FCC RADIO TEST REPORT

FCC ID	:	Z8H89FT0016
Equipment	:	5GHz Force 300-16
Brand Name	:	Cambium Networks
Model Name	:	5GHz Force 300-16
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
Standard	:	47 CFR FCC Part 15.247

The product was received on Mar. 15, 2018, and testing was started from Mar. 15, 2018 and completed on Nov. 30, 2018. We, SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Cliff Chang

SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR7O2407-04AA	01	Initial issue of report	Aug. 06, 2018
FR7O2407-04AA	02	1. Changing the EUT model name to 5GHz Force 300-16. 2. Changing the approval to full modular approval from end product approval.	Nov. 30, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.
Comments and Explanations:
None

Reviewed by: Sam Chen
Report Producer: Wendy Pan

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	ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	ac (VHT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11ac VHT20	20	1TX
2.4-2.4835GHz	802.11ac VHT40	40	1TX

Note:
- 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	ePMP force 300-16	Printed Antenna	I-PEX	6	-
2	1	Cambium	ePMP force 300-16	Printed Antenna	custom	-	16
	2	Cambium	ePMP force 300-16	Printed Antenna	custom	-	16
3	1	Cambium	ePMP force 300-16	integral antenna	custom	-	2
	2	Cambium	ePMP force 300-16	integral antenna	custom	-	2

Note: The EUT has three antennas.

For 2.4GHz function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

For 5GHz function (2TX/2RX):

5GHz can equip Ant.2 or Ant.3. Both Ant.2 and Ant.3 has been tested and recorded in the test report.

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

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ac VHT20	0.986	0.061	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40	0.968	0.141	10.014m	100

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☐	Point-to-multipoint	☒	Point-to-point
Test Software Version	QCARCT Version: 3.0.187.0			

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			
☐	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
☒	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 & Stim Sung & Lance Wu & Cola Fan	22°C / 54%	Mar. 15, 2018~Mar. 30, 2018
Radiated	03CH01-CB	Cola Fan, RJ Huang, Jeff Wu	24.5°C / 50%	Jul. 13, 2018 ~ Nov. 30, 2018
AC Conduction	CO02-CB	Wei Li	26°C / 60%	Jul. 30, 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	9.74×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11ac VHT20_Nss1,(MCS0)_1TX	-
2412MHz	18
2417MHz	18.5
2437MHz	18.5
2457MHz	18.5
2462MHz	17.5
802.11ac VHT40_Nss1,(MCS0)_1TX	-
2422MHz	16.5
2427MHz	17.5
2432MHz	18.5
2437MHz	18.5
2442MHz	18
2447MHz	17.5
2452MHz	17

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	EUT 2.4GHz
2	EUT 5GHz
For operating mode 1 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 (Above 1GHz)
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains 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	EUT 2.4GHz in Y axis
2	EUT 2.4GHz in X axis
3	EUT 2.4GHz in Z axis
4	EUT 5GHz in Y axis
5	EUT 5GHz in X axis
6	EUT 5GHz in Z axis
For operating mode 6 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Z axis. So the measurement will follow this same test configuration.	
1	EUT in Z axis

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.: FA7O2407-04 for Co-location RF Exposure Evaluation.	

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

PoE information as below:

Support Unit	Brand	Model
PoE	PHIHONG	PSA15M-300(AP)

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

N/A

2.5 Support Equipment

For Test Site No: CO02-CB

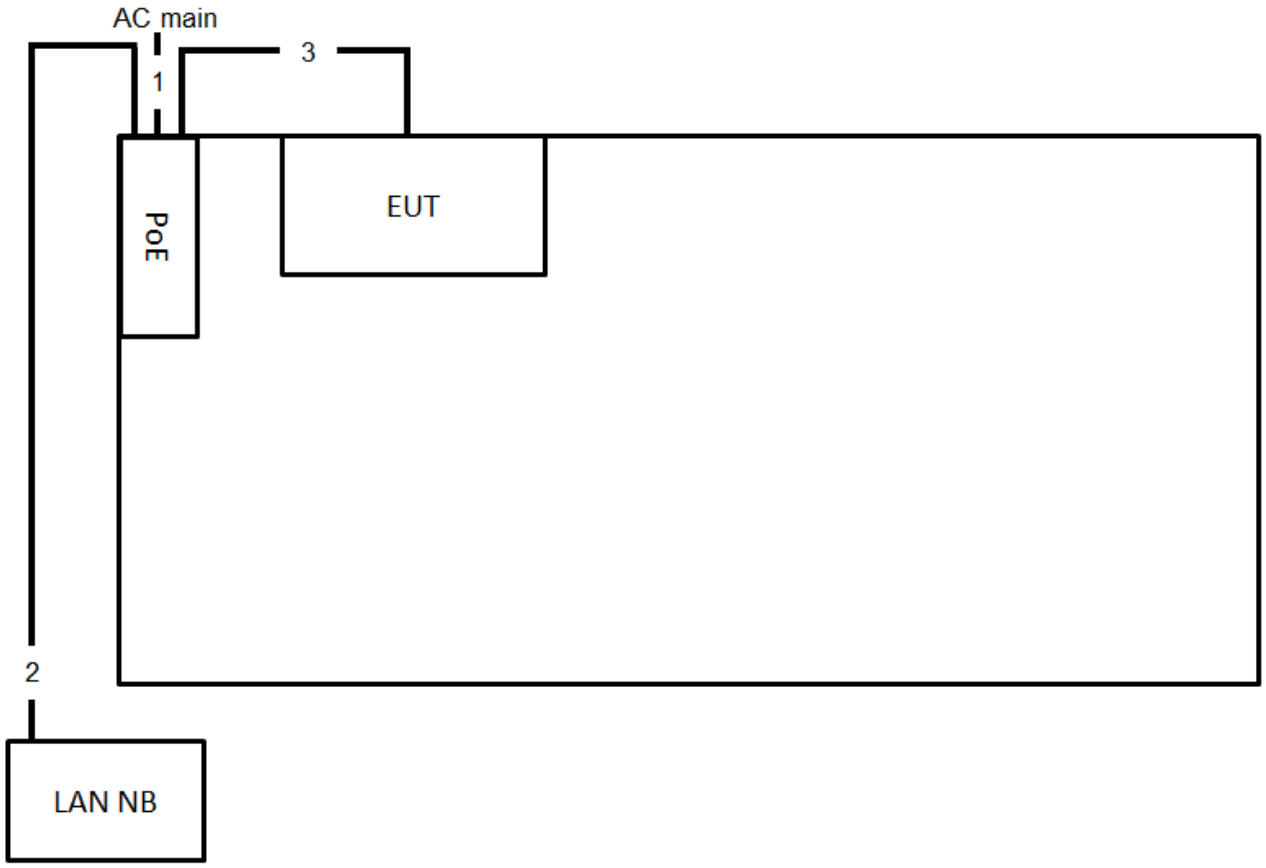
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E6430	N/A
2	PoE	PHIHONG	PSA15M-300(AP)	N/A

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

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	N/A
2	PoE	PHIHONG	PSA15M-300(AP)	N/A

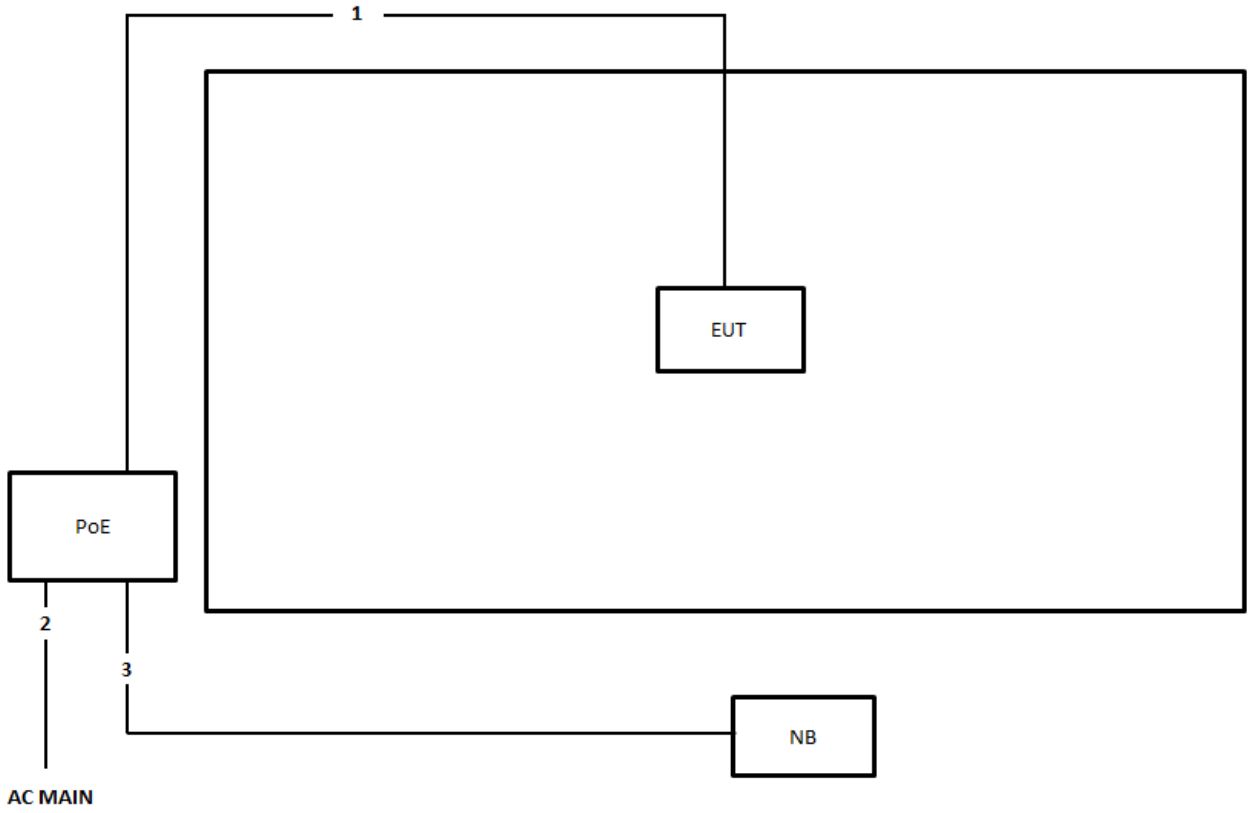
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	Power cable	No	0.9m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	0.9m
3	RJ-45 cable	No	1m

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

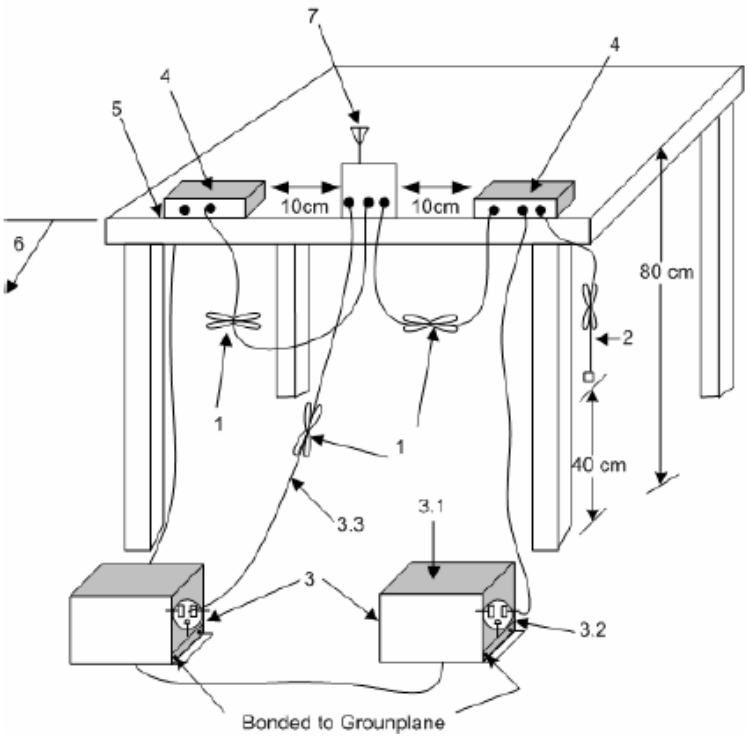
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ 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 50 Ω 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 ≥ 500 kHz.

3.2.2 Measuring Instruments

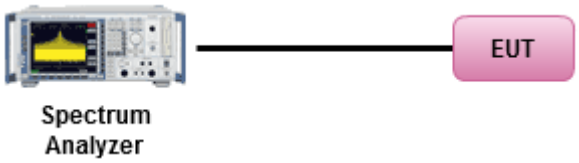
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth



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		
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)	
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm	
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
	▪ Smart antenna system (SAS):	
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.		

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	
	☐ Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 9.1.3 (peak power meter for VBW ≥ DTS BW)
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
	☐ 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
	☐ Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
	Measurement using a power meter (PM)
	☒ Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM (using an RF average power meter).
	☐ Refer as FCC KDB 558074, clause 9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
▪ For conducted measurement.	
	▪ 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: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


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) ≤ 8 dBm/3kHz

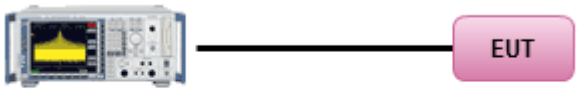
3.4.2 Measuring Instruments

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).		
	☒ Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).	
	[duty cycle ≥ 98% or external video / power trigger]	
	☐ Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).	
	☐ 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	
	☐ Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).	
	☐ 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:	
		☒ 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.
		☐ 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,
		☐ Option 3: Measure and add 10 log(N) 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

Power Spectral Density
 Spectrum Analyzer

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.	

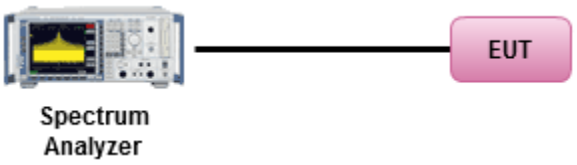
3.5.2 Measuring Instruments

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

Emissions in Non-restricted Frequency Bands


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

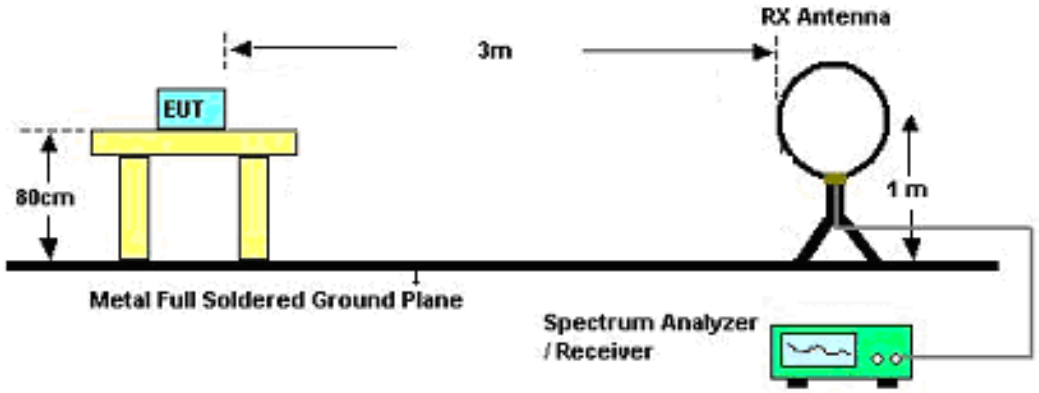
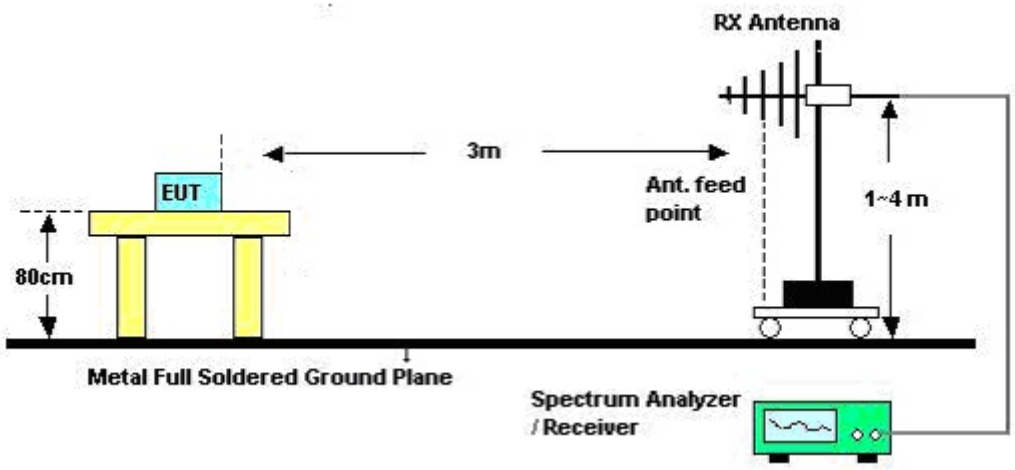
For Radiated

Test Method		
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].		
▪ 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.		
▪ For the transmitter unwanted emissions shall be measured using following options below:		
	▪ Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.	
		☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)
		☐ Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
		☒ Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).
		☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒ Refer as FCC KDB 558074, clause 12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:		
	▪ 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.	
	▪ Refer as FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.	
	▪ 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).	
▪ For conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 12.2.2.		
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB	
	▪ 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.	

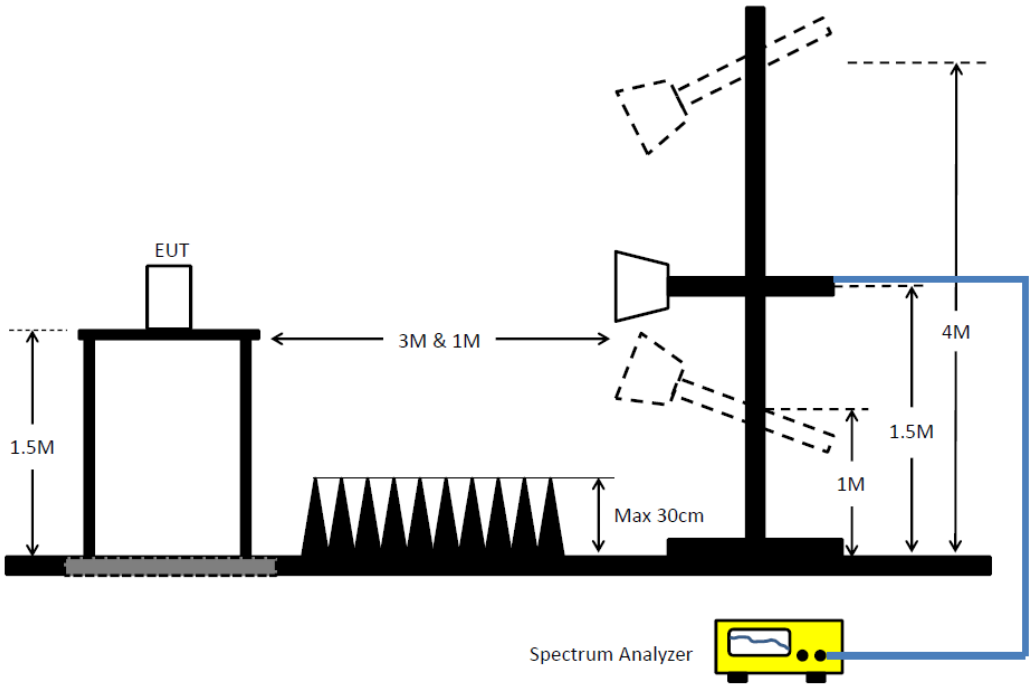
For Conducted

Configure the EUT according to KDB662911 & KDB558074.The EUT was perform conducted measurement and measurement level added antenna gain shall be comply to limit.

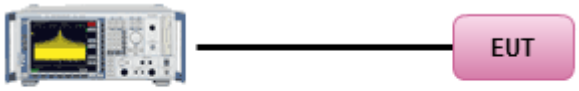
3.6.4 Test Setup

Transmitter Radiated Emissions
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



Transmitter Conducted Emissions



Spectrum Analyzer

3.6.5 Transmitter Radiated 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.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

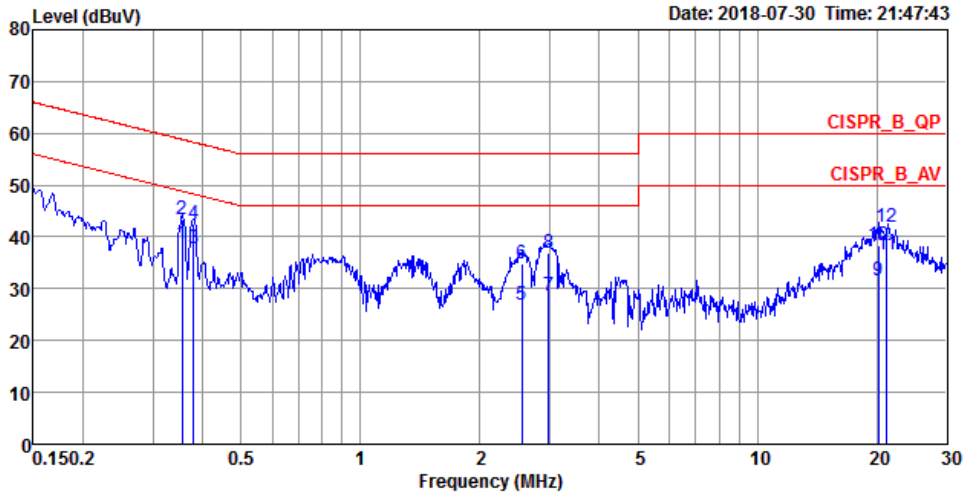
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 24, 2017	Nov. 23, 2018	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 13, 2017	Nov. 12, 2018	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 17, 2018	Jan. 16, 2019	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 10, 2017	Nov. 09, 2018	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-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)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 20, 2017	Nov. 19, 2018	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 09, 2018	Jan. 08, 2019	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 10, 2017	Jul. 09, 2018	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 23, 2017	Nov. 22, 2018	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH06-CB)
EMI Test	R&S	ESCS	100354	9kHz ~ 2.75GHz	Dec. 08, 2017	Dec. 07, 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)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	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	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	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-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	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#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	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)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	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)
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.

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

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	CTX- EUT 2.4GHz in Y axis		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.3558	38.70	-10.13	48.83	28.66	9.92	0.12	Average	NEUTRAL
2	0.3558	43.49	-15.34	58.83	33.45	9.92	0.12	QP	NEUTRAL
3	0.3791	37.69	-10.61	48.30	27.65	9.92	0.12	Average	NEUTRAL
4	0.3791	42.47	-15.83	58.30	32.43	9.92	0.12	QP	NEUTRAL
5	2.5535	26.78	-19.22	46.00	16.61	9.97	0.20	Average	NEUTRAL
6	2.5535	34.86	-21.14	56.00	24.69	9.97	0.20	QP	NEUTRAL
7	2.9776	28.66	-17.34	46.00	18.52	9.97	0.17	Average	NEUTRAL
8	2.9776	36.88	-19.12	56.00	26.74	9.97	0.17	QP	NEUTRAL
9	20.1748	31.55	-18.45	50.00	21.10	10.24	0.21	Average	NEUTRAL
10	20.1748	38.35	-21.65	60.00	27.90	10.24	0.21	QP	NEUTRAL
11	21.1688	36.70	-13.30	50.00	26.21	10.27	0.22	Average	NEUTRAL
12	21.1688	41.82	-18.18	60.00	31.33	10.27	0.22	QP	NEUTRAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

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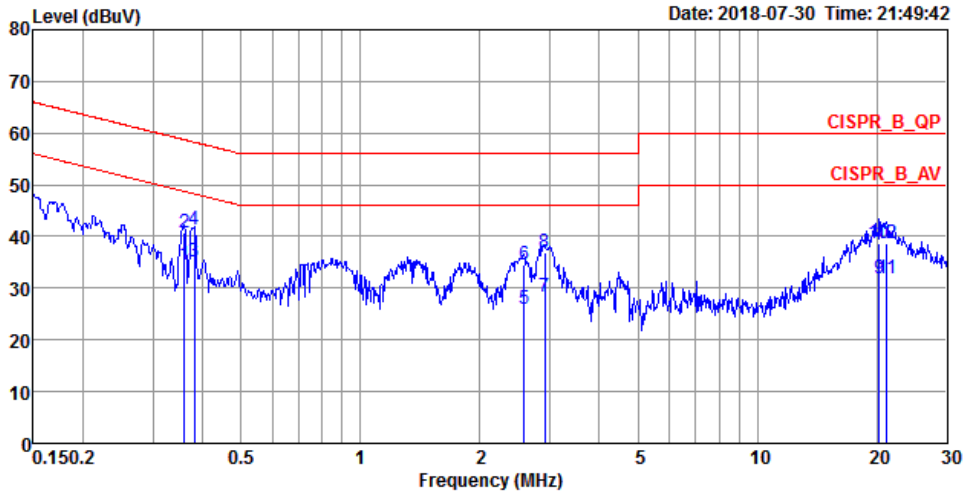
FAX : 886-3-656-9085

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	CTX- EUT 2.4GHz in Y axis		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.3596	34.65	-14.09	48.74	24.62	9.91	0.12	Average	LINE
2	0.3596	40.83	-17.91	58.74	30.80	9.91	0.12	QP	LINE
3	0.3811	35.24	-13.01	48.25	25.21	9.91	0.12	Average	LINE
4	0.3811	41.29	-16.96	58.25	31.26	9.91	0.12	QP	LINE
5	2.5807	25.92	-20.08	46.00	15.76	9.97	0.19	Average	LINE
6	2.5807	34.48	-21.52	56.00	24.32	9.97	0.19	QP	LINE
7	2.9152	28.23	-17.77	46.00	18.08	9.97	0.18	Average	LINE
8	2.9152	36.82	-19.18	56.00	26.67	9.97	0.18	QP	LINE
9	20.2696	31.83	-18.17	50.00	21.24	10.38	0.21	Average	LINE
10	20.2696	38.56	-21.44	60.00	27.97	10.38	0.21	QP	LINE
11	21.1472	31.78	-18.22	50.00	21.15	10.41	0.22	Average	LINE
12	21.1472	38.68	-21.32	60.00	28.05	10.41	0.22	QP	LINE

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

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)_1TX	16.85M	17.616M	17M6D1D	16.775M	17.591M
802.11ac VHT40_Nss1,(MCS0)_1TX	36.25M	35.982M	36M0D1D	34.65M	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;

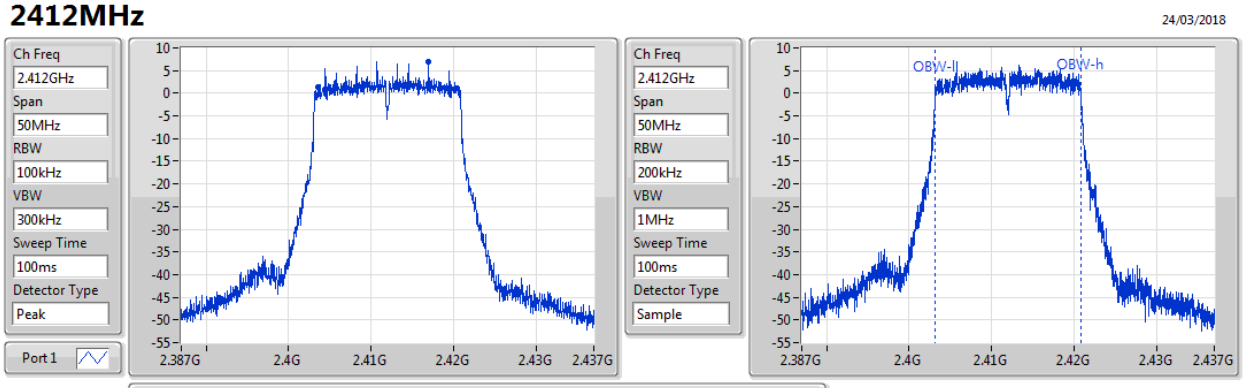
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	16.85M	17.591M
2437MHz	Pass	500k	16.825M	17.616M
2462MHz	Pass	500k	16.775M	17.616M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
2422MHz	Pass	500k	36.25M	35.982M
2437MHz	Pass	500k	34.65M	35.882M
2452MHz	Pass	500k	35.05M	35.882M

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

802.11ac VHT20_Nss1,(MCS0)_1TX — EBW

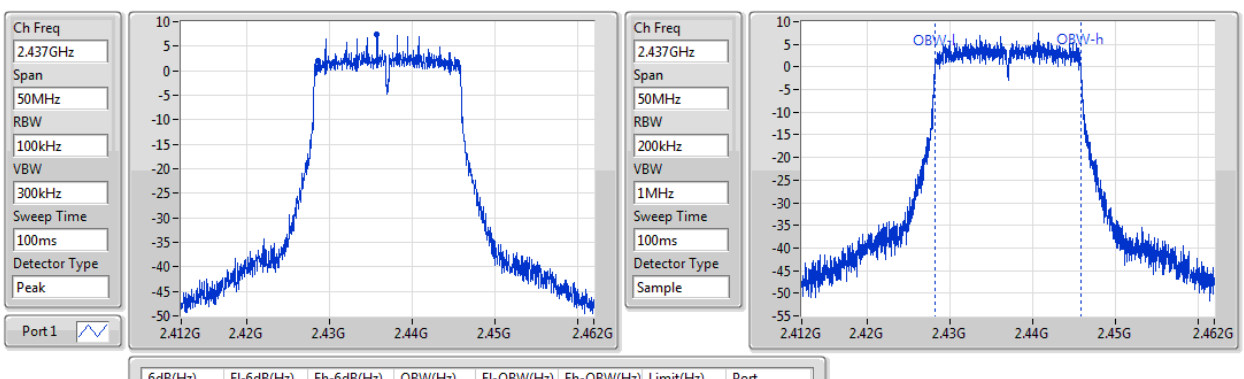
2412MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.85M	2.4036G	2.42045G	17.591M	2.403204G	2.420796G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX — EBW

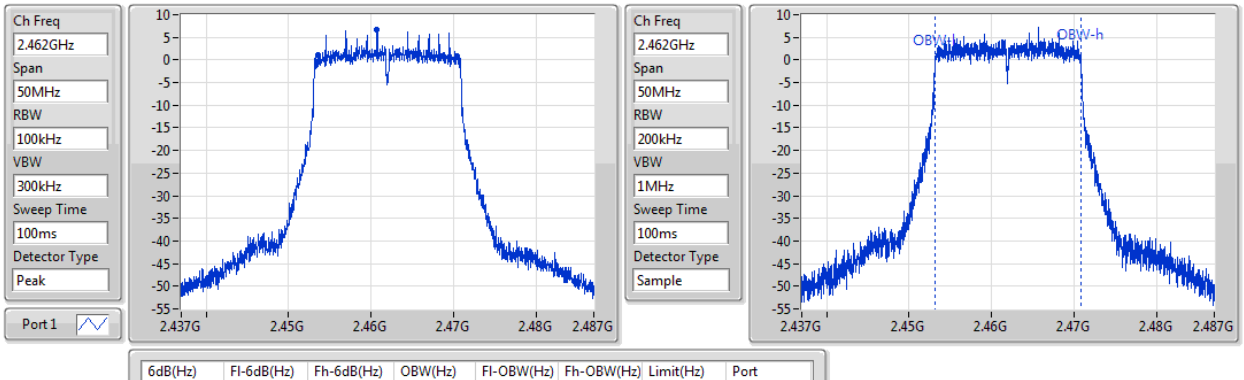
2437MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.825M	2.4286G	2.445425G	17.616M	2.428179G	2.445796G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX — EBW

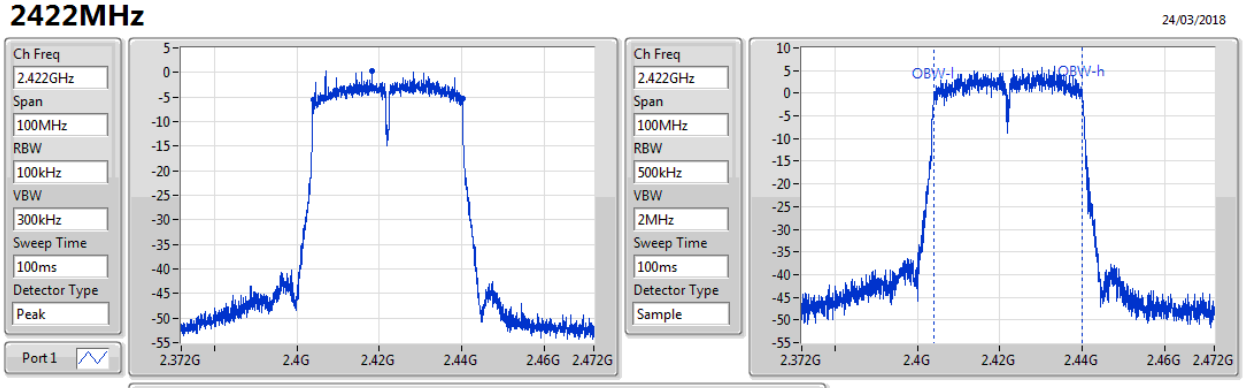
2462MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.775M	2.4536G	2.470375G	17.616M	2.453179G	2.470796G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX **EBW**

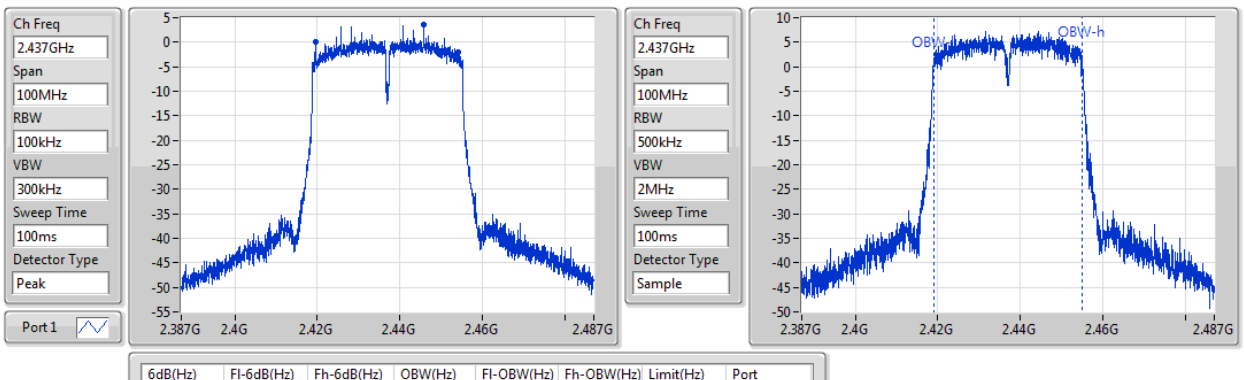
2422MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.25M	2.4039G	2.44015G	35.982M	2.404059G	2.440041G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX **EBW**

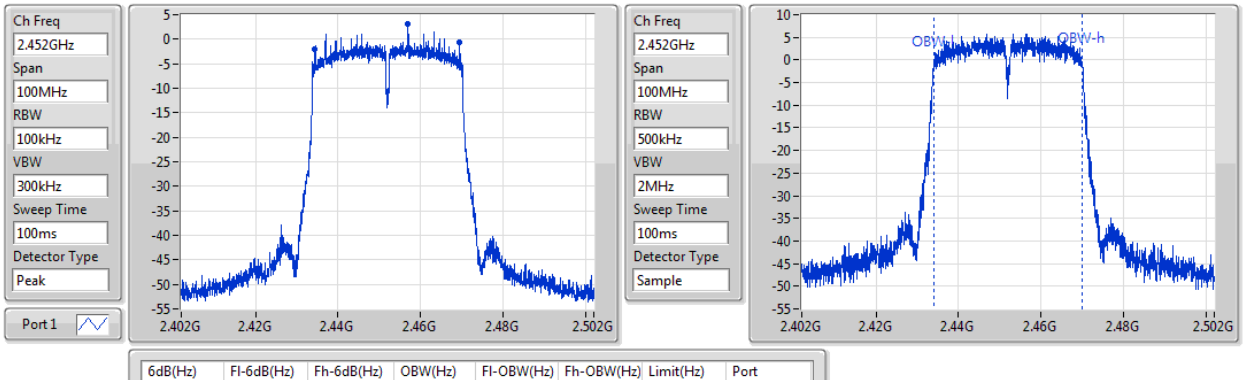
2437MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.65M	2.4195G	2.45415G	35.882M	2.419059G	2.454941G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX **EBW**

2452MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.05M	2.43445G	2.4695G	35.882M	2.434059G	2.469941G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ac VHT20_Nss1,(MCS0)_1TX	18.45	0.06998
802.11ac VHT40_Nss1,(MCS0)_1TX	18.08	0.06427

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	6.00	17.83	17.83	30.00
2417MHz	Pass	6.00	18.42	18.42	30.00
2437MHz	Pass	6.00	18.45	18.45	30.00
2457MHz	Pass	6.00	18.43	18.43	30.00
2462MHz	Pass	6.00	17.52	17.52	30.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	6.00	15.94	15.94	30.00
2427MHz	Pass	6.00	17.03	17.03	30.00
2432MHz	Pass	6.00	18.06	18.06	30.00
2437MHz	Pass	6.00	18.08	18.08	30.00
2442MHz	Pass	6.00	17.67	17.67	30.00
2447MHz	Pass	6.00	17.09	17.09	30.00
2452MHz	Pass	6.00	16.61	16.61	30.00

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

TEL : 886-3-656-9065
FAX : 886-3-656-9085

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ac VHT20_Nss1,(MCS0)_1TX	-9.28
802.11ac VHT40_Nss1,(MCS0)_1TX	-11.34

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	6.00	-9.94	-9.94	8.00
2437MHz	Pass	6.00	-9.28	-9.28	8.00
2462MHz	Pass	6.00	-10.70	-10.70	8.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-
2422MHz	Pass	6.00	-14.36	-14.36	8.00
2437MHz	Pass	6.00	-11.34	-11.34	8.00
2452MHz	Pass	6.00	-13.46	-13.46	8.00

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;

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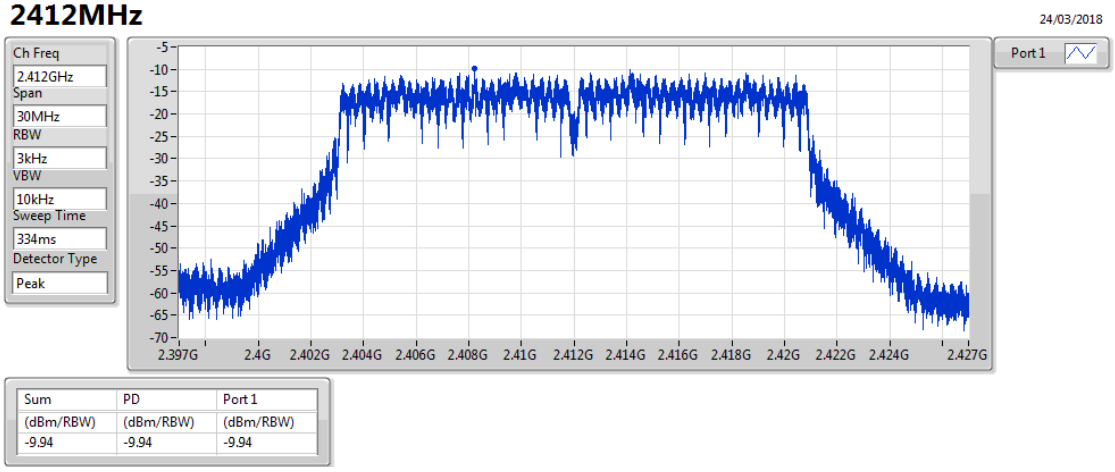
FAX : 886-3-656-9085

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

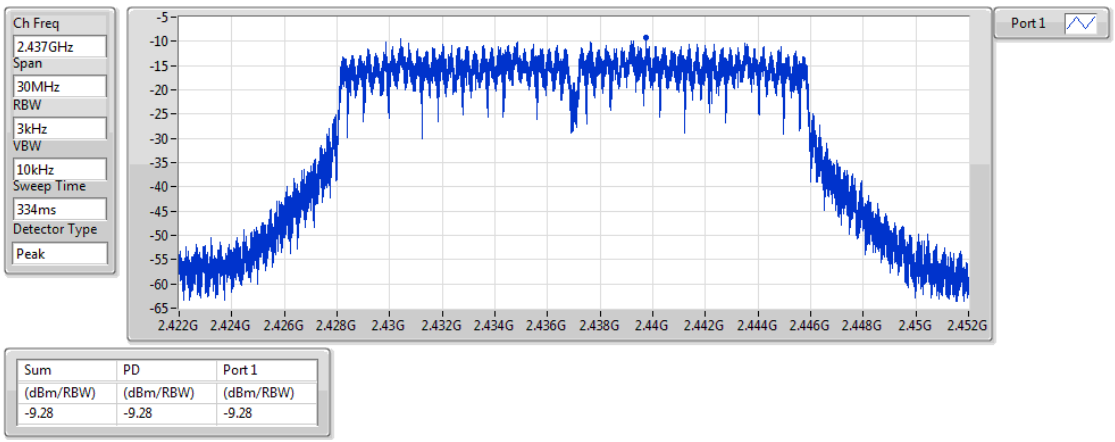
2412MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.94	-9.94	-9.94

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

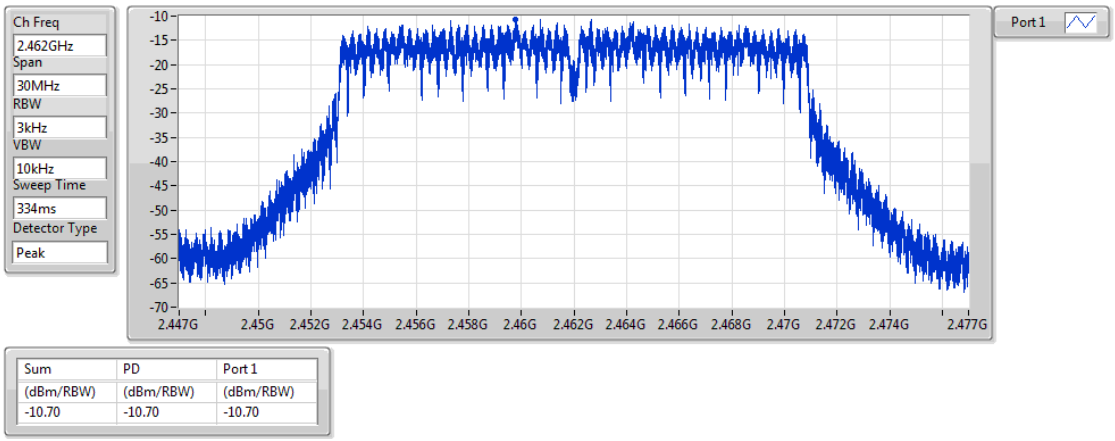
2437MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.28	-9.28	-9.28

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

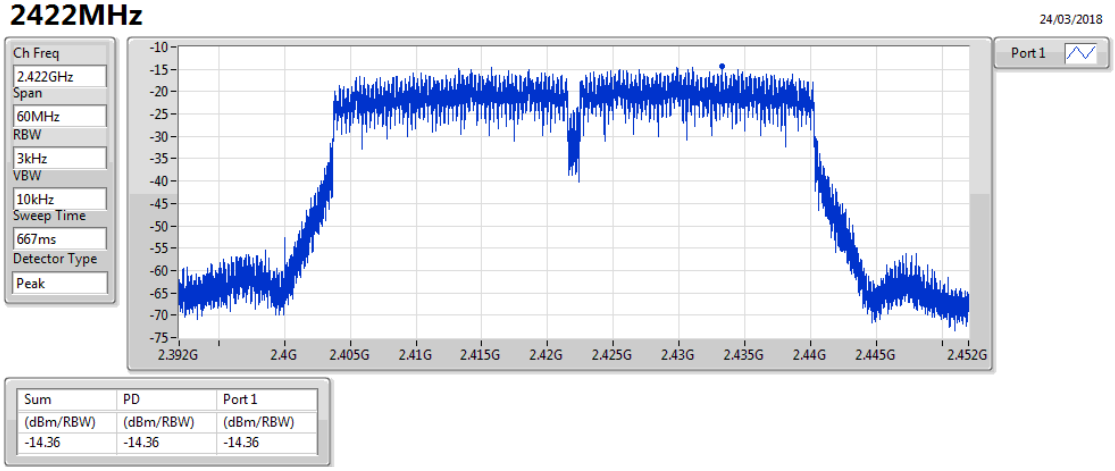
2462MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.70	-10.70	-10.70

802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

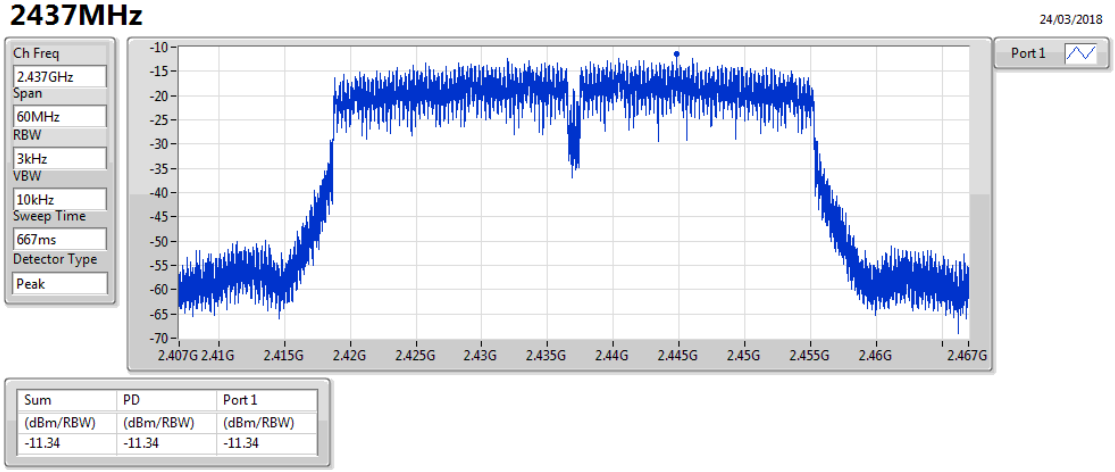
2422MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-14.36	-14.36	-14.36

802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

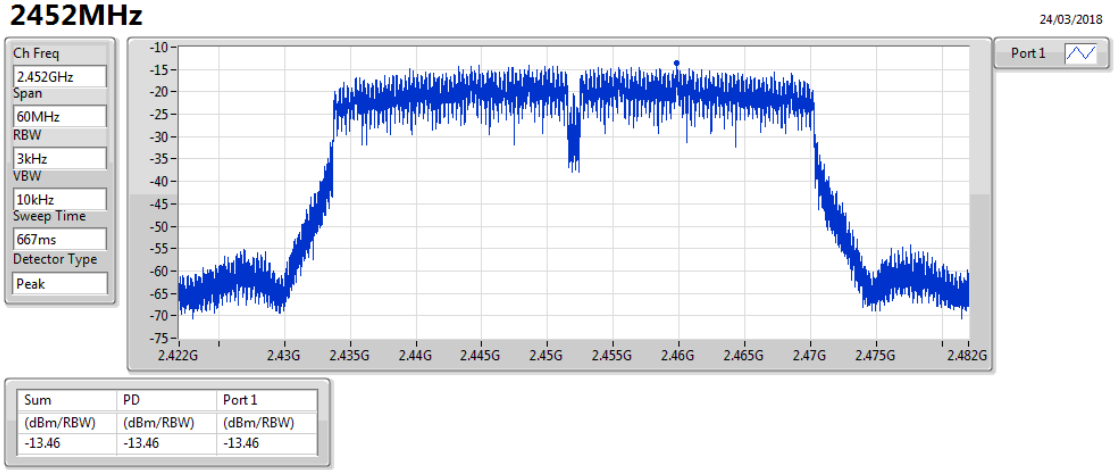
2437MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.34	-11.34	-11.34

802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

2452MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.46	-13.46	-13.46

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)_1TX	Pass	2.443253G	6.17	-23.83	763.95M	-61.50	2.39992G	-35.57	2.49598G	-55.42	2.543167G	-54.14	1
802.11ac VHT40_Nss1,(MCS0)_1TX	Pass	2.440748G	3.51	-26.49	2.309695G	-61.03	2.39792G	-42.19	2.56014G	-53.38	21.727076G	-54.63	1

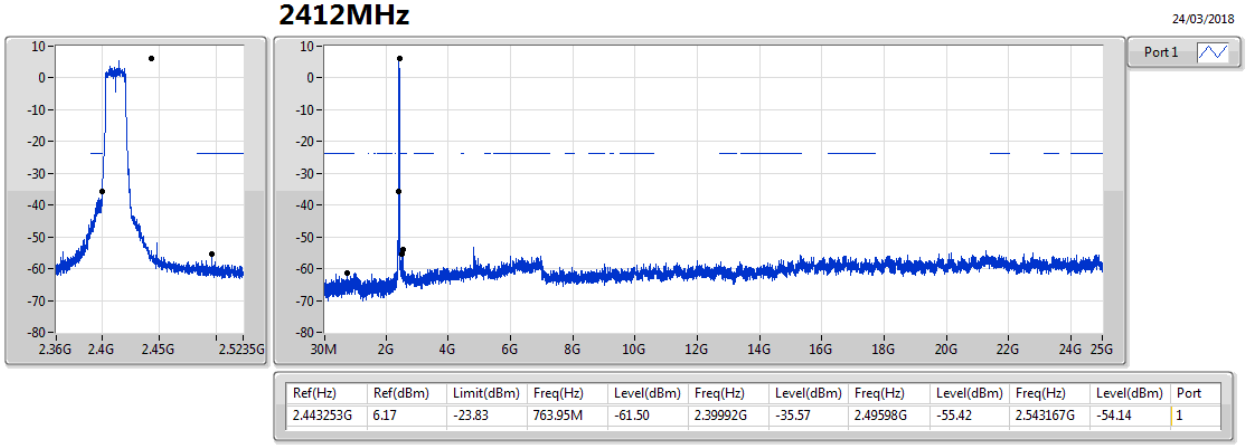
Result

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)_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	2.443253G	6.17	-23.83	763.95M	-61.50	2.39992G	-35.57	2.49598G	-55.42	2.543167G	-54.14	1
2437MHz	Pass	2.443253G	6.17	-23.83	2.30408G	-59.33	2.39728G	-54.09	2.49598G	-53.21	2.557215G	-52.34	1
2462MHz	Pass	2.443253G	6.17	-23.83	2.30408G	-59.83	2.39512G	-56.90	2.48358G	-45.39	2.557215G	-51.61	1
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	2.440748G	3.51	-26.49	2.309695G	-61.03	2.39792G	-42.19	2.56014G	-53.38	21.727076G	-54.63	1
2437MHz	Pass	2.440748G	3.51	-26.49	2.30855G	-58.87	2.3984G	-43.44	2.48414G	-47.00	21.525147G	-54.20	1
2452MHz	Pass	2.440748G	3.51	-26.49	2.30855G	-59.07	2.39136G	-54.42	2.4859G	-48.34	24.057667G	-54.72	1

TEL : 886-3-656-9065
FAX : 886-3-656-9085

802.11ac VHT20_Nss1,(MCS0)_1TX **CSE NdB**

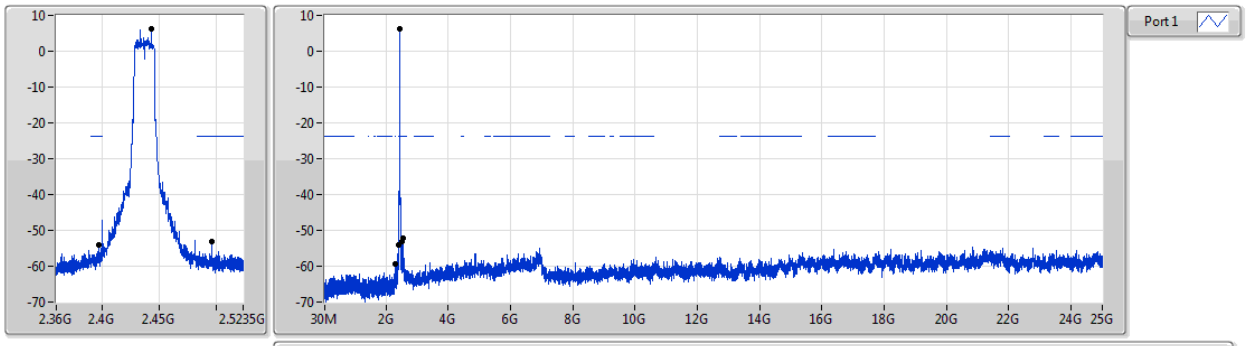
2412MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.443253G	6.17	-23.83	763.95M	-61.50	2.39992G	-35.57	2.49598G	-55.42	2.543167G	-54.14	1

802.11ac VHT20_Nss1,(MCS0)_1TX **CSE NdB**

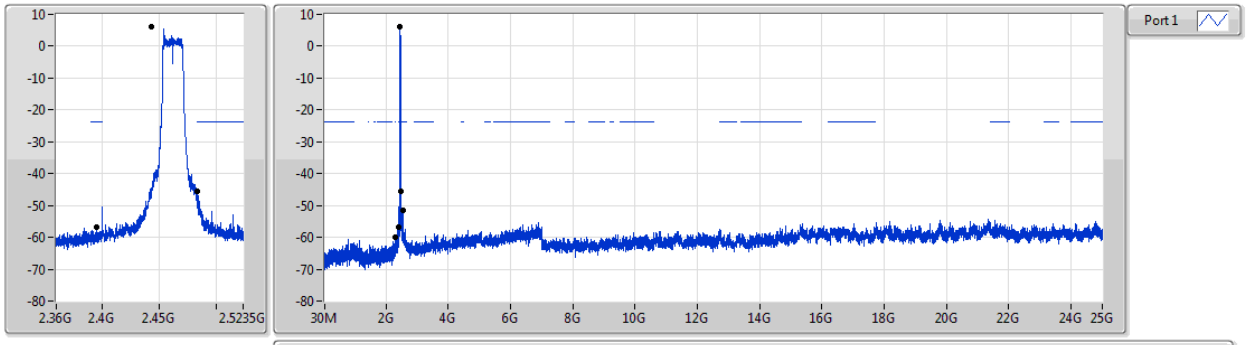
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.443253G	6.17	-23.83	2.30408G	-59.33	2.39728G	-54.09	2.49598G	-53.21	2.557215G	-52.34	1

802.11ac VHT20_Nss1,(MCS0)_1TX **CSE NdB**

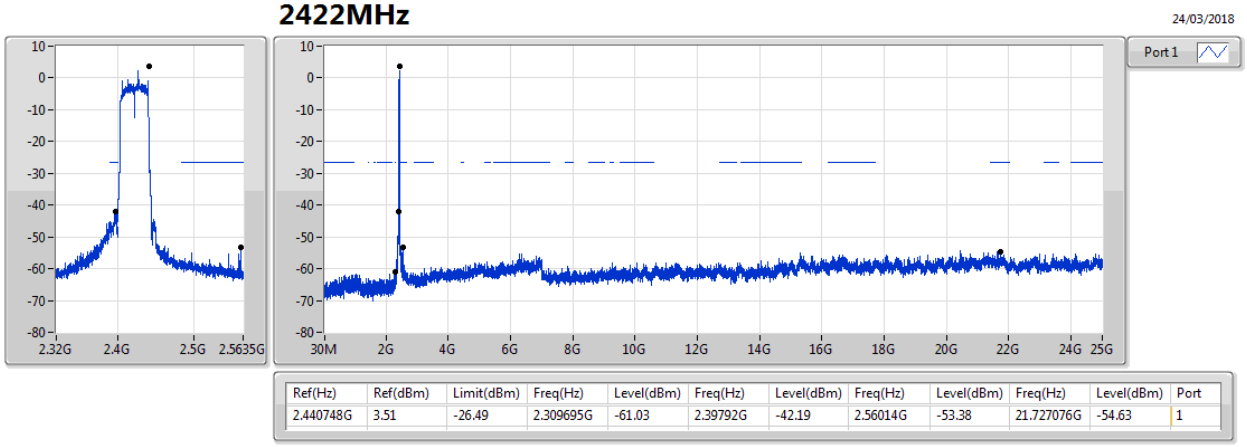
2462MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.443253G	6.17	-23.83	2.30408G	-59.83	2.39512G	-56.90	2.48358G	-45.39	2.557215G	-51.61	1

802.11ac VHT40_Nss1,(MCS0)_1TX **CSE NdB**

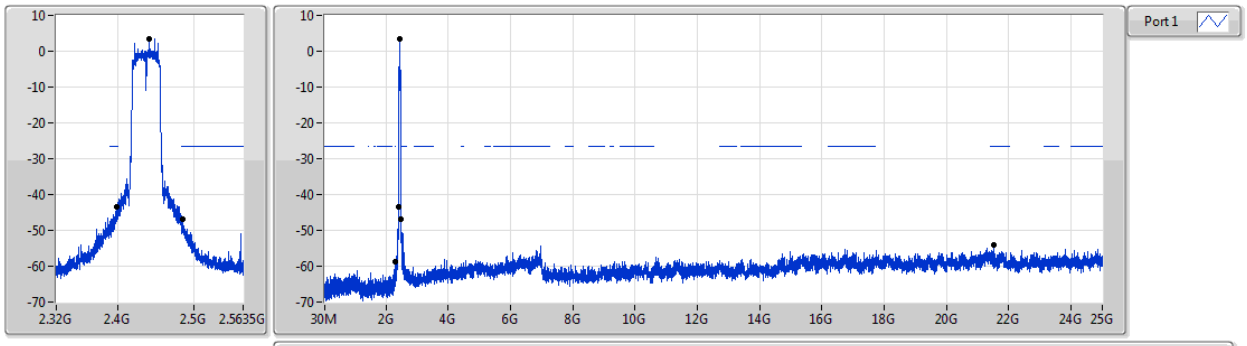
2422MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.440748G	3.51	-26.49	2.309695G	-61.03	2.39792G	-42.19	2.56014G	-53.38	21.727076G	-54.63	1

802.11ac VHT40_Nss1,(MCS0)_1TX **CSE NdB**

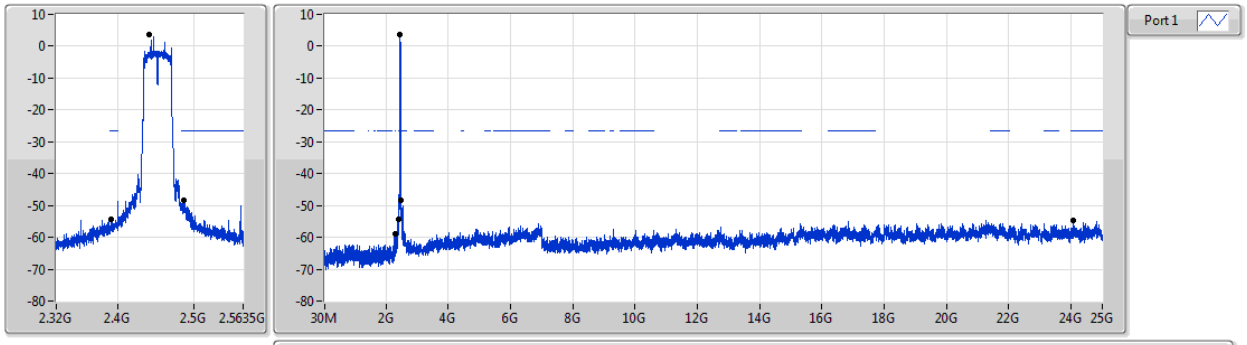
2437MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.440748G	3.51	-26.49	2.30855G	-58.87	2.3984G	-43.44	2.48414G	-47.00	21.525147G	-54.20	1

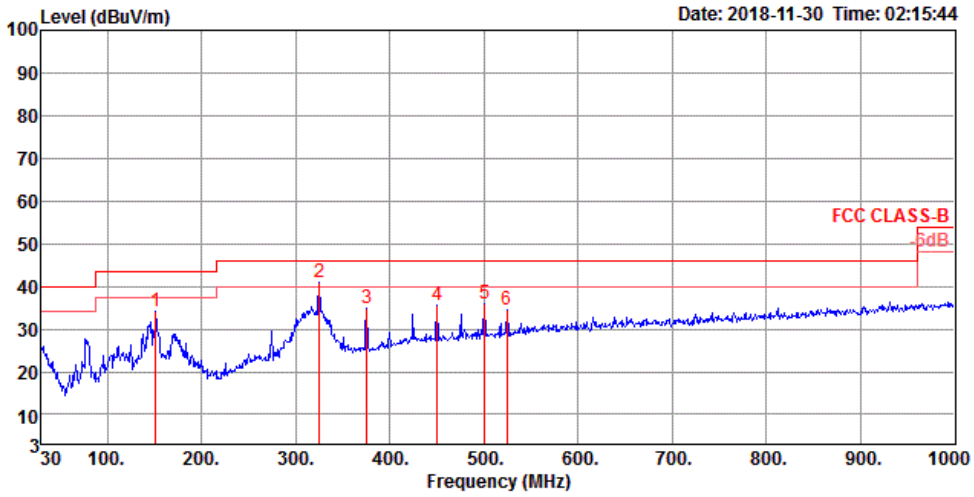
802.11ac VHT40_Nss1,(MCS0)_1TX **CSE NdB**

2452MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.440748G	3.51	-26.49	2.30855G	-59.07	2.39136G	-54.42	2.4859G	-48.34	24.057667G	-54.72	1

RSE below 1GHz Result			
Operating Mode	6	**Polarization**	Horizontal
Operating Function	CTX- EUT 5GHz in Z axis		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	151.25	34.05	43.50	-9.45	48.33	1.89	16.34	32.51	300	112	Peak	HORIZONTAL
2	324.88	41.00	46.00	-5.00	50.99	3.07	19.38	32.44	100	220	Peak	HORIZONTAL
3	375.32	34.82	46.00	-11.18	43.24	3.35	20.67	32.44	100	212	Peak	HORIZONTAL
4	450.01	35.40	46.00	-10.60	41.52	3.73	22.59	32.44	100	204	Peak	HORIZONTAL
5	500.45	36.09	46.00	-9.91	41.23	4.11	23.19	32.44	200	223	Peak	HORIZONTAL
6	524.70	34.60	46.00	-11.40	39.56	4.21	23.29	32.46	200	148	Peak	HORIZONTAL

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

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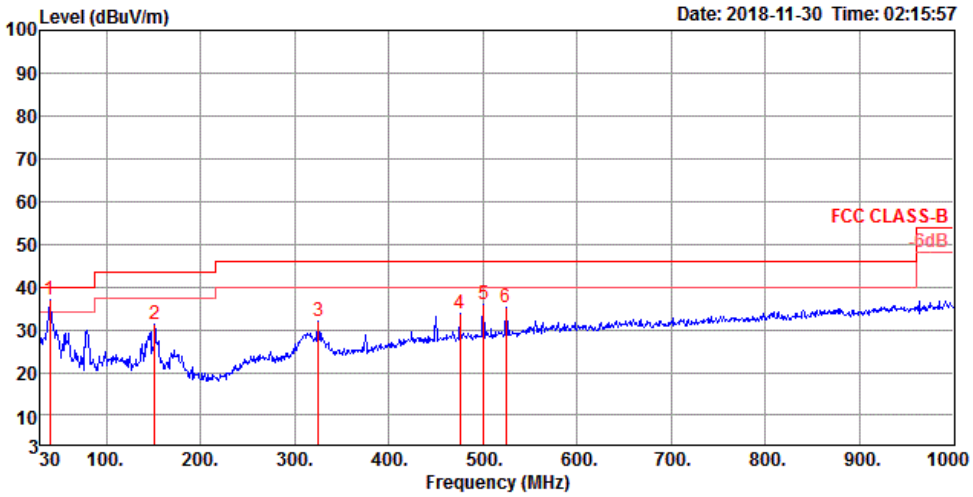
FAX : 886-3-656-9085

RSE below 1GHz Result			
Operating Mode	6	**Polarization**	Vertical
Operating Function	CTX- EUT 5GHz in Z axis		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	39.70	36.96	40.00	-3.04	50.03	0.93	18.60	32.60	150	61	Peak	VERTICAL
2	151.25	31.34	43.50	-12.16	45.62	1.89	16.34	32.51	100	262	Peak	VERTICAL
3	324.88	32.09	46.00	-13.91	42.08	3.07	19.38	32.44	125	195	Peak	VERTICAL
4	475.23	33.72	46.00	-12.28	39.25	3.92	22.99	32.44	100	166	Peak	VERTICAL
5	500.45	36.00	46.00	-10.00	41.14	4.11	23.19	32.44	200	162	Peak	VERTICAL
6	524.70	35.12	46.00	-10.88	40.08	4.21	23.29	32.46	200	171	Peak	VERTICAL

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

For CSE
IEEE 802.11ac Nss1 MCS0 VHT20 1GHz~3GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-57.60	-51.60	-41.25	10.35
2437	6	-58.76	-52.76	-41.25	11.51
2462	6	-59.32	-53.32	-41.25	12.07

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-48.55	-42.55	-21.25	21.30
2437	6	-51.29	-45.29	-21.25	24.04
2462	6	-52.07	-46.07	-21.25	24.82

IEEE 802.11ac Nss1 MCS0 VHT20 3GHz~6GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-75.73	-69.73	-41.25	28.48
2437	6	-72.48	-66.48	-41.25	25.23
2462	6	-70.39	-64.39	-41.25	23.14

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-61.48	-55.48	-21.25	34.23
2437	6	-60.52	-54.52	-21.25	33.27
2462	6	-56.17	-50.17	-21.25	28.92

IEEE 802.11ac Nss1 MCS0 VHT20 6GHz~9GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-80.42	-74.42	-41.25	33.17
2437	6	-79.95	-73.95	-41.25	32.70
2462	6	-82.22	-76.22	-41.25	34.97

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-63.45	-57.45	-21.25	36.20
2437	6	-61.69	-55.69	-21.25	34.44
2462	6	-70.23	-64.23	-21.25	42.98

IEEE 802.11ac Nss1 MCS0 VHT20 9GHz~18GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-81.02	-75.02	-41.25	33.77
2437	6	-81.19	-75.19	-41.25	33.94
2462	6	-80.76	-74.76	-41.25	33.51

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-68.89	-62.89	-21.25	41.64
2437	6	-68.42	-62.42	-21.25	41.17
2462	6	-67.61	-61.61	-21.25	40.36

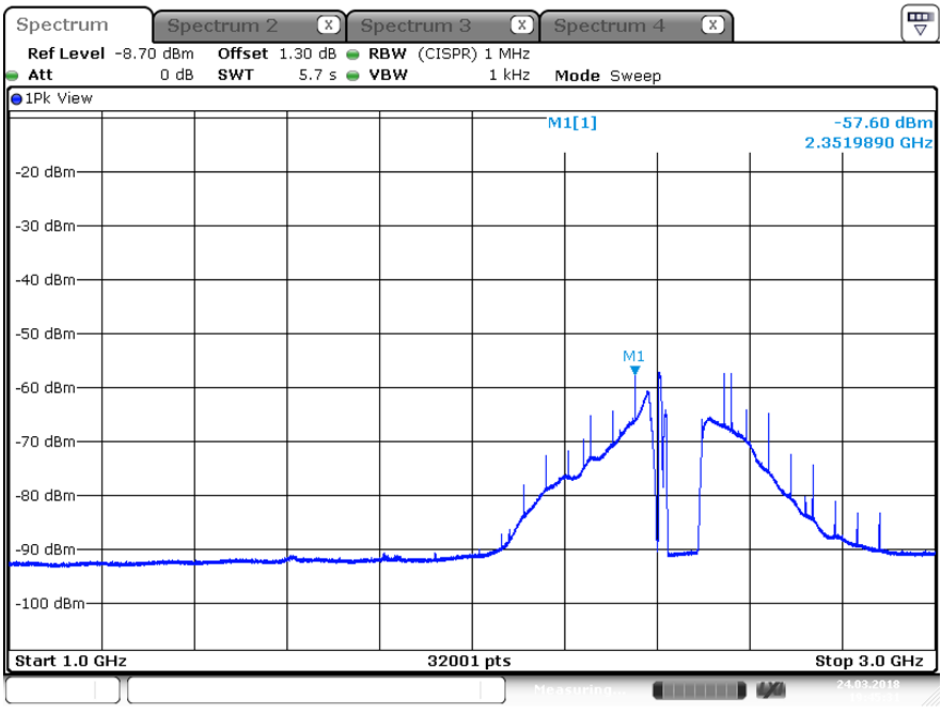
IEEE 802.11ac Nss1 MCS0 VHT20 18GHz~26.5GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-80.54	-74.54	-41.25	33.29
2437	6	-80.73	-74.73	-41.25	33.48
2462	6	-80.86	-74.86	-41.25	33.61

Peak

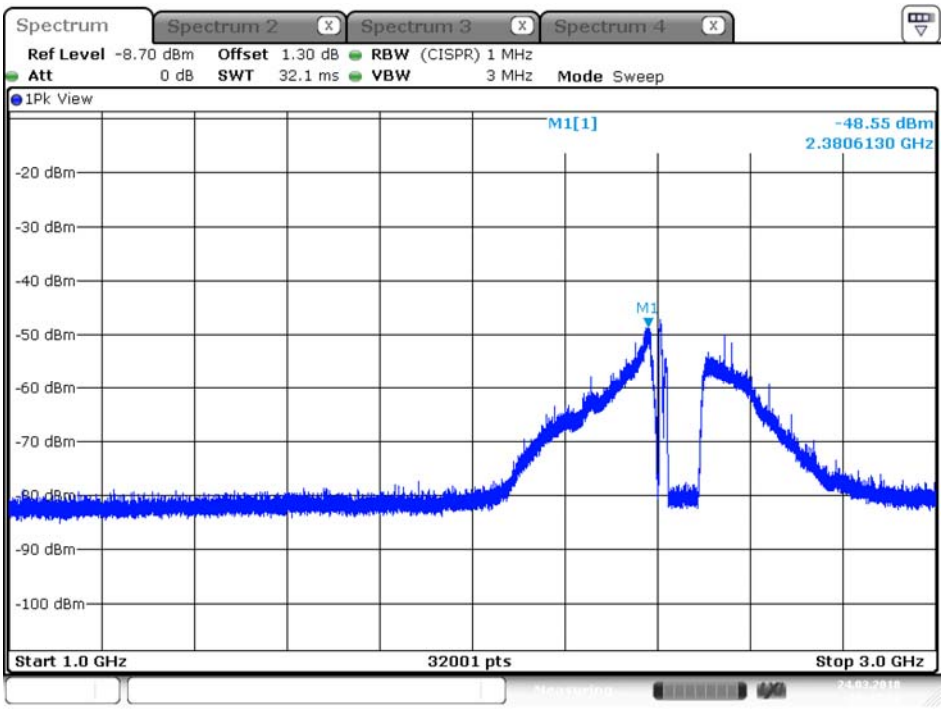
Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-68.34	-62.34	-21.25	41.09
2437	6	-68.01	-62.01	-21.25	40.76
2462	6	-68.37	-62.37	-21.25	41.12

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Average / Port 1 / 1GHz~3GHz



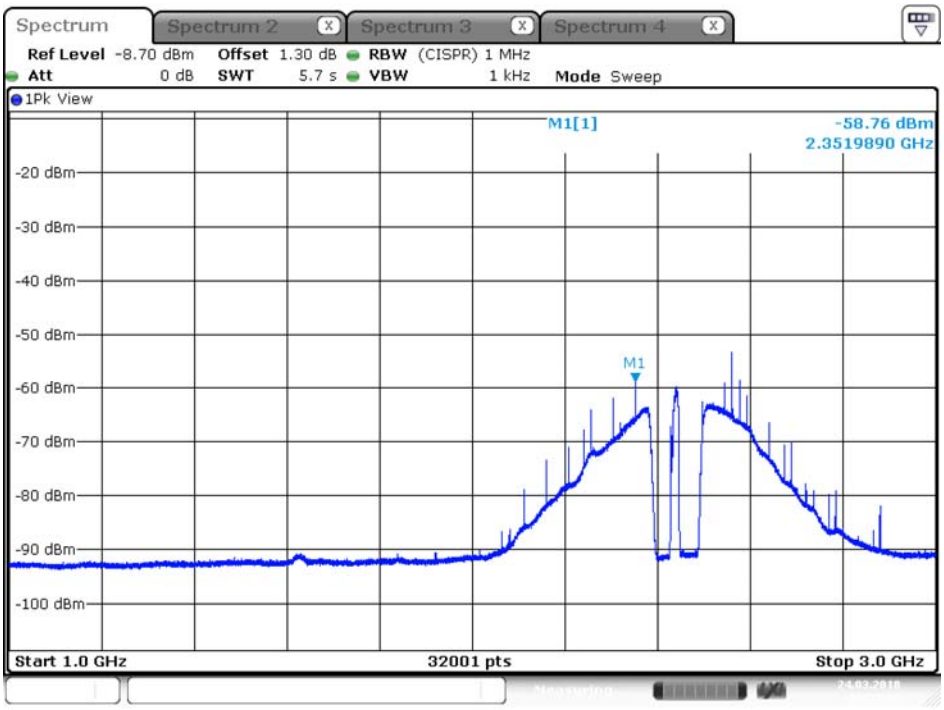
Date: 24.MAR.2018 19:45:31

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Peak / Port 1 / 1GHz~3GHz



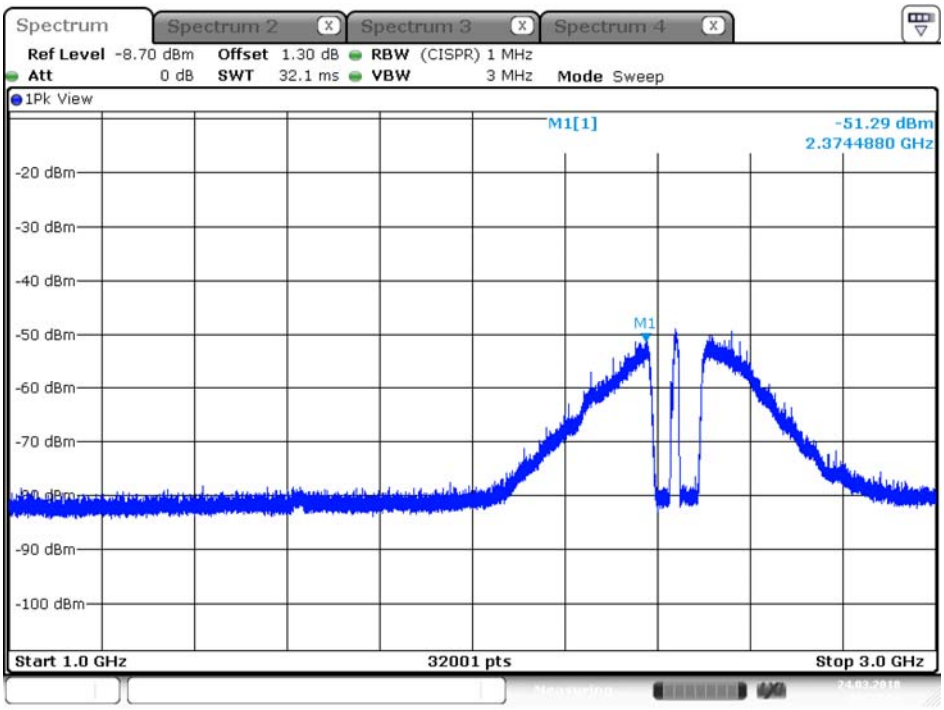
Date: 24.MAR.2018 19:47:32

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Average / Port 1 / 1GHz~3GHz



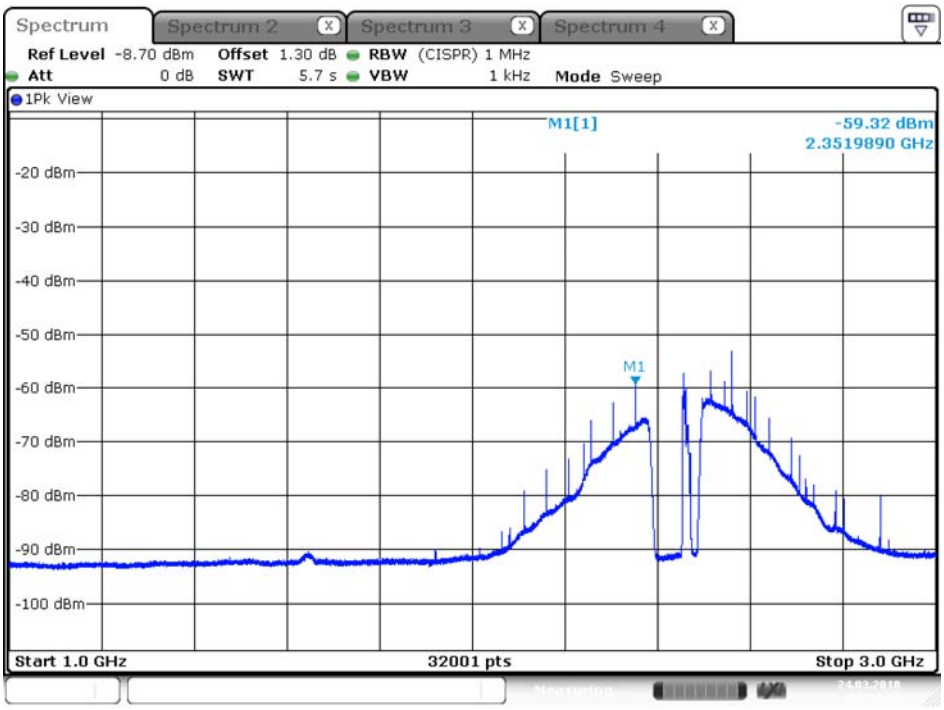
Date: 24.MAR.2018 19:51:45

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Peak / Port 1 / 1GHz~3GHz



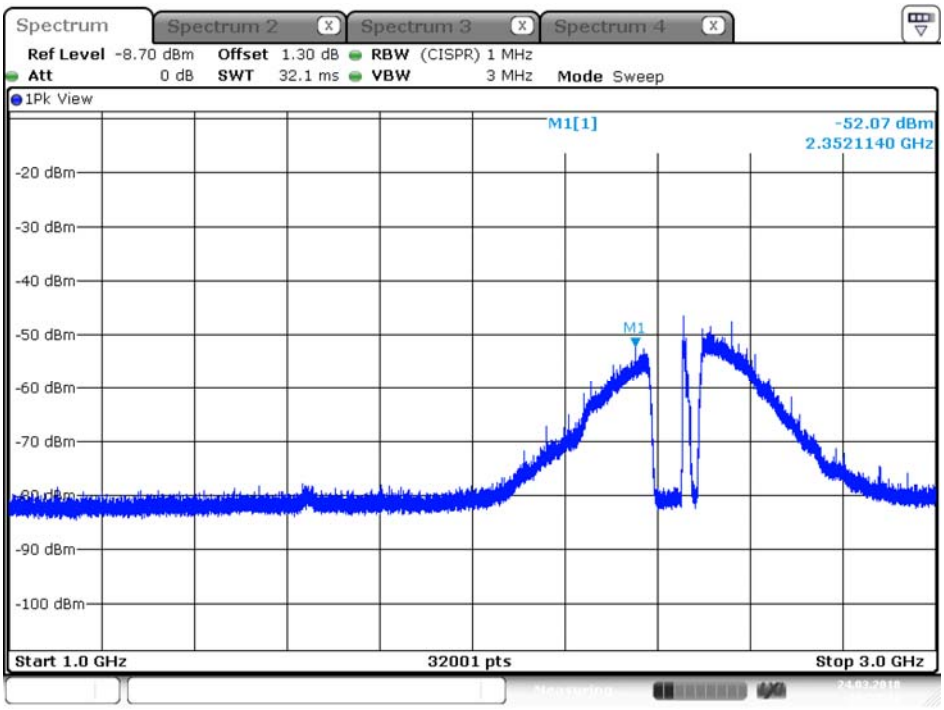
Date: 24.MAR.2018 19:53:17

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Average / Port 1 / 1GHz~3GHz



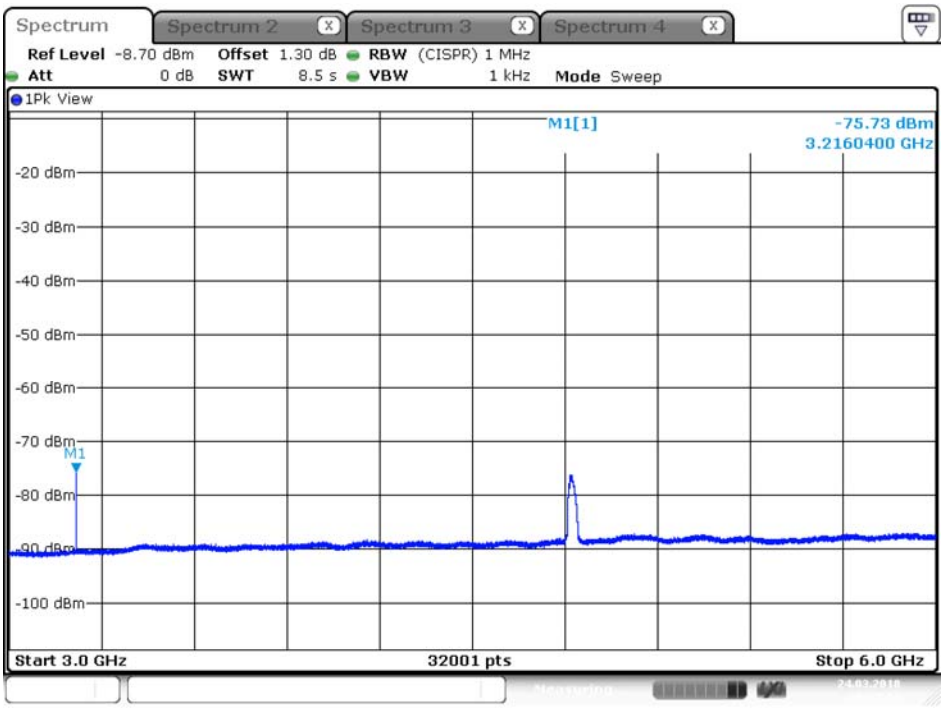
Date: 24.MAR.2018 19:54:34

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Peak / Port 1 / 1GHz~3GHz



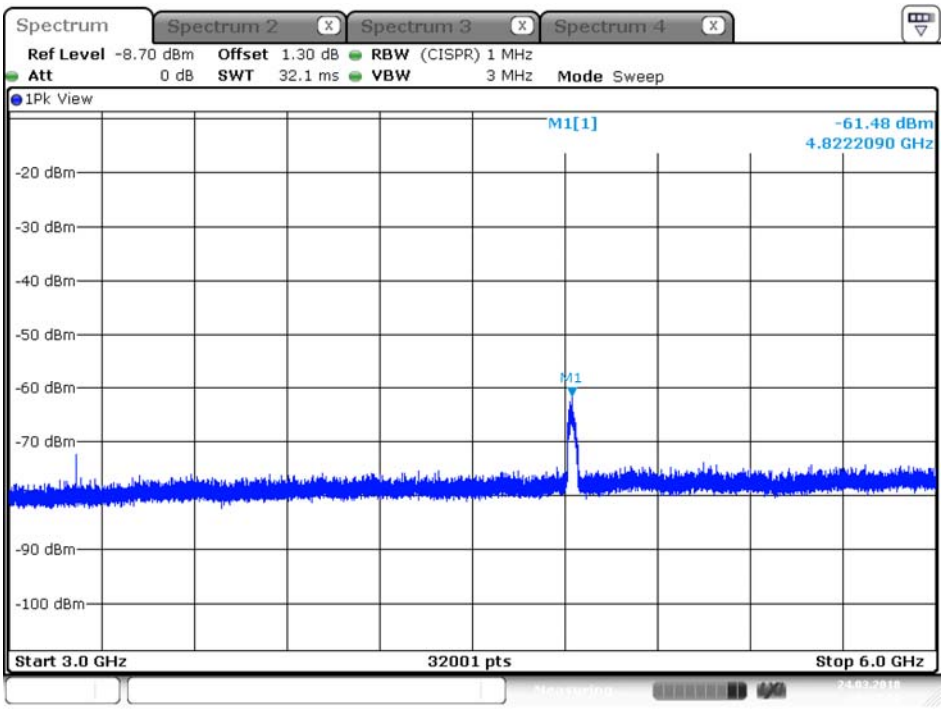
Date: 24.MAR.2018 19:55:42

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Average / Port 1 / 3GHz~6GHz



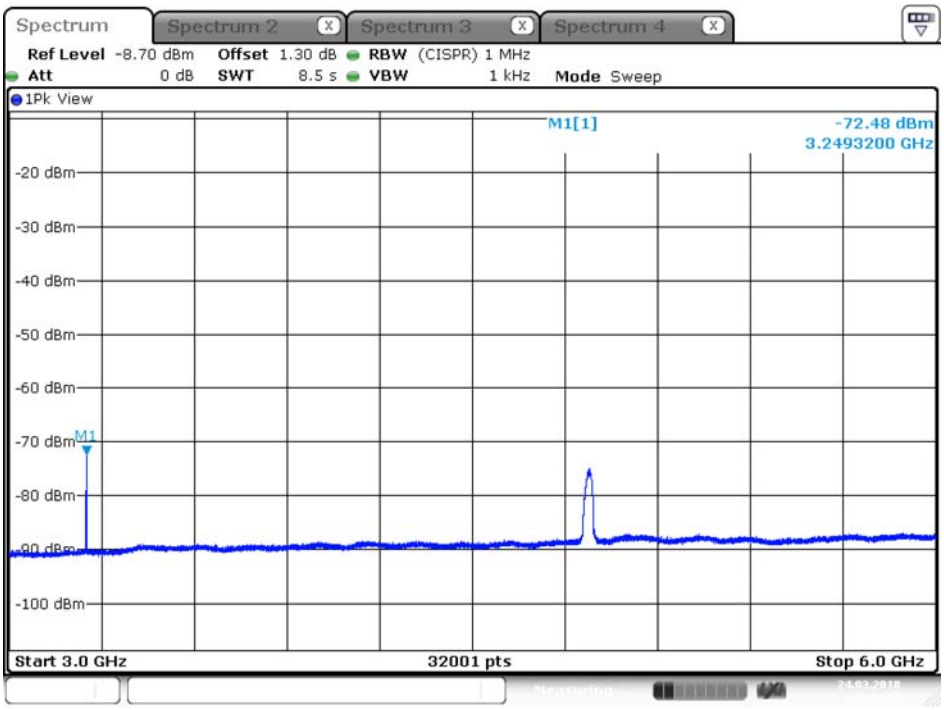
Date: 24.MAR.2018 20:31:18

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Peak / Port 1 / 3GHz~6GHz



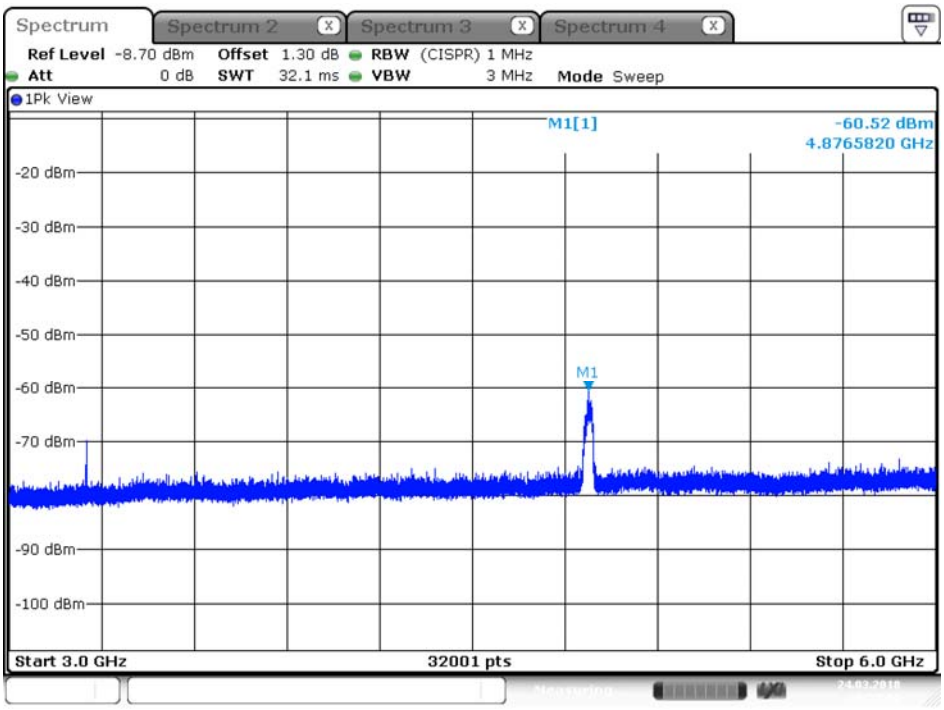
Date: 24.MAR.2018 20:32:56

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Average / Port 1 / 3GHz~6GHz



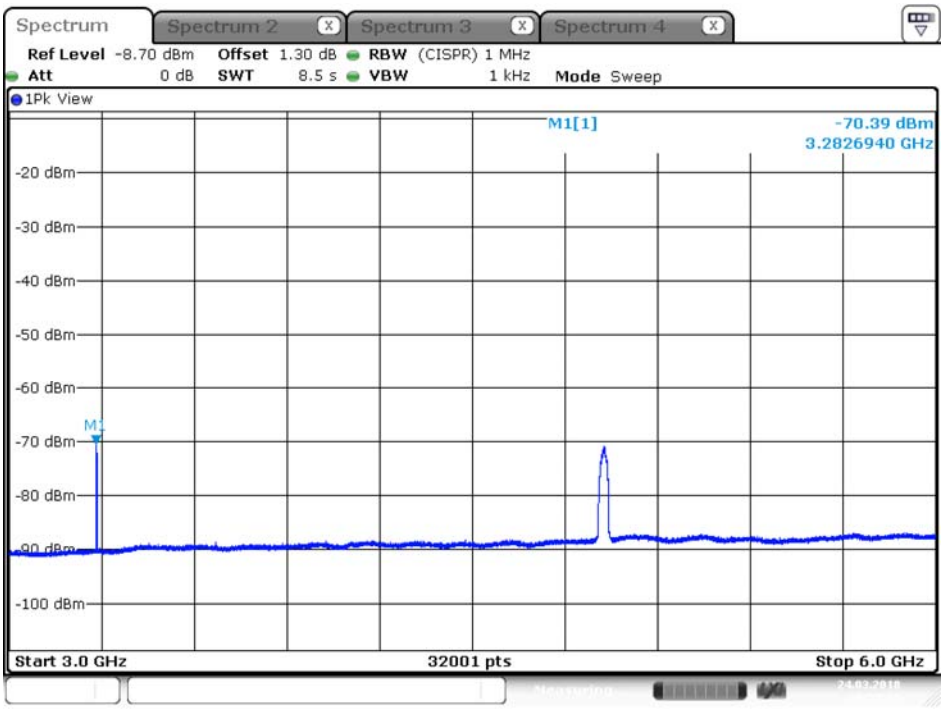
Date: 24.MAR.2018 20:49:44

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Peak / Port 1 / 3GHz~6GHz



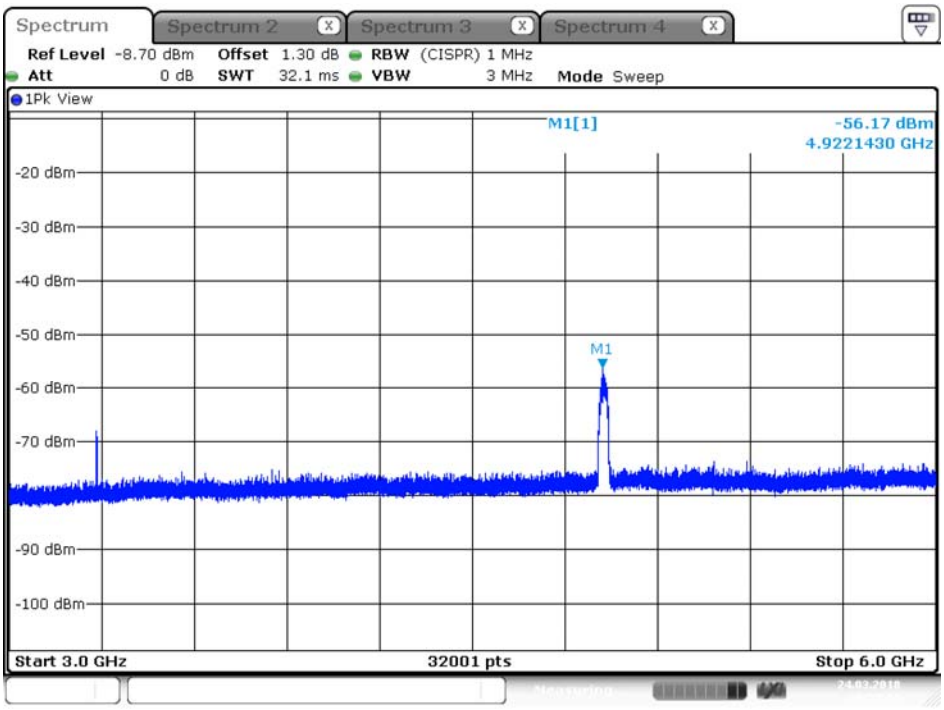
Date: 24.MAR.2018 20:51:06

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Average / Port 1 / 3GHz~6GHz



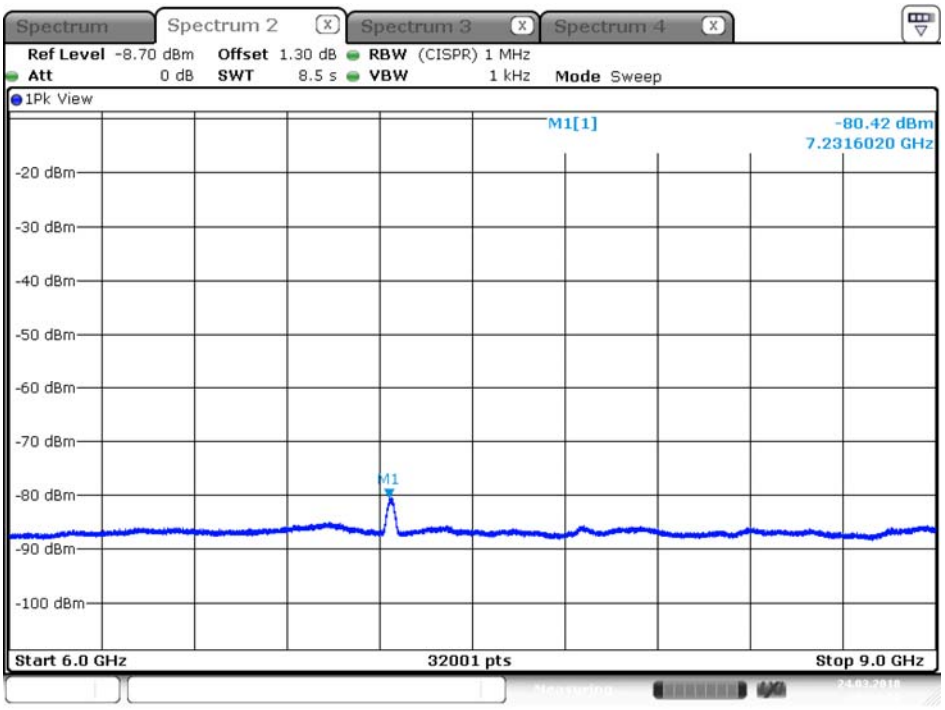
Date: 24.MAR.2018 20:52:35

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Peak / Port 1 / 3GHz~6GHz



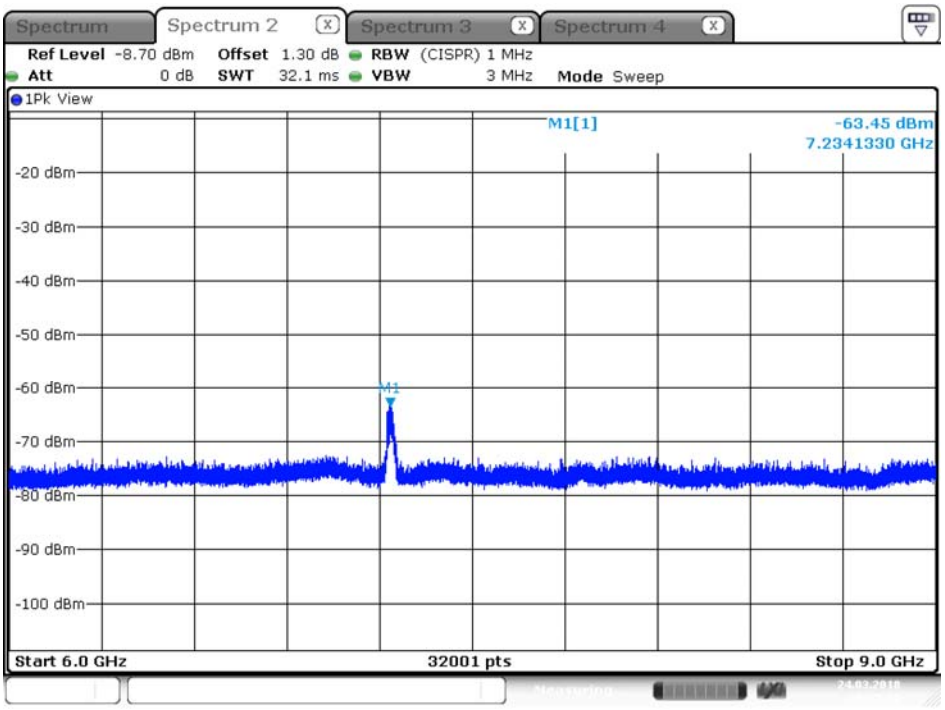
Date: 24.MAR.2018 20:53:52

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Average / Port 1 / 6GHz~9GHz



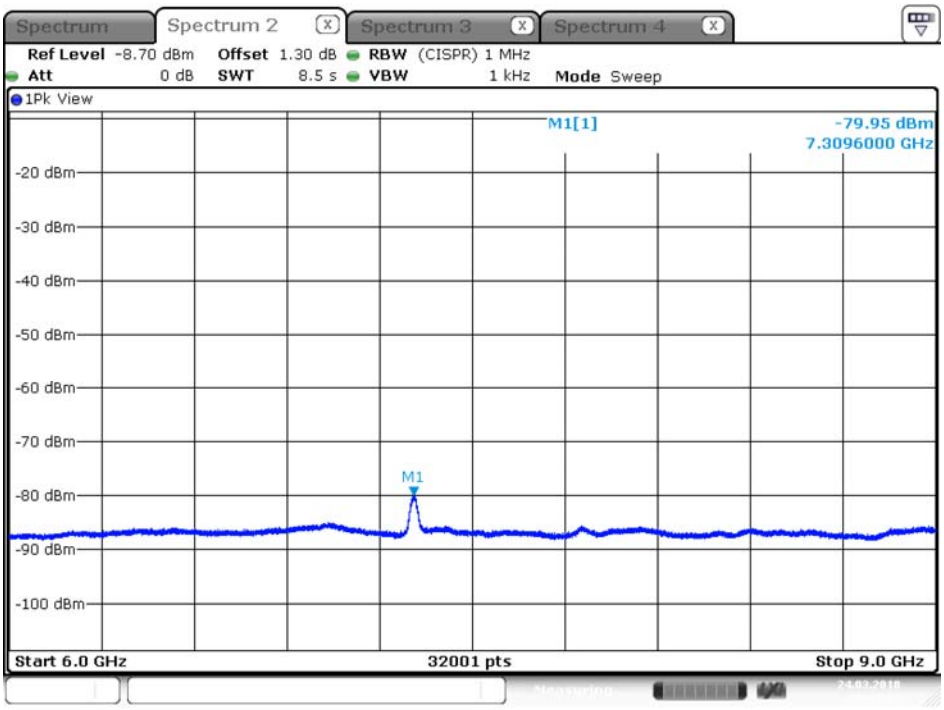
Date: 24.MAR.2018 20:34:16

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Peak / Port 1 / 6GHz~9GHz



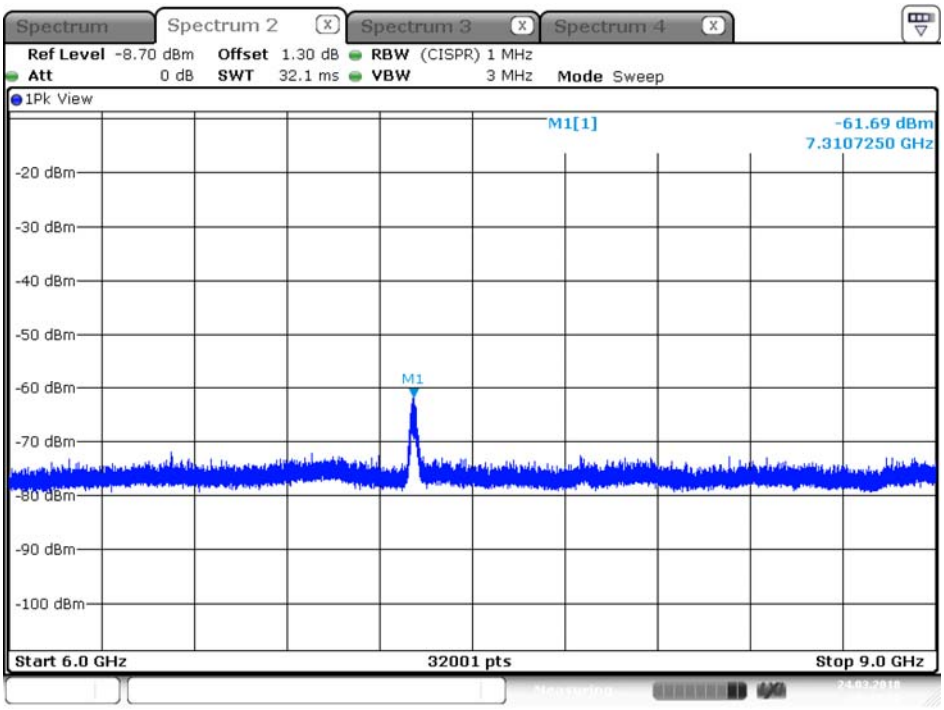
Date: 24.MAR.2018 20:35:30

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Average / Port 1 / 6GHz~9GHz



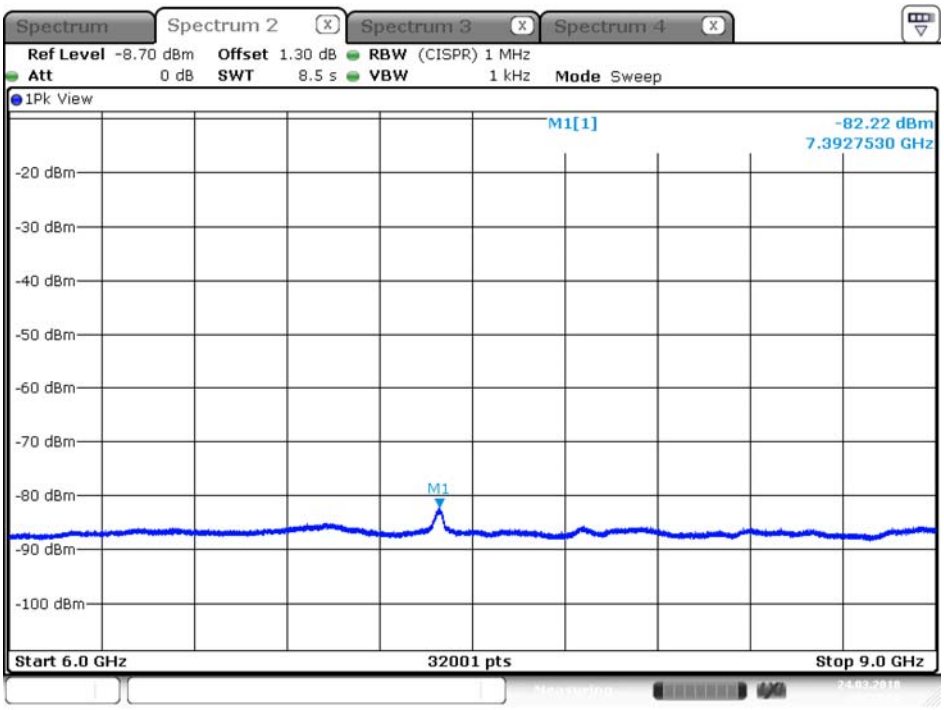
Date: 24.MAR.2018 20:47:27

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Peak / Port 1 / 6GHz~9GHz



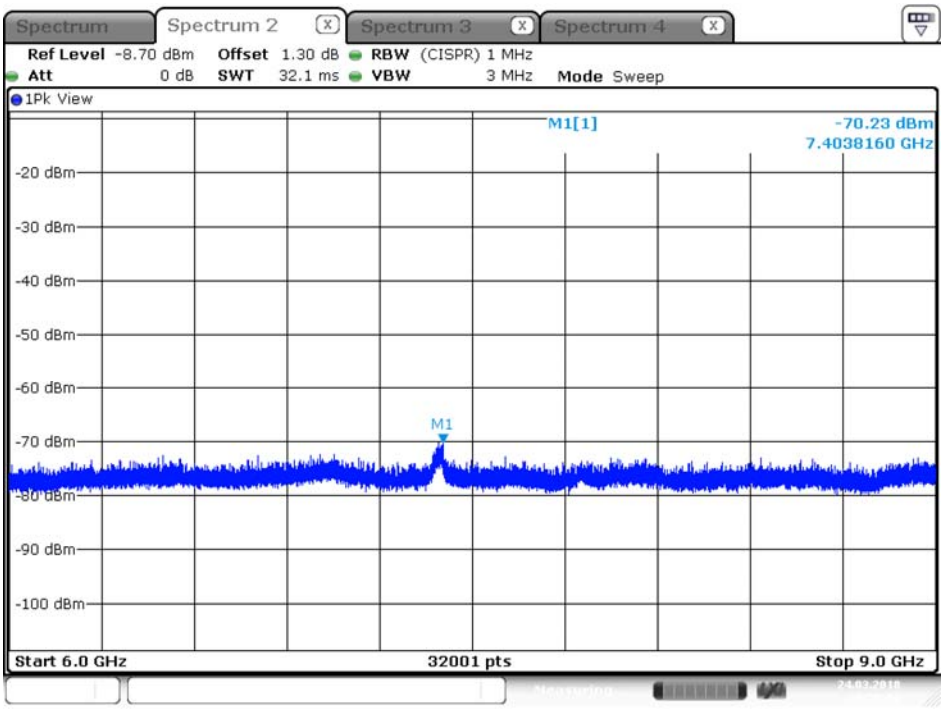
Date: 24.MAR.2018 20:48:26

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Average / Port 1 / 6GHz~9GHz



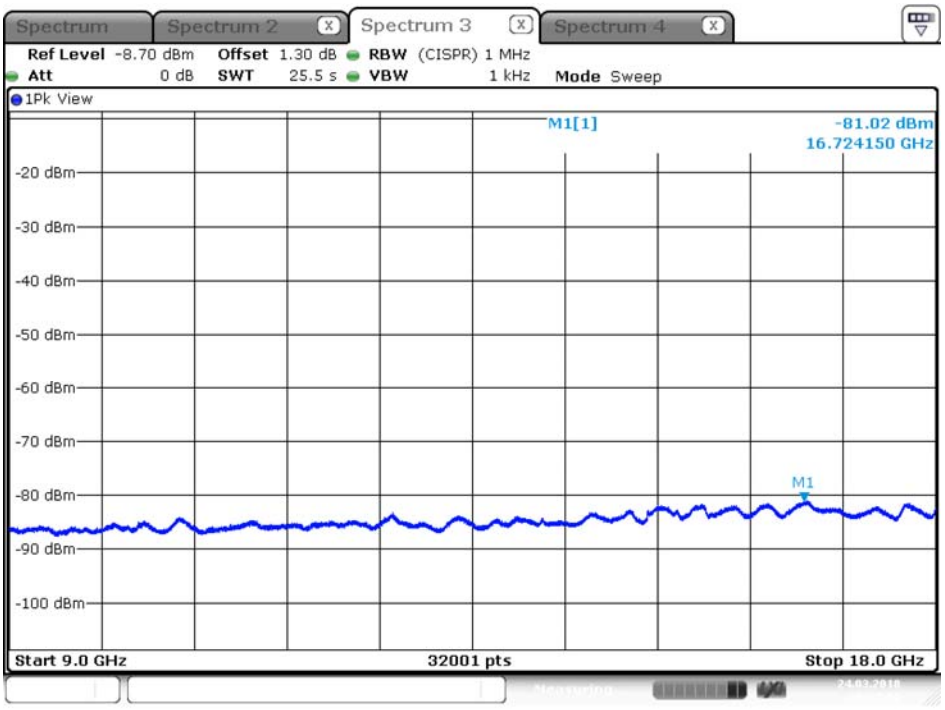
Date: 24.MAR.2018 20:55:17

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Peak / Port 1 / 6GHz~9GHz



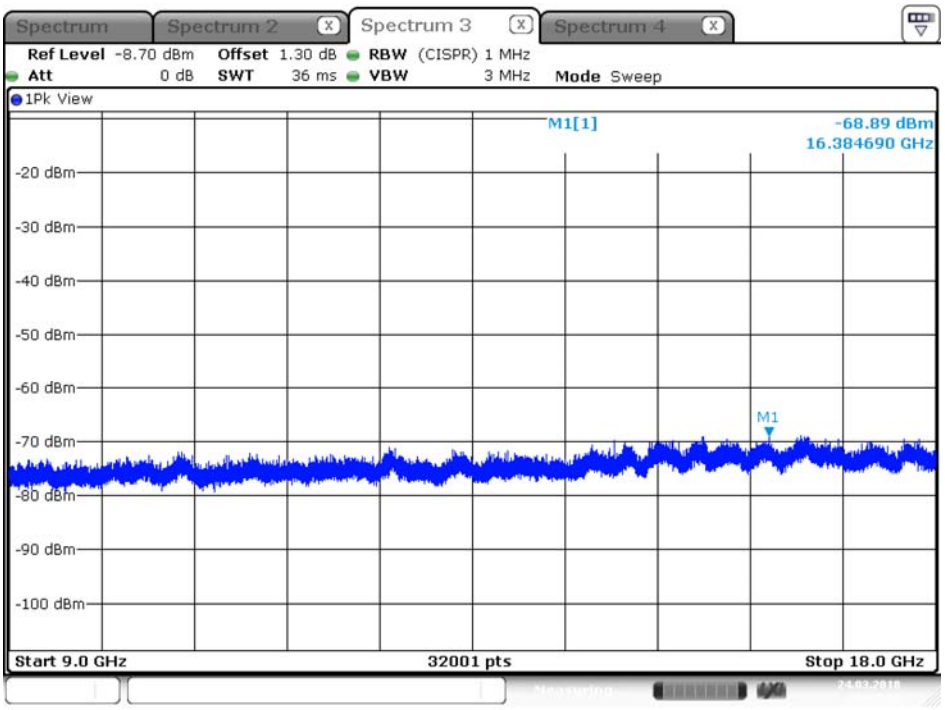
Date: 24.MAR.2018 20:56:02

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Average / Port 1 / 9GHz~18GHz



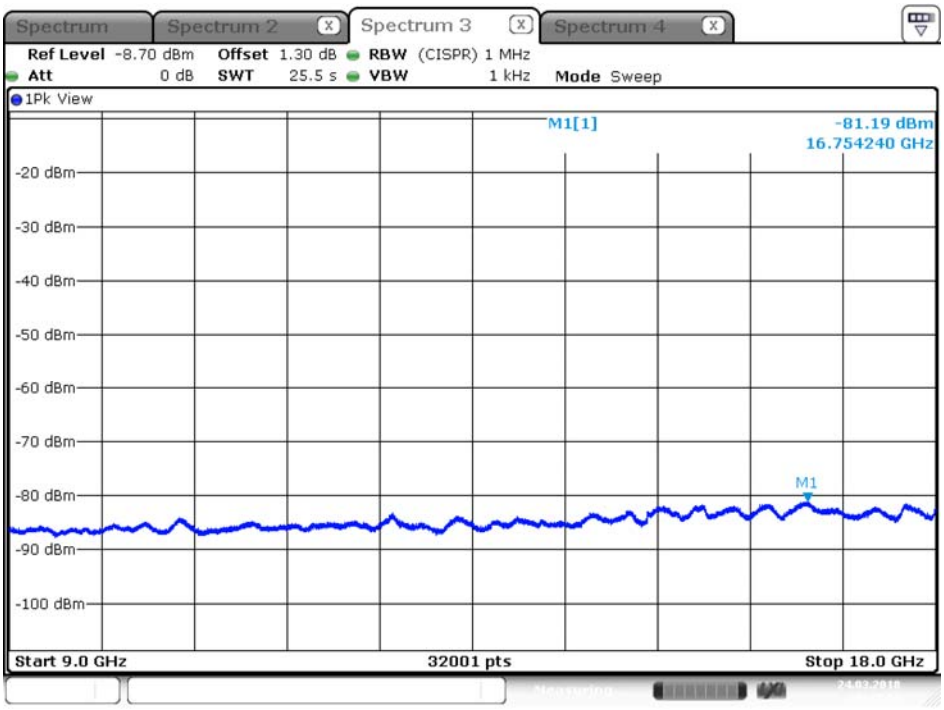
Date: 24.MAR.2018 20:37:07

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Peak / Port 1 / 9GHz~18GHz



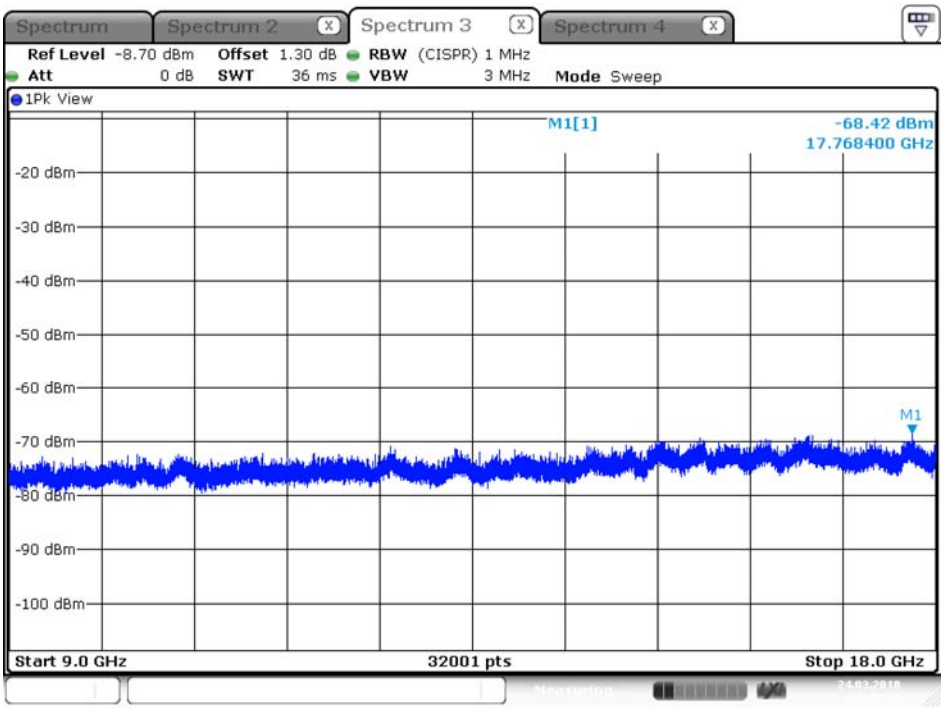
Date: 24.MAR.2018 20:37:59

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Average / Port 1 / 9GHz~18GHz



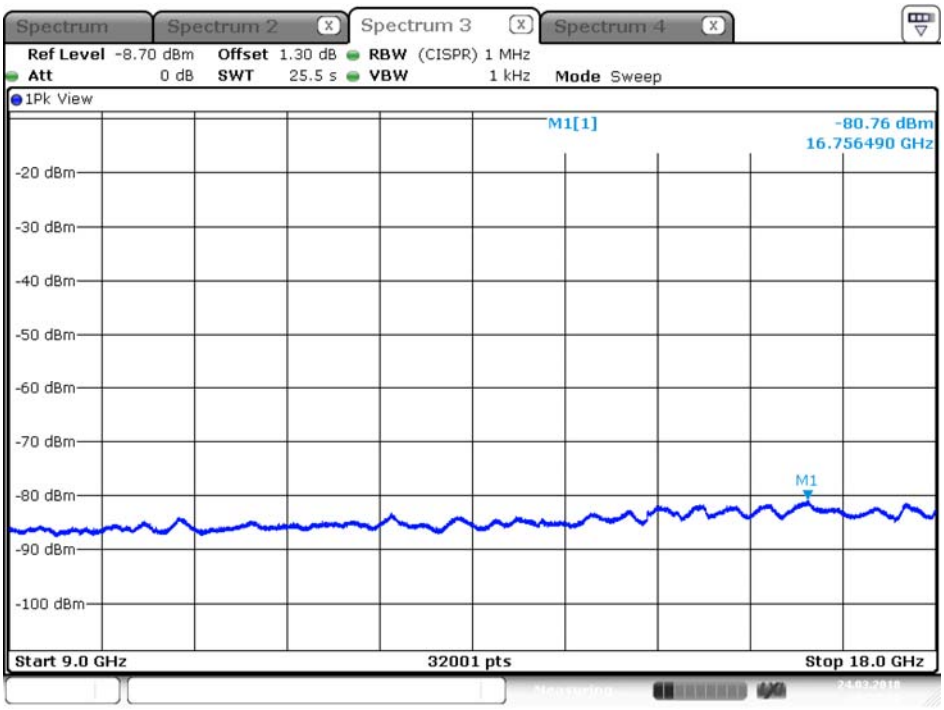
Date: 24.MAR.2018 20:45:34

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Peak / Port 1 / 9GHz~18GHz



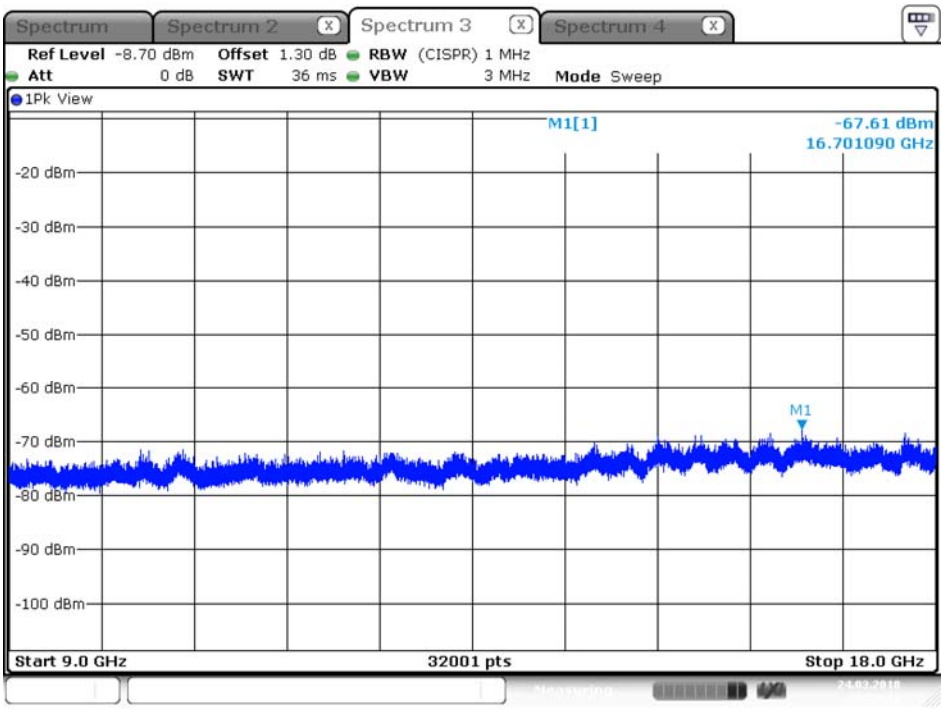
Date: 24.MAR.2018 20:46:21

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Average / Port 1 / 9GHz~18GHz



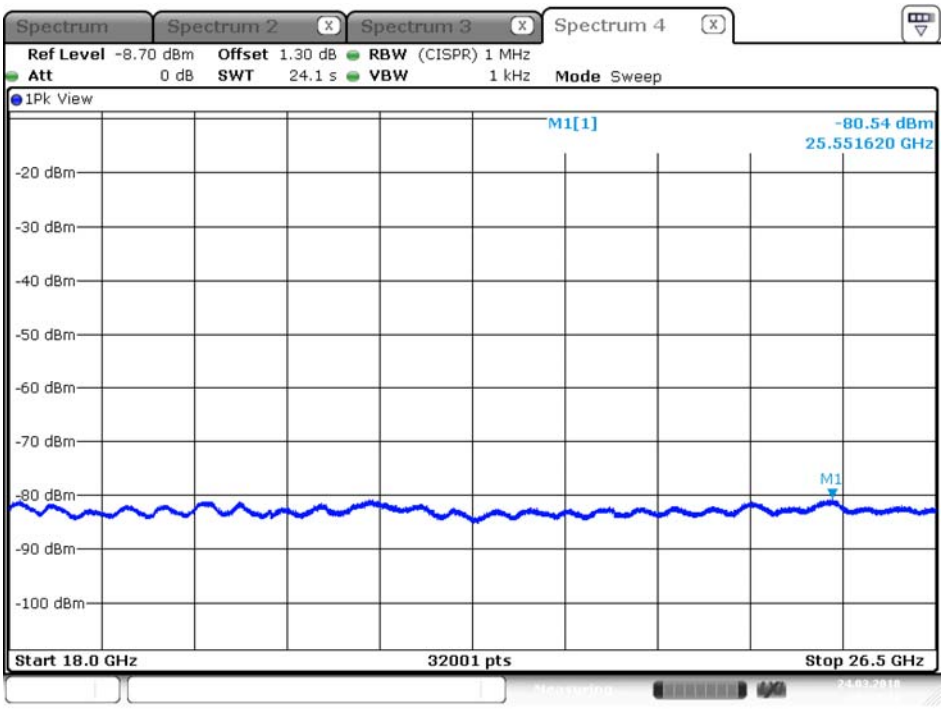
Date: 24.MAR.2018 20:57:39

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Peak / Port 1 / 9GHz~18GHz



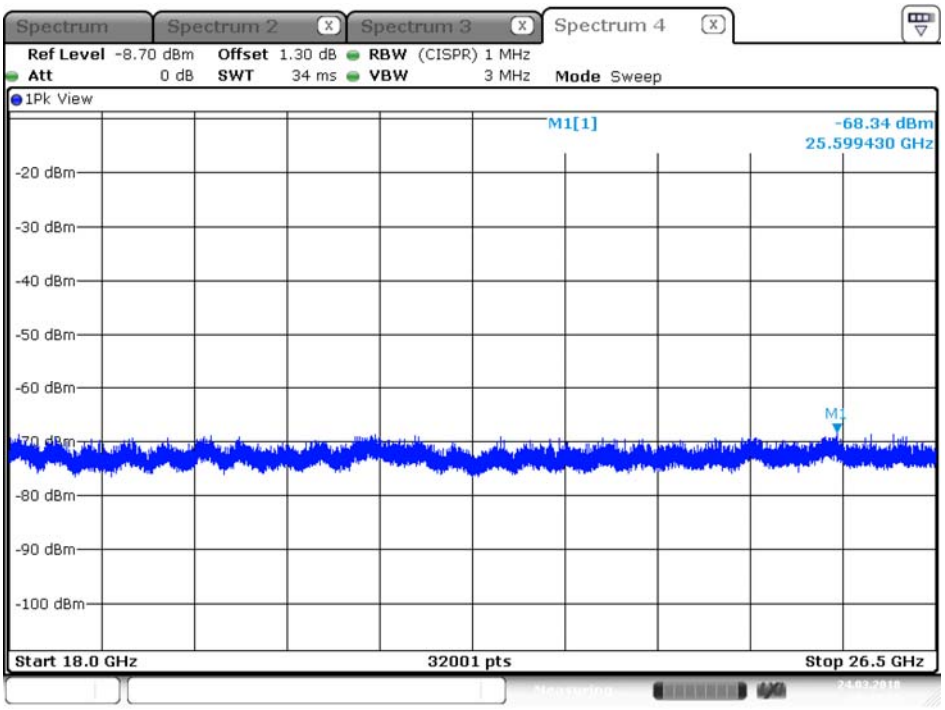
Date: 24.MAR.2018 20:58:42

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Average / Port 1 / 18GHz~26.5GHz



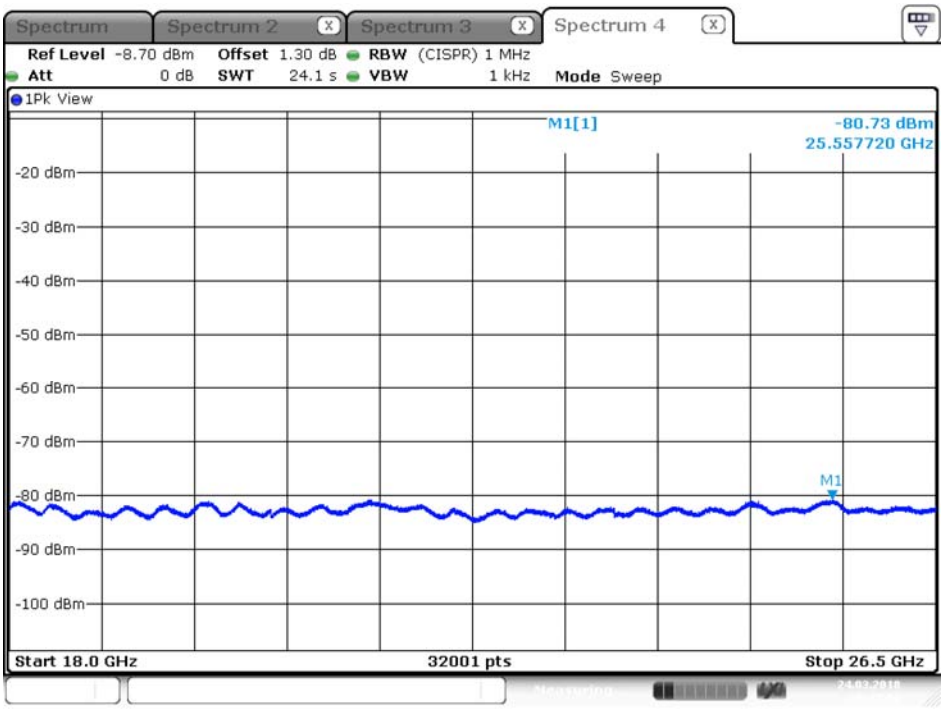
Date: 24.MAR.2018 20:39:42

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Peak / Port 1 / 18GHz~26.5GHz



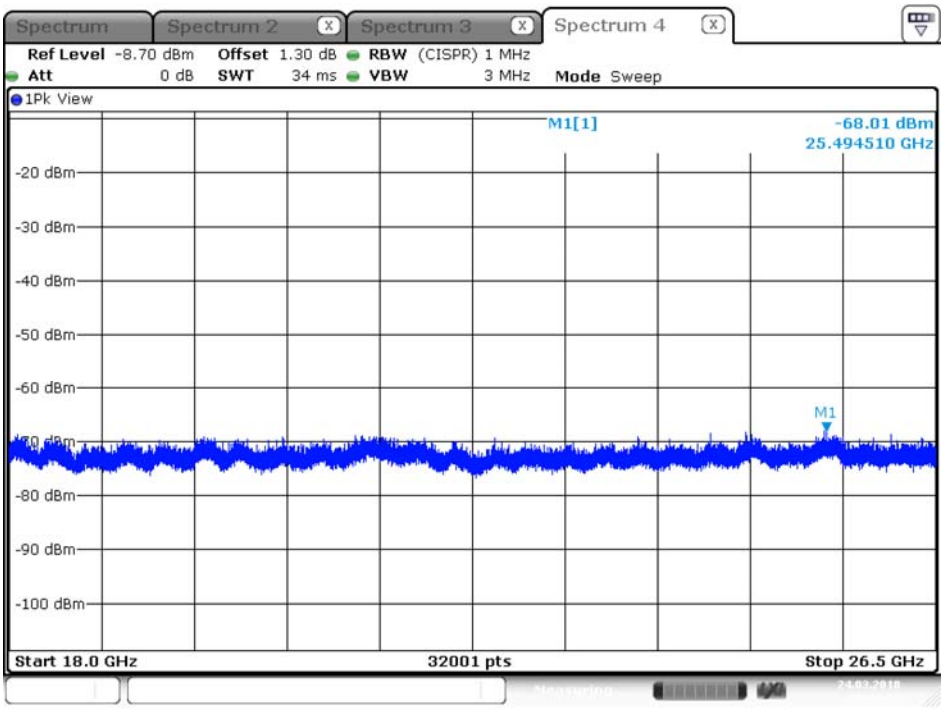
Date: 24.MAR.2018 20:41:21

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Average / Port 1 / 18GHz~26.5GHz



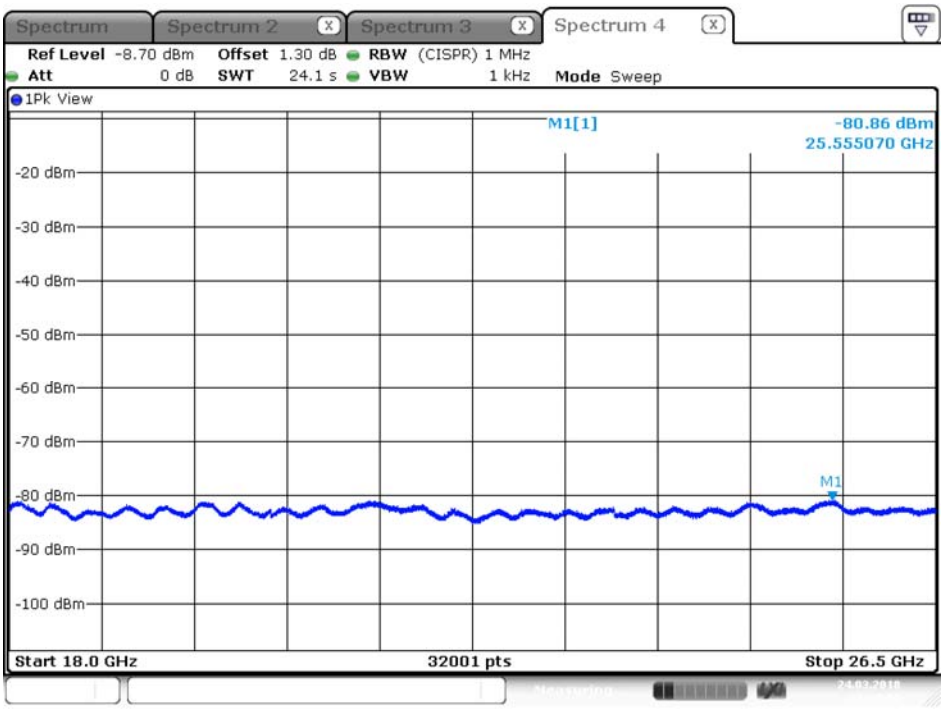
Date: 24.MAR.2018 20:43:03

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Peak / Port 1 / 18GHz~26.5GHz



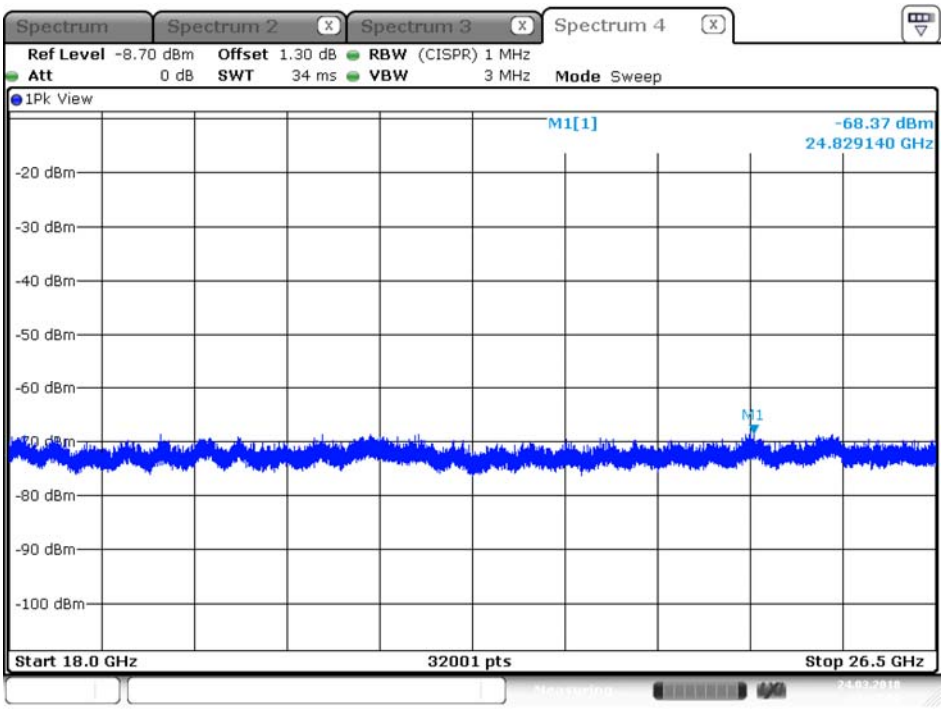
Date: 24.MAR.2018 20:44:13

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Average / Port 1 / 18GHz~26.5GHz



Date: 24.MAR.2018 21:00:09

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Peak / Port 1 / 18GHz~26.5GHz



Date: 24.MAR.2018 21:01:07

IEEE 802.11ac Nss1 MCS0 VHT40 1GHz~3GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-56.76	-50.76	-41.25	9.51
2437	6	-56.56	-50.56	-41.25	9.31
2452	6	-60.97	-54.97	-41.25	13.72

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-43.62	-37.62	-21.25	16.37
2437	6	-42.32	-36.32	-21.25	15.07
2452	6	-38.87	-32.87	-21.25	11.62

IEEE 802.11ac Nss1 MCS0 VHT40 3GHz~6GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-75.30	-69.30	-41.25	28.05
2437	6	-72.25	-66.25	-41.25	25.00
2452	6	-70.14	-64.14	-41.25	22.89

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-69.45	-63.45	-21.25	42.20
2437	6	-64.31	-58.31	-21.25	37.06
2452	6	-63.31	-57.31	-21.25	36.06

IEEE 802.11ac Nss1 MCS0 VHT40 6GHz~9GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-85.08	-79.08	-41.25	37.83
2437	6	-82.16	-76.16	-41.25	34.91
2452	6	-84.96	-78.96	-41.25	37.71

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-71.96	-65.96	-21.25	44.71
2437	6	-68.76	-62.76	-21.25	41.51
2452	6	-71.58	-65.58	-21.25	44.33

IEEE 802.11ac Nss1 MCS0 VHT40 9GHz~18GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-81.04	-75.04	-41.25	33.79
2437	6	-81.17	-75.17	-41.25	33.92
2452	6	-81.13	-75.13	-41.25	33.88

Peak

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-69.24	-63.24	-21.25	41.99
2437	6	-68.93	-62.93	-21.25	41.68
2452	6	-68.70	-62.70	-21.25	41.45

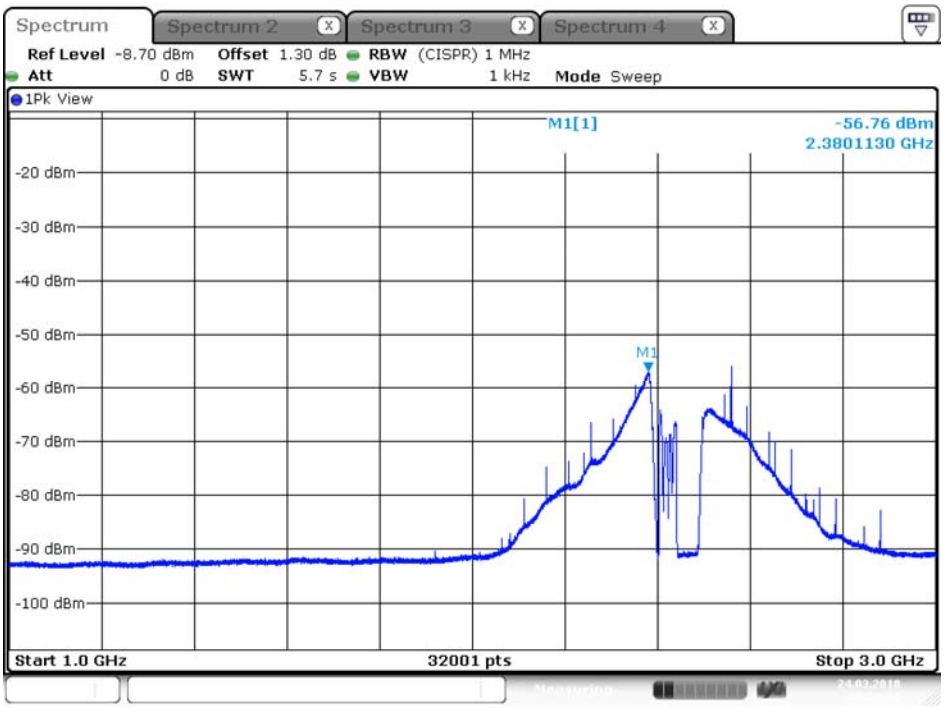
IEEE 802.11ac Nss1 MCS0 VHT40 18GHz~26.5GHz
Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-80.87	-74.87	-41.25	33.62
2437	6	-80.73	-74.73	-41.25	33.48
2452	6	-80.71	-74.71	-41.25	33.46

Peak

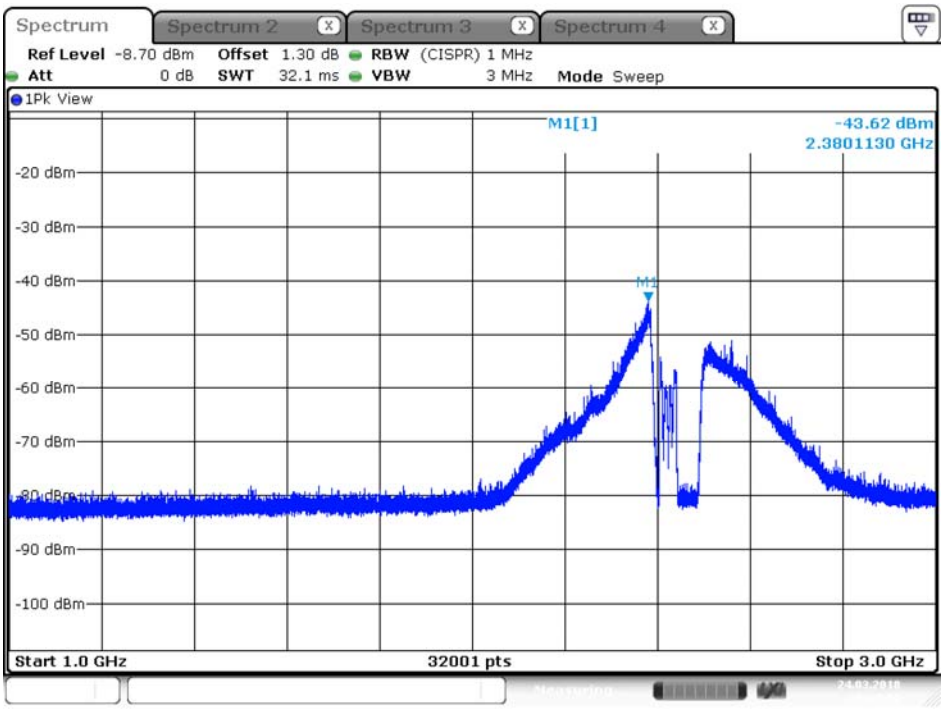
Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-68.43	-62.43	-21.25	41.18
2437	6	-67.78	-61.78	-21.25	40.53
2452	6	-67.64	-61.64	-21.25	40.39

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Average / Port 1 / 1GHz~3GHz



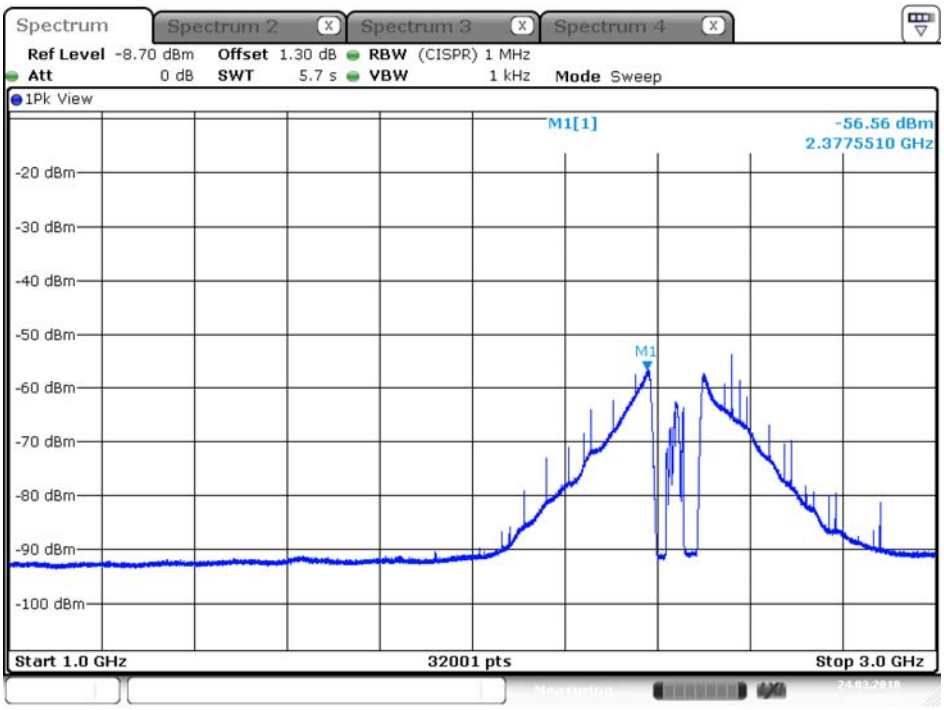
Date: 24.MAR.2018 19:59:21

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Peak / Port 1 / 1GHz~3GHz



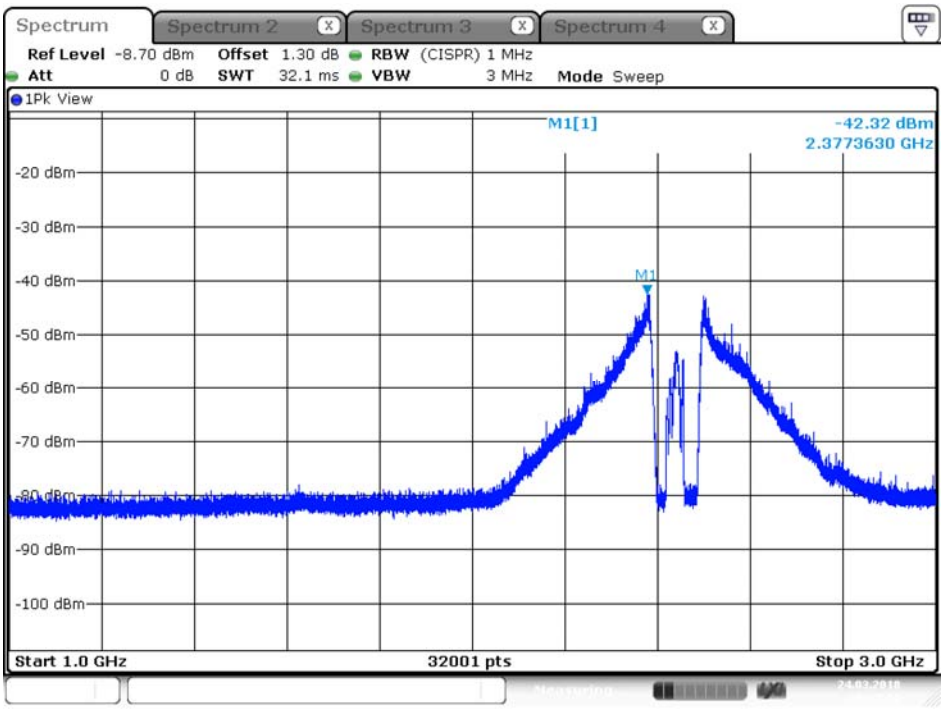
Date: 24.MAR.2018 20:00:08

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Average / Port 1 / 1GHz~3GHz



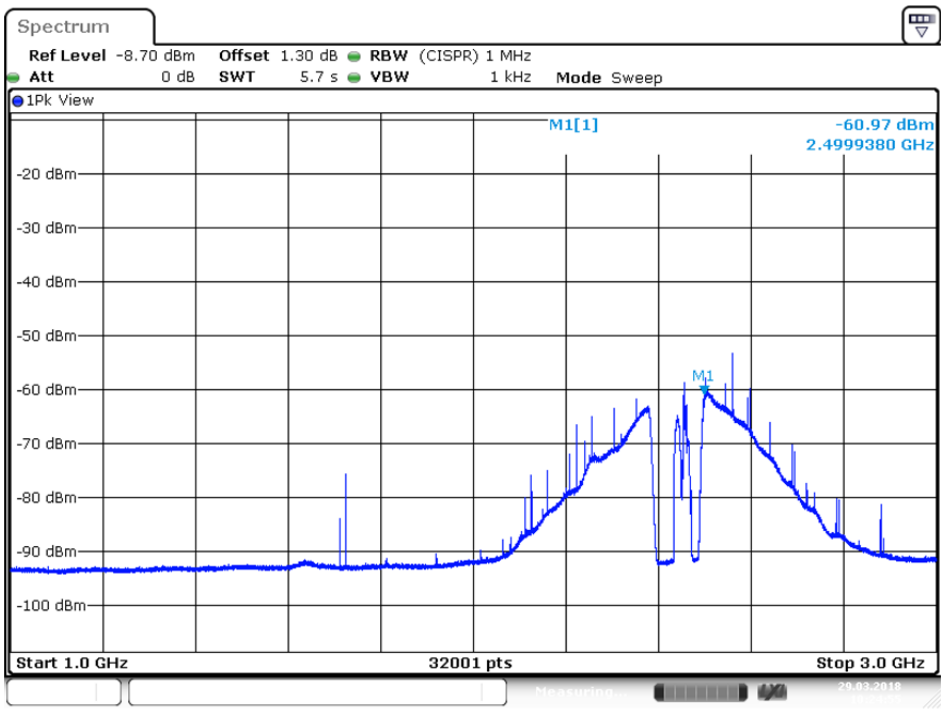
Date: 24.MAR.2018 20:01:27

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Peak / Port 1 / 1GHz~3GHz



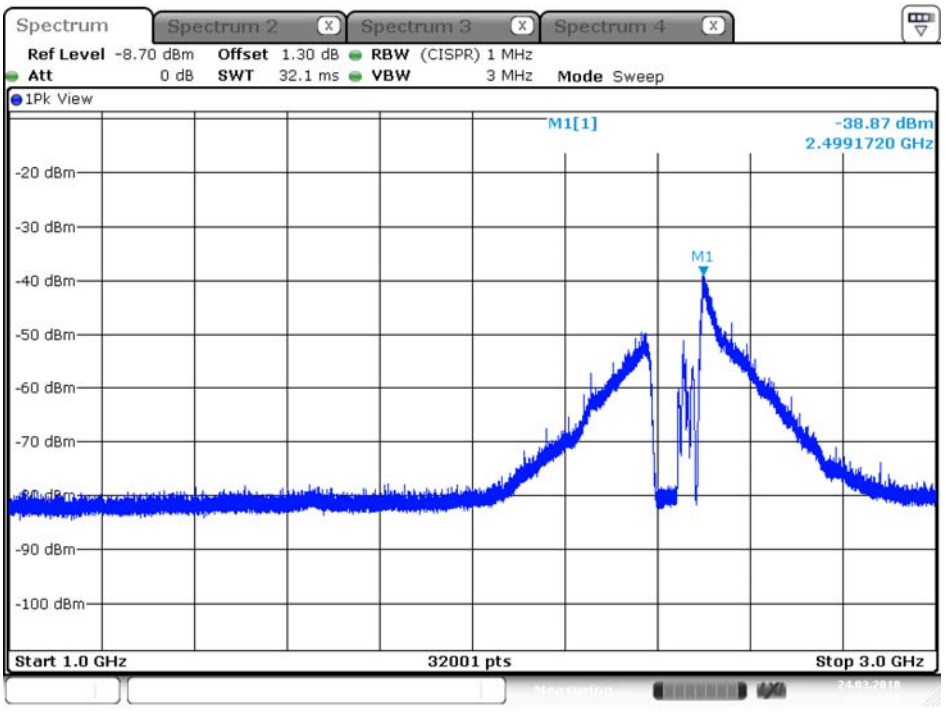
Date: 24.MAR.2018 20:02:19

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Average / Port 1 / 1GHz~3GHz



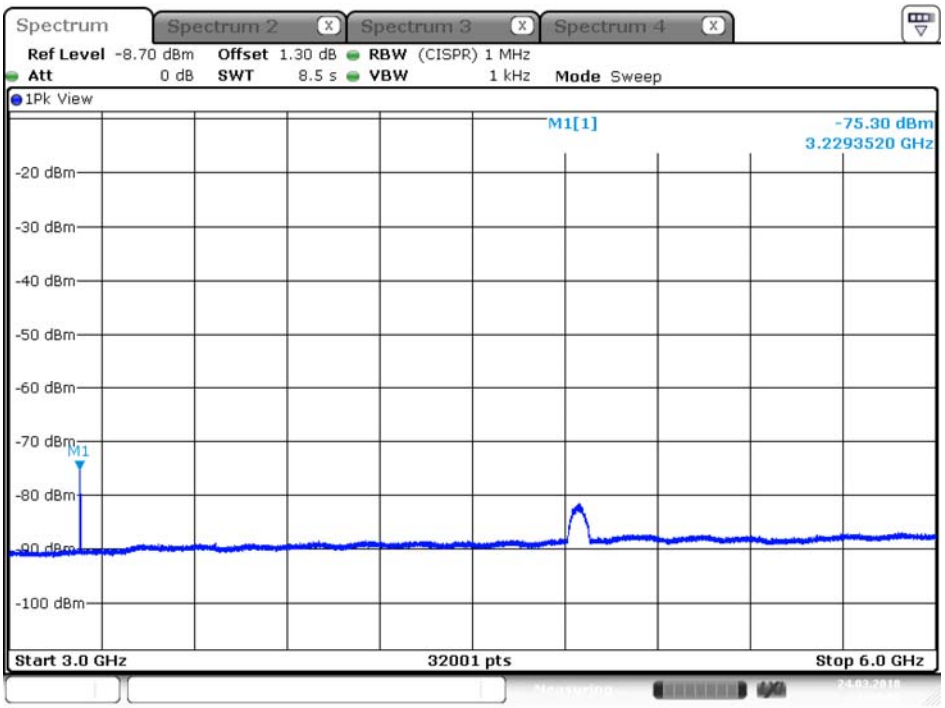
Date: 29.MAR.2018 10:24:56

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Peak / Port 1 / 1GHz~3GHz



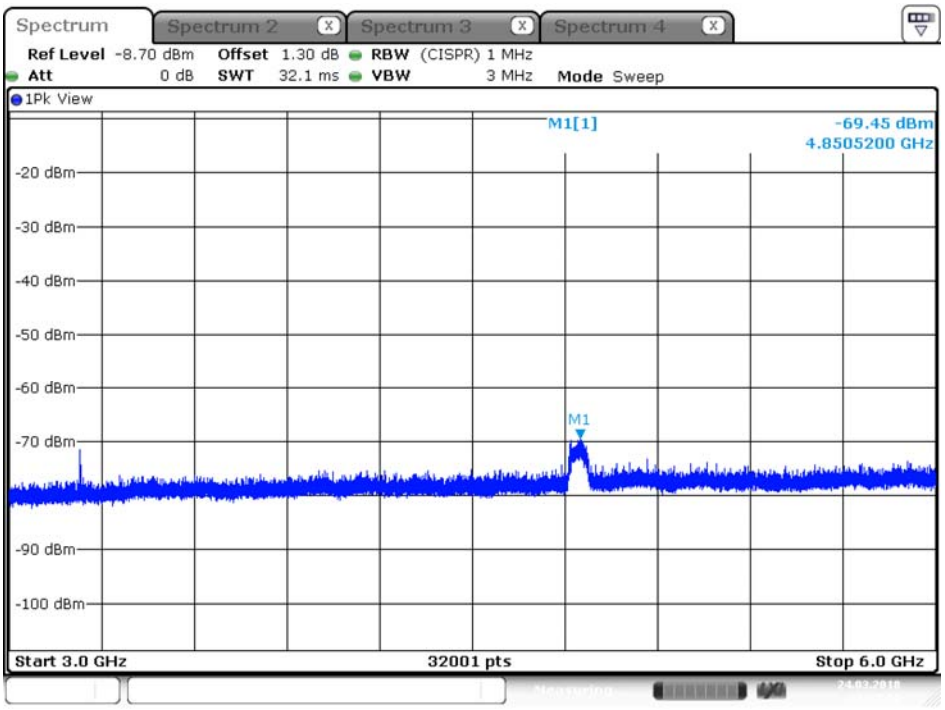
Date: 24.MAR.2018 20:04:49

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Average / Port 1 / 3GHz~6GHz



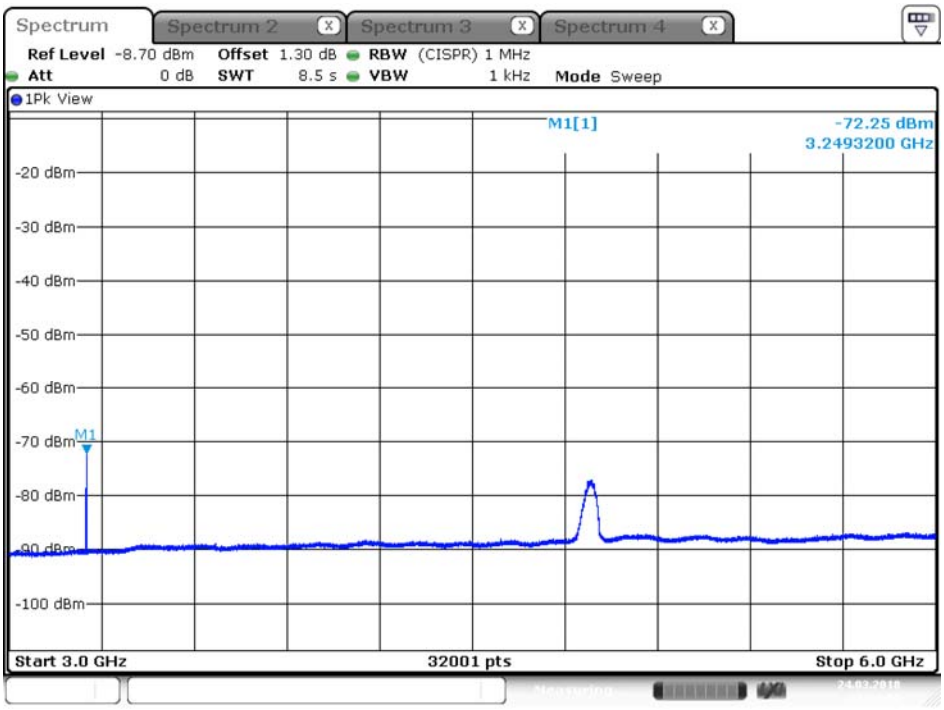
Date: 24.MAR.2018 21:10:06

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Peak / Port 1 / 3GHz~6GHz



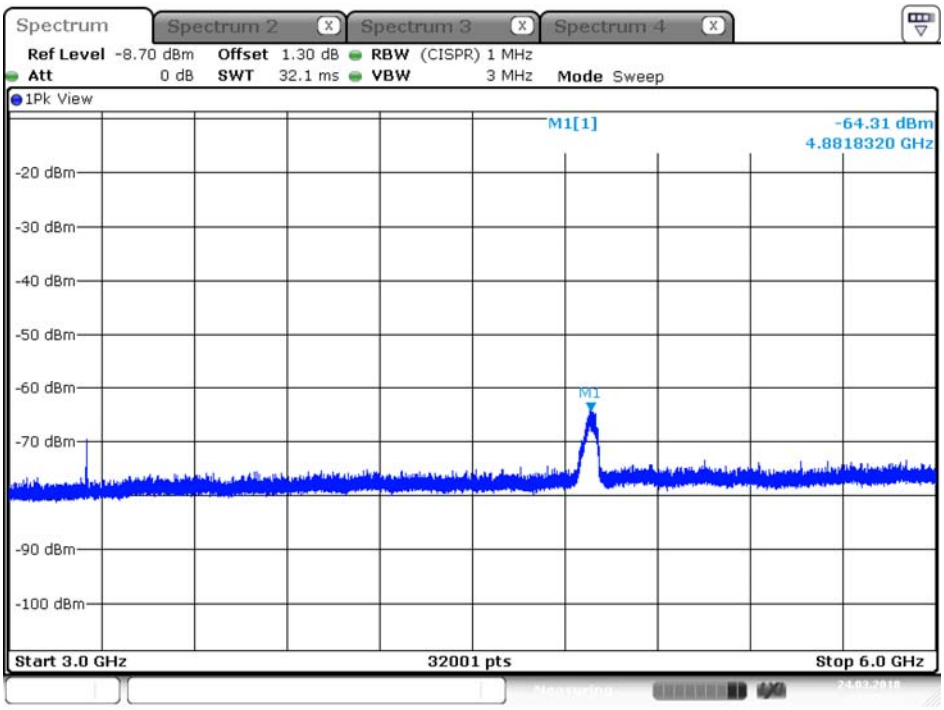
Date: 24.MAR.2018 21:11:16

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Average / Port 1 / 3GHz~6GHz



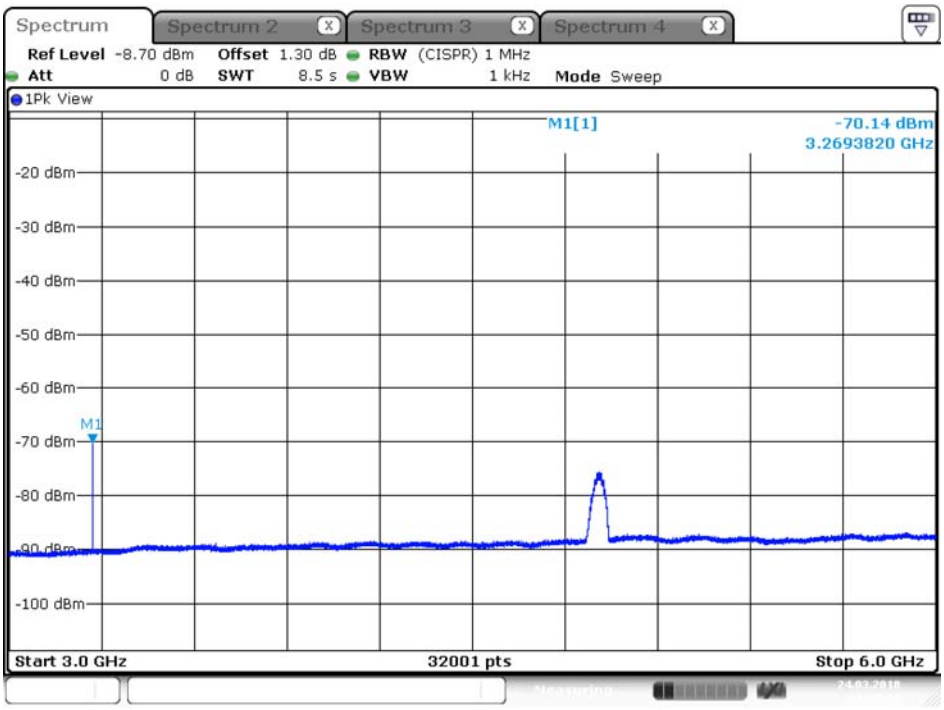
Date: 24.MAR.2018 21:14:09

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Peak / Port 1 / 3GHz~6GHz



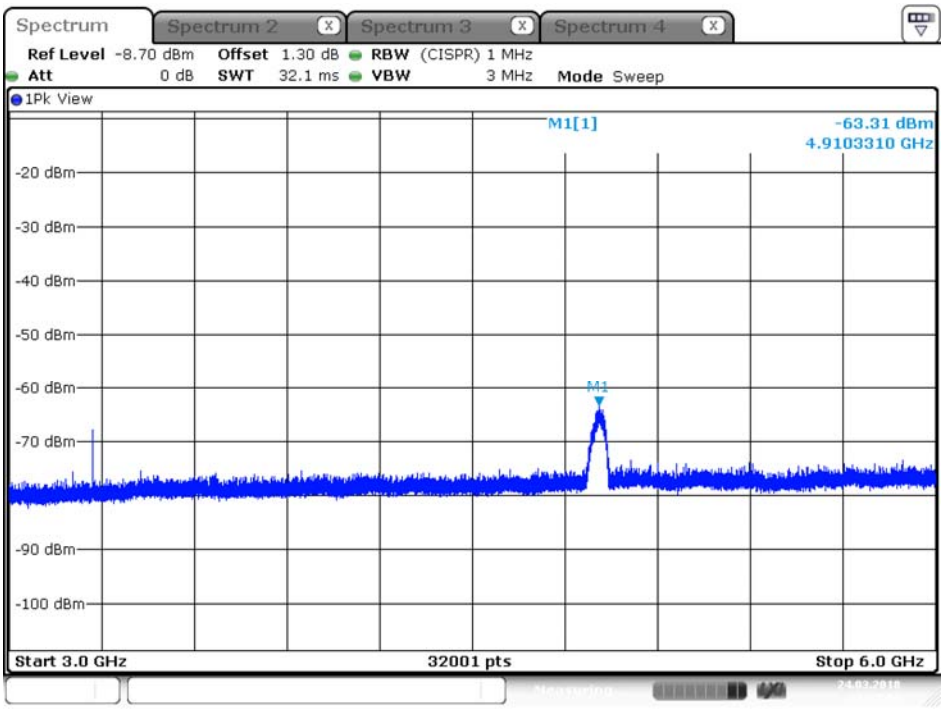
Date: 24.MAR.2018 21:15:27

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Average / Port 1 / 3GHz~6GHz



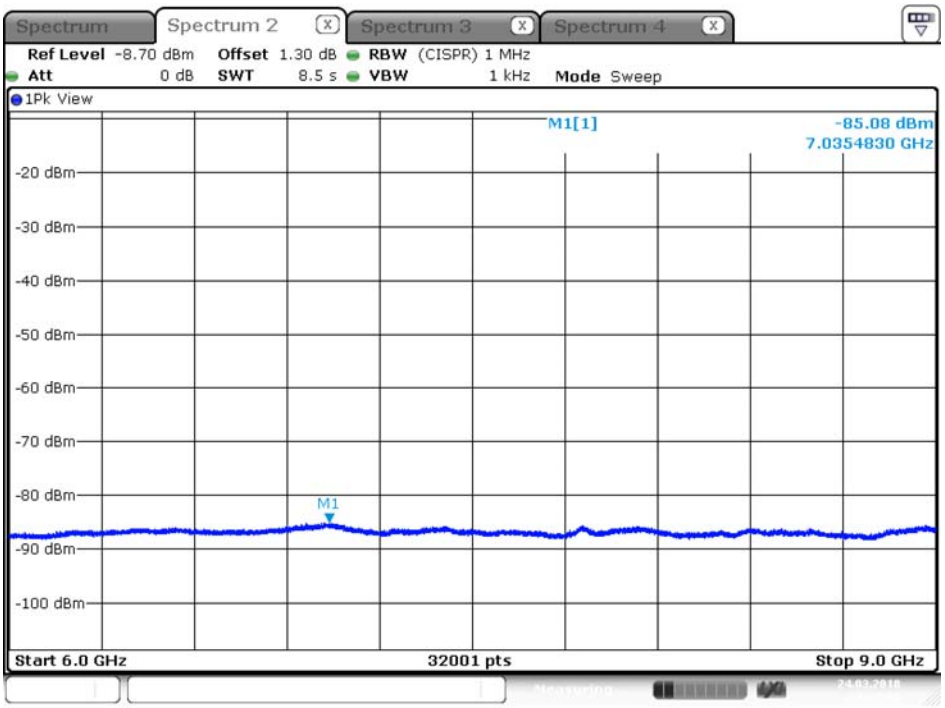
Date: 24.MAR.2018 21:31:50

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Peak / Port 1 / 3GHz~6GHz



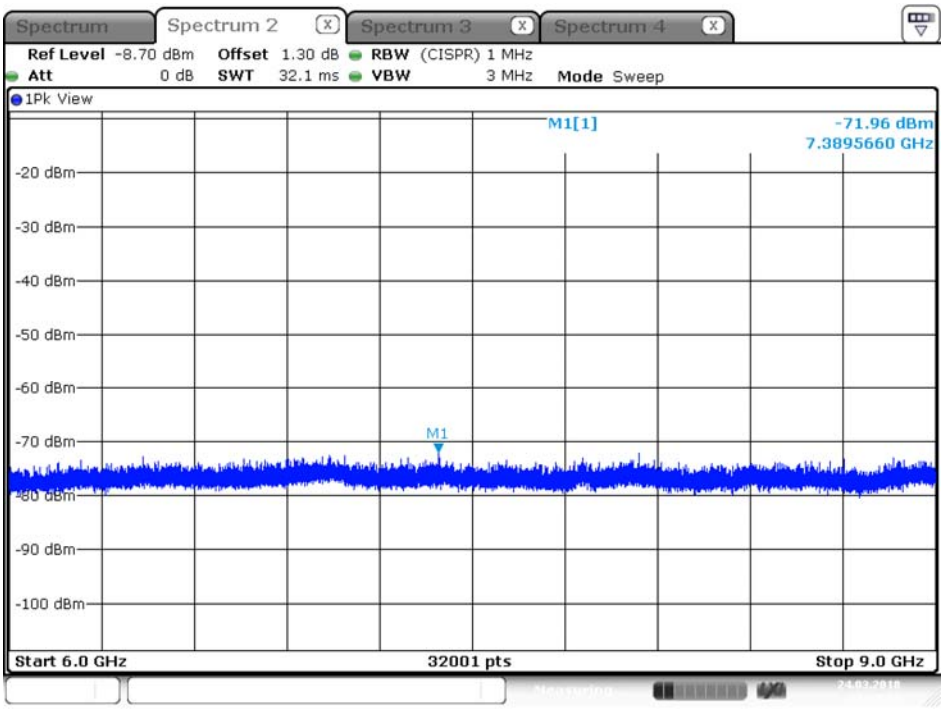
Date: 24.MAR.2018 21:33:07

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Average / Port 1 / 6GHz~9GHz



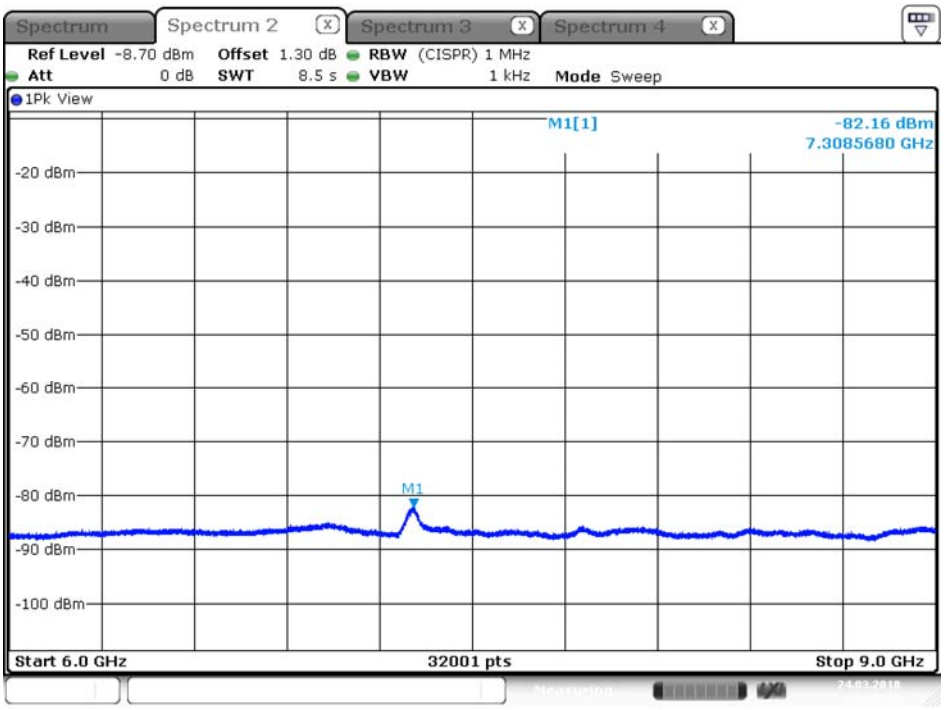
Date: 24.MAR.2018 21:07:48

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Peak / Port 1 / 6GHz~9GHz



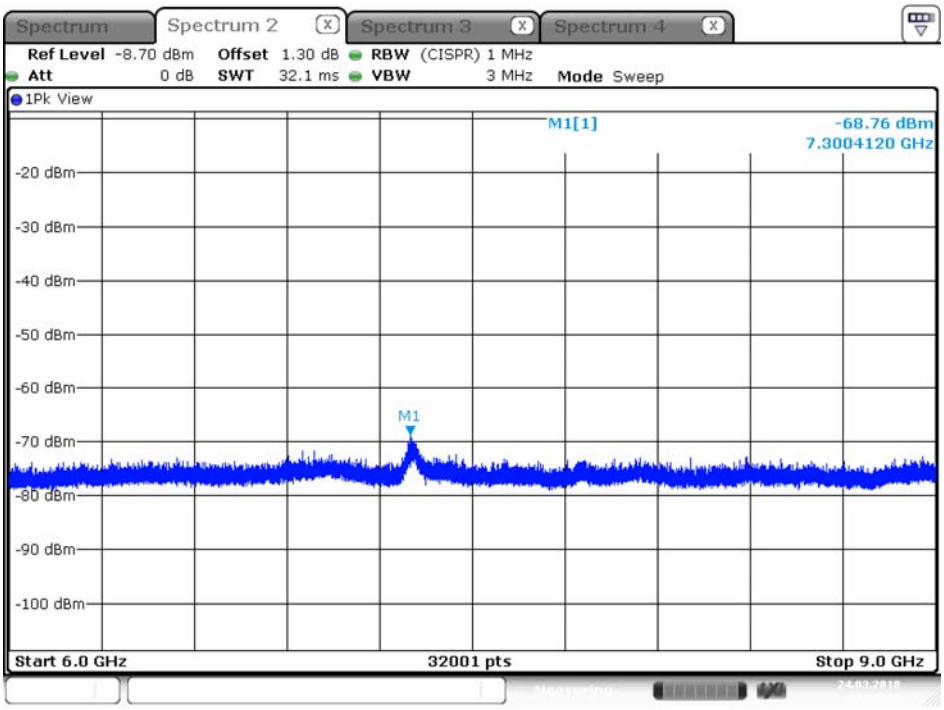
Date: 24.MAR.2018 21:08:38

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Average / Port 1 / 6GHz~9GHz



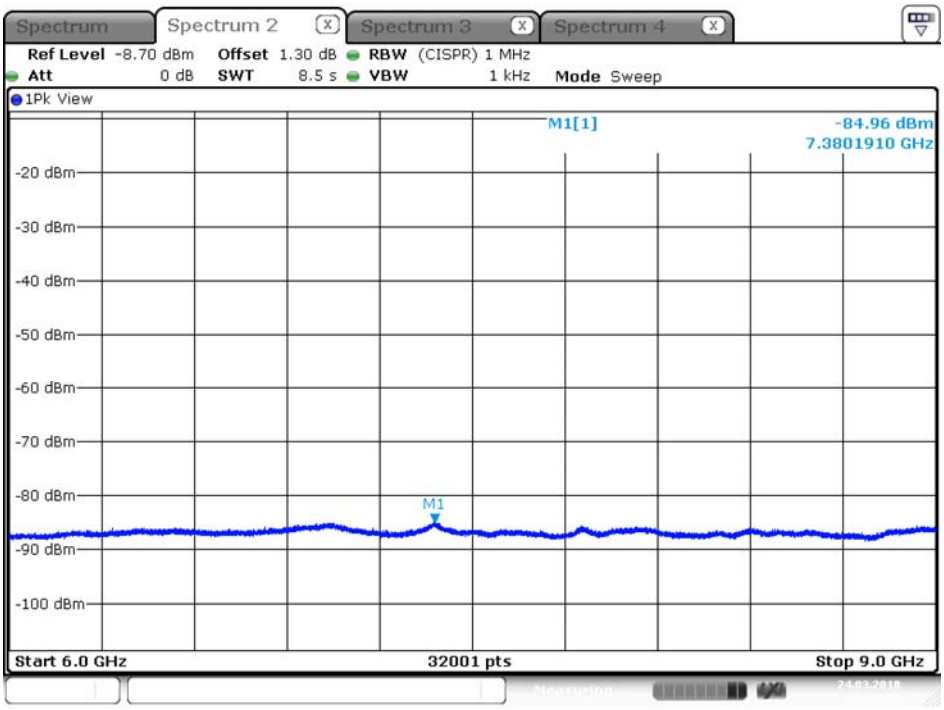
Date: 24.MAR.2018 21:16:31

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Peak / Port 1 / 6GHz~9GHz



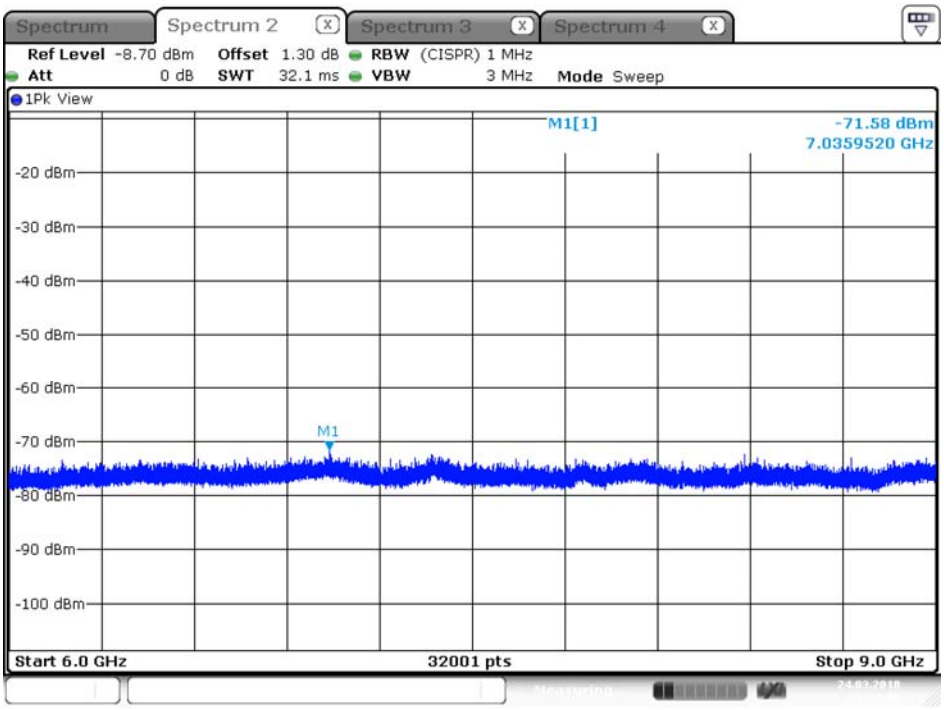
Date: 24.MAR.2018 21:17:31

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Average / Port 1 / 6GHz~9GHz



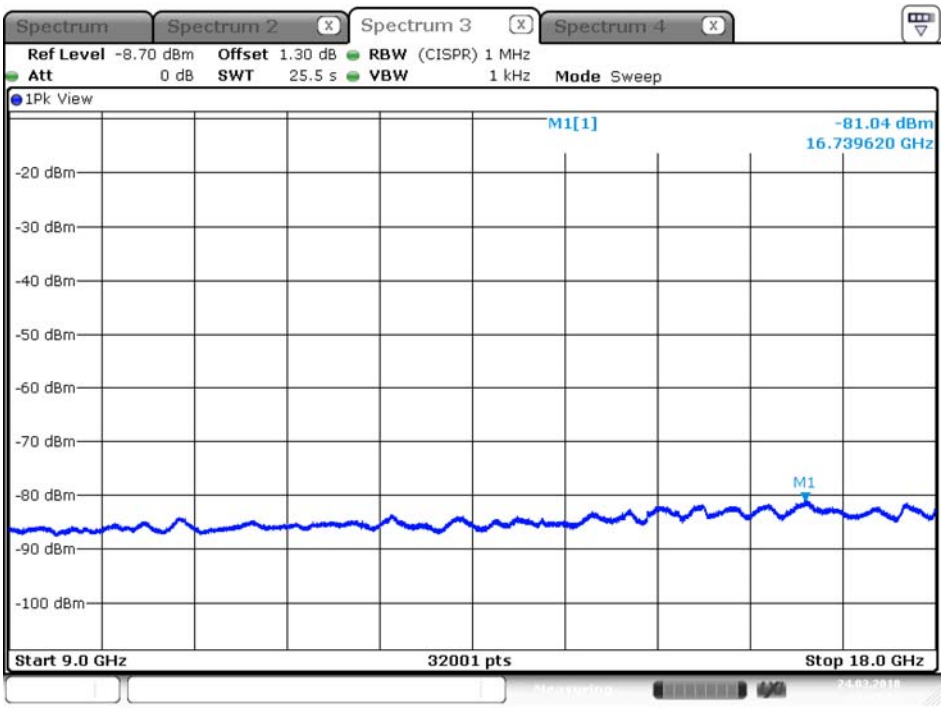
Date: 24.MAR.2018 21:29:55

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Peak / Port 1 / 6GHz~9GHz



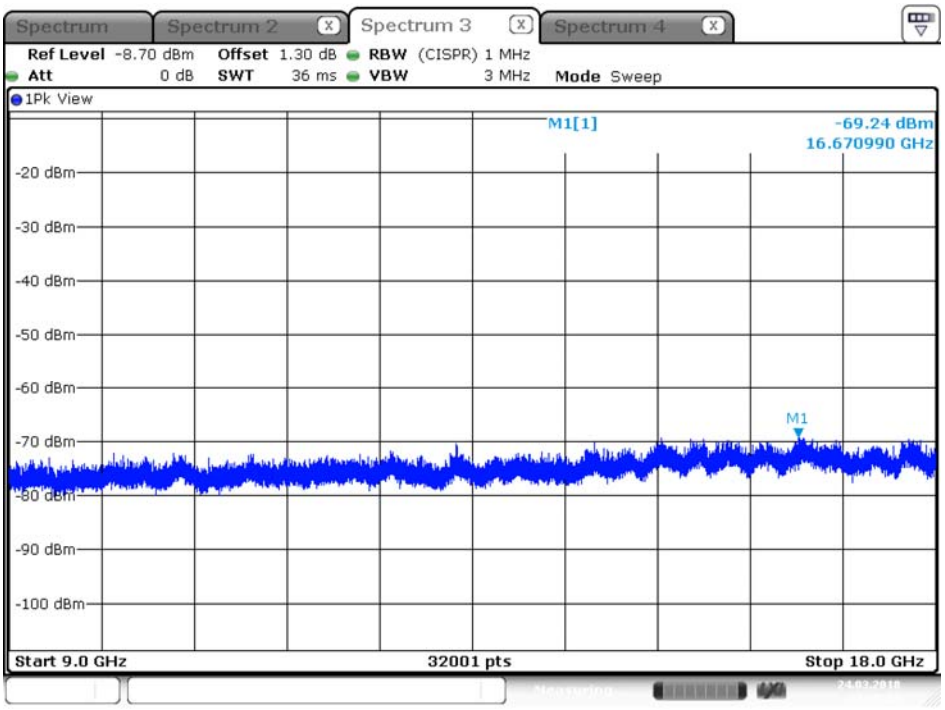
Date: 24.MAR.2018 21:30:40

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Average / Port 1 / 9GHz~18GHz



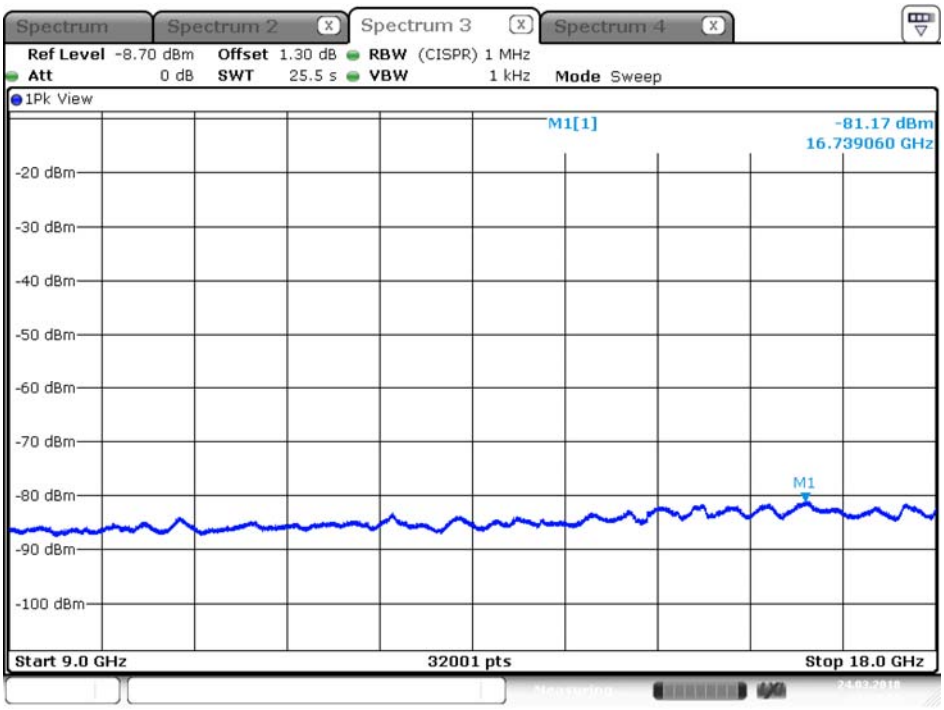
Date: 24.MAR.2018 21:05:34

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Peak / Port 1 / 9GHz~18GHz



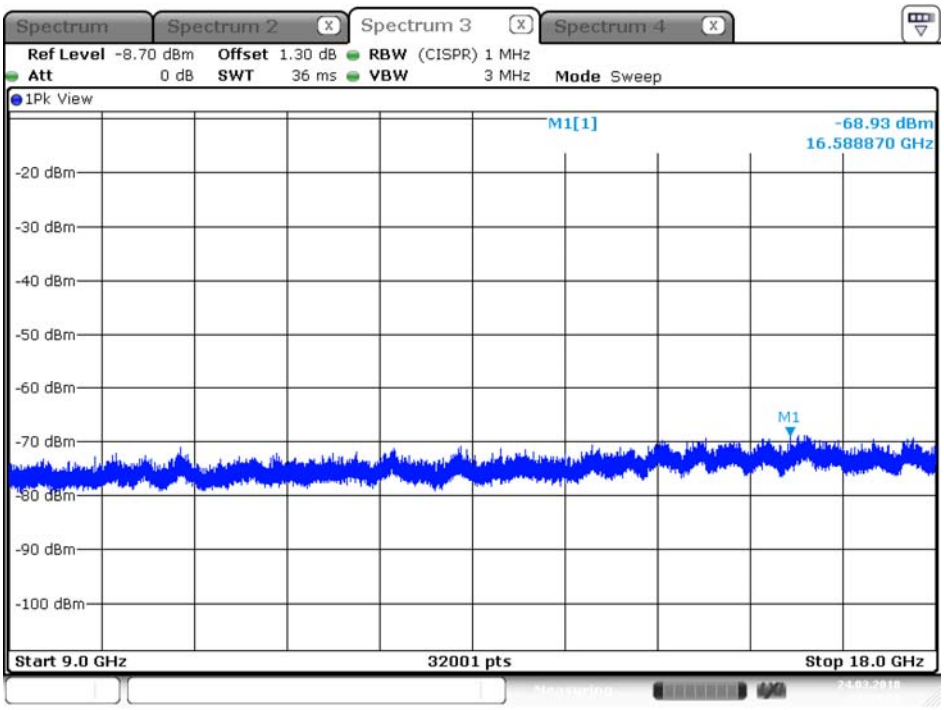
Date: 24.MAR.2018 21:06:26

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Average / Port 1 / 9GHz~18GHz



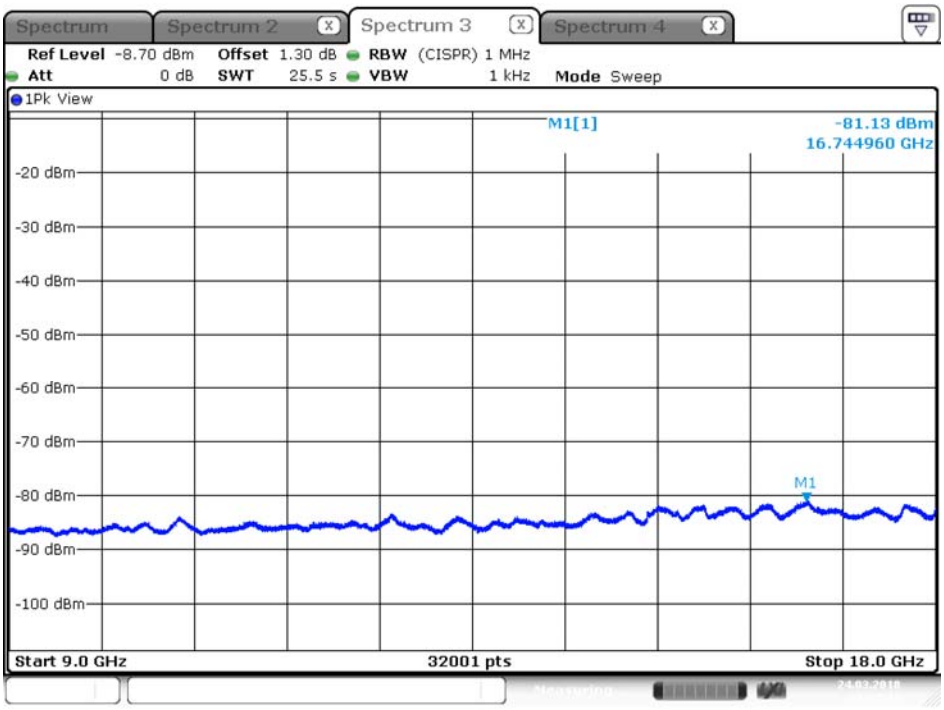
Date: 24.MAR.2018 21:19:12

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Peak / Port 1 / 9GHz~18GHz



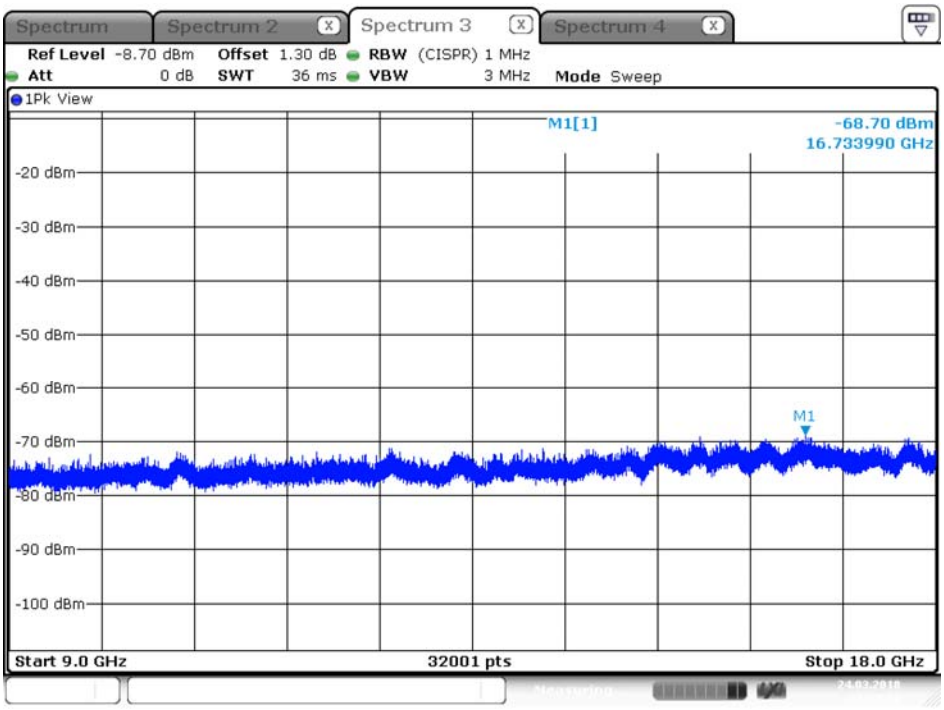
Date: 24.MAR.2018 21:19:58

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Average / Port 1 / 9GHz~18GHz



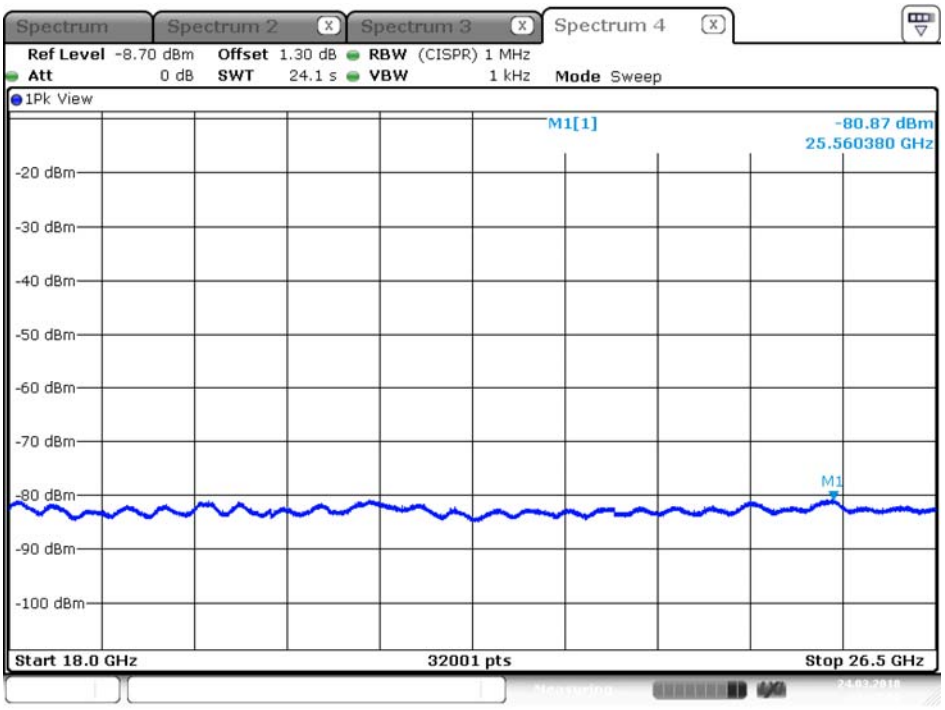
Date: 24.MAR.2018 21:27:44

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Peak / Port 1 / 9GHz~18GHz



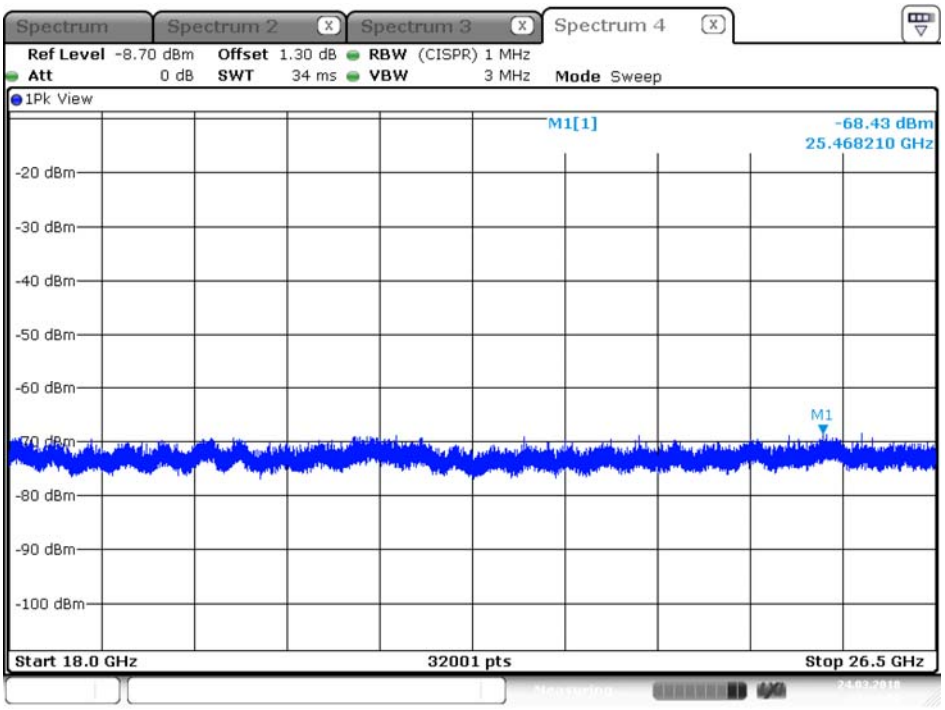
Date: 24.MAR.2018 21:28:32

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Average / Port 1 / 18GHz~26.5GHz



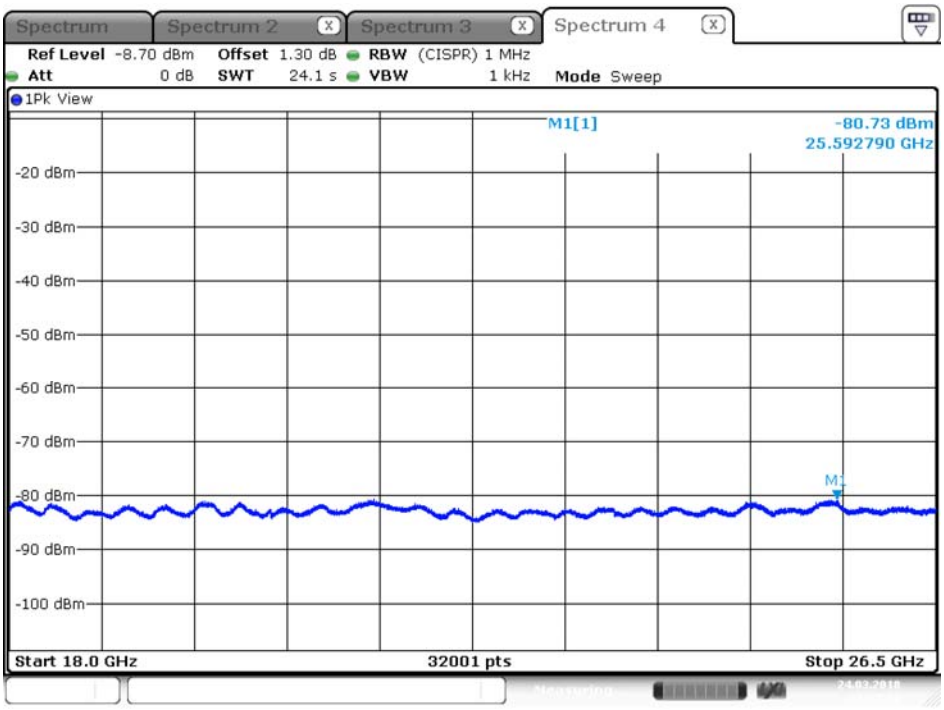
Date: 24.MAR.2018 21:03:06

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Peak / Port 1 / 18GHz~26.5GHz



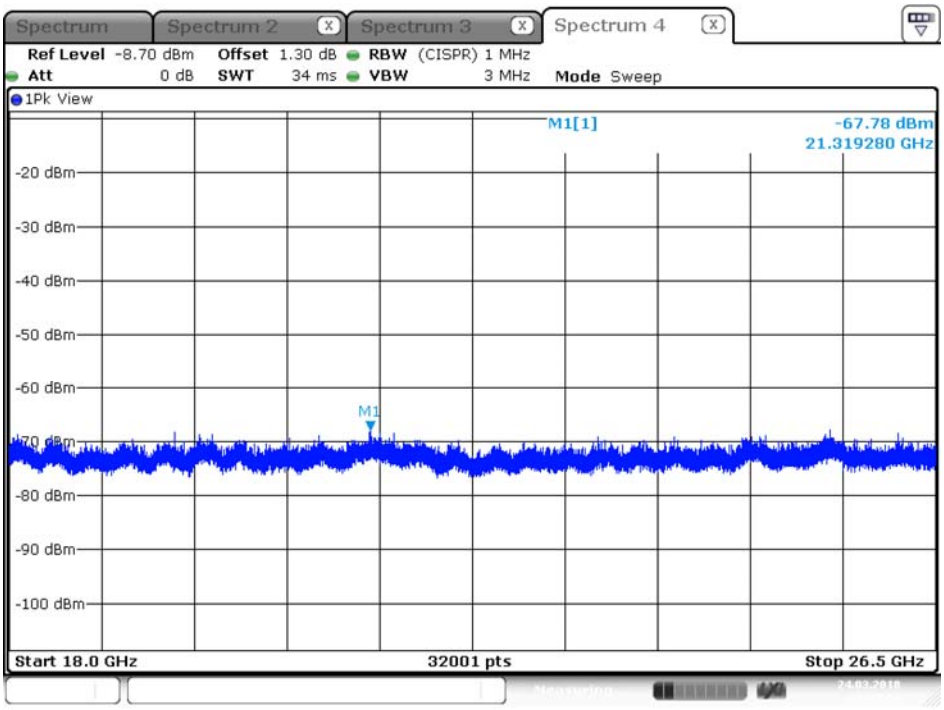
Date: 24.MAR.2018 21:04:05

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Average / Port 1 / 18GHz~26.5GHz



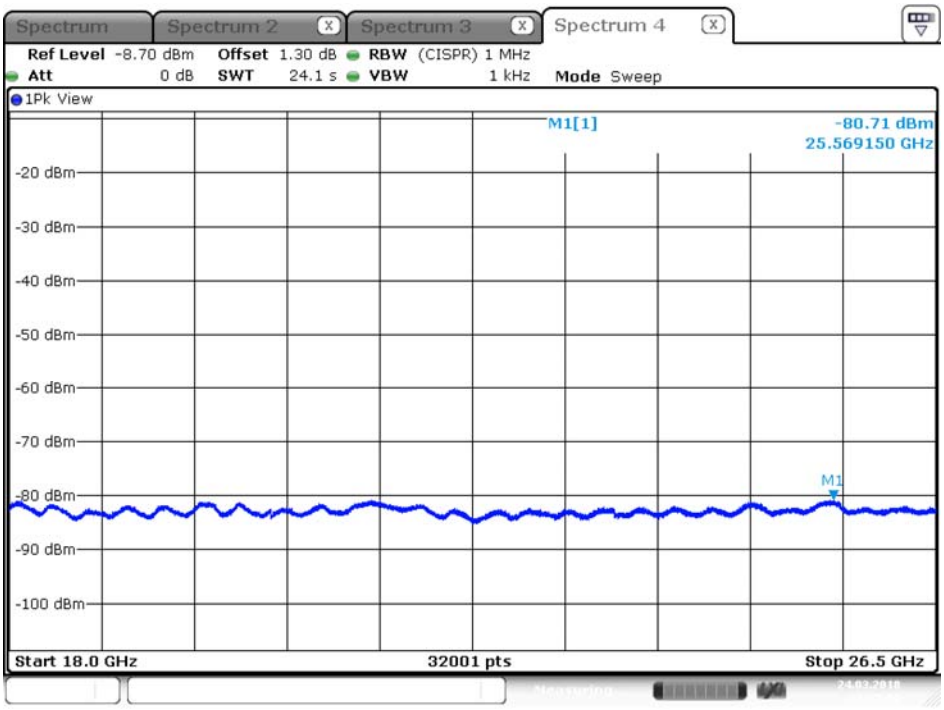
Date: 24.MAR.2018 21:21:32

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Peak / Port 1 / 18GHz~26.5GHz



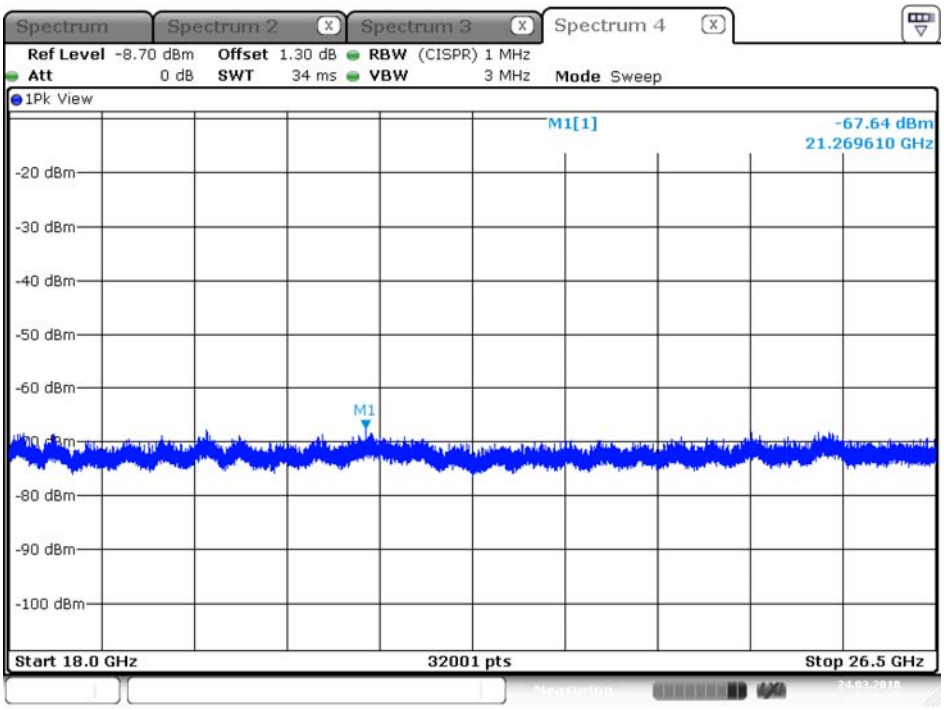
Date: 24.MAR.2018 21:22:13

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Average / Port 1 / 18GHz~26.5GHz



Date: 24.MAR.2018 21:25:09

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Peak / Port 1 / 18GHz~26.5GHz



Date: 24.MAR.2018 21:26:17

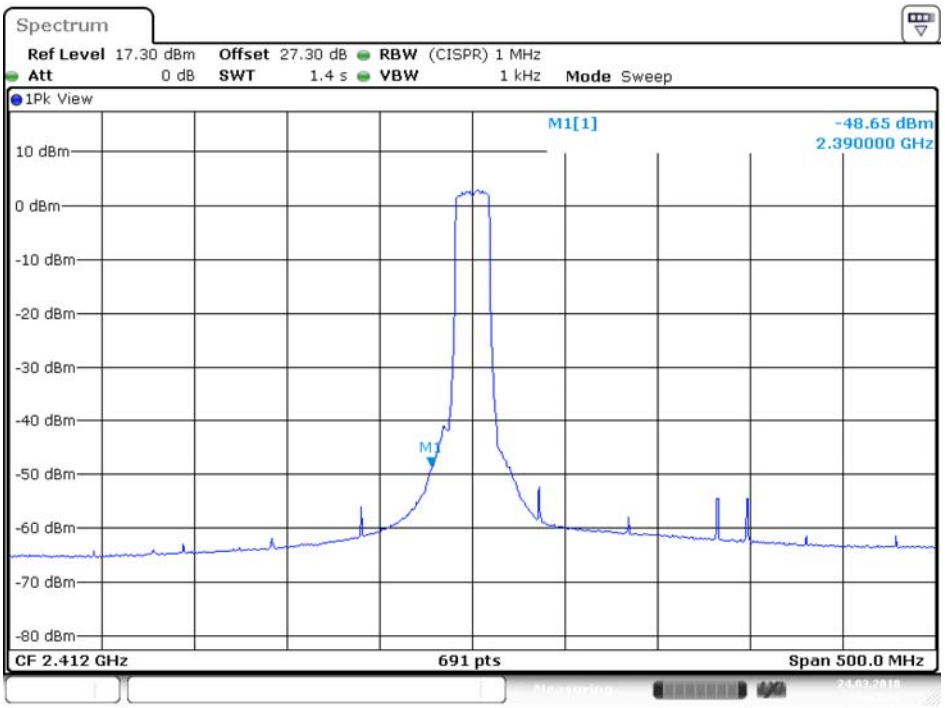
For Conducted Bandedge
IEEE 802.11ac Nss1 MCS0 VHT20 / Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Bandedge Level (dBm)	Total TX Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-48.65	-42.65	-41.25	1.40
2417	6	-51.22	-45.22	-41.25	3.97
2437	6	-55.05	-49.05	-41.25	7.80
2457	6	-51.37	-45.37	-41.25	4.12
2462	6	-49.05	-43.05	-41.25	1.80

IEEE 802.11ac Nss1 MCS0 VHT20 / Peak

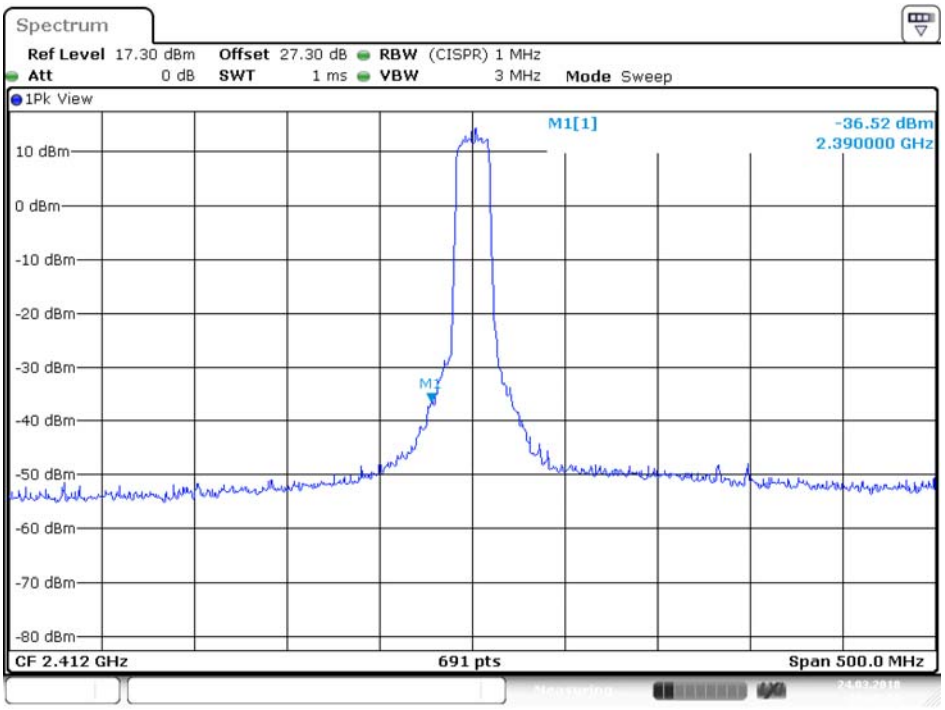
Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Bandedge Level (dBm)	Total TX Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2412	6	-36.52	-30.52	-21.25	9.27
2417	6	-38.54	-32.54	-21.25	11.29
2437	6	-46.35	-40.35	-21.25	19.10
2457	6	-36.89	-30.89	-21.25	9.64
2462	6	-36.22	-30.22	-21.25	8.97

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Average / Port 1



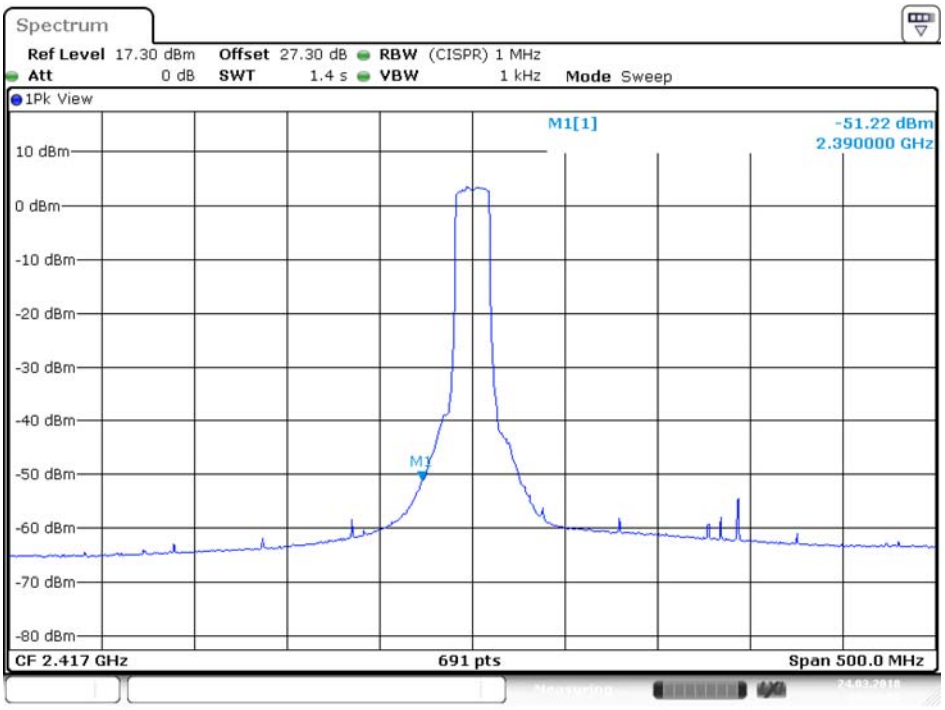
Date: 24.MAR.2018 18:03:39

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2412 MHz / Peak / Port 1



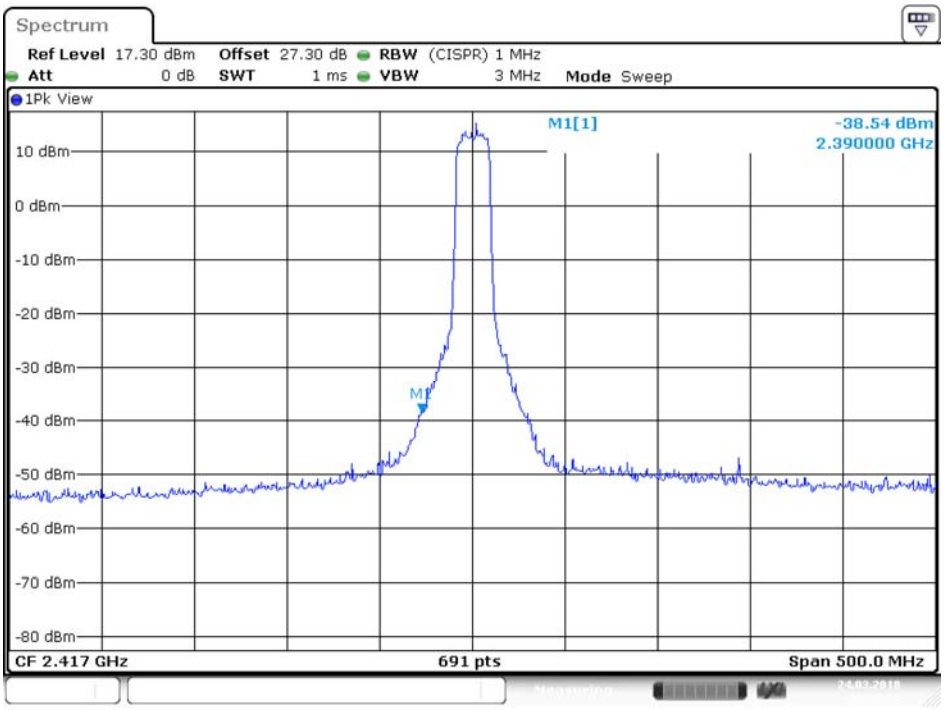
Date: 24.MAR.2018 18:06:59

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2417 MHz / Average / Port 1



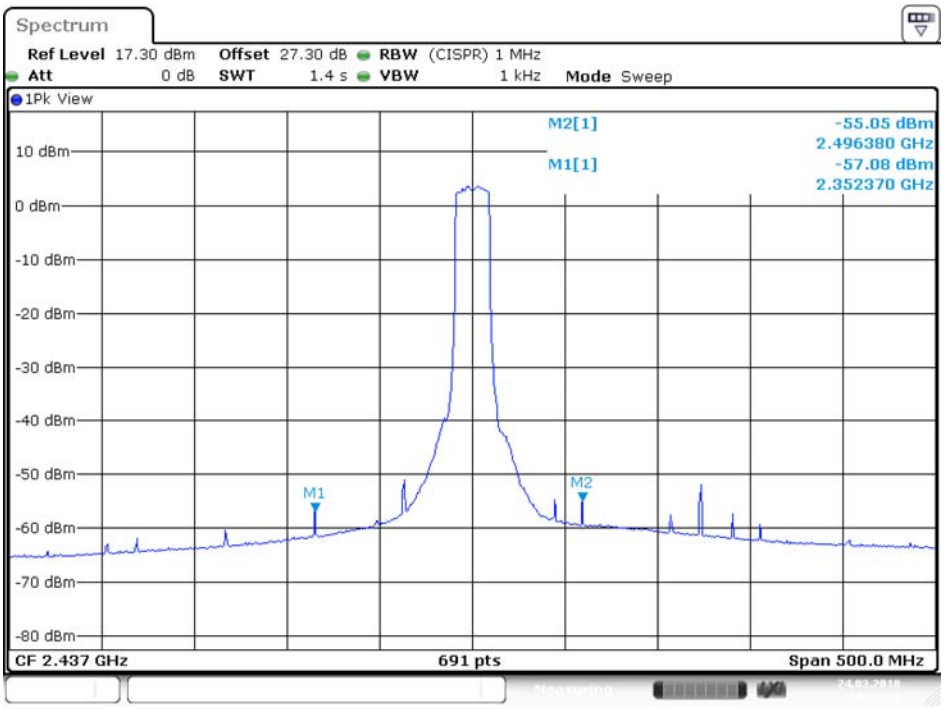
Date: 24.MAR.2018 18:34:09

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2417 MHz / Peak / Port 1



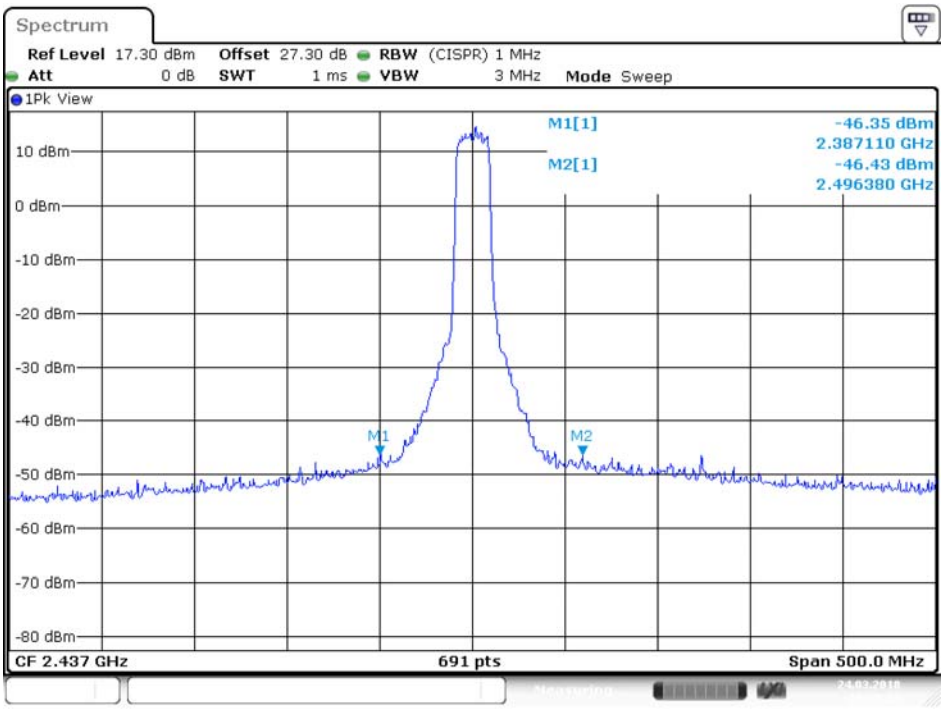
Date: 24.MAR.2018 18:36:17

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Average / Port 1



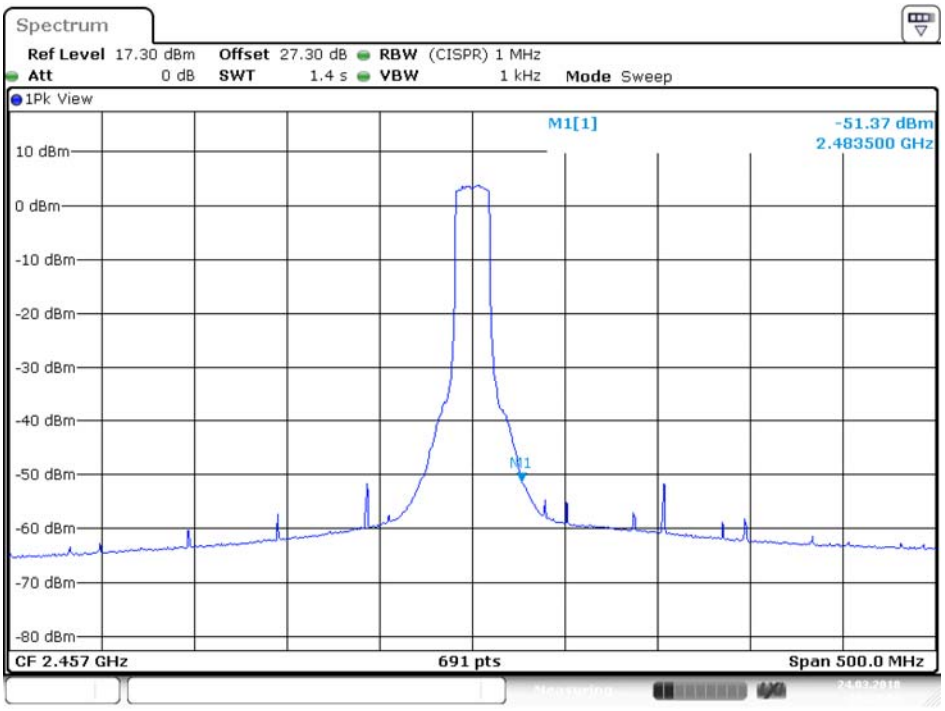
Date: 24.MAR.2018 18:13:32

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2437 MHz / Peak / Port 1



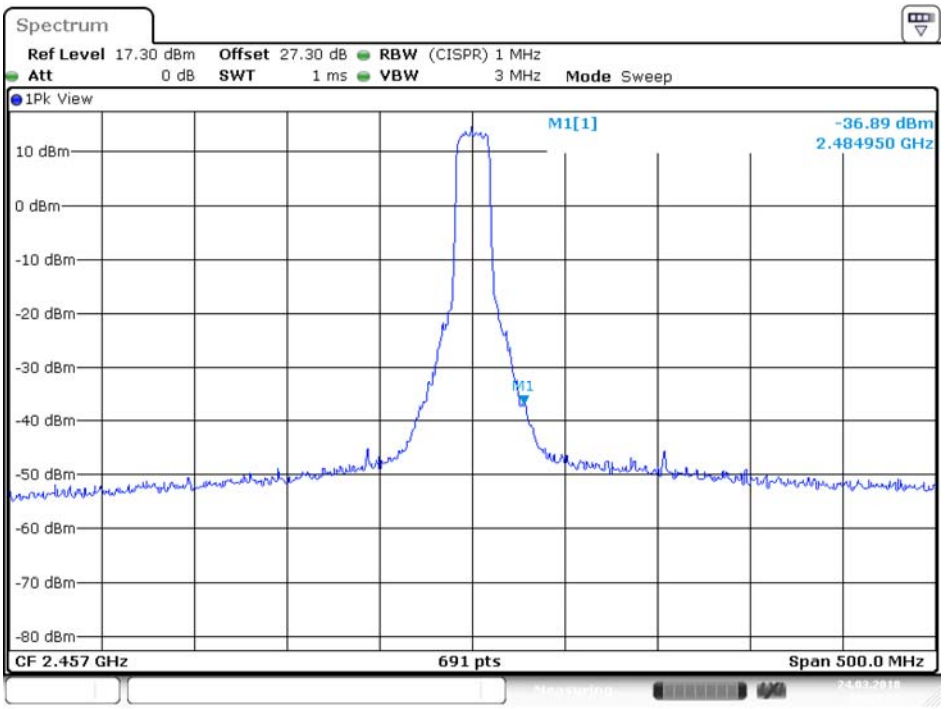
Date: 24.MAR.2018 18:16:27

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2457 MHz / Average / Port 1



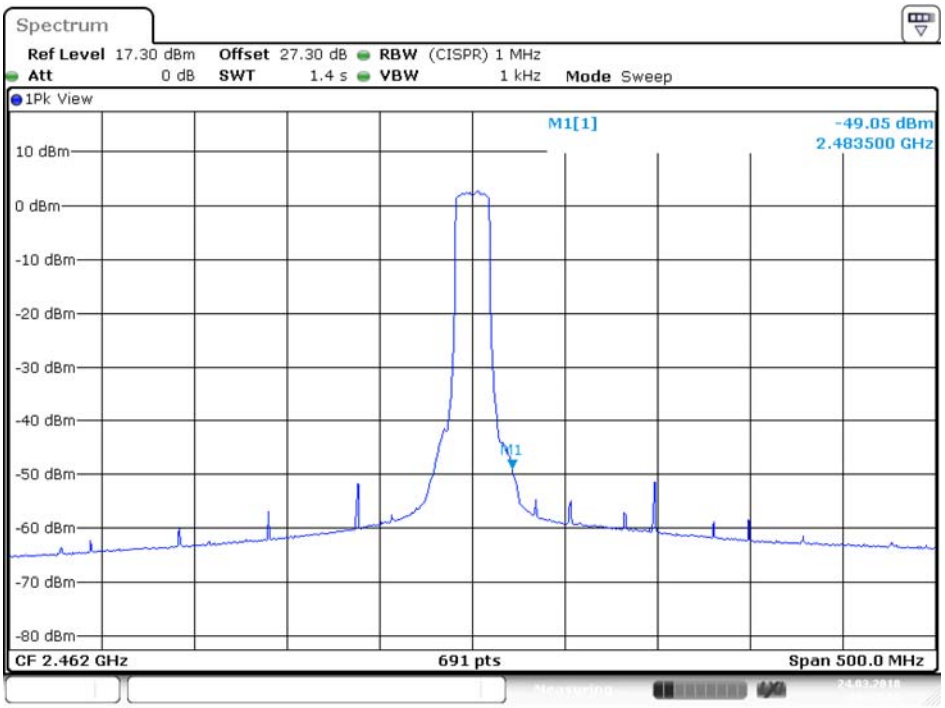
Date: 24.MAR.2018 18:28:04

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2457 MHz / Peak / Port 1



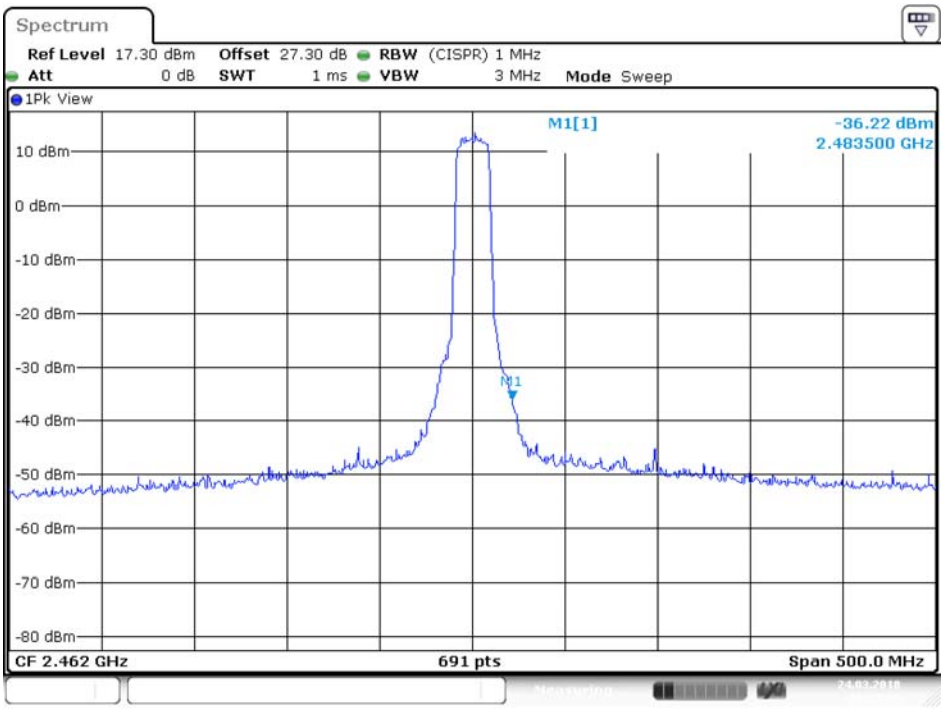
Date: 24.MAR.2018 18:29:51

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Average / Port 1



Date: 24.MAR.2018 18:21:19

Plot on IEEE 802.11ac Nss1 MCS0 VHT20 / 2462 MHz / Peak / Port 1



Date: 24.MAR.2018 18:22:45

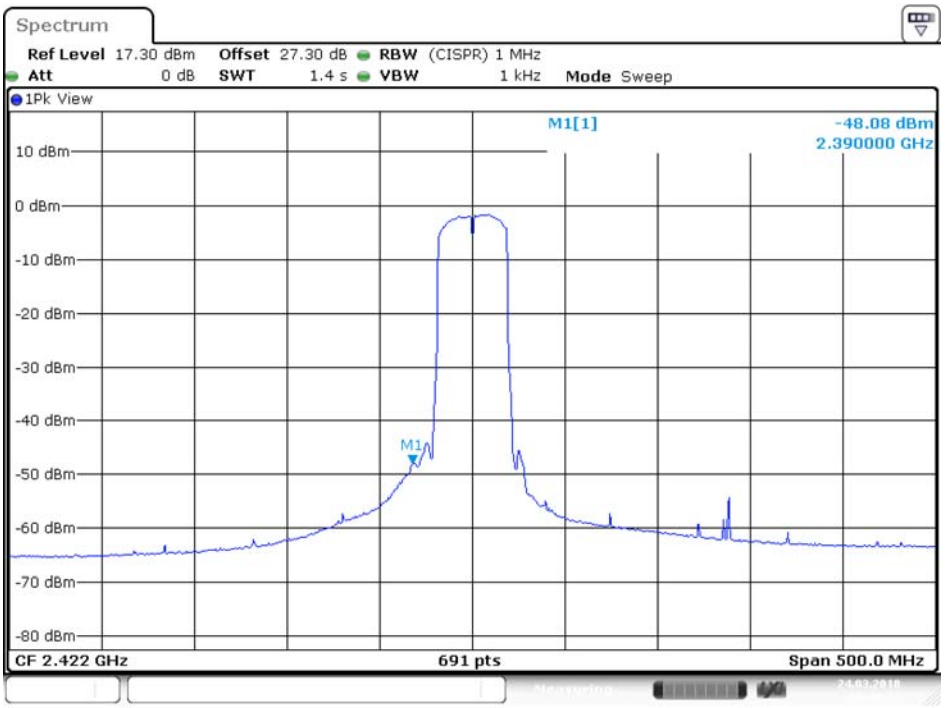
IEEE 802.11ac Nss1 MCS0 VHT40 / Average

Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Bandedge Level (dBm)	Total TX Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-48.08	-42.08	-41.25	0.83
2427	6	-48.42	-42.42	-41.25	1.17
2432	6	-47.72	-41.72	-41.25	0.47
2437	6	-48.86	-42.86	-41.25	1.61
2442	6	-48.16	-42.16	-41.25	0.91
2447	6	-48.82	-42.82	-41.25	1.57
2452	6	-49.55	-43.55	-41.25	2.30

IEEE 802.11ac Nss1 MCS0 VHT40 / Peak

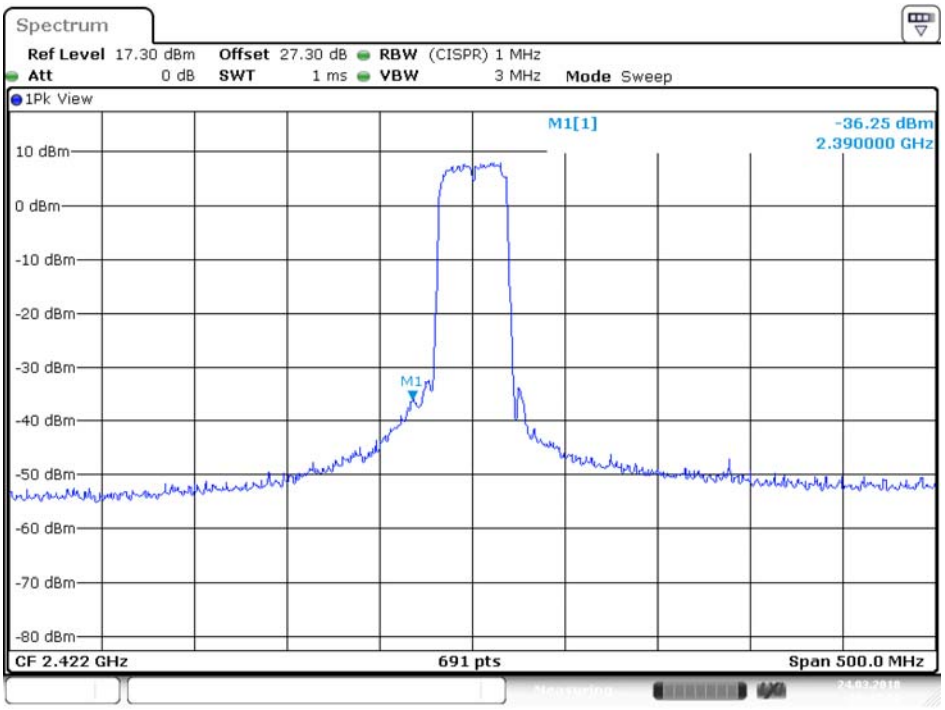
Frequency (MHz)	Correlated Antenna Gain (dBi)	Port 1 (TX1) Bandedge Level (dBm)	Total TX Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
2422	6	-36.25	-30.25	-21.25	9.00
2427	6	-36.76	-30.76	-21.25	9.51
2432	6	-35.40	-29.40	-21.25	8.15
2437	6	-34.88	-28.88	-21.25	7.63
2442	6	-34.57	-28.57	-21.25	7.32
2447	6	-34.11	-28.11	-21.25	6.86
2452	6	-36.45	-30.45	-21.25	9.20

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Average / Port 1



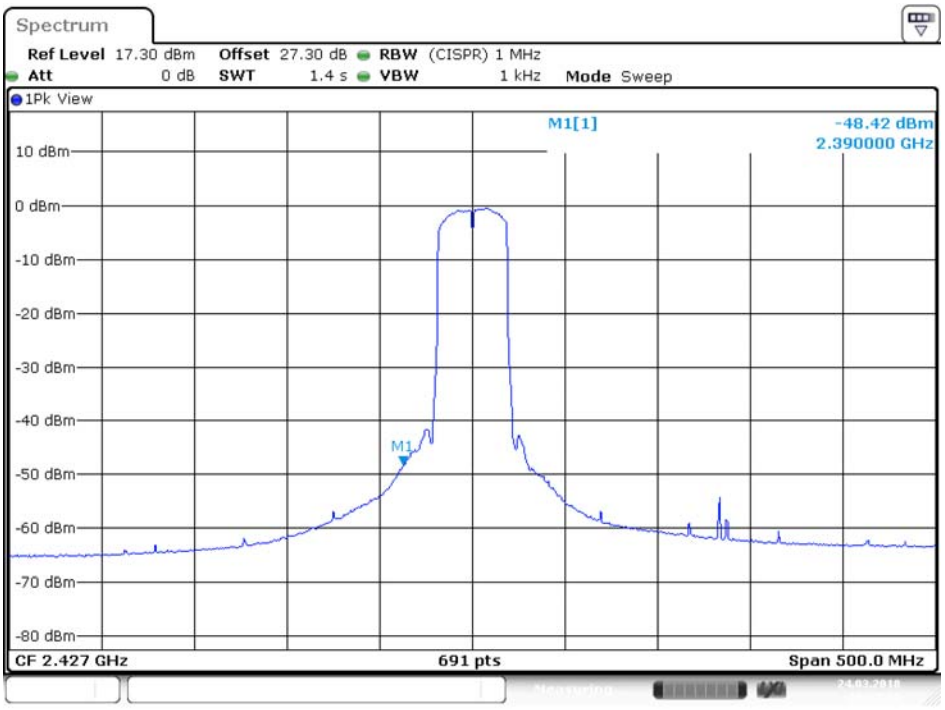
Date: 24.MAR.2018 18:40:43

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2422 MHz / Peak / Port 1



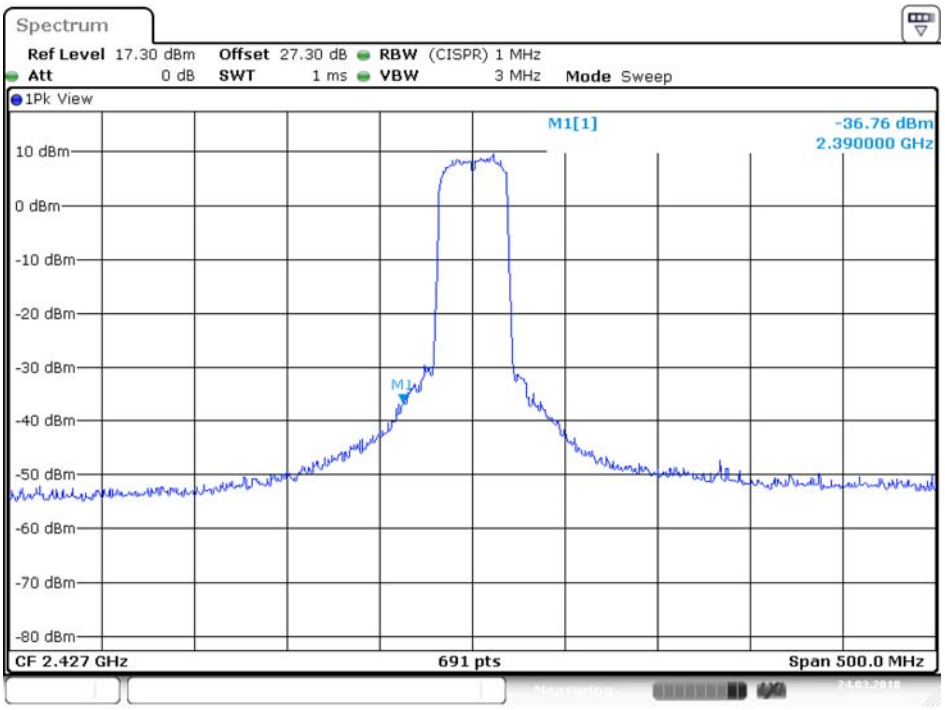
Date: 24.MAR.2018 18:42:10

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2427 MHz / Average / Port 1



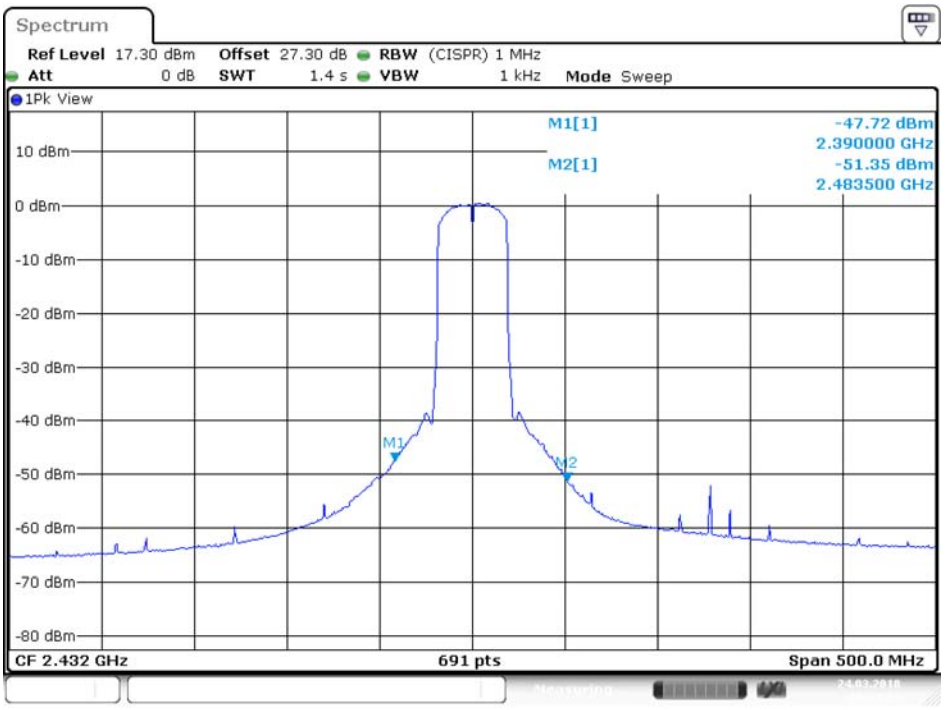
Date: 24.MAR.2018 19:13:39

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2427 MHz / Peak / Port 1



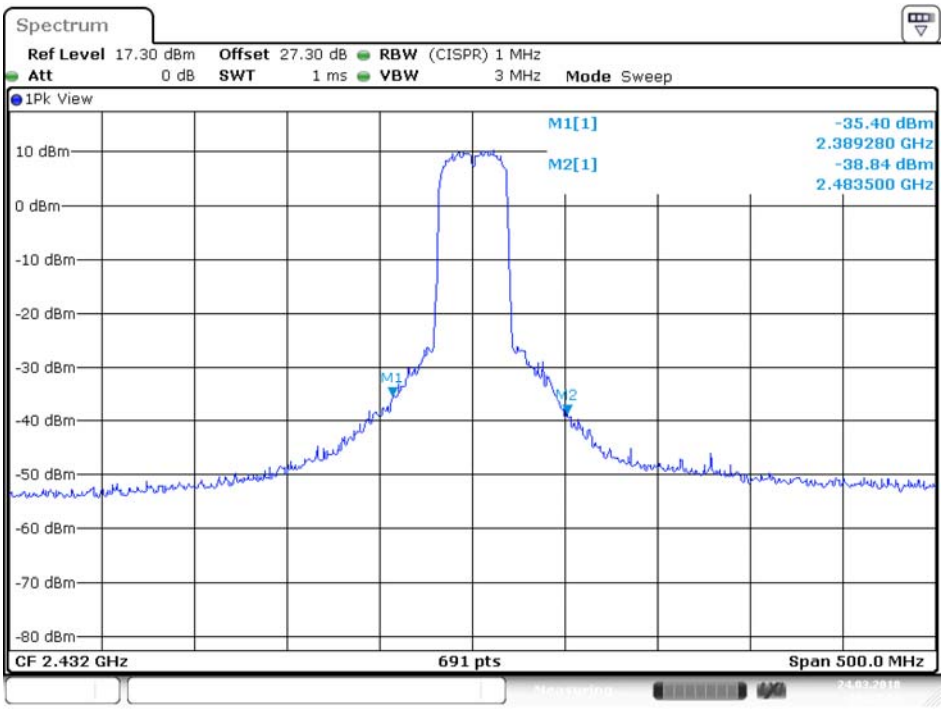
Date: 24.MAR.2018 19:15:12

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2432 MHz / Average / Port 1



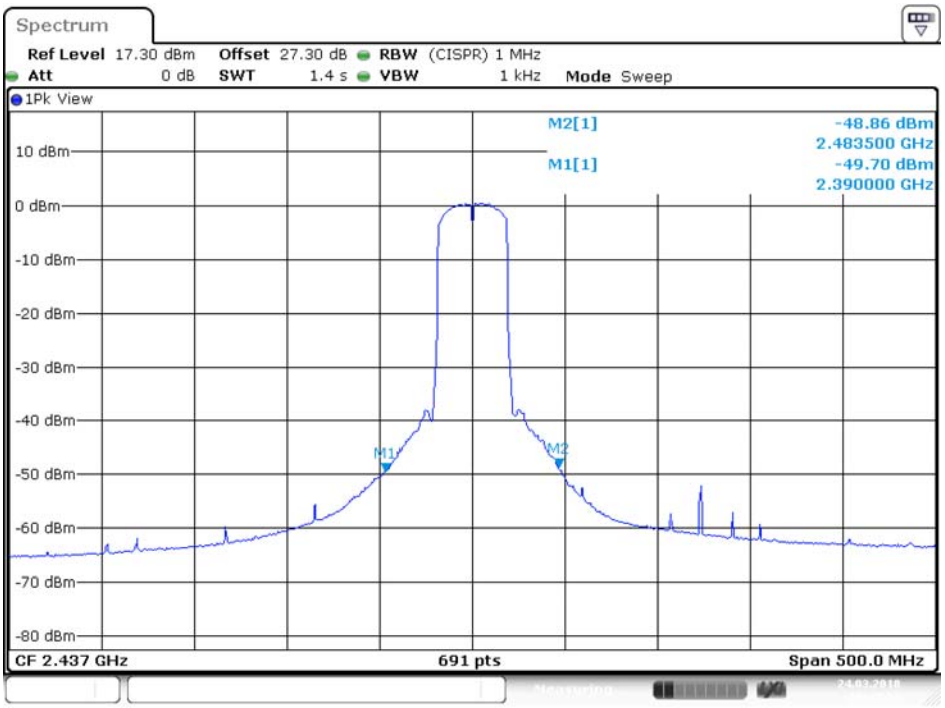
Date: 24.MAR.2018 19:18:28

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2432 MHz / Peak / Port 1



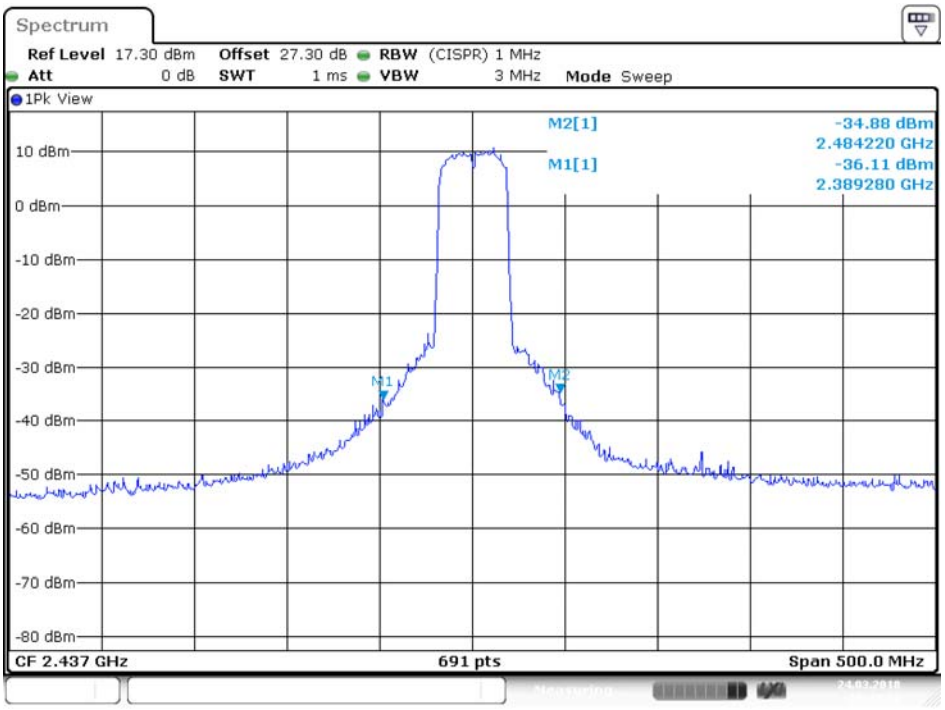
Date: 24.MAR.2018 19:21:13

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Average / Port 1



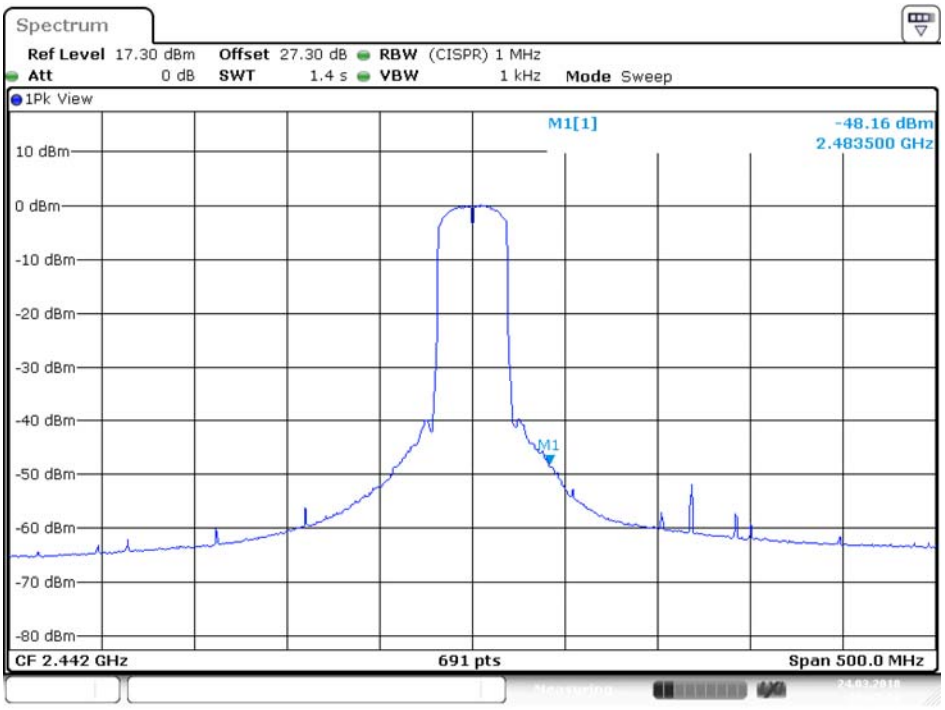
Date: 24.MAR.2018 18:45:57

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2437 MHz / Peak / Port 1



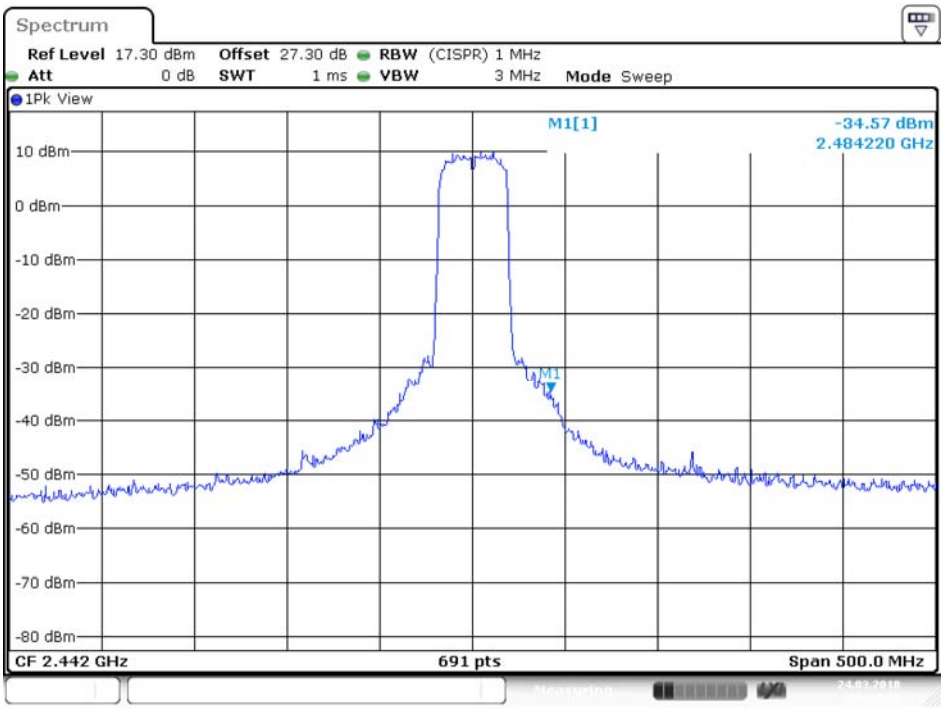
Date: 24.MAR.2018 18:48:33

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2442 MHz / Average / Port 1



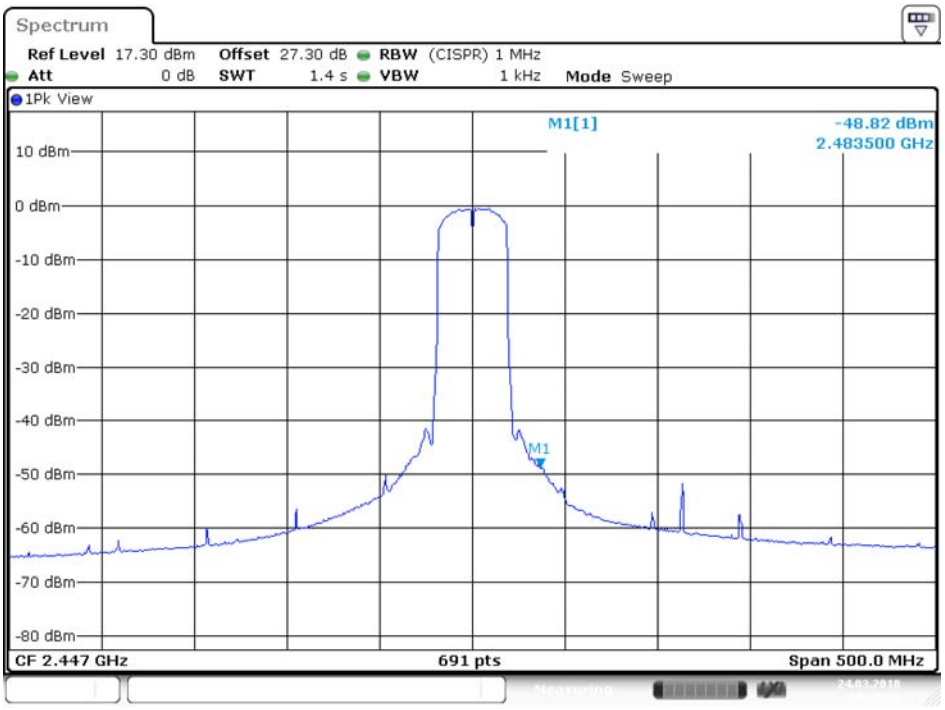
Date: 24.MAR.2018 19:05:52

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2442 MHz / Peak / Port 1



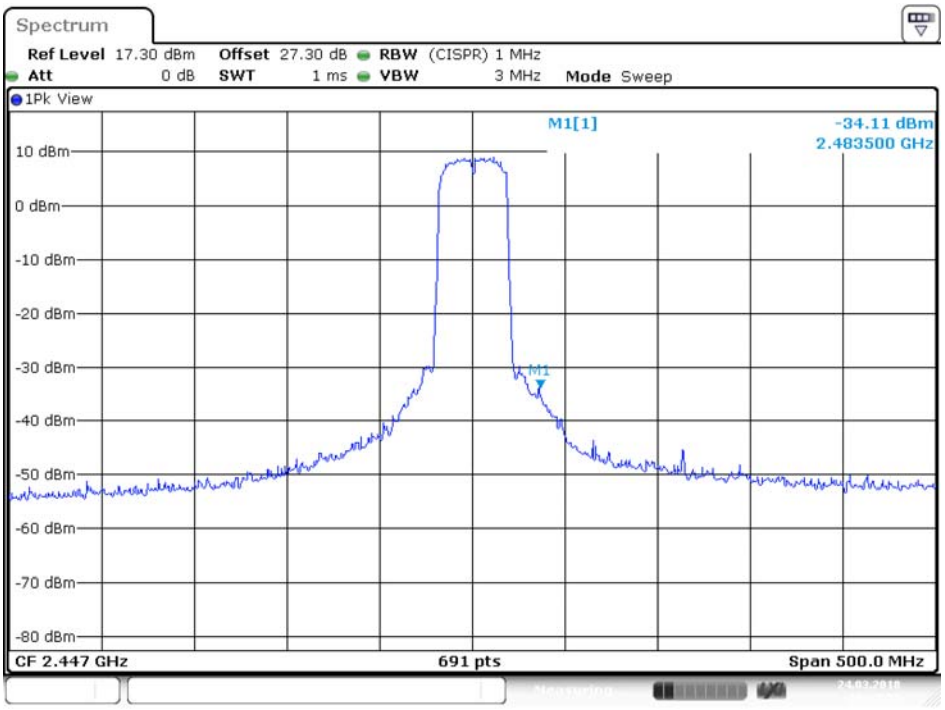
Date: 24.MAR.2018 19:07:30

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2447 MHz / Average / Port 1



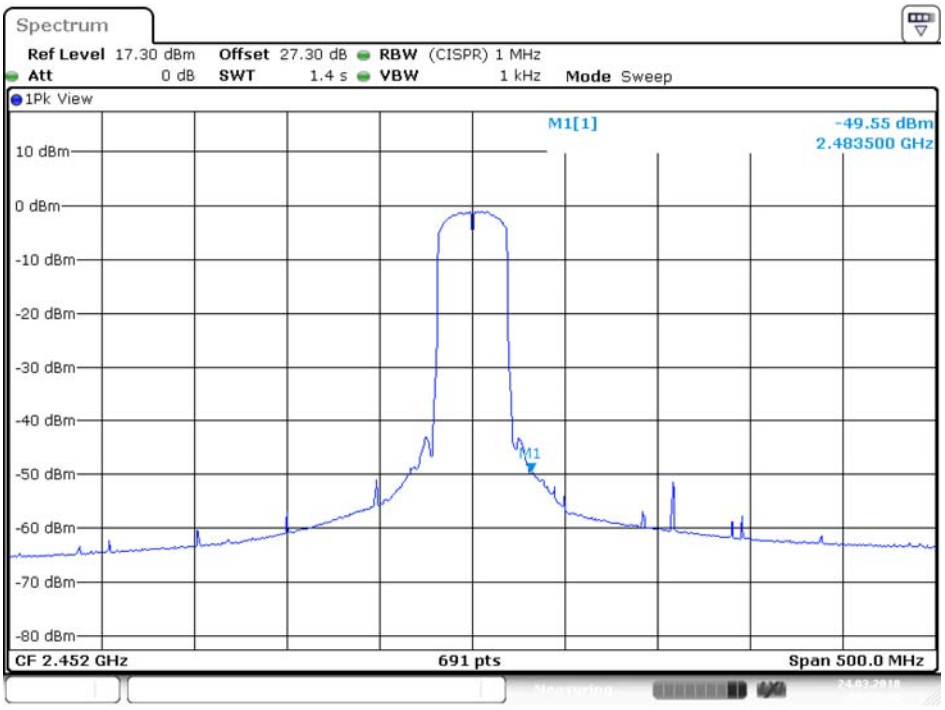
Date: 24.MAR.2018 19:01:20

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2447 MHz / Peak / Port 1



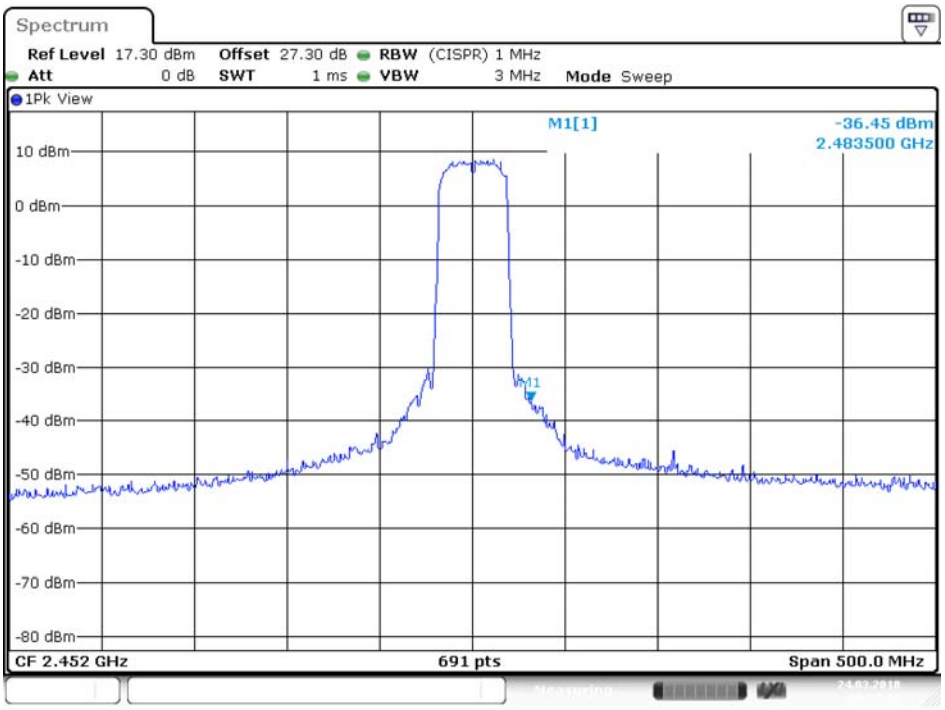
Date: 24.MAR.2018 19:02:56

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Average / Port 1



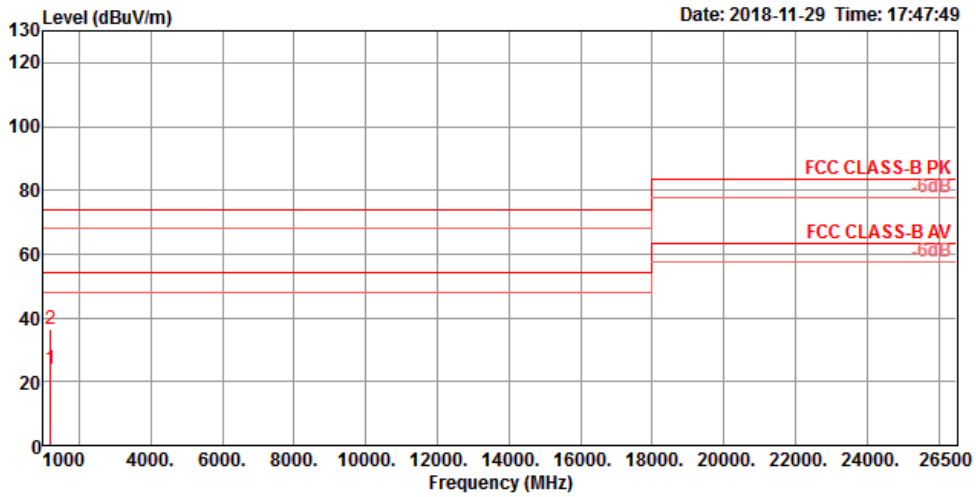
Date: 24.MAR.2018 18:55:46

Plot on IEEE 802.11ac Nss1 MCS0 VHT40 / 2452 MHz / Peak / Port 1



Date: 24.MAR.2018 18:57:50

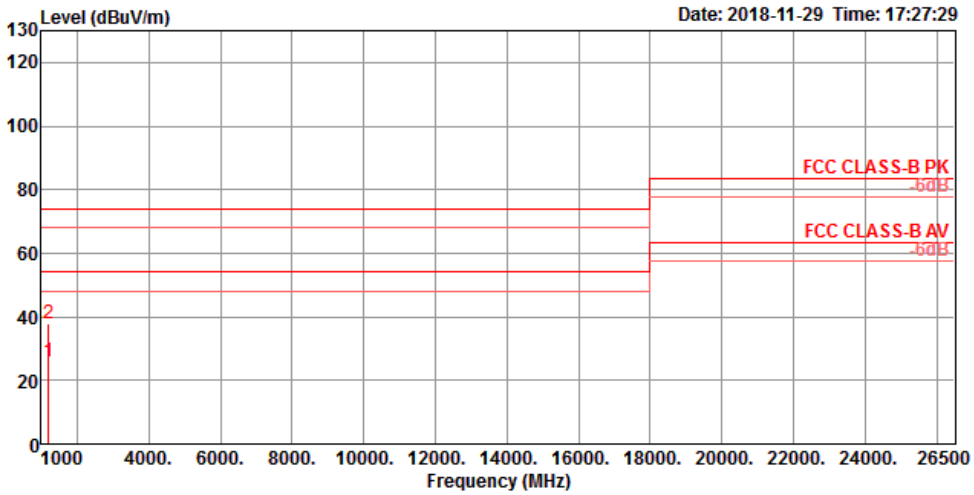
RSE above 1GHz Result			
Operating Function	EUT in Z axis	**Polarization**	Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1191.24	24.13	54.00	-29.87	31.38	3.41	24.82	35.48	205	1	Average	HORIZONTAL
2	1191.44	36.60	74.00	-37.40	43.85	3.41	24.82	35.48	205	1	Peak	HORIZONTAL

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

RSE above 1GHz Result			
Operating Function	EUT in Z axis	**Polarization**	Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1191.04	25.74	54.00	-28.26	33.01	3.41	24.81	35.49	132	5	Average	VERTICAL
2	1191.48	37.97	74.00	-36.03	45.22	3.41	24.82	35.48	132	5	Peak	VERTICAL

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)