

FCC Test Report

FCC ID : MXF-WLTMQ117
Equipment : LTE Mini Card
Model No. : WLTMQ-117
Brand Name : Gemtek
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhanghua Road, Hsinchu Industrial
Park, Hukou, Hsinchu, Taiwan, 30352
Standard : 47 CFR FCC Part 24 Subpart E
Received Date : Dec. 30, 2015
Tested Date : Jan. 14 ~ Feb. 02, 2016

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.

Approved & Reviewed by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FG5D3001P24	Rev. 01	Initial issue	Feb. 22, 2016
FG5D3001P24	Rev. 02	Corrected category and height of table of test diagram	Feb. 24, 2016

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 24.232(c)	Equivalent Isotropically Radiated Power	Max EIRP [dBm]: 31.44	Pass
2.1053 / 24.238(a)	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 24.238(a)	Conducted Emissions	Meet the requirement of limit	Pass
2.1051 / 24.238(a)	Band Edge	Meet the requirement of limit	Pass
2.1049	Occupied Bandwidth	Meet the requirement of limit	Pass
24.232(d)	Peak to average ratio	Meet the requirement of limit	Pass
2.1055 / 24.235	Frequency Stability	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency (MHz)	Channel Bandwidth: 3MHz: 1851.5 ~ 1913.5 Channel Bandwidth: 5MHz: 1852.5 ~ 1912.5 Channel Bandwidth: 10MHz: 1855.0 ~ 1910.0 Channel Bandwidth: 20MHz: 1860.0 ~ 1905.0
Modulation Type	Uplink: QPSK, 16QAM, 64QAM Downlink: QPSK, 16QAM, 64QAM, 256QAM
Duplex Mode	FDD
Category	Cat 5 & Cat 6
Release Version	11
H/W Version	V01
S/W Version	LE5166215.12052
TX/RX function	1TX / 4RX

1.1.2 Maximum Conducted Power and Emission Designator

Mode	Modulation	Maximum Conducted Power (W)	Emission Designator
LTE Band 25, CB: 3MHz	QPSK	0.213	2M68G7D
LTE Band 25, CB: 3MHz	16QAM	0.168	2M68W7D
LTE Band 25, CB: 3MHz	64QAM	0.170	2M69W7D
LTE Band 25, CB: 5MHz	QPSK	0.207	4M47G7D
LTE Band 25, CB: 5MHz	16QAM	0.172	4M47W7D
LTE Band 25, CB: 5MHz	64QAM	0.178	4M47W7D
LTE Band 25, CB: 10MHz	QPSK	0.212	8M93G7D
LTE Band 25, CB: 10MHz	16QAM	0.167	8M91W7D
LTE Band 25, CB: 10MHz	64QAM	0.163	8M93W7D
LTE Band 25, CB: 20MHz	QPSK	0.221	17M9G7D
LTE Band 25, CB: 20MHz	16QAM	0.195	17M9W7D
LTE Band 25, CB: 20MHz	64QAM	0.190	17M8W7D

1.1.3 Antenna Details

Ant. No.	Type	Gain (dBi)	Connector	Remark
1	Patch	8	i-Pex	---

1.1.4 EUT Operational Condition

Power Supply Type	3.3Vdc from host		
Operational Climatic	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (60°C)	<input checked="" type="checkbox"/> Tmin (-40°C)

1.1.5 Accessories

N/A

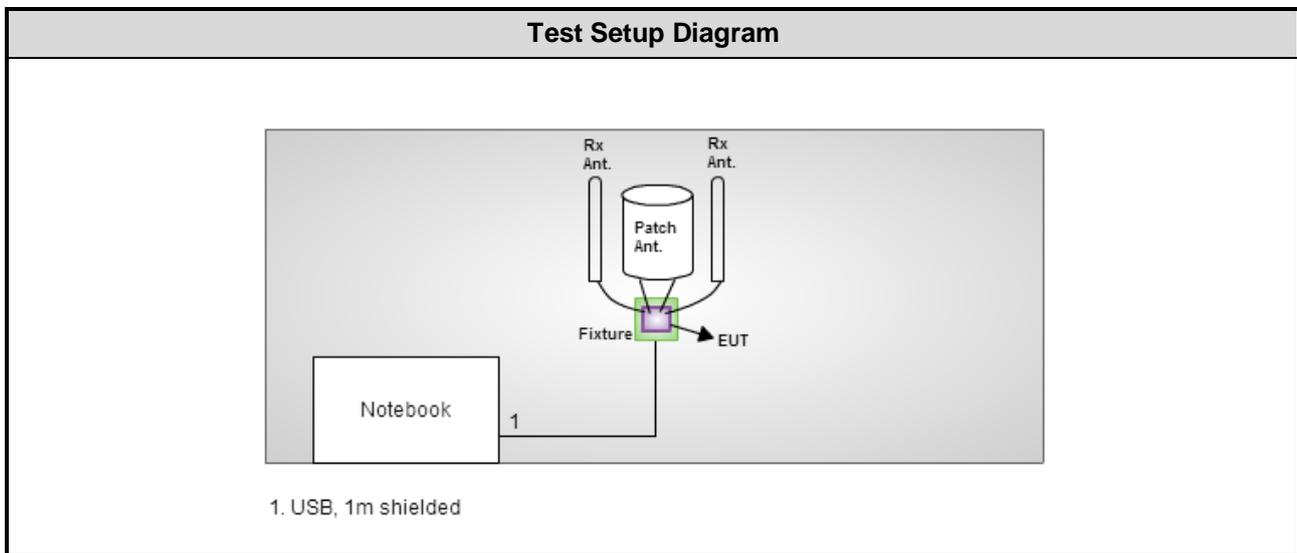
1.1.6 Operating Channel List

LTE Band 25		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
3	26055	1851.5
3	26365	1882.5
3	26675	1913.5
5	26065	1852.5
5	26365	1882.5
5	26665	1912.5
10	26090	1855.0
10	26365	1882.5
10	26640	1910.0
20	26140	1860.0
20	26365	1882.5
20	26590	1905.0

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 E5420	B6FT9T1	DoC	USB, 1m shielded.
2	Fixture	---	---	---	---	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 13, 2015	Dec. 12, 2016
Receiver	R&S	ESR3	101658	Nov. 04, 2015	Nov. 03, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 20, 2015	Aug. 19, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 16, 2015	Dec. 15, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 16, 2015	Nov. 15, 2016
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 10, 2015	Dec. 09, 2016
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 10, 2015	Sep. 09, 2016
Preamplifier	Agilent	83017A	MY39501308	Oct. 02, 2015	Oct. 01, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 10, 2015	Dec. 09, 2016
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 10, 2015	Dec. 09, 2016
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 10, 2015	Dec. 09, 2016
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)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 14, 2015	Sep. 13, 2016
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2015	Nov. 26, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor	Anritsu	MA2411B	1207366	Sep. 21, 2015	Sep. 20, 2016
Signal Generator	R&S	SMB100A	175727	Oct. 05, 2015	Oct. 04, 2016
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	Mar. 19, 2015	Mar. 18, 2016
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 24 Subpart E

ANSI C63.4-2014

ANSI/TIA-603-D 2010

FCC KDB 971168 D01 Power Meas License Digital Systems v02r02

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

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	20°C / 62%	Felix Sung
Radiated Emissions	03CH01-WS	22°C / 64%	Aska Huang

➤ FCC site registration No.: 657002

➤ IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth	Modulation	Test channel
E.I.R.P.	3 MHz	QPSK / 16QAM / 64QAM	1851.5 / 1882.5 / 1913.5
Conducted Emissions	5 MHz	QPSK / 16QAM / 64QAM	1852.5 / 1882.5 / 1912.5
Occupied Bandwidth	10 MHz	QPSK / 16QAM / 64QAM	1855.0 / 1882.5 / 1910.0
Peak to Average Ratio	20 MHz	QPSK / 16QAM / 64QAM	1860.0 / 1882.5 / 1905.0
Radiated Emission ≤ 1GHz	3 MHz	QPSK	1851.5
	5 MHz	QPSK	1852.5
	10 MHz	QPSK	1855.0
	20 MHz	QPSK	1860.0
Radiated Emission > 1GHz	3 MHz	QPSK	1851.5 / 1882.5 / 1913.5
	5 MHz	QPSK	1852.5 / 1882.5 / 1912.5
	10 MHz	QPSK	1855.0 / 1882.5 / 1910.0
	20 MHz	QPSK	1860.0 / 1882.5 / 1905.0
Band Edge	3 MHz	QPSK / 16QAM / 64QAM	1851.5 / 1913.5
	5 MHz	QPSK / 16QAM / 64QAM	1852.5 / 1912.5
	10 MHz	QPSK / 16QAM / 64QAM	1855.0 / 1910.0
	20 MHz	QPSK / 16QAM / 64QAM	1860.0 / 1905.0
Frequency Stability	3 MHz	QPSK	1882.5
	5 MHz	QPSK	1882.5
	10 MHz	QPSK	1882.5
	20 MHz	QPSK	1882.5

3 Test Results

3.1 Equivalent Isotropically Radiated Power

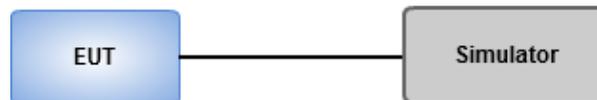
3.1.1 Limit of Equivalent Isotropically Radiated Power

Mobile and portable stations are limited to 2 watts EIRP.

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. $EIRP = \text{Conducted power} + \text{Antenna gain}$

3.1.3 Test Setup



3.1.4 Test Result of Conducted power (dBm)

Band / Channel Bandwidth			LTE Band 25 / CB: 3MHz		
Channel			26055	26365	26675
Frequency (MHz)			1851.5	1882.5	1913.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	23.28	22.88	22.56
	1	7	23.20	22.86	22.48
	1	14	23.17	22.66	22.55
	8	0	22.01	21.64	21.23
	8	4	22.08	21.65	21.35
	8	7	22.06	21.69	21.46
	15	0	22.05	21.62	21.32
16QAM	1	0	22.25	21.94	21.69
	1	7	22.22	21.61	21.36
	1	14	22.24	21.75	21.53
	8	0	21.13	20.78	20.35
	8	4	21.14	20.80	20.44
	8	7	21.15	20.83	20.54
	15	0	21.13	20.75	20.45
64QAM	1	0	22.31	21.89	21.65
	1	7	22.16	21.88	21.55
	1	14	22.18	21.76	21.59
	8	0	21.35	20.98	20.43
	8	4	21.26	20.88	20.49
	8	7	21.24	20.86	20.65
	15	0	21.22	20.73	20.58

Band / Channel Bandwidth			LTE Band 25 / CB: 5MHz		
Channel			26065	26365	26665
Frequency (MHz)			1852.5	1882.5	1912.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	23.16	22.58	22.35
	1	12	23.13	22.47	22.13
	1	24	22.66	22.28	22.22
	12	0	22.08	21.61	21.27
	12	6	22.02	21.62	21.29
	12	11	22.00	21.64	21.22
	25	0	21.93	21.54	21.27
16QAM	1	0	22.35	21.98	21.67
	1	12	22.26	21.92	21.47
	1	24	22.11	21.61	21.59
	12	0	20.97	20.54	20.22
	12	6	20.96	20.56	20.25
	12	11	20.91	20.61	20.15
	25	0	20.91	20.53	20.26
64QAM	1	0	22.51	22.12	21.89
	1	12	22.35	21.89	21.55
	1	24	22.26	21.73	21.53
	12	0	20.95	20.68	20.35
	12	6	20.92	20.66	20.33
	12	11	20.88	20.73	20.26
	25	0	20.86	20.65	20.18

Band / Channel Bandwidth			LTE Band 25 / CB: 10MHz		
Channel			26090	26365	26640
Frequency (MHz)			1855	1882.5	1910
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	23.26	23.22	22.95
	1	24	23.01	23.11	22.92
	1	49	22.69	22.61	22.76
	25	0	21.90	21.92	22.03
	25	12	21.90	21.99	22.03
	25	24	21.67	21.86	21.84
	50	0	21.74	21.80	21.91
16QAM	1	0	22.15	22.23	22.19
	1	24	22.03	22.11	22.18
	1	49	21.84	21.73	22.15
	25	0	20.87	20.92	20.92
	25	12	20.91	20.99	20.94
	25	24	20.68	20.89	20.75
	50	0	20.70	20.75	20.86
64QAM	1	0	22.12	22.03	22.11
	1	24	22.05	21.88	22.06
	1	49	21.80	21.65	22.02
	25	0	20.88	20.88	20.92
	25	12	20.93	20.83	20.89
	25	24	20.73	20.80	20.88
	50	0	20.65	20.78	20.79

Band / Channel Bandwidth			LTE Band 25 / CB: 20MHz		
Channel			26140	26365	26590
Frequency (MHz)			1860	1882.5	1905
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	23.44	23.30	23.29
	1	49	22.61	22.93	23.18
	1	99	23.09	23.06	23.08
	50	0	22.13	22.20	22.18
	50	24	21.89	21.91	22.00
	50	49	21.91	22.02	21.94
	100	0	22.07	22.06	22.04
16QAM	1	0	22.91	22.67	22.35
	1	49	21.85	22.43	22.22
	1	99	22.28	22.24	22.06
	50	0	21.02	21.14	21.07
	50	24	20.88	20.84	20.89
	50	49	20.90	20.97	20.85
	100	0	20.93	21.12	20.97
64QAM	1	0	22.78	22.65	22.43
	1	49	21.86	22.53	22.35
	1	99	22.03	22.34	22.19
	50	0	21.11	21.25	21.21
	50	24	20.79	20.92	20.96
	50	49	20.86	20.91	20.89
	100	0	20.88	20.88	20.85

3.1.5 Test Result of Equivalent Isotropically Radiated Power (dBm)

LTE Band 25, CB: 3MHz

Mode	LTE Band 25, CB: 3MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26055	1851.5	23.28	8	31.28	1.343	2
26365	1882.5	22.88	8	30.88	1.225	2
26675	1913.5	22.56	8	30.56	1.138	2

Mode	LTE Band 25, CB: 3MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26055	1851.5	22.25	8	30.25	1.059	2
26365	1882.5	21.94	8	29.94	0.986	2
26675	1913.5	21.69	8	29.69	0.931	2

Mode	LTE Band 25, CB: 3MHz, 64QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26055	1851.5	22.31	8	30.31	1.074	2
26365	1882.5	21.89	8	29.89	0.975	2
26675	1913.5	21.65	8	29.65	0.923	2

LTE Band 25, CB: 5MHz

Mode	LTE Band 25, CB: 5MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26065	1852.5	23.16	8	31.16	1.306	2
26365	1882.5	22.58	8	30.58	1.143	2
26665	1912.5	22.35	8	30.35	1.084	2

Mode	LTE Band 25, CB: 5MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26065	1852.5	22.35	8	30.35	1.084	2
26365	1882.5	21.98	8	29.98	0.995	2
26665	1912.5	21.67	8	29.67	0.927	2

Mode	LTE Band 25, CB: 5MHz, 64QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26065	1852.5	22.51	8	30.51	1.125	2
26365	1882.5	22.12	8	30.12	1.028	2
26665	1912.5	21.89	8	29.89	0.975	2

LTE Band 25, CB: 10MHz

Mode	LTE Band 25, CB: 10MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26090	1855.0	23.26	8	31.26	1.337	2
26365	1882.5	23.22	8	31.22	1.324	2
26640	1910.0	22.95	8	30.95	1.245	2

Mode	LTE Band 25, CB: 10MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26090	1855.0	22.15	8	30.15	1.035	2
26365	1882.5	22.23	8	30.23	1.054	2
26640	1910.0	22.19	8	30.19	1.045	2

Mode	LTE Band 25, CB: 10MHz, 64QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26090	1855.0	22.12	8	30.12	1.028	2
26365	1882.5	22.03	8	30.03	1.007	2
26640	1910.0	22.11	8	30.11	1.026	2

LTE Band 25, CB: 20MHz

Mode	LTE Band 25, CB: 20MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26140	1860.0	23.44	8	31.44	1.393	2
26365	1882.5	23.30	8	31.30	1.349	2
26590	1905.0	23.29	8	31.29	1.346	2

Mode	LTE Band 25, CB: 20MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26140	1860.0	22.91	8	30.91	1.233	2
26365	1882.5	22.67	8	30.67	1.167	2
26590	1905.0	22.35	8	30.35	1.084	2

Mode	LTE Band 25, CB: 20MHz, 64QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
26140	1860.0	22.78	8	30.78	1.197	2
26365	1882.5	22.65	8	30.65	1.161	2
26590	1905.0	22.43	8	30.43	1.104	2

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

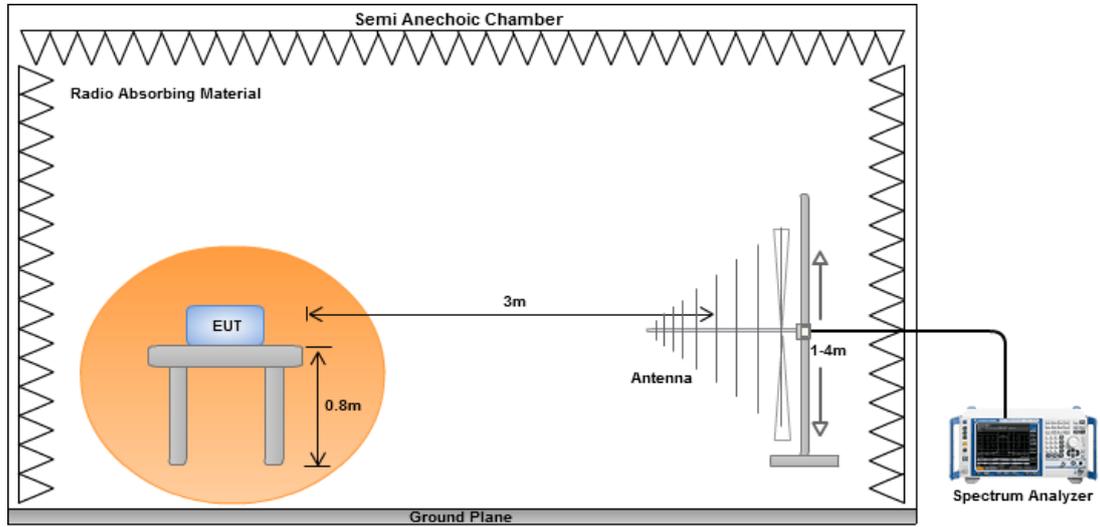
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB equal to -13dBm.

3.2.2 Test Procedures

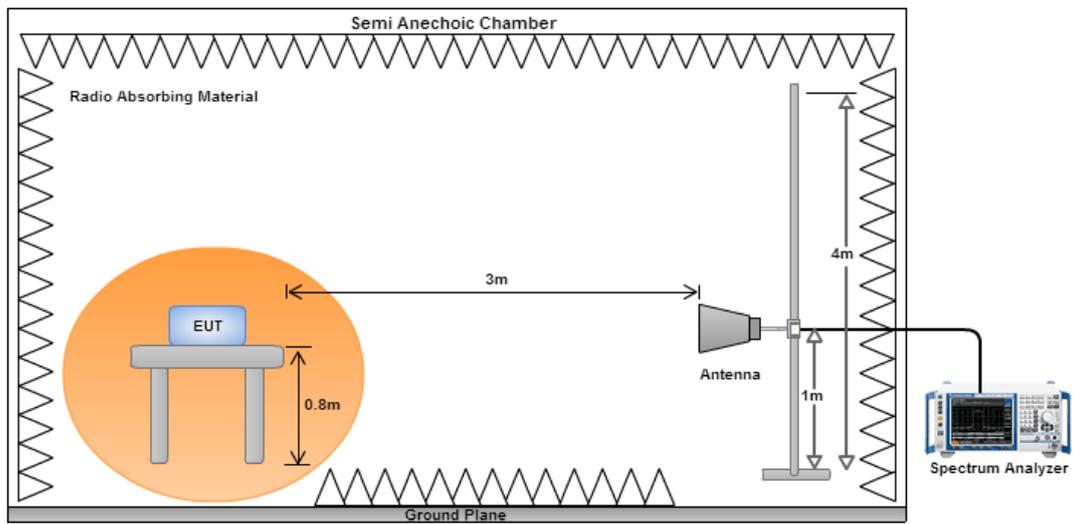
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
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



3.2.4 Test Result of Radiated Emissions below 1GHz

Mode	LTE Band 25, CB: 3MHz, 1RB, Offset 0, Channel : 26055						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
35.82	H	-64.96	-13.00	-51.96	-62.49	-51.86	-13.10
158.04	H	-62.76	-13.00	-49.76	-53.92	-62.15	-0.61
237.58	H	-62.56	-13.00	-49.56	-51.10	-67.01	4.45
271.53	H	-58.64	-13.00	-45.64	-48.20	-63.00	4.36
295.78	H	-49.59	-13.00	-36.59	-39.90	-53.87	4.28
337.49	H	-54.71	-13.00	-41.71	-47.19	-59.08	4.37
43.58	V	-60.92	-13.00	-47.92	-51.46	-48.99	-11.93
104.69	V	-62.02	-13.00	-49.02	-52.92	-62.07	0.05
152.22	V	-61.48	-13.00	-48.48	-55.18	-60.56	-0.92
242.43	V	-58.55	-13.00	-45.55	-52.51	-62.99	4.44
292.87	V	-58.84	-13.00	-45.84	-52.71	-64.10	5.26
337.49	V	-59.27	-13.00	-46.27	-53.28	-63.64	4.37

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

Mode	LTE Band 25, CB: 5MHz, 1RB, Offset 0, Channel : 26065						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
30.00	H	-63.87	-13.00	-50.87	-62.87	-49.66	-14.21
158.04	H	-62.22	-13.00	-49.22	-53.38	-61.61	-0.61
270.56	H	-59.10	-13.00	-46.10	-48.63	-63.46	4.36
293.84	H	-49.24	-13.00	-36.24	-39.48	-53.53	4.29
337.49	H	-55.12	-13.00	-42.12	-47.60	-58.58	3.46
376.29	H	-62.99	-13.00	-49.99	-56.70	-67.32	4.33
43.58	V	-59.97	-13.00	-46.97	-50.51	-48.04	-11.93
102.75	V	-63.97	-13.00	-50.97	-54.89	-64.14	0.17
156.10	V	-61.02	-13.00	-48.02	-55.02	-60.31	-0.71
240.49	V	-59.94	-13.00	-46.94	-53.82	-64.39	4.45
293.84	V	-58.93	-13.00	-45.93	-52.79	-64.19	5.26
339.43	V	-59.70	-13.00	-46.70	-53.72	-64.07	4.37

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

Mode	LTE Band 25, CB: 10MHz, 1RB, Offset 0, Channel : 26090						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
36.79	H	-65.72	-13.00	-52.72	-63.47	-52.78	-12.94
159.01	H	-63.53	-13.00	-50.53	-54.69	-62.98	-0.55
237.58	H	-62.40	-13.00	-49.40	50.95	-66.85	4.45
271.53	H	-58.61	-13.00	-45.61	-48.17	-62.97	4.36
295.78	H	-51.20	-13.00	-38.20	-41.51	-55.48	4.28
326.82	H	-54.95	-13.00	-41.95	-46.85	-59.29	4.34
104.69	V	-63.36	-13.00	-50.36	-54.26	-63.41	0.05
149.31	V	-61.45	-13.00	-48.45	-54.93	-60.37	-1.08
240.49	V	-60.61	-13.00	-47.61	-54.49	-65.06	4.45
298.69	V	-56.92	-13.00	-43.92	-50.74	-61.19	4.27
337.49	V	-59.64	-13.00	-46.64	-53.65	-63.10	3.46
539.25	V	-62.25	-13.00	-49.25	-60.31	-66.35	4.10

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

Mode	LTE Band 25, CB: 20MHz, 1RB, Offset 0, Channel : 26140						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
35.82	H	-65.62	-13.00	-52.62	-63.15	-52.52	-13.10
158.04	H	-63.34	-13.00	-50.34	-54.50	-62.73	-0.61
237.58	H	-61.80	-13.00	-48.80	-50.35	-66.25	4.45
271.53	H	-58.93	-13.00	-45.93	-48.49	-63.29	4.36
295.78	H	-49.05	-13.00	-36.05	-39.36	-53.33	4.28
336.52	H	-54.89	-13.00	-41.89	-47.32	-59.25	4.36
44.55	V	-61.44	-13.00	-48.44	-52.28	-49.64	-11.80
102.75	V	-63.99	-13.00	-50.99	-54.91	-64.16	0.17
155.13	V	-61.77	-13.00	-48.77	-55.69	-61.00	-0.77
236.61	V	-59.68	-13.00	-46.68	-53.40	-64.13	4.45
295.78	V	-56.44	-13.00	-43.44	-50.29	-61.70	5.26
334.58	V	-58.91	-13.00	-45.91	-52.90	-63.27	4.36

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

3.2.5 Test Result of Radiated Emissions above 1GHz

Mode	LTE Band 25, CB: 3MHz, 1RB, Offset 0, Channel : 26055						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3700.48	H	-40.60	-13.00	-27.60	-53.66	-47.56	6.96
5550.72	H	-29.05	-13.00	-16.05	-46.68	-35.63	6.58
7400.96	H	-38.23	-13.00	-25.23	-60.31	-41.79	3.56
3700.48	V	-40.69	-13.00	-27.69	-53.25	-47.65	6.96
5550.72	V	-31.20	-13.00	-18.20	-47.33	-40.84	9.64
7400.96	V	-40.02	-13.00	-27.02	-60.24	-43.58	3.56

Mode	LTE Band 25, CB: 3MHz, 1RB, Offset 0, Channel : 26365						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3762.48	H	-39.06	-13.00	-26.06	-52.35	-46.02	6.96
5643.72	H	-28.69	-13.00	-15.69	-46.53	-35.22	6.53
7524.96	H	-38.59	-13.00	-25.59	-60.32	-41.97	3.38
3762.48	V	-38.80	-13.00	-25.80	-51.33	-45.76	6.96
5643.72	V	-30.32	-13.00	-17.32	-46.75	-39.96	9.64
7524.96	V	-39.73	-13.00	-26.73	-60.37	-43.11	3.38

Mode	LTE Band 25, CB: 3MHz, 1RB, Offset 0, Channel : 26675						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3824.48	H	-36.84	-13.00	-23.84	-50.32	-43.79	6.95
5736.72	H	-28.36	-13.00	-15.36	-46.28	-34.83	6.47
7648.96	H	-38.95	-13.00	-25.95	-60.32	-42.20	3.25
3824.48	V	-38.86	-13.00	-25.86	-51.48	-45.81	6.95
5736.72	V	-29.44	-13.00	-16.44	-46.38	-39.08	9.64
7648.96	V	-39.48	-13.00	-26.48	-60.17	-42.73	3.25

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

Mode							
LTE Band 25, CB: 5MHz, 1RB, Offset 0, Channel : 26065							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3700.68	H	-39.59	-13.00	-26.59	-52.65	-46.55	6.96
5551.02	H	-32.39	-13.00	-19.39	-50.02	-38.97	6.58
7401.36	H	-38.29	-13.00	-25.29	-60.37	-41.85	3.56
3700.68	V	-37.75	-13.00	-24.75	-50.31	-44.71	6.96
5551.02	V	-34.89	-13.00	-21.89	-51.02	-44.53	9.64
7401.36	V	-40.08	-13.00	-27.08	-60.31	-43.64	3.56

Mode							
LTE Band 25, CB: 5MHz, 1RB, Offset 0, Channel : 26365							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3760.66	H	-39.74	-13.00	-26.74	-53.02	-46.70	6.96
5640.99	H	-28.54	-13.00	-15.54	-46.38	-35.07	6.53
7521.32	H	-38.58	-13.00	-25.58	-60.32	-41.96	3.38
3760.66	V	-38.80	-13.00	-25.80	-51.33	-45.76	6.96
5640.99	V	-29.96	-13.00	-16.96	-46.38	-39.60	9.64
7521.32	V	-39.86	-13.00	-26.86	-60.48	-43.24	3.38

Mode							
LTE Band 25, CB: 5MHz, 1RB, Offset 0, Channel : 26665							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3820.66	H	-38.07	-13.00	-25.07	-51.55	-45.02	6.95
5730.99	H	-28.81	-13.00	-15.81	-46.72	-35.29	6.48
7641.32	H	-37.99	-13.00	-24.99	-59.38	-41.24	3.25
3820.66	V	-38.42	-13.00	-25.42	-51.02	-45.37	6.95
5730.99	V	-29.98	-13.00	-16.98	-46.88	-39.62	9.64
7641.32	V	-39.45	-13.00	-26.45	-60.17	-42.70	3.25

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

Mode							
LTE Band 25, CB: 10MHz, 1RB, Offset 0, Channel : 26090							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3701.20	H	-38.76	-13.00	-25.76	-51.32	-45.72	6.96
5551.80	H	-30.08	-13.00	-17.08	-46.21	-36.66	6.58
7402.40	H	-40.10	-13.00	-27.10	-60.33	-43.66	3.56
3701.20	V	-37.42	-13.00	-24.42	-50.48	-44.38	6.96
5551.80	V	-28.64	-13.00	-15.64	-46.27	-38.28	9.64
7402.40	V	-38.34	-13.00	-25.34	-60.41	-41.90	3.56

Mode							
LTE Band 25, CB: 10MHz, 1RB, Offset 0, Channel : 26365							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3756.20	H	-37.01	-13.00	-24.01	-50.27	-43.97	6.96
5634.30	H	-29.02	-13.00	-16.02	-46.85	-35.55	6.53
7512.40	H	-38.57	-13.00	-25.57	-60.32	-41.97	3.40
3756.20	V	-38.49	-13.00	-25.49	-51.02	-45.45	6.96
5634.30	V	-29.37	-13.00	-16.37	-45.75	-39.01	9.64
7512.40	V	-39.89	-13.00	-26.89	-60.48	-43.29	3.40

Mode							
LTE Band 25, CB: 10MHz, 1RB, Offset 0, Channel : 26640							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3811.20	H	-37.01	-13.00	-24.01	-50.47	-43.96	6.95
5716.80	H	-28.85	-13.00	-15.85	-46.75	-35.34	6.49
7622.40	H	-38.98	-13.00	-25.98	-60.44	-42.24	3.26
3811.20	V	-38.46	-13.00	-25.46	-51.02	-45.41	6.95
5716.80	V	-29.99	-13.00	-16.99	-46.82	-39.63	9.64
7622.40	V	-39.57	-13.00	-26.57	-60.38	-42.83	3.26

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

Mode							
LTE Band 25, CB: 20MHz, 1RB, Offset 0, Channel : 26140							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3702.16	H	-40.25	-13.00	-27.25	-53.31	-47.21	6.96
5553.27	H	-28.13	-13.00	-15.13	-45.77	-34.71	6.58
7404.38	H	-38.28	-13.00	-25.28	-60.35	-41.83	3.55
3702.16	V	-38.92	-13.00	-25.92	-51.48	-45.88	6.96
5553.27	V	-30.62	-13.00	-17.62	-46.75	-40.26	9.64
7404.38	V	-40.18	-13.00	-27.18	-60.42	-43.73	3.55

Mode							
LTE Band 25, CB: 20MHz, 1RB, Offset 0, Channel : 26365							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3747.17	H	-37.45	-13.00	-24.45	-50.68	-44.41	6.96
5620.75	H	-28.75	-13.00	-15.75	-46.57	-35.29	6.54
7494.33	H	-38.74	-13.00	-25.74	-60.54	-42.16	3.42
3747.17	V	-39.02	-13.00	-26.02	-51.56	-45.98	6.96
5620.75	V	-29.22	-13.00	-16.22	-45.53	-38.86	9.64
7494.33	V	-39.95	-13.00	-26.95	-60.47	-43.37	3.42

Mode							
LTE Band 25, CB: 20MHz, 1RB, Offset 0, Channel : 26590							
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
3792.20	H	-37.83	-13.00	-24.83	-51.23	-44.78	6.95
5688.30	H	-28.65	-13.00	-15.65	-46.53	-35.15	6.50
7584.40	H	-38.58	-13.00	-25.58	-60.15	-41.87	3.29
3792.20	V	-37.73	-13.00	-24.73	-50.25	-44.68	6.95
5688.30	V	-29.49	-13.00	-16.49	-46.17	-39.13	9.64
7584.40	V	-39.48	-13.00	-26.48	-60.33	-42.77	3.29

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

3.3 Conducted Emissions

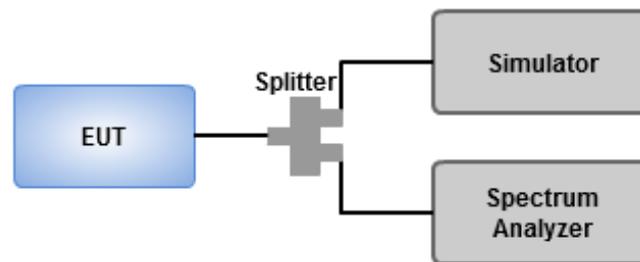
3.3.1 Limit of Conducted Emissions

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

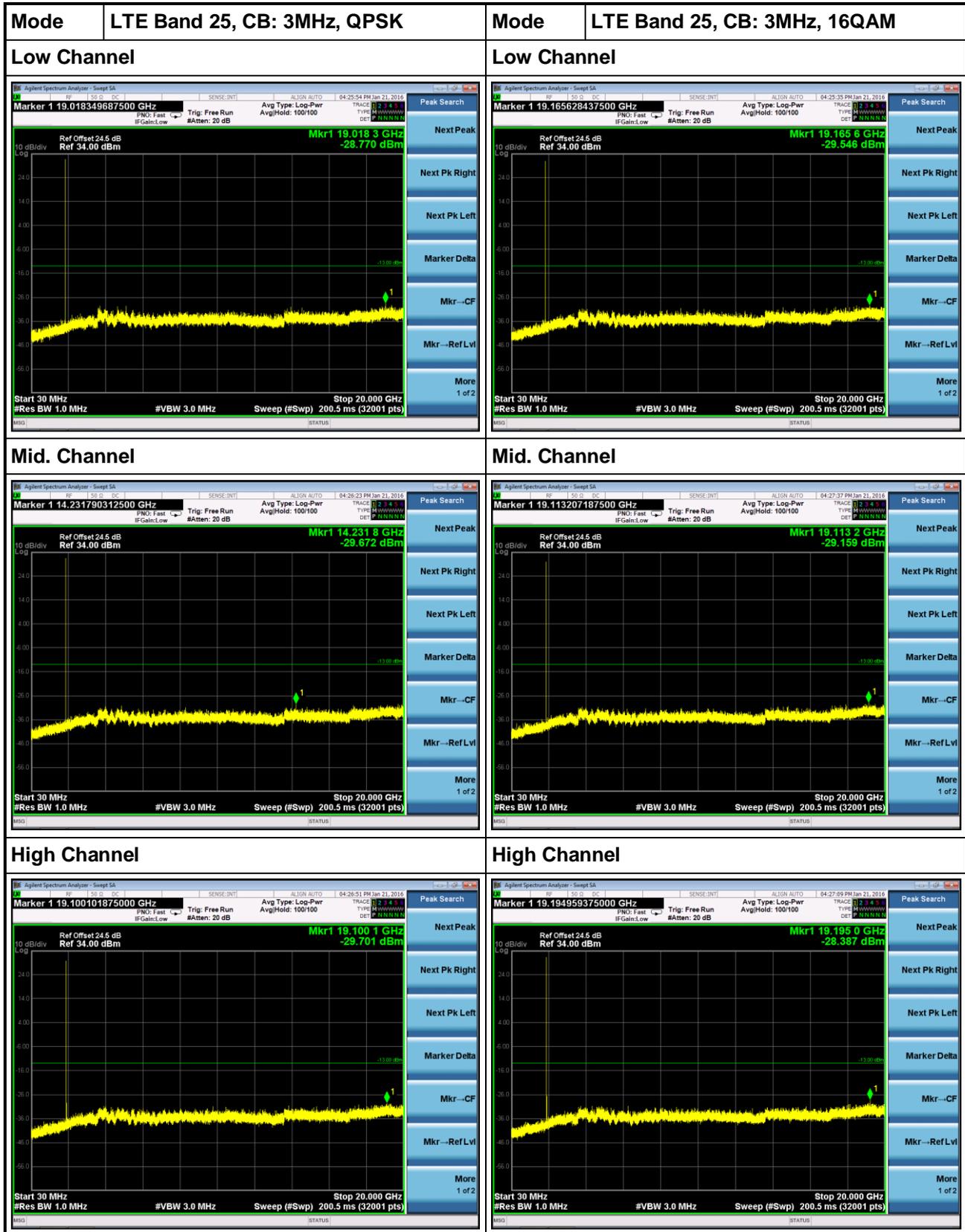
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz ~ 20GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = Peak, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

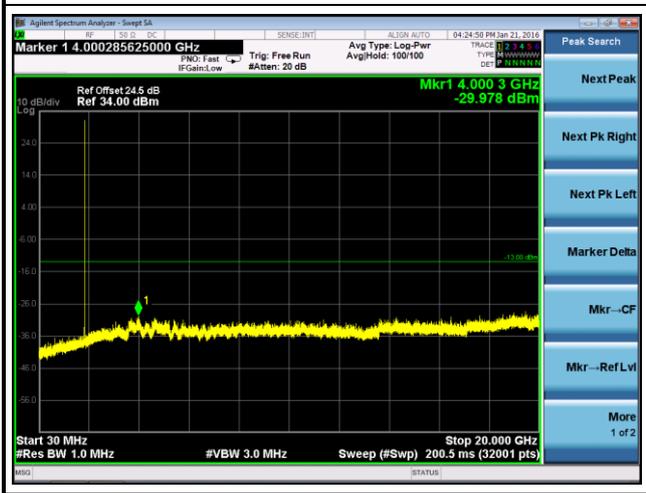
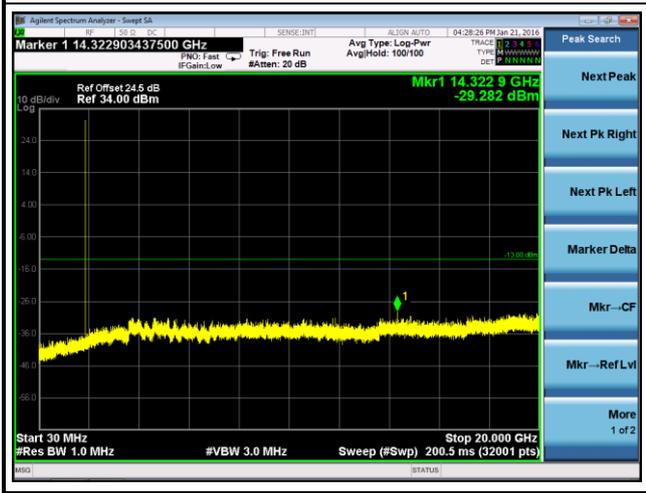
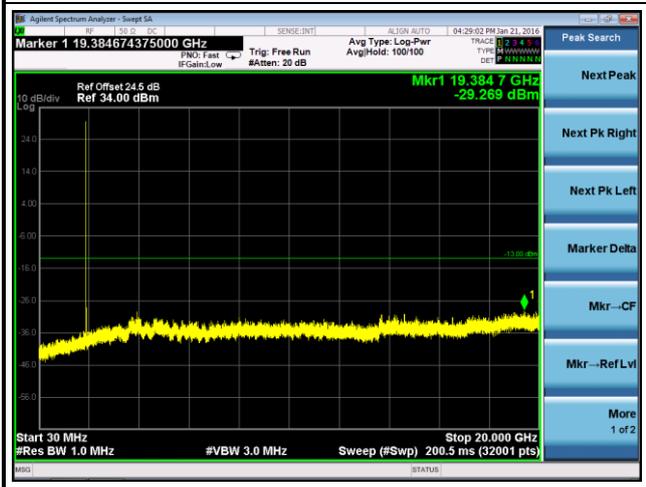
3.3.3 Test Setup



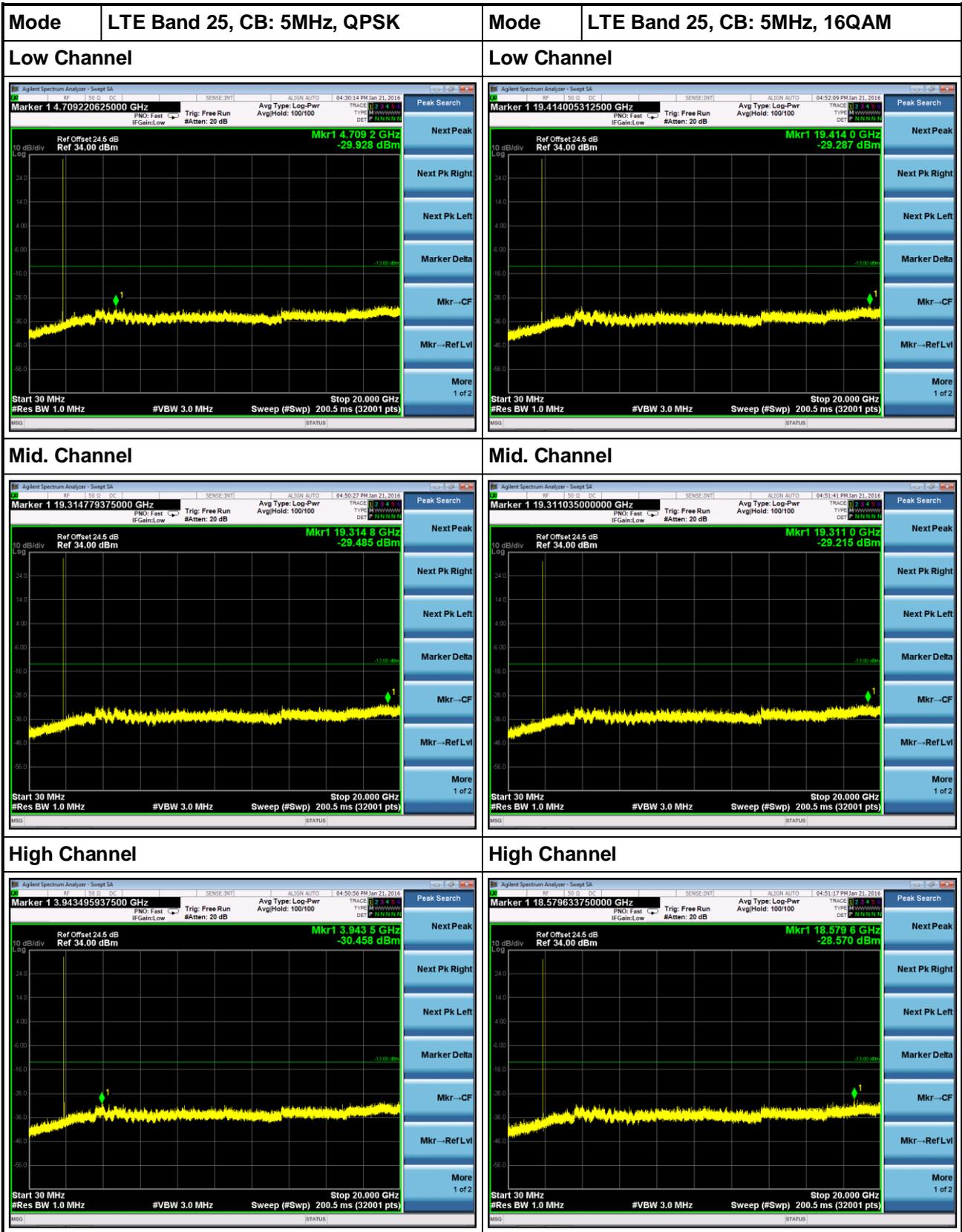
3.3.4 Test Result of Conducted Emissions

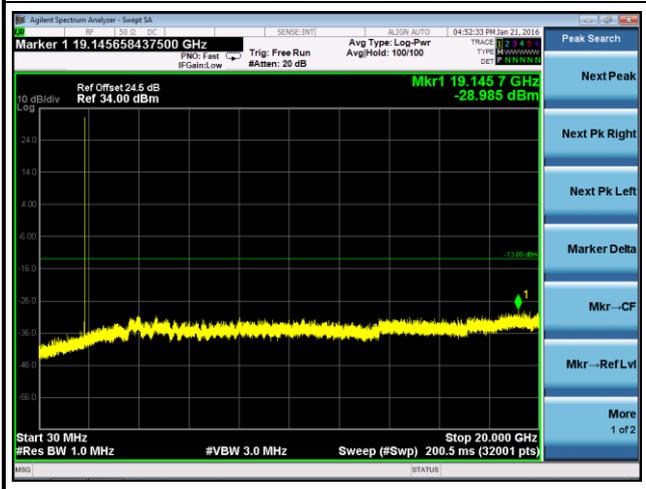
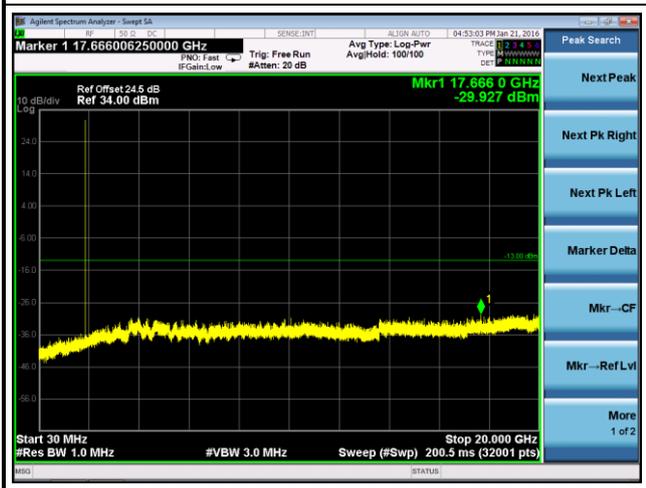
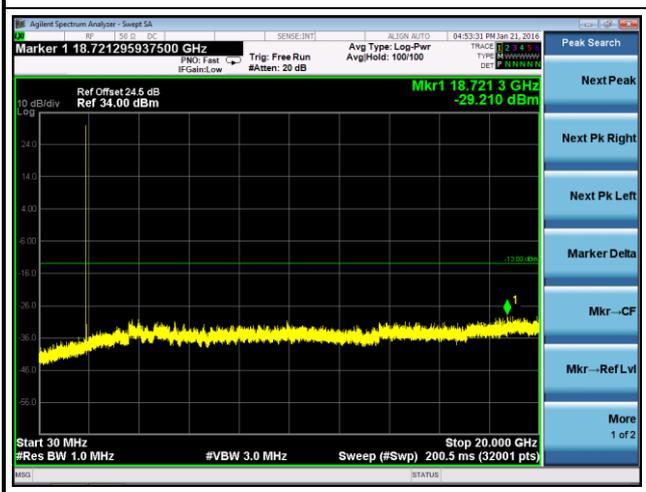
LTE Band 25, CB: 3MHz



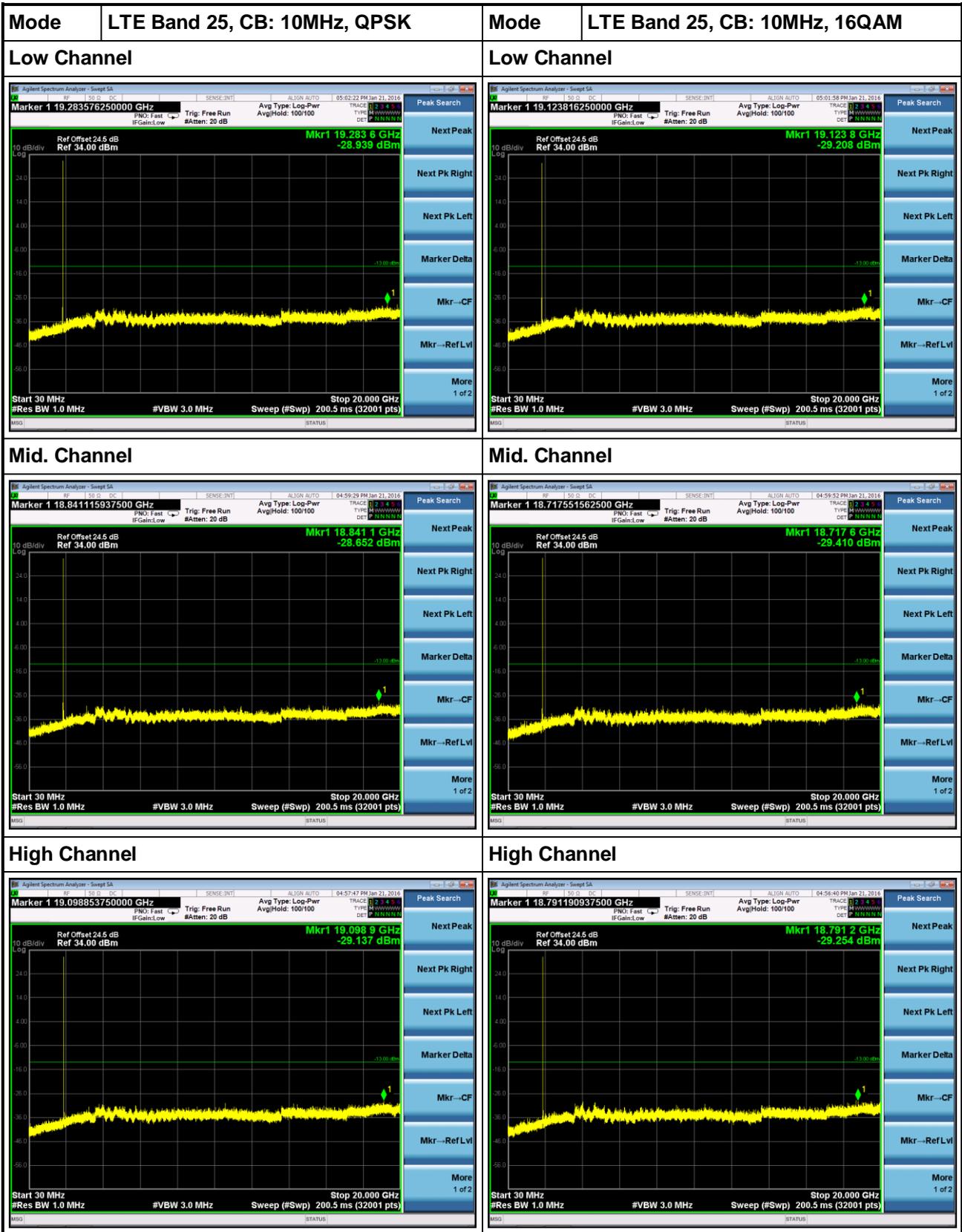
Mode LTE Band 25, CB: 3MHz, 64QAM	Mode ---
Low Channel	Low Channel
	<p style="text-align: center;">---</p>
Mid. Channel	Mid. Channel
	<p style="text-align: center;">---</p>
High Channel	High Channel
	<p style="text-align: center;">---</p>

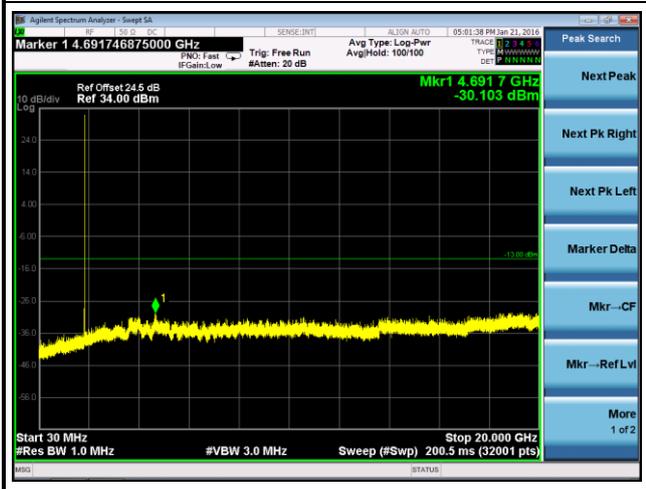
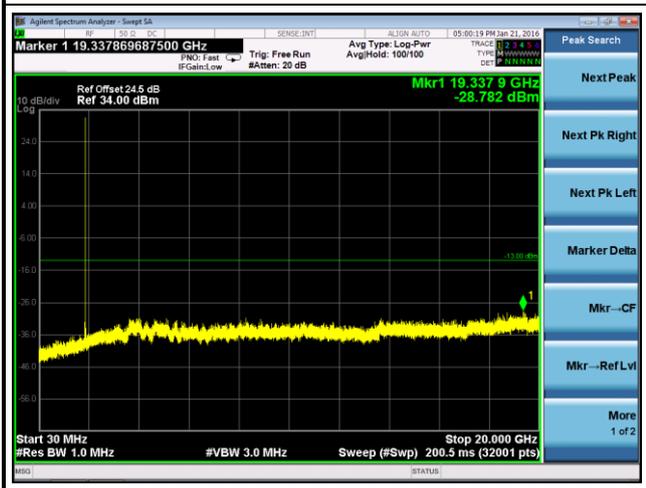
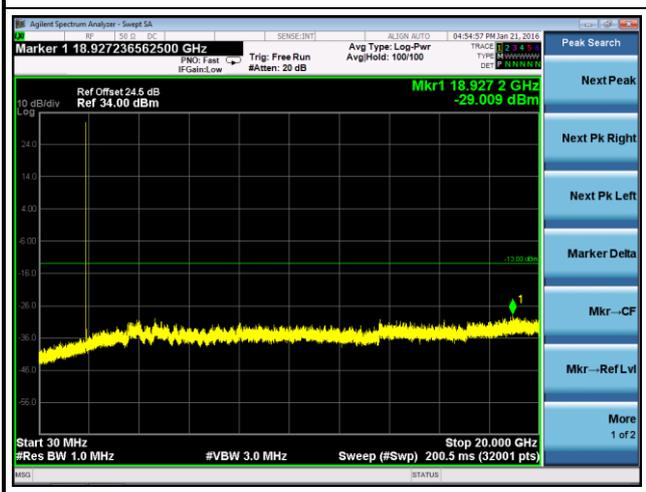
LTE Band 25, CB: 5MHz



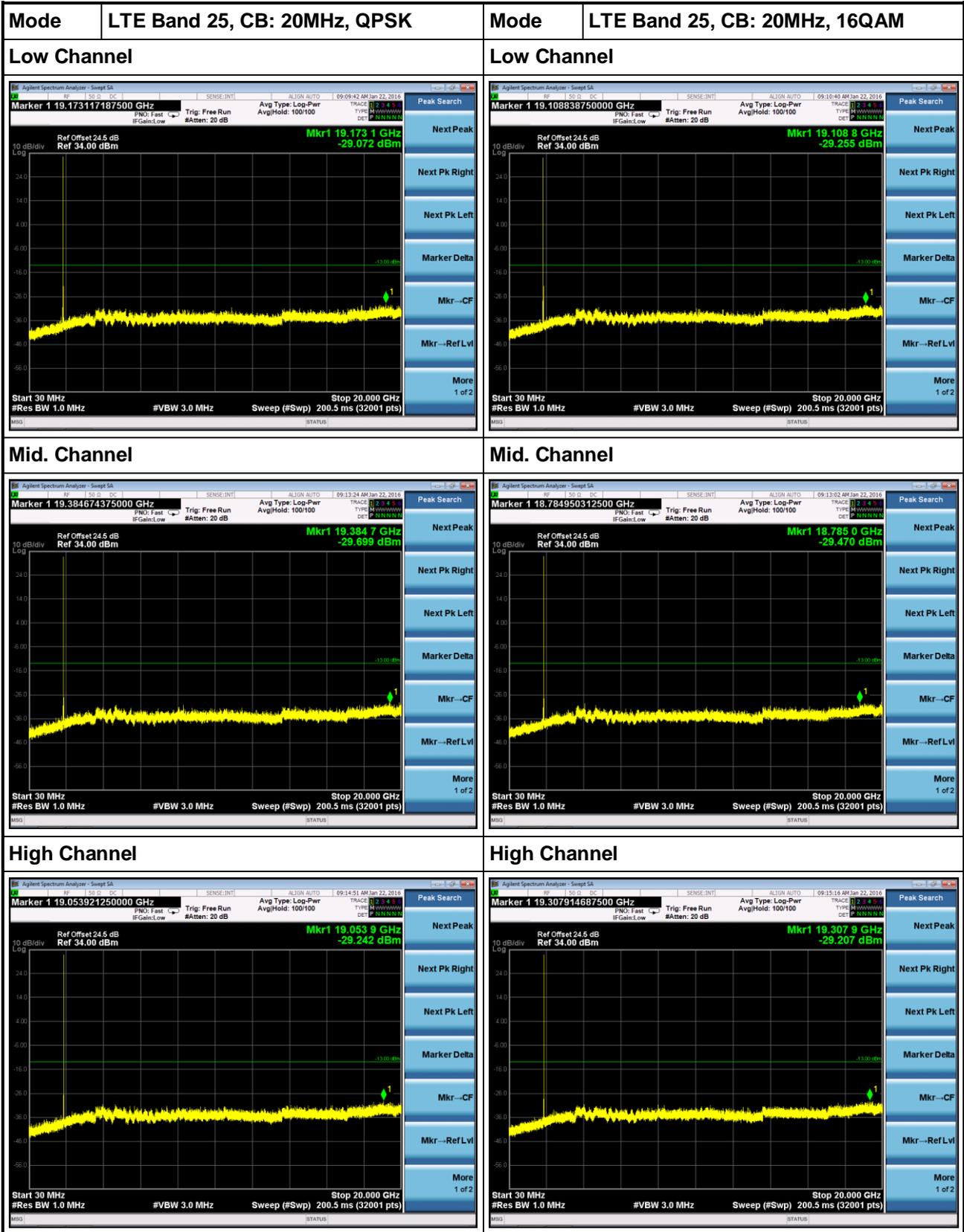
Mode LTE Band 25, CB: 5MHz, 64QAM	Mode ---
Low Channel	Low Channel
	<p style="text-align: center;">---</p>
Mid. Channel	Mid. Channel
	<p style="text-align: center;">---</p>
High Channel	High Channel
	<p style="text-align: center;">---</p>

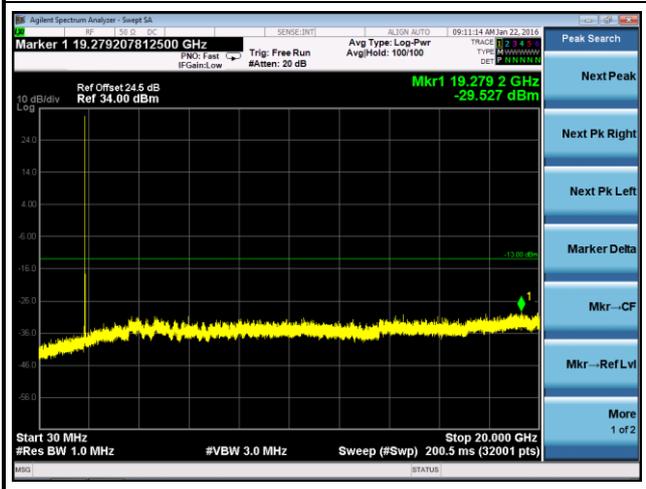
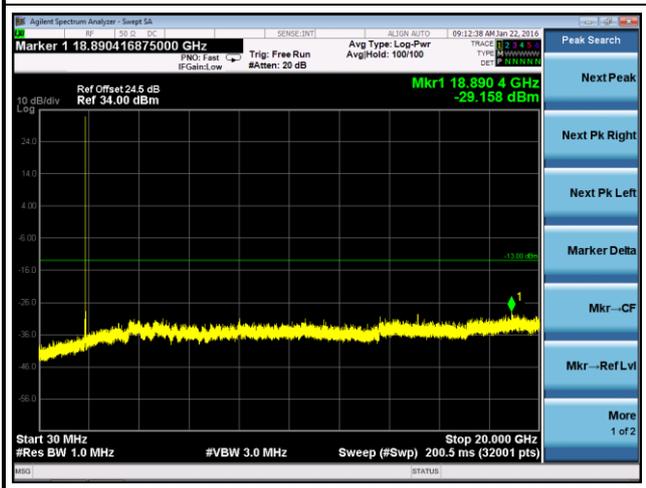
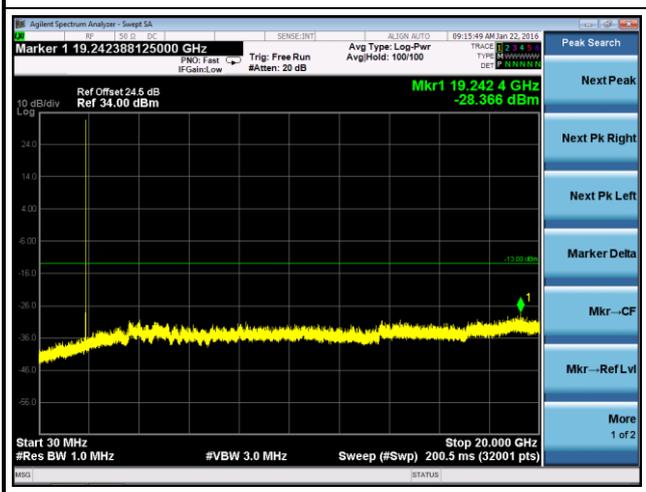
LTE Band 25, CB: 10MHz



Mode LTE Band 25, CB: 10MHz, 64QAM	Mode ---
Low Channel	Low Channel
	<p style="text-align: center;">---</p>
Mid. Channel	Mid. Channel
	<p style="text-align: center;">---</p>
High Channel	High Channel
	<p style="text-align: center;">---</p>

LTE Band 25, CB: 20MHz



Mode LTE Band 25, CB: 20MHz, 64QAM	Mode ---
Low Channel	Low Channel
	<p style="text-align: center;">---</p>
Mid. Channel	Mid. Channel
	<p style="text-align: center;">---</p>
High Channel	High Channel
	<p style="text-align: center;">---</p>

3.4 Band Edge

3.4.1 Limit of Band Edge

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

3.4.2 Test Procedures

1. Lowest and highest operating channels are tested for this item.
2. The center frequency of spectrum analyzer will be set to 1850 and 1910 MHz.
3. Set as below setting for LTE mode

Bandwidth (MHz)	RBW (kHz)	VBW (kHz)	Detector	Sweep time
3	33	100	RMS	Auto
5	51	160	RMS	Auto
10	100	300	RMS	Auto
20	200	620	RMS	Auto

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

3.4.3 Test Setup

