

FCC Test Report (Part 96)

Report No.: RF180914D03

FCC ID: P27GEN3505A

Test Model: OC3505A

Series Model: OC3505B

Received Date: Sep. 14, 2018

Test Date: Nov. 6, 2018 to May 3, 2019 and Nov. 21, 2019 to Jan. 10, 2020

Issued Date: Jan. 13, 2020

Applicant: Sercomm Corp.

Address: 8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C. (NanKang Software Park)

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**FCC Registration /
Designation Number:** 198487 / TW2021



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail	10
3.3 Description of Support Units	11
3.3.1 Configuration of System under Test	11
3.4 General Description of Applied Standards and References	12
4 Test Types and Results	13
4.1 Maximum EIRP Measurement	13
4.1.1 Limits of Maximum EIRP Measurement	13
4.1.2 Test Setup	13
4.1.3 Test Instruments	14
4.1.4 Test Procedures	16
4.1.5 Deviation from Test Standard	16
4.1.6 EUT Operating Conditions	16
4.1.7 Test Results	17
4.2 Maximum Power Spectral Density Measurement	27
4.2.1 Limits of Maximum Power Spectral Density Measurement	27
4.2.2 Test Setup	27
4.2.3 Test Instruments	27
4.2.4 Test Procedure	27
4.2.5 Deviation from Test Standard	27
4.2.6 EUT Operating Condition	27
4.2.7 Test Results	28
4.3 Modulation Characteristics Measurement	31
4.3.1 Limits of Modulation Characteristics	31
4.3.2 Test Procedure	31
4.3.3 Test Setup	31
4.3.4 Test Results	32
4.4 Frequency Stability Measurement	33
4.4.1 Limits of Frequency Stability Measurement	33
4.4.2 Test Procedure	33
4.4.3 Test Instruments	33
4.4.4 Test Setup	33
4.4.5 Test Results	34
4.5 Emission Bandwidth Measurement	35
4.5.1 Limit of Emission Bandwidth Measurement	35
4.5.2 Test Setup	35
4.5.3 Test Instruments	35
4.5.4 Test Procedure	35
4.5.5 Deviation from Test Standard	35
4.5.6 EUT Operating Conditions	35
4.5.7 Test Result (-26dB Bandwidth)	36
4.5.8 Test Result (Occupied Bandwidth)	38
4.6 Peak to Average Ratio	40
4.6.1 Limits of Peak to Average Ratio Measurement	40
4.6.2 Test Setup	40

4.6.3	Test Procedures.....	40
4.6.4	Test Results	41
4.7	Conducted Spurious Emissions	54
4.7.1	Limits of Conducted Spurious Emissions Measurement	54
4.7.2	Test Setup.....	54
4.7.3	Test Instruments	54
4.7.4	Test Procedure	54
4.7.5	Test Results	55
4.8	Radiated Emission Measurement	103
4.8.1	Limits of Radiated Emission Measurement	103
4.8.2	Test Instruments	103
4.8.3	Test Procedures.....	103
4.8.4	Deviation from Test Standard	103
4.8.5	Test Set Up	104
4.8.6	Test Results	105
4.9	Transmit Power Control (TPC).....	137
4.9.1	Definition.....	137
4.9.2	Requirement.....	137
5	Pictures of Test Arrangements.....	138
	Appendix – Information of the Testing Laboratories	139

Release Control Record

Issue No.	Description	Date Issued
RF180914D03	Original release.	Jan. 13, 2020

1 Certificate of Conformity

Product: CBRS Fixed Wireless CPE

Brand: Sercomm

Test Model: OC3505A

Series Model: OC3505B

Sample Status: Engineering sample

Applicant: Sercomm Corp.

Test Date: Nov. 6, 2018 to May 3, 2019 and Nov. 21, 2019 to Jan. 10, 2020

Standards: 47 CFR FCC Part 96

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by :



Celia Chen / Supervisor

Date: Jan. 13, 2020

Approved by :



Rex Lai / Associate Technical Manager

Date: Jan. 13, 2020

2 Summary of Test Results

47 CFR FCC Part 96			
FCC Clause	Test Item	Result	Remarks
2.1046 96.41(b)	Maximum Average Output Power and Maximum EIRP	Pass	Meet the requirement of limit.
2.1046 96.41(b)	Maximum Power Spectral Density	Pass	Meet the requirement of limit.
2.1047 96.41(a)	Modulation Characteristics	Pass	Meet the requirement.
96.41(g)	Peak to Average Ratio	Pass	Meet the requirement of limit.
2.1049	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1055	Frequency Stability	Pass	Meet the requirement of limit.
2.1051 96.41(e)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 96.41(e)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -1.05dB at 7247.52MHz.
2.1046 96.41(c)(1)	Transmit Power Control (TPC)	Pass	Meet the requirement.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	2.38 dB
	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	Above 1GHz	5.42 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	CBRS Fixed Wireless CPE	
Brand	Sercomm	
Test Model	OC3505A	
Series Model	OC3505B	
Model Difference	Refer to note as below	
Status of EUT	Engineering sample	
Power Supply Rating	56Vdc from PoE adapter	
Modulation Type	QPSK, 16QAM, 64QAM	
Operating Frequency	Channel Bandwidth 5MHz	TX: 3552.5 ~ 3697.5 MHz
		RX: 3552.5 ~ 3697.5 MHz
	Channel Bandwidth 10MHz	TX: 3555 ~ 3695 MHz
		RX: 3555 ~ 3695 MHz
	Channel Bandwidth 15MHz	TX: 3557.5 ~ 3692.5 MHz
		RX: 3557.5 ~ 3692.5 MHz
	Channel Bandwidth 20MHz	TX: 3560 ~ 3690 MHz
		RX: 3560 ~ 3690 MHz
Channel Bandwidth	5MHz, 10MHz, 15MHz & 20MHz	
Max. EIRP Power (dBm/10MHz)	Channel Bandwidth 5MHz	43.76 dBm/10MHz
	Channel Bandwidth 10MHz	43.82 dBm/10MHz
	Channel Bandwidth 15MHz	41.69 dBm/10MHz
	Channel Bandwidth 20MHz	41.19 dBm/10MHz
Max. FULL EIRP Power (dBm)	Channel Bandwidth 5MHz	43.76 dBm
	Channel Bandwidth 10MHz	43.82 dBm
	Channel Bandwidth 15MHz	44.08 dBm
	Channel Bandwidth 20MHz	44.35 dBm
Emission Designator	Channel Bandwidth 5MHz	QPSK: 4M50G7D
		16QAM: 4M48D7W
		64QAM: 4M49D7W
	Channel Bandwidth 10MHz	QPSK: 8M96G7D
		16QAM: 8M98D7W
		64QAM: 8M98D7W
	Channel Bandwidth 15MHz	QPSK: 13M4G7D
		16QAM: 13M4D7W
		64QAM: 13M5D7W
	Channel Bandwidth 20MHz	QPSK: 17M9G7D
		16QAM: 17M9D7W
		64QAM: 17M9D7W
Antenna Type	Refer to note as below	
Antenna Connector	Refer to note as below	
Accessory Device	PoE adapter	
Data Cable Supplied	N/A	

Note:

1. All models are listed as below.

Brand	Model	Difference
Sercomm	OC3505A	OC3505A and OC3505B share the same PCBA and enclosure, the difference is the internal antennas. They are both array type of antenna with 12dBi peak gain and operate at 4T8R.
	OC3505B	The shapes are different for different beamwidths, OC3505A is using a wide beamwidth antenna and OC3505B is using a narrow beamwidth antenna.

2. The EUT provides 4 completed transmitters and 8 receivers. The antennas provided to the EUT, please refer to the following table:

Refer to the following table:

Antenna A (Wide beam antenna) for model: OC3505A						
TX Antenna	Brand	Model	Antenna Type	Antenna Connector	Antenna Gain (dBi)	Frequency Range
Ant 3	Sercomm	6172115Z	Patch array	IPEX	12	3.4~3.8GHz
Ant 4						
Ant 7						
Ant 8						
Antenna B (Narrow beam antenna) for model: OC3505B						
TX Antenna	Brand	Model	Antenna Type	Antenna Connector	Antenna Gain (dBi)	Frequency Range
Ant 1	Sercomm	6172117S	Patch array	IPEX	12	3.4~3.8GHz
Ant 2						
Ant 5						
Ant 6						

During the test, the **antenna A** was selected as representative one for final test.

3. The EUT uses following PoE adapter.

PoE adapter 1	
Brand	PHIHONG
Model	POE31U-1AT(SC)
Input Power	100-240Vac, 0.8A, 50-60Hz
Output Power	56Vdc, 0.536A
PoE adapter 2	
Brand	PHIHONG
Model	POE15M-1AF
Input Power	100-240Vac, 0.8A, 50-60Hz
Output Power	56Vdc, 0.275A

After pre-tested above two PoE adapter, the **PoE adapter 1** was the worst case, therefore, only its test data was recorded in this report.

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

Channel Bandwidth (MHz)	Channel
5	Low
	Middle
	High
10	Low
	Middle
	High
15	Low
	Middle
	High
20	Low
	Middle
	High

3.2.1 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.

The worst case was found when positioned on X-plane. Following channel(s) was (were) selected for the final test as listed below:

Test Item	Available Channel (MHz)	Tested Channel (MHz)	Channel Bandwidth	Modulation
EIRP	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK, 16QAM, 64QAM
Power Spectral Density	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK, 16QAM, 64QAM
Modulation Characteristics	3552.5 to 3697.5	3625	5MHz	QPSK, 16QAM, 64QAM
Frequency Stability	3552.5 to 3697.5	3625	5MHz	QPSK
	3555 to 3695	3625	10MHz	QPSK
	3557.5 to 3692.5	3625	15MHz	QPSK
	3560 to 3690	3625	20MHz	QPSK
Emission Bandwidth	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK, 16QAM, 64QAM
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK, 16QAM, 64QAM
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK, 16QAM, 64QAM
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK, 16QAM, 64QAM
Peak to Average Ratio	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK
Conducted Emission	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK
Radiated Emission	3552.5 to 3697.5	3552.5, 3625, 3697.5	5MHz	QPSK
	3555 to 3695	3555, 3625, 3695	10MHz	QPSK
	3557.5 to 3692.5	3557.5, 3625, 3692.5	15MHz	QPSK
	3560 to 3690	3560, 3625, 3690	20MHz	QPSK

NOTE: All supported modulation types were evaluated. The Worst case of QPSK was selected. Therefore, the Frequency Stability, Peak to Average Ratio, Conducted Emission and Radiated Emission were presented under QPSK mode only.

Test Condition:

Test Item	Antenna	Environmental Conditions	Input Power	Tested By
EIRP	A	22deg. C, 72%RH	120Vac, 60Hz	Dalen Dai
Power Spectral Density	A	22deg. C, 72%RH	120Vac, 60Hz	Dalen Dai
Modulation Characteristics	A	20deg. C, 76%RH	120Vac, 60Hz	Saxon Lee
Frequency Stability	A	20deg. C, 76%RH	120Vac, 60Hz	Saxon Lee
Emission Bandwidth	A	20deg. C, 76%RH	120Vac, 60Hz	Saxon Lee
Peak to Average Ratio	A	20deg. C, 76%RH	120Vac, 60Hz	Saxon Lee
Conducted Emission	A	20deg. C, 76%RH	120Vac, 60Hz	Saxon Lee
Radiated Emission	A	22deg. C, 72%RH	120Vac, 60Hz	Dalen Dai
	B	21deg. C, 77%RH	120Vac, 60Hz	Ian Chang

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook PC	SONY	SVS151A12P	275548477000760	FCC DoC Approved	Provided by Lab

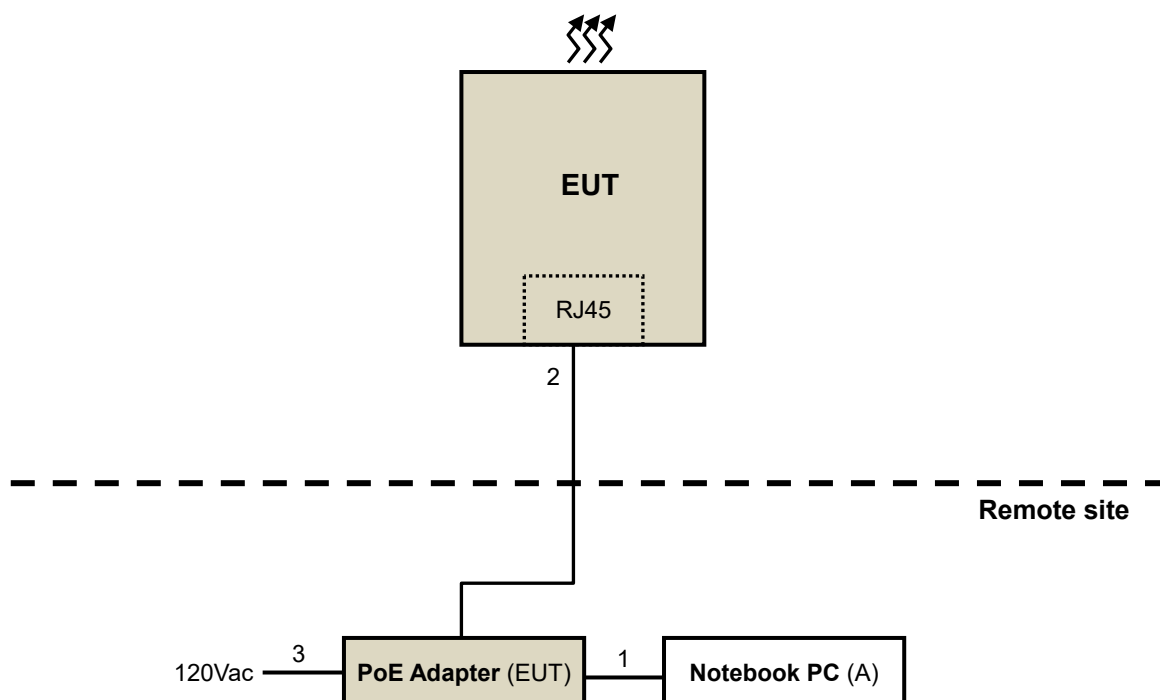
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	1.6	N	0	Supplied by client
2.	LAN cable	1	10	N	0	Provided by Lab
3.	AC power cord	1	1.8	N	0	Provided by Lab

Note: The core(s) is(are) originally attached to the cable(s).

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

47 CFR FCC Part 96

ANSI/TIA/EIA-603-E 2016

ANSI C63.26-2015

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 662911 D01 Multiple Transmitter Output v02r01

KDB 940660 D01 Part 96 CBRS Equipment v02

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

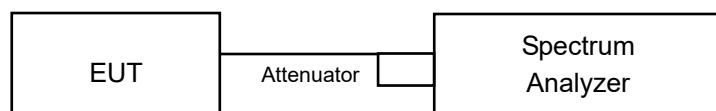
4.1 Maximum EIRP Measurement

4.1.1 Limits of Maximum EIRP Measurement

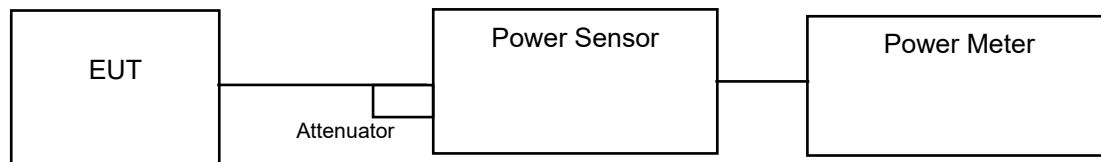
Device		Maximum EIRP (dBm/10 MHz)
☐	End User Device	23
☐	Category A CBSD	30
☒	Category B CBSD	47

4.1.2 Test Setup

For EIRP Power (dBm/10MHz)



For FULL EIRP Power



4.1.3 Test Instruments

For All test items (Radiated Spurious Emissions of Antenna B, Maximum EIRP, Power Spectral Density and Conducted Spurious Emissions tests excluded)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 20, 2018	Feb. 19, 2019
			Feb. 20, 2019	Feb. 19, 2020
HP Preamplifier	8449B	3008A01201	Feb. 21, 2018	Feb. 20, 2019
			Feb. 21, 2019	Feb. 20, 2020
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 20, 2018	Feb. 19, 2019
			Feb. 20, 2019	Feb. 19, 2020
Agilent TEST RECEIVER	N9038A	MY51210129	Mar. 05, 2018	Mar. 04, 2019
			Mar. 05, 2019	Mar. 04, 2020
Schwarzbeck Antenna	VULB 9168	139	Nov. 26, 2017	Nov. 25, 2018
			Nov. 26, 2018	Nov. 25, 2019
Schwarzbeck Antenna	VHBA 9123	480	May 19, 2017	May 18, 2019
Schwarzbeck Horn Antenna	BBHA-9170	212	Nov. 25, 2017	Nov. 24, 2018
			Nov. 25, 2018	Nov. 24, 2019
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Nov. 25, 2017	Nov. 24, 2018
			Nov. 25, 2018	Nov. 24, 2019
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Aug. 13, 2018	Aug. 12, 2019
SUHNER RF cable With 3/4dB PAD	SF102	Cable-CH8-3.6m	Aug. 13, 2018	Aug. 12, 2019
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 4, 2018	Jun. 3, 2019
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Aug. 3, 2018	Aug. 2, 2019
Loop Antenna EMCI	LPA600	270	Aug. 11, 2017	Aug. 10, 2019
EMCO Horn Antenna	3115	00028257	Nov. 25, 2017	Nov. 24, 2018
			Nov. 25, 2018	Nov. 24, 2019
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 27, 2018	Sep. 26, 2019
Anritsu Power Sensor	MA2411B	0738404	Apr. 16, 2018	Apr. 15, 2019
			Apr. 16, 2019	Apr. 15, 2020
Anritsu Power Meter	ML2495A	0842014	Apr. 16, 2018	Apr. 15, 2019
			Apr. 16, 2019	Apr. 15, 2020
Temperature & Humidity Chamber	MHU-225AU	920409	May 25, 2018	May 24, 2019
DIGITAL POWER METER IDRC	CP-240	240515	Sep. 13, 2018	Sep. 12, 2019
AC Power Source ExTech	CFW-105	E000603	NA	NA
Programable DC Source IDRC	DSP-030-025HD	500155	Jul. 13, 2018	Jul. 12, 2019

- NOTE:**
1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
 2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 3. The test was performed in Chamber No. 6.
 4. Tested Date: Nov. 6, 2018 to May 3, 2019

For Radiated Spurious Emissions of Antenna B, Maximum EIRP, Power Spectral Density and Conducted Spurious Emissions tests only

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 20, 2019	Feb. 19, 2020
HP Preamplifier	8449B	3008A01201	Feb. 21, 2019	Feb. 20, 2020
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 20, 2019	Feb. 19, 2020
Agilent TEST RECEIVER	N9038A	MY51210129	Mar. 05, 2019	Mar. 04, 2020
Schwarzbeck Antenna	VULB 9168	139	Nov. 7, 2019	Nov. 6, 2020
Schwarzbeck Antenna	VHBA 9123	480	Jun. 3, 2019	Jun. 2, 2021
Schwarzbeck Horn Antenna	BBHA-9170	212	Nov. 24, 2019	Nov. 23, 2020
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Nov. 24, 2019	Nov. 23, 2020
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Jul. 10, 2019	Jul. 9, 2020
SUHNER RF cable With 3/4dB PAD	SF102	Cable-CH8-3.6m	Jul. 10, 2019	Jul. 9, 2020
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 11, 2019	Jun. 10, 2020
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Jul. 30, 2019	Jul. 29, 2020
Loop Antenna EMCI	LPA600	270	Aug. 23, 2019	Aug. 22, 2021
EMCO Horn Antenna	3115	00028257	Nov. 24, 2019	Nov. 23, 2020
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 23, 2019	Sep. 22, 2020
Anritsu Power Sensor	MA2411B	0738404	Apr. 16, 2019	Apr. 15, 2020
Anritsu Power Meter	ML2495A	0842014	Apr. 16, 2019	Apr. 15, 2020
Temperature & Humidity Chamber	MHU-225AU	920409	May 24, 2019	May 23, 2020
DIGITAL POWER METER IDRC	CP-240	240515	Sep. 11, 2019	Sep. 10, 2020
AC Power Source ExTech	CFW-105	E000603	NA	NA
Programable DC Source IDRC	DSP-030-025HD	500155	Jul. 12, 2019	Jul. 11, 2020

- NOTE:**
1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
 2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 3. The test was performed in Chamber No. 6.
 4. Tested Date: Nov. 21, 2019 to Jan. 10, 2020

4.1.4 Test Procedures

For EIRP Power (dBm/10MHz)

1. Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
2. Set instrument center frequency to OBW center frequency.
3. Set span to $2 \times$ to $3 \times$ the OBW.
4. Set the RBW to the specified reference bandwidth (often 10 MHz).
5. Set VBW $\geq$ RBW.
6. Detector = RMS (power averaging).
7. Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
8. Sweep time = auto couple.
9. Employ trace averaging (RMS) mode over a minimum of 100 traces.
10. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).

For FULL EIRP Power

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.1.7 Test Results

Conducted Output Power & EIRP Power (dBm/10MHz)

Band / BW	RB Size	RB Offset	QPSK																	
			Low Channel						Middle Channel						High Channel					
			3552.5 MHz						3625 MHz						3697.5 MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 5M	1	0	19.43	19.40	19.72	19.52	25.54	43.56	19.24	19.15	19.43	19.50	25.35	43.37	19.87	19.77	19.86	19.34	25.74	43.76
	1	12	19.31	19.39	19.65	19.37	25.45	43.47	19.04	19.13	19.39	19.45	25.28	43.30	19.78	19.66	19.75	19.26	25.64	43.66
	1	24	19.35	19.38	19.65	19.36	25.46	43.48	19.05	19.07	19.39	19.42	25.26	43.28	19.82	19.66	19.73	19.25	25.64	43.66
	12	0	19.34	19.34	19.65	19.39	25.45	43.47	19.06	19.05	19.41	19.41	25.26	43.28	19.85	19.69	19.78	19.23	25.66	43.68
	12	6	19.32	19.42	19.61	19.43	25.47	43.49	19.12	19.06	19.41	19.42	25.28	43.30	19.77	19.61	19.74	19.24	25.62	43.64
	12	13	19.33	19.37	19.61	19.40	25.45	43.47	19.01	19.06	19.33	19.42	25.23	43.25	19.84	19.72	19.75	19.25	25.67	43.69
	25	0	19.43	19.42	19.72	19.40	25.52	43.54	19.13	19.12	19.45	19.43	25.31	43.33	19.85	19.68	19.75	19.25	25.66	43.68
Band / BW	RB Size	RB Offset	16QAM																	
			Low Channel						Middle Channel						High Channel					
			3552.5 MHz						3625 MHz						3697.5 MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 5M	1	0	19.06	18.69	18.51	18.76	24.78	42.80	18.44	18.36	18.46	18.48	24.46	42.48	19.10	18.91	18.72	18.38	24.81	42.83
	1	12	18.99	18.67	18.42	18.66	24.71	42.73	18.39	18.22	18.31	18.48	24.37	42.39	19.02	18.84	18.59	18.28	24.71	42.73
	1	24	18.96	18.65	18.44	18.64	24.70	42.72	18.44	18.25	18.35	18.39	24.38	42.40	18.98	18.71	18.60	18.26	24.67	42.69
	12	0	18.94	18.68	18.42	18.63	24.69	42.71	18.35	18.31	18.27	18.42	24.36	42.38	18.95	18.82	18.62	18.37	24.72	42.74
	12	6	18.90	18.64	18.41	18.63	24.67	42.69	18.34	18.22	18.35	18.39	24.35	42.37	18.92	18.79	18.67	18.35	24.71	42.73
	12	13	19.01	18.66	18.35	18.60	24.68	42.70	18.30	18.27	18.34	18.47	24.37	42.39	19.00	18.78	18.60	18.40	24.72	42.74
	25	0	19.03	18.67	18.43	18.72	24.74	42.76	18.44	18.25	18.40	18.50	24.42	42.44	18.99	18.86	18.67	18.40	24.76	42.78
Band / BW	RB Size	RB Offset	64QAM																	
			Low Channel						Middle Channel						High Channel					
			3552.5 MHz						3625 MHz						3697.5 MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 5M	1	0	18.13	18.29	18.19	18.16	24.21	42.23	18.23	18.42	17.89	18.11	24.19	42.21	18.40	18.33	18.24	18.20	24.31	42.33
	1	12	18.13	18.16	18.11	18.17	24.16	42.18	18.11	18.33	17.75	17.98	24.07	42.09	18.27	18.25	18.22	18.11	24.23	42.25
	1	24	18.10	18.14	18.03	18.13	24.12	42.14	18.21	18.32	17.71	18.02	24.09	42.11	18.32	18.21	18.12	18.04	24.19	42.21
	12	0	18.05	18.24	18.12	18.12	24.15	42.17	18.13	18.26	17.74	17.99	24.05	42.07	18.27	18.29	18.22	18.14	24.25	42.27
	12	6	18.15	18.20	18.09	18.11	24.16	42.18	18.17	18.26	17.76	18.01	24.07	42.09	18.22	18.26	18.18	18.06	24.20	42.22
	12	13	18.04	18.18	18.10	18.11	24.13	42.15	18.19	18.31	17.71	17.92	24.06	42.08	18.28	18.20	18.19	18.10	24.21	42.23
	25	0	18.11	18.22	18.11	18.12	24.16	42.18	18.16	18.40	17.72	18.02	24.10	42.12	18.29	18.36	18.19	18.16	24.27	42.29

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm / 10MHz) = Total Conducted Output Power (dBm / 10MHz) + Directional Gain

Band / BW	RB Size	RB Offset	QPSK																	
			Low Channel						Middle Channel						High Channel					
			3555 MHz						3625 MHz						3695 MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 10M	1	0	19.68	19.84	19.86	19.72	25.80	43.82	19.51	19.82	19.57	19.80	25.70	43.72	19.53	19.60	19.76	19.73	25.68	43.70
	1	24	19.62	19.75	19.84	19.49	25.70	43.72	19.40	19.82	19.42	19.56	25.57	43.59	19.38	19.54	19.63	19.54	25.54	43.56
	1	49	19.54	19.90	19.76	19.66	25.74	43.76	19.42	19.76	19.44	19.59	25.58	43.60	19.43	19.64	19.51	19.52	25.55	43.57
	25	0	19.54	19.71	19.80	19.43	25.64	43.66	19.38	19.73	19.42	19.74	25.59	43.61	19.39	19.56	19.48	19.51	25.51	43.53
	25	12	19.56	19.87	19.75	19.53	25.70	43.72	19.42	19.77	19.41	19.69	25.60	43.62	19.37	19.72	19.50	19.57	25.56	43.58
	25	25	19.58	19.72	19.78	19.57	25.68	43.70	19.43	19.78	19.49	19.57	25.59	43.61	19.31	19.75	19.56	19.57	25.57	43.59
	50	0	19.64	19.81	19.89	19.66	25.77	43.79	19.51	19.70	19.61	19.78	25.67	43.69	19.42	19.69	19.75	19.52	25.62	43.64
Band / BW	RB Size	RB Offset	16QAM																	
			Low Channel						Middle Channel						High Channel					
			3555 MHz						3625 MHz						3695 MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 10M	1	0	19.35	19.18	18.80	18.62	25.02	43.04	18.83	18.86	18.65	18.72	24.79	42.81	18.50	18.88	19.03	18.61	24.78	42.80
	1	24	19.16	18.96	18.89	18.62	24.93	42.95	18.75	18.83	18.44	18.79	24.73	42.75	18.41	18.72	18.96	18.63	24.71	42.73
	1	49	19.22	19.13	18.92	18.61	25.00	43.02	18.80	18.89	18.36	18.60	24.69	42.71	18.56	18.83	18.95	18.60	24.76	42.78
	25	0	19.15	19.08	18.76	18.63	24.93	42.95	18.89	18.92	18.52	18.59	24.75	42.77	18.49	18.77	18.83	18.55	24.68	42.70
	25	12	19.21	18.98	18.78	18.52	24.90	42.92	18.85	18.85	18.55	18.69	24.76	42.78	18.48	18.90	18.78	18.52	24.69	42.71
	25	25	19.07	19.01	18.79	18.65	24.90	42.92	18.69	18.77	18.46	18.73	24.68	42.70	18.53	18.78	18.80	18.64	24.71	42.73
	50	0	19.16	19.16	18.78	18.56	24.94	42.96	18.73	18.89	18.51	18.81	24.76	42.78	18.41	18.93	18.85	18.71	24.75	42.77
Band / BW	RB Size	RB Offset	64QAM																	
			Low Channel						Middle Channel						High Channel					
			3555 MHz						3625 MHz						3695 MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 10M	1	0	19.19	19.07	18.96	18.55	24.97	42.99	18.85	18.80	18.60	18.45	24.70	42.72	18.34	18.65	18.56	18.56	24.55	42.57
	1	24	19.15	18.98	18.91	18.33	24.87	42.89	18.78	18.78	18.50	18.43	24.65	42.67	18.33	18.54	18.43	18.60	24.50	42.52
	1	49	19.20	18.96	18.78	18.25	24.83	42.85	18.68	18.70	18.53	18.49	24.62	42.64	18.31	18.66	18.41	18.54	24.50	42.52
	25	0	19.11	18.99	18.75	18.44	24.85	42.87	18.71	18.73	18.38	18.36	24.57	42.59	18.34	18.67	18.54	18.52	24.54	42.56
	25	12	19.09	18.86	18.71	18.36	24.78	42.80	18.70	18.78	18.48	18.39	24.61	42.63	18.28	18.60	18.56	18.57	24.53	42.55
	25	25	19.22	19.02	18.84	18.33	24.89	42.91	18.65	18.66	18.34	18.53	24.57	42.59	18.28	18.70	18.45	18.58	24.53	42.55
	50	0	19.27	18.93	18.75	18.39	24.87	42.89	18.83	18.77	18.44	18.48	24.65	42.67	18.40	18.71	18.44	18.61	24.56	42.58

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm / 10MHz) = Total Conducted Output Power (dBm / 10MHz) + Directional Gain

Band / BW	RB Size	RB Offset	QPSK																	
			Low Channel						Middle Channel						High Channel					
			3557.5						3625						3692.5					
			MHz						MHz						MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 15M	1	0	17.72	17.79	17.48	17.60	23.67	41.69	17.67	17.60	17.48	17.58	23.60	41.62	17.82	17.57	17.23	17.32	23.51	41.53
	1	37	17.77	17.69	17.54	17.36	23.61	41.63	17.58	17.60	17.41	17.37	23.51	41.53	17.64	17.62	17.18	17.03	23.40	41.42
	1	74	17.46	17.72	17.35	17.53	23.54	41.56	17.56	17.55	17.26	17.16	23.41	41.43	17.67	17.54	17.26	17.08	23.41	41.43
	36	0	17.86	17.67	17.38	17.39	23.60	41.62	17.54	17.61	17.46	17.37	23.52	41.54	17.73	17.68	17.18	17.33	23.51	41.53
	36	19	17.42	17.60	17.38	17.55	23.51	41.53	17.66	17.64	17.39	17.37	23.54	41.56	17.56	17.57	17.04	17.34	23.40	41.42
	36	39	17.51	17.42	17.44	17.52	23.49	41.51	17.66	17.54	17.48	17.22	23.50	41.52	17.70	17.44	17.26	17.18	23.42	41.44
	75	0	17.53	17.60	17.54	17.55	23.58	41.60	17.62	17.62	17.56	17.21	23.53	41.55	17.59	17.61	17.37	17.07	23.44	41.46
Band / BW	RB Size	RB Offset	16QAM																	
			Low Channel						Middle Channel						High Channel					
			3557.5						3625						3692.5					
			MHz						MHz						MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 15M	1	0	16.79	16.42	16.50	16.51	22.58	40.60	16.64	16.90	16.86	16.42	22.73	40.75	16.69	16.67	16.27	16.25	22.50	40.52
	1	37	16.57	16.22	16.46	16.35	22.42	40.44	16.58	16.64	16.93	16.06	22.58	40.60	16.42	16.40	16.04	16.23	22.30	40.32
	1	74	16.78	16.42	16.61	16.19	22.53	40.55	16.64	16.89	16.83	16.13	22.65	40.67	16.65	16.52	16.15	16.17	22.40	40.42
	36	0	16.47	16.52	16.42	16.33	22.46	40.48	16.37	16.89	16.93	16.19	22.63	40.65	16.51	16.58	16.10	16.12	22.35	40.37
	36	19	16.55	16.62	16.24	16.51	22.50	40.52	16.49	16.75	16.82	16.03	22.55	40.57	16.24	16.54	16.17	16.21	22.31	40.33
	36	39	16.60	16.26	16.46	16.29	22.43	40.45	16.60	16.68	16.90	16.11	22.60	40.62	16.39	16.40	16.05	16.19	22.28	40.30
	75	0	16.52	16.48	16.39	16.38	22.46	40.48	16.58	16.99	16.86	16.17	22.68	40.70	16.58	16.42	16.06	16.21	22.34	40.36
Band / BW	RB Size	RB Offset	64QAM																	
			Low Channel						Middle Channel						High Channel					
			3557.5						3625						3692.5					
			MHz						MHz						MHz					
			Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total		Ch.0	Ch.1	Ch.2	Ch.3	Total	
48 / 15M	1	0	16.67	16.51	16.37	16.49	22.53	40.55	16.89	17.01	16.72	16.44	22.79	40.81	16.56	16.46	16.51	16.21	22.46	40.48
	1	37	16.63	16.27	16.40	16.50	22.47	40.49	16.57	16.69	16.94	15.98	22.58	40.60	16.44	16.56	16.48	16.21	22.45	40.47
	1	74	16.48	16.56	16.51	16.31	22.49	40.51	16.66	16.58	17.07	16.10	22.64	40.66	16.50	16.43	16.47	16.22	22.43	40.45
	36	0	16.42	16.41	16.46	16.35	22.43	40.45	16.39	16.71	16.65	16.07	22.48	40.50	16.67	16.76	16.68	16.25	22.62	40.64
	36	19	16.35	16.26	16.53	16.63	22.47	40.49	16.59	16.90	16.80	16.19	22.65	40.67	16.58	16.54	16.61	16.26	22.52	40.54
	36	39	16.45	16.46	16.40	16.47	22.47	40.49	16.82	16.58	16.78	16.03	22.58	40.60	16.48	16.49	16.36	16.31	22.43	40.45
	75	0	16.76	16.51	16.62	16.32	22.58	40.60	16.73	16.98	16.90	16.41	22.78	40.80	16.35	16.83	16.58	16.43	22.57	40.59

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm / 10MHz) = Total Conducted Output Power (dBm / 10MHz) + Directional Gain

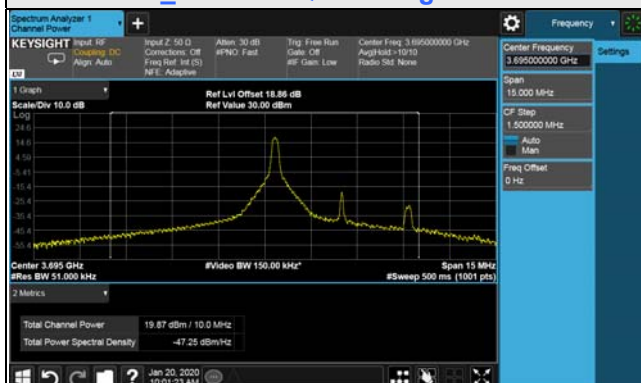
Band / BW	RB Size	RB Offset	QPSK																		
			Low Channel						Middle Channel						High Channel						
			3560 MHz						3625 MHz						3690 MHz						
			Conducted Output Power (dBm/10MHz)						EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total	Ch.0		Ch.1	Ch.2	Ch.3	Total	Ch.0		Ch.1	Ch.2	Ch.3	Total		
48 / 20M	1	0	16.94	16.75	17.01	15.26	22.57	40.59	16.53	16.62	16.95	16.13	22.59	40.61	17.12	17.37	16.97	17.12	23.17	41.19	
	1	50	16.93	16.67	16.96	15.11	22.50	40.52	16.47	16.67	16.71	15.84	22.46	40.48	17.08	17.11	16.95	16.91	23.03	41.05	
	1	99	16.97	16.56	16.96	15.00	22.46	40.48	16.62	16.81	16.77	15.96	22.57	40.59	17.11	17.21	16.94	17.00	23.09	41.11	
	50	0	16.70	16.56	16.91	14.82	22.34	40.36	16.61	16.53	16.84	15.86	22.50	40.52	17.10	17.22	16.78	16.92	23.03	41.05	
	50	25	16.96	16.53	16.92	15.11	22.46	40.48	16.73	16.82	16.82	15.95	22.62	40.64	17.02	17.23	16.86	16.93	23.03	41.05	
	50	50	16.71	16.72	16.76	14.99	22.38	40.40	16.56	16.76	16.59	15.79	22.46	40.48	17.06	17.13	16.82	17.01	23.03	41.05	
	100	0	16.77	16.60	16.87	15.00	22.39	40.41	16.65	16.85	16.71	15.90	22.56	40.58	17.22	17.09	16.93	16.99	23.08	41.10	
Band / BW	RB Size	RB Offset	16QAM																		
			Low Channel						Middle Channel						High Channel						
			3560 MHz						3625 MHz						3690 MHz						
			Conducted Output Power (dBm/10MHz)						EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total	Ch.0		Ch.1	Ch.2	Ch.3	Total	Ch.0		Ch.1	Ch.2	Ch.3	Total		
48 / 20M	1	0	15.97	16.10	16.12	15.04	21.85	39.87	15.75	15.81	15.63	16.14	21.86	39.88	15.77	15.94	15.89	15.95	21.91	39.93	
	1	50	15.81	16.00	15.88	14.85	21.68	39.70	15.63	15.62	15.68	16.01	21.76	39.78	15.75	15.97	15.94	15.87	21.90	39.92	
	1	99	15.92	15.94	15.98	15.09	21.77	39.79	15.65	15.63	15.55	15.87	21.70	39.72	15.62	16.07	15.96	15.79	21.88	39.90	
	50	0	15.91	16.04	16.03	15.01	21.79	39.81	15.61	15.61	15.61	16.12	21.76	39.78	15.75	16.15	15.85	15.78	21.91	39.93	
	50	25	15.84	16.16	16.11	14.95	21.81	39.83	15.59	15.66	15.55	15.86	21.69	39.71	15.51	16.13	15.94	15.98	21.92	39.94	
	50	50	15.79	16.02	16.08	15.18	21.80	39.82	15.76	15.65	15.53	16.07	21.78	39.80	15.45	15.96	15.86	15.88	21.81	39.83	
	100	0	15.86	16.15	15.96	15.09	21.80	39.82	15.58	15.78	15.62	15.90	21.74	39.76	15.60	16.08	15.93	15.89	21.90	39.92	
Band / BW	RB Size	RB Offset	64QAM																		
			Low Channel						Middle Channel						High Channel						
			3560 MHz						3625 MHz						3690 MHz						
			Conducted Output Power (dBm/10MHz)						EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)	Conducted Output Power (dBm/10MHz)					EIRP (dBm/10MHz)
			Ch.0	Ch.1	Ch.2	Ch.3	Total	Ch.0		Ch.1	Ch.2	Ch.3	Total	Ch.0		Ch.1	Ch.2	Ch.3	Total		
48 / 20M	1	0	16.11	16.23	15.43	15.05	21.75	39.77	15.88	15.84	15.80	16.26	21.97	39.99	15.63	16.66	15.95	15.88	22.07	40.09	
	1	50	15.93	16.13	15.24	14.96	21.61	39.63	15.53	15.55	15.70	15.98	21.71	39.73	15.48	16.51	15.84	15.89	21.97	39.99	
	1	99	15.93	16.07	15.28	15.14	21.64	39.66	15.56	15.67	15.89	16.07	21.82	39.84	15.55	16.51	16.03	16.00	22.06	40.08	
	50	0	15.91	16.02	15.25	14.99	21.58	39.60	15.66	15.53	15.87	16.05	21.80	39.82	15.62	16.37	15.93	15.99	22.01	40.03	
	50	25	15.82	16.06	15.28	15.09	21.60	39.62	15.56	15.74	15.93	16.05	21.84	39.86	15.53	16.43	16.04	16.12	22.06	40.08	
	50	50	15.82	16.01	15.32	15.14	21.61	39.63	15.68	15.81	15.80	16.03	21.85	39.87	15.61	16.60	15.92	15.82	22.02	40.04	
	100	0	15.94	16.09	15.36	15.21	21.69	39.71	15.62	15.84	15.92	16.14	21.90	39.92	15.64	16.65	15.95	16.06	22.11	40.13	

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm / 10MHz) = Total Conducted Output Power (dBm / 10MHz) + Directional Gain

Spectrum Plot of Worst Value

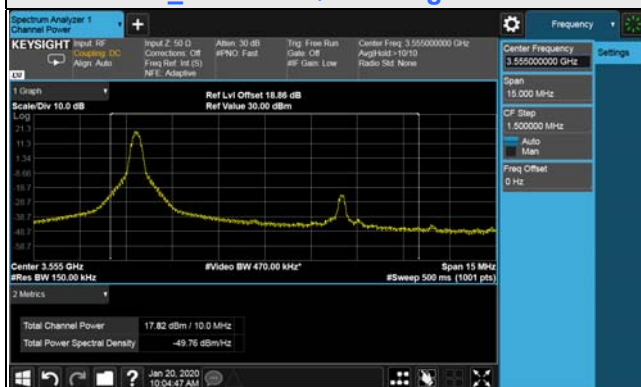
5MHz_Chain 0 / QPSK / High Channel



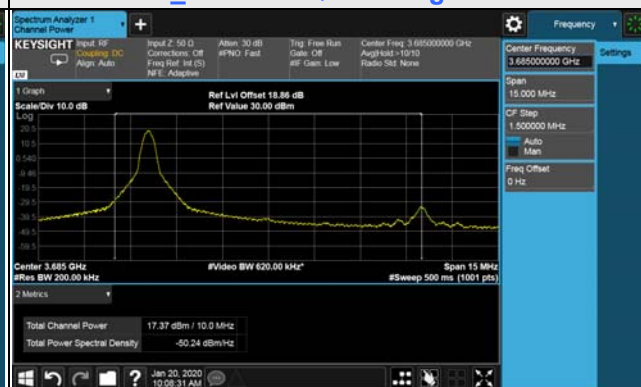
10MHz_Chain 1 / QPSK / Low Channel



15MHz_Chain 0 / QPSK / High Channel



20MHz_Chain 1 / QPSK / High Channel



For FULL EIRP Power

Band / BW	RB Size	RB Offset	QPSK																							
			Low Channel						Middle Channel						High Channel											
			3552.5 MHz						3625 MHz						3697.5 MHz											
			Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total					
48 / 5M	1	0	19.43	19.40	19.72	19.52	25.54	43.56	22.70	19.24	19.15	19.43	19.50	25.35	43.37	21.74	19.87	19.77	19.86	19.34	25.74	43.76	23.75			
	1	12	19.31	19.39	19.65	19.37	25.45	43.47	22.25	19.04	19.13	19.39	19.45	25.28	43.30	21.36	19.78	19.66	19.75	19.26	25.64	43.66	23.22			
	1	24	19.35	19.38	19.65	19.36	25.46	43.48	22.27	19.05	19.07	19.39	19.42	25.26	43.28	21.26	19.82	19.66	19.73	19.25	25.64	43.66	23.23			
	12	0	19.34	19.34	19.65	19.39	25.45	43.47	22.25	19.06	19.05	19.41	19.41	25.26	43.28	21.27	19.85	19.69	19.78	19.23	25.66	43.68	23.36			
	12	6	19.32	19.42	19.61	19.43	25.47	43.49	22.32	19.12	19.06	19.41	19.42	25.28	43.30	21.36	19.77	19.61	19.74	19.24	25.62	43.64	23.10			
	12	13	19.33	19.37	19.61	19.40	25.45	43.47	22.23	19.01	19.06	19.33	19.42	25.23	43.25	21.13	19.84	19.72	19.75	19.25	25.67	43.69	23.37			
	25	0	19.43	19.42	19.72	19.40	25.52	43.54	22.57	19.13	19.12	19.45	19.43	25.31	43.33	21.51	19.85	19.68	19.75	19.25	25.66	43.68	23.33			
Band / BW	RB Size	RB Offset	16QAM																							
			Low Channel						Middle Channel						High Channel											
			3552.5 MHz						3625 MHz						3697.5 MHz											
			Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total					
48 / 5M	1	0	19.06	18.69	18.51	18.76	24.78	42.80	19.06	18.44	18.36	18.46	18.48	24.46	42.48	17.68	19.10	18.91	18.72	18.38	24.81	42.83	19.17			
	1	12	18.99	18.67	18.42	18.66	24.71	42.73	18.75	18.39	18.22	18.31	18.48	24.37	42.39	17.34	19.02	18.84	18.59	18.28	24.71	42.73	18.76			
	1	24	18.96	18.65	18.44	18.64	24.70	42.72	18.69	18.44	18.25	18.35	18.39	24.38	42.40	17.37	18.98	18.71	18.60	18.26	24.67	42.69	18.56			
	12	0	18.94	18.68	18.42	18.63	24.69	42.71	18.67	18.35	18.31	18.27	18.42	24.36	42.38	17.29	18.95	18.82	18.62	18.37	24.72	42.74	18.78			
	12	6	18.90	18.64	18.41	18.63	24.67	42.69	18.57	18.34	18.22	18.35	18.39	24.35	42.37	17.24	18.92	18.79	18.67	18.35	24.71	42.73	18.74			
	12	13	19.01	18.66	18.35	18.60	24.68	42.70	18.63	18.30	18.27	18.34	18.47	24.37	42.39	17.32	19.00	18.78	18.60	18.40	24.72	42.74	18.80			
	25	0	19.03	18.67	18.43	18.72	24.74	42.76	18.87	18.44	18.25	18.40	18.50	24.42	42.44	17.54	18.99	18.86	18.67	18.40	24.76	42.78	18.95			
Band / BW	RB Size	RB Offset	64QAM																							
			Low Channel						Middle Channel						High Channel											
			3552.5 MHz						3625 MHz						3697.5 MHz											
			Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total					
48 / 5M	1	0	18.13	18.29	18.19	18.16	24.21	42.23	16.72	18.23	18.42	17.89	18.11	24.19	42.21	16.62	18.40	18.33	18.24	18.20	24.31	42.33	17.12			
	1	12	18.13	18.16	18.11	18.17	24.16	42.18	16.53	18.11	18.33	17.75	17.98	24.07	42.09	16.17	18.27	18.25	18.22	18.11	24.23	42.25	16.80			
	1	24	18.10	18.14	18.03	18.13	24.12	42.14	16.37	18.21	18.32	17.71	18.02	24.09	42.11	16.26	18.32	18.21	18.12	18.04	24.19	42.21	16.65			
	12	0	18.05	18.24	18.12	18.12	24.15	42.17	16.50	18.13	18.26	17.74	17.99	24.05	42.07	16.12	18.27	18.29	18.22	18.14	24.25	42.27	16.87			
	12	6	18.15	18.20	18.09	18.11	24.16	42.18	16.51	18.17	18.26	17.76	18.01	24.07	42.09	16.20	18.22	18.26	18.18	18.06	24.20	42.22	16.68			
	12	13	18.04	18.18	18.10	18.11	24.13	42.15	16.40	18.19	18.31	17.71	17.92	24.06	42.08	16.14	18.28	18.20	18.19	18.10	24.21	42.23	16.72			
	25	0	18.11	18.22	18.11	18.12	24.16	42.18	16.52	18.16	18.40	17.72	18.02	24.10	42.12	16.30	18.29	18.36	18.19	18.16	24.27	42.29	16.95			

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm) = Total Conducted Output Power (dBm) + Directional Gain

Band / BW	RB Size	RB Offset	QPSK																						
			Low Channel							Middle Channel							High Channel								
			3555 MHz							3625 MHz							3695 MHz								
			Conducted Output Power (dBm)							EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total				
48 / 10M	1	0	19.68	19.84	19.86	19.72	25.80	43.82	24.08	19.51	19.82	19.57	19.80	25.70	43.72	23.54	19.53	19.60	19.76	19.73	25.68	43.70	23.42		
	1	24	19.62	19.75	19.84	19.49	25.70	43.72	23.54	19.40	19.82	19.42	19.56	25.57	43.59	22.88	19.38	19.54	19.63	19.54	25.54	43.56	22.72		
	1	49	19.54	19.90	19.76	19.66	25.74	43.76	23.76	19.42	19.76	19.44	19.59	25.58	43.60	22.88	19.43	19.64	19.51	19.52	25.55	43.57	22.73		
	25	0	19.54	19.71	19.80	19.43	25.64	43.66	23.24	19.38	19.73	19.42	19.74	25.59	43.61	22.97	19.39	19.56	19.48	19.51	25.51	43.53	22.52		
	25	12	19.56	19.87	19.75	19.53	25.70	43.72	23.55	19.42	19.77	19.41	19.69	25.60	43.62	22.99	19.37	19.72	19.50	19.57	25.56	43.58	22.82		
	25	25	19.58	19.72	19.78	19.57	25.68	43.70	23.46	19.43	19.78	19.49	19.57	25.59	43.61	22.96	19.31	19.75	19.56	19.57	25.57	43.59	22.86		
	50	0	19.64	19.81	19.89	19.66	25.77	43.79	23.94	19.51	19.70	19.61	19.78	25.67	43.69	23.40	19.42	19.69	19.75	19.52	25.62	43.64	23.11		
Band / BW	RB Size	RB Offset	16QAM																						
			Low Channel							Middle Channel							High Channel								
			3555 MHz							3625 MHz							3695 MHz								
			Conducted Output Power (dBm)							EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total				
48 / 10M	1	0	19.35	19.18	18.80	18.62	25.02	43.04	20.13	18.83	18.86	18.65	18.72	24.79	42.81	19.08	18.50	18.88	19.03	18.61	24.78	42.80	19.06		
	1	24	19.16	18.96	18.89	18.62	24.93	42.95	19.74	18.75	18.83	18.44	18.79	24.73	42.75	18.82	18.41	18.72	18.96	18.63	24.71	42.73	18.73		
	1	49	19.22	19.13	18.92	18.61	25.00	43.02	20.03	18.80	18.89	18.36	18.60	24.69	42.71	18.65	18.56	18.83	18.95	18.60	24.76	42.78	18.96		
	25	0	19.15	19.08	18.76	18.63	24.93	42.95	19.73	18.89	18.92	18.52	18.59	24.75	42.77	18.94	18.49	18.77	18.83	18.55	24.68	42.70	18.63		
	25	12	19.21	18.98	18.78	18.52	24.90	42.92	19.59	18.85	18.85	18.55	18.69	24.76	42.78	18.96	18.48	18.90	18.78	18.52	24.69	42.71	18.68		
	25	25	19.07	19.01	18.79	18.65	24.90	42.92	19.61	18.69	18.77	18.46	18.73	24.68	42.70	18.64	18.53	18.78	18.80	18.64	24.71	42.73	18.75		
	50	0	19.16	19.16	18.78	18.56	24.94	42.96	19.78	18.73	18.89	18.51	18.81	24.76	42.78	18.96	18.41	18.93	18.85	18.71	24.75	42.77	18.92		
Band / BW	RB Size	RB Offset	64QAM																						
			Low Channel							Middle Channel							High Channel								
			3555 MHz							3625 MHz							3695 MHz								
			Conducted Output Power (dBm)							EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total				
48 / 10M	1	0	19.19	19.07	18.96	18.55	24.97	42.99	19.91	18.85	18.80	18.60	18.45	24.70	42.72	18.70	18.34	18.65	18.56	18.56	24.55	42.57	18.07		
	1	24	19.15	18.98	18.91	18.33	24.87	42.89	19.47	18.78	18.78	18.50	18.43	24.65	42.67	18.48	18.33	18.54	18.43	18.60	24.50	42.52	17.85		
	1	49	19.20	18.96	18.78	18.25	24.83	42.85	19.28	18.68	18.70	18.53	18.49	24.62	42.64	18.37	18.31	18.66	18.41	18.54	24.50	42.52	17.88		
	25	0	19.11	18.99	18.75	18.44	24.85	42.87	19.37	18.71	18.73	18.38	18.36	24.57	42.59	18.15	18.34	18.67	18.54	18.52	24.54	42.56	18.03		
	25	12	19.09	18.86	18.71	18.36	24.78	42.80	19.07	18.70	18.78	18.48	18.39	24.61	42.63	18.33	18.28	18.60	18.56	18.57	24.53	42.55	17.97		
	25	25	19.22	19.02	18.84	18.33	24.89	42.91	19.52	18.65	18.66	18.34	18.53	24.57	42.59	18.14	18.28	18.70	18.45	18.58	24.53	42.55	17.97		
	50	0	19.27	18.93	18.75	18.39	24.87	42.89	19.44	18.83	18.77	18.44	18.48	24.65	42.67	18.51	18.40	18.71	18.44	18.61	24.56	42.58	18.12		

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm) = Total Conducted Output Power (dBm) + Directional Gain

Band / BW	RB Size	RB Offset	QPSK																					
			Low Channel							Middle Channel							High Channel							
			3557.5 MHz							3625 MHz							3692.5 MHz							
			Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			
48 / 15M	1	0	20.01	20.20	19.97	19.98	26.06	44.08	25.60	20.02	19.99	19.97	19.82	25.97	43.99	25.07	20.14	20.02	19.57	19.75	25.90	43.92	24.64	
	1	37	19.89	19.96	19.91	19.80	25.91	43.93	24.72	20.04	20.07	19.65	19.63	25.87	43.89	24.51	19.86	20.02	19.64	19.66	25.82	43.84	24.20	
	1	74	20.00	20.00	19.80	19.80	25.92	43.94	24.78	20.11	19.93	19.77	19.65	25.89	43.91	24.60	19.90	19.95	19.48	19.71	25.78	43.80	24.01	
	36	0	20.06	20.09	19.72	19.76	25.93	43.95	24.84	20.00	19.91	19.80	19.85	25.91	43.93	24.72	20.09	20.00	19.51	19.68	25.85	43.87	24.36	
	36	19	20.02	19.90	19.95	19.88	25.96	43.98	24.99	20.12	19.93	19.66	19.73	25.88	43.90	24.57	20.10	20.02	19.44	19.41	25.77	43.79	23.96	
	36	39	20.01	19.96	20.01	19.73	25.95	43.97	24.94	20.00	20.13	19.71	19.77	25.93	43.95	24.81	20.14	20.10	19.71	19.66	25.93	43.95	24.82	
	75	0	20.08	20.15	19.94	19.90	26.04	44.06	25.46	19.97	20.16	19.67	19.63	25.88	43.90	24.57	20.07	20.15	19.52	19.49	25.84	43.86	24.31	
Band / BW	RB Size	RB Offset	16QAM																					
			Low Channel							Middle Channel							High Channel							
			3557.5 MHz							3625 MHz							3692.5 MHz							
			Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			
48 / 15M	1	0	19.23	18.80	18.77	18.77	24.92	42.94	19.67	18.89	19.05	19.10	18.53	24.92	42.94	19.67	19.03	19.04	18.57	18.78	24.88	42.90	19.50	
	1	37	19.02	18.76	18.82	18.91	24.90	42.92	19.58	18.92	19.00	18.98	18.53	24.88	42.90	19.51	18.87	18.90	18.44	18.61	24.73	42.75	18.84	
	1	74	19.02	18.80	18.93	18.80	24.91	42.93	19.63	18.65	18.94	19.05	18.47	24.80	42.82	19.16	19.02	18.74	18.64	18.62	24.78	42.80	19.05	
	36	0	19.10	18.74	18.75	18.77	24.86	42.88	19.42	18.83	18.91	19.03	18.31	24.80	42.82	19.14	18.97	18.87	18.48	18.57	24.75	42.77	18.91	
	36	19	18.92	18.77	18.82	18.68	24.82	42.84	19.23	18.71	19.02	19.12	18.52	24.87	42.89	19.45	18.76	18.91	18.55	18.49	24.70	42.72	18.71	
	36	39	19.03	18.71	18.74	18.78	24.84	42.86	19.31	18.91	19.10	19.06	18.33	24.88	42.90	19.50	18.95	18.97	18.60	18.50	24.78	42.80	19.06	
	75	0	19.16	18.97	18.83	18.90	24.99	43.01	19.99	18.71	19.11	19.09	18.55	24.89	42.91	19.55	18.88	18.78	18.51	18.53	24.70	42.72	18.70	
Band / BW	RB Size	RB Offset	64QAM																					
			Low Channel							Middle Channel							High Channel							
			3557.5 MHz							3625 MHz							3692.5 MHz							
			Conducted Output Power (dBm)						EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			
48 / 15M	1	0	18.88	18.69	18.90	18.86	24.85	42.87	19.38	18.86	18.73	19.04	18.42	24.79	42.81	19.09	18.71	18.89	18.66	18.56	24.73	42.75	18.82	
	1	37	18.79	18.79	18.76	18.57	24.75	42.77	18.92	18.57	18.59	18.74	18.05	24.52	42.54	17.93	18.57	18.80	18.60	18.34	24.60	42.62	18.29	
	1	74	18.91	18.70	18.86	18.84	24.85	42.87	19.36	18.76	18.75	18.86	18.03	24.63	42.65	18.42	18.70	18.77	18.68	18.42	24.67	42.69	18.56	
	36	0	18.80	18.83	18.82	18.68	24.80	42.82	19.16	18.60	18.58	18.78	18.12	24.55	42.57	18.06	18.68	18.95	18.56	18.41	24.68	42.70	18.60	
	36	19	18.91	18.88	18.89	18.71	24.87	42.89	19.45	18.61	18.84	18.78	18.21	24.64	42.66	18.44	18.59	18.93	18.54	18.24	24.60	42.62	18.29	
	36	39	18.82	18.62	18.67	18.64	24.71	42.73	18.74	18.68	18.76	18.97	18.15	24.67	42.69	18.58	18.89	18.85	18.81	18.38	24.76	42.78	18.96	
	75	0	18.97	18.80	18.69	18.81	24.84	42.86	19.32	18.73	18.80	18.96	18.10	24.68	42.70	18.62	18.88	18.84	18.79	18.30	24.73	42.75	18.83	

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm) = Total Conducted Output Power (dBm) + Directional Gain

Band / BW	RB Size	RB Offset	QPSK																				
			Low Channel							Middle Channel							High Channel						
			3560 MHz							3625 MHz							3690 MHz						
			Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total		
48 / 20M	1	0	20.20	20.02	20.19	18.26	25.76	43.78	23.87	19.97	19.97	19.94	19.23	25.81	43.83	24.15	20.34	20.45	20.14	20.29	26.33	44.35	27.21
	1	50	19.95	19.86	20.03	18.19	25.59	43.61	22.96	19.80	19.73	19.91	19.17	25.68	43.70	23.45	20.21	20.19	20.11	20.12	26.18	44.20	26.29
	1	99	20.01	19.77	20.15	18.31	25.64	43.66	23.22	19.86	19.82	19.98	19.24	25.75	43.77	23.85	20.25	20.38	20.04	20.10	26.22	44.24	26.52
	50	0	20.10	19.73	20.10	18.27	25.63	43.65	23.19	19.78	19.91	19.85	19.09	25.69	43.71	23.50	20.19	20.29	19.95	20.22	26.18	44.20	26.33
	50	25	20.13	19.81	19.99	18.22	25.62	43.64	23.13	19.73	19.77	19.91	19.09	25.66	43.68	23.32	20.22	20.27	20.00	20.23	26.20	44.22	26.44
	50	50	20.06	19.70	20.05	18.18	25.58	43.60	22.92	19.72	19.80	19.89	19.06	25.65	43.67	23.28	20.31	20.29	20.00	20.24	26.23	44.25	26.62
	100	0	20.04	19.95	20.22	18.29	25.71	43.73	23.61	19.79	19.81	19.95	19.10	25.70	43.72	23.53	20.29	20.31	20.16	20.26	26.28	44.30	26.89
Band / BW	RB Size	RB Offset	16QAM																				
			Low Channel							Middle Channel							High Channel						
			3560 MHz							3625 MHz							3690 MHz						
			Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total		
48 / 20M	1	0	19.12	19.32	19.25	18.36	25.05	43.07	20.27	18.85	18.87	18.85	19.24	24.98	43.00	19.94	18.90	19.33	19.16	20.20	25.45	43.47	22.21
	1	50	19.12	19.24	19.08	18.20	24.95	42.97	19.81	18.79	18.80	18.88	19.14	24.93	42.95	19.70	18.87	19.22	18.97	20.07	25.33	43.35	21.63
	1	99	19.19	19.13	19.17	18.12	24.95	42.97	19.80	18.76	18.76	18.80	19.08	24.87	42.89	19.47	18.91	19.24	19.04	19.97	25.33	43.35	21.63
	50	0	19.06	19.20	19.09	18.27	24.94	42.96	19.77	18.82	18.93	18.81	19.20	24.96	42.98	19.88	18.91	19.19	19.02	20.09	25.35	43.37	21.72
	50	25	19.10	19.23	19.09	18.16	24.94	42.96	19.75	18.74	18.81	18.75	19.03	24.85	42.87	19.39	18.92	19.28	19.11	20.06	25.39	43.41	21.90
	50	50	19.06	19.17	19.10	18.26	24.93	42.95	19.74	18.92	18.85	18.88	19.18	24.98	43.00	19.95	18.79	19.19	19.09	20.05	25.33	43.35	21.61
	100	0	19.06	19.21	19.14	18.22	24.95	42.97	19.80	18.89	18.88	18.92	19.15	24.98	43.00	19.96	18.90	19.30	19.05	20.16	25.40	43.42	21.99
Band / BW	RB Size	RB Offset	64QAM																				
			Low Channel							Middle Channel							High Channel						
			3560 MHz							3625 MHz							3690 MHz						
			Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)	Conducted Output Power (dBm)					EIRP (dBm)	EIRP (W)
			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total			Ch.0	Ch.1	Ch.2	Ch.3	Total		
48 / 20M	1	0	19.16	19.47	18.67	18.31	24.95	42.97	19.80	18.57	18.74	18.76	19.10	24.82	42.84	19.22	18.75	19.56	18.95	20.03	25.37	43.39	21.84
	1	50	19.06	19.24	18.48	18.20	24.79	42.81	19.08	18.54	18.46	18.78	18.98	24.72	42.74	18.77	18.58	19.48	18.92	19.91	25.27	43.29	21.35
	1	99	19.08	19.20	18.62	18.30	24.84	42.86	19.30	18.50	18.54	18.79	18.86	24.70	42.72	18.69	18.62	19.65	18.92	20.07	25.37	43.39	21.85
	50	0	19.08	19.26	18.45	18.33	24.82	42.84	19.23	18.65	18.60	18.70	19.05	24.77	42.79	19.03	18.68	19.41	19.04	19.96	25.32	43.34	21.57
	50	25	19.13	19.17	18.44	18.33	24.81	42.83	19.17	18.52	18.46	18.71	18.90	24.67	42.69	18.58	18.65	19.52	18.98	19.96	25.33	43.35	21.61
	50	50	19.18	19.21	18.48	18.29	24.83	42.85	19.27	18.50	18.53	18.77	18.85	24.69	42.71	18.65	18.63	19.46	18.90	20.01	25.30	43.32	21.50
	100	0	19.23	19.22	18.65	18.26	24.88	42.90	19.50	18.67	18.59	18.82	19.05	24.81	42.83	19.17	18.71	19.59	18.90	19.97	25.34	43.36	21.69

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP (dBm) = Total Conducted Output Power (dBm) + Directional Gain

Spectrum Plot of Worst Value

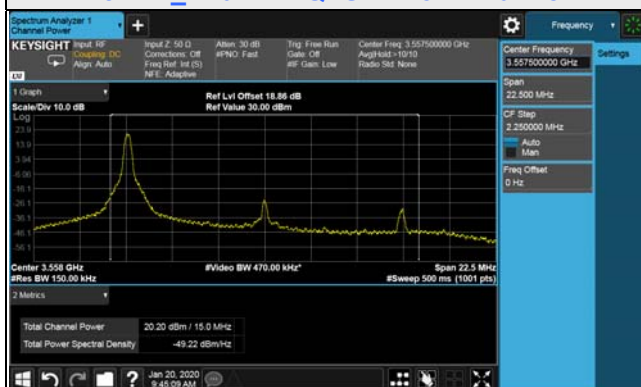
5MHz_Chain 0 / QPSK / High Channel



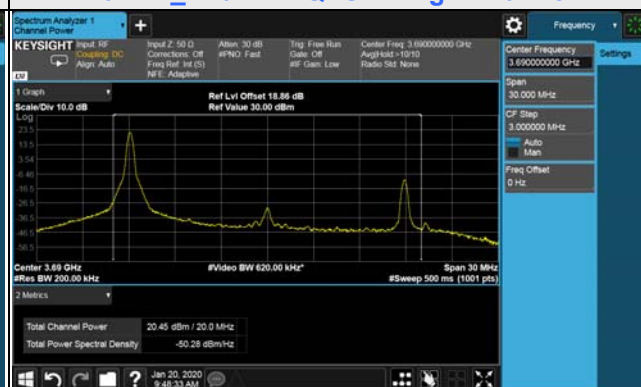
10MHz_Chain 1 / QPSK / Low Channel



15MHz_Chain 1 / QPSK / Low Channel



20MHz_Chain 1 / QPSK / High Channel

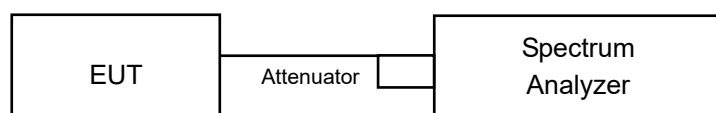


4.2 Maximum Power Spectral Density Measurement

4.2.1 Limits of Maximum Power Spectral Density Measurement

Device		Maximum PSD (dBm/MHz)
☐	End User Device	n/a
☐	Category A CBSD	20
☒	Category B CBSD	37

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.2.4 Test Procedure

1. Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
2. Set instrument center frequency to OBW center frequency.
3. Set span to 2 × to 3 × the OBW.
4. Set the RBW to the specified reference bandwidth (often 1 MHz).
5. Set VBW $\geq 3 \times$ RBW.
6. Detector = RMS (power averaging).
7. Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
8. Sweep time = auto couple.
9. Employ trace averaging (RMS) mode over a minimum of 100 traces.
10. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.2.7 Test Results

Channel	Freq. (MHz)	5MHz							
		QPSK							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3552.5	12.84	12.65	12.65	12.43	18.67	36.69	37.0	Pass
Middle	3625	12.01	12.42	12.27	12.29	18.27	36.29	37.0	Pass
High	3697.5	12.27	12.16	12.05	12.30	18.22	36.24	37.0	Pass
Channel	Freq. (MHz)	16QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3552.5	11.30	11.95	11.98	11.59	17.73	35.75	37.0	Pass
Middle	3625	11.53	12.02	12.12	12.19	17.99	36.01	37.0	Pass
High	3697.5	12.26	12.34	12.20	11.74	18.16	36.18	37.0	Pass
Channel	Freq. (MHz)	64QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3552.5	11.32	11.79	11.94	11.63	17.69	35.71	37.0	Pass
Middle	3625	11.95	11.81	11.99	12.05	17.97	35.99	37.0	Pass
High	3697.5	12.14	12.04	11.67	11.32	17.82	35.84	37.0	Pass

Channel	Freq. (MHz)	10MHz							
		QPSK							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3555	11.20	11.03	10.88	10.85	17.01	35.03	37.0	Pass
Middle	3625	10.01	10.40	10.54	10.89	16.49	34.51	37.0	Pass
High	3695	9.60	9.46	9.61	10.55	15.85	33.87	37.0	Pass
Channel	Freq. (MHz)	16QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3555	11.10	9.70	9.60	10.08	16.18	34.20	37.0	Pass
Middle	3625	10.73	10.20	10.30	10.32	16.41	34.43	37.0	Pass
High	3695	11.19	9.97	9.31	10.02	16.20	34.22	37.0	Pass
Channel	Freq. (MHz)	64QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3555	10.59	10.16	9.89	9.81	16.14	34.16	37.0	Pass
Middle	3625	11.16	10.81	10.77	10.56	16.85	34.87	37.0	Pass
High	3695	10.41	9.41	9.79	10.31	16.02	34.04	37.0	Pass

Note:

- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP PSD (dBm/MHz) = Total Conducted Power Density (dBm/MHz) + Directional Gain

Channel	Freq. (MHz)	15MHz							
		QPSK							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3557.5	9.49	9.66	9.14	9.87	15.57	33.59	37.0	Pass
Middle	3625	9.19	9.43	9.07	9.40	15.30	33.32	37.0	Pass
High	3692.5	9.35	9.57	9.36	8.88	15.32	33.34	37.0	Pass
Channel	Freq. (MHz)	16QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3557.5	9.02	8.54	8.54	8.22	14.61	32.63	37.0	Pass
Middle	3625	8.67	8.54	9.09	8.96	14.84	32.86	37.0	Pass
High	3692.5	9.52	9.37	8.78	8.60	15.10	33.12	37.0	Pass
Channel	Freq. (MHz)	64QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3557.5	8.92	8.37	8.78	8.32	14.62	32.64	37.0	Pass
Middle	3625	8.75	8.88	9.00	8.94	14.91	32.93	37.0	Pass
High	3692.5	9.35	9.33	9.00	9.39	15.29	33.31	37.0	Pass

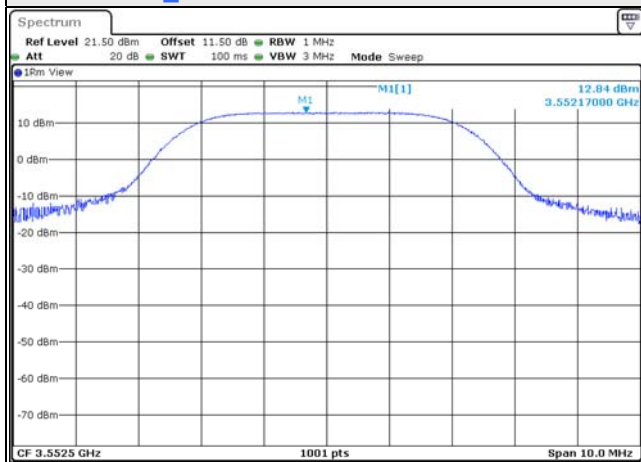
Channel	Freq. (MHz)	20MHz							
		QPSK							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3560	7.88	8.06	7.54	7.98	13.89	31.91	37.0	Pass
Middle	3625	7.58	7.82	7.46	7.97	13.73	31.75	37.0	Pass
High	3690	7.72	7.95	7.76	7.75	13.82	31.84	37.0	Pass
Channel	Freq. (MHz)	16QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3560	7.42	7.85	7.69	7.69	13.69	31.71	37.0	Pass
Middle	3625	7.58	7.89	7.64	7.70	13.73	31.75	37.0	Pass
High	3690	7.72	7.77	7.71	7.72	13.75	31.77	37.0	Pass
Channel	Freq. (MHz)	64QAM							
		Conducted Power Density (dBm/MHz)					EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Total			
Low	3560	7.32	7.77	7.18	7.79	13.54	31.56	37.0	Pass
Middle	3625	7.18	7.35	7.26	7.12	13.25	31.27	37.0	Pass
High	3690	7.81	7.72	7.38	7.28	13.57	31.59	37.0	Pass

Note:

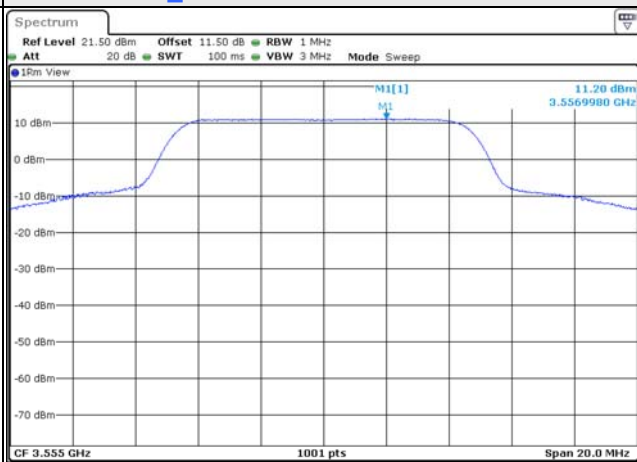
- Directional gain = 12dBi + 10log(4) = 18.02dBi
- EIRP PSD (dBm/MHz) = Total Conducted Power Density (dBm/MHz) + Directional Gain

Spectrum Plot of Worst Value

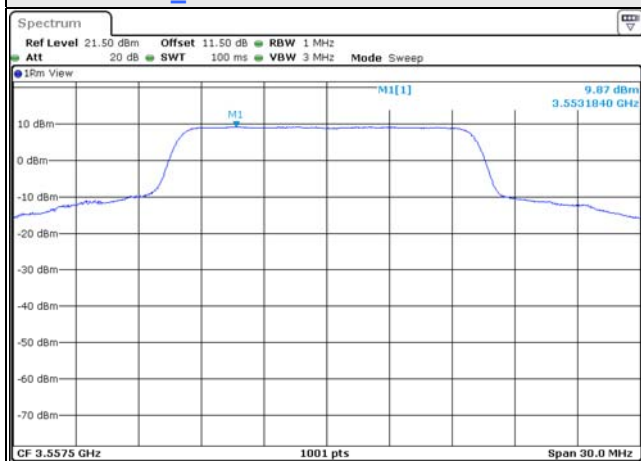
5MHz_Chain 0 / QPSK / Low Channel



10MHz_Chain 0 / QPSK / Low Channel



15MHz_Chain 3 / QPSK / Low Channel



20MHz_Chain 1 / QPSK / Low Channel



4.3 Modulation Characteristics Measurement

4.3.1 Limits of Modulation Characteristics

N/A

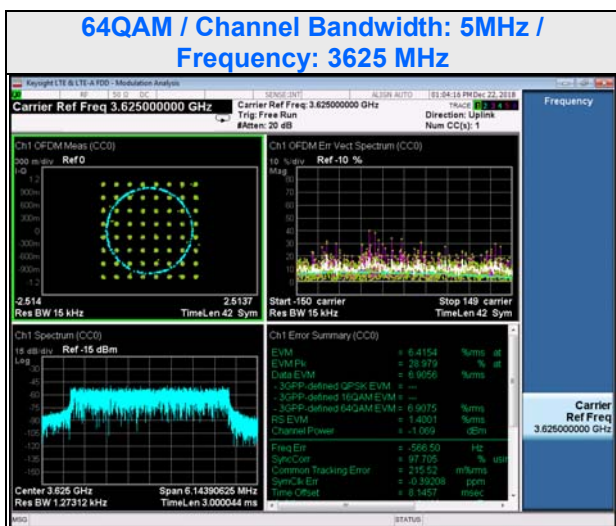
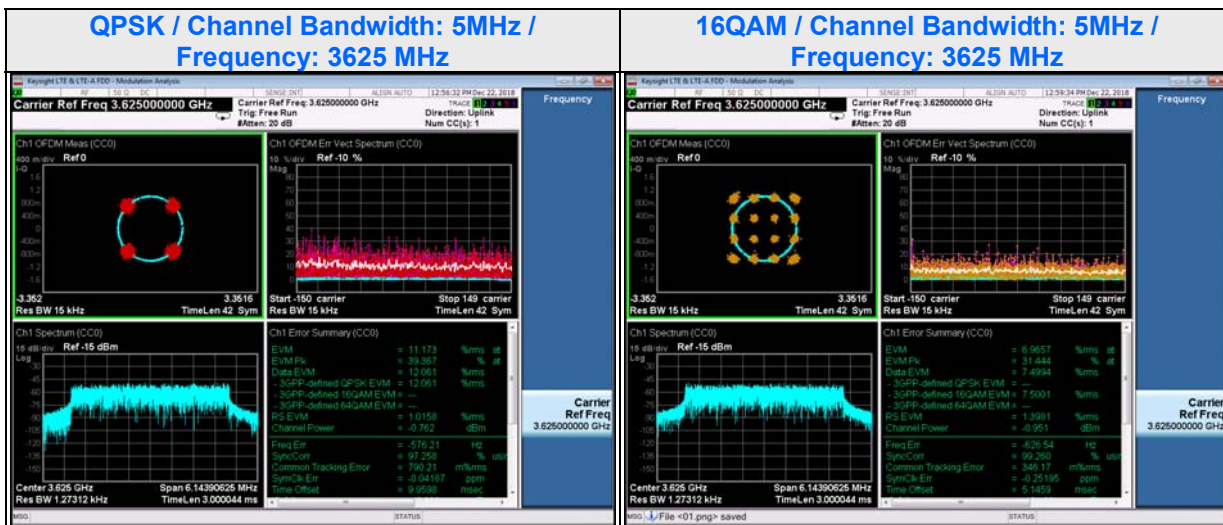
4.3.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, the frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

4.3.3 Test Setup



4.3.4 Test Results



4.4 Frequency Stability Measurement

4.4.1 Limits of Frequency Stability Measurement

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency band.

4.4.2 Test Procedure

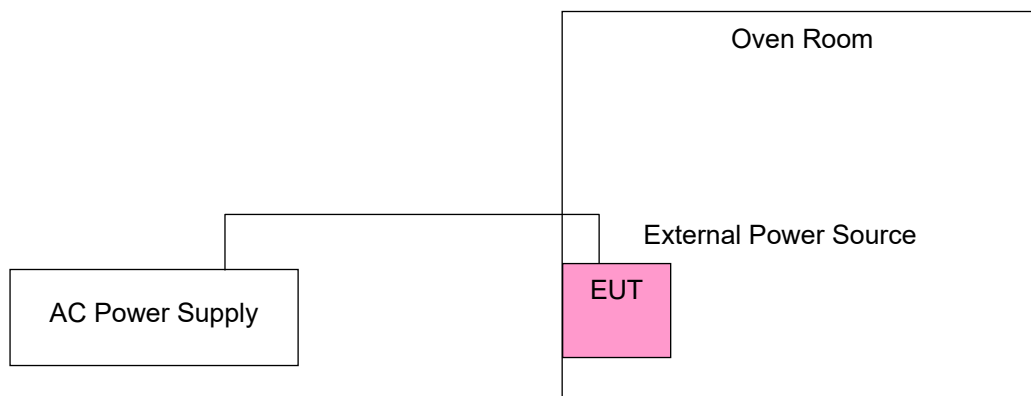
- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the AC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 Test Setup



4.4.5 Test Results

Frequency vs. Voltage

Voltage (Vac)	Frequency (MHz)				Pass/Fail
	5MHz	10MHz	15MHz	20MHz	
102	3625.000039	3625.000044	3625.000033	3625.000037	Pass
120	3625.000036	3625.000038	3625.000042	3625.000039	Pass
138	3625.000032	3625.000037	3625.000037	3625.000036	Pass

Frequency vs. Temperature.

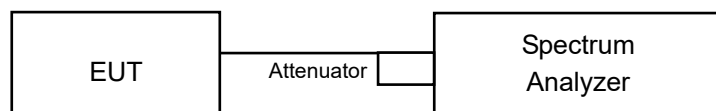
TEMP. (°C)	Frequency (MHz)				Pass/Fail
	5MHz	10MHz	15MHz	20MHz	
75	3625.000037	3625.000042	3625.000031	3625.000039	Pass
70	3625.000031	3625.000035	3625.000037	3625.000041	Pass
60	3625.000029	3625.000090	3625.000043	3625.000035	Pass
50	3625.000036	3625.000041	3625.000035	3625.000044	Pass
40	3625.000032	3625.000033	3625.000024	3625.000032	Pass
30	3625.000035	3625.000037	3625.000035	3625.000034	Pass
20	3625.000028	3625.000043	3625.000032	3625.000029	Pass
10	3625.000025	3625.000032	3625.000026	3625.000037	Pass
0	3625.000032	3625.000035	3625.000038	3625.000028	Pass
-10	3625.000034	3625.000031	3625.000032	3625.000033	Pass
-20	3625.000032	3625.000029	3625.000031	3625.000030	Pass
-30	3625.000033	3625.000032	3625.000029	3625.000025	Pass

4.5 Emission Bandwidth Measurement

4.5.1 Limit of Emission Bandwidth Measurement

Reference only

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedure

26dBc Bandwidth:

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW = 51 kHz (5 MHz bandwidth), RBW = 100 kHz (10 MHz bandwidth), RBW = 150 kHz (15 MHz bandwidth), RBW = 200 kHz (20 MHz bandwidth). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Occupied Bandwidth:

All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.5.7 Test Result (-26dB Bandwidth)

Channel	Freq. (MHz)	26dB Down Bandwidth (MHz)											
		5MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3552.5	5.12	5.13	5.16	5.20	5.15	5.13	5.07	5.15	5.11	5.07	5.14	5.10
Middle	3625	5.05	5.16	5.13	5.01	5.15	5.03	5.01	5.01	5.00	5.13	5.14	5.02
High	3697.5	4.99	5.16	5.07	5.07	5.17	5.00	5.13	5.17	5.10	5.08	5.09	5.20

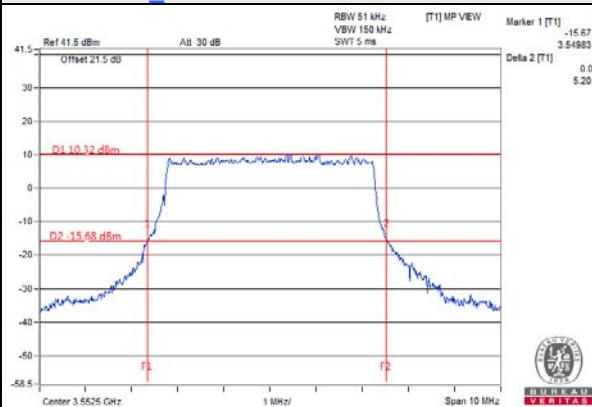
Channel	Freq. (MHz)	26dB Down Bandwidth (MHz)											
		10MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3555	9.91	9.76	9.88	9.88	9.76	9.80	9.93	9.88	9.76	9.89	9.91	9.82
Middle	3625	9.61	9.50	9.76	9.77	9.59	9.80	9.73	9.77	9.72	9.79	9.83	9.83
High	3695	9.76	9.58	9.57	9.92	9.69	9.86	9.78	9.74	9.77	9.80	9.66	9.55

Channel	Freq. (MHz)	26dB Down Bandwidth (MHz)											
		15MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3557.5	14.53	14.47	14.33	14.53	14.45	14.42	14.44	14.47	14.52	14.46	14.53	14.50
Middle	3625	14.25	14.08	14.11	14.25	14.41	14.22	14.09	14.09	14.28	14.27	14.48	14.18
High	3692.5	14.17	14.26	14.19	14.29	14.21	13.94	14.26	14.14	14.25	14.32	14.11	14.17

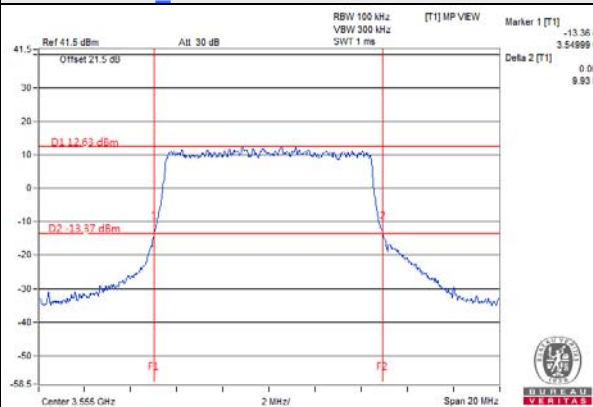
Channel	Freq. (MHz)	26dB Down Bandwidth (MHz)											
		20MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3560	18.99	19.05	18.95	18.97	18.92	18.97	18.99	19.15	18.92	18.98	19.13	18.98
Middle	3625	18.88	18.67	18.85	18.77	18.65	18.64	18.70	18.90	18.58	19.04	18.94	18.75
High	3690	18.96	18.65	18.78	18.79	18.93	18.64	18.82	18.90	18.63	18.86	18.87	18.64

Spectrum Plot of Worst Value

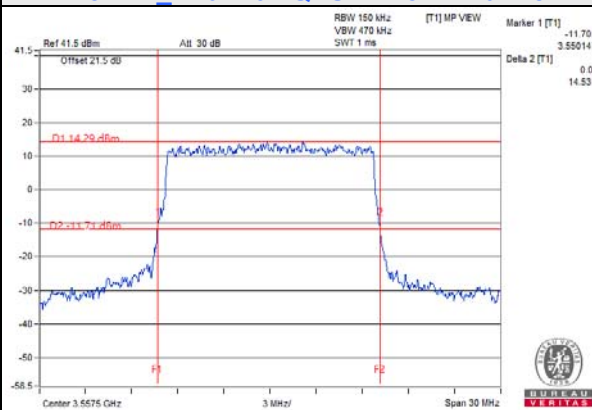
5MHz_Chain 1 / QPSK / Low Channel



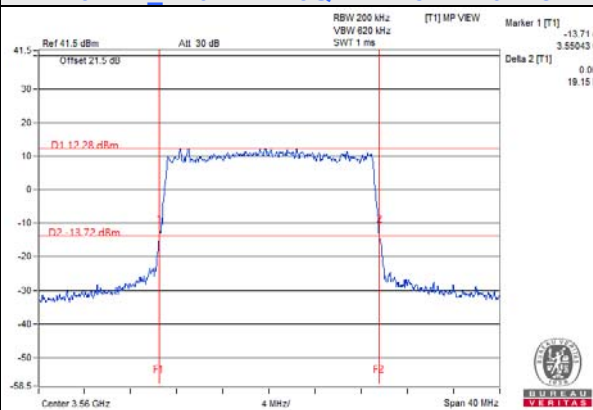
10MHz_Chain 2 / QPSK / Low Channel



15MHz_Chain 0 / QPSK / Low Channel



20MHz_Chain 2 / 16QAM / Low Channel



4.5.8 Test Result (Occupied Bandwidth)

Channel	Freq. (MHz)	OCP 99 Bandwidth (MHz)											
		5MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3552.5	4.48	4.47	4.48	4.50	4.47	4.48	4.48	4.47	4.49	4.48	4.48	4.48
Middle	3625	4.47	4.48	4.48	4.47	4.47	4.46	4.48	4.47	4.49	4.47	4.47	4.48
High	3697.5	4.48	4.47	4.48	4.47	4.47	4.48	4.47	4.47	4.47	4.47	4.48	4.46

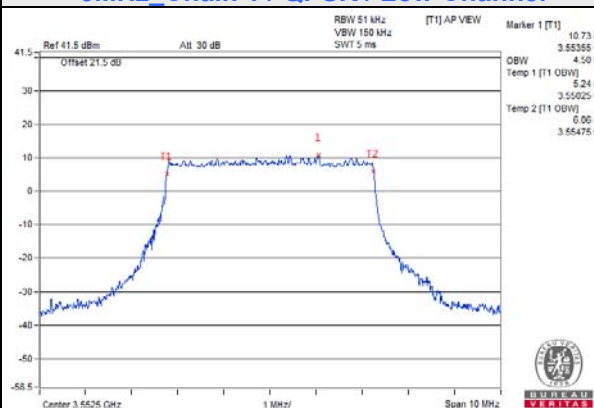
Channel	Freq. (MHz)	OCP 99 Bandwidth (MHz)											
		10MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3555	8.94	8.96	8.94	8.94	8.96	8.96	8.94	8.96	8.96	8.94	8.98	8.94
Middle	3625	8.94	8.94	8.94	8.96	8.98	8.92	8.96	8.98	8.94	8.96	8.98	8.96
High	3695	8.94	8.96	8.98	8.96	8.96	8.94	8.96	8.94	8.94	8.94	8.94	8.92

Channel	Freq. (MHz)	OCP 99 Bandwidth (MHz)											
		15MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3557.5	13.44	13.41	13.41	13.41	13.41	13.38	13.41	13.41	13.41	13.44	13.41	13.38
Middle	3625	13.38	13.41	13.44	13.41	13.38	13.38	13.38	13.38	13.47	13.38	13.41	13.38
High	3692.5	13.38	13.38	13.41	13.38	13.38	13.38	13.38	13.44	13.44	13.41	13.44	13.41

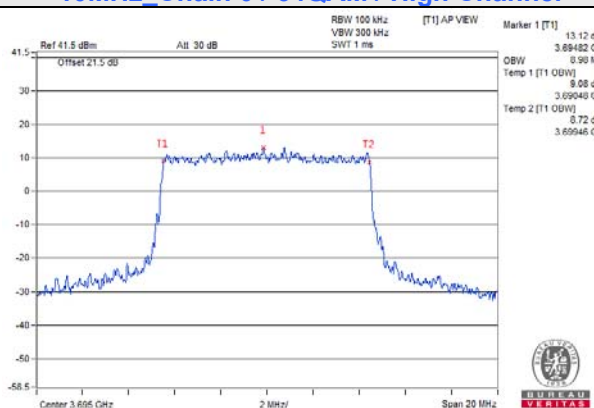
Channel	Freq. (MHz)	OCP 99 Bandwidth (MHz)											
		20MHz											
		Chain 0			Chain 1			Chain 2			Chain 3		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Low	3560	17.84	17.88	17.80	17.84	17.88	17.80	17.80	17.84	17.80	17.84	17.92	17.80
Middle	3625	17.84	17.84	17.84	17.88	17.92	17.84	17.84	17.84	17.80	17.88	17.88	17.80
High	3690	17.84	17.88	17.88	17.84	17.88	17.84	17.88	17.88	17.80	17.84	17.80	17.84

Spectrum Plot of Worst Value

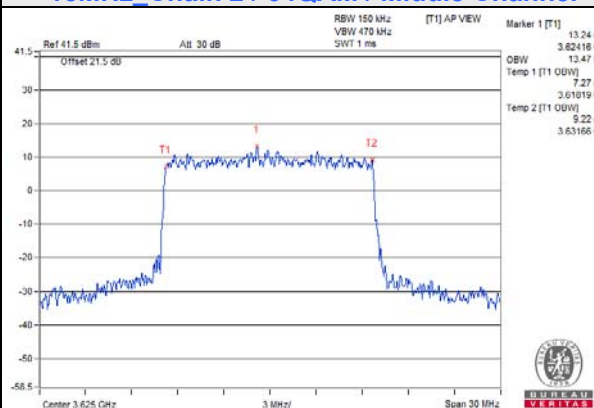
5MHz_Chain 1 / QPSK / Low Channel



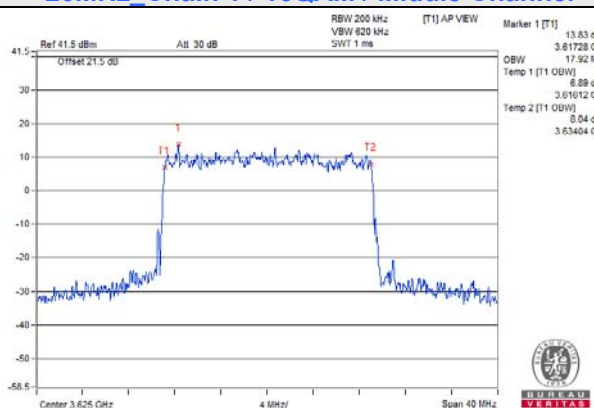
10MHz_Chain 0 / 64QAM / High Channel



15MHz_Chain 2 / 64QAM / Middle Channel



20MHz_Chain 1 / 16QAM / Middle Channel

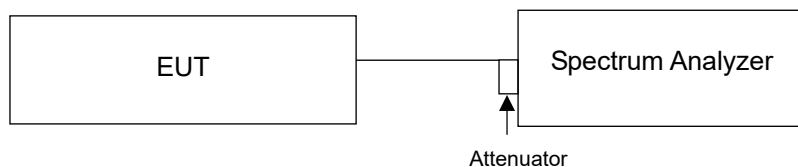


4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

4.6.2 Test Setup



4.6.3 Test Procedures

- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

4.6.4 Test Results

Channel	Freq. (MHz)	Peak to Average Ratio (dB)				Limit (dB)	Pass / Fail
		5MHz					
		Chain 0	Chain 1	Chain 2	Chain 3		
		QPSK					
Low	3552.5	9.58	9.07	9.04	9.25	13	Pass
Middle	3625	9.72	9.66	9.76	9.92	13	Pass
High	3697.5	8.78	8.85	9.18	8.78	13	Pass

Channel	Freq. (MHz)	Peak to Average Ratio (dB)				Limit (dB)	Pass / Fail
		10MHz					
		Chain 0	Chain 1	Chain 2	Chain 3		
		QPSK					
Low	3555	9.41	8.65	9.26	9.38	13	Pass
Middle	3625	8.58	8.67	9.55	9.30	13	Pass
High	3695	9.73	9.36	8.88	8.44	13	Pass

Channel	Freq. (MHz)	Peak to Average Ratio (dB)				Limit (dB)	Pass / Fail
		15MHz					
		Chain 0	Chain 1	Chain 2	Chain 3		
		QPSK					
Low	3557.5	8.93	8.95	8.74	9.80	13	Pass
Middle	3625	8.72	8.92	9.94	8.70	13	Pass
High	3692.5	9.84	8.73	9.72	9.90	13	Pass

Channel	Freq. (MHz)	Peak to Average Ratio (dB)				Limit (dB)	Pass / Fail
		20MHz					
		Chain 0	Chain 1	Chain 2	Chain 3		
		QPSK					
Low	3560	9.13	7.96	9.33	8.00	13	Pass
Middle	3625	8.03	8.18	9.32	9.08	13	Pass
High	3690	9.44	8.28	9.09	9.14	13	Pass

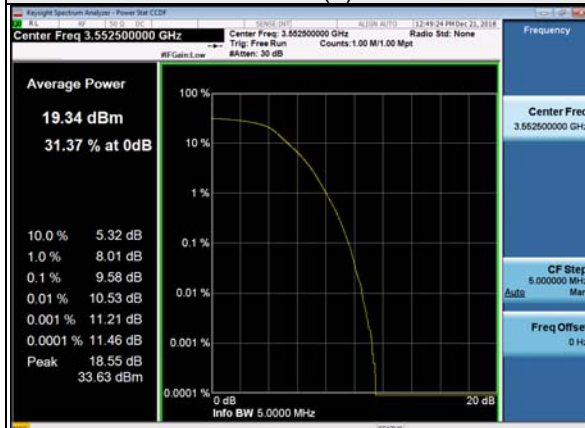
5MHz:

Spectrum Plot of Worst Value

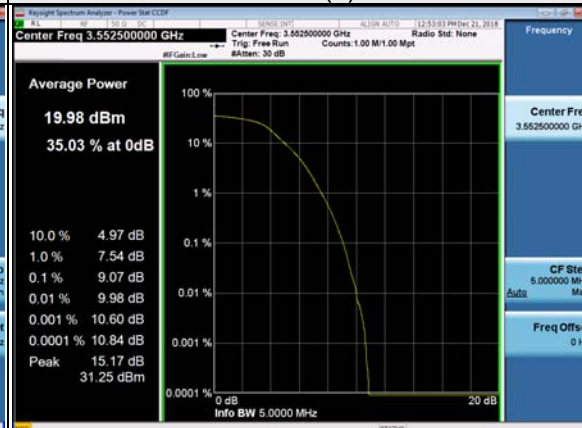
QPSK

Low Channel

Chain (0)



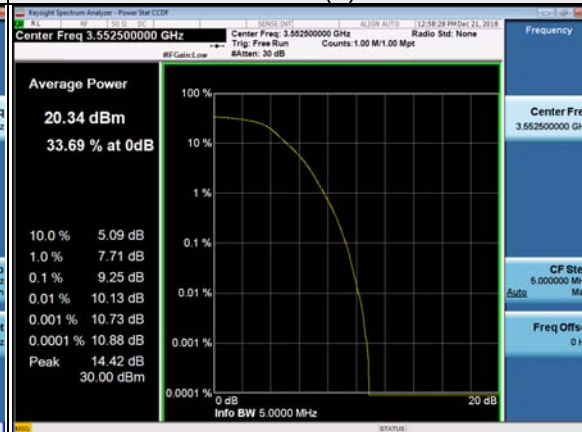
Chain (1)

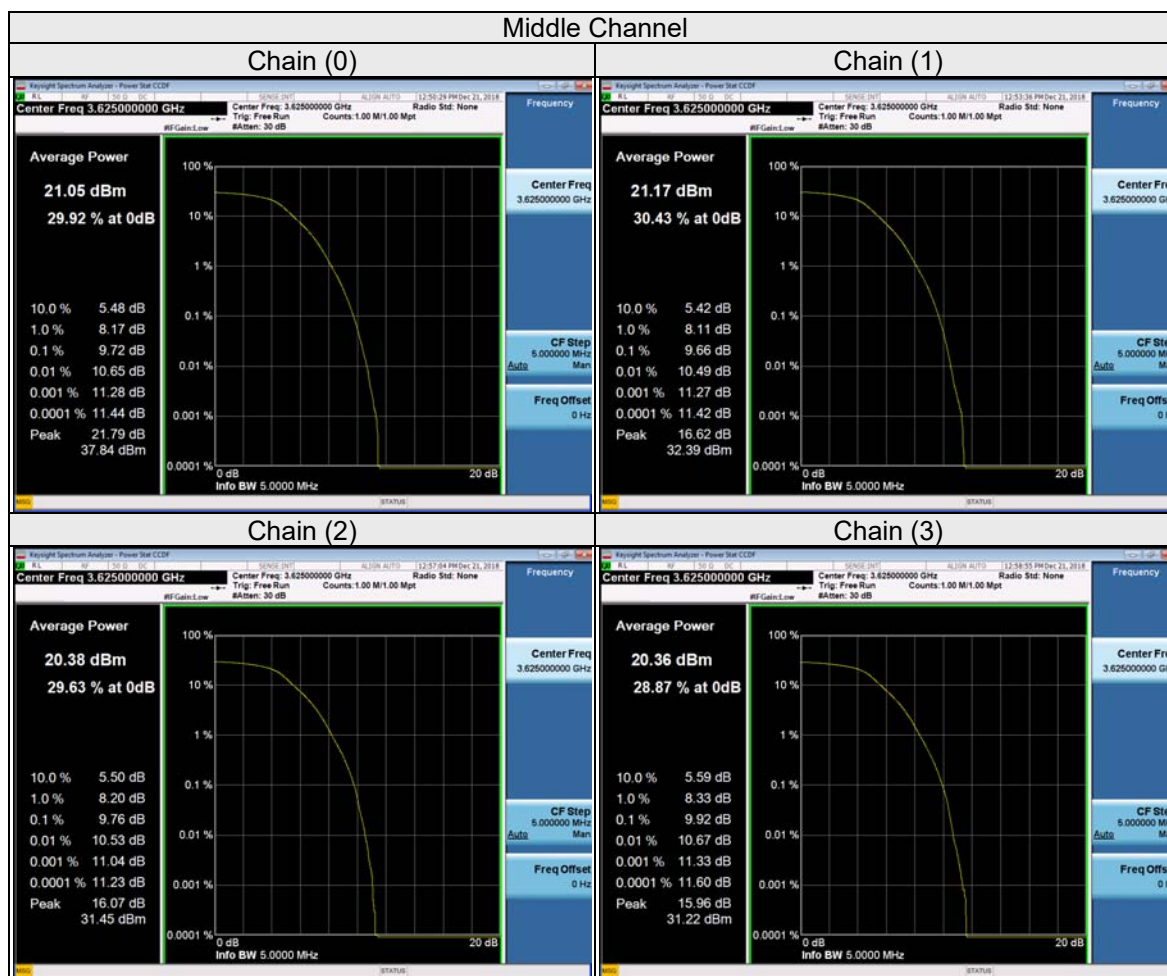


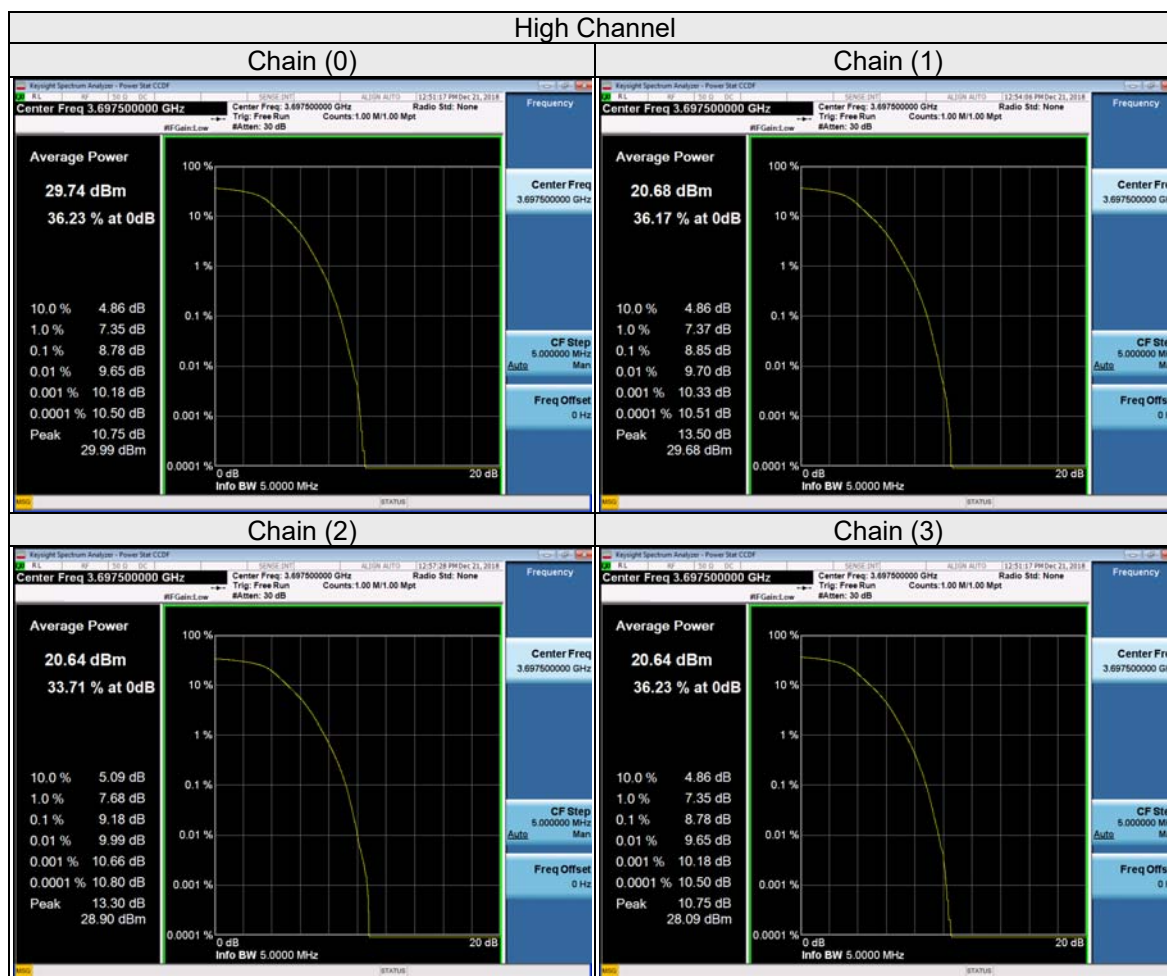
Chain (2)



Chain (3)







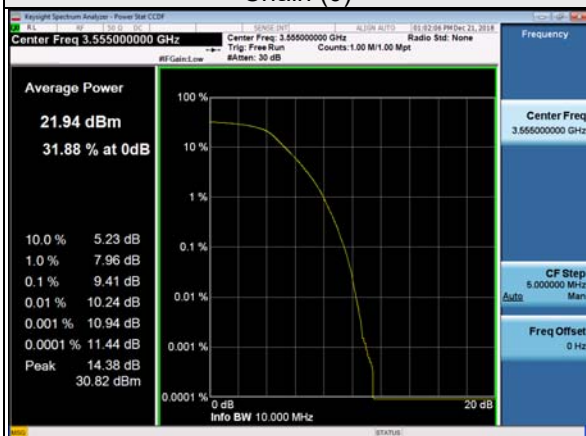
10MHz:

Spectrum Plot of Worst Value

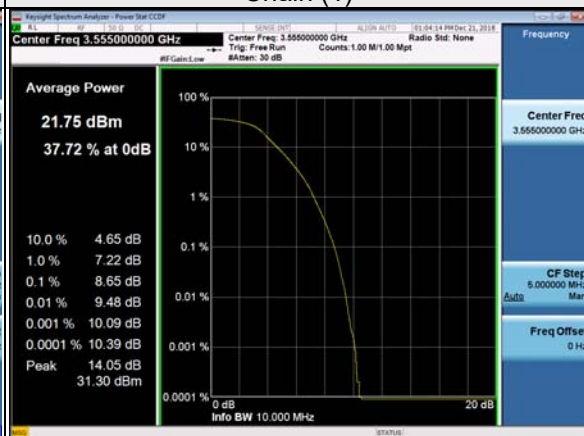
QPSK

Low Channel

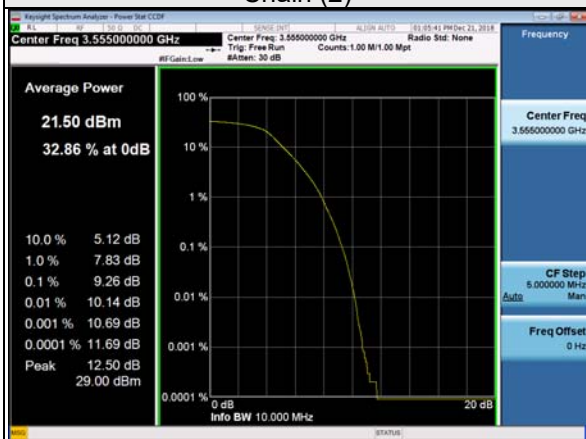
Chain (0)



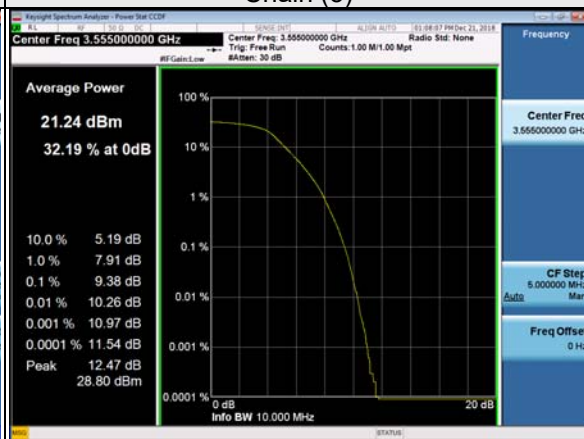
Chain (1)

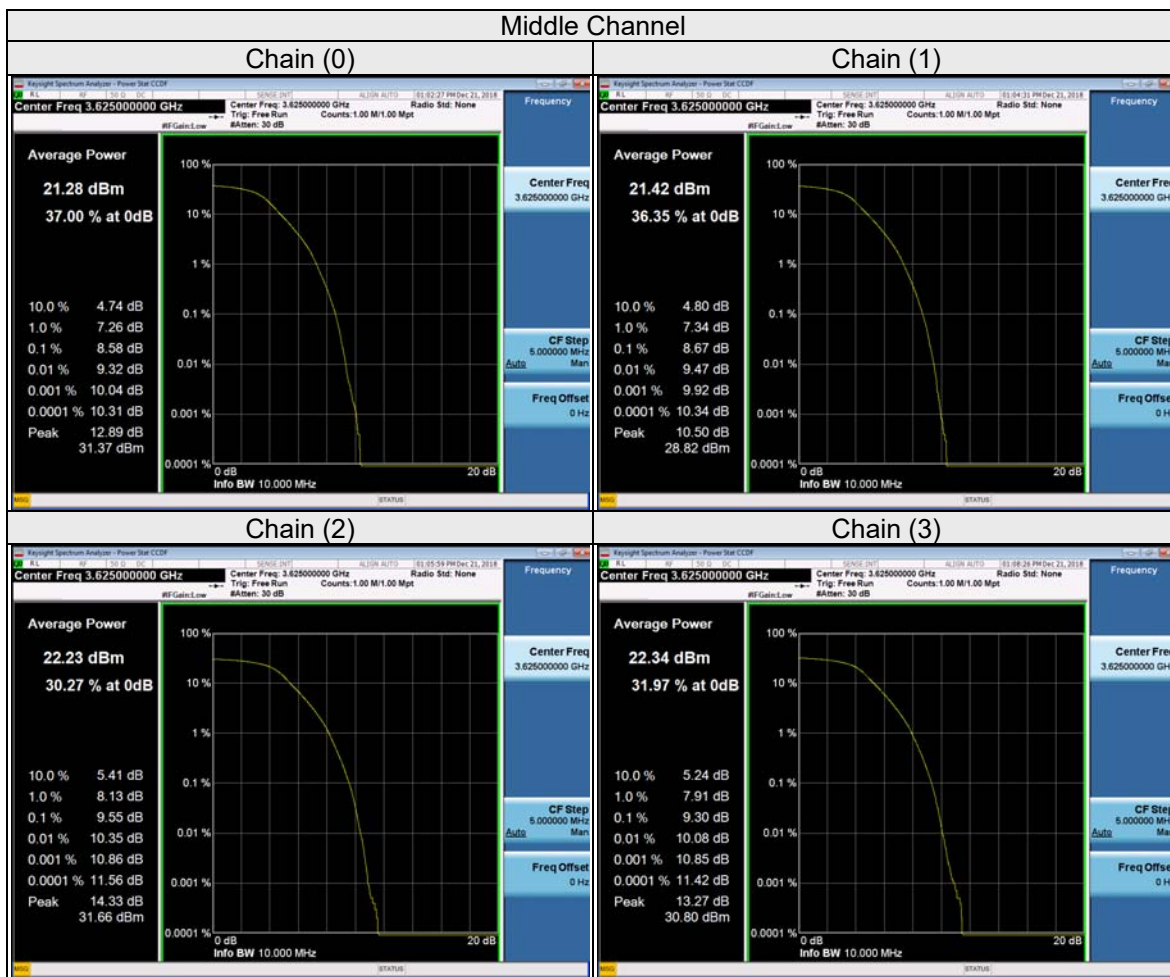


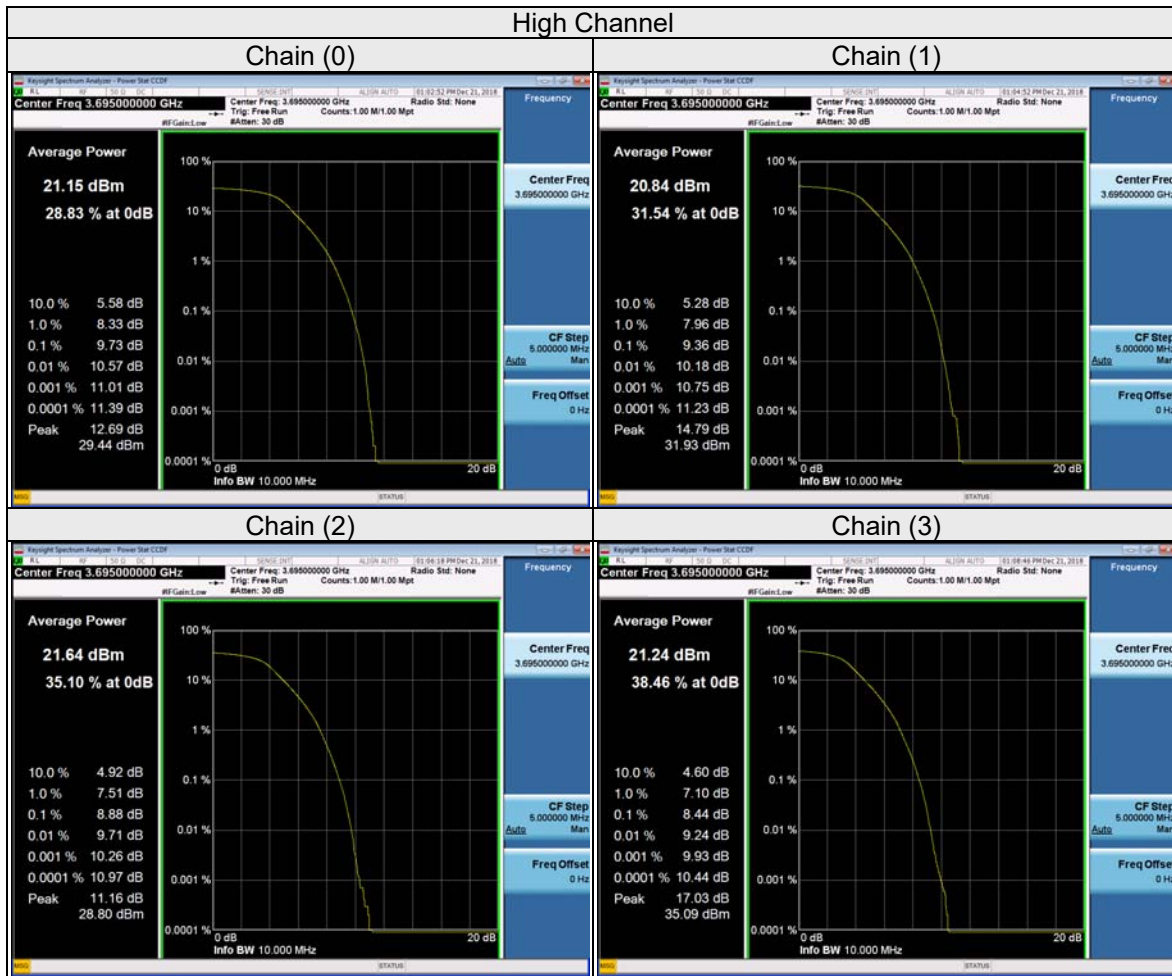
Chain (2)



Chain (3)







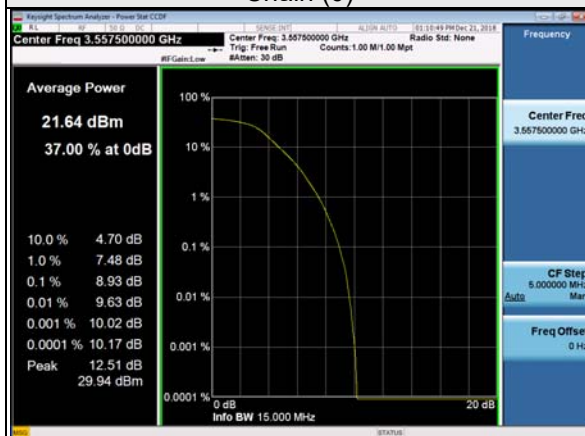
15MHz:

Spectrum Plot of Worst Value

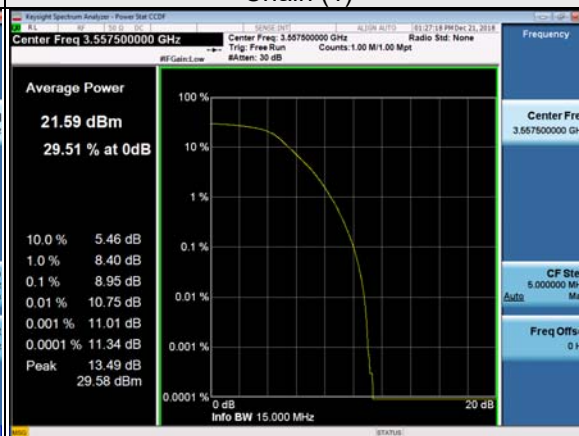
QPSK

Low Channel

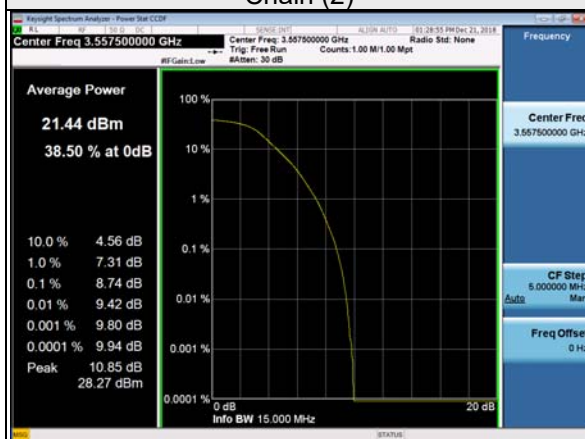
Chain (0)



Chain (1)

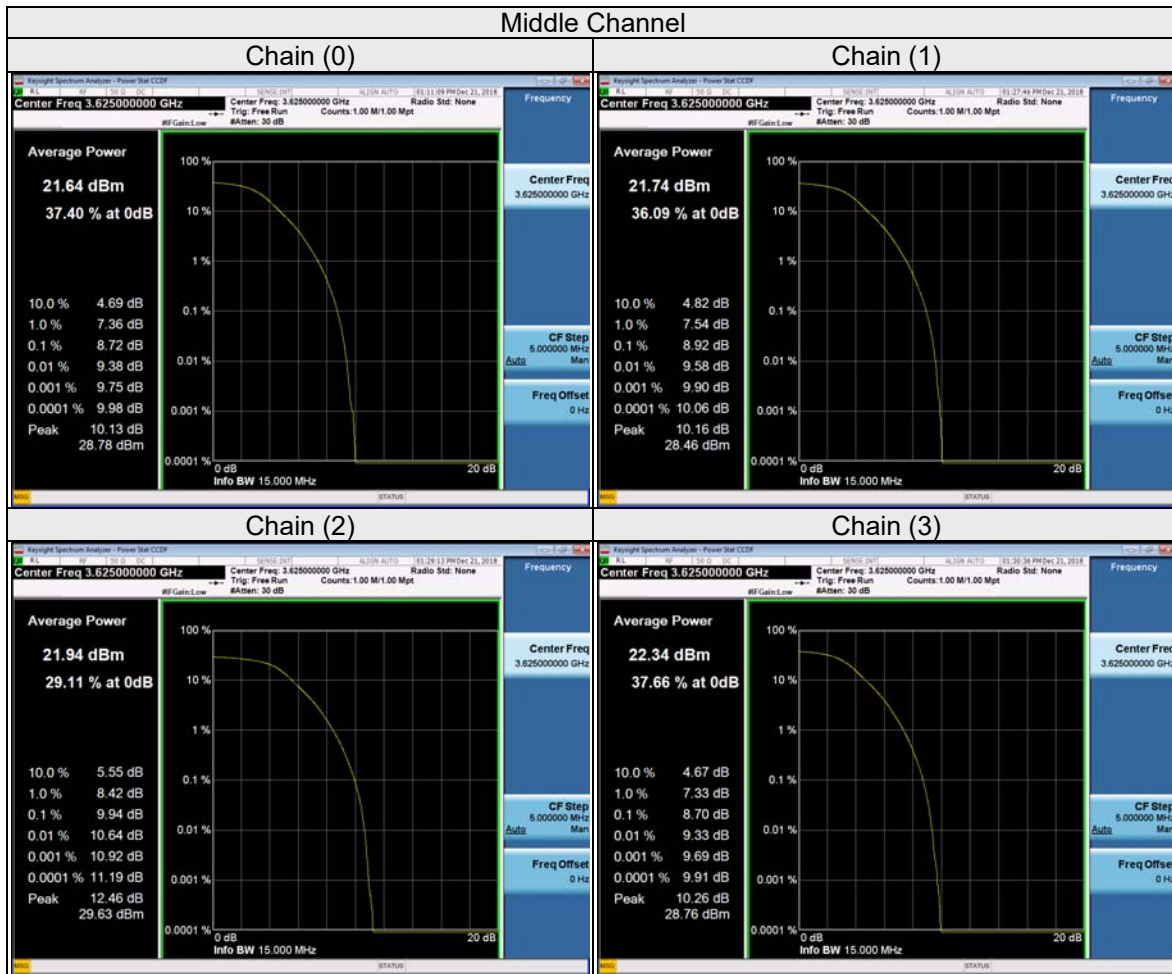


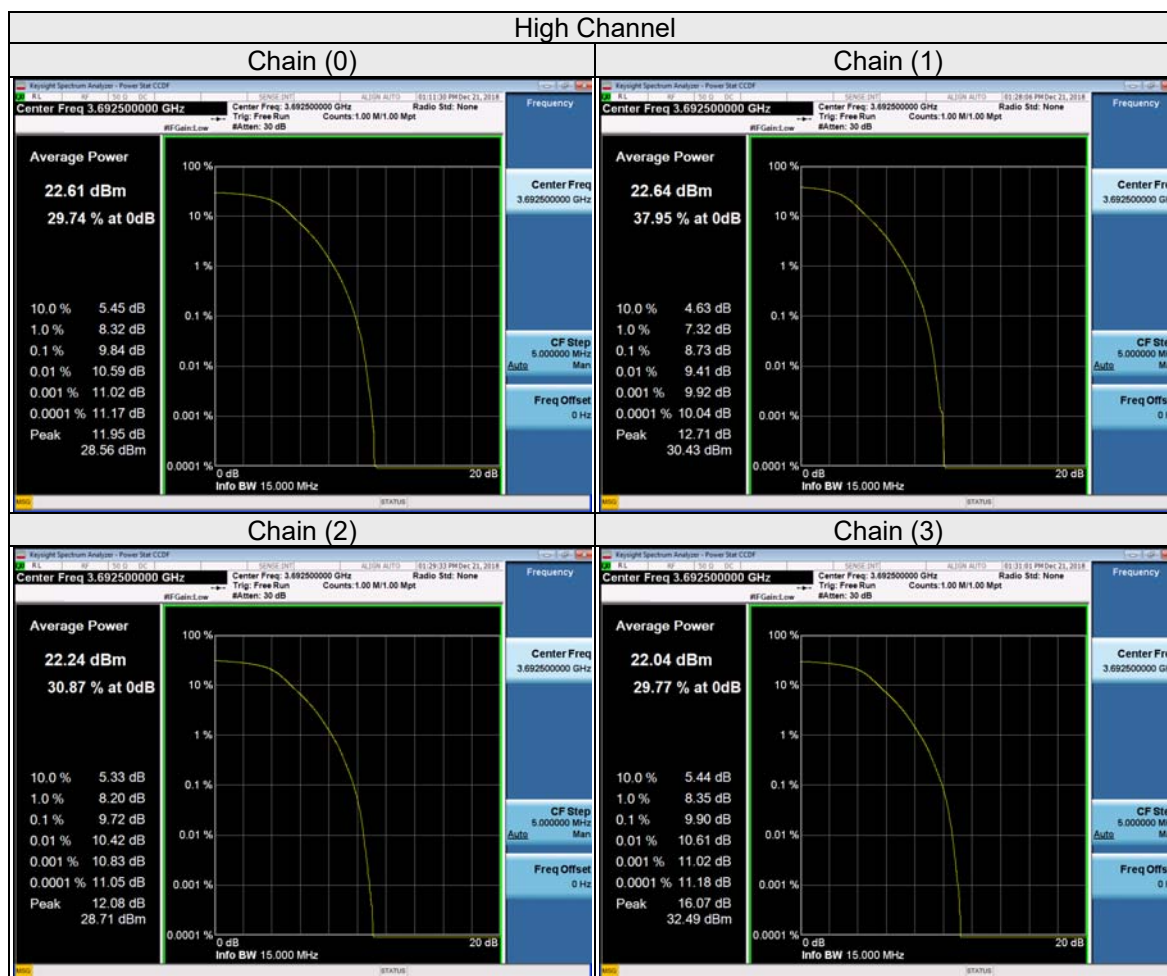
Chain (2)



Chain (3)







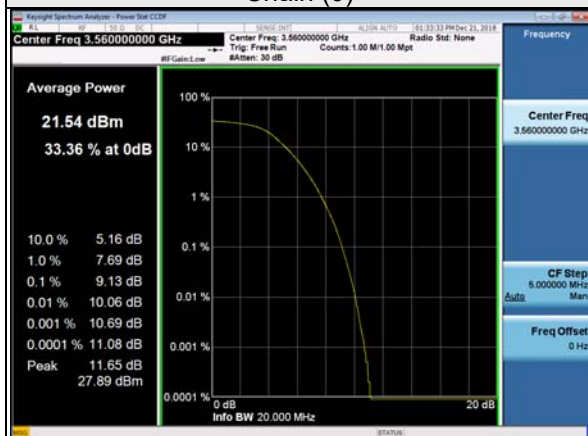
20MHz:

Spectrum Plot of Worst Value

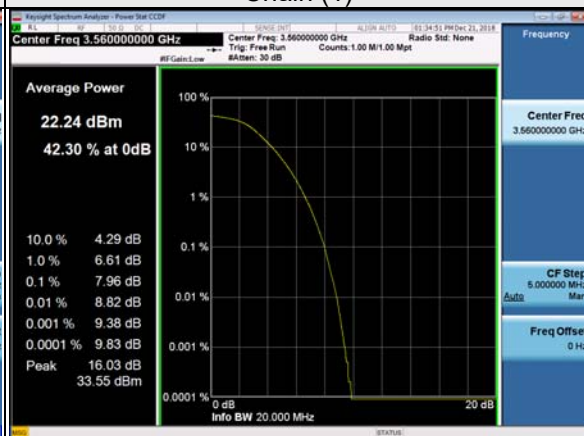
QPSK

Low Channel

Chain (0)



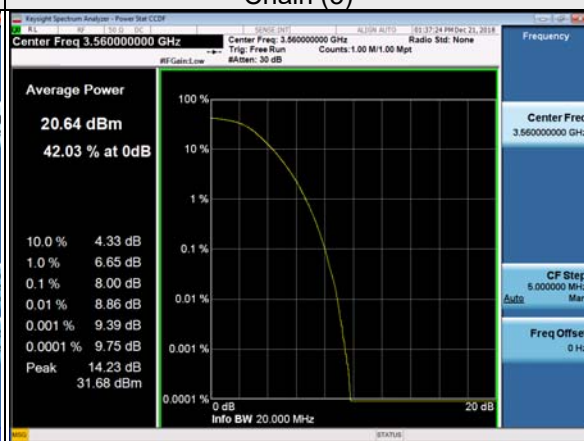
Chain (1)

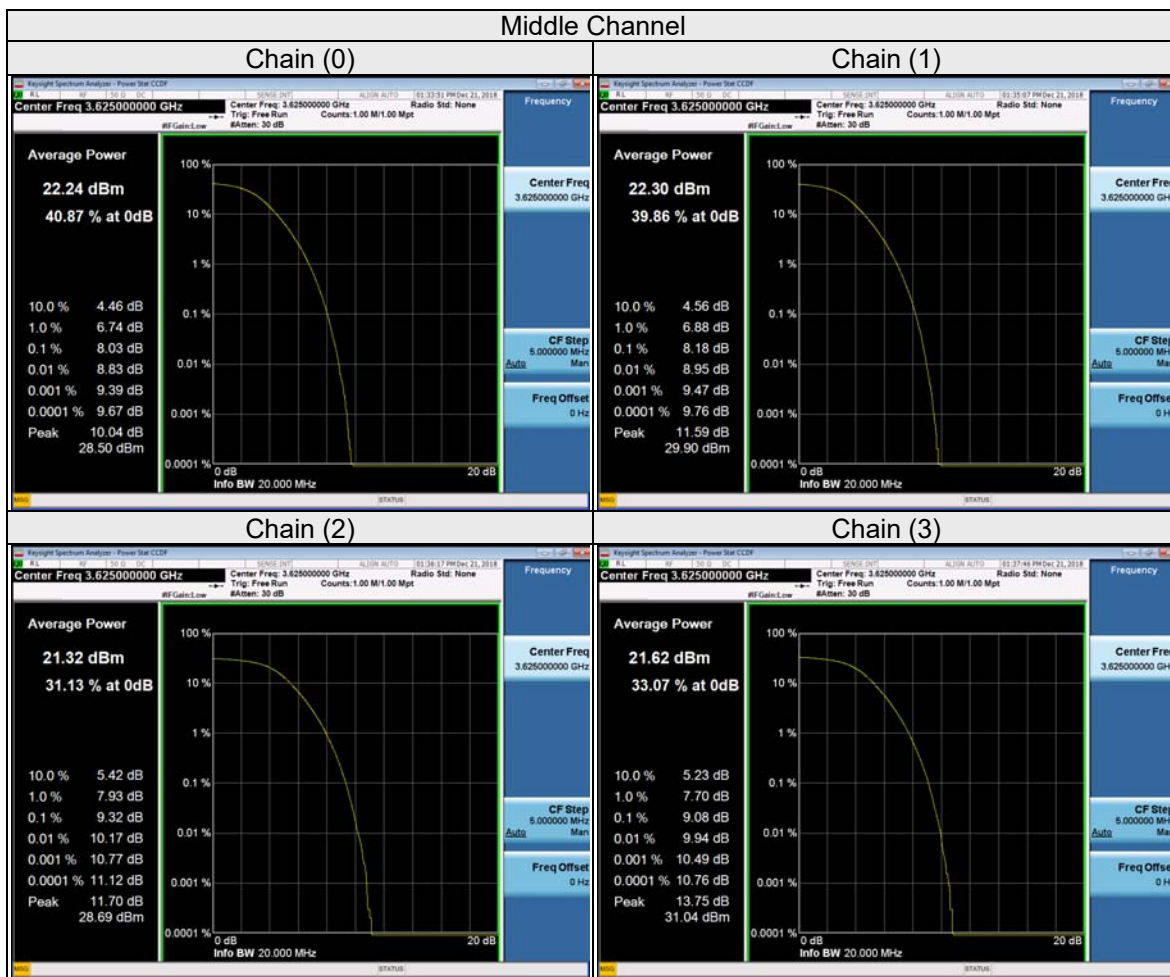


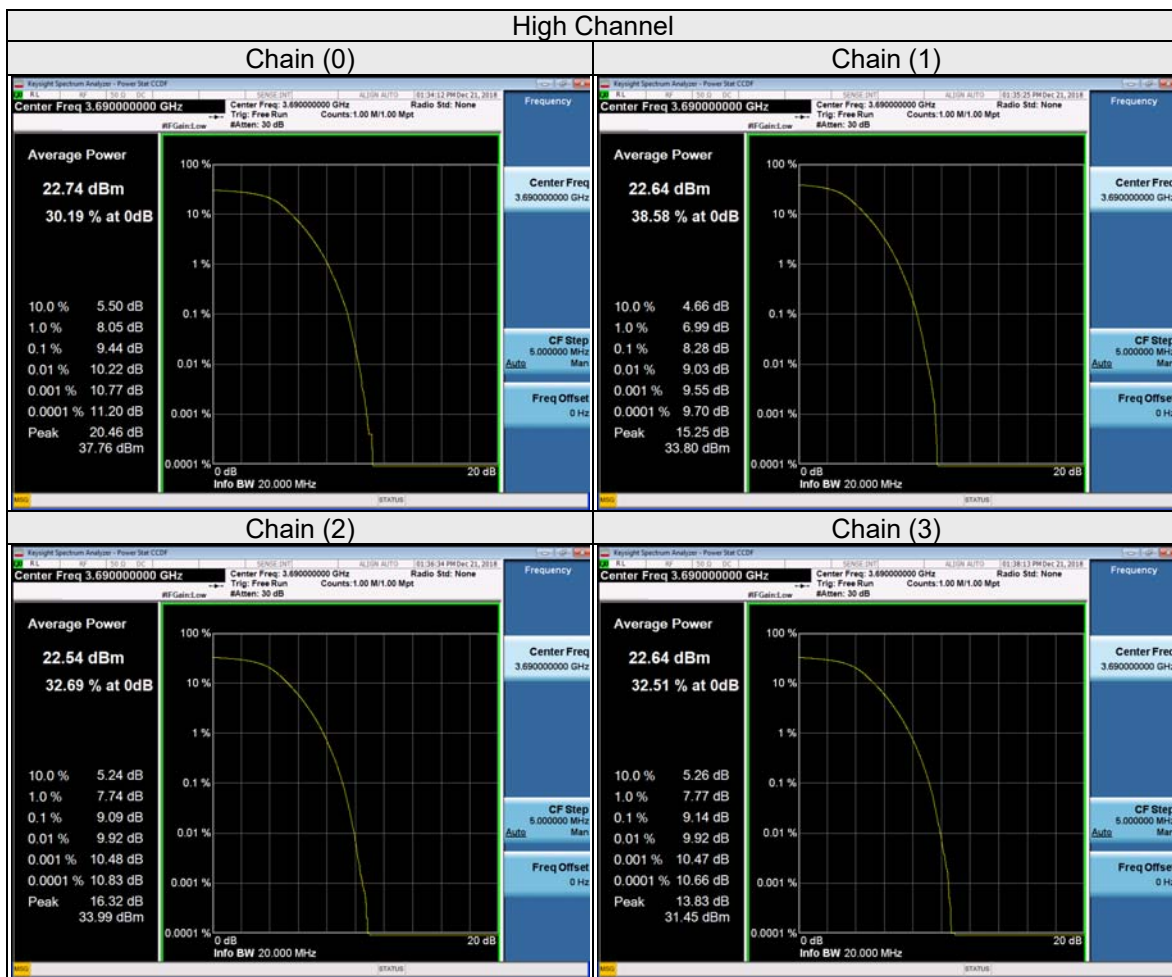
Chain (2)



Chain (3)







4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

Power of any emissions outside the Fundamental	Limit
Within 0-10MHz above the Assigned Channel	-13 dBm/MHz
Within 0-10MHz below the Assigned Channel	
Greater than 0-10MHz above the Assigned Channel	-25 dBm/MHz
Greater than 0-10MHz below the Assigned Channel	
Power of any emission below 3530MHz	-40 dBm/MHz
Power of any emission above 3720MHz	

Note:

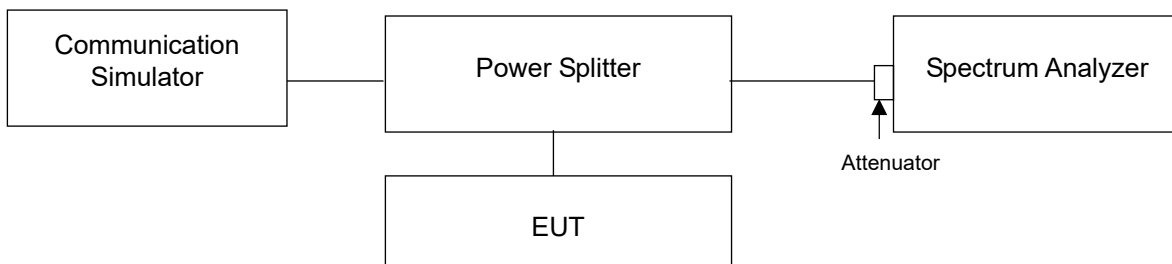
This device can be implement CDD function, so the limit of spurious emissions needs to be reduced by $10\log(\text{Numbers}_{\text{Ant}})$, according to FCC KDB 662911 D01 guidance.

{The limit is adjusted to $-13\text{dBm} - 10*\log(4) = -19.02\text{dBm}$.}

{The limit is adjusted to $-25\text{dBm} - 10*\log(4) = -31.02\text{dBm}$.}

{The limit is adjusted to $-40\text{dBm} - 10*\log(4) = -46.02\text{dBm}$.}

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

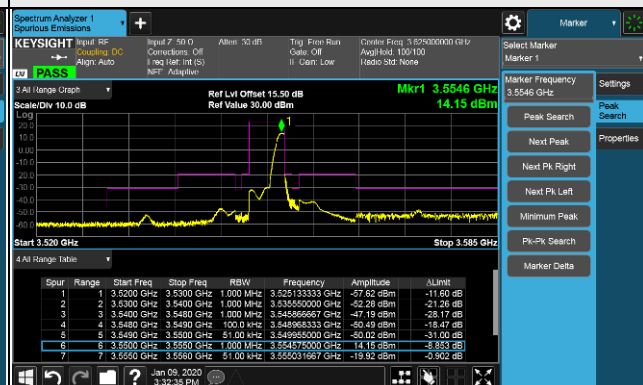
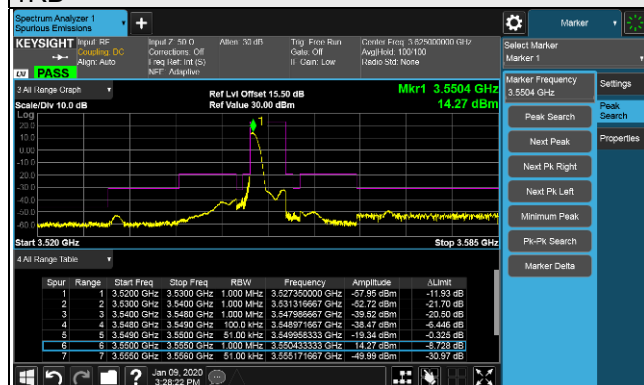
4.7.4 Test Procedure

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 30 MHz to 37 GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.
- Measuring frequency band edge, 20dB attenuation pad is connected with spectrum. 1% of the fundamental emission bandwidth is used for conducted emission measurement.

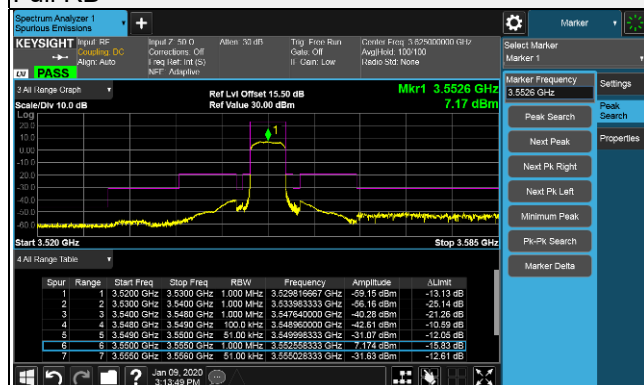
4.7.5 Test Results

5MHz / QPSK / Chain 0 / Low Channel

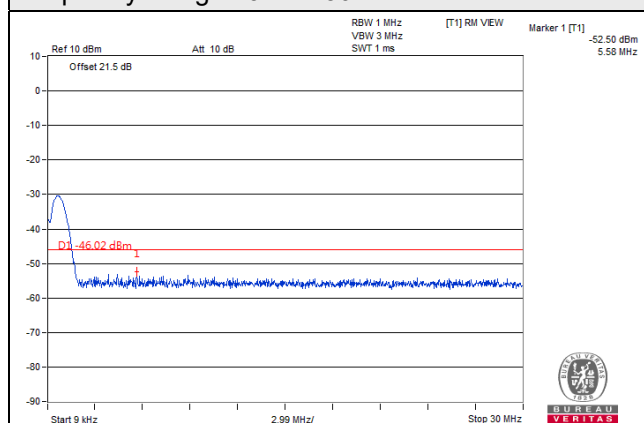
1RB



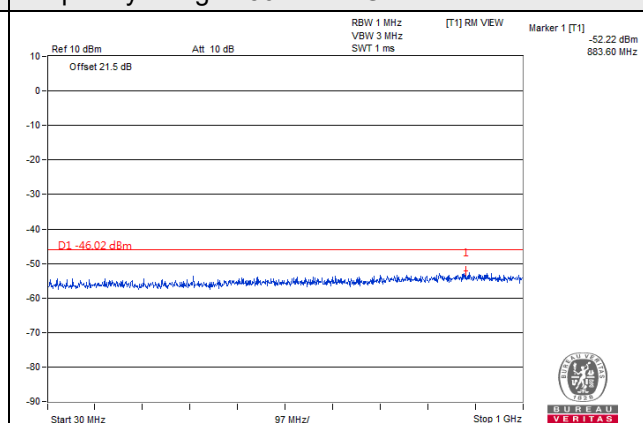
Full RB



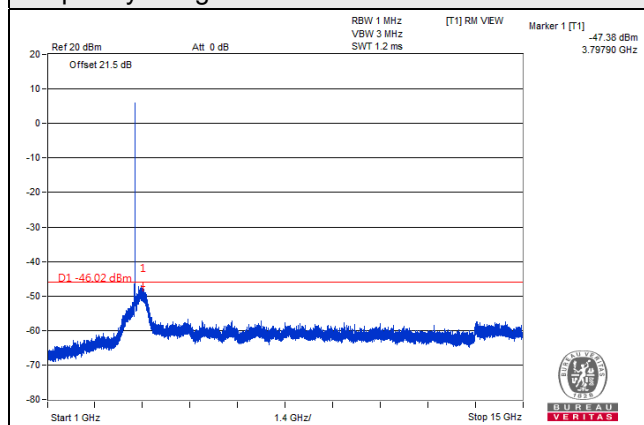
Frequency Range : 9kHz~30MHz



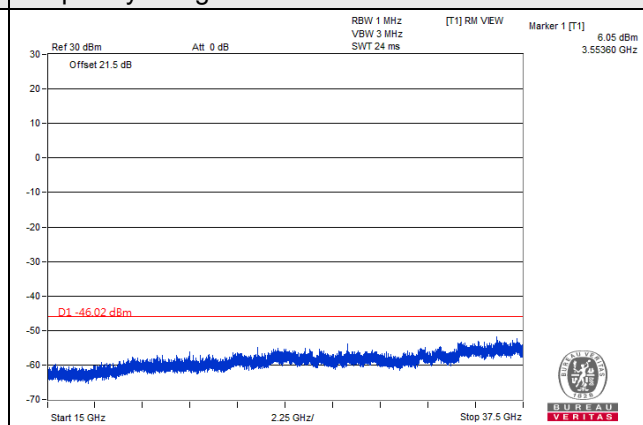
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

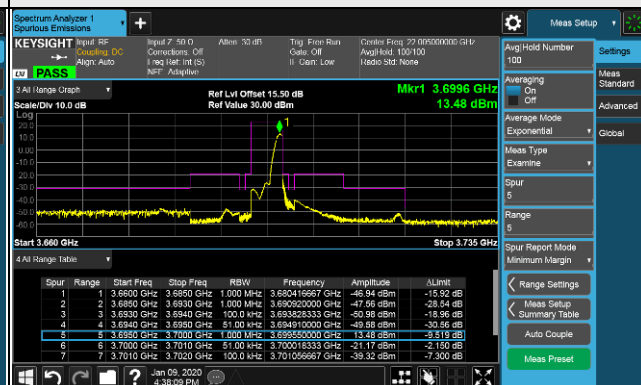


Frequency Range : 15GHz~37GHz

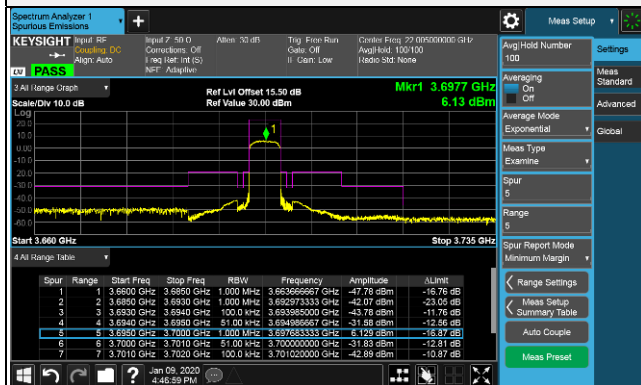


5MHz / QPSK / Chain 0 / High Channel

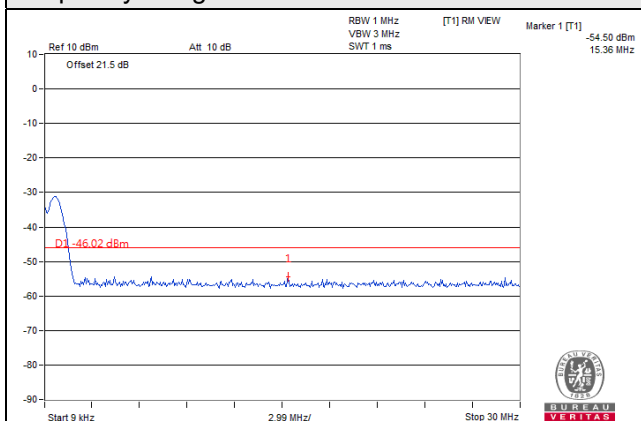
1RB



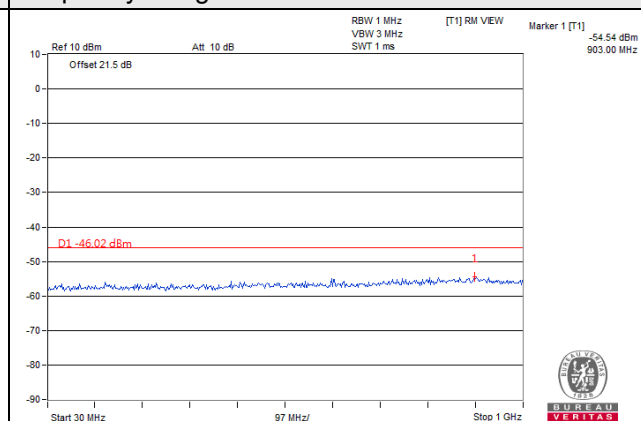
Full RB



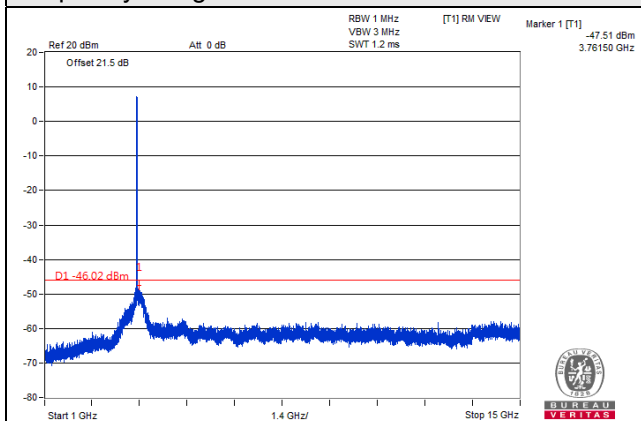
Frequency Range : 9kHz~30MHz



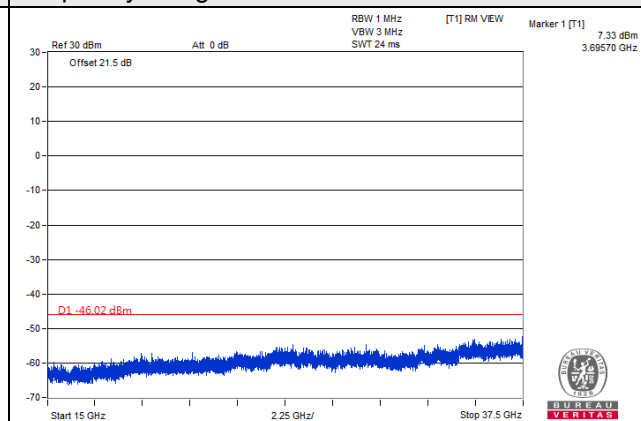
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

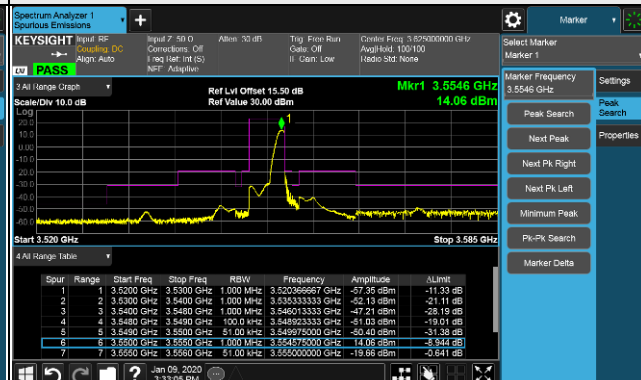
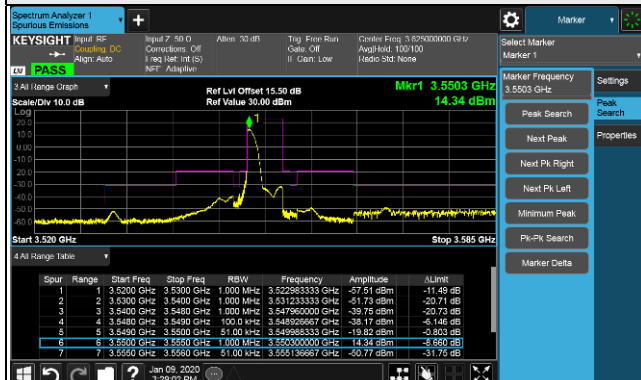


Frequency Range : 15GHz~37GHz

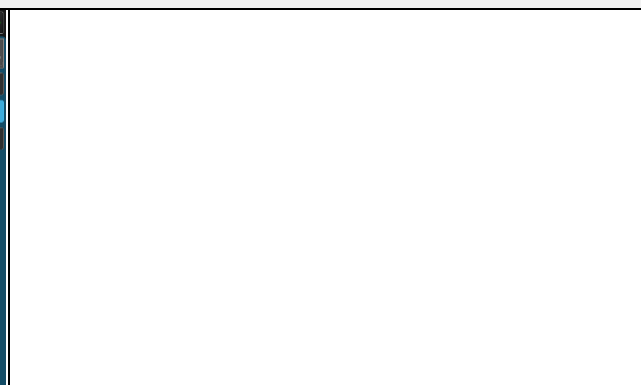
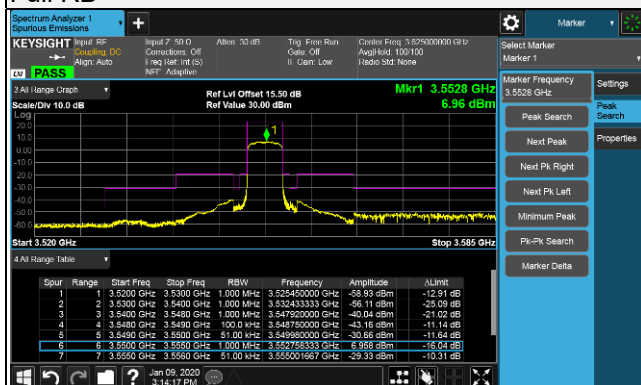


5MHz / QPSK / Chain 1 / Low Channel

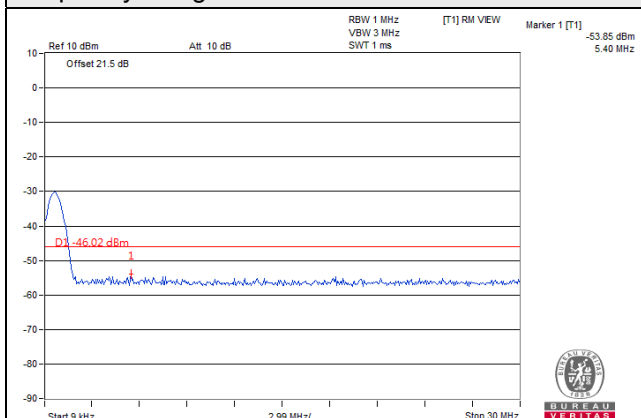
1RB



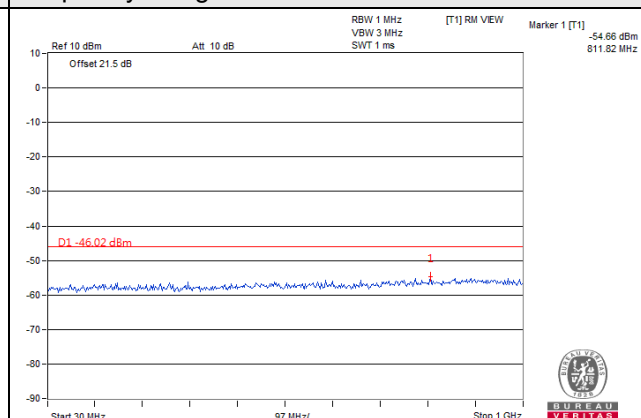
Full RB



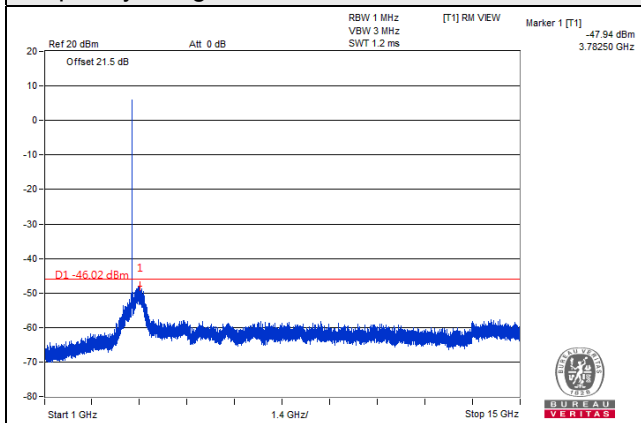
Frequency Range : 9kHz~30MHz



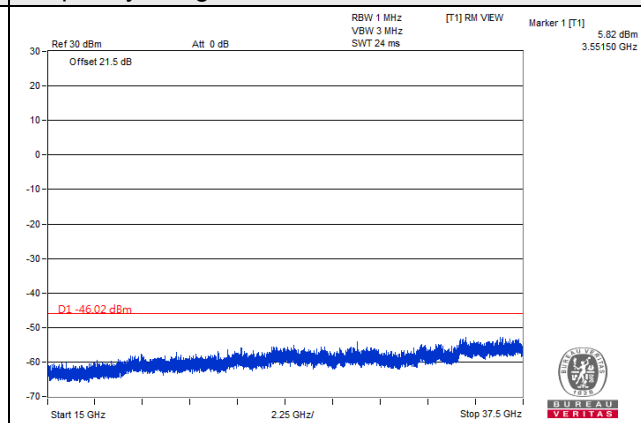
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

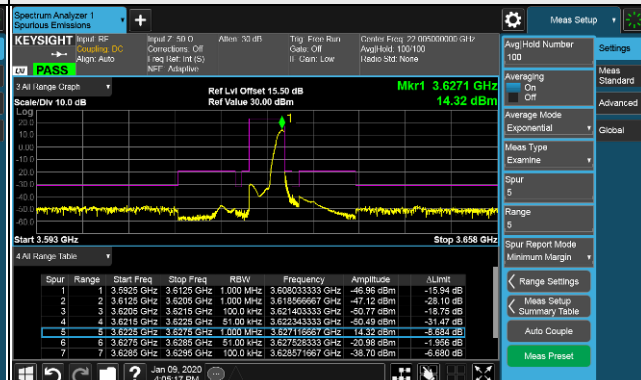
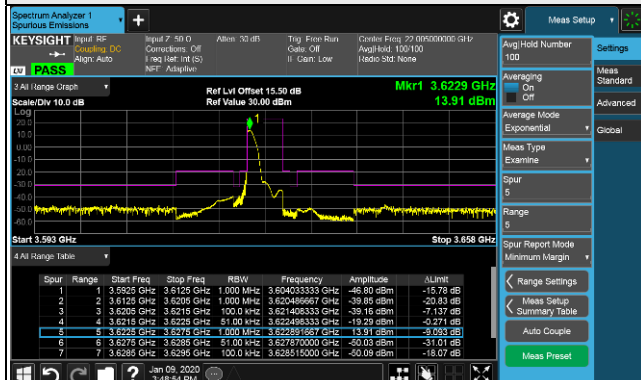


Frequency Range : 15GHz~37GHz

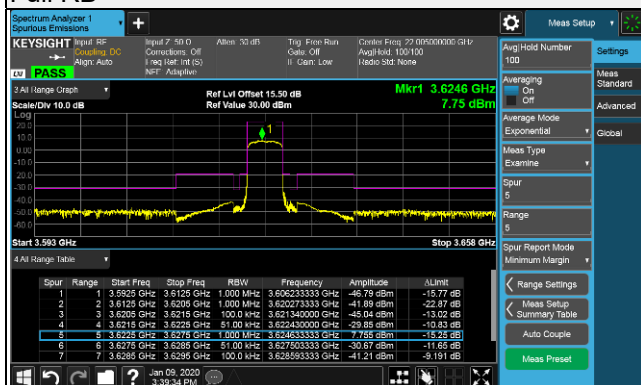


5MHz / QPSK / Chain 1 / Middle Channel

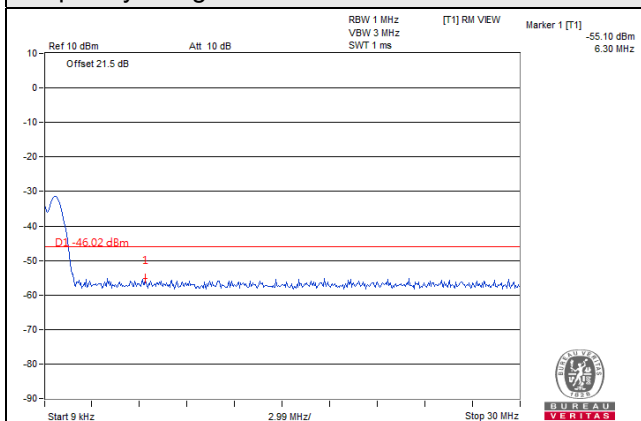
1RB



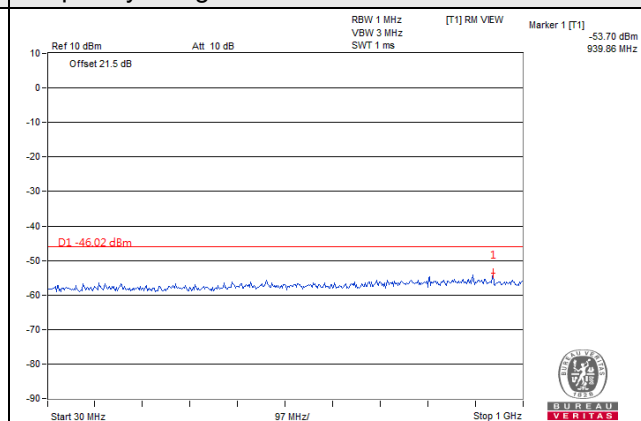
Full RB



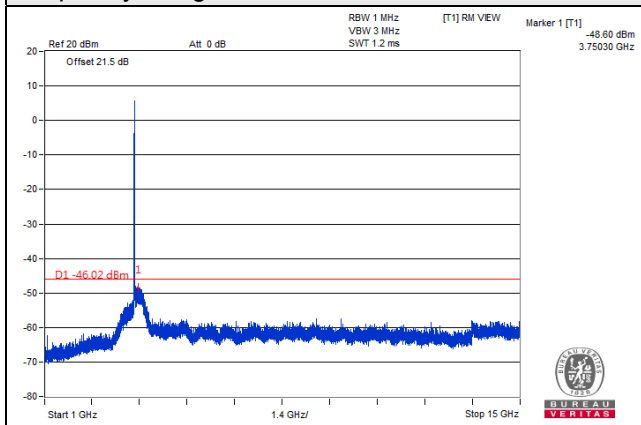
Frequency Range : 9kHz~30MHz



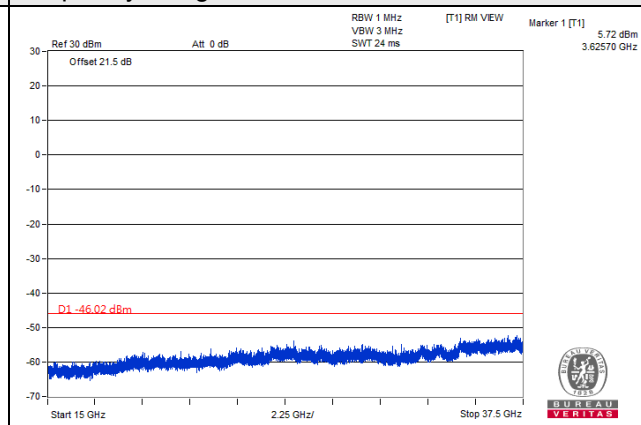
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

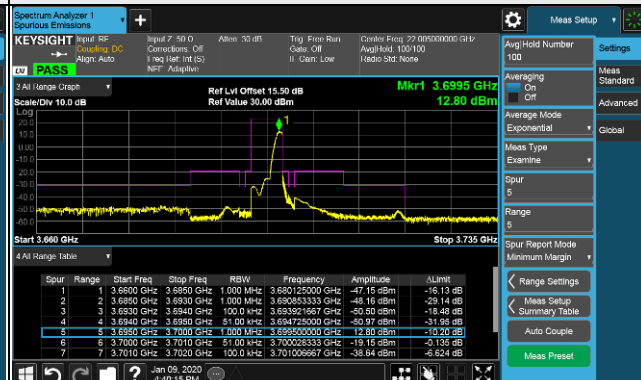
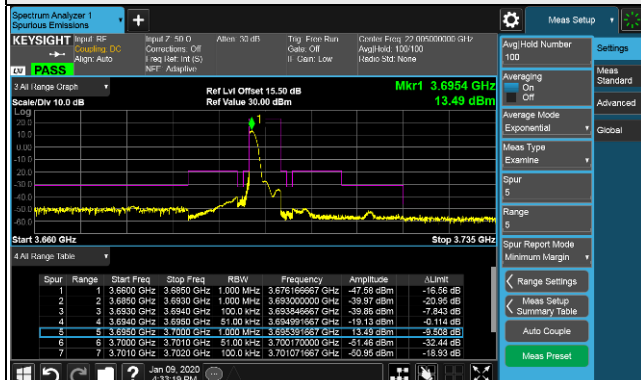


Frequency Range : 15GHz~37GHz

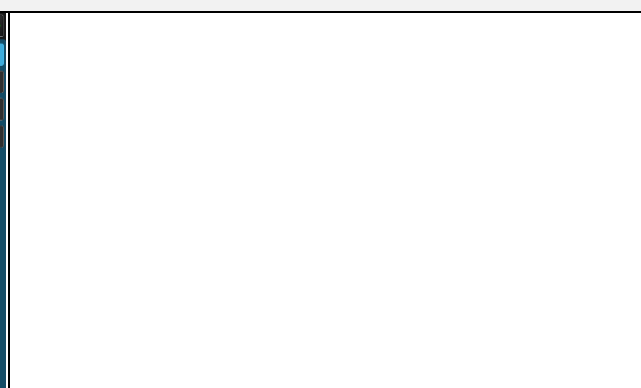
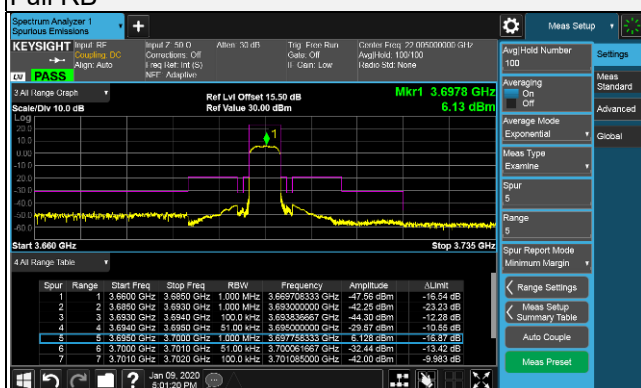


5MHz / QPSK / Chain 1 / High Channel

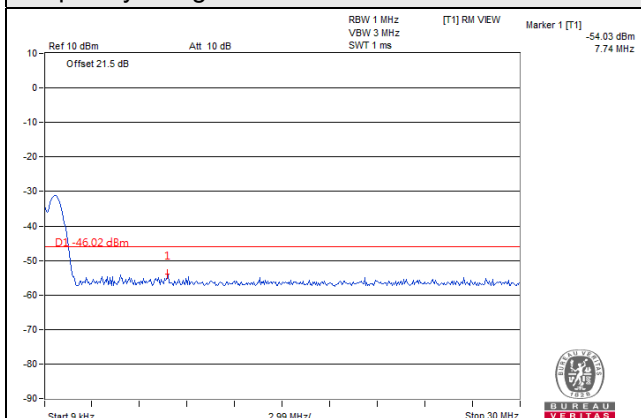
1RB



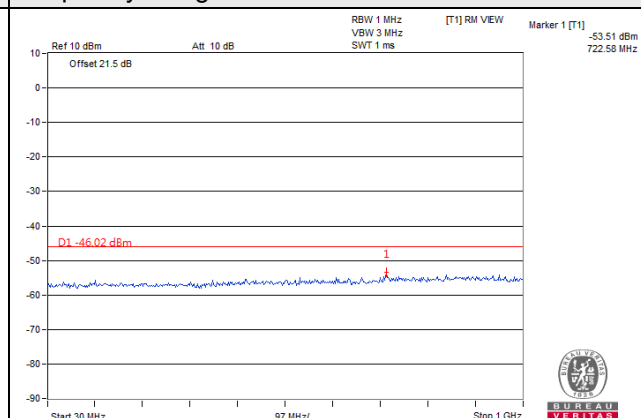
Full RB



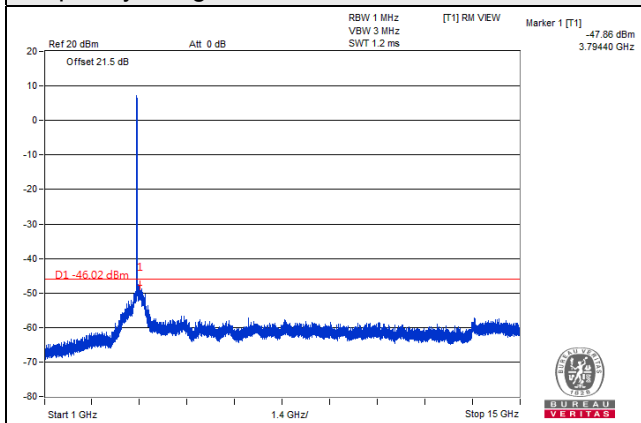
Frequency Range : 9kHz~30MHz



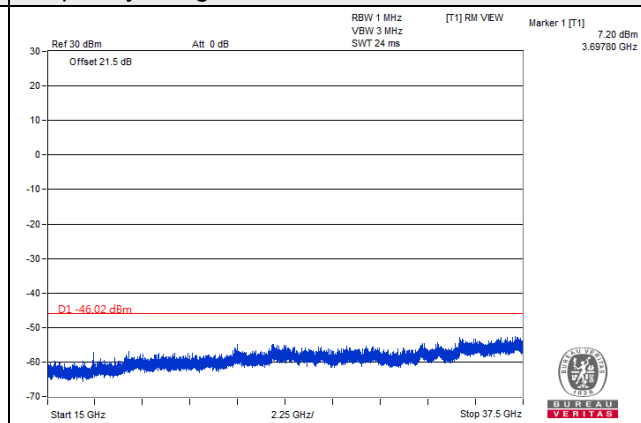
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

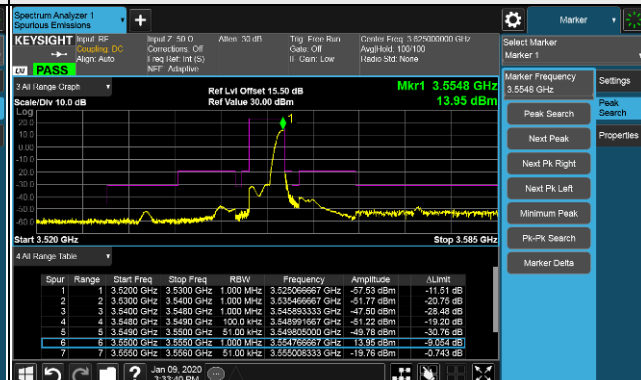
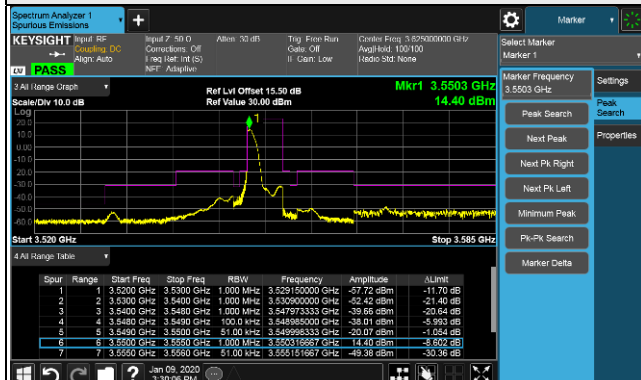


Frequency Range : 15GHz~37GHz

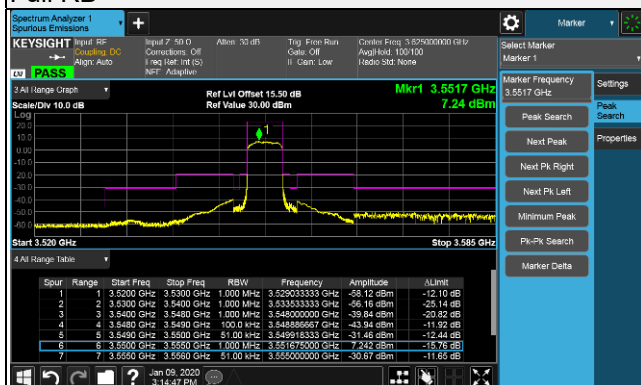


5MHz / QPSK / Chain 2 / Low Channel

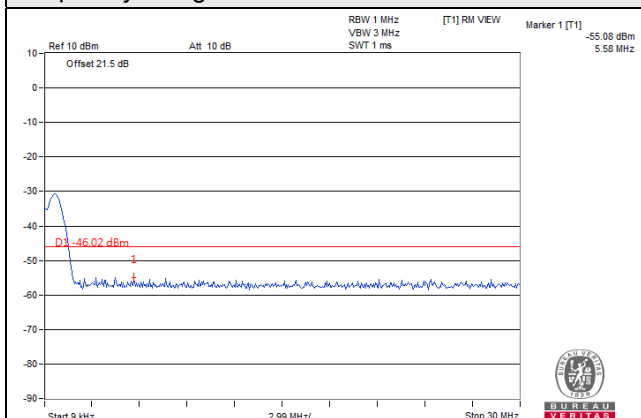
1RB



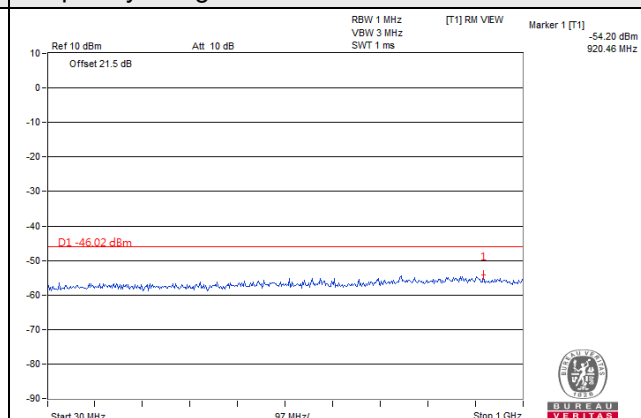
Full RB



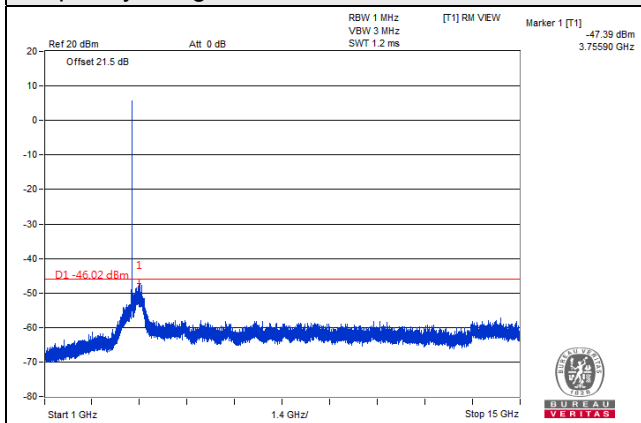
Frequency Range : 9kHz~30MHz



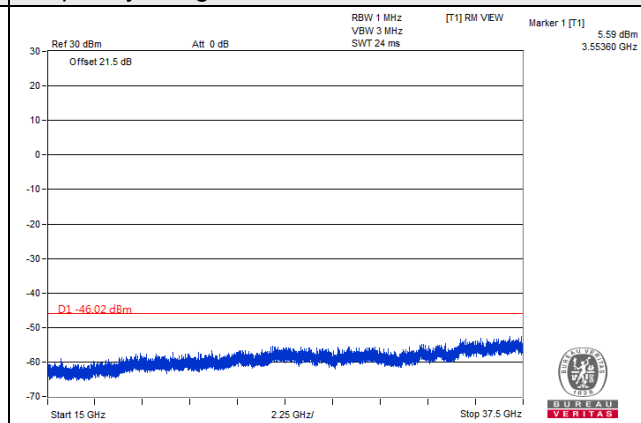
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

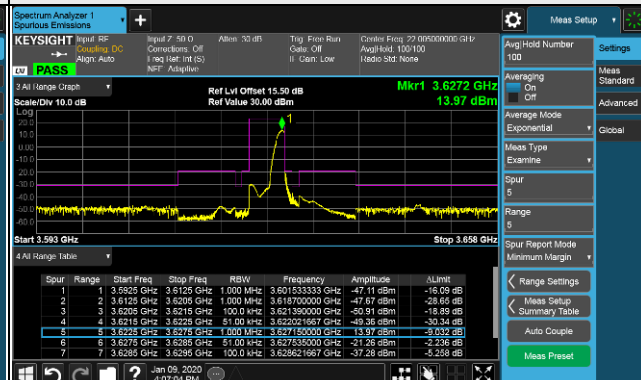
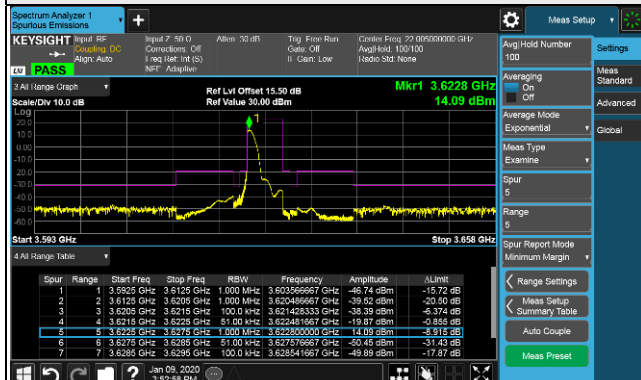


Frequency Range : 15GHz~37GHz

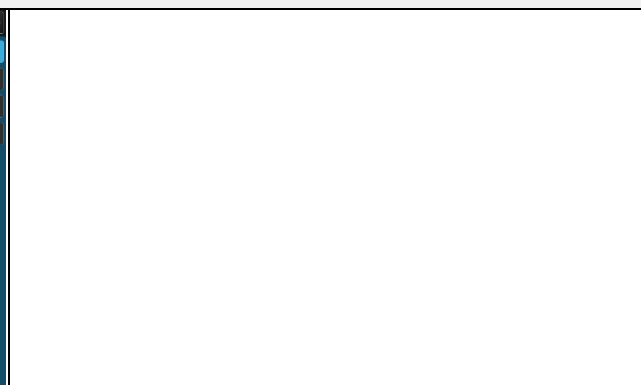
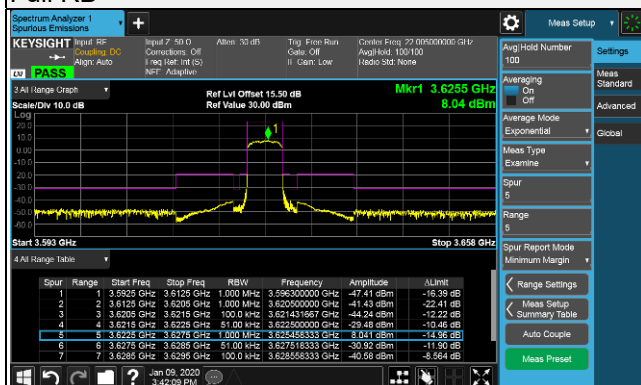


5MHz / QPSK / Chain 2 / Middle Channel

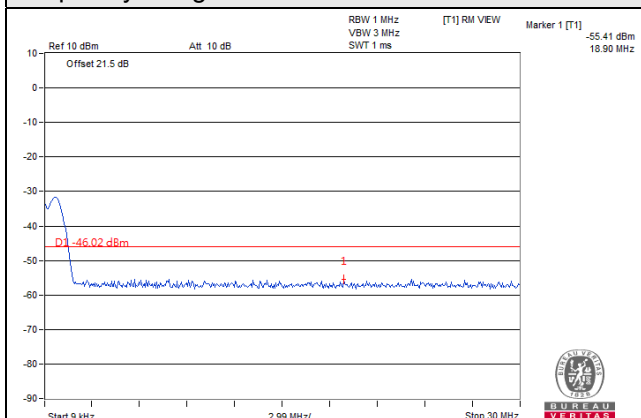
1RB



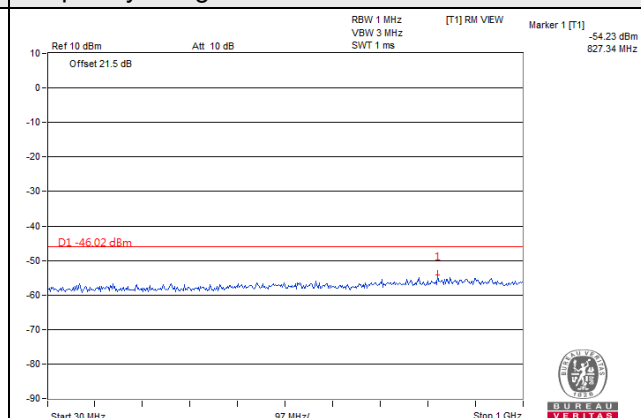
Full RB



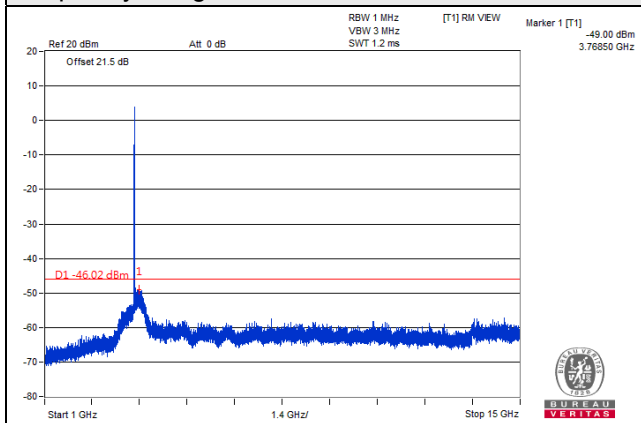
Frequency Range : 9kHz~30MHz



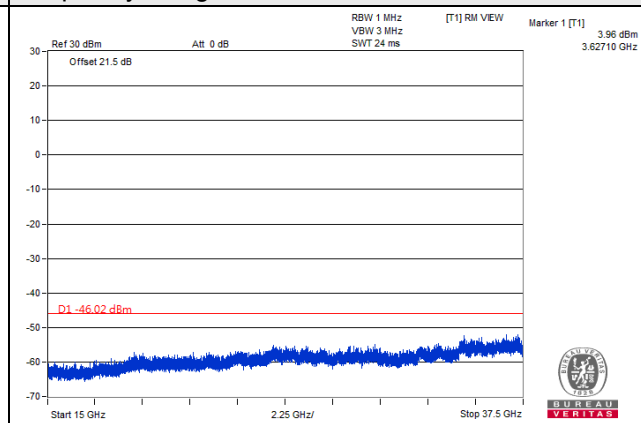
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

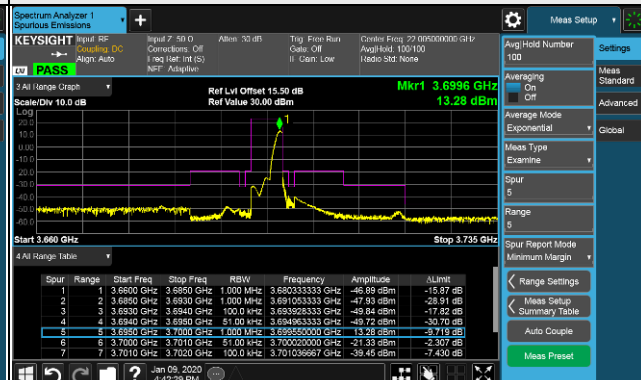
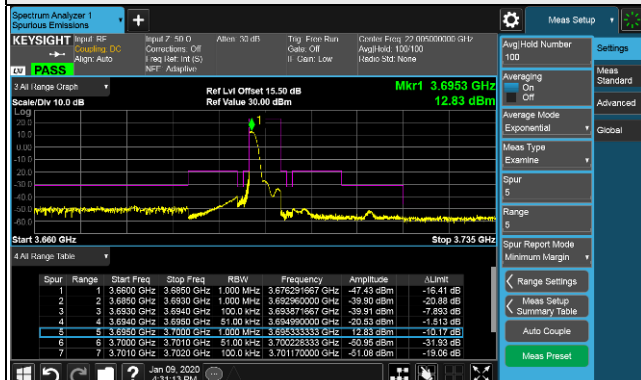


Frequency Range : 15GHz~37GHz

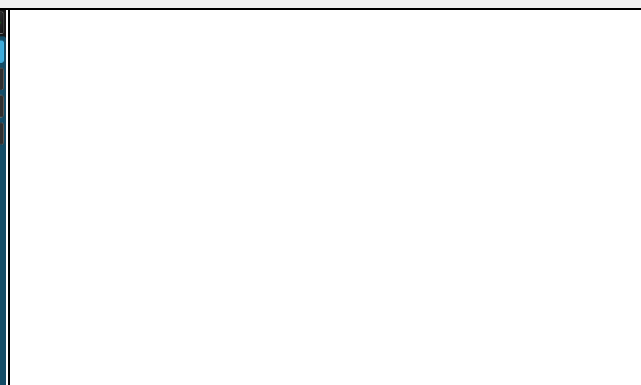
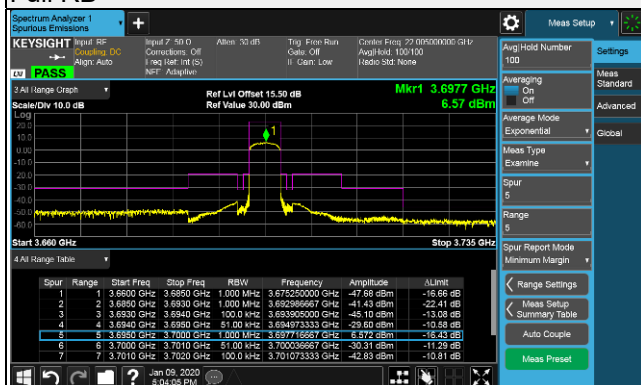


5MHz / QPSK / Chain 2 / High Channel

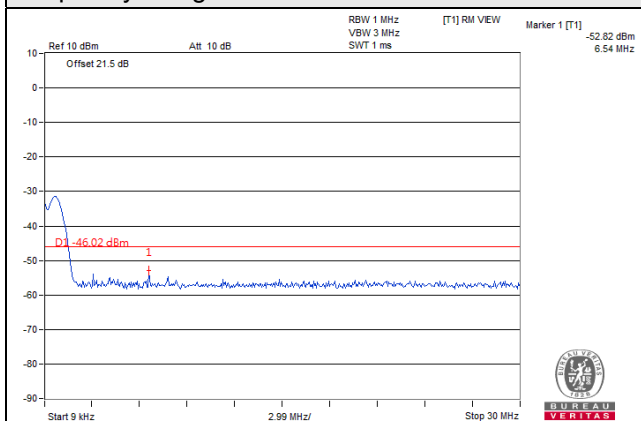
1RB



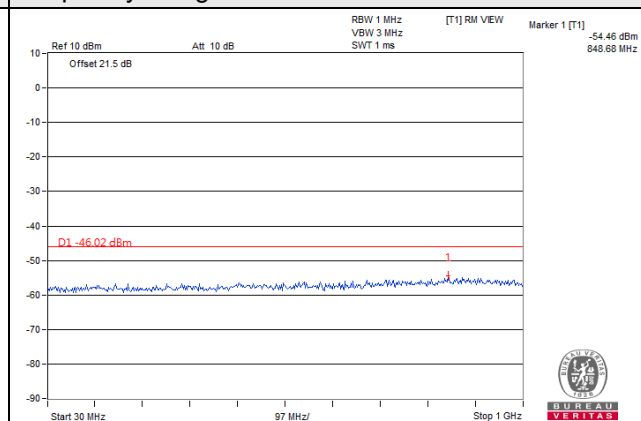
Full RB



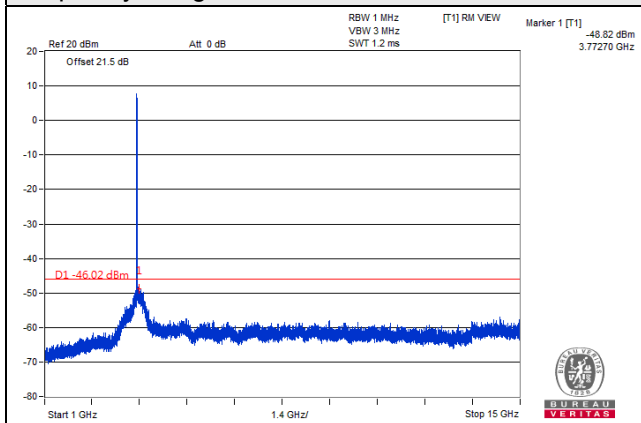
Frequency Range : 9kHz~30MHz



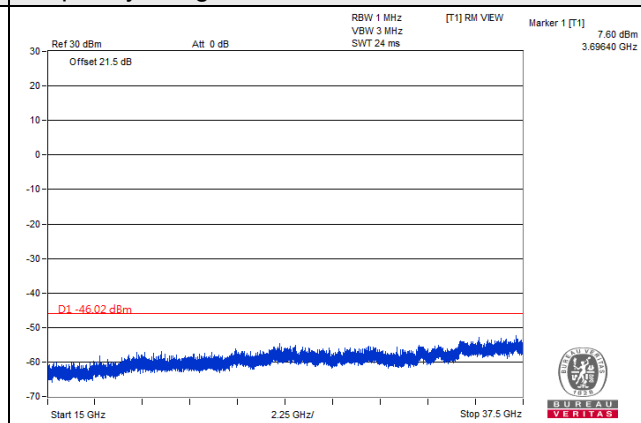
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

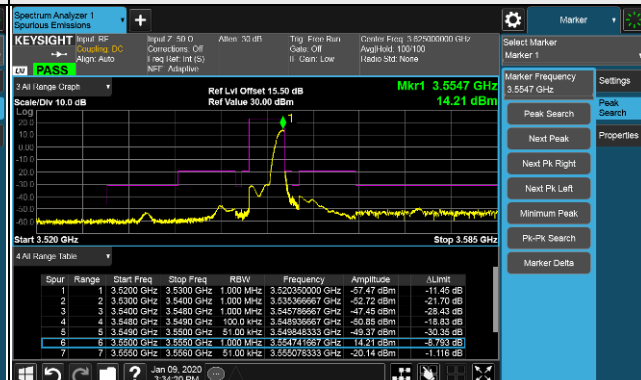
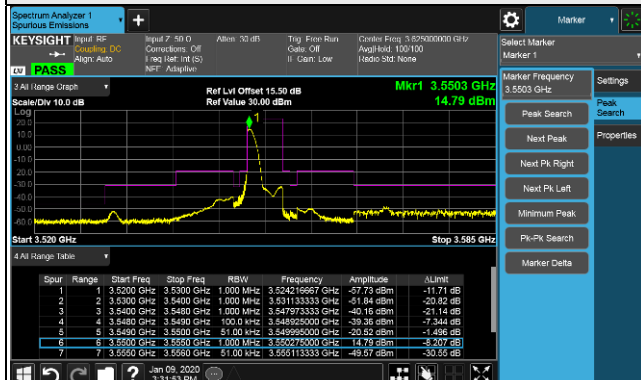


Frequency Range : 15GHz~37GHz

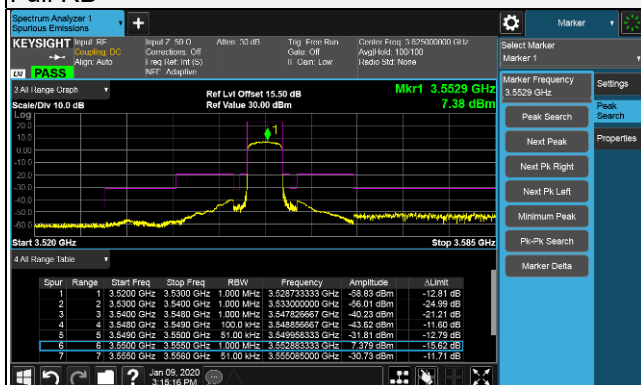


5MHz / QPSK / Chain 3 / Low Channel

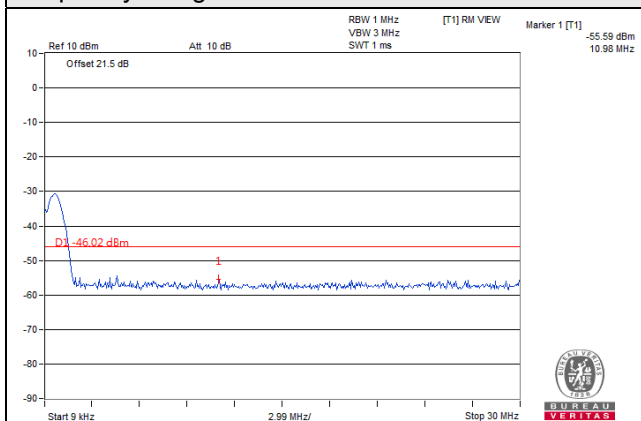
1RB



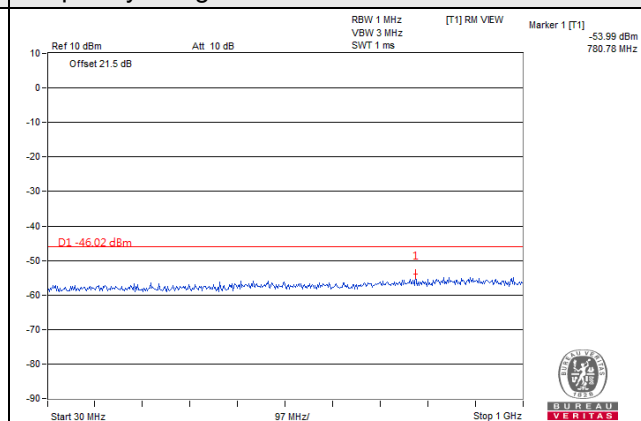
Full RB



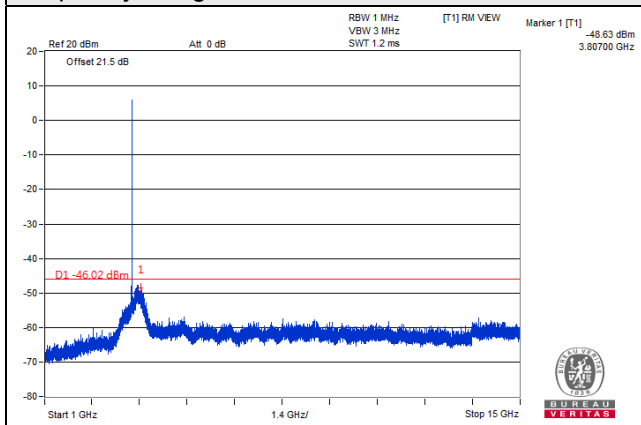
Frequency Range : 9kHz~30MHz



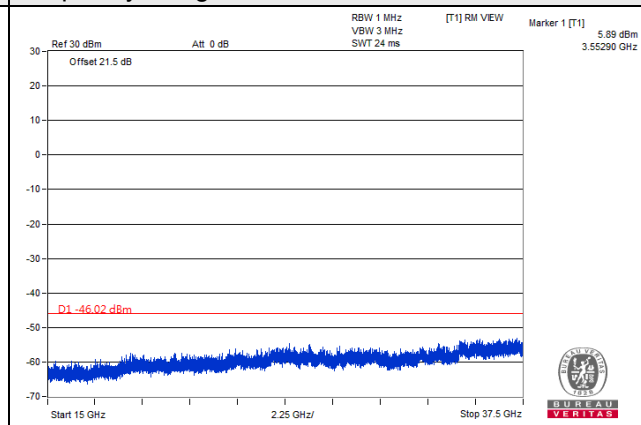
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

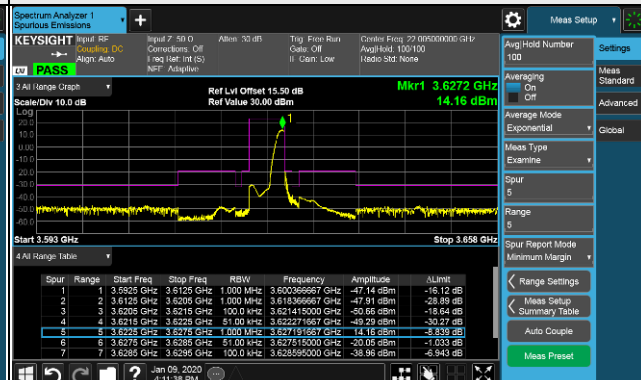
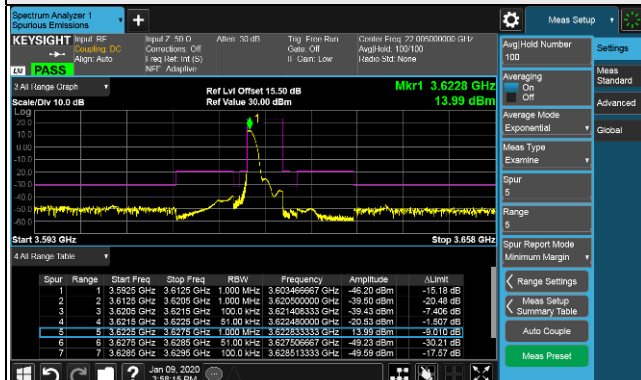


Frequency Range : 15GHz~37GHz

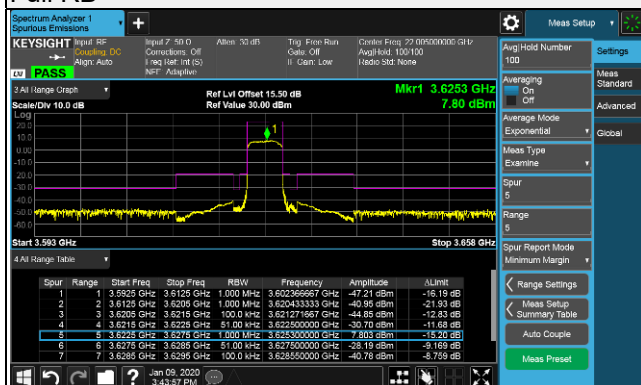


5MHz / QPSK / Chain 3 / Middle Channel

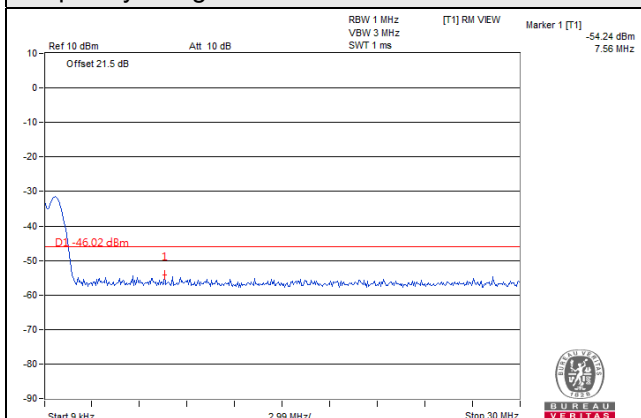
1RB



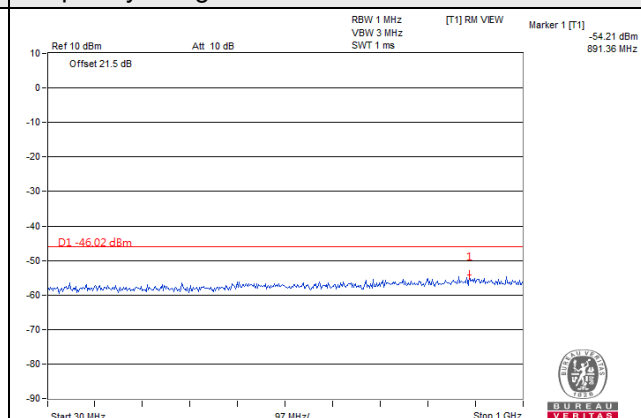
Full RB



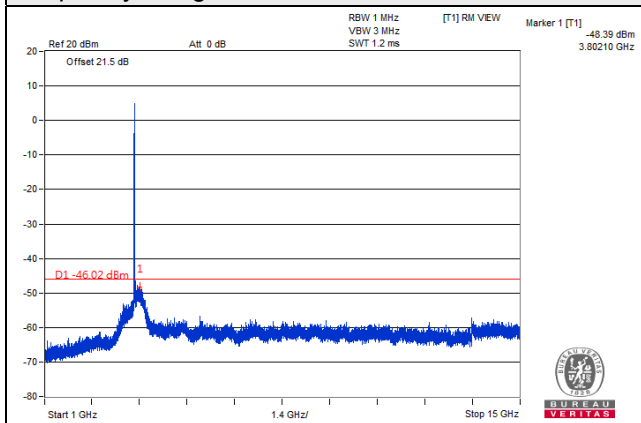
Frequency Range : 9kHz~30MHz



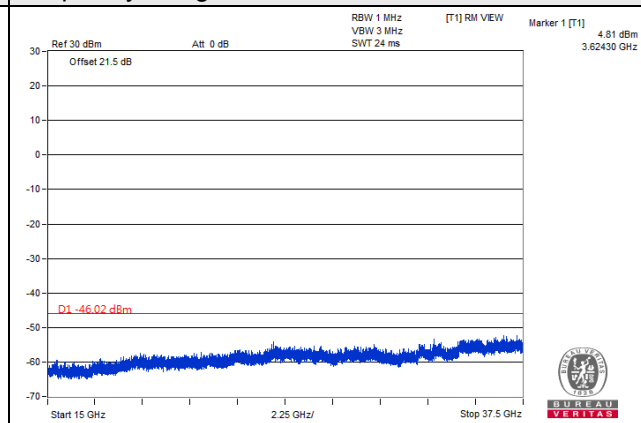
Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz

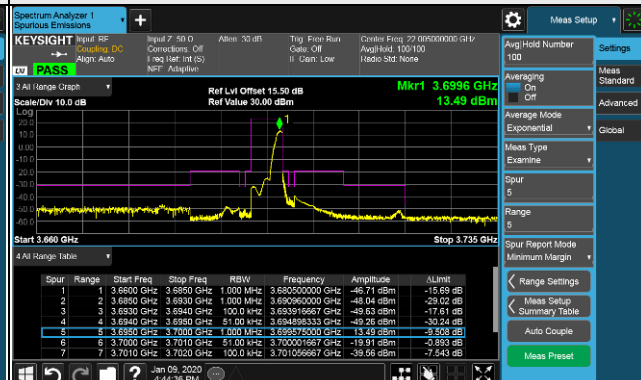
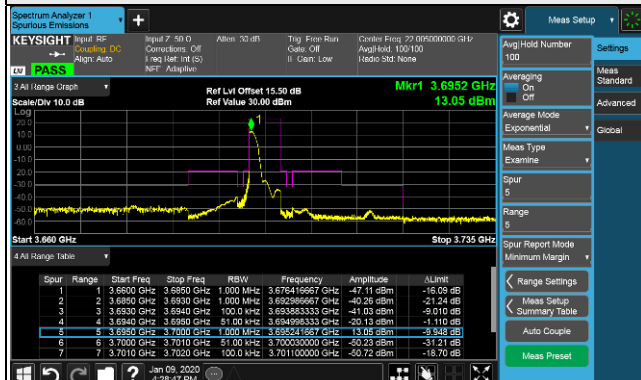


Frequency Range : 15GHz~37GHz

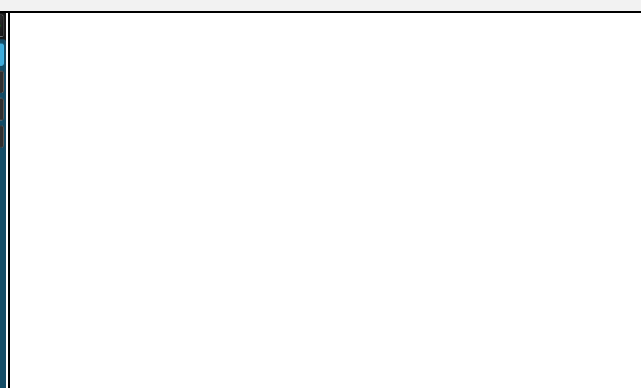
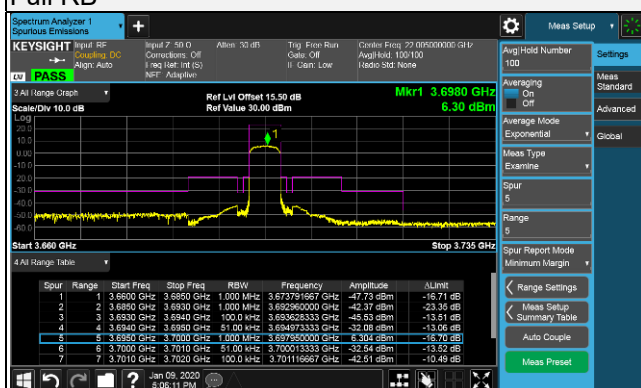


5MHz / QPSK / Chain 3 / High Channel

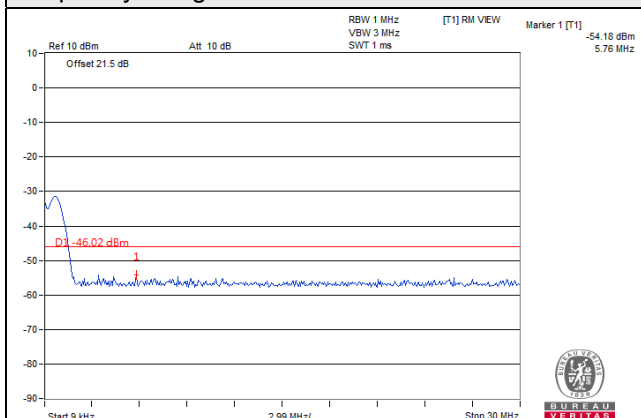
1RB



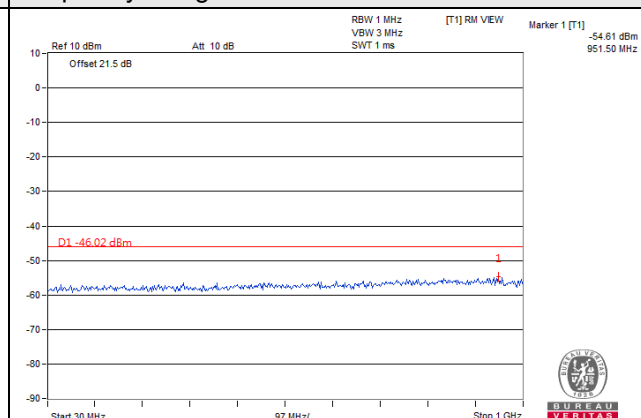
Full RB



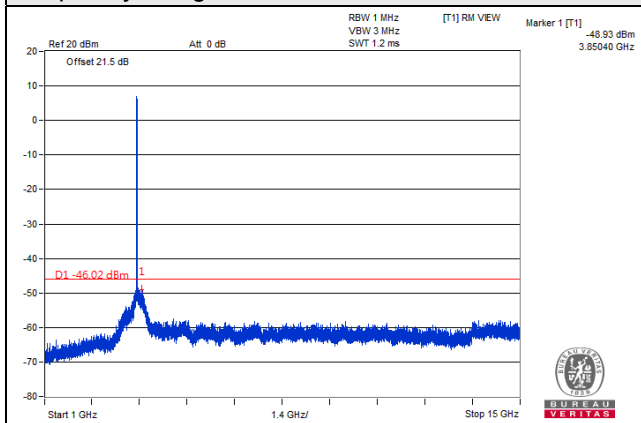
Frequency Range : 9kHz~30MHz



Frequency Range : 30MHz~1GHz



Frequency Range : 1GHz~15GHz



Frequency Range : 15GHz~37GHz

