FCC RADIO TEST REPORT

FCC ID	:	Z8H89FT0024
Equipment	:	ePMP3000
Brand Name	:	Cambium Networks
Model Name	:	ePMP3000
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 15.407

The product was received on Mar. 21, 2018, and testing was started from Mar. 21, 2018 and completed on Nov. 28, 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
FR7N2420-04	01	Initial issue of report	Nov. 16, 2018
FR7N2420-04	02	Changing the approval to full modular approval from end product approval.	Nov. 29, 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	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Conducted Output Power	PASS	-
3.4	15.407(a)	Peak Power Spectral Density	PASS	-
3.5	15.407(b)	Unwanted Emissions	PASS	-

Reviewed by: Cliff Chang

Report Producer: Vicky Huang

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	ac (VHT20)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	ac (VHT40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11ac VHT20	20	4TX
5.15-5.25GHz	802.11ac VHT40	40	4TX
5.15-5.25GHz	802.11ac VHT80	80	4TX
5.725-5.85GHz	802.11ac VHT20	20	4TX
5.725-5.85GHz	802.11ac VHT40	40	4TX
5.725-5.85GHz	802.11ac VHT80	80	4TX

Note:
- VHT20, VHT40 and VHT80 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)
1	1	Cambium	ePMP3000	Array	Reversed-SMA	18
	2	Cambium	ePMP3000	Array	Reversed-SMA	18
	3	Cambium	ePMP3000	Array	Reversed-SMA	18
	4	Cambium	ePMP3000	Array	Reversed-SMA	18

Note: The EUT has one antenna, and the array gain is 0dBi.
For IEEE 802.11ac mode (4TX/4RX)
Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.
Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ac VHT20	0.988	0.052	n/a (DC>=0.98)	n/a (DC>=0.98)
802.11ac VHT40	0.978	0.097	10.014m	100
802.11ac VHT80	0.951	0.218	5.007m	300

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☒	Outdoor P2M	☐	Indoor P2M
	☐	Fixed P2P	☐	Client
Test Software Version	QCARCT Version: 3.0.264.0			

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 789033 D02 v02r01
- FCC KDB 662911 D01 v02r01

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/Brian Sun	22°C / 54%	Mar. 21, 2018~Oct. 08, 2018
Radiated	03CH01-CB	KJ Chang	22°C / 54%	Sep. 04, 2018~Nov. 28, 2018
AC Conduction	CO02-CB	Ryo Fan	21°C / 69%	Sep. 07, 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)_4TX	-
5180MHz	9
5200MHz	9
5240MHz	9
5745MHz	12
5785MHz	12
5825MHz	12
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5190MHz	8.5
5230MHz	8.5
5755MHz	10
5795MHz	10
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5210MHz	6.5
5775MHz	6.5

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density Unwanted Emissions
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
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
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT at Y-axis
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT at Y-axis

Note : 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	Cambium Networks	NET-P30-56IN

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

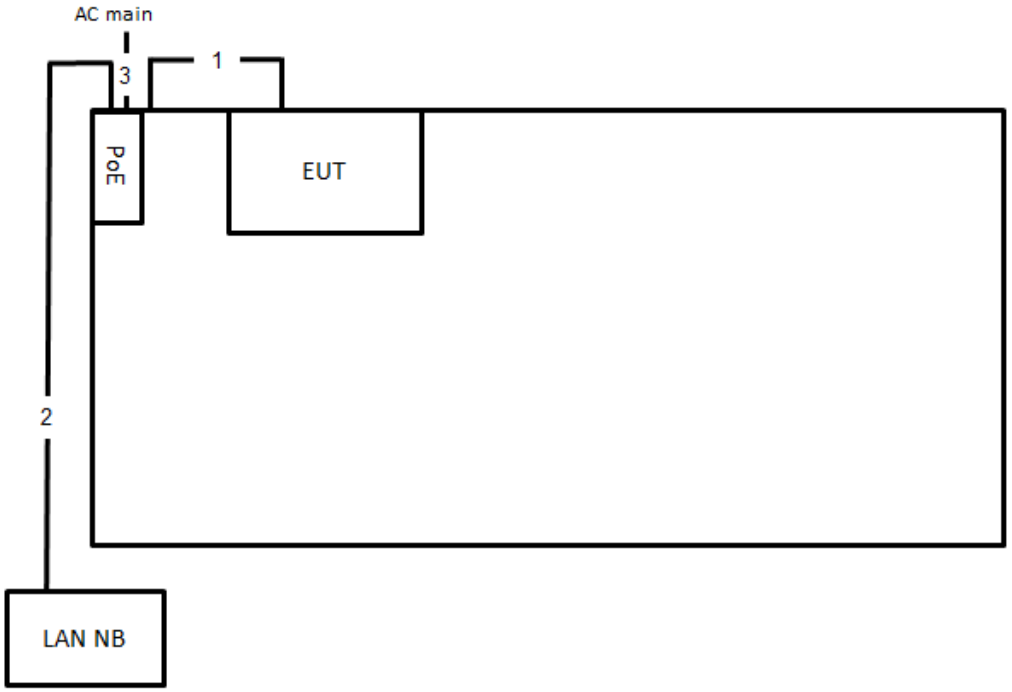
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E6430	DoC
2	PoE	Cambium Networks	NET-P30-56IN	DoC

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	Cambium Networks	NET-P30-56IN	DoC

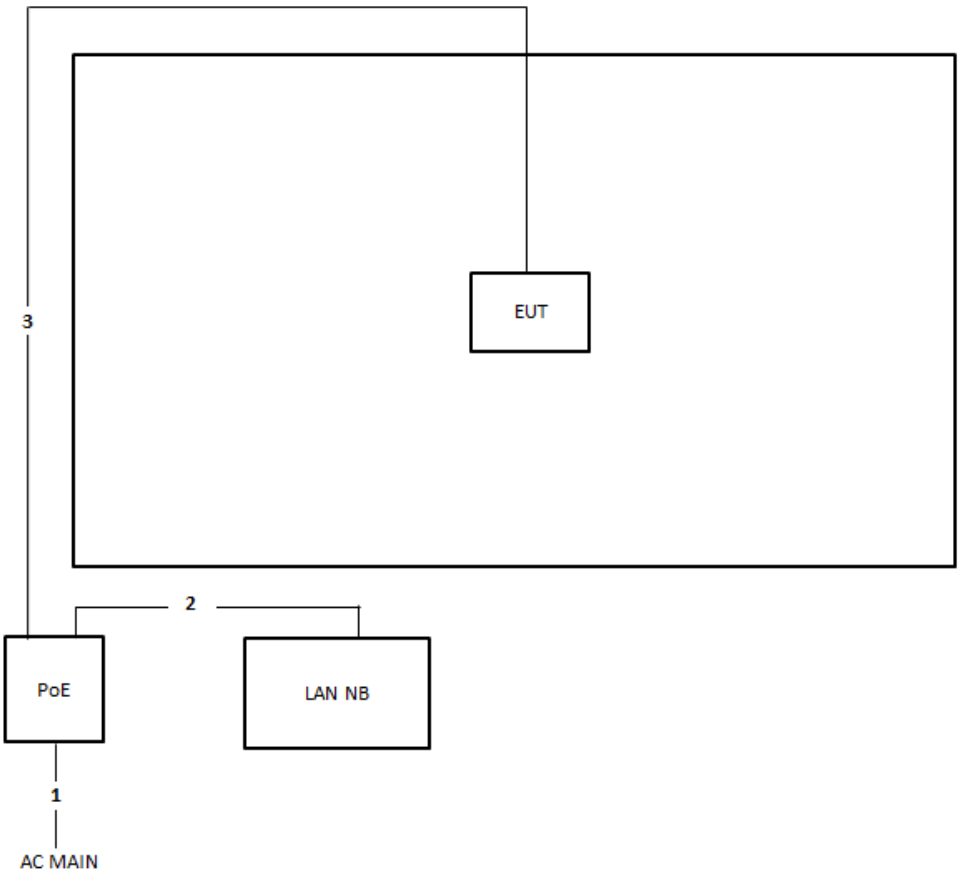
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	RJ-45 cable	No	1m
2	RJ-45 cable	No	10m
3	Power cable	No	0.8m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	Power cable	No	0.8m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m

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

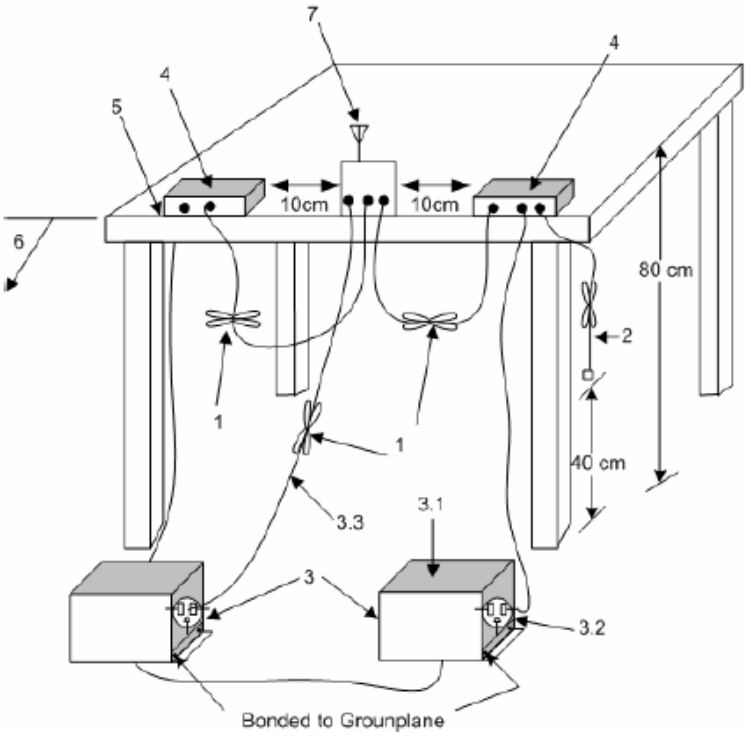
Refer a test equipment and calibration data table in this test report.

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 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☐	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☐	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.
LE-LAN Devices	
☐	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

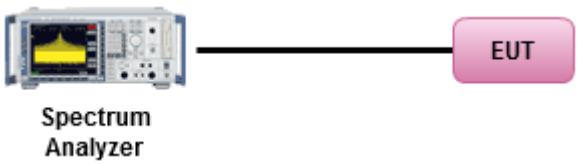
3.2.2 Measuring Instruments

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 789033, clause C for EBW and clause D for OBW measurement.
	☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
	☐	Refer as IC RSS-Gen, clause 4.6 for 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	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6). e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm]
	▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)
	▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W If G_{TX} > 23 dBi, then P_{Out} = 30 – (G_{TX} – 23).
	▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☐	For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☐	For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☒	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
☐	For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = 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 Conducted Output Power	
	Average over on/off periods with duty factor
	☐ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
	☒ Refer as FCC KDB 789033, clause E Method PM-G (using an 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

RF Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 – (G_{TX} – 6).
	▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 – (G_{TX} – 6).
	▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 23 dBi, then P_{Out} = 17 – (G_{TX} – 23).
	▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6)..
☐	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6).
☐	For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6).
☒	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
☐	For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.
☐	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
	▪ e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for 0° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40° -35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45°
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
☐	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz **G_{TX}** = the maximum transmitting antenna directional gain in dBi.	

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 shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:		
	☐ Refer as FCC KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth	
	[duty cycle ≥ 98% or external video / power trigger]	
	☒ Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).	
	☐ Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)	
	duty cycle < 98% and average over on/off periods with duty factor	
	☒ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).	
	☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with 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.
	▪	If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

3.4.4 Test Setup

Power Spectral Density
 Spectrum Analyzer — EUT

3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz 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.

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
☒ 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☐ 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☐ 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note 1: 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).

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

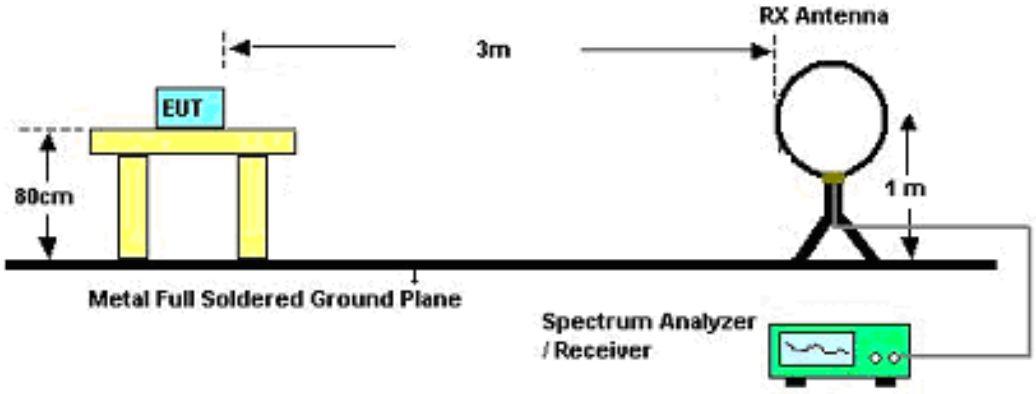
Test Method		
▪ Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. 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).		
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].		
▪ For the transmitter unwanted emissions shall be measured using following options below:		
	▪ Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.	
	▪ Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.	
		☐ Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).
		☒ Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).
		☐ 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 789033, clause H)5) measurement procedure peak limit.
		☐ Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.
▪ For radiated measurement.		
	▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.	
	▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.	
	▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.	
▪ The any unwanted emissions level shall not exceed the fundamental emission level.		
▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.		

Test Method	
▪ For conducted and cabinet radiation measurement, refer as FCC KDB 789033, clause H)3).	
	▪ For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.
	▪ 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.

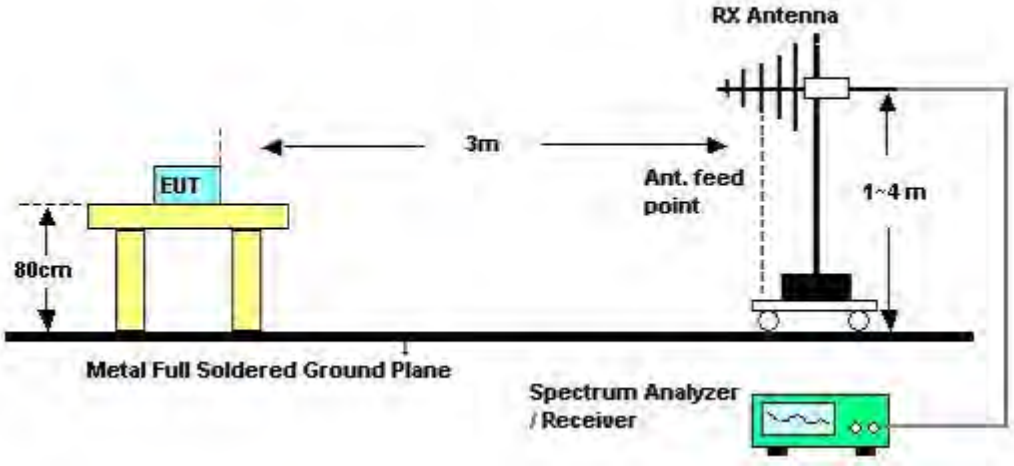
3.5.4 Test Setup

Transmitter Radiated Unwanted Emissions

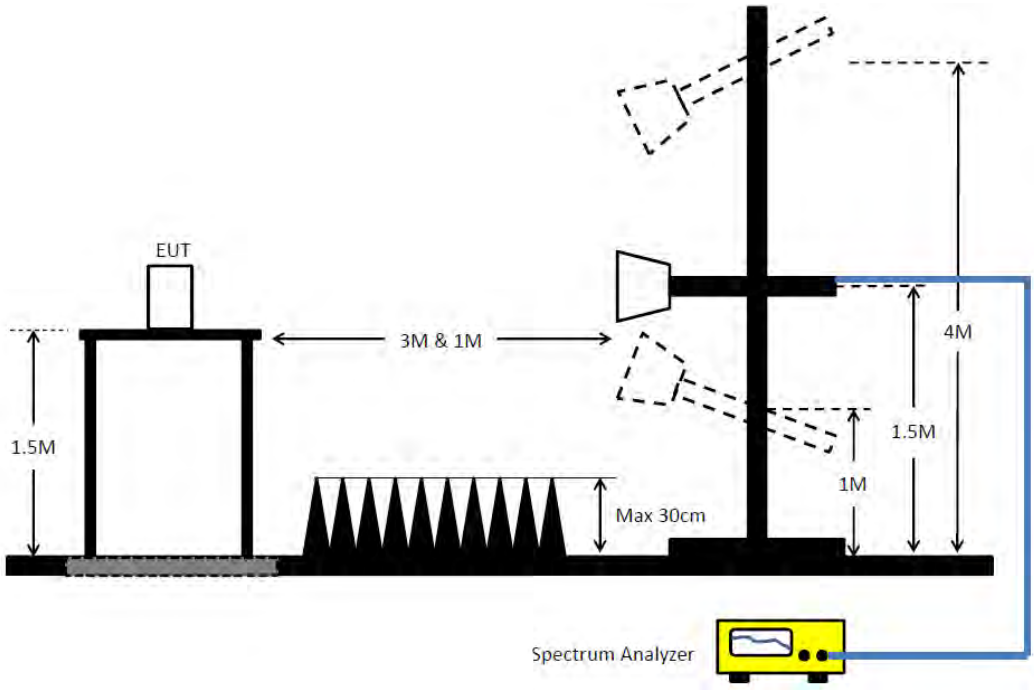
9kHz ~30MHz



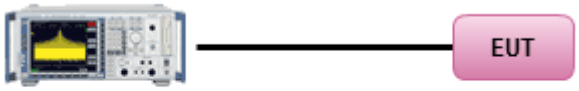
30MHz~1GHz



Above 1GHz



Transmitter Conducted Unwanted Emissions



Spectrum Analyzer

3.5.5 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.

3.5.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

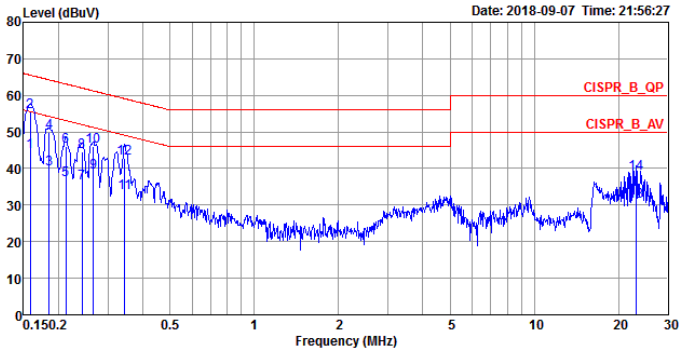
4 Test Equipment and Calibration Data

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)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	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)
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. 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 (03CH01-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)
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)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
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		

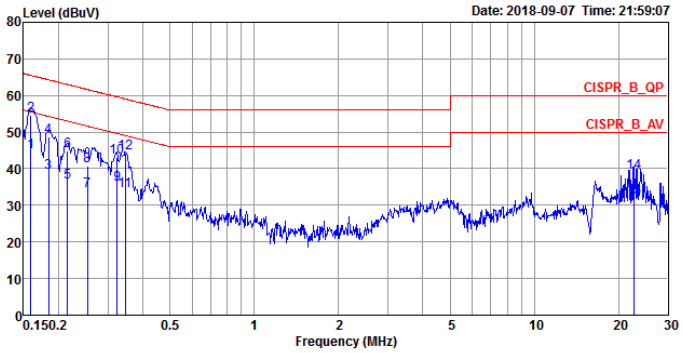


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1582	44.64	-10.92	55.56	34.60	10.03	0.01	Average	NEUTRAL
2	0.1582	55.63	-9.93	65.56	45.59	10.03	0.01	QP	NEUTRAL
3	0.1854	39.78	-14.46	54.24	29.79	9.98	0.01	Average	NEUTRAL
4	0.1854	50.00	-14.24	64.24	40.01	9.98	0.01	QP	NEUTRAL
5	0.2128	36.94	-16.16	53.10	26.97	9.96	0.01	Average	NEUTRAL
6	0.2128	46.03	-17.07	63.10	36.06	9.96	0.01	QP	NEUTRAL
7	0.2429	36.10	-15.90	52.00	26.13	9.95	0.02	Average	NEUTRAL
8	0.2429	44.63	-17.37	62.00	34.66	9.95	0.02	QP	NEUTRAL
9	0.2658	39.02	-12.23	51.25	29.05	9.95	0.02	Average	NEUTRAL
10	0.2658	46.19	-15.06	61.25	36.22	9.95	0.02	QP	NEUTRAL
11	0.3446	33.31	-15.78	49.09	23.35	9.94	0.02	Average	NEUTRAL
12	0.3446	42.75	-16.34	59.09	32.79	9.94	0.02	QP	NEUTRAL
13	23.1404	31.14	-18.86	50.00	20.68	10.29	0.17	Average	NEUTRAL
14	23.1404	38.77	-21.23	60.00	28.31	10.29	0.17	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.)

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

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	CTX		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1590	44.57	-10.95	55.52	34.58	9.98	0.01	Average	LINE
2	0.1590	54.70	-10.82	65.52	44.71	9.98	0.01	QP	LINE
3	0.1844	38.83	-15.45	54.28	28.89	9.93	0.01	Average	LINE
4	0.1844	48.79	-15.49	64.28	38.85	9.93	0.01	QP	LINE
5	0.2151	36.28	-16.73	53.01	26.36	9.91	0.01	Average	LINE
6	0.2151	44.81	-18.20	63.01	34.89	9.91	0.01	QP	LINE
7	0.2535	33.81	-17.83	51.64	23.89	9.90	0.02	Average	LINE
8	0.2535	40.70	-20.94	61.64	30.78	9.90	0.02	QP	LINE
9	0.3234	35.81	-13.81	49.62	25.91	9.88	0.02	Average	LINE
10	0.3234	43.15	-16.47	59.62	33.25	9.88	0.02	QP	LINE
11	0.3465	34.06	-14.99	49.05	24.16	9.88	0.02	Average	LINE
12	0.3465	44.31	-14.74	59.05	34.41	9.88	0.02	QP	LINE
13	22.6551	32.26	-17.74	50.00	21.84	10.26	0.16	Average	LINE
14	22.6551	38.91	-21.09	60.00	28.49	10.26	0.16	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)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_4TX	20.725M	17.641M	17M6D1D	19.575M	17.516M
802.11ac VHT40_Nss1,(MCS0)_4TX	40M	36.082M	36M1D1D	39.2M	35.882M
802.11ac VHT80_Nss1,(MCS0)_4TX	83.8M	75.862M	75M9D1D	82.8M	75.762M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_4TX	17.6M	17.666M	17M7D1D	15.625M	17.566M
802.11ac VHT40_Nss1,(MCS0)_4TX	35.7M	36.082M	36M1D1D	31.2M	35.832M
802.11ac VHT80_Nss1,(MCS0)_4TX	76.3M	75.962M	76M0D1D	74.4M	75.662M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
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)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.35M	17.616M	20.35M	17.566M	20.425M	17.591M	20.55M	17.591M
5200MHz	Pass	Inf	20.525M	17.616M	20.15M	17.566M	20.35M	17.541M	20.325M	17.616M
5240MHz	Pass	Inf	20.725M	17.641M	20.225M	17.541M	20.475M	17.541M	19.575M	17.516M
5745MHz	Pass	500k	17.575M	17.616M	17.5M	17.616M	17.55M	17.666M	17.55M	17.616M
5785MHz	Pass	500k	17.525M	17.616M	17.6M	17.616M	17.55M	17.591M	17.525M	17.666M
5825MHz	Pass	500k	17.55M	17.641M	17.575M	17.641M	15.625M	17.566M	16.55M	17.616M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	39.95M	35.932M	40M	35.982M	39.6M	36.032M	39.2M	35.882M
5230MHz	Pass	Inf	39.7M	35.982M	40M	36.082M	39.75M	36.082M	39.25M	35.982M
5755MHz	Pass	500k	32.4M	35.982M	35M	35.882M	31.25M	35.832M	35.3M	35.982M
5795MHz	Pass	500k	35M	35.982M	35M	35.932M	31.2M	36.082M	35.7M	36.032M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	83.8M	75.762M	83.5M	75.862M	83.3M	75.762M	82.8M	75.862M
5775MHz	Pass	500k	76.3M	75.662M	74.4M	75.862M	76.3M	75.762M	75.1M	75.962M

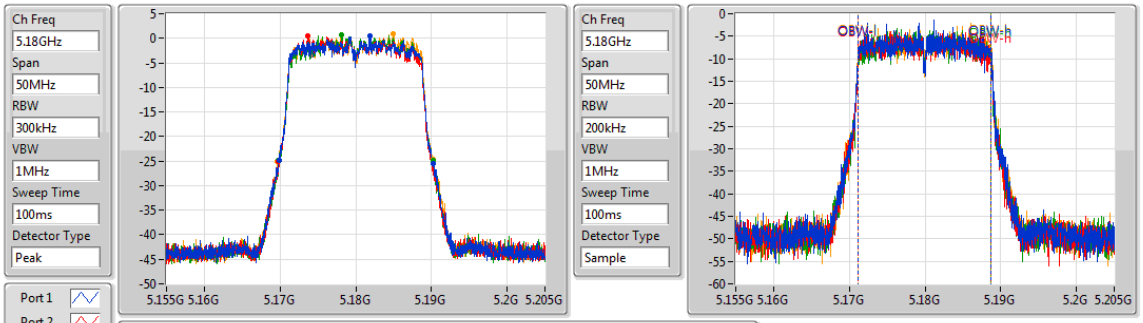
Port X-N dB = Port **X** 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port **X** 99% occupied bandwidth;

802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

5180MHz

02/04/2018



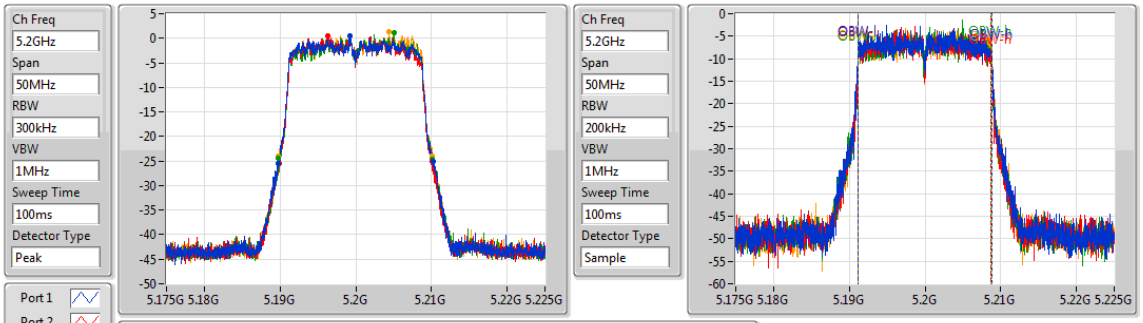
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.35M	5.16985G	5.1902G	17.616M	5.171154G	5.188771G	Inf	1
20.35M	5.169825G	5.190175G	17.566M	5.171179G	5.188746G	Inf	2
20.425M	5.169825G	5.19025G	17.591M	5.171179G	5.188771G	Inf	3
20.55M	5.169675G	5.190225G	17.591M	5.171179G	5.188771G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

5200MHz

02/04/2018



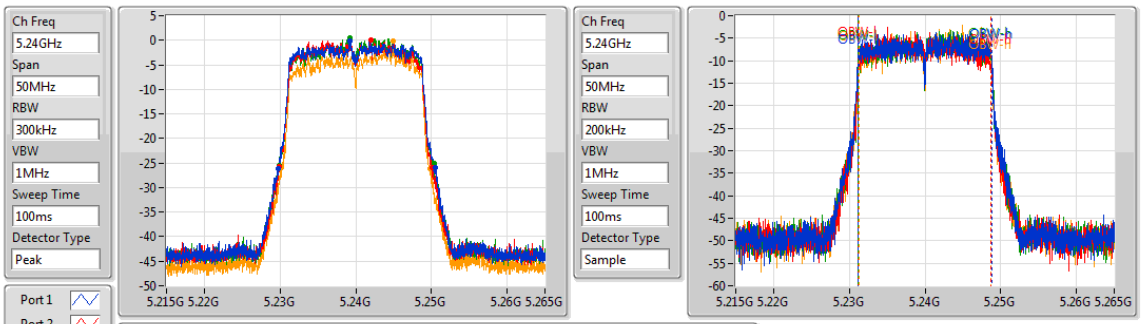
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.525M	5.1897G	5.210225G	17.616M	5.191179G	5.208796G	Inf	1
20.15M	5.1899G	5.21005G	17.566M	5.191179G	5.208746G	Inf	2
20.35M	5.1898G	5.21015G	17.541M	5.191204G	5.208746G	Inf	3
20.325M	5.189825G	5.21015G	17.616M	5.191179G	5.208796G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

5240MHz

02/04/2018

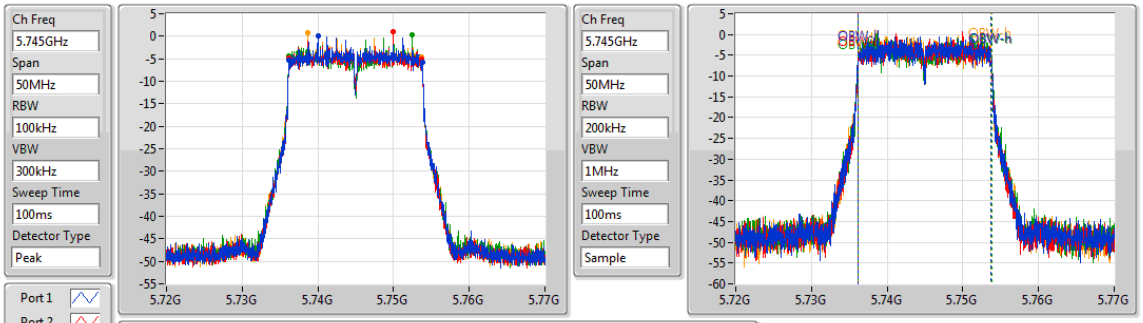


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.725M	5.229725G	5.25045G	17.641M	5.231154G	5.248796G	Inf	1
20.225M	5.22985G	5.250075G	17.541M	5.231179G	5.248721G	Inf	2
20.475M	5.22985G	5.250325G	17.541M	5.231204G	5.248746G	Inf	3
19.575M	5.23025G	5.249825G	17.516M	5.231229G	5.248746G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX **EBW**

5745MHz

02/04/2018

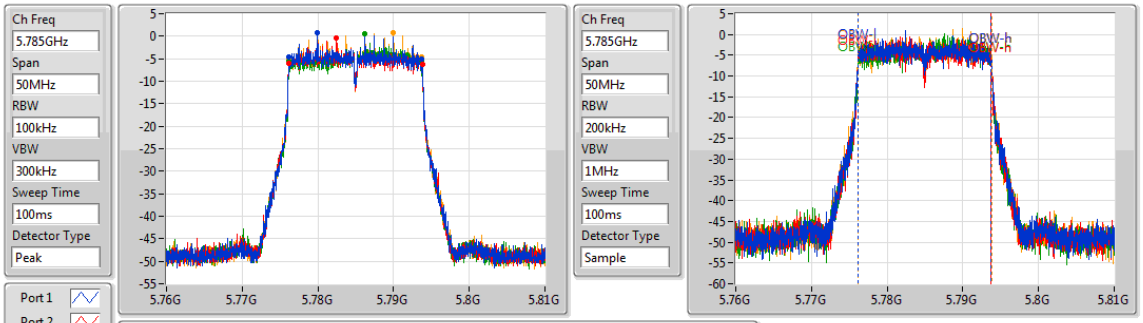


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	5.7362G	5.753775G	17.616M	5.736154G	5.753771G	500k	1
17.5M	5.736225G	5.753725G	17.616M	5.736154G	5.753771G	500k	2
17.55M	5.7362G	5.75375G	17.666M	5.736129G	5.753796G	500k	3
17.55M	5.7362G	5.75375G	17.616M	5.736154G	5.753771G	500k	4

802.11ac VHT20_Nss1,(MCS0)_4TX **EBW**

5785MHz

02/04/2018

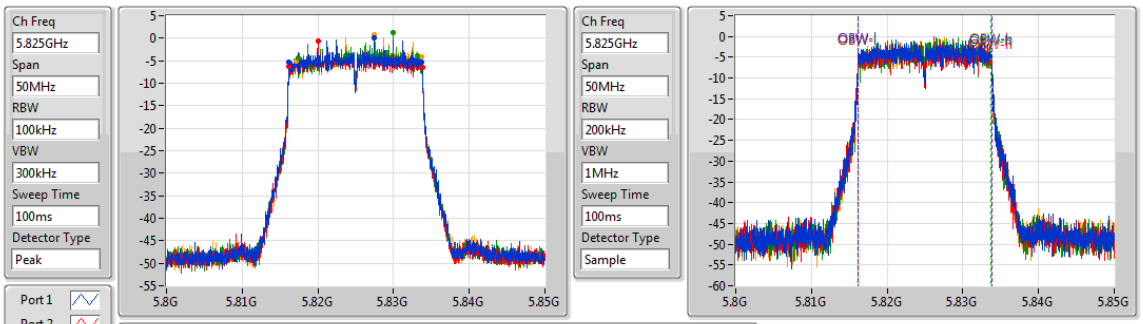


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.525M	5.776225G	5.79375G	17.616M	5.776154G	5.793771G	500k	1
17.6M	5.776175G	5.793775G	17.616M	5.776154G	5.793771G	500k	2
17.55M	5.7762G	5.79375G	17.591M	5.776179G	5.793771G	500k	3
17.525M	5.776225G	5.79375G	17.666M	5.776129G	5.793796G	500k	4

802.11ac VHT20_Nss1,(MCS0)_4TX **EBW**

5825MHz

02/04/2018



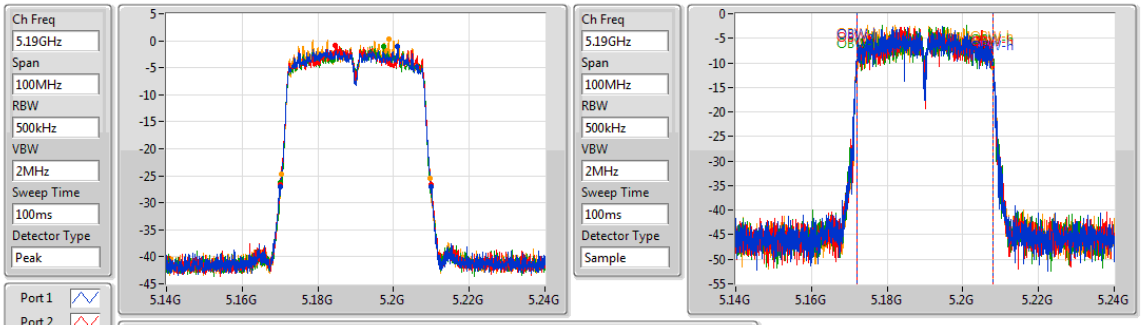
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	5.8162G	5.83375G	17.641M	5.816154G	5.833796G	500k	1
17.575M	5.8162G	5.833775G	17.641M	5.816154G	5.833796G	500k	2
15.625M	5.817475G	5.8331G	17.566M	5.816204G	5.833771G	500k	3
16.55M	5.8172G	5.83375G	17.616M	5.816179G	5.833796G	500k	4

802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

5190MHz

02/04/2018



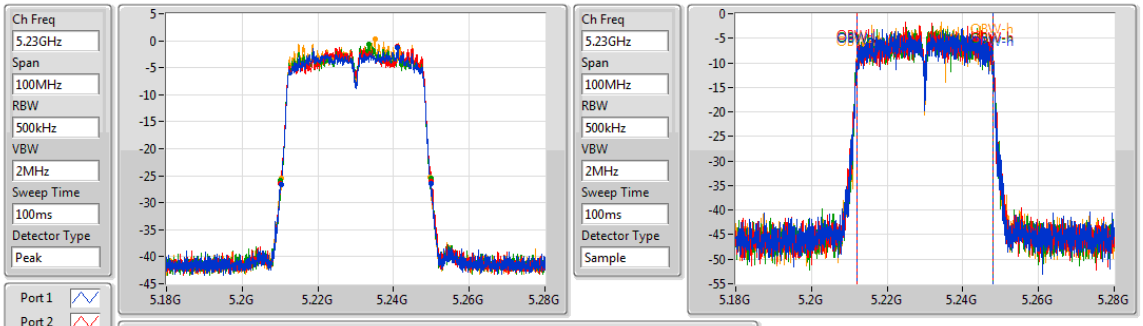
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.95M	5.17005G	5.21G	35.932M	5.171959G	5.207891G	Inf	1
40M	5.16995G	5.20995G	35.982M	5.171959G	5.207941G	Inf	2
39.6M	5.1702G	5.2098G	36.032M	5.171959G	5.207991G	Inf	3
39.2M	5.1704G	5.2096G	35.882M	5.172059G	5.207941G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

5230MHz

02/04/2018



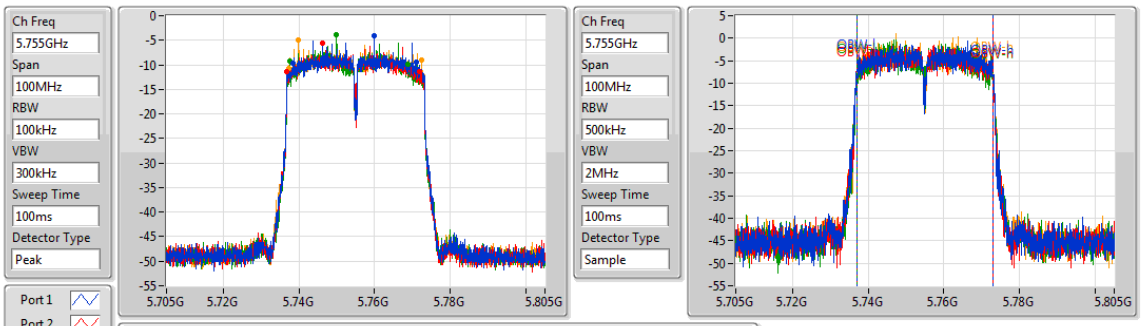
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
39.7M	5.21025G	5.24995G	35.982M	5.211959G	5.247941G	Inf	1
40M	5.21005G	5.25005G	36.082M	5.211959G	5.248041G	Inf	2
39.75M	5.2102G	5.24995G	36.082M	5.211909G	5.247991G	Inf	3
39.25M	5.21035G	5.2496G	35.982M	5.211959G	5.247941G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

5755MHz

02/04/2018

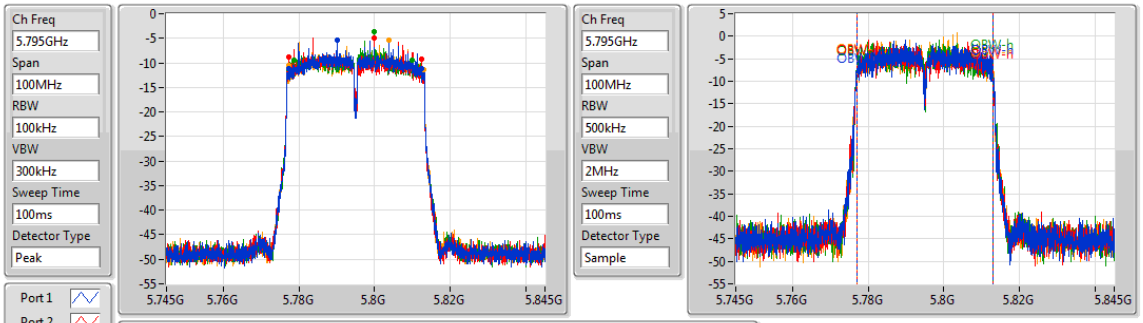


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.4M	5.7385G	5.7709G	35.982M	5.736959G	5.772941G	500k	1
35M	5.73685G	5.77185G	35.882M	5.736959G	5.772841G	500k	2
31.25M	5.7375G	5.76875G	35.832M	5.737059G	5.772891G	500k	3
35.3M	5.7372G	5.7725G	35.982M	5.736959G	5.772941G	500k	4

802.11ac VHT40_Nss1,(MCS0)_4TX **EBW**

5795MHz

02/04/2018

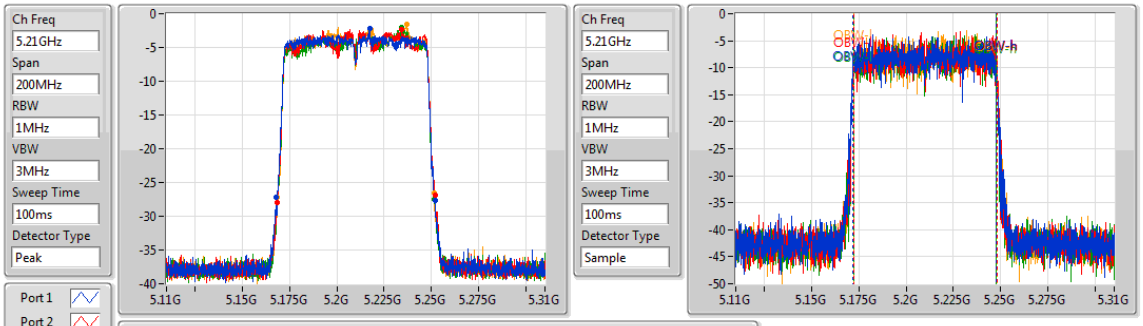


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35M	5.77745G	5.81245G	35.982M	5.776959G	5.812941G	500k	1
35M	5.77745G	5.81245G	35.932M	5.776959G	5.812891G	500k	2
31.2M	5.7787G	5.8099G	36.082M	5.776909G	5.812991G	500k	3
35.7M	5.7774G	5.8131G	36.032M	5.776959G	5.812991G	500k	4

802.11ac VHT80_Nss1,(MCS0)_4TX **EBW**

5210MHz

02/04/2018

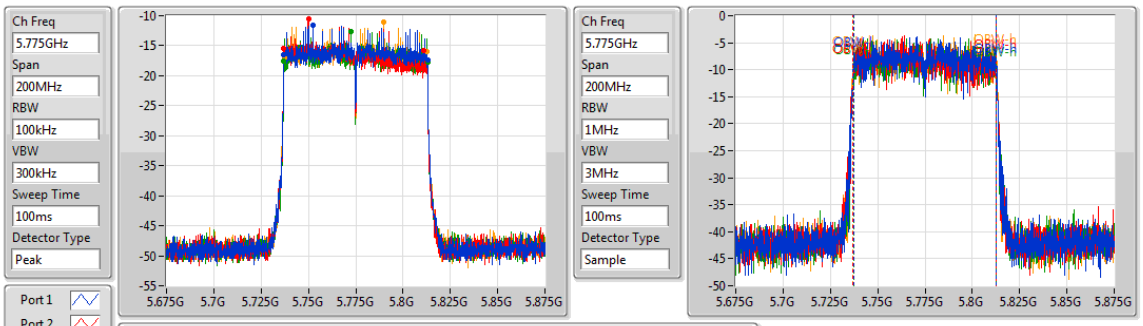


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.8M	5.1681G	5.2519G	75.762M	5.172019G	5.247781G	Inf	1
83.5M	5.1684G	5.2519G	75.862M	5.172119G	5.247981G	Inf	2
83.3M	5.1684G	5.2517G	75.762M	5.172119G	5.247881G	Inf	3
82.8M	5.1687G	5.2515G	75.862M	5.172119G	5.247981G	Inf	4

802.11ac VHT80_Nss1,(MCS0)_4TX **EBW**

5775MHz

02/04/2018



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
76.3M	5.7368G	5.8131G	75.662M	5.737119G	5.812781G	500k	1
74.4M	5.7368G	5.8112G	75.862M	5.736919G	5.812781G	500k	2
76.3M	5.7368G	5.8131G	75.762M	5.737119G	5.812881G	500k	3
75.1M	5.7374G	5.8125G	75.962M	5.736919G	5.812881G	500k	4

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP / EIRP-Elevation 30° (dBm)	EIRP / EIRP-Elevation 30° (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_4TX	14.85	0.03055	32.85/11.18	1.92752
802.11ac VHT40_Nss1,(MCS0)_4TX	14.31	0.02698	32.31/10.64	1.70216
802.11ac VHT80_Nss1,(MCS0)_4TX	12.44	0.01754	30.44/8.77	1.10662
5.725-5.85GHz	-	-	-	-
802.11ac VHT20_Nss1,(MCS0)_4TX	17.89	0.06152	-	-
802.11ac VHT40_Nss1,(MCS0)_4TX	15.89	0.03882	-	-
802.11ac VHT80_Nss1,(MCS0)_4TX	12.43	0.01750	-	-

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

Result

Mode	Result	Directional Gain (Output Power) / Gain-Elevation 30° (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP / EIRP-Elevation 30° (dBm)	EIRP Limit / EIRP Limit-Elevation 30° (dBm)
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	18.00/-3.67	8.83	8.68	8.52	8.91	14.76	18.00	32.76/11.09	36.00/21.00
5200MHz	Pass	18.00/-3.67	8.81	8.69	8.84	8.97	14.85	18.00	32.85/11.18	36.00/21.00
5240MHz	Pass	18.00/-3.67	8.76	8.72	8.92	8.85	14.83	18.00	32.83/11.16	36.00/21.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	18.00/-3.67	8.29	8.46	8.01	8.33	14.30	18.00	32.30/10.63	36.00/21.00
5230MHz	Pass	18.00/-3.67	8.21	8.34	8.05	8.53	14.31	18.00	32.31/10.64	36.00/21.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	18.00/-3.67	6.43	6.39	6.35	6.52	12.44	18.00	30.44/8.77	36.00/21.00

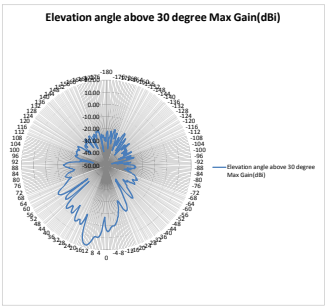
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	18.00	11.95	11.77	11.65	12.08	17.89	18.00
5785MHz	Pass	18.00	11.87	11.64	11.76	11.83	17.80	18.00
5825MHz	Pass	18.00	11.88	11.61	11.98	11.85	17.85	18.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5755MHz	Pass	18.00	9.90	9.75	9.82	10.02	15.89	18.00
5795MHz	Pass	18.00	9.84	9.63	9.74	9.78	15.77	18.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5775MHz	Pass	18.00	6.65	6.16	6.27	6.54	12.43	18.00

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

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

Elevation angle above 30 degree Max Gain

Elevation angle above 30 degree Max Gain(dBi)		-3.67
Freq. (MHz)	5150	Elevation Angle Define
H-Plan angle(Degree)	Gain(dBm)	
-180	-24.57	
-179	-22.41	
-178	-22.01	
-177	-27.85	
-176	-36.52	
-175	-27.32	
-174	-27.45	
-173	-26.24	
-172	-21.80	
-171	-23.15	
-170	-27.06	
-169	-32.30	
-168	-23.82	
-167	-20.05	
-166	-20.01	
-165	-22.63	
-164	-27.43	
-163	-25.98	
-162	-23.58	
-161	-22.30	
-160	-28.26	
-159	-37.28	
-158	-31.91	
-157	-28.22	
-156	-25.10	
-155	-28.04	
-154	-32.13	
-153	-31.90	
-152	-23.92	
-151	-21.30	
-150	-19.87	
-149	-20.58	
-148	-29.99	
-147	-36.06	
-146	-28.70	
-145	-26.38	
-144	-23.22	
-143	-25.99	
-142	-37.69	
-141	-33.88	
-140	-39.25	
-139	-29.21	
-138	-27.42	
-137	-27.47	
-136	-32.74	
-135	-30.06	
-134	-24.76	
-133	-24.24	
-132	-29.87	
-131	-30.58	
-130	-29.35	
-129	-29.12	
-128	-30.32	
-127	-34.24	
-126	-29.30	
-125	-30.78	
-124	-32.93	
-123	-30.07	
-122	-33.11	
-121	-33.45	
-120	-33.59	
-119	-30.08	
-118	-26.92	
-117	-28.87	
-116	-38.80	
-115	-35.45	
-114	-37.85	
-113	-36.32	
-112	-31.26	
-111	-28.36	
-110	-30.47	
-109	-30.80	
-108	-32.65	
-107	-29.36	
-106	-26.37	
-105	-26.84	
-104	-34.29	
-103	-45.45	
-102	-36.55	
-101	-39.31	
-100	-41.80	
-99	-40.41	
-98	-38.70	Above 30 degree
-97	-41.14	
-96	-30.01	
-95	-32.90	
-94	-34.00	
-93	-35.58	
-92	-32.35	
-91	-31.56	
-90	-28.50	
-89	-26.50	
-88	-26.63	
-87	-26.94	
-86	-25.80	
-85	-26.14	
-84	-26.99	
-83	-26.70	
-82	-32.70	
-81	-32.84	
-80	-29.31	
-79	-32.35	
-78	-31.32	
-77	-35.01	
-76	-31.23	
-75	-32.02	
-74	-29.62	
-73	-28.82	
-72	-27.50	
-71	-27.22	
-70	-25.14	
-69	-24.90	
-68	-23.97	
-67	-23.81	
-66	-22.75	
-65	-23.20	
-64	-21.68	
-63	-22.36	
-62	-23.71	
-61	-25.63	
-60	-24.13	
-59	-24.84	
-58	-22.76	
-57	-22.82	
-56	-21.71	
-55	-24.94	
-54	-25.63	
-53	-28.85	
-52	-28.14	
-51	-27.96	
-50	-29.30	
-49	-32.01	
-48	-30.79	
-47	-28.49	
-46	-28.55	
-45	-26.27	
-44	-25.86	
-43	-25.25	
-42	-22.39	
-41	-19.87	
-40	-17.40	
-39	-15.13	
-38	-15.63	
-37	-16.73	
-36	-19.49	
-35	-22.40	
-34	-30.16	
-33	-36.22	
-32	-33.43	
-31	-35.17	
-30	-26.38	
-29	-22.81	
-28	-17.93	
-27	-13.89	
-26	-11.09	
-25	-9.67	
-24	-8.94	
-23	-8.70	
-22	-9.61	
-21	-11.16	
-20	-13.52	
-19	-16.29	
-18	-18.81	
-17	-19.13	
-16	-15.08	
-15	-12.02	
-14	-9.47	
-13	-6.84	
-12	-5.51	
-11	-3.88	
-10	-2.49	
-9	-0.97	
-8	-0.01	
-7	0.33	
-6	0.34	
-5	0.86	
-4	1.89	
-3	3.42	
-2	4.51	
-1	4.73	0° ~ 30°
0	3.62	
1	0.52	
2	-4.99	
3	-2.86	
4	4.06	
5	7.52	
6	9.47	



Elevation angle above 30 degree Max Gain

7	10.14	
8	9.93	
9	9.63	
10	10.63	
11	12.94	
12	15.23	
13	16.88	
14	17.85	
15	18.07	0° reference angle
16	17.59	
17	16.32	
18	14.15	
19	10.66	
20	5.01	
21	-6.61	
22	-1.60	
23	2.76	
24	3.36	
25	1.92	
26	-0.19	
27	0.04	
28	1.90	
29	2.71	
30	2.28	0° ~ 30°
31	0.52	
32	-3.32	
33	-10.33	
34	-6.98	
35	-2.75	
36	-1.26	
37	-1.83	
38	-3.84	
39	-6.67	
40	-6.59	
41	-4.25	
42	-2.25	
43	-1.47	
44	-2.33	
45	-4.70	
46	-9.97	
47	-30.42	
48	-12.40	
49	-7.53	
50	-6.11	
51	-6.77	
52	-8.34	
53	-12.62	
54	-31.00	
55	-13.99	
56	-7.70	
57	-5.22	
58	-4.09	
59	-3.67	
60	-4.29	
61	-5.26	
62	-7.19	
63	-9.47	
64	-11.09	
65	-12.73	
66	-13.44	
67	-14.86	
68	-15.87	
69	-16.62	
70	-18.33	
71	-19.45	
72	-17.01	
73	-15.61	
74	-14.97	
75	-14.91	
76	-16.21	
77	-16.67	
78	-17.50	
79	-19.52	
80	-22.29	
81	-22.76	
82	-23.47	
83	-22.30	
84	-21.88	
85	-19.18	
86	-19.10	
87	-17.44	
88	-16.14	
89	-15.50	
90	-14.65	
91	-15.51	
92	-16.33	
93	-17.46	
94	-18.93	
95	-21.20	
96	-24.17	
97	-27.52	
98	-29.43	
99	-27.98	
100	-38.86	
101	-38.19	
102	-36.19	
103	-27.51	
104	-25.89	
105	-24.55	
106	-23.48	
107	-23.06	
108	-24.58	
109	-24.23	
110	-24.87	
111	-23.84	
112	-23.57	Above 30 degree
113	-23.47	
114	-22.67	
115	-23.19	
116	-23.50	
117	-23.20	
118	-23.10	
119	-24.84	
120	-24.09	
121	-23.17	
122	-22.76	
123	-21.99	
124	-23.63	
125	-24.51	
126	-29.73	
127	-33.97	
128	-33.46	
129	-29.89	
130	-27.10	
131	-26.85	
132	-25.93	
133	-28.80	
134	-27.15	
135	-25.56	
136	-26.00	
137	-25.43	
138	-26.10	
139	-23.30	
140	-24.43	
141	-22.28	
142	-23.34	
143	-27.66	
144	-32.39	
145	-27.77	
146	-24.32	
147	-24.74	
148	-22.32	
149	-22.44	
150	-22.10	
151	-24.19	
152	-32.50	
153	-34.56	
154	-30.53	
155	-23.85	
156	-25.49	
157	-23.49	
158	-22.62	
159	-23.38	
160	-26.09	
161	-25.06	
162	-21.45	
163	-20.89	
164	-21.63	
165	-21.81	
166	-20.39	
167	-20.90	
168	-24.78	
169	-38.64	
170	-26.81	
171	-24.34	
172	-26.76	
173	-26.64	
174	-25.25	
175	-28.17	
176	-29.44	
177	-27.08	
178	-30.45	
179	-30.17	

Summary

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
802.11ac VHT20_Nss1,(MCS0)_4TX	1.70
802.11ac VHT40_Nss1,(MCS0)_4TX	-1.66
802.11ac VHT80_Nss1,(MCS0)_4TX	-6.74
5.725-5.85GHz	-
802.11ac VHT20_Nss1,(MCS0)_4TX	2.95
802.11ac VHT40_Nss1,(MCS0)_4TX	-1.78
802.11ac VHT80_Nss1,(MCS0)_4TX	-8.50

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

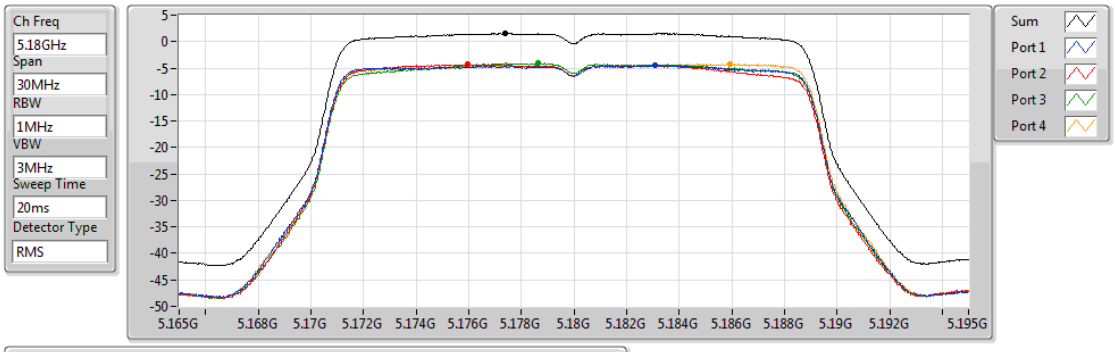
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5180MHz	Pass	18.00	-4.46	-4.23	-4.09	-4.23	1.53	5.00
5200MHz	Pass	18.00	-4.44	-4.27	-4.01	-4.03	1.67	5.00
5240MHz	Pass	18.00	-4.59	-4.61	-3.98	-3.84	1.70	5.00
5745MHz	Pass	18.00	-2.99	-3.15	-2.88	-2.68	2.95	18.00
5785MHz	Pass	18.00	-3.18	-3.23	-2.55	-2.90	2.78	18.00
5825MHz	Pass	18.00	-3.37	-3.69	-2.40	-3.02	2.80	18.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5190MHz	Pass	18.00	-7.87	-7.42	-7.78	-7.24	-1.83	5.00
5230MHz	Pass	18.00	-8.18	-7.78	-7.22	-6.94	-1.66	5.00
5755MHz	Pass	18.00	-7.74	-7.88	-7.47	-7.49	-1.78	18.00
5795MHz	Pass	18.00	-8.05	-8.17	-7.44	-7.93	-2.29	18.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5210MHz	Pass	18.00	-12.93	-12.49	-12.43	-11.91	-6.74	5.00
5775MHz	Pass	18.00	-14.45	-14.30	-14.25	-14.58	-8.50	18.00

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

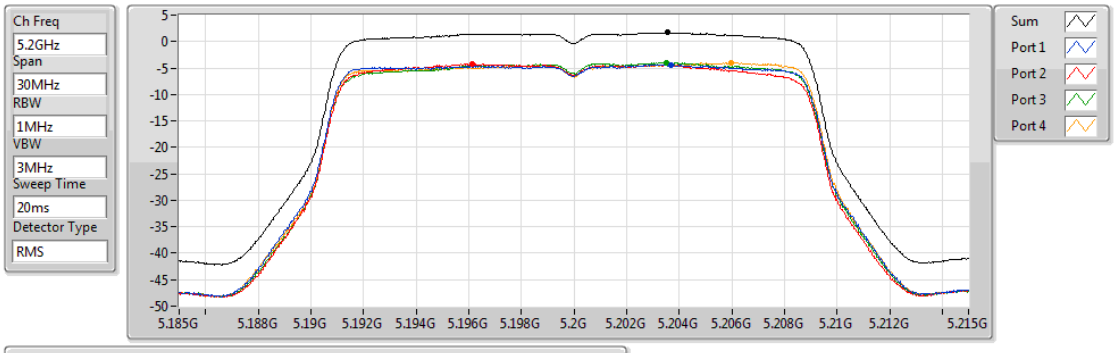
5180MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.53	1.53	-4.46	-4.23	-4.09	-4.23

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

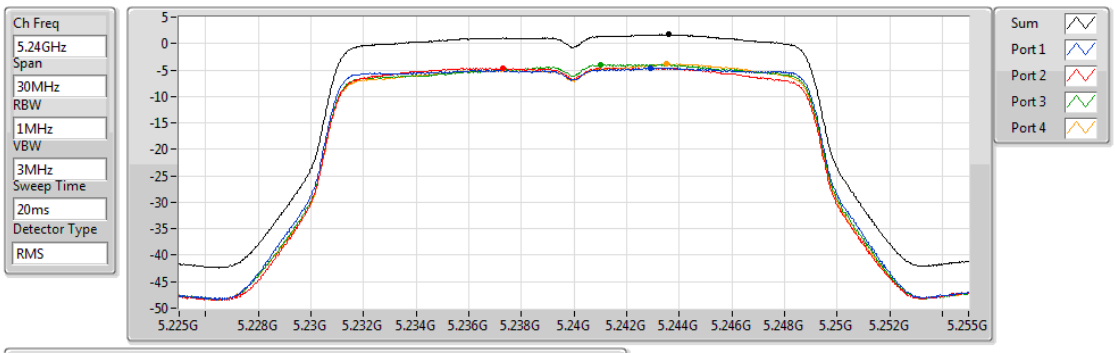
5200MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.67	1.67	-4.44	-4.27	-4.01	-4.03

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

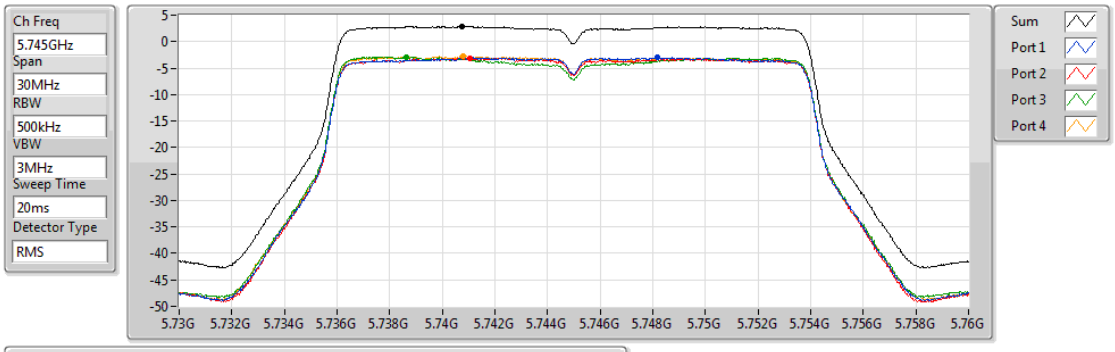
5240MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.70	1.70	-4.59	-4.61	-3.98	-3.84

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

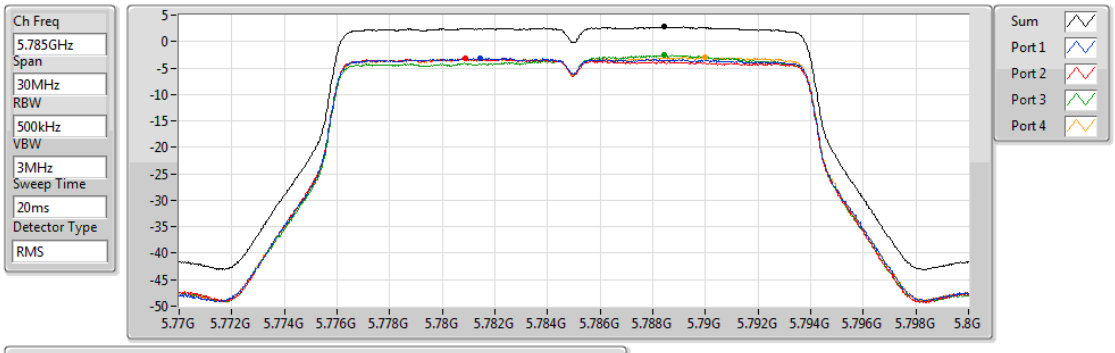
5745MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.95	2.95	-2.99	-3.15	-2.88	-2.68

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

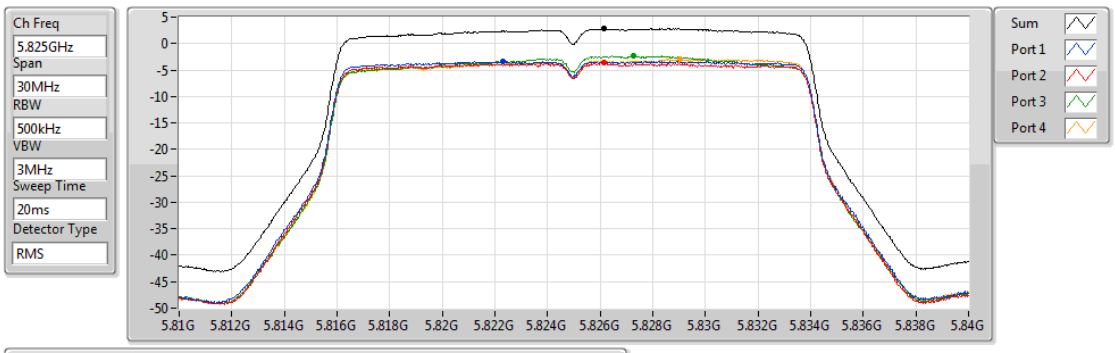
5785MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.78	2.78	-3.18	-3.23	-2.55	-2.90

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

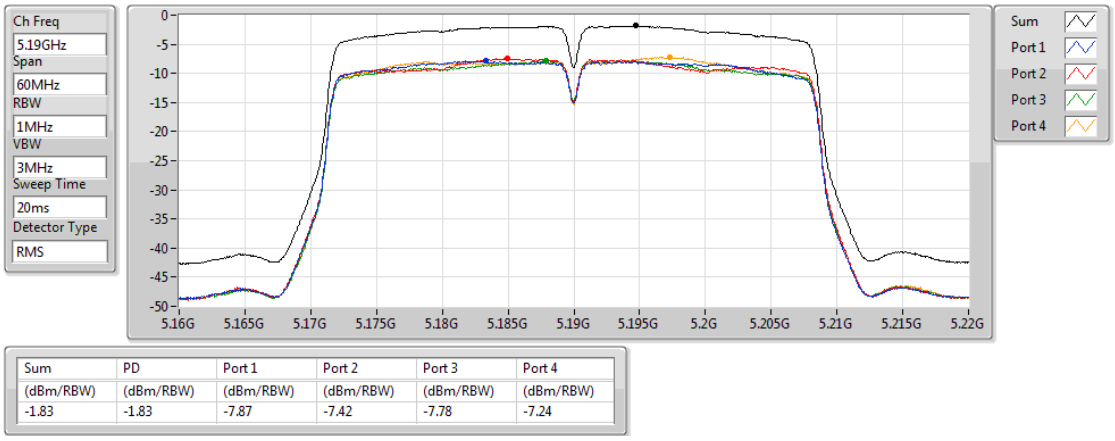
5825MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.80	2.80	-3.37	-3.69	-2.40	-3.02

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

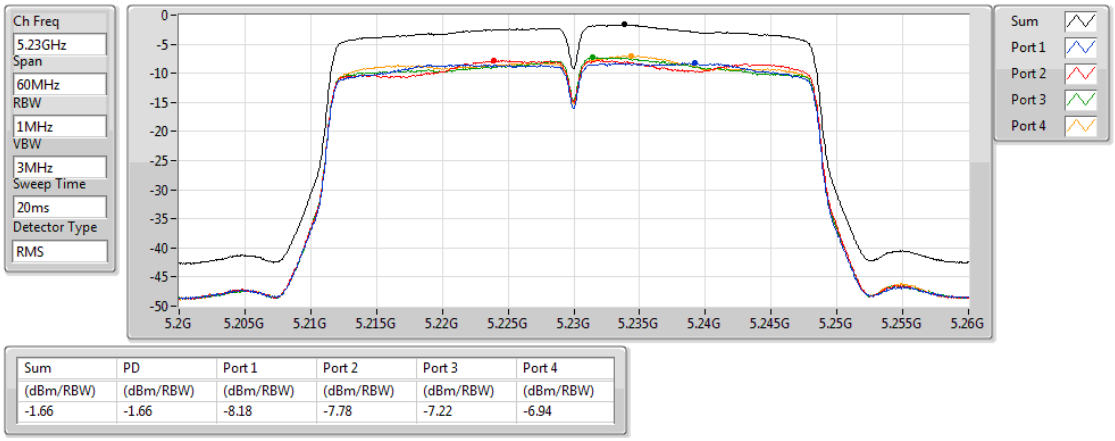
5190MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.83	-1.83	-7.87	-7.42	-7.78	-7.24

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

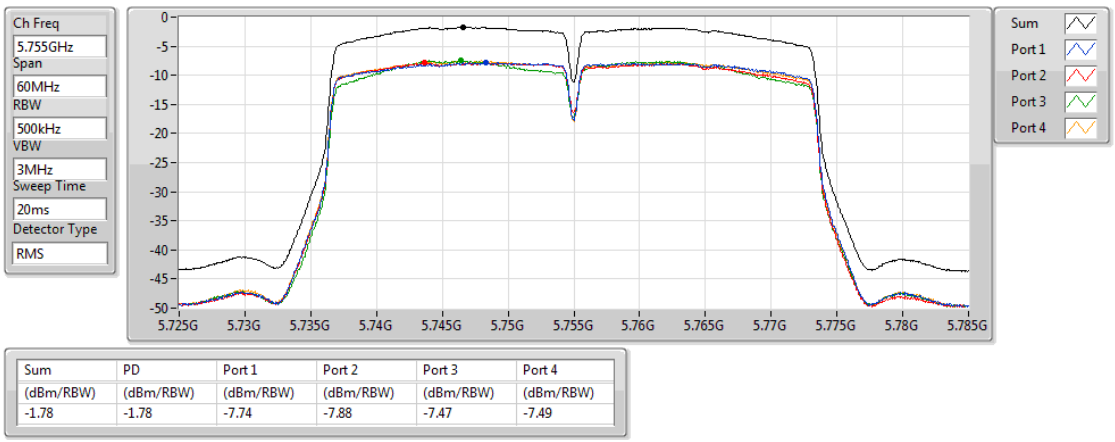
5230MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.66	-1.66	-8.18	-7.78	-7.22	-6.94

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

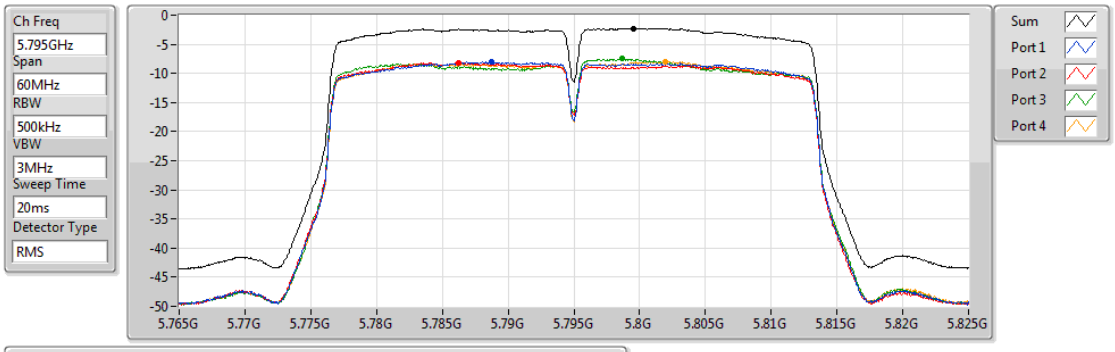
5755MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.78	-1.78	-7.74	-7.88	-7.47	-7.49

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

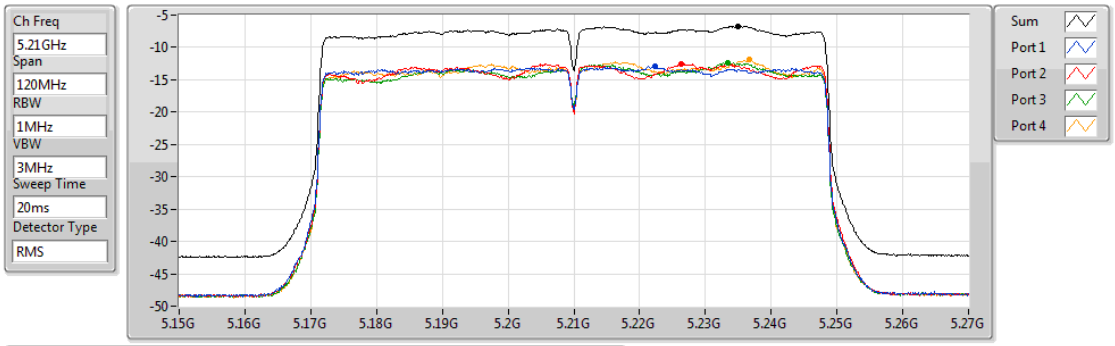
5795MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.29	-2.29	-8.05	-8.17	-7.44	-7.93

802.11ac VHT80_Nss1,(MCS0)_4TX PSD

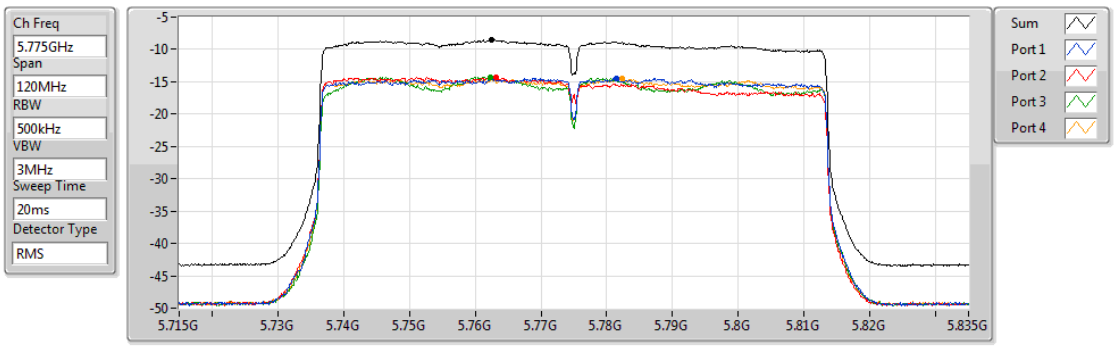
5210MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.74	-6.74	-12.93	-12.49	-12.43	-11.91

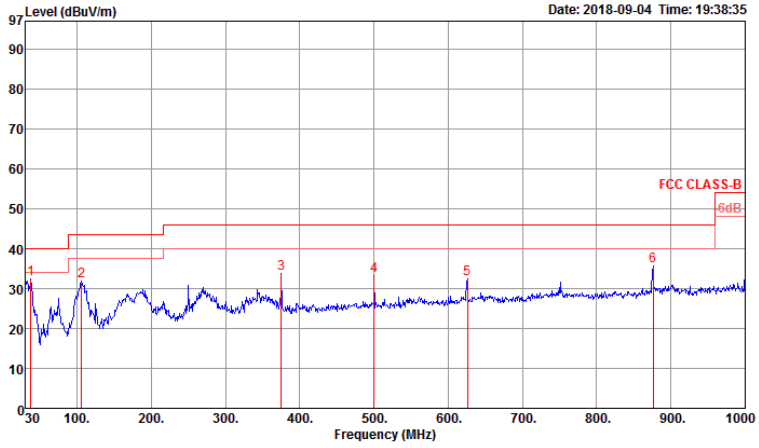
802.11ac VHT80_Nss1,(MCS0)_4TX PSD

5775MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.50	-8.50	-14.45	-14.30	-14.25	-14.58

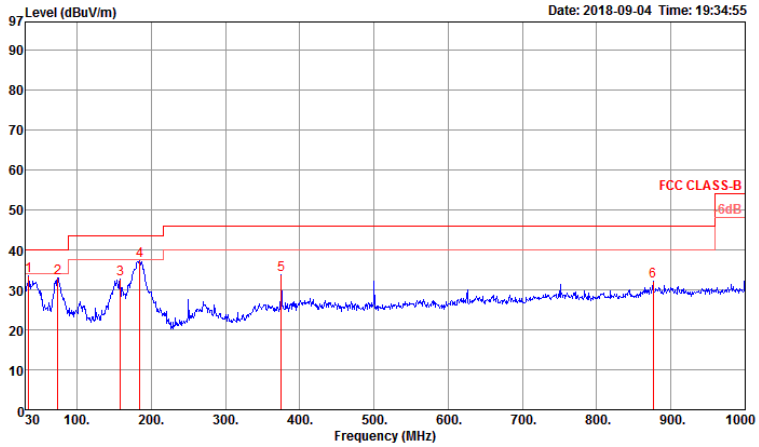
RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	CTX		



	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	37.76	32.55	40.00	-7.45	42.78	1.10	20.18	31.51	300	0	Peak	HORIZONTAL
2	105.66	31.95	43.50	-11.55	45.46	0.93	17.27	31.71	300	0	Peak	HORIZONTAL
3	375.32	33.76	46.00	-12.24	42.98	2.22	20.47	31.91	300	0	Peak	HORIZONTAL
4	500.45	33.32	46.00	-12.68	39.36	2.94	23.10	32.08	300	0	Peak	HORIZONTAL
5	625.58	32.53	46.00	-13.47	37.44	2.76	24.55	32.22	300	0	Peak	HORIZONTAL
6	875.84	35.59	46.00	-10.41	38.09	3.60	26.06	32.16	300	0	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 below 1GHz Result			
Operating Mode	1	**Polarization**	Vertical
Operating Function	CTX		



	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	34.85	33.38	40.00	-6.62	41.76	1.01	22.06	31.45	300	360	Peak	VERTICAL
2	73.65	32.90	40.00	-7.10	51.35	0.86	12.37	31.68	300	360	Peak	VERTICAL
3	158.04	32.66	43.50	-10.84	47.34	1.01	16.07	31.76	300	360	Peak	VERTICAL
4	184.23	37.18	43.50	-6.32	52.36	1.60	14.98	31.76	300	360	Peak	VERTICAL
5	375.32	33.85	46.00	-12.15	43.07	2.22	20.47	31.91	300	360	Peak	VERTICAL
6	875.84	32.11	46.00	-13.89	34.61	3.60	26.06	32.16	300	360	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 Conducted Spurious Emission

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-89.27	-89.40	-89.37	-89.41	-65.34	-41.25	24.09
5200	-89.38	-89.36	-89.38	-89.36	-65.35	-41.25	24.10
5240	-89.21	-89.43	-89.35	-89.45	-65.34	-41.25	24.09
5745	-89.86	-89.87	-89.82	-89.94	-65.85	-41.25	24.60
5785	-89.88	-89.78	-89.87	-86.89	-64.88	-41.25	23.63
5825	-89.92	-87.40	-85.07	-89.02	-63.42	-41.25	22.17

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-76.29	-76.59	-76.03	-75.73	-52.13	-21.25	30.88
5200	-76.01	-75.47	-76.51	-76.10	-51.99	-21.25	30.74
5240	-76.16	-76.46	-76.53	-76.23	-52.32	-21.25	31.07
5745	-76.83	-77.02	-77.28	-77.12	-53.04	-21.25	31.79
5785	-77.29	-76.32	-76.51	-76.16	-52.53	-21.25	31.28
5825	-76.36	-76.96	-77.03	-77.00	-52.81	-21.25	31.56

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-89.80	-89.84	-89.87	-89.65	-65.77	-41.25	24.52
5230	-89.82	-89.86	-89.92	-89.79	-65.83	-41.25	24.58
5755	-89.57	-90.06	-89.87	-84.96	-64.00	-41.25	22.75
5795	-89.73	-89.83	-89.62	-89.33	-65.60	-41.25	24.35

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-76.36	-76.73	-76.66	-76.48	-52.53	-21.25	31.28
5230	-77.16	-77.07	-76.32	-76.71	-52.78	-21.25	31.53
5755	-75.99	-76.16	-69.81	-76.67	-49.56	-21.25	28.31
5795	-76.69	-76.77	-76.72	-72.47	-51.19	-21.25	29.94

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT80 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-89.80	-89.84	-89.78	-89.92	-65.81	-41.25	24.56
5775	-77.12	-76.15	-76.87	-76.13	-52.53	-21.25	31.28

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT80 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 1GHz~3GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-83.40	-89.89	-89.90	-88.66	-62.98	-41.25	21.73
5775	-74.37	-76.26	-76.60	-71.65	-50.22	-21.25	28.97

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-63.17	-63.14	-68.84	-71.01	-41.29	-41.25	0.04
5200	-68.69	-63.06	-68.71	-71.38	-42.77	-41.25	1.52
5240	-65.17	-64.04	-68.64	-71.63	-42.44	-41.25	1.19
5745	-63.94	-65.88	-67.72	-67.72	-42.00	-41.25	0.75
5785	-64.01	-65.67	-68.23	-69.21	-42.28	-41.25	1.03
5825	-64.52	-65.95	-68.88	-68.21	-42.52	-41.25	1.27

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-54.43	-58.07	-56.59	-58.50	-32.57	-21.25	11.32
5200	-59.56	-56.21	-57.56	-58.70	-33.80	-21.25	12.55
5240	-55.83	-59.06	-60.75	-58.96	-34.24	-21.25	12.99
5745	-58.69	-55.50	-56.60	-55.15	-32.26	-21.25	11.01
5785	-57.32	-56.40	-56.94	-56.48	-32.75	-21.25	11.50
5825	-54.72	-55.37	-55.57	-54.86	-31.10	-21.25	9.85

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-67.59	-65.42	-70.07	-70.83	-43.92	-41.25	2.67
5230	-69.99	-65.63	-69.93	-71.47	-44.62	-41.25	3.37
5755	-64.38	-65.58	-68.35	-69.16	-42.41	-41.25	1.16
5795	-65.27	-65.94	-68.34	-68.00	-42.67	-41.25	1.42

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-58.75	-57.44	-60.26	-58.34	-34.56	-21.25	13.31
5230	-58.41	-57.89	-60.50	-59.47	-34.93	-21.25	13.68
5755	-57.63	-56.09	-57.29	-56.70	-32.87	-21.25	11.62
5795	-58.70	-55.96	-55.21	-55.55	-32.14	-21.25	10.89

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-68.62	-65.44	-68.03	-69.40	-43.58	-41.25	2.33
5775	-64.96	-66.56	-69.00	-68.26	-42.89	-41.25	1.64

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 3GHz~6GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-68.62	-65.44	-68.03	-69.40	-43.58	-41.25	2.33
5775	-57.46	-56.66	-57.41	-56.44	-32.95	-21.25	11.70

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-80.90	-80.89	-80.68	-81.12	-56.87	-41.25	15.62
5200	-81.08	-81.16	-80.87	-81.01	-57.01	-41.25	15.76
5240	-80.94	-81.09	-80.93	-81.22	-57.02	-41.25	15.77
5745	-70.29	-67.62	-71.50	-72.00	-45.97	-41.25	4.72
5785	-72.09	-69.08	-70.29	-71.13	-46.49	-41.25	5.24
5825	-70.65	-67.26	-69.26	-69.81	-45.04	-41.25	3.79

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-68.49	-68.45	-68.34	-69.02	-44.55	-21.25	23.30
5200	-68.13	-68.25	-68.32	-68.73	-44.33	-21.25	23.08
5240	-68.11	-68.70	-68.57	-68.97	-44.56	-21.25	23.31
5745	-61.48	-58.41	-59.68	-59.41	-35.59	-21.25	14.34
5785	-61.71	-58.07	-58.41	-59.20	-35.12	-21.25	13.87
5825	-59.18	-54.94	-57.45	-57.78	-33.03	-21.25	11.78

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-81.15	-81.31	-81.18	-81.50	-57.26	-41.25	16.01
5230	-81.37	-81.54	-81.28	-81.54	-57.41	-41.25	16.16
5755	-70.11	-67.55	-70.79	-71.27	-45.65	-41.25	4.40
5795	-72.83	-69.23	-70.01	-70.99	-46.55	-41.25	5.30

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-68.46	-68.70	-68.07	-69.14	-44.55	-21.25	23.30
5230	-68.65	-68.99	-69.17	-69.73	-45.10	-21.25	23.85
5755	-59.72	-56.24	-58.84	-59.34	-34.28	-21.25	13.03
5795	-62.11	-57.49	-57.79	-59.23	-34.79	-21.25	13.54

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-81.44	-81.46	-81.37	-81.57	-57.44	-41.25	16.19
5775	-72.83	-71.20	-70.81	-69.95	-47.06	-41.25	5.81

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 6GHz~9GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-68.81	-69.30	-68.51	-68.66	-44.79	-21.25	23.54
5775	-61.55	-59.11	-58.98	-58.91	-35.49	-21.25	14.24

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT20 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-81.30	-81.35	-81.18	-81.03	-57.19	-41.25	15.94
5200	-81.23	-81.19	-81.26	-81.24	-57.21	-41.25	15.96
5240	-81.28	-81.04	-81.13	-81.19	-57.14	-41.25	15.89
5745	-76.28	-75.76	-75.88	-75.11	-51.72	-41.25	10.47
5785	-76.37	-77.21	-76.64	-75.24	-52.28	-41.25	11.03
5825	-78.13	-77.25	-76.94	-75.94	-52.97	-41.25	11.72

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT20 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-68.52	-68.93	-69.26	-69.22	-44.95	-21.25	23.70
5200	-68.77	-68.62	-68.80	-68.70	-44.70	-21.25	23.45
5240	-68.86	-69.14	-68.63	-69.19	-44.93	-21.25	23.68
5745	-63.40	-63.30	-62.69	-60.29	-38.20	-21.25	16.95
5785	-63.59	-63.91	-62.49	-63.57	-39.33	-21.25	18.08
5825	-65.05	-65.39	-61.80	-62.42	-39.36	-21.25	18.11

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT40 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-81.21	-81.16	-81.23	-80.99	-57.13	-41.25	15.88
5230	-81.22	-81.38	-81.02	-81.27	-57.20	-41.25	15.95
5755	-80.06	-79.96	-80.33	-79.44	-55.91	-41.25	14.66
5795	-80.65	-80.69	-80.83	-80.67	-56.69	-41.25	15.44

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT40 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-69.03	-68.74	-68.91	-68.70	-44.82	-21.25	23.57
5230	-68.99	-68.90	-69.13	-69.42	-45.08	-21.25	23.83
5755	-68.50	-68.40	-68.23	-66.84	-43.92	-21.25	22.67
5795	-67.79	-68.57	-68.48	-68.70	-44.35	-21.25	23.10

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-81.09	-81.19	-81.12	-81.38	-57.17	-41.25	15.92
5775	-80.76	-80.86	-80.86	-80.76	-56.79	-41.25	15.54

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 9GHz~18GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-69.30	-68.40	-68.81	-68.67	-44.76	-21.25	23.51
5775	-68.69	-68.81	-68.34	-68.57	-44.58	-21.25	23.33

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 18GHz~40GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-75.81	-75.84	-75.89	-75.70	-51.79	-41.25	10.54
5200	-75.76	-75.91	-75.80	-75.72	-51.78	-41.25	10.53
5240	-75.88	-75.67	-75.85	-75.77	-51.77	-41.25	10.52
5745	-75.48	-75.36	-75.46	-75.29	-51.38	-41.25	10.13
5785	-75.40	-75.29	-75.51	-75.25	-51.34	-41.25	10.09
5825	-75.27	-75.39	-75.36	-75.40	-51.33	-41.25	10.08

Temperature	22℃	**Humidity**	54%
Test Engineer	Serway Li	**Configurations**	VHT20 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 18GHz~40GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5180	-63.21	-63.46	-63.79	-63.80	-39.54	-21.25	18.29
5200	-63.44	-63.57	-63.94	-63.07	-39.47	-21.25	18.22
5240	-63.71	-63.42	-63.45	-63.82	-39.58	-21.25	18.33
5745	-63.14	-63.17	-63.50	-63.62	-39.33	-21.25	18.08
5785	-64.01	-63.09	-62.44	-63.76	-39.26	-21.25	18.01
5825	-63.68	-63.23	-63.34	-62.88	-39.25	-21.25	18.00

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 18GHz~40GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-75.72	-75.90	-75.86	-75.80	-51.80	-41.25	10.55
5230	-75.85	-75.88	-75.95	-75.91	-51.88	-41.25	10.63
5755	-75.46	-75.45	-75.36	-75.40	-51.40	-41.25	10.15
5795	-75.36	-75.17	-75.44	-75.31	-51.30	-41.25	10.05

Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT40 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 18GHz~40GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5190	-63.01	-62.97	-62.88	-63.69	-39.11	-21.25	17.86
5230	-62.72	-63.74	-62.97	-63.81	-39.26	-21.25	18.01
5755	-63.01	-63.00	-63.11	-63.51	-39.13	-21.25	17.88
5795	-62.31	-63.41	-63.59	-62.72	-38.96	-21.25	17.71

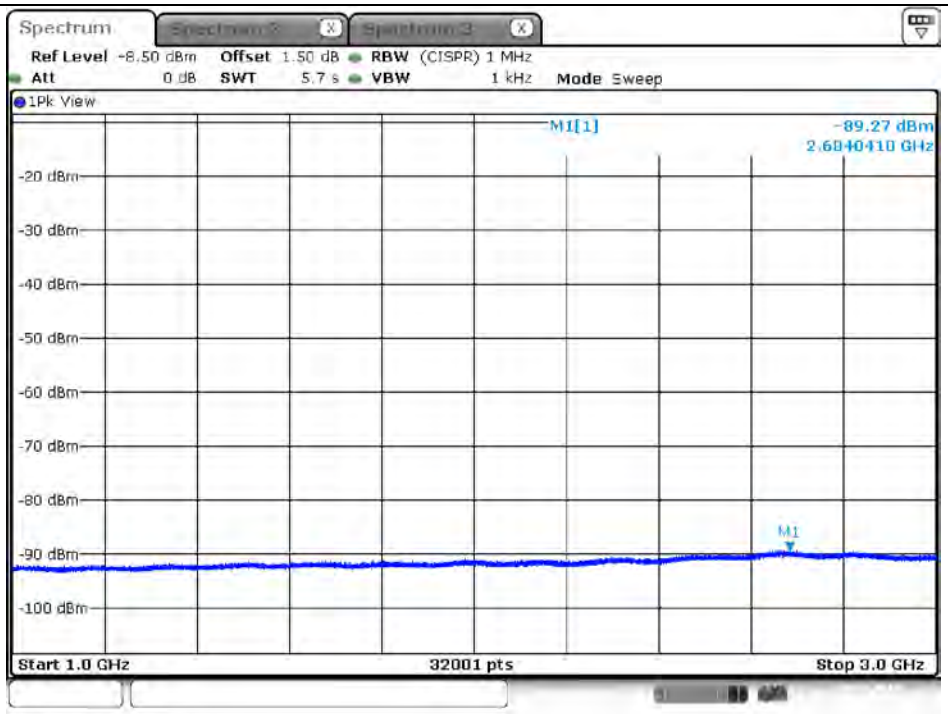
Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Average / Port 1 + Port 2 + Port 3 + Port 4 / 18GHz~40GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-75.88	-75.58	-75.81	-75.83	-51.75	-41.25	10.50
5775	-75.27	-75.42	-75.36	-75.37	-51.33	-41.25	10.08

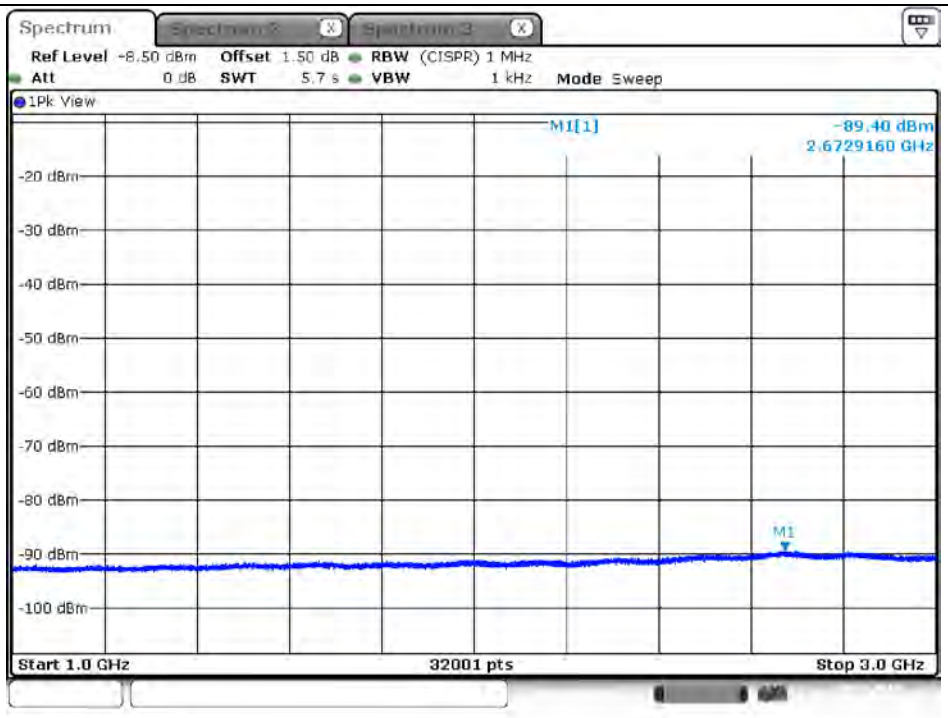
Temperature	22℃	Humidity	54%
Test Engineer	Serway Li	Configurations	VHT80 / Peak / Port 1 + Port 2 + Port 3 + Port 4 / 18GHz~40GHz

Frequency (MHz)	Port(TX1) Spurious Level (dBm)	Port(TX2) Spurious Level (dBm)	Port(TX3) Spurious Level (dBm)	Port(TX4) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5210	-63.76	-63.33	-63.86	-63.54	-39.60	-21.25	18.35
5775	-63.74	-62.90	-62.82	-61.87	-38.76	-21.25	17.51

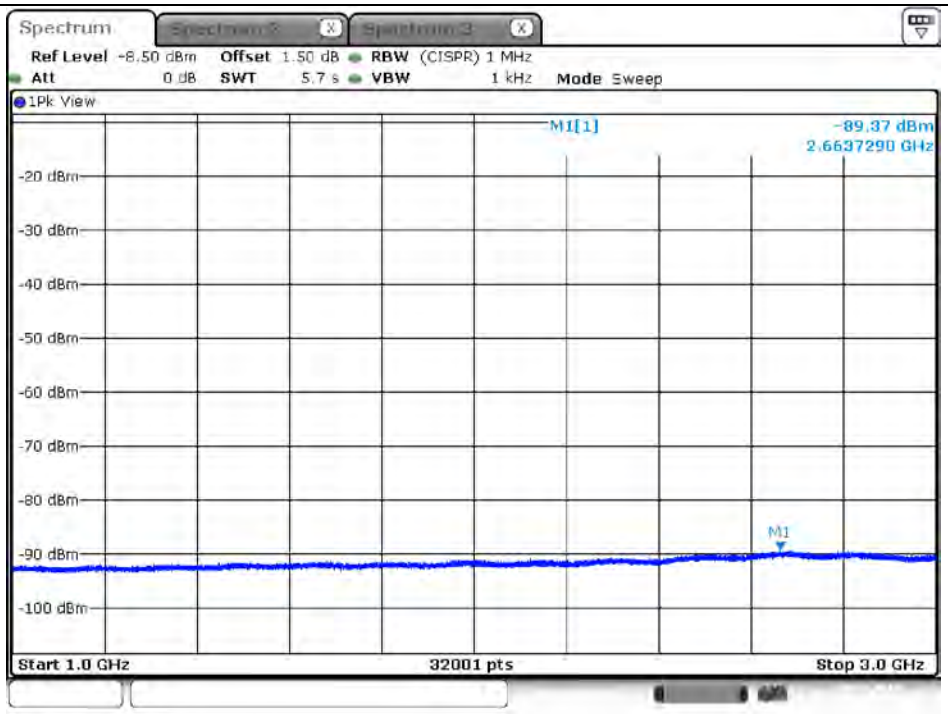
Plot on Configuration VHT20 / 5180 MHz / Average / Port 1 / 1GHz~3GHz



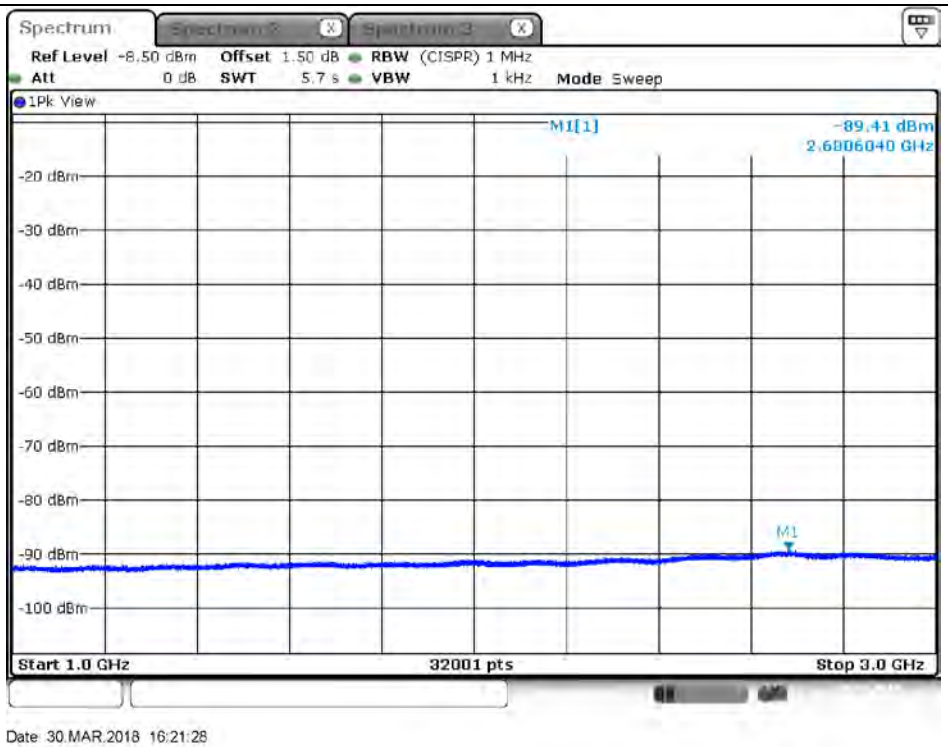
Plot on Configuration VHT20 / 5180 MHz / Average / Port 2 / 1GHz~3GHz



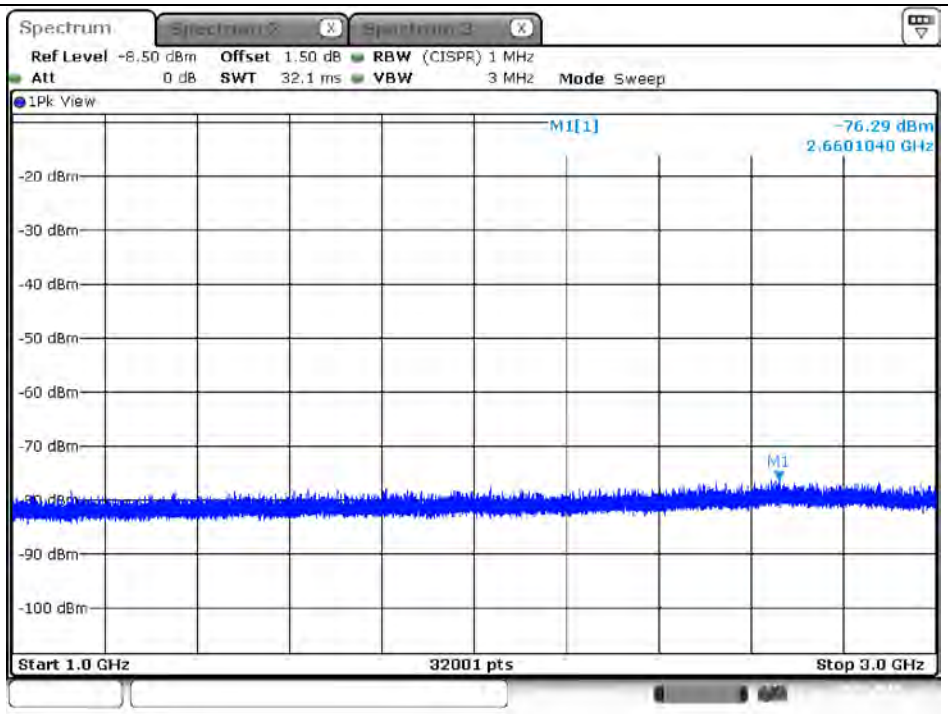
Plot on Configuration VHT20 / 5180 MHz / Average / Port 3 / 1GHz~3GHz



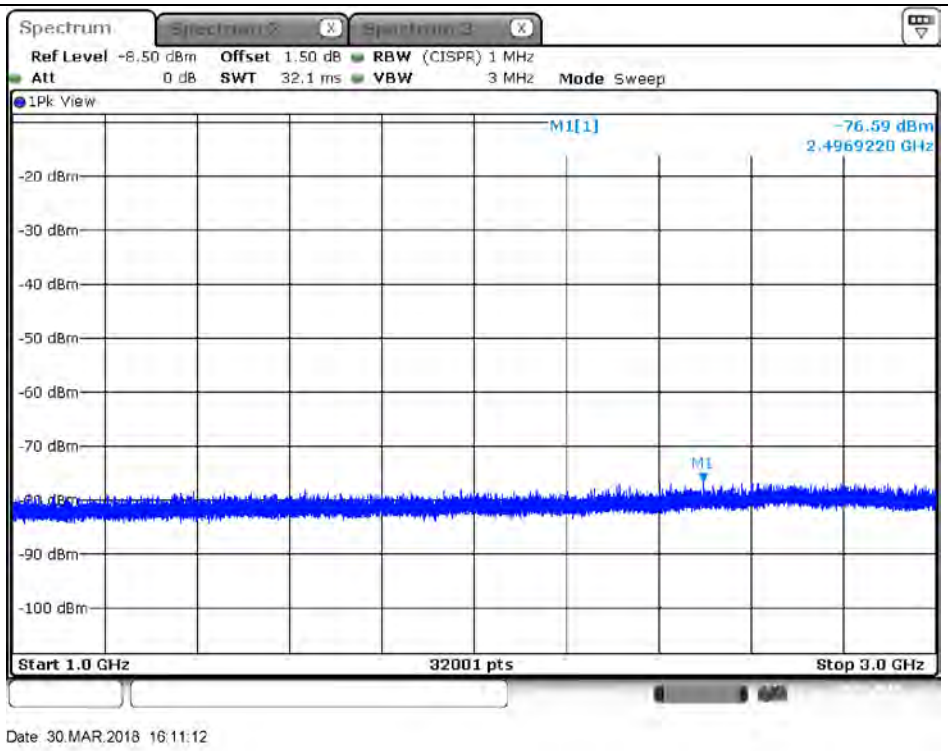
Plot on Configuration VHT20 / 5180 MHz / Average / Port 4 / 1GHz~3GHz



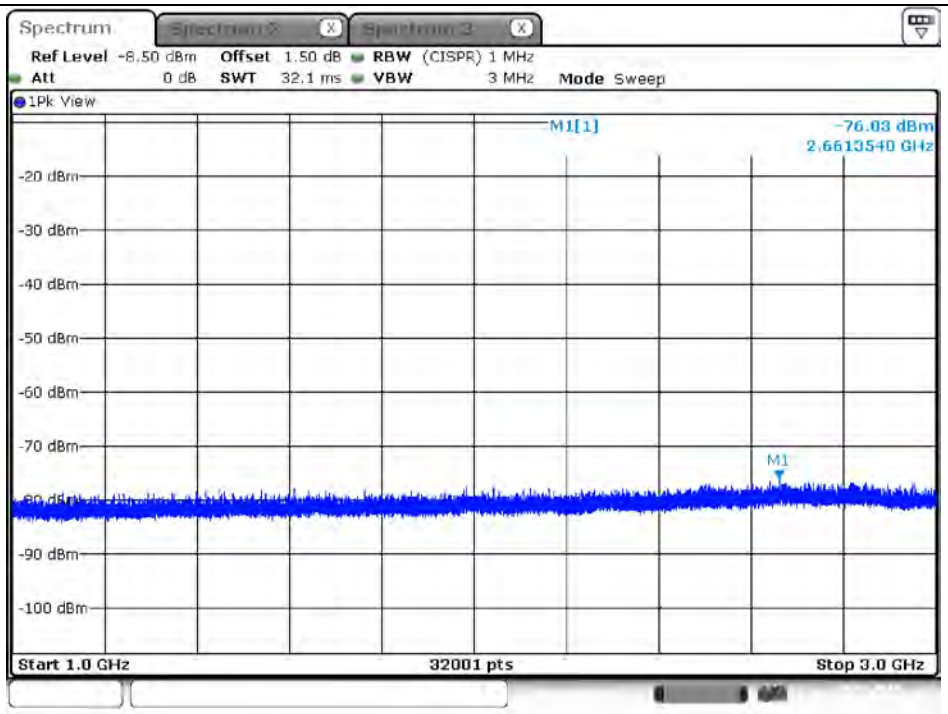
Plot on Configuration VHT20 / 5180 MHz / Peak / Port 1 / 1GHz~3GHz



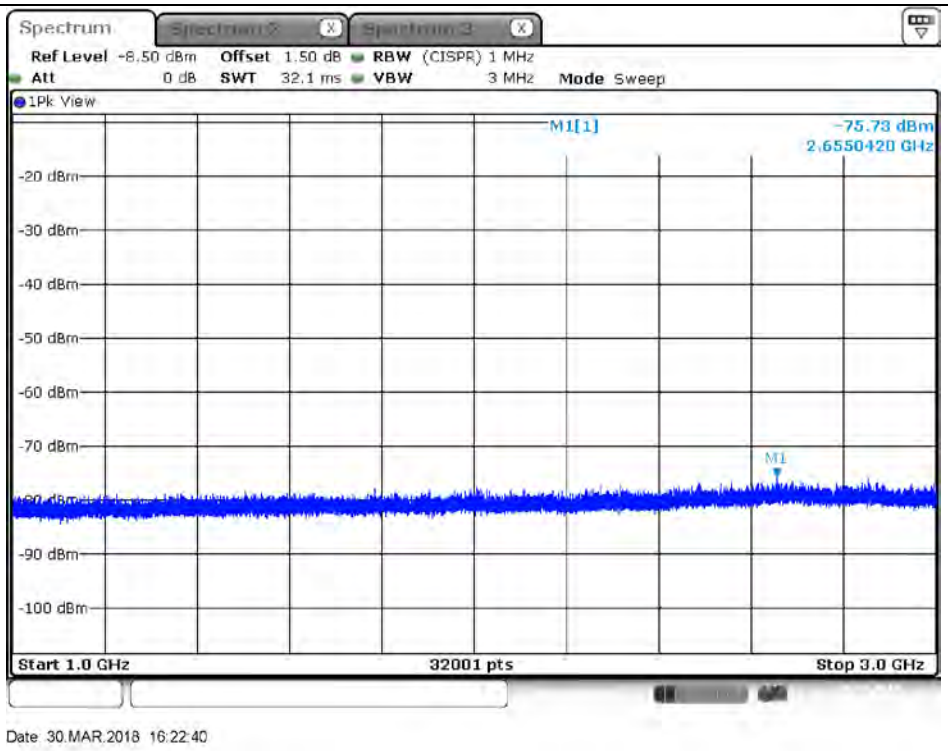
Plot on Configuration VHT20 / 5180 MHz / Peak / Port 2 / 1GHz~3GHz



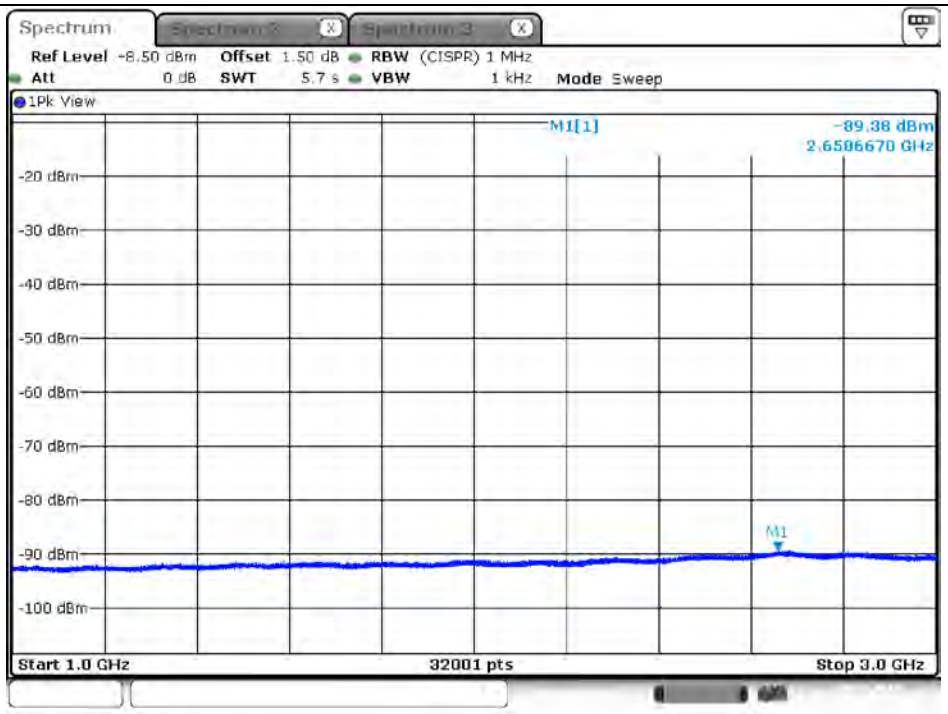
Plot on Configuration VHT20 / 5180 MHz / Peak / Port 3 / 1GHz~3GHz



Plot on Configuration VHT20 / 5180 MHz / Peak / Port 4 / 1GHz~3GHz



Plot on Configuration VHT20 / 5200 MHz / Average / Port 1 / 1GHz~3GHz



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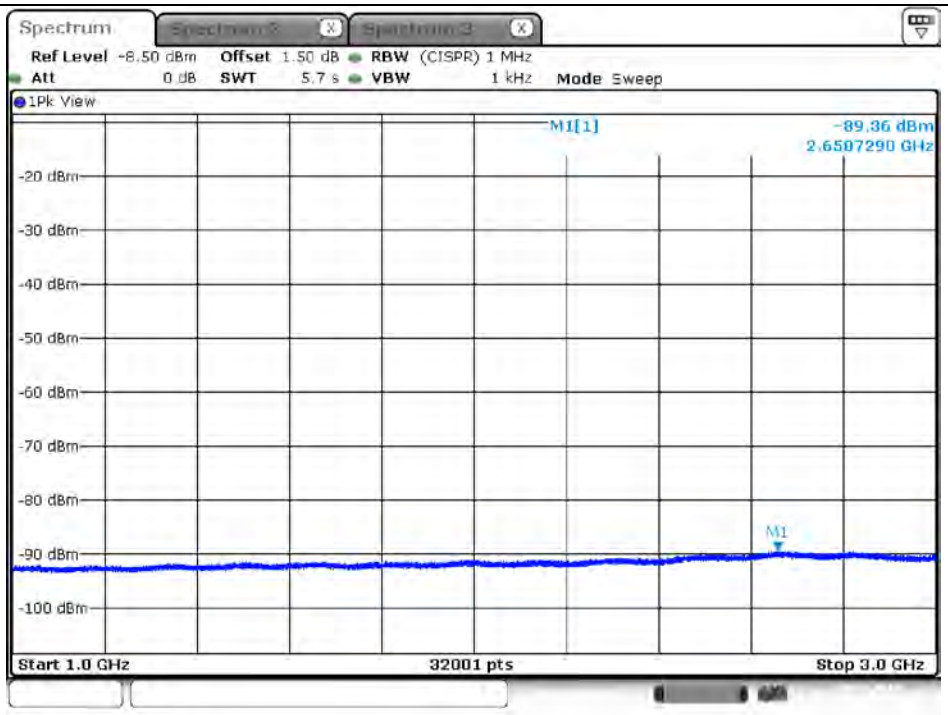
Plot on Configuration VHT20 / 5200 MHz / Average / Port 2 / 1GHz~3GHz



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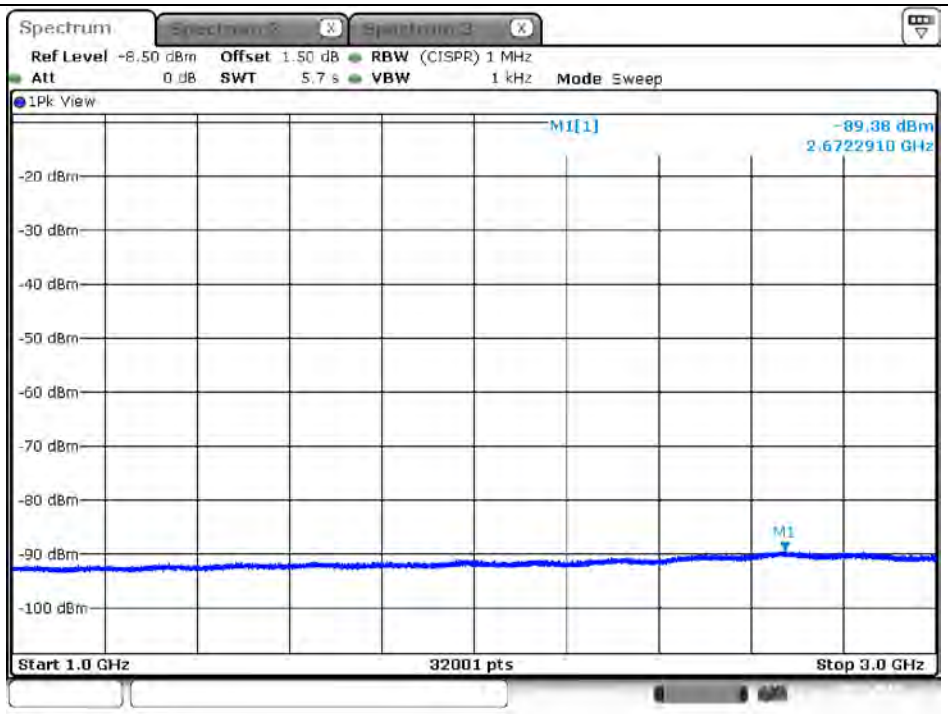
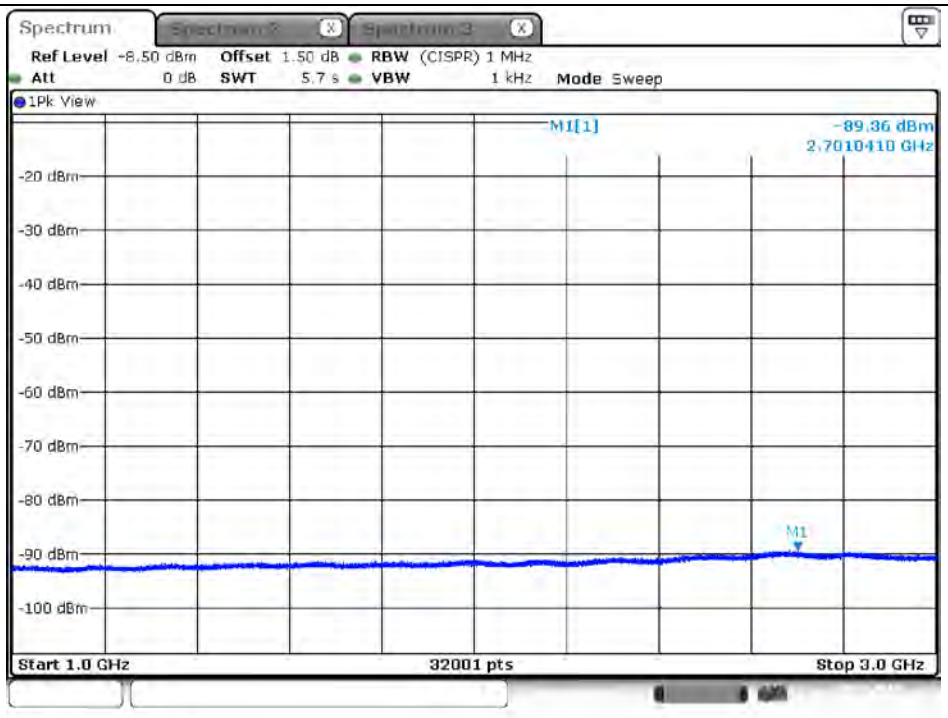
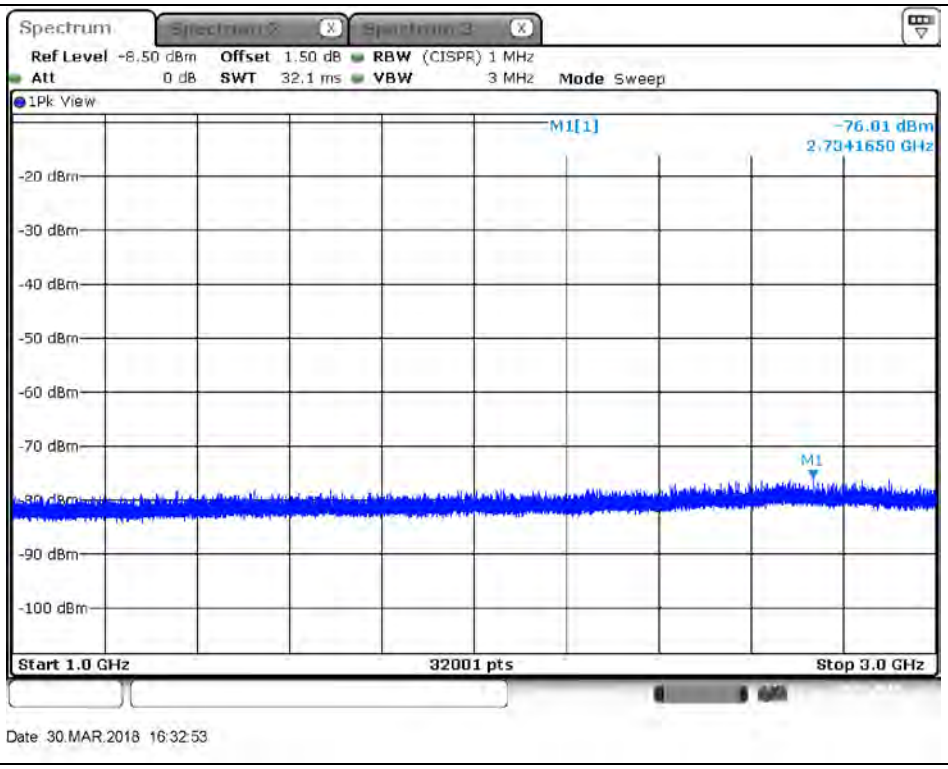
Plot on Configuration VHT20 / 5200 MHz / Average / Port 3 / 1GHz~3GHz



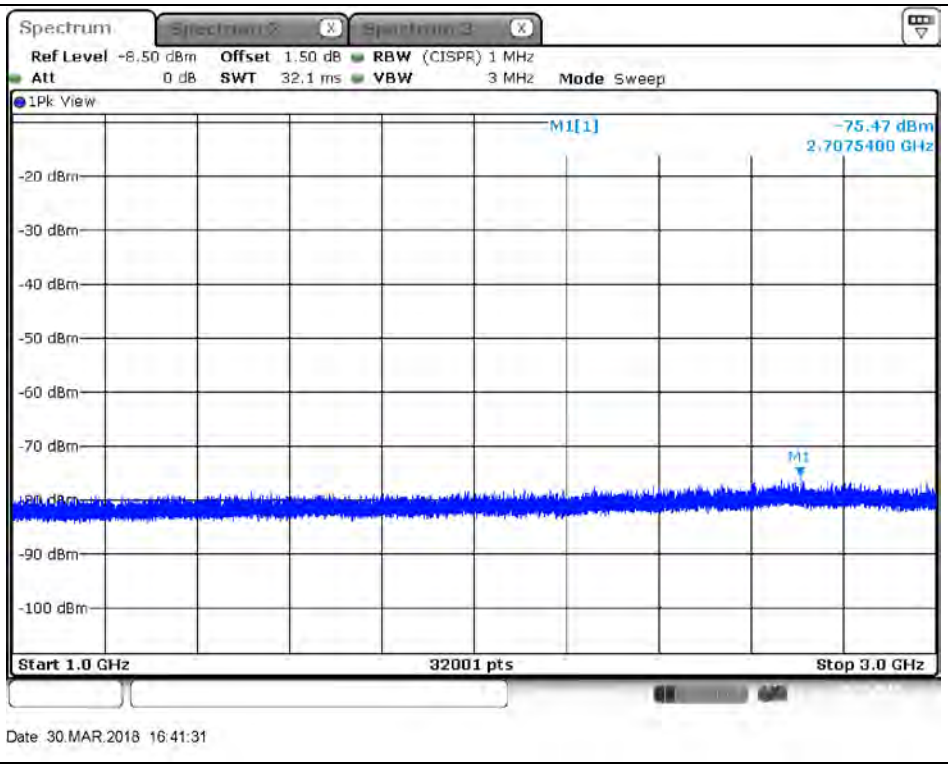
Plot on Configuration VHT20 / 5200 MHz / Average / Port 4 / 1GHz~3GHz



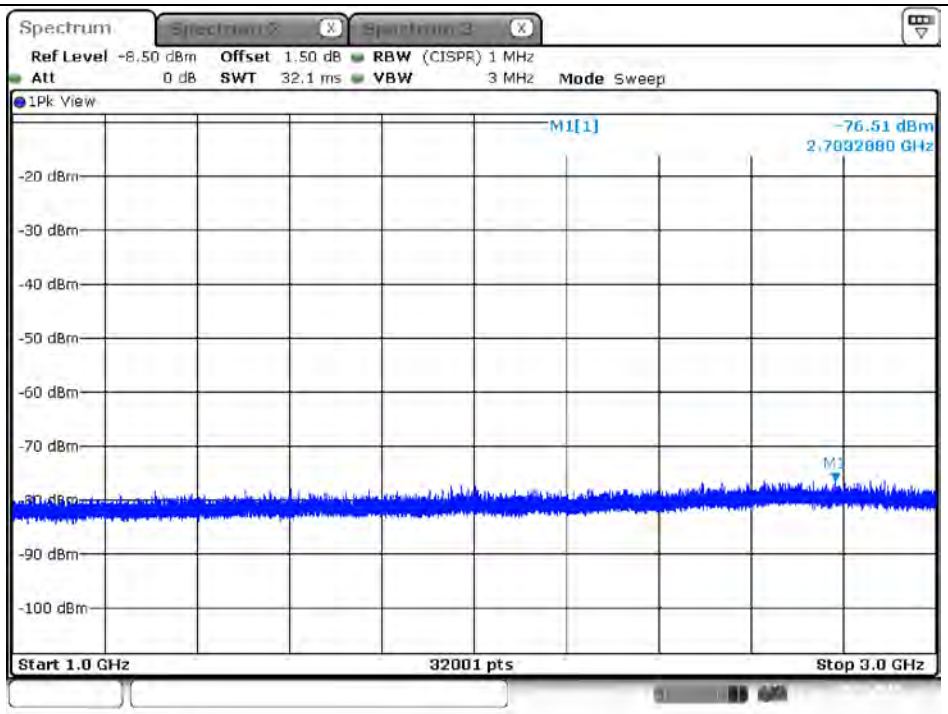
Plot on Configuration VHT20 / 5200 MHz / Peak / Port 1 / 1GHz~3GHz



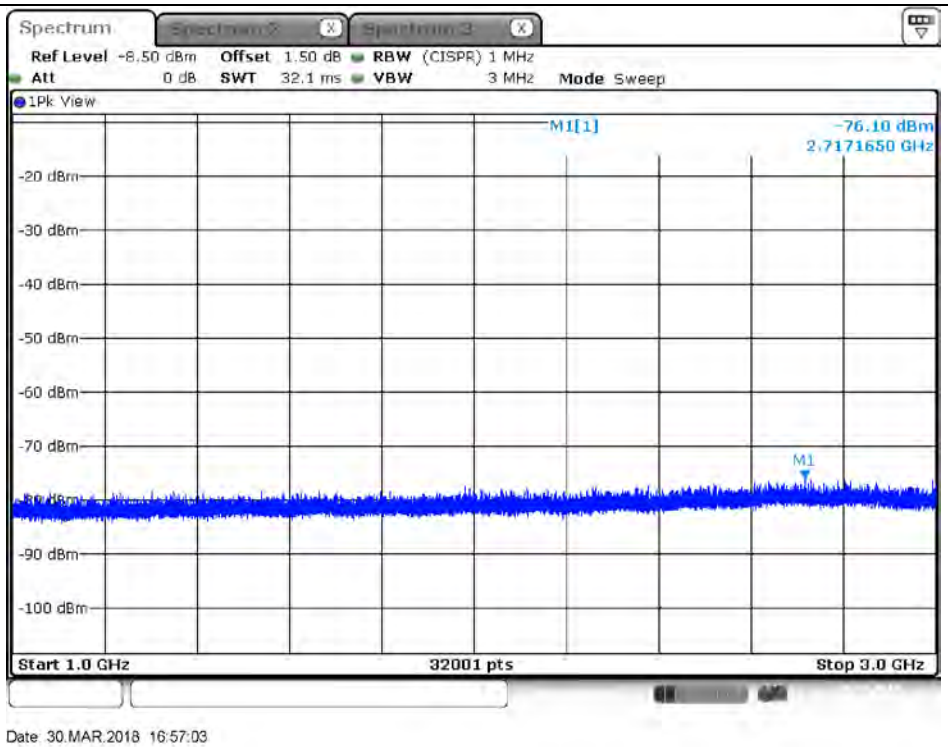
Plot on Configuration VHT20 / 5200 MHz / Peak / Port 2 / 1GHz~3GHz



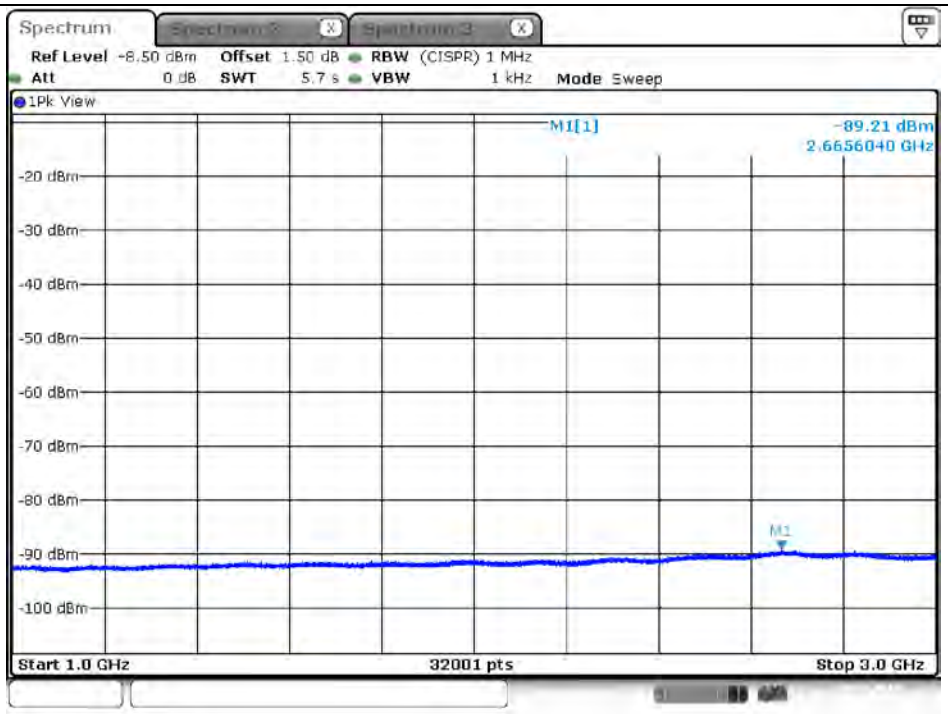
Plot on Configuration VHT20 / 5200 MHz / Peak / Port 3 / 1GHz~3GHz



Plot on Configuration VHT20 / 5200 MHz / Peak / Port 4 / 1GHz~3GHz



Plot on Configuration VHT20 / 5240 MHz / Average / Port 1 / 1GHz~3GHz



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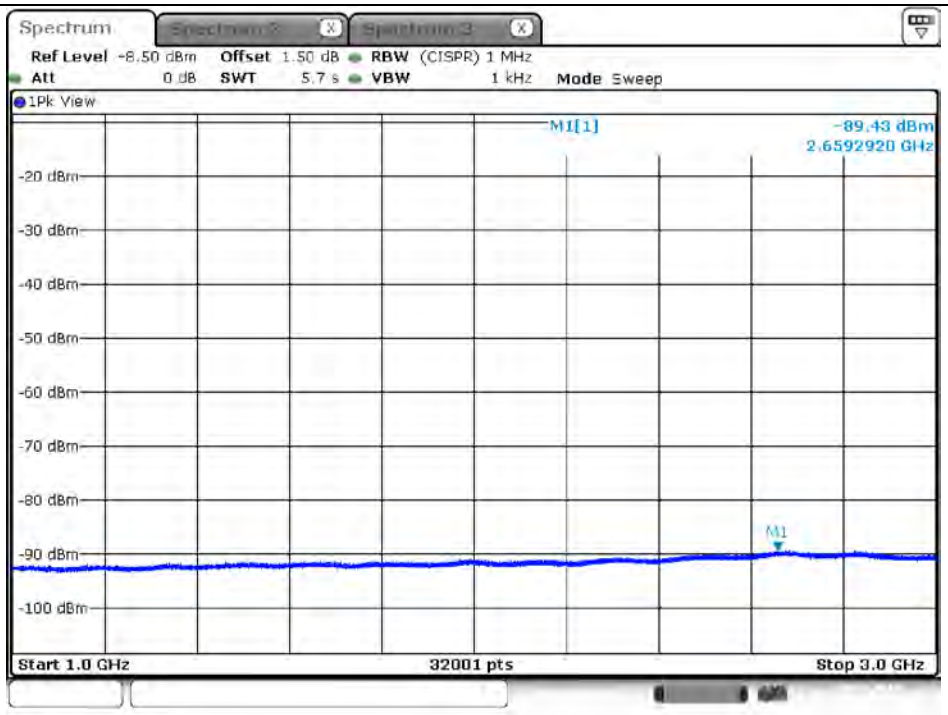
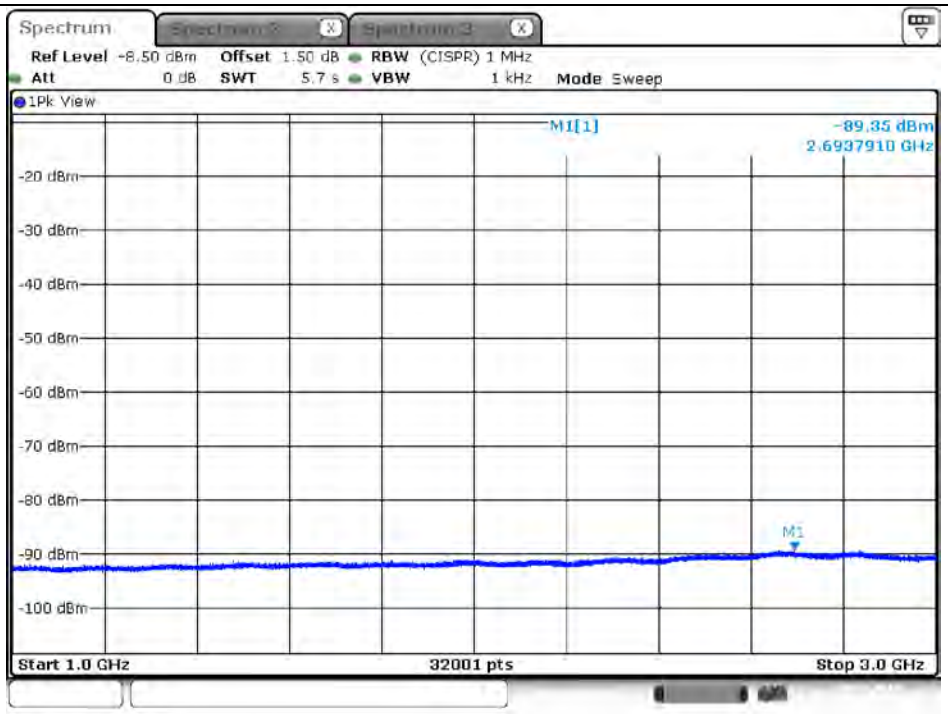
Plot on Configuration VHT20 / 5240 MHz / Average / Port 2 / 1GHz~3GHz

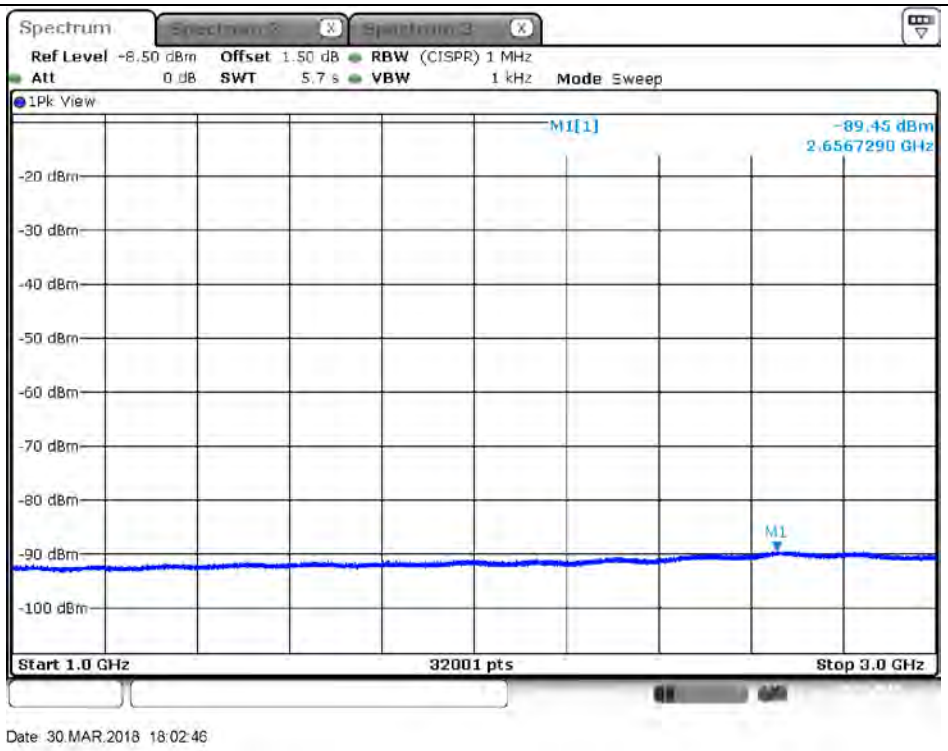


Date: 30.MAR.2018 17:34:03

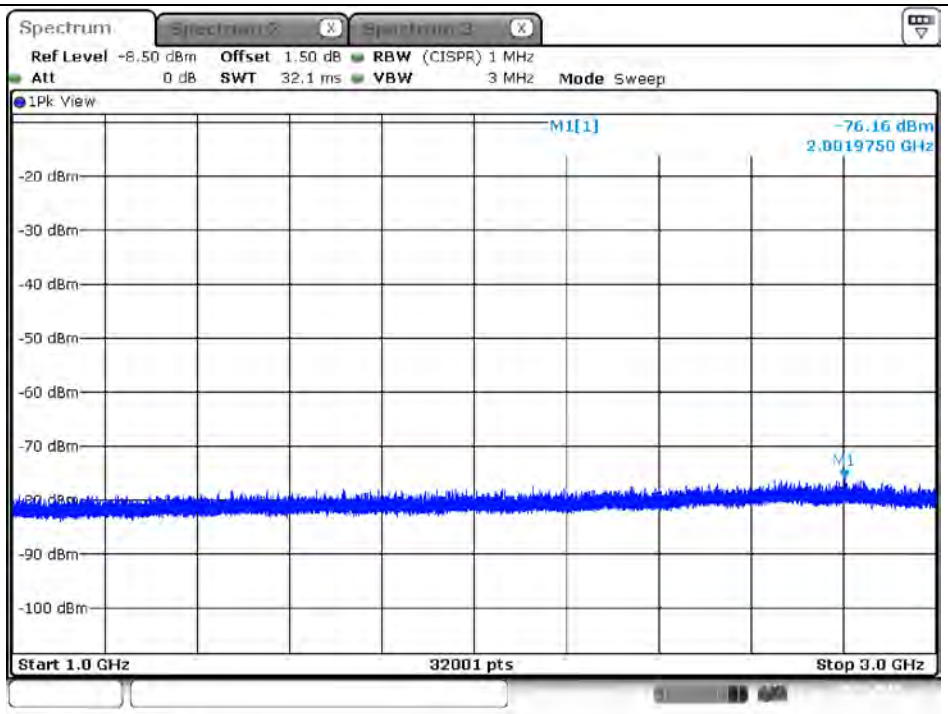
Plot on Configuration VHT20 / 5240 MHz / Average / Port 3 / 1GHz~3GHz



Plot on Configuration VHT20 / 5240 MHz / Average / Port 4 / 1GHz~3GHz

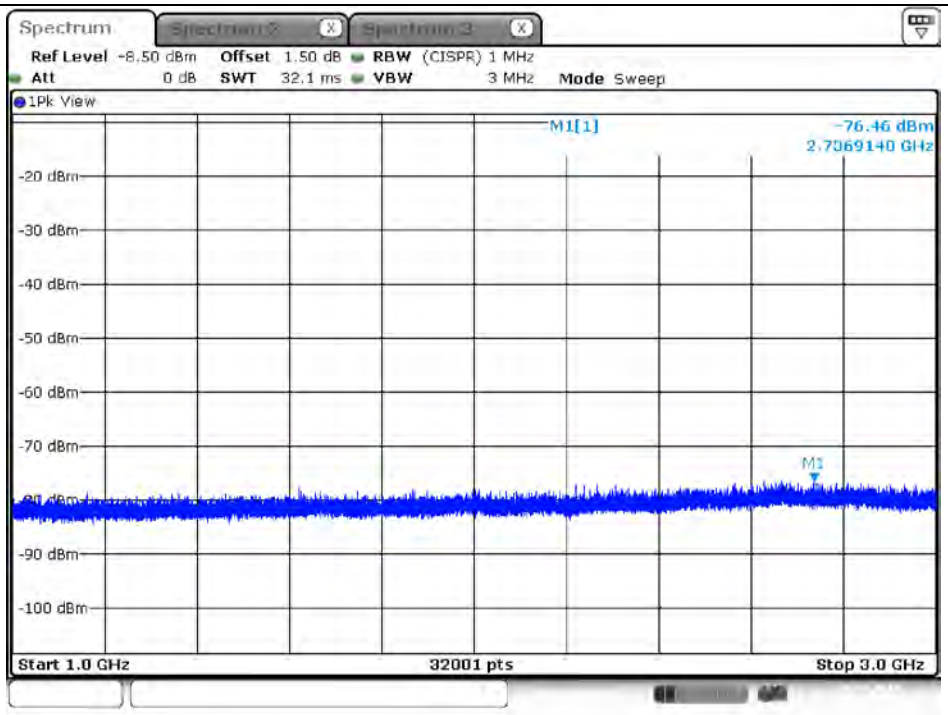


Plot on Configuration VHT20 / 5240 MHz / Peak / Port 1 / 1GHz~3GHz



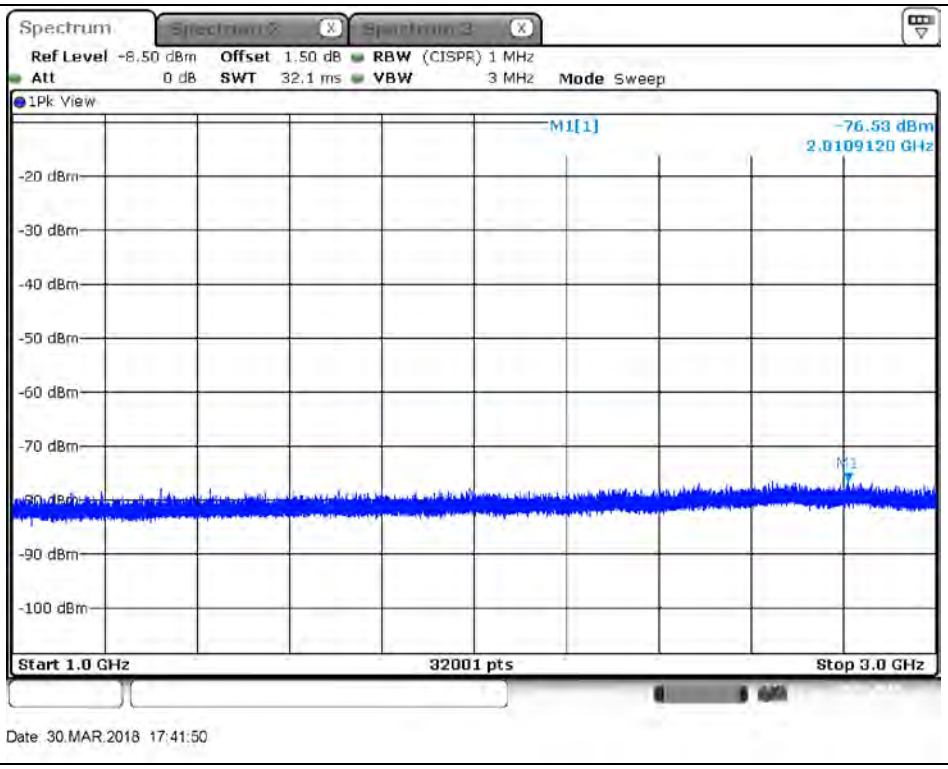
Date: 30.MAR.2018 17:09:56

Plot on Configuration VHT20 / 5240 MHz / Peak / Port 2 / 1GHz~3GHz

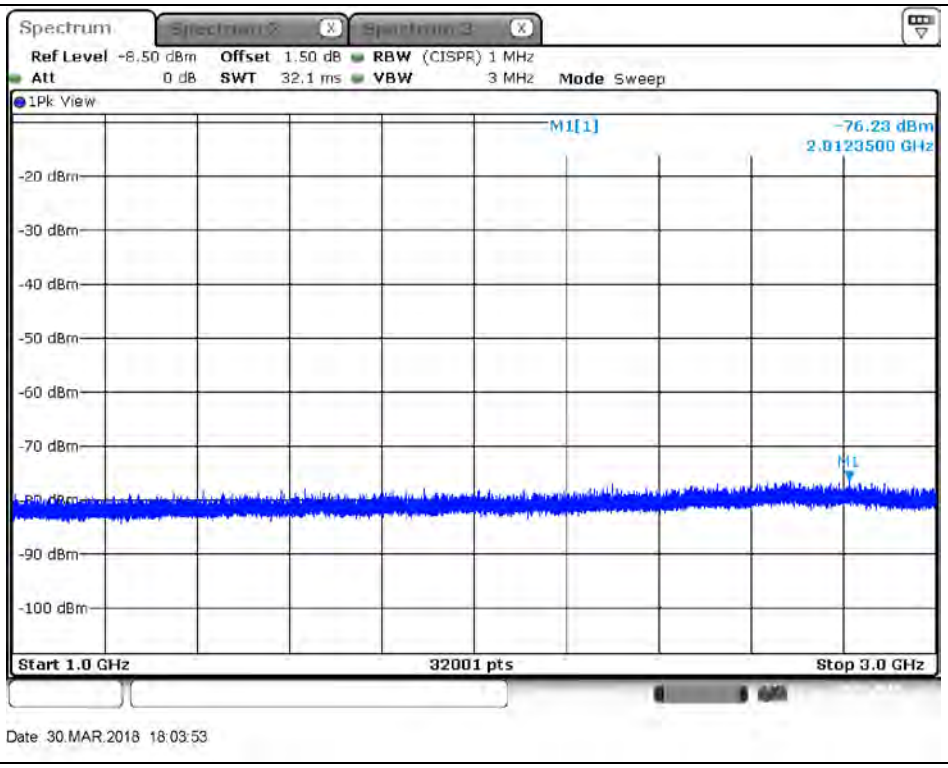


Date: 30.MAR.2018 17:35:00

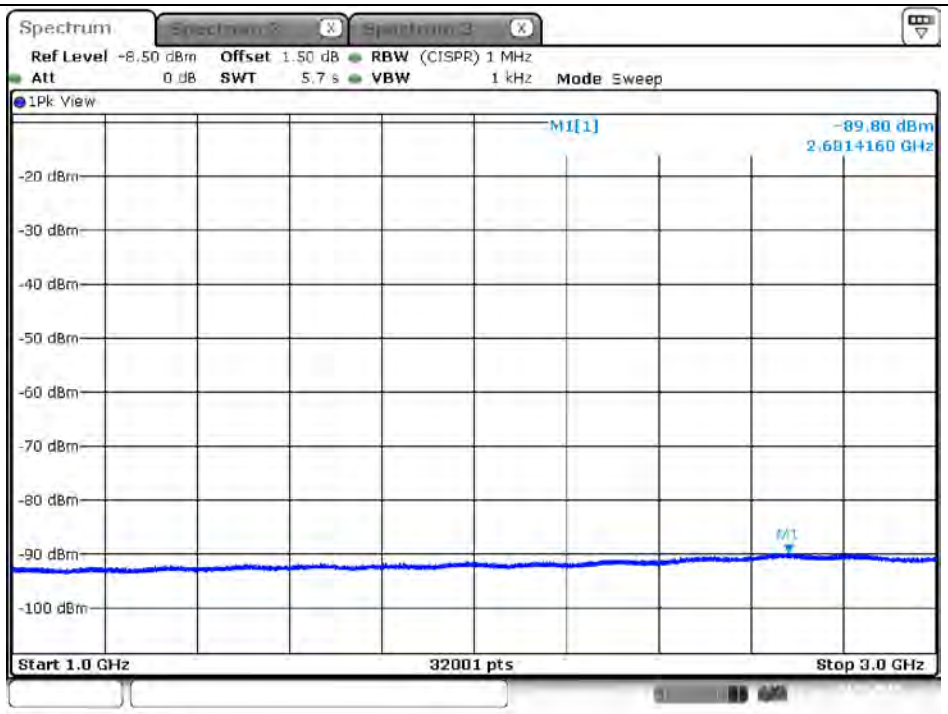
Plot on Configuration VHT20 / 5240 MHz / Peak / Port 3 / 1GHz~3GHz



Plot on Configuration VHT20 / 5240 MHz / Peak / Port 4 / 1GHz~3GHz

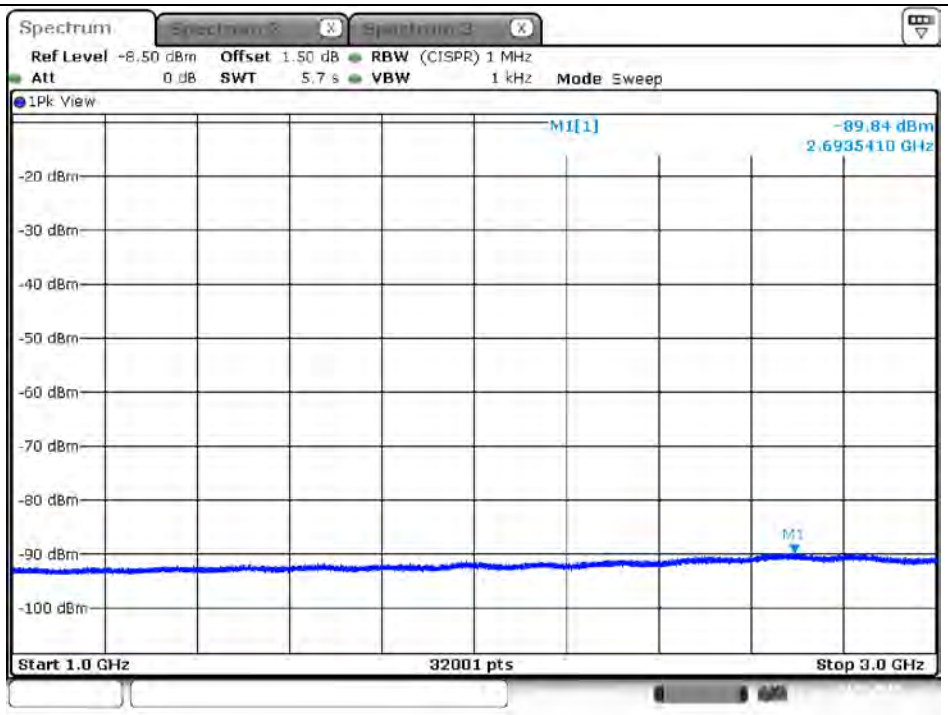


Plot on Configuration VHT40 / 5190 MHz / Average / Port 1 / 1GHz~3GHz



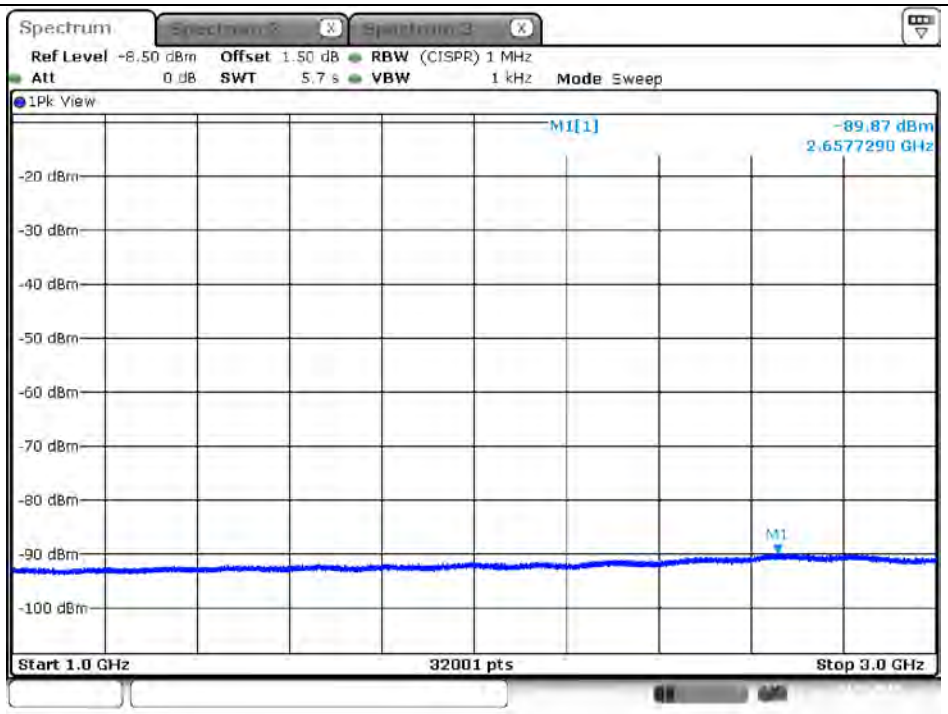
Date: 31.MAR.2018 15:16:06

Plot on Configuration VHT40 / 5190 MHz / Average / Port 2 / 1GHz~3GHz



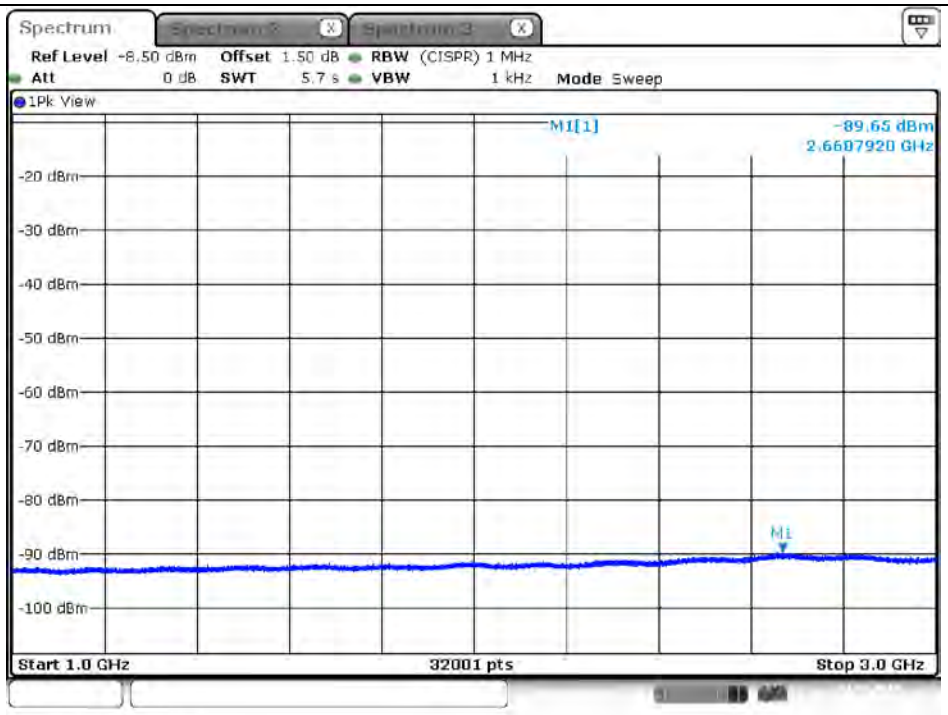
Date: 31.MAR.2018 15:31:56

Plot on Configuration VHT40 / 5190 MHz / Average / Port 3 / 1GHz~3GHz



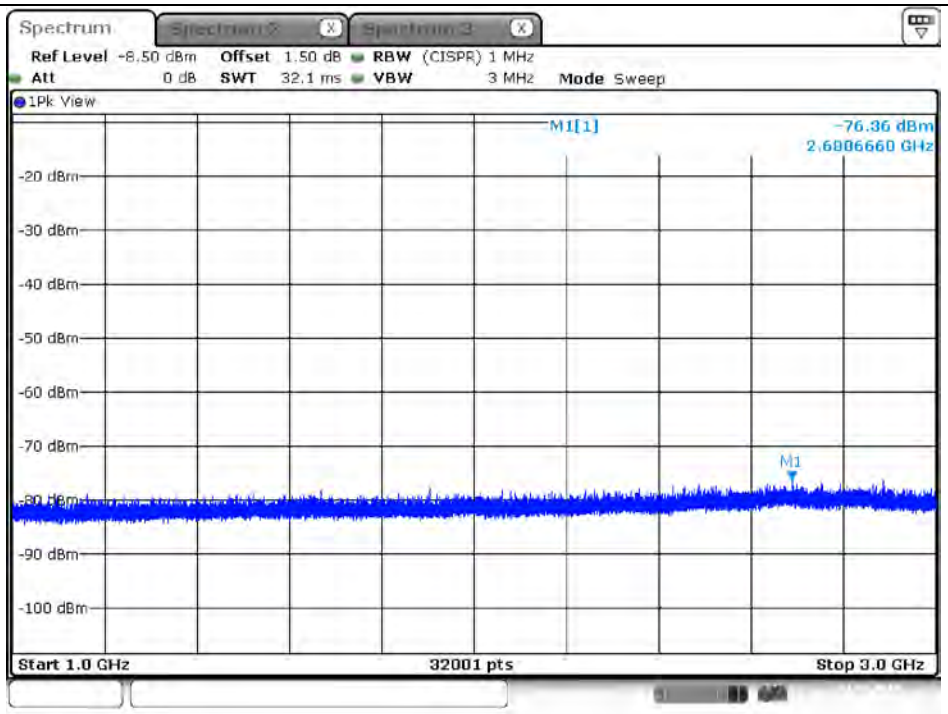
Date: 31.MAR.2018 15:34:56

Plot on Configuration VHT40 / 5190 MHz / Average / Port 4 / 1GHz~3GHz



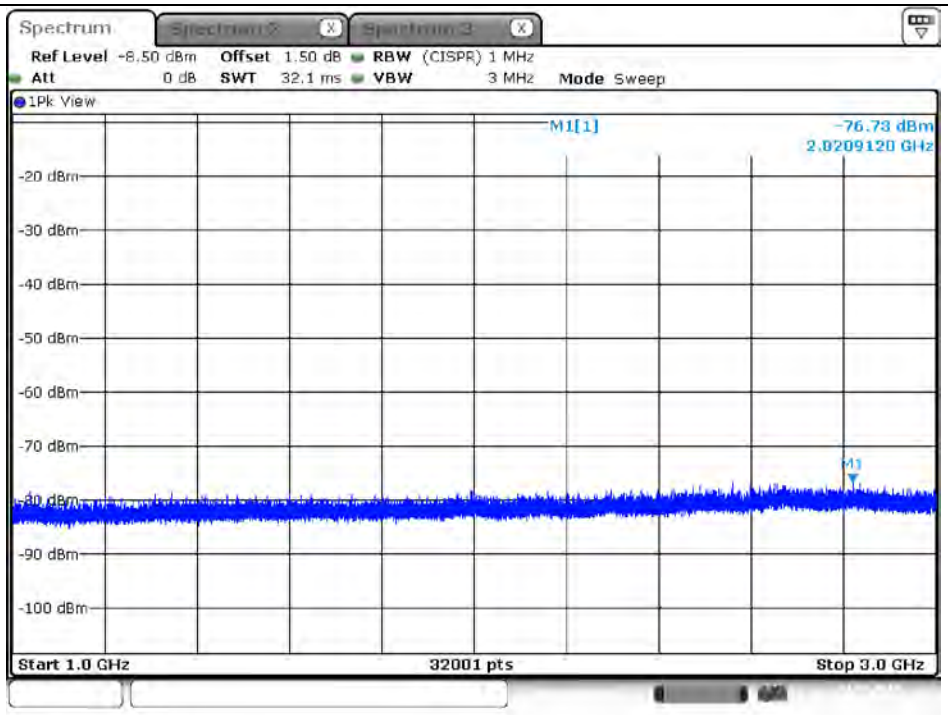
Date: 31.MAR.2018 15:51:55

Plot on Configuration VHT40 / 5190 MHz / Peak / Port 1 / 1GHz~3GHz



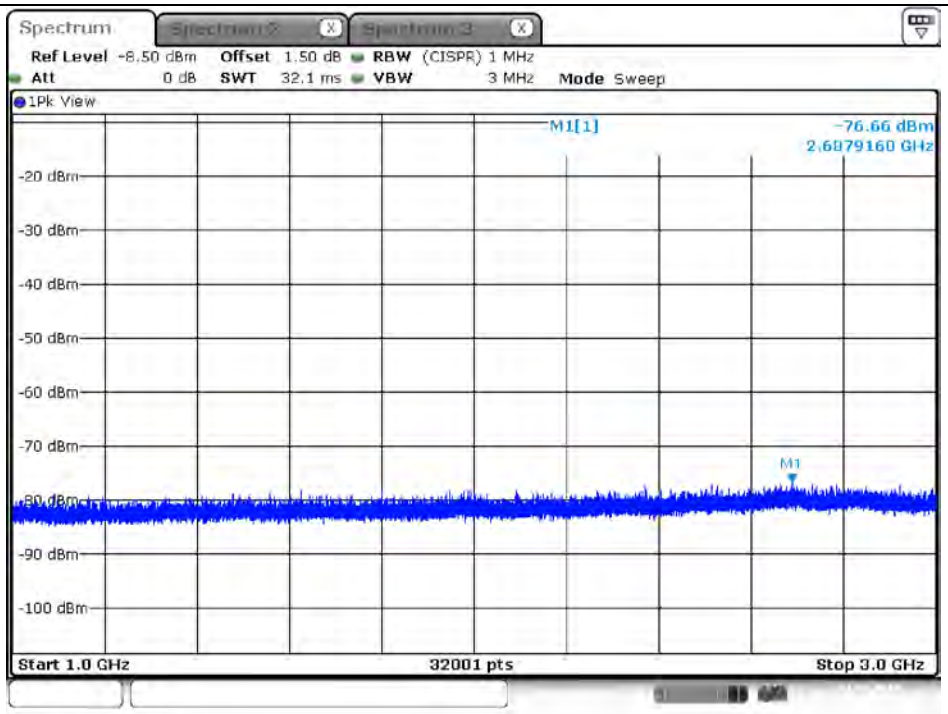
Date: 31.MAR.2018 15:16:59

Plot on Configuration VHT40 / 5190 MHz / Peak / Port 2 / 1GHz~3GHz



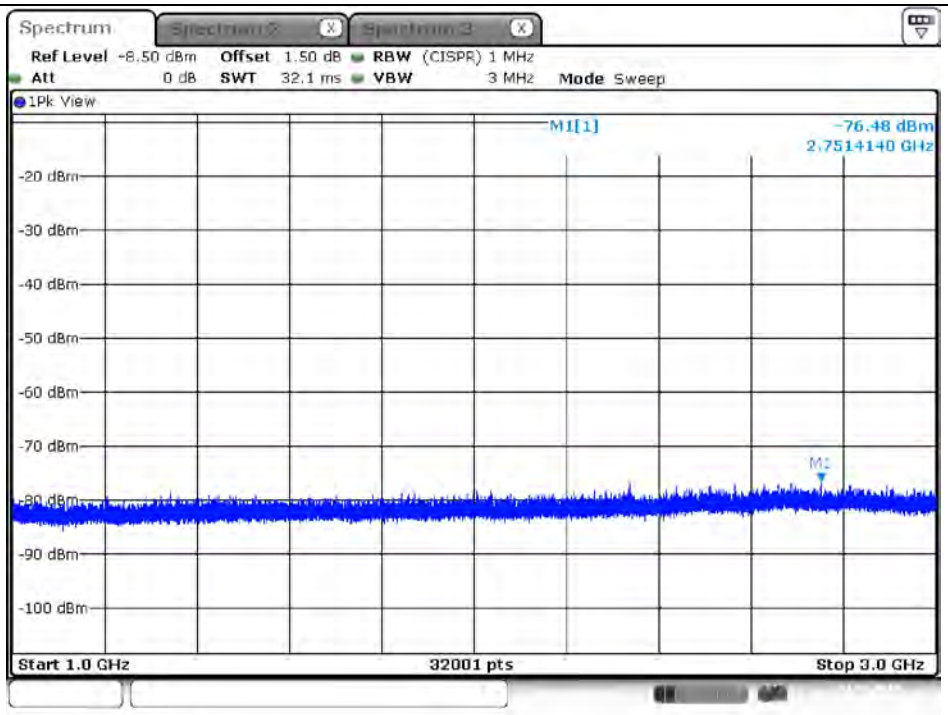
Date: 31.MAR.2018 15:32:53

Plot on Configuration VHT40 / 5190 MHz / Peak / Port 3 / 1GHz~3GHz



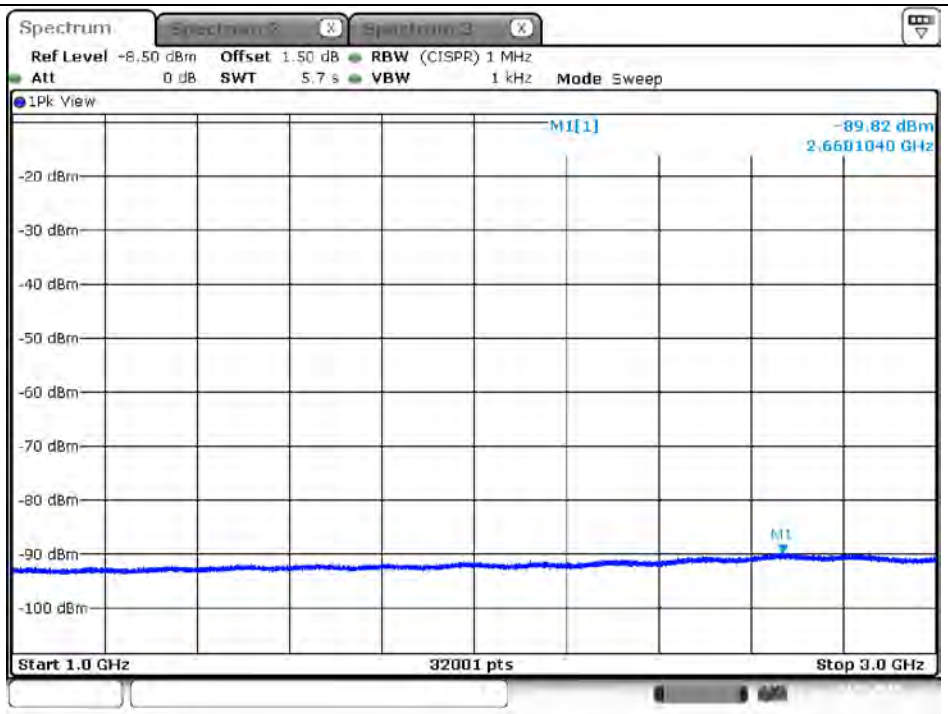
Date: 31.MAR.2018 15:35:37

Plot on Configuration VHT40 / 5190 MHz / Peak / Port 4 / 1GHz~3GHz

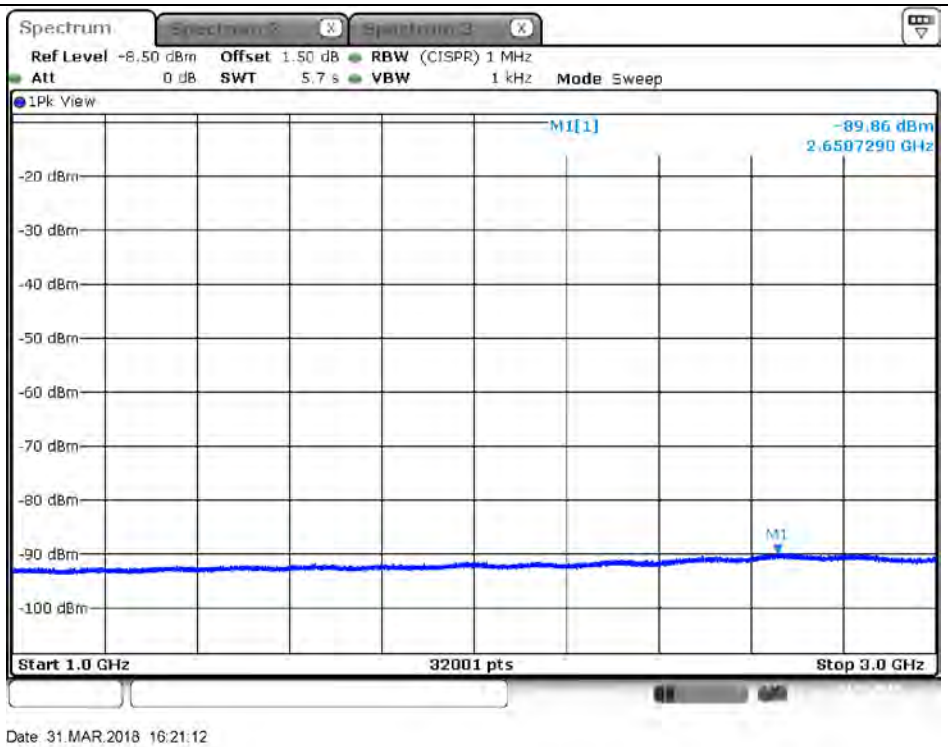


Date: 31.MAR.2018 15:52:59

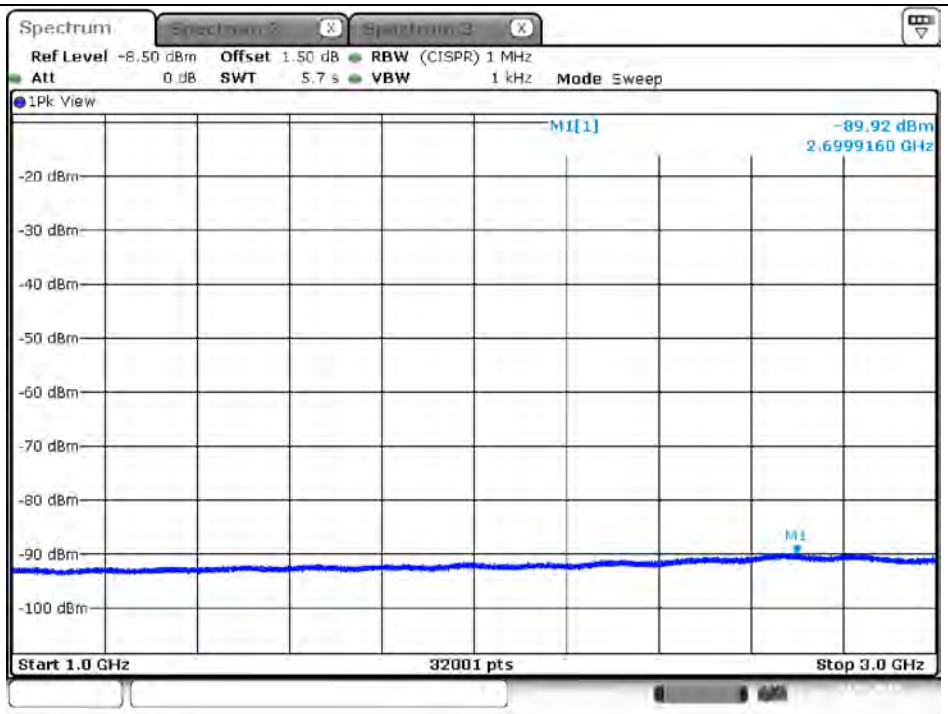
Plot on Configuration VHT40 / 5230 MHz / Average / Port 1 / 1GHz~3GHz



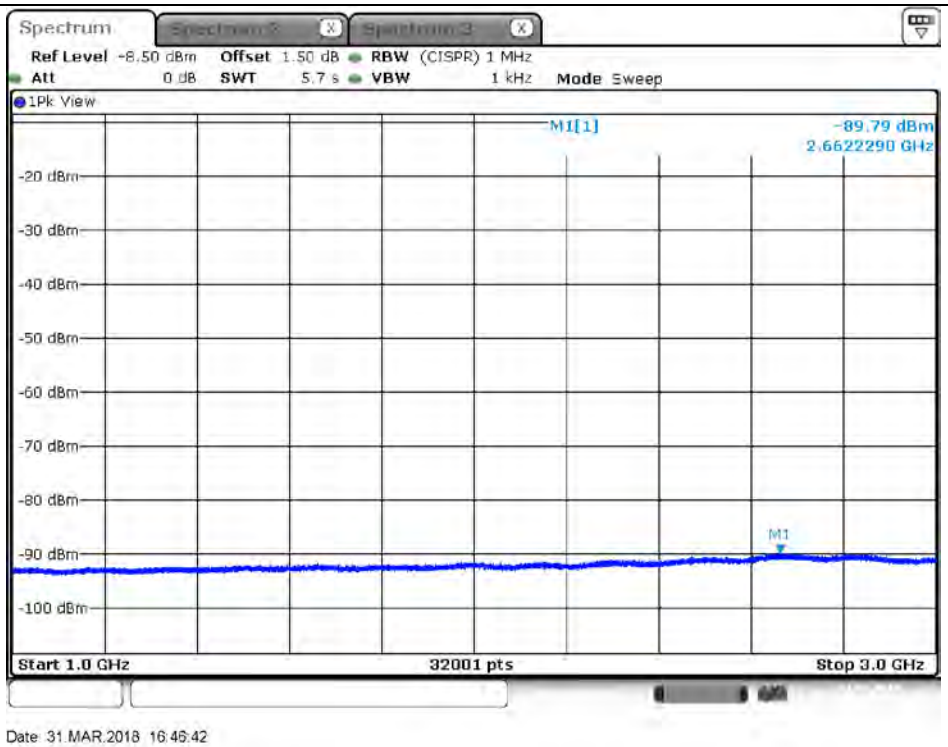
Plot on Configuration VHT40 / 5230 MHz / Average / Port 2 / 1GHz~3GHz



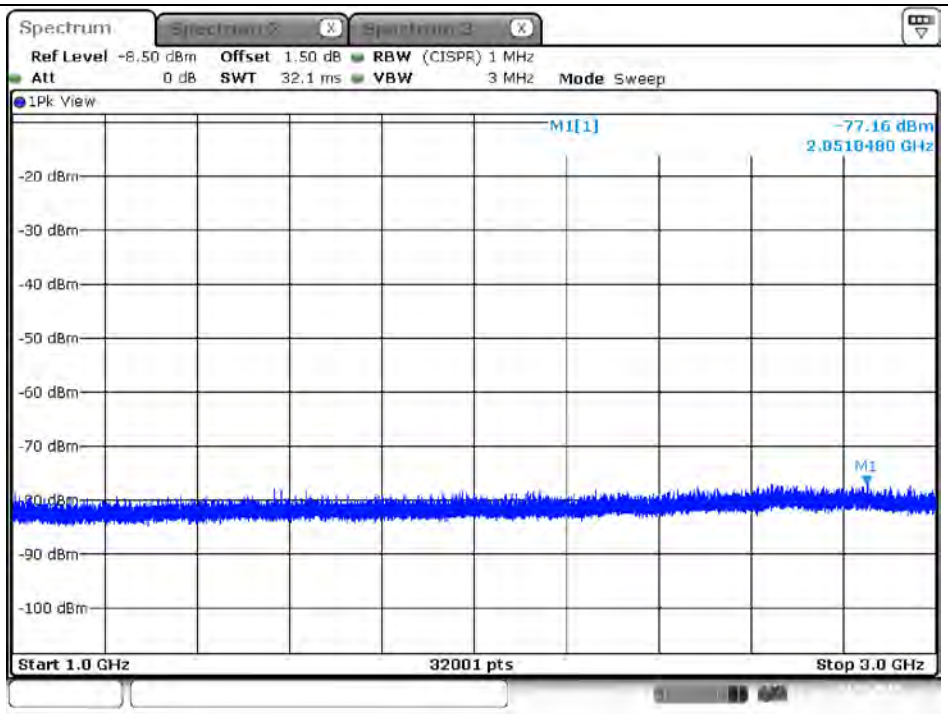
Plot on Configuration VHT40 / 5230 MHz / Average / Port 3 / 1GHz~3GHz



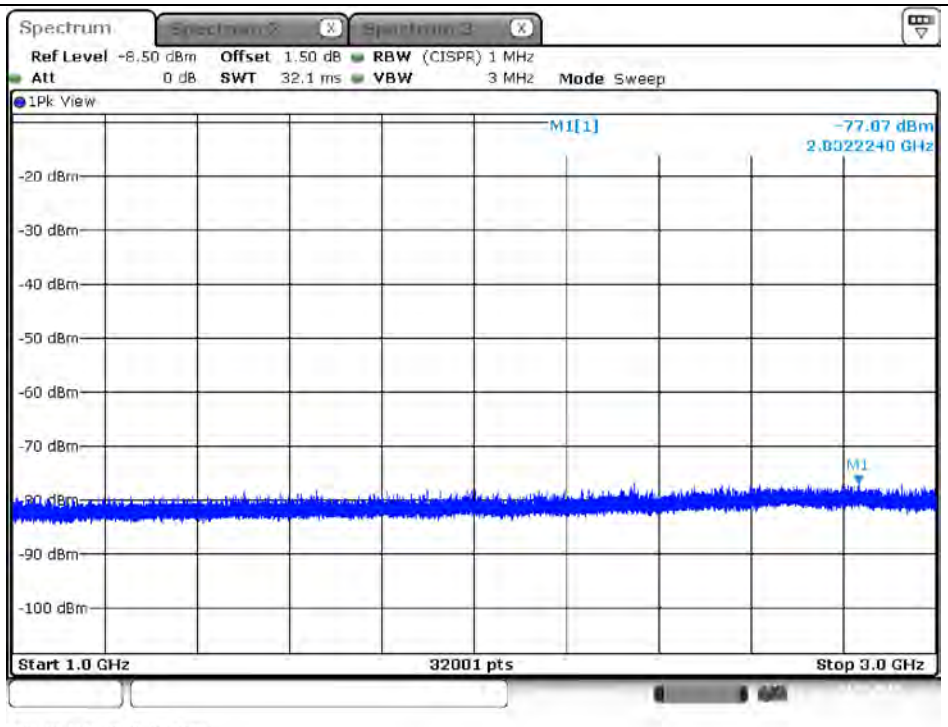
Plot on Configuration VHT40 / 5230 MHz / Average / Port 4 / 1GHz~3GHz



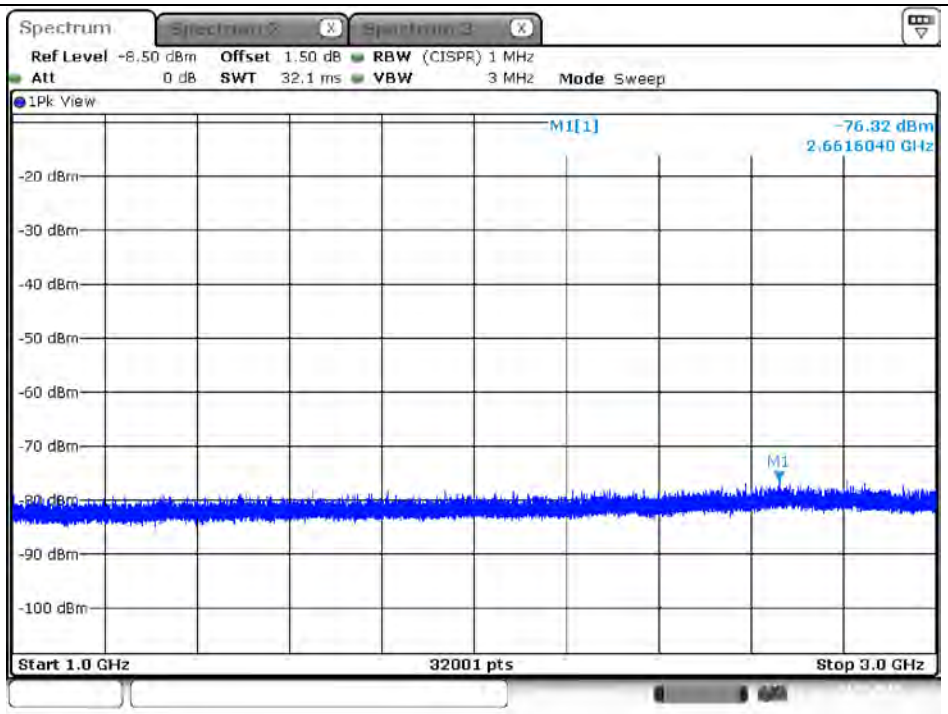
Plot on Configuration VHT40 / 5230 MHz / Peak / Port 1 / 1GHz~3GHz



Plot on Configuration VHT40 / 5230 MHz / Peak / Port 2 / 1GHz~3GHz

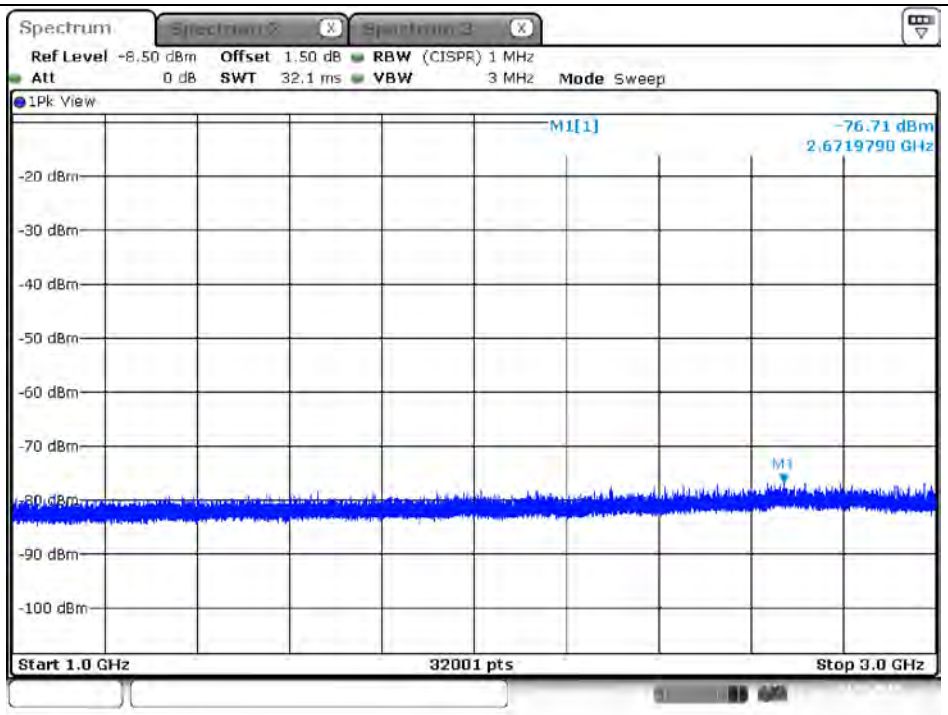


Plot on Configuration VHT40 / 5230 MHz / Peak / Port 3 / 1GHz~3GHz



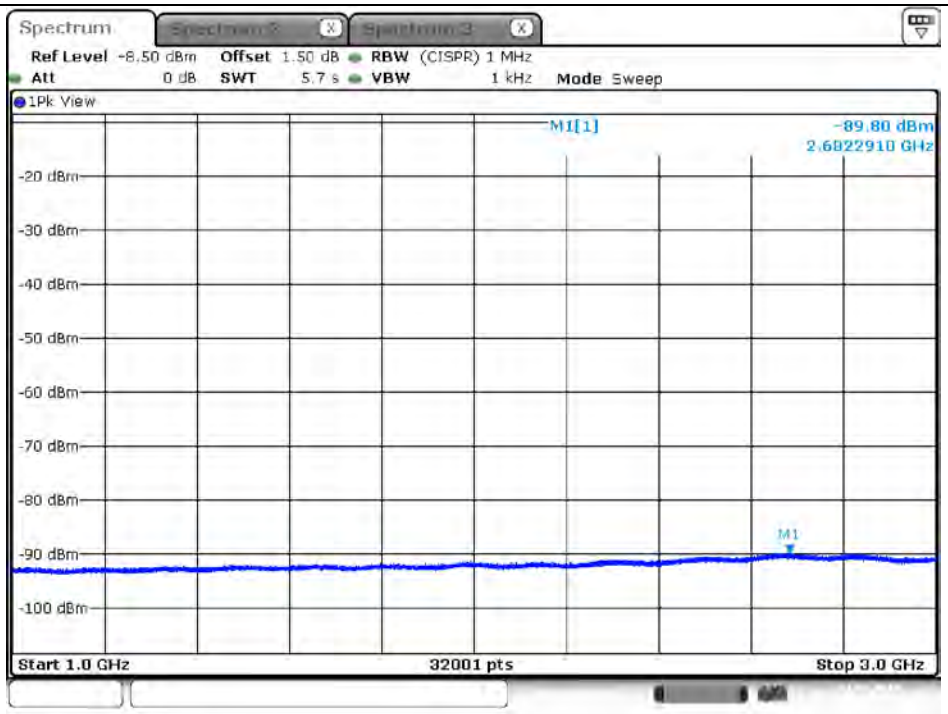
Date: 31.MAR.2018 16:24:54

Plot on Configuration VHT40 / 5230 MHz / Peak / Port 4 / 1GHz~3GHz



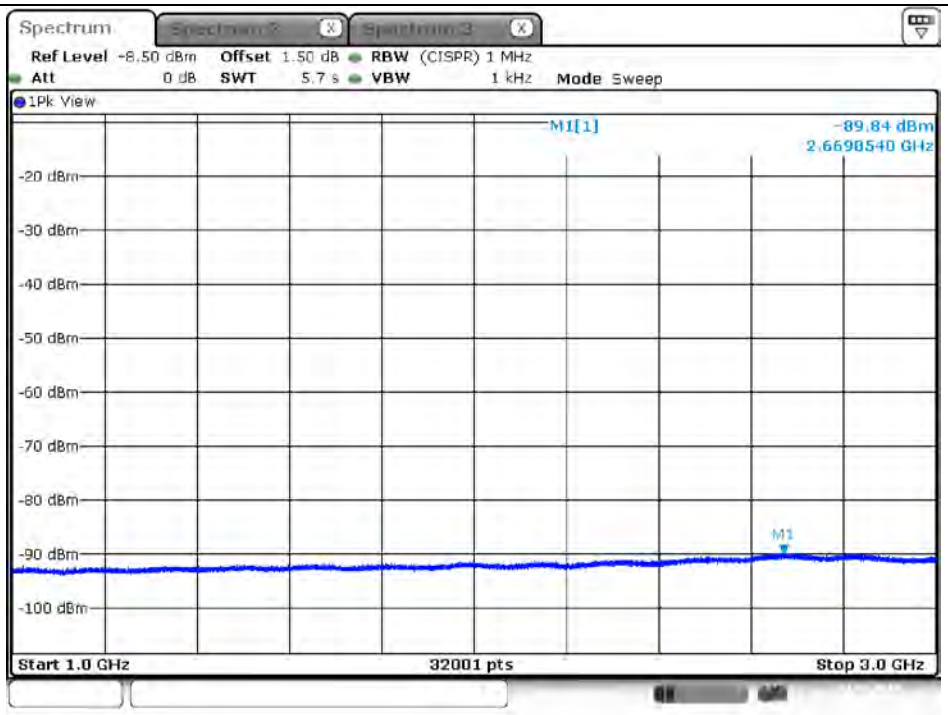
Date: 31.MAR.2018 16:47:35

Plot on Configuration VHT80 / 5210 MHz / Average / Port 1 / 1GHz~3GHz



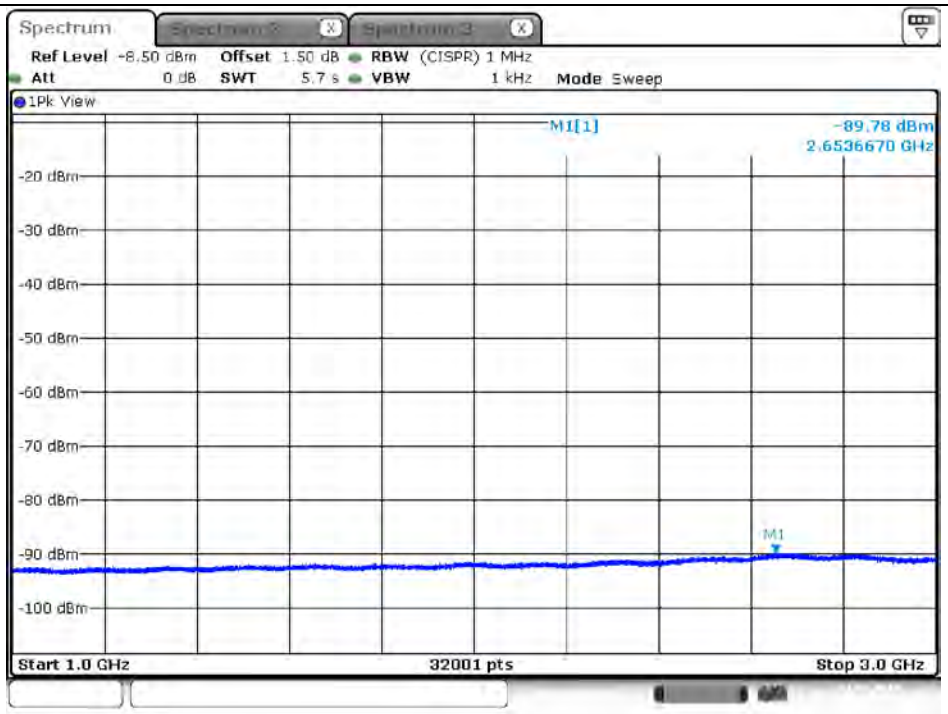
Date: 31.MAR.2018 16:56:26

Plot on Configuration VHT80 / 5210 MHz / Average / Port 2 / 1GHz~3GHz

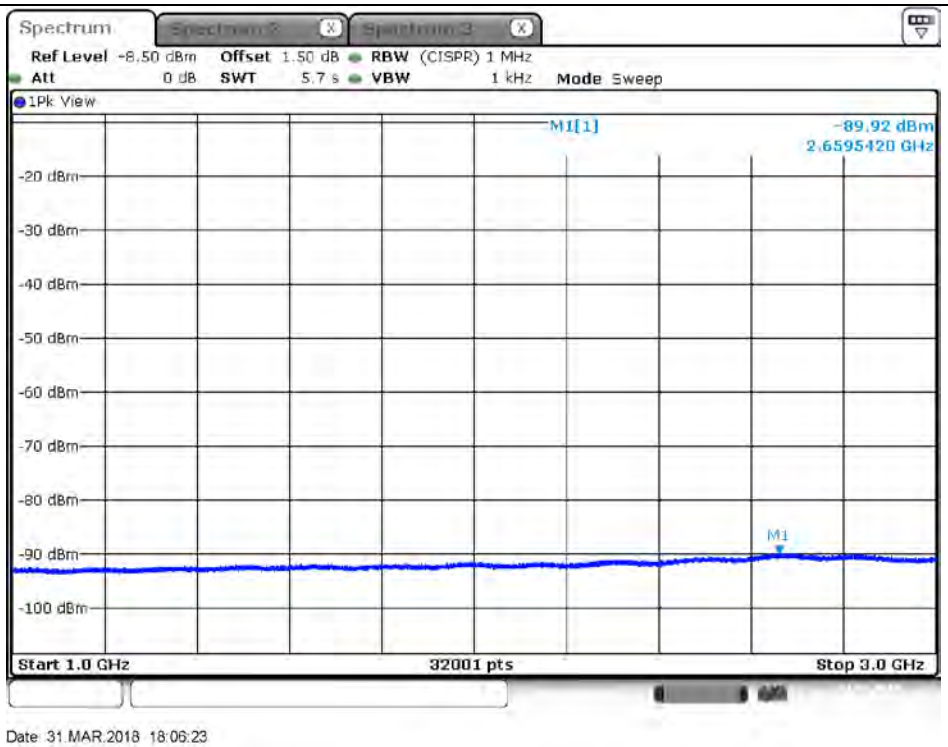


Date: 31.MAR.2018 17:33:38

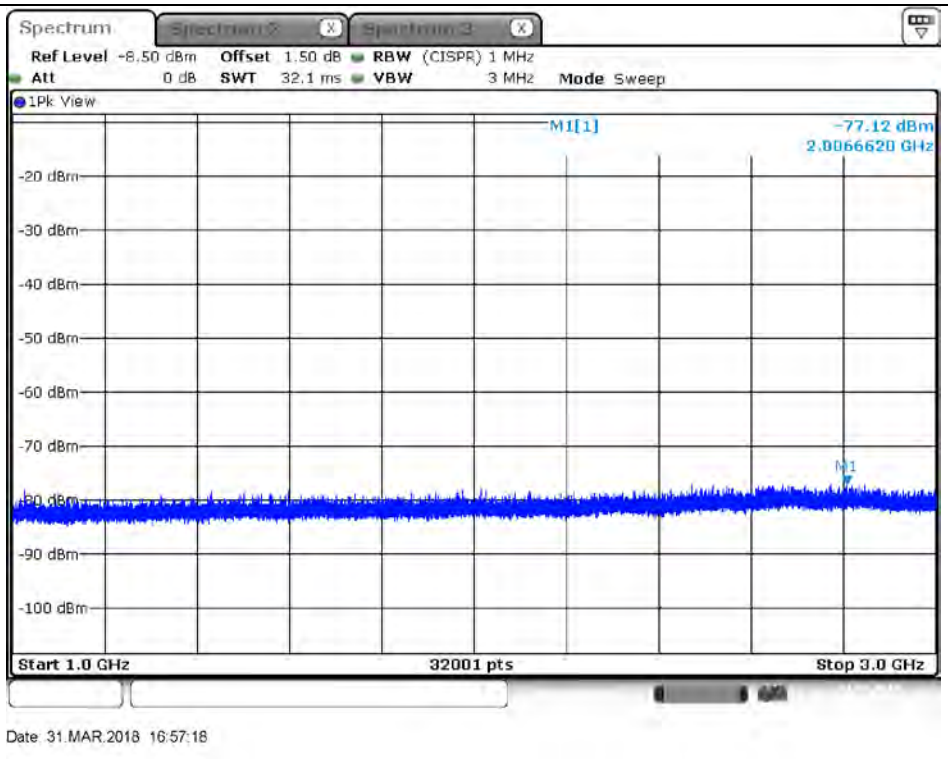
Plot on Configuration VHT80 / 5210 MHz / Average / Port 3 / 1GHz~3GHz



Plot on Configuration VHT80 / 5210 MHz / Average / Port 4 / 1GHz~3GHz

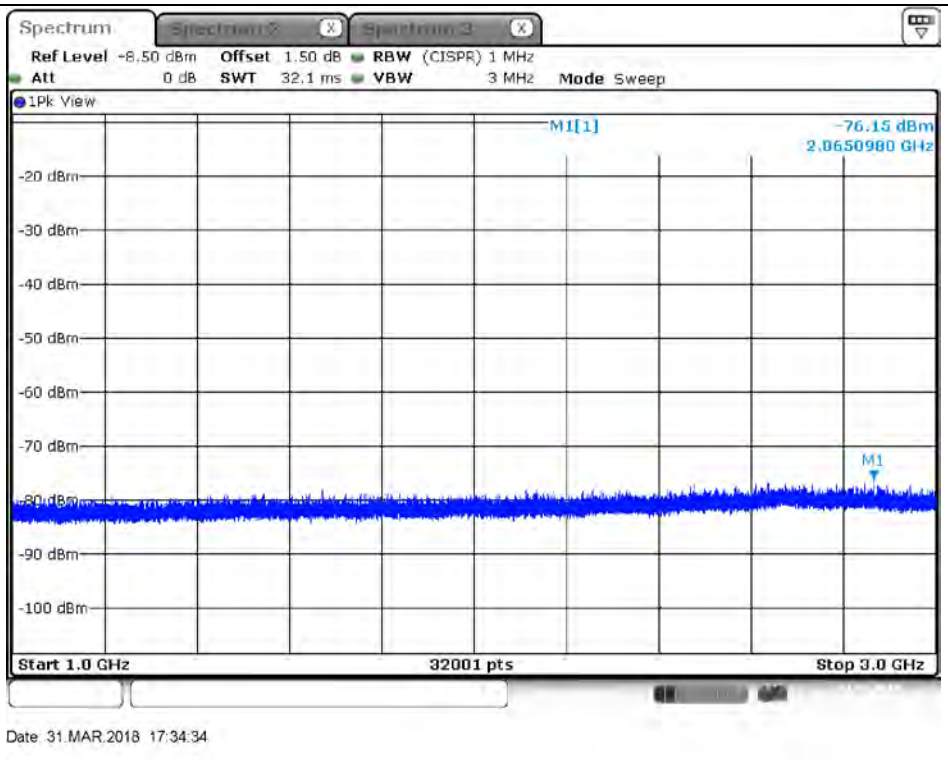


Plot on Configuration VHT80 / 5210 MHz / Peak / Port 1 / 1GHz~3GHz



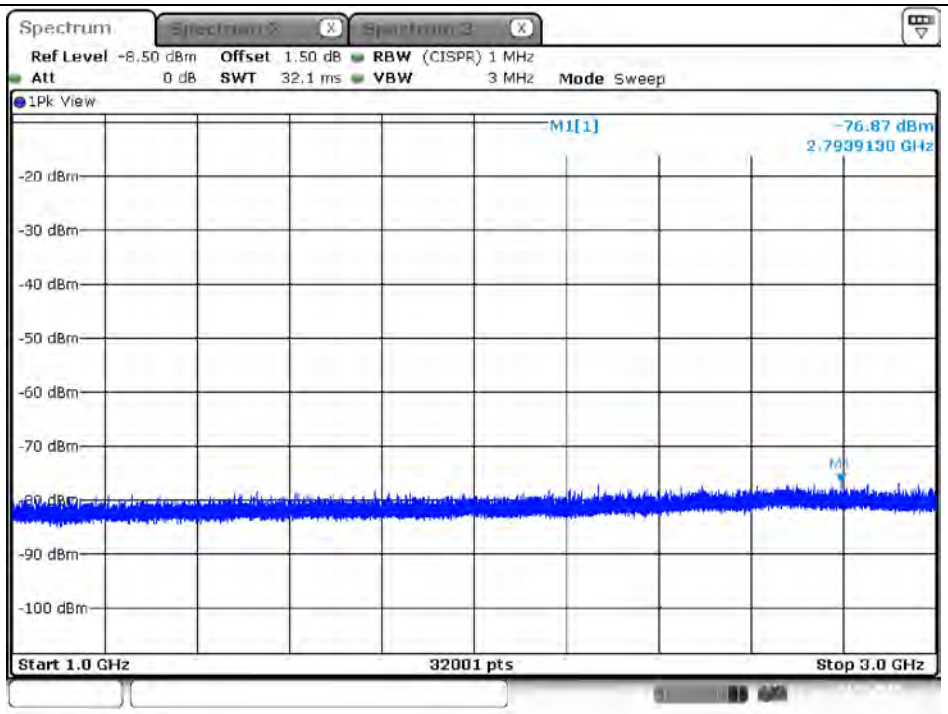
Date: 31.MAR.2018 16:57:18

Plot on Configuration VHT80 / 5210 MHz / Peak / Port 2 / 1GHz~3GHz

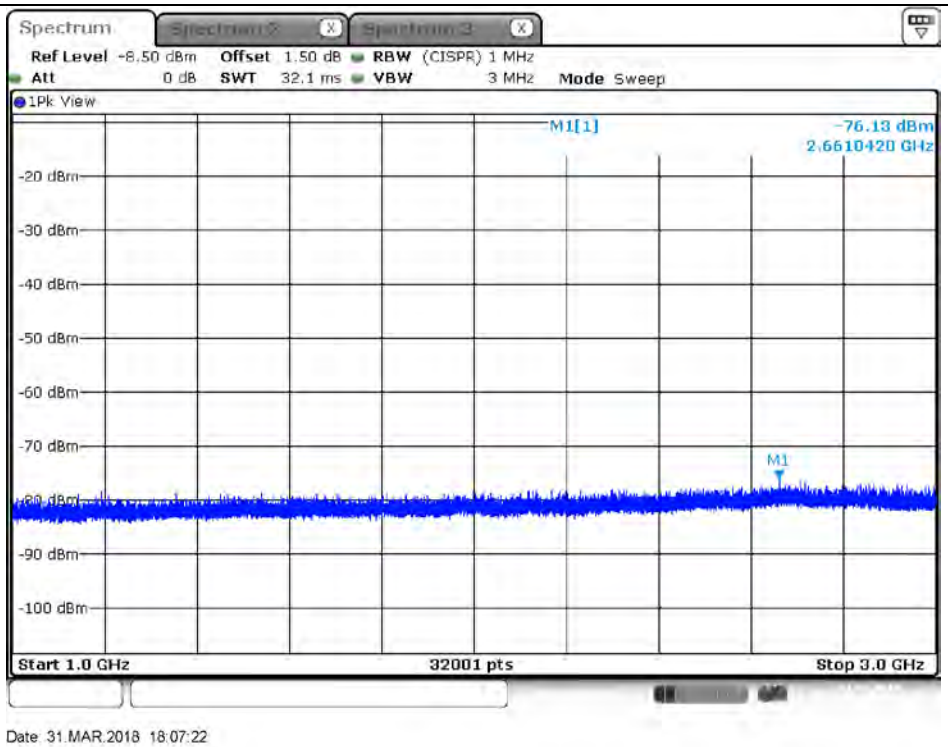


Date: 31.MAR.2018 17:34:34

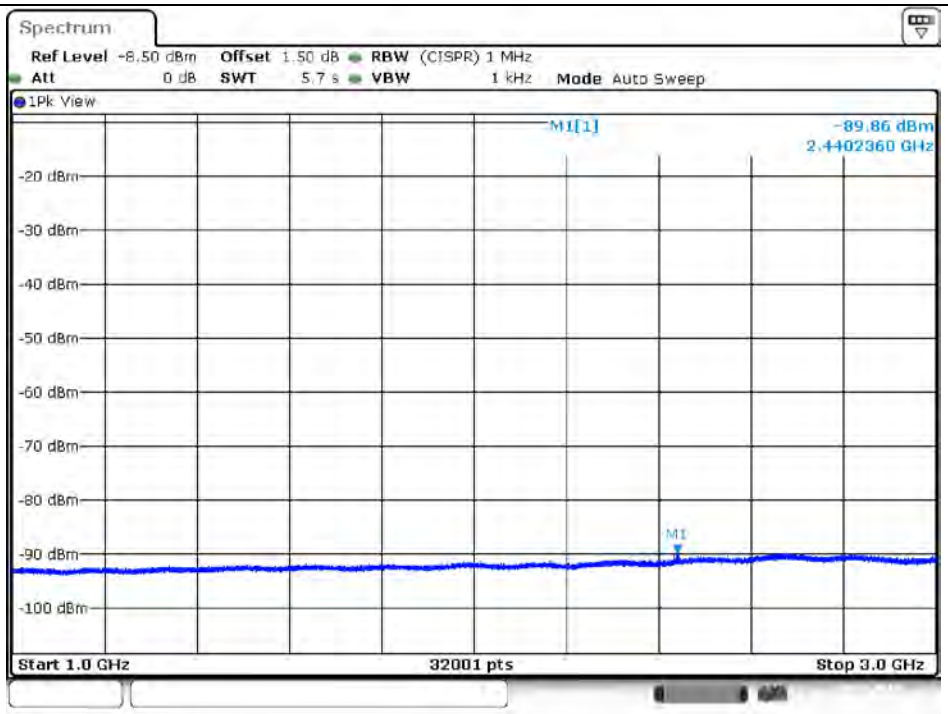
Plot on Configuration VHT80 / 5210 MHz / Peak / Port 3 / 1GHz~3GHz



Plot on Configuration VHT80 / 5210 MHz / Peak / Port 4 / 1GHz~3GHz

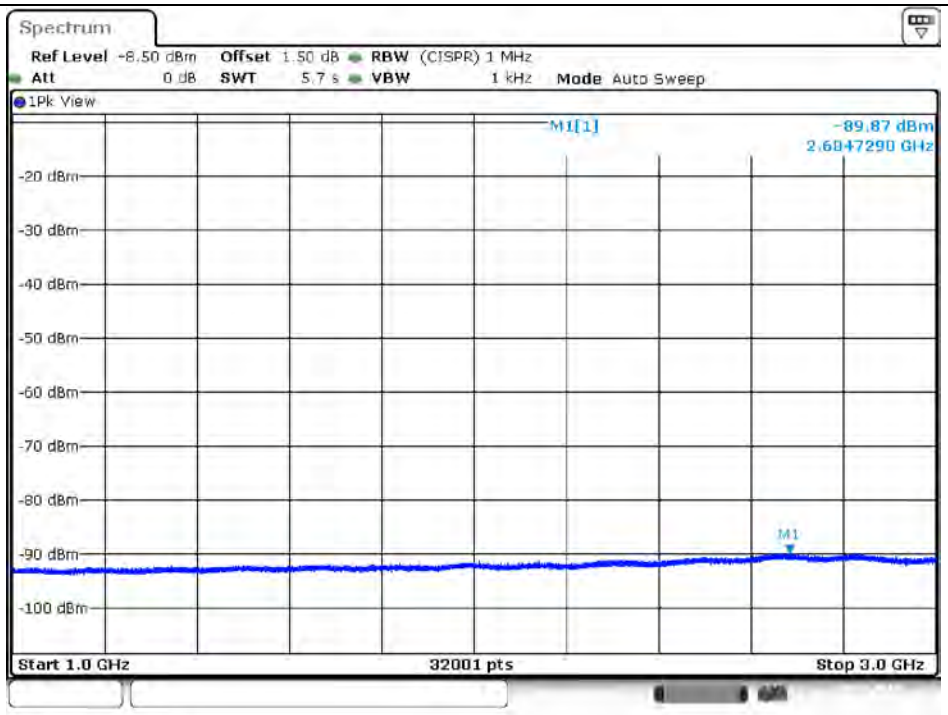


Plot on Configuration VHT20 / 5745 MHz / Average / Port 1 / 1GHz~3GHz



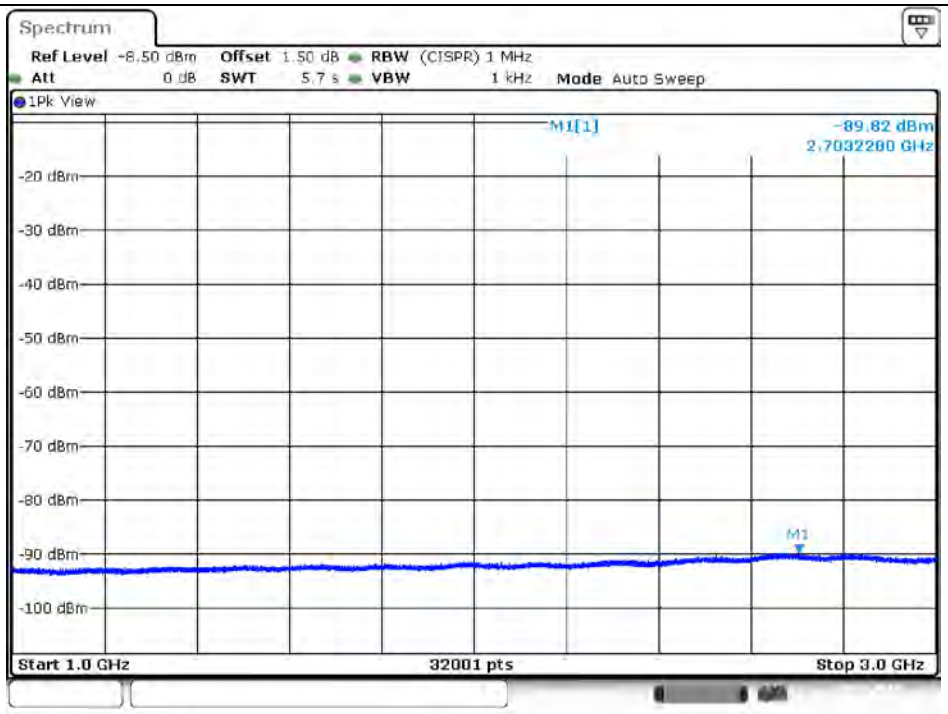
Date: 20.MAR.2018 18:41:50

Plot on Configuration VHT20 / 5745 MHz / Average / Port 2 / 1GHz~3GHz



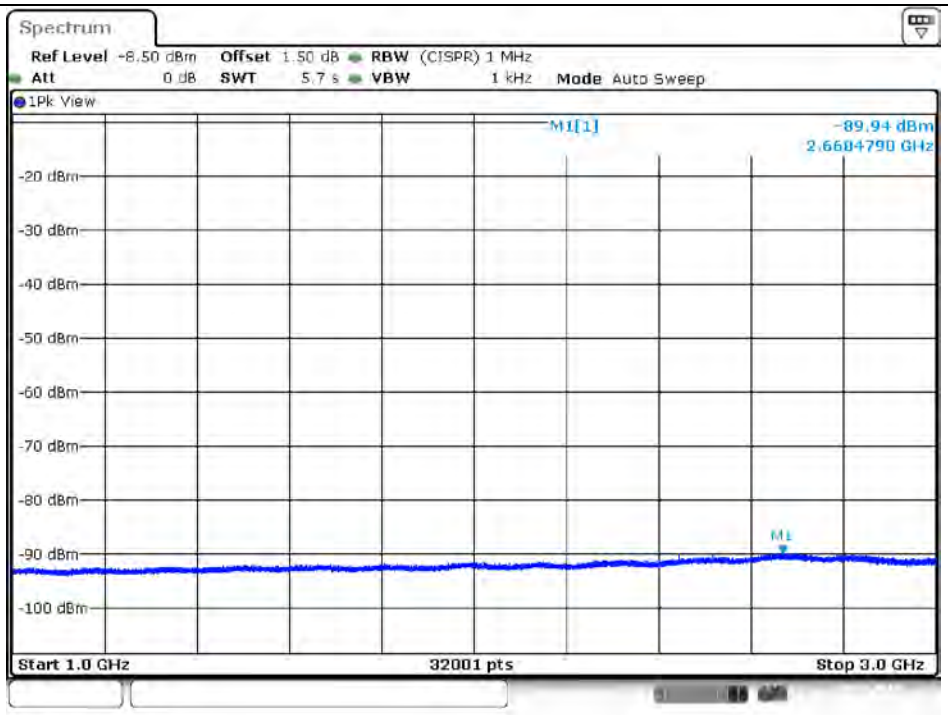
Date: 20.MAR.2018 18:43:09

Plot on Configuration VHT20 / 5745 MHz / Average / Port 3 / 1GHz~3GHz



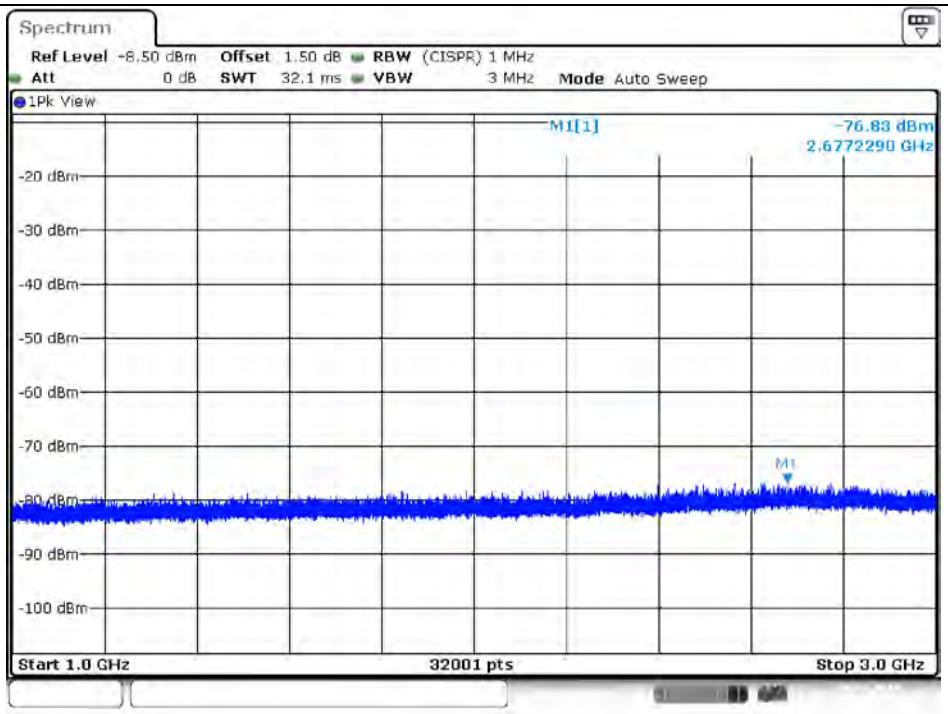
Date: 20.MAR.2018 18:43:49

Plot on Configuration VHT20 / 5745 MHz / Average / Port 4 / 1GHz~3GHz



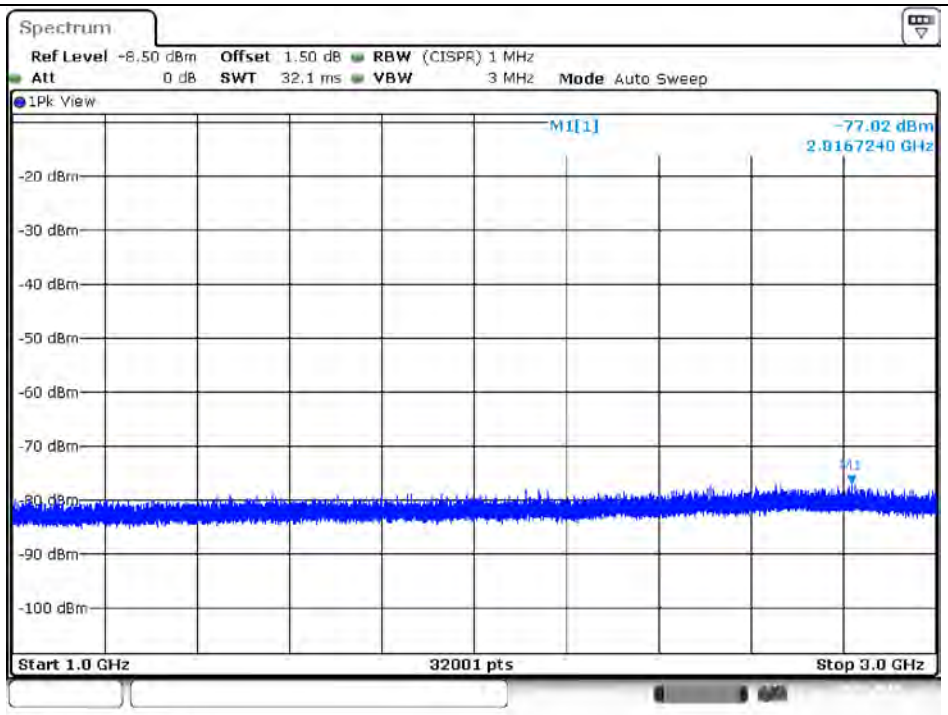
Date: 20.MAR.2018 18:45:01

Plot on Configuration VHT20 / 5745 MHz / Peak / Port 1 / 1GHz~3GHz



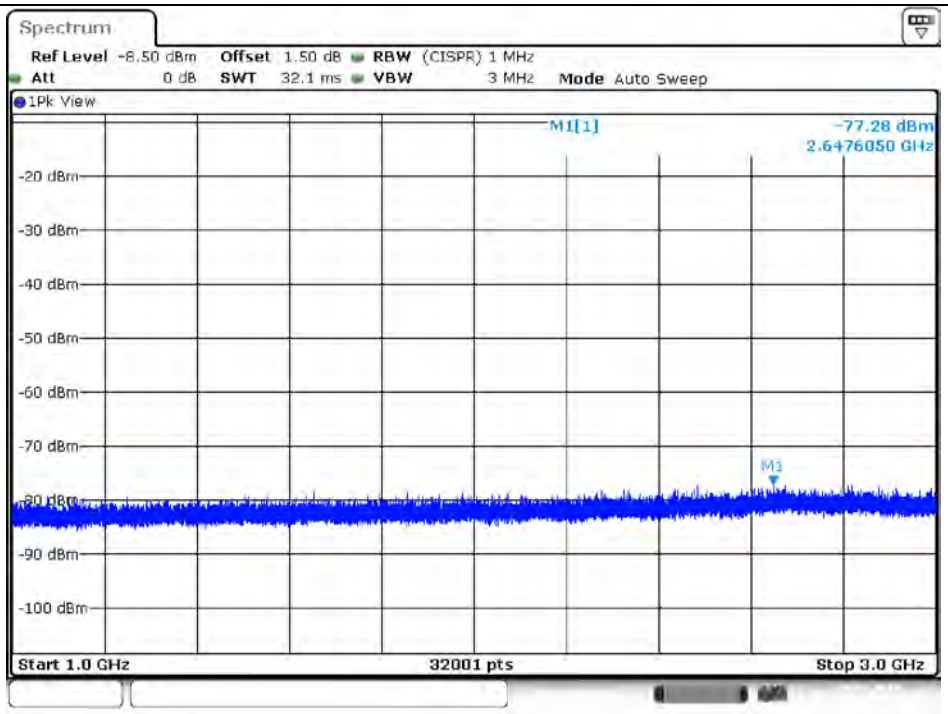
Date: 20.MAR.2018 18:42:13

Plot on Configuration VHT20 / 5745 MHz / Peak / Port 2 / 1GHz~3GHz



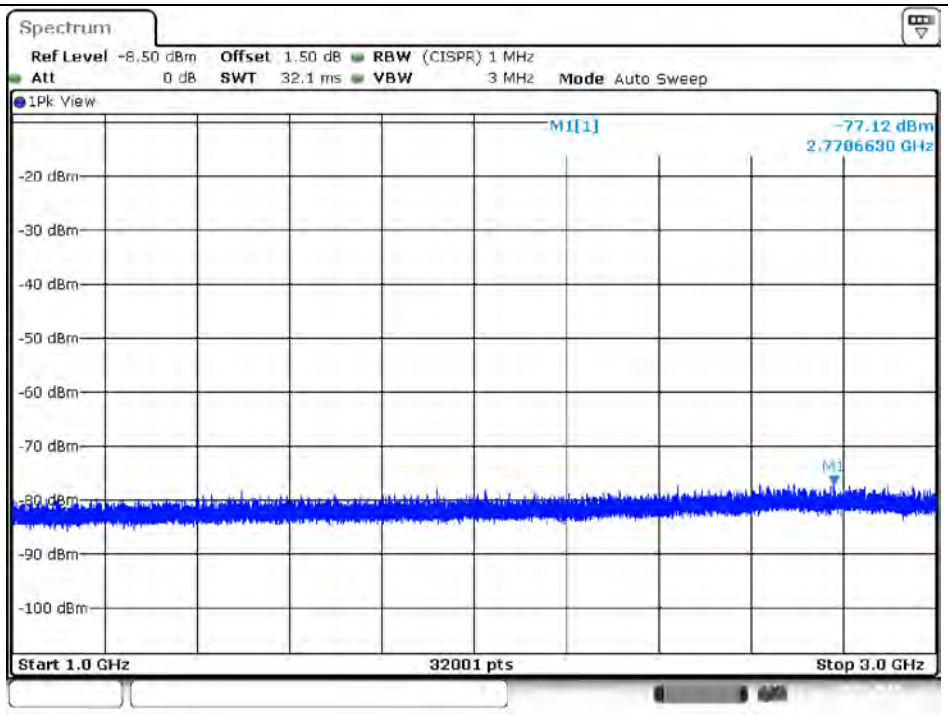
Date: 20.MAR.2018 18:42:44

Plot on Configuration VHT20 / 5745 MHz / Peak / Port 3 / 1GHz~3GHz



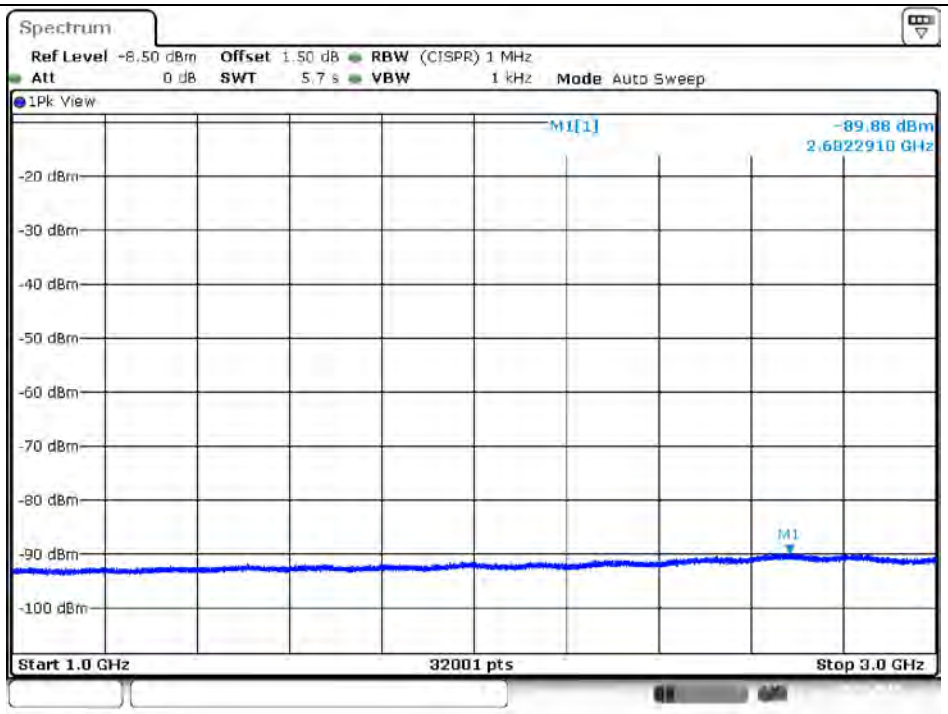
Date: 20.MAR.2018 18:44:06

Plot on Configuration VHT20 / 5745 MHz / Peak / Port 4 / 1GHz~3GHz



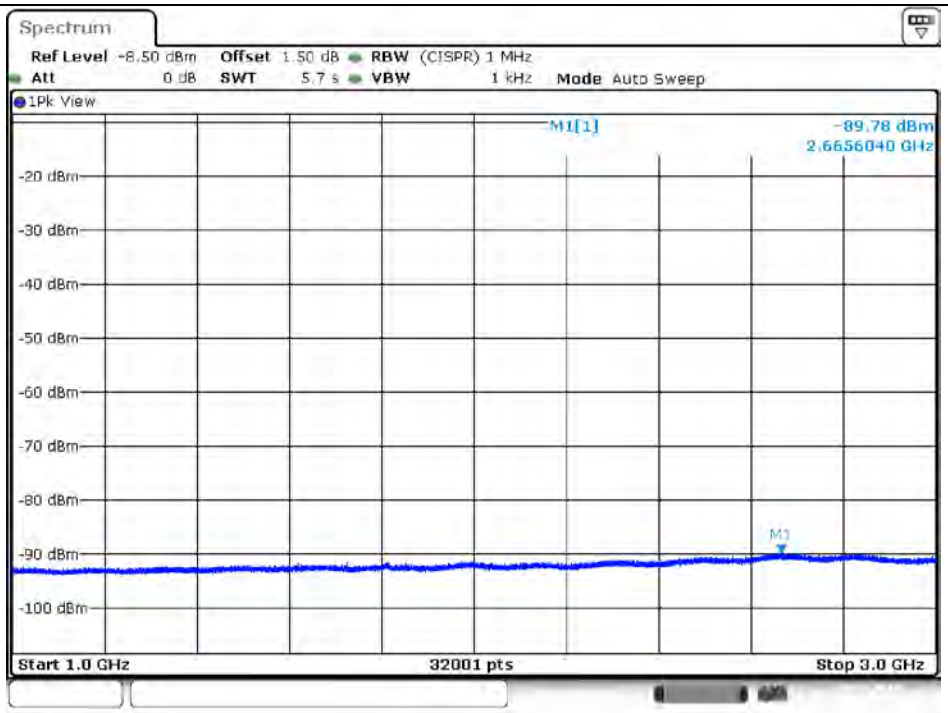
Date: 20.MAR.2018 18:44:38

Plot on Configuration VHT20 / 5785 MHz / Average / Port 1 / 1GHz~3GHz



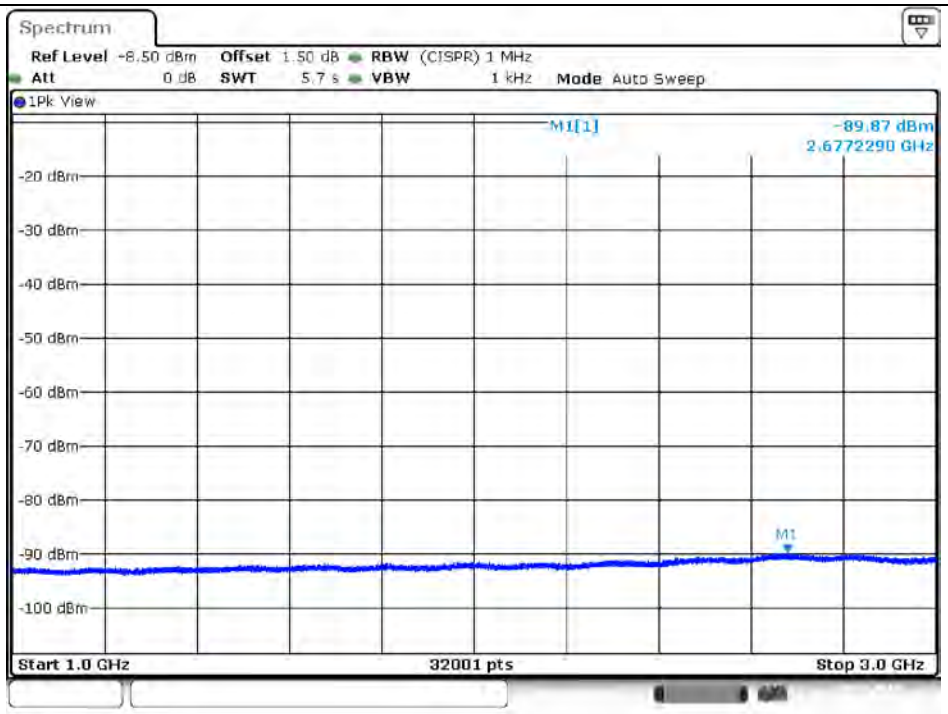
Date: 20.MAR.2018 18:51:07

Plot on Configuration VHT20 / 5785 MHz / Average / Port 2 / 1GHz~3GHz



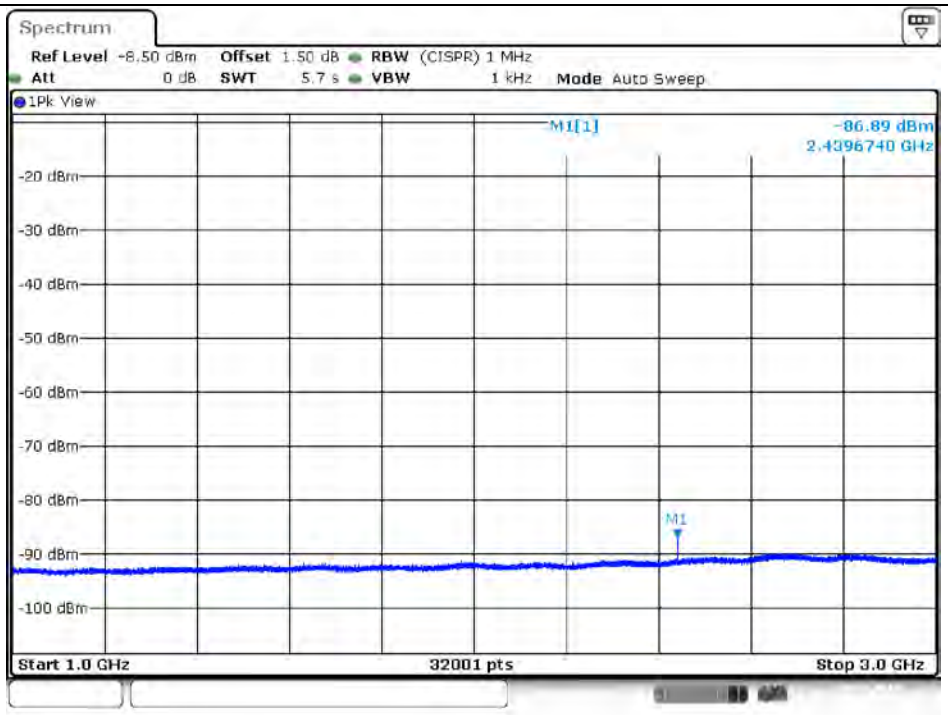
Date: 20.MAR.2018 18:49:54

Plot on Configuration VHT20 / 5785 MHz / Average / Port 3 / 1GHz~3GHz



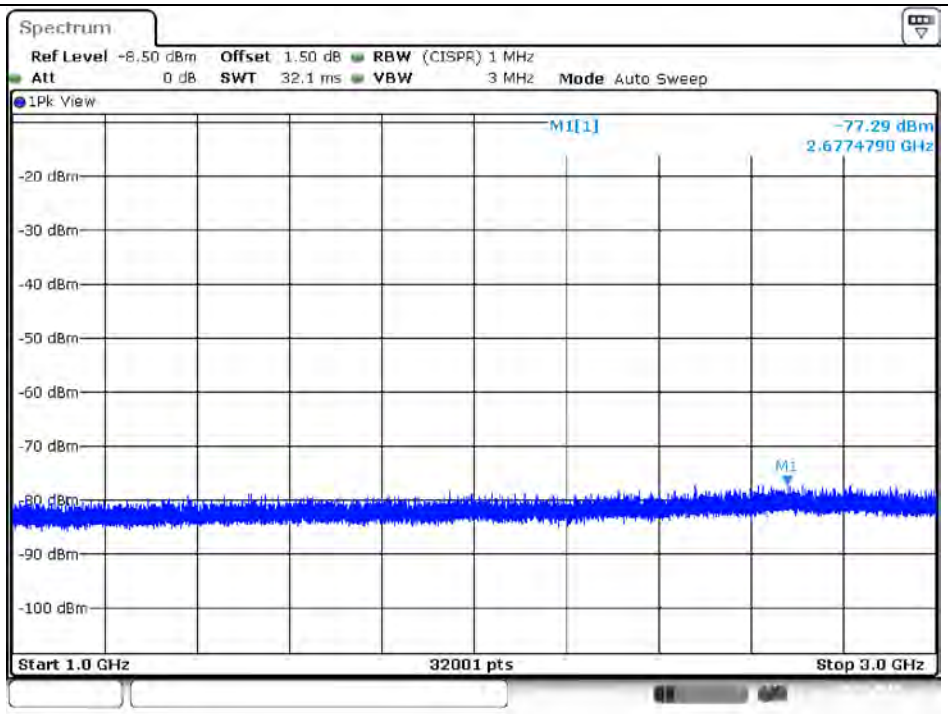
Date: 20.MAR.2018 18:49:17

Plot on Configuration VHT20 / 5785 MHz / Average / Port 4 / 1GHz~3GHz



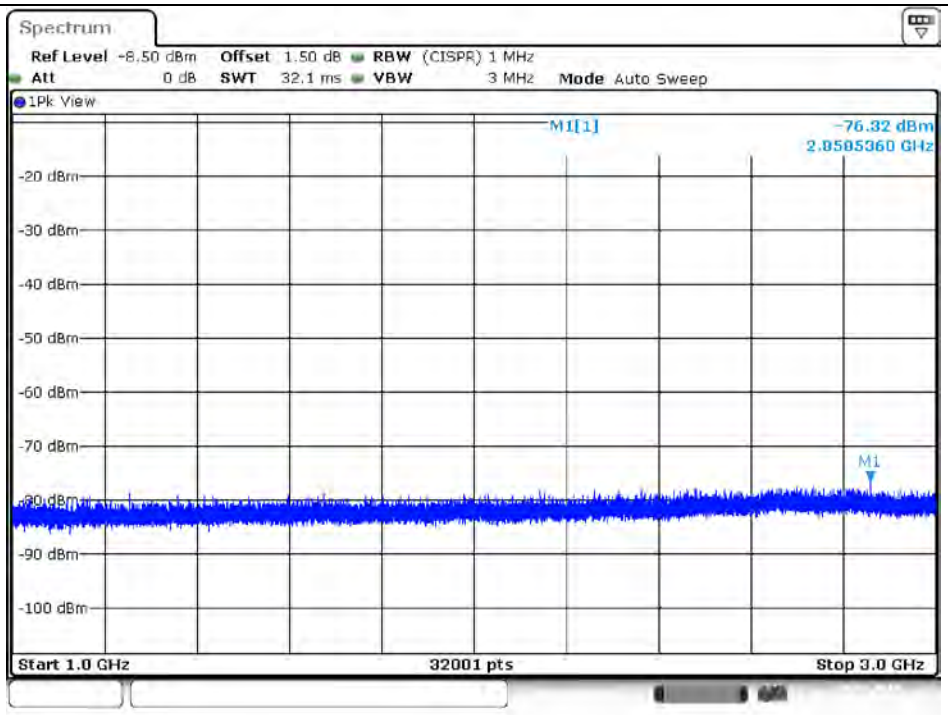
Date: 20.MAR.2018 18:47:54

Plot on Configuration VHT20 / 5785 MHz / Peak / Port 1 / 1GHz~3GHz



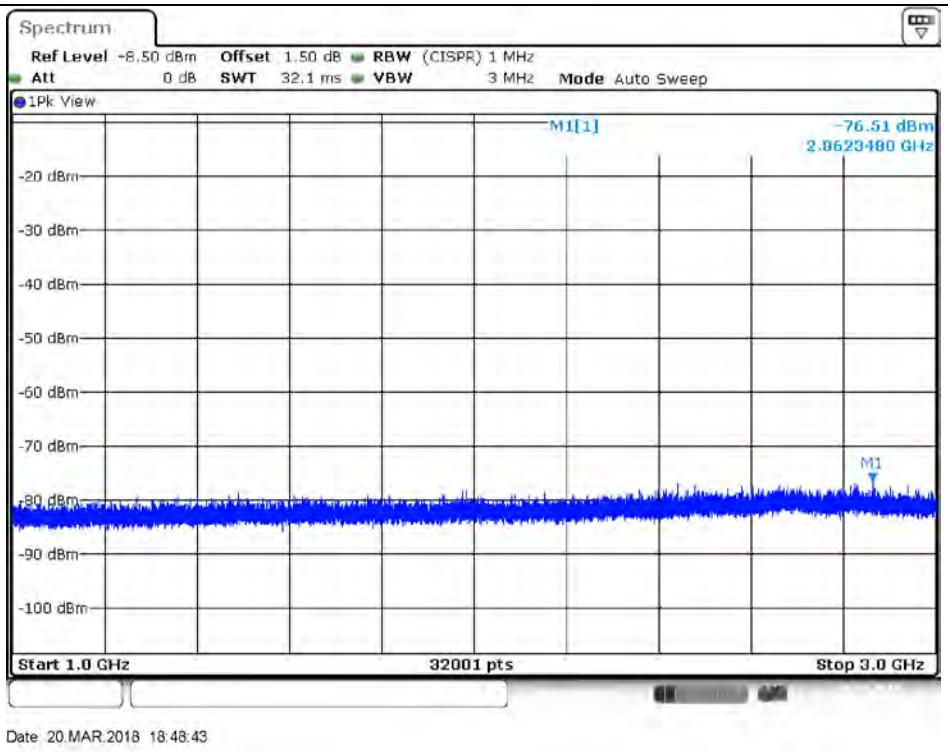
Date: 20.MAR.2018 18:50:40

Plot on Configuration VHT20 / 5785 MHz / Peak / Port 2 / 1GHz~3GHz



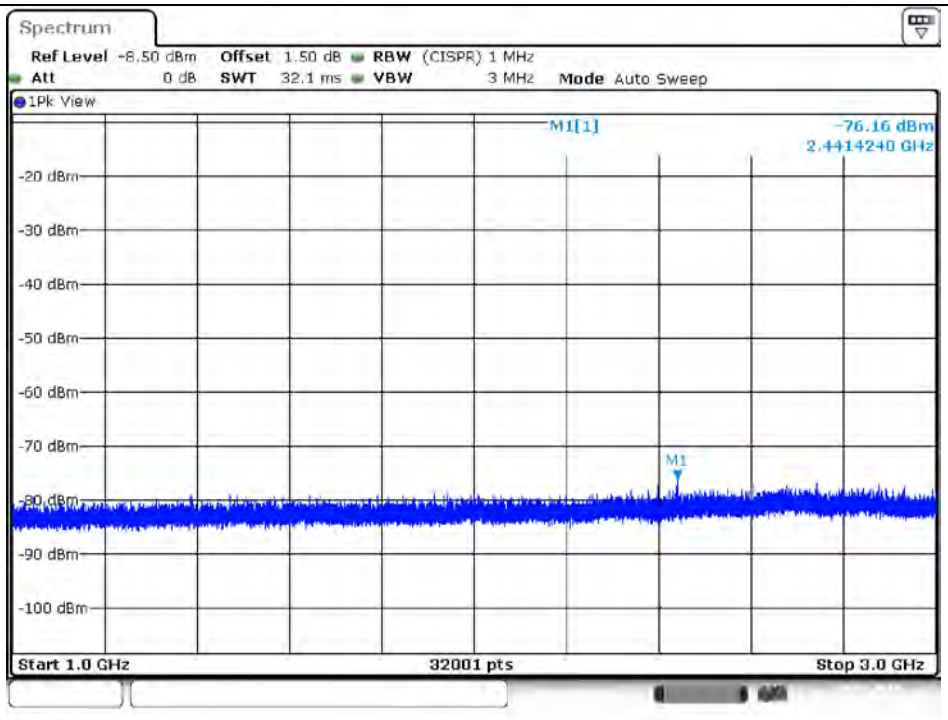
Date: 20.MAR.2018 18:50:12

Plot on Configuration VHT20 / 5785 MHz / Peak / Port 3 / 1GHz~3GHz



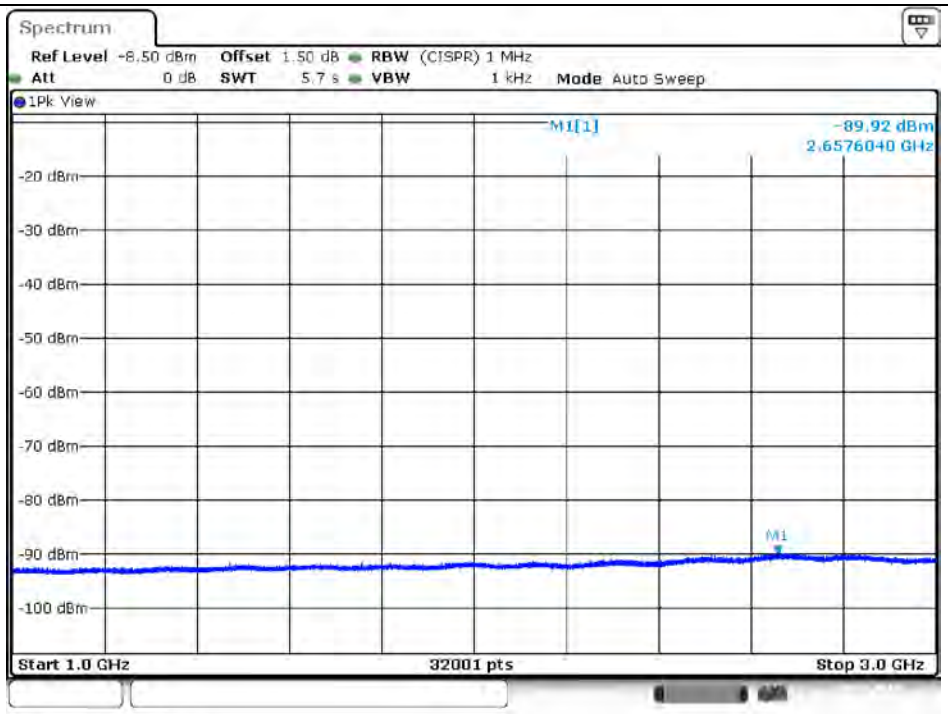
Date: 20.MAR.2018 18:48:43

Plot on Configuration VHT20 / 5785 MHz / Peak / Port 4 / 1GHz~3GHz



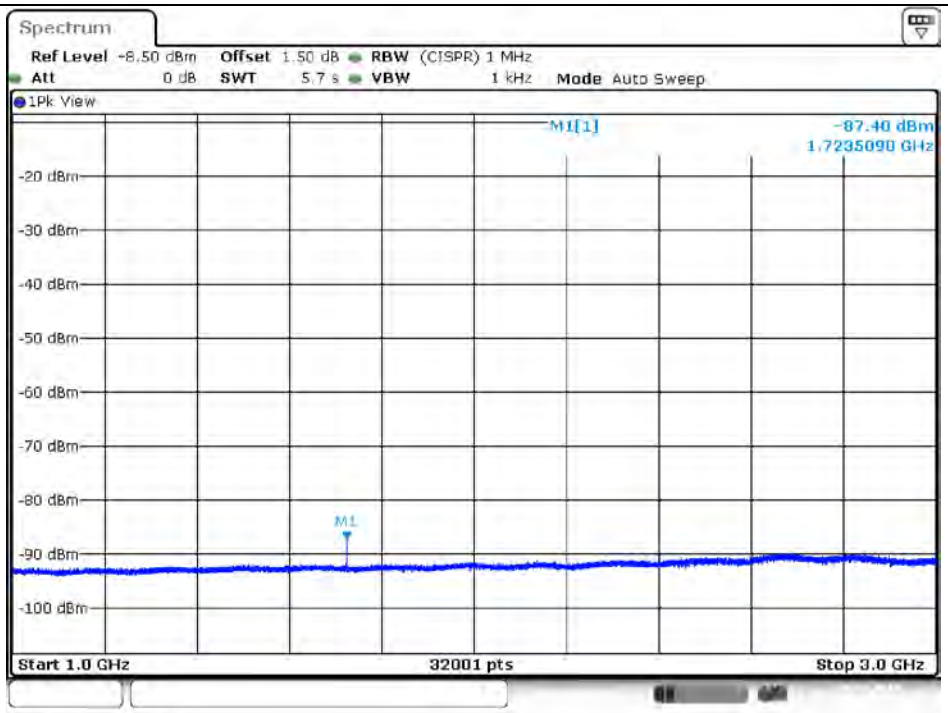
Date: 20.MAR.2018 18:48:17

Plot on Configuration VHT20 / 5825 MHz / Average / Port 1 / 1GHz~3GHz



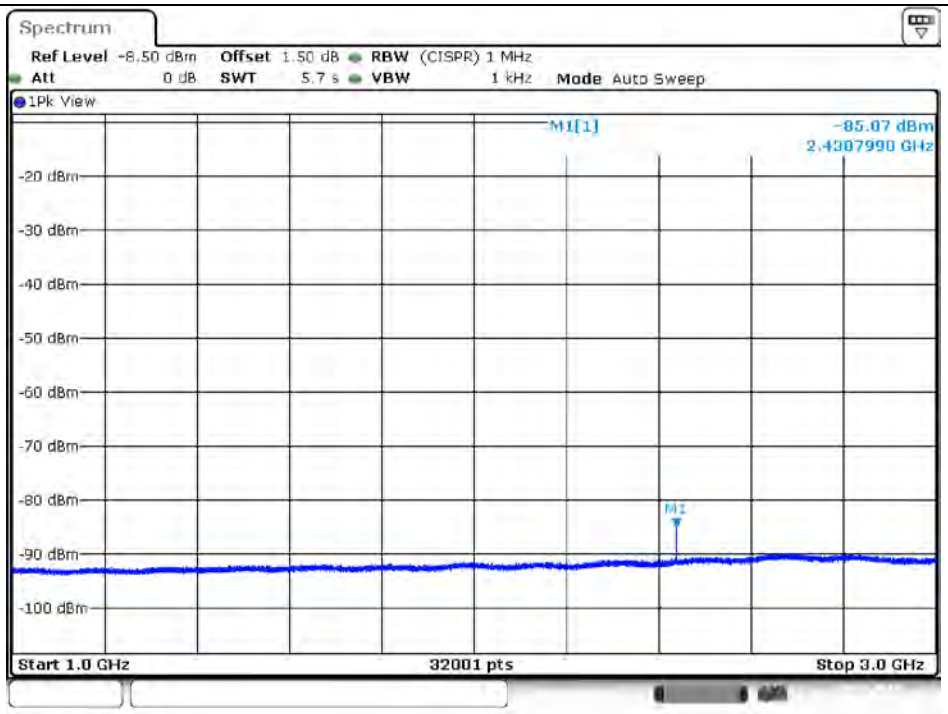
Date: 20.MAR.2018 18:53:28

Plot on Configuration VHT20 / 5825 MHz / Average / Port 2 / 1GHz~3GHz



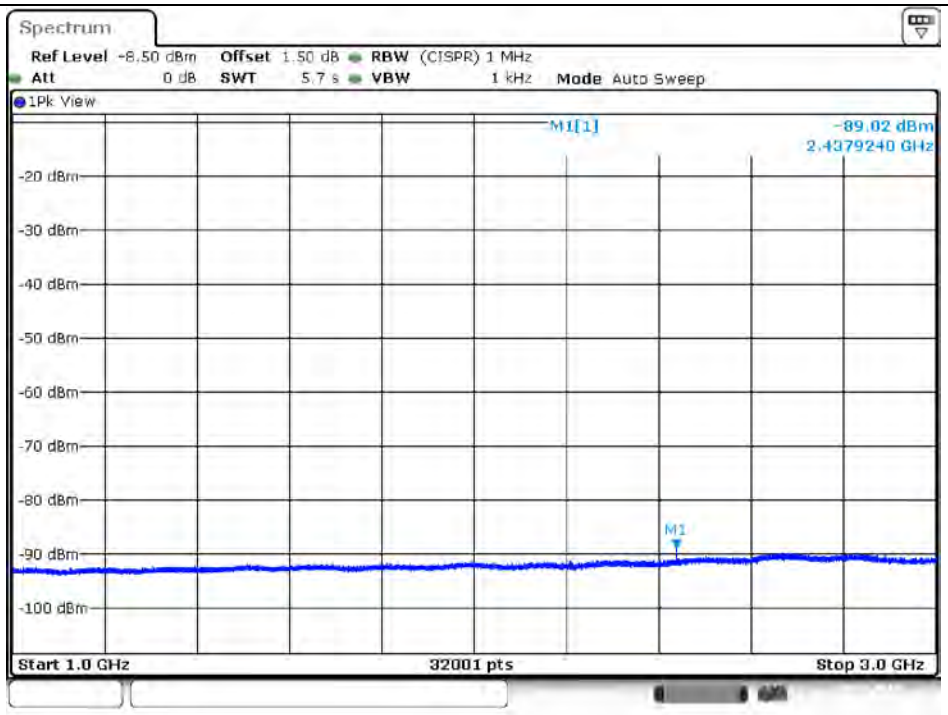
Date: 20.MAR.2018 18:54:32

Plot on Configuration VHT20 / 5825 MHz / Average / Port 3 / 1GHz~3GHz



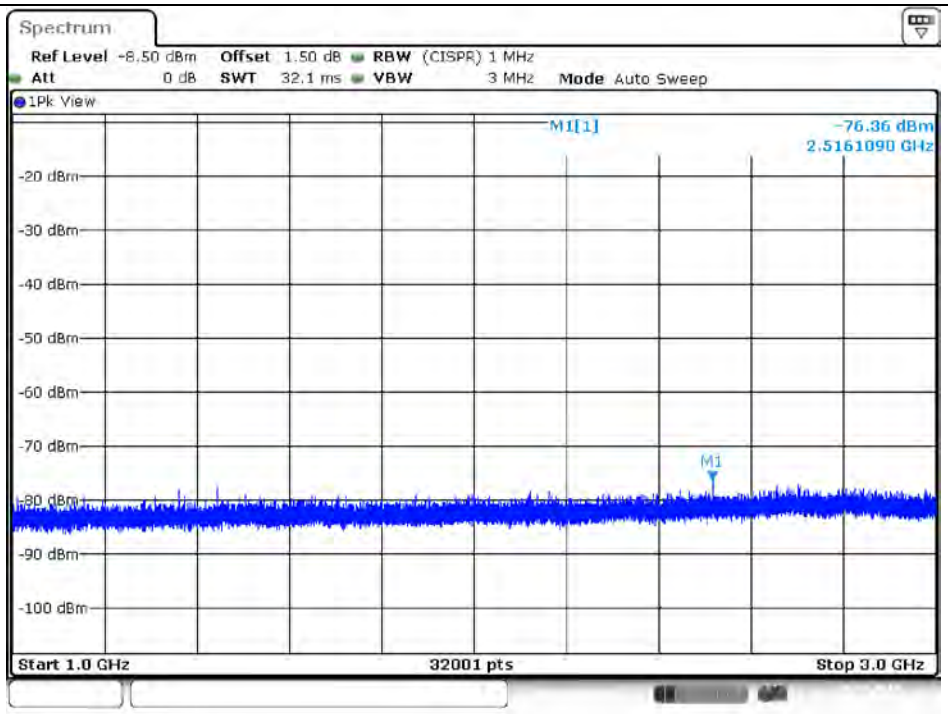
Date: 20.MAR.2018 18:55:07

Plot on Configuration VHT20 / 5825 MHz / Average / Port 4 / 1GHz~3GHz



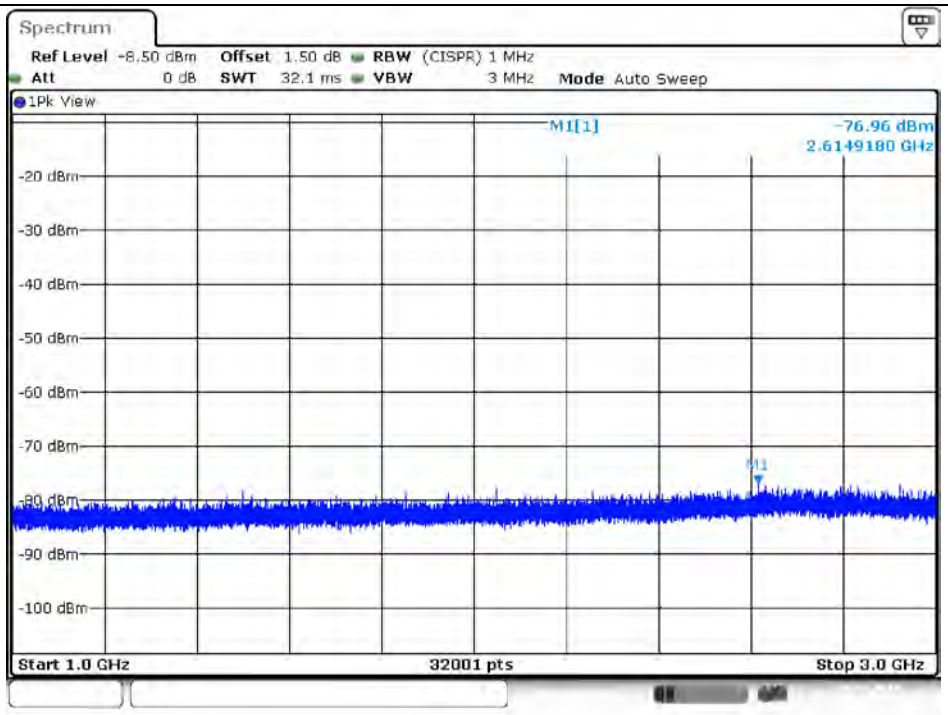
Date: 20.MAR.2018 18:56:17

Plot on Configuration VHT20 / 5825 MHz / Peak / Port 1 / 1GHz~3GHz



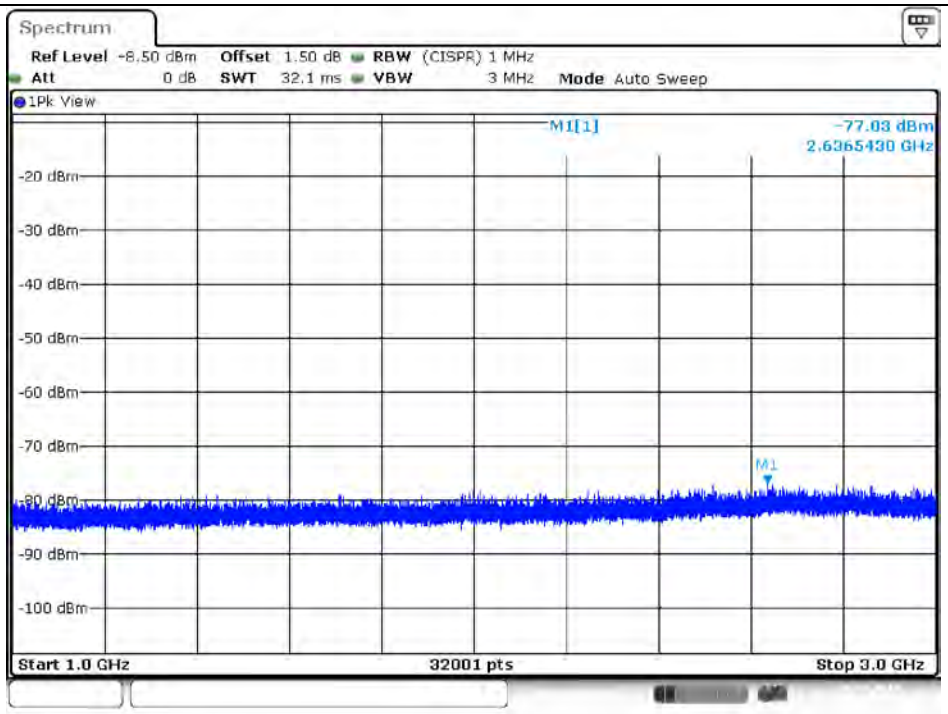
Date: 20.MAR.2018 18:53:44

Plot on Configuration VHT20 / 5825 MHz / Peak / Port 2 / 1GHz~3GHz



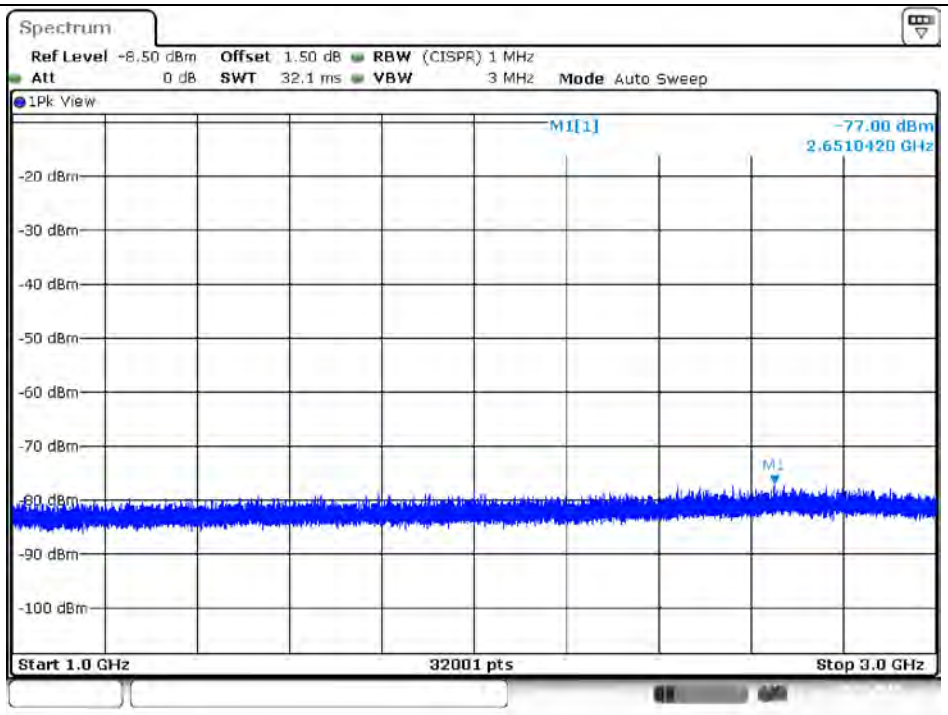
Date: 20.MAR.2018 18:54:11

Plot on Configuration VHT20 / 5825 MHz / Peak / Port 3 / 1GHz~3GHz



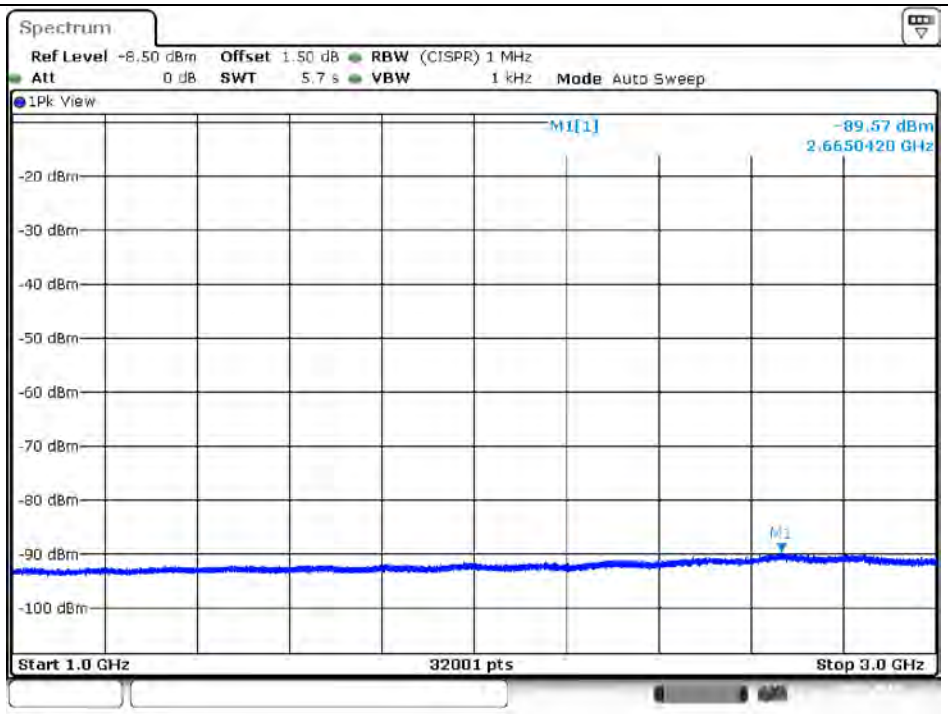
Date: 20.MAR.2018 18:55:23

Plot on Configuration VHT20 / 5825 MHz / Peak / Port 4 / 1GHz~3GHz



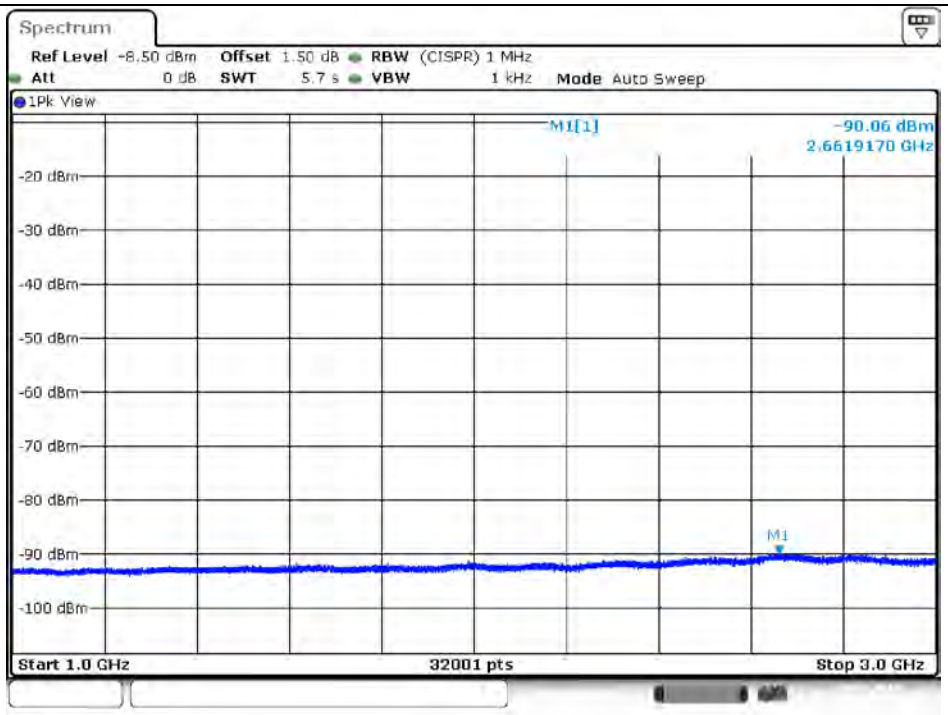
Date: 20.MAR.2018 18:55:50

Plot on Configuration VHT40 / 5755 MHz / Average / Port 1 / 1GHz~3GHz



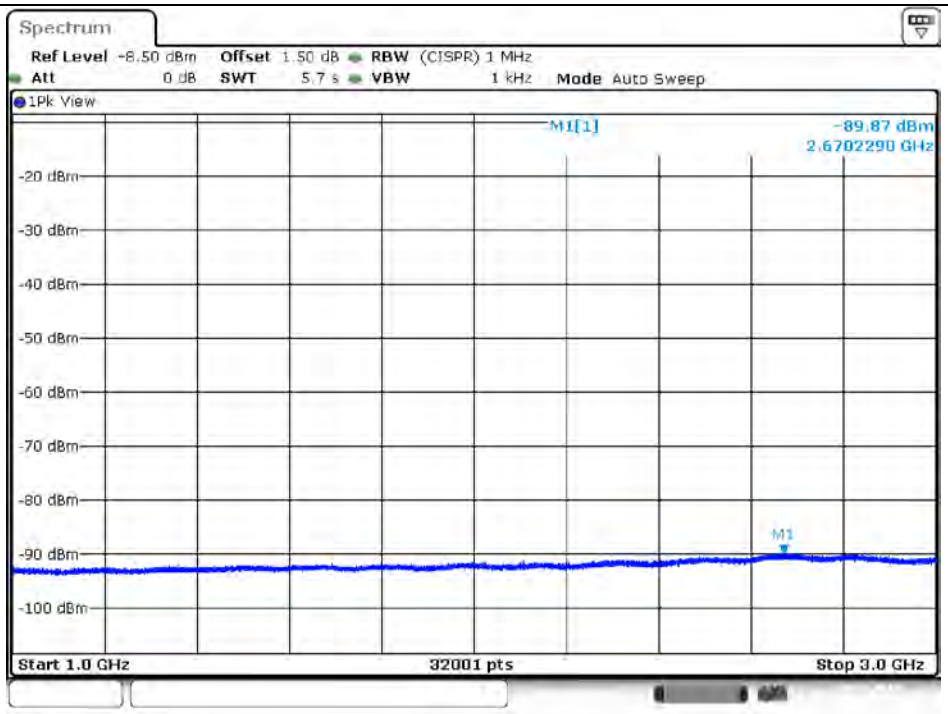
Date: 20.MAR.2018 19:01:53

Plot on Configuration VHT40 / 5755 MHz / Average / Port 2 / 1GHz~3GHz



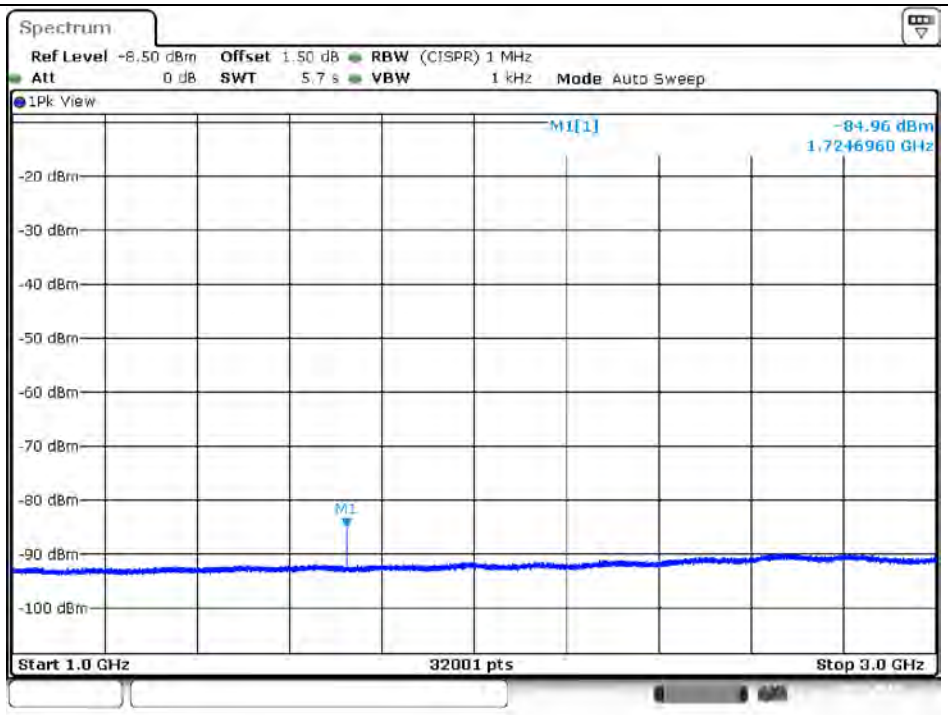
Date: 20.MAR.2018 19:00:53

Plot on Configuration VHT40 / 5755 MHz / Average / Port 3 / 1GHz~3GHz



Date: 20.MAR.2018 19:00:24

Plot on Configuration VHT40 / 5755 MHz / Average / Port 4 / 1GHz~3GHz



Date: 20.MAR.2018 18:59:10