FCC Test Report

FCC ID	:	**P27LORAAREAV2**
Equipment	:	**MachineQ Area 8C V2 LoRaWAN Gateway**
Model No.	:	**GII-AD-B**
Brand Name	:	**Sercomm, Comcast, MachineQ** **(For marketing purpose.)**
Applicant	:	**Sercomm Corporation**
Address	:	**8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.**
Standard	:	**47 CFR FCC Part 22 Subpart H**
Received Date	:	**May 15, 2024**
Tested Date	:	**May 20 ~ May 28, 2024**

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

Reviewed by:	**Approved by:**
Along Chen / Assistant Manager	**Gary Chang / Manager**

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Release Record

Report No.	Version	Description	Issued Date
FG451502P22	Rev. 01	Initial issue	Jul. 19, 2024

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 22.913(a)(5)	Effective Radiated Power	Power[dBm]: 23.01	Pass
2.1053 / 22.917(a)	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 22.917(a)	Conducted Emissions	Meet the requirement of limit	Pass
2.1051 / 22.917(a)	Band Edge	Meet the requirement of limit	Pass
2.1049	Occupied Bandwidth	Meet the requirement of limit	Pass
-	Peak to Average Power Ratio	Meet the requirement of limit	Pass
2.1055 / 22.355	Frequency Stability	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 Frequency	LTE Band 5: 824 MHz – 849 MHz
Modulation	QPSK, 16QAM
UE Category	Cat. 1

1.1.2 Antenna Details

Brand	Model	Type	Connector	Gain (dBi)	Remarks
Sercomm	6172000GWA/6172000HWA	PIFA	UFL	2.1	-

1.1.3 Power Supply Type of Equipment under Test (EUT)

Supply Voltage	48Vdc from adapter 54Vdc from PoE		
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (50°C)	☒ Tmin (-30°C)

Note: The above PoE power supply is not bundled in market.

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	Adapter	Brand: MASS POWER Model: S024-1E480050VU-H I/P: 100-240Vac, 50/60Hz, 0.6A O/P: 48.0Vdc, 0.5A Power Line: 2.95m non-shielded without core
2	RJ45 cable	3m non-shielded without core

1.1.5 Maximum ERP and Emission Designator

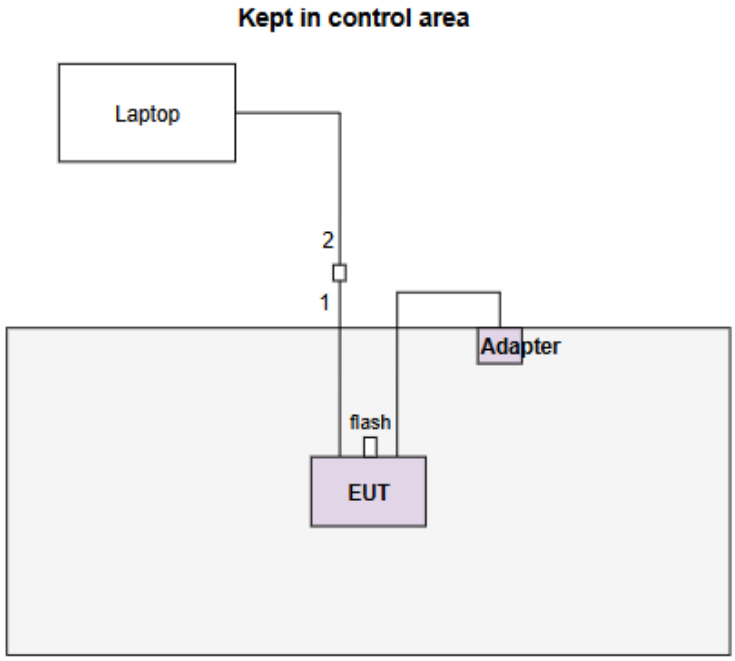
Channel Bandwidth	Modulation	Maximum ERP (W)	Emission Designator
10 MHz	QPSK	0.200	8M93G7D
10 MHz	16QAM	0.156	4M87W7D
5 MHz	QPSK	0.199	4M47G7D
5 MHz	16QAM	0.180	4M47W7D
3 MHz	QPSK	0.194	2M68G7D
3 MHz	16QAM	0.162	2M68W7D
1.4 MHz	QPSK	0.191	1M09G7D
1.4 MHz	16QAM	0.155	1M09W7D

1.2 Local Support Equipment List

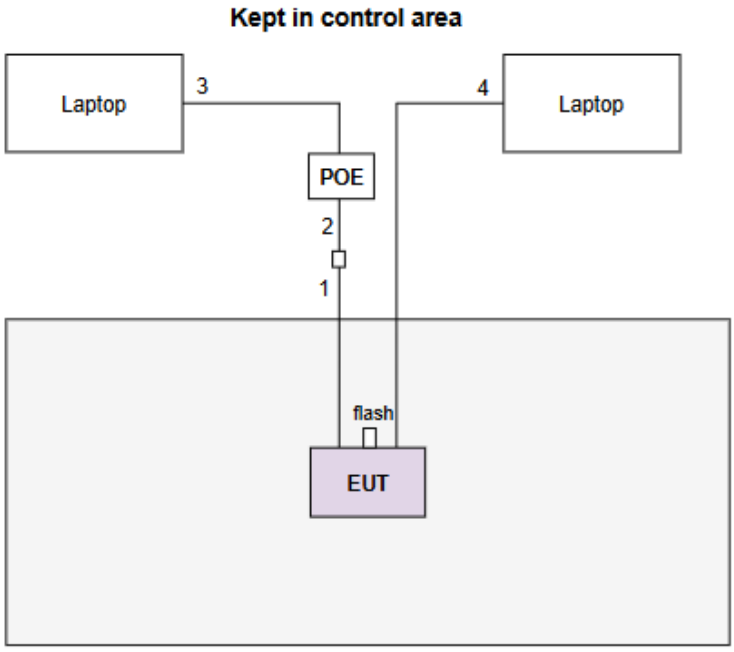
Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Laptop	DELL	Latitude 3440	DoC	---
2	Laptop	DELL	Latitude 5400	DoC	---
3	USB 3.1 Type-C OTG Flash	pqi	Connect 313	---	---
4	PoE	UBIQUITI	POE-54V-80W	---	Provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram (Adapter mode)



No.	Signal cable / Length (m)
1	RJ45, 3m non-shielded.
2	RJ45, 10m non-shielded.

Test Setup Diagram (PoE mode)


No.	Signal cable / Length (m)
1	RJ45, 3m non-shielded.
2	RJ45, 10m non-shielded.
3	RJ45, 1.3m non-shielded.
4	RJ45, 10m non-shielded.

1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	May 20 ~ May 28, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Wideband Radio Communication Tester	R&S	CMW500	106070	Mar. 26, 2024	Mar. 25, 2025
Receiver	R&S	ESR3	101657	Mar. 05, 2024	Mar. 04, 2025
Spectrum Analyzer	R&S	FSV40	101499	Apr. 02, 2024	Apr. 01, 2025
Loop Antenna	R&S	HFH2-Z2	100330	Oct. 31, 2023	Oct. 30, 2024
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jul. 04, 2023	Jul. 03, 2024
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 14, 2023	Dec. 13, 2024
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 30, 2023	Oct. 29, 2024
Preamplifier	EMC	EMC02325	980187	Jul. 10, 2023	Jul. 09, 2024
Preamplifier	EMC	EMC118A45SE	980897	Aug. 01, 2023	Jul. 31, 2024
Preamplifier	EMC	EMC184045SE	980903	Jul. 17, 2023	Jul. 16, 2024
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 03, 2023	Oct. 02, 2024
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Sep. 22, 2023	Sep. 21, 2024
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 22, 2023	Sep. 21, 2024
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 22, 2023	Sep. 21, 2024
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 22, 2023	Sep. 21, 2024
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 22, 2023	Sep. 21, 2024
LOWPASS FILTER	WI	WLKS1100-12SS	3	Sep. 27, 2023	Sep. 26, 2024
BANDREJECT FILTER	WI	WRCGV 698/716-688/726-50/ 10SS	SN3	Oct. 06, 2023	Oct. 05, 2024
BANDREJECT FILTER	WI	WRCGV 776/788-766/798-50/ 8SS	SN4	Oct. 06, 2023	Oct. 05, 2024
BANDREJECT FILTER	WI	WRCGV 824/849-810/863-60/ 8SS	SN5	Oct. 06, 2023	Oct. 05, 2024
LOWPASS FILTER	WI	WLKS1100-12SS	2	Oct. 05, 2023	Oct. 04, 2024
HIGHPASS FILTER 1.5-15G	WHK	WHK1.5/15G-10ST	21	Oct. 05, 2023	Oct. 04, 2024
HIGHPASS FILTER	WI	WHK3.1-18G-10SS	43	Sep. 27, 2023	Sep. 26, 2024
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	May 21 ~ May 27, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2024	Apr. 17, 2025
Power Meter	Anritsu	ML2495A	1241002	Nov. 21, 2023	Nov. 20, 2024
Power Sensor	Anritsu	MA2411B	1207366	Nov. 21, 2023	Nov. 20, 2024
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Jun. 21, 2023	Jun. 20, 2024
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 16, 2023	Dec. 15, 2024
Attenuator	woken	PE7013-20	20-2	Oct. 13, 2023	Oct. 12, 2024
Measurement Software	Sporton	SENSE-FCC_2G-4G	V6.1.6	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 22 Subpart H
ANSI C63.26-2015

1.6 Reference Guidance

FCC KDB 412172 D01 Determining ERP and EIRP v01r01
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

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	±1x10^{-9}
Conducted emission	±2.715 dB
Unwanted Emission ≤ 1GHz	±3.96 dB
Unwanted Emission > 1GHz	±4.51 dB
Temperature	±0.4 °C

2 Test Configuration

2.1 Testing Condition and Location Information

Test Laboratory	International Certification Corp.
Test Site	TH01-WS
Address of Test Site	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 33381, Taiwan, R.O.C.
Test Site	03CH03-WS
Address of Test Site	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 33381, Taiwan, R.O.C.

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISED#: 10807C
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth	Modulation	Test Frequency (MHz)
Effective Radiated Power	10 MHz 5 MHz 3 MHz 1.4 MHz	QPSK / 16QAM	829.0 / 836.5 / 844.0 826.5 / 836.5 / 846.5 825.5 / 836.5 / 847.5 824.7 / 836.5 / 848.3
Radiated Emission	10 MHz	QPSK	829.0 / 836.5 / 844.0
Out of Band Emissions	10 MHz 5 MHz 3 MHz 1.4 MHz	QPSK	829.0 / 836.5 / 844.0 826.5 / 836.5 / 846.5 825.5 / 836.5 / 847.5 824.7 / 836.5 / 848.3
Band Edge	10 MHz 5 MHz 3 MHz 1.4 MHz	QPSK / 16QAM	829.0 / 844.0 826.5 / 846.5 825.5 / 847.5 824.7 / 848.3
Occupied Bandwidth	10 MHz 5 MHz 3 MHz 1.4 MHz	QPSK / 16QAM	836.5 836.5 836.5 836.5
Peak to Average Ratio	10 MHz	QPSK / 16QAM	836.5
Frequency Stability	10 MHz 5 MHz 3 MHz 1.4 MHz	QPSK	829.0 / 844.0 826.5 / 846.5 825.5 / 847.5 824.7 / 848.3

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
2. The EUT consumes power from adapter or PoE. Both options had been covered during the test and found that PoE was the worst case and was selected for final testing.
3. Max RB configuration for 16QAM in 10 MHz channel bandwidth is 27 RB.

3 Test Results

3.1 Effective Radiated Power

3.1.1 Limit of Effective Radiated Power

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

3.1.2 Test Procedures

For Conducted power measurement:

1. The EUT links up with simulator and is set to maximum output power level at low / middel / high channel.
2. Measure the output power of low / middle / high channel of the EUT.

For ERP measurement:

ERP can be calculated by below formula from KDB 412172 D01.

1. EIRP = $P_T + G_T - L_C$

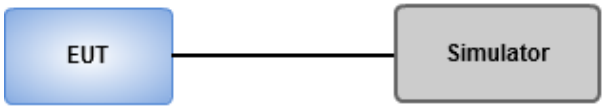
   P_T = transmitter output power, in dBm.

   G_T = gain of the transmitting antenna, in dBi (EIRP).

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

2. ERP = EIRP – 2.15 dB.

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	22-24°C / 62-65%	Tested By	Roger Lu

Refer to Appendix A.

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

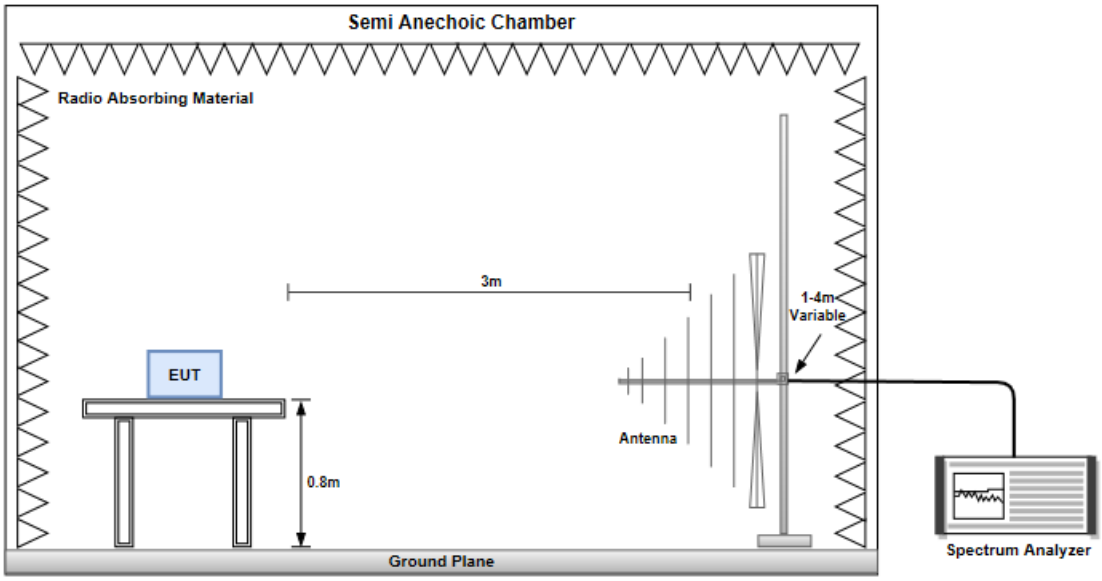
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB equal to -13dBm.

3.2.2 Test Procedures

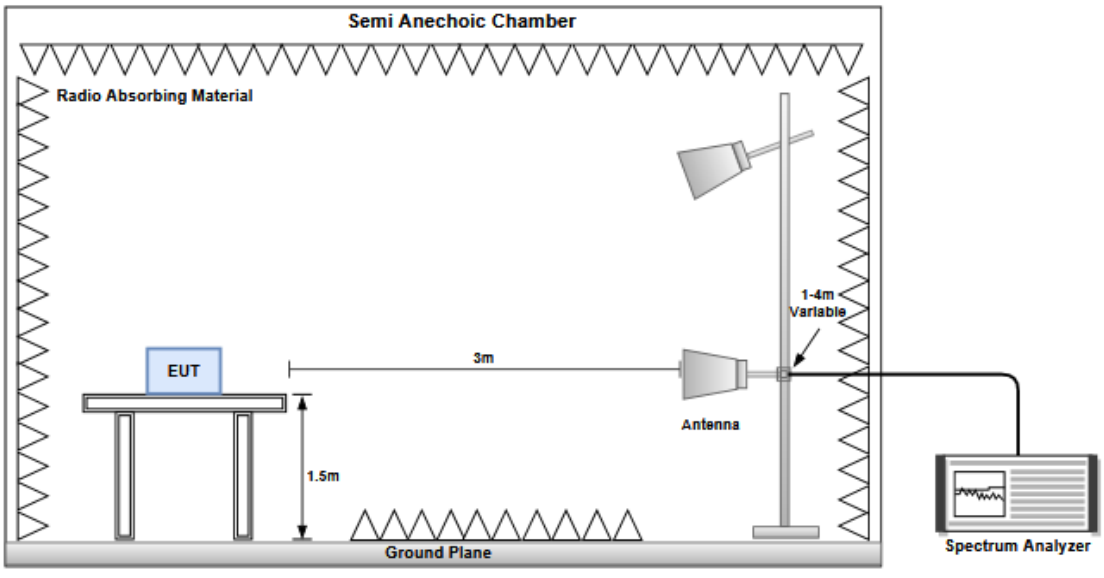
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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:
   E.R.P = E.I.R.P – 2.15dB.

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.2.4 Test Results

Ambient Condition	22~24°C / 63~65%	Tested By	Brad Wu

Refer to Appendix B.

3.3 Out of Band Emissions & Band Edge

3.3.1 Limit of Out of Band Emissions & Band Edge

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB equal to -13dBm.

3.3.2 Test Procedures

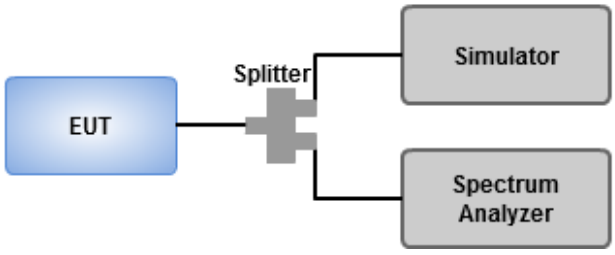
Out of band emission

1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30 MHz ~ 10 GHz.
3. Set RBW = 1 MHz, VBW = 3 MHz, detector = RMS, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

Band edge

1. Lowest and highest operating channels are tested for this item.
2. Set RBW = 1% of EBW, VBW = 3 x RBW, detector = RMS, sweep time = auto.
3. Record the max trace value and capture the test plot of each sub frequency band.

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	22-24°C / 62-65%	Tested By	Roger Lu

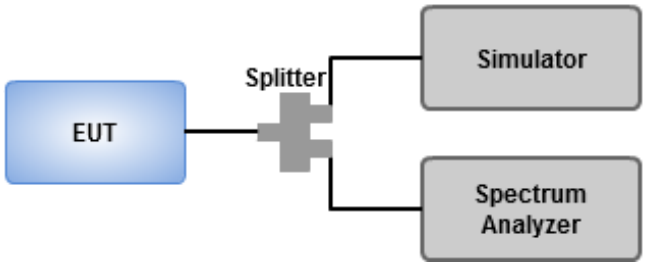
Refer to Appendix C.

3.4 Occupied and 26 dB 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. Using occupied bandwidth measurement function of spectrum analyzer to measure occupied bandwidth
5. 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.

3.4.2 Test Setup



3.4.3 Test Results

Ambient Condition	22-24°C / 62-65%	Tested By	Roger Lu

Refer to Appendix D.

3.5 Peak to Average Power Ratio

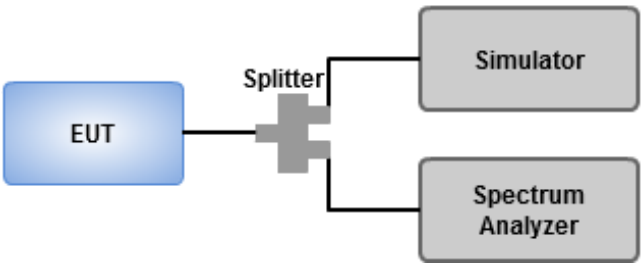
3.5.1 Limit of Peak to Average Power Ratio

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

3.5.2 Test Procedures

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Set the measurement interval to 1 ms.
4. Record the maximum PAPR level associated with a probability of 0.1%.

3.5.3 Test Setup



3.5.4 Test Results

Ambient Condition	22-24°C / 62-65%	Tested By	Roger Lu

Refer to Appendix E.

3.6 Frequency Stability

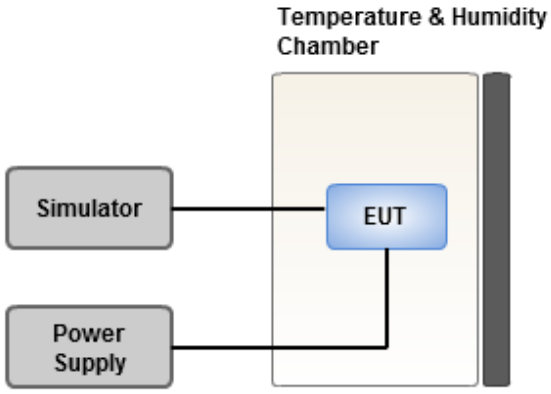
3.6.1 Limit of Frequency Stability

The frequency stability shall be less +/- 2.5ppm.

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. The test shall be performed under normal and extreme condition for temperature and voltage.
4. Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.6.3 Test Setup



3.6.4 Test Results

Ambient Condition	22-24°C / 62-65%	Tested By	Roger Lu

Refer to Appendix F.

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 Corporation (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 Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

No.2-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

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

Tel: 886-3-271-8666
Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

==END==

Part 22H LTE Band 5 Maximum Average Power [dBm](GT-LC= 2.1 dB)								
BW (MHz)	**Modulation**	**RB size**	**RB Offset**	**Lowest**	**Middle**	**Highest**	**-**	
Channel				**20450**	**20525**	**20600**	**ERP (dBm)**	**ERP (W)**
Frequency				**829.0**	**836.5**	**844.0**		
10	QPSK	1	0	22.88	23.06	22.86	**23.01**	0.20
10	QPSK	1	49	22.72	22.91	22.64		
10	QPSK	50	0	22.02	22.06	22.06		
10	16QAM	1	0	21.97	21.29	21.74	21.92	0.1556
10	16QAM	27	0	20.76	21.03	20.98		
Channel				**20425**	**20525**	**20625**	**ERP (dBm)**	**ERP (W)**
Frequency				**826.5**	**836.5**	**846.5**		
5	QPSK	1	0	23.04	22.93	23.04	22.99	0.1991
5	QPSK	1	24	22.83	22.92	22.78		
5	QPSK	25	0	22.17	22.11	22.07		
5	16QAM	1	0	22.02	22.19	22.59	22.54	0.1795
Channel				**20415**	**20525**	**20635**	**ERP (dBm)**	**ERP (W)**
Frequency				**825.5**	**836.5**	**847.5**		
3	QPSK	1	0	22.85	22.79	22.93	22.88	0.1941
3	QPSK	1	14	22.61	22.77	22.76		
3	QPSK	15	0	22.09	22.21	22.10		
3	16QAM	1	0	22.14	21.76	21.84	22.09	0.1618
Channel				**20407**	**20525**	**20643**	**ERP (dBm)**	**ERP (W)**
Frequency				**824.7**	**836.5**	**848.3**		
1.4	QPSK	1	0	22.72	22.87	22.83	22.82	0.1914
1.4	QPSK	1	5	22.67	22.85	22.74		
1.4	QPSK	6	0	22.03	22.12	22.00		
1.4	16QAM	1	0	21.62	21.96	21.95	21.91	0.1552
Limit	**ERP < 7 W**			**Result**			**Pass**	

Mode	LTE Band 5, QPSK, CB: 10 MHz, Channel: 20450						
Frequency (MHz)	**Antenna Polarity**	**E.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
1658.00	H	-50.77	-13.00	-37.77	-53.34	-54.01	5.39
2487.00	H	-63.99	-13.00	-50.99	-68.85	-67.56	5.72
3316.00	H	-65.69	-13.00	-52.69	-71.70	-69.45	5.91
1658.00	V	-60.19	-13.00	-47.19	-63.52	-63.43	5.39
2487.00	V	-64.03	-13.00	-51.03	-69.49	-67.60	5.72
3316.00	V	-65.71	-13.00	-52.71	-72.62	-69.47	5.91

Mode	LTE Band 5, QPSK, CB: 10 MHz, Channel: 20525						
Frequency (MHz)	**Antenna Polarity**	**E.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
1673.00	H	-51.29	-13.00	-38.29	-53.88	-54.57	5.43
2509.50	H	-63.57	-13.00	-50.57	-68.51	-67.21	5.79
3346.00	H	-65.44	-13.00	-52.44	-71.38	-69.28	5.99
1673.00	V	-60.96	-13.00	-47.96	-64.28	-64.24	5.43
2509.50	V	-63.84	-13.00	-50.84	-69.31	-67.48	5.79
3346.00	V	-65.53	-13.00	-52.53	-72.37	-69.37	5.99

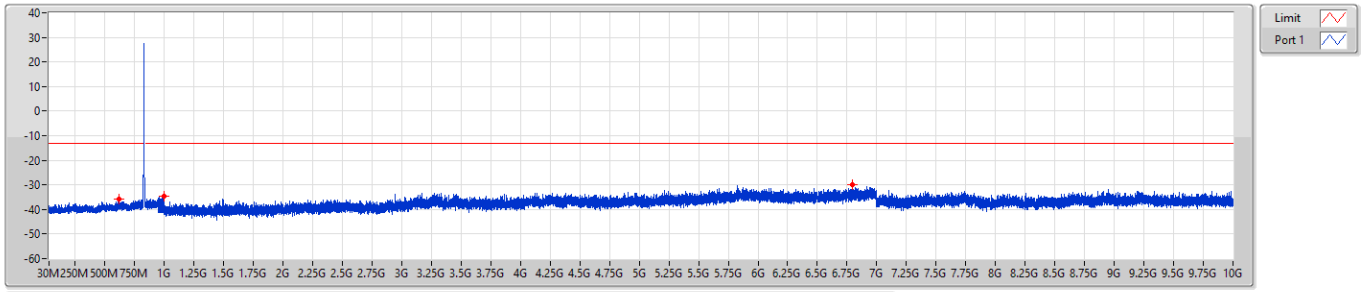
Mode	LTE Band 5, QPSK, CB: 10 MHz, Channel: 20600						
Frequency (MHz)	**Antenna Polarity**	**E.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
1688.00	H	-52.43	-13.00	-39.43	-55.05	-55.75	5.47
2532.00	H	-63.71	-13.00	-50.71	-68.73	-67.41	5.85
3376.00	H	-65.60	-13.00	-52.60	-71.47	-69.53	6.08
1688.00	V	-61.59	-13.00	-48.59	-64.92	-64.91	5.47
2532.00	V	-63.96	-13.00	-50.96	-69.44	-67.66	5.85
3376.00	V	-65.69	-13.00	-52.69	-72.46	-69.62	6.08

NOTE:

1. ERP = S.G Power value + Correction factor - 2.15 dB
2. Spurious Emissions within 30-1000MHz were found more than 20dB below limit line.

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

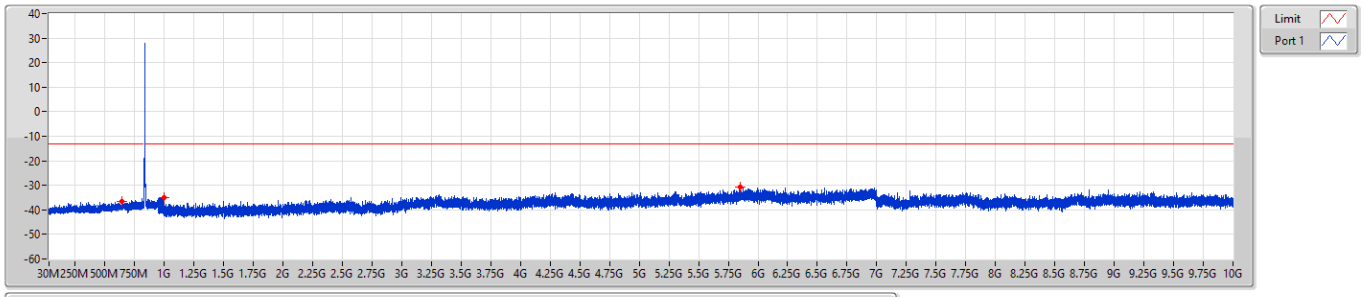
829MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	623.02M	-35.61	-13.00	-22.61	-	-
949M	1G	1M	3M	Peak	999.64M	-34.78	-13.00	-21.78	-	-
1G	10G	1M	3M	Peak	6.79909G	-30.11	-13.00	-17.11	-	-

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

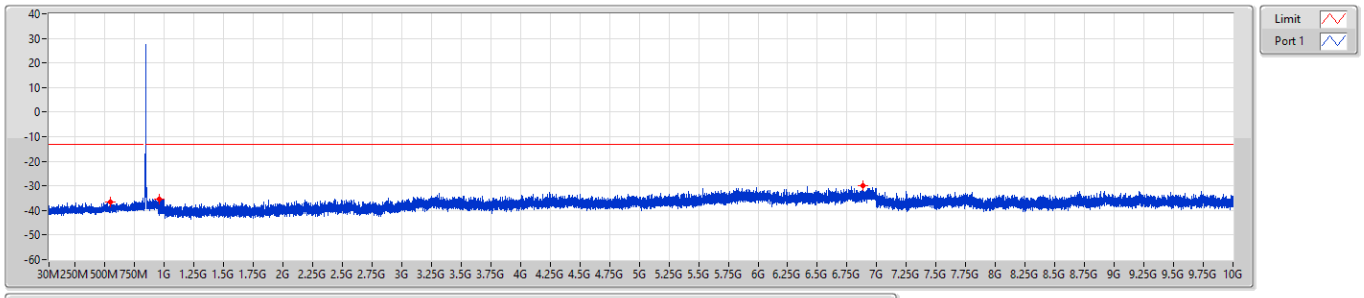
836.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	643.5M	-36.56	-13.00	-23.56	-	-
949M	1G	1M	3M	Peak	996.75M	-34.98	-13.00	-21.98	-	-
1G	10G	1M	3M	Peak	5.85184G	-30.77	-13.00	-17.77	-	-

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

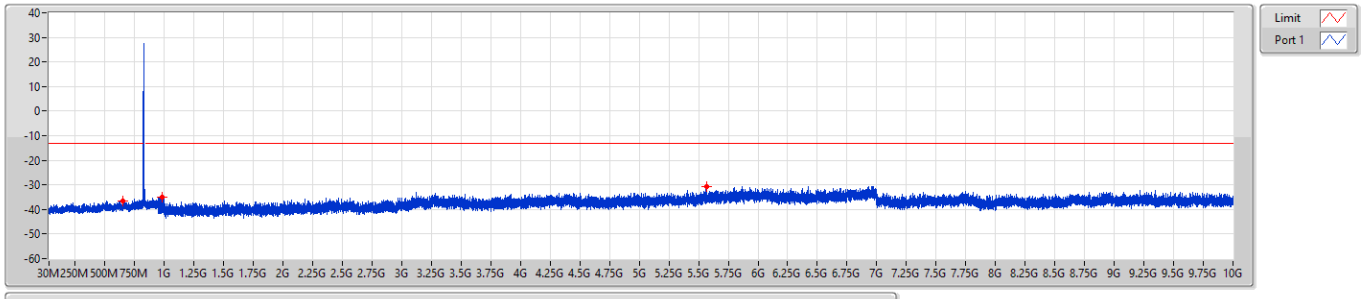
844MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	549.81M	-36.53	-13.00	-23.53	-	-
949M	1G	1M	3M	Peak	957.45M	-35.21	-13.00	-22.21	-	-
1G	10G	1M	3M	Peak	6.88713G	-30.10	-13.00	-17.10	-	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

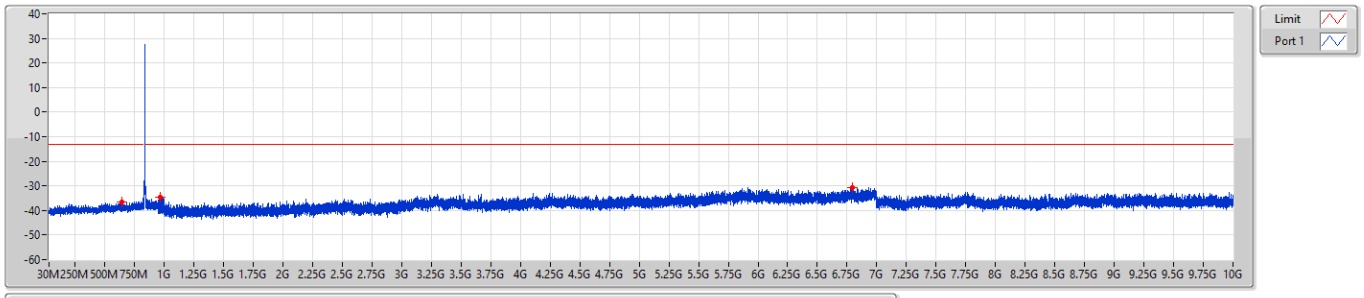
826.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	653.56M	-36.40	-13.00	-23.40	-	-
949M	1G	1M	3M	Peak	983.37M	-35.11	-13.00	-22.11	-	-
1G	10G	1M	3M	Peak	5.57144G	-30.53	-13.00	-17.53	-	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

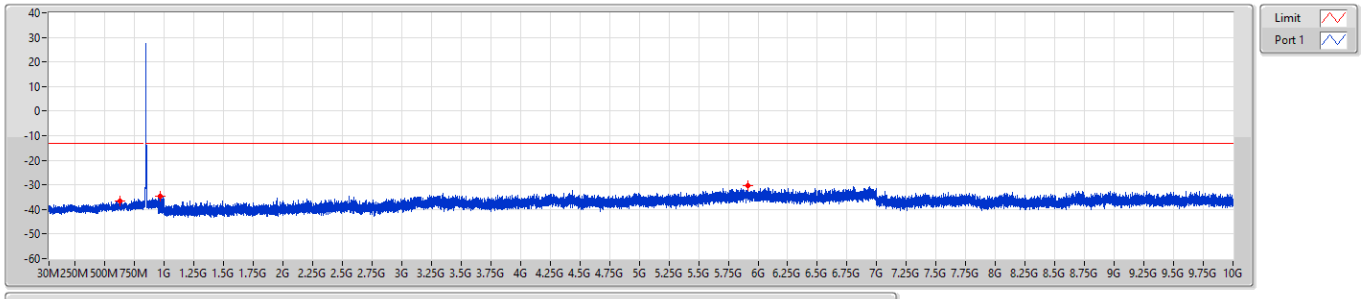
836.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	641.76M	-36.72	-13.00	-23.72	-	-
949M	1G	1M	3M	Peak	966.24M	-34.60	-13.00	-21.60	-	-
1G	10G	1M	3M	Peak	6.79459G	-30.65	-13.00	-17.65	-	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

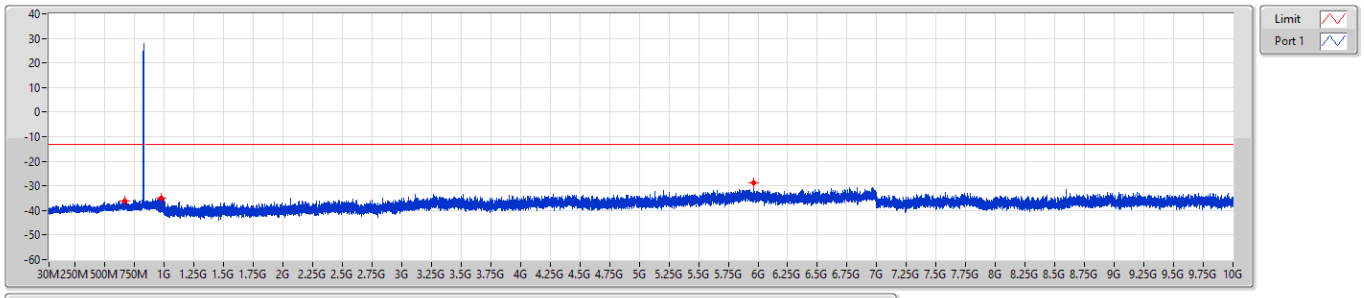
846.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	625.11M	-36.64	-13.00	-23.64	-	-
949M	1G	1M	3M	Peak	968.86M	-34.73	-13.00	-21.73	-	-
1G	10G	1M	3M	Peak	5.91822G	-30.40	-13.00	-17.40	-	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

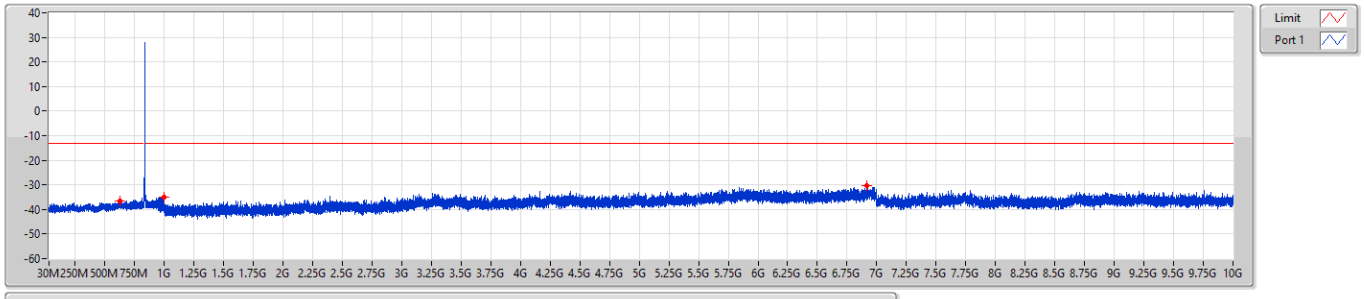
825.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	665.7M	-36.08	-13.00	-23.08	-	-
949M	1G	1M	3M	Peak	976.9M	-34.98	-13.00	-21.98	-	-
1G	10G	1M	3M	Peak	5.96069G	-28.91	-13.00	-15.91	-	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

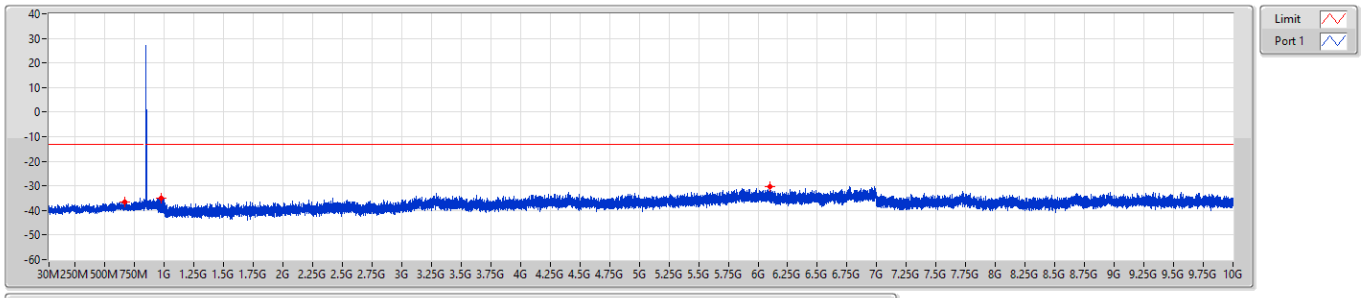
836.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	626.84M	-36.40	-13.00	-23.40	-	-
949M	1G	1M	3M	Peak	997.89M	-34.91	-13.00	-21.91	-	-
1G	10G	1M	3M	Peak	6.91497G	-30.39	-13.00	-17.39	-	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

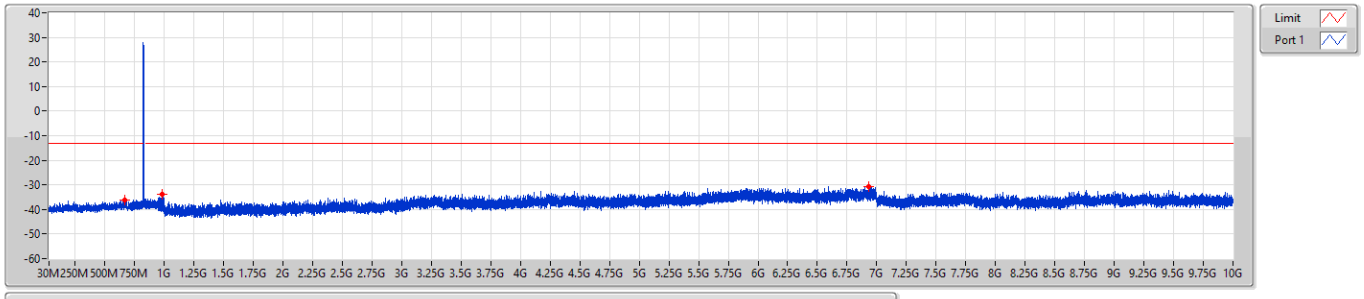
847.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	663.97M	-36.54	-13.00	-23.54	-	-
949M	1G	1M	3M	Peak	975.01M	-34.85	-13.00	-21.85	-	-
1G	10G	1M	3M	Peak	6.09822G	-30.18	-13.00	-17.18	-	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

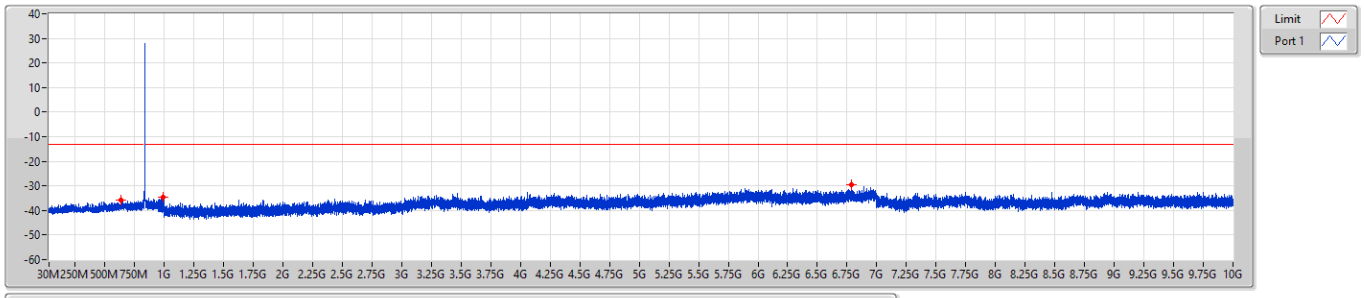
824.7MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	669.87M	-36.00	-13.00	-23.00	-	-
949M	1G	1M	3M	Peak	981.08M	-33.68	-13.00	-20.68	-	-
1G	10G	1M	3M	Peak	6.93578G	-30.63	-13.00	-17.63	-	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

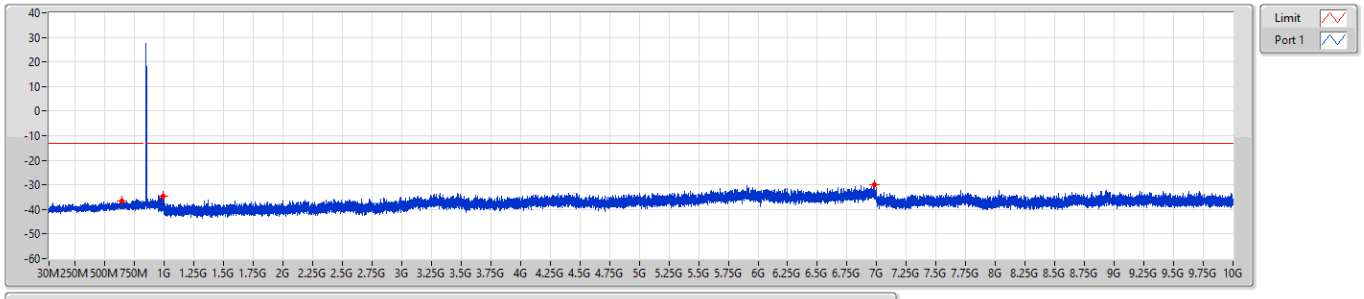
836.5MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	633.43M	-35.79	-13.00	-22.79	-	-
949M	1G	1M	3M	Peak	988.12M	-34.78	-13.00	-21.78	-	-
1G	10G	1M	3M	Peak	6.78813G	-29.56	-13.00	-16.56	-	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

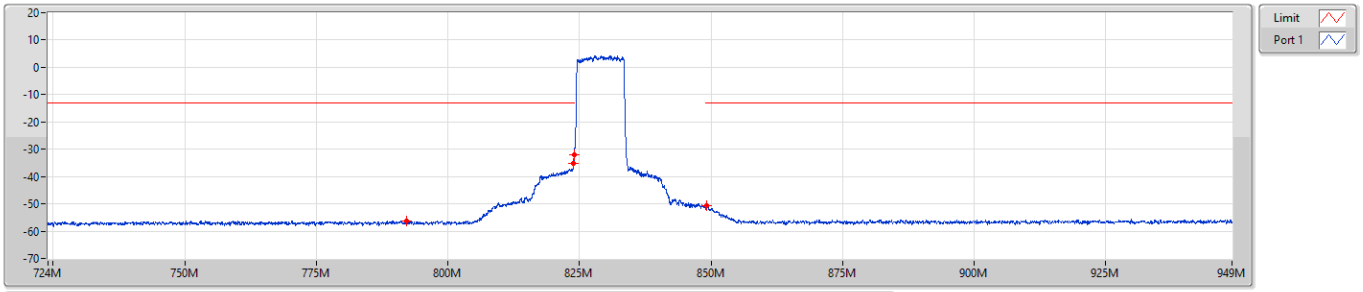
848.3MHz_QPSK_RB 1



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
30M	724M	1M	3M	Peak	645.23M	-36.49	-13.00	-23.49	-	-
949M	1G	1M	3M	Peak	990.57M	-34.78	-13.00	-21.78	-	-
1G	10G	1M	3M	Peak	6.97909G	-30.10	-13.00	-17.10	-	-

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

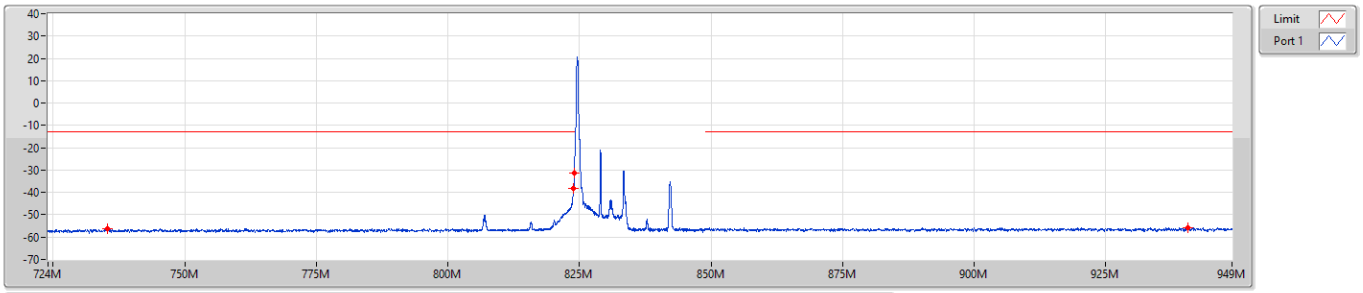
829MHz_QPSK_RB 50



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	804M	100k	300k	RMS	792.16M	-56.12	-13.00	-43.12	-	-
804M	823.9M	100k	300k	RMS	823.9M	-35.33	-13.00	-22.33	-	-
823.9M	824M	100k	300k	RMS	823.99M	-32.09	-13.00	-19.09	-	-
849M	949M	100k	300k	RMS	849.15M	-50.49	-13.00	-37.49	-	-

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

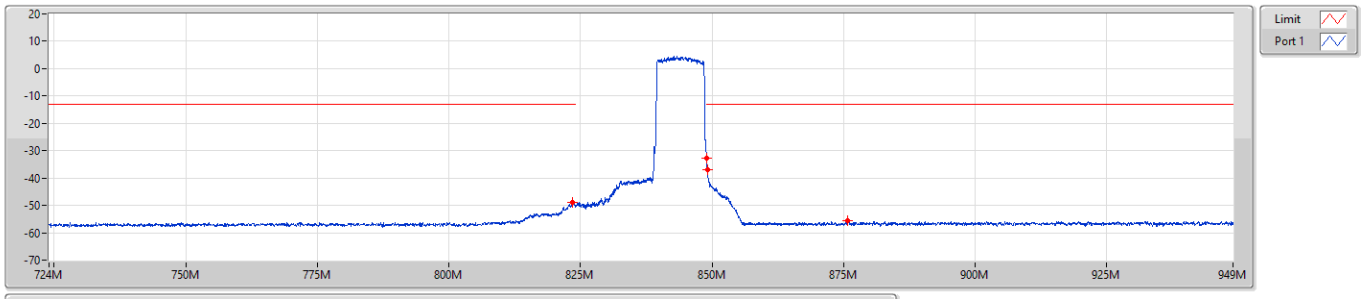
829MHz_QPSK_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	804M	100k	300k	RMS	735.36M	-56.12	-13.00	-43.12	-	-
804M	823.9M	100k	300k	RMS	823.9M	-38.00	-13.00	-25.00	-	-
823.9M	824M	100k	300k	RMS	824M	-31.53	-13.00	-18.53	-	-
849M	949M	100k	300k	RMS	940.65M	-55.67	-13.00	-42.67	-	-

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

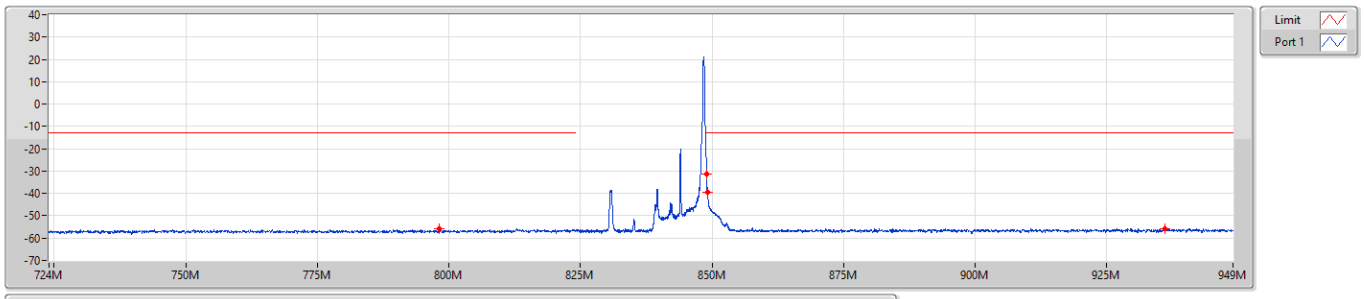
844MHz_QPSK_RB 50



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	100k	300k	RMS	823.55M	-49.06	-13.00	-36.06	-	-
849M	849.1M	100k	300k	RMS	849M	-32.79	-13.00	-19.79	-	-
849.1M	869M	100k	300k	RMS	849.1M	-36.97	-13.00	-23.97	-	-
869M	949M	100k	300k	RMS	875.8M	-55.69	-13.00	-42.69	-	-

Band 5_LTE_10MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

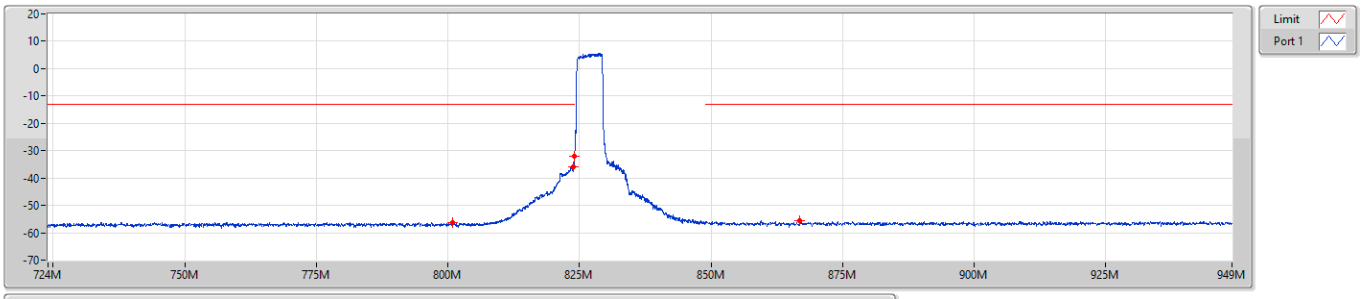
844MHz_QPSK_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	100k	300k	RMS	798.15M	-55.85	-13.00	-42.85	-	-
849M	849.1M	100k	300k	RMS	849M	-31.15	-13.00	-18.15	-	-
849.1M	869M	100k	300k	RMS	849.1M	-39.37	-13.00	-26.37	-	-
869M	949M	100k	300k	RMS	936.12M	-55.79	-13.00	-42.79	-	-

Band 5_LTE_10MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

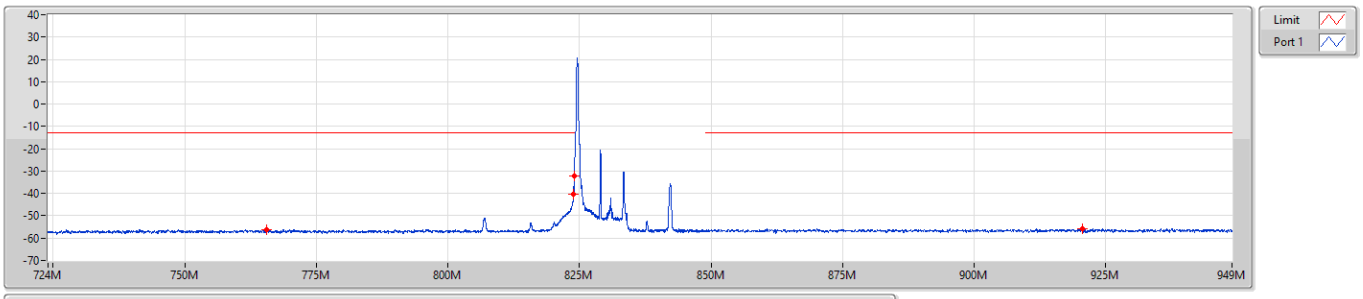
829MHz_16QAM_RB 27,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	804M	100k	300k	RMS	800.96M	-56.17	-13.00	-43.17	-	-
804M	823.9M	100k	300k	RMS	823.85M	-35.90	-13.00	-22.90	-	-
823.9M	824M	100k	300k	RMS	824M	-31.96	-13.00	-18.96	-	-
849M	949M	100k	300k	RMS	866.9M	-55.72	-13.00	-42.72	-	-

Band 5_LTE_10MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

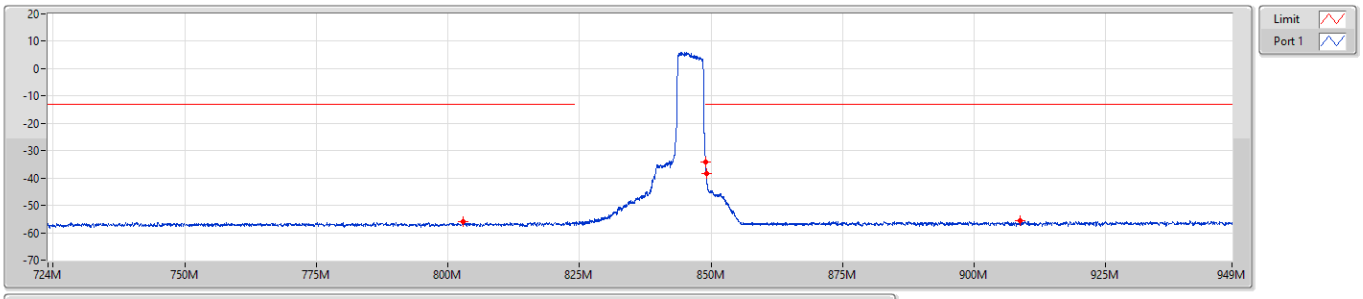
829MHz_16QAM_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	804M	100k	300k	RMS	765.6M	-56.04	-13.00	-43.04	-	-
804M	823.9M	100k	300k	RMS	823.9M	-40.18	-13.00	-27.18	-	-
823.9M	824M	100k	300k	RMS	824M	-32.17	-13.00	-19.17	-	-
849M	949M	100k	300k	RMS	920.5M	-55.76	-13.00	-42.76	-	-

Band 5_LTE_10MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

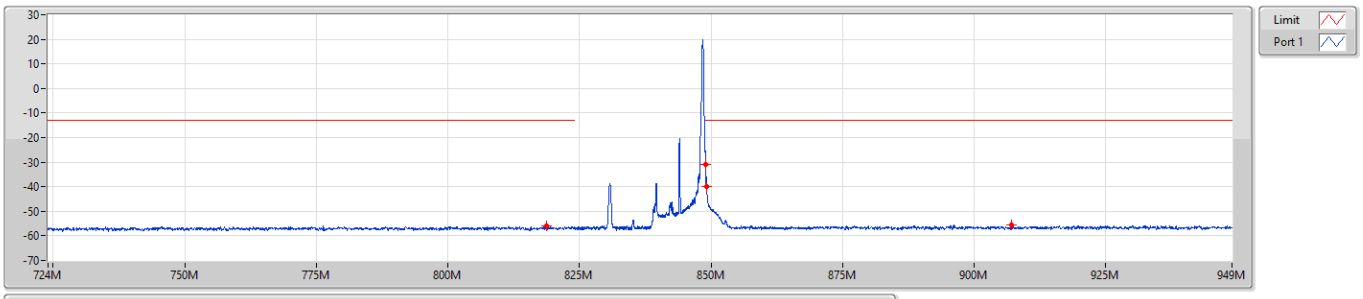
844MHz_16QAM_RB 27,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	100k	300k	RMS	802.8M	-55.83	-13.00	-42.83	-	-
849M	849.1M	100k	300k	RMS	849M	-33.97	-13.00	-20.97	-	-
849.1M	869M	100k	300k	RMS	849.1M	-38.22	-13.00	-25.22	-	-
869M	949M	100k	300k	RMS	908.72M	-55.72	-13.00	-42.72	-	-

Band 5_LTE_10MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

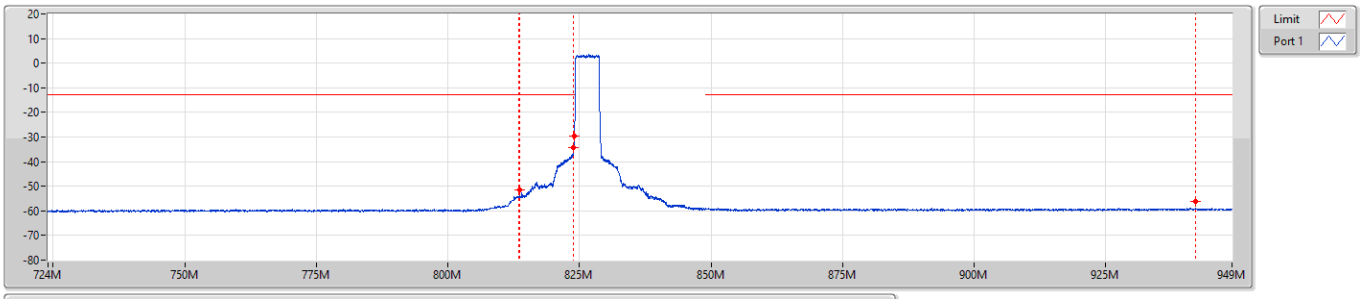
844MHz_16QAM_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	100k	300k	RMS	818.75M	-55.97	-13.00	-42.97	-	-
849M	849.1M	100k	300k	RMS	849M	-30.94	-13.00	-17.94	-	-
849.1M	869M	100k	300k	RMS	849.1M	-39.85	-13.00	-26.85	-	-
869M	949M	100k	300k	RMS	907.08M	-55.62	-13.00	-42.62	-	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

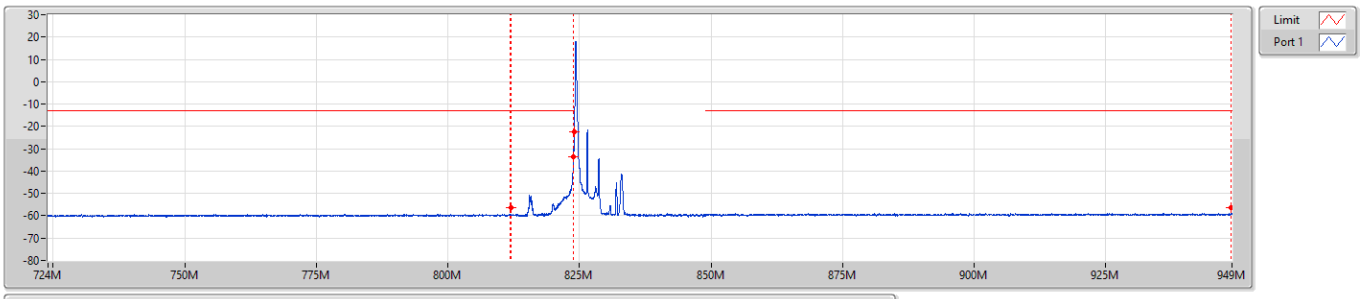
826.5MHz_QPSK_RB 25



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	814M	50k	200k	RMS	813.55M	-51.33	-13.00	-38.33	MBW 100k	-
814M	823.9M	50k	200k	RMS	823.85M	-34.31	-13.00	-21.31	MBW 100k	-
823.9M	824M	50k	200k	RMS	824M	-29.51	-13.00	-16.51	-	-
849M	949M	50k	200k	RMS	942.05M	-56.34	-13.00	-43.34	MBW 100k	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

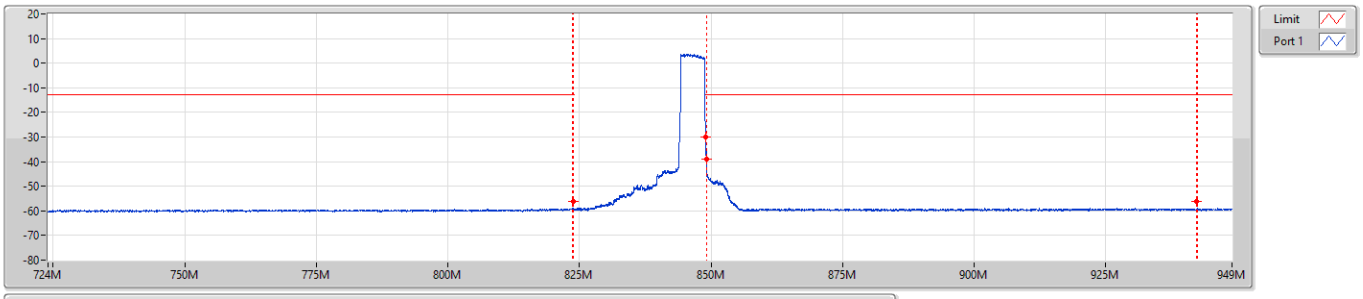
826.5MHz_QPSK_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	814M	50k	200k	RMS	811.95M	-56.56	-13.00	-43.56	MBW 100k	-
814M	823.9M	50k	200k	RMS	823.85M	-33.40	-13.00	-20.40	MBW 100k	-
823.9M	824M	50k	200k	RMS	824M	-22.59	-13.00	-9.59	-	-
849M	949M	50k	200k	RMS	948.85M	-56.37	-13.00	-43.37	MBW 100k	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

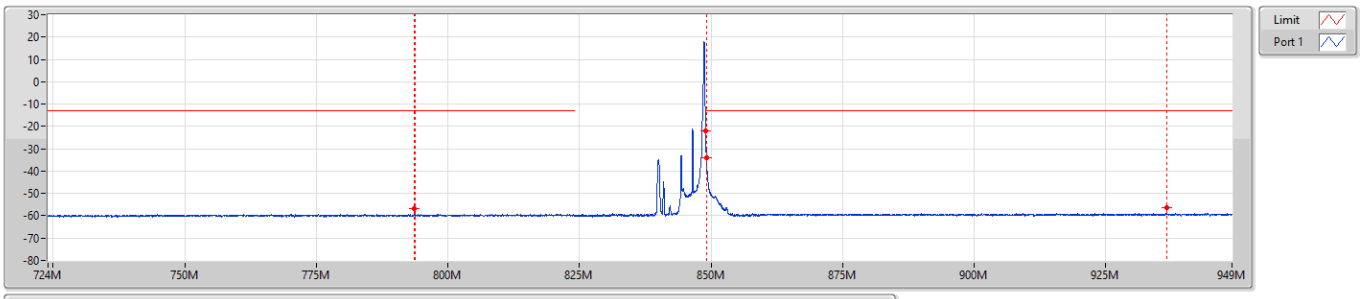
846.5MHz_QPSK_RB 25



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	50k	200k	RMS	823.75M	-56.30	-13.00	-43.30	MBW 100k	-
849M	849.1M	50k	200k	RMS	849M	-30.00	-13.00	-17.00	-	-
849.1M	859M	50k	200k	RMS	849.15M	-38.93	-13.00	-25.93	MBW 100k	-
859M	949M	50k	200k	RMS	942.35M	-56.29	-13.00	-43.29	MBW 100k	-

Band 5_LTE_5MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

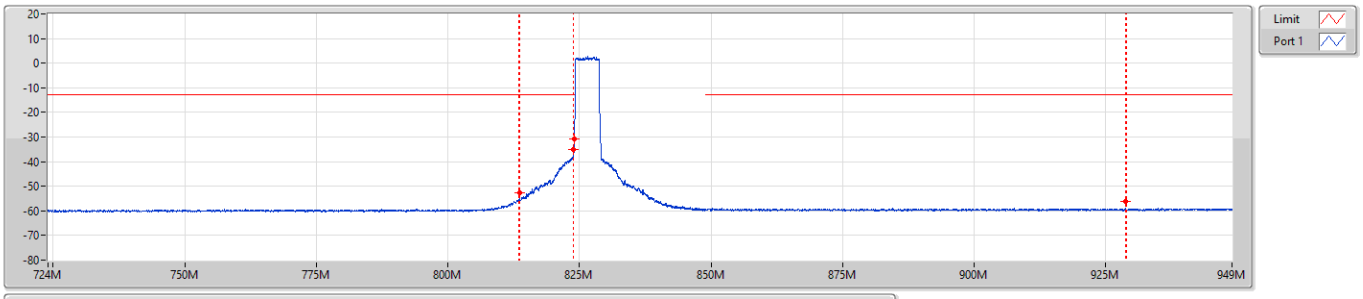
846.5MHz_QPSK_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	50k	200k	RMS	793.65M	-56.74	-13.00	-43.74	MBW 100k	-
849M	849.1M	50k	200k	RMS	849.01M	-22.00	-13.00	-9.00	-	-
849.1M	859M	50k	200k	RMS	849.15M	-34.20	-13.00	-21.20	MBW 100k	-
859M	949M	50k	200k	RMS	936.65M	-56.41	-13.00	-43.41	MBW 100k	-

Band 5_LTE_5MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

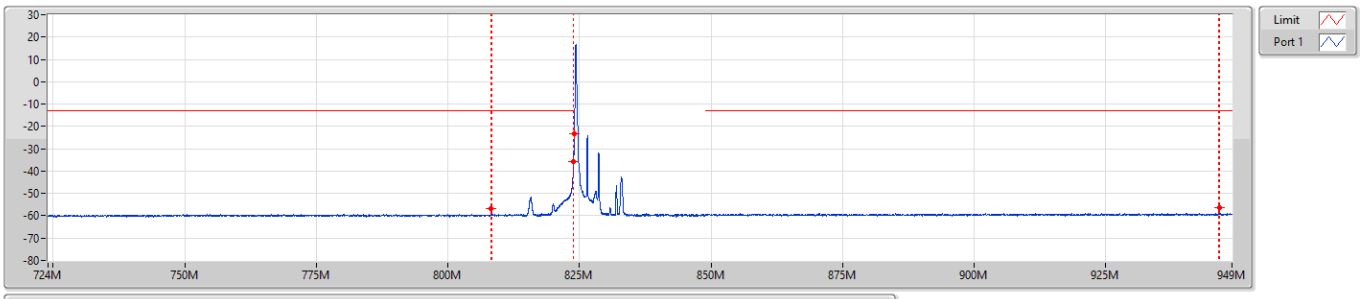
826.5MHz_16QAM_RB 25



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	814M	50k	200k	RMS	813.55M	-52.51	-13.00	-39.51	MBW 100k	-
814M	823.9M	50k	200k	RMS	823.85M	-35.26	-13.00	-22.26	MBW 100k	-
823.9M	824M	50k	200k	RMS	824M	-30.79	-13.00	-17.79	-	-
849M	949M	50k	200k	RMS	928.85M	-56.28	-13.00	-43.28	MBW 100k	-

Band 5_LTE_5MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

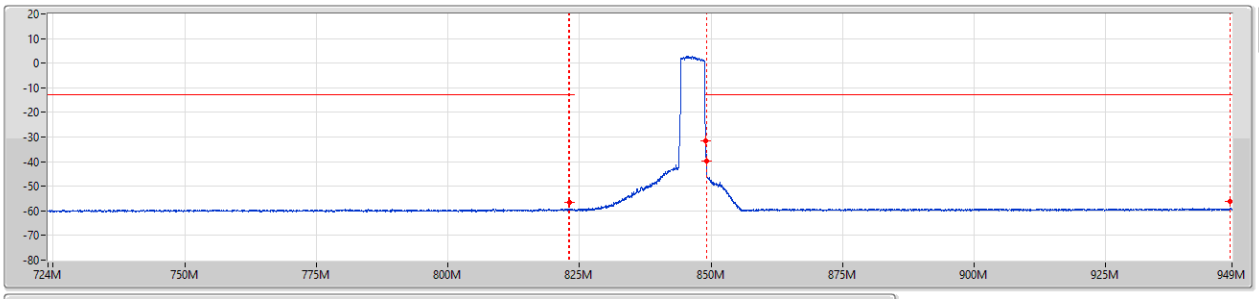
826.5MHz_16QAM_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	814M	50k	200k	RMS	808.25M	-56.67	-13.00	-43.67	MBW 100k	-
814M	823.9M	50k	200k	RMS	823.85M	-35.81	-13.00	-22.81	MBW 100k	-
823.9M	824M	50k	200k	RMS	824M	-23.42	-13.00	-10.42	-	-
849M	949M	50k	200k	RMS	946.55M	-56.38	-13.00	-43.38	MBW 100k	-

Band 5_LTE_5MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

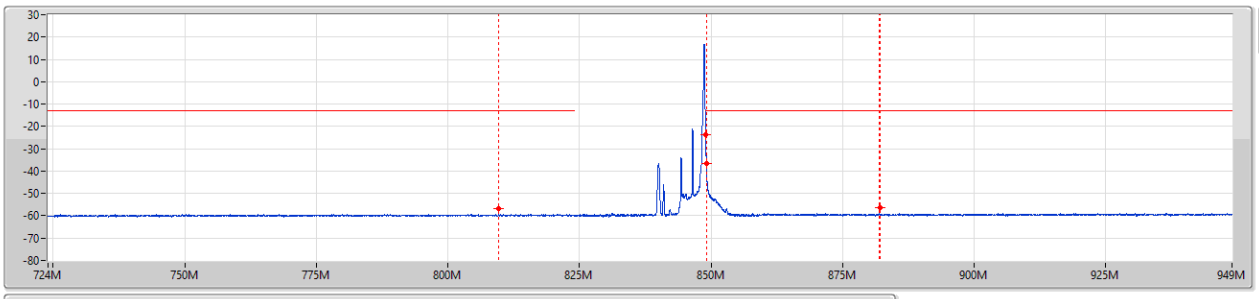
846.5MHz_16QAM_RB 25



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	50k	200k	RMS	823.05M	-56.64	-13.00	-43.64	MBW 100k	-
849M	849.1M	50k	200k	RMS	849.01M	-31.50	-13.00	-18.50	-	-
849.1M	859M	50k	200k	RMS	849.15M	-39.90	-13.00	-26.90	MBW 100k	-
859M	949M	50k	200k	RMS	948.65M	-56.35	-13.00	-43.35	MBW 100k	-

Band 5_LTE_5MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

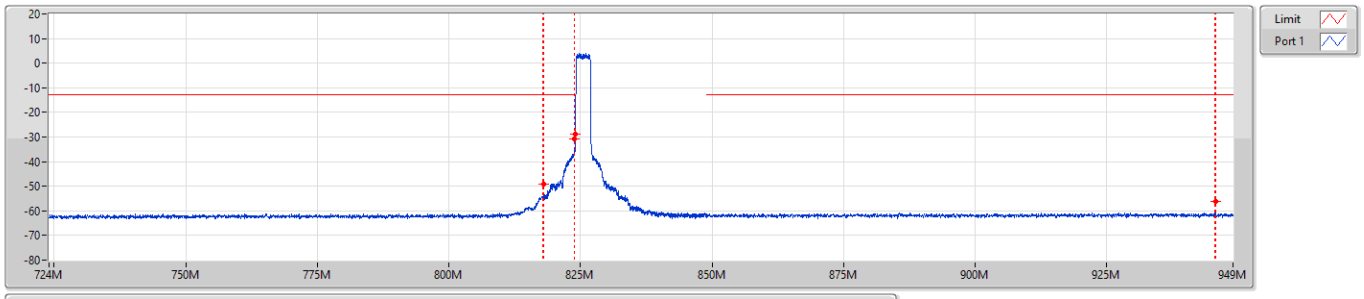
846.5MHz_16QAM_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	50k	200k	RMS	809.65M	-56.77	-13.00	-43.77	MBW 100k	-
849M	849.1M	50k	200k	RMS	849M	-23.69	-13.00	-10.69	-	-
849.1M	859M	50k	200k	RMS	849.15M	-36.74	-13.00	-23.74	MBW 100k	-
859M	949M	50k	200k	RMS	882.05M	-56.29	-13.00	-43.29	MBW 100k	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

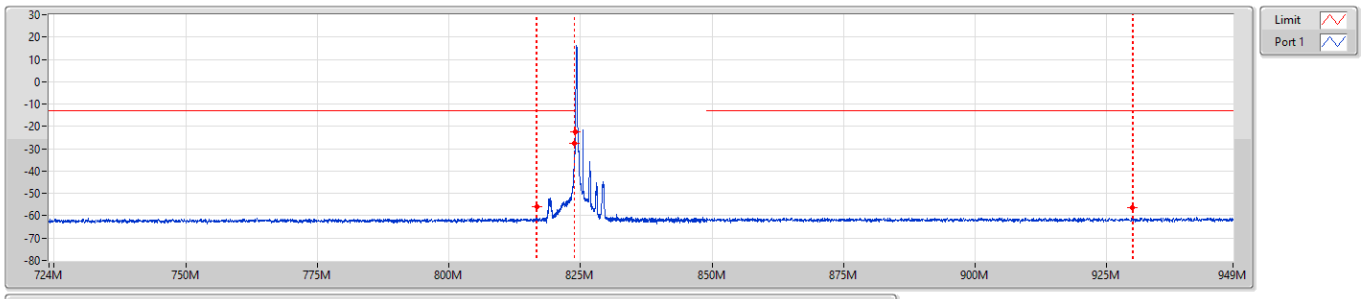
825.5MHz_QPSK_RB 15



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	818M	30k	100k	RMS	817.95M	-49.23	-13.00	-36.23	MBW 100k	-
818M	823.9M	30k	100k	RMS	823.85M	-30.81	-13.00	-17.81	MBW 100k	-
823.9M	824M	30k	100k	RMS	823.99M	-28.85	-13.00	-15.85	-	-
849M	949M	30k	100k	RMS	945.65M	-56.19	-13.00	-43.19	MBW 100k	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

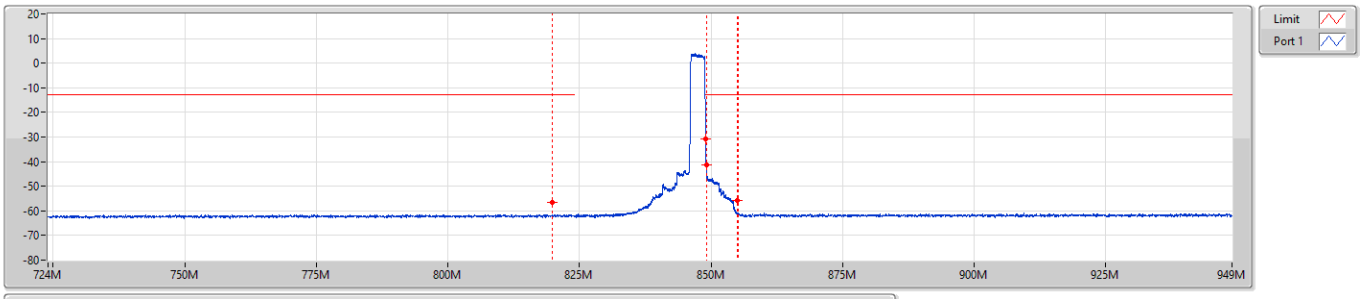
825.5MHz_QPSK_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	818M	30k	100k	RMS	816.65M	-56.12	-13.00	-43.12	MBW 100k	-
818M	823.9M	30k	100k	RMS	823.85M	-27.40	-13.00	-14.40	MBW 100k	-
823.9M	824M	30k	100k	RMS	824M	-22.50	-13.00	-9.50	-	-
849M	949M	30k	100k	RMS	929.95M	-56.25	-13.00	-43.25	MBW 100k	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

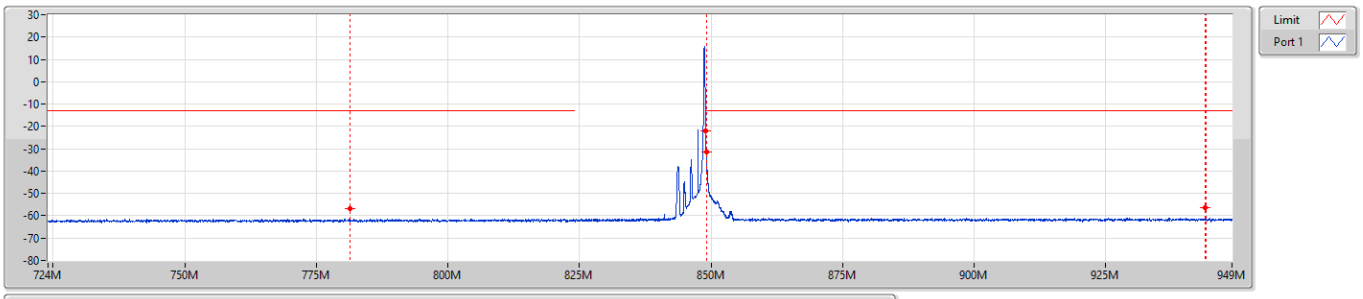
847.5MHz_QPSK_RB 15



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	30k	100k	RMS	819.85M	-56.71	-13.00	-43.71	MBW 100k	-
849M	849.1M	30k	100k	RMS	849M	-30.94	-13.00	-17.94	-	-
849.1M	855M	30k	100k	RMS	849.15M	-41.18	-13.00	-28.18	MBW 100k	-
855M	949M	30k	100k	RMS	855.05M	-55.88	-13.00	-42.88	MBW 100k	-

Band 5_LTE_3MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

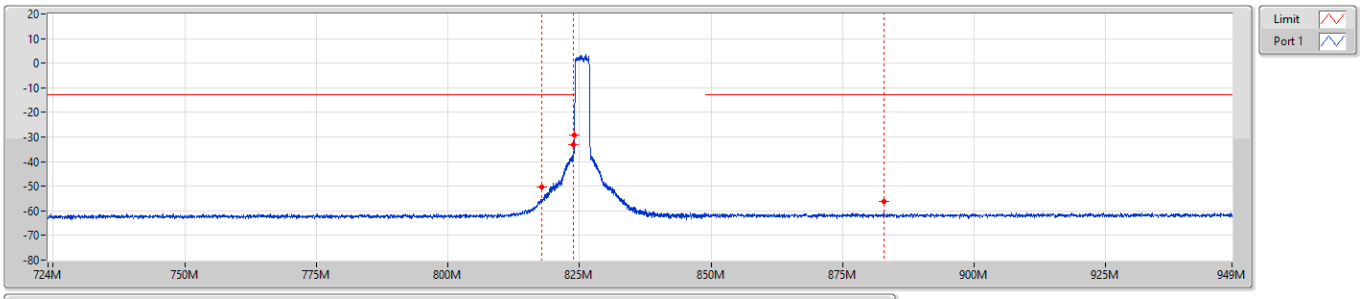
847.5MHz_QPSK_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	30k	100k	RMS	781.35M	-56.76	-13.00	-43.76	MBW 100k	-
849M	849.1M	30k	100k	RMS	849M	-22.00	-13.00	-9.00	-	-
849.1M	855M	30k	100k	RMS	849.15M	-31.64	-13.00	-18.64	MBW 100k	-
855M	949M	30k	100k	RMS	943.95M	-56.19	-13.00	-43.19	MBW 100k	-

Band 5_LTE_3MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

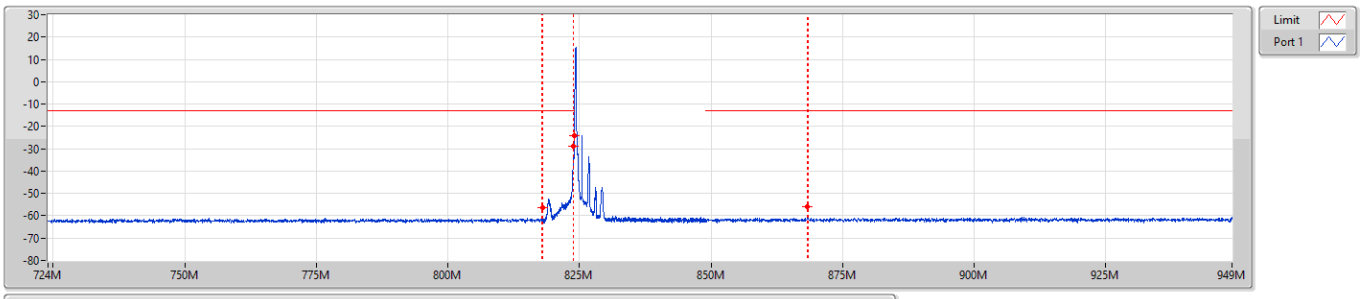
825.5MHz_16QAM_RB 15



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	818M	30k	100k	RMS	817.85M	-50.33	-13.00	-37.33	MBW 100k	-
818M	823.9M	30k	100k	RMS	823.85M	-32.97	-13.00	-19.97	MBW 100k	-
823.9M	824M	30k	100k	RMS	824M	-29.04	-13.00	-16.04	-	-
849M	949M	30k	100k	RMS	882.85M	-56.26	-13.00	-43.26	MBW 100k	-

Band 5_LTE_3MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

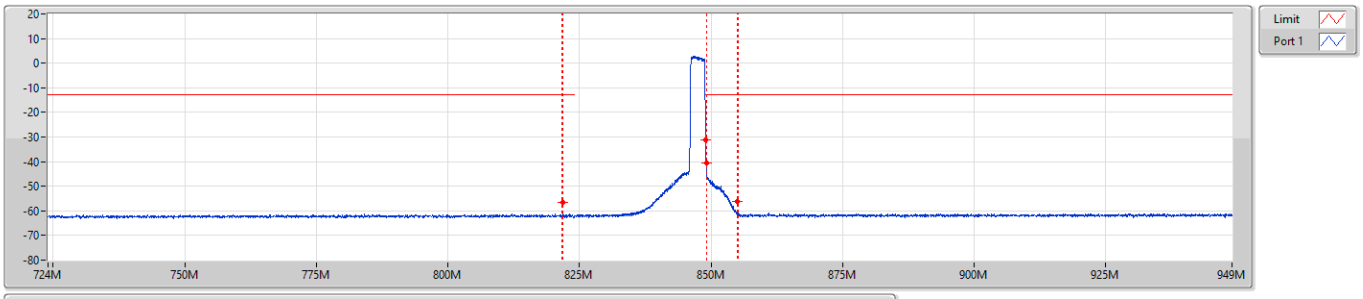
825.5MHz_16QAM_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	818M	30k	100k	RMS	817.95M	-56.39	-13.00	-43.39	MBW 100k	-
818M	823.9M	30k	100k	RMS	823.85M	-28.70	-13.00	-15.70	MBW 100k	-
823.9M	824M	30k	100k	RMS	824M	-24.03	-13.00	-11.03	-	-
849M	949M	30k	100k	RMS	868.35M	-56.02	-13.00	-43.02	MBW 100k	-

Band 5_LTE_3MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

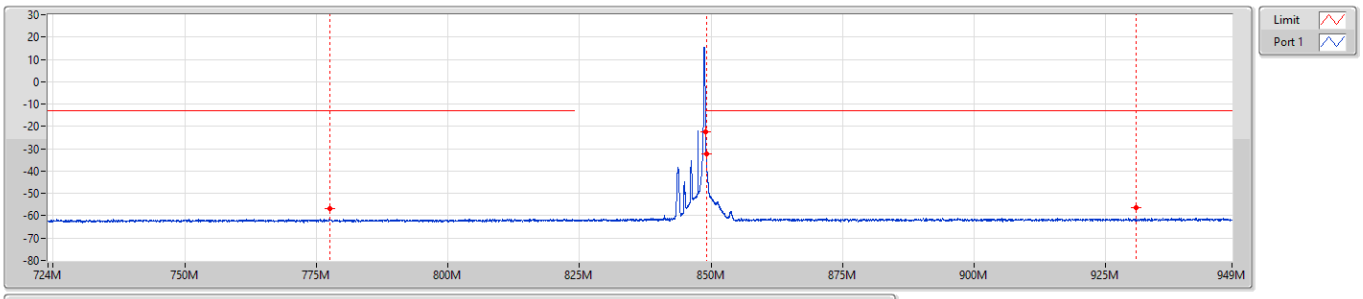
847.5MHz_16QAM_RB 15



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	30k	100k	RMS	821.75M	-56.50	-13.00	-43.50	MBW 100k	-
849M	849.1M	30k	100k	RMS	849M	-31.36	-13.00	-18.36	-	-
849.1M	855M	30k	100k	RMS	849.15M	-40.74	-13.00	-27.74	MBW 100k	-
855M	949M	30k	100k	RMS	855.05M	-56.08	-13.00	-43.08	MBW 100k	-

Band 5_LTE_3MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

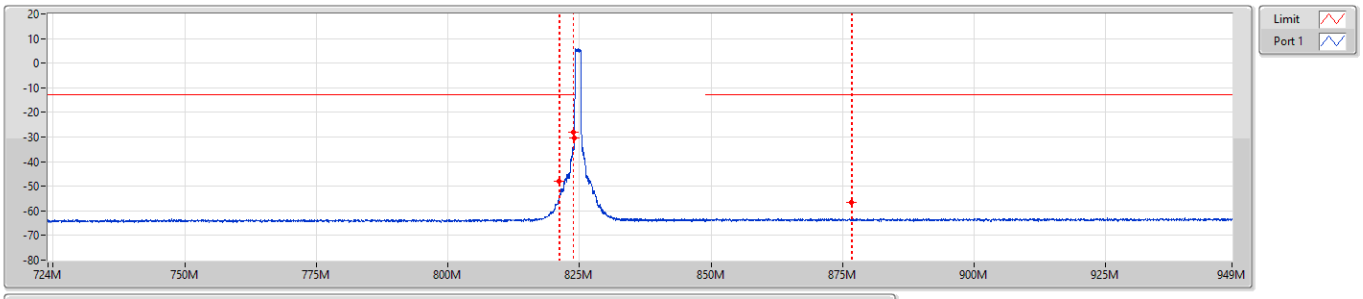
847.5MHz_16QAM_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	30k	100k	RMS	777.55M	-56.71	-13.00	-43.71	MBW 100k	-
849M	849.1M	30k	100k	RMS	849M	-22.28	-13.00	-9.28	-	-
849.1M	855M	30k	100k	RMS	849.15M	-32.10	-13.00	-19.10	MBW 100k	-
855M	949M	30k	100k	RMS	930.75M	-56.26	-13.00	-43.26	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

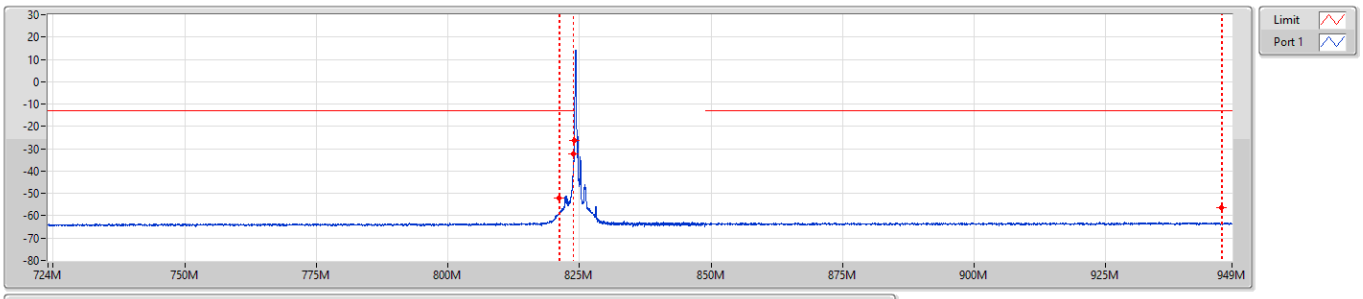
824.7MHz_QPSK_RB 6



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	821.2M	20k	100k	RMS	821.15M	-48.10	-13.00	-35.10	MBW 100k	-
821.2M	823.9M	20k	100k	RMS	823.85M	-28.11	-13.00	-15.11	MBW 100k	-
823.9M	824M	20k	100k	RMS	824M	-30.29	-13.00	-17.29	-	-
849M	949M	20k	100k	RMS	876.75M	-56.47	-13.00	-43.47	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

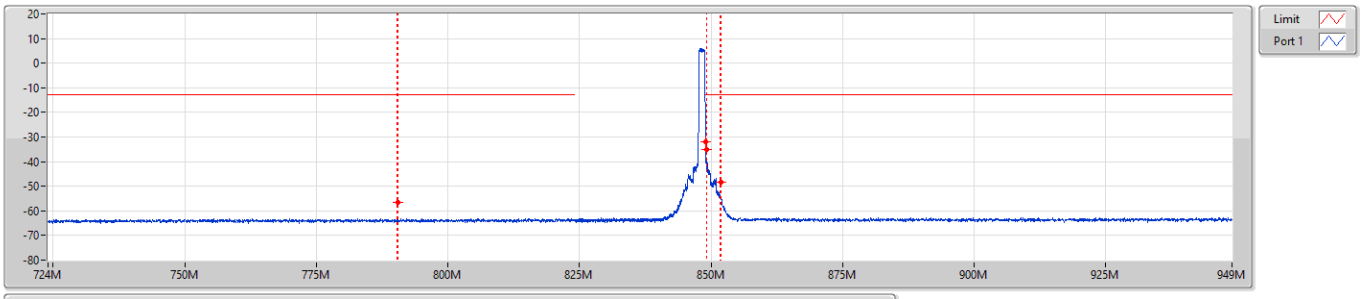
824.7MHz_QPSK_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	821.2M	20k	100k	RMS	821.15M	-52.26	-13.00	-39.26	MBW 100k	-
821.2M	823.9M	20k	100k	RMS	823.85M	-32.39	-13.00	-19.39	MBW 100k	-
823.9M	824M	20k	100k	RMS	824M	-26.33	-13.00	-13.33	-	-
849M	949M	20k	100k	RMS	947.05M	-56.46	-13.00	-43.46	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

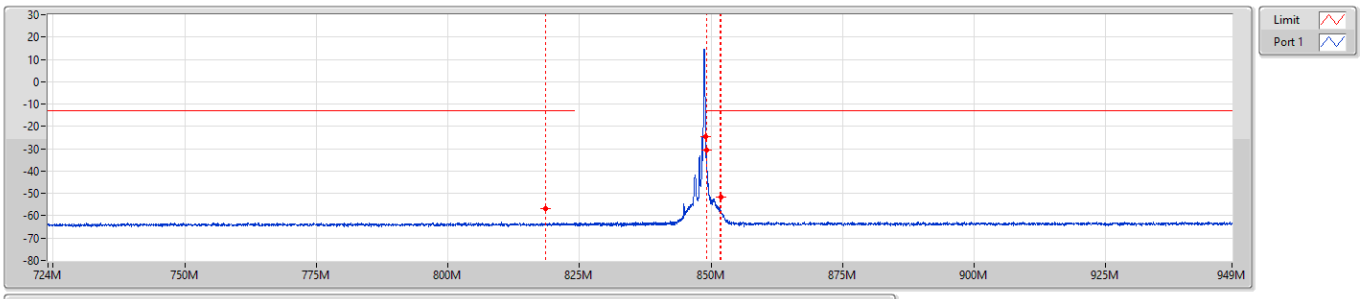
848.3MHz_QPSK_RB 6



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	20k	100k	RMS	790.45M	-56.68	-13.00	-43.68	MBW 100k	-
849M	849.1M	20k	100k	RMS	849M	-32.07	-13.00	-19.07	-	-
849.1M	851.8M	20k	100k	RMS	849.15M	-35.06	-13.00	-22.06	MBW 100k	-
851.8M	949M	20k	100k	RMS	851.85M	-48.17	-13.00	-35.17	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **CSE-TX-Sum**

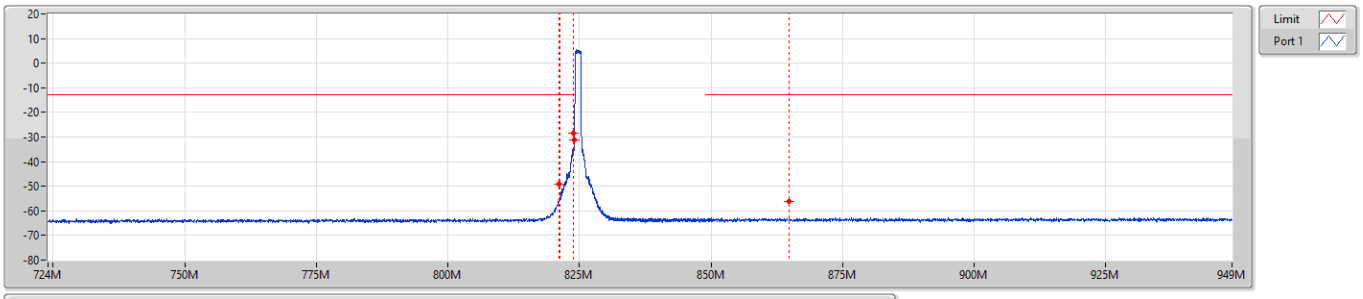
848.3MHz_QPSK_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	20k	100k	RMS	818.55M	-56.62	-13.00	-43.62	MBW 100k	-
849M	849.1M	20k	100k	RMS	849M	-24.76	-13.00	-11.76	-	-
849.1M	851.8M	20k	100k	RMS	849.15M	-30.76	-13.00	-17.76	MBW 100k	-
851.8M	949M	20k	100k	RMS	851.85M	-51.43	-13.00	-38.43	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

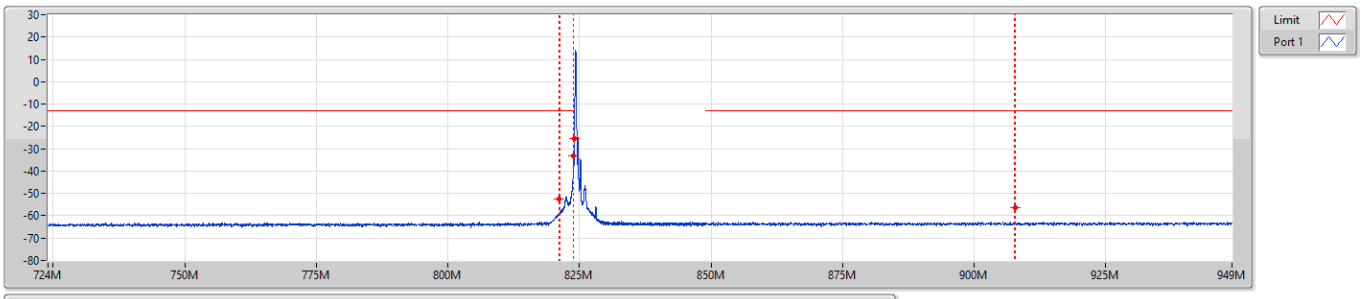
824.7MHz_16QAM_RB 6



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	821.2M	20k	100k	RMS	821.15M	-48.96	-13.00	-35.96	MBW 100k	-
821.2M	823.9M	20k	100k	RMS	823.85M	-28.31	-13.00	-15.31	MBW 100k	-
823.9M	824M	20k	100k	RMS	824M	-31.29	-13.00	-18.29	-	-
849M	949M	20k	100k	RMS	864.85M	-56.28	-13.00	-43.28	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

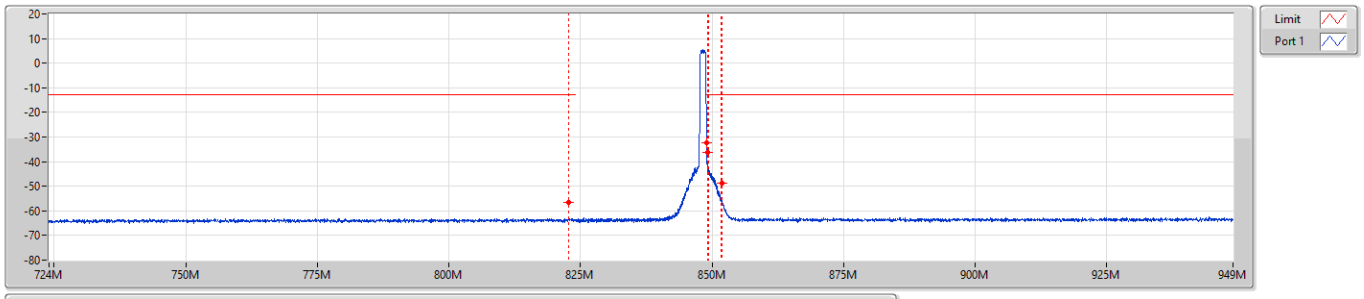
824.7MHz_16QAM_RB 1,#RB L



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	821.2M	20k	100k	RMS	821.15M	-52.65	-13.00	-39.65	MBW 100k	-
821.2M	823.9M	20k	100k	RMS	823.85M	-33.15	-13.00	-20.15	MBW 100k	-
823.9M	824M	20k	100k	RMS	824M	-25.51	-13.00	-12.51	-	-
849M	949M	20k	100k	RMS	907.75M	-56.35	-13.00	-43.35	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

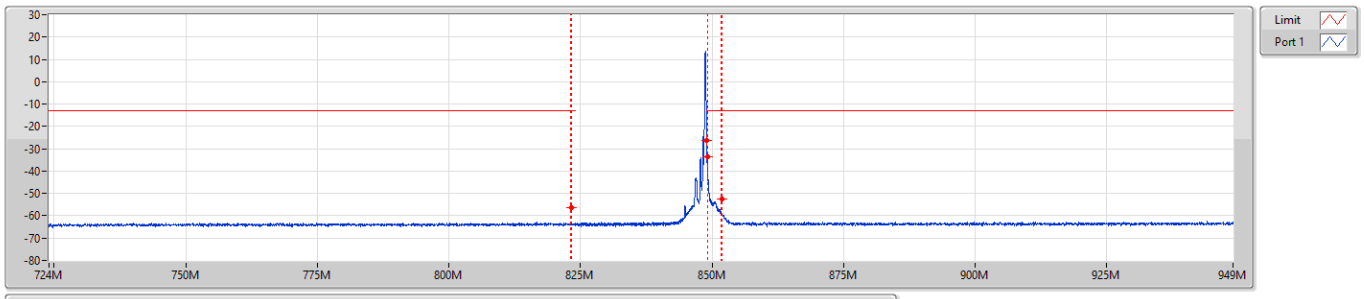
848.3MHz_16QAM_RB 6



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	20k	100k	RMS	822.75M	-56.68	-13.00	-43.68	MBW 100k	-
849M	849.1M	20k	100k	RMS	849.01M	-32.15	-13.00	-19.15	-	-
849.1M	851.8M	20k	100k	RMS	849.25M	-36.32	-13.00	-23.32	MBW 100k	-
851.8M	949M	20k	100k	RMS	851.85M	-48.92	-13.00	-35.92	MBW 100k	-

Band 5_LTE_1.4MHz_Nss1,16QAM_1TX **CSE-TX-Sum**

848.3MHz_16QAM_RB 1,#RB R



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	VBW(Hz)	Detector	Freq(Hz)	Level(dBm)	Limit(dBm)	Margin(dB)	Remark	Ref.Limit(dB)
724M	824M	20k	100k	RMS	823.25M	-56.52	-13.00	-43.52	MBW 100k	-
849M	849.1M	20k	100k	RMS	849M	-26.14	-13.00	-13.14	-	-
849.1M	851.8M	20k	100k	RMS	849.15M	-33.68	-13.00	-20.68	MBW 100k	-
851.8M	949M	20k	100k	RMS	851.85M	-52.61	-13.00	-39.61	MBW 100k	-

Summary

Mode	Max-NdB (Hz)	Max-OBW (Hz)	ITU-Code	Min-NdB (Hz)	Min-OBW (Hz)
Band 5	-	-	-	-	-
LTE_10MHz_Nss1,QPSK_1TX	9.738M	8.933M	8M93G7D	9.738M	8.933M
LTE_10MHz_Nss1,16QAM_1TX	5.65M	4.873M	4M87W7D	5.65M	4.873M
LTE_5MHz_Nss1,QPSK_1TX	4.906M	4.473M	4M47G7D	4.906M	4.473M
LTE_5MHz_Nss1,16QAM_1TX	4.844M	4.473M	4M47W7D	4.844M	4.473M
LTE_3MHz_Nss1,QPSK_1TX	2.918M	2.684M	2M68G7D	2.918M	2.684M
LTE_3MHz_Nss1,16QAM_1TX	2.918M	2.684M	2M68W7D	2.918M	2.684M
LTE_1.4MHz_Nss1,QPSK_1TX	1.25M	1.09M	1M09G7D	1.25M	1.09M
LTE_1.4MHz_Nss1,16QAM_1TX	1.258M	1.086M	1M09W7D	1.258M	1.086M

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

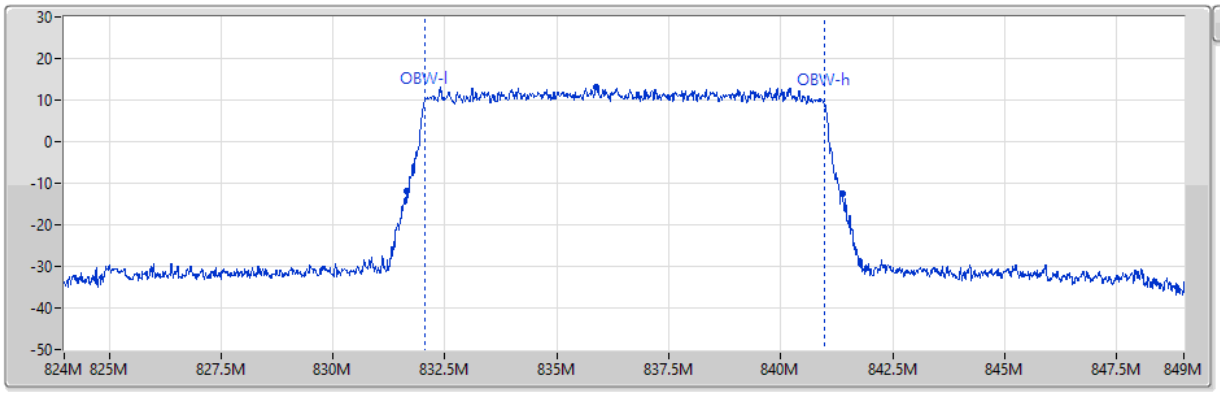
Result

Mode	Result	Port 1-NdB (Hz)	Port 1-OBW (Hz)	Limit (Hz)
Band 5_LTE_10MHz_Nss1_1TX	-	-	-	-
836.5MHz_QPSK_RB 50	Pass	9.738M	8.933M	Inf
836.5MHz_16QAM_RB 27	Pass	5.65M	4.873M	Inf
Band 5_LTE_5MHz_Nss1_1TX	-	-	-	-
836.5MHz_QPSK_RB 25	Pass	4.906M	4.473M	Inf
836.5MHz_16QAM_RB 25	Pass	4.844M	4.473M	Inf
Band 5_LTE_3MHz_Nss1_1TX	-	-	-	-
836.5MHz_QPSK_RB 15	Pass	2.918M	2.684M	Inf
836.5MHz_16QAM_RB 15	Pass	2.918M	2.684M	Inf
Band 5_LTE_1.4MHz_Nss1_1TX	-	-	-	-
836.5MHz_QPSK_RB 6	Pass	1.25M	1.09M	Inf
836.5MHz_16QAM_RB 6	Pass	1.258M	1.086M	Inf

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

Band 5_LTE_10MHz_Nss1,QPSK_1TX **EBW**

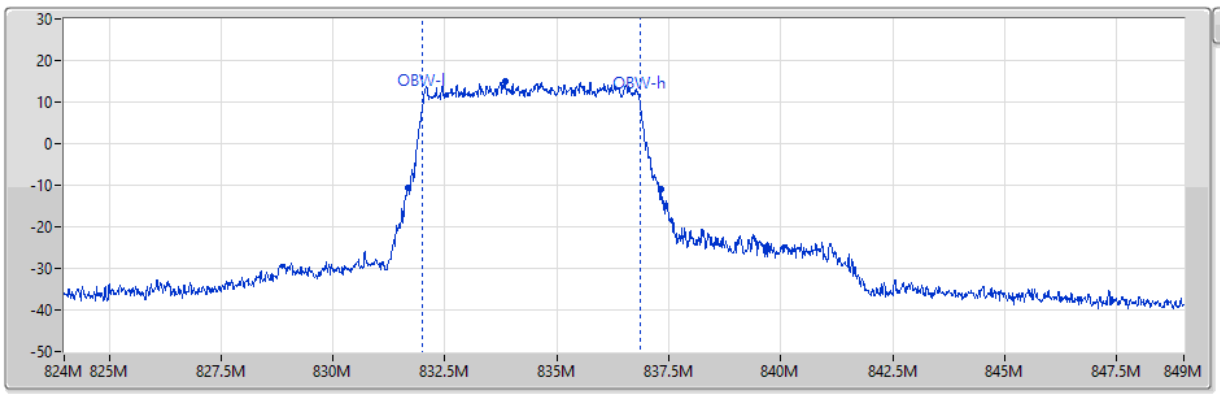
836.5MHz_QPSK_RB 50



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
9.738M	831.65M	841.3875M	8.933M	832.03973M	840.972764M	1	836.5M	25M	100k	300k

Band 5_LTE_10MHz_Nss1,16QAM_1TX **EBW**

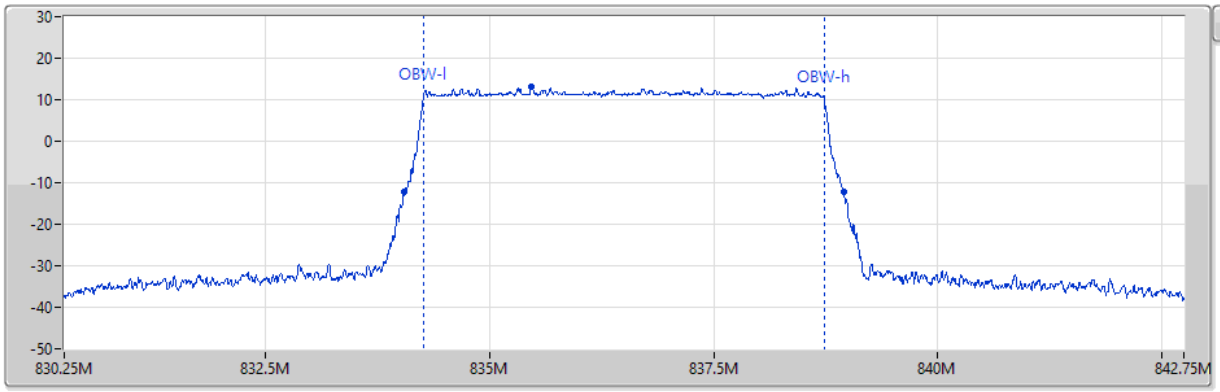
836.5MHz_16QAM_RB 27



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
5.65M	831.675M	837.325M	4.873M	832.002249M	836.874813M	1	836.5M	25M	100k	300k

Band 5_LTE_5MHz_Nss1,QPSK_1TX **EBW**

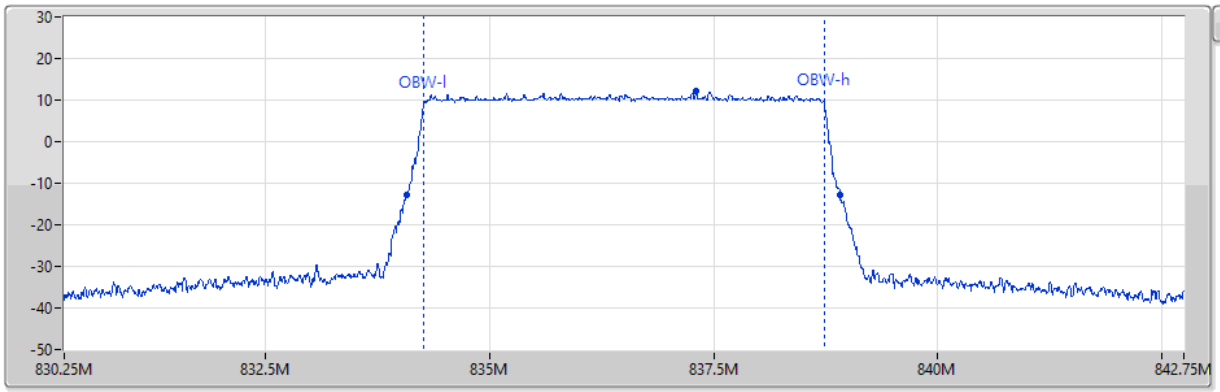
836.5MHz_QPSK_RB 25



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.906M	834.05M	838.95625M	4.473M	834.263618M	838.736382M	1	836.5M	12.5M	50k	200k

Band 5_LTE_5MHz_Nss1,16QAM_1TX **EBW**

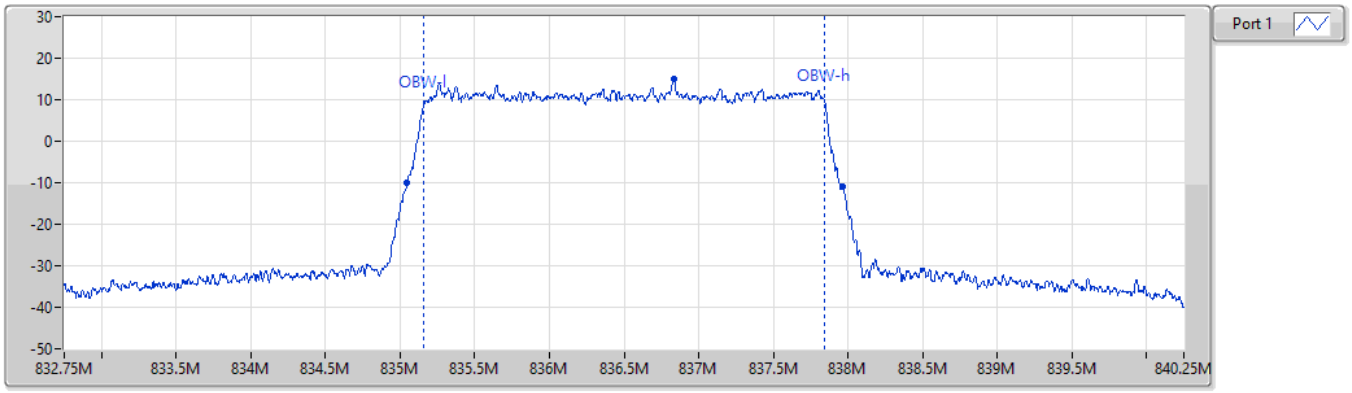
836.5MHz_16QAM_RB 25



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
4.844M	834.06875M	838.9125M	4.473M	834.263618M	838.736382M	1	836.5M	12.5M	50k	200k

Band 5_LTE_3MHz_Nss1,QPSK_1TX **EBW**

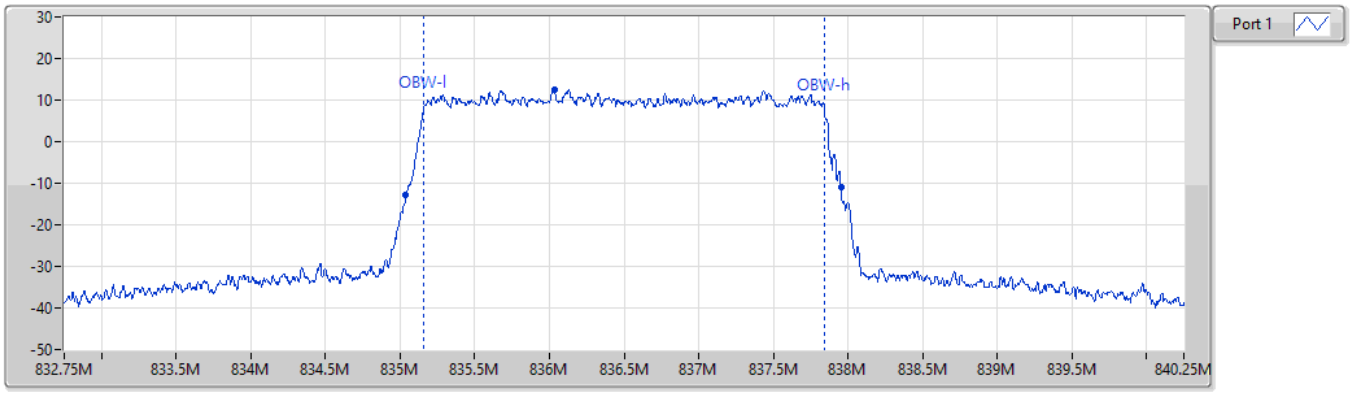
836.5MHz_QPSK_RB 15



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
2.918M	835.045M	837.9625M	2.684M	835.158171M	837.841829M	1	836.5M	7.5M	30k	100k

Band 5_LTE_3MHz_Nss1,16QAM_1TX **EBW**

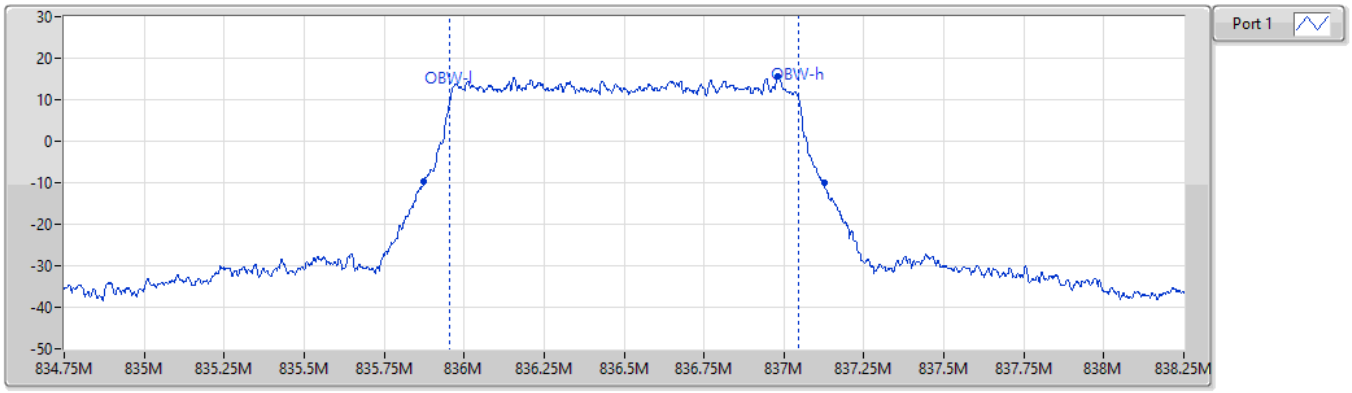
836.5MHz_16QAM_RB 15



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
2.918M	835.0375M	837.955M	2.684M	835.158171M	837.841829M	1	836.5M	7.5M	30k	100k

Band 5_LTE_1.4MHz_Nss1,QPSK_1TX **EBW**

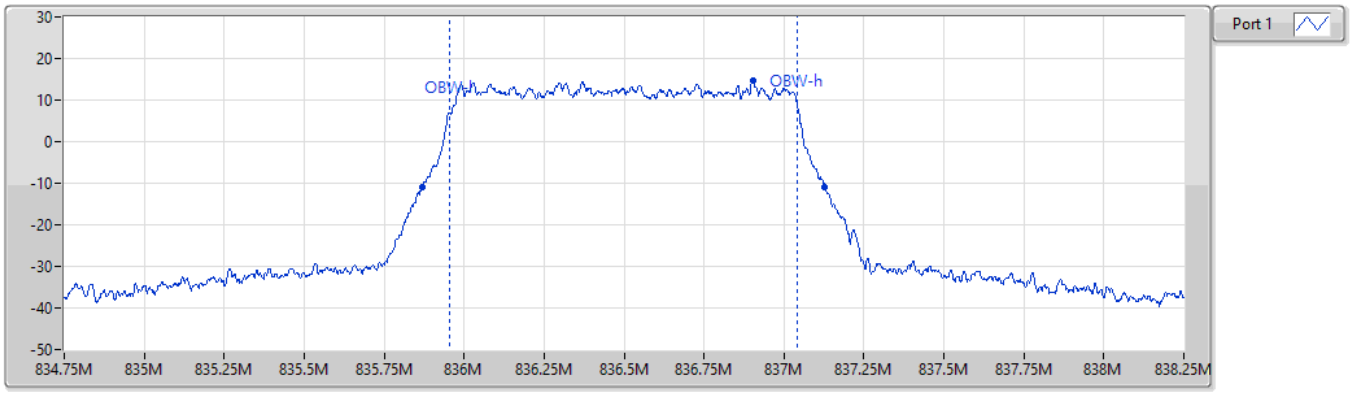
836.5MHz_QPSK_RB 6



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
1.25M	835.87525M	837.12475M	1.09M	835.956022M	837.045727M	1	836.5M	3.5M	20k	100k

Band 5_LTE_1.4MHz_Nss1,16QAM_1TX **EBW**

836.5MHz_16QAM_RB 6



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Port	CF(Hz)	Span(Hz)	RBW(Hz)	VBW(Hz)
1.258M	835.87M	837.12825M	1.086M	835.956022M	837.042229M	1	836.5M	3.5M	20k	100k

Summary

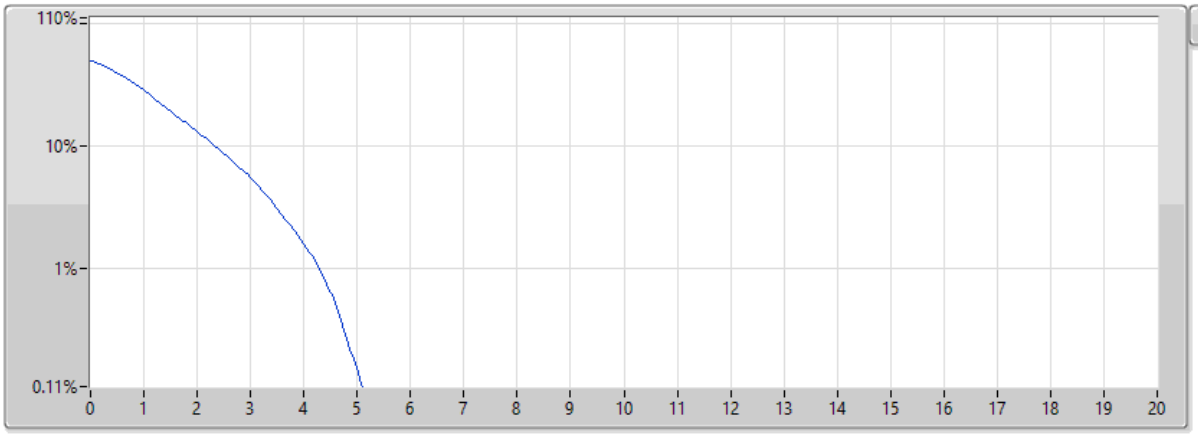
Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 5	-	-	-	-	-
LTE_10MHz_Nss1,QPSK_1TX	Pass	836.5	13.00	5.13	1
LTE_10MHz_Nss1,16QAM_1TX	Pass	836.5	13.00	6.12	1

Result

Mode	Result	Freq (MHz)	Limit (dB)	0.1%	Port
Band 5_LTE_10MHz_Nss1_1TX	-	-	-	-	-
836.5MHz_QPSK_RB 50	Pass	836.5	13.00	5.13	1
836.5MHz_16QAM_RB 27	Pass	836.5	13.00	6.12	1

Band 5_LTE_10MHz_Nss1,QPSK_1TX **PAPR**

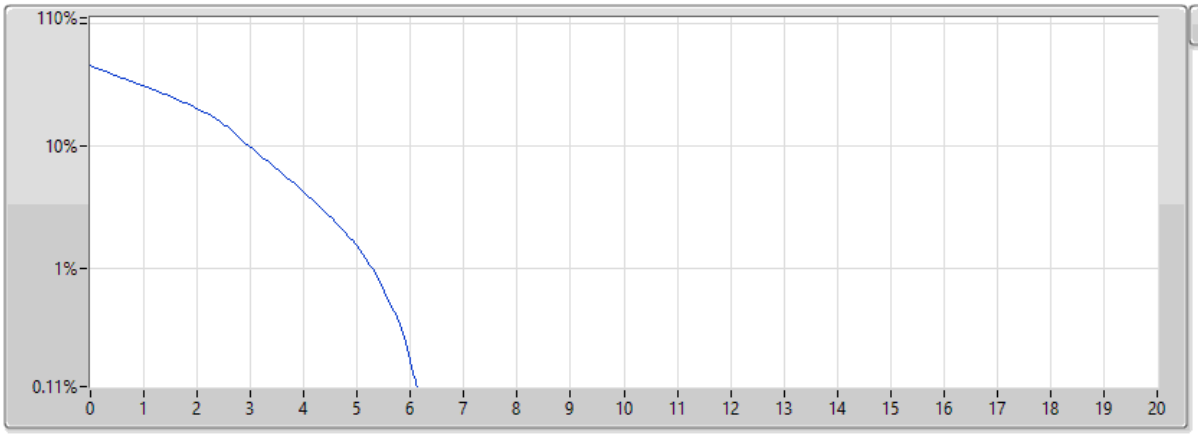
836.5MHz_QPSK_RB 50



Freq (MHz)	MBW(Hz)	0.1%	Margin(dB)	Limit(dB)	Port
836.5	10M	5.13	-7.87	13.00	1

Band 5_LTE_10MHz_Nss1,16QAM_1TX **PAPR**

836.5MHz_16QAM_RB 27



Freq (MHz)	MBW(Hz)	0.1%	Margin(dB)	Limit(dB)	Port
836.5	10M	6.12	-6.88	13.00	1

LTE Band 5, CB: 10MHz				
Temperature (ºC)	**829MHz**		**844MHz**	
	Frequency Drift (ppm)	**F_L (MHz)**	**Frequency Drift (ppm)**	**F_H (MHz)**
T20°CVmax	-0.004	824.502246	-0.005	848.510241
T20°CVmin	-0.002	824.502247	-0.006	848.510240
T50°CVnom	-0.011	824.502240	-0.013	848.510234
T40°CVnom	-0.012	824.502239	-0.008	848.510238
T30°CVnom	-0.004	824.502246	-0.008	848.510238
T20°CVnom	-0.010	824.502241	-0.007	848.510239
T10°CVnom	-0.002	824.502247	-0.006	848.510240
T0°CVnom	-0.006	824.502244	-0.008	848.510238
T-10°CVnom	-0.014	824.502237	-0.014	848.510233
T-20°CVnom	-0.011	824.502240	-0.011	848.510236
T-30°CVnom	-0.016	824.502236	-0.012	848.510235
Limit		>824MHz		<849MHz
Vnom [V]: 120	Vmax [V]: 138		Vmin [V]: 102	
Tnom [˚C]: 20	Tmax [˚C]: 50		Tmin [˚C]: -30	

LTE Band 5, CB: 5MHz				
Temperature (ºC)	**826.5MHz**		**846.5MHz**	
	Frequency Drift (ppm)	**F_L (MHz)**	**Frequency Drift (ppm)**	**F_H (MHz)**
T20°CVmax	-0.006	824.263613	-0.007	848.736376
T20°CVmin	-0.006	824.263613	-0.004	848.736379
T50°CVnom	-0.012	824.263608	-0.015	848.736369
T40°CVnom	-0.010	824.263610	-0.013	848.736371
T30°CVnom	-0.002	824.263616	-0.005	848.736378
T20°CVnom	-0.007	824.263612	-0.006	848.736377
T10°CVnom	-0.002	824.263616	-0.007	848.736376
T0°CVnom	-0.012	824.263608	-0.007	848.736376
T-10°CVnom	-0.012	824.263608	-0.014	848.736370
T-20°CVnom	-0.011	824.263609	-0.008	848.736375
T-30°CVnom	-0.016	824.263605	-0.015	848.736369
Limit		>824MHz		<849MHz
Vnom [V]: 120	Vmax [V]: 138		Vmin [V]: 102	
Tnom [˚C]: 20	Tmax [˚C]: 50		Tmin [˚C]: -30	

LTE Band 5, CB: 3MHz				
Temperature (ºC)	**825.5MHz**		**847.5MHz**	
	Frequency Drift (ppm)	**F_L (MHz)**	**Frequency Drift (ppm)**	**F_H (MHz)**
T20°CVmax	-0.008	824.158164	-0.007	848.841823
T20°CVmin	-0.005	824.158167	-0.005	848.841825
T50°CVnom	-0.013	824.158160	-0.015	848.841816
T40°CVnom	-0.012	824.158161	-0.011	848.841820
T30°CVnom	-0.002	824.158169	-0.007	848.841823
T20°CVnom	-0.004	824.158168	-0.008	848.841822
T10°CVnom	-0.004	824.158168	-0.002	848.841827
T0°CVnom	-0.012	824.158161	-0.012	848.841819
T-10°CVnom	-0.012	824.158161	-0.009	848.841821
T-20°CVnom	-0.011	824.158162	-0.013	848.841818
T-30°CVnom	-0.015	824.158159	-0.015	848.841816
Limit		>824MHz		<849MHz
Vnom [V]: 120	Vmax [V]: 138		Vmin [V]: 102	
Tnom [°C]: 20	Tmax [°C]: 50		Tmin [°C]: -30	

LTE Band 5, CB: 1.4MHz				
Temperature (ºC)	**824.7MHz**		**848.3MHz**	
	Frequency Drift (ppm)	**F_L (MHz)**	**Frequency Drift (ppm)**	**F_H (MHz)**
T20°CVmax	-0.005	824.156018	-0.005	848.845723
T20°CVmin	-0.005	824.156018	-0.006	848.845722
T50°CVnom	-0.012	824.156012	-0.014	848.845715
T40°CVnom	-0.010	824.156014	-0.008	848.845720
T30°CVnom	-0.002	824.156020	-0.005	848.845723
T20°CVnom	-0.004	824.156019	-0.008	848.845720
T10°CVnom	-0.002	824.156020	-0.005	848.845723
T0°CVnom	-0.006	824.156017	-0.012	848.845717
T-10°CVnom	-0.010	824.156014	-0.009	848.845719
T-20°CVnom	-0.013	824.156011	-0.007	848.845721
T-30°CVnom	-0.015	824.156010	-0.013	848.845716
Limit		>824MHz		<849MHz
Vnom [V]: 120	Vmax [V]: 138		Vmin [V]: 102	
Tnom [°C]: 20	Tmax [°C]: 50		Tmin [°C]: -30	