

# FCC Test Report

**FCC ID** : MXF-WRTD303NME936  
**Equipment** : LTE Module  
**Model No.** : ME936  
**Brand Name** : Gemtek  
**Applicant** : Gemtek Technology Co., Ltd.  
**Address** : No.15-1 Zhonghua Road, Hsinchu Industrial  
Park, Hukou, Hsinchu, Taiwan, 30352  
**Standard** : 47 CFR FCC Part 24 Subpart E  
**Received Date** : Nov. 12, 2014  
**Tested Date** : Dec. 03 ~ Dec. 24, 2014

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:



Along Chen / Assistant Manager



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## Table of Contents

<b>1</b>	<b>GENERAL DESCRIPTION .....</b>	<b>5</b>
1.1	Information.....	5
1.2	Local Support Equipment List .....	9
1.3	Test Setup Chart .....	9
1.4	The Equipment List .....	10
1.5	Test Standards .....	11
1.6	Measurement Uncertainty .....	11
<b>2</b>	<b>TEST CONFIGURATION .....</b>	<b>12</b>
2.1	Testing Condition and Location Information.....	12
2.2	The Worst Test Modes and Channel Details .....	12
<b>3</b>	<b>TEST RESULTS.....</b>	<b>14</b>
3.1	Equivalent Isotropically Radiated Power .....	14
3.2	Radiated Emissions.....	22
3.3	Conducted Emissions.....	35
3.4	Band Edge.....	43
3.5	Occupied and 26 dB Bandwidth .....	69
3.6	Peak to Average Ratio .....	77
3.7	Frequency Stability.....	85
<b>4</b>	<b>TEST LABORATORY INFORMATION .....</b>	<b>90</b>

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## Release Record

Report No.	Version	Description	Issued Date
FG4N1201P24	Rev. 01	Initial issue	Jan. 21, 2015

## Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 24.232(c)	Equivalent Isotropically Radiated Power	Power[dBm] : WCDMA: 24.62 LTE: 24.41	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 / 24.238(b)	Occupied Bandwidth	Meet the requirement of limit	Pass
2.1051 / 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)

<b>Operating Band (MHz)</b>	<p>WCDMA BAND II: 1852.4~1907.6</p> <p>LTE Band 2:            Channel Bandwidth: 1.4MHz: 1850.7~1909.3            Channel Bandwidth: 3MHz: 1851.5~1908.5            Channel Bandwidth: 5MHz: 1852.5~1907.5            Channel Bandwidth: 10MHz: 1855~1905            Channel Bandwidth: 15MHz: 1857.5~1902.5            Channel Bandwidth: 20MHz: 1860~1900</p>
<b>Modulation</b>	<p>WCDMA / HSDPA / HSUPA            Uplink: QPSK            Downlink: QPSK , 16QAM , 64QAM</p> <p>LTE            Uplink: QPSK, 16QAM            Downlink: QPSK , 16QAM , 64QAM</p>
<b>3GPP Release Version</b>	<p>WCDMA: R7            LTE: 9</p>
<b>H/W Version</b>	V03
<b>S/W Version</b>	1.1.0

Note: The module is certified as limited module that is limited to specific host (refer to section 1.1.2).

### 1.1.2 Specific platform Information

Brand Name	Model Name	Product Name	FCC ID
Gemtek	WRTD-303N	Easy Connect	MXF-WRTD303N

Accessories for Platform		
No.	Equipment	Description
1	AC Adapter 1	Brand Name: AOEM Model Name: ADS0248-W 120200 Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A O/P: 12Vdc, 2A Power Line: 120cm non-shielded cable with one core
2	AC Adapter 2	Brand Name: APD Model Name: WA-24Q12FU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A O/P: 12Vdc, 2A Power Line: 1.8m non-shielded cable with one core
3	AC Adapter 3	Brand Name: MOSO Model Name: MSP-C2000IC12.0-24W-US Power Rating: I/P: 100-240Vac, 50-60Hz, 0.8A O/P: 12Vdc, 2A Power Line: 1.4m non-shielded cable with one core
4	WTE Battery	Model: 303N Rating: 7.4Vdc, 4050mAh (29.97Wh)
5	MAXELL Battery	button cell battery Model: ML2032 Rating: 3Vdc
6	built-in HDD	Brand: TOSHIBA Model: MQ01ABF050 Capacity: 500GB

### 1.1.3 Maximum EIRP, Frequency Tolerance and Emission Designator

System	Modulation	Maximum ERP(W)	Emission Designator
WCDMA 1900	QPSK	0.290	4M10F9W
LTE Band 2, CB: 1.4MHz	QPSK	0.262	1M09G7D
LTE Band 2, CB: 1.4MHz	16QAM	0.224	1M09W7D
LTE Band 2, CB: 3MHz	QPSK	0.258	2M69G7D
LTE Band 2, CB: 3MHz	16QAM	0.230	2M70W7D
LTE Band 2, CB: 5MHz	QPSK	0.256	4M50G7D
LTE Band 2, CB: 5MHz	16QAM	0.222	4M49W7D
LTE Band 2, CB: 10MHz	QPSK	0.265	9M03G7D
LTE Band 2, CB: 10MHz	16QAM	0.235	8M97W7D
LTE Band 2, CB: 15MHz	QPSK	0.264	13M5G7D
LTE Band 2, CB: 15MHz	16QAM	0.222	13M5W7D
LTE Band 2, CB: 20MHz	QPSK	0.276	18M0G7D
LTE Band 2, CB: 20MHz	16QAM	0.238	18M0W7D

### 1.1.4 Antenna Details

Ant. No.	Type	Gain (dBi)	Connector	Remark
1	PIFA	1.6	UFL	---

### 1.1.5 EUT and Host Operational Condition

#### EUT

<b>Supply Voltage</b>	3.3 Vdc from host		
<b>Operational Climatic</b>	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (50°C)	<input checked="" type="checkbox"/> Tmin (-30°C)

#### Host

<b>Operational Voltage</b>	<input checked="" type="checkbox"/> Vnom (7.4 Vdc)	<input checked="" type="checkbox"/> Vmax (8.14 Vdc)	<input checked="" type="checkbox"/> Vmin (6.66 Vdc)
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### 1.1.6 Operating Channel List

WCDMA BAND II		
Channel Location	Channel	Frequency (MHz)
Low	9262	1852.4
Middle	9400	1880.0
High	9538	1907.6

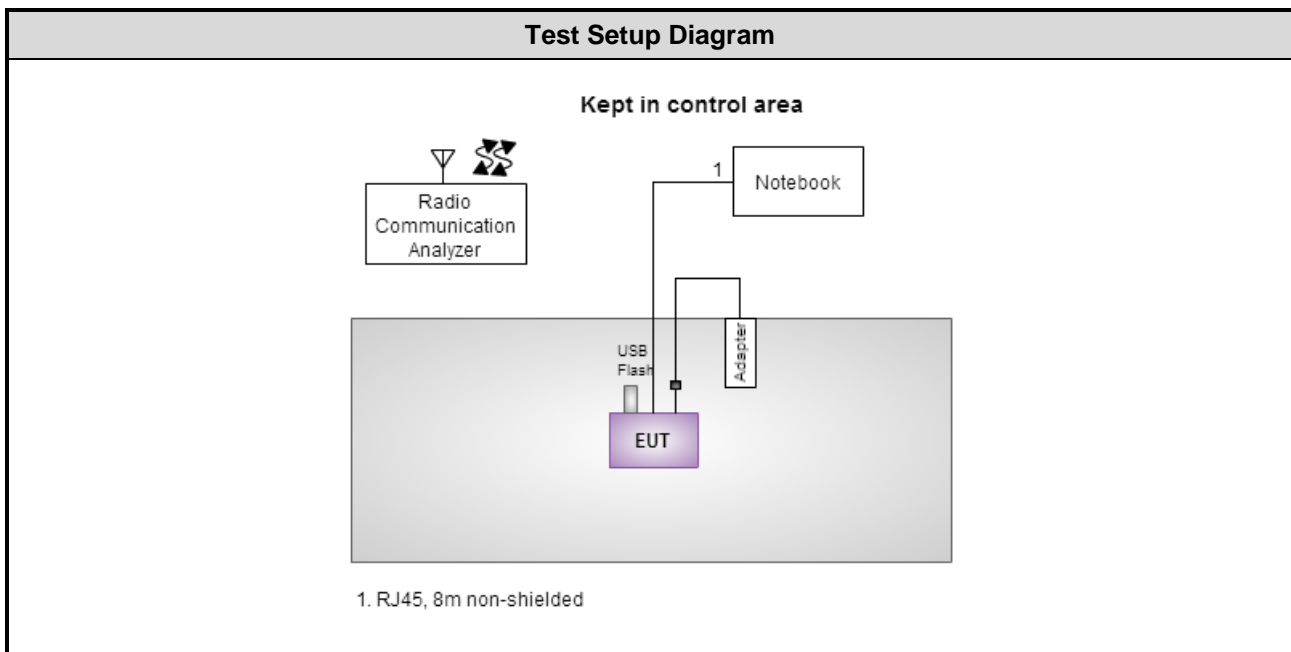
LTE Band 2		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
1.4	18607	1850.7
1.4	18900	1880
1.4	19193	1909.3
3	18615	1851.5
3	18900	1880
3	19185	1908.5
5	18625	1852.5
5	18900	1880
5	19175	1907.5
10	18650	1855
10	18900	1880
10	19150	1905
15	18675	1857.5
15	18900	1880
15	19125	1902.5
20	18700	1860
20	18900	1880
20	19100	1900



## 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	J5GB4X1	DoC	RJ45, 8m non-shielded.
2	USB Flash	Kingston	DTSE9	WX9Q6	---	---

## 1.3 Test Setup Chart



Note: The module is certified as limited module that is limited to specific host (refer to section 1.1.2). Thus, test configuration is combined with host not stand-alone

## 1.4 The Equipment List

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. 17, 2014	Feb. 16, 2015
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 16, 2014	Sep. 15, 2015
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 03, 2014	Dec. 02, 2015
Power Meter	Anritsu	ML2495A	1241002	Sep. 29, 2014	Sep. 28, 2015
Power Sensor	Anritsu	MA2411B	1207366	Sep. 29, 2014	Sep. 28, 2015
Signal Generator	R&S	SMB100A	175727	Oct. 08, 2014	Oct. 07, 2015
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	Mar. 18, 2014	Mar. 17, 2015
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	Apr. 08, 2014	Apr. 07, 2015
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA

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

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	101499	Feb. 08, 2014	Feb. 07, 2015
Receiver	R&S	ESR3	101658	Nov. 10, 2014	Nov. 09, 2015
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Sep. 05, 2014	Sep. 04, 2015
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Oct. 14, 2014	Oct. 13, 2015
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 10, 2014	Nov. 09, 2015
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2014	Nov. 09, 2015
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 09, 2014	Sep. 08, 2015
Preamplifier	Agilent	83017A	MY39501308	Oct. 09, 2014	Oct. 08, 2015
Preamplifier	EMC	EMC184045B	980192	Aug. 26, 2014	Aug. 25, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Feb. 19, 2014	Feb. 18, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY22601/4	Feb. 19, 2014	Feb. 18, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Feb. 19, 2014	Feb. 18, 2015
LF cable 3M	EMC	EMC8D-NM-NM-3000	131103	Feb. 17, 2014	Feb. 16, 2015
LF cable 10M	EMC	EMC8D-NM-NM-13000	131104	Feb. 17, 2014	Feb. 16, 2015
Measurement Software	AUDIX	e3	6.120210g	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 C63.4-2003

ANSI / TIA / EIA-603-C -2004

FCC KDB 971168 D01 Power Meas License Digital Systems v02r02

FCC KDB 971168 D02 Misc OOBE License Digital Systems v01

FCC KDB 412172 D01 Determining ERP and EIRP v01

## 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	$\pm 34.134$ Hz
Conducted power	$\pm 0.808$ dB
Frequency error	$\pm 34.134$ Hz
Temperature	$\pm 0.6$ °C
Conducted emission	$\pm 2.670$ dB
AC conducted emission	$\pm 2.92$ dB
Radiated emission $\leq 1$ GHz	$\pm 3.72$ dB
Radiated emission $> 1$ GHz	$\pm 5.65$ dB

## 2 Test Configuration

### 2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
RF conducted	TH01-WS	21°C / 60-64%	Felix Sung
Radiated Emissions	03CH01-WS	22°C / 63%	Haru Yang

➤ FCC site registration No.: 657002

➤ IC site registration No.: 10807A-1

### 2.2 The Worst Test Modes and Channel Details

#### WCDMA

Test item	Mode	Test channel
E.I.R.P	WCDMA BAND II	9262, 9400, 9538
Radiated Emission ≤ 1GHz	WCDMA BAND II	9262
Radiated Emission > 1GHz	WCDMA BAND II	9262, 9400, 9538
Conducted Emissions	WCDMA BAND II	9262, 9400, 9538
Band Edge	WCDMA BAND II	9262, 9538
Occupied Bandwidth	WCDMA BAND II	9262, 9400, 9538
Peak to average ratio	WCDMA BAND II	9262, 9400, 9538
Frequency Stability	WCDMA BAND II	9400

#### Note:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
2. Adapter 1, Adapter 2 and Adapter 3 had been pretested and found that **Adapter 1** was the worst case and was selected for final testing (Adapter 1: AOEM adapter; Adapter 2: APD adapter; Adapter 3: MOSO adapter).

## LTE

Test item	Channel Bandwidth	Modulation	Test channel
E.I.R.P Conducted Emissions Occupied Bandwidth Peak to Average Ratio	1.4 MHz	QPSK / 16QAM	18607 / 18900 / 19193
	3 MHz	QPSK / 16QAM	18615 / 18900 / 19185
	5 MHz	QPSK / 16QAM	18625 / 18900 / 19175
	10 MHz	QPSK / 16QAM	18650 / 18900 / 19150
	15 MHz	QPSK / 16QAM	18675 / 18900 / 19125
Radiated Emission ≤ 1GHz	20 MHz	QPSK / 16QAM	18700 / 18900 / 19100
	1.4 MHz	QPSK	18900
	3 MHz	QPSK	18900
	5 MHz	QPSK	18900
	10 MHz	QPSK	18900
Radiated Emission > 1GHz	15 MHz	QPSK	18900
	20 MHz	QPSK	18900
	1.4 MHz	QPSK	18607 / 18900 / 19193
	3 MHz	QPSK	18615 / 18900 / 19185
	5 MHz	QPSK	18625 / 18900 / 19175
Band Edge	10 MHz	QPSK	18650 / 18900 / 19150
	15 MHz	QPSK / 16QAM	18675 / 19125
	20 MHz	QPSK / 16QAM	18700 / 19100
	1.4 MHz	QPSK / 16QAM	18607 / 19193
	3 MHz	QPSK / 16QAM	18615 / 19185
Frequency Stability	5 MHz	QPSK / 16QAM	18625 / 19175
	10 MHz	QPSK / 16QAM	18650 / 19150
	15 MHz	QPSK / 16QAM	18675 / 19125
	20 MHz	QPSK / 16QAM	18700 / 19100
	1.4 MHz	QPSK	18900
3 MHz	QPSK	18900	
5 MHz	QPSK	18900	
10 MHz	QPSK	18900	
15 MHz	QPSK	18900	
20 MHz	QPSK	18900	

### Note:

- The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
- Adapter 1, Adapter 2 and Adapter 3 had been pretested and found that **Adapter 1** was the worst case and was selected for final testing (Adapter 1: AOEM adapter; Adapter 2: APD adapter; Adapter 3: MOSO adapter).

### 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

For Conducted power measurement

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

For EIRP measurement

EIPR can be calculated by below formula from KDB 412172 D01

1.  $EIRP = P_T + G_T - L_C$

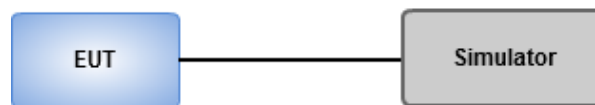
$P_T$  = transmitter output power, in dBm

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

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

##### 3.1.3 Test Setup

###### Conducted Power Measurement



### 3.1.4 Test Result of Conducted power (dBm)

Band	WCDMA BAND II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC 12.2K	22.93	<b>23.02</b>	22.94
HSDPA Subtest-1	22.90	22.91	22.93
HSDPA Subtest-2	22.61	22.65	22.54
HSDPA Subtest-3	22.07	22.17	22.04
HSDPA Subtest-4	21.84	21.93	21.80
HSUPA Subtest-1	22.03	21.73	21.62
HSUPA Subtest-2	20.32	20.32	20.20
HSUPA Subtest-3	21.35	21.39	21.28
HSUPA Subtest-4	20.60	20.58	20.48
HSUPA Subtest-5	22.70	22.70	22.60

Band / Channel Bandwidth			LTE Band 2 / CB: 1.4MHz		
Channel			18607	18900	19193
Frequency (MHz)			1850.7	1880	1909.3
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	22.19	22.33	22.44
	1	2	22.24	22.38	22.23
	1	5	22.46	<b>22.59</b>	22.33
	3	0	22.28	22.38	22.46
	3	1	22.29	22.56	22.30
	3	2	22.29	22.39	22.29
	6	0	21.78	21.83	21.76
16QAM	1	0	21.84	21.77	21.88
	1	2	21.77	21.88	21.63
	1	5	21.63	21.65	21.90
	3	0	21.66	21.73	21.60
	3	1	21.61	21.61	21.68
	3	2	21.59	21.71	21.62
	6	0	20.60	20.67	20.62

Band / Channel Bandwidth			LTE Band 2 / CB: 3MHz		
Channel			18615	18900	19185
Frequency (MHz)			1851.5	1880	1908.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	22.19	22.50	22.39
	1	7	22.39	22.25	22.34
	1	14	22.34	<b>22.52</b>	22.35
	8	0	21.53	21.69	21.56
	8	4	21.56	21.62	21.61
	8	7	21.54	21.58	21.55
	15	0	21.54	21.59	21.56
16QAM	1	0	21.53	22.02	21.81
	1	7	21.53	21.63	21.58
	1	14	21.84	21.53	21.80
	8	0	20.55	20.63	20.52
	8	4	20.63	20.59	20.55
	8	7	20.57	20.63	20.56
	15	0	20.56	20.60	20.57

Band / Channel Bandwidth			LTE Band 2 / CB: 5MHz		
Channel			18625	18900	19175
Frequency (MHz)			1852.5	1880	1907.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	22.23	22.38	22.47
	1	12	22.34	22.30	22.41
	1	24	22.35	22.32	<b>22.49</b>
	12	0	21.49	21.67	21.62
	12	6	21.49	21.56	21.49
	12	11	21.50	21.56	21.53
	25	0	21.56	21.53	21.51
16QAM	1	0	21.83	21.67	21.57
	1	12	21.53	21.60	21.86
	1	24	21.86	21.59	21.52
	12	0	20.53	20.57	20.50
	12	6	20.59	20.66	20.52
	12	11	20.51	20.66	20.51
	25	0	20.53	20.61	20.51



Band / Channel Bandwidth			LTE Band 2 / CB: 10MHz		
Channel			18650	18900	19150
Frequency (MHz)			1855	1880	1905
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	22.52	22.58	22.45
	1	24	22.25	22.33	22.38
	1	49	22.54	<b>22.63</b>	22.59
	25	0	21.66	21.74	21.64
	25	12	21.69	21.68	21.63
	25	24	21.65	21.69	21.64
	50	0	21.68	21.71	21.66
16QAM	1	0	22.06	21.94	22.09
	1	24	21.99	21.67	21.92
	1	49	21.65	22.11	21.72
	25	0	20.69	20.71	20.70
	25	12	20.65	20.69	20.64
	25	24	20.64	20.70	20.68
	50	0	20.68	20.71	20.64

Band / Channel Bandwidth			LTE Band 2 / CB: 15MHz		
Channel			18675	18900	19125
Frequency (MHz)			1857.5	1880	1902.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	22.42	22.52	22.35
	1	37	22.46	22.36	22.36
	1	74	22.53	<b>22.61</b>	22.49
	36	0	21.64	21.68	21.62
	36	18	21.66	21.70	21.65
	36	37	21.69	21.72	21.71
	75	0	21.70	21.71	21.64
16QAM	1	0	21.78	21.71	21.82
	1	37	21.86	21.69	21.72
	1	74	21.66	21.84	21.85
	36	0	20.82	20.70	20.65
	36	18	20.66	20.69	20.67
	36	37	20.66	20.69	20.63
	75	0	20.68	20.66	20.63

Band / Channel Bandwidth			LTE Band 2 / CB: 20MHz		
Channel			18700	18900	19100
Frequency (MHz)			1860	1880	1900
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	22.76	22.78	22.68
	1	49	22.47	22.48	22.58
	1	99	22.79	<b>22.81</b>	22.73
	50	0	21.83	21.86	21.82
	50	24	21.88	21.89	21.83
	50	49	21.87	21.88	21.84
	100	0	21.85	21.86	21.82
16QAM	1	0	22.01	22.08	22.03
	1	49	21.82	21.98	21.89
	1	99	22.06	22.16	22.12
	50	0	20.84	20.98	20.87
	50	24	20.83	20.88	20.84
	50	49	20.87	20.92	20.85
	100	0	20.84	20.87	20.82

### 3.1.5 Test Result of Equivalent Isotropically Radiated Power (dBm)

Mode	WCDMA BAND II					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
9262	1852.4	22.93	1.6	24.53	0.284	2
9400	1880.0	23.02	1.6	<b>24.62</b>	0.290	2
9538	1907.6	22.94	1.6	24.54	0.284	2

Mode	LTE CB: 1.4MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18607	1850.7	22.46	1.6	24.06	0.255	2
18900	1880	22.59	1.6	24.19	0.262	2
19193	1909.3	22.46	1.6	24.06	0.255	2

Mode	LTE CB: 1.4MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18607	1850.7	21.84	1.6	23.44	0.221	2
18900	1880	21.88	1.6	23.48	0.223	2
19193	1909.3	21.9	1.6	23.5	0.224	2

Mode	LTE CB: 3MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18615	1851.5	22.39	1.6	23.99	0.251	2
18900	1880	22.52	1.6	24.12	0.258	2
19185	1908.5	22.39	1.6	23.99	0.251	2

Mode	LTE CB: 3MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18615	1851.5	21.84	1.6	23.44	0.221	2
18900	1880	22.02	1.6	23.62	0.230	2
19185	1908.5	21.81	1.6	23.41	0.219	2

Mode	LTE CB: 5MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18625	1852.5	22.35	1.6	23.95	0.248	2
18900	1880	22.38	1.6	23.98	0.250	2
19175	1907.5	22.49	1.6	24.09	0.256	2

Mode	LTE CB: 5MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18625	1852.5	21.86	1.6	23.46	0.222	2
18900	1880	21.67	1.6	23.27	0.212	2
19175	1907.5	21.86	1.6	23.46	0.222	2

Mode	LTE CB: 10MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18650	1855	22.54	1.6	24.14	0.259	2
18900	1880	22.63	1.6	24.23	0.265	2
19150	1905	22.59	1.6	24.19	0.262	2

Mode	LTE CB: 10MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18650	1855	22.06	1.6	23.66	0.232	2
18900	1880	22.11	1.6	23.71	0.235	2
19150	1905	22.09	1.6	23.69	0.234	2

Mode	LTE CB: 15MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18675	1857.5	22.53	1.6	24.13	0.259	2
18900	1880	22.61	1.6	24.21	0.264	2
19125	1902.5	22.49	1.6	24.09	0.256	2

Mode	LTE CB: 15MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18675	1857.5	21.86	1.6	23.46	0.222	2
18900	1880	21.84	1.6	23.44	0.221	2
19125	1902.5	21.85	1.6	23.45	0.221	2

Mode	LTE CB: 20MHz, QPSK					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18700	1860	22.79	1.6	24.39	0.275	2
18900	1880	22.81	1.6	<b>24.41</b>	0.276	2
19100	1900	22.73	1.6	24.33	0.271	2

Mode	LTE CB: 20MHz, 16QAM					
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
18700	1860	22.06	1.6	23.66	0.232	2
18900	1880	22.16	1.6	23.76	0.238	2
19100	1900	22.12	1.6	23.72	0.236	2

## 3.2 Radiated Emissions

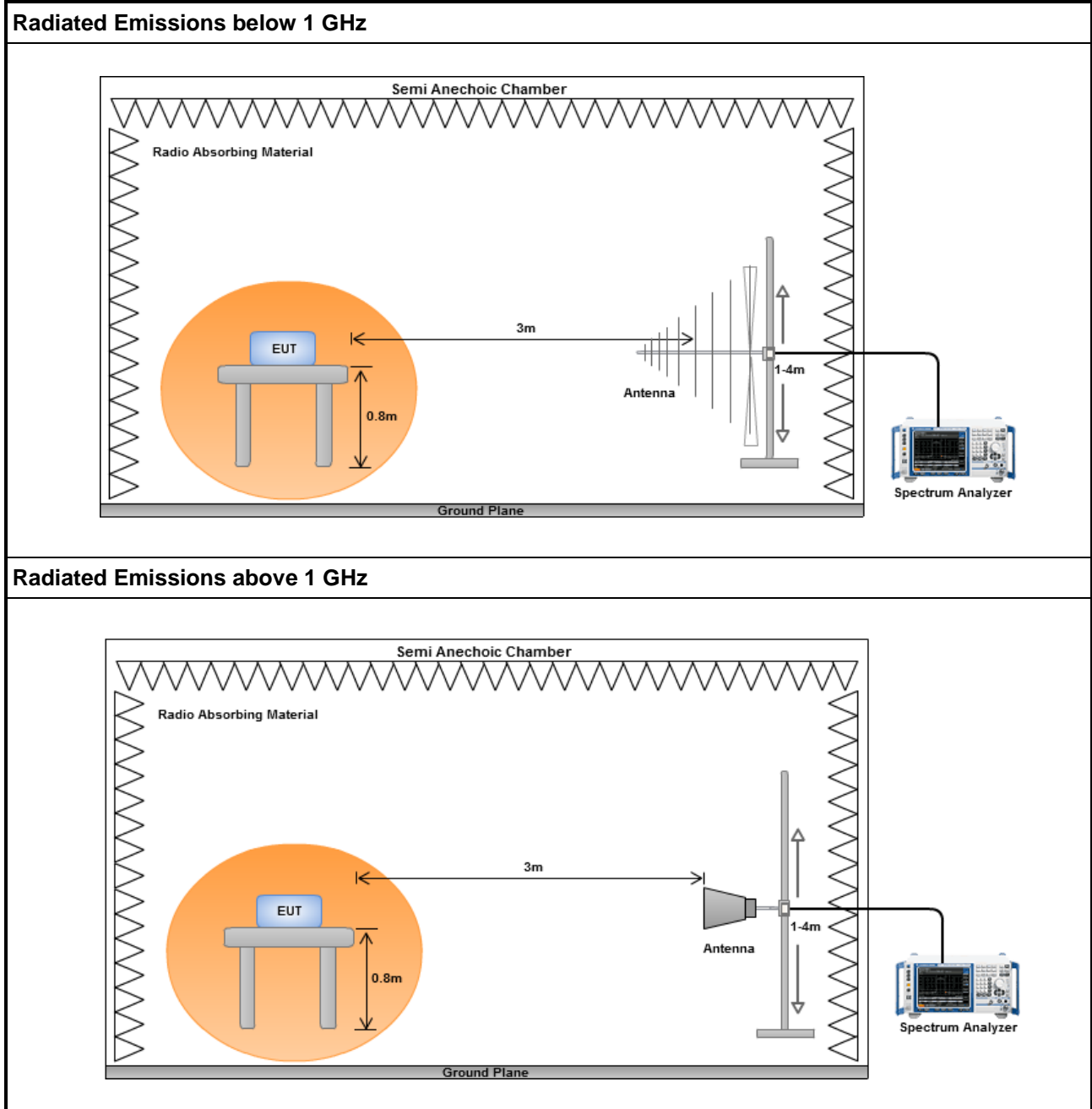
### 3.2.1 Limit of Radiated Emissions

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



### 3.2.4 Test Result of Radiated Emissions below 1GHz

Mode		WCDMA Band II , Channel : 9400					
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)
64.38	H	-57.26	-13	-44.26	-49.63	-49.97	-7.29
120.87	H	-45.23	-13	-32.23	-35.07	-44.49	-0.74
142.59	H	-55.81	-13	-42.81	-47.01	-54.52	-1.29
180.91	H	-64.32	-13	-51.32	-53.87	-66.54	2.22
316.02	H	-62.7	-13	-49.7	-53.97	-66.97	4.27
340.52	H	-60.98	-13	-47.98	-53.6	-65.36	4.38
32.67	V	-53.14	-13	-40.14	-42.11	-39.5	-13.64
41.56	V	-54.18	-13	-41.18	-44.11	-42.1	-12.08
108.41	V	-40.26	-13	-27.26	-31.06	-40.12	-0.14
146.84	V	-56.73	-13	-43.73	-49.97	-55.55	-1.18
278.02	V	-62.13	-13	-49.13	-56.1	-66.4	4.27
309.84	V	-58.87	-13	-45.87	-52.7	-63.11	4.24

Mode		LTE Band 2, CB:1.4MHz, 1RB, Offset 5,Channel:18900					
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)
30.23	H	-55.12	-13	-42.12	-54.07	-40.8	-14.32
62.36	H	-56.84	-13	-43.84	-49.11	-48.87	-7.97
121.47	H	-46.52	-13	-33.52	-36.4	-45.76	-0.76
184.35	H	-63.15	-13	-50.15	-52.31	-65.76	2.61
312.74	H	-62.55	-13	-49.55	-53.64	-66.81	4.26
334.61	H	-62.08	-13	-49.08	-54.37	-66.43	4.35
39.45	V	-54.21	-13	-41.21	-43.44	-41.83	-12.38
109.42	V	-40.18	-13	-27.18	-30.96	-39.99	-0.19
146.34	V	-55.86	-13	-42.86	-49.07	-54.67	-1.19
210.36	V	-55.29	-13	-42.29	-47.92	-59.68	4.39
245.69	V	-59.72	-13	-46.72	-53.78	-64.09	4.37
332.78	V	-50.41	-13	-37.41	-44.36	-54.75	4.34

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



Mode	LTE Band 2, CB:3MHz, 1RB, Offset 14,Channel:18900						
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)
30.59	H	-55.37	-13	-42.37	-54.2	-41.15	-14.22
62.34	H	-56.51	-13	-43.51	-48.78	-48.54	-7.97
121.46	H	-46.74	-13	-33.74	-36.62	-45.98	-0.76
184.61	H	-63.29	-13	-50.29	-52.42	-65.93	2.64
312.45	H	-62.58	-13	-49.58	-53.65	-66.83	4.25
334.76	H	-62.41	-13	-49.41	-54.71	-66.76	4.35
39.62	V	-54.38	-13	-41.38	-43.69	-42.03	-12.35
109.49	V	-40.89	-13	-27.89	-31.67	-40.69	-0.2
146.27	V	-55.7	-13	-42.7	-48.9	-54.5	-1.2
210.38	V	-55.25	-13	-42.25	-47.88	-59.64	4.39
245.13	V	-59.38	-13	-46.38	-53.42	-63.75	4.37
332.96	V	-50.24	-13	-37.24	-44.19	-54.59	4.35

Mode	LTE Band 2, CB:5MHz, 1RB, Offset 24,Channel:19175						
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)
30.12	H	-54.25	-13	-41.25	-53.24	-39.9	-14.35
62.13	H	-56.36	-13	-43.36	-48.62	-48.32	-8.04
121.7	H	-46.71	-13	-33.71	-36.61	-45.95	-0.76
184.65	H	-63.27	-13	-50.27	-52.4	-65.92	2.65
312.86	H	-62.05	-13	-49.05	-53.15	-66.31	4.26
334.62	H	-62.48	-13	-49.48	-54.77	-66.83	4.35
39.42	V	-54.28	-13	-41.28	-43.5	-41.9	-12.38
109.41	V	-40.93	-13	-27.93	-31.71	-40.74	-0.19
146.93	V	-55.74	-13	-42.74	-48.99	-54.56	-1.18
210.62	V	-55.81	-13	-42.81	-48.45	-60.2	4.39
245.88	V	-59.34	-13	-46.34	-53.41	-63.71	4.37
332.74	V	-50.19	-13	-37.19	-44.14	-54.53	4.34

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

Mode	LTE Band 2, CB:10MHz, 1RB, Offset 49,Channel:18900						
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)
30.96	H	-54.03	-13	-41.03	-52.74	-39.91	-14.12
62.14	H	-57.35	-13	-44.35	-49.61	-49.31	-8.04
121.62	H	-45.97	-13	-32.97	-35.86	-45.21	-0.76
184.38	H	-63.26	-13	-50.26	-52.42	-65.88	2.62
312.59	H	-62.44	-13	-49.44	-53.52	-66.7	4.26
334.43	H	-62.57	-13	-49.57	-54.85	-66.92	4.35
39.81	V	-53.92	-13	-40.92	-43.31	-41.59	-12.33
109.75	V	-40.21	-13	-27.21	-30.99	-40	-0.21
146.73	V	-55.08	-13	-42.08	-48.31	-53.89	-1.19
210.36	V	-55.78	-13	-42.78	-48.41	-60.17	4.39
245.61	V	-59.24	-13	-46.24	-53.3	-63.61	4.37
332.49	V	-50.78	-13	-37.78	-44.73	-55.12	4.34

Mode	LTE Band 2, CB:15MHz, 1RB, Offset 74,Channel:18900						
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)
30.89	H	-54.29	-13	-41.29	-53.02	-40.16	-14.13
62.01	H	-57.41	-13	-44.41	-49.67	-49.33	-8.08
121.34	H	-45.84	-13	-32.84	-35.71	-45.09	-0.75
184.29	H	-63.52	-13	-50.52	-52.69	-66.13	2.61
312.63	H	-62.91	-13	-49.91	-53.99	-67.17	4.26
334.71	H	-62.58	-13	-49.58	-54.88	-66.93	4.35
39.62	V	-54.55	-13	-41.55	-43.86	-42.2	-12.35
109.75	V	-40.17	-13	-27.17	-30.95	-39.96	-0.21
146.23	V	-55.18	-13	-42.18	-48.38	-53.98	-1.2
210.37	V	-54.65	-13	-41.65	-47.28	-59.04	4.39
245.18	V	-59.22	-13	-46.22	-53.26	-63.59	4.37
332.96	V	-50.13	-13	-37.13	-44.08	-54.48	4.35

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

Mode	LTE Band 2, CB:20MHz, 1RB, Offset 99,Channel:18900						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
30.23	H	-54.49	-13	-41.49	-53.44	-40.17	-14.32
62.38	H	-57.42	-13	-44.42	-49.69	-49.46	-7.96
121.03	H	-45.38	-13	-32.38	-35.23	-44.64	-0.74
184.71	H	-63.25	-13	-50.25	-52.37	-65.9	2.65
312.46	H	-62.13	-13	-49.13	-53.21	-66.38	4.25
334.73	H	-62.28	-13	-49.28	-54.58	-66.63	4.35
39.42	V	-53.56	-13	-40.56	-42.78	-41.18	-12.38
109.38	V	-40.74	-13	-27.74	-31.52	-40.55	-0.19
146.84	V	-55.71	-13	-42.71	-48.95	-54.53	-1.18
210.63	V	-55.32	-13	-42.32	-47.96	-59.71	4.39
245.16	V	-59.23	-13	-46.23	-53.27	-63.6	4.37
332.41	V	-50.91	-13	-37.91	-44.86	-55.25	4.34

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

### 3.2.5 Test Result of Radiated Emissions above 1GHz

Mode		WCDMA Band II , Channel : 9262					
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)
3704.8	H	-56.14	-13	-43.14	-68.93	-62.72	6.58
5557.2	H	-51.8	-13	-38.8	-69.34	-57.68	5.88
7409.6	H	-53.13	-13	-40.13	-75.24	-56.01	2.88
3704.8	V	-59.28	-13	-46.28	-71.56	-65.86	6.58
5557.2	V	-54.36	-13	-41.36	-70.38	-60.24	5.88
7409.6	V	-54.37	-13	-41.37	-74.68	-57.25	2.88

Mode		WCDMA Band II , Channel : 9400					
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	H	-55.77	-13	-42.77	-68.77	-62.35	6.58
5640	H	-51.31	-13	-38.31	-69.04	-57.16	5.85
7520	H	-53.19	-13	-40.19	-74.99	-56.15	2.96
3760	V	-59.77	-13	-46.77	-72.02	-66.35	6.58
5640	V	-53.95	-13	-40.95	-70.25	-59.8	5.85
7520	V	-53.84	-13	-40.84	-74.52	-56.8	2.96

Mode		WCDMA Band II , Channel : 9538					
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)
3815.2	H	-56.04	-13	-43.04	-69.23	-62.6	6.56
5722.8	H	-52.04	-13	-39.04	-69.85	-57.85	5.81
7630.4	H	-53.89	-13	-40.89	-75.38	-56.79	2.9
3815.2	V	-60.05	-13	-47.05	-72.35	-66.61	6.56
5722.8	V	-54.56	-13	-41.56	-71.33	-60.37	5.81
7630.4	V	-54.08	-13	-41.08	-74.91	-56.98	2.9

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

Mode							
LTE Band 2, CB:1.4MHz, 1RB, Offset 5,Channel:18607							
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)
3702.21	H	-44.85	-13	-31.85	-57.63	-51.43	6.58
5553.4	H	-40.61	-13	-27.61	-58.13	-46.49	5.88
7404.72	H	-49.45	-13	-36.45	-71.58	-52.32	2.87
3702.21	V	-52.07	-13	-39.07	-64.35	-58.65	6.58
5553.4	V	-38.59	-13	-25.59	-54.6	-44.47	5.88
7404.72	V	-51.28	-13	-38.28	-71.58	-54.15	2.87

Mode							
LTE Band 2, CB:1.4MHz, 1RB, Offset 5,Channel:18900							
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)
3760.92	H	-50.35	-13	-37.35	-63.35	-56.93	6.58
5641.41	H	-40.67	-13	-27.67	-58.4	-46.52	5.85
7521.87	H	-50.51	-13	-37.51	-72.3	-53.47	2.96
3760.92	V	-54.53	-13	-41.53	-66.78	-61.11	6.58
5641.41	V	-40.13	-13	-27.13	-56.44	-45.98	5.85
7521.87	V	-50.56	-13	-37.56	-71.24	-53.52	2.96

Mode							
LTE Band 2, CB:1.4MHz, 1RB, Offset 5,Channel:19193							
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)
3819.55	H	-51.08	-13	-38.08	-64.28	-57.64	6.56
5729.18	H	-40.27	-13	-27.27	-58.08	-46.08	5.81
7638.94	H	-51.1	-13	-38.1	-72.56	-53.97	2.87
3819.55	V	-52.27	-13	-39.27	-64.59	-58.83	6.56
5729.18	V	-39.01	-13	-26.01	-55.8	-44.82	5.81
7638.94	V	-50.44	-13	-37.44	-71.23	-53.31	2.87

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

Mode							
LTE Band 2, CB:3MHz, 1RB, Offset 14,Channel:18615							
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)
3705.57	H	-46.06	-13	-33.06	-58.85	-52.64	6.58
5558.27	H	-41.78	-13	-28.78	-59.32	-47.66	5.88
7410.06	H	-49.73	-13	-36.73	-71.84	-52.61	2.88
3705.57	V	-54.83	-13	-41.83	-67.1	-61.41	6.58
5558.27	V	-39.65	-13	-26.65	-55.67	-45.53	5.88
7410.06	V	-51.08	-13	-38.08	-71.39	-53.96	2.88

Mode							
LTE Band 2, CB:3MHz, 1RB, Offset 14,Channel:18900							
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)
3762.55	H	-50.17	-13	-37.17	-63.18	-56.75	6.58
5643.78	H	-40.37	-13	-27.37	-58.1	-46.22	5.85
7524.96	H	-50.8	-13	-37.8	-72.59	-53.76	2.96
3762.55	V	-55.1	-13	-42.1	-67.35	-61.68	6.58
5643.78	V	-39.78	-13	-26.78	-56.1	-45.63	5.85
7524.96	V	-51.68	-13	-38.68	-72.38	-54.64	2.96

Mode							
LTE Band 2, CB:3MHz, 1RB, Offset 14,Channel:19185							
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)
3819.5	H	-51.04	-13	-38.04	-64.24	-57.6	6.56
5729.32	H	-40.83	-13	-27.83	-58.64	-46.64	5.81
7638.84	H	-51.35	-13	-38.35	-72.81	-54.22	2.87
3819.5	V	-55.49	-13	-42.49	-67.81	-62.05	6.56
5729.32	V	-40.53	-13	-27.53	-57.32	-46.34	5.81
7638.84	V	-52.05	-13	-39.05	-72.84	-54.92	2.87

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

Mode							
LTE Band 2, CB:5MHz, 1RB, Offset 24,Channel:18625							
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)
3709.32	H	-45.88	-13	-32.88	-58.69	-52.46	6.58
5563.98	H	-42.68	-13	-29.68	-60.24	-48.56	5.88
7418.51	H	-49.24	-13	-36.24	-71.33	-52.12	2.88
3709.32	V	-55.07	-13	-42.07	-67.34	-61.65	6.58
5563.98	V	-39.95	-13	-26.95	-55.98	-45.83	5.88
7418.51	V	-50.68	-13	-37.68	-71.02	-53.56	2.88

Mode							
LTE Band 2, CB:5MHz, 1RB, Offset 24,Channel:18900							
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)
3764.3	H	-49.97	-13	-36.97	-62.99	-56.55	6.58
5646.39	H	-40.11	-13	-27.11	-57.84	-45.96	5.85
7528.73	H	-50.58	-13	-37.58	-72.36	-53.55	2.97
3764.3	V	-55.16	-13	-42.16	-67.41	-61.74	6.58
5646.39	V	-40.28	-13	-27.28	-56.62	-46.13	5.85
7528.73	V	-50.94	-13	-37.94	-71.65	-53.91	2.97

Mode							
LTE Band 2, CB:5MHz, 1RB, Offset 24,Channel:19175							
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)
3819.36	H	-52.12	-13	-39.12	-65.31	-58.68	6.56
5728.93	H	-40.4	-13	-27.4	-58.21	-46.21	5.81
7638.83	H	-51.03	-13	-38.03	-72.49	-53.9	2.87
3819.36	V	-55.64	-13	-42.64	-67.96	-62.2	6.56
5728.93	V	-40.78	-13	-27.78	-57.57	-46.59	5.81
7638.83	V	-51.14	-13	-38.14	-71.93	-54.01	2.87

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

Mode							
LTE Band 2, CB:10MHz, 1RB, Offset 49,Channel:18650							
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)
3718.87	H	-45.79	-13	-32.79	-58.64	-52.37	6.58
5578.16	H	-43.66	-13	-30.66	-61.27	-49.53	5.87
7438.25	H	-50.35	-13	-37.35	-72.38	-53.25	2.9
3718.87	V	-54.71	-13	-41.71	-66.98	-61.29	6.58
5578.16	V	-40.18	-13	-27.18	-56.22	-46.05	5.87
7438.25	V	-51.22	-13	-38.22	-71.62	-54.12	2.9

Mode							
LTE Band 2, CB:10MHz, 1RB, Offset 49,Channel:18900							
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)
3768.8	H	-50.63	-13	-37.63	-63.67	-57.2	6.57
5653.24	H	-40.62	-13	-27.62	-58.36	-46.46	5.84
7537.73	H	-50.13	-13	-37.13	-71.88	-53.1	2.97
3768.8	V	-52.9	-13	-39.9	-65.15	-59.47	6.57
5653.24	V	-41.43	-13	-28.43	-57.81	-47.27	5.84
7537.73	V	-50.27	-13	-37.27	-71.01	-53.24	2.97

Mode							
LTE Band 2, CB:10MHz, 1RB, Offset 49,Channel:19150							
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)
3818.79	H	-51.53	-13	-38.53	-64.72	-58.09	6.56
5728.22	H	-41.64	-13	-28.64	-59.45	-47.45	5.81
7637.58	H	-50.9	-13	-37.9	-72.36	-53.77	2.87
3818.79	V	-51.96	-13	-38.96	-64.28	-58.52	6.56
5728.22	V	-41.33	-13	-28.33	-58.12	-47.14	5.81
7637.58	V	-50.59	-13	-37.59	-71.39	-53.46	2.87

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



Mode							
LTE Band 2, CB:15MHz, 1RB, Offset 74,Channel:18675							
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)
3728.34	H	-46.45	-13	-33.45	-59.33	-53.03	6.58
5592.47	H	-43.21	-13	-30.21	-60.87	-49.08	5.87
7456.68	H	-50.86	-13	-37.86	-72.84	-53.77	2.91
3728.34	V	-52.6	-13	-39.6	-64.86	-59.18	6.58
5592.47	V	-43.06	-13	-30.06	-59.13	-48.93	5.87
7456.68	V	-51.49	-13	-38.49	-71.96	-54.4	2.91

Mode							
LTE Band 2, CB:15MHz, 1RB, Offset 74,Channel:18900							
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)
3773.36	H	-51.89	-13	-38.89	-64.94	-58.46	6.57
5660.11	H	-41.49	-13	-28.49	-59.24	-47.33	5.84
7546.37	H	-50.63	-13	-37.63	-72.36	-53.61	2.98
3773.36	V	-52.78	-13	-39.78	-65.02	-59.35	6.57
5660.11	V	-42.01	-13	-29.01	-58.43	-47.85	5.84
7546.37	V	-50.71	-13	-37.71	-71.48	-53.69	2.98

Mode							
LTE Band 2, CB:15MHz, 1RB, Offset 74,Channel:19125							
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)
3818.31	H	-51.94	-13	-38.94	-65.13	-58.5	6.56
5727.56	H	-42.12	-13	-29.12	-59.93	-47.93	5.81
7636.71	H	-51.61	-13	-38.61	-73.08	-54.49	2.88
3818.31	V	-52.08	-13	-39.08	-64.39	-58.64	6.56
5727.56	V	-41.24	-13	-28.24	-58.02	-47.05	5.81
7636.71	V	-51.07	-13	-38.07	-71.87	-53.95	2.88

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

Mode							
LTE Band 2, CB:20MHz, 1RB, Offset 99,Channel:18700							
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)
3737.86	H	-47.89	-13	-34.89	-60.81	-54.47	6.58
5606.68	H	-43.54	-13	-30.54	-61.24	-49.41	5.87
7475.27	H	-51.66	-13	-38.66	-73.58	-54.59	2.93
3737.86	V	-52.67	-13	-39.67	-64.94	-59.25	6.58
5606.68	V	-44.25	-13	-31.25	-60.37	-50.12	5.87
7475.27	V	-51.7	-13	-38.7	-72.22	-54.63	2.93

Mode							
LTE Band 2, CB:20MHz, 1RB, Offset 99,Channel:18900							
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)
3777.84	H	-51.41	-13	-38.41	-64.48	-57.98	6.57
5666.75	H	-42.93	-13	-29.93	-60.69	-48.77	5.84
7555.29	H	-51.5	-13	-38.5	-73.21	-54.49	2.99
3777.84	V	-52.41	-13	-39.41	-64.65	-58.98	6.57
5666.75	V	-43.69	-13	-30.69	-60.14	-49.53	5.84
7555.29	V	-51.23	-13	-38.23	-72.04	-54.22	2.99

Mode							
LTE Band 2, CB:20MHz, 1RB, Offset 99,Channel:19100							
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)
3817.87	H	-51.72	-13	-38.72	-64.91	-58.28	6.56
5726.67	H	-43.73	-13	-30.73	-61.54	-49.54	5.81
7635.52	H	-51.96	-13	-38.96	-73.43	-54.84	2.88
3817.87	V	-52.98	-13	-39.98	-65.29	-59.54	6.56
5726.67	V	-44.2	-13	-31.2	-60.98	-50.01	5.81
7635.52	V	-51.55	-13	-38.55	-72.35	-54.43	2.88

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

### 3.3 Conducted Emissions

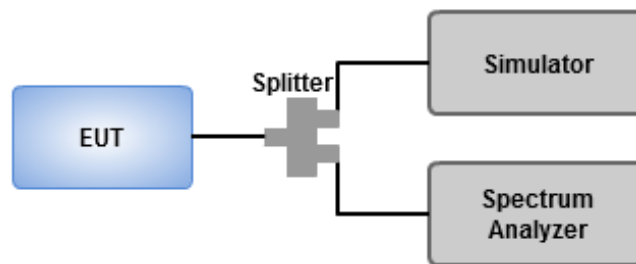
#### 3.3.1 Limit of Conducted Emissions

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.

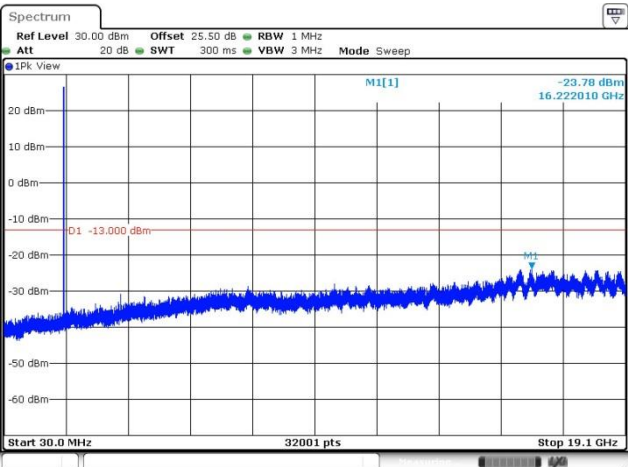
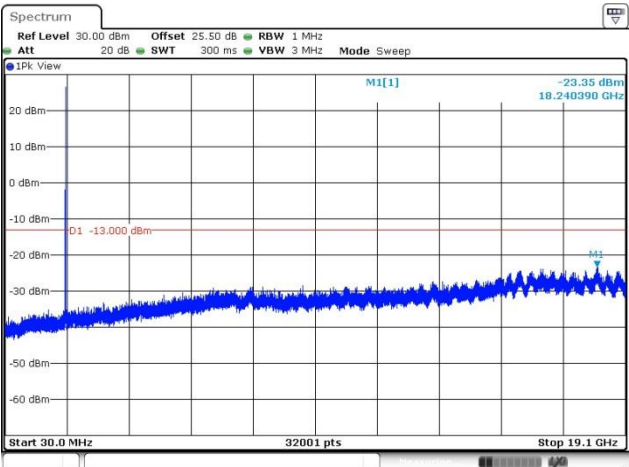
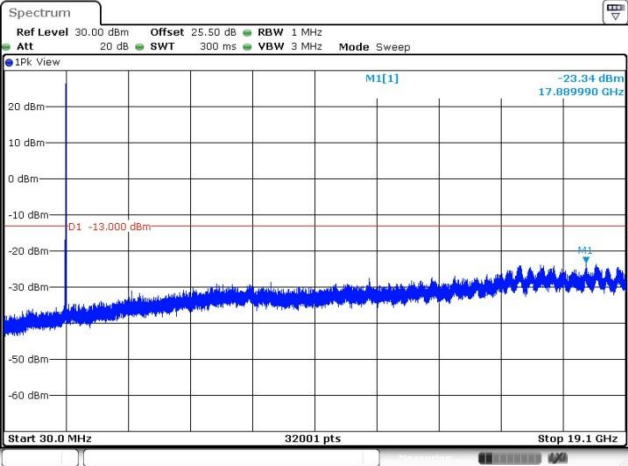
#### 3.3.2 Test Procedures

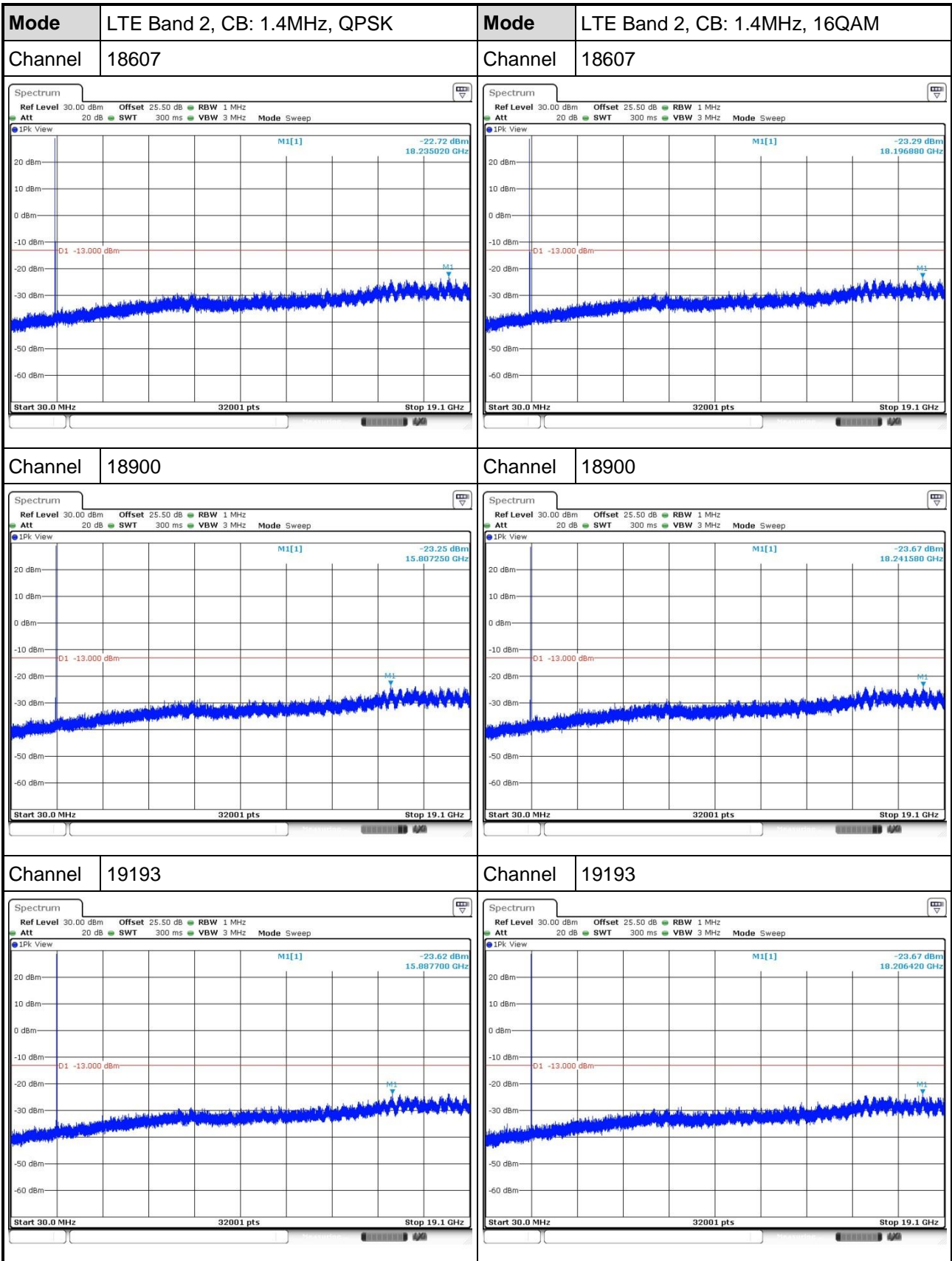
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz~19.1GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = Peak, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

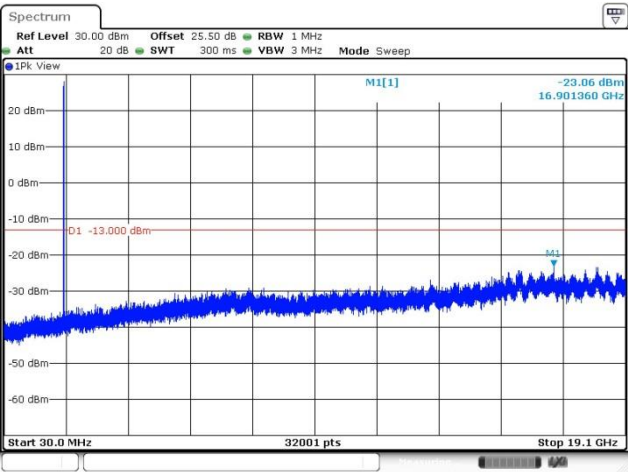
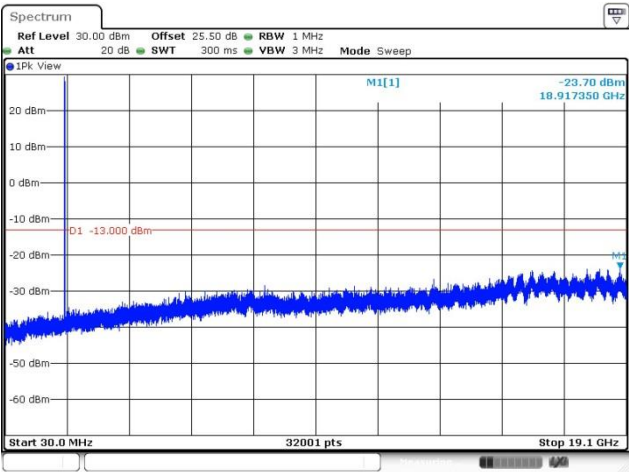
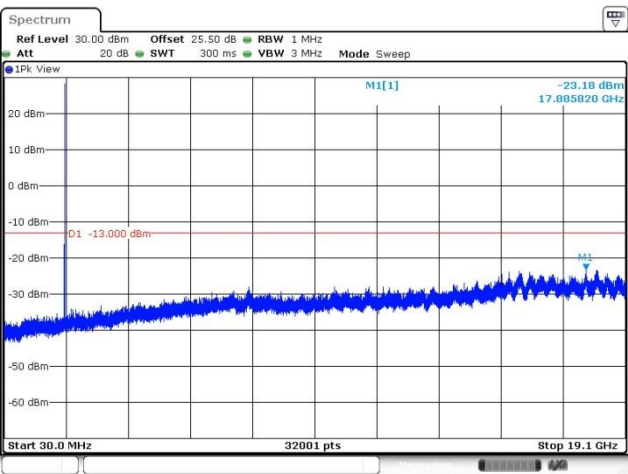
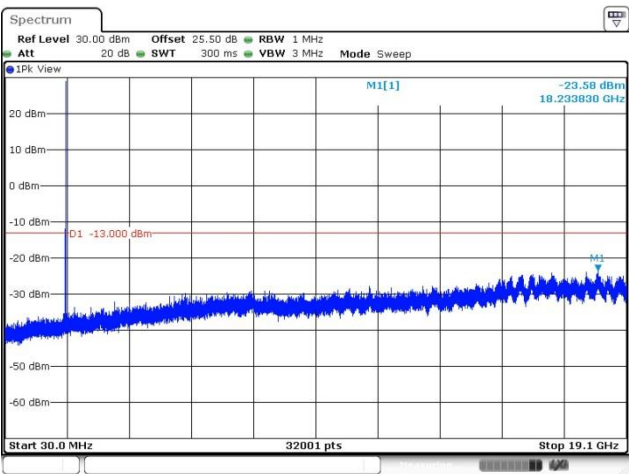
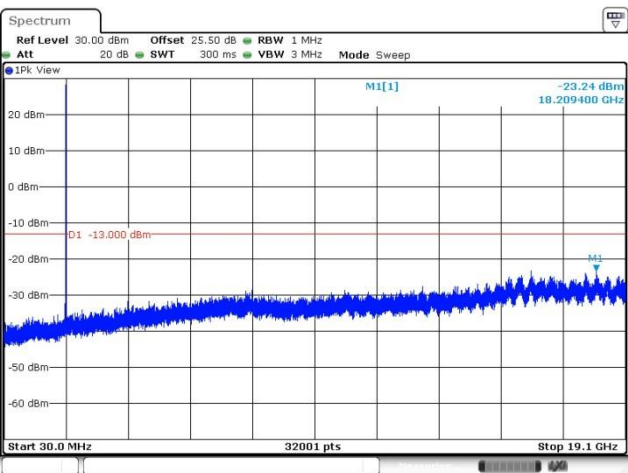
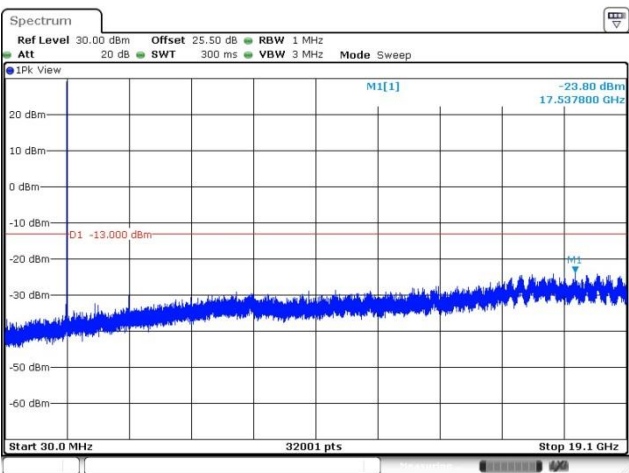
#### 3.3.3 Test Setup

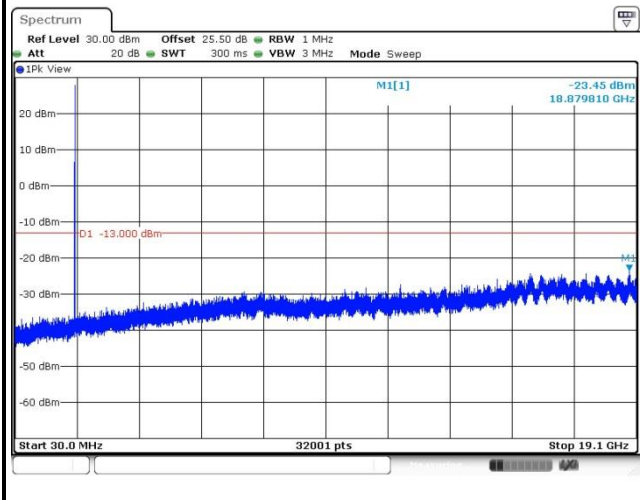
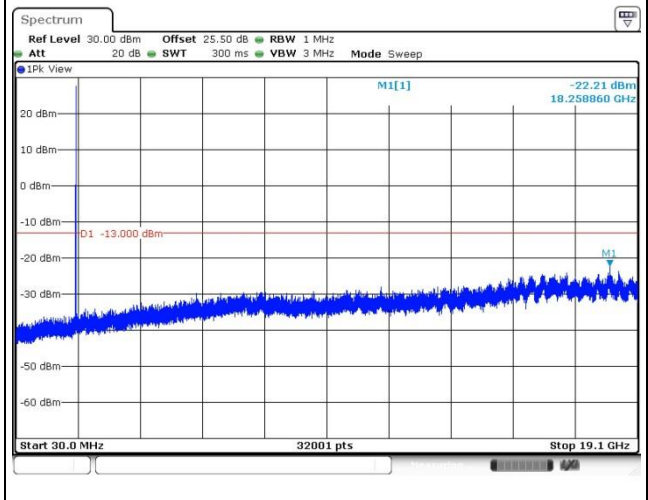
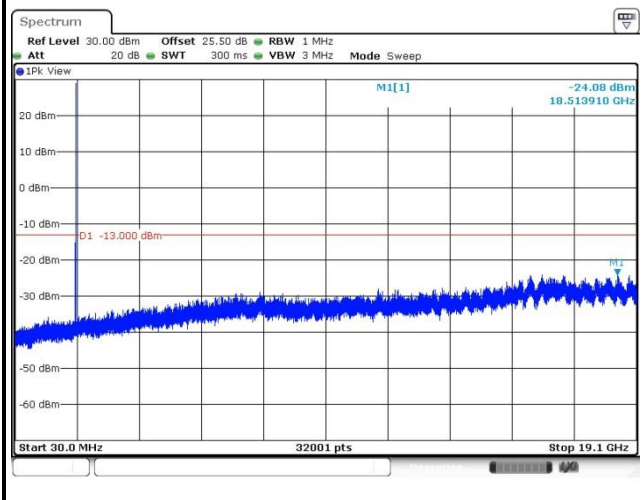
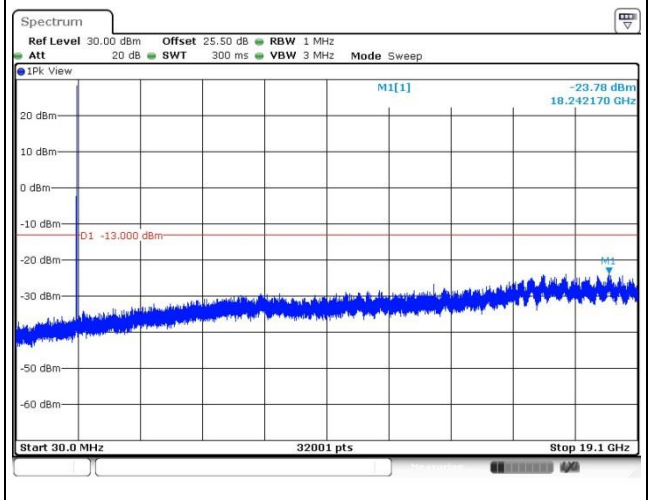
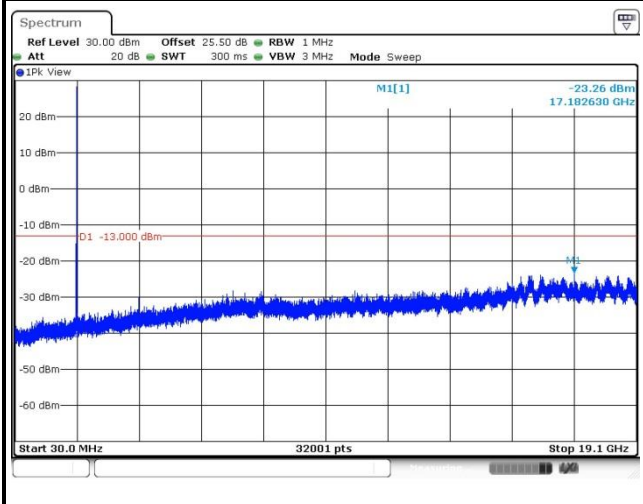
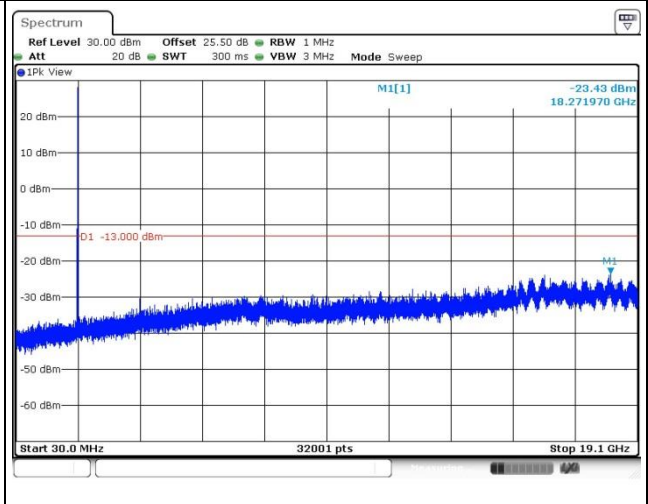


### 3.3.4 Test Result of Conducted Emissions

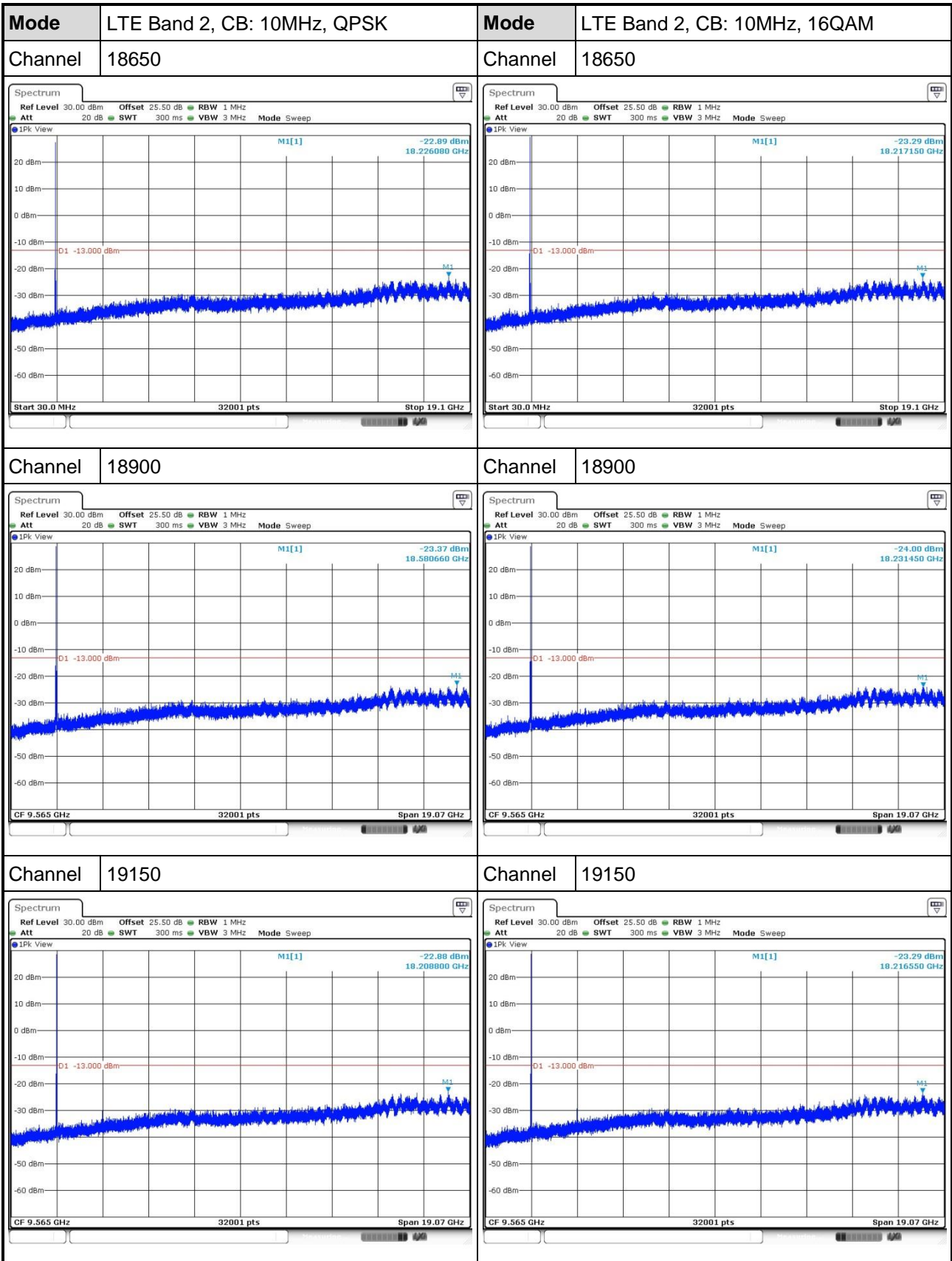
Mode	WCDMA BAND II		
Channel	9262	Channel	9400
			
Channel	9538	---	
		---	



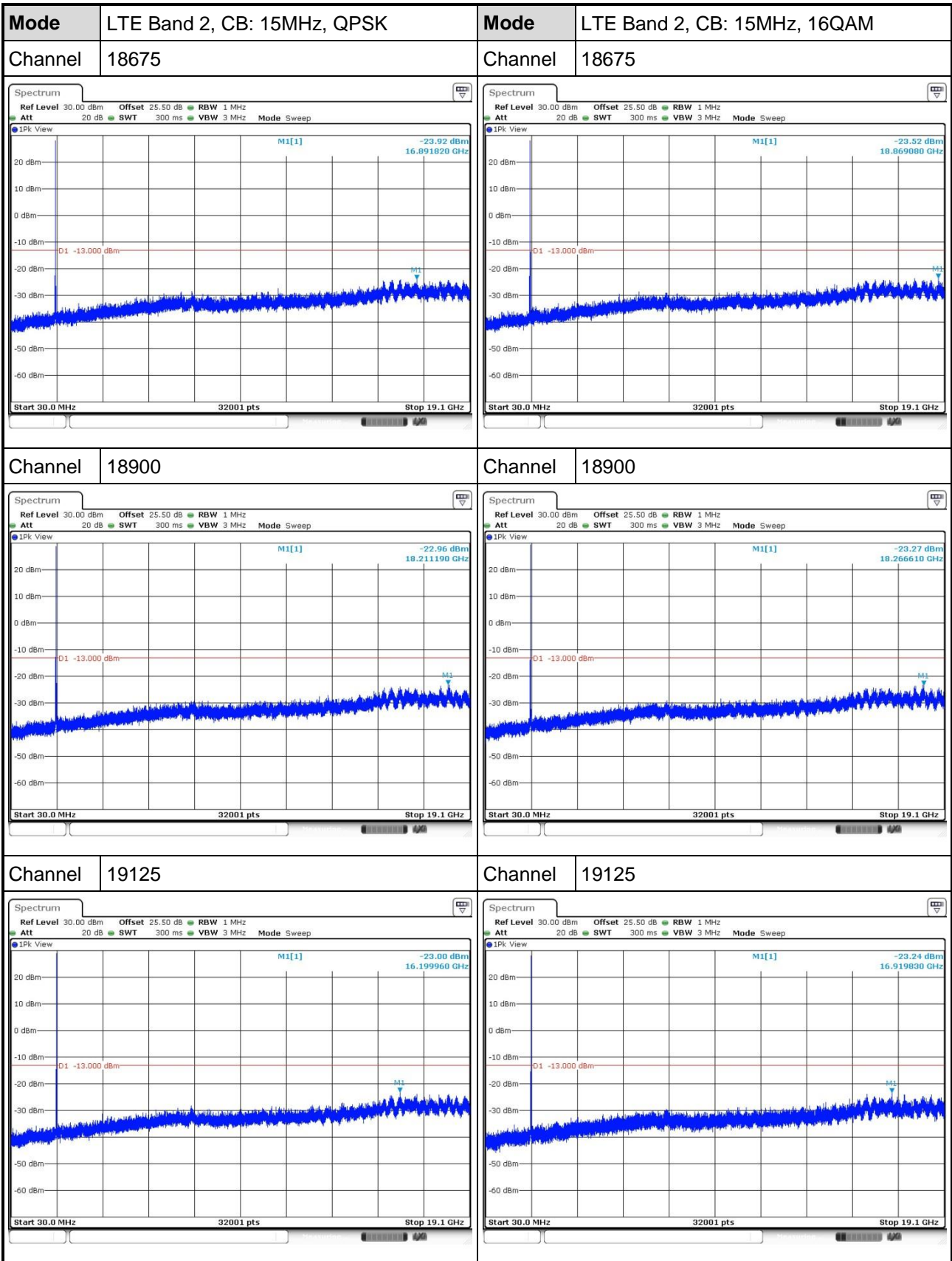
<b>Mode</b>	LTE Band 2, CB: 3MHz, QPSK	<b>Mode</b>	LTE Band 2, CB: 3MHz, 16QAM
<b>Channel</b>	18615	<b>Channel</b>	18615
			
<b>Channel</b>	18900	<b>Channel</b>	18900
			
<b>Channel</b>	19185	<b>Channel</b>	19185
			

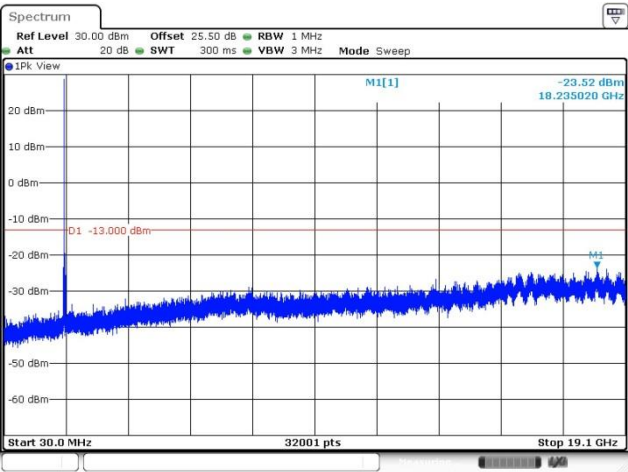
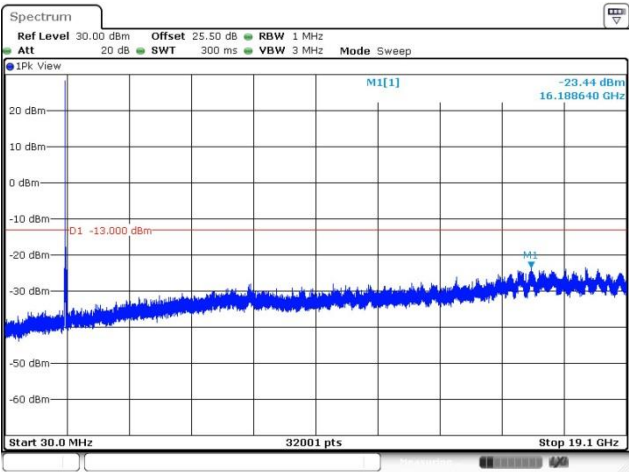
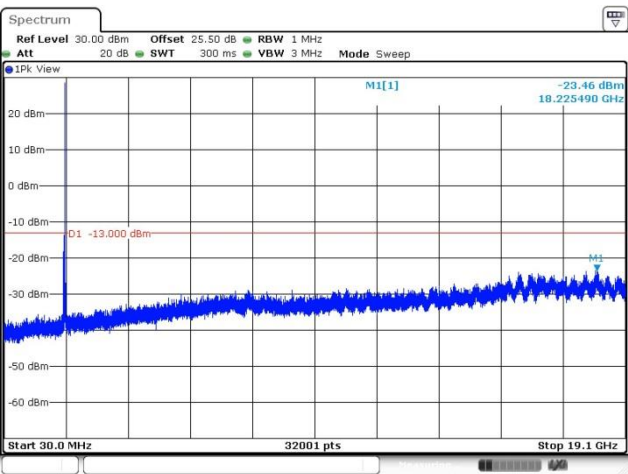
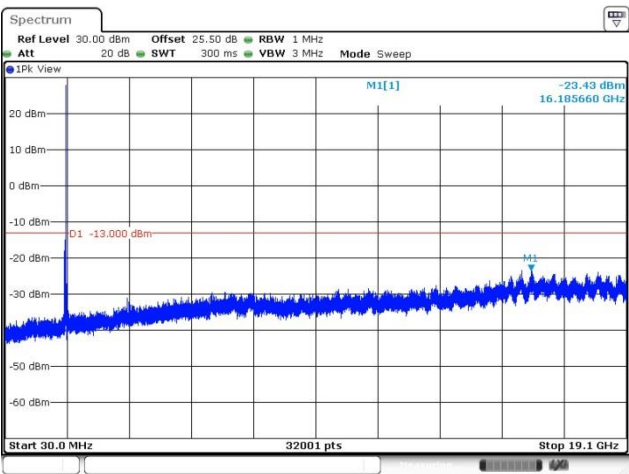
<b>Mode</b> LTE Band 2, CB: 5MHz, QPSK	<b>Mode</b> LTE Band 2, CB: 5MHz, 16QAM
<b>Channel</b> 18625	<b>Channel</b> 18625
 <p>Spectrum Ref Level 30.00 dBm Offset 25.50 dB RBW 1 MHz Att 20 dB SWT 300 ms VBW 3 MHz Mode Sweep IPk View M1[1] -23.45 dBm 18.879810 GHz D1 -13.000 dBm Start 30.0 MHz 32001 pts Stop 19.1 GHz</p>	 <p>Spectrum Ref Level 30.00 dBm Offset 25.50 dB RBW 1 MHz Att 20 dB SWT 300 ms VBW 3 MHz Mode Sweep IPk View M1[1] -22.21 dBm 18.258860 GHz D1 -13.000 dBm Start 30.0 MHz 32001 pts Stop 19.1 GHz</p>
<b>Channel</b> 18900	<b>Channel</b> 18900
 <p>Spectrum Ref Level 30.00 dBm Offset 25.50 dB RBW 1 MHz Att 20 dB SWT 300 ms VBW 3 MHz Mode Sweep IPk View M1[1] -24.08 dBm 18.513910 GHz D1 -13.000 dBm Start 30.0 MHz 32001 pts Stop 19.1 GHz</p>	 <p>Spectrum Ref Level 30.00 dBm Offset 25.50 dB RBW 1 MHz Att 20 dB SWT 300 ms VBW 3 MHz Mode Sweep IPk View M1[1] -23.78 dBm 18.242170 GHz D1 -13.000 dBm Start 30.0 MHz 32001 pts Stop 19.1 GHz</p>
<b>Channel</b> 19175	<b>Channel</b> 19175
 <p>Spectrum Ref Level 30.00 dBm Offset 25.50 dB RBW 1 MHz Att 20 dB SWT 300 ms VBW 3 MHz Mode Sweep IPk View M1[1] -23.26 dBm 17.182630 GHz D1 -13.000 dBm Start 30.0 MHz 32001 pts Stop 19.1 GHz</p>	 <p>Spectrum Ref Level 30.00 dBm Offset 25.50 dB RBW 1 MHz Att 20 dB SWT 300 ms VBW 3 MHz Mode Sweep IPk View M1[1] -23.43 dBm 18.271970 GHz D1 -13.000 dBm Start 30.0 MHz 32001 pts Stop 19.1 GHz</p>









<b>Mode</b>	LTE Band 2, CB: 20MHz, QPSK	<b>Mode</b>	LTE Band 2, CB: 20MHz, 16QAM
<b>Channel</b>	18700	<b>Channel</b>	18700
			
<b>Channel</b>	18900	<b>Channel</b>	18900
			
<b>Channel</b>	19100	<b>Channel</b>	19100
