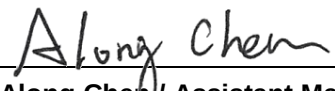


FCC Test Report

FCC ID : MXF-WLTFGT145CBSD
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
☐ Category A CBSD
☐ Category B CBSD
☒ CPE-CBSD
Received Date : Nov. 19, 2020
Tested Date : Nov. 30, 2020 ~ Jan. 08, 2021

We, International Certification Corp., 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:

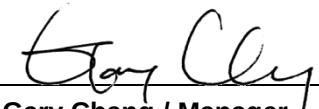

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FG0N1901AC	Rev. 01	Initial issue	Feb. 03, 2021
FG0N1901AC	Rev. 02	Corrected the type of EUT of P1	Feb. 18, 2021

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 96.41(b)	Maximum RF Power Output EIRP	Power[dBm/10MHz]: 28.24	Pass
96.41(b)	Maximum Power Spectral Density	Meet the requirement of limit	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	Frequency Stability	Meet the requirement of limit	Pass
96.41(f)	Reception Limits	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 function	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	0.667	8M93G7D
10	16QAM	0.547	8M93W7D
10	64QAM	0.428	8M93W7D
20	QPSK	0.700	17M8G7D
20	16QAM	0.535	17M8W7D
20	64QAM	0.428	17M8W7D

CA Mode			
Channel Bandwidth (MHz)	Modulation	Maximum EIRP (W)	Emission Designator
10+10	QPSK	0.634	17M8G7D
10+10	16QAM	0.635	17M9W7D
10+10	64QAM	0.635	17M9W7D
10+20	QPSK	0.693	26M7G7D
10+20	16QAM	0.687	26M7W7D
10+20	64QAM	0.685	26M8W7D
20+10	QPSK	0.644	26M8G7D
20+10	16QAM	0.637	26M8W7D
20+10	64QAM	0.637	26M8W7D
20+20	QPSK	0.692	35M7G7D
20+20	16QAM	0.692	35M7W7D
20+20	64QAM	0.690	35M7W7D

1.1.6 Operating Channel List

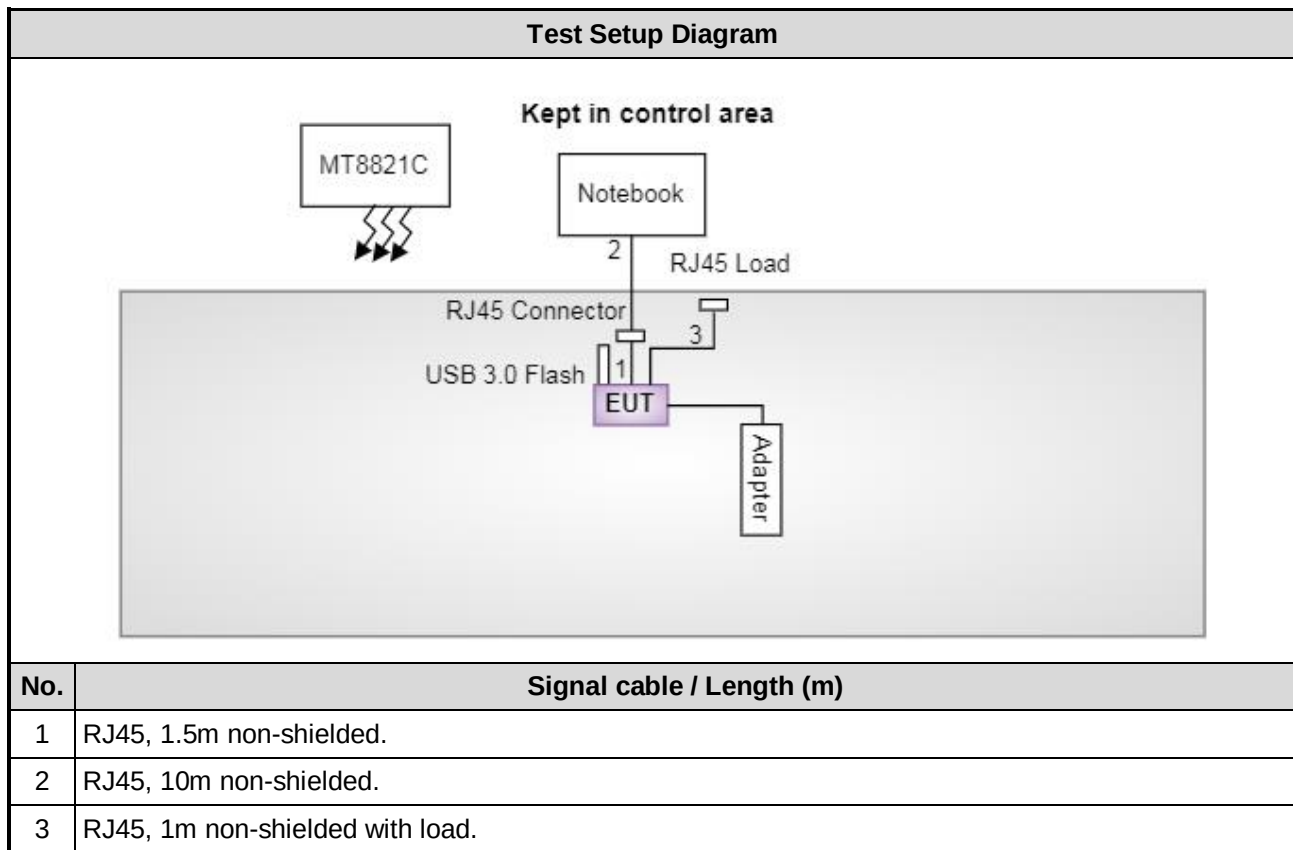
CDD Mode		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
10	55290	3555.0
10	55990	3625.0
10	56690	3695.0
20	55340	3560.0
20	55990	3625.0
20	56640	3690.0

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	Nov. 30, 2020				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 17, 2019	Dec. 16, 2020
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 10, 2020	Jul. 09, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 12, 2019	Dec. 11, 2020
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	R&S	HFH2-Z2	100330	Nov. 17, 2020	Nov. 16, 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	Aug. 13, 2020	Aug. 12, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Jan. 07, 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	101657	Feb. 14, 2020	Feb. 13, 2021
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
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	Jan. 08, 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
Signal Generator	R&S	SMB100A	175727	Jan. 07, 2021	Jan. 06, 2022
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	May 06, 2020	May 05, 2021
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	May 04, 2020	May 03, 2021
DC POWER SOURCE	GW INSTRON	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.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Dec. 15, 2020				
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
Signal Generator	R&S	SMB100A	175727	Dec. 27, 2019	Dec. 26, 2020
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	May 06, 2020	May 05, 2021
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	May 04, 2020	May 03, 2021
DC POWER SOURCE	GW INSTRON	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
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 Corp.
Test Site	03CH01-WS, TH01-WS
Address of Test Site	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

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
Maximum Power Spectral Density	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	3625.0 3625.0
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
Reception Limits	10MHz 20MHz	QPSK QPSK	3625.0 3625.0

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
Peak EIRP Power Density	20MHz+10MHz	QPSK / 16QAM / 64QAM	3560.0+3695.0
	20MHz+20MHz	QPSK / 16QAM / 64QAM	3560.0+3690.0
Radiated Emission $\leq$ 1GHz	10MHz+10MHz	64QAM	3555.0+3695.0
	10MHz+20MHz	64QAM	3555.0+3690.0
	20MHz+10MHz	64QAM	3560.0+3695.0
	20MHz+20MHz	64QAM	3560.0+3690.0
Radiated Emission $>$ 1GHz	10MHz+10MHz	64QAM	3555.0+3695.0
	10MHz+20MHz	64QAM	3555.0+3690.0
	20MHz+10MHz	64QAM	3560.0+3695.0
	20MHz+20MHz	64QAM	3560.0+3690.0
Conducted Emissions	10MHz+10MHz	QPSK / 16QAM / 64QAM	3555.0+3695.0
Emission Mask	10MHz+20MHz	QPSK / 16QAM / 64QAM	3555.0+3690.0
26dBc Bandwidth	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
Reception Limits	10MHz+10MHz	64QAM	3555.0+3695.0
	10MHz+20MHz	64QAM	3555.0+3690.0
	20MHz+10MHz	64QAM	3560.0+3695.0
	20MHz+20MHz	64QAM	3560.0+3690.0

3 Test Results

3.1 Output Power

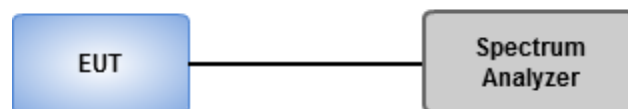
3.1.1 Limit of Output Power

Device	Maximum EIRP (dBm/10MHz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a
Category A CBSD	30	20
Category B CBSD	47	37

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. Using channel power function to integrate output power
13. Adjust the recorded level by applying appropriate correction factors for the measurement set-up.
14. Determine the EIRP / Power density by adding the effective antenna gain to the adjusted power level.

3.1.3 Test Setup



Ambient Condition	18-22°C / 64-66%	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

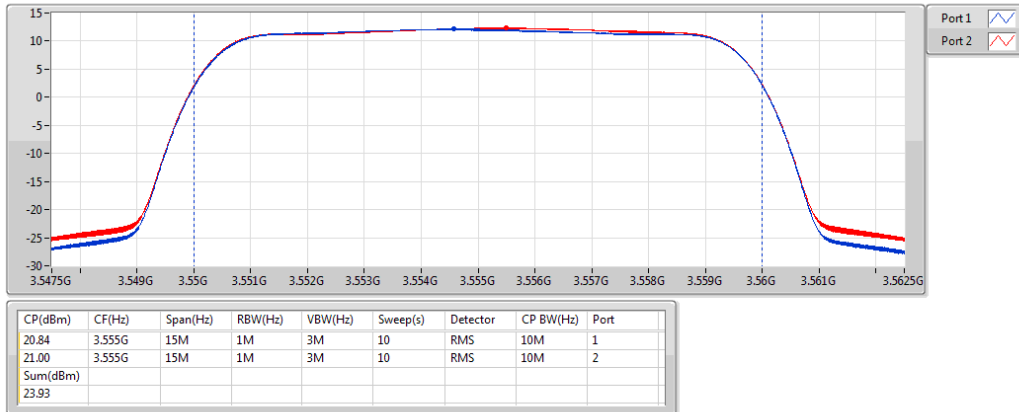
Mode	Result	DG (dBi)	Port 1 (dBm/10MHz)	Port 2 (dBm/10MHz)	Power (dBm/10MHz)	EIRP (dBm/10MHz)	EIRP Lim. (dBm/10MHz)
Band 48_LTE_10MHz_Nss1_2TX	-	-	-	-	-	-	-
3555MHz_QPSK_RB 50,#RB 0	Pass	4.00	20.84	21.00	23.93	27.93	30
3625MHz_QPSK_RB 50,#RB 0	Pass	4.00	21.16	21.30	24.24	28.24	30
3695MHz_QPSK_RB 50,#RB 0	Pass	4.00	20.83	21.42	24.15	28.15	30
3555MHz_16QAM_RB 50,#RB 0	Pass	4.00	19.94	20.24	23.10	27.10	30
3625MHz_16QAM_RB 50,#RB 0	Pass	4.00	20.31	20.43	23.38	27.38	30
3695MHz_16QAM_RB 50,#RB 0	Pass	4.00	19.90	20.52	23.23	27.23	30
3555MHz_64QAM_RB 50,#RB 0	Pass	4.00	18.99	19.19	22.10	26.10	30
3625MHz_64QAM_RB 50,#RB 0	Pass	4.00	19.32	19.27	22.31	26.31	30
3695MHz_64QAM_RB 50,#RB 0	Pass	4.00	19.04	19.51	22.29	26.29	30
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	4.00	18.74	18.89	21.83	25.83	30
3625MHz_QPSK_RB 100,#RB 0	Pass	4.00	18.97	19.29	22.14	26.14	30
3690MHz_QPSK_RB 100,#RB 0	Pass	4.00	18.62	19.71	22.21	26.21	30
3560MHz_16QAM_RB 100,#RB 0	Pass	4.00	17.69	18.00	20.86	24.86	30
3625MHz_16QAM_RB 100,#RB 0	Pass	4.00	17.93	18.17	21.06	25.06	30
3690MHz_16QAM_RB 100,#RB 0	Pass	4.00	17.60	18.37	21.01	25.01	30
3560MHz_64QAM_RB 100,#RB 0	Pass	4.00	16.80	17.01	19.92	23.92	30
3625MHz_64QAM_RB 100,#RB 0	Pass	4.00	17.02	16.99	20.02	24.02	30
3690MHz_64QAM_RB 100,#RB 0	Pass	4.00	16.62	17.50	20.09	24.09	30

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

Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

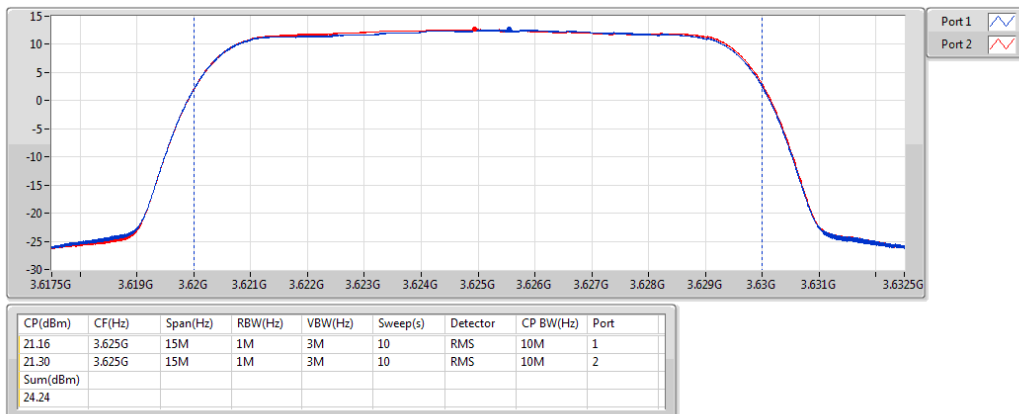
3555MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

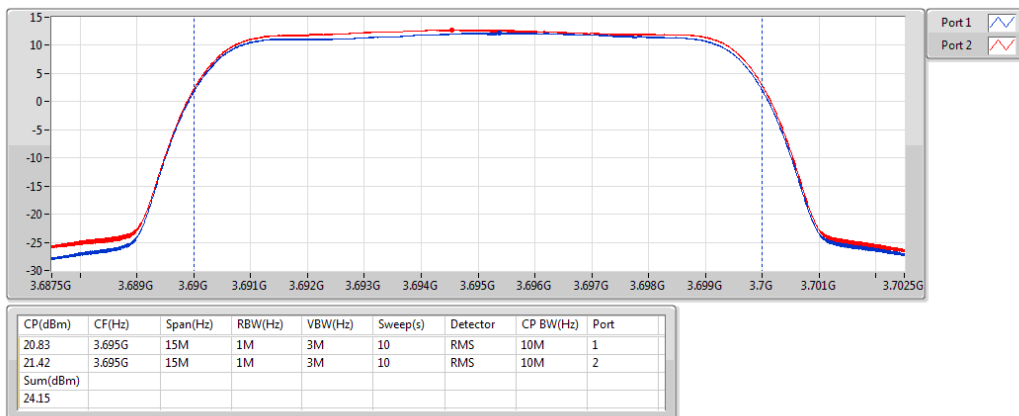
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Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

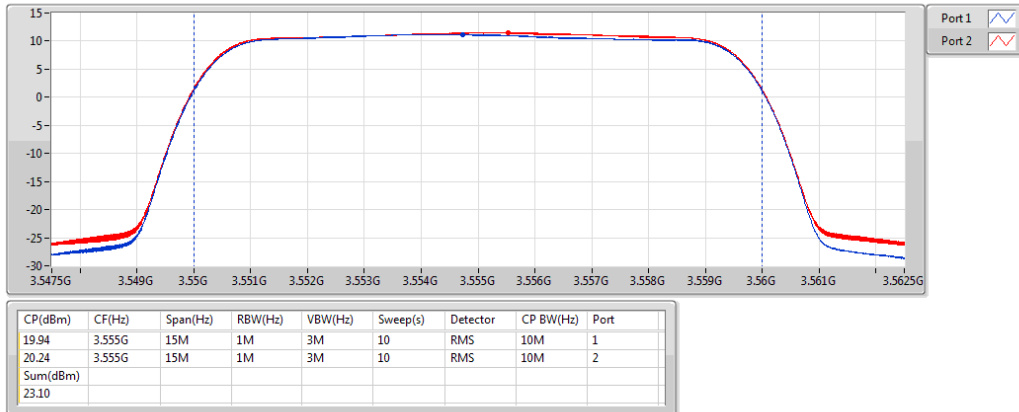
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Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

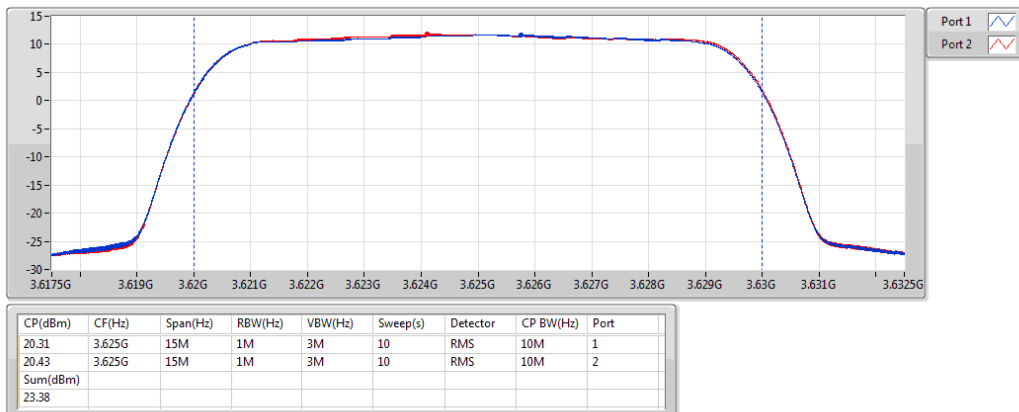
3555MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

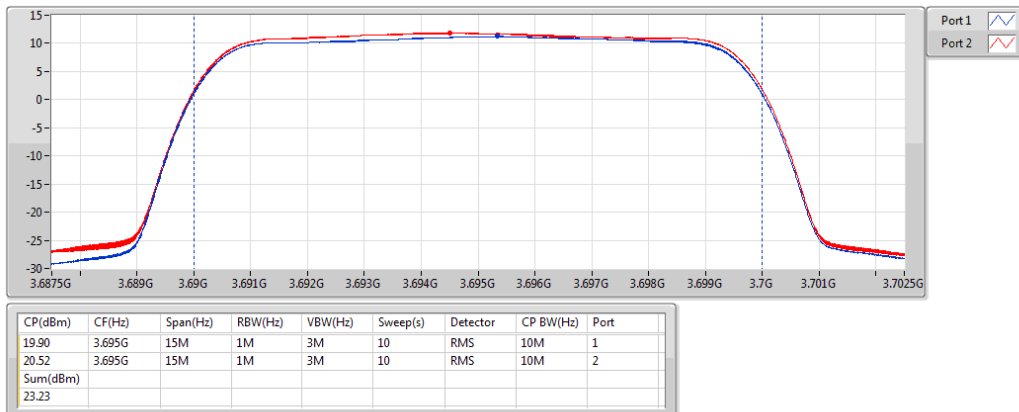
3625MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

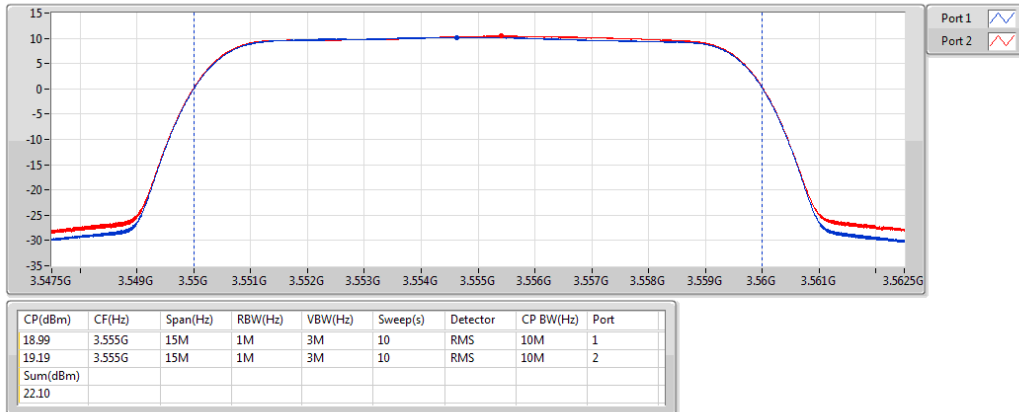
3695MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

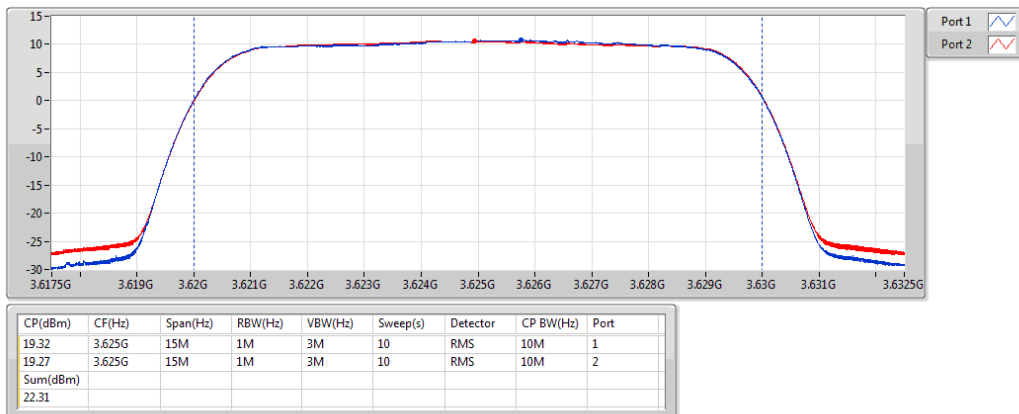
3555MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

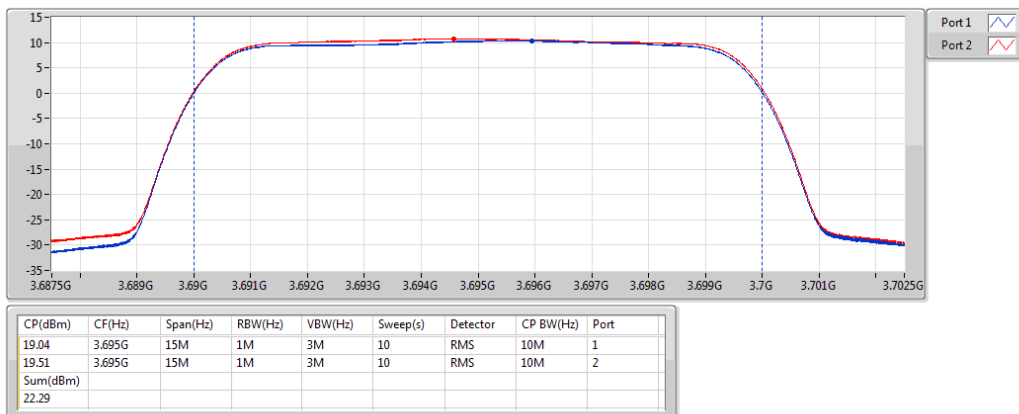
3625MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

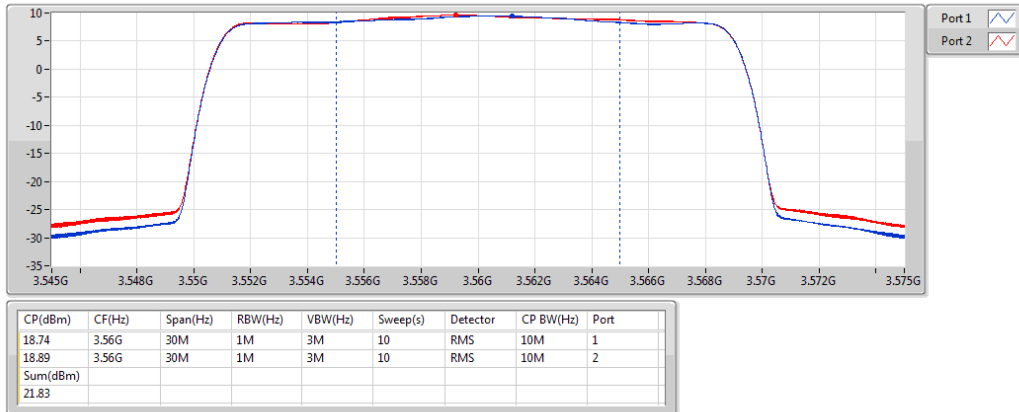
3695MHz_64QAM_RB 50,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

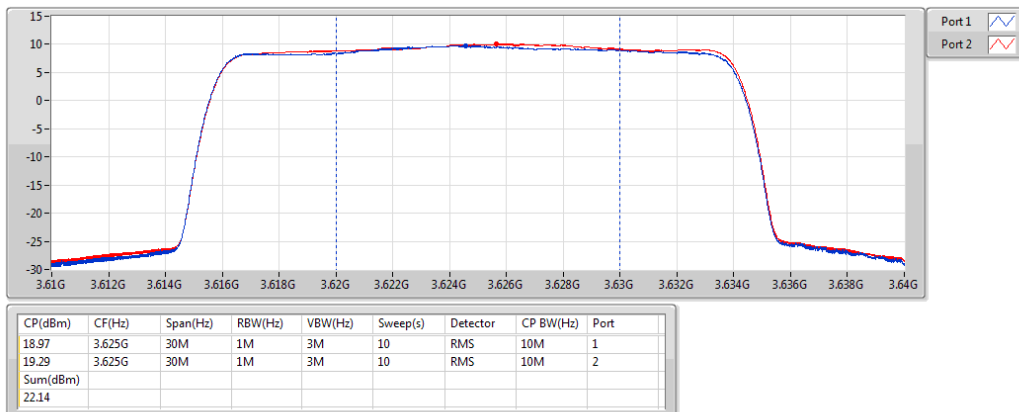
3560MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

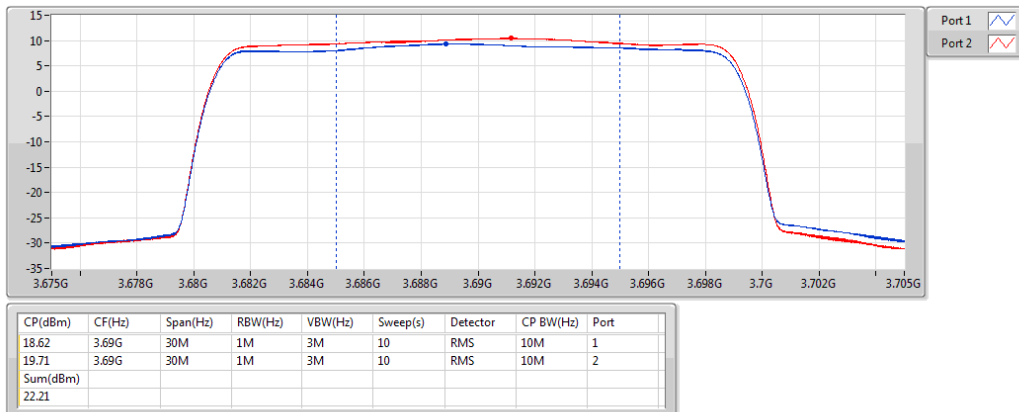
3625MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

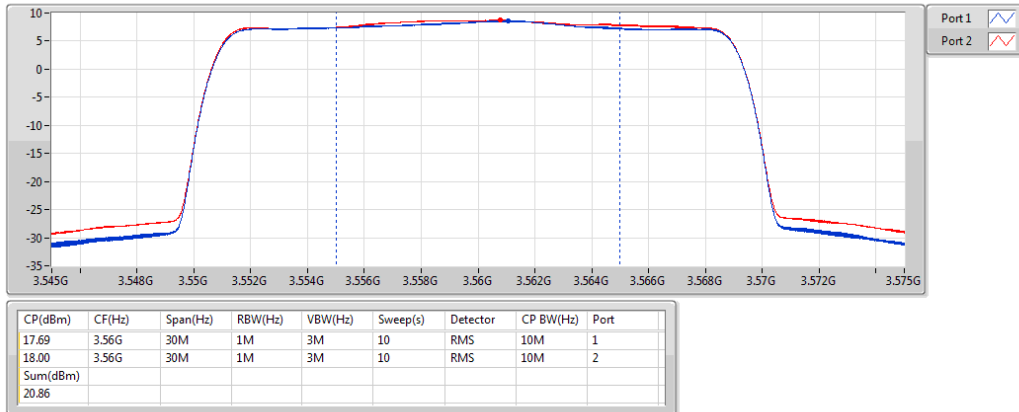
3690MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

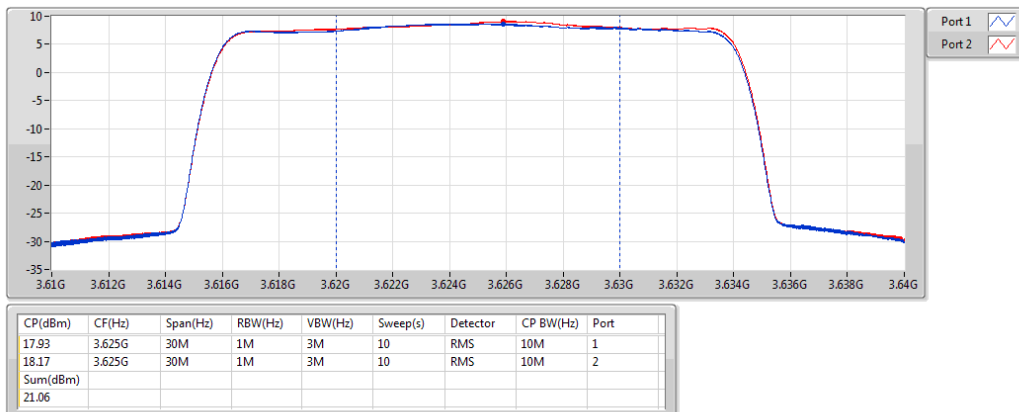
3560MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

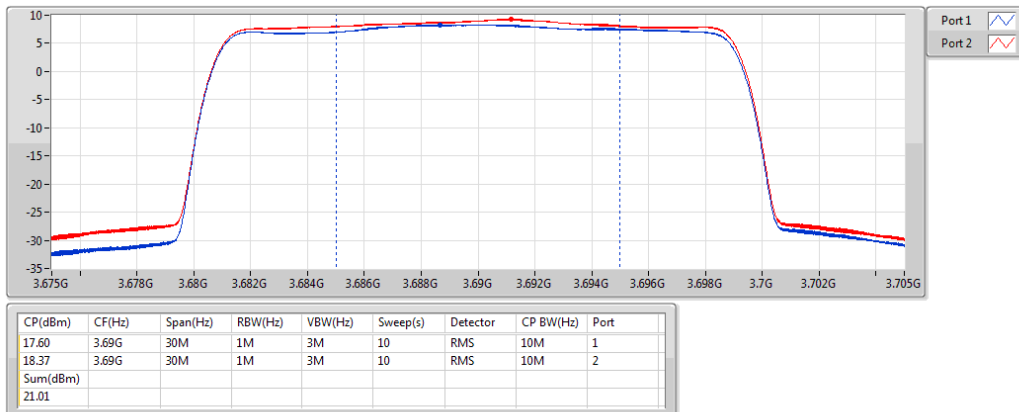
3625MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

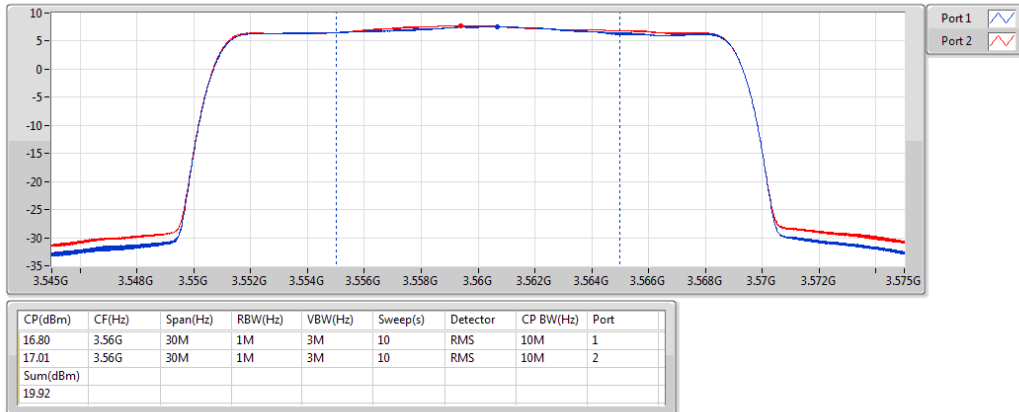
3690MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

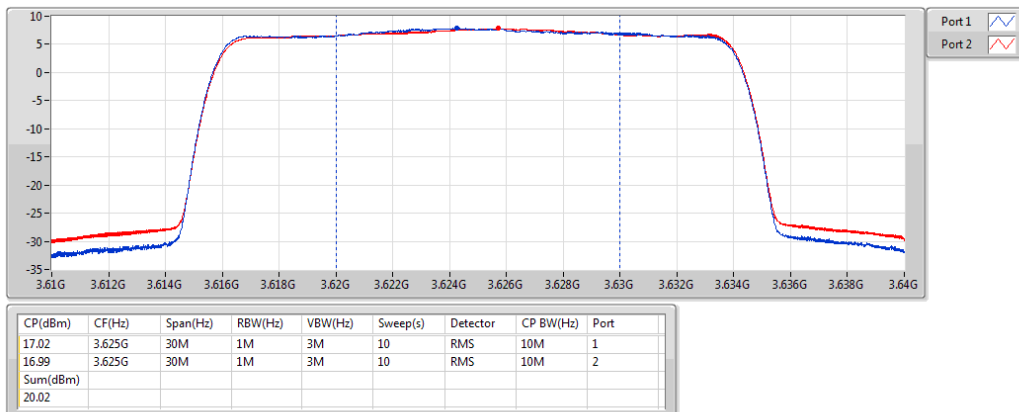
3560MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

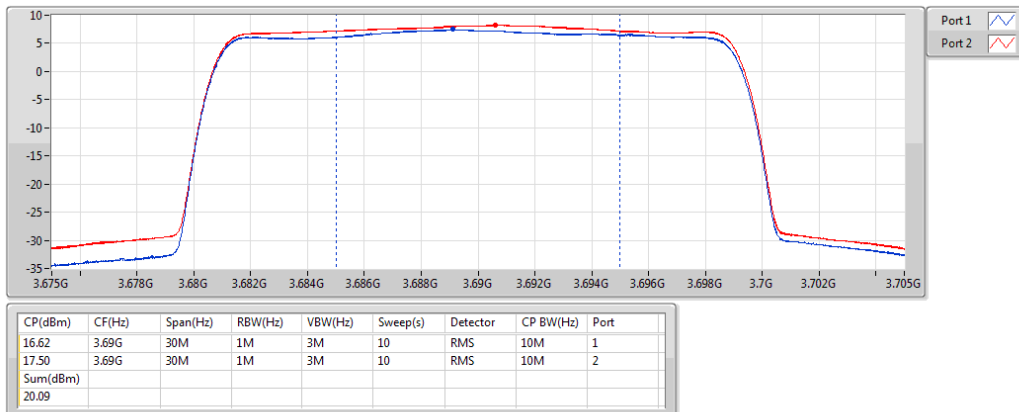
3625MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

3690MHz_64QAM_RB 100,#RB 0



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	27.93	0.621	Inf	23.93	0.247	Inf	20.84	21.00
3625MHz_QPSK_RB 50,#RB 0	Pass	4.00	28.24	0.667	Inf	24.24	0.266	Inf	21.16	21.30
3695MHz_QPSK_RB 50,#RB 0	Pass	4.00	28.15	0.653	Inf	24.15	0.260	Inf	20.83	21.42
3555MHz_16QAM_RB 50,#RB 0	Pass	4.00	27.10	0.513	Inf	23.10	0.204	Inf	19.94	20.24
3625MHz_16QAM_RB 50,#RB 0	Pass	4.00	27.38	0.547	Inf	23.38	0.218	Inf	20.31	20.43
3695MHz_16QAM_RB 50,#RB 0	Pass	4.00	27.23	0.528	Inf	23.23	0.210	Inf	19.90	20.52
3555MHz_64QAM_RB 50,#RB 0	Pass	4.00	26.10	0.407	Inf	22.10	0.162	Inf	18.99	19.19
3625MHz_64QAM_RB 50,#RB 0	Pass	4.00	26.31	0.428	Inf	22.31	0.170	Inf	19.32	19.27
3695MHz_64QAM_RB 50,#RB 0	Pass	4.00	26.29	0.426	Inf	22.29	0.169	Inf	19.04	19.51
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	4.00	28.01	0.632	Inf	24.01	0.252	Inf	20.93	21.07
3625MHz_QPSK_RB 100,#RB 0	Pass	4.00	28.28	0.673	Inf	24.28	0.268	Inf	21.16	21.38
3690MHz_QPSK_RB 100,#RB 0	Pass	4.00	28.45	0.700	Inf	24.45	0.279	Inf	20.78	22.01
3560MHz_16QAM_RB 100,#RB 0	Pass	4.00	27.07	0.509	Inf	23.07	0.203	Inf	19.91	20.21
3625MHz_16QAM_RB 100,#RB 0	Pass	4.00	27.28	0.535	Inf	23.28	0.213	Inf	20.10	20.44
3690MHz_16QAM_RB 100,#RB 0	Pass	4.00	27.25	0.531	Inf	23.25	0.211	Inf	19.78	20.66
3560MHz_64QAM_RB 100,#RB 0	Pass	4.00	26.14	0.411	Inf	22.14	0.164	Inf	19.03	19.23
3625MHz_64QAM_RB 100,#RB 0	Pass	4.00	26.23	0.420	Inf	22.23	0.167	Inf	19.24	19.20
3690MHz_64QAM_RB 100,#RB 0	Pass	4.00	26.31	0.428	Inf	22.31	0.170	Inf	18.89	19.67

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

Note:

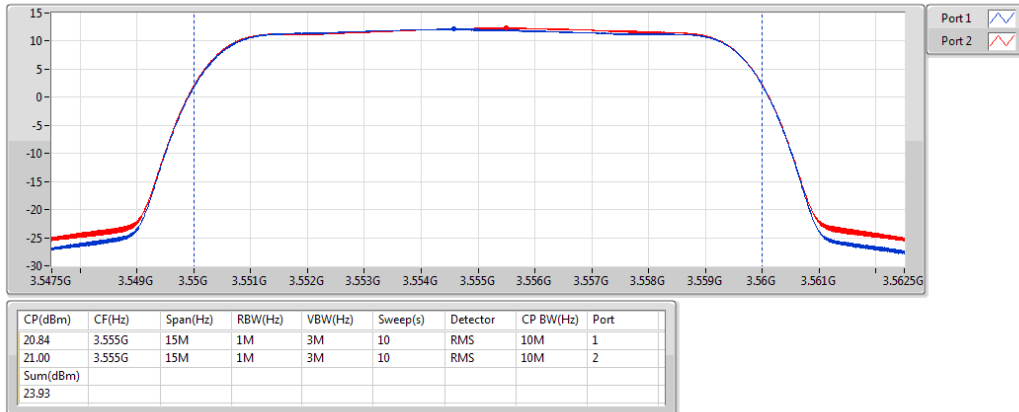
10MHz BW used dBm/10MHz measurement

20MHz BW used dBm/20MHz measurement

Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

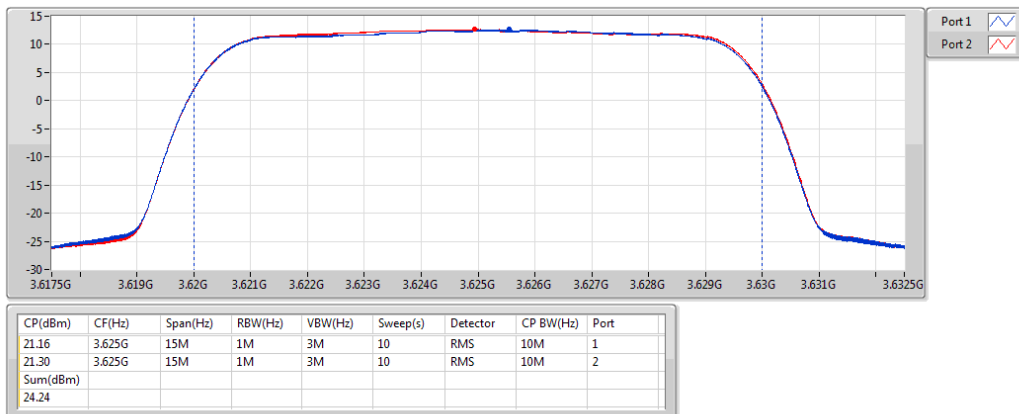
3555MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

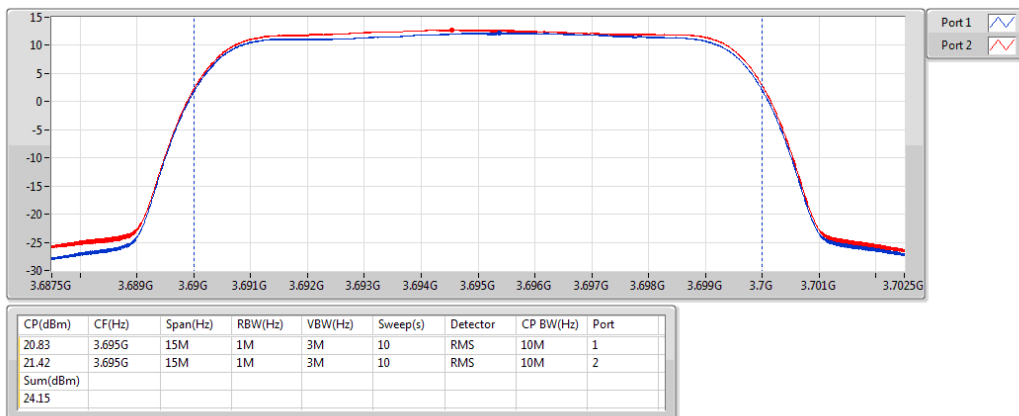
3625MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PowerAV

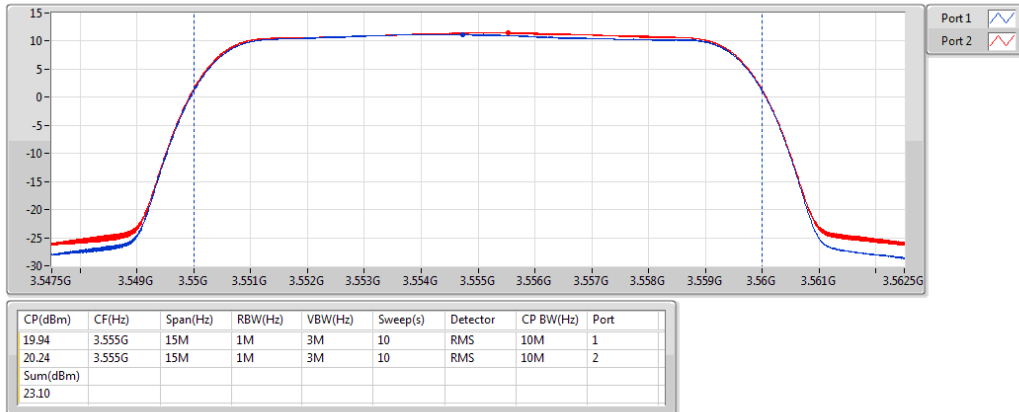
3695MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

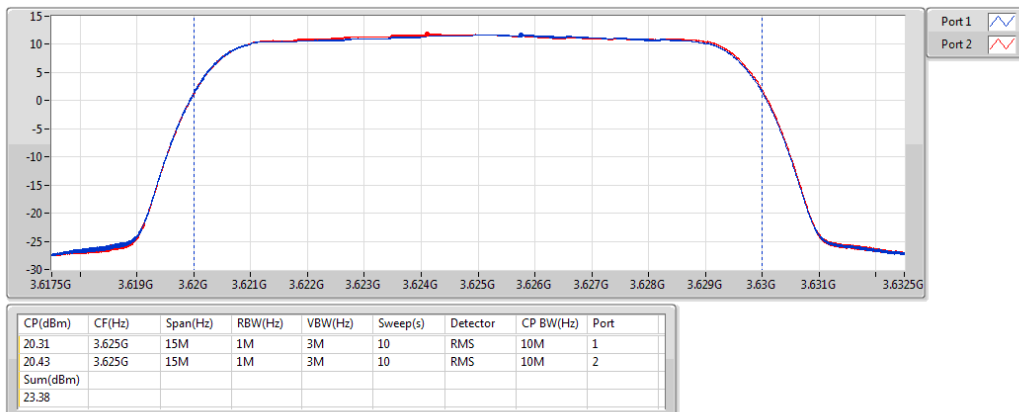
3555MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

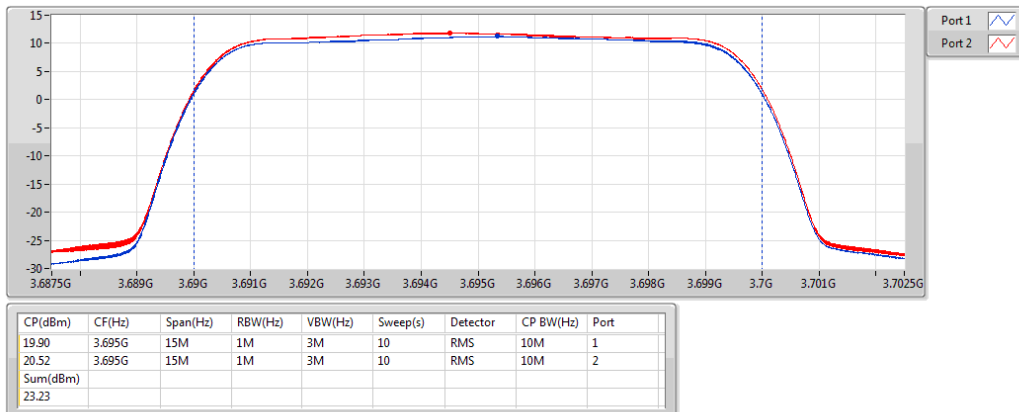
3625MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PowerAV

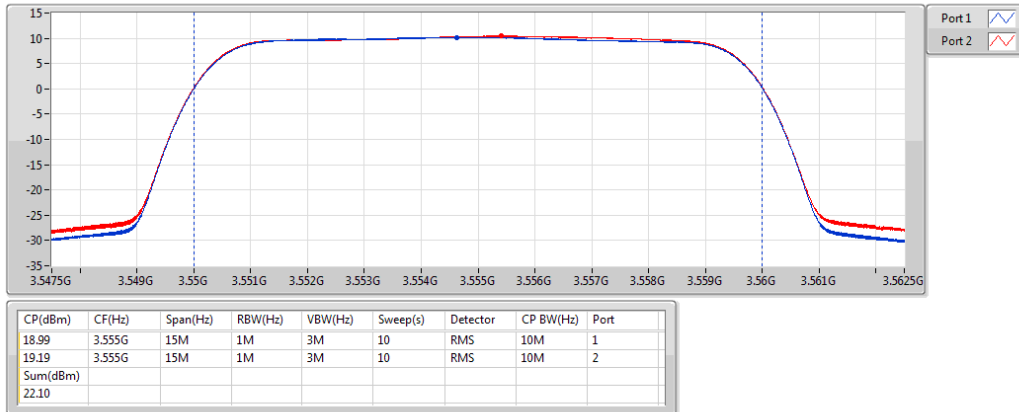
3695MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

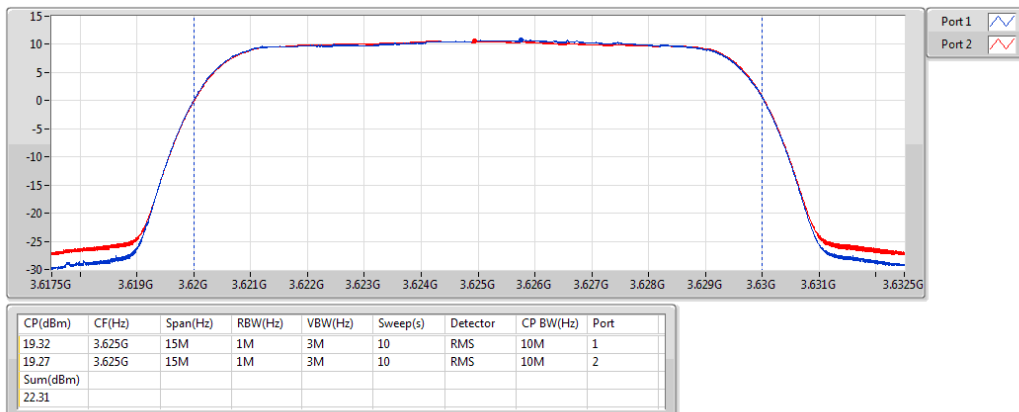
3555MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

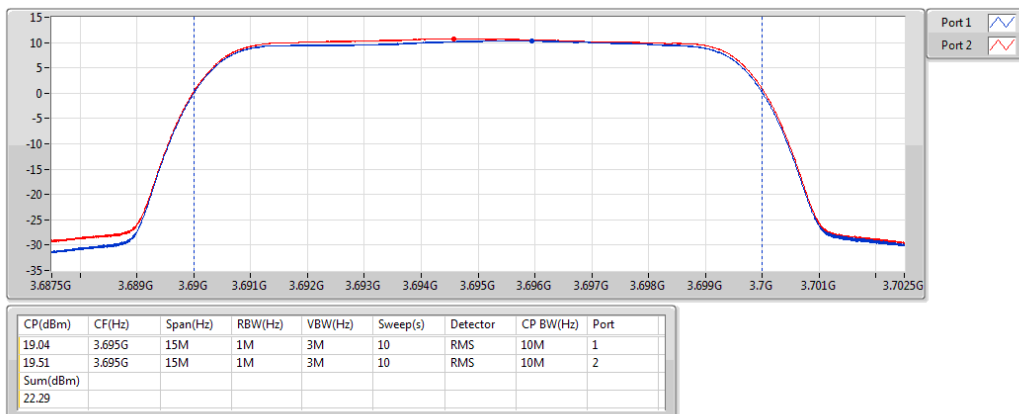
3625MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PowerAV

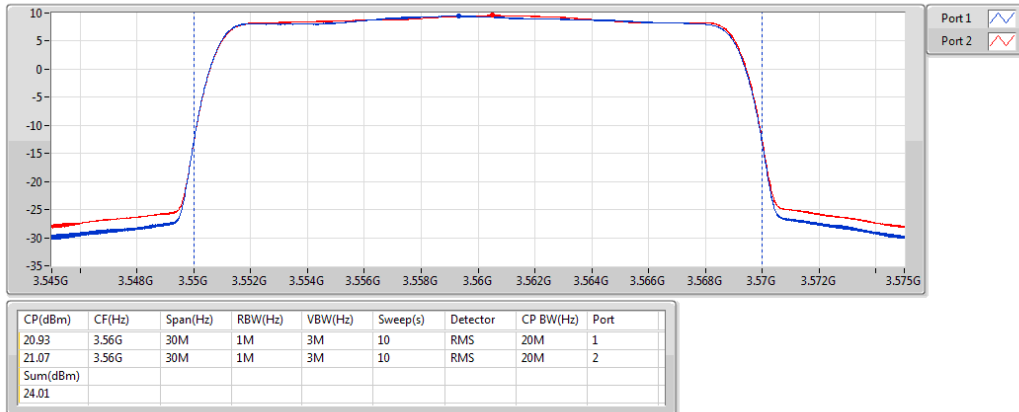
3695MHz_64QAM_RB 50,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

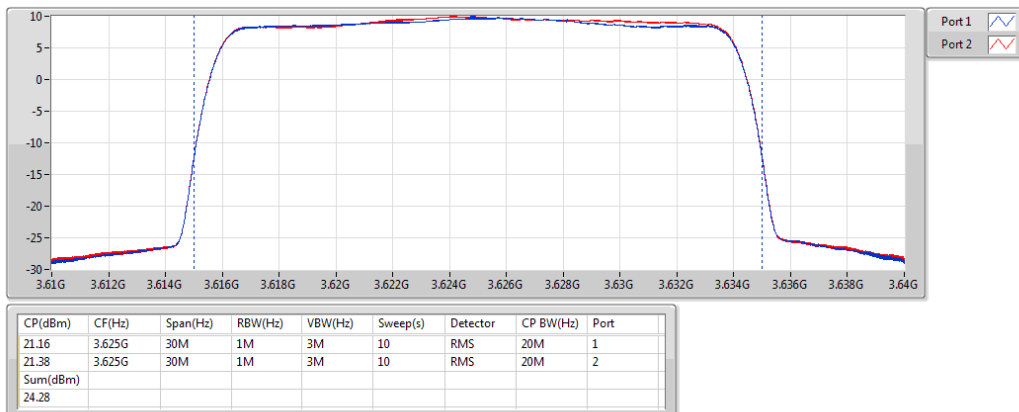
3560MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

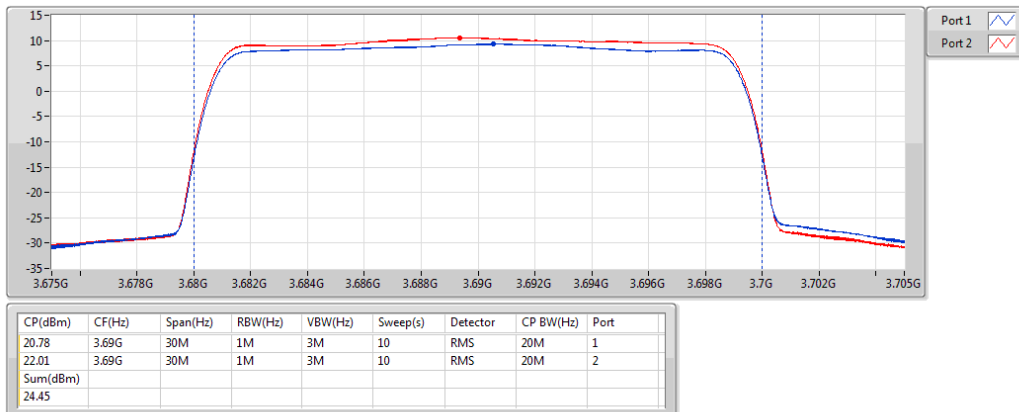
3625MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PowerAV

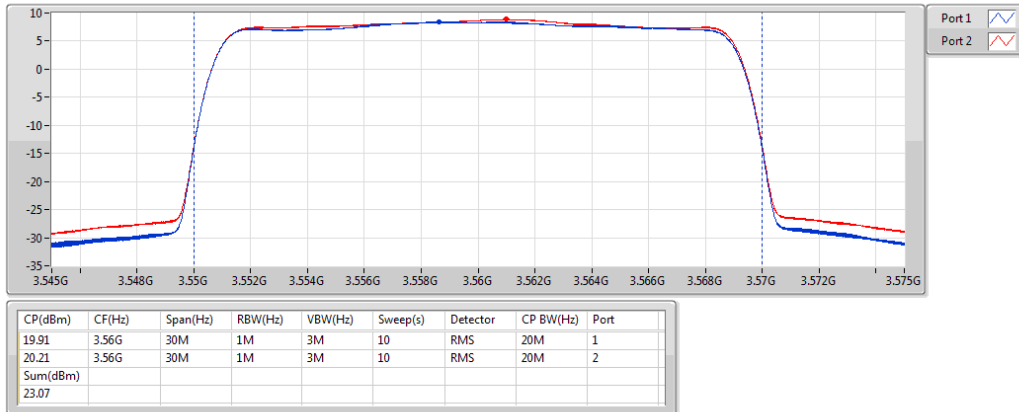
3690MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

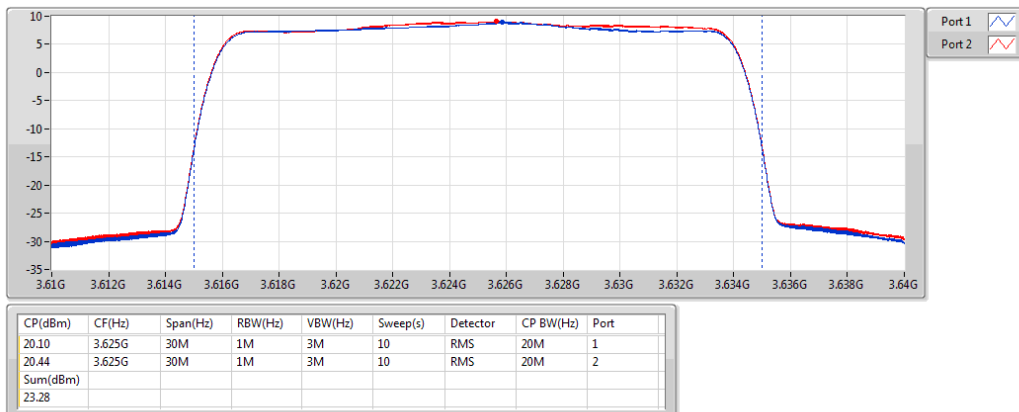
3560MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

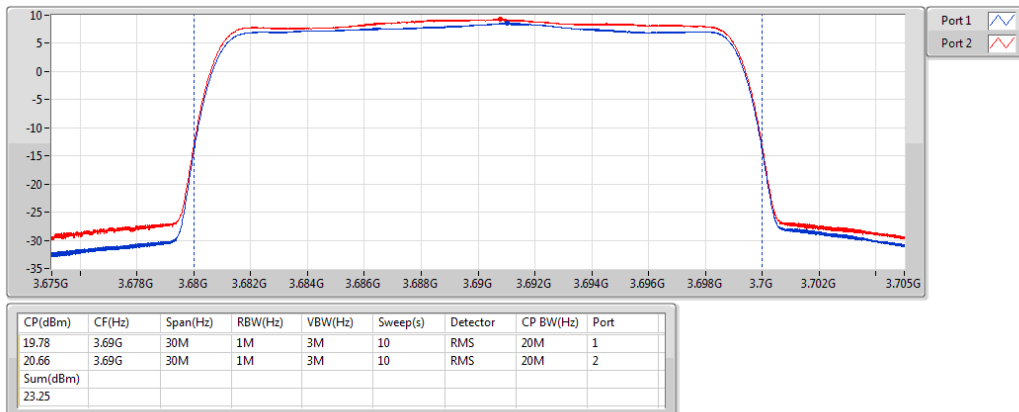
3625MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PowerAV

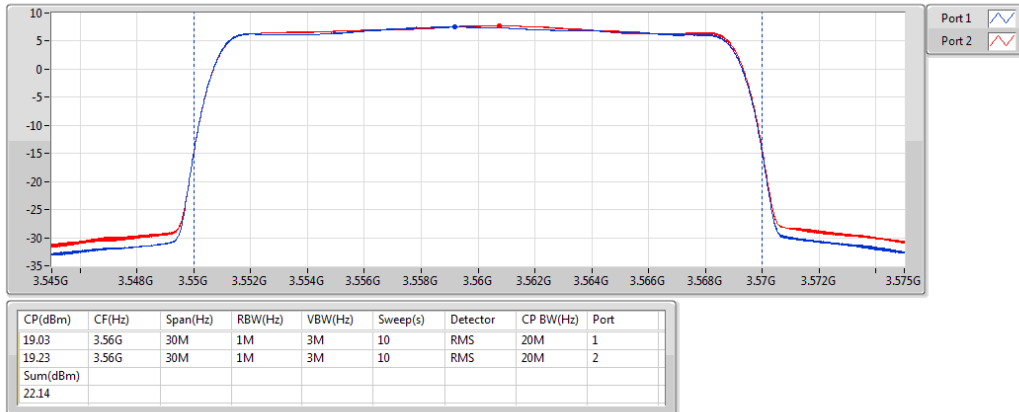
3690MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

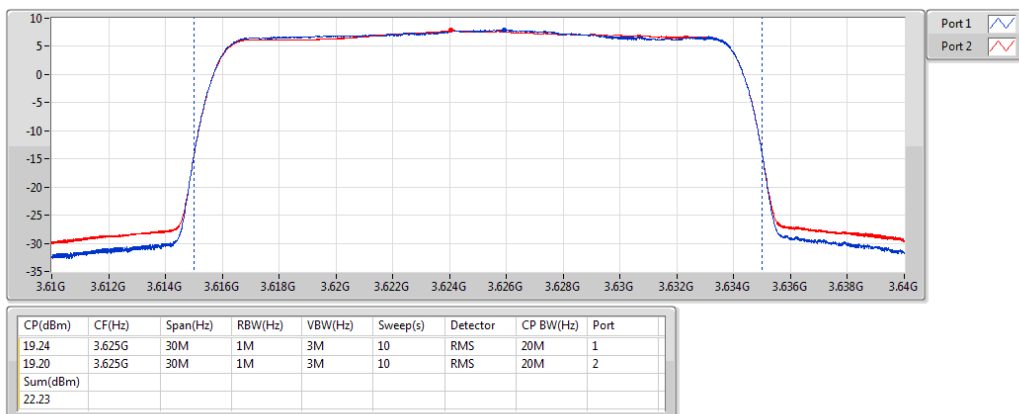
3560MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

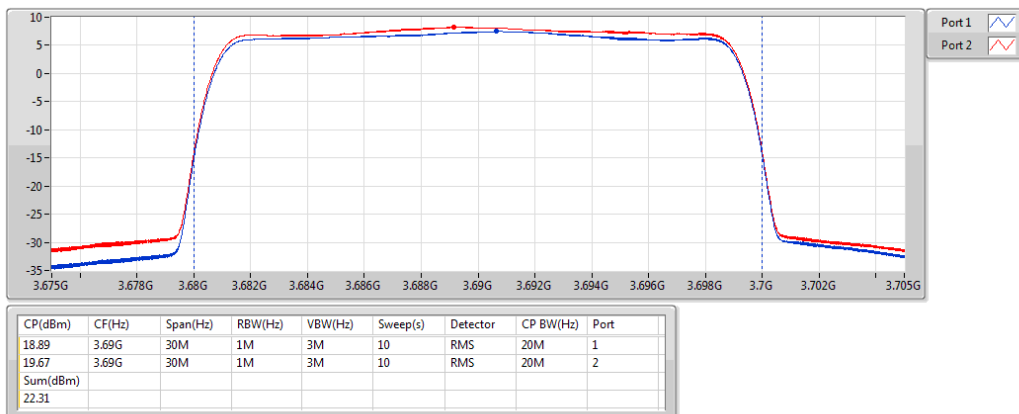
3625MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PowerAV

3690MHz_64QAM_RB 100,#RB 0



3.1.6 Test Result of PSD (CDD Mode)

Single-carrier Summary

Mode	PD (dBm/MHz)	EIRP PD (dBm/MHz)
Band 48	-	-
LTE_10MHz_Nss1,QPSK_2TX	15.64	19.64
LTE_10MHz_Nss1,16QAM_2TX	14.74	18.74
LTE_10MHz_Nss1,64QAM_2TX	13.69	17.69
LTE_20MHz_Nss1,QPSK_2TX	12.89	16.89
LTE_20MHz_Nss1,16QAM_2TX	11.87	15.87
LTE_20MHz_Nss1,64QAM_2TX	10.80	14.80

Result

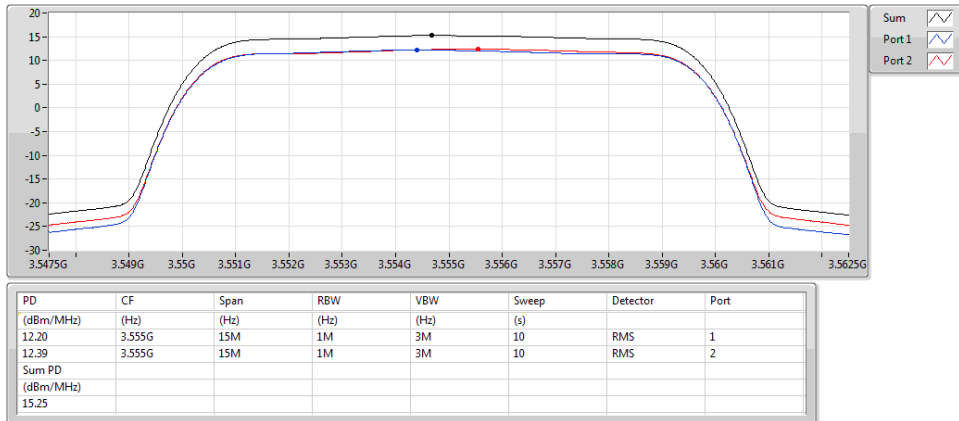
Mode	Result	DG (dBi)	PD (dBm/MHz)	PD Limit (dBm/MHz)	EIRP PD (dBm/MHz)	EIRP PD Limit (dBm/MHz)	Port 1 (dBm/MHz)	Port 2 (dBm/MHz)
Band 48_LTE_10MHz_Nss1_2TX	-	-	-	-	-	-	-	-
3555MHz_QPSK_RB 50,#RB 0	Pass	4.00	15.25	Inf	19.25	20.00	12.20	12.39
3625MHz_QPSK_RB 50,#RB 0	Pass	4.00	15.64	Inf	19.64	20.00	12.66	12.64
3695MHz_QPSK_RB 50,#RB 0	Pass	4.00	15.44	Inf	19.44	20.00	12.16	12.77
3555MHz_16QAM_RB 50,#RB 0	Pass	4.00	14.24	Inf	18.24	20.00	11.12	11.42
3625MHz_16QAM_RB 50,#RB 0	Pass	4.00	14.74	Inf	18.74	20.00	11.69	11.77
3695MHz_16QAM_RB 50,#RB 0	Pass	4.00	14.60	Inf	18.60	20.00	11.32	11.91
3555MHz_64QAM_RB 50,#RB 0	Pass	4.00	13.29	Inf	17.29	20.00	10.18	10.44
3625MHz_64QAM_RB 50,#RB 0	Pass	4.00	13.69	Inf	17.69	20.00	10.85	10.57
3695MHz_64QAM_RB 50,#RB 0	Pass	4.00	13.63	Inf	17.63	20.00	10.39	10.91
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	4.00	12.49	Inf	16.49	20.00	9.50	9.61
3625MHz_QPSK_RB 100,#RB 0	Pass	4.00	12.88	Inf	16.88	20.00	9.81	10.08
3690MHz_QPSK_RB 100,#RB 0	Pass	4.00	12.89	Inf	16.89	20.00	9.39	10.45
3560MHz_16QAM_RB 100,#RB 0	Pass	4.00	11.60	Inf	15.60	20.00	8.56	8.64
3625MHz_16QAM_RB 100,#RB 0	Pass	4.00	11.87	Inf	15.87	20.00	8.63	9.10
3690MHz_16QAM_RB 100,#RB 0	Pass	4.00	11.78	Inf	15.78	20.00	8.29	9.23
3560MHz_64QAM_RB 100,#RB 0	Pass	4.00	10.63	Inf	14.63	20.00	7.59	7.77
3625MHz_64QAM_RB 100,#RB 0	Pass	4.00	10.78	Inf	14.78	20.00	7.82	7.82
3690MHz_64QAM_RB 100,#RB 0	Pass	4.00	10.80	Inf	14.80	20.00	7.47	8.26

DG = Directional Gain;

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

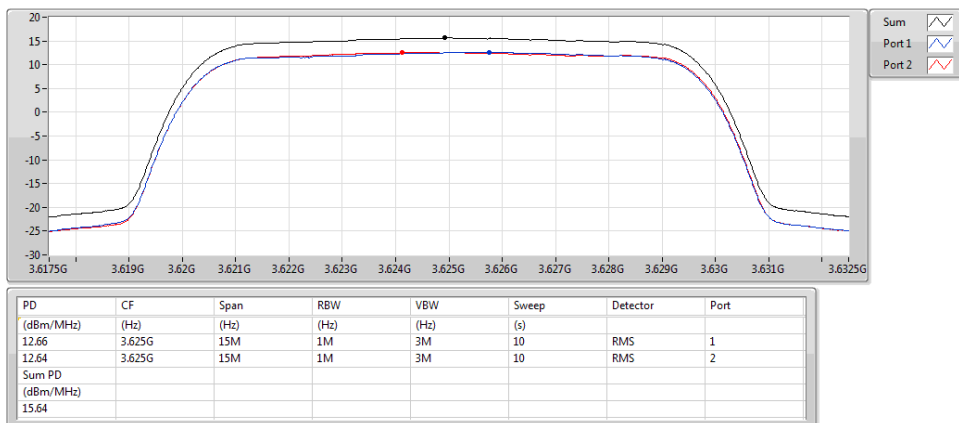
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3555MHz_QPSK_RB 50,#RB 0

PSD



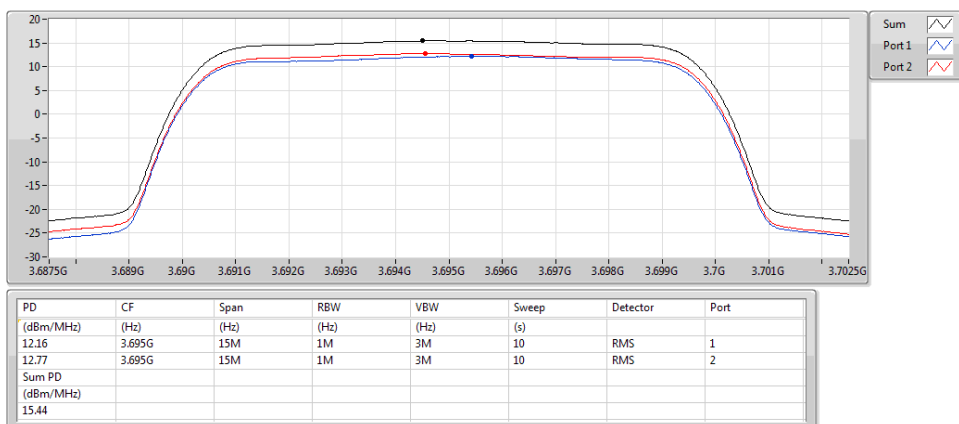
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 50,#RB 0

PSD



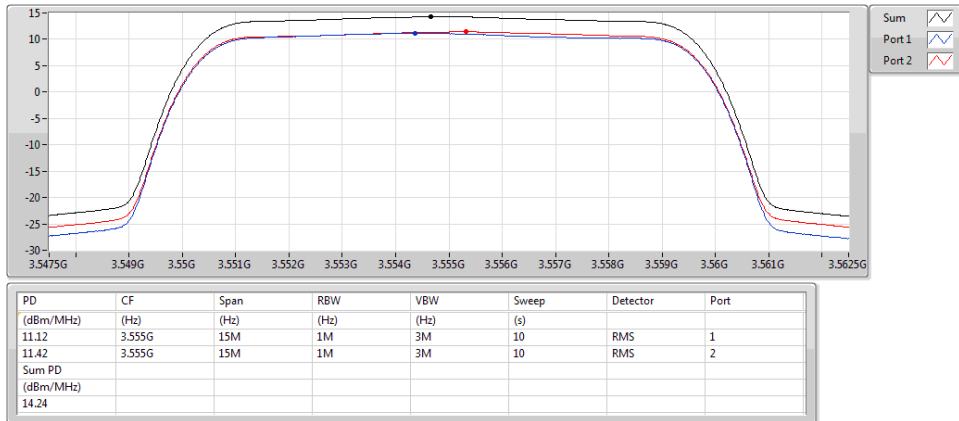
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3695MHz_QPSK_RB 50,#RB 0

PSD



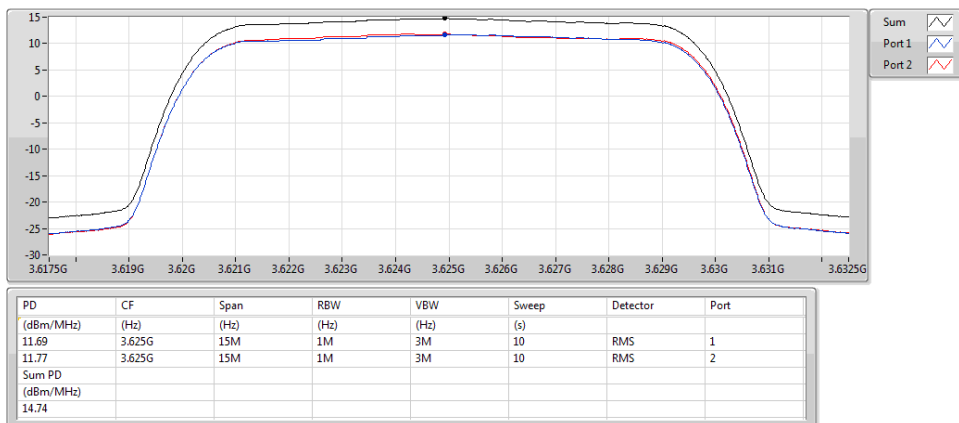
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

PSD



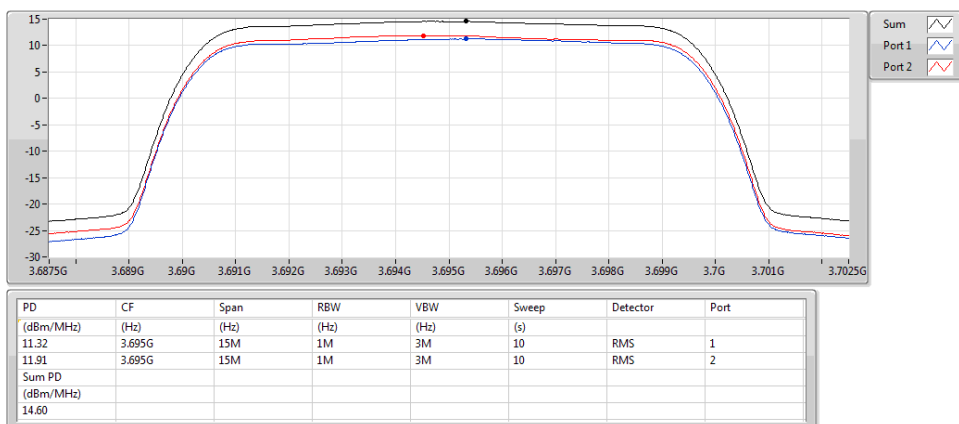
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

PSD



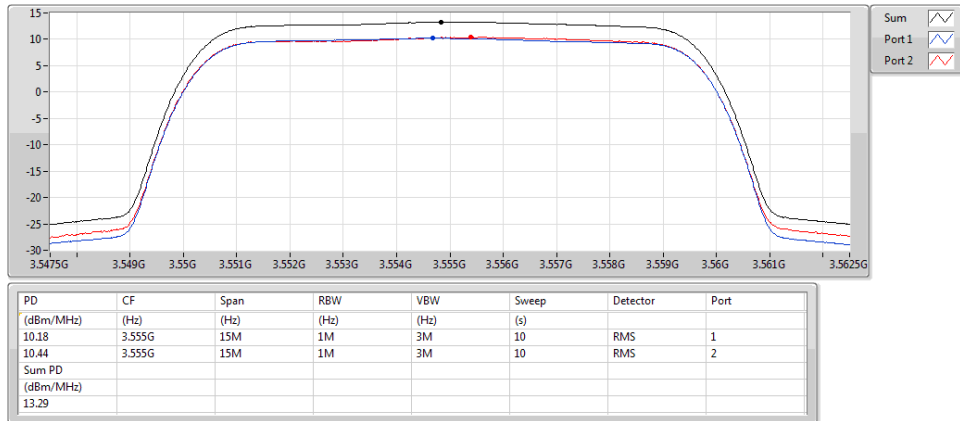
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

PSD



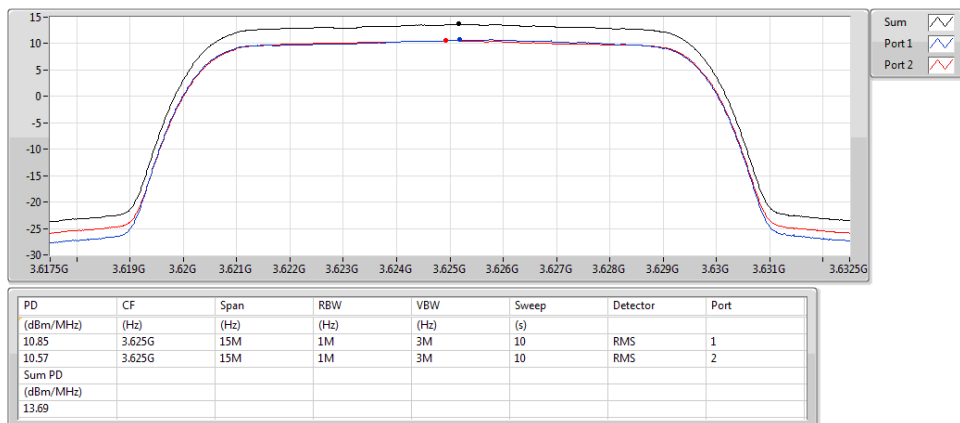
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

PSD



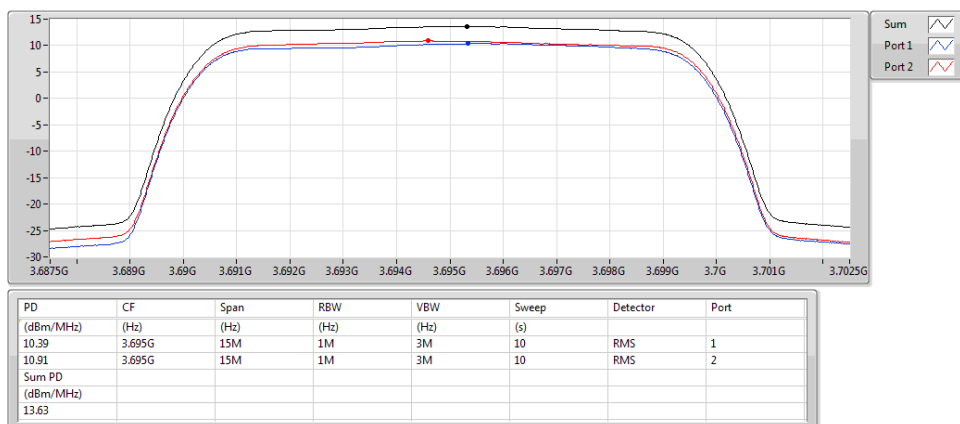
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

PSD



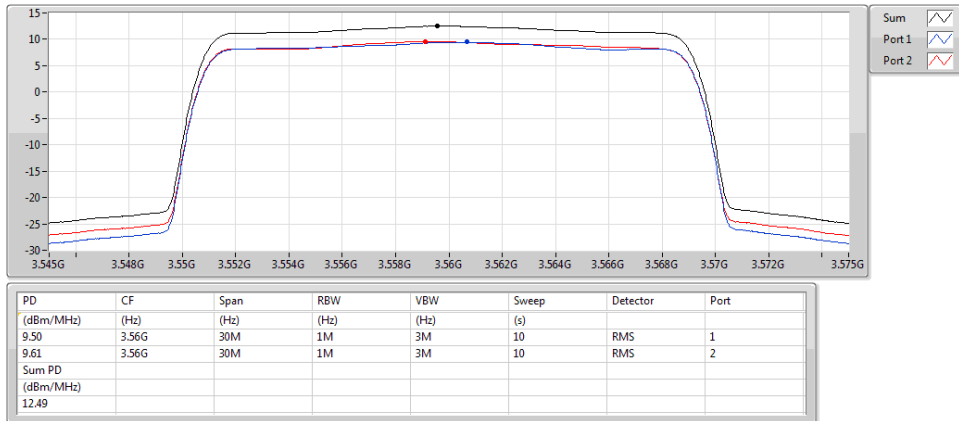
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

PSD



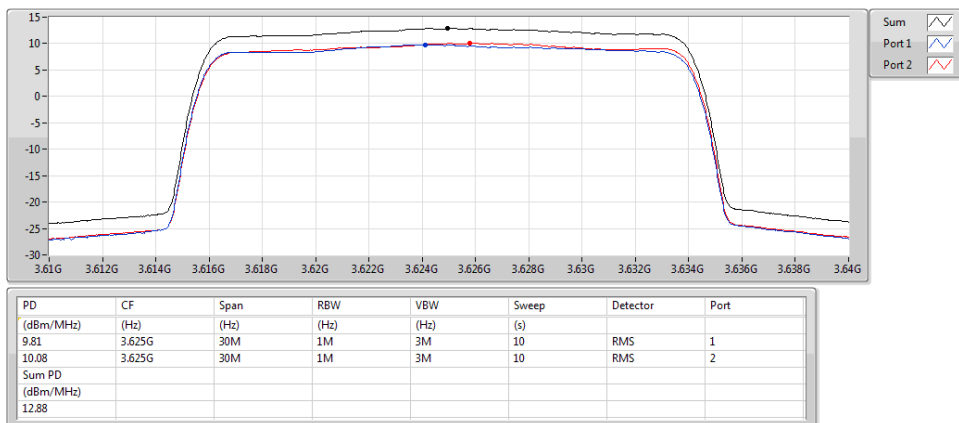
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3560MHz_QPSK_RB 100,#RB 0

PSD



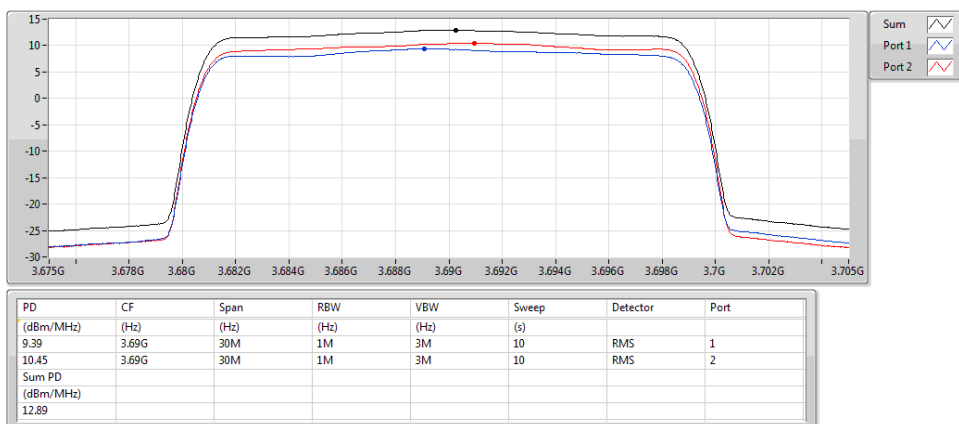
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 100,#RB 0

PSD



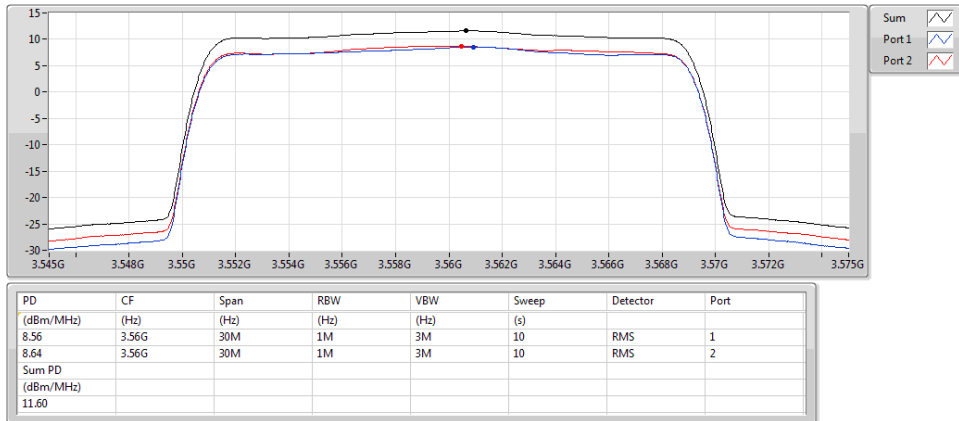
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3690MHz_QPSK_RB 100,#RB 0

PSD



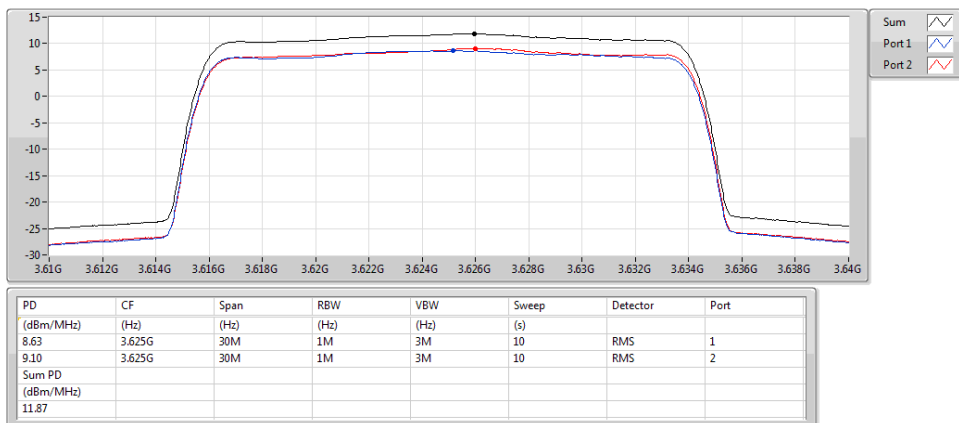
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3560MHz_16QAM_RB 100,#RB 0

PSD



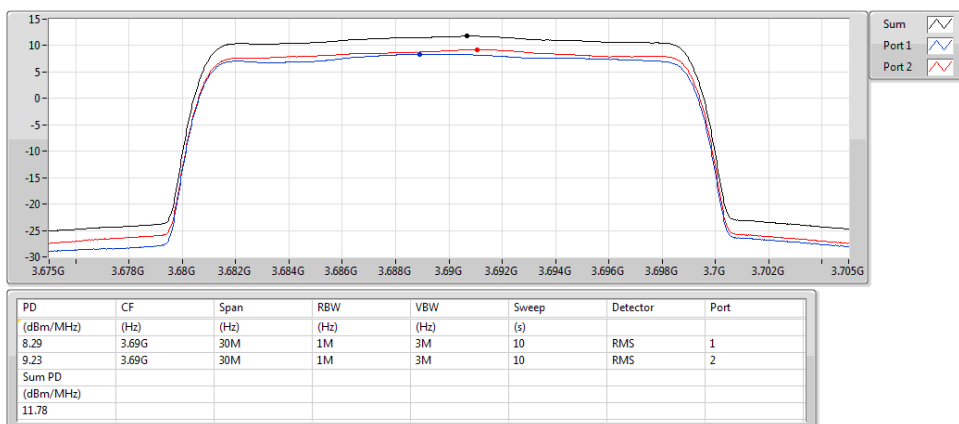
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 100,#RB 0

PSD



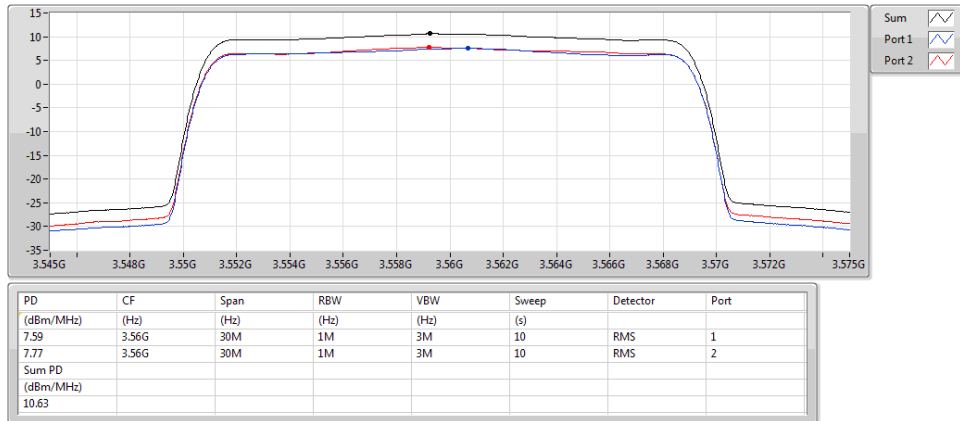
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3690MHz_16QAM_RB 100,#RB 0

PSD



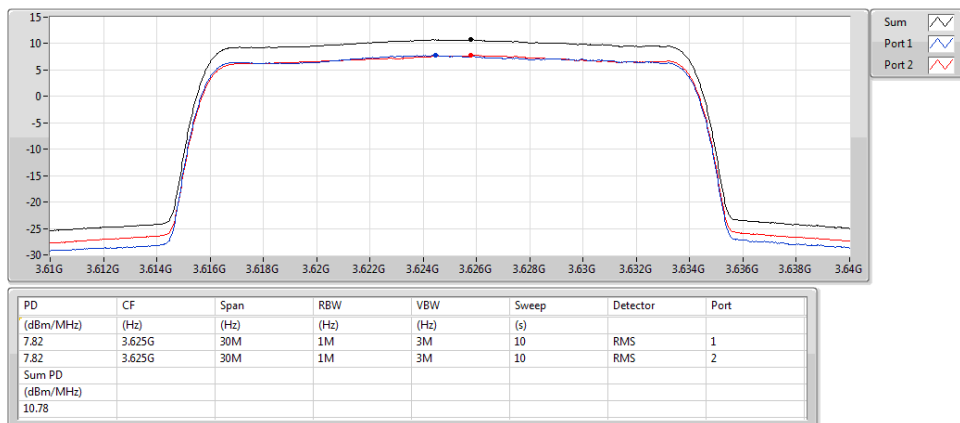
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3560MHz_64QAM_RB 100,#RB 0

PSD



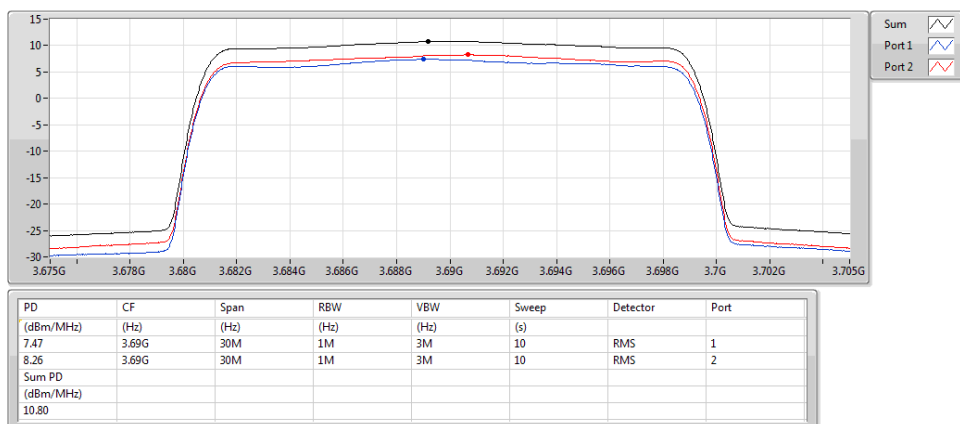
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 100,#RB 0

PSD



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

PSD



3.1.7 Test Result of EIRP (CA Mode)

Multi-carrier / Power @10MHz Result

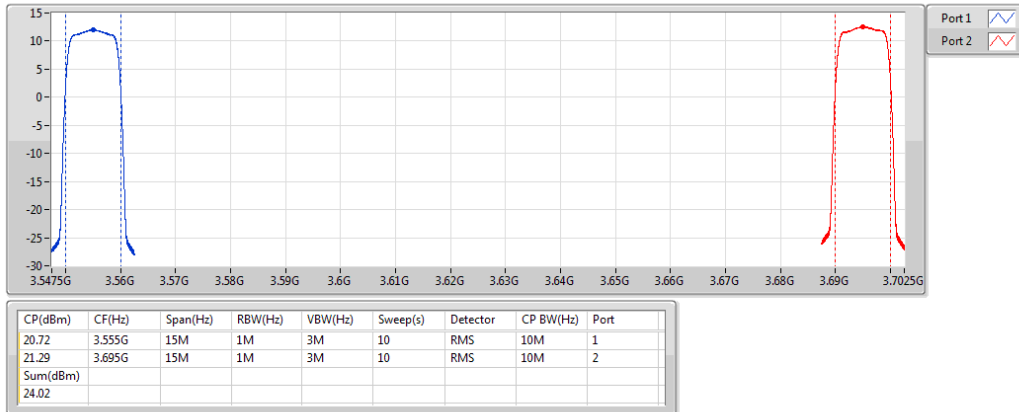
Mode	Result	DG (dBi)	1Carrier Port 1 (dBm/10MHz)	2Carrier Port 2 (dBm/10MHz)	Max Power (dBm/10MHz)	Max EIRP (dBm/10MHz)	EIRP Lim. (dBm/10MHz)
Band 48_LTE_10MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	20.72	21.29	21.29	25.29	30
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	20.73	21.30	21.30	25.30	30
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	20.75	21.28	21.28	25.28	30
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	20.88	19.86	20.88	24.88	30
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	20.96	19.78	20.96	24.96	30
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	20.79	19.82	20.79	24.79	30
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	18.61	21.30	21.30	25.30	30
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	18.71	21.39	21.39	25.39	30
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	18.73	21.31	21.31	25.31	30
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	18.70	19.76	19.76	23.76	30
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	18.60	19.77	19.77	23.77	30
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	18.71	19.75	19.75	23.75	30

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

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

PowerAV

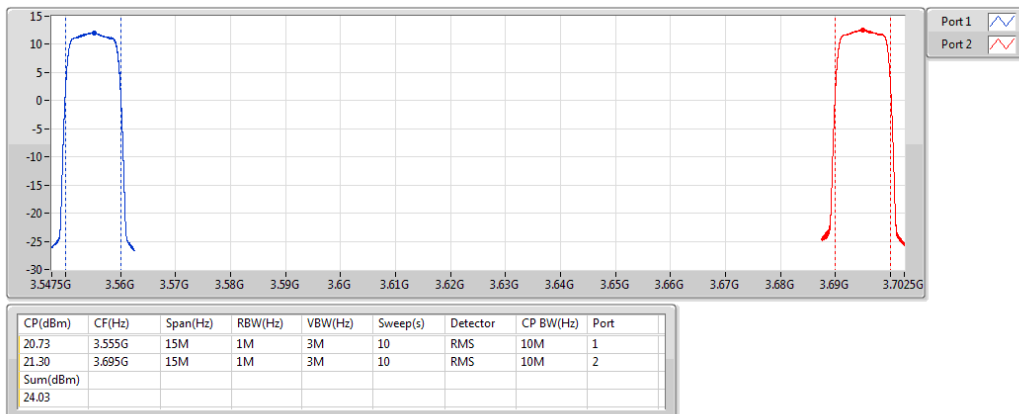
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

PowerAV

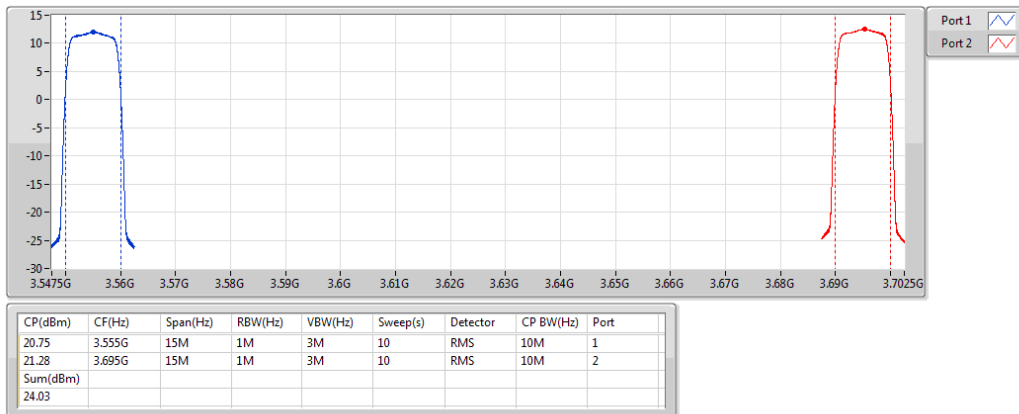
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

PowerAV

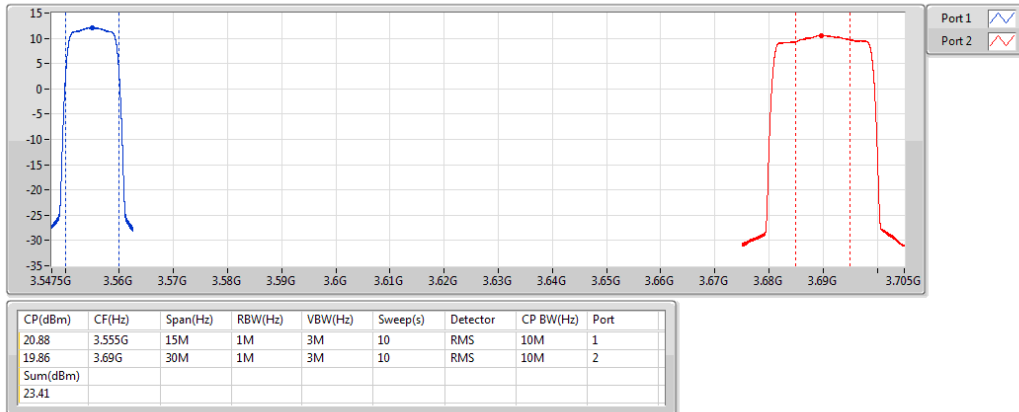
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

PowerAV

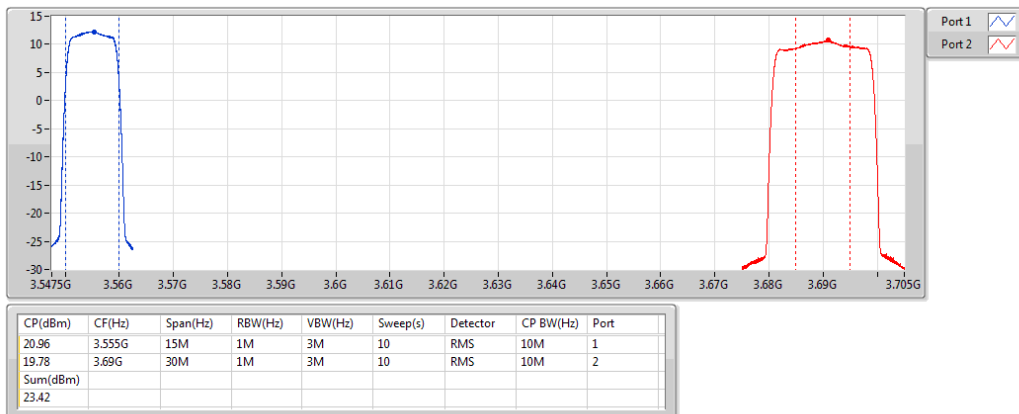
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

PowerAV

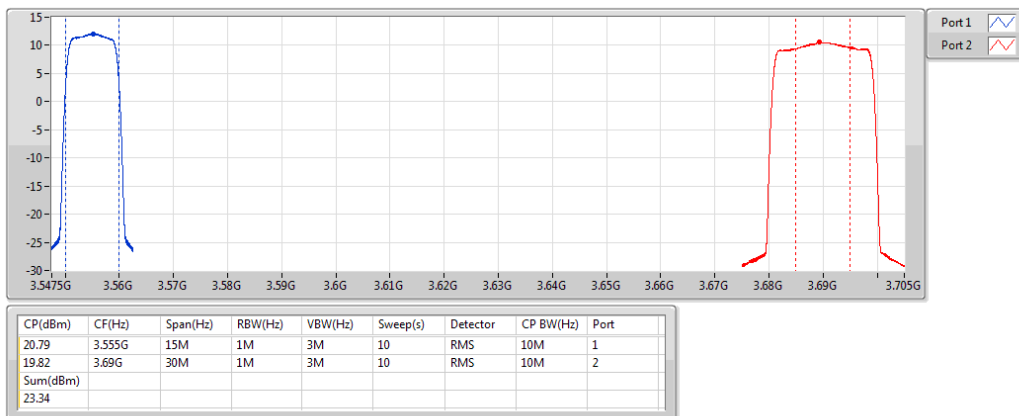
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

PowerAV

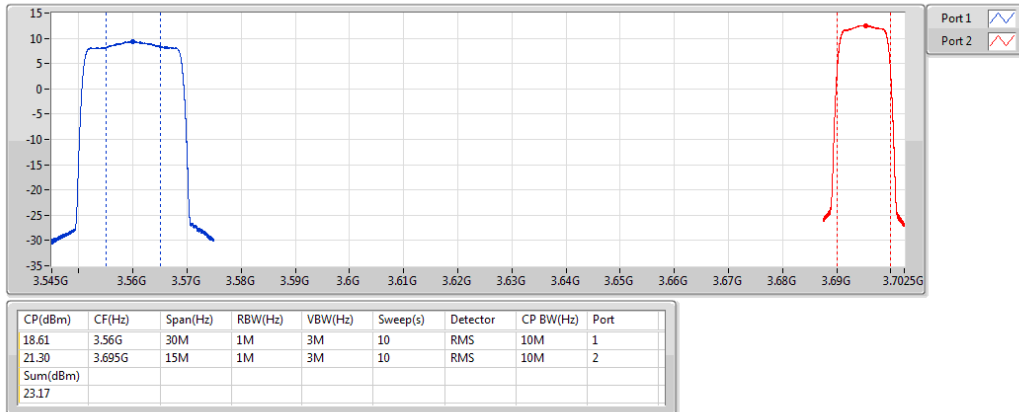
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

PowerAV

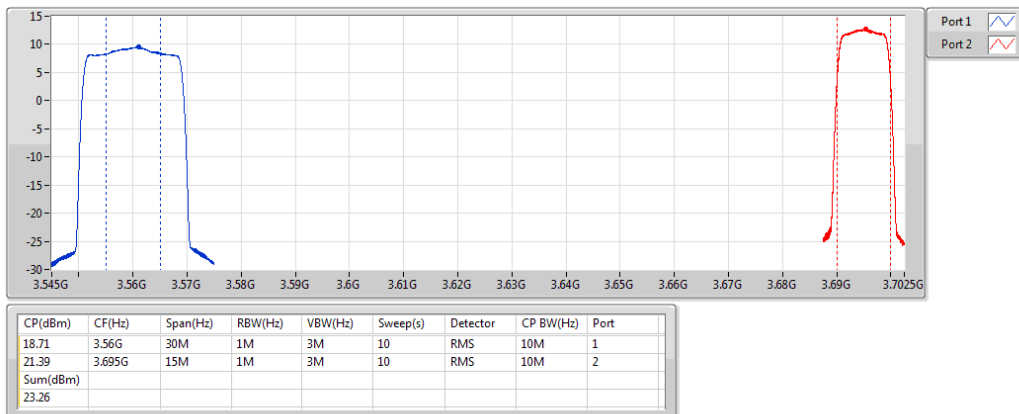
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

PowerAV

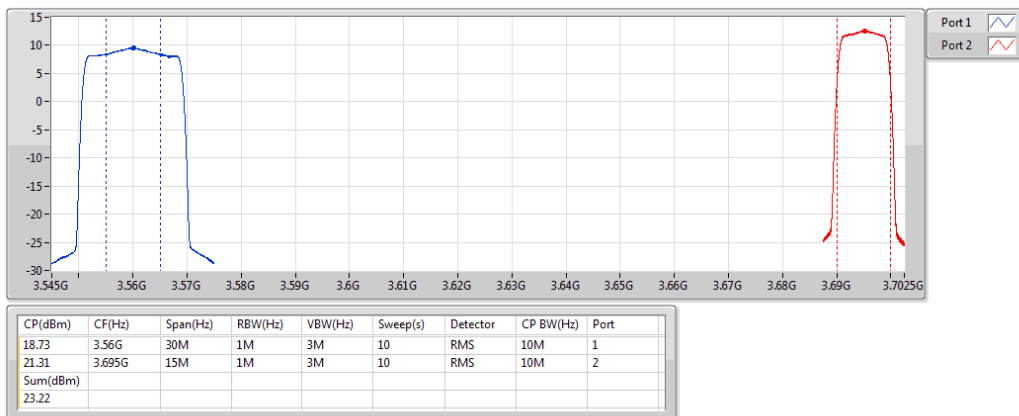
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

PowerAV

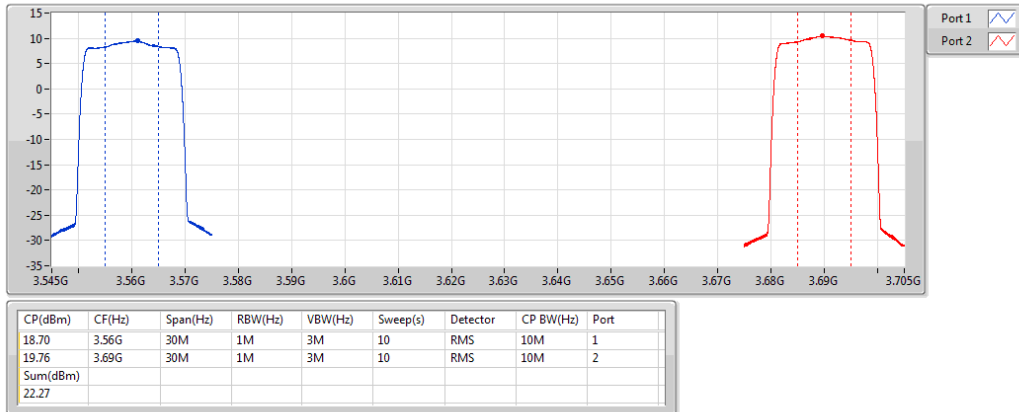
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

PowerAV

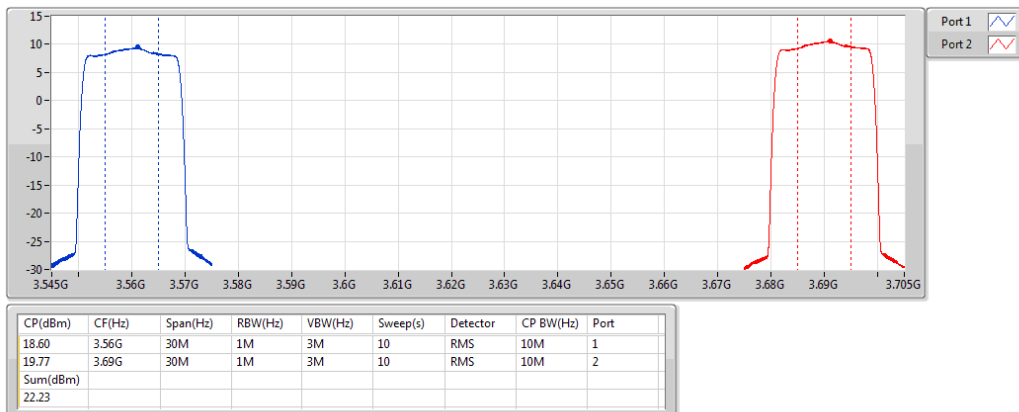
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

PowerAV

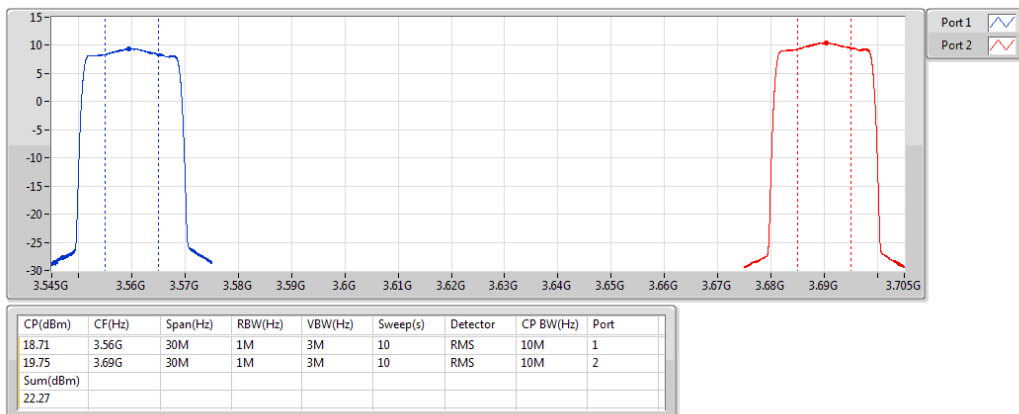
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



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)	1Carrier Port 1 (dBm)	2Carrier 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	28.02	0.634	Inf	24.02	0.252	Inf	20.72	21.29
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	28.03	0.635	Inf	24.03	0.253	Inf	20.73	21.30
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	28.03	0.635	Inf	24.03	0.253	Inf	20.75	21.28
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	28.41	0.693	Inf	24.41	0.276	Inf	20.78	21.95
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	28.37	0.687	Inf	24.37	0.274	Inf	20.75	21.90
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	28.36	0.685	Inf	24.36	0.273	Inf	20.73	21.90
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	28.09	0.644	Inf	24.09	0.256	Inf	20.86	21.29
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	28.04	0.637	Inf	24.04	0.254	Inf	20.79	21.25
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	28.04	0.637	Inf	24.04	0.254	Inf	20.80	21.25
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	28.40	0.692	Inf	24.40	0.275	Inf	20.87	21.85
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	28.40	0.692	Inf	24.40	0.275	Inf	20.87	21.85
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	28.39	0.690	Inf	24.39	0.275	Inf	20.86	21.85

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

Note:

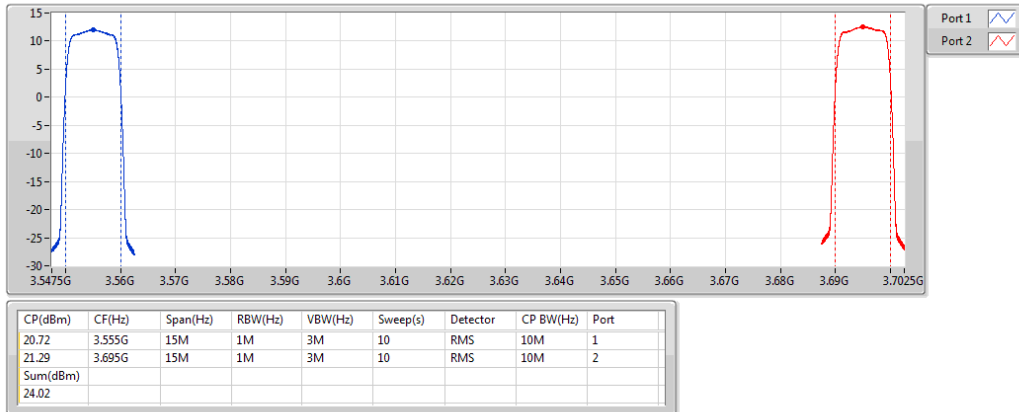
10MHz BW used dBm/10MHz measurement

20MHz BW used dBm/20MHz measurement

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

PowerAV

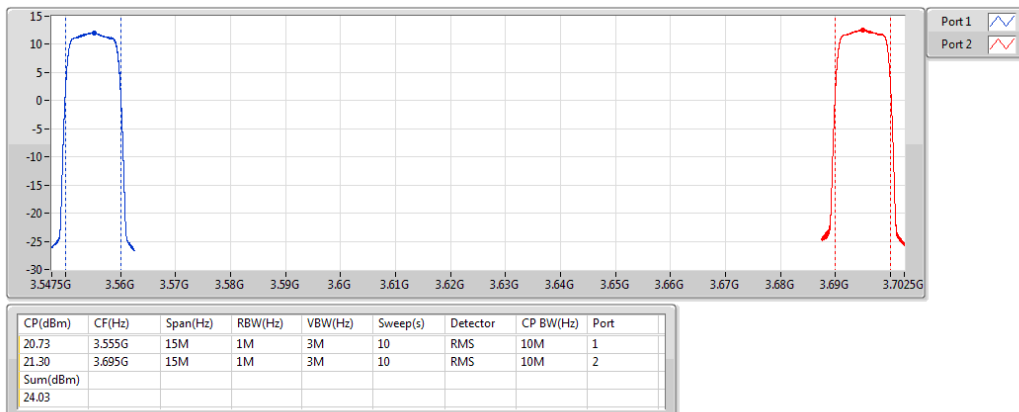
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

PowerAV

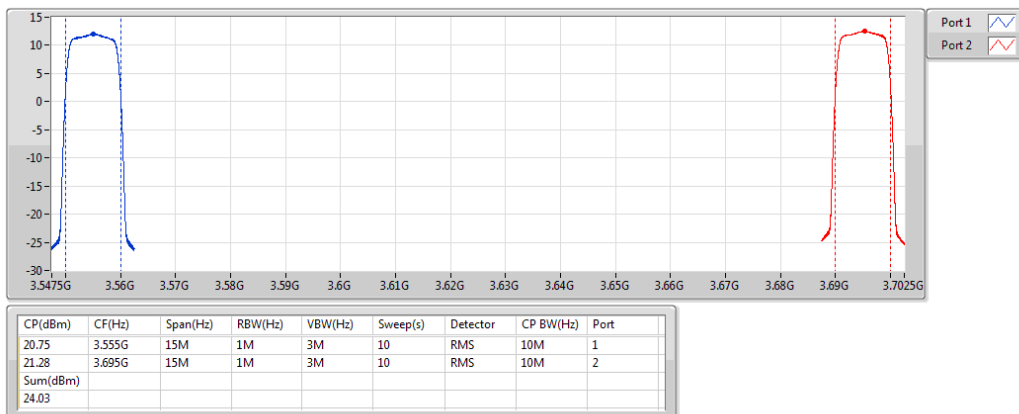
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

PowerAV

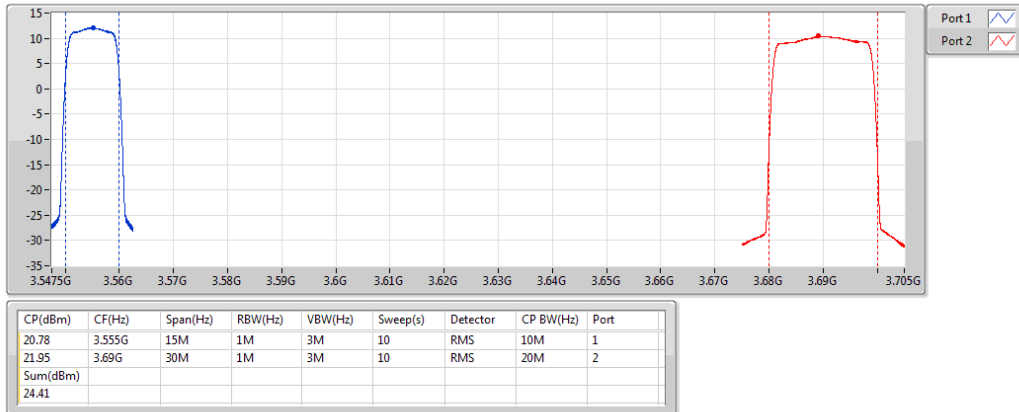
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

PowerAV

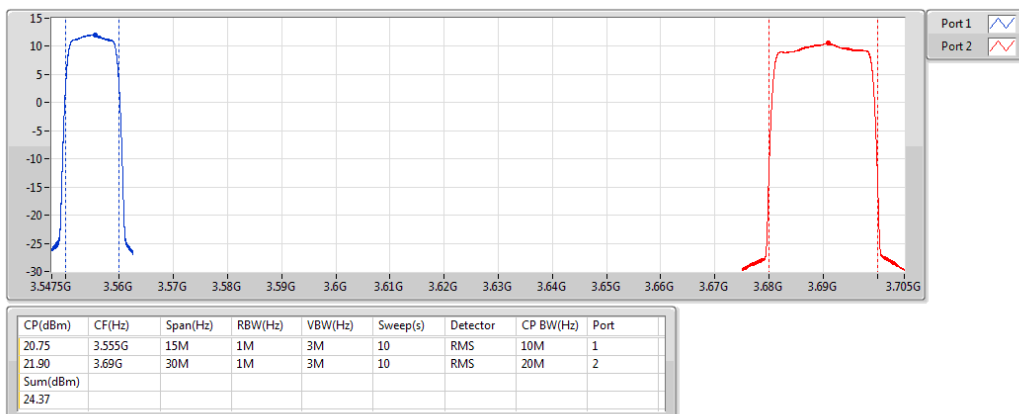
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

PowerAV

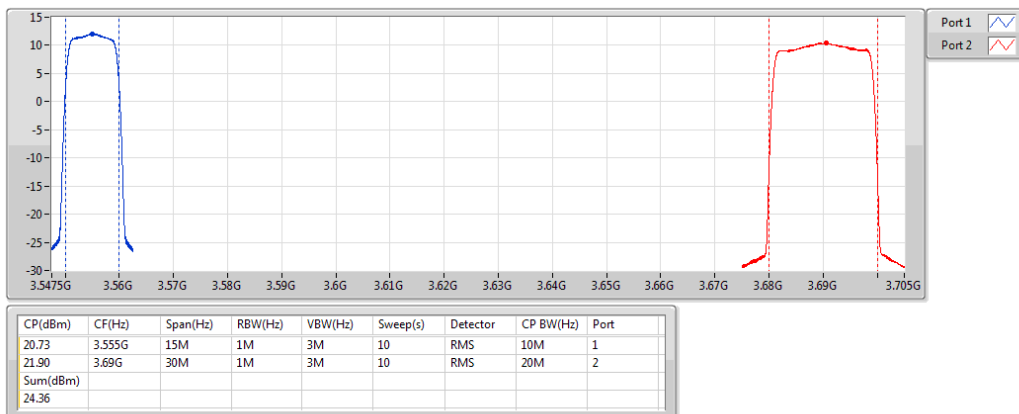
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

PowerAV

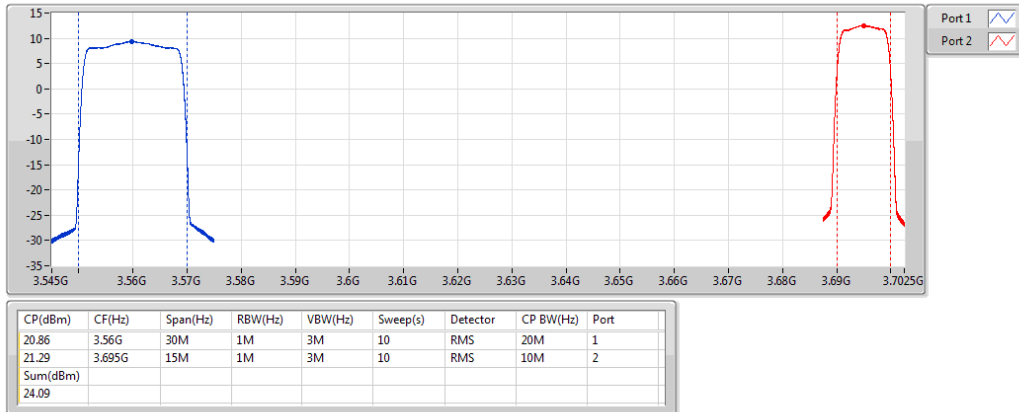
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

PowerAV

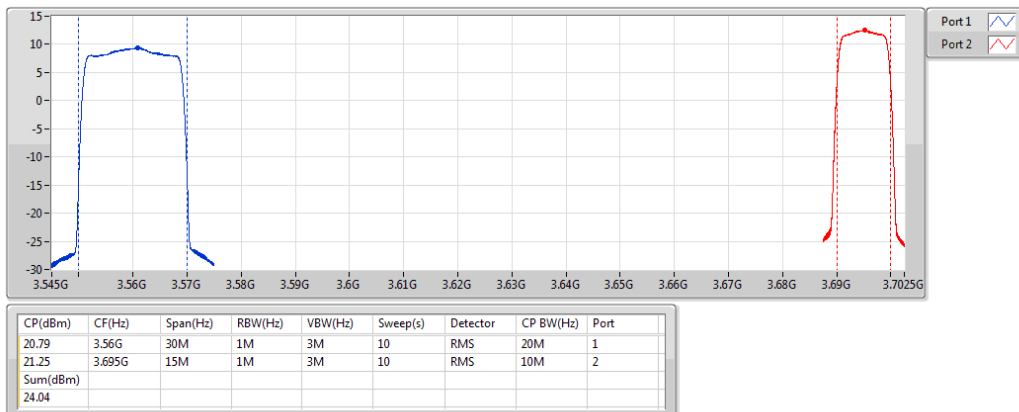
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

PowerAV

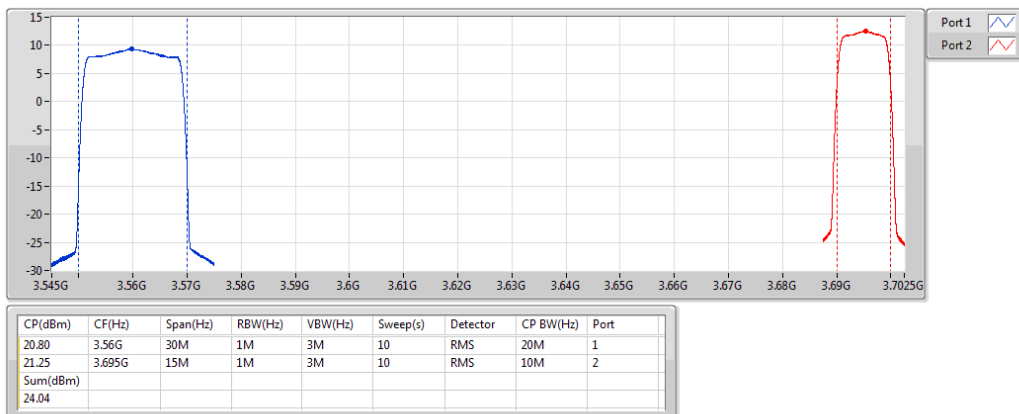
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

PowerAV

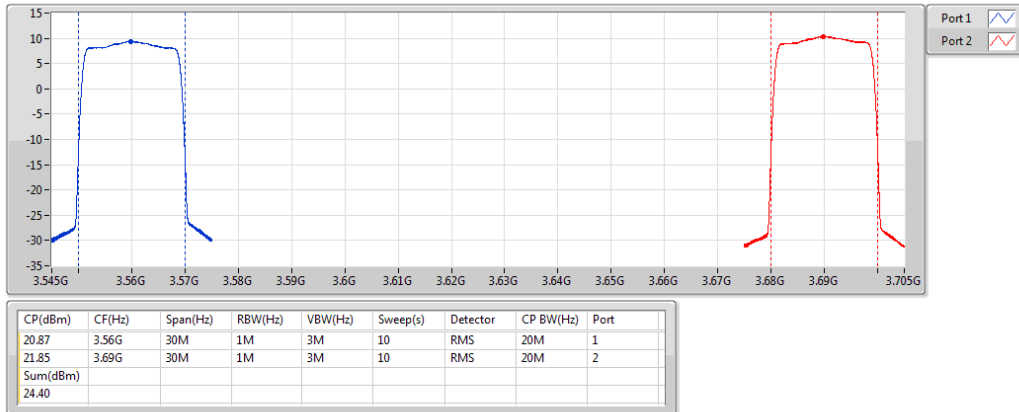
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

PowerAV

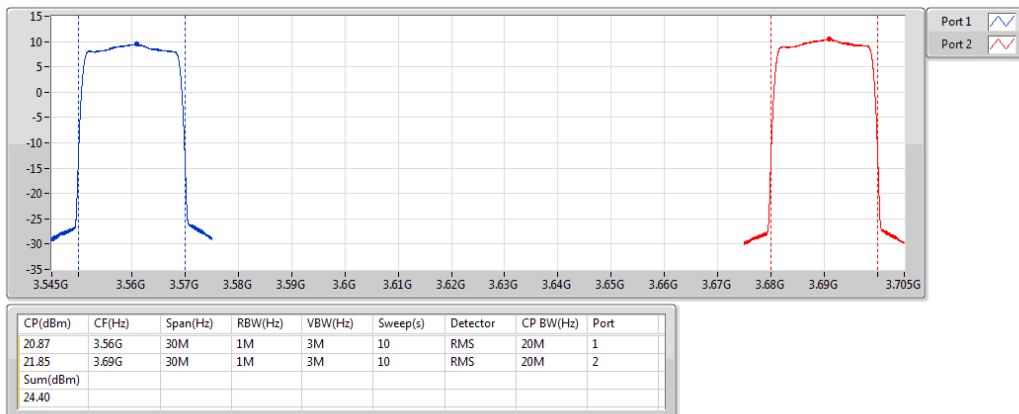
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

PowerAV

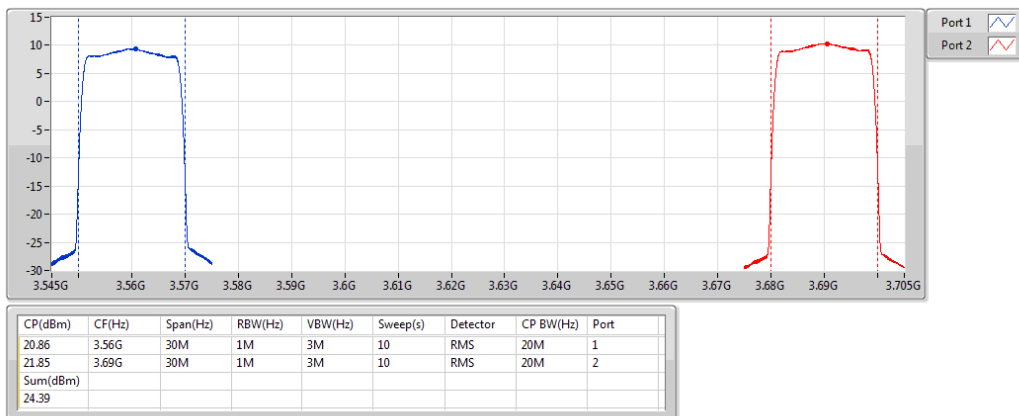
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

PowerAV

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



3.1.8 Test Result of PSD (CA Mode)

Multi-carrier Summary

Mode	PD (dBm/MHz)	EIRP PD (dBm/MHz)
Band 48	-	-
LTE_10MHz+10MHz_Nss1,QPSK_2TX	12.55	16.55
LTE_10MHz+10MHz_Nss1,16QAM_2TX	12.60	16.60
LTE_10MHz+10MHz_Nss1,64QAM_2TX	12.55	16.55
LTE_10MHz+20MHz_Nss1,QPSK_2TX	12.12	16.12
LTE_10MHz+20MHz_Nss1,16QAM_2TX	12.28	16.28
LTE_10MHz+20MHz_Nss1,64QAM_2TX	12.11	16.11
LTE_20MHz+10MHz_Nss1,QPSK_2TX	12.60	16.60
LTE_20MHz+10MHz_Nss1,16QAM_2TX	12.72	16.72
LTE_20MHz+10MHz_Nss1,64QAM_2TX	12.70	16.70
LTE_20MHz+20MHz_Nss1,QPSK_2TX	10.47	14.47
LTE_20MHz+20MHz_Nss1,16QAM_2TX	10.60	14.60
LTE_20MHz+20MHz_Nss1,64QAM_2TX	10.50	14.50

Result

Mode	Result	DG (dBi)	PD (dBm/MHz)	PD Limit (dBm/MHz)	EIRP PD (dBm/MHz)	EIRP PD Limit (dBm/MHz)	1Carrier Port 1 (dBm/MHz)	2Carrier Port 2 (dBm/MHz)
Band 48_LTE_10MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	12.55	Inf	16.55	20.00	12.00	12.55
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	12.60	Inf	16.60	20.00	12.05	12.60
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	4.00	12.55	Inf	16.55	20.00	12.05	12.55
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	12.12	Inf	16.12	20.00	12.12	10.58
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	12.28	Inf	16.28	20.00	12.28	10.76
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	4.00	12.11	Inf	16.11	20.00	12.11	10.58
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	12.60	Inf	16.60	20.00	9.46	12.60
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	12.72	Inf	16.72	20.00	9.51	12.72
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	4.00	12.70	Inf	16.70	20.00	9.49	12.70
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	10.47	Inf	14.47	20.00	9.57	10.47
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	10.60	Inf	14.60	20.00	9.46	10.60
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	4.00	10.50	Inf	14.50	20.00	9.55	10.50

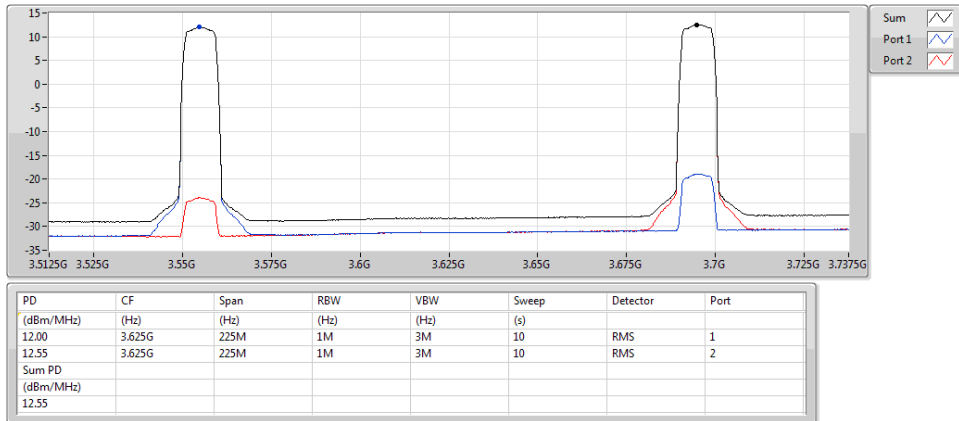
DG = Directional Gain;

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

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

PSD

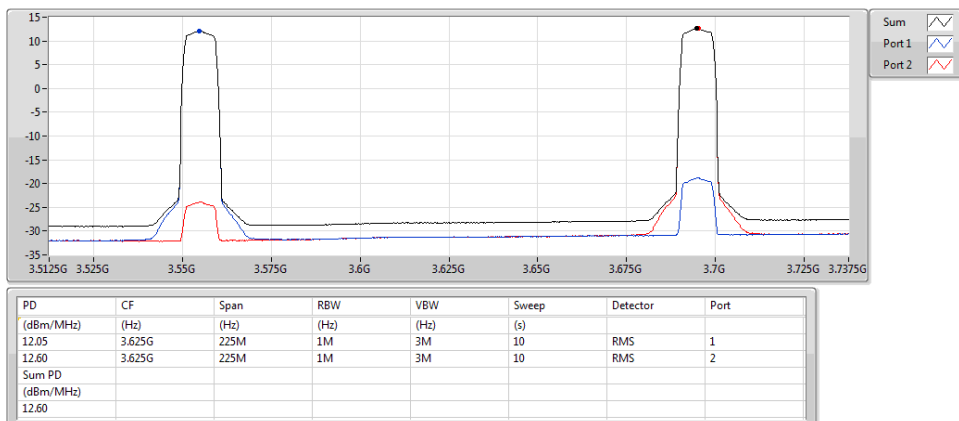
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

PSD

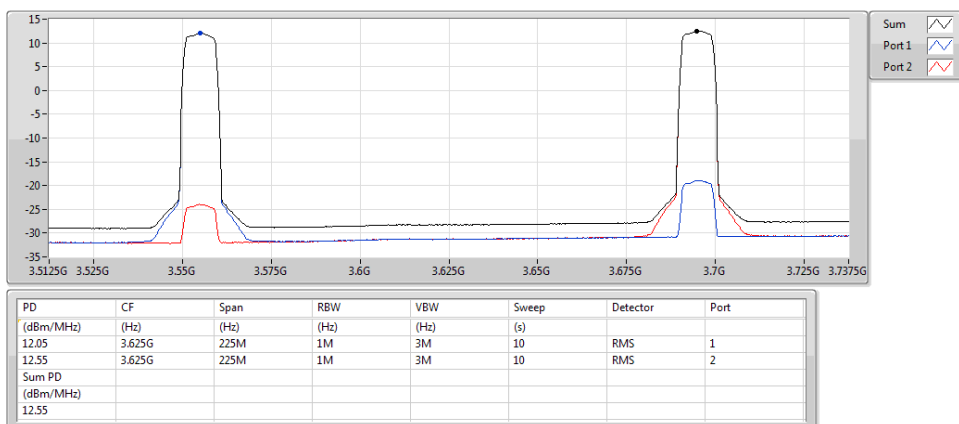
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

PSD

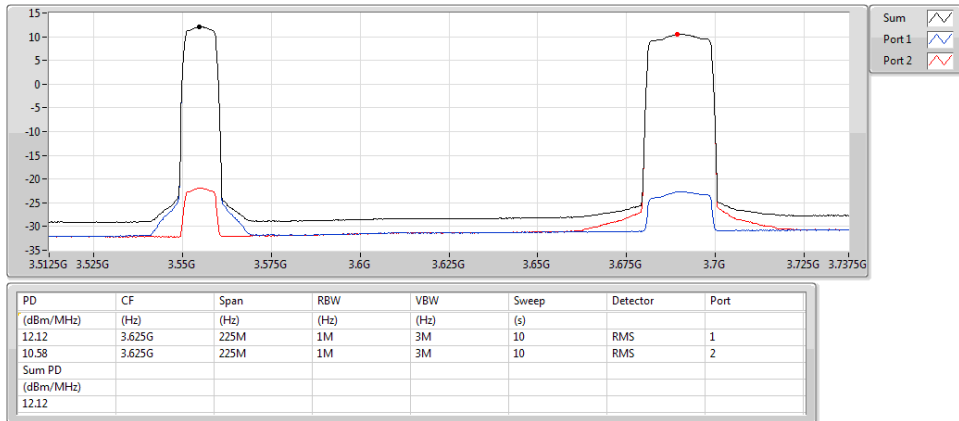
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

PSD

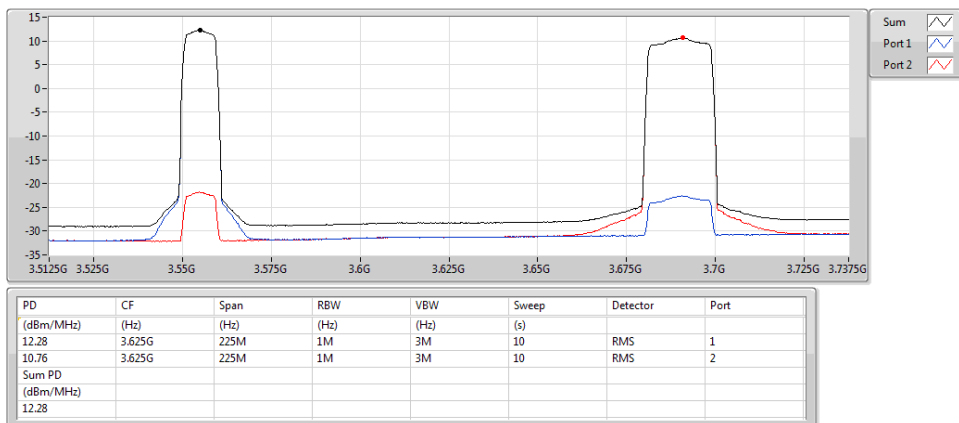
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

PSD

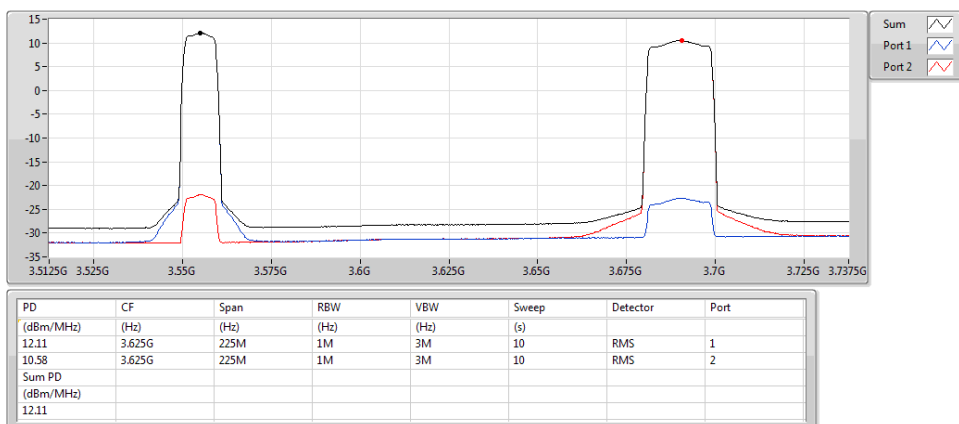
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

PSD

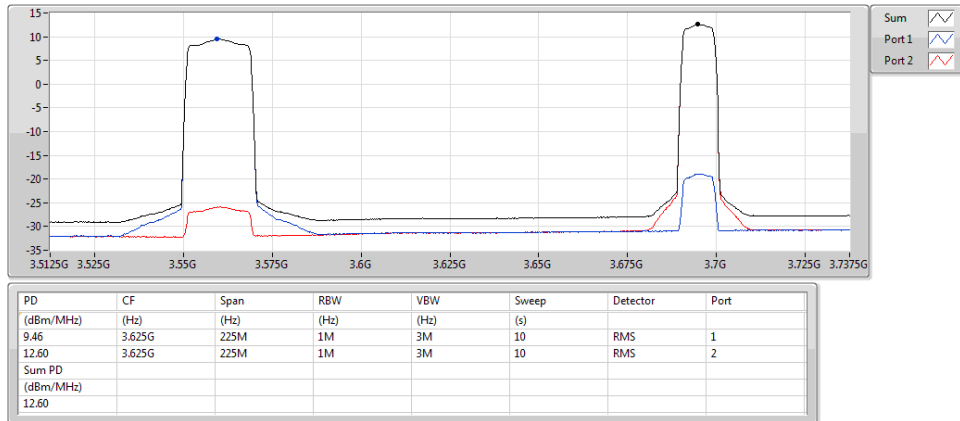
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

PSD

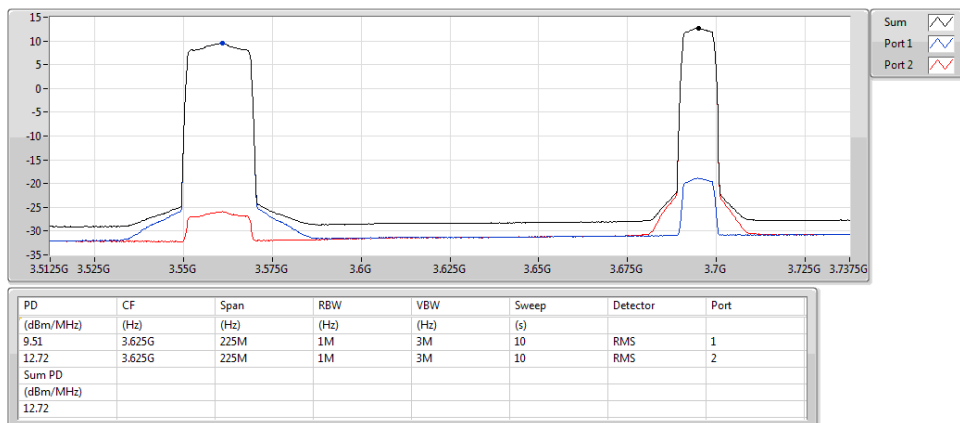
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

PSD

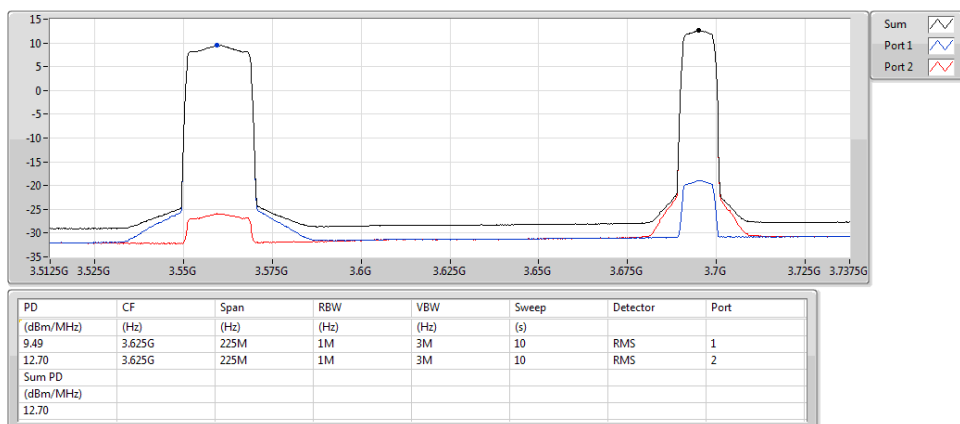
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

PSD

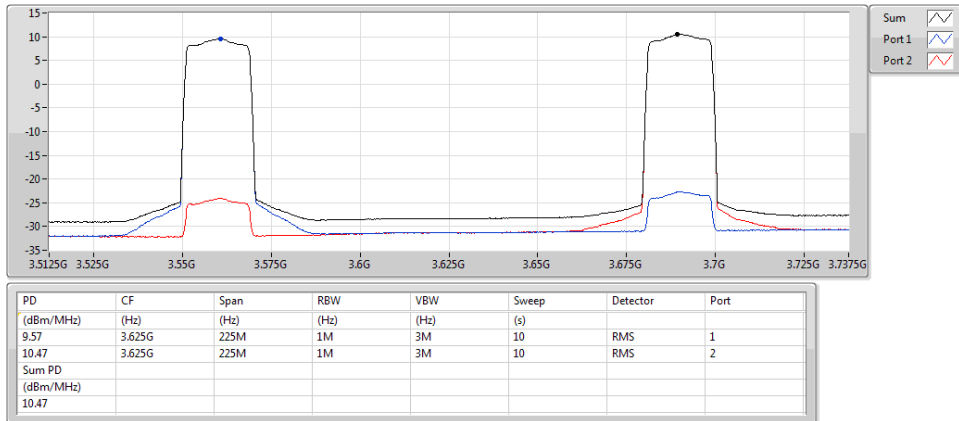
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

PSD

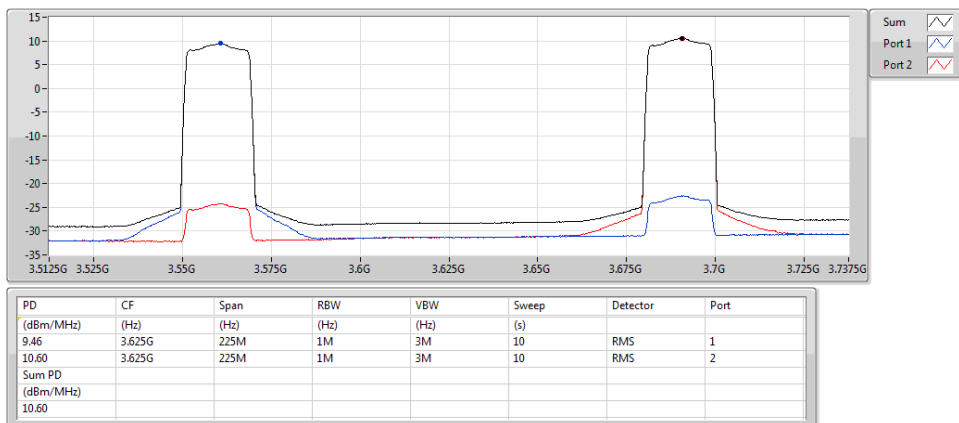
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

PSD

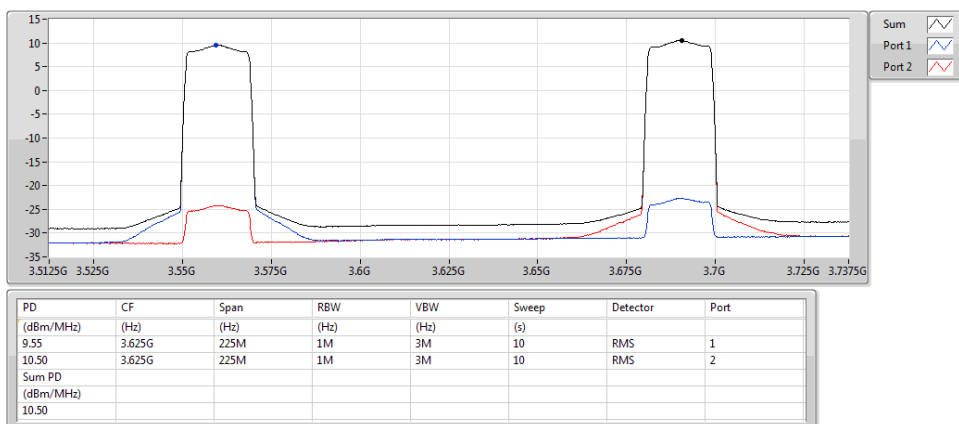
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

PSD

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



3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

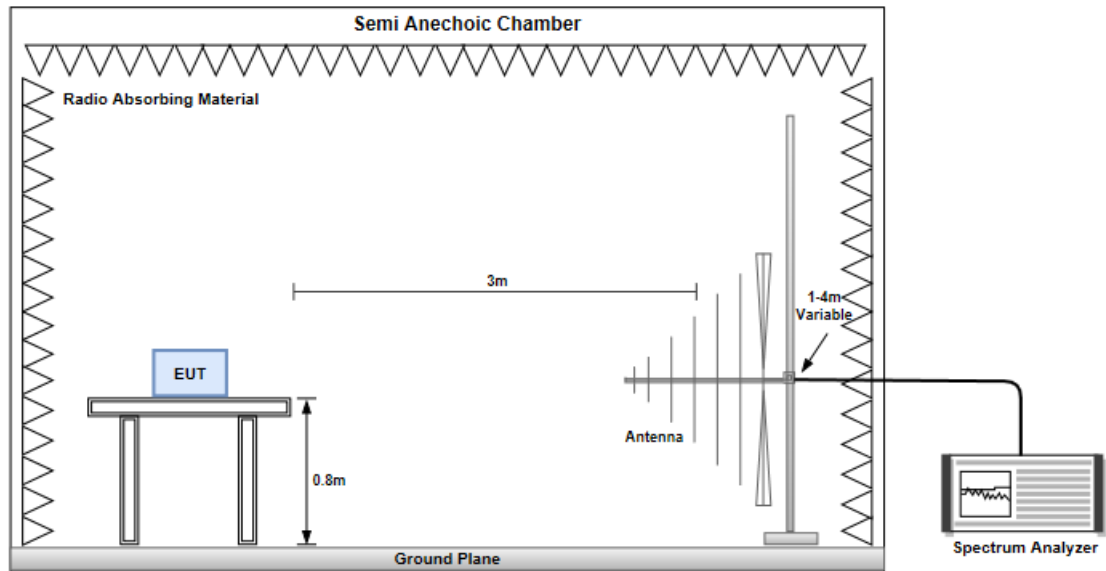
Frequency range	Limit (dBm/MHz)
Within 0-10 MHz above the Assigned Channel Within 0-10 MHz below the assigned Channel	-13
Greater than 10 MHz above the Assigned Channel Greater than 10 MHz below the Assigned Channel	-25
Power of any Emission below 3530 MHz Power of any Emission above 3720 MHz	-40

3.2.2 Test Procedures

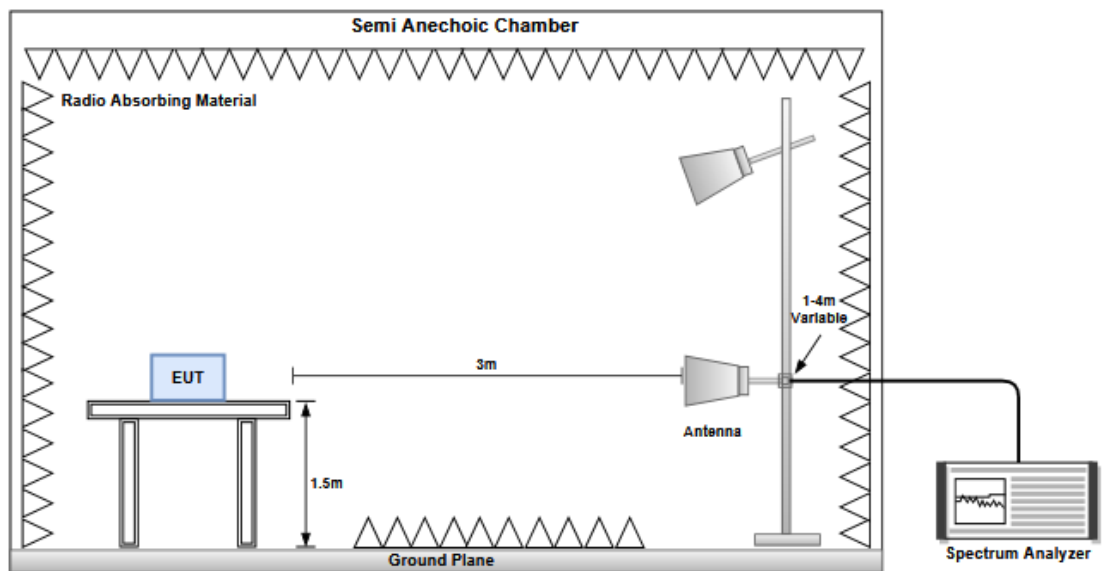
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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	21-22°C / 63-69%	Tested By	Akun Chung
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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)
101.78	H	-63.82	-40	-23.82	-61.96	-58.71	-5.11
142.52	H	-62.92	-40	-22.92	-62.23	-56.22	-6.7
249.22	H	-62.31	-40	-22.31	-59.16	-61.02	-1.29
374.35	H	-64.64	-40	-24.64	-66.7	-63.48	-1.16
749.74	H	-57.92	-40	-17.92	-66.61	-55.81	-2.11
874.87	H	-58.37	-40	-18.37	-68.72	-56.31	-2.06
42.61	V	-62.32	-40	-22.32	-59.03	-45.08	-17.24
87.23	V	-56.58	-40	-16.58	-54.29	-51.01	-5.57
249.22	V	-59.3	-40	-19.3	-61.24	-58.01	-1.29
624.61	V	-59.79	-40	-19.79	-68.11	-58.04	-1.75
749.74	V	-54.18	-40	-14.18	-64.12	-52.07	-2.11
874.87	V	-53.94	-40	-13.94	-65.48	-51.88	-2.06

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)
101.55	H	-63.95	-40	-23.95	-62.1	-58.85	-5.1
142.58	H	-62.95	-40	-22.95	-62.26	-56.25	-6.7
249.36	H	-62.54	-40	-22.54	-59.39	-61.26	-1.28
374.58	H	-64.85	-40	-24.85	-66.92	-63.69	-1.16
749.55	H	-58.26	-40	-18.26	-66.94	-56.15	-2.11
874.95	H	-58.58	-40	-18.58	-68.93	-56.52	-2.06
42.54	V	-62.14	-40	-22.14	-58.83	-44.89	-17.25
87.66	V	-56.99	-40	-16.99	-54.7	-51.52	-5.47
249.36	V	-59.63	-40	-19.63	-61.58	-58.35	-1.28
624.88	V	-59.85	-40	-19.85	-68.17	-58.1	-1.75
749.88	V	-54.36	-40	-14.36	-64.31	-52.25	-2.11
874.47	V	-53.99	-40	-13.99	-65.51	-51.93	-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	-51.41	-40	-11.41	-70.17	-55.3	3.89
10665	H	-48.41	-40	-8.41	-70.86	-49.06	0.65
14220	H	-47.12	-40	-7.12	-71.89	-46.96	-0.16
7110	V	-52.87	-40	-12.87	-72.68	-56.76	3.89
10665	V	-48.88	-40	-8.88	-70.66	-49.53	0.65
14220	V	-45.35	-40	-5.35	-71.1	-45.19	-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	-52.46	-40	-12.46	-71.36	-55.92	3.46
10875	H	-47.56	-40	-7.56	-70.52	-48.14	0.58
14500	H	-46.29	-40	-6.29	-70.39	-45.86	-0.43
7250	V	-51.77	-40	-11.77	-71.87	-55.23	3.46
10875	V	-48.19	-40	-8.19	-70.71	-48.77	0.58
14500	V	-45.43	-40	-5.43	-71.77	-45	-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	-52.67	-40	-12.67	-71.88	-55.73	3.06
11085	H	-48.15	-40	-8.15	-71.33	-48.77	0.62
14780	H	-48.19	-40	-8.19	-72.48	-48.55	0.36
7390	V	-53.81	-40	-13.81	-73.58	-56.87	3.06
11085	V	-49.08	-40	-9.08	-72.15	-49.7	0.62
14780	V	-45.3	-40	-5.3	-72.47	-45.66	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	-52.49	-40	-12.49	-71.25	-56.35	3.86
10680	H	-47.68	-40	-7.68	-70.17	-48.33	0.65
14240	H	-46.81	-40	-6.81	-71.53	-46.63	-0.18
7120	V	-51.99	-40	-11.99	-71.85	-55.85	3.86
10680	V	-49.92	-40	-9.92	-71.75	-50.57	0.65
14240	V	-45.79	-40	-5.79	-71.58	-45.61	-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	-53.67	-40	-13.67	-72.57	-57.13	3.46
10875	H	-48.93	-40	-8.93	-71.89	-49.51	0.58
14500	H	-48.18	-40	-8.18	-72.28	-47.75	-0.43
7250	V	-53.56	-40	-13.56	-73.66	-57.02	3.46
10875	V	-49.15	-40	-9.15	-71.67	-49.73	0.58
14500	V	-45.99	-40	-5.99	-72.33	-45.56	-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	-52.07	-40	-12.07	-71.26	-55.16	3.09
11070	H	-47.06	-40	-7.06	-70.25	-47.66	0.6
14760	H	-46.97	-40	-6.97	-71.25	-47.27	0.3
7380	V	-52.06	-40	-12.06	-71.85	-55.15	3.09
11070	V	-48.61	-40	-8.61	-71.66	-49.21	0.6
14760	V	-45.52	-40	-5.52	-72.63	-45.82	0.3

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

Ambient Condition	21-22°C / 63-69%	Tested By	Akun Chung
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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)
101.28	H	-64.52	-40	-24.52	-62.69	-59.43	-5.09
142.66	H	-63.32	-40	-23.32	-62.63	-56.63	-6.69
249.55	H	-62.63	-40	-22.63	-59.49	-61.36	-1.27
374.66	H	-64.95	-40	-24.95	-67.02	-63.79	-1.16
749.85	H	-58.66	-40	-18.66	-67.35	-56.55	-2.11
874.95	H	-58.63	-40	-18.63	-68.98	-56.57	-2.06
42.58	V	-62.33	-40	-22.33	-59.03	-45.09	-17.24
87.78	V	-57.78	-40	-17.78	-55.49	-52.34	-5.44
249.65	V	-59.85	-40	-19.85	-61.81	-58.58	-1.27
624.77	V	-59.94	-40	-19.94	-68.26	-58.19	-1.75
749.95	V	-54.66	-40	-14.66	-64.61	-52.55	-2.11
874.58	V	-54.25	-40	-14.25	-65.78	-52.19	-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)
101.15	H	-64.59	-40	-24.59	-62.76	-59.51	-5.08
142.54	H	-63.47	-40	-23.47	-62.78	-56.77	-6.7
249.48	H	-62.77	-40	-22.77	-59.63	-61.49	-1.28
374.95	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
874.33	H	-58.75	-40	-18.75	-69.09	-56.69	-2.06
42.63	V	-62.41	-40	-22.41	-59.12	-45.17	-17.24
87.58	V	-57.83	-40	-17.83	-55.54	-52.34	-5.49
249.61	V	-59.91	-40	-19.91	-61.87	-58.64	-1.27
624.71	V	-59.95	-40	-19.95	-68.27	-58.2	-1.75
749.85	V	-54.76	-40	-14.76	-64.71	-52.65	-2.11
874.36	V	-54.37	-40	-14.37	-65.89	-52.31	-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)
101.33	H	-64.77	-40	-24.77	-62.93	-59.68	-5.09
143.25	H	-63.44	-40	-23.44	-62.74	-56.76	-6.68
249.63	H	-62.75	-40	-22.75	-59.62	-61.48	-1.27
374.88	H	-65.05	-40	-25.05	-67.12	-63.89	-1.16
749.95	H	-58.72	-40	-18.72	-67.42	-56.61	-2.11
874.33	H	-58.7	-40	-18.7	-69.04	-56.64	-2.06
42.58	V	-62.44	-40	-22.44	-59.14	-45.2	-17.24
87.42	V	-58.14	-40	-18.14	-55.85	-52.61	-5.53
249.63	V	-59.97	-40	-19.97	-61.93	-58.7	-1.27
624.77	V	-60.1	-40	-20.1	-68.42	-58.35	-1.75
749.85	V	-54.88	-40	-14.88	-64.83	-52.77	-2.11
874.33	V	-54.7	-40	-14.7	-66.22	-52.64	-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)
101.39	H	-64.77	-40	-24.77	-62.93	-59.68	-5.09
142.25	H	-63.47	-40	-23.47	-62.78	-56.77	-6.7
249.45	H	-62.76	-40	-22.76	-59.62	-61.48	-1.28
374.85	H	-65.18	-40	-25.18	-67.25	-64.02	-1.16
749.54	H	-58.73	-40	-18.73	-67.41	-56.62	-2.11
874.58	H	-58.78	-40	-18.78	-69.12	-56.72	-2.06
42.77	V	-62.48	-40	-22.48	-59.22	-45.26	-17.22
87.58	V	-57.88	-40	-17.88	-55.59	-52.39	-5.49
249.54	V	-59.33	-40	-19.33	-61.29	-58.05	-1.28
624.58	V	-59.48	-40	-19.48	-67.8	-57.73	-1.75
749.65	V	-54.51	-40	-14.51	-64.45	-52.4	-2.11
874.33	V	-54.19	-40	-14.19	-65.71	-52.13	-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	-53.09	-40	-13.09	-71.85	-56.98	3.89
7390	H	-51.93	-40	-11.93	-71.14	-54.99	3.06
10665	H	-48.09	-40	-8.09	-70.54	-48.74	0.65
11085	H	-47.15	-40	-7.15	-70.33	-47.77	0.62
14220	H	-46.28	-40	-6.28	-71.05	-46.12	-0.16
14780	H	-46.83	-40	-6.83	-71.12	-47.19	0.36
7110	V	-52.44	-40	-12.44	-72.25	-56.33	3.89
7390	V	-52.48	-40	-12.48	-72.25	-55.54	3.06
10665	V	-49.96	-40	-9.96	-71.74	-50.61	0.65
11085	V	-48.51	-40	-8.51	-71.58	-49.13	0.62
14220	V	-45.5	-40	-5.5	-71.25	-45.34	-0.16
14780	V	-44.16	-40	-4.16	-71.33	-44.52	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	-52.49	-40	-12.49	-71.25	-56.38	3.89
7380	H	-52	-40	-12	-71.19	-55.09	3.09
10665	H	-47.81	-40	-7.81	-70.26	-48.46	0.65
11070	H	-47.18	-40	-7.18	-70.37	-47.78	0.6
14220	H	-46.62	-40	-6.62	-71.39	-46.46	-0.16
14760	H	-46.9	-40	-6.9	-71.18	-47.2	0.3
7110	V	-52.05	-40	-12.05	-71.86	-55.94	3.89
7380	V	-51.79	-40	-11.79	-71.58	-54.88	3.09
10665	V	-50	-40	-10	-71.78	-50.65	0.65
11070	V	-48.47	-40	-8.47	-71.52	-49.07	0.6
14220	V	-45.64	-40	-5.64	-71.39	-45.48	-0.16
14760	V	-44.34	-40	-4.34	-71.45	-44.64	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	-52.53	-40	-12.53	-71.29	-56.39	3.86
7390	H	-52.12	-40	-12.12	-71.33	-55.18	3.06
10680	H	-47.84	-40	-7.84	-70.33	-48.49	0.65
11085	H	-47.07	-40	-7.07	-70.25	-47.69	0.62
14240	H	-45.67	-40	-5.67	-70.39	-45.49	-0.18
14780	H	-47.09	-40	-7.09	-71.38	-47.45	0.36
7120	V	-51.99	-40	-11.99	-71.85	-55.85	3.86
7390	V	-52.1	-40	-12.1	-71.87	-55.16	3.06
10680	V	-48.95	-40	-8.95	-70.78	-49.6	0.65
11085	V	-48.65	-40	-8.65	-71.72	-49.27	0.62
14240	V	-45.79	-40	-5.79	-71.58	-45.61	-0.18
14780	V	-44.27	-40	-4.27	-71.44	-44.63	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	-52.49	-40	-12.49	-71.25	-56.35	3.86
7380	H	-51.96	-40	-11.96	-71.15	-55.05	3.09
10680	H	-48.09	-40	-8.09	-70.58	-48.74	0.65
11070	H	-47.44	-40	-7.44	-70.63	-48.04	0.6
14240	H	-45.98	-40	-5.98	-70.7	-45.8	-0.18
14760	H	-46.24	-40	-6.24	-70.52	-46.54	0.3
7120	V	-52.03	-40	-12.03	-71.89	-55.89	3.86
7380	V	-51.98	-40	-11.98	-71.77	-55.07	3.09
10680	V	-49.04	-40	-9.04	-70.87	-49.69	0.65
11070	V	-47.93	-40	-7.93	-70.98	-48.53	0.6
14240	V	-45.79	-40	-5.79	-71.58	-45.61	-0.18
14760	V	-44.33	-40	-4.33	-71.44	-44.63	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

Frequency range	Limit (dBm/MHz)
Within 0-10 MHz above the Assigned Channel Within 0-10 MHz below the assigned Channel	-13
Greater than 10 MHz above the Assigned Channel Greater than 10 MHz below the Assigned Channel	-25
Power of any Emission below 3530 MHz Power of any Emission above 3720 MHz	-40

3.3.2 Test Procedures

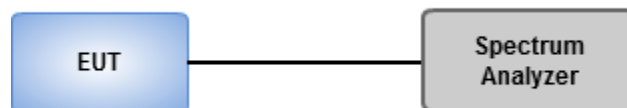
Emission below 3530 MHz / Emission above 3720 MHz

1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30 MHz ~ 40 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.

3530 MHz ~ $(F_c - BW/2) / (F_c + BW/2)$ ~ 3720 MHz

1. Lowest /middel / highest operating channels are tested for this item.
2. The center frequency of spectrum analyzer will be set to Lowest /middel / highest operating channels.
3. Set RBW = 1% of EBW, VBW = 3 x RBW, detector = RMS, sweep time = auto..
4. Using channel power function to measure test result and record the max trace value and capture the test plot.

3.3.3 Test Setup



Ambient Condition	18-22°C / 64-66%	Tested By	Aska Huang
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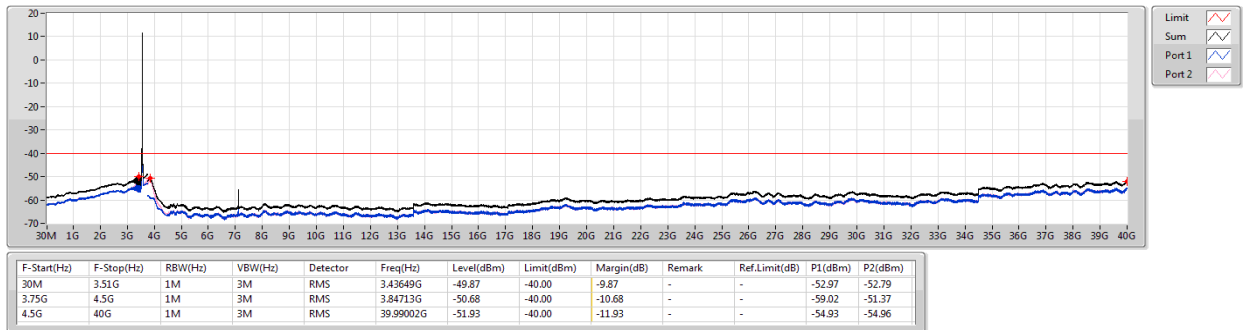
3.3.4 Test Result of Conducted Emissions & Band Edge (CDD Mode)

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	3.43649G	-49.87	-40.00	-9.87	-	-
LTE_10MHz_Nss1,16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.43605G	-49.96	-40.00	-9.96	-	-
LTE_10MHz_Nss1,64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.34079G	-50.70	-40.00	-10.70	-	-
LTE_20MHz_Nss1,QPSK_2TX	Pass	30M	3.51G	1M	3M	RMS	3.50348G	-49.02	-40.00	-9.02	-	-
LTE_20MHz_Nss1,16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.50913G	-48.41	-40.00	-8.41	-	-
LTE_20MHz_Nss1,64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.51G	-49.37	-40.00	-9.37	-	-

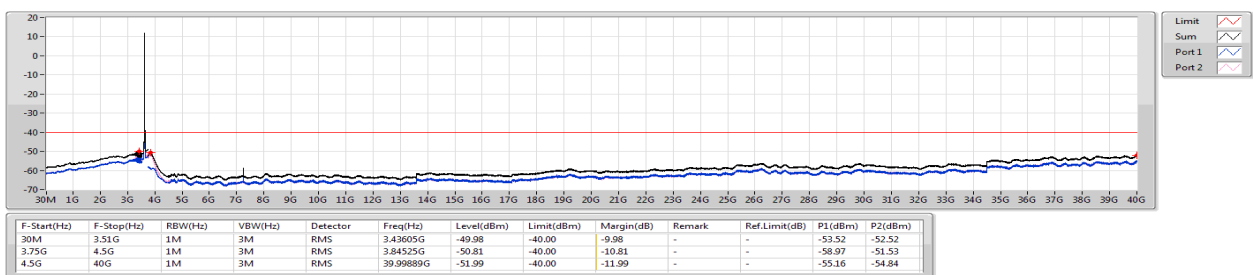
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3555MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



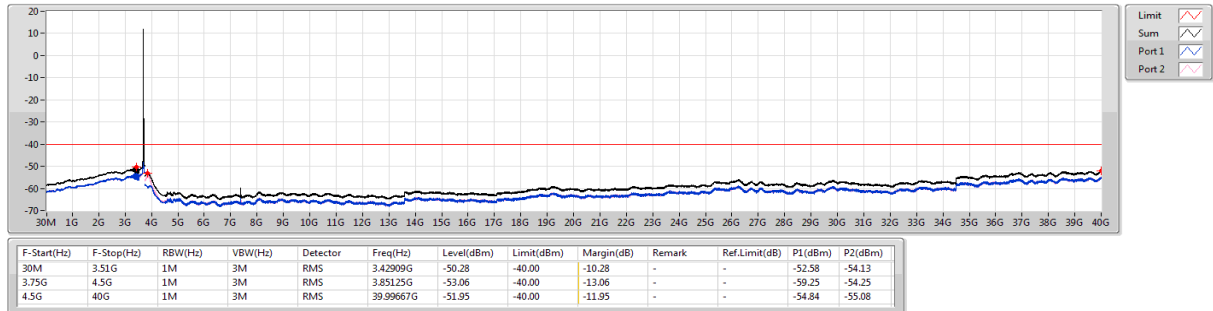
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



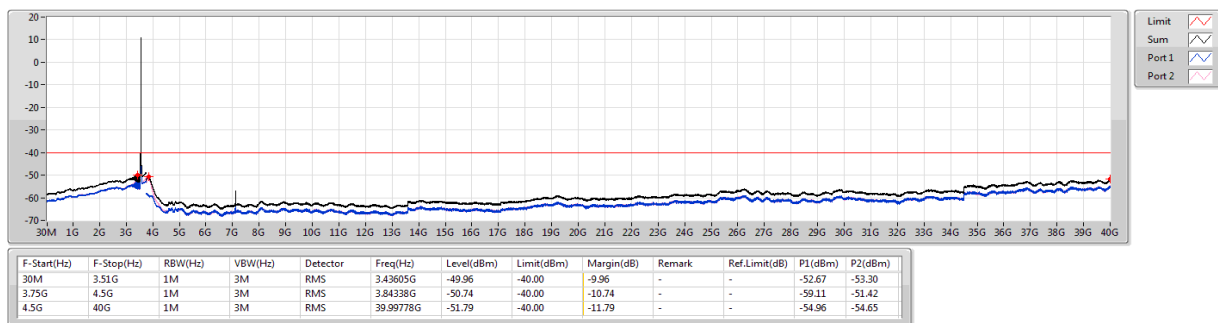
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3695MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



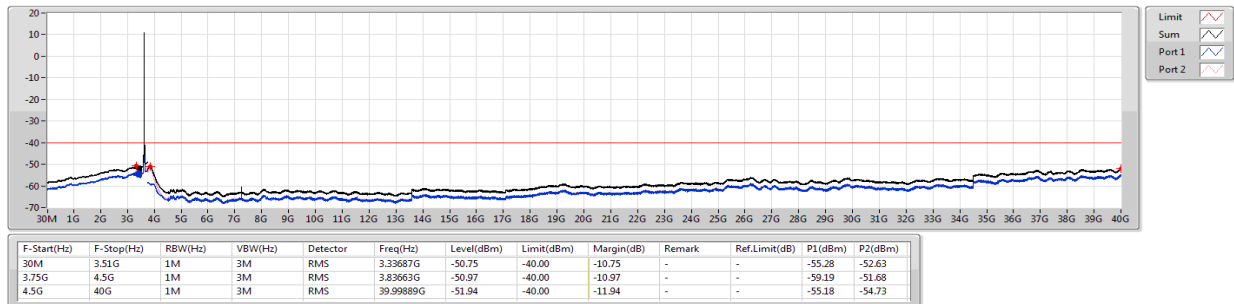
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



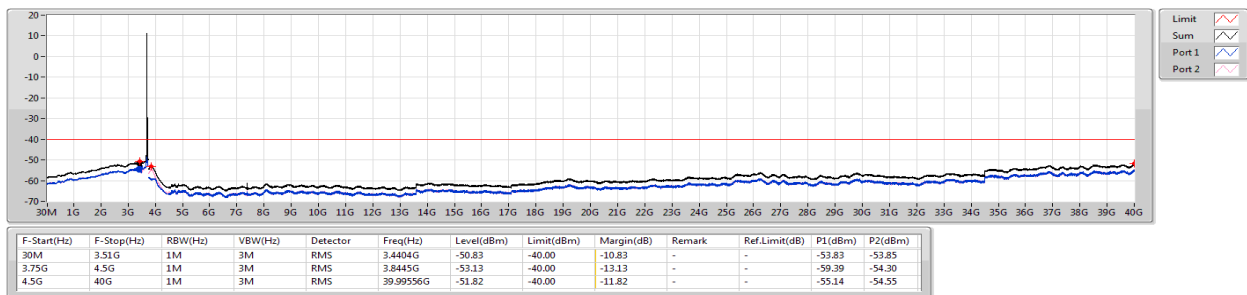
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



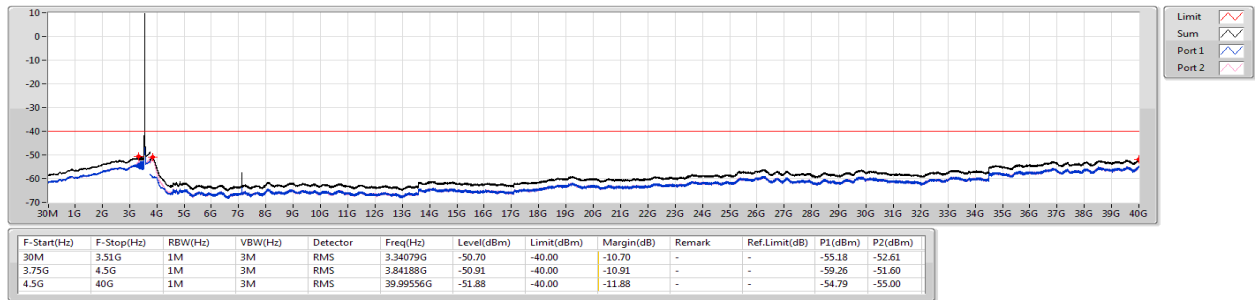
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



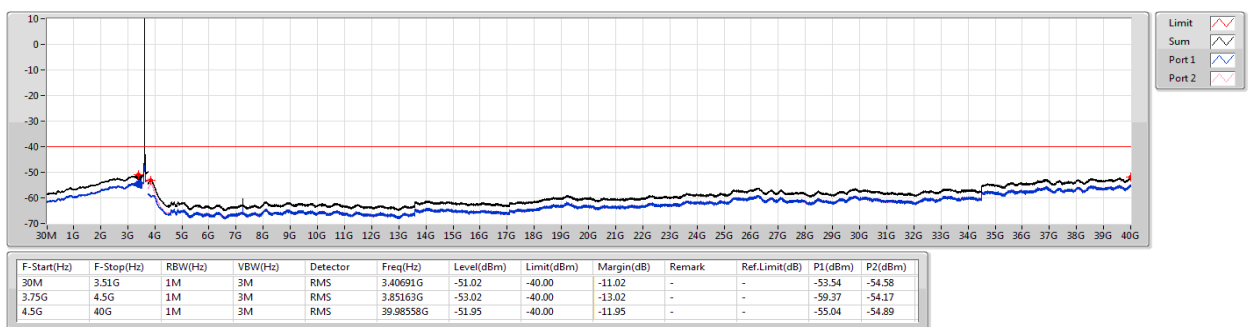
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



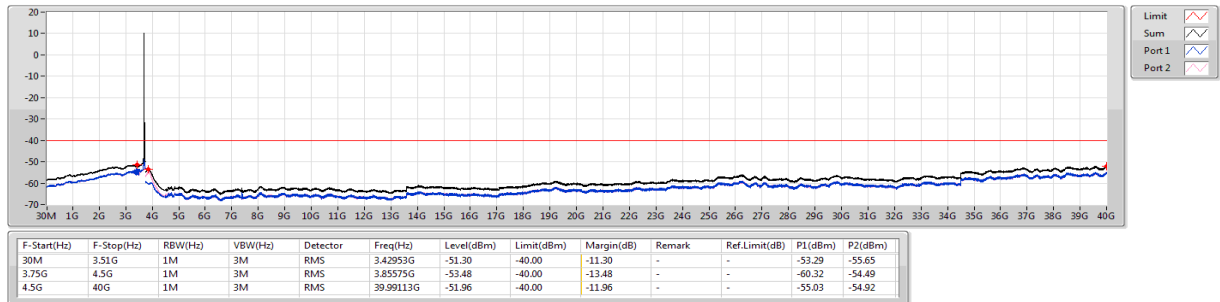
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



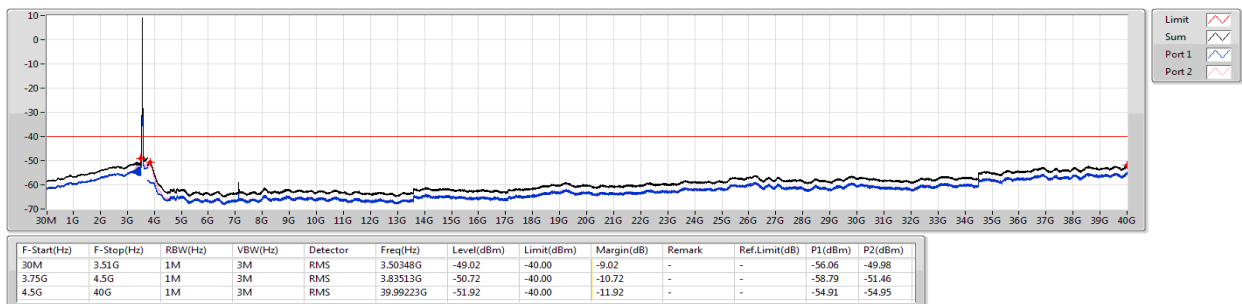
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



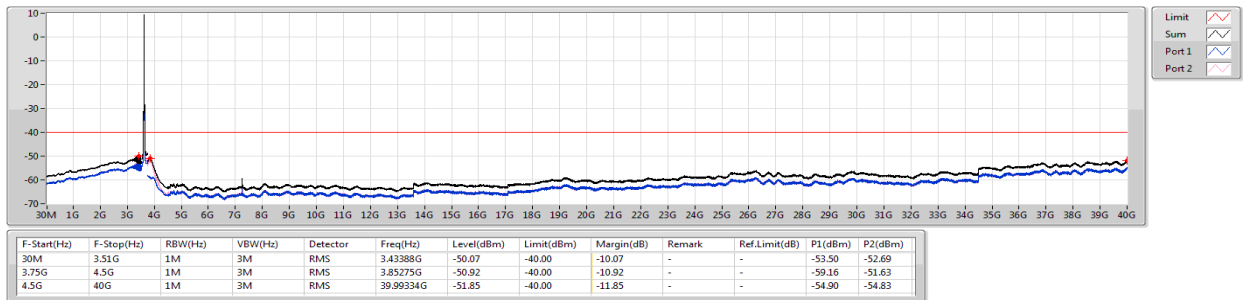
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3560MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



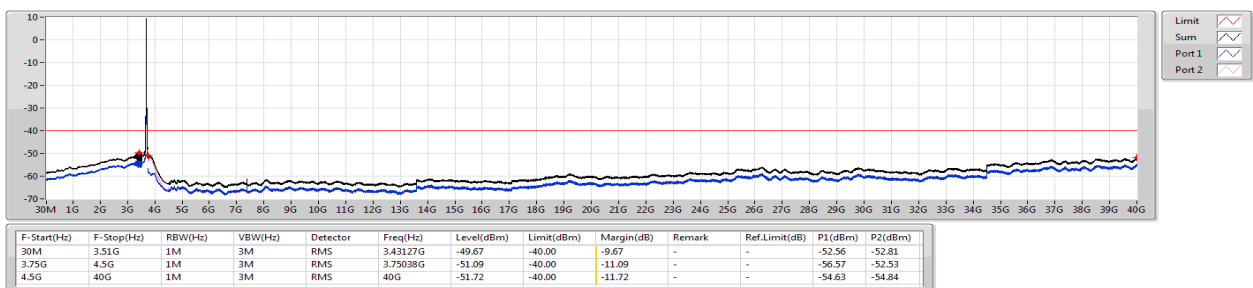
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



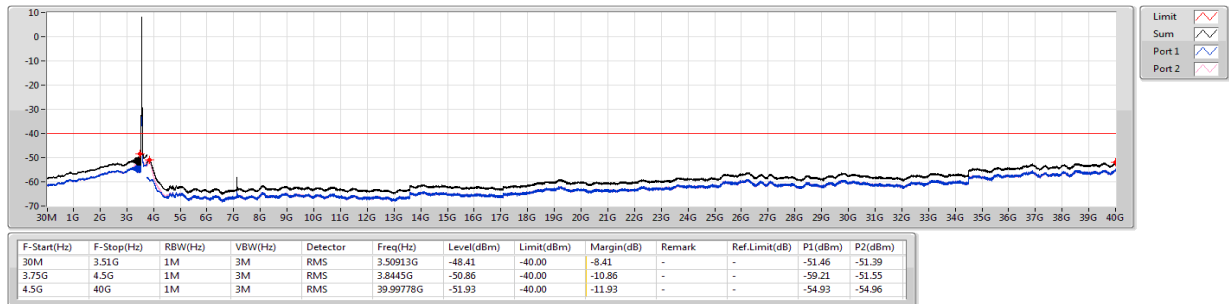
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3690MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



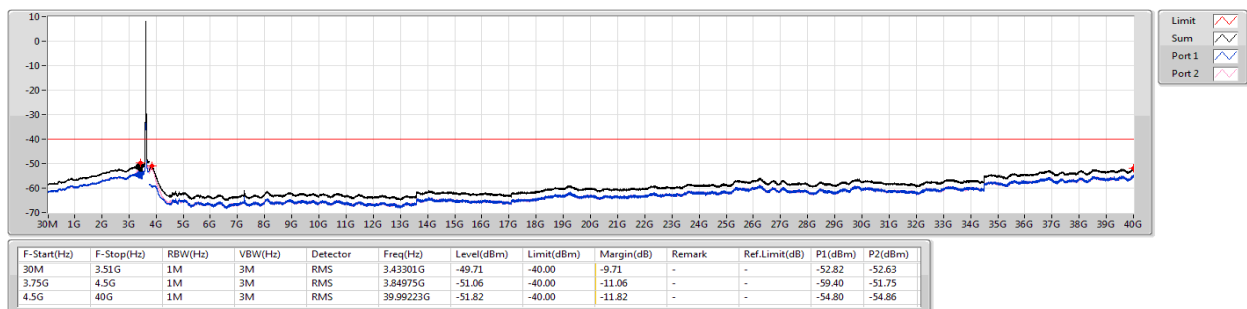
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3560MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



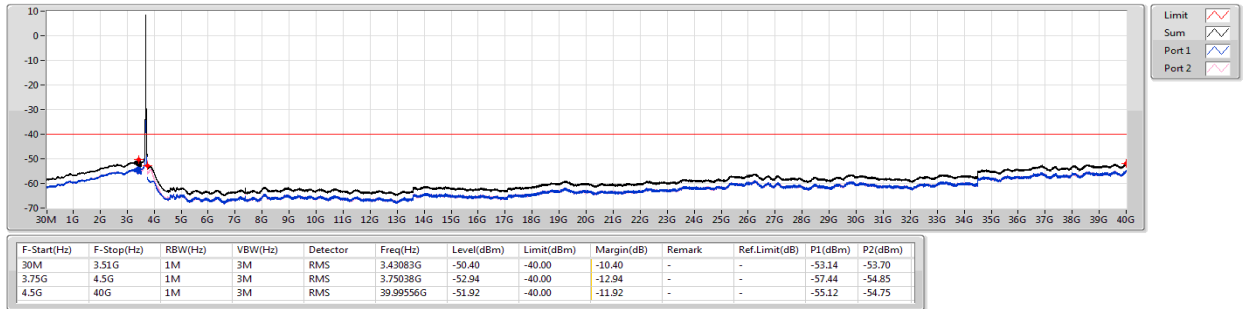
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



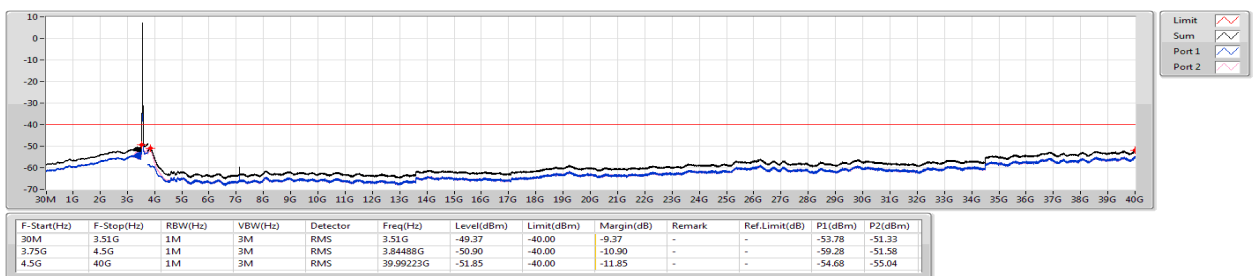
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3690MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



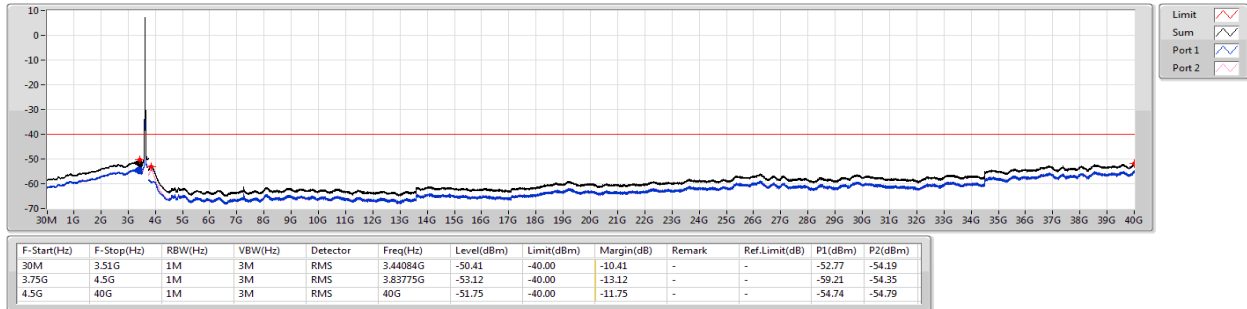
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3560MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



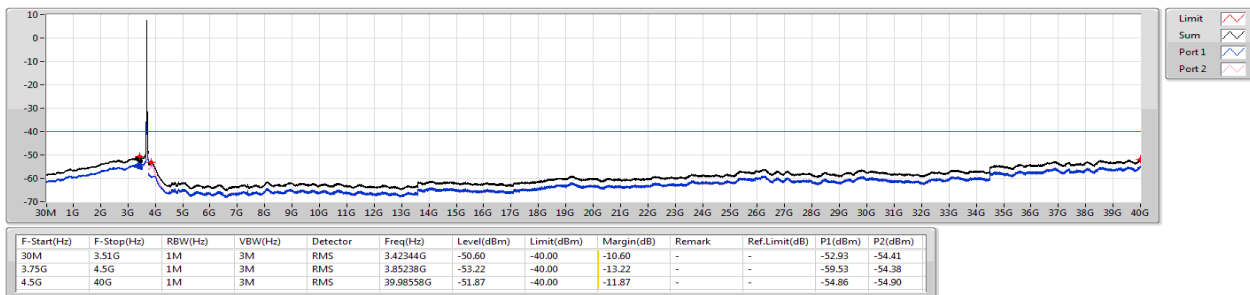
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



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

CSE-TX-Sum

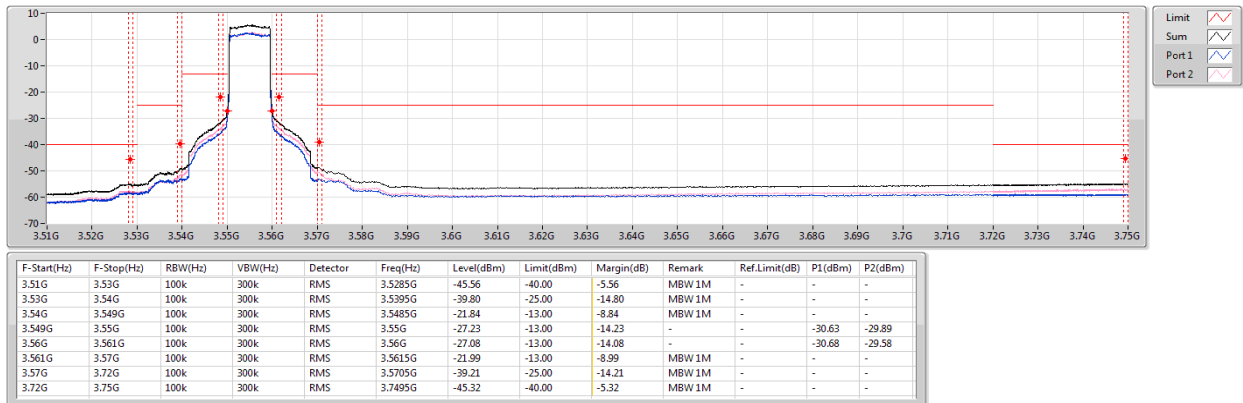


Band Edge Summary

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	3.7225G	-43.63	-40.00	-3.63	MBW 1M	-
LTE_10MHz_Nss1,16QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7205G	-44.49	-40.00	-4.49	MBW 1M	-
LTE_10MHz_Nss1,64QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7205G	-45.02	-40.00	-5.02	MBW 1M	-
LTE_20MHz_Nss1,QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-40.92	-40.00	-0.92	MBW 1M	-
LTE_20MHz_Nss1,16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.08	-40.00	-2.08	MBW 1M	-
LTE_20MHz_Nss1,64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.66	-40.00	-2.66	MBW 1M	-

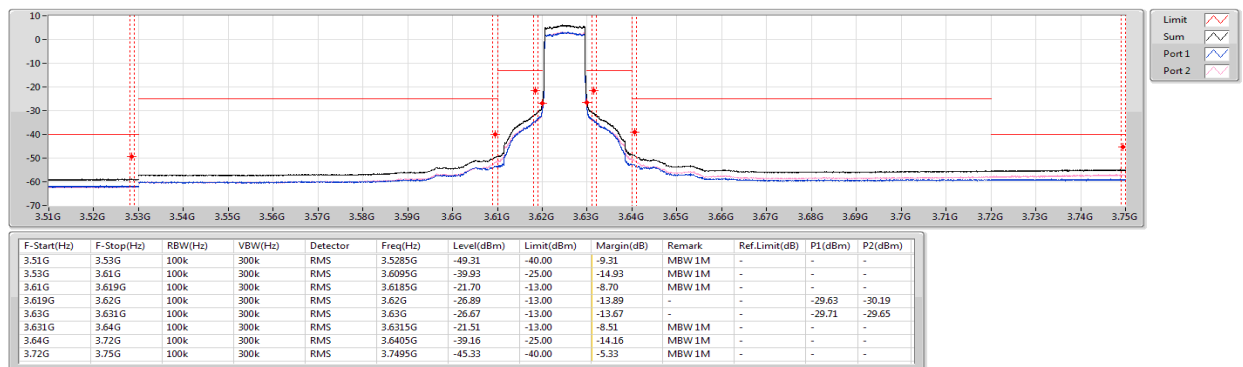
Band 48 LTE 10MHz Nss1,QPSK 2TX
3555MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



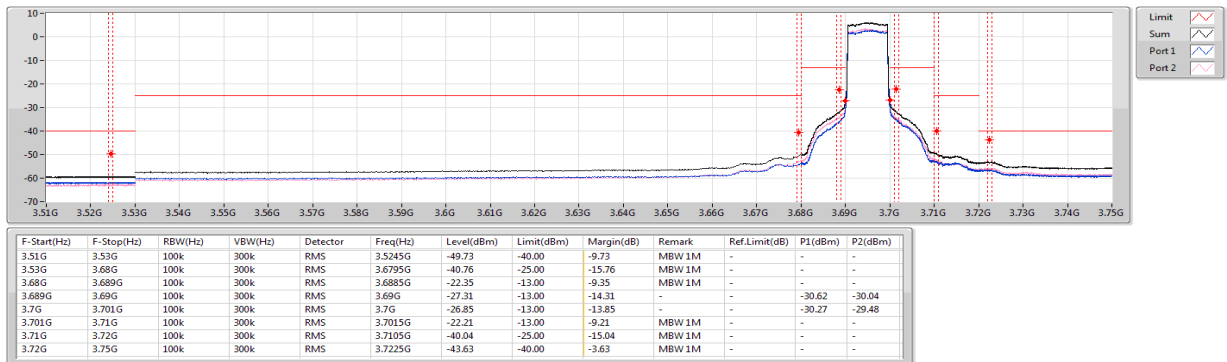
Band 48 LTE 10MHz Nss1,QPSK 2TX
3625MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



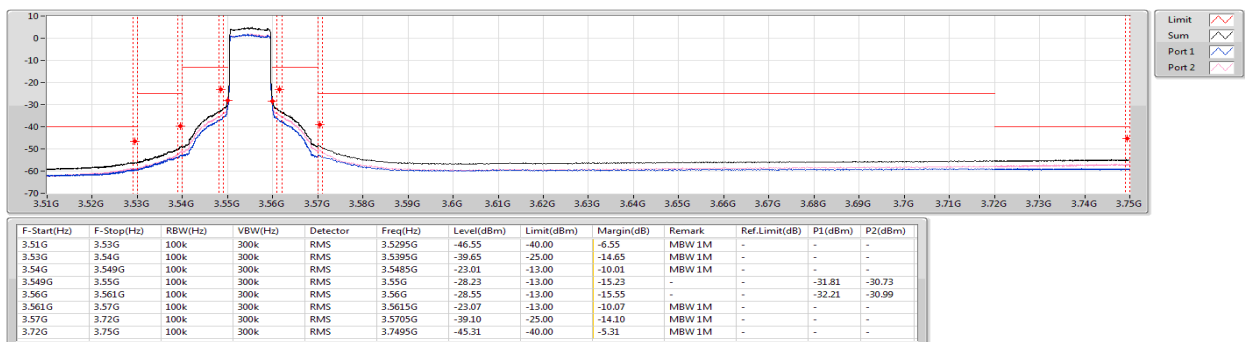
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3695MHz_QPSK_RB 50,#RB 0

CSE-TX-Sum



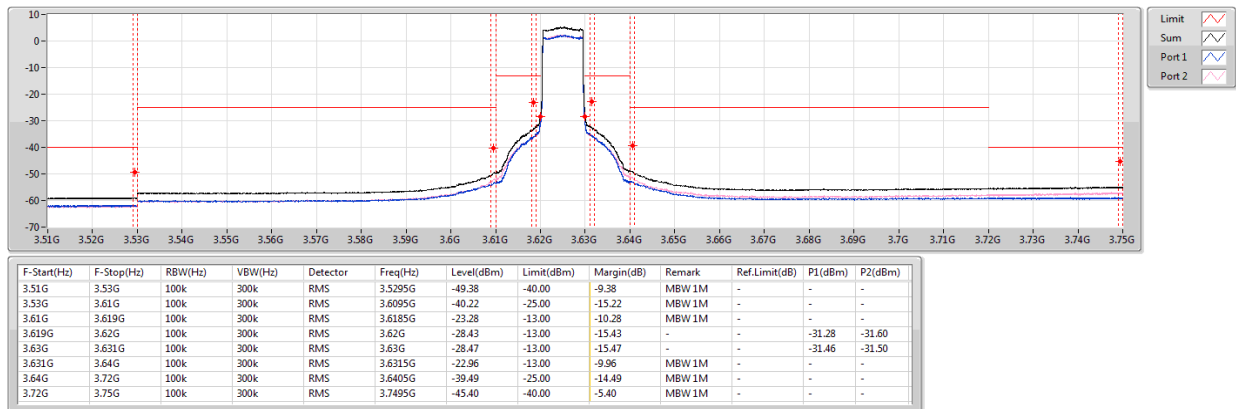
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



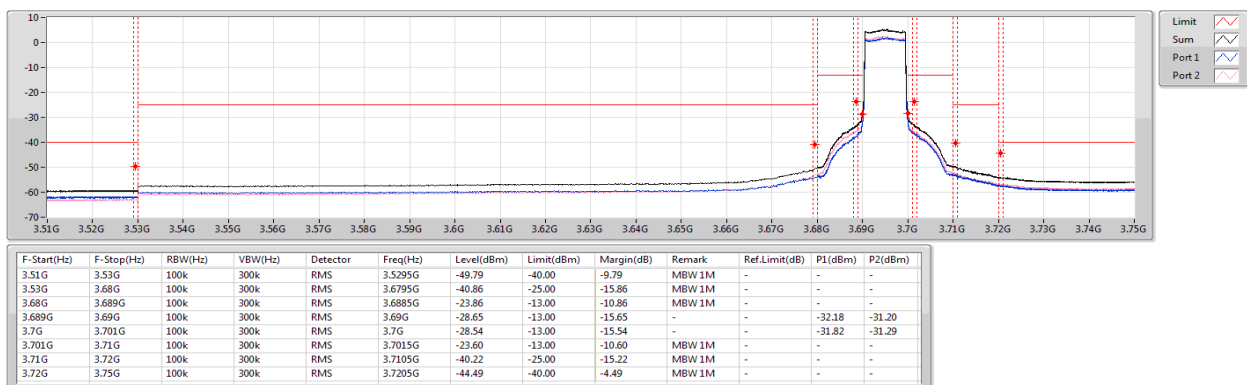
Band 48 LTE 10MHz Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



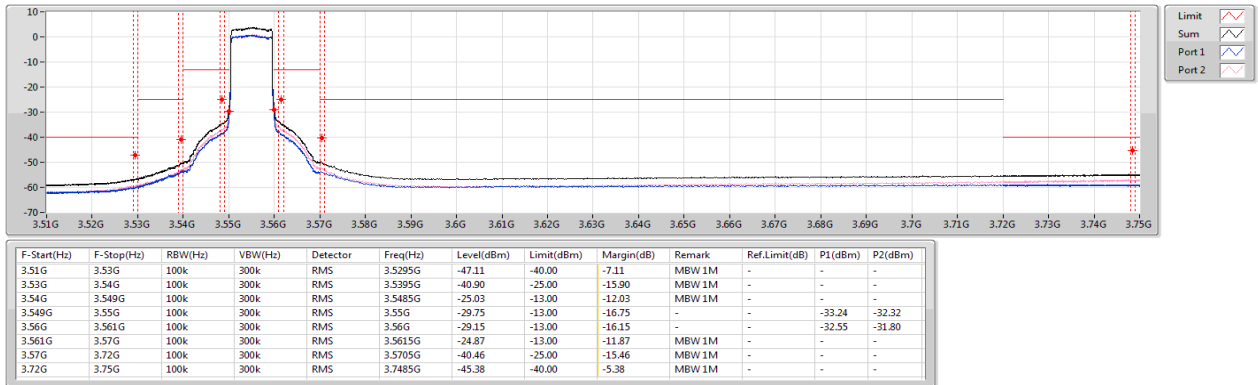
Band 48 LTE 10MHz Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

CSE-TX-Sum



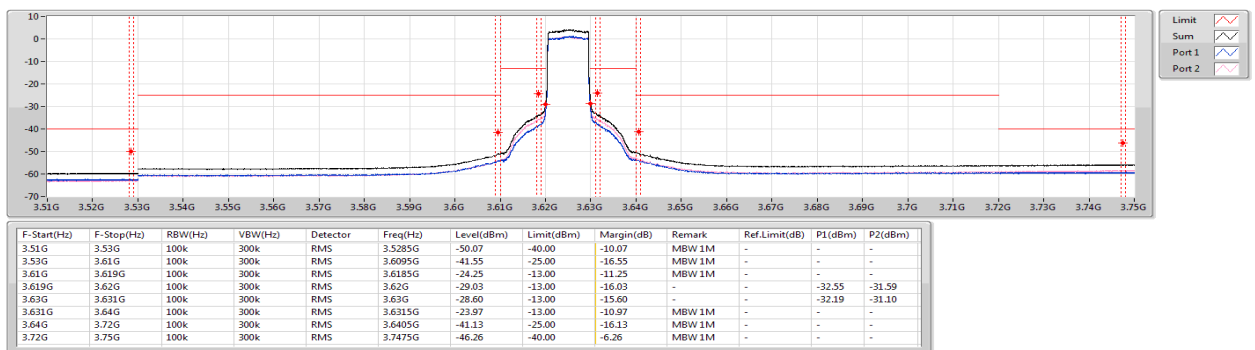
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



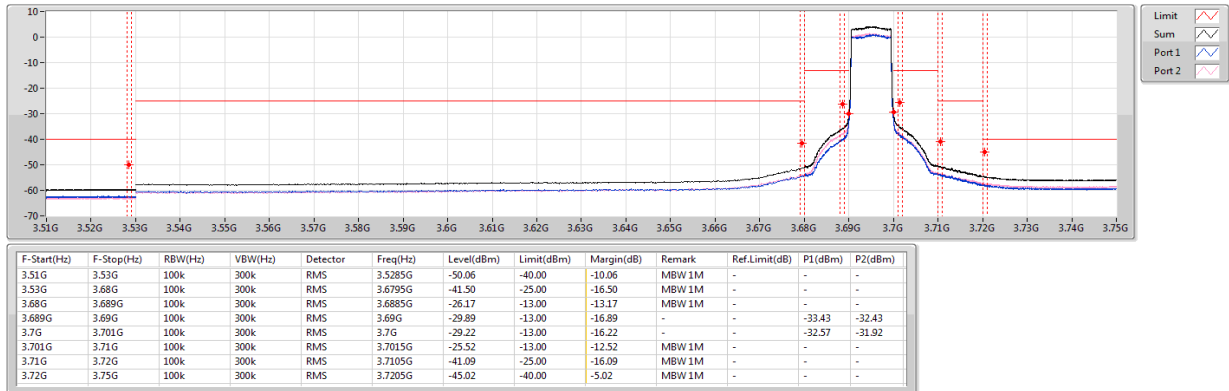
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



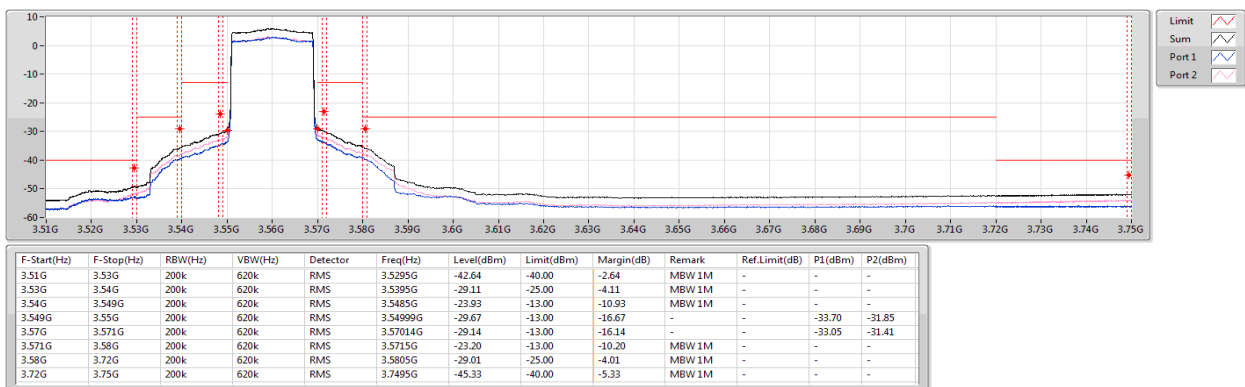
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

CSE-TX-Sum



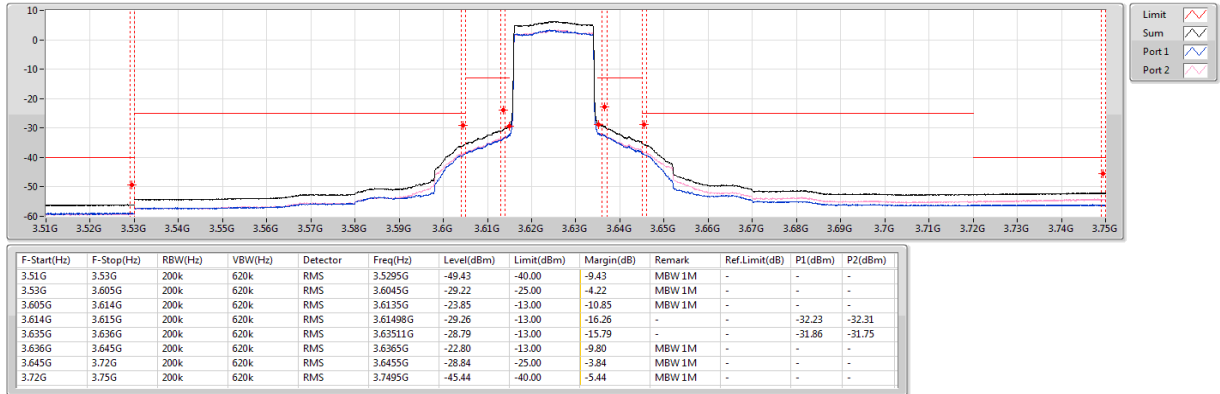
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3560MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



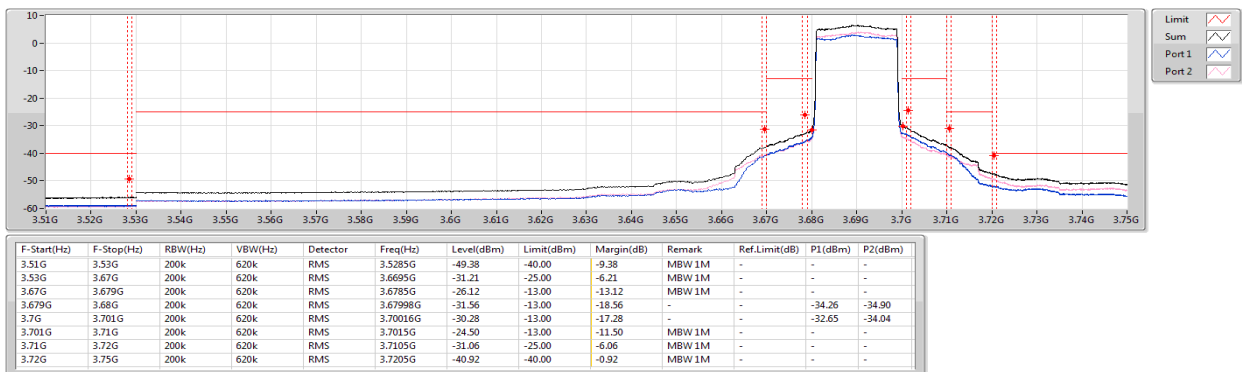
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



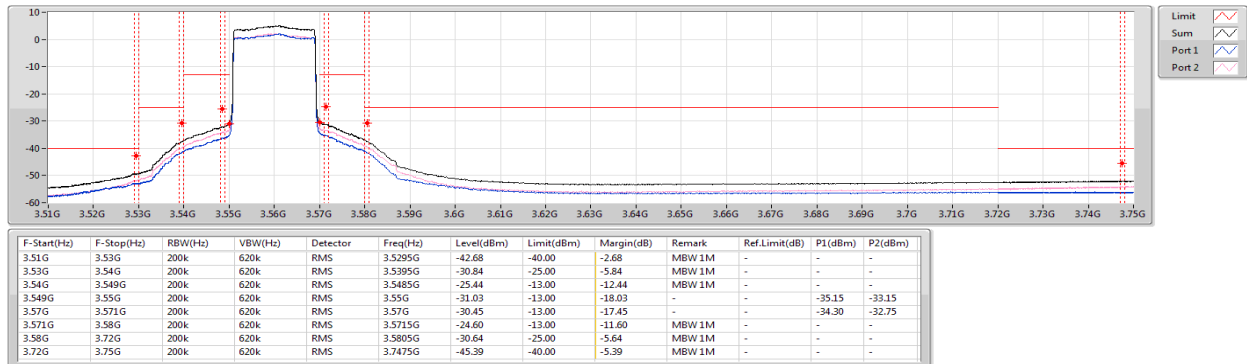
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3690MHz_QPSK_RB 100,#RB 0

CSE-TX-Sum



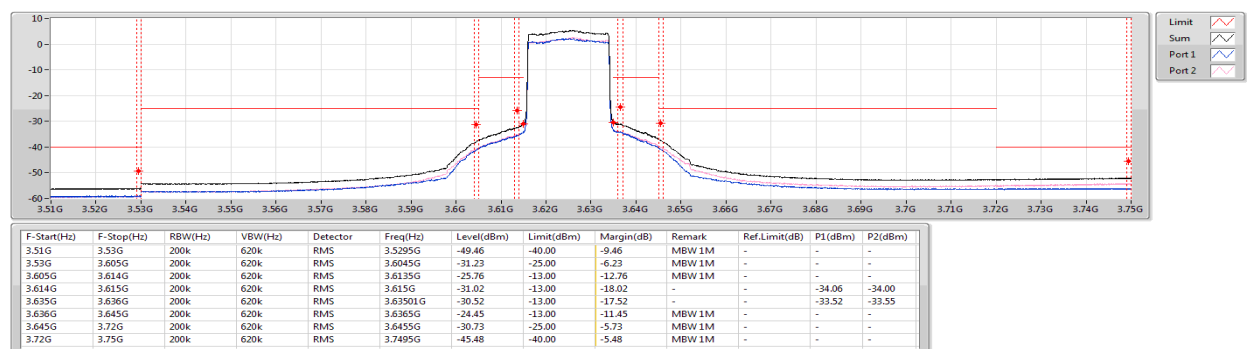
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3560MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



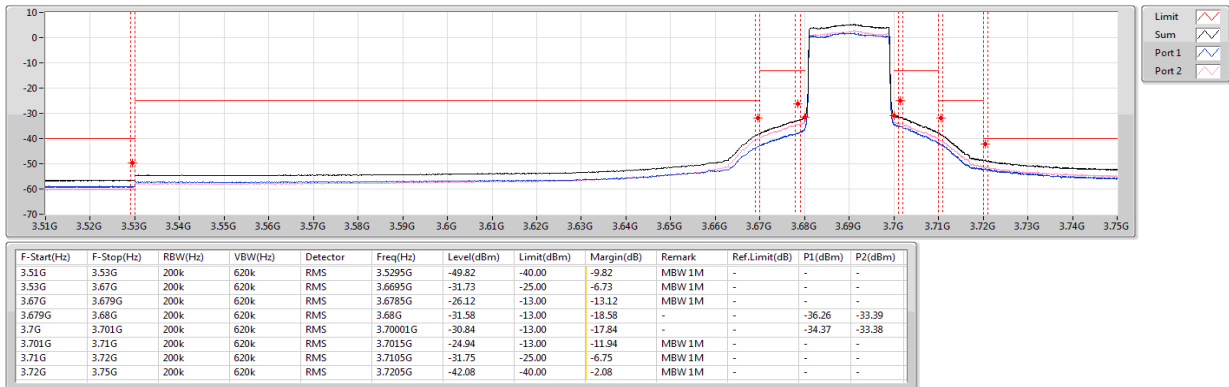
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



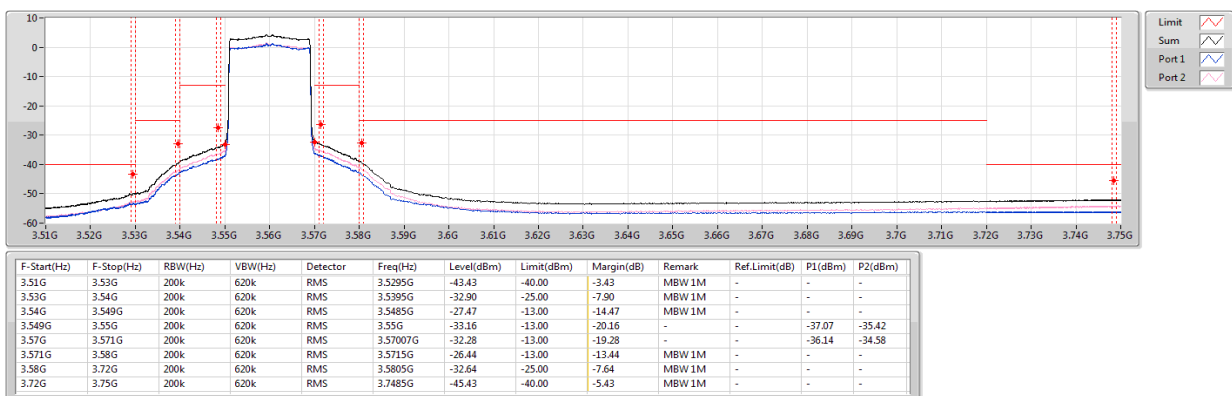
Band 48 LTE 20MHz_Nss1,16QAM_2TX
3690MHz_16QAM_RB 100,#RB 0

CSE-TX-Sum



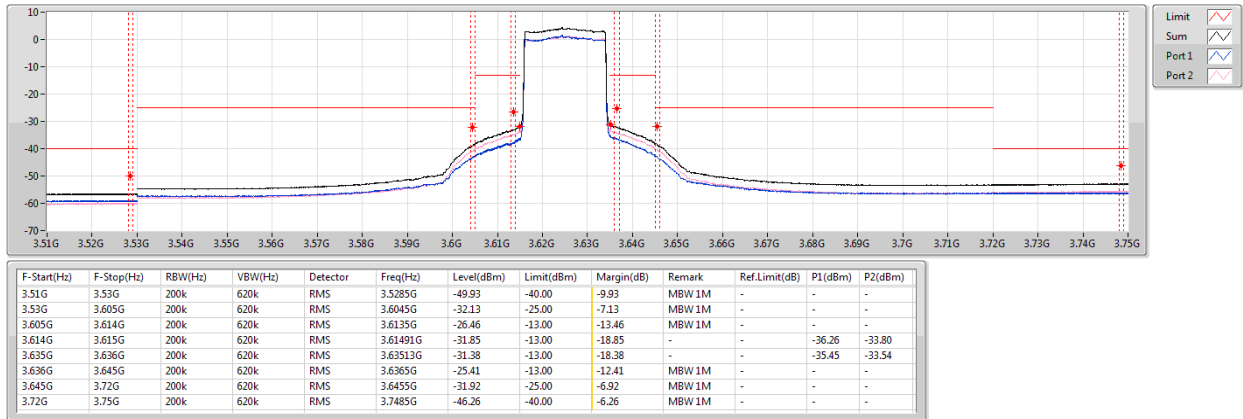
Band 48 LTE 20MHz_Nss1,64QAM_2TX
3560MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



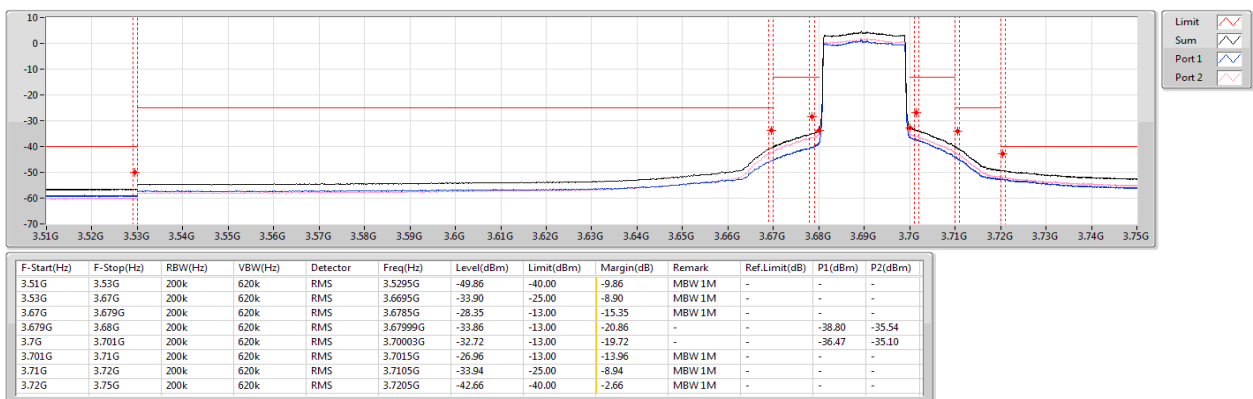
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 100,#RB 0

CSE-TX-Sum



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

CSE-TX-Sum



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

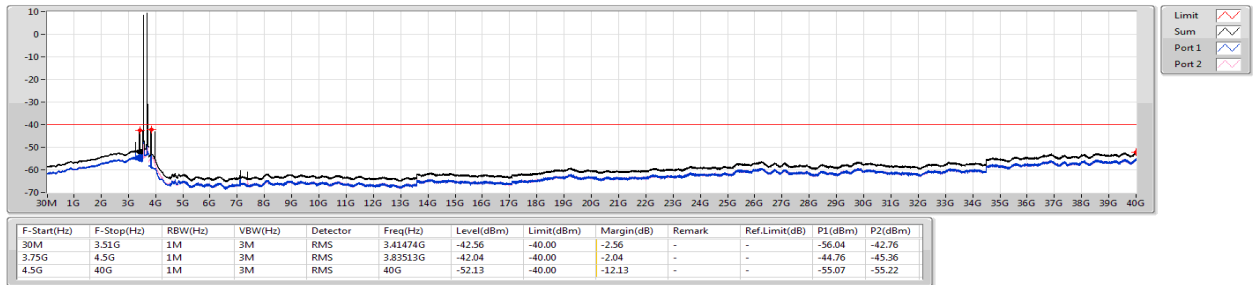
Conducted Emissions Summary

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+10MHz_Nss1,QPSK_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.83513G	-42.04	-40.00	-2.04	-	-
LTE_10MHz+10MHz_Nss1,16QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.83513G	-42.09	-40.00	-2.09	-	-
LTE_10MHz+10MHz_Nss1,64QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.83513G	-42.06	-40.00	-2.06	-	-
LTE_10MHz+20MHz_Nss1,QPSK_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.82538G	-42.79	-40.00	-2.79	-	-
LTE_10MHz+20MHz_Nss1,16QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.825G	-42.73	-40.00	-2.73	-	-
LTE_10MHz+20MHz_Nss1,64QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.825G	-42.72	-40.00	-2.72	-	-
LTE_20MHz+10MHz_Nss1,QPSK_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.96525G	-43.10	-40.00	-3.10	-	-
LTE_20MHz+10MHz_Nss1,16QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.42518G	-42.72	-40.00	-2.72	-	-
LTE_20MHz+10MHz_Nss1,64QAM_2TX	Pass	30M	3.51G	1M	3M	RMS	3.42474G	-43.02	-40.00	-3.02	-	-
LTE_20MHz+20MHz_Nss1,QPSK_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.81975G	-43.84	-40.00	-3.84	-	-
LTE_20MHz+20MHz_Nss1,16QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.8205G	-43.86	-40.00	-3.86	-	-
LTE_20MHz+20MHz_Nss1,64QAM_2TX	Pass	3.75G	4.5G	1M	3M	RMS	3.82013G	-44.42	-40.00	-4.42	-	-

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

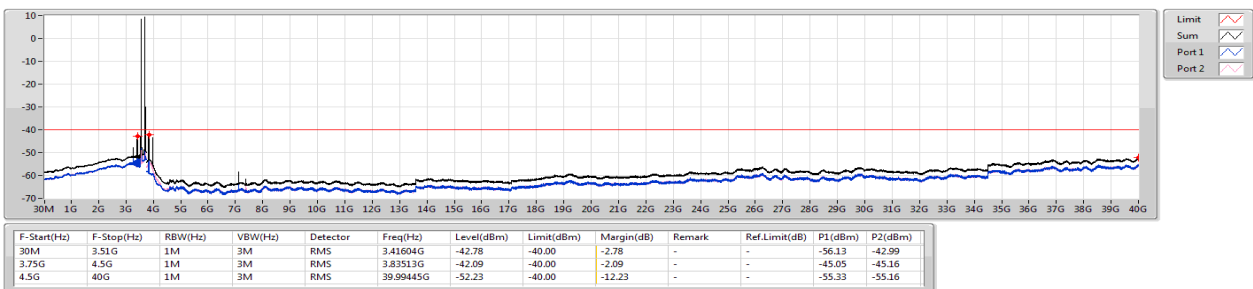
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

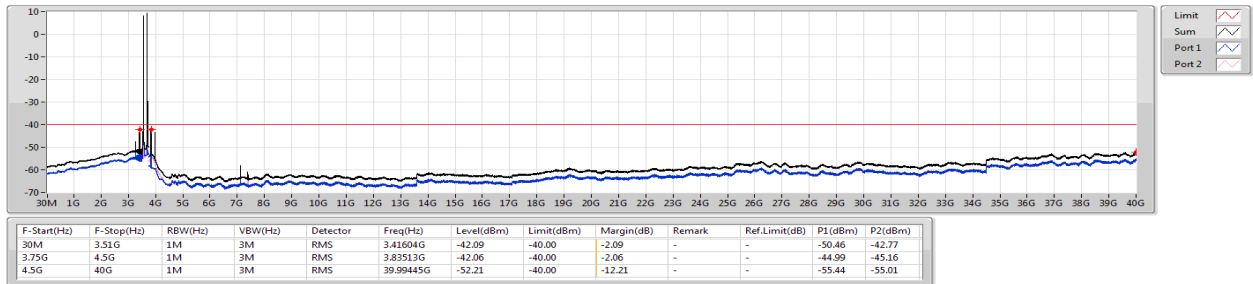
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

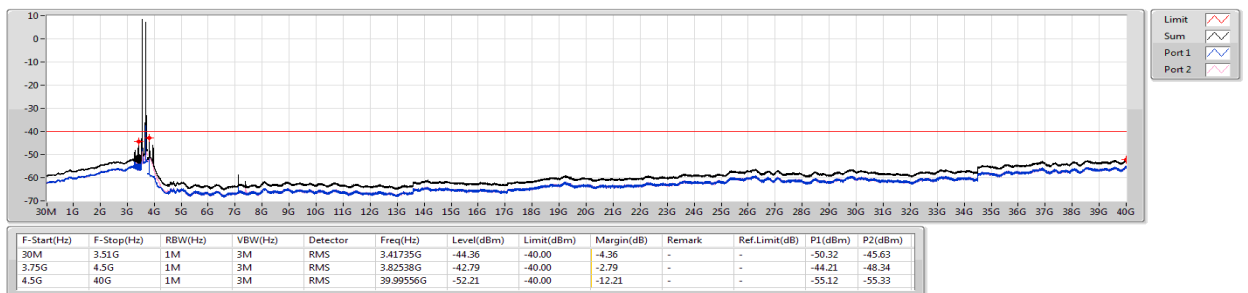
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

CSE-TX-Sum

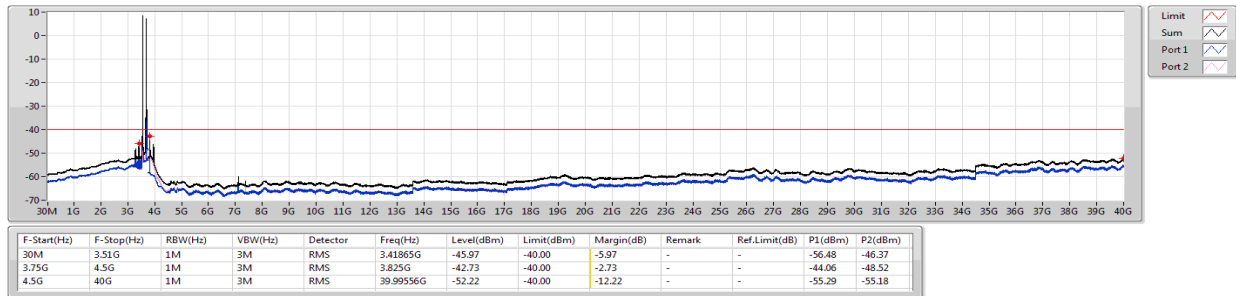
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

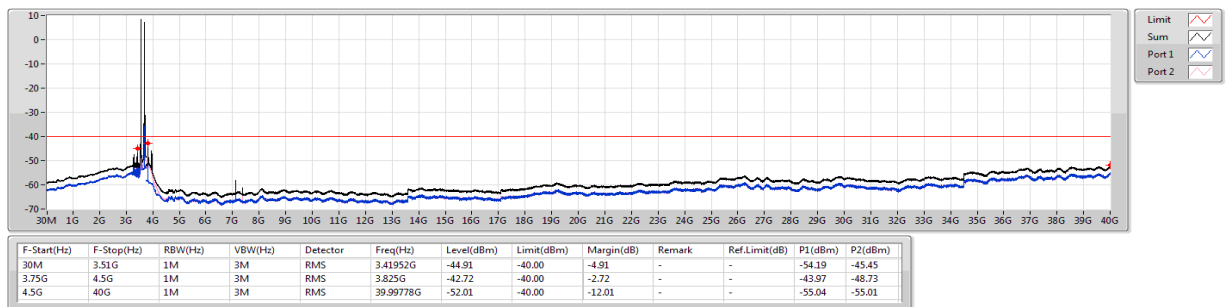
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

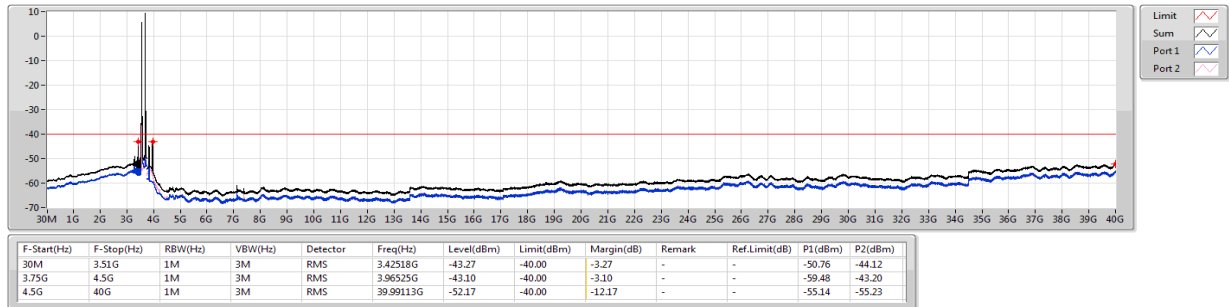
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

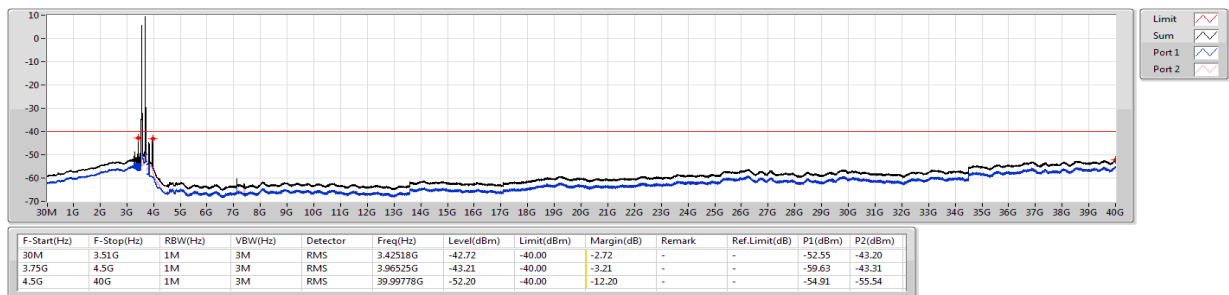
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

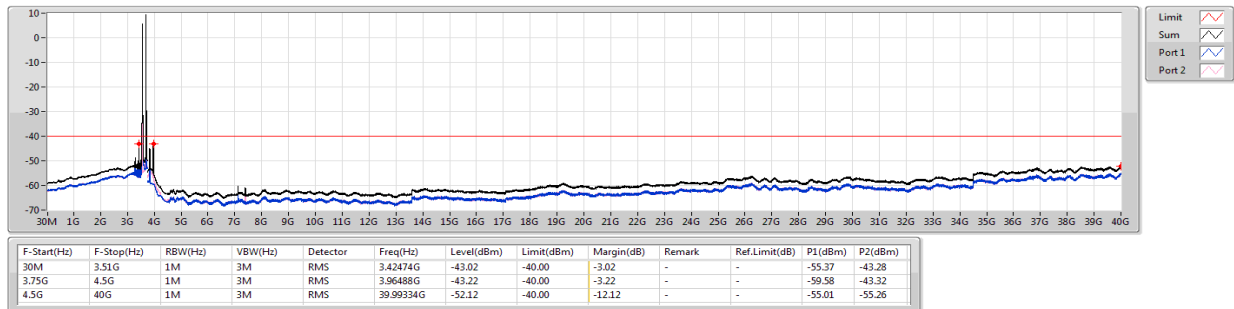
CSE-TX-Sum

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



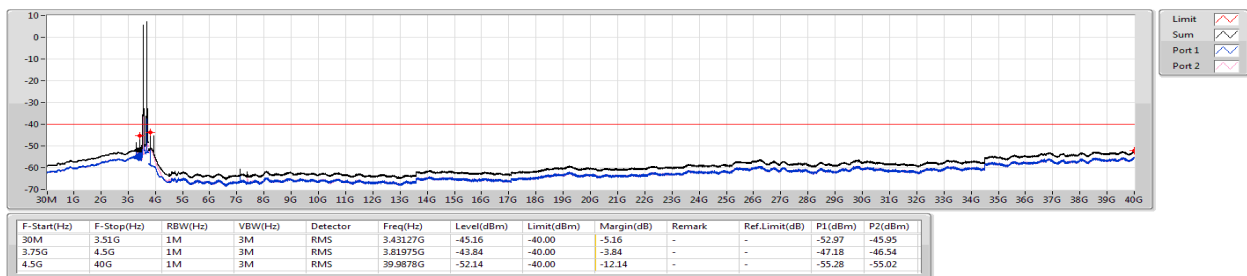
Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0

CSE-TX-Sum



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0

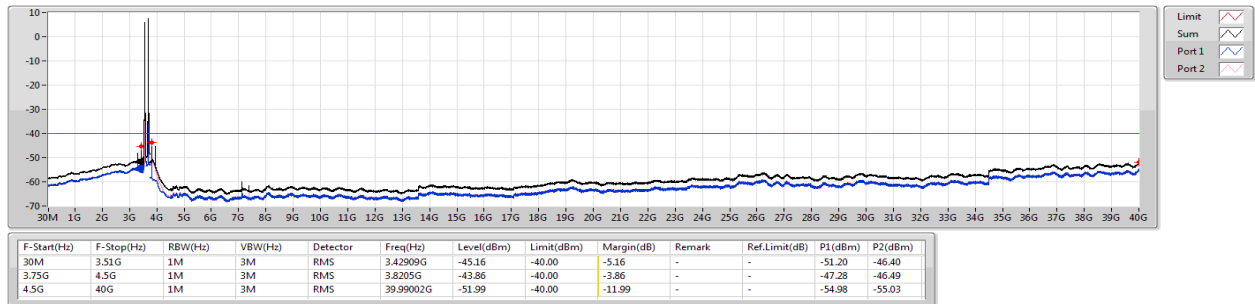
CSE-TX-Sum



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

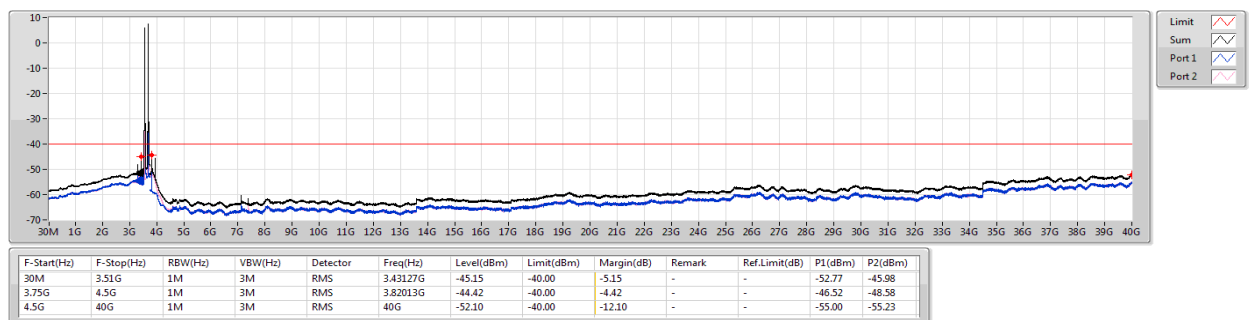
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

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



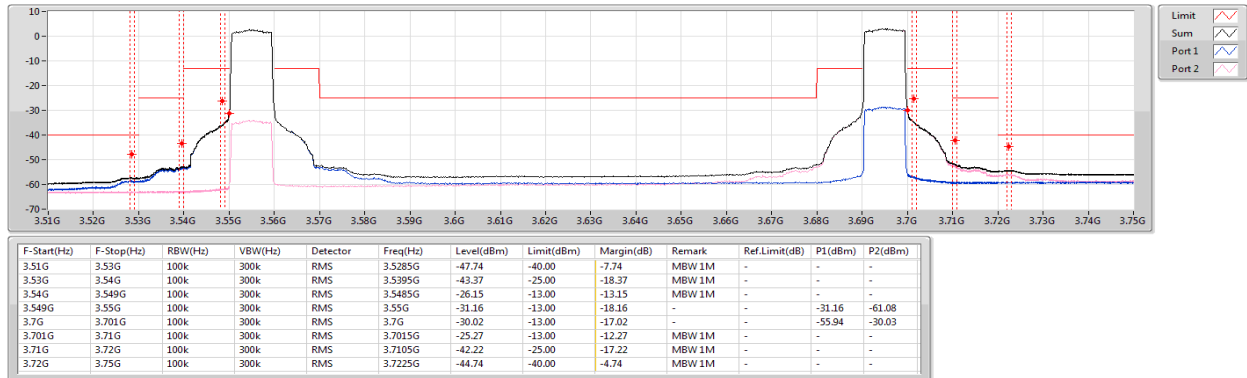
Band Edge Summary

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	3.7225G	-44.74	-40.00	-4.74	MBW 1M	-
LTE_10MHz+10MHz_Nss1,16QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7205G	-45.14	-40.00	-5.14	MBW 1M	-
LTE_10MHz+10MHz_Nss1,64QAM_2TX	Pass	3.72G	3.75G	100k	300k	RMS	3.7205G	-45.15	-40.00	-5.15	MBW 1M	-
LTE_10MHz+20MHz_Nss1,QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.01	-40.00	-2.01	MBW 1M	-
LTE_10MHz+20MHz_Nss1,16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-40.97	-40.00	-0.97	MBW 1M	-
LTE_10MHz+20MHz_Nss1,64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-40.84	-40.00	-0.84	MBW 1M	-
LTE_20MHz+10MHz_Nss1,QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7225G	-44.82	-40.00	-4.82	MBW 1M	-
LTE_20MHz+10MHz_Nss1,16QAM_2TX	Pass	3.51G	3.53G	200k	620k	RMS	3.5295G	-44.86	-40.00	-4.86	MBW 1M	-
LTE_20MHz+10MHz_Nss1,64QAM_2TX	Pass	3.51G	3.53G	200k	620k	RMS	3.5295G	-44.67	-40.00	-4.67	MBW 1M	-
LTE_20MHz+20MHz_Nss1,QPSK_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-42.02	-40.00	-2.02	MBW 1M	-
LTE_20MHz+20MHz_Nss1,16QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-41.22	-40.00	-1.22	MBW 1M	-
LTE_20MHz+20MHz_Nss1,64QAM_2TX	Pass	3.72G	3.75G	200k	620k	RMS	3.7205G	-41.06	-40.00	-1.06	MBW 1M	-

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

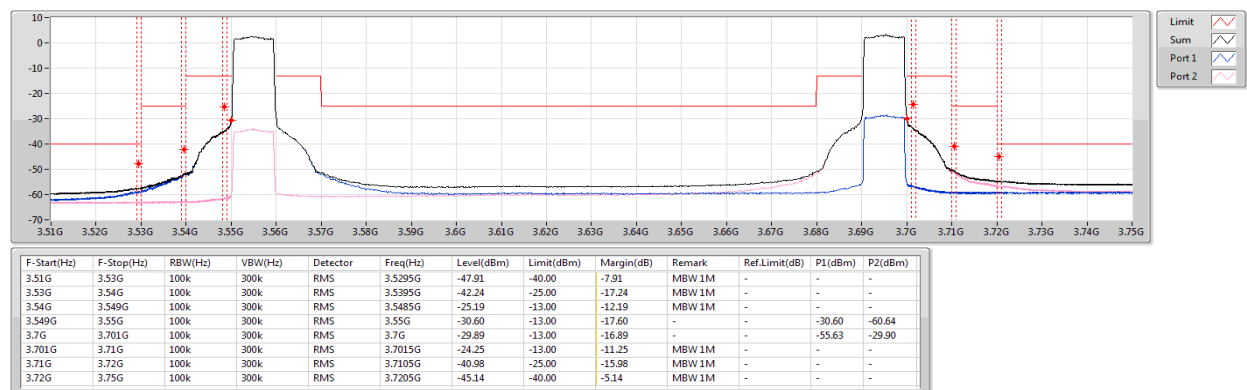
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

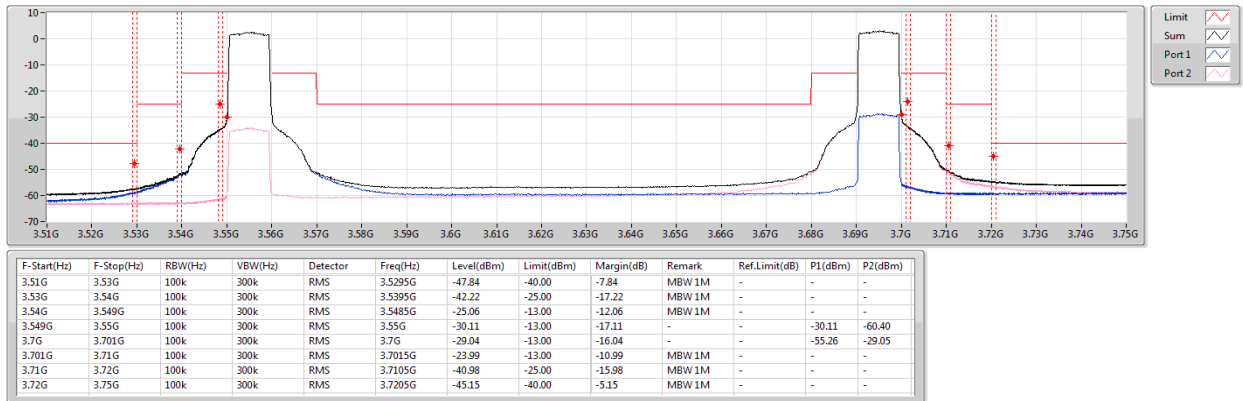
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Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

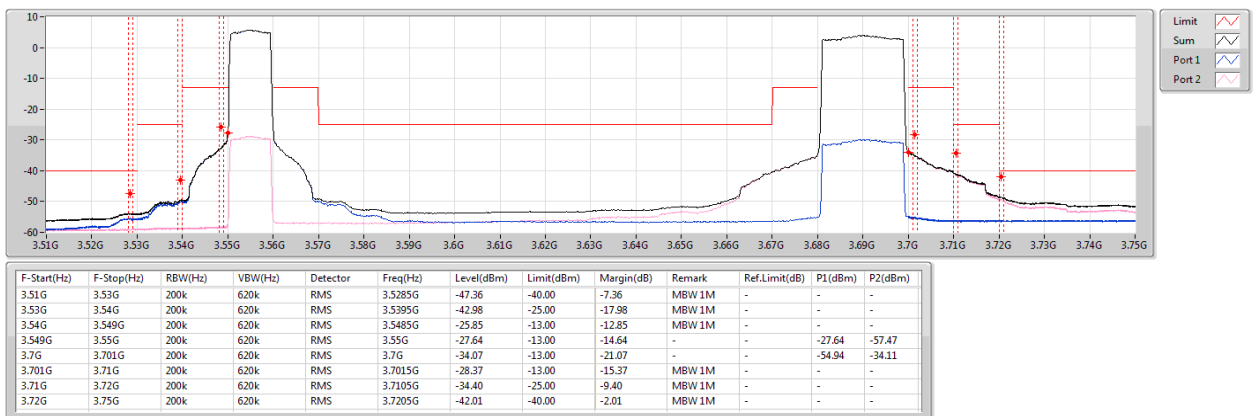
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Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

CSE-TX-Sum

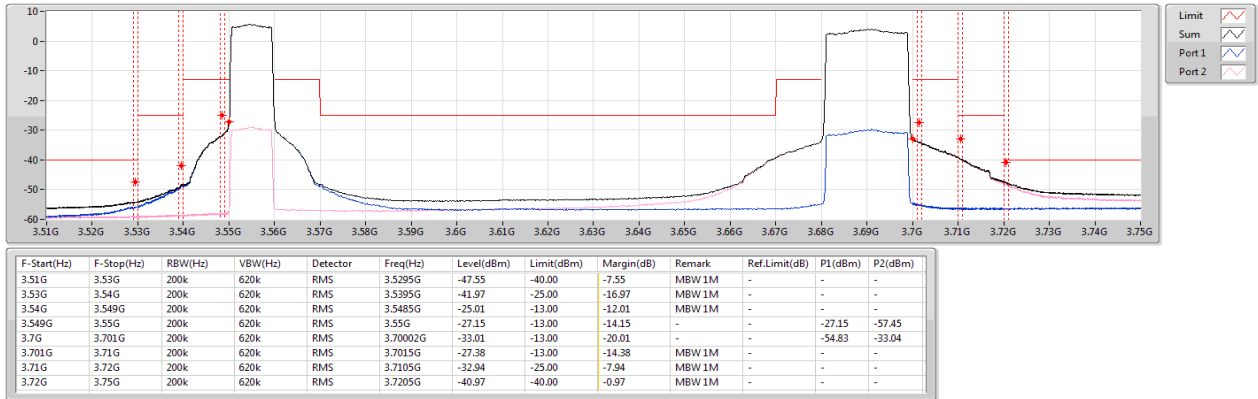
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

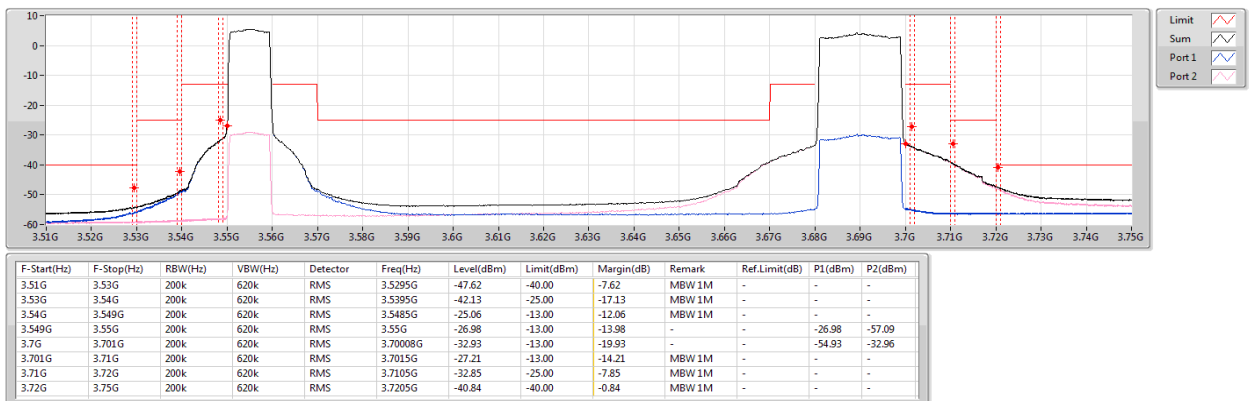
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

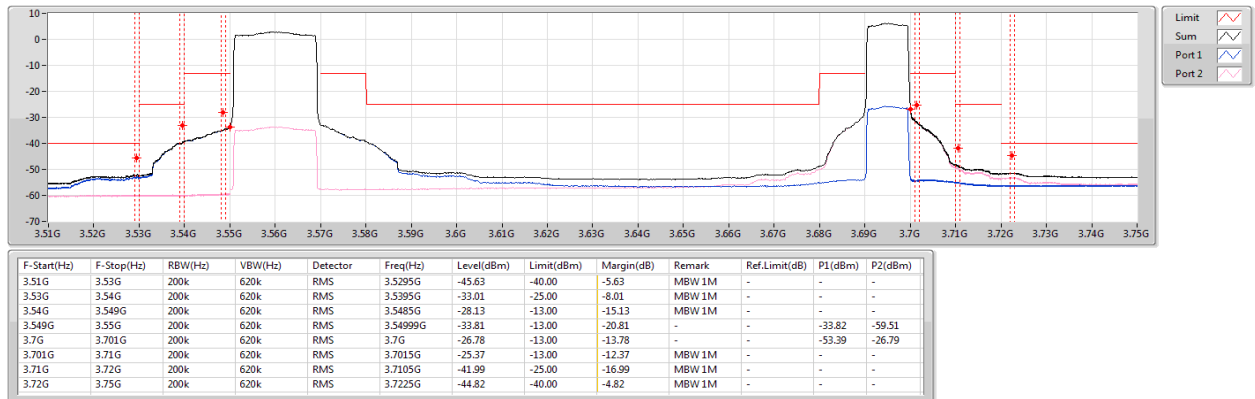
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

CSE-TX-Sum

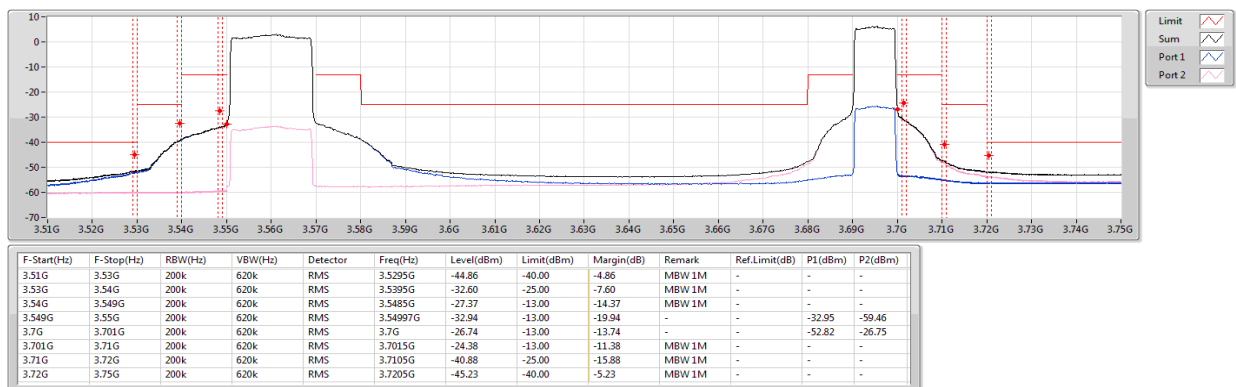
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

CSE-TX-Sum

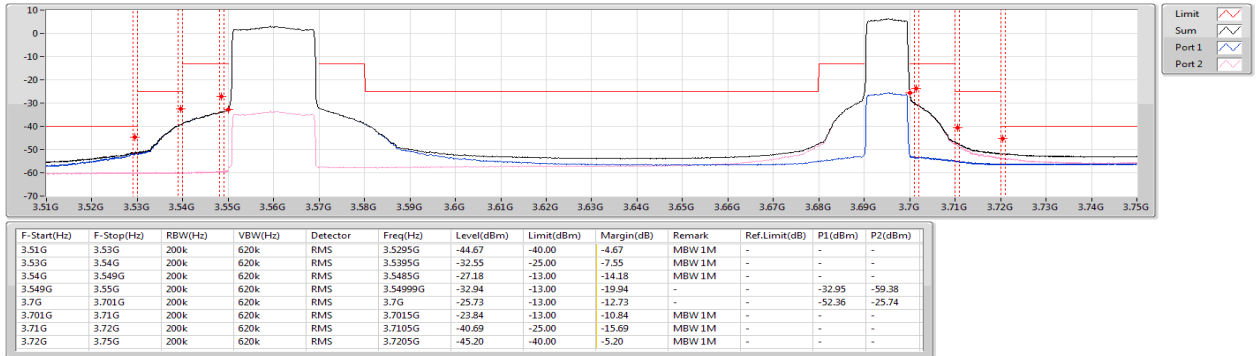
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

CSE-TX-Sum

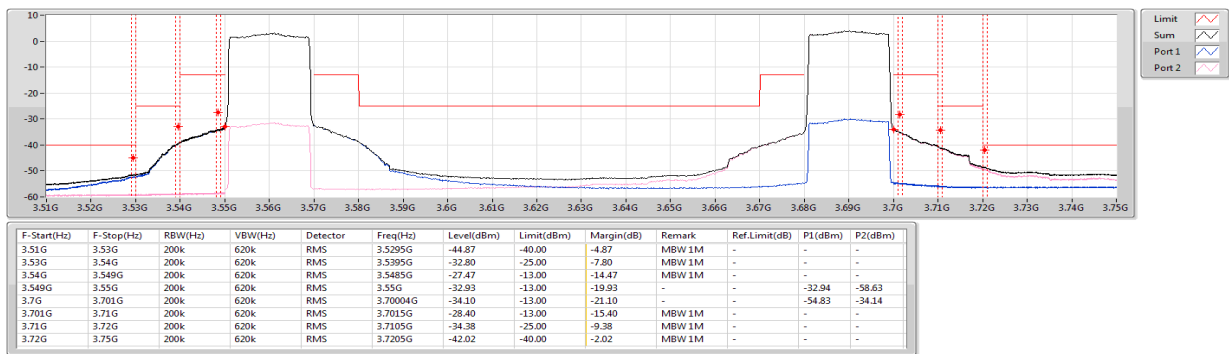
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

CSE-TX-Sum

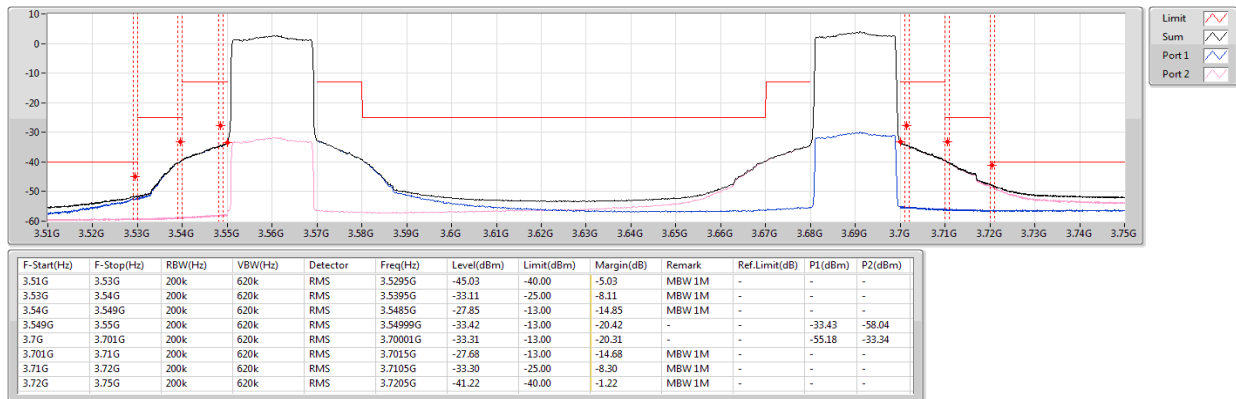
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

CSE-TX-Sum

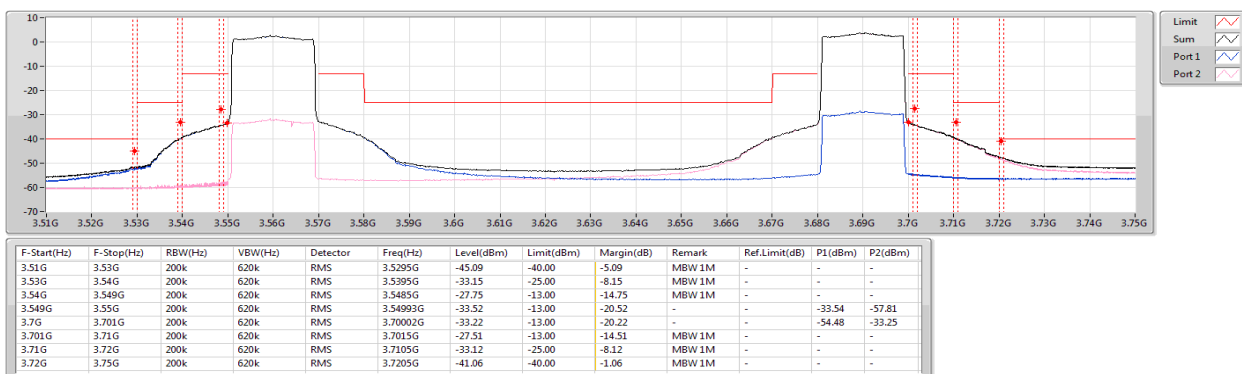
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

CSE-TX-Sum

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

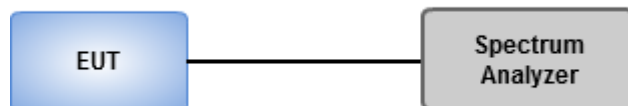


3.4 Emission Bandwidth

3.4.1 Test Procedures

1. Set resolution bandwidth (RBW) = 1% ~ 5 % of OBW, Video bandwidth = 3 x RBW
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
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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	9.738M	8.927M	8M93G7D	9.613M	8.909M
LTE_10MHz_Nss1,16QAM_2TX	9.913M	8.925M	8M93W7D	9.688M	8.912M
LTE_10MHz_Nss1,64QAM_2TX	9.863M	8.933M	8M93W7D	9.738M	8.922M
LTE_20MHz_Nss1,QPSK_2TX	19.025M	17.834M	17M8G7D	18.8M	17.811M
LTE_20MHz_Nss1,16QAM_2TX	19M	17.834M	17M8W7D	18.75M	17.787M
LTE_20MHz_Nss1,64QAM_2TX	19M	17.844M	17M8W7D	18.825M	17.805M

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;

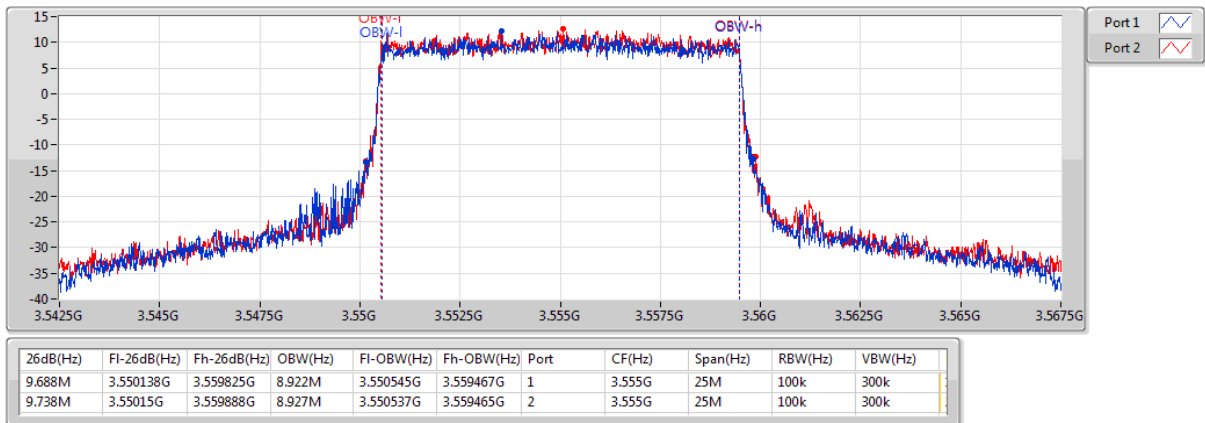
Result

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	9.688M	8.922M	9.738M	8.927M
3625MHz_QPSK_RB 50,#RB 0	Pass	Inf	9.7M	8.917M	9.638M	8.917M
3695MHz_QPSK_RB 50,#RB 0	Pass	Inf	9.638M	8.909M	9.613M	8.919M
3555MHz_16QAM_RB 50,#RB 0	Pass	Inf	9.913M	8.921M	9.813M	8.921M
3625MHz_16QAM_RB 50,#RB 0	Pass	Inf	9.788M	8.917M	9.813M	8.921M
3695MHz_16QAM_RB 50,#RB 0	Pass	Inf	9.688M	8.912M	9.8M	8.925M
3555MHz_64QAM_RB 50,#RB 0	Pass	Inf	9.863M	8.929M	9.775M	8.927M
3625MHz_64QAM_RB 50,#RB 0	Pass	Inf	9.825M	8.933M	9.825M	8.93M
3695MHz_64QAM_RB 50,#RB 0	Pass	Inf	9.738M	8.93M	9.813M	8.922M
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	Inf	18.85M	17.811M	18.925M	17.83M
3625MHz_QPSK_RB 100,#RB 0	Pass	Inf	18.85M	17.825M	18.8M	17.818M
3690MHz_QPSK_RB 100,#RB 0	Pass	Inf	19.025M	17.83M	18.85M	17.834M
3560MHz_16QAM_RB 100,#RB 0	Pass	Inf	18.75M	17.813M	18.975M	17.803M
3625MHz_16QAM_RB 100,#RB 0	Pass	Inf	18.825M	17.806M	19M	17.834M
3690MHz_16QAM_RB 100,#RB 0	Pass	Inf	18.85M	17.804M	18.8M	17.787M
3560MHz_64QAM_RB 100,#RB 0	Pass	Inf	18.9M	17.827M	19M	17.825M
3625MHz_64QAM_RB 100,#RB 0	Pass	Inf	18.95M	17.844M	18.825M	17.824M
3690MHz_64QAM_RB 100,#RB 0	Pass	Inf	18.875M	17.84M	18.975M	17.805M

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

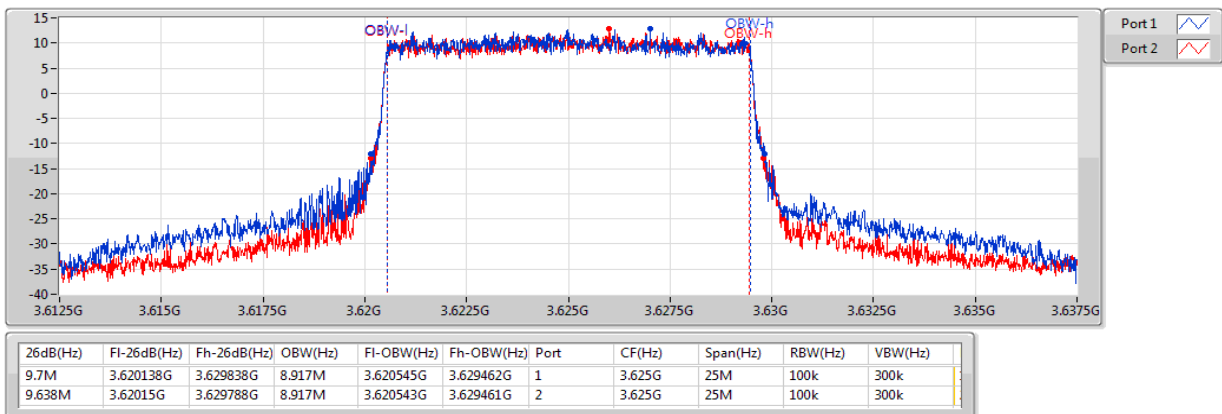
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3555MHz_QPSK_RB 50,#RB 0

EBW



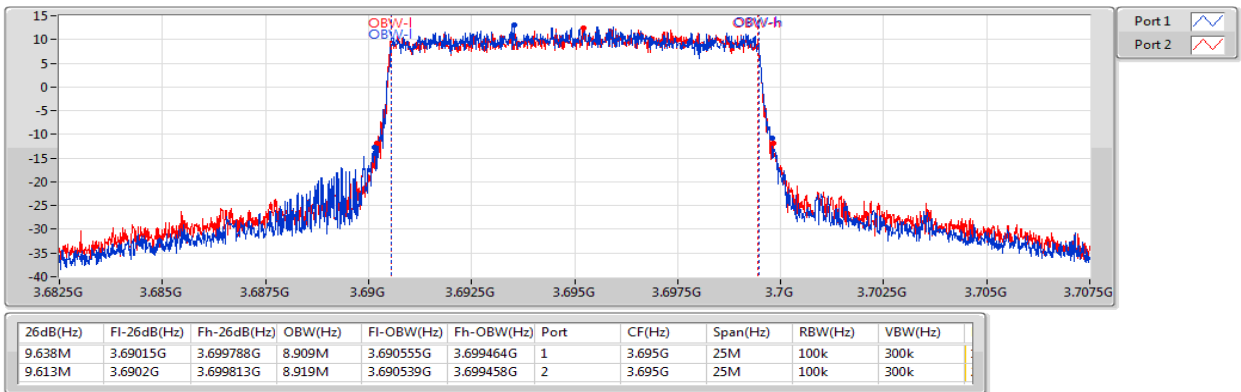
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 50,#RB 0

EBW



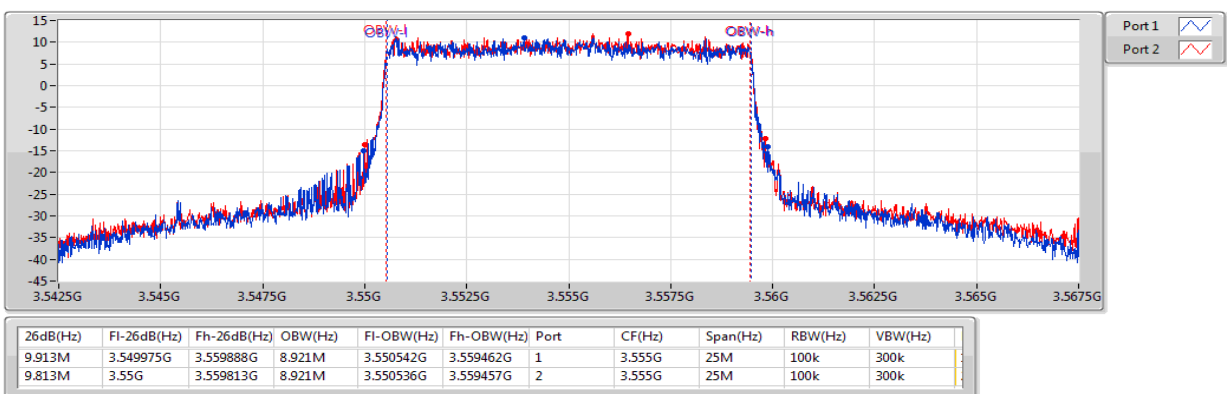
Band 48_LTE_10MHz_Nss1,QPSK_2TX
3695MHz_QPSK_RB 50,#RB 0

EBW



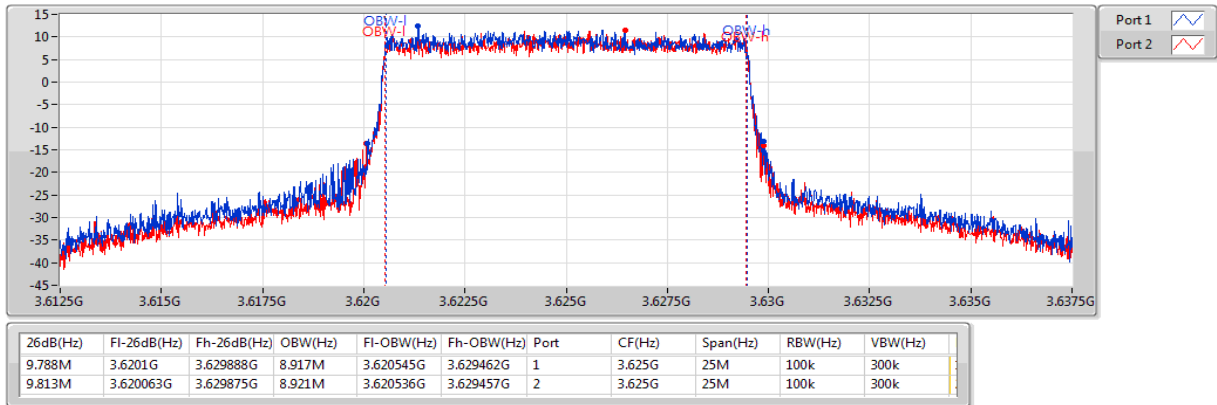
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3555MHz_16QAM_RB 50,#RB 0

EBW



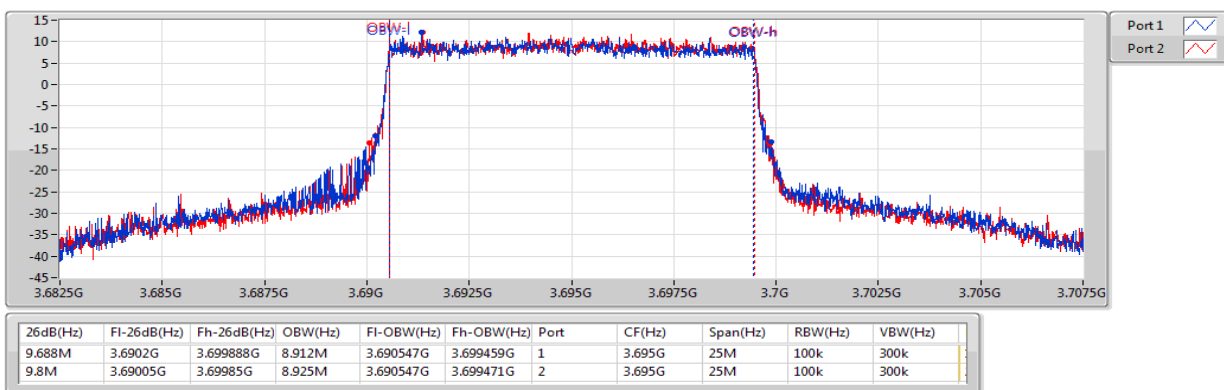
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 50,#RB 0

EBW



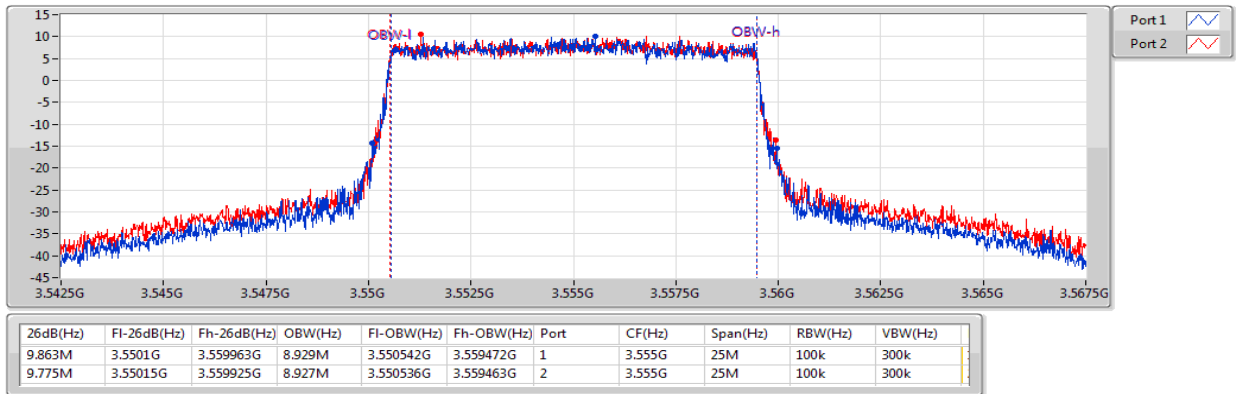
Band 48_LTE_10MHz_Nss1,16QAM_2TX
3695MHz_16QAM_RB 50,#RB 0

EBW



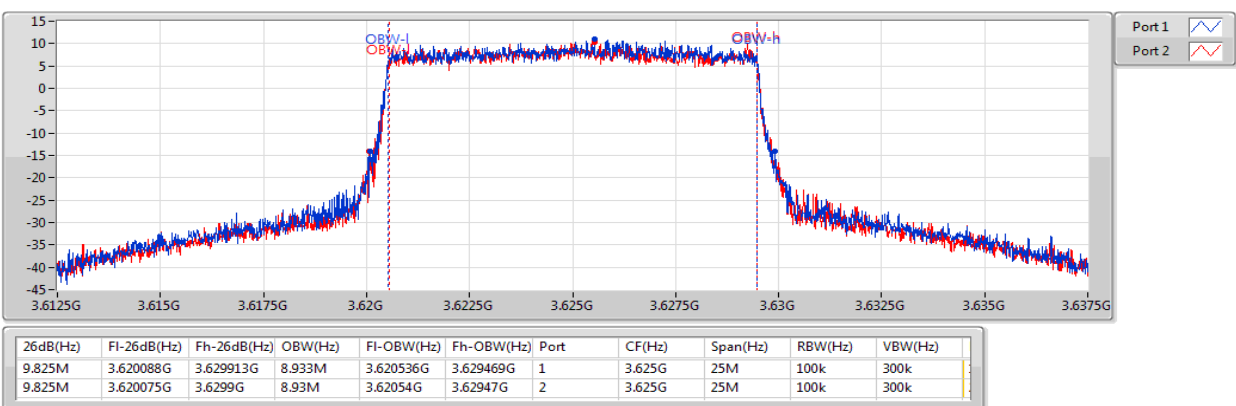
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3555MHz_64QAM_RB 50,#RB 0

EBW



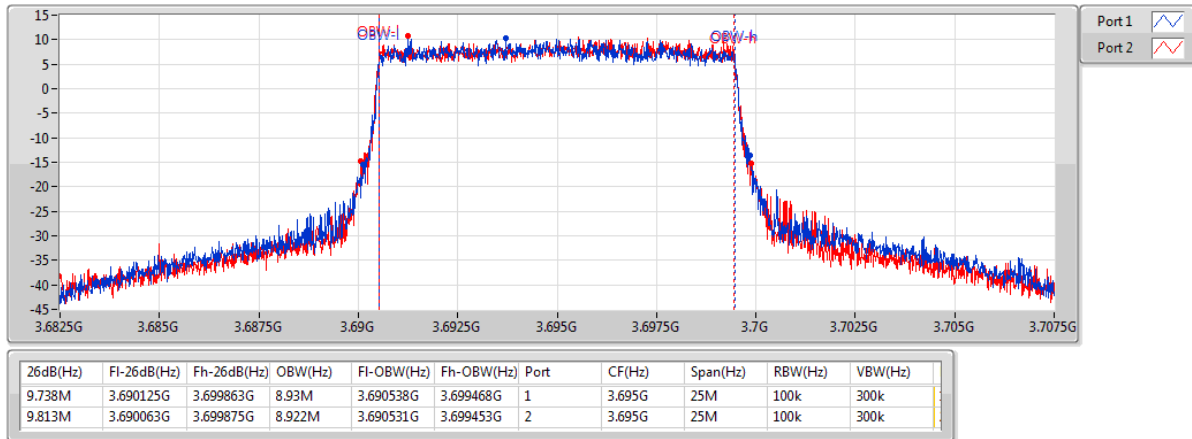
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 50,#RB 0

EBW



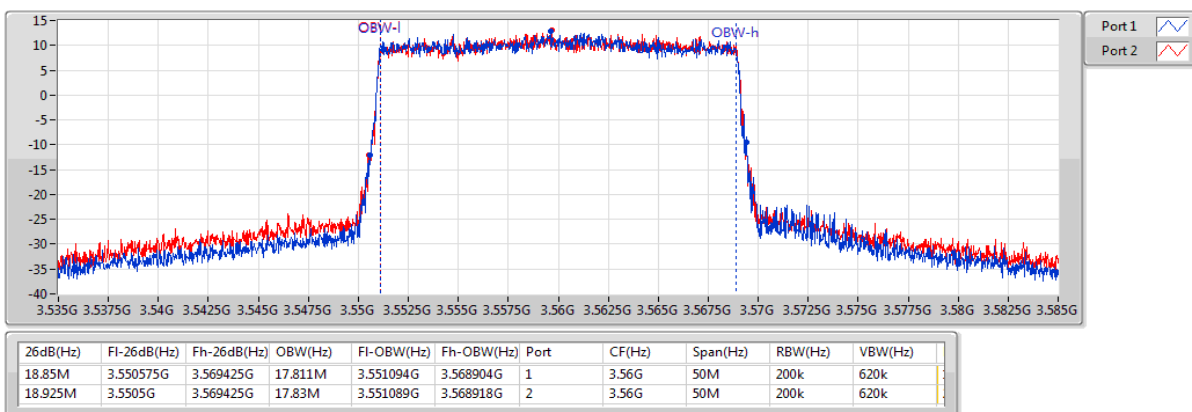
Band 48_LTE_10MHz_Nss1,64QAM_2TX
3695MHz_64QAM_RB 50,#RB 0

EBW



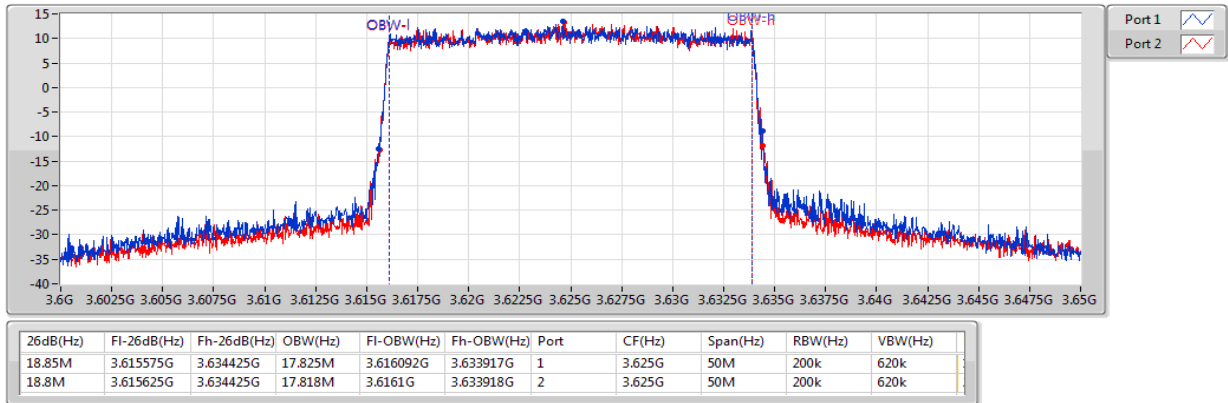
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3560MHz_QPSK_RB 100,#RB 0

EBW



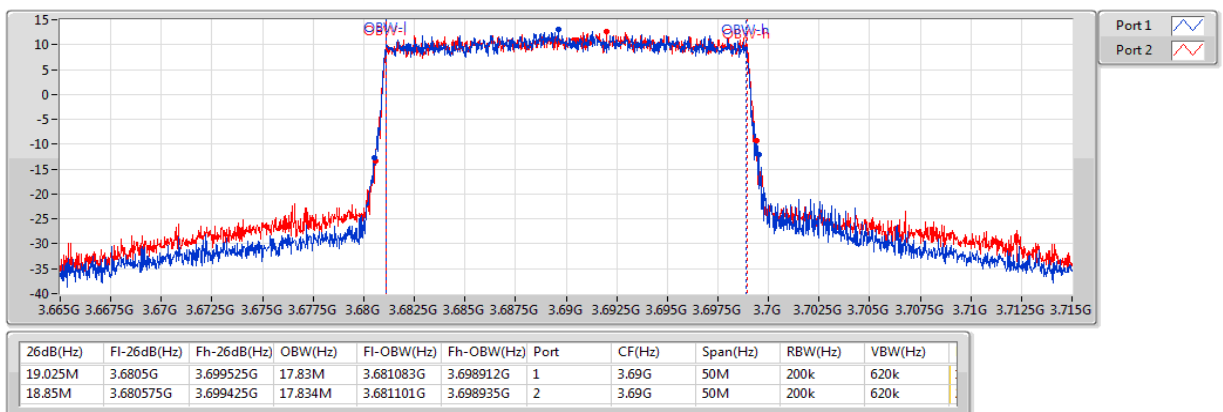
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3625MHz_QPSK_RB 100,#RB 0

EBW



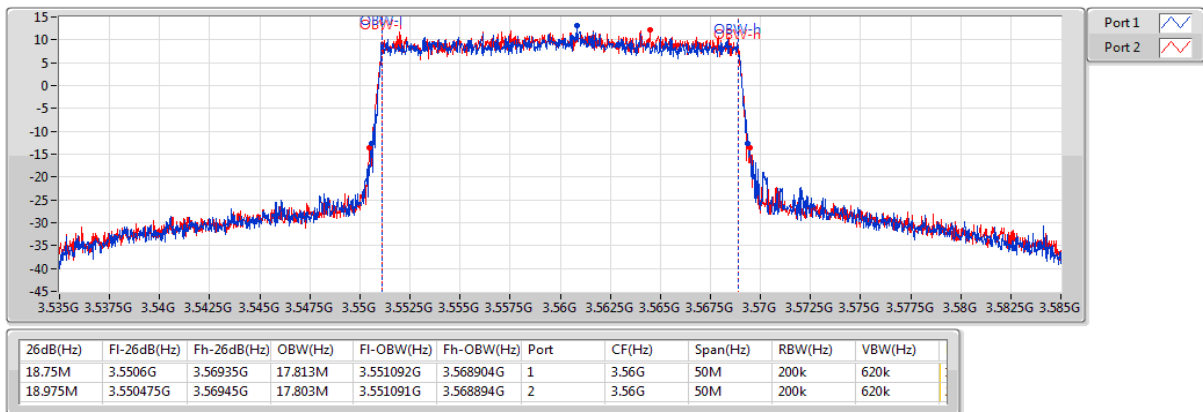
Band 48_LTE_20MHz_Nss1,QPSK_2TX
3690MHz_QPSK_RB 100,#RB 0

EBW



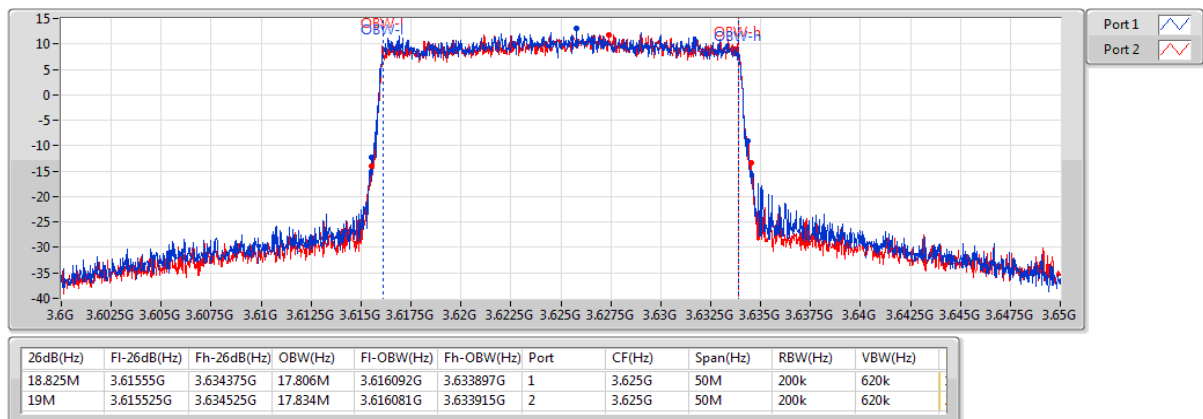
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3560MHz_16QAM_RB 100,#RB 0

EBW



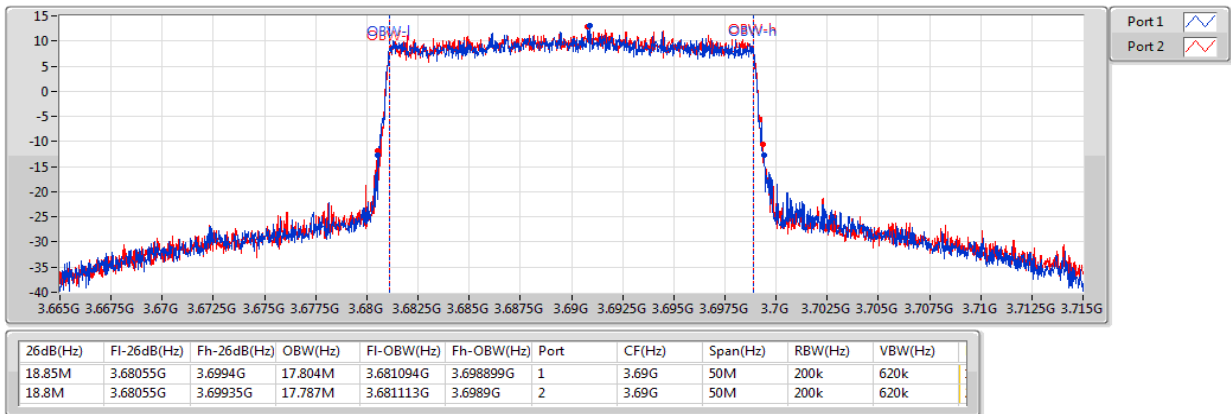
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3625MHz_16QAM_RB 100,#RB 0

EBW



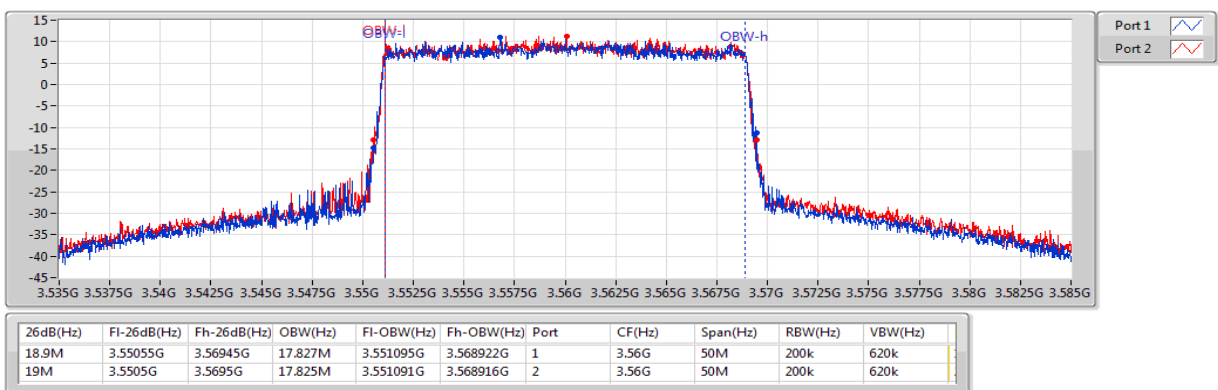
Band 48_LTE_20MHz_Nss1,16QAM_2TX
3690MHz_16QAM_RB 100,#RB 0

EBW



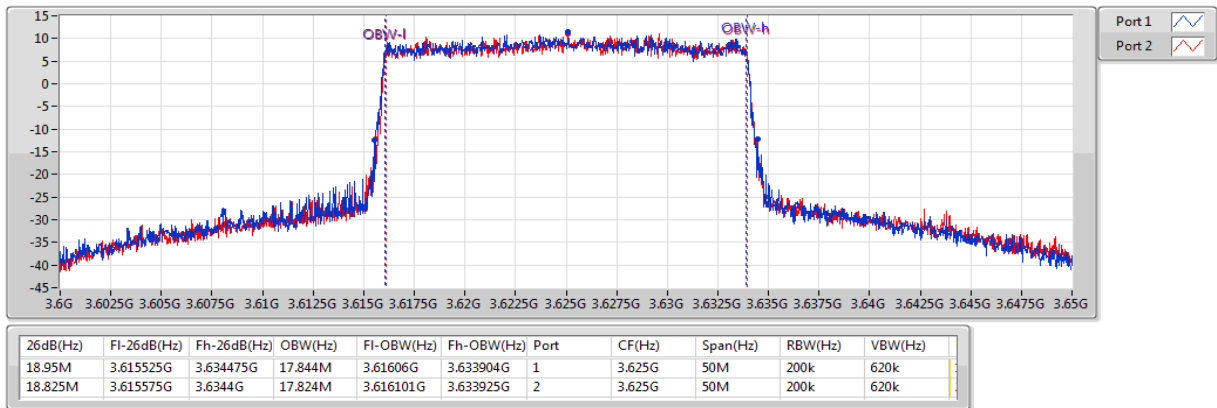
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3560MHz_64QAM_RB 100,#RB 0

EBW



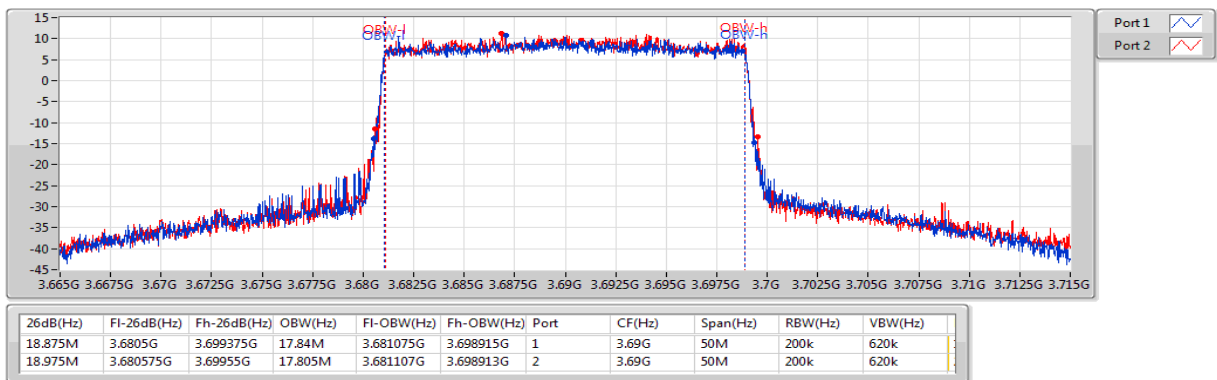
Band 48_LTE_20MHz_Nss1,64QAM_2TX
3625MHz_64QAM_RB 100,#RB 0

EBW



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

EBW



3.4.4 Test Result of Occupied Bandwidth (CA Mode)

Multi-carrier Summary

Mode	Max-NdB (Hz)	Max-OBW (Hz)	ITU-Code
Band 48	-	-	-
LTE_10MHz+10MHz_Nss1,QPSK_2TX	19.45M	17.849M	17M8G7D
LTE_10MHz+10MHz_Nss1,16QAM_2TX	19.563M	17.858M	17M9W7D
LTE_10MHz+10MHz_Nss1,64QAM_2TX	19.713M	17.881M	17M9W7D
LTE_10MHz+20MHz_Nss1,QPSK_2TX	28.625M	26.745M	26M7G7D
LTE_10MHz+20MHz_Nss1,16QAM_2TX	28.625M	26.743M	26M7W7D
LTE_10MHz+20MHz_Nss1,64QAM_2TX	28.888M	26.776M	26M8W7D
LTE_20MHz+10MHz_Nss1,QPSK_2TX	28.625M	26.766M	26M8G7D
LTE_20MHz+10MHz_Nss1,16QAM_2TX	28.663M	26.759M	26M8W7D
LTE_20MHz+10MHz_Nss1,64QAM_2TX	28.925M	26.787M	26M8W7D
LTE_20MHz+20MHz_Nss1,QPSK_2TX	37.925M	35.67M	35M7G7D
LTE_20MHz+20MHz_Nss1,16QAM_2TX	37.85M	35.66M	35M7W7D
LTE_20MHz+20MHz_Nss1,64QAM_2TX	37.975M	35.68M	35M7W7D

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+10MHz_Nss1_2TX	-	-	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	Inf	9.725M	8.923M	9.725M	8.926M
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	Inf	9.775M	8.929M	9.788M	8.929M
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	Inf	9.838M	8.933M	9.875M	8.948M
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	Inf	9.675M	8.917M	18.95M	17.828M
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	Inf	9.775M	8.922M	18.85M	17.821M
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	Inf	9.888M	8.918M	19M	17.858M
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	Inf	18.925M	17.822M	9.7M	8.944M
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	Inf	18.875M	17.837M	9.788M	8.922M
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	Inf	19.05M	17.846M	9.875M	8.941M
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	Inf	18.95M	17.829M	18.975M	17.841M
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	Inf	18.875M	17.821M	18.975M	17.839M
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	Inf	18.925M	17.842M	19.05M	17.838M

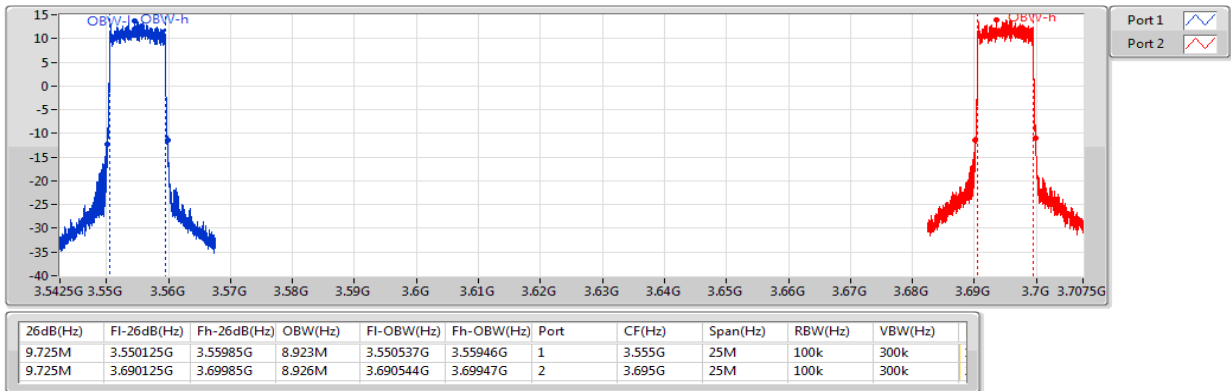
Port X-N dB = Port X 26dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

Mode	Result	Limit (Hz)	Port 1 + Port 2 -NdB (Hz)	Port 1 + Port 2 -OBW (Hz)
Band 48_LTE_10MHz+10MHz_Nss1_2TX	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	Inf	9.725M	8.923M
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	Inf	9.775M	8.929M
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	Inf	9.838M	8.933M
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	Inf	9.675M	8.917M
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	Inf	9.775M	8.922M
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	Inf	9.888M	8.918M
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	Inf	18.925M	17.822M
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	Inf	18.875M	17.837M
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	Inf	19.05M	17.846M
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	Inf	18.95M	17.829M
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	Inf	18.875M	17.821M
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	Inf	18.925M	17.842M

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

EBW

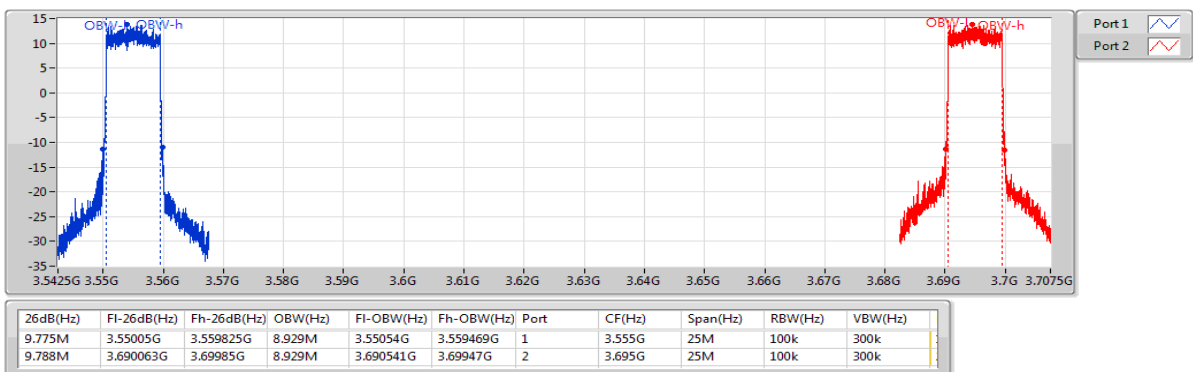
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

EBW

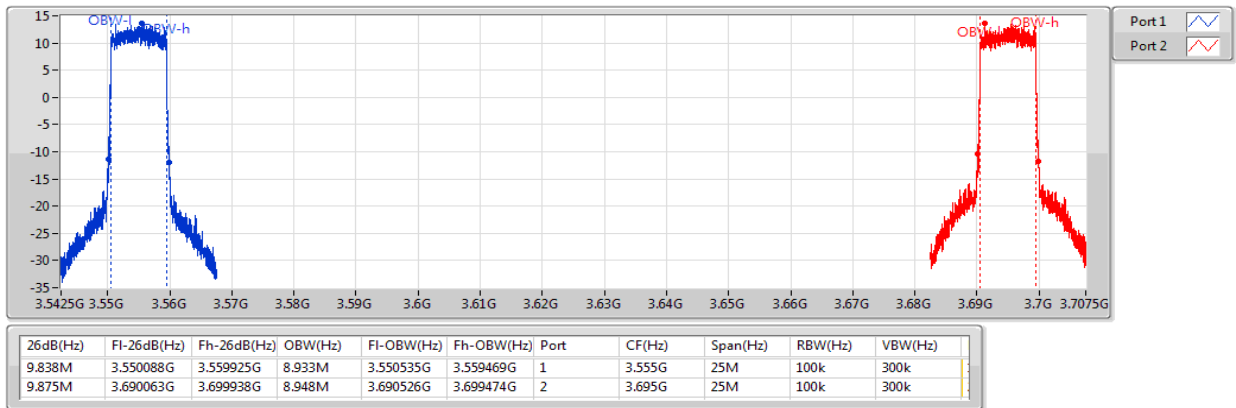
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

EBW

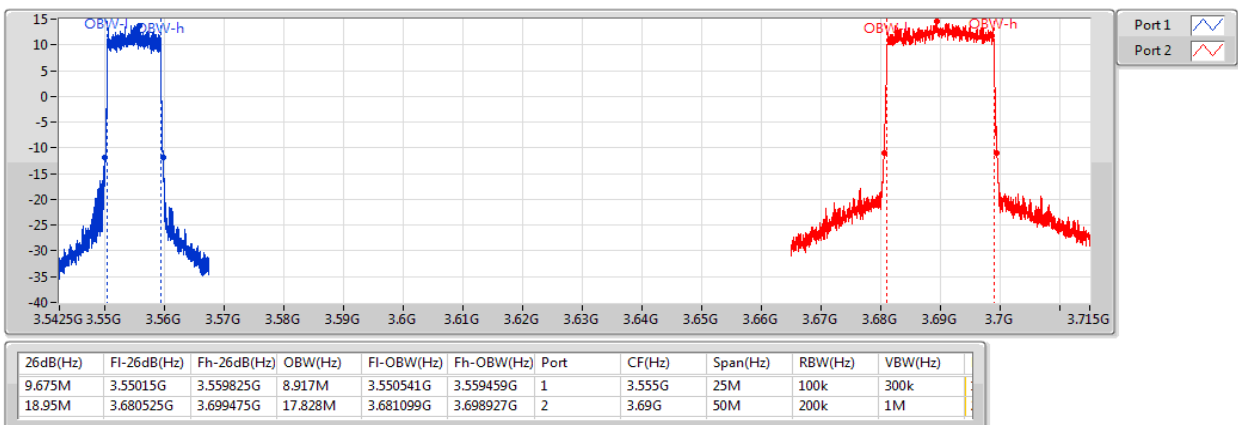
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

EBW

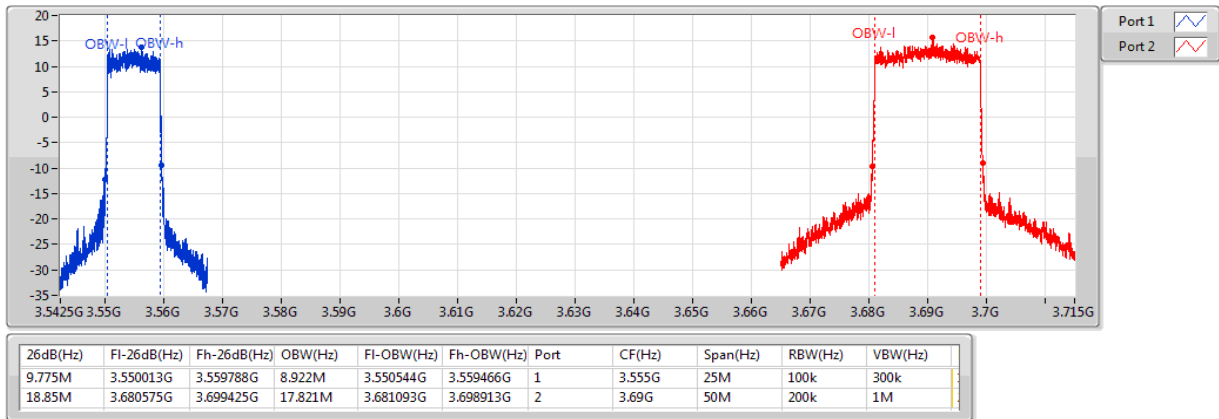
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

EBW

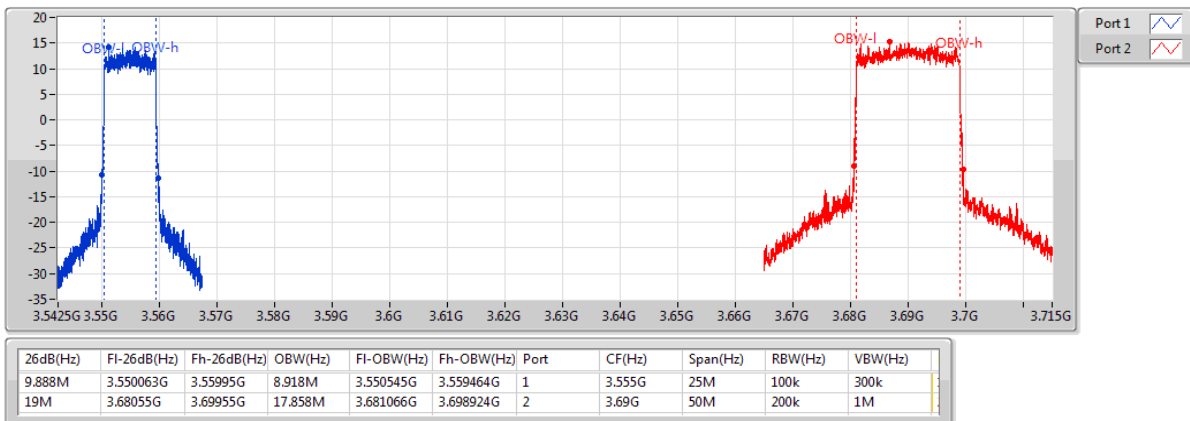
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

EBW

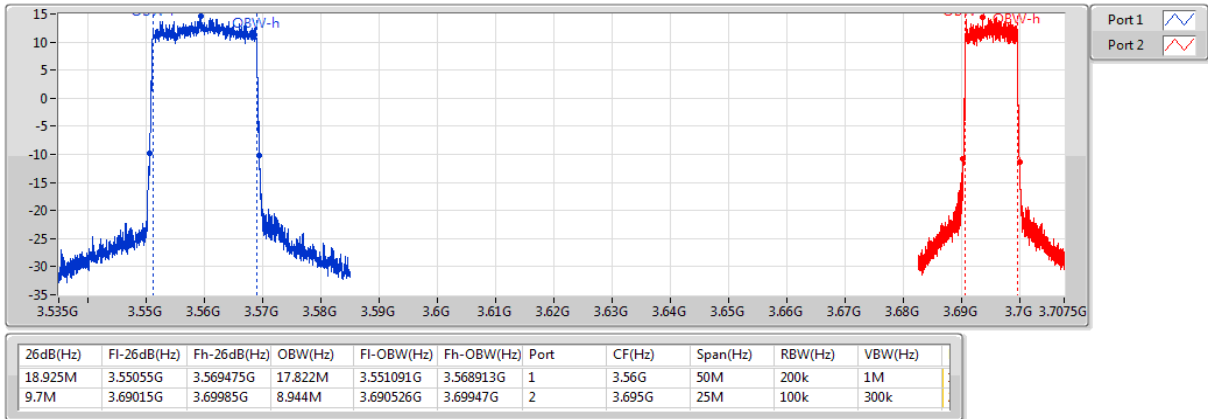
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

EBW

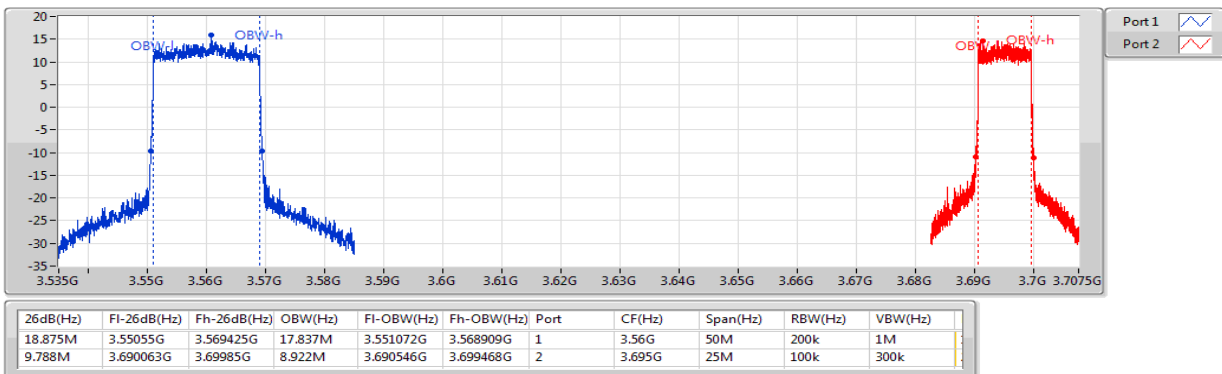
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

EBW

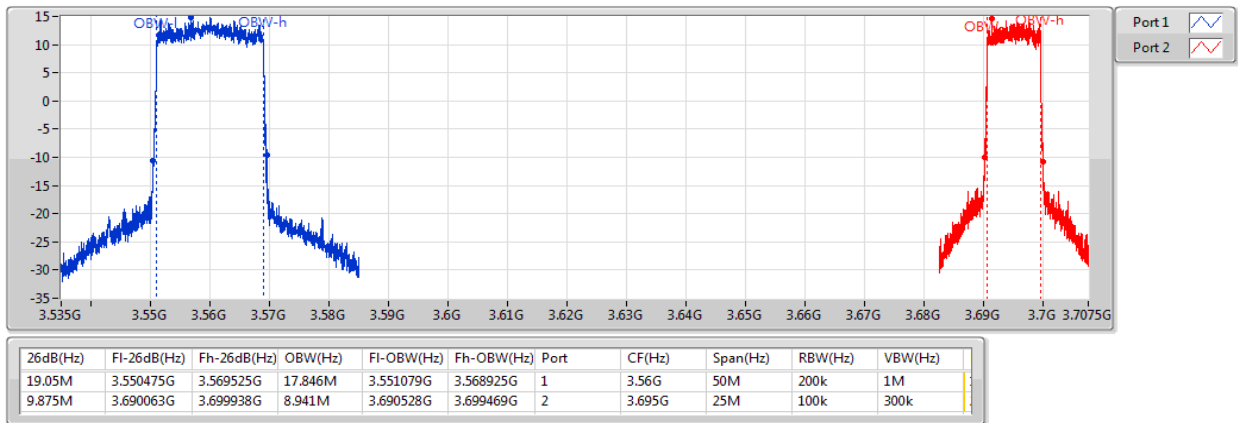
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

EBW

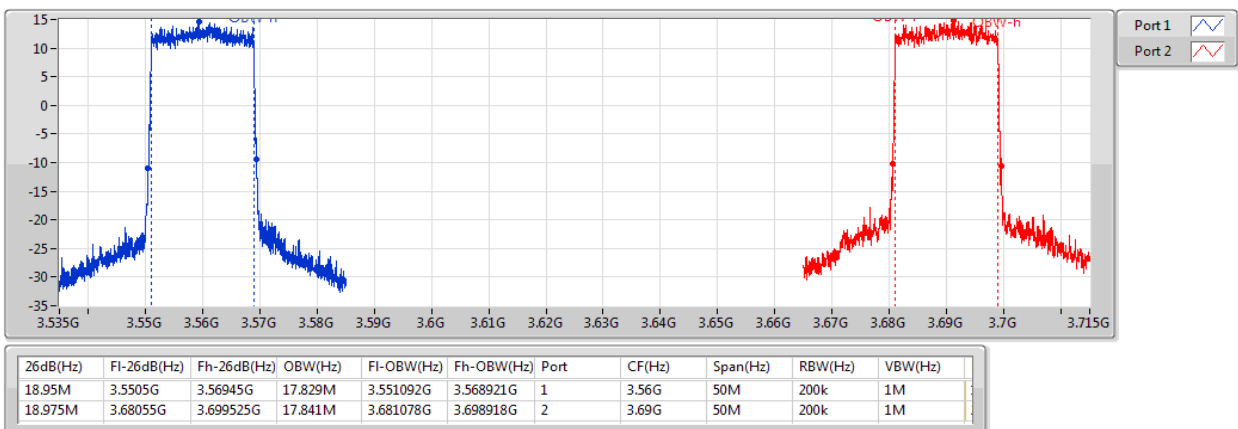
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

EBW

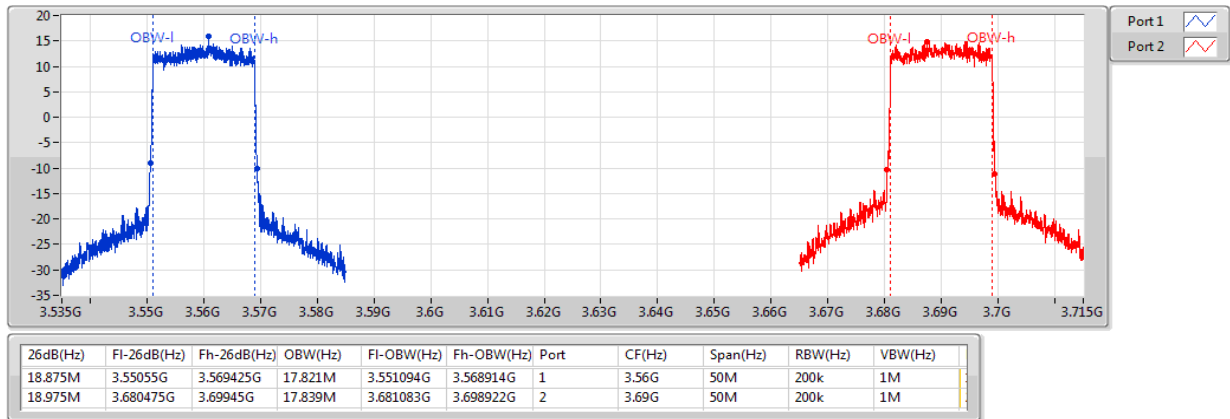
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

EBW

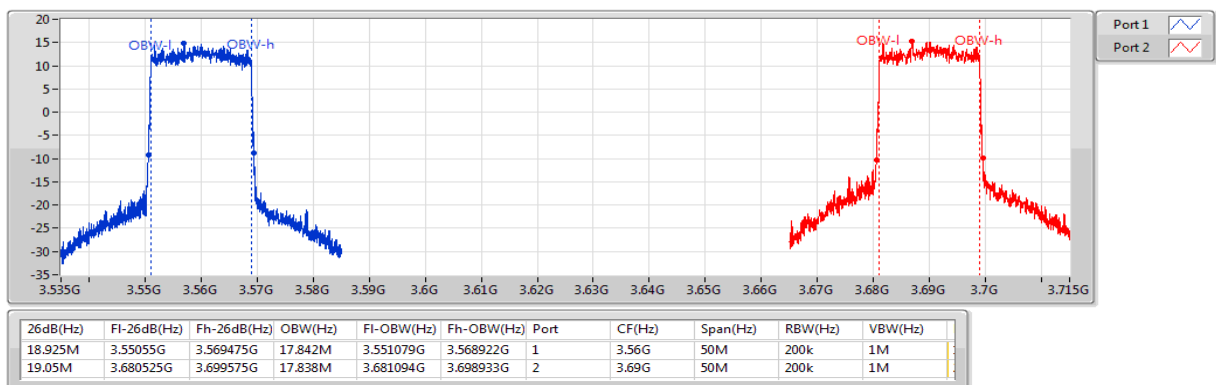
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

EBW

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



3.5 Peak to Average Ratio

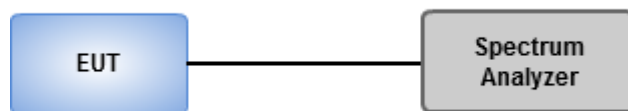
3.5.1 Limit of Peak to Average Ratio

Peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

3.5.2 Test Procedures

1. Enable CCDF function of spectrum analyzer and set RBW=10MHz.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.5.3 Test Setup



Ambient Condition	18-22°C / 64-66%	Tested By	Aska Huang
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3.5.4 Test Result of Peak to Average Ratio (CDD Mode)

Single-carrier Summary

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48	-	-	-	-	-
LTE_10MHz_Nss1,QPSK_2TX	Pass	3555	13.00	5.22	2
LTE_10MHz_Nss1,16QAM_2TX	Pass	3555	13.00	5.94	2
LTE_10MHz_Nss1,64QAM_2TX	Pass	3555	13.00	6.07	1
LTE_20MHz_Nss1,QPSK_2TX	Pass	3560	13.00	5.38	1
LTE_20MHz_Nss1,16QAM_2TX	Pass	3625	13.00	6.24	2
LTE_20MHz_Nss1,64QAM_2TX	Pass	3560	13.00	6.32	2

Result

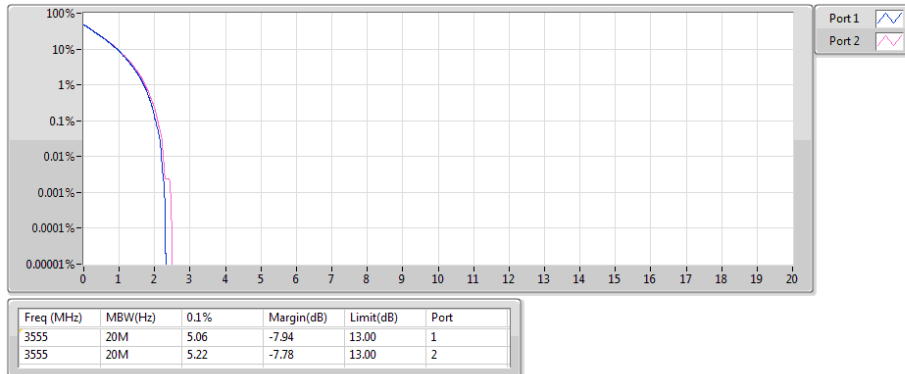
Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48_LTE_10MHz_Nss1_2TX	-	-	-	-	-
3555MHz_QPSK_RB 50,#RB 0	Pass	3555	13.00	5.06	1
3555MHz_QPSK_RB 50,#RB 0	Pass	3555	13.00	5.22	2
3625MHz_QPSK_RB 50,#RB 0	Pass	3625	13.00	4.91	1
3625MHz_QPSK_RB 50,#RB 0	Pass	3625	13.00	4.97	2
3695MHz_QPSK_RB 50,#RB 0	Pass	3695	13.00	5.12	1
3695MHz_QPSK_RB 50,#RB 0	Pass	3695	13.00	4.75	2
3555MHz_16QAM_RB 50,#RB 0	Pass	3555	13.00	5.67	1
3555MHz_16QAM_RB 50,#RB 0	Pass	3555	13.00	5.94	2
3625MHz_16QAM_RB 50,#RB 0	Pass	3625	13.00	5.54	1
3625MHz_16QAM_RB 50,#RB 0	Pass	3625	13.00	5.61	2
3695MHz_16QAM_RB 50,#RB 0	Pass	3695	13.00	5.55	1
3695MHz_16QAM_RB 50,#RB 0	Pass	3695	13.00	5.51	2
3555MHz_64QAM_RB 50,#RB 0	Pass	3555	13.00	6.07	1
3555MHz_64QAM_RB 50,#RB 0	Pass	3555	13.00	5.84	2
3625MHz_64QAM_RB 50,#RB 0	Pass	3625	13.00	5.95	1
3625MHz_64QAM_RB 50,#RB 0	Pass	3625	13.00	5.94	2
3695MHz_64QAM_RB 50,#RB 0	Pass	3695	13.00	5.99	1
3695MHz_64QAM_RB 50,#RB 0	Pass	3695	13.00	5.99	2
Band 48_LTE_20MHz_Nss1_2TX	-	-	-	-	-
3560MHz_QPSK_RB 100,#RB 0	Pass	3560	13.00	5.38	1
3560MHz_QPSK_RB 100,#RB 0	Pass	3560	13.00	5.31	2
3625MHz_QPSK_RB 100,#RB 0	Pass	3625	13.00	5.27	1
3625MHz_QPSK_RB 100,#RB 0	Pass	3625	13.00	5.30	2
3690MHz_QPSK_RB 100,#RB 0	Pass	3690	13.00	5.37	1
3690MHz_QPSK_RB 100,#RB 0	Pass	3690	13.00	5.07	2
3560MHz_16QAM_RB 100,#RB 0	Pass	3560	13.00	6.03	1
3560MHz_16QAM_RB 100,#RB 0	Pass	3560	13.00	6.15	2
3625MHz_16QAM_RB 100,#RB 0	Pass	3625	13.00	5.93	1
3625MHz_16QAM_RB 100,#RB 0	Pass	3625	13.00	6.24	2
3690MHz_16QAM_RB 100,#RB 0	Pass	3690	13.00	5.86	1
3690MHz_16QAM_RB 100,#RB 0	Pass	3690	13.00	5.81	2
3560MHz_64QAM_RB 100,#RB 0	Pass	3560	13.00	6.18	1
3560MHz_64QAM_RB 100,#RB 0	Pass	3560	13.00	6.32	2
3625MHz_64QAM_RB 100,#RB 0	Pass	3625	13.00	6.09	1

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
3625MHz_64QAM_RB 100,#RB 0	Pass	3625	13.00	6.15	2
3690MHz_64QAM_RB 100,#RB 0	Pass	3690	13.00	6.15	1
3690MHz_64QAM_RB 100,#RB 0	Pass	3690	13.00	6.16	2

Band 48_LTE_10MHz_Nss1,QPSK_2TX

PAR

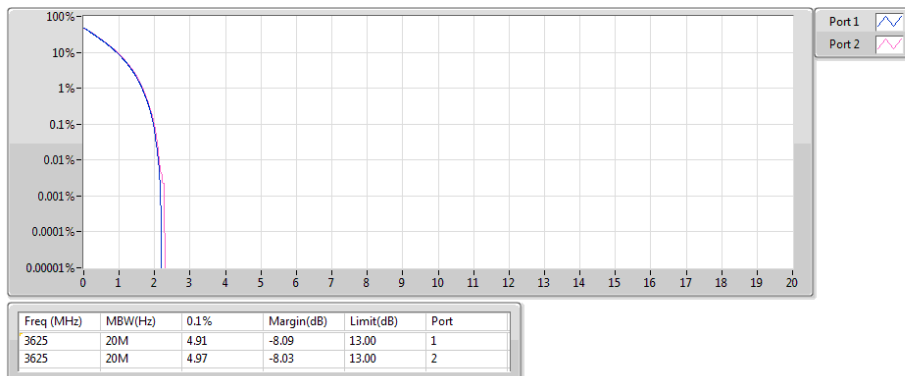
3555MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PAR

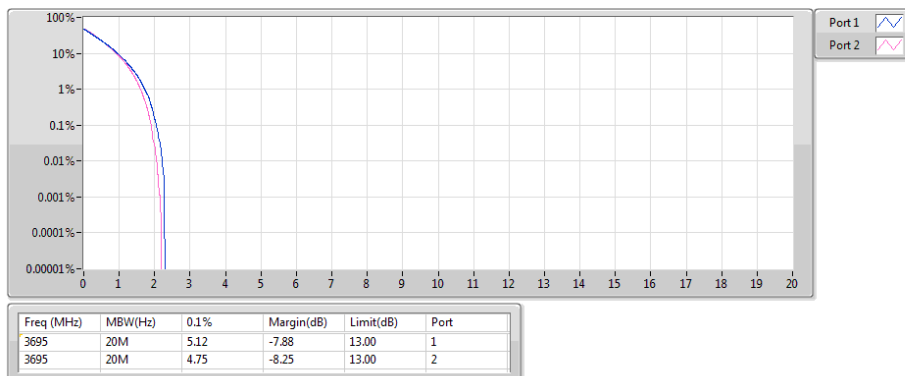
3625MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,QPSK_2TX

PAR

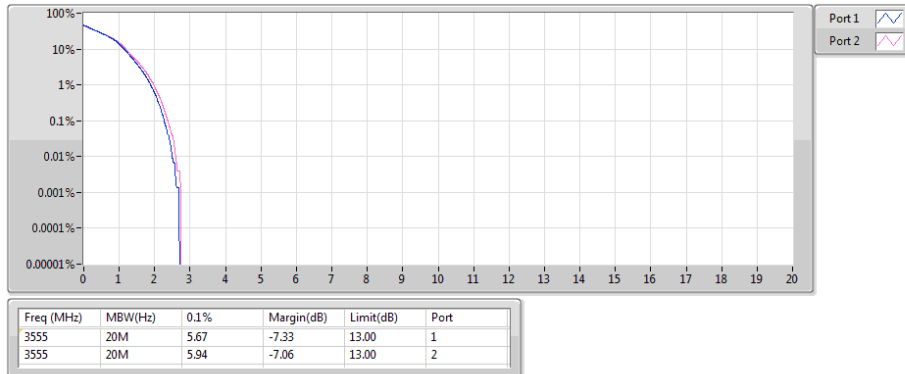
3695MHz_QPSK_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PAR

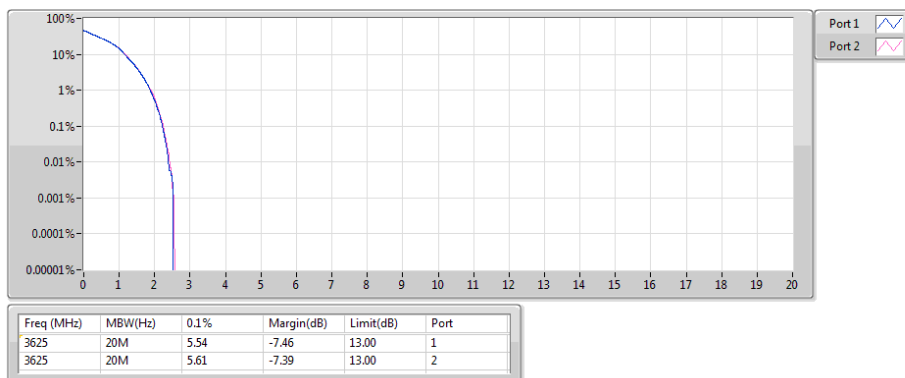
3555MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PAR

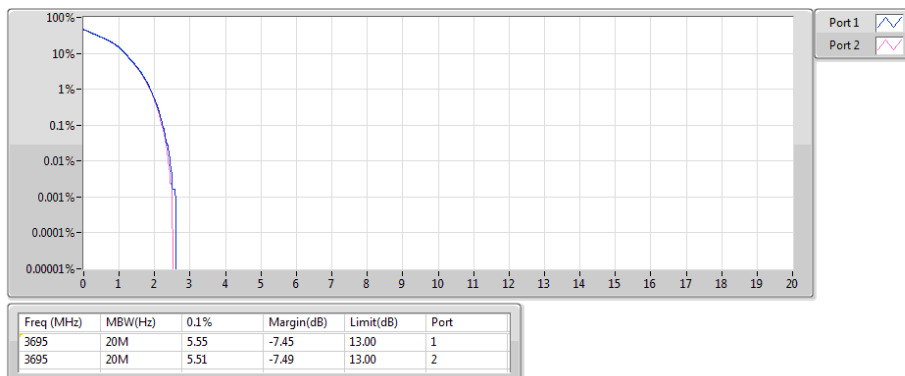
3625MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,16QAM_2TX

PAR

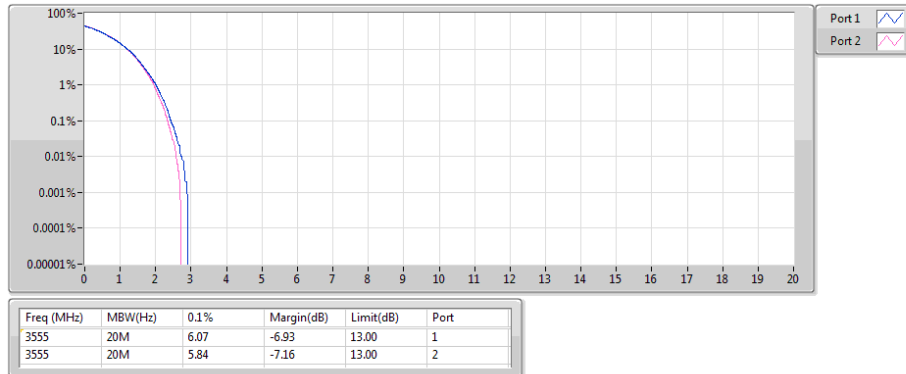
3695MHz_16QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PAR

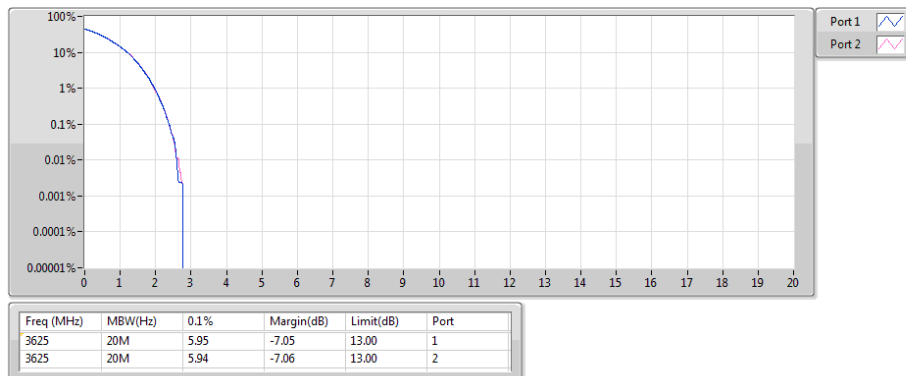
3555MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PAR

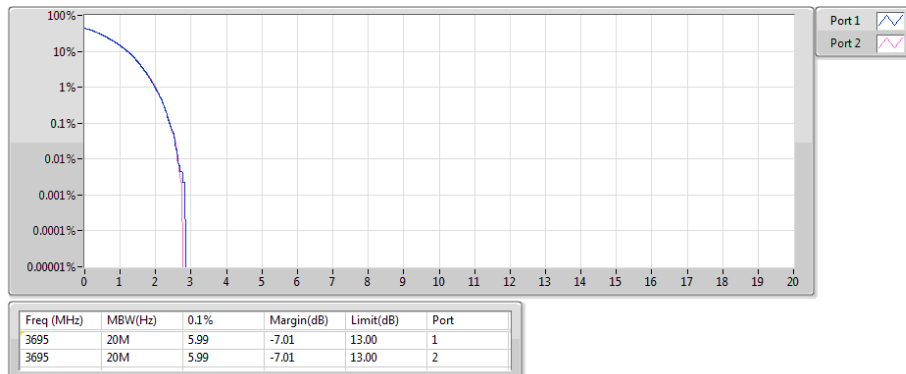
3625MHz_64QAM_RB 50,#RB 0



Band 48_LTE_10MHz_Nss1,64QAM_2TX

PAR

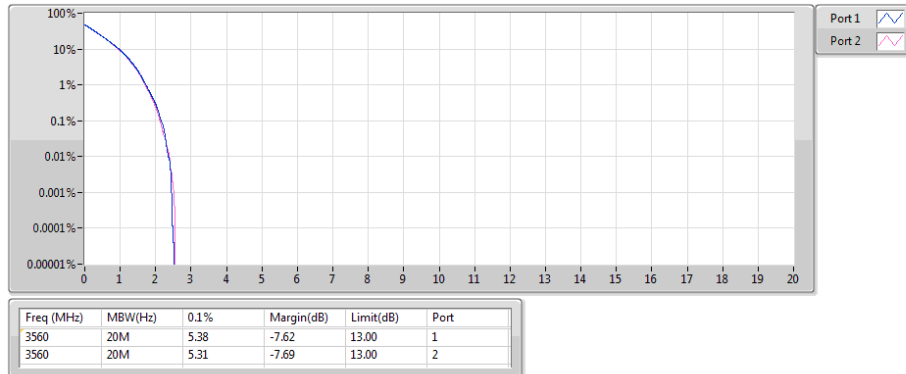
3695MHz_64QAM_RB 50,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PAR

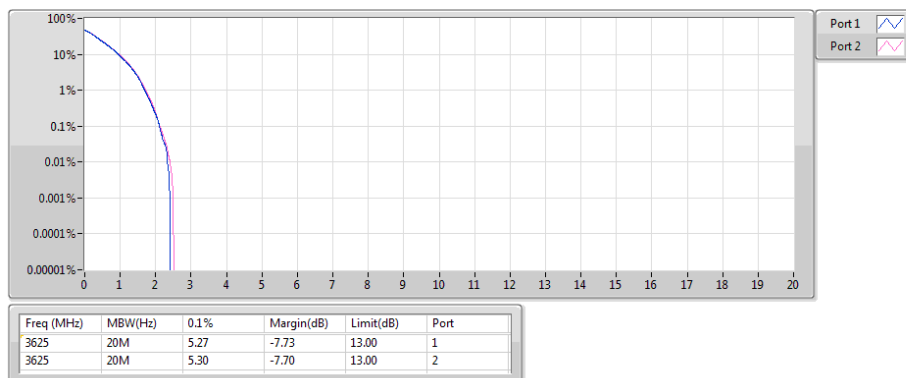
3560MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PAR

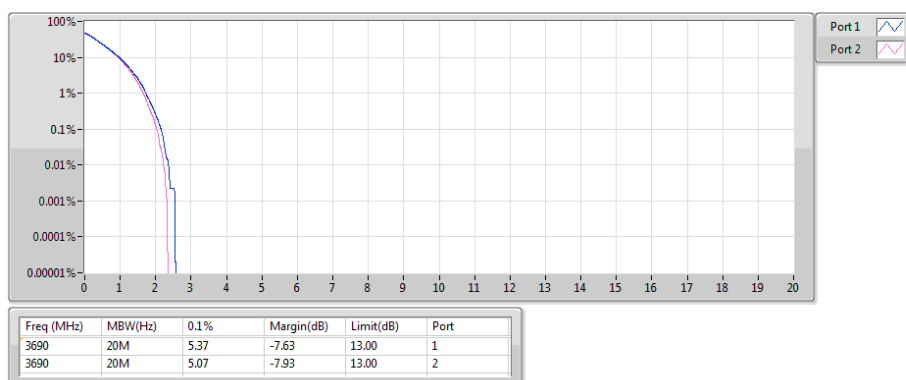
3625MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,QPSK_2TX

PAR

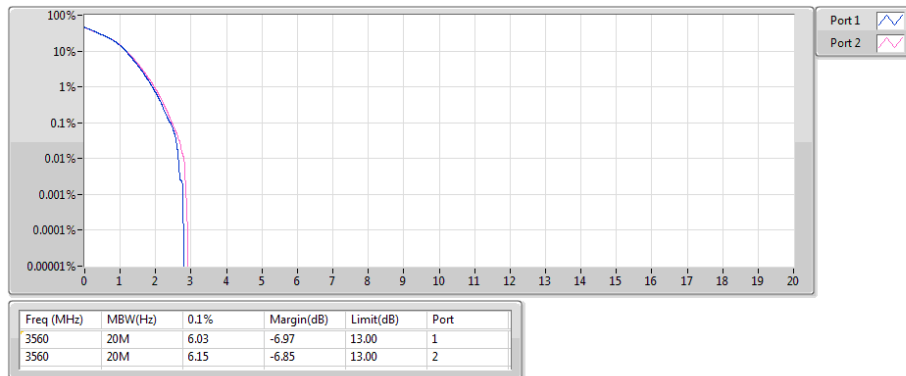
3690MHz_QPSK_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PAR

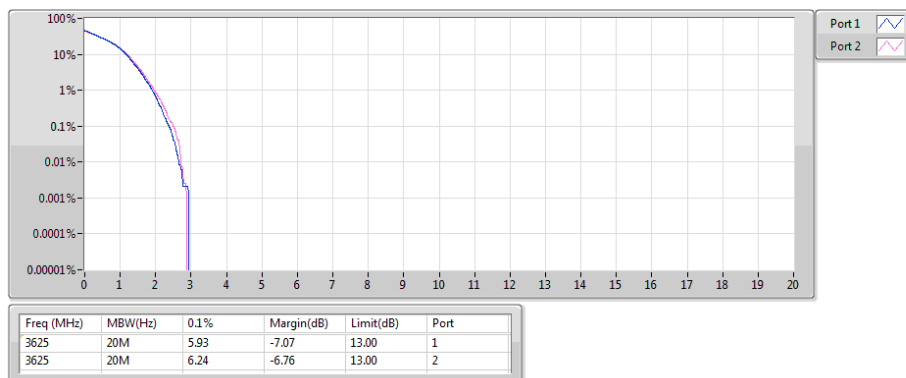
3560MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PAR

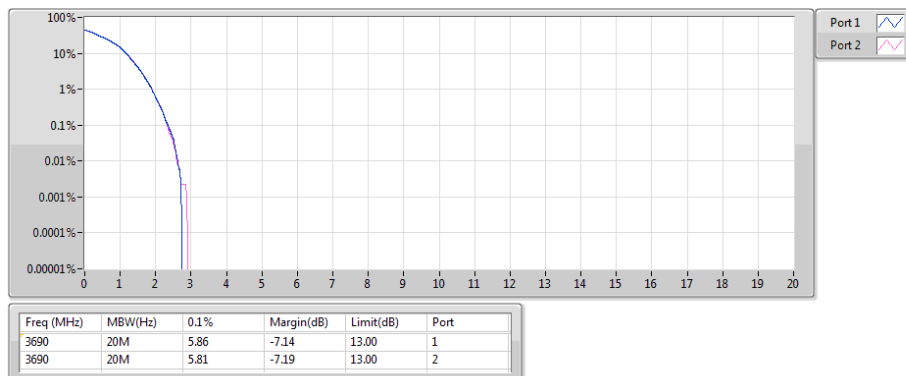
3625MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,16QAM_2TX

PAR

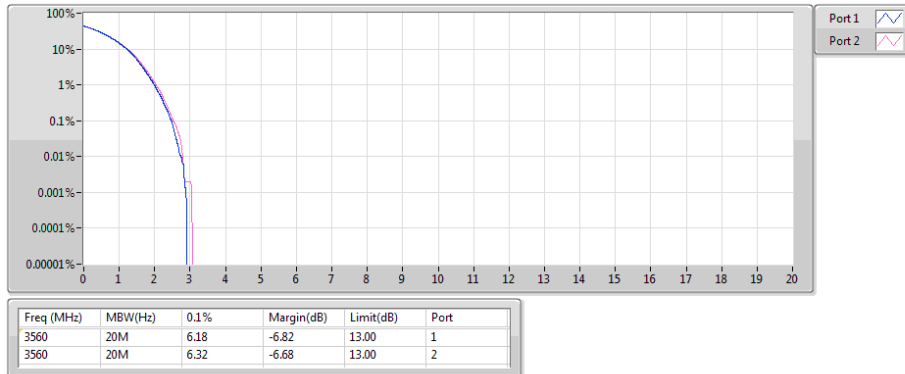
3690MHz_16QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PAR

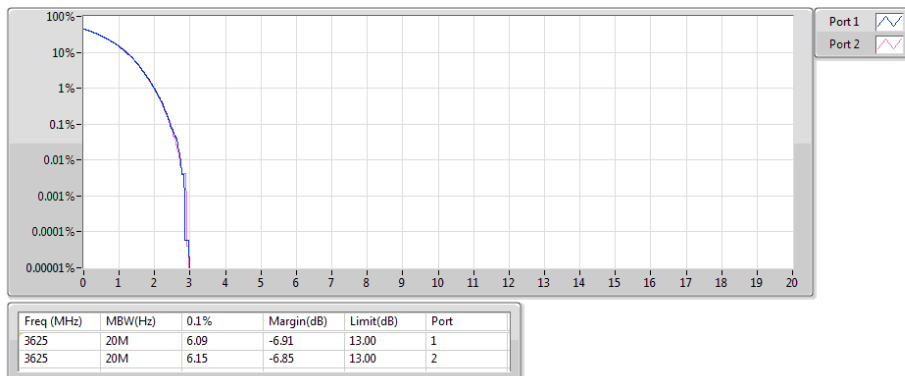
3560MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PAR

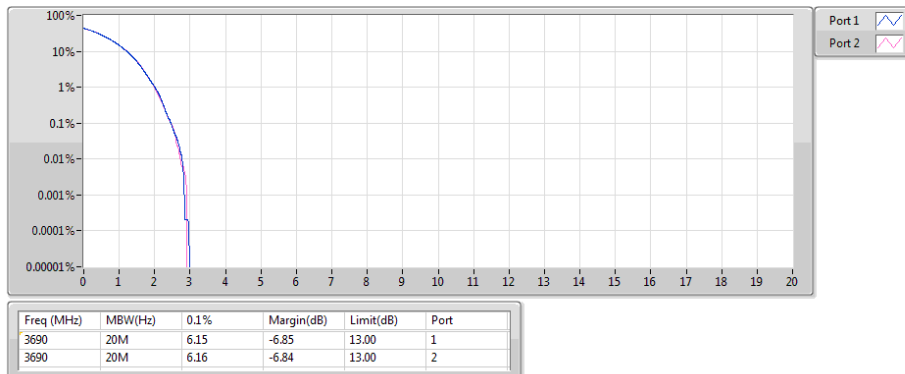
3625MHz_64QAM_RB 100,#RB 0



Band 48_LTE_20MHz_Nss1,64QAM_2TX

PAR

3690MHz_64QAM_RB 100,#RB 0



3.5.5 Test Result of Peak to Average Ratio (CA Mode)

Multi-carrier Summary

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48	-	-	-	-	-
LTE_10MHz+10MHz_Nss1,QPSK_2TX	Pass	3555	13.00	4.97	1
LTE_10MHz+10MHz_Nss1,16QAM_2TX	Pass	3555	13.00	5.27	1
LTE_10MHz+10MHz_Nss1,64QAM_2TX	Pass	3555	13.00	5.39	1
LTE_10MHz+20MHz_Nss1,QPSK_2TX	Pass	3555	13.00	4.96	1
LTE_10MHz+20MHz_Nss1,16QAM_2TX	Pass	3555	13.00	5.38	1
LTE_10MHz+20MHz_Nss1,64QAM_2TX	Pass	3555	13.00	5.37	1
LTE_20MHz+10MHz_Nss1,QPSK_2TX	Pass	3560	13.00	5.15	1
LTE_20MHz+10MHz_Nss1,16QAM_2TX	Pass	3560	13.00	5.61	1
LTE_20MHz+10MHz_Nss1,64QAM_2TX	Pass	3560	13.00	5.62	1
LTE_20MHz+20MHz_Nss1,QPSK_2TX	Pass	3560	13.00	5.14	1
LTE_20MHz+20MHz_Nss1,16QAM_2TX	Pass	3560	13.00	5.59	1
LTE_20MHz+20MHz_Nss1,64QAM_2TX	Pass	3560	13.00	5.63	1

Result

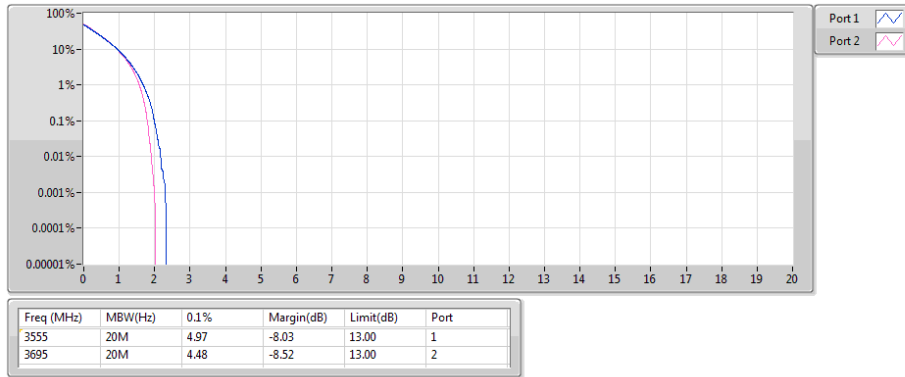
Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 48_LTE_10MHz+10MHz_Nss1_2TX	-	-	-	-	-
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	3555	13.00	4.97	1
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0	Pass	3695	13.00	4.48	2
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	3555	13.00	5.27	1
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	3695	13.00	4.70	2
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	3555	13.00	5.39	1
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0	Pass	3695	13.00	4.70	2
Band 48_LTE_10MHz+20MHz_Nss1_2TX	-	-	-	-	-
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	3555	13.00	4.96	1
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0	Pass	3690	13.00	4.89	2
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	3555	13.00	5.38	1
P#3555MHz,#3690MHz_16QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	3690	13.00	5.36	2
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	3555	13.00	5.37	1
P#3555MHz,#3690MHz_64QAM_RB 50,#RB 0+RB 100,#RB 0	Pass	3690	13.00	5.20	2
Band 48_LTE_20MHz+10MHz_Nss1_2TX	-	-	-	-	-
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	3560	13.00	5.15	1
P#3560MHz,#3695MHz_QPSK_RB 100,#RB 0+RB 50,#RB 0	Pass	3695	13.00	4.48	2
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	3560	13.00	5.61	1
P#3560MHz,#3695MHz_16QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	3695	13.00	4.73	2
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	3560	13.00	5.62	1
P#3560MHz,#3695MHz_64QAM_RB 100,#RB 0+RB 50,#RB 0	Pass	3695	13.00	4.81	2
Band 48_LTE_20MHz+20MHz_Nss1_2TX	-	-	-	-	-
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	3560	13.00	5.14	1

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
P#3560MHz,#3690MHz_QPSK_RB 100,#RB 0+RB 100,#RB 0	Pass	3690	13.00	4.86	2
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	3560	13.00	5.59	1
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	3690	13.00	5.24	2
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	3560	13.00	5.63	1
P#3560MHz,#3690MHz_64QAM_RB 100,#RB 0+RB 100,#RB 0	Pass	3690	13.00	5.22	2

Band 48_LTE_10MHz+10MHz_Nss1,QPSK_2TX

PAR

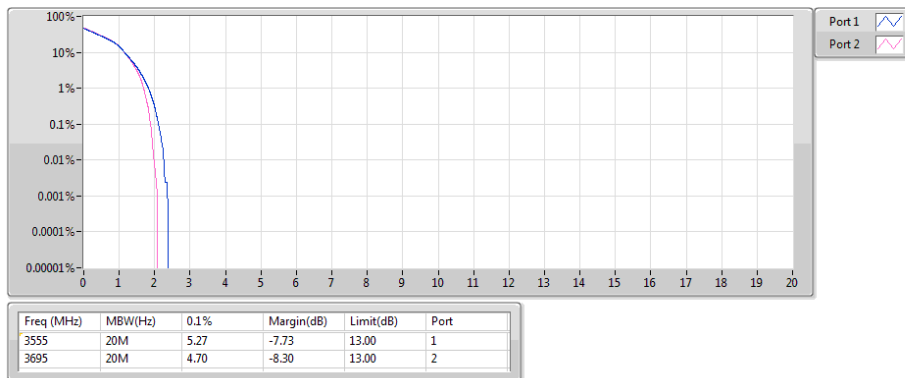
P#3555MHz,#3695MHz_QPSK_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,16QAM_2TX

PAR

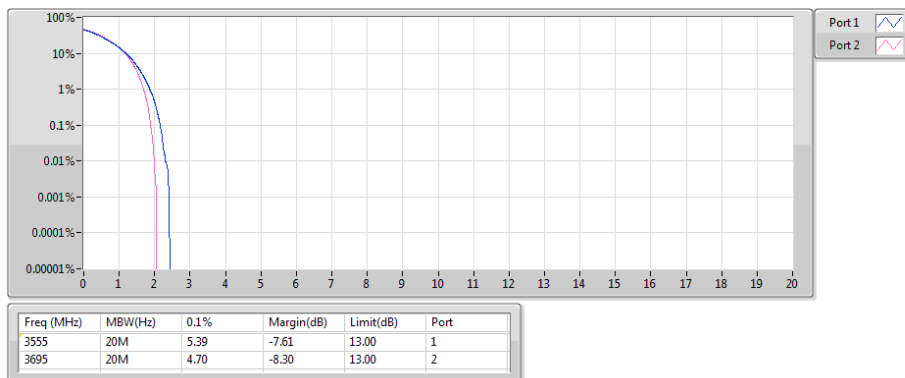
P#3555MHz,#3695MHz_16QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+10MHz_Nss1,64QAM_2TX

PAR

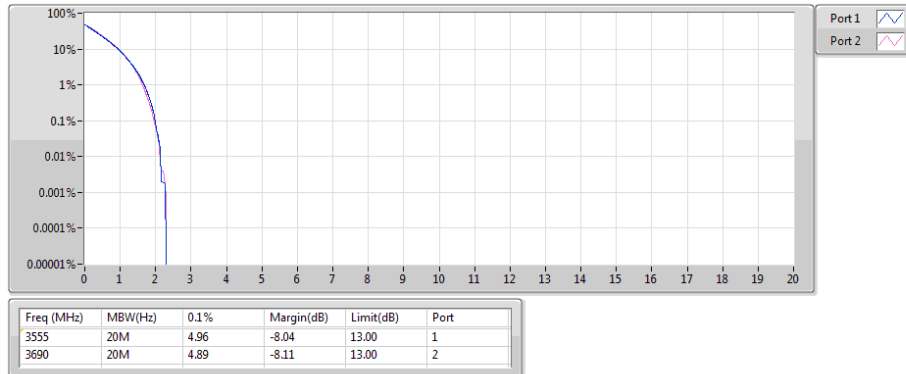
P#3555MHz,#3695MHz_64QAM_RB 50,#RB 0+RB 50,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,QPSK_2TX

PAR

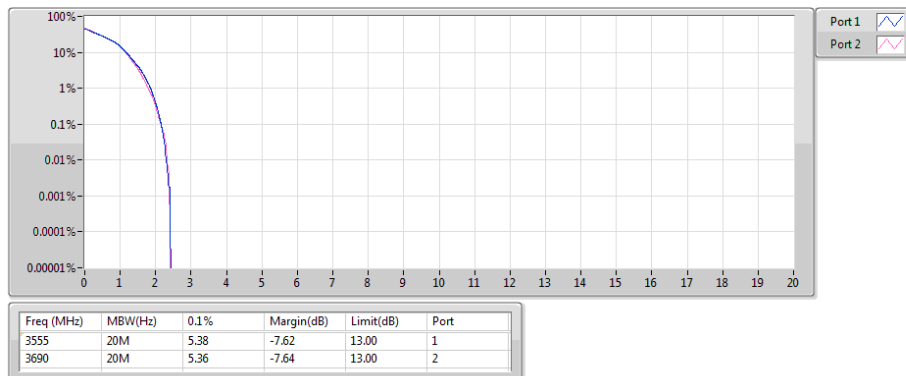
P#3555MHz,#3690MHz_QPSK_RB 50,#RB 0+RB 100,#RB 0



Band 48_LTE_10MHz+20MHz_Nss1,16QAM_2TX

PAR

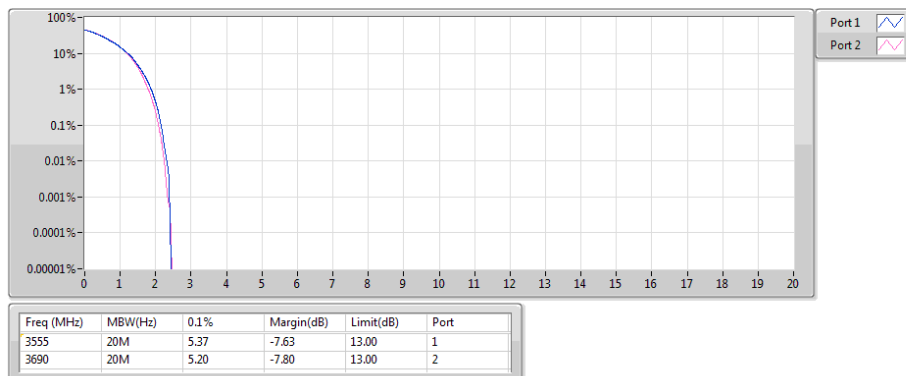
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Band 48_LTE_10MHz+20MHz_Nss1,64QAM_2TX

PAR

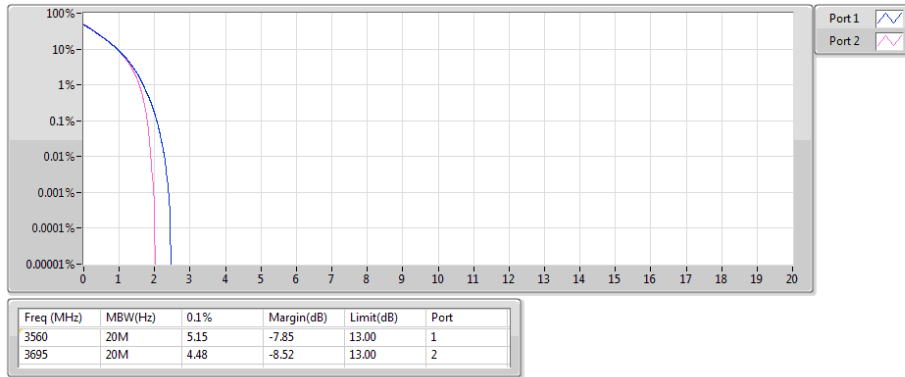
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Band 48_LTE_20MHz+10MHz_Nss1,QPSK_2TX

PAR

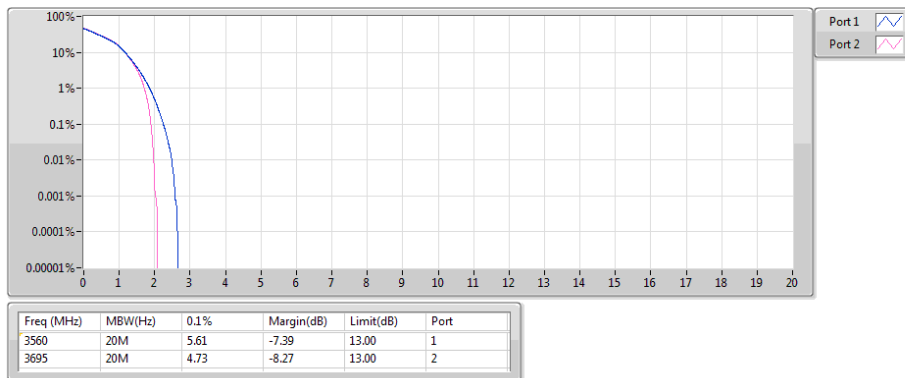
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Band 48_LTE_20MHz+10MHz_Nss1,16QAM_2TX

PAR

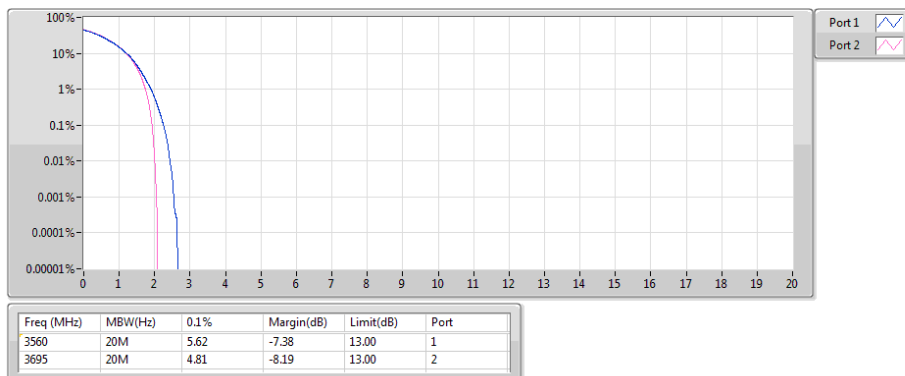
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Band 48_LTE_20MHz+10MHz_Nss1,64QAM_2TX

PAR

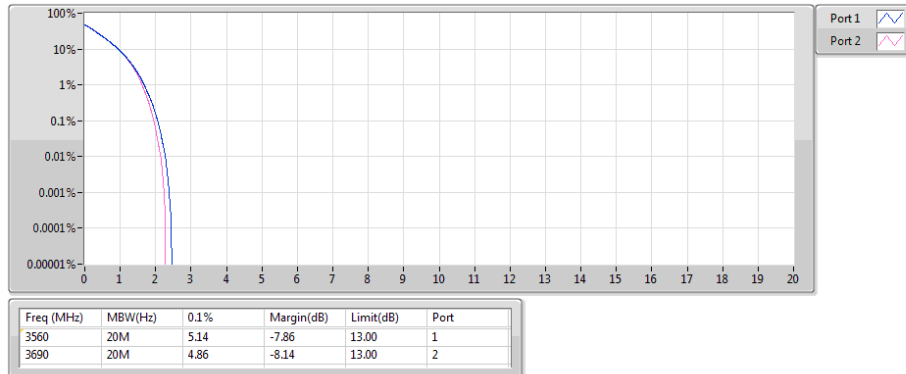
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Band 48_LTE_20MHz+20MHz_Nss1,QPSK_2TX

PAR

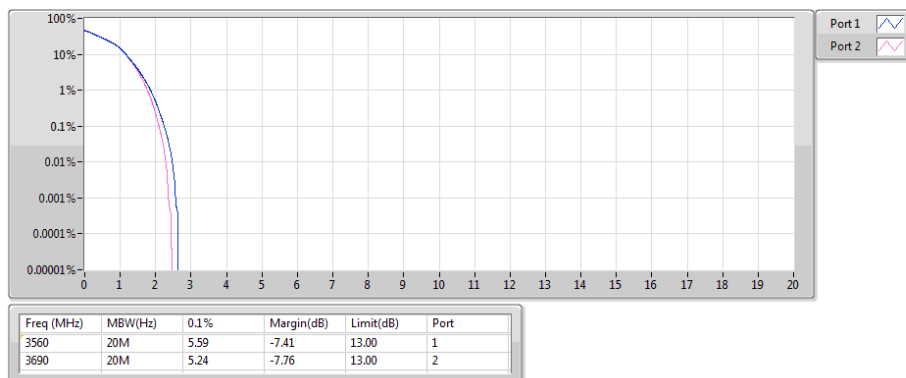
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Band 48_LTE_20MHz+20MHz_Nss1,16QAM_2TX

PAR

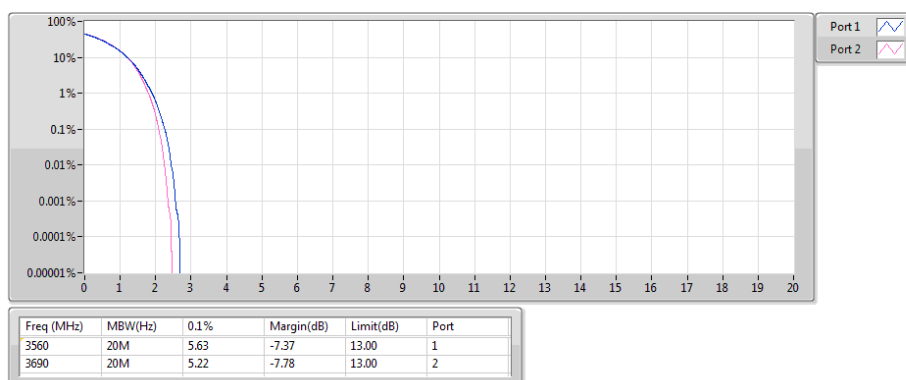
P#3560MHz,#3690MHz_16QAM_RB 100,#RB 0+RB 100,#RB 0



Band 48_LTE_20MHz+20MHz_Nss1,64QAM_2TX

PAR

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



3.6 Frequency Stability

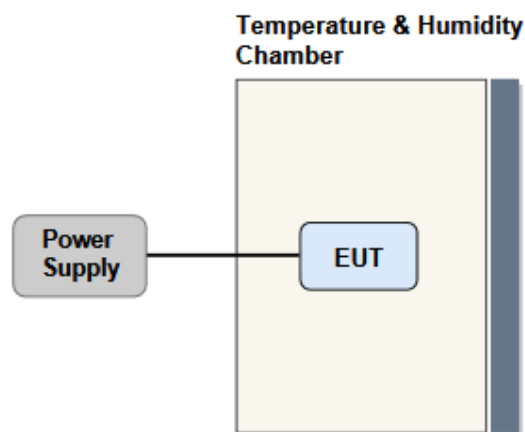
3.6.1 Limit of Frequency Stability

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation

3.6.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from -30 ~ 50 °C and voltage range is from lowest to highest working voltage.
4. Tem Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.6.3 Test Setup



Ambient Condition	18-22°C / 64-66%	Tested By	Aska Huang
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3.6.4 Test Result of Frequency Stability (CDD Mode)

Channel Bandwidth: 10MHz

Frequency: 3555 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°CVmax	0.014
T20°CVmin	0.015
T50°CVnom	0.014
T40°CVnom	0.015
T30°CVnom	0.014
T20°CVnom	0.015
T10°CVnom	0.015
T0°CVnom	0.014
T-10°CVnom	0.015
T-20°CVnom	0.013
T-30°CVnom	0.013
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Frequency: 3695 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°CVmax	0.013
T20°CVmin	0.014
T50°CVnom	0.014
T40°CVnom	0.014
T30°CVnom	0.014
T20°CVnom	0.015
T10°CVnom	0.015
T0°CVnom	0.013
T-10°CVnom	0.014
T-20°CVnom	0.014
T-30°CVnom	0.014
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 20MHz

Frequency: 3560 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.013
T40°C Vnom	0.015
T30°C Vnom	0.014
T20°C Vnom	0.012
T10°C Vnom	0.015
T0°C Vnom	0.014
T-10°C Vnom	0.013
T-20°C Vnom	0.015
T-30°C Vnom	0.014
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Frequency: 3690 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.013
T30°C Vnom	0.013
T20°C Vnom	0.014
T10°C Vnom	0.012
T0°C Vnom	0.015
T-10°C Vnom	0.013
T-20°C Vnom	0.014
T-30°C Vnom	0.015
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

3.6.5 Test Result of Frequency Stability (CA Mode)

Channel Bandwidth: 10+10MHz / 1Carrier-PCC

Frequency: 3555 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.015
T30°C Vnom	0.013
T20°C Vnom	0.014
T10°C Vnom	0.015
T0°C Vnom	0.013
T-10°C Vnom	0.014
T-20°C Vnom	0.013
T-30°C Vnom	0.014
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 10+10MHz / 2Carrier-SCC

Frequency: 3695 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.013
T30°C Vnom	0.014
T20°C Vnom	0.014
T10°C Vnom	0.014
T0°C Vnom	0.013
T-10°C Vnom	0.014
T-20°C Vnom	0.014
T-30°C Vnom	0.013
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 10+20MHz / 1Carrier-PCC

Frequency: 3555 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.014
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.014
T30°C Vnom	0.014
T20°C Vnom	0.015
T10°C Vnom	0.014
T0°C Vnom	0.014
T-10°C Vnom	0.015
T-20°C Vnom	0.014
T-30°C Vnom	0.013
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 10+20MHz / 2Carrier-SCC

Frequency: 3690 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.012
T30°C Vnom	0.014
T20°C Vnom	0.014
T10°C Vnom	0.014
T0°C Vnom	0.013
T-10°C Vnom	0.014
T-20°C Vnom	0.014
T-30°C Vnom	0.013
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 20+10MHz / 1Carrier-PCC

Frequency: 3560 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.013
T40°C Vnom	0.015
T30°C Vnom	0.013
T20°C Vnom	0.014
T10°C Vnom	0.015
T0°C Vnom	0.013
T-10°C Vnom	0.015
T-20°C Vnom	0.013
T-30°C Vnom	0.014
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 20+10MHz / 2Carrier-SCC

Frequency: 3695 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.012
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.013
T30°C Vnom	0.014
T20°C Vnom	0.013
T10°C Vnom	0.012
T0°C Vnom	0.013
T-10°C Vnom	0.014
T-20°C Vnom	0.013
T-30°C Vnom	0.014
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 20+20MHz / 1Carrier-PCC

Frequency: 3560 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.014
T20°C Vmin	0.014
T50°C Vnom	0.013
T40°C Vnom	0.014
T30°C Vnom	0.014
T20°C Vnom	0.015
T10°C Vnom	0.014
T0°C Vnom	0.013
T-10°C Vnom	0.014
T-20°C Vnom	0.015
T-30°C Vnom	0.013
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

Channel Bandwidth: 20+20MHz / 2Carrier-SCC

Frequency: 3690 MHz	Frequency Drift (ppm)
Temperature (°C)	
T20°C Vmax	0.013
T20°C Vmin	0.014
T50°C Vnom	0.014
T40°C Vnom	0.012
T30°C Vnom	0.013
T20°C Vnom	0.014
T10°C Vnom	0.014
T0°C Vnom	0.013
T-10°C Vnom	0.014
T-20°C Vnom	0.013
T-30°C Vnom	0.014
Vnom [V]: 120	Vmax [V]: 138
Tnom [°C]: 20	Tmin [°C]: -30

3.7 Reception Limits

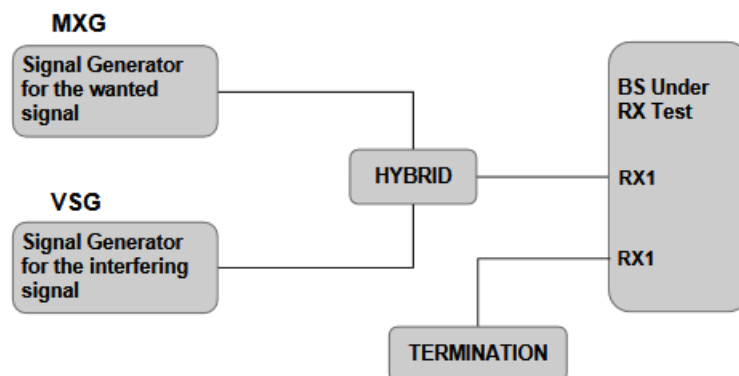
3.7.1 Description of Reception Limits

Priority Access Licensees must accept adjacent channel and in-band blocking interference (emissions from other authorized Priority Access or GAA CBSDs transmitting between 3550 and 3700 MHz) up to a power spectral density level not to exceed -40dBm in any direction with greater than 99% probability when integrated over a 10 megahertz reference bandwidth.

3.7.2 Test Procedures

1. Generate the wanted signal and adjust the input level to specified power level.
2. Select low, middle and high channels for each modulation.
3. For adjacent channel interference, set up the interfering signals at the adjacent channel frequency and adjust the interfering signal level to -40dBm at receiver antenna ports.
4. For in-band blocking interference, set up the interfering signal in the frequency range from 3550MHz to 3700MHz and adjust the interfering signal level to -40dBm at receiver antenna ports.
5. Measure and check the throughput of the EUT greater than 99% probability.

3.7.3 Test Setup



3.7.4 Test Result of Reception Limits (CDD Mode)

Mode	Interference power Leavel (dBm)	CDD wanted signal power Leavel (dBm)	CDD Adjacent Channel selectivity Throughput (%)	CDD In-Band blocking Throughput (%)	Limit (%)
CB:10MHz,3625MHz RB offset=0	-40	-87.5	100	100	99
CB:10MHz,3625MHz RB offset=25	-40	-87.5	100	100	99

Mode	Interference power Leavel (dBm)	CDD wanted signal power Leavel (dBm)	CDD Adjacent Channel selectivity Throughput (%)	CDD In-Band blocking Throughput (%)	Limit (%)
CB:20MHz,3625MHz RB offset=0	-40	-84.5	100	-40	99
CB:20MHz,3625MHz RB offset=25	-40	-84.5	100	-40	99
CB:20MHz,3625MHz RB offset=50	-40	-84.5	100	-40	99
CB:20MHz,3625MHz RB offset=75	-40	-84.5	100	-40	99

3.7.5 Test Result of Reception Limits (CA Mode)

Mode	Interference power Level (dBm)	PCC wanted signal power Level (dBm)	PCC Adjacnet Channel selectivity Throughput (%)	PCC In-Band blocking Throughput (%)	SCC wanted signal power Level (dBm)	SCC Adjacnet Channel selectivity Throughput (%)	SCC In-Band blocking Throughput (%)	Limit (%)
PCC BW:10MHz,3555MHz RB offset=0 SCC BW:10MHz,3695MHz RB offset=0	-40	-87.5	99.97	99.95	-87.5	99.98	99.92	99
PCC BW:10MHz,3555MHz RB offset=25 SCC BW:10MHz,3695MHz RB offset=25	-40	-87.5	99.95	99.81	-87.5	99.96	99.95	99
PCC BW:10MHz,3555MHz RB offset=0 SCC BW:20MHz,3690MHz RB offset=0	-40	-87.5	99.96	99.94	-84.5	99.98	99.96	99
PCC BW:10MHz,3555MHz RB offset=25 SCC BW:20MHz,3690MHz RB offset=25	-40	-87.5	99.98	99.96	-84.5	99.98	99.98	99
PCC BW:10MHz,3555MHz RB offset=0 SCC BW:20MHz,3690MHz RB offset=50	-40	-87.5	99.95	99.93	-84.5	99.93	99.91	99
PCC BW:10MHz,3555MHz RB offset=0 SCC BW:20MHz,3690MHz RB offset=75	-40	-87.5	99.96	99.86	-84.5	99.98	99.93	99

Mode	Interference power Leavel (dBm)	PCC wanted signal power Leavel (dBm)	PCC Adjacent Channel selectivity Throughput (%)	PCC In-Band blocking Throughput (%)	SCC wanted signal power Leavel (dBm)	SCC Adjacent Channel selectivity Throughput (%)	SCC In-Band blocking Throughput (%)	Limit (%)
PCC BW:20MHz,3560MHz RB offset=0 SCC BW:10MHz,3695MHz RB offset=0	-40	-84.5	99.97	99.95	-87.5	99.96	99.89	99
PCC BW:20MHz,3560MHz RB offset=25 SCC BW:10MHz,3695MHz RB offset=25	-40	-84.5	99.97	99.96	-87.5	99.96	99.92	99
PCC BW:20MHz,3560MHz RB offset=50 SCC BW:10MHz,3695MHz RB offset=0	-40	-84.5	99.95	99.93	-87.5	99.95	99.85	99
PCC BW:20MHz,3560MHz RB offset=75 SCC BW:10MHz,3695MHz RB offset=0	-40	-84.5	99.93	99.82	-87.5	99.97	99.95	99
PCC BW:20MHz,3560MHz RB offset=0 SCC BW:20MHz,3690MHz RB offset=0	-40	-84.5	99.94	99.91	-84.5	99.96	99.93	99
PCC BW:20MHz,3560MHz RB offset=25 SCC BW:20MHz,3690MHz RB offset=25	-40	-84.5	99.95	99.92	-84.5	99.97	99.95	99
PCC BW:20MHz,3560MHz RB offset=50 SCC BW:20MHz,3690MHz RB offset=50	-40	-84.5	99.92	99.89	-84.5	99.95	99.91	99
PCC BW:20MHz,3560MHz RB offset=75 SCC BW:20MHz,3695MHz RB offset=75	-40	-84.5	99.95	99.93	-84.5	99.97	99.82	99

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin
Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C..

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==