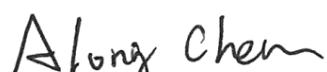


FCC Test Report

FCC ID : 2ALIY-GCM7243I
Equipment : GCM7243iVZ_APB
Model No. : GCM7243iVZ_APB
Brand Name : GCT
Applicant : GCT Semiconductor, Inc
Address : 10F Construction Financial Building 15,
Boramae-ro 5-gil, Dongjak-gu, Seoul, South
Korea, 07071
Standard : 47 CFR FCC Part 27 Subpart L
Received Date : Apr. 18, 2019
Tested Date : Apr. 20 ~ Apr. 26, 2019

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
FG940809-1	Rev. 01	Initial issue	May 08, 2019

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 27.50(d)(4)	Equivalent Isotropically Radiated Power	EIRP[dBm]: 25.85	Pass
2.1053 / 27.53(h)	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 27.53(h)	Conducted Emissions	Meet the requirement of limit	Pass
27.53(h)	Band Edge Measurement	Meet the requirement of limit	Pass
2.1049 / 27.53(h)	Occupied Bandwidth	Meet the requirement of limit	Pass
27.50(d)(5)	Peak to Average Ratio	Meet the requirement of limit	Pass
2.1055 / 27.54	Frequency Stability	Meet the requirement of limit	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared values of gain for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of the gain.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency (MHz)	Channel Bandwidth: 1.4MHz: 1710.7~1754.3 Channel Bandwidth: 3MHz: 1711.5~1753.5 Channel Bandwidth: 5MHz: 1712.5~1752.5 Channel Bandwidth: 10MHz: 1715~1750 Channel Bandwidth: 15MHz: 1717.5~1747.5 Channel Bandwidth: 20MHz: 1720~1745
Modulation Type	QPSK, 16QAM (Uplink)
Duplex Mode	FDD
H/W Version	1.0
S/W Version	1.3

1.1.2 Maximum Conducted Power and Emission Designator

Mode	Modulation	Conducted Power (W)	Emission Designator
CB: 1.4MHz	QPSK	0.256	1M09G7D
CB: 1.4MHz	16QAM	0.252	914KW7D
CB: 3MHz	QPSK	0.244	1M09G7D
CB: 3MHz	16QAM	0.242	917KW7D
CB: 5MHz	QPSK	0.261	1M10G7D
CB: 5MHz	16QAM	0.249	926KW7D
CB: 10MHz	QPSK	0.265	1M10G7D
CB: 10MHz	16QAM	0.256	956KW7D
CB: 15MHz	QPSK	0.273	1M09G7D
CB: 15MHz	16QAM	0.256	942KW7D
CB: 20MHz	QPSK	0.266	1M11G7D
CB: 20MHz	16QAM	0.254	946KW7D

1.1.3 Antenna Details

Ant. No.	Type	Gain (dBi)	Connector	Remark
1	Dipole	1.49	SMA	---

1.1.4 EUT Operational Condition

Power Supply Type	3.5Vdc from host		
Operational Voltage	<input checked="" type="checkbox"/> Vnom (3.5 V)	<input checked="" type="checkbox"/> Vmax (3.8 V)	<input checked="" type="checkbox"/> Vmin (3.3 V)
Operational Climatic	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (85°C)	<input checked="" type="checkbox"/> Tmin (-30°C)

1.1.5 Operating Channel List

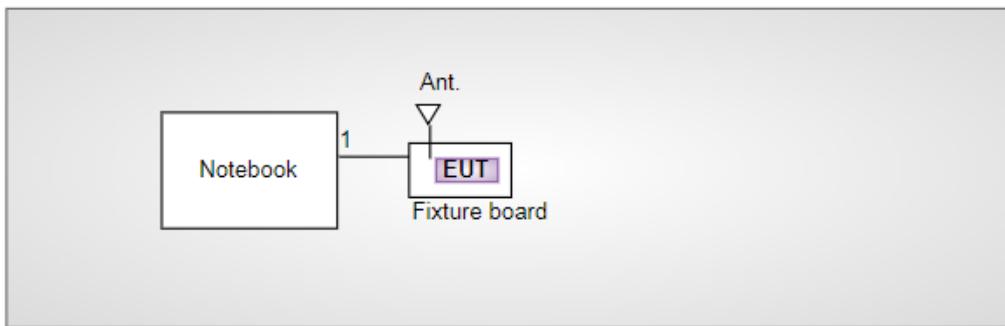
LTE Band 4		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
1.4	19957	1710.7
1.4	20175	1732.5
1.4	20393	1754.3
3	19965	1711.5
3	20175	1732.5
3	20385	1753.5
5	19975	1712.5
5	20175	1732.5
5	20375	1752.5
10	20000	1715.0
10	20175	1732.5
10	20350	1750.0
15	20025	1717.5
15	20175	1732.5
15	20325	1747.5
20	20050	1720.0
20	20175	1732.5
20	20300	1745.0

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E6430	DoC	---
2	Fixture board	---	---	---	Provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram	
No.	Signal cable / Length (m)
1	RJ45, 1m non-shielded without core



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. 27, 2018	Dec. 26, 2019
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 18, 2018	Jul. 17, 2019
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 18, 2018	Dec. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019
Preamplifier	EMC	EMC02325	980225	Jul. 20, 2018	Jul. 19, 2019
Preamplifier	Agilent	83017A	MY39501308	Oct. 04, 2018	Oct. 03, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 08, 2018	Oct. 07, 2019
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 08, 2018	Oct. 07, 2019
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 08, 2018	Oct. 07, 2019
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Oct. 08, 2018	Oct. 07, 2019
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	101499	Jan. 07, 2019	Jan. 06, 2020
Spectrum Analyzer	Agilent	N9010A	MY54200247	Sep. 17, 2018	Sep. 16, 2019
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 05, 2018	Dec. 04, 2019
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 25, 2018	Oct. 24, 2019
Measurement Software	Sporton	SENSE-FCC_2G-4G	V5.10.2	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 L

ANSI C63.4-2014

ANSI C63.26-2015

FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 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	± 34.130 Hz
Conducted power	± 0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
Temperature	± 0.4 °C
Conducted emission	± 2.670 dB
Radiated emission $\leq 1\text{GHz}$	± 3.41 dB
Radiated emission $> 1\text{GHz}$	± 4.59 dB

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
RF conducted	TH01-WS	24°C / 66%	Aska Huang
Radiated Emissions	03CH01-WS	24°C / 65%	Roger Lu

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

2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth	Modulation	Test channel
E.I.R.P	1.4 MHz	QPSK / 16QAM	19957 / 20175 / 20393
Conducted Emissions	3 MHz	QPSK / 16QAM	19965 / 20175 / 20385
Occupied Bandwidth	5 MHz	QPSK / 16QAM	19975 / 20175 / 20375
Peak to Average Ratio	10 MHz	QPSK / 16QAM	20000 / 20175 / 20350
	15 MHz	QPSK / 16QAM	20025 / 20175 / 20325
	20 MHz	QPSK / 16QAM	20050 / 20175 / 20300
Radiated Emission ≤ 1GHz	1.4 MHz	QPSK	20175
	3 MHz	QPSK	20175
	5 MHz	QPSK	20175
	10 MHz	QPSK	20175
	15 MHz	QPSK	20175
	20 MHz	QPSK	20175
Radiated Emission > 1GHz	1.4 MHz	QPSK	19957 / 20175 / 20393
	3 MHz	QPSK	19965 / 20175 / 20385
	5 MHz	QPSK	19975 / 20175 / 20375
	10 MHz	QPSK	20000 / 20175 / 20350
	15 MHz	QPSK	20025 / 20175 / 20325
	20 MHz	QPSK	20050 / 20175 / 20300
Band Edge	1.4 MHz	QPSK / 16QAM	19957 20393
	3 MHz	QPSK / 16QAM	19965 20385
	5 MHz	QPSK / 16QAM	19975 20375
	10 MHz	QPSK / 16QAM	20000 20350
	15 MHz	QPSK / 16QAM	20025 20325
	20 MHz	QPSK / 16QAM	20050 20300
Frequency Stability	1.4 MHz	QPSK	20175
	3 MHz	QPSK	20175
	5 MHz	QPSK	20175
	10 MHz	QPSK	20175
	15 MHz	QPSK	20175
	20 MHz	QPSK	20175

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.

3 Test Results

3.1 Equivalent Isotropically Radiated Power

3.1.1 Limit of Equivalent Isotropically Radiated Power

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 Watt 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.

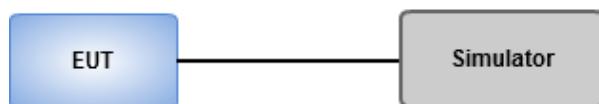
$$1. \text{ EIRP} = P_T + G_T - L_C$$

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



3.1.4 Test Result of Equivalent Isotropically Radiated Power (dBm)

Mode		LTE Band 4, CB: 1.4MHz							
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
QPSK	19957	1710.7	1#0	0	23.84	1.49	25.33	0.341	1
			1#5	0	24.09	1.49	25.58	0.361	1
			6#0	0	23.71	1.49	25.20	0.331	1
	20175	1732.5	1#0	0	23.13	1.49	24.62	0.290	1
			1#5	0	23.24	1.49	24.73	0.297	1
			6#0	0	22.88	1.49	24.37	0.274	1
	20393	1754.3	1#0	0	23.33	1.49	24.82	0.303	1
			1#5	0	23.57	1.49	25.06	0.321	1
			6#0	0	23.20	1.49	24.69	0.294	1
16QAM	19957	1710.7	1#0	0	23.75	1.49	25.24	0.334	1
			1#5	0	24.02	1.49	25.51	0.356	1
			5#0	0	23.61	1.49	25.10	0.324	1
	20175	1732.5	1#0	0	23.09	1.49	24.58	0.287	1
			1#5	0	23.19	1.49	24.68	0.294	1
			5#0	0	22.81	1.49	24.30	0.269	1
	20393	1754.3	1#0	0	23.27	1.49	24.76	0.299	1
			1#5	0	23.51	1.49	25.00	0.316	1
			5#0	0	23.19	1.49	24.68	0.294	1

Mode	LTE Band 4, CB: 3MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
	19965	1711.5	1#0	0	23.64	1.49	25.13	0.326	1
			1#0	1	23.57	1.49	25.06	0.321	1
			1#5	0	23.87	1.49	25.36	0.344	1
			1#5	1	23.86	1.49	25.35	0.343	1
			3#0	0	23.83	1.49	25.32	0.340	1
			3#3	1	23.85	1.49	25.34	0.342	1
			6#0	0	23.84	1.49	25.33	0.341	1
			6#0	1	23.82	1.49	25.31	0.340	1
	QPSK	20175	1#0	0	22.95	1.49	24.44	0.278	1
			1#0	1	22.92	1.49	24.41	0.276	1
			1#5	0	23.05	1.49	24.54	0.284	1
			1#5	1	23.01	1.49	24.50	0.282	1
			3#0	0	23.04	1.49	24.53	0.284	1
			3#3	1	22.98	1.49	24.47	0.280	1
			6#0	0	23.04	1.49	24.53	0.284	1
			6#0	1	22.98	1.49	24.47	0.280	1
	20385	1753.5	1#0	0	23.22	1.49	24.71	0.296	1
			1#0	1	23.18	1.49	24.67	0.293	1
			1#5	0	23.43	1.49	24.92	0.310	1
			1#5	1	23.41	1.49	24.90	0.309	1
			3#0	0	23.29	1.49	24.78	0.301	1
			3#3	1	23.34	1.49	24.83	0.304	1
			6#0	0	23.41	1.49	24.90	0.309	1
			6#0	1	23.36	1.49	24.85	0.305	1

Mode	LTE Band 4, CB: 3MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
16QAM	19965	1711.5	1#0	0	23.53	1.49	25.02	0.318	1
			1#0	1	23.51	1.49	25.00	0.316	1
			1#5	0	23.79	1.49	25.28	0.337	1
			1#5	1	23.74	1.49	25.23	0.333	1
			3#0	0	23.81	1.49	25.30	0.339	1
			3#3	1	23.84	1.49	25.33	0.341	1
			5#0	0	23.83	1.49	25.32	0.340	1
			5#0	1	23.79	1.49	25.28	0.337	1
	20175	1732.5	1#0	0	22.82	1.49	24.31	0.270	1
			1#0	1	22.81	1.49	24.30	0.269	1
			1#5	0	22.95	1.49	24.44	0.278	1
			1#5	1	22.92	1.49	24.41	0.276	1
			3#0	0	23.03	1.49	24.52	0.283	1
			3#3	1	22.97	1.49	24.46	0.279	1
			5#0	0	22.94	1.49	24.43	0.277	1
			5#0	1	22.91	1.49	24.40	0.275	1
	20385	1753.5	1#0	0	23.09	1.49	24.58	0.287	1
			1#0	1	23.05	1.49	24.54	0.284	1
			1#5	0	23.31	1.49	24.80	0.302	1
			1#5	1	23.29	1.49	24.78	0.301	1
			3#0	0	23.23	1.49	24.72	0.296	1
			3#3	1	23.23	1.49	24.72	0.296	1
			5#0	0	23.26	1.49	24.75	0.299	1
			5#0	1	23.23	1.49	24.72	0.296	1

Mode	LTE Band 4, CB: 5MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
QPSK	19975	1712.5	1#0	0	23.86	1.49	25.35	0.343	1
			1#0	1	23.83	1.49	25.32	0.340	1
			1#5	1	24.17	1.49	25.66	0.368	1
			1#5	3	24.12	1.49	25.61	0.364	1
			3#0	0	24.09	1.49	25.58	0.361	1
			3#3	3	24.16	1.49	25.65	0.367	1
			6#0	0	23.94	1.49	25.43	0.349	1
			6#0	3	23.88	1.49	25.37	0.344	1
	20175	1732.5	1#0	0	23.18	1.49	24.67	0.293	1
			1#0	1	23.16	1.49	24.65	0.292	1
			1#5	1	23.39	1.49	24.88	0.308	1
			1#5	3	23.19	1.49	24.68	0.294	1
			3#0	0	23.38	1.49	24.87	0.307	1
			3#3	3	23.25	1.49	24.74	0.298	1
			6#0	0	23.22	1.49	24.71	0.296	1
			6#0	3	23.13	1.49	24.62	0.290	1
	20375	1752.5	1#0	0	23.27	1.49	24.76	0.299	1
			1#0	1	23.24	1.49	24.73	0.297	1
			1#5	1	23.49	1.49	24.98	0.315	1
			1#5	3	23.40	1.49	24.89	0.308	1
			3#0	0	23.47	1.49	24.96	0.313	1
			3#3	3	23.42	1.49	24.91	0.310	1
			6#0	0	23.28	1.49	24.77	0.300	1
			6#0	3	23.18	1.49	24.67	0.293	1

Mode	LTE Band 4, CB: 5MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
16QAM	19975	1712.5	1#0	0	23.55	1.49	25.04	0.319	1
			1#0	1	23.62	1.49	25.11	0.324	1
			1#5	1	23.96	1.49	25.45	0.351	1
			1#5	3	23.95	1.49	25.44	0.350	1
			3#0	0	23.89	1.49	25.38	0.345	1
			3#3	3	23.87	1.49	25.36	0.344	1
			5#0	0	23.91	1.49	25.40	0.347	1
			5#0	3	23.85	1.49	25.34	0.342	1
16QAM	20175	1732.5	1#0	0	22.93	1.49	24.42	0.277	1
			1#0	1	22.91	1.49	24.40	0.275	1
			1#5	1	23.09	1.49	24.58	0.287	1
			1#5	3	22.96	1.49	24.45	0.279	1
			3#0	0	23.27	1.49	24.76	0.299	1
			3#3	3	23.12	1.49	24.61	0.289	1
			5#0	0	23.06	1.49	24.55	0.285	1
			5#0	3	23.02	1.49	24.51	0.282	1
16QAM	20375	1752.5	1#0	0	22.98	1.49	24.47	0.280	1
			1#0	1	22.89	1.49	24.38	0.274	1
			1#5	1	23.26	1.49	24.75	0.299	1
			1#5	3	23.19	1.49	24.68	0.294	1
			3#0	0	22.69	1.49	24.18	0.262	1
			3#3	3	23.24	1.49	24.73	0.297	1
			5#0	0	23.17	1.49	24.66	0.292	1
			5#0	3	23.04	1.49	24.53	0.284	1

Mode	LTE Band 4, CB: 10MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
QPSK	20000	1715	1#0	0	23.97	1.49	25.46	0.352	1
			1#0	3	23.90	1.49	25.39	0.346	1
			1#5	3	24.24	1.49	25.73	0.374	1
			1#5	7	24.15	1.49	25.64	0.366	1
			3#0	0	24.21	1.49	25.70	0.372	1
			3#3	7	24.13	1.49	25.62	0.365	1
			6#0	0	24.15	1.49	25.64	0.366	1
			6#0	7	24.12	1.49	25.61	0.364	1
	20175	1732.5	1#0	0	23.17	1.49	24.66	0.292	1
			1#0	3	23.21	1.49	24.70	0.295	1
			1#5	3	23.29	1.49	24.78	0.301	1
			1#5	7	23.27	1.49	24.76	0.299	1
			3#0	0	23.14	1.49	24.63	0.290	1
			3#3	7	23.16	1.49	24.65	0.292	1
			6#0	0	23.17	1.49	24.66	0.292	1
			6#0	7	23.12	1.49	24.61	0.289	1
	20350	1750	1#0	0	23.32	1.49	24.81	0.303	1
			1#0	3	23.24	1.49	24.73	0.297	1
			1#5	3	23.51	1.49	25.00	0.316	1
			1#5	7	23.48	1.49	24.97	0.314	1
			3#0	0	23.48	1.49	24.97	0.314	1
			3#3	7	23.43	1.49	24.92	0.310	1
			6#0	0	23.50	1.49	24.99	0.316	1
			6#0	7	23.39	1.49	24.88	0.308	1

Mode	LTE Band 4, CB: 10MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
16QAM	20000	1715	1#0	0	23.78	1.49	25.27	0.337	1
			1#0	3	23.71	1.49	25.20	0.331	1
			1#5	3	24.08	1.49	25.57	0.361	1
			1#5	7	23.98	1.49	25.47	0.352	1
			3#0	0	23.87	1.49	25.36	0.344	1
			3#3	7	24.03	1.49	25.52	0.356	1
			5#0	0	24.02	1.49	25.51	0.356	1
			5#0	7	24.07	1.49	25.56	0.360	1
	20175	1732.5	1#0	0	22.93	1.49	24.42	0.277	1
			1#0	3	22.84	1.49	24.33	0.271	1
			1#5	3	23.05	1.49	24.54	0.284	1
			1#5	7	22.84	1.49	24.33	0.271	1
			3#0	0	23.04	1.49	24.53	0.284	1
			3#3	7	22.99	1.49	24.48	0.281	1
			5#0	0	23.02	1.49	24.51	0.282	1
			5#0	7	22.97	1.49	24.46	0.279	1
	20350	1750	1#0	0	23.01	1.49	24.50	0.282	1
			1#0	3	22.91	1.49	24.40	0.275	1
			1#5	3	23.27	1.49	24.76	0.299	1
			1#5	7	23.14	1.49	24.63	0.290	1
			3#0	0	23.07	1.49	24.56	0.286	1
			3#3	7	23.16	1.49	24.65	0.292	1
			5#0	0	23.12	1.49	24.61	0.289	1
			5#0	7	23.16	1.49	24.65	0.292	1

Mode	LTE Band 4, CB: 15MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
	20025	1717.5	1#0	0	24.05	1.49	25.54	0.358	1
			1#0	5	23.95	1.49	25.44	0.350	1
			1#5	5	24.36	1.49	25.85	0.385	1
			1#5	11	24.15	1.49	25.64	0.366	1
			3#0	0	24.29	1.49	25.78	0.378	1
			3#3	11	24.11	1.49	25.60	0.363	1
			6#0	0	24.22	1.49	25.71	0.372	1
			6#0	11	24.01	1.49	25.50	0.355	1
	QPSK	20175	1#0	0	23.21	1.49	24.70	0.295	1
			1#0	5	23.16	1.49	24.65	0.292	1
			1#5	5	23.34	1.49	24.83	0.304	1
			1#5	11	23.09	1.49	24.58	0.287	1
			3#0	0	23.31	1.49	24.80	0.302	1
			3#3	11	23.16	1.49	24.65	0.292	1
			6#0	0	23.27	1.49	24.76	0.299	1
			6#0	11	23.23	1.49	24.72	0.296	1
	20325	1747.5	1#0	0	23.31	1.49	24.80	0.302	1
			1#0	5	23.18	1.49	24.67	0.293	1
			1#5	5	23.57	1.49	25.06	0.321	1
			1#5	11	23.34	1.49	24.83	0.304	1
			3#0	0	23.56	1.49	25.05	0.320	1
			3#3	11	23.42	1.49	24.91	0.310	1
			6#0	0	23.51	1.49	25.00	0.316	1
			6#0	11	23.22	1.49	24.71	0.296	1

Mode	LTE Band 4, CB: 15MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
16QAM	20025	1717.5	1#0	0	23.74	1.49	25.23	0.333	1
			1#0	5	23.62	1.49	25.11	0.324	1
			1#5	5	24.08	1.49	25.57	0.361	1
			1#5	11	23.84	1.49	25.33	0.341	1
			3#0	0	24.05	1.49	25.54	0.358	1
			3#3	11	24.02	1.49	25.51	0.356	1
			5#0	0	24.03	1.49	25.52	0.356	1
			5#0	11	23.88	1.49	25.37	0.344	1
	20175	1732.5	1#0	0	22.95	1.49	24.44	0.278	1
			1#0	5	22.94	1.49	24.43	0.277	1
			1#5	5	23.14	1.49	24.63	0.290	1
			1#5	11	22.89	1.49	24.38	0.274	1
			3#0	0	23.11	1.49	24.60	0.288	1
			3#3	11	23.01	1.49	24.50	0.282	1
			5#0	0	23.12	1.49	24.61	0.289	1
			5#0	11	22.88	1.49	24.37	0.274	1
	20325	1747.5	1#0	0	22.99	1.49	24.48	0.281	1
			1#0	5	22.86	1.49	24.35	0.272	1
			1#5	5	23.29	1.49	24.78	0.301	1
			1#5	11	23.01	1.49	24.50	0.282	1
			3#0	0	23.27	1.49	24.76	0.299	1
			3#3	11	23.18	1.49	24.67	0.293	1
			5#0	0	23.21	1.49	24.70	0.295	1
			5#0	11	23.17	1.49	24.66	0.292	1

Mode	LTE Band 4, CB: 20MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
	20050	1720	1#0	0	24.09	1.49	25.58	0.361	1
			1#0	7	23.95	1.49	25.44	0.350	1
			1#5	7	24.25	1.49	25.74	0.375	1
			1#5	15	23.87	1.49	25.36	0.344	1
			3#0	0	24.21	1.49	25.70	0.372	1
			3#3	15	23.95	1.49	25.44	0.350	1
			6#0	0	24.16	1.49	25.65	0.367	1
			6#0	15	23.98	1.49	25.47	0.352	1
	QPSK	1732.5	1#0	0	23.15	1.49	24.64	0.291	1
			1#0	7	23.08	1.49	24.57	0.286	1
			1#5	7	23.24	1.49	24.73	0.297	1
			1#5	15	22.95	1.49	24.44	0.278	1
			3#0	0	23.72	1.49	25.21	0.332	1
			3#3	15	23.04	1.49	24.53	0.284	1
			6#0	0	23.19	1.49	24.68	0.294	1
			6#0	15	23.13	1.49	24.62	0.290	1
	20300	1745	1#0	0	23.17	1.49	24.66	0.292	1
			1#0	7	22.99	1.49	24.48	0.281	1
			1#5	7	23.37	1.49	24.86	0.306	1
			1#5	15	23.01	1.49	24.50	0.282	1
			3#0	0	23.55	1.49	25.04	0.319	1
			3#3	15	23.09	1.49	24.58	0.287	1
			6#0	0	23.22	1.49	24.71	0.296	1
			6#0	15	22.99	1.49	24.48	0.281	1

Mode	LTE Band 4, CB: 20MHz								
Modulation	Channel	Frequency (MHz)	RB size #RB start	RB Index	Conducted Average Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)
16QAM	20050	1720	1#0	0	23.95	1.49	25.44	0.350	1
			1#0	7	23.78	1.49	25.27	0.337	1
			1#5	7	24.01	1.49	25.50	0.355	1
			1#5	15	23.68	1.49	25.17	0.329	1
			3#0	0	23.97	1.49	25.46	0.352	1
			3#3	15	23.84	1.49	25.33	0.341	1
			5#0	0	24.05	1.49	25.54	0.358	1
			5#0	15	23.95	1.49	25.44	0.350	1
	20175	1732.5	1#0	0	23.04	1.49	24.53	0.284	1
			1#0	7	22.86	1.49	24.35	0.272	1
			1#5	7	23.12	1.49	24.61	0.289	1
			1#5	15	22.75	1.49	24.24	0.265	1
			3#0	0	23.08	1.49	24.57	0.286	1
			3#3	15	22.90	1.49	24.39	0.275	1
			5#0	0	23.06	1.49	24.55	0.285	1
			5#0	15	22.88	1.49	24.37	0.274	1
	20300	1745	1#0	0	22.98	1.49	24.47	0.280	1
			1#0	7	22.79	1.49	24.28	0.268	1
			1#5	7	23.16	1.49	24.65	0.292	1
			1#5	15	22.74	1.49	24.23	0.265	1
			3#0	0	23.08	1.49	24.57	0.286	1
			3#3	15	22.92	1.49	24.41	0.276	1
			5#0	0	23.12	1.49	24.61	0.289	1
			5#0	15	22.89	1.49	24.38	0.274	1

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

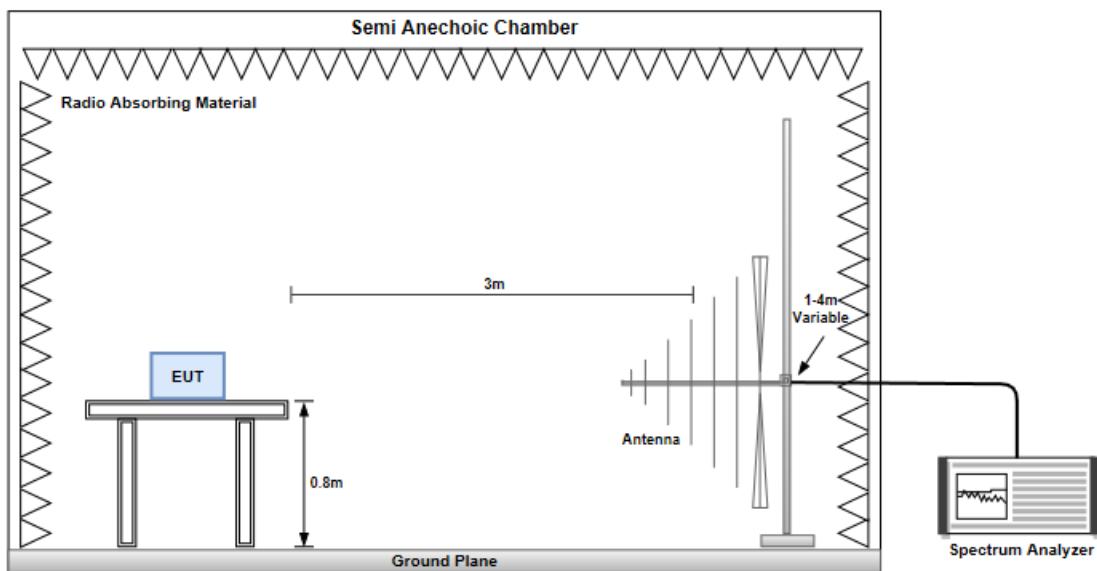
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB equal to -13 dBm.

3.2.2 Test Procedures

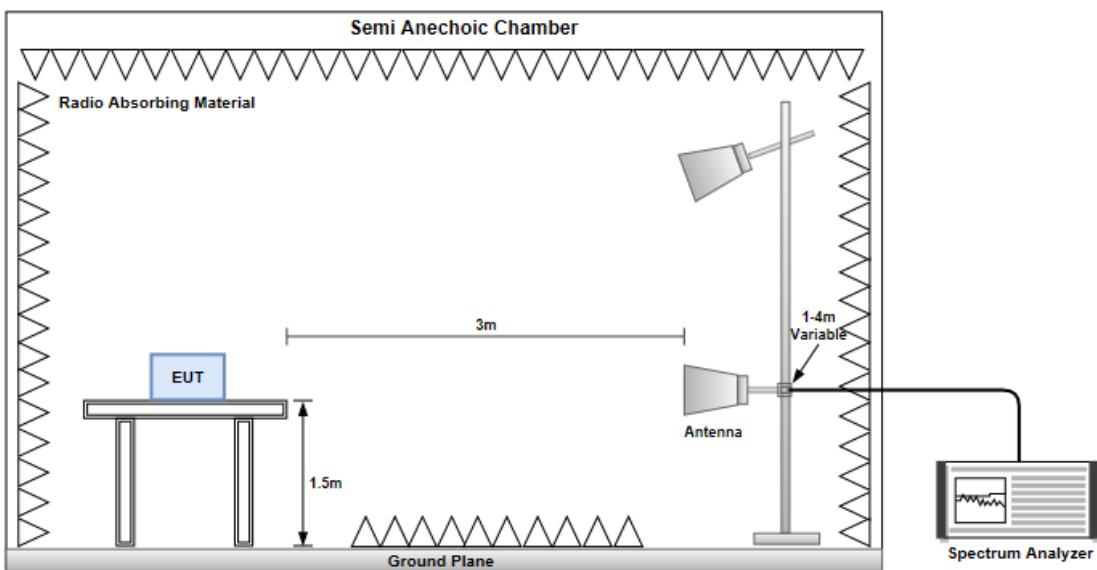
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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



3.2.4 Test Result of Radiated Emissions below 1GHz

Mode	LTE Band 4, QPSK, CB:1.4 MHz, Channel : 19957						
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)
64.85	H	-62.31	-13	-49.31	-62.82	-50.12	-12.19
161.92	H	-48.46	-13	-35.46	-47.84	-42.96	-5.5
221.21	H	-59.71	-13	-46.71	-55.92	-58.52	-1.19
293.77	H	-62.72	-13	-49.72	-61.05	-61.54	-1.18
311.29	H	-63.59	-13	-50.59	-62.82	-62.41	-1.18
474.26	H	-65.31	-13	-52.31	-67.97	-63.8	-1.51
64.86	V	-65.42	-13	-52.42	-65.97	-53.23	-12.19
149.27	V	-57.42	-13	-44.42	-59.86	-51.15	-6.27
161.92	V	-51.69	-13	-38.69	-54.54	-46.19	-5.5
270.48	V	-63.45	-13	-50.45	-65.13	-62.29	-1.16
360.68	V	-65.31	-13	-52.31	-67.06	-64.11	-1.2
575.26	V	-64.45	-13	-51.45	-71.66	-62.77	-1.68

Mode	LTE Band 4, QPSK, CB:3 MHz, Channel : 20175						
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)
64.92	H	-62.31	-13	-49.31	-62.81	-50.14	-12.17
161.85	H	-48.47	-13	-35.47	-47.85	-42.96	-5.51
221.21	H	-59.67	-13	-46.67	-55.88	-58.48	-1.19
293.78	H	-62.72	-13	-49.72	-61.05	-61.54	-1.18
311.3	H	-63.57	-13	-50.57	-62.8	-62.39	-1.18
474.33	H	-65.37	-13	-52.37	-68.03	-63.86	-1.51
64.85	V	-65.42	-13	-52.42	-65.97	-53.23	-12.19
149.28	V	-57.21	-13	-44.21	-59.65	-50.94	-6.27
161.88	V	-51.63	-13	-38.63	-54.48	-46.12	-5.51
270.48	V	-63.67	-13	-50.67	-65.35	-62.51	-1.16
360.68	V	-65.38	-13	-52.38	-67.13	-64.18	-1.2
575.29	V	-65.27	-13	-52.27	-72.48	-63.59	-1.68

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

Mode	LTE Band 4, QPSK, CB:5 MHz, Channel : 20175						
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)
64.92	H	-62.02	-13	-49.02	-62.52	-49.85	-12.17
161.92	H	-48.59	-13	-35.59	-47.97	-43.09	-5.5
221.09	H	-59.83	-13	-46.83	-56.03	-58.64	-1.19
293.84	H	-62.81	-13	-49.81	-61.15	-61.63	-1.18
311.3	H	-63.49	-13	-50.49	-62.72	-62.31	-1.18
474.26	H	-65.23	-13	-52.23	-67.89	-63.72	-1.51
64.92	V	-65.37	-13	-52.37	-65.93	-53.2	-12.17
149.31	V	-57.4	-13	-44.4	-59.84	-51.14	-6.26
161.92	V	-51.74	-13	-38.74	-54.59	-46.24	-5.5
270.56	V	-63.7	-13	-50.7	-65.38	-62.54	-1.16
360.77	V	-65.21	-13	-52.21	-66.96	-64.01	-1.2
575.14	V	-65.18	-13	-52.18	-72.39	-63.5	-1.68

Mode	LTE Band 4 ,QPSK ,CB:10 MHz, Channel : 20000						
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)
64.75	H	-62.25	-13	-49.25	-62.77	-50.03	-12.22
161.85	H	-48.47	-13	-35.47	-47.85	-42.96	-5.51
221.77	H	-59.72	-13	-46.72	-55.94	-58.53	-1.19
293.84	H	-62.68	-13	-49.68	-61.02	-61.5	-1.18
311.28	H	-63.57	-13	-50.57	-62.8	-62.39	-1.18
474.33	H	-65.37	-13	-52.37	-68.03	-63.86	-1.51
64.85	V	-65.42	-13	-52.42	-65.97	-53.23	-12.19
149.28	V	-57.46	-13	-44.46	-59.9	-51.19	-6.27
161.88	V	-51.63	-13	-38.63	-54.48	-46.12	-5.51
270.56	V	-63.67	-13	-50.67	-65.35	-62.51	-1.16
360.66	V	-65.38	-13	-52.38	-67.13	-64.18	-1.2
575.28	V	-65.58	-13	-52.58	-72.79	-63.9	-1.68

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

Mode	LTE Band 4, QPSK, CB:15 MHz, Channel : 20025						
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)
64.84	H	-62.31	-13	-49.31	-62.82	-50.12	-12.19
161.88	H	-48.46	-13	-35.46	-47.84	-42.95	-5.51
221.22	H	-59.75	-13	-46.75	-55.96	-58.56	-1.19
293.84	H	-62.54	-13	-49.54	-60.88	-61.36	-1.18
311.3	H	-63.59	-13	-50.59	-62.82	-62.41	-1.18
474.31	H	-65.27	-13	-52.27	-67.93	-63.76	-1.51
64.88	V	-65.21	-13	-52.21	-65.76	-53.03	-12.18
149.29	V	-57.46	-13	-44.46	-59.9	-51.19	-6.27
161.88	V	-51.69	-13	-38.69	-54.54	-46.18	-5.51
270.56	V	-63.45	-13	-50.45	-65.13	-62.29	-1.16
360.66	V	-65.38	-13	-52.38	-67.13	-64.18	-1.2
575.29	V	-65.27	-13	-52.27	-72.48	-63.59	-1.68

Mode	LTE Band 4, QPSK, CB:20 MHz, Channel : 20050						
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)
64.83	H	-62.21	-13	-49.21	-62.72	-50.01	-12.2
161.88	H	-48.63	-13	-35.63	-48.01	-43.12	-5.51
221.25	H	-59.68	-13	-46.68	-55.89	-58.49	-1.19
293.84	H	-62.74	-13	-49.74	-61.08	-61.56	-1.18
311.42	H	-63.53	-13	-50.53	-62.77	-62.35	-1.18
474.33	H	-65.47	-13	-52.47	-68.13	-63.96	-1.51
64.96	V	-65.42	-13	-52.42	-65.98	-53.27	-12.15
149.29	V	-57.48	-13	-44.48	-59.92	-51.21	-6.27
161.83	V	-51.63	-13	-38.63	-54.48	-46.12	-5.51
270.49	V	-63.54	-13	-50.54	-65.22	-62.38	-1.16
360.66	V	-65.38	-13	-52.38	-67.13	-64.18	-1.2
575.29	V	-65.23	-13	-52.23	-72.44	-63.55	-1.68

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

3.2.5 Test Result of Radiated Emissions above 1GHz

Mode	LTE Band 4, QPSK, CB:1.4 MHz, Channel : 19957						
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)
3422.4	H	-41.61	-13	-28.61	-52.58	-49.04	7.43
5133.6	H	-40.34	-13	-27.34	-57.02	-46.99	6.65
6844.8	H	-45.52	-13	-32.52	-64.56	-50.52	5
3422.4	V	-37.29	-13	-24.29	-48.26	-44.72	7.43
5133.6	V	-35.87	-13	-22.87	-52.43	-42.52	6.65
6844.8	V	-38.51	-13	-25.51	-57.69	-43.51	5

Mode	LTE Band 4, QPSK, CB:1.4 MHz, Channel : 20175						
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)
3466	H	-42.11	-13	-29.11	-53.61	-49.43	7.32
5199	H	-40.91	-13	-27.91	-57.48	-47.62	6.71
6932	H	-44.86	-13	-31.86	-64.26	-49.63	4.77
3466	V	-37.89	-13	-24.89	-49.34	-45.21	7.32
5199	V	-36.34	-13	-23.34	-52.85	-43.05	6.71
6932	V	-38.36	-13	-25.36	-58.21	-43.13	4.77

Mode	LTE Band 4, QPSK, CB:1.4 MHz, Channel : 20393						
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)
3509.6	H	-41	-13	-28	-53.02	-48.21	7.21
5264.4	H	-41.35	-13	-28.35	-57.89	-48.09	6.74
7019.2	H	-44.84	-13	-31.84	-64.55	-49.34	4.5
3509.6	V	-38.28	-13	-25.28	-50.2	-45.49	7.21
5264.4	V	-36.93	-13	-23.93	-53.45	-43.67	6.74
7019.2	V	-38.91	-13	-25.91	-59.36	-43.41	4.5

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

Mode	LTE Band 4, QPSK, CB:3 MHz, Channel : 19965						
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)
3423	H	-41.48	-13	-28.48	-52.47	-48.9	7.42
5134.5	H	-41.67	-13	-28.67	-58.35	-48.32	6.65
6846	H	-45.59	-13	-32.59	-64.64	-50.59	5
3423	V	-38.26	-13	-25.26	-49.25	-45.68	7.42
5134.5	V	-37.25	-13	-24.25	-53.81	-43.9	6.65
6846	V	-39.21	-13	-26.21	-58.41	-44.21	5

Mode	LTE Band 4, QPSK, CB:3 MHz, Channel : 20175						
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)
3465	H	-42.35	-13	-29.35	-29.35	-49.67	7.32
5197.5	H	-41.83	-13	-28.83	-28.83	-48.54	6.71
6930	H	-45.65	-13	-32.65	-32.65	-50.42	4.77
3465	V	-39.01	-13	-26.01	-50.46	-46.33	7.32
5197.5	V	-37.05	-13	-24.05	-53.56	-43.76	6.71
6930	V	-39.48	-13	-26.48	-59.33	-44.25	4.77

Mode	LTE Band 4, QPSK, CB:3 MHz, Channel : 20385						
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)
3507	H	-43.25	-13	-30.25	-55.26	-50.47	7.22
5260.5	H	-42.09	-13	-29.09	-58.63	-48.83	6.74
7014	H	-45.59	-13	-32.59	-65.29	-50.1	4.51
3507	V	-40.21	-13	-27.21	-52.12	-47.43	7.22
5260.5	V	-38.14	-13	-25.14	-54.66	-44.88	6.74
7014	V	-39.56	-13	-26.56	-60	-44.07	4.51

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

Mode	LTE Band 4, QPSK, CB:5 MHz, Channel : 19975						
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)
3425	H	-42.68	-13	-29.68	-53.69	-50.1	7.42
5137.5	H	-41.21	-13	-28.21	-57.88	-47.86	6.65
6850	H	-45.49	-13	-32.49	-64.55	-50.47	4.98
3425	V	-38.23	-13	-25.23	-49.24	-45.65	7.42
5137.5	V	-36.01	-13	-23.01	-52.57	-42.66	6.65
6850	V	-39.79	-13	-26.79	-59.02	-44.77	4.98

Mode	LTE Band 4, QPSK, CB:5 MHz, Channel : 20175						
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)
3465	H	-43.24	-13	-30.24	-54.74	-50.56	7.32
5197.5	H	-41.95	-13	-28.95	-58.52	-48.66	6.71
6930	H	-45.7	-13	-32.7	-65.1	-50.47	4.77
3465	V	-39.26	-13	-26.26	-50.71	-46.58	7.32
5197.5	V	-37.18	-13	-24.18	-53.69	-43.89	6.71
6930	V	-39.39	-13	-26.39	-59.24	-44.16	4.77

Mode	LTE Band 4, QPSK, CB:5 MHz, Channel : 20375						
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)
3505	H	-43.13	-13	-30.13	-55.11	-50.35	7.22
5257.5	H	-42.77	-13	-29.77	-59.31	-49.51	6.74
7010	H	-45.59	-13	-32.59	-65.29	-50.12	4.53
3505	V	-40.45	-13	-27.45	-52.34	-47.67	7.22
5257.5	V	-37.6	-13	-24.6	-54.12	-44.34	6.74
7010	V	-38.89	-13	-25.89	-59.32	-43.42	4.53

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

Mode	LTE Band 4, QPSK, CB:10 MHz, Channel : 20000						
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)
3430	H	-43.1	-13	-30.1	-54.17	-50.51	7.41
5145	H	-41.37	-13	-28.37	-58.03	-48.03	6.66
6860	H	-45.75	-13	-32.75	-64.85	-50.71	4.96
3430	V	-39.32	-13	-26.32	-50.38	-46.73	7.41
5145	V	-36.69	-13	-23.69	-53.24	-43.35	6.66
6860	V	-39.42	-13	-26.42	-58.73	-44.38	4.96

Mode	LTE Band 4, QPSK, CB:10 MHz, Channel : 20175						
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)
3465	H	-43.62	-13	-30.62	-55.12	-50.94	7.32
5197.5	H	-41.91	-13	-28.91	-58.48	-48.62	6.71
6930	H	-45.83	-13	-32.83	-65.23	-50.6	4.77
3465	V	-39.67	-13	-26.67	-51.12	-46.99	7.32
5197.5	V	-37.27	-13	-24.27	-53.78	-43.98	6.71
6930	V	-39.53	-13	-26.53	-59.38	-44.3	4.77

Mode	LTE Band 4, QPSK, CB:10 MHz, Channel : 20350						
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)
3500	H	-44.12	-13	-31.12	-56.04	-51.35	7.23
5250	H	-41.86	-13	-28.86	-58.41	-48.6	6.74
7000	H	-45.38	-13	-32.38	-65.04	-49.96	4.58
3500	V	-40.15	-13	-27.15	-51.98	-47.38	7.23
5250	V	-37.54	-13	-24.54	-54.06	-44.28	6.74
7000	V	-39.48	-13	-26.48	-59.87	-44.06	4.58

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

Mode	LTE Band 4, QPSK, CB:15 MHz, Channel : 20025						
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)
3435	H	-43.13	-13	-30.13	-54.26	-50.52	7.39
5152.5	H	-41.49	-13	-28.49	-58.13	-48.15	6.66
6870	H	-46.1	-13	-33.1	-65.25	-51.03	4.93
3435	V	-39.9	-13	-26.9	-51.02	-47.29	7.39
5152.5	V	-36.48	-13	-23.48	-53.02	-43.14	6.66
6870	V	-39.86	-13	-26.86	-59.24	-44.79	4.93

Mode	LTE Band 4, QPSK, CB:15 MHz, Channel : 20175						
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)
3465	H	-43.65	-13	-30.65	-55.15	-50.97	7.32
5197.5	H	-41.73	-13	-28.73	-58.3	-48.44	6.71
6930	H	-45.74	-13	-32.74	-65.14	-50.51	4.77
3465	V	-40.11	-13	-27.11	-51.56	-47.43	7.32
5197.5	V	-37.12	-13	-24.12	-53.63	-43.83	6.71
6930	V	-39.63	-13	-26.63	-59.48	-44.4	4.77

Mode	LTE Band 4, QPSK, CB:15 MHz, Channel : 20325						
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)
3495	H	-44.12	-13	-31.12	-55.99	-51.37	7.25
5242.5	H	-41.93	-13	-28.93	-58.48	-48.66	6.73
6990	H	-45.55	-13	-32.55	-65.21	-50.16	4.61
3495	V	-40.46	-13	-27.46	-52.24	-47.71	7.25
5242.5	V	-37.37	-13	-24.37	-53.89	-44.1	6.73
6990	V	-38.9	-13	-25.9	-59.21	-43.51	4.61

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

Mode	LTE Band 4, QPSK, CB:20 MHz, Channel : 20050						
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)
3440	H	-43.07	-13	-30.07	-54.26	-50.45	7.38
5160	H	-41.67	-13	-28.67	-58.31	-48.34	6.67
6880	H	-46.14	-13	-33.14	-65.33	-51.04	4.9
3440	V	-39.34	-13	-26.34	-50.51	-46.72	7.38
5160	V	-36.15	-13	-23.15	-52.69	-42.82	6.67
6880	V	-38.8	-13	-25.8	-58.26	-43.7	4.9

Mode	LTE Band 4, QPSK, CB:20 MHz, Channel : 20175						
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)
3465	H	-43.62	-13	-30.62	-55.12	-50.94	7.32
5197.5	H	-42.66	-13	-29.66	-59.23	-49.37	6.71
6930	H	-45.85	-13	-32.85	-65.27	-50.62	4.77
3465	V	-40.23	-13	-27.23	-51.68	-47.55	7.32
5197.5	V	-37.07	-13	-24.07	-53.58	-43.78	6.71
6930	V	-39.46	-13	-26.46	-59.31	-44.23	4.77

Mode	LTE Band 4, QPSK, CB:20 MHz, Channel : 20300						
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)
3490	H	-44.32	-13	-31.32	-56.12	-51.58	7.26
5235	H	-42.83	-13	-29.83	-59.38	-49.56	6.73
6980	H	-45.24	-13	-32.24	-64.85	-49.87	4.63
3490	V	-40.34	-13	-27.34	-52.06	-47.6	7.26
5235	V	-37.51	-13	-24.51	-54.02	-44.24	6.73
6980	V	-38.94	-13	-25.94	-59.18	-43.57	4.63

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

3.3 Conducted Emissions & Band Edge

3.3.1 Limit of Conducted Emissions & 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.

3.3.2 Test Procedures

Out of Band Emission

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

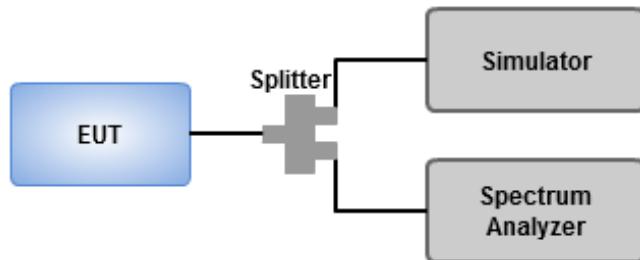
Band Edge - 1MHz band immediately outside the Frequency Band

- 1 Lowest and highest operating channels are tested for this item.
- 2 Set RBW = 15 kHz, VBW = 47 kHz, detector = RMS, sweep time = auto to measure trace.

Band Edge - Other frequency

- 1 Lowest and highest operating channels are tested for this item.
- 2 Set RBW = 15 kHz, VBW = 47 kHz, detector = RMS and use channel power measurement function of spectrum analyze to integrate power over 1MHz.

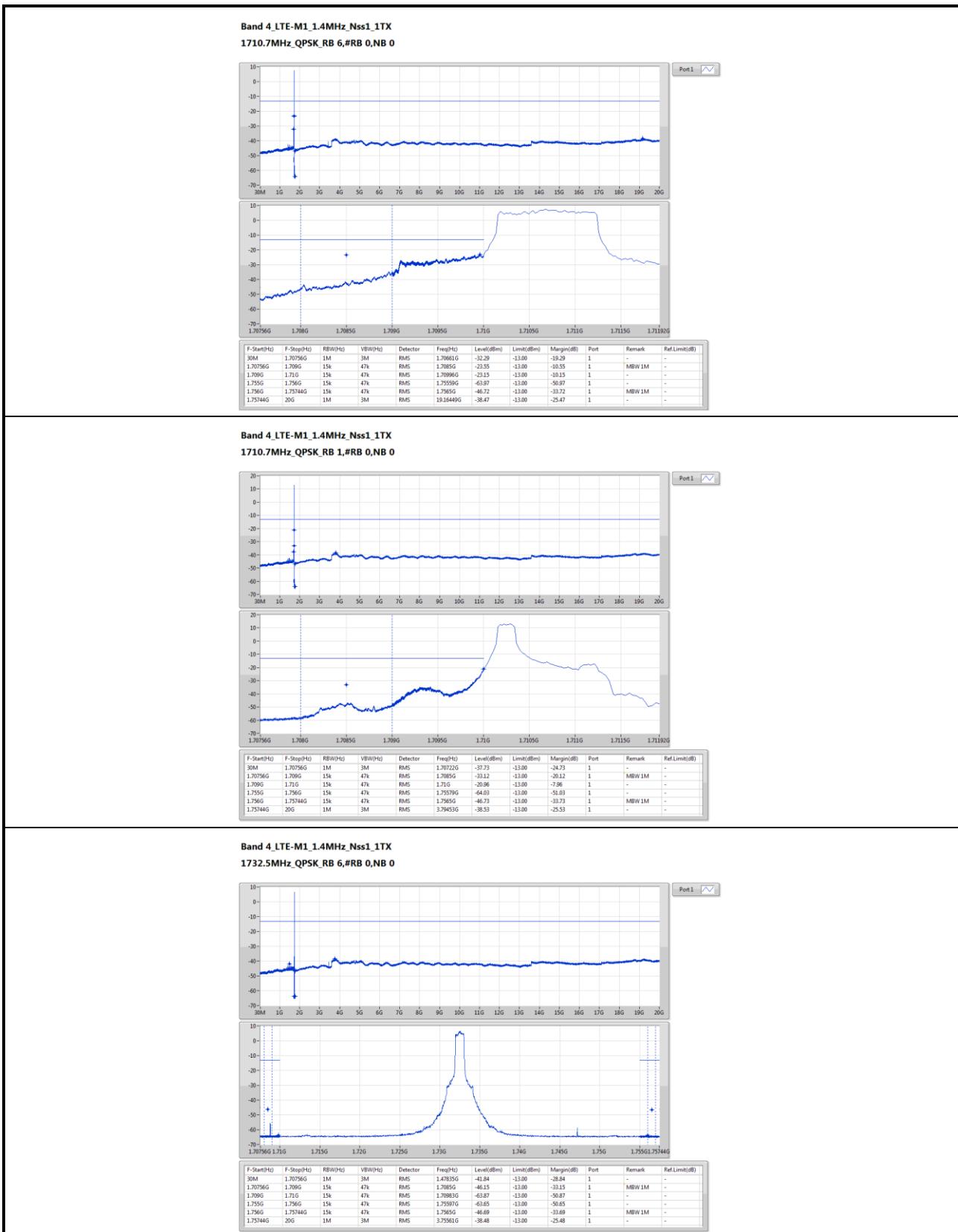
3.3.3 Test Setup

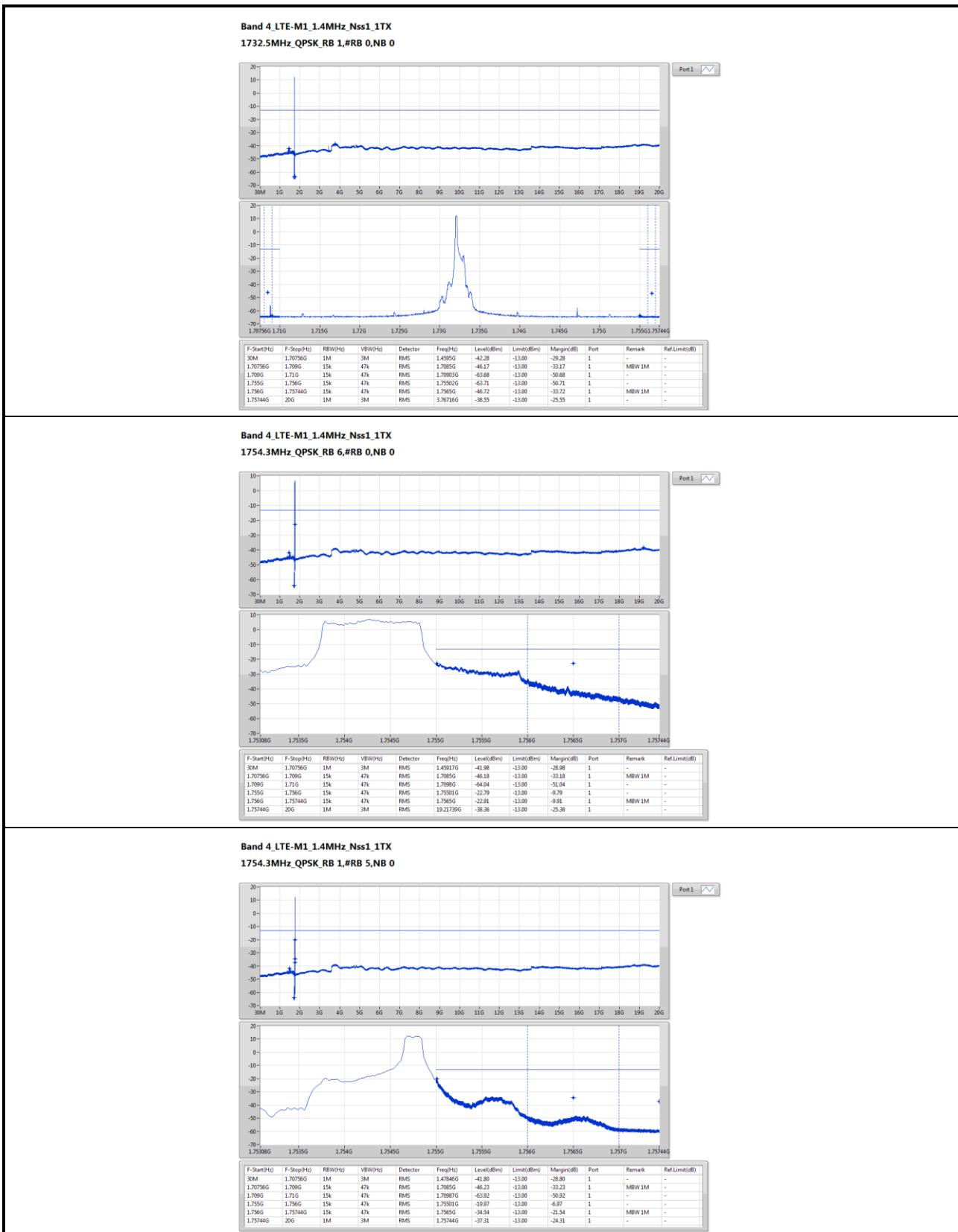


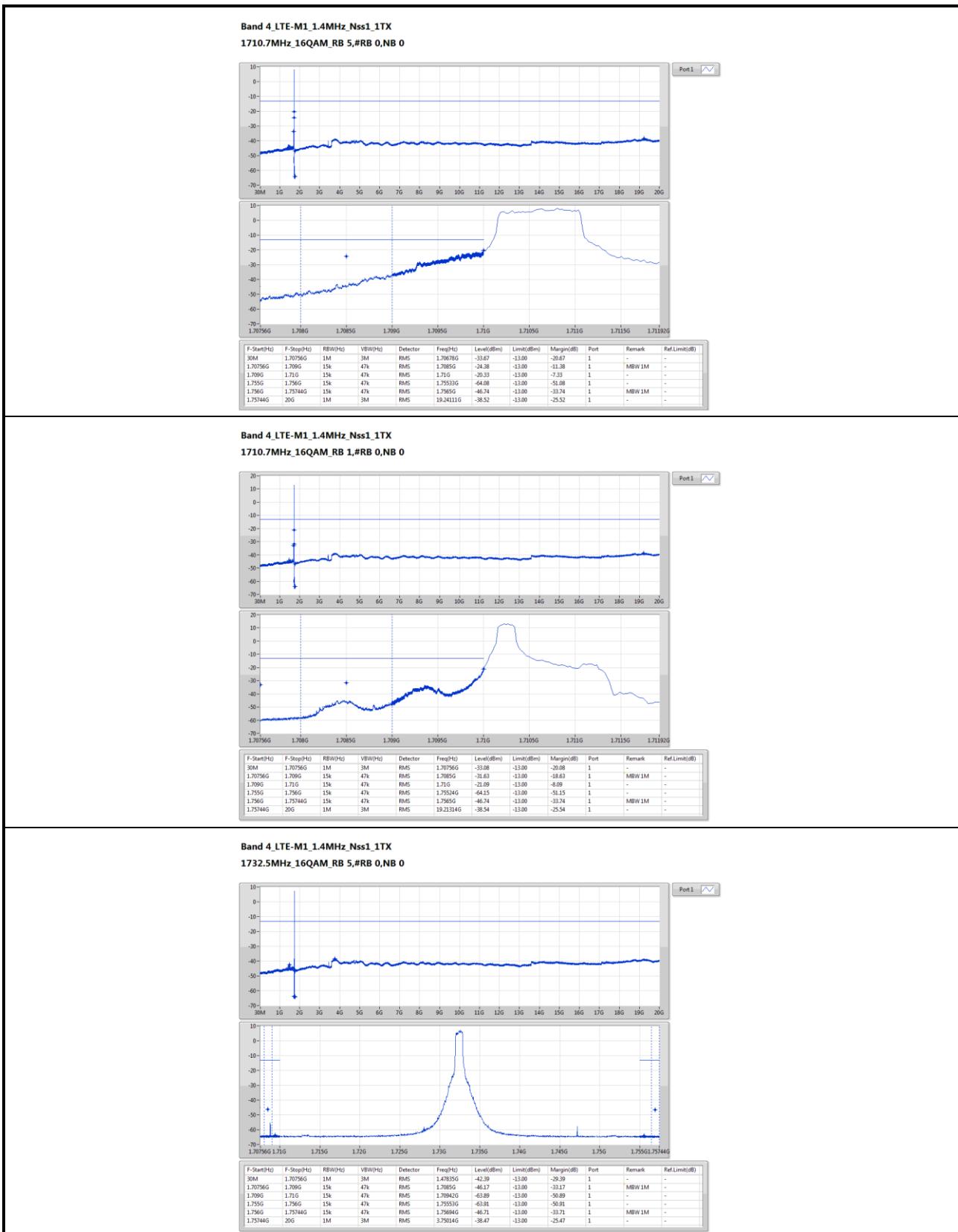
3.3.4 Test Result of Conducted Emissions

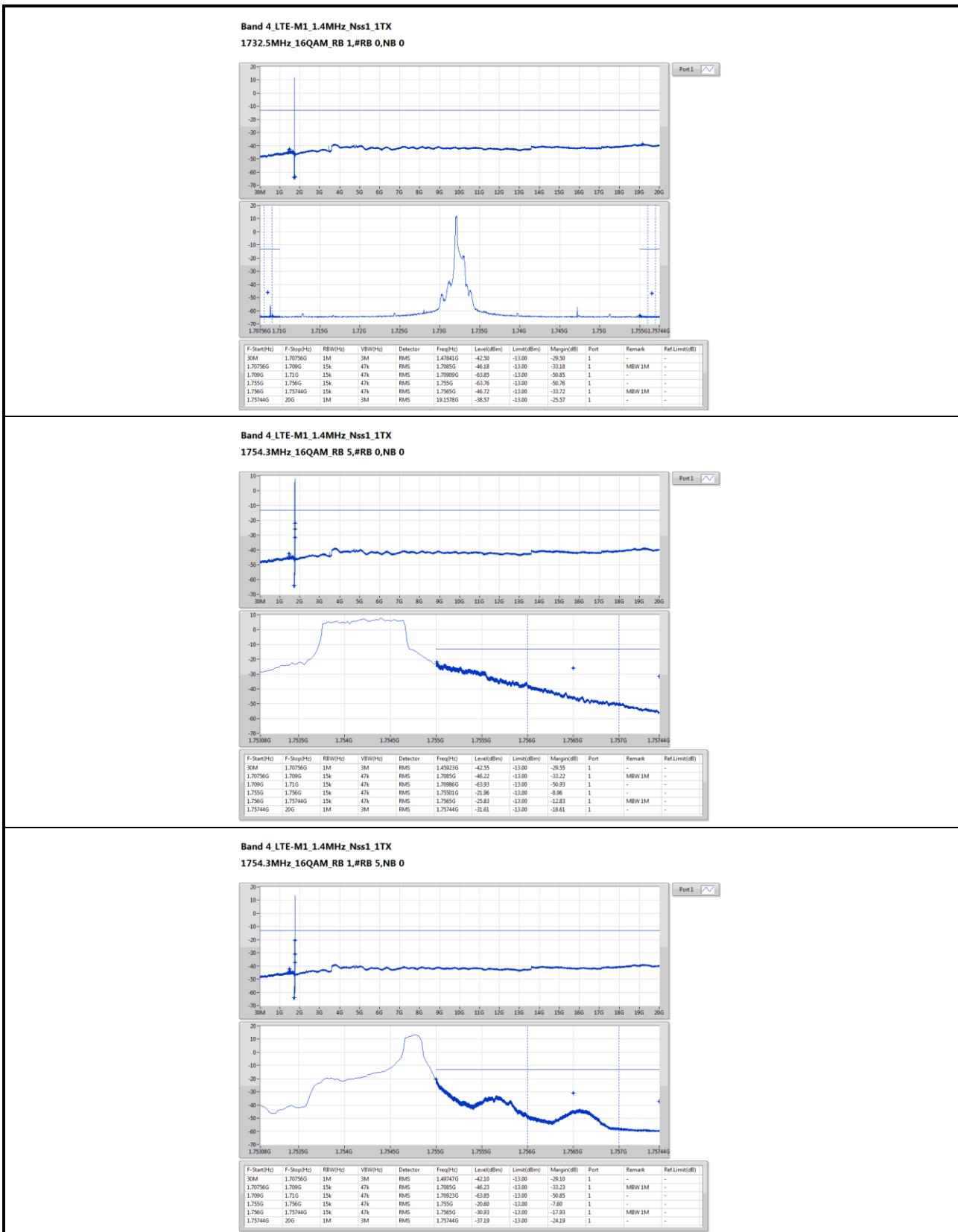
Summary

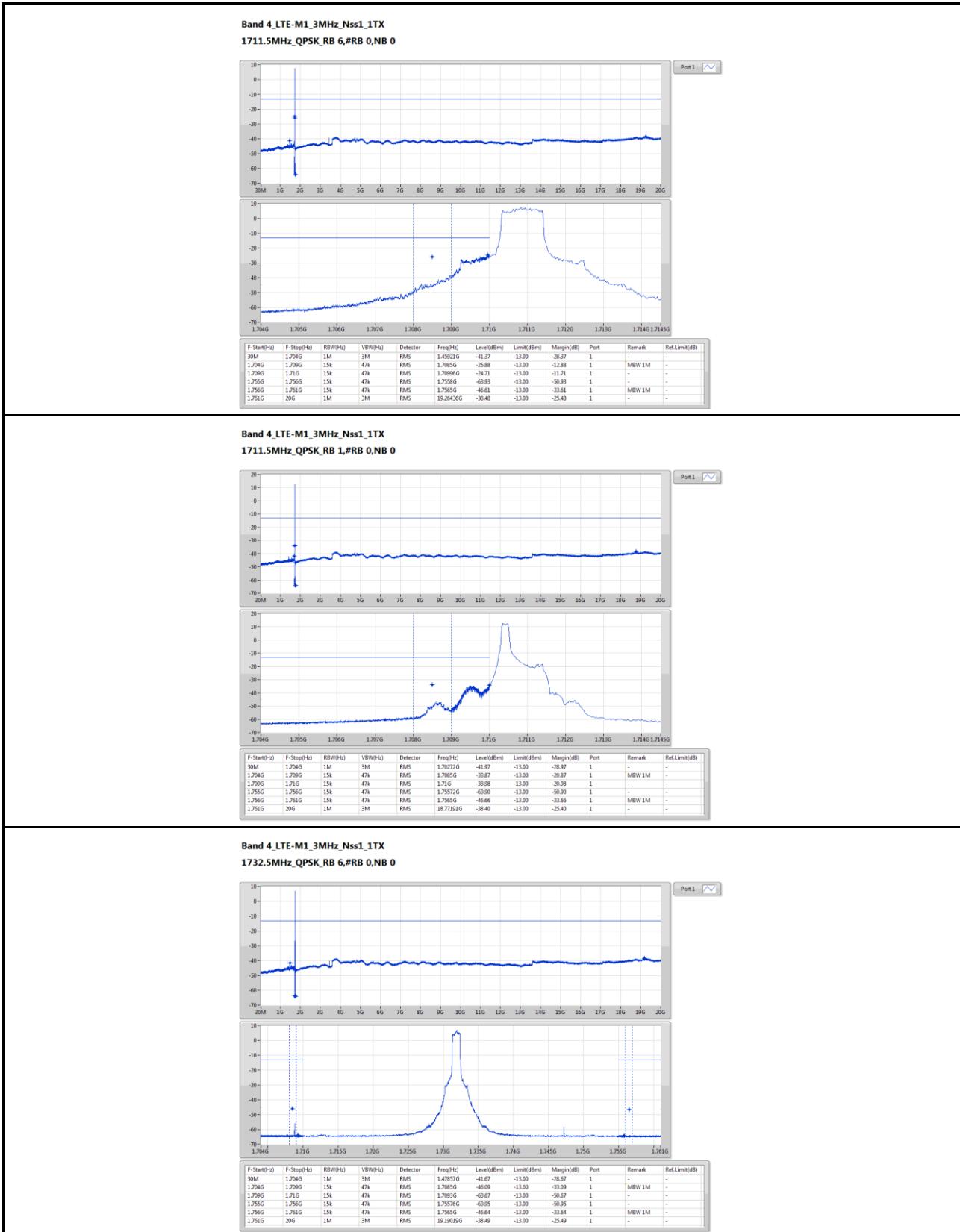
Mode	Result	F-Start (Hz)	F-Stop (Hz)	RBW (Hz)	VBW (Hz)	Detector	Freq (Hz)	Level (dBm)	Limit (dBm)	Margin (dB)	Remark	Ref.Limit (dB)
Band 4_LTE-M1_1.4MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
1754.3MHz_QPSK_RB 1,#RB 5,NB 0	Pass	1.755G	1.756G	15k	47k	RMS	1.75501G	-19.97	-13.00	-6.97	-	-
Band 4_LTE-M1_3MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
1711.5MHz_16QAM_RB 5,#RB 0,NB 0	Pass	1.709G	1.71G	15k	47k	RMS	1.70999G	-22.69	-13.00	-9.69	-	-
Band 4_LTE-M1_5MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
1712.5MHz_16QAM_RB 5,#RB 0,NB 0	Pass	1.709G	1.71G	15k	47k	RMS	1.71G	-21.18	-13.00	-8.18	-	-
Band 4_LTE-M1_10MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
1715MHz_QPSK_RB 6,#RB 0,NB 0	Pass	1.709G	1.71G	15k	47k	RMS	1.71G	-25.81	-13.00	-12.81	-	-
Band 4_LTE-M1_15MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
1717.5MHz_QPSK_RB 6,#RB 0,NB 0	Pass	1.709G	1.71G	15k	47k	RMS	1.70987G	-27.59	-13.00	-14.59	-	-
Band 4_LTE-M1_20MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
1720MHz_QPSK_RB 6,#RB 0,NB 0	Pass	1.67G	1.709G	15k	47k	RMS	1.7085G	-34.52	-13.00	-21.52	MBW 1M	-

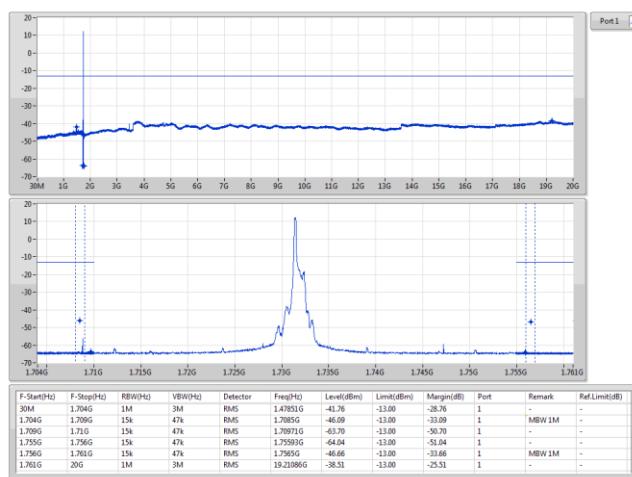
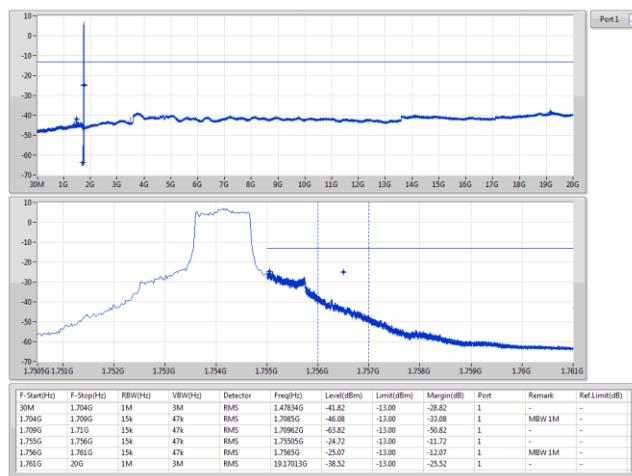
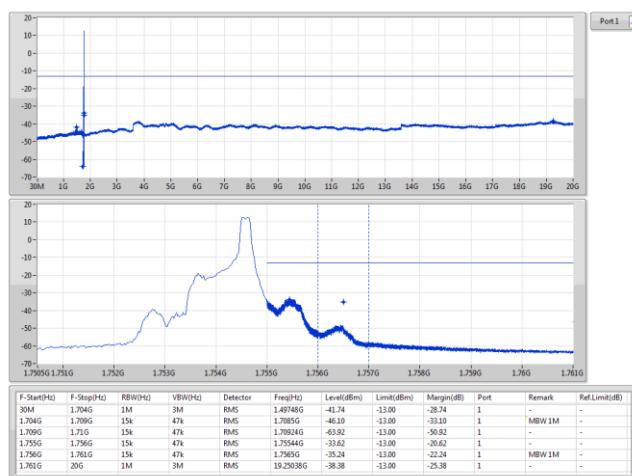


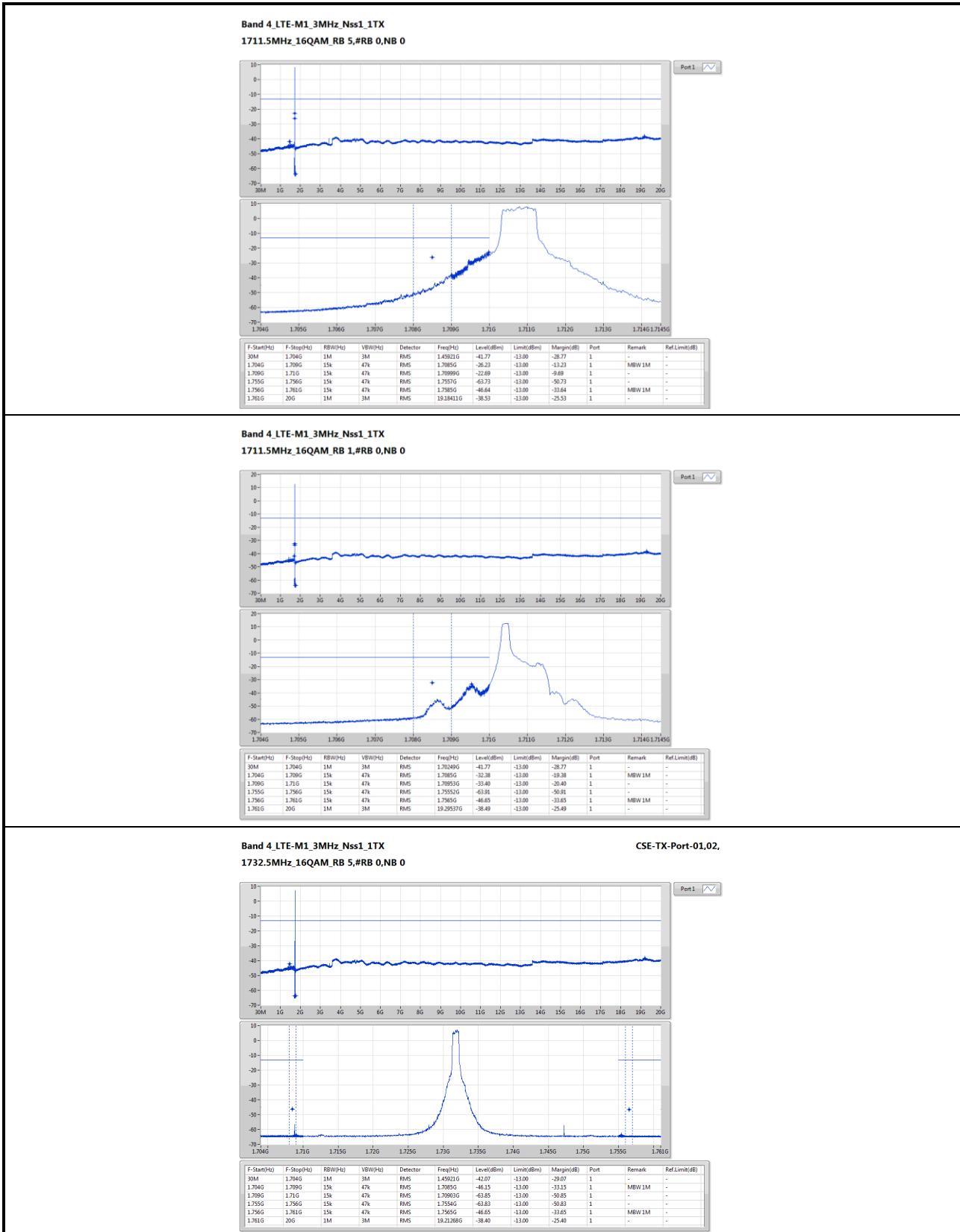


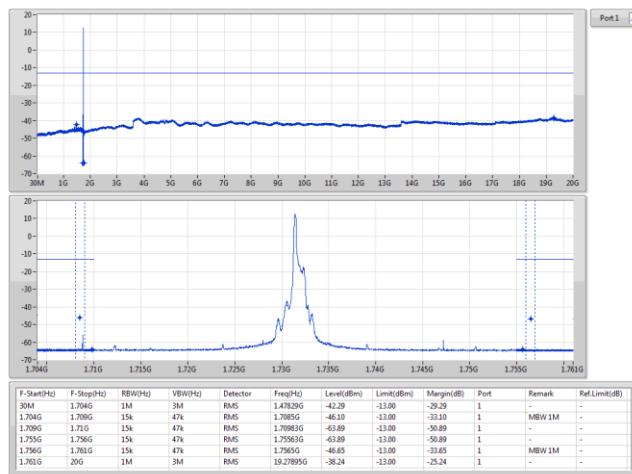
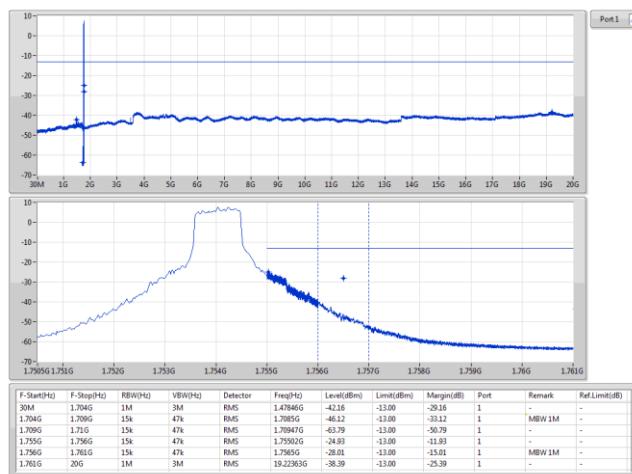
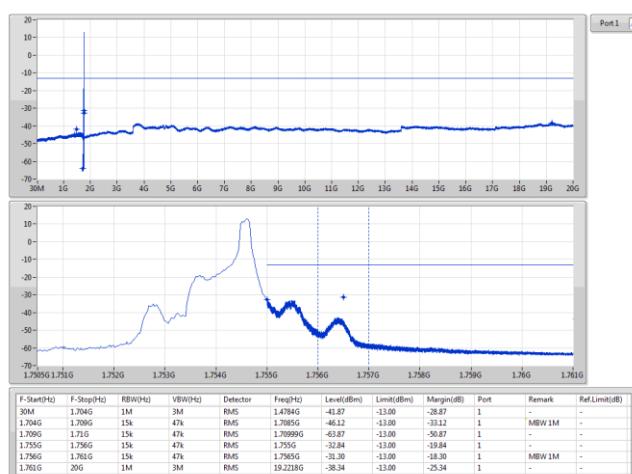


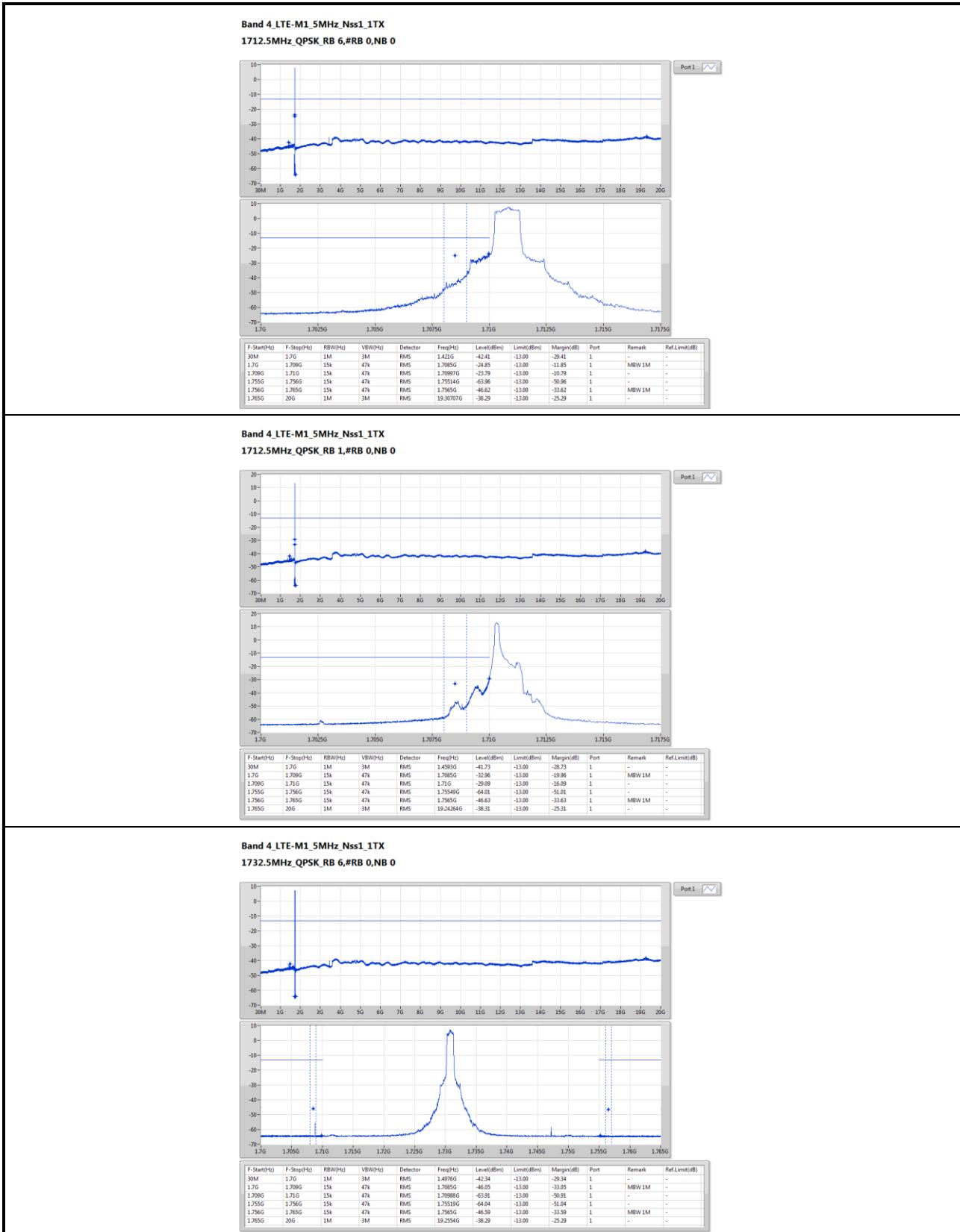




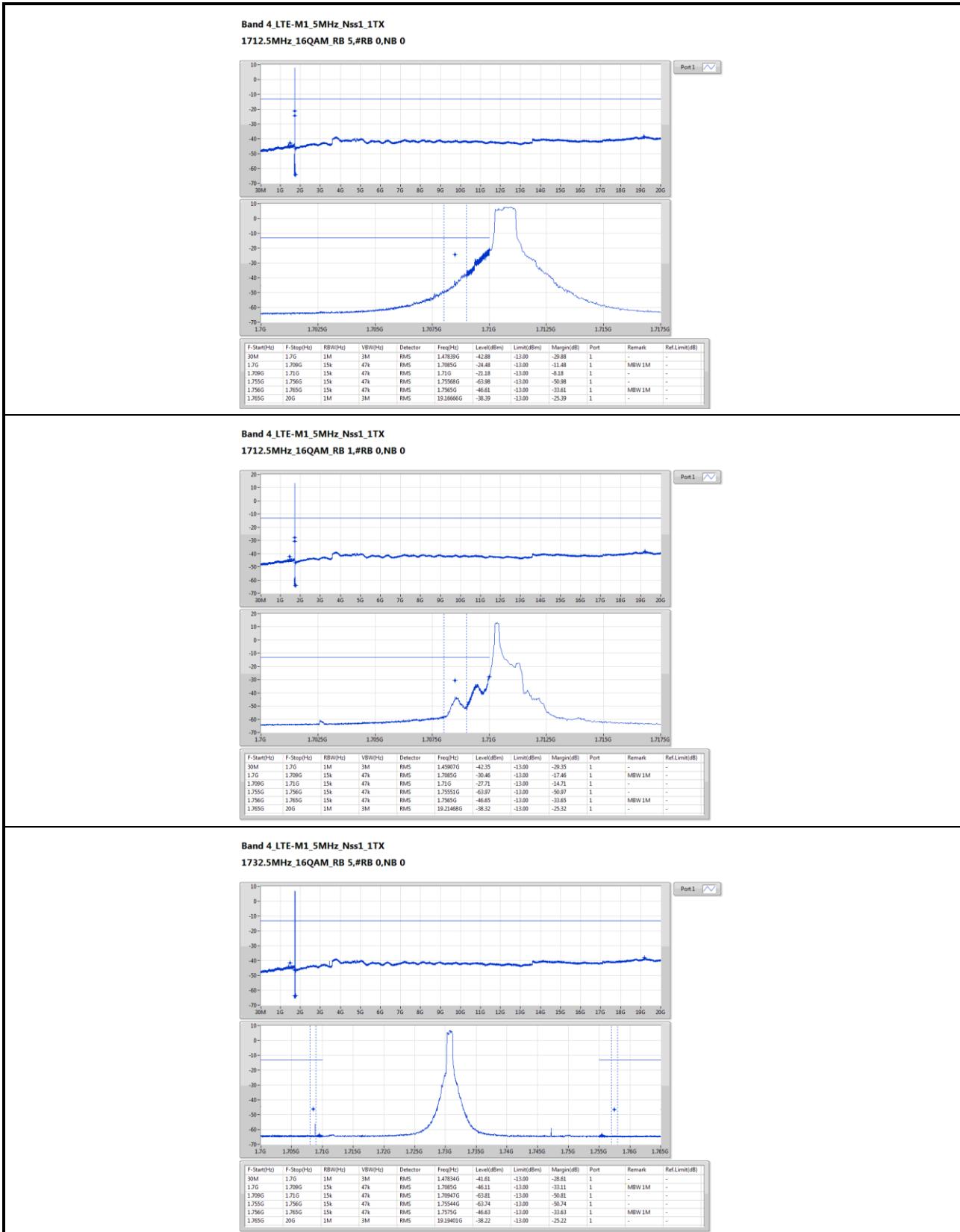
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1732.5MHz_QPSK_RB 1,#RB 0,NB 0**

**Band 4 LTE-M1_3MHz_Nss1_1TX
1753.5MHz_QPSK_RB 6,#RB 0,NB 1**

**Band 4 LTE-M1_3MHz_Nss1_1TX
1753.5MHz_QPSK_RB 1,#RB 5,NB 1**


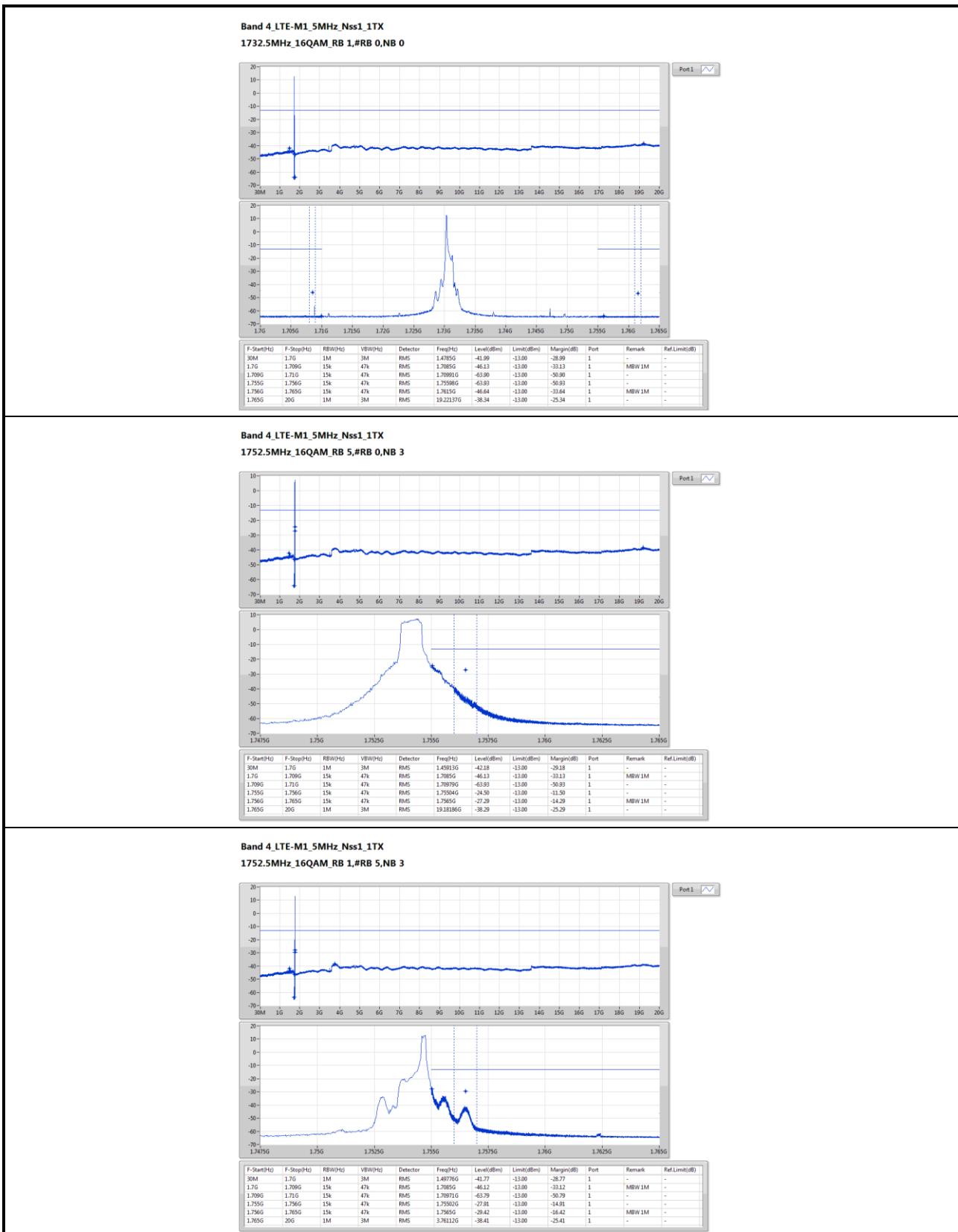


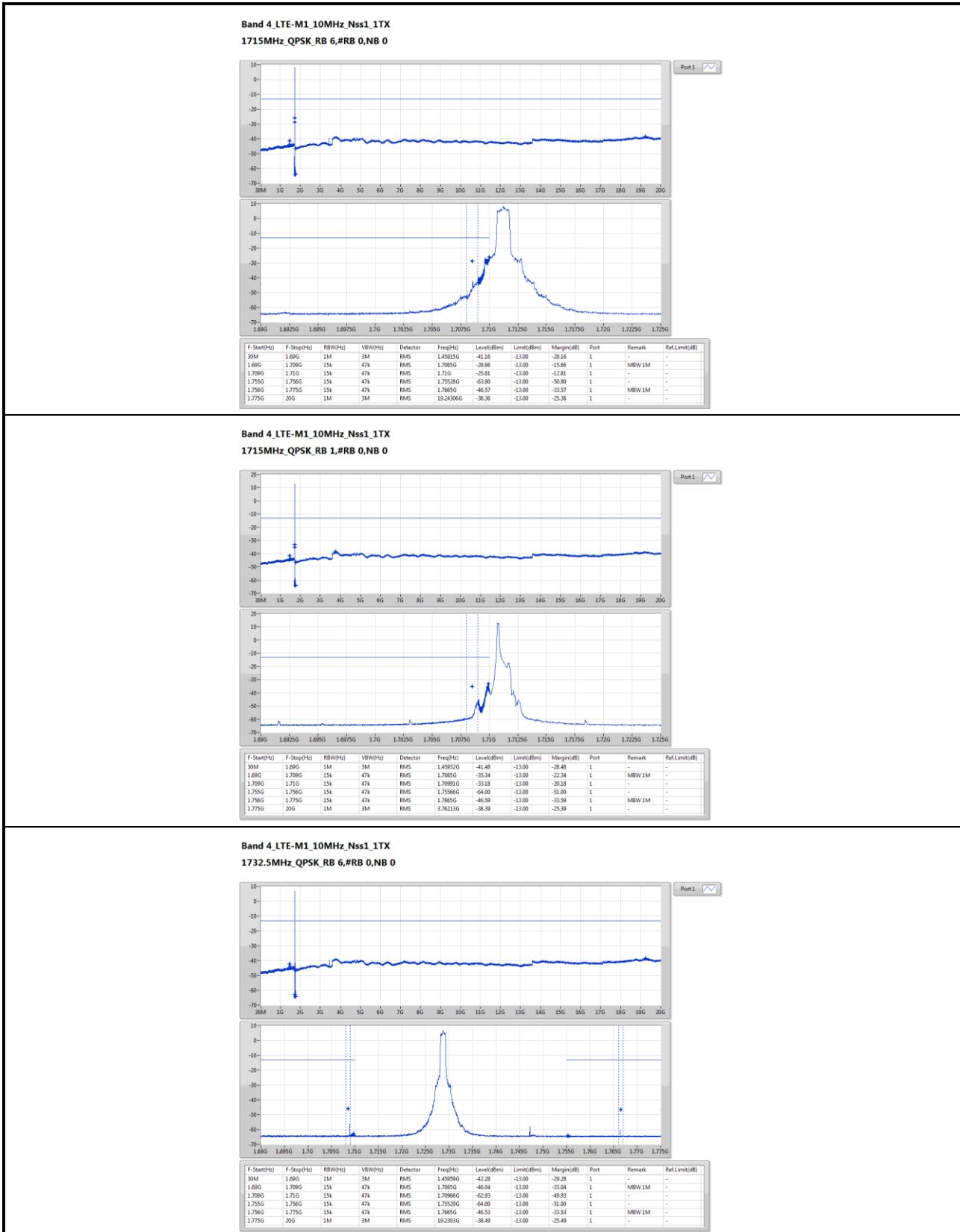
**Band 4 LTE-M1_3MHz_Nss1_1TX
1732.5MHz_16QAM_RB 1,#RB 0,NB 0**

**Band 4 LTE-M1_3MHz_Nss1_1TX
1753.5MHz_16QAM_RB 5,#RB 0,NB 1**

**Band 4 LTE-M1_3MHz_Nss1_1TX
1753.5MHz_16QAM_RB 1,#RB 5,NB 1**


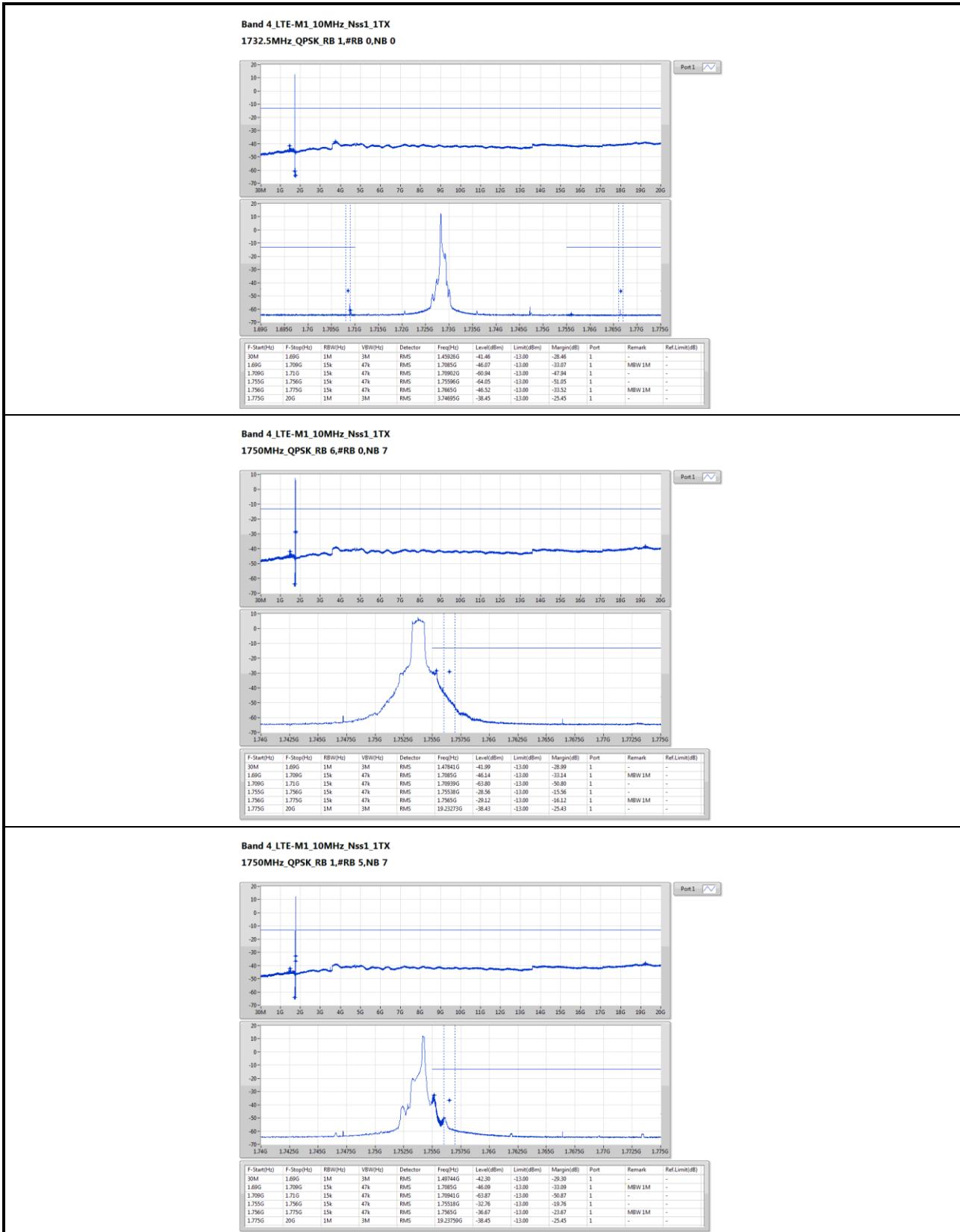


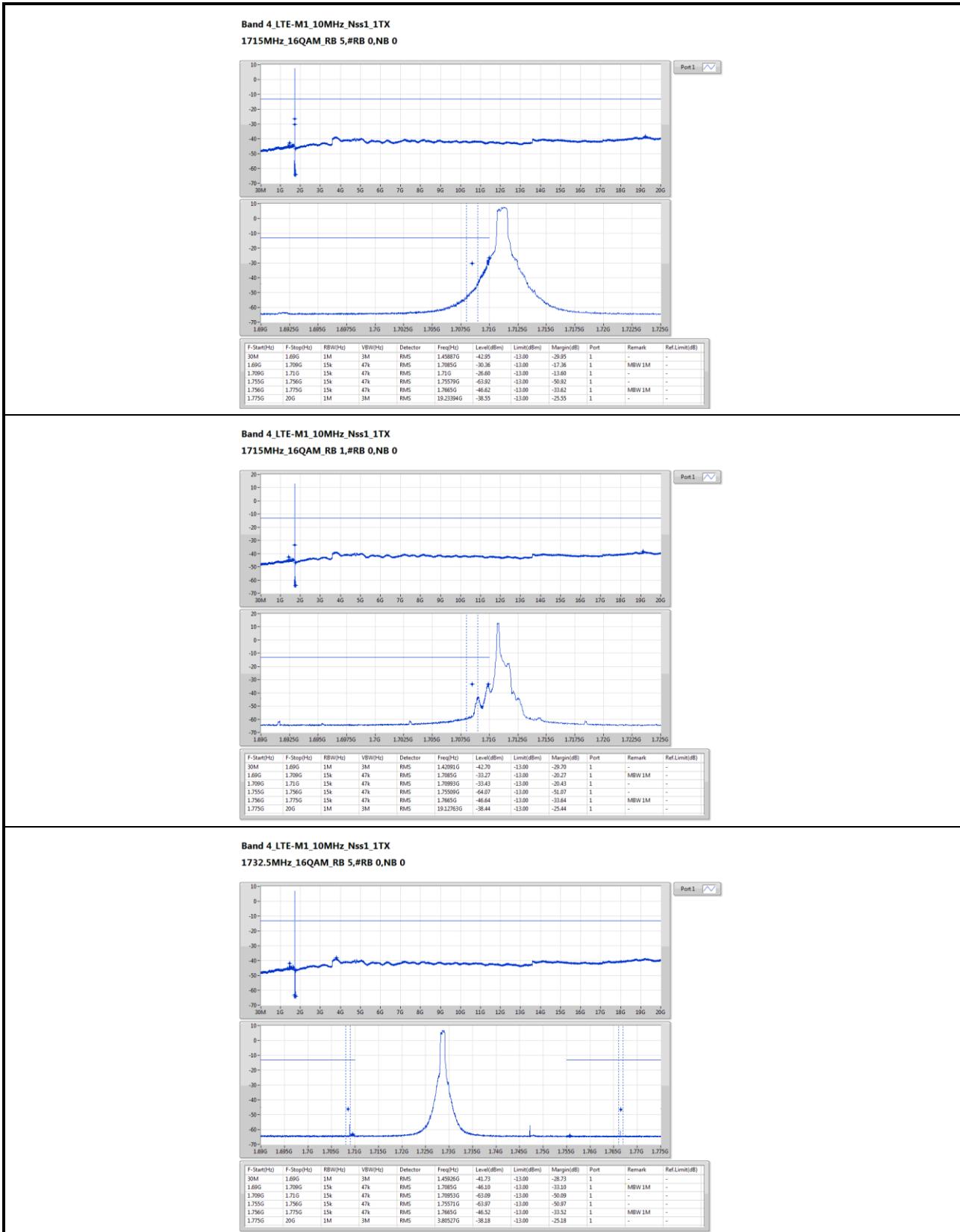




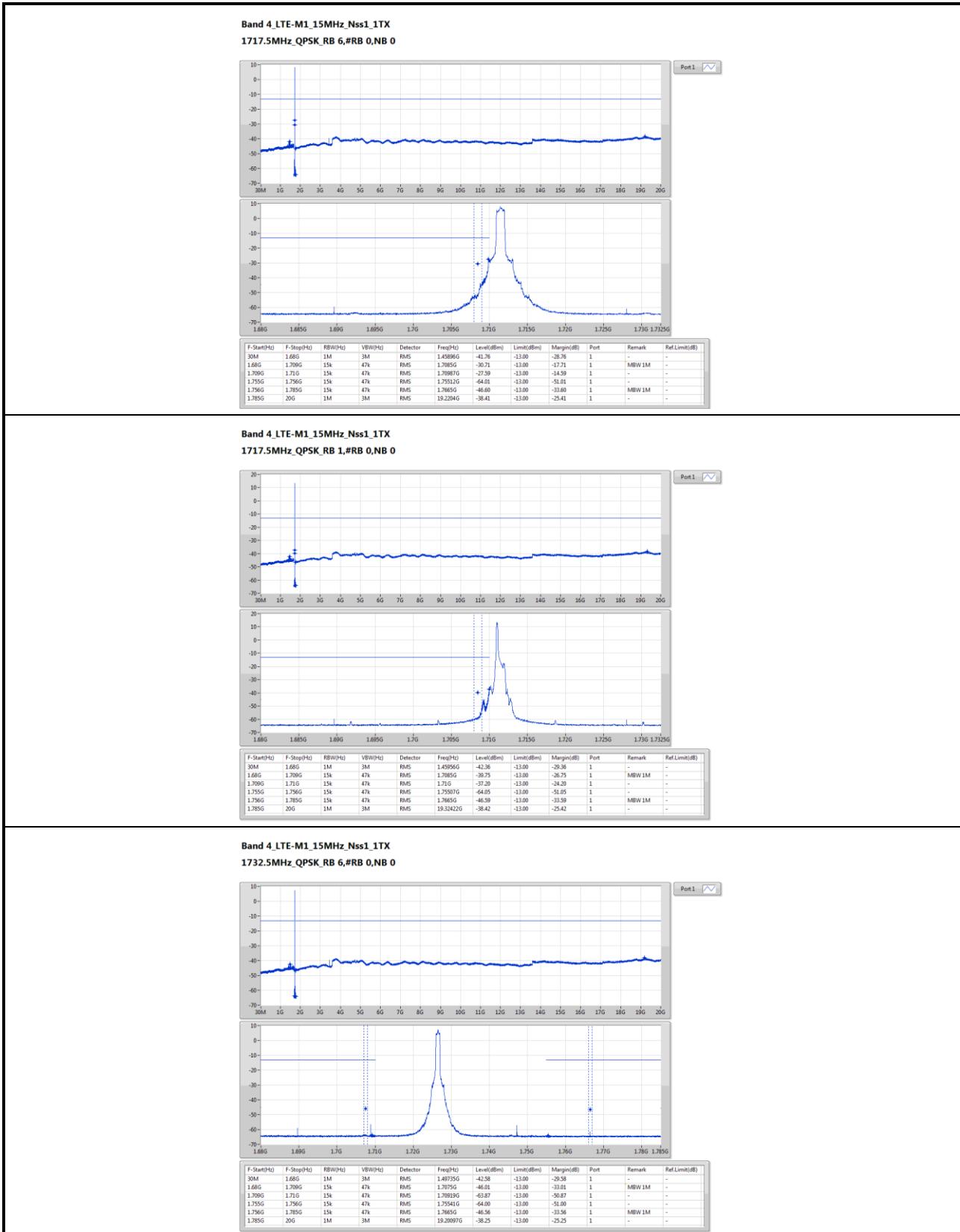




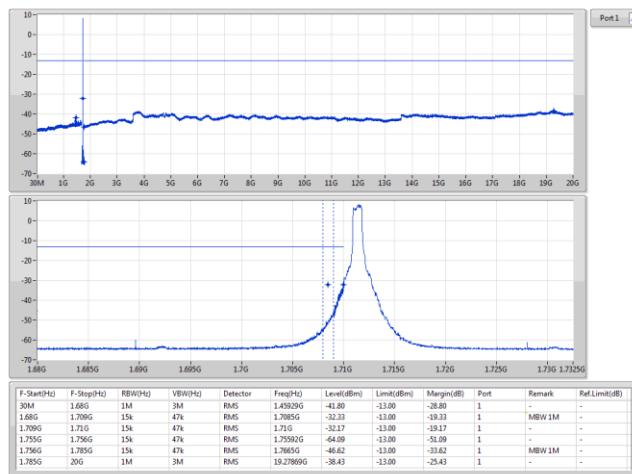
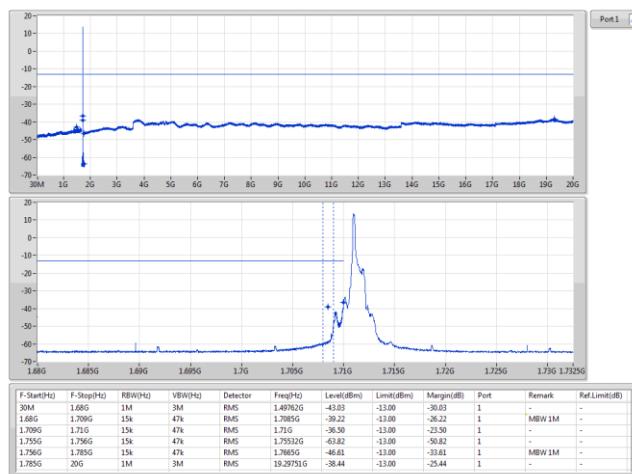
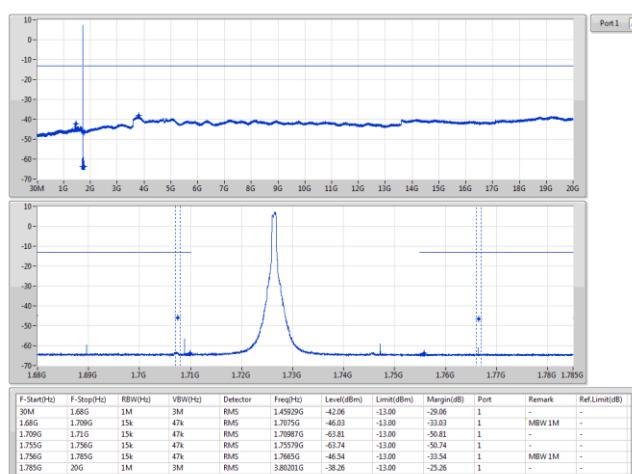


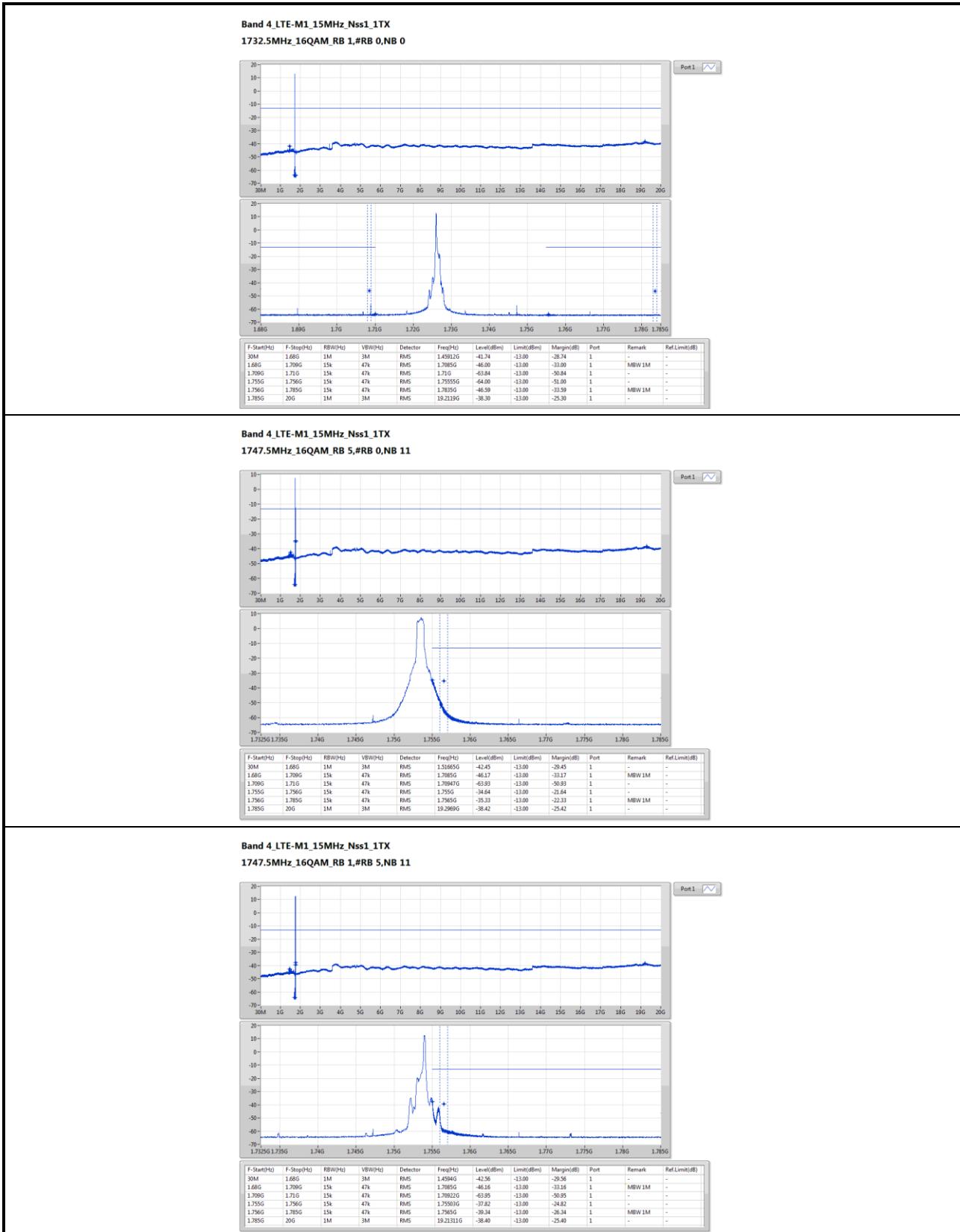




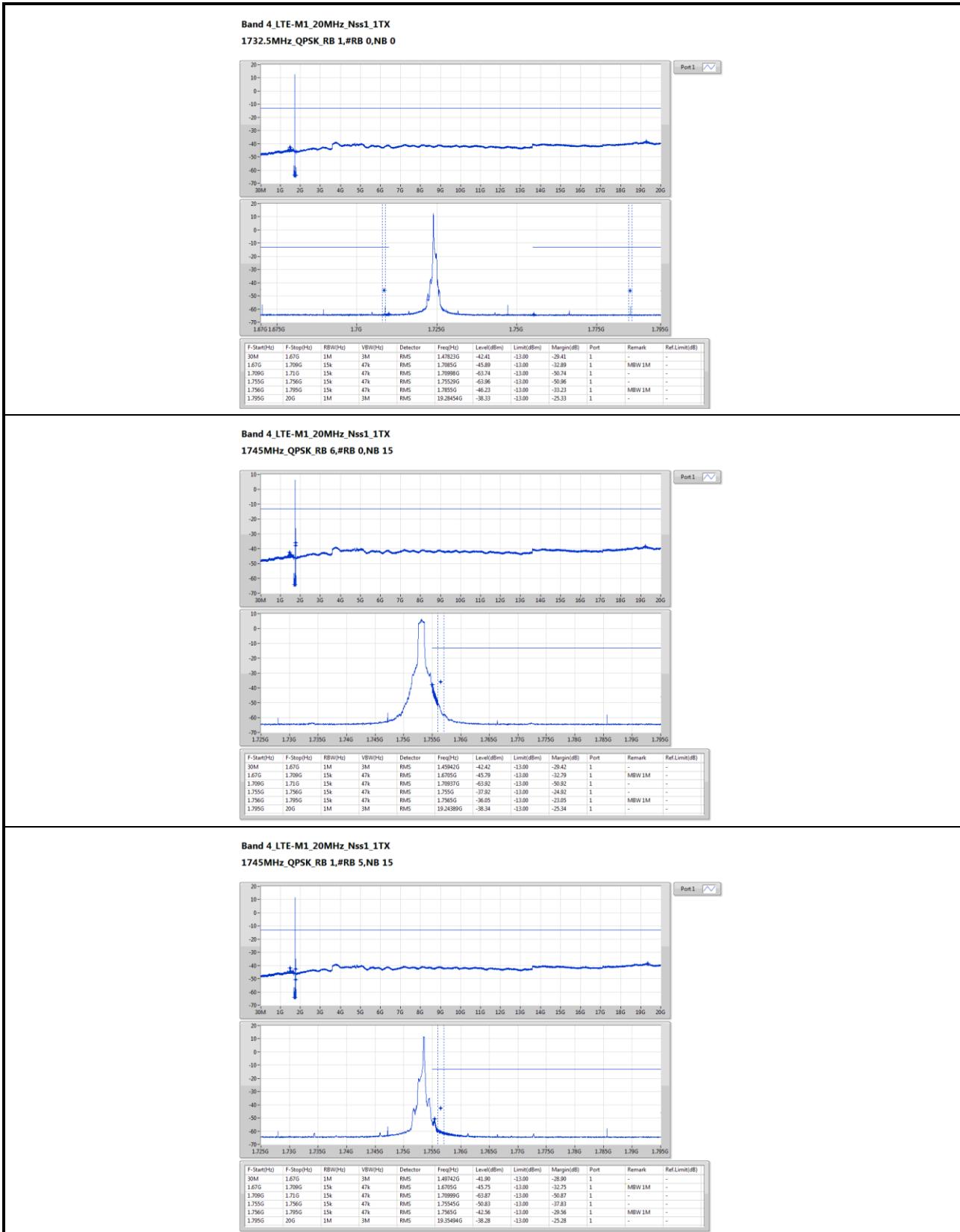


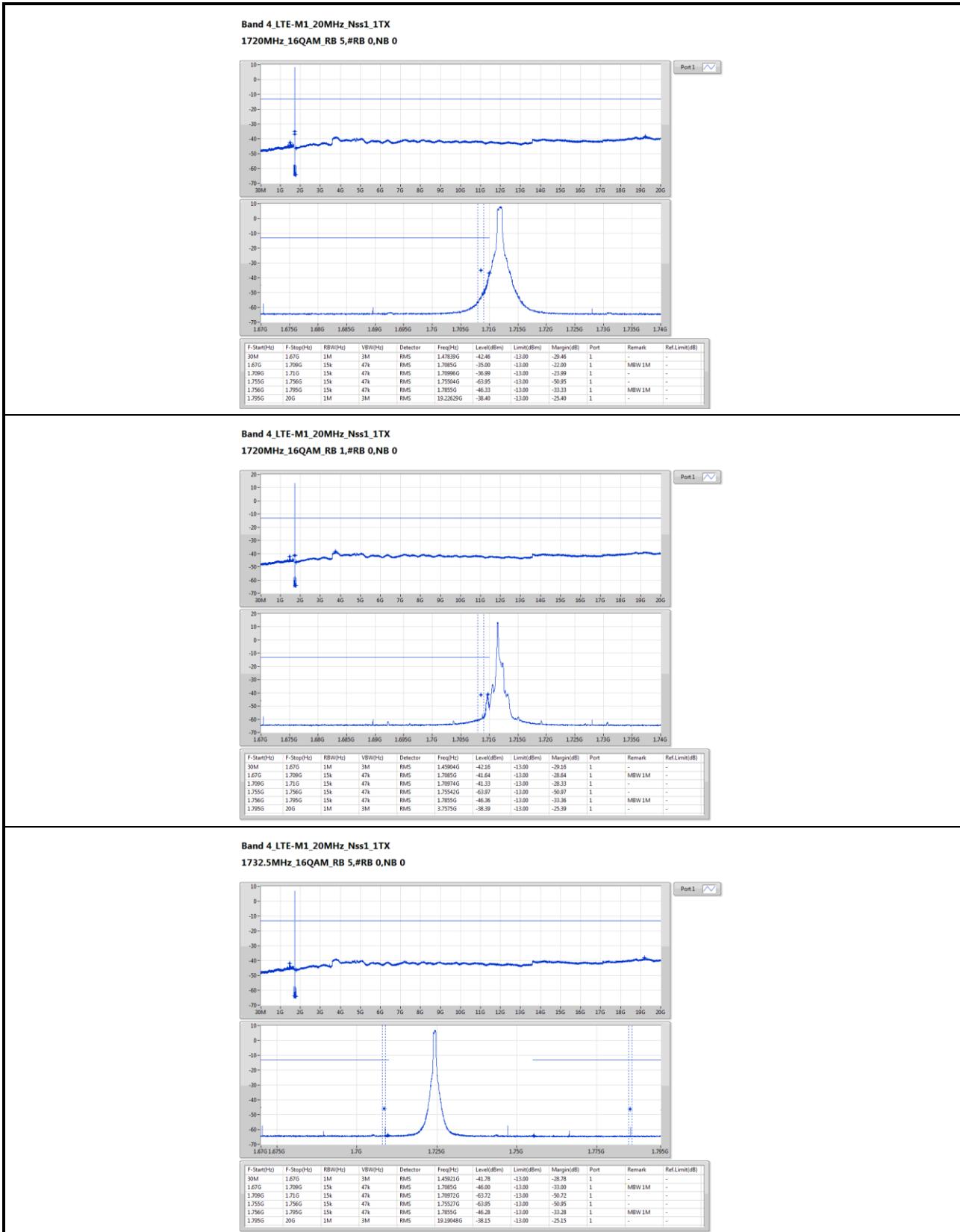


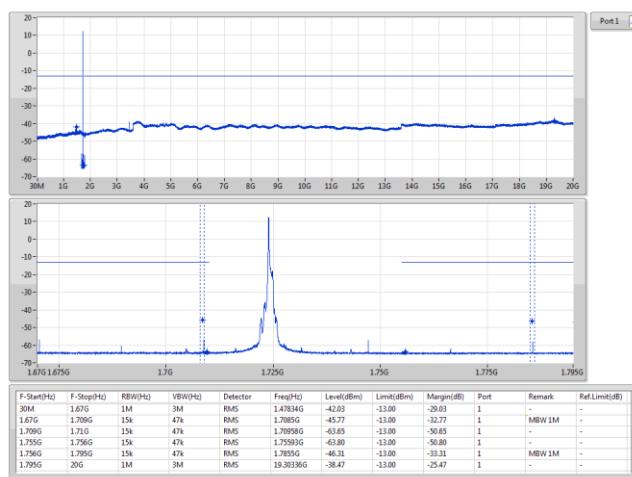
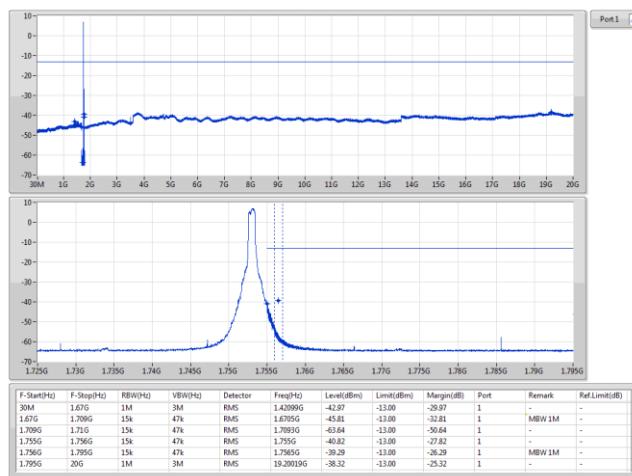
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1717.5MHz_16QAM_RB 5,#RB 0,NB 0**

**Band 4 LTE-M1_15MHz_Nss1_1TX
1717.5MHz_16QAM_RB 1,#RB 0,NB 0**

**Band 4 LTE-M1_15MHz_Nss1_1TX
1732.5MHz_16QAM_RB 5,#RB 0,NB 0**










**Band 4 LTE-M1_20MHz_Nss1_1TX
1732.5MHz_16QAM_RB 1,#RB 0,NB 0**

**Band 4 LTE-M1_20MHz_Nss1_1TX
1745MHz_16QAM_RB 5,#RB 0,NB 15**

**Band 4 LTE-M1_20MHz_Nss1_1TX
1745MHz_16QAM_RB 1,#RB 5,NB 15**
