FCC Test Report

(PART 27)

Report No.:	RF180207C11-9
FCC ID:	MSQZ01RD
Test Model:	ASUS_Z01RD / ASUS_Z01RS
Received Date:	Feb. 07, 2018
Test Date:	Mar. 02, 2018 ~ Apr. 04, 2018
Issued Date:	May 02, 2018
Applicant:	ASUSTek COMPUTER INC.
Address:	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location (1):	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
Test Location (2):	No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C
FCC Registration / Designation Number:	427177 / TW0011

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Release Control Record

Issue No.	Description	Date Issued
RF180207C11-9	Original Release	May 02, 2018

1 Certificate of Conformity

Product: ASUS Phone

Brand: ASUS

Test Model: ASUS_Z01RD / ASUS_Z01RS

Sample Status: Production Unit

Applicant: ASUSTek COMPUTER INC.

Test Date: Mar. 02, 2018 ~ Apr. 04, 2018

Standards: FCC Part 27, Subpart C, M

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** May 02, 2018

Ivonne Wu / Supervisor

Approved by : _____ , **Date:** May 02, 2018

Dylan Chiou / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(h)	Equivalent Isotropic Radiated Power	Pass	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
--	Peak to Average Ratio	Pass	Meet the requirement of limit.
2.1051 27.53(l)	Out-of-Band Emissions Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(m)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 27.53(m)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -14.01 dB at 7605.00 MHz.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Test Site and Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Jul. 05, 2017	Jul. 04, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
Double Ridge Guide Horn Antenna EMCO	3115	5619	Nov. 30, 2017	Nov. 29, 2018
BILOG Antenna SCHWARZBECK	VULB 9168	9168-153	Dec. 06, 2017	Dec. 05, 2018
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 07, 2017	Jul. 06, 2018
MXG Vector signal generator Agilent	N5182B	MY53050430	Oct. 24, 2017	Oct. 23, 2018
Preamplifier Agilent	310N	187226	Jun. 23, 2017	Jun. 22, 2018
Preamplifier Agilent	83017A	MY39501357	Jun. 23, 2017	Jun. 22, 2018
Power Meter Anritsu	ML2495A	1012010	Aug. 15, 2017	Aug. 14, 2018
Power Sensor Anritsu	MA2411B	1315050	Aug. 15, 2017	Aug. 14, 2018
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 26, 2017	Jun. 25, 2018
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 26, 2017	Jun. 25, 2018
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Communications Tester-Wireless Agilent	8960 Series 10	MY53201073	Jun. 28, 2017	Jun. 27, 2019
Radio Communication Analyzer Anritsu	MT8820C	6201010284	Dec. 28, 2017	Dec. 27, 2018
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 08, 2017	Sep. 07, 2018
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018
Digital Multimeter Fluke	87-III	70360742	Jun. 30, 2017	Jun. 29, 2018

Note:
1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The IC Site Registration No. is IC7450I-1.

3 General Information

3.1 General Description of EUT

Product	ASUS Phone	
Brand	ASUS	
Test Model	ASUS_Z01RD / ASUS_Z01RS	
Status of EUT	Production Unit	
Power Supply Rating	5.0 Vdc or 9.0 Vdc (adapter) 5.0 Vdc (host equipment) 3.85 Vdc (battery)	
Modulation Type	QPSK, 16QAM, 64QAM	
Frequency Range	LTE Band 7 (Channel Bandwidth: 5 MHz)	2502.5 ~ 2567.5 MHz
	LTE Band 7 (Channel Bandwidth: 10 MHz)	2505 ~ 2565 MHz
	LTE Band 7 (Channel Bandwidth: 15 MHz)	2507.5 ~ 2562.5 MHz
	LTE Band 7 (Channel Bandwidth: 20 MHz)	2510 ~ 2560 MHz
	LTE Band 38 (Channel Bandwidth: 5 MHz)	2572.5 ~ 2617.5 MHz
	LTE Band 38 (Channel Bandwidth: 10 MHz)	2575.0 ~ 2615.0 MHz
	LTE Band 38 (Channel Bandwidth: 15 MHz)	2577.5 ~ 2612.5 MHz
	LTE Band 38 (Channel Bandwidth: 20 MHz)	2580.0 ~ 2610.0 MHz
	LTE Band 41 (Channel Bandwidth: 5 MHz)	2498.5 ~ 2687.5 MHz
	LTE Band 41 (Channel Bandwidth: 10 MHz)	2501.0 ~ 2685.0 MHz
	LTE Band 41 (Channel Bandwidth: 15 MHz)	2503.5 ~ 2682.5 MHz
	LTE Band 41 (Channel Bandwidth: 20 MHz)	2506.0 ~ 2680.0 MHz
Max. EIRP Power	LTE Band 7 (Channel Bandwidth: 5 MHz)	178.53 mW
	LTE Band 7 (Channel Bandwidth: 10 MHz)	179.51 mW
	LTE Band 7 (Channel Bandwidth: 15 MHz)	180.22 mW
	LTE Band 7 (Channel Bandwidth: 20 MHz)	181.97 mW
	LTE Band 38 (Channel Bandwidth: 5 MHz)	159.88 mW
	LTE Band 38 (Channel Bandwidth: 10 MHz)	159.85 mW
	LTE Band 38 (Channel Bandwidth: 15 MHz)	162.07 mW
	LTE Band 38 (Channel Bandwidth: 20 MHz)	165.08 mW
	LTE Band 41 (Channel Bandwidth: 5 MHz)	225.27 mW
	LTE Band 41 (Channel Bandwidth: 10 MHz)	226.83 mW
	LTE Band 41 (Channel Bandwidth: 15 MHz)	228.93 mW
	LTE Band 41 (Channel Bandwidth: 20 MHz)	232.65 mW

Emission Designator	LTE Band 7 (Channel Bandwidth: 5 MHz)	4M49W7D
	LTE Band 7 (Channel Bandwidth: 10 MHz)	8M98W7D
	LTE Band 7 (Channel Bandwidth: 15 MHz)	13M5G7D
	LTE Band 7 (Channel Bandwidth: 20 MHz)	18M0W7D
	LTE Band 38 (Channel Bandwidth: 5 MHz)	4M49G7D
	LTE Band 38 (Channel Bandwidth: 10 MHz)	8M97W7D
	LTE Band 38 (Channel Bandwidth: 15 MHz)	13M5G7D
	LTE Band 38 (Channel Bandwidth: 20 MHz)	17M9W7D
	LTE Band 41 (Channel Bandwidth: 5 MHz)	4M49G7D
	LTE Band 41 (Channel Bandwidth: 10 MHz)	8M97W7D
	LTE Band 41 (Channel Bandwidth: 15 MHz)	13M4G7D
	LTE Band 41 (Channel Bandwidth: 20 MHz)	17M9W7D
Antenna Type	PIFA Antenna	
Antenna Gain	LTE Band 7	-0.2 dBi gain (Main) -3 dBi gain (Aux.)
	LTE Band 38	-1.2 dBi gain (Main) -3 dBi gain (Aux.)
	LTE Band 41	-0.2 dBi gain (Main) -1.5 dBi gain (Aux.)
Accessory Device	Refer to Note as below	
Data Cable Supplied	Refer to Note as below	

Note:

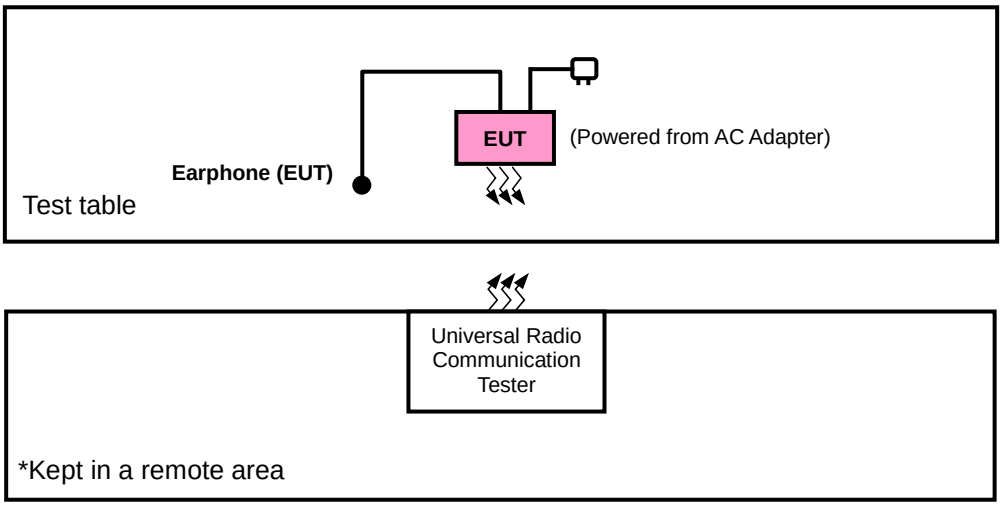
1. All models are listed as below.

Brand	SKU	Model	Difference
ASUS	WW-5CA	ASUS_Z01RD	Dual SIM
	WW Operator-5CA	ASUS_Z01RS	Single SIM
* The models have the same layout, circuit, and components, but different SIM card slot, therefore, only ASUS_Z01RD was chosen for the final test.			

2. There're 2 configurations for the EUT listed as below.
   Main Sample: EUT + CPU 1 + Rear Camera 1 + Front Camera 1 + UFS 3 + DDR 3
   2nd Sample: EUT + CPU 2 + Rear Camera 2 + Front Camera 2 + UFS 3 + DDR 3
   ✧ Only the worst test data was presented in the report.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test>



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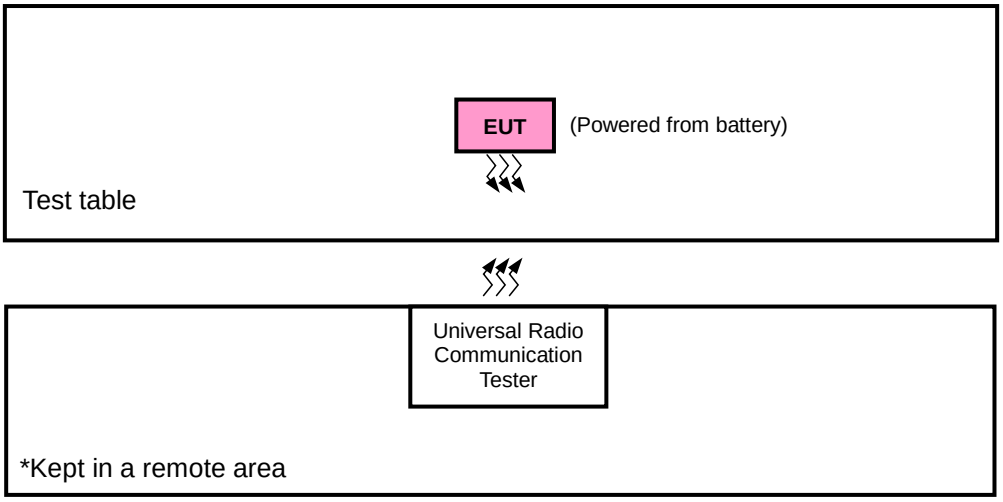


3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis, and antenna ports.

The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

EUT Configure Mode	Description
A	Main Sample
B	2nd Sample

SIM	Band	EIRP	Radiated Emission
1	**LTE Band 7**	X-plane	Y-axis
	LTE Band 38	X-plane	Z-axis
	LTE Band 41	X-plane	Y-axis

LTE Band 7

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	EIRP	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset
A	Frequency Stability	20775 to 21425	20775, 21425	5 MHz	QPSK	1 RB / 24 RB Offset
		20800 to 21400	20800, 21400	10 MHz	QPSK	1 RB / 49 RB Offset
		20825 to 21375	20825, 21375	15 MHz	QPSK	1 RB / 74 RB Offset
		20850 to 21350	20850, 21350	20 MHz	QPSK	1 RB / 99 RB Offset
A	Occupied Bandwidth	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	Peak to Average Ratio	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Out-of-Band Emissions	20775 to 21425	20775, 21425	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		20800 to 21400	20800, 21400	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		20825 to 21375	20825, 21375	15 MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		20850 to 21350	20850, 21350	20 MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	Conducted Emission	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK	1 RB / 24 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK	1 RB / 49 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK	1 RB / 74 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK	1 RB / 99 RB Offset
A	Radiated Emission	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK	1 RB / 24 RB Offset
		20850 to 21350	20850, 21100 21350	20 MHz	QPSK	1 RB / 99 RB Offset
B		20850 to 21350	21100	20 MHz	QPSK	1 RB / 99 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE Band 38

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	EIRP	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	Frequency Stability	37775 to 38225	37775, 38225	5 MHz	QPSK	1 RB / 0 RB Offset
		37800 to 38200	37800, 38200	10 MHz	QPSK	1 RB / 0 RB Offset
		37825 to 38175	37825, 38175	15 MHz	QPSK	1 RB / 0 RB Offset
		37850 to 38150	37850, 38150	20 MHz	QPSK	1 RB / 0 RB Offset
A	Occupied Bandwidth	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15 MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20 MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	Peak to Average Ratio	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	Out-of-Band Emissions	37775 to 38225	37775, 38225	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		37800 to 38200	37800, 38200	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		37825 to 38175	37825, 38175	15 MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		37850 to 38150	37850, 38150	20 MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	Conducted Emission	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10 MHz	QPSK	1 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15 MHz	QPSK	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20 MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission	37775 to 38225	37775, 38000, 38225	5 MHz	QPSK	1 RB / 0 RB Offset
		37850 to 38150	37850, 38000, 38150	20 MHz	QPSK	1 RB / 0 RB Offset
B		37850 to 38150	38000	20 MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE Band 41

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	EIRP	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	Frequency Stability	39675 to 41565	39675, 41565	5 MHz	QPSK	1 RB / 0 RB Offset
		39700 to 41540	39700, 41540	10 MHz	QPSK	1 RB / 0 RB Offset
		39725 to 41515	39725, 41515	15 MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	39750, 41490	20 MHz	QPSK	1 RB / 0 RB Offset
A	Occupied Bandwidth	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15 MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	Peak to Average Ratio	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
A	Out-of-Band Emissions	39675 to 41565	39675, 41565	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		39700 to 41540	39700, 41540	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		39725 to 41515	39725, 41515	15 MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		39750 to 41490	39750, 41490	20 MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
A	Conducted Emission	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK	1 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10 MHz	QPSK	1 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15 MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission	39675 to 41565	39675, 40620, 41565	5 MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20 MHz	QPSK	1 RB / 0 RB Offset
B		39750 to 41490	40620	20 MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25 deg. C, 65 % RH	3.85 Vdc	Karl Lee
Frequency Stability	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Occupied Bandwidth	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Out-of-Band Emissions	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Peak to Average Ratio	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Conducted Emission	25 deg. C, 65 % RH	3.85 Vdc	Vincent Huang
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee / Charles Hsiao

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2
FCC 47 CFR Part 27
KDB 971168 D01 Power Meas License Digital Systems v02r02
ANSI/TIA/EIA-603-E 2016
ANSI 63.26-2015

Note: All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

4.1.2 Test Procedures

EIRP Measurement:

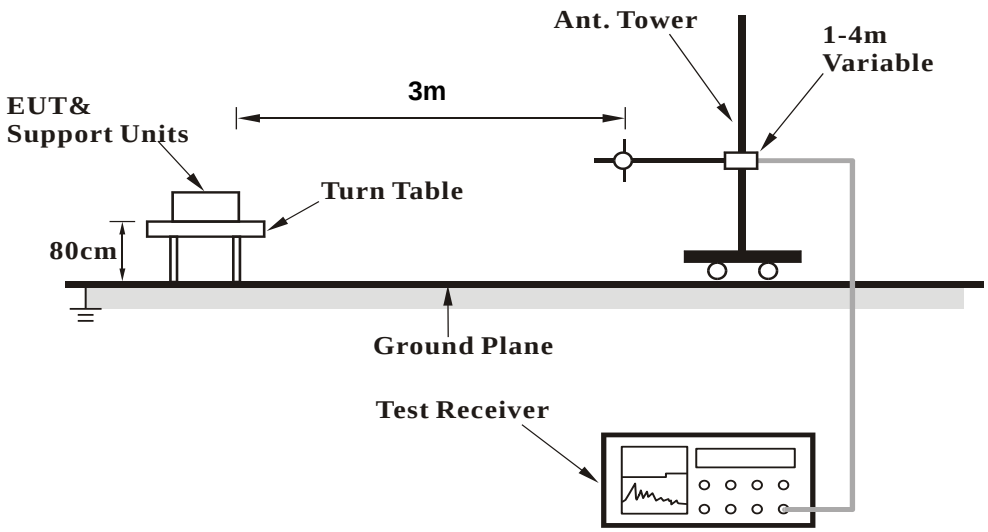
a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10 MHz for LTE mode.
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value“ of step b. Record the power level of S.G.
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

Conducted Power Measurement:

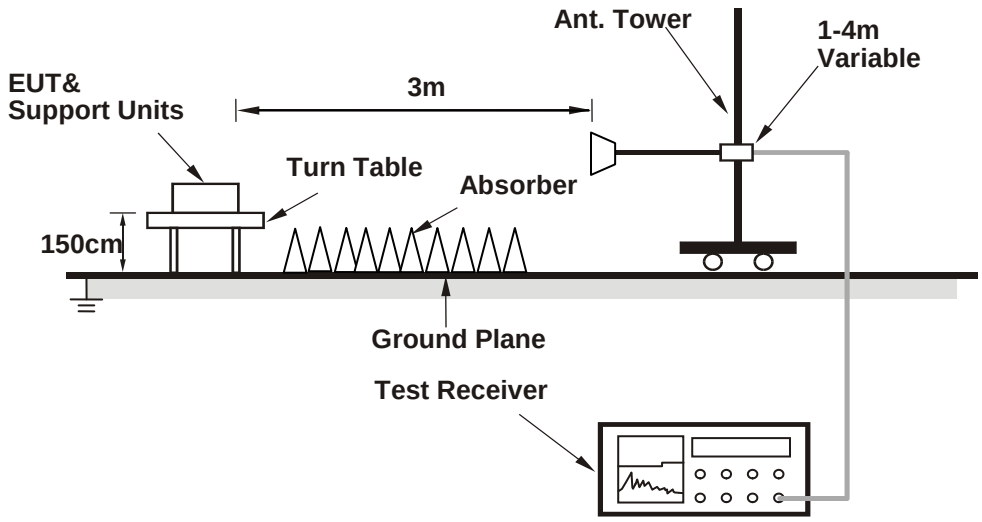
a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

4.1.3 Test Setup

EIRP / ERP Measurement:
<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Conducted Power Measurement:

4.1.4 Test Results

Conducted Output Power (dBm)

LTE Band 7

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20850	21100	21350	
		Frequency (MHz)		2510.0	2535.0	2560.0	
20M	QPSK	1	0	22.78	22.86	22.84	0
		1	50	22.96	22.93	22.92	0
		1	99	22.97	22.98	22.99	0
		50	0	21.89	21.96	21.97	1
		50	25	21.92	21.94	21.95	1
		50	50	21.96	21.98	21.99	1
		100	0	21.93	21.94	21.96	1
	16QAM	1	0	21.75	21.83	21.81	1
		1	50	21.93	21.90	21.89	1
		1	99	21.94	21.95	21.96	1
		50	0	20.86	20.93	20.94	2
		50	25	20.89	20.91	20.92	2
		50	50	20.93	20.95	20.96	2
		100	0	20.90	20.91	20.93	2
	64QAM	1	0	20.72	20.80	20.78	2
		1	50	20.90	20.87	20.86	2
		1	99	20.91	20.92	20.93	2
		50	0	19.83	19.90	19.91	3
		50	25	19.86	19.88	19.89	3
		50	50	19.90	19.92	19.93	3
		100	0	19.87	19.88	19.90	3

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20825	21100	21375	
		Frequency (MHz)		2507.5	2535.0	2562.5	
15M	QPSK	1	0	22.65	22.73	22.71	0
		1	37	22.83	22.80	22.79	0
		1	74	22.84	22.85	22.86	0
		36	0	21.76	21.83	21.84	1
		36	19	21.79	21.81	21.82	1
		36	39	21.83	21.85	21.86	1
		75	0	21.80	21.81	21.83	1
	16QAM	1	0	21.62	21.70	21.68	1
		1	37	21.80	21.77	21.76	1
		1	74	21.81	21.82	21.83	1
		36	0	20.73	20.80	20.81	2
		36	19	20.76	20.78	20.79	2
		36	39	20.80	20.82	20.83	2
		75	0	20.77	20.78	20.80	2
	64QAM	1	0	20.59	20.67	20.65	2
		1	37	20.77	20.74	20.73	2
		1	74	20.78	20.79	20.80	2
		36	0	19.70	19.77	19.78	3
		36	19	19.73	19.75	19.76	3
		36	39	19.77	19.79	19.80	3
		75	0	19.74	19.75	19.77	3

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20800	21100	21400	
		Frequency (MHz)		2505.0	2535.0	2565.0	
10M	QPSK	1	0	21.85	21.93	21.91	0
		1	24	22.03	22.00	21.99	0
		1	49	22.04	22.05	22.06	0
		25	0	20.96	21.03	21.04	1
		25	12	20.99	21.01	21.02	1
		25	25	21.03	21.05	21.06	1
		50	0	21.00	21.01	21.03	1
	16QAM	1	0	20.82	20.90	20.88	1
		1	24	21.00	20.97	20.96	1
		1	49	21.01	21.02	21.03	1
		25	0	19.93	20.00	20.01	2
		25	12	19.96	19.98	19.99	2
		25	25	20.00	20.02	20.03	2
		50	0	19.97	19.98	20.00	2
	64QAM	1	0	19.79	19.87	19.85	2
		1	24	19.97	19.94	19.93	2
		1	49	19.98	19.99	20.00	2
		25	0	18.90	18.97	18.98	3
		25	12	18.93	18.95	18.96	3
		25	25	18.97	18.99	19.00	3
		50	0	18.94	18.95	18.97	3

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		20775	21100	21425	
		Frequency (MHz)		2502.5	2535.0	2567.5	
5M	QPSK	1	0	21.74	21.82	21.80	0
		1	12	21.92	21.89	21.88	0
		1	24	21.93	21.94	21.95	0
		12	0	20.85	20.92	20.93	1
		12	6	20.88	20.90	20.91	1
		12	13	20.92	20.94	20.95	1
		25	0	20.89	20.90	20.92	1
	16QAM	1	0	20.71	20.79	20.77	1
		1	12	20.89	20.86	20.85	1
		1	24	20.90	20.91	20.92	1
		12	0	19.82	19.89	19.90	2
		12	6	19.85	19.87	19.88	2
		12	13	19.89	19.91	19.92	2
		25	0	19.86	19.87	19.89	2
	64QAM	1	0	19.68	19.76	19.74	2
		1	12	19.86	19.83	19.82	2
		1	24	19.87	19.88	19.89	2
		12	0	18.79	18.86	18.87	3
		12	6	18.82	18.84	18.85	3
		12	13	18.86	18.88	18.89	3
		25	0	18.83	18.84	18.86	3

LTE Band 38

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		37850	38000	38150				Channel		37825	38000	38175	
		Frequency (MHz)		2580.0	2595.0	2610.0				Frequency (MHz)		2577.5	2595.0	2612.5	
20M	QPSK	1	0	23.57	23.59	23.52	0	15M	QPSK	1	0	23.43	23.45	23.38	0
		1	50	23.54	23.52	23.29	0			1	37	23.40	23.38	23.15	0
		1	99	23.51	23.51	23.23	0			1	74	23.37	23.37	23.09	0
		50	0	22.56	22.64	22.51	1			36	0	22.42	22.50	22.37	1
		50	25	22.54	22.59	22.45	1			36	19	22.40	22.45	22.31	1
		50	50	22.51	22.51	22.33	1			36	39	22.37	22.37	22.19	1
		100	0	22.55	22.62	22.41	1			75	0	22.41	22.48	22.27	1
	16QAM	1	0	22.52	22.54	22.47	1		16QAM	1	0	22.38	22.40	22.33	1
		1	50	22.49	22.47	22.24	1			1	37	22.35	22.33	22.10	1
		1	99	22.46	22.46	22.18	1			1	74	22.32	22.32	22.04	1
		50	0	21.51	21.59	21.46	2			36	0	21.37	21.45	21.32	2
		50	25	21.49	21.54	21.40	2			36	19	21.35	21.40	21.26	2
		50	50	21.46	21.46	21.28	2			36	39	21.32	21.32	21.14	2
		100	0	21.50	21.57	21.36	2			75	0	21.36	21.43	21.22	2
	64QAM	1	0	21.47	21.49	21.42	2		64QAM	1	0	21.33	21.35	21.28	2
		1	50	21.44	21.42	21.19	2			1	37	21.30	21.28	21.05	2
		1	99	21.41	21.41	21.13	2			1	74	21.27	21.27	20.99	2
		50	0	20.46	20.54	20.41	3			36	0	20.32	20.40	20.27	3
		50	25	20.44	20.49	20.35	3			36	19	20.30	20.35	20.21	3
		50	50	20.41	20.41	20.23	3			36	39	20.27	20.27	20.09	3
		100	0	20.45	20.52	20.31	3			75	0	20.31	20.38	20.17	3

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		37800	38000	38200				Channel		37775	38000	38225	
		Frequency (MHz)		2575.0	2595.0	2615.0				Frequency (MHz)		2572.5	2595.0	2617.5	
10M	QPSK	1	0	23.35	23.37	23.30	0	5M	QPSK	1	0	23.23	23.25	23.18	0
		1	24	23.32	23.30	23.07	0			1	12	23.20	23.18	22.95	0
		1	49	23.29	23.29	23.01	0			1	24	23.17	23.17	22.89	0
		25	0	22.34	22.42	22.29	1			12	0	22.22	22.30	22.17	1
		25	12	22.32	22.37	22.23	1			12	6	22.20	22.25	22.11	1
		25	25	22.29	22.29	22.11	1			12	13	22.17	22.17	21.99	1
		50	0	22.33	22.40	22.19	1			25	0	22.21	22.28	22.07	1
	16QAM	1	0	22.30	22.32	22.25	1		16QAM	1	0	22.18	22.20	22.13	1
		1	24	22.27	22.25	22.02	1			1	12	22.15	22.13	21.90	1
		1	49	22.24	22.24	21.96	1			1	24	22.12	22.12	21.84	1
		25	0	21.29	21.37	21.24	2			12	0	21.17	21.25	21.12	2
		25	12	21.27	21.32	21.18	2			12	6	21.15	21.20	21.06	2
		25	25	21.24	21.24	21.06	2			12	13	21.12	21.12	20.94	2
		50	0	21.28	21.35	21.14	2			25	0	21.16	21.23	21.02	2
	64QAM	1	0	21.25	21.27	21.20	2		64QAM	1	0	21.13	21.15	21.08	2
		1	24	21.22	21.20	20.97	2			1	12	21.10	21.08	20.85	2
		1	49	21.19	21.19	20.91	2			1	24	21.07	21.07	20.79	2
		25	0	20.24	20.32	20.19	3			12	0	20.12	20.20	20.07	3
		25	12	20.22	20.27	20.13	3			12	6	20.10	20.15	20.01	3
		25	25	20.19	20.19	20.01	3			12	13	20.07	20.07	19.89	3
		50	0	20.23	20.30	20.09	3			25	0	20.11	20.18	19.97	3

LTE Band 41

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		39750	40620	41490				Channel		39725	40620	41515	
		Frequency (MHz)		2506.0	2593.0	2680.0				Frequency (MHz)		2503.5	2593.0	2682.5	
20M	QPSK	1	0	23.85	23.67	23.44	0	15M	QPSK	1	0	23.71	23.53	23.30	0
		1	50	23.76	23.58	23.35	0			1	37	23.62	23.44	23.21	0
		1	99	23.74	23.56	23.33	0			1	74	23.60	23.42	23.19	0
		50	0	22.89	22.71	22.48	1			36	0	22.75	22.57	22.34	1
		50	25	22.76	22.58	22.35	1			36	19	22.62	22.44	22.21	1
		50	50	22.74	22.56	22.33	1			36	39	22.60	22.42	22.19	1
		100	0	22.85	22.67	22.44	1			75	0	22.71	22.53	22.30	1
	16QAM	1	0	22.80	22.62	22.39	1		16QAM	1	0	22.66	22.48	22.25	1
		1	50	22.71	22.53	22.30	1			1	37	22.57	22.39	22.16	1
		1	99	22.69	22.51	22.28	1			1	74	22.55	22.37	22.14	1
		50	0	21.84	21.66	21.43	2			36	0	21.70	21.52	21.29	2
		50	25	21.71	21.53	21.30	2			36	19	21.57	21.39	21.16	2
		50	50	21.69	21.51	21.28	2			36	39	21.55	21.37	21.14	2
		100	0	21.80	21.62	21.39	2			75	0	21.66	21.48	21.25	2
	64QAM	1	0	21.78	21.60	21.37	2		64QAM	1	0	21.64	21.46	21.23	2
		1	50	21.69	21.51	21.28	2			1	37	21.55	21.37	21.14	2
		1	99	21.67	21.49	21.26	2			1	74	21.53	21.35	21.12	2
		50	0	20.82	20.64	20.41	3			36	0	20.68	20.50	20.27	3
		50	25	20.69	20.51	20.28	3			36	19	20.55	20.37	20.14	3
		50	50	20.67	20.49	20.26	3			36	39	20.53	20.35	20.12	3
		100	0	20.78	20.60	20.37	3			75	0	20.64	20.46	20.23	3

BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)
		Channel		39700	40620	41540				Channel		39675	40620	41565	
		Frequency (MHz)		2501.0	2593.0	2685.0				Frequency (MHz)		2498.5	2593.0	2687.5	
10M	QPSK	1	0	23.59	23.41	23.18	0	5M	QPSK	1	0	23.51	23.33	23.10	0
		1	24	23.50	23.32	23.09	0			1	12	23.42	23.24	23.01	0
		1	49	23.48	23.30	23.07	0			1	24	23.40	23.22	22.99	0
		25	0	22.63	22.45	22.22	1			12	0	22.55	22.37	22.14	1
		25	12	22.50	22.32	22.09	1			12	6	22.42	22.24	22.01	1
		25	25	22.48	22.30	22.07	1			12	13	22.40	22.22	21.99	1
		50	0	22.59	22.41	22.18	1			25	0	22.51	22.33	22.10	1
	16QAM	1	0	22.54	22.36	22.13	1		16QAM	1	0	22.46	22.28	22.05	1
		1	24	22.45	22.27	22.04	1			1	12	22.37	22.19	21.96	1
		1	49	22.43	22.25	22.02	1			1	24	22.35	22.17	21.94	1
		25	0	21.58	21.40	21.17	2			12	0	21.50	21.32	21.09	2
		25	12	21.45	21.27	21.04	2			12	6	21.37	21.19	20.96	2
		25	25	21.43	21.25	21.02	2			12	13	21.35	21.17	20.94	2
		50	0	21.54	21.36	21.13	2			25	0	21.46	21.28	21.05	2
	64QAM	1	0	21.52	21.34	21.11	2		64QAM	1	0	21.44	21.26	21.03	2
		1	24	21.43	21.25	21.02	2			1	12	21.35	21.17	20.94	2
		1	49	21.41	21.23	21.00	2			1	24	21.33	21.15	20.92	2
		25	0	20.56	20.38	20.15	3			12	0	20.48	20.30	20.07	3
		25	12	20.43	20.25	20.02	3			12	6	20.35	20.17	19.94	3
		25	25	20.41	20.23	20.00	3			12	13	20.33	20.15	19.92	3
		50	0	20.52	20.34	20.11	3			25	0	20.44	20.26	20.03	3

EIRP Power (dBm)

LTE Band 7							
Channel Bandwidth: 5 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20775	2502.5	-21.73	44.24	22.51	178.16	H
	21100	2535.0	-21.68	44.20	22.52	178.53	
	21425	2567.5	-22.31	44.80	22.49	177.46	
	20775	2502.5	-24.67	44.19	19.52	89.56	V
	21100	2535.0	-24.58	44.09	19.51	89.29	
	21425	2567.5	-25.03	44.50	19.47	88.49	
Channel Bandwidth: 5 MHz / 16QAM							
X	20775	2502.5	-22.75	44.24	21.49	140.86	H
	21100	2535.0	-22.69	44.20	21.51	141.48	
	21425	2567.5	-23.32	44.80	21.48	140.64	
	20775	2502.5	-25.65	44.19	18.54	71.47	V
	21100	2535.0	-25.60	44.09	18.49	70.60	
	21425	2567.5	-26.07	44.50	18.43	69.65	
Channel Bandwidth: 5 MHz / 64QAM							
X	20775	2502.5	-23.71	44.24	20.53	112.93	H
	21100	2535.0	-23.65	44.20	20.55	113.42	
	21425	2567.5	-24.36	44.80	20.44	110.69	
	20775	2502.5	-26.66	44.19	17.53	56.64	V
	21100	2535.0	-26.57	44.09	17.52	56.47	
	21425	2567.5	-27.05	44.50	17.45	55.58	

LTE Band 7							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20800	2505.0	-21.80	44.34	22.54	179.51	H
	21100	2535.0	-21.70	44.20	22.50	177.71	
	21400	2565.0	-22.19	44.72	22.53	179.18	
	20800	2505.0	-24.68	44.23	19.55	90.07	V
	21100	2535.0	-24.58	44.09	19.51	89.29	
	21400	2565.0	-24.89	44.41	19.52	89.45	
Channel Bandwidth: 10 MHz / 16QAM							
X	20800	2505.0	-22.83	44.34	21.51	141.61	H
	21100	2535.0	-22.71	44.20	21.49	140.83	
	21400	2565.0	-23.20	44.72	21.52	142.00	
	20800	2505.0	-25.65	44.23	18.58	72.04	V
	21100	2535.0	-25.63	44.09	18.46	70.11	
	21400	2565.0	-25.93	44.41	18.48	70.40	
Channel Bandwidth: 10 MHz / 64QAM							
X	20800	2505.0	-23.85	44.34	20.49	111.97	H
	21100	2535.0	-23.70	44.20	20.50	112.12	
	21400	2565.0	-24.21	44.72	20.51	112.54	
	20800	2505.0	-26.68	44.23	17.55	56.83	V
	21100	2535.0	-26.64	44.09	17.45	55.56	
	21400	2565.0	-26.95	44.41	17.46	55.67	

LTE Band 7							
Channel Bandwidth: 15 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20825	2507.5	-21.76	44.32	22.56	180.22	H
	21100	2535.0	-21.68	44.20	22.52	178.53	
	21375	2562.5	-22.30	44.85	22.55	179.80	
	20825	2507.5	-24.43	43.99	19.56	90.41	V
	21100	2535.0	-24.55	44.09	19.54	89.91	
	21375	2562.5	-24.98	44.51	19.53	89.74	
Channel Bandwidth: 15 MHz / 16QAM							
X	20825	2507.5	-22.75	44.32	21.57	143.48	H
	21100	2535.0	-22.63	44.20	21.57	143.45	
	21375	2562.5	-23.32	44.85	21.53	142.17	
	20825	2507.5	-25.46	43.99	18.53	71.32	V
	21100	2535.0	-25.57	44.09	18.52	71.09	
	21375	2562.5	-25.99	44.51	18.52	71.12	
Channel Bandwidth: 15 MHz / 64QAM							
X	20825	2507.5	-23.71	44.32	20.61	115.03	H
	21100	2535.0	-23.65	44.20	20.55	113.42	
	21375	2562.5	-24.28	44.85	20.57	113.97	
	20825	2507.5	-26.48	43.99	17.51	56.39	V
	21100	2535.0	-26.58	44.09	17.51	56.34	
	21375	2562.5	-27.02	44.51	17.49	56.10	

LTE Band 7							
Channel Bandwidth: 20 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	20850.0	2510.0	-21.56	44.16	22.60	181.97	H
	21100.0	2535.0	-21.62	44.20	22.58	181.01	
	21350.0	2560.0	-22.26	44.81	22.55	179.76	
	20850.0	2510.0	-25.16	44.78	19.62	91.62	V
	21100.0	2535.0	-24.48	44.09	19.61	91.37	
	21350.0	2560.0	-25.16	44.72	19.56	90.36	
Channel Bandwidth: 20 MHz / 16QAM							
X	20850.0	2510.0	-22.54	44.16	21.62	145.21	H
	21100.0	2535.0	-22.60	44.20	21.60	144.44	
	21350.0	2560.0	-23.25	44.81	21.56	143.12	
	20850.0	2510.0	-26.10	44.78	18.68	73.79	V
	21100.0	2535.0	-25.43	44.09	18.66	73.42	
	21350.0	2560.0	-26.11	44.72	18.61	72.61	
Channel Bandwidth: 20 MHz / 64QAM							
X	20850.0	2510.0	-23.52	44.16	20.64	115.88	H
	21100.0	2535.0	-23.59	44.20	20.61	115.00	
	21350.0	2560.0	-24.22	44.81	20.59	114.47	
	20850.0	2510.0	-27.14	44.78	17.64	58.08	V
	21100.0	2535.0	-26.46	44.09	17.63	57.92	
	21350.0	2560.0	-27.15	44.72	17.57	57.15	

LTE Band 38							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	37775	2572.5	-22.20	44.24	22.04	159.88	H
	38000	2595.0	-22.16	44.20	22.04	159.85	
	38225	2617.5	-22.83	44.80	21.97	157.43	
	37775	2572.5	-25.18	44.19	19.01	79.63	V
	38000	2595.0	-25.06	44.09	19.03	79.95	
	38225	2617.5	-25.52	44.50	18.98	79.05	
Channel Bandwidth: 5 MHz / 16QAM							
X	37775	2572.5	-23.21	44.24	21.03	126.71	H
	38000	2595.0	-23.18	44.20	21.02	126.39	
	38225	2617.5	-23.85	44.80	20.95	124.48	
	37775	2572.5	-26.17	44.19	18.02	63.40	V
	38000	2595.0	-26.08	44.09	18.01	63.21	
	38225	2617.5	-26.55	44.50	17.95	62.36	
Channel Bandwidth: 5 MHz / 64QAM							
X	37775	2572.5	-24.22	44.24	20.02	100.42	H
	38000	2595.0	-24.17	44.20	20.03	100.62	
	38225	2617.5	-24.83	44.80	19.97	99.33	
	37775	2572.5	-27.18	44.19	17.01	50.25	V
	38000	2595.0	-27.09	44.09	17.00	50.10	
	38225	2617.5	-27.52	44.50	16.98	49.88	

LTE Band 38							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	37800	2575.0	-22.31	44.34	22.03	159.62	H
	38000	2595.0	-22.16	44.20	22.04	159.85	
	38200	2615.0	-22.72	44.72	22.00	158.60	
	37800	2575.0	-25.20	44.23	19.03	79.91	V
	38000	2595.0	-25.04	44.09	19.05	80.32	
	38200	2615.0	-25.40	44.41	19.01	79.54	
Channel Bandwidth: 10 MHz / 16QAM							
X	37800	2575.0	-23.32	44.34	21.02	126.50	H
	38000	2595.0	-23.18	44.20	21.02	126.39	
	38200	2615.0	-23.71	44.72	21.01	126.27	
	37800	2575.0	-26.22	44.23	18.01	63.18	V
	38000	2595.0	-26.05	44.09	18.04	63.65	
	38200	2615.0	-26.43	44.41	17.98	62.75	
Channel Bandwidth: 10 MHz / 64QAM							
X	37800	2575.0	-24.31	44.34	20.03	100.72	H
	38000	2595.0	-24.17	44.20	20.03	100.62	
	38200	2615.0	-24.73	44.72	19.99	99.84	
	37800	2575.0	-27.20	44.23	17.03	50.42	V
	38000	2595.0	-27.04	44.09	17.05	50.68	
	38200	2615.0	-27.45	44.41	16.96	49.61	

LTE Band 38							
Channel Bandwidth: 15 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	37825	2577.5	-22.24	44.32	22.08	161.36	H
	38000	2595.0	-22.10	44.20	22.10	162.07	
	38175	2612.5	-22.80	44.85	22.05	160.25	
	37825	2577.5	-24.92	43.99	19.07	80.76	V
	38000	2595.0	-25.01	44.09	19.08	80.87	
	38175	2612.5	-25.46	44.51	19.05	80.35	
Channel Bandwidth: 15 MHz / 16QAM							
X	37825	2577.5	-23.27	44.32	21.05	127.29	H
	38000	2595.0	-23.12	44.20	21.08	128.14	
	38175	2612.5	-23.85	44.85	21.00	125.83	
	37825	2577.5	-25.91	43.99	18.08	64.30	V
	38000	2595.0	-26.05	44.09	18.04	63.65	
	38175	2612.5	-26.48	44.51	18.03	63.53	
Channel Bandwidth: 15 MHz / 64QAM							
X	37825	2577.5	-24.25	44.32	20.07	101.58	H
	38000	2595.0	-24.10	44.20	20.10	102.26	
	38175	2612.5	-24.86	44.85	19.99	99.72	
	37825	2577.5	-26.93	43.99	17.06	50.84	V
	38000	2595.0	-27.01	44.09	17.08	51.03	
	38175	2612.5	-27.49	44.51	17.02	50.35	

LTE Band 38							
Channel Bandwidth: 20 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	37850	2580.0	-22.02	44.16	22.14	163.68	H
	38000	2595.0	-22.02	44.20	22.18	165.08	
	38150	2610.0	-22.70	44.81	22.11	162.44	
	37850	2580.0	-25.62	44.78	19.16	82.41	V
	38000	2595.0	-24.90	44.09	19.19	82.95	
	38150	2610.0	-25.64	44.72	19.08	80.91	
Channel Bandwidth: 20 MHz / 16QAM							
X	37850	2580.0	-23.04	44.16	21.12	129.42	H
	38000	2595.0	-23.05	44.20	21.15	130.23	
	38150	2610.0	-23.74	44.81	21.07	127.85	
	37850	2580.0	-26.64	44.78	18.14	65.16	V
	38000	2595.0	-25.94	44.09	18.15	65.28	
	38150	2610.0	-26.66	44.72	18.06	63.97	
Channel Bandwidth: 20 MHz / 64QAM							
X	37850	2580.0	-24.02	44.16	20.14	103.28	H
	38000	2595.0	-24.03	44.20	20.17	103.92	
	38150	2610.0	-24.71	44.81	20.10	102.26	
	37850	2580.0	-27.63	44.78	17.15	51.88	V
	38000	2595.0	-26.92	44.09	17.17	52.10	
	38150	2610.0	-27.64	44.72	17.08	51.05	

LTE Band 41							
Channel Bandwidth: 5 MHz / QPSK							
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)
X	39675	2498.5	-20.72	44.24	23.52	224.80	H
	40620	2593.0	-20.67	44.20	23.53	225.27	
	41565	2687.5	-21.30	44.80	23.50	224.03	
	39675	2498.5	-23.68	44.19	20.51	112.49	V
	40620	2593.0	-23.54	44.09	20.55	113.45	
	41565	2687.5	-24.02	44.50	20.48	111.66	
Channel Bandwidth: 5 MHz / 16QAM							
X	39675	2498.5	-21.74	44.24	22.50	177.75	H
	40620	2593.0	-21.68	44.20	22.52	178.53	
	41565	2687.5	-22.32	44.80	22.48	177.05	
	39675	2498.5	-24.69	44.19	19.50	89.15	V
	40620	2593.0	-24.55	44.09	19.54	89.91	
	41565	2687.5	-25.04	44.50	19.46	88.29	
Channel Bandwidth: 5 MHz / 64QAM							
X	39675	2498.5	-22.71	44.24	21.53	142.17	H
	40620	2593.0	-22.65	44.20	21.55	142.79	
	41565	2687.5	-23.31	44.80	21.49	140.96	
	39675	2498.5	-25.68	44.19	18.51	70.97	V
	40620	2593.0	-25.53	44.09	18.56	71.75	
	41565	2687.5	-26.02	44.50	18.48	70.45	

LTE Band 41							
Channel Bandwidth: 10 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	39700	2501.0	-20.81	44.34	23.53	225.48	H
	40620	2593.0	-20.64	44.20	23.56	226.83	
	41540	2685.0	-21.18	44.72	23.54	226.10	
	39700	2501.0	-23.71	44.23	20.52	112.62	V
	40620	2593.0	-23.53	44.09	20.56	113.71	
	41540	2685.0	-23.88	44.41	20.53	112.88	
Channel Bandwidth: 10 MHz / 16QAM							
X	39700	2501.0	-21.82	44.34	22.52	178.69	H
	40620	2593.0	-21.66	44.20	22.54	179.35	
	41540	2685.0	-22.20	44.72	22.52	178.77	
	39700	2501.0	-24.72	44.23	19.51	89.25	V
	40620	2593.0	-24.56	44.09	19.53	89.70	
	41540	2685.0	-24.90	44.41	19.51	89.25	
Channel Bandwidth: 10 MHz / 64QAM							
X	39700	2501.0	-22.81	44.34	21.53	142.27	H
	40620	2593.0	-22.64	44.20	21.56	143.12	
	41540	2685.0	-23.21	44.72	21.51	141.68	
	39700	2501.0	-25.73	44.23	18.50	70.73	V
	40620	2593.0	-25.54	44.09	18.55	71.58	
	41540	2685.0	-25.93	44.41	18.48	70.40	

LTE Band 41							
Channel Bandwidth: 15 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	39725	2503.5	-20.76	44.32	23.56	226.88	H
	40620	2593.0	-20.60	44.20	23.60	228.93	
	41515	2682.5	-21.30	44.85	23.55	226.36	
	39725	2503.5	-23.44	43.99	20.55	113.55	V
	40620	2593.0	-23.50	44.09	20.59	114.50	
	41515	2682.5	-23.99	44.51	20.52	112.72	
Channel Bandwidth: 15 MHz / 16QAM							
X	39725	2503.5	-21.77	44.32	22.55	179.80	H
	40620	2593.0	-21.62	44.20	22.58	181.01	
	41515	2682.5	-22.33	44.85	22.52	178.57	
	39725	2503.5	-24.45	43.99	19.54	89.99	V
	40620	2593.0	-24.53	44.09	19.56	90.32	
	41515	2682.5	-25.02	44.51	19.49	88.92	
Channel Bandwidth: 15 MHz / 64QAM							
X	39725	2503.5	-22.73	44.32	21.59	144.15	H
	40620	2593.0	-22.54	44.20	21.66	146.45	
	41515	2682.5	-23.31	44.85	21.54	142.50	
	39725	2503.5	-25.43	43.99	18.56	71.81	V
	40620	2593.0	-25.51	44.09	18.58	72.08	
	41515	2682.5	-26.05	44.51	18.46	70.15	

LTE Band 41							
Channel Bandwidth: 20 MHz / QPSK							
Plane	**Channel**	**Frequency (MHz)**	**LVL (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**EIRP (mW)**	**Polarization (H/V)**
X	39750	2506.0	-20.54	44.16	23.62	230.14	H
	40620	2593.0	-20.53	44.20	23.67	232.65	
	41490	2680.0	-21.20	44.81	23.61	229.46	
	39750	2506.0	-24.12	44.78	20.66	116.41	V
	40620	2593.0	-23.40	44.09	20.69	117.17	
	41490	2680.0	-24.10	44.72	20.62	115.35	
Channel Bandwidth: 20 MHz / 16QAM							
X	39750	2506.0	-21.55	44.16	22.61	182.39	H
	40620	2593.0	-21.53	44.20	22.67	184.80	
	41490	2680.0	-22.23	44.81	22.58	181.01	
	39750	2506.0	-25.16	44.78	19.62	91.62	V
	40620	2593.0	-24.42	44.09	19.67	92.64	
	41490	2680.0	-25.13	44.72	19.59	90.99	
Channel Bandwidth: 20 MHz / 64QAM							
X	39750	2506.0	-22.51	44.16	21.65	146.22	H
	40620	2593.0	-22.50	44.20	21.70	147.81	
	41490	2680.0	-23.21	44.81	21.60	144.44	
	39750	2506.0	-26.12	44.78	18.66	73.45	V
	40620	2593.0	-25.40	44.09	18.69	73.93	
	41490	2680.0	-26.11	44.72	18.61	72.61	

4.2 Frequency Stability Measurement

4.2.1 Limits of Frequency Stabiliity Measurement

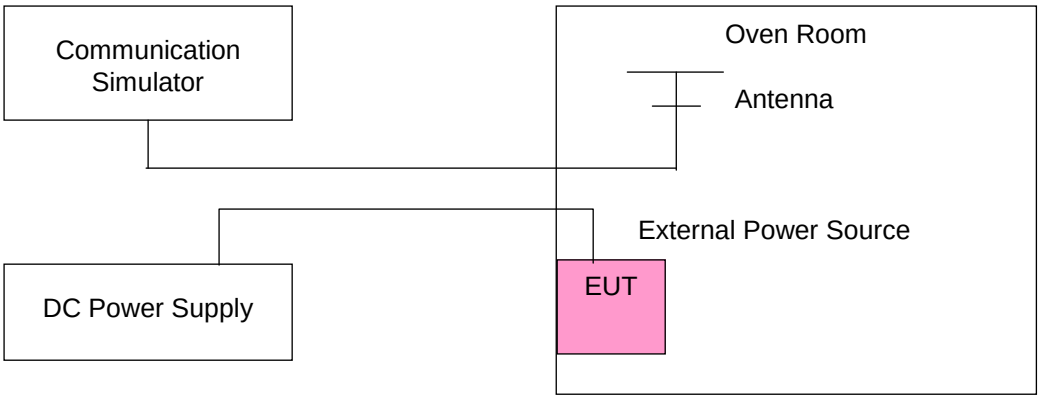
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 Test Procedure

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5 ℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

4.2.3 Test Setup



4.2.4 Test Results

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2502.500002	0.0009	2567.500002	0.0009	2.5
3.6	2502.500002	0.0009	2567.500001	0.0005	2.5
4.38	2502.500001	0.0005	2567.500003	0.0011	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2502.500003	0.0011	2567.500002	0.0008	2.5
-20	2502.500002	0.0008	2567.500003	0.0013	2.5
-10	2502.500003	0.0012	2567.500003	0.0013	2.5
0	2502.500003	0.0011	2567.500002	0.0007	2.5
10	2502.499996	-0.0015	2567.499997	-0.0011	2.5
20	2502.499999	-0.0005	2567.499998	-0.0009	2.5
30	2502.499998	-0.0008	2567.499998	-0.0007	2.5
40	2502.499999	-0.0006	2567.499998	-0.0007	2.5
50	2502.499997	-0.0011	2567.499997	-0.0011	2.5
55	2502.500001	0.0004	2567.500001	0.0005	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 10 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2505.000001	0.0004	2565.000004	0.0014	2.5
3.6	2505.000003	0.0012	2565.000003	0.0012	2.5
4.38	2505.000004	0.0014	2565.000003	0.0011	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 10 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2505.000001	0.0004	2565.000001	0.0005	2.5
-20	2505.000003	0.0011	2565.000002	0.0007	2.5
-10	2505.000003	0.0012	2565.000003	0.0010	2.5
0	2505.000004	0.0016	2565.000002	0.0009	2.5
10	2504.999997	-0.0012	2564.999997	-0.0010	2.5
20	2504.999998	-0.0006	2564.999997	-0.0011	2.5
30	2504.999998	-0.0006	2564.999996	-0.0014	2.5
40	2504.999998	-0.0009	2564.999998	-0.0007	2.5
50	2504.999998	-0.0009	2564.999996	-0.0016	2.5
55	2505.000003	0.0013	2565.000002	0.0008	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 15 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2507.500002	0.0007	2562.500002	0.0008	2.5
3.6	2507.500001	0.0006	2562.500003	0.0012	2.5
4.38	2507.500002	0.0006	2562.500004	0.0014	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 15 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2507.500001	0.0005	2562.500003	0.0012	2.5
-20	2507.500004	0.0016	2562.500004	0.0014	2.5
-10	2507.500003	0.0012	2562.500004	0.0014	2.5
0	2507.500004	0.0015	2562.500004	0.0015	2.5
10	2507.499997	-0.0014	2562.499999	-0.0005	2.5
20	2507.499997	-0.0013	2562.499996	-0.0015	2.5
30	2507.499996	-0.0016	2562.499999	-0.0005	2.5
40	2507.499998	-0.0009	2562.499996	-0.0016	2.5
50	2507.499997	-0.0014	2562.499997	-0.0010	2.5
55	2507.500002	0.0009	2562.500002	0.0007	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 20 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2510.000004	0.0016	2560.000002	0.0008	2.5
3.6	2510.000002	0.0006	2560.000001	0.0004	2.5
4.38	2510.000002	0.0006	2560.000004	0.0016	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 7				Limit (ppm)
	Channel Bandwidth: 20 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2510.000004	0.0014	2560.000003	0.0013	2.5
-20	2510.000003	0.0013	2560.000002	0.0009	2.5
-10	2510.000004	0.0014	2560.000003	0.0010	2.5
0	2510.000001	0.0004	2560.000003	0.0011	2.5
10	2509.999998	-0.0006	2559.999998	-0.0009	2.5
20	2509.999999	-0.0006	2559.999999	-0.0005	2.5
30	2509.999998	-0.0010	2559.999997	-0.0012	2.5
40	2509.999997	-0.0013	2559.999999	-0.0005	2.5
50	2509.999997	-0.0012	2559.999997	-0.0011	2.5
55	2510.000003	0.0011	2560.000002	0.0007	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2572.500004	0.0016	2617.500001	0.0005	2.5
3.6	2572.500003	0.0013	2617.500004	0.0015	2.5
4.38	2572.500002	0.0009	2617.500002	0.0008	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2572.500002	0.0009	2617.500003	0.0011	2.5
-20	2572.500001	0.0004	2617.500004	0.0013	2.5
-10	2572.500002	0.0006	2617.500002	0.0007	2.5
0	2572.500002	0.0009	2617.500002	0.0009	2.5
10	2572.499997	-0.0012	2617.499999	-0.0004	2.5
20	2572.499997	-0.0011	2617.499997	-0.0013	2.5
30	2572.499997	-0.0012	2617.499997	-0.0013	2.5
40	2572.499997	-0.0011	2617.499998	-0.0009	2.5
50	2572.499998	-0.0009	2617.499996	-0.0015	2.5
55	2572.500003	0.0012	2617.500004	0.0014	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 10 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2575.000003	0.0011	2615.000004	0.0014	2.5
3.6	2575.000003	0.0011	2615.000004	0.0013	2.5
4.38	2575.000003	0.0012	2615.000002	0.0007	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 10 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2575.000003	0.0010	2615.000002	0.0007	2.5
-20	2575.000004	0.0015	2615.000002	0.0008	2.5
-10	2575.000002	0.0009	2615.000002	0.0009	2.5
0	2575.000003	0.0010	2615.000002	0.0007	2.5
10	2574.999997	-0.0010	2614.999999	-0.0005	2.5
20	2574.999998	-0.0009	2614.999997	-0.0012	2.5
30	2574.999998	-0.0007	2614.999998	-0.0008	2.5
40	2574.999999	-0.0004	2614.999999	-0.0006	2.5
50	2574.999998	-0.0009	2614.999999	-0.0005	2.5
55	2575.000001	0.0005	2615.000001	0.0004	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 15 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2577.500002	0.0007	2612.500002	0.0009	2.5
3.6	2577.500002	0.0008	2612.500004	0.0015	2.5
4.38	2577.500003	0.0011	2612.500002	0.0006	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 15 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2577.500003	0.0010	2612.500003	0.0011	2.5
-20	2577.500003	0.0010	2612.500004	0.0015	2.5
-10	2577.500004	0.0016	2612.500002	0.0008	2.5
0	2577.500001	0.0005	2612.500004	0.0015	2.5
10	2577.499998	-0.0007	2612.499999	-0.0006	2.5
20	2577.499998	-0.0009	2612.499997	-0.0013	2.5
30	2577.499997	-0.0013	2612.499997	-0.0012	2.5
40	2577.499997	-0.0010	2612.499998	-0.0006	2.5
50	2577.499997	-0.0013	2612.499998	-0.0006	2.5
55	2577.500002	0.0009	2612.500004	0.0014	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 20 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2580.000002	0.0006	2610.000002	0.0008	2.5
3.6	2580.000004	0.0016	2610.000003	0.0010	2.5
4.38	2580.000002	0.0009	2610.000001	0.0004	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 38				Limit (ppm)
	Channel Bandwidth: 20 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2580.000004	0.0014	2610.000002	0.0007	2.5
-20	2580.000002	0.0009	2610.000003	0.0010	2.5
-10	2580.000001	0.0005	2610.000002	0.0006	2.5
0	2580.000002	0.0006	2610.000002	0.0006	2.5
10	2579.999997	-0.0011	2609.999999	-0.0005	2.5
20	2579.999998	-0.0008	2609.999996	-0.0015	2.5
30	2579.999997	-0.0013	2609.999997	-0.0011	2.5
40	2579.999999	-0.0004	2609.999998	-0.0009	2.5
50	2579.999997	-0.0012	2609.999998	-0.0007	2.5
55	2580.000002	0.0008	2610.000004	0.0013	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2498.500003	0.0012	2687.500002	0.0008	2.5
3.6	2498.500003	0.0011	2687.500002	0.0009	2.5
4.38	2498.500003	0.0014	2687.500002	0.0007	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2498.500004	0.0014	2687.500003	0.0012	2.5
-20	2498.500004	0.0016	2687.500002	0.0006	2.5
-10	2498.500002	0.0007	2687.500003	0.0010	2.5
0	2498.500004	0.0015	2687.500002	0.0008	2.5
10	2498.499998	-0.0008	2687.499998	-0.0009	2.5
20	2498.499997	-0.0011	2687.499999	-0.0005	2.5
30	2498.499999	-0.0005	2687.499998	-0.0009	2.5
40	2498.499999	-0.0006	2687.499998	-0.0009	2.5
50	2498.499999	-0.0005	2687.499996	-0.0014	2.5
55	2498.500002	0.0008	2687.500003	0.0013	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 10 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2501.000004	0.0016	2685.000003	0.0012	2.5
3.6	2501.000004	0.0015	2685.000001	0.0005	2.5
4.38	2501.000001	0.0004	2685.000001	0.0005	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 10 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2501.000004	0.0015	2685.000002	0.0006	2.5
-20	2501.000004	0.0015	2685.000002	0.0008	2.5
-10	2501.000001	0.0005	2685.000002	0.0009	2.5
0	2501.000002	0.0008	2685.000002	0.0008	2.5
10	2500.999998	-0.0008	2684.999998	-0.0006	2.5
20	2500.999996	-0.0015	2684.999996	-0.0014	2.5
30	2500.999999	-0.0006	2684.999997	-0.0012	2.5
40	2500.999998	-0.0010	2684.999996	-0.0014	2.5
50	2500.999998	-0.0009	2684.999997	-0.0010	2.5
55	2501.000004	0.0014	2685.000004	0.0014	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 15 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2503.500003	0.0013	2682.500003	0.0010	2.5
3.6	2503.500003	0.0012	2682.500002	0.0006	2.5
4.38	2503.500002	0.0008	2682.500002	0.0009	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 15 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2503.500002	0.0008	2682.500004	0.0013	2.5
-20	2503.500004	0.0014	2682.500003	0.0010	2.5
-10	2503.500003	0.0010	2682.500002	0.0008	2.5
0	2503.500002	0.0008	2682.500001	0.0005	2.5
10	2503.499999	-0.0006	2682.499997	-0.0013	2.5
20	2503.499998	-0.0006	2682.499997	-0.0010	2.5
30	2503.499998	-0.0008	2682.499997	-0.0012	2.5
40	2503.499996	-0.0015	2682.499998	-0.0007	2.5
50	2503.499997	-0.0012	2682.499998	-0.0007	2.5
55	2503.500003	0.0012	2682.500003	0.0012	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 20 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.85	2506.000001	0.0005	2680.000001	0.0004	2.5
3.6	2506.000001	0.0005	2680.000002	0.0008	2.5
4.38	2506.000003	0.0012	2680.000002	0.0006	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.38 Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 41				Limit (ppm)
	Channel Bandwidth: 20 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2506.000002	0.0006	2680.000001	0.0005	2.5
-20	2506.000002	0.0006	2680.000001	0.0004	2.5
-10	2506.000002	0.0008	2680.000004	0.0013	2.5
0	2506.000001	0.0005	2680.000002	0.0006	2.5
10	2505.999997	-0.0014	2679.999998	-0.0009	2.5
20	2505.999997	-0.0010	2679.999996	-0.0015	2.5
30	2505.999999	-0.0004	2679.999998	-0.0008	2.5
40	2505.999997	-0.0010	2679.999999	-0.0004	2.5
50	2505.999998	-0.0009	2679.999997	-0.0012	2.5
55	2506.000003	0.0010	2680.000001	0.0005	2.5

4.3 Occupied Bandwidth Measurement

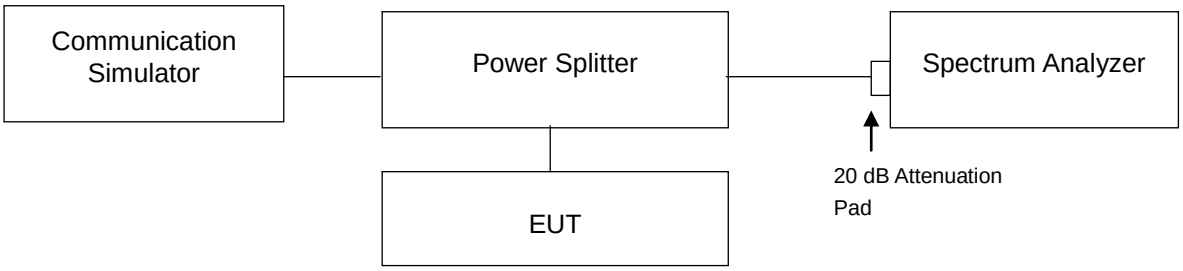
4.3.1 Limits of Occupied Bandwidth Measurement

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

4.3.2 Test Procedure

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.3 Test Setup



4.3.4 Test Result

LTE Band 7									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
20775	2502.5	4.4895	4.4911	4.4895	20800	2505.0	8.9674	8.9734	8.9699
21100	2535.0	4.4916	4.4943	4.4933	21100	2535.0	8.9761	8.9794	8.9719
21425	2567.5	4.4883	4.4906	4.4932	21400	2565.0	8.9596	8.9656	8.9640

Spectrum Plot of Worst Value	
5 MHz / 16QAM	10 MHz / 16QAM

LTE Band 7									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
20825	2507.5	13.455	13.450	13.443	20850	2510.0	17.913	17.931	17.932
21100	2535.0	13.473	13.466	13.454	21100	2535.0	17.940	17.962	17.954
21375	2562.5	13.444	13.434	13.431	21350	2560.0	17.891	17.918	17.909

Spectrum Plot of Worst Value	
15 MHz / QPSK	20 MHz / 16QAM

LTE Band 38									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
37775	2572.5	4.4912	4.4907	4.4869	37800	2575.0	8.9538	8.9668	8.9687
38000	2595.0	4.4886	4.4893	4.4813	38000	2595.0	8.9555	8.9626	8.9651
38225	2617.5	4.4904	4.4892	4.4861	38200	2615.0	8.9557	8.9636	8.9650

Spectrum Plot of Worst Value	
5 MHz / QPSK	10 MHz / 64QAM

LTE Band 38									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
37825	2577.5	13.448	13.442	13.439	37850	2580.0	17.906	17.903	17.915
38000	2595.0	13.450	13.437	13.435	38000	2595.0	17.905	17.901	17.911
38175	2612.5	13.436	13.437	13.435	38150	2610.0	17.909	17.907	17.914

Spectrum Plot of Worst Value	
15 MHz / QPSK	20 MHz / 64QAM

LTE Band 41									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
39675	2498.5	4.4887	4.4892	4.4851	39700	2501.0	8.9471	8.9650	8.9636
40620	2593.0	4.4923	4.4892	4.4845	40620	2593.0	8.9558	8.9707	8.9643
41565	2687.5	4.4914	4.4909	4.4861	41540	2685.0	8.9500	8.9621	8.9648

Spectrum Plot of Worst Value	
5 MHz / QPSK	10 MHz / 16QAM

LTE Band 41									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)			Channel	Frequency (MHz)	99 % Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
39725	2503.5	13.445	13.423	13.434	39750	2506.0	17.901	17.884	17.897
40620	2593.0	13.440	13.432	13.438	40620	2593.0	17.907	17.911	17.917
41515	2682.5	13.440	13.443	13.434	41490	2680.0	17.865	17.857	17.871

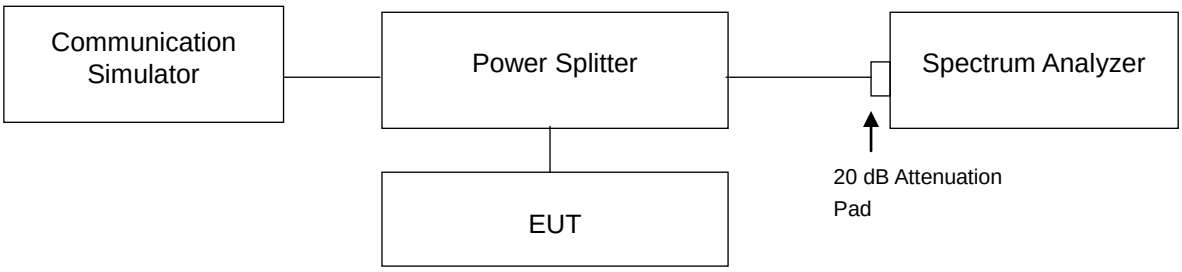
Spectrum Plot of Worst Value	
15 MHz / QPSK	20 MHz / 64QAM

4.4 Out-of-Band Emissions Measurement

4.4.1 Limits of Out-of-Band Emissions Measurement

According to FCC 27.53(l)(4) specified that power of any emission outside of the channel edge must be attenuated below the transmitting power (P) by a factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed.

4.4.2 Test Setup

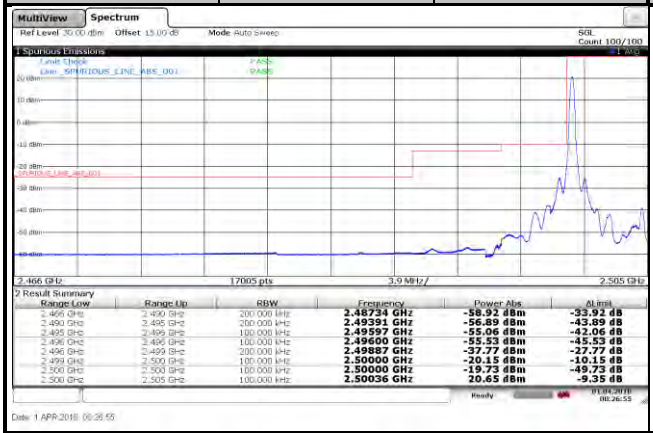


4.4.3 Test Procedures

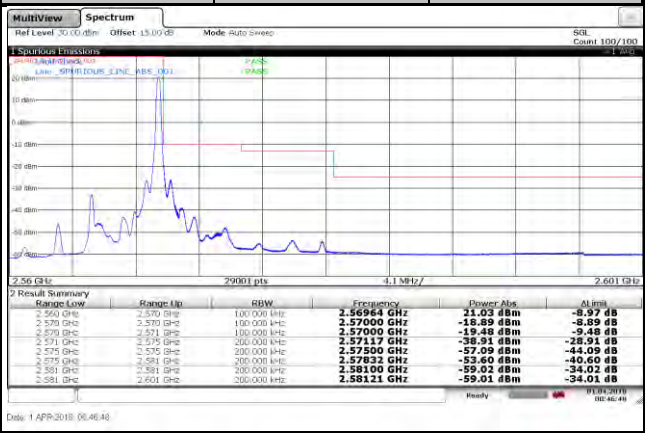
a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).
b. The out-of-band emissions measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
c. Record the max. trace plot into the test report.

4.4.4 Test Results

LTE Band 7					
Channel Bandwidth: 5 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	20775	1 RB	Channel	21425	1 RB

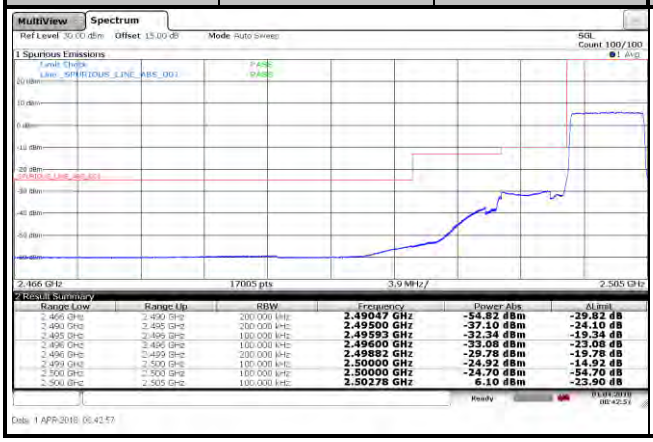


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.466 GHz	2.490 GHz	200.000 kHz	2.48734 GHz	-58.92 dBm	-33.92 dB
2.490 GHz	2.495 GHz	200.000 kHz	2.49391 GHz	-56.89 dBm	-43.89 dB
2.495 GHz	2.499 GHz	100.000 kHz	2.49597 GHz	-55.06 dBm	-42.06 dB
2.496 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-55.53 dBm	-45.53 dB
2.496 GHz	2.499 GHz	200.000 kHz	2.49887 GHz	-37.77 dBm	-27.77 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-20.15 dBm	-10.15 dB
2.500 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-19.73 dBm	-49.73 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50036 GHz	20.65 dBm	-9.35 dB

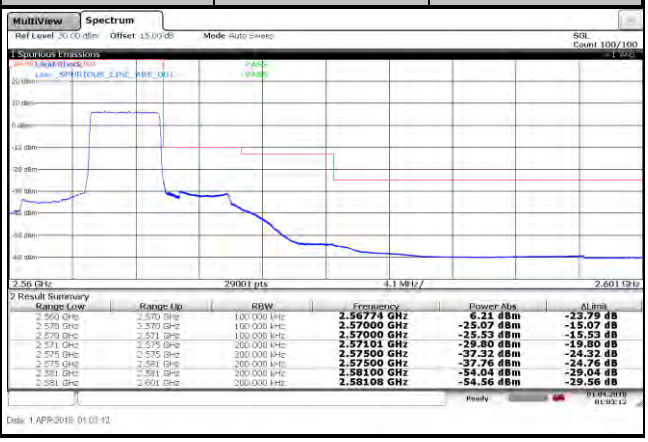


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56964 GHz	21.03 dBm	-8.97 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-18.89 dBm	-8.89 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-19.48 dBm	-9.48 dB
2.571 GHz	2.575 GHz	200.000 kHz	2.57117 GHz	-38.91 dBm	-28.91 dB
2.575 GHz	2.575 GHz	200.000 kHz	2.57500 GHz	-57.09 dBm	-44.09 dB
2.575 GHz	2.581 GHz	200.000 kHz	2.57832 GHz	-53.60 dBm	-40.60 dB
2.581 GHz	2.581 GHz	200.000 kHz	2.58100 GHz	-59.02 dBm	-34.02 dB
2.581 GHz	2.601 GHz	200.000 kHz	2.58121 GHz	-59.01 dBm	-34.01 dB

Channel	20775	25 RB	Channel	21425	25 RB

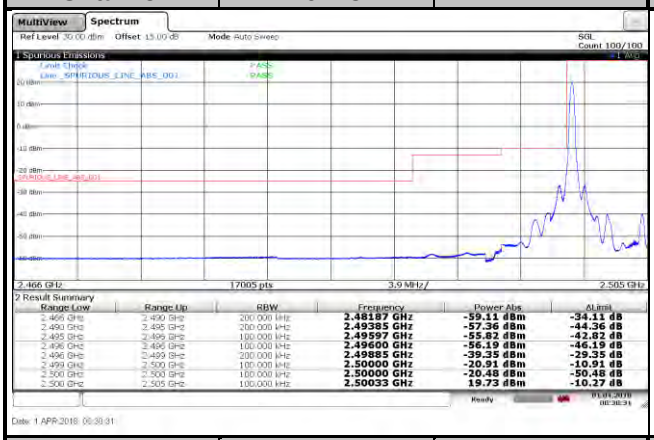


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.466 GHz	2.490 GHz	200.000 kHz	2.49047 GHz	-54.82 dBm	-29.82 dB
2.490 GHz	2.495 GHz	200.000 kHz	2.49500 GHz	-37.10 dBm	-24.10 dB
2.495 GHz	2.499 GHz	100.000 kHz	2.49593 GHz	-32.34 dBm	-19.34 dB
2.496 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-33.08 dBm	-23.08 dB
2.496 GHz	2.499 GHz	200.000 kHz	2.49882 GHz	-29.78 dBm	-19.78 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-24.92 dBm	-14.92 dB
2.500 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-24.70 dBm	-54.70 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50278 GHz	6.10 dBm	-23.90 dB

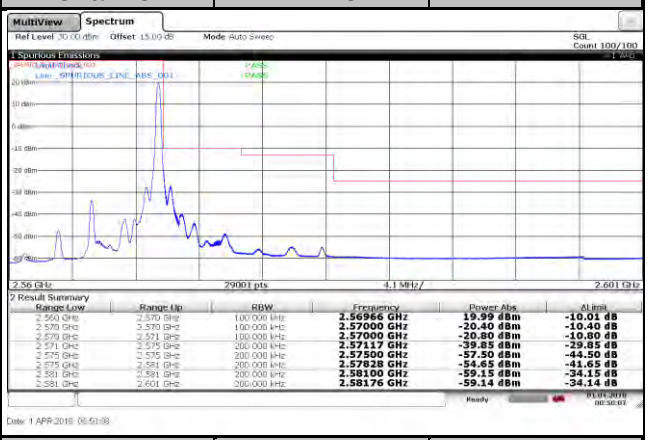


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56774 GHz	6.21 dBm	-23.79 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-25.07 dBm	-15.07 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-25.53 dBm	-15.53 dB
2.571 GHz	2.575 GHz	200.000 kHz	2.57101 GHz	-29.80 dBm	-19.80 dB
2.575 GHz	2.575 GHz	200.000 kHz	2.57500 GHz	-37.32 dBm	-24.32 dB
2.575 GHz	2.581 GHz	200.000 kHz	2.57500 GHz	-37.76 dBm	-24.76 dB
2.581 GHz	2.581 GHz	200.000 kHz	2.58100 GHz	-54.04 dBm	-29.04 dB
2.581 GHz	2.601 GHz	200.000 kHz	2.58108 GHz	-54.56 dBm	-29.56 dB

LTE Band 7					
Channel Bandwidth: 5 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	20775	1 RB	Channel	21425	1 RB

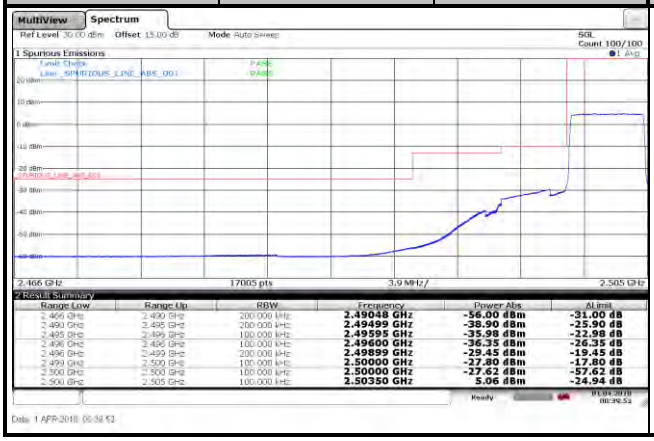


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.466 GHz	2.490 GHz	200.000 kHz	2.48187 GHz	-59.11 dBm	-34.11 dB
2.490 GHz	2.495 GHz	200.000 kHz	2.49385 GHz	-57.36 dBm	-44.36 dB
2.495 GHz	2.499 GHz	100.000 kHz	2.49597 GHz	-55.82 dBm	-42.82 dB
2.496 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-56.19 dBm	-46.19 dB
2.496 GHz	2.499 GHz	200.000 kHz	2.49855 GHz	-39.35 dBm	-29.35 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-20.91 dBm	-10.91 dB
2.500 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-20.48 dBm	-50.48 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50033 GHz	19.73 dBm	-10.27 dB

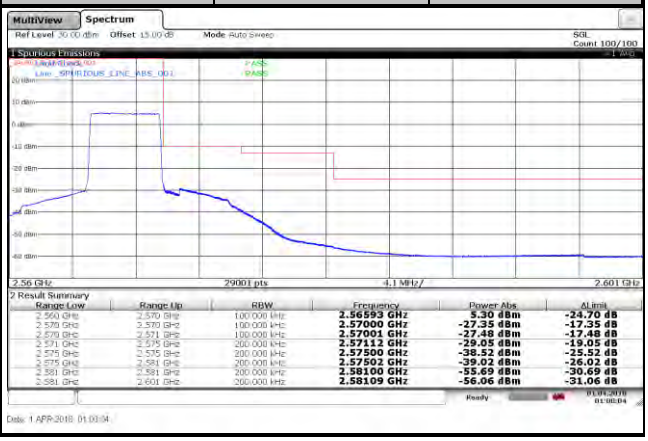


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56966 GHz	19.99 dBm	-10.01 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-20.40 dBm	-10.40 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-20.80 dBm	-10.80 dB
2.571 GHz	2.575 GHz	200.000 kHz	2.57117 GHz	-39.85 dBm	-29.85 dB
2.575 GHz	2.575 GHz	200.000 kHz	2.57500 GHz	-57.50 dBm	-44.50 dB
2.575 GHz	2.581 GHz	200.000 kHz	2.57828 GHz	-54.65 dBm	-41.65 dB
2.581 GHz	2.581 GHz	200.000 kHz	2.58100 GHz	-59.15 dBm	-34.15 dB
2.581 GHz	2.601 GHz	200.000 kHz	2.58176 GHz	-59.14 dBm	-34.14 dB

Channel	20775	25 RB	Channel	21425	25 RB



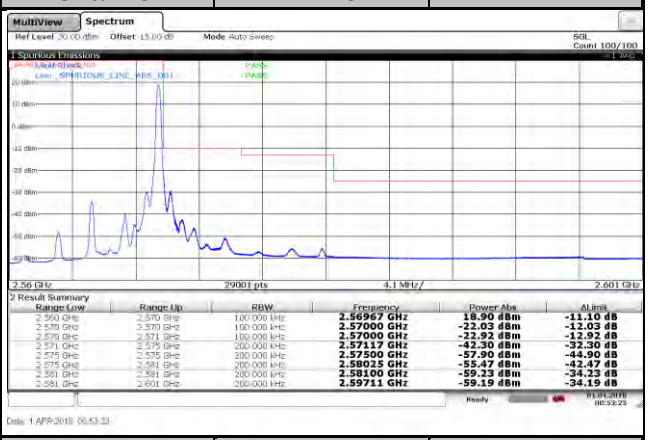
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.466 GHz	2.490 GHz	200.000 kHz	2.49048 GHz	-56.00 dBm	-31.00 dB
2.490 GHz	2.495 GHz	200.000 kHz	2.49499 GHz	-38.90 dBm	-25.90 dB
2.495 GHz	2.499 GHz	100.000 kHz	2.49595 GHz	-35.98 dBm	-22.98 dB
2.496 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-36.35 dBm	-26.35 dB
2.496 GHz	2.499 GHz	200.000 kHz	2.49899 GHz	-29.45 dBm	-19.45 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-27.80 dBm	-17.80 dB
2.500 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-27.62 dBm	-57.62 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50350 GHz	5.06 dBm	-24.94 dB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56593 GHz	5.30 dBm	-24.70 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-27.35 dBm	-17.35 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57001 GHz	-27.48 dBm	-17.48 dB
2.571 GHz	2.575 GHz	200.000 kHz	2.57112 GHz	-29.05 dBm	-19.05 dB
2.575 GHz	2.575 GHz	200.000 kHz	2.57500 GHz	-38.52 dBm	-25.52 dB
2.575 GHz	2.581 GHz	200.000 kHz	2.57502 GHz	-39.02 dBm	-26.02 dB
2.581 GHz	2.581 GHz	200.000 kHz	2.58100 GHz	-55.69 dBm	-30.69 dB
2.581 GHz	2.601 GHz	200.000 kHz	2.58109 GHz	-56.06 dBm	-31.06 dB

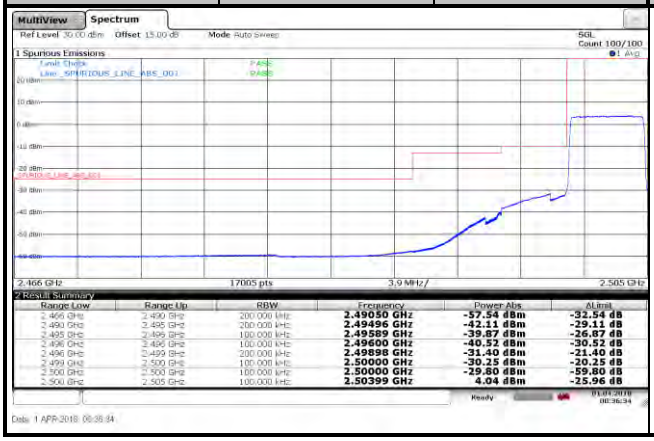
LTE Band 7					
Channel Bandwidth: 5 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	20775	1 RB	Channel	21425	1 RB

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.466 GHz	2.490 GHz	200.000 kHz	2.48146 GHz	-59.22 dBm	-34.22 dB
2.490 GHz	2.495 GHz	200.000 kHz	2.49392 GHz	-57.97 dBm	-44.97 dB
2.495 GHz	2.499 GHz	100.000 kHz	2.49598 GHz	-56.59 dBm	-43.59 dB
2.496 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-56.84 dBm	-46.84 dB
2.496 GHz	2.499 GHz	200.000 kHz	2.49855 GHz	-42.13 dBm	-32.13 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-23.89 dBm	-13.89 dB
2.500 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-23.47 dBm	-53.47 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50035 GHz	18.72 dBm	-11.28 dB

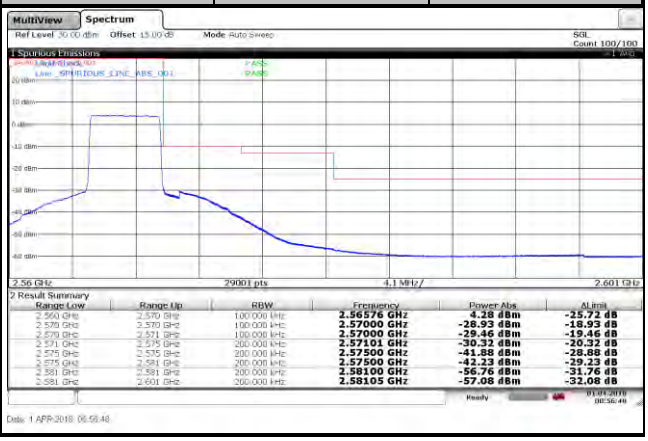


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56967 GHz	18.90 dBm	-11.10 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-22.03 dBm	-12.03 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-22.92 dBm	-12.92 dB
2.571 GHz	2.575 GHz	200.000 kHz	2.57117 GHz	-42.30 dBm	-32.30 dB
2.575 GHz	2.575 GHz	200.000 kHz	2.57500 GHz	-57.90 dBm	-44.90 dB
2.575 GHz	2.581 GHz	200.000 kHz	2.58025 GHz	-55.47 dBm	-42.47 dB
2.581 GHz	2.581 GHz	200.000 kHz	2.58100 GHz	-59.23 dBm	-34.23 dB
2.581 GHz	2.601 GHz	200.000 kHz	2.59711 GHz	-59.19 dBm	-34.19 dB

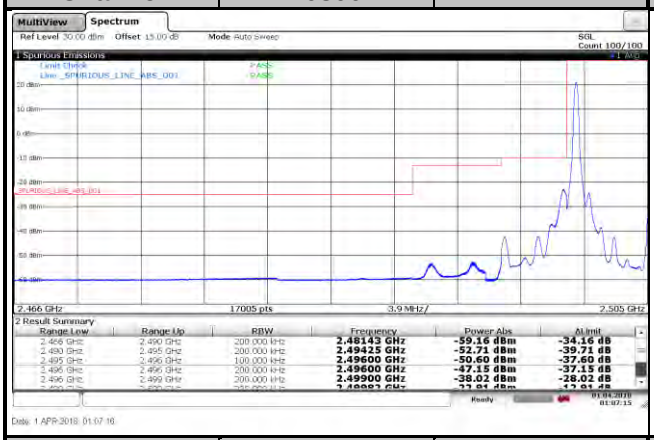
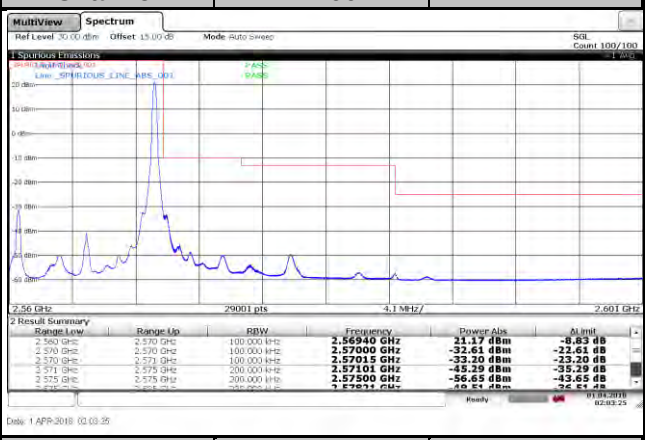
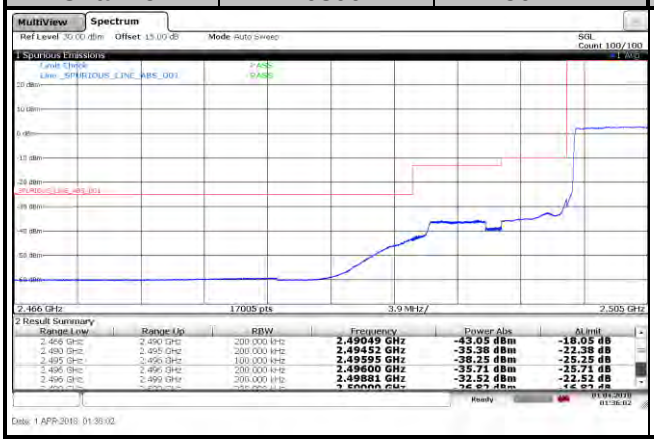
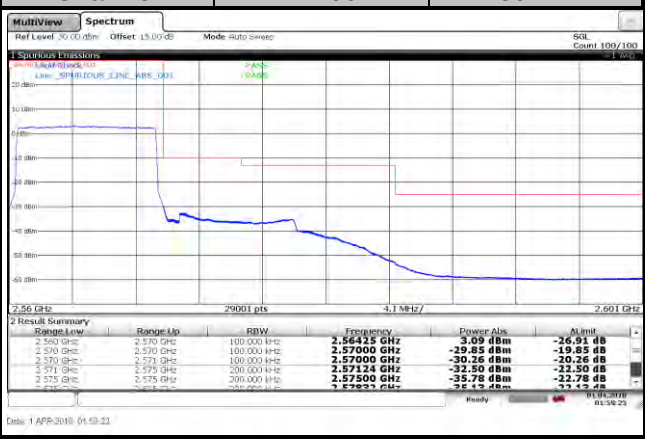
Channel	20775	25 RB	Channel	21425	25 RB

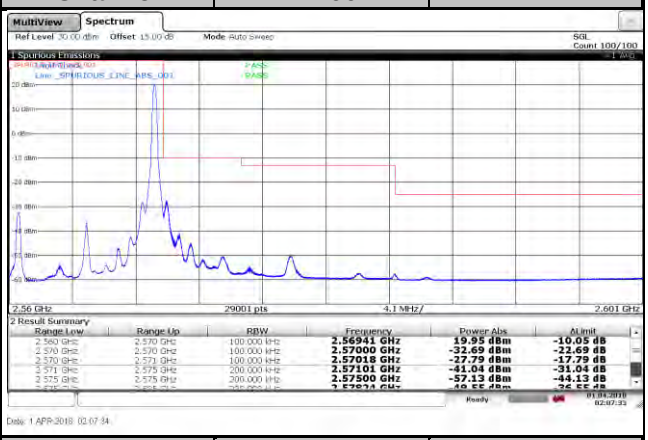
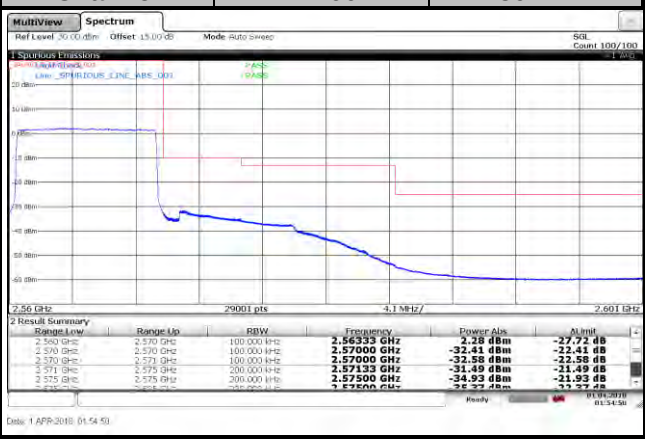


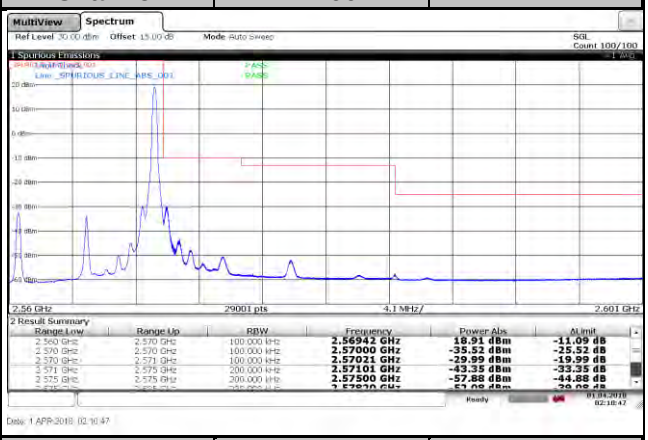
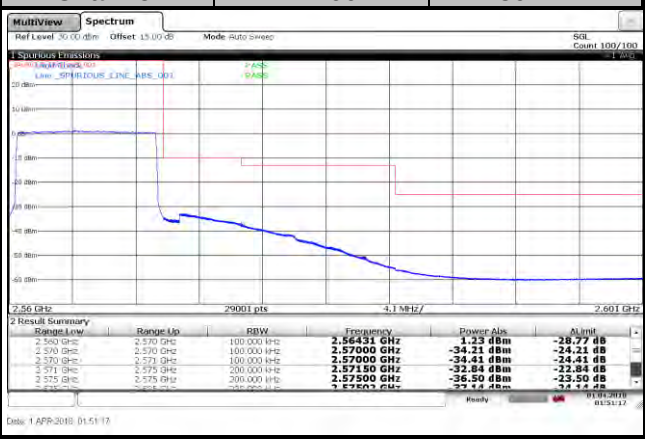
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.466 GHz	2.490 GHz	200.000 kHz	2.49050 GHz	-57.54 dBm	-32.54 dB
2.490 GHz	2.495 GHz	200.000 kHz	2.49496 GHz	-42.11 dBm	-29.11 dB
2.495 GHz	2.499 GHz	100.000 kHz	2.49589 GHz	-39.87 dBm	-26.87 dB
2.496 GHz	2.496 GHz	100.000 kHz	2.49600 GHz	-40.52 dBm	-30.52 dB
2.496 GHz	2.499 GHz	200.000 kHz	2.49898 GHz	-31.40 dBm	-21.40 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-30.25 dBm	-20.25 dB
2.500 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-29.80 dBm	-59.80 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50399 GHz	4.04 dBm	-25.96 dB

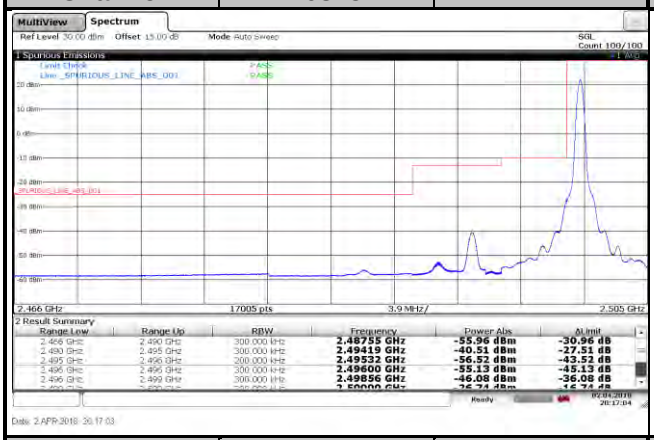
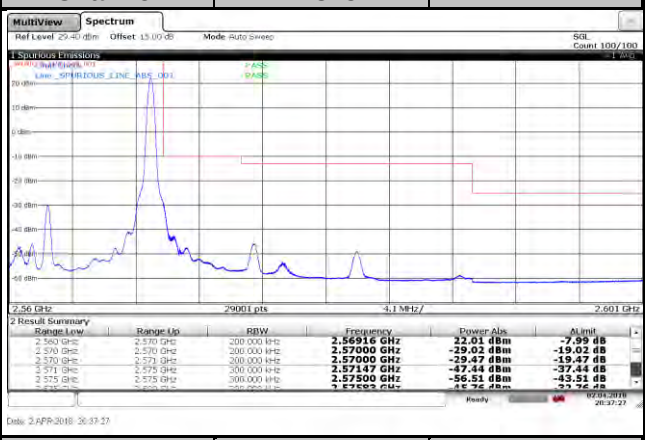
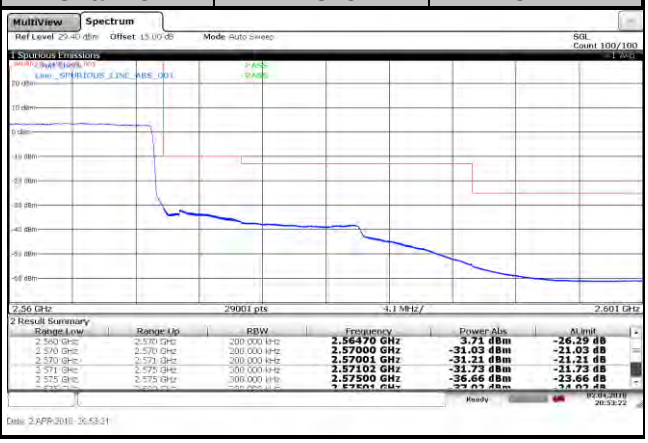


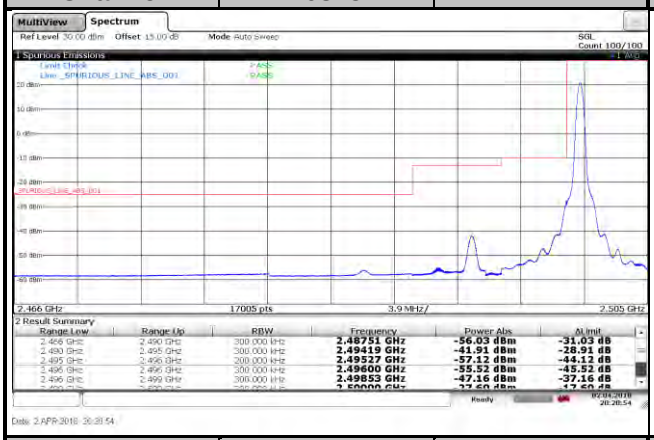
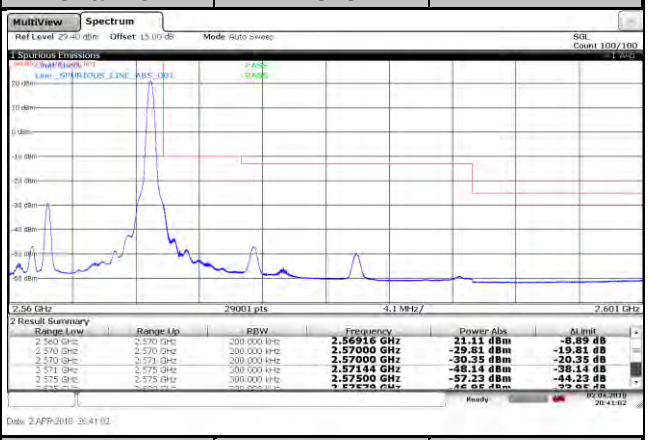
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.560 GHz	2.570 GHz	100.000 kHz	2.56576 GHz	4.28 dBm	-25.72 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-28.93 dBm	-18.93 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57000 GHz	-29.46 dBm	-19.46 dB
2.571 GHz	2.575 GHz	200.000 kHz	2.57101 GHz	-30.32 dBm	-20.32 dB
2.575 GHz	2.575 GHz	200.000 kHz	2.57500 GHz	-41.88 dBm	-28.88 dB
2.575 GHz	2.581 GHz	200.000 kHz	2.57500 GHz	-42.23 dBm	-29.23 dB
2.581 GHz	2.581 GHz	200.000 kHz	2.58100 GHz	-56.76 dBm	-31.76 dB
2.581 GHz	2.601 GHz	200.000 kHz	2.58105 GHz	-57.08 dBm	-32.08 dB

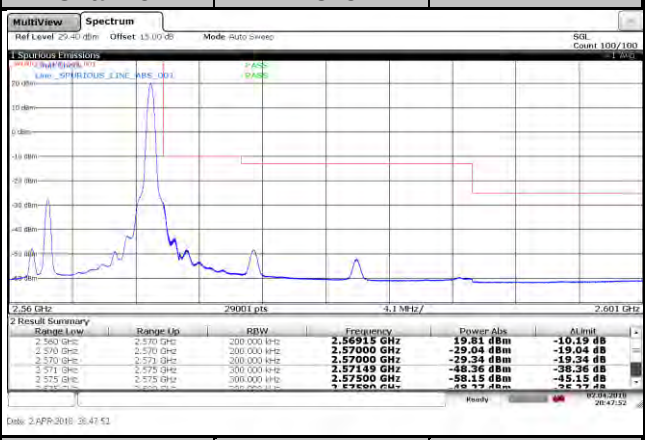
LTE Band 7					
Channel Bandwidth: 10 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	20800	1 RB	Channel	21400	1 RB
					
Channel	20800	50 RB	Channel	21400	50 RB
					

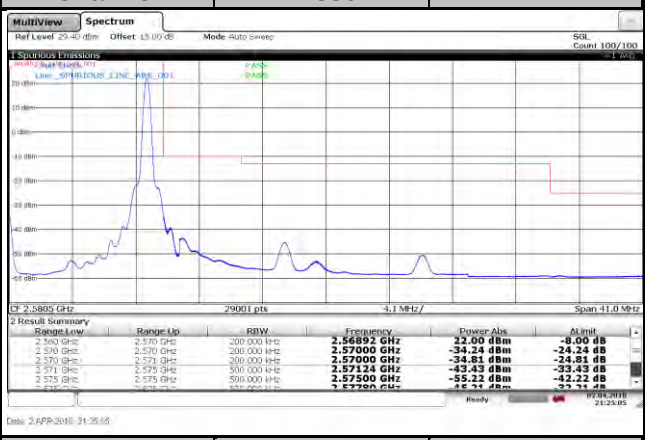
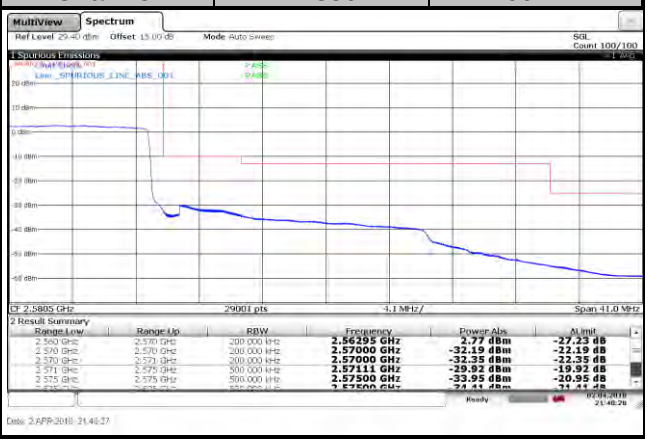
LTE Band 7					
Channel Bandwidth: 10 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	20800	1 RB	Channel	21400	1 RB
					
Channel	20800	50 RB	Channel	21400	50 RB
					

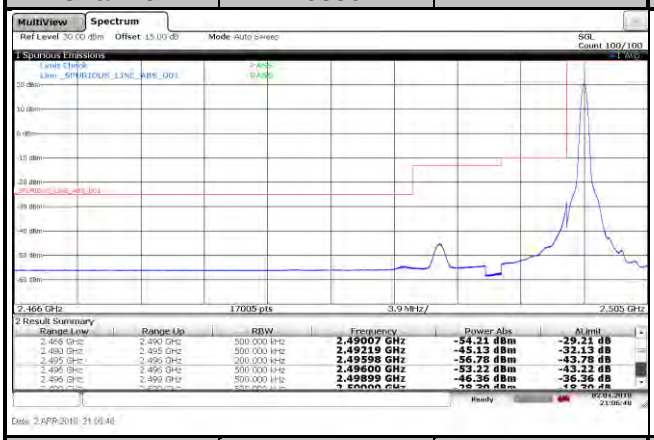
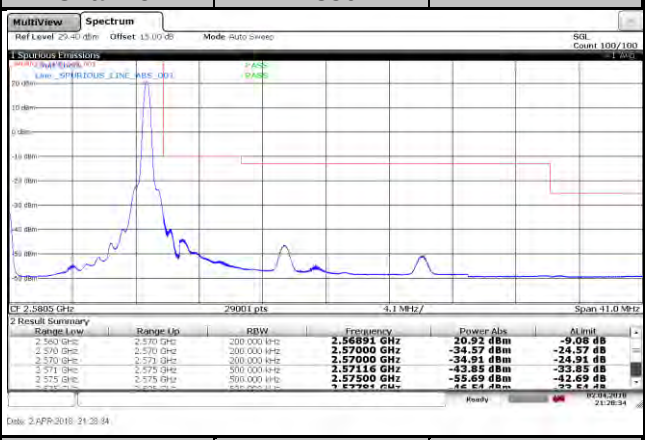
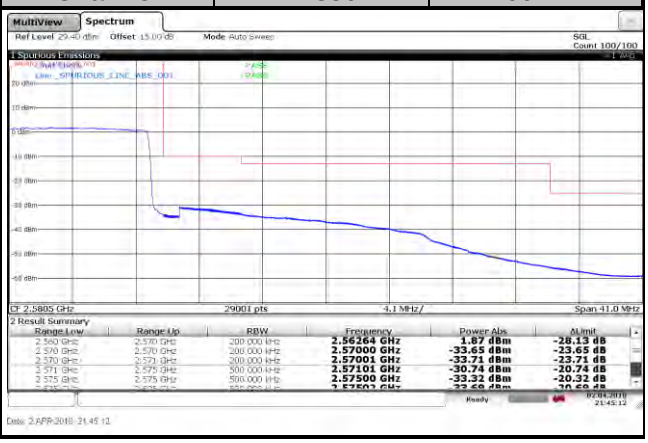
LTE Band 7					
Channel Bandwidth: 10 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	20800	1 RB	Channel	21400	1 RB
					
Channel	20800	50 RB	Channel	21400	50 RB
					

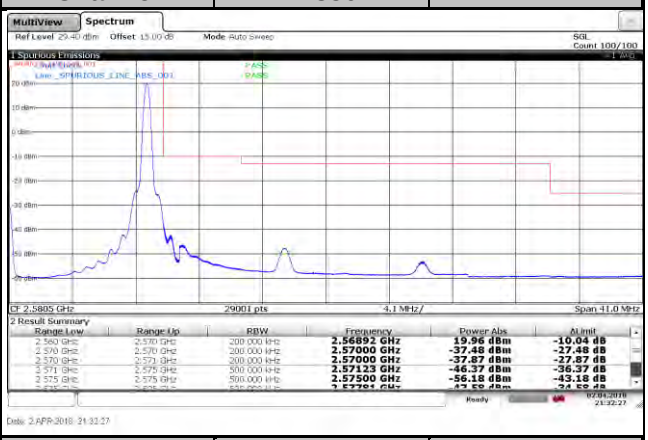
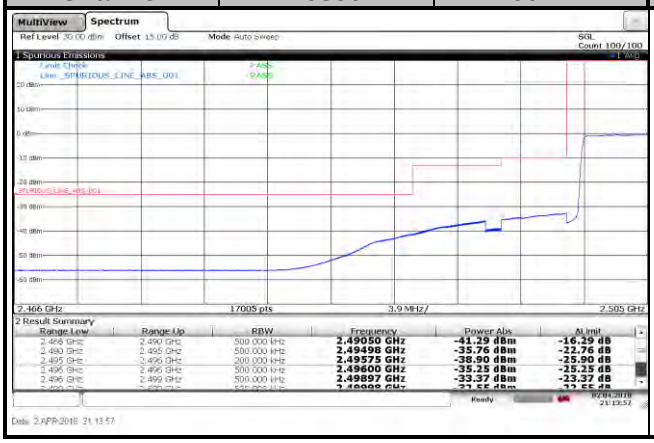
LTE Band 7					
Channel Bandwidth: 15 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	20825	1 RB	Channel	21375	1 RB
					
Channel	20825	75 RB	Channel	21375	75 RB
					

LTE Band 7					
Channel Bandwidth: 15 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	20825	1 RB	Channel	21375	1 RB
					
Channel	20825	75 RB	Channel	21375	75 RB

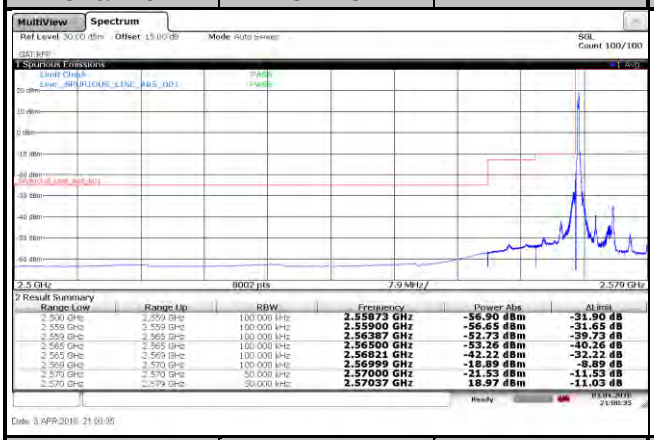
LTE Band 7					
Channel Bandwidth: 15 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	20825	1 RB	Channel	21375	1 RB
					
Channel	20825	75 RB	Channel	21375	75 RB

LTE Band 7					
Channel Bandwidth: 20 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	20850	1 RB	Channel	21350	1 RB
					
Channel	20850	100 RB	Channel	21350	100 RB
					

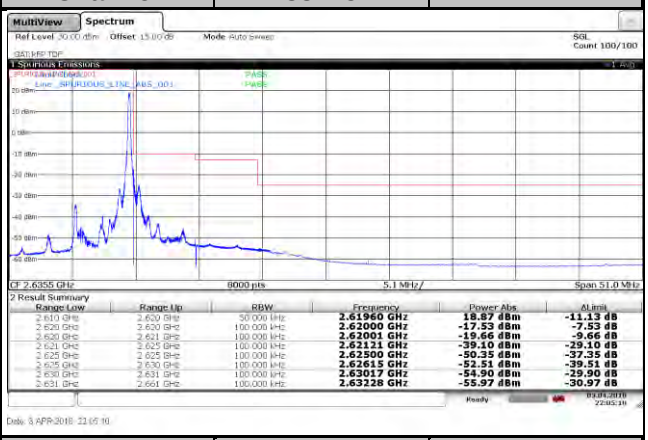
LTE Band 7					
Channel Bandwidth: 20 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	20850	1 RB	Channel	21350	1 RB
					
Channel	20850	100 RB	Channel	21350	100 RB
					

LTE Band 7					
Channel Bandwidth: 20 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	20850	1 RB	Channel	21350	1 RB
					
Channel	20850	100 RB	Channel	21350	100 RB
					

LTE Band 38					
Channel Bandwidth: 5 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	37775	1 RB	Channel	38225	1 RB

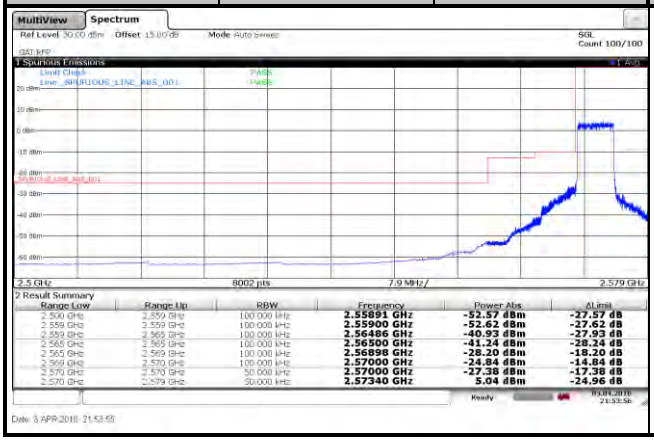


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.559 GHz	100.000 kHz	2.55873 GHz	-56.90 dBm	-31.90 dB
2.559 GHz	2.559 GHz	100.000 kHz	2.55900 GHz	-56.65 dBm	-31.65 dB
2.559 GHz	2.565 GHz	100.000 kHz	2.56387 GHz	-52.73 dBm	-39.73 dB
2.565 GHz	2.565 GHz	100.000 kHz	2.56500 GHz	-53.26 dBm	-40.26 dB
2.565 GHz	2.569 GHz	100.000 kHz	2.56921 GHz	-42.22 dBm	-32.22 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.56999 GHz	-18.89 dBm	-8.89 dB
2.570 GHz	2.570 GHz	50.000 kHz	2.57000 GHz	-21.53 dBm	-11.53 dB
2.570 GHz	2.579 GHz	30.000 kHz	2.57037 GHz	18.97 dBm	-11.03 dB

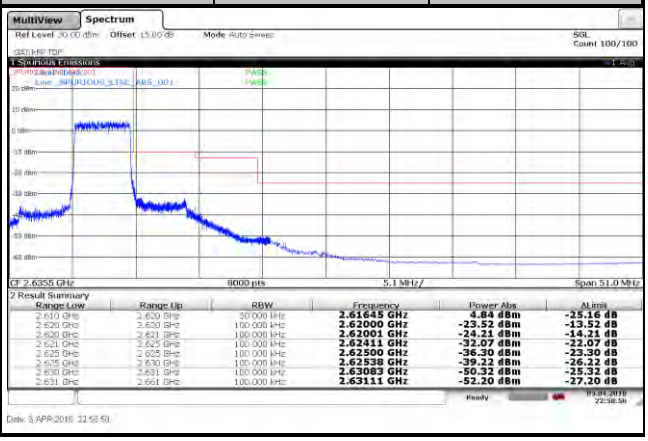


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61960 GHz	18.87 dBm	-11.13 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-17.53 dBm	-7.53 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-19.66 dBm	-9.66 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62121 GHz	-39.10 dBm	-29.10 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-50.35 dBm	-37.35 dB
2.625 GHz	2.630 GHz	100.000 kHz	2.62615 GHz	-52.51 dBm	-39.51 dB
2.630 GHz	2.631 GHz	100.000 kHz	2.63017 GHz	-54.90 dBm	-29.90 dB
2.631 GHz	2.661 GHz	100.000 kHz	2.63228 GHz	-55.97 dBm	-30.97 dB

Channel	37775	25 RB	Channel	38225	25 RB

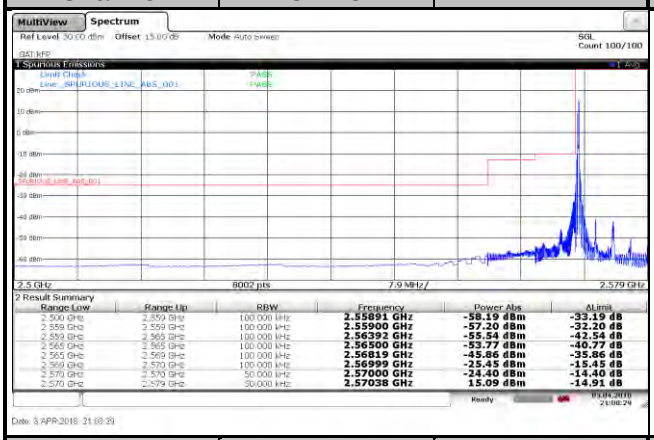


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.559 GHz	100.000 kHz	2.55891 GHz	-52.57 dBm	-27.57 dB
2.559 GHz	2.559 GHz	100.000 kHz	2.55900 GHz	-52.62 dBm	-27.62 dB
2.559 GHz	2.565 GHz	100.000 kHz	2.56486 GHz	-40.93 dBm	-27.93 dB
2.565 GHz	2.565 GHz	100.000 kHz	2.56500 GHz	-41.24 dBm	-28.24 dB
2.565 GHz	2.569 GHz	100.000 kHz	2.56898 GHz	-28.20 dBm	-18.20 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-24.84 dBm	-14.84 dB
2.570 GHz	2.570 GHz	50.000 kHz	2.57000 GHz	-27.38 dBm	-17.38 dB
2.570 GHz	2.579 GHz	30.000 kHz	2.57340 GHz	5.04 dBm	-24.96 dB

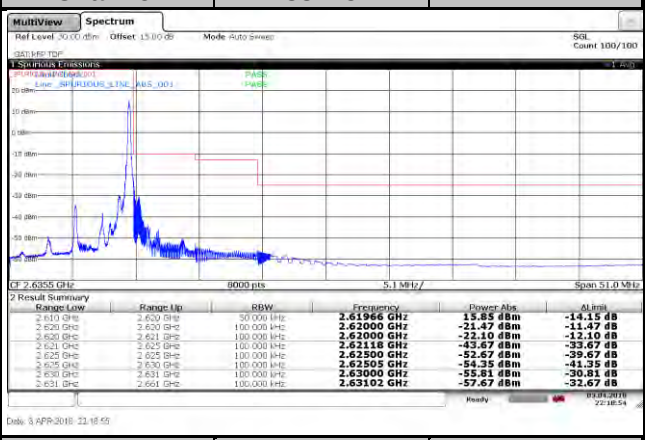


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61645 GHz	4.84 dBm	-25.16 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-23.52 dBm	-13.52 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-24.21 dBm	-14.21 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62411 GHz	-32.07 dBm	-22.07 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-36.30 dBm	-23.30 dB
2.625 GHz	2.630 GHz	100.000 kHz	2.62538 GHz	-39.22 dBm	-26.32 dB
2.630 GHz	2.631 GHz	100.000 kHz	2.63083 GHz	-50.32 dBm	-25.32 dB
2.631 GHz	2.661 GHz	100.000 kHz	2.63111 GHz	-52.20 dBm	-27.20 dB

LTE Band 38					
Channel Bandwidth: 5 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	37775	1 RB	Channel	38225	1 RB

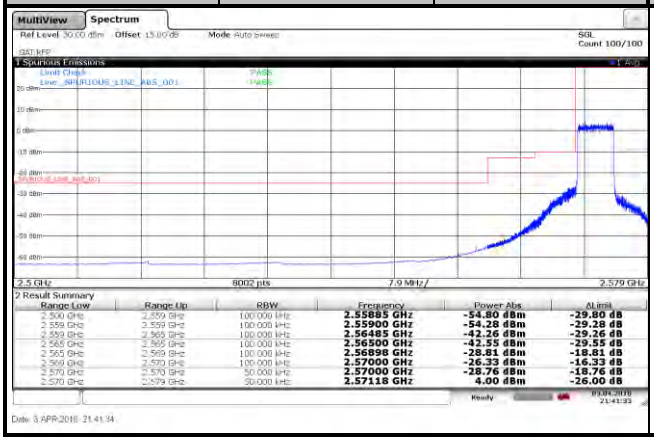


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.559 GHz	100.000 kHz	2.55891 GHz	-58.19 dBm	-33.19 dB
2.559 GHz	2.559 GHz	100.000 kHz	2.55900 GHz	-57.20 dBm	-32.20 dB
2.559 GHz	2.565 GHz	100.000 kHz	2.56392 GHz	-55.54 dBm	-42.54 dB
2.565 GHz	2.565 GHz	100.000 kHz	2.56500 GHz	-53.77 dBm	-40.77 dB
2.565 GHz	2.569 GHz	100.000 kHz	2.56819 GHz	-45.86 dBm	-35.86 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.56999 GHz	-25.45 dBm	-15.45 dB
2.570 GHz	2.570 GHz	50.000 kHz	2.57000 GHz	-24.40 dBm	-14.40 dB
2.570 GHz	2.579 GHz	30.000 kHz	2.57038 GHz	15.09 dBm	-14.91 dB

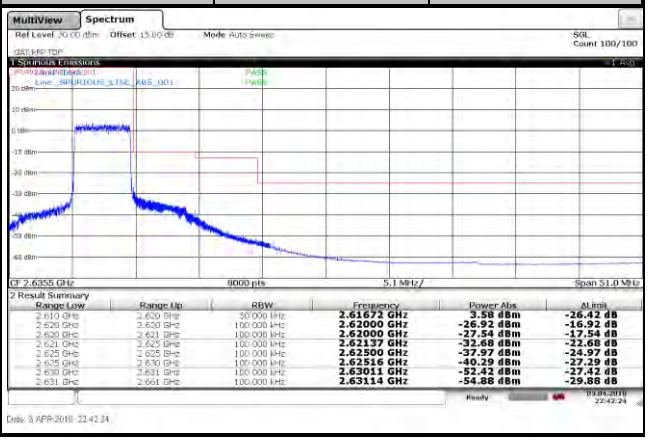


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61966 GHz	15.85 dBm	-14.15 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-21.47 dBm	-11.47 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-22.10 dBm	-12.10 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62118 GHz	-43.67 dBm	-33.67 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-52.67 dBm	-39.67 dB
2.625 GHz	2.630 GHz	100.000 kHz	2.62505 GHz	-54.35 dBm	-41.35 dB
2.630 GHz	2.631 GHz	100.000 kHz	2.63000 GHz	-55.81 dBm	-30.81 dB
2.631 GHz	2.661 GHz	100.000 kHz	2.63102 GHz	-57.67 dBm	-32.67 dB

Channel	37775	25 RB	Channel	38225	25 RB

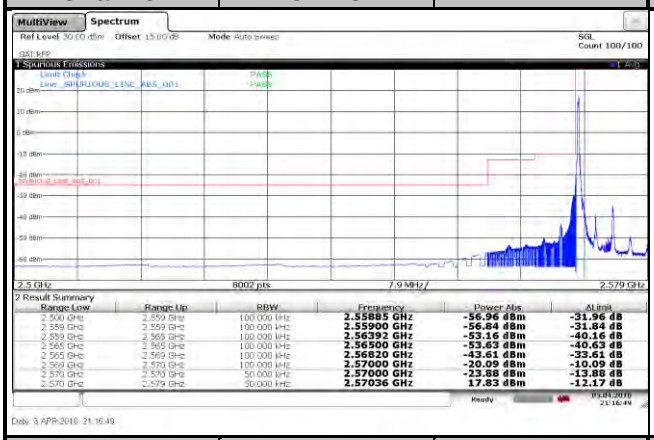


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.559 GHz	100.000 kHz	2.55885 GHz	-54.80 dBm	-29.80 dB
2.559 GHz	2.559 GHz	100.000 kHz	2.55900 GHz	-54.28 dBm	-29.28 dB
2.559 GHz	2.565 GHz	100.000 kHz	2.56485 GHz	-42.26 dBm	-29.26 dB
2.565 GHz	2.565 GHz	100.000 kHz	2.56500 GHz	-42.55 dBm	-29.55 dB
2.565 GHz	2.569 GHz	100.000 kHz	2.56898 GHz	-28.81 dBm	-18.81 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-26.33 dBm	-16.33 dB
2.570 GHz	2.570 GHz	50.000 kHz	2.57000 GHz	-28.76 dBm	-18.76 dB
2.570 GHz	2.579 GHz	30.000 kHz	2.57118 GHz	4.00 dBm	-26.00 dB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61672 GHz	3.58 dBm	-26.42 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-26.92 dBm	-16.92 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-27.54 dBm	-17.54 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62137 GHz	-32.68 dBm	-22.68 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-37.97 dBm	-24.97 dB
2.625 GHz	2.630 GHz	100.000 kHz	2.62516 GHz	-40.29 dBm	-27.29 dB
2.630 GHz	2.631 GHz	100.000 kHz	2.63011 GHz	-52.42 dBm	-27.42 dB
2.631 GHz	2.661 GHz	100.000 kHz	2.63114 GHz	-54.88 dBm	-29.88 dB

LTE Band 38					
Channel Bandwidth: 5 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	37775	1 RB	Channel	38225	1 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.559 GHz	100.000 kHz	2.55885 GHz	-56.96 dBm	-31.96 dB
2.559 GHz	2.559 GHz	100.000 kHz	2.55900 GHz	-56.84 dBm	-31.84 dB
2.559 GHz	2.565 GHz	100.000 kHz	2.56392 GHz	-53.16 dBm	-40.16 dB
2.565 GHz	2.565 GHz	100.000 kHz	2.56500 GHz	-53.63 dBm	-40.63 dB
2.565 GHz	2.569 GHz	100.000 kHz	2.56820 GHz	-43.61 dBm	-33.61 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-20.09 dBm	-10.09 dB
2.570 GHz	2.570 GHz	50.000 kHz	2.57000 GHz	-23.88 dBm	-13.88 dB
2.570 GHz	2.579 GHz	30.000 kHz	2.57036 GHz	17.83 dBm	-12.17 dB

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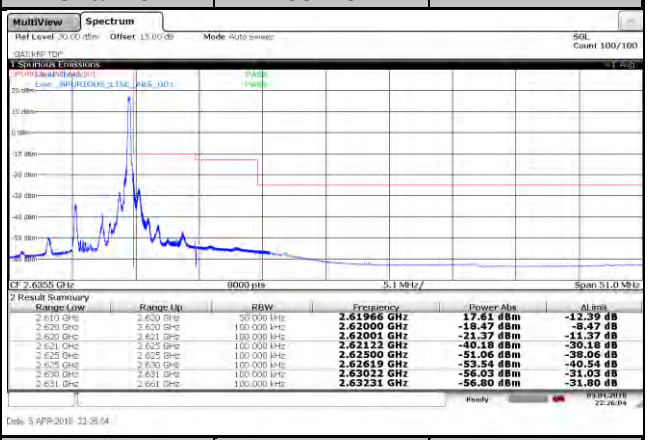

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61966 GHz	17.61 dBm	-12.39 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-18.47 dBm	-8.47 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-21.37 dBm	-11.37 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62122 GHz	-40.18 dBm	-30.18 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-51.06 dBm	-38.06 dB
2.625 GHz	2.630 GHz	100.000 kHz	2.62619 GHz	-53.54 dBm	-40.54 dB
2.630 GHz	2.631 GHz	100.000 kHz	2.63022 GHz	-56.03 dBm	-31.03 dB
2.631 GHz	2.661 GHz	100.000 kHz	2.63231 GHz	-56.80 dBm	-31.80 dB

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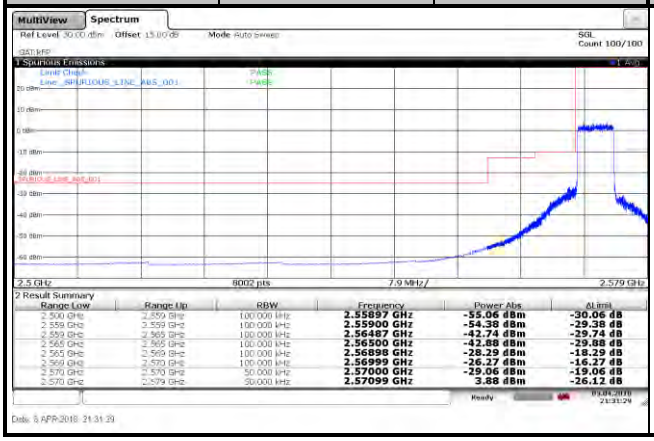
Channel	37775	25 RB	Channel	38225	25 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.559 GHz	100.000 kHz	2.55897 GHz	-55.06 dBm	-30.06 dB
2.559 GHz	2.559 GHz	100.000 kHz	2.55900 GHz	-54.38 dBm	-29.38 dB
2.559 GHz	2.565 GHz	100.000 kHz	2.56487 GHz	-42.74 dBm	-29.74 dB
2.565 GHz	2.565 GHz	100.000 kHz	2.56500 GHz	-42.88 dBm	-29.88 dB
2.565 GHz	2.569 GHz	100.000 kHz	2.56898 GHz	-28.29 dBm	-18.29 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.56999 GHz	-26.27 dBm	-16.27 dB
2.570 GHz	2.570 GHz	50.000 kHz	2.57000 GHz	-29.06 dBm	-19.06 dB
2.570 GHz	2.579 GHz	30.000 kHz	2.57099 GHz	3.88 dBm	-26.12 dB

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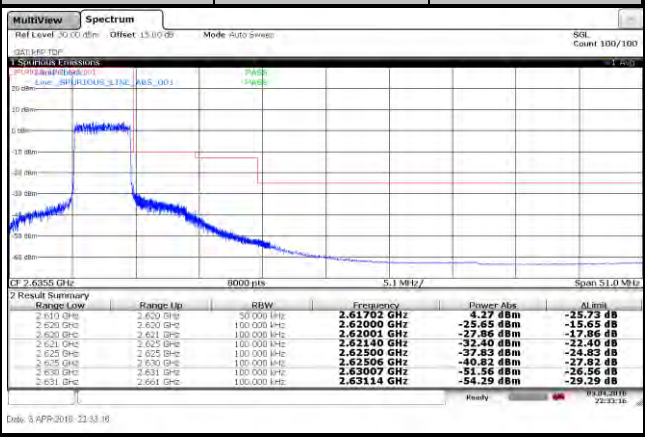

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61702 GHz	4.27 dBm	-25.73 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-25.65 dBm	-15.65 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-27.86 dBm	-17.86 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62140 GHz	-32.40 dBm	-22.40 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-37.83 dBm	-24.83 dB
2.625 GHz	2.630 GHz	100.000 kHz	2.62506 GHz	-40.82 dBm	-27.82 dB
2.630 GHz	2.631 GHz	100.000 kHz	2.63007 GHz	-51.56 dBm	-26.56 dB
2.631 GHz	2.661 GHz	100.000 kHz	2.63114 GHz	-54.29 dBm	-29.29 dB

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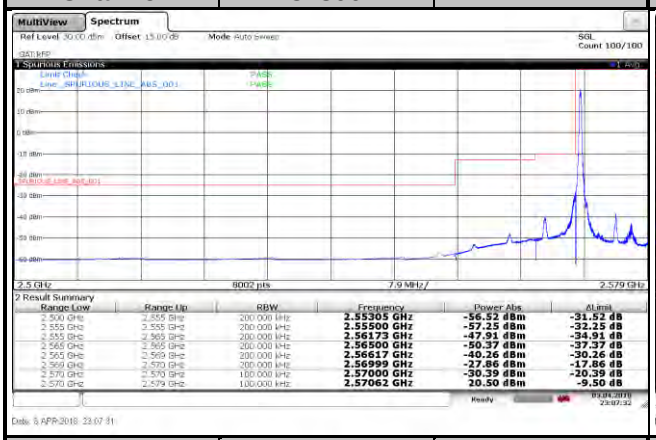
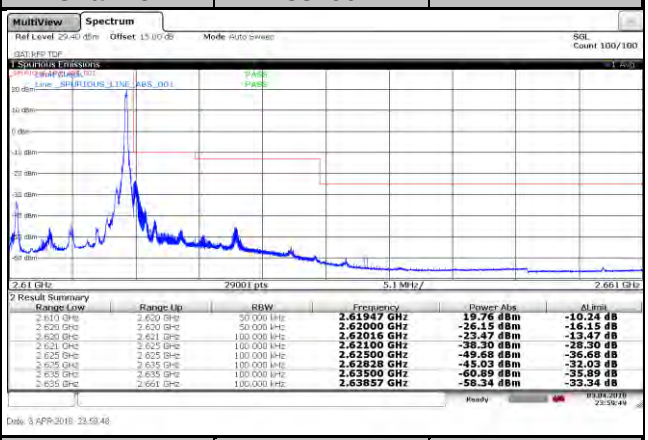
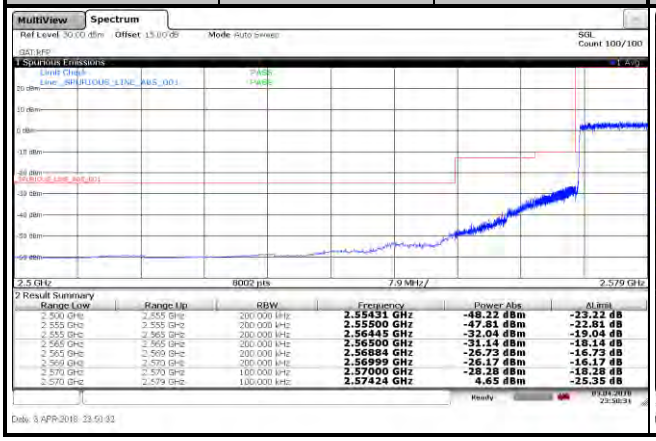
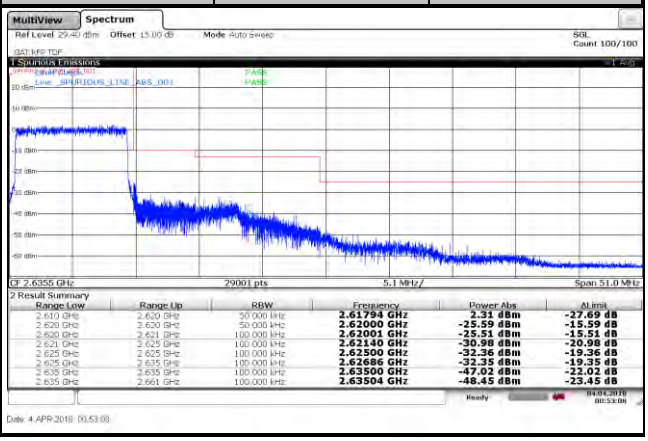
LTE Band 38					
Channel Bandwidth: 10 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	37800	1 RB	Channel	38200	1 RB



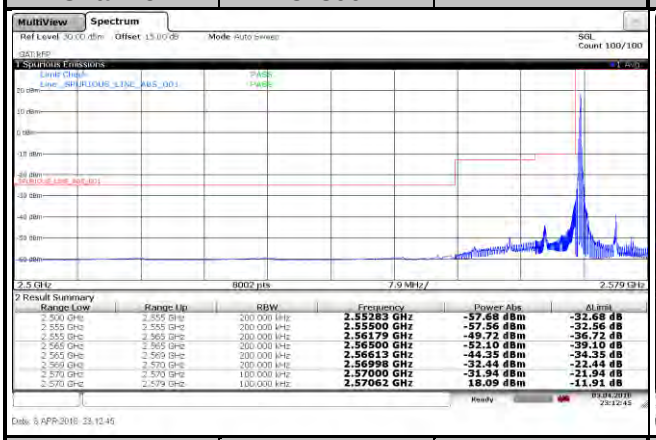


Channel	37800	50 RB	Channel	38200	50 RB

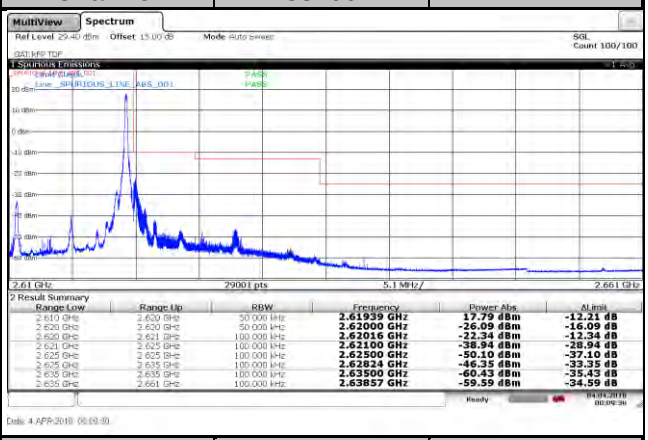




LTE Band 38					
Channel Bandwidth: 10 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	37800	1 RB	Channel	38200	1 RB

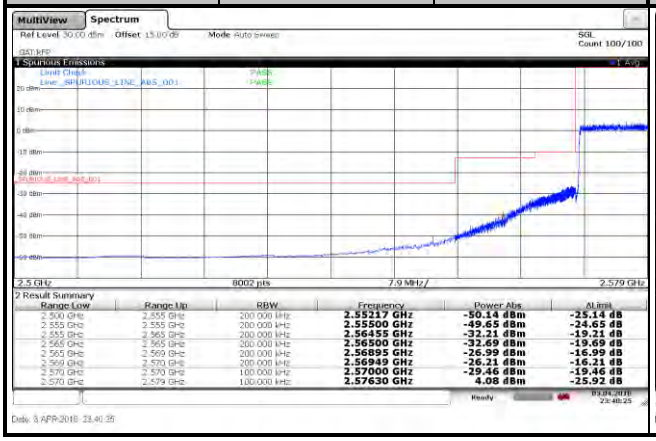


Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.500 GHz	2.555 GHz	200.000 kHz	2.55283 GHz	-57.68 dBm	-32.68 dB
2.555 GHz	2.555 GHz	200.000 kHz	2.55500 GHz	-57.56 dBm	-32.56 dB
2.555 GHz	2.565 GHz	200.000 kHz	2.56179 GHz	-49.72 dBm	-36.72 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-52.10 dBm	-39.10 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56613 GHz	-44.35 dBm	-34.35 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56998 GHz	-32.44 dBm	-21.44 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-31.94 dBm	-21.94 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57062 GHz	18.09 dBm	-11.91 dB

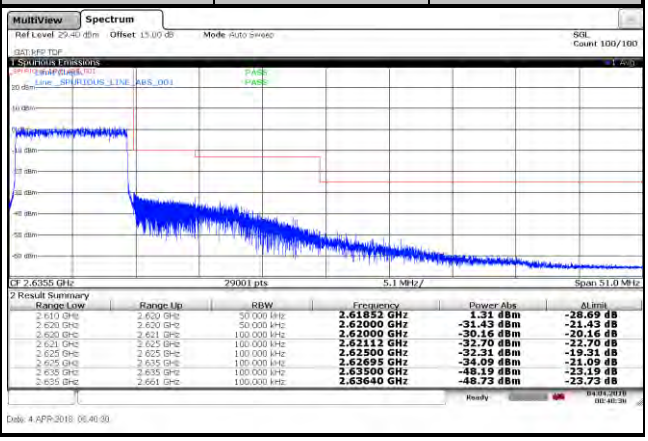


Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61939 GHz	17.79 dBm	-12.21 dB
2.620 GHz	2.620 GHz	50.000 kHz	2.62000 GHz	-26.09 dBm	-16.09 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62016 GHz	-22.34 dBm	-12.34 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62100 GHz	-38.94 dBm	-28.94 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-50.10 dBm	-37.10 dB
2.625 GHz	2.635 GHz	100.000 kHz	2.62824 GHz	-46.35 dBm	-33.35 dB
2.635 GHz	2.635 GHz	100.000 kHz	2.63500 GHz	-60.43 dBm	-35.43 dB
2.635 GHz	2.661 GHz	100.000 kHz	2.63857 GHz	-59.59 dBm	-34.59 dB

Channel	37800	50 RB	Channel	38200	50 RB

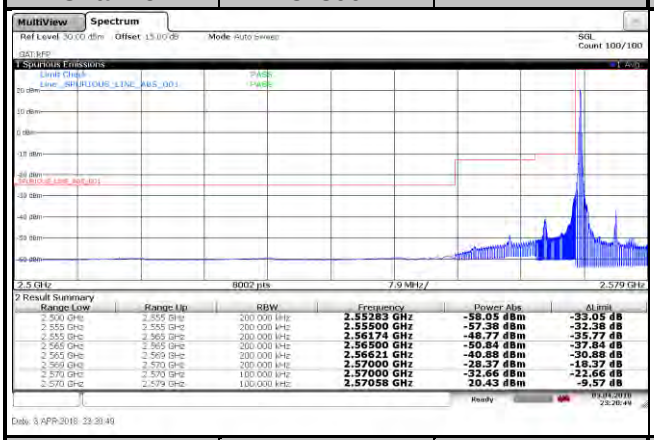


Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.500 GHz	2.555 GHz	200.000 kHz	2.55217 GHz	-50.14 dBm	-25.14 dB
2.555 GHz	2.555 GHz	200.000 kHz	2.55500 GHz	-49.65 dBm	-24.65 dB
2.555 GHz	2.565 GHz	200.000 kHz	2.56455 GHz	-32.21 dBm	-19.21 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-32.69 dBm	-19.69 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56895 GHz	-26.99 dBm	-16.99 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56949 GHz	-26.21 dBm	-16.21 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-29.46 dBm	-19.46 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57630 GHz	4.08 dBm	-25.92 dB

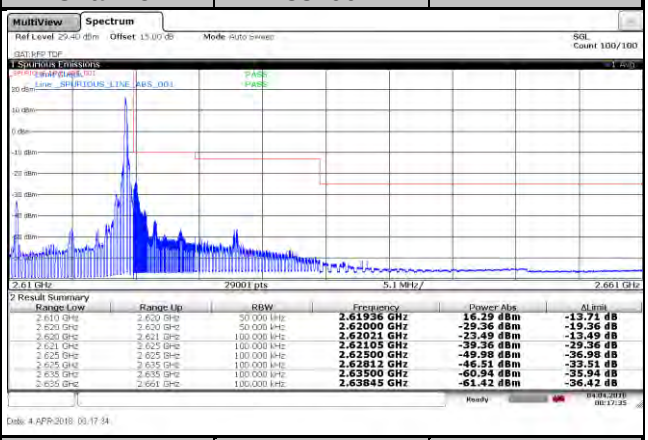


Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61852 GHz	1.31 dBm	-28.69 dB
2.620 GHz	2.620 GHz	50.000 kHz	2.62000 GHz	-31.43 dBm	-21.43 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-30.16 dBm	-20.16 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62112 GHz	-32.70 dBm	-22.70 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-32.31 dBm	-19.31 dB
2.625 GHz	2.635 GHz	100.000 kHz	2.62695 GHz	-34.09 dBm	-21.09 dB
2.635 GHz	2.635 GHz	100.000 kHz	2.63500 GHz	-48.19 dBm	-23.19 dB
2.635 GHz	2.661 GHz	100.000 kHz	2.63640 GHz	-48.73 dBm	-23.73 dB

LTE Band 38					
Channel Bandwidth: 10 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	37800	1 RB	Channel	38200	1 RB

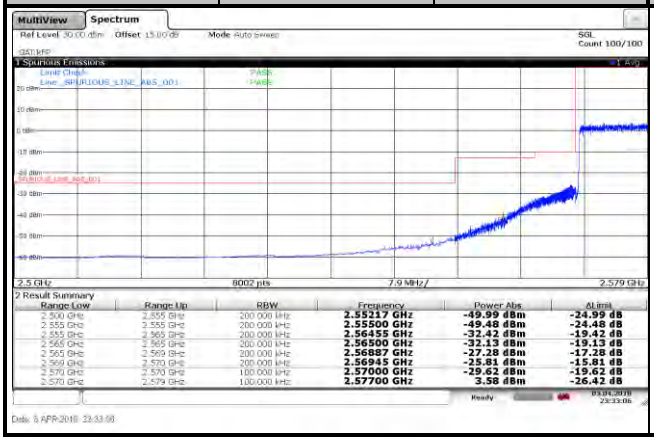


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.555 GHz	200.000 kHz	2.55283 GHz	-58.05 dBm	-33.05 dB
2.555 GHz	2.555 GHz	200.000 kHz	2.55500 GHz	-57.38 dBm	-32.38 dB
2.555 GHz	2.565 GHz	200.000 kHz	2.56174 GHz	-48.77 dBm	-35.77 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-50.84 dBm	-37.84 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56621 GHz	-40.88 dBm	-30.88 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-28.37 dBm	-18.37 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-32.66 dBm	-22.66 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57058 GHz	20.43 dBm	-9.57 dB

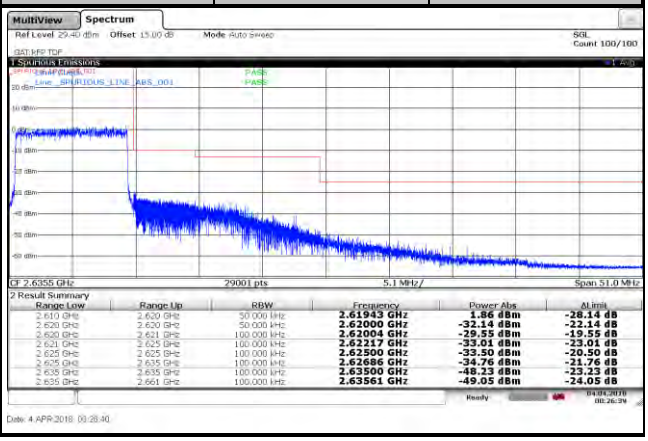


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61936 GHz	16.29 dBm	-13.71 dB
2.620 GHz	2.620 GHz	50.000 kHz	2.62000 GHz	-29.36 dBm	-19.36 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62021 GHz	-23.49 dBm	-13.49 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62105 GHz	-39.36 dBm	-29.36 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-49.98 dBm	-36.98 dB
2.625 GHz	2.635 GHz	100.000 kHz	2.62812 GHz	-46.51 dBm	-33.51 dB
2.635 GHz	2.635 GHz	100.000 kHz	2.63500 GHz	-60.94 dBm	-35.94 dB
2.635 GHz	2.661 GHz	100.000 kHz	2.63845 GHz	-61.42 dBm	-36.42 dB

Channel	37800	50 RB	Channel	38200	50 RB

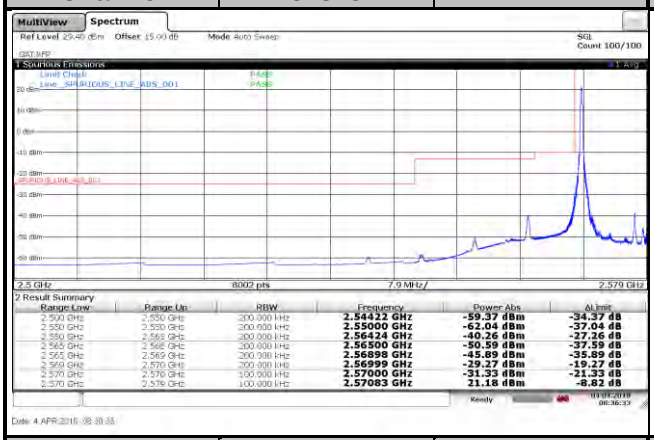


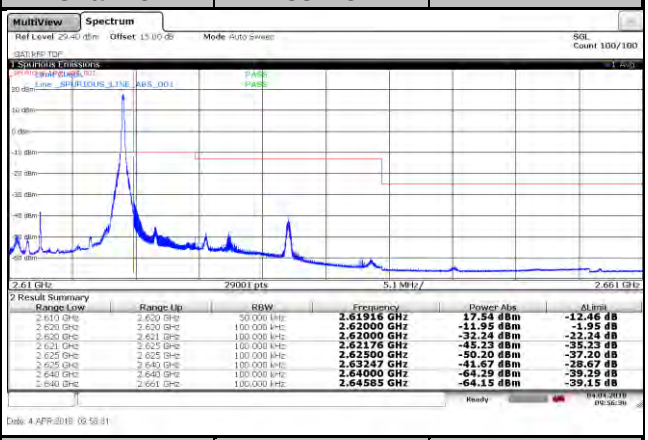
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.555 GHz	200.000 kHz	2.55217 GHz	-49.99 dBm	-24.99 dB
2.555 GHz	2.555 GHz	200.000 kHz	2.55500 GHz	-49.48 dBm	-24.48 dB
2.555 GHz	2.565 GHz	200.000 kHz	2.56455 GHz	-32.42 dBm	-19.42 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-32.13 dBm	-19.13 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56887 GHz	-27.28 dBm	-17.28 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56945 GHz	-25.81 dBm	-15.81 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-29.62 dBm	-19.62 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57700 GHz	3.58 dBm	-26.42 dB



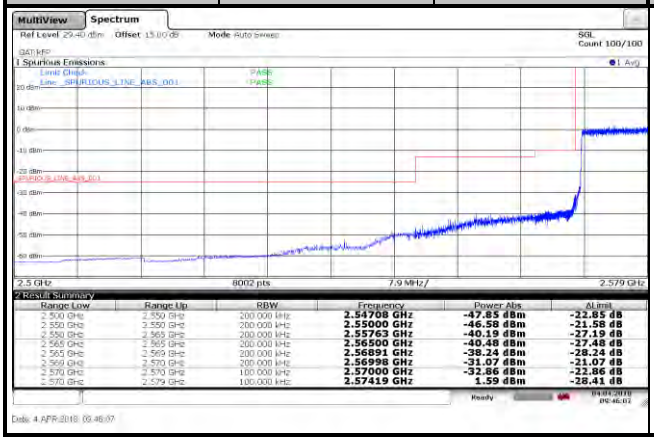
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61943 GHz	1.86 dBm	-28.14 dB
2.620 GHz	2.620 GHz	50.000 kHz	2.62000 GHz	-32.14 dBm	-22.14 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62004 GHz	-29.55 dBm	-19.55 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62217 GHz	-33.01 dBm	-23.01 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-33.50 dBm	-20.50 dB
2.625 GHz	2.635 GHz	100.000 kHz	2.62686 GHz	-34.76 dBm	-21.76 dB
2.635 GHz	2.635 GHz	100.000 kHz	2.63500 GHz	-48.23 dBm	-23.23 dB
2.635 GHz	2.661 GHz	100.000 kHz	2.63561 GHz	-49.05 dBm	-24.05 dB

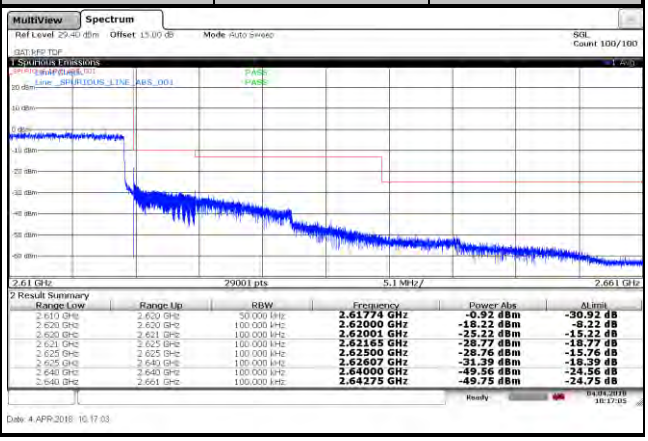
LTE Band 38					
Channel Bandwidth: 15 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	37825	1 RB	Channel	38175	1 RB



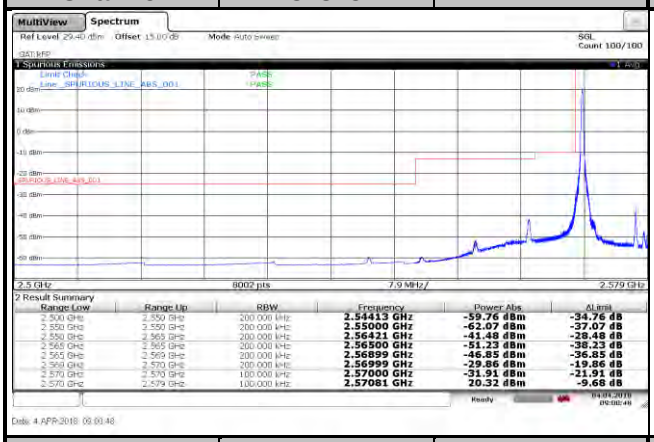


Channel	37825	75 RB	Channel	38175	75 RB





LTE Band 38					
Channel Bandwidth: 15 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	37825	1 RB	Channel	38175	1 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.550 GHz	200.000 kHz	2.54413 GHz	-59.76 dBm	-34.76 dB
2.550 GHz	2.560 GHz	200.000 kHz	2.55000 GHz	-62.07 dBm	-37.07 dB
2.560 GHz	2.565 GHz	200.000 kHz	2.56421 GHz	-41.48 dBm	-28.48 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56500 GHz	-51.23 dBm	-38.23 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56899 GHz	-46.85 dBm	-36.85 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.56999 GHz	-29.86 dBm	-19.86 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57000 GHz	-31.91 dBm	-21.91 dB
2.579 GHz	2.579 GHz	100.000 kHz	2.57081 GHz	20.32 dBm	-9.68 dB

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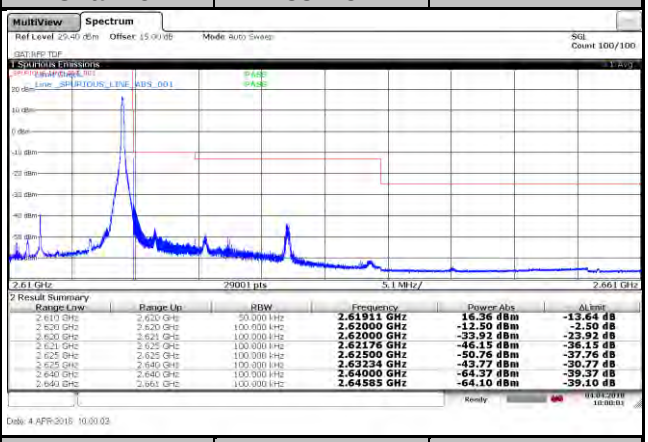

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61911 GHz	16.36 dBm	-13.64 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-12.50 dBm	-2.50 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-33.92 dBm	-23.92 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62176 GHz	-46.15 dBm	-36.15 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-50.76 dBm	-37.76 dB
2.625 GHz	2.640 GHz	100.000 kHz	2.63234 GHz	-43.77 dBm	-30.77 dB
2.640 GHz	2.640 GHz	100.000 kHz	2.64000 GHz	-64.37 dBm	-39.37 dB
2.640 GHz	2.661 GHz	100.000 kHz	2.64585 GHz	-64.10 dBm	-39.10 dB

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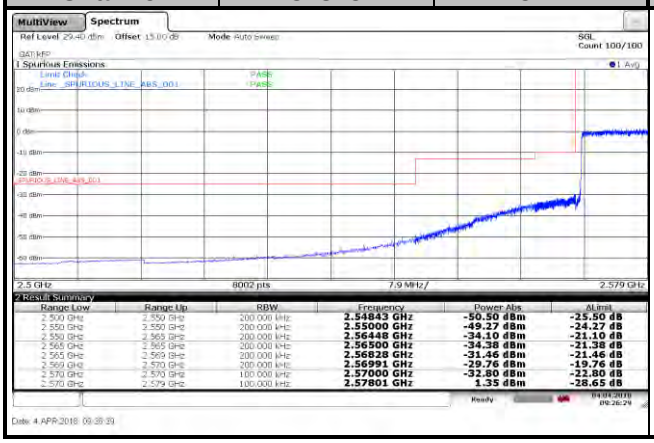
Channel	37825	75 RB	Channel	38175	75 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.550 GHz	200.000 kHz	2.54843 GHz	-50.50 dBm	-25.50 dB
2.550 GHz	2.550 GHz	200.000 kHz	2.55000 GHz	-49.27 dBm	-24.27 dB
2.550 GHz	2.560 GHz	200.000 kHz	2.56448 GHz	-34.10 dBm	-21.10 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-34.38 dBm	-21.38 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56828 GHz	-31.46 dBm	-21.46 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56991 GHz	-29.76 dBm	-19.76 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-32.80 dBm	-22.80 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57801 GHz	1.35 dBm	-28.65 dB

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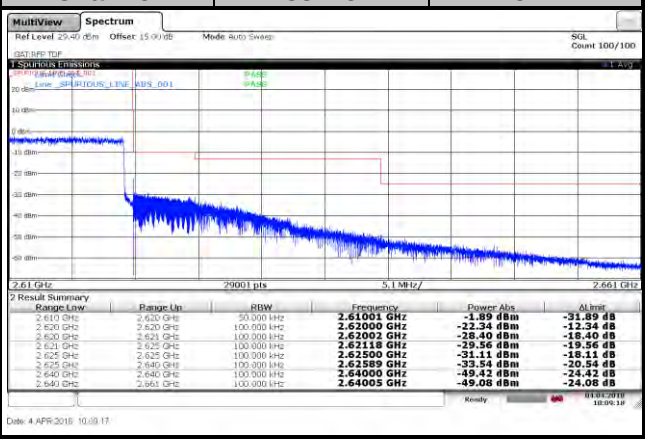
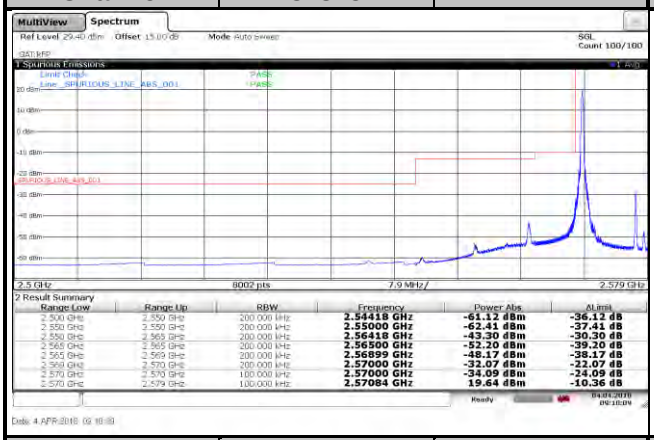


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61001 GHz	-1.89 dBm	-31.89 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-22.34 dBm	-12.34 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62002 GHz	-28.40 dBm	-18.40 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62118 GHz	-29.56 dBm	-19.56 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-31.11 dBm	-18.11 dB
2.625 GHz	2.640 GHz	100.000 kHz	2.62589 GHz	-33.54 dBm	-20.54 dB
2.640 GHz	2.640 GHz	100.000 kHz	2.64000 GHz	-49.42 dBm	-24.42 dB
2.640 GHz	2.661 GHz	100.000 kHz	2.64005 GHz	-49.08 dBm	-24.08 dB

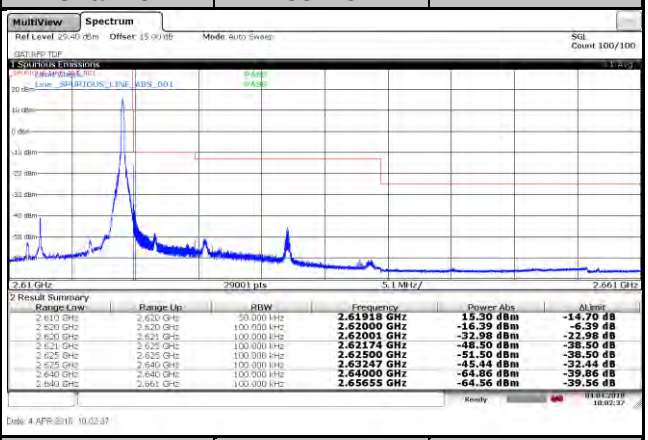
Date: 4.APR.2018 10:09:17

LTE Band 38					
Channel Bandwidth: 15 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	37825	1 RB	Channel	38175	1 RB



2 Result Summary

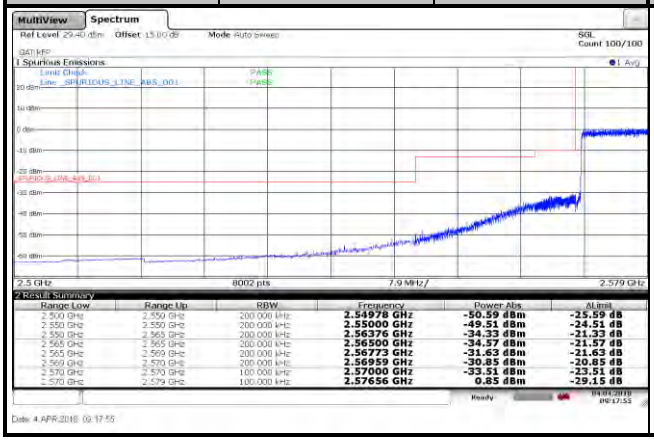
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.550 GHz	200.000 kHz	2.54418 GHz	-61.12 dBm	-36.12 dB
2.550 GHz	2.550 GHz	200.000 kHz	2.55000 GHz	-62.41 dBm	-37.41 dB
2.550 GHz	2.565 GHz	200.000 kHz	2.56418 GHz	-43.30 dBm	-30.30 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-52.20 dBm	-39.20 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56899 GHz	-48.17 dBm	-38.17 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-32.07 dBm	-22.07 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-34.09 dBm	-24.09 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57084 GHz	19.64 dBm	-10.36 dB



2 Result Summary

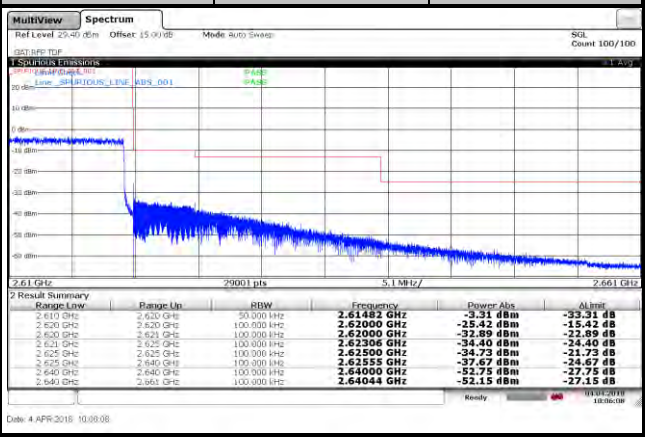
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61918 GHz	15.30 dBm	-14.70 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-16.39 dBm	-6.39 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-32.98 dBm	-22.98 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62174 GHz	-48.50 dBm	-38.50 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-51.50 dBm	-38.50 dB
2.625 GHz	2.640 GHz	100.000 kHz	2.63247 GHz	-45.44 dBm	-32.44 dB
2.640 GHz	2.640 GHz	100.000 kHz	2.64000 GHz	-64.86 dBm	-39.86 dB
2.640 GHz	2.661 GHz	100.000 kHz	2.65655 GHz	-64.56 dBm	-39.56 dB

Channel	37825	75 RB	Channel	38175	75 RB



2 Result Summary

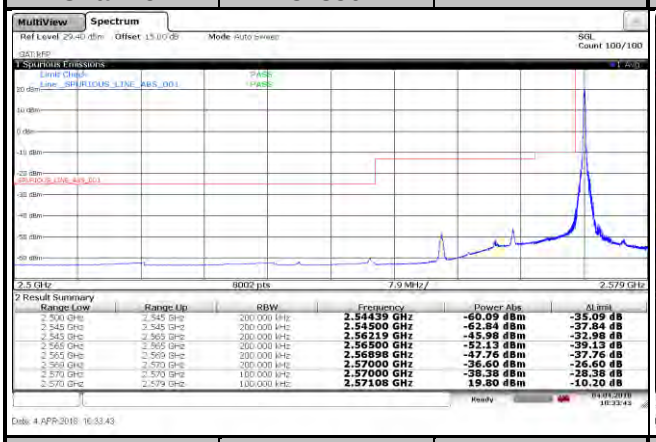
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.550 GHz	200.000 kHz	2.54978 GHz	-50.59 dBm	-25.59 dB
2.550 GHz	2.550 GHz	200.000 kHz	2.55000 GHz	-49.51 dBm	-24.51 dB
2.550 GHz	2.565 GHz	200.000 kHz	2.56376 GHz	-34.33 dBm	-21.33 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-34.57 dBm	-21.57 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56773 GHz	-31.63 dBm	-21.63 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56959 GHz	-30.85 dBm	-20.85 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-33.51 dBm	-23.51 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57656 GHz	0.85 dBm	-29.15 dB

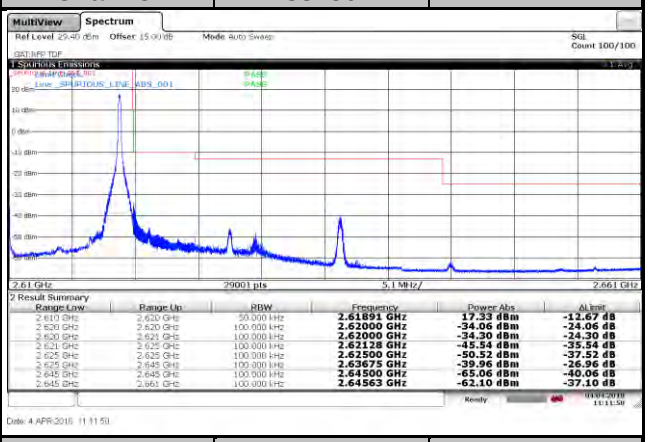


2 Result Summary

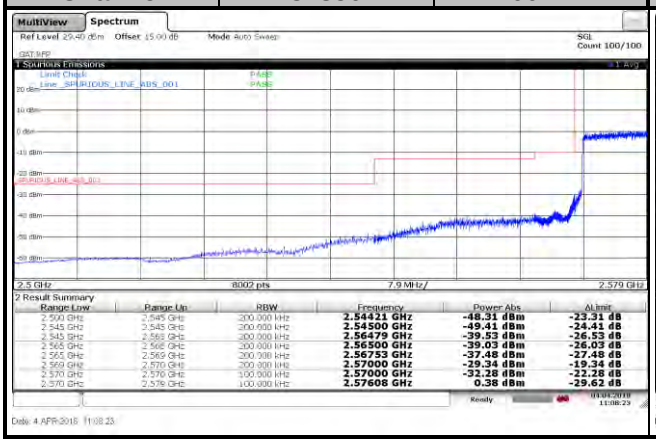
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61482 GHz	-3.31 dBm	-33.31 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-25.42 dBm	-15.42 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-32.89 dBm	-22.89 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62306 GHz	-34.40 dBm	-24.40 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-34.73 dBm	-21.73 dB
2.625 GHz	2.640 GHz	100.000 kHz	2.62555 GHz	-37.67 dBm	-24.67 dB
2.640 GHz	2.640 GHz	100.000 kHz	2.64000 GHz	-52.75 dBm	-27.75 dB
2.640 GHz	2.661 GHz	100.000 kHz	2.64044 GHz	-52.15 dBm	-27.15 dB

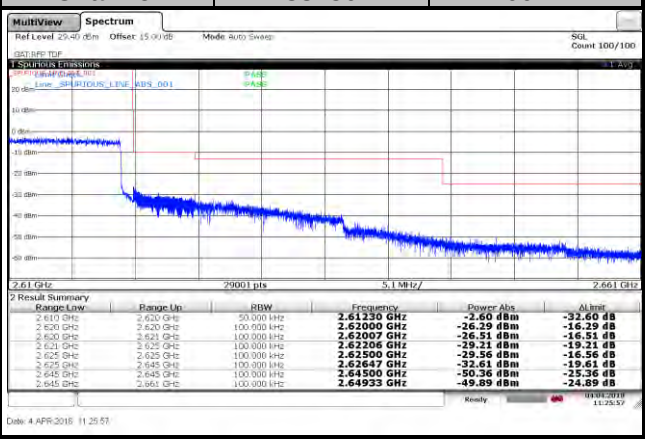
LTE Band 38					
Channel Bandwidth: 20 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	37850	1 RB	Channel	38150	1 RB





Channel	37850	100 RB	Channel	38150	100 RB





LTE Band 38					
Channel Bandwidth: 20 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	37850	1 RB	Channel	38150	1 RB

Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.500 GHz	2.545 GHz	200.000 kHz	2.54435 GHz	-60.79 dBm	-35.79 dB
2.545 GHz	2.545 GHz	200.000 kHz	2.54500 GHz	-62.94 dBm	-37.94 dB
2.545 GHz	2.565 GHz	200.000 kHz	2.56221 GHz	-47.37 dBm	-34.37 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-52.64 dBm	-39.64 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56899 GHz	-48.62 dBm	-38.62 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56998 GHz	-39.12 dBm	-29.12 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-40.01 dBm	-30.01 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57107 GHz	19.36 dBm	-10.64 dB

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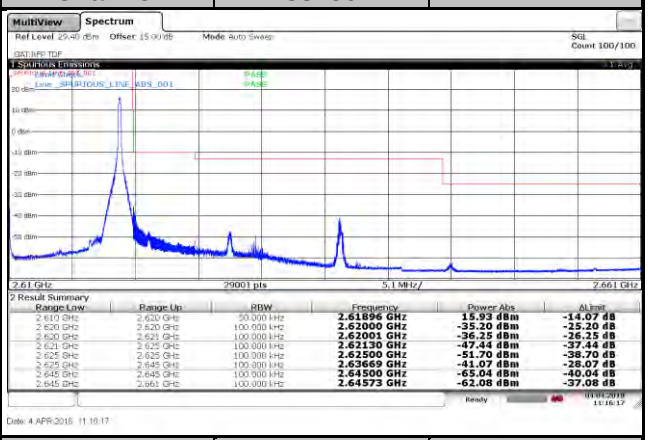

Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61896 GHz	15.93 dBm	-14.07 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-35.20 dBm	-25.20 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-36.25 dBm	-26.25 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62130 GHz	-47.44 dBm	-37.44 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-51.70 dBm	-38.70 dB
2.625 GHz	2.645 GHz	100.000 kHz	2.63669 GHz	-41.07 dBm	-28.07 dB
2.645 GHz	2.645 GHz	100.000 kHz	2.64500 GHz	-65.04 dBm	-40.04 dB
2.645 GHz	2.661 GHz	100.000 kHz	2.64573 GHz	-62.08 dBm	-37.08 dB

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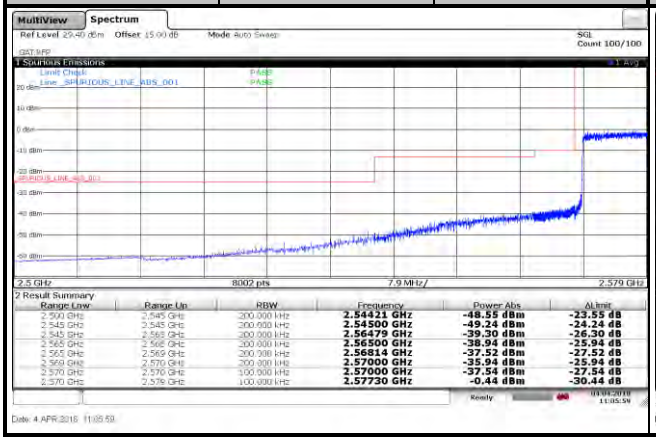
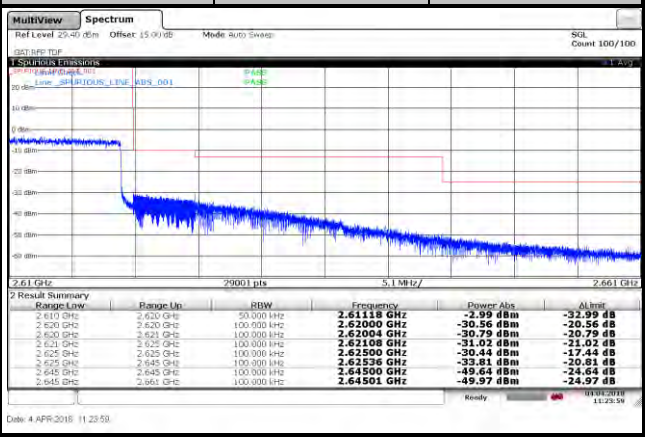
Channel	37850	100 RB	Channel	38150	100 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.500 GHz	2.545 GHz	200.000 kHz	2.54421 GHz	-48.55 dBm	-23.55 dB
2.545 GHz	2.545 GHz	200.000 kHz	2.54500 GHz	-49.24 dBm	-24.24 dB
2.545 GHz	2.565 GHz	200.000 kHz	2.56479 GHz	-39.30 dBm	-26.30 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-38.94 dBm	-25.94 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56814 GHz	-37.52 dBm	-27.52 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-35.94 dBm	-25.94 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-37.54 dBm	-27.54 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57730 GHz	-0.44 dBm	-30.44 dB

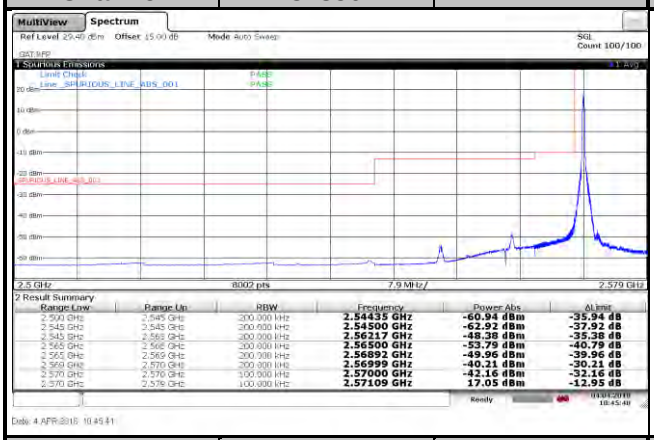
Date: 4.APR.2018 11:05:59



Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61118 GHz	-2.99 dBm	-32.99 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-30.56 dBm	-20.56 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62004 GHz	-30.79 dBm	-20.79 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62108 GHz	-31.02 dBm	-21.02 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-30.44 dBm	-17.44 dB
2.625 GHz	2.645 GHz	100.000 kHz	2.62536 GHz	-33.81 dBm	-20.81 dB
2.645 GHz	2.645 GHz	100.000 kHz	2.64500 GHz	-49.64 dBm	-24.64 dB
2.645 GHz	2.661 GHz	100.000 kHz	2.64501 GHz	-49.97 dBm	-24.97 dB

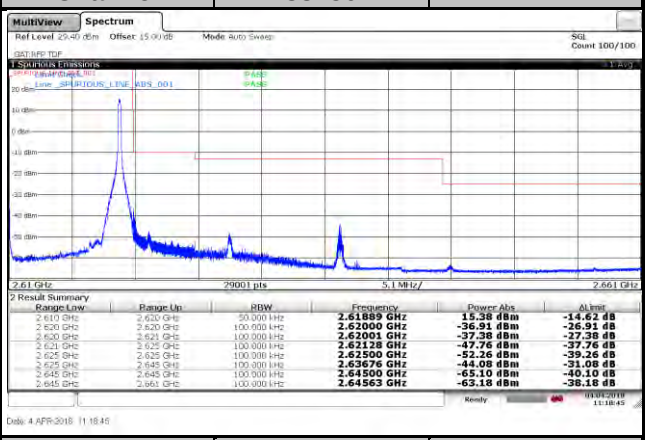
Date: 4.APR.2018 11:23:59

LTE Band 38					
Channel Bandwidth: 20 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	37850	1 RB	Channel	38150	1 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.545 GHz	200.000 kHz	2.54435 GHz	-60.94 dBm	-35.94 dB
2.545 GHz	2.545 GHz	200.000 kHz	2.54500 GHz	-62.92 dBm	-37.92 dB
2.545 GHz	2.565 GHz	200.000 kHz	2.56217 GHz	-48.38 dBm	-35.38 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-53.79 dBm	-40.79 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56892 GHz	-49.96 dBm	-39.96 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56999 GHz	-40.21 dBm	-30.21 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-42.16 dBm	-32.16 dB
2.570 GHz	2.576 GHz	100.000 kHz	2.57109 GHz	17.05 dBm	-12.95 dB

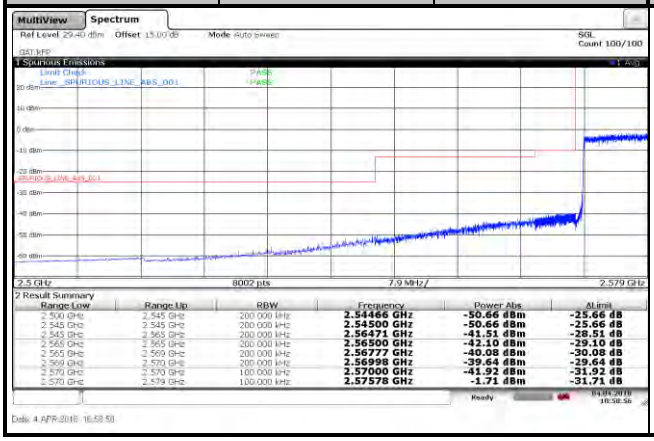
Date: 4.APR.2018 10:45:41



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61889 GHz	15.38 dBm	-14.62 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-36.91 dBm	-26.91 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-37.38 dBm	-27.38 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62128 GHz	-47.76 dBm	-37.76 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-52.26 dBm	-39.26 dB
2.625 GHz	2.645 GHz	100.000 kHz	2.63676 GHz	-44.08 dBm	-31.08 dB
2.645 GHz	2.645 GHz	100.000 kHz	2.64500 GHz	-65.10 dBm	-40.10 dB
2.645 GHz	2.661 GHz	100.000 kHz	2.64563 GHz	-63.18 dBm	-38.18 dB

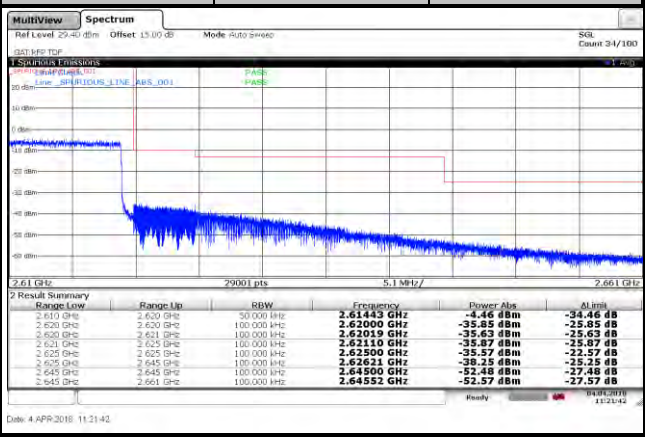
Date: 4.APR.2018 11:18:45

Channel	37850	100 RB	Channel	38150	100 RB



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.500 GHz	2.545 GHz	200.000 kHz	2.54466 GHz	-50.66 dBm	-25.66 dB
2.545 GHz	2.545 GHz	200.000 kHz	2.54500 GHz	-50.66 dBm	-25.66 dB
2.545 GHz	2.565 GHz	200.000 kHz	2.56471 GHz	-41.51 dBm	-28.51 dB
2.565 GHz	2.565 GHz	200.000 kHz	2.56500 GHz	-42.10 dBm	-29.10 dB
2.565 GHz	2.569 GHz	200.000 kHz	2.56777 GHz	-40.08 dBm	-30.08 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.56998 GHz	-39.64 dBm	-29.64 dB
2.570 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-41.92 dBm	-31.92 dB
2.570 GHz	2.579 GHz	100.000 kHz	2.57578 GHz	-1.71 dBm	-31.71 dB

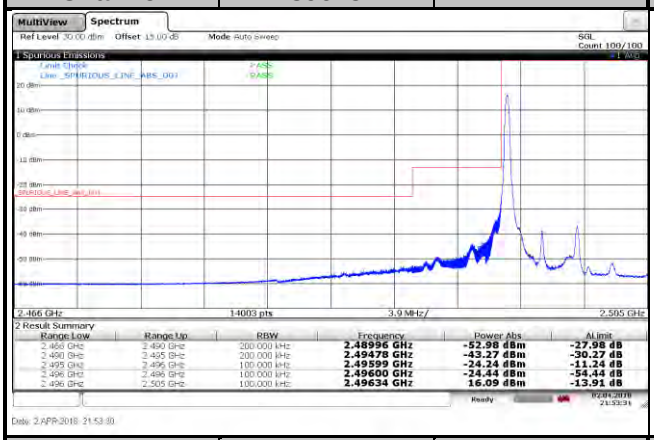
Date: 4.APR.2018 16:58:58

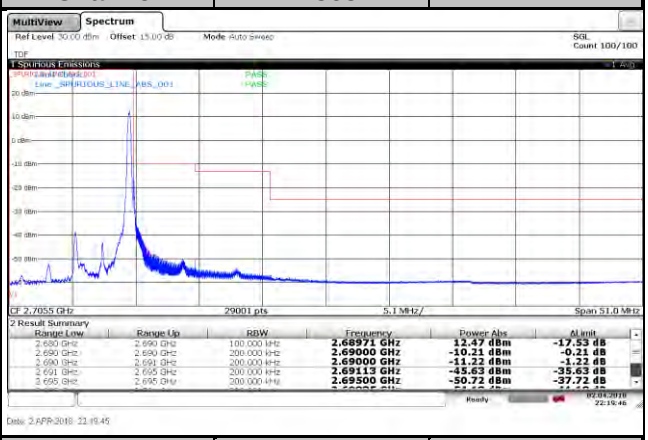


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.610 GHz	2.620 GHz	50.000 kHz	2.61443 GHz	-4.46 dBm	-34.46 dB
2.620 GHz	2.620 GHz	100.000 kHz	2.62000 GHz	-35.85 dBm	-25.85 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62019 GHz	-35.63 dBm	-25.63 dB
2.621 GHz	2.625 GHz	100.000 kHz	2.62110 GHz	-35.87 dBm	-25.87 dB
2.625 GHz	2.625 GHz	100.000 kHz	2.62500 GHz	-35.57 dBm	-22.57 dB
2.625 GHz	2.645 GHz	100.000 kHz	2.62621 GHz	-38.25 dBm	-25.25 dB
2.645 GHz	2.645 GHz	100.000 kHz	2.64500 GHz	-52.48 dBm	-27.48 dB
2.645 GHz	2.661 GHz	100.000 kHz	2.64552 GHz	-52.57 dBm	-27.57 dB

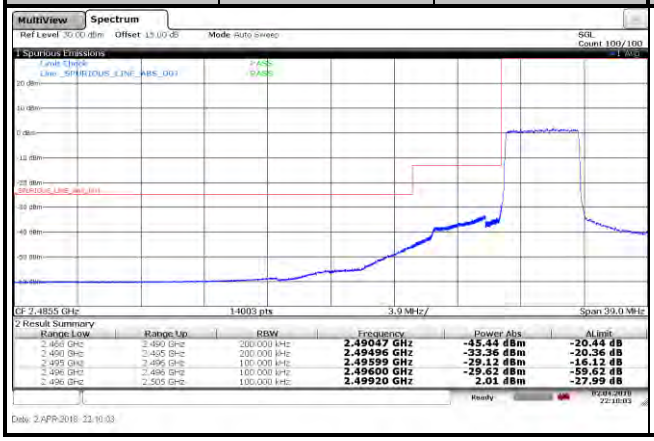
Date: 4.APR.2018 11:21:42

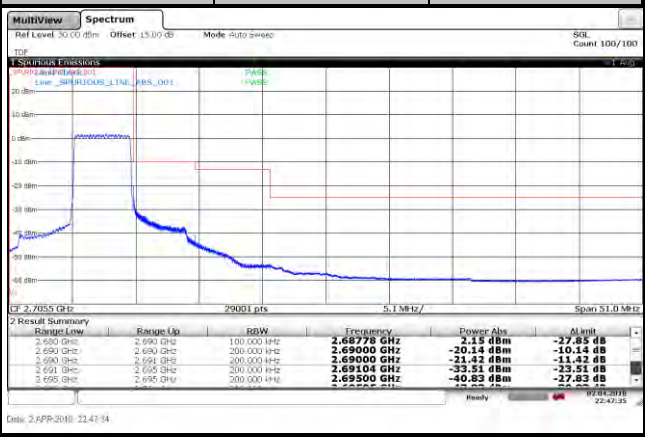
LTE Band 41					
Channel Bandwidth: 5 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	39675	1 RB	Channel	41565	1 RB



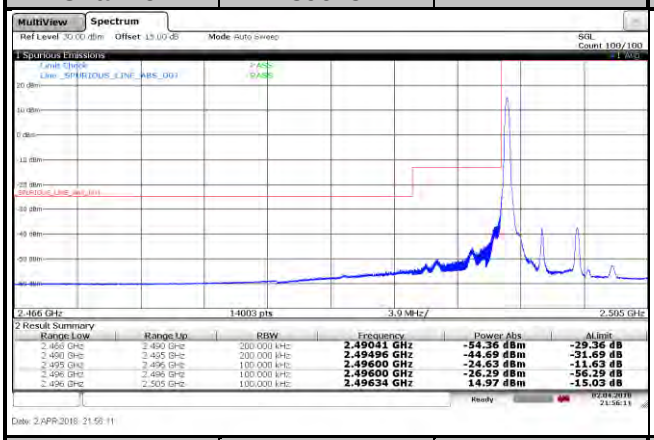


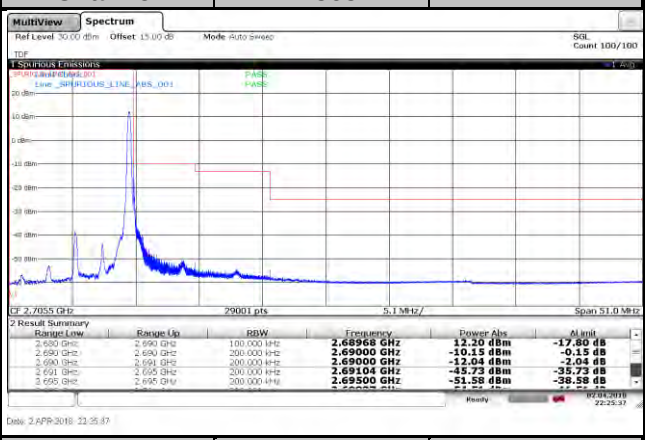
Channel	39675	25 RB	Channel	41565	25 RB



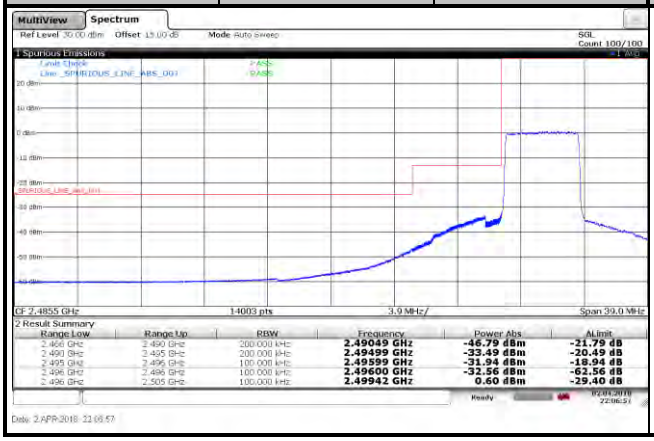


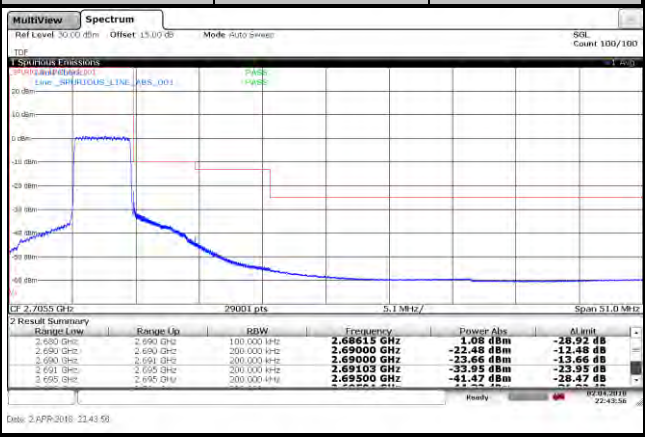
LTE Band 41					
Channel Bandwidth: 5 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	39675	1 RB	Channel	41565	1 RB



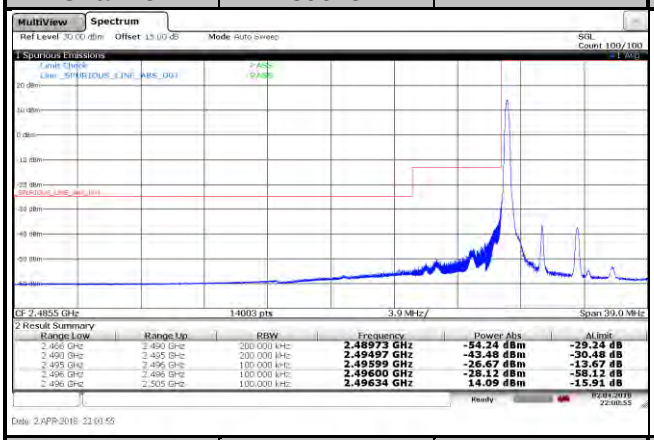


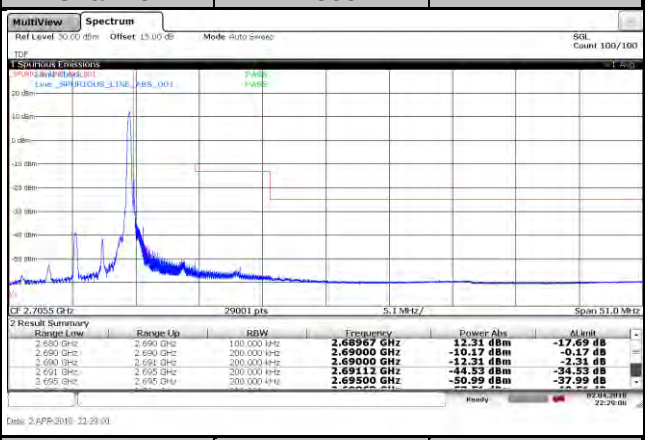
Channel	39675	25 RB	Channel	41565	25 RB



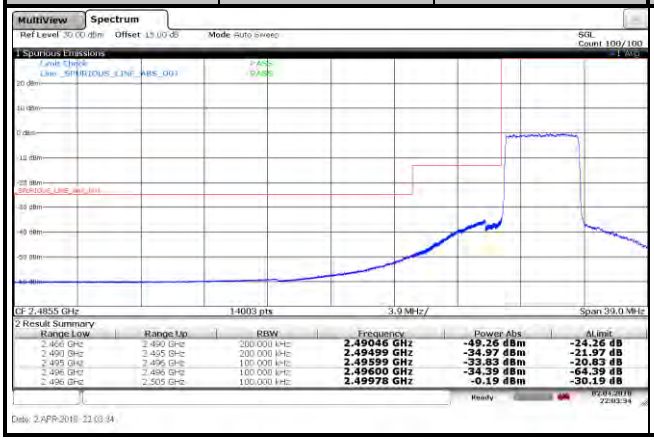


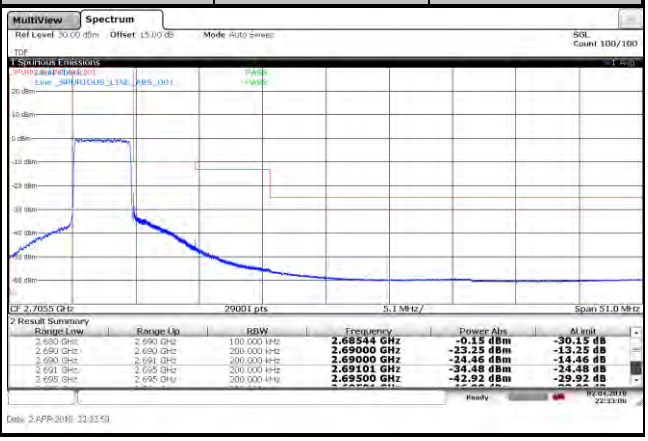
LTE Band 41					
Channel Bandwidth: 5 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	39675	1 RB	Channel	41565	1 RB

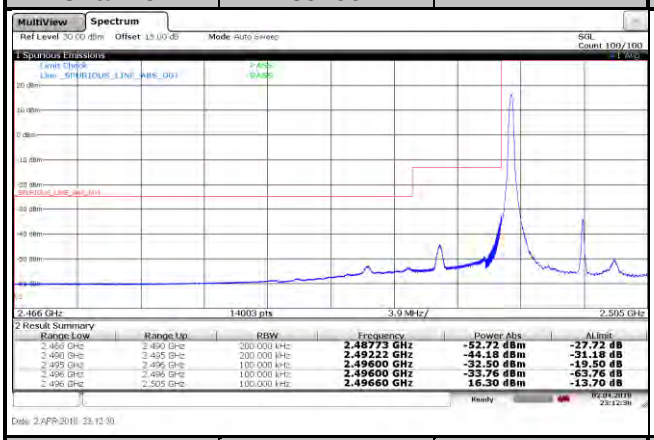
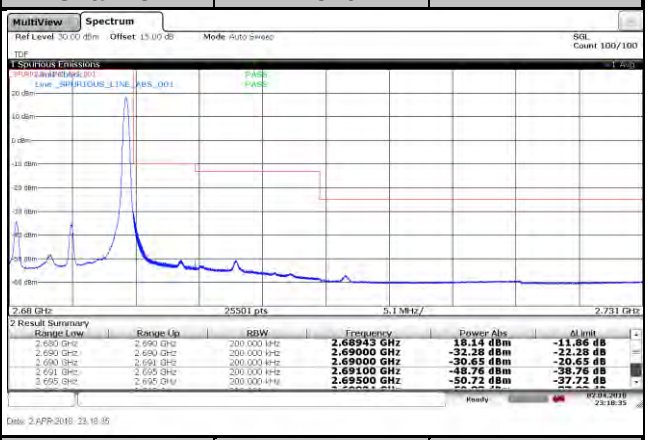
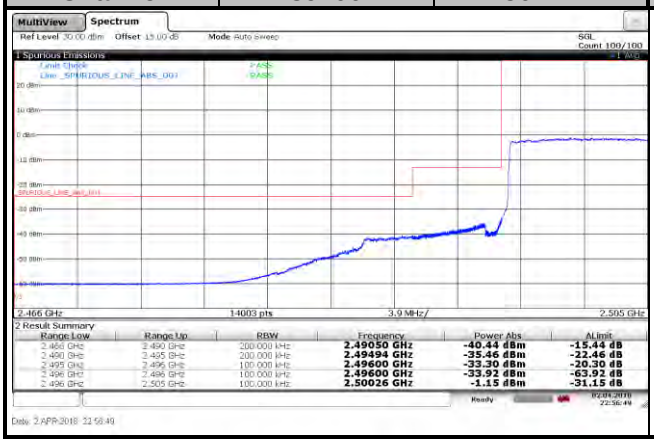
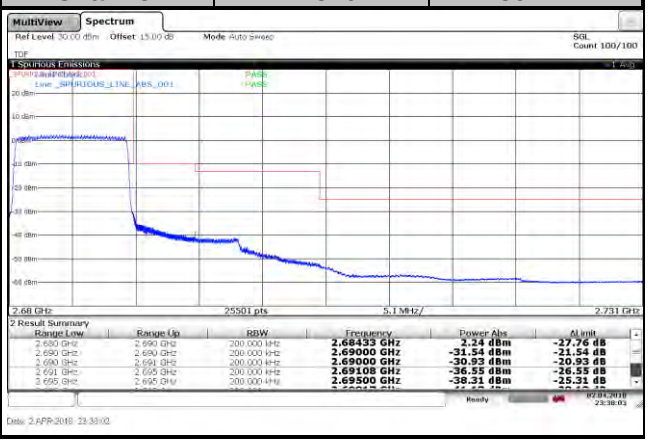


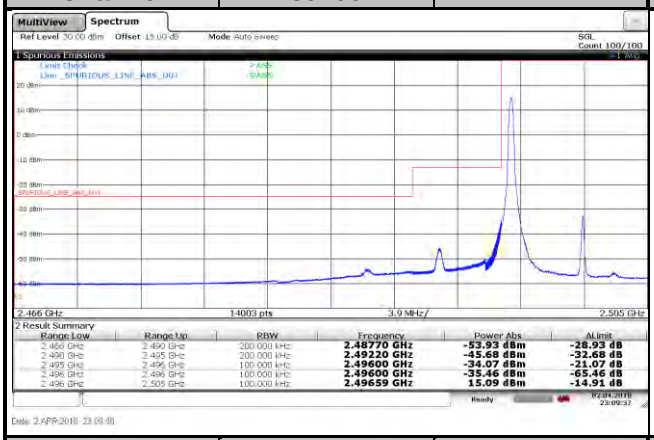
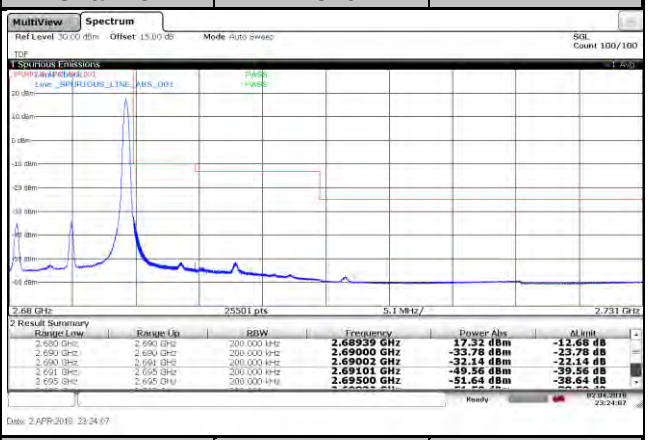
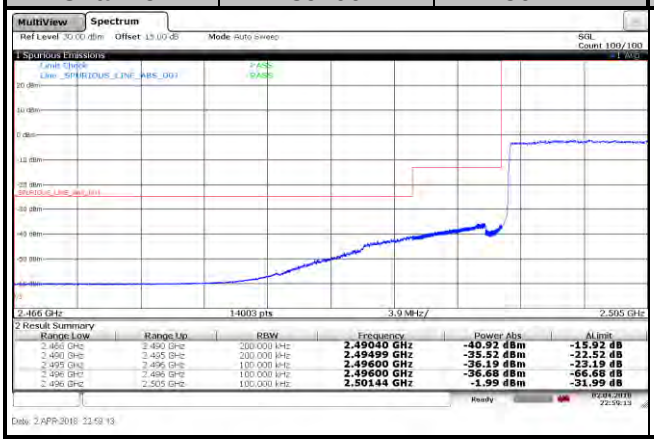
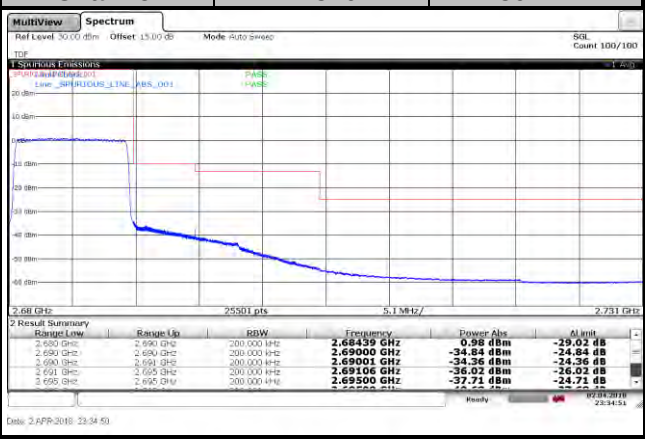


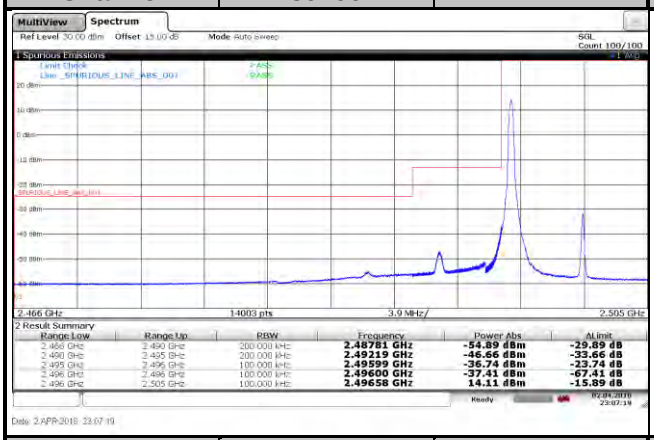
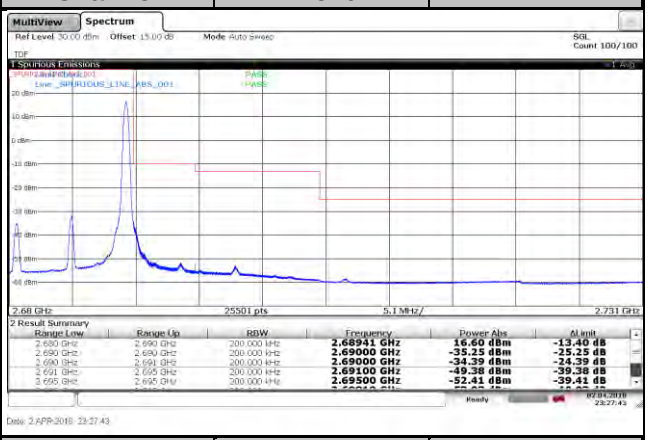
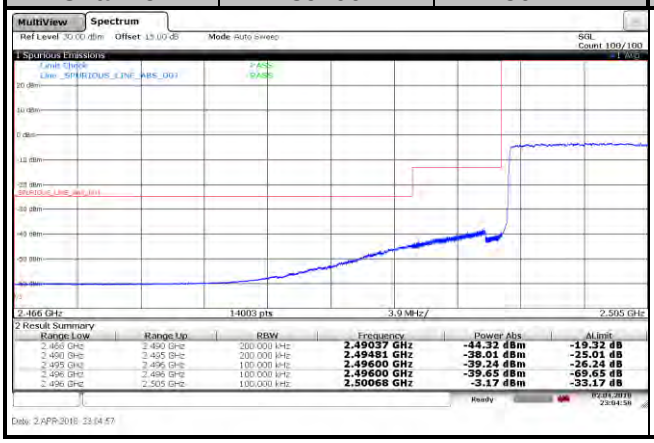
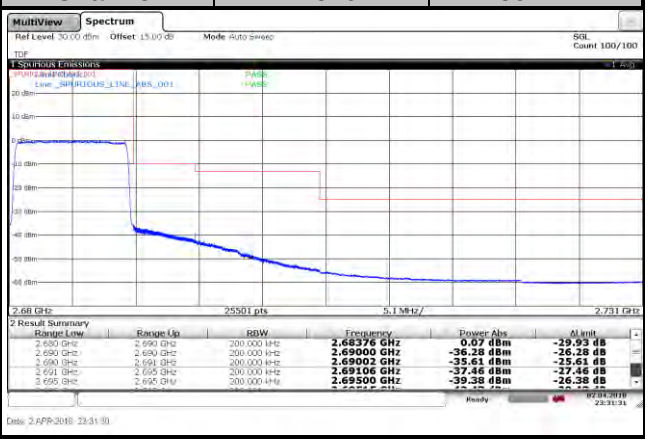
Channel	39675	25 RB	Channel	41565	25 RB



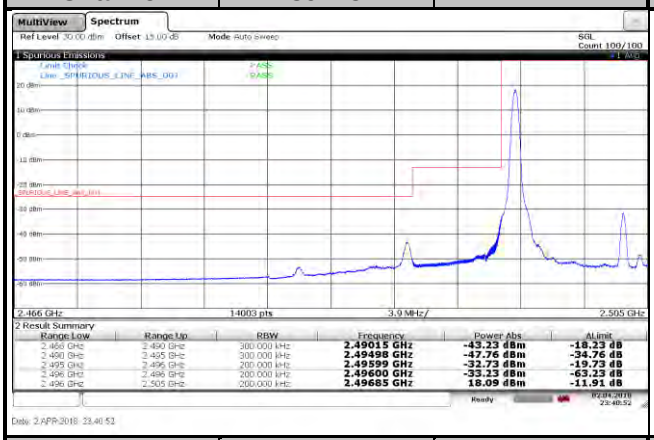


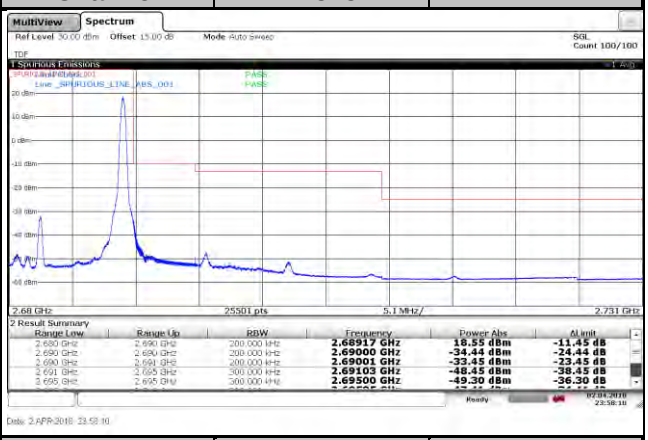
LTE Band 41					
Channel Bandwidth: 10 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	39700	1 RB	Channel	41540	1 RB
					
Channel	39700	50 RB	Channel	41540	50 RB
					

LTE Band 41					
Channel Bandwidth: 10 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	39700	1 RB	Channel	41540	1 RB
					
Channel	39700	50 RB	Channel	41540	50 RB
					

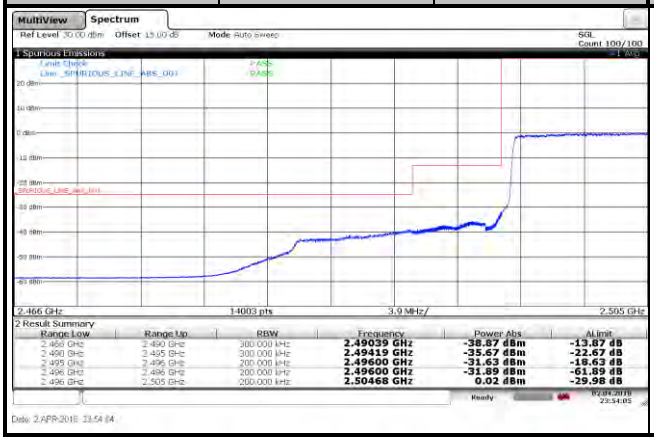
LTE Band 41					
Channel Bandwidth: 10 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	39700	1 RB	Channel	41540	1 RB
					
Channel	39700	50 RB	Channel	41540	50 RB
					

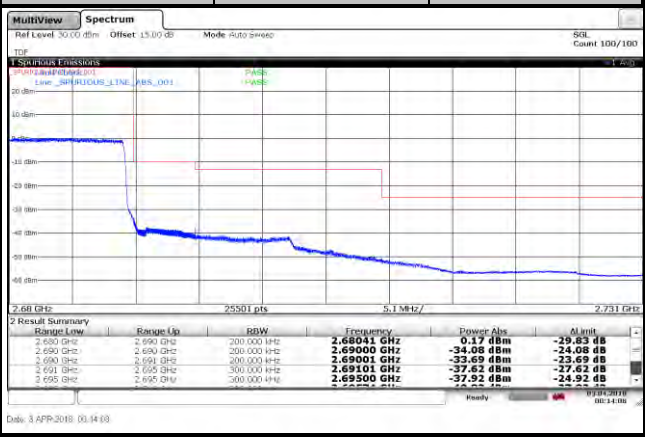
LTE Band 41					
Channel Bandwidth: 15 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	39725	1 RB	Channel	41515	1 RB

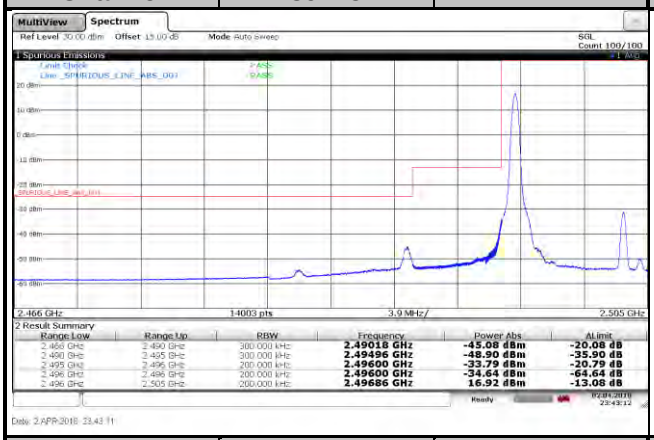
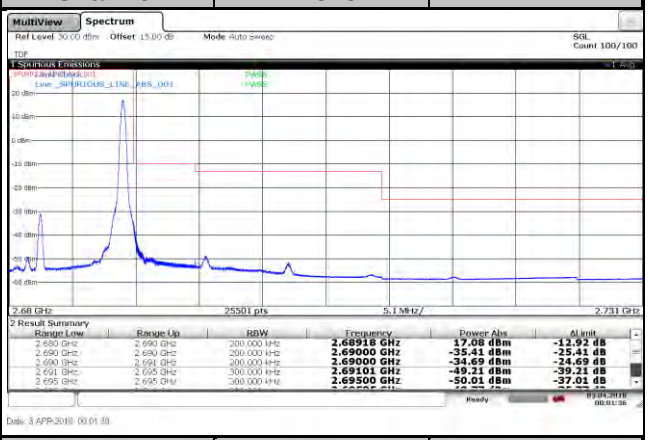
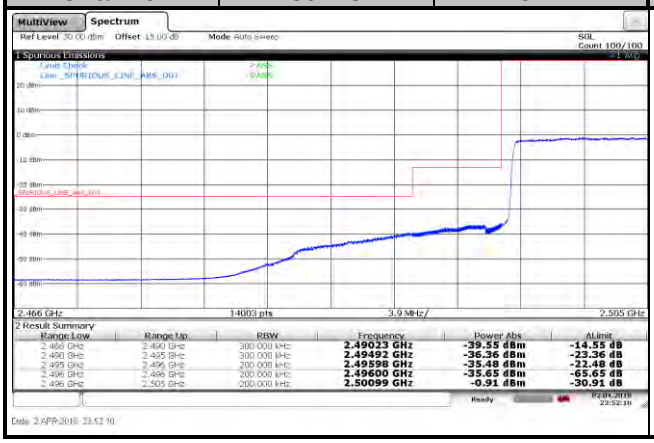
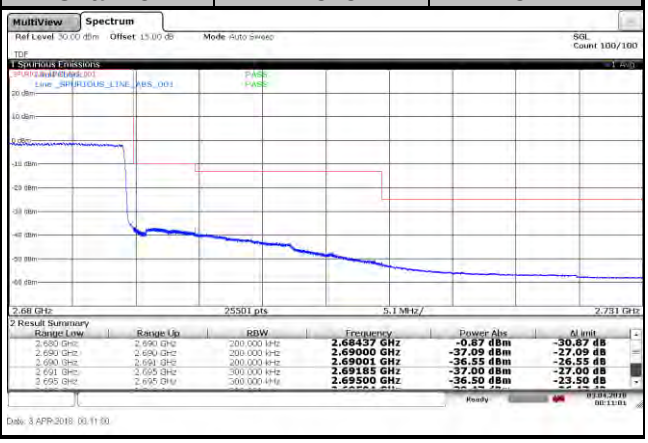




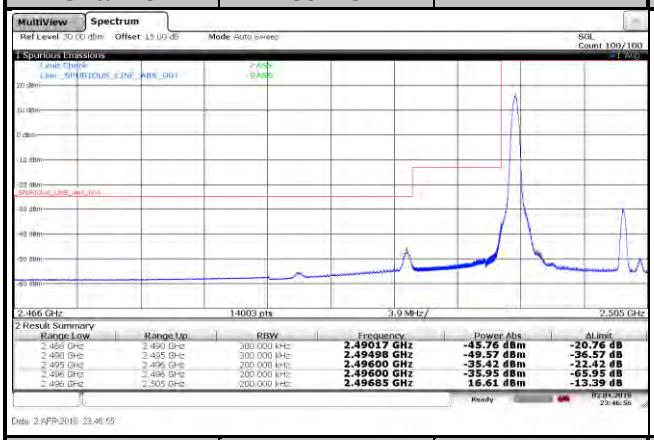
Channel	39725	75 RB	Channel	41515	75 RB

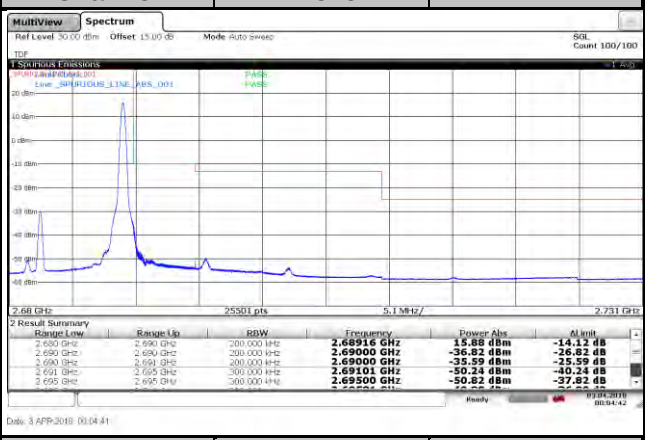




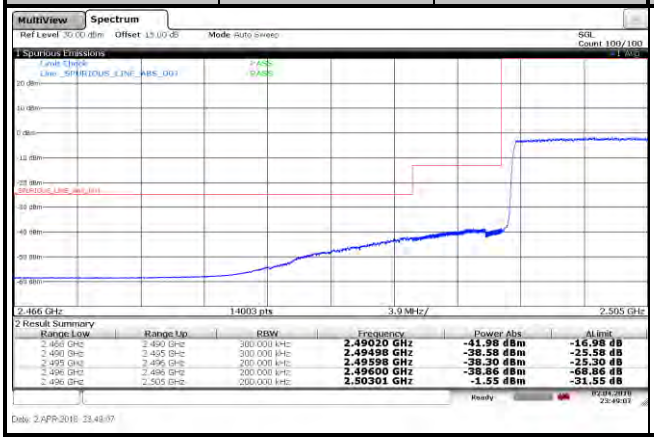
LTE Band 41					
Channel Bandwidth: 15 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	39725	1 RB	Channel	41515	1 RB
					
Channel	39725	75 RB	Channel	41515	75 RB
					

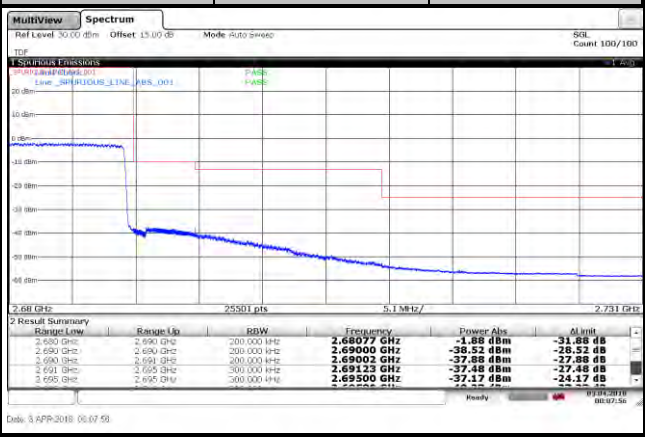
LTE Band 41					
Channel Bandwidth: 15 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	39725	1 RB	Channel	41515	1 RB



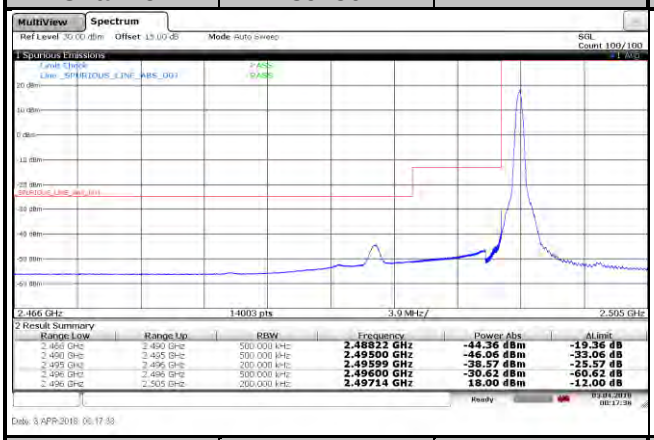


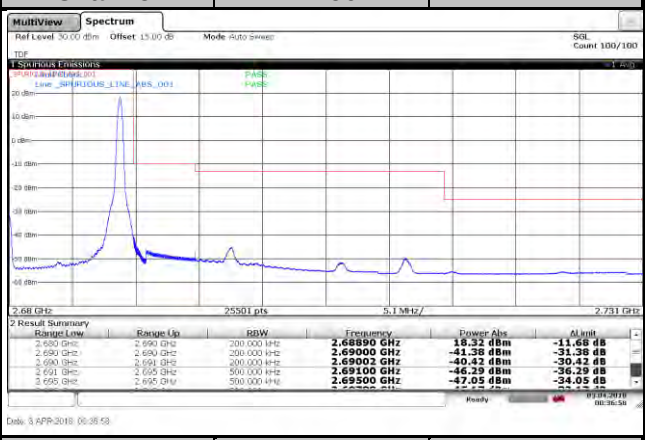
Channel	39725	75 RB	Channel	41515	75 RB



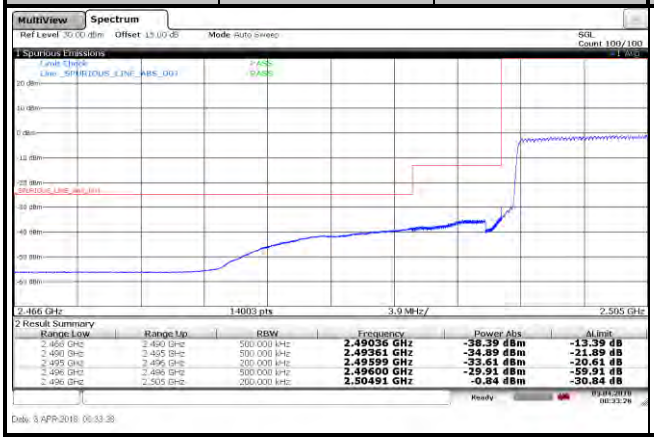


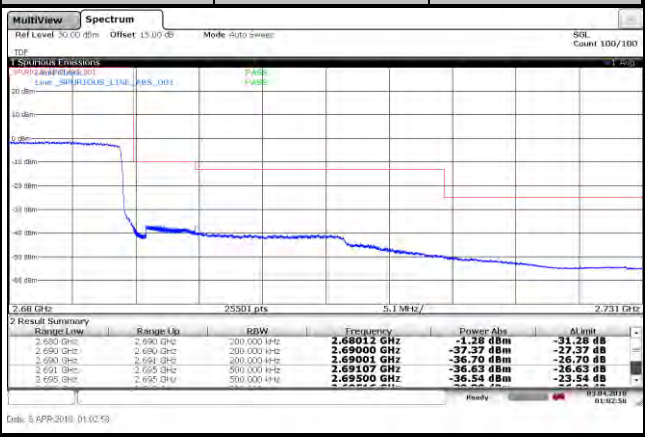
LTE Band 41					
Channel Bandwidth: 20 MHz / QPSK					
<Out-of-Band Emissions>					
Channel	39750	1 RB	Channel	41490	1 RB

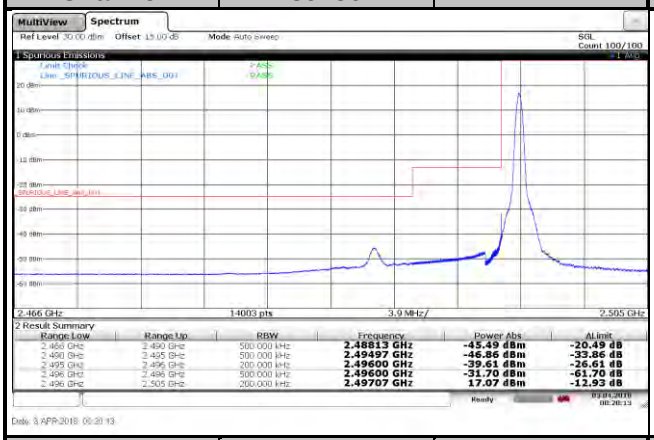
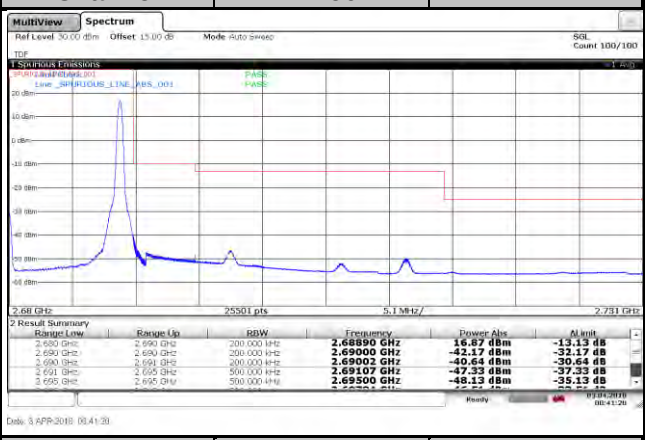
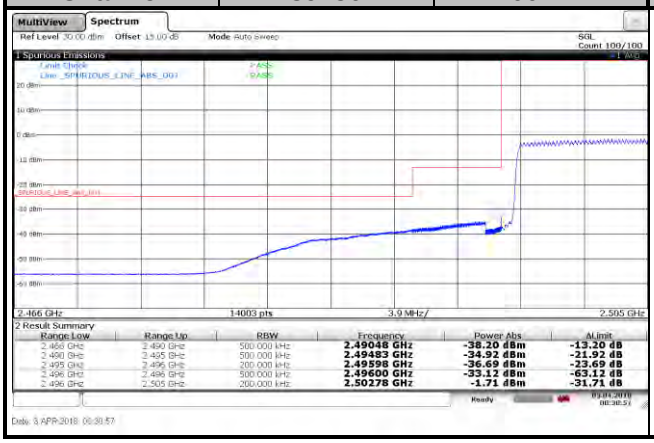
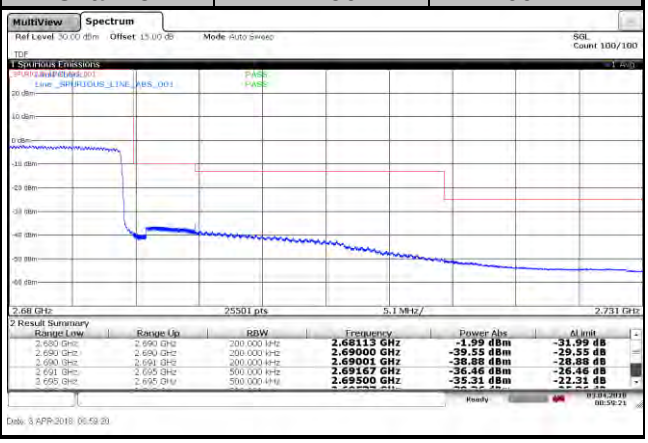




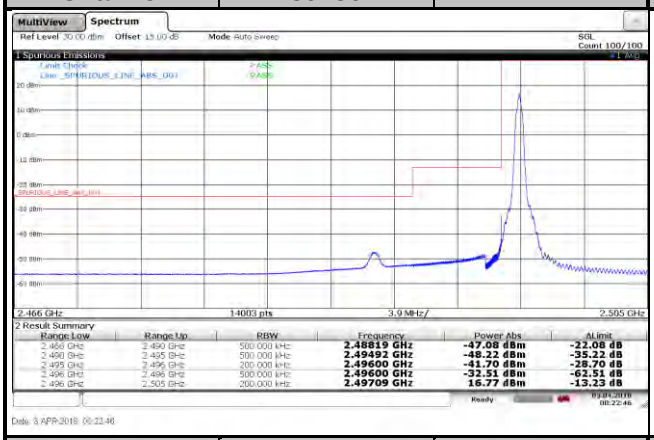
Channel	39750	100 RB	Channel	41490	100 RB

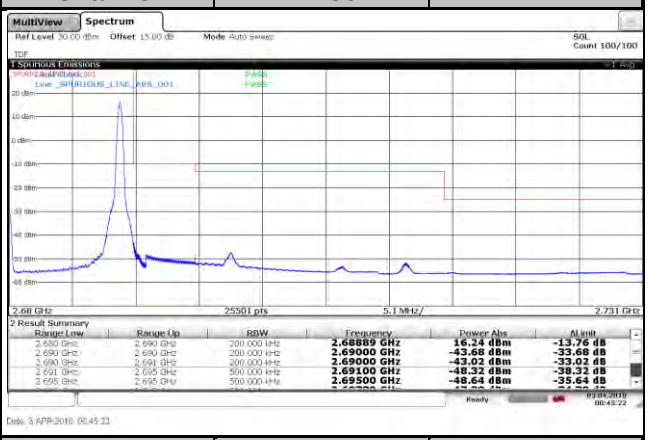




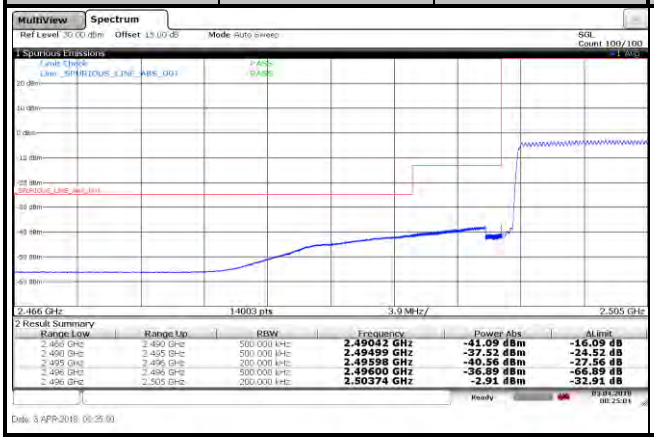
LTE Band 41					
Channel Bandwidth: 20 MHz / 16QAM					
<Out-of-Band Emissions>					
Channel	39750	1 RB	Channel	41490	1 RB
					
Channel	39750	100 RB	Channel	41490	100 RB
					

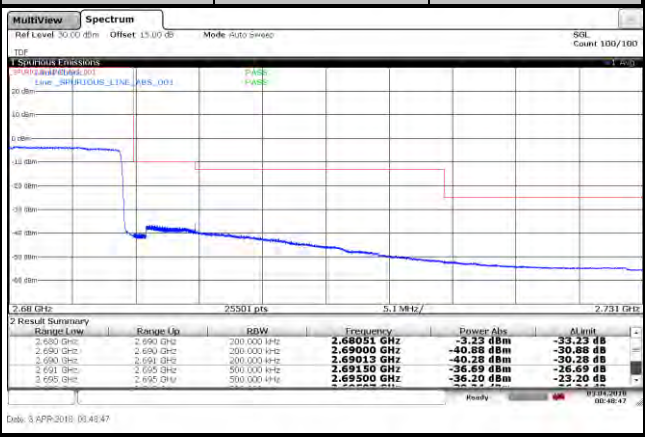
LTE Band 41					
Channel Bandwidth: 20 MHz / 64QAM					
<Out-of-Band Emissions>					
Channel	39750	1 RB	Channel	41490	1 RB





Channel	39750	100 RB	Channel	41490	100 RB



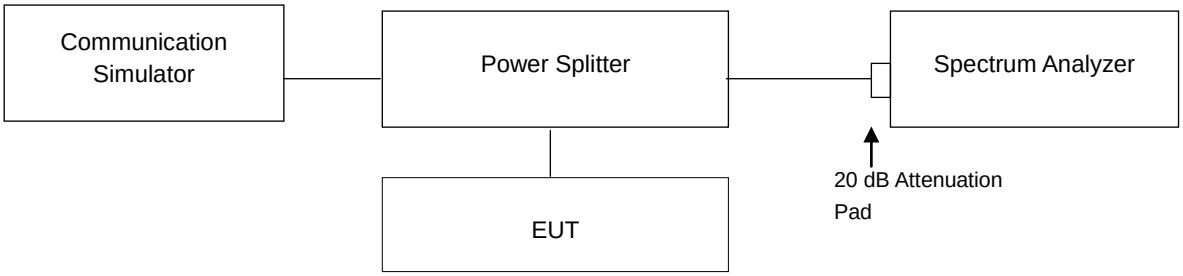


4.5 Peak to Average Ratio

4.5.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

4.5.2 Test Setup

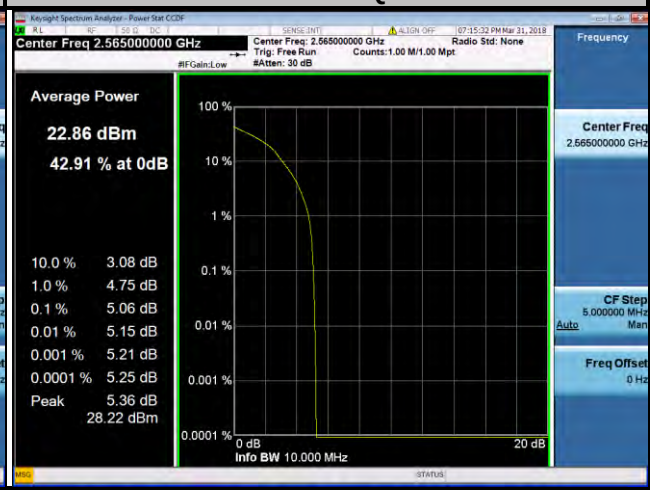


4.5.3 Test Procedures

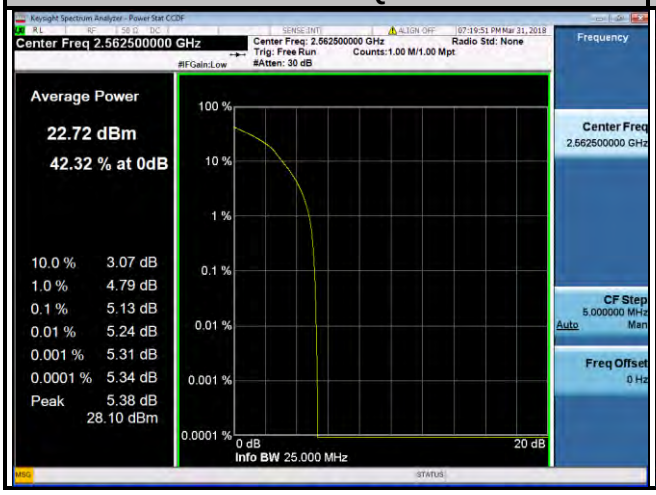
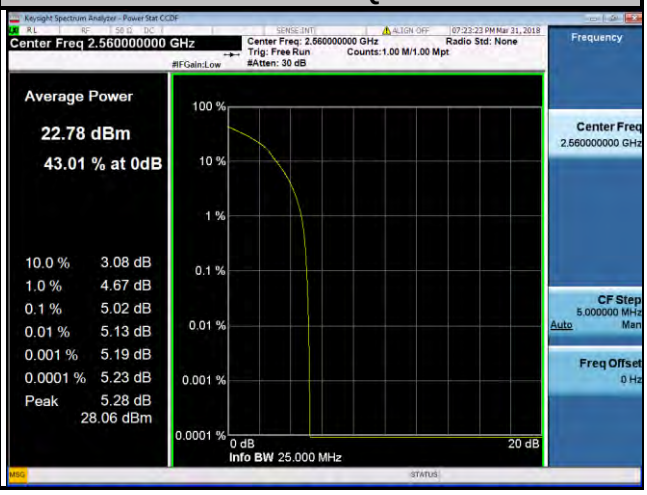
1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1 %.

4.5.4 Test Results

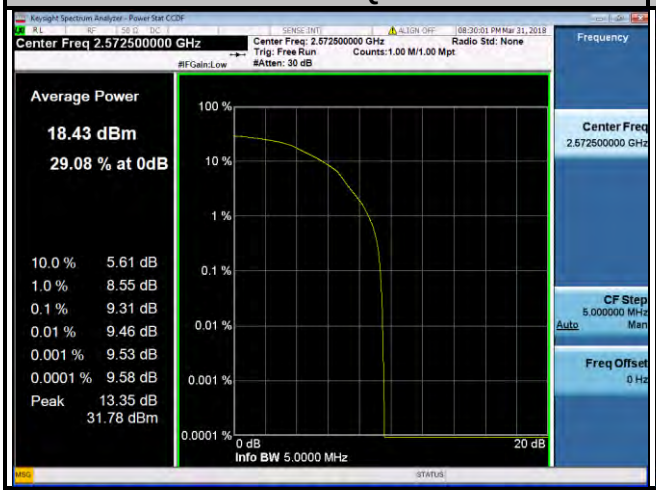
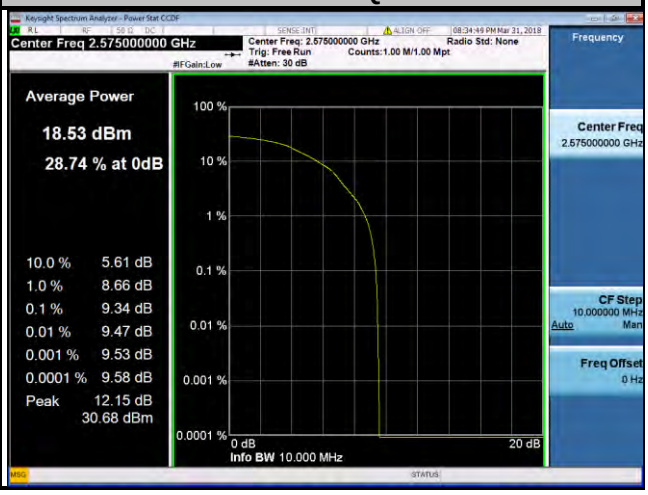
LTE Band 7									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
20775	2502.5	2.83	4.02	4.12	20800	2505.0	2.90	4.02	4.15
21100	2535.0	2.65	3.81	3.98	21100	2535.0	2.53	3.69	3.88
21425	2567.5	3.33	4.60	4.78	21400	2565.0	3.47	4.87	5.06

Spectrum Plot of Worst Value	
5 MHz / 64QAM	10 MHz / 64QAM
	

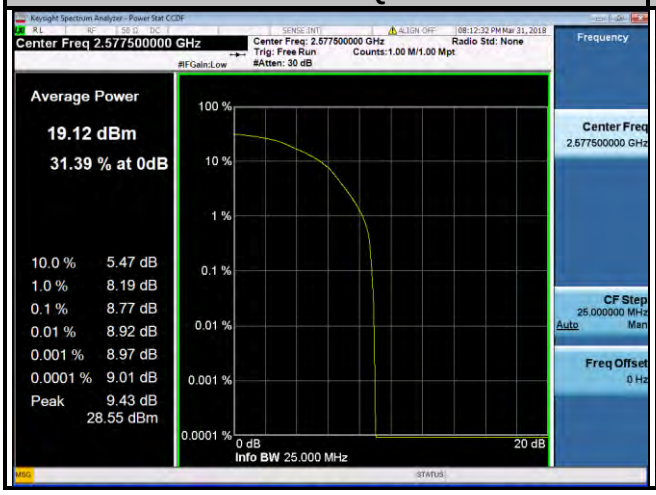
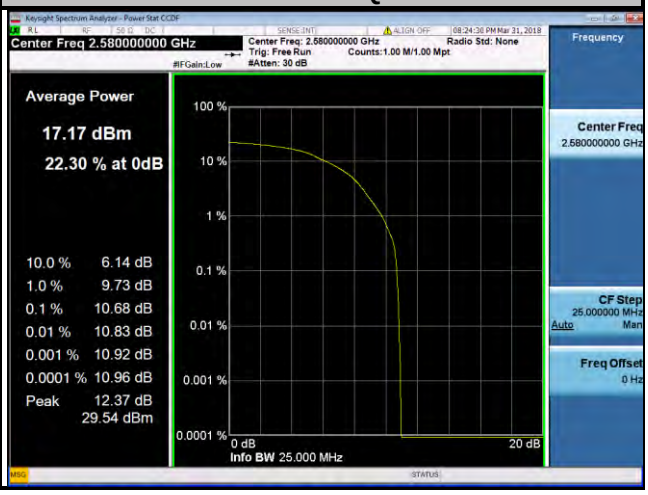
LTE Band 7									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
20825	2507.5	2.97	4.05	4.07	20850	2510.0	3.06	4.04	4.02
21100	2535.0	2.61	3.76	3.94	21100	2535.0	2.60	3.91	3.99
21375	2562.5	3.50	4.87	5.13	21350	2560.0	3.54	4.91	5.02

Spectrum Plot of Worst Value	
15 MHz / 64QAM	20 MHz / 64QAM
	

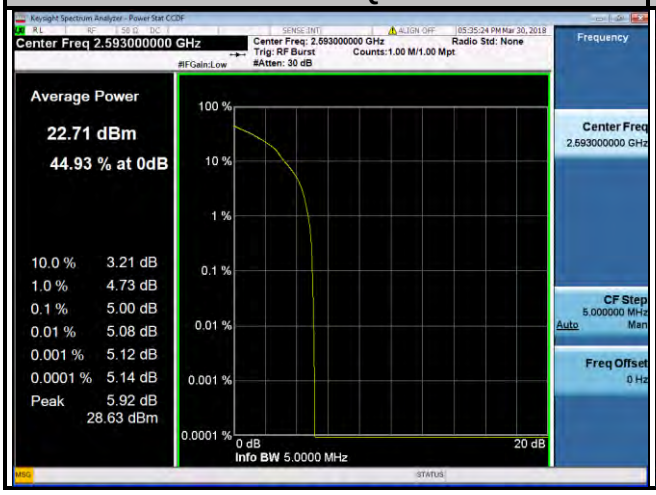
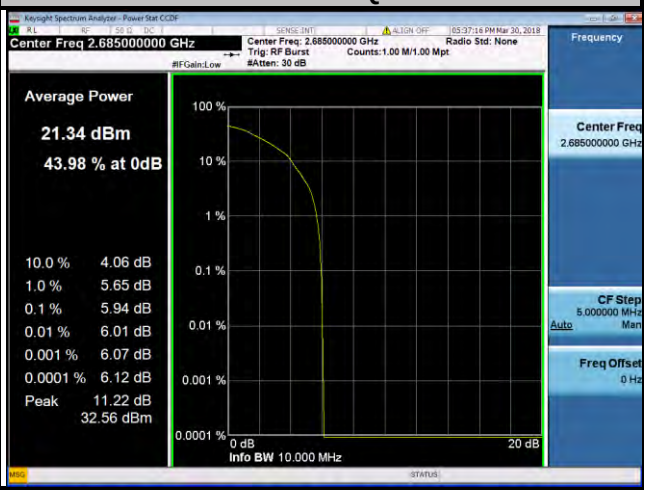
LTE Band 38									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
37775	2572.5	7.86	9.14	9.31	37800	2575.0	7.45	8.78	9.34
38000	2595.0	7.28	9.15	9.01	38000	2595.0	7.25	9.08	9.14
38225	2617.5	7.35	8.28	8.18	38200	2615.0	6.63	7.70	8.88

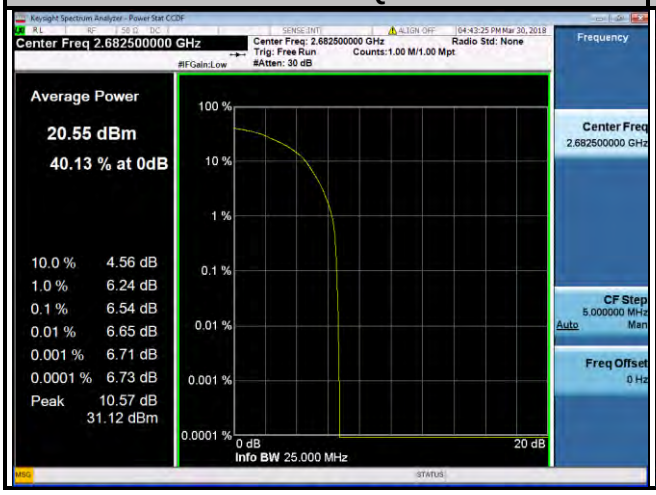
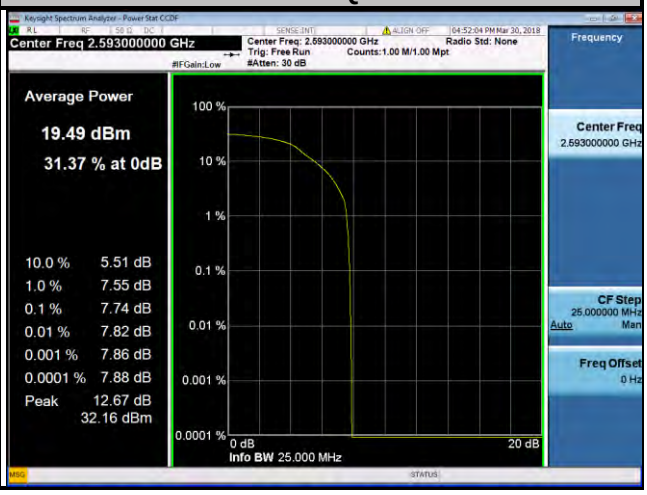
Spectrum Plot of Worst Value	
5 MHz / 64QAM	10 MHz / 64QAM
	

LTE Band 38									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
37825	2577.5	8.62	8.77	8.51	37850	2580.0	7.82	10.68	8.84
38000	2595.0	7.80	8.37	8.19	38000	2595.0	8.06	9.81	8.02
38175	2612.5	6.00	7.91	8.12	38150	2610.0	8.11	8.21	8.94

Spectrum Plot of Worst Value	
15 MHz / 16QAM	20 MHz / 16QAM
	

LTE Band 41									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
39675	2498.5	3.29	4.76	4.81	39700	2501.0	3.20	5.34	4.76
40620	2593.0	3.47	4.87	5.00	40620	2593.0	3.35	5.48	4.79
41565	2687.5	3.39	4.85	4.76	41540	2685.0	3.24	5.56	5.94

Spectrum Plot of Worst Value	
5 MHz / 64QAM	10 MHz / 64QAM
	

LTE Band 41									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
39725	2503.5	3.18	5.44	5.53	39750	2506.0	3.20	5.27	5.52
40620	2593.0	3.30	5.84	5.80	40620	2593.0	7.74	5.61	5.58
41515	2682.5	3.58	6.54	5.49	41490	2680.0	7.71	5.13	4.42

Spectrum Plot of Worst Value	
15 MHz / 16QAM	20 MHz / QPSK