



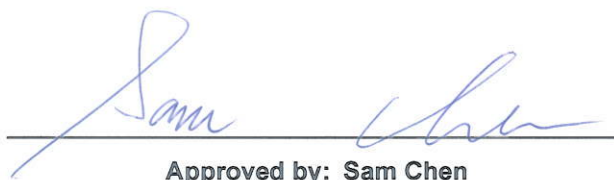
FCC RADIO TEST REPORT

FCC ID : Z8H89FT0053
Equipment : PMP450B
Brand Name : Cambium Networks
Model Name : PMP450B
Applicant : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL
60008, USA
Manufacturer : Cambium Networks, Ltd.
Ashburton, TQ13 7UP, UK
Standard : 47 CFR FCC Part2, 96

The product was received on Aug. 01, 2019, and testing was started from Aug. 01, 2019 and completed on Aug. 19, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA-603-E-2016, ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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


Approved by: Sam Chen

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



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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	2.1046	Conducted Output Power	PASS	-
3.2	96.41(b)	Maximum Effective Isotropic Radiated Power (EIRP)	PASS	-
3.3	96.41(b)	Maximum Power Spectral Density (PSD)	PASS	-
3.4	96.41(g)	Peak-to-average power ratio	PASS	-
3.5	2.1049	99% OBW and 26dB Bandwidth	PASS	-
3.6	2.1051 96.41(e)	3.5 GHz Emissions and Interference Limits	PASS	-
3.7	2.1053	Field Strength of Spurious Radiation	PASS	-
3.8	2.1055	Frequency Stability for Temperature & Voltage	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Cindy Peng



1 General Description

1.1 Product Feature of Equipment Under Test

Items	Description
Power Type	From PoE
EUT supports Radios application	LTE

1.2 Product Specification subjective to this standard

Items	Description
Category of CBSD	☐ Category A ☒ Category B
Professional Installation	☒ Yes ☐ No
RF Test Tool Software of CBSD	Telnet
TX Frequency	10MHz: 3555 MHz ~ 3695 MHz 40MHz: 3570 MHz ~ 3680 MHz
RX Frequency	10MHz: 3555 MHz ~ 3695 MHz 40MHz: 3570 MHz ~ 3680 MHz
Bandwidth (MHz)	10/40
Maximum Output Power to Antenna	10MHz: 26.95 dBm 40MHz: 21.06 dBm
Maximum 99% Occupied Bandwidth	10 MHz: 9.207 MHz 40 MHz: 37.029 MHz
Type of Modulation	☒ QPSK ☒ 16QAM ☒ 64QAM ☒ 256QAM

Note: The above information was declared by manufacturer.



1.3 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Array Gain (dBi)
1	1	-	-	Printed Antenna	N/A	20	0
2	2	-	-	Printed Antenna	N/A	20	0

Note1: The above information was declared by manufacturer.

Note2: The EUT has two antennas. (2TX/2RX)

Both Port 1 and Port 2 could transmit/receive simultaneously.

1.4 Maximum EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Bandwidth	Type of Modulation	Maximum EIRP (dBm/10MHz)	EIRP (W)	Maximum EIRP (dBm/40MHz)	EIRP (W)	Frequency Stability	Emission Designator
Part 96	LTE Band 48	10MHz	QPSK	46.81	47.973	-	-	With in the authorized bands of operation	9M19G7D
			16QAM	46.87	48.641	-	-		9M20W7D
			64QAM	46.95	49.545	-	-		9M21W7D
			256QAM	46.83	48.195	-	-		9M20W7D
		40MHz	QPSK	-	-	40.99	12.560		37M0G7D
			16QAM	-	-	41.06	12.764		37M0W7D
			64QAM	-	-	40.75	11.885		37M0W7D
			256QAM	-	-	40.81	12.050		37M0W7D

1.5 Accessories

N/A



1.6 Support Equipment

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	PoE	Cambium	NET-P15-30IN	N/A

1.7 Applicable Standards

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

- 47 CFR FCC Part2, 96
- ANSI / TIA-603-E-2016
- ANSI C63.26-2015
- FCC KDB 971168 D01 v03r01
- FCC KDB 940660 D01 v02
- FCC KDB 412172 D01 v01r01
- FCC KDB 662911 D01 v02r01
- FCC KDB 414788 D01 v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

1.8 Testing Location

Testing Location				
☐	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973		
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085		
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH02-CB	Ekko Hsieh	25~26°C / 64~65%	Aug. 01, 2019~Aug. 19, 2019
Radiated Emission Below 1GHz	03CH03-CB	Mason Chen	25~26.4°C / 60~64%	Aug. 14, 2019~Aug. 15, 2019
Radiated Emission Above 1GHz	03CH05-CB	Mason Chen	24.2~25.9°C / 66~69%	Aug. 14, 2019~Aug. 15, 2019

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B with Industry Canada.



2 Test Configuration of Equipment Under Test

2.1 Test Frequency

The EUT was tested in the following operating modes, unless otherwise stated:

Single-carrier			
Bandwidth (MHz)	Bottom Channel (B) (MHz)	Middle Channel (M) (MHz)	Top Channel (T) (MHz)
10	3555	3625	3695
40	3570	3625	3680

2.2 Test Mode

Test Item	Bandwidth (MHz)	Tested Frequency (MHz)	Mode
Conducted Output Power	10, 40	B, M, T	QPSK, 16-QAM, 64-QAM, 256-QAM
Maximum Effective Isotropic Radiated Power (EIRP)	10, 40	B, M, T	QPSK, 16-QAM, 64-QAM, 256-QAM
Maximum Power Spectral Density (PSD)	10, 40	B, M, T	QPSK, 16-QAM, 64-QAM, 256-QAM
Peak-to-average power ratio	10, 40	B, M, T	QPSK, 16-QAM, 64-QAM, 256-QAM
99% OBW and 26dB Bandwidth	10, 40	B, M, T	QPSK, 16-QAM, 64-QAM, 256-QAM
3.5 GHz Emissions and Interference Limits	10, 40	B, M, T	QPSK, 16-QAM, 64-QAM, 256-QAM
Field Strength of Spurious Radiation	10	M	64-QAM
Frequency Stability for Temperature & Voltage	10, 40	B, T	QPSK, 16-QAM, 64-QAM, 256-QAM

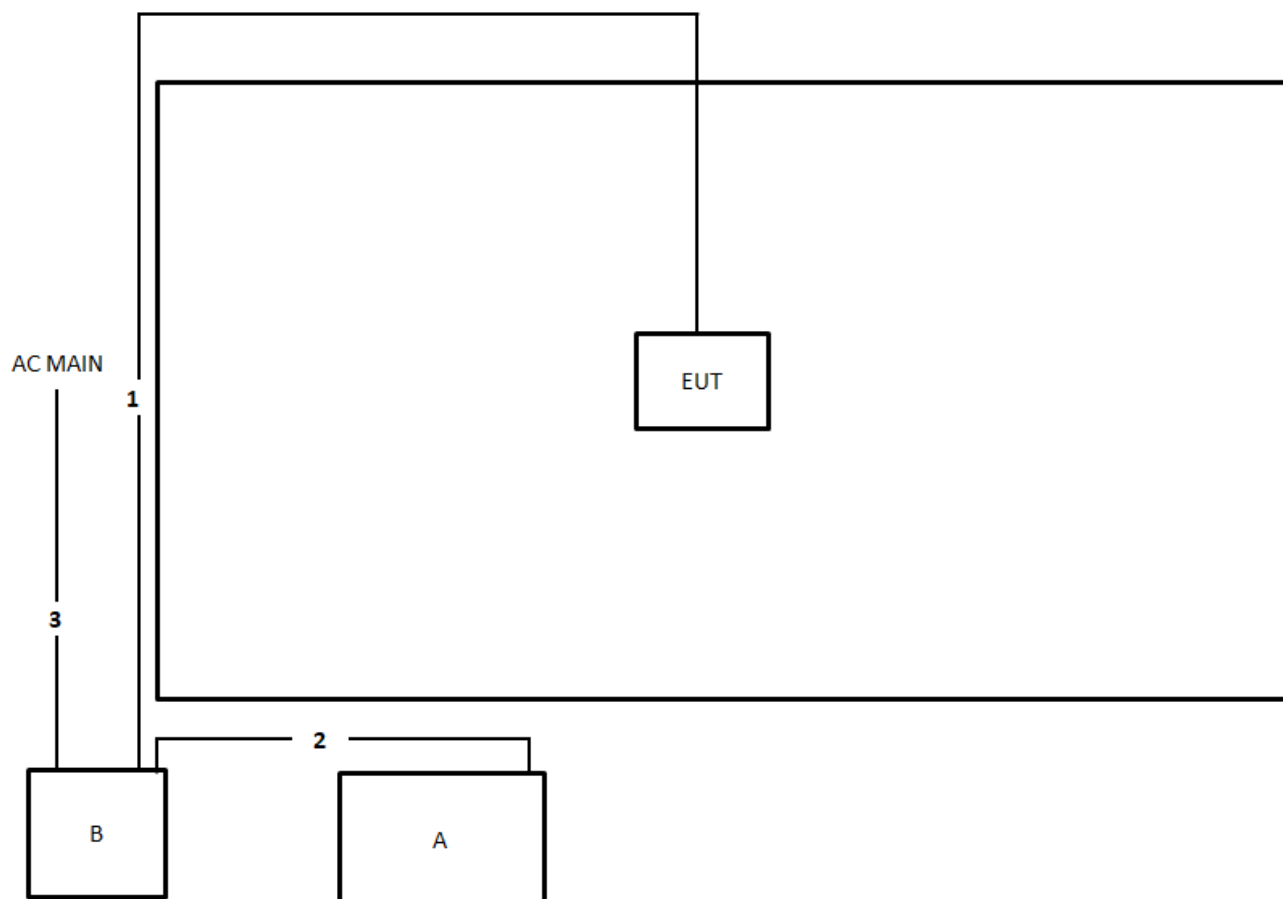
Note1: B: Bottom, M: Middle, T: Top

Note2: The EUT can only be used at Z axis position

Note3: It was supplied power by PoE for EUT, and the PoE is for measurement only, would not be marketed.

Equipment	Brand Name	Model Name	FCC ID
PoE	Cambium	NET-P15-30IN	N/A

2.3 Test Setup Diagram



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



2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 1 dB and a 20dB attenuator.

Example:

$$\begin{aligned}\text{Offset (dB)} &= \text{RF cable loss (dB)} + \text{attenuator factor (dB)} \\ &= 1 + 20 = 21 \text{ (dB)}\end{aligned}$$

For transmission duty cycle < 98% and setting sweep trigger to free run:

When the EUT cannot be configured to transmit at full-power on a continuous basis (i.e., duty cycle < 98%) and the instrumentation cannot be configured to measure only during active full-power transmissions, then set sweep trigger to free run and add $10 \log (1/\text{duty cycle})$ to the measured power level if the EUT duty cycle is constant (i.e., duty cycle variations are less than or equal to $\pm 2\%$).

Example:

Add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is a constant 25%.



3 Test Result

3.1 Conducted Output Power

3.1.1 Description of the Conducted Output Power measurement

The EUT shall be set at maximum power through commands provided by manufacturer. The measured power in the radio frequency at the transmitter output terminals shall be reported.

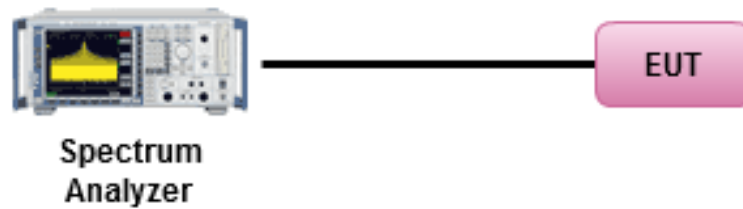
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. Connect the transmitter output port of EUT to the spectrum analyzer.
2. Set EUT to transmit at maximum output power.
3. Select lowest, middle, and highest channels for each modulation.
4. Measure the maximum power at RF output terminals .

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Refer as Appendix A

3.2 Maximum Effective Isotropic Radiated Power (EIRP)

3.2.1 Description of the Maximum Effective Isotropic Radiated Power measurement

The EUT shall be set at maximum power through commands provided by manufacturer, and the the EIRP limit shall apply to any 10 MHz portion of the bandwidth. The EIRP of category A CBSD shall be limited to 30dBm/10MHz, and the EIRP of category B CBSD shall be limited to 47dBm/10MHz. According to FCC KDB 940660 D01 v02

Power Approach, the EIRP can be determined from conducted output power.

$EIRP = P_T + G_T - L_C$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

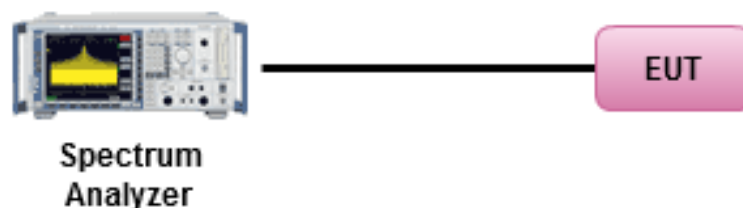
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows Section 5.2 of ANSI C63.26-2015.
2. Connect the transmitter output port of EUT to the spectrum analyzer.
3. Set EUT to transmit at maximum output power.
4. Select lowest, middle, and highest channels for each modulation.
5. Measure the maximum power in any 10 MHz portion of the bandwidth at RF output terminals.
6. Determining EIRP by conducted RF output power plus transmitting antenna gain.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Effective Isotropic Radiated Power

Refer as Appendix B

3.3 Maximum Power Spectral Density (PSD)

3.3.1 Description of the Maximum Power Spectral Density Measurement

The maximum power spectral density measurements, where the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission. To perform this measurement, the EUT must be configured to transmit continuously at maximum power. The PSD of category A CBSD shall be limited to 20dBm/MHz, and the EIRP of category B CBSD shall be limited to 37dBm/MHz.

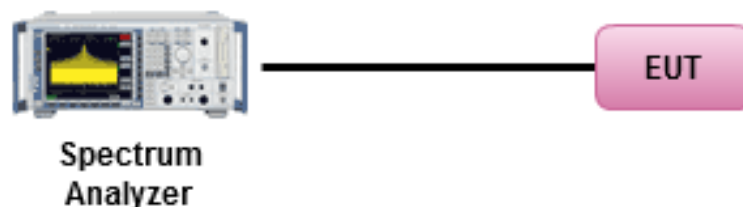
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Section 5.2 of ANSI C63.26-2015.
2. Connect the transmitter output port of EUT to the spectrum analyzer.
3. Set EUT to transmit at maximum output power.
4. Select lowest, middle, and highest channels for each modulation.
5. Measure the maximum PSD at RF output terminals .

3.3.4 Test Setup



3.3.5 Test Result of Maximum Power spectral density

Refer as Appendix C

3.4 Peak-to-Average Power Ratio (PAPR)

3.4.1 Description of the Peak-to-Average Power Ratio Measurement

The peak-to-average power ratio of the transmission may not exceed 13 dB.

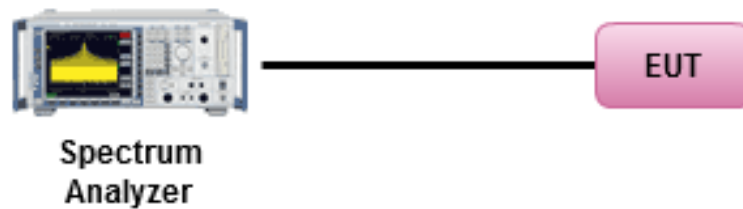
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows Section 5.2.6 of ANSI C63.26-2015.
2. Connect the transmitter output port of EUT to the spectrum analyzer.
3. Set EUT to transmit at maximum output power.
4. Select lowest, middle, and highest channels for each modulation.
5. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer. Record the maximum PAPR level associated with a probability of 0.1%.

3.4.4 Test Setup



3.4.5 Test Result of Peak-to-Average Ratio

Refer as Appendix D

3.5 99% Occupied Bandwidth (OBW) and 26dB Bandwidth

3.5.1 Description of the 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

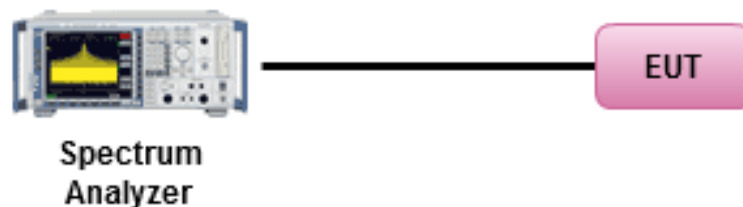
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. Connect the transmitter output port of EUT to the spectrum analyzer.
2. Set EUT to transmit at maximum output power.
3. Select lowest, middle, and highest channels for each modulation.
4. The setting of spectrum analyzer follows the FCC KDB 971168 D01 v03r01 Section 4.2 and 4.3.
5. Record the result of 99% occupied bandwidth and the 26dB bandwidth.

3.5.4 Test Setup



3.5.5 Test Result of Occupied Bandwidth and 26dB Bandwidth

Refer as Appendix E

3.6 3.5 GHz Emissions and Interference Limits

3.6.1 Description of the 3.5 GHz Emissions and Interference Limits Measurement

Confirm that the device satisfies the emission limits specified in Section 96.41(e) for all declared channel sizes, at the lowest and highest edges of the band, and in the middle of the band. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic. The limits for emission outside the fundamental are as follows.

- Within 0 MHz to 10 MHz above and below the assigned channel ≤ -13 dBm/MHz
- Greater than 10 MHz above and below the assigned channel ≤ -25 dBm/MHz
- Any emission below 3530 MHz and above 3720 MHz ≤ -40 dBm/MHz

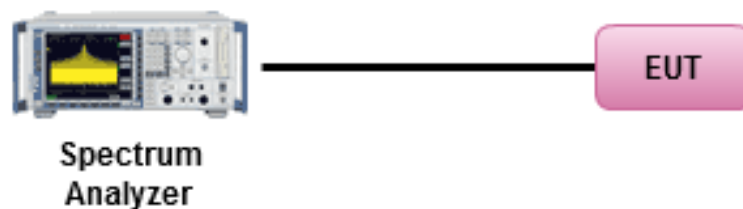
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. Connect the transmitter output port of EUT to the spectrum analyzer.
2. Set EUT to transmit at maximum output power.
3. Select lowest, middle, and highest channels for each modulation.
4. The setting of spectrum analyzer follows FCC KDB 940660 D01 v02 Section 6.0.
5. Note that unwanted emissions for CBSDs are relative to the authorized channel

3.6.4 Test Setup



3.6.5 Test Result (Plots) of Conducted Band Edge

Refer as Appendix F



3.7 Field Strength of Spurious Radiation

3.7.1 Description of the Field Strength of Spurious Radiated Measurement

Confirm that the radiated emission satisfies the limits specified in Section 96.41(e) for all declared channel sizes, at the lowest and highest edges of the band, and in the middle of the band. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic. The limits for emission outside the fundamental are as follows.

- Within 0 MHz to 10 MHz above and below the assigned channel ≤ -13 dBm/MHz (55.2 dBuV/m at 3m)
- Greater than 10 MHz above and below the assigned channel ≤ -25 dBm/MHz (82.2 dBuV/m at 3m)
- Any emission below 3530 MHz and above 3720 MHz ≤ -40 dBm/MHz (55.2 dBuV/m at 3m)

3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures of Radiated

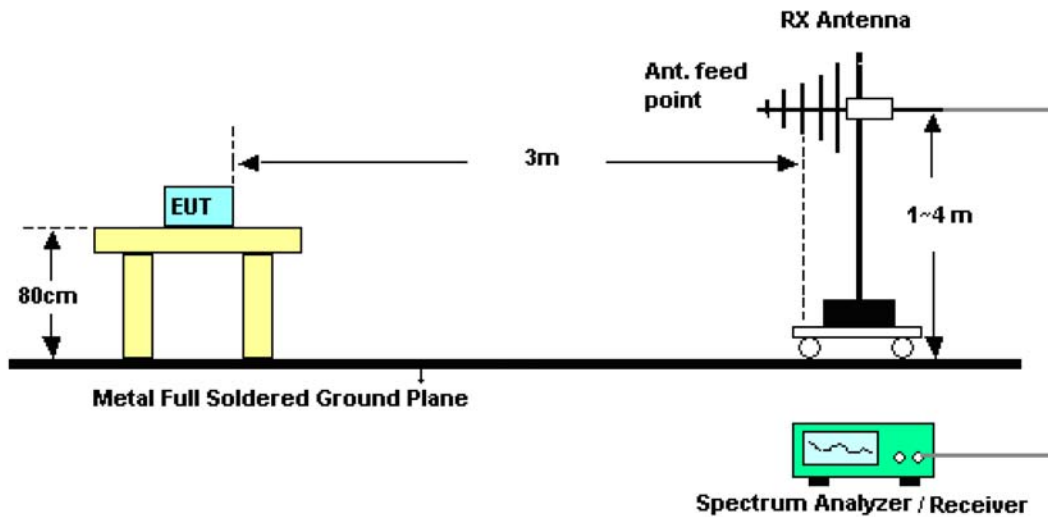
1. The testing follows Section 5.7 of ANSI C63.26-2015.
2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7.4 Test Procedures of Conducted

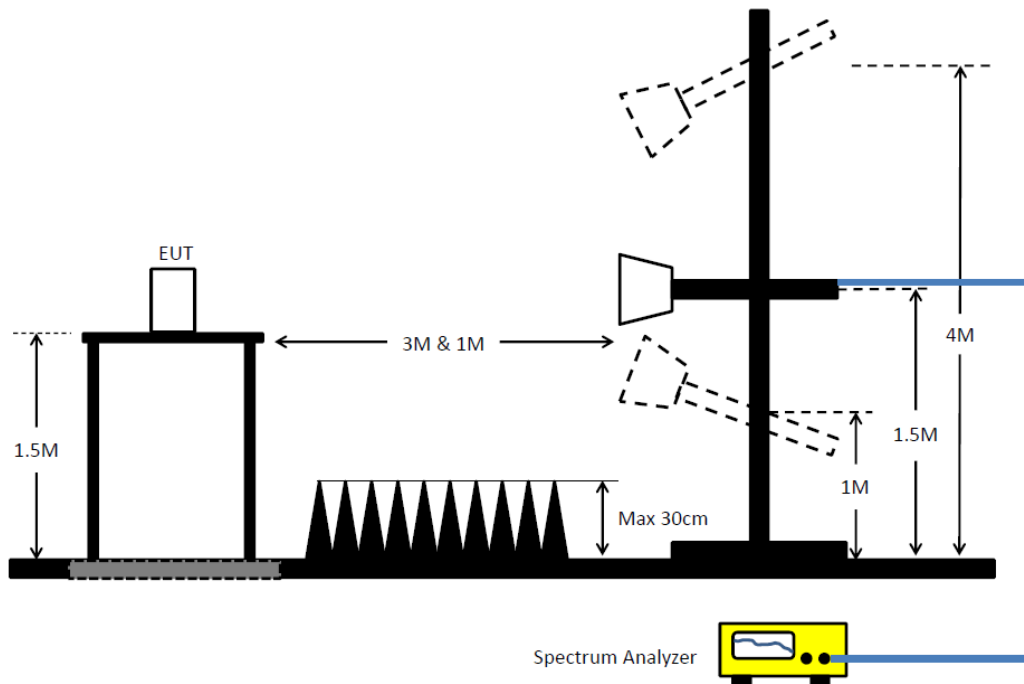
1. The testing follows Section 5.7 of ANSI C63.26-2015.
2. Connect the transmitter output port of EUT to the spectrum analyzer.
3. Set EUT to transmit at maximum output power.
4. Record the max trace value and capture test plot.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7.5 Test Setup

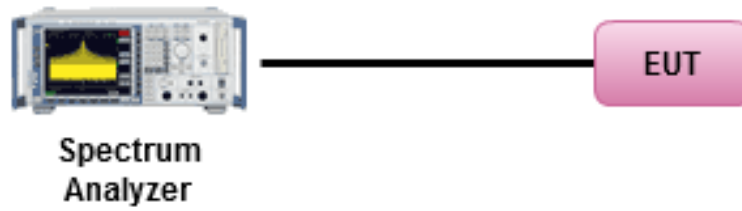
For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



For conducted emissions



3.7.6 Test Result of Field Strength of Spurious Radiated

For conducted emissions: Refer as Appendix F

For radiated emissions: Refer as Appendix G

3.8 Frequency Stability for Temperature & Voltage

3.8.1 Description of the Frequency Stability for Temperature & Voltage Measurement

The frequency stability of the transmitter shall be measured while varying the ambient temperatures and supply voltages over the ranges specified in Section 2.1055. And ensure that the fundamental emission stays within the authorized frequency block.

3.8.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

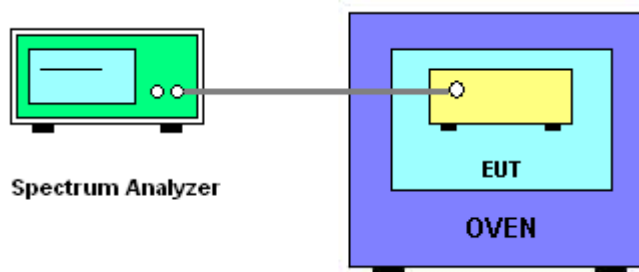
3.8.3 Test Procedures for Temperature Variation

1. The testing follows FCC KDB 971168 D01 v03r01 Section 9.0
2. The EUT was set up in the thermal chamber and connected to the spectrum analyzer.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in -30°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
5. Frequency measurements shall be made at intervals of not more than 10° centigrade through the range.

3.8.4 Test Procedures for Voltage Variation

1. The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.
2. The EUT was placed in a temperature chamber at 25±5° C and connected to the spectrum analyzer.
3. The power supply voltage to the EUT was varied from 85 to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

3.8.5 Test Setup



3.8.6 Test Result of Temperature and Voltage Variation

Refer as Appendix H



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Bilog Antenna with 6 dB attenuator	Schaffner	CBL6112B & N-6-06	2928 & AT-N0607	20MHz ~ 2GHz	Jan. 02, 2019	Jan. 01, 2020	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8447D	2944A10259	9kHz ~ 1.3GHz	Jan. 16, 2019	Jan. 15, 2020	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP-40	100019	9kHz ~ 40GHz	Jun. 19, 2019	Jun. 18, 2020	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+27	25MHz ~ 1GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH03-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1291	1GHz~18GHz	Oct. 12, 2018	Oct. 11, 2019	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Jan. 31, 2019	Jan. 30, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+23	30MHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 02, 2019	Jul. 01, 2020	Conducted (TH02-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	May 30, 2019	May 29, 2020	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 26.5 GHz	Oct. 24, 2018	Oct. 23, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-3	1 GHz – 40 GHz	Oct. 24, 2018	Oct. 23, 2019	Conducted (TH02-CB)
Cable	Marvelous Microwave	n/a	Cable-REF-1	9k-1GHz	Oct. 24, 2018	Oct. 23, 2019	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH02-CB)
MW Analog Signal Generator	Keysight	N5183A	MY50142965	100kHz~20GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH02-CB)
Vector Signal Generator	Keysight	N5182B	MY53052408	9kHz~6GHz	Jan. 04, 2019	Jan. 03, 2020	Conducted (TH02-CB)

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



5 Measurement Uncertainty

Test Items	Uncertainty	Remark
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%



Average Power Result

Appendix A

Summary

Mode	Power (dBm)	Power (W)
Band 48	-	-
10MHz_QPSK_2TX	26.81	0.480
10MHz_16QAM_2TX	26.87	0.486
10MHz_64QAM_2TX	26.95	0.495
10MHz_256QAM_2TX	26.83	0.482
40MHz_QPSK_2TX	20.99	0.126
40MHz_16QAM_2TX	21.06	0.128
40MHz_64QAM_2TX	20.75	0.119
40MHz_256QAM_2TX	20.81	0.121



Average Power Result

Appendix A

Result

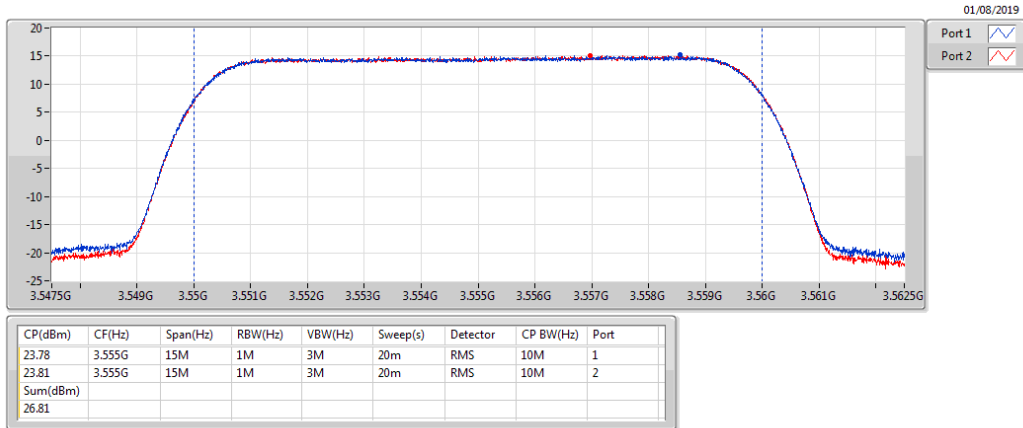
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Power (dBm)	Power (W)
Band 48_10MHz_QPSK_2TX	-	-	-	-	-	-
3555MHz	Pass	20.00	23.78	23.81	26.81	0.480
3625MHz	Pass	20.00	23.23	23.87	26.57	0.454
3695MHz	Pass	20.00	22.92	23.69	26.33	0.430
Band 48_10MHz_16QAM_2TX	-	-	-	-	-	-
3555MHz	Pass	20.00	23.20	23.77	26.50	0.447
3625MHz	Pass	20.00	23.59	24.12	26.87	0.486
3695MHz	Pass	20.00	23.15	23.98	26.60	0.457
Band 48_10MHz_64QAM_2TX	-	-	-	-	-	-
3555MHz	Pass	20.00	23.31	23.98	26.67	0.465
3625MHz	Pass	20.00	23.43	24.40	26.95	0.495
3695MHz	Pass	20.00	23.13	23.87	26.53	0.450
Band 48_10MHz_256QAM_2TX	-	-	-	-	-	-
3555MHz	Pass	20.00	23.57	23.72	26.66	0.463
3625MHz	Pass	20.00	23.03	24.48	26.83	0.482
3695MHz	Pass	20.00	23.58	23.88	26.74	0.472
Band 48_40MHz_QPSK_2TX	-	-	-	-	-	-
3570MHz	Pass	20.00	17.90	17.98	20.95	0.124
3625MHz	Pass	20.00	17.75	18.19	20.99	0.126
3680MHz	Pass	20.00	17.17	18.14	20.69	0.117
Band 48_40MHz_16QAM_2TX	-	-	-	-	-	-
3570MHz	Pass	20.00	18.01	18.08	21.06	0.128
3625MHz	Pass	20.00	17.75	18.17	20.98	0.125
3680MHz	Pass	20.00	17.07	17.96	20.55	0.114
Band 48_40MHz_64QAM_2TX	-	-	-	-	-	-
3570MHz	Pass	20.00	17.70	17.78	20.75	0.119
3625MHz	Pass	20.00	17.44	17.88	20.68	0.117
3680MHz	Pass	20.00	16.93	17.83	20.41	0.110
Band 48_40MHz_256QAM_2TX	-	-	-	-	-	-
3570MHz	Pass	20.00	17.76	17.84	20.81	0.121
3625MHz	Pass	20.00	17.23	17.85	20.56	0.114
3680MHz	Pass	20.00	16.63	17.50	20.10	0.102

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

Band 48_10MHz_2TX

3555MHz_QPSK

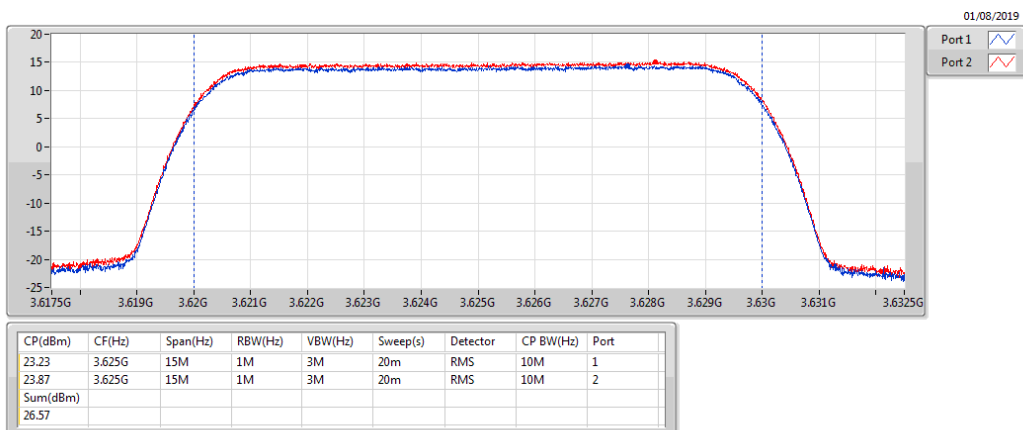
PowerAV



Band 48_10MHz_2TX

3625MHz_QPSK

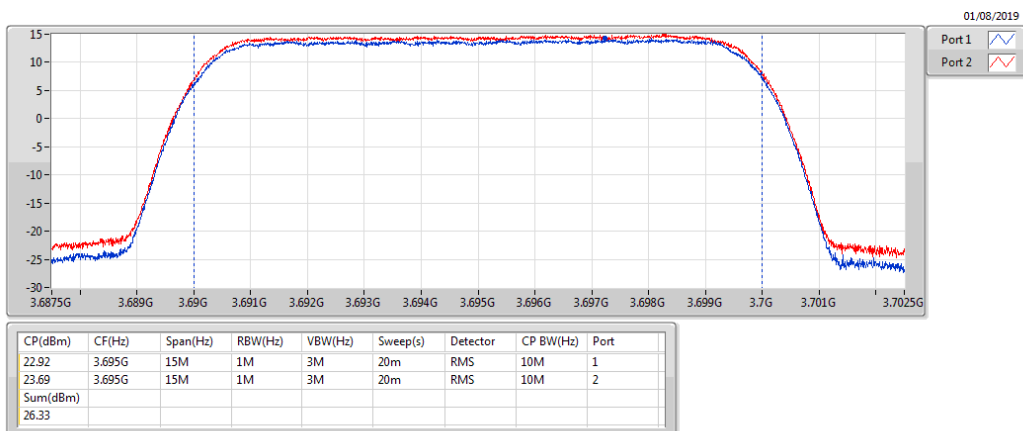
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Band 48_10MHz_2TX

3695MHz_QPSK

PowerAV

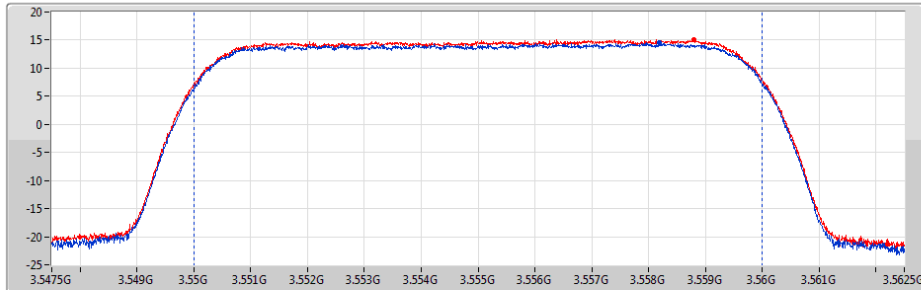


Band 48_10MHz_2TX

3555MHz_16QAM

PowerAV

01/08/2019



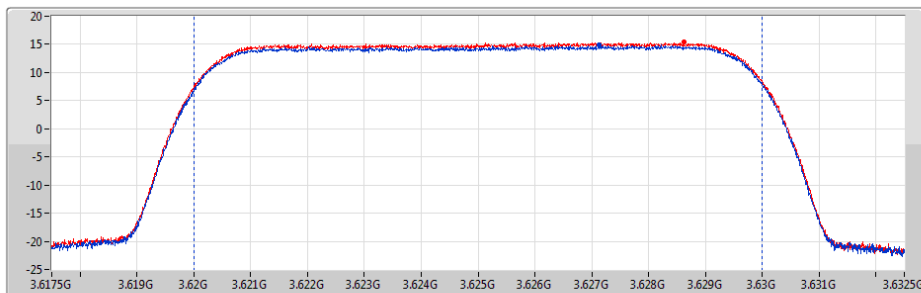
CP(dBm)	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)	Sweep(s)	Detector	CP BW(Hz)	Port
23.20	3.555G	15M	1M	3M	20m	RMS	10M	1
23.77	3.555G	15M	1M	3M	20m	RMS	10M	2
Sum(dBm)								
26.50								

Band 48_10MHz_2TX

3625MHz_16QAM

PowerAV

02/08/2019



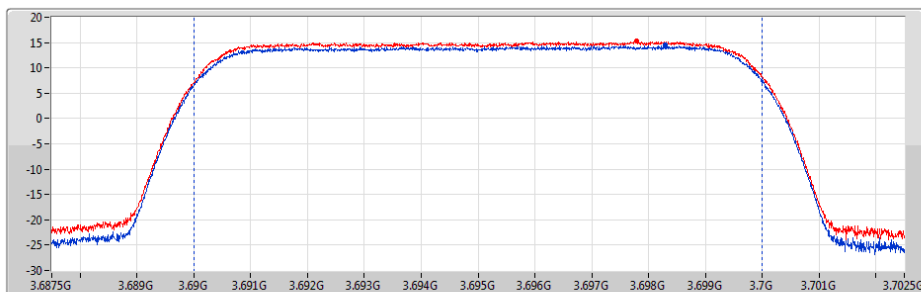
CP(dBm)	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)	Sweep(s)	Detector	CP BW(Hz)	Port
23.59	3.625G	15M	1M	3M	20m	RMS	10M	1
24.12	3.625G	15M	1M	3M	20m	RMS	10M	2
Sum(dBm)								
26.87								

Band 48_10MHz_2TX

3695MHz_16QAM

PowerAV

02/08/2019

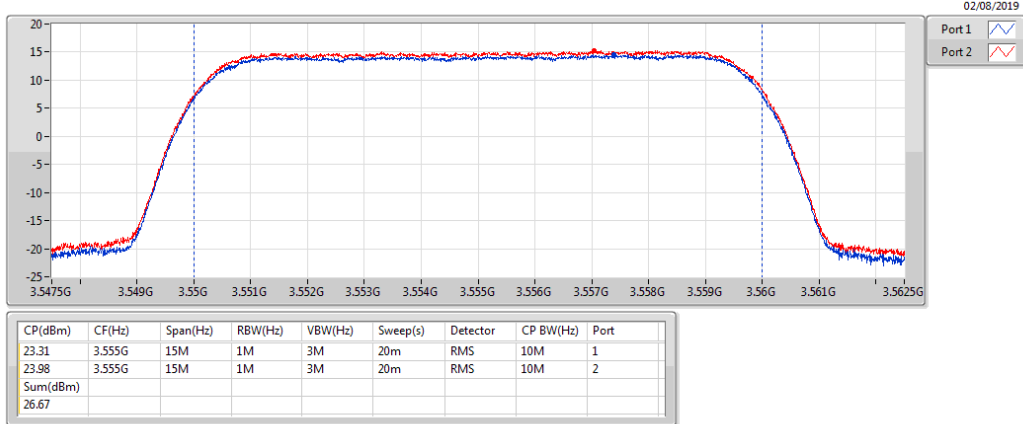


CP(dBm)	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)	Sweep(s)	Detector	CP BW(Hz)	Port
23.15	3.695G	15M	1M	3M	20m	RMS	10M	1
23.98	3.695G	15M	1M	3M	20m	RMS	10M	2
Sum(dBm)								
26.60								

Band 48_10MHz_2TX

3555MHz_64QAM

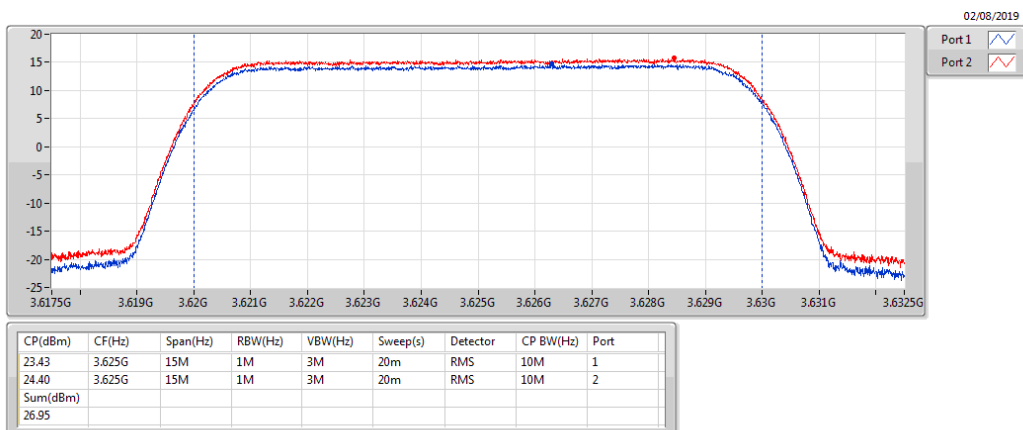
PowerAV



Band 48_10MHz_2TX

3625MHz_64QAM

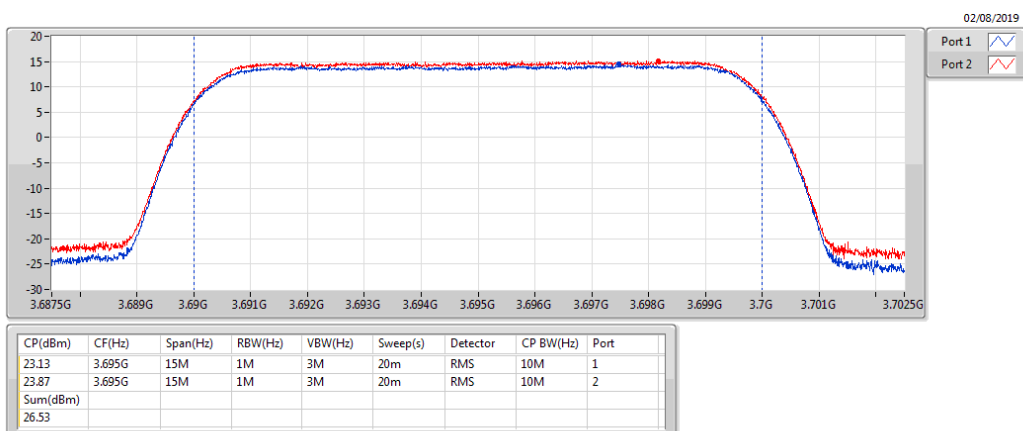
PowerAV



Band 48_10MHz_2TX

3695MHz_64QAM

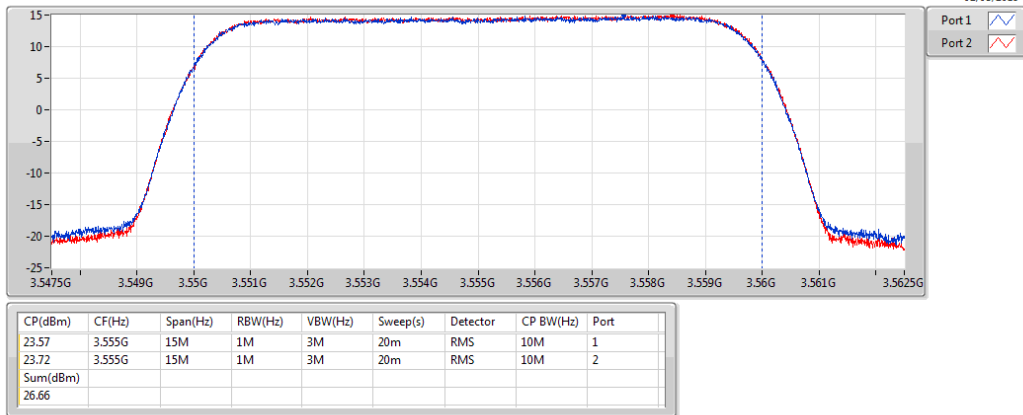
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Band 48_10MHz_2TX

3555MHz_256QAM

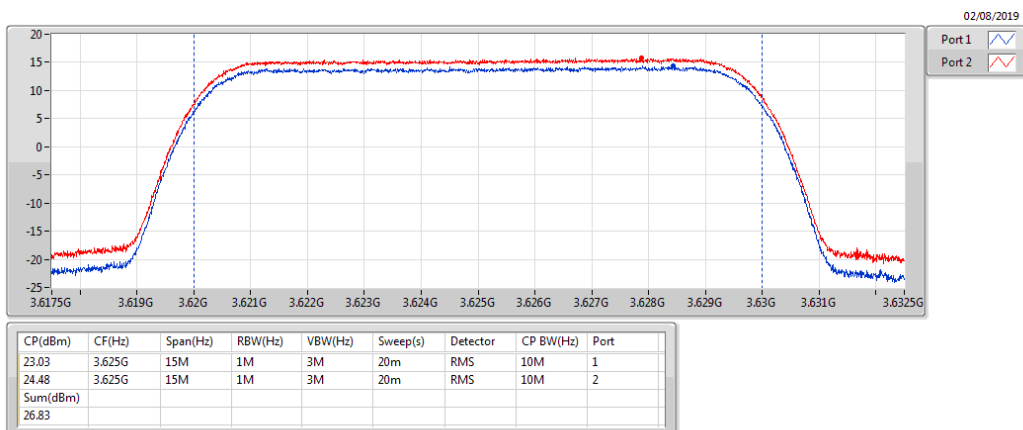
PowerAV



Band 48_10MHz_2TX

3625MHz_256QAM

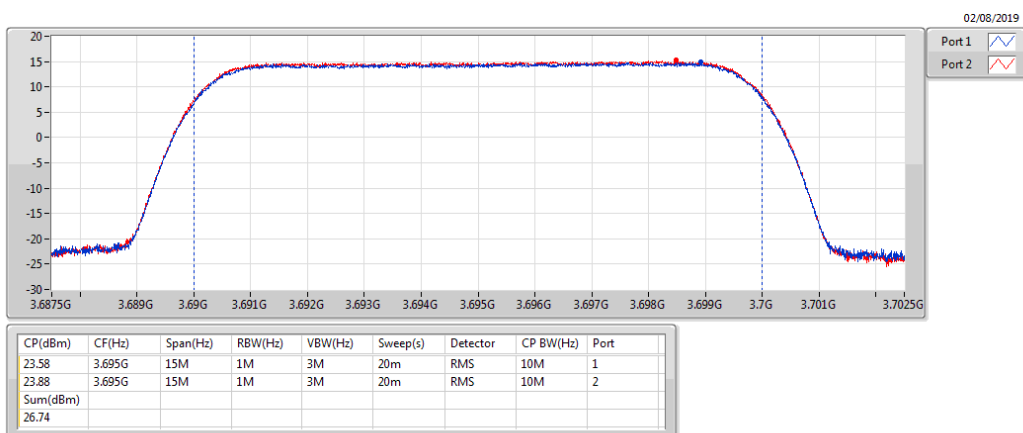
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Band 48_10MHz_2TX

3695MHz_256QAM

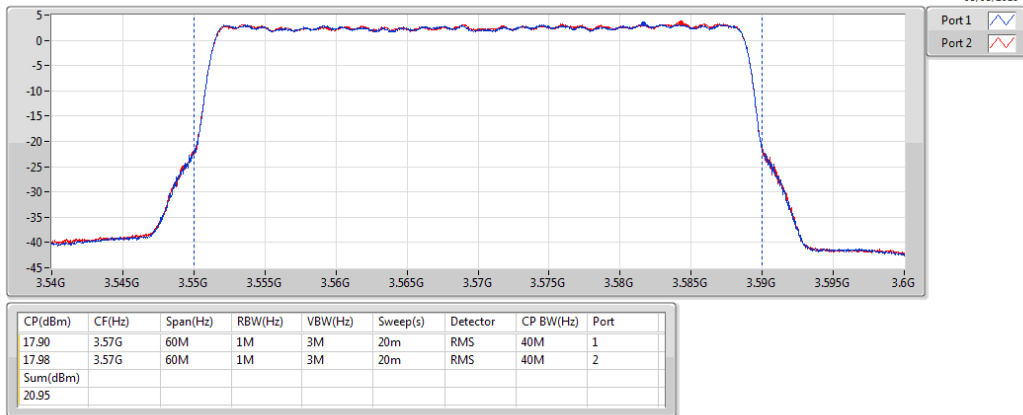
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Band 48_40MHz_2TX

3570MHz_QPSK

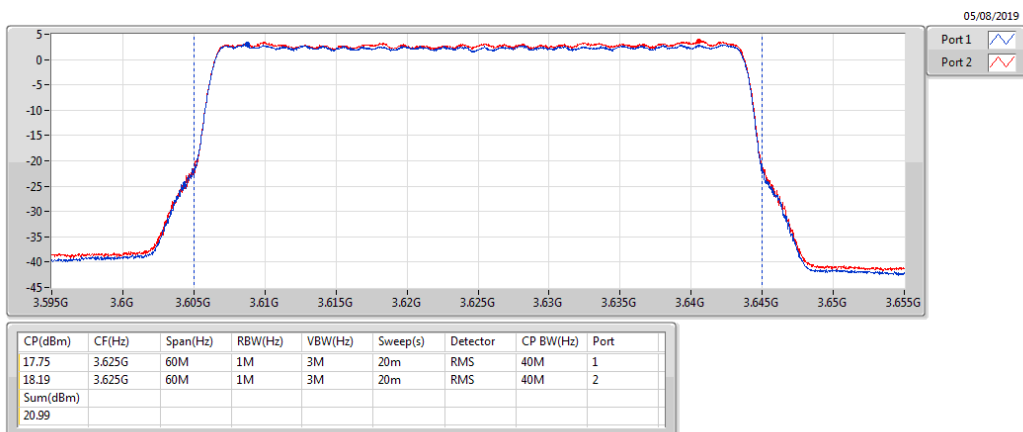
PowerAV



Band 48_40MHz_2TX

3625MHz_QPSK

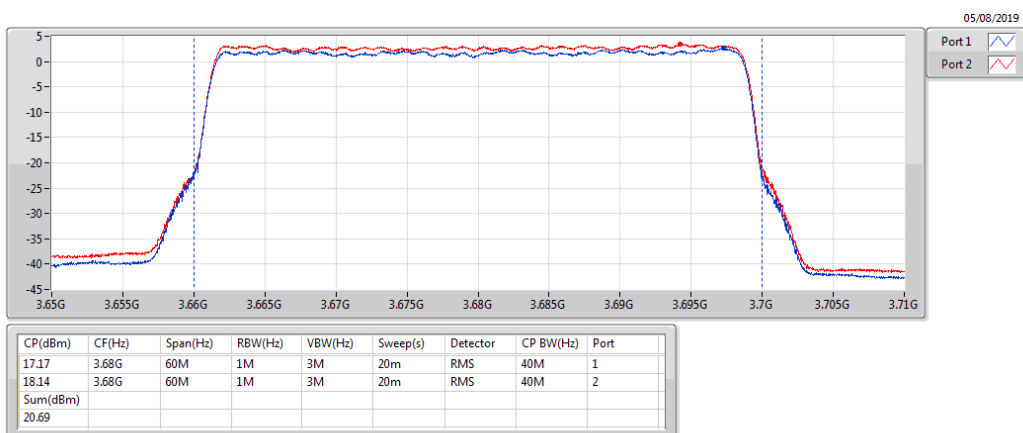
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Band 48_40MHz_2TX

3680MHz_QPSK

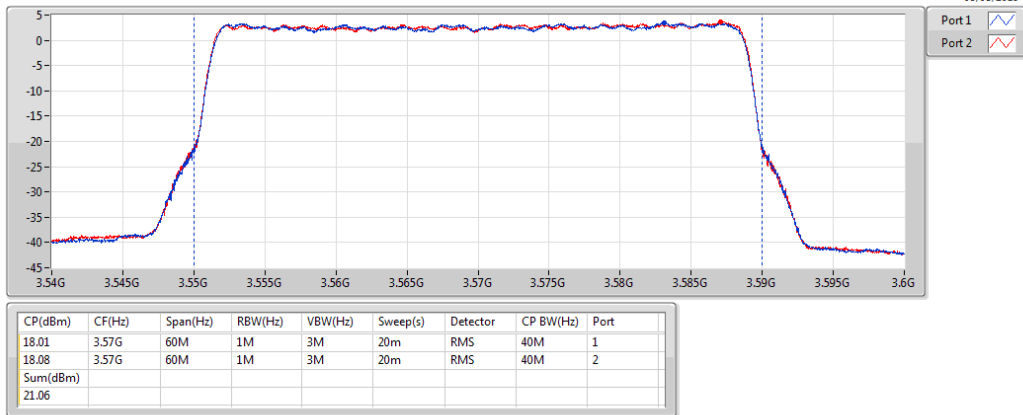
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Band 48_40MHz_2TX

3570MHz_16QAM

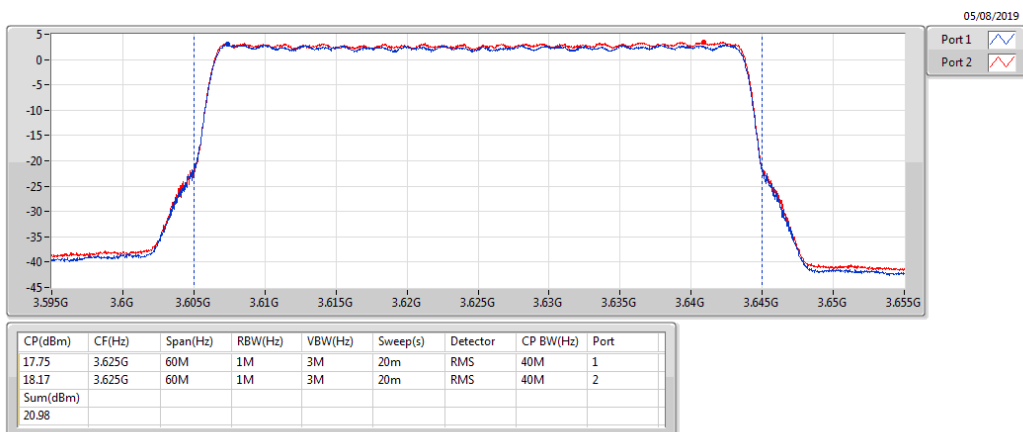
PowerAV



Band 48_40MHz_2TX

3625MHz_16QAM

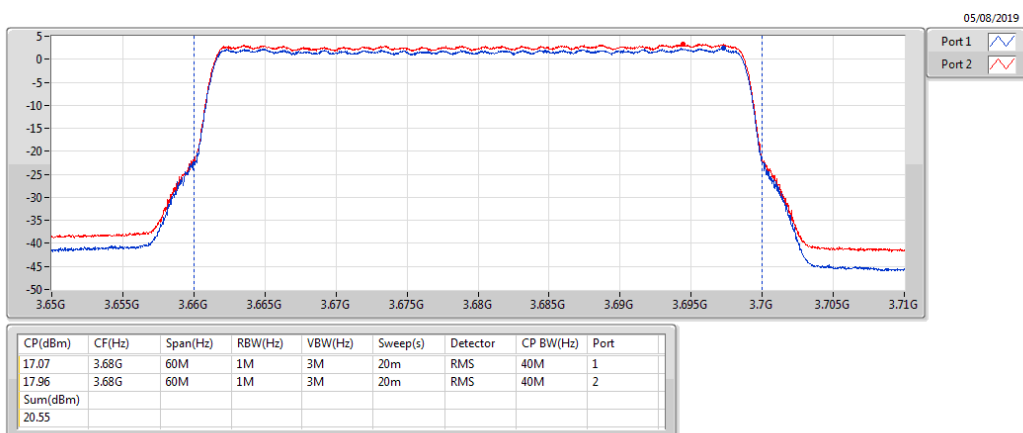
PowerAV



Band 48_40MHz_2TX

3680MHz_16QAM

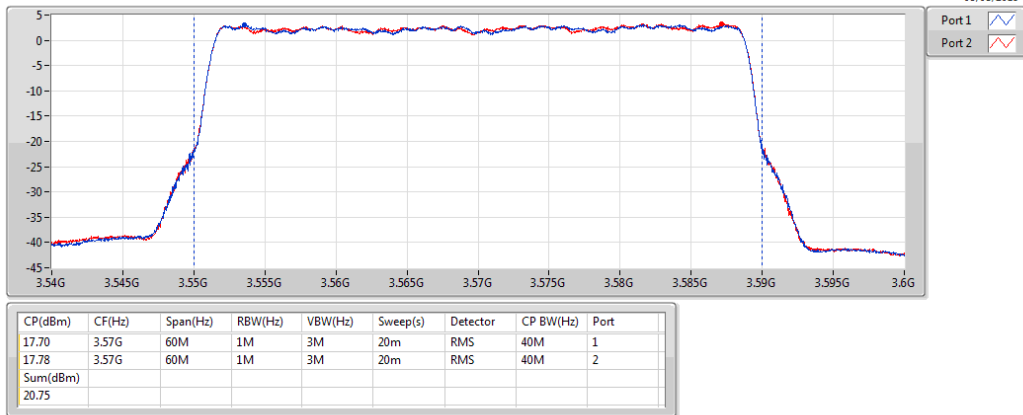
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Band 48_40MHz_2TX

3570MHz_64QAM

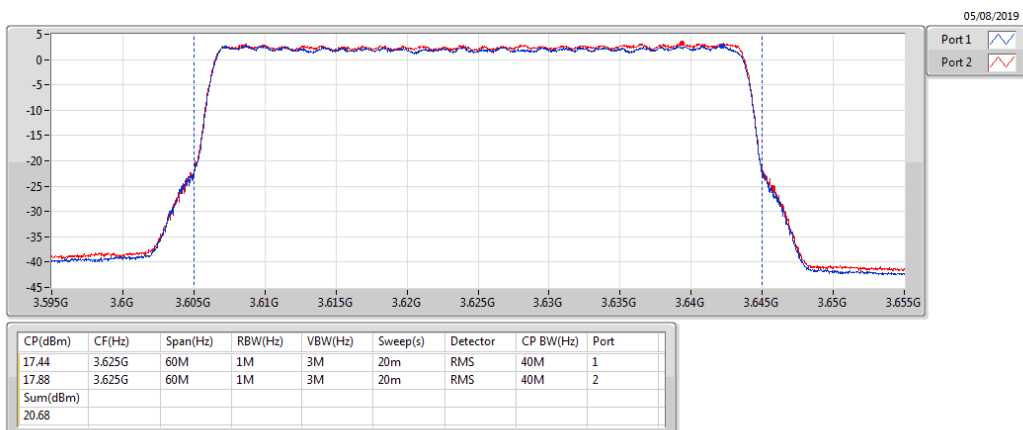
PowerAV



Band 48_40MHz_2TX

3625MHz_64QAM

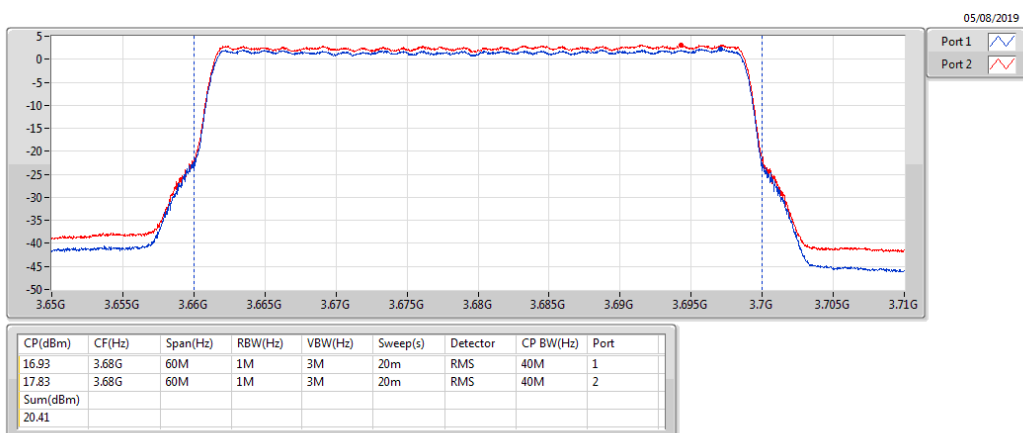
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Band 48_40MHz_2TX

3680MHz_64QAM

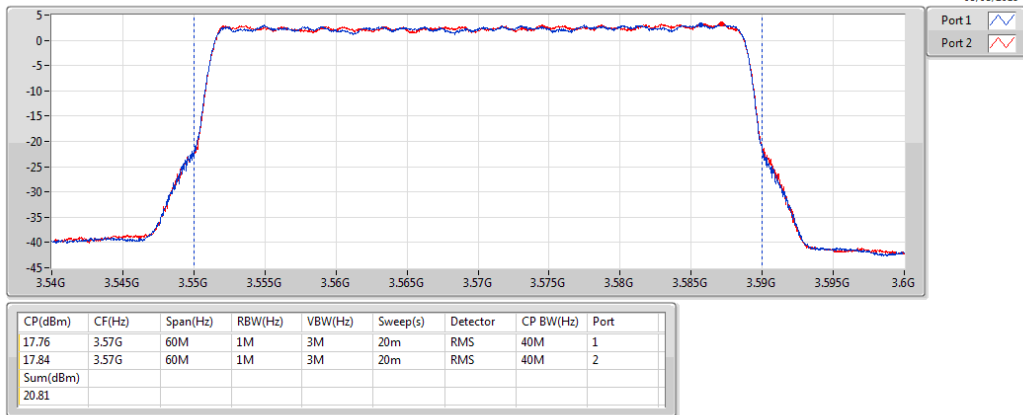
PowerAV



Band 48_40MHz_2TX

3570MHz_256QAM

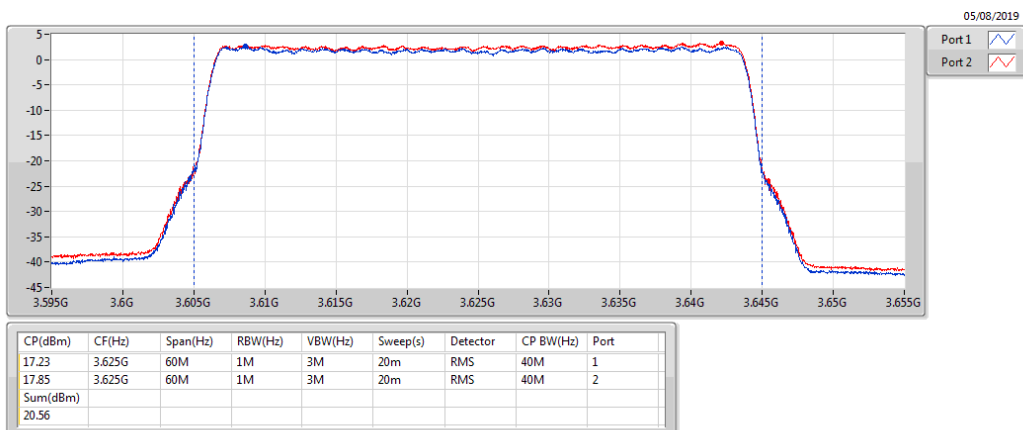
PowerAV



Band 48_40MHz_2TX

3625MHz_256QAM

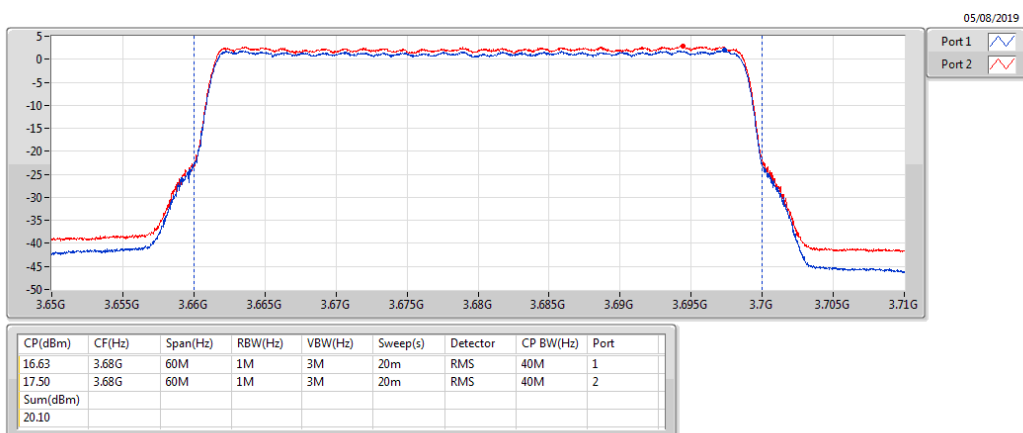
PowerAV



Band 48_40MHz_2TX

3680MHz_256QAM

PowerAV





EIRP Average Power Result

Appendix B.1

Summary

Mode	Power (dBm)	Power (W)	EIRP (dBm)	EIRP (W)
Band 48	-	-	-	-
10MHz_QPSK_2TX	26.81	0.480	46.81	47.973
10MHz_16QAM_2TX	26.87	0.486	46.87	48.641
10MHz_64QAM_2TX	26.95	0.495	46.95	49.545
10MHz_256QAM_2TX	26.83	0.482	46.83	48.195
40MHz_QPSK_2TX	20.99	0.126	40.99	12.560
40MHz_16QAM_2TX	21.06	0.128	41.06	12.764
40MHz_64QAM_2TX	20.75	0.119	40.75	11.885
40MHz_256QAM_2TX	20.81	0.121	40.81	12.050

Result

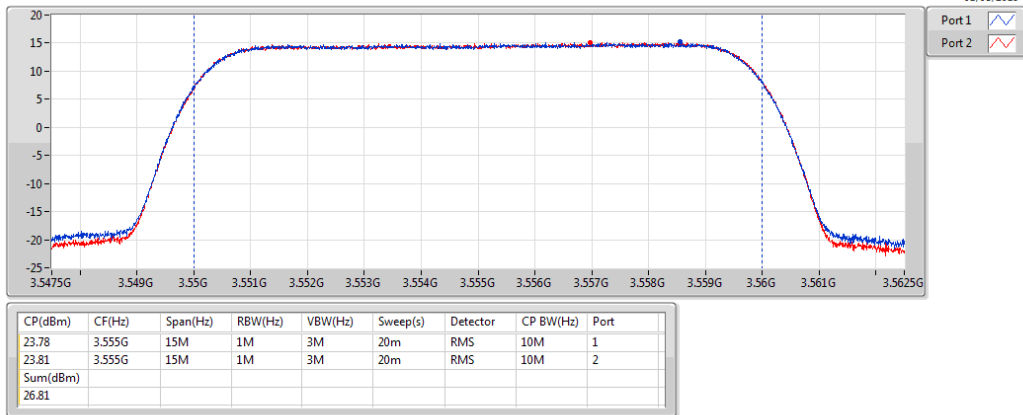
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Power (dBm)	Power (W)	EIRP (dBm)	EIRP (W)	EIRP Lim. (W)
Band 48_10MHz_QPSK_2TX	-	-	-	-	-	-	-	-	-
3555MHz	Pass	20.00	23.78	23.81	26.81	0.480	46.81	47.973	50.1
3625MHz	Pass	20.00	23.23	23.87	26.57	0.454	46.57	45.394	50.1
3695MHz	Pass	20.00	22.92	23.69	26.33	0.430	46.33	42.954	50.1
Band 48_10MHz_16QAM_2TX	-	-	-	-	-	-	-	-	-
3555MHz	Pass	20.00	23.20	23.77	26.50	0.447	46.50	44.668	50.1
3625MHz	Pass	20.00	23.59	24.12	26.87	0.486	46.87	48.641	50.1
3695MHz	Pass	20.00	23.15	23.98	26.60	0.457	46.60	45.709	50.1
Band 48_10MHz_64QAM_2TX	-	-	-	-	-	-	-	-	-
3555MHz	Pass	20.00	23.31	23.98	26.67	0.465	46.67	46.452	50.1
3625MHz	Pass	20.00	23.43	24.40	26.95	0.495	46.95	49.545	50.1
3695MHz	Pass	20.00	23.13	23.87	26.53	0.450	46.53	44.978	50.1
Band 48_10MHz_256QAM_2TX	-	-	-	-	-	-	-	-	-
3555MHz	Pass	20.00	23.57	23.72	26.66	0.463	46.66	46.345	50.1
3625MHz	Pass	20.00	23.03	24.48	26.83	0.482	46.83	48.195	50.1
3695MHz	Pass	20.00	23.58	23.88	26.74	0.472	46.74	47.206	50.1
Band 48_40MHz_QPSK_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	17.90	17.98	20.95	0.124	40.95	12.445	50.1
3625MHz	Pass	20.00	17.75	18.19	20.99	0.126	40.99	12.560	50.1
3680MHz	Pass	20.00	17.17	18.14	20.69	0.117	40.69	11.722	50.1
Band 48_40MHz_16QAM_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	18.01	18.08	21.06	0.128	41.06	12.764	50.1
3625MHz	Pass	20.00	17.75	18.17	20.98	0.125	40.98	12.531	50.1
3680MHz	Pass	20.00	17.07	17.96	20.55	0.114	40.55	11.350	50.1
Band 48_40MHz_64QAM_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	17.70	17.78	20.75	0.119	40.75	11.885	50.1
3625MHz	Pass	20.00	17.44	17.88	20.68	0.117	40.68	11.695	50.1
3680MHz	Pass	20.00	16.93	17.83	20.41	0.110	40.41	10.990	50.1
Band 48_40MHz_256QAM_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	17.76	17.84	20.81	0.121	40.81	12.050	50.1
3625MHz	Pass	20.00	17.23	17.85	20.56	0.114	40.56	11.376	50.1
3680MHz	Pass	20.00	16.63	17.50	20.10	0.102	40.10	10.233	50.1

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

Band 48_10MHz_2TX

3555MHz_QPSK

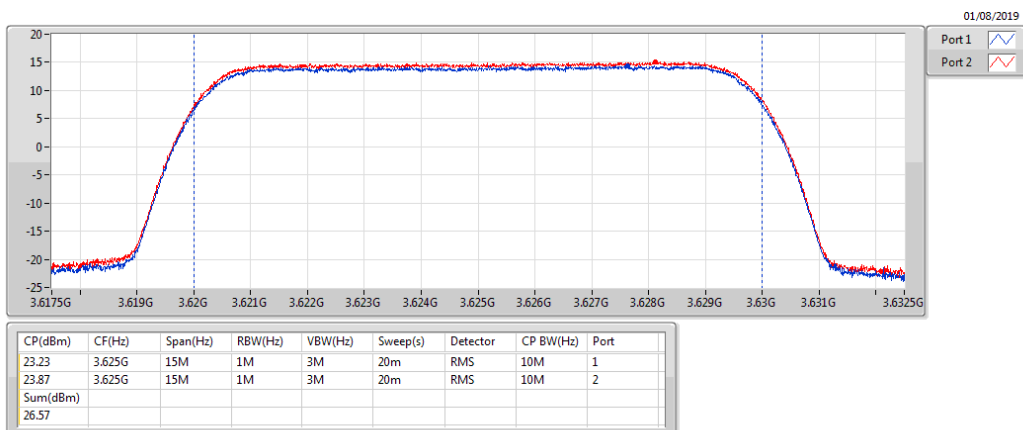
PowerAV



Band 48_10MHz_2TX

3625MHz_QPSK

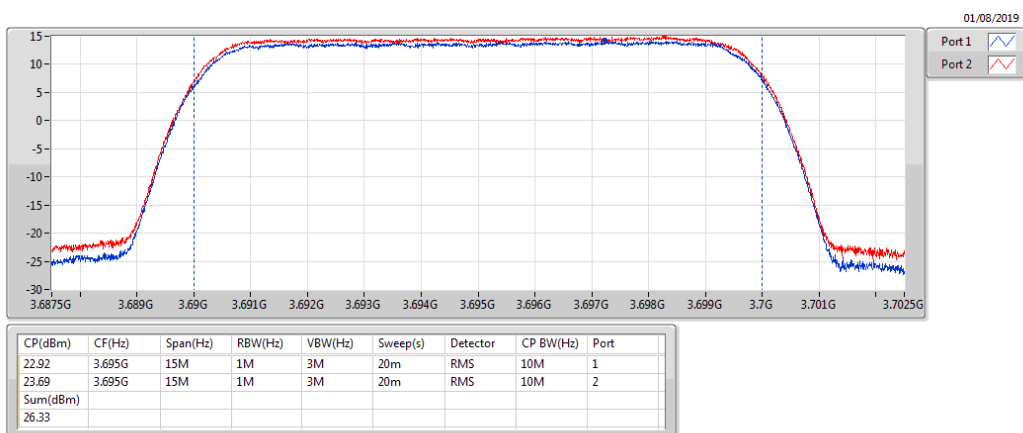
PowerAV



Band 48_10MHz_2TX

3695MHz_QPSK

PowerAV



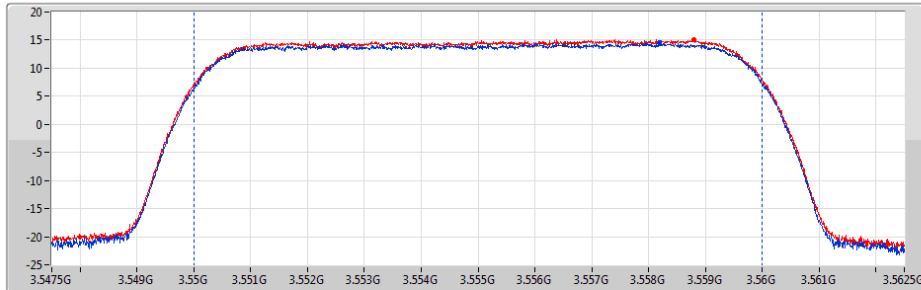
Band 48_10MHz_2TX

3555MHz_16QAM

PowerAV

01/08/2019

Port 1
Port 2



CP(dBm)	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)	Sweep(s)	Detector	CP BW(Hz)	Port
23.20	3.555G	15M	1M	3M	20m	RMS	10M	1
23.77	3.555G	15M	1M	3M	20m	RMS	10M	2
Sum(dBm)								
26.50								

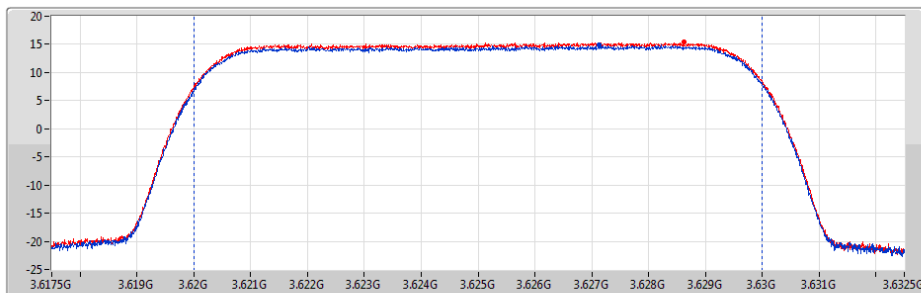
Band 48_10MHz_2TX

3625MHz_16QAM

PowerAV

02/08/2019

Port 1
Port 2



CP(dBm)	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)	Sweep(s)	Detector	CP BW(Hz)	Port
23.59	3.625G	15M	1M	3M	20m	RMS	10M	1
24.12	3.625G	15M	1M	3M	20m	RMS	10M	2
Sum(dBm)								
26.87								

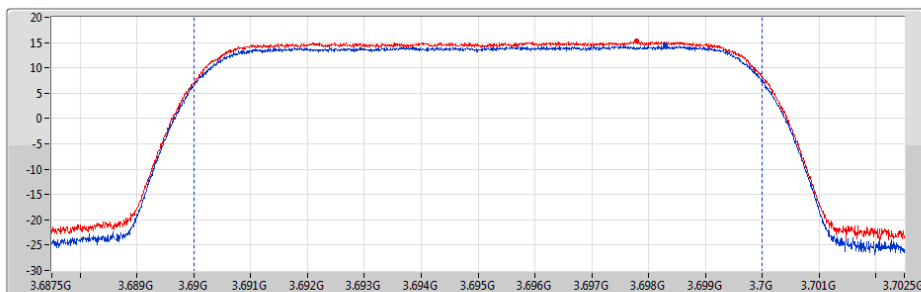
Band 48_10MHz_2TX

3695MHz_16QAM

PowerAV

02/08/2019

Port 1
Port 2

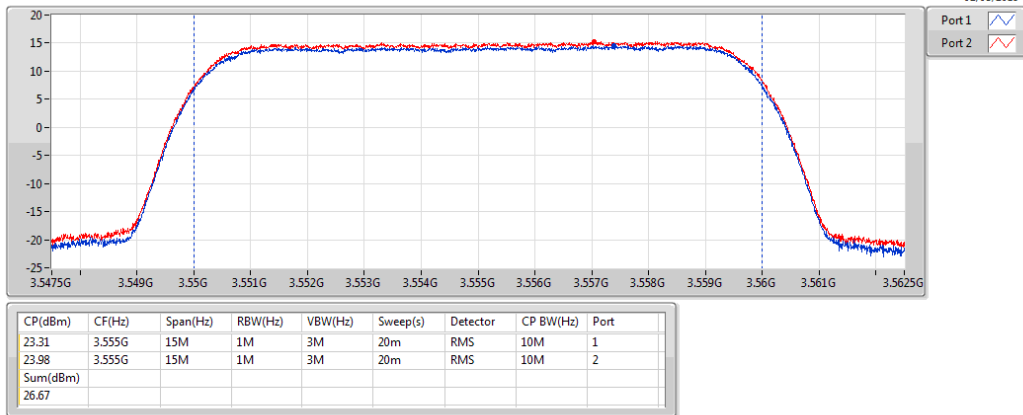


CP(dBm)	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)	Sweep(s)	Detector	CP BW(Hz)	Port
23.15	3.695G	15M	1M	3M	20m	RMS	10M	1
23.98	3.695G	15M	1M	3M	20m	RMS	10M	2
Sum(dBm)								
26.60								

Band 48_10MHz_2TX

3555MHz_64QAM

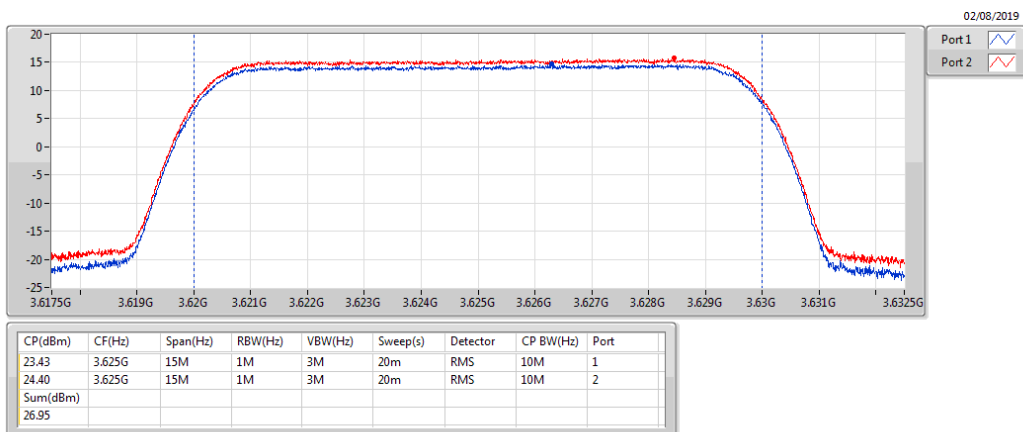
PowerAV



Band 48_10MHz_2TX

3625MHz_64QAM

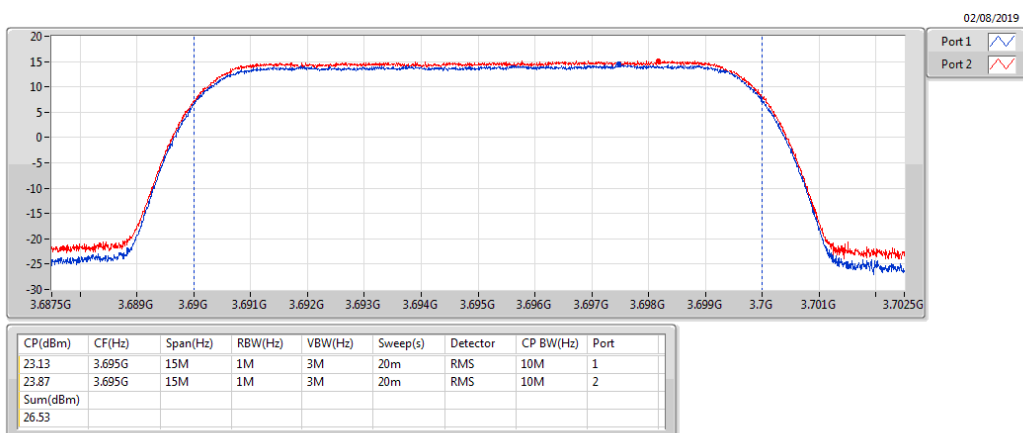
PowerAV



Band 48_10MHz_2TX

3695MHz_64QAM

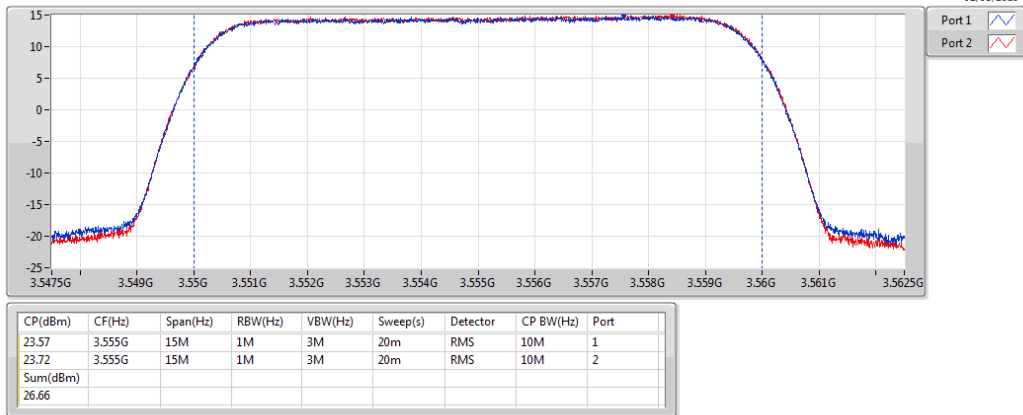
PowerAV



Band 48_10MHz_2TX

3555MHz_256QAM

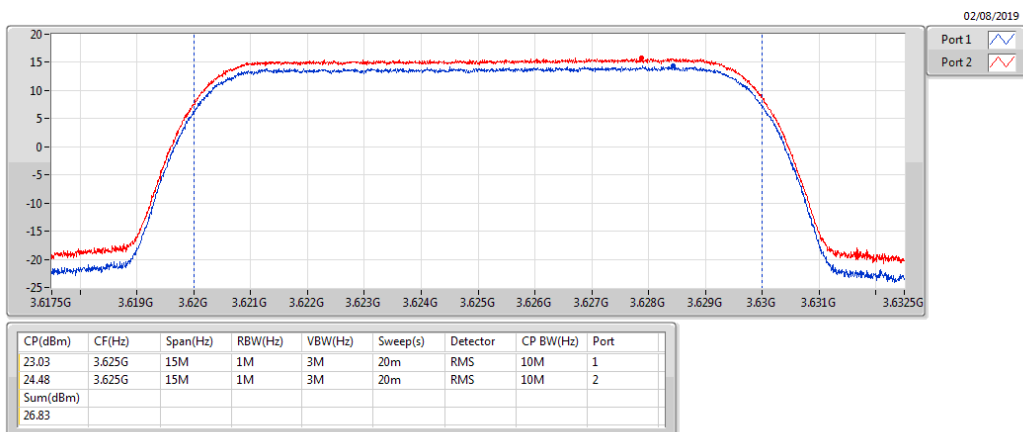
PowerAV



Band 48_10MHz_2TX

3625MHz_256QAM

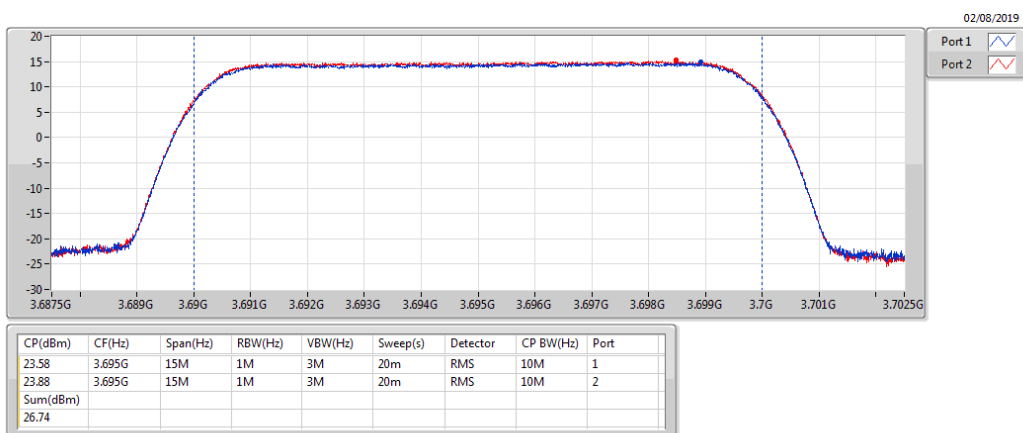
PowerAV



Band 48_10MHz_2TX

3695MHz_256QAM

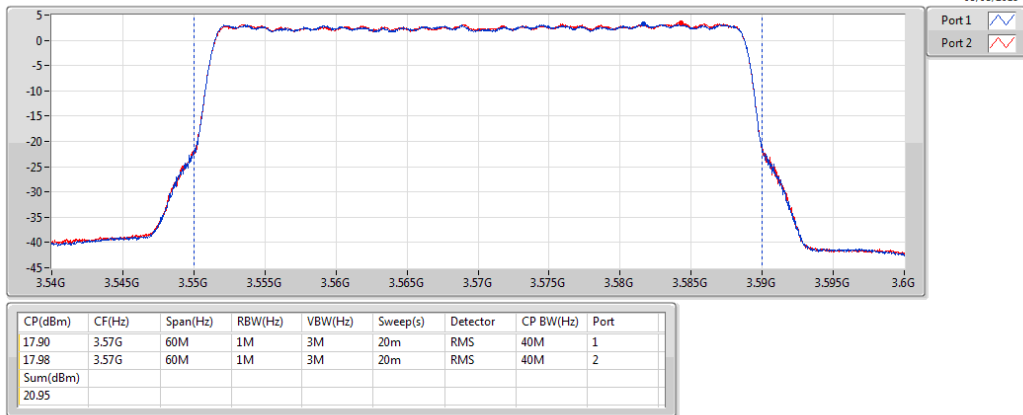
PowerAV



Band 48_40MHz_2TX

3570MHz_QPSK

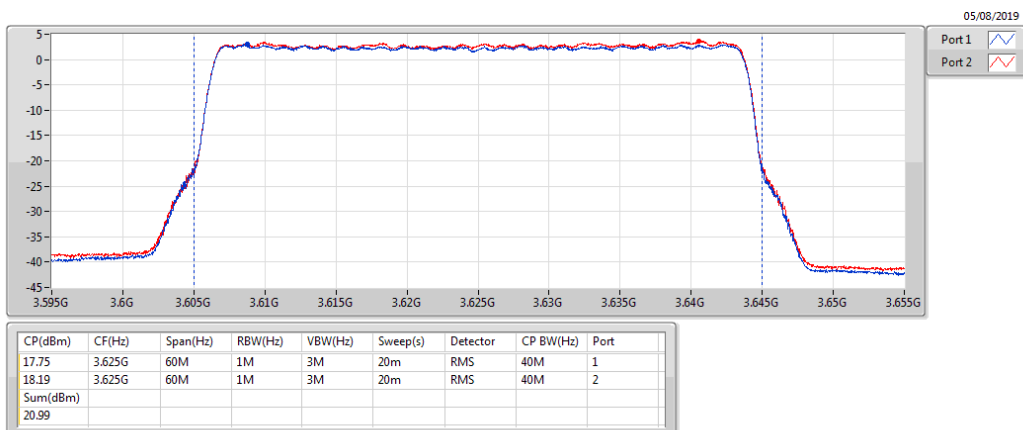
PowerAV



Band 48_40MHz_2TX

3625MHz_QPSK

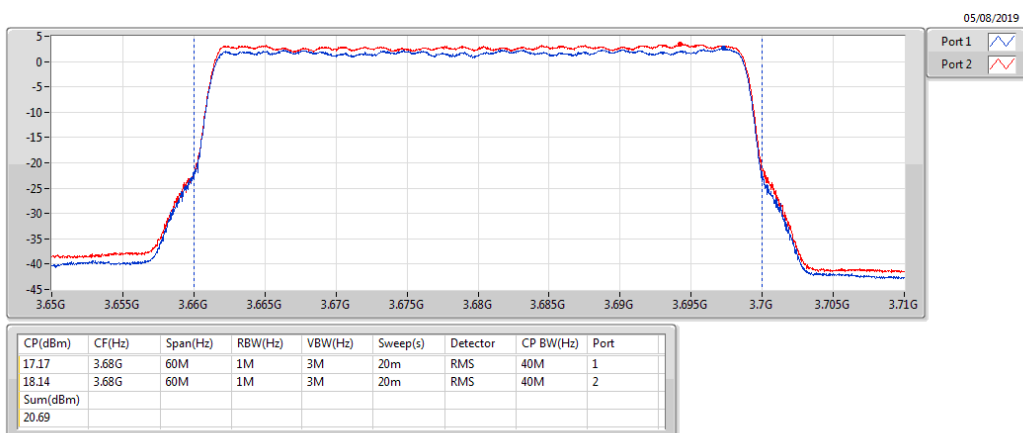
PowerAV



Band 48_40MHz_2TX

3680MHz_QPSK

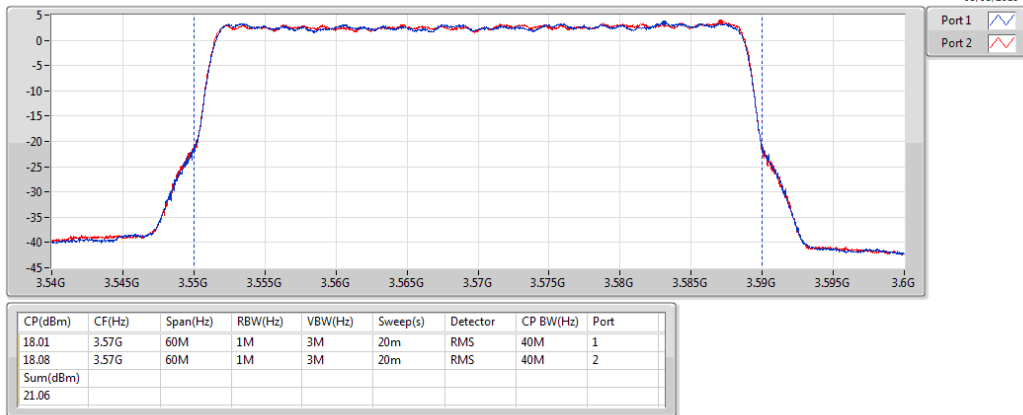
PowerAV



Band 48_40MHz_2TX

3570MHz_16QAM

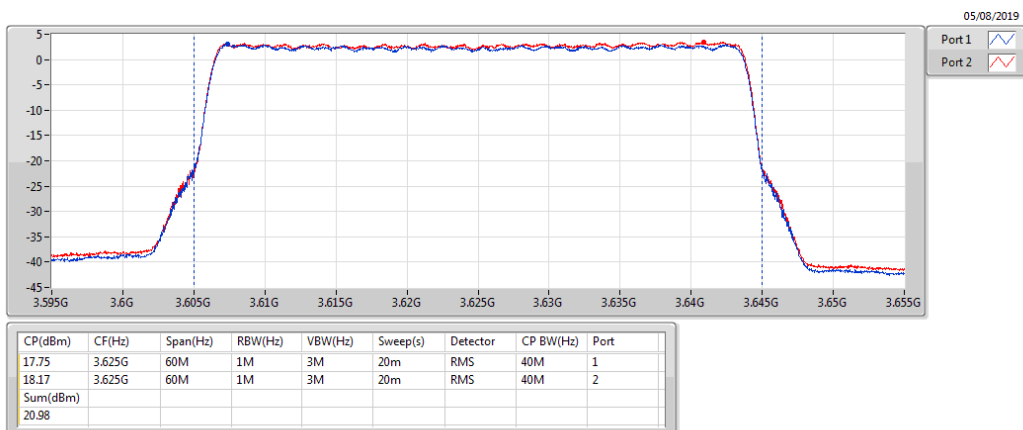
PowerAV



Band 48_40MHz_2TX

3625MHz_16QAM

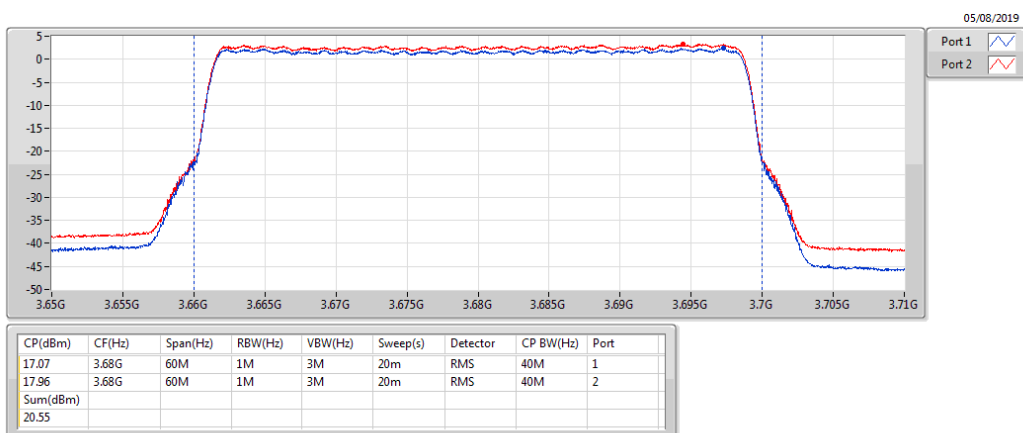
PowerAV



Band 48_40MHz_2TX

3680MHz_16QAM

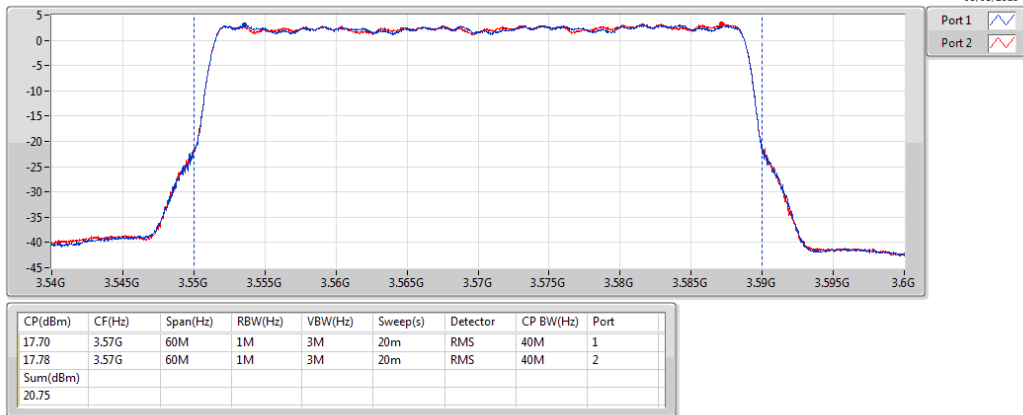
PowerAV



Band 48_40MHz_2TX

3570MHz_64QAM

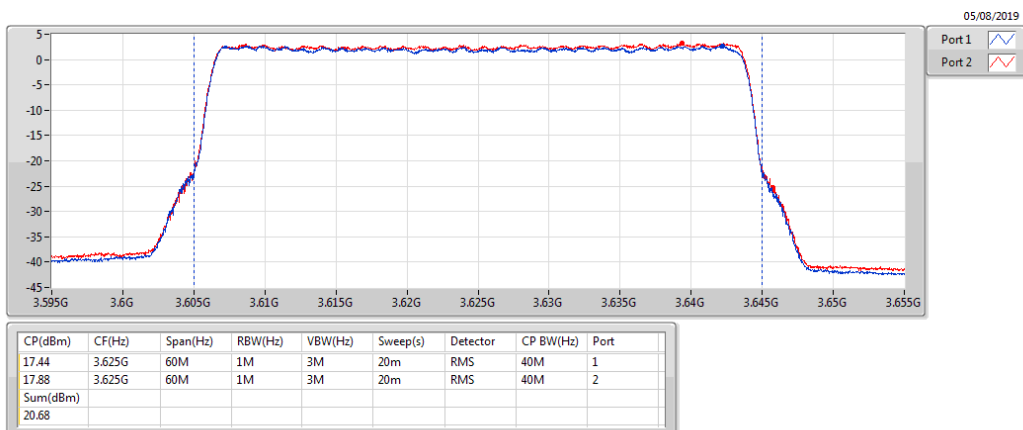
PowerAV



Band 48_40MHz_2TX

3625MHz_64QAM

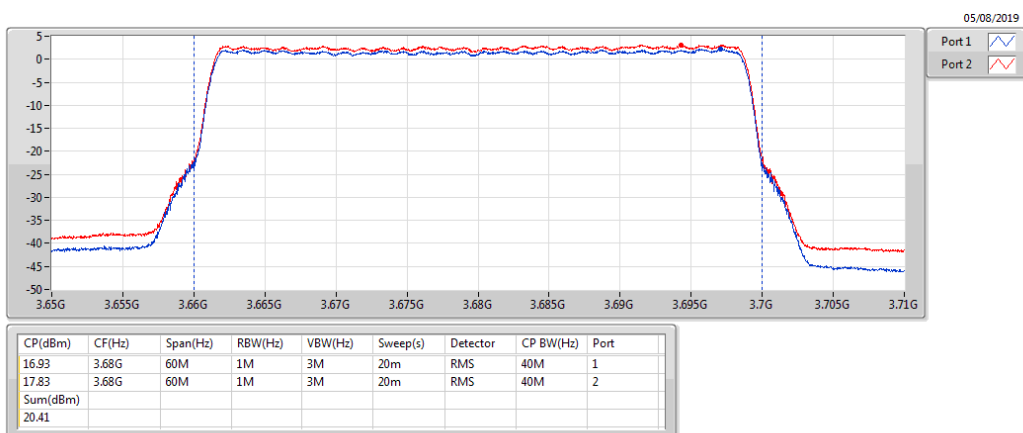
PowerAV



Band 48_40MHz_2TX

3680MHz_64QAM

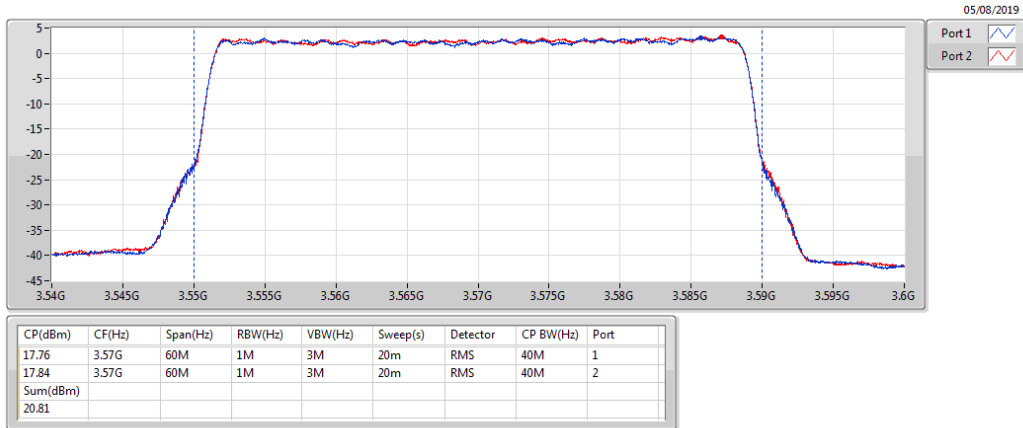
PowerAV



Band 48_40MHz_2TX

3570MHz_256QAM

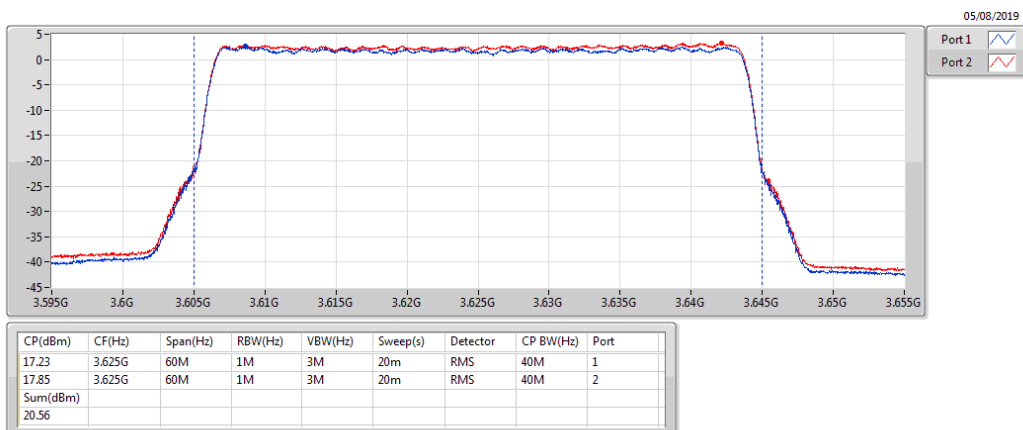
PowerAV



Band 48_40MHz_2TX

3625MHz_256QAM

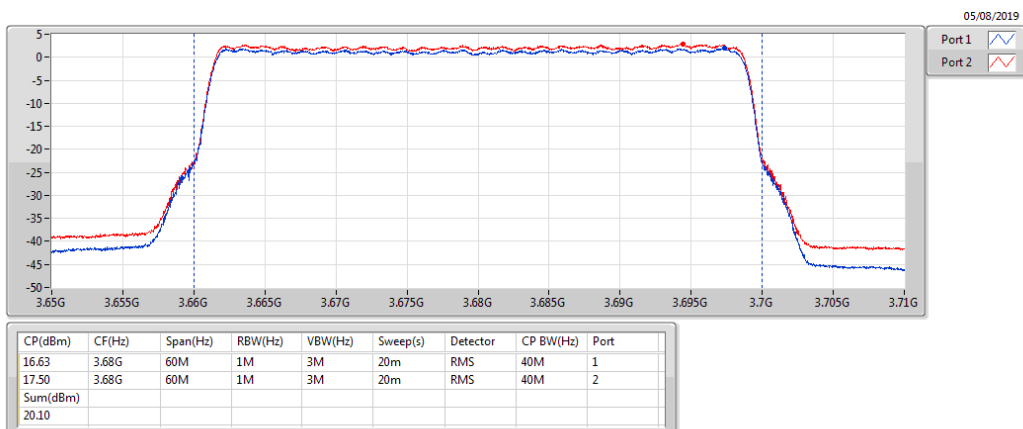
PowerAV



Band 48_40MHz_2TX

3680MHz_256QAM

PowerAV





EIRP Average Power Result

Appendix B.2

Summary

Mode	Power (dBm/10MHz)	Power (W)	EIRP (dBm/10MHz)	EIRP (W)
Band 48	-	-	-	-
40MHz_QPSK_2TX	15.26	0.034	35.26	3.357
40MHz_16QAM_2TX	15.29	0.034	35.29	3.381
40MHz_64QAM_2TX	15.31	0.034	35.31	3.396
40MHz_256QAM_2TX	15.34	0.034	35.34	3.420

Result

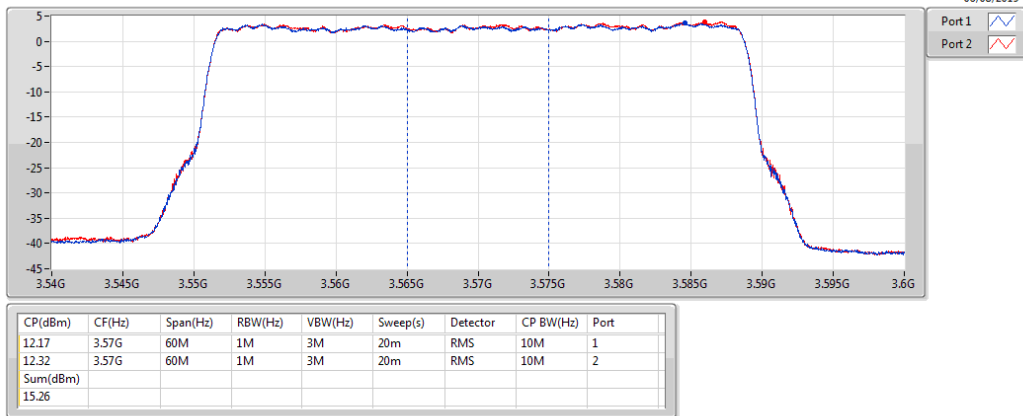
Mode	Result	DG (dBi)	Port 1 (dBm/10MHz)	Port 2 (dBm/10MHz)	Power (dBm/10MHz)	Power (W)	EIRP (dBm/10MHz)	EIRP (W)	EIRP Lim. (W)
Band 48_40MHz_QPSK_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	12.17	12.32	15.26	0.034	35.26	3.357	50.1
3625MHz	Pass	20.00	11.89	12.40	15.16	0.033	35.16	3.281	50.1
3680MHz	Pass	20.00	11.28	12.34	14.85	0.031	34.85	3.055	50.1
Band 48_40MHz_16QAM_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	12.22	12.34	15.29	0.034	35.29	3.381	50.1
3625MHz	Pass	20.00	11.93	12.37	15.17	0.033	35.17	3.289	50.1
3680MHz	Pass	20.00	11.29	12.27	14.82	0.030	34.82	3.034	50.1
Band 48_40MHz_64QAM_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	12.21	12.39	15.31	0.034	35.31	3.396	50.1
3625MHz	Pass	20.00	11.92	12.37	15.16	0.033	35.16	3.281	50.1
3680MHz	Pass	20.00	11.30	12.27	14.82	0.030	34.82	3.034	50.1
Band 48_40MHz_256QAM_2TX	-	-	-	-	-	-	-	-	-
3570MHz	Pass	20.00	12.19	12.46	15.34	0.034	35.34	3.420	50.1
3625MHz	Pass	20.00	11.80	12.46	15.15	0.033	35.15	3.273	50.1
3680MHz	Pass	20.00	11.15	12.42	14.84	0.030	34.84	3.048	50.1

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

Band 48_40MHz_2TX

3570MHz_QPSK

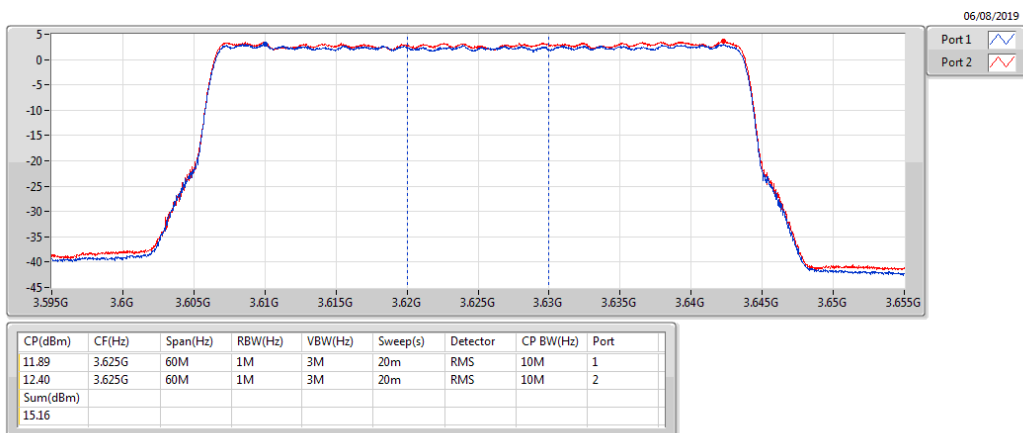
PowerAV



Band 48_40MHz_2TX

3625MHz_QPSK

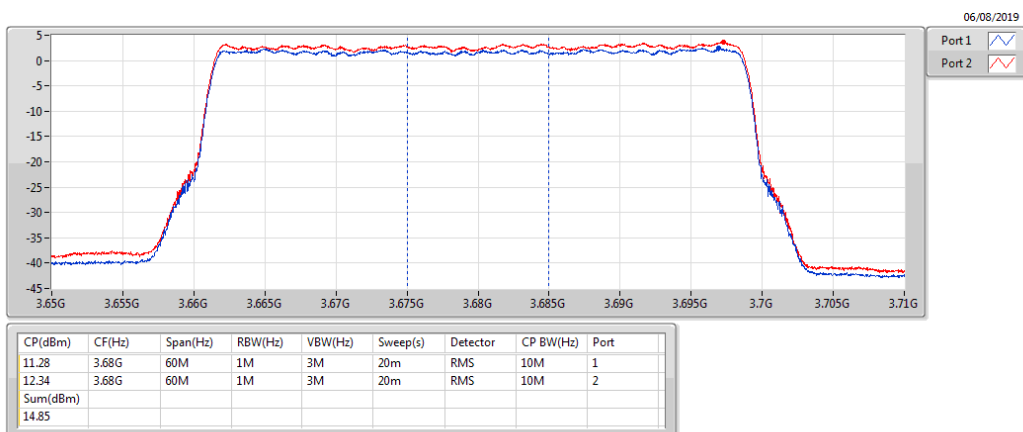
PowerAV



Band 48_40MHz_2TX

3680MHz_QPSK

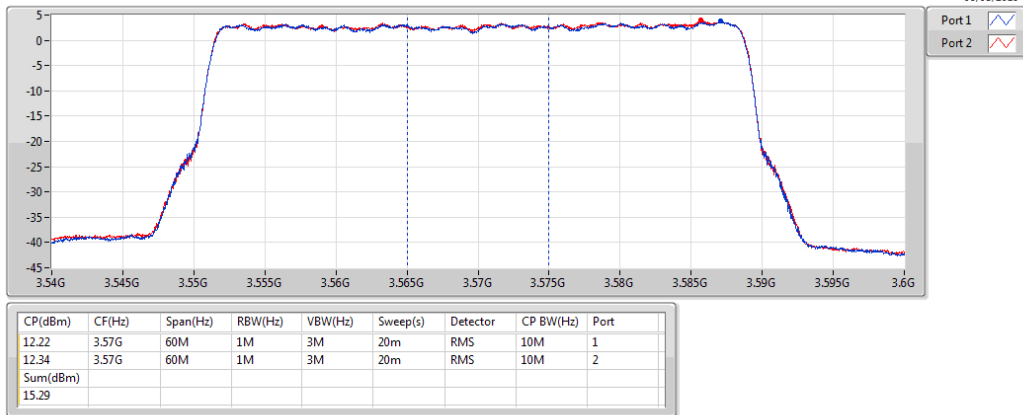
PowerAV



Band 48_40MHz_2TX

3570MHz_16QAM

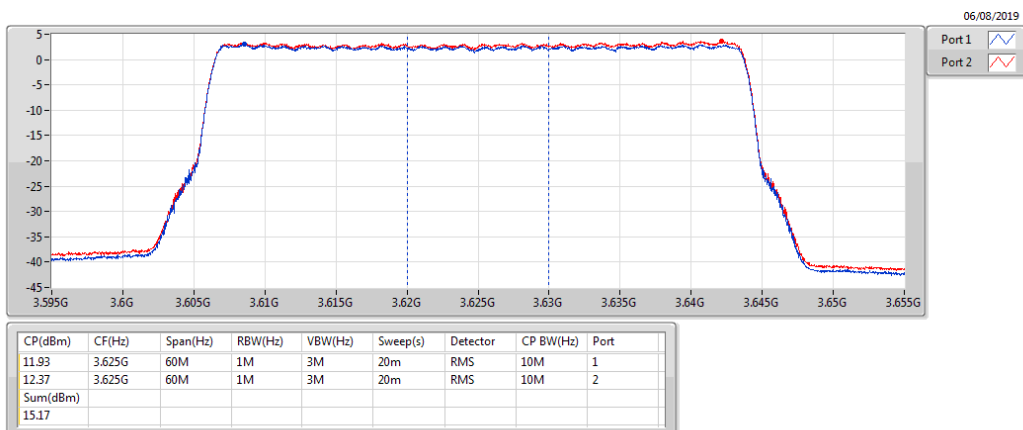
PowerAV



Band 48_40MHz_2TX

3625MHz_16QAM

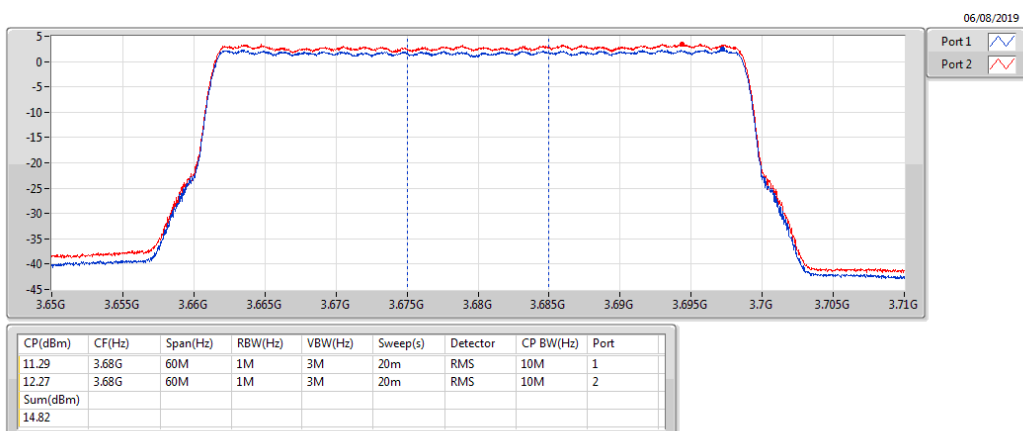
PowerAV



Band 48_40MHz_2TX

3680MHz_16QAM

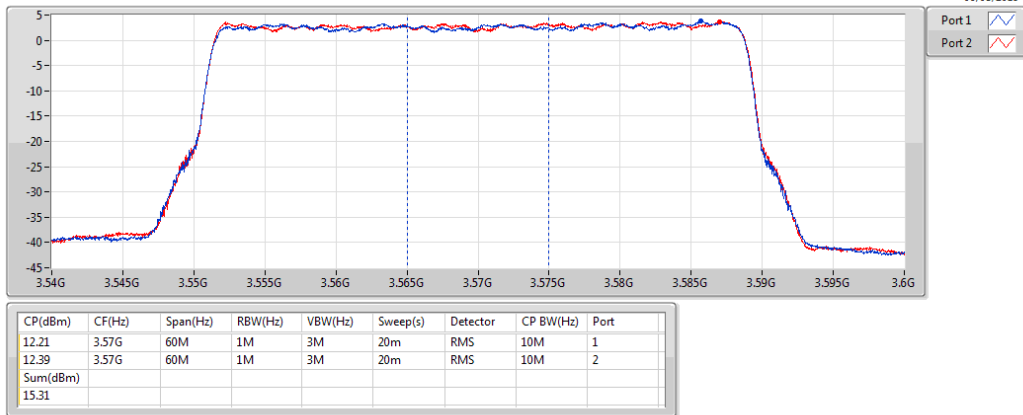
PowerAV



Band 48_40MHz_2TX

3570MHz_64QAM

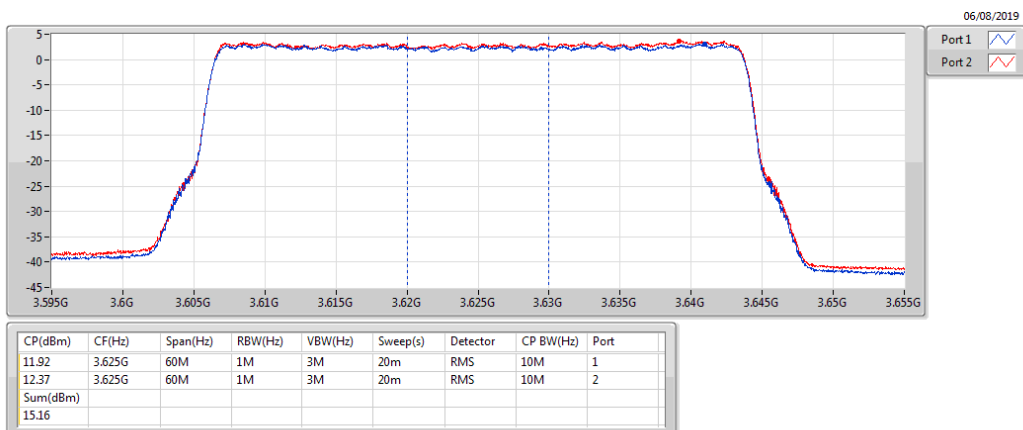
PowerAV



Band 48_40MHz_2TX

3625MHz_64QAM

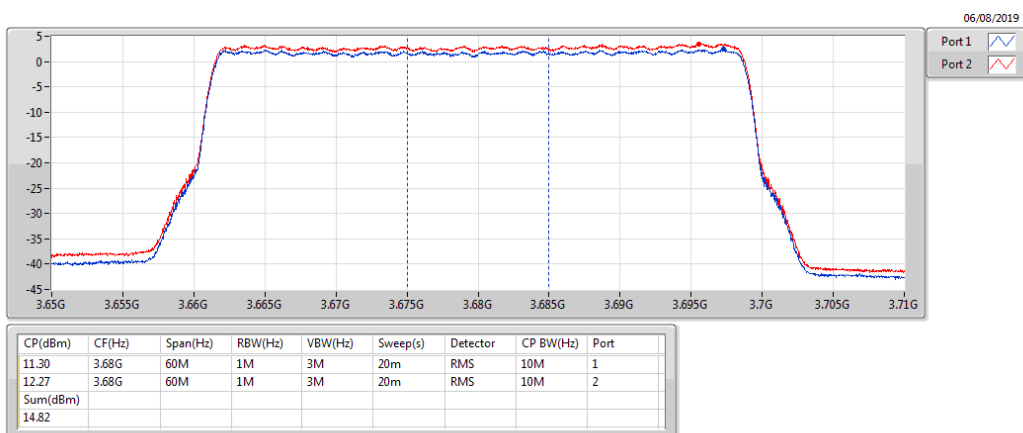
PowerAV



Band 48_40MHz_2TX

3680MHz_64QAM

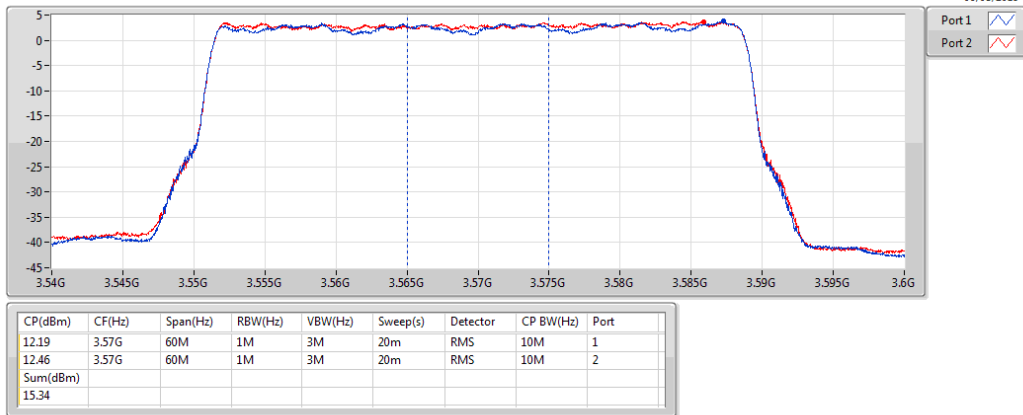
PowerAV



Band 48_40MHz_2TX

3570MHz_256QAM

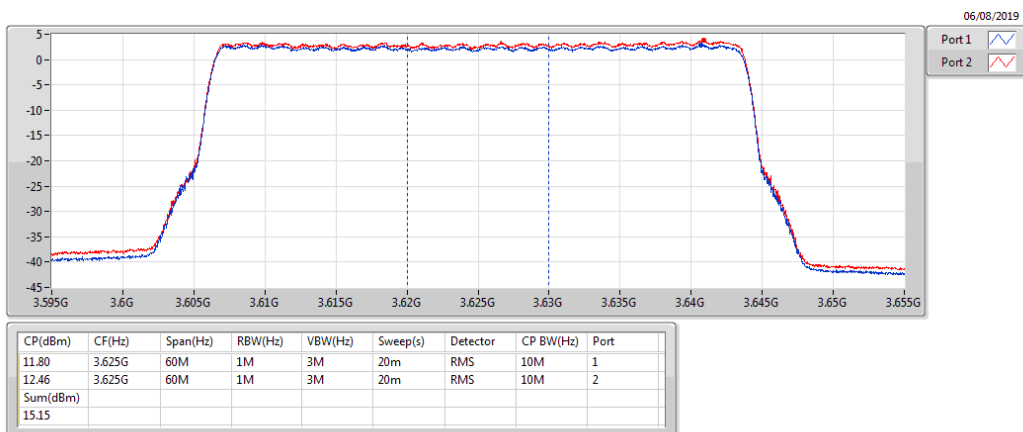
PowerAV



Band 48_40MHz_2TX

3625MHz_256QAM

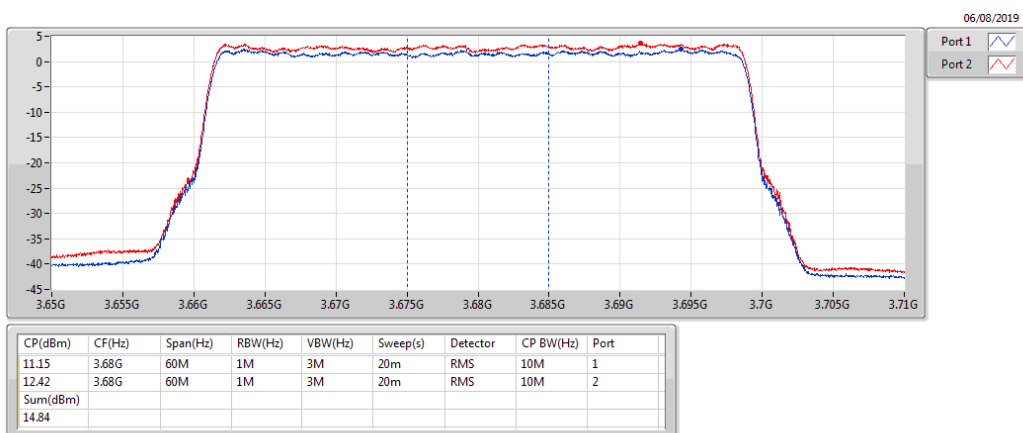
PowerAV



Band 48_40MHz_2TX

3680MHz_256QAM

PowerAV





Summary

Mode	PD (dBm/MHz)	EIRP PD (dBm/MHz)
Band 48	-	-
10MHz_QPSK_2TX	16.13	36.13
10MHz_16QAM_2TX	16.03	36.03
10MHz_64QAM_2TX	16.16	36.16
10MHz_256QAM_2TX	16.42	36.42
40MHz_QPSK_2TX	5.07	25.07
40MHz_16QAM_2TX	5.12	25.12
40MHz_64QAM_2TX	4.79	24.79
40MHz_256QAM_2TX	4.71	24.71

Result

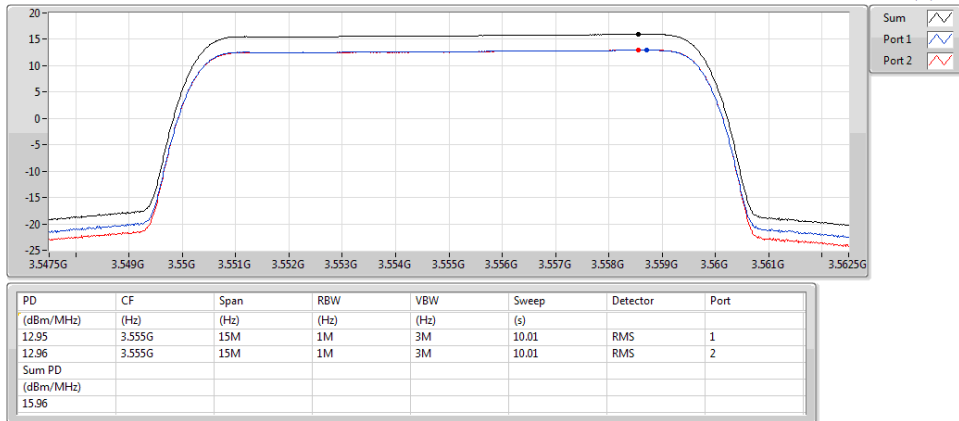
Mode	Result	DG (dBi)	Port 1 (dBm/MHz)	Port 2 (dBm/MHz)	PSD (dBm/MHz)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)
Band 48_10MHz_QPSK_2TX	-	-	-	-	-	-	-
3555MHz	Pass	20.00	12.95	12.96	15.96	35.96	37.00
3625MHz	Pass	20.00	12.77	13.45	16.13	36.13	37.00
3695MHz	Pass	20.00	12.43	13.21	15.84	35.84	37.00
Band 48_10MHz_16QAM_2TX	-	-	-	-	-	-	-
3555MHz	Pass	20.00	12.51	13.02	15.76	35.76	37.00
3625MHz	Pass	20.00	12.74	13.31	16.03	36.03	37.00
3695MHz	Pass	20.00	12.39	13.20	15.81	35.81	37.00
Band 48_10MHz_64QAM_2TX	-	-	-	-	-	-	-
3555MHz	Pass	20.00	12.57	13.19	15.90	35.90	37.00
3625MHz	Pass	20.00	12.66	13.62	16.16	36.16	37.00
3695MHz	Pass	20.00	12.42	13.21	15.82	35.82	37.00
Band 48_10MHz_256QAM_2TX	-	-	-	-	-	-	-
3555MHz	Pass	20.00	12.60	12.92	15.76	35.76	37.00
3625MHz	Pass	20.00	12.57	13.54	16.09	36.09	37.00
3695MHz	Pass	20.00	13.08	13.73	16.42	36.42	37.00
Band 48_40MHz_QPSK_2TX	-	-	-	-	-	-	-
3570MHz	Pass	20.00	1.99	2.12	5.07	25.07	37.00
3625MHz	Pass	20.00	1.51	2.04	4.76	24.76	37.00
3680MHz	Pass	20.00	0.96	1.99	4.52	24.52	37.00
Band 48_40MHz_16QAM_2TX	-	-	-	-	-	-	-
3570MHz	Pass	20.00	2.02	2.19	5.12	25.12	37.00
3625MHz	Pass	20.00	1.51	2.00	4.73	24.73	37.00
3680MHz	Pass	20.00	0.74	1.76	4.29	24.29	37.00
Band 48_40MHz_64QAM_2TX	-	-	-	-	-	-	-
3570MHz	Pass	20.00	1.69	1.87	4.79	24.79	37.00
3625MHz	Pass	20.00	1.23	1.76	4.49	24.49	37.00
3680MHz	Pass	20.00	0.66	1.68	4.20	24.20	37.00
Band 48_40MHz_256QAM_2TX	-	-	-	-	-	-	-
3570MHz	Pass	20.00	1.62	1.80	4.71	24.71	37.00
3625MHz	Pass	20.00	1.03	1.75	4.38	24.38	37.00
3680MHz	Pass	20.00	0.35	1.35	3.89	23.89	37.00

DG = Directional Gain;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

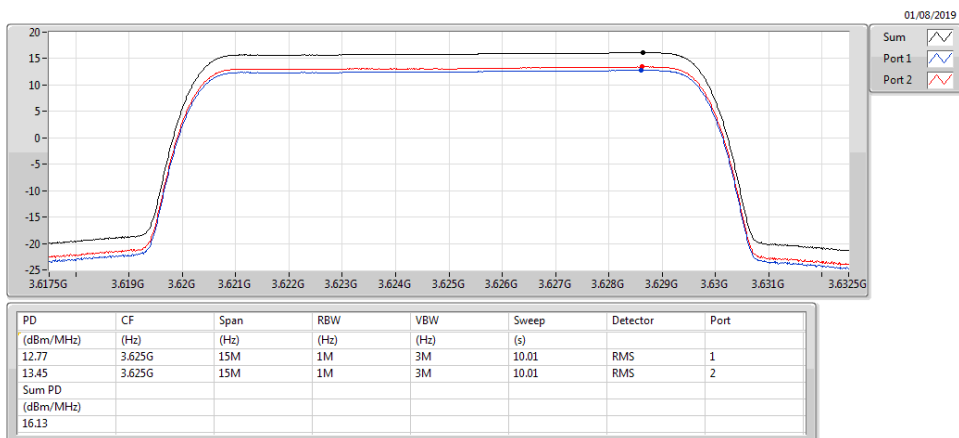
Band 48_10MHz_2TX 3555MHz_QPSK

PSD



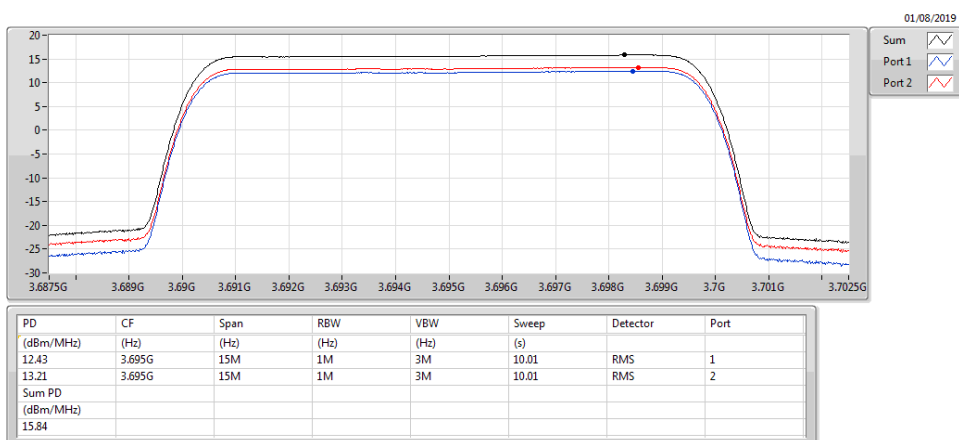
Band 48_10MHz_2TX 3625MHz_QPSK

PSD



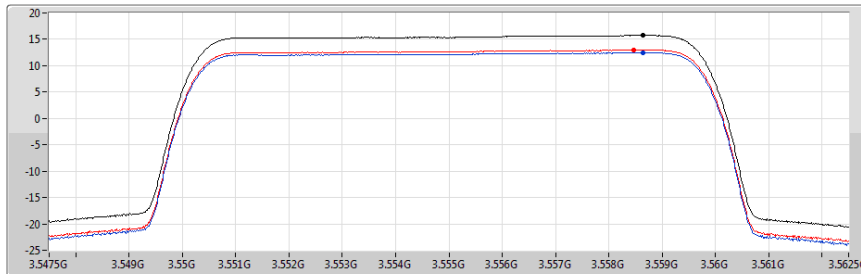
Band 48_10MHz_2TX 3695MHz_QPSK

PSD



Band 48_10MHz_2TX 3555MHz_16QAM

PSD



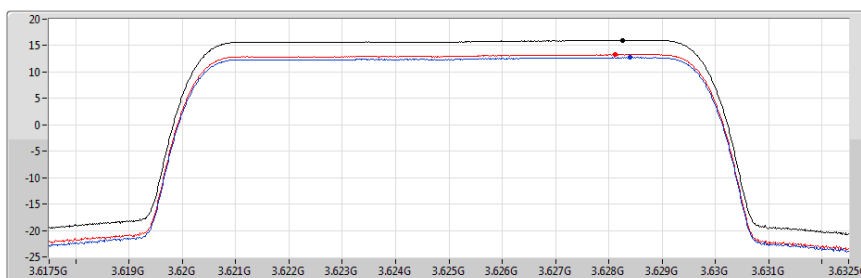
01/08/2019

Sum 
Port 1 
Port 2 

PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
12.51	3.555G	15M	1M	3M	10.01	RMS	1
13.02	3.555G	15M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
15.76							

Band 48_10MHz_2TX 3625MHz_16QAM

PSD



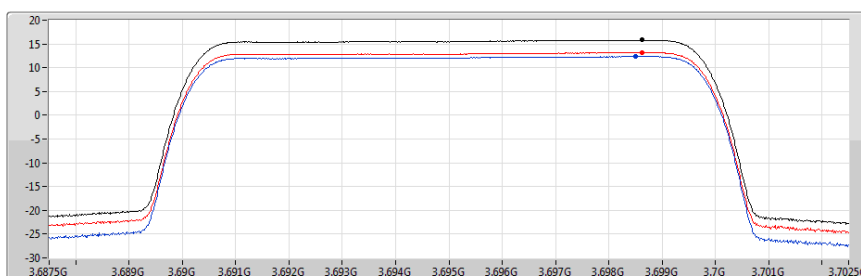
02/08/2019

Sum 
Port 1 
Port 2 

PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
12.74	3.625G	15M	1M	3M	10.01	RMS	1
13.31	3.625G	15M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
16.03							

Band 48_10MHz_2TX 3695MHz_16QAM

PSD



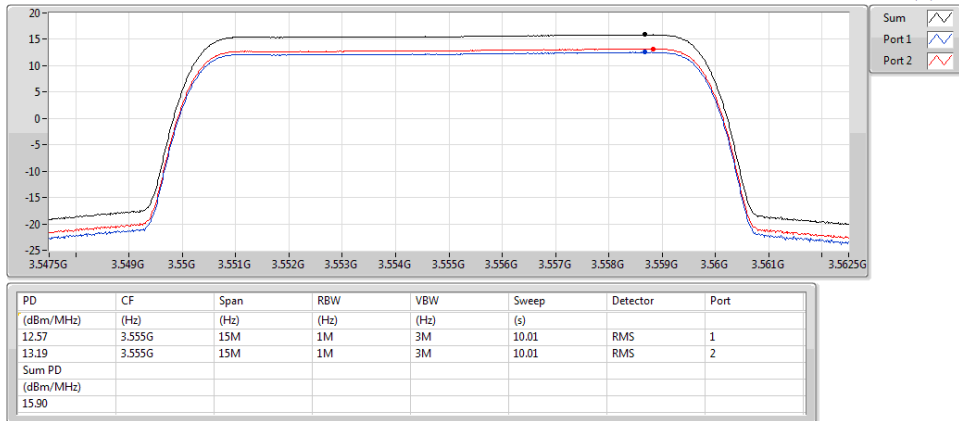
02/08/2019

Sum 
Port 1 
Port 2 

PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
12.39	3.695G	15M	1M	3M	10.01	RMS	1
13.20	3.695G	15M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
15.81							

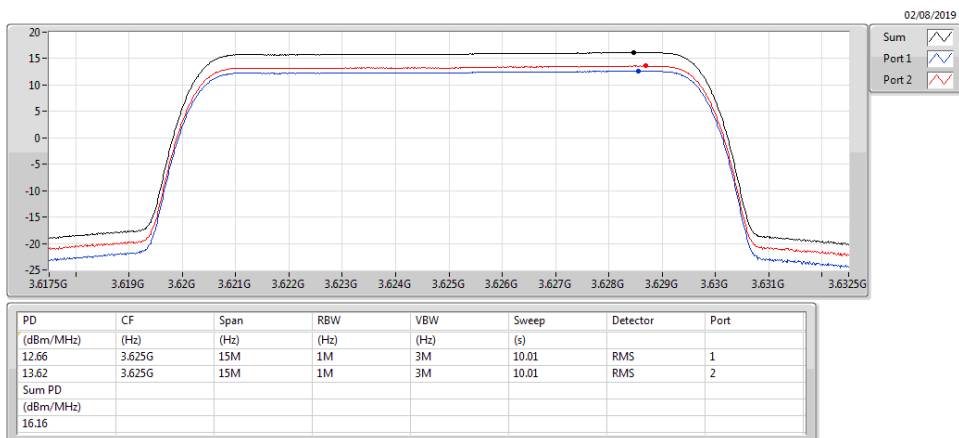
Band 48_10MHz_2TX 3555MHz_64QAM

PSD



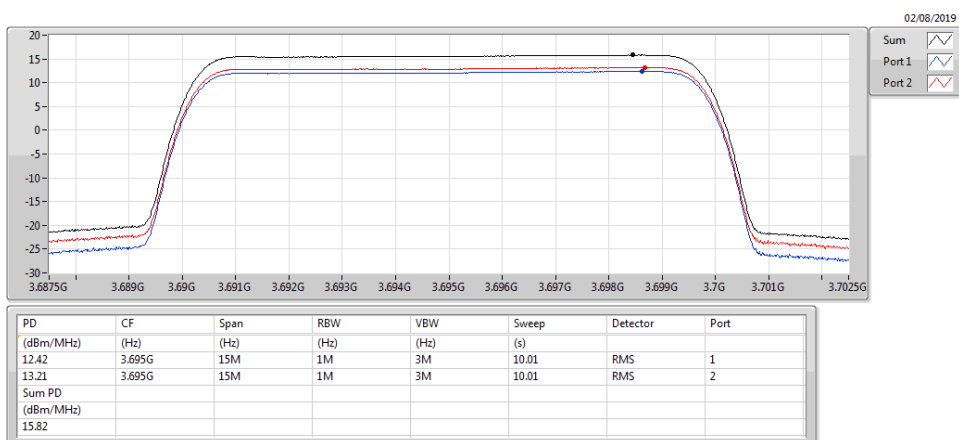
Band 48_10MHz_2TX 3625MHz_64QAM

PSD



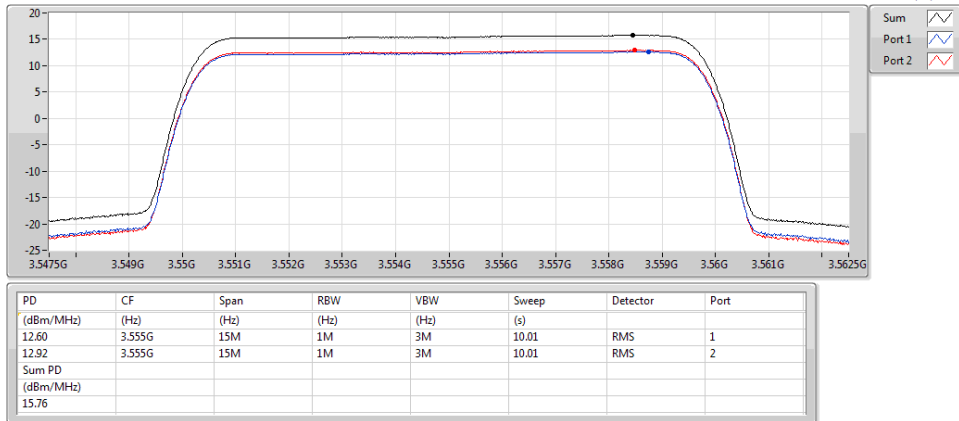
Band 48_10MHz_2TX 3695MHz_64QAM

PSD



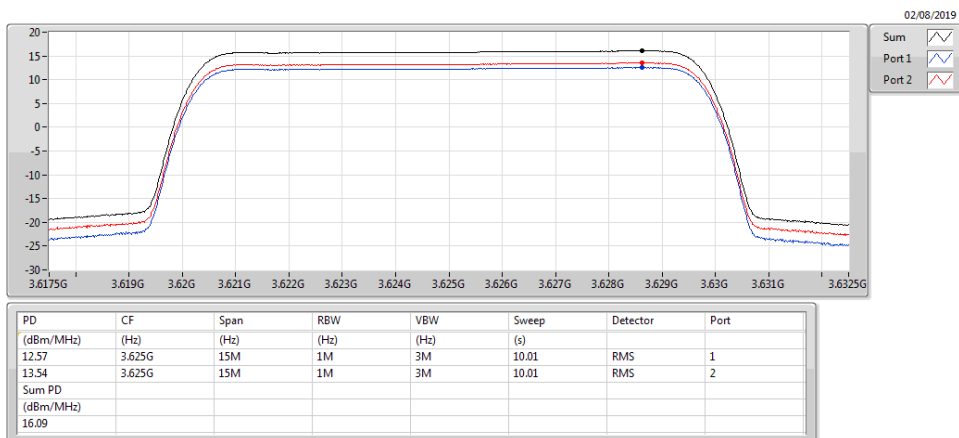
Band 48_10MHz_2TX 3555MHz_256QAM

PSD



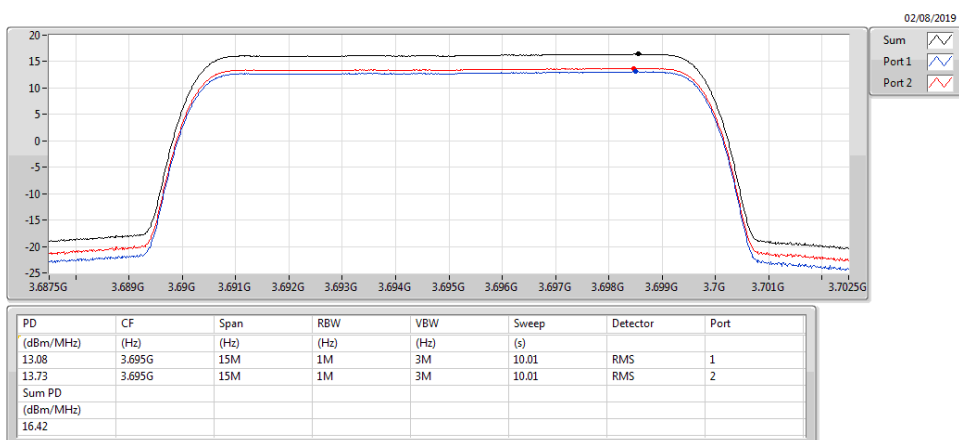
Band 48_10MHz_2TX 3625MHz_256QAM

PSD



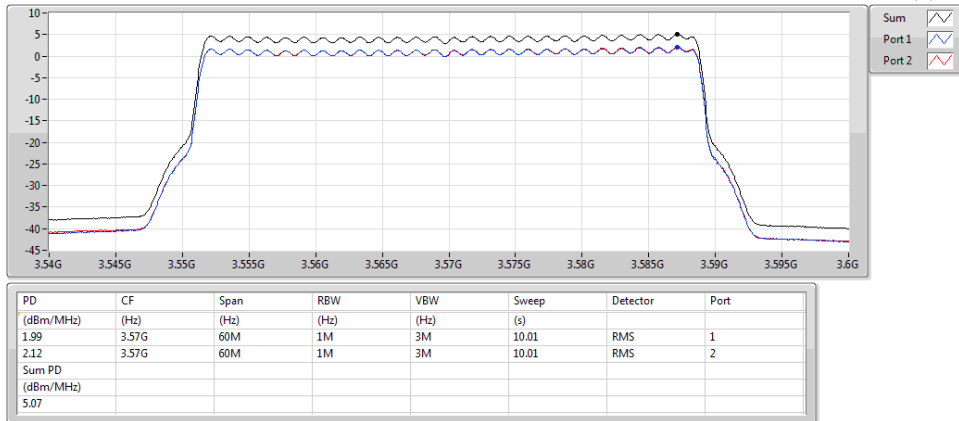
Band 48_10MHz_2TX 3695MHz_256QAM

PSD



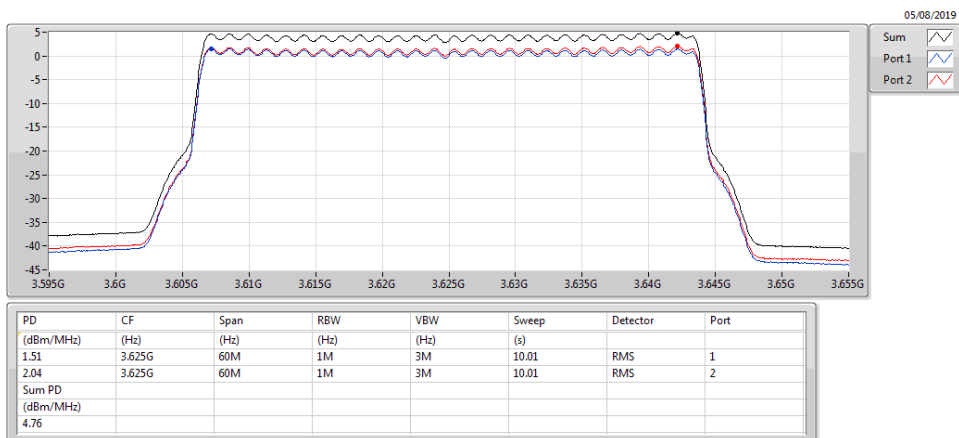
Band 48_40MHz_2TX 3570MHz_QPSK

PSD



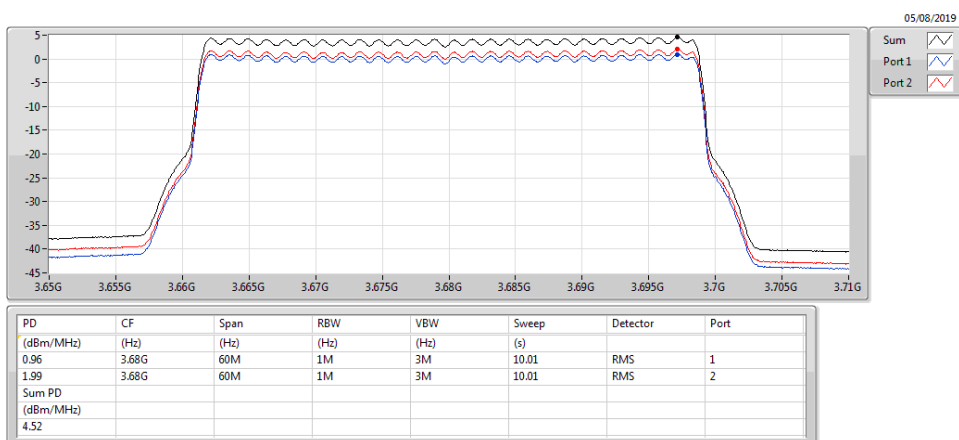
Band 48_40MHz_2TX 3625MHz_QPSK

PSD



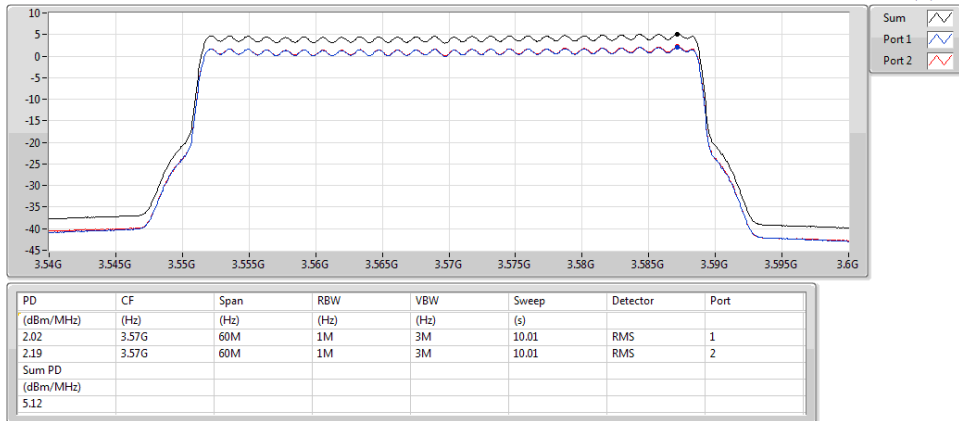
Band 48_40MHz_2TX 3680MHz_QPSK

PSD



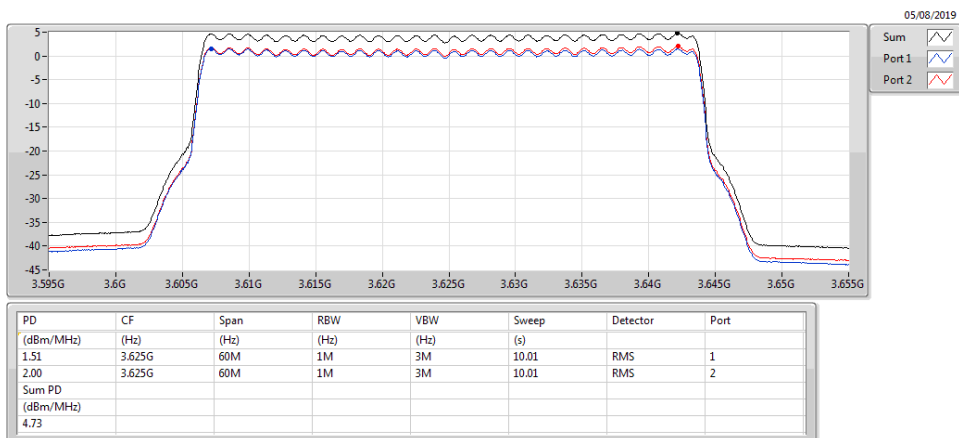
Band 48_40MHz_2TX 3570MHz_16QAM

PSD



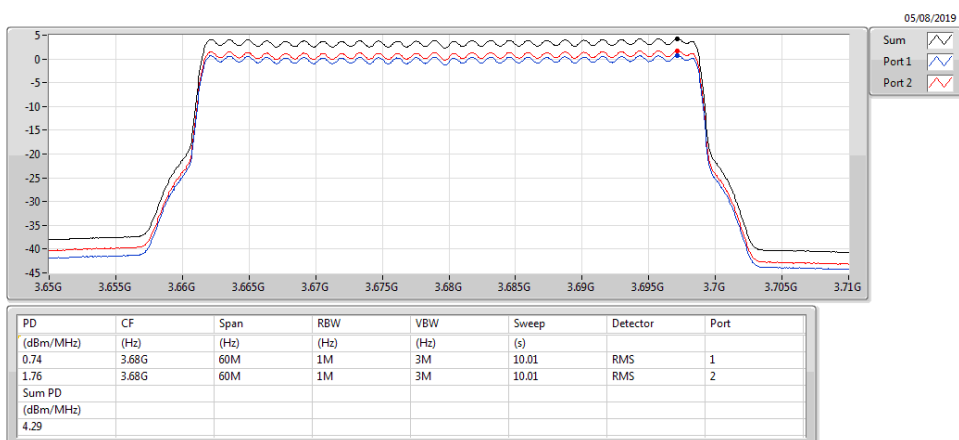
Band 48_40MHz_2TX 3625MHz_16QAM

PSD



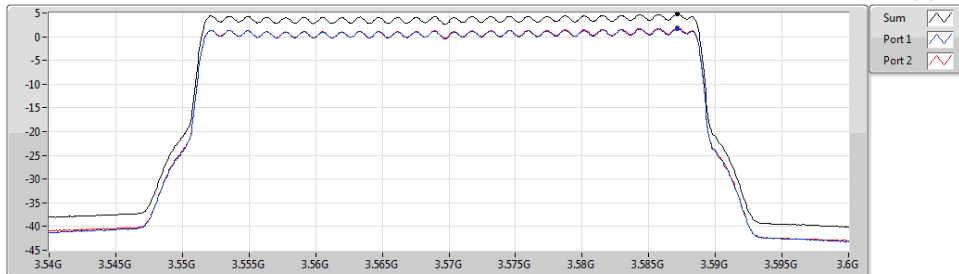
Band 48_40MHz_2TX 3680MHz_16QAM

PSD



Band 48_40MHz_2TX 3570MHz_64QAM

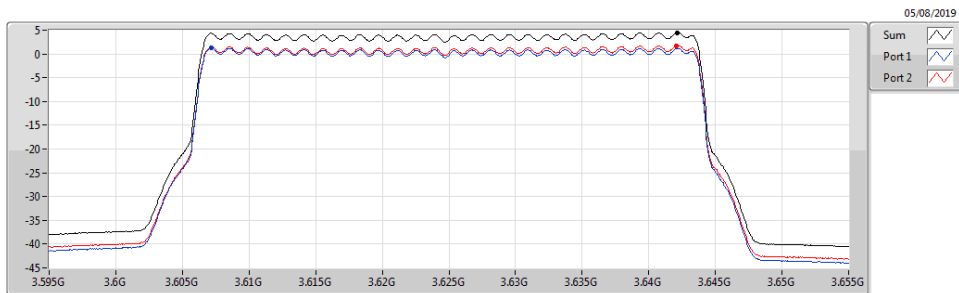
PSD



PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
1.69	3.57G	60M	1M	3M	10.01	RMS	1
1.87	3.57G	60M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
4.79							

Band 48_40MHz_2TX 3625MHz_64QAM

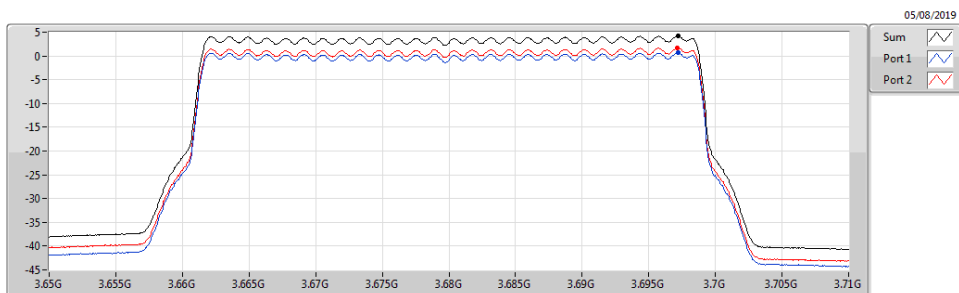
PSD



PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
1.23	3.625G	60M	1M	3M	10.01	RMS	1
1.76	3.625G	60M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
4.49							

Band 48_40MHz_2TX 3680MHz_64QAM

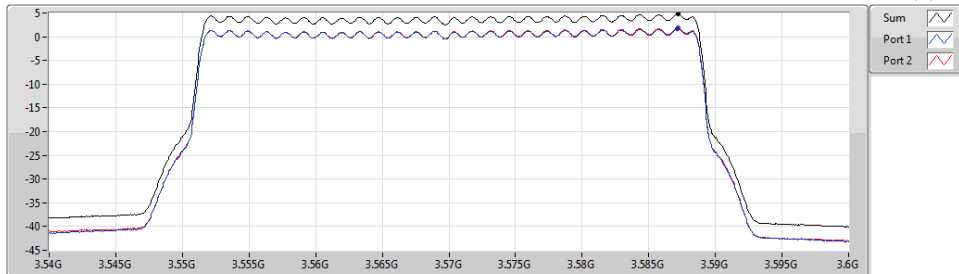
PSD



PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
0.66	3.68G	60M	1M	3M	10.01	RMS	1
1.68	3.68G	60M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
4.20							

Band 48_40MHz_2TX 3570MHz_256QAM

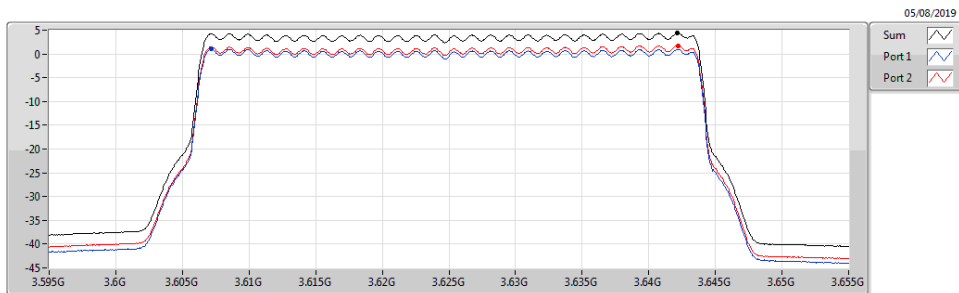
PSD



PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
1.62	3.57G	60M	1M	3M	10.01	RMS	1
1.80	3.57G	60M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
4.71							

Band 48_40MHz_2TX 3625MHz_256QAM

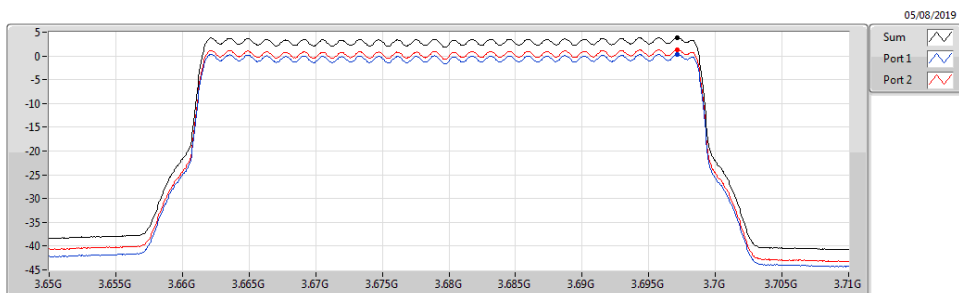
PSD



PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
1.03	3.625G	60M	1M	3M	10.01	RMS	1
1.75	3.625G	60M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
4.38							

Band 48_40MHz_2TX 3680MHz_256QAM

PSD



PD	CF	Span	RBW	VBW	Sweep	Detector	Port
(dBm/MHz)	(Hz)	(Hz)	(Hz)	(Hz)	(s)		
0.35	3.68G	60M	1M	3M	10.01	RMS	1
1.35	3.68G	60M	1M	3M	10.01	RMS	2
Sum PD							
(dBm/MHz)							
3.89							



Peak to Average Power Ratio (PAPR) Result

Appendix D.1

Summary

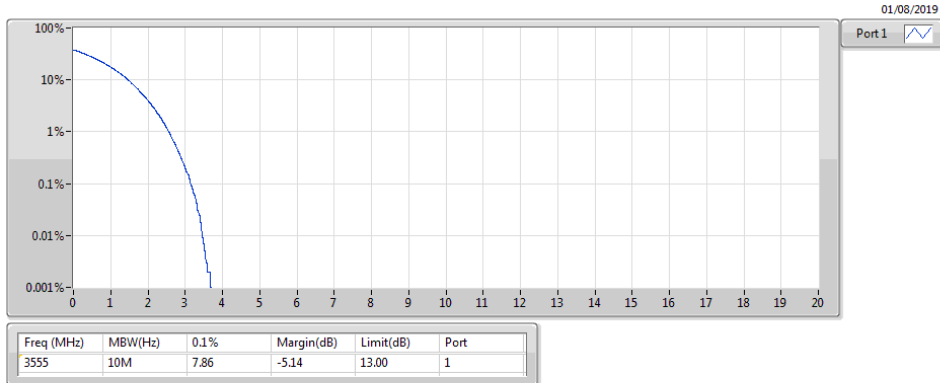
Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48	-	-	-	-	-
10MHz_QPSK_2TX	Pass	3625	13.00	8.12	1
10MHz_16QAM_2TX	Pass	3555	13.00	8.21	1
10MHz_64QAM_2TX	Pass	3555	13.00	8.42	1
10MHz_256QAM_2TX	Pass	3695	13.00	8.55	1
40MHz_QPSK_2TX	Pass	3570	13.00	9.34	1
40MHz_16QAM_2TX	Pass	3570	13.00	9.44	1
40MHz_64QAM_2TX	Pass	3570	13.00	9.01	1
40MHz_256QAM_2TX	Pass	3570	13.00	9.60	1

Result

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48_10MHz_QPSK_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	7.86	1
3625MHz	Pass	3625	13.00	8.12	1
3695MHz	Pass	3695	13.00	7.97	1
Band 48_10MHz_16QAM_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	8.21	1
3625MHz	Pass	3625	13.00	7.47	1
3695MHz	Pass	3695	13.00	7.53	1
Band 48_10MHz_64QAM_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	8.42	1
3625MHz	Pass	3625	13.00	7.42	1
3695MHz	Pass	3695	13.00	8.39	1
Band 48_10MHz_256QAM_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	8.48	1
3625MHz	Pass	3625	13.00	7.74	1
3695MHz	Pass	3695	13.00	8.55	1
Band 48_40MHz_QPSK_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.34	1
3625MHz	Pass	3625	13.00	9.33	1
3680MHz	Pass	3680	13.00	9.26	1
Band 48_40MHz_16QAM_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.44	1
3625MHz	Pass	3625	13.00	9.31	1
3680MHz	Pass	3680	13.00	9.28	1
Band 48_40MHz_64QAM_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.01	1
3625MHz	Pass	3625	13.00	8.59	1
3680MHz	Pass	3680	13.00	8.66	1
Band 48_40MHz_256QAM_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.60	1
3625MHz	Pass	3625	13.00	9.05	1
3680MHz	Pass	3680	13.00	9.00	1

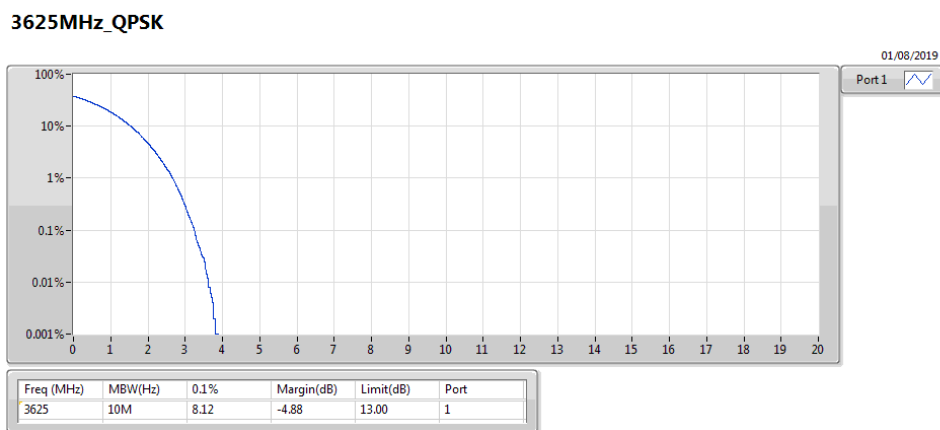
Band 48_10MHz_2TX 3555MHz_QPSK

PAR



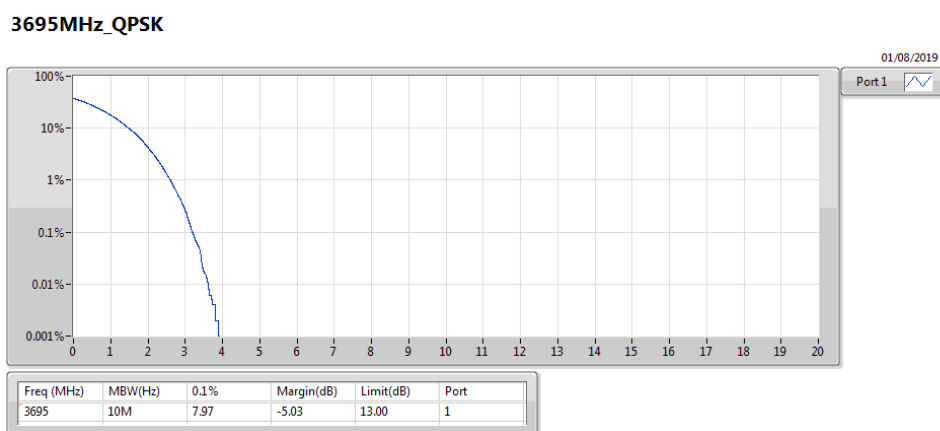
Band 48_10MHz_2TX 3625MHz_QPSK

PAR



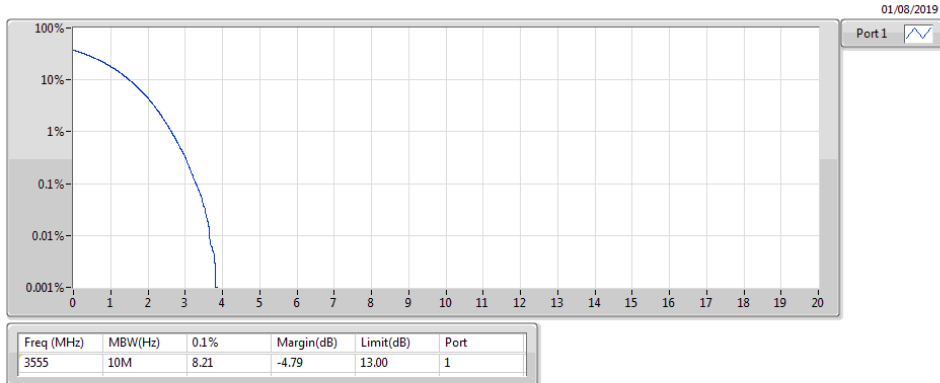
Band 48_10MHz_2TX 3695MHz_QPSK

PAR



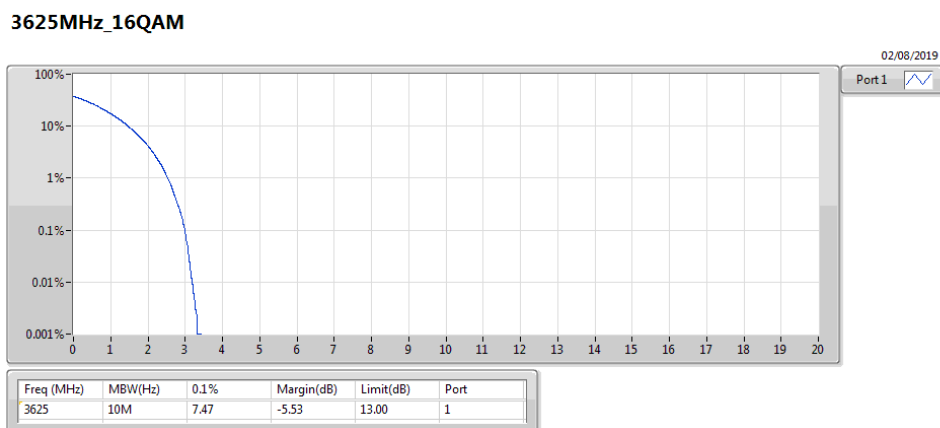
Band 48_10MHz_2TX
3555MHz_16QAM

PAR



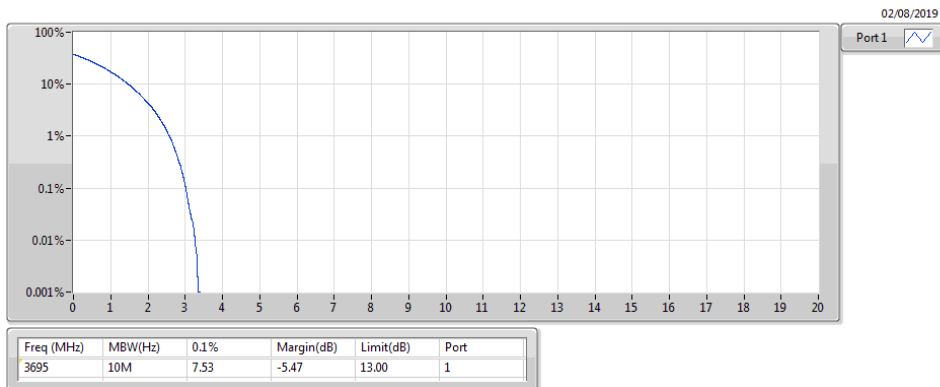
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3625MHz_16QAM

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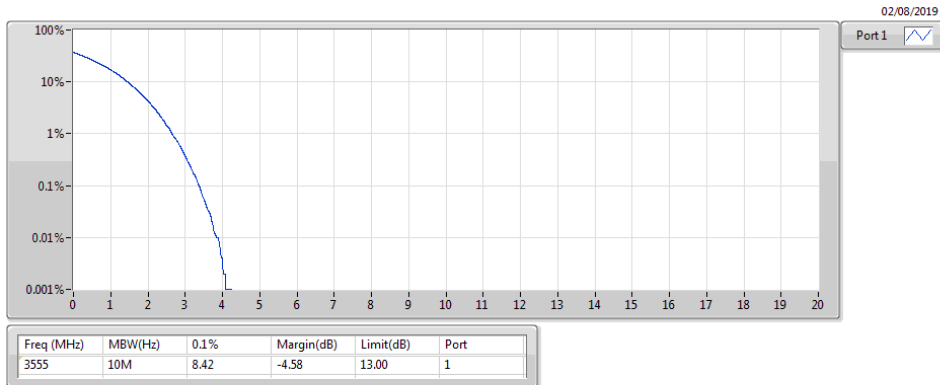
Band 48_10MHz_2TX
3695MHz_16QAM

PAR



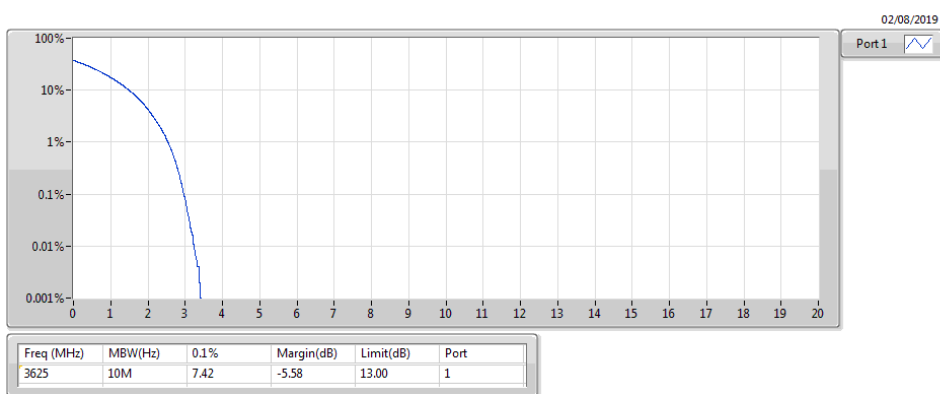
Band 48_10MHz_2TX
3555MHz_64QAM

PAR



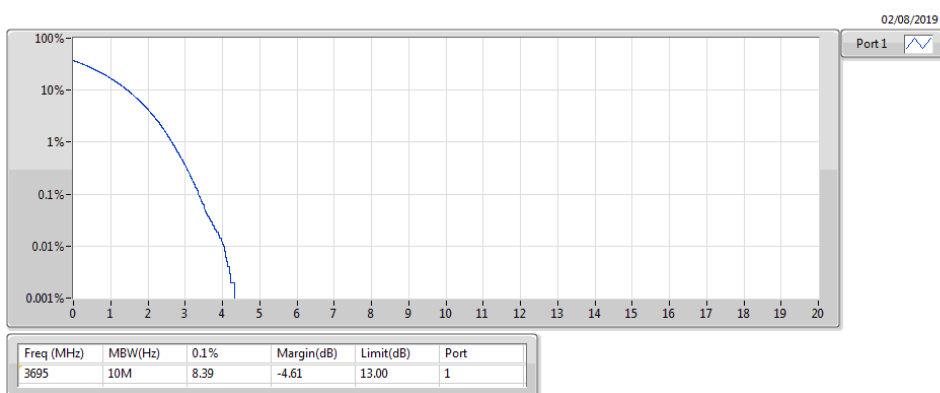
Band 48_10MHz_2TX
3625MHz_64QAM

PAR



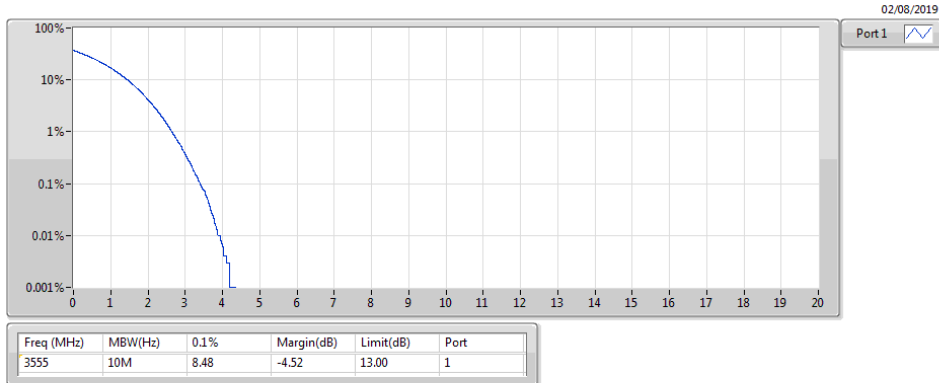
Band 48_10MHz_2TX
3695MHz_64QAM

PAR



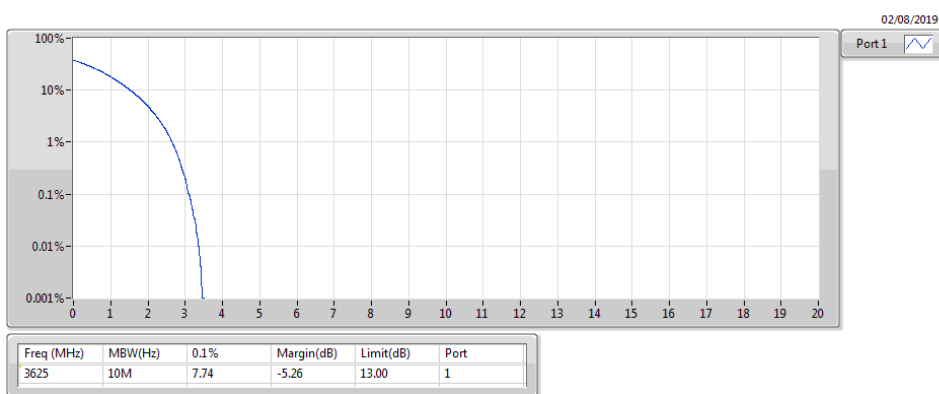
Band 48_10MHz_2TX 3555MHz_256QAM

PAR



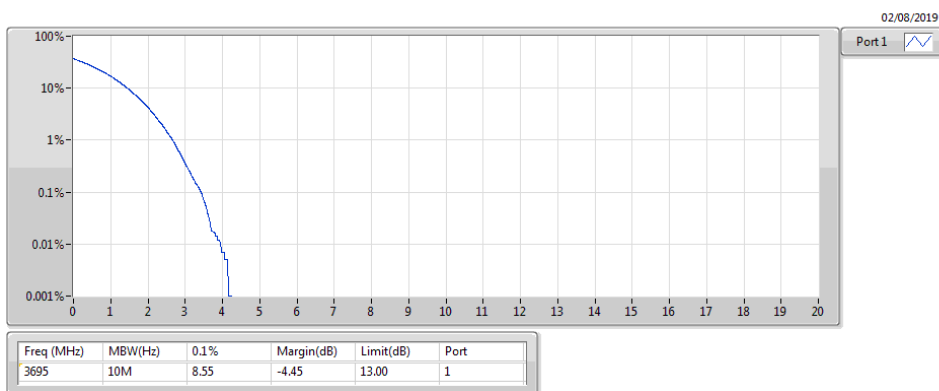
Band 48_10MHz_2TX 3625MHz_256QAM

PAR



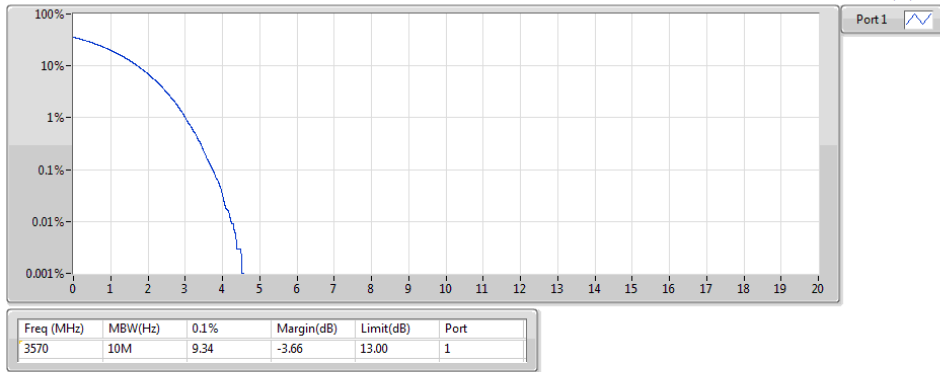
Band 48_10MHz_2TX 3695MHz_256QAM

PAR



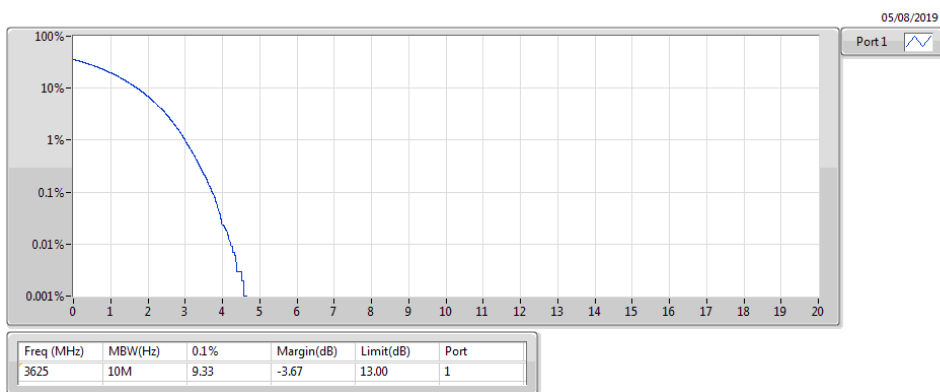
Band 48_40MHz_2TX
3570MHz_QPSK

PAR



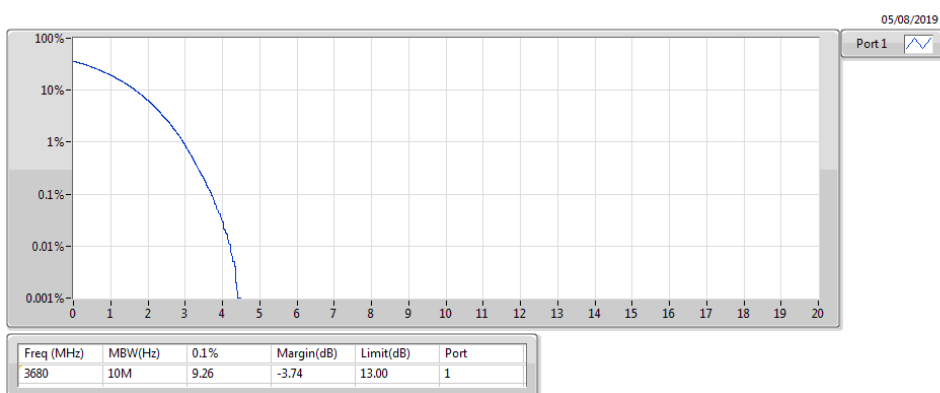
Band 48_40MHz_2TX
3625MHz_QPSK

PAR



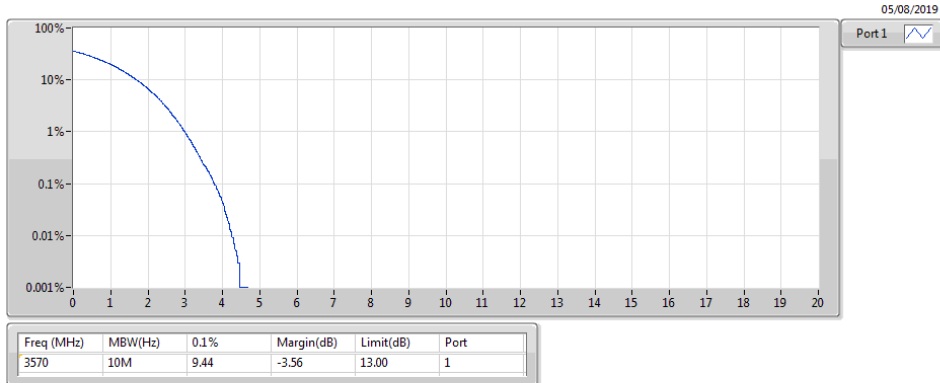
Band 48_40MHz_2TX
3680MHz_QPSK

PAR



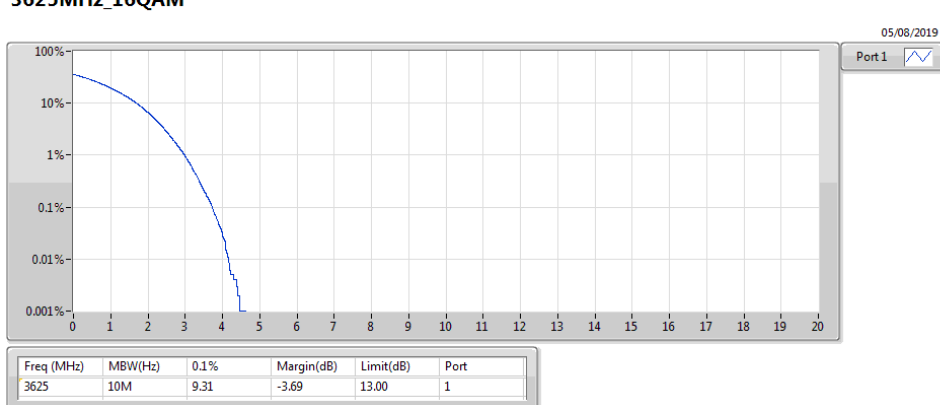
Band 48_40MHz_2TX
3570MHz_16QAM

PAR



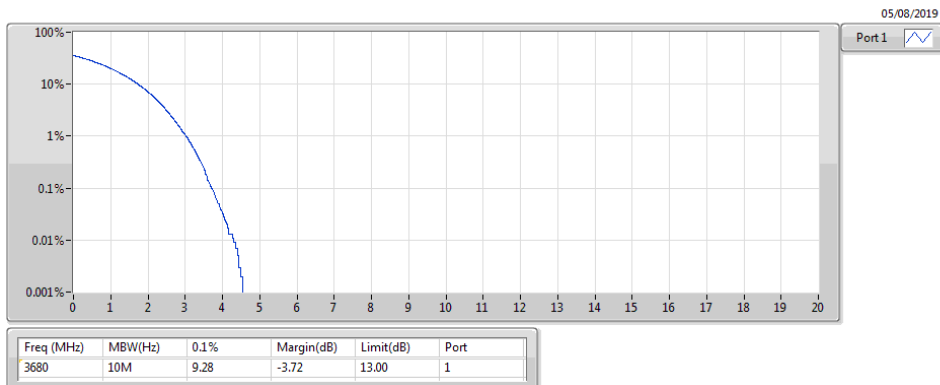
Band 48_40MHz_2TX
3625MHz_16QAM

PAR



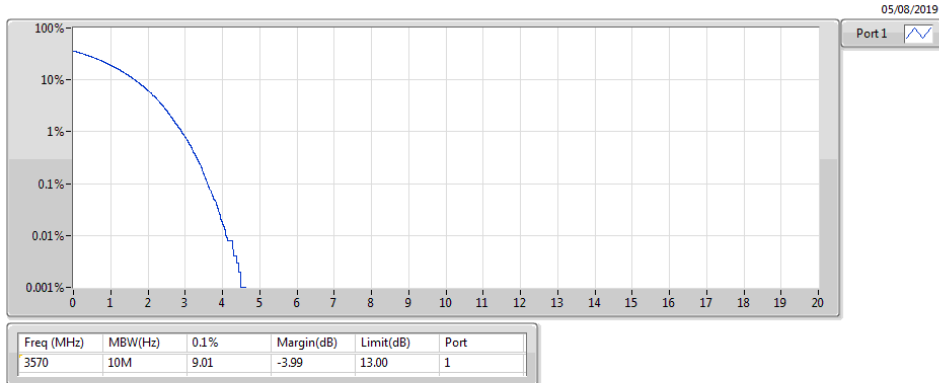
Band 48_40MHz_2TX
3680MHz_16QAM

PAR



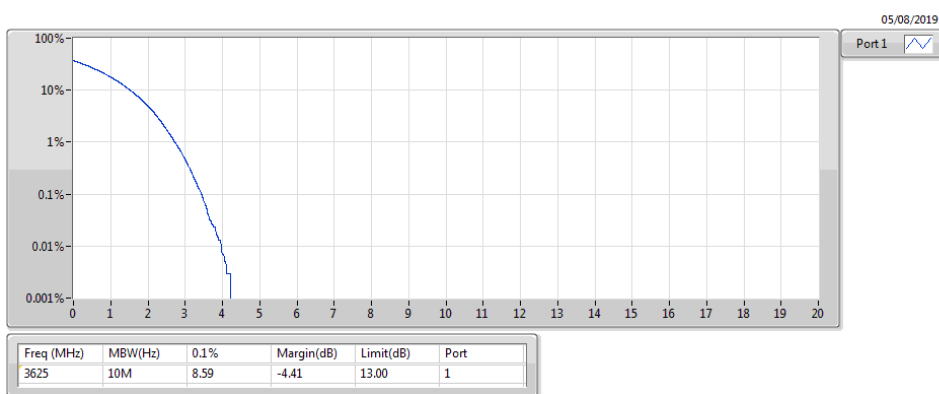
Band 48_40MHz_2TX
3570MHz_64QAM

PAR



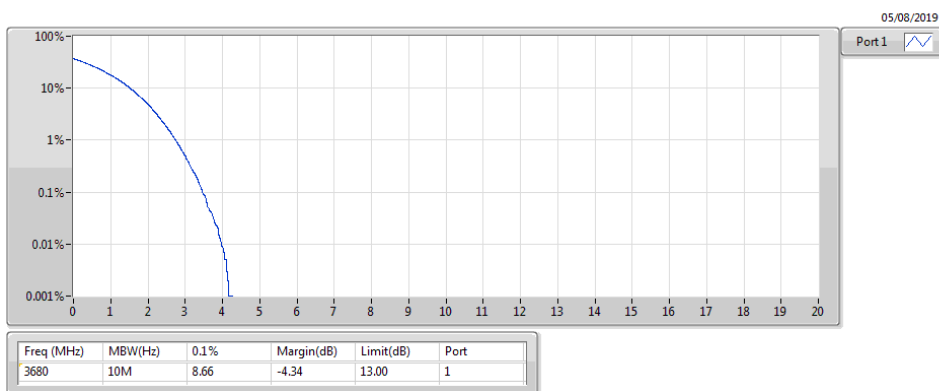
Band 48_40MHz_2TX
3625MHz_64QAM

PAR



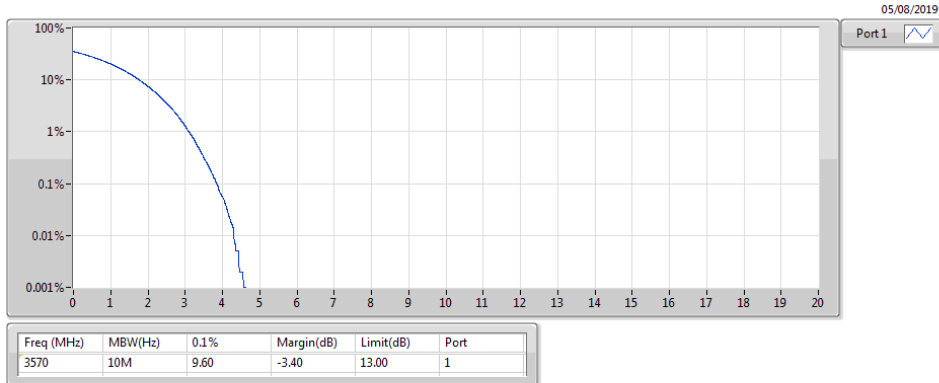
Band 48_40MHz_2TX
3680MHz_64QAM

PAR



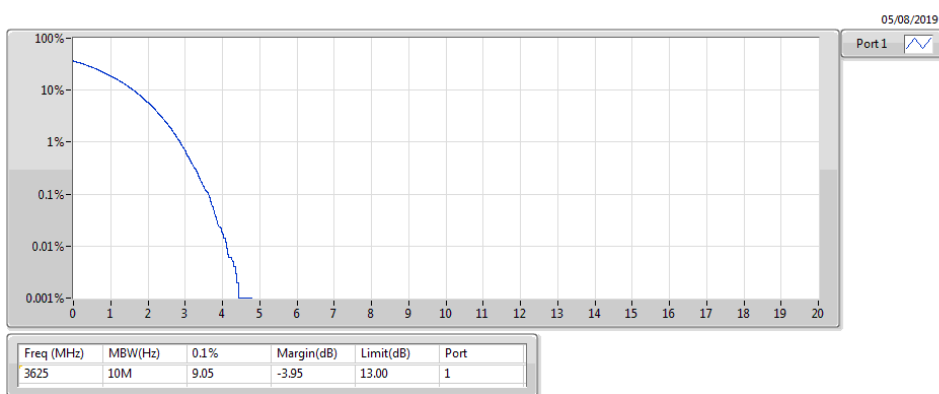
Band 48_40MHz_2TX
3570MHz_256QAM

PAR



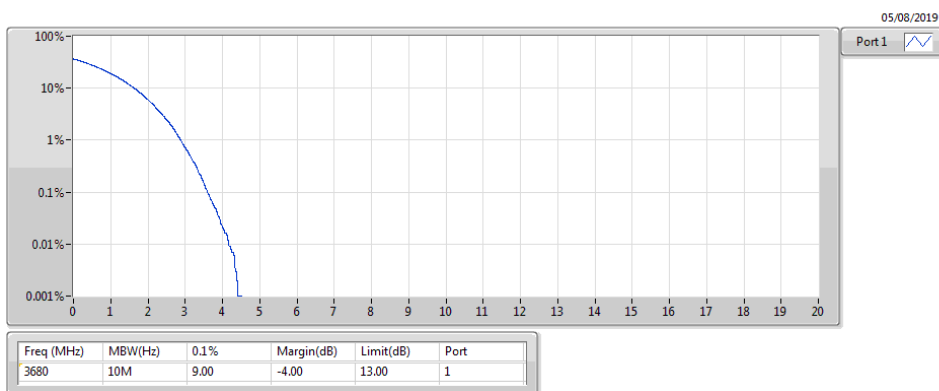
Band 48_40MHz_2TX
3625MHz_256QAM

PAR



Band 48_40MHz_2TX
3680MHz_256QAM

PAR





Peak to Average Power Ratio (PAPR) Result

Appendix D.2

Summary

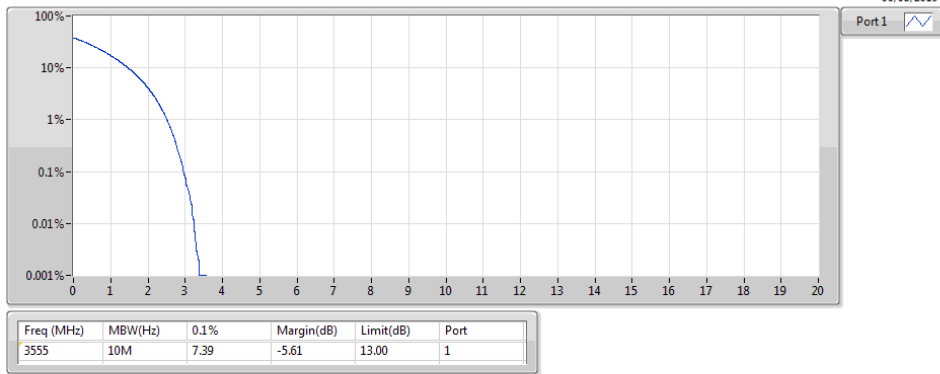
Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48	-	-	-	-	-
10MHz_QPSK_2TX	Pass	3695	13.00	7.63	2
10MHz_16QAM_2TX	Pass	3695	13.00	7.75	2
10MHz_64QAM_2TX	Pass	3555	13.00	7.78	2
10MHz_256QAM_2TX	Pass	3695	13.00	7.70	2
40MHz_QPSK_2TX	Pass	3680	13.00	9.56	2
40MHz_16QAM_2TX	Pass	3570	13.00	9.54	2
40MHz_64QAM_2TX	Pass	3570	13.00	9.28	2
40MHz_256QAM_2TX	Pass	3625	13.00	9.31	2

Result

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48_10MHz_QPSK_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	7.39	2
3625MHz	Pass	3625	13.00	7.23	2
3695MHz	Pass	3695	13.00	7.63	2
Band 48_10MHz_16QAM_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	7.58	2
3625MHz	Pass	3625	13.00	7.73	2
3695MHz	Pass	3695	13.00	7.75	2
Band 48_10MHz_64QAM_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	7.78	2
3625MHz	Pass	3625	13.00	7.42	2
3695MHz	Pass	3695	13.00	7.56	2
Band 48_10MHz_256QAM_2TX	-	-	-	-	-
3555MHz	Pass	3555	13.00	7.45	2
3625MHz	Pass	3625	13.00	7.67	2
3695MHz	Pass	3695	13.00	7.70	2
Band 48_40MHz_QPSK_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.45	2
3625MHz	Pass	3625	13.00	9.41	2
3680MHz	Pass	3680	13.00	9.56	2
Band 48_40MHz_16QAM_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.54	2
3625MHz	Pass	3625	13.00	9.21	2
3680MHz	Pass	3680	13.00	8.48	2
Band 48_40MHz_64QAM_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.28	2
3625MHz	Pass	3625	13.00	8.86	2
3680MHz	Pass	3680	13.00	8.90	2
Band 48_40MHz_256QAM_2TX	-	-	-	-	-
3570MHz	Pass	3570	13.00	9.30	2
3625MHz	Pass	3625	13.00	9.31	2
3680MHz	Pass	3680	13.00	8.87	2

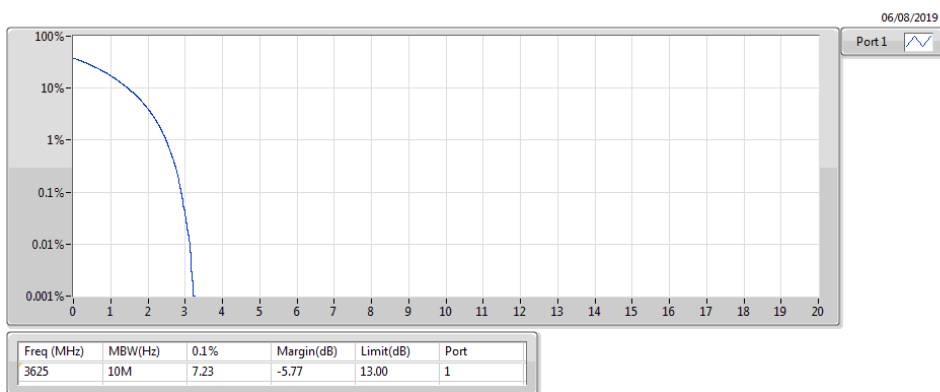
Band 48_10MHz_2TX
3555MHz_QPSK

PAR



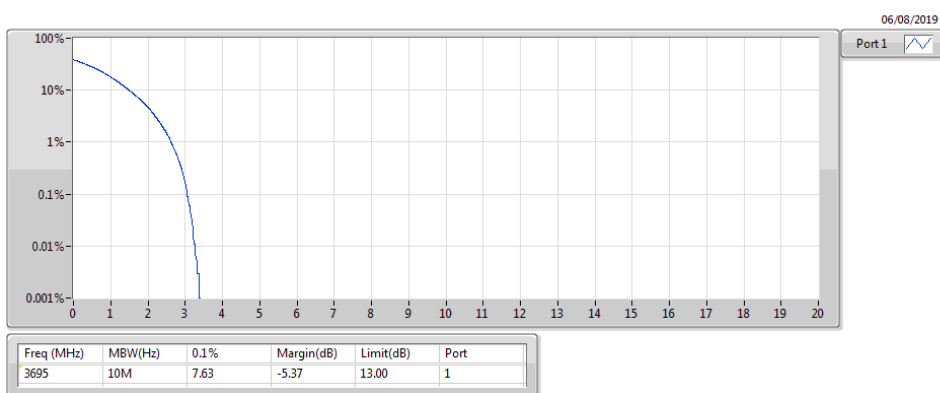
Band 48_10MHz_2TX
3625MHz_QPSK

PAR



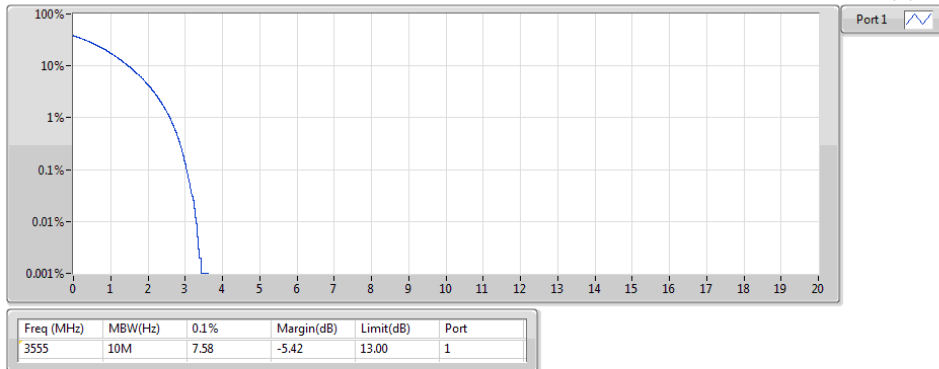
Band 48_10MHz_2TX
3695MHz_QPSK

PAR



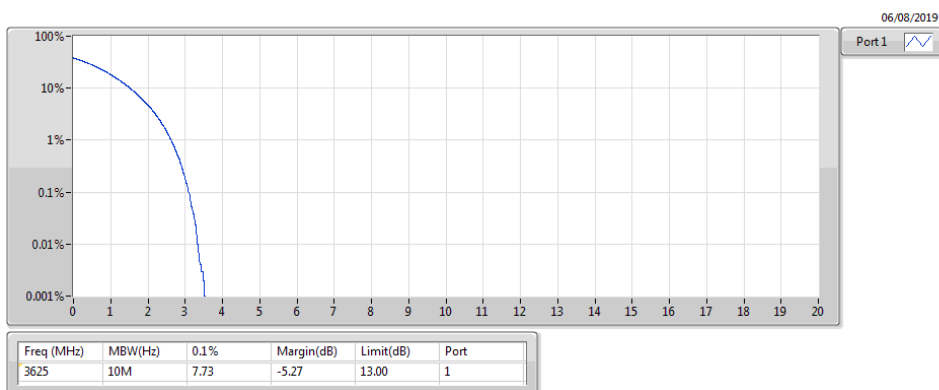
Band 48_10MHz_2TX
3555MHz_16QAM

PAR



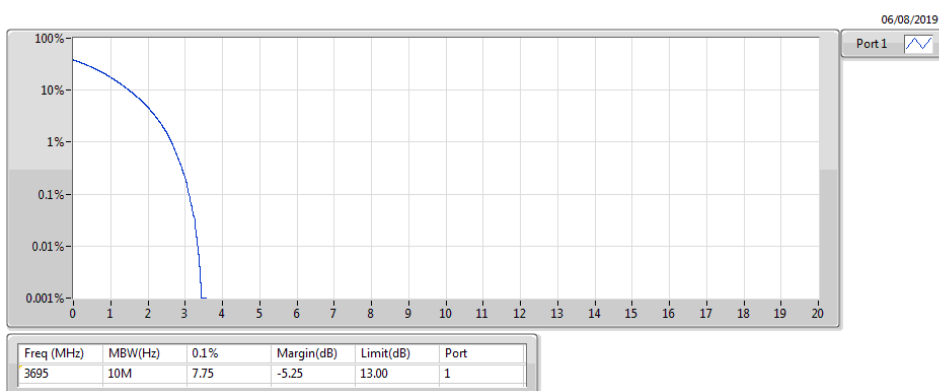
Band 48_10MHz_2TX
3625MHz_16QAM

PAR



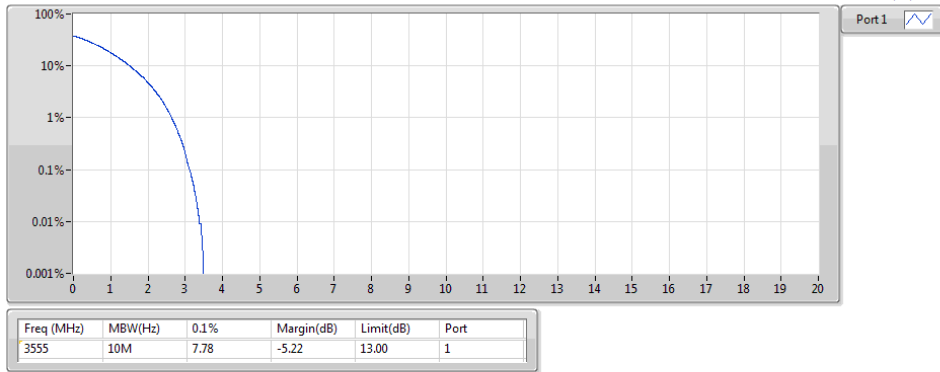
Band 48_10MHz_2TX
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PAR



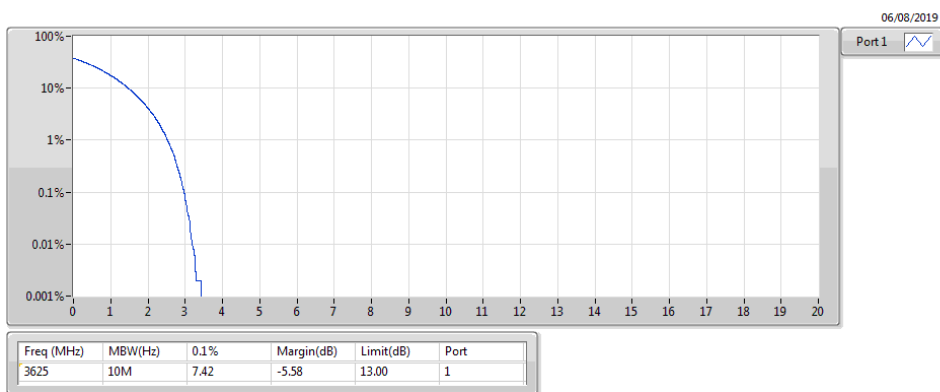
Band 48_10MHz_2TX
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PAR



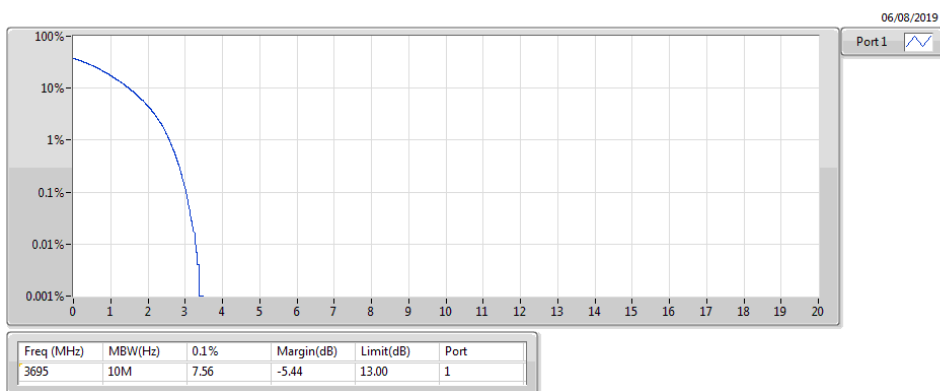
Band 48_10MHz_2TX
3625MHz_64QAM

PAR



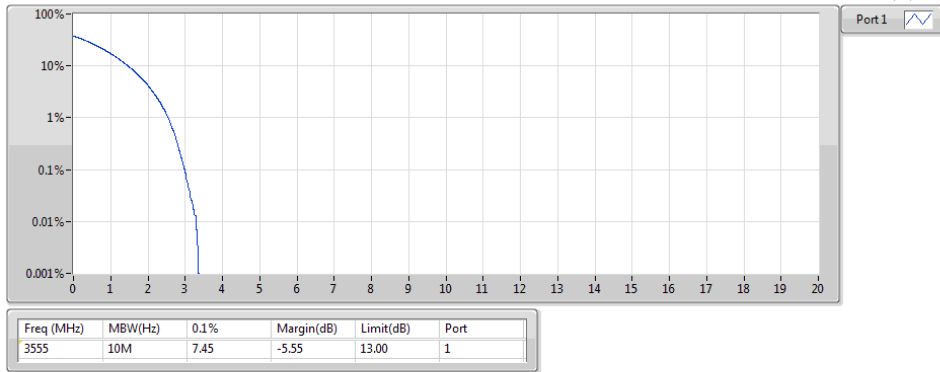
Band 48_10MHz_2TX
3695MHz_64QAM

PAR



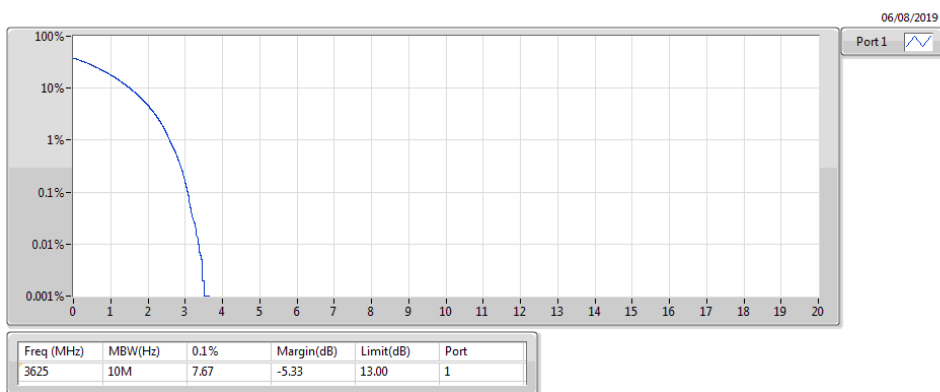
Band 48_10MHz_2TX 3555MHz_256QAM

PAR



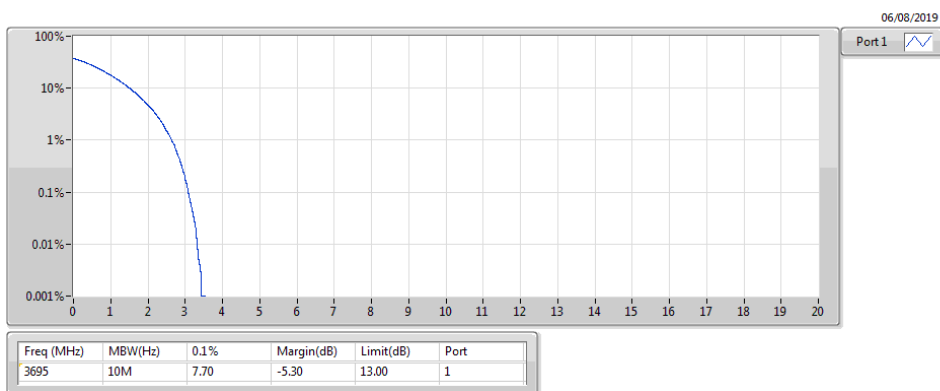
Band 48_10MHz_2TX 3625MHz_256QAM

PAR



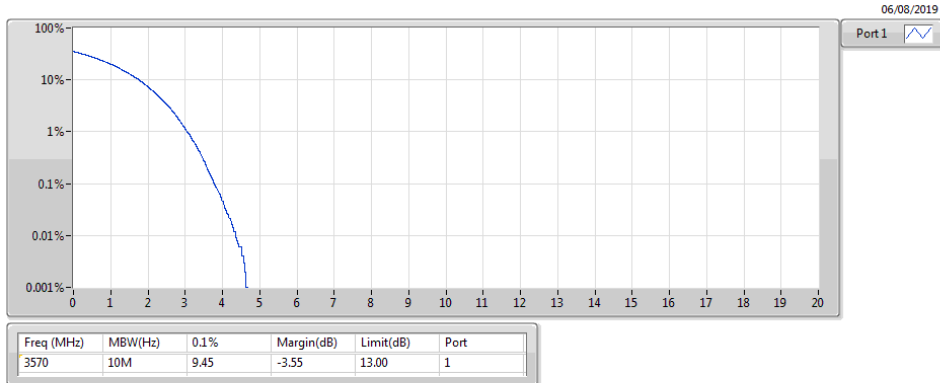
Band 48_10MHz_2TX 3695MHz_256QAM

PAR



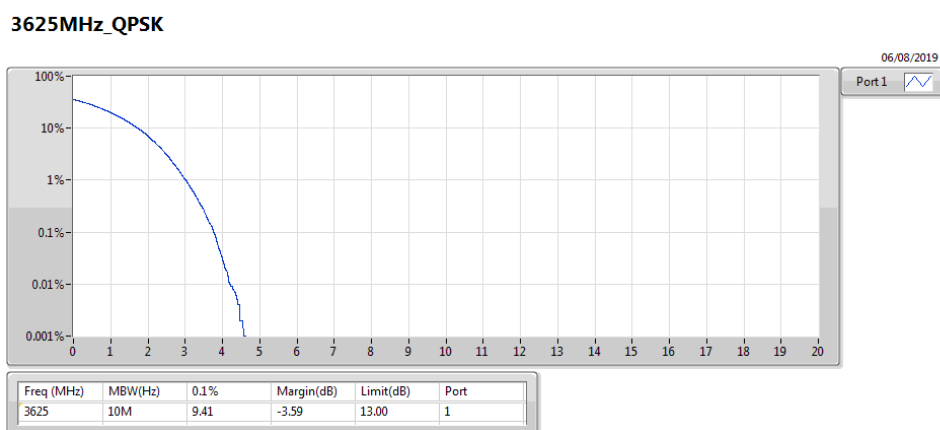
Band 48_40MHz_2TX
3570MHz_QPSK

PAR



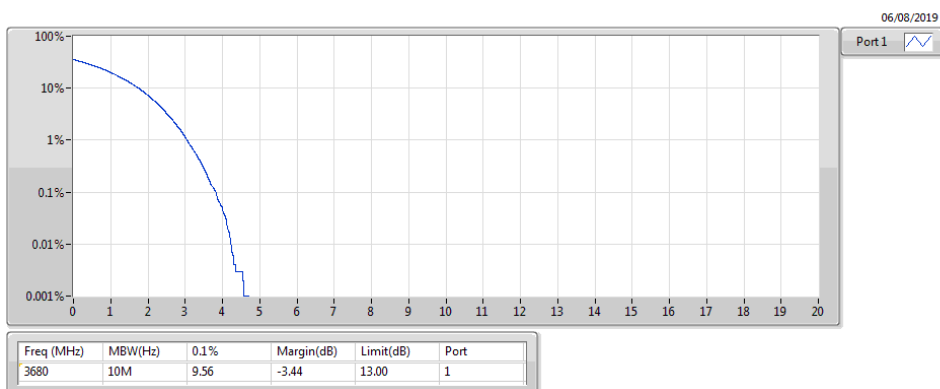
Band 48_40MHz_2TX
3625MHz_QPSK

PAR



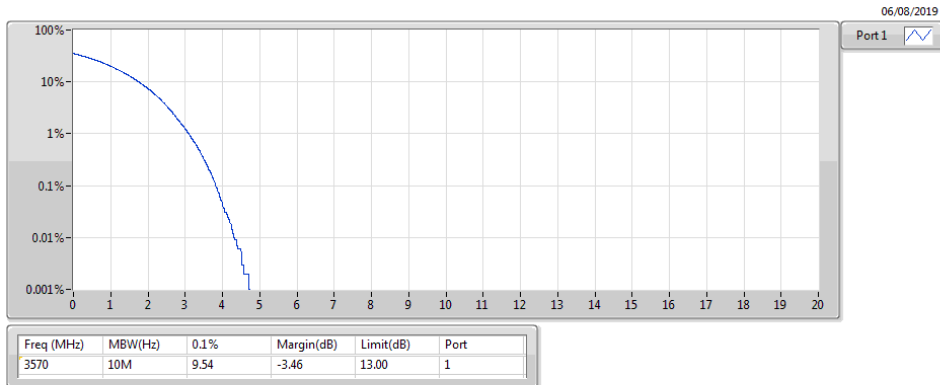
Band 48_40MHz_2TX
3680MHz_QPSK

PAR



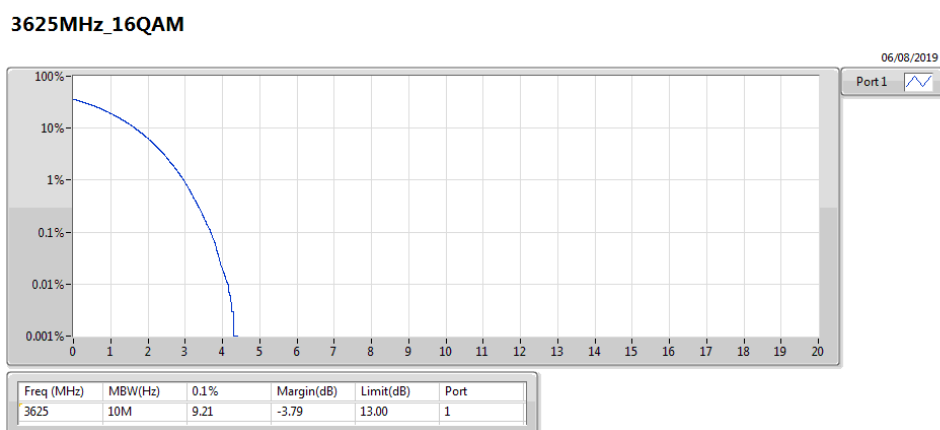
Band 48_40MHz_2TX
3570MHz_16QAM

PAR



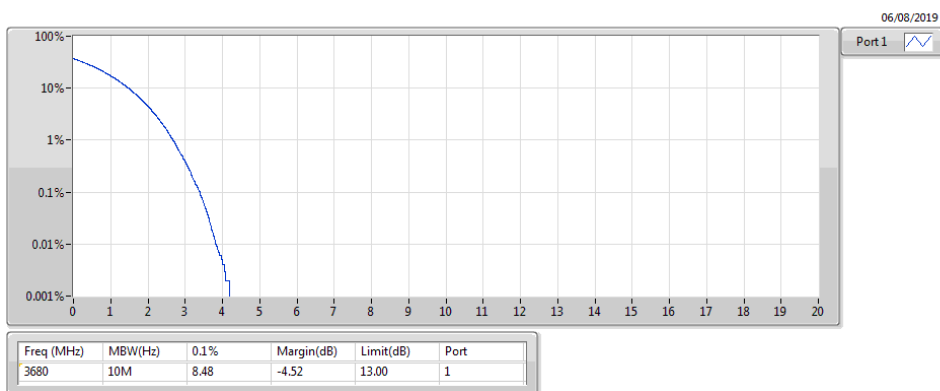
Band 48_40MHz_2TX
3625MHz_16QAM

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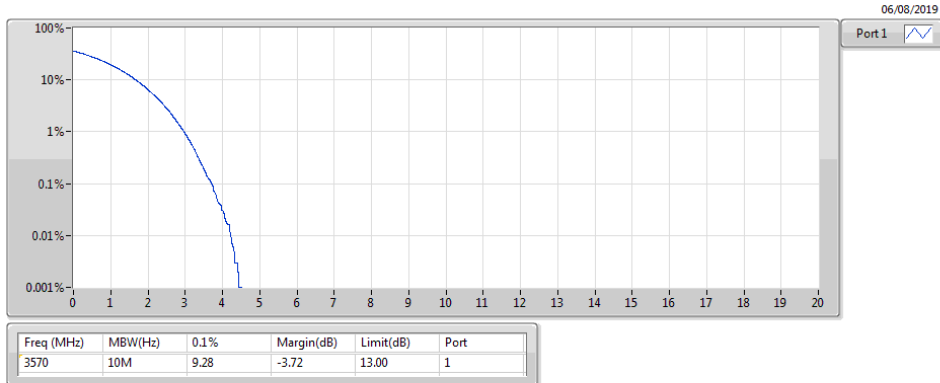
Band 48_40MHz_2TX
3680MHz_16QAM

PAR



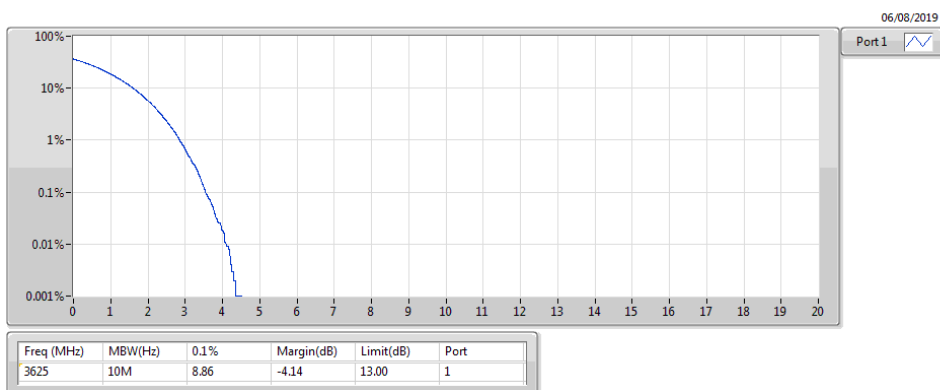
Band 48_40MHz_2TX
3570MHz_64QAM

PAR



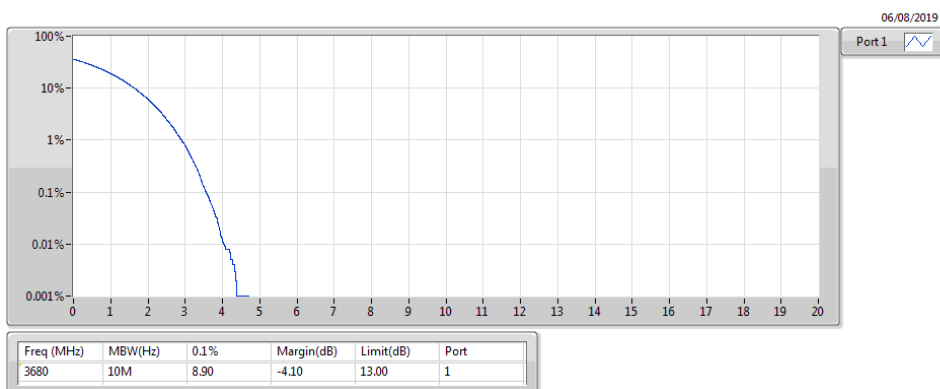
Band 48_40MHz_2TX
3625MHz_64QAM

PAR



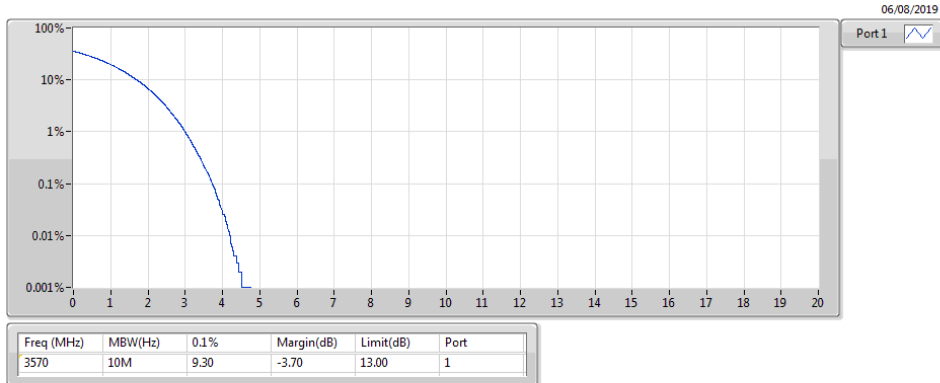
Band 48_40MHz_2TX
3680MHz_64QAM

PAR



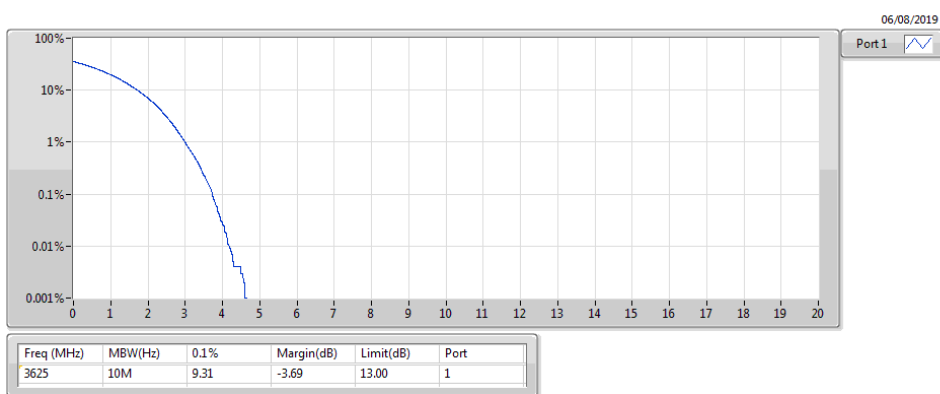
Band 48_40MHz_2TX
3570MHz_256QAM

PAR



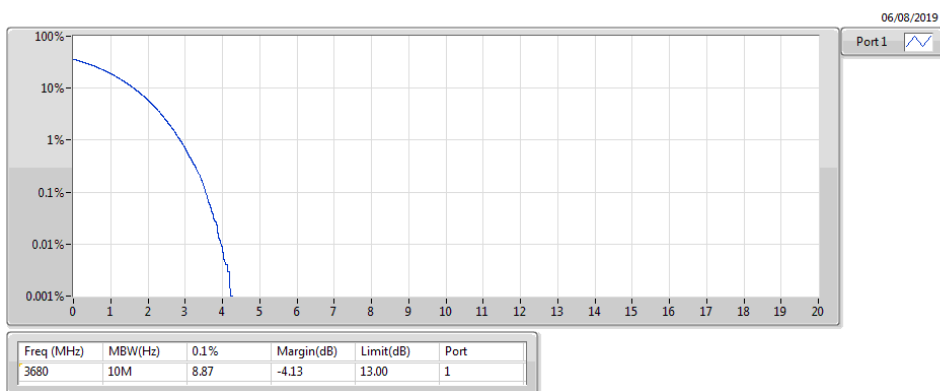
Band 48_40MHz_2TX
3625MHz_256QAM

PAR



Band 48_40MHz_2TX
3680MHz_256QAM

PAR



Summary

Mode	Max-NdB (Hz)	Max-OBW (Hz)	ITU-Code	Min-NdB (Hz)	Min-OBW (Hz)
Band 48	-	-	-	-	-
10MHz_QPSK_2TX	9.763M	9.189M	9M19G7D	9.688M	9.179M
10MHz_16QAM_2TX	9.75M	9.195M	9M20W7D	9.7M	9.186M
10MHz_64QAM_2TX	9.775M	9.207M	9M21W7D	9.7M	9.186M
10MHz_256QAM_2TX	9.75M	9.204M	9M20W7D	9.713M	9.185M
40MHz_QPSK_2TX	42.85M	37.029M	37M0G7D	42.45M	36.943M
40MHz_16QAM_2TX	42.8M	37.011M	37M0W7D	42.6M	36.979M
40MHz_64QAM_2TX	42.95M	37.008M	37M0W7D	42.55M	36.949M
40MHz_256QAM_2TX	42.95M	37.003M	37M0W7D	42.7M	36.969M

Max-N dB = Maximum 26dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 26dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

Mode	Result	Port 1-NdB (Hz)	Port 1-OBW (Hz)	Port 2-NdB (Hz)	Port 2-OBW (Hz)
Band 48_10MHz_QPSK_2TX	-	-	-	-	-
3555MHz	Pass	9.688M	9.184M	9.725M	9.181M
3625MHz	Pass	9.738M	9.186M	9.763M	9.189M
3695MHz	Pass	9.75M	9.179M	9.725M	9.179M
Band 48_10MHz_16QAM_2TX	-	-	-	-	-
3555MHz	Pass	9.7M	9.186M	9.75M	9.189M
3625MHz	Pass	9.7M	9.186M	9.725M	9.191M
3695MHz	Pass	9.725M	9.191M	9.75M	9.195M
Band 48_10MHz_64QAM_2TX	-	-	-	-	-
3555MHz	Pass	9.75M	9.207M	9.775M	9.195M
3625MHz	Pass	9.775M	9.188M	9.7M	9.186M
3695MHz	Pass	9.763M	9.193M	9.738M	9.19M
Band 48_10MHz_256QAM_2TX	-	-	-	-	-
3555MHz	Pass	9.75M	9.204M	9.713M	9.19M
3625MHz	Pass	9.75M	9.192M	9.738M	9.196M
3695MHz	Pass	9.738M	9.186M	9.738M	9.185M
Band 48_40MHz_QPSK_2TX	-	-	-	-	-
3570MHz	Pass	42.45M	37.029M	42.65M	36.979M
3625MHz	Pass	42.55M	37.021M	42.85M	36.943M
3680MHz	Pass	42.75M	36.972M	42.5M	37.015M
Band 48_40MHz_16QAM_2TX	-	-	-	-	-
3570MHz	Pass	42.6M	36.979M	42.8M	37.011M
3625MHz	Pass	42.7M	36.995M	42.75M	36.988M
3680MHz	Pass	42.75M	36.983M	42.7M	37.01M
Band 48_40MHz_64QAM_2TX	-	-	-	-	-
3570MHz	Pass	42.85M	36.955M	42.9M	37.008M
3625MHz	Pass	42.8M	36.994M	42.95M	36.955M
3680MHz	Pass	42.65M	36.994M	42.55M	36.949M
Band 48_40MHz_256QAM_2TX	-	-	-	-	-
3570MHz	Pass	42.8M	37.003M	42.95M	36.969M
3625MHz	Pass	42.75M	36.977M	42.75M	36.979M
3680MHz	Pass	42.7M	36.995M	42.75M	36.998M

Port X-N dB = Port X 26dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

Band 48_10MHz_2TX
EBW
3555MHz_QPSK

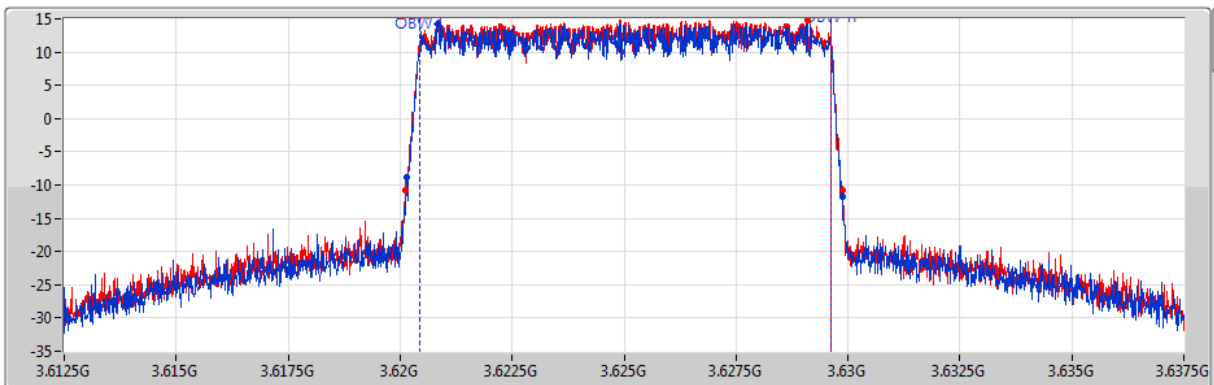
01/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.688M	3.550163G	3.55985G	9.184M	3.550424G	3.559608G	1	3.555G	25M	100k	300k
9.725M	3.550138G	3.559863G	9.181M	3.550431G	3.559613G	2	3.555G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3625MHz_QPSK

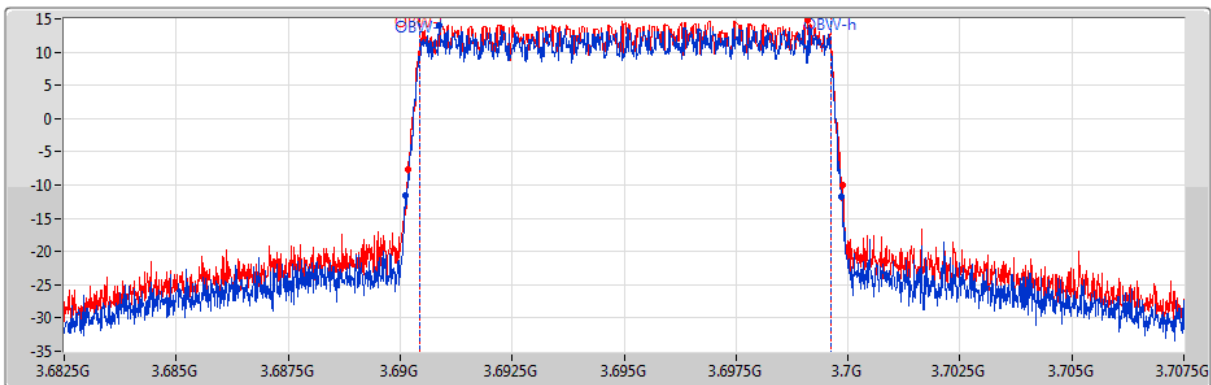
01/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.738M	3.620138G	3.629875G	9.186M	3.62043G	3.629616G	1	3.625G	25M	100k	300k
9.763M	3.620113G	3.629875G	9.189M	3.620427G	3.629616G	2	3.625G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3695MHz_QPSK

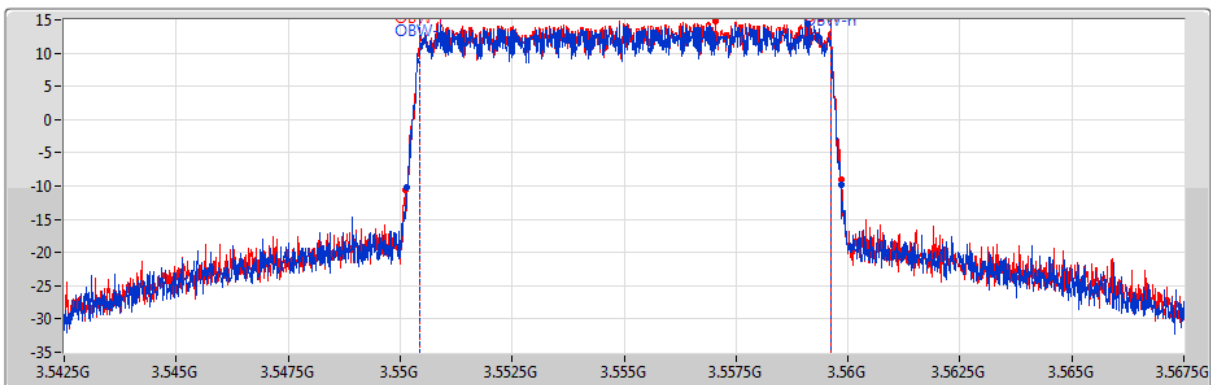
01/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.75M	3.690113G	3.699863G	9.179M	3.690432G	3.699611G	1	3.695G	25M	100k	300k
9.725M	3.690163G	3.699888G	9.179M	3.690432G	3.69961G	2	3.695G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3555MHz_16QAM

01/08/2019


Port 1
Port 2

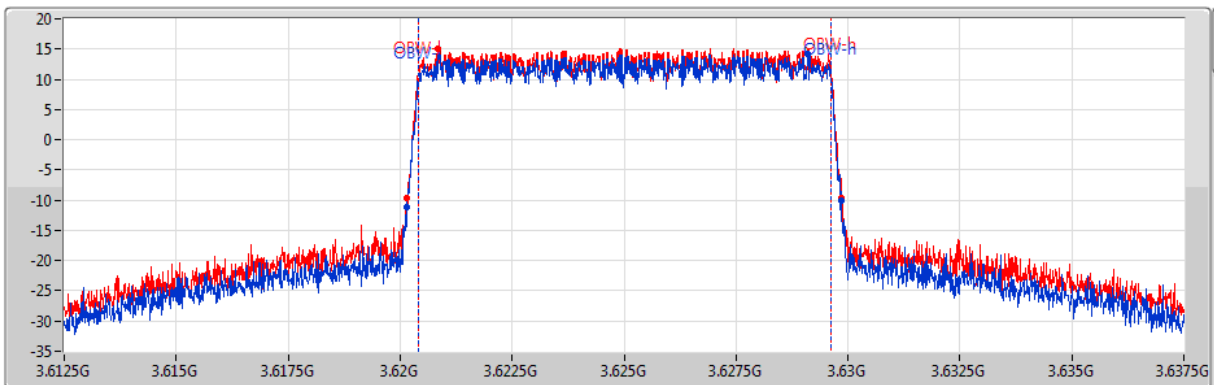
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9.7M	3.55015G	3.55985G	9.186M	3.550428G	3.559614G	1	3.555G	25M	100k	300k
9.75M	3.550113G	3.559863G	9.189M	3.550426G	3.559615G	2	3.555G	25M	100k	300k

Band 48_10MHz_2TX

EBW

3625MHz_16QAM

01/08/2019



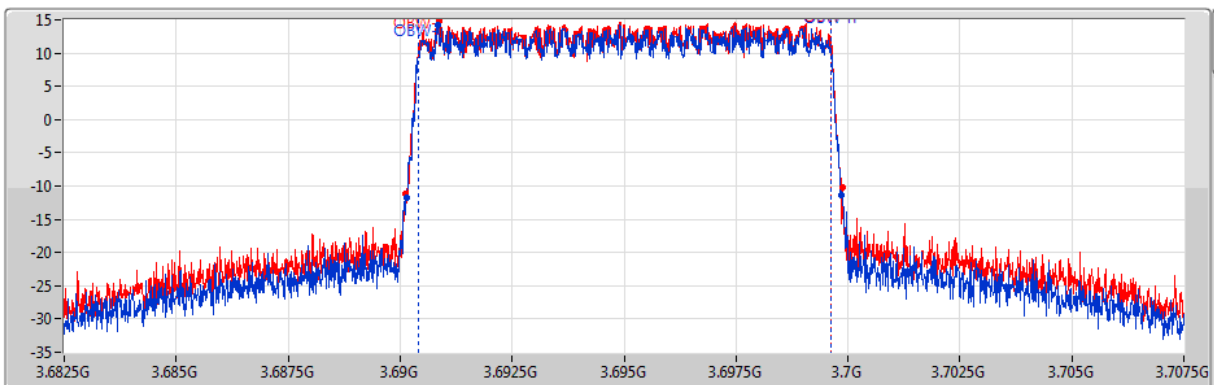
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9.7M	3.62015G	3.62985G	9.186M	3.620422G	3.629608G	1	3.625G	25M	100k	300k
9.725M	3.620138G	3.629863G	9.191M	3.620418G	3.629608G	2	3.625G	25M	100k	300k

Band 48_10MHz_2TX

EBW

3695MHz_16QAM

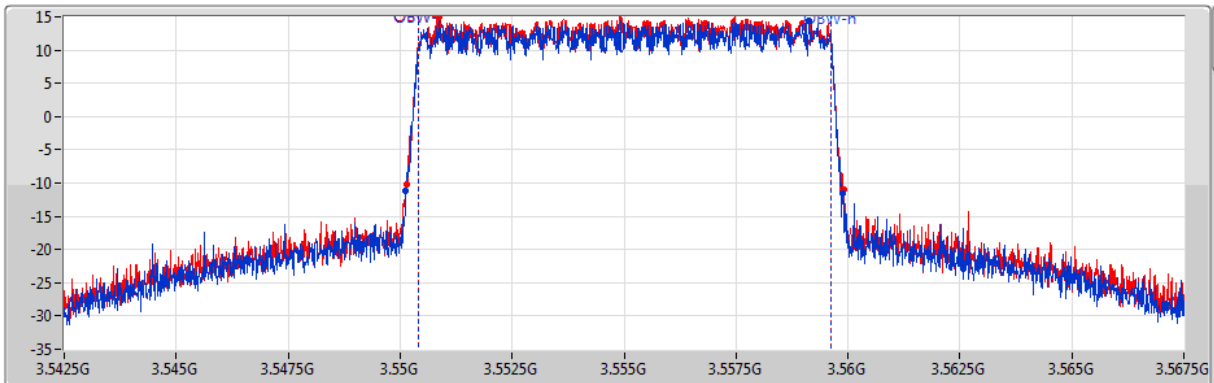
02/08/2019



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.725M	3.690138G	3.699863G	9.191M	3.690421G	3.699613G	1	3.695G	25M	100k	300k
9.75M	3.690125G	3.699875G	9.195M	3.690422G	3.699617G	2	3.695G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3555MHz_64QAM

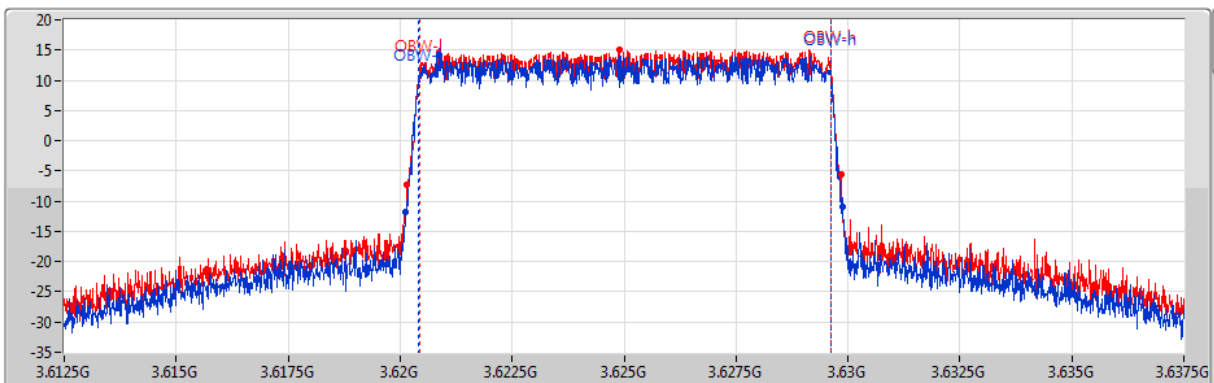
02/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.75M	3.550125G	3.559875G	9.207M	3.550414G	3.559621G	1	3.555G	25M	100k	300k
9.775M	3.550138G	3.559913G	9.195M	3.550417G	3.559612G	2	3.555G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3625MHz_64QAM

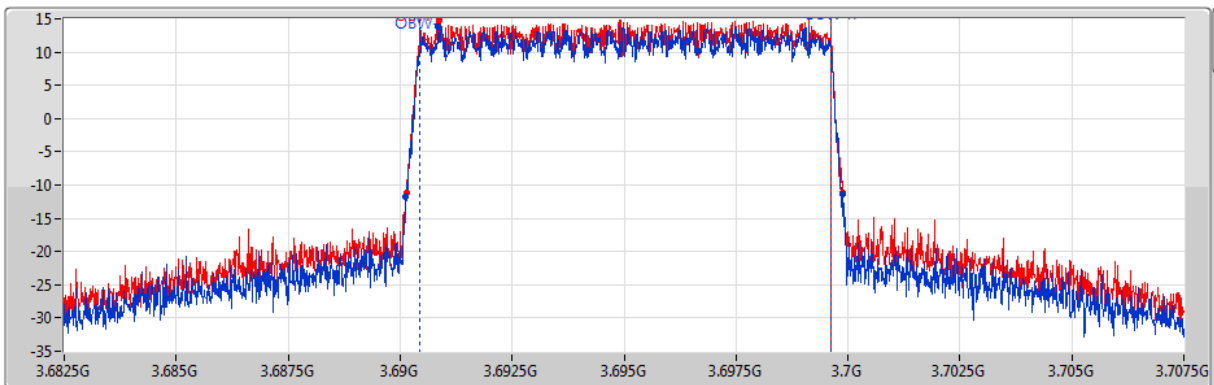
02/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.775M	3.620113G	3.629888G	9.188M	3.620423G	3.629611G	1	3.625G	25M	100k	300k
9.7M	3.62015G	3.62985G	9.186M	3.620427G	3.629613G	2	3.625G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3695MHz_64QAM

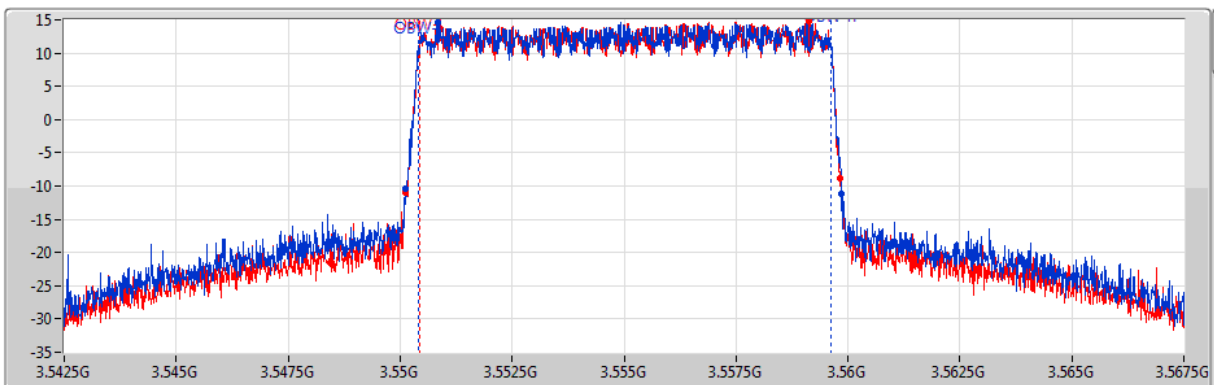
02/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.763M	3.690125G	3.699888G	9.193M	3.690424G	3.699617G	1	3.695G	25M	100k	300k
9.738M	3.690138G	3.699875G	9.19M	3.690424G	3.699615G	2	3.695G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3555MHz_256QAM

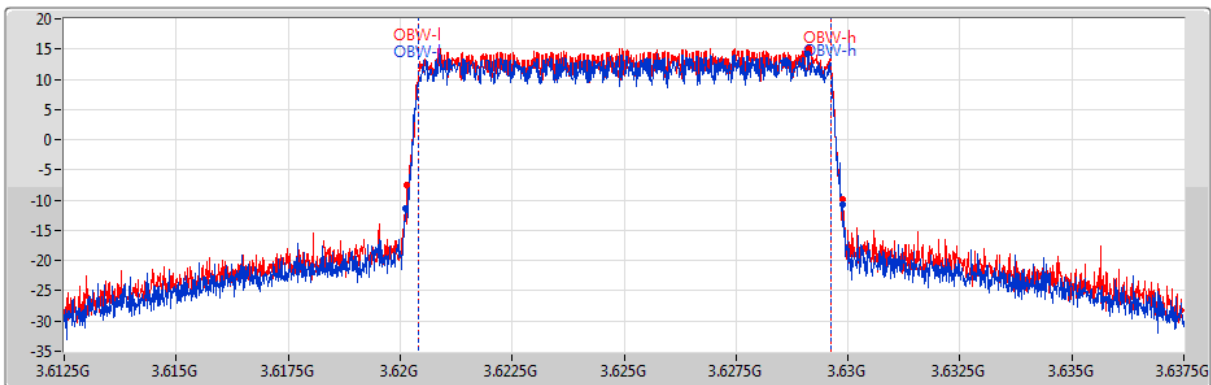
02/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.75M	3.550113G	3.559863G	9.204M	3.550417G	3.559621G	1	3.555G	25M	100k	300k
9.713M	3.550125G	3.559838G	9.19M	3.550427G	3.559616G	2	3.555G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3625MHz_256QAM

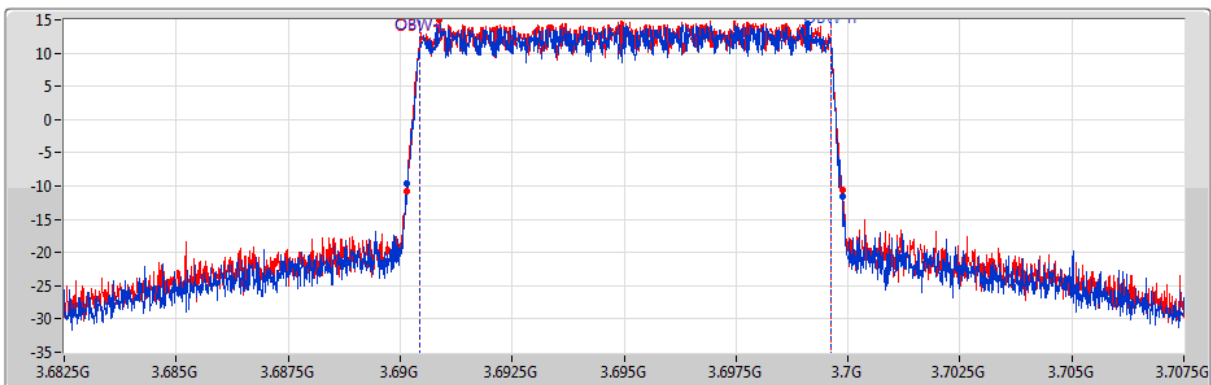
02/08/2019



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.75M	3.620125G	3.629875G	9.192M	3.620422G	3.629614G	1	3.625G	25M	100k	300k
9.738M	3.62015G	3.629888G	9.196M	3.620421G	3.629617G	2	3.625G	25M	100k	300k

Band 48_10MHz_2TX
EBW
3695MHz_256QAM

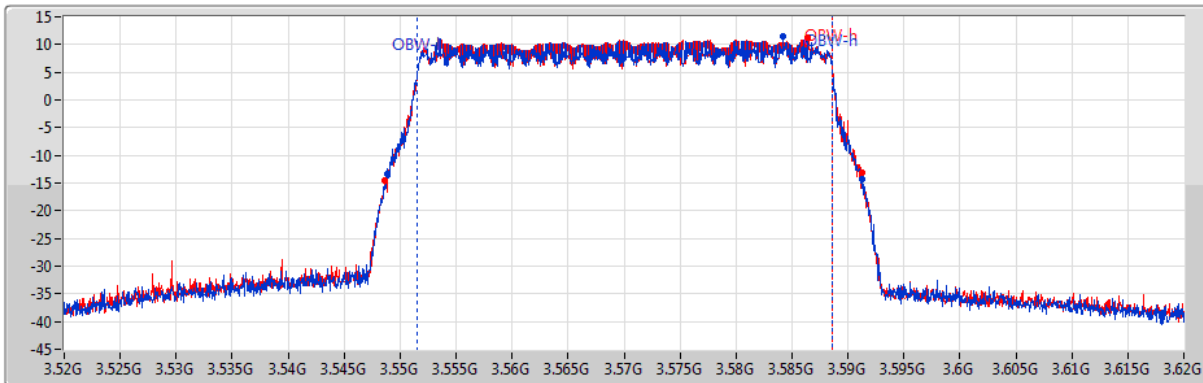
02/08/2019



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.738M	3.690138G	3.699875G	9.186M	3.69043G	3.699616G	1	3.695G	25M	100k	300k
9.738M	3.690138G	3.699875G	9.185M	3.690427G	3.699612G	2	3.695G	25M	100k	300k

Band 48_40MHz_2TX
EBW
3570MHz_QPSK

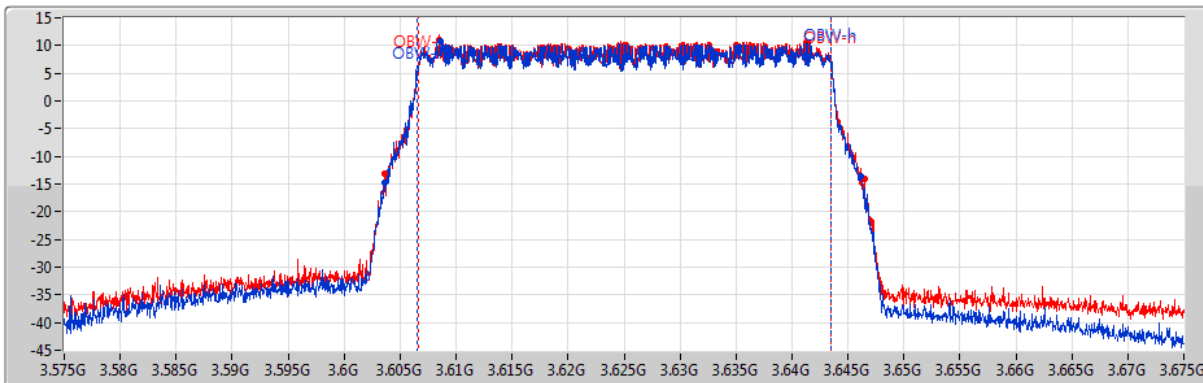
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.45M	3.5488G	3.59125G	37.029M	3.551535G	3.588564G	1	3.57G	100M	510k	2M
42.65M	3.5486G	3.59125G	36.979M	3.551568G	3.588547G	2	3.57G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3625MHz_QPSK

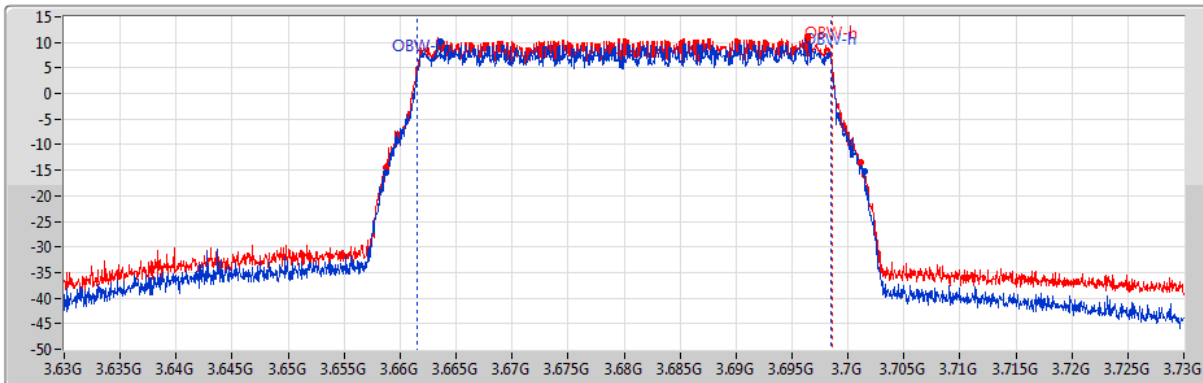
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.55M	3.60365G	3.6462G	37.021M	3.606516G	3.643537G	1	3.625G	100M	510k	2M
42.85M	3.6036G	3.64645G	36.943M	3.606585G	3.643528G	2	3.625G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3680MHz_QPSK

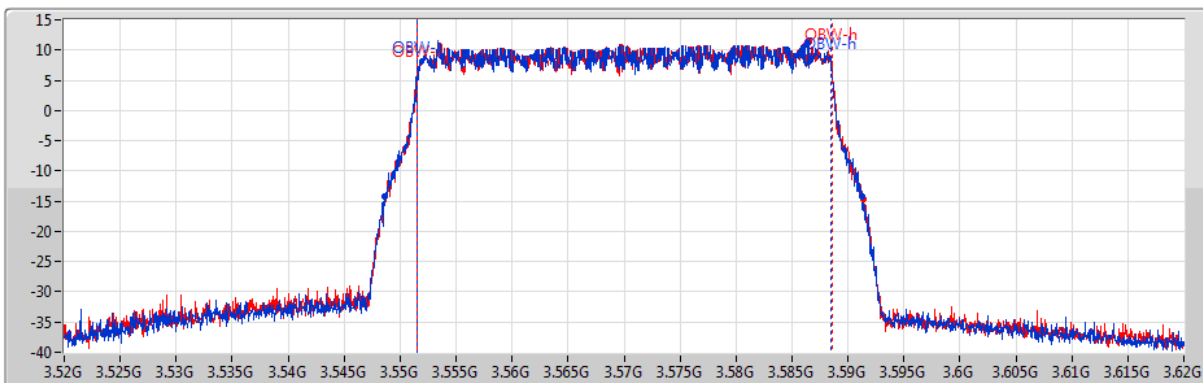
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.75M	3.6587G	3.70145G	36.972M	3.661561G	3.698534G	1	3.68G	100M	510k	2M
42.5M	3.6587G	3.7012G	37.015M	3.661529G	3.698543G	2	3.68G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3570MHz_16QAM

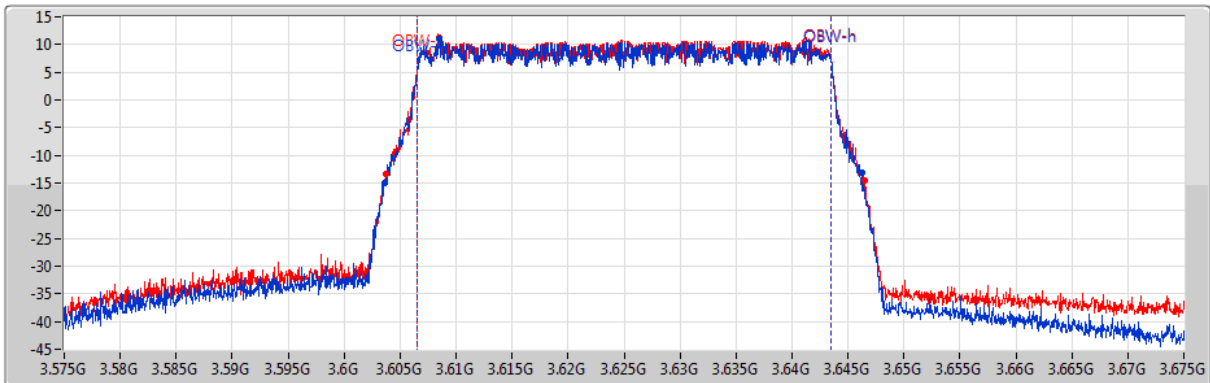
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.6M	3.54865G	3.59125G	36.979M	3.551558G	3.588537G	1	3.57G	100M	510k	2M
42.8M	3.5486G	3.5914G	37.011M	3.551554G	3.588565G	2	3.57G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3625MHz_16QAM

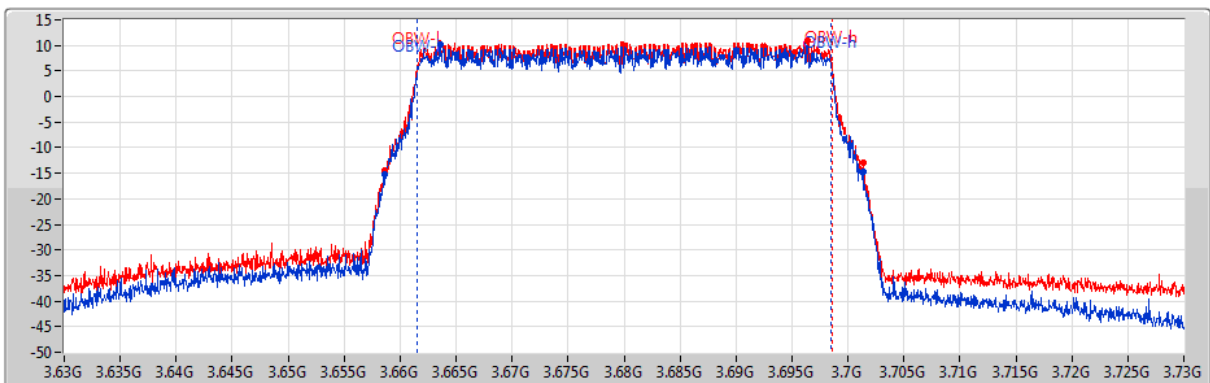
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.7M	3.6036G	3.6463G	36.995M	3.606533G	3.643528G	1	3.625G	100M	510k	2M
42.75M	3.6037G	3.64645G	36.988M	3.606551G	3.643539G	2	3.625G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3680MHz_16QAM

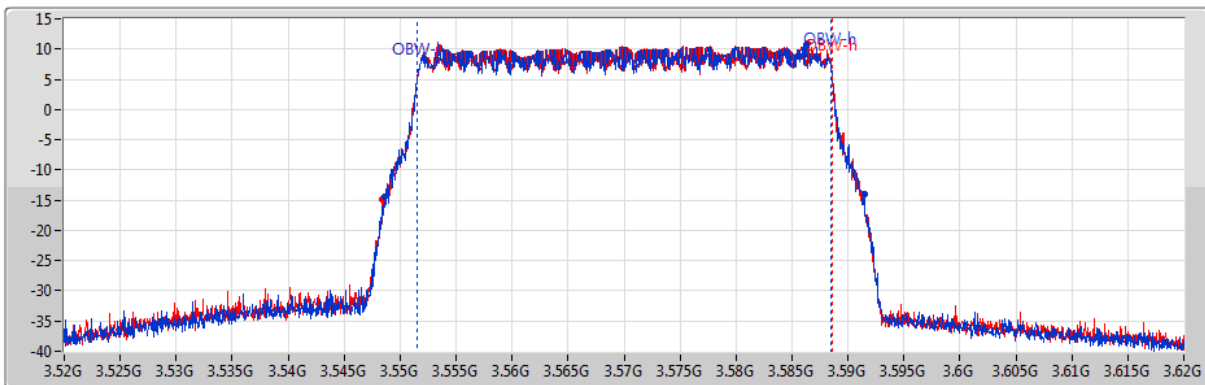
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.75M	3.6586G	3.70135G	36.983M	3.661543G	3.698526G	1	3.68G	100M	510k	2M
42.7M	3.65865G	3.70135G	37.01M	3.661539G	3.698549G	2	3.68G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3570MHz_64QAM

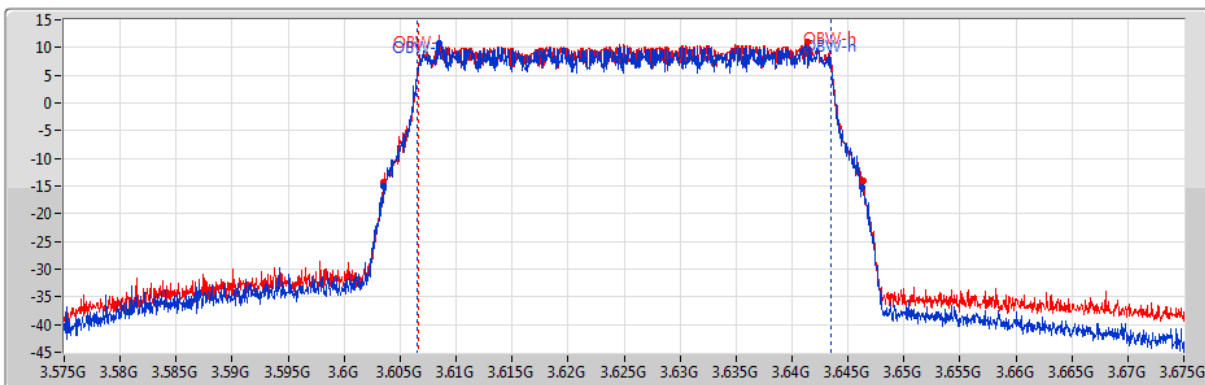
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.85M	3.5486G	3.59145G	36.955M	3.551568G	3.588523G	1	3.57G	100M	510k	2M
42.9M	3.5484G	3.5913G	37.008M	3.551556G	3.588563G	2	3.57G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3625MHz_64QAM

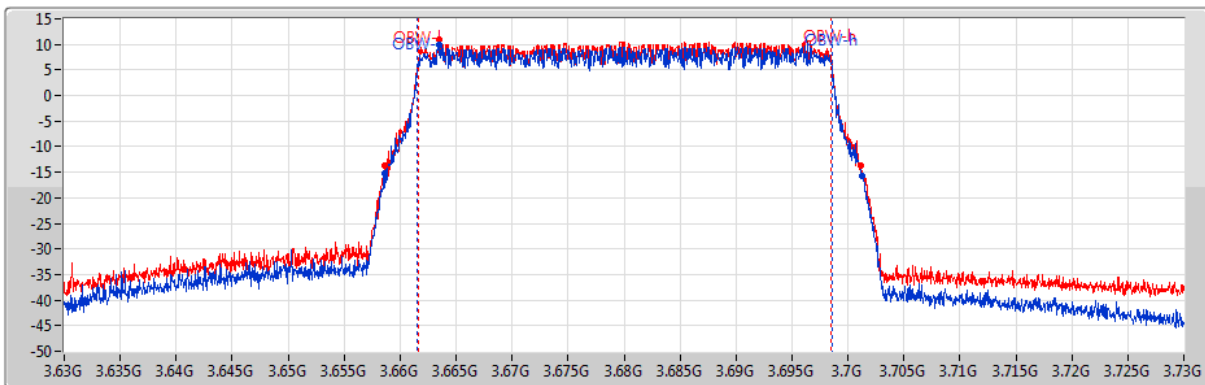
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.8M	3.6035G	3.6463G	36.994M	3.606537G	3.643531G	1	3.625G	100M	510k	2M
42.95M	3.60345G	3.6464G	36.955M	3.606581G	3.643536G	2	3.625G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3680MHz_64QAM

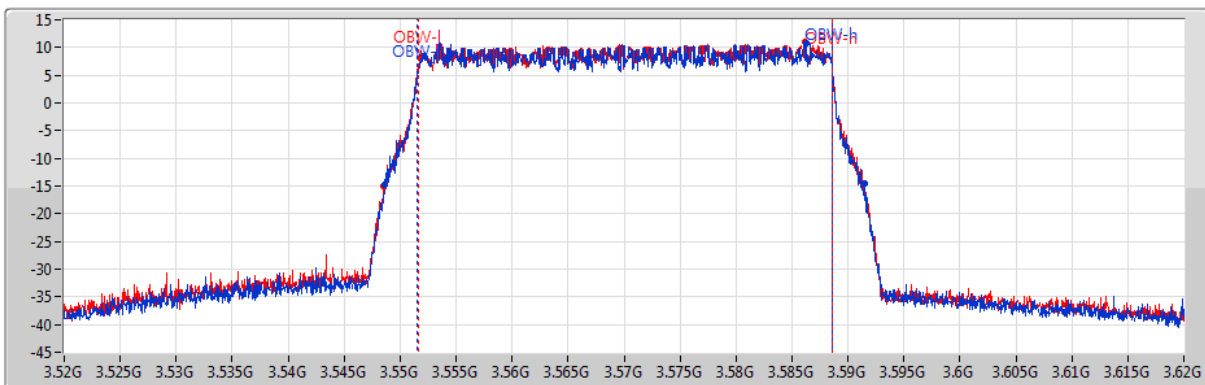
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.65M	3.6586G	3.70125G	36.994M	3.661561G	3.698555G	1	3.68G	100M	510k	2M
42.55M	3.65865G	3.7012G	36.949M	3.661586G	3.698535G	2	3.68G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3570MHz_256QAM

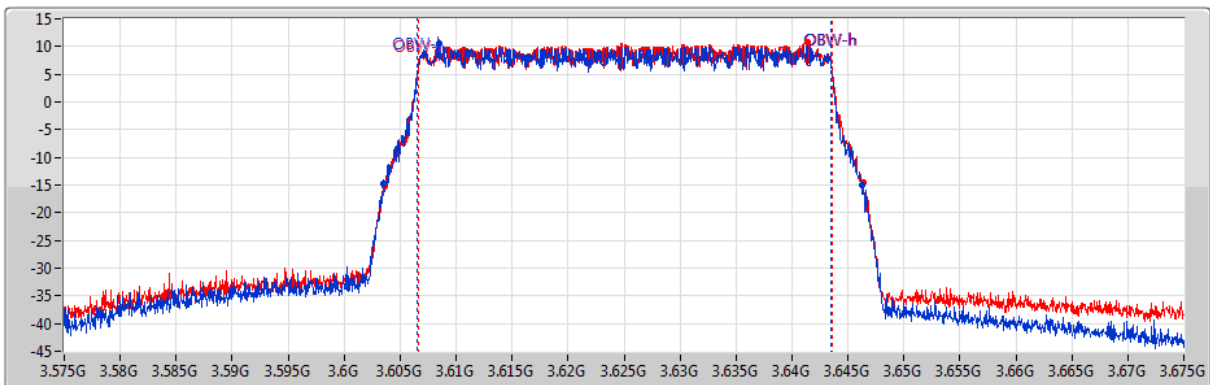
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.8M	3.54865G	3.59145G	37.003M	3.551556G	3.58856G	1	3.57G	100M	510k	2M
42.95M	3.54855G	3.5915G	36.969M	3.55158G	3.588548G	2	3.57G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3625MHz_256QAM

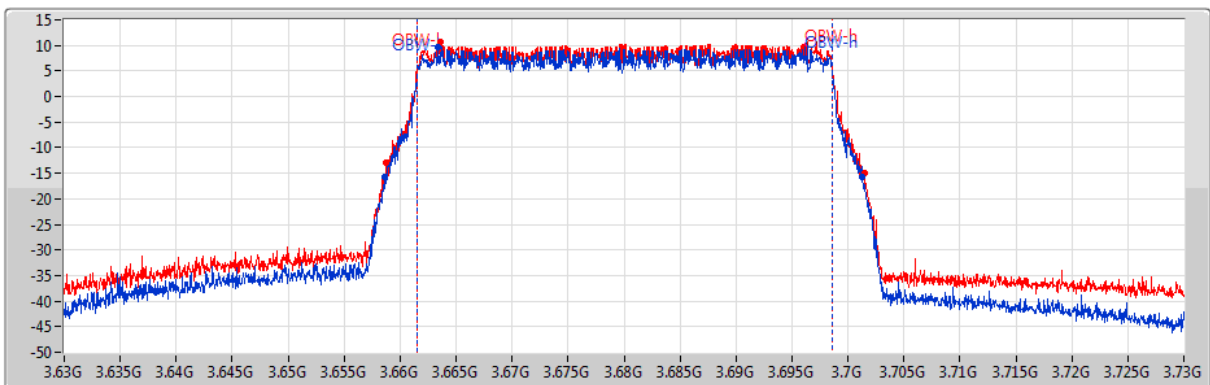
05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.75M	3.6035G	3.64625G	36.977M	3.606544G	3.643521G	1	3.625G	100M	510k	2M
42.75M	3.6036G	3.64635G	36.979M	3.606586G	3.643566G	2	3.625G	100M	510k	2M

Band 48_40MHz_2TX
EBW
3680MHz_256QAM

05/08/2019


Port 1
Port 2

26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
42.7M	3.6586G	3.7013G	36.995M	3.661558G	3.698553G	1	3.68G	100M	510k	2M
42.75M	3.65875G	3.7015G	36.998M	3.661561G	3.698559G	2	3.68G	100M	510k	2M

**Summary**

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 48	-	-	-	-	-	-	-	-	-	-	-	-
10MHz_QPSK_2TX	Pass	3.71G	3.74G	1M	3M	RMS	3.72311G	-41.04	-40.00	-1.04	-	-
10MHz_16QAM_2TX	Pass	3.71G	3.72G	1M	3M	RMS	3.71071G	-25.75	-25.00	-0.75	-	-
10MHz_64QAM_2TX	Pass	3.72G	4G	1M	3M	RMS	3.72112G	-40.40	-40.00	-0.40	-	-
10MHz_256QAM_2TX	Pass	3.67G	3.68G	1M	3M	RMS	3.67913G	-25.40	-25.00	-0.40	-	-
40MHz_QPSK_2TX	Pass	3.45G	3.64G	430k	1.2M	RMS	3.6395G	-40.33	-40.00	-0.33	MBW 1M	-
40MHz_16QAM_2TX	Pass	3.45G	3.585G	430k	1.2M	RMS	3.5835G	-40.43	-40.00	-0.43	MBW 1M	-
40MHz_64QAM_2TX	Pass	3.45G	3.53G	430k	1.2M	RMS	3.5285G	-40.11	-40.00	-0.11	MBW 1M	-
40MHz_256QAM_2TX	Pass	3.45G	3.53G	430k	1.2M	RMS	3.5295G	-40.36	-40.00	-0.36	MBW 1M	-



Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 48_10MHz_QPSK_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3555MHz	Pass	9k	150k	200	10k	RMS	121.588k	-66.07	-40.00	-26.07	-	-
3555MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-60.79	-40.00	-20.79	-	-
3555MHz	Pass	30M	1G	100k	300k	RMS	994.67M	-66.25	-40.00	-26.25	-	-
3555MHz	Pass	1G	3.45G	1M	3M	RMS	3.23538G	-47.99	-40.00	-7.99	-	-
3555MHz	Pass	3.45G	3.53G	100k	300k	RMS	3.5295G	-42.95	-40.00	-2.95	MBW 1M	-
3555MHz	Pass	3.53G	3.54G	1M	3M	RMS	3.54G	-26.31	-25.00	-1.31	-	-
3555MHz	Pass	3.54G	3.549G	100k	300k	RMS	3.5485G	-17.53	-13.00	-4.53	MBW 1M	-
3555MHz	Pass	3.549G	3.55G	100k	300k	RMS	3.5493G	-20.23	-13.00	-7.23	-	-
3555MHz	Pass	3.56G	3.561G	100k	300k	RMS	3.56054G	-20.17	-13.00	-7.17	-	-
3555MHz	Pass	3.561G	3.57G	100k	300k	RMS	3.5625G	-18.36	-13.00	-5.36	MBW 1M	-
3555MHz	Pass	3.57G	3.6G	1M	3M	RMS	3.57042G	-29.53	-25.00	-4.53	-	-
3555MHz	Pass	3.6G	4G	1M	3M	RMS	3.954G	-46.22	-40.00	-6.22	-	-
3555MHz	Pass	4G	37G	1M	3M	RMS	36.5479G	-42.57	-40.00	-2.57	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	114.82k	-66.51	-40.00	-26.51	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	152.985k	-60.41	-40.00	-20.41	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	894.61M	-66.11	-40.00	-26.11	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.41644G	-46.70	-40.00	-6.70	-	-
3625MHz	Pass	3.45G	3.6G	100k	300k	RMS	3.5995G	-44.54	-40.00	-4.54	MBW 1M	-
3625MHz	Pass	3.6G	3.61G	1M	3M	RMS	3.60889G	-26.63	-25.00	-1.63	-	-
3625MHz	Pass	3.61G	3.619G	100k	300k	RMS	3.6185G	-18.79	-13.00	-5.79	MBW 1M	-
3625MHz	Pass	3.619G	3.62G	100k	300k	RMS	3.61927G	-20.34	-13.00	-7.34	-	-
3625MHz	Pass	3.63G	3.631G	100k	300k	RMS	3.63029G	-23.02	-13.00	-10.02	-	-
3625MHz	Pass	3.631G	3.64G	100k	300k	RMS	3.6315G	-17.14	-13.00	-4.14	MBW 1M	-
3625MHz	Pass	3.64G	3.67G	1M	3M	RMS	3.64147G	-27.88	-25.00	-2.88	-	-
3625MHz	Pass	3.67G	4G	1M	3M	RMS	3.9538G	-45.87	-40.00	-5.87	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.77395G	-42.99	-40.00	-2.99	-	-
3695MHz	Pass	9k	150k	200	10k	RMS	114.75k	-67.56	-40.00	-27.56	-	-
3695MHz	Pass	150k	30M	9.1k	30k	RMS	155.97k	-60.08	-40.00	-20.08	-	-
3695MHz	Pass	30M	1G	100k	300k	RMS	537.6M	-64.84	-40.00	-24.84	-	-
3695MHz	Pass	1G	3.45G	1M	3M	RMS	3.15698G	-47.76	-40.00	-7.76	-	-
3695MHz	Pass	3.45G	3.67G	100k	300k	RMS	3.6695G	-45.40	-40.00	-5.40	MBW 1M	-
3695MHz	Pass	3.67G	3.68G	1M	3M	RMS	3.67935G	-27.31	-25.00	-2.31	-	-
3695MHz	Pass	3.68G	3.689G	100k	300k	RMS	3.6885G	-18.79	-13.00	-5.79	MBW 1M	-
3695MHz	Pass	3.689G	3.69G	100k	300k	RMS	3.68931G	-22.67	-13.00	-9.67	-	-
3695MHz	Pass	3.7G	3.701G	100k	300k	RMS	3.70054G	-24.41	-13.00	-11.41	-	-
3695MHz	Pass	3.701G	3.71G	100k	300k	RMS	3.7035G	-21.57	-13.00	-8.57	MBW 1M	-
3695MHz	Pass	3.71G	3.74G	1M	3M	RMS	3.72311G	-41.04	-40.00	-1.04	-	-
3695MHz	Pass	3.74G	4G	1M	3M	RMS	3.95372G	-45.41	-40.00	-5.41	-	-
3695MHz	Pass	4G	37G	1M	3M	RMS	36.67G	-43.37	-40.00	-3.37	-	-
Band 48_10MHz_16QAM_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3555MHz	Pass	9k	150k	200	10k	RMS	114.82k	-65.49	-40.00	-25.49	-	-
3555MHz	Pass	150k	30M	9.1k	30k	RMS	167.91k	-59.18	-40.00	-19.18	-	-
3555MHz	Pass	30M	1G	100k	300k	RMS	994.57M	-66.21	-40.00	-26.21	-	-
3555MHz	Pass	1G	3.45G	1M	3M	RMS	3.01684G	-48.02	-40.00	-8.02	-	-
3555MHz	Pass	3.45G	3.53G	100k	300k	RMS	3.5295G	-45.81	-40.00	-5.81	MBW 1M	-
3555MHz	Pass	3.53G	3.54G	1M	3M	RMS	3.53993G	-27.67	-25.00	-2.67	-	-
3555MHz	Pass	3.54G	3.549G	100k	300k	RMS	3.5485G	-17.48	-13.00	-4.48	MBW 1M	-
3555MHz	Pass	3.549G	3.55G	100k	300k	RMS	3.54922G	-20.91	-13.00	-7.91	-	-
3555MHz	Pass	3.56G	3.561G	100k	300k	RMS	3.56053G	-20.57	-13.00	-7.57	-	-
3555MHz	Pass	3.561G	3.57G	100k	300k	RMS	3.5615G	-18.23	-13.00	-5.23	MBW 1M	-
3555MHz	Pass	3.57G	3.6G	1M	3M	RMS	3.57117G	-29.90	-25.00	-4.90	-	-
3555MHz	Pass	3.6G	4G	1M	3M	RMS	3.9536G	-46.96	-40.00	-6.96	-	-



CSE-TX-Sum Result

Appendix F

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
3555MHz	Pass	4G	37G	1M	3M	RMS	36.7393G	-42.62	-40.00	-2.62	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	115.596k	-66.04	-40.00	-26.04	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	167.91k	-60.35	-40.00	-20.35	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	870.02M	-66.53	-40.00	-26.53	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.3961G	-47.40	-40.00	-7.40	-	-
3625MHz	Pass	3.45G	3.6G	100k	300k	RMS	3.5995G	-43.90	-40.00	-3.90	MBW 1M	-
3625MHz	Pass	3.6G	3.61G	1M	3M	RMS	3.6098G	-26.59	-25.00	-1.59	-	-
3625MHz	Pass	3.61G	3.619G	100k	300k	RMS	3.6175G	-18.97	-13.00	-5.97	MBW 1M	-
3625MHz	Pass	3.619G	3.62G	100k	300k	RMS	3.61994G	-21.31	-13.00	-8.31	-	-
3625MHz	Pass	3.63G	3.631G	100k	300k	RMS	3.63008G	-19.46	-13.00	-6.46	-	-
3625MHz	Pass	3.631G	3.64G	100k	300k	RMS	3.6325G	-19.47	-13.00	-6.47	MBW 1M	-
3625MHz	Pass	3.64G	3.67G	1M	3M	RMS	3.6433G	-27.48	-25.00	-2.48	-	-
3625MHz	Pass	3.67G	4G	1M	3M	RMS	3.95347G	-46.24	-40.00	-6.24	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.70795G	-41.84	-40.00	-1.84	-	-
3695MHz	Pass	9k	150k	200	10k	RMS	115.032k	-67.37	-40.00	-27.37	-	-
3695MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-60.20	-40.00	-20.20	-	-
3695MHz	Pass	30M	1G	100k	300k	RMS	859.2M	-66.61	-40.00	-26.61	-	-
3695MHz	Pass	1G	3.45G	1M	3M	RMS	3.15478G	-48.33	-40.00	-8.33	-	-
3695MHz	Pass	3.45G	3.67G	100k	300k	RMS	3.6695G	-45.14	-40.00	-5.14	MBW 1M	-
3695MHz	Pass	3.67G	3.68G	1M	3M	RMS	3.67958G	-25.82	-25.00	-0.82	-	-
3695MHz	Pass	3.68G	3.689G	100k	300k	RMS	3.6875G	-19.33	-13.00	-6.33	MBW 1M	-
3695MHz	Pass	3.689G	3.69G	100k	300k	RMS	3.68978G	-21.85	-13.00	-8.85	-	-
3695MHz	Pass	3.7G	3.701G	100k	300k	RMS	3.70072G	-22.79	-13.00	-9.79	-	-
3695MHz	Pass	3.701G	3.71G	100k	300k	RMS	3.7015G	-21.22	-13.00	-8.22	MBW 1M	-
3695MHz	Pass	3.71G	3.72G	1M	3M	RMS	3.71071G	-25.75	-25.00	-0.75	-	-
3695MHz	Pass	3.72G	4G	1M	3M	RMS	3.72G	-41.52	-40.00	-1.52	-	-
3695MHz	Pass	4G	37G	1M	3M	RMS	36.6337G	-42.06	-40.00	-2.06	-	-
Band 48_10MHz_64QAM_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3555MHz	Pass	9k	150k	200	10k	RMS	122.012k	-65.21	-40.00	-25.21	-	-
3555MHz	Pass	150k	30M	9.1k	30k	RMS	164.925k	-61.70	-40.00	-21.70	-	-
3555MHz	Pass	30M	1G	100k	300k	RMS	914.06M	-66.45	-40.00	-26.45	-	-
3555MHz	Pass	1G	3.45G	1M	3M	RMS	3.14498G	-47.89	-40.00	-7.89	-	-
3555MHz	Pass	3.45G	3.53G	100k	300k	RMS	3.5295G	-43.22	-40.00	-3.22	MBW 1M	-
3555MHz	Pass	3.53G	3.54G	1M	3M	RMS	3.53868G	-25.83	-25.00	-0.83	-	-
3555MHz	Pass	3.54G	3.549G	100k	300k	RMS	3.5475G	-17.24	-13.00	-4.24	MBW 1M	-
3555MHz	Pass	3.549G	3.55G	100k	300k	RMS	3.54973G	-19.53	-13.00	-6.53	-	-
3555MHz	Pass	3.56G	3.561G	100k	300k	RMS	3.56037G	-20.88	-13.00	-7.88	-	-
3555MHz	Pass	3.561G	3.57G	100k	300k	RMS	3.5615G	-17.61	-13.00	-4.61	MBW 1M	-
3555MHz	Pass	3.57G	3.58G	1M	3M	RMS	3.57003G	-25.80	-25.00	-0.80	-	-
3555MHz	Pass	3.58G	4G	1M	3M	RMS	3.9538G	-45.84	-40.00	-5.84	-	-
3555MHz	Pass	4G	37G	1M	3M	RMS	36.7855G	-43.13	-40.00	-3.13	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	122.294k	-66.60	-40.00	-26.60	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-59.84	-40.00	-19.84	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	537.65M	-66.46	-40.00	-26.46	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.42501G	-46.97	-40.00	-6.97	-	-
3625MHz	Pass	3.45G	3.6G	100k	300k	RMS	3.5995G	-44.60	-40.00	-4.60	MBW 1M	-
3625MHz	Pass	3.6G	3.61G	1M	3M	RMS	3.60917G	-25.67	-25.00	-0.67	-	-
3625MHz	Pass	3.61G	3.619G	100k	300k	RMS	3.6185G	-17.32	-13.00	-4.32	MBW 1M	-
3625MHz	Pass	3.619G	3.62G	100k	300k	RMS	3.61916G	-21.37	-13.00	-8.37	-	-
3625MHz	Pass	3.63G	3.631G	100k	300k	RMS	3.63095G	-21.11	-13.00	-8.11	-	-
3625MHz	Pass	3.631G	3.64G	100k	300k	RMS	3.6315G	-18.41	-13.00	-5.41	MBW 1M	-
3625MHz	Pass	3.64G	3.65G	100k	300k	RMS	3.6405G	-28.81	-25.00	-3.81	MBW 1M	-
3625MHz	Pass	3.65G	4G	1M	3M	RMS	3.86455G	-47.57	-40.00	-7.57	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.73105G	-42.89	-40.00	-2.89	-	-



CSE-TX-Sum Result

Appendix F

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
3695MHz	Pass	9k	150k	200	10k	RMS	122.223k	-65.83	-40.00	-25.83	-	-
3695MHz	Pass	150k	30M	9.1k	30k	RMS	152.985k	-60.06	-40.00	-20.06	-	-
3695MHz	Pass	30M	1G	100k	300k	RMS	537.6M	-66.51	-40.00	-26.51	-	-
3695MHz	Pass	1G	3.45G	1M	3M	RMS	3.15821G	-48.17	-40.00	-8.17	-	-
3695MHz	Pass	3.45G	3.67G	100k	300k	RMS	3.6695G	-45.09	-40.00	-5.09	MBW 1M	-
3695MHz	Pass	3.67G	3.68G	1M	3M	RMS	3.67928G	-26.76	-25.00	-1.76	-	-
3695MHz	Pass	3.68G	3.689G	100k	300k	RMS	3.6875G	-20.94	-13.00	-7.94	MBW 1M	-
3695MHz	Pass	3.689G	3.69G	100k	300k	RMS	3.68963G	-22.61	-13.00	-9.61	-	-
3695MHz	Pass	3.7G	3.701G	100k	300k	RMS	3.70091G	-22.58	-13.00	-9.58	-	-
3695MHz	Pass	3.701G	3.71G	100k	300k	RMS	3.7035G	-21.37	-13.00	-8.37	MBW 1M	-
3695MHz	Pass	3.71G	3.72G	100k	300k	RMS	3.7105G	-31.39	-25.00	-6.39	MBW 1M	-
3695MHz	Pass	3.72G	4G	1M	3M	RMS	3.72112G	-40.40	-40.00	-0.40	-	-
3695MHz	Pass	4G	37G	1M	3M	RMS	36.84325G	-43.02	-40.00	-3.02	-	-
Band 48_10MHz_256QAM_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3555MHz	Pass	9k	150k	200	10k	RMS	119.262k	-67.52	-40.00	-27.52	-	-
3555MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-62.07	-40.00	-22.07	-	-
3555MHz	Pass	30M	1G	100k	300k	RMS	866.43M	-66.08	-40.00	-26.08	-	-
3555MHz	Pass	1G	3.45G	1M	3M	RMS	3.36646G	-48.49	-40.00	-8.49	-	-
3555MHz	Pass	3.45G	3.53G	100k	300k	RMS	3.5295G	-43.75	-40.00	-3.75	MBW 1M	-
3555MHz	Pass	3.53G	3.54G	1M	3M	RMS	3.53982G	-27.62	-25.00	-2.62	-	-
3555MHz	Pass	3.54G	3.549G	100k	300k	RMS	3.5485G	-17.75	-13.00	-4.75	MBW 1M	-
3555MHz	Pass	3.549G	3.55G	100k	300k	RMS	3.54937G	-20.66	-13.00	-7.66	-	-
3555MHz	Pass	3.56G	3.561G	100k	300k	RMS	3.56076G	-21.16	-13.00	-8.16	-	-
3555MHz	Pass	3.561G	3.57G	100k	300k	RMS	3.5615G	-19.48	-13.00	-6.48	MBW 1M	-
3555MHz	Pass	3.57G	3.58G	100k	300k	RMS	3.5705G	-30.11	-25.00	-5.11	MBW 1M	-
3555MHz	Pass	3.58G	4G	1M	3M	RMS	3.86434G	-46.85	-40.00	-6.85	-	-
3555MHz	Pass	4G	37G	1M	3M	RMS	36.83995G	-42.47	-40.00	-2.47	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	119.121k	-66.12	-40.00	-26.12	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-61.08	-40.00	-21.08	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	537.6M	-66.35	-40.00	-26.35	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.08863G	-47.67	-40.00	-7.67	-	-
3625MHz	Pass	3.45G	3.6G	100k	300k	RMS	3.5995G	-43.77	-40.00	-3.77	MBW 1M	-
3625MHz	Pass	3.6G	3.61G	1M	3M	RMS	3.60936G	-27.54	-25.00	-2.54	-	-
3625MHz	Pass	3.61G	3.619G	100k	300k	RMS	3.6185G	-17.83	-13.00	-4.83	MBW 1M	-
3625MHz	Pass	3.619G	3.62G	100k	300k	RMS	3.61966G	-20.19	-13.00	-7.19	-	-
3625MHz	Pass	3.63G	3.631G	100k	300k	RMS	3.63039G	-21.41	-13.00	-8.41	-	-
3625MHz	Pass	3.631G	3.64G	100k	300k	RMS	3.6315G	-17.17	-13.00	-4.17	MBW 1M	-
3625MHz	Pass	3.64G	3.65G	100k	300k	RMS	3.6405G	-29.45	-25.00	-4.45	MBW 1M	-
3625MHz	Pass	3.65G	4G	1M	3M	RMS	3.95415G	-46.68	-40.00	-6.68	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.76075G	-41.90	-40.00	-1.90	-	-
3695MHz	Pass	9k	150k	200	10k	RMS	115.173k	-69.59	-40.00	-29.59	-	-
3695MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-59.54	-40.00	-19.54	-	-
3695MHz	Pass	30M	1G	100k	300k	RMS	875.55M	-65.45	-40.00	-25.45	-	-
3695MHz	Pass	1G	3.45G	1M	3M	RMS	3.1587G	-47.47	-40.00	-7.47	-	-
3695MHz	Pass	3.45G	3.67G	100k	300k	RMS	3.6695G	-44.21	-40.00	-4.21	MBW 1M	-
3695MHz	Pass	3.67G	3.68G	1M	3M	RMS	3.67913G	-25.40	-25.00	-0.40	-	-
3695MHz	Pass	3.68G	3.689G	100k	300k	RMS	3.6885G	-17.22	-13.00	-4.22	MBW 1M	-
3695MHz	Pass	3.689G	3.69G	100k	300k	RMS	3.68975G	-20.10	-13.00	-7.10	-	-
3695MHz	Pass	3.7G	3.701G	100k	300k	RMS	3.70065G	-20.37	-13.00	-7.37	-	-
3695MHz	Pass	3.701G	3.71G	100k	300k	RMS	3.7025G	-17.53	-13.00	-4.53	MBW 1M	-
3695MHz	Pass	3.71G	3.72G	100k	300k	RMS	3.7105G	-29.31	-25.00	-4.31	MBW 1M	-
3695MHz	Pass	3.72G	4G	1M	3M	RMS	3.72028G	-45.02	-40.00	-5.02	-	-
3695MHz	Pass	4G	37G	1M	3M	RMS	36.55945G	-41.87	-40.00	-1.87	-	-
Band 48_40MHz_QPSK_2TX	-	-	-	-	-	-	-	-	-	-	-	-



CSE-TX-Sum Result

Appendix F

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
3570MHz	Pass	9k	150k	200	10k	RMS	117.57k	-66.27	-40.00	-26.27	-	-
3570MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-60.35	-40.00	-20.35	-	-
3570MHz	Pass	30M	1G	100k	300k	RMS	259.99M	-65.29	-40.00	-25.29	-	-
3570MHz	Pass	1G	3.45G	1M	3M	RMS	3.32701G	-49.05	-40.00	-9.05	-	-
3570MHz	Pass	3.45G	3.53G	430k	1.2M	RMS	3.5295G	-40.47	-40.00	-0.47	MBW 1M	-
3570MHz	Pass	3.53G	3.54G	430k	1.2M	RMS	3.5365G	-37.34	-25.00	-12.34	MBW 1M	-
3570MHz	Pass	3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.96	-13.00	-13.96	MBW 1M	-
3570MHz	Pass	3.549G	3.55G	430k	1.2M	RMS	3.54986G	-14.08	-13.00	-1.08	-	-
3570MHz	Pass	3.59G	3.591G	430k	1.2M	RMS	3.59004G	-14.13	-13.00	-1.13	-	-
3570MHz	Pass	3.591G	3.6G	430k	1.2M	RMS	3.5915G	-29.64	-13.00	-16.64	MBW 1M	-
3570MHz	Pass	3.6G	3.61G	430k	1.2M	RMS	3.6035G	-40.43	-25.00	-15.43	MBW 1M	-
3570MHz	Pass	3.61G	3.85G	430k	1.2M	RMS	3.6105G	-42.41	-40.00	-2.41	MBW 1M	-
3570MHz	Pass	3.85G	4G	1M	3M	RMS	3.85354G	-46.04	-40.00	-6.04	-	-
3570MHz	Pass	4G	37G	1M	3M	RMS	36.7855G	-42.90	-40.00	-2.90	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	116.442k	-65.43	-40.00	-25.43	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	4.66M	-61.80	-40.00	-21.80	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	460.68M	-66.03	-40.00	-26.03	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.37871G	-49.45	-40.00	-9.45	-	-
3625MHz	Pass	3.45G	3.585G	430k	1.2M	RMS	3.5845G	-40.64	-40.00	-0.64	MBW 1M	-
3625MHz	Pass	3.585G	3.595G	430k	1.2M	RMS	3.5945G	-36.75	-25.00	-11.75	MBW 1M	-
3625MHz	Pass	3.595G	3.604G	430k	1.2M	RMS	3.6035G	-26.39	-13.00	-13.39	MBW 1M	-
3625MHz	Pass	3.604G	3.605G	430k	1.2M	RMS	3.60485G	-13.97	-13.00	-0.97	-	-
3625MHz	Pass	3.645G	3.646G	430k	1.2M	RMS	3.6451G	-14.01	-13.00	-1.01	-	-
3625MHz	Pass	3.646G	3.655G	430k	1.2M	RMS	3.6465G	-28.83	-13.00	-15.83	MBW 1M	-
3625MHz	Pass	3.655G	3.665G	430k	1.2M	RMS	3.6555G	-40.63	-25.00	-15.63	MBW 1M	-
3625MHz	Pass	3.665G	3.85G	430k	1.2M	RMS	3.6655G	-42.52	-40.00	-2.52	MBW 1M	-
3625MHz	Pass	3.85G	4G	1M	3M	RMS	3.86431G	-46.15	-40.00	-6.15	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.62875G	-43.20	-40.00	-3.20	-	-
3680MHz	Pass	9k	150k	200	10k	RMS	120.32k	-65.52	-40.00	-25.52	-	-
3680MHz	Pass	150k	30M	9.1k	30k	RMS	152.985k	-58.80	-40.00	-18.80	-	-
3680MHz	Pass	30M	1G	100k	300k	RMS	746.98M	-65.59	-40.00	-25.59	-	-
3680MHz	Pass	1G	3.45G	1M	3M	RMS	3.16482G	-47.99	-40.00	-7.99	-	-
3680MHz	Pass	3.45G	3.64G	430k	1.2M	RMS	3.6395G	-40.33	-40.00	-0.33	MBW 1M	-
3680MHz	Pass	3.64G	3.65G	430k	1.2M	RMS	3.6495G	-36.34	-25.00	-11.34	MBW 1M	-
3680MHz	Pass	3.65G	3.659G	430k	1.2M	RMS	3.6585G	-27.98	-13.00	-14.98	MBW 1M	-
3680MHz	Pass	3.659G	3.66G	430k	1.2M	RMS	3.65992G	-13.54	-13.00	-0.54	-	-
3680MHz	Pass	3.7G	3.701G	430k	1.2M	RMS	3.70002G	-13.76	-13.00	-0.76	-	-
3680MHz	Pass	3.701G	3.71G	430k	1.2M	RMS	3.7015G	-28.01	-13.00	-15.01	MBW 1M	-
3680MHz	Pass	3.71G	3.72G	430k	1.2M	RMS	3.7145G	-41.62	-25.00	-16.62	MBW 1M	-
3680MHz	Pass	3.72G	3.85G	430k	1.2M	RMS	3.7245G	-43.85	-40.00	-3.85	MBW 1M	-
3680MHz	Pass	3.85G	4G	1M	3M	RMS	3.89668G	-46.76	-40.00	-6.76	-	-
3680MHz	Pass	4G	37G	1M	3M	RMS	36.72445G	-42.88	-40.00	-2.88	-	-
Band 48_40MHz_16QAM_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3570MHz	Pass	9k	150k	200	10k	RMS	122.434k	-65.57	-40.00	-25.57	-	-
3570MHz	Pass	150k	30M	9.1k	30k	RMS	161.94k	-60.84	-40.00	-20.84	-	-
3570MHz	Pass	30M	1G	100k	300k	RMS	958.82M	-65.85	-40.00	-25.85	-	-
3570MHz	Pass	1G	3.45G	1M	3M	RMS	3.0509G	-49.18	-40.00	-9.18	-	-
3570MHz	Pass	3.45G	3.53G	430k	1.2M	RMS	3.5275G	-41.00	-40.00	-1.00	MBW 1M	-
3570MHz	Pass	3.53G	3.54G	430k	1.2M	RMS	3.5395G	-36.93	-25.00	-11.93	MBW 1M	-
3570MHz	Pass	3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.21	-13.00	-13.21	MBW 1M	-
3570MHz	Pass	3.549G	3.55G	430k	1.2M	RMS	3.54991G	-13.67	-13.00	-0.67	-	-
3570MHz	Pass	3.59G	3.591G	430k	1.2M	RMS	3.59048G	-14.88	-13.00	-1.88	-	-
3570MHz	Pass	3.591G	3.6G	430k	1.2M	RMS	3.5915G	-26.30	-13.00	-13.30	MBW 1M	-
3570MHz	Pass	3.6G	3.61G	430k	1.2M	RMS	3.6005G	-40.15	-25.00	-15.15	MBW 1M	-



CSE-TX-Sum Result

Appendix F

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
3570MHz	Pass	3.61G	3.85G	430k	1.2M	RMS	3.6115G	-41.71	-40.00	-1.71	MBW 1M	-
3570MHz	Pass	3.85G	4G	1M	3M	RMS	3.85267G	-46.38	-40.00	-6.38	-	-
3570MHz	Pass	4G	37G	1M	3M	RMS	36.76405G	-42.74	-40.00	-2.74	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	122.434k	-65.76	-40.00	-25.76	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	4.66M	-61.69	-40.00	-21.69	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	885.54M	-65.80	-40.00	-25.80	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.11141G	-48.96	-40.00	-8.96	-	-
3625MHz	Pass	3.45G	3.585G	430k	1.2M	RMS	3.5835G	-40.43	-40.00	-0.43	MBW 1M	-
3625MHz	Pass	3.585G	3.595G	430k	1.2M	RMS	3.5945G	-37.22	-25.00	-12.22	MBW 1M	-
3625MHz	Pass	3.595G	3.604G	430k	1.2M	RMS	3.6035G	-26.06	-13.00	-13.06	MBW 1M	-
3625MHz	Pass	3.604G	3.605G	430k	1.2M	RMS	3.60489G	-13.60	-13.00	-0.60	-	-
3625MHz	Pass	3.645G	3.646G	430k	1.2M	RMS	3.64504G	-14.59	-13.00	-1.59	-	-
3625MHz	Pass	3.646G	3.655G	430k	1.2M	RMS	3.6465G	-27.45	-13.00	-14.45	MBW 1M	-
3625MHz	Pass	3.655G	3.665G	430k	1.2M	RMS	3.6565G	-40.34	-25.00	-15.34	MBW 1M	-
3625MHz	Pass	3.665G	3.85G	430k	1.2M	RMS	3.6655G	-41.78	-40.00	-1.78	MBW 1M	-
3625MHz	Pass	3.85G	4G	1M	3M	RMS	3.85255G	-46.81	-40.00	-6.81	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.64855G	-43.02	-40.00	-3.02	-	-
3680MHz	Pass	9k	150k	200	10k	RMS	121.095k	-64.06	-40.00	-24.06	-	-
3680MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-60.12	-40.00	-20.12	-	-
3680MHz	Pass	30M	1G	100k	300k	RMS	869.73M	-66.06	-40.00	-26.06	-	-
3680MHz	Pass	1G	3.45G	1M	3M	RMS	3.20059G	-49.47	-40.00	-9.47	-	-
3680MHz	Pass	3.45G	3.64G	430k	1.2M	RMS	3.6375G	-42.52	-40.00	-2.52	MBW 1M	-
3680MHz	Pass	3.64G	3.65G	430k	1.2M	RMS	3.6485G	-36.79	-25.00	-11.79	MBW 1M	-
3680MHz	Pass	3.65G	3.659G	430k	1.2M	RMS	3.6585G	-27.94	-13.00	-14.94	MBW 1M	-
3680MHz	Pass	3.659G	3.66G	430k	1.2M	RMS	3.65994G	-13.43	-13.00	-0.43	-	-
3680MHz	Pass	3.7G	3.701G	430k	1.2M	RMS	3.70008G	-15.12	-13.00	-2.12	-	-
3680MHz	Pass	3.701G	3.71G	430k	1.2M	RMS	3.7015G	-27.34	-13.00	-14.34	MBW 1M	-
3680MHz	Pass	3.71G	3.72G	430k	1.2M	RMS	3.7105G	-42.07	-25.00	-17.07	MBW 1M	-
3680MHz	Pass	3.72G	3.85G	430k	1.2M	RMS	3.7225G	-42.89	-40.00	-2.89	MBW 1M	-
3680MHz	Pass	3.85G	4G	1M	3M	RMS	3.88288G	-46.69	-40.00	-6.69	-	-
3680MHz	Pass	4G	37G	1M	3M	RMS	36.6007G	-43.03	-40.00	-3.03	-	-
Band 48_40MHz_64QAM_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3570MHz	Pass	9k	150k	200	10k	RMS	116.23k	-63.90	-40.00	-23.90	-	-
3570MHz	Pass	150k	30M	9.1k	30k	RMS	158.955k	-59.84	-40.00	-19.84	-	-
3570MHz	Pass	30M	1G	100k	300k	RMS	882.68M	-66.48	-40.00	-26.48	-	-
3570MHz	Pass	1G	3.45G	1M	3M	RMS	3.04698G	-49.17	-40.00	-9.17	-	-
3570MHz	Pass	3.45G	3.53G	430k	1.2M	RMS	3.5285G	-40.11	-40.00	-0.11	MBW 1M	-
3570MHz	Pass	3.53G	3.54G	430k	1.2M	RMS	3.5365G	-37.18	-25.00	-12.18	MBW 1M	-
3570MHz	Pass	3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.76	-13.00	-13.76	MBW 1M	-
3570MHz	Pass	3.549G	3.55G	430k	1.2M	RMS	3.54996G	-14.09	-13.00	-1.09	-	-
3570MHz	Pass	3.59G	3.591G	430k	1.2M	RMS	3.59047G	-15.75	-13.00	-2.75	-	-
3570MHz	Pass	3.591G	3.6G	430k	1.2M	RMS	3.5915G	-28.00	-13.00	-15.00	MBW 1M	-
3570MHz	Pass	3.6G	3.61G	430k	1.2M	RMS	3.6025G	-40.16	-25.00	-15.16	MBW 1M	-
3570MHz	Pass	3.61G	3.85G	430k	1.2M	RMS	3.6105G	-41.73	-40.00	-1.73	MBW 1M	-
3570MHz	Pass	3.85G	4G	1M	3M	RMS	3.85308G	-46.51	-40.00	-6.51	-	-
3570MHz	Pass	4G	37G	1M	3M	RMS	36.7261G	-42.62	-40.00	-2.62	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	122.364k	-65.87	-40.00	-25.87	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	152.985k	-60.27	-40.00	-20.27	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	900.24M	-65.94	-40.00	-25.94	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.18736G	-49.39	-40.00	-9.39	-	-
3625MHz	Pass	3.45G	3.585G	1M	3M	RMS	3.52154G	-49.62	-40.00	-9.62	-	-
3625MHz	Pass	3.585G	3.595G	430k	1.2M	RMS	3.5945G	-37.56	-25.00	-12.56	MBW 1M	-
3625MHz	Pass	3.595G	3.604G	430k	1.2M	RMS	3.6035G	-27.04	-13.00	-14.04	MBW 1M	-
3625MHz	Pass	3.604G	3.605G	430k	1.2M	RMS	3.60494G	-13.12	-13.00	-0.12	-	-



CSE-TX-Sum Result

Appendix F

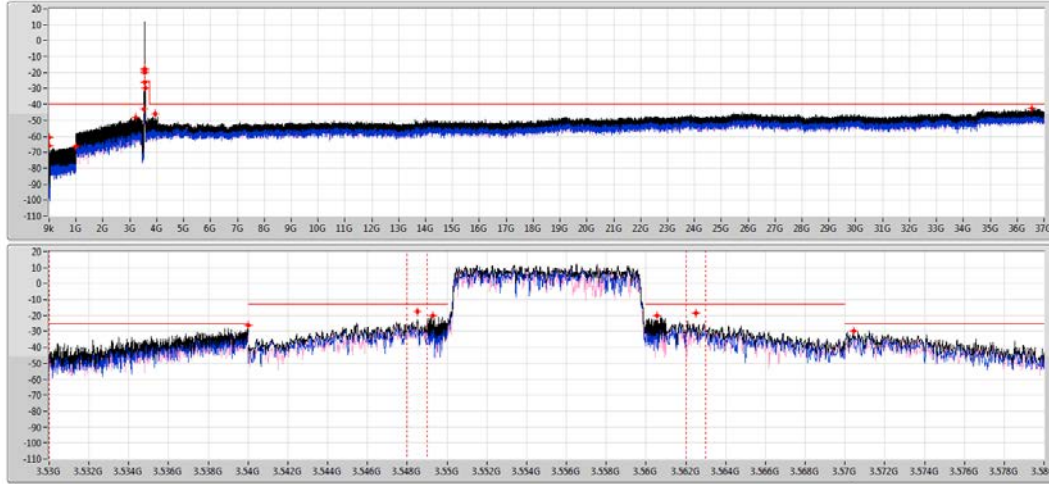
Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
3625MHz	Pass	3.645G	3.646G	430k	1.2M	RMS	3.6451G	-15.05	-13.00	-2.05	-	-
3625MHz	Pass	3.646G	3.655G	430k	1.2M	RMS	3.6465G	-27.99	-13.00	-14.99	MBW 1M	-
3625MHz	Pass	3.655G	3.665G	430k	1.2M	RMS	3.6555G	-40.73	-25.00	-15.73	MBW 1M	-
3625MHz	Pass	3.665G	3.85G	430k	1.2M	RMS	3.6655G	-41.51	-40.00	-1.51	MBW 1M	-
3625MHz	Pass	3.85G	4G	1M	3M	RMS	3.85051G	-46.97	-40.00	-6.97	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.5677G	-42.44	-40.00	-2.44	-	-
3680MHz	Pass	9k	150k	200	10k	RMS	121.024k	-65.14	-40.00	-25.14	-	-
3680MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-62.07	-40.00	-22.07	-	-
3680MHz	Pass	30M	1G	100k	300k	RMS	259.99M	-66.61	-40.00	-26.61	-	-
3680MHz	Pass	1G	3.45G	1M	3M	RMS	3.08446G	-48.96	-40.00	-8.96	-	-
3680MHz	Pass	3.45G	3.64G	1M	3M	RMS	3.51677G	-49.73	-40.00	-9.73	-	-
3680MHz	Pass	3.64G	3.65G	430k	1.2M	RMS	3.6475G	-37.55	-25.00	-12.55	MBW 1M	-
3680MHz	Pass	3.65G	3.659G	430k	1.2M	RMS	3.6585G	-26.83	-13.00	-13.83	MBW 1M	-
3680MHz	Pass	3.659G	3.66G	430k	1.2M	RMS	3.65998G	-14.58	-13.00	-1.58	-	-
3680MHz	Pass	3.7G	3.701G	430k	1.2M	RMS	3.70007G	-13.99	-13.00	-0.99	-	-
3680MHz	Pass	3.701G	3.71G	430k	1.2M	RMS	3.7015G	-27.37	-13.00	-14.37	MBW 1M	-
3680MHz	Pass	3.71G	3.72G	430k	1.2M	RMS	3.7115G	-41.46	-25.00	-16.46	MBW 1M	-
3680MHz	Pass	3.72G	3.85G	430k	1.2M	RMS	3.7245G	-42.51	-40.00	-2.51	MBW 1M	-
3680MHz	Pass	3.85G	4G	1M	3M	RMS	3.88378G	-46.97	-40.00	-6.97	-	-
3680MHz	Pass	4G	37G	1M	3M	RMS	36.65515G	-43.18	-40.00	-3.18	-	-
Band 48_40MHz_256QAM_2TX	-	-	-	-	-	-	-	-	-	-	-	-
3570MHz	Pass	9k	150k	200	10k	RMS	116.23k	-63.91	-40.00	-23.91	-	-
3570MHz	Pass	150k	30M	9.1k	30k	RMS	158.955k	-62.10	-40.00	-22.10	-	-
3570MHz	Pass	30M	1G	100k	300k	RMS	854.4M	-66.73	-40.00	-26.73	-	-
3570MHz	Pass	1G	3.45G	1M	3M	RMS	3.31574G	-49.12	-40.00	-9.12	-	-
3570MHz	Pass	3.45G	3.53G	430k	1.2M	RMS	3.5295G	-40.36	-40.00	-0.36	MBW 1M	-
3570MHz	Pass	3.53G	3.54G	430k	1.2M	RMS	3.5395G	-37.19	-25.00	-12.19	MBW 1M	-
3570MHz	Pass	3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.77	-13.00	-13.77	MBW 1M	-
3570MHz	Pass	3.549G	3.55G	430k	1.2M	RMS	3.54984G	-13.56	-13.00	-0.56	-	-
3570MHz	Pass	3.59G	3.591G	430k	1.2M	RMS	3.59016G	-13.94	-13.00	-0.94	-	-
3570MHz	Pass	3.591G	3.6G	430k	1.2M	RMS	3.5915G	-28.49	-13.00	-15.49	MBW 1M	-
3570MHz	Pass	3.6G	3.61G	430k	1.2M	RMS	3.6005G	-40.35	-25.00	-15.35	MBW 1M	-
3570MHz	Pass	3.61G	3.85G	430k	1.2M	RMS	3.6135G	-42.54	-40.00	-2.54	MBW 1M	-
3570MHz	Pass	3.85G	4G	1M	3M	RMS	3.87847G	-46.71	-40.00	-6.71	-	-
3570MHz	Pass	4G	37G	1M	3M	RMS	36.78715G	-43.11	-40.00	-3.11	-	-
3625MHz	Pass	9k	150k	200	10k	RMS	115.102k	-65.17	-40.00	-25.17	-	-
3625MHz	Pass	150k	30M	9.1k	30k	RMS	150k	-60.35	-40.00	-20.35	-	-
3625MHz	Pass	30M	1G	100k	300k	RMS	810.46M	-66.89	-40.00	-26.89	-	-
3625MHz	Pass	1G	3.45G	1M	3M	RMS	3.3471G	-48.09	-40.00	-8.09	-	-
3625MHz	Pass	3.45G	3.585G	430k	1.2M	RMS	3.5835G	-40.40	-40.00	-0.40	MBW 1M	-
3625MHz	Pass	3.585G	3.595G	430k	1.2M	RMS	3.5945G	-37.33	-25.00	-12.33	MBW 1M	-
3625MHz	Pass	3.595G	3.604G	430k	1.2M	RMS	3.6035G	-26.87	-13.00	-13.87	MBW 1M	-
3625MHz	Pass	3.604G	3.605G	430k	1.2M	RMS	3.60478G	-14.20	-13.00	-1.20	-	-
3625MHz	Pass	3.645G	3.646G	430k	1.2M	RMS	3.64501G	-14.74	-13.00	-1.74	-	-
3625MHz	Pass	3.646G	3.655G	430k	1.2M	RMS	3.6465G	-27.81	-13.00	-14.81	MBW 1M	-
3625MHz	Pass	3.655G	3.665G	430k	1.2M	RMS	3.6555G	-41.21	-25.00	-16.21	MBW 1M	-
3625MHz	Pass	3.665G	3.85G	430k	1.2M	RMS	3.6695G	-42.35	-40.00	-2.35	MBW 1M	-
3625MHz	Pass	3.85G	4G	1M	3M	RMS	3.86502G	-46.36	-40.00	-6.36	-	-
3625MHz	Pass	4G	37G	1M	3M	RMS	36.76405G	-42.97	-40.00	-2.97	-	-
3680MHz	Pass	9k	150k	200	10k	RMS	116.301k	-64.53	-40.00	-24.53	-	-
3680MHz	Pass	150k	30M	9.1k	30k	RMS	164.925k	-61.11	-40.00	-21.11	-	-
3680MHz	Pass	30M	1G	100k	300k	RMS	700.8M	-66.19	-40.00	-26.19	-	-
3680MHz	Pass	1G	3.45G	1M	3M	RMS	3.14914G	-49.09	-40.00	-9.09	-	-
3680MHz	Pass	3.45G	3.64G	1M	3M	RMS	3.48122G	-49.49	-40.00	-9.49	-	-

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Total Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
3680MHz	Pass	3.64G	3.65G	430k	1.2M	RMS	3.6495G	-37.31	-25.00	-12.31	MBW 1M	-
3680MHz	Pass	3.65G	3.659G	430k	1.2M	RMS	3.6585G	-28.97	-13.00	-15.97	MBW 1M	-
3680MHz	Pass	3.659G	3.66G	430k	1.2M	RMS	3.65943G	-13.92	-13.00	-0.92	-	-
3680MHz	Pass	3.7G	3.701G	430k	1.2M	RMS	3.70007G	-14.66	-13.00	-1.66	-	-
3680MHz	Pass	3.701G	3.71G	430k	1.2M	RMS	3.7015G	-29.21	-13.00	-16.21	MBW 1M	-
3680MHz	Pass	3.71G	3.72G	430k	1.2M	RMS	3.7105G	-41.21	-25.00	-16.21	MBW 1M	-
3680MHz	Pass	3.72G	3.85G	430k	1.2M	RMS	3.7215G	-43.41	-40.00	-3.41	MBW 1M	-
3680MHz	Pass	3.85G	4G	1M	3M	RMS	3.85128G	-47.01	-40.00	-7.01	-	-
3680MHz	Pass	4G	37G	1M	3M	RMS	36.76405G	-42.31	-40.00	-2.31	-	-

Band 48_10MHz_2TX
3555MHz_QPSK

CSE-TX-Sum

01/08/2019

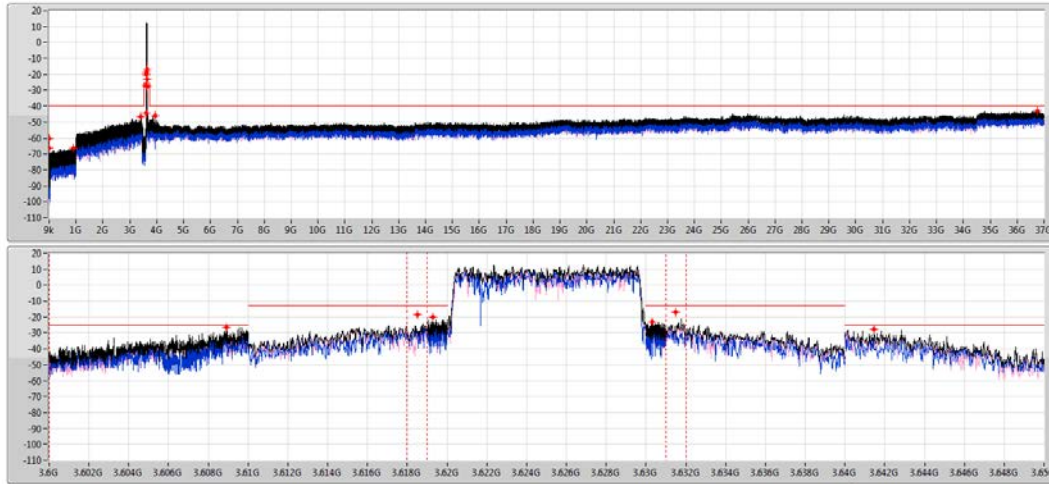


F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	121.588k	-66.07	-40.00	-26.07	-	-	-78.82	-66.30
150k	30M	9.1k	30k	RMS	150k	-60.79	-40.00	-20.79	-	-	-67.26	-61.90
30M	1G	100k	300k	RMS	994.61M	-66.25	-40.00	-26.25	-	-	-71.97	-67.60
1G	3.45G	1M	3M	RMS	3.23538G	-47.89	-40.00	-7.89	-	-	-53.81	-49.31
3.45G	3.53G	100k	300k	RMS	3.5295G	-42.95	-40.00	-2.95	MBW 1M	-	-	-
3.53G	3.54G	1M	3M	RMS	3.54G	-26.31	-25.00	-1.31	-	-	-32.05	-27.66
3.54G	3.549G	100k	300k	RMS	3.5485G	-17.53	-13.00	-4.53	MBW 1M	-	-	-
3.549G	3.55G	100k	300k	RMS	3.5493G	-20.23	-13.00	-7.23	-	-	-20.76	-29.63
3.56G	3.561G	100k	300k	RMS	3.56054G	-20.17	-13.00	-7.17	-	-	-20.62	-30.25
3.561G	3.57G	100k	300k	RMS	3.5625G	-18.36	-13.00	-5.36	MBW 1M	-	-	-
3.57G	3.6G	1M	3M	RMS	3.57042G	-29.53	-25.00	-4.53	-	-	-30.15	-38.26
3.6G	4G	1M	3M	RMS	3.654G	-46.22	-40.00	-6.22	-	-	-48.25	-50.50
4G	37G	1M	3M	RMS	36.5479G	-42.57	-40.00	-2.57	-	-	-47.02	-44.50

Band 48_10MHz_2TX
3625MHz_QPSK

CSE-TX-Sum

01/08/2019



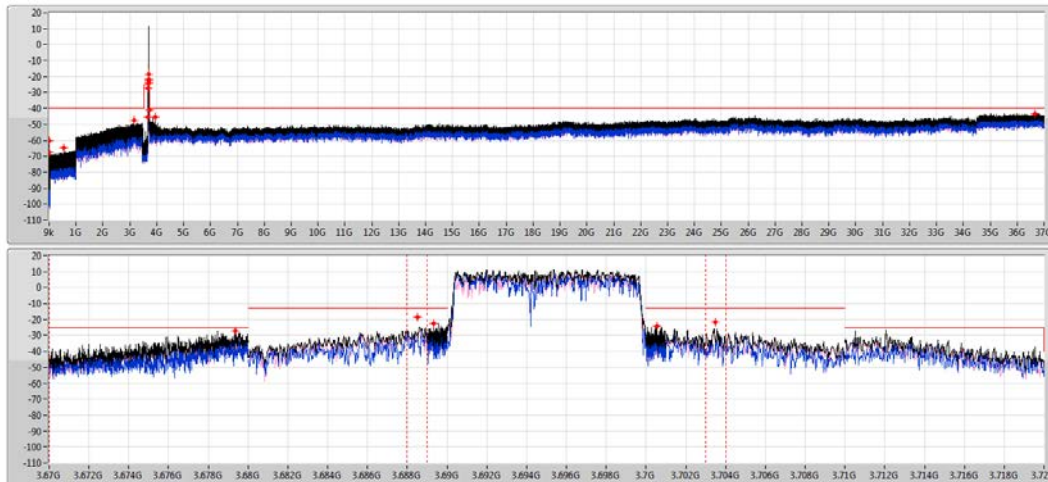
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	114.82k	-66.51	-40.00	-26.51	-	-	-73.89	-67.37
150k	30M	9.1k	30k	RMS	152.965k	-60.41	-40.00	-20.41	-	-	-61.77	-66.13
30M	1G	100k	300k	RMS	894.61M	-66.11	-40.00	-26.11	-	-	-74.27	-66.83
1G	3.45G	1M	3M	RMS	3.41644G	-46.70	-40.00	-6.70	-	-	-49.95	-49.48
3.45G	3.6G	100k	300k	RMS	3.5995G	-44.54	-40.00	-4.54	MBW 1M	-	-	-
3.6G	3.61G	1M	3M	RMS	3.60889G	-26.63	-25.00	-1.63	-	-	-33.19	-27.71
3.61G	3.619G	100k	300k	RMS	3.6185G	-18.79	-13.00	-5.79	MBW 1M	-	-	-
3.619G	3.62G	100k	300k	RMS	3.61927G	-20.34	-13.00	-7.34	-	-	-27.19	-21.34
3.62G	3.631G	100k	300k	RMS	3.63029G	-23.02	-13.00	-10.02	-	-	-29.78	-24.05
3.631G	3.64G	100k	300k	RMS	3.6315G	-17.14	-13.00	-4.14	MBW 1M	-	-	-
3.64G	3.67G	1M	3M	RMS	3.64147G	-27.88	-25.00	-2.88	-	-	-40.93	-28.10
3.67G	4G	1M	3M	RMS	3.6538G	-45.87	-40.00	-5.87	-	-	-49.20	-48.59
4G	37G	1M	3M	RMS	36.77395G	-42.99	-40.00	-2.99	-	-	-45.43	-46.66

Band 48_10MHz_2TX

3695MHz_QPSK

CSE-TX-Sum

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F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	114.75k	-67.56	-40.00	-27.56	-	-	-77.22	-68.06
150k	30M	9.1k	30k	RMS	155.97k	-60.08	-40.00	-20.08	-	-	-66.93	-61.08
30M	1G	100k	300k	RMS	537.6M	-64.84	-40.00	-24.84	-	-	-67.48	-68.25
1G	3.45G	1M	3M	RMS	3.15698G	-47.76	-40.00	-7.76	-	-	-51.80	-49.94
3.45G	3.67G	100k	300k	RMS	3.6695G	-45.40	-40.00	-5.40	MBW 1M	-	-	-
3.67G	3.68G	1M	3M	RMS	3.67935G	-27.31	-25.00	-2.31	-	-	-40.88	-27.51
3.68G	3.689G	100k	300k	RMS	3.6885G	-18.79	-13.00	-5.79	MBW 1M	-	-	-
3.689G	3.69G	100k	300k	RMS	3.68931G	-22.67	-13.00	-9.67	-	-	-31.63	-23.36
3.7G	3.701G	100k	300k	RMS	3.70054G	-24.41	-13.00	-11.41	-	-	-25.72	-24.74
3.701G	3.71G	100k	300k	RMS	3.7035G	-21.57	-13.00	-8.57	MBW 1M	-	-	-
3.71G	3.74G	1M	3M	RMS	3.72311G	-41.04	-40.00	-1.04	-	-	-50.72	-41.53
3.74G	4G	1M	3M	RMS	3.85372G	-45.41	-40.00	-5.41	-	-	-47.07	-50.39

Band 48_10MHz_2TX

3555MHz_16QAM

CSE-TX-Sum

01/08/2019



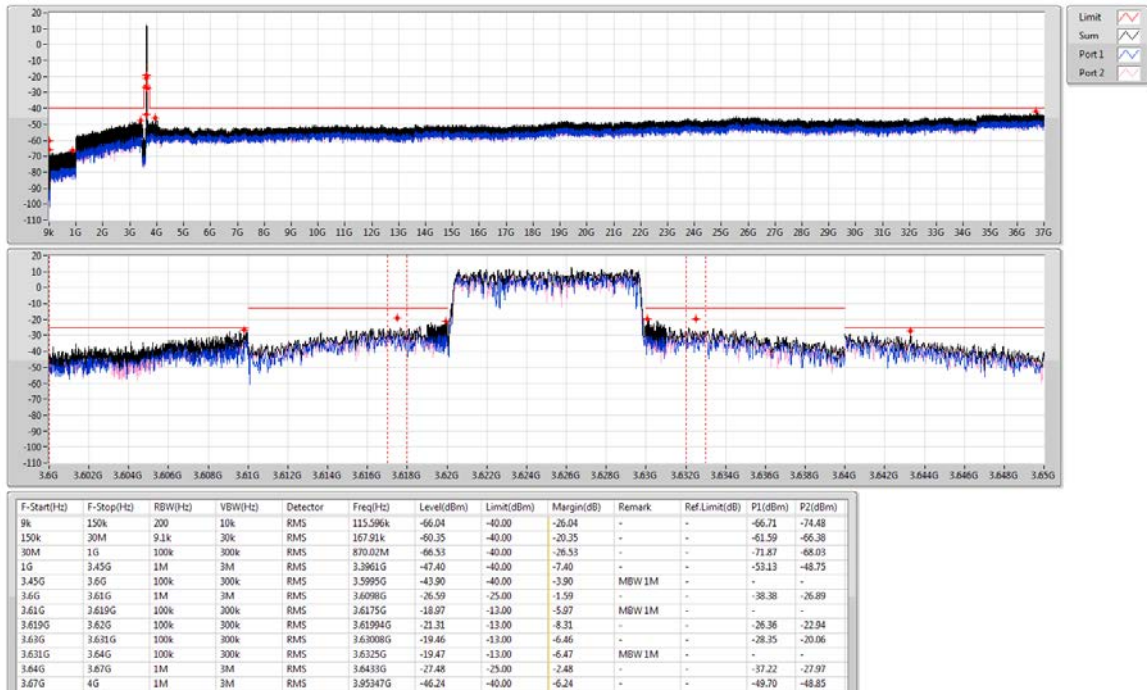
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9k	150k	200	10k	RMS	114.82k	-65.49	-40.00	-25.49	-	-	-70.06	-67.36
150k	30M	9.1k	30k	RMS	167.91k	-59.18	-40.00	-19.18	-	-	-62.41	-61.99
30M	1G	100k	300k	RMS	994.57M	-66.21	-40.00	-26.21	-	-	-69.32	-69.12
1G	3.45G	1M	3M	RMS	3.01684G	-48.02	-40.00	-8.02	-	-	-55.90	-48.79
3.45G	3.53G	100k	300k	RMS	3.5295G	-45.81	-40.00	-5.81	MBW 1M	-	-	-
3.53G	3.54G	1M	3M	RMS	3.53993G	-27.67	-25.00	-2.67	-	-	-29.39	-32.51
3.54G	3.549G	100k	300k	RMS	3.5485G	-17.48	-13.00	-4.48	MBW 1M	-	-	-
3.549G	3.55G	100k	300k	RMS	3.54923G	-20.91	-13.00	-7.91	-	-	-21.55	-20.55
3.56G	3.561G	100k	300k	RMS	3.56093G	-20.57	-13.00	-7.57	-	-	-30.87	-21.00
3.561G	3.57G	100k	300k	RMS	3.5615G	-18.23	-13.00	-5.23	MBW 1M	-	-	-
3.57G	3.6G	1M	3M	RMS	3.57117G	-29.90	-25.00	-4.90	-	-	-30.23	-41.30
3.6G	4G	1M	3M	RMS	3.8536G	-46.96	-40.00	-6.96	-	-	-49.23	-50.87

Band 48_10MHz_2TX

3625MHz_16QAM

CSE-TX-Sum

02/08/2019

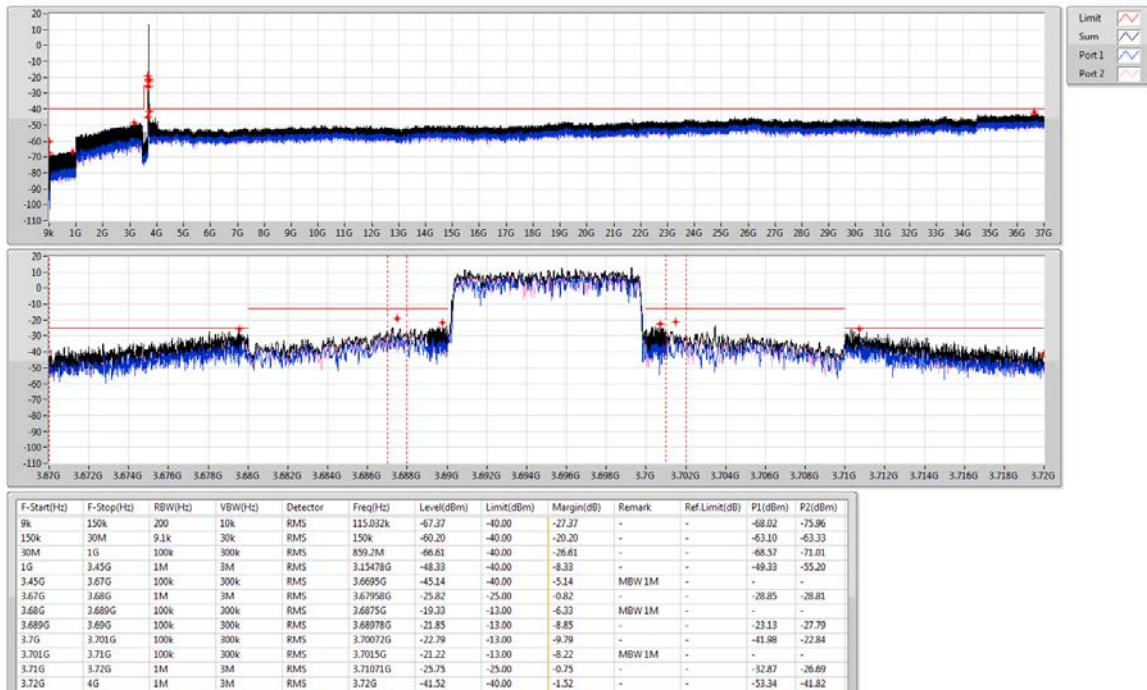


Band 48_10MHz_2TX

3695MHz_16QAM

CSE-TX-Sum

02/08/2019

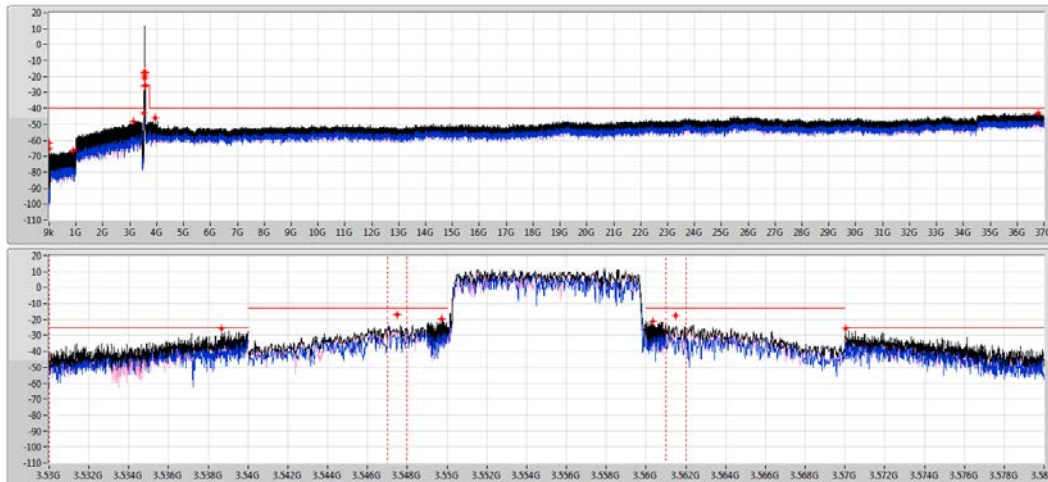


Band 48_10MHz_2TX

3555MHz_64QAM

CSE-TX-Sum

02/08/2019



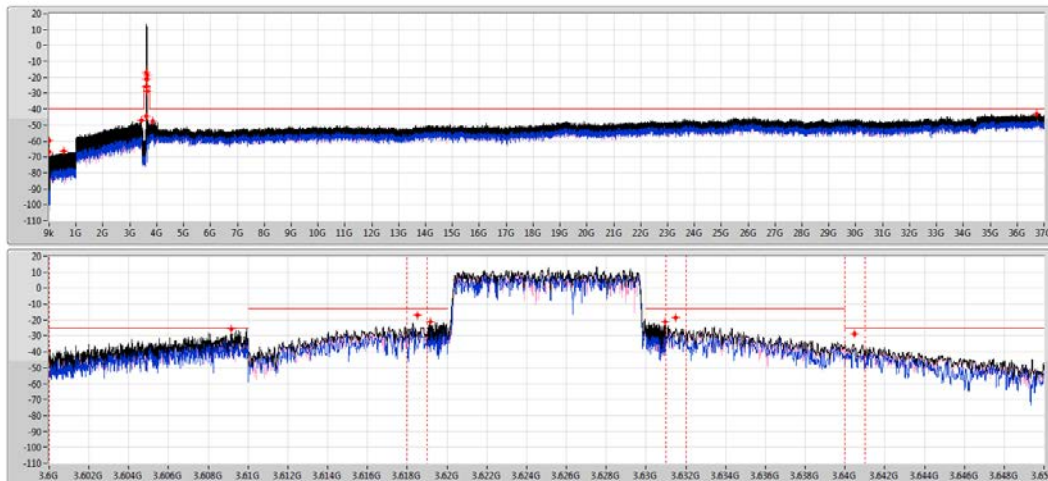
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9k	150k	200	10k	RMS	122.012k	-65.21	-40.00	-25.21	-	-	-67.18	-69.58
150k	30M	9.1k	30k	RMS	164.925k	-61.70	-40.00	-21.70	-	-	-63.50	-66.39
30M	1G	100k	300k	RMS	914.06M	-66.45	-40.00	-26.45	-	-	-67.50	-73.13
1G	3.45G	1M	3M	RMS	3.14498G	-47.89	-40.00	-7.89	-	-	-53.13	-49.43
3.45G	3.53G	100k	300k	RMS	3.5295G	-43.22	-40.00	-3.22	MBW 1M	-	-	-
3.53G	3.54G	1M	3M	RMS	3.53868G	-25.83	-25.00	-0.83	-	-	-42.69	-25.92
3.54G	3.549G	100k	300k	RMS	3.5475G	-17.24	-13.00	-4.24	MBW 1M	-	-	-
3.549G	3.55G	100k	300k	RMS	3.54979G	-19.53	-13.00	-6.53	-	-	-30.53	-26.42
3.55G	3.561G	100k	300k	RMS	3.56037G	-20.88	-13.00	-7.88	-	-	-27.05	-22.88
3.561G	3.57G	100k	300k	RMS	3.5615G	-17.61	-13.00	-4.61	MBW 1M	-	-	-
3.57G	3.58G	1M	3M	RMS	3.57003G	-25.80	-25.00	-0.80	-	-	-38.71	-26.03
3.58G	4G	1M	3M	RMS	3.6538G	-45.84	-40.00	-5.84	-	-	-49.01	-48.69

Band 48_10MHz_2TX

3625MHz_64QAM

CSE-TX-Sum

02/08/2019

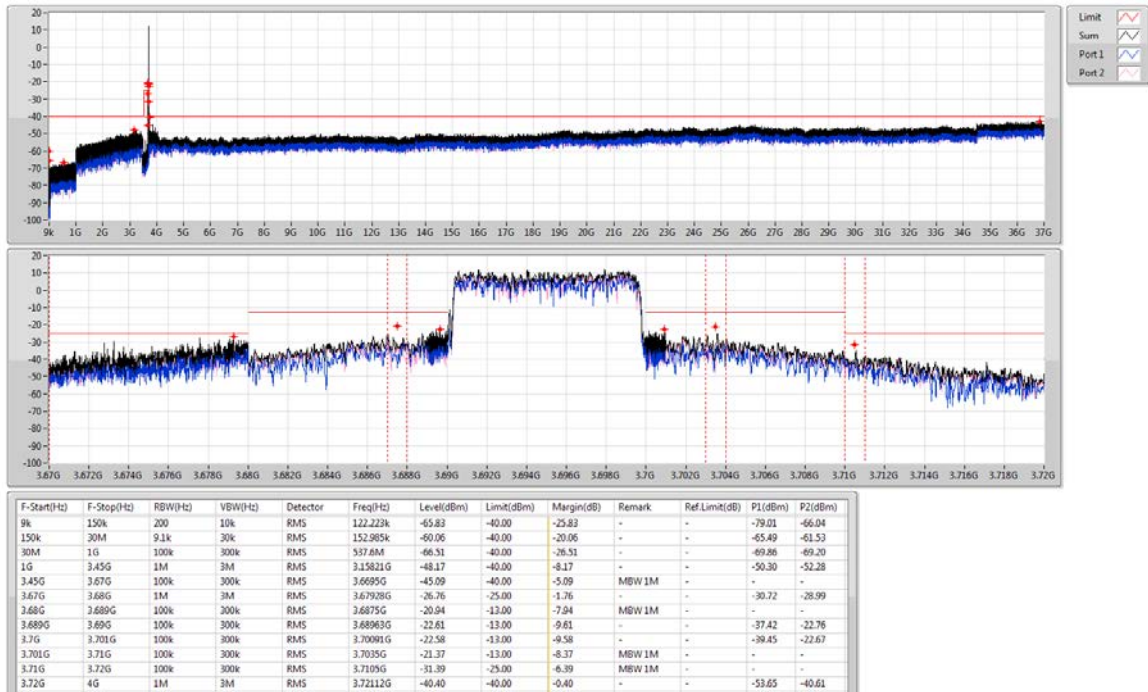


F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	122.294k	-66.60	-40.00	-26.60	-	-	-66.75	-81.23
150k	30M	9.1k	30k	RMS	150k	-59.84	-40.00	-19.84	-	-	-61.78	-64.28
30M	1G	100k	300k	RMS	537.65M	-66.46	-40.00	-26.46	-	-	-68.77	-70.31
1G	3.45G	1M	3M	RMS	3.42501G	-46.97	-40.00	-6.97	-	-	-48.73	-51.75
3.45G	3.6G	100k	300k	RMS	3.5995G	-44.60	-40.00	-4.60	MBW 1M	-	-	-
3.6G	3.61G	1M	3M	RMS	3.60917G	-25.67	-25.00	-0.67	-	-	-36.75	-26.02
3.61G	3.619G	100k	300k	RMS	3.6185G	-17.32	-13.00	-4.32	MBW 1M	-	-	-
3.619G	3.62G	100k	300k	RMS	3.61916G	-21.37	-13.00	-8.37	-	-	-28.41	-22.33
3.62G	3.631G	100k	300k	RMS	3.63095G	-21.11	-13.00	-8.11	-	-	-40.21	-21.16
3.631G	3.64G	100k	300k	RMS	3.6315G	-18.41	-13.00	-5.41	MBW 1M	-	-	-
3.64G	3.65G	100k	300k	RMS	3.6405G	-28.81	-25.00	-3.81	MBW 1M	-	-	-
3.65G	4G	1M	3M	RMS	3.86455G	-47.57	-40.00	-7.57	-	-	-49.87	-51.28

Band 48_10MHz_2TX
3695MHz_64QAM

CSE-TX-Sum

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Band 48_10MHz_2TX
3555MHz_256QAM

CSE-TX-Sum

02/08/2019

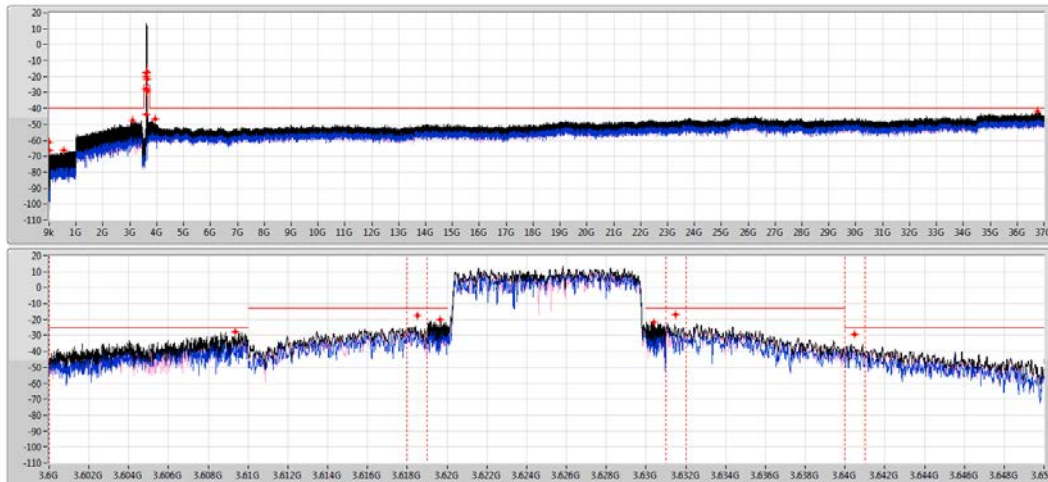


Band 48_10MHz_2TX

3625MHz_256QAM

CSE-TX-Sum

02/08/2019



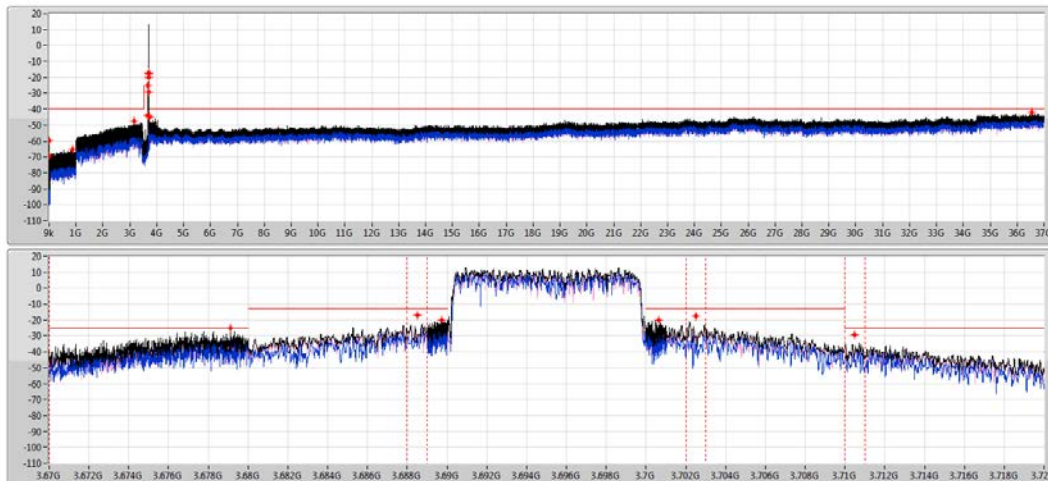
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9k	150k	200	10k	RMS	119.121k	-66.12	-40.00	-26.12	-	-	-66.43	-77.75
150k	30M	9.1k	30k	RMS	150k	-61.08	-40.00	-21.08	-	-	-62.32	-67.11
30M	1G	100k	300k	RMS	537.6M	-66.35	-40.00	-26.35	-	-	-68.38	-70.63
1G	3.45G	1M	3M	RMS	3.08863G	-47.67	-40.00	-7.67	-	-	-49.83	-51.74
3.45G	3.6G	100k	300k	RMS	3.5995G	-43.77	-40.00	-3.77	MBW 1M	-	-	-
3.6G	3.61G	1M	3M	RMS	3.60936G	-27.54	-25.00	-2.54	-	-	-39.24	-27.84
3.61G	3.619G	100k	300k	RMS	3.6185G	-17.83	-13.00	-4.83	MBW 1M	-	-	-
3.619G	3.62G	100k	300k	RMS	3.61866G	-20.19	-13.00	-7.19	-	-	-21.14	-27.38
3.62G	3.621G	100k	300k	RMS	3.62039G	-21.41	-13.00	-8.41	-	-	-27.46	-21.52
3.621G	3.64G	100k	300k	RMS	3.6315G	-17.17	-13.00	-4.17	MBW 1M	-	-	-
3.64G	3.65G	100k	300k	RMS	3.6405G	-29.45	-25.00	-4.45	MBW 1M	-	-	-
3.65G	4G	1M	3M	RMS	3.85415G	-46.68	-40.00	-6.68	-	-	-50.24	-49.20

Band 48_10MHz_2TX

3695MHz_256QAM

CSE-TX-Sum

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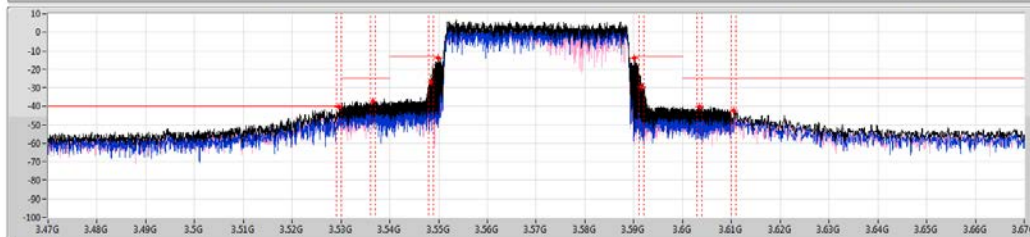
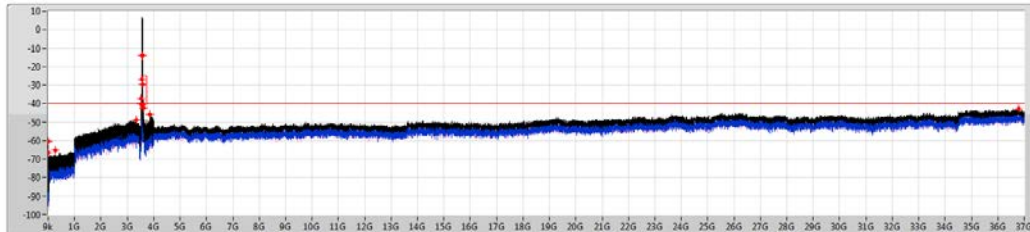
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	115.173k	-69.99	-40.00	-29.99	-	-	-70.10	-79.12
150k	30M	9.1k	30k	RMS	150k	-59.54	-40.00	-19.54	-	-	-60.90	-65.26
30M	1G	100k	300k	RMS	875.55M	-65.45	-40.00	-25.45	-	-	-66.48	-72.22
1G	3.45G	1M	3M	RMS	3.1587G	-47.47	-40.00	-7.47	-	-	-51.79	-49.48
3.45G	3.67G	100k	300k	RMS	3.6695G	-44.21	-40.00	-4.21	MBW 1M	-	-	-
3.67G	3.68G	1M	3M	RMS	3.67913G	-25.40	-25.00	-0.40	-	-	-25.96	-34.56
3.68G	3.689G	100k	300k	RMS	3.6885G	-17.22	-13.00	-4.22	MBW 1M	-	-	-
3.689G	3.69G	100k	300k	RMS	3.68975G	-20.10	-13.00	-7.10	-	-	-28.40	-20.80
3.69G	3.701G	100k	300k	RMS	3.70065G	-20.37	-13.00	-7.37	-	-	-26.22	-21.68
3.701G	3.71G	100k	300k	RMS	3.7025G	-17.53	-13.00	-4.53	MBW 1M	-	-	-
3.71G	3.72G	100k	300k	RMS	3.7109G	-29.31	-25.00	-4.31	MBW 1M	-	-	-
3.72G	4G	1M	3M	RMS	3.72028G	-45.02	-40.00	-5.02	-	-	-51.37	-46.16

Band 48 40MHz 2TX

3570MHz_QPSK

CSE-TX-Sum

05/08/2019



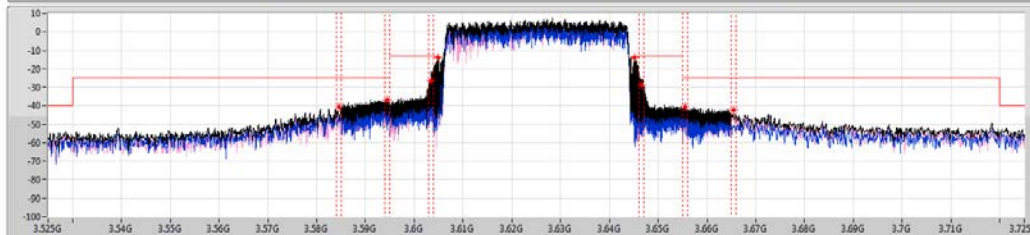
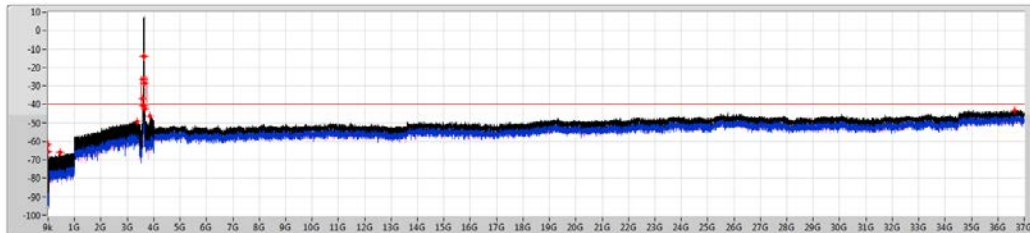
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	117.57k	-46.27	-40.00	-6.27	-	-	-68.70	-69.94
150k	30M	9.1k	30k	RMS	150k	-60.35	-40.00	-20.35	-	-	-62.74	-64.09
30M	1G	100k	300k	RMS	259.89M	-55.29	-40.00	-15.29	-	-	-68.80	-67.78
1G	3.45G	1M	3M	RMS	3.32701G	-49.05	-40.00	-9.05	-	-	-51.79	-52.35
3.45G	3.53G	430k	1.2M	RMS	3.5295G	-40.47	-40.00	-0.47	MBW 1M	-	-	-
3.53G	3.54G	430k	1.2M	RMS	3.5365G	-37.34	-25.00	-12.34	MBW 1M	-	-	-
3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.96	-13.00	-13.96	MBW 1M	-	-	-
3.549G	3.55G	430k	1.2M	RMS	3.54886G	-14.08	-13.00	-1.08	-	-	-17.22	-16.96
3.55G	3.591G	430k	1.2M	RMS	3.59004G	-14.13	-13.00	-1.13	-	-	-16.76	-17.55
3.591G	3.6G	430k	1.2M	RMS	3.5915G	-29.64	-13.00	-16.64	MBW 1M	-	-	-
3.6G	3.61G	430k	1.2M	RMS	3.6035G	-40.43	-25.00	-15.43	MBW 1M	-	-	-
3.61G	3.85G	430k	1.2M	RMS	3.6105G	-42.41	-40.00	-2.41	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85354G	-46.04	-40.00	-6.04	-	-	-49.56	-48.59

Band 48 40MHz 2TX

3625MHz_QPSK

CSE-TX-Sum

05/08/2019



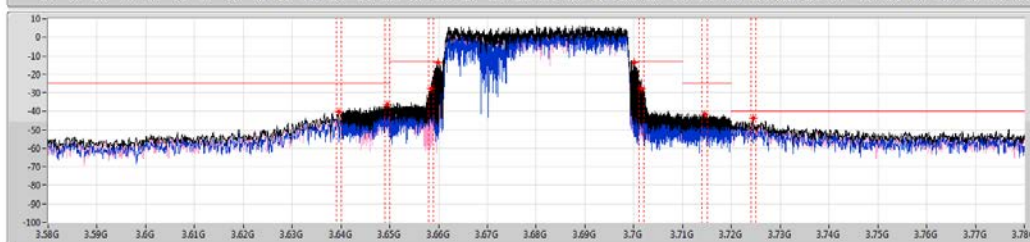
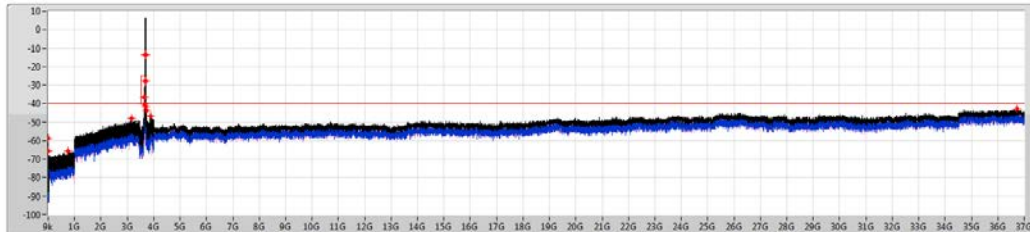
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	116.447k	-65.43	-40.00	-25.43	-	-	-76.29	-65.80
150k	30M	9.1k	30k	RMS	4.66M	-61.80	-40.00	-21.80	-	-	-64.83	-64.80
30M	1G	100k	300k	RMS	460.68M	-66.03	-40.00	-26.03	-	-	-69.90	-68.32
1G	3.45G	1M	3M	RMS	3.37871G	-49.45	-40.00	-9.45	-	-	-54.15	-51.25
3.45G	3.585G	430k	1.2M	RMS	3.5845G	-40.64	-40.00	-0.64	MBW 1M	-	-	-
3.585G	3.595G	430k	1.2M	RMS	3.5945G	-36.75	-25.00	-11.75	MBW 1M	-	-	-
3.595G	3.604G	430k	1.2M	RMS	3.6035G	-26.39	-13.00	-13.39	MBW 1M	-	-	-
3.604G	3.6095G	430k	1.2M	RMS	3.60485G	-13.97	-13.00	-0.97	-	-	-20.58	-15.04
3.6095G	3.646G	430k	1.2M	RMS	3.6431G	-14.01	-13.00	-1.01	-	-	-18.00	-15.87
3.646G	3.655G	430k	1.2M	RMS	3.6465G	-28.83	-13.00	-15.83	MBW 1M	-	-	-
3.655G	3.665G	430k	1.2M	RMS	3.6555G	-40.63	-25.00	-15.63	MBW 1M	-	-	-
3.665G	3.85G	430k	1.2M	RMS	3.6655G	-42.52	-40.00	-2.52	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.86431G	-46.15	-40.00	-6.15	-	-	-49.96	-48.48

Band 48 40MHz 2TX

3680MHz_QPSK

CSE-TX-Sum

05/08/2019



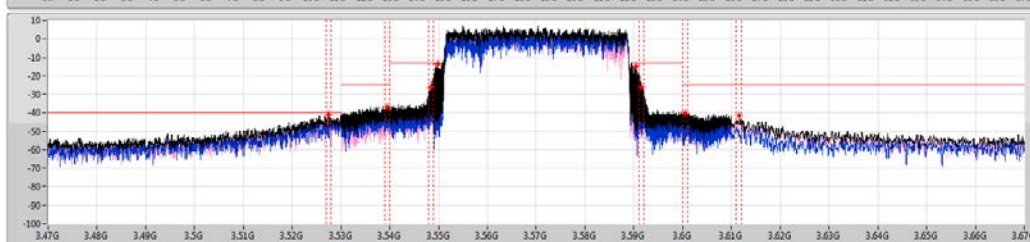
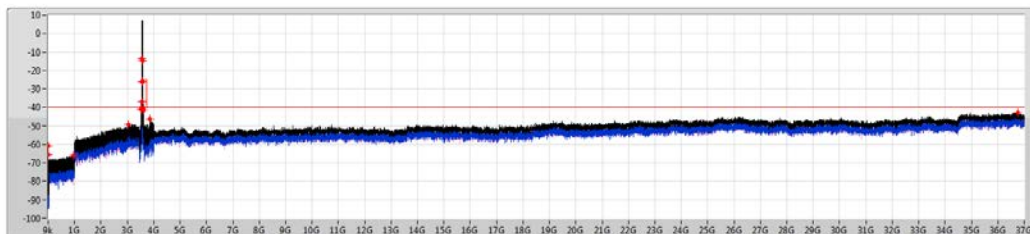
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	120.32k	-65.52	-40.00	-25.52	-	-	-66.49	-72.50
150k	30M	9.1k	30k	RMS	152.085k	-58.80	-40.00	-18.80	-	-	-61.02	-62.77
30M	1G	100k	300k	RMS	746.98M	-65.59	-40.00	-25.59	-	-	-67.53	-70.02
1G	3.45G	1M	3M	RMS	3.16482G	-47.99	-40.00	-7.99	-	-	-50.43	-51.66
3.45G	3.64G	430k	1.2M	RMS	3.6395G	-40.33	-40.00	-0.33	MBW 1M	-	-	-
3.64G	3.65G	430k	1.2M	RMS	3.6495G	-36.34	-25.00	-11.34	MBW 1M	-	-	-
3.65G	3.659G	430k	1.2M	RMS	3.6585G	-27.98	-13.00	-14.98	MBW 1M	-	-	-
3.659G	3.66G	430k	1.2M	RMS	3.65992G	-13.54	-13.00	-0.54	-	-	-17.19	-16.00
3.7G	3.701G	430k	1.2M	RMS	3.70002G	-13.76	-13.00	-0.76	-	-	-13.96	-17.22
3.701G	3.71G	430k	1.2M	RMS	3.7015G	-28.01	-13.00	-15.01	MBW 1M	-	-	-
3.71G	3.72G	430k	1.2M	RMS	3.7145G	-41.62	-25.00	-16.62	MBW 1M	-	-	-
3.72G	3.85G	430k	1.2M	RMS	3.7245G	-43.85	-40.00	-3.85	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.89668G	-46.76	-40.00	-6.76	-	-	-49.72	-49.82

Band 48 40MHz 2TX

3570MHz_16QAM

CSE-TX-Sum

05/08/2019



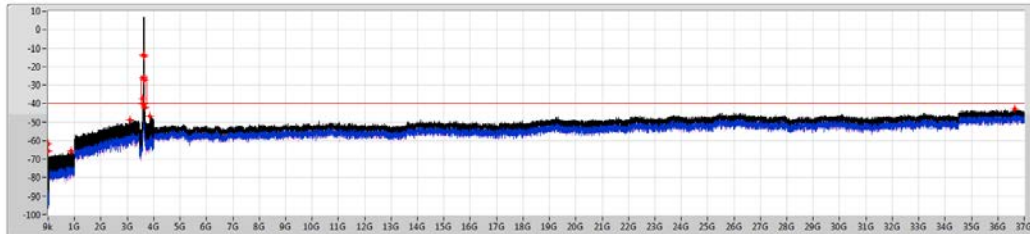
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9k	150k	200	10k	RMS	122.434k	-65.57	-40.00	-25.57	-	-	-67.92	-69.35
150k	30M	9.1k	30k	RMS	161.94k	-60.84	-40.00	-20.84	-	-	-64.69	-63.14
30M	1G	100k	300k	RMS	958.82M	-65.85	-40.00	-25.85	-	-	-69.06	-68.66
1G	3.45G	1M	3M	RMS	3.0509G	-49.18	-40.00	-9.18	-	-	-54.10	-50.87
3.45G	3.53G	430k	1.2M	RMS	3.5275G	-41.00	-40.00	-1.00	MBW 1M	-	-	-
3.53G	3.54G	430k	1.2M	RMS	3.5395G	-36.93	-25.00	-11.93	MBW 1M	-	-	-
3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.21	-13.00	-13.21	MBW 1M	-	-	-
3.549G	3.55G	430k	1.2M	RMS	3.54991G	-13.67	-13.00	-0.67	-	-	-21.42	-14.47
3.55G	3.559G	430k	1.2M	RMS	3.55048G	-14.38	-13.00	-1.38	-	-	-18.75	-17.17
3.559G	3.6G	430k	1.2M	RMS	3.5915G	-26.30	-13.00	-13.30	MBW 1M	-	-	-
3.6G	3.61G	430k	1.2M	RMS	3.6095G	-40.15	-25.00	-15.15	MBW 1M	-	-	-
3.61G	3.85G	430k	1.2M	RMS	3.6115G	-41.71	-40.00	-1.71	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85267G	-46.38	-40.00	-6.38	-	-	-49.98	-48.87

Band 48 40MHz 2TX

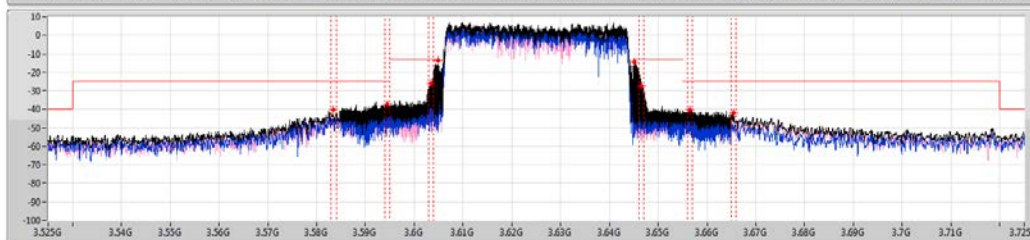
3625MHz_16QAM

CSE-TX-Sum

05/08/2019



Limit
Sum
Port 1
Port 2



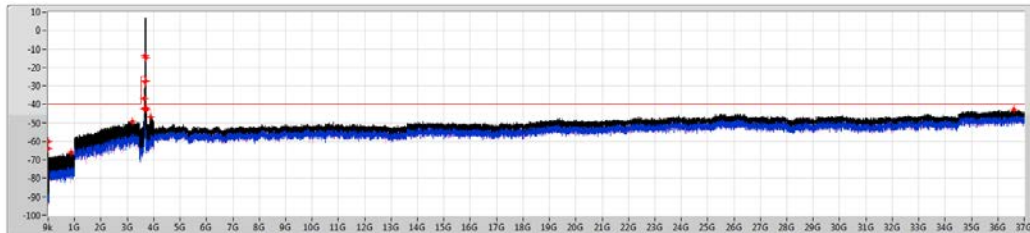
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	122.434k	-65.76	-40.00	-25.76	-	-	-79.76	-65.94
150k	30M	9.1k	30k	RMS	4.66M	-61.69	-40.00	-21.69	-	-	-64.75	-64.66
30M	1G	100k	300k	RMS	885.54M	-65.80	-40.00	-25.80	-	-	-71.60	-67.12
1G	3.45G	1M	3M	RMS	3.11141G	-88.06	-40.00	-48.06	-	-	-51.19	-52.93
3.45G	3.585G	430k	1.2M	RMS	3.5835G	-40.43	-40.00	-0.43	MBW 1M	-	-	-
3.585G	3.595G	430k	1.2M	RMS	3.5945G	-37.22	-25.00	-12.22	MBW 1M	-	-	-
3.595G	3.604G	430k	1.2M	RMS	3.6035G	-26.06	-13.00	-13.06	MBW 1M	-	-	-
3.604G	3.605G	430k	1.2M	RMS	3.60489G	-13.60	-13.00	-0.60	-	-	-40.87	-13.61
3.605G	3.645G	430k	1.2M	RMS	3.64304G	-14.59	-13.00	-1.59	-	-	-44.01	-14.59
3.645G	3.655G	430k	1.2M	RMS	3.6465G	-27.45	-13.00	-14.45	MBW 1M	-	-	-
3.655G	3.665G	430k	1.2M	RMS	3.6585G	-40.34	-25.00	-15.34	MBW 1M	-	-	-
3.665G	3.85G	430k	1.2M	RMS	3.6655G	-41.78	-40.00	-1.78	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85255G	-46.81	-40.00	-6.81	-	-	-48.53	-51.67

Band 48 40MHz 2TX

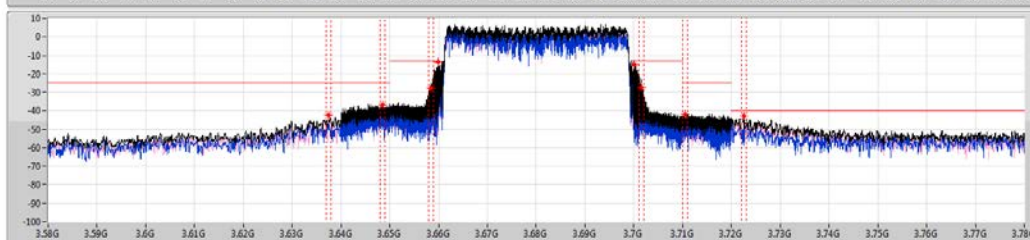
3680MHz_16QAM

CSE-TX-Sum

05/08/2019



Limit
Sum
Port 1
Port 2



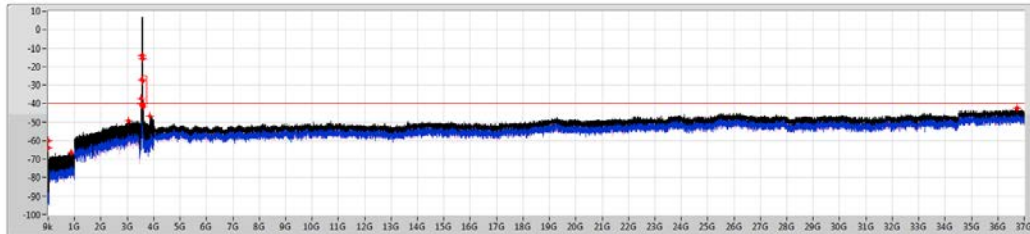
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	121.095k	-64.06	-40.00	-24.06	-	-	-78.59	-64.22
150k	30M	9.1k	30k	RMS	150k	-60.12	-40.00	-20.12	-	-	-65.16	-61.75
30M	1G	100k	300k	RMS	869.73M	-66.06	-40.00	-26.06	-	-	-68.53	-69.68
1G	3.45G	1M	3M	RMS	3.20059G	-49.47	-40.00	-9.47	-	-	-53.98	-51.36
3.45G	3.64G	430k	1.2M	RMS	3.6375G	-42.52	-40.00	-2.52	MBW 1M	-	-	-
3.64G	3.65G	430k	1.2M	RMS	3.6485G	-36.79	-25.00	-11.79	MBW 1M	-	-	-
3.65G	3.659G	430k	1.2M	RMS	3.6585G	-27.94	-13.00	-14.94	MBW 1M	-	-	-
3.659G	3.666G	430k	1.2M	RMS	3.65994G	-13.43	-13.00	-0.43	-	-	-17.16	-13.83
3.666G	3.701G	430k	1.2M	RMS	3.70006G	-15.12	-13.00	-2.12	-	-	-19.76	-16.95
3.701G	3.71G	430k	1.2M	RMS	3.7015G	-27.34	-13.00	-14.34	MBW 1M	-	-	-
3.71G	3.72G	430k	1.2M	RMS	3.7105G	-42.07	-25.00	-17.07	MBW 1M	-	-	-
3.72G	3.85G	430k	1.2M	RMS	3.7225G	-42.89	-40.00	-2.89	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.88286G	-46.69	-40.00	-6.69	-	-	-47.76	-53.28

Band 48 40MHz 2TX

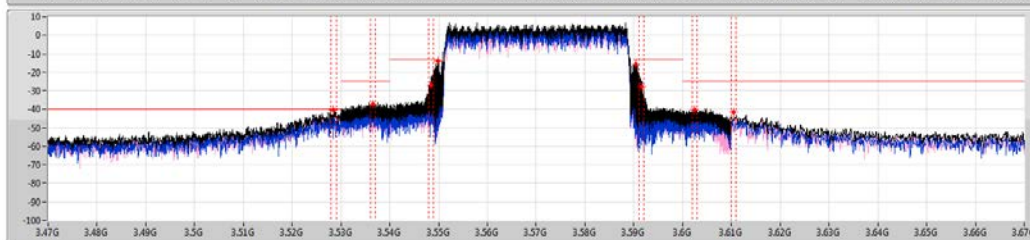
3570MHz_64QAM

CSE-TX-Sum

05/08/2019



Limit
Sum
Port 1
Port 2



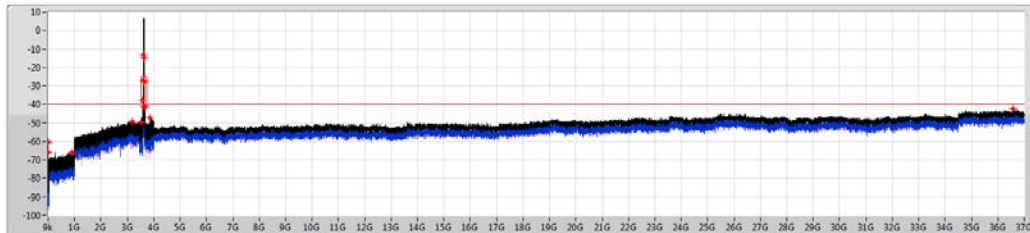
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	118.23k	-63.90	-40.00	-23.90	-	-	-70.47	-44.98
150k	30M	9.1k	30k	RMS	158.955k	-59.84	-40.00	-19.84	-	-	-62.00	-63.90
30M	1G	100k	300k	RMS	882.68M	-66.48	-40.00	-26.48	-	-	-69.41	-69.58
1G	3.45G	1M	3M	RMS	3.04698G	-49.17	-40.00	-9.17	-	-	-54.02	-50.89
3.45G	3.53G	430k	1.2M	RMS	3.5285G	-40.11	-40.00	-0.11	MBW 1M	-	-	-
3.53G	3.54G	430k	1.2M	RMS	3.5365G	-37.18	-25.00	-12.18	MBW 1M	-	-	-
3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.76	-13.00	-13.76	MBW 1M	-	-	-
3.549G	3.55G	430k	1.2M	RMS	3.54996G	-14.09	-13.00	-1.09	-	-	-14.11	-37.74
3.55G	3.591G	430k	1.2M	RMS	3.59047G	-15.75	-13.00	-2.75	-	-	-16.91	-22.03
3.591G	3.6G	430k	1.2M	RMS	3.5915G	-28.00	-13.00	-15.00	MBW 1M	-	-	-
3.6G	3.61G	430k	1.2M	RMS	3.6025G	-40.16	-25.00	-15.16	MBW 1M	-	-	-
3.61G	3.85G	430k	1.2M	RMS	3.6105G	-41.73	-40.00	-1.73	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85308G	-46.51	-40.00	-6.51	-	-	-49.93	-49.15

Band 48 40MHz 2TX

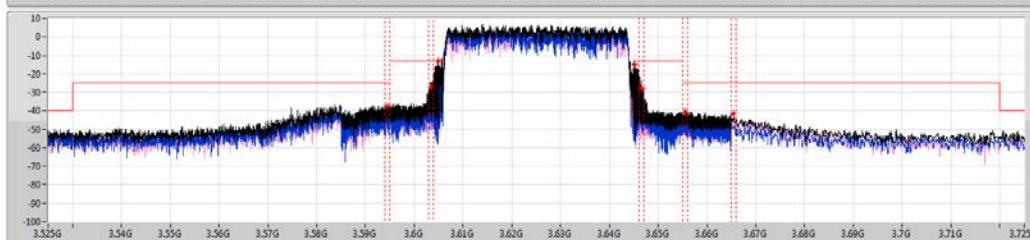
3625MHz_64QAM

CSE-TX-Sum

05/08/2019



Limit
Sum
Port 1
Port 2



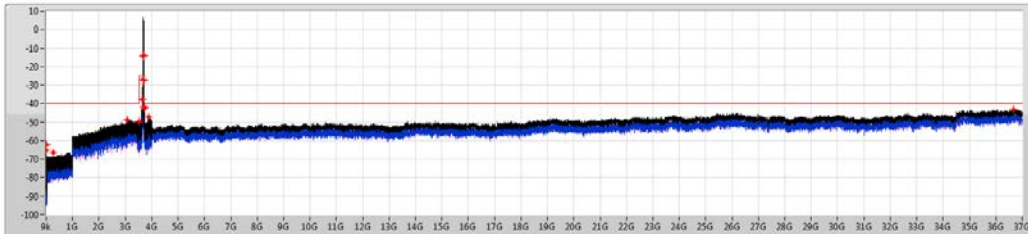
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9k	150k	200	10k	RMS	122.364k	-65.87	-40.00	-25.87	-	-	-66.25	-76.65
150k	30M	9.1k	30k	RMS	152.985k	-60.77	-40.00	-20.77	-	-	-62.85	-63.75
30M	1G	100k	300k	RMS	900.24M	-65.94	-40.00	-25.94	-	-	-70.14	-68.01
1G	3.45G	1M	3M	RMS	3.18736G	-49.39	-40.00	-9.39	-	-	-52.64	-52.18
3.45G	3.585G	1M	3M	RMS	3.52154G	-49.62	-40.00	-9.62	-	-	-51.76	-53.72
3.585G	3.595G	430k	1.2M	RMS	3.5945G	-37.56	-25.00	-12.56	MBW 1M	-	-	-
3.595G	3.604G	430k	1.2M	RMS	3.6035G	-27.04	-13.00	-14.04	MBW 1M	-	-	-
3.604G	3.6095G	430k	1.2M	RMS	3.60944G	-13.12	-13.00	-0.12	-	-	-27.13	-13.30
3.6095G	3.646G	430k	1.2M	RMS	3.6451G	-15.05	-13.00	-2.05	-	-	-15.50	-25.08
3.646G	3.655G	430k	1.2M	RMS	3.6465G	-27.99	-13.00	-14.99	MBW 1M	-	-	-
3.655G	3.665G	430k	1.2M	RMS	3.6555G	-40.73	-25.00	-15.73	MBW 1M	-	-	-
3.665G	3.85G	430k	1.2M	RMS	3.6655G	-41.51	-40.00	-1.51	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85051G	-46.97	-40.00	-6.97	-	-	-49.25	-50.86

Band 48 40MHz 2TX

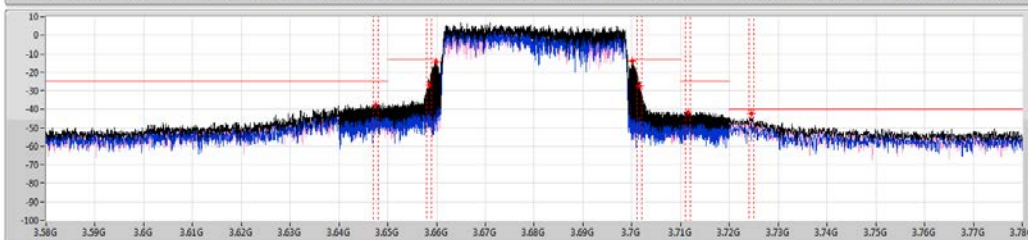
3680MHz_64QAM

CSE-TX-Sum

05/08/2019



Limit
Sum
Port 1
Port 2



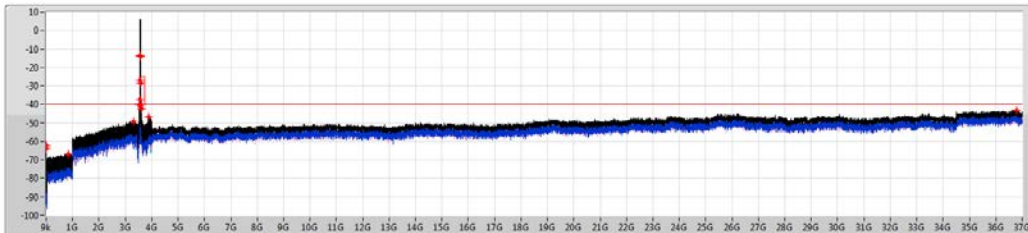
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	121.024k	-49.14	-40.00	-25.14	-	-	-65.34	-78.69
150k	30M	9.1k	30k	RMS	150k	-62.07	-40.00	-22.07	-	-	-67.11	-63.70
30M	1G	100k	300k	RMS	259.891M	-66.61	-40.00	-26.61	-	-	-69.21	-70.07
1G	3.45G	1M	3M	RMS	3.08446G	-8.06	-40.00	-8.06	-	-	-51.61	-52.36
3.45G	3.64G	1M	3M	RMS	3.51677G	-49.73	-40.00	-9.73	-	-	-52.60	-52.89
3.64G	3.65G	430k	1.2M	RMS	3.6475G	-37.55	-25.00	-12.55	MBW 1M	-	-	-
3.65G	3.659G	430k	1.2M	RMS	3.6585G	-26.83	-13.00	-13.83	MBW 1M	-	-	-
3.659G	3.66G	430k	1.2M	RMS	3.65998G	-14.58	-13.00	-1.58	-	-	-27.35	-14.82
3.7G	3.701G	430k	1.2M	RMS	3.70007G	-13.99	-13.00	-0.99	-	-	-13.99	-47.65
3.701G	3.71G	430k	1.2M	RMS	3.7015G	-27.37	-13.00	-14.37	MBW 1M	-	-	-
3.71G	3.72G	430k	1.2M	RMS	3.7115G	-41.46	-25.00	-16.46	MBW 1M	-	-	-
3.72G	3.85G	430k	1.2M	RMS	3.7245G	-42.51	-40.00	-2.51	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.88378G	-46.97	-40.00	-6.97	-	-	-51.71	-48.75

Band 48 40MHz 2TX

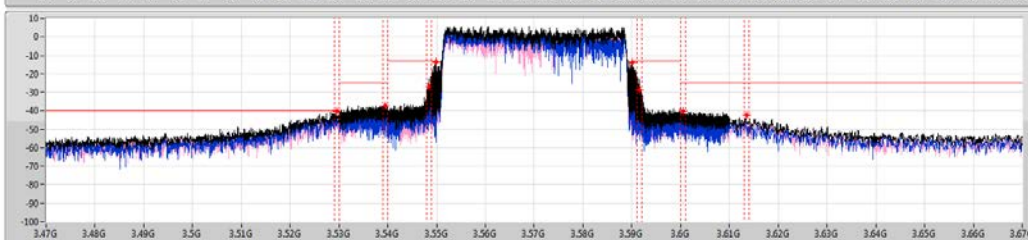
3570MHz_256QAM

CSE-TX-Sum

05/08/2019



Limit
Sum
Port 1
Port 2



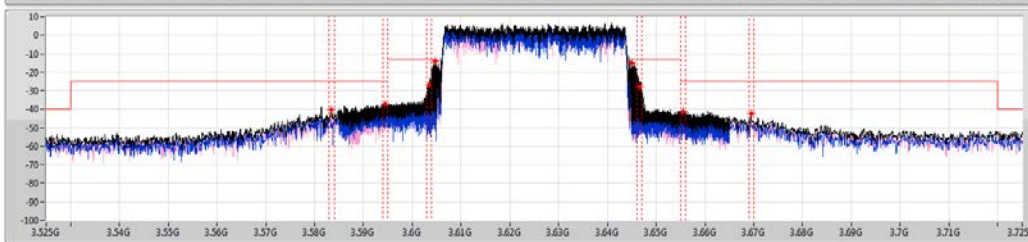
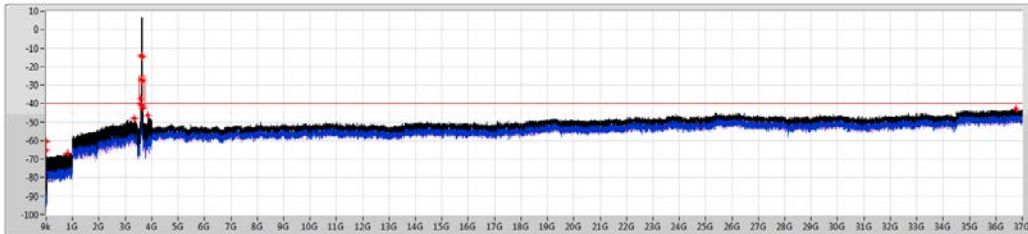
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	116.23k	-63.91	-40.00	-23.91	-	-	-68.10	-66.00
150k	30M	9.1k	30k	RMS	158.955k	-62.10	-40.00	-22.10	-	-	-64.79	-65.45
30M	1G	100k	300k	RMS	854.4M	-66.73	-40.00	-26.73	-	-	-68.94	-70.72
1G	3.45G	1M	3M	RMS	3.31574G	-49.12	-40.00	-9.12	-	-	-56.33	-50.03
3.45G	3.53G	430k	1.2M	RMS	3.5295G	-40.36	-40.00	-0.36	MBW 1M	-	-	-
3.53G	3.54G	430k	1.2M	RMS	3.5395G	-37.19	-25.00	-12.19	MBW 1M	-	-	-
3.54G	3.549G	430k	1.2M	RMS	3.5485G	-26.77	-13.00	-13.77	MBW 1M	-	-	-
3.549G	3.55G	430k	1.2M	RMS	3.54884G	-13.56	-13.00	-0.56	-	-	-38.52	-13.57
3.55G	3.59G	430k	1.2M	RMS	3.58016G	-13.94	-13.00	-0.94	-	-	-19.64	-15.73
3.59G	3.6G	430k	1.2M	RMS	3.5915G	-28.49	-13.00	-15.49	MBW 1M	-	-	-
3.6G	3.61G	430k	1.2M	RMS	3.6095G	-40.35	-25.00	-15.35	MBW 1M	-	-	-
3.61G	3.85G	430k	1.2M	RMS	3.6135G	-42.54	-40.00	-2.54	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.87847G	-46.71	-40.00	-6.71	-	-	-47.92	-52.87

Band 48 40MHz 2TX

3625MHz_256QAM

CSE-TX-Sum

05/08/2019



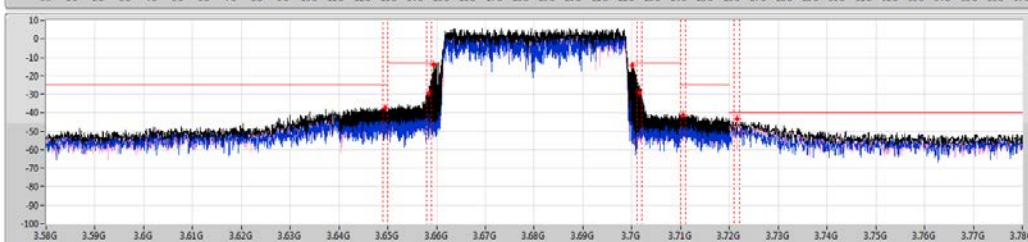
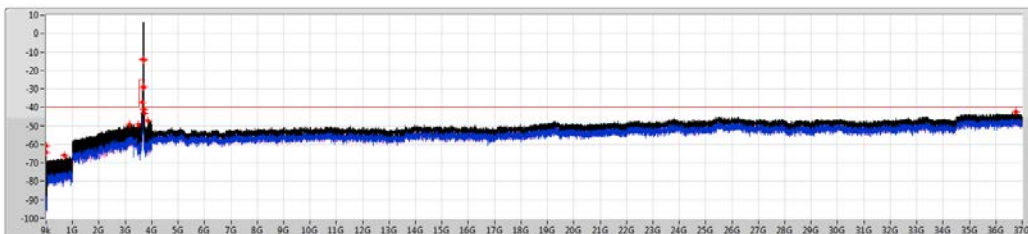
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	115.102k	-45.17	-40.00	-5.17	-	-	-69.84	-69.98
150k	30M	9.1k	30k	RMS	150k	-60.35	-40.00	-20.35	-	-	-64.87	-62.24
30M	1G	100k	300k	RMS	810.46M	-66.89	-40.00	-26.89	-	-	-69.05	-70.95
1G	3.45G	1M	3M	RMS	3.3471G	-88.09	-40.00	-48.09	-	-	-52.62	-49.98
3.45G	3.585G	430k	1.2M	RMS	3.5835G	-40.40	-40.00	-0.40	MBW 1M	-	-	-
3.585G	3.595G	430k	1.2M	RMS	3.5945G	-37.33	-25.00	-12.33	MBW 1M	-	-	-
3.595G	3.604G	430k	1.2M	RMS	3.6035G	-26.87	-13.00	-13.87	MBW 1M	-	-	-
3.604G	3.605G	430k	1.2M	RMS	3.60478G	-14.20	-13.00	-1.20	-	-	-14.21	-42.48
3.605G	3.645G	430k	1.2M	RMS	3.64501G	-14.74	-13.00	-1.74	-	-	-14.75	-42.78
3.645G	3.655G	430k	1.2M	RMS	3.6465G	-27.81	-13.00	-14.81	MBW 1M	-	-	-
3.655G	3.665G	430k	1.2M	RMS	3.6555G	-41.21	-25.00	-16.21	MBW 1M	-	-	-
3.665G	3.85G	430k	1.2M	RMS	3.6695G	-42.35	-40.00	-2.35	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85002G	-46.36	-40.00	-6.36	-	-	-49.89	-48.90

Band 48 40MHz 2TX

3680MHz_256QAM

CSE-TX-Sum

05/08/2019



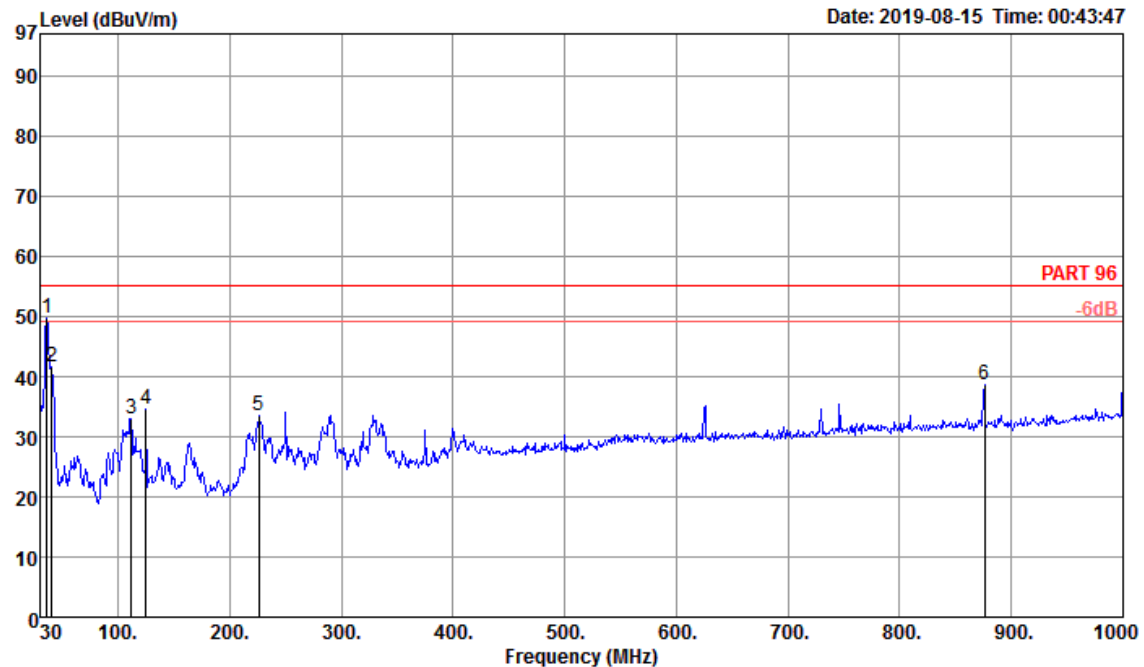
F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)	P1(dBm)	P2(dBm)
9k	150k	200	10k	RMS	116.301k	-44.33	-40.00	-4.33	-	-	-64.90	-73.36
150k	30M	9.1k	30k	RMS	164.925k	-61.11	-40.00	-21.11	-	-	-64.47	-61.79
30M	1G	100k	300k	RMS	700.8M	-66.19	-40.00	-26.19	-	-	-69.87	-68.62
1G	3.45G	1M	3M	RMS	3.14914G	-49.09	-40.00	-9.09	-	-	-52.64	-51.62
3.45G	3.64G	1M	3M	RMS	3.48122G	-49.49	-40.00	-9.49	-	-	-52.74	-52.28
3.64G	3.65G	430k	1.2M	RMS	3.6495G	-37.31	-25.00	-12.31	MBW 1M	-	-	-
3.65G	3.659G	430k	1.2M	RMS	3.6585G	-28.97	-13.00	-15.97	MBW 1M	-	-	-
3.659G	3.666G	430k	1.2M	RMS	3.65943G	-13.92	-13.00	-0.92	-	-	-17.01	-16.86
3.666G	3.701G	430k	1.2M	RMS	3.70007G	-14.66	-13.00	-1.66	-	-	-49.53	-14.66
3.701G	3.71G	430k	1.2M	RMS	3.7015G	-29.21	-13.00	-16.21	MBW 1M	-	-	-
3.71G	3.72G	430k	1.2M	RMS	3.7105G	-41.21	-25.00	-16.21	MBW 1M	-	-	-
3.72G	3.85G	430k	1.2M	RMS	3.7215G	-43.41	-40.00	-3.41	MBW 1M	-	-	-
3.85G	4G	1M	3M	RMS	3.85128G	-47.01	-40.00	-7.01	-	-	-49.36	-50.80



Field Strength of Spurious Radiation (30MHz ~ 1GHz)

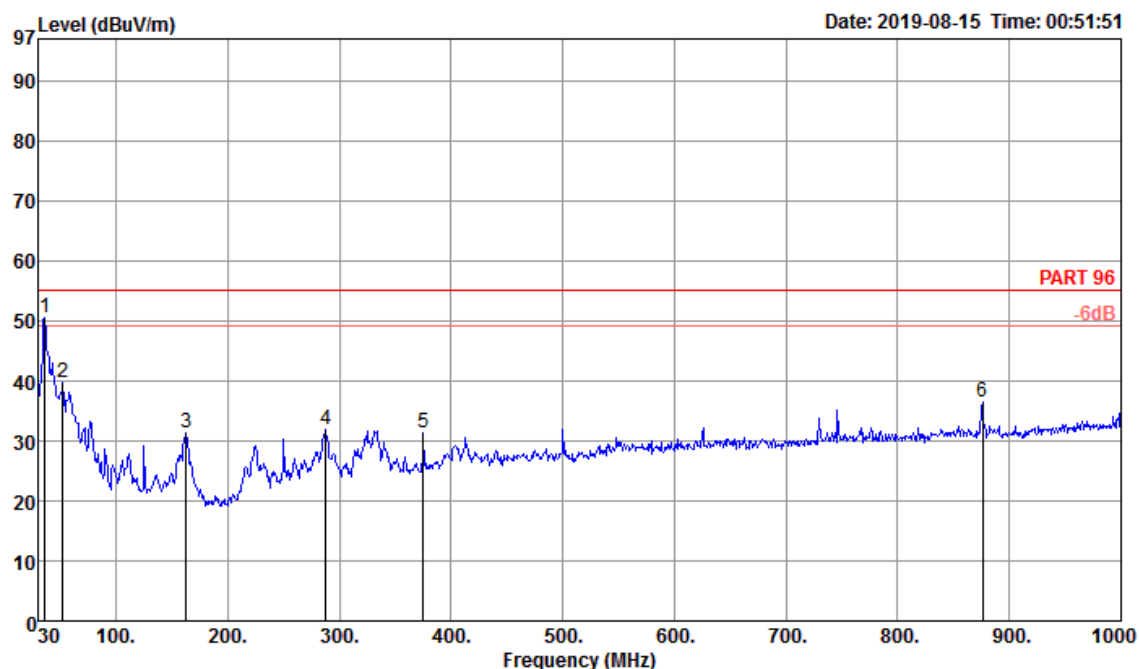
Configurations 10MHz / 64-QAM / 3625 MHz

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	35.82	49.69	55.20	-5.51	56.39	0.70	21.17	28.57	300	360	Peak HORIZONTAL
2	40.67	41.66	55.20	-13.54	50.75	0.75	18.72	28.56	300	360	Peak HORIZONTAL
3	111.48	32.86	55.20	-22.34	42.20	1.23	17.83	28.40	300	360	Peak HORIZONTAL
4	125.06	34.68	55.20	-20.52	43.82	1.30	17.91	28.35	300	360	Peak HORIZONTAL
5	225.94	33.58	55.20	-21.62	44.25	1.76	15.60	28.03	300	360	Peak HORIZONTAL
6	875.84	38.74	55.20	-16.46	37.81	3.49	26.57	29.13	300	360	Peak HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	35.82	50.41	55.20	-4.79	57.11	0.70	21.17	28.57	300	360	Peak VERTICAL
2	52.31	39.64	55.20	-15.56	53.93	0.84	13.42	28.55	300	360	Peak VERTICAL
3	162.89	31.29	55.20	-23.91	42.19	1.48	15.83	28.21	300	360	Peak VERTICAL
4	288.02	31.87	55.20	-23.33	38.94	1.98	18.90	27.95	300	360	Peak VERTICAL
5	375.32	31.42	55.20	-23.78	37.00	2.27	20.73	28.58	300	360	Peak VERTICAL
6	875.84	36.39	55.20	-18.81	35.46	3.49	26.57	29.13	300	360	Peak VERTICAL



Field Strength of Spurious Radiation (Above 1GHz) – Harmonic

For Cabinet:

Configurations	10MHz / 64-QAM / 3625 MHz
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	7250.27	40.83	55.20	-14.37	31.50	6.82	37.30	34.79	149	339	Peak
2	14500.02	51.34	55.20	-3.86	34.54	9.67	40.80	33.67	147	343	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	7249.84	40.77	55.20	-14.43	31.44	6.82	37.30	34.79	101	25	Peak
2	14500.04	55.00	55.20	-0.20	38.20	9.67	40.80	33.67	222	356	Peak

Summary

Mode	Result	Ch (Hz)	Fi (Hz)	Fh (Hz)	ppm	Limit (Fi,Fh,ppm)	Port
Band 48	-	-	-	-	-	-	-
10MHz_QPSK_2TX	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
10MHz_16QAM_2TX	Pass	3.695G	3.690426G	3.699619G	6.089	3.55G,3.7G	1
10MHz_64QAM_2TX	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
10MHz_256QAM_2TX	Pass	3.695G	3.690426G	3.699619G	6.089	3.55G,3.7G	1
40MHz_QPSK_2TX	Pass	3.68G	3.66165G	3.698508G	21.397	3.55G,3.7G	1
40MHz_16QAM_2TX	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
40MHz_64QAM_2TX	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
40MHz_256QAM_2TX	Pass	3.68G	3.661635G	3.698508G	19.359	3.55G,3.7G	1



Frequency Stability Result

Appendix H

Result

Mode	Result	Ch (Hz)	Fi (Hz)	Fh (Hz)	ppm	Limit (Fi,Fh,ppm)	Port
Band 48_10MHz_QPSK_2TX	-	-	-	-	-	-	-
3555MHz_-30°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_-20°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_-10°C	Pass	3.555G	3.550427G	3.559619G	6.592	3.55G,3.7G	1
3555MHz_0°C	Pass	3.555G	3.550431G	3.559616G	6.592	3.55G,3.7G	1
3555MHz_10°C	Pass	3.555G	3.550429G	3.559616G	6.328	3.55G,3.7G	1
3555MHz_20°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_30°C	Pass	3.555G	3.550427G	3.559616G	6.065	3.55G,3.7G	1
3555MHz_40°C	Pass	3.555G	3.550427G	3.559616G	6.065	3.55G,3.7G	1
3555MHz_50°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_126.5V	Pass	3.555G	3.550424G	3.559618G	5.801	3.55G,3.7G	1
3555MHz_93.5V	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3695MHz_-30°C	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
3695MHz_-20°C	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_-10°C	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_0°C	Pass	3.695G	3.690424G	3.699616G	5.327	3.55G,3.7G	1
3695MHz_10°C	Pass	3.695G	3.690426G	3.699614G	5.327	3.55G,3.7G	1
3695MHz_20°C	Pass	3.695G	3.690426G	3.699616G	5.581	3.55G,3.7G	1
3695MHz_30°C	Pass	3.695G	3.690424G	3.699614G	5.074	3.55G,3.7G	1
3695MHz_40°C	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
3695MHz_50°C	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
3695MHz_126.5V	Pass	3.695G	3.690429G	3.699616G	6.089	3.55G,3.7G	1
3695MHz_93.5V	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
Band 48_10MHz_16QAM_2TX	-	-	-	-	-	-	-
3555MHz_-30°C	Pass	3.555G	3.550424G	3.559616G	5.537	3.55G,3.7G	1
3555MHz_-20°C	Pass	3.555G	3.550431G	3.559616G	6.592	3.55G,3.7G	1
3555MHz_-10°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_0°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_10°C	Pass	3.555G	3.550431G	3.559618G	6.856	3.55G,3.7G	1
3555MHz_20°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_30°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_40°C	Pass	3.555G	3.550427G	3.559616G	6.065	3.55G,3.7G	1
3555MHz_50°C	Pass	3.555G	3.550426G	3.559616G	5.801	3.55G,3.7G	1
3555MHz_126.5V	Pass	3.555G	3.550424G	3.559616G	5.537	3.55G,3.7G	1
3555MHz_93.5V	Pass	3.555G	3.550429G	3.559614G	6.065	3.55G,3.7G	1
3695MHz_-30°C	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
3695MHz_-20°C	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_-10°C	Pass	3.695G	3.690426G	3.699619G	6.089	3.55G,3.7G	1

Mode	Result	Ch (Hz)	Fi (Hz)	Fh (Hz)	ppm	Limit (Fi,Fh,ppm)	Port
3695MHz_0°C	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
3695MHz_10°C	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
3695MHz_20°C	Pass	3.695G	3.690426G	3.699616G	5.581	3.55G,3.7G	1
3695MHz_30°C	Pass	3.695G	3.690424G	3.699618G	5.581	3.55G,3.7G	1
3695MHz_40°C	Pass	3.695G	3.690426G	3.699616G	5.581	3.55G,3.7G	1
3695MHz_50°C	Pass	3.695G	3.690429G	3.699616G	6.089	3.55G,3.7G	1
3695MHz_126.5V	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_93.5V	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
Band 48_10MHz_64QAM_2TX	-	-	-	-	-	-	-
3555MHz_-30°C	Pass	3.555G	3.550426G	3.559619G	6.328	3.55G,3.7G	1
3555MHz_-20°C	Pass	3.555G	3.550424G	3.559619G	6.065	3.55G,3.7G	1
3555MHz_-10°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_0°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_10°C	Pass	3.555G	3.550424G	3.559616G	5.537	3.55G,3.7G	1
3555MHz_20°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_30°C	Pass	3.555G	3.550427G	3.559616G	6.065	3.55G,3.7G	1
3555MHz_40°C	Pass	3.555G	3.550433G	3.559614G	6.592	3.55G,3.7G	1
3555MHz_50°C	Pass	3.555G	3.550429G	3.559616G	6.328	3.55G,3.7G	1
3555MHz_126.5V	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_93.5V	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3695MHz_-30°C	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
3695MHz_-20°C	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_-10°C	Pass	3.695G	3.690429G	3.699616G	6.089	3.55G,3.7G	1
3695MHz_0°C	Pass	3.695G	3.690426G	3.699616G	5.581	3.55G,3.7G	1
3695MHz_10°C	Pass	3.695G	3.690431G	3.699616G	6.342	3.55G,3.7G	1
3695MHz_20°C	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
3695MHz_30°C	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
3695MHz_40°C	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_50°C	Pass	3.695G	3.690426G	3.699616G	5.581	3.55G,3.7G	1
3695MHz_126.5V	Pass	3.695G	3.690424G	3.699614G	5.074	3.55G,3.7G	1
3695MHz_93.5V	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
Band 48_10MHz_256QAM_2TX	-	-	-	-	-	-	-
3555MHz_-30°C	Pass	3.555G	3.550427G	3.559619G	6.592	3.55G,3.7G	1
3555MHz_-20°C	Pass	3.555G	3.550426G	3.559616G	5.801	3.55G,3.7G	1
3555MHz_-10°C	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3555MHz_0°C	Pass	3.555G	3.550429G	3.559618G	6.592	3.55G,3.7G	1
3555MHz_10°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1
3555MHz_20°C	Pass	3.555G	3.550427G	3.559618G	6.328	3.55G,3.7G	1

Mode	Result	Ch (Hz)	Fi (Hz)	Fh (Hz)	ppm	Limit (Fi,Fh,ppm)	Port
3555MHz_30°C	Pass	3.555G	3.550424G	3.559618G	5.801	3.55G,3.7G	1
3555MHz_40°C	Pass	3.555G	3.550429G	3.559616G	6.328	3.55G,3.7G	1
3555MHz_50°C	Pass	3.555G	3.550429G	3.559616G	6.328	3.55G,3.7G	1
3555MHz_126.5V	Pass	3.555G	3.550431G	3.559619G	7.119	3.55G,3.7G	1
3555MHz_93.5V	Pass	3.555G	3.550426G	3.559618G	6.065	3.55G,3.7G	1
3695MHz_-30°C	Pass	3.695G	3.690426G	3.699619G	6.089	3.55G,3.7G	1
3695MHz_-20°C	Pass	3.695G	3.690426G	3.699616G	5.581	3.55G,3.7G	1
3695MHz_-10°C	Pass	3.695G	3.690427G	3.699619G	6.342	3.55G,3.7G	1
3695MHz_0°C	Pass	3.695G	3.690427G	3.699618G	6.089	3.55G,3.7G	1
3695MHz_10°C	Pass	3.695G	3.690429G	3.699614G	5.835	3.55G,3.7G	1
3695MHz_20°C	Pass	3.695G	3.690429G	3.699616G	6.089	3.55G,3.7G	1
3695MHz_30°C	Pass	3.695G	3.690424G	3.699616G	5.327	3.55G,3.7G	1
3695MHz_40°C	Pass	3.695G	3.690427G	3.699616G	5.835	3.55G,3.7G	1
3695MHz_50°C	Pass	3.695G	3.690427G	3.699614G	5.581	3.55G,3.7G	1
3695MHz_126.5V	Pass	3.695G	3.690429G	3.699616G	6.089	3.55G,3.7G	1
3695MHz_93.5V	Pass	3.695G	3.690426G	3.699618G	5.835	3.55G,3.7G	1
Band 48_40MHz_QPSK_2TX	-	-	-	-	-	-	-
3570MHz_-30°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_-20°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_-10°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_0°C	Pass	3.57G	3.551665G	3.588493G	22.056	3.55G,3.7G	1
3570MHz_10°C	Pass	3.57G	3.551665G	3.588493G	22.056	3.55G,3.7G	1
3570MHz_20°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_30°C	Pass	3.57G	3.551672G	3.5885G	24.157	3.55G,3.7G	1
3570MHz_40°C	Pass	3.57G	3.551642G	3.588508G	21.006	3.55G,3.7G	1
3570MHz_50°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_126.5V	Pass	3.57G	3.551642G	3.588508G	21.006	3.55G,3.7G	1
3570MHz_93.5V	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3680MHz_-30°C	Pass	3.68G	3.661635G	3.698493G	17.321	3.55G,3.7G	1
3680MHz_-20°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_-10°C	Pass	3.68G	3.661665G	3.6985G	22.416	3.55G,3.7G	1
3680MHz_0°C	Pass	3.68G	3.661642G	3.698493G	18.34	3.55G,3.7G	1
3680MHz_10°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_20°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_30°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_40°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_50°C	Pass	3.68G	3.661657G	3.6985G	21.397	3.55G,3.7G	1
3680MHz_126.5V	Pass	3.68G	3.66165G	3.698508G	21.397	3.55G,3.7G	1



Frequency Stability Result

Appendix H

Mode	Result	Ch (Hz)	Fi (Hz)	Fh (Hz)	ppm	Limit (Fi,Fh,ppm)	Port
3680MHz_93.5V	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
Band 48_40MHz_16QAM_2TX	-	-	-	-	-	-	-
3570MHz_-30°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_-20°C	Pass	3.57G	3.551657G	3.588508G	23.106	3.55G,3.7G	1
3570MHz_-10°C	Pass	3.57G	3.55165G	3.588508G	22.056	3.55G,3.7G	1
3570MHz_0°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_10°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_20°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_30°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_40°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_50°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_126.5V	Pass	3.57G	3.551672G	3.5885G	24.157	3.55G,3.7G	1
3570MHz_93.5V	Pass	3.57G	3.551642G	3.5885G	19.955	3.55G,3.7G	1
3680MHz_-30°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_-20°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_-10°C	Pass	3.68G	3.661657G	3.6985G	21.397	3.55G,3.7G	1
3680MHz_0°C	Pass	3.68G	3.661657G	3.6985G	21.397	3.55G,3.7G	1
3680MHz_10°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_20°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_30°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_40°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_50°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_126.5V	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_93.5V	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
Band 48_40MHz_64QAM_2TX	-	-	-	-	-	-	-
3570MHz_-30°C	Pass	3.57G	3.551642G	3.5885G	19.955	3.55G,3.7G	1
3570MHz_-20°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_-10°C	Pass	3.57G	3.55165G	3.588508G	22.056	3.55G,3.7G	1
3570MHz_0°C	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_10°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_20°C	Pass	3.57G	3.55165G	3.588508G	22.056	3.55G,3.7G	1
3570MHz_30°C	Pass	3.57G	3.551665G	3.5885G	23.106	3.55G,3.7G	1
3570MHz_40°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_50°C	Pass	3.57G	3.551657G	3.588508G	23.106	3.55G,3.7G	1
3570MHz_126.5V	Pass	3.57G	3.551665G	3.5885G	23.106	3.55G,3.7G	1
3570MHz_93.5V	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3680MHz_-30°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_-20°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1



Frequency Stability Result

Appendix H

Mode	Result	Ch (Hz)	Fi (Hz)	Fh (Hz)	ppm	Limit (Fi,Fh,ppm)	Port
3680MHz_-10°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_0°C	Pass	3.68G	3.661657G	3.6985G	21.397	3.55G,3.7G	1
3680MHz_10°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_20°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_30°C	Pass	3.68G	3.661657G	3.6985G	21.397	3.55G,3.7G	1
3680MHz_40°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_50°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_126.5V	Pass	3.68G	3.661657G	3.6985G	21.397	3.55G,3.7G	1
3680MHz_93.5V	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
Band 48_40MHz_256QAM_2TX	-	-	-	-	-	-	-
3570MHz_-30°C	Pass	3.57G	3.551657G	3.588508G	23.106	3.55G,3.7G	1
3570MHz_-20°C	Pass	3.57G	3.551642G	3.5885G	19.955	3.55G,3.7G	1
3570MHz_-10°C	Pass	3.57G	3.551665G	3.588508G	24.157	3.55G,3.7G	1
3570MHz_0°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_10°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_20°C	Pass	3.57G	3.55165G	3.588508G	22.056	3.55G,3.7G	1
3570MHz_30°C	Pass	3.57G	3.551665G	3.5885G	23.106	3.55G,3.7G	1
3570MHz_40°C	Pass	3.57G	3.55165G	3.5885G	21.006	3.55G,3.7G	1
3570MHz_50°C	Pass	3.57G	3.55165G	3.588508G	22.056	3.55G,3.7G	1
3570MHz_126.5V	Pass	3.57G	3.551657G	3.5885G	22.056	3.55G,3.7G	1
3570MHz_93.5V	Pass	3.57G	3.551657G	3.588508G	23.106	3.55G,3.7G	1
3680MHz_-30°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_-20°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_-10°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_0°C	Pass	3.68G	3.661657G	3.698493G	20.378	3.55G,3.7G	1
3680MHz_10°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_20°C	Pass	3.68G	3.661635G	3.698508G	19.359	3.55G,3.7G	1
3680MHz_30°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_40°C	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1
3680MHz_50°C	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_126.5V	Pass	3.68G	3.661642G	3.6985G	19.359	3.55G,3.7G	1
3680MHz_93.5V	Pass	3.68G	3.66165G	3.6985G	20.378	3.55G,3.7G	1