FCC Test Report

Equipment	:	PTP450B
Brand Name	:	Cambium Networks
Model No.	:	PTP450B
FCC ID	:	Z8H89FT0042
Standard	:	47 CFR FCC Part 15.407
Operating Band	:	5150 MHz – 5250 MHz
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
Function	:	☐ Outdoor; ☐ Indoor; ☒ Fixed P2P ☐ Client

The product sample received on Jan. 17, 2018 and completely tested on Feb. 13, 2018. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Cliff Chang
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

Table of Contents

Summary of Test Result

Conformance Test Specifications			
Report Clause	**Ref. Std. Clause**	**Description**	**Result**
1.1.2	15.203	Antenna Requirement	Complied
3.1	15.407(a)	Emission Bandwidth	Complied
3.2	15.407(a)	Maximum Conducted Output Power	Complied
3.3	15.407(a)	Peak Power Spectral Density	Complied
3.4	15.407(b)	Unwanted Emissions	Complied
3.5	15.407(g)	Frequency Stability	Complied

Revision History

Report No.	Version	Description	Issued Date
FR812401-01AA	Rev. 01	Initial issue of report	Mar. 01, 2018

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	QPSK, 5M	5155 / 5160 / 5165 / 5170 / 5175 / 5180 / 5185 / 5190 / 5195 / 5200 / 5205 / 5210 / 5215 / 5220 / 5225 / 5230 / 5235 / 5240 / 5245	19
5150-5250	QPSK, 40M	5175 / 5180 / 5185 / 5190 / 5195 / 5200 / 5205 / 5210 / 5215 / 5220 / 5225 / 5230	12

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	QPSK,5M	5	2TX
5.15-5.25GHz	QPSK,40M	40	2TX

Note:
- 5M and 40M use QPSK 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	PTP450B	Printed Antenna	N/A	2
	2	Cambium	PTP450B	Printed Antenna	N/A	2
2	1	Cambium	PTP450B	Printed Antenna	N/A	24
	2	Cambium	PTP450B	Printed Antenna	N/A	24

Note: The EUT has two antennas.

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

Ant.1 and Ant.2 has been tested and recorded in the test report.

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

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

For Antenna1:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
QPSK,40M	0.342	4.66	1.991m	1k
QPSK,5M	0.429	3.675	2.332m	1k

For Antenna2:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
QPSK,40M	0.793	1.01	1.952m	1K
QPSK,5M	0.620	2.07	3.102m	1K

1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Test Software Version	telnet			

1.1.5 Table for Class III Change

This product is an extension of original one reported under Sporton project number: FR812401AA

Below is the table for the change of the product with respect to the original one.

Description	Performance Checking
1. Adding 5G Band 1 only for 5M and 40M. (Please refer to section 1.1.1 for detail frequency.)	1. Emission Bandwidth 2. Maximum Conducted Output Power 3. Peak Power Spectral Density 4. Unwanted Emissions 5. Frequency Stability
2. Adding gasket.	Do not effect the test results.

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
- FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Ron Huang / Serway Li	22°C / 54%	Jan. 18, 2018~Feb. 13, 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	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%
Frequency Stability	6.06×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

For Antenna 1:

Mode	Power Setting
QPSK,5M_Nss1,(MCS0)_2TX	-
5155MHz	47/44
5200MHz	34/30
5245MHz	34/30
QPSK,40M_Nss1,(MCS0)_2TX	-
5175MHz	43/41
5200MHz	33/2F
5230MHz	26/21

For Antenna 2:

Mode	Power Setting
QPSK,5M_Nss1,(MCS0)_2TX	-
5155MHz	18
5200MHz	27
5245MHz	25
QPSK,40M_Nss1,(MCS0)_2TX	-
5175MHz	16
5200MHz	25
5230MHz	25

2.2 The Worst Case Measurement Configuration

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

Note 1: The EUT can only be used in Z axis
Note 2: PoE information as below:
The EUT was powered by PoE, and the PoE was for measurement only, would not be marked.

Support Unit	Brand Name	Model Name
PoE	Phihong	PSA15M-300

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

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	PoE	Phihong	PSA15M-300	DoC

3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 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.

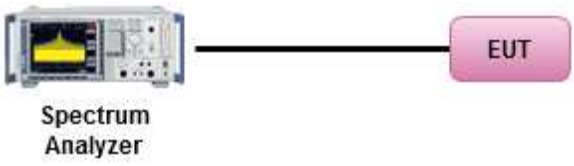
3.1.2 Measuring Instruments

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

3.1.3 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.

3.1.4 Test Setup

Emission Bandwidth


3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 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.	

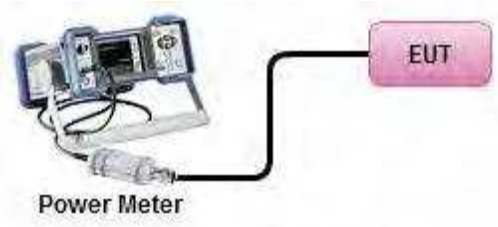
3.2.2 Measuring Instruments

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

3.2.3 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]) $EIRP_{total} = P_{total} + DG$

3.2.4 Test Setup

RF Output Power (Power Meter)


3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Peak Power Spectral Density

3.3.1 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.	

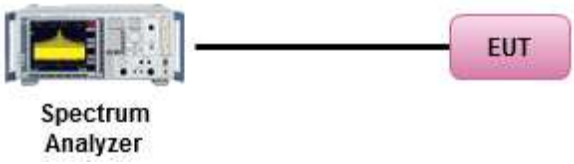
3.3.2 Measuring Instruments

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

3.3.3 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]) $EIRP_{total} = PPSD_{total} + DG$

3.3.4 Test Setup

Power Spectral Density


3.3.5 Test Result of Peak Power Spectral Density

Refer as Appendix C

3.4 Unwanted Emissions

3.4.1 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).

3.4.2 Measuring Instruments

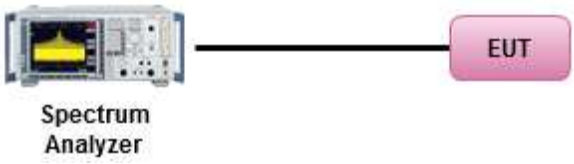
Refer a test equipment and calibration data table in this test report.

3.4.3 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.
▪ 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 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.

3.4.4 Test Setup

Transmitter Conducted Unwanted Emissions


3.4.5 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D

3.5 Frequency Stability

3.5.1 Frequency Stability Limit

Frequency Stability Limit
UNII Devices
▪ In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
LE-LAN Devices
▪ N/A
IEEE Std. 802.11
▪ The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25 ppm maximum for the 2.4 GHz band.

3.5.2 Measuring Instruments

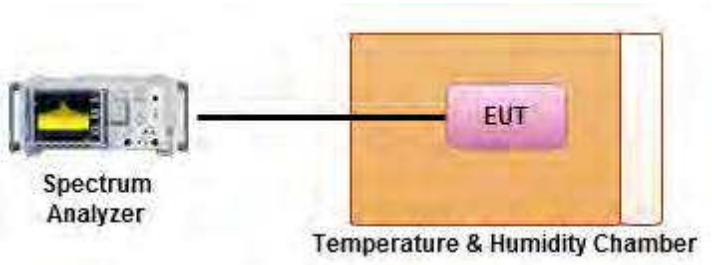
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
▪ Refer as ANSI C63.10, clause 6.8 for frequency stability tests	
	▪ Frequency stability with respect to ambient temperature
	▪ Frequency stability when varying supply voltage
	▪ Extreme temperature is -40˚C~70˚C.

3.5.4 Test Setup

Frequency Stability



3.5.5 Test Result of Frequency Stability

Refer as Appendix E

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 21, 2017	Dec. 20, 2018	Conducted (TH01-CB)
Temp. and Humidity Chamber	Gaint Force	GTH-408-40-CP-AR	MAA1410-011	-40~100 degree	Sep. 15, 2017	Sep. 14, 2018	Conducted (TH03-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.

For Antenna 1:
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
QPSK,5M_Nss1,(MCS0)_2TX	4.881M	4.591M	4M59G7D	4.844M	4.579M
QPSK,40M_Nss1,(MCS0)_2TX	43.05M	36.982M	37M0G7D	42.75M	36.832M

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)
QPSK,5M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5155MHz	Pass	Inf	4.881M	4.591M	4.863M	4.585M
5200MHz	Pass	Inf	4.85M	4.585M	4.844M	4.585M
5245MHz	Pass	Inf	4.863M	4.579M	4.863M	4.585M
QPSK,40M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5175MHz	Pass	Inf	42.75M	36.832M	42.9M	36.932M
5200MHz	Pass	Inf	43.05M	36.882M	43M	36.882M
5230MHz	Pass	Inf	42.95M	36.932M	42.8M	36.982M

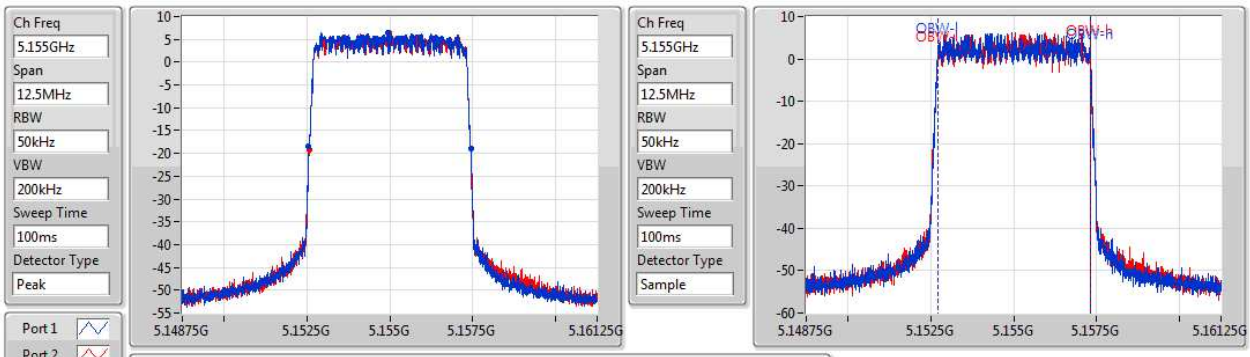
Port X-N dB = Port **X** 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port **X** 99% occupied bandwidth;

QPSK,5M_Nss1,(MCS0)_2TX

EBW

5155MHz

20/01/2018



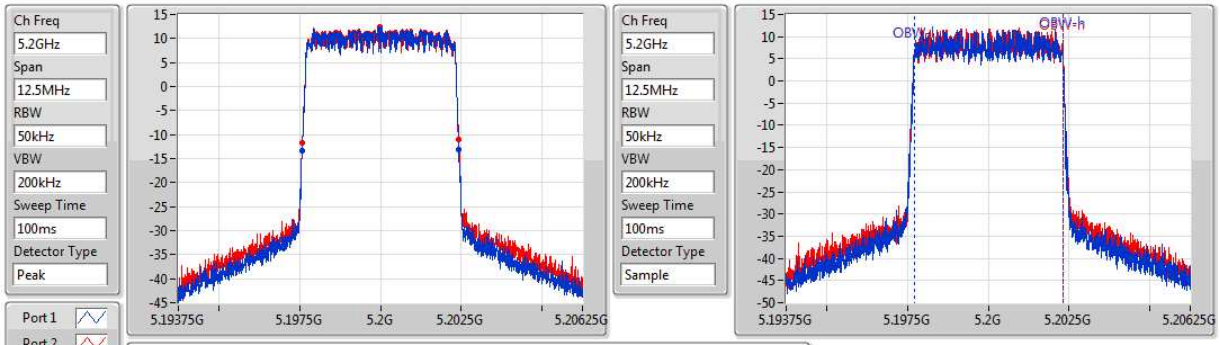
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
4.881M	5.152563G	5.157444G	4.591M	5.152714G	5.157305G	Inf	1
4.863M	5.152575G	5.157438G	4.585M	5.15272G	5.157305G	Inf	2

QPSK,5M_Nss1,(MCS0)_2TX

EBW

5200MHz

20/01/2018



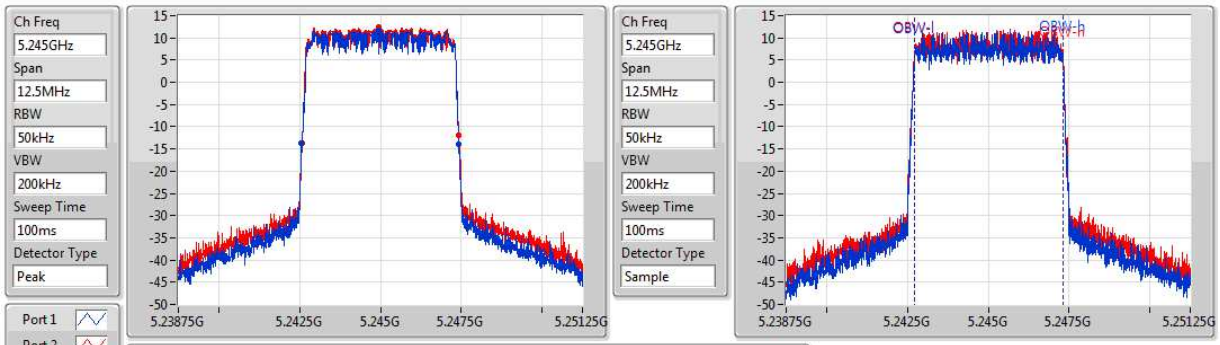
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
4.85M	5.197575G	5.202425G	4.585M	5.19772G	5.202305G	Inf	1
4.844M	5.197581G	5.202425G	4.585M	5.19772G	5.202305G	Inf	2

QPSK,5M_Nss1,(MCS0)_2TX

EBW

5245MHz

20/01/2018

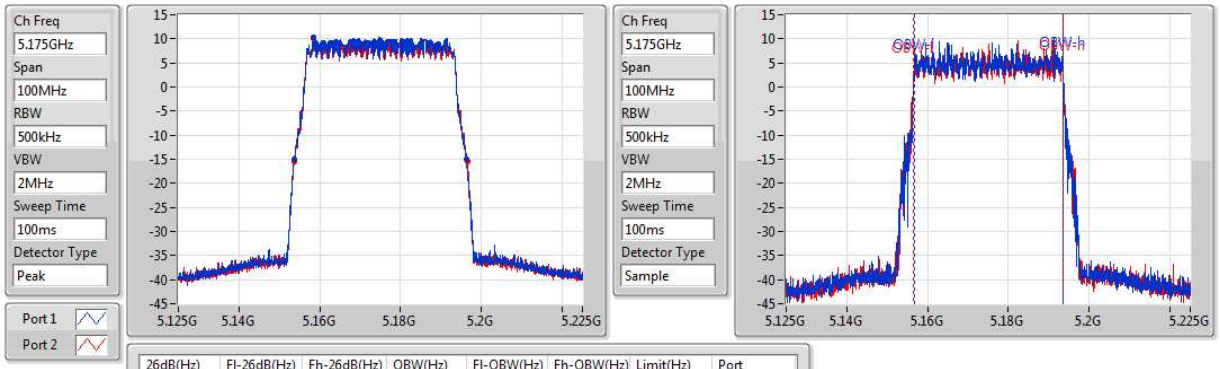


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
4.863M	5.242563G	5.247425G	4.579M	5.24272G	5.247299G	Inf	1
4.863M	5.242569G	5.247431G	4.585M	5.24272G	5.247305G	Inf	2

QPSK,40M_Nss1,(MCS0)_2TX EBW

5175MHz

20/01/2018

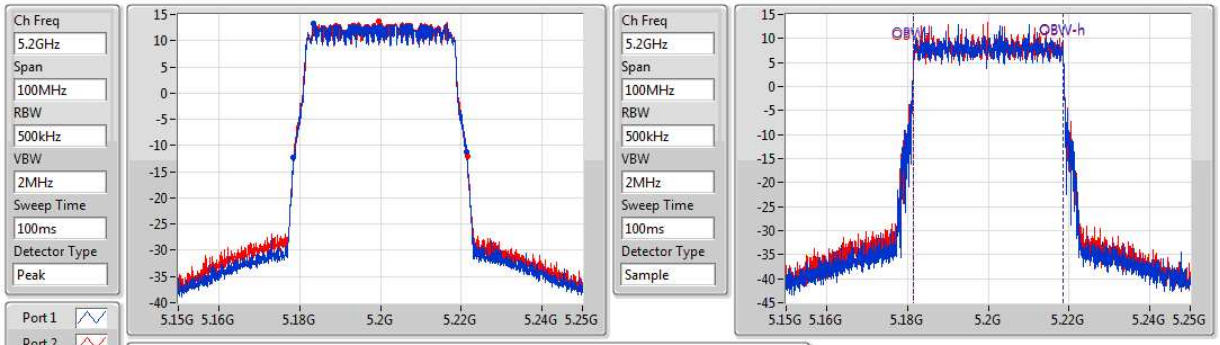


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
42.75M	5.1536G	5.19635G	36.832M	5.156659G	5.193491G	Inf	1
42.9M	5.1536G	5.1965G	36.932M	5.156609G	5.193541G	Inf	2

QPSK,40M_Nss1,(MCS0)_2TX EBW

5200MHz

20/01/2018

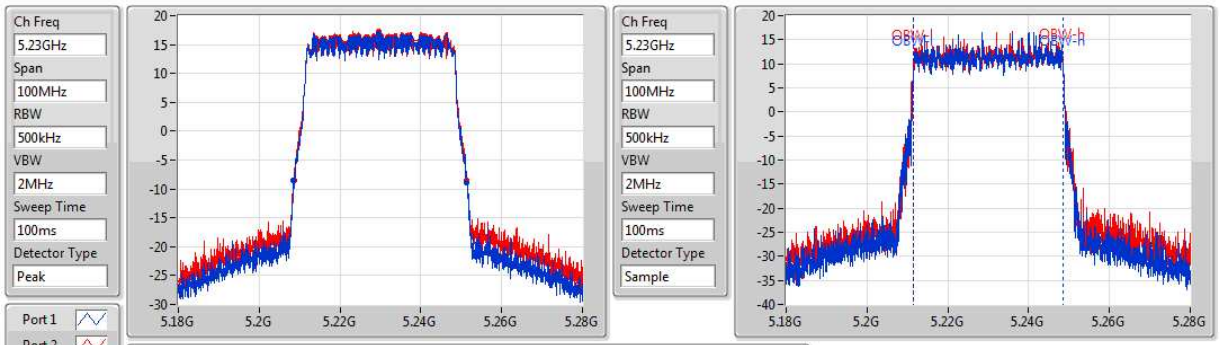


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
43.05M	5.17835G	5.2214G	36.882M	5.181609G	5.218491G	Inf	1
43M	5.17845G	5.22145G	36.882M	5.181609G	5.218491G	Inf	2

QPSK,40M_Nss1,(MCS0)_2TX EBW

5230MHz

20/01/2018



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
42.95M	5.20845G	5.2514G	36.932M	5.211609G	5.248541G	Inf	1
42.8M	5.2086G	5.2514G	36.982M	5.211559G	5.248541G	Inf	2

For Antenna 2:
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
QPSK,5M_Nss1,(MCS0)_2TX	4.869M	4.579M	4M58G7D	4.856M	4.573M
QPSK,40M_Nss1,(MCS0)_2TX	42.9M	36.982M	37M0G7D	42.7M	36.882M

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

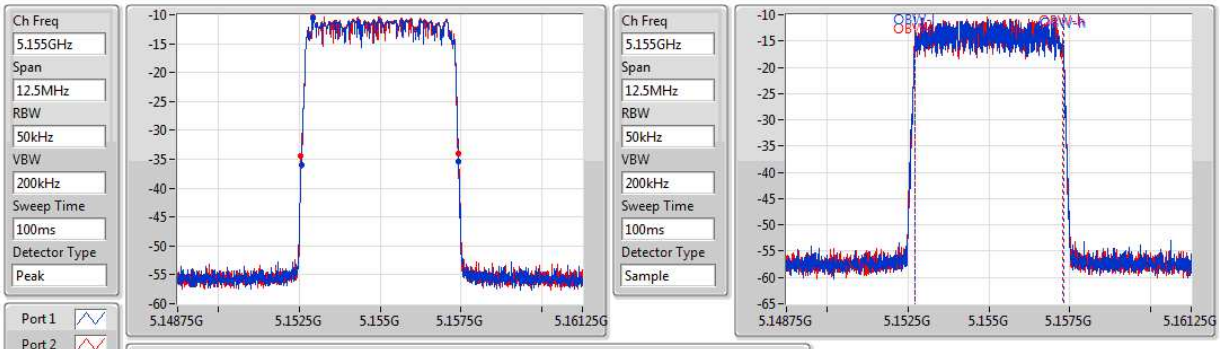
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
QPSK,5M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5155MHz	Pass	Inf	4.856M	4.579M	4.856M	4.579M
5200MHz	Pass	Inf	4.869M	4.573M	4.856M	4.573M
5245MHz	Pass	Inf	4.856M	4.579M	4.869M	4.573M
QPSK,40M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5175MHz	Pass	Inf	42.9M	36.982M	42.75M	36.982M
5200MHz	Pass	Inf	42.85M	36.932M	42.7M	36.932M
5230MHz	Pass	Inf	42.9M	36.932M	42.85M	36.882M

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;

QPSK,5M_Nss1,(MCS0)_2TX EBW

5155MHz

08/02/2018

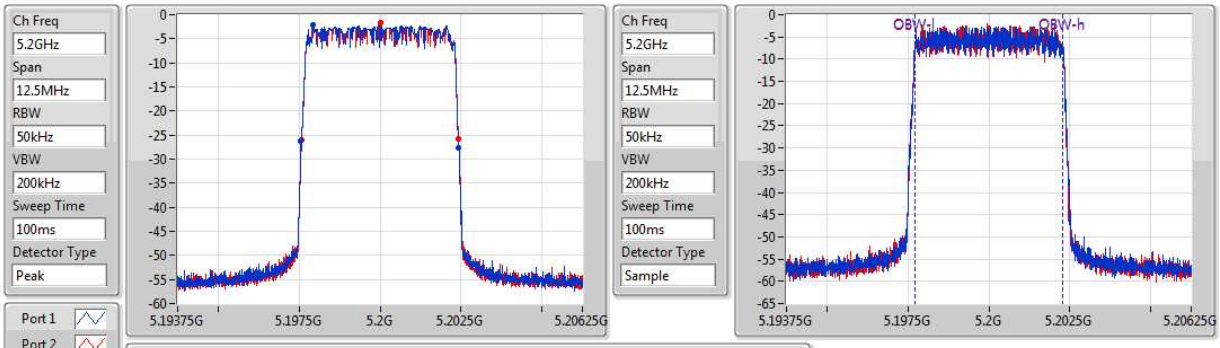


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
4.856M	5.152569G	5.157425G	4.579M	5.15272G	5.157299G	Inf	1
4.856M	5.152563G	5.157419G	4.579M	5.152714G	5.157293G	Inf	2

QPSK,5M_Nss1,(MCS0)_2TX EBW

5200MHz

12/02/2018

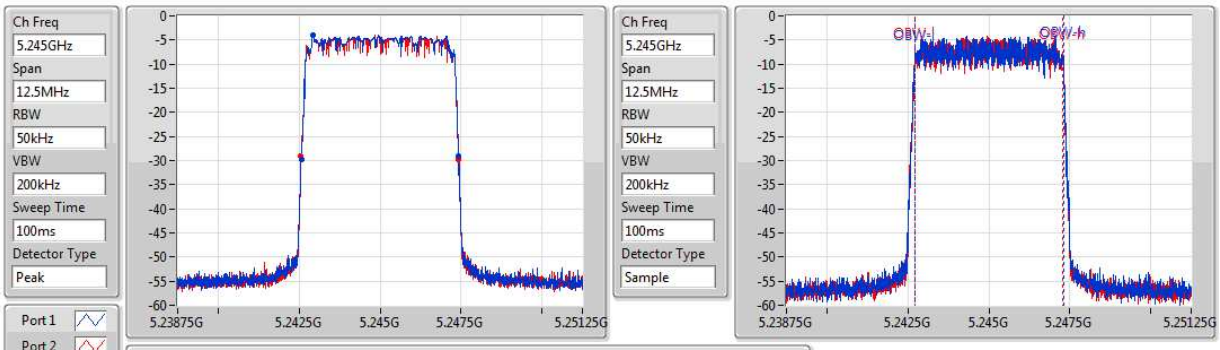


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
4.869M	5.197563G	5.202431G	4.573M	5.19772G	5.202293G	Inf	1
4.856M	5.197575G	5.202431G	4.573M	5.19772G	5.202293G	Inf	2

QPSK,5M_Nss1,(MCS0)_2TX EBW

5245MHz

12/02/2018

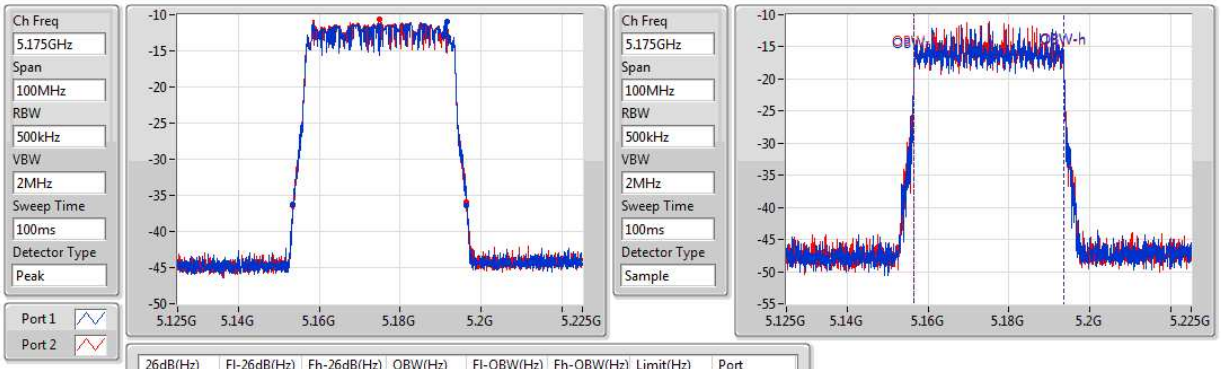


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
4.856M	5.242569G	5.247425G	4.579M	5.24272G	5.247299G	Inf	1
4.869M	5.242563G	5.247431G	4.573M	5.24272G	5.247293G	Inf	2

QPSK,40M_Nss1,(MCS0)_2TX EBW

5175MHz

08/02/2018

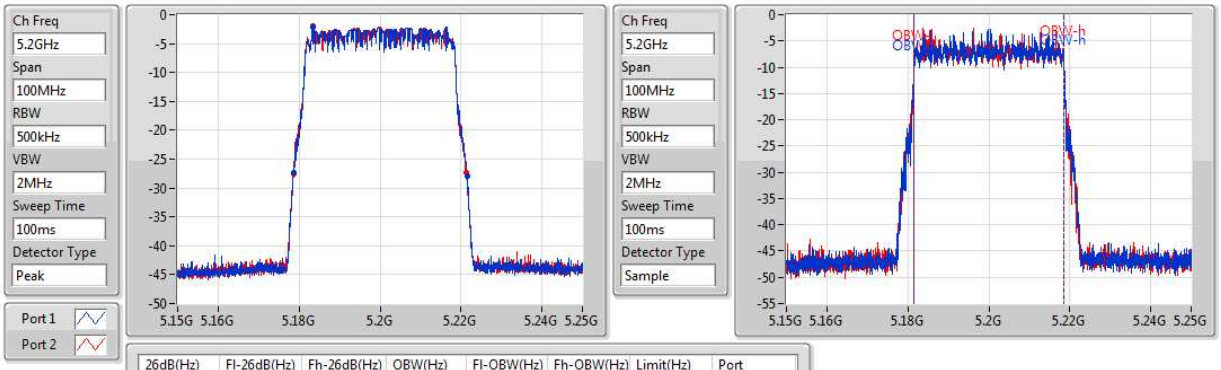


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
42.9M	5.1535G	5.1964G	36.982M	5.156559G	5.193541G	Inf	1
42.75M	5.15355G	5.1963G	36.982M	5.156559G	5.193541G	Inf	2

QPSK,40M_Nss1,(MCS0)_2TX EBW

5200MHz

08/02/2018

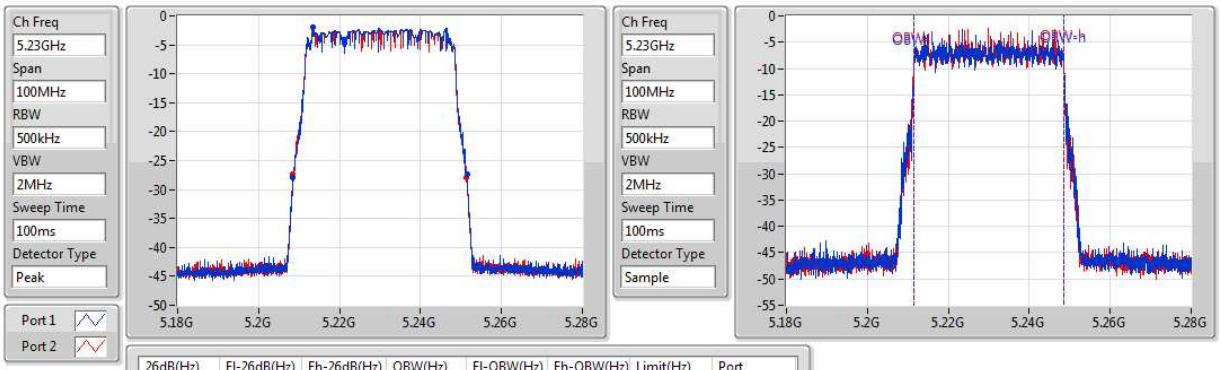


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
42.85M	5.1786G	5.22145G	36.932M	5.181559G	5.218491G	Inf	1
42.7M	5.1786G	5.2213G	36.932M	5.181559G	5.218491G	Inf	2

QPSK,40M_Nss1,(MCS0)_2TX EBW

5230MHz

08/02/2018



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
42.9M	5.20855G	5.25145G	36.932M	5.211609G	5.248541G	Inf	1
42.85M	5.20855G	5.2514G	36.882M	5.211609G	5.248491G	Inf	2

For Antenna 1:
Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
QPSK,5M_Nss1,(MCS0)_2TX	24.16	0.26062
QPSK,40M_Nss1,(MCS0)_2TX	27.52	0.56494

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
QPSK,5M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5155MHz	Pass	2.00	15.84	16.07	18.97	30.00
5200MHz	Pass	2.00	20.91	21.13	24.03	30.00
5245MHz	Pass	2.00	21.04	21.25	24.16	30.00
QPSK,40M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5175MHz	Pass	2.00	16.71	16.35	19.54	30.00
5200MHz	Pass	2.00	21.02	21.06	24.05	30.00
5230MHz	Pass	2.00	24.45	24.57	27.52	30.00

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

For Antenna 2:
Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
QPSK,5M_Nss1,(MCS0)_2TX	9.75	0.00944
QPSK,40M_Nss1,(MCS0)_2TX	7.42	0.00552

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
QPSK,5M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5155MHz	Pass	24.00	-2.41	-2.32	0.65	29.00
5200MHz	Pass	24.00	6.68	6.79	9.75	29.00
5245MHz	Pass	24.00	4.71	4.87	7.80	29.00
QPSK,40M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5175MHz	Pass	24.00	-4.62	-4.54	-1.57	29.00
5200MHz	Pass	24.00	4.34	4.47	7.42	29.00
5230MHz	Pass	24.00	4.21	4.32	7.28	29.00

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

For Antenna 1:
Summary

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
QPSK,5M_Nss1,(MCS0)_2TX	16.74
QPSK,40M_Nss1,(MCS0)_2TX	11.75

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

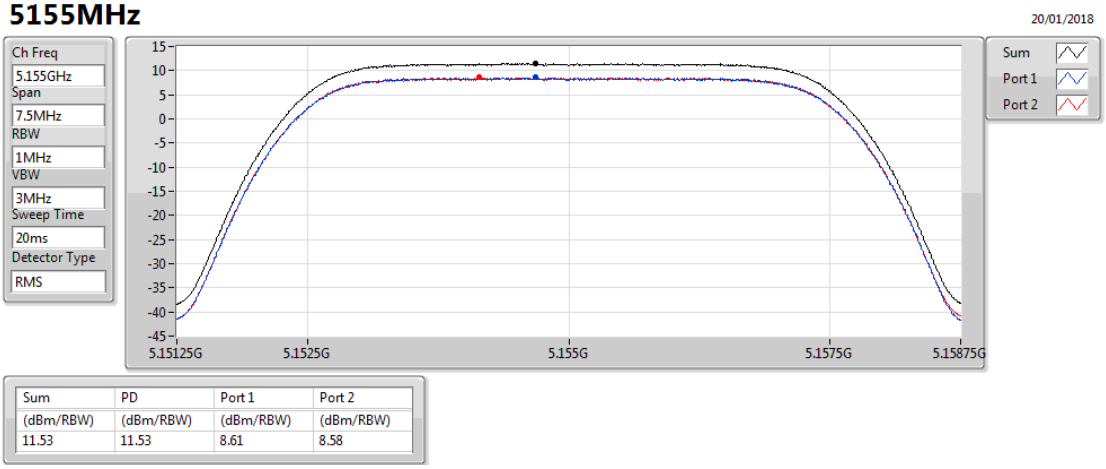
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
QPSK,5M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5155MHz	Pass	2.00	8.61	8.58	11.53	17.00
5200MHz	Pass	2.00	13.54	13.87	16.61	17.00
5245MHz	Pass	2.00	13.69	13.93	16.74	17.00
QPSK,40M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5175MHz	Pass	2.00	0.69	0.46	3.58	17.00
5200MHz	Pass	2.00	5	5.16	8.07	17.00
5230MHz	Pass	2.00	8.57	8.91	11.75	17.00

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 X power density;

QPSK,5M_Nss1,(MCS0)_2TX **PSD**

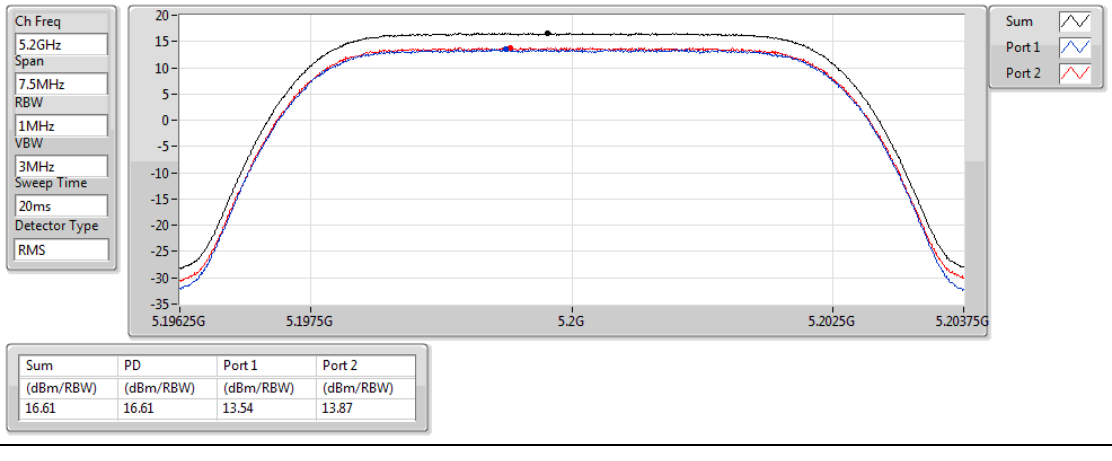
5155MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.53	11.53	8.61	8.58

QPSK,5M_Nss1,(MCS0)_2TX **PSD**

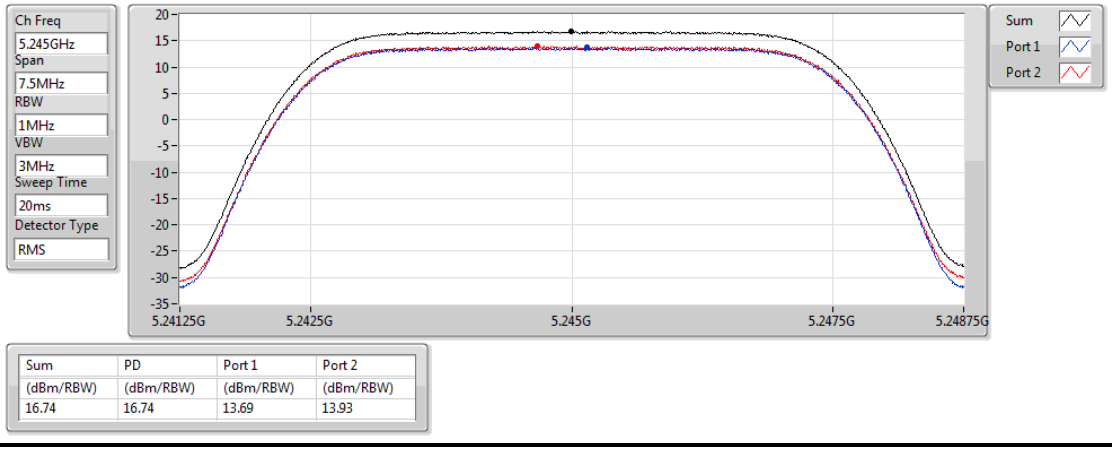
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
16.61	16.61	13.54	13.87

QPSK,5M_Nss1,(MCS0)_2TX **PSD**

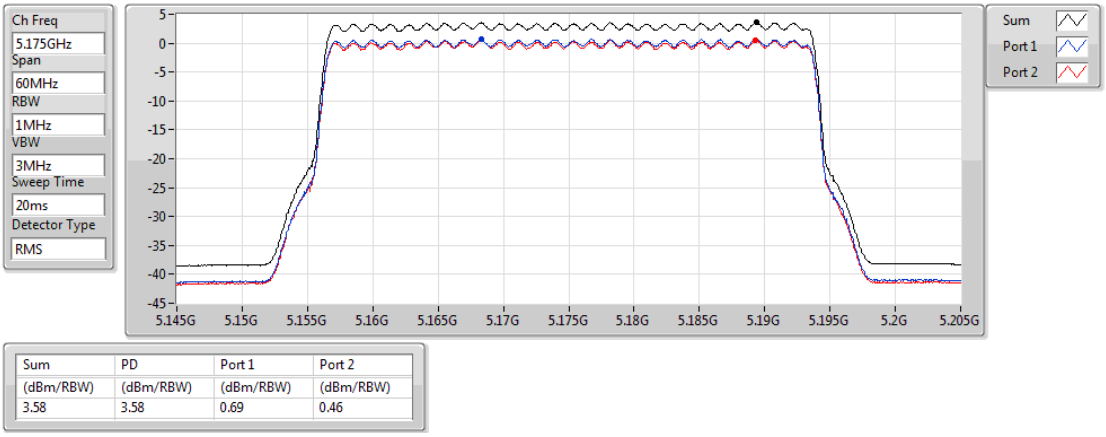
5245MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
16.74	16.74	13.69	13.93

QPSK,40M_Nss1,(MCS0)_2TX **PSD**

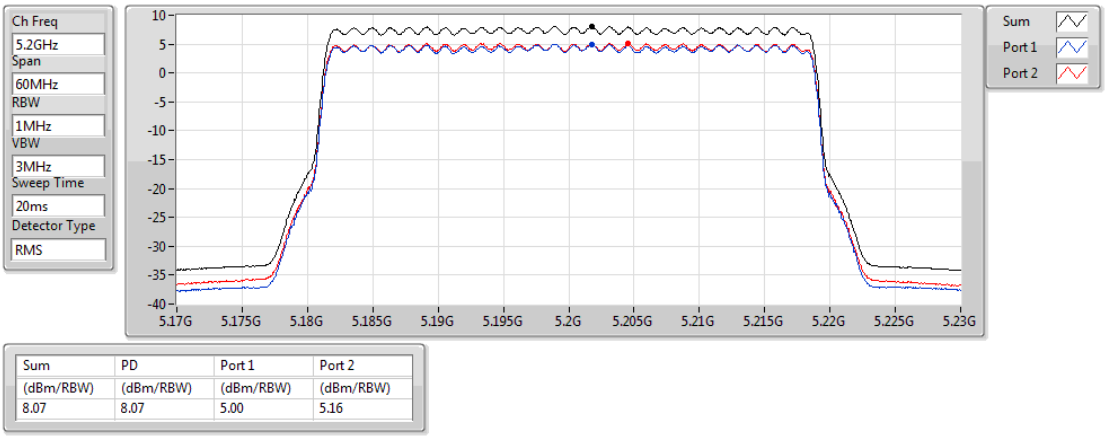
5175MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.58	3.58	0.69	0.46

QPSK,40M_Nss1,(MCS0)_2TX **PSD**

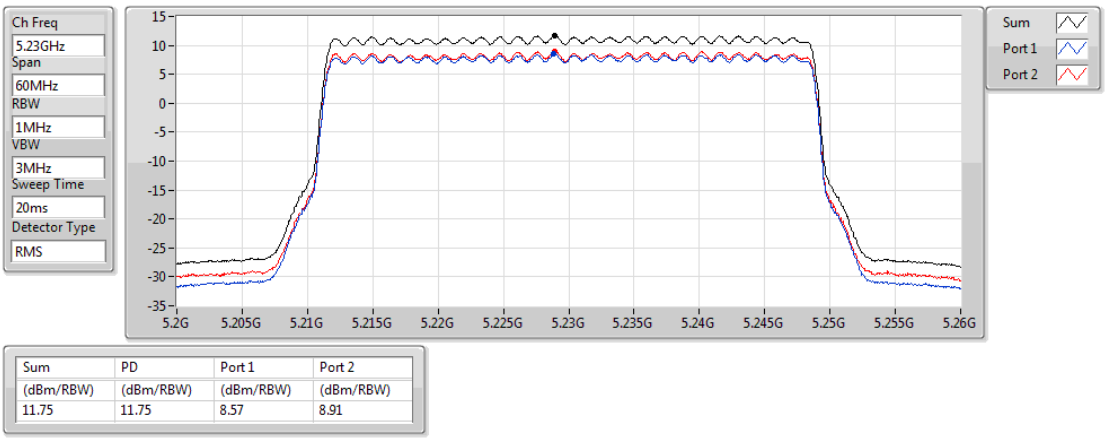
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.07	8.07	5.00	5.16

QPSK,40M_Nss1,(MCS0)_2TX **PSD**

5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.75	11.75	8.57	8.91

For Antenna 2:
Summary

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
QPSK,5M_Nss1,(MCS0)_2TX	2.30
QPSK,40M_Nss1,(MCS0)_2TX	-7.76

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

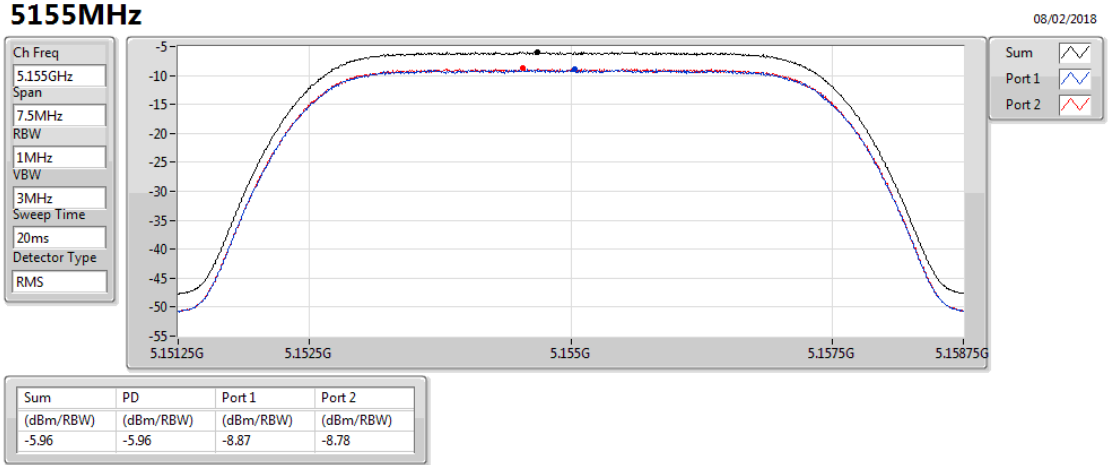
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
QPSK,5M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5155MHz	Pass	24.00	-8.87	-8.78	-5.96	16.00
5200MHz	Pass	24.00	-0.58	-0.55	2.30	16.00
5245MHz	Pass	24.00	-2.51	-2.65	0.33	16.00
QPSK,40M_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5175MHz	Pass	24.00	-19.64	-19.57	-16.61	16.00
5200MHz	Pass	24.00	-10.79	-10.70	-7.76	16.00
5230MHz	Pass	24.00	-10.75	-10.79	-7.79	16.00

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;

QPSK,5M_Nss1,(MCS0)_2TX **PSD**

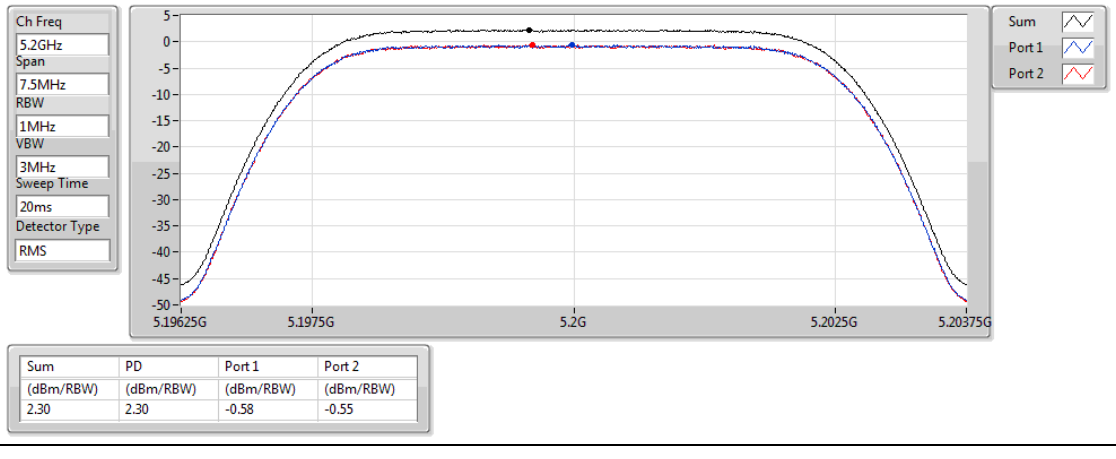
5155MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.96	-5.96	-8.87	-8.78

QPSK,5M_Nss1,(MCS0)_2TX **PSD**

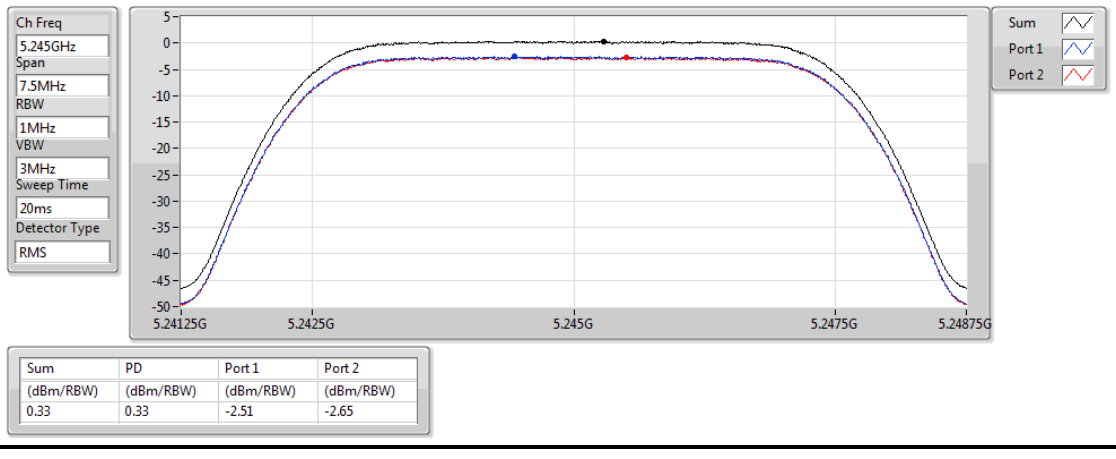
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.30	2.30	-0.58	-0.55

QPSK,5M_Nss1,(MCS0)_2TX **PSD**

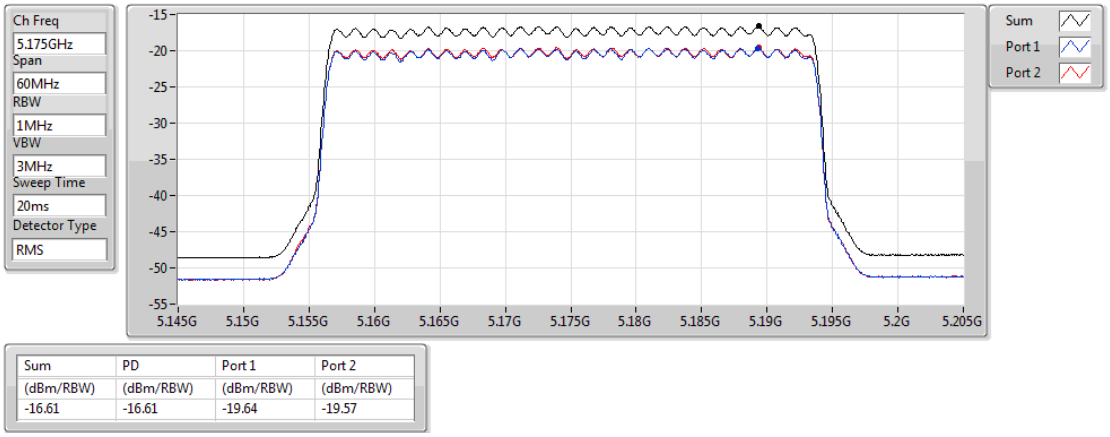
5245MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.33	0.33	-2.51	-2.65

QPSK,40M_Nss1,(MCS0)_2TX **PSD**

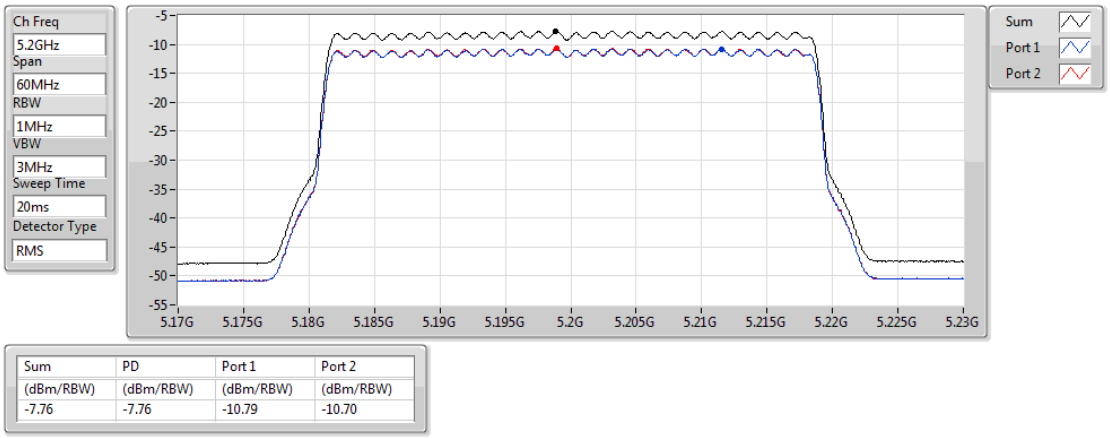
5175MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.61	-16.61	-19.64	-19.57

QPSK,40M_Nss1,(MCS0)_2TX **PSD**

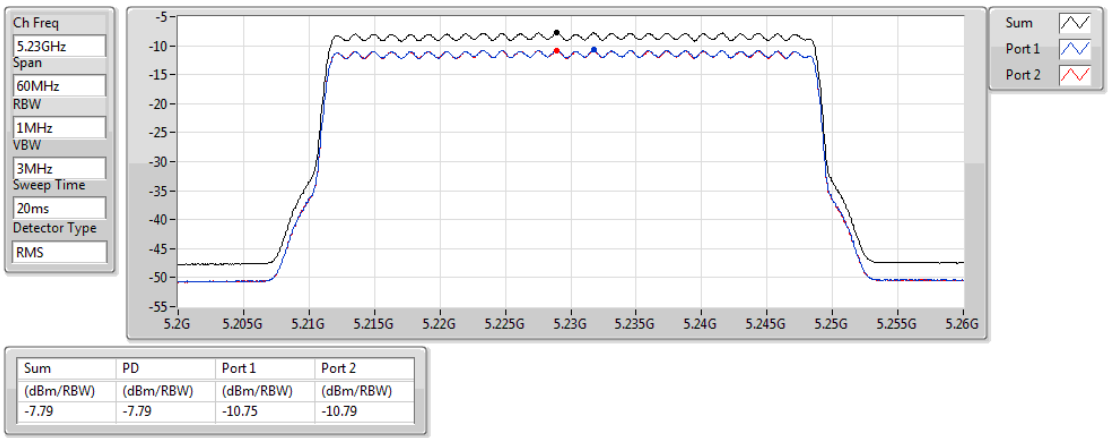
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.76	-7.76	-10.79	-10.70

QPSK,40M_Nss1,(MCS0)_2TX **PSD**

5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.79	-7.79	-10.75	-10.79

For Conducted Spurious Emission

For Antenna 1:

Temperature	22 ℃	**Humidity**	54%
Test Engineer	Ron Huang / Serway Li	**Configurations**	QPSK, 5M / Average / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-83.40	-83.37	-78.37	-41.25	37.12
5200	-83.32	-83.39	-78.34	-41.25	37.09
5245	-83.37	-83.31	-78.33	-41.25	37.08

Temperature	22 ℃	**Humidity**	54%
Test Engineer	Ron Huang / Serway Li	**Configurations**	QPSK, 5M / Peak / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-70.53	-70.06	-65.28	-21.25	44.03
5200	-70.18	-70.23	-65.19	-21.25	43.94
5245	-70.20	-70.55	-65.36	-21.25	44.11

Temperature	22 ℃	**Humidity**	54%
Test Engineer	Ron Huang / Serway Li	**Configurations**	QPSK, 40M / Average / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-83.42	-83.48	-78.44	-41.25	37.19
5200	-83.32	-83.45	-78.37	-41.25	37.12
5230	-83.29	-83.24	-78.25	-41.25	37.00

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-70.56	-70.84	-65.69	-21.25	44.44
5200	-70.08	-70.38	-65.22	-21.25	43.97
5230	-70.10	-70.12	-65.10	-21.25	43.85

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-54.79	-56.00	-50.34	-41.25	9.09
5200	-55.39	-54.82	-50.09	-41.25	8.84
5245	-52.94	-53.15	-48.03	-41.25	6.78

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-48.73	-50.67	-44.58	-21.25	23.33
5200	-45.31	-42.06	-38.38	-21.25	17.13
5245	-41.79	-41.21	-36.48	-21.25	15.23

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-53.63	-55.54	-49.47	-41.25	8.22
5200	-52.75	-53.82	-48.24	-41.25	6.99
5230	-51.82	-54.07	-47.79	-41.25	6.54

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-41.25	-41.64	-36.43	-21.25	15.18
5200	-42.52	-42.62	-37.56	-21.25	16.31
5230	-40.37	-41.19	-35.75	-21.25	14.50

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-70.95	-70.39	-65.65	-41.25	24.40
5200	-67.97	-65.74	-61.70	-41.25	20.45
5245	-68.20	-66.66	-62.35	-41.25	21.10

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-58.81	-58.31	-53.54	-21.25	32.29
5200	-55.77	-53.78	-49.65	-21.25	28.40
5245	-56.79	-54.63	-50.57	-21.25	29.32

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-70.20	-67.46	-63.61	-41.25	22.36
5200	-68.01	-66.55	-62.21	-41.25	20.96
5230	-66.12	-64.49	-60.22	-41.25	18.97

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-57.19	-56.94	-52.05	-21.25	30.80
5200	-56.31	-53.59	-49.73	-21.25	28.48
5230	-53.89	-50.86	-47.11	-21.25	25.86

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-77.07	-76.38	-71.70	-41.25	30.45
5200	-72.62	-68.37	-64.98	-41.25	23.73
5245	-72.77	-71.92	-67.31	-41.25	26.06

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-64.53	-64.27	-59.39	-21.25	38.14
5200	-60.07	-56.58	-52.97	-21.25	31.72
5245	-54.60	-52.73	-48.55	-21.25	27.30

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-76.99	-76.91	-71.94	-41.25	30.69
5200	-77.00	-76.95	-71.96	-41.25	30.71
5230	-77.05	-75.95	-71.45	-41.25	30.20

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-64.17	-64.24	-59.19	-21.25	37.94
5200	-64.07	-63.71	-58.88	-21.25	37.63
5230	-63.97	-61.99	-57.86	-21.25	36.61

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-71.92	-72.09	-66.99	-41.25	25.74
5200	-71.86	-71.94	-66.89	-41.25	25.64
5245	-71.89	-71.88	-66.87	-41.25	25.62

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-58.39	-58.99	-53.67	-21.25	32.42
5200	-59.50	-58.64	-54.04	-21.25	32.79
5245	-59.18	-59.22	-54.19	-21.25	32.94

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-71.90	-71.83	-66.85	-41.25	25.60
5200	-71.94	-72.01	-66.96	-41.25	25.71
5230	-71.74	-71.90	-66.81	-41.25	25.56

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-59.12	-59.52	-54.31	-21.25	33.06
5200	-58.69	-58.73	-53.70	-21.25	32.45
5230	-59.13	-59.17	-54.14	-21.25	32.89

For Antenna 2:

Temperature	22 ℃	**Humidity**	54%
Test Engineer	Ron Huang / Serway Li	**Configurations**	QPSK, 5M / Average / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-83.12	-81.03	-54.94	-41.25	13.69
5200	-80.13	-80.70	-53.40	-41.25	12.15
5245	-81.76	-77.92	-52.42	-41.25	11.17

Temperature	22 ℃	**Humidity**	54%
Test Engineer	Ron Huang / Serway Li	**Configurations**	QPSK, 5M / Peak / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-67.86	-67.19	-40.50	-21.25	19.25
5200	-66.15	-63.56	-37.65	-21.25	16.40
5245	-64.09	-64.44	-37.25	-21.25	16.00

Temperature	22 ℃	**Humidity**	54%
Test Engineer	Ron Huang / Serway Li	**Configurations**	QPSK, 40M / Average / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-74.60	-81.11	-49.72	-41.25	8.47
5200	-78.50	-79.76	-52.07	-41.25	10.82
5230	-74.30	-79.90	-49.24	-41.25	7.99

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 1GHz~3GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-67.62	-69.03	-41.26	-21.25	20.01
5200	-66.76	-68.68	-40.60	-21.25	19.35
5230	-66.30	-63.96	-37.96	-21.25	16.71

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-72.89	-75.27	-46.91	-41.25	5.66
5200	-70.72	-70.56	-43.63	-41.25	2.38
5245	-70.85	-70.39	-43.60	-41.25	2.35

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-61.80	-62.65	-35.19	-21.25	13.94
5200	-59.64	-61.09	-33.29	-21.25	12.04
5245	-59.50	-59.38	-32.43	-21.25	11.18

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-73.12	-71.86	-45.43	-41.25	4.18
5200	-74.08	-70.82	-45.14	-41.25	3.89
5230	-73.40	-71.07	-45.07	-41.25	3.82

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 3GHz~6GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-63.57	-61.77	-35.57	-21.25	14.32
5200	-61.94	-61.89	-34.90	-21.25	13.65
5230	-62.05	-61.59	-37.54	-21.25	16.29

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-76.78	-76.72	-49.74	-41.25	8.49
5200	-76.69	-76.66	-49.66	-41.25	8.41
5245	-76.64	-76.50	-49.56	-41.25	8.31

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-64.81	-65.56	-38.16	-21.25	16.91
5200	-65.97	-65.63	-38.79	-21.25	17.54
5245	-64.96	-64.33	-37.62	-21.25	16.37

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-76.78	-76.60	-49.68	-41.25	8.43
5200	-76.81	-76.74	-49.76	-41.25	8.51
5230	-76.65	-76.56	-49.59	-41.25	8.34

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 6GHz~9GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-64.58	-65.14	-37.84	-21.25	16.59
5200	-65.68	-65.25	-38.45	-21.25	17.20
5230	-64.87	-65.30	-38.07	-21.25	16.82

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-79.03	-79.07	-52.04	-41.25	10.79
5200	-79.21	-79.12	-52.15	-41.25	10.90
5245	-79.07	-78.98	-52.01	-41.25	10.76

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-66.92	-66.82	-39.86	-21.25	18.61
5200	-67.08	-67.42	-40.24	-21.25	18.99
5245	-66.68	-65.58	-39.08	-21.25	17.83

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-78.79	-78.94	-51.85	-41.25	10.60
5200	-78.95	-79.03	-51.98	-41.25	10.73
5230	-78.25	-78.27	-51.25	-41.25	10.00

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 9GHz~18GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-66.98	-67.11	-40.03	-21.25	18.78
5200	-66.33	-66.92	-39.60	-21.25	18.35
5230	-66.04	-66.13	-39.07	-21.25	17.82

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Average / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-73.95	-73.70	-46.81	-41.25	5.56
5200	-73.70	-73.67	-46.67	-41.25	5.42
5245	-73.77	-73.68	-46.71	-41.25	5.46

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 5M / Peak / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5155	-60.61	-60.65	-33.62	-21.25	12.37
5200	-61.63	-61.73	-34.67	-21.25	13.42
5245	-61.28	-61.27	-34.26	-21.25	13.01

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Average / Port 1 + Port 2 / 18GHz~40GHz

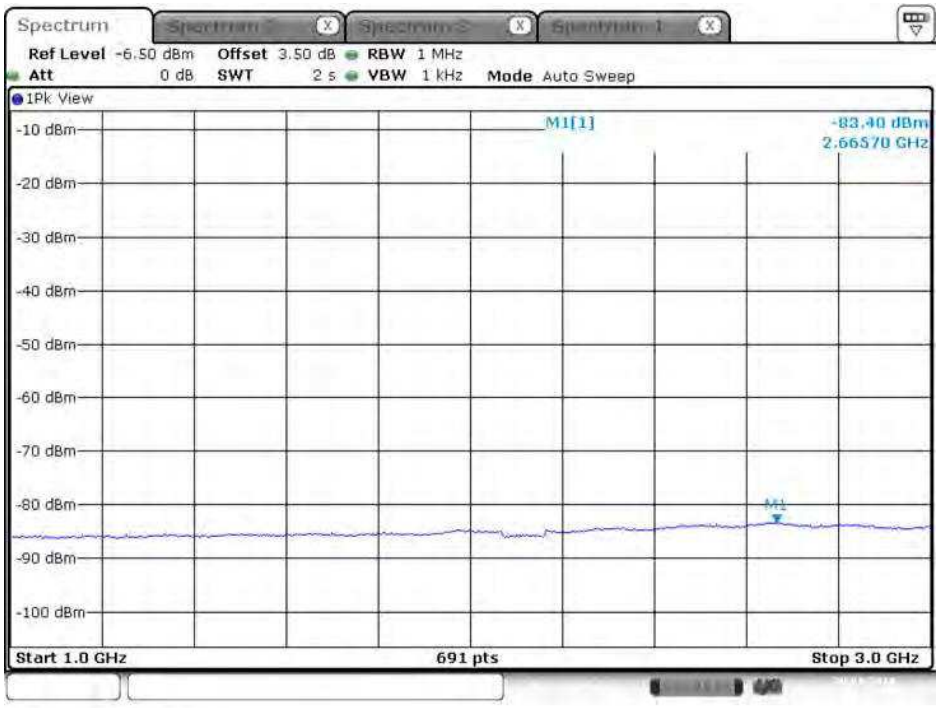
Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-73.76	-73.63	-46.68	-41.25	5.43
5200	-73.72	-73.75	-46.72	-41.25	5.47
5230	-72.69	-72.78	-45.72	-41.25	4.47

Temperature	22 ℃	Humidity	54%
Test Engineer	Ron Huang / Serway Li	Configurations	QPSK, 40M / Peak / Port 1 + Port 2 / 18GHz~40GHz

Frequency (MHz)	Chain(TX1) Spurious Level (dBm)	Chain(TX2) Spurious Level (dBm)	Total Spurious Level (dBm)	Limit (dBm)	Margin (dBm)
5175	-61.58	-60.99	-34.26	-21.25	13.01
5200	-61.75	-61.01	-34.35	-21.25	13.10
5230	-60.43	-59.69	-33.03	-21.25	11.78

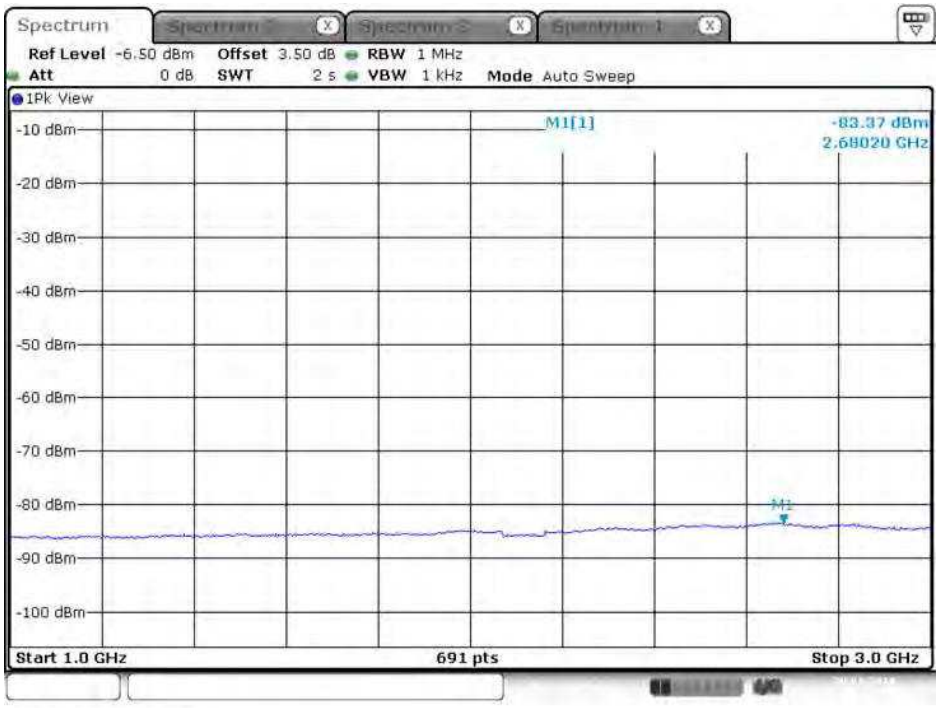
For Antenna 1:

Plot on Configuration QPSK, 5M / 5155 MHz / Average / Port 1 / 1GHz~3GHz



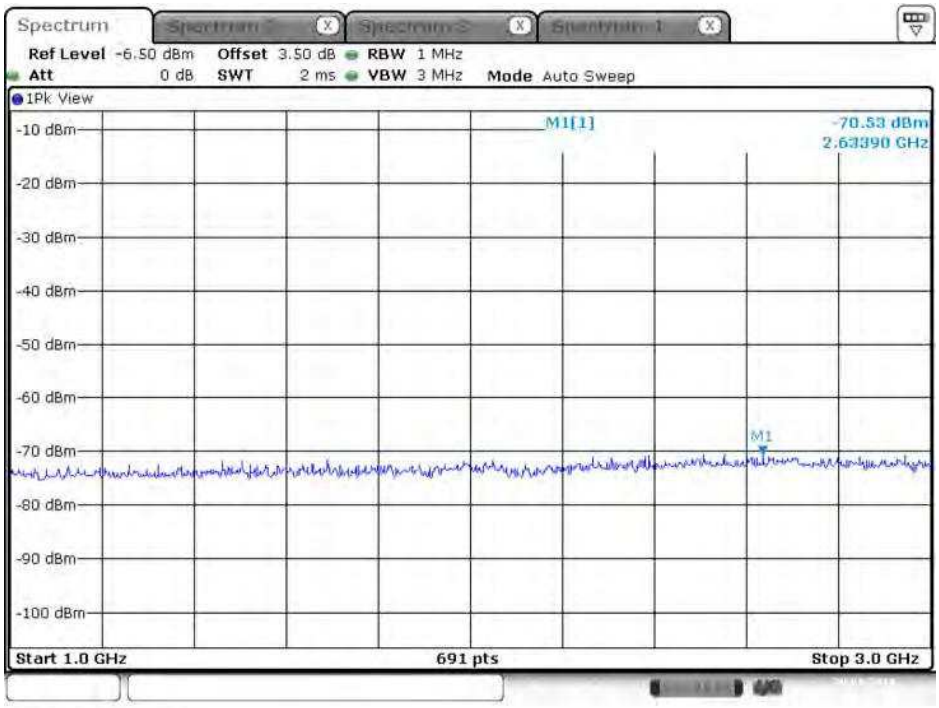
Date: 20.JAN.2018 18:59:44

Plot on Configuration QPSK, 5M / 5155 MHz / Average / Port 2 / 1GHz~3GHz



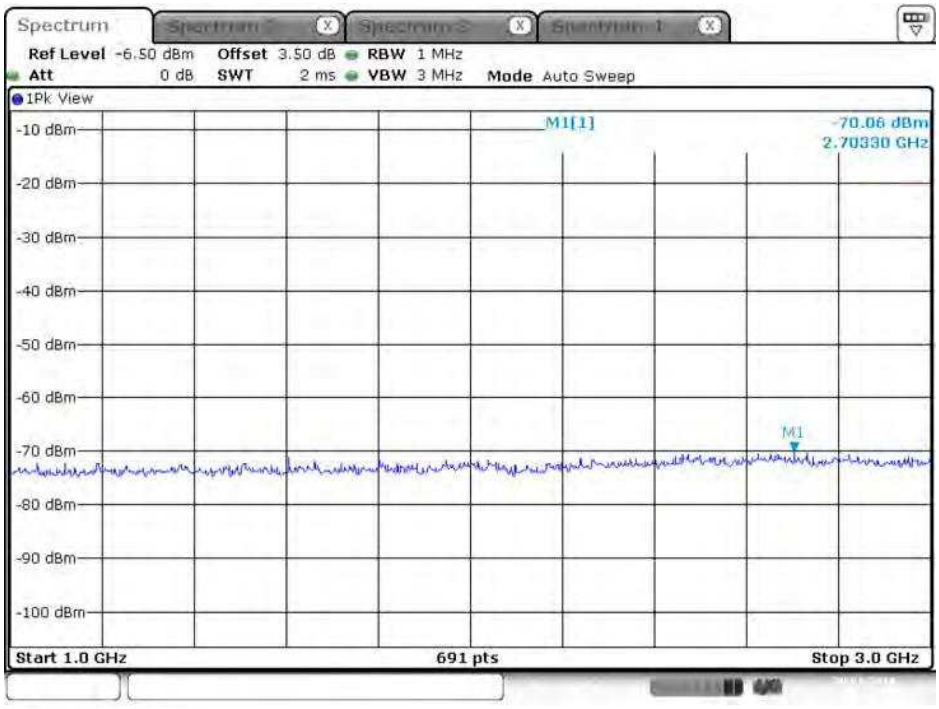
Date: 20.JAN.2018 19:28:41

Plot on Configuration QPSK, 5M / 5155 MHz / Peak / Port 1 / 1GHz~3GHz



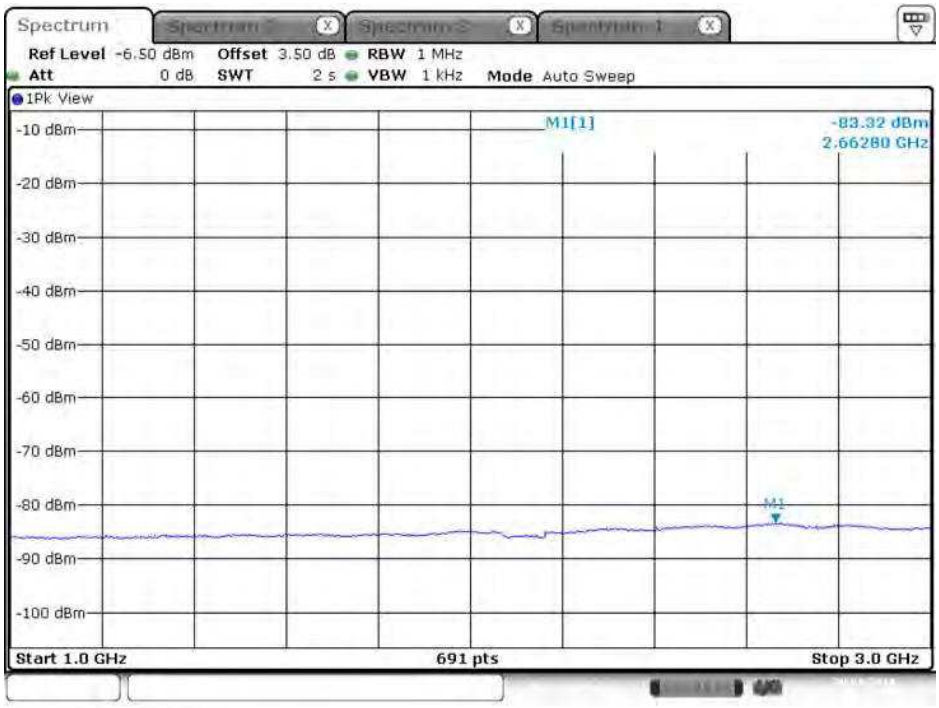
Date: 20.JAN.2018 19:00:36

Plot on Configuration QPSK, 5M / 5155 MHz / Peak / Port 2 / 1GHz~3GHz



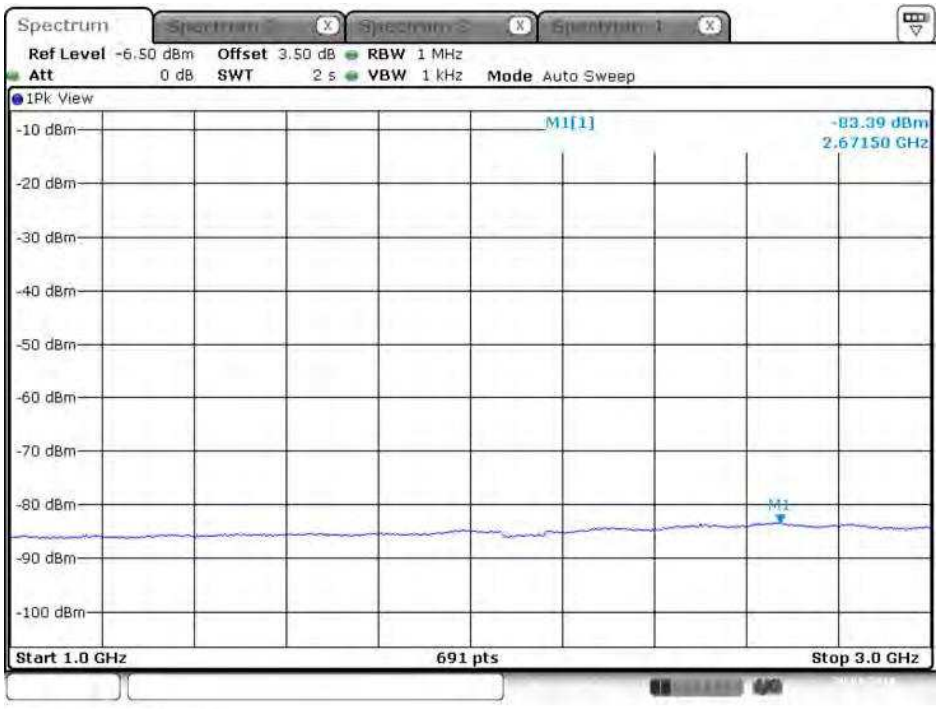
Date: 20.JAN.2018 19:29:35

Plot on Configuration QPSK, 5M / 5200 MHz / Average / Port 1 / 1GHz~3GHz



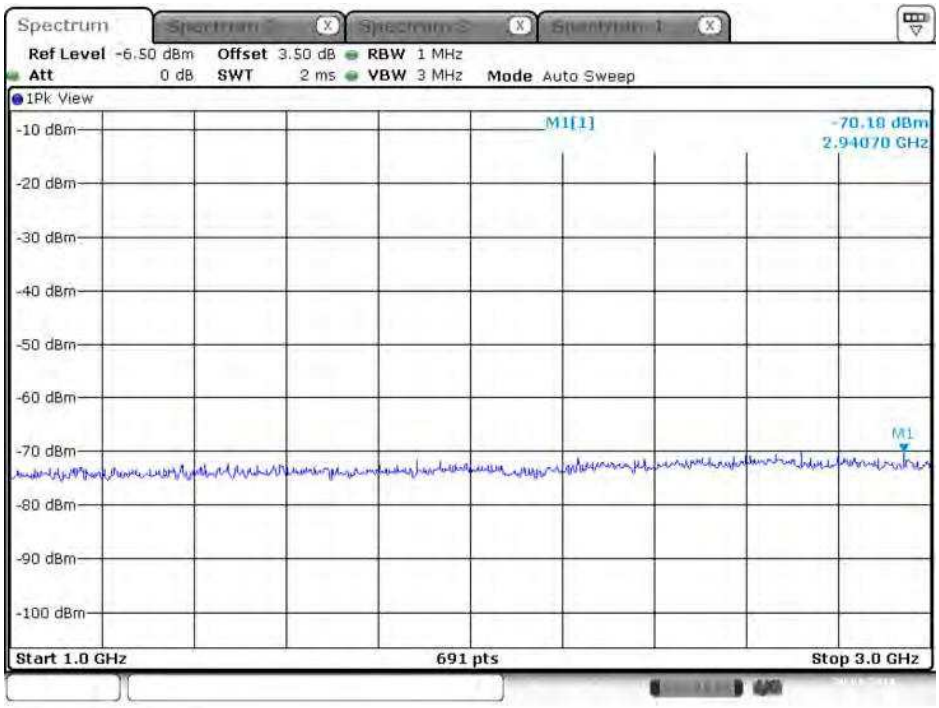
Date: 20.JAN.2018 20:00:52

Plot on Configuration QPSK, 5M / 5200 MHz / Average / Port 2 / 1GHz~3GHz



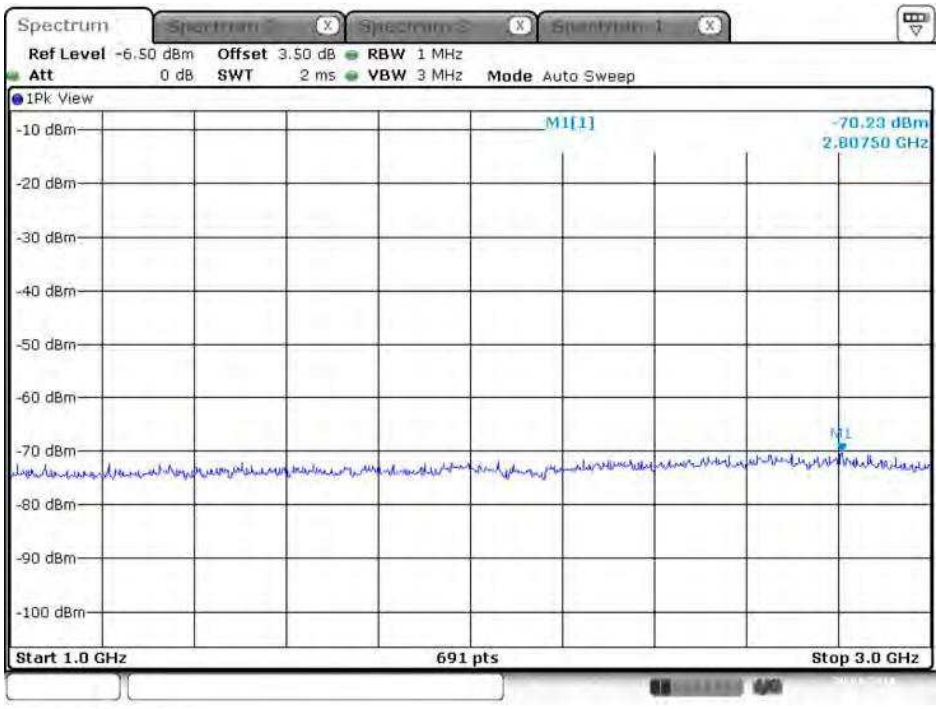
Date: 20.JAN.2018 19:32:37

Plot on Configuration QPSK, 5M / 5200 MHz / Peak / Port 1 / 1GHz~3GHz



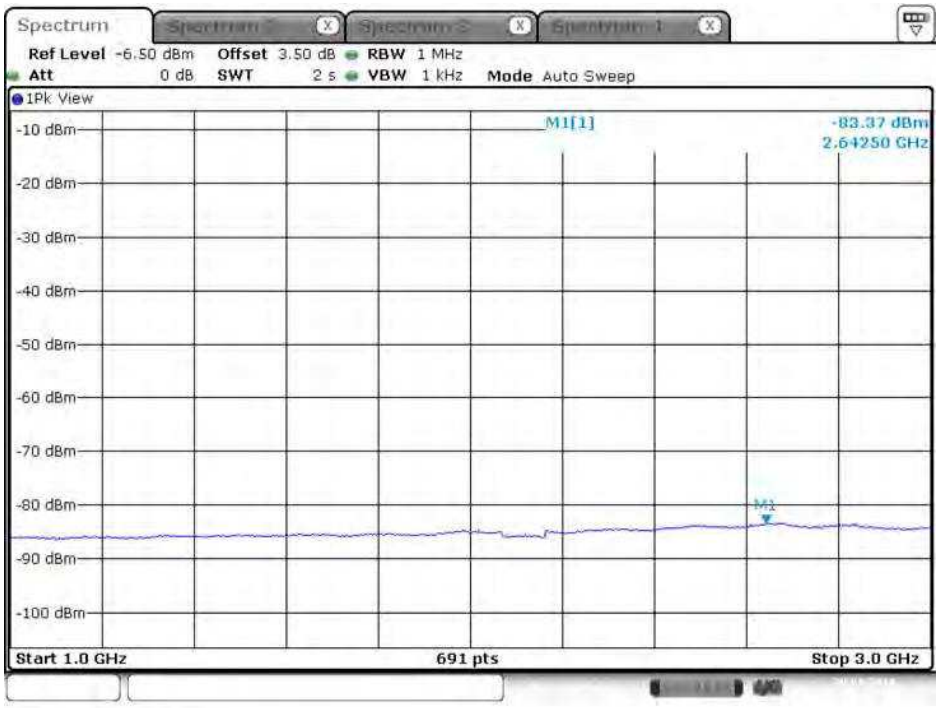
Date: 20.JAN.2018 20:01:24

Plot on Configuration QPSK, 5M / 5200 MHz / Peak / Port 2 / 1GHz~3GHz



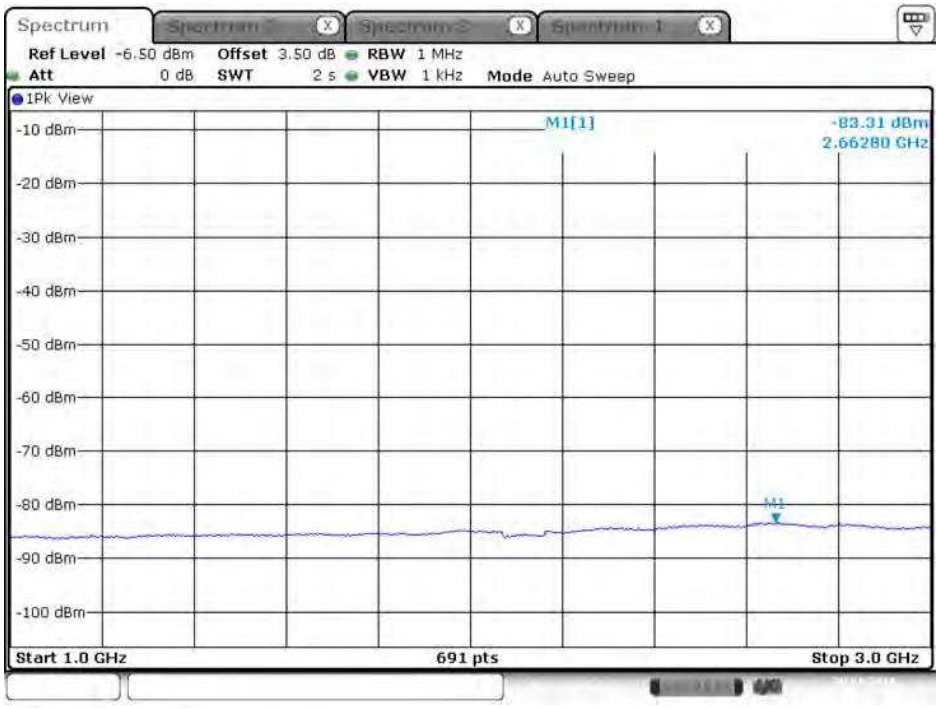
Date: 20.JAN.2018 19:33:23

Plot on Configuration QPSK, 5M / 5245 MHz / Average / Port 1 / 1GHz~3GHz



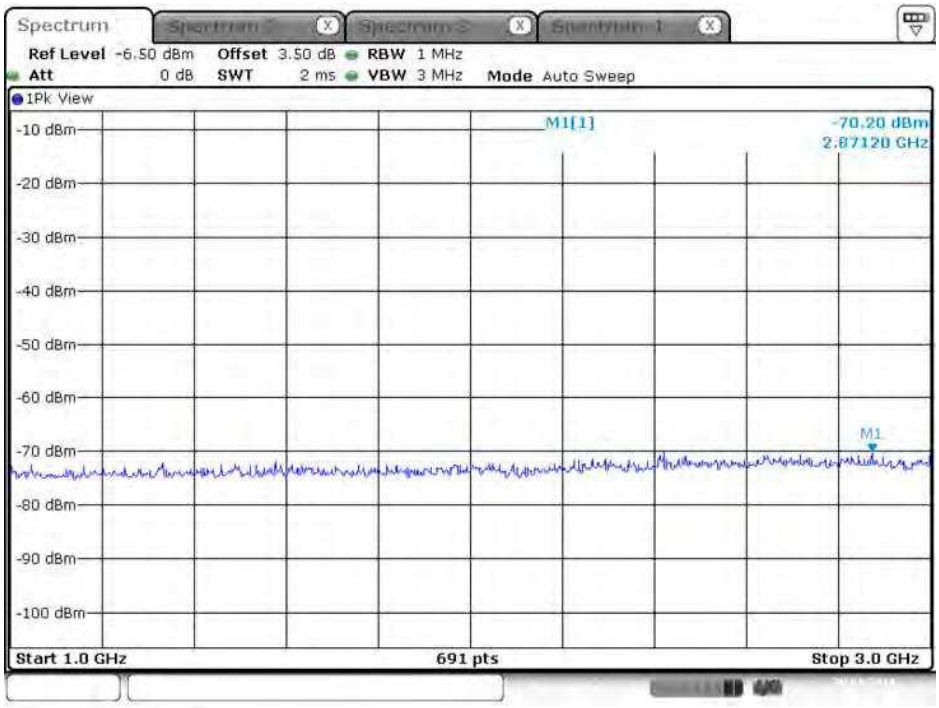
Date: 20.JAN.2018 20:12:10

Plot on Configuration QPSK, 5M / 5245 MHz / Average / Port 2 / 1GHz~3GHz



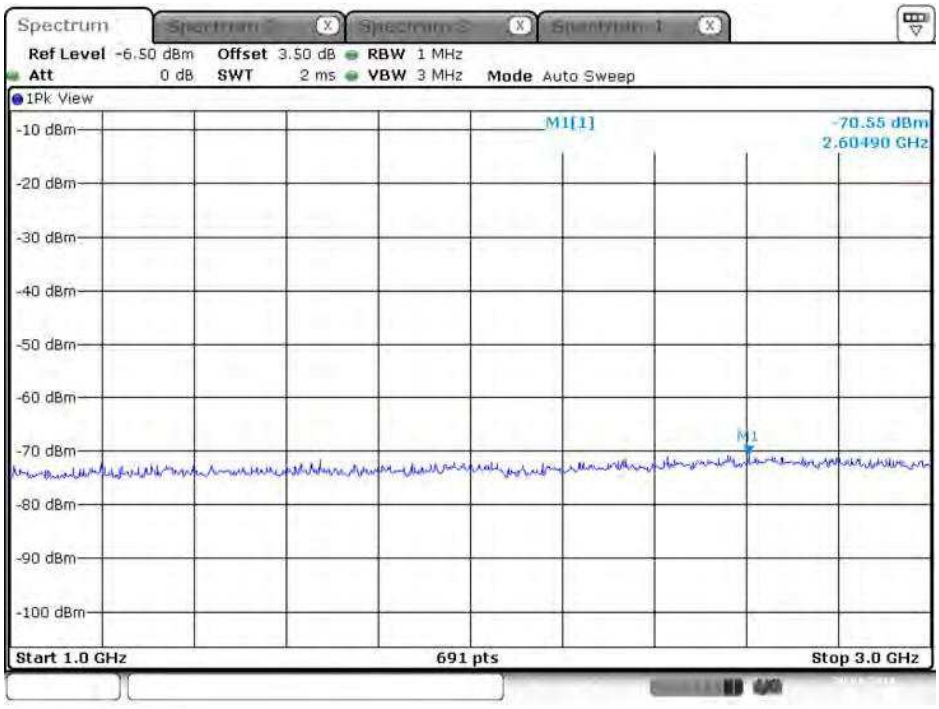
Date: 20.JAN.2018 20:47:43

Plot on Configuration QPSK, 5M / 5245 MHz / Peak / Port 1 / 1GHz~3GHz



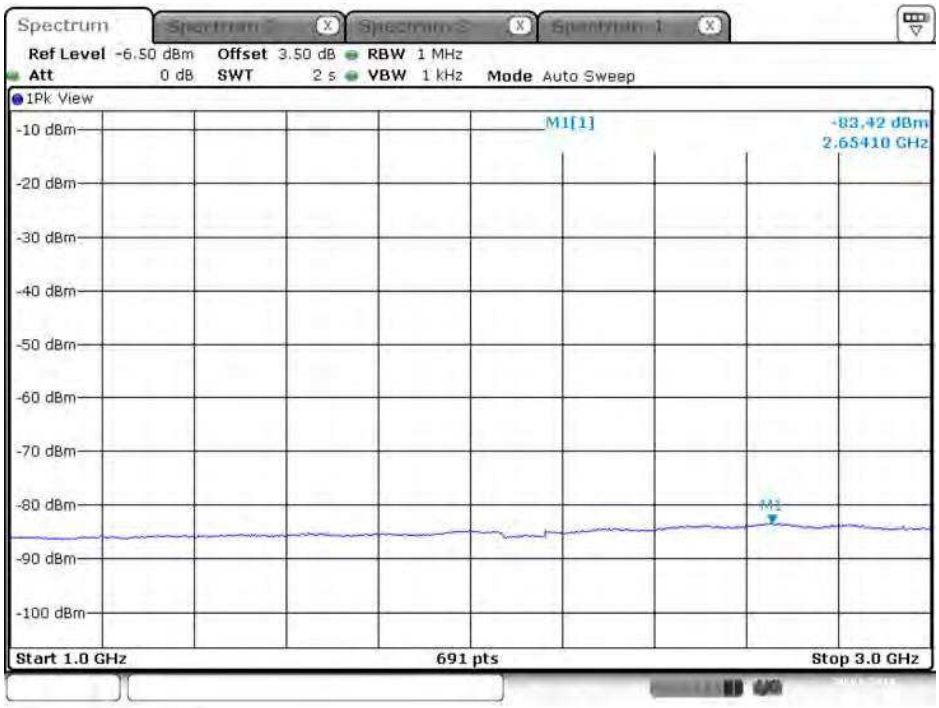
Date: 20.JAN.2018 20:13:18

Plot on Configuration QPSK, 5M / 5245 MHz / Peak / Port 2 / 1GHz~3GHz



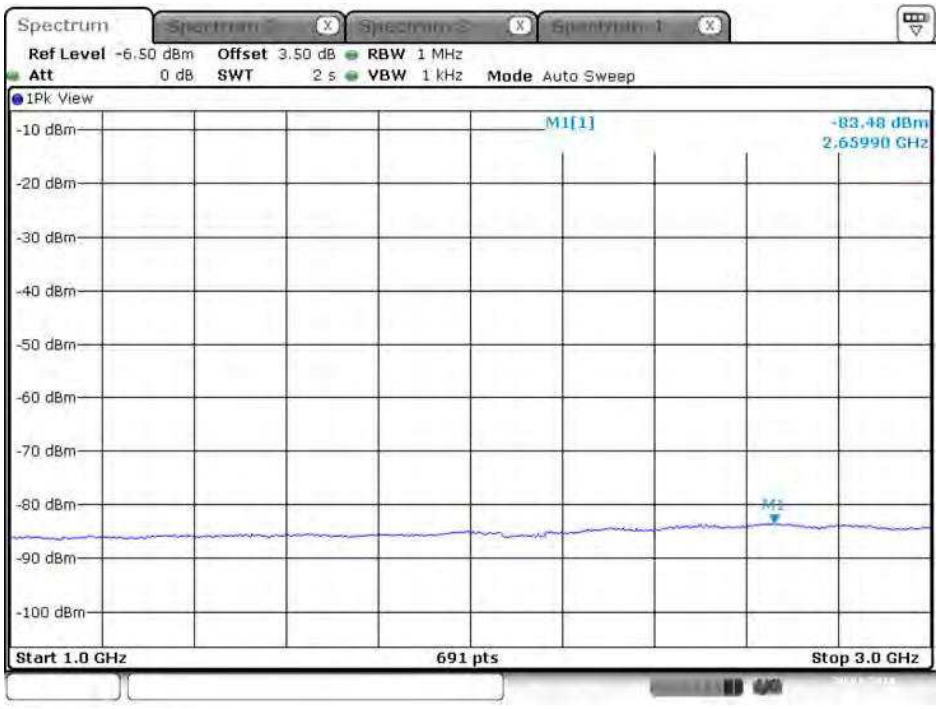
Date: 20.JAN.2018 20:48:40

Plot on Configuration QPSK, 40M / 5175 MHz / Average / Port 1 / 1GHz~3GHz



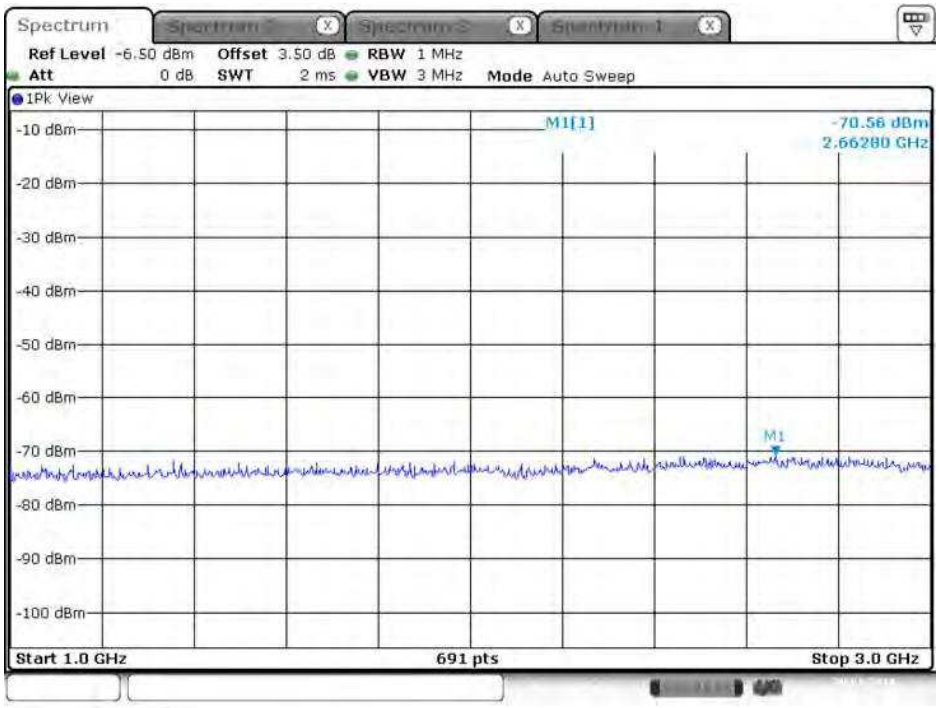
Date: 20.JAN.2018 21:03:18

Plot on Configuration QPSK, 40M / 5175 MHz / Average / Port 2 / 1GHz~3GHz



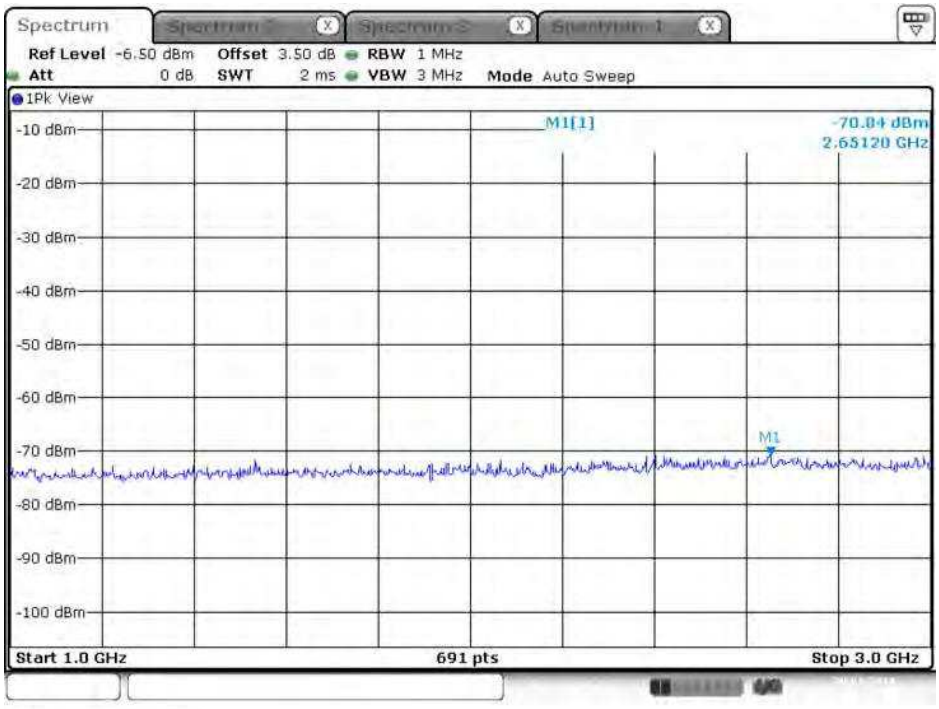
Date: 20.JAN.2018 21:24:51

Plot on Configuration QPSK, 40M / 5175 MHz / Peak / Port 1 / 1GHz~3GHz



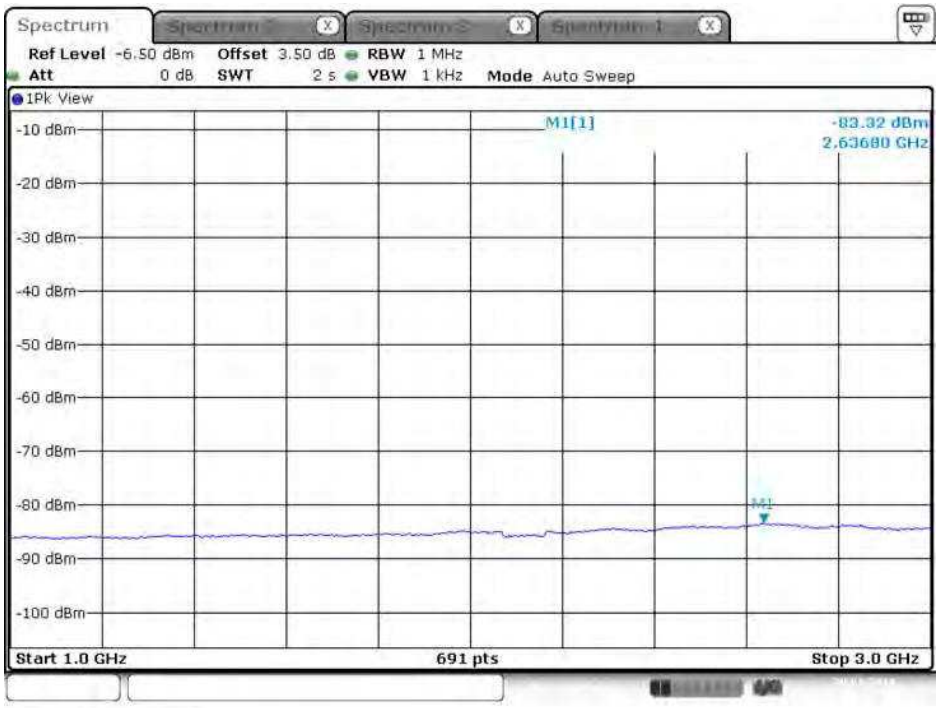
Date: 20.JAN.2018 21:04:05

Plot on Configuration QPSK, 40M / 5175 MHz / Peak / Port 2 / 1GHz~3GHz



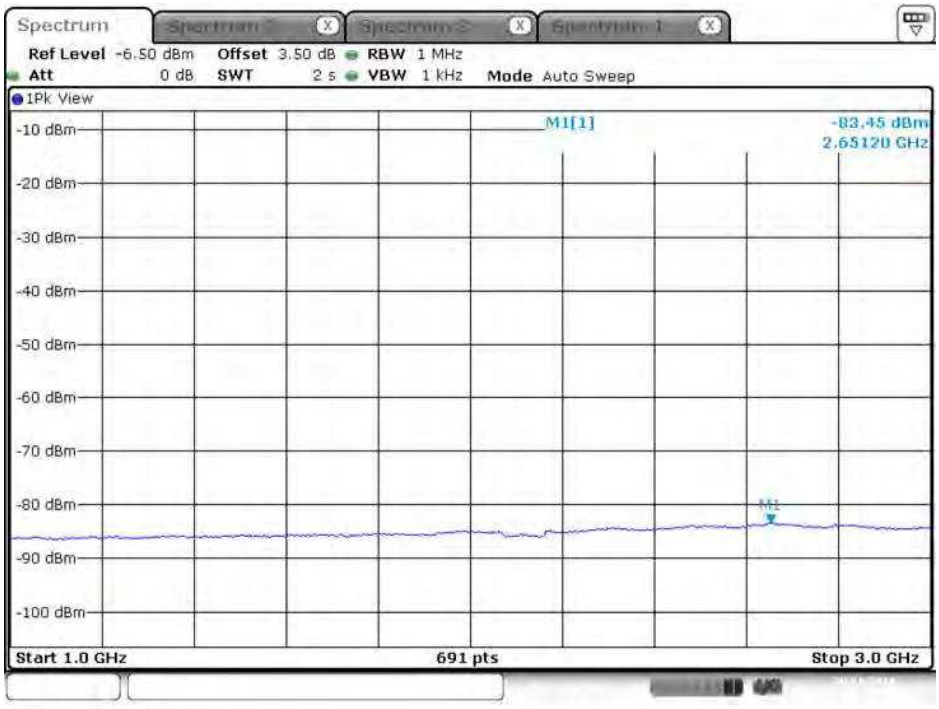
Date: 20.JAN.2018 21:25:49

Plot on Configuration QPSK, 40M / 5200 MHz / Average / Port 1 / 1GHz~3GHz



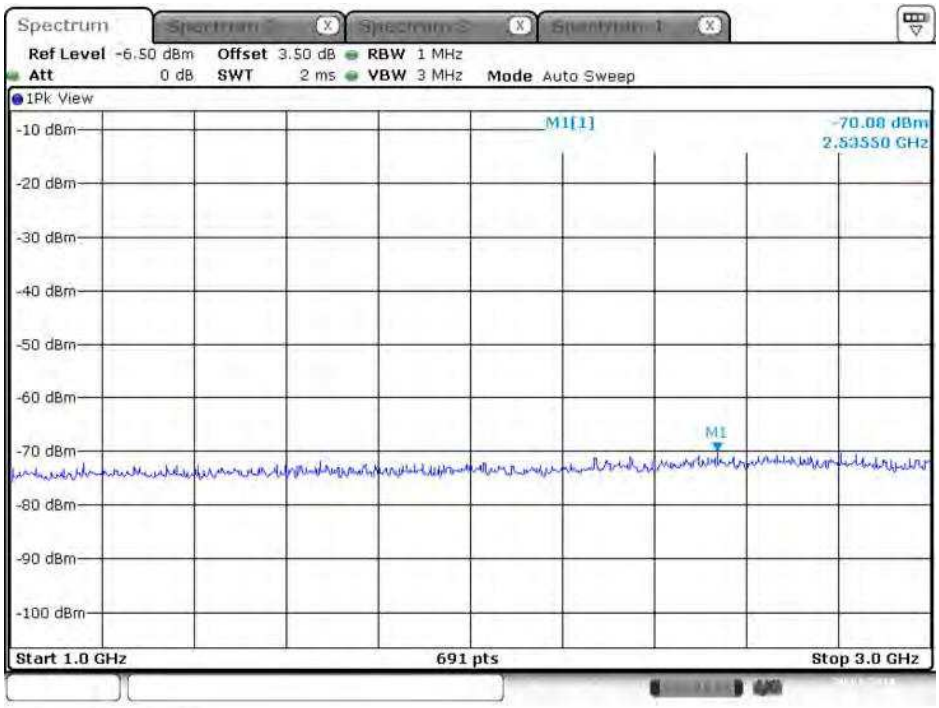
Date: 20.JAN.2018 21:28:39

Plot on Configuration QPSK, 40M / 5200 MHz / Average / Port 2 / 1GHz~3GHz



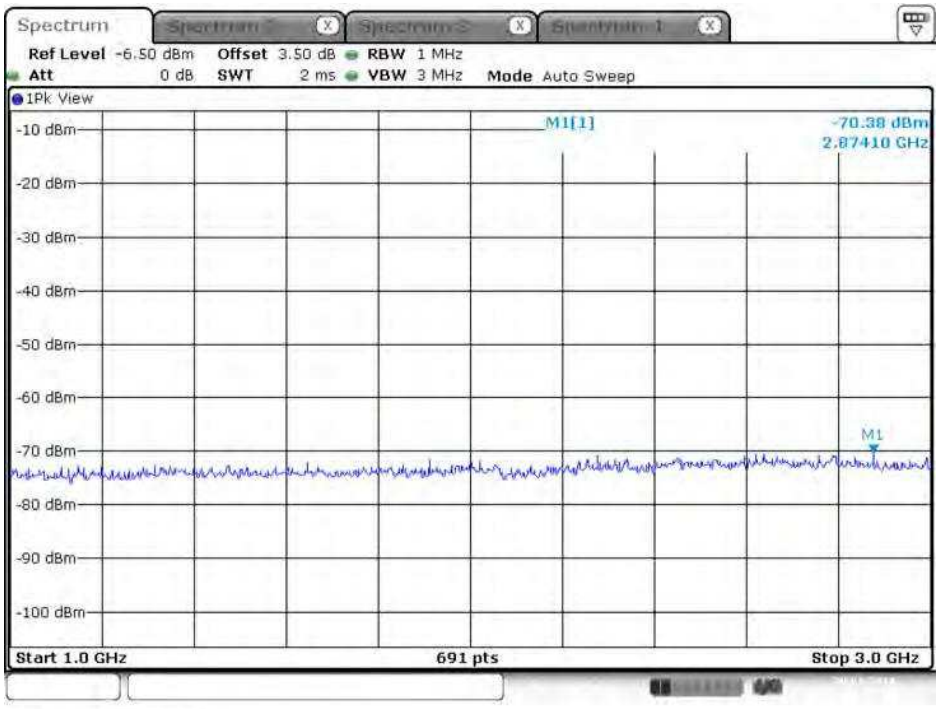
Date: 20.JAN.2018 21:52:52

Plot on Configuration QPSK, 40M / 5200 MHz / Peak / Port 1 / 1GHz~3GHz



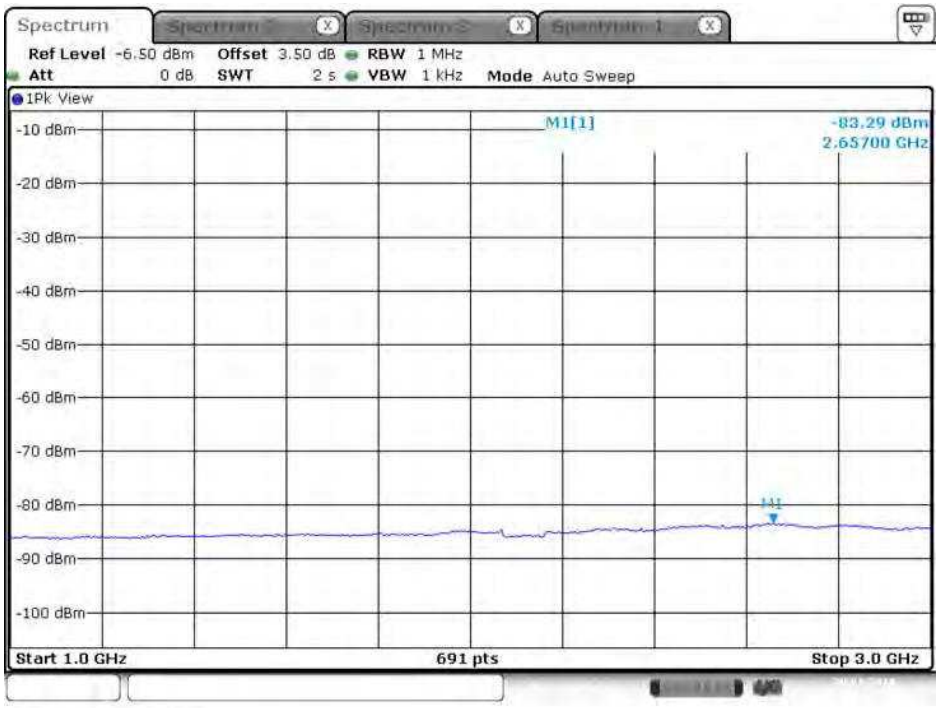
Date: 20.JAN.2018 21:29:23

Plot on Configuration QPSK, 40M / 5200 MHz / Peak / Port 2 / 1GHz~3GHz



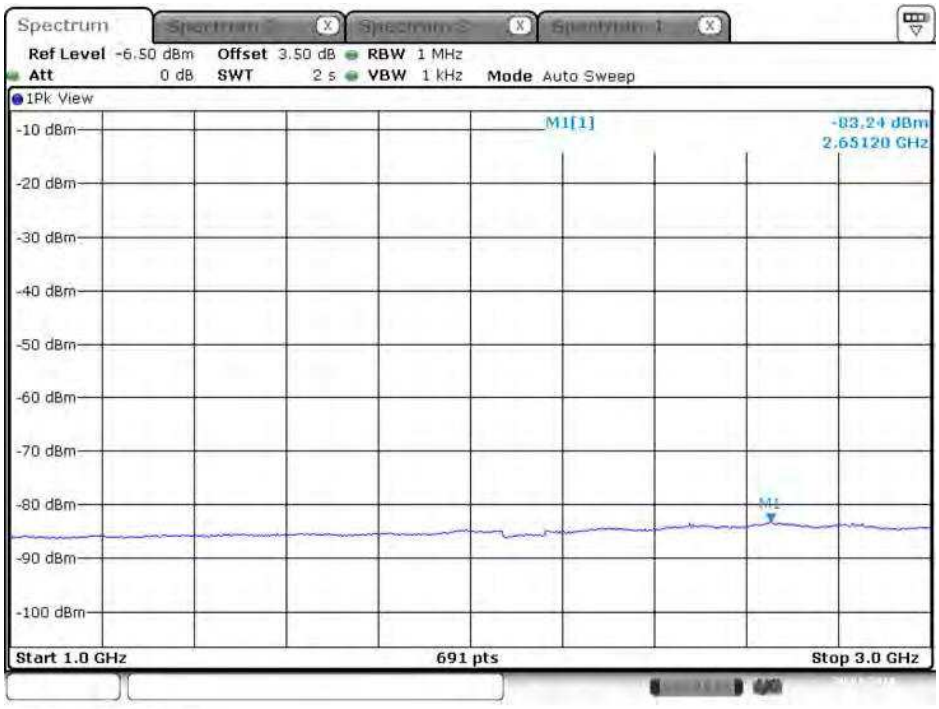
Date: 20.JAN.2018 21:53:56

Plot on Configuration QPSK, 40M / 5230 MHz / Average / Port 1 / 1GHz~3GHz



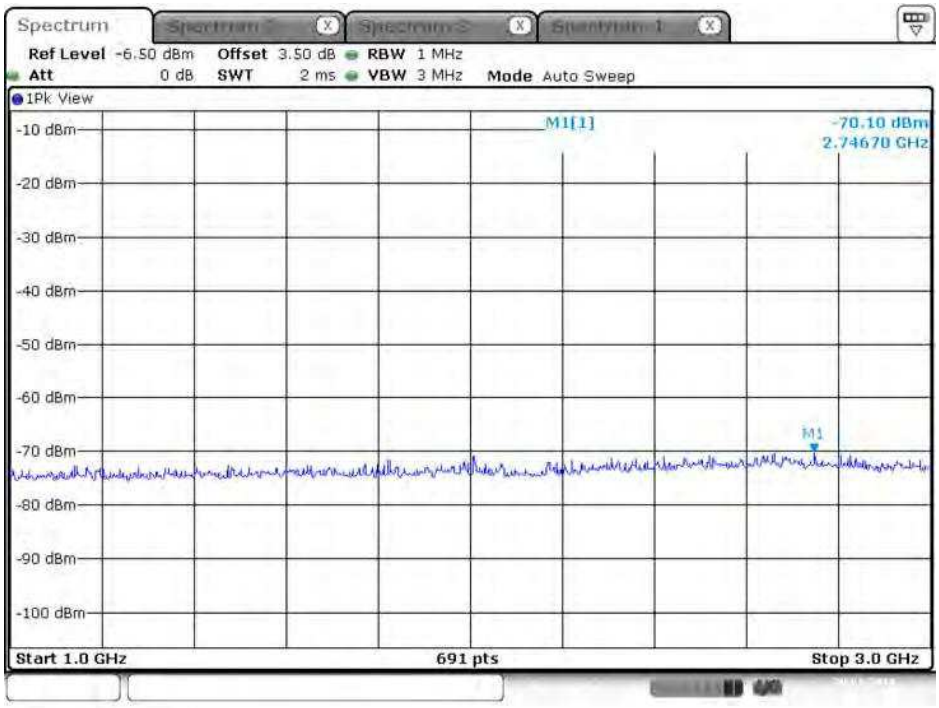
Date: 20.JAN.2018 22:01:24

Plot on Configuration QPSK, 40M / 5230 MHz / Average / Port 2 / 1GHz~3GHz



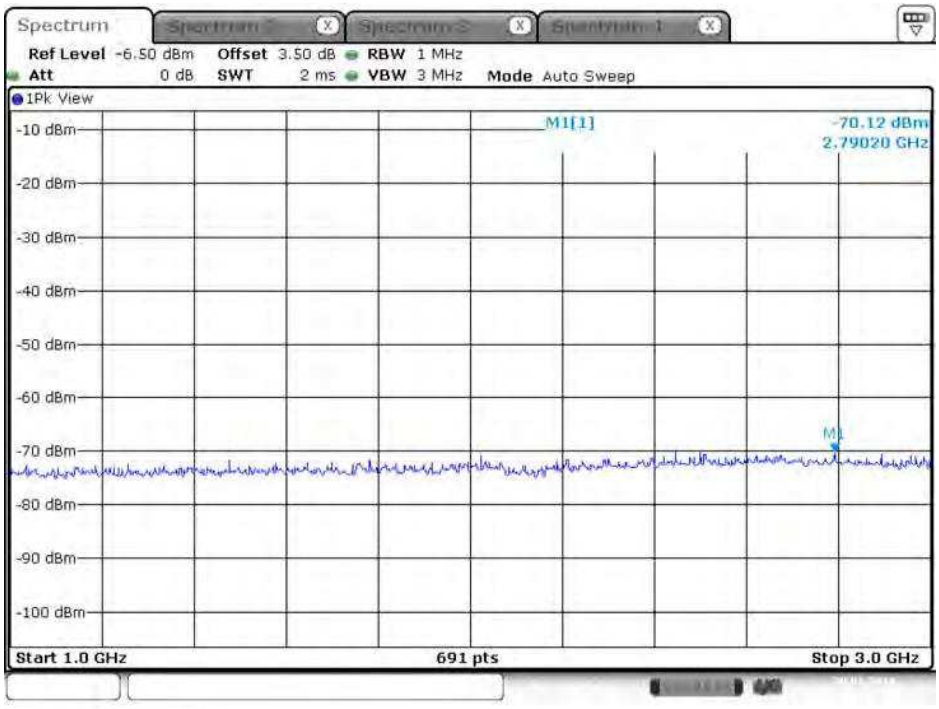
Date: 20.JAN.2018 22:27:16

Plot on Configuration QPSK, 40M / 5230 MHz / Peak / Port 1 / 1GHz~3GHz



Date: 20.JAN.2018 22:03:40

Plot on Configuration QPSK, 40M / 5230 MHz / Peak / Port 2 / 1GHz~3GHz



Date: 20.JAN.2018 22:28:06

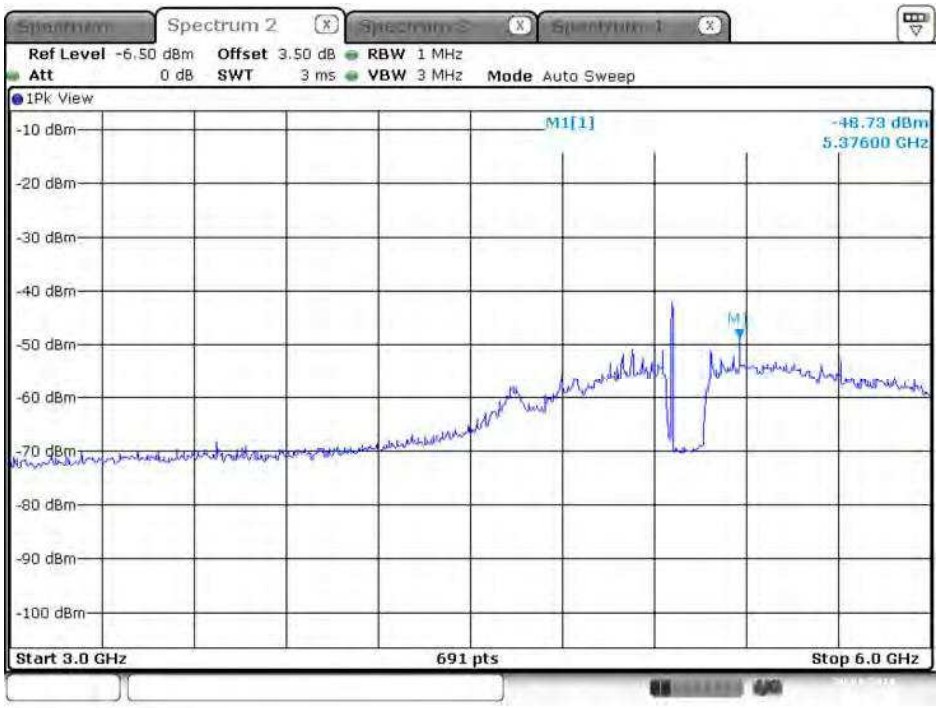
Plot on Configuration QPSK, 5M / 5155 MHz / Average / Port 1 / 3GHz~6GHz

Date: 20.JAN.2018 19:06:37

Plot on Configuration QPSK, 5M / 5155 MHz / Average / Port 2 / 3GHz~6GHz

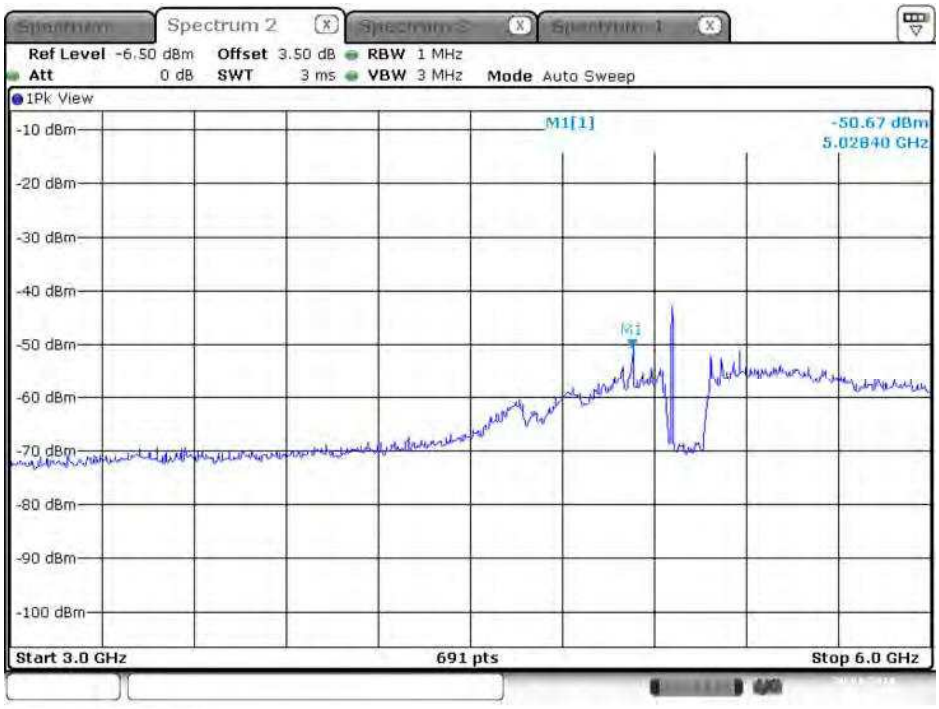
Date: 20.JAN.2018 19:25:54

Plot on Configuration QPSK, 5M / 5155 MHz / Peak / Port 1 / 3GHz~6GHz



Date: 20.JAN.2018 19:07:30

Plot on Configuration QPSK, 5M / 5155 MHz / Peak / Port 2 / 3GHz~6GHz



Date: 20.JAN.2018 19:27:02

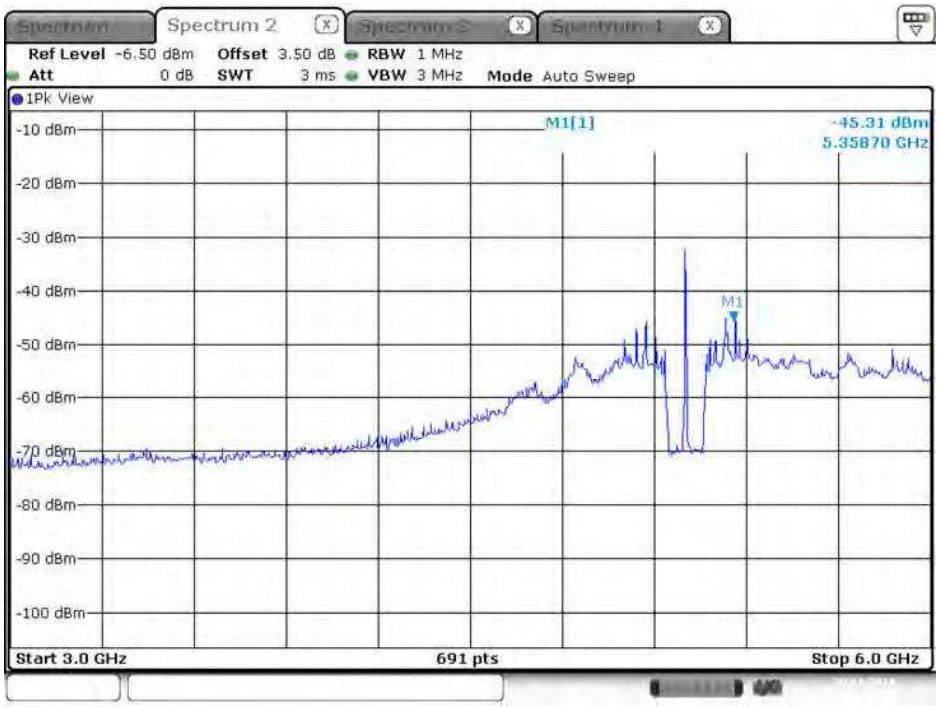
Plot on Configuration QPSK, 5M / 5200 MHz / Average / Port 1 / 3GHz~6GHz

Date: 20.JAN.2018 19:58:33

Plot on Configuration QPSK, 5M / 5200 MHz / Average / Port 2 / 3GHz~6GHz

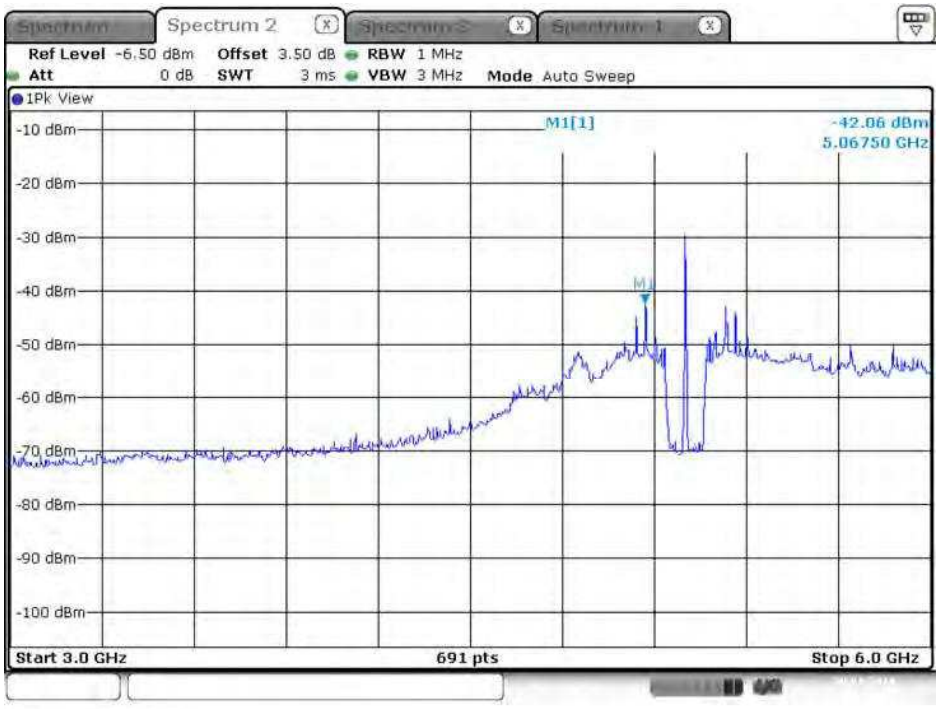
Date: 20.JAN.2018 19:34:51

Plot on Configuration QPSK, 5M / 5200 MHz / Peak / Port 1 / 3GHz~6GHz



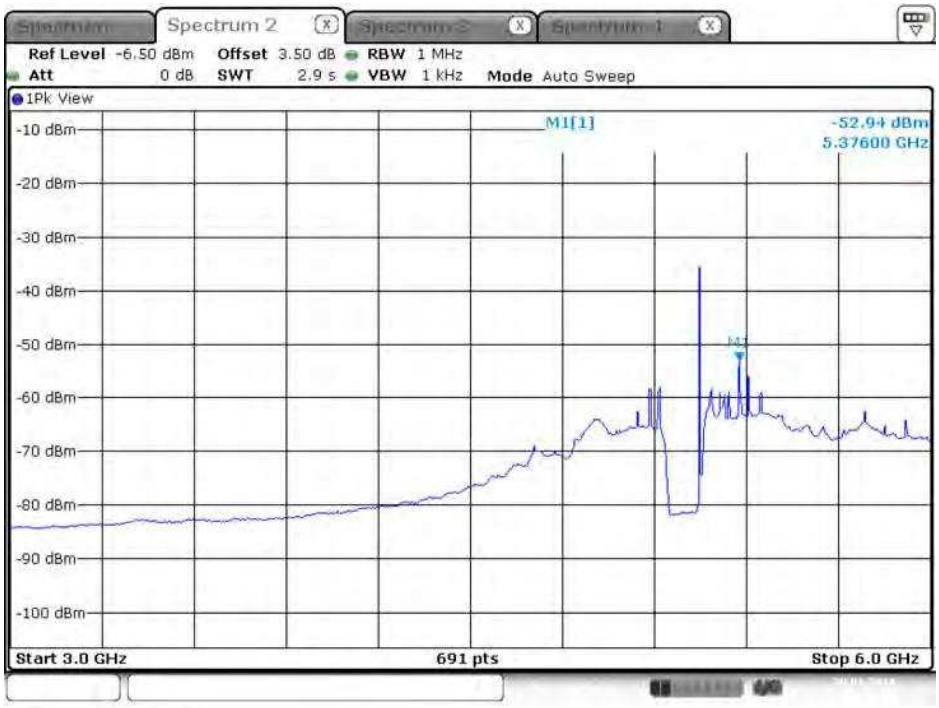
Date: 20.JAN.2018 19:59:45

Plot on Configuration QPSK, 5M / 5200 MHz / Peak / Port 2 / 3GHz~6GHz



Date: 20.JAN.2018 19:36:11

Plot on Configuration QPSK, 5M / 5245 MHz / Average / Port 1 / 3GHz~6GHz

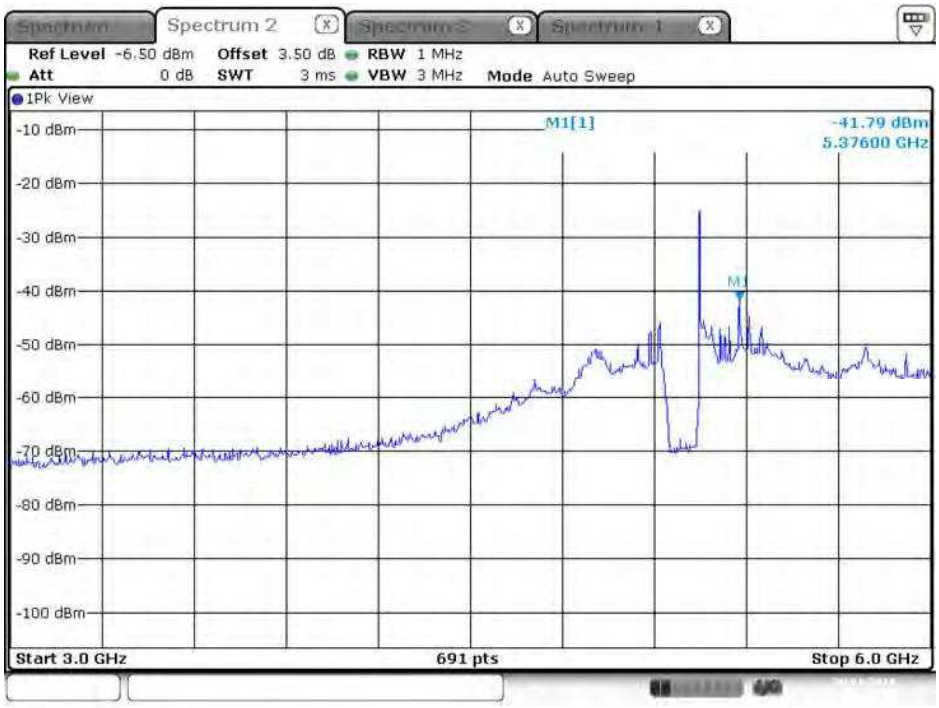


Date: 20.JAN.2018 20:14:52

Plot on Configuration QPSK, 5M / 5245 MHz / Average / Port 2 / 3GHz~6GHz

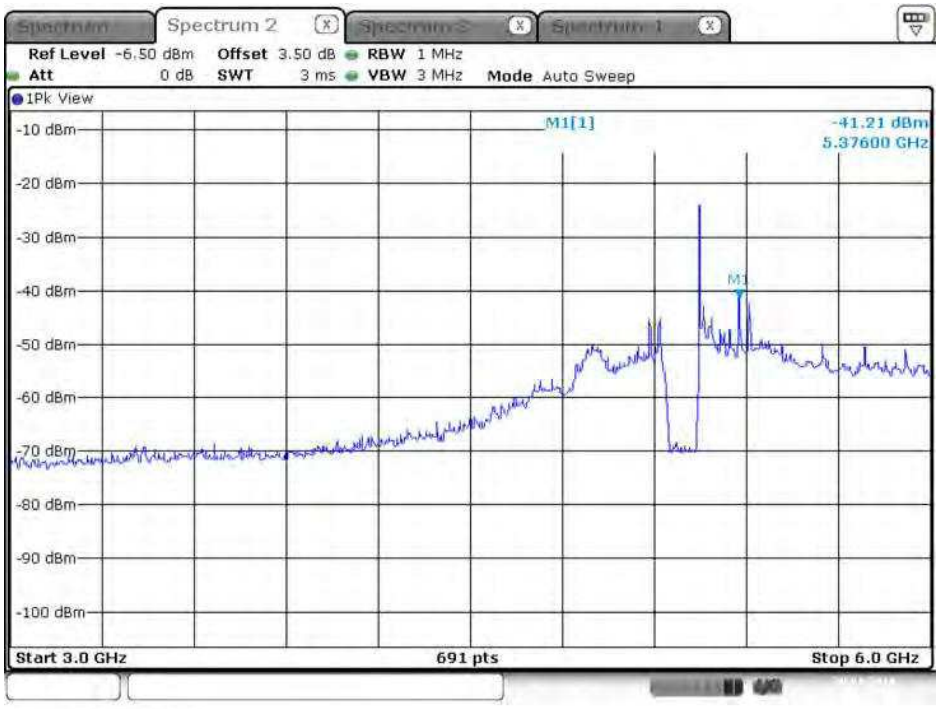
Date: 20.JAN.2018 20:44:54

Plot on Configuration QPSK, 5M / 5245 MHz / Peak / Port 1 / 3GHz~6GHz



Date: 20.JAN.2018 20:15:48

Plot on Configuration QPSK, 5M / 5245 MHz / Peak / Port 2 / 3GHz~6GHz

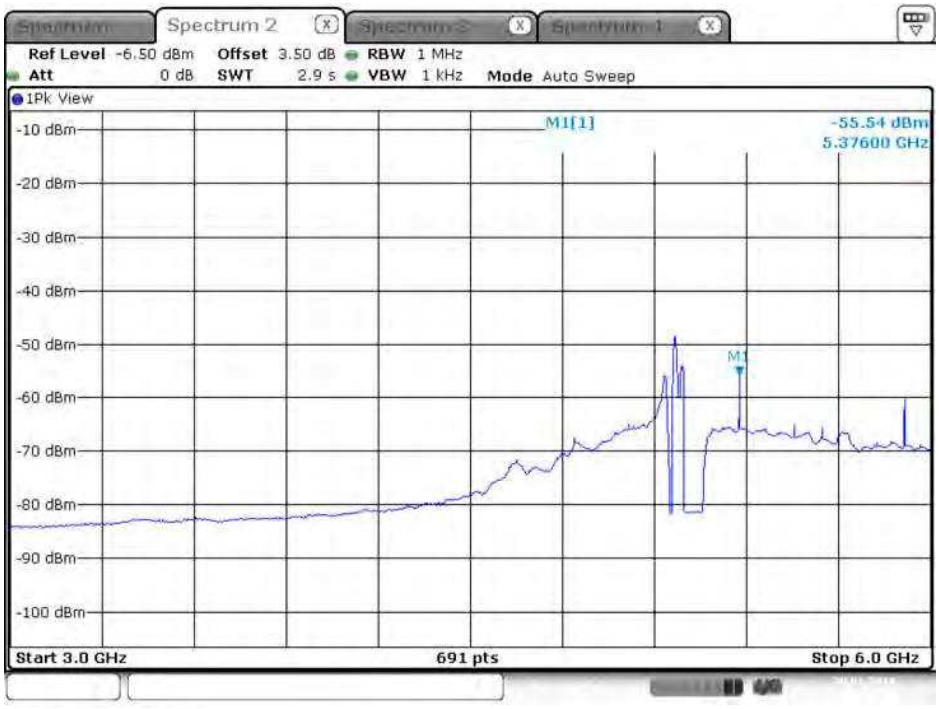


Date: 20.JAN.2018 20:45:50

Plot on Configuration QPSK, 40M / 5175 MHz / Average / Port 1 / 3GHz~6GHz

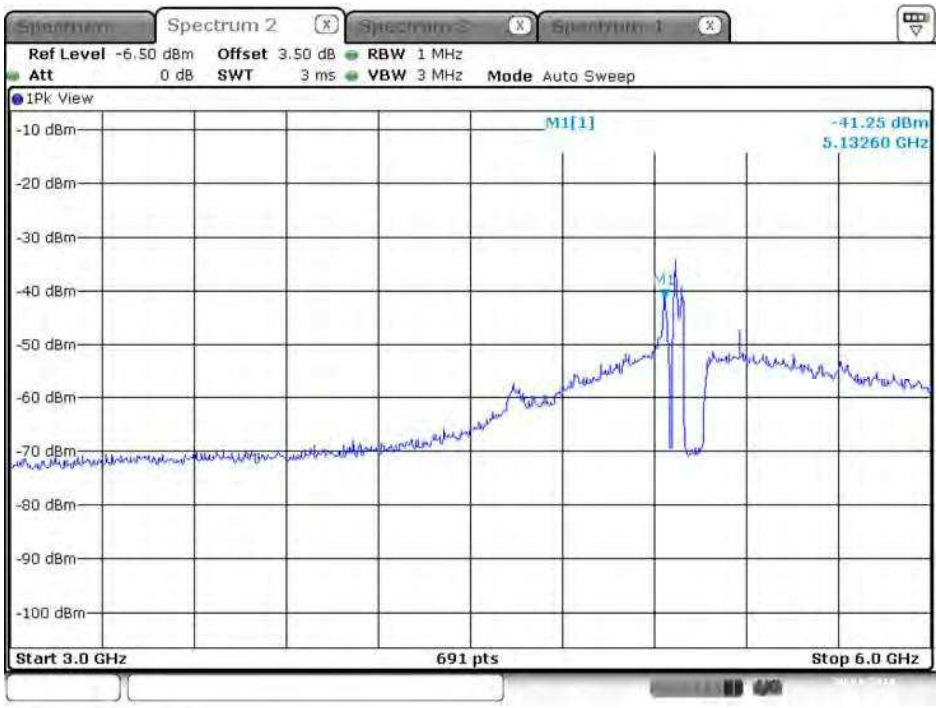
Date: 20.JAN.2018 21:04:56

Plot on Configuration QPSK, 40M / 5175 MHz / Average / Port 2 / 3GHz~6GHz



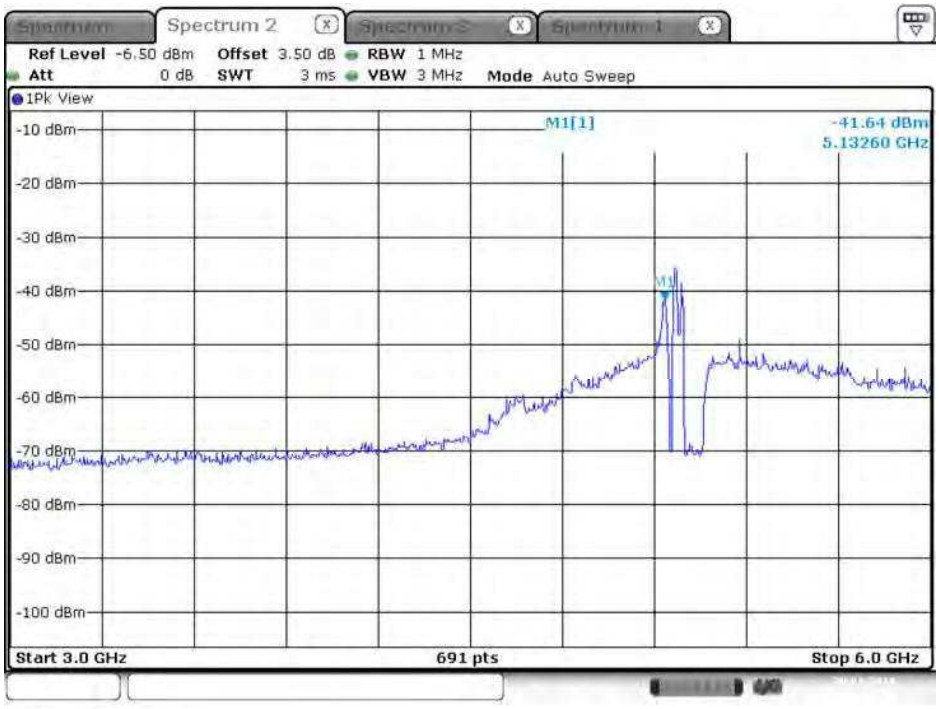
Date: 20.JAN.2018 21:22:39

Plot on Configuration QPSK, 40M / 5175 MHz / Peak / Port 1 / 3GHz~6GHz



Date: 20.JAN.2018 21:05:58

Plot on Configuration QPSK, 40M / 5175 MHz / Peak / Port 2 / 3GHz~6GHz



Date: 20.JAN.2018 21:23:26

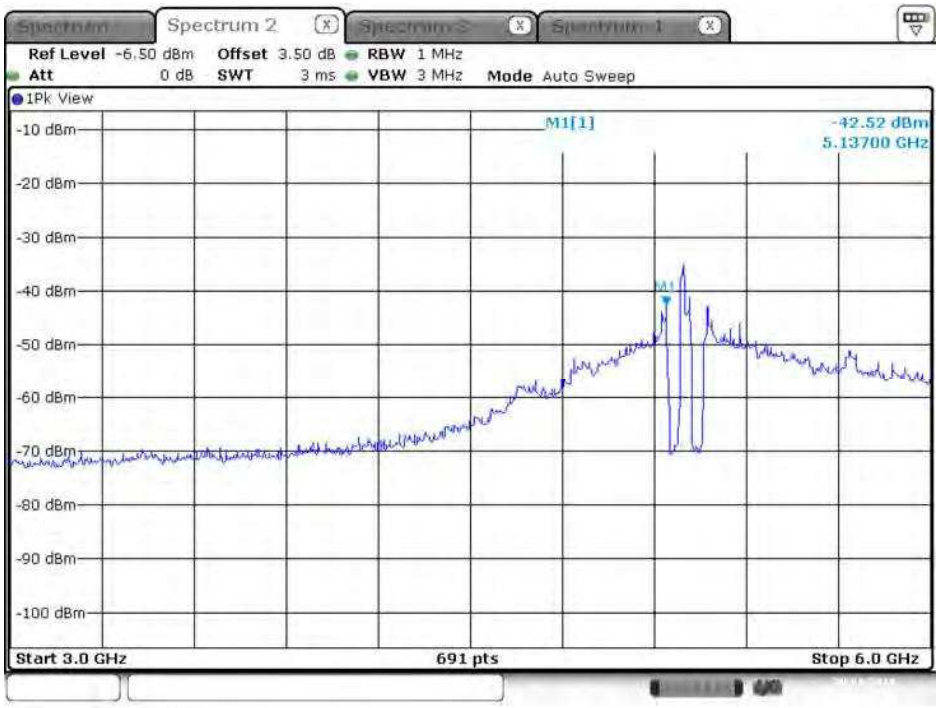
Plot on Configuration QPSK, 40M / 5200 MHz / Average / Port 1 / 3GHz~6GHz

Date: 20.JAN.2018 21:30:26

Plot on Configuration QPSK, 40M / 5200 MHz / Average / Port 2 / 3GHz~6GHz

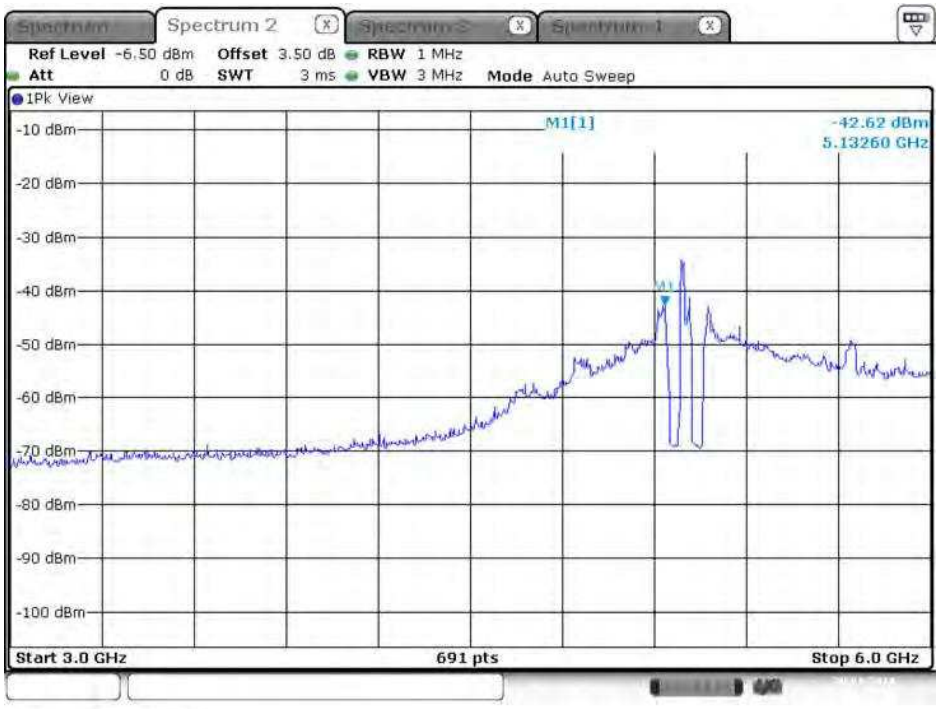
Date: 20.JAN.2018 21:49:55

Plot on Configuration QPSK, 40M / 5200 MHz / Peak / Port 1 / 3GHz~6GHz



Date: 20.JAN.2018 21:31:52

Plot on Configuration QPSK, 40M / 5200 MHz / Peak / Port 2 / 3GHz~6GHz



Date: 20.JAN.2018 21:51:22

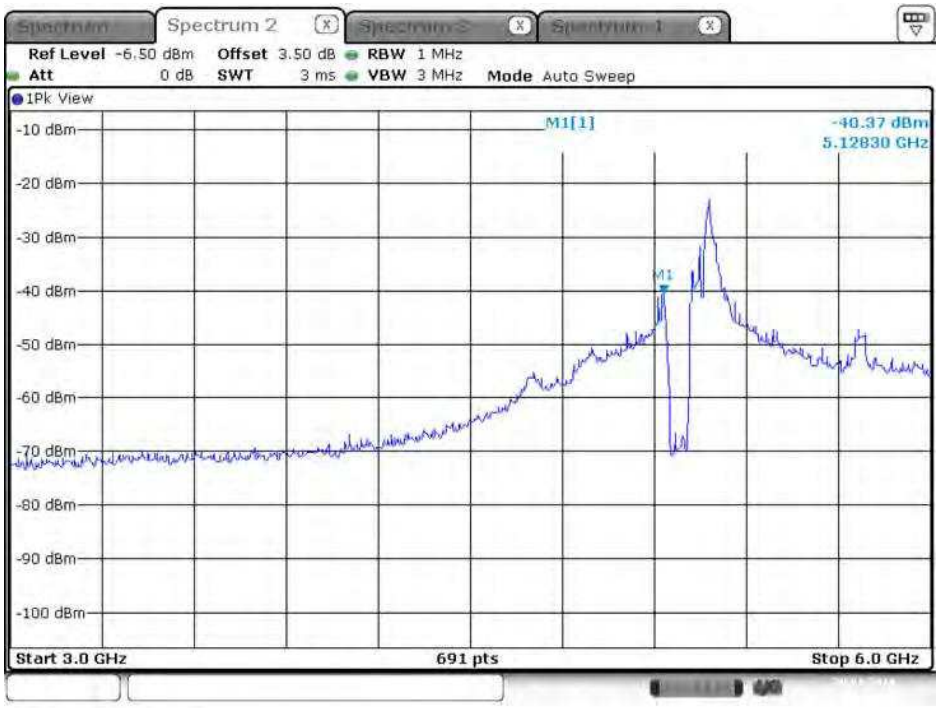
Plot on Configuration QPSK, 40M / 5230 MHz / Average / Port 1 / 3GHz~6GHz

Date: 20.JAN.2018 22:05:15

Plot on Configuration QPSK, 40M / 5230 MHz / Average / Port 2 / 3GHz~6GHz

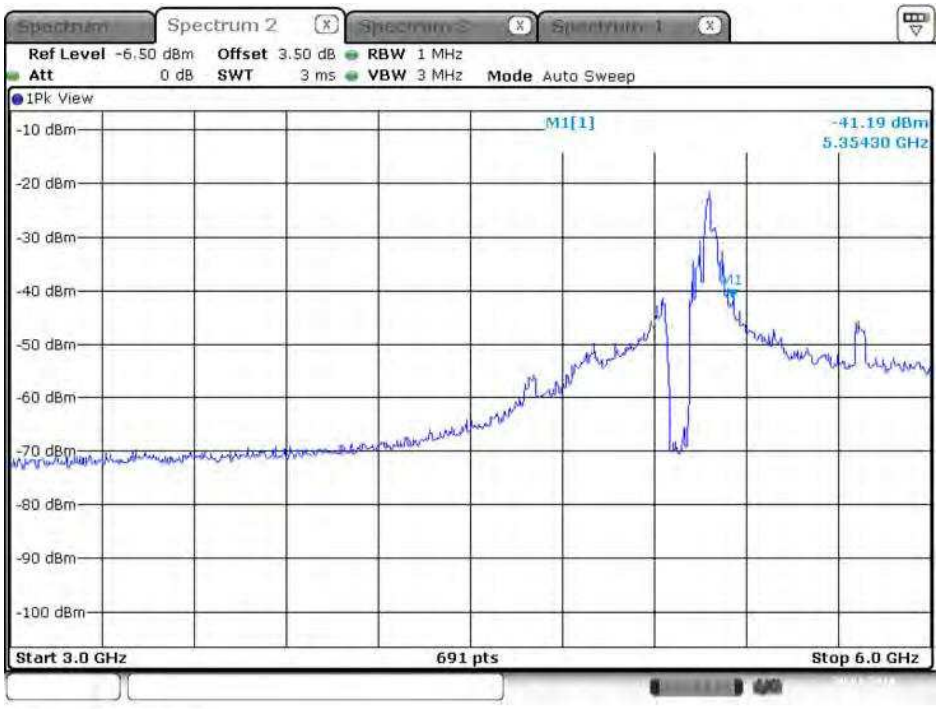
Date: 20.JAN.2018 22:25:00

Plot on Configuration QPSK, 40M / 5230 MHz / Peak / Port 1 / 3GHz~6GHz



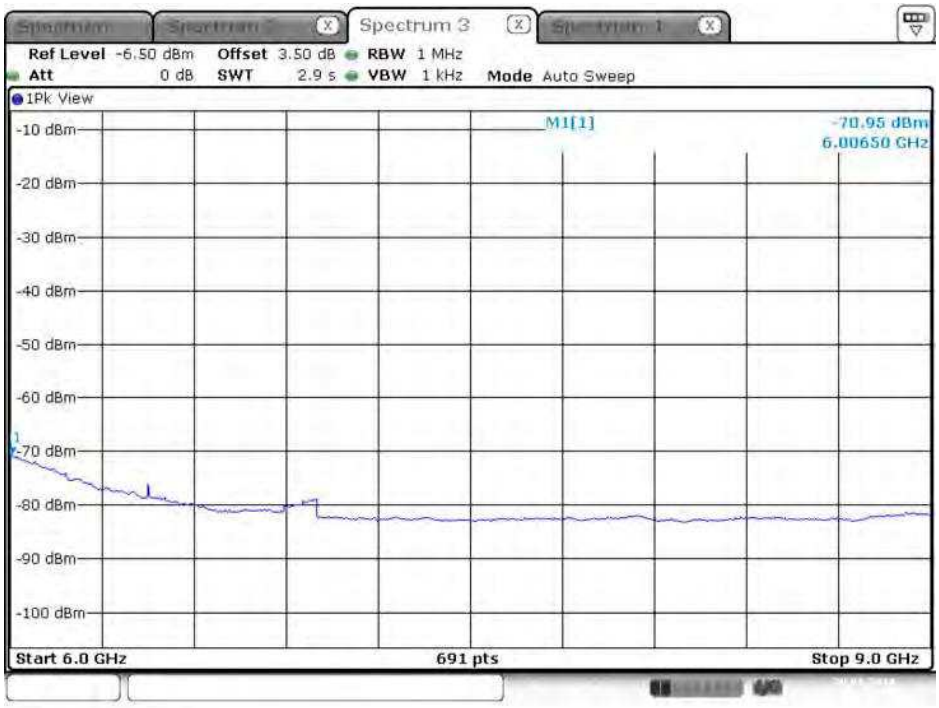
Date: 20.JAN.2018 22:06:34

Plot on Configuration QPSK, 40M / 5230 MHz / Peak / Port 2 / 3GHz~6GHz



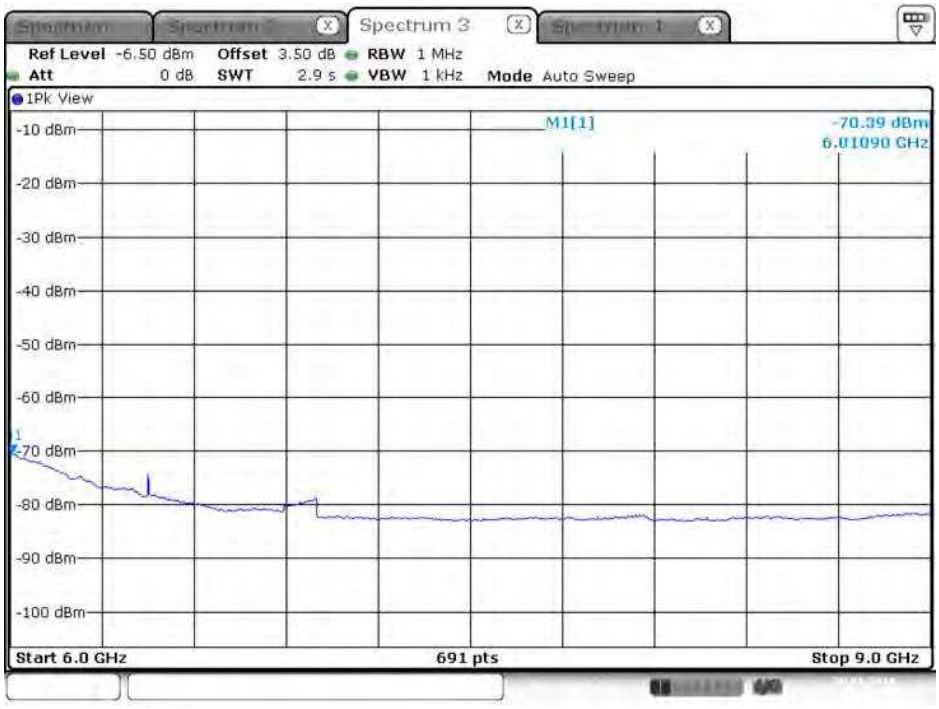
Date: 20.JAN.2018 22:25:54

Plot on Configuration QPSK, 5M / 5155 MHz / Average / Port 1 / 6GHz~9GHz



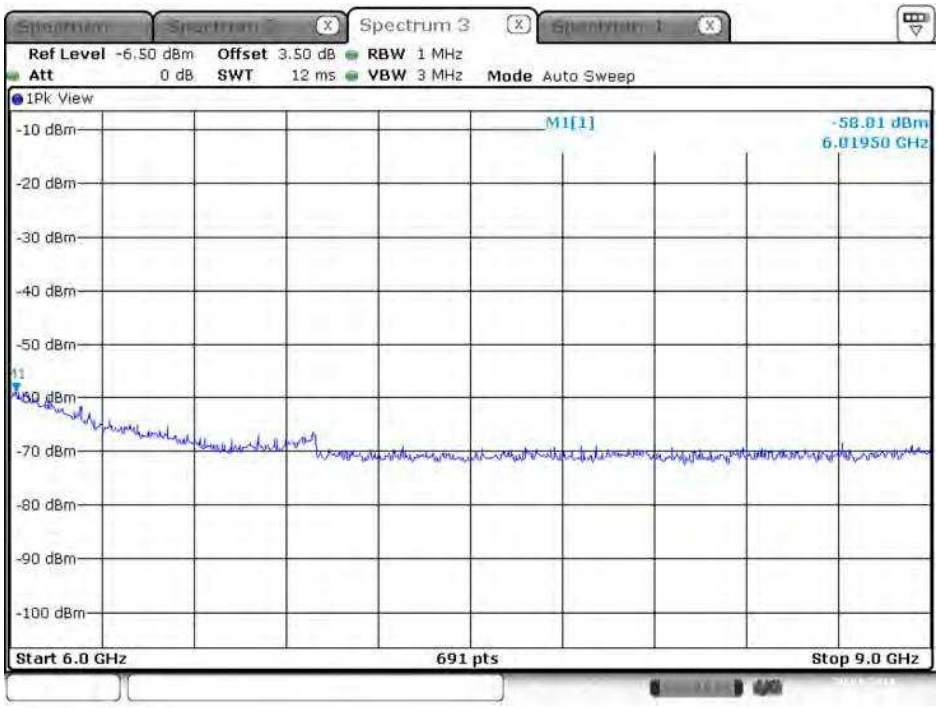
Date: 20.JAN.2018 19:08:14

Plot on Configuration QPSK, 5M / 5155 MHz / Average / Port 2 / 1 6GHz~9GHz



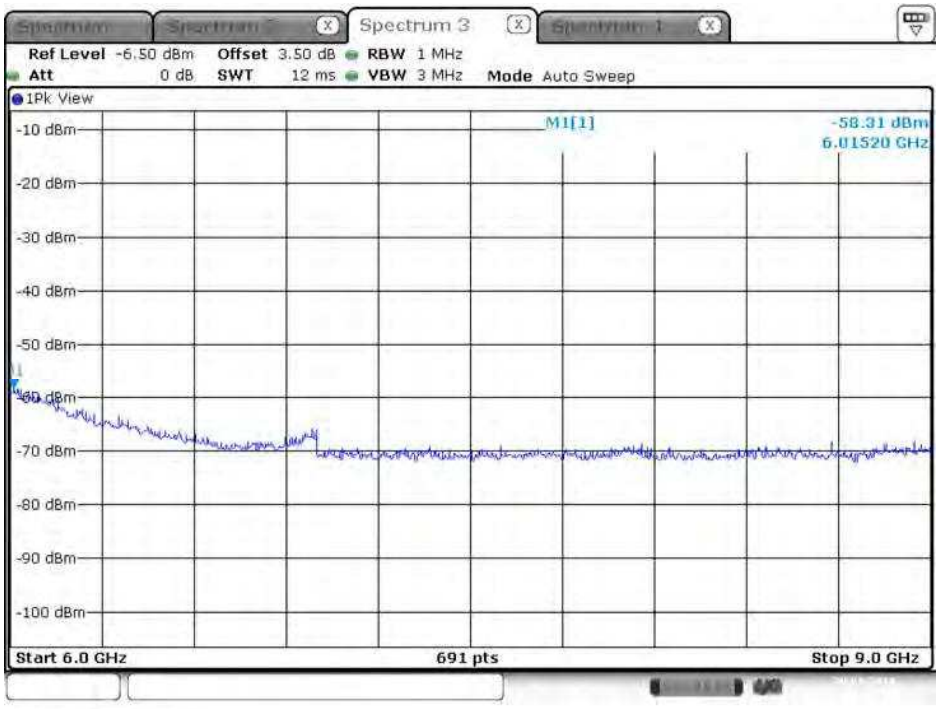
Date: 20.JAN.2018 19:22:47

Plot on Configuration QPSK, 5M / 5155 MHz / Peak / Port 1 / 6GHz~9GHz



Date: 20.JAN.2018 19:09:05

Plot on Configuration QPSK, 5M / 5155 MHz / Peak / Port 2 / 6GHz~9GHz



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