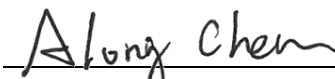


FCC Test Report

FCC ID : MXF-WLTFGT145EUD
Equipment : WLTFGT-145ACN LTE Cat 12 B48 Indoor CPE
Model No. : WLTFGT-145ACN
Brand Name : Gemtek
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhonghua Road, Hsinchu Industrial
Park, Hukou, Hsinchu, Taiwan, 30352.
Standard : 47 CFR FCC Part 96
Type : End User Device
Received Date : Nov. 19, 2020
Tested Date : Feb. 21 ~ Mar. 01, 2021

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:

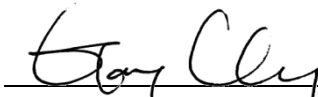

Gary Chang / Manager



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Local Support Equipment List	8
1.3	Test Setup Chart	8
1.4	The Equipment List	9
1.5	Test Standards	11
1.6	Reference Guidance	11
1.7	Deviation from Test Standard and Measurement Procedure.....	11
1.8	Measurement Uncertainty	11
2	TEST CONFIGURATION.....	12
2.1	Testing Facility	12
2.2	The Worst Test Modes and Channel Details	12
3	TEST RESULTS	14
3.1	Output Power	14
3.2	Radiated Emissions.....	40
3.3	Conducted Emissions & Band Edge	49
3.4	Emission Bandwidth	95
3.5	Peak to Average Ratio	116
3.6	Frequency Stability.....	133
3.7	End user device additional requirements	140
4	TEST LABORATORY INFORMATION	143

Release Record

Report No.	Version	Description	Issued Date
FG0N1902	Rev. 01	Initial issue	Mar. 19, 2021

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 96.41(b)	Maximum RF Power Output EIRP	Power[dBm/10MHz]: 22.89	Pass
96.41(g)	Peak to Average Ratio	Meet the requirement of limit	Pass
2.1053 / 96.41(e)	Radiated Spurious Emission	Meet the requirement of limit	Pass
2.1051 / 96.41(e)	Conducted Spurious Emission	Meet the requirement of limit	Pass
2.1051 / 96.41(e)	Band Edge	Meet the requirement of limit	Pass
2.1049	Emission Bandwidth	Meet the requirement of limit	Pass
2.1055 / 96.41(e)	Frequency Stability	Meet the requirement of limit	Pass
96.47	End user device additional requirements	Meet the requirement of limit	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.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Operating Band	Band 48 Channel Bandwidth: 10MHz: 3555.0 MHz ~ 3695.0 MHz Channel Bandwidth: 20MHz: 3560.0 MHz ~ 3690.0 MHz
Modulation Type	QPSK, 16QAM, 64QAM (Uplink) QPSK, 16QAM, 64QAM, 256QAM (Downlink)
Duplex Mode	TDD
UE Category	Cat. 12
Release	12
TX	2TX
CA Type	Intra-Band Non-Contiguous CA

1.1.2 Antenna Details

Ant.	Type	Connector	Gain (dBi)	Remark
1	Dipole	IPEX	4	---

1.1.3 EUT Operational Condition

Supply Voltage	12Vdc from adapter
Operational Climatic	0°C ~40°C

1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: MOSO Model: MSA-C 1500CS12.0-18G-US Power Rating: I/P: 100-240Vac, 50/60Hz, 0.6A max O/P: 12Vdc, 1.5A Power Line: 1.5m non-shielded without core.
2	AC adapter	Brand: APD Model: WB-18Q12FU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A max O/P: 12Vdc, 1.5A Power Line: 1.5m non-shielded without core.
3	RJ45	1.5m non-shielded, without core.

1.1.5 Maximum EIRP and Emission Designator

CDD Mode			
Channel Bandwidth (MHz)	Modulation	Maximum EIRP (W)	Emission Designator
10	QPSK	0.193	8M93G7D
10	16QAM	0.191	8M93W7D
10	64QAM	0.190	8M93W7D
20	QPSK	0.361	17M8G7D
20	16QAM	0.358	17M8W7D
20	64QAM	0.356	17M8W7D

CA Mode			
Channel Bandwidth (MHz)	Modulation	Maximum EIRP (W)	Emission Designator
10+10	QPSK	0.353	17M8G7D
10+10	16QAM	0.353	17M9W7D
10+10	64QAM	0.352	17M9W7D
10+20	QPSK	0.351	26M7G7D
10+20	16QAM	0.351	26M7W7D
10+20	64QAM	0.352	26M8W7D
20+10	QPSK	0.365	26M8G7D
20+10	16QAM	0.361	26M8W7D
20+10	64QAM	0.361	26M8W7D
20+20	QPSK	0.582	35M7G7D
20+20	16QAM	0.579	35M7W7D
20+20	64QAM	0.587	35M7W7D

1.1.6 Operating Channel List

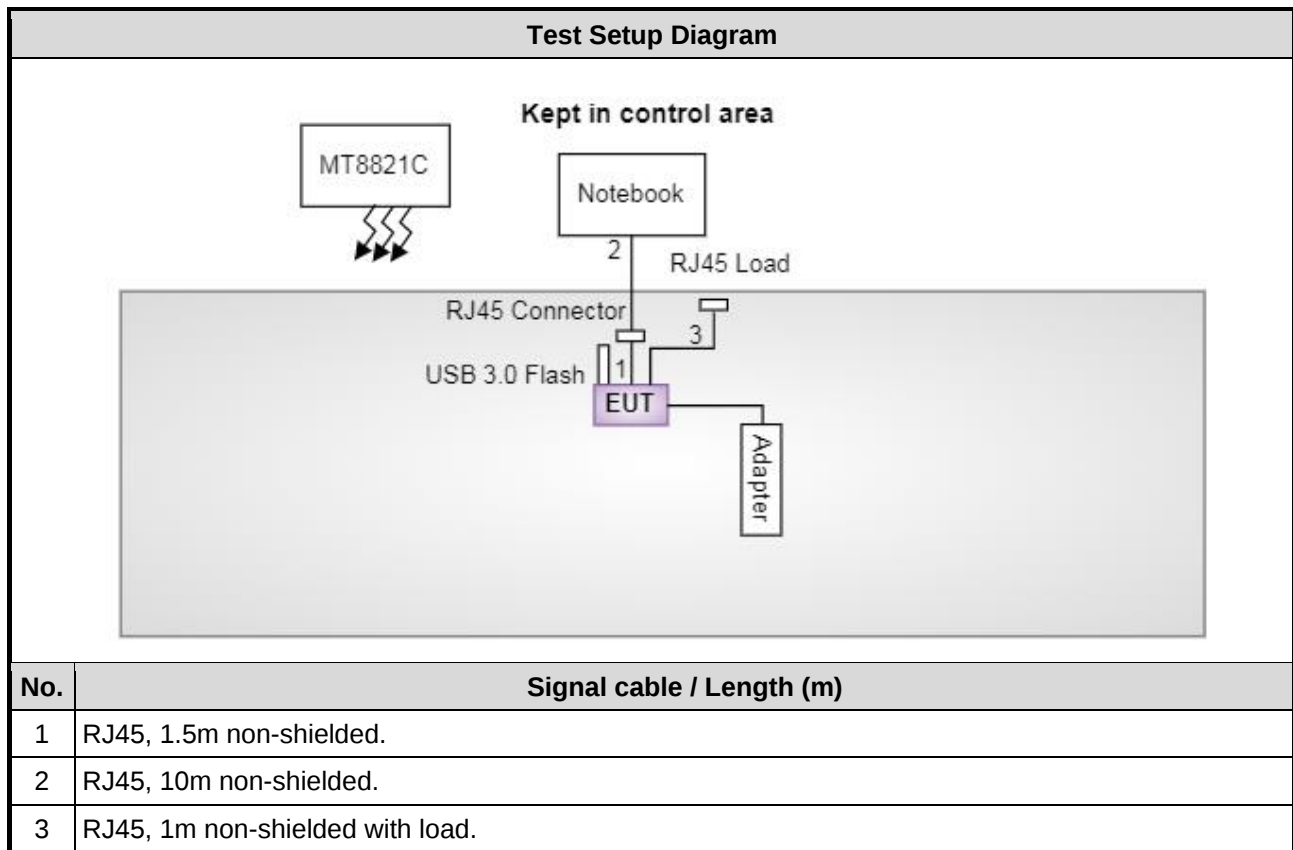
CDD Mode		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
10	55290	3555.0
10	55990	3625.0
10	56690	3695.0
20	55340	3560.0
20	55990	3625.0
20	56640	3690.0

CA Mode		
Channel Bandwidth (MHz)	Test Channel	Frequency (MHz)
10+10	55290+56690	3555.0+3695.0
10+20	55290+56640	3555.0+3690.0
20+10	55340+56690	3560.0+3695.0
20+20	55340+56640	3560.0+3690.0

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E5470	DoC	---
2	RJ45 Load	ICC	---	---	---
3	USB 3.0 Flash	Transcend	JetFlash 700	---	---
4	Radio Communication Analyzer	Anritsu	MT8821C	---	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Mar. 01, 2021				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 04, 2020	Dec. 03, 2021
Receiver	R&S	ESR3	101658	Feb. 08, 2021	Feb. 07, 2022
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 10, 2020	Jul. 09, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Sep. 25, 2020	Sep. 24, 2021
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 06, 2020	Nov. 05, 2021
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 17, 2020	Nov. 16, 2021
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 06, 2020	Oct. 05, 2021
Preamplifier	EMC	EMC02325	980225	Jul. 03, 2020	Jul. 02, 2021
Preamplifier	Agilent	83017A	MY39501308	Sep. 26, 2020	Sep. 25, 2021
Preamplifier	EMC	EMC184045B	980192	Jul. 21, 2020	Jul. 20, 2021
RF Cable	EMC	EMC104-SM-SM-80 00	181106	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 06, 2020	Oct. 05, 2021
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 06, 2020	Oct. 05, 2021
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 06, 2020	Oct. 05, 2021
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 06, 2020	Oct. 05, 2021
Radio Communication Analyzer	Anritsu	MT8821C	6262149999	Jul. 09, 2020	Jul. 08, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Feb. 21 ~ Feb. 24, 2021				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 30, 2020	Apr. 29, 2021
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	May 06, 2020	May 05, 2021
Power Meter	Anritsu	ML2495A	1241002	Nov. 04, 2020	Nov. 03, 2021
Power Sensor	Anritsu	MA2411B	1207366	Nov. 04, 2020	Nov. 03, 2021
Radio Communication Analyzer	Anritsu	MT8821C	6262149999	Jul. 09, 2020	Jul. 08, 2021
DC POWER SOURCE	GW INSTEK	GPC-6030D	GES855395	Nov. 09, 2020	Nov. 08, 2021
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 04, 2020	Dec. 03, 2021
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Radio Communication Analyzer	Anritsu	MT8821C	6262149999	Jul. 09, 2020	Jul. 08, 2021
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 96

ANSI C63.26-2015

ANSI C63.4-2014

1.6 Reference Guidance

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.130 Hz
Conducted power	± 0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
Conducted emission	± 2.715 dB
Radiated emission ≤ 1 GHz	± 3.41 dB
Radiated emission > 1 GHz	± 4.59 dB
Temperature	± 0.4 °C

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	03CH01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISSED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

CDD Mode			
Test item	Channel Bandwidth	Modulation	Test channel (MHz)
Equivalent Isotropically Radiated Power	10MHz 20MHz	QPSK / 16QAM / 64QAM QPSK / 16QAM / 64QAM	3555.0 / 3625.0 / 3695.0 3560.0 / 3625.0 / 3690.0
Radiated Emissions $\leq$ 1GHz	10MHz 20MHz	QPSK QPSK	3695.0 3560.0
Radiated Emissions > 1GHz	10MHz 20MHz	QPSK QPSK	3555.0 / 3625.0 / 3695.0 3560.0 / 3625.0 / 3690.0
Conducted Emissions	10MHz 20MHz	QPSK / 16QAM / 64QAM QPSK / 16QAM / 64QAM	3555.0 / 3625.0 / 3695.0 3560.0 / 3625.0 / 3690.0
Band Edge	10MHz 20MHz	QPSK / 16QAM / 64QAM QPSK / 16QAM / 64QAM	3555.0 / 3625.0 / 3695.0 3560.0 / 3625.0 / 3690.0
Emission Bandwidth	10MHz 20MHz	QPSK / 16QAM / 64QAM QPSK / 16QAM / 64QAM	3555.0 / 3625.0 / 3695.0 3560.0 / 3625.0 / 3690.0
Peak to Average Ratio	10MHz 20MHz	QPSK / 16QAM / 64QAM QPSK / 16QAM / 64QAM	3555.0 / 3625.0 / 3695.0 3560.0 / 3625.0 / 3690.0
Frequency Stability	10MHz 20MHz	Un-modulation	3555.0 / 3695.0 3560.0 / 3690.0

CA Mode			
Test item	Channel Bandwidth	Modulation	Test channel (MHz)
Equivalent Isotropically Radiated Power	10MHz+10MHz	QPSK / 16QAM / 64QAM	3555.0+3695.0
	10MHz+20MHz	QPSK / 16QAM / 64QAM	3555.0+3690.0
	20MHz+10MHz	QPSK / 16QAM / 64QAM	3560.0+3695.0
	20MHz+20MHz	QPSK / 16QAM / 64QAM	3560.0+3690.0
Radiated Emission $\leq$ 1GHz	10MHz+10MHz	QPSK	3555.0+3695.0
	10MHz+20MHz	QPSK	3555.0+3690.0
	20MHz+10MHz	QPSK	3560.0+3695.0
	20MHz+20MHz	QPSK	3560.0+3690.0
Radiated Emission > 1GHz	10MHz+10MHz	QPSK	3555.0+3695.0
	10MHz+20MHz	QPSK	3555.0+3690.0
	20MHz+10MHz	QPSK	3560.0+3695.0
	20MHz+20MHz	QPSK	3560.0+3690.0
Conducted Emissions Emission Mask 26dBc Bandwidth	10MHz+10MHz	QPSK / 16QAM / 64QAM	3555.0+3695.0
	10MHz+20MHz	QPSK / 16QAM / 64QAM	3555.0+3690.0
	20MHz+10MHz	QPSK / 16QAM / 64QAM	3560.0+3695.0
	20MHz+20MHz	QPSK / 16QAM / 64QAM	3560.0+3690.0
Frequency Stability	10MHz+10MHz	Un-modulation	3555.0+3695.0
	10MHz+20MHz		3555.0+3690.0
	20MHz+10MHz		3560.0+3695.0
	20MHz+20MHz		3560.0+3690.0

3 Test Results

3.1 Output Power

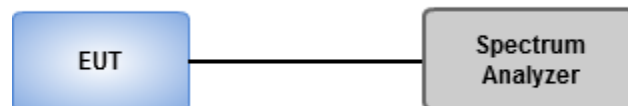
3.1.1 Limit of Output Power

Device	Maximum EIRP (dBm/10MHz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a

3.1.2 Test Procedures

1. Connect the transmitter to the spectrum analyzer via coaxial cable (i.e., conducted measurement) while ensuring proper impedance matching.
2. Tune the analyzer to the nominal center frequency of the emission bandwidth.
3. Set the span to twice the nominal EBW (span = 2 x EBW).
4. Set the resolution bandwidth (RBW) to 1 MHz.
5. Set the video bandwidth (VBW) to 3 MHz
6. Select the average power (RMS) display detector.
7. Set the number of measurement points to ≥ 1001 .
8. Use auto-coupled sweep time.
9. Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
10. Utilize trace averaging over 100 traces in the power averaging.
11. Find the maximum trace amplitude (peak search) and record.
12. Adjust the recorded level by applying appropriate correction factors for the measurement set-up.
13. Determine the EIRP by adding the effective antenna gain to the adjusted power level.

3.1.3 Test Setup



Ambient Condition	18-23°C / 64-67%	Tested By	Aska Huang
--------------------------	------------------	------------------	------------

3.1.4 Duty Cycle and Duty Factor

Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	QPSK	41.02%	3.87
	16QAM	41.02%	3.87
	64QAM	41.02%	3.87

Note: Duty factor is added in measured output power, power spectral density and spurious emission.

3.1.5 Test Result of EIRP (CDD Mode)

Single-carrier / Power @10 MHz
Result

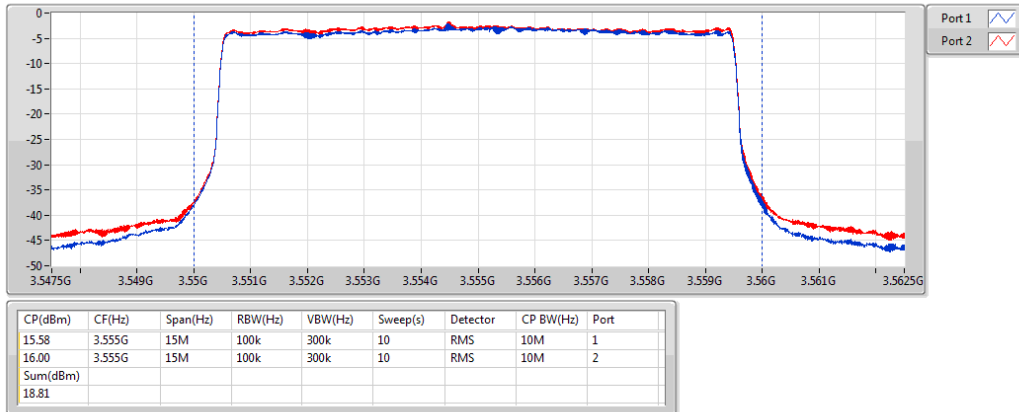
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Power (dBm)	EIRP (dBm)	EIRP Lim. (dBm/10MHz)
Band 48_LTE_10MHz_Nss1_2TX	-	-	-	-	-	-	-
3555MHz_QPSK_RB 50,#RB 0	Pass	4.00	15.58	16.00	18.81	22.81	23
3625MHz_QPSK_RB 50,#RB 0	Pass	4.00	15.68	15.56	18.63	22.63	23
3695MHz_QPSK_RB 50,#RB 0	Pass	4.00	15.62	16.05	18.85	22.85	23
3555MHz_16QAM_RB 50,#RB 0	Pass	4.00	15.58	16.01	18.81	22.81	23
3625MHz_16QAM_RB 50,#RB 0	Pass	4.00	15.61	15.50	18.57	22.57	23
3695MHz_16QAM_RB 50,#RB 0	Pass	4.00	15.54	16.00	18.79	22.79	23
3555MHz_64QAM_RB 50,#RB 0	Pass	4.00	15.57	15.98	18.79	22.79	23
3625MHz_64QAM_RB 50,#RB 0	Pass	4.00	15.62	15.50	18.57	22.57	23
3695MHz_64QAM_RB 50,#RB 0	Pass	4.00	15.52	15.97	18.76	22.76	23
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	4.00	15.59	15.65	18.63	22.63	23
3625MHz_QPSK_RB 100,#RB 0	Pass	4.00	15.63	15.72	18.69	22.69	23
3690MHz_QPSK_RB 100,#RB 0	Pass	4.00	15.40	16.25	18.86	22.86	23
3560MHz_16QAM_RB 100,#RB 0	Pass	4.00	15.57	15.81	18.70	22.70	23
3625MHz_16QAM_RB 100,#RB 0	Pass	4.00	15.62	15.59	18.62	22.62	23
3690MHz_16QAM_RB 100,#RB 0	Pass	4.00	15.50	16.23	18.89	22.89	23
3560MHz_64QAM_RB 100,#RB 0	Pass	4.00	15.64	15.74	18.70	22.70	23
3625MHz_64QAM_RB 100,#RB 0	Pass	4.00	15.66	15.64	18.66	22.66	23
3690MHz_64QAM_RB 100,#RB 0	Pass	4.00	15.51	16.22	18.89	22.89	23

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

Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

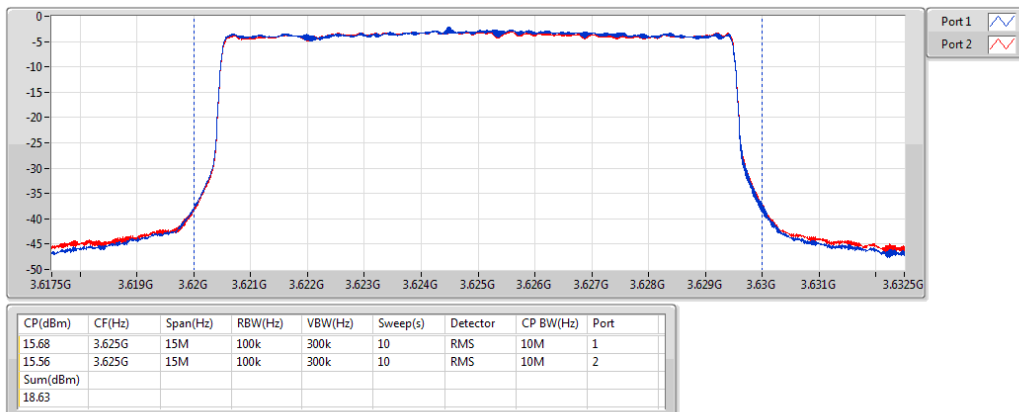
3555MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

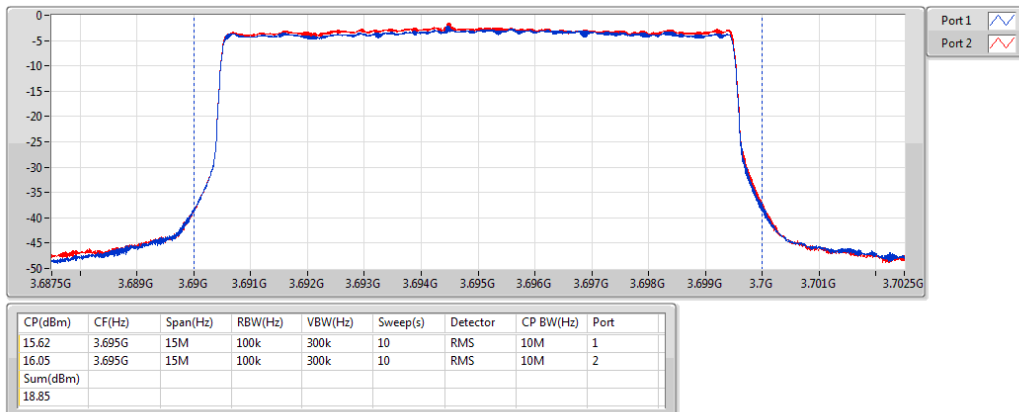
3625MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

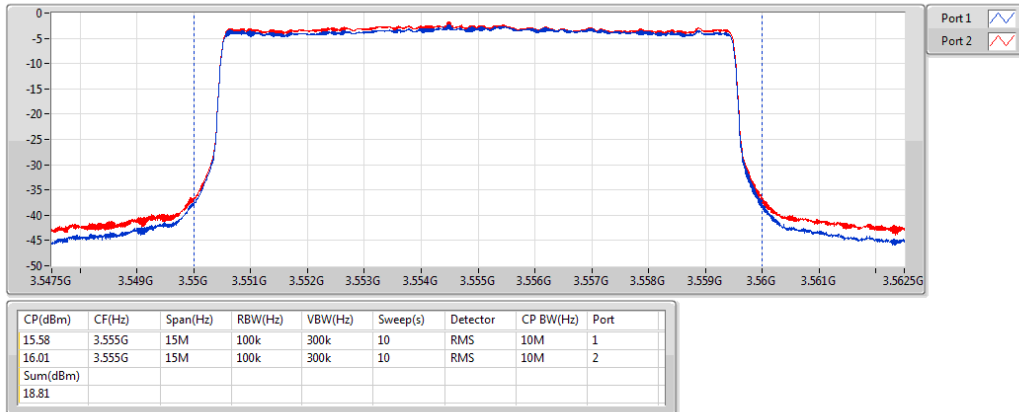
3695MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

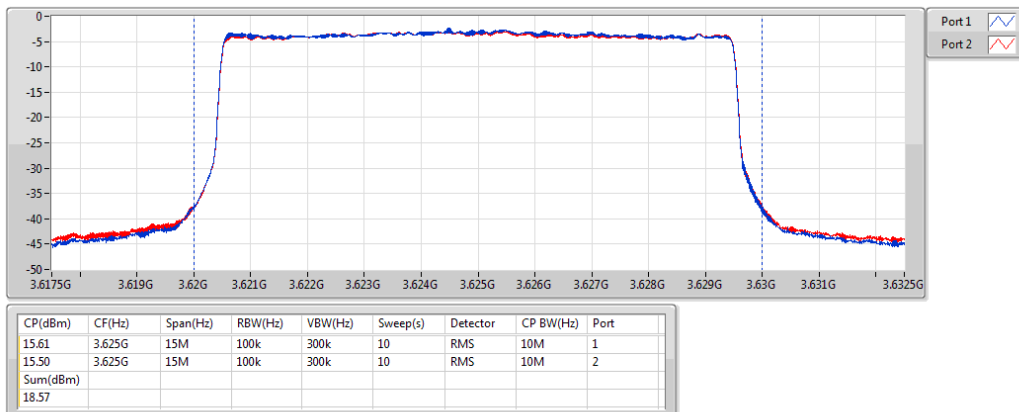
3555MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

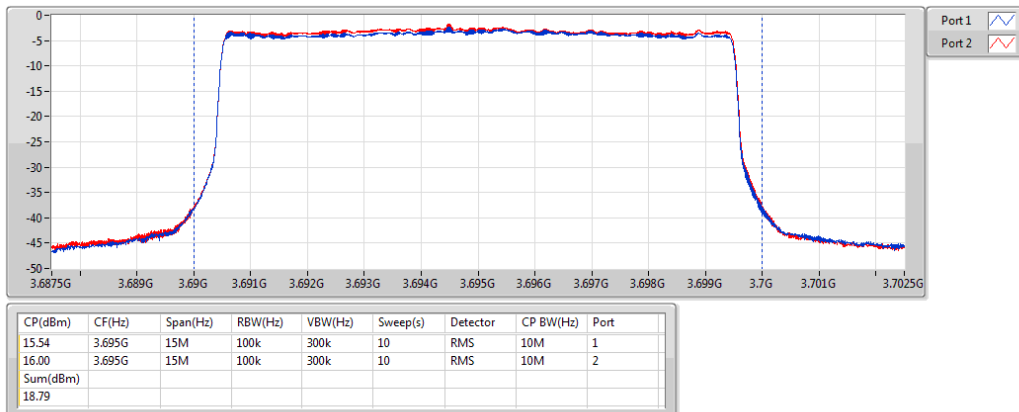
3625MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

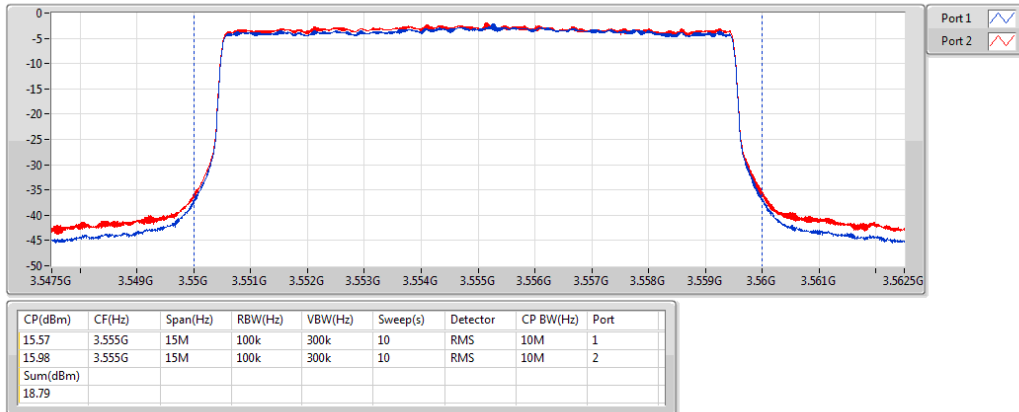
PowerAV

3695MHz_16QAM_RB 50,#RB 0



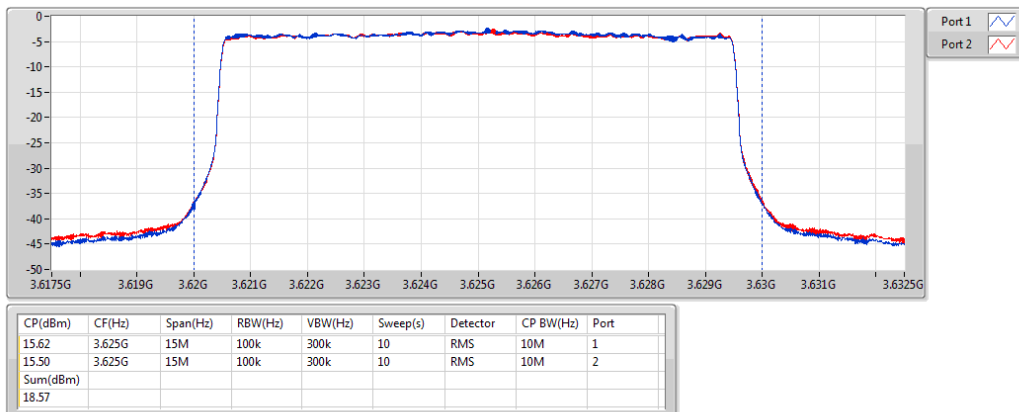
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

PowerAV



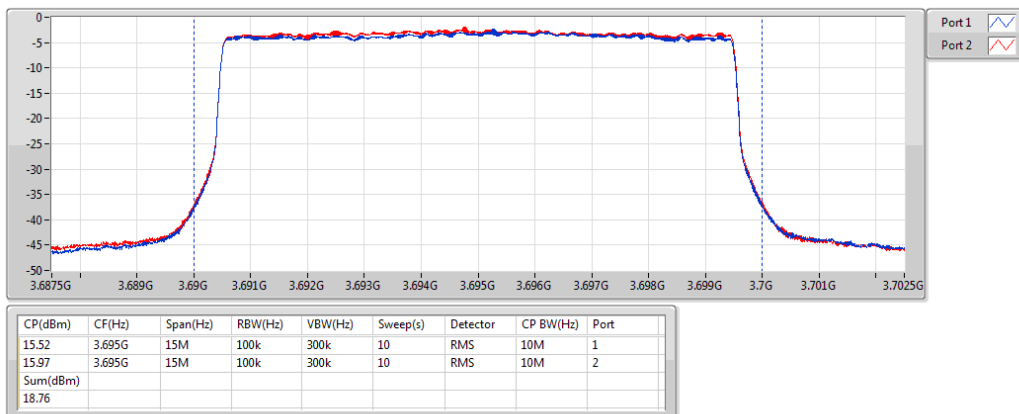
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

PowerAV



Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

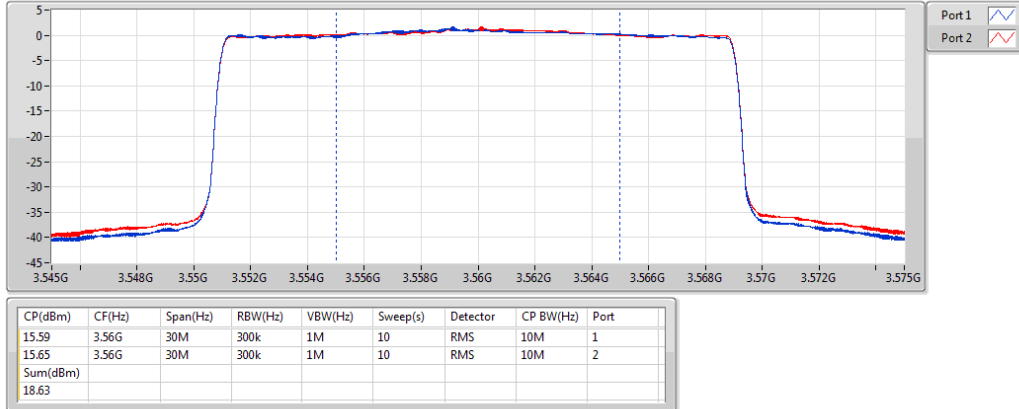
PowerAV



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

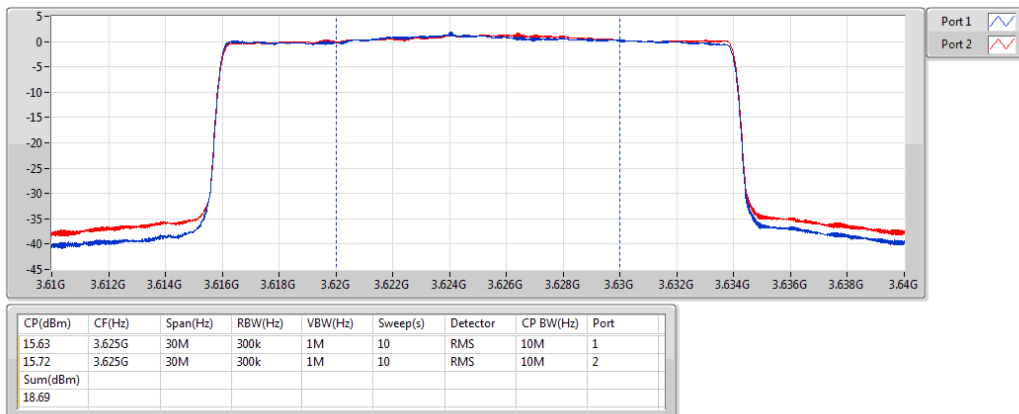
3560MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

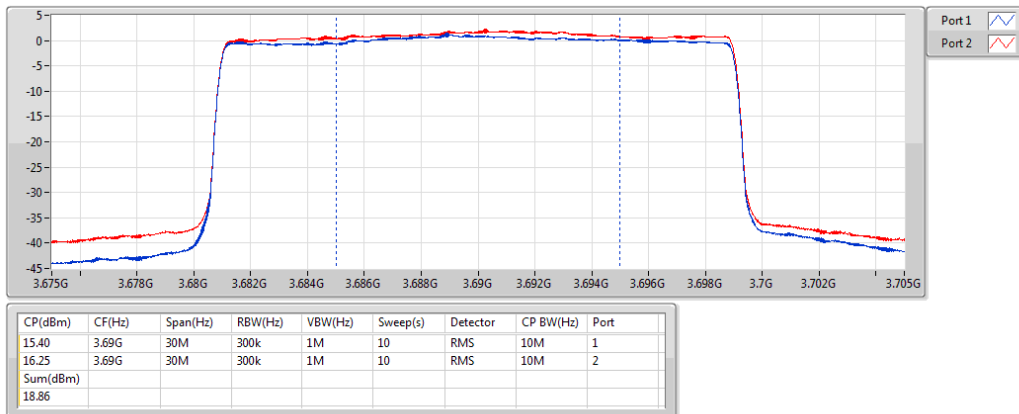
3625MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

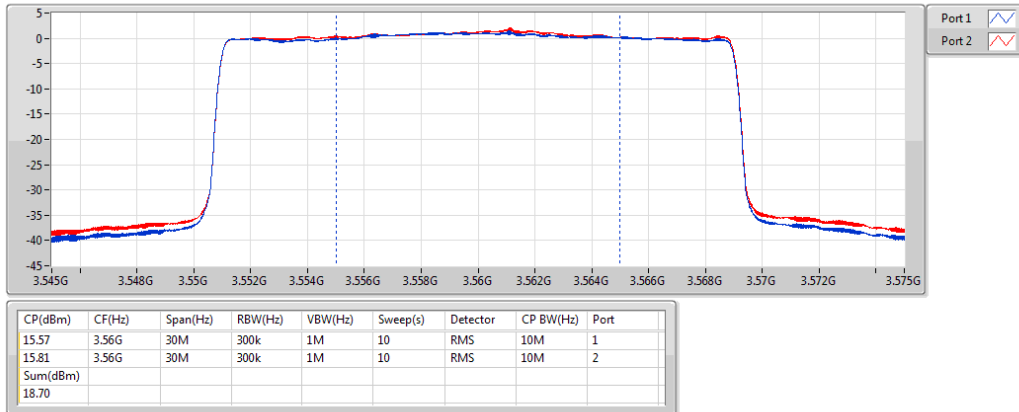
3690MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

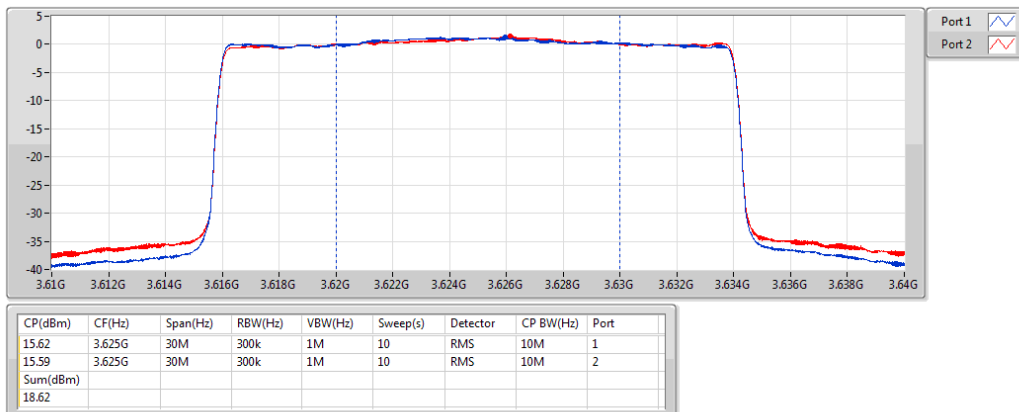
3560MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

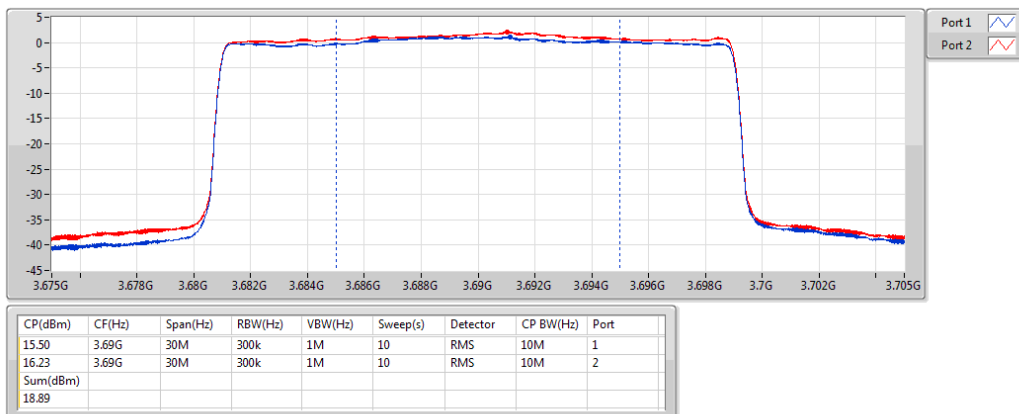
3625MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

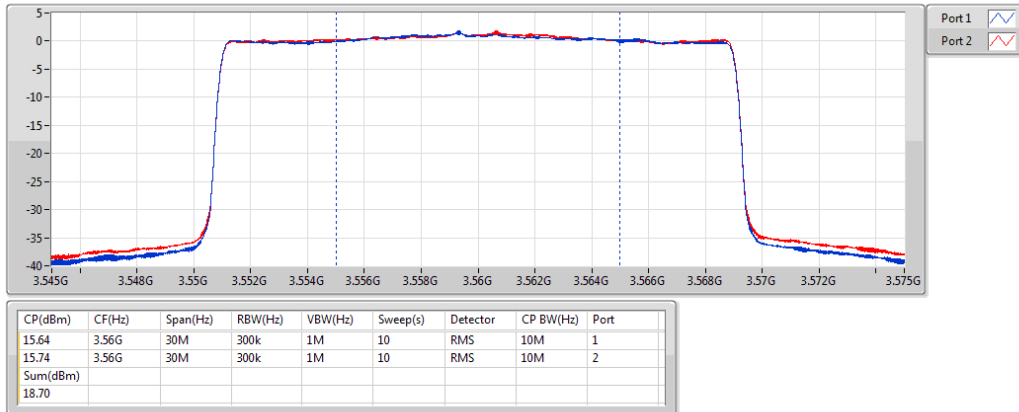
3690MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

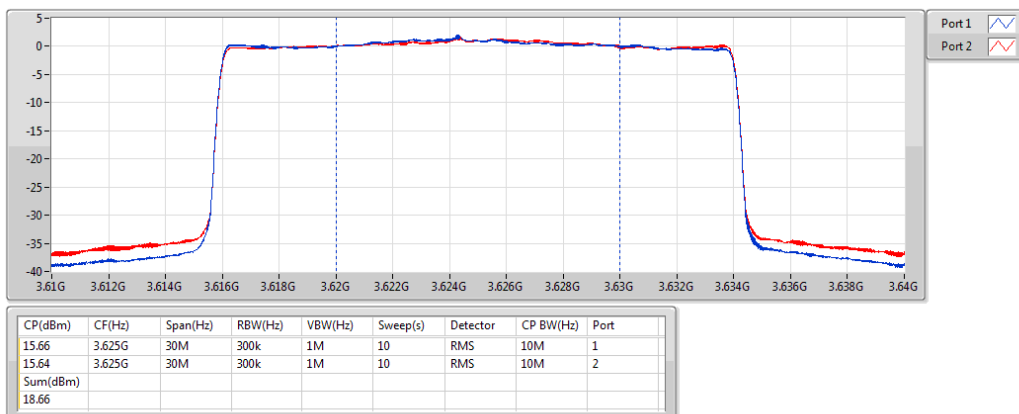
3560MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

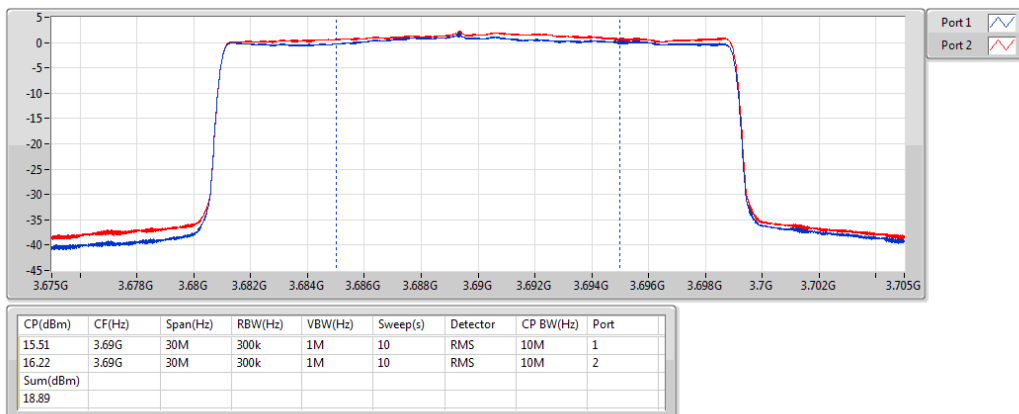
3625MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

3690MHz_64QAM_RB 100,#RB 0



**Single-carrier / Full Power Result
Result**

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP (W)	EIRP Lim. (W)	Power (dBm)	Power (W)	Power Lim. (W)	Port 1 (dBm)	Port 2 (dBm)
Band 48_LTE_10MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
3555MHz_QPSK_RB 50,#RB 0	Pass	4.00	22.81	0.191	Inf	18.81	0.076	Inf	15.58	16.00
3625MHz_QPSK_RB 50,#RB 0	Pass	4.00	22.63	0.183	Inf	18.63	0.073	Inf	15.68	15.56
3695MHz_QPSK_RB 50,#RB 0	Pass	4.00	22.85	0.193	Inf	18.85	0.077	Inf	15.62	16.05
3555MHz_16QAM_RB 50,#RB 0	Pass	4.00	22.81	0.191	Inf	18.81	0.076	Inf	15.58	16.01
3625MHz_16QAM_RB 50,#RB 0	Pass	4.00	22.57	0.181	Inf	18.57	0.072	Inf	15.61	15.50
3695MHz_16QAM_RB 50,#RB 0	Pass	4.00	22.79	0.190	Inf	18.79	0.076	Inf	15.54	16.00
3555MHz_64QAM_RB 50,#RB 0	Pass	4.00	22.79	0.190	Inf	18.79	0.076	Inf	15.57	15.98
3625MHz_64QAM_RB 50,#RB 0	Pass	4.00	22.57	0.181	Inf	18.57	0.072	Inf	15.62	15.50
3695MHz_64QAM_RB 50,#RB 0	Pass	4.00	22.76	0.189	Inf	18.76	0.075	Inf	15.52	15.97
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	4.00	25.58	0.361	Inf	21.58	0.144	Inf	18.37	18.76
3625MHz_QPSK_RB 100,#RB 0	Pass	4.00	25.40	0.347	Inf	21.40	0.138	Inf	18.27	18.51
3690MHz_QPSK_RB 100,#RB 0	Pass	4.00	25.42	0.348	Inf	21.42	0.139	Inf	17.82	18.93
3560MHz_16QAM_RB 100,#RB 0	Pass	4.00	25.54	0.358	Inf	21.54	0.143	Inf	18.33	18.72
3625MHz_16QAM_RB 100,#RB 0	Pass	4.00	25.40	0.347	Inf	21.40	0.138	Inf	18.19	18.58
3690MHz_16QAM_RB 100,#RB 0	Pass	4.00	25.46	0.352	Inf	21.46	0.140	Inf	17.93	18.91
3560MHz_64QAM_RB 100,#RB 0	Pass	4.00	25.52	0.356	Inf	21.52	0.142	Inf	18.32	18.70
3625MHz_64QAM_RB 100,#RB 0	Pass	4.00	25.37	0.344	Inf	21.37	0.137	Inf	18.18	18.54
3690MHz_64QAM_RB 100,#RB 0	Pass	4.00	25.48	0.353	Inf	21.48	0.141	Inf	17.95	18.94

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

Note:

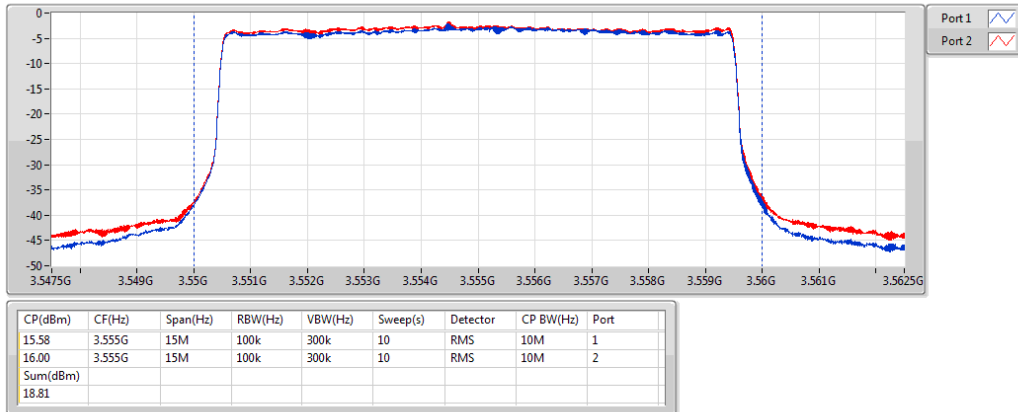
10MHz BW used dBm/10MHz measurement

20MHz BW used dBm/20MHz measurement

Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

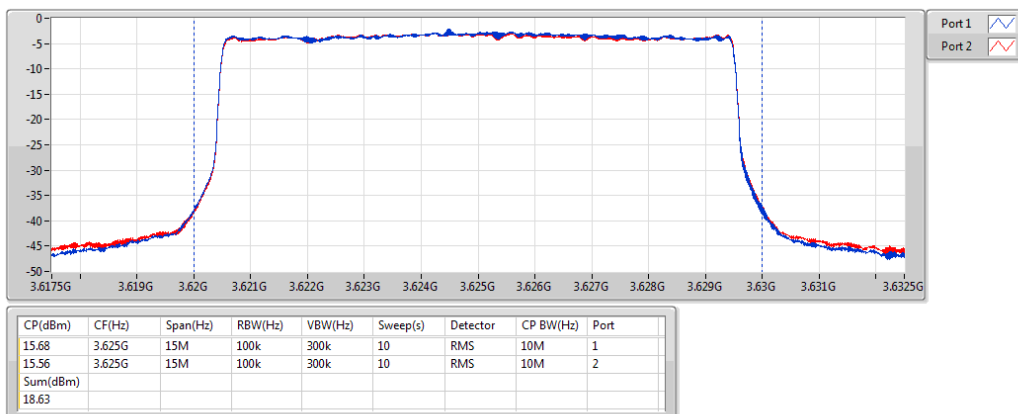
3555MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

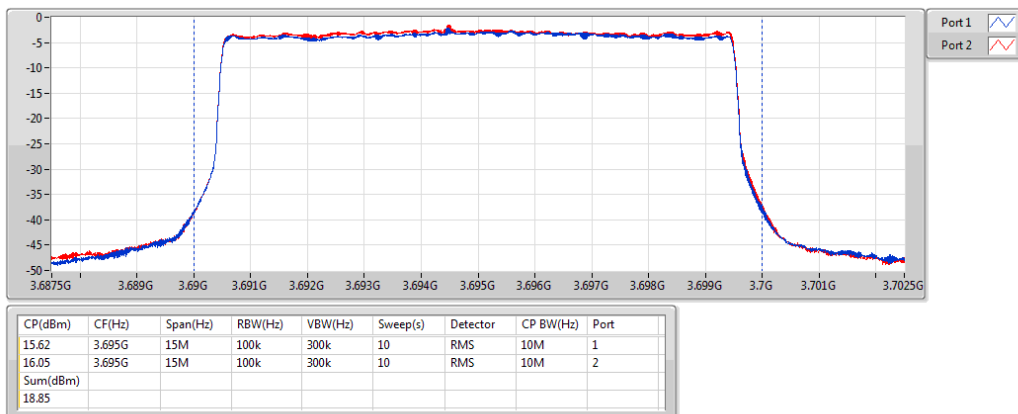
3625MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

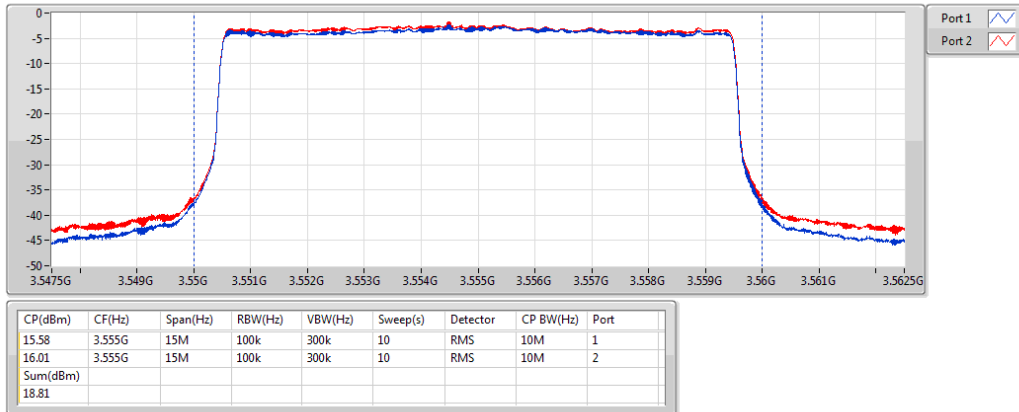
PowerAV

3695MHz_QPSK_RB 50,#RB 0



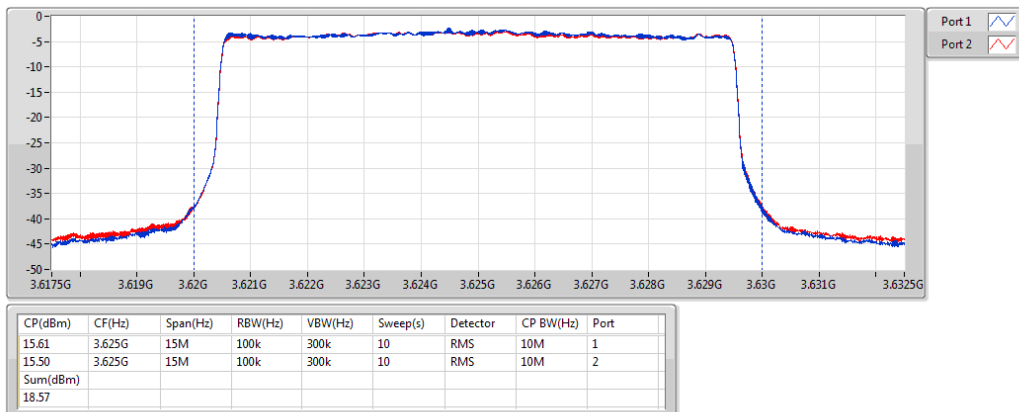
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

PowerAV



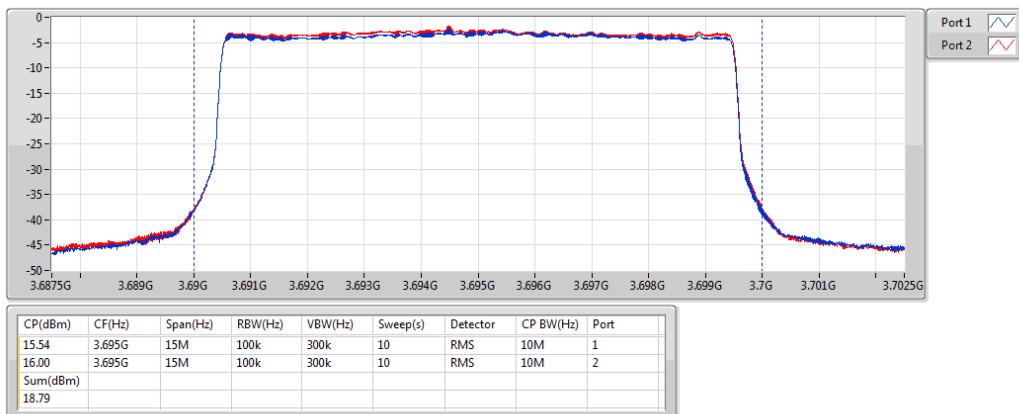
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

PowerAV



Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

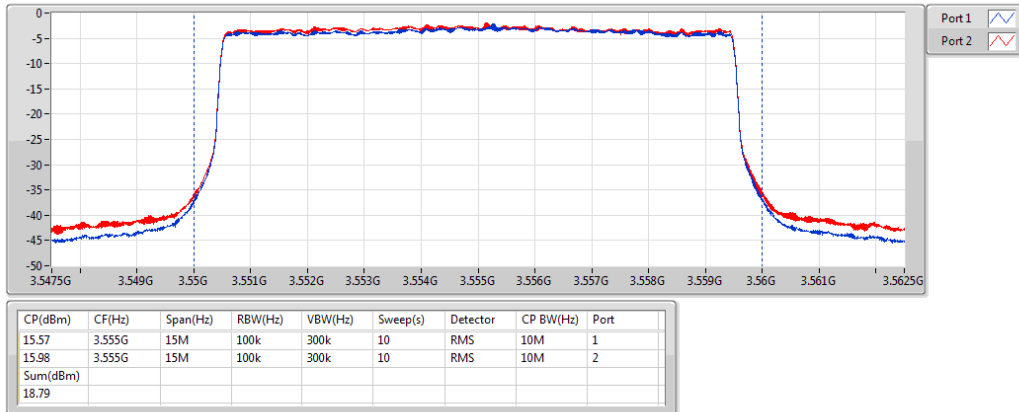
PowerAV



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

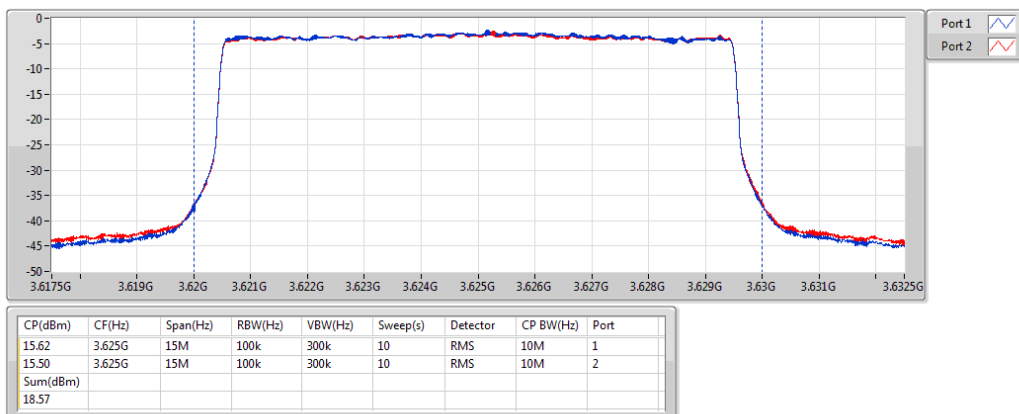
3555MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

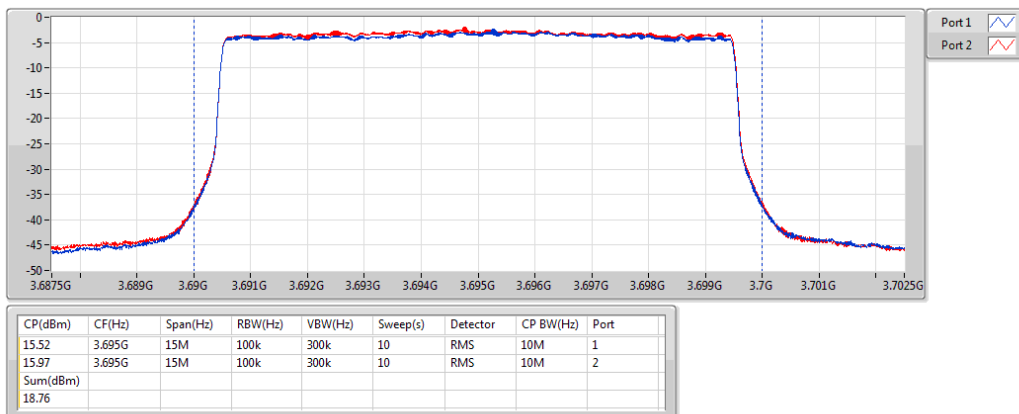
3625MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

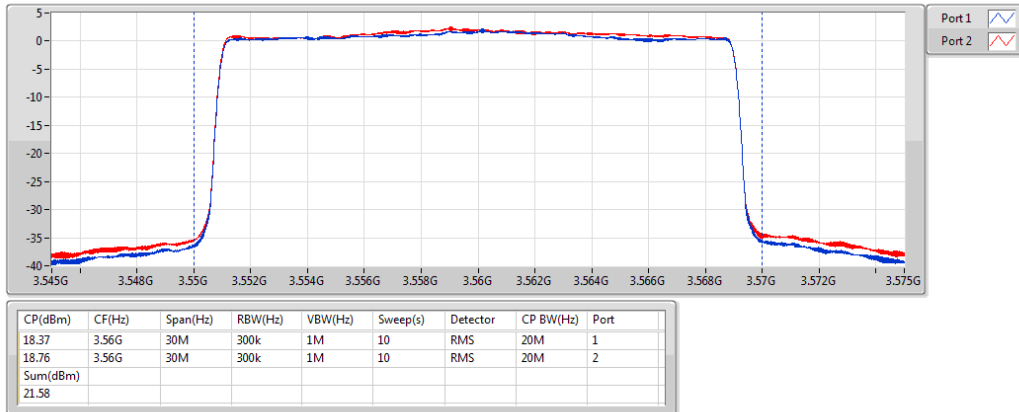
3695MHz_64QAM_RB 50,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

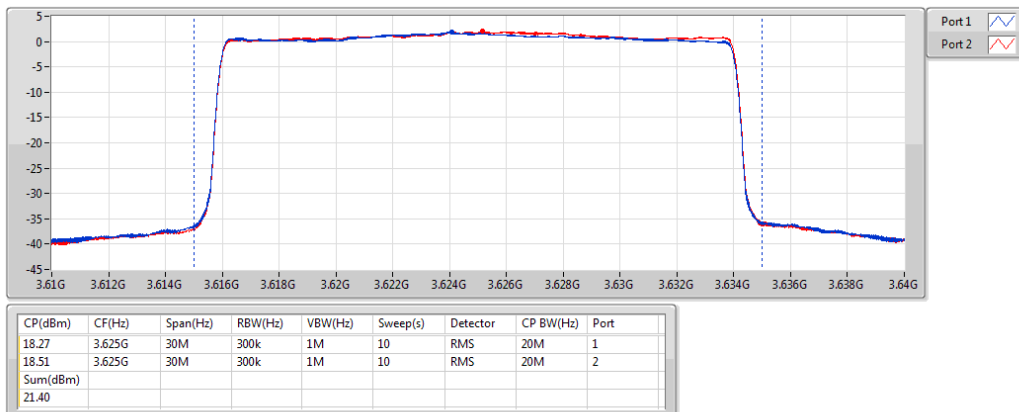
3560MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

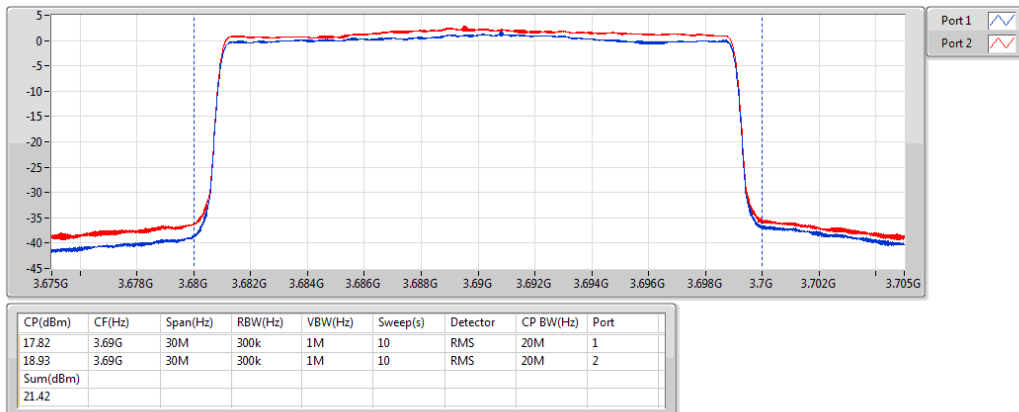
3625MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

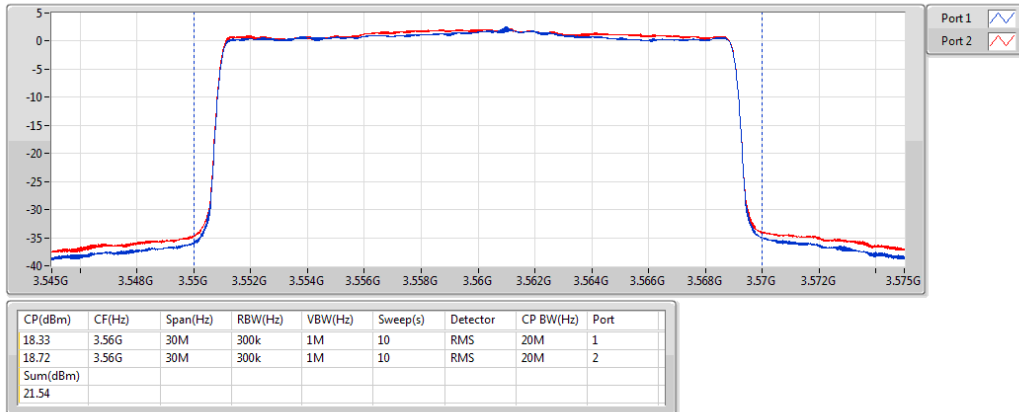
3690MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

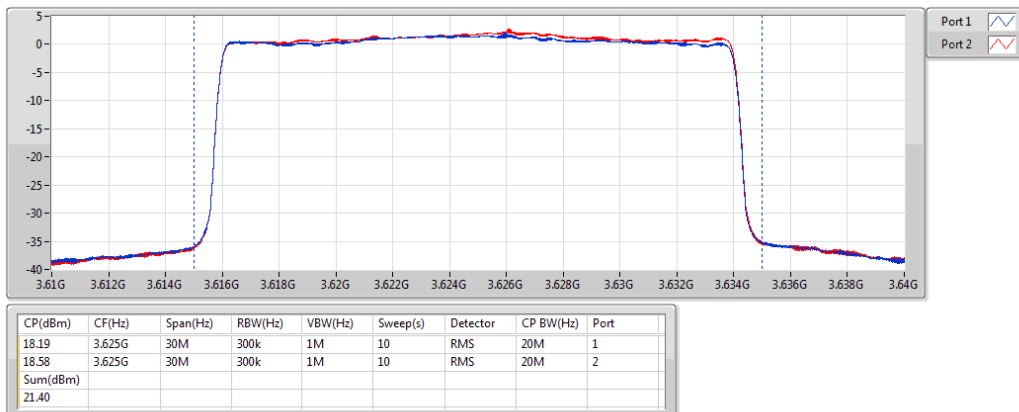
3560MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

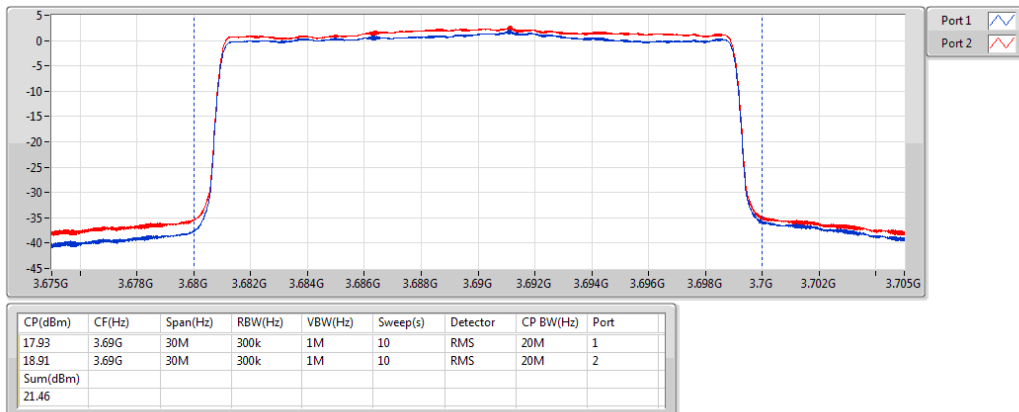
3625MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

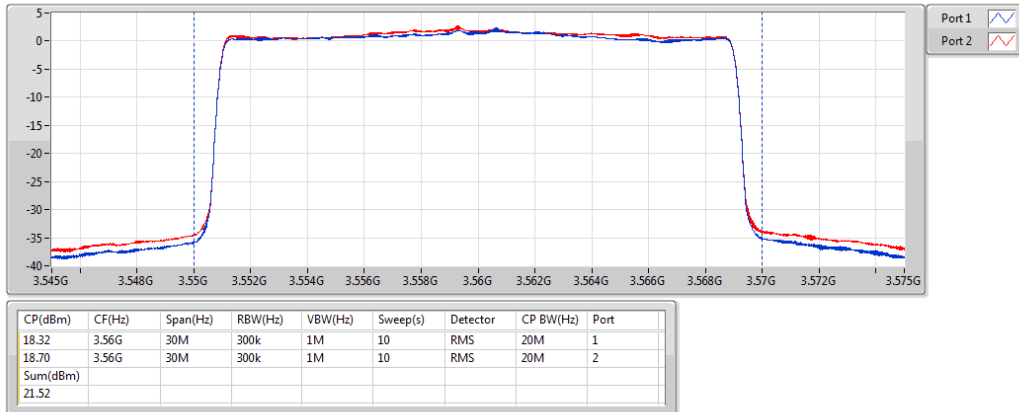
3690MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

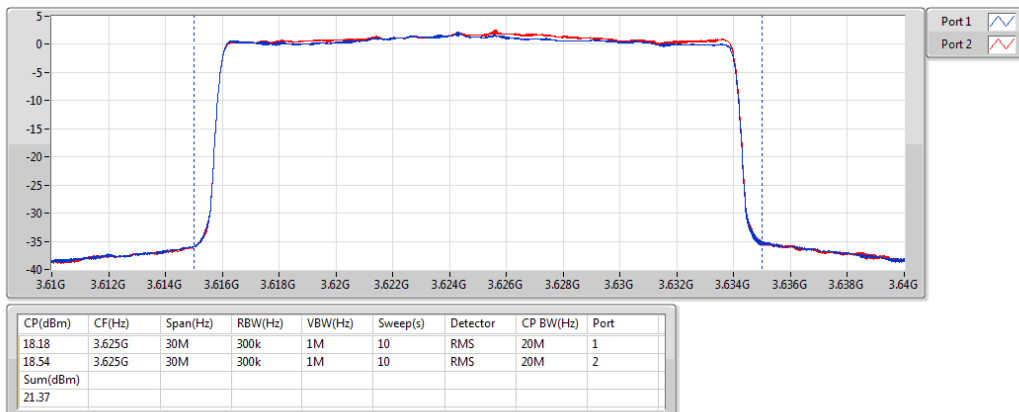
3560MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

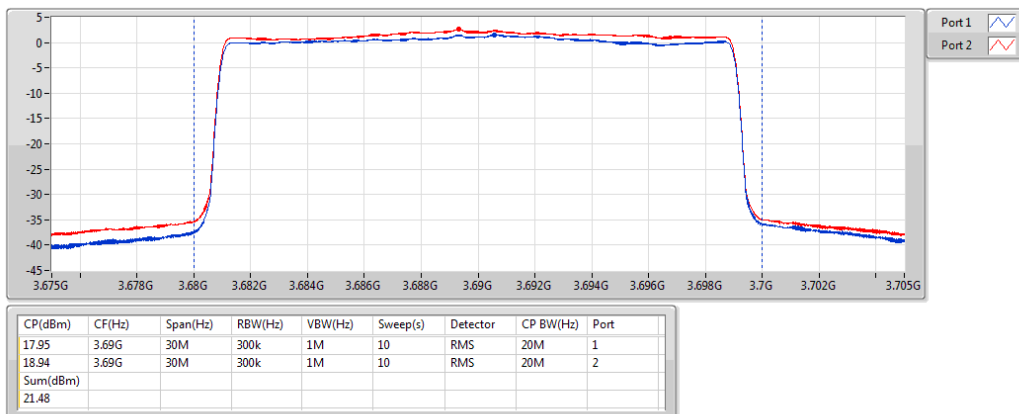
3625MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

3690MHz_64QAM_RB 100,#RB 0



3.1.6 Test Result of EIRP (CA Mode)

Multi-carrier / Power @10MHz
Result

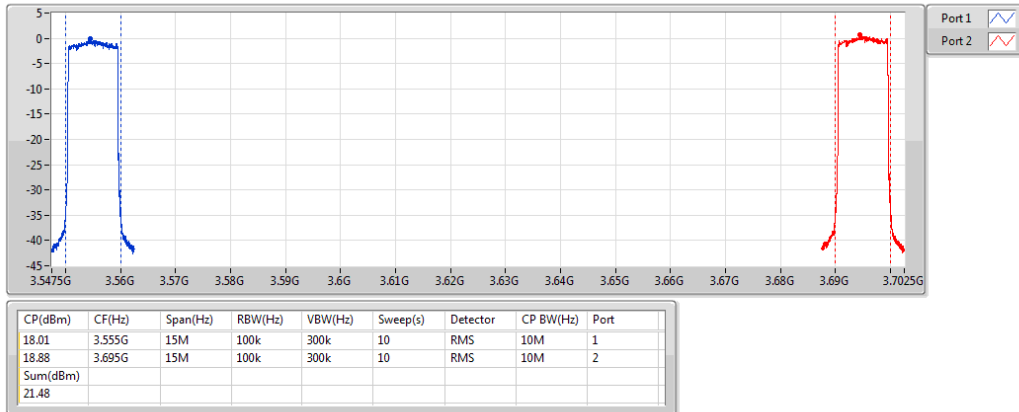
Mode	Result	DG (dBi)	1Carrier Port 1 (dBm/ 10MHz)	2Carrier Port 2 (dBm/ 10MHz)	Max Power (dBm/ 10MHz)	Max EIRP (dBm/ 10MHz)	EIRP Lim. (dBm/ 10MHz)
Band 48_LTE_10MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	18.01	18.88	18.88	22.88	23
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	18.03	18.87	18.87	22.87	23
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	18.06	18.82	18.82	22.82	23
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	18.01	16.77	18.01	22.01	23
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	18.09	16.82	18.09	22.09	23
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	18.01	16.77	18.01	22.01	23
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	16.10	18.85	18.85	22.85	23
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	15.92	18.87	18.87	22.87	23
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	16.03	18.84	18.84	22.84	23
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	18.06	18.83	18.83	22.83	23
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	17.99	18.75	18.75	22.75	23
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	17.96	18.78	18.78	22.78	23

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

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

PowerAV

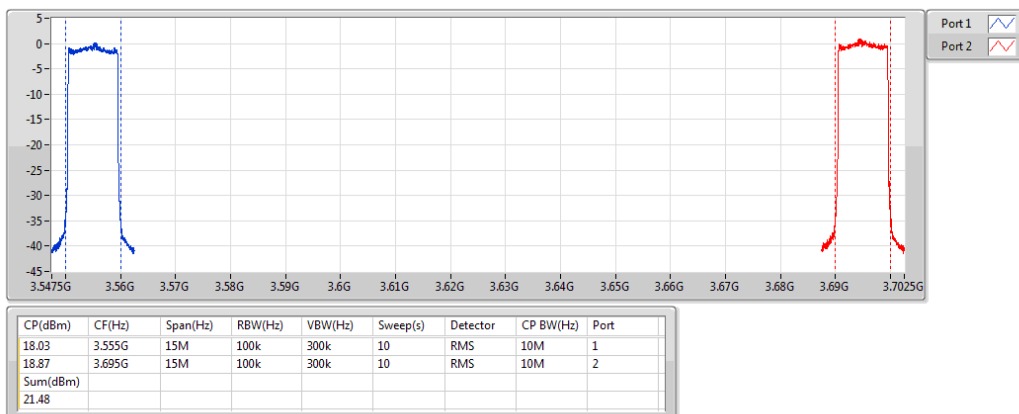
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

PowerAV

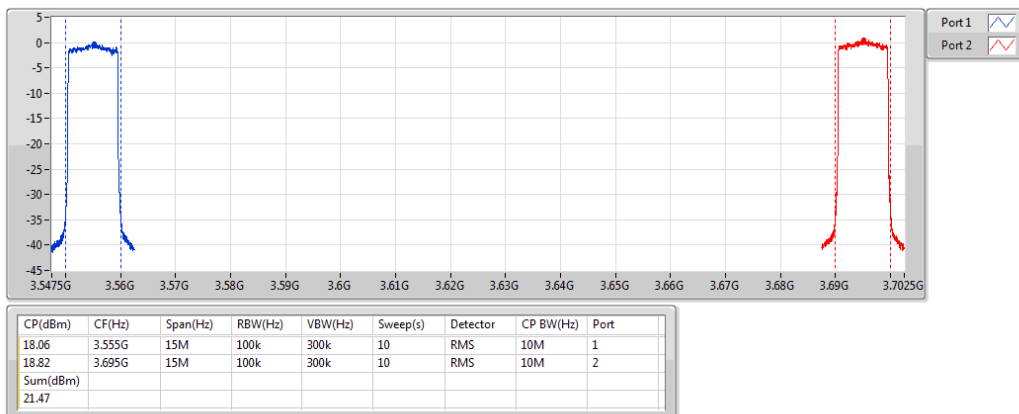
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

PowerAV

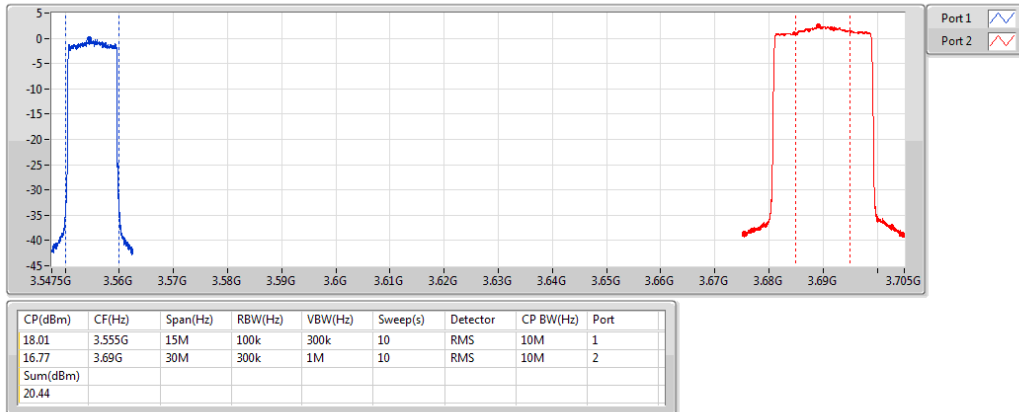
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

PowerAV

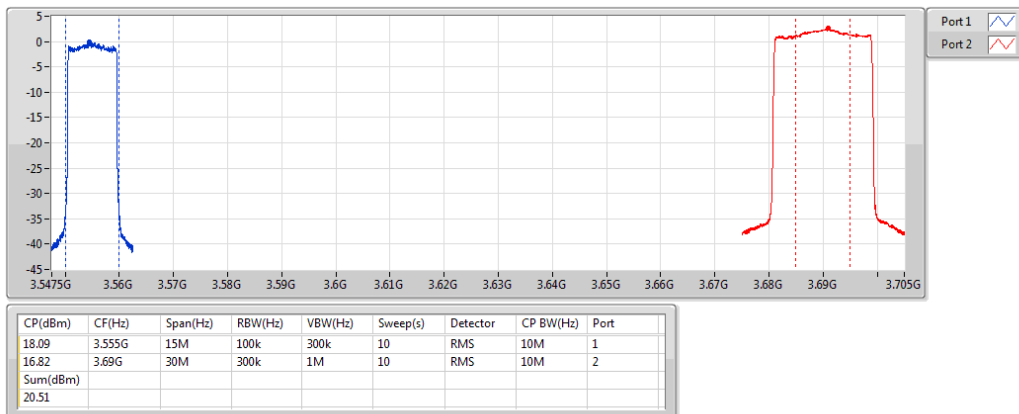
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

PowerAV

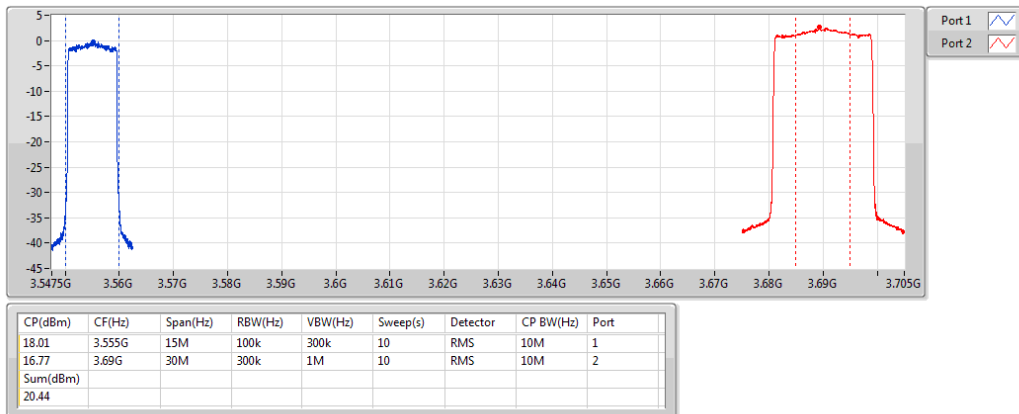
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

PowerAV

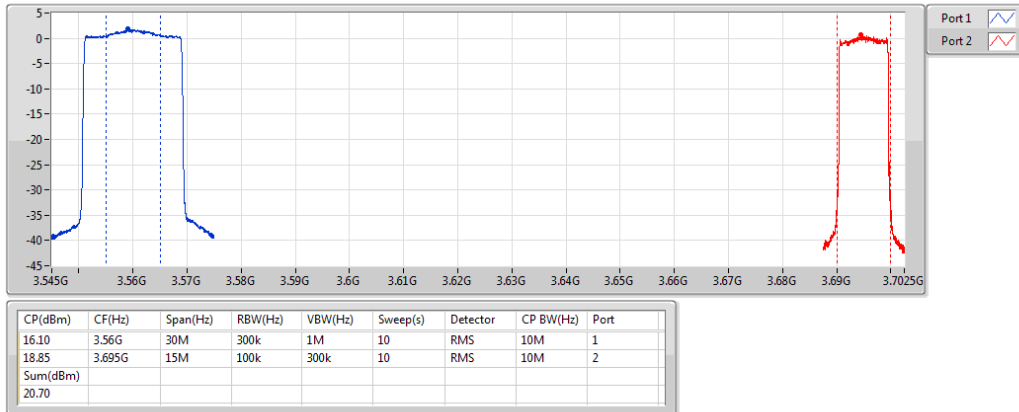
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

PowerAV

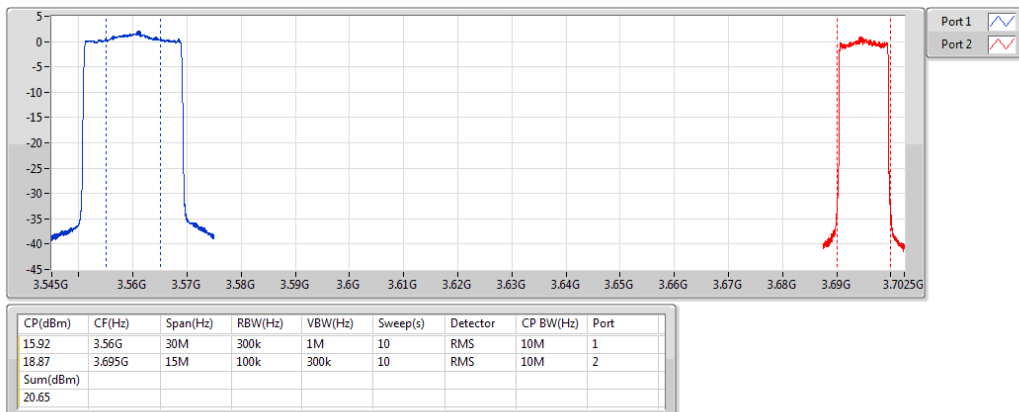
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

PowerAV

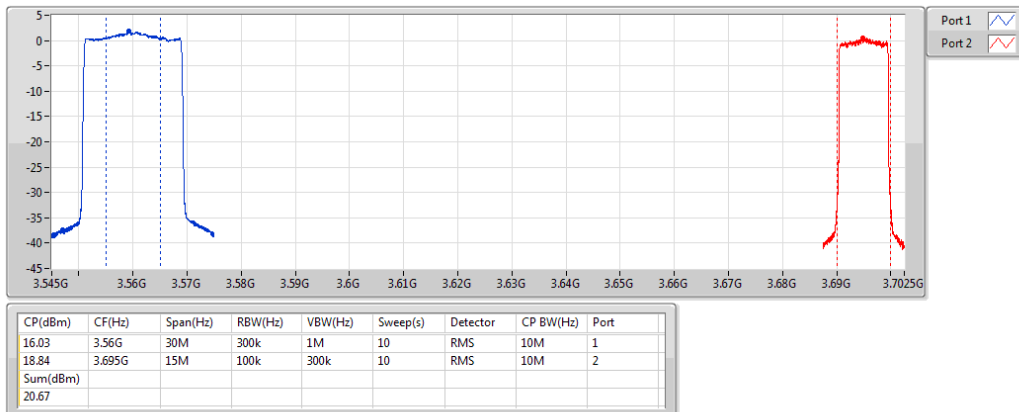
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

PowerAV

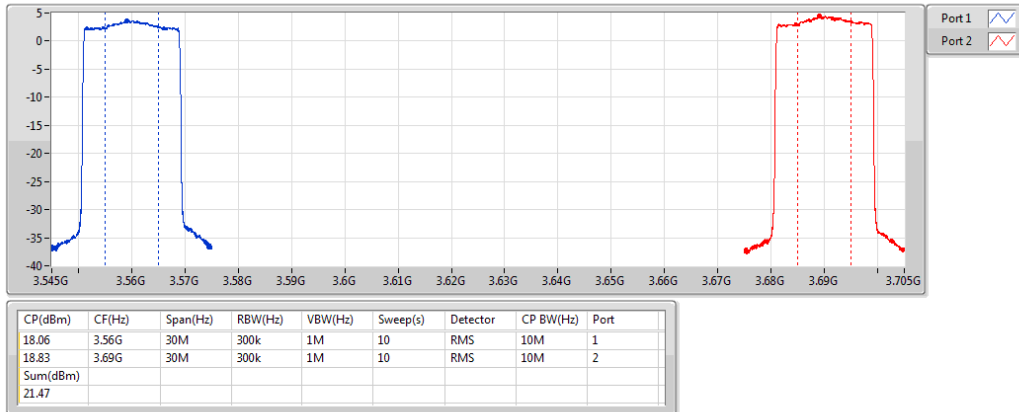
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

PowerAV

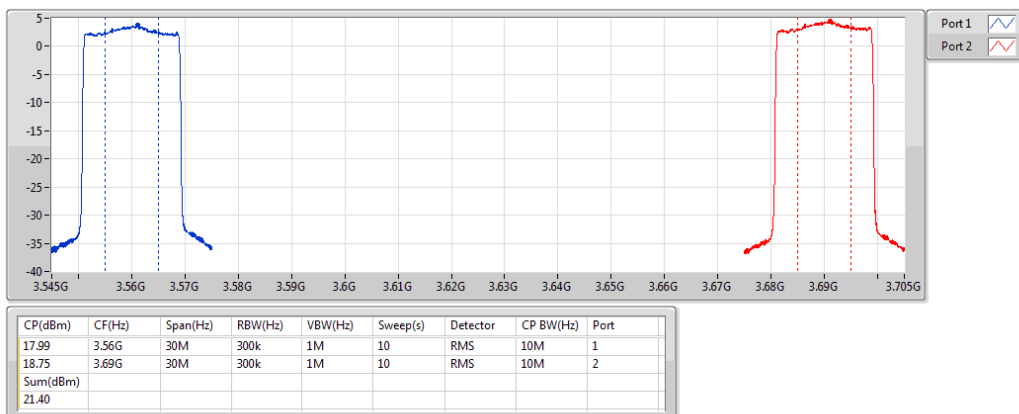
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

PowerAV

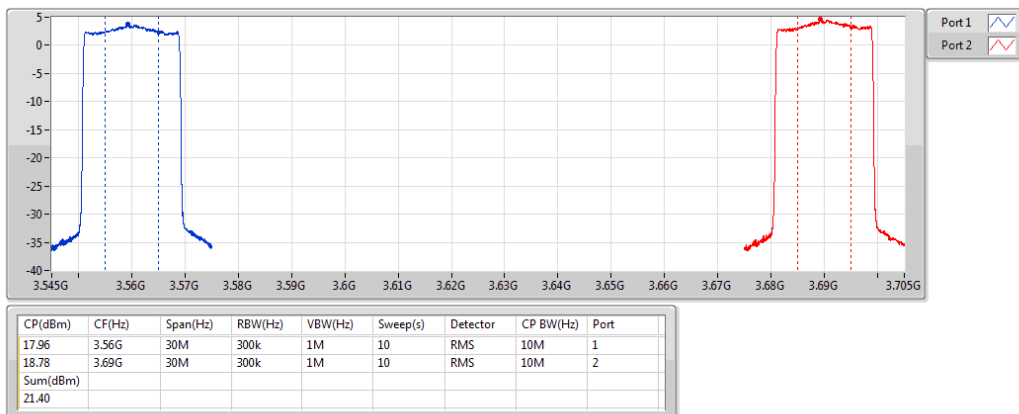
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

PowerAV

P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0



Multi-carrier / Full Power Result Result

Mode	Result	DG (dBi)	EIRP (dBm)	EIRP (W)	EIRP Lim. (W)	Power (dBm)	Power (W)	Power Lim. (W)	Port 1 (dBm)	Port 2 (dBm)
Band 48_LTE_10MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	25.48	0.353	Inf	21.48	0.141	Inf	18.01	18.88
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	25.48	0.353	Inf	21.48	0.141	Inf	18.03	18.87
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	25.47	0.352	Inf	21.47	0.140	Inf	18.06	18.82
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	25.45	0.351	Inf	21.45	0.140	Inf	18.04	18.80
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	25.45	0.351	Inf	21.45	0.140	Inf	18.07	18.78
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	25.46	0.352	Inf	21.46	0.140	Inf	18.06	18.80
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	25.62	0.365	Inf	21.62	0.145	Inf	18.36	18.84
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	25.57	0.361	Inf	21.57	0.144	Inf	18.23	18.87
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	25.58	0.361	Inf	21.58	0.144	Inf	18.25	18.87
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	27.65	0.582	Inf	23.65	0.232	Inf	20.24	21.01
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	27.63	0.579	Inf	23.63	0.231	Inf	20.23	20.97
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	27.69	0.587	Inf	23.69	0.234	Inf	20.24	21.07

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

Note:

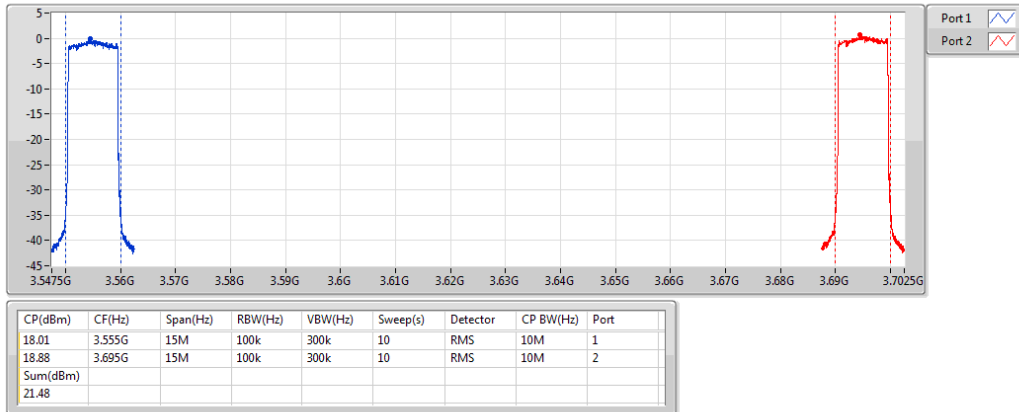
10MHz BW used dBm/10MHz measurement

20MHz BW used dBm/20MHz measurement

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

PowerAV

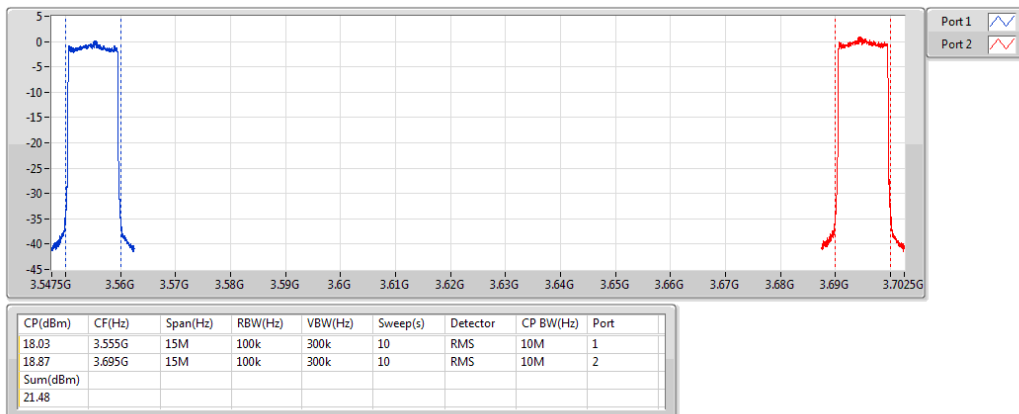
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

PowerAV

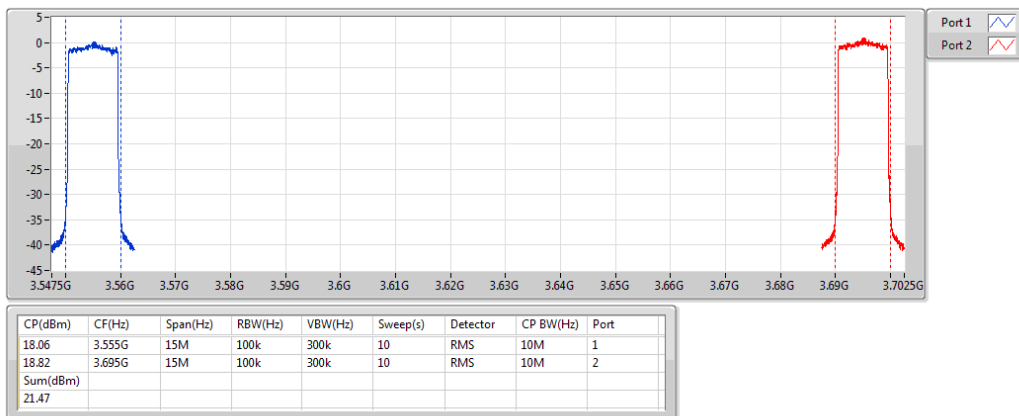
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

PowerAV

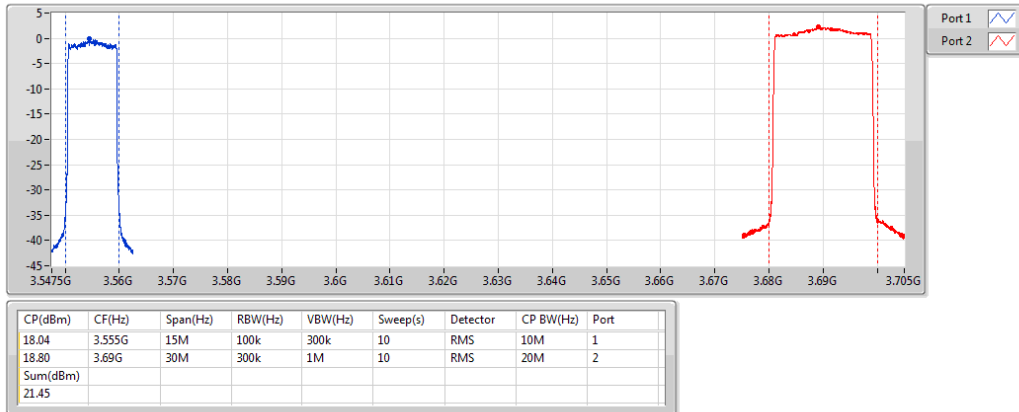
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

PowerAV

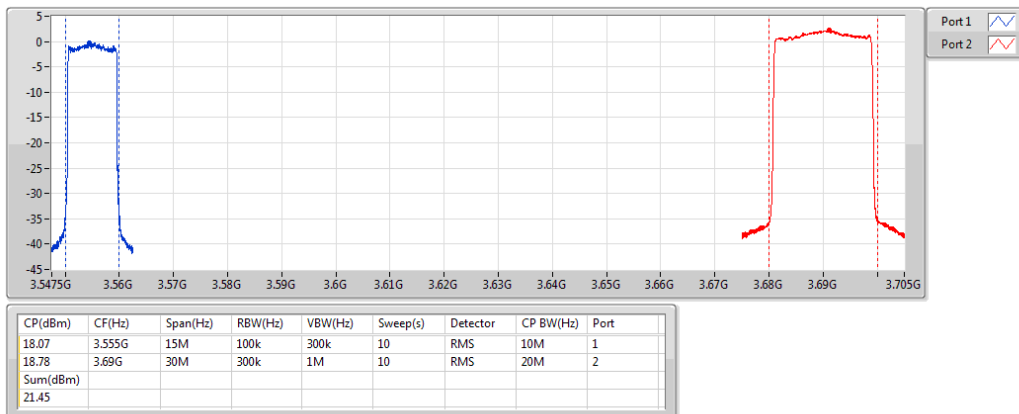
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

PowerAV

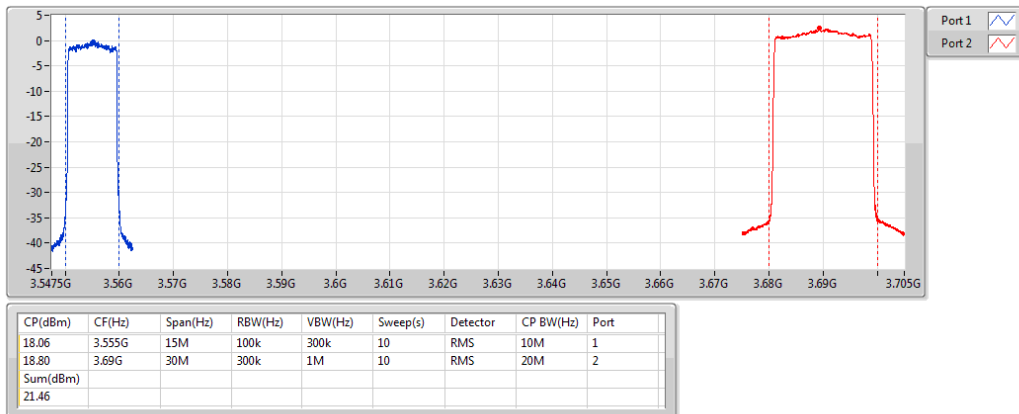
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

PowerAV

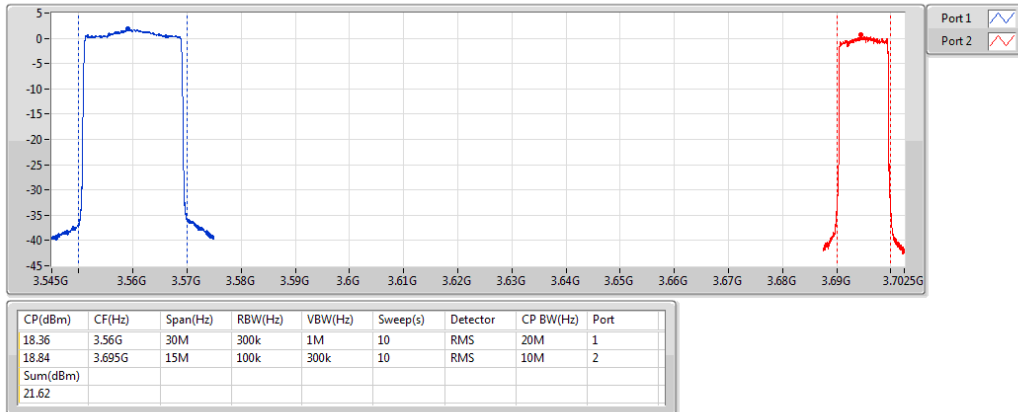
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

PowerAV

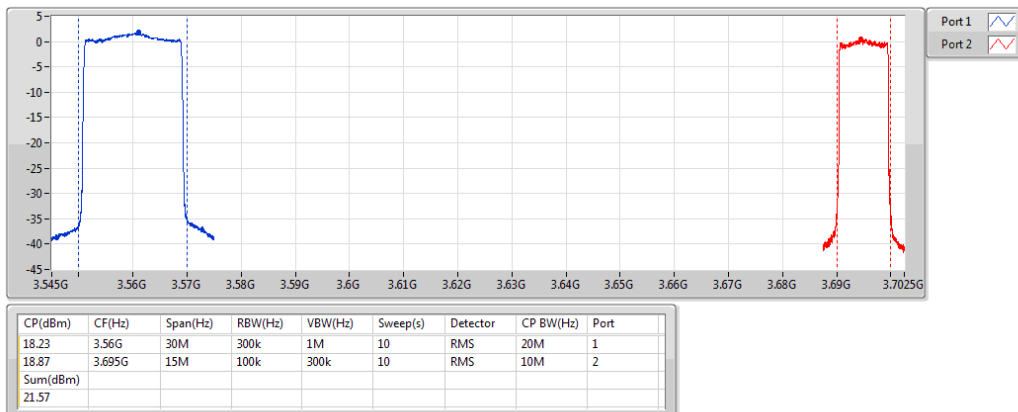
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

PowerAV

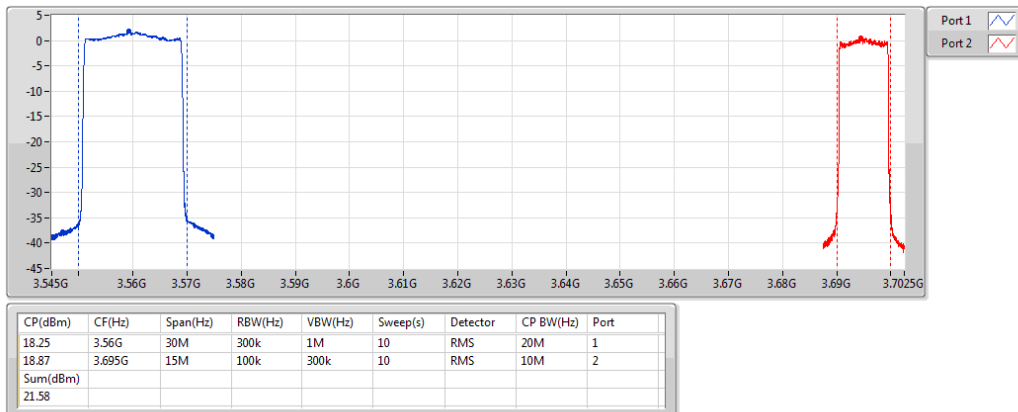
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

PowerAV

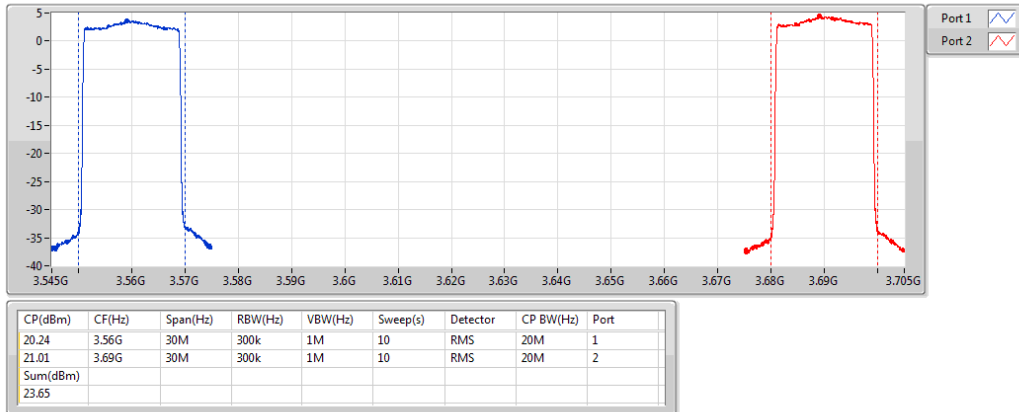
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

PowerAV

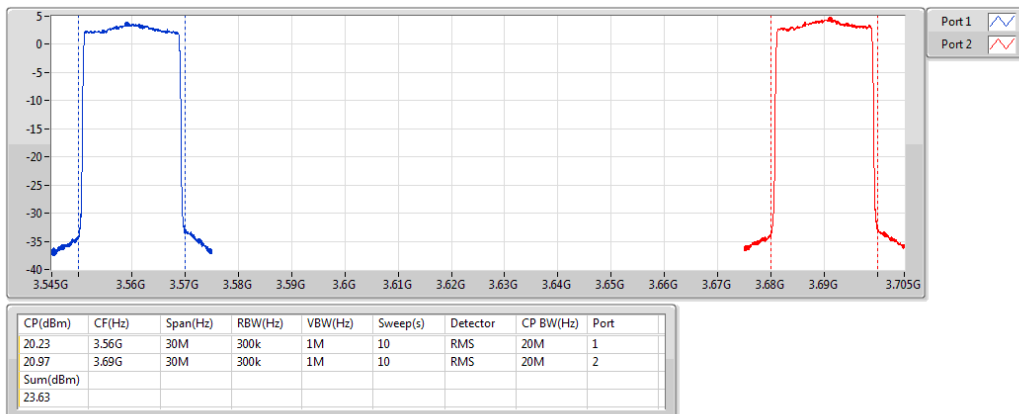
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

PowerAV

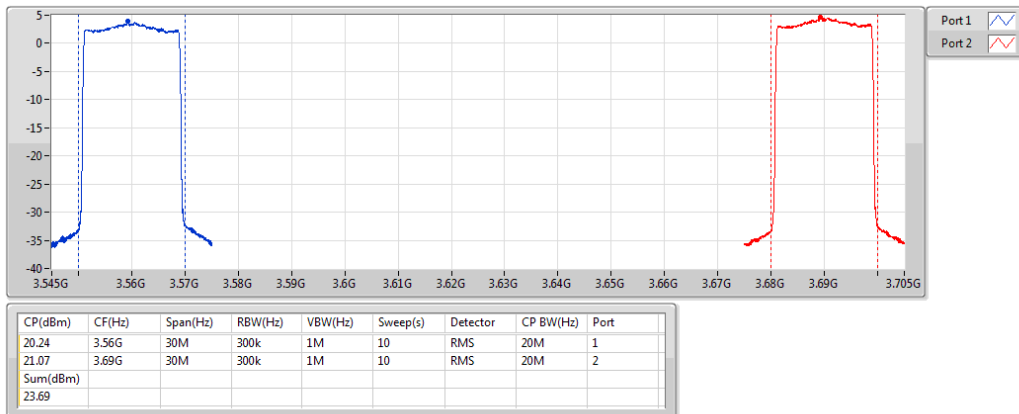
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

PowerAV

P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0



3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

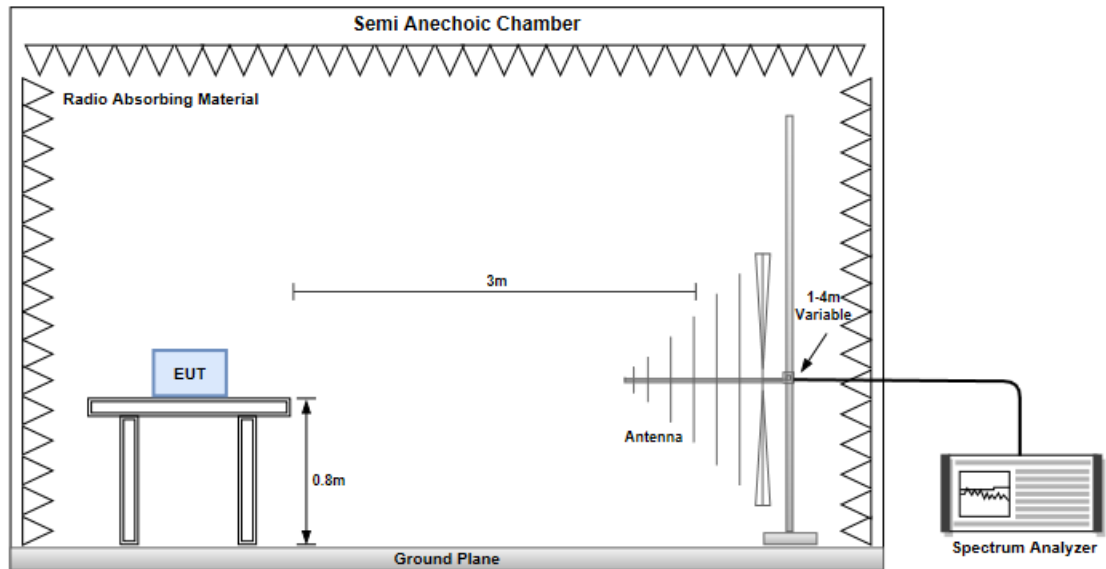
Emissions shall not exceed -40dBm/MHz

3.2.2 Test Procedures

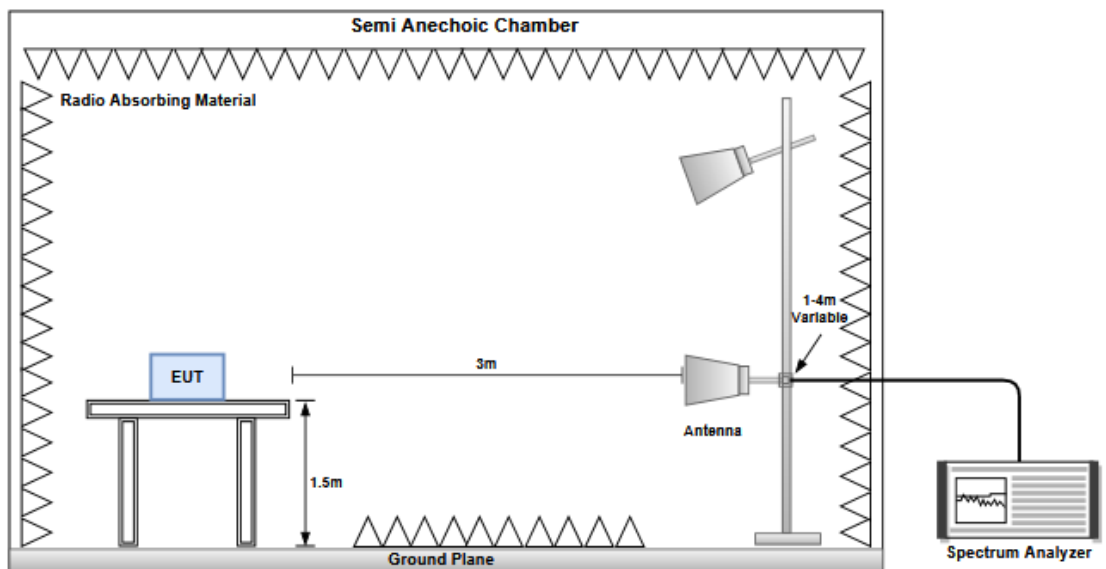
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360° . A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360° , the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.
4. After finding the max radiated emission, substitution method will be used for getting effective radiated power. EUT will be removed and substitution antenna will be placed at same position. Signal generator will output CW signal to substitution antenna through a RF cable. Rotate turntable and move antenna to find maximum radiated emission. Adjust output power of signal generator to let the maximum radiated emission is same as step 3. Record the output power level.
5. E.I.R.P = output power of step 4 + gain of substitution antenna – cable loss of RF cable. ERP can be calculated by below formula:

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



Ambient Condition	23°C / 64%	Tested By	Akun Chung
--------------------------	------------	------------------	------------

3.2.4 Test Result of Radiated Emissions below 1GHz (CDD Mode)

Mode	LTE Band 48, QPSK, CB:10 MHz, 50 RB Offset 0, Channel: 56690						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
101.66	H	-63.77	-40	-23.77	-61.91	-58.66	-5.11
142.63	H	-62.66	-40	-22.66	-61.97	-55.96	-6.7
249.58	H	-62.25	-40	-22.25	-59.12	-60.98	-1.27
374.44	H	-64.35	-40	-24.35	-66.42	-63.19	-1.16
749.58	H	-57.88	-40	-17.88	-66.57	-55.77	-2.11
874.89	H	-58.22	-40	-18.22	-68.57	-56.16	-2.06
42.55	V	-62.42	-40	-22.42	-59.11	-45.17	-17.25
88.25	V	-56.48	-40	-16.48	-54.18	-51.15	-5.33
249.15	V	-59.4	-40	-19.4	-61.34	-58.11	-1.29
624.88	V	-59.89	-40	-19.89	-68.21	-58.14	-1.75
749.85	V	-54.63	-40	-14.63	-64.58	-52.52	-2.11
874.58	V	-54	-40	-14	-65.53	-51.94	-2.06

Mode	LTE Band 48, QPSK, CB:20 MHz, 100 RB Offset 0, Channel: 55340						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
101.48	H	-63.84	-40	-23.84	-61.99	-58.74	-5.1
142.65	H	-63.22	-40	-23.22	-62.53	-56.52	-6.7
249.45	H	-62.63	-40	-22.63	-59.49	-61.35	-1.28
375.11	H	-65.25	-40	-25.25	-67.32	-64.09	-1.16
749.82	H	-58.39	-40	-18.39	-67.08	-56.28	-2.11
874.91	H	-58.66	-40	-18.66	-69.01	-56.6	-2.06
42.66	V	-62.63	-40	-22.63	-59.34	-45.4	-17.23
87.78	V	-57.25	-40	-17.25	-54.96	-51.81	-5.44
249.45	V	-59.77	-40	-19.77	-61.72	-58.49	-1.28
624.89	V	-60.21	-40	-20.21	-68.53	-58.46	-1.75
749.92	V	-54.48	-40	-14.48	-64.43	-52.37	-2.11
874.55	V	-54.25	-40	-14.25	-65.78	-52.19	-2.06

NOTE: EIRP = S.G power value + correction factor

3.2.5 Test Result of Radiated Emissions above 1GHz (CDD Mode)

Mode	LTE Band 48, QPSK, CB:10 MHz, 50 RB Offset 0, Channel: 55290						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7110	H	-53.49	-40	-13.49	-72.25	-57.38	3.89
10665	H	-50.5	-40	-10.5	-72.95	-51.15	0.65
14220	H	-48.22	-40	-8.22	-72.99	-48.06	-0.16
7110	V	-53.04	-40	-13.04	-72.85	-56.93	3.89
10665	V	-51	-40	-11	-72.78	-51.65	0.65
14220	V	-46.58	-40	-6.58	-72.33	-46.42	-0.16

Mode	LTE Band 48, QPSK, CB:10 MHz, 50 RB Offset 0, Channel: 55990						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7250	H	-53.64	-40	-13.64	-72.54	-57.1	3.46
10875	H	-49.73	-40	-9.73	-72.69	-50.31	0.58
14500	H	-48.39	-40	-8.39	-72.49	-47.96	-0.43
7250	V	-52.87	-40	-12.87	-72.97	-56.33	3.46
10875	V	-50.38	-40	-10.38	-72.9	-50.96	0.58
14500	V	-46.54	-40	-6.54	-72.88	-46.11	-0.43

Mode	LTE Band 48, QPSK, CB:10 MHz, 50 RB Offset 0, Channel: 56690						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7390	H	-53.77	-40	-13.77	-72.98	-56.83	3.06
11085	H	-49.31	-40	-9.31	-72.49	-49.93	0.62
14780	H	-48.29	-40	-8.29	-72.58	-48.65	0.36
7390	V	-52.92	-40	-12.92	-72.69	-55.98	3.06
11085	V	-49.35	-40	-9.35	-72.42	-49.97	0.62
14780	V	-46.36	-40	-6.36	-73.53	-46.72	0.36

NOTE: EIRP = S.G power value + correction factor

Mode	LTE Band 48, QPSK, CB:20 MHz, 100 RB Offset 0, Channel: 55340						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7120	H	-53.62	-40	-13.62	-72.38	-57.48	3.86
10680	H	-48.79	-40	-8.79	-71.28	-49.44	0.65
14240	H	-47.95	-40	-7.95	-72.67	-47.77	-0.18
7120	V	-53.1	-40	-13.1	-72.96	-56.96	3.86
10680	V	-51.01	-40	-11.01	-72.84	-51.66	0.65
14240	V	-46.87	-40	-6.87	-72.66	-46.69	-0.18

Mode	LTE Band 48, QPSK, CB:20 MHz, 100 RB Offset 0, Channel: 55990						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7250	H	-53.77	-40	-13.77	-72.67	-57.23	3.46
10875	H	-49.99	-40	-9.99	-72.95	-50.57	0.58
14500	H	-48.29	-40	-8.29	-72.39	-47.86	-0.43
7250	V	-52.64	-40	-12.64	-72.74	-56.1	3.46
10875	V	-50.27	-40	-10.27	-72.79	-50.85	0.58
14500	V	-46.14	-40	-6.14	-72.48	-45.71	-0.43

Mode	LTE Band 48, QPSK, CB:20 MHz, 100 RB Offset 0, Channel: 56640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7380	H	-53.18	-40	-13.18	-72.37	-56.27	3.09
11070	H	-48.16	-40	-8.16	-71.35	-48.76	0.6
14760	H	-48.11	-40	-8.11	-72.39	-48.41	0.3
7380	V	-53.19	-40	-13.19	-72.98	-56.28	3.09
11070	V	-49.68	-40	-9.68	-72.73	-50.28	0.6
14760	V	-45.67	-40	-5.67	-72.78	-45.97	0.3

NOTE: EIRP = S.G power value + correction factor

Ambient Condition	23°C / 64%	Tested By	Akun Chung
--------------------------	------------	------------------	------------

3.2.6 Test Result of Radiated Emissions below 1GHz (CA Mode)

Mode	LTE Band 48, QPSK, CB:10+10 MHz, 50 RB Offset 0 + 50 RB Offset 0, Channel: 55290 + 56690						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
101.33	H	-64.71	-40	-24.71	-62.87	-59.62	-5.09
142.71	H	-63.48	-40	-23.48	-62.79	-56.79	-6.69
249.63	H	-62.74	-40	-22.74	-59.61	-61.47	-1.27
374.85	H	-65.11	-40	-25.11	-67.18	-63.95	-1.16
749.95	H	-58.77	-40	-18.77	-67.47	-56.66	-2.11
874.63	H	-58.42	-40	-18.42	-68.76	-56.36	-2.06
42.63	V	-62.45	-40	-22.45	-59.16	-45.21	-17.24
88.22	V	-58.11	-40	-18.11	-55.81	-52.77	-5.34
249.75	V	-60.06	-40	-20.06	-62.03	-58.79	-1.27
624.88	V	-60.21	-40	-20.21	-68.53	-58.46	-1.75
749.82	V	-54.33	-40	-14.33	-64.28	-52.22	-2.11
874.85	V	-54.39	-40	-14.39	-65.93	-52.33	-2.06

Mode	LTE Band 48, QPSK, CB:10+20 MHz, 50 RB Offset 0 + 100 RB Offset 0, Channel: 55290 + 56640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
101.28	H	-64.66	-40	-24.66	-62.83	-59.57	-5.09
142.87	H	-63.52	-40	-23.52	-62.83	-56.83	-6.69
249.85	H	-63.85	-40	-23.85	-60.73	-62.59	-1.26
375	H	-65.23	-40	-25.23	-67.3	-64.07	-1.16
749.85	H	-58.93	-40	-18.93	-67.62	-56.82	-2.11
874.85	H	-58.63	-40	-18.63	-68.98	-56.57	-2.06
42.53	V	-62.75	-40	-22.75	-59.44	-45.5	-17.25
87.63	V	-57.98	-40	-17.98	-55.69	-52.5	-5.48
249.85	V	-59.96	-40	-19.96	-61.93	-58.7	-1.26
624.85	V	-60.21	-40	-20.21	-68.53	-58.46	-1.75
749.95	V	-54.88	-40	-14.88	-64.83	-52.77	-2.11
875.22	V	-54.48	-40	-14.48	-66.03	-52.42	-2.06

NOTE: EIRP = S.G power value + correction factor

Mode	LTE Band 48, QPSK, CB:20+10 MHz, 100 RB Offset 0 + 50 RB Offset 0, Channel: 55340 + 56690						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
101.48	H	-64.85	-40	-24.85	-63	-59.75	-5.1
143.54	H	-63.93	-40	-23.93	-63.23	-57.26	-6.67
249.85	H	-62.88	-40	-22.88	-59.76	-61.62	-1.26
374.95	H	-65.21	-40	-25.21	-67.28	-64.05	-1.16
749.88	H	-58.93	-40	-18.93	-67.63	-56.82	-2.11
874.22	H	-58.82	-40	-18.82	-69.16	-56.76	-2.06
42.63	V	-62.58	-40	-22.58	-59.29	-45.34	-17.24
87.54	V	-58.33	-40	-18.33	-56.04	-52.83	-5.5
249.77	V	-60.63	-40	-20.63	-62.6	-59.36	-1.27
624.85	V	-60.23	-40	-20.23	-68.55	-58.48	-1.75
749.95	V	-55.11	-40	-15.11	-65.06	-53	-2.11
874.45	V	-54.88	-40	-14.88	-66.4	-52.82	-2.06

Mode	LTE Band 48, QPSK, CB:20+20 MHz, 100 RB Offset 0 + 100 RB Offset 0, Channel: 55340 + 56640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
101.28	H	-64.85	-40	-24.85	-63.02	-59.76	-5.09
142.39	H	-63.55	-40	-23.55	-62.86	-56.85	-6.7
249.58	H	-62.82	-40	-22.82	-59.69	-61.55	-1.27
374.93	H	-65.33	-40	-25.33	-67.4	-64.17	-1.16
749.69	H	-58.89	-40	-18.89	-67.58	-56.78	-2.11
874.68	H	-58.86	-40	-18.86	-69.21	-56.8	-2.06
42.85	V	-62.53	-40	-22.53	-59.28	-45.32	-17.21
87.63	V	-57.95	-40	-17.95	-55.66	-52.47	-5.48
249.66	V	-59.52	-40	-19.52	-61.48	-58.25	-1.27
624.88	V	-59.86	-40	-19.86	-68.18	-58.11	-1.75
749.75	V	-54.63	-40	-14.63	-64.57	-52.52	-2.11
874.52	V	-54.33	-40	-14.33	-65.85	-52.27	-2.06

NOTE: EIRP = S.G power value + correction factor

3.2.7 Test Result of Radiated Emissions above 1GHz (CA Mode)

Mode	LTE Band 48, QPSK, CB:10+10 MHz, 50 RB Offset 0 + 50 RB Offset 0, Channel: 55290 + 56690						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7110	H	-54.22	-40	-14.22	-72.98	-58.11	3.89
7390	H	-53.05	-40	-13.05	-72.26	-56.11	3.06
10665	H	-50.24	-40	-10.24	-72.69	-50.89	0.65
11085	H	-49.36	-40	-9.36	-72.54	-49.98	0.62
14220	H	-47.4	-40	-7.4	-72.17	-47.24	-0.16
14780	H	-48	-40	-8	-72.29	-48.36	0.36
7110	V	-52.58	-40	-12.58	-72.39	-56.47	3.89
7390	V	-52.57	-40	-12.57	-72.34	-55.63	3.06
10665	V	-51.07	-40	-11.07	-72.85	-51.72	0.65
11085	V	-49.62	-40	-9.62	-72.69	-50.24	0.62
14220	V	-46.58	-40	-6.58	-72.33	-46.42	-0.16
14780	V	-45.3	-40	-5.3	-72.47	-45.66	0.36

Mode	LTE Band 48, QPSK, CB:10+20 MHz, 50 RB Offset 0 + 100 RB Offset 0, Channel: 55290 + 56640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7110	H	-53.63	-40	-13.63	-72.39	-57.52	3.89
7380	H	-53.09	-40	-13.09	-72.28	-56.18	3.09
10665	H	-49.88	-40	-9.88	-72.33	-50.53	0.65
11070	H	-48.56	-40	-8.56	-71.75	-49.16	0.6
14220	H	-47.48	-40	-7.48	-72.25	-47.32	-0.16
14760	H	-48	-40	-8	-72.28	-48.3	0.3
7110	V	-52.91	-40	-12.91	-72.72	-56.8	3.89
7380	V	-52.68	-40	-12.68	-72.47	-55.77	3.09
10665	V	-50.88	-40	-10.88	-72.66	-51.53	0.65
11070	V	-49.42	-40	-9.42	-72.47	-50.02	0.6
14220	V	-46.66	-40	-6.66	-72.41	-46.5	-0.16
14760	V	-45.22	-40	-5.22	-72.33	-45.52	0.3

NOTE: EIRP = S.G power value + correction factor

Mode	LTE Band 48, QPSK, CB:20+10 MHz, 100 RB Offset 0 + 50 RB Offset 0, Channel: 55340 + 56690						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7120	H	-53.57	-40	-13.57	-72.33	-57.43	3.86
7390	H	-53.24	-40	-13.24	-72.45	-56.3	3.06
10680	H	-48.79	-40	-8.79	-71.28	-49.44	0.65
11085	H	-48.97	-40	-8.97	-72.15	-49.59	0.62
14240	H	-46.73	-40	-6.73	-71.45	-46.55	-0.18
14780	H	-48.04	-40	-8.04	-72.33	-48.4	0.36
7120	V	-52.85	-40	-12.85	-72.71	-56.71	3.86
7390	V	-52.48	-40	-12.48	-72.25	-55.54	3.06
10680	V	-49.82	-40	-9.82	-71.65	-50.47	0.65
11085	V	-49.08	-40	-9.08	-72.15	-49.7	0.62
14240	V	-46.65	-40	-6.65	-72.44	-46.47	-0.18
14780	V	-45.16	-40	-5.16	-72.33	-45.52	0.36

Mode	LTE Band 48, QPSK, CB:20+20 MHz, 100 RB Offset 0 + 100 RB Offset 0, Channel: 55340 + 56640						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7120	H	-53.56	-40	-13.56	-72.32	-57.42	3.86
7380	H	-53.06	-40	-13.06	-72.25	-56.15	3.09
10680	H	-49.17	-40	-9.17	-71.66	-49.82	0.65
11070	H	-48.36	-40	-8.36	-71.55	-48.96	0.6
14240	H	-46.91	-40	-6.91	-71.63	-46.73	-0.18
14760	H	-47.17	-40	-7.17	-71.45	-47.47	0.3
7120	V	-52.79	-40	-12.79	-72.65	-56.65	3.86
7380	V	-52.75	-40	-12.75	-72.54	-55.84	3.09
10680	V	-50.13	-40	-10.13	-71.96	-50.78	0.65
11070	V	-48.82	-40	-8.82	-71.87	-49.42	0.6
14240	V	-46.66	-40	-6.66	-72.45	-46.48	-0.18
14760	V	-45.22	-40	-5.22	-72.33	-45.52	0.3

NOTE: EIRP = S.G power value + correction factor

3.3 Conducted Emissions & Band Edge

3.3.1 Limit of Conducted Emissions & Band Edge

The conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

Emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz

3.3.2 Test Procedures

Emission below 3530 MHz / Emission above 3720 MHz

1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30 MHz ~ 37 GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = RMS, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

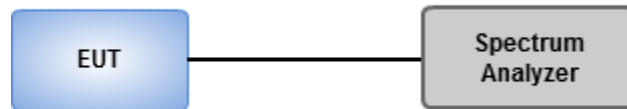
Band edge

1. Lowest /middle / highest operating channels are tested for this item.
2. The center frequency of spectrum analyzer will be set to Lowest /middle / highest operating channels.
3. Set RBW=100 kHz, VBW=300 kHz, detector = RMS, sweep time = auto for 10MHz channel bandwidth
4. Set RBW=200 kHz, VBW=620 kHz, detector = RMS, sweep time = auto for 20MHz channel bandwidth
5. Using channel power function to measure test result and capture the test plot.

Adjacent Channel Leakage Ratio

1. Lowest /middle / highest operating channels are tested for this item.
2. The center frequency of spectrum analyzer will be set to Lowest /middle / highest operating channels.
3. Set RBW=100 kHz, VBW=300 kHz, detector = RMS, sweep time = auto for 10MHz channel bandwidth
4. Set RBW=200 kHz, VBW=1000 kHz, detector = RMS, sweep time = auto for 20MHz channel bandwidth
5. Using Adjacent channel power function to measure test result and capture the test plot.

3.3.3 Test Setup



3.3.4 Test Result of Conducted Emissions & Band Edge

Ambient Condition	18-22°C / 64-66%	Tested By	Aska Huang
-------------------	------------------	-----------	------------

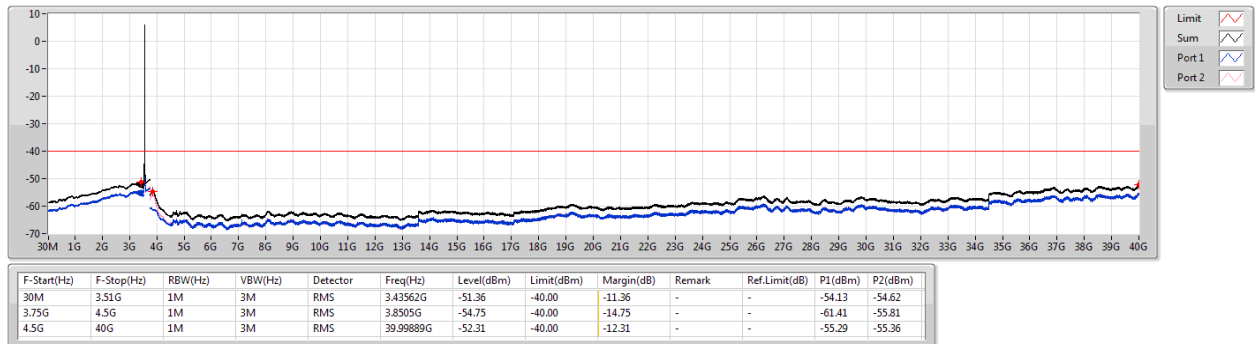
3.3.5 Test Result of Conducted Emissions & Band Edge (CDD Mode)

Conducted Emissions Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 48	-	-	-	-	-	-	-	-	-	-	-	-
LTE_10MHz_Nss1, QPSK_2TX	Pass	30M	3.51G	1M	3M	RMS	3.43562G	-51.36	-40.00	-11.36	-	-
LTE_10MHz_Nss1, 16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.32556G	-51.67	-40.00	-11.67	-	-
LTE_10MHz_Nss1, 64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.41952G	-51.43	-40.00	-11.43	-	-
LTE_20MHz_Nss1, QPSK_2TX	Pass	30M	3.51G	1M	3M	RMS	3.50652G	-49.46	-40.00	-9.46	-	-
LTE_20MHz_Nss1, 16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.50957G	-49.67	-40.00	-9.67	-	-
LTE_20MHz_Nss1, 64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.51G	-50.36	-40.00	-10.36	-	-

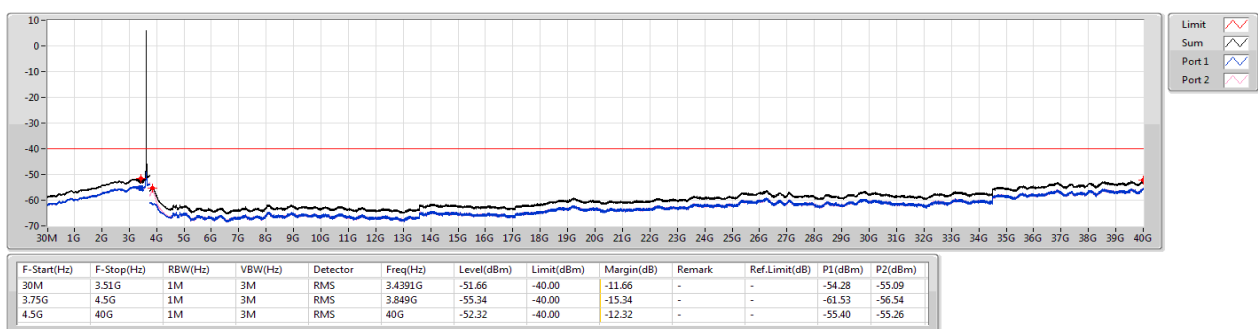
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3555MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



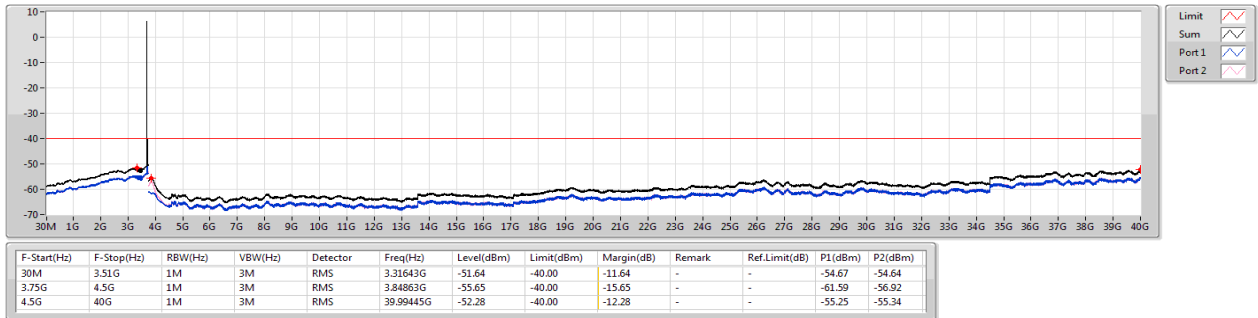
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



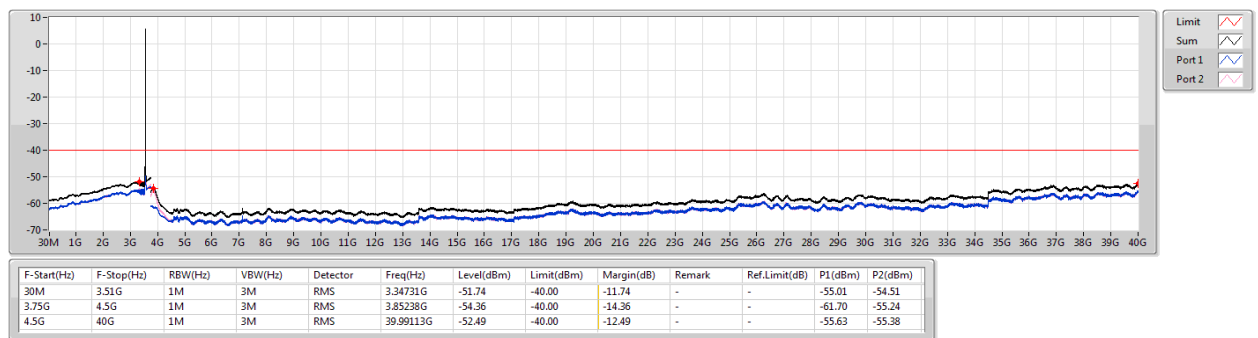
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3695MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



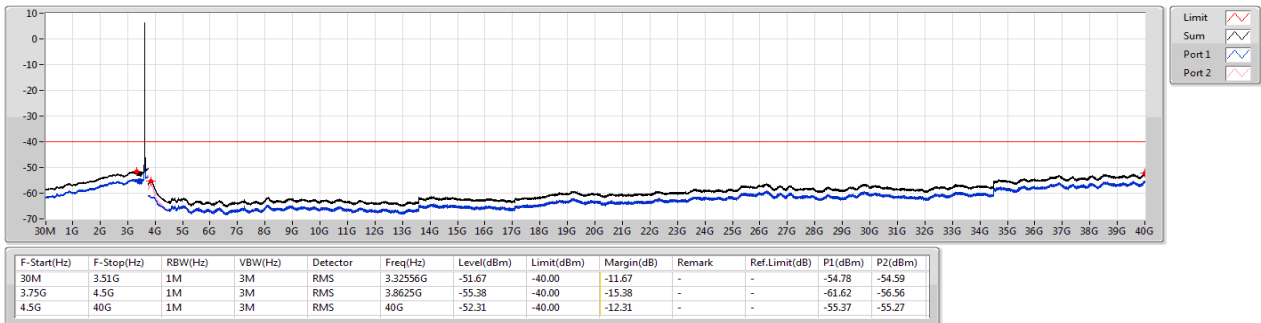
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



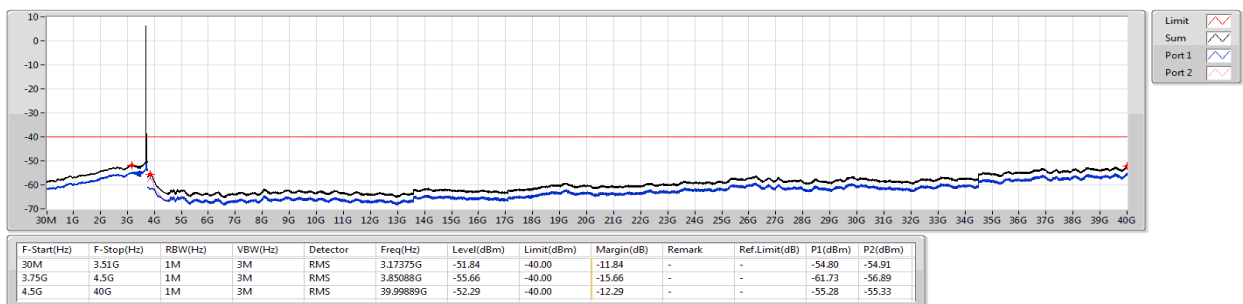
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



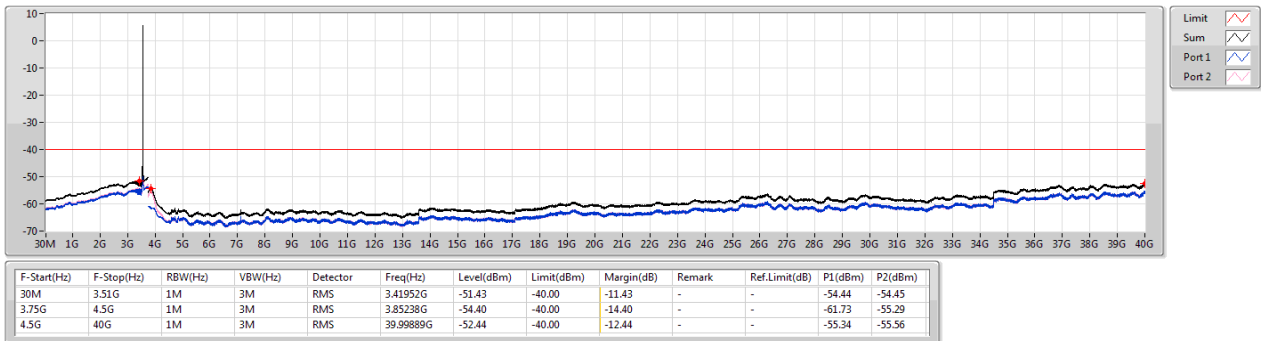
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



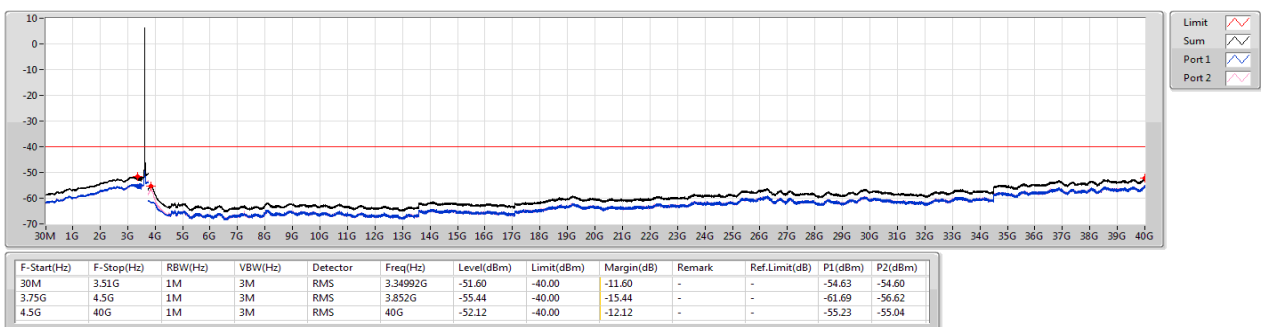
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



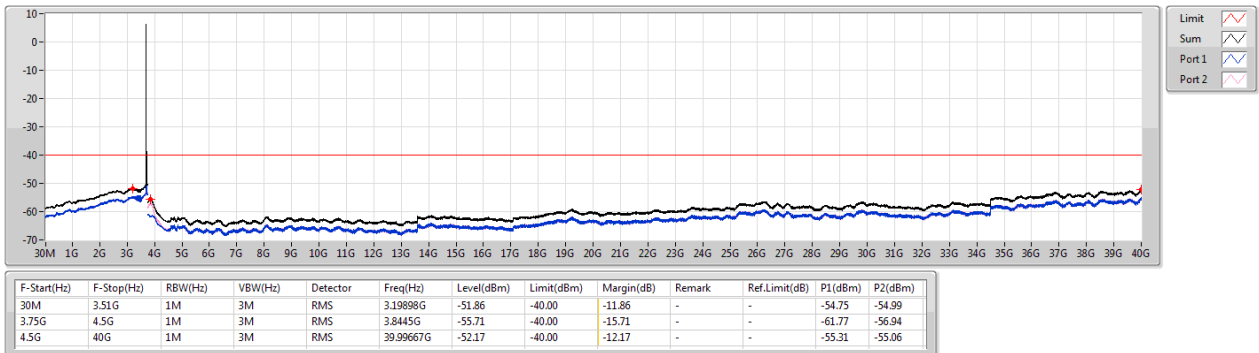
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



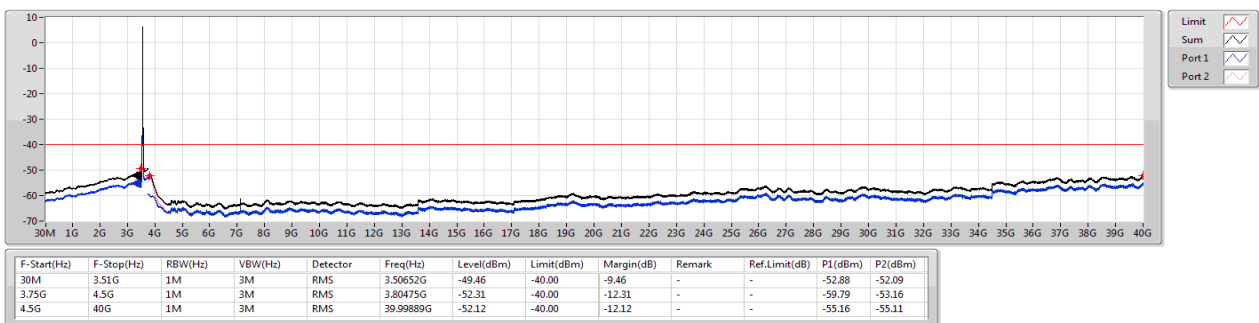
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



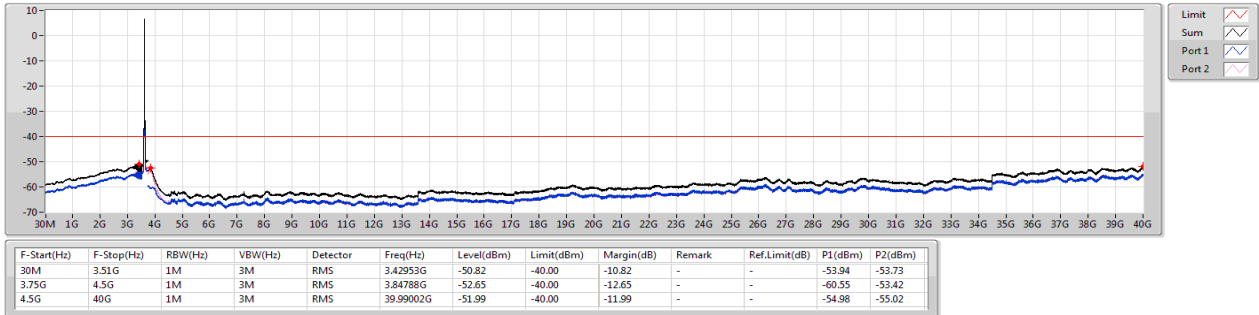
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3560MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



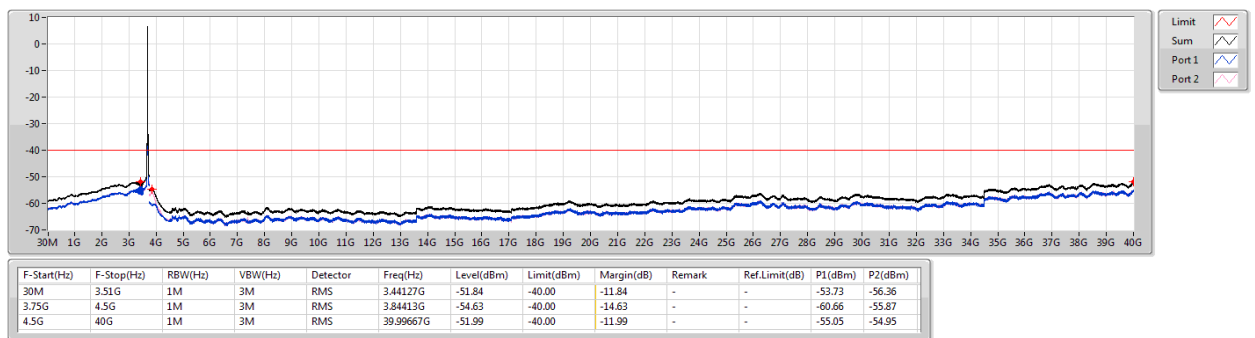
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



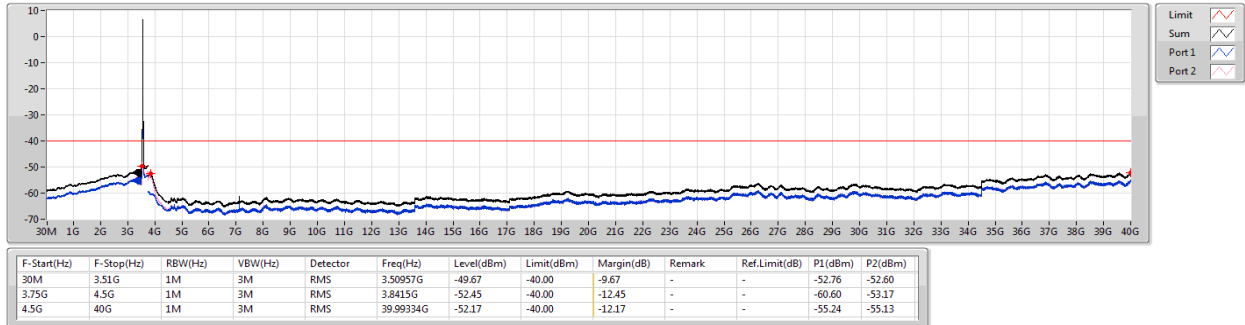
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3690MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



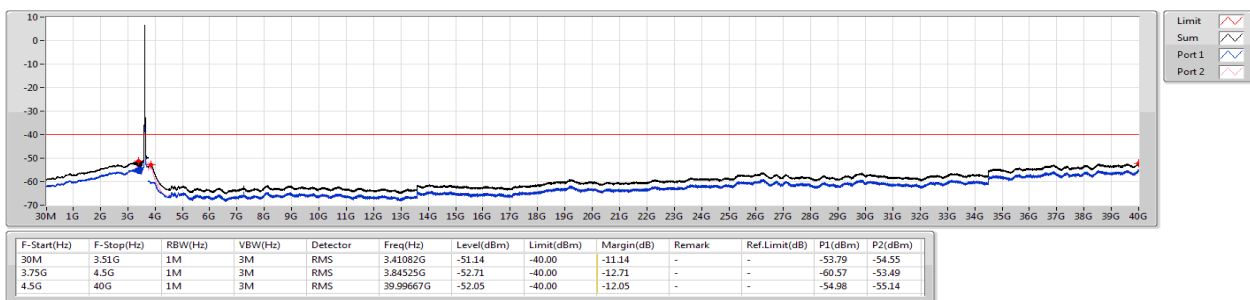
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3560MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



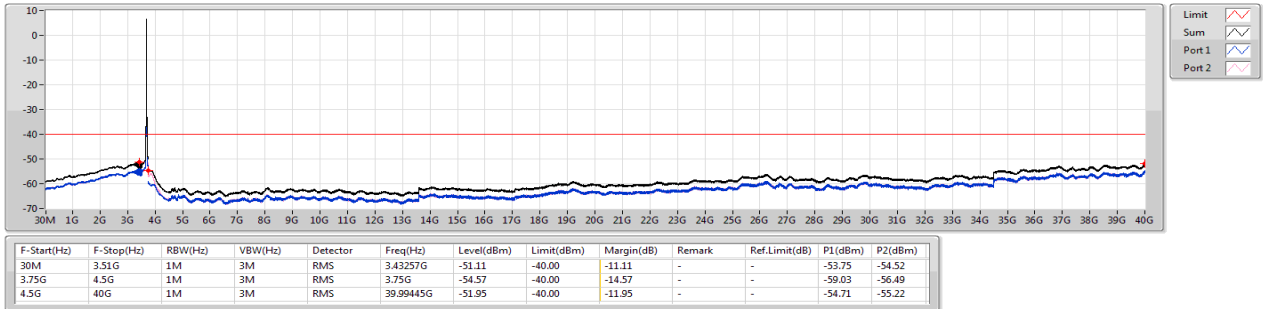
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



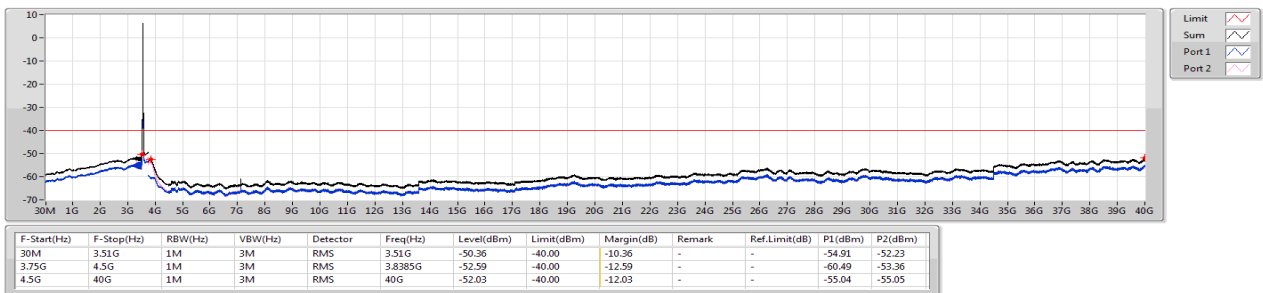
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3690MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



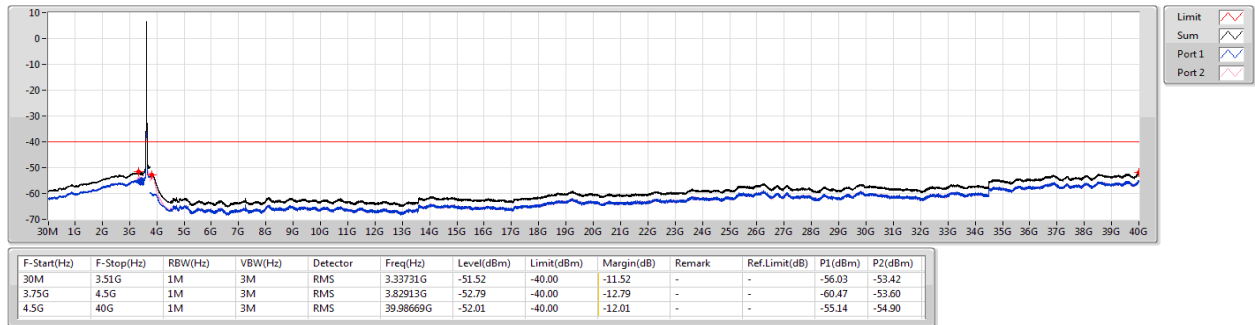
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3560MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



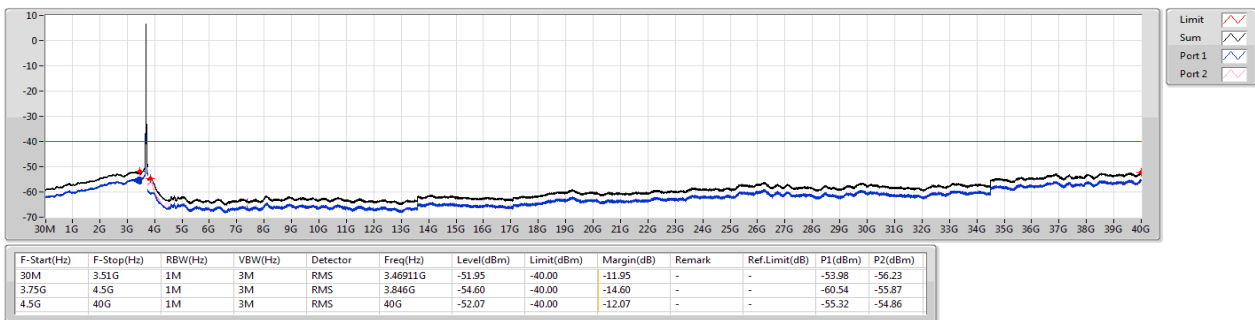
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



Band 48_LTE_20MHz_Nss1,64QAM_2TX
3690MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum

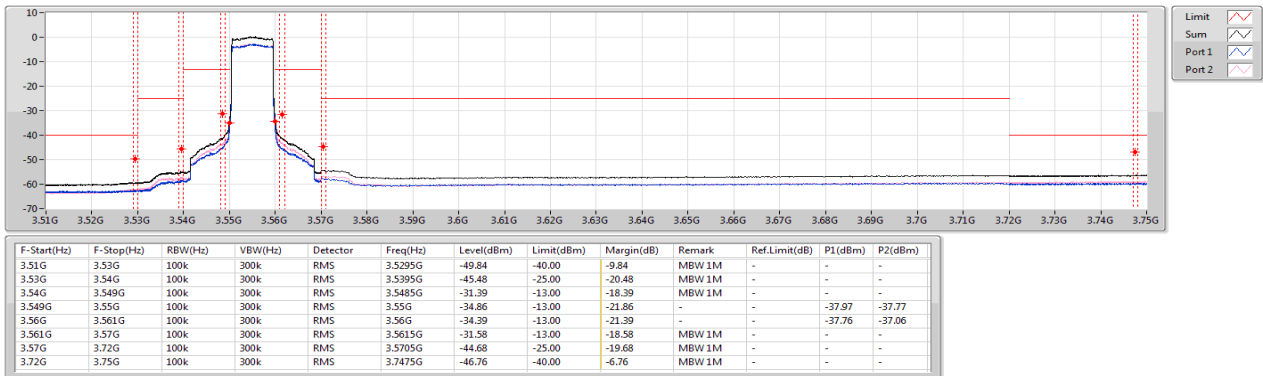


Band Edge Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 48	-	-	-	-	-	-	-	-	-	-	-	-
LTE_10MHz_Nss1, QPSK_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7475G	-46.76	-40.00	-6.76	MBW 1M	-
LTE_10MHz_Nss1, 16QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7485G	-46.76	-40.00	-6.76	MBW 1M	-
LTE_10MHz_Nss1, 64QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7495G	-46.78	-40.00	-6.78	MBW 1M	-
LTE_20MHz_Nss1, QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7215G	-43.53	-40.00	-3.53	MBW 1M	-
LTE_20MHz_Nss1, 16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-43.31	-40.00	-3.31	MBW 1M	-
LTE_20MHz_Nss1, 64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-43.28	-40.00	-3.28	MBW 1M	-

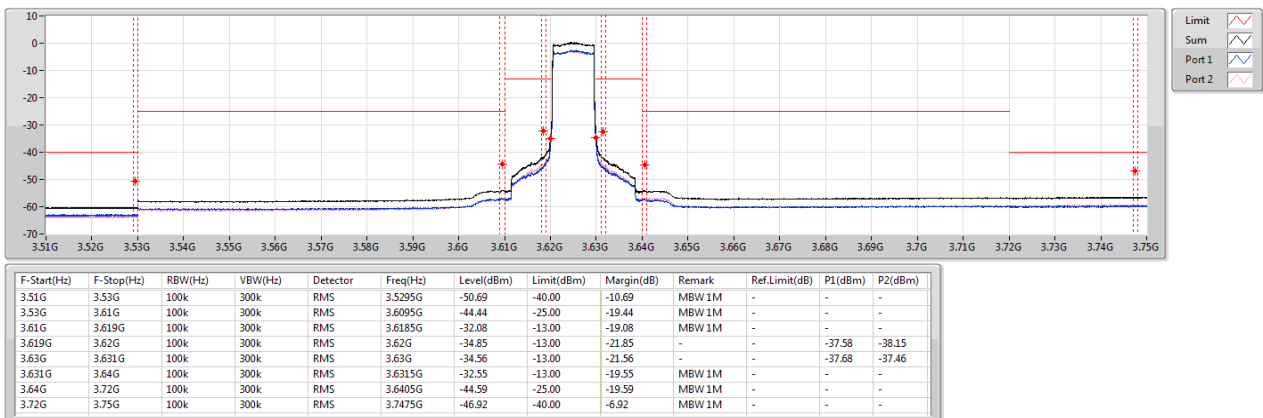
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3555MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



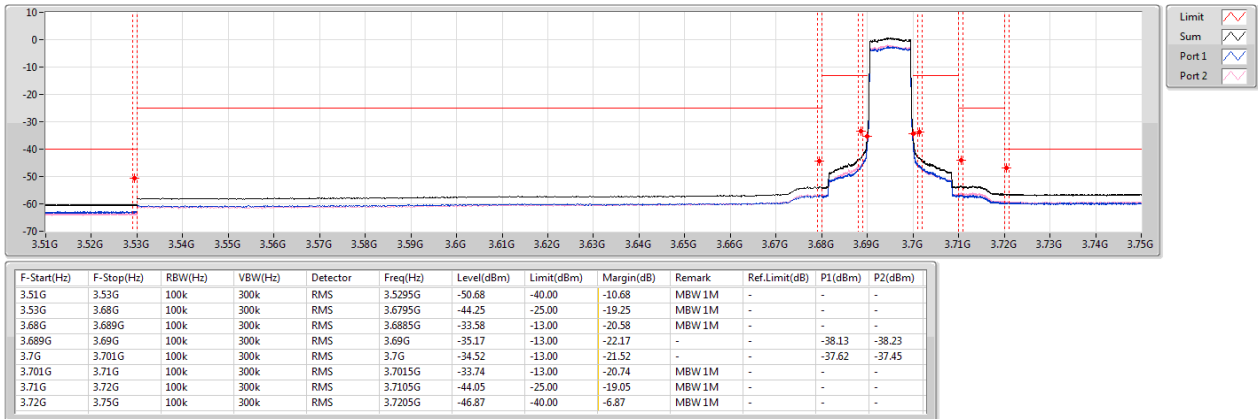
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



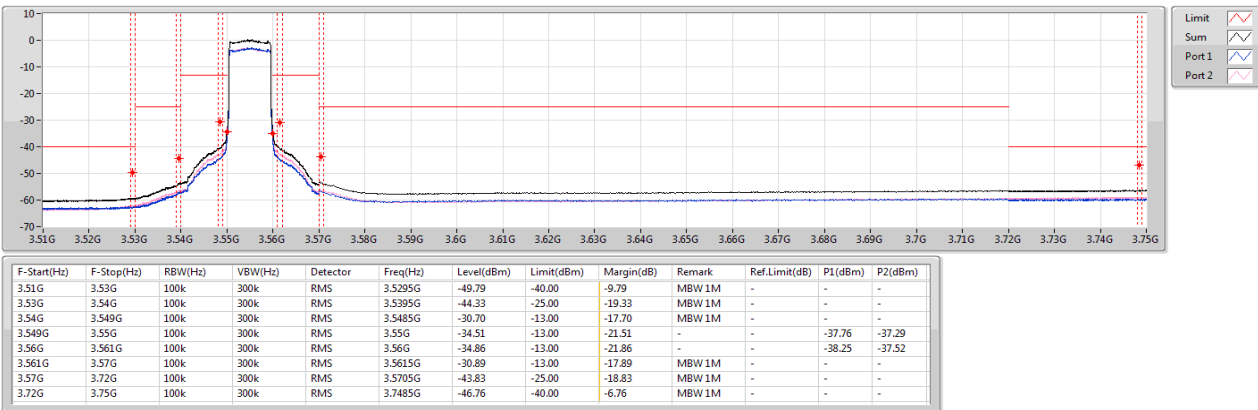
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3695MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



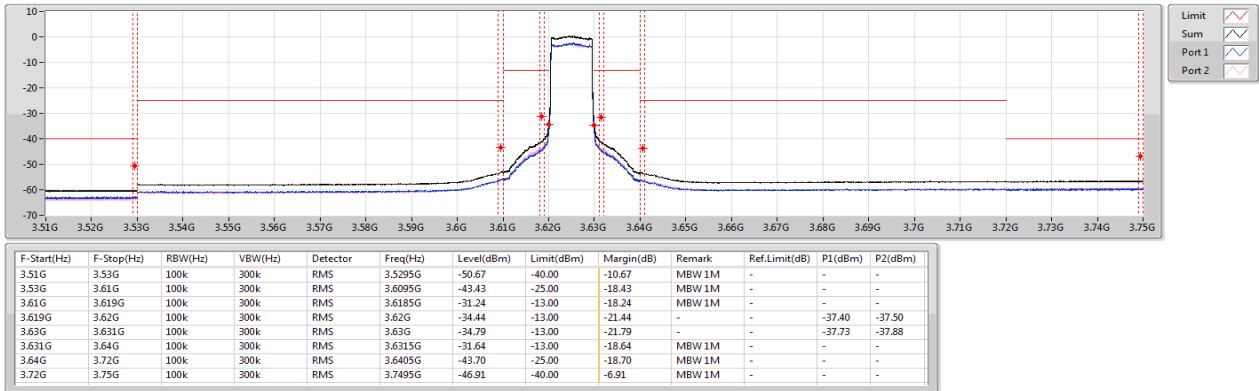
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



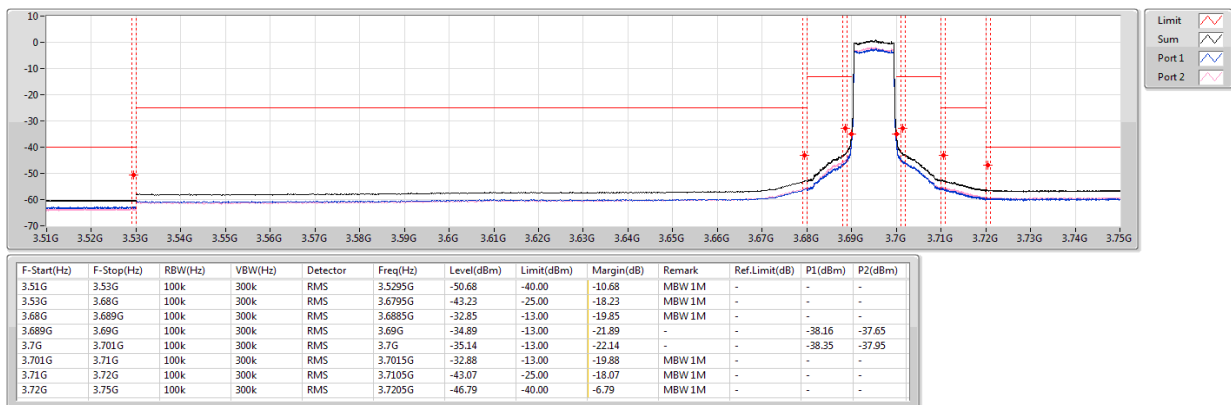
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



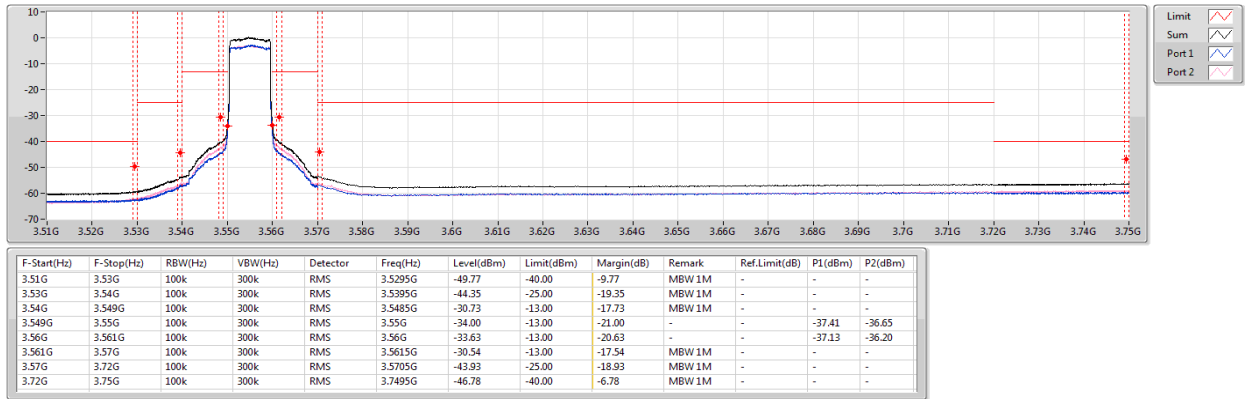
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



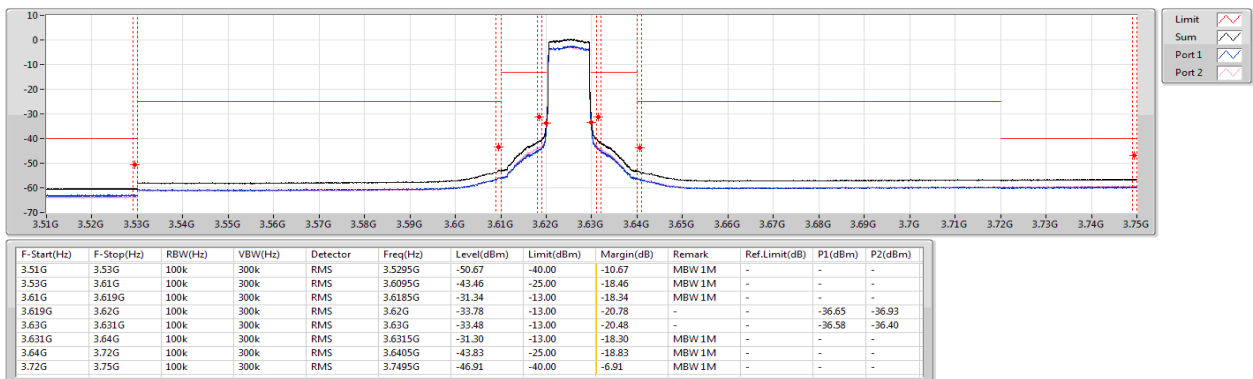
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



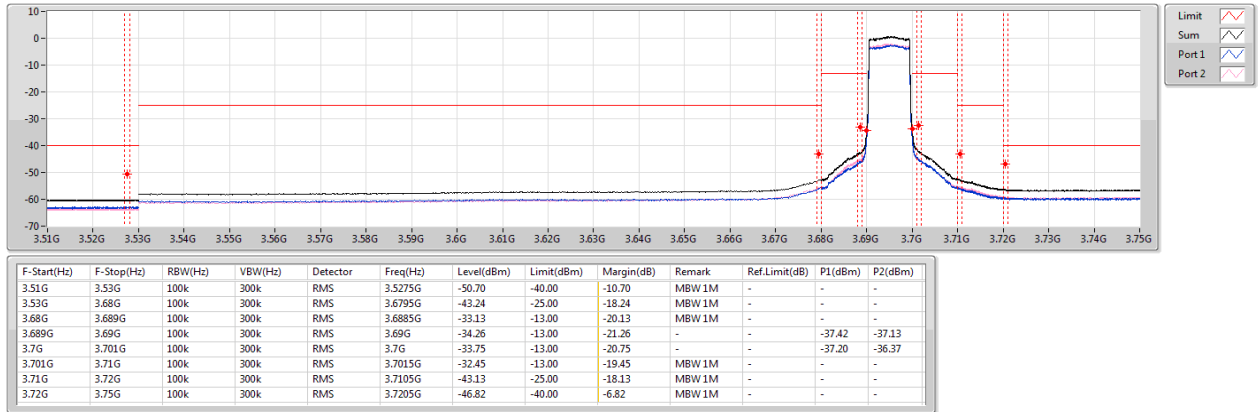
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



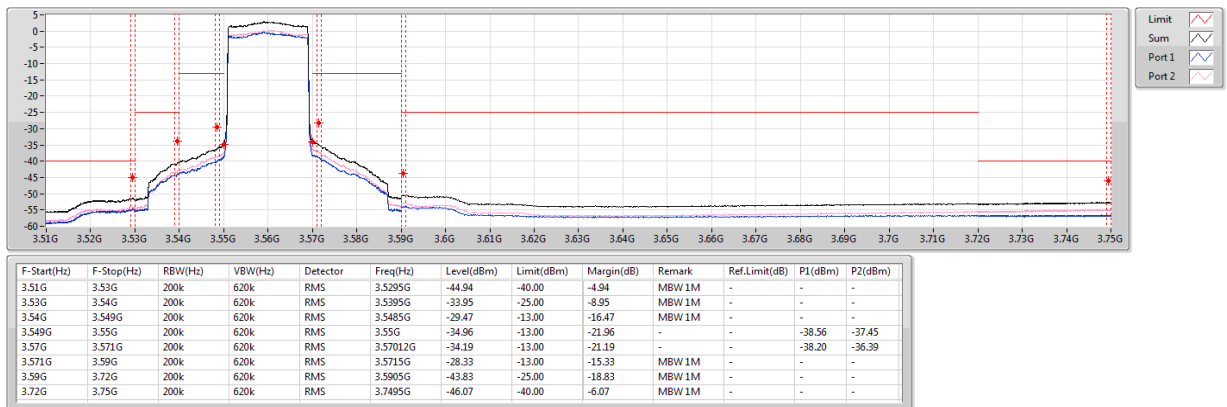
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



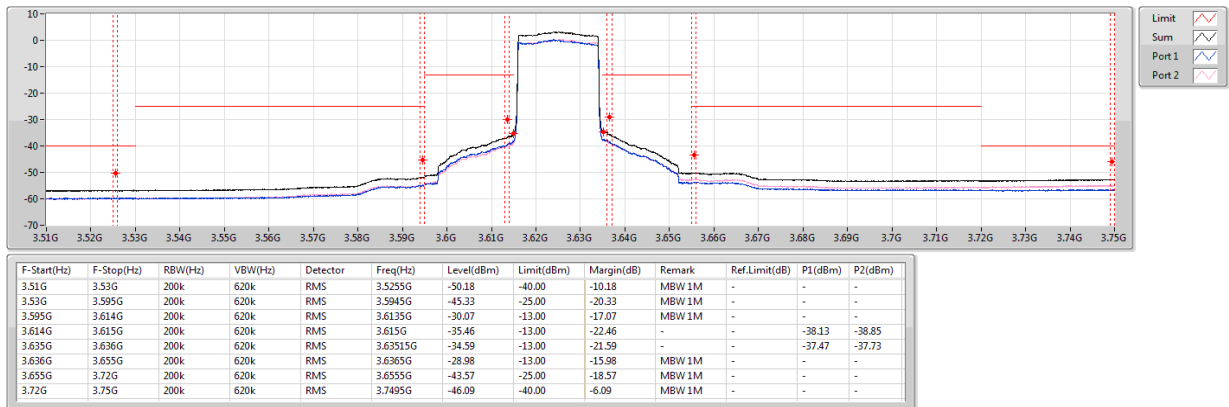
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3560MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



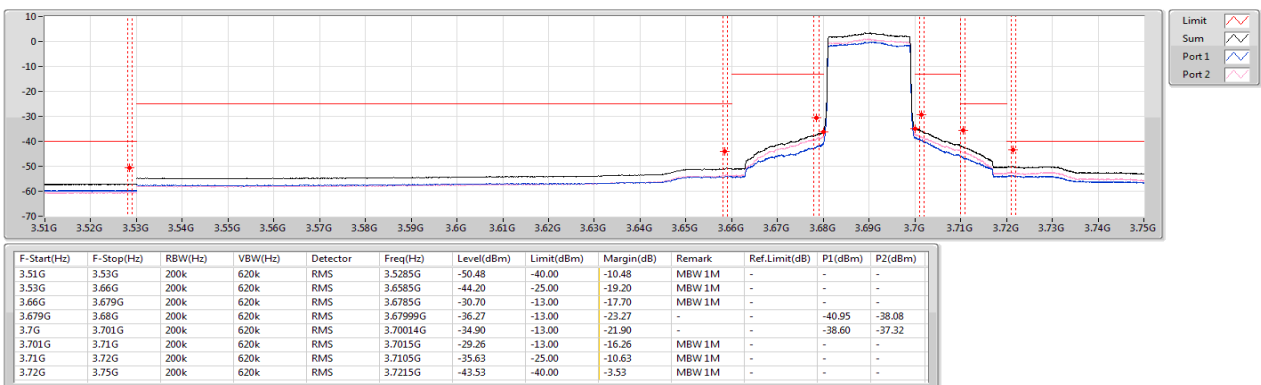
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



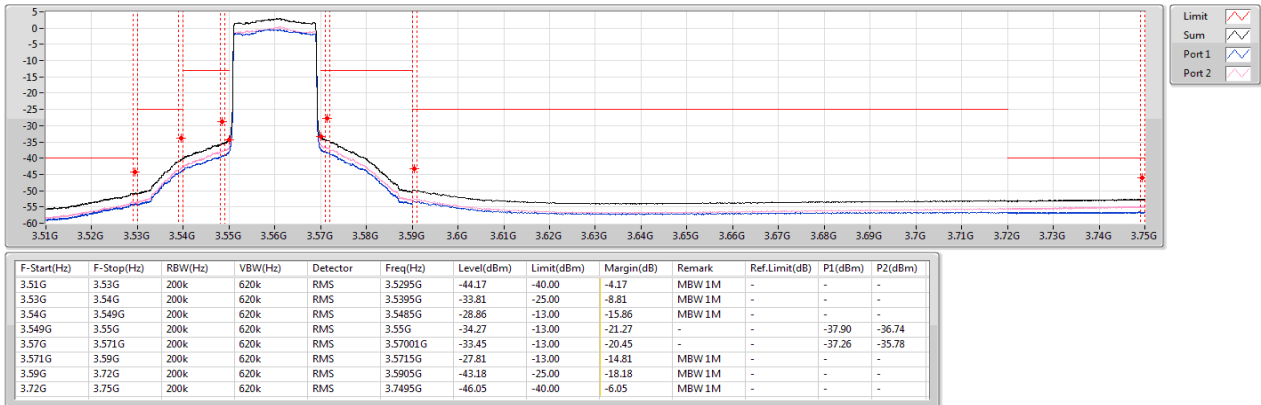
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3690MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



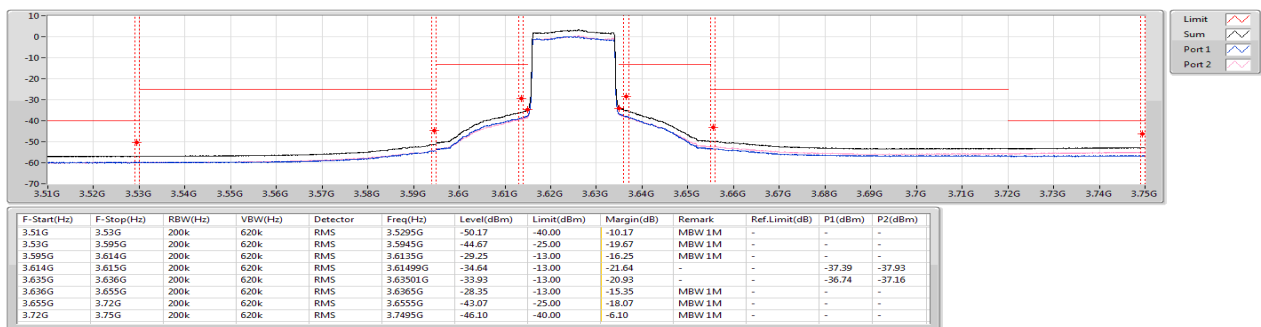
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3560MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



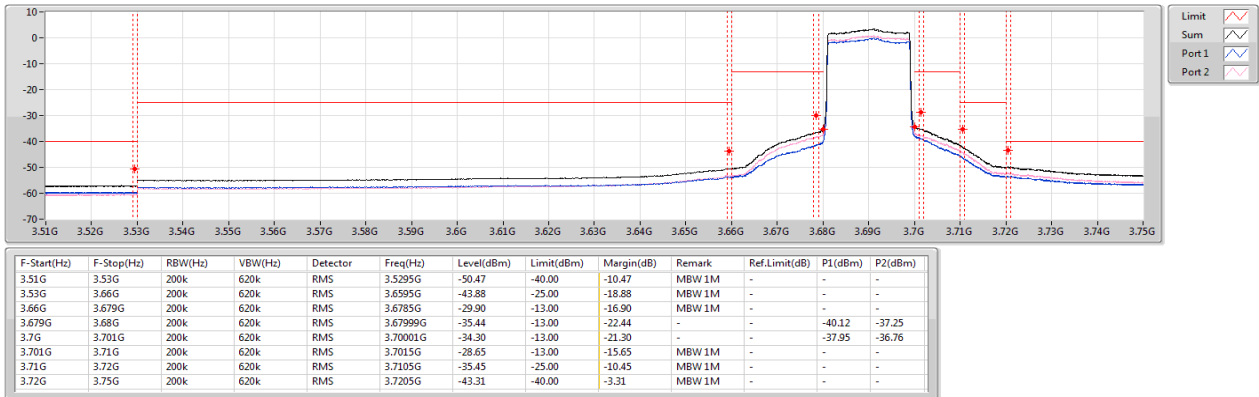
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



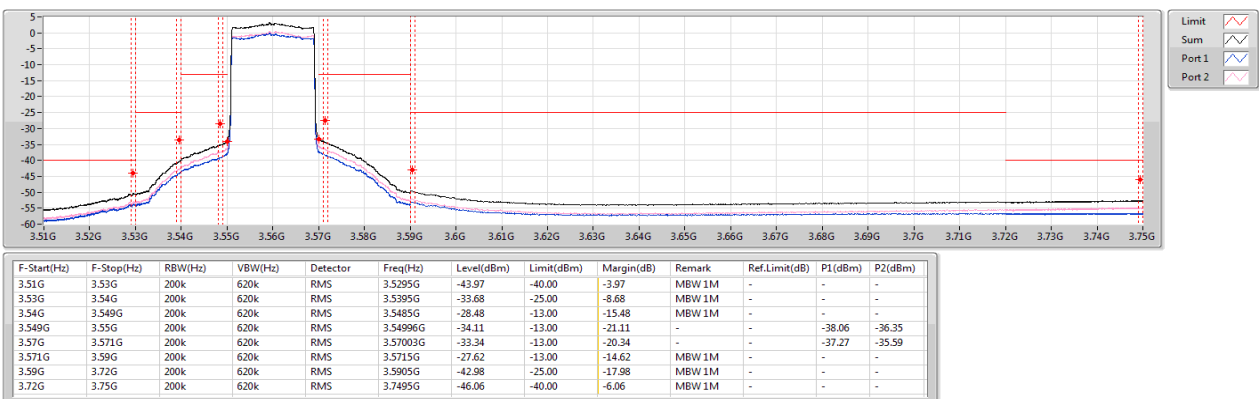
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3690MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



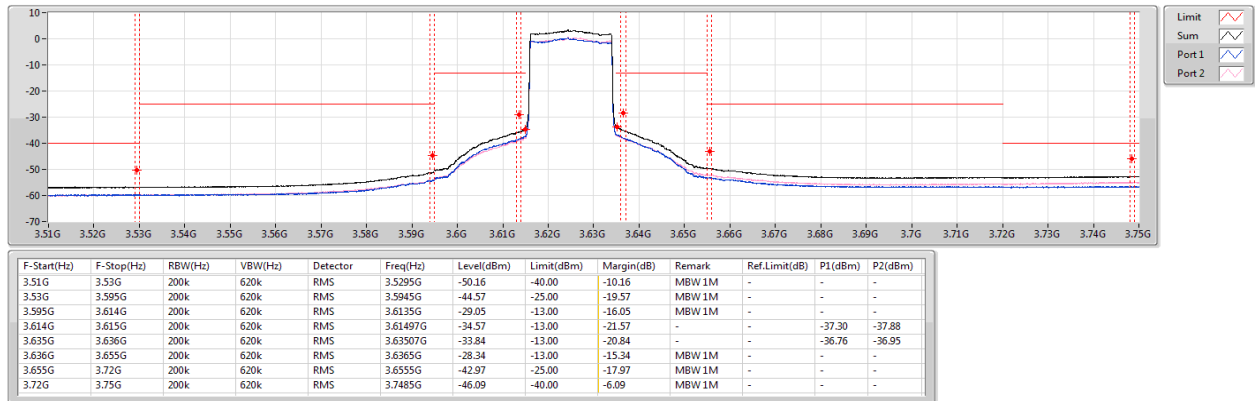
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3560MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



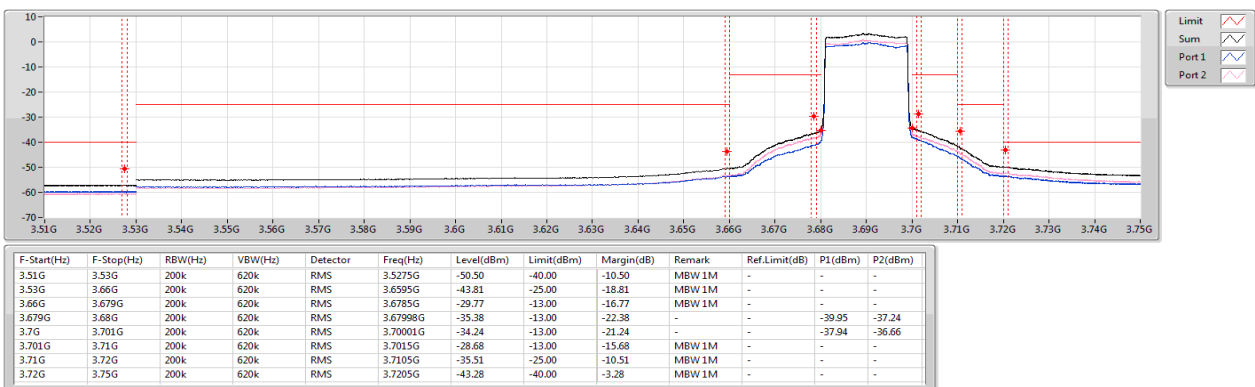
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



Band 48_LTE_20MHz_Nss1,64QAM_2TX
3690MHz_64QAM_RB 100,#RB 0

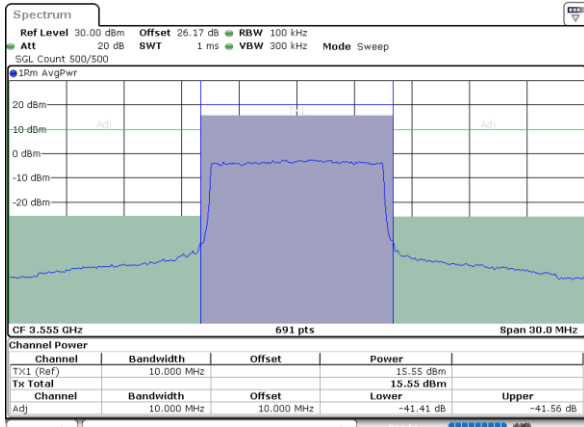
CSE-TX-Sum



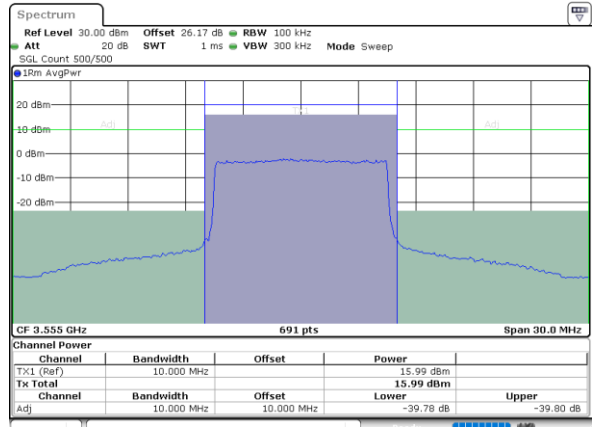
ACLR (CDD Mode)

10MHz, QPSK

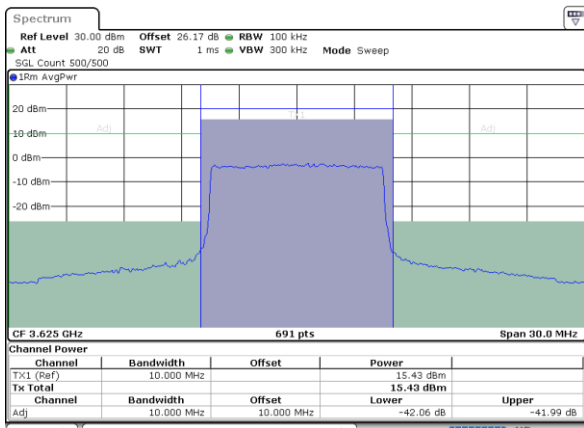
3555MHz – Port 1



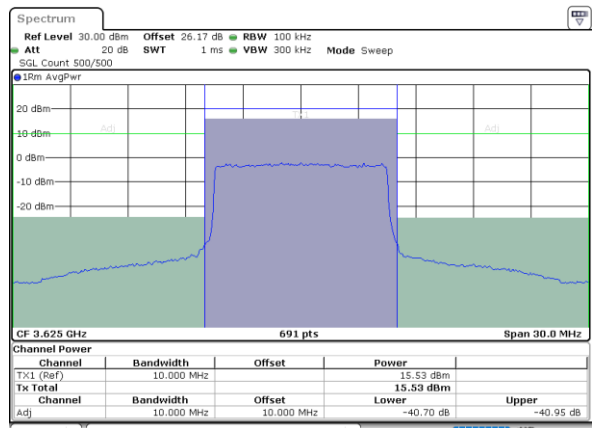
3555MHz – Port 2



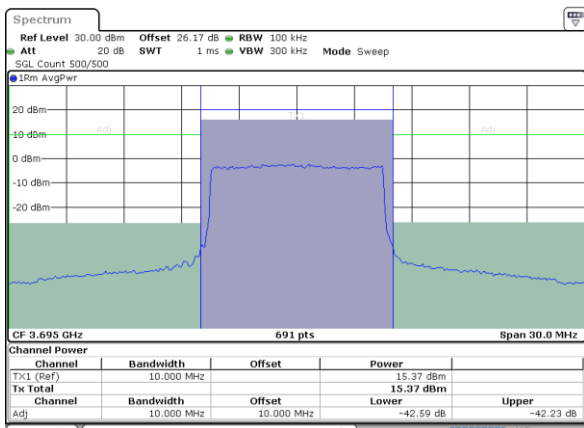
3625MHz – Port 1



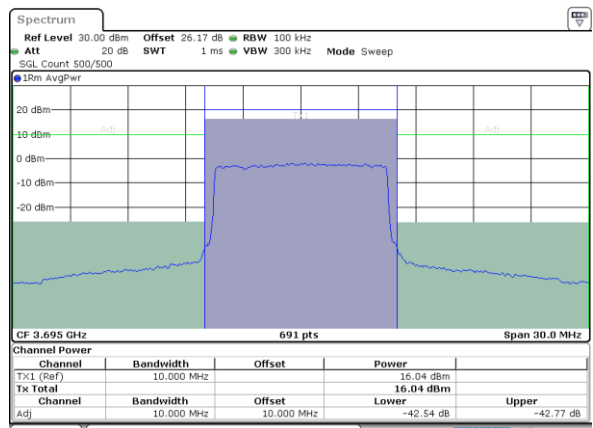
3625MHz – Port 2



3695MHz – Port 1

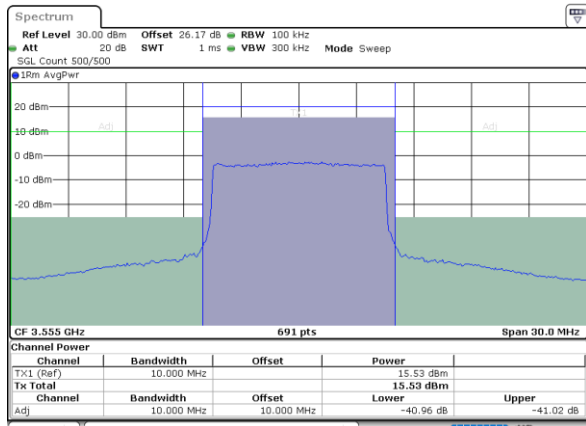


3695MHz – Port 2

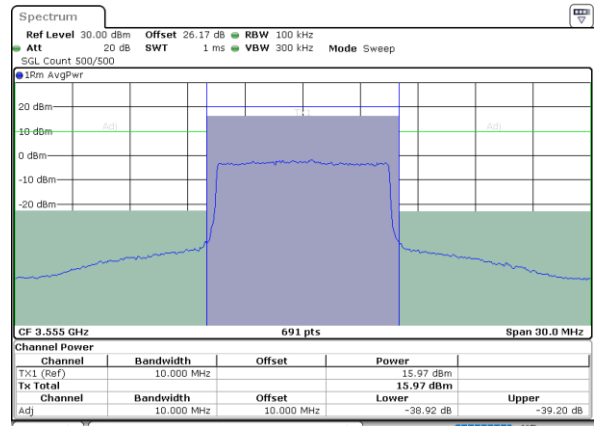


10MHz, 16QAM

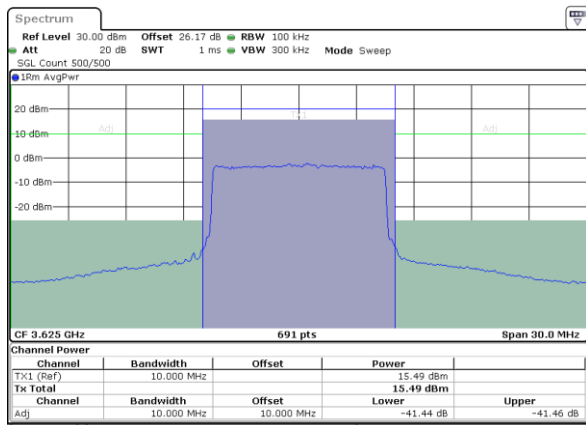
3555MHz – Port 1



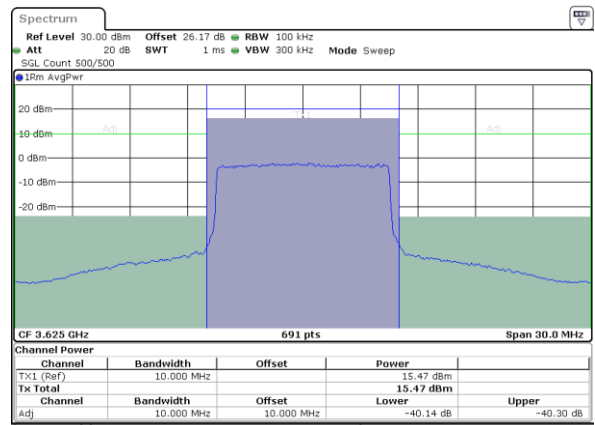
3555MHz – Port 2



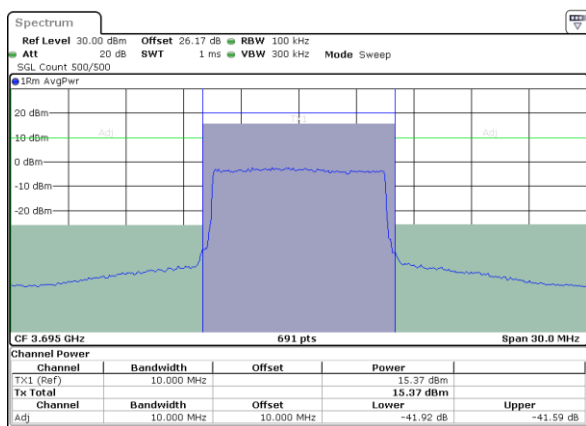
3625MHz – Port 1



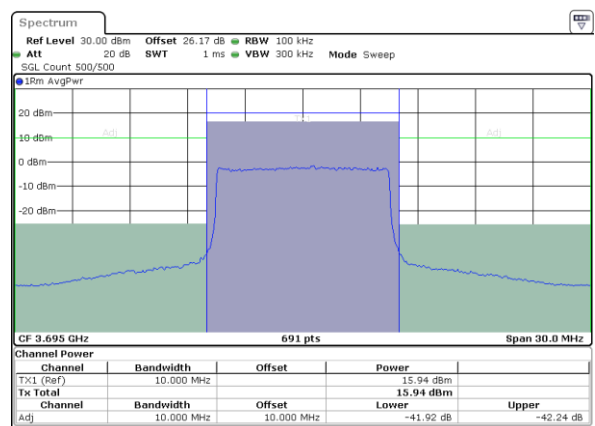
3625MHz – Port 2



3695MHz – Port 1

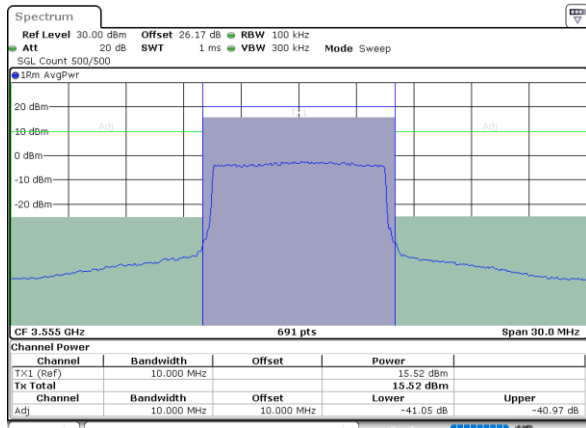


3695MHz – Port 2

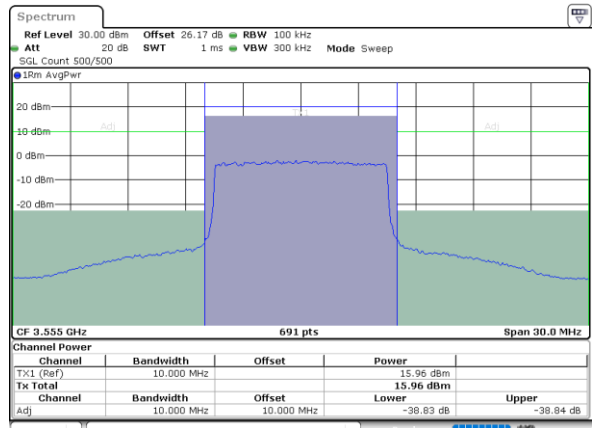


10MHz, 64QAM

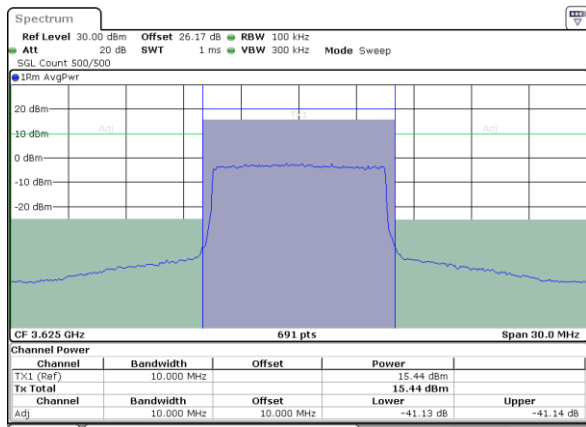
3555MHz – Port 1



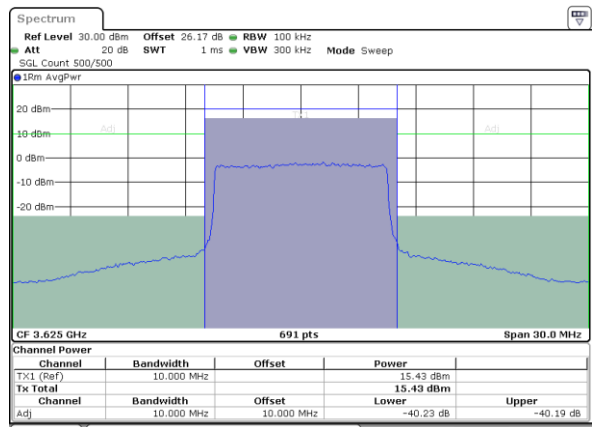
3555MHz – Port 2



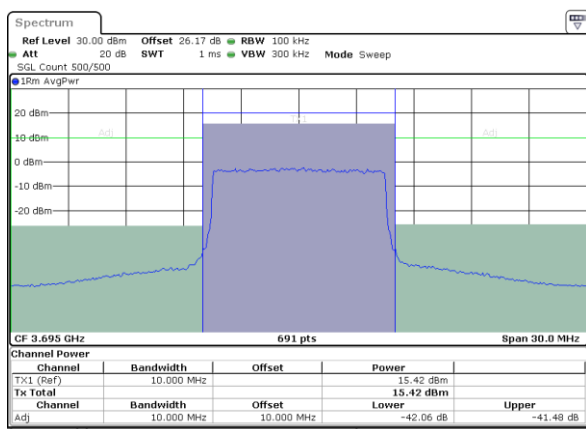
3625MHz – Port 1



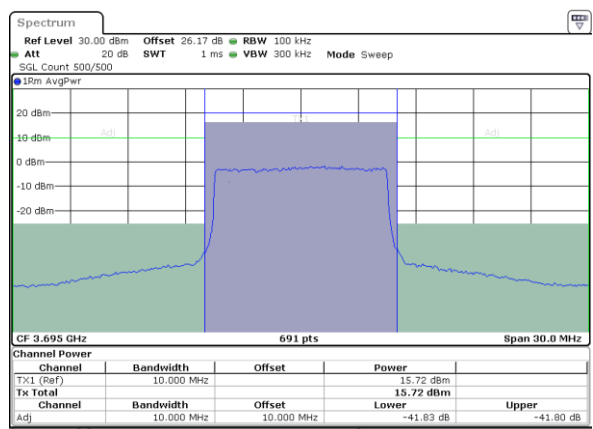
3625MHz – Port 2



3695MHz – Port 1

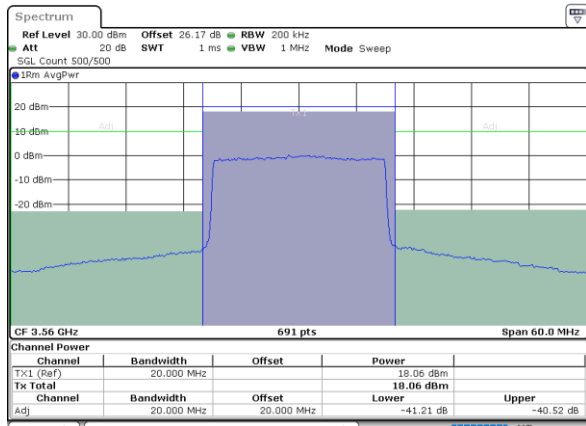


3695MHz – Port 2

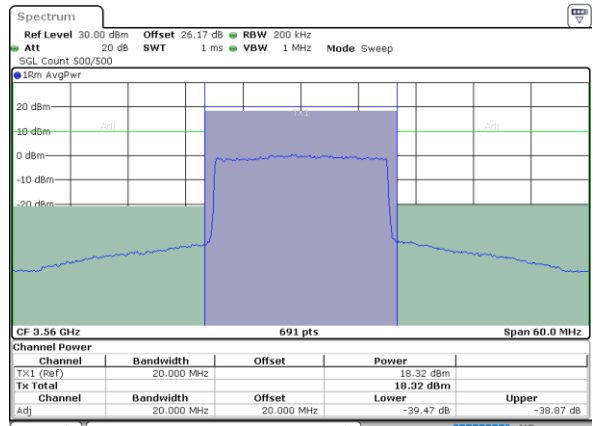


20MHz, QPSK

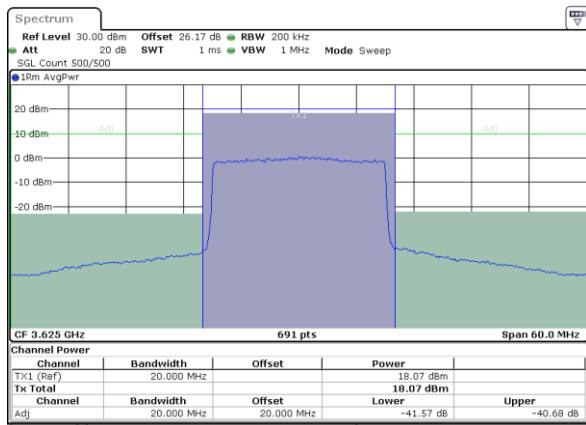
3560MHz – Port 1



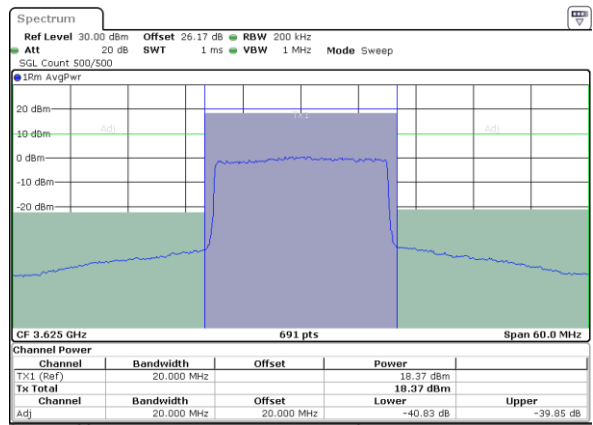
3560MHz – Port 2



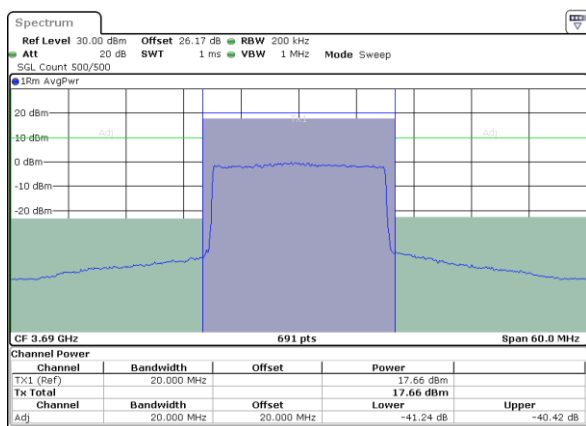
3625MHz – Port 1



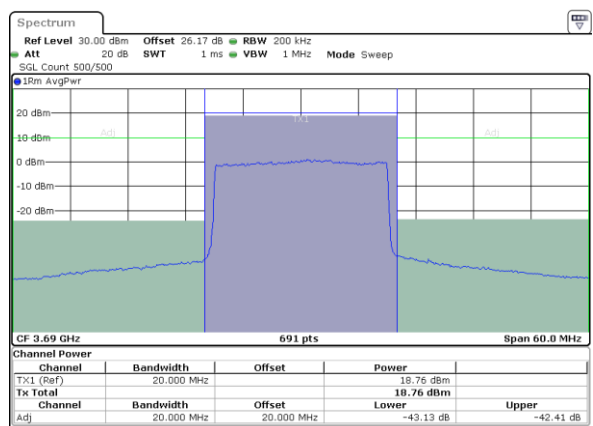
3625MHz – Port 2



3690MHz – Port 1

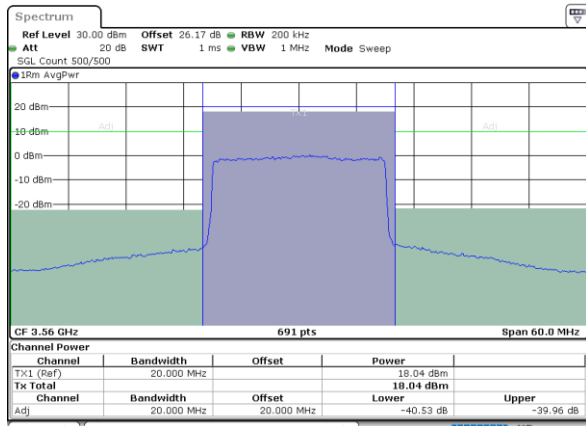


3690MHz – Port 2

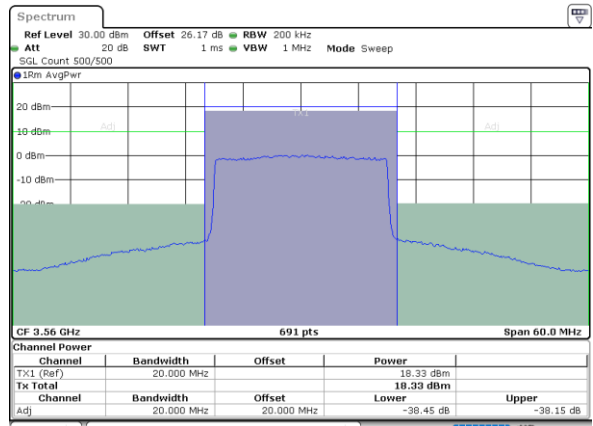


20MHz, 16QAM

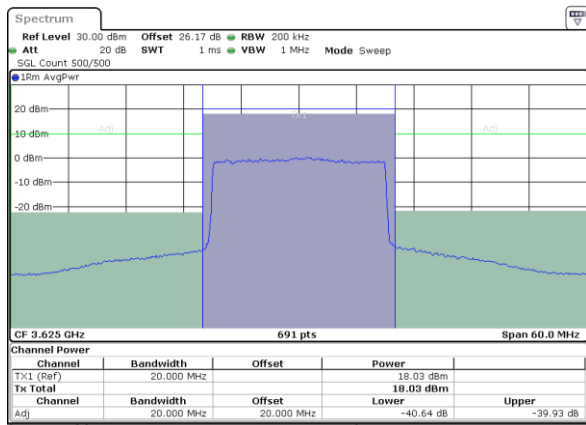
3560MHz – Port 1



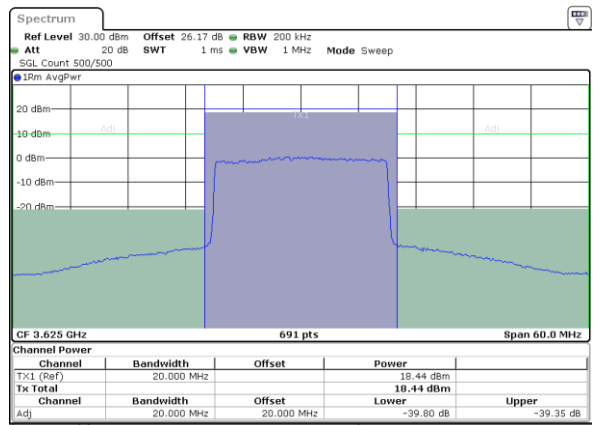
3560MHz – Port 2



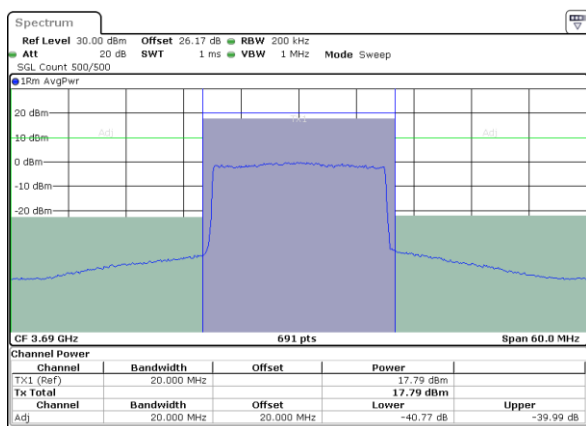
3625MHz – Port 1



3625MHz – Port 2



3690MHz – Port 1

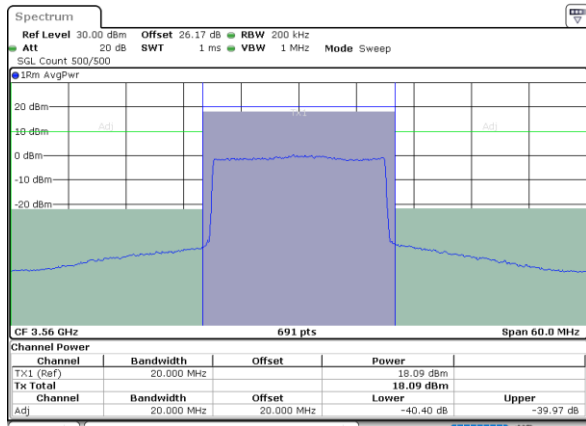


3690MHz – Port 2

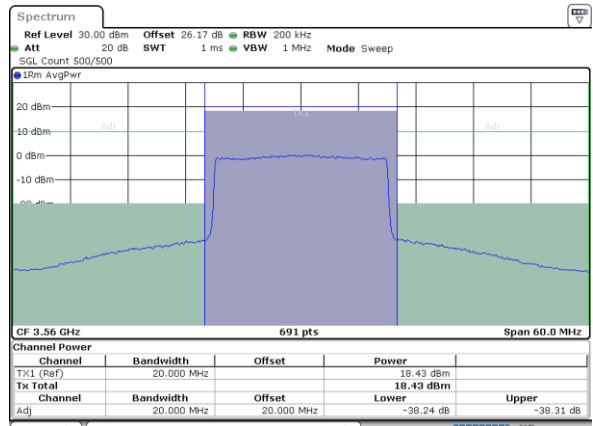


20MHz, 64QAM

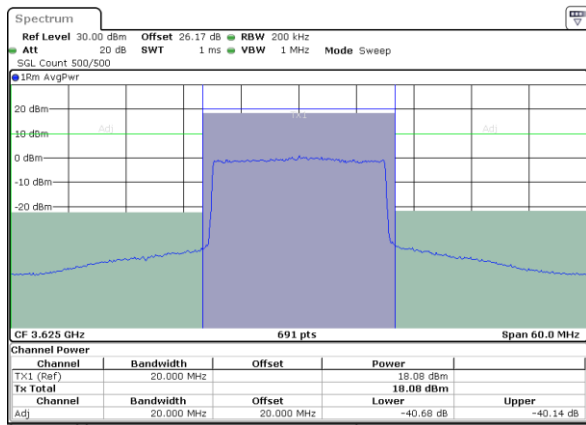
3560MHz – Port 1



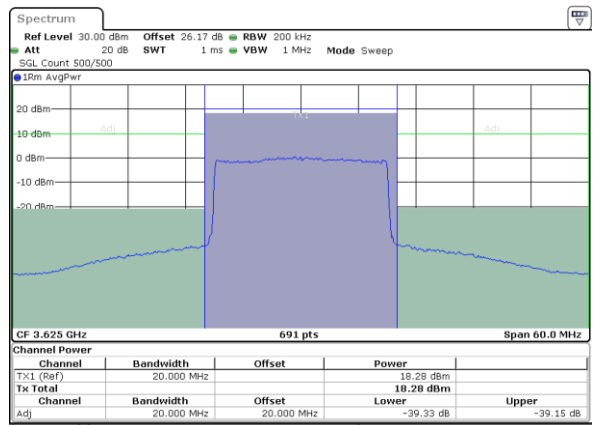
3560MHz – Port 2



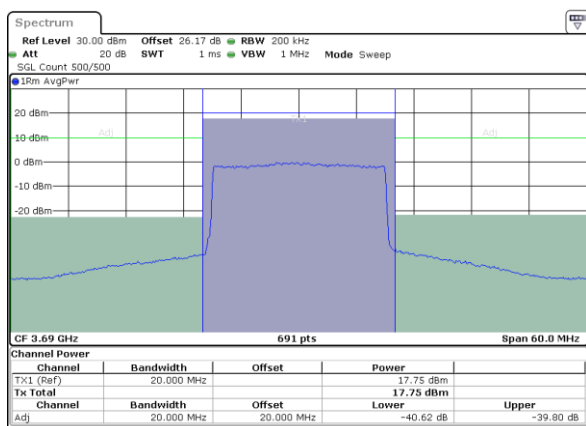
3625MHz – Port 1



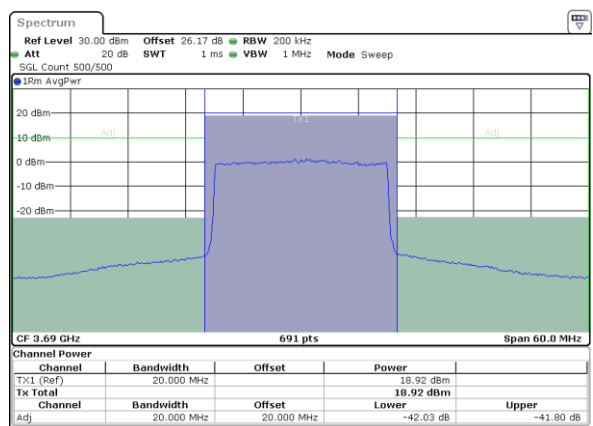
3625MHz – Port 2



3690MHz – Port 1



3690MHz – Port 2



3.3.6 Test Result of Conducted Emissions & Band Edge (CA Mode)

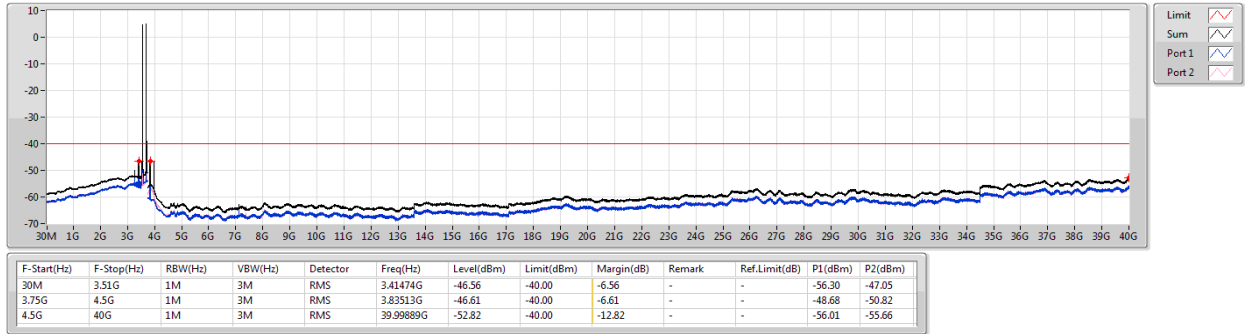
Conducted Emissions Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detect or	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref. Limit (dB)
Band 48	-	-	-	-	-	-	-	-	-	-	-	-
LTE_10MHz+10MHz_Nss1 ,QPSK_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4147 4G	-46.56	-40.00	-6.56	-	-
LTE_10MHz+10MHz_Nss1 ,16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4147 4G	-45.90	-40.00	-5.90	-	-
LTE_10MHz+10MHz_Nss1,64QA M_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4160 4G	-45.93	-40.00	-5.93	-	-
LTE_10MHz+20MHz_Nss1 ,QPSK_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.8246 3G	-47.22	-40.00	-7.22	-	-
LTE_10MHz+20MHz_Nss1 ,16QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.8246 3G	-47.38	-40.00	-7.38	-	-
LTE_10MHz+20MHz_Nss1 ,64QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.825G	-47.06	-40.00	-7.06	-	-
LTE_20MHz+10MHz_Nss1 ,QPSK_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4256 1G	-46.23	-40.00	-6.23	-	-
LTE_20MHz+10MHz_Nss1 ,16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4243 1G	-46.25	-40.00	-6.25	-	-
LTE_20MHz+10MHz_Nss1 ,64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4251 8G	-46.70	-40.00	-6.70	-	-
LTE_20MHz+20MHz_Nss1 ,QPSK_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4290 9G	-45.42	-40.00	-5.42	-	-
LTE_20MHz+20MHz_Nss1 ,16QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.8197 5G	-45.64	-40.00	-5.64	-	-
LTE_20MHz+20MHz_Nss1 ,64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.4290 9G	-45.33	-40.00	-5.33	-	-

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

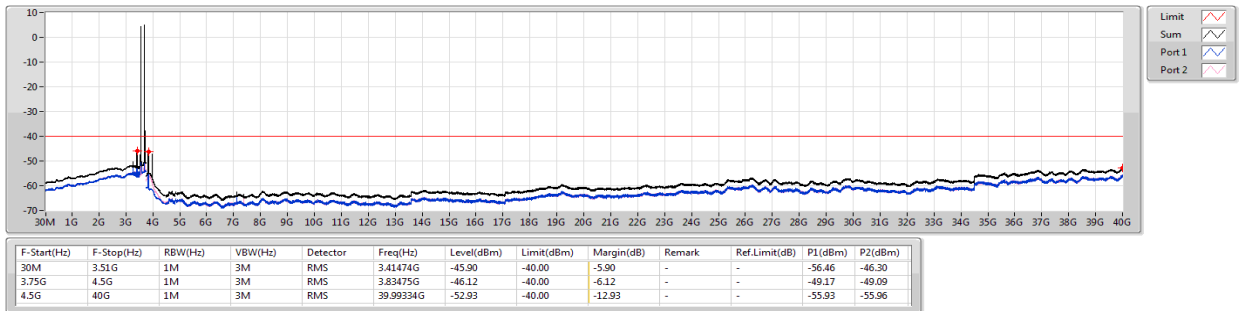
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

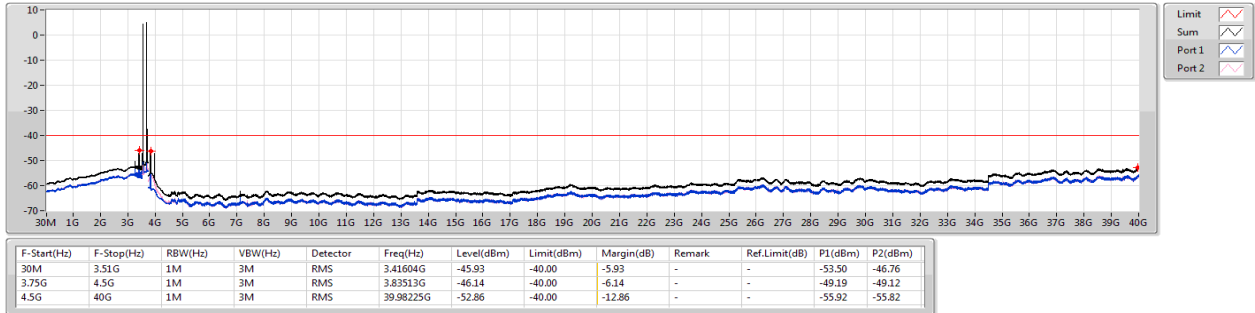
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

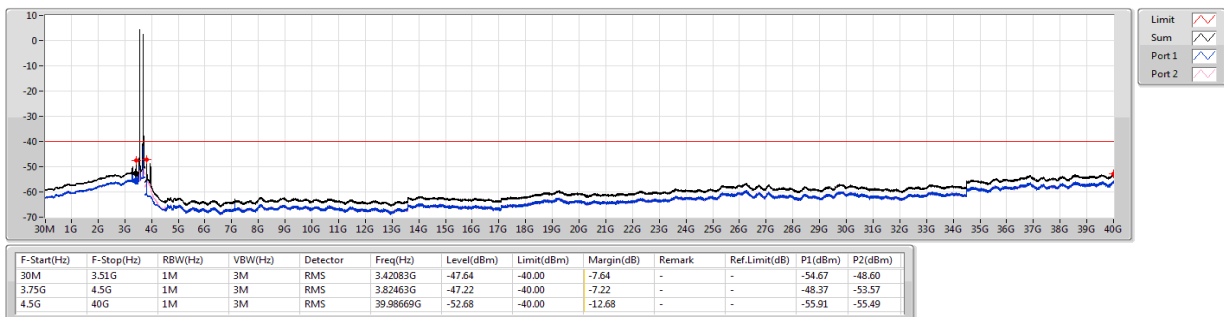
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

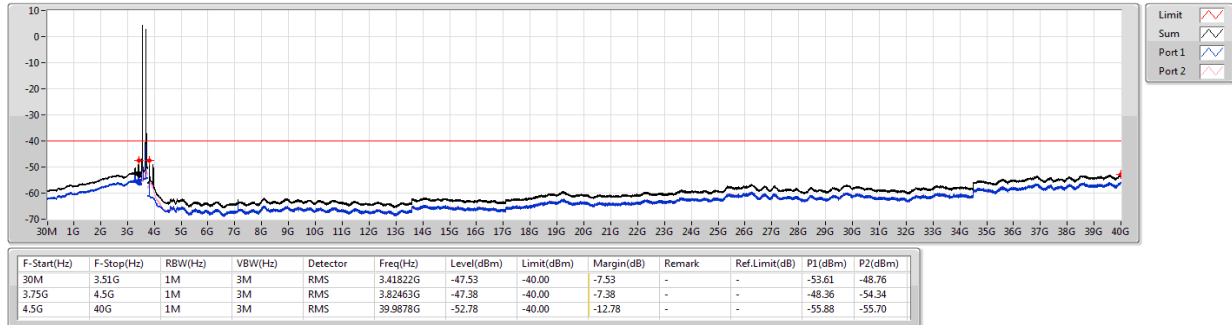
CSE-TX-Sum

P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



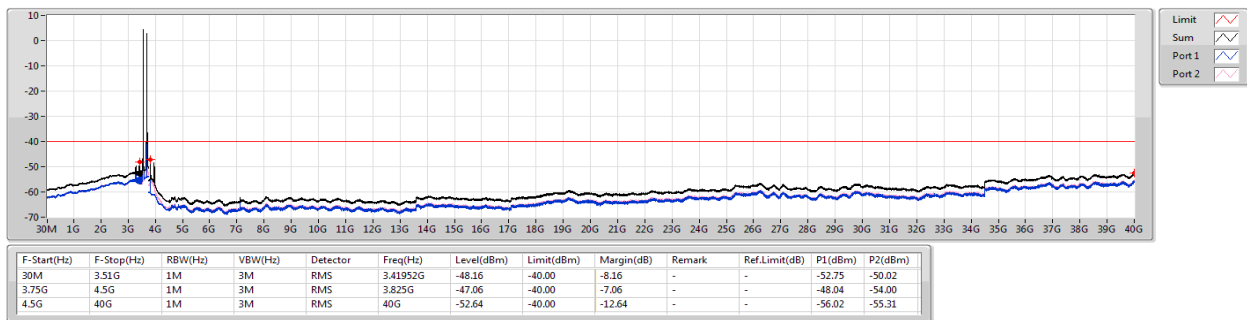
Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0

CSE-TX-Sum



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0

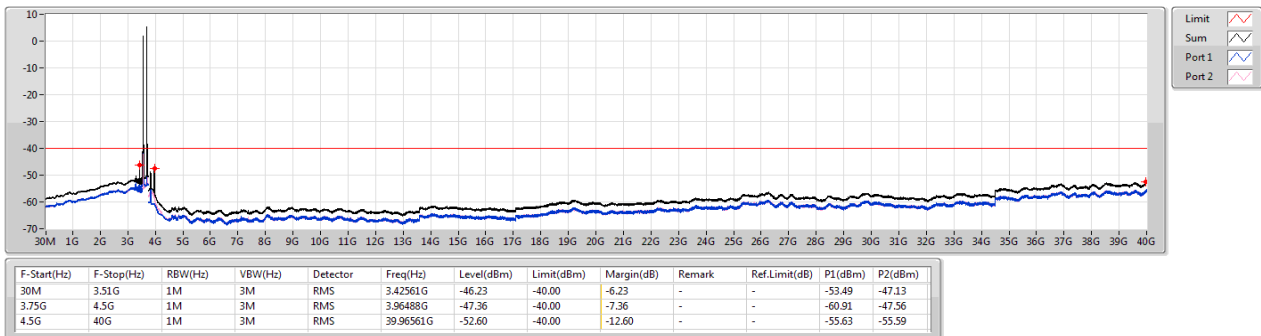
CSE-TX-Sum



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

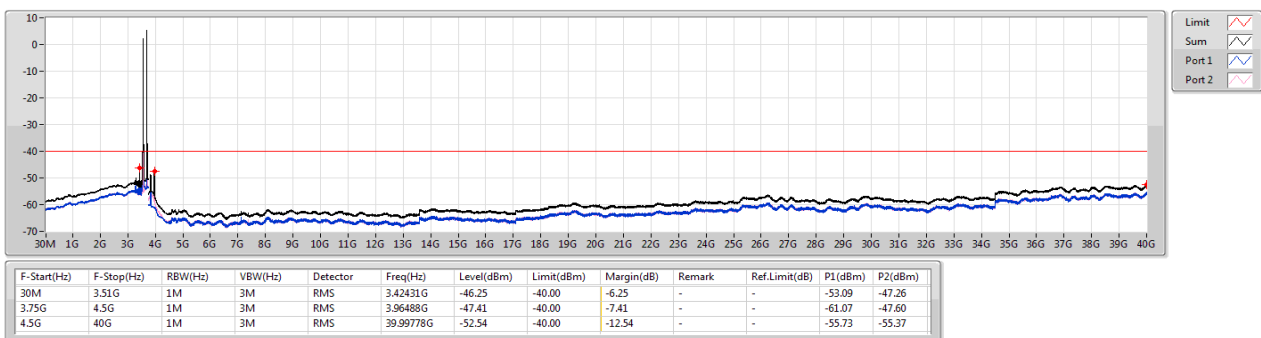
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

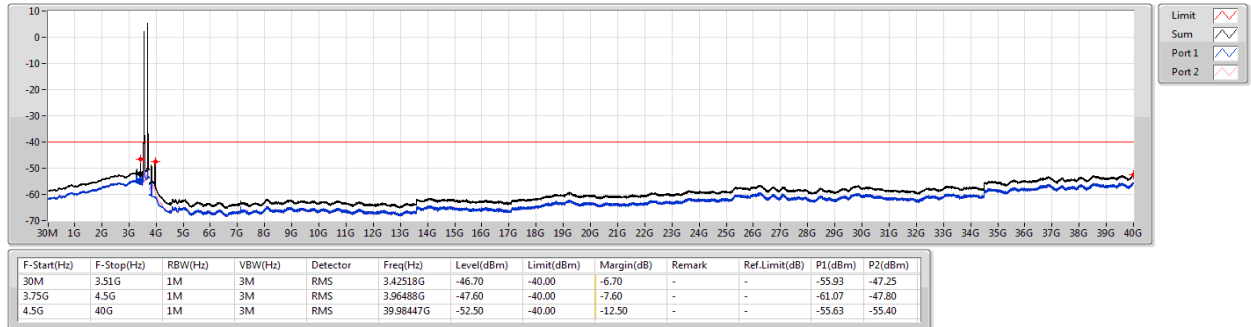
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

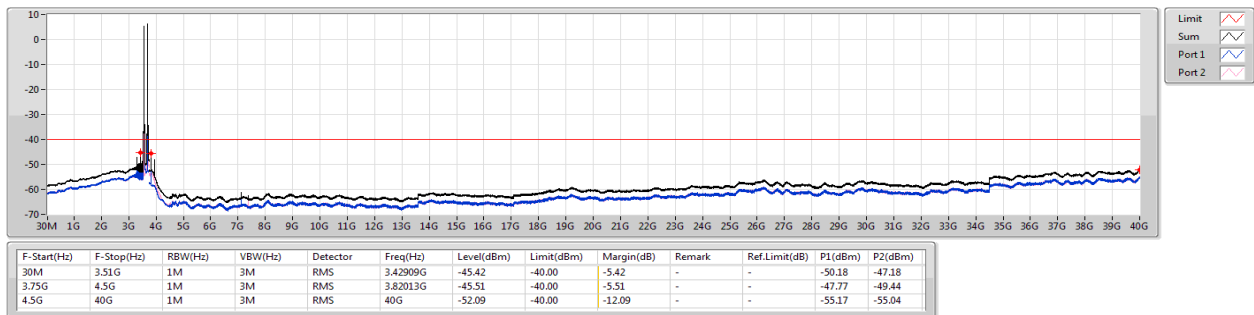
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

CSE-TX-Sum

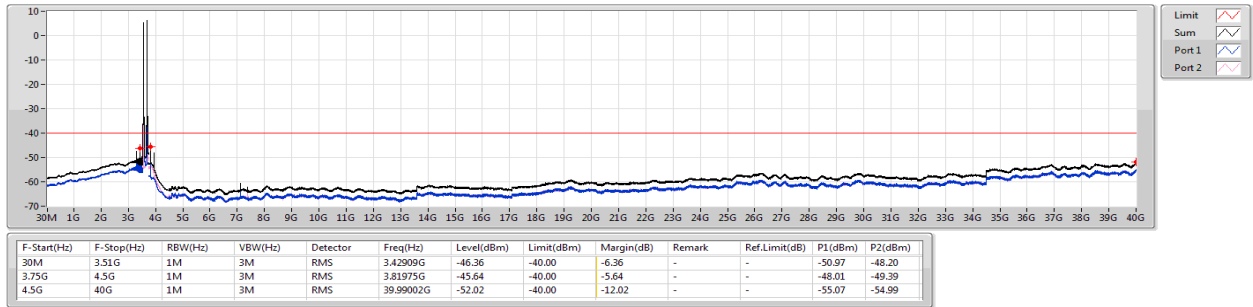
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

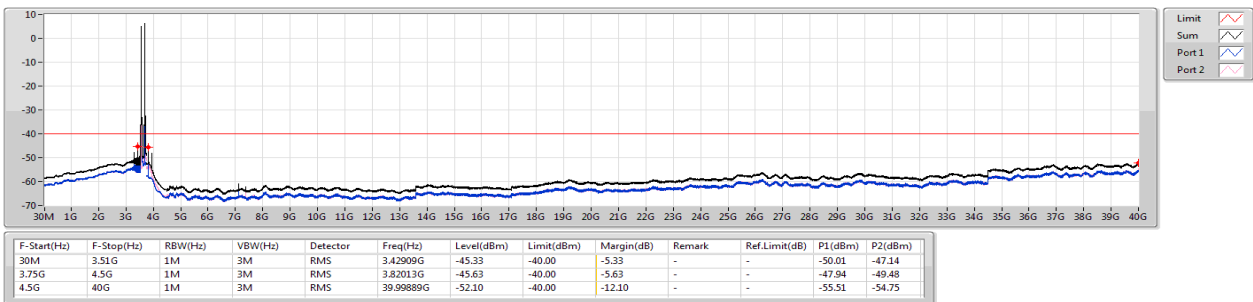
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0



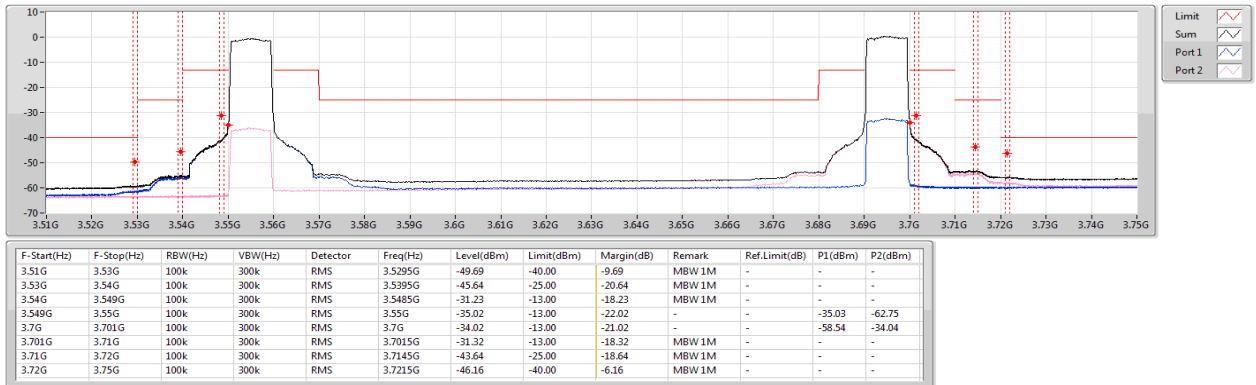
Band Edge Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 48	-	-	-	-	-	-	-	-	-	-	-	-
LTE_10MHz+10MHz_Nss1, QPSK_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7215G	-46.16	-40.00	-6.16	MBW 1M	-
LTE_10MHz+10MHz_Nss1, 16QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7205G	-46.16	-40.00	-6.16	MBW 1M	-
LTE_10MHz+10MHz_Nss1, 64QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7205G	-46.19	-40.00	-6.19	MBW 1M	-
LTE_10MHz+20MHz_Nss1, QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7295G	-44.65	-40.00	-4.65	MBW 1M	-
LTE_10MHz+20MHz_Nss1, 16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-44.47	-40.00	-4.47	MBW 1M	-
LTE_10MHz+20MHz_Nss1, 64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-44.42	-40.00	-4.42	MBW 1M	-
LTE_20MHz+10MHz_Nss1, QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-46.19	-40.00	-6.19	MBW 1M	-
LTE_20MHz+10MHz_Nss1, 16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-46.20	-40.00	-6.20	MBW 1M	-
LTE_20MHz+10MHz_Nss1, 64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-46.18	-40.00	-6.18	MBW 1M	-
LTE_20MHz+20MHz_Nss1, QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.97	-40.00	-2.97	MBW 1M	-
LTE_20MHz+20MHz_Nss1, 16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.43	-40.00	-2.43	MBW 1M	-
LTE_20MHz+20MHz_Nss1, 64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.20	-40.00	-2.20	MBW 1M	-

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

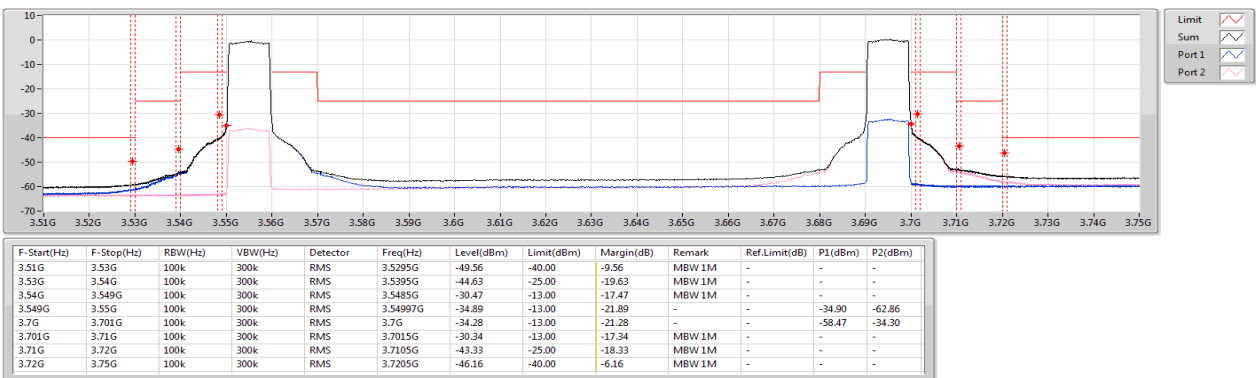
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

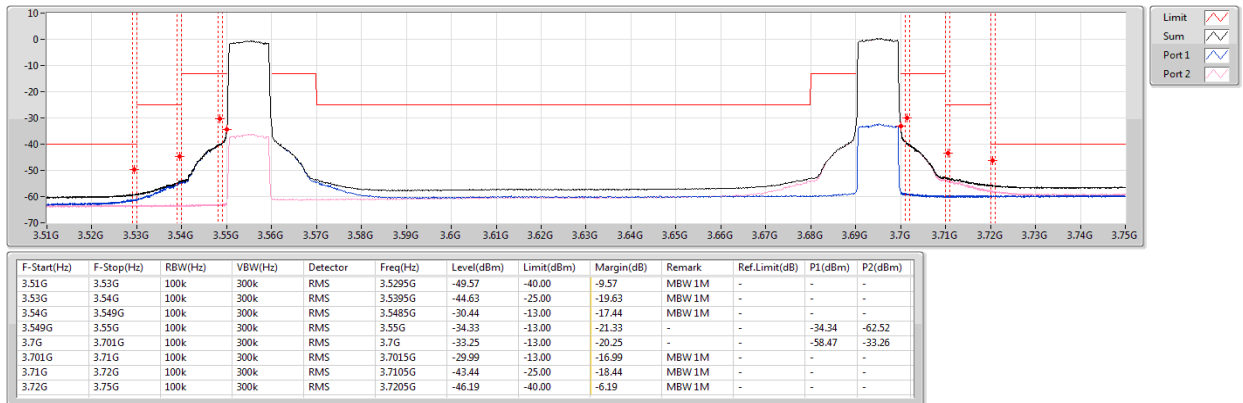
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

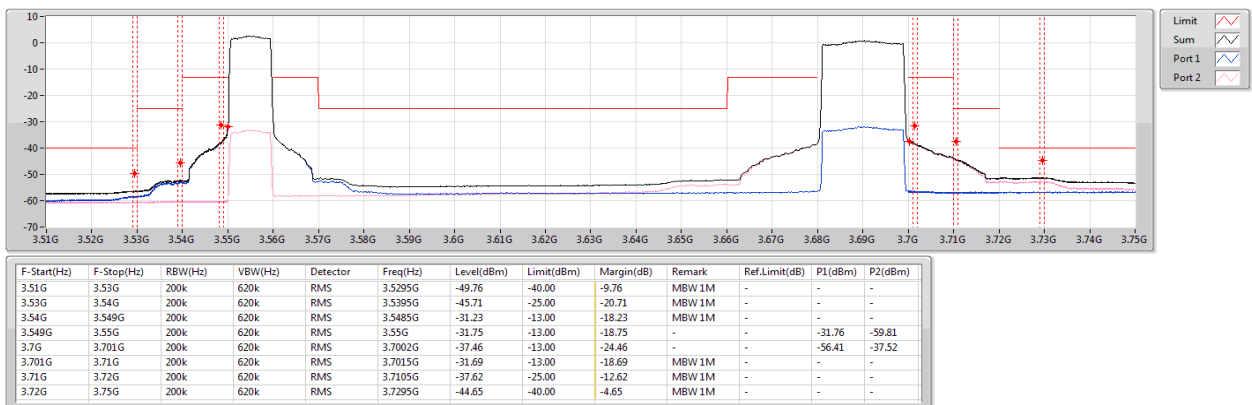
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

CSE-TX-Sum

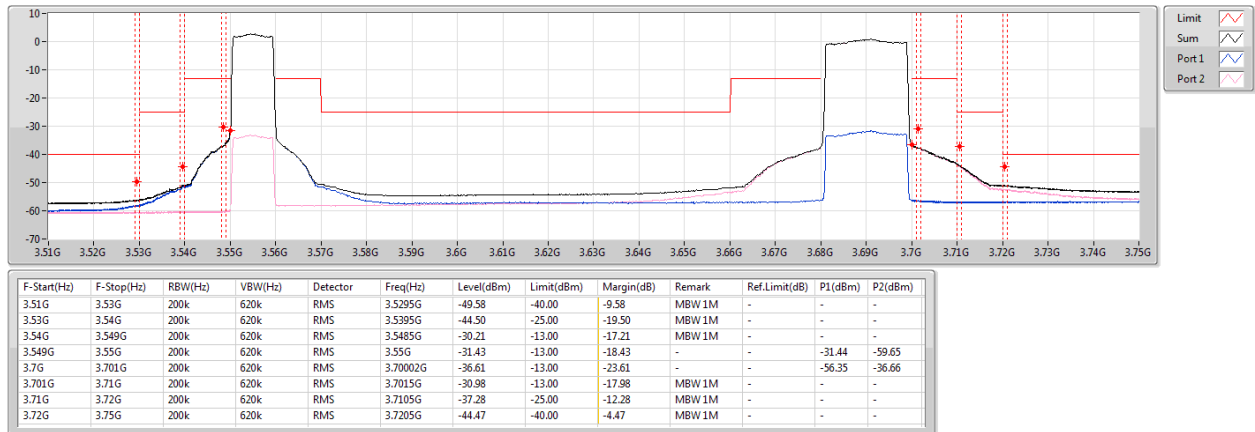
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

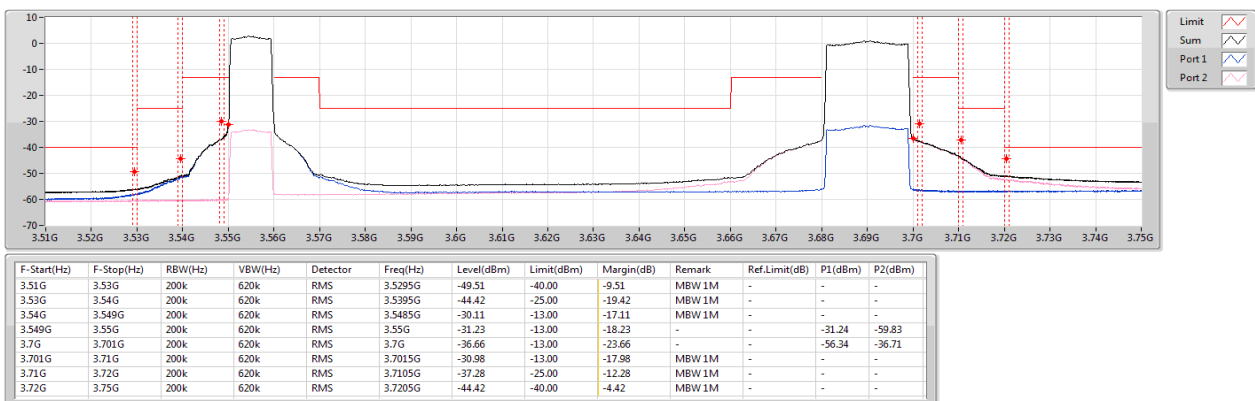
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

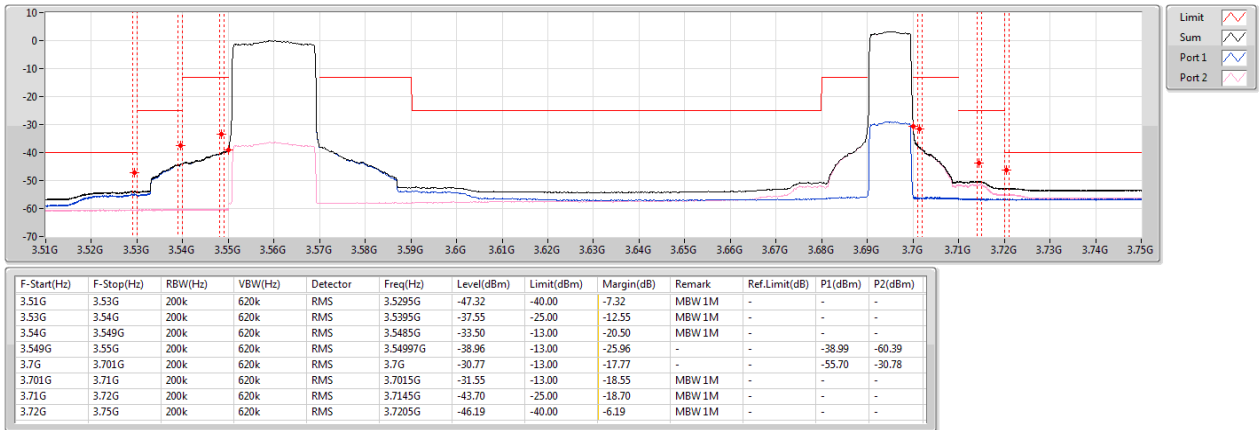
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

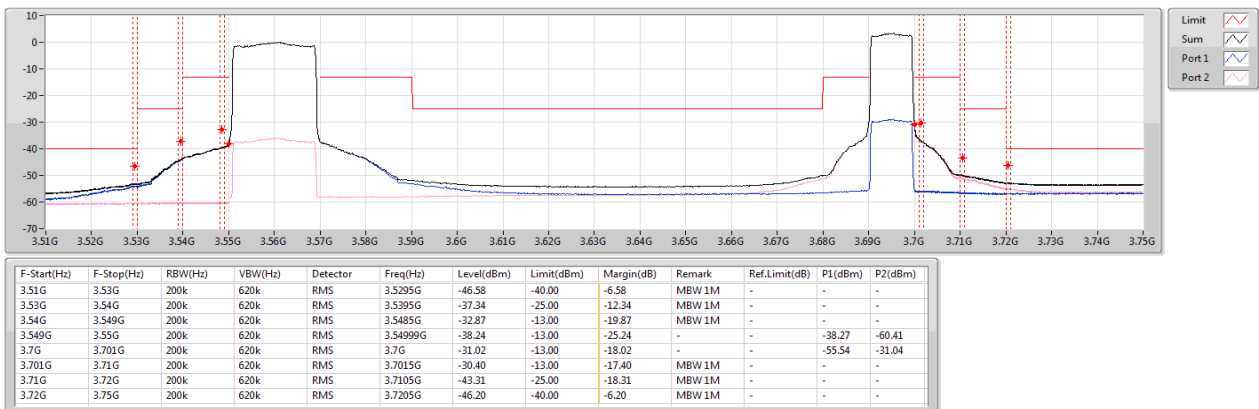
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

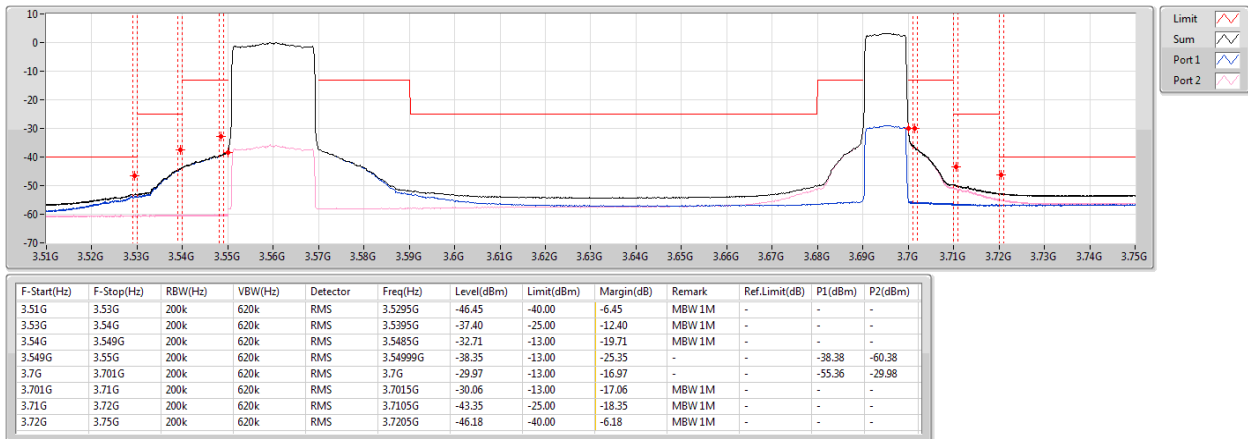
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

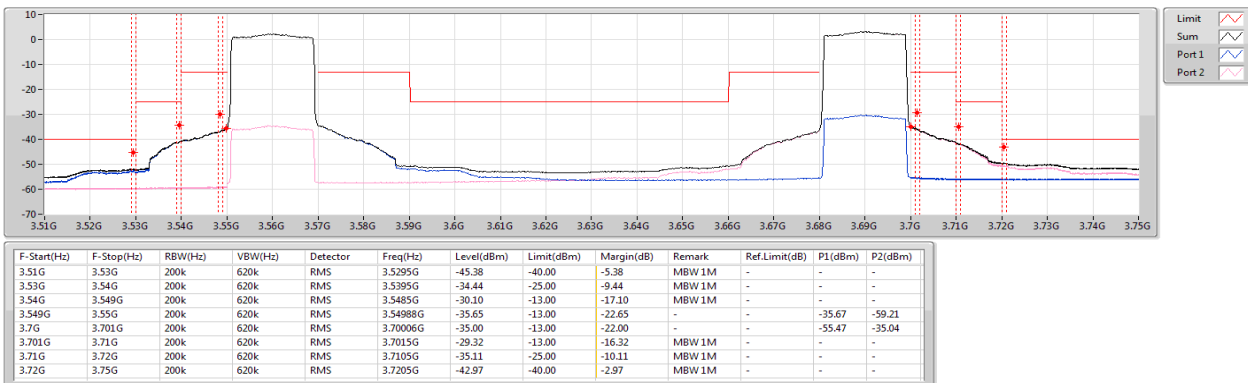
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

CSE-TX-Sum

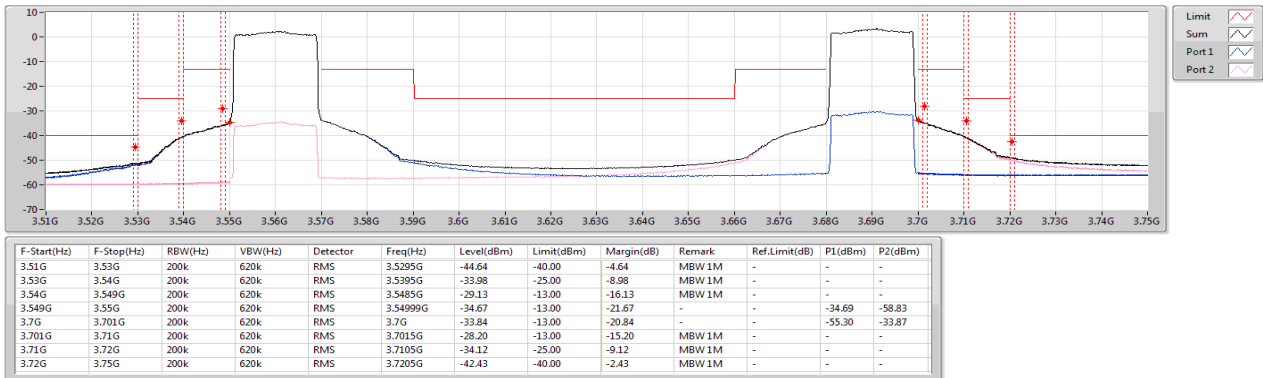
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

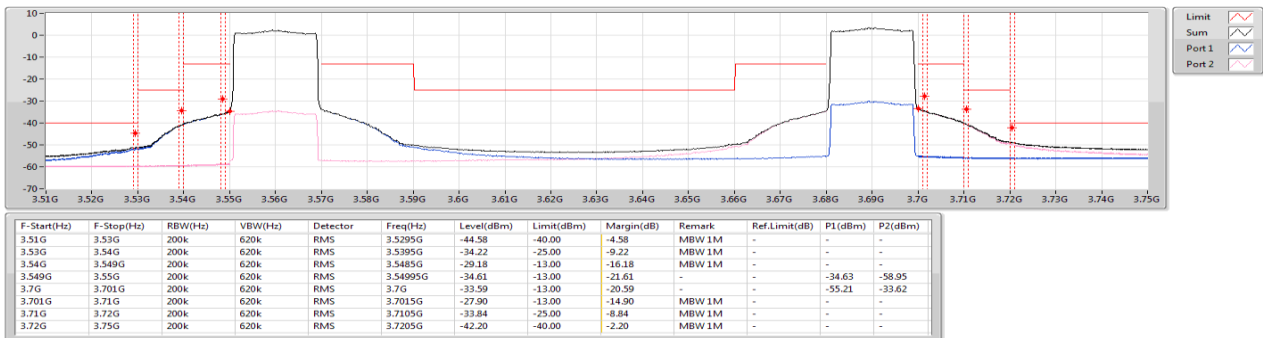
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

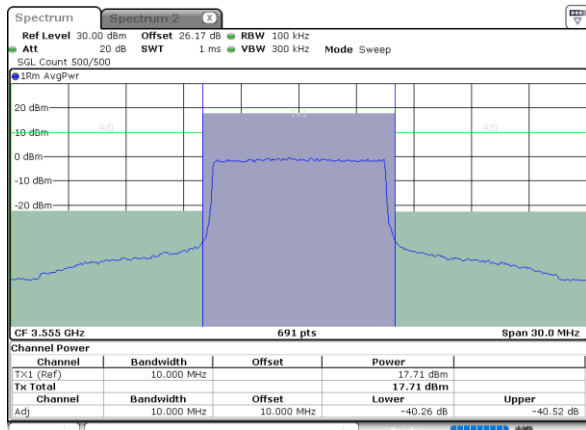
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0



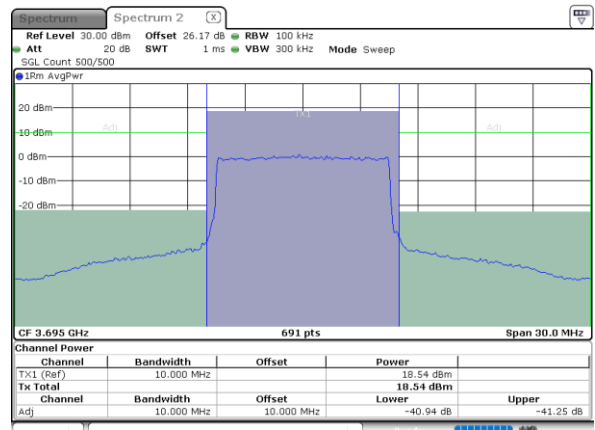
ACLR (CA Mode)

10MHz +10MHz

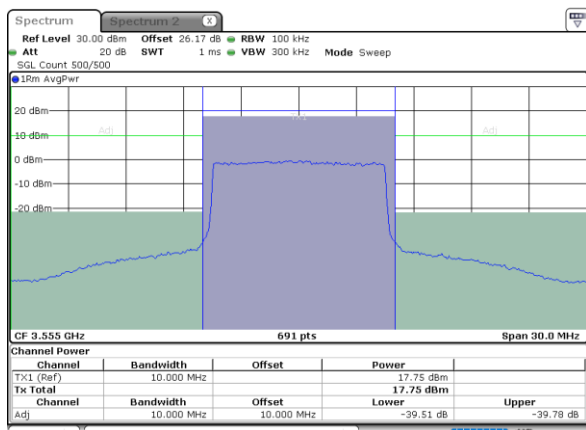
QPSK, 3555MHz – Port 1



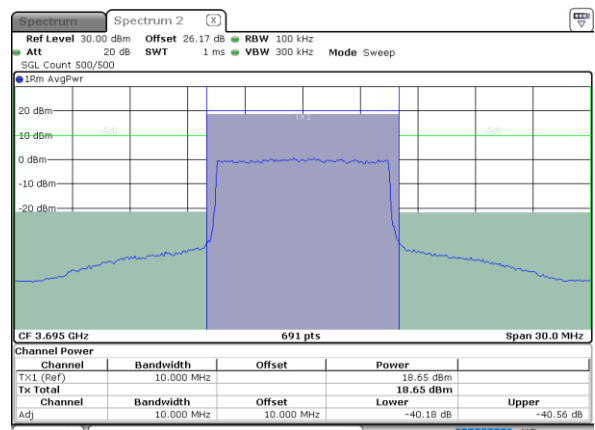
QPSK, 3695MHz – Port 2



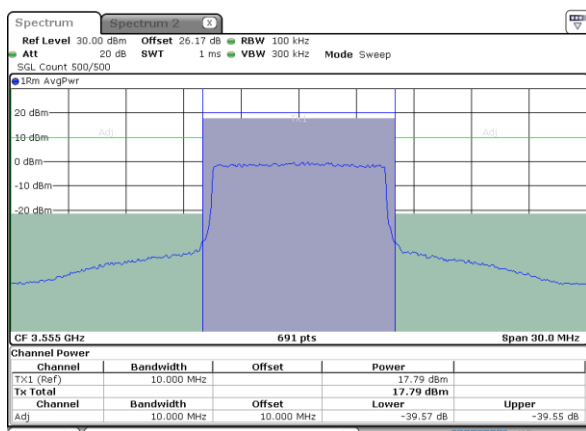
16QAM, 3555MHz – Port 1



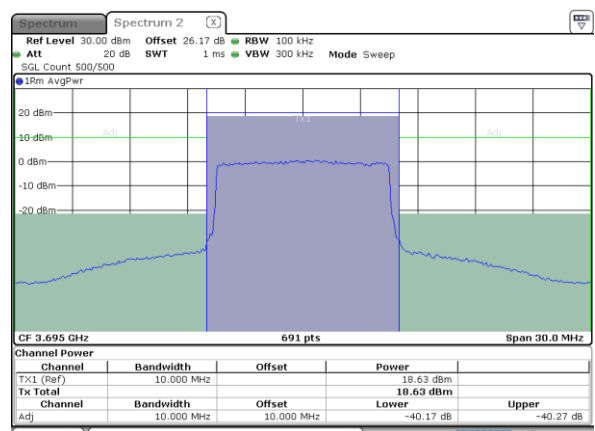
16QAM, 3695MHz – Port 2



64QAM, 3555MHz – Port 1

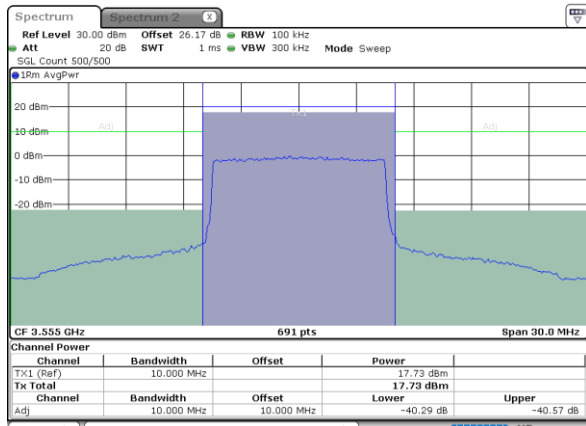


64QAM, 3695MHz – Port 2

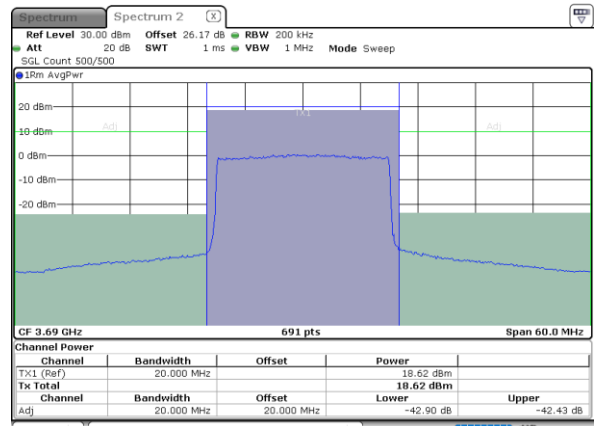


10MHz +20MHz

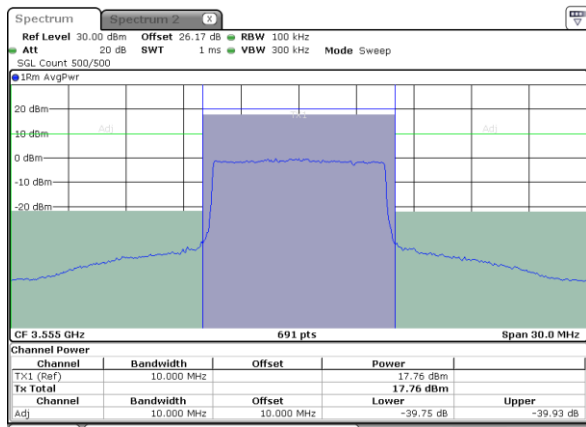
QPSK, 3555MHz – Port 1



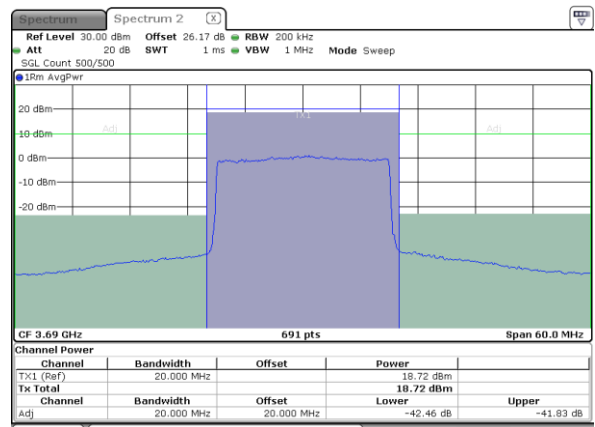
QPSK, 33690MHz – Port 2



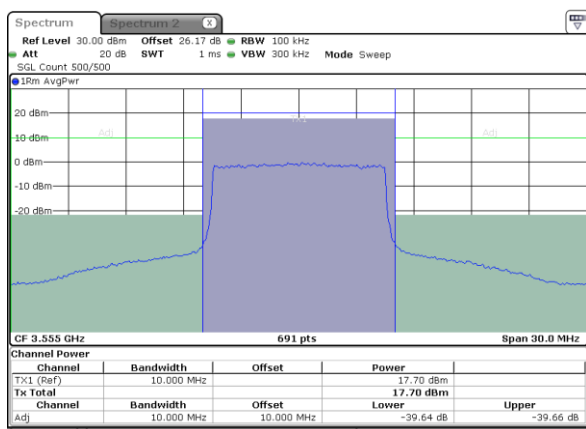
16QAM, 3555MHz – Port 1



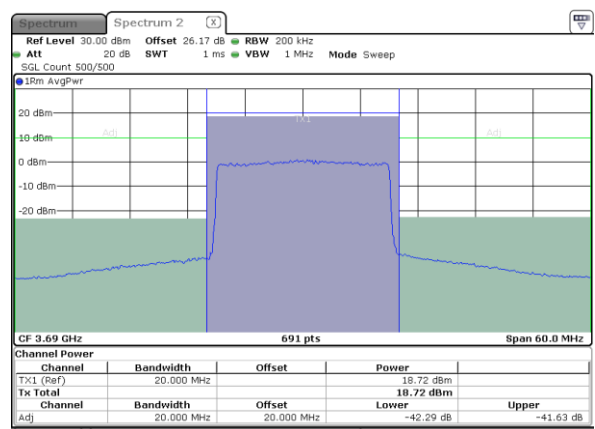
16QAM, 3690MHz – Port 2



64QAM, 3555MHz – Port 1

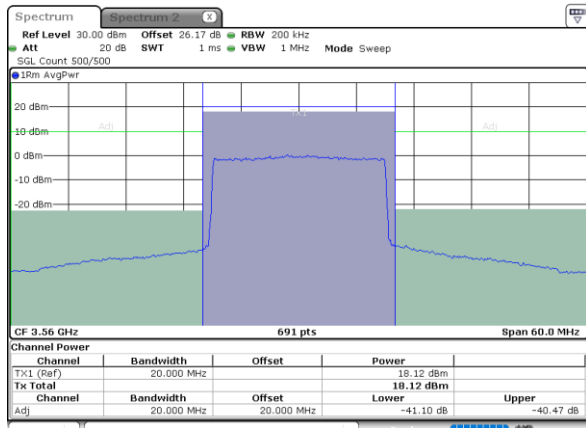


64QAM, 3690MHz – Port 2

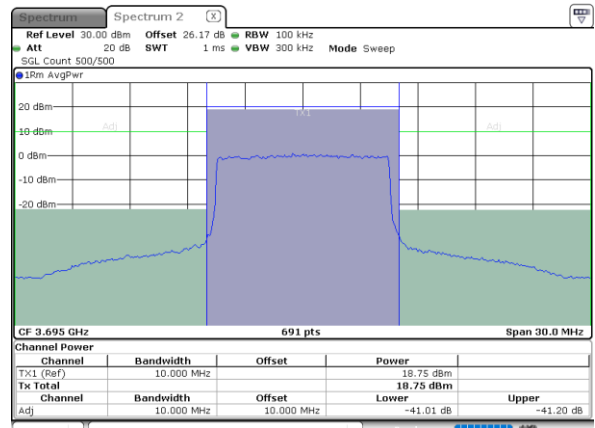


20MHz +10MHz

QPSK, 3560MHz – Port 1



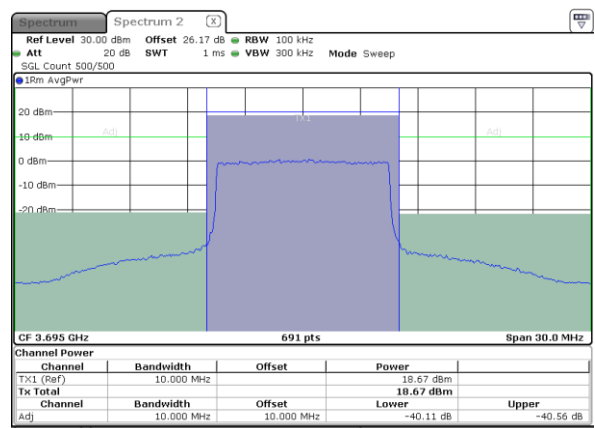
QPSK, 3695MHz – Port 2



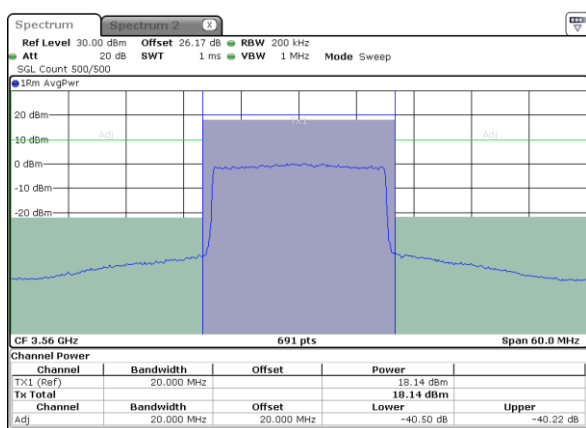
16QAM, 3560MHz – Port 1



16QAM, 3695MHz – Port 2



64QAM, 3560MHz – Port 1

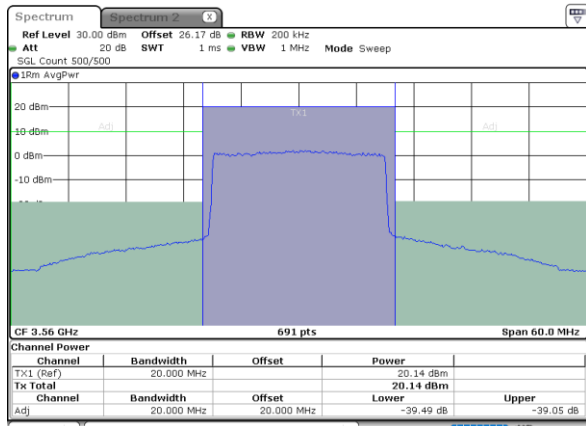


64QAM, 3695MHz – Port 2

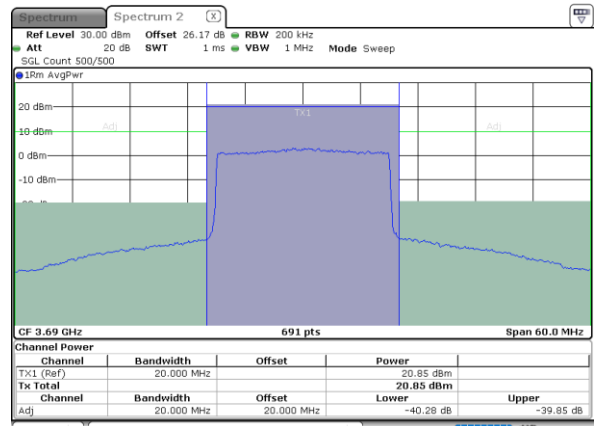


20MHz +20MHz, QPSK

QPSK, 3560MHz – Port 1



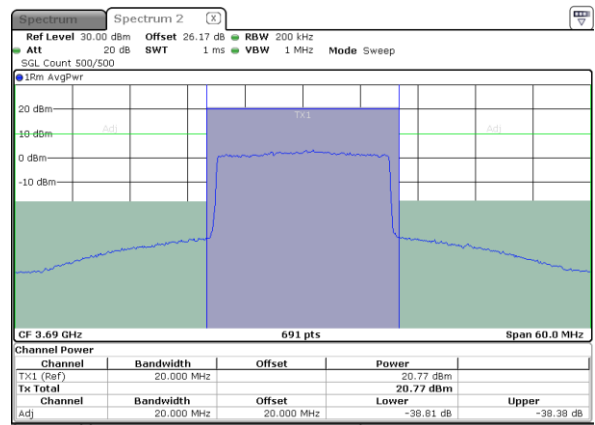
QPSK, 3690MHz – Port 2



16QAM, 3560MHz – Port 1



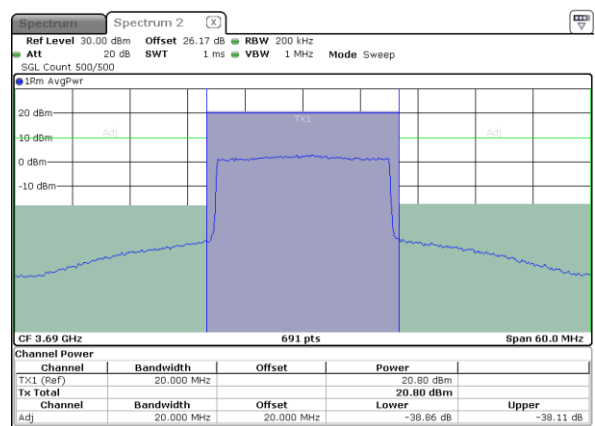
16QAM, 3690MHz – Port 2



64QAM, 3560MHz – Port 1



64QAM, 3690MHz – Port 2

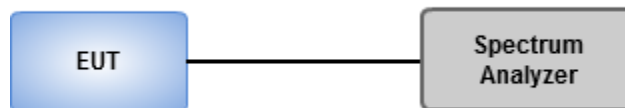


3.4 Emission Bandwidth

3.4.1 Test Procedures

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz for CB: 10MHz.
Set resolution bandwidth (RBW) = 200 kHz, Video bandwidth = 1 MHz for CB: 20MHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 26dB relative to the maximum level measured in the fundamental emission.
5. Measure the occupied bandwidth.

3.4.2 Test Setup



Ambient Condition	18-22°C / 64-66%	Tested By	Aska Huang
--------------------------	------------------	------------------	------------

3.4.3 Test Result of Occupied Bandwidth (CDD Mode)

Single-carrier Summary

Mode	Max-NdB (Hz)	Max-OBW (Hz)	ITU-Code	Min-NdB (Hz)	Min-OBW (Hz)
Band 48	-	-	-	-	-
LTE_10MHz_Nss1,QPSK_2TX	9.675M	8.933M	8M93G7D	9.6M	8.912M
LTE_10MHz_Nss1,16QAM_2TX	9.863M	8.927M	8M93W7D	9.65M	8.907M
LTE_10MHz_Nss1,64QAM_2TX	9.888M	8.933M	8M93W7D	9.563M	8.912M
LTE_20MHz_Nss1,QPSK_2TX	19.05M	17.831M	17M8G7D	18.8M	17.804M
LTE_20MHz_Nss1,16QAM_2TX	18.95M	17.821M	17M8W7D	18.75M	17.796M
LTE_20MHz_Nss1,64QAM_2TX	19.05M	17.838M	17M8W7D	18.85M	17.8M

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;

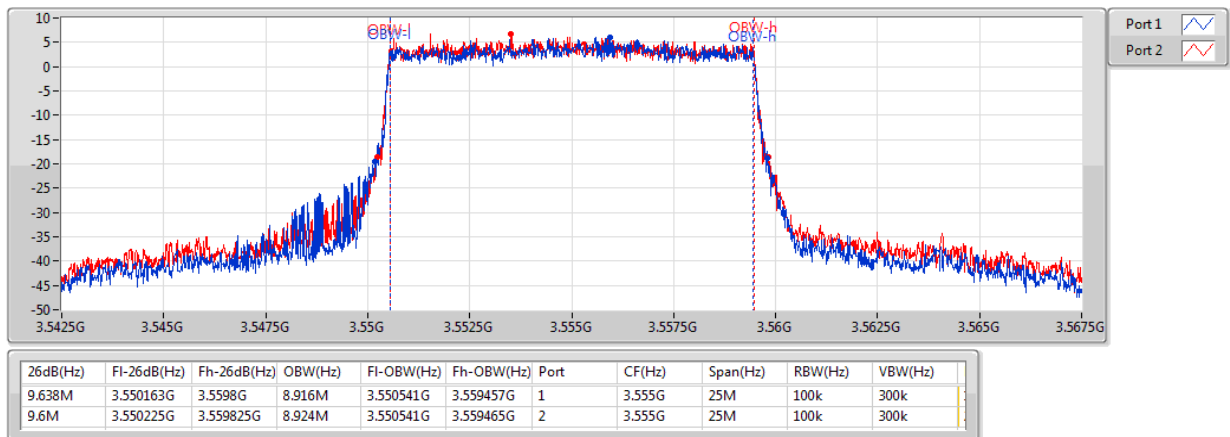
Result

Mode	Result	Limit (Hz)	Port 1-NdB (Hz)	Port 1-OBW (Hz)	Port 2-NdB (Hz)	Port 2-OBW (Hz)
Band 48_LTE_10MHz_Nss1_2TX	-	-	-	-	-	-
3555MHz_QPSK_RB 50,#RB 0	Pass	Inf	9.638M	8.916M	9.6M	8.924M
3625MHz_QPSK_RB 50,#RB 0	Pass	Inf	9.65M	8.933M	9.625M	8.931M
3695MHz_QPSK_RB 50,#RB 0	Pass	Inf	9.675M	8.912M	9.675M	8.915M
3555MHz_16QAM_RB 50,#RB 0	Pass	Inf	9.738M	8.925M	9.8M	8.922M
3625MHz_16QAM_RB 50,#RB 0	Pass	Inf	9.738M	8.927M	9.85M	8.915M
3695MHz_16QAM_RB 50,#RB 0	Pass	Inf	9.65M	8.907M	9.863M	8.926M
3555MHz_64QAM_RB 50,#RB 0	Pass	Inf	9.775M	8.923M	9.888M	8.933M
3625MHz_64QAM_RB 50,#RB 0	Pass	Inf	9.85M	8.923M	9.763M	8.928M
3695MHz_64QAM_RB 50,#RB 0	Pass	Inf	9.563M	8.917M	9.763M	8.912M
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	Inf	18.975M	17.819M	18.9M	17.82M
3625MHz_QPSK_RB 100,#RB 0	Pass	Inf	18.8M	17.815M	18.9M	17.819M
3690MHz_QPSK_RB 100,#RB 0	Pass	Inf	19.05M	17.804M	18.925M	17.831M
3560MHz_16QAM_RB 100,#RB 0	Pass	Inf	18.75M	17.798M	18.85M	17.815M
3625MHz_16QAM_RB 100,#RB 0	Pass	Inf	18.95M	17.821M	18.825M	17.812M
3690MHz_16QAM_RB 100,#RB 0	Pass	Inf	18.775M	17.797M	18.825M	17.796M
3560MHz_64QAM_RB 100,#RB 0	Pass	Inf	18.9M	17.812M	18.875M	17.812M
3625MHz_64QAM_RB 100,#RB 0	Pass	Inf	19.05M	17.828M	18.875M	17.801M
3690MHz_64QAM_RB 100,#RB 0	Pass	Inf	18.85M	17.8M	19M	17.838M

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

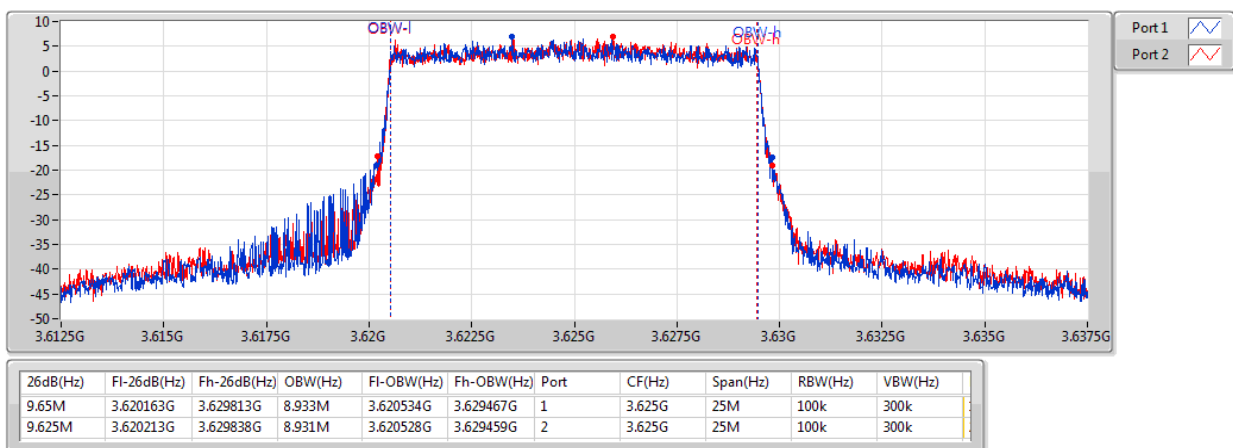
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3555MHz_QPSK_RB 50,#RB 0

EBW



Band 48_LTE_10MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 50,#RB 0

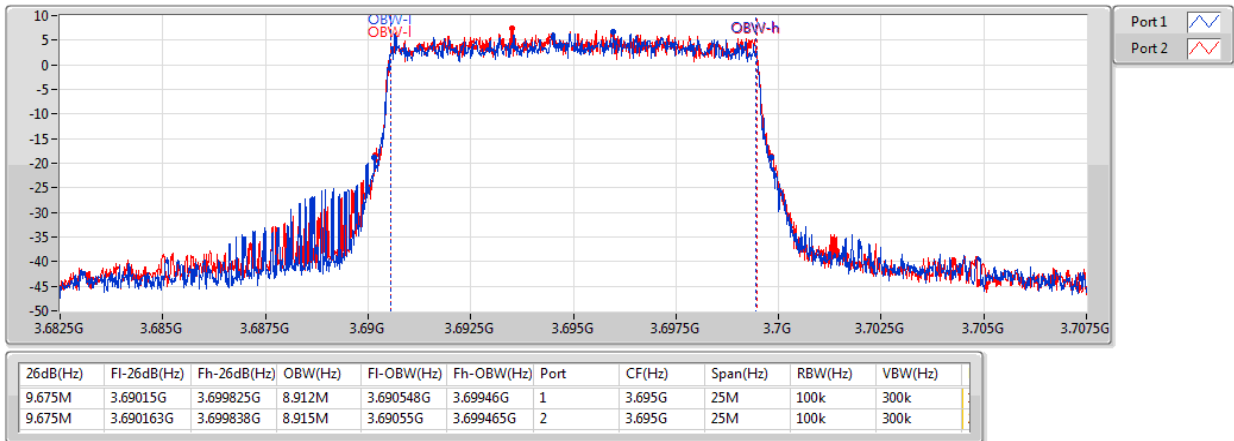
EBW



Band 48_LTE_10MHz_Nss1,QPSK_2TX

EBW

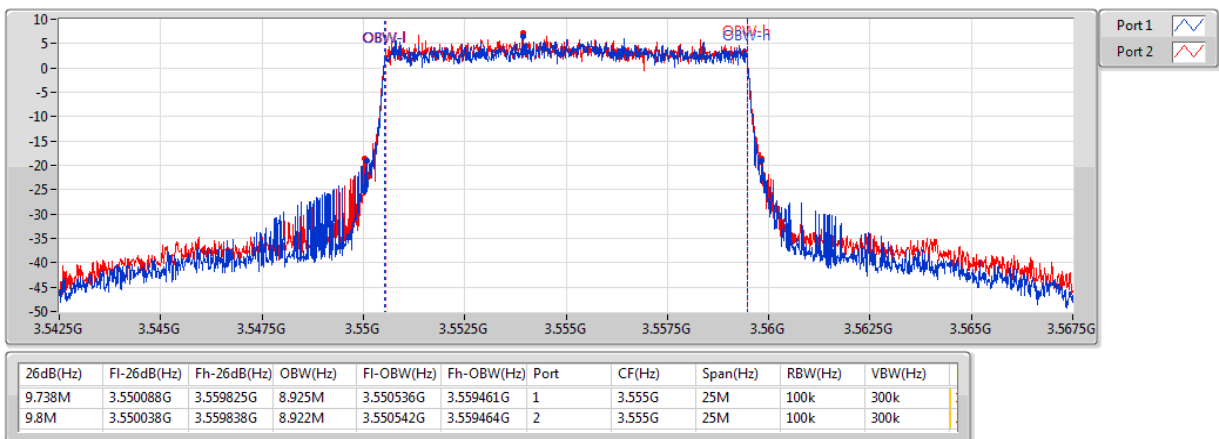
3695MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

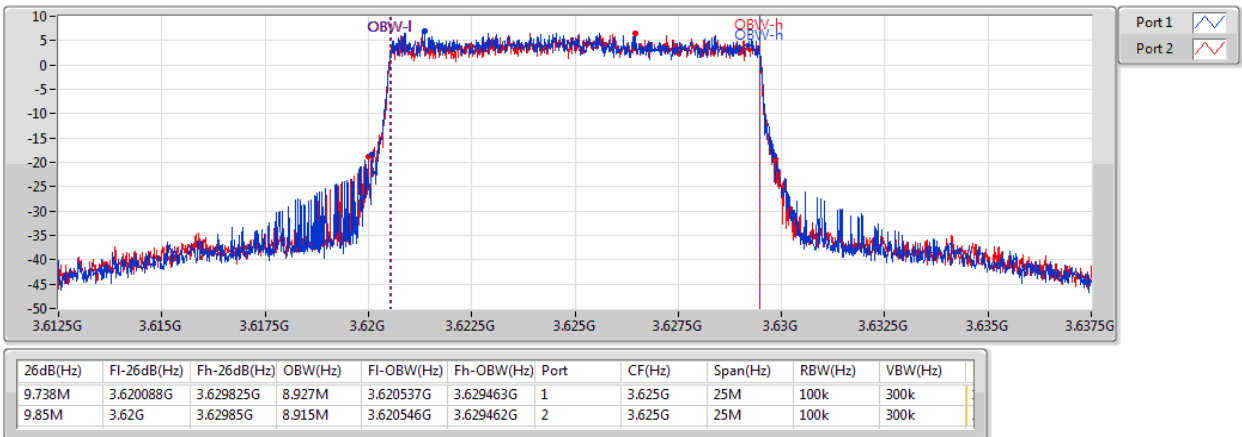
EBW

3555MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

EBW



Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

EBW

