

FCC Test Report

FCC ID : 2A7G3XS5G0304
Equipment : 5G DATA CARD
Model No. : XS5G03-GB0
(refer to item 1.1.1 for more details)
Brand Name : XSquare
Applicant : XSquare Communications Corporation
Address : NO.6 INNOVATION ROAD II, SCIENCE PARK,
HSINCHU 30076, TAIWAN, R.O.C
Standard : 47 CFR FCC Part 90 Subpart S
Received Date : Jun. 13, 2022
Tested Date : Jun. 28 ~ Aug. 15, 2022

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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LTE BAND 18

APPENDIX A.1 TEST RESULTS FOR EFFECTIVE RADIATED POWER

LTE BAND 26

APPENDIX A.2 TEST RESULTS FOR EFFECTIVE RADIATED POWER

APPENDIX B TEST RESULTS FOR RADIATED EMISSIONS

APPENDIX C TEST RESULTS FOR OUT OF BAND EMISSIONS

APPENDIX D TEST RESULTS FOR EMISSION MASK

APPENDIX E TEST RESULTS FOR OCCUPIED AND 26 dB BANDWIDTH

APPENDIX F TEST RESULTS FOR PEAK TO AVERAGE POWER RATIO

APPENDIX G TEST RESULTS FOR PEAK TO FREQUENCY STABILITY

Release Record

Report No.	Version	Description	Issued Date
FL261301	Rev. 01	Initial issue	Sep. 23, 2022

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 90.635(b)	Effective Radiated Power	Max ERP [dBm]: 18.31	Pass
2.1053 / 90.691	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 90.691	Conducted Emissions	Meet the requirement of limit	Pass
90.691	Emission Mask	Meet the requirement of limit	Pass
2.1049	Occupied Bandwidth	Meet the requirement of limit	Pass
-	Peak to average ratio	Meet the requirement of limit	Pass
2.1055 / 90.213	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 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
XSquare	XS5G03-GBO	5G DATA CARD	(SA+NSA)+GPS
	XS5G04-GBO		(SA Only)+GPS XS5G03-GBO base band IC disable NSA by SW
★ The above models, model XS5G03-GBO was selected as a representative one for the final test and only its data was recorded in this report.			

1.1.2 Specification of the Equipment under Test (EUT)

Operating Frequency (MHz)	LTE Band 18 Channel Bandwidth: 5MHz: 817.5 MHz ~ 822.5 MHz Channel Bandwidth: 10MHz: 820.0 MHz ~ 822.5 MHz Channel Bandwidth: 15MHz: 822.5 MHz LTE Band 26 Channel Bandwidth: 1.4MHz: 814.7 MHz ~ 823.3 MHz Channel Bandwidth: 3MHz: 815.5 MHz ~ 822.5 MHz Channel Bandwidth: 5MHz: 816.5 MHz ~ 821.5 MHz Channel Bandwidth: 10MHz: 819 MHz Channel Bandwidth: 15MHz :821.5 MHz
Modulation Type	QPSK, 16QAM, 64QAM (Uplink)
Duplex Mode	FDD

1.1.3 Antenna Details

Brand	Model	Type	Connector	Gain (dBi)
Anjie	AELQ2S-B066L	Dipole	UFL	-1.2

1.1.4 EUT Operational Condition

Supply Voltage	3.3Vdc from host		
Operational Voltage	<input checked="" type="checkbox"/> Vnom (3.3 V)	<input checked="" type="checkbox"/> Vmax (3.63V)	<input checked="" type="checkbox"/> Vmin (3.135V)
Operational Climatic	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (70°C)	<input checked="" type="checkbox"/> Tmin (-30°C)

1.1.5 Accessories

N/A

1.1.6 Maximum Conducted Power and Emission Designator

LTE band 18			
Channel Bandwidth	Modulation	Maximum Conducted Power (W)	Emission Designator
5MHz	QPSK	0.145	4M46G7D
5MHz	16QAM	0.122	4M46W7D
5MHz	64QAM	0.097	4M47W7D
10MHz	QPSK	0.142	8M92G7D
10MHz	16QAM	0.119	8M92W7D
10MHz	64QAM	0.094	8M93W7D
15MHz	QPSK	0.142	13M4G7D
15MHz	16QAM	0.118	13M4W7D
15MHz	64QAM	0.094	13M4W7D

LTE Band 26			
Channel Bandwidth	Modulation	Maximum Conducted Power (W)	Emission Designator
1.4MHz	QPSK	0.143	1M08G7D
1.4MHz	16QAM	0.121	1M08W7D
1.4MHz	64QAM	0.096	1M08W7D
3MHz	QPSK	0.143	2M68G7D
3MHz	16QAM	0.121	2M68W7D
3MHz	64QAM	0.096	2M68W7D
5MHz	QPSK	0.147	4M46G7D
5MHz	16QAM	0.124	4M46W7D
5MHz	64QAM	0.097	4M47W7D
10MHz	QPSK	0.145	8M92G7D
10MHz	16QAM	0.124	8M92W7D
10MHz	64QAM	0.095	8M93W7D
15MHz	QPSK	0.142	13M4G7D
15MHz	16QAM	0.118	13M4W7D
15MHz	64QAM	0.094	13M4W7D

1.1.7 Operating Channel List

LTE Band 18		
Channel Bandwidths (MHz)	Channel	Frequency (MHz)
5	23875	817.5
5	23895	819.5
5	23915	821.5
10	23950	820
10	23925	822.5
15	23925	822.5

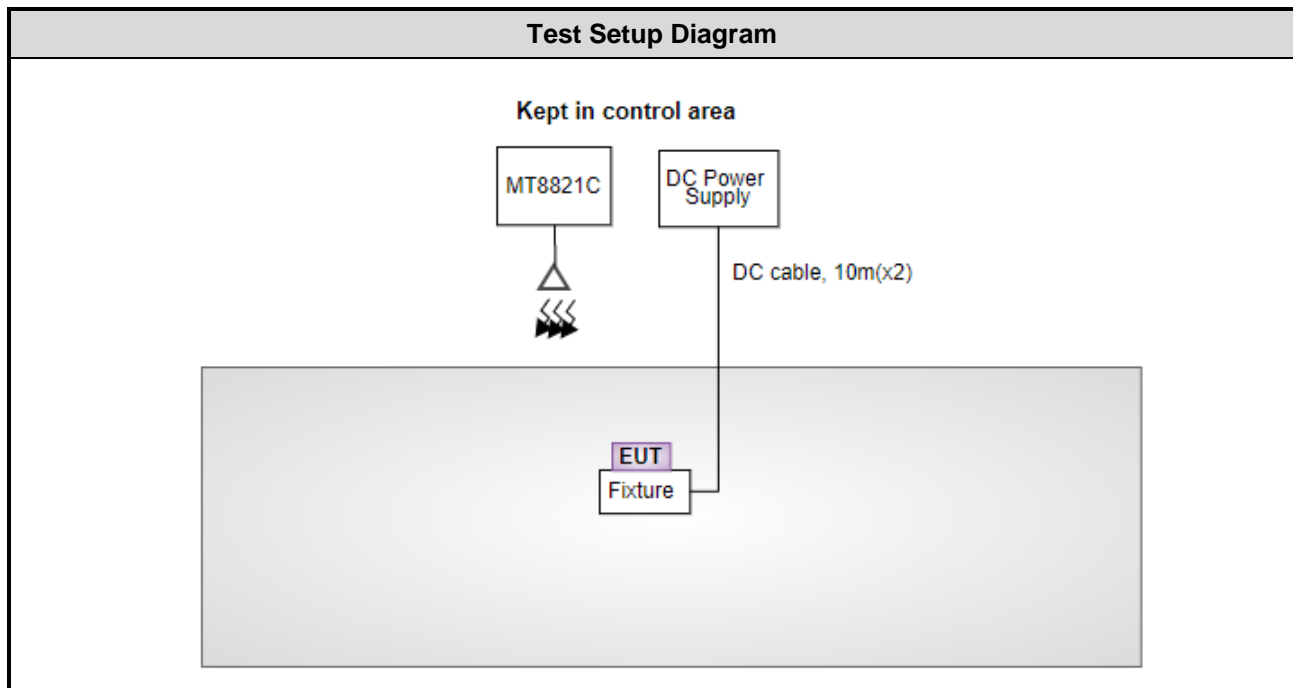
LTE Band 26		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
1.4	26697	814.7
1.4	26740	819.0
1.4	26783	823.3
3	26705	815.5
3	26740	819.0
3	26775	822.5
5	26715	816.5
5	26740	819.0
5	26765	821.5
10	26740	819.0
15	26765	821.5

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	DC Power Supply	GWINSTEK	GPC-60300	---	---
2	Notebook	DELL	Latitude 5400	DoC	---
3	Fixture	---	---	---	Provided by applicant.

Note: The support notebook was disconnected from EUT and was removed from test table after sending command from notebook to control EUT to transmit continuously.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Aug. 08 ~ Aug. 15, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 15, 2022	Mar. 14, 2023
Spectrum Analyzer	R&S	FSV40	101498	Nov. 29, 2021	Nov. 28, 2022
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 08, 2021	Nov. 07, 2022
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jun. 28, 2022	Jun. 27, 2023
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 03, 2021	Dec. 02, 2022
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2021	Nov. 03, 2022
Preamplifier	EMC	EMC02325	980225	Jun. 28, 2022	Jun. 27, 2023
Preamplifier	EMC	EMC118A45SE	980898	Jul. 16, 2022	Jul. 15, 2023
Preamplifier	EMC	EMC184045B	980192	Jul. 08, 2022	Jul. 07, 2023
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 05, 2021	Oct. 04, 2022
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 05, 2021	Oct. 04, 2022
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 05, 2021	Oct. 04, 2022
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 05, 2021	Oct. 04, 2022
RF Cable	EMC	EMC104-35M-35M- 8000	210920	Oct. 05, 2021	Oct. 04, 2022
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 05, 2021	Oct. 04, 2022
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Radio Communication Analyzer	Anritsu	MT8821C	6262149999	Sep. 16, 2021	Sep. 15, 2022
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Jun. 28 ~ Aug. 12, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2022	Apr. 17, 2023
Spectrum Analyzer	keysight	N9020A	MY53420894	Oct. 19, 2021	Oct. 18, 2022
Power Meter	Anritsu	ML2495A	1241002	Nov. 07, 2021	Nov. 06, 2022
Power Sensor	Anritsu	MA2411B	1207366	Nov. 07, 2021	Nov. 06, 2022
DC POWER SOURCE	GW INSTEK	GPC-6030D	GES855395	Nov. 08, 2021	Nov. 07, 2022
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Jun. 22, 2022	Jun. 21, 2023
Measurement Software	Sporton	SENSE-FCC_2G-4G	V5.10.5	NA	NA
Radio Communication Analyzer	Anritsu	MT8821C	6262149999	Sep. 16, 2021	Sep. 15, 2022
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 90 Subpart S
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	$\pm 1 \times 10^{-9}$
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 Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
Radiated Emissions	03CH01-WS	24-25°C / 61-64%	Roger Lu
RF Conducted	TH01-WS	24-26°C / 63-65%	Aska Huang

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

2.2 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.

2.3 The Worst Test Modes and Channel Details

Test items	Band	Bandwidth(MHz)						Modulation			RB#			Test Channle			
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H	S
Max. Output Power	18	-	-	v	v	v	-	v	v	v	v	v	v	v	v	v	-
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v
peak-to-Average Ratio	18	Covered by LTE Band26															
	26					v	-	v	v	v			v		v		v
26dB and 99% Bandwidth	18	Covered by LTE Band26															
	26	v	v	v	v	v	-	v	v	v			v		v		v
Emission Masks In-band emission	18	Covered by LTE Band26															
	26	v	v	v	v	v	-	v	v	v	v		v	v	v	v	v
Emission Masks out of band emission	18	Covered by LTE Band26															
	26	v	v	v	v	v	-	v			v			v	v	v	v
Frequency Stability	18	Covered by LTE Band26															
	26					v	-	v					v		v		
E.R.P	18	-	-	v	v	v	-	v	v	v	Max. power						
	26	v	v	v	v	v	-	v	v	v							
Radiated Spurious Emission	18	Covered by LTE Band26															
	26	Worst Case												v	v	v	v
Remark	1. "v": this configuration is for testing. 2. “-” :This bandwidth is not supported. 3. Frequency range of radiated measurement is from 30 MHz to 10th harmonic of fundamental frequency. 4. All spurious emissions below 1000 MHz are more than 20 dB below the limit. 5. 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.																

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 100 Watts.

3.1.2 Test Procedures

For Conducted power measurement:

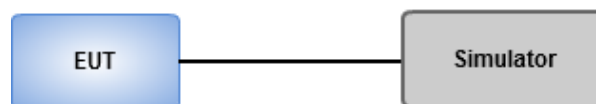
1. The EUT links up with simulator and is set to maximum output power level at low / middel / high channel.
2. Measure the output power of low / middle / high channel of the EUT.

For ERP measurement:

EPR 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. $ERP = EIRP - 2.15 \text{ dB}$.

3.1.3 Test Setup



3.1.4 Test Result of Conducted Output Power (dBm)

Refer to Appendix A.1, A.2

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

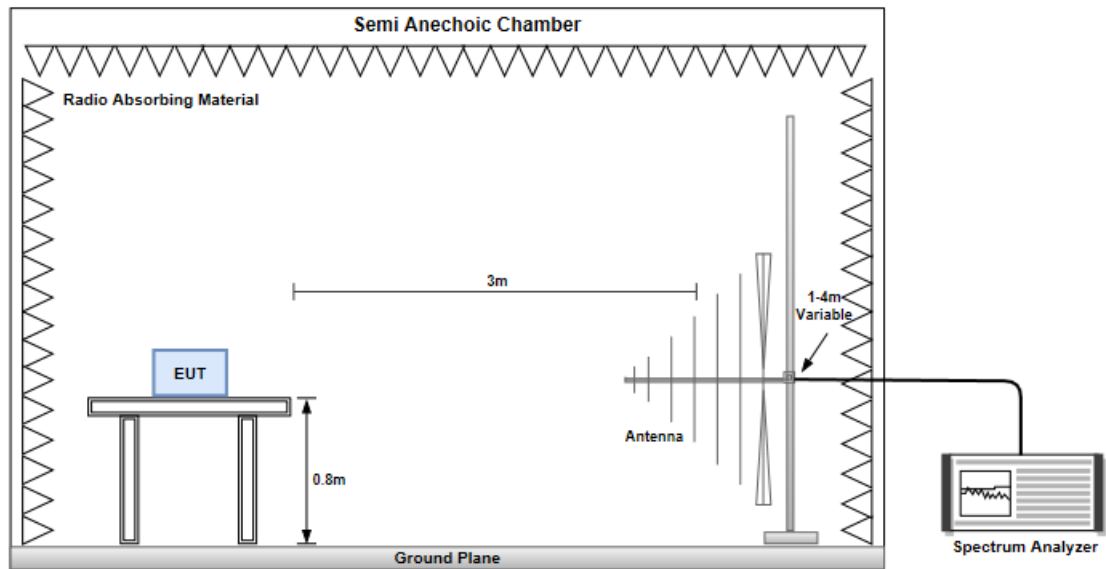
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB equal to -13dBm.

3.2.2 Test Procedures

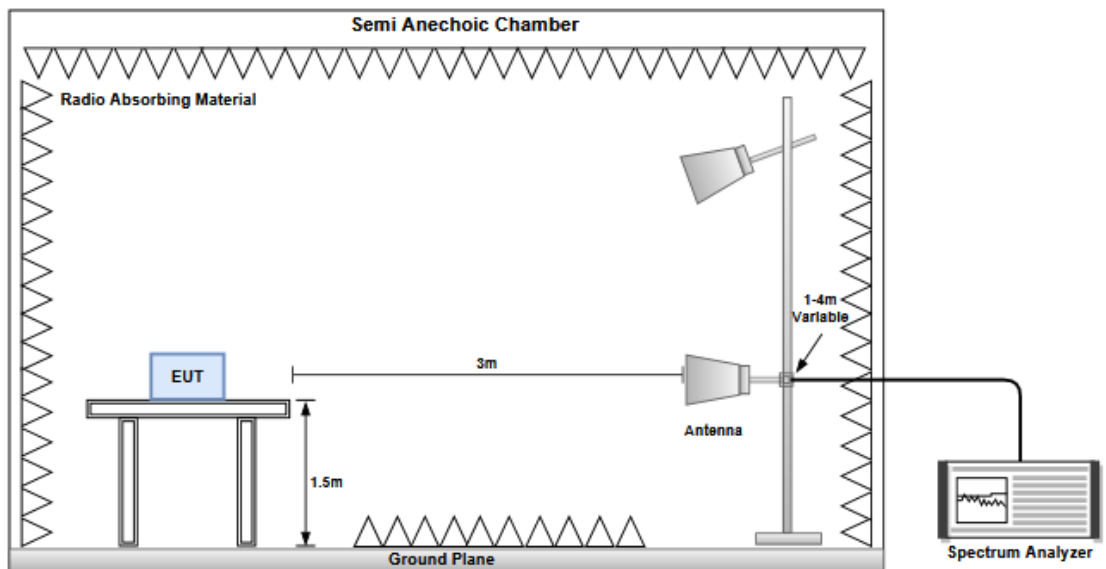
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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 Result of Radiated Emissions below 1GHz

Refer to Appendix B

3.3 Out of Band Emissions

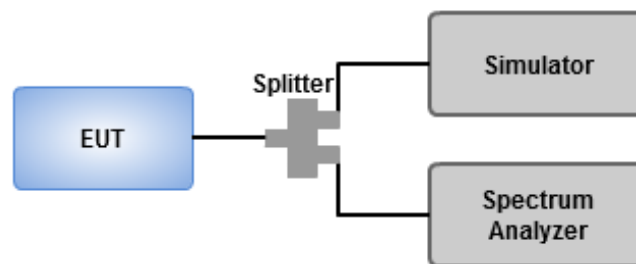
3.3.1 Limit of Out of Band Emissions

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.

3.3.2 Test Procedures

1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz ~ 10GHz.
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.

3.3.3 Test Setup



3.3.4 Test Result of Out of Band Emissions

Refer to Appendix C

3.4 Emission Mask

3.4.1 Limit of Emission Mask

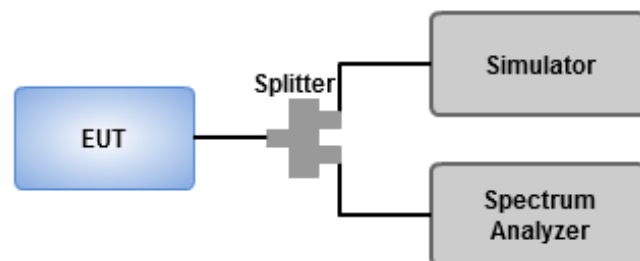
(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10} (f/6.1)$ decibels or $50 + 10 \log_{10} (P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

3.4.2 Test Procedures

1. Set RBW=100 kHz, VBW=300kHz, detector=RMS, Sweep time = Auto. (non-block edge)
Set RBW=1% of OWB, VBW=3 x RBW, detector=RMS, Sweep time = Auto. (block edge)
2. Set EUT to transmit modulation signal to spectrum analyzer and confirm that the signal complies the limit or not.
3. Record the max trace value and capture the test plot.

3.4.3 Test Setup



3.4.4 Test Result of Emission Mask

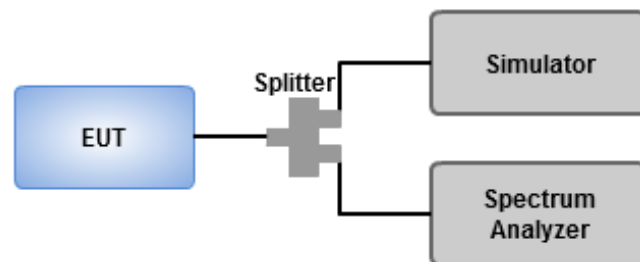
Refer to Appendix D.

3.5 Occupied Bandwidth

3.5.1 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.

3.5.2 Test Setup



3.5.3 Test Result of Occupied Bandwidth

Refer to Appendix E

3.6 Peak to Average Power Ratio

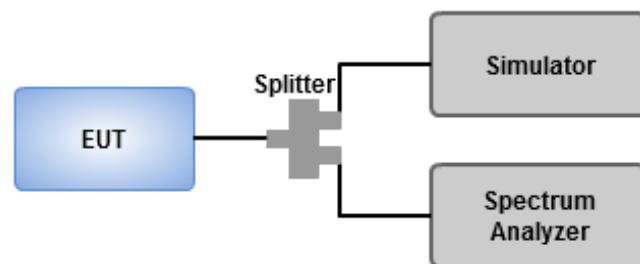
3.6.1 Limit of Peak to Average Power Ratio

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

3.6.2 Test Procedures

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

3.6.3 Test Setup



3.6.4 Test Result of Peak to Average Power Ratio

Refer to Appendix F

3.7 Frequency Stability

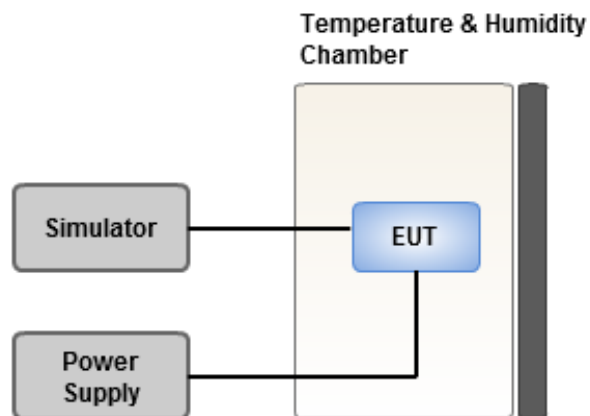
3.7.1 Limit of Frequency Stability

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

3.7.2 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.

3.7.3 Test Setup



3.7.4 Test Result of Frequency Stability

Refer to Appendix G

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==

Summary

Part90S LTE Band 18 Maximum Average Power [dBm](GT-LC= -1.2 dB)								
BW (MHz)	Modulation	RB Size	RB Offset	Lowest	Middle	Highest		
Channel				23925			ERP (dBm)	ERP (W)
Frequency				822.5				
15	QPSK	1	0	21.52			18.17	0.0656
15	QPSK	1	24	21.49				
15	QPSK	25	0	20.95				
15	16QAM	1	0	20.73			17.38	0.0547
15	64QAM	1	0	19.72			16.37	0.0434
Channel				23950	23925		ERP	ERP
Frequency				820	822.5		(dBm)	(W)
10	QPSK	1	0	21.53	21.52		18.18	0.0658
10	QPSK	1	24	21.5	21.49			
10	QPSK	25	0	20.98	20.95			
10	16QAM	1	0	20.75	20.73		17.4	0.0550
10	64QAM	1	0	19.73	19.72		16.38	0.0435
Channel				23875	23895	23915	ERP	ERP
Frequency				817.5	819.5	821.5	(dBm)	(W)
5	QPSK	1	0	21.55	21.61	21.6	18.26	0.0670
5	QPSK	1	24	21.52	21.58	21.55		
5	QPSK	25	0	21.01	21.02	20.99		
5	16QAM	1	0	20.76	20.86	20.75	17.51	0.0564
5	64QAM	1	0	19.76	19.81	19.85	16.5	0.0447
Limit	ERP < 100 W			Result			Pass	

Summary

Part90S LTE Band 26 Maximum Average Power [dBm](GT-LC= -1.2 dB)								
BW (MHz)	Modulation	RB Size	RB Offset	Lowest	Middle	Highest		
Channel				26765			ERP	ERP
Frequency				821.5			(dBm)	(W)
15	QPSK	1	0	21.52			18.17	0.0656
15	QPSK	1	74	21.45				
15	QPSK	75	0	20.97				
15	16QAM	1	0	20.73			17.38	0.0547
15	64QAM	1	0	19.73			16.38	0.0435
Channel					26740		ERP	ERP
Frequency					819		(dBm)	(W)
10	QPSK	1	0		21.61		18.26	0.0670
10	QPSK	1	49		21.56			
10	QPSK	50	0		21.06			
10	16QAM	1	0		20.93		17.58	0.0573
10	64QAM	1	0		19.79		16.44	0.0441
Channel				26715	26740	26765	ERP	ERP
Frequency				816.5	819	821.5	(dBm)	(W)
5	QPSK	1	0	21.66	21.62	21.63	18.31	0.0678
5	QPSK	1	24	21.61	21.49	21.53		
5	QPSK	25	0	21.04	21.01	21.04		
5	16QAM	1	0	20.86	20.77	20.92	17.57	0.0571
5	64QAM	1	0	19.89	19.81	19.83	16.54	0.0451
Channel				26705	26740	26775	ERP	ERP
Frequency				815.5	819	822.5	(dBm)	(W)
3	QPSK	1	0	21.56	21.55	21.53	18.21	0.0662
3	QPSK	1	14	21.51	21.54	21.52		
3	QPSK	15	0	21.03	21.04	21.02		
3	16QAM	1	0	20.79	20.83	20.77	17.48	0.0560
3	64QAM	1	0	19.78	19.71	19.82	16.47	0.0444
Limit	ERP < 100 W			Result			Pass	



Part90S LTE Band 26 Maximum Average Power [dBm](GT-LC= -1.2 dB)								
BW (MHz)	Modulation	RB Size	RB Offset	Lowest	Middle	Highest		
Channel				26697	26740	26783	ERP	ERP
Frequency				814.7	819	823.3	(dBm)	(W)
1.4	QPSK	1	0	21.54	21.5	21.53	18.19	0.0659
1.4	QPSK	1	5	21.43	21.48	21.52		
1.4	QPSK	6	0	20.98	20.97	21.03		
1.4	16QAM	1	0	20.63	20.83	20.81	17.48	0.0560
1.4	64QAM	1	0	19.72	19.75	19.77	16.42	0.0439
Limit	ERP < 100 W			Result			Pass	

Part90S Straddle-Rule LTE Band 26 MaxiMum Average Power [dBm](GT-LC= -1.2 dB)								
BW (MHz)	Modulation	RB Size	RB Offset		Straddle			
Channel					26790		ERP	ERP
Frequency					824		(dBm)	(W)
15	QPSK	1	0		21.5		18.15	0.0653
15	QPSK	1	49		21.43			
15	QPSK	50	0		20.93			
15	16QAM	1	0		20.67		17.32	0.0540
15	64QAM	1	0		19.65		16.3	0.0427
Channel					26790		ERP	ERP
Frequency					824		(dBm)	(W)
10	QPSK	1	0		21.58		18.23	0.0665
10	QPSK	1	24		21.55			
10	QPSK	25	0		21.01			
10	16QAM	1	0		20.88		17.53	0.0566
10	64QAM	1	0		19.73		16.38	0.0435
Channel					26790		ERP	ERP
Frequency					824		(dBm)	(W)
5	QPSK	1	0		21.59		18.24	0.0667
5	QPSK	1	24		21.42			
5	QPSK	25	0		20.98			
5	16QAM	1	0		20.75		17.4	0.0550
5	64QAM	1	0		19.68		16.33	0.0430
Channel					26790		ERP	ERP
Frequency					824		(dBm)	(W)
3	QPSK	1	0		21.52		18.17	0.0656
3	QPSK	1	14		21.5			
3	QPSK	15	0		20.95			
3	16QAM	1	0		20.79		17.44	0.0555
3	64QAM	1	0		19.68		16.33	0.0430



Part90S Straddle-Rule LTE Band 26 MaxiMum Average Power [dBm](GT-LC= -1.2 dB)								
BW (MHz)	Modulation	RB Size	RB Offset		Straddle			
Channel					26790		ERP	ERP
Frequency					824		(dBm)	(W)
1.4	QPSK	1	0		21.45		18.1	0.0646
1.4	QPSK	1	5		21.43			
1.4	QPSK	6	0		20.91			
1.4	16QAM	1	0		20.79		17.44	0.0555
1.4	64QAM	1	0		19.71		16.36	0.0433
Limit	ERP < 7 W			Result			Pass	

Mode	LTE Band 26, QPSK, CB:5 MHz, 1 RB, Channel: 26715						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1628.6	H	-56.1	-13	-43.1	-58.17	-59.22	5.27
2442.9	H	-53.77	-13	-40.77	-58.67	-57.13	5.51
3257.2	H	-63.63	-13	-50.63	-70.35	-67.71	6.23
1628.6	V	-56.62	-13	-43.62	-58.89	-59.74	5.27
2442.9	V	-53.3	-13	-40.3	-57.88	-56.66	5.51
3257.2	V	-63.74	-13	-50.74	-70.45	-67.82	6.23

Mode	LTE Band 26, QPSK, CB:5 MHz, 1 RB, Channel: 26740						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1633.6	H	-55.85	-13	-42.85	-57.3	-58.99	5.29
2450.4	H	-53.43	-13	-40.43	-58.32	-56.81	5.53
3267.2	H	-63.83	-13	-50.83	-70.55	-67.96	6.28
1633.6	V	-55.61	-13	-42.61	-57.87	-58.75	5.29
2450.4	V	-53.29	-13	-40.29	-57.87	-56.67	5.53
3267.2	V	-63.86	-13	-50.86	-70.57	-67.99	6.28

Mode	LTE Band 26, QPSK, CB:5 MHz, 1 RB, Channel: 26765						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1638.6	H	-56.51	-13	-43.51	-58.61	-59.66	5.3
2457.9	H	-53.99	-13	-40.99	-58.88	-57.39	5.55
3277.2	H	-63.83	-13	-50.83	-70.53	-68.01	6.33
1638.6	V	-56.29	-13	-43.29	-58.55	-59.44	5.3
2457.9	V	-53.1	-13	-40.1	-57.68	-56.5	5.55
3277.2	V	-63.5	-13	-50.5	-70.2	-67.68	6.33

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



Mode	LTE Band 26 Straddle-Rule, QPSK, CB:5 MHz, 1 RB, Channel: 26790						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1643.6	H	-55.81	-13	-42.81	-57.92	-58.98	5.32
2465.4	H	-53.66	-13	-40.66	-58.55	-57.08	5.57
3287.2	H	-63.39	-13	-50.39	-70.07	-67.61	6.37
1643.6	V	-55.42	-13	-42.42	-57.67	-58.59	5.32
2465.4	V	-52.7	-13	-39.7	-57.28	-56.12	5.57
3287.2	V	-63.32	-13	-50.32	-70	-67.54	6.37

NOTE: ERP = S.G power value + correction factor – 2.15 dBi

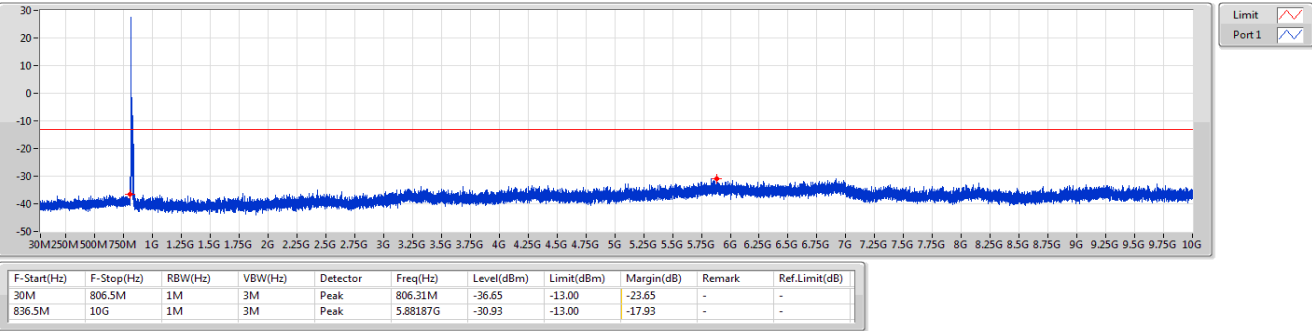
**Summary**

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 26	-	-	-	-	-	-	-	-	-	-	-	-
LTE_15MHz_Nss1,QPSK_1TX	Pass	836.5M	10G	1M	3M	Peak	5.88187G	-30.93	-13.00	-17.93	-	-
LTE_10MHz_Nss1,QPSK_1TX	Pass	834M	10G	1M	3M	Peak	6.94371G	-30.76	-13.00	-17.76	-	-
LTE_5MHz_Nss1,QPSK_1TX	Pass	824M	10G	1M	3M	Peak	5.88944G	-30.56	-13.00	-17.56	-	-
LTE_3MHz_Nss1,QPSK_1TX	Pass	829M	10G	1M	3M	Peak	6.8469G	-30.15	-13.00	-17.15	-	-
LTE_1.4MHz_Nss1,QPSK_1TX	Pass	30M	816M	1M	3M	Peak	815.8M	-29.30	-13.00	-16.30	-	-



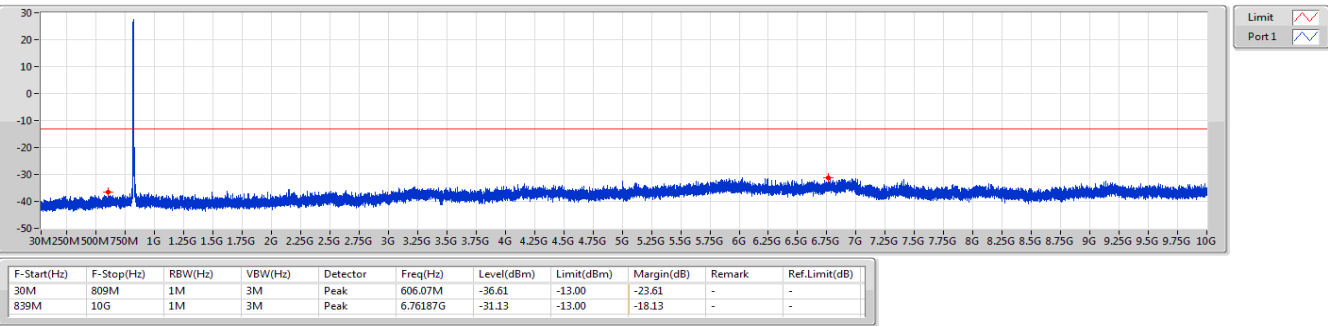
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821.5MHz_QPSK_RB 1

CSE-TX-Sum



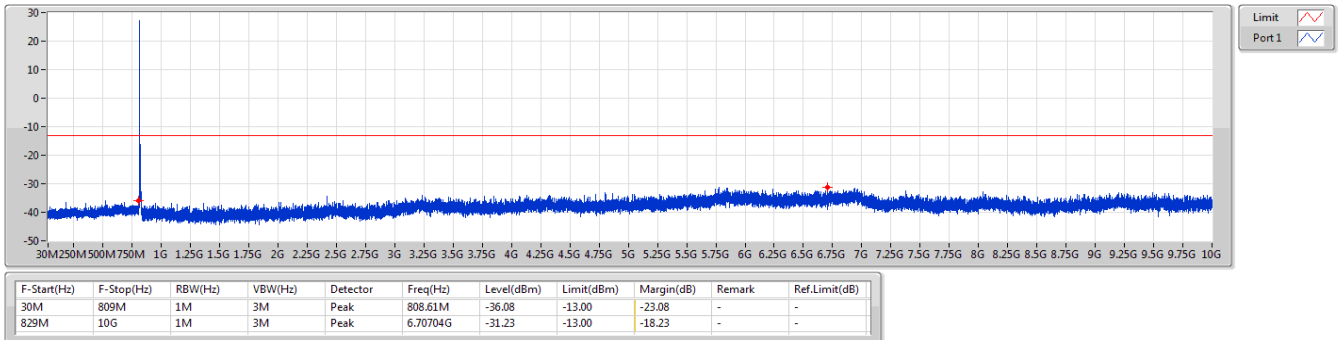
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824MHz_QPSK_RB 1

CSE-TX-Sum



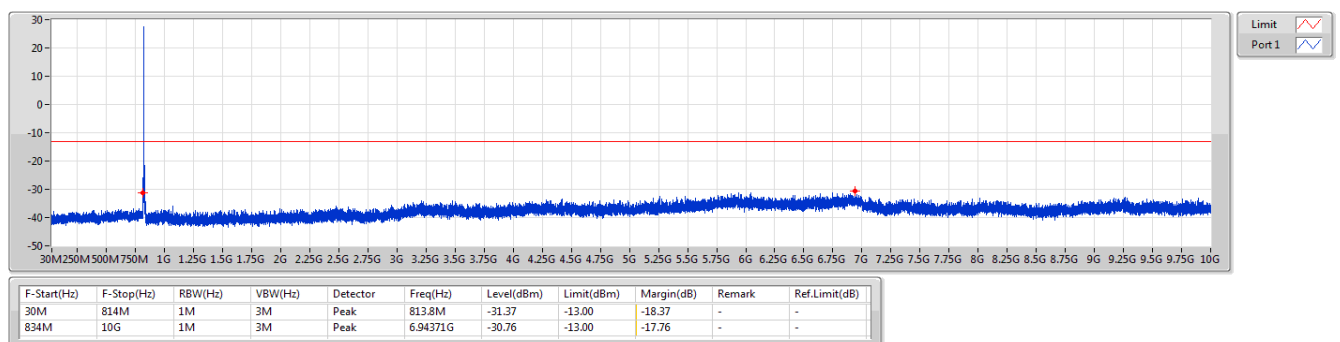
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819MHz_QPSK_RB 1

CSE-TX-Sum



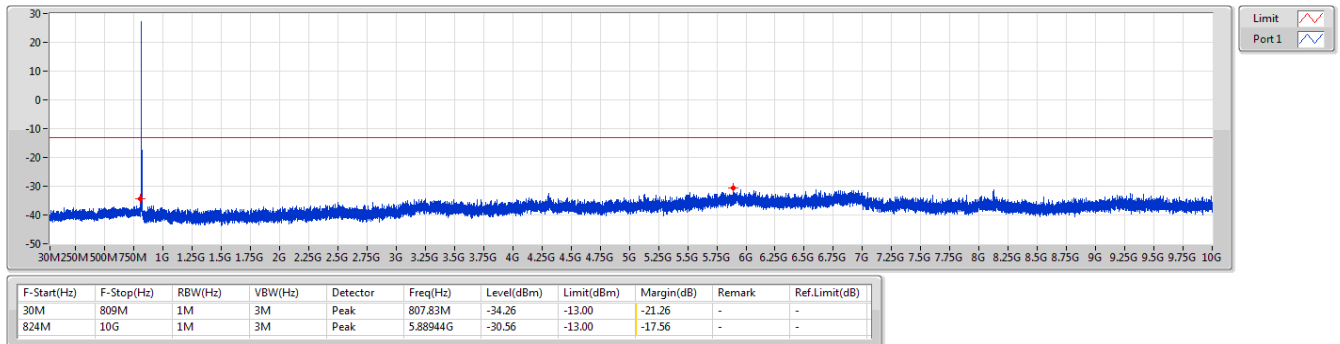
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824MHz_QPSK_RB 1

CSE-TX-Sum



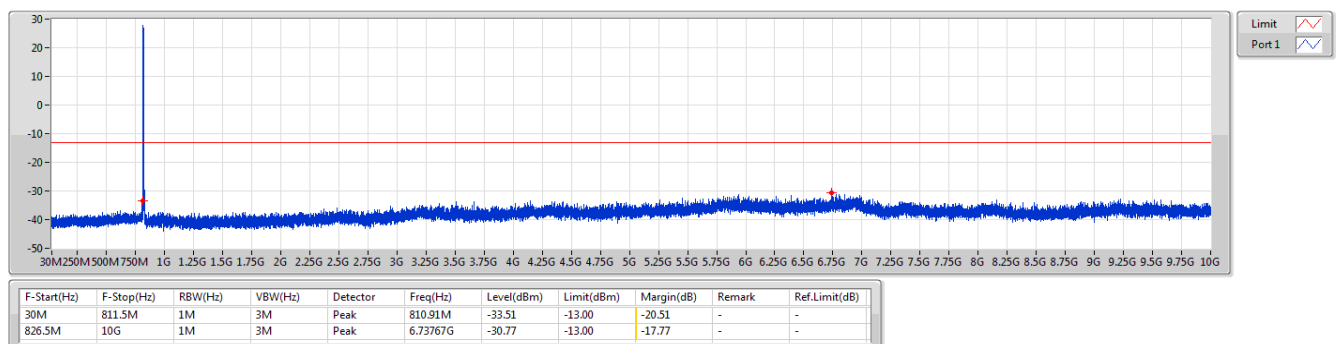
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816.5MHz_QPSK_RB 1

CSE-TX-Sum



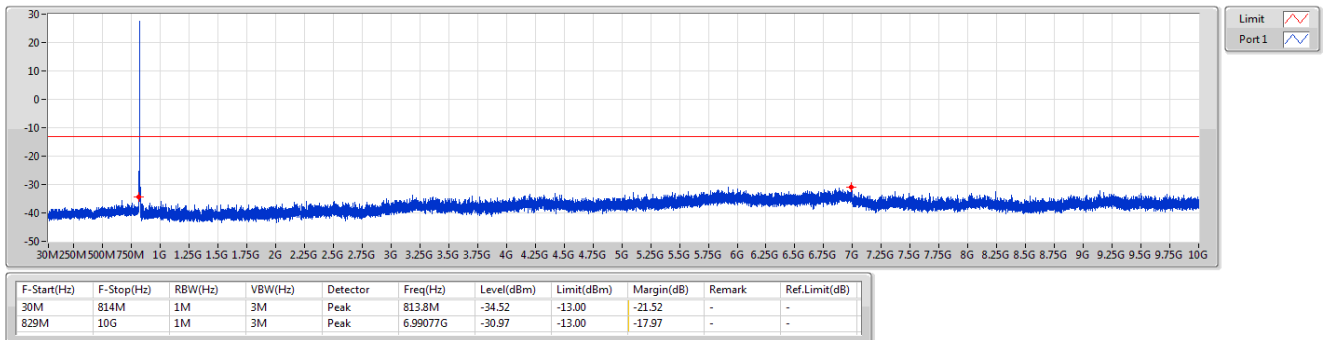
Band 26_LTE_5MHz_Nss1,QPSK_1TX
819MHz_QPSK_RB 1

CSE-TX-Sum



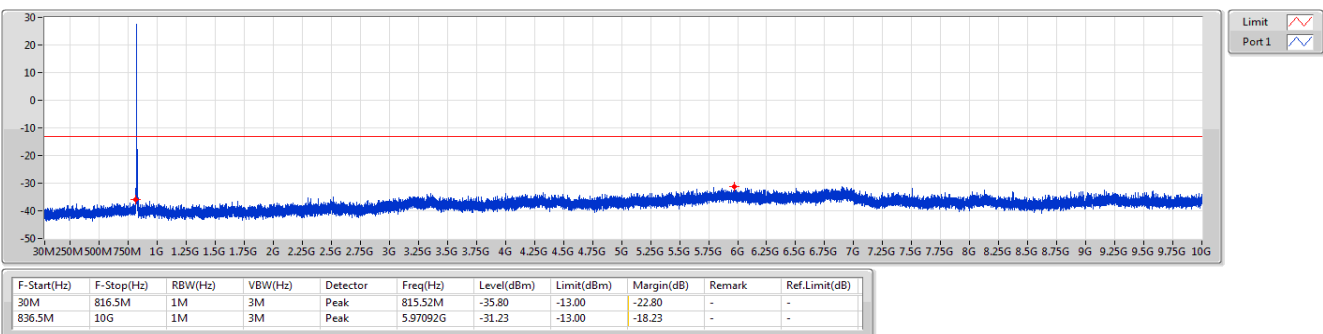
Band 26_LTE_5MHz_Nss1,QPSK_1TX
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CSE-TX-Sum



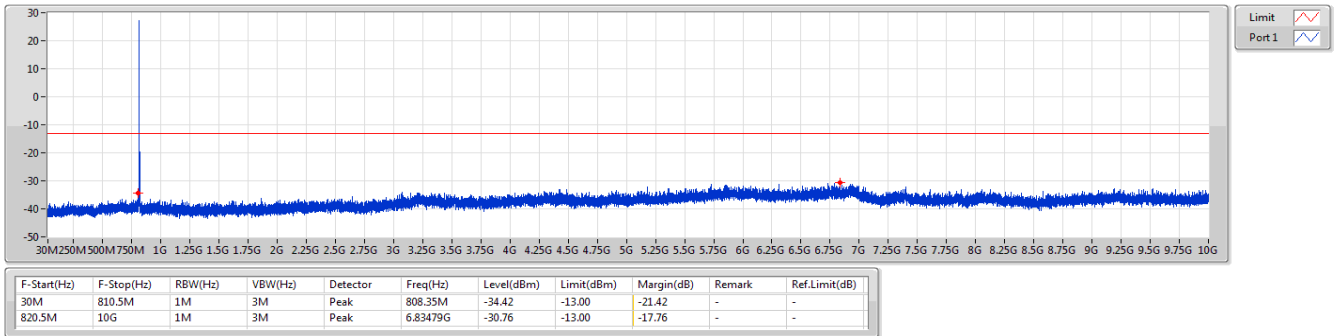
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824MHz_QPSK_RB 1

CSE-TX-Sum



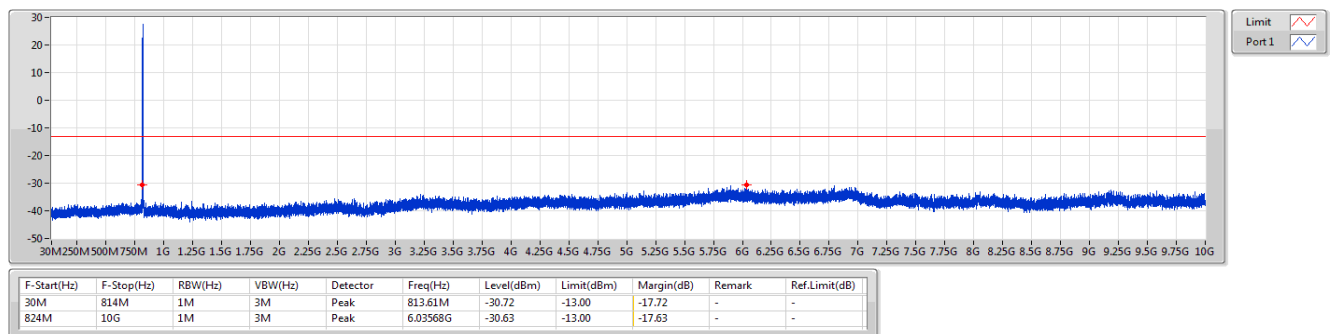
Band 26_LTE_3MHz_Nss1,QPSK_1TX
815.5MHz_QPSK_RB 1

CSE-TX-Sum



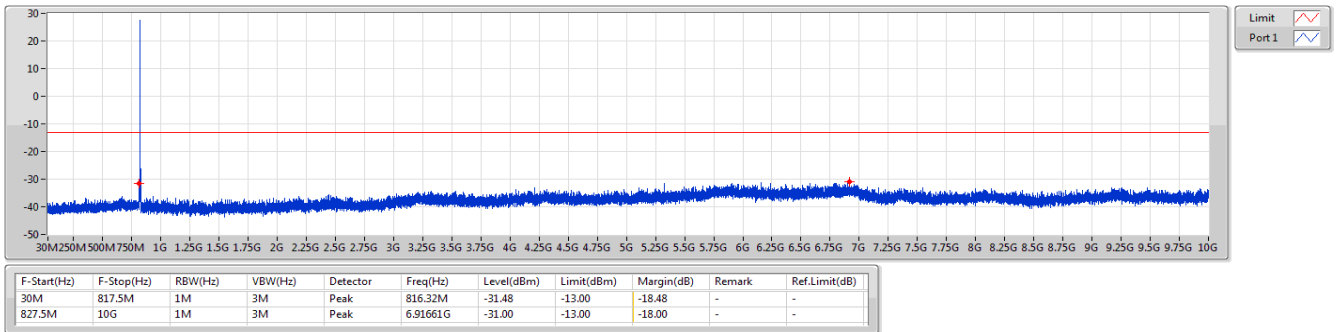
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819MHz_QPSK_RB 1

CSE-TX-Sum



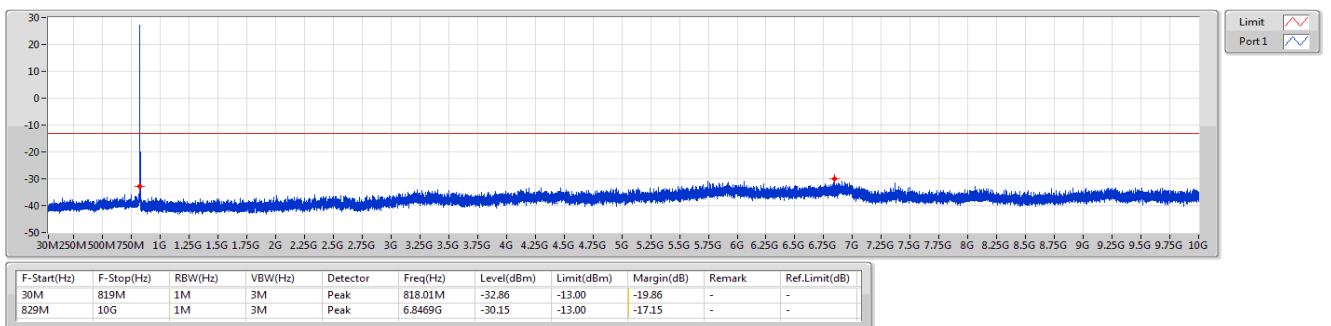
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822.5MHz_QPSK_RB 1

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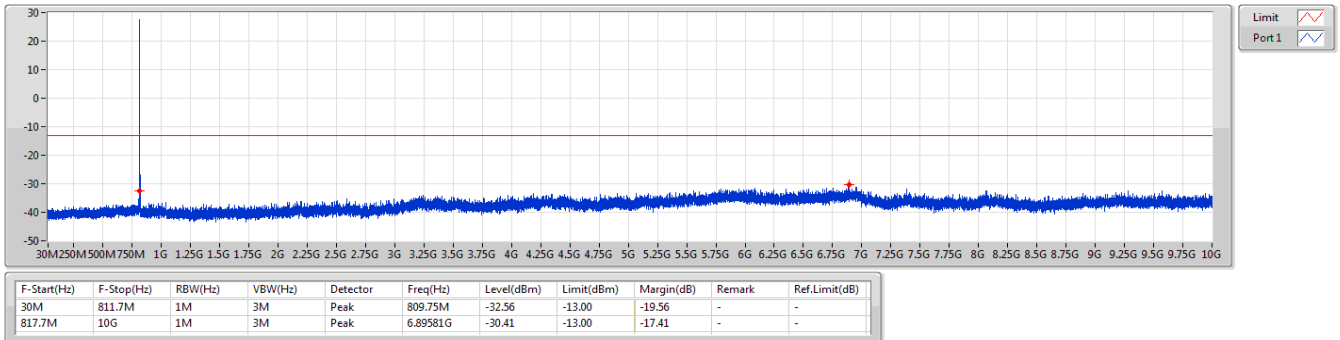
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824MHz_QPSK_RB 1

CSE-TX-Sum



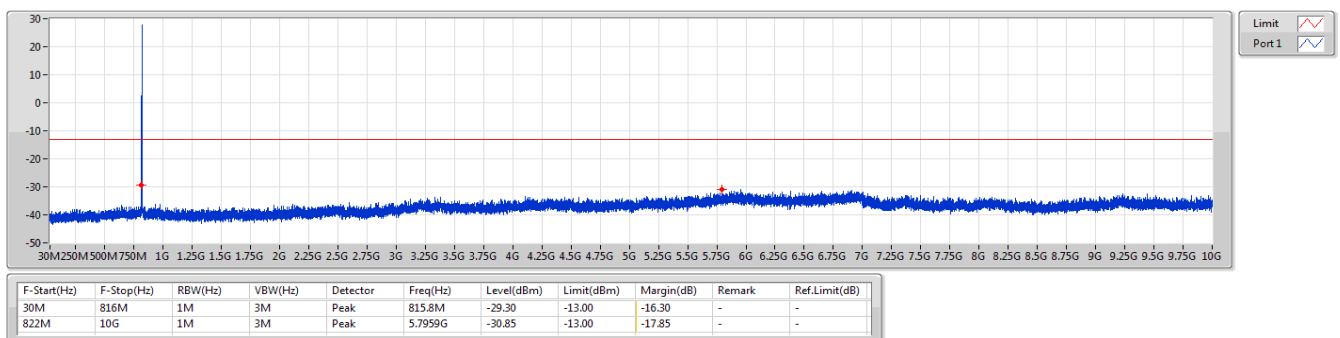
Band 26_LTE_1.4MHz_Nss1,QPSK_1TX
814.7MHz_QPSK_RB 1

CSE-TX-Sum



Band 26_LTE_1.4MHz_Nss1,QPSK_1TX
819MHz_QPSK_RB 1

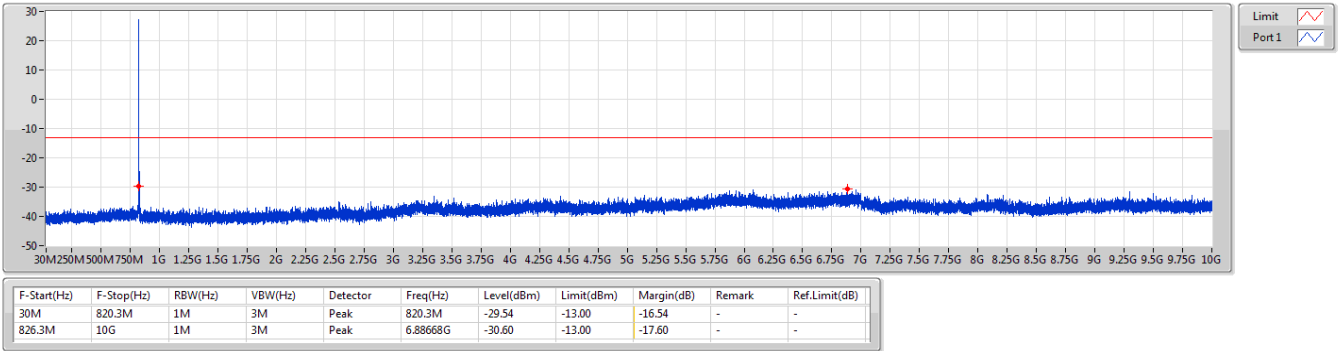
CSE-TX-Sum





Band 26_LTE_1.4MHz_Nss1,QPSK_1TX
823.3MHz_QPSK_RB 1

CSE-TX-Sum



Band 26_LTE_1.4MHz_Nss1,QPSK_1TX
824MHz_QPSK_RB 1

CSE-TX-Sum

