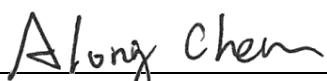


FCC Test Report

FCC ID : 2AD8UFTHJ01
Equipment : Nokia Dual Band UE Relay
Model No. : FTHJ
Brand Name : Nokia
Applicant : Nokia Solutions and Networks, OY
Address : 2000 W. Lucent Lane, Naperville, Illinois,
United States. 60563
Standard : 47 CFR FCC Part 27 Subpart M
Received Date : Dec. 12, 2017
Tested Date : Jan. 02 ~ Mar. 06, 2018

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

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FG7D1203L	Rev. 01	Initial issue	May 10, 2018

Summary of Test Results

FCC Rules	Test Items	Worst Case Measured	Limit	Result
2.1046 / 27.50(h)(2)	Output power	Max. Power [dBm]: 29.35	2 Watts(33dBm)	Pass
2.1053 / 27.53(m)(2)(v)	Radiated Emissions	-17.53 dBm	-13 dBm	Pass
2.1051 / 27.53(m)(2)(v)	Conducted Emissions	-24.14 dBm	-13 dBm	Pass
2.1051 / 27.53(m)(2)(v)	Channel Edge Measurement	-13.15 dBm	-13 dBm	Pass
27.53(m)(6)	Emission Bandwidth	37.34 MHz	N/A	Pass
2.1055 / 27.54	Frequency Stability	0.15 ppm	The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	Pass

1 General Description

1.1 Information

The device includes one LTE module. The hardware supports B25, B41-L, B41-H in the same module. It includes filter and duplexer to separate B41-L or B41-H frequency automatically. It will operate on the certain frequency based on Base station assign.

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency (MHz)	LTE Band 41: Channel Bandwidth: 5MHz: 2498.5 ~ 2567.5 Channel Bandwidth: 10MHz: 2501.0 ~ 2565.0 Channel Bandwidth: 15MHz: 2503.5 ~ 2562.5 Channel Bandwidth: 20MHz: 2506.0 ~ 2560.0
Modulation Type	Uplink: QPSK, 16QAM, 64QAM Downlink: QPSK, 16QAM, 64QAM, 256QAM
Duplex Mode	TDD
Category	DL Cat 12 (2CA with 4X4 + 64QAM) DL Cat 12 (2CA/3CA with 2x2 + 256QAM) UL Cat 13 (2CA + 64QAM)
Release Version	12
H/W Version	Mother board: WLTGG-124_MB_V02 daughter board: WLTGG-124_Module_V01A
S/W Version	01.02.01.013
TX/RX function	4TX / 8RX

1.1.2 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Antenna polarization
1	Sector	MMCX	10	+45 degree
2	Sector	MMCX	10	-45 degree
3	Sector	MMCX	10	+45 degree
4	Sector	MMCX	10	-45 degree

1.1.3 EUT Operational Condition

Power Supply Type	56Vdc from POE (support unit only.) Brand: GOSPELL Model: G0883-560-045 Power Rating: I/P: 100-240Vac, 50/60Hz, 0.75A MAX O/P: 56Vdc, 0.45A		
Operational Climatic	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (60°C)	<input checked="" type="checkbox"/> Tmin (-40°C)

1.1.4 Accessories

N/A

1.1.5 Maximum Conducted Power and Emission Designator

CDD Mode			
Channel Bandwidth (MHz)	Modulation	Maximum Conducted Power (W)	Emission Designator
5	QPSK	0.834	4M43G7D
5	16QAM	0.733	4M44W7D
5	64QAM	0.535	4M44W7D
10	QPSK	0.841	8M97G7D
10	16QAM	0.685	8M96W7D
10	64QAM	0.511	8M97W7D
15	QPSK	0.861	13M5G7D
15	16QAM	0.714	13M5W7D
15	64QAM	0.533	13M5W7D
20	QPSK	0.839	17M9G7D
20	16QAM	0.701	17M8W7D
20	64QAM	0.516	17M8W7D

CA Mode			
Channel Bandwidth (MHz)	Modulation	Maximum Conducted Power (W)	Emission Designator
20+20	QPSK	0.832	37M3G7D
20+20	16QAM	0.670	37M3W7D
20+20	64QAM	0.428	37M3W7D

1.1.6 Operating Channel List

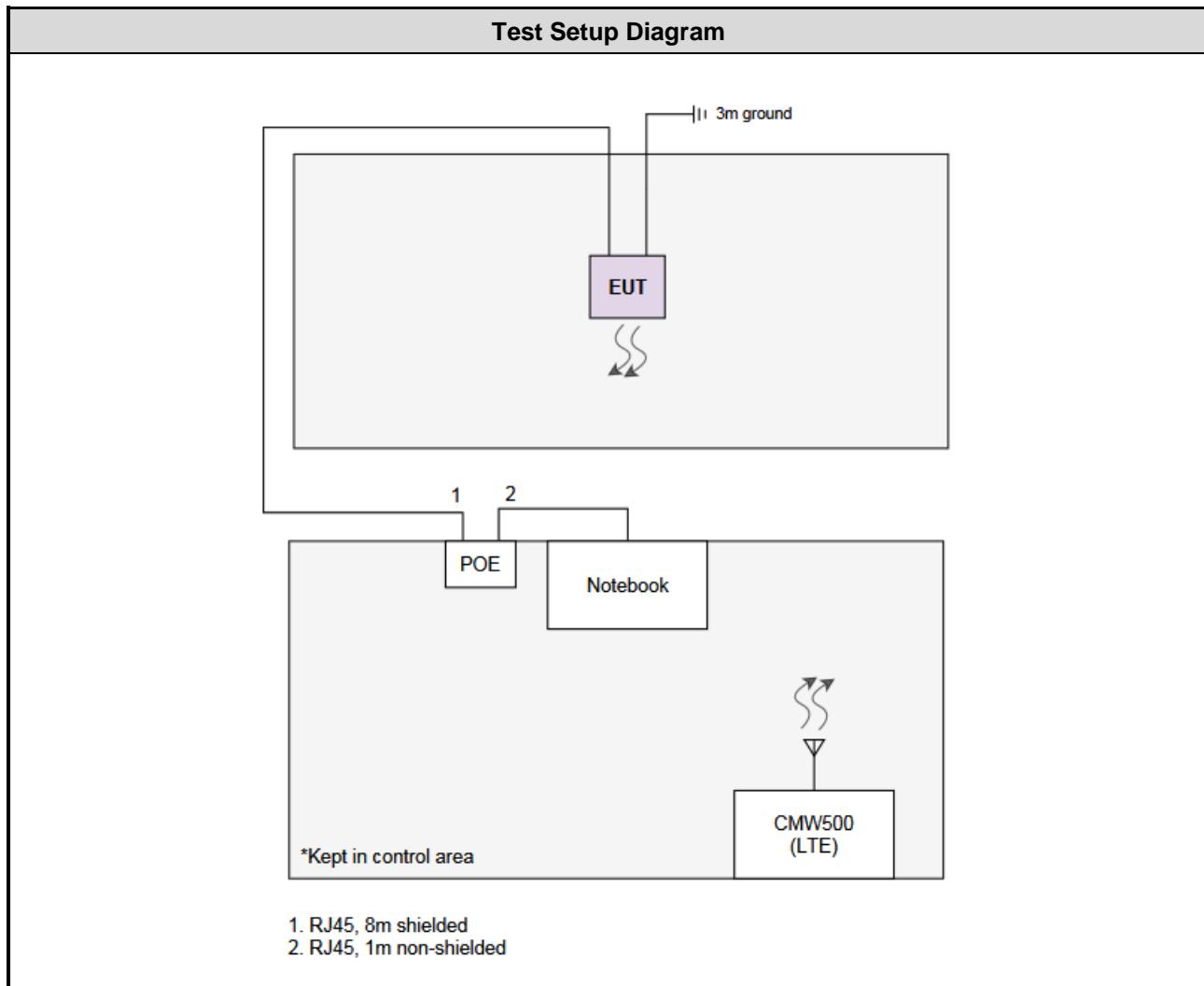
CDD Mode		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
5	39675	2498.5
5	40020	2533.0
5	40365	2567.5
10	39700	2501.0
10	40020	2533.0
10	40340	2565.0
15	39725	2503.5
15	40020	2533.0
15	40315	2562.5
20	39750	2506.0
20	40020	2533.0
20	40290	2560.0

CA Mode		
Channel Bandwidth (MHz)	PCC Frequency (MHz)	SCC Frequency (MHz)
20+20	2506.8	2526.6
20+20	2523.6	2543.4
20+20	2538.2	2558.0

1.2 Local Support Equipment List

Support Equipment List						
No.	Equipment	Brand	Model	S/N	FCC ID	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6430	9ZFB4X1	DoC	RJ45, 1m non-shielded.
2	POE	GOSPELL	G0883-56 0-045	---	---	RJ45, 8m shielded.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Feb. 19 ~ Mar. 06, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Wideband Radio Communication Tester	R&S	CMW500	106070	Feb. 12, 2018	Feb. 11, 2019
Spectrum Analyzer	R&S	FSV40	101498	Dec. 04, 2017	Dec. 03, 2018
Receiver	R&S	ESR3	101658	Nov. 20, 2017	Nov. 19, 2018
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 25, 2017	Jul. 24, 2018
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 20, 2017	Dec. 19, 2018
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 23, 2017	Nov. 22, 2018
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2017	Nov. 12, 2018
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 07, 2017	Dec. 06, 2018
Preamplifier	EMC	EMC02325	980225	Jul. 28, 2017	Jul. 27, 2018
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2017	Oct. 05, 2018
Preamplifier	EMC	EMC184045B	980192	Aug. 22, 2017	Aug. 21, 2018
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 07, 2017	Dec. 06, 2018
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 07, 2017	Dec. 06, 2018
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 07, 2017	Dec. 06, 2018
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	16052	Dec. 07, 2017	Dec. 06, 2018
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 07, 2017	Dec. 06, 2018
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 07, 2017	Dec. 06, 2018
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Jan. 02 ~ Feb. 19, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
Spectrum Analyzer	Agilent	N9010A	MY54200247	Sep. 28, 2017	Sep. 27, 2018
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2017	Nov. 26, 2018
Power Meter	Anritsu	ML2495A	1241002	Oct. 16, 2017	Oct. 15, 2018
Power Sensor	Anritsu	MA2411B	1207366	Oct. 16, 2017	Oct. 15, 2018
Wideband Radio Communication Tester	R&S	CMW500	106070	Feb. 21, 2017	Feb. 20, 2018
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 01, 2017	Nov. 30, 2018
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Feb. 19 ~ Mar. 05, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
Spectrum Analyzer	Agilent	N9010A	MY54200247	Sep. 28, 2017	Sep. 27, 2018
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2017	Nov. 26, 2018
Power Meter	Anritsu	ML2495A	1241002	Oct. 16, 2017	Oct. 15, 2018
Power Sensor	Anritsu	MA2411B	1207366	Oct. 16, 2017	Oct. 15, 2018
Wideband Radio Communication Tester	R&S	CMW500	106070	Feb. 12, 2018	Feb. 11, 2019
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 01, 2017	Nov. 30, 2018
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA

Note: Calibration Interval of instruments listed above is one year.

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards.

47 CFR FCC Part 27 Subpart M

ANSI C63.4-2014

ANSI C63.26-2015

FCC KDB 971168 D01 Power Meas License Digital Systems v03

FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

FCC KDB 442401 ERP/EIRP measurement procedures for licensed radio service devices

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Conducted emission	±2.670 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB
Temperature	±0.6 °C

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
RF conducted	TH01-WS	22°C / 64%	Brad Wu
Radiated Emissions	03CH01-WS	22°C / 63%	Roger Lu

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

CDD Mode			
Test item	Channel Bandwidth	Modulation	Test channel
Output Power Conducted Emissions Occupied Bandwidth	5 MHz	QPSK / 16QAM / 64QAM	2498.5 / 2533.0 / 2567.5
	10 MHz	QPSK / 16QAM / 64QAM	2501.0 / 2533.0 / 2565.0
	15 MHz	QPSK / 16QAM / 64QAM	2503.5 / 2533.0 / 2562.5
	20 MHz	QPSK / 16QAM / 64QAM	2506.0 / 2533.0 / 2560.0
Radiated Emission ≤ 1GHz	5 MHz	QPSK	2498.5
	10 MHz	QPSK	2501.0
	15 MHz	QPSK	2503.5
	20 MHz	QPSK	2506.0
Radiated Emission > 1GHz	5 MHz	QPSK	2498.5 / 2533.0 / 2567.5
	10 MHz	QPSK	2501.0 / 2533.0 / 2565.0
	15 MHz	QPSK	2503.5 / 2533.0 / 2562.5
	20 MHz	QPSK	2506.0 / 2533.0 / 2560.0
Channel Edge	5 MHz	QPSK / 16QAM / 64QAM	2498.5 / 2567.5
	10 MHz	QPSK / 16QAM / 64QAM	2501.0 / 2565.0
	15 MHz	QPSK / 16QAM / 64QAM	2503.5 / 2562.5
	20 MHz	QPSK / 16QAM / 64QAM	2506.0 / 2560.0
Frequency Stability	5 MHz	QPSK	2533.0
	10 MHz	QPSK	2533.0
	15 MHz	QPSK	2533.0
	20 MHz	QPSK	2533.0

CA Mode			
Test item	Channel Bandwidth	Modulation	Test channel
Output Power			
Conducted Emissions			
Occupied Bandwidth	20 MHz + 20 MHz	QPSK / 16QAM / 64QAM	2506.8 / 2526.6
Radiated Emission ≤ 1GHz	20 MHz + 20 MHz	QPSK / 16QAM / 64QAM	2523.6 / 2543.4
Radiated Emission > 1GHz	20 MHz + 20 MHz	QPSK / 16QAM / 64QAM	2538.2 / 2558.0
Channel Edge			
Frequency Stability			

3 Test Results

3.1 Output Power

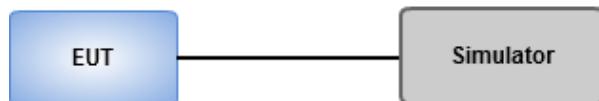
3.1.1 Limit of Output Power

All user stations are limited to 2.0 watts transmitter output power.

3.1.2 Test Procedures

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

3.1.3 Test Setup



3.1.4 Test Result of Conducted power (dBm)_CDD mode

LTE Band 41, CB: 5MHz

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
5	QPSK	39675	2498.5	1	0	28.51	0.710	2
				1	12	28.72	0.745	2
				1	24	28.64	0.731	2
				12	0	27.71	0.590	2
				12	6	27.90	0.617	2
				12	11	27.82	0.605	2
				25	0	27.76	0.597	2
		40020	2533.0	1	0	28.88	0.773	2
				1	12	29.08	0.809	2
				1	24	29.06	0.805	2
				12	0	28.13	0.650	2
				12	6	28.22	0.664	2
				12	11	28.12	0.649	2
				25	0	27.96	0.625	2
		40365	2567.5	1	0	29.09	0.811	2
				1	12	29.21	0.834	2
				1	24	29.12	0.817	2
				12	0	28.50	0.708	2
				12	6	28.31	0.678	2
				12	11	28.15	0.653	2
				25	0	28.06	0.640	2

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
5	16QAM	39675	2498.5	1	0	27.70	0.589	2
				1	12	28.02	0.634	2
				1	24	27.85	0.610	2
				12	0	26.92	0.492	2
				12	6	26.98	0.499	2
				12	11	26.77	0.475	2
				25	0	26.75	0.473	2
		40020	2533.0	1	0	28.18	0.658	2
				1	12	28.26	0.670	2
				1	24	28.29	0.675	2
				12	0	27.14	0.518	2
				12	6	27.16	0.520	2
				12	11	27.05	0.507	2
				25	0	27.05	0.507	2
		40365	2567.5	1	0	28.22	0.664	2
				1	12	28.65	0.733	2
				1	24	28.61	0.726	2
				12	0	27.57	0.571	2
				12	6	27.32	0.540	2
				12	11	27.15	0.519	2
				25	0	27.18	0.522	2
5	64QAM	39675	2498.5	1	0	27.12	0.515	2
				1	12	27.28	0.535	2
				1	24	26.92	0.492	2
				12	0	25.87	0.386	2
				12	6	25.98	0.396	2
				12	11	26.02	0.400	2
				25	0	25.80	0.380	2
		40020	2533.0	1	0	26.95	0.495	2
				1	12	26.89	0.489	2
				1	24	27.10	0.513	2
				12	0	26.21	0.418	2
				12	6	26.23	0.420	2
				12	11	26.10	0.407	2
				25	0	26.04	0.402	2
		40365	2567.5	1	0	27.04	0.506	2
				1	12	27.24	0.530	2
				1	24	27.14	0.518	2
				12	0	26.66	0.463	2
				12	6	26.36	0.433	2
				12	11	26.19	0.416	2
				25	0	26.15	0.412	2

LTE Band 41, CB: 10MHz

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
10	QPSK	39700	2501.0	1	0	28.38	0.689	2
				1	24	28.89	0.774	2
				1	49	28.69	0.740	2
				25	0	27.80	0.603	2
				25	12	27.97	0.627	2
				25	24	27.85	0.610	2
				50	0	27.79	0.601	2
		40020	2533.0	1	0	28.91	0.778	2
				1	24	29.02	0.798	2
				1	49	28.90	0.776	2
				25	0	27.95	0.624	2
				25	12	28.01	0.632	2
				25	24	27.95	0.624	2
				50	0	27.91	0.618	2
		40340	2565.0	1	0	29.09	0.811	2
				1	24	29.25	0.841	2
				1	49	29.12	0.817	2
				25	0	28.03	0.635	2
				25	12	28.26	0.670	2
				25	24	28.09	0.644	2
				50	0	28.08	0.643	2

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
10	16QAM	39700	2501.0	1	0	27.61	0.577	2
				1	24	28.13	0.650	2
				1	49	27.96	0.625	2
				25	0	26.93	0.493	2
				25	12	27.13	0.516	2
				25	24	27.09	0.512	2
				50	0	26.92	0.492	2
		40020	2533.0	1	0	28.19	0.659	2
				1	24	28.24	0.667	2
				1	49	28.12	0.649	2
				25	0	26.99	0.500	2
				25	12	27.12	0.515	2
				25	24	27.02	0.504	2
				50	0	26.95	0.495	2
		40340	2565.0	1	0	28.26	0.670	2
				1	24	28.36	0.685	2
				1	49	28.31	0.678	2
				25	0	27.10	0.513	2
				25	12	27.31	0.538	2
				25	24	27.10	0.513	2
				50	0	27.20	0.525	2
10	64QAM	39700	2501.0	1	0	26.26	0.423	2
				1	24	26.97	0.498	2
				1	49	26.78	0.476	2
				25	0	25.75	0.376	2
				25	12	26.06	0.404	2
				25	24	25.98	0.396	2
				50	0	25.94	0.393	2
		40020	2533.0	1	0	26.84	0.483	2
				1	24	26.89	0.489	2
				1	49	26.89	0.489	2
				25	0	26.01	0.399	2
				25	12	26.12	0.409	2
				25	24	25.99	0.397	2
				50	0	25.92	0.391	2
		40340	2565.0	1	0	27.08	0.511	2
				1	24	26.93	0.493	2
				1	49	27.06	0.508	2
				25	0	26.06	0.404	2
				25	12	26.30	0.427	2
				25	24	26.18	0.415	2
				50	0	26.21	0.418	2

LTE Band 41, CB: 15MHz

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
15	QPSK	39725	2503.5	1	0	28.52	0.711	2
				1	37	29.15	0.822	2
				1	74	28.53	0.713	2
				36	0	27.85	0.610	2
				36	18	28.12	0.649	2
				36	37	27.82	0.605	2
				75	0	28.02	0.634	2
		40020	2533.0	1	0	28.83	0.764	2
				1	37	29.20	0.832	2
				1	74	29.11	0.815	2
				36	0	27.99	0.630	2
				36	18	28.09	0.644	2
				36	37	28.06	0.640	2
				75	0	27.96	0.625	2
		40315	2562.5	1	0	29.03	0.800	2
				1	37	29.35	0.861	2
				1	74	29.29	0.849	2
				36	0	28.10	0.646	2
				36	18	28.30	0.676	2
				36	37	28.04	0.637	2
				75	0	28.15	0.653	2

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
15	16QAM	39725	2503.5	1	0	27.72	0.592	2
				1	37	28.37	0.687	2
				1	74	27.89	0.615	2
				36	0	26.90	0.490	2
				36	18	27.20	0.525	2
				36	37	26.96	0.497	2
				75	0	26.85	0.484	2
		40020	2533.0	1	0	28.10	0.646	2
				1	37	28.34	0.682	2
				1	74	28.30	0.676	2
				36	0	27.01	0.502	2
				36	18	27.17	0.521	2
				36	37	27.05	0.507	2
				75	0	27.03	0.505	2
		40315	2562.5	1	0	28.36	0.685	2
				1	37	28.54	0.714	2
				1	74	28.52	0.711	2
				36	0	27.29	0.536	2
				36	18	27.34	0.542	2
				36	37	27.33	0.541	2
				75	0	27.12	0.515	2
15	64QAM	39725	2503.5	1	0	26.53	0.450	2
				1	37	27.17	0.521	2
				1	74	26.43	0.440	2
				36	0	25.96	0.394	2
				36	18	26.21	0.418	2
				36	37	26.03	0.401	2
				75	0	25.87	0.386	2
		40020	2533.0	1	0	26.82	0.481	2
				1	37	27.11	0.514	2
				1	74	27.10	0.513	2
				36	0	26.14	0.411	2
				36	18	26.19	0.416	2
				36	37	26.09	0.406	2
				75	0	26.02	0.400	2
		40315	2562.5	1	0	27.18	0.522	2
				1	37	27.27	0.533	2
				1	74	27.22	0.527	2
				36	0	26.17	0.414	2
				36	18	26.34	0.431	2
				36	37	26.16	0.413	2
				75	0	26.10	0.407	2

LTE Band 41, CB: 20MHz

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
20	QPSK	39750	2506.0	1	0	28.14	0.652	2
				1	49	28.81	0.760	2
				1	99	28.53	0.713	2
				50	0	27.79	0.601	2
				50	24	27.94	0.622	2
				50	49	27.72	0.592	2
				100	0	27.67	0.585	2
		40020	2533.0	1	0	28.73	0.746	2
				1	49	29.05	0.804	2
				1	99	28.66	0.735	2
				50	0	27.82	0.605	2
				50	24	27.97	0.627	2
				50	49	27.89	0.615	2
				100	0	27.72	0.592	2
		40290	2560.0	1	0	28.67	0.736	2
				1	49	29.24	0.839	2
				1	99	29.10	0.813	2
				50	0	28.01	0.632	2
				50	24	28.23	0.665	2
				50	49	27.81	0.604	2
				100	0	28.01	0.632	2

Channel Bandwidth (MHz)	Modulation	Channel	Freq. (MHz)	RB	RB Offset	Conducted Average Power (dBm)	Conducted Average Power (W)	Conducted Limit (W)
20	16QAM	39750	2506.0	1	0	27.32	0.540	2
				1	49	28.08	0.643	2
				1	99	27.81	0.604	2
				50	0	26.91	0.491	2
				50	24	26.99	0.500	2
				50	49	26.74	0.472	2
				100	0	26.68	0.466	2
		40020	2533.0	1	0	27.92	0.619	2
				1	49	28.16	0.655	2
				1	99	27.83	0.607	2
				50	0	26.86	0.485	2
				50	24	27.02	0.504	2
				50	49	26.98	0.499	2
				100	0	26.79	0.478	2
		40290	2560.0	1	0	27.98	0.628	2
				1	49	28.46	0.701	2
				1	99	28.28	0.673	2
				50	0	27.14	0.518	2
				50	24	27.26	0.532	2
				50	49	26.84	0.483	2
				100	0	27.09	0.512	2
20	64QAM	39750	2506.0	1	0	26.33	0.430	2
				1	49	26.86	0.485	2
				1	99	26.47	0.444	2
				50	0	25.94	0.393	2
				50	24	26.17	0.414	2
				50	49	25.72	0.373	2
				100	0	25.85	0.385	2
		40020	2533.0	1	0	26.75	0.473	2
				1	49	26.81	0.480	2
				1	99	26.73	0.471	2
				50	0	25.77	0.378	2
				50	24	26.02	0.400	2
				50	49	26.04	0.402	2
				100	0	25.89	0.388	2
		40290	2560.0	1	0	26.92	0.492	2
				1	49	27.13	0.516	2
				1	99	27.11	0.514	2
				50	0	26.17	0.414	2
				50	24	26.20	0.417	2
				50	49	25.83	0.383	2
				100	0	25.87	0.386	2

3.1.5 Test Result of Conducted power (dBm)_CA mode

Channel Bandwidth (MHz)	PCC Freq. (MHz)	SCC Freq. (MHz)	Modulation	PCC RB (size)	PCC RB (offset)	SCC RB (size)	SCC RB (offset)	Conducted Power		
								(dBm)	(W)	Limit (W)
20+20	2506.8	2526.6	QPSK	1	0	1	0	24.00	0.251	2
				1	0	1	99	19.94	0.099	2
				1	0	100	0	24.93	0.311	2
				1	49	1	49	24.31	0.270	2
				1	99	1	0	28.57	0.719	2
				1	99	1	99	24.11	0.258	2
				1	99	100	0	26.83	0.482	2
				100	0	100	0	26.86	0.485	2
				100	0	1	99	25.14	0.327	2
			16QAM	1	0	1	0	23.98	0.250	2
				1	0	1	99	20.16	0.104	2
				1	0	100	0	24.98	0.315	2
				1	49	1	49	24.22	0.264	2
				1	99	1	0	27.93	0.621	2
				1	99	1	99	24.17	0.261	2
				1	99	100	0	25.86	0.385	2
				100	0	100	0	25.79	0.379	2
				100	0	1	99	25.01	0.317	2
			64QAM	1	0	1	0	24.04	0.254	2
				1	0	1	99	19.95	0.099	2
				1	0	100	0	25.00	0.316	2
				1	49	1	49	24.34	0.272	2
				1	99	1	0	25.97	0.395	2
				1	99	1	99	24.15	0.260	2
				1	99	100	0	25.88	0.387	2
				100	0	100	0	25.83	0.383	2
				100	0	1	99	25.92	0.391	2

Channel Bandwidth (MHz)	PCC Freq. (MHz)	SCC Freq. (MHz)	Modulation	PCC RB (size)	PCC RB (offset)	SCC RB (size)	SCC RB (offset)	Conducted Power		
								(dBm)	(W)	Limit (W)
20+20	2523.6	2543.4	QPSK	1	0	1	0	24.33	0.271	2
				1	0	1	99	20.31	0.107	2
				1	0	100	0	25.37	0.344	2
				1	49	1	49	24.13	0.259	2
				1	99	1	0	29.20	0.832	2
				1	99	1	99	24.44	0.278	2
				1	99	100	0	27.26	0.532	2
				100	0	100	0	27.06	0.508	2
				100	0	1	99	25.22	0.333	2
			16QAM	1	0	1	0	24.24	0.265	2
				1	0	1	99	20.29	0.107	2
				1	0	100	0	25.49	0.354	2
				1	49	1	49	24.20	0.263	2
				1	99	1	0	28.26	0.670	2
				1	99	1	99	24.55	0.285	2
				1	99	100	0	26.43	0.440	2
				100	0	100	0	26.09	0.406	2
				100	0	1	99	25.14	0.327	2
			64QAM	1	0	1	0	24.24	0.265	2
				1	0	1	99	20.34	0.108	2
				1	0	100	0	25.40	0.347	2
				1	49	1	49	24.11	0.258	2
				1	99	1	0	26.24	0.421	2
				1	99	1	99	24.49	0.281	2
				1	99	100	0	26.31	0.428	2
				100	0	100	0	26.08	0.406	2
				100	0	1	99	25.20	0.331	2

Channel Bandwidth (MHz)	PCC Freq. (MHz)	SCC Freq. (MHz)	Modulation	PCC RB (size)	PCC RB (offset)	SCC RB (size)	SCC RB (offset)	Conducted Power		
								(dBm)	(W)	Limit (W)
20+20	2538.2	2558	QPSK	1	0	1	0	24.47	0.280	2
				1	0	1	99	20.50	0.112	2
				1	0	100	0	25.35	0.343	2
				1	49	1	49	24.59	0.288	2
				1	99	1	0	28.92	0.780	2
				1	99	1	99	24.59	0.288	2
				1	99	100	0	27.06	0.508	2
				100	0	100	0	27.05	0.507	2
				100	0	1	99	25.45	0.351	2
			16QAM	1	0	1	0	24.56	0.286	2
				1	0	1	99	20.61	0.115	2
				1	0	100	0	25.41	0.348	2
				1	49	1	49	24.71	0.296	2
				1	99	1	0	28.15	0.653	2
				1	99	1	99	24.47	0.280	2
				1	99	100	0	26.20	0.417	2
				100	0	100	0	26.14	0.411	2
				100	0	1	99	25.50	0.355	2
			64QAM	1	0	1	0	24.51	0.282	2
				1	0	1	99	20.59	0.115	2
				1	0	100	0	25.54	0.358	2
				1	49	1	49	24.69	0.294	2
				1	99	1	0	26.23	0.420	2
				1	99	1	99	24.56	0.286	2
				1	99	100	0	26.09	0.406	2
				100	0	100	0	26.17	0.414	2
				100	0	1	99	25.34	0.342	2

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

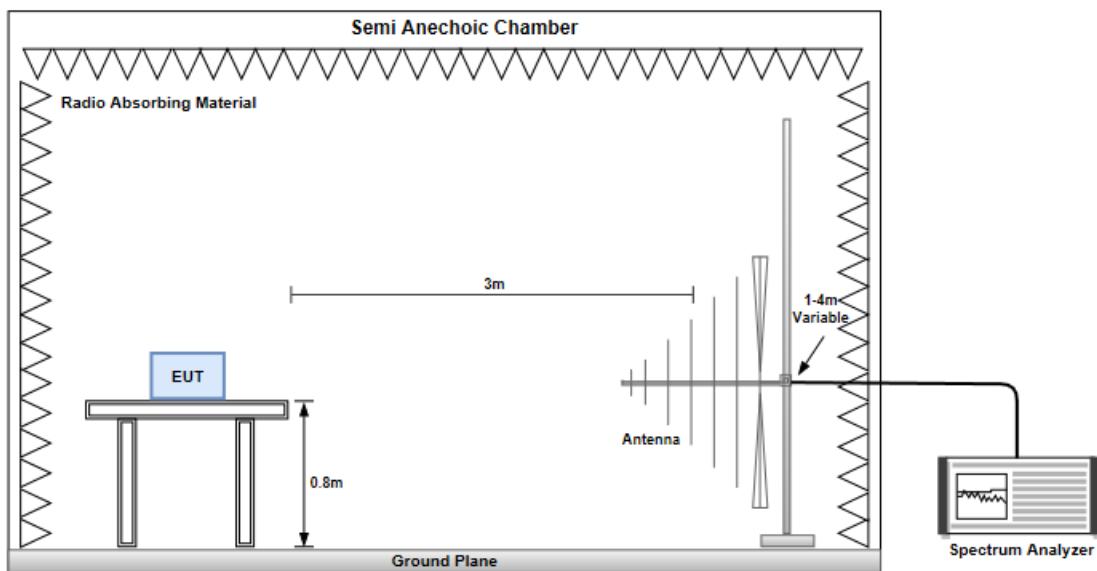
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB equal to -13dBm.

3.2.2 Test Procedures

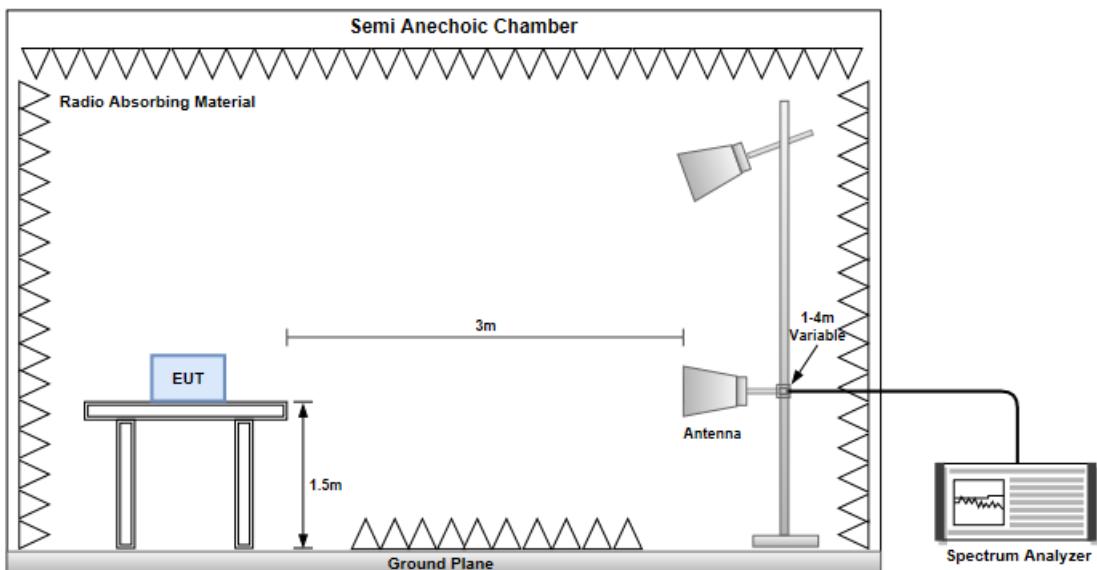
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



CDD mode

3.2.4 Test Result of Radiated Emissions below 1GHz

Mode		LTE Band 41 Low, CB:5MHz, 1RB, Offset 0, Channel:39675					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
85.29	H	-56.33	-13.00	-43.33	-52.71	-55.52	-0.81
176.47	H	-58.17	-13.00	-45.17	-56.64	-59.49	1.32
305.48	H	-63.56	-13.00	-50.56	-62.32	-67.57	4.01
374.35	H	-53.02	-13.00	-40.02	-57.92	-57.05	4.03
499.48	H	-56.44	-13.00	-43.44	-60.10	-60.32	3.88
749.74	H	-59.62	-13.00	-46.62	-68.17	-62.60	2.98
83.35	V	-51.10	-13.00	-38.10	-48.40	-49.83	-1.27
174.53	V	-53.46	-13.00	-40.46	-55.38	-54.53	1.07
374.35	V	-53.69	-13.00	-40.69	-55.79	-57.72	4.03
499.47	V	-49.44	-13.00	-36.44	-53.48	-53.32	3.88
749.74	V	-56.24	-13.00	-43.24	-65.40	-59.22	2.98
955.38	V	-55.42	-13.00	-42.42	-66.86	-57.86	2.44

Note: EIRP = S.G Power value + Correction factor.

Mode		LTE Band 41 Low, CB:10MHz, 1RB, Offset 0, Channel:39700					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
85.29	H	-56.29	-13.00	-43.29	-52.67	-55.48	-0.81
180.35	H	-59.63	-13.00	-46.63	-57.89	-61.46	1.83
305.48	H	-62.48	-13.00	-49.48	-61.24	-66.49	4.01
374.35	H	-52.10	-13.00	-39.10	-54.00	-56.13	4.03
499.48	H	-56.35	-13.00	-43.35	-60.01	-60.23	3.88
749.74	H	-59.46	-13.00	-46.46	-68.01	-62.44	2.98
85.29	V	-53.08	-13.00	-40.08	-50.18	-52.27	-0.81
176.47	V	-55.84	-13.00	-42.84	-57.73	-57.16	1.32
374.35	V	-58.47	-13.00	-45.47	-60.57	-62.50	4.03
499.48	V	-51.29	-13.00	-38.29	-55.40	-55.17	3.88
749.74	V	-56.01	-13.00	-43.01	-65.17	-58.99	2.98
955.38	V	-58.04	-13.00	-45.04	-69.48	-60.48	2.44

Note: EIRP = S.G Power value + Correction factor.

Mode		LTE Band 41 low, CB:15MHz, 1RB, Offset 0, Channel:39725					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
82.38	H	-55.65	-13.00	-42.65	-52.51	-54.15	-1.50
176.47	H	-59.19	-13.00	-46.19	-57.66	-60.51	1.32
304.51	H	-62.42	-13.00	-49.42	-62.12	-66.43	4.01
374.35	H	-53.39	-13.00	-40.39	55.29	-57.42	4.03
499.48	H	-56.37	-13.00	-43.37	-60.03	-60.25	3.88
749.74	H	-59.70	-13.00	-46.70	-68.25	-62.68	2.98
85.29	V	-50.71	-13.00	-37.71	-47.81	-49.90	-0.81
171.62	V	-52.94	-13.00	-39.94	-54.90	-53.62	0.68
374.35	V	-52.95	-13.00	-39.95	-55.05	-56.98	4.03
499.48	V	-49.49	-13.00	-36.49	-53.50	-53.37	3.88
749.74	V	-55.55	-13.00	-42.55	-64.71	-58.53	2.98
955.38	V	-56.57	-13.00	-43.57	-68.01	-59.01	2.44

Note: EIRP = S.G Power value + Correction factor.

Mode		LTE Band 41 low, CB:20MHz, 1RB, Offset 0, Channel:39750					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
85.29	H	-56.26	-13.00	-43.26	-52.64	-55.45	-0.81
176.47	H	-59.50	-13.00	-46.50	-57.97	-60.82	1.32
305.48	H	-62.47	-13.00	-49.47	-61.23	-66.48	4.01
374.35	H	-53.86	-13.00	-40.86	-55.76	-57.89	4.03
499.48	H	-56.33	-13.00	-43.33	-59.99	-60.21	3.88
749.74	H	-60.22	-13.00	-47.22	-68.77	-63.20	2.98
83.35	V	-51.05	-13.00	-38.05	-48.35	-49.78	-1.27
176.47	V	-52.87	-13.00	-39.87	-54.76	-54.19	1.32
374.35	V	-53.93	-13.00	-40.93	-56.03	-57.96	4.03
499.48	V	-49.51	-13.00	-36.51	-53.52	-53.39	3.88
749.74	V	-56.24	-13.00	-43.24	-65.40	-59.22	2.98
955.38	V	-56.21	-13.00	-43.21	-67.65	-58.65	2.44

Note: EIRP = S.G Power value + Correction factor.

3.2.5 Test Result of Radiated Emissions above 1GHz

Mode	LTE Band 41 Low, CB:5MHz, 1RB, Offset 12, Channel:39675						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
4997.00	H	-32.34	-13.00	-19.34	-49.85	-38.20	5.86
7495.50	H	-23.58	-13.00	-10.58	-42.68	-26.84	3.26
9994.00	H	-23.32	-13.00	-10.32	-46.47	-25.00	1.68
4997.00	V	-30.76	-13.00	-17.76	-48.26	-36.62	5.86
7495.50	V	-24.79	-13.00	-11.79	-44.11	-28.05	3.26
9994.00	V	-22.81	-13.00	-9.81	-44.25	-24.49	1.68

Mode	LTE Band 41 Low, CB:5MHz, 1RB, Offset 12, Channel:40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5066.00	H	-28.08	-13.00	-15.08	-45.37	-33.97	5.89
7599.00	H	-21.04	-13.00	-8.04	-39.56	-24.17	3.13
10132.00	H	-18.12	-13.00	-5.12	-41.03	-19.60	1.48
5066.00	V	-29.47	-13.00	-16.47	-46.85	-35.36	5.89
7599.00	V	-21.37	-13.00	-8.37	-40.02	-24.50	3.13
10132.00	V	-17.53	-13.00	-4.53	-38.90	-19.01	1.48

Mode	LTE Band 41 Low, CB:5MHz, 1RB, Offset 12, Channel:40365						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5135.00	H	-32.98	-13.00	-19.98	-50.02	-38.89	5.91
7702.50	H	-23.73	-13.00	-10.73	-42.15	-26.60	2.87
10270.00	H	-21.73	-13.00	-8.73	-44.35	-23.00	1.27
5135.00	V	-29.99	-13.00	-16.99	-47.24	-35.90	5.91
7702.50	V	-22.37	-13.00	-9.37	-41.36	-25.24	2.87
10270.00	V	-22.44	-13.00	-9.44	-43.72	-23.71	1.27

Note: EIRP = S.G Power value + Correction factor.

Mode	LTE Band 41 Low, CB:10MHz, 1RB, Offset 24, Channel:39700						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5002.00	H	-30.19	-13.00	-17.19	-47.69	-36.05	5.86
7503.00	H	-21.17	-13.00	-8.17	-40.23	-24.42	3.25
10004.00	H	-19.74	-13.00	-6.74	-42.92	-21.41	1.67
5002.00	V	-29.85	-13.00	-16.85	-47.35	-35.71	5.86
7503.00	V	-23.11	-13.00	-10.11	-42.39	-26.36	3.25
10004.00	V	-21.67	-13.00	-8.67	-43.12	-23.34	1.67

Mode	LTE Band 41 Low, CB:10MHz, 1RB, Offset 24, Channel:40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5066.00	H	-30.95	-13.00	-17.95	-48.24	-36.84	5.89
7599.00	H	-23.05	-13.00	-10.05	-41.57	-26.18	3.13
10132.00	H	-20.55	-13.00	-7.55	-43.46	-22.03	1.48
5066.00	V	-30.21	-13.00	-17.21	-47.59	-36.10	5.89
7599.00	V	-23.61	-13.00	-10.61	-42.26	-26.74	3.13
10132.00	V	-20.55	-13.00	-7.55	-41.92	-22.03	1.48

Mode	LTE Band 41 Low, CB:10MHz, 1RB, Offset 24, Channel:40340						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5130.00	H	-29.20	-13.00	-16.20	-46.26	-35.11	5.91
7695.00	H	-22.86	-13.00	-9.86	-41.28	-25.75	2.89
10260.00	H	-18.97	-13.00	-5.97	-41.61	-20.25	1.28
5130.00	V	-29.97	-13.00	-16.97	-47.23	-35.88	5.91
7695.00	V	-25.01	-13.00	-12.01	-43.98	-27.90	2.89
10260.00	V	-21.16	-13.00	-8.16	-42.45	-22.44	1.28

Note: EIRP = S.G Power value + Correction factor.

Mode	LTE Band 41 low, CB:15MHz, 1RB, Offset 37, Channel:39725						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5007.00	H	-28.09	-13.00	-15.09	-45.58	-33.95	5.86
7510.50	H	-22.94	-13.00	-9.94	-41.96	-26.18	3.24
10014.00	H	-19.26	-13.00	-6.26	-42.42	-20.92	1.66
5007.00	V	-29.48	-13.00	-16.48	-46.97	-35.34	5.86
7510.50	V	-23.12	-13.00	-10.12	-42.35	-26.36	3.24
10014.00	V	-18.25	-13.00	-5.25	-39.69	-19.91	1.66

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 37, Channel:40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5066.00	H	-30.87	-13.00	-17.87	-48.16	-36.76	5.89
7599.00	H	-23.74	-13.00	-10.74	-42.26	-26.87	3.13
10132.00	H	-23.09	-13.00	-10.09	-46.00	-24.57	1.48
5066.00	V	-29.83	-13.00	-16.83	-47.21	-35.72	5.89
7599.00	V	-25.76	-13.00	-12.76	-44.41	-28.89	3.13
10132.00	V	-24.95	-13.00	-11.95	-46.32	-26.43	1.48

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 37, Channel:40315						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5125.00	H	-31.43	-13.00	-18.43	-48.51	-37.34	5.91
7687.50	H	-22.84	-13.00	-9.84	-41.28	-25.75	2.91
10250.00	H	-19.54	-13.00	-6.54	-42.20	-20.84	1.30
5125.00	V	-30.08	-13.00	-17.08	-47.35	-35.99	5.91
7687.50	V	-24.38	-13.00	-11.38	-43.33	-27.29	2.91
10250.00	V	-18.39	-13.00	-5.39	-39.69	-19.69	1.30

Note: EIRP = S.G Power value + Correction factor.

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 49, Channel:39750						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5012.00	H	-29.20	-13.00	-16.20	-46.67	-35.06	5.86
7518.00	H	-23.15	-13.00	-10.15	-42.12	-26.38	3.23
10024.00	H	-20.20	-13.00	-7.20	-43.34	-21.84	1.64
5012.00	V	-29.89	-13.00	-16.89	-47.37	-35.75	5.86
7518.00	V	-22.14	-13.00	-9.14	-41.31	-25.37	3.23
10024.00	V	-22.16	-13.00	-9.16	-43.59	-23.80	1.64

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 49, Channel:40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5066.00	H	-32.71	-13.00	-19.71	-50.00	-38.60	5.89
7599.00	H	-20.95	-13.00	-7.95	-39.47	-24.08	3.13
10132.00	H	-19.31	-13.00	-6.31	-42.22	-20.79	1.48
5066.00	V	-30.26	-13.00	-17.26	-47.64	-36.15	5.89
7599.00	V	-24.94	-13.00	-11.94	-43.59	-28.07	3.13
10132.00	V	-18.06	-13.00	-5.06	-39.43	-19.54	1.48

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 49, Channel:40290						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
5120.00	H	-32.16	-13.00	-19.16	-49.25	-38.07	5.91
7680.00	H	-22.64	-13.00	-9.64	-41.08	-25.57	2.93
10240.00	H	-20.86	-13.00	-7.86	-43.54	-22.18	1.32
5120.00	V	-29.92	-13.00	-16.92	-47.20	-35.83	5.91
7680.00	V	-21.38	-13.00	-8.38	-40.30	-24.31	2.93
10240.00	V	-21.20	-13.00	-8.20	-42.50	-22.52	1.32

Note: EIRP = S.G Power value + Correction factor.

CA mode

3.2.6 Test Result of Radiated Emissions below 1GHz

Mode		LTE Band 41 low, CB:20MHz, 1RB, Offset 99, Channel:39758+CB:20MHz, 1RB, Offset 0, Channel:39956					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
83.35	H	-55.18	-13.00	-42.18	-51.83	-53.91	-1.27
177.44	H	-59.36	-13.00	-46.36	-57.78	-60.81	1.45
305.48	H	-63.21	-13.00	-50.21	-61.97	-67.22	4.01
374.35	H	-53.16	-13.00	-40.16	-55.06	-57.19	4.03
499.48	H	-56.20	-13.00	-43.20	-59.86	-60.08	3.88
749.74	H	-60.25	-13.00	-47.25	-68.80	-63.23	2.98
83.35	V	-51.79	-13.00	-38.79	-49.09	-50.52	-1.27
164.83	V	-53.26	-13.00	-40.26	-55.29	-53.04	-0.22
374.35	V	-54.01	-13.00	-41.01	-56.11	-58.04	4.03
499.48	V	-49.54	-13.00	-36.54	-53.55	-53.42	3.88
749.74	V	-56.25	-13.00	-43.25	-65.41	-59.23	2.98
955.38	V	-55.89	-13.00	-42.89	-67.33	-58.33	2.44

Note: EIRP = S.G Power value + Correction factor.

3.2.7 Test Result of Radiated Emissions above 1GHz

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 99, Channel:39758+CB:20MHz, 1RB, Offset 0, Channel:39956						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7550.10	H	-24.47	-13.00	-11.47	-43.26	-27.66	3.19
10066.80	H	-30.36	-13.00	-17.36	-53.41	-31.94	1.58
15100.20	H	-32.74	-13.00	-19.74	-57.92	-34.09	1.35
7550.10	V	-23.94	-13.00	-10.94	-42.91	-27.13	3.19
10066.80	V	-28.47	-13.00	-15.47	-49.88	-30.05	1.58
15100.20	V	-28.96	-13.00	-15.96	-56.51	-30.31	1.35

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 99, Channel:39926+CB:20MHz, 1RB, Offset 0, Channel:40124						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7600.50	H	-24.61	-13.00	-11.61	-4312.00	-27.74	3.13
10134.00	H	-26.92	-13.00	-13.92	-49.83	-28.40	1.48
15201.00	H	-34.64	-13.00	-21.64	-60.09	-36.51	1.87
7600.50	V	-24.42	-13.00	-11.42	-43.06	-27.55	3.13
10134.00	V	-25.36	-13.00	-12.36	-46.73	-26.84	1.48
15201.00	V	-31.39	-13.00	-18.39	-58.66	-33.26	1.87

Mode	LTE Band 41 low, CB:20MHz, 1RB, Offset 99, Channel:40072+CB:20MHz, 1RB, Offset 0, Channel:40270						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7644.30	H	-25.38	-13.00	-12.38	-43.85	-28.40	3.02
10192.40	H	-29.17	-13.00	-16.17	-51.95	-30.56	1.39
15288.60	H	-32.64	-13.00	-19.64	-58.33	-34.96	2.32
7644.30	V	-23.03	-13.00	-10.03	-41.82	-26.05	3.02
10192.40	V	-27.94	-13.00	-14.94	-49.27	-29.33	1.39
15288.60	V	-29.85	-13.00	-16.85	-56.88	-32.17	2.32

Note: EIRP = S.G Power value + Correction factor.

3.3 Conducted Emissions

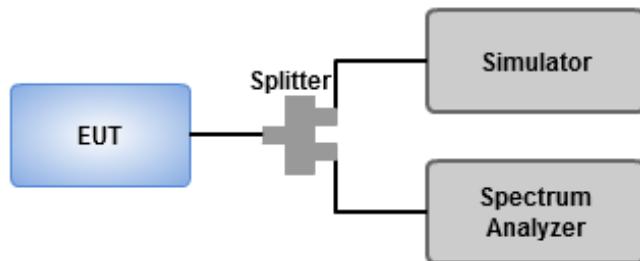
3.3.1 Limit of Conducted Emissions

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

3.3.2 Test Procedures

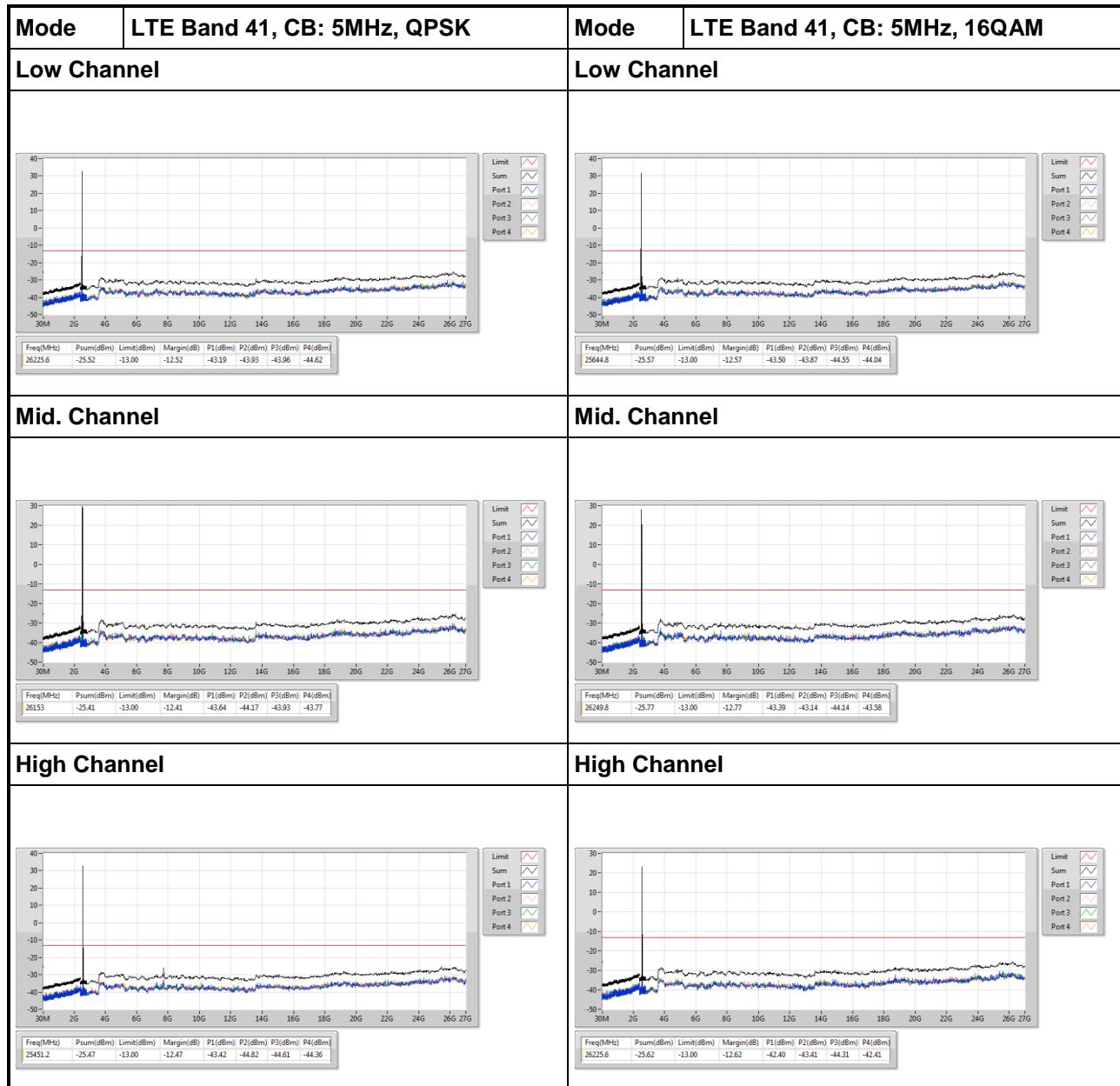
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz ~ 27GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = average, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

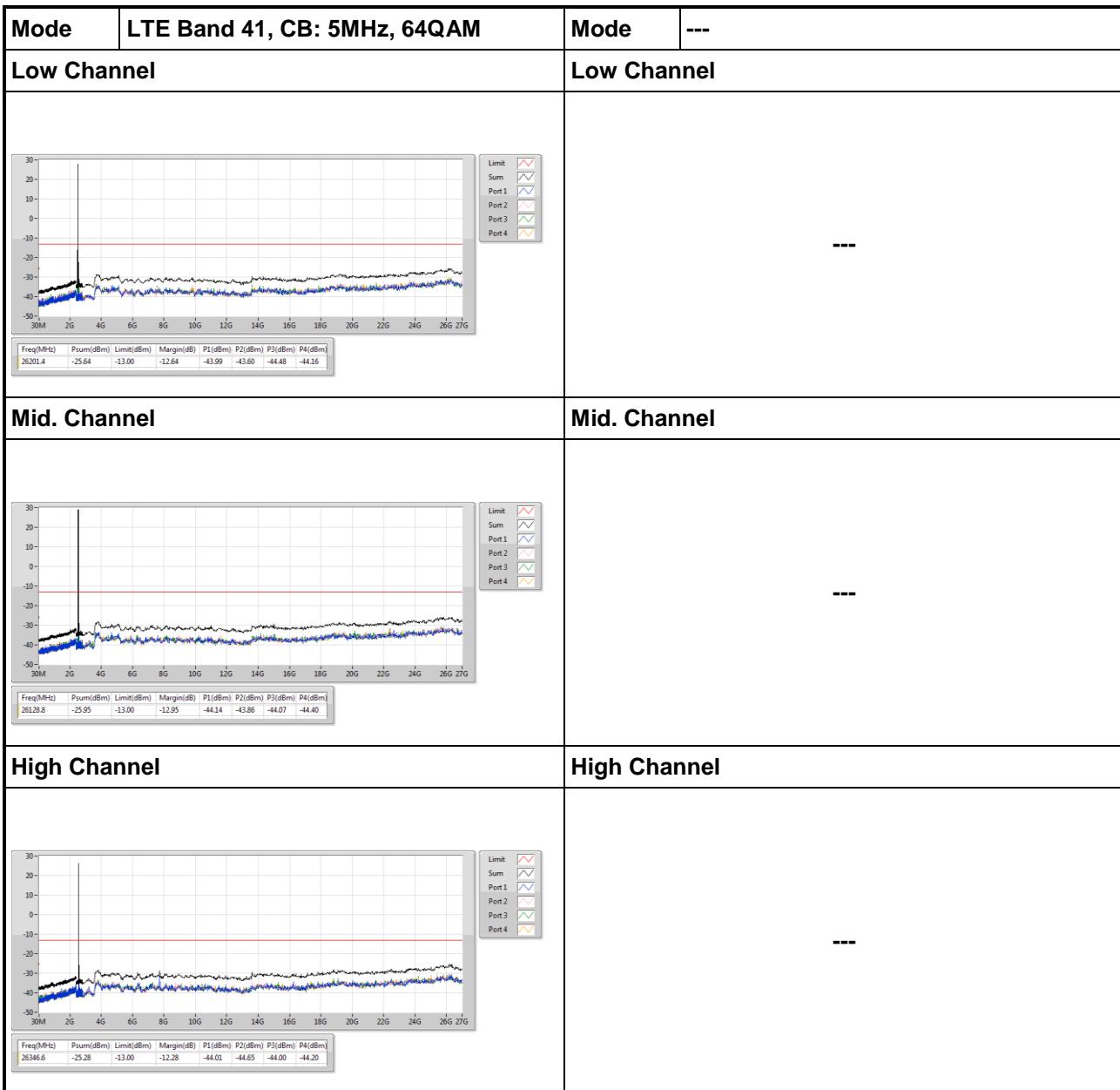
3.3.3 Test Setup



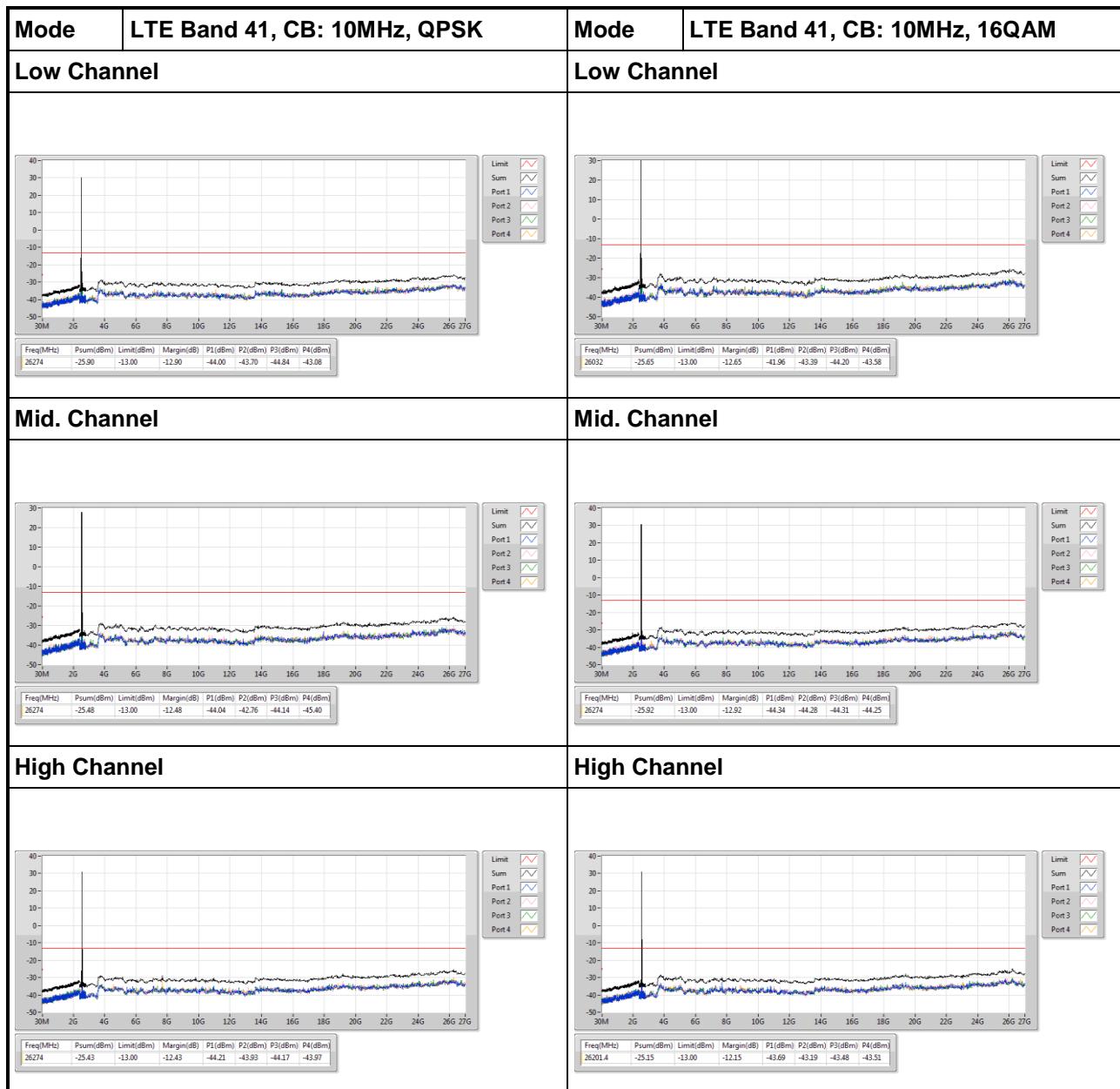
3.3.4 Test Result of Conducted Emissions_CDD mode

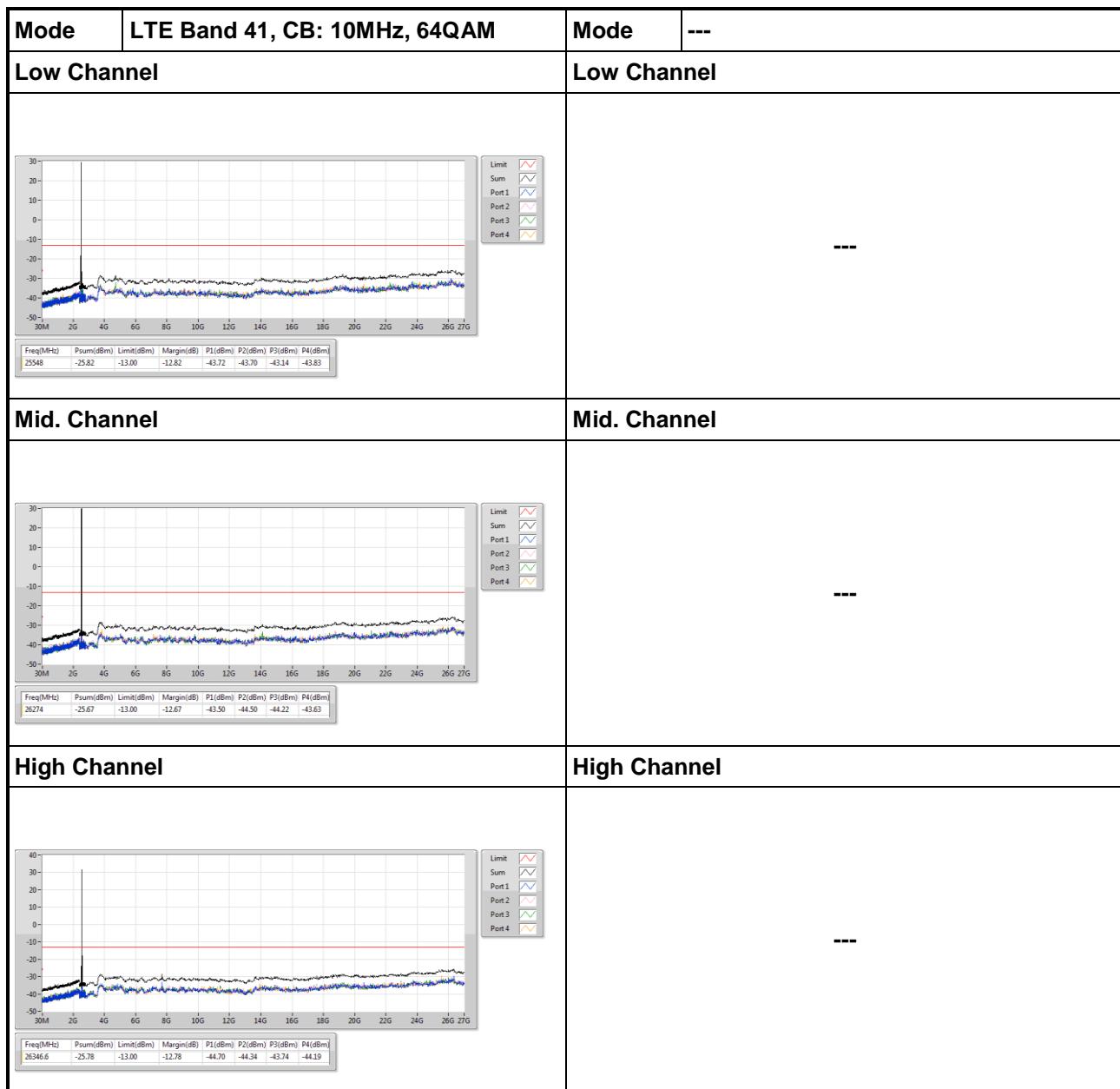
LTE Band 41, CB: 5MHz



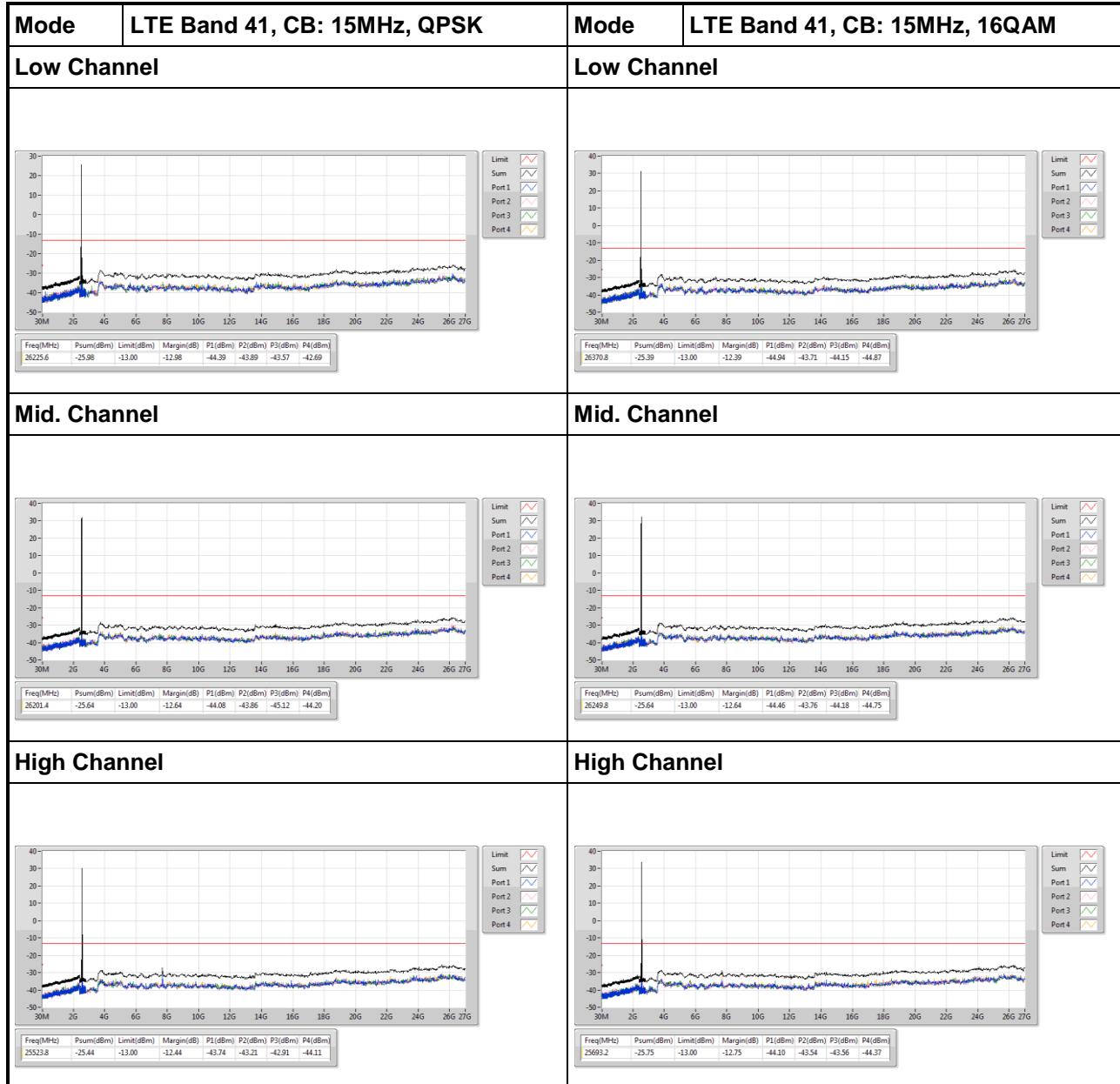


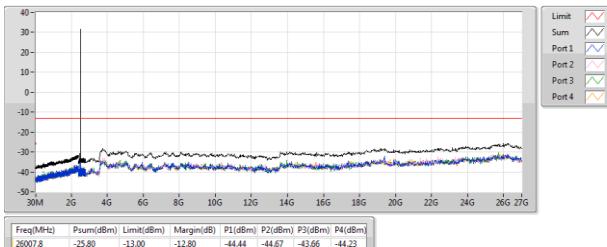
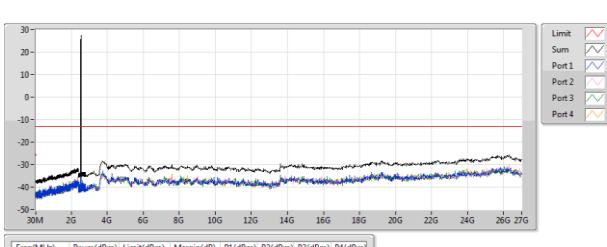
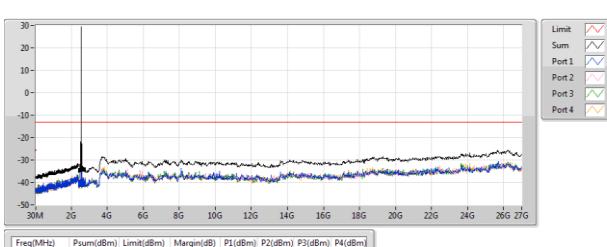
LTE Band 41, CB: 10MHz



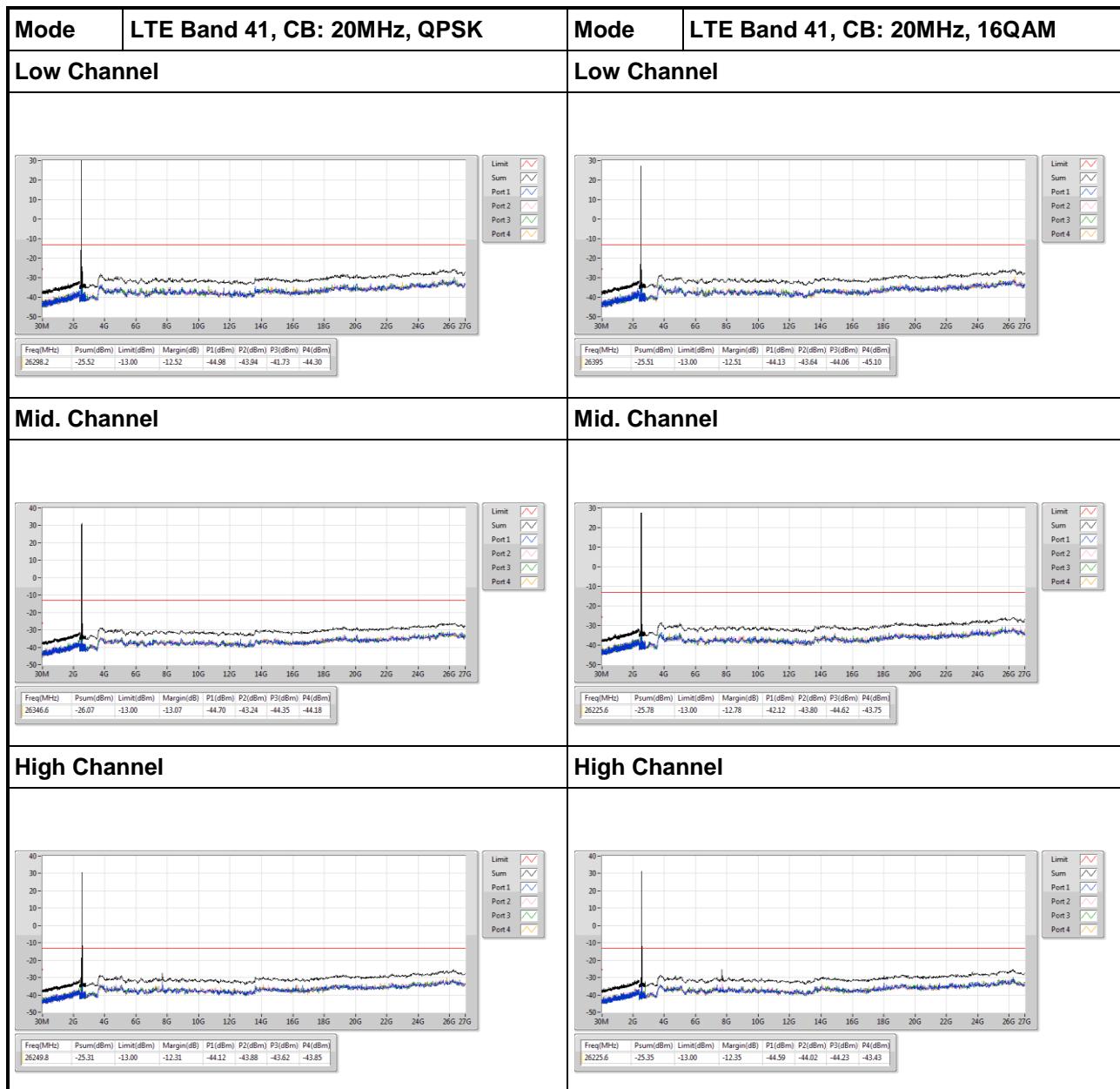


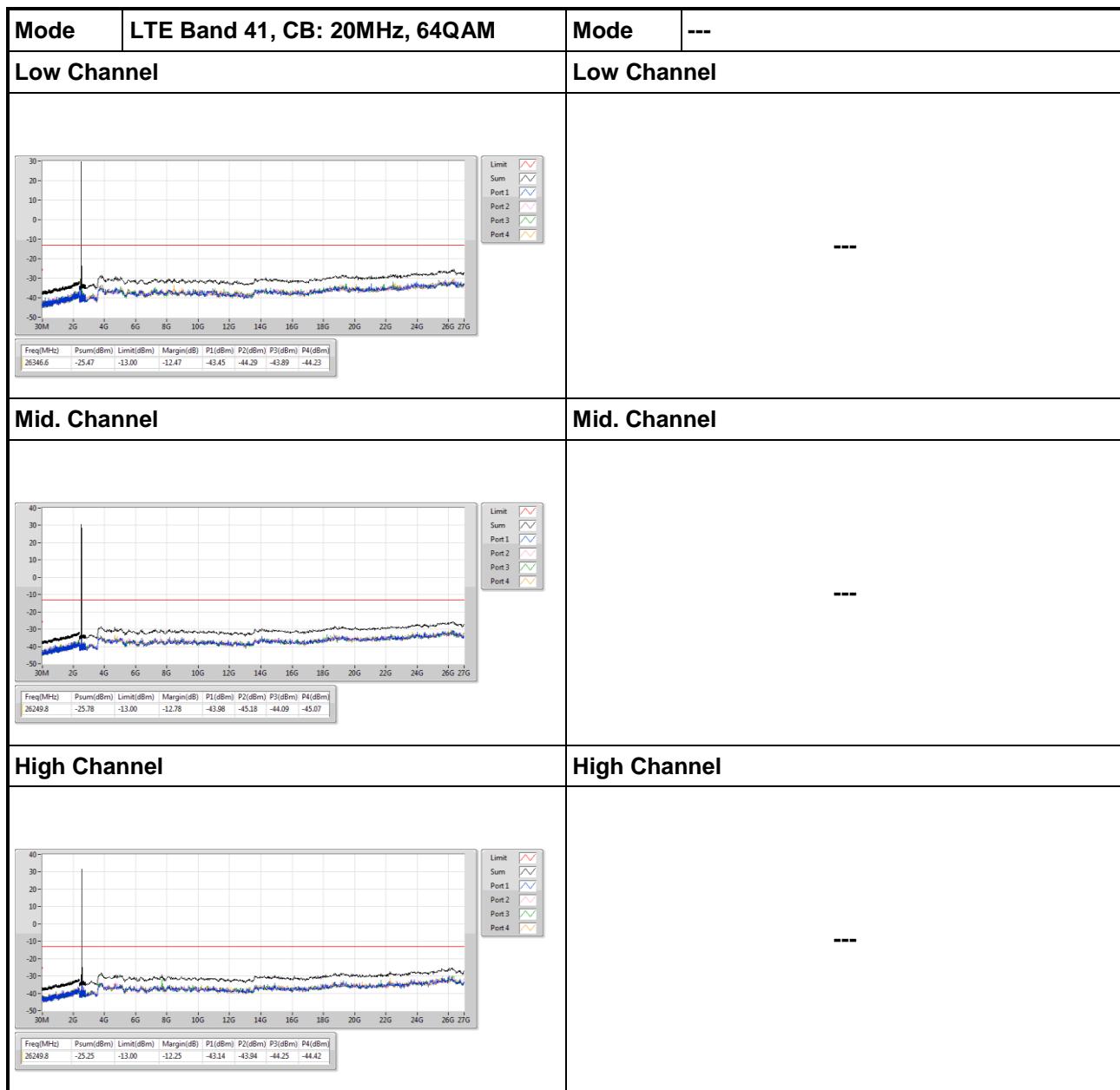
LTE Band 41, CB: 15MHz



Mode	LTE Band 41, CB: 15MHz, 64QAM	Mode	---
Low Channel		Low Channel	
 <p>Freq(MHz) Psum(dBm) Limit(dBm) Margin(dB) P1(dBm) P2(dBm) P3(dBm) P4(dBm) 26007.8 -25.80 -13.00 -12.80 -44.44 -44.67 -43.66 -44.23</p>			
Mid. Channel		Mid. Channel	
 <p>Freq(MHz) Psum(dBm) Limit(dBm) Margin(dB) P1(dBm) P2(dBm) P3(dBm) P4(dBm) 26298.2 -25.73 -13.00 -12.73 -44.26 -43.58 -44.17 -42.40</p>			
High Channel		High Channel	
 <p>Freq(MHz) Psum(dBm) Limit(dBm) Margin(dB) P1(dBm) P2(dBm) P3(dBm) P4(dBm) 26274 -25.48 -13.00 -12.48 -42.90 -44.49 -44.74 -42.60</p>			

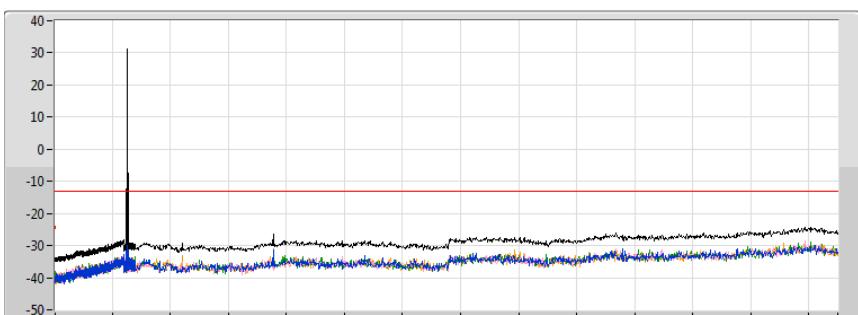
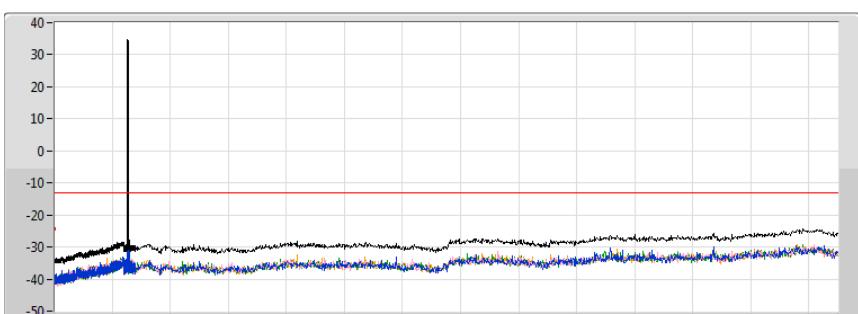
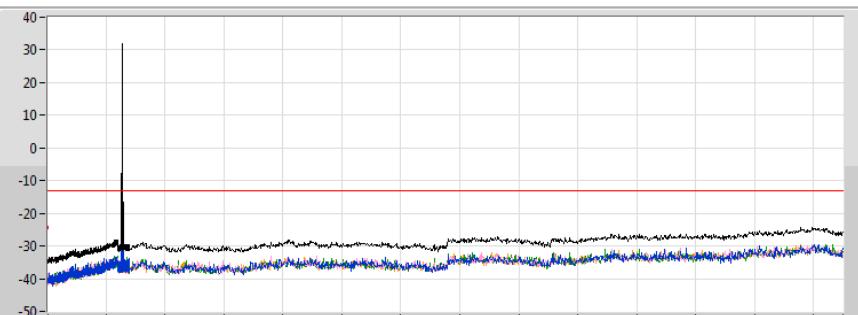
LTE Band 41, CB: 20MHz

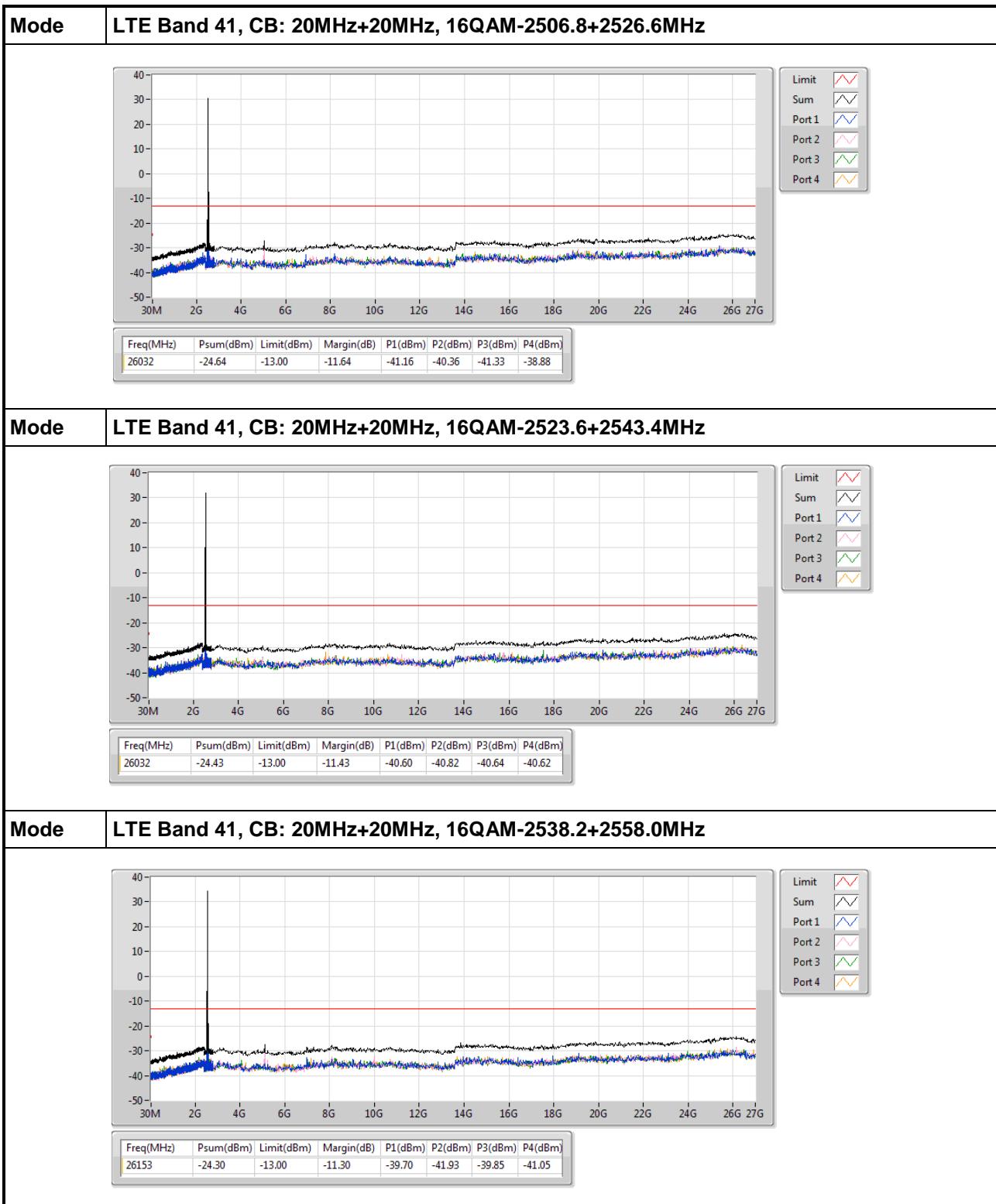


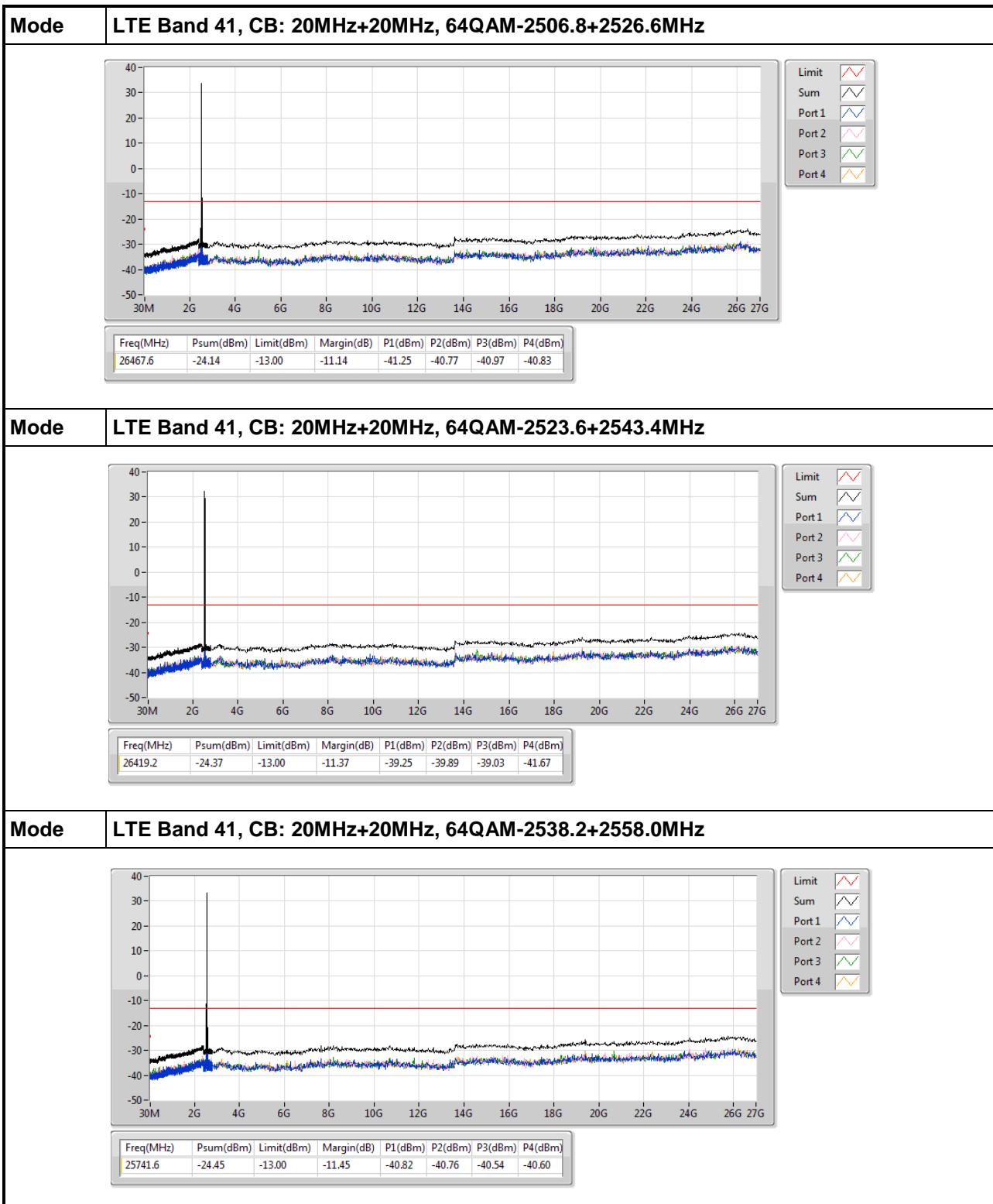


3.3.5 Test Result of Conducted Emissions_CA mode

LTE Band 41, CB: 20MHz+20MHz

Mode	LTE Band 41, CB: 20MHz+20MHz, QPSK-2506.8+2526.6MHz																					
 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <table border="1"> <thead> <tr> <th>Freq(MHz)</th> <th>Psum(dBm)</th> <th>Limit(dBm)</th> <th>Margin(dB)</th> <th>P1(dBm)</th> <th>P2(dBm)</th> <th>P3(dBm)</th> <th>P4(dBm)</th> </tr> </thead> <tbody> <tr> <td>25886.8</td> <td>-24.30</td> <td>-13.00</td> <td>-11.30</td> <td>-40.96</td> <td>-41.38</td> <td>-40.57</td> <td>-41.41</td> </tr> </tbody> </table> </div>							Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	25886.8	-24.30	-13.00	-11.30	-40.96	-41.38	-40.57	-41.41
Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)															
25886.8	-24.30	-13.00	-11.30	-40.96	-41.38	-40.57	-41.41															
Mode	LTE Band 41, CB: 20MHz+20MHz, QPSK-2523.6+2543.4MHz																					
 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <table border="1"> <thead> <tr> <th>Freq(MHz)</th> <th>Psum(dBm)</th> <th>Limit(dBm)</th> <th>Margin(dB)</th> <th>P1(dBm)</th> <th>P2(dBm)</th> <th>P3(dBm)</th> <th>P4(dBm)</th> </tr> </thead> <tbody> <tr> <td>25814.2</td> <td>-24.37</td> <td>-13.00</td> <td>-11.37</td> <td>-38.71</td> <td>-40.08</td> <td>-40.84</td> <td>-39.83</td> </tr> </tbody> </table> </div>							Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	25814.2	-24.37	-13.00	-11.37	-38.71	-40.08	-40.84	-39.83
Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)															
25814.2	-24.37	-13.00	-11.37	-38.71	-40.08	-40.84	-39.83															
Mode	LTE Band 41, CB: 20MHz+20MHz, QPSK-2538.2+2558.0MHz																					
 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <table border="1"> <thead> <tr> <th>Freq(MHz)</th> <th>Psum(dBm)</th> <th>Limit(dBm)</th> <th>Margin(dB)</th> <th>P1(dBm)</th> <th>P2(dBm)</th> <th>P3(dBm)</th> <th>P4(dBm)</th> </tr> </thead> <tbody> <tr> <td>25572.2</td> <td>-24.33</td> <td>-13.00</td> <td>-11.33</td> <td>-39.91</td> <td>-41.20</td> <td>-41.39</td> <td>-40.56</td> </tr> </tbody> </table> </div>							Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	25572.2	-24.33	-13.00	-11.33	-39.91	-41.20	-41.39	-40.56
Freq(MHz)	Psum(dBm)	Limit(dBm)	Margin(dB)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)															
25572.2	-24.33	-13.00	-11.33	-39.91	-41.20	-41.39	-40.56															





3.4 Channel Edge

3.4.1 Limit of Channel Edge

For all fixed digital user stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge

3.4.2 Test Procedures

CDD Mode

For frequency range: 2495 ~ 2520 MHz / 2545 ~ 2571 MHz

1. Lowest and highest operating channels are tested for this item.
2. Set as below setting

Bandwidth	RB configuration	RBW	VBW	Detector	Sweep time
5	1RB	5.1KHz	16KHz	rms	Auto
5	100%RB	56KHz	180KHz	rms	Auto
10	1RB	5.1KHz	16KHz	rms	Auto
10	100%RB	100KHz	300KHz	rms	Auto
15	1RB	5.1KHz	16KHz	rms	Auto
15	100%RB	150KHz	470KHz	rms	Auto
20	1RB	5.1KHz	16KHz	rms	Auto
20	100%RB	200KHz	620KHz	rms	Auto

3. Record the max trace value and capture the test plot.

For frequency range: 2400 ~ 2490 MHz / 2576 ~ 2700 MHz

1. Lowest and highest operating channels are tested for this item.
2. Set RBW= 1MHz , VBW = 3MHz, Detector = rms, sweep time = Auto
3. Record the max trace value and capture the test plot.

For frequency range: 2490 ~ 2495 MHz / 2571 ~ 2576 MHz

1. Lowest and highest operating channels are tested for this item.
2. Set as below setting

Bandwidth	RB configuration	RBW	VBW	Detector	Sweep time
5	1RB	5.1KHz	16KHz	rms	Auto
5	100%RB	56KHz	180KHz	rms	Auto
10	1RB	5.1KHz	16KHz	rms	Auto
10	100%RB	100KHz	300KHz	rms	Auto
15	1RB	5.1KHz	16KHz	rms	Auto
15	100%RB	150KHz	470KHz	rms	Auto
20	1RB	5.1KHz	16KHz	rms	Auto
20	100%RB	200KHz	620KHz	rms	Auto

3. Using channel power function to integrate 1MHz energy.
4. Record the max trace value and capture the test plot.

CA Mode

For frequency range: 2495 ~ 2520 MHz / 2545 ~ 2571 MHz

1. Lowest and highest operating channels are tested for this item.

2. Set as below setting

Bandwidth	RB configuration	RBW	VBW	Detector	Sweep time
20+20	1RB	11KHz	33KHz	rms	Auto
20+20	100%RB	430KHz	1.3MHz	rms	Auto

3. Record the max trace value and capture the test plot.

For frequency range: 2400 ~ 2490 MHz / 2576 ~ 2700 MHz

1. Lowest and highest operating channels are tested for this item.
2. Set RBW= 1MHz , VBW = 3MHz, Detector = rms, sweep time = Auto
3. Record the max trace value and capture the test plot.

For frequency range: 2490 ~ 2495 MHz / 2571 ~ 2576 MHz

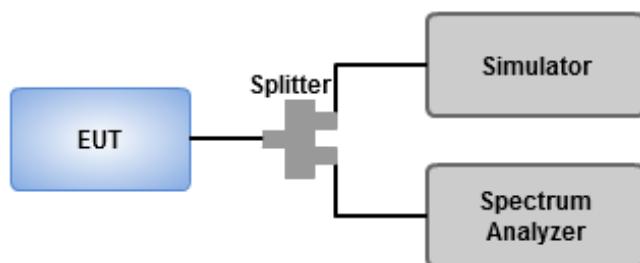
1. Lowest and highest operating channels are tested for this item.

2. Set as below setting

Bandwidth	RB configuration	RBW	VBW	Detector	Sweep time
20+20	1RB	11KHz	33KHz	rms	Auto
20+20	100%RB	430KHz	1.3MHz	rms	Auto

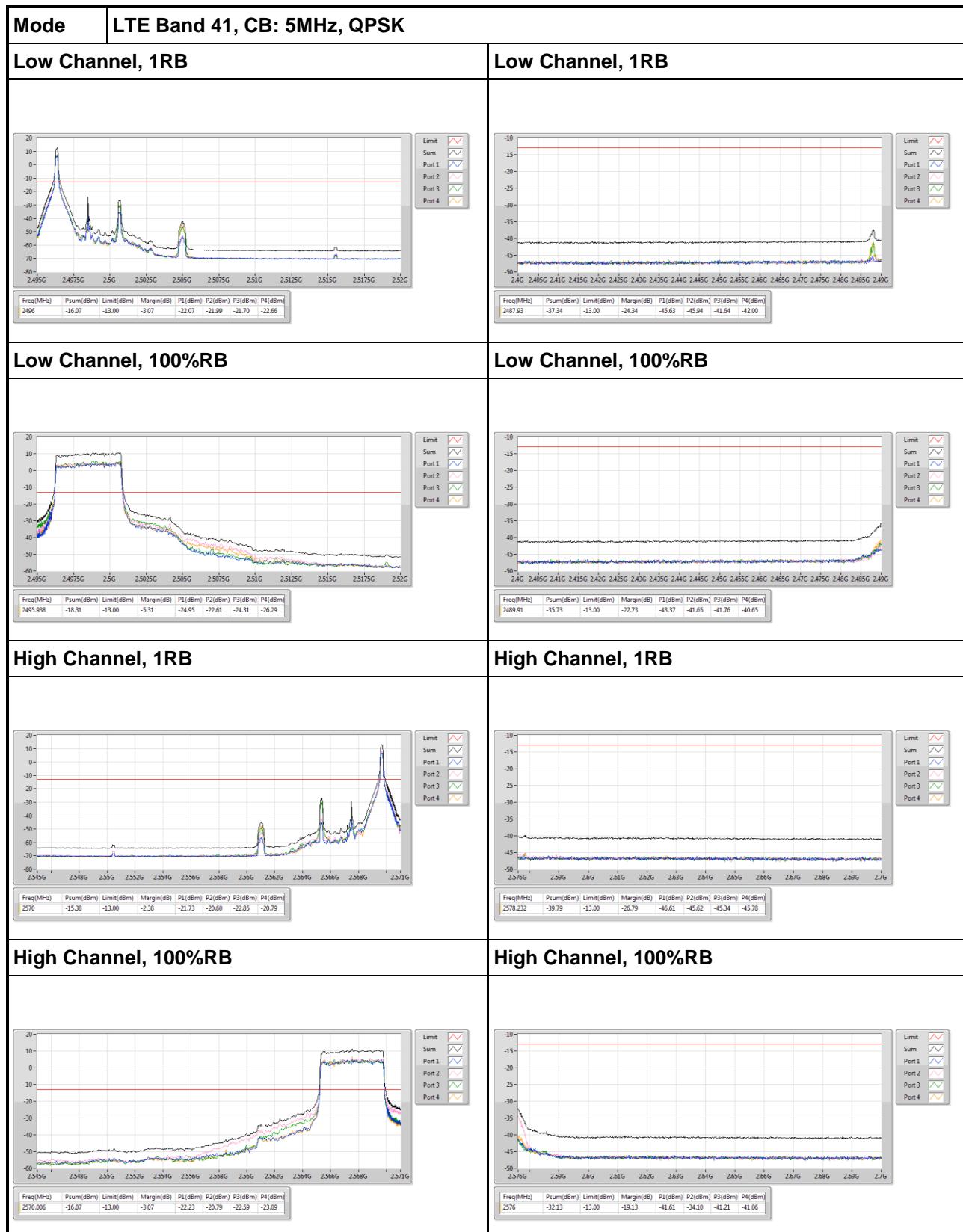
3. Using channel power function to integrate 1MHz energy.
4. Record the max trace value and capture the test plot.

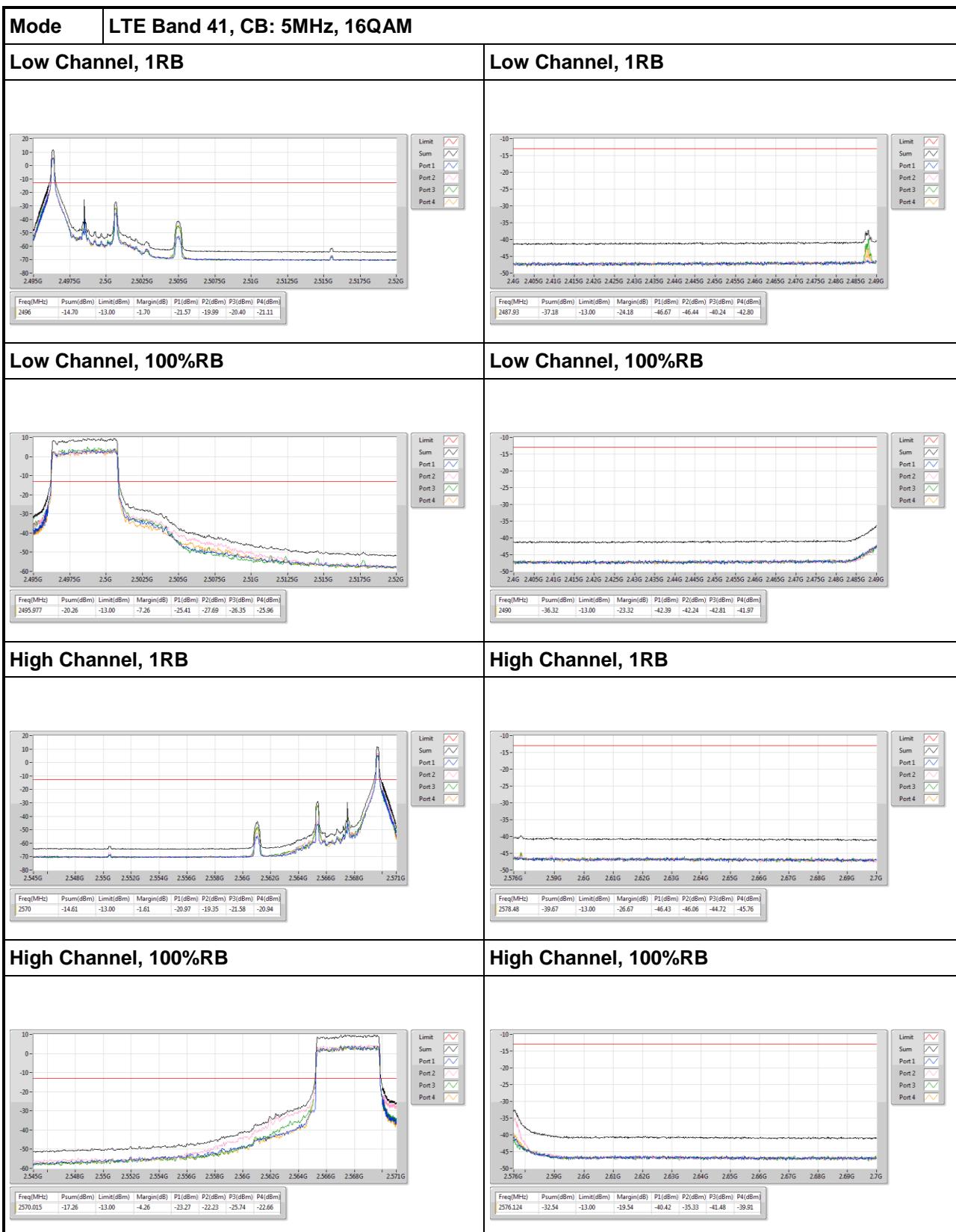
3.4.3 Test Setup

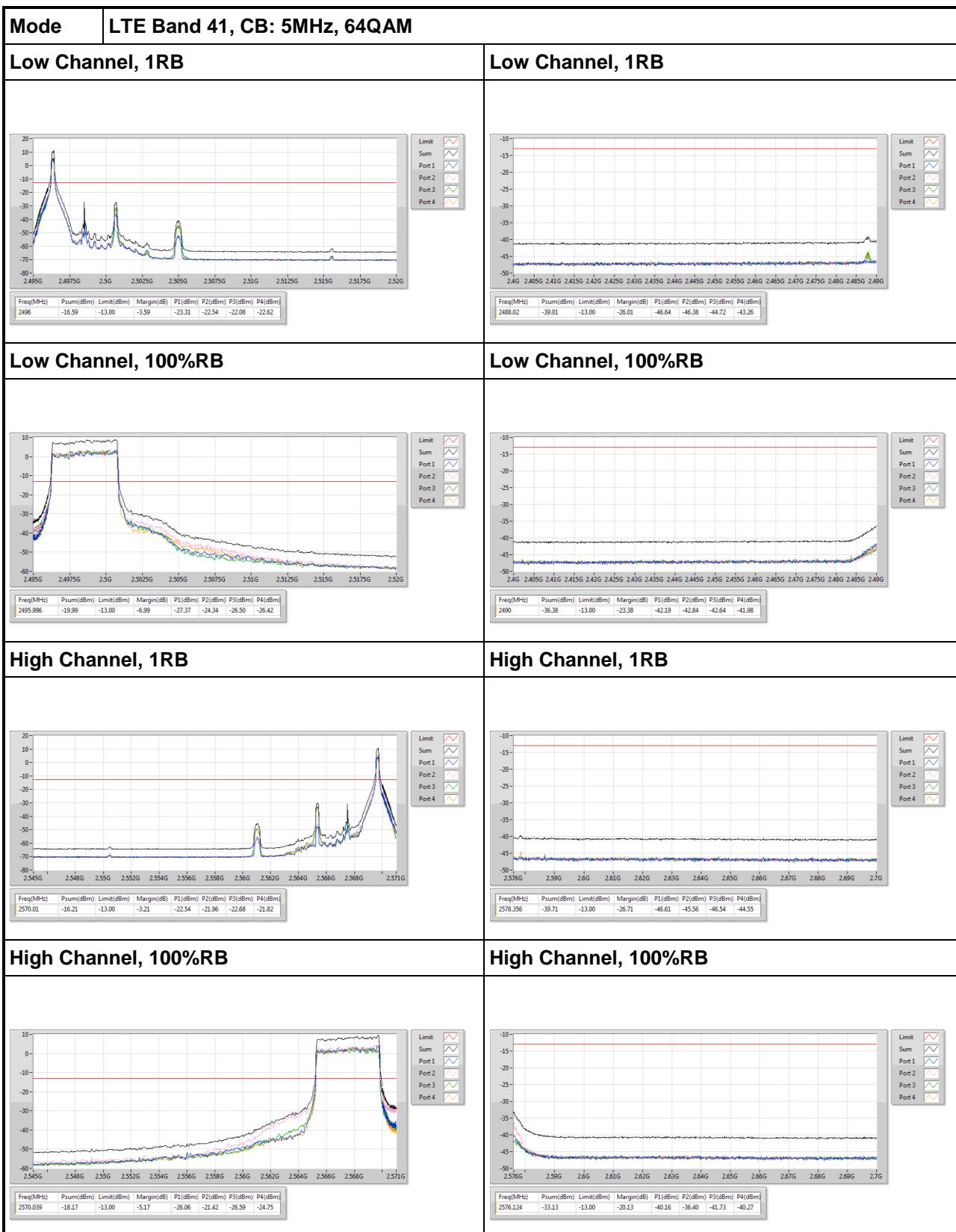


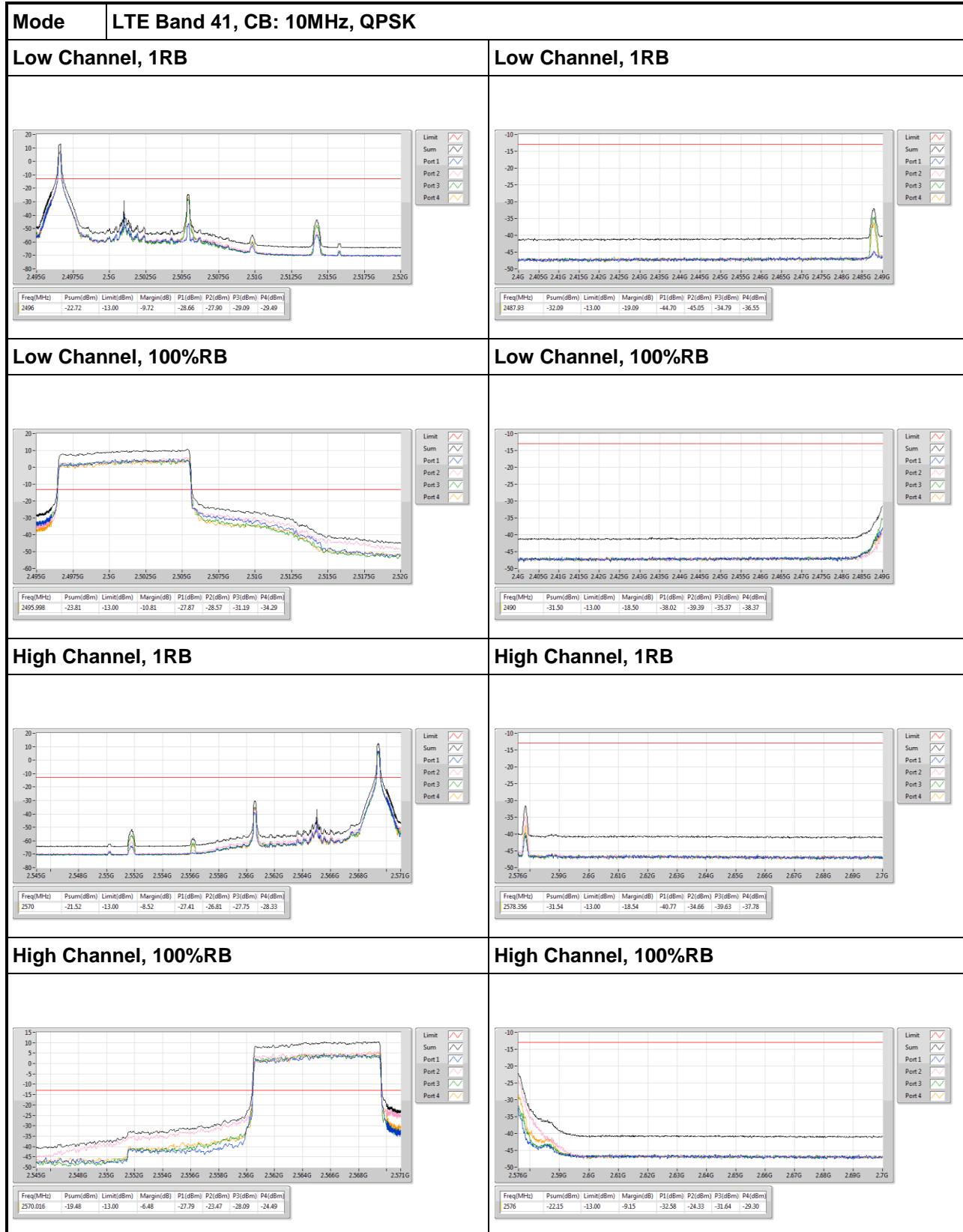
3.4.4 Test Result of Channel Edge_CDD mode

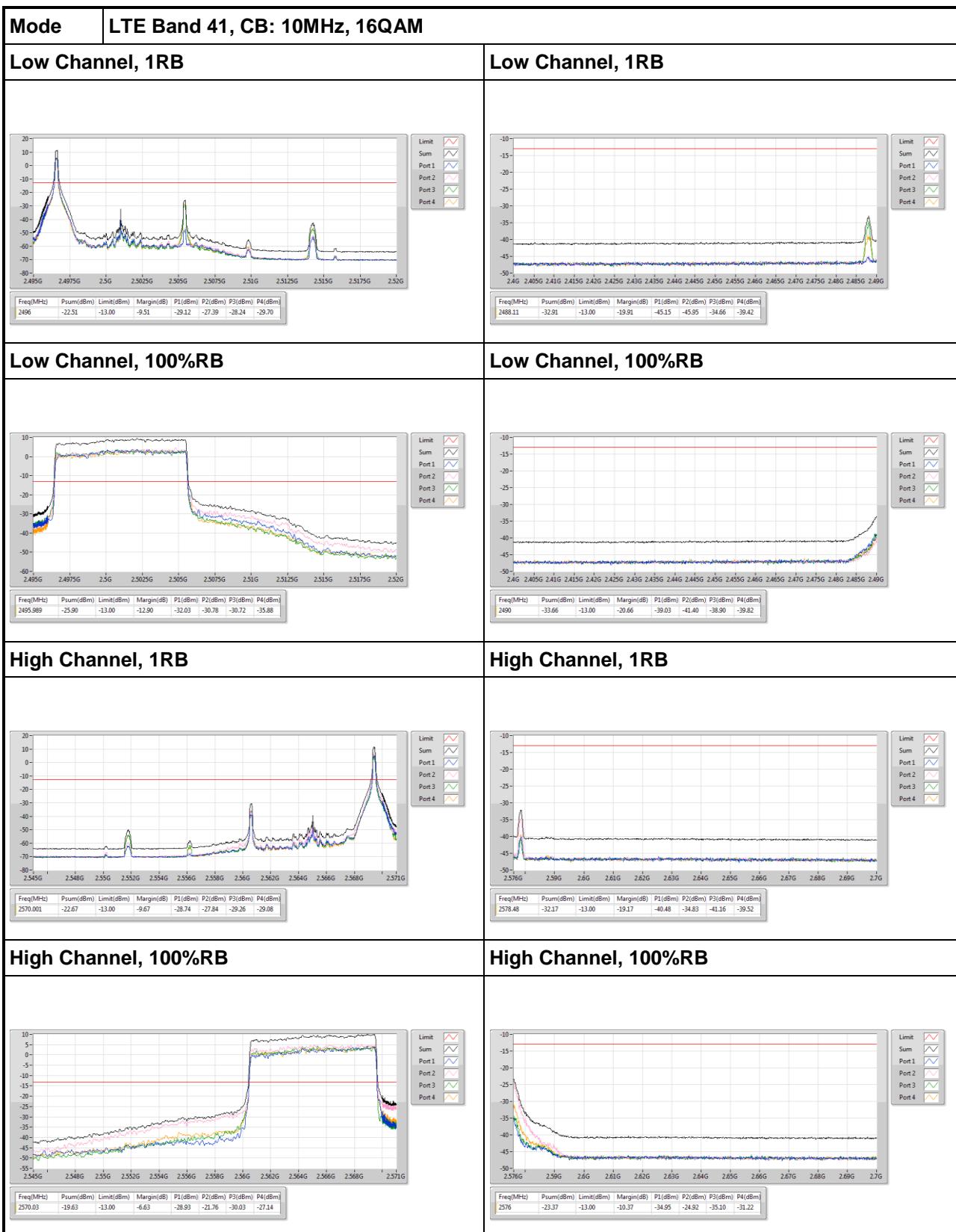
LTE Band 41, CB: 5MHz

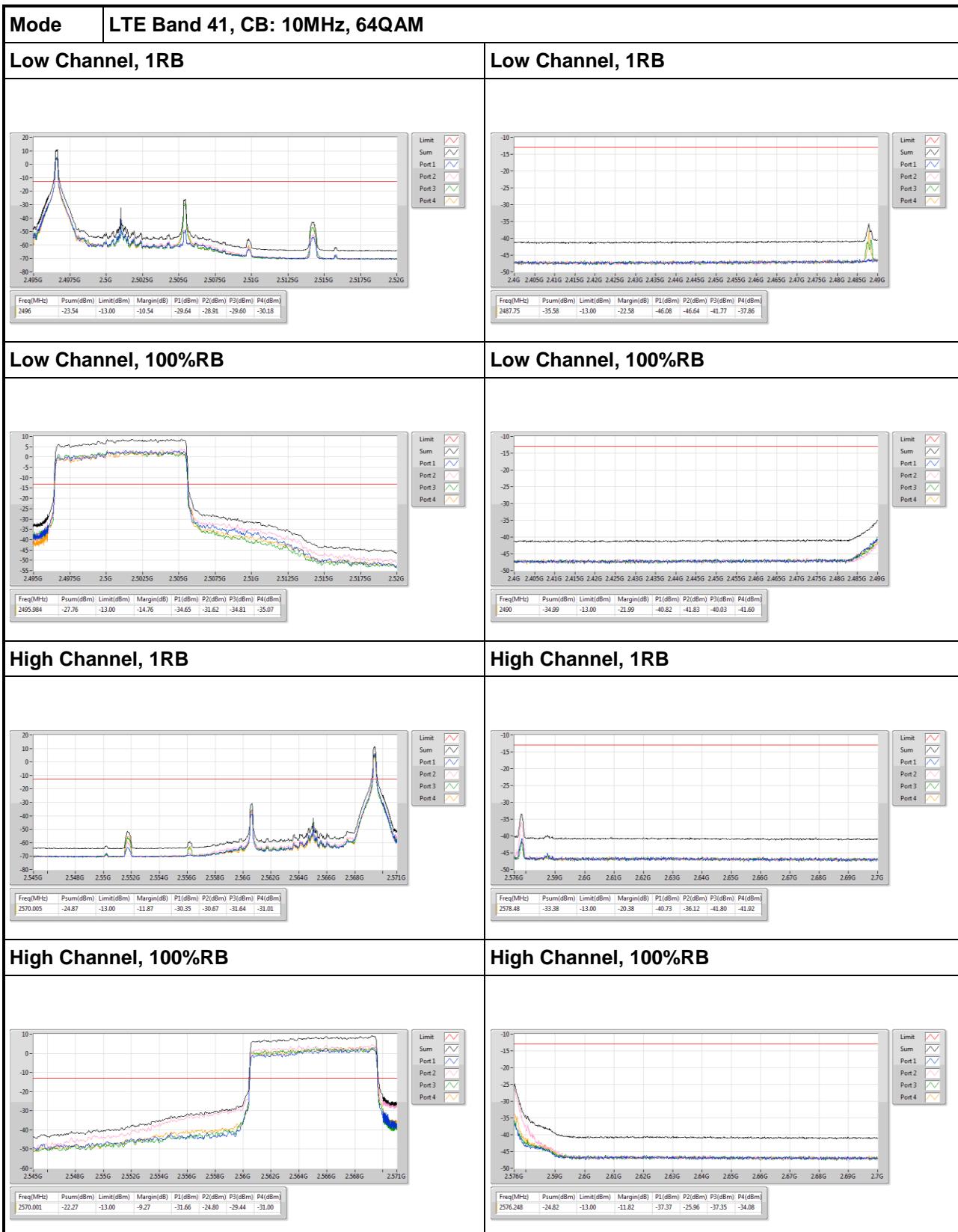






LTE Band 41, CB: 10MHz






LTE Band 41, CB: 15MHz
