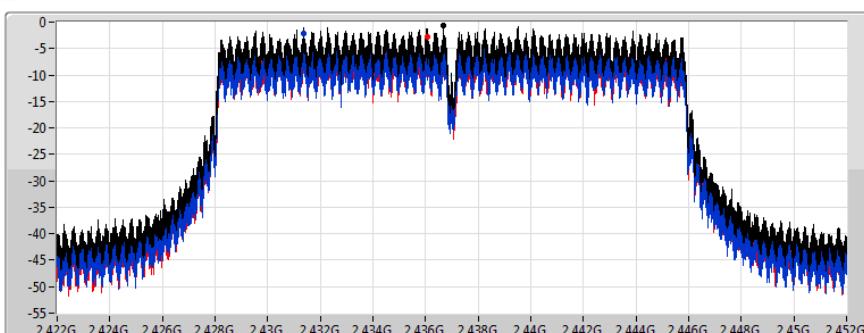
**PSD**

28/02/2018

Sum
Port 1
Port 2

802.11ac VHT20_Nss1,(MCS0)_2TX**2437MHz**

Ch Freq
2.437GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak

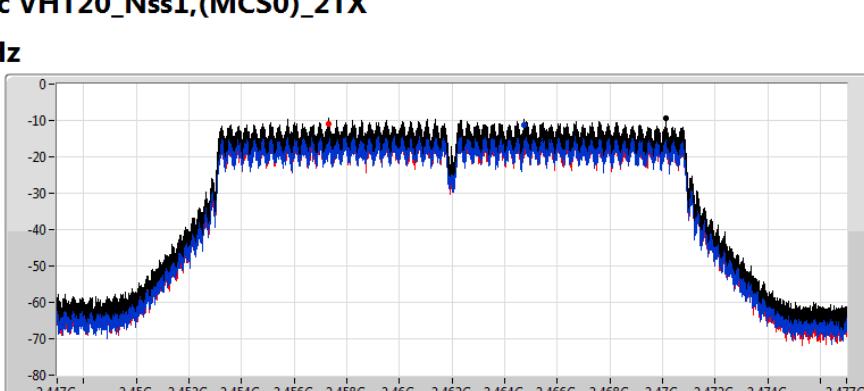
**PSD**

28/02/2018

Sum
Port 1
Port 2

802.11ac VHT20_Nss1,(MCS0)_2TX**2462MHz**

Ch Freq
2.462GHz
Span
30MHz
RBW
3kHz
VBW
10kHz
Sweep Time
334ms
Detector Type
Peak

**PSD**

28/02/2018

Sum
Port 1
Port 2

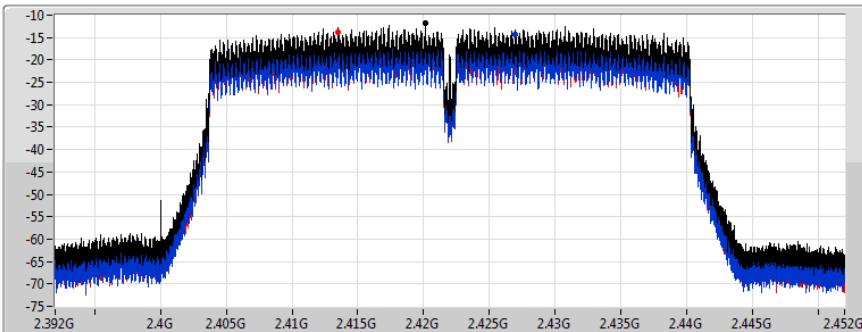
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.98	-8.98	-10.73	-11.21

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.66	-0.66	-2.10	-2.89

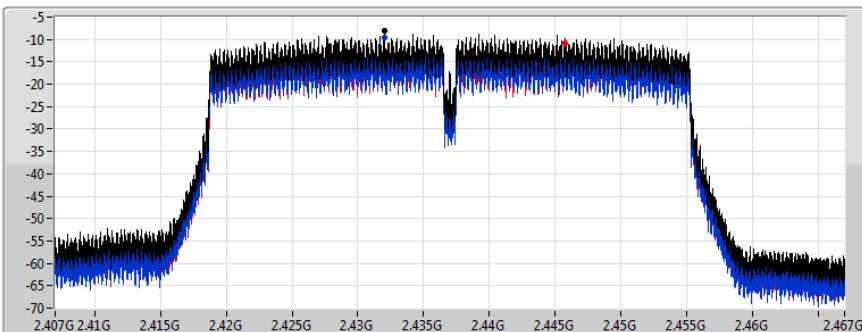
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.24	-9.24	-11.14	-10.90

**802.11ac VHT40_Nss1,(MCS0)_2TX****2422MHz**

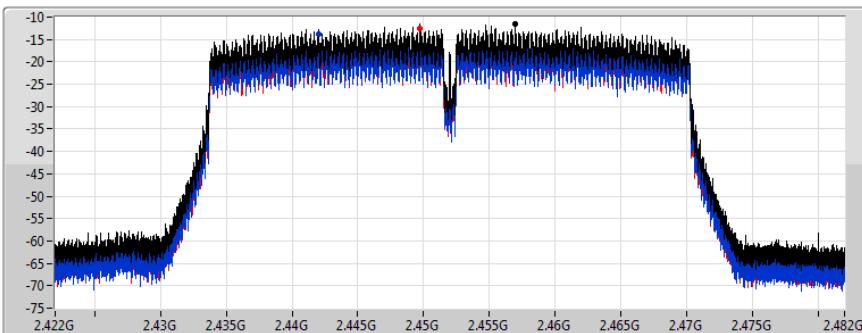
Ch Freq
2.422GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak

**PSD****802.11ac VHT40_Nss1,(MCS0)_2TX****2437MHz**

Ch Freq
2.437GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak

**PSD****802.11ac VHT40_Nss1,(MCS0)_2TX****2452MHz**

Ch Freq
2.452GHz
Span
60MHz
RBW
3kHz
VBW
10kHz
Sweep Time
667ms
Detector Type
Peak

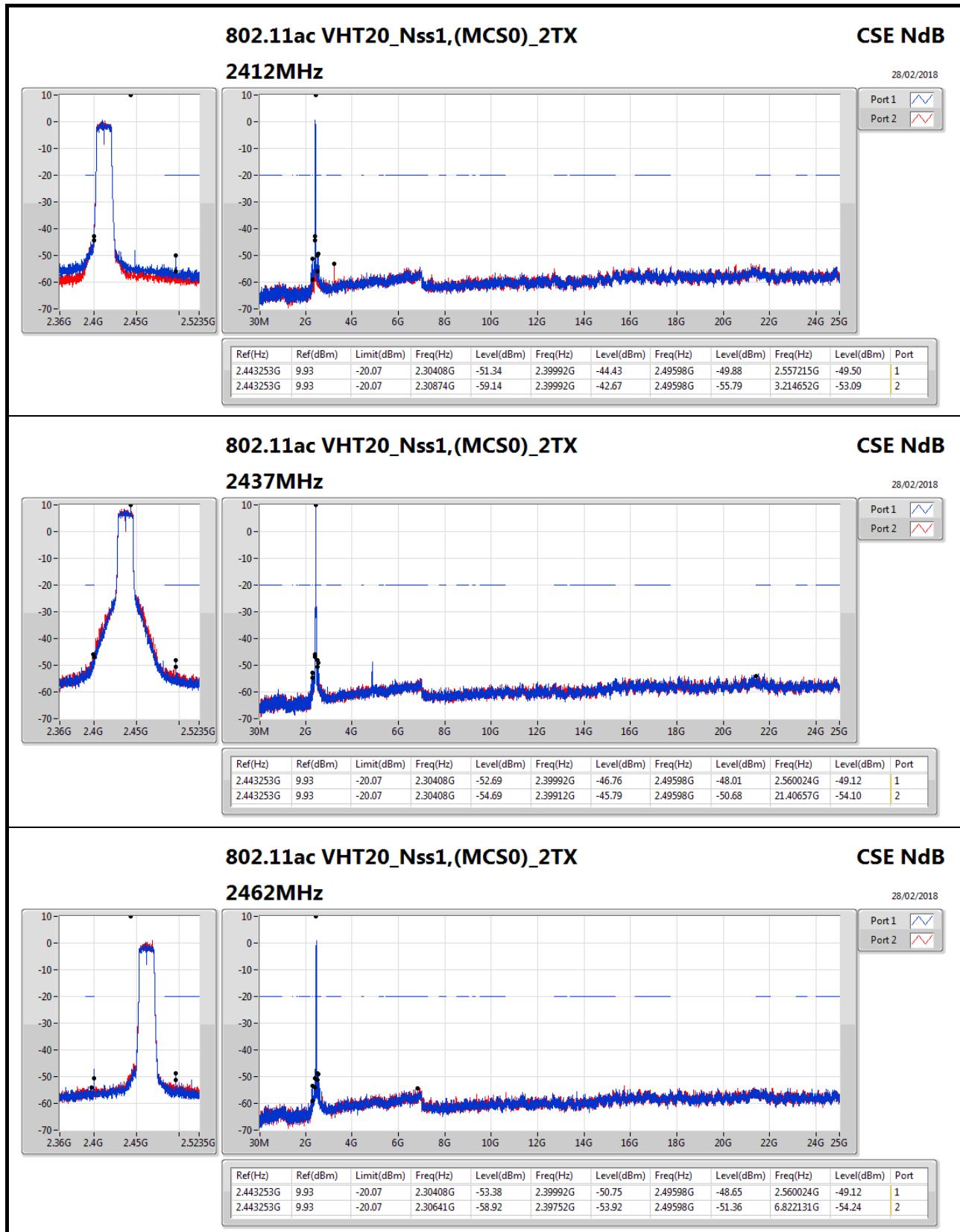
**PSD**

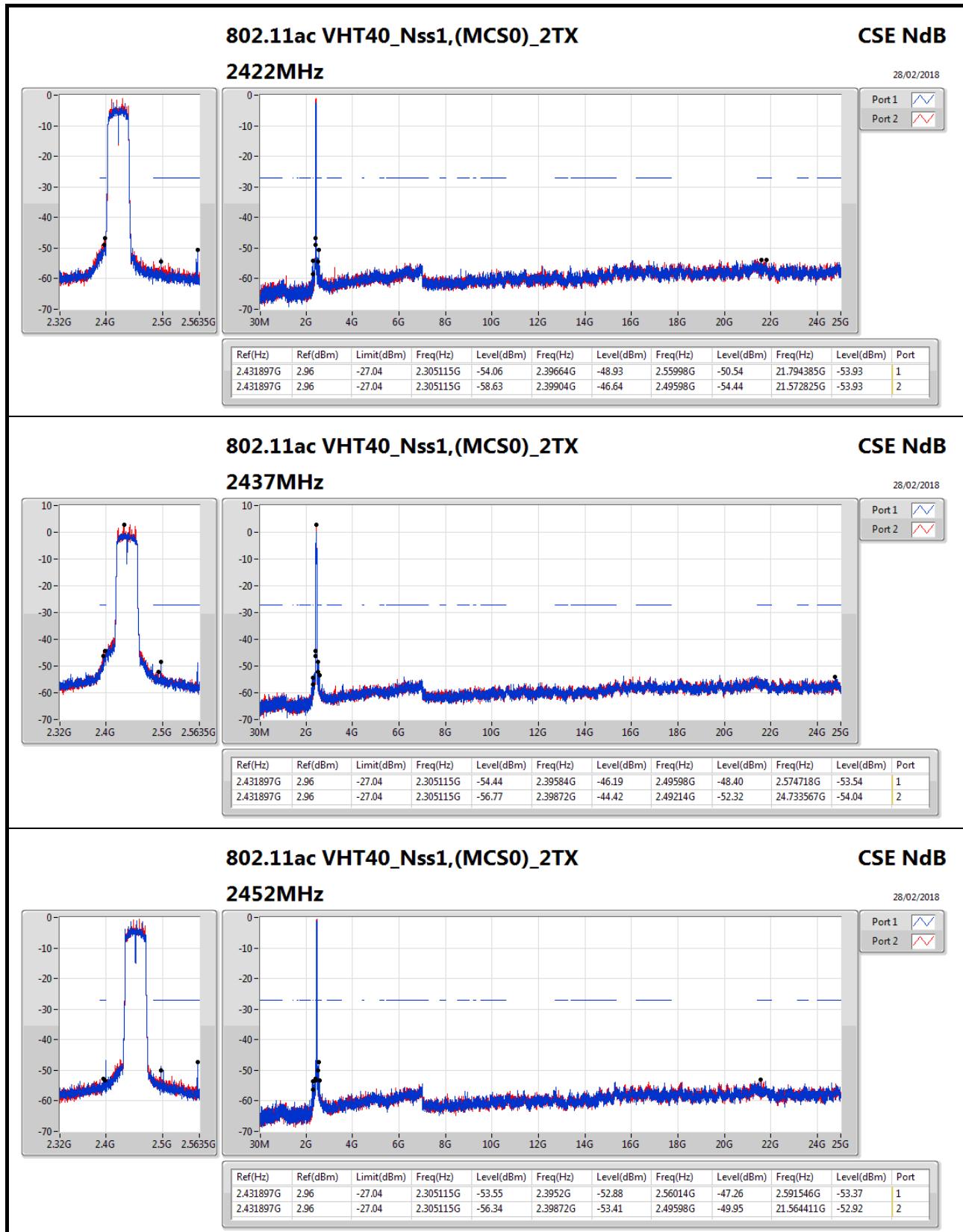
**Summary**

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_2TX	Pass	2.443253G	9.93	-20.07	2.30874G	-59.14	2.39992G	-42.67	2.49598G	-55.79	3.214652G	-53.09	2
802.11ac VHT40_Nss1,(MCS0)_2TX	Pass	2.431897G	2.96	-27.04	2.305115G	-56.77	2.39872G	-44.42	2.49214G	-52.32	24.733567G	-54.04	2

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.443253G	9.93	-20.07	2.30408G	-51.34	2.39992G	-44.43	2.49598G	-49.88	2.557215G	-49.50	1
2412MHz	Pass	2.443253G	9.93	-20.07	2.30874G	-59.14	2.39992G	-42.67	2.49598G	-55.79	3.214652G	-53.09	2
2437MHz	Pass	2.443253G	9.93	-20.07	2.30408G	-52.69	2.39992G	-46.76	2.49598G	-48.01	2.560024G	-49.12	1
2437MHz	Pass	2.443253G	9.93	-20.07	2.30408G	-54.69	2.39912G	-45.79	2.49598G	-50.68	21.40657G	-54.10	2
2462MHz	Pass	2.443253G	9.93	-20.07	2.30408G	-53.38	2.39992G	-50.75	2.49598G	-48.65	2.560024G	-49.12	1
2462MHz	Pass	2.443253G	9.93	-20.07	2.30641G	-58.92	2.39752G	-53.92	2.49598G	-51.36	6.822131G	-54.24	2
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.431897G	2.96	-27.04	2.305115G	-54.06	2.39664G	-48.93	2.55998G	-50.54	21.794385G	-53.93	1
2422MHz	Pass	2.431897G	2.96	-27.04	2.305115G	-58.63	2.39904G	-46.64	2.49598G	-54.44	21.572825G	-53.93	2
2437MHz	Pass	2.431897G	2.96	-27.04	2.305115G	-54.44	2.39584G	-46.19	2.49598G	-48.40	2.574718G	-53.54	1
2437MHz	Pass	2.431897G	2.96	-27.04	2.305115G	-56.77	2.39872G	-44.42	2.49214G	-52.32	24.733567G	-54.04	2
2452MHz	Pass	2.431897G	2.96	-27.04	2.305115G	-53.55	2.3952G	-52.88	2.56014G	-47.26	2.591546G	-53.37	1
2452MHz	Pass	2.431897G	2.96	-27.04	2.305115G	-56.34	2.39872G	-53.41	2.49598G	-49.95	21.564411G	-52.92	2

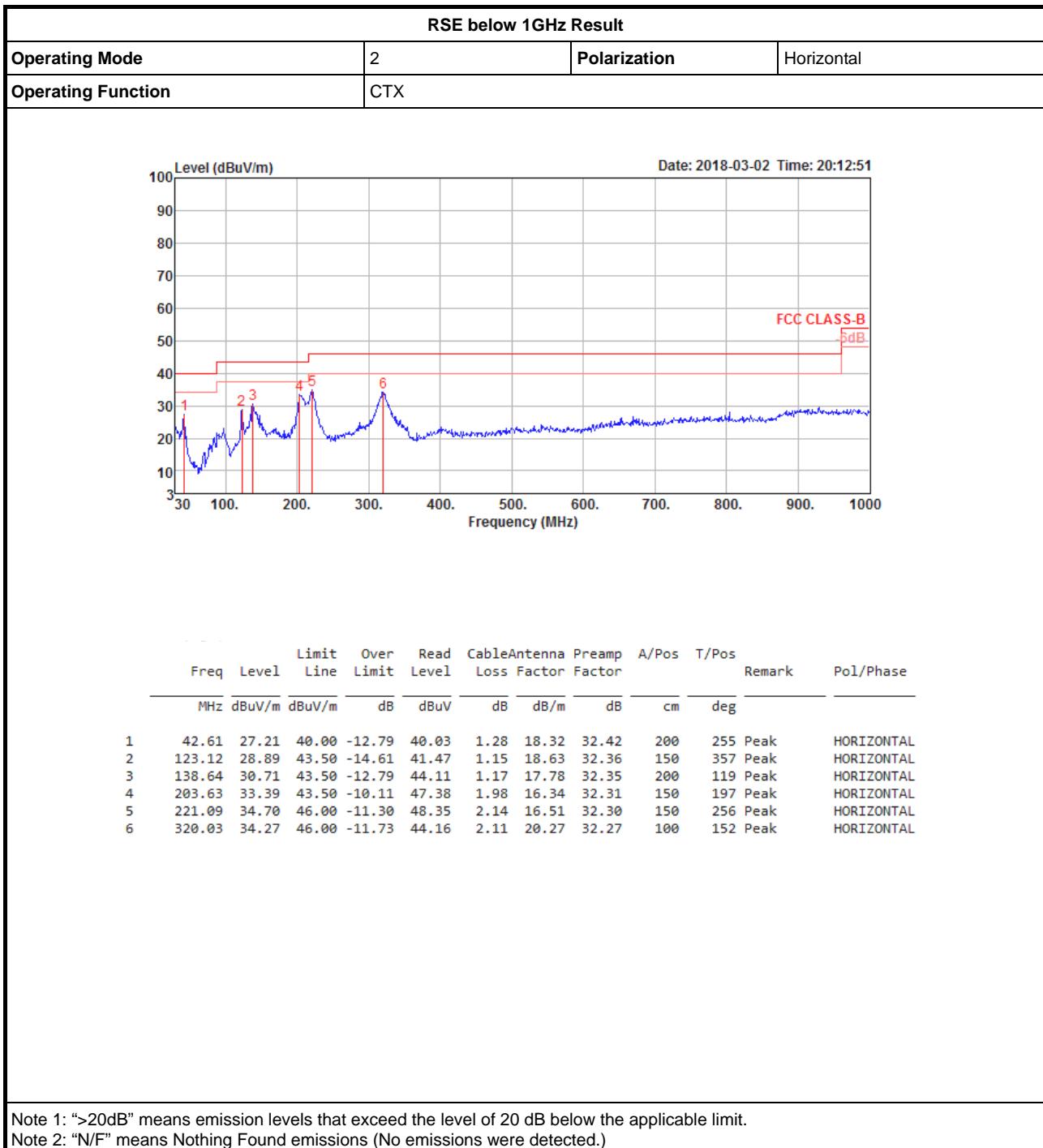






RSE below 1GHz Result

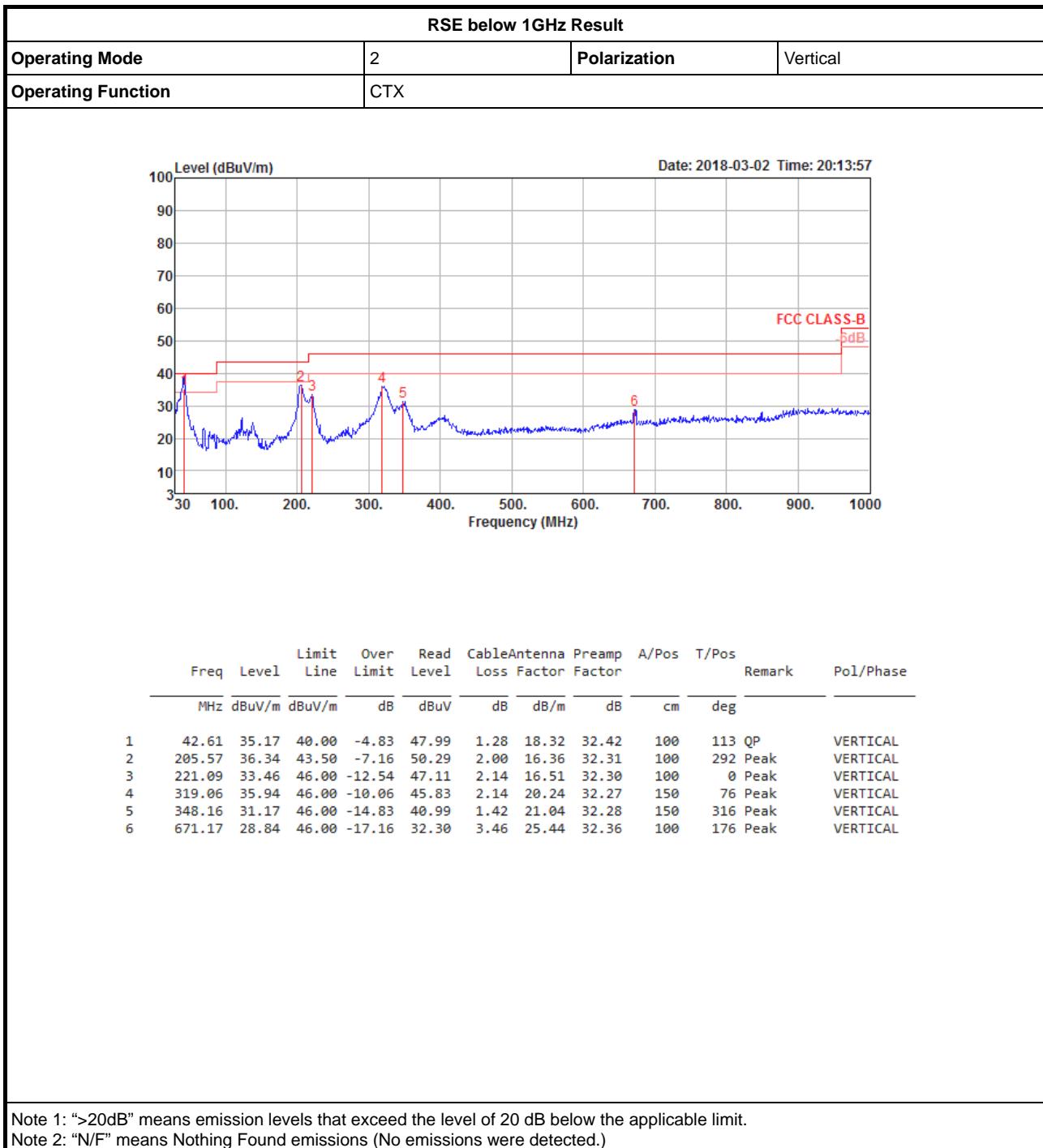
Appendix F.1





RSE below 1GHz Result

Appendix F.1





TX Above 1GHz Result

Appendix F.2

For Conducted Spurious Emission

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Average / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-57.54	-63.27	-48.51	-41.25	7.26
2437	-54.80	-59.11	-45.43	-41.25	4.18
2462	-55.55	-63.80	-46.94	-41.25	5.69

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Peak / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-50.71	-50.48	-39.58	-21.25	18.33
2437	-46.88	-46.41	-35.63	-21.25	14.38
2462	-47.48	-52.40	-38.27	-21.25	17.02



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Average / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-54.66	-57.85	-44.96	-41.25	3.71
2437	-54.84	-58.80	-45.37	-41.25	4.12
2452	-55.68	-57.94	-45.65	-41.25	4.40

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Peak / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-44.97	-44.33	-33.63	-21.25	12.38
2437	-46.43	-45.75	-35.07	-21.25	13.82
2452	-45.28	-46.09	-34.66	-21.25	13.41



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Average / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-70.47	-56.44	-48.27	-41.25	7.02
2437	-78.38	-63.86	-55.71	-41.25	14.46
2462	-85.13	-73.11	-64.85	-41.25	23.60

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Peak / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-68.68	-55.88	-47.66	-21.25	26.41
2437	-74.11	-62.68	-54.38	-21.25	33.13
2462	-74.38	-70.69	-61.14	-21.25	39.89



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Average / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-73.57	-59.72	-51.54	-41.25	10.29
2437	-76.51	-62.88	-54.70	-41.25	13.45
2452	-81.75	-68.88	-60.66	-41.25	19.41

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Peak / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-70.49	-59.02	-50.72	-21.25	29.47
2437	-72.68	-62.02	-53.66	-21.25	32.41
2452	-74.27	-66.65	-57.96	-21.25	36.71



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Average / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-85.25	-85.08	-74.15	-41.25	32.90
2437	-85.22	-85.18	-74.19	-41.25	32.94
2462	-85.28	-85.21	-74.23	-41.25	32.98

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Peak / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-71.36	-72.49	-60.88	-21.25	39.63
2437	-71.99	-72.20	-61.08	-21.25	39.83
2462	-72.86	-72.56	-61.70	-21.25	40.45



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Average / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-85.18	-85.11	-74.13	-41.25	32.88
2437	-85.22	-85.06	-74.13	-41.25	32.88
2452	-84.89	-85.09	-73.98	-41.25	32.73

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Peak / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-72.71	-71.95	-61.30	-21.25	40.05
2437	-72.34	-72.45	-61.38	-21.25	40.13
2452	-72.56	-72.64	-61.59	-21.25	40.34



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Average / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-81.14	-81.15	-70.13	-41.25	28.88
2437	-81.11	-81.03	-70.06	-41.25	28.81
2462	-80.96	-81.23	-70.08	-41.25	28.83

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Peak / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-68.55	-68.59	-57.56	-21.25	36.31
2437	-69.04	-68.86	-57.94	-21.25	36.69
2462	-69.26	-68.99	-58.11	-21.25	36.86



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Average / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-81.19	-81.16	-70.16	-41.25	28.91
2437	-81.06	-80.96	-70.00	-41.25	28.75
2452	-81.03	-81.09	-70.05	-41.25	28.80

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Peak / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-68.46	-68.78	-57.61	-21.25	36.36
2437	-69.12	-68.62	-57.85	-21.25	36.60
2452	-68.86	-68.15	-57.48	-21.25	36.23



TX Above 1GHz Result

Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Average / Port 1 + Port 2 / 18GHz~26.5GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-81.04	-80.76	-69.89	-41.25	28.64
2437	-80.96	-80.95	-69.94	-41.25	28.69
2462	-80.91	-80.96	-69.92	-41.25	28.67

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Peak / Port 1 + Port 2 / 18GHz~26.5GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2412	-68.22	-67.14	-56.64	-21.25	35.39
2437	-67.35	-67.97	-56.64	-21.25	35.39
2462	-67.87	-68.31	-57.07	-21.25	35.82



TX Above 1GHz Result

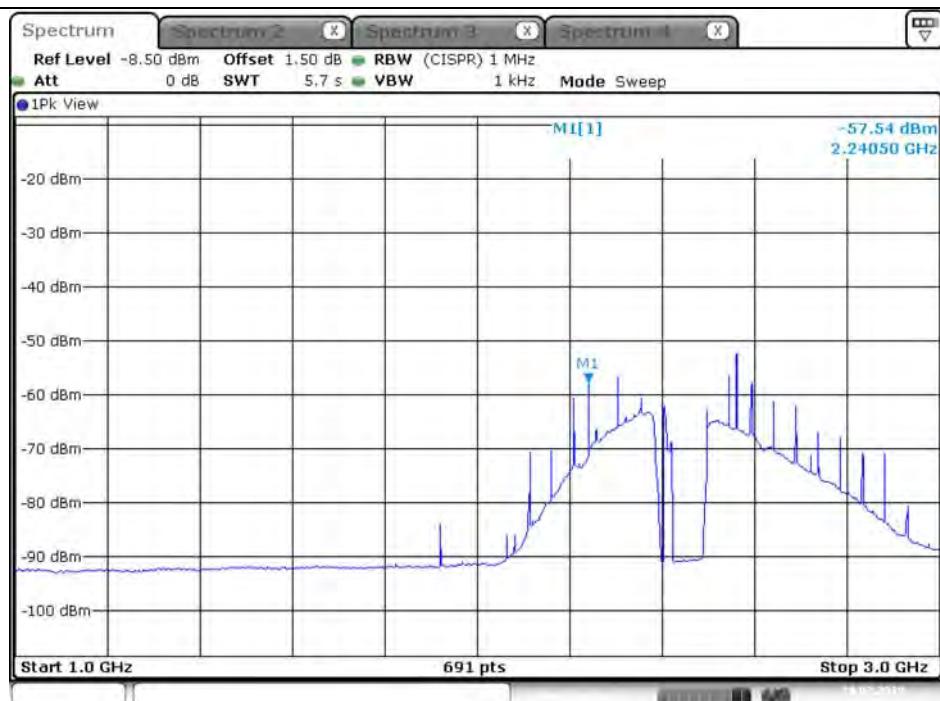
Appendix F.2

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Average / Port 1 + Port 2 / 18GHz~26.5GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-80.97	-81.03	-69.99	-41.25	28.74
2437	-80.77	-80.95	-69.85	-41.25	28.60
2452	-81.01	-80.92	-69.95	-41.25	28.70

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Peak / Port 1 + Port 2 / 18GHz~26.5GHz

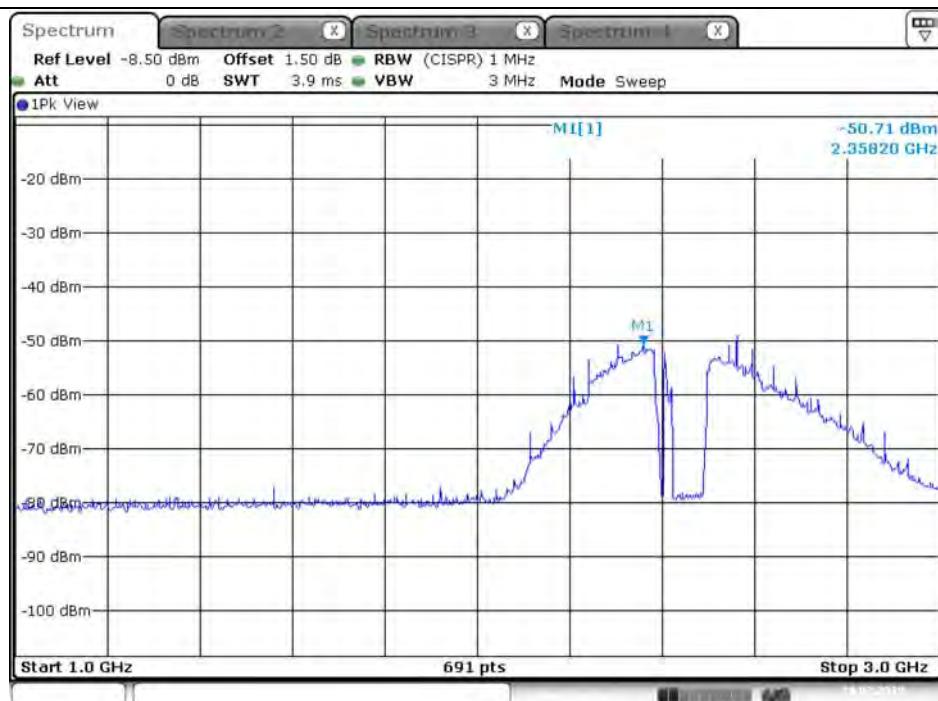
Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
2422	-67.92	-67.90	-56.90	-21.25	35.65
2437	-67.56	-67.93	-56.73	-21.25	35.48
2452	-68.41	-68.35	-57.37	-21.25	36.12

Plot on Configuration VHT20 / 2412 MHz / Average / Port 1 / 1GHz~3GHz


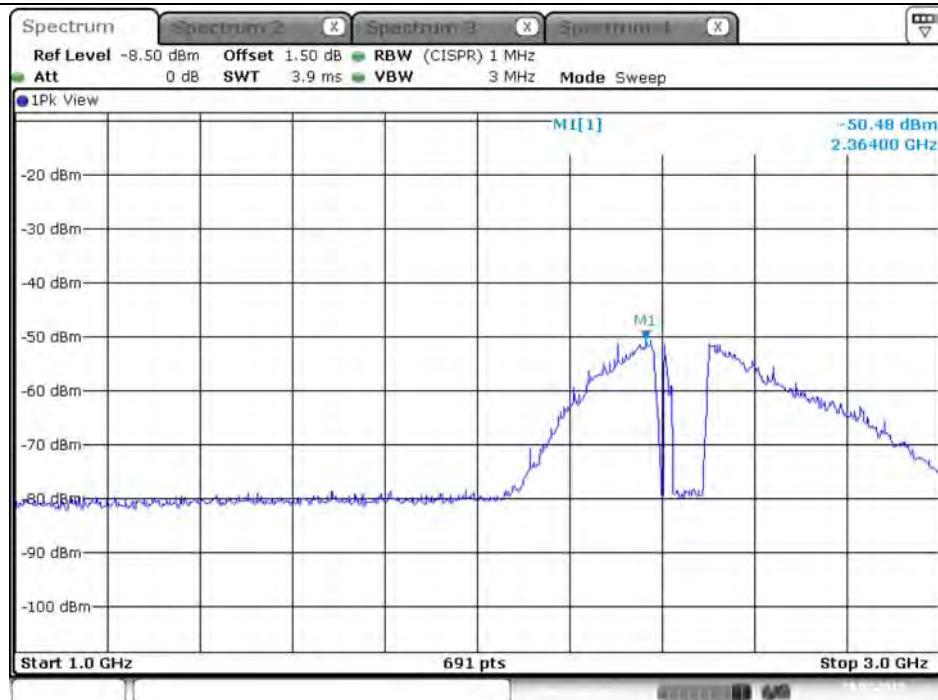
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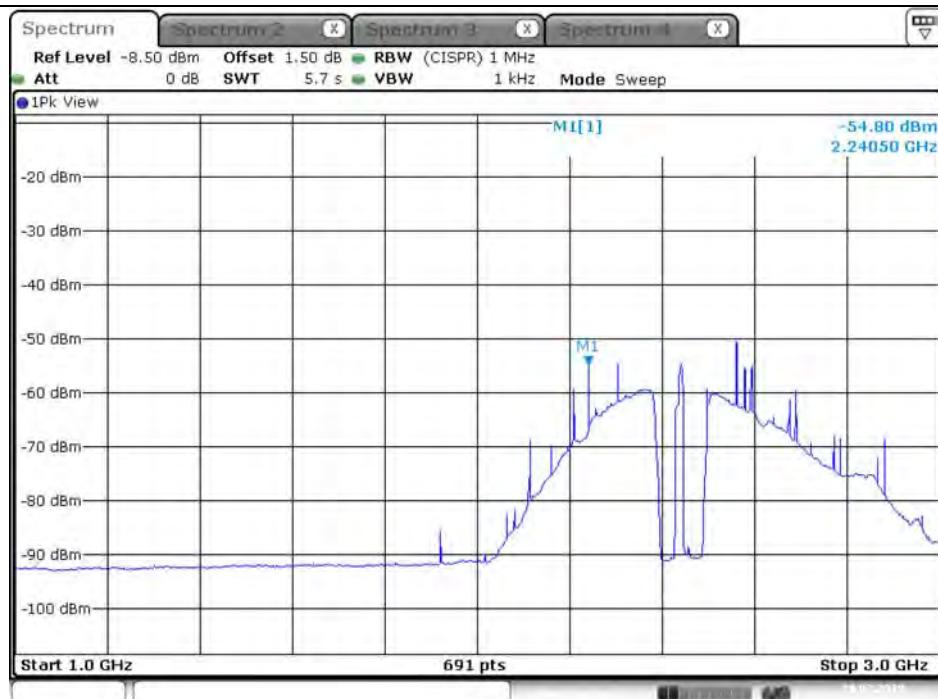

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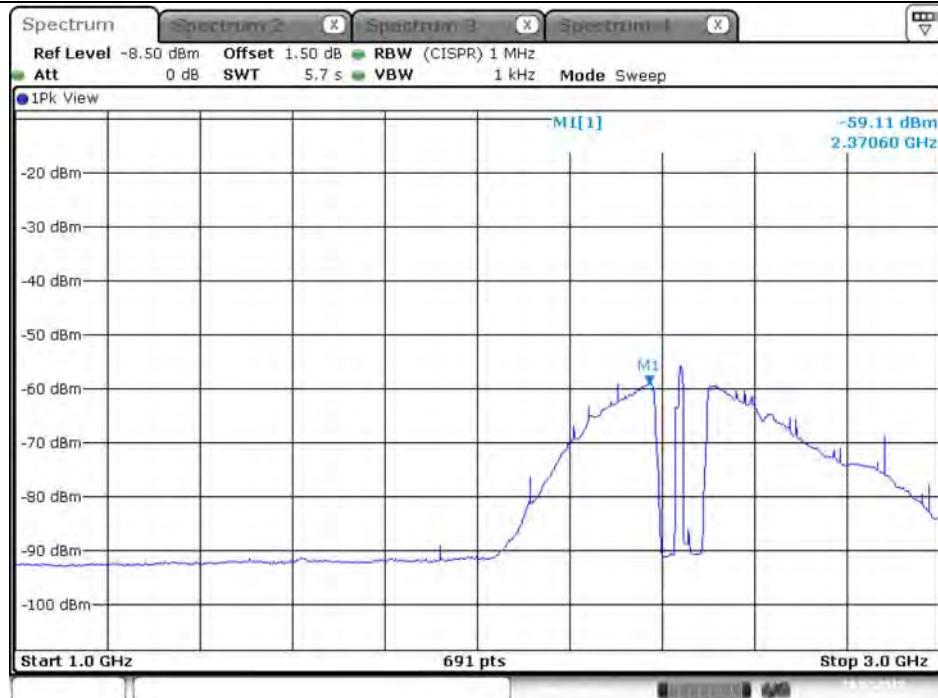
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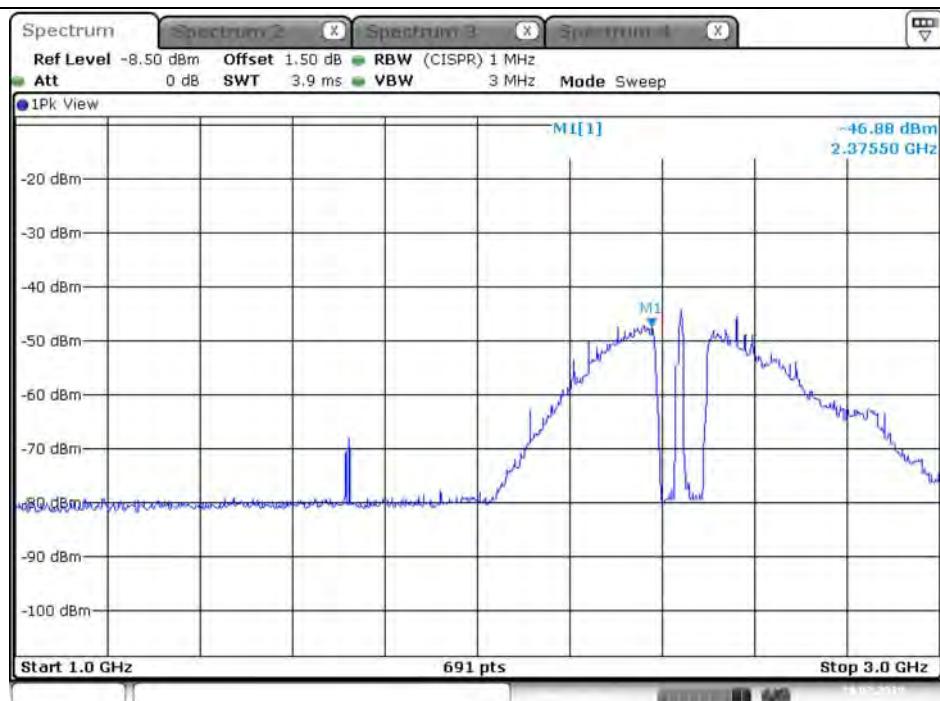
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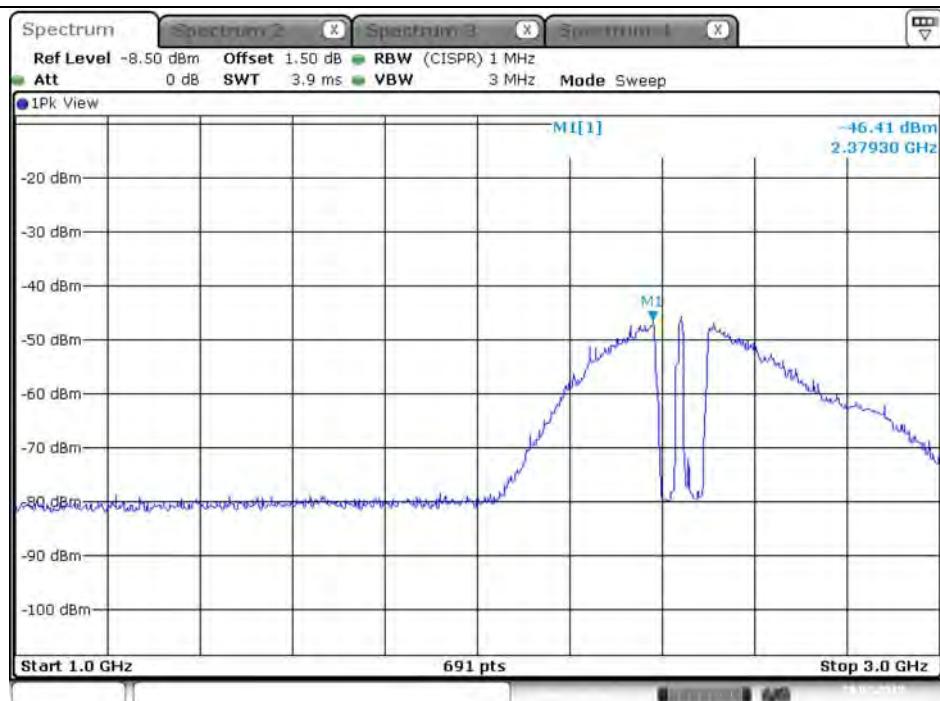
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Plot on Configuration VHT20 / 2437 MHz / Peak / Port 1 / 1GHz~3GHz


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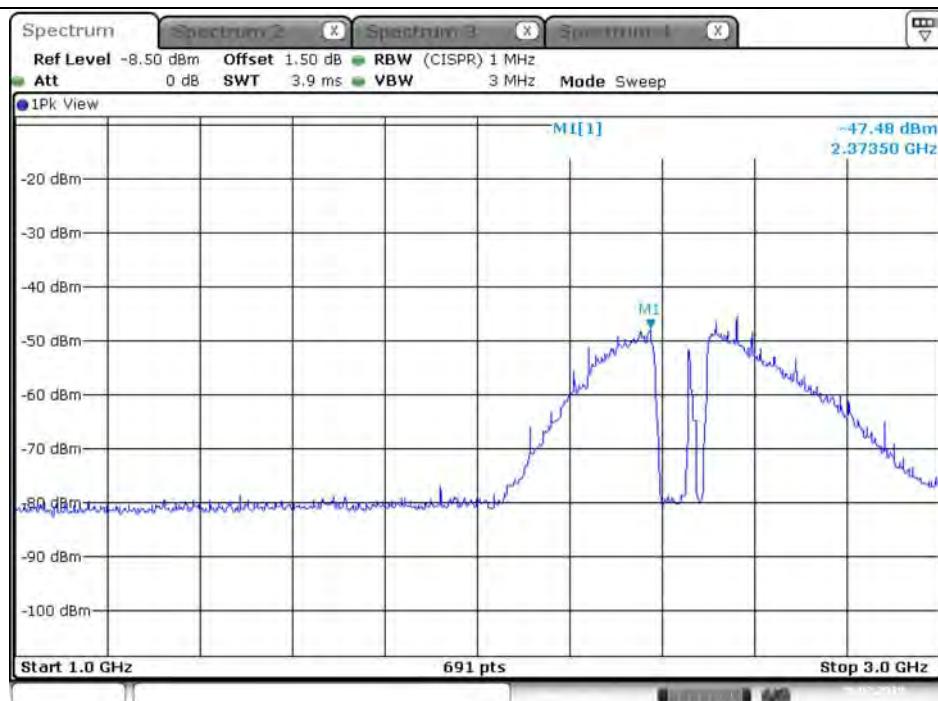
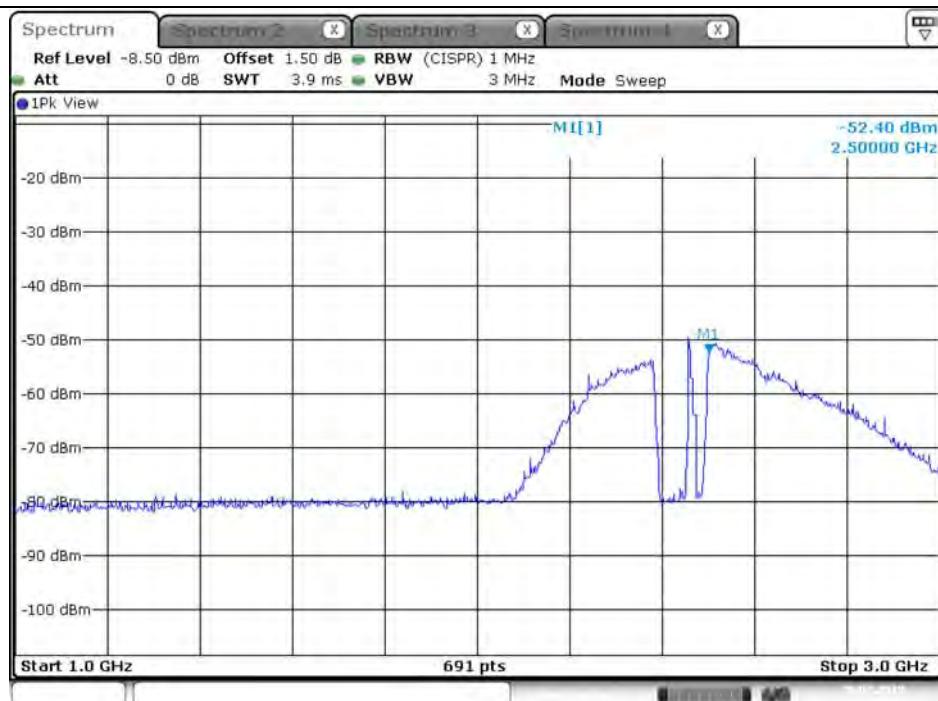
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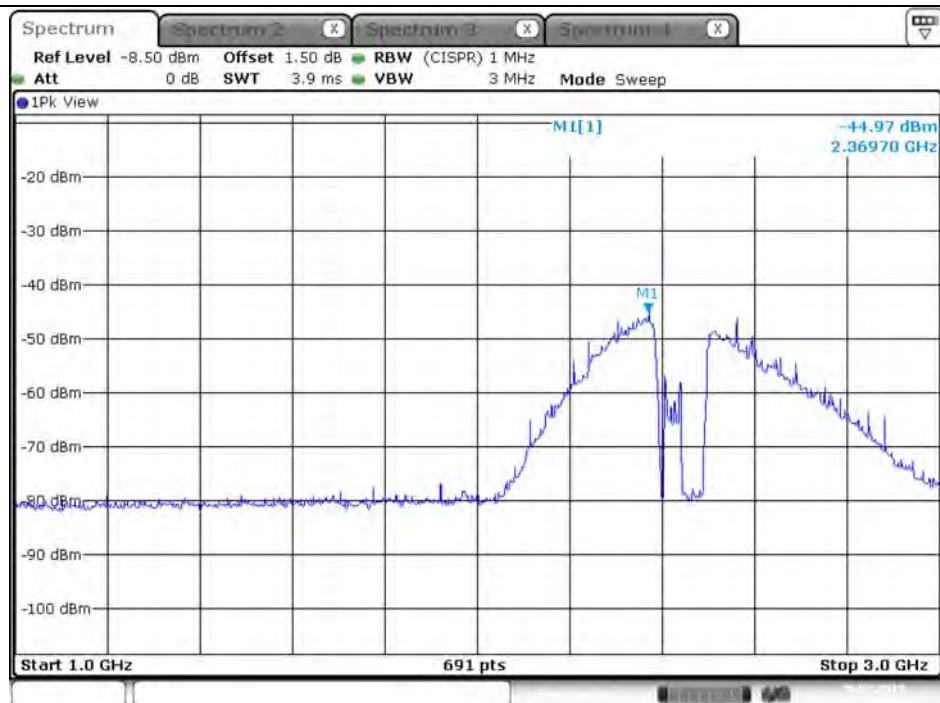
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Plot on Configuration VHT20 / 2462 MHz / Peak / Port 2 / 1GHz~3GHz


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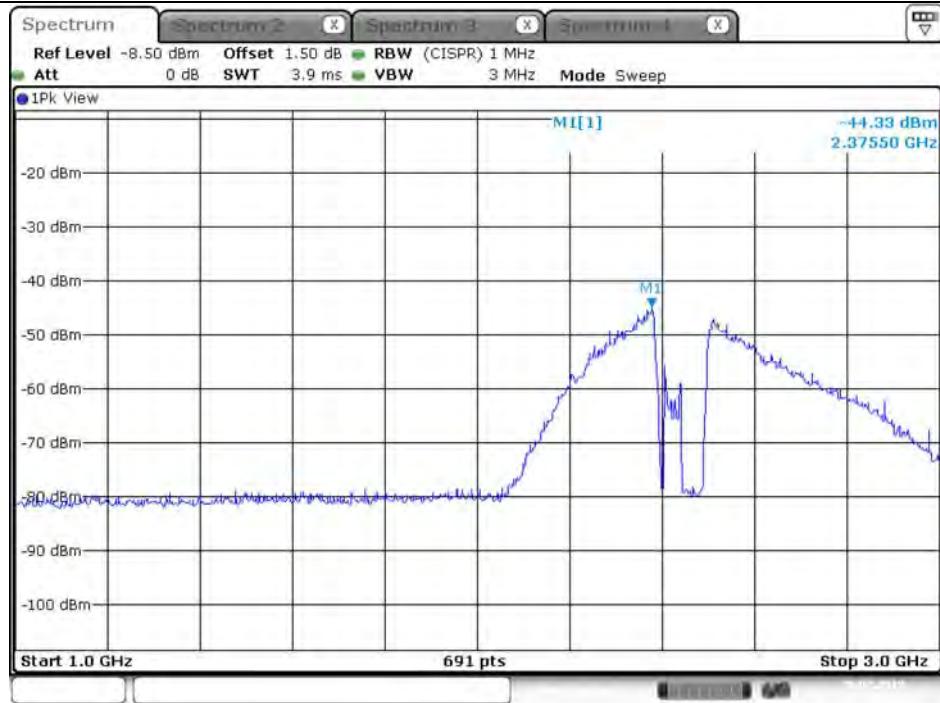

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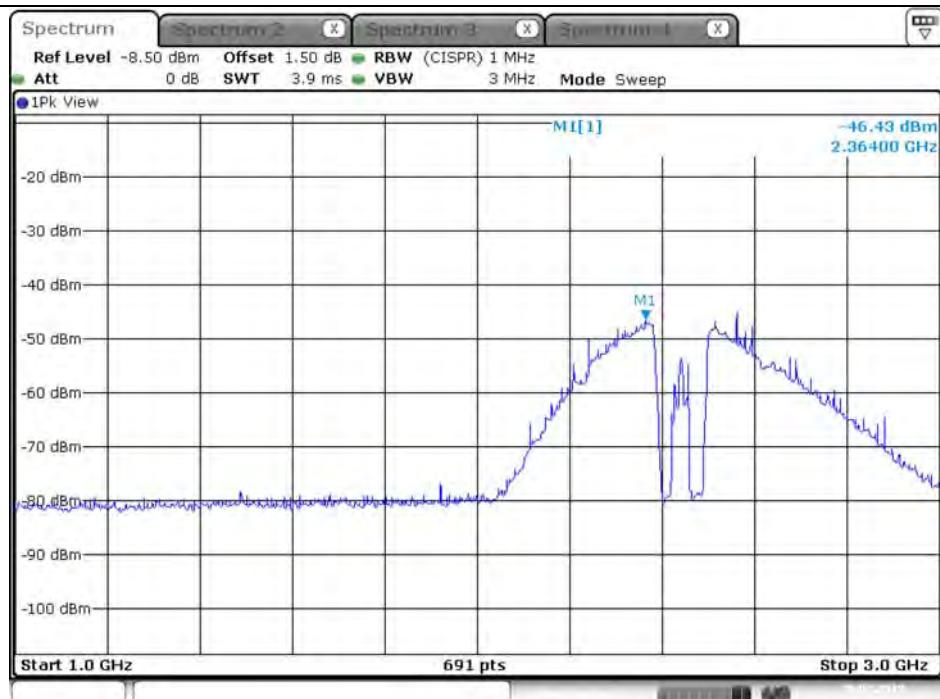
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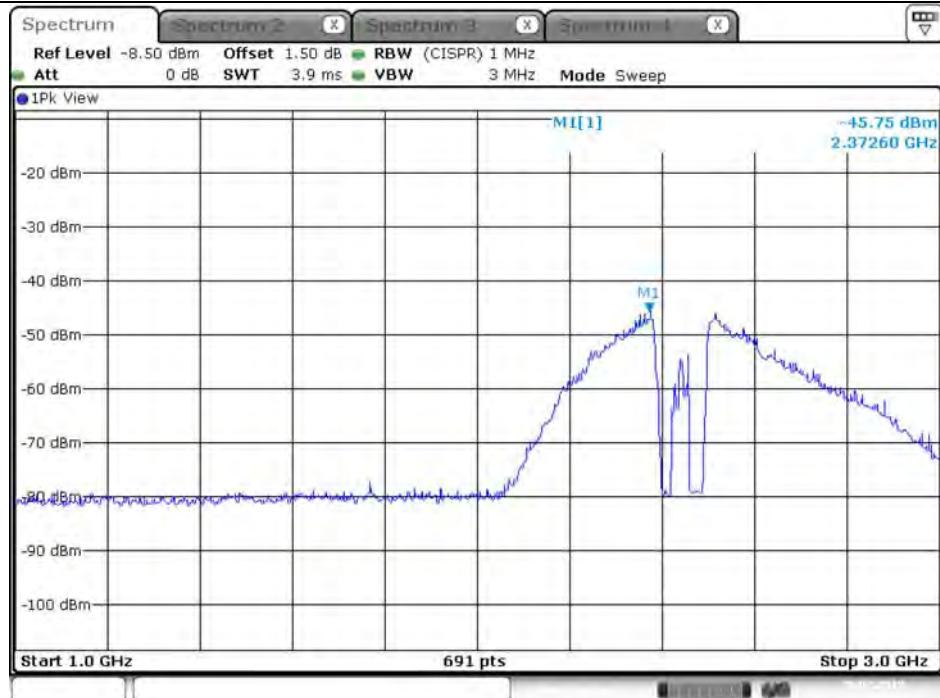

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Plot on Configuration VHT40 / 2437 MHz / Peak / Port 1 / 1GHz~3GHz


Date: 28.FEB.2018 10:29:11

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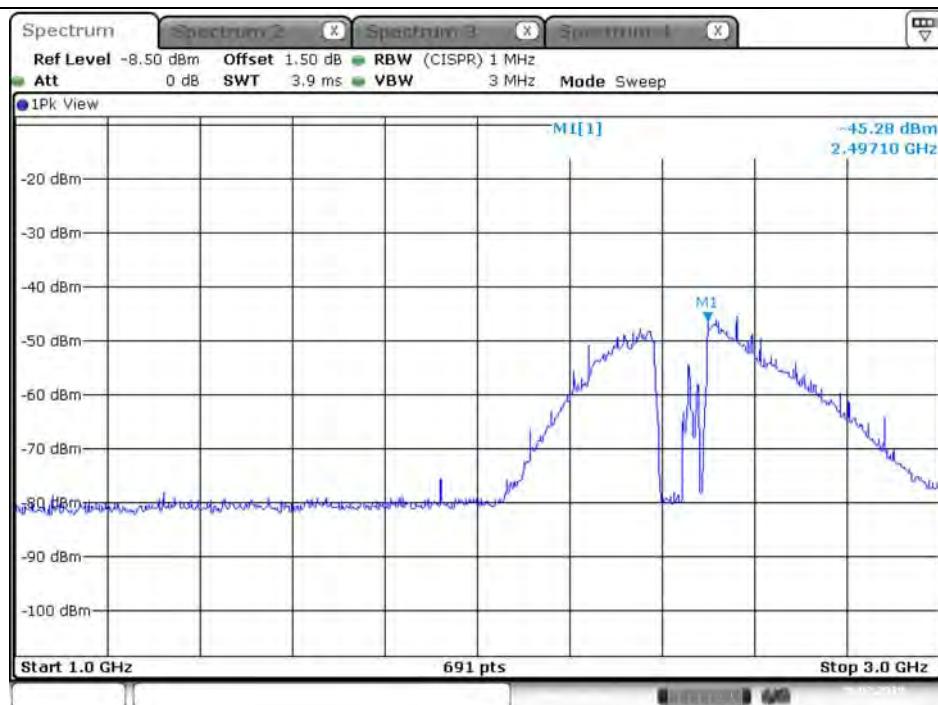
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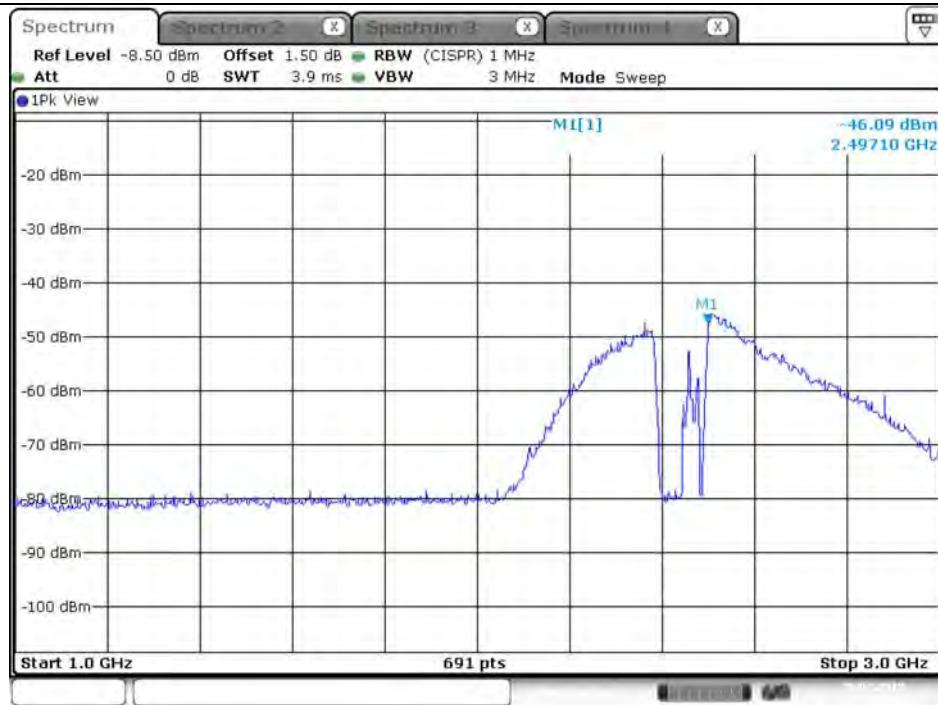

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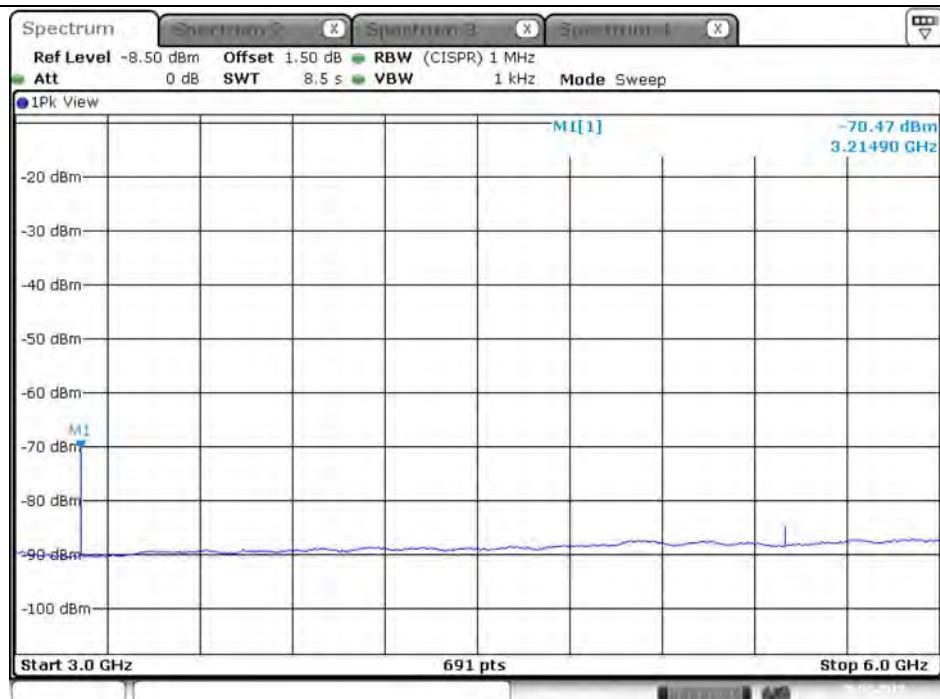

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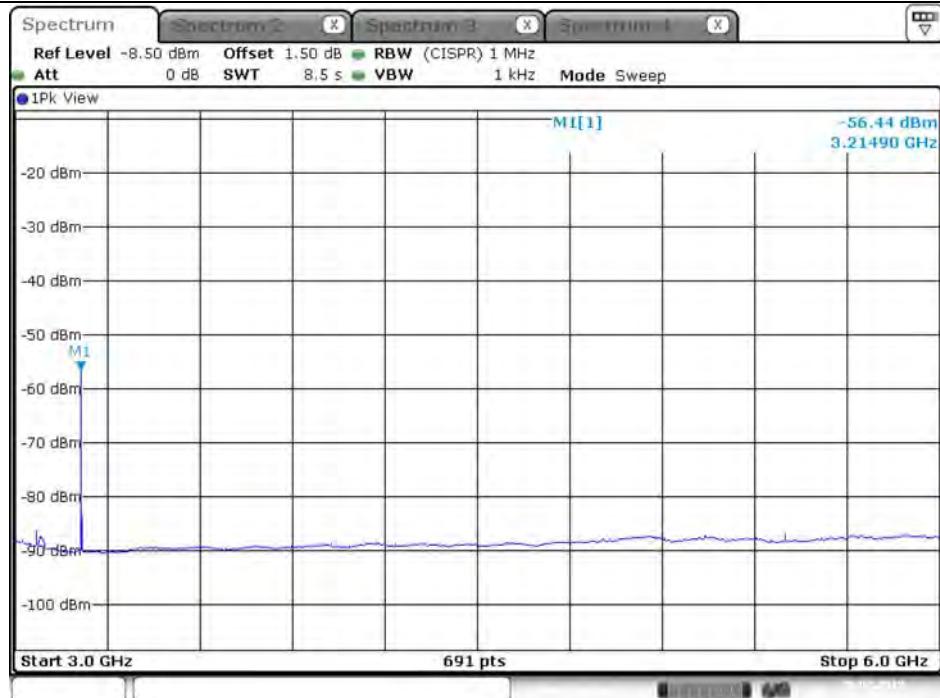
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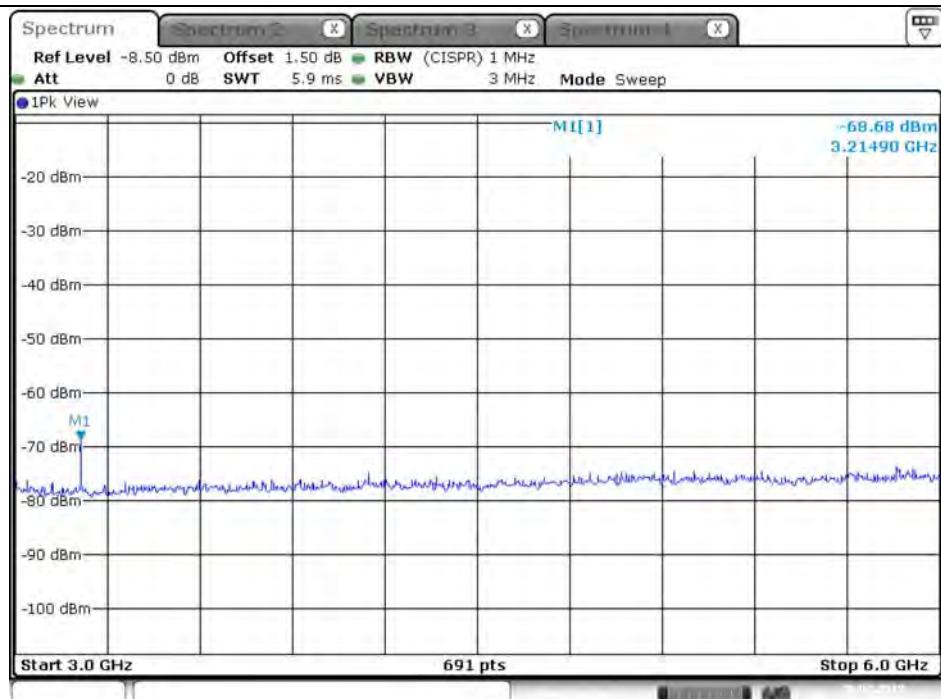
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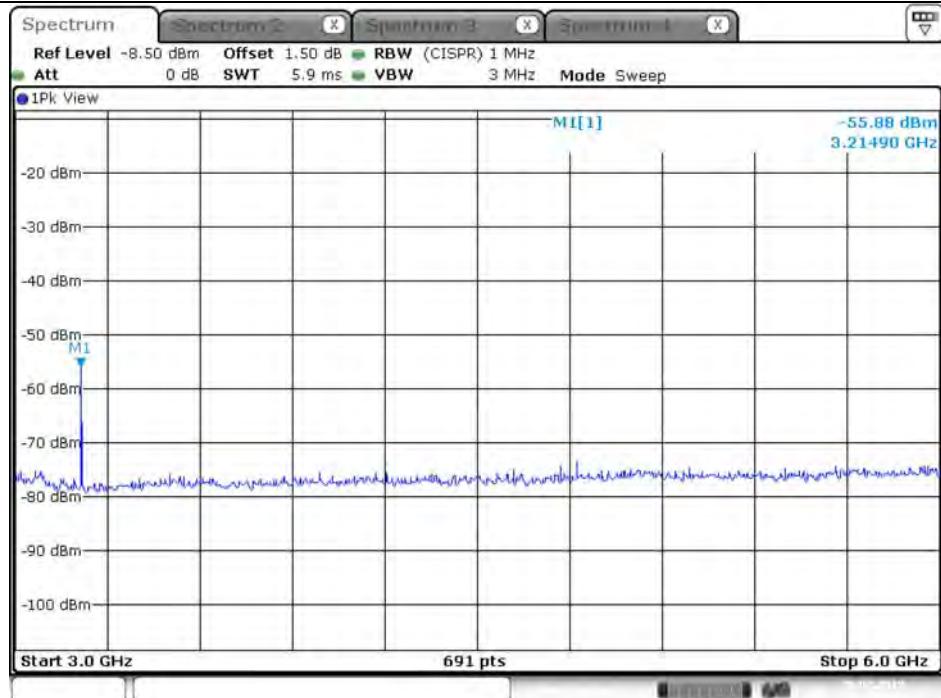
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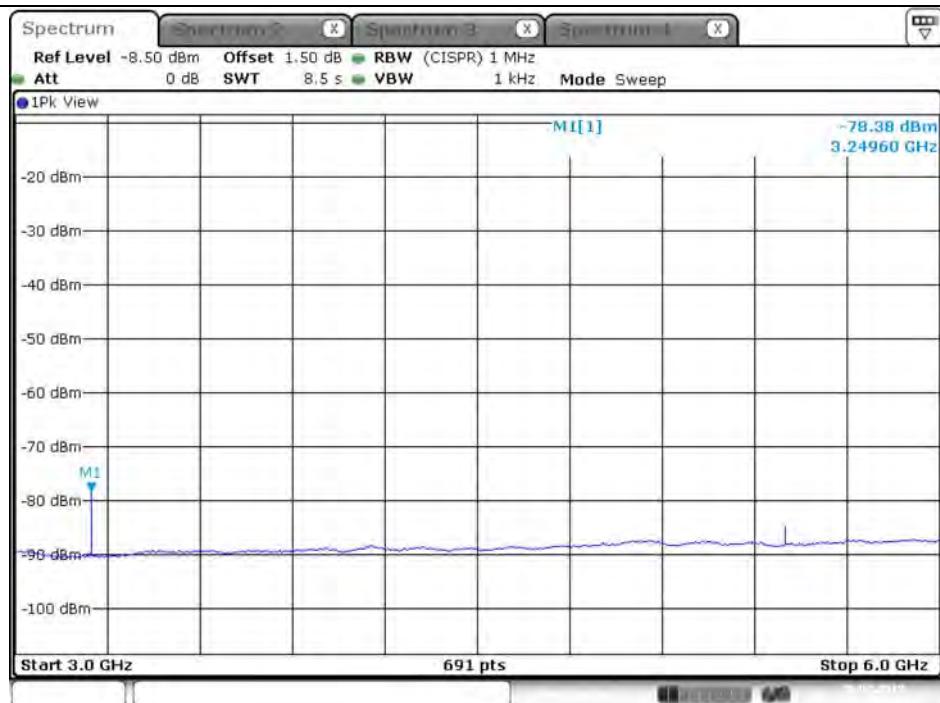
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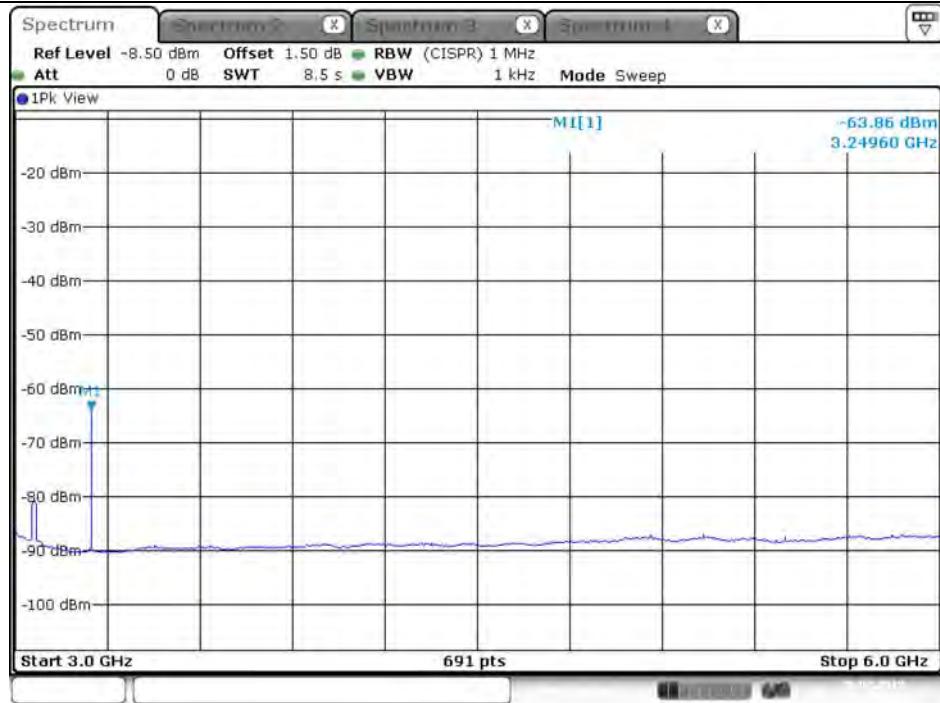
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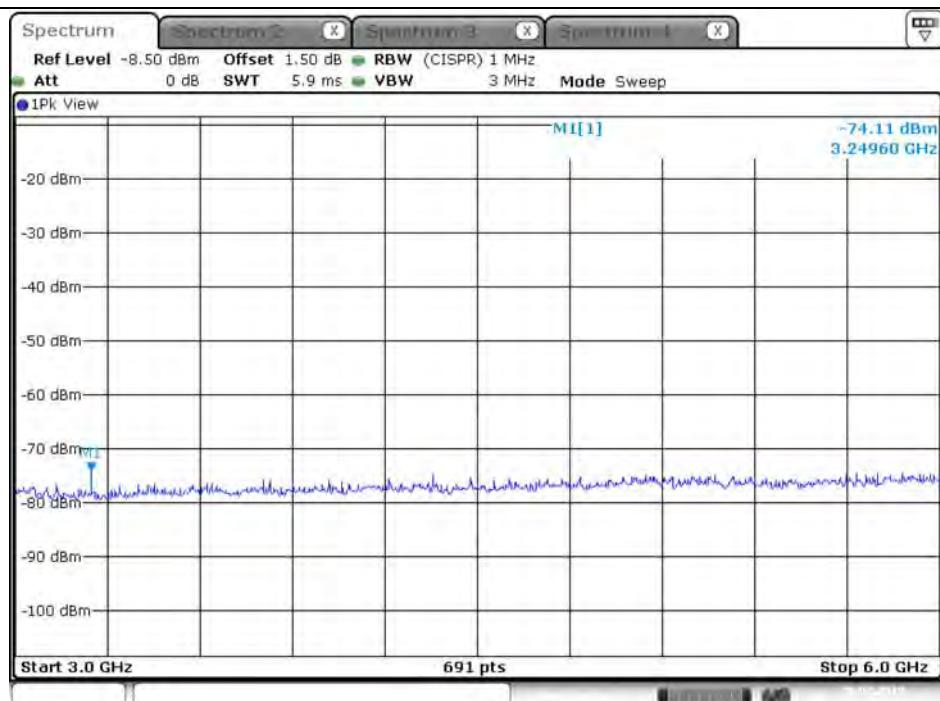
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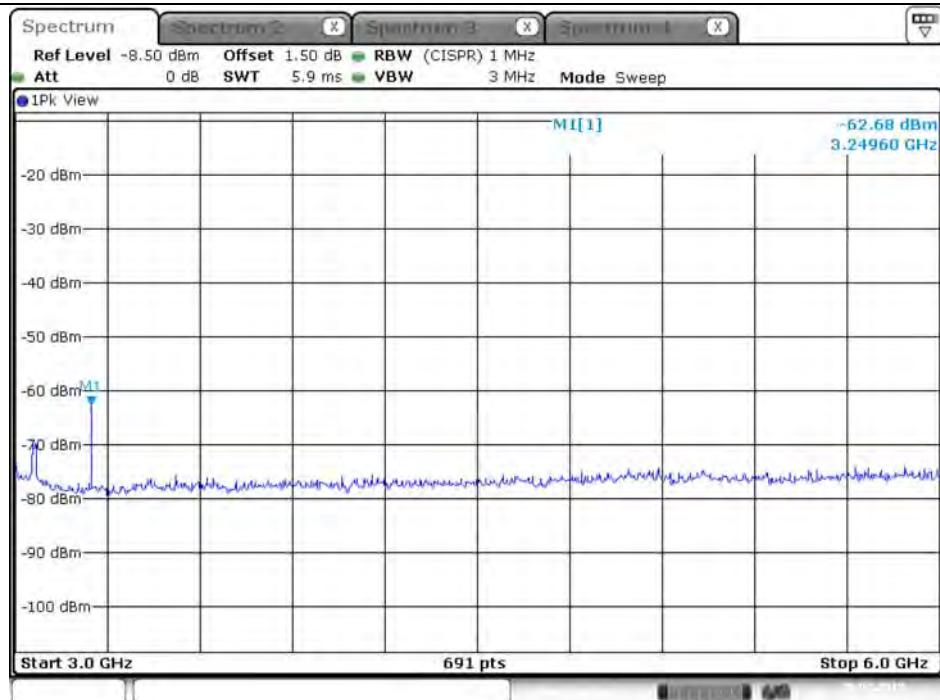
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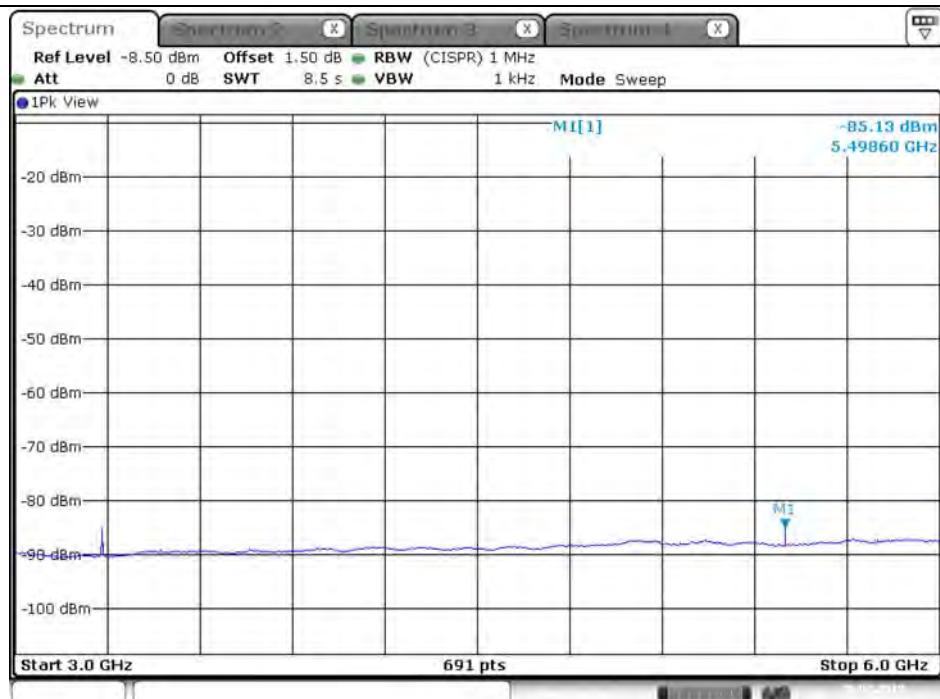
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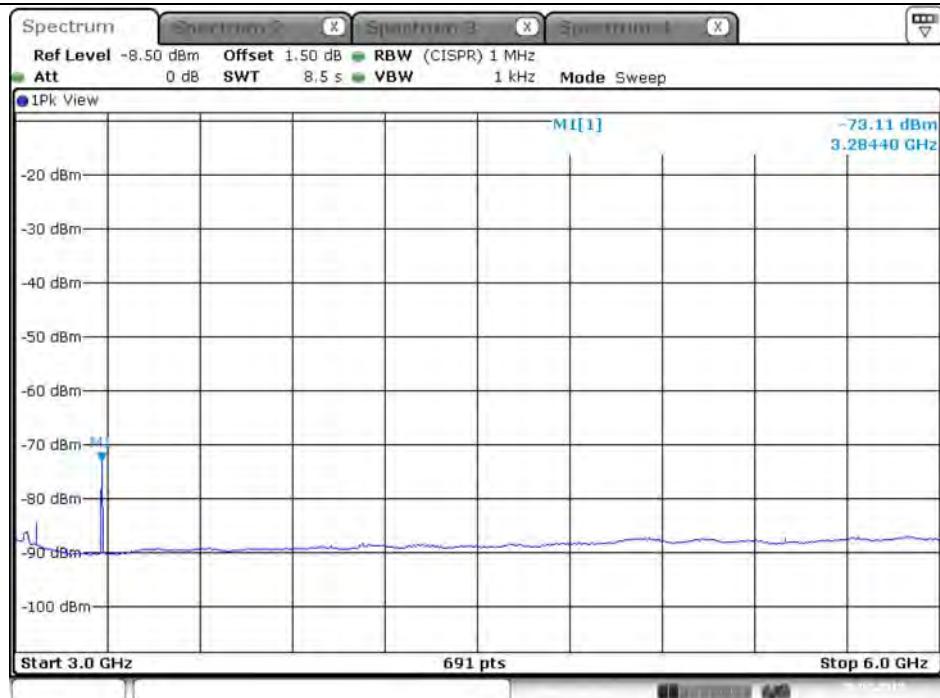
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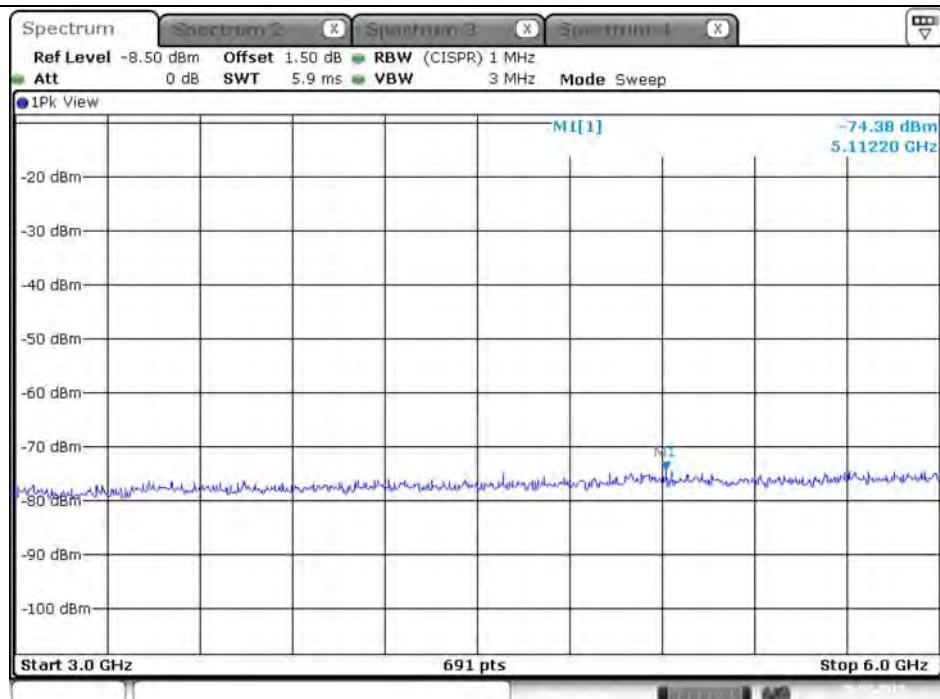
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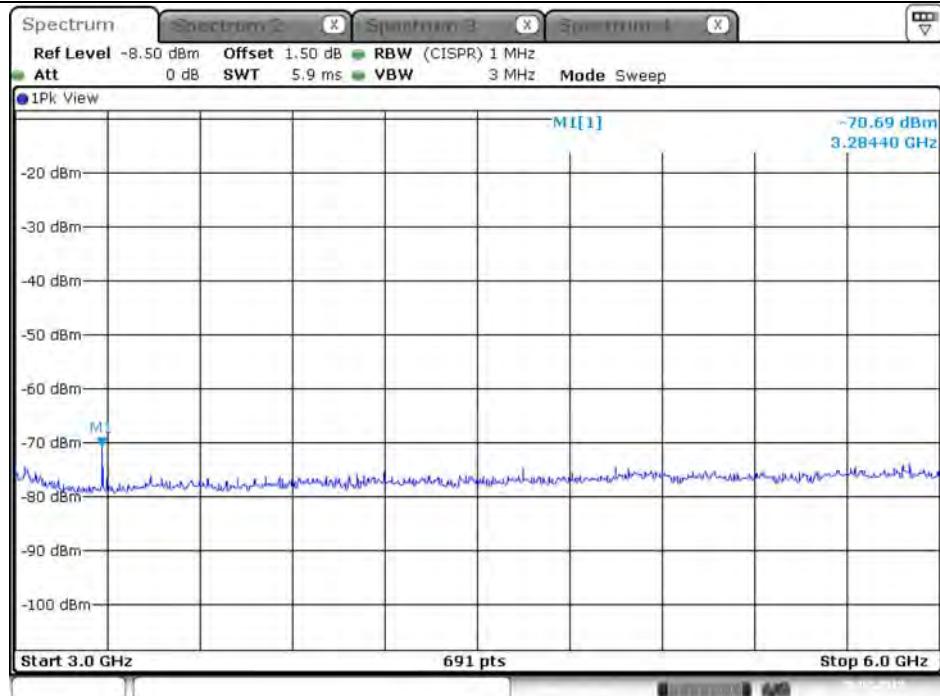
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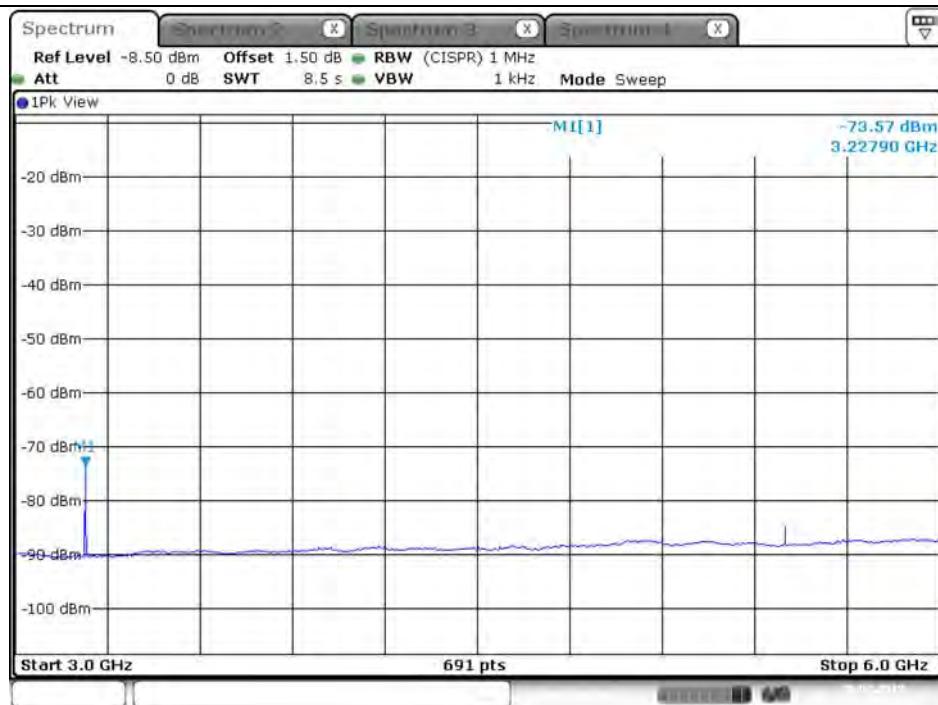
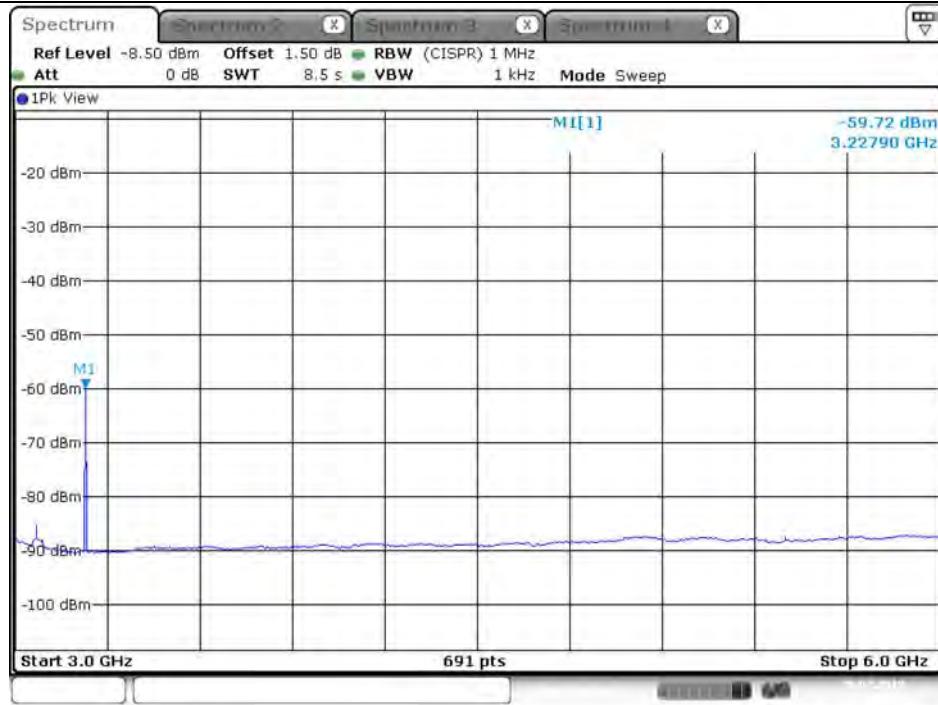
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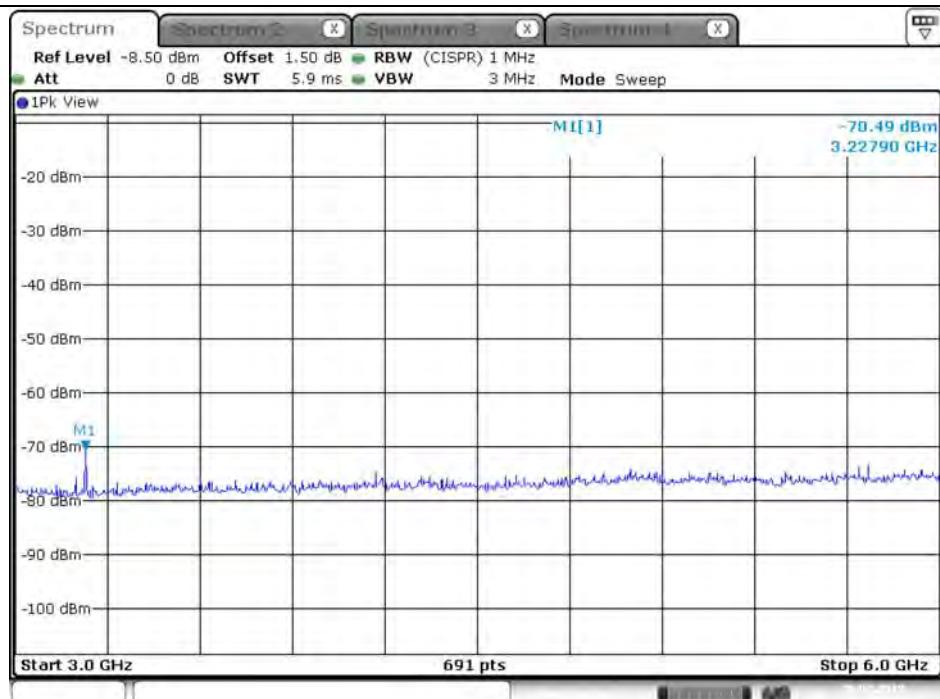
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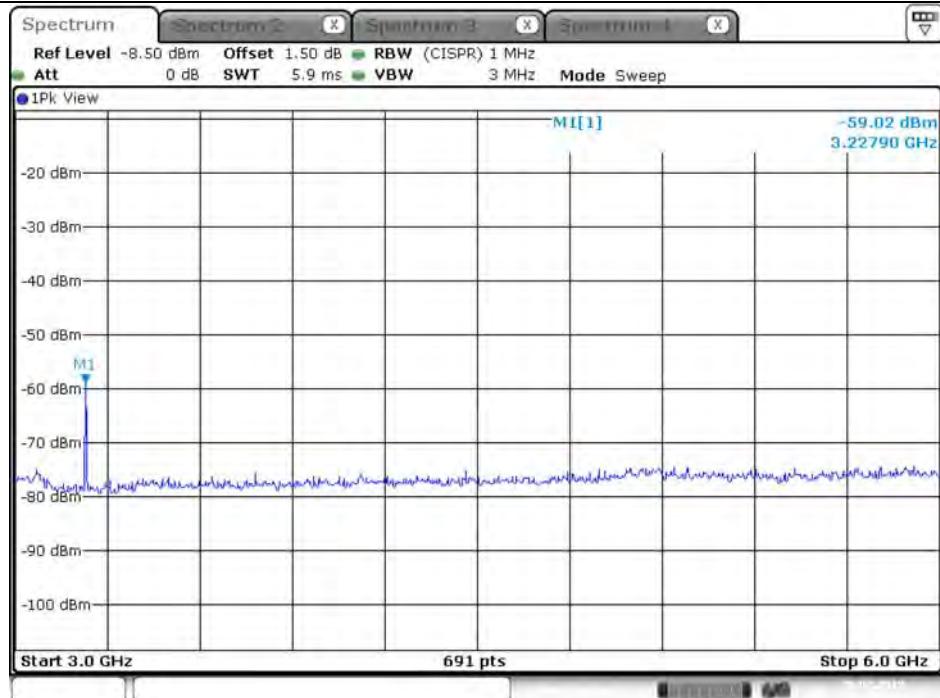
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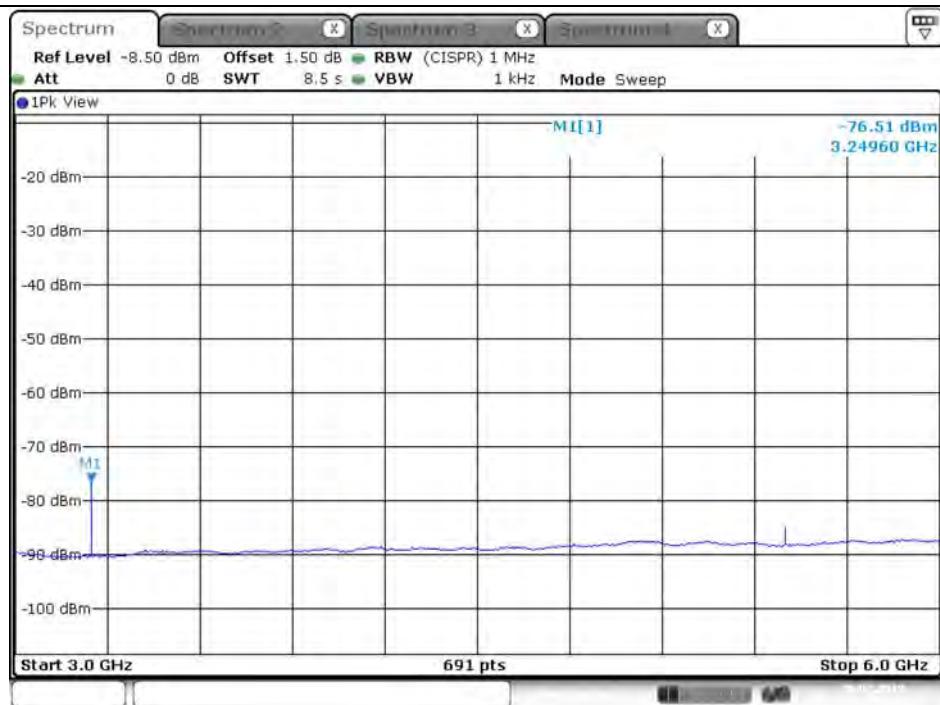
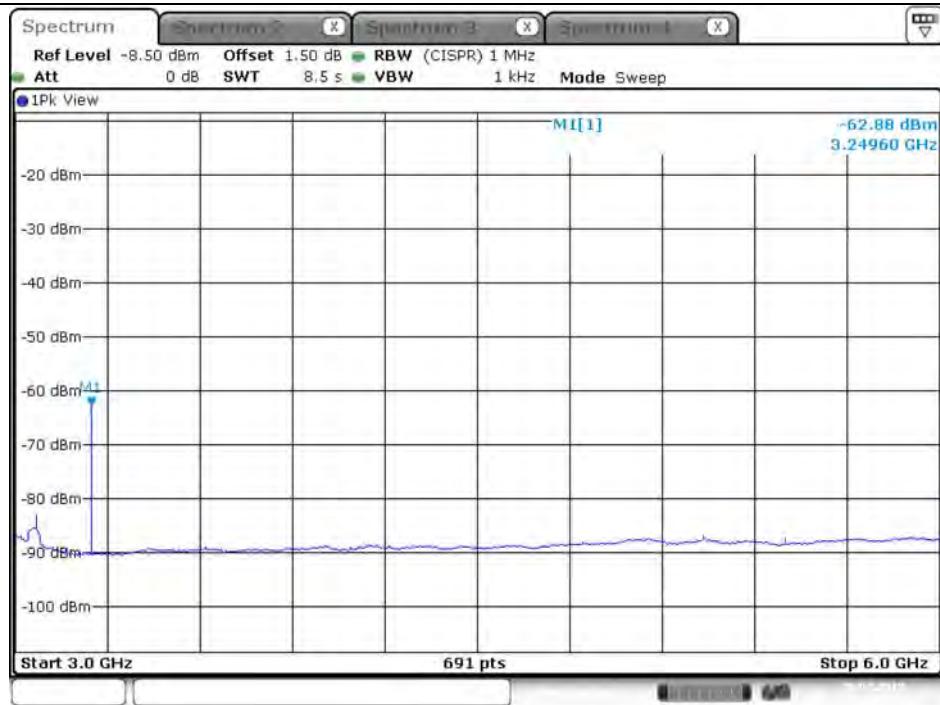
Plot on Configuration VHT40 / 2422 MHz / Average / Port 1 / 3GHz~6GHz

Plot on Configuration VHT40 / 2422 MHz / Average / Port 2 / 3GHz~6GHz


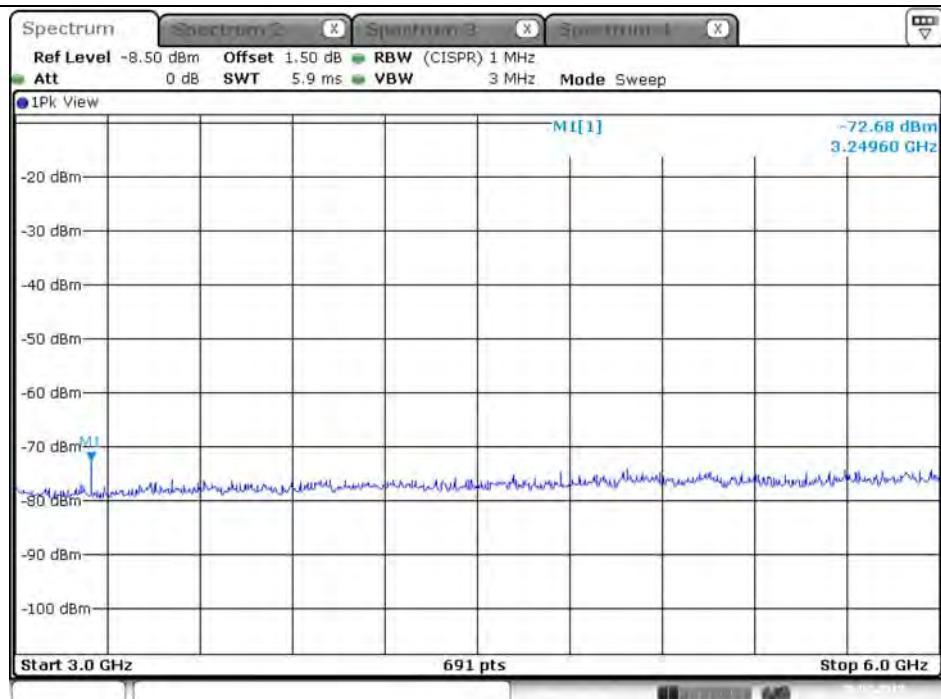
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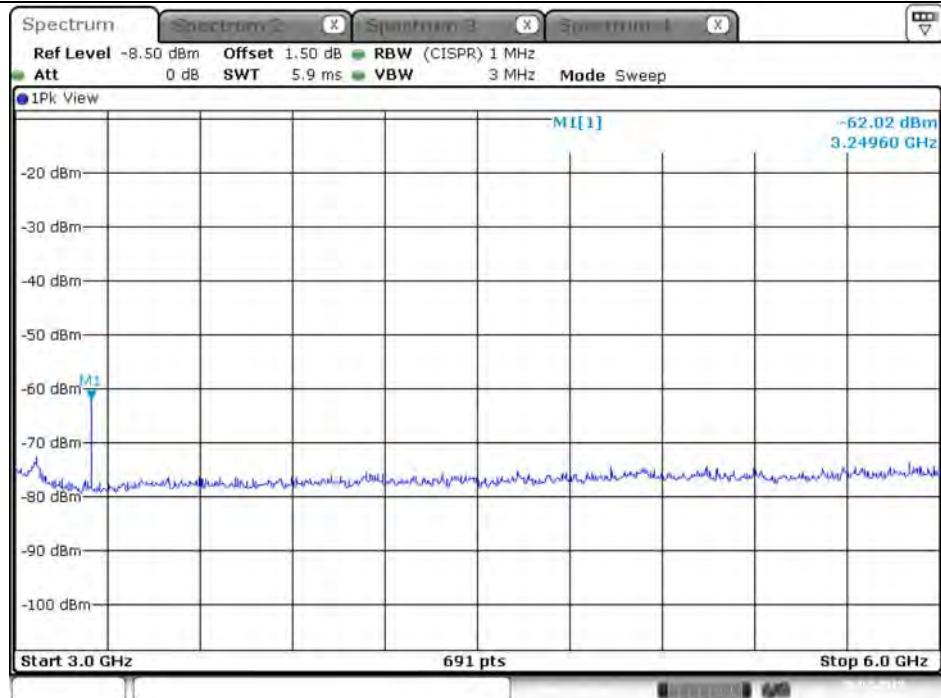
Plot on Configuration VHT40 / 2422 MHz / Peak / Port 2 / 3GHz~6GHz


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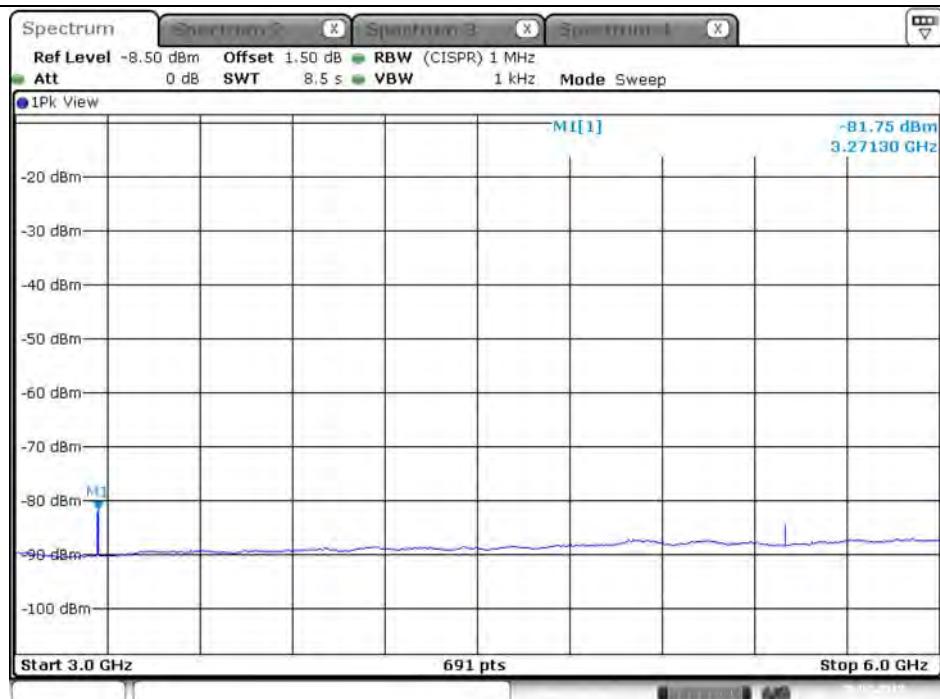
Plot on Configuration VHT40 / 2437 MHz / Average / Port 1 / 3GHz~6GHz

Plot on Configuration VHT40 / 2437 MHz / Average / Port 2 / 3GHz~6GHz


Plot on Configuration VHT40 / 2437 MHz / Peak / Port 1 / 3GHz~6GHz


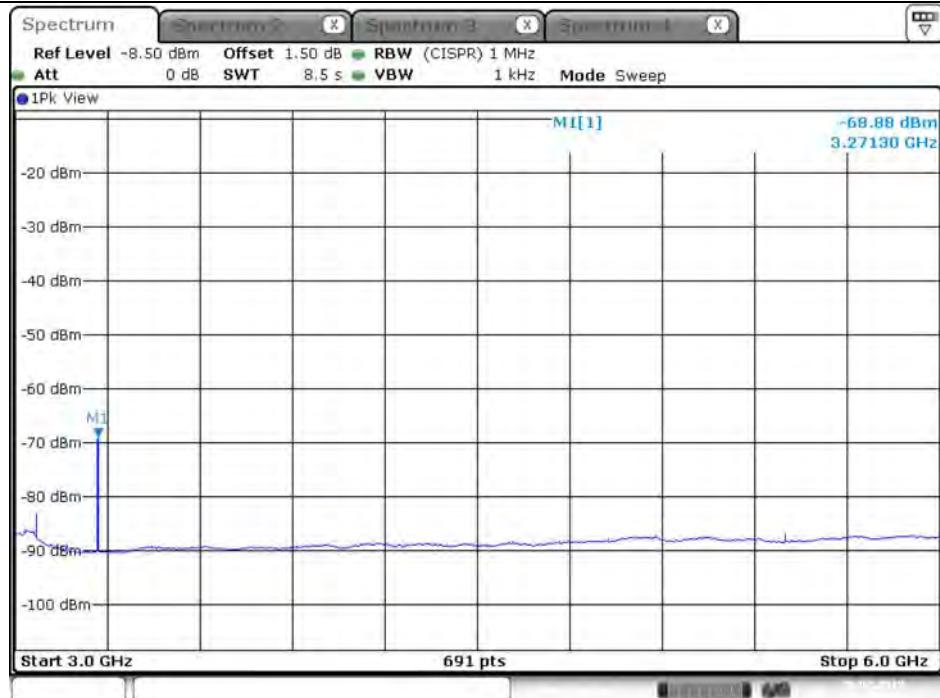
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Plot on Configuration VHT40 / 2437 MHz / Peak / Port 2 / 3GHz~6GHz


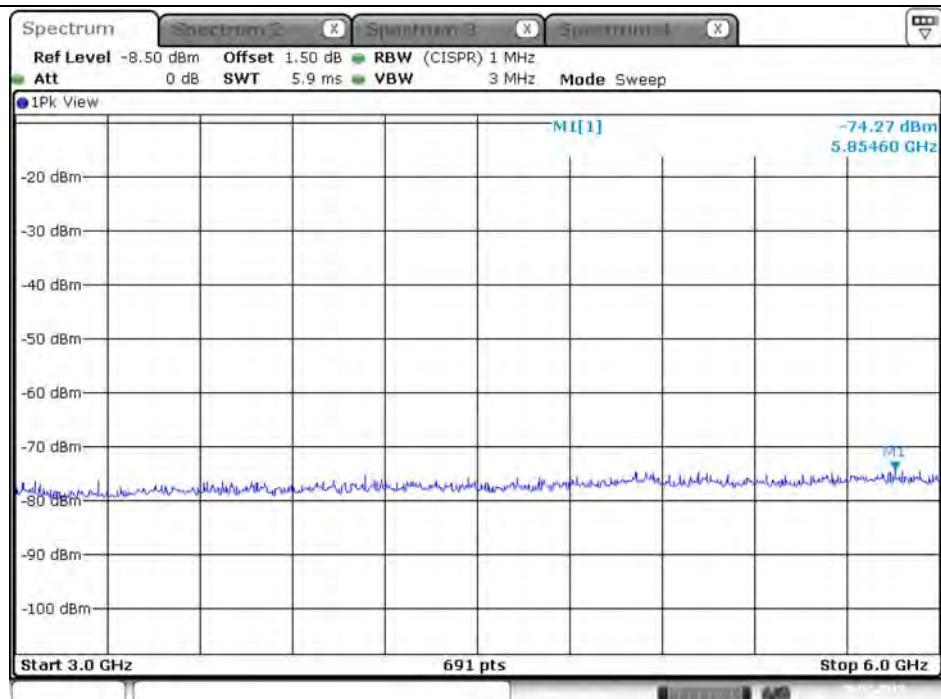
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Plot on Configuration VHT40 / 2452 MHz / Average / Port 1 / 3GHz~6GHz


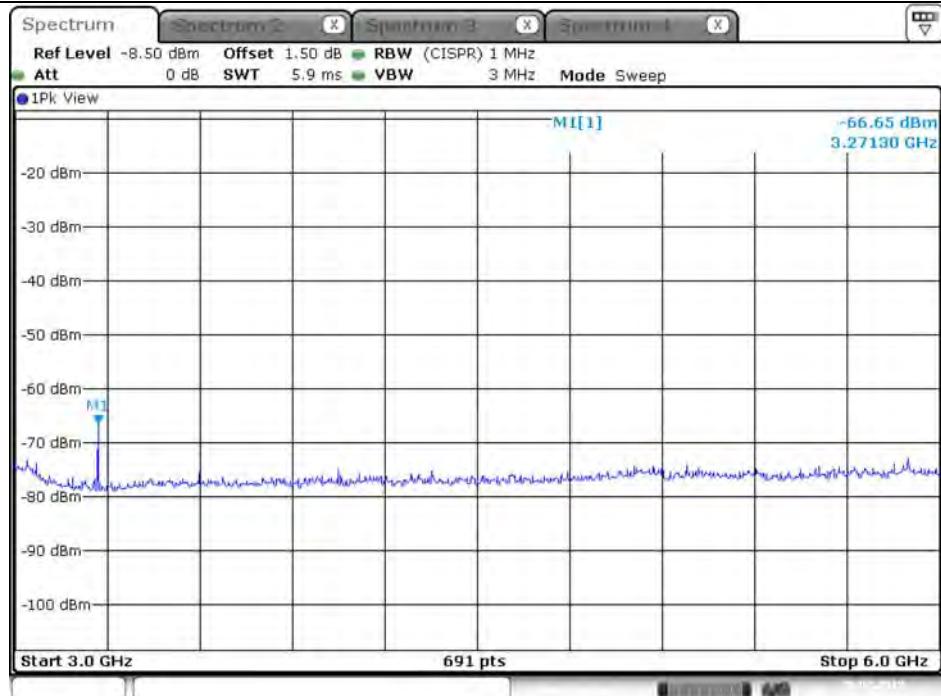
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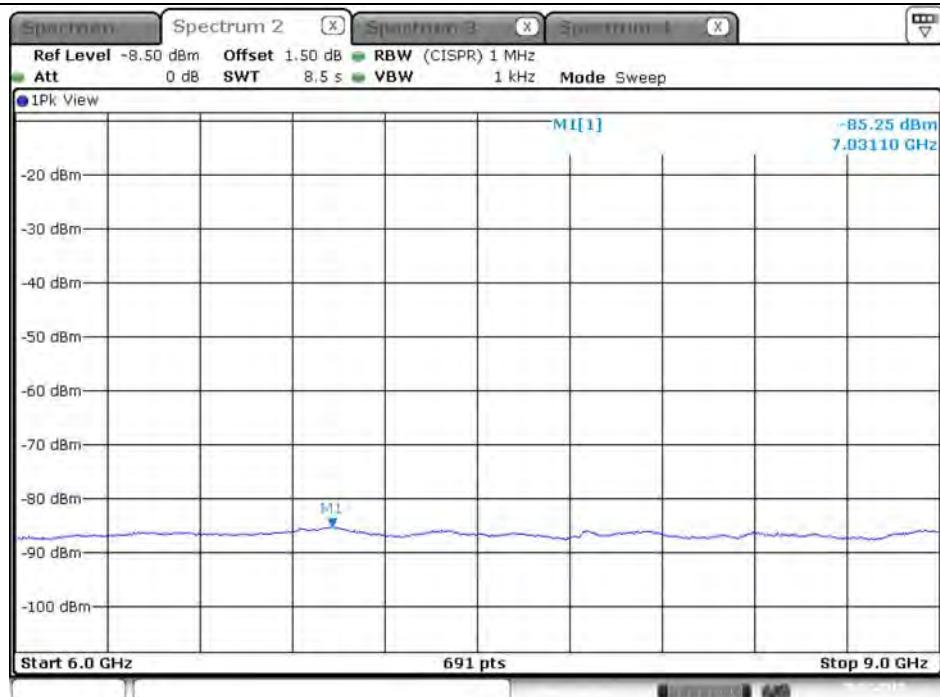
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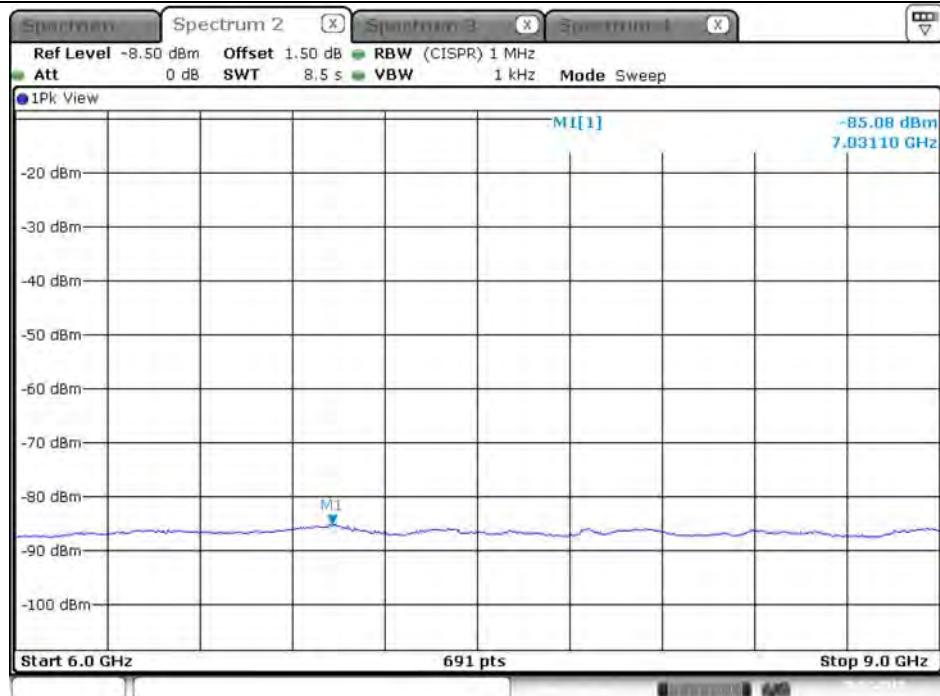
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Plot on Configuration VHT40 / 2452 MHz / Peak / Port 2 / 3GHz~6GHz


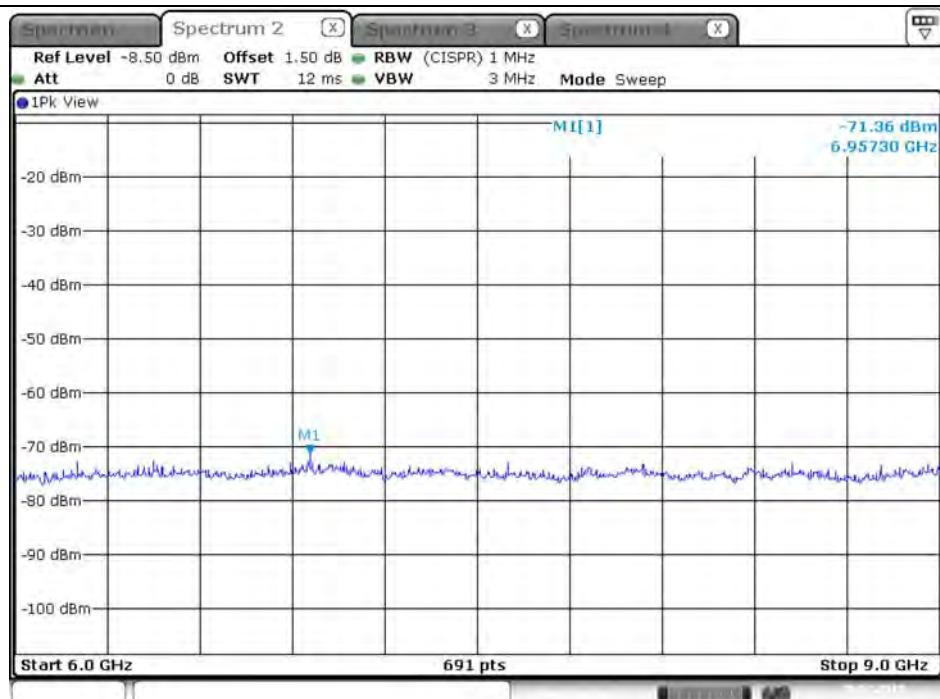
Date: 28.FEB.2018 15:10:42

Plot on Configuration VHT20 / 2412 MHz / Average / Port 1 / 6GHz~9GHz


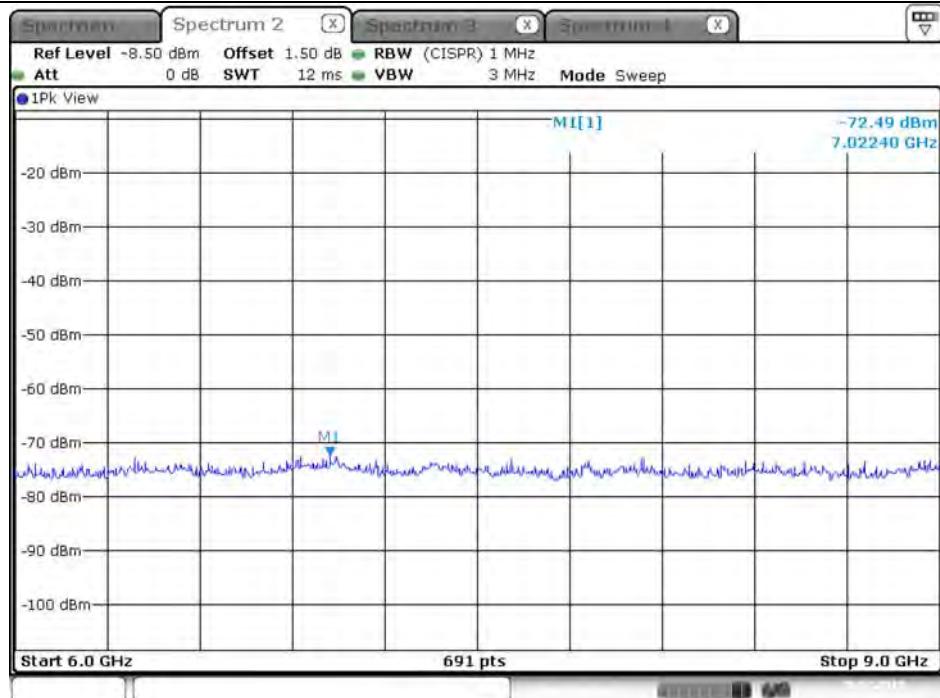
Date: 28.FEB.2018 10:58:08

Plot on Configuration VHT20 / 2412 MHz / Average / Port 2 / 6GHz~9GHz


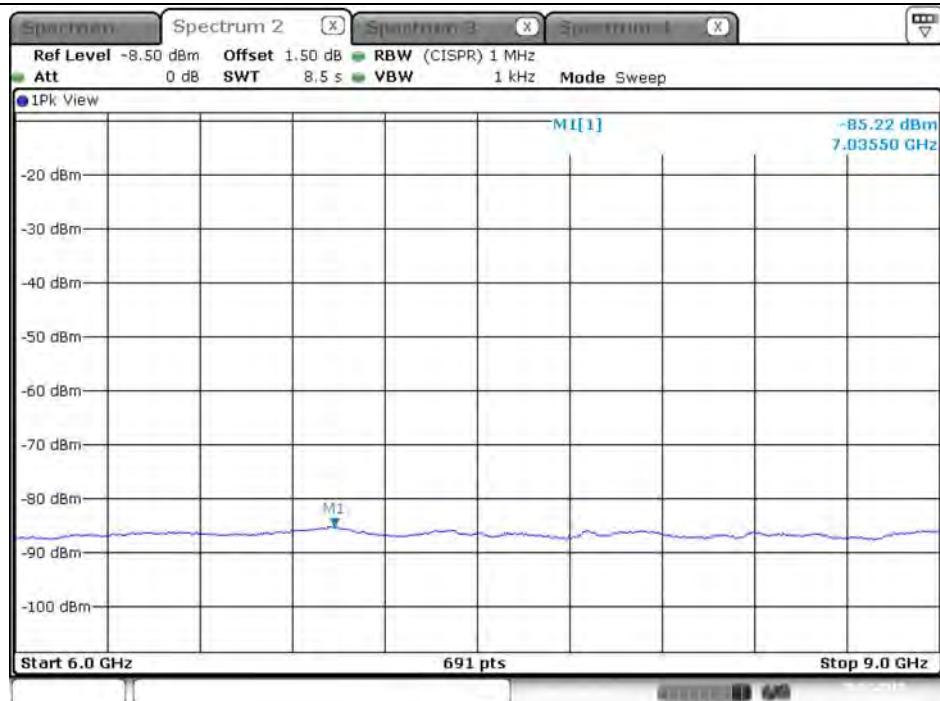
Date: 28.FEB.2018 11:16:29

Plot on Configuration VHT20 / 2412 MHz / Peak / Port 1 / 6GHz~9GHz


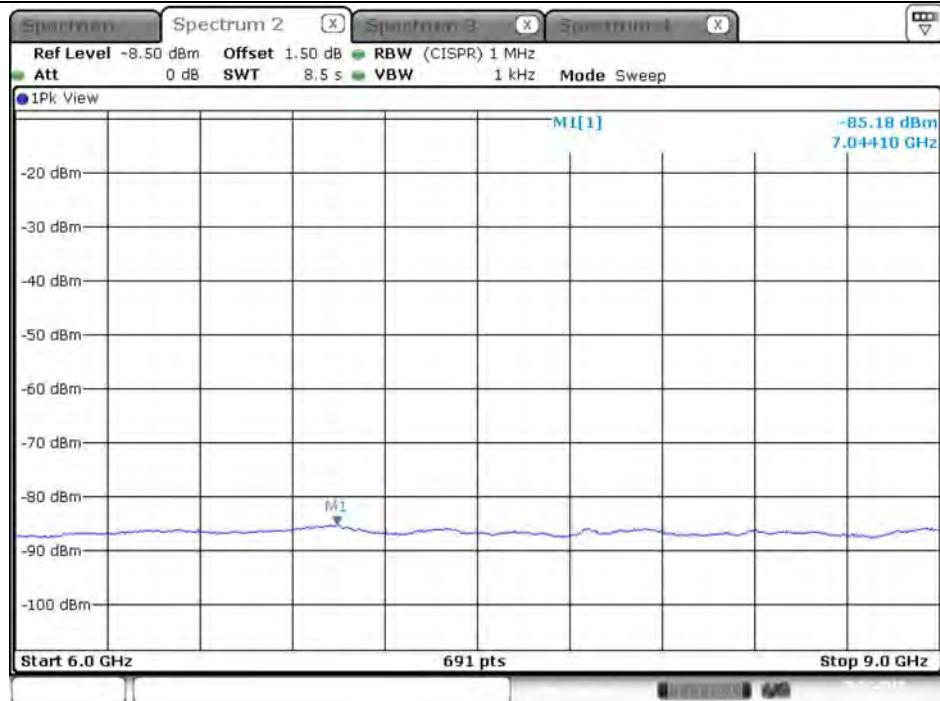
Date: 28.FEB.2018 11:00:05

Plot on Configuration VHT20 / 2412 MHz / Peak / Port 2 / 6GHz~9GHz


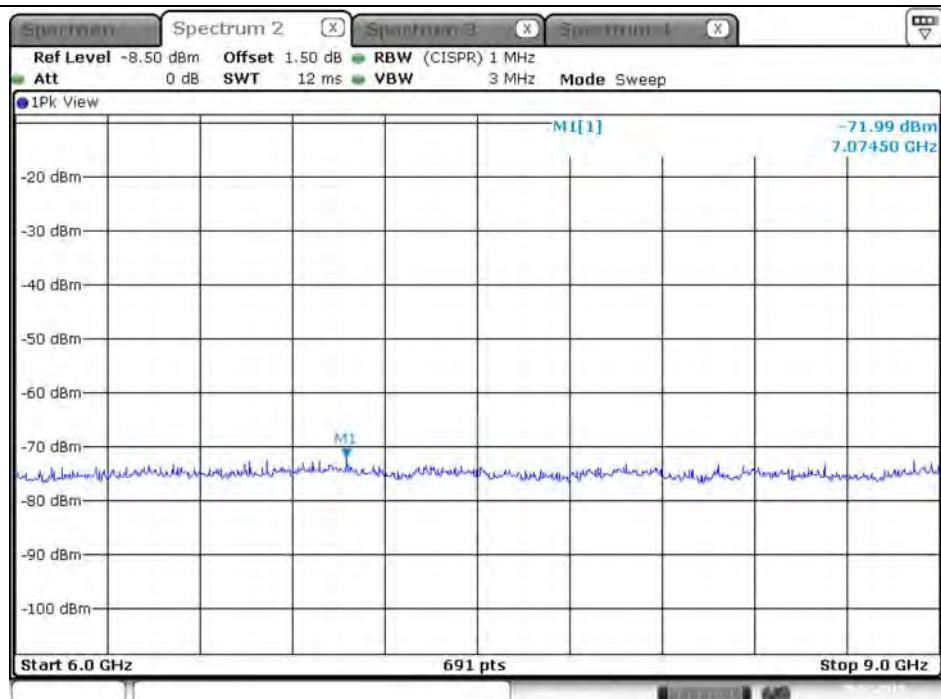
Date: 28.FEB.2018 11:17:23

Plot on Configuration VHT20 / 2437 MHz / Average / Port 1 / 6GHz~9GHz


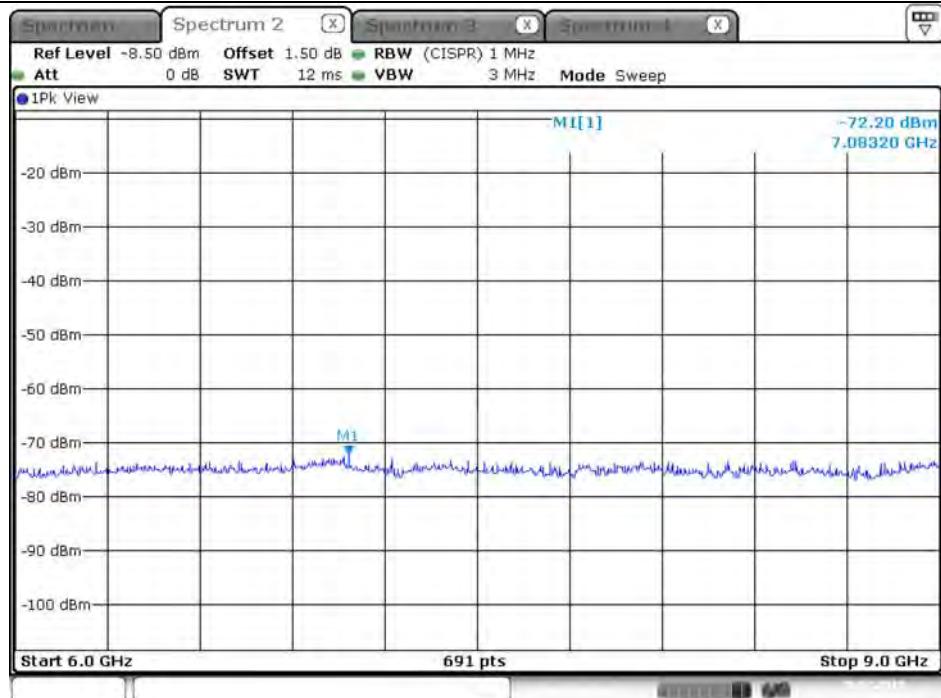
Date: 28.FEB.2018 11:25:45

Plot on Configuration VHT20 / 2437 MHz / Average / Port 2 / 6GHz~9GHz


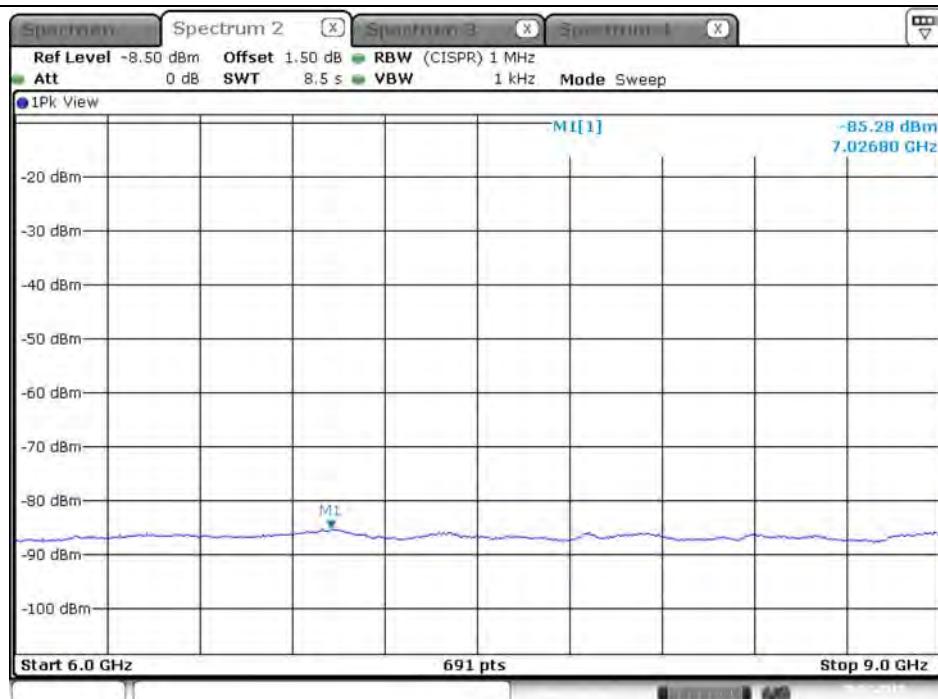
Date: 28.FEB.2018 11:43:37

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 1 / 6GHz~9GHz


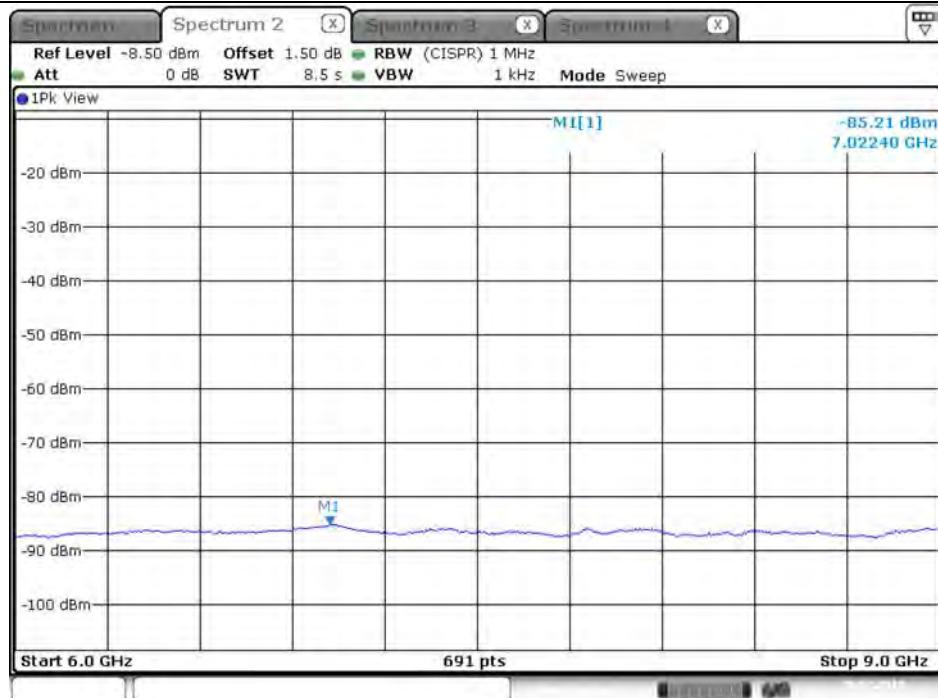
Date: 28.FEB.2018 11:26:53

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 2 / 6GHz~9GHz


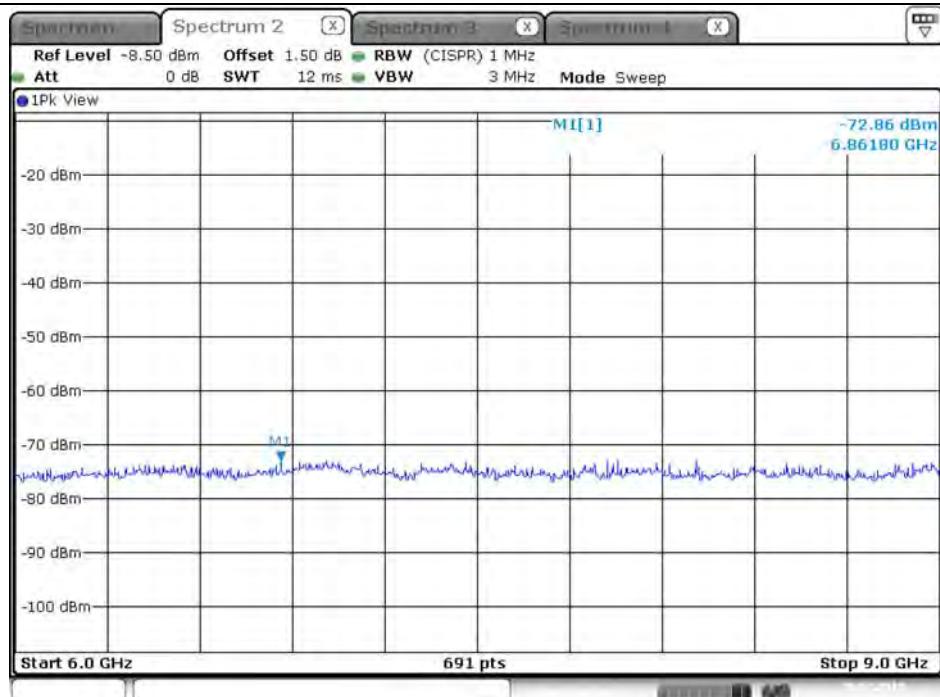
Date: 28.FEB.2018 11:44:46

Plot on Configuration VHT20 / 2462 MHz / Average / Port 1 / 6GHz~9GHz


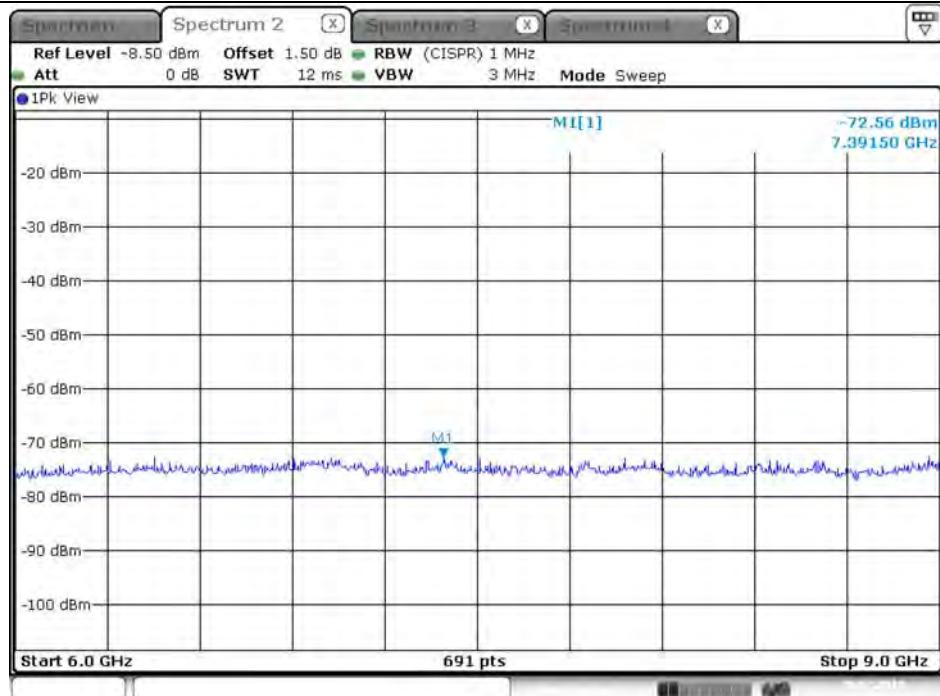
Date: 28.FEB.2018 11:54:34

Plot on Configuration VHT20 / 2462 MHz / Average / Port 2 / 6GHz~9GHz


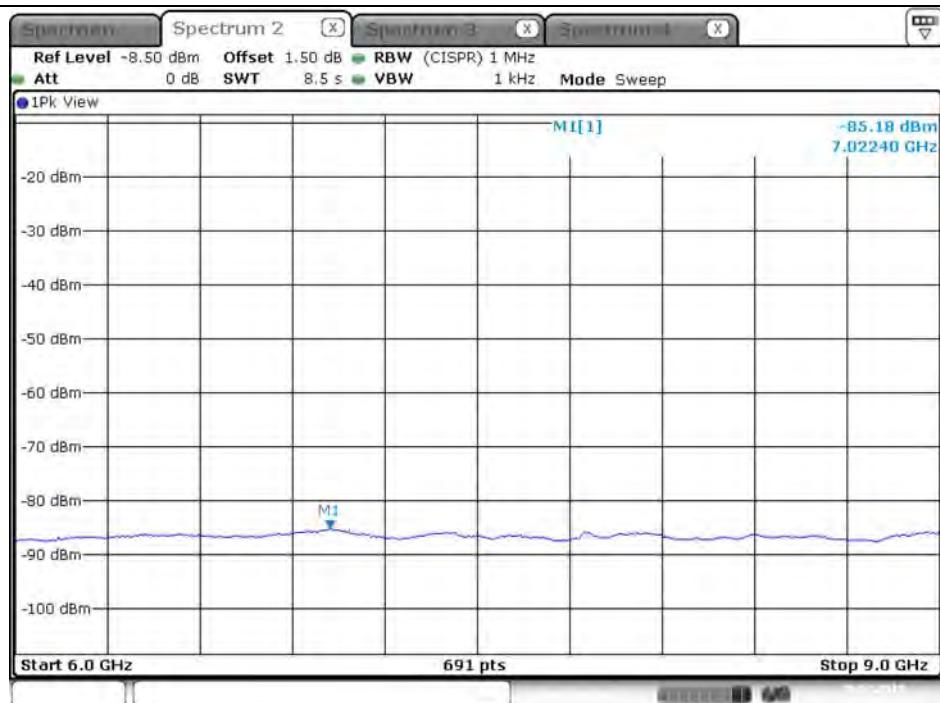
Date: 28.FEB.2018 13:42:15

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 1 / 6GHz~9GHz


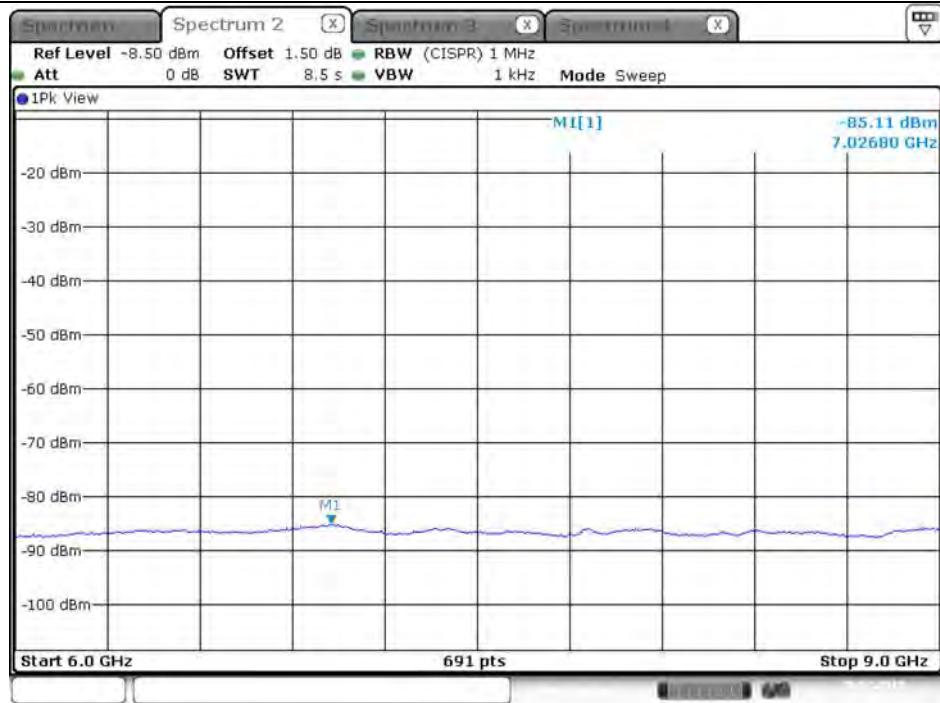
Date: 28.FEB.2018 11:55:16

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 2 / 6GHz~9GHz


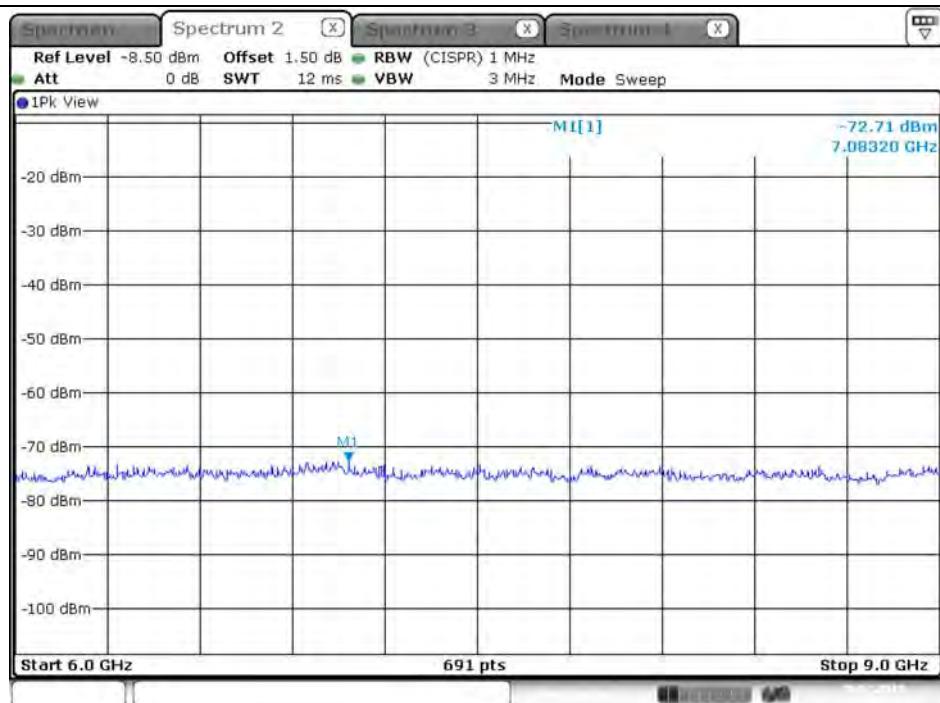
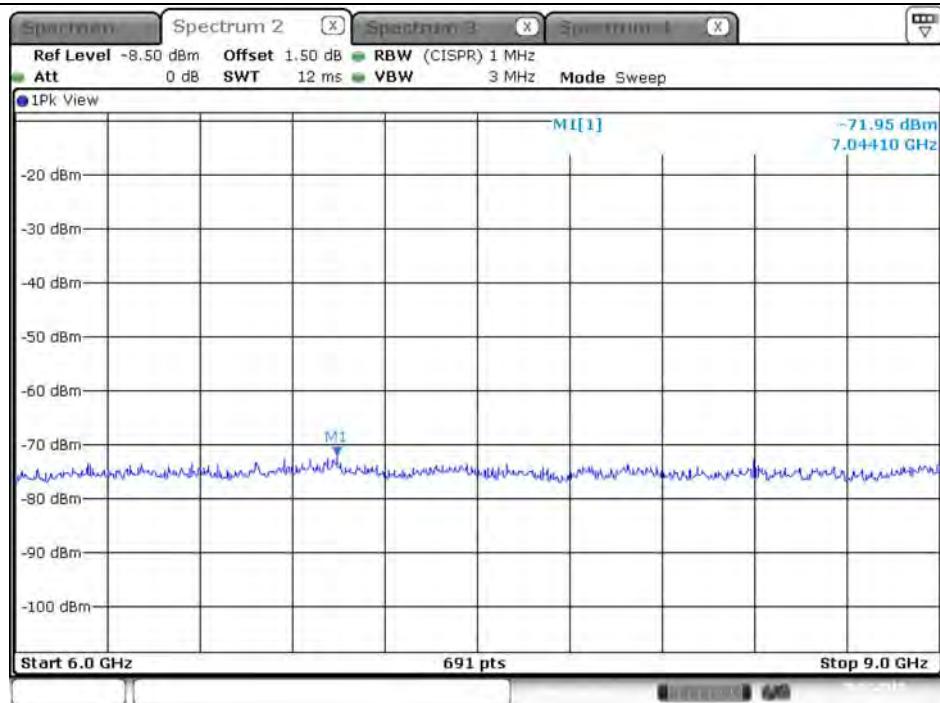
Date: 28.FEB.2018 13:43:19

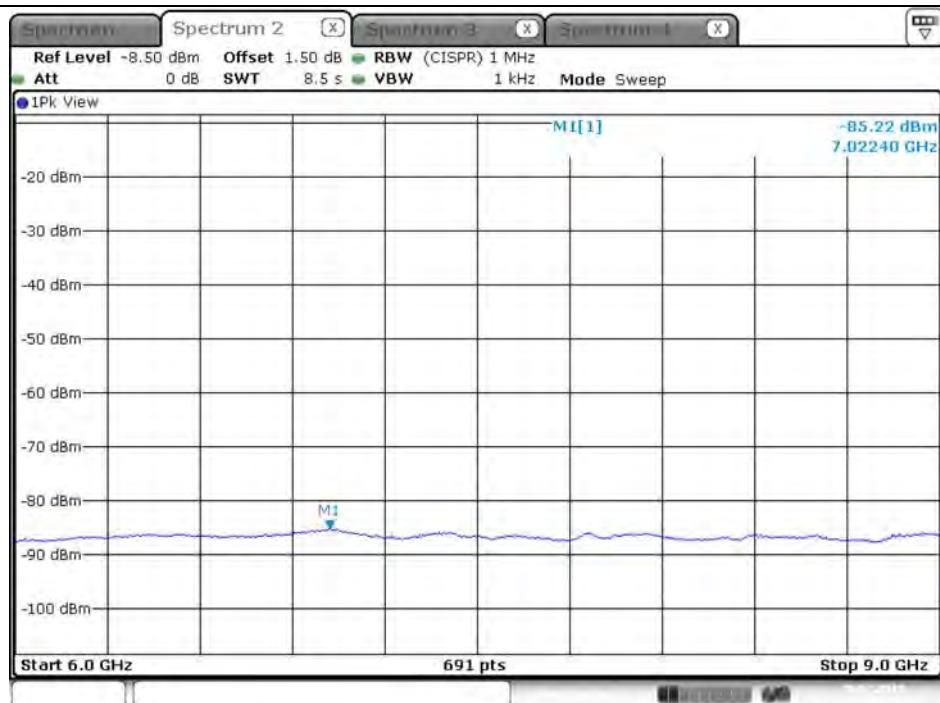
Plot on Configuration VHT40 / 2422 MHz / Average / Port 1 / 6GHz~9GHz


Date: 28.FEB.2018 13:52:14

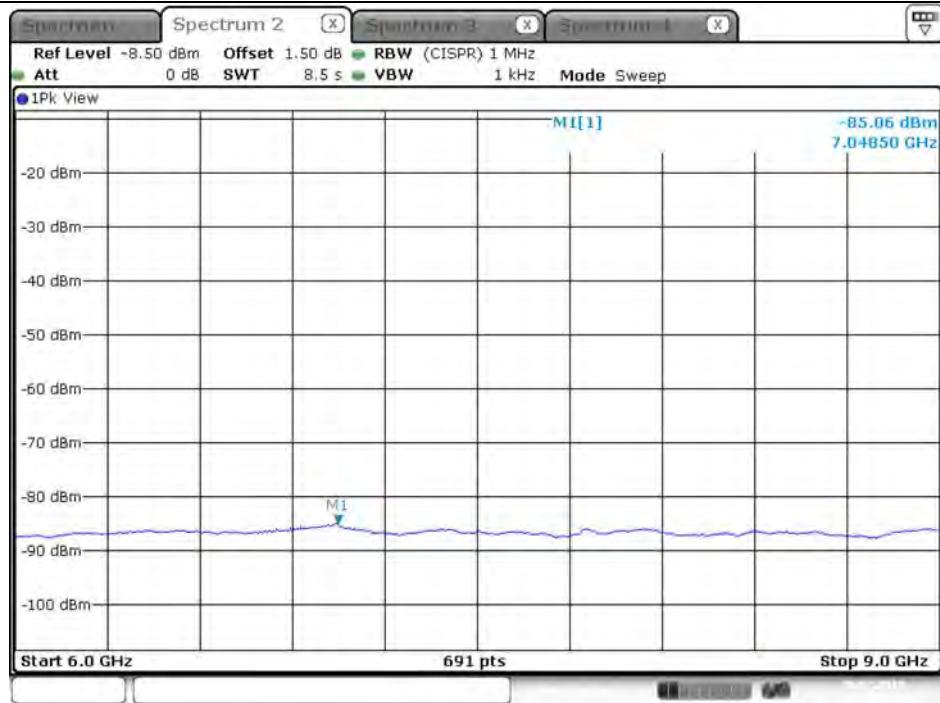
Plot on Configuration VHT40 / 2422 MHz / Average / Port 2 / 6GHz~9GHz


Date: 28.FEB.2018 14:07:32

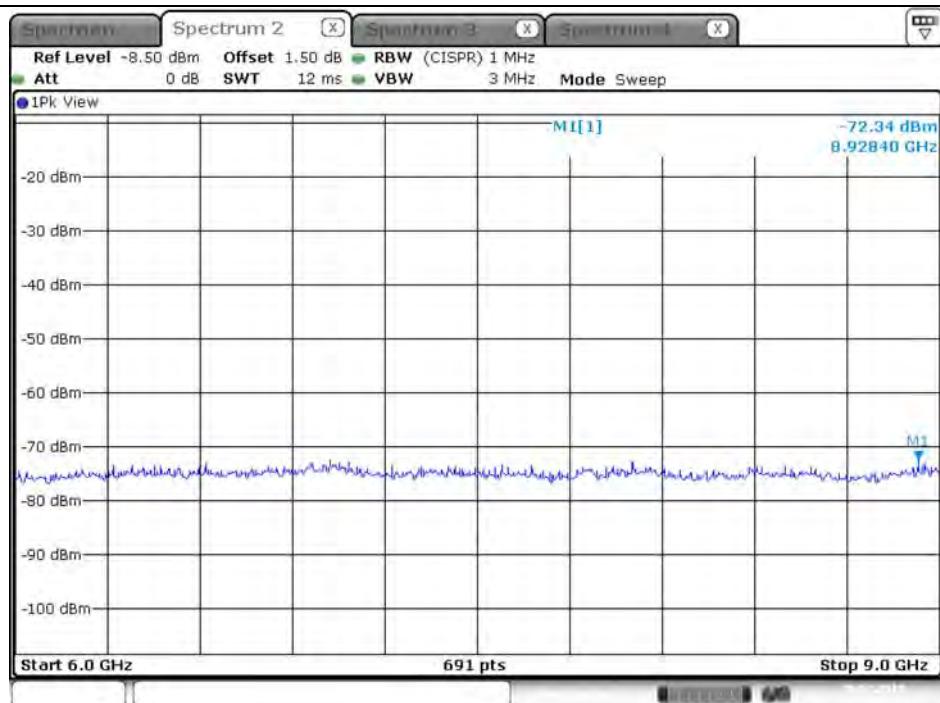
Plot on Configuration VHT40 / 2422 MHz / Peak / Port 1 / 6GHz~9GHz

Plot on Configuration VHT40 / 2422 MHz / Peak / Port 2 / 6GHz~9GHz


Plot on Configuration VHT40 / 2437 MHz / Average / Port 1 / 6GHz~9GHz


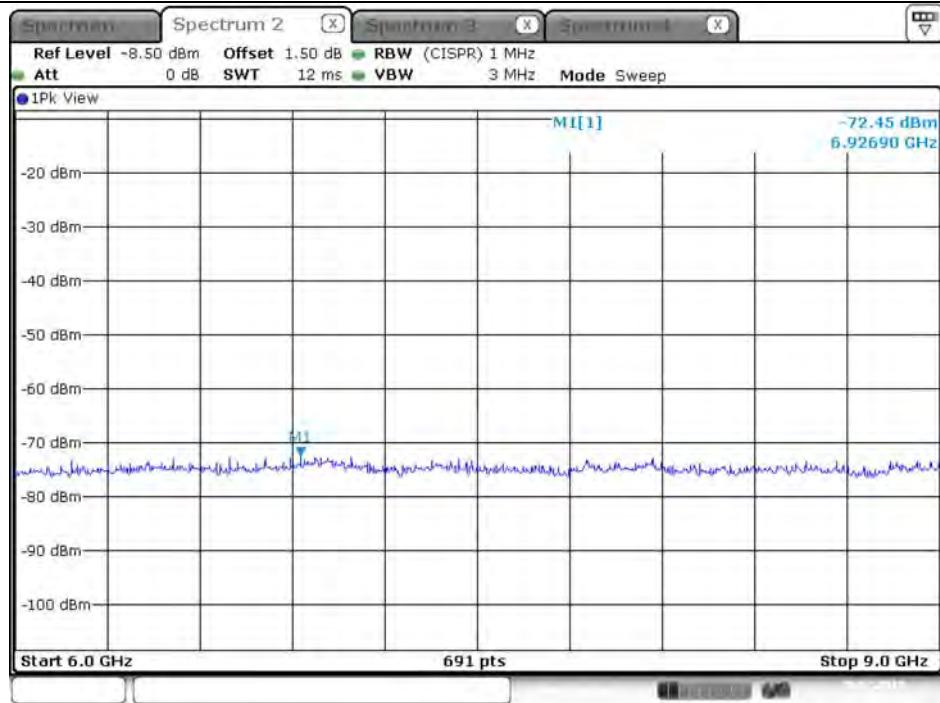
Date: 28.FEB.2018 14:14:35

Plot on Configuration VHT40 / 2437 MHz / Average / Port 2 / 6GHz~9GHz


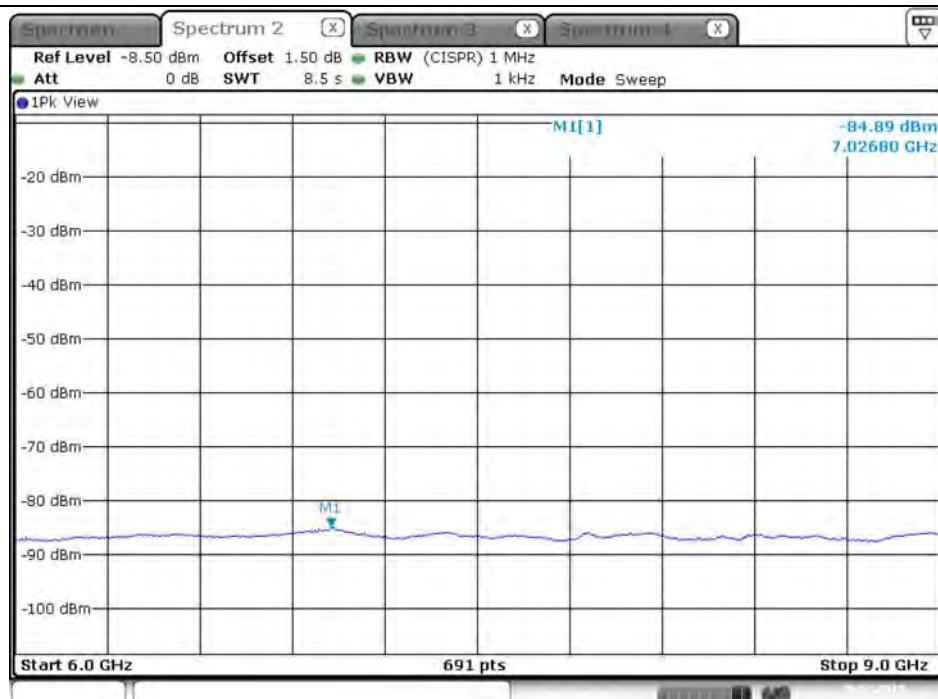
Date: 28.FEB.2018 14:37:23

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 1 / 6GHz~9GHz


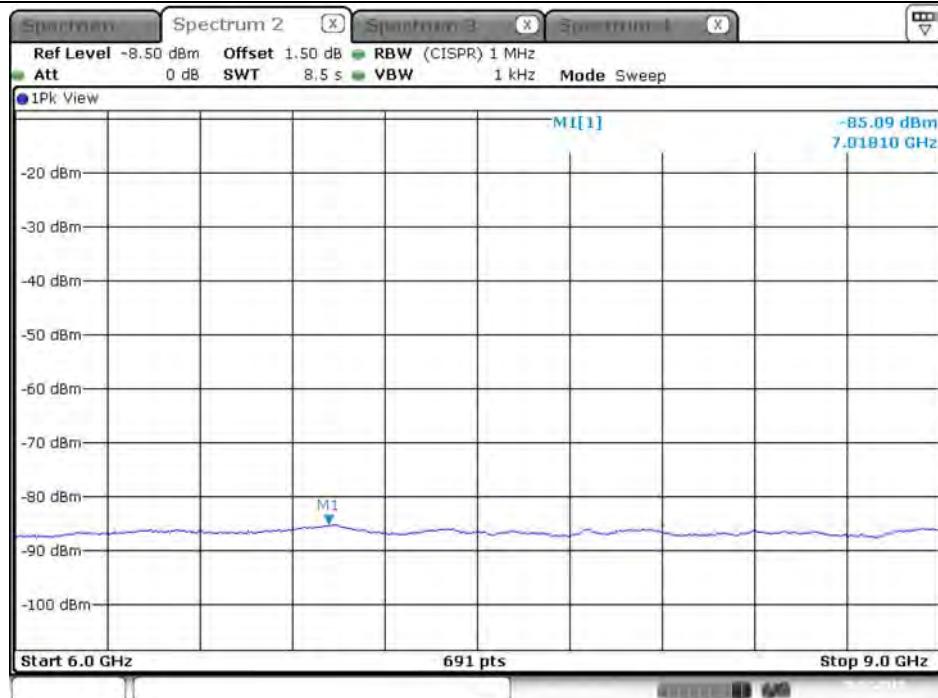
Date: 28.FEB.2018 14:16:12

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 2 / 6GHz~9GHz


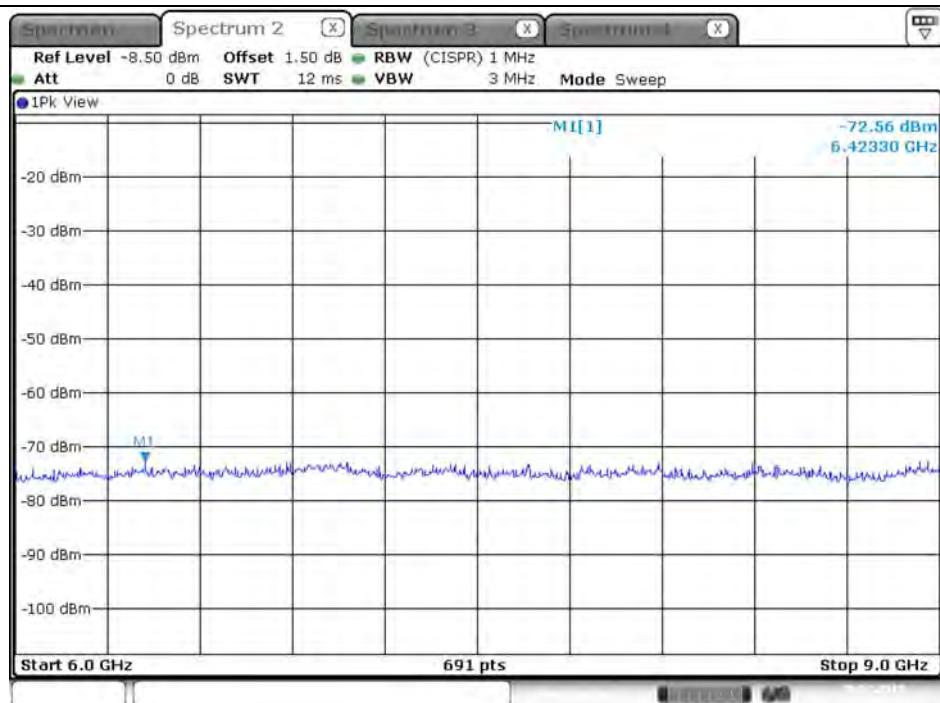
Date: 28.FEB.2018 14:38:26

Plot on Configuration VHT40 / 2452 MHz / Average / Port 1 / 6GHz~9GHz


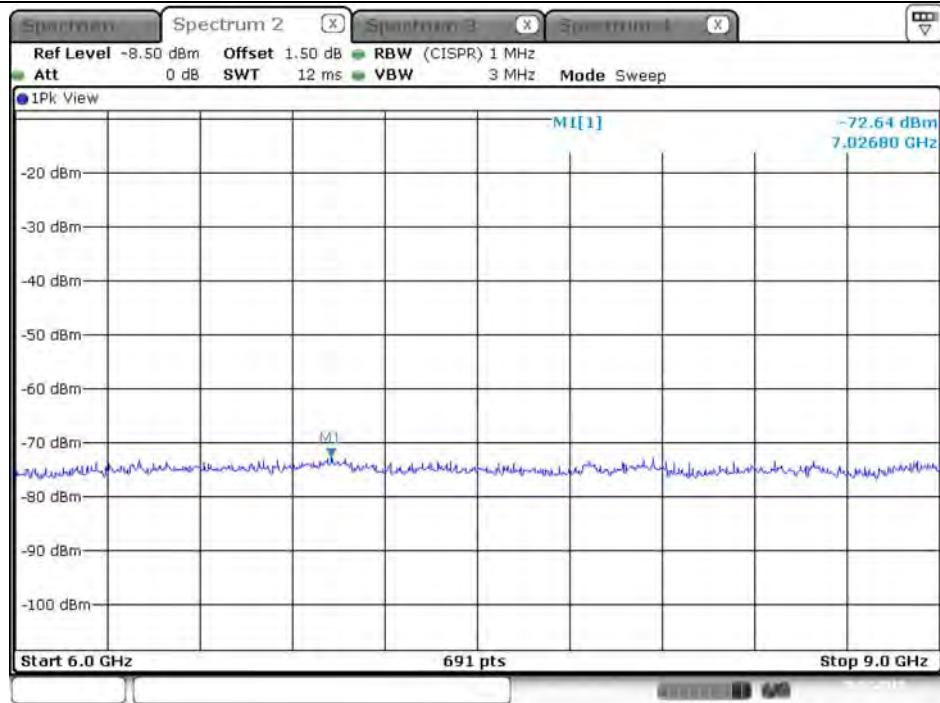
Date: 28.FEB.2018 14:46:28

Plot on Configuration VHT40 / 2452 MHz / Average / Port 2 / 6GHz~9GHz


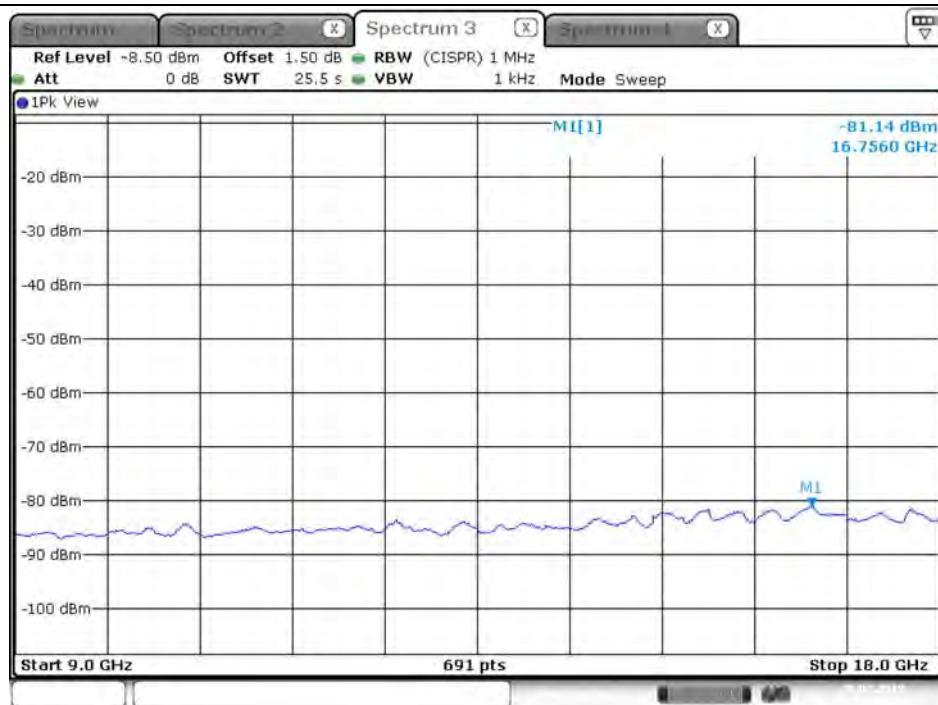
Date: 28.FEB.2018 15:06:54

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 1 / 6GHz~9GHz


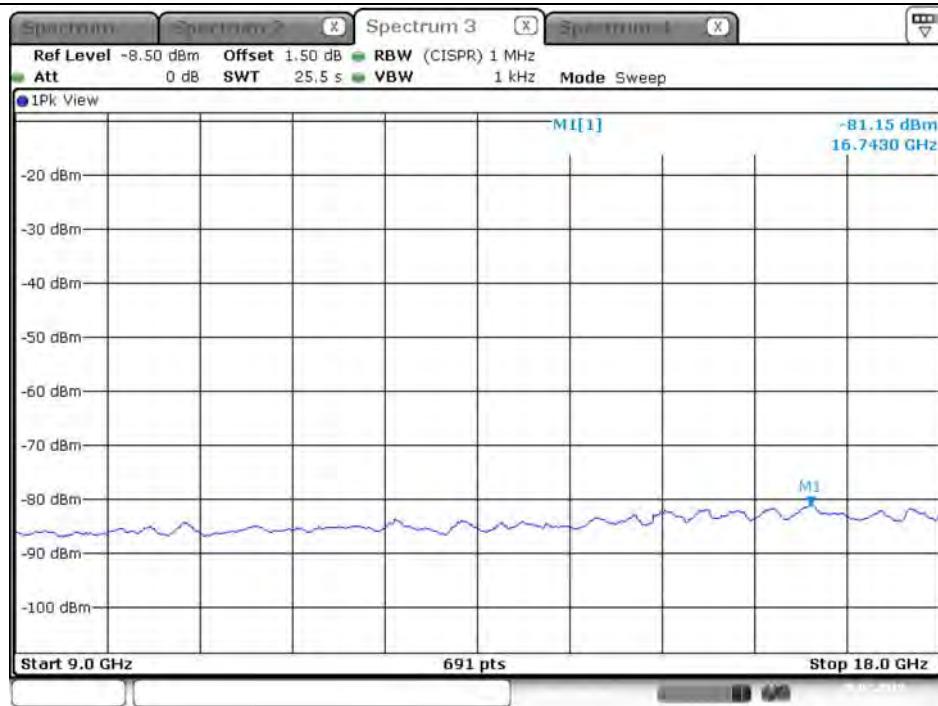
Date: 28.FEB.2018 14:47:29

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 2 / 6GHz~9GHz


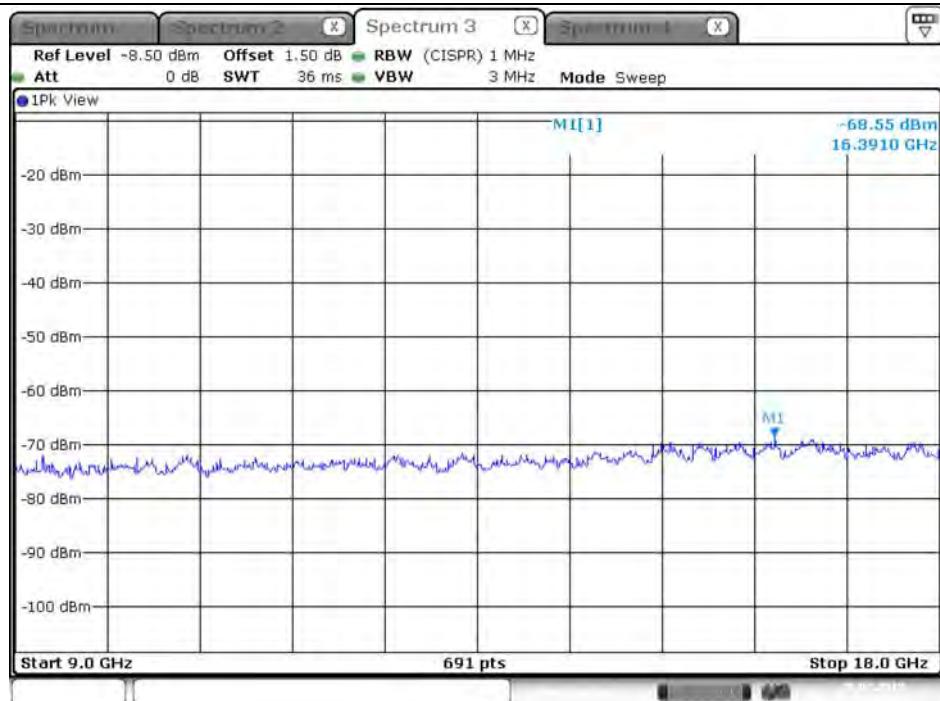
Date: 28.FEB.2018 15:08:20

Plot on Configuration VHT20 / 2412 MHz / Average / Port 1 / 9GHz~18GHz


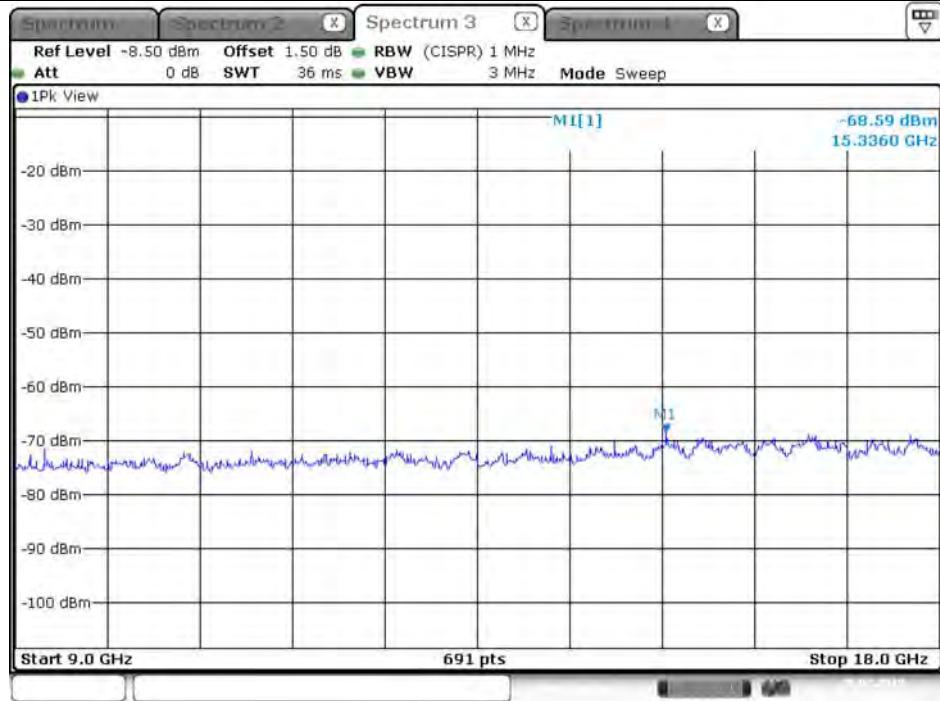
Date: 28.FEB.2018 11:02:00

Plot on Configuration VHT20 / 2412 MHz / Average / Port 2 / 9GHz~18GHz


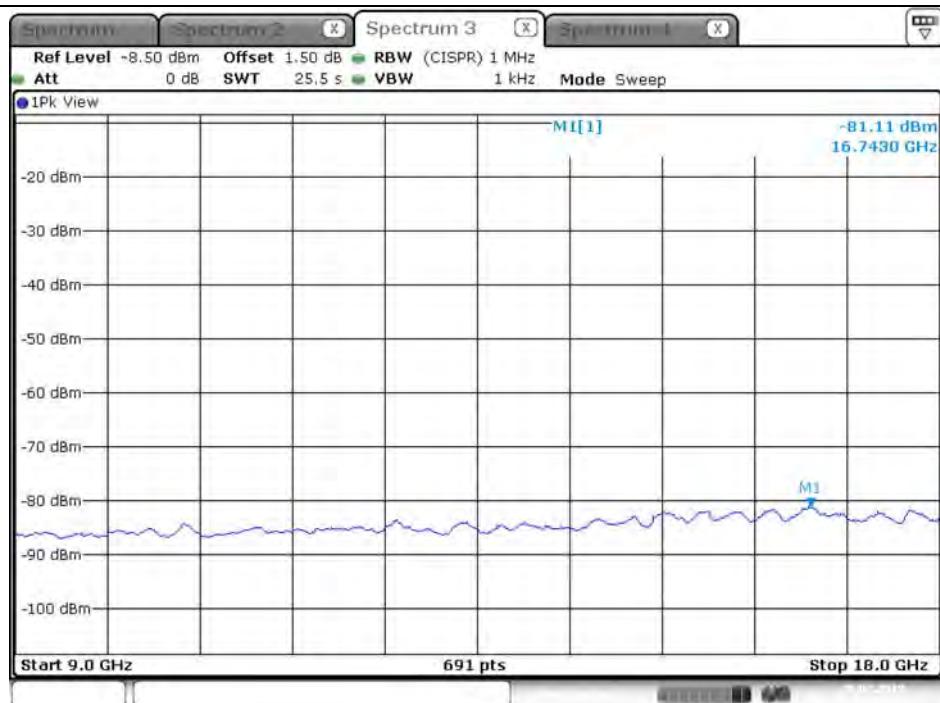
Date: 28.FEB.2018 11:14:05

Plot on Configuration VHT20 / 2412 MHz / Peak / Port 1 / 9GHz~18GHz


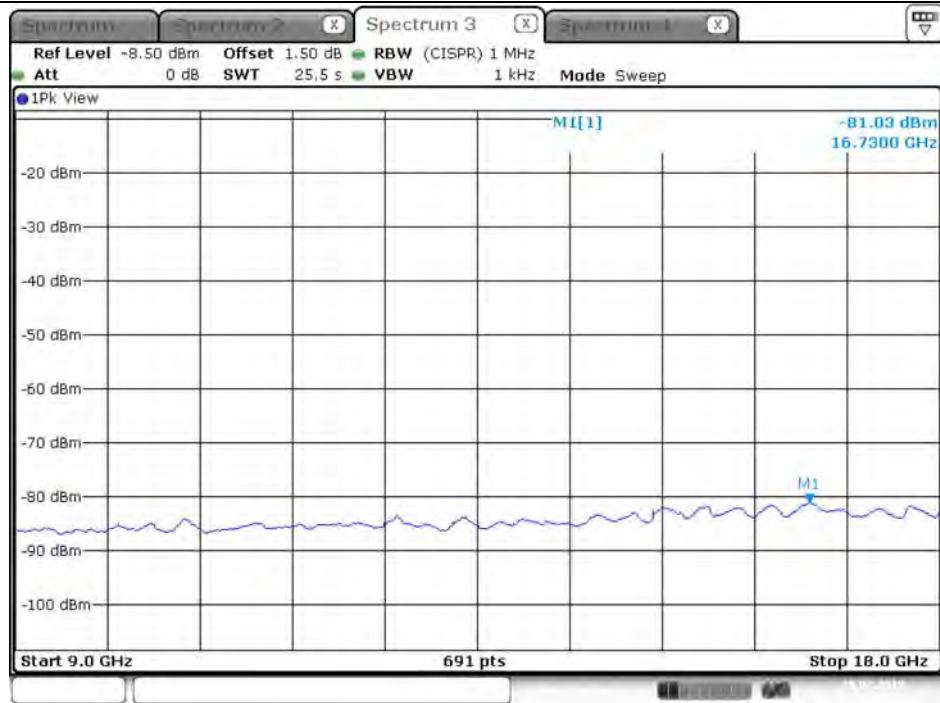
Date: 28.FEB.2018 11:02:49

Plot on Configuration VHT20 / 2412 MHz / Peak / Port 2 / 9GHz~18GHz


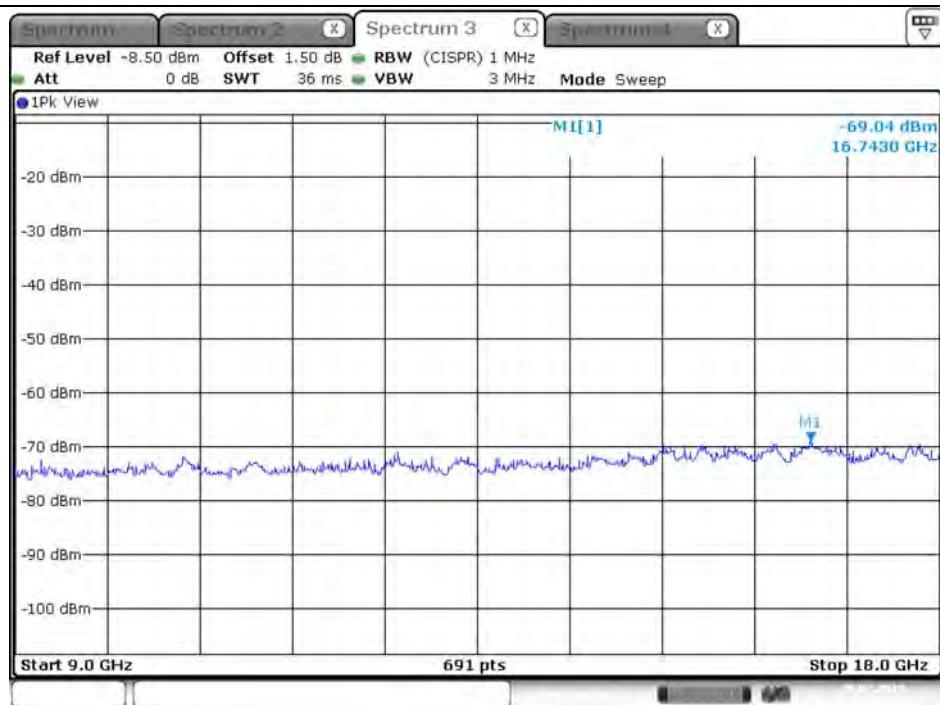
Date: 28.FEB.2018 11:15:09

Plot on Configuration VHT20 / 2437 MHz / Average / Port 1 / 9GHz~18GHz


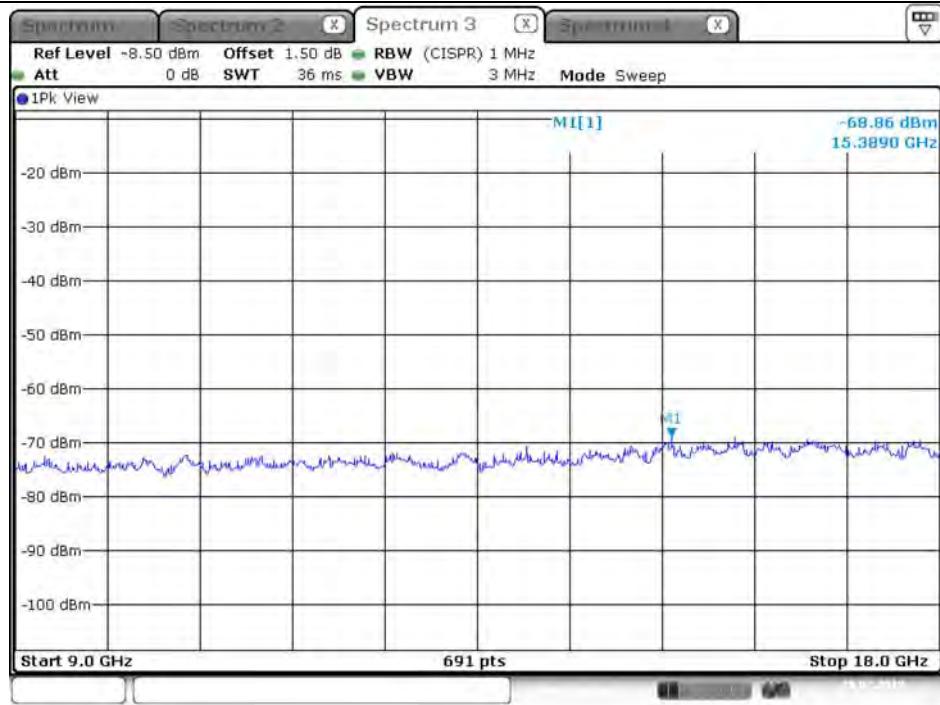
Date: 28.FEB.2018 11:30:30

Plot on Configuration VHT20 / 2437 MHz / Average / Port 2 / 9GHz~18GHz


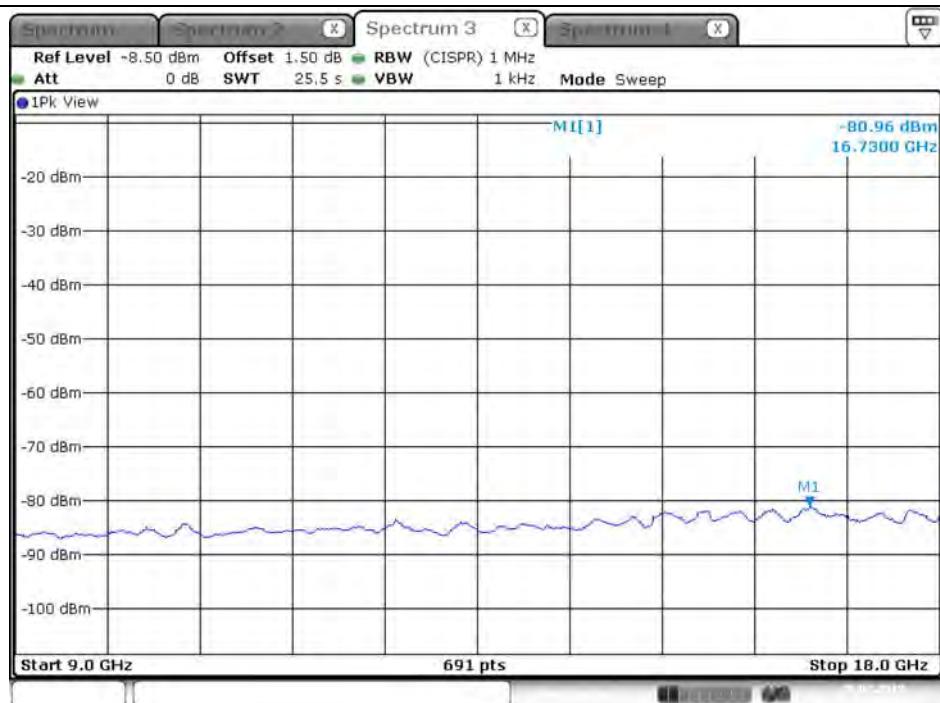
Date: 28.FEB.2018 11:41:22

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 1 / 9GHz~18GHz


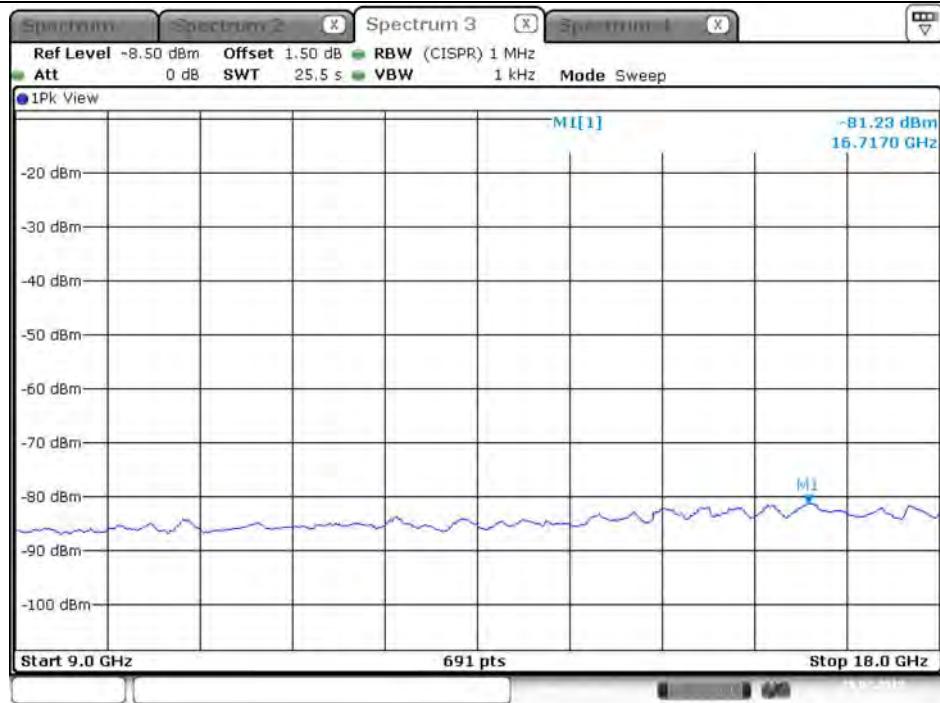
Date: 28.FEB.2018 11:31:25

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 2 / 9GHz~18GHz


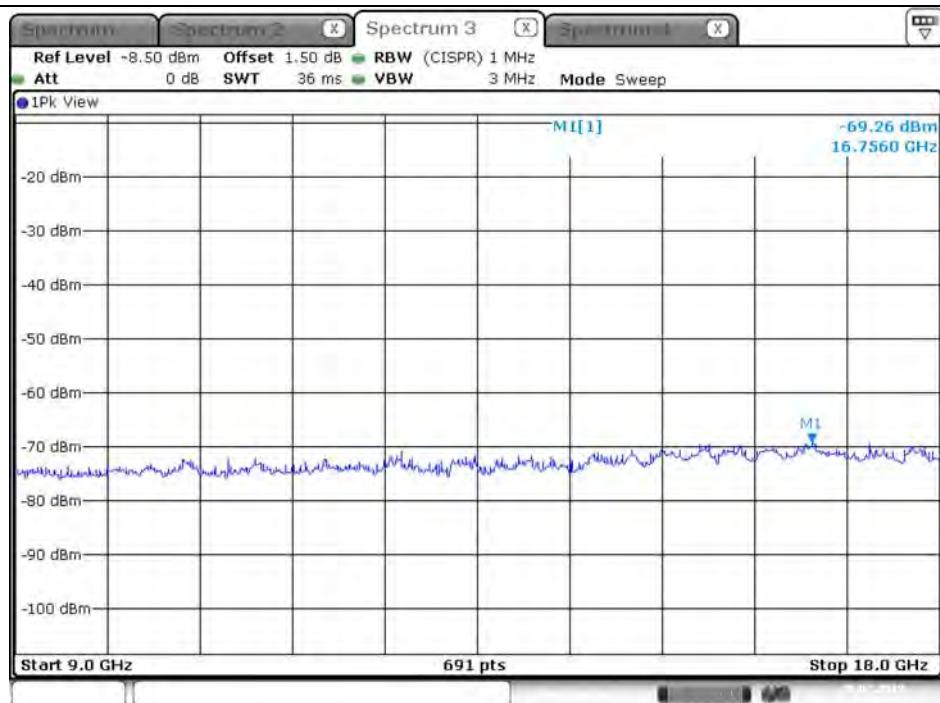
Date: 28.FEB.2018 11:42:15

Plot on Configuration VHT20 / 2462 MHz / Average / Port 1 / 9GHz~18GHz


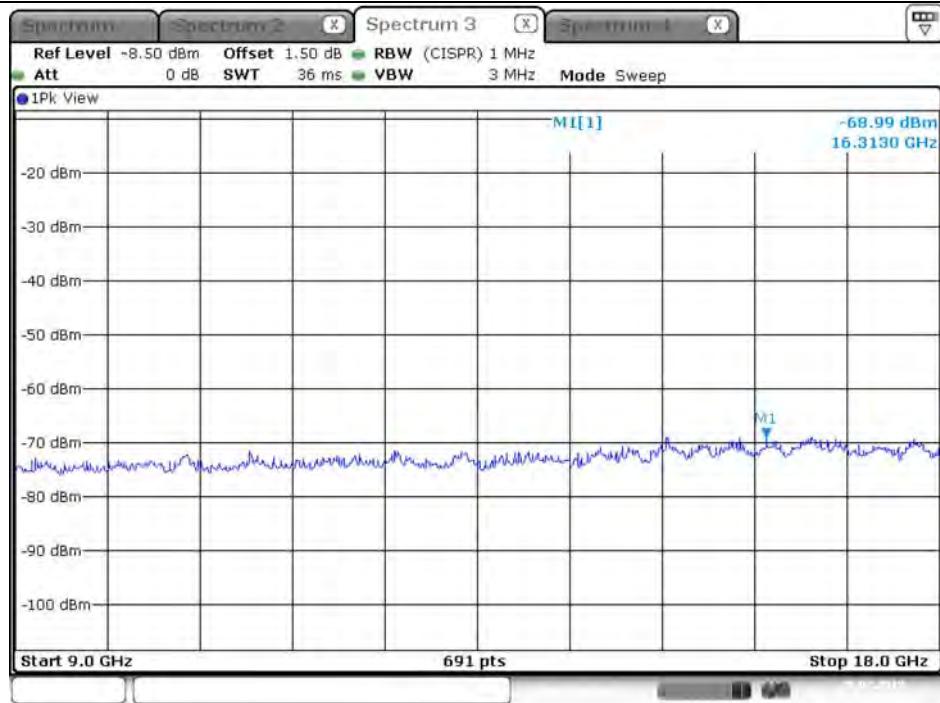
Date: 28.FEB.2018 11:56:47

Plot on Configuration VHT20 / 2462 MHz / Average / Port 2 / 9GHz~18GHz


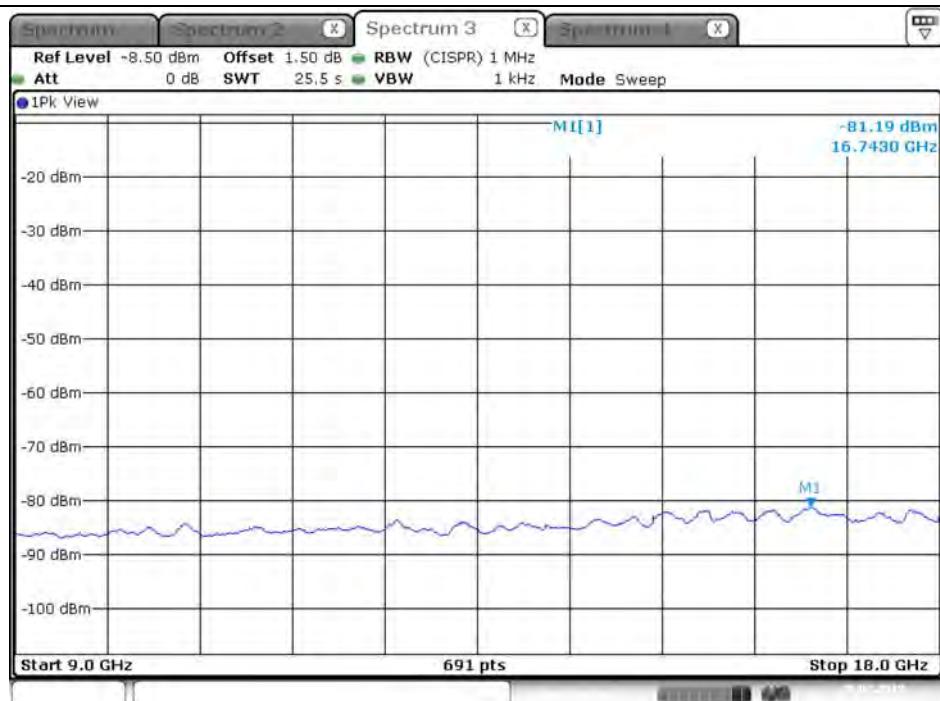
Date: 28.FEB.2018 12:04:17

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 1 / 9GHz~18GHz


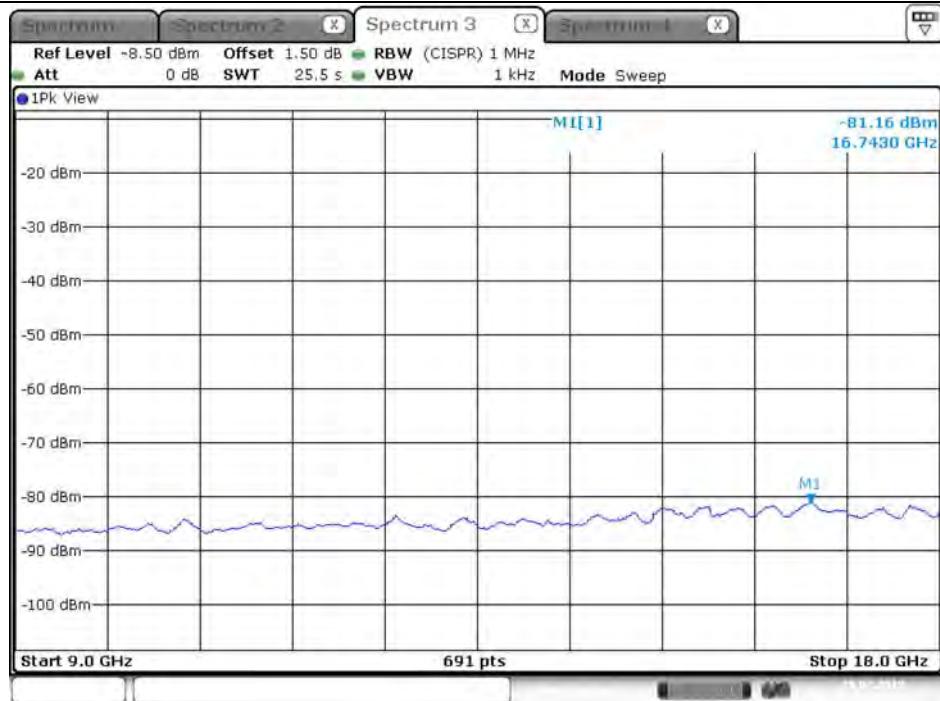
Date: 28.FEB.2018 11:57:26

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 2 / 9GHz~18GHz


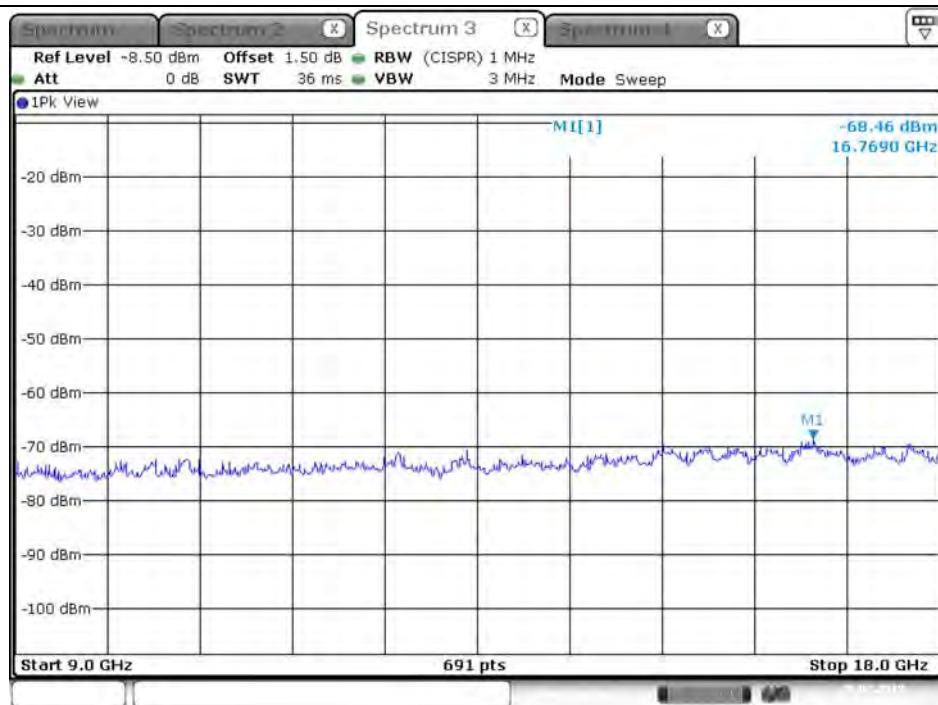
Date: 28.FEB.2018 12:05:06

Plot on Configuration VHT40 / 2422 MHz / Average / Port 1 / 9GHz~18GHz


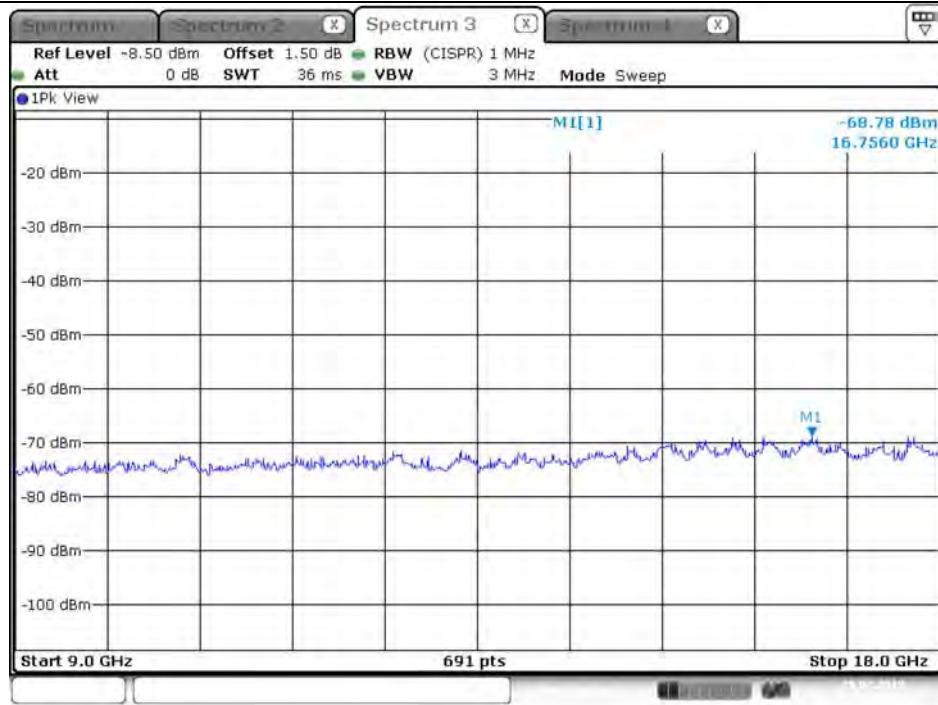
Date: 28.FEB.2018 13:54:20

Plot on Configuration VHT40 / 2422 MHz / Average / Port 2 / 9GHz~18GHz


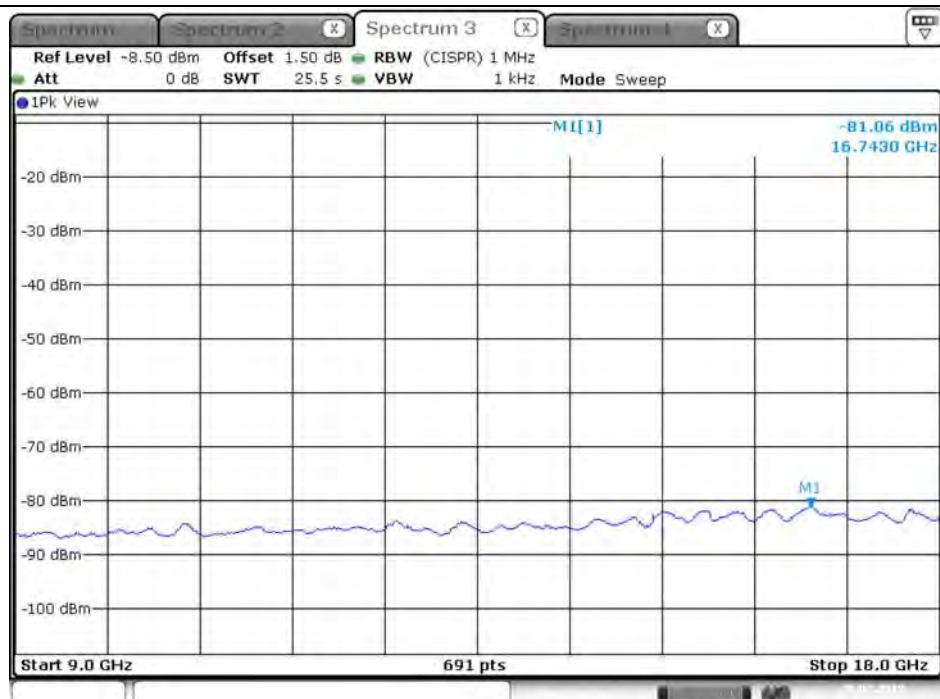
Date: 28.FEB.2018 14:03:32

Plot on Configuration VHT40 / 2422 MHz / Peak / Port 1 / 9GHz~18GHz


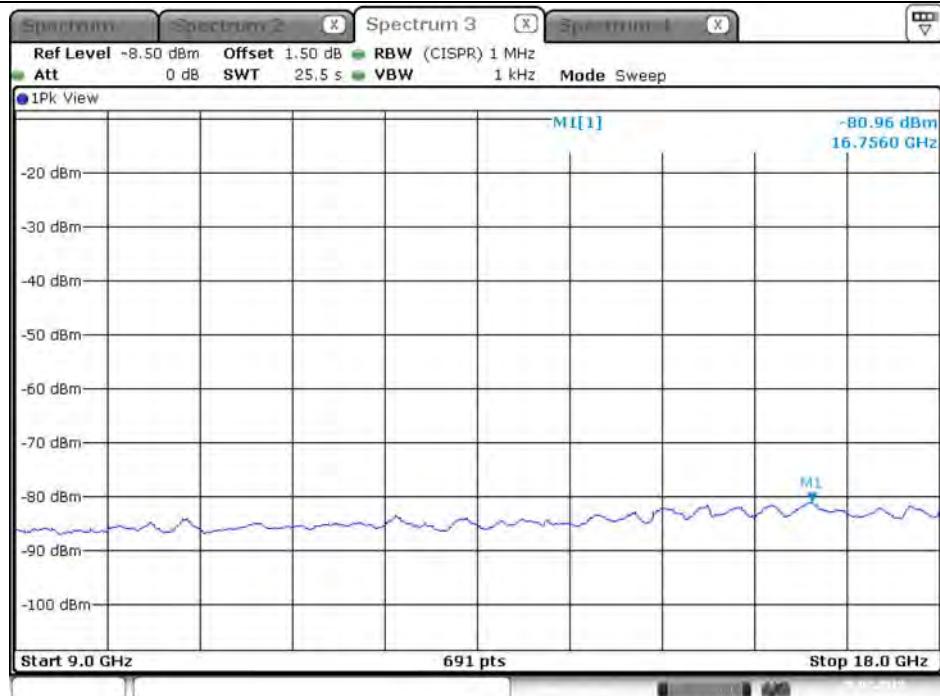
Date: 28.FEB.2018 13:55:07

Plot on Configuration VHT40 / 2422 MHz / Peak / Port 2 / 9GHz~18GHz


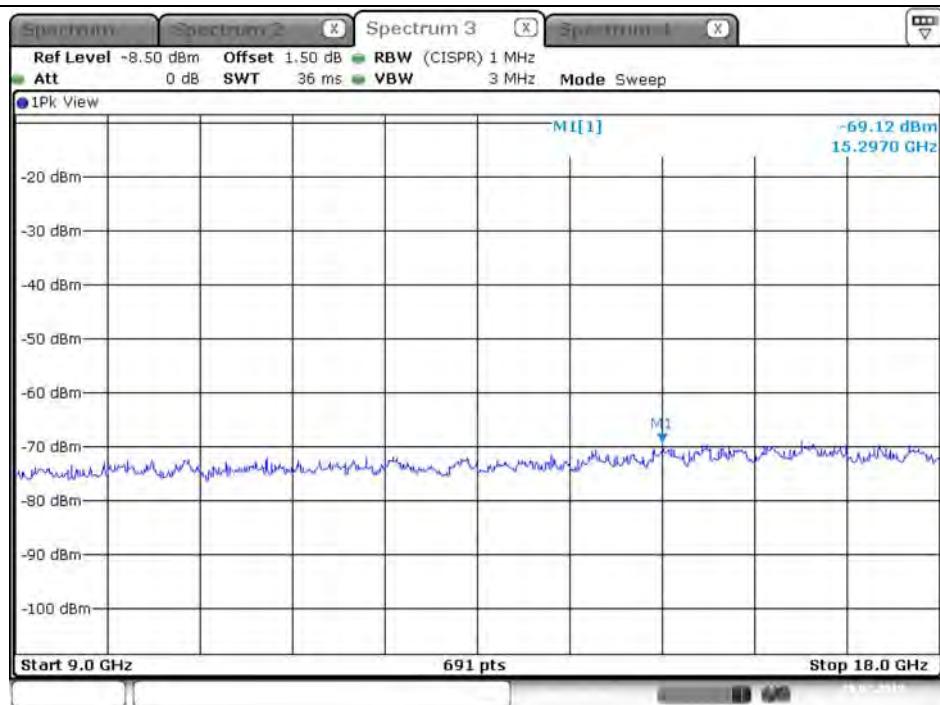
Date: 28.FEB.2018 14:05:16

Plot on Configuration VHT40 / 2437 MHz / Average / Port 1 / 9GHz~18GHz


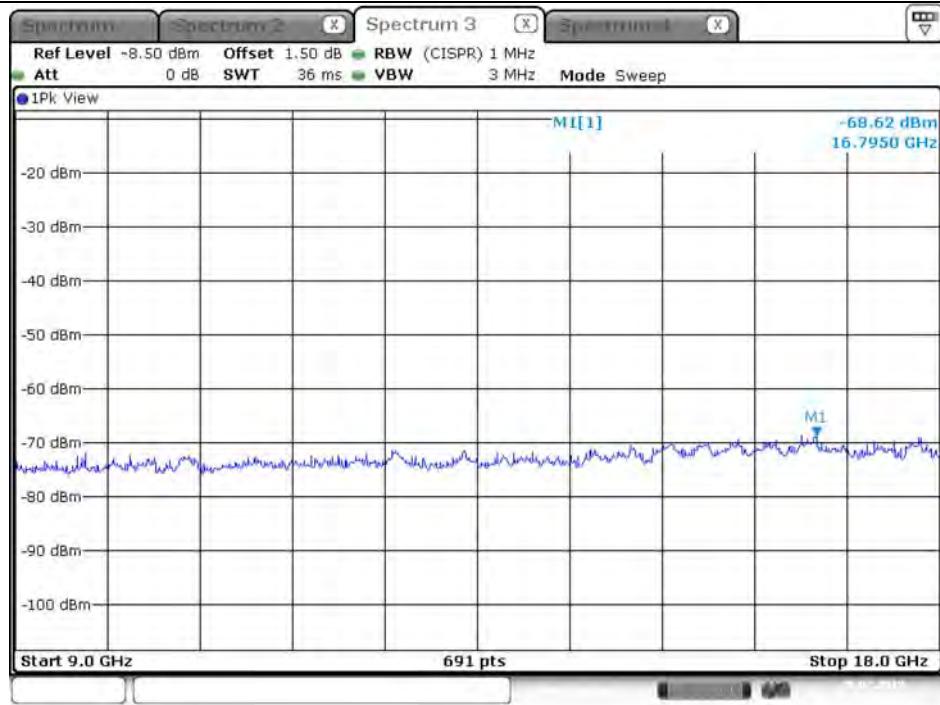
Date: 28.FEB.2018 14:18:47

Plot on Configuration VHT40 / 2437 MHz / Average / Port 2 / 9GHz~18GHz


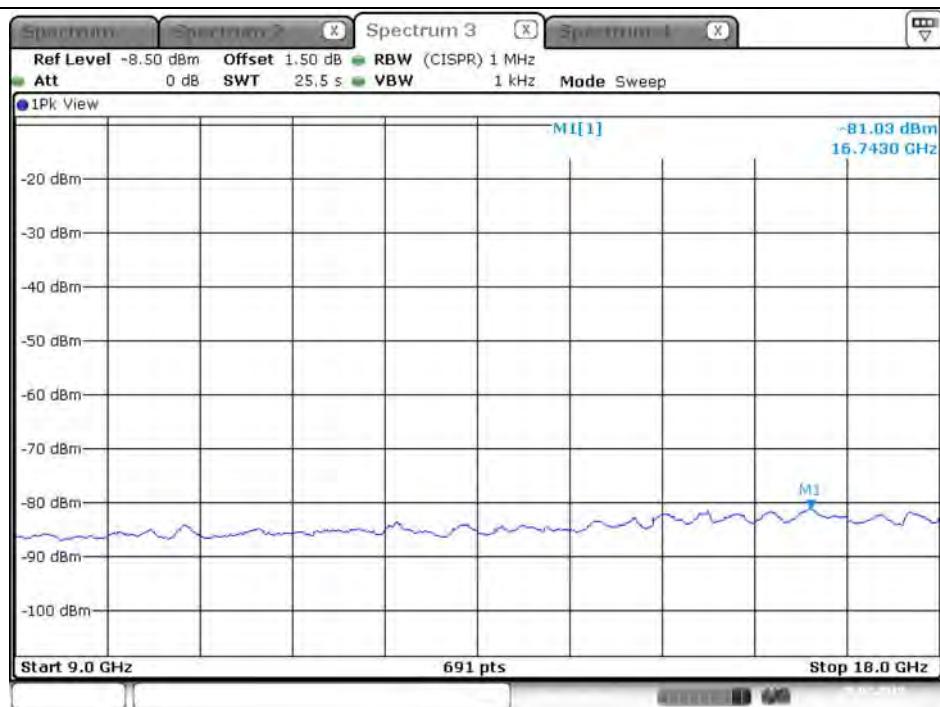
Date: 28.FEB.2018 14:34:51

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 1 / 9GHz~18GHz


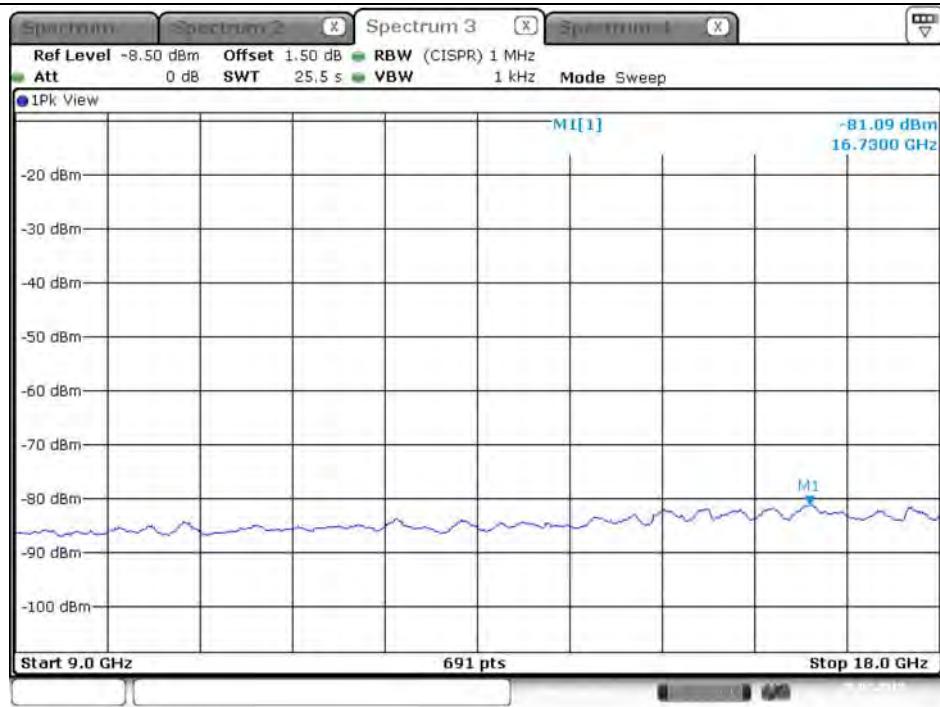
Date: 28.FEB.2018 14:19:32

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 2 / 9GHz~18GHz


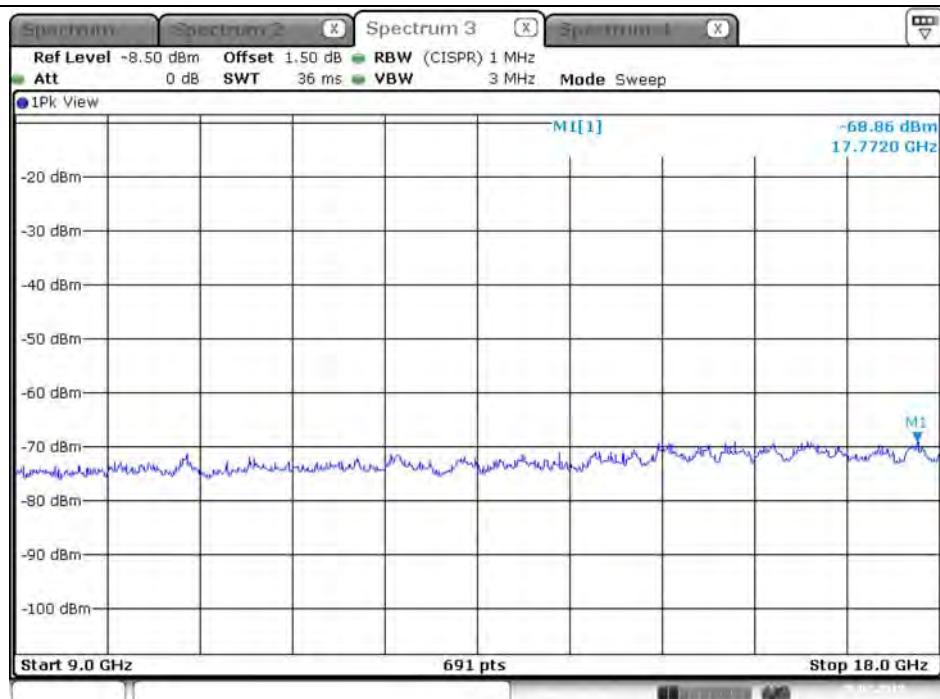
Date: 28.FEB.2018 14:36:01

Plot on Configuration VHT40 / 2452 MHz / Average / Port 1 / 9GHz~18GHz


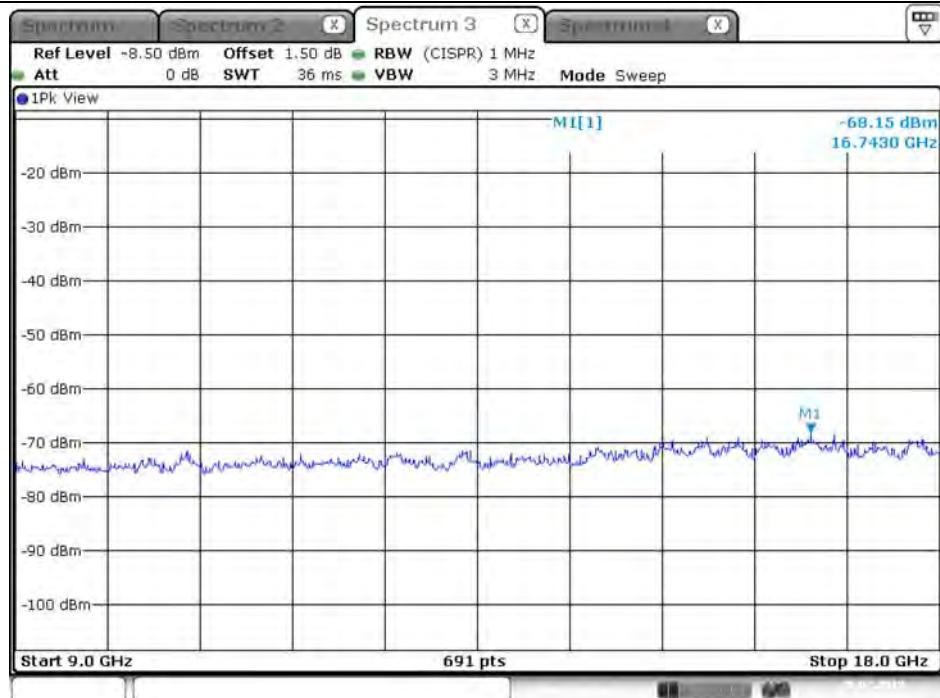
Date: 28.FEB.2018 14:55:10

Plot on Configuration VHT40 / 2452 MHz / Average / Port 2 / 9GHz~18GHz


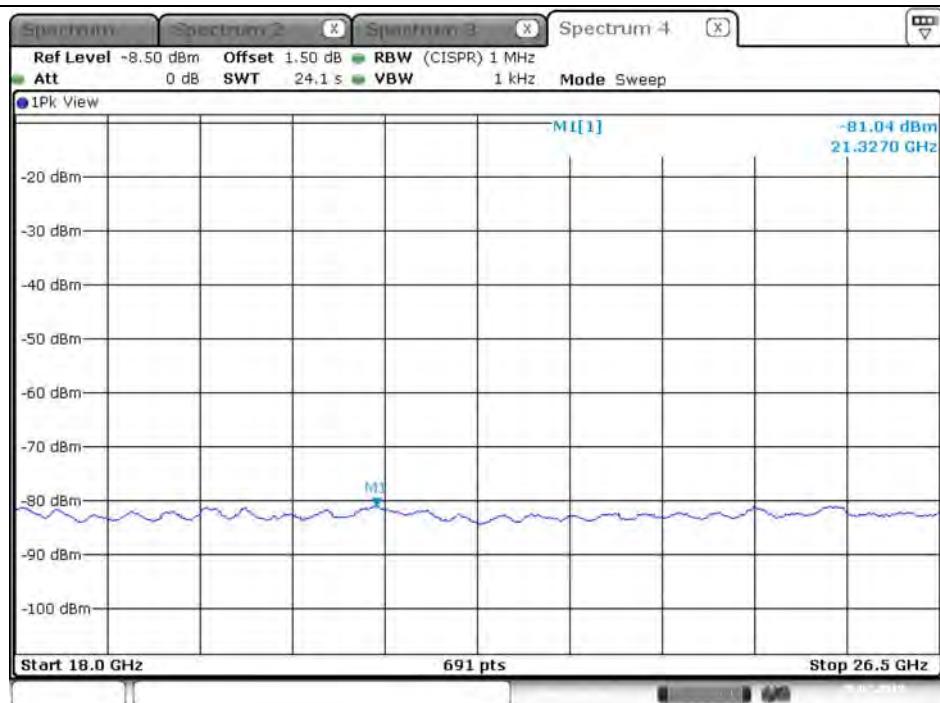
Date: 28.FEB.2018 15:04:06

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 1 / 9GHz~18GHz


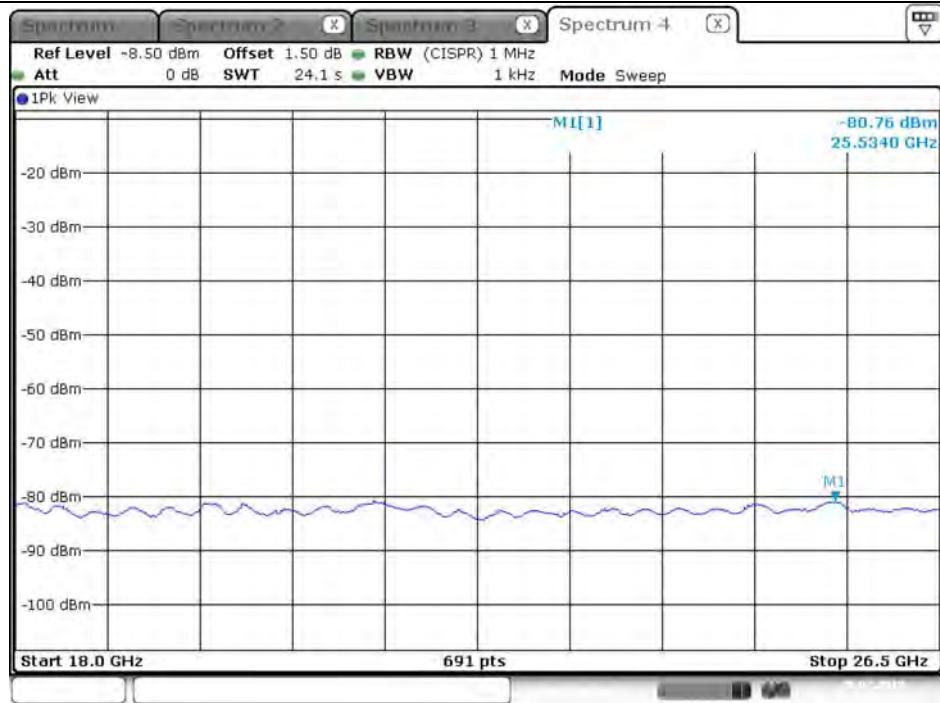
Date: 28.FEB.2018 14:55:58

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 2 / 9GHz~18GHz


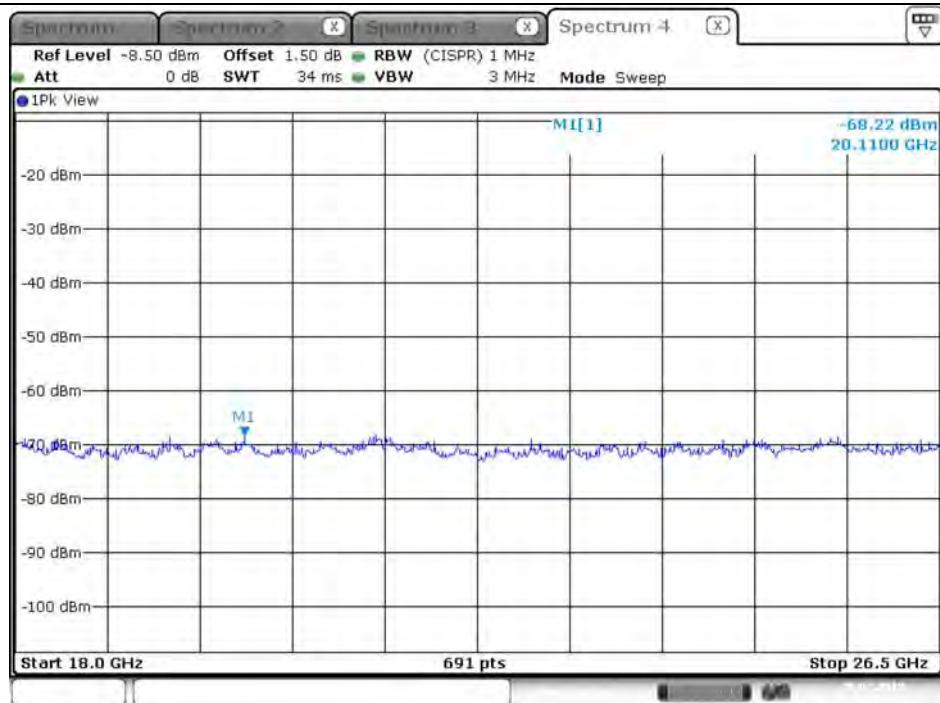
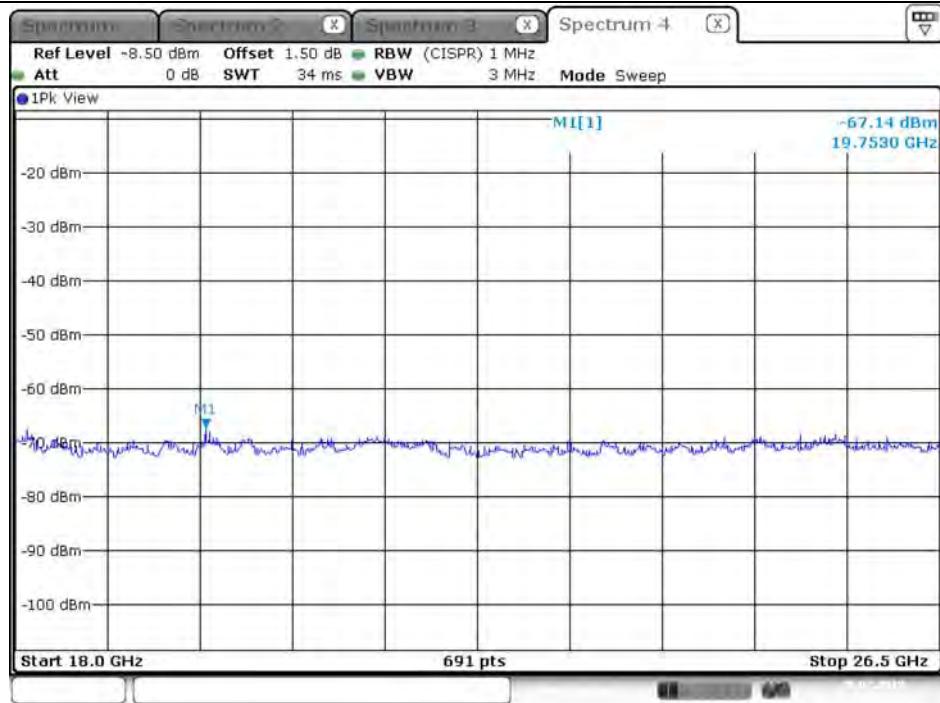
Date: 28.FEB.2018 15:05:08

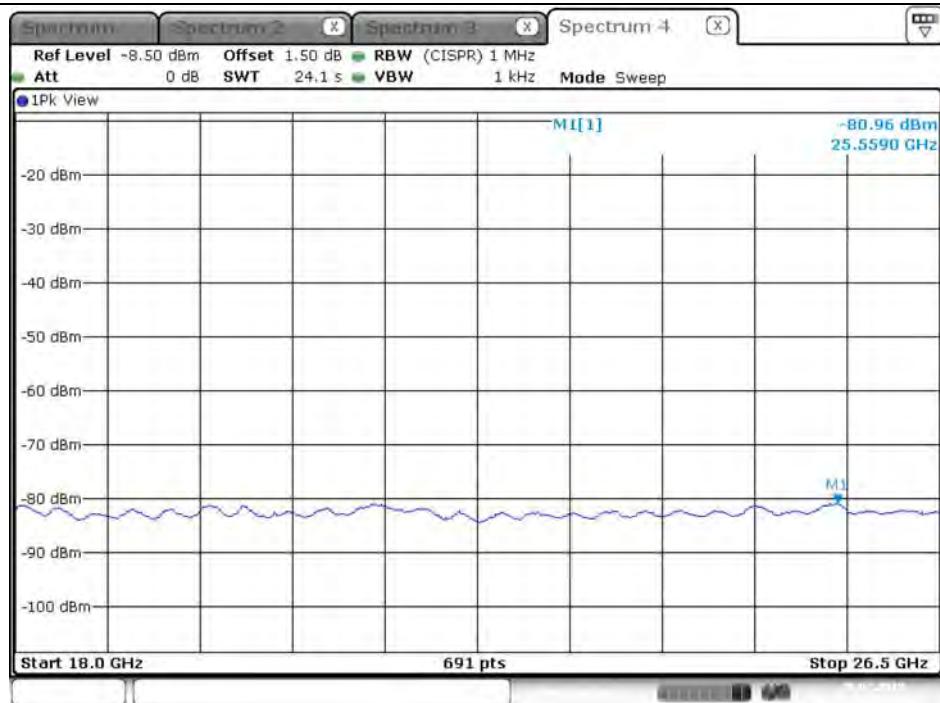
Plot on Configuration VHT20 / 2412 MHz / Average / Port 1 / 18GHz~26.5GHz


Date: 28.FEB.2018 11:04:22

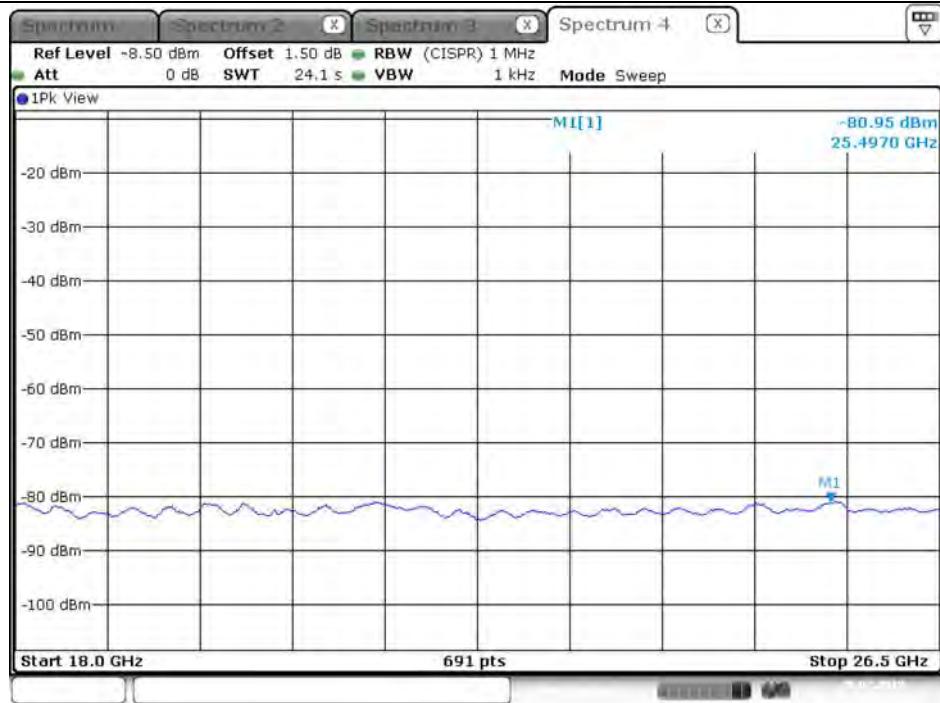
Plot on Configuration VHT20 / 2412 MHz / Average / Port 2 / 18GHz~26.5GHz


Date: 28.FEB.2018 11:10:42

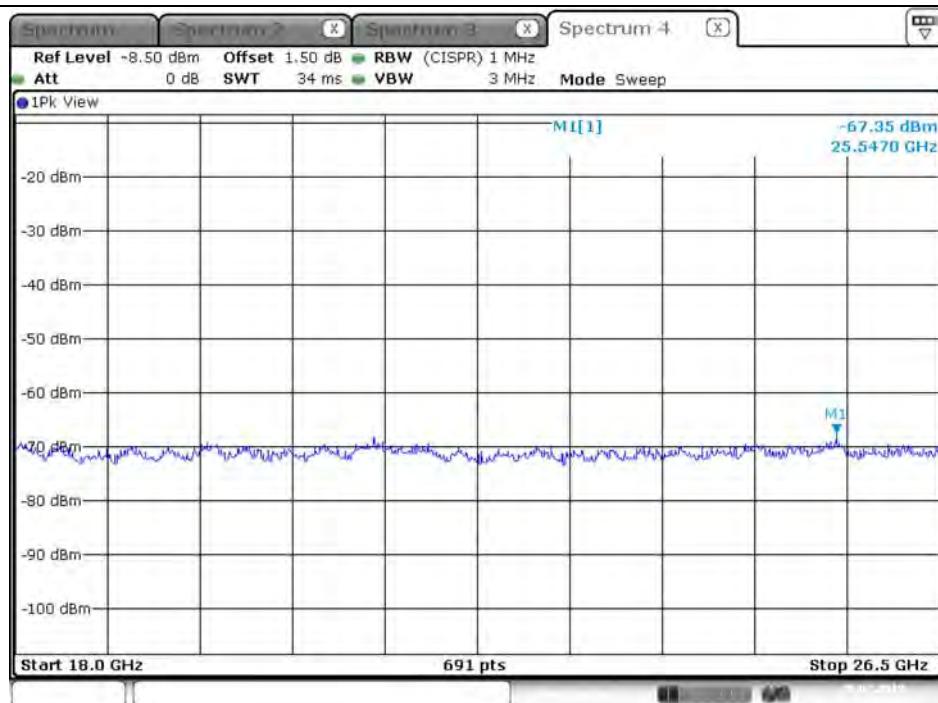
Plot on Configuration VHT20 / 2412 MHz / Peak / Port 1 / 18GHz~26.5GHz

Plot on Configuration VHT20 / 2412 MHz / Peak / Port 2 / 18GHz~26.5GHz


Plot on Configuration VHT20 / 2437 MHz / Average / Port 1 / 18GHz~26.5GHz


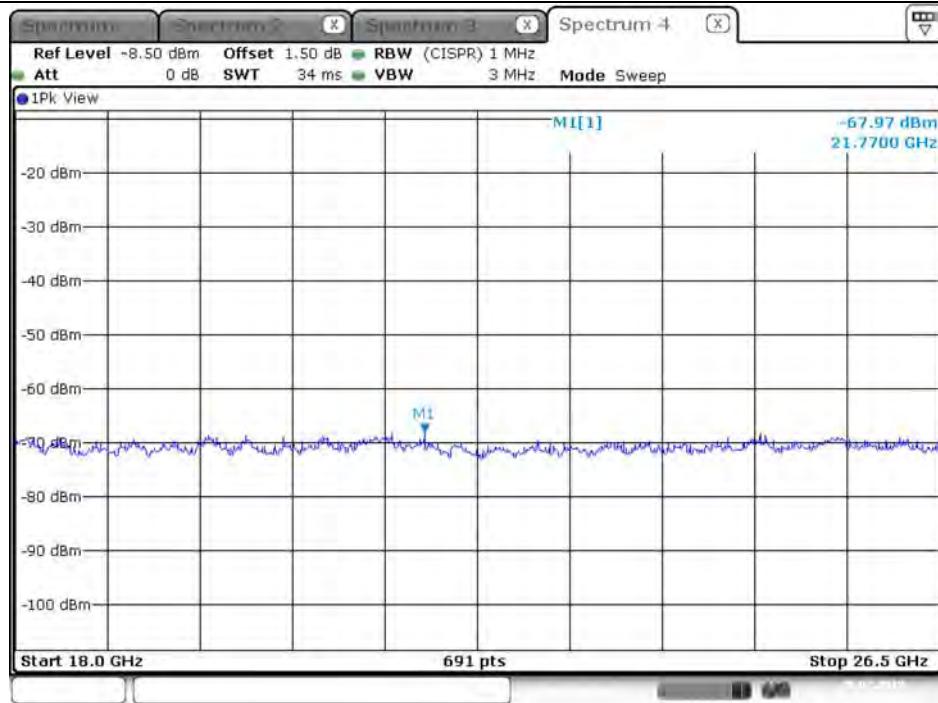
Date: 28.FEB.2018 11:33:05

Plot on Configuration VHT20 / 2437 MHz / Average / Port 2 / 18GHz~26.5GHz


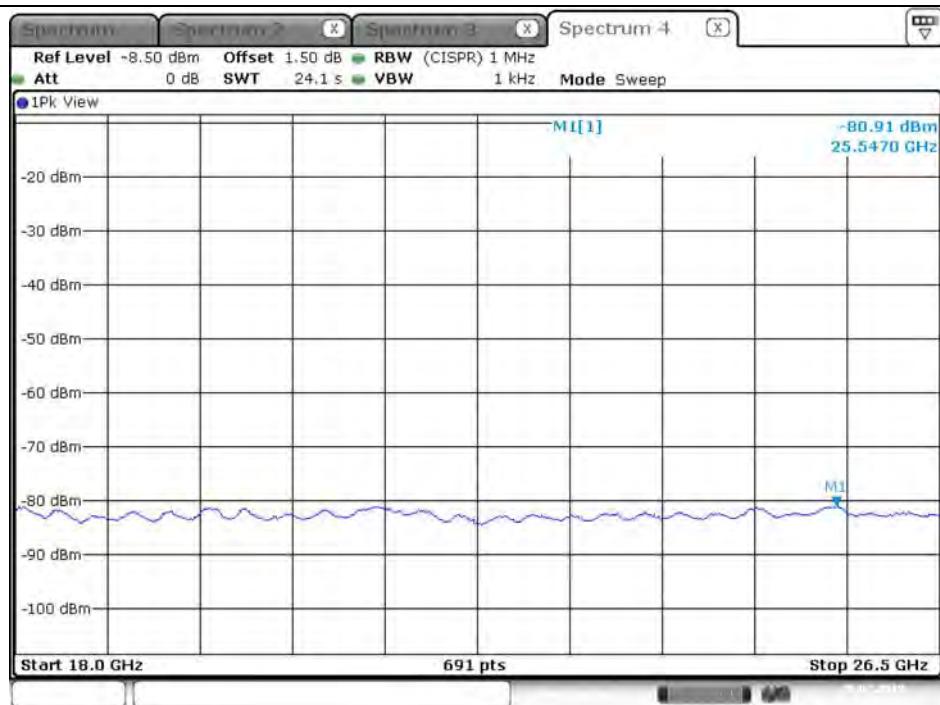
Date: 28.FEB.2018 11:37:57

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 1 / 18GHz~26.5GHz


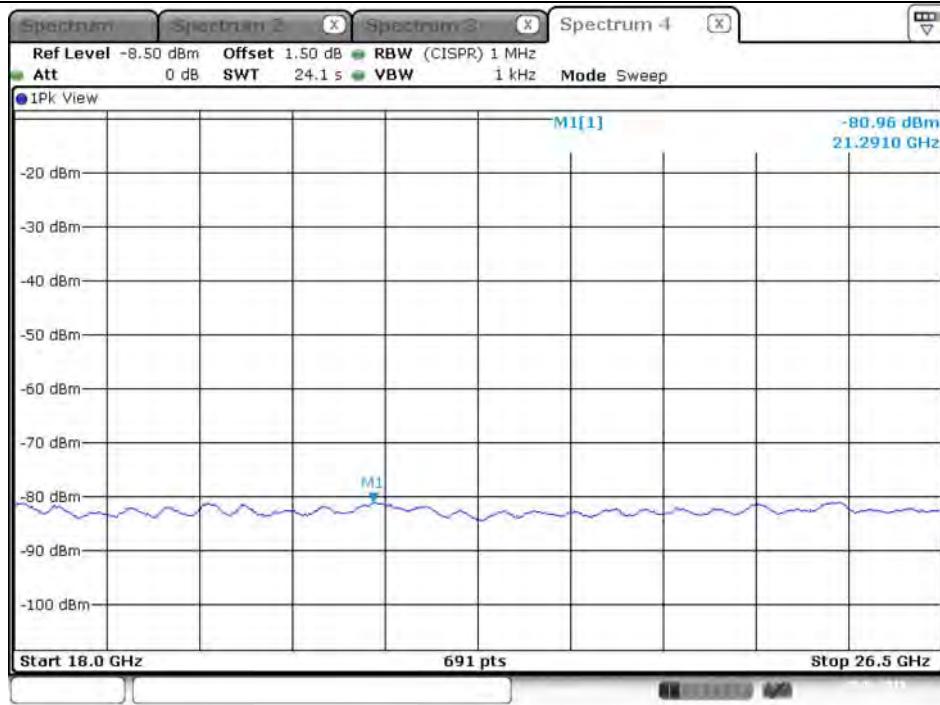
Date: 28.FEB.2018 11:34:16

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 2 / 18GHz~26.5GHz


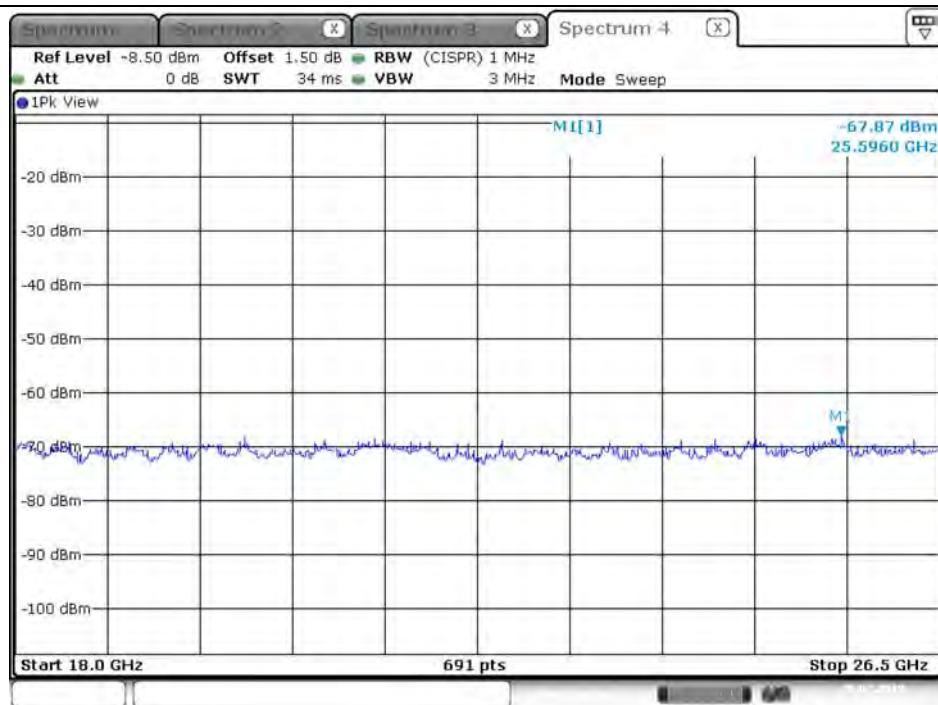
Date: 28.FEB.2018 11:39:25

Plot on Configuration VHT20 / 2462 MHz / Average / Port 1 / 18GHz~26.5GHz


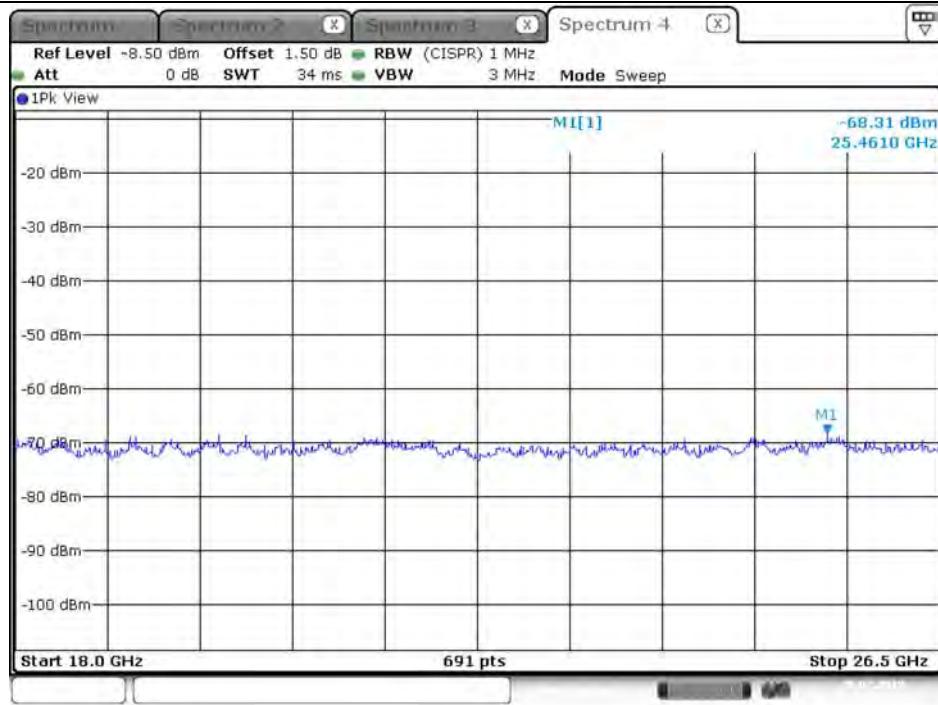
Date: 28.FEB.2018 11:58:46

Plot on Configuration VHT20 / 2462 MHz / Average / Port 2 / 18GHz~26.5GHz


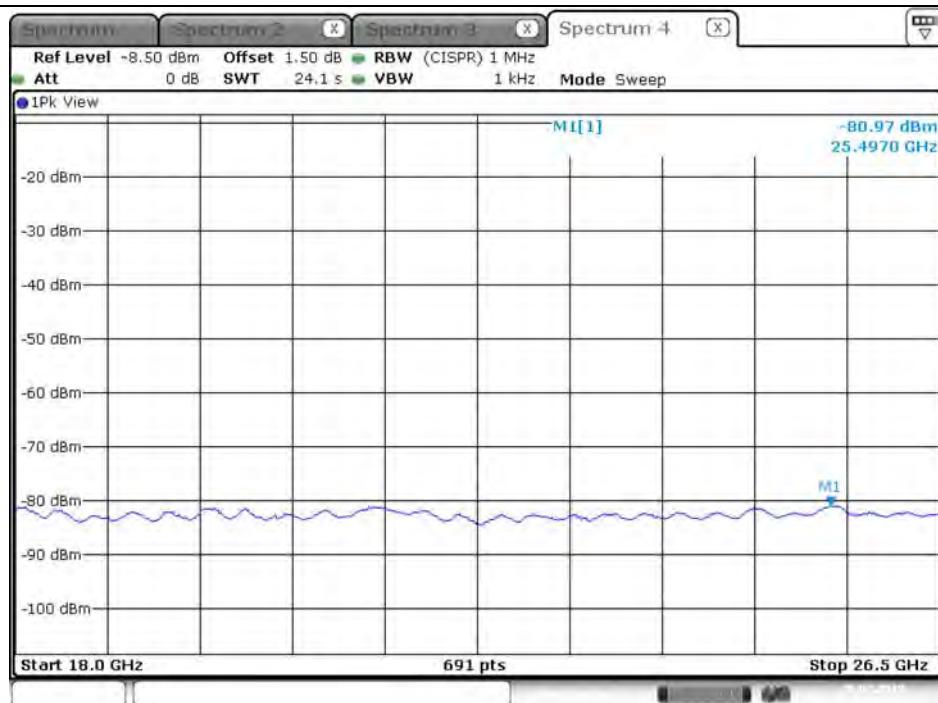
Date: 28.FEB.2018 12:02:15

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 1 / 18GHz~26.5GHz


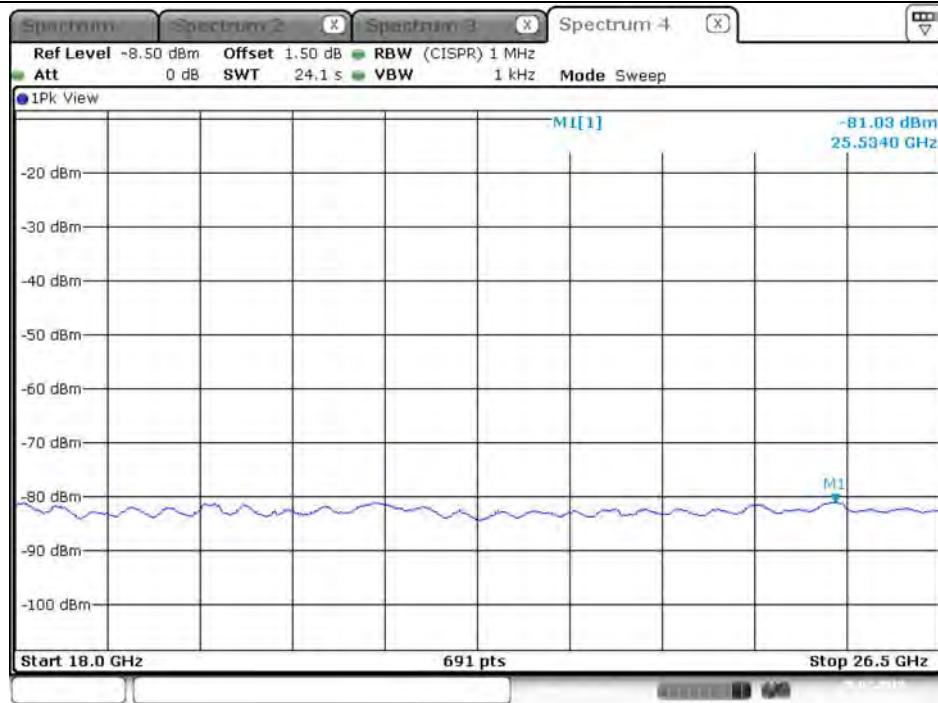
Date: 28.FEB.2018 11:59:49

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 2 / 18GHz~26.5GHz


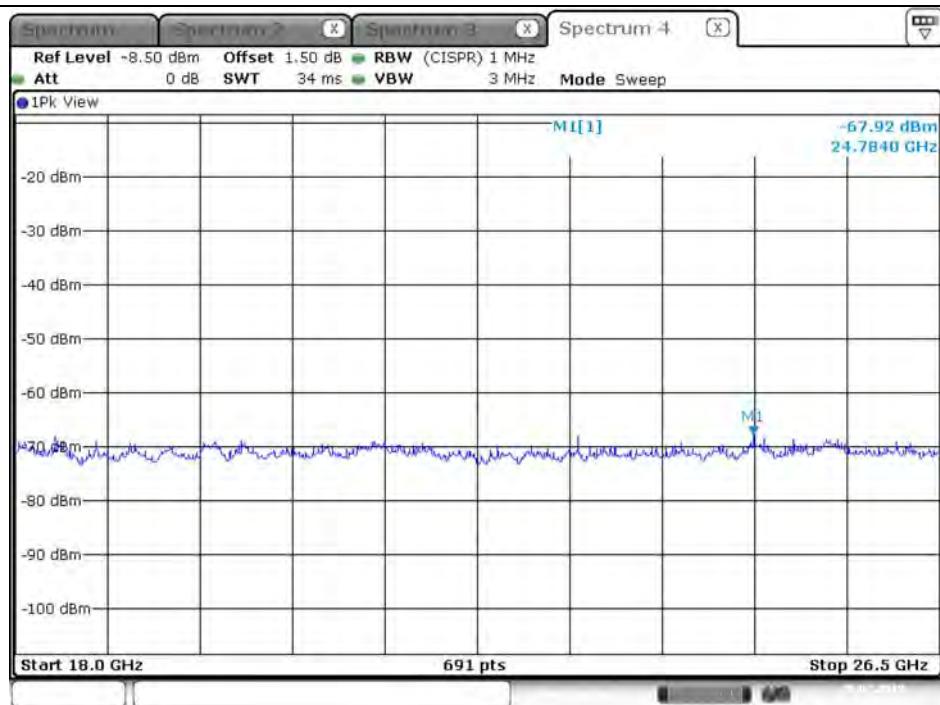
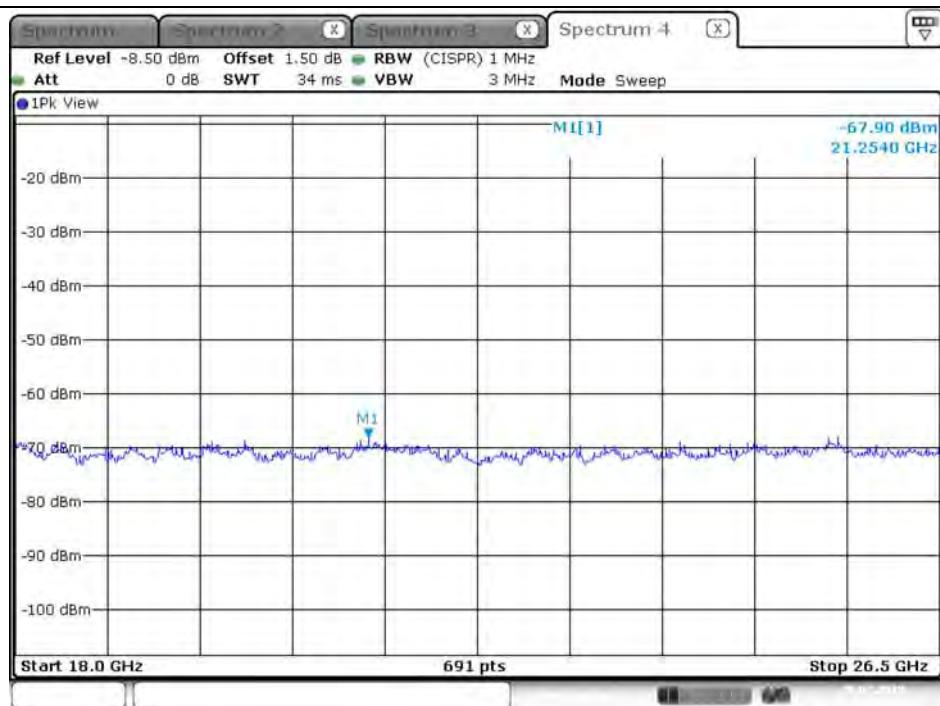
Date: 28.FEB.2018 12:02:59

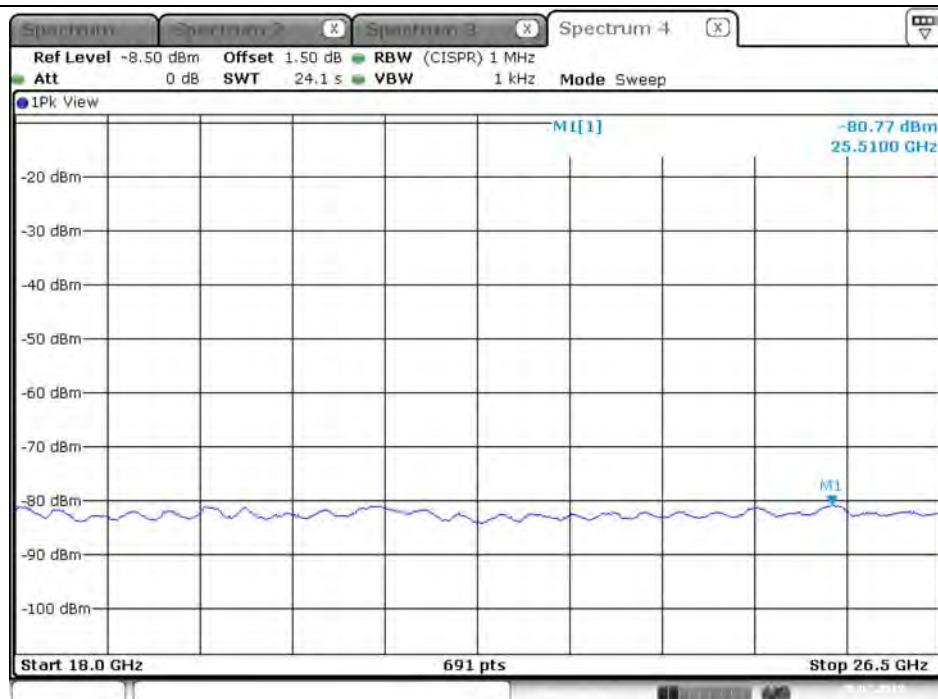
Plot on Configuration VHT40 / 2422 MHz / Average / Port 1 / 18GHz~26.5GHz


Date: 28.FEB.2018 13:56:59

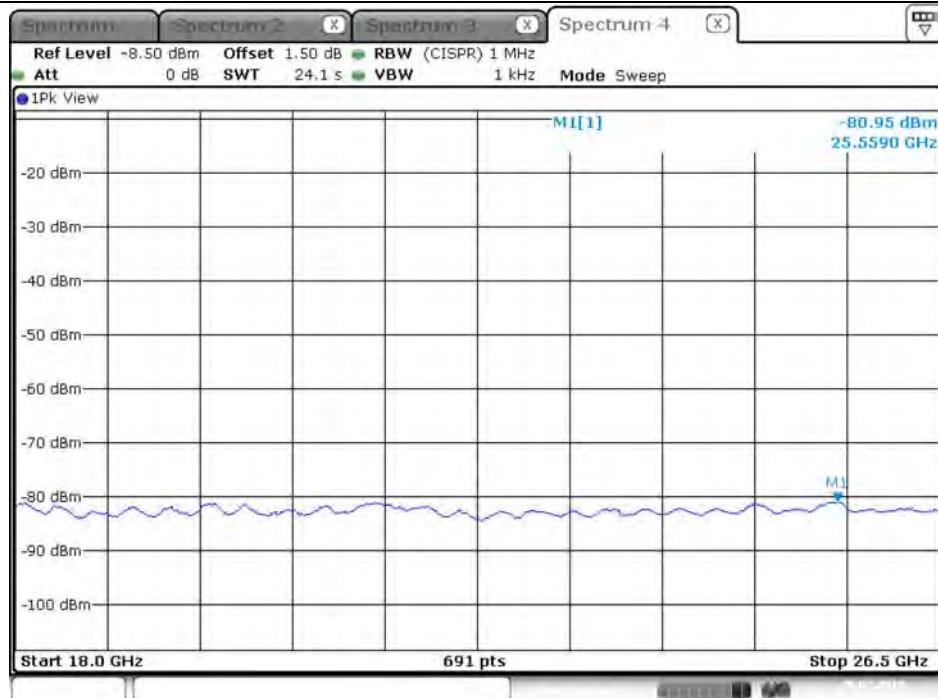
Plot on Configuration VHT40 / 2422 MHz / Average / Port 2 / 18GHz~26.5GHz


Date: 28.FEB.2018 14:01:07

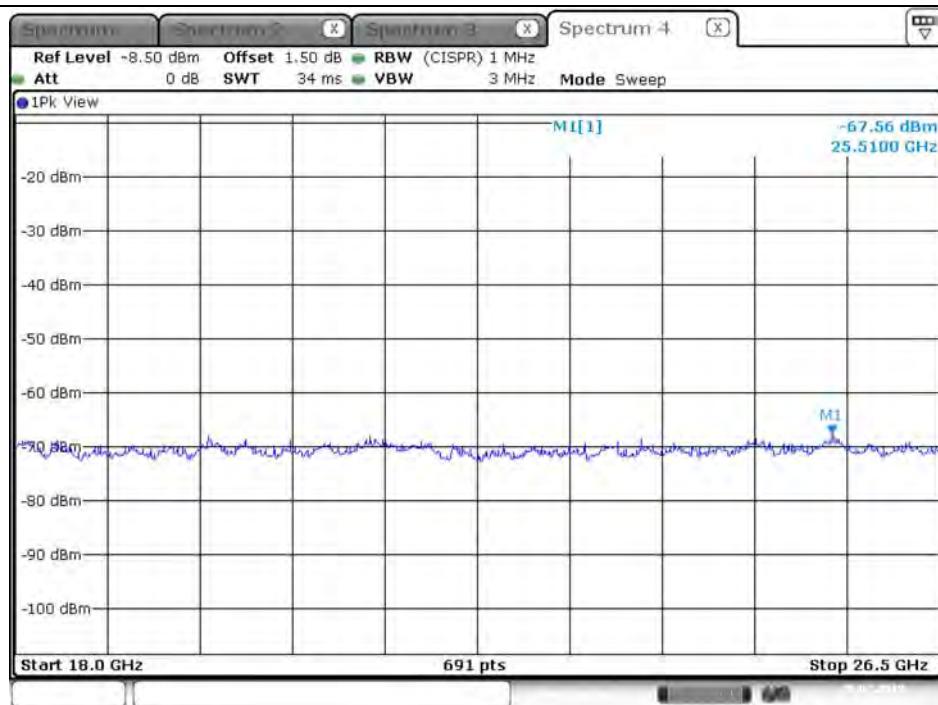
Plot on Configuration VHT40 / 2422 MHz / Peak / Port 1 / 18GHz~26.5GHz

Plot on Configuration VHT40 / 2422 MHz / Peak / Port 2 / 18GHz~26.5GHz


Plot on Configuration VHT40 / 2437 MHz / Average / Port 1 / 18GHz~26.5GHz


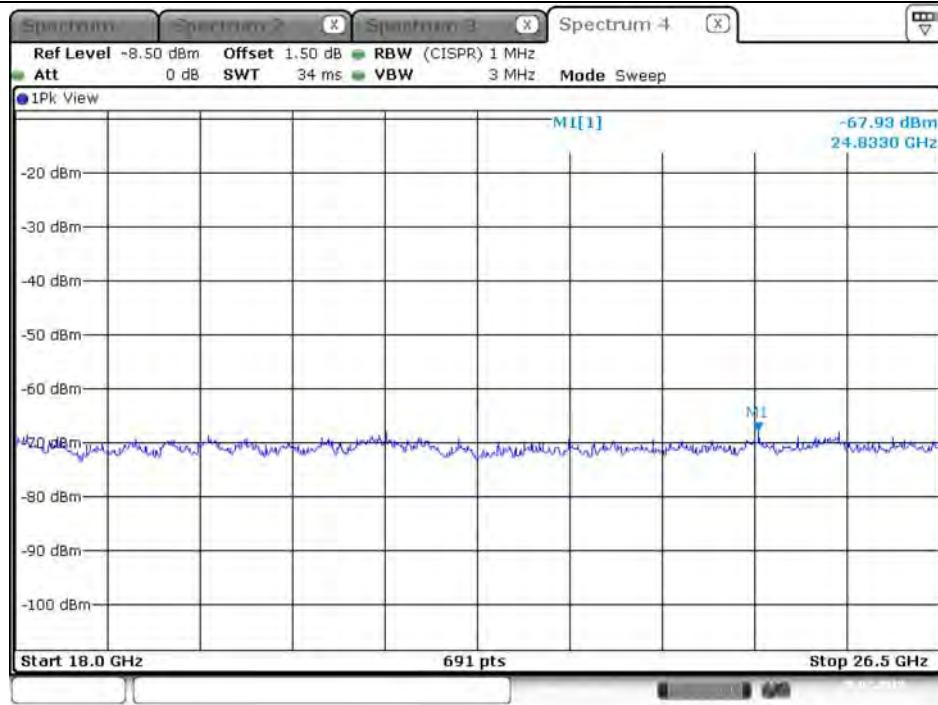
Date: 28.FEB.2018 14:23:22

Plot on Configuration VHT40 / 2437 MHz / Average / Port 2 / 18GHz~26.5GHz


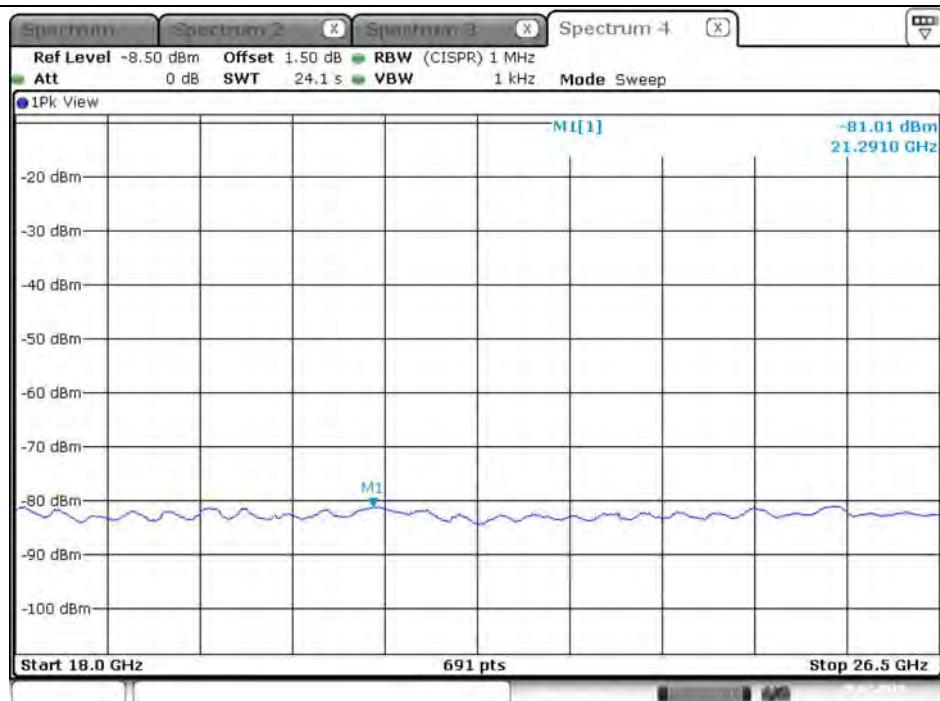
Date: 28.FEB.2018 14:30:54

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 1 / 18GHz~26.5GHz


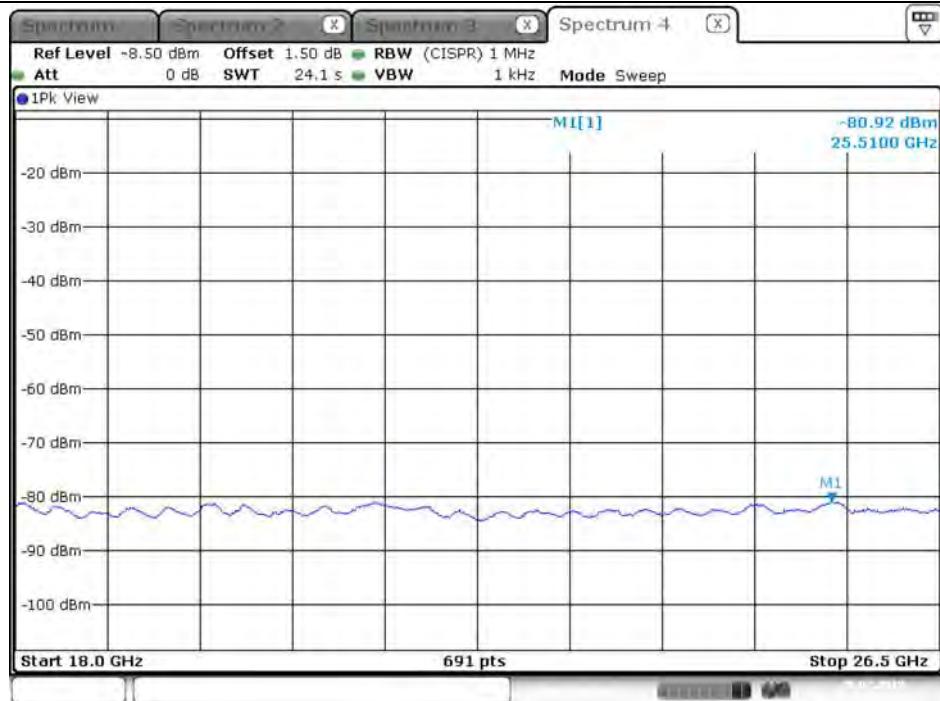
Date: 28.FEB.2018 14:25:57

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 2 / 18GHz~26.5GHz


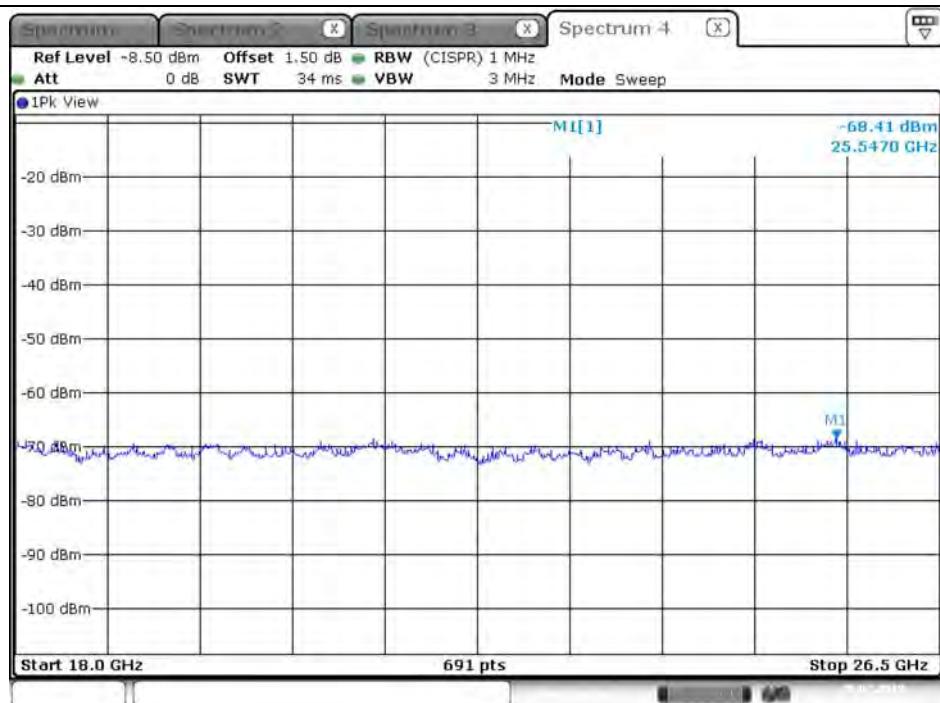
Date: 28.FEB.2018 14:32:09

Plot on Configuration VHT40 / 2452 MHz / Average / Port 1 / 18GHz~26.5GHz


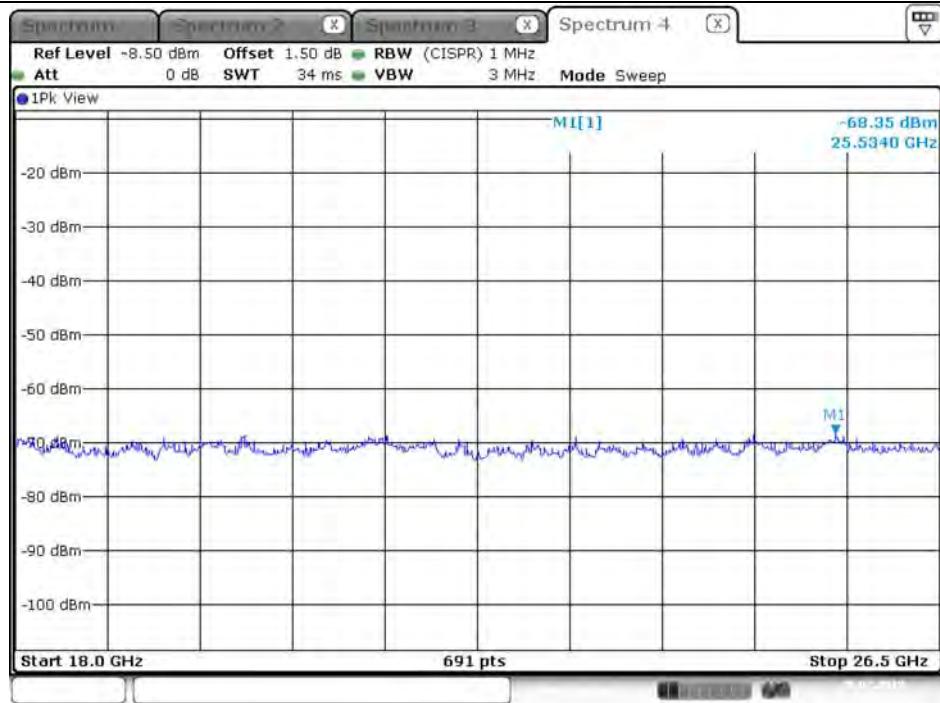
Date: 28.FEB.2018 14:58:17

Plot on Configuration VHT40 / 2452 MHz / Average / Port 2 / 18GHz~26.5GHz


Date: 28.FEB.2018 15:02:17

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 1 / 18GHz~26.5GHz


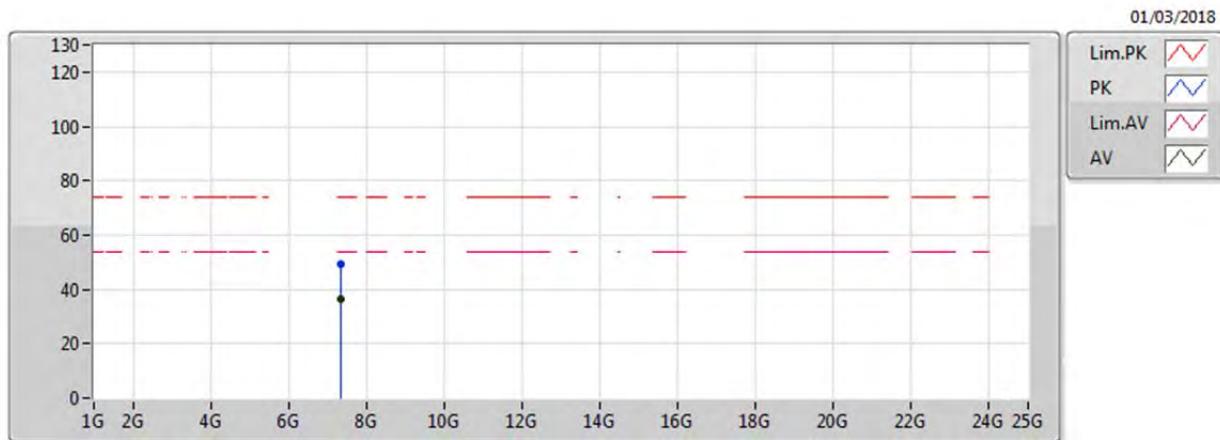
Date: 28.FEB.2018 14:59:08

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 2 / 18GHz~26.5GHz


Date: 28.FEB.2018 15:02:59.

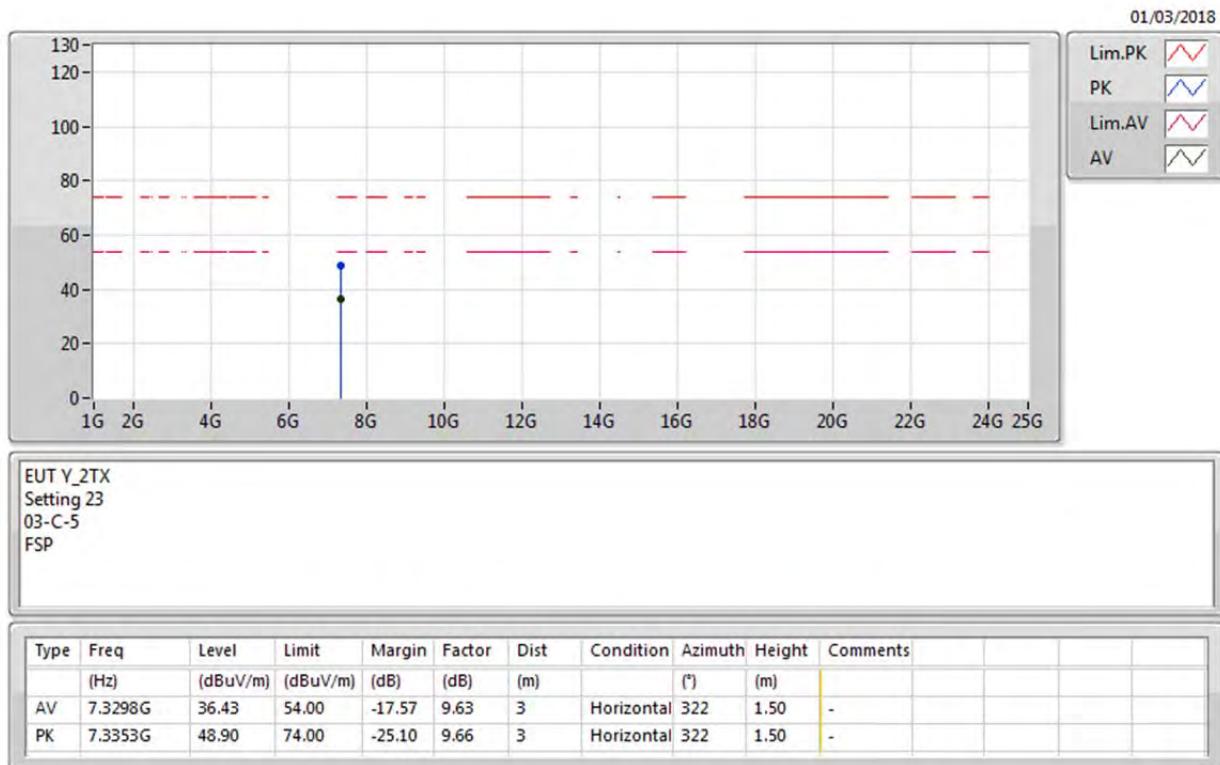


For Cabinet:

Cabinet CTX

EUT Y_2TX
Setting 23
03-C-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	7.3331G	36.33	54.00	-17.67	9.65	3	Vertical	4	1.50	-
PK	7.3274G	49.32	74.00	-24.68	9.62	3	Vertical	4	1.50	-

**Cabinet CTX**



For Conducted Bandedge:

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Average / Port 1 + Port 2

Frequency(MHz)	Port 1 (TX1) Bandedge Level (dBm)	Port 2 (TX2) Bandedge Level (dBm)	Total Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2412	-51.48	-54.18	-41.61	-41.25	0.36
2417	-51.82	-54.37	-41.90	-41.25	0.65
2422	-51.95	-53.94	-41.82	-41.25	0.57
2427	-52.29	-52.36	-41.31	-41.25	0.06
2432	-51.98	-52.82	-41.37	-41.25	0.12
2437	-51.56	-53.70	-41.49	-41.25	0.24
2442	-51.97	-53.47	-41.65	-41.25	0.40
2447	-52.18	-53.12	-41.61	-41.25	0.36
2452	-51.55	-53.40	-41.37	-41.25	0.12
2457	-51.64	-53.91	-41.62	-41.25	0.37
2462	-51.49	-53.89	-41.52	-41.25	0.27

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT20 / Peak / Port 1 + Port 2

Frequency(MHz)	Port 1 (TX1) Bandedge Level (dBm)	Port 2 (TX2) Bandedge Level (dBm)	Total Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2412	-41.03	-41.96	-30.46	-21.25	9.21
2417	-39.54	-41.14	-29.26	-21.25	8.01
2422	-40.01	-41.61	-29.73	-21.25	8.48
2427	-40.63	-38.31	-28.31	-21.25	7.06
2432	-39.31	-37.52	-27.31	-21.25	6.06
2437	-39.95	-38.95	-28.41	-21.25	7.16
2442	-41.27	-39.88	-29.51	-21.25	8.26
2447	-40.73	-38.63	-28.54	-21.25	7.29
2452	-40.87	-38.95	-28.79	-21.25	7.54
2457	-39.97	-38.14	-27.95	-21.25	6.70
2462	-41.83	-41.30	-30.55	-21.25	9.30

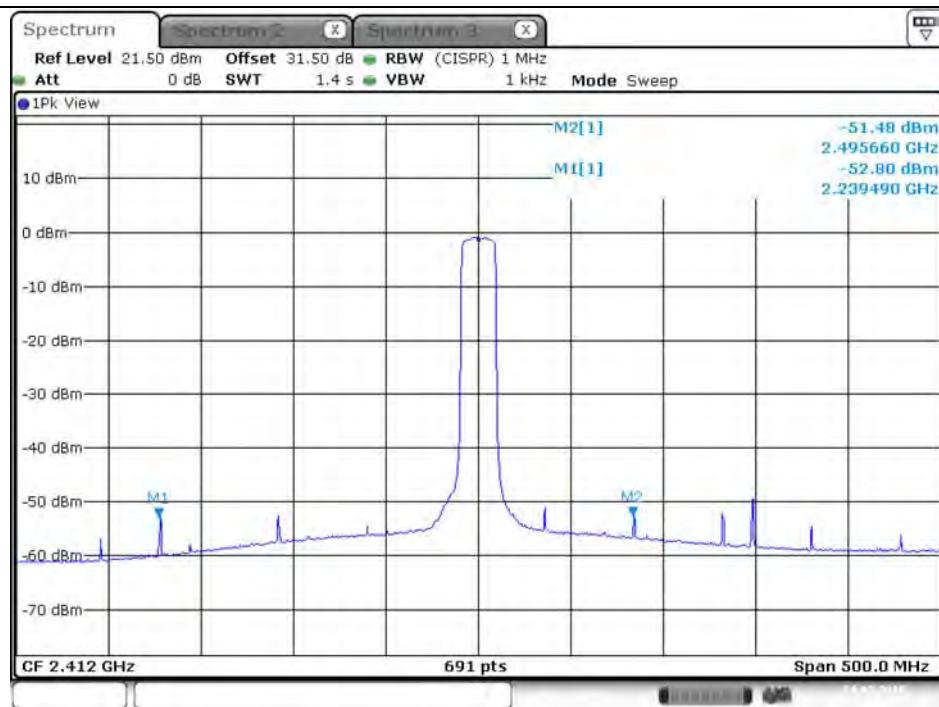
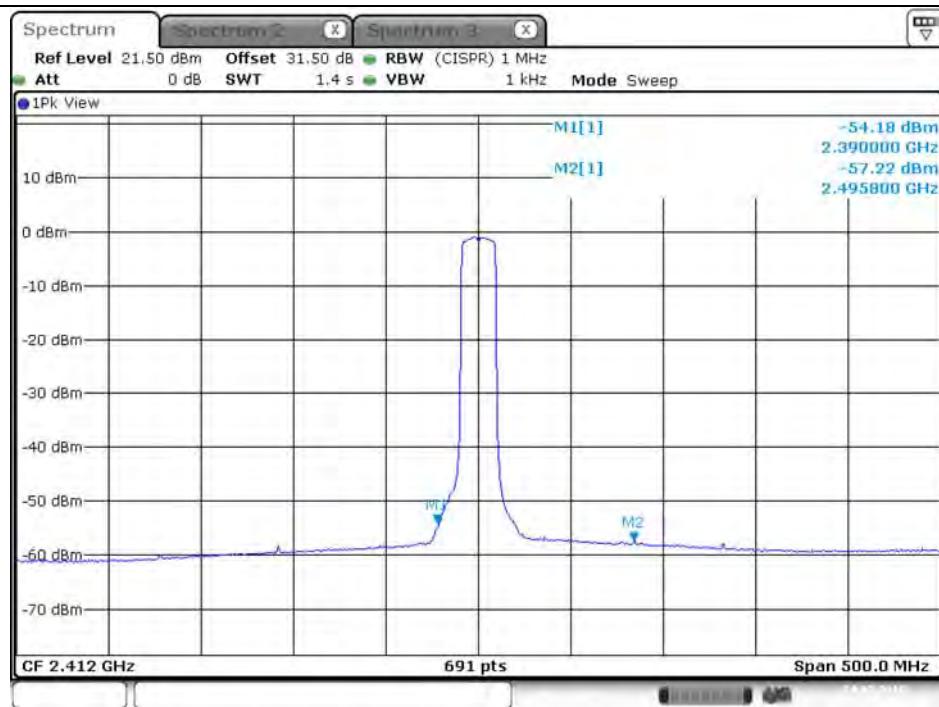


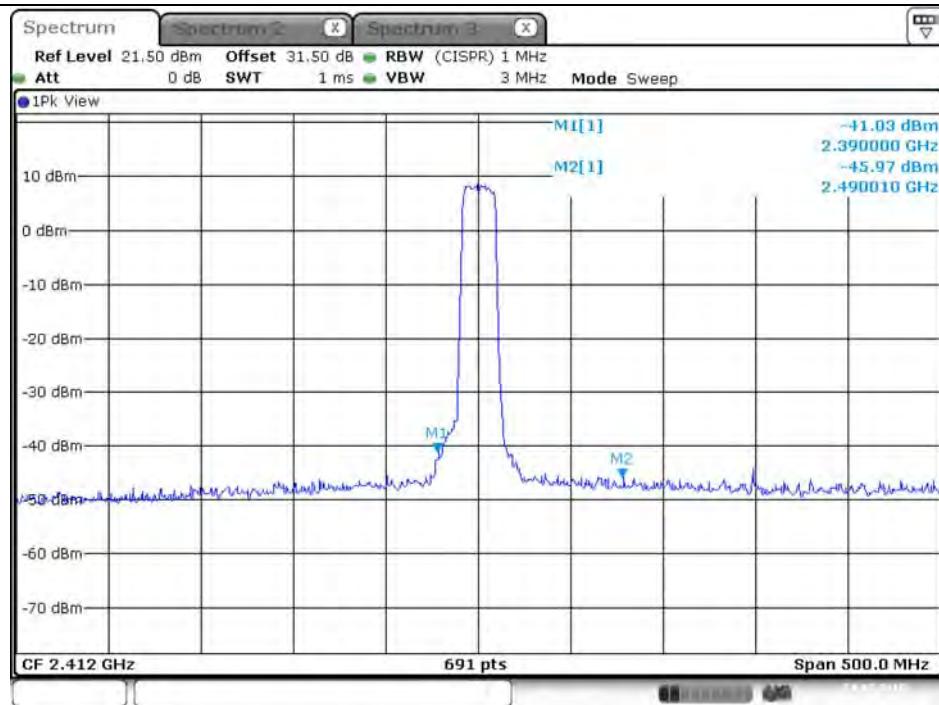
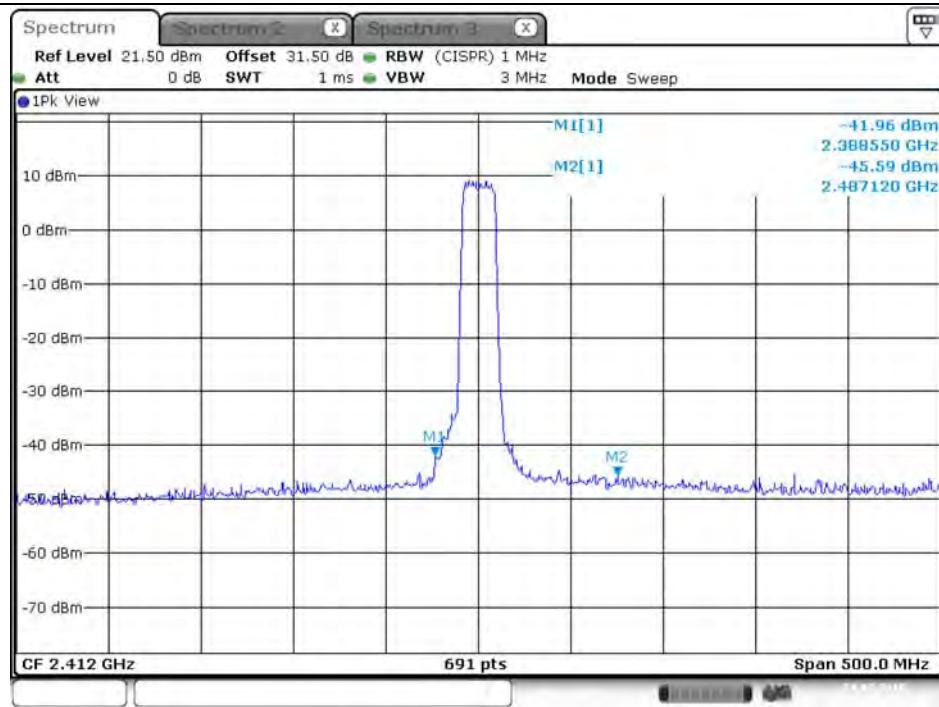
Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Average / Port 1 + Port 2

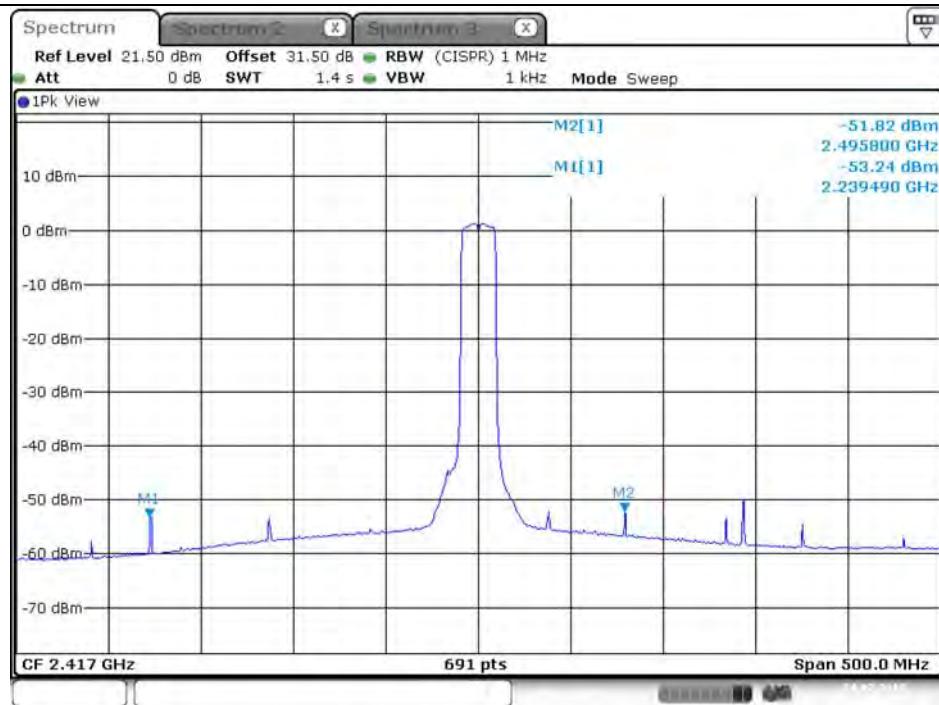
Frequency(MHz)	Port 1 (TX1) Bandedge Level (dBm)	Port 2 (TX2) Bandedge Level (dBm)	Total Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2422	-54.17	-51.81	-41.82	-41.25	0.57
2427	-55.21	-52.11	-42.38	-41.25	1.13
2432	-51.68	-53.07	-41.31	-41.25	0.06
2437	-51.63	-53.13	-41.31	-41.25	0.06
2442	-51.49	-53.74	-41.46	-41.25	0.21
2447	-51.62	-53.45	-41.43	-41.25	0.18
2452	-51.33	-53.69	-41.34	-41.25	0.09

Temperature	22 °C	Humidity	54%
Test Engineer	Serway Li / Eddie Weng	Configurations	VHT40 / Peak / Port 1 + Port 2

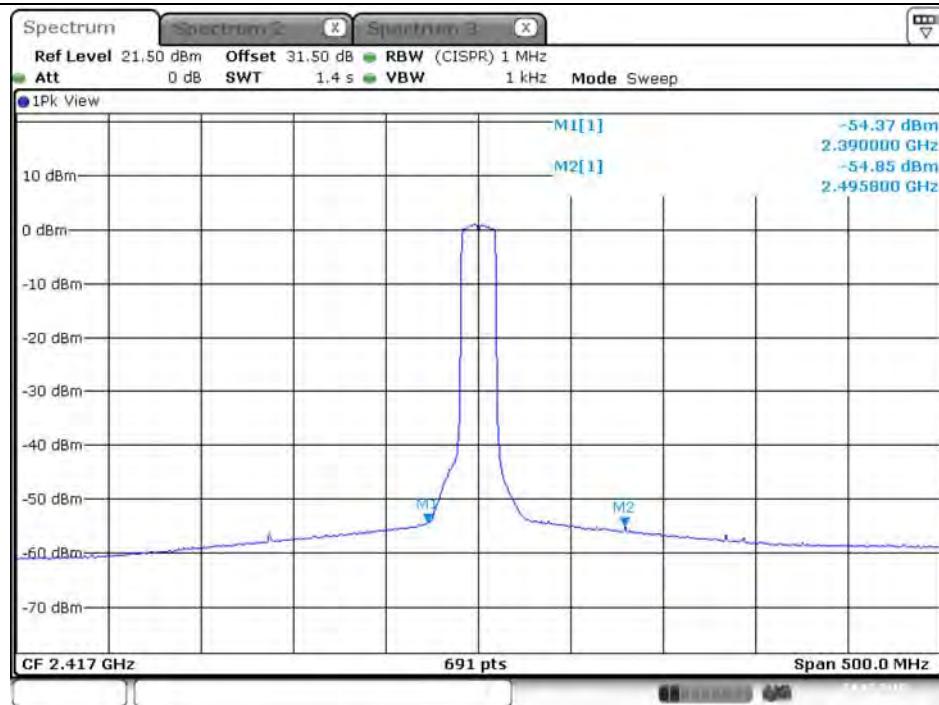
Frequency(MHz)	Port 1 (TX1) Bandedge Level (dBm)	Port 2 (TX2) Bandedge Level (dBm)	Total Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2422	-41.84	-39.02	-29.19	-21.25	7.94
2427	-43.02	-40.36	-30.48	-21.25	9.23
2432	-41.03	-39.69	-29.30	-21.25	8.05
2437	-40.40	-38.18	-28.14	-21.25	6.89
2442	-42.03	-41.39	-30.69	-21.25	9.44
2447	-41.52	-41.08	-30.28	-21.25	9.03
2452	-42.19	-41.54	-30.84	-21.25	9.59

Plot on Configuration VHT20 / 2412 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2412 MHz / Average / Port 2 (TX2)


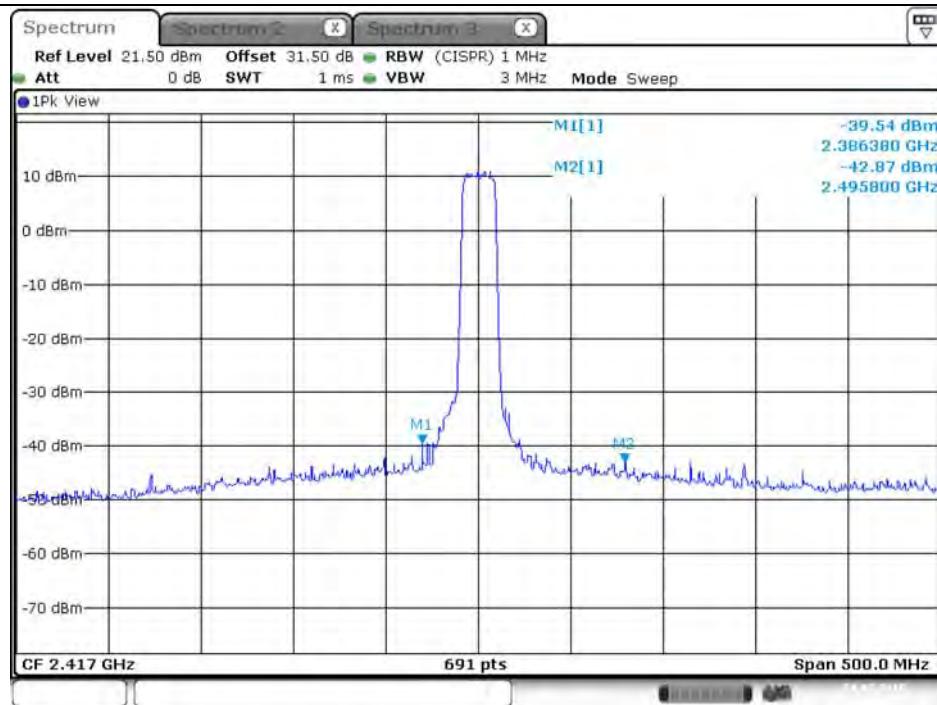
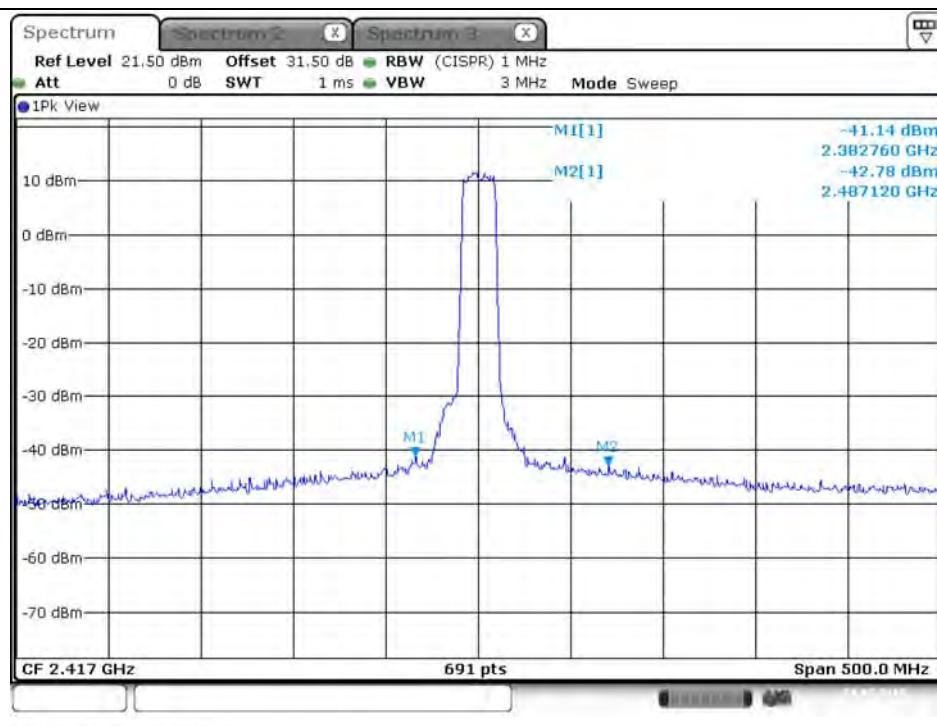
Plot on Configuration VHT20 / 2412 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2412 MHz / Peak / Port 2 (TX2)


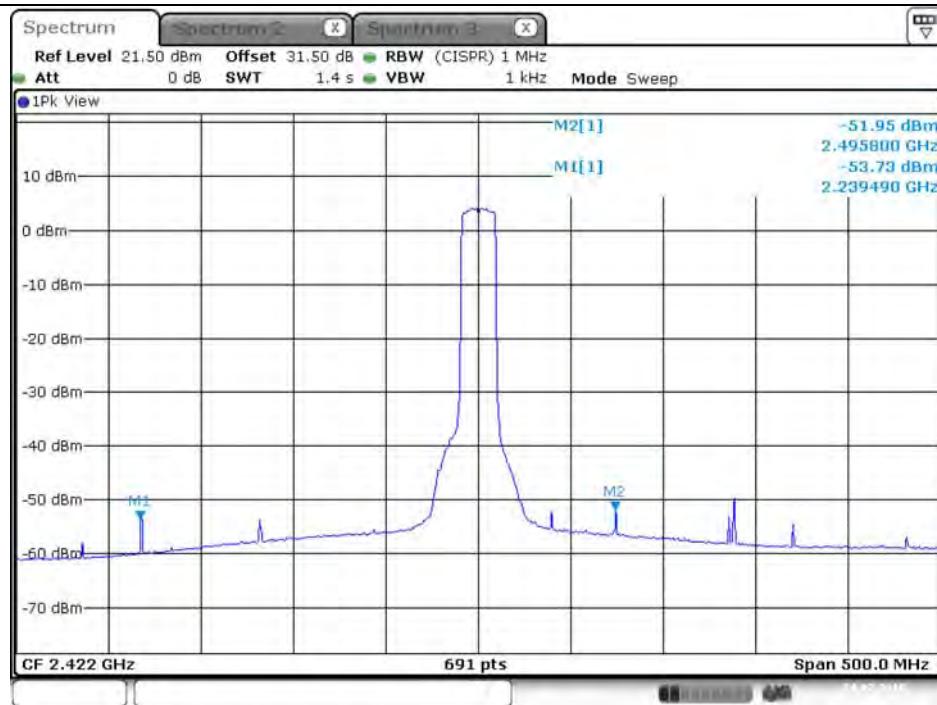
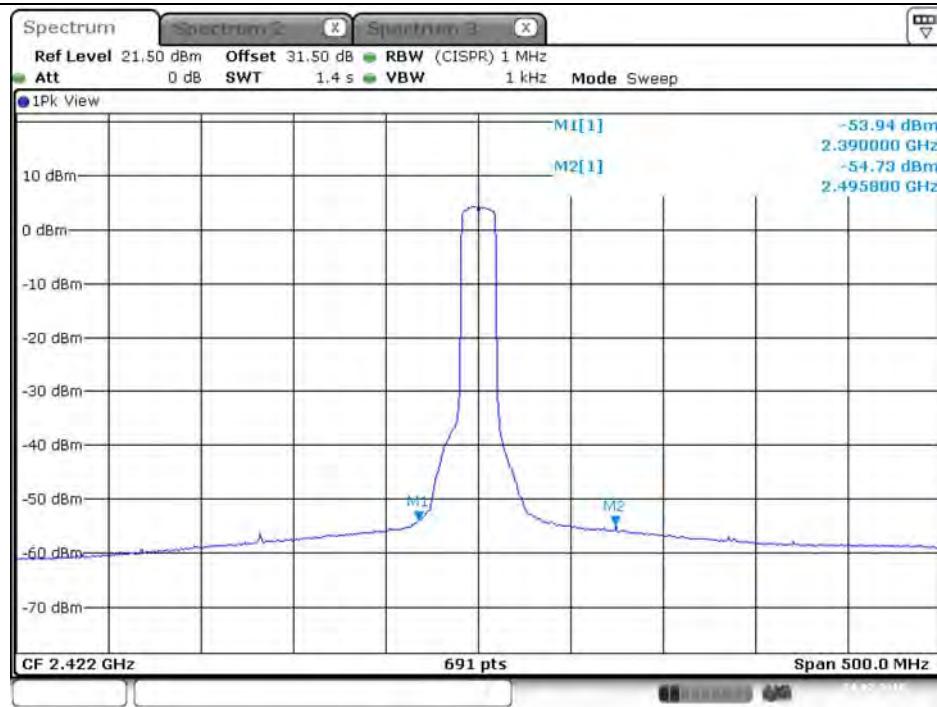
Plot on Configuration VHT20 / 2417 MHz / Average / Port 1 (TX1)


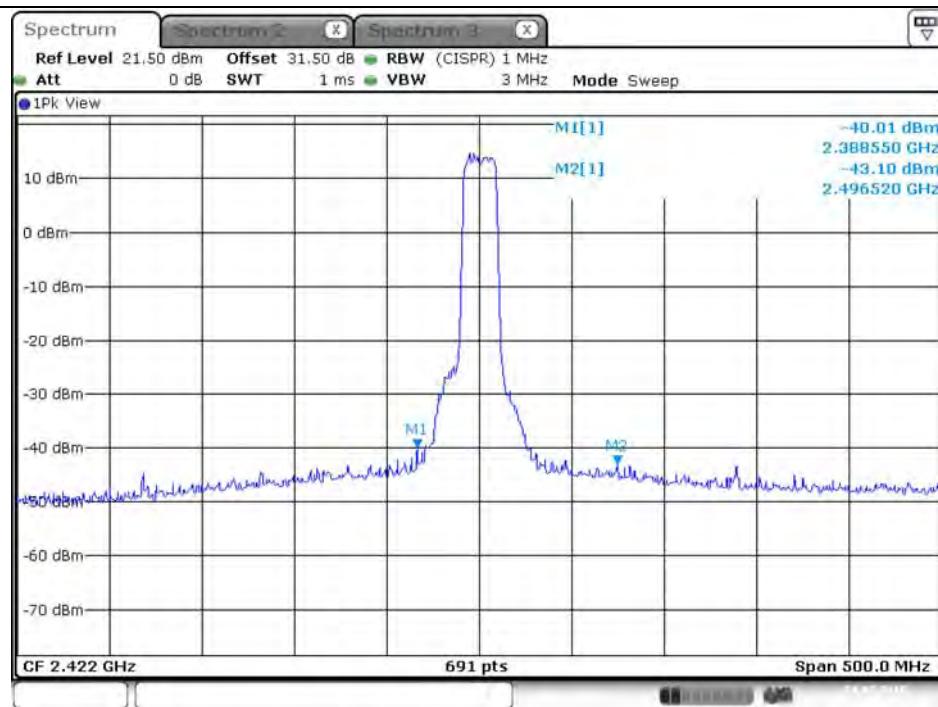
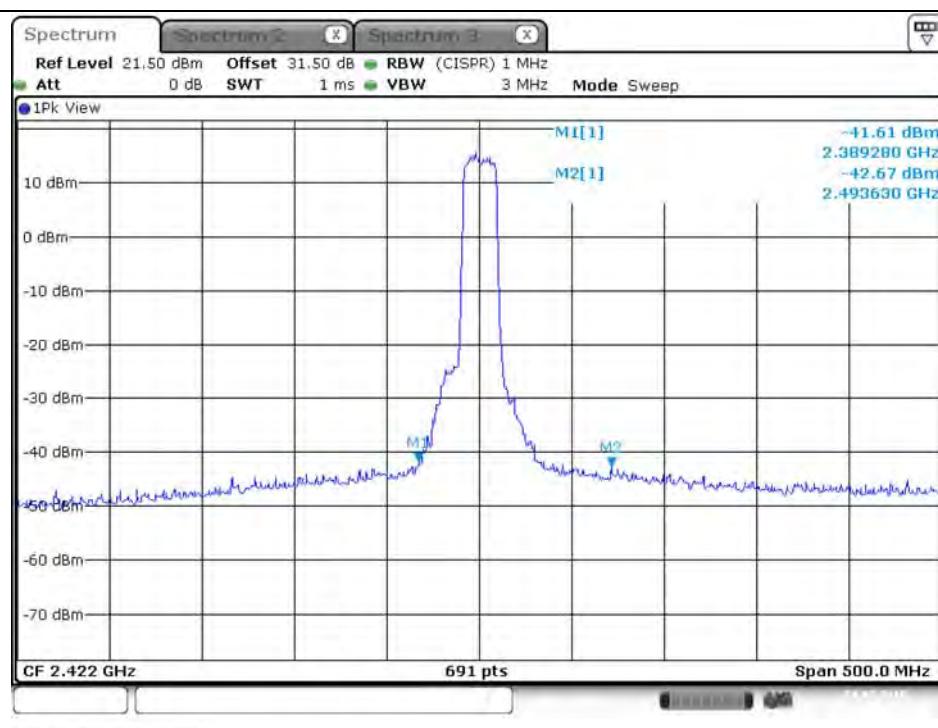
Date: 24.FEB.2018 18:57:47

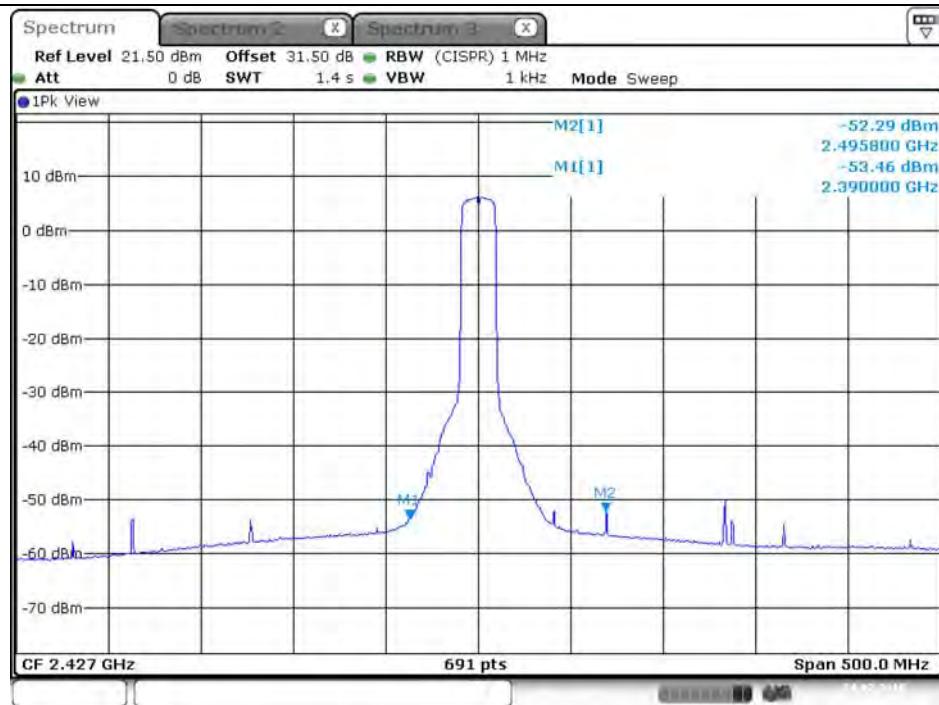
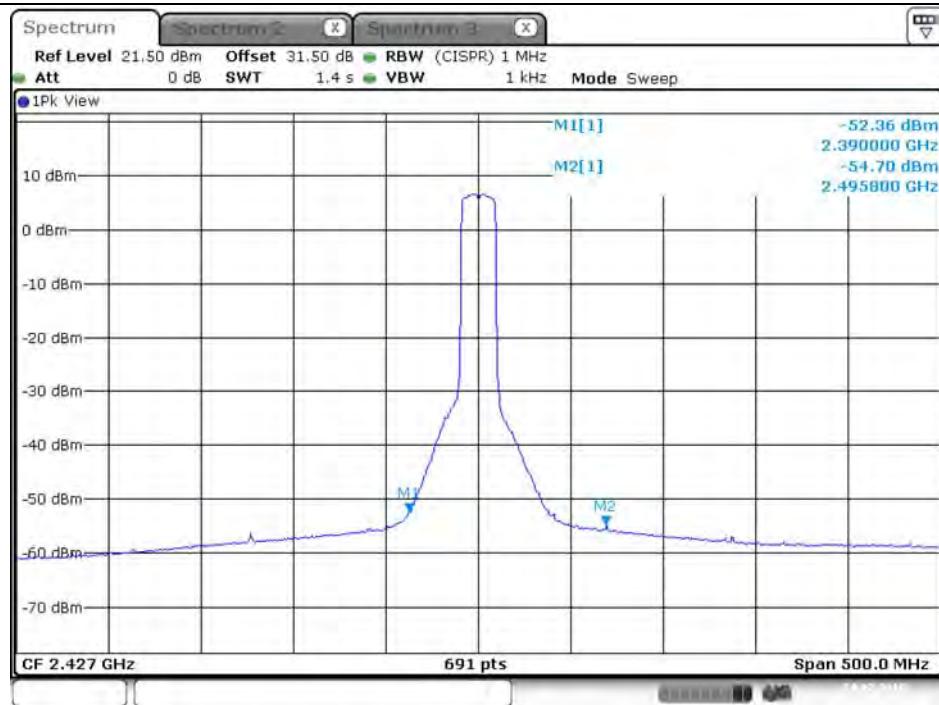
Plot on Configuration VHT20 / 2417 MHz / Average / Port 2 (TX2)


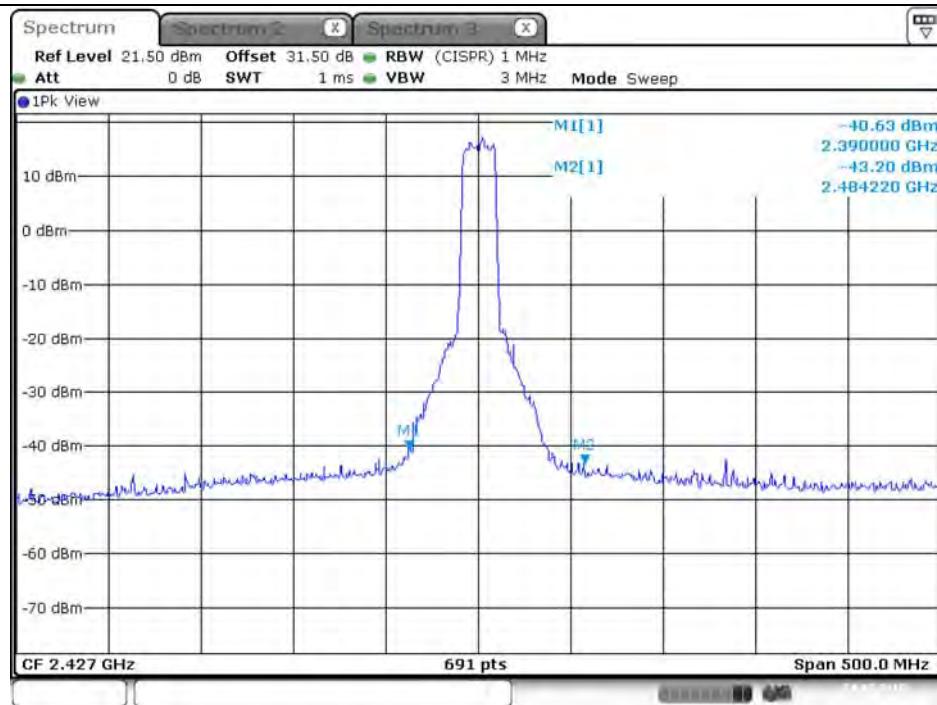
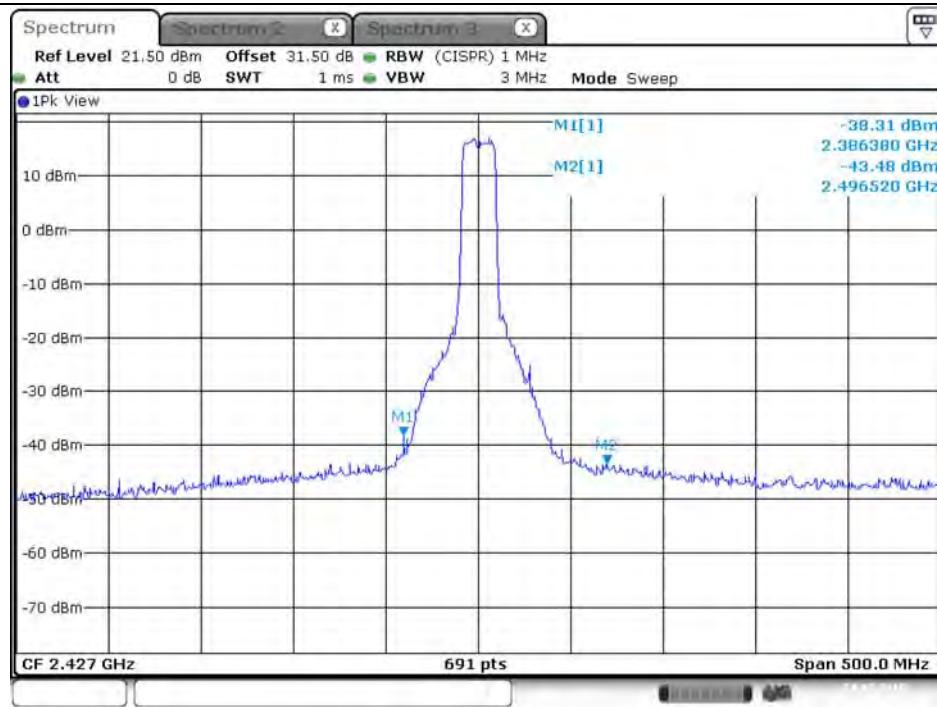
Date: 24.FEB.2018 18:45:46

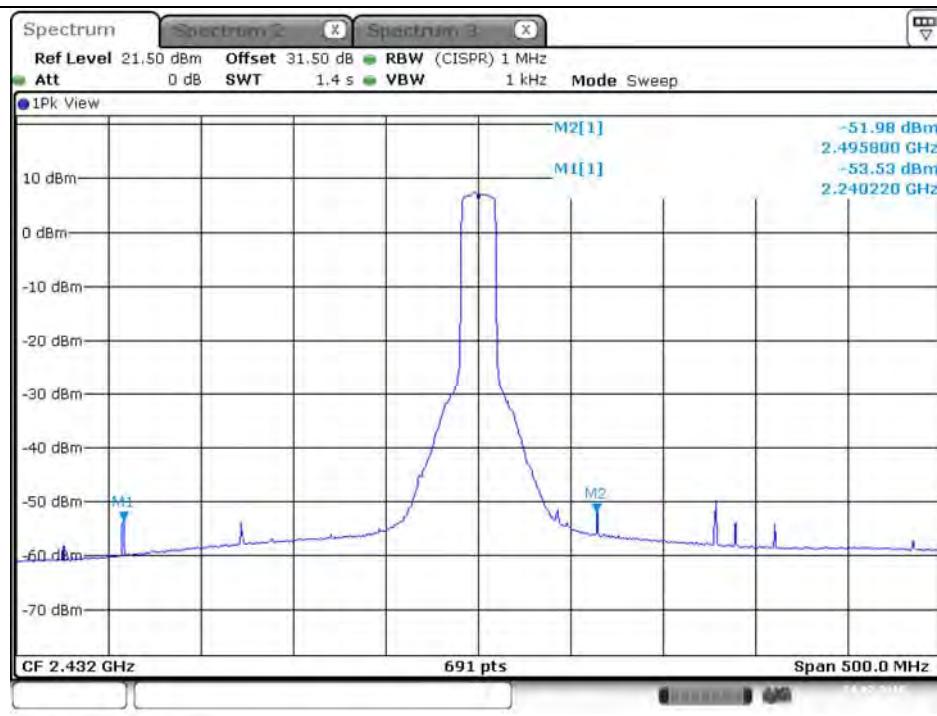
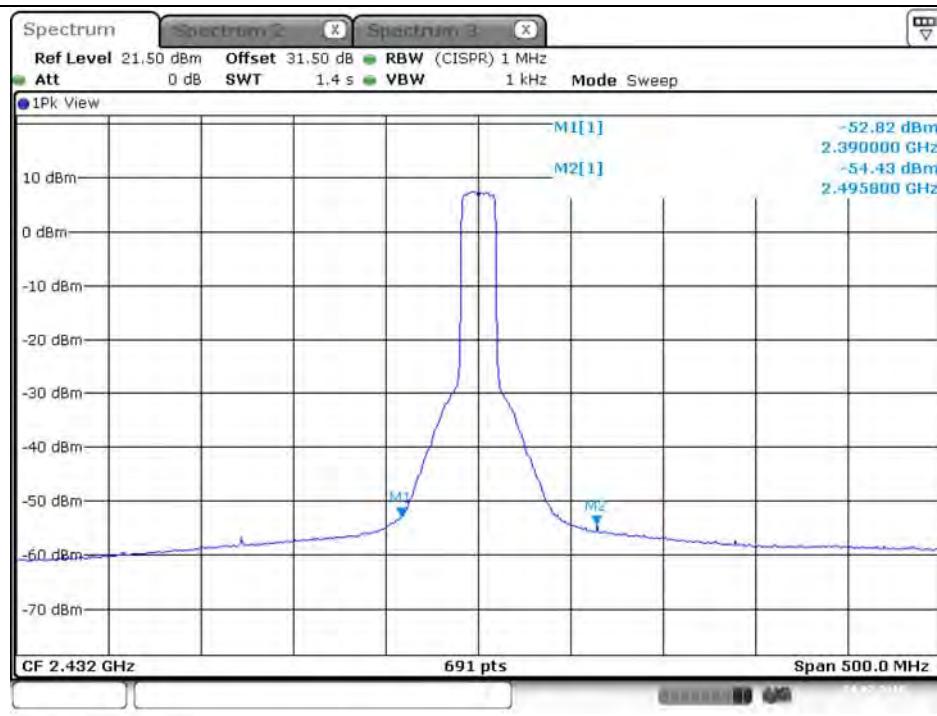
Plot on Configuration VHT20 / 2417 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2417 MHz / Peak / Port 2 (TX2)


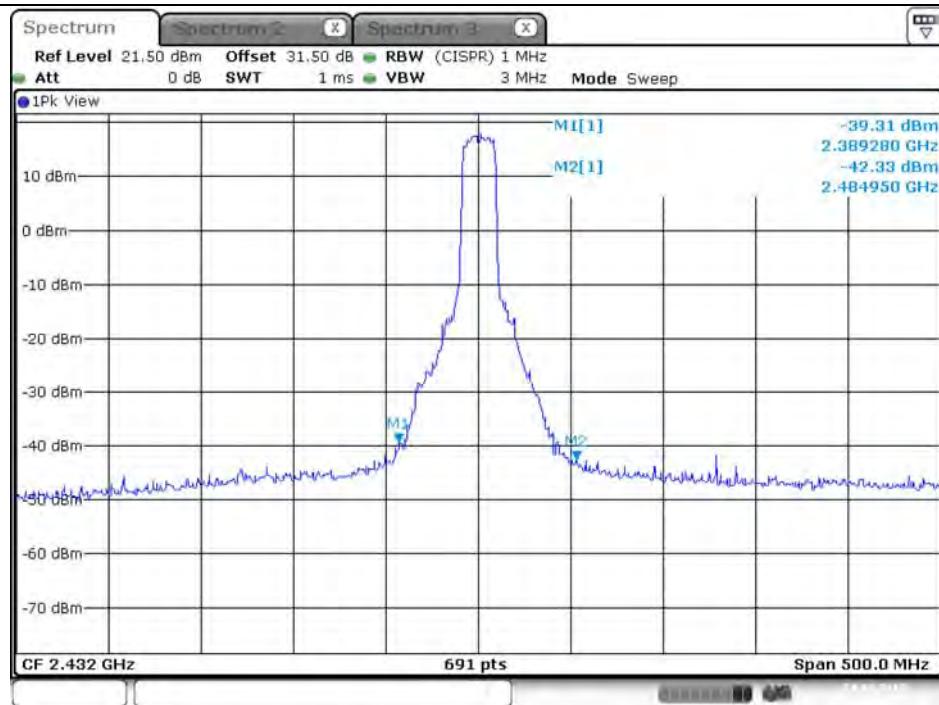
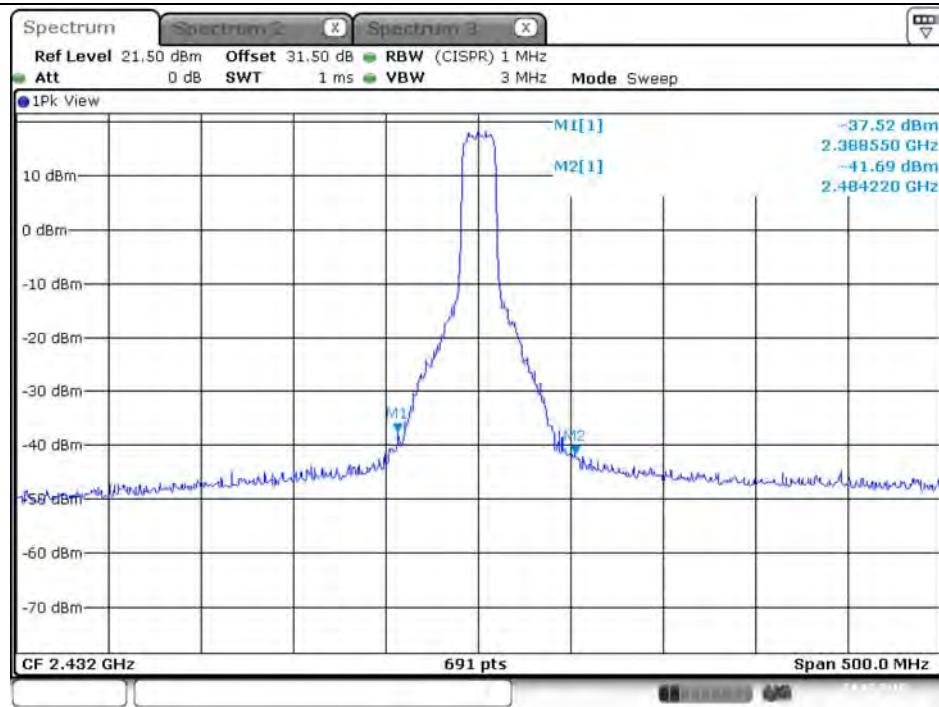
Plot on Configuration VHT20 / 2422 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2422 MHz / Average / Port 2 (TX2)


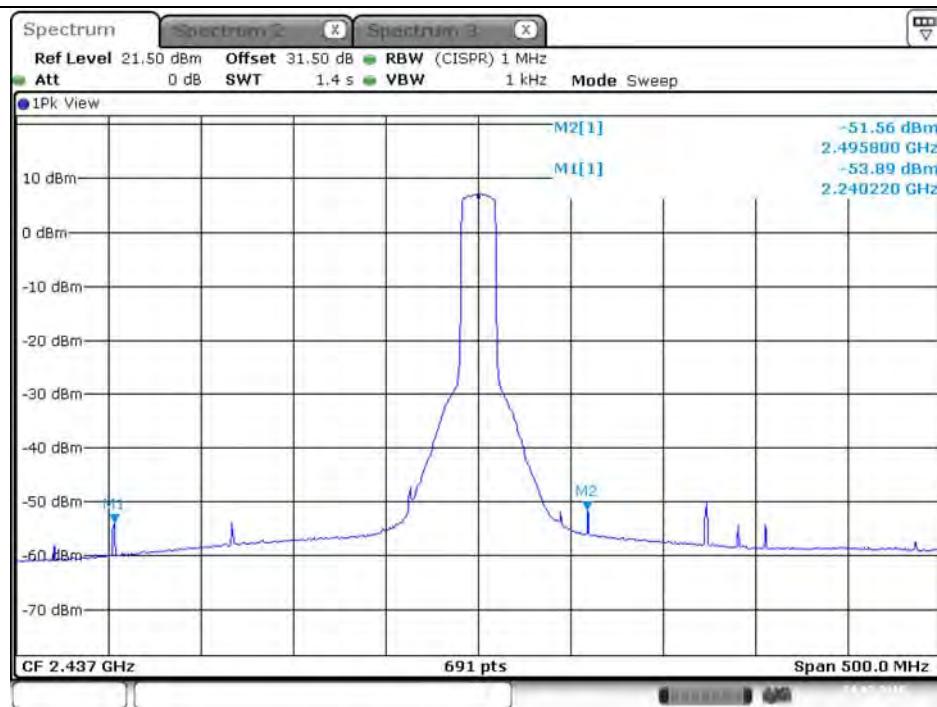
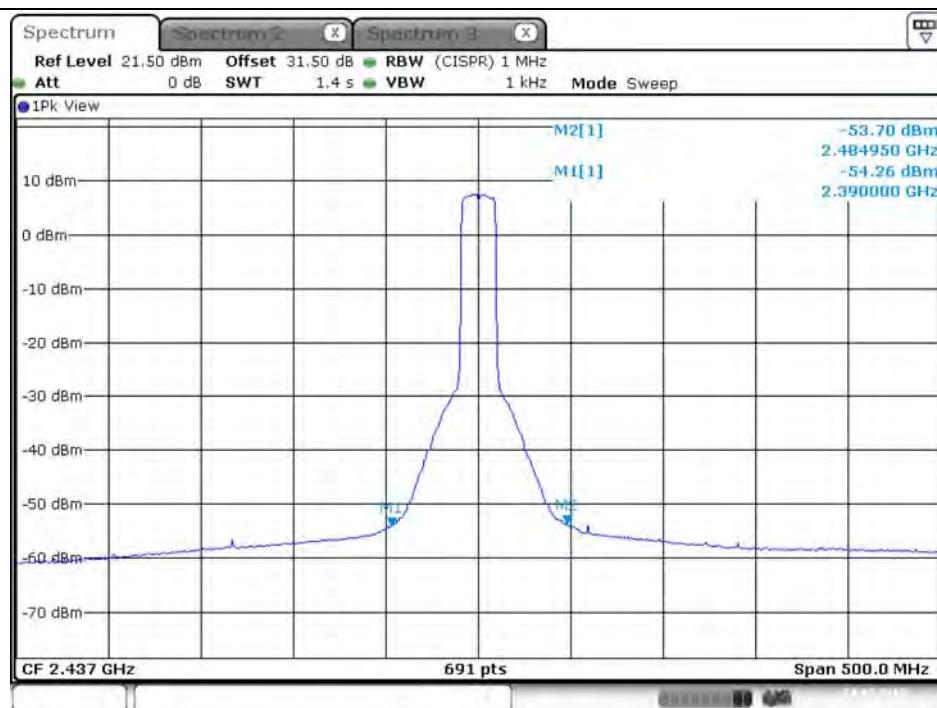
Plot on Configuration VHT20 / 2422 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2422 MHz / Peak / Port 2 (TX2)


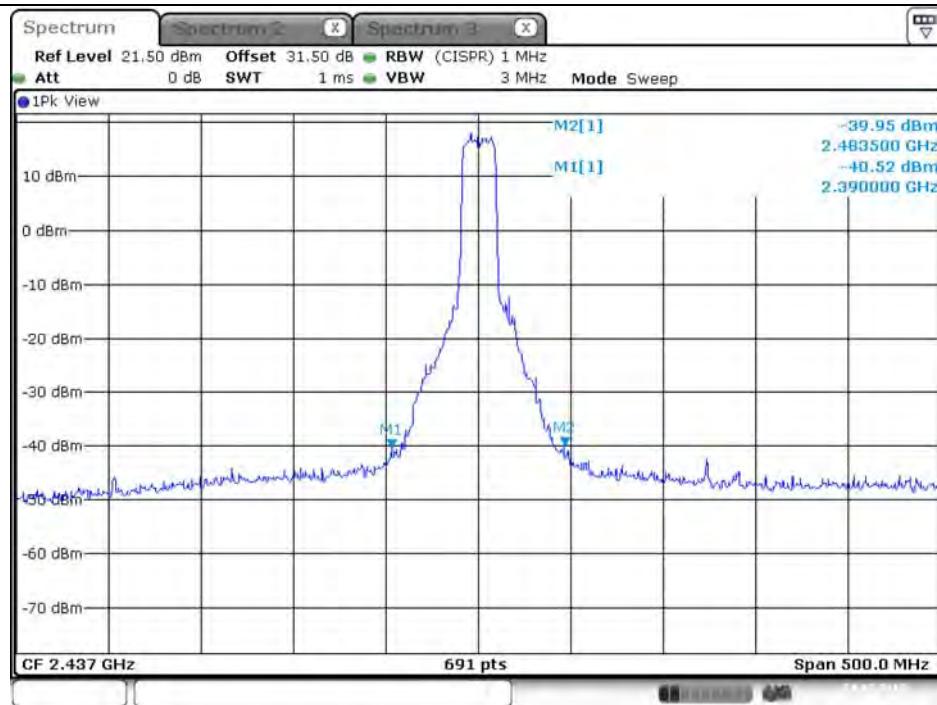
Plot on Configuration VHT20 / 2427 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2427 MHz / Average / Port 2 (TX2)


Plot on Configuration VHT20 / 2427 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2427 MHz / Peak / Port 2 (TX2)


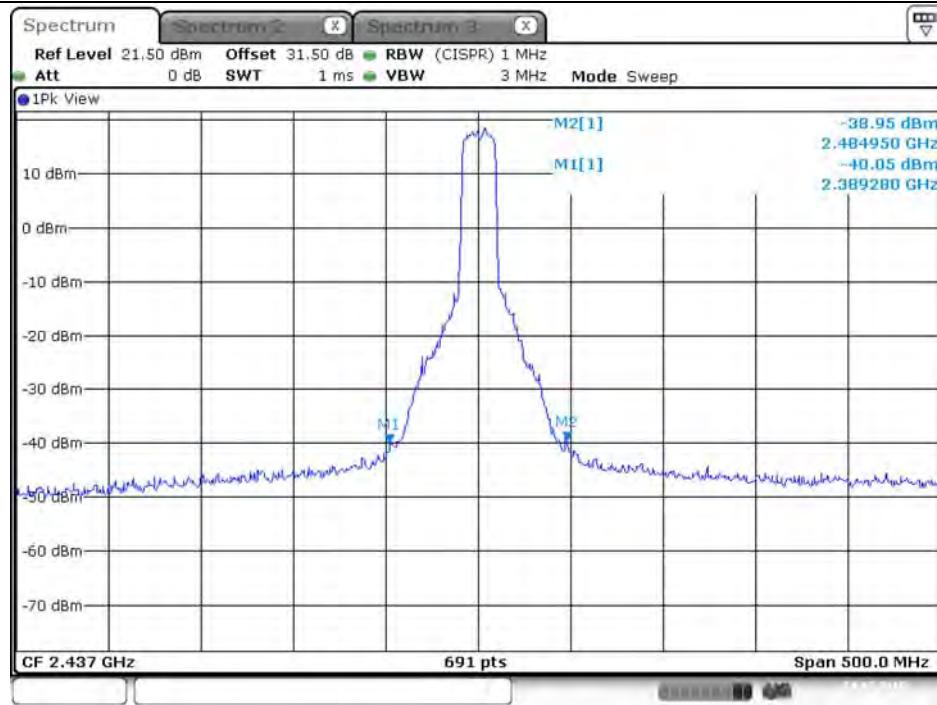
Plot on Configuration VHT20 / 2432 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2432 MHz / Average / Port 2 (TX2)


Plot on Configuration VHT20 / 2432 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2432 MHz / Peak / Port 2 (TX2)


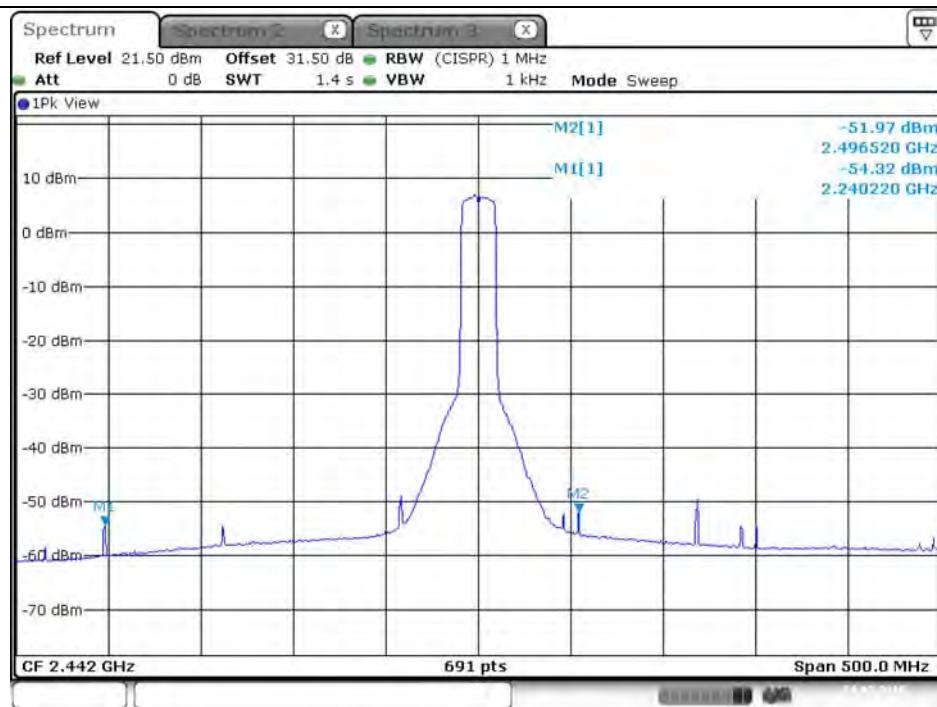
Plot on Configuration VHT20 / 2437 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2437 MHz / Average / Port 2 (TX2)


Plot on Configuration VHT20 / 2437 MHz / Peak / Port 1 (TX1)


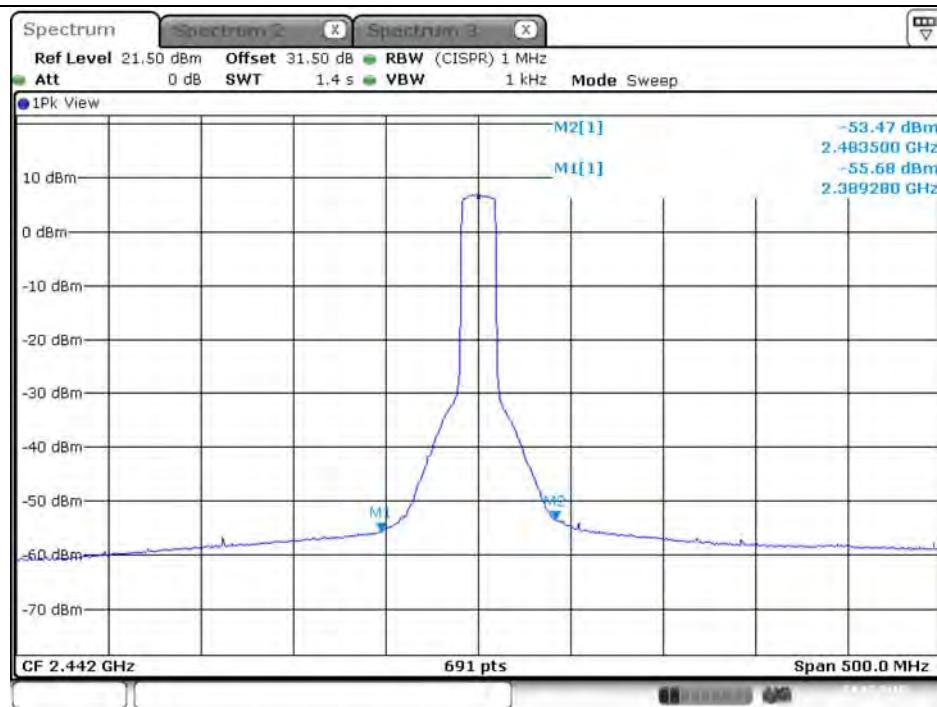
Date: 24.FEB.2018 18:37:54

Plot on Configuration VHT20 / 2437 MHz / Peak / Port 2 (TX2)


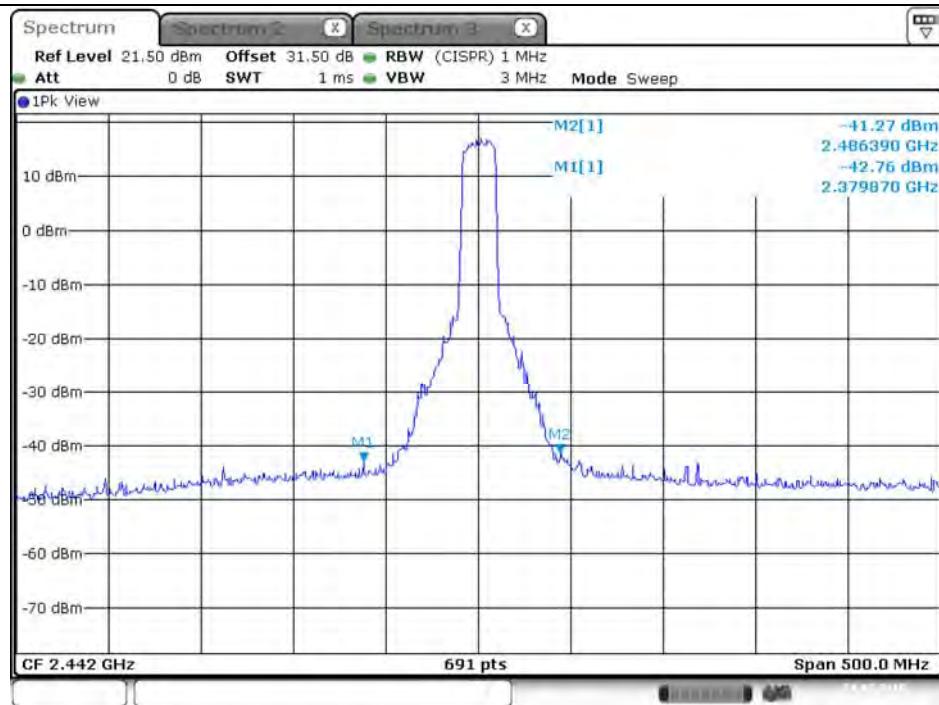
Date: 24.FEB.2018 18:31:44

Plot on Configuration VHT20 / 2442 MHz / Average / Port 1 (TX1)


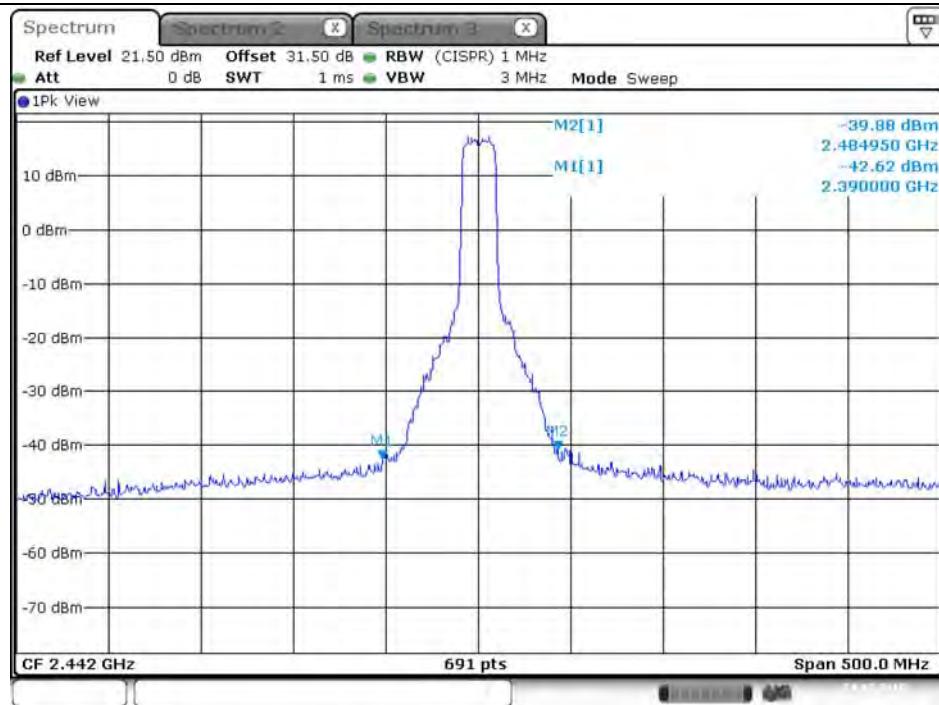
Date: 24.FEB.2018 20:52:19

Plot on Configuration VHT20 / 2442 MHz / Average / Port 2 (TX2)


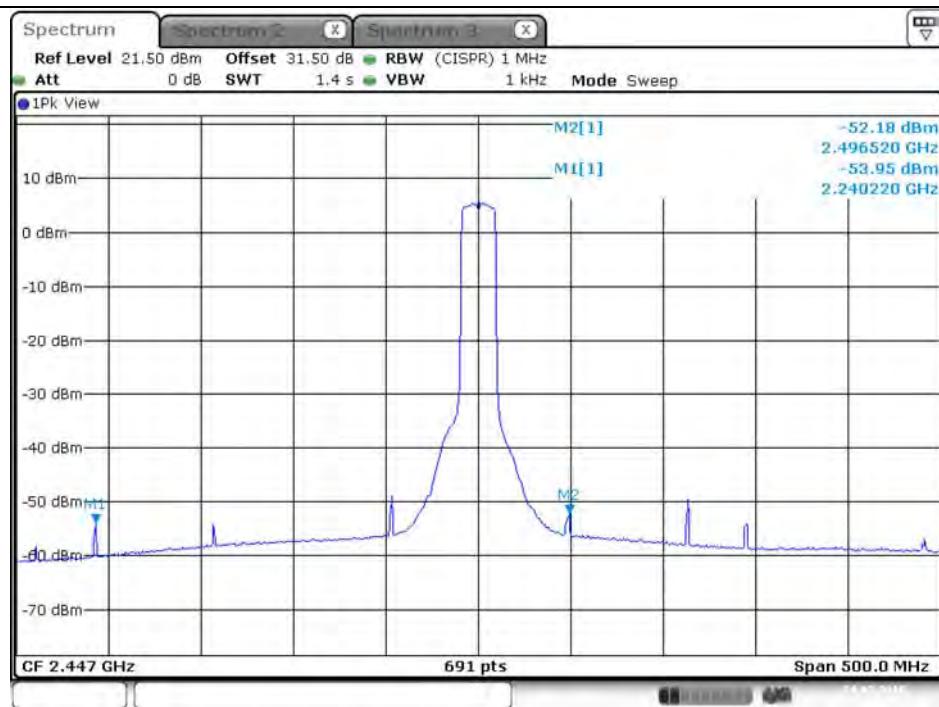
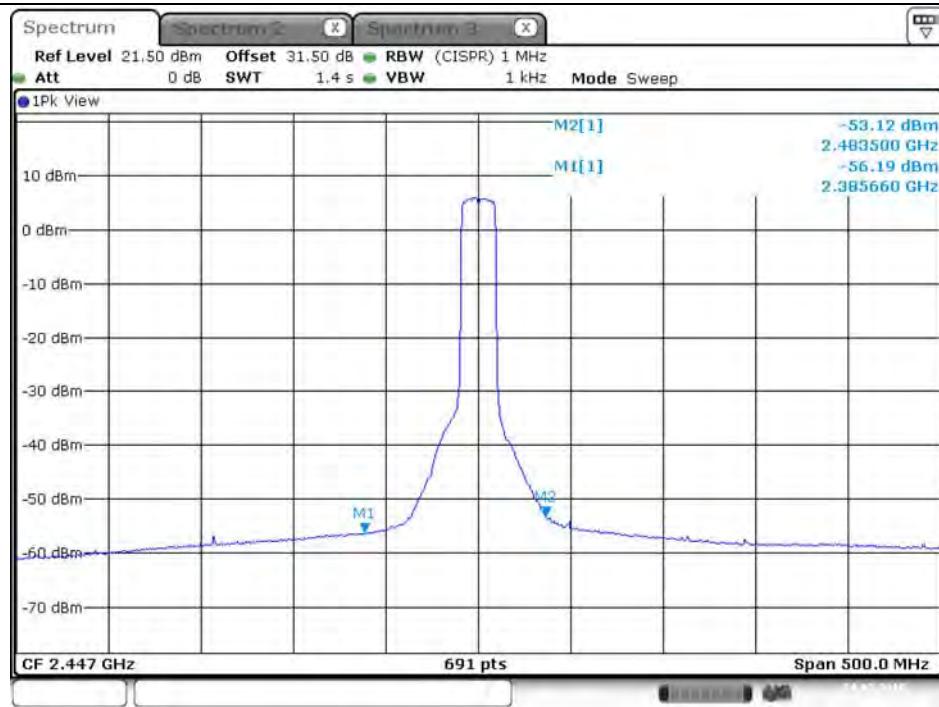
Date: 24.FEB.2018 20:47:23

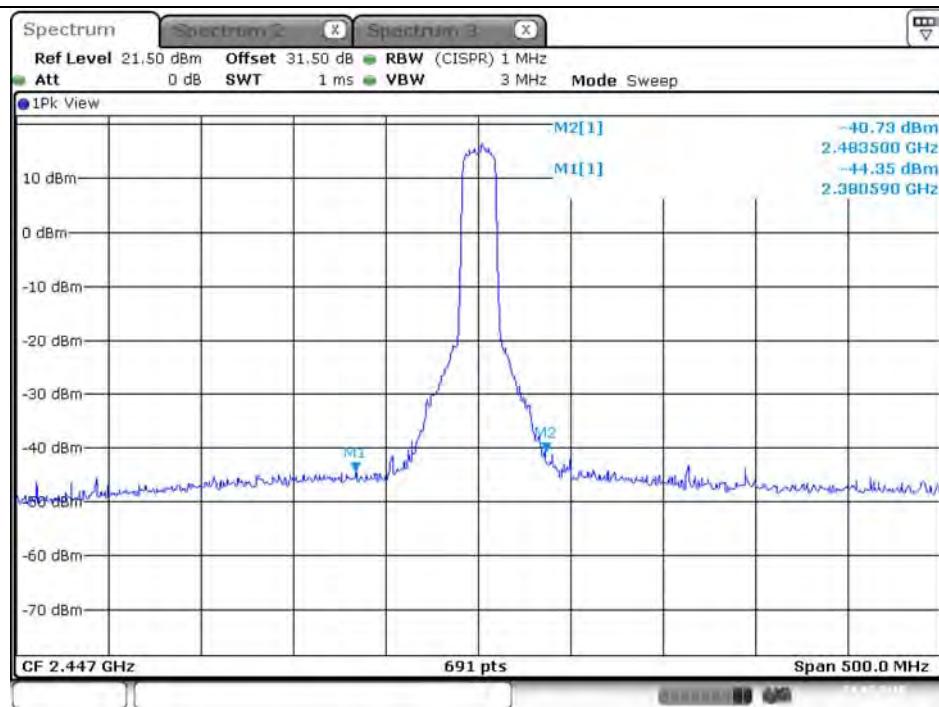
Plot on Configuration VHT20 / 2442 MHz / Peak / Port 1 (TX1)


Date: 24.FEB.2018 20:54:24

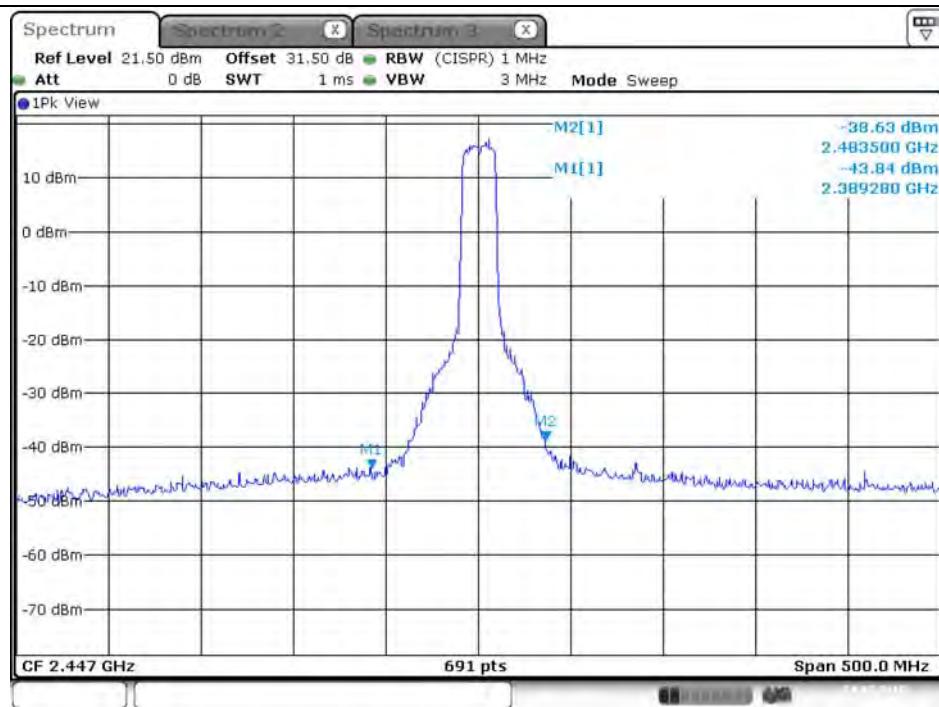
Plot on Configuration VHT20 / 2442 MHz / Peak / Port 2 (TX2)


Date: 24.FEB.2018 20:49:35

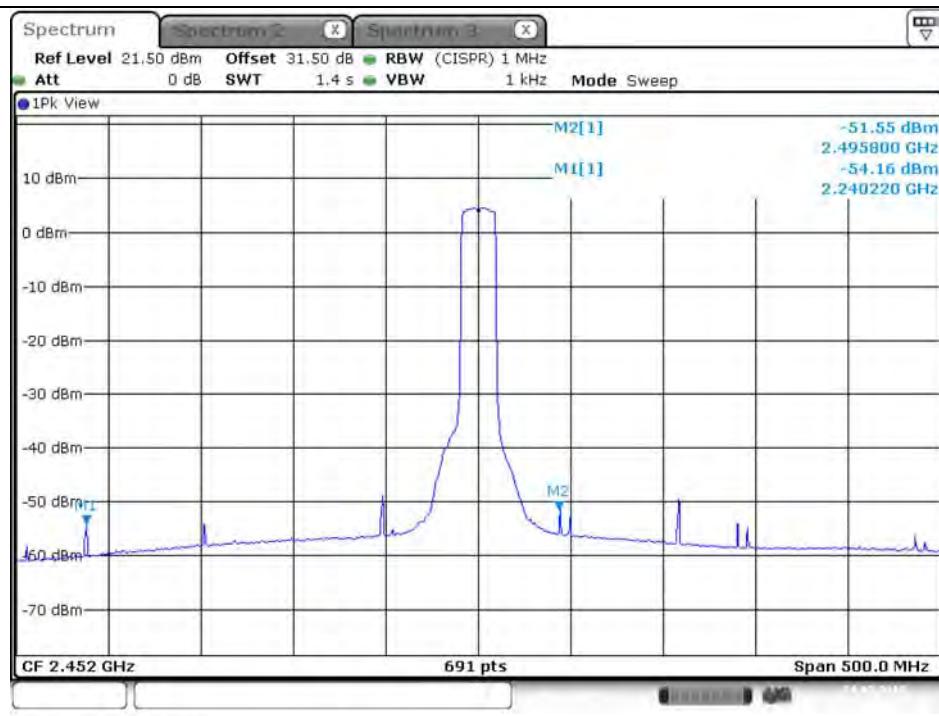
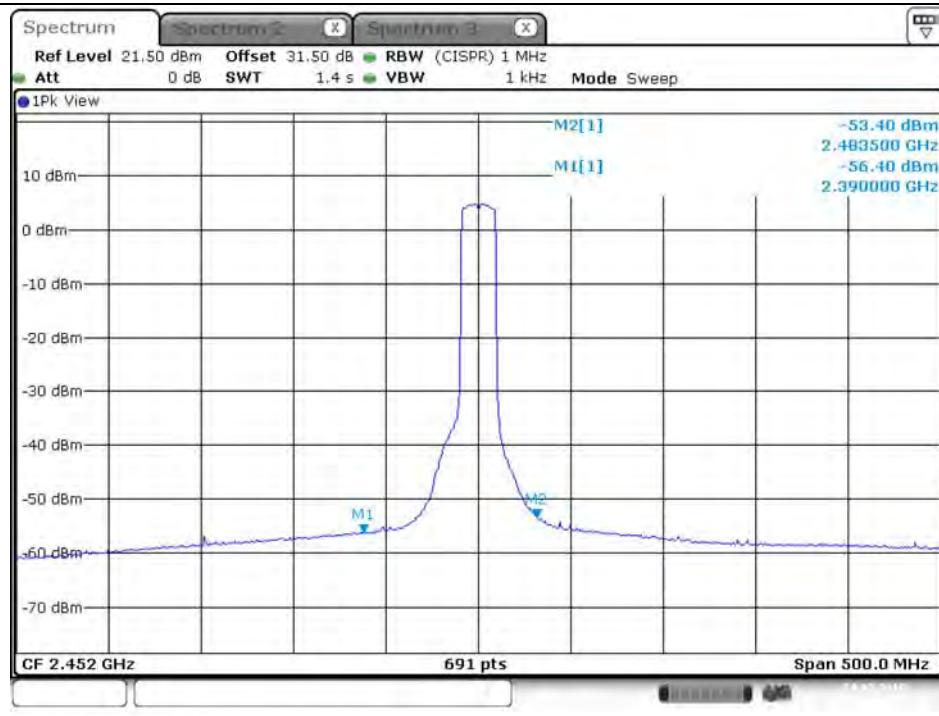
Plot on Configuration VHT20 / 2447 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2447 MHz / Average / Port 2 (TX2)


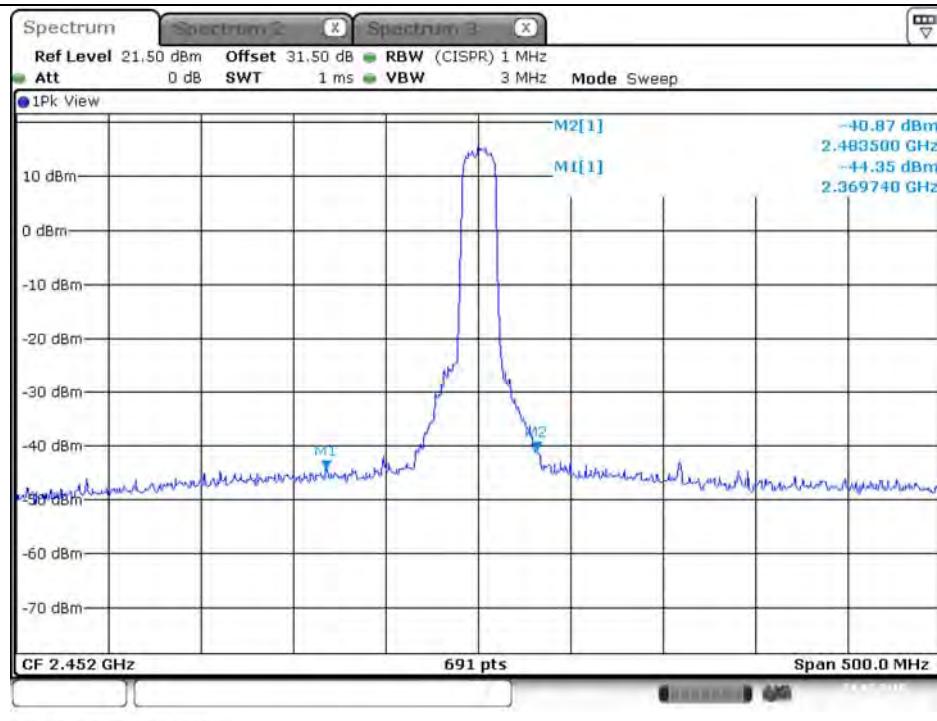
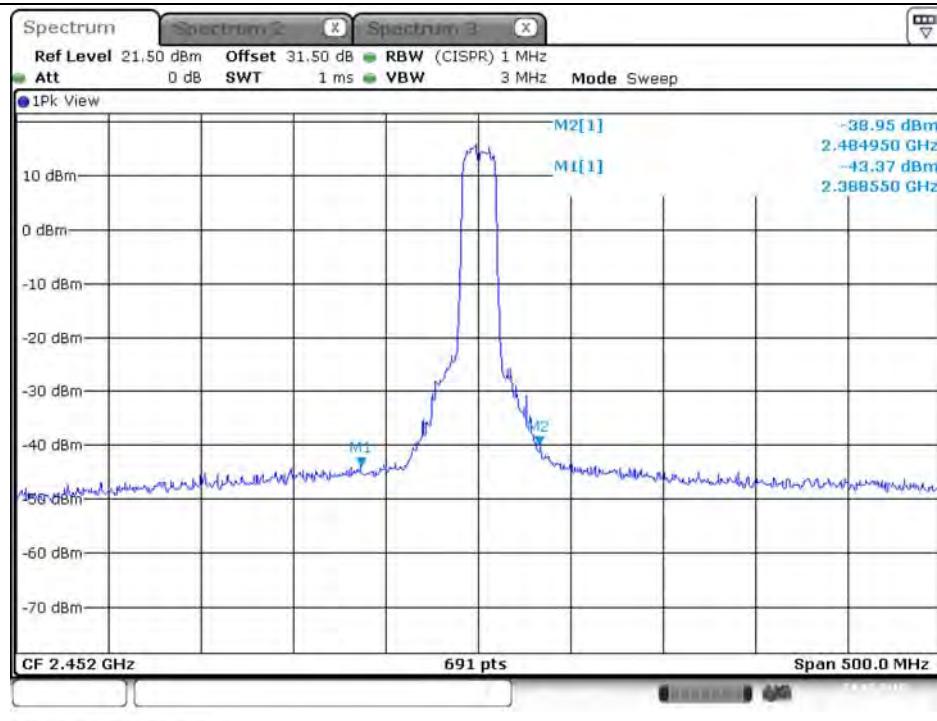
Plot on Configuration VHT20 / 2447 MHz / Peak / Port 1 (TX1)


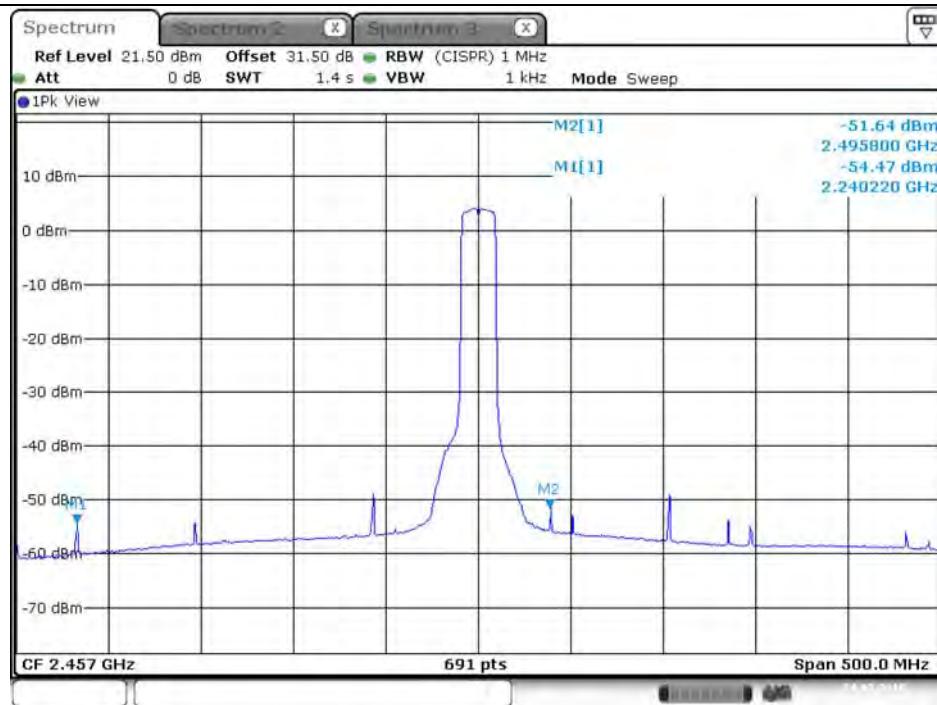
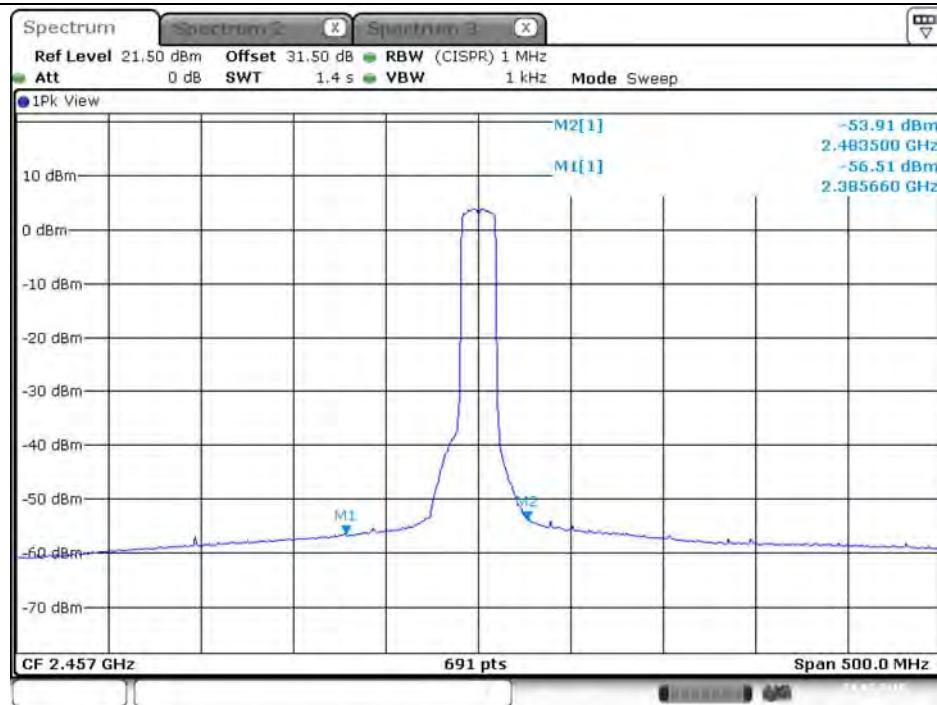
Date: 24.FEB.2018 20:37:50

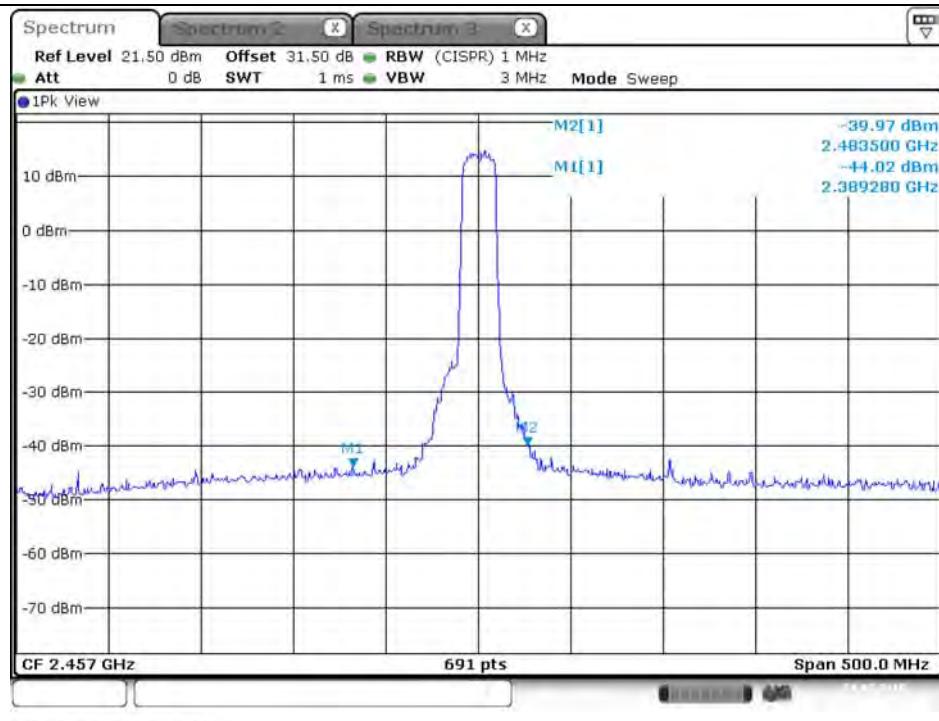
Plot on Configuration VHT20 / 2447 MHz / Peak / Port 2 (TX2)


Date: 24.FEB.2018 20:43:05

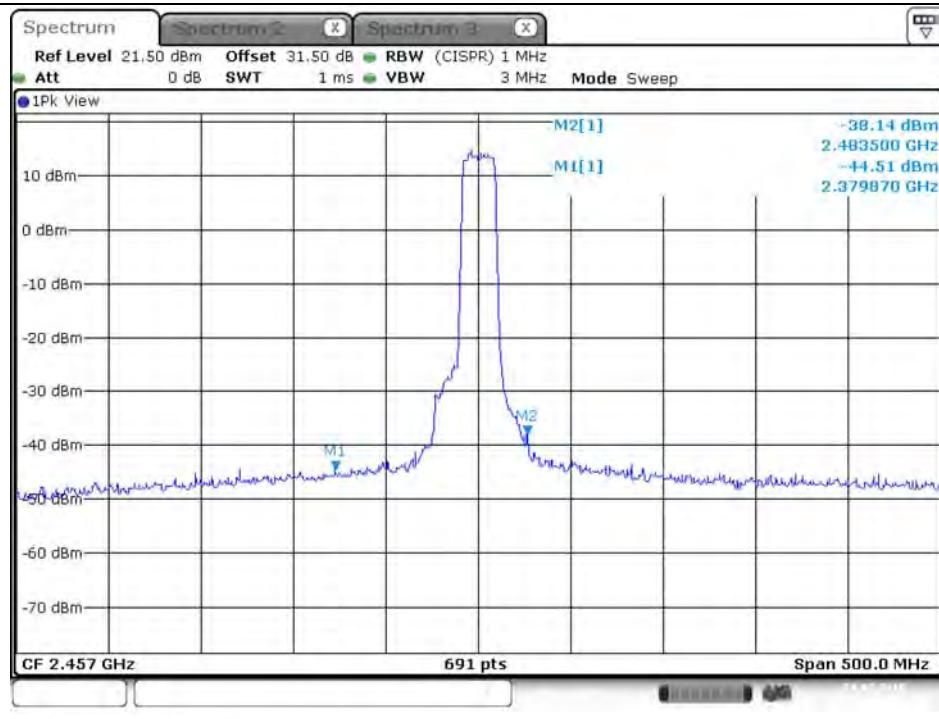
Plot on Configuration VHT20 / 2452 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2452 MHz / Average / Port 2 (TX2)


Plot on Configuration VHT20 / 2452 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2452 MHz / Peak / Port 2 (TX2)


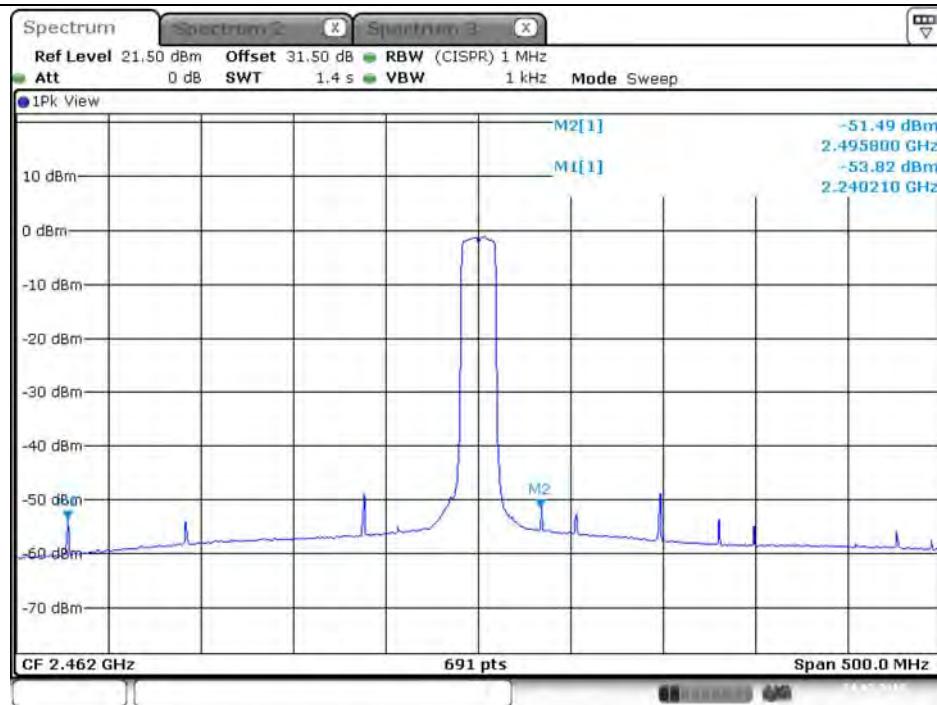
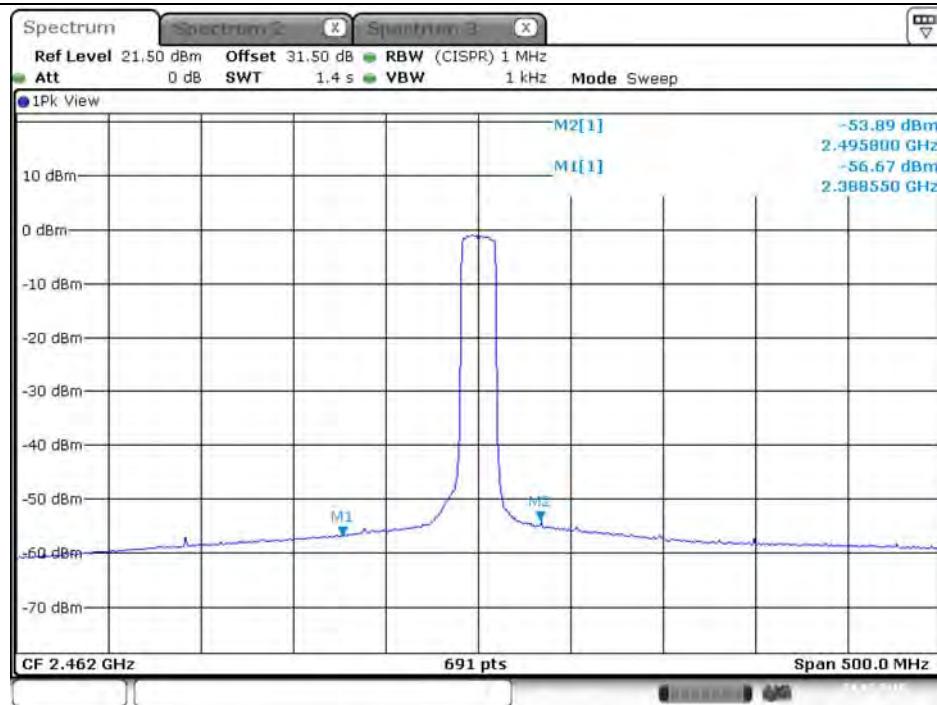
Plot on Configuration VHT20 / 2457 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2457 MHz / Average / Port 2 (TX2)


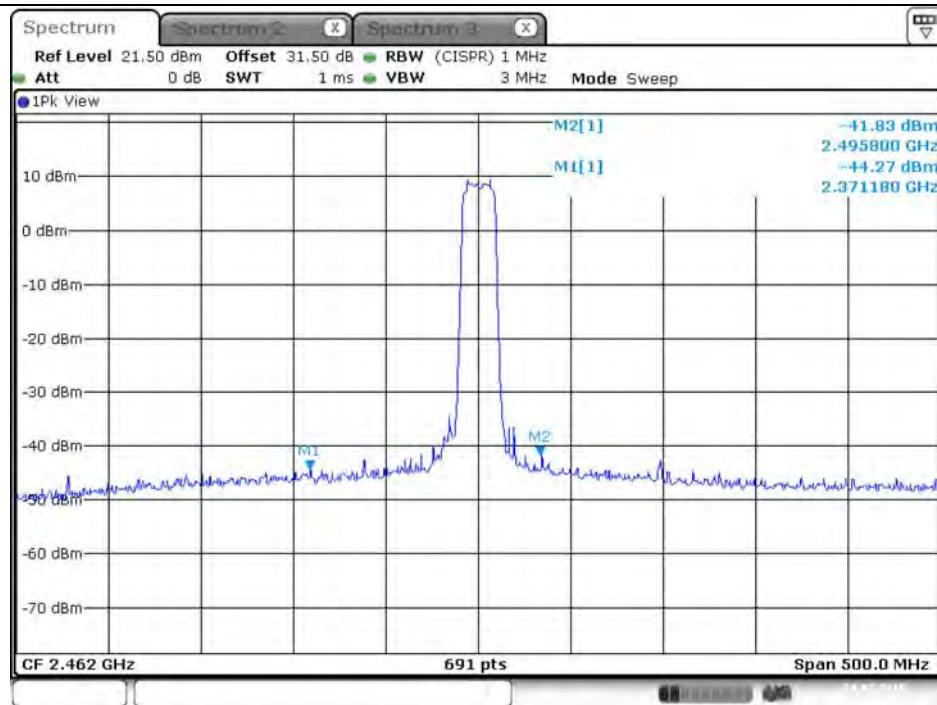
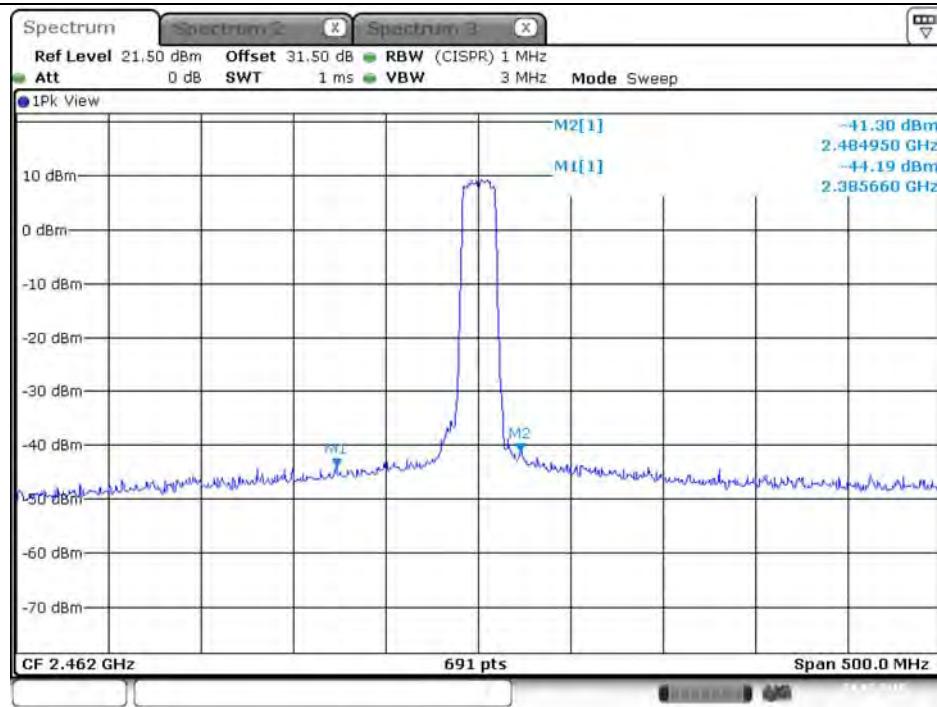
Plot on Configuration VHT20 / 2457 MHz / Peak / Port 1 (TX1)


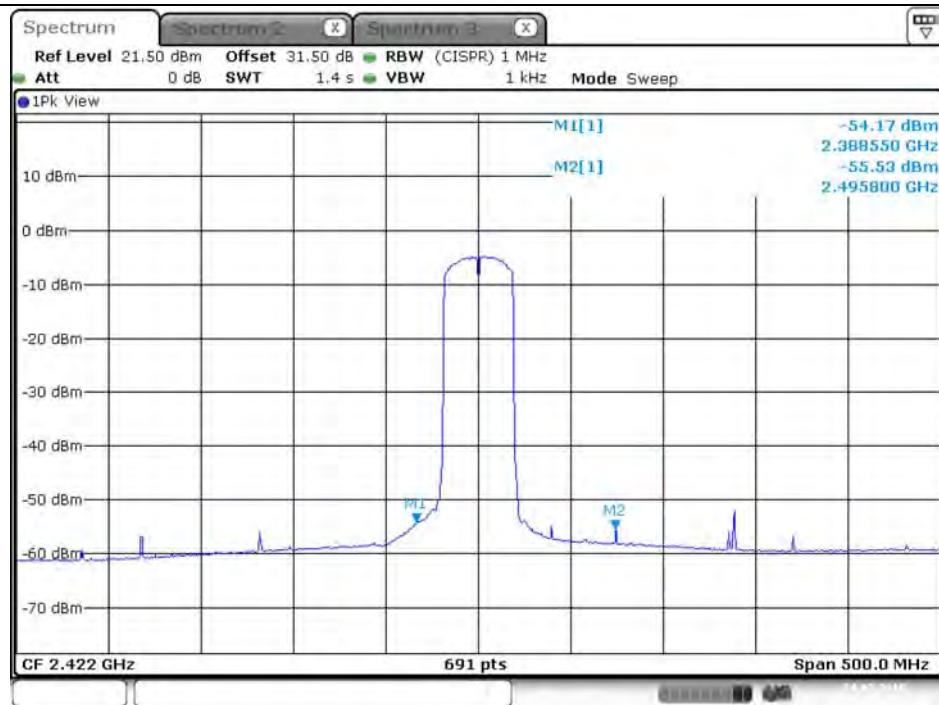
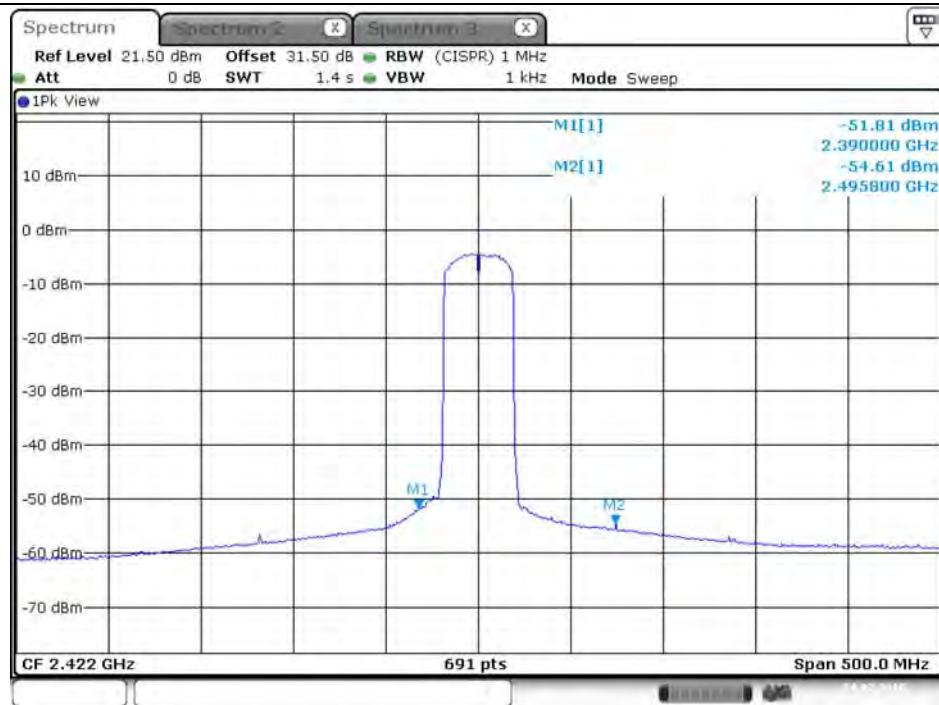
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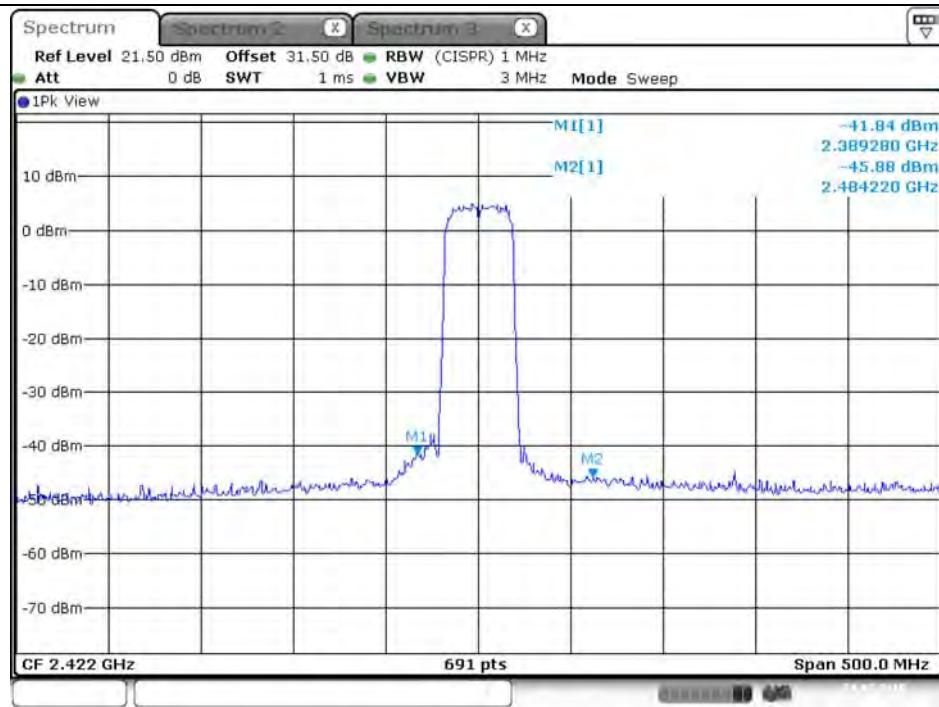
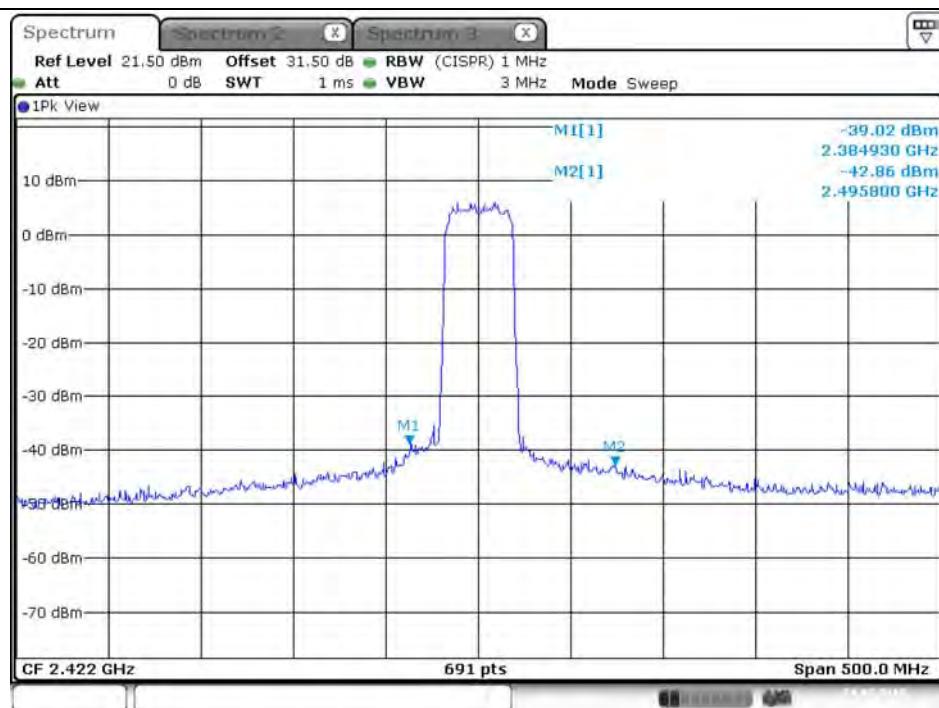
Plot on Configuration VHT20 / 2457 MHz / Peak / Port 2 (TX2)


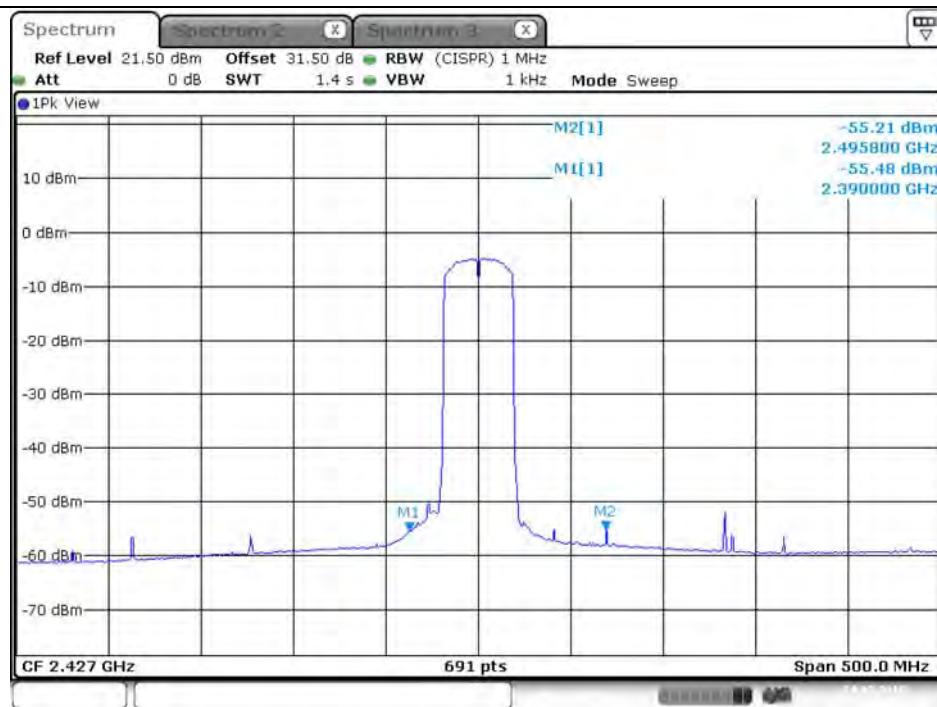
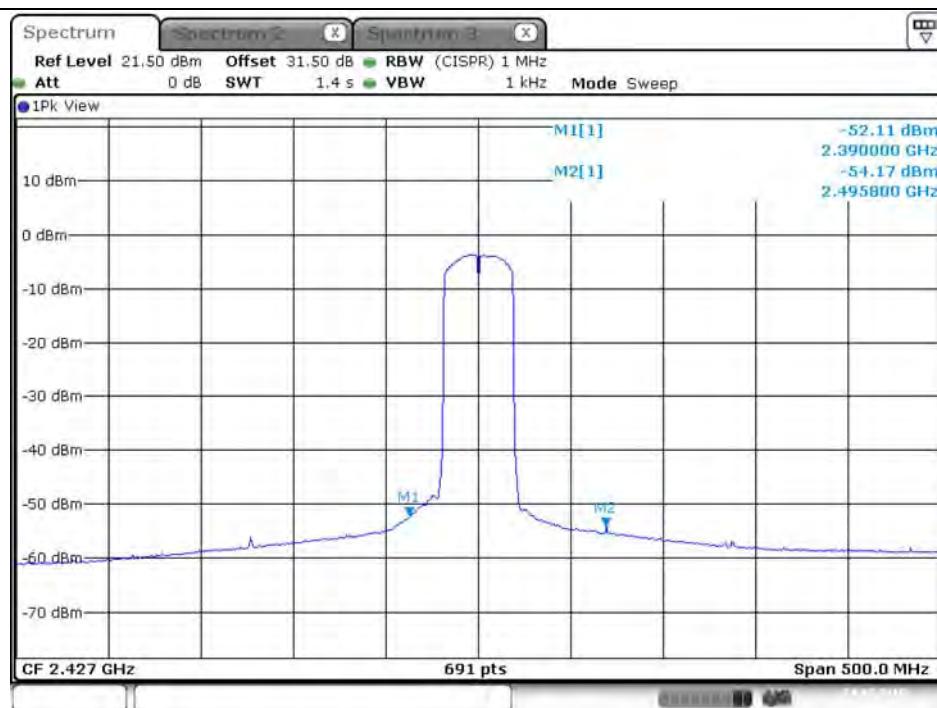
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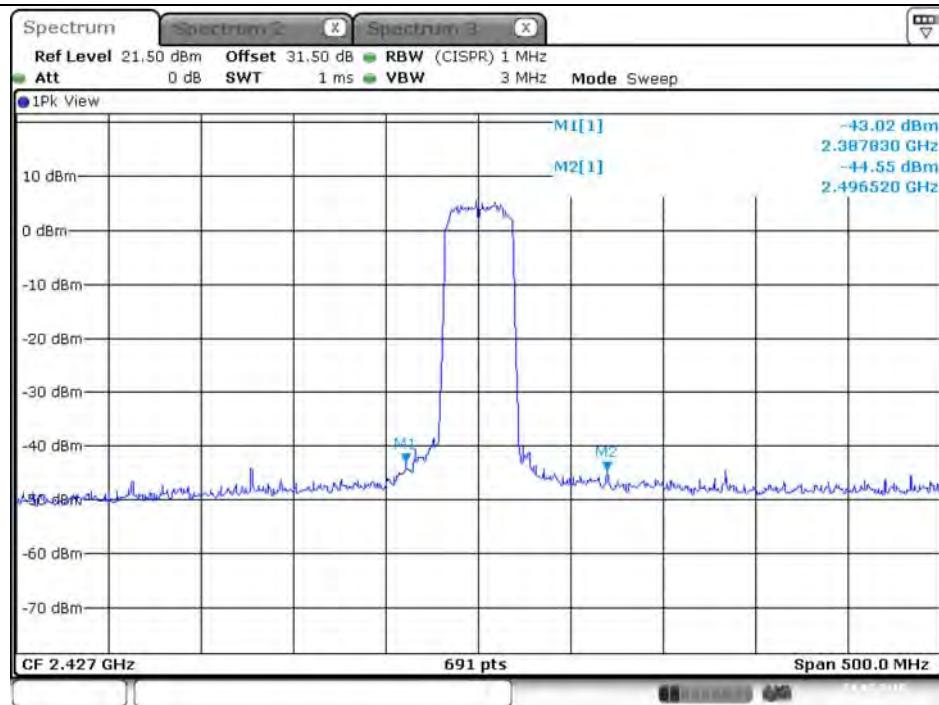
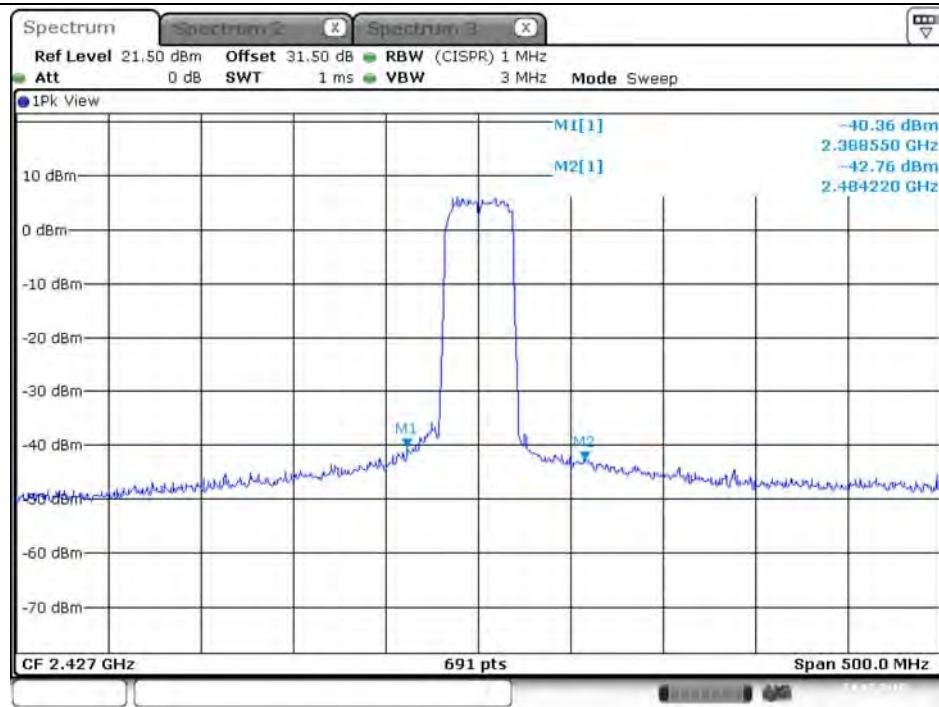
Plot on Configuration VHT20 / 2462 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT20 / 2462 MHz / Average / Port 2 (TX2)


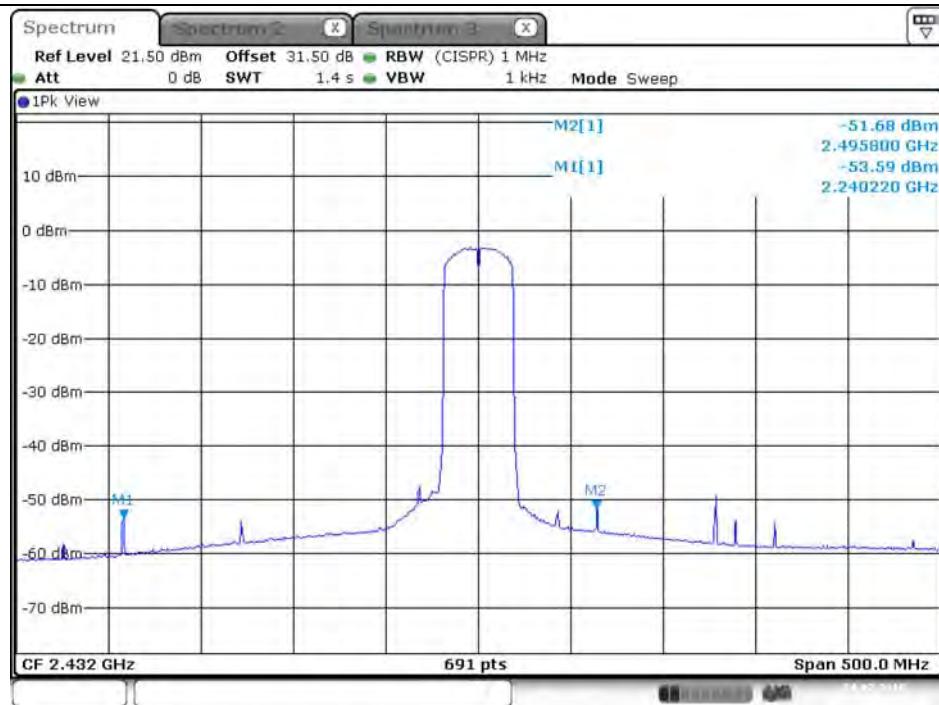
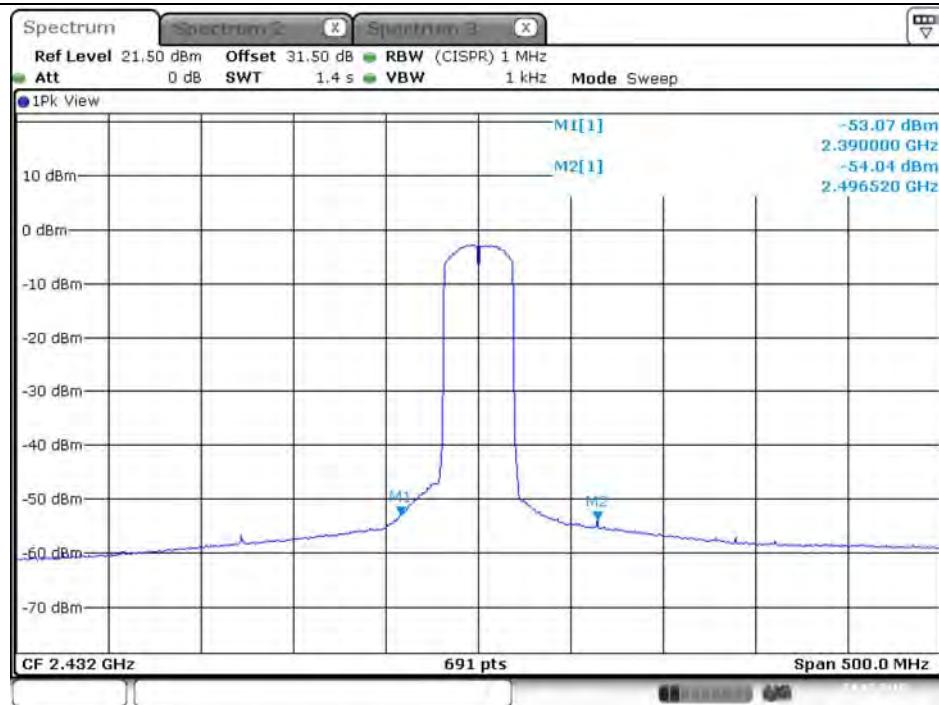
Plot on Configuration VHT20 / 2462 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT20 / 2462 MHz / Peak / Port 2 (TX2)


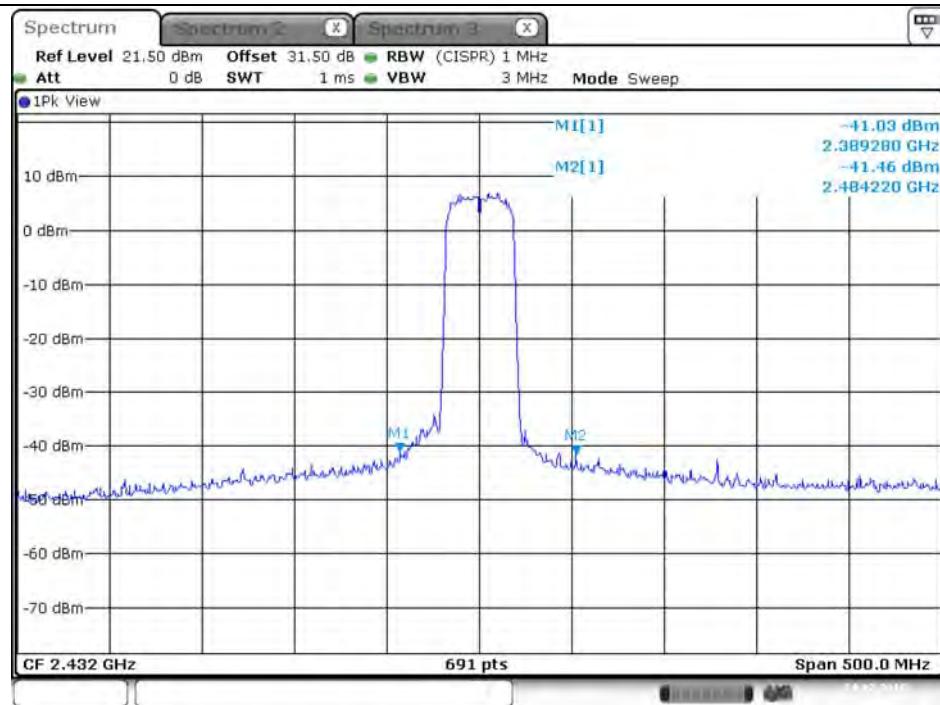
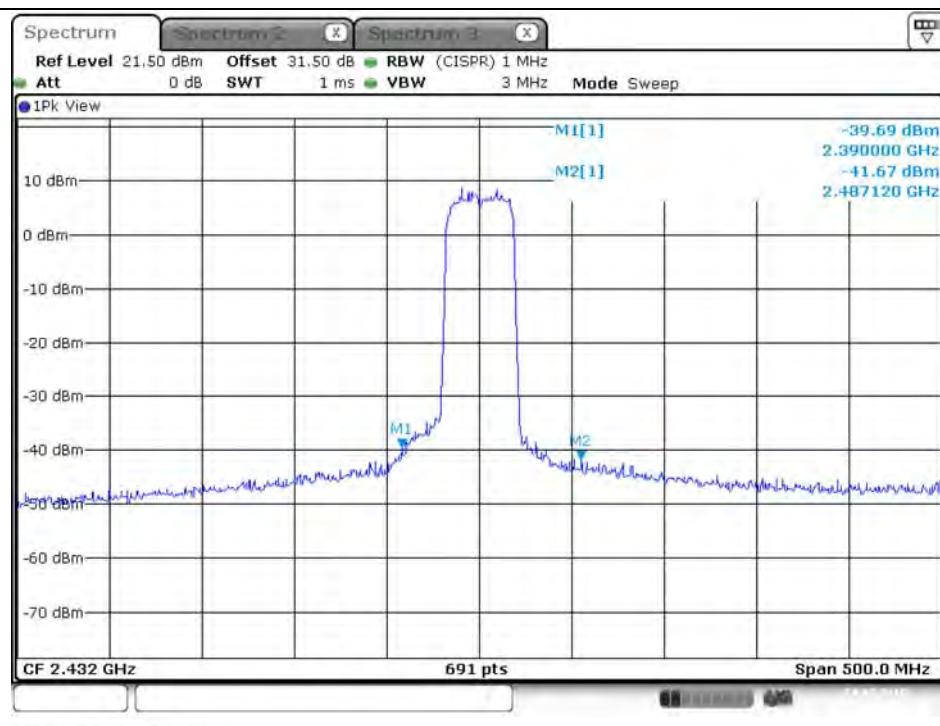
Plot on Configuration VHT40 / 2422 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT40 / 2422 MHz / Average / Port 2 (TX2)


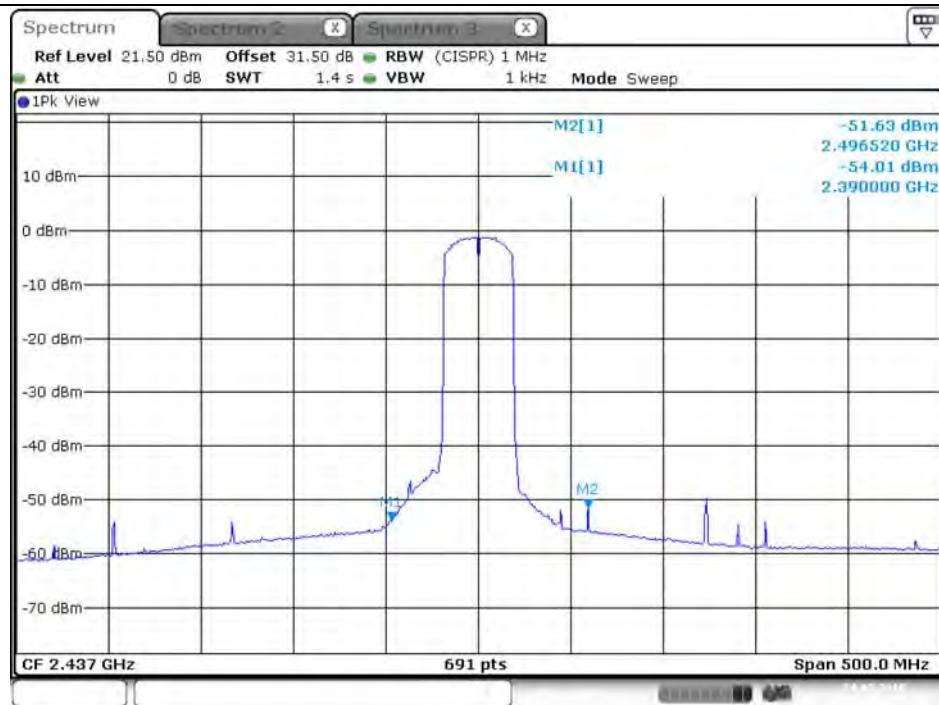
Plot on Configuration VHT40 / 2422 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT40 / 2422 MHz / Peak / Port 2 (TX2)


Plot on Configuration VHT40 / 2427 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT40 / 2427 MHz / Average / Port 2 (TX2)


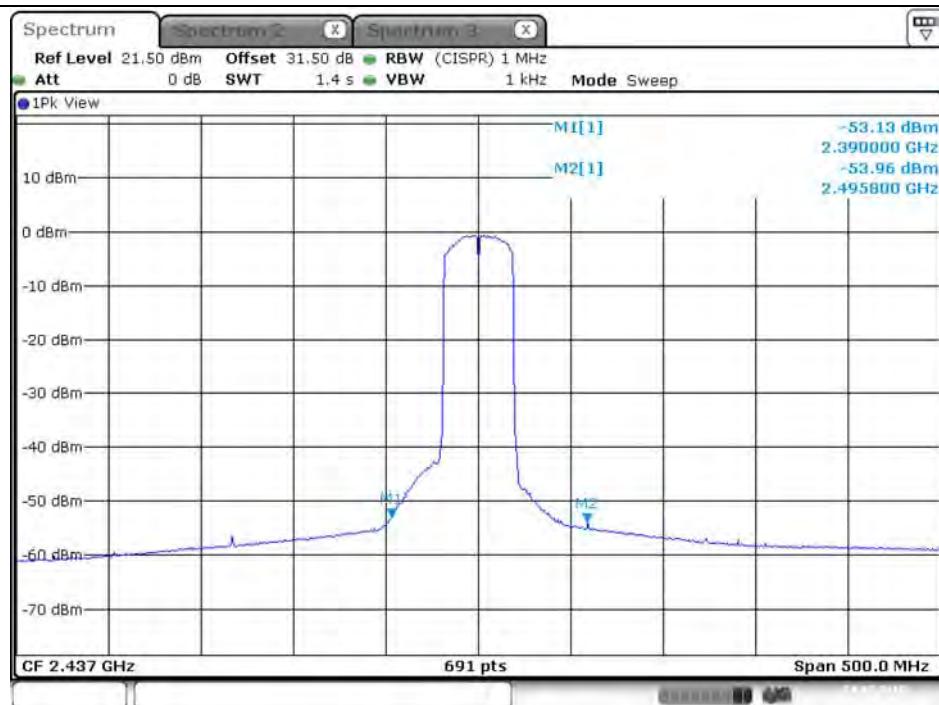
Plot on Configuration VHT40 / 2427 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT40 / 2427 MHz / Peak / Port 2 (TX2)


Plot on Configuration VHT40 / 2432 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT40 / 2432 MHz / Average / Port 2 (TX2)


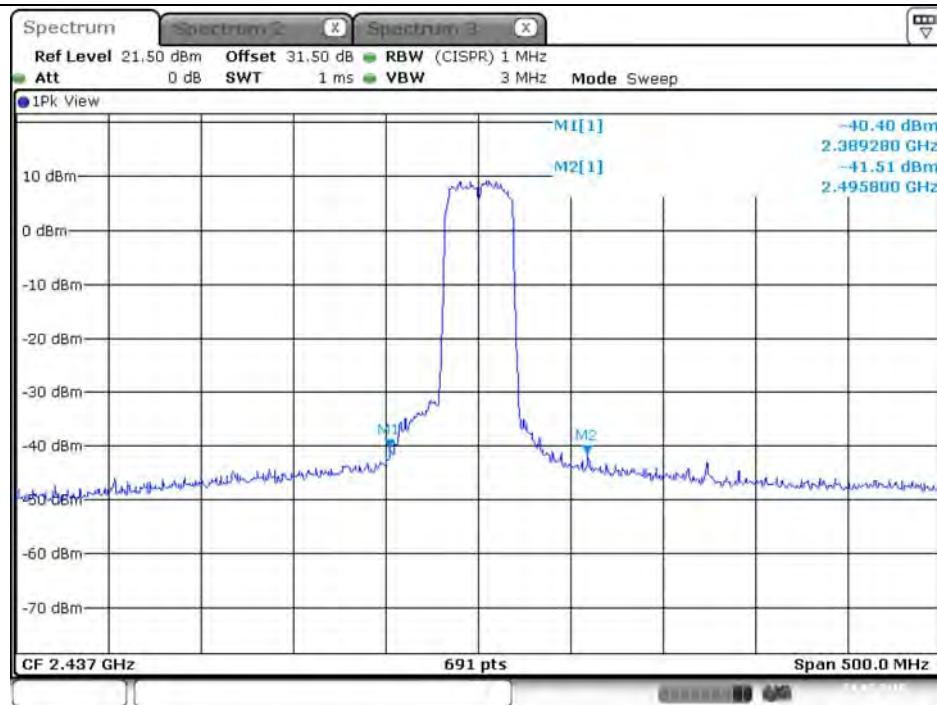
Plot on Configuration VHT40 / 2432 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT40 / 2432 MHz / Peak / Port 2 (TX2)


Plot on Configuration VHT40 / 2437 MHz / Average / Port 1 (TX1)


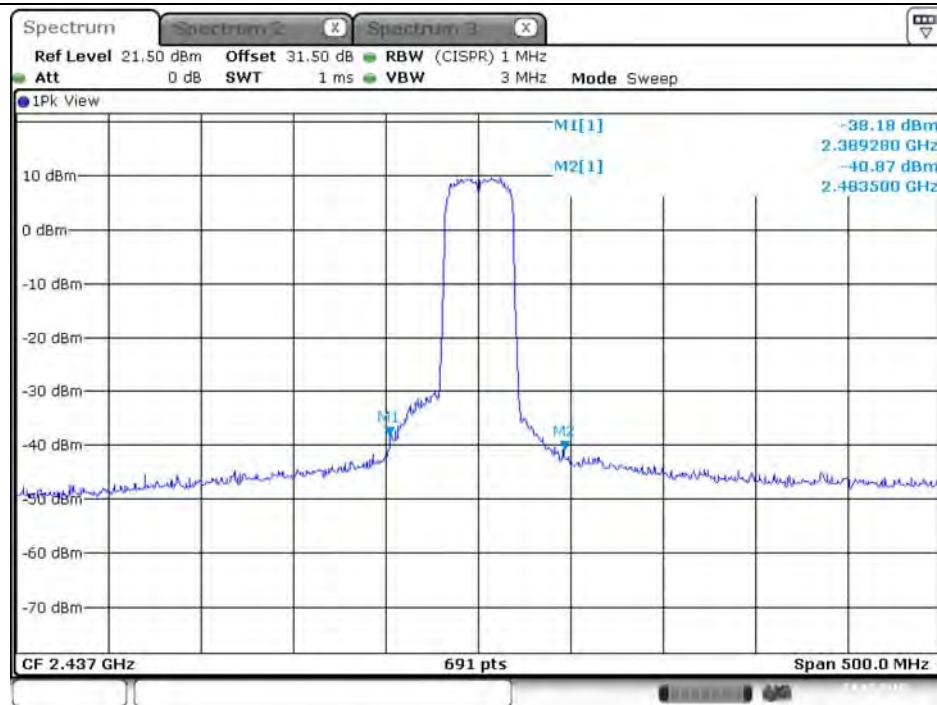
Date: 24.FEB.2018 21:36:23

Plot on Configuration VHT40 / 2437 MHz / Average / Port 2 (TX2)


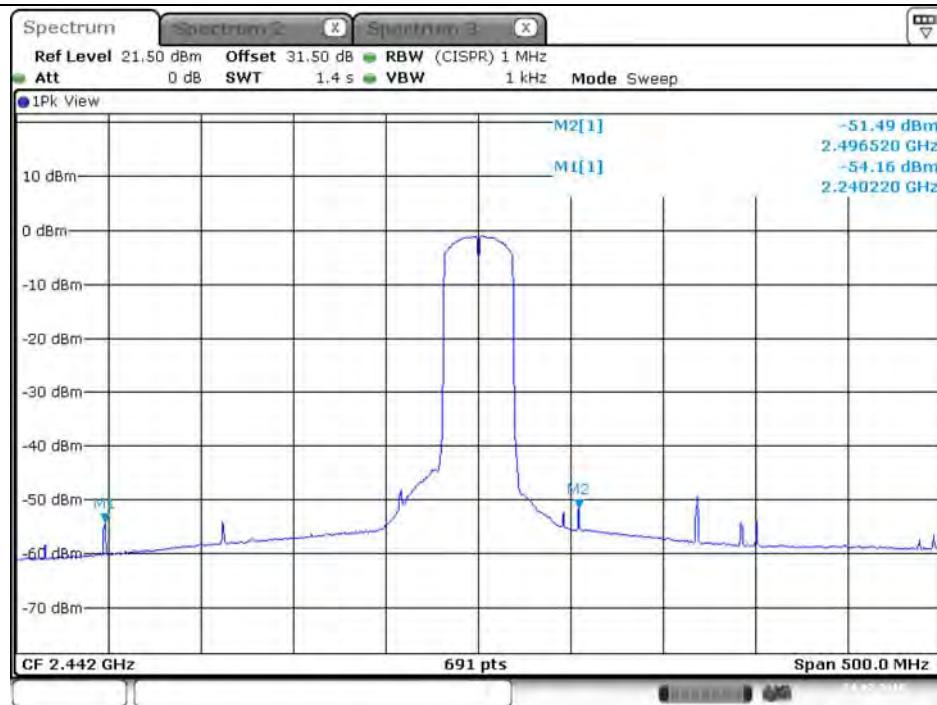
Date: 24.FEB.2018 21:29:28

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 1 (TX1)


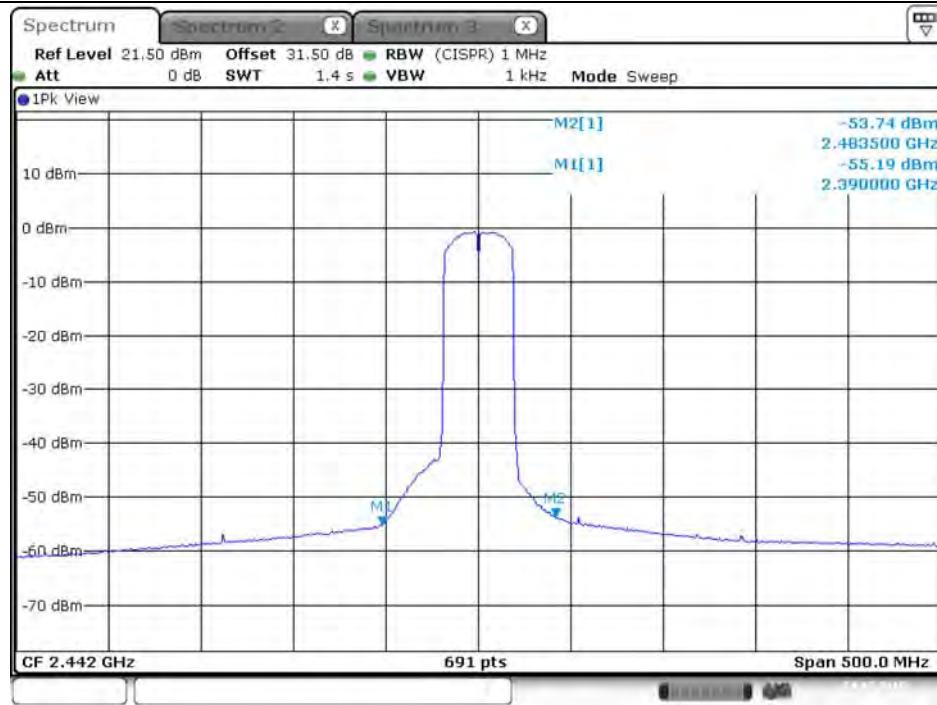
Date: 24.FEB.2018 21:38:43

Plot on Configuration VHT40 / 2437 MHz / Peak / Port 2 (TX2)


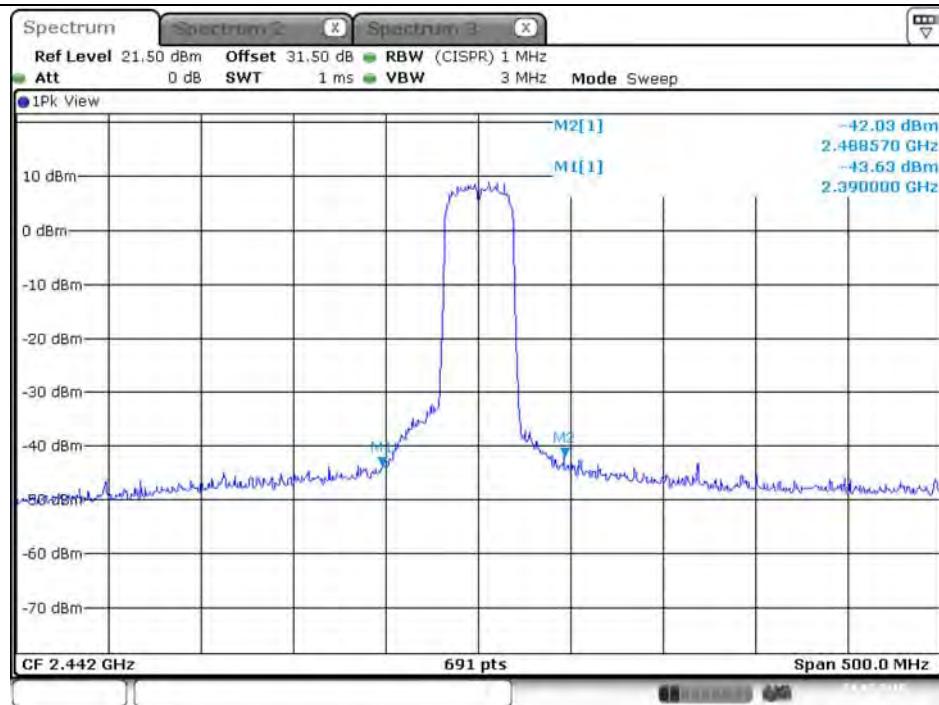
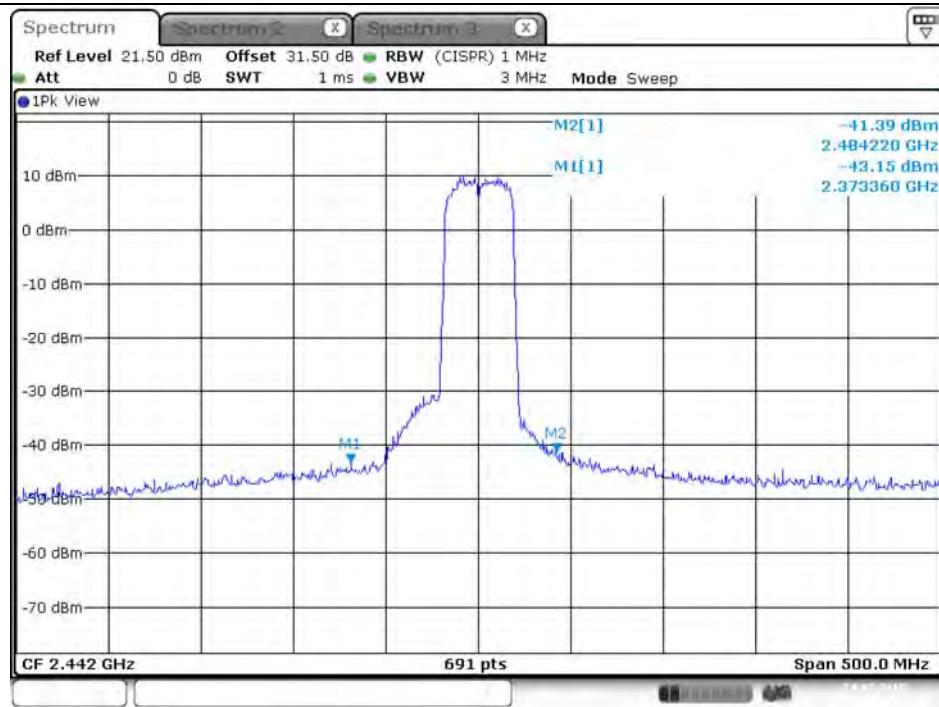
Date: 24.FEB.2018 21:32:08

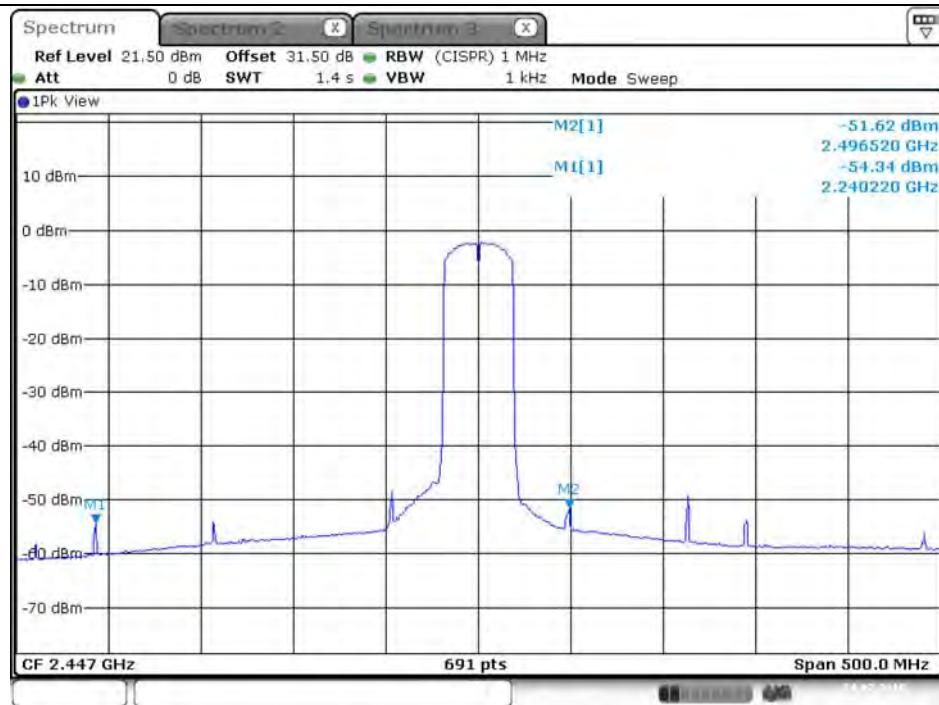
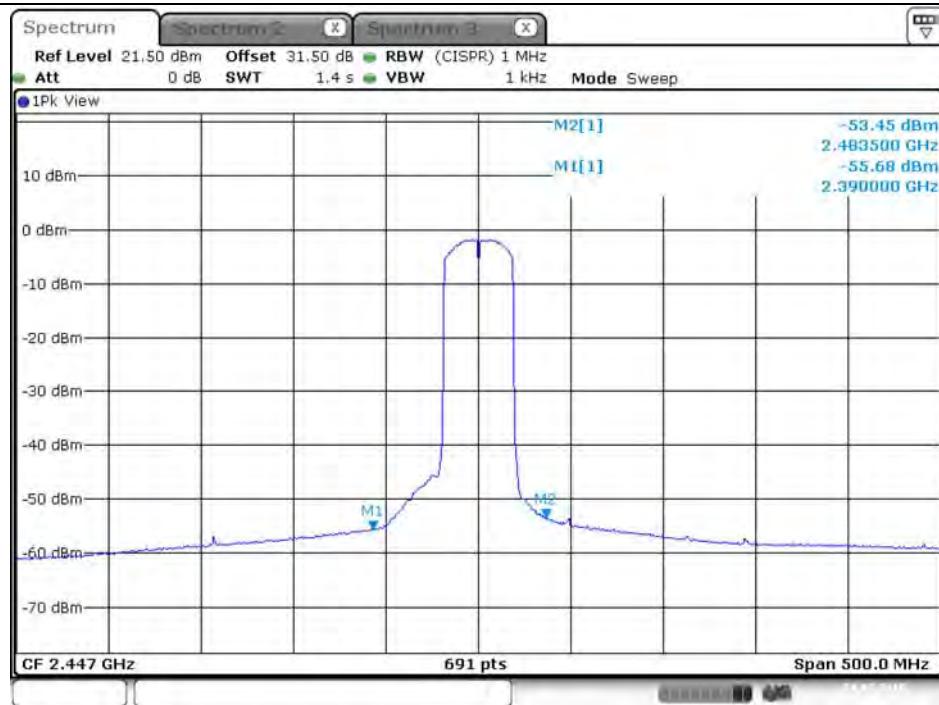
Plot on Configuration VHT40 / 2442 MHz / Average / Port 1 (TX1)


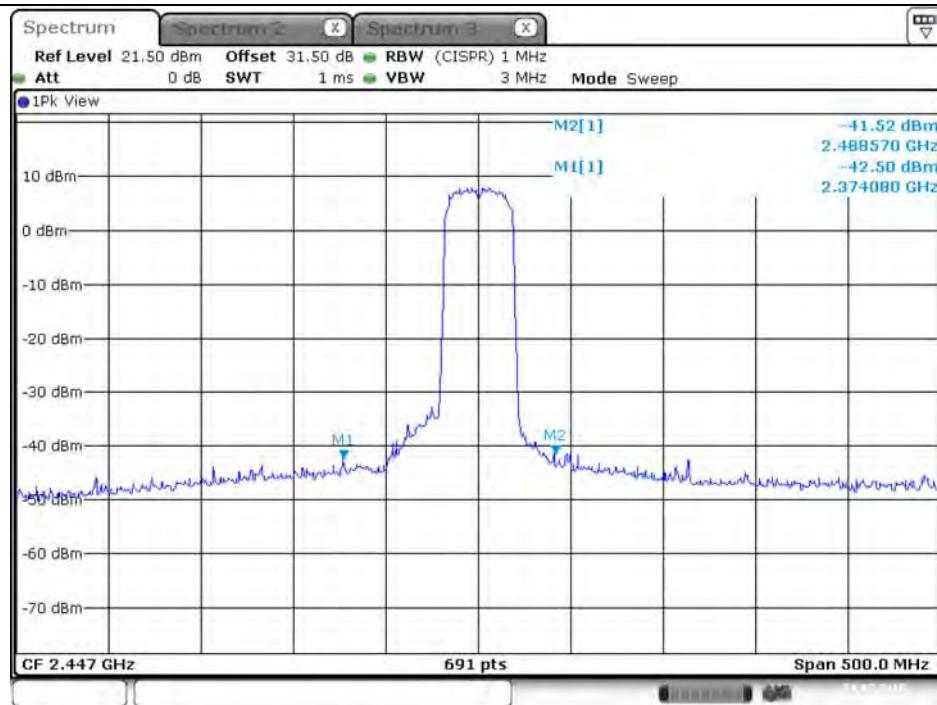
Date: 24.FEB.2018 22:22:21

Plot on Configuration VHT40 / 2442 MHz / Average / Port 2 (TX2)


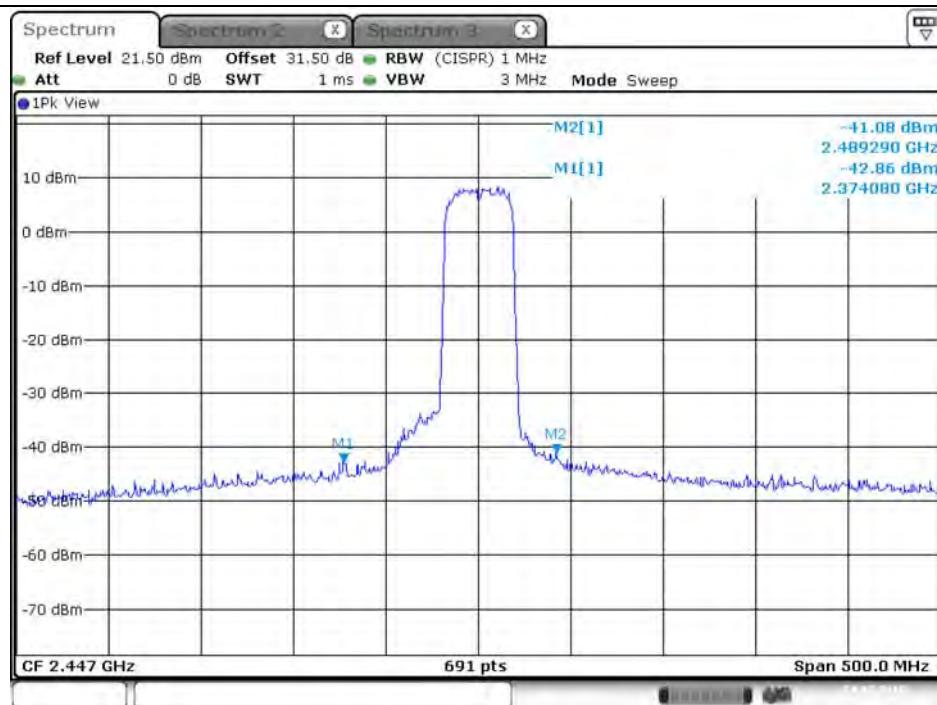
Date: 24.FEB.2018 22:27:56

Plot on Configuration VHT40 / 2442 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT40 / 2442 MHz / Peak / Port 2 (TX2)


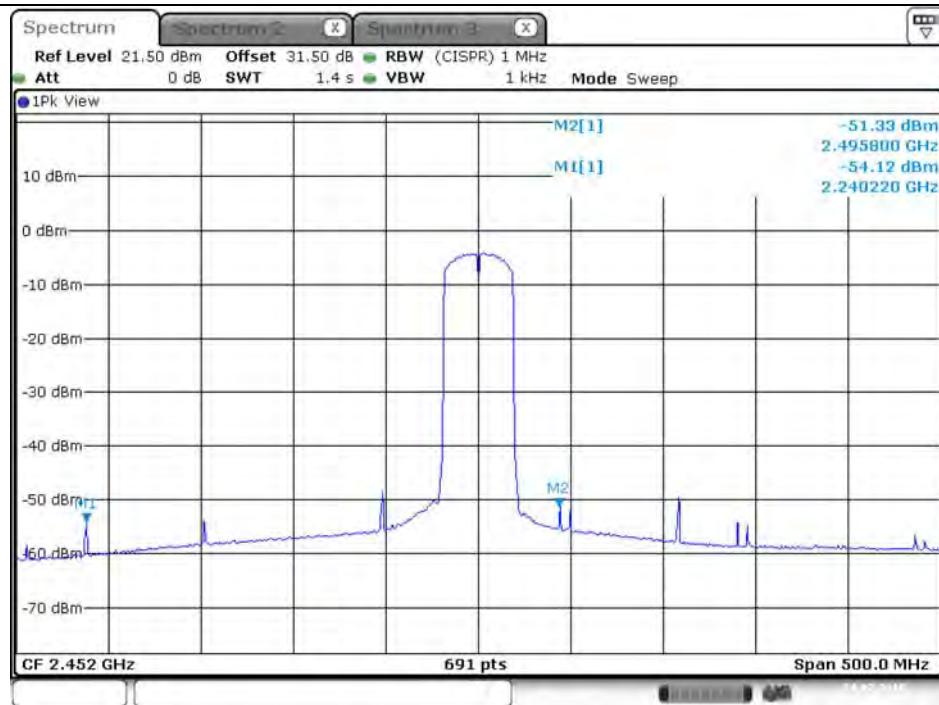
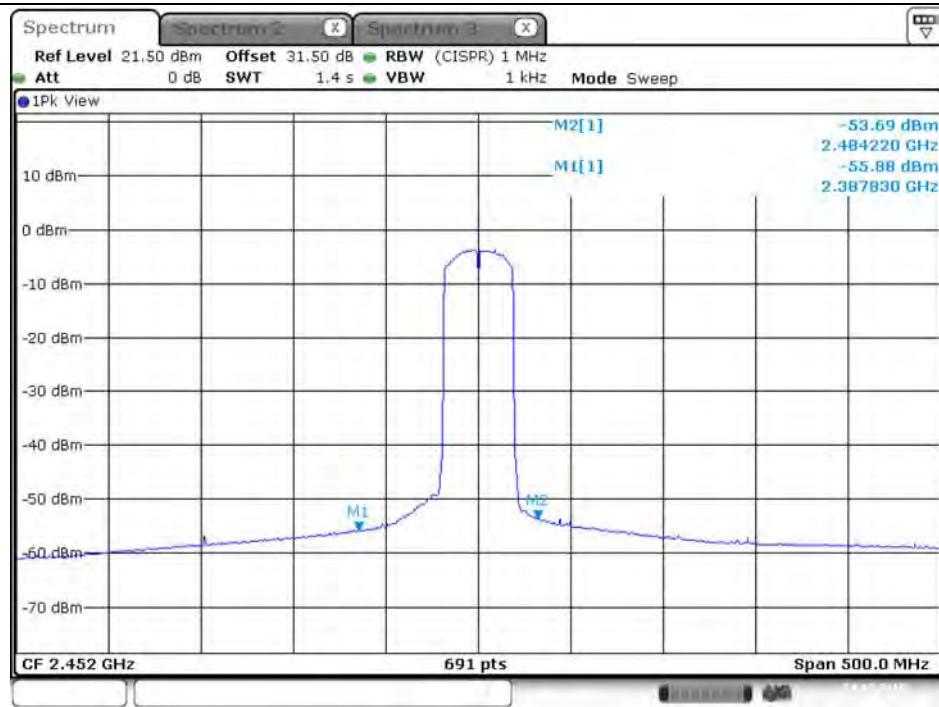
Plot on Configuration VHT40 / 2447 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT40 / 2447 MHz / Average / Port 2 (TX2)


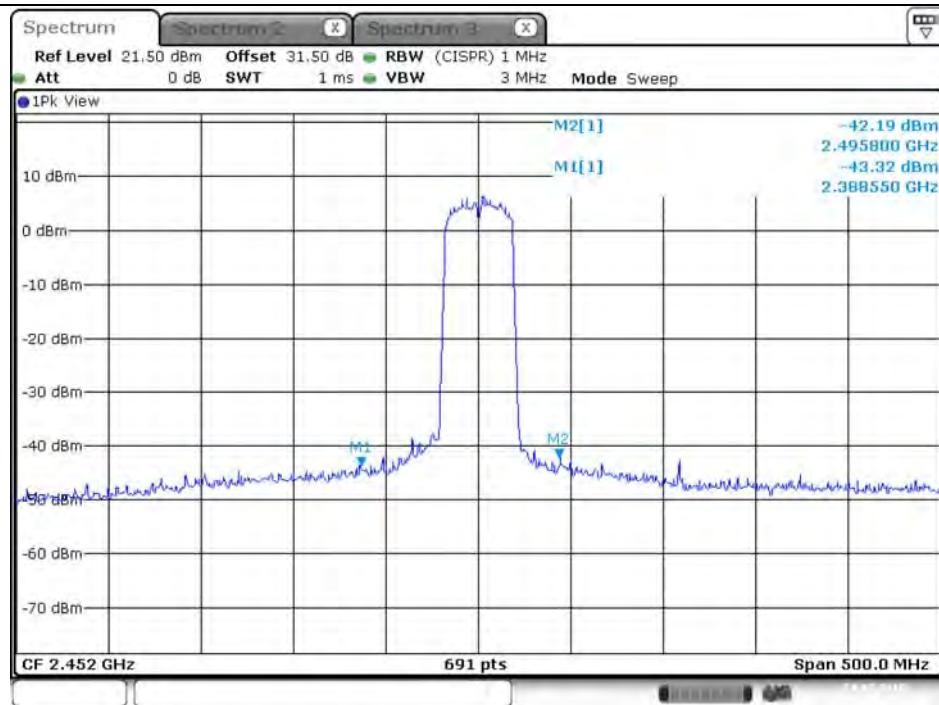
Plot on Configuration VHT40 / 2447 MHz / Peak / Port 1 (TX1)


Date: 24.FEB.2018 22:19:39

Plot on Configuration VHT40 / 2447 MHz / Peak / Port 2 (TX2)


Date: 24.FEB.2018 22:14:35

Plot on Configuration VHT40 / 2452 MHz / Average / Port 1 (TX1)

Plot on Configuration VHT40 / 2452 MHz / Average / Port 2 (TX2)


Plot on Configuration VHT40 / 2452 MHz / Peak / Port 1 (TX1)

Plot on Configuration VHT40 / 2452 MHz / Peak / Port 2 (TX2)
