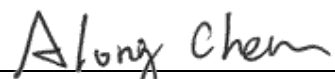


FCC/IC Test Report

FCC ID : RI7LE910C1NS
IC : 5131A-LE910C1NS
Equipment : LTE Module
Model No. : LE910C1-NS
Brand Name : Telit
Applicant : TELIT COMMUNICATIONS S.P.A.
Address : Viale Stazione di Prosecco 5/B, Trieste 34010
Italy
Standard : 47 CFR FCC Part 22 Subpart H
RSS-132 Issue 3 January 2013
Received Date : Apr. 07, 2017
Tested Date : Apr. 07 ~ Apr. 18, 2017

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
FG740703P22-1	Rev. 01	Initial issue	May 02, 2017

Summary of Test Results

FCC Rules	IC Rules	Test Items	Measured	Result
2.1046 / 22.913(a)(2)	---	Effective Radiated Power	Power[dBm] : 21.76	Pass
---	RSS-132 Section 5.4	Equivalent Isotropically Radiated Power	Power[dBm] : 23.91	Pass
2.1053 / 22.917(a)	RSS-132 Section 5.5	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 22.917(a)	RSS-132 Section 5.5	Conducted Emissions	Meet the requirement of limit	Pass
2.1051 / 22.917(a)	RSS-132 Section 5.5	Band Edge	Meet the requirement of limit	Pass
2.1049 / 22.917(a)	RSS-132 Section 5.5	Occupied Bandwidth	Meet the requirement of limit	Pass
---	RSS-132 Section 5.4	Peak to Average Ratio	Meet the requirement of limit	Pass
2.1055 / 22.355	RSS-132 Section 5.3	Frequency Stability	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency	LTE Band 26: Channel Bandwidth: 1.4MHz: 824.7 MHz ~ 848.3 MHz Channel Bandwidth: 3MHz: 825.5 MHz ~ 847.5 MHz Channel Bandwidth: 5MHz: 826.5 MHz ~ 846.5 MHz Channel Bandwidth: 10MHz: 829.0 MHz ~ 844.0 MHz Channel Bandwidth: 15MHz: 831.5 MHz ~ 841.5 MHz
Modulation	QPSK, 16QAM (Uplink)
Release Version	10
Duplex Mode	FDD
UE Category	Cat. 1
H/W Version	CS1762C
S/W Version	25.00.241

1.1.2 Maximum ERP and Emission Designator

Mode	Modulation	Maximum ERP (W)	Emission Designator
LTE Band 26, CB: 1.4MHz	QPSK	0.150	1M08G7D
LTE Band 26, CB: 1.4MHz	16QAM	0.122	1M08W7D
LTE Band 26, CB: 3MHz	QPSK	0.142	2M69G7D
LTE Band 26, CB: 3MHz	16QAM	0.129	2M69W7D
LTE Band 26, CB: 5MHz	QPSK	0.140	4M48G7D
LTE Band 26, CB: 5MHz	16QAM	0.114	4M49W7D
LTE Band 26, CB: 10MHz	QPSK	0.144	8M94G7D
LTE Band 26, CB: 10MHz	16QAM	0.120	4M92W7D
LTE Band 26, CB: 15MHz	QPSK	0.148	13M5G7D
LTE Band 26, CB: 15MHz	16QAM	0.124	5M04W7D

1.1.3 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remark
1	Dipole	R-SMA	0.46	---

1.1.4 EUT Operational Condition

Supply Voltage	3.8Vdc from host		
Operational Voltage	☒ Vnom (3.8 V)	☒ Vmax (4.2 V)	☒ Vmin (3.4 V)
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (85°C)	☒ Tmin (-40°C)

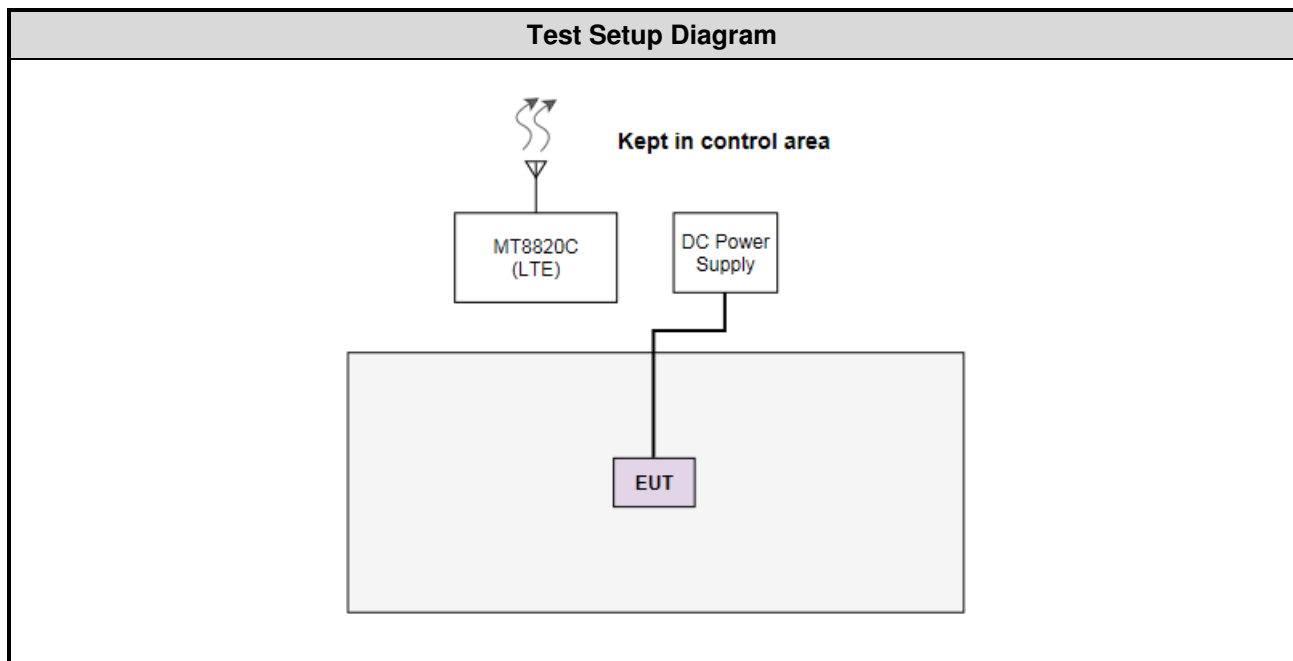
1.1.5 Operating Channel List

LTE Band 26		
Channel Bandwidths (MHz)	Channel	Frequency (MHz)
1.4	26797	824.7
1.4	26915	836.5
1.4	27033	848.3
3	26805	825.5
3	26915	836.5
3	27025	847.5
5	26815	826.5
5	26915	836.5
5	27015	846.5
10	26840	829.0
10	26915	836.5
10	26990	844.0
15	26865	831.5
15	26915	836.5
15	26965	841.5

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Signal cable / Length (m)
1	DC Power Supply	GW INSTEK	GPC-6030D	---	---

1.3 Test Setup Chart



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	Mar. 15, 2017	Mar. 14, 2018
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 09, 2016	Sep. 08, 2017
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 21, 2016	Nov. 20, 2017
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
Radio Communication Analyzer	Anritsu	MT8820C	6201465544	Aug. 19, 2016	Aug. 18, 2017
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	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 04, 2016	Aug. 03, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980225	Aug. 05, 2016	Aug. 04, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Radio Communication Analyzer	Anritsu	MT8820C	6201465544	Aug. 19, 2016	Aug. 18, 2017
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 22 Subpart H

RSS-132 Issue 3 January 2013

RSS-Gen Issue 4 November 2014

SRSP-503 Issue 7 September 2008

ANSI C63.4-2014

ANSI/TIA-603-D 2010

ANSI C63.26-2015

FCC KDB 971168 D01 Power Meas License Digital Systems v02r02

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.134 Hz
Conducted power	± 0.808 dB
Frequency error	± 34.134 Hz
Temperature	± 0.6 °C
Conducted emission	± 2.670 dB
AC conducted emission	± 2.90 dB
Radiated emission ≤ 1 GHz	± 3.66 dB
Radiated emission > 1 GHz	± 5.63 dB

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
Radiated Emissions	03CH01-WS	24°C / 60-62%	Kevin Lee Vincent Yeh
RF Conducted	TH01-WS	22°C / 63%	Alex Huang

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

2.2 The Worst Test Modes and Channel Details

LTE Band 26			
Test item	Channel Bandwidths	Modulation	Test channel
Effective Radiated Power	1.4 MHz	QPSK / 16QAM	26797 / 26915 / 27033
Conducted Emissions	3 MHz	QPSK / 16QAM	26805 / 26915 / 27025
Occupied Bandwidth	5 MHz	QPSK / 16QAM	26815 / 26915 / 27015
Peak to Average Ratio	10 MHz	QPSK / 16QAM	26840 / 26915 / 26990
	15 MHz	QPSK / 16QAM	26865 / 26915 / 26965
Radiated Emission ≤ 1GHz	1.4 MHz	QPSK	26915
	3 MHz	QPSK	26915
	5 MHz	QPSK	26915
	10 MHz	QPSK	26915
	15 MHz	QPSK	26865
Radiated Emission > 1GHz	1.4 MHz	QPSK	26797 / 26915 / 27033
	3 MHz	QPSK	26805 / 26915 / 27025
	5 MHz	QPSK	26815 / 26915 / 27015
	10 MHz	QPSK	26840 / 26915 / 26990
	15 MHz	QPSK	26865 / 26915 / 26965
Band Edge	1.4 MHz	QPSK / 16QAM	26797 / 27033
	3 MHz	QPSK / 16QAM	26805 / 27025
	5 MHz	QPSK / 16QAM	26815 / 27015
	10 MHz	QPSK / 16QAM	26840 / 26990
	15 MHz	QPSK / 16QAM	26865 / 26965
Frequency Stability	1.4 MHz	QPSK	26915
	3 MHz	QPSK	26915
	5 MHz	QPSK	26915
	10 MHz	QPSK	26915
	15 MHz	QPSK	26915
Note:			
1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The Y-plane results were found as the worst case and were shown in this report.			

3 Test Results

3.1 Effective Radiated Power

3.1.1 Limit of Effective Radiated Power

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

3.1.2 Test Procedures

For Conducted power measurement:

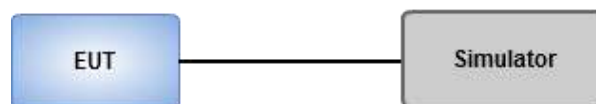
1. The EUT links up with simulator and is set to maximum output power level at low / middel / high channel.
2. Measure the output power of low / middle / high channel of the EUT.

For ERP measurement:

ERP 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.
2. $ERP = EIRP - 2.15 \text{ dB}$.

3.1.3 Test Setup



3.1.4 Test Result of Effective Radiated Power (dBm)

Channel Bandwidth: 1.4MHz

Mode	Channel	RB	RB Offset	Conducted Average Power (dBm)	Ant. Gain (dB)	E.I.R.P Power (dBm)	E.R.P Power (dBm)	E.R.P Power (W)	E.R.P Limit (W)
QPSK	26797	1	0	23.11	0.46	23.57	21.42	0.139	7
		1	2	23.26	0.46	23.72	21.57	0.144	7
		1	5	23.06	0.46	23.52	21.37	0.137	7
		3	0	23.13	0.46	23.59	21.44	0.139	7
		3	1	23.15	0.46	23.61	21.46	0.140	7
		3	2	23.08	0.46	23.54	21.39	0.138	7
		6	0	22.06	0.46	22.52	20.37	0.109	7
	26915	1	0	23.25	0.46	23.71	21.56	0.143	7
		1	2	23.45	0.46	23.91	21.76	0.150	7
		1	5	23.22	0.46	23.68	21.53	0.142	7
		3	0	23.03	0.46	23.49	21.34	0.136	7
		3	1	23.10	0.46	23.56	21.41	0.138	7
		3	2	23.07	0.46	23.53	21.38	0.137	7
		6	0	21.99	0.46	22.45	20.30	0.107	7
	27033	1	0	22.97	0.46	23.43	21.28	0.134	7
		1	2	23.17	0.46	23.63	21.48	0.141	7
		1	5	23.11	0.46	23.57	21.42	0.139	7
		3	0	22.94	0.46	23.40	21.25	0.133	7
		3	1	23.11	0.46	23.57	21.42	0.139	7
		3	2	23.13	0.46	23.59	21.44	0.139	7
		6	0	21.95	0.46	22.41	20.26	0.106	7
16QAM	26797	1	0	22.35	0.46	22.81	20.66	0.116	7
		1	2	22.43	0.46	22.89	20.74	0.119	7
		1	5	22.39	0.46	22.85	20.70	0.117	7
		3	0	22.25	0.46	22.71	20.56	0.114	7
		3	1	22.26	0.46	22.72	20.57	0.114	7
		3	2	22.16	0.46	22.62	20.47	0.111	7
		6	0	21.04	0.46	21.50	19.35	0.086	7
	26915	1	0	22.36	0.46	22.82	20.67	0.117	7
		1	2	22.54	0.46	23.00	20.85	0.122	7
		1	5	22.35	0.46	22.81	20.66	0.116	7
		3	0	22.31	0.46	22.77	20.62	0.115	7
		3	1	22.23	0.46	22.69	20.54	0.113	7
		3	2	22.26	0.46	22.72	20.57	0.114	7
		6	0	21.11	0.46	21.57	19.42	0.087	7
	27033	1	0	21.97	0.46	22.43	20.28	0.107	7
		1	2	22.34	0.46	22.80	20.65	0.116	7
		1	5	22.12	0.46	22.58	20.43	0.110	7
		3	0	21.98	0.46	22.44	20.29	0.107	7
		3	1	22.07	0.46	22.53	20.38	0.109	7
		3	2	22.12	0.46	22.58	20.43	0.110	7
		6	0	20.74	0.46	21.20	19.05	0.080	7

Channel Bandwidth: 3MHz

Mode	Channel	RB	RB Offset	Conducted Average Power (dBm)	Ant. Gain (dB)	E.I.R.P Power (dBm)	E.R.P Power (dBm)	E.R.P Power (W)	E.R.P Limit (W)
QPSK	26805	1	0	23.05	0.46	23.51	21.36	0.137	7
		1	7	23.08	0.46	23.54	21.39	0.138	7
		1	14	22.99	0.46	23.45	21.30	0.135	7
		8	0	22.02	0.46	22.48	20.33	0.108	7
		8	4	22.04	0.46	22.50	20.35	0.108	7
		8	7	21.94	0.46	22.40	20.25	0.106	7
		15	0	22.00	0.46	22.46	20.31	0.107	7
	26915	1	0	22.77	0.46	23.23	21.08	0.128	7
		1	7	23.21	0.46	23.67	21.52	0.142	7
		1	14	23.13	0.46	23.59	21.44	0.139	7
		8	0	21.95	0.46	22.41	20.26	0.106	7
		8	4	22.02	0.46	22.48	20.33	0.108	7
		8	7	22.11	0.46	22.57	20.42	0.110	7
		15	0	21.95	0.46	22.41	20.26	0.106	7
	27025	1	0	22.83	0.46	23.29	21.14	0.130	7
		1	7	22.98	0.46	23.44	21.29	0.135	7
		1	14	22.95	0.46	23.41	21.26	0.134	7
		8	0	21.98	0.46	22.44	20.29	0.107	7
		8	4	21.93	0.46	22.39	20.24	0.106	7
		8	7	22.15	0.46	22.61	20.46	0.111	7
		15	0	21.91	0.46	22.37	20.22	0.105	7
16QAM	26805	1	0	22.51	0.46	22.97	20.82	0.121	7
		1	7	22.41	0.46	22.87	20.72	0.118	7
		1	14	22.10	0.46	22.56	20.41	0.110	7
		8	0	20.98	0.46	21.44	19.29	0.085	7
		8	4	20.97	0.46	21.43	19.28	0.085	7
		8	7	20.99	0.46	21.45	19.30	0.085	7
		15	0	20.89	0.46	21.35	19.20	0.083	7
	26915	1	0	22.37	0.46	22.83	20.68	0.117	7
		1	7	22.78	0.46	23.24	21.09	0.129	7
		1	14	22.61	0.46	23.07	20.92	0.124	7
		8	0	20.81	0.46	21.27	19.12	0.082	7
		8	4	21.34	0.46	21.80	19.65	0.092	7
		8	7	21.36	0.46	21.82	19.67	0.093	7
		15	0	20.95	0.46	21.41	19.26	0.084	7
	27025	1	0	21.96	0.46	22.42	20.27	0.106	7
		1	7	22.21	0.46	22.67	20.52	0.113	7
		1	14	21.76	0.46	22.22	20.07	0.102	7
		8	0	20.91	0.46	21.37	19.22	0.084	7
		8	4	20.99	0.46	21.45	19.30	0.085	7
		8	7	21.07	0.46	21.53	19.38	0.087	7
		15	0	20.97	0.46	21.43	19.28	0.085	7

Channel Bandwidth: 5MHz

Mode	Channel	RB	RB Offset	Conducted Average Power (dBm)	Ant. Gain (dB)	E.I.R.P Power (dBm)	E.R.P Power (dBm)	E.R.P Power (W)	E.R.P Limit (W)
QPSK	26815	1	0	22.97	0.46	23.43	21.28	0.134	7
		1	12	23.13	0.46	23.59	21.44	0.139	7
		1	24	22.77	0.46	23.23	21.08	0.128	7
		12	0	21.97	0.46	22.43	20.28	0.107	7
		12	6	21.95	0.46	22.41	20.26	0.106	7
		12	11	21.91	0.46	22.37	20.22	0.105	7
		25	0	22.03	0.46	22.49	20.34	0.108	7
	26915	1	0	22.95	0.46	23.41	21.26	0.134	7
		1	12	23.16	0.46	23.62	21.47	0.140	7
		1	24	23.03	0.46	23.49	21.34	0.136	7
		12	0	21.88	0.46	22.34	20.19	0.104	7
		12	6	22.07	0.46	22.53	20.38	0.109	7
		12	11	22.11	0.46	22.57	20.42	0.110	7
		25	0	22.03	0.46	22.49	20.34	0.108	7
	27015	1	0	22.49	0.46	22.95	20.80	0.120	7
		1	12	22.84	0.46	23.30	21.15	0.130	7
		1	24	22.79	0.46	23.25	21.10	0.129	7
		12	0	21.86	0.46	22.32	20.17	0.104	7
		12	6	21.94	0.46	22.40	20.25	0.106	7
		12	11	21.98	0.46	22.44	20.29	0.107	7
		25	0	21.89	0.46	22.35	20.20	0.105	7
16QAM	26815	1	0	21.99	0.46	22.45	20.30	0.107	7
		1	12	22.14	0.46	22.60	20.45	0.111	7
		1	24	21.72	0.46	22.18	20.03	0.101	7
		12	0	21.10	0.46	21.56	19.41	0.087	7
		12	6	21.04	0.46	21.50	19.35	0.086	7
		12	11	20.89	0.46	21.35	19.20	0.083	7
		25	0	21.06	0.46	21.52	19.37	0.086	7
	26915	1	0	22.04	0.46	22.50	20.35	0.108	7
		1	12	22.27	0.46	22.73	20.58	0.114	7
		1	24	22.20	0.46	22.66	20.51	0.112	7
		12	0	20.91	0.46	21.37	19.22	0.084	7
		12	6	21.14	0.46	21.60	19.45	0.088	7
		12	11	21.38	0.46	21.84	19.69	0.093	7
		25	0	20.80	0.46	21.26	19.11	0.081	7
	27015	1	0	21.47	0.46	21.93	19.78	0.095	7
		1	12	21.63	0.46	22.09	19.94	0.099	7
		1	24	21.57	0.46	22.03	19.88	0.097	7
		12	0	20.66	0.46	21.12	18.97	0.079	7
		12	6	20.67	0.46	21.13	18.98	0.079	7
		12	11	20.67	0.46	21.13	18.98	0.079	7
		25	0	20.93	0.46	21.39	19.24	0.084	7

Channel Bandwidth: 10MHz

Mode	Channel	RB	RB Offset	Conducted Average Power (dBm)	Ant. Gain (dB)	E.I.R.P Power (dBm)	E.R.P Power (dBm)	E.R.P Power (W)	E.R.P Limit (W)
QPSK	26840	1	0	22.87	0.46	23.33	21.18	0.131	7
		1	24	23.27	0.46	23.73	21.58	0.144	7
		1	49	23.05	0.46	23.51	21.36	0.137	7
		25	0	21.98	0.46	22.44	20.29	0.107	7
		25	12	21.93	0.46	22.39	20.24	0.106	7
		25	24	21.93	0.46	22.39	20.24	0.106	7
		50	0	22.00	0.46	22.46	20.31	0.107	7
	26915	1	0	22.99	0.46	23.45	21.30	0.135	7
		1	24	23.28	0.46	23.74	21.59	0.144	7
		1	49	23.26	0.46	23.72	21.57	0.144	7
		25	0	21.95	0.46	22.41	20.26	0.106	7
		25	12	22.08	0.46	22.54	20.39	0.109	7
		25	24	22.10	0.46	22.56	20.41	0.110	7
		50	0	21.94	0.46	22.40	20.25	0.106	7
	26990	1	0	22.94	0.46	23.40	21.25	0.133	7
		1	24	23.03	0.46	23.49	21.34	0.136	7
		1	49	22.81	0.46	23.27	21.12	0.129	7
		25	0	22.06	0.46	22.52	20.37	0.109	7
		25	12	21.85	0.46	22.31	20.16	0.104	7
		25	24	21.84	0.46	22.30	20.15	0.104	7
		50	0	21.99	0.46	22.45	20.30	0.107	7
16QAM	26840	1	0	22.30	0.46	22.76	20.61	0.115	7
		1	24	22.48	0.46	22.94	20.79	0.120	7
		1	49	22.27	0.46	22.73	20.58	0.114	7
		27	0	20.96	0.46	21.42	19.27	0.085	7
		27	12	21.11	0.46	21.57	19.42	0.087	7
		27	23	20.91	0.46	21.37	19.22	0.084	7
	26915	1	0	22.33	0.46	22.79	20.64	0.116	7
		1	24	22.44	0.46	22.90	20.75	0.119	7
		1	49	22.26	0.46	22.72	20.57	0.114	7
		27	0	20.94	0.46	21.40	19.25	0.084	7
		27	12	21.12	0.46	21.58	19.43	0.088	7
		27	23	20.98	0.46	21.44	19.29	0.085	7
	26990	1	0	21.60	0.46	22.06	19.91	0.098	7
		1	24	21.68	0.46	22.14	19.99	0.100	7
		1	49	21.64	0.46	22.10	19.95	0.099	7
		27	0	20.85	0.46	21.31	19.16	0.082	7
		27	12	21.18	0.46	21.64	19.49	0.089	7
		27	23	20.86	0.46	21.32	19.17	0.083	7

Note: Uplink support to 5Mbps only, RB setup of 16QAM is up to 27RB.

Channel Bandwidth: 15MHz

Mode	Channel	RB	RB Offset	Conducted Average Power (dBm)	Ant. Gain (dB)	E.I.R.P Power (dBm)	E.R.P Power (dBm)	E.R.P Power (W)	E.R.P Limit (W)
QPSK	26865	1	0	22.84	0.46	23.30	21.15	0.130	7
		1	37	23.38	0.46	23.84	21.69	0.148	7
		1	74	23.18	0.46	23.64	21.49	0.141	7
		36	0	21.86	0.46	22.32	20.17	0.104	7
		36	18	21.90	0.46	22.36	20.21	0.105	7
		36	37	21.99	0.46	22.45	20.30	0.107	7
		75	0	21.87	0.46	22.33	20.18	0.104	7
	26915	1	0	23.17	0.46	23.63	21.48	0.141	7
		1	37	23.37	0.46	23.83	21.68	0.147	7
		1	74	22.94	0.46	23.40	21.25	0.133	7
		36	0	21.87	0.46	22.33	20.18	0.104	7
		36	18	22.13	0.46	22.59	20.44	0.111	7
		36	37	22.00	0.46	22.46	20.31	0.107	7
		75	0	21.89	0.46	22.35	20.20	0.105	7
	26965	1	0	22.97	0.46	23.43	21.28	0.134	7
		1	37	23.04	0.46	23.50	21.35	0.136	7
		1	74	22.60	0.46	23.06	20.91	0.123	7
		36	0	22.02	0.46	22.48	20.33	0.108	7
		36	18	22.01	0.46	22.47	20.32	0.108	7
		36	37	21.84	0.46	22.30	20.15	0.104	7
		75	0	22.04	0.46	22.50	20.35	0.108	7
16QAM	26865	1	0	22.43	0.46	22.89	20.74	0.119	7
		1	37	22.33	0.46	22.79	20.64	0.116	7
		1	74	22.61	0.46	23.07	20.92	0.124	7
		27	0	20.98	0.46	21.44	19.29	0.085	7
		27	12	20.95	0.46	21.41	19.26	0.084	7
		27	23	20.98	0.46	21.44	19.29	0.085	7
	26915	1	0	22.30	0.46	22.76	20.61	0.115	7
		1	37	22.41	0.46	22.87	20.72	0.118	7
		1	74	21.75	0.46	22.21	20.06	0.101	7
		27	0	20.96	0.46	21.42	19.27	0.085	7
		27	12	21.02	0.46	21.48	19.33	0.086	7
		27	23	21.12	0.46	21.58	19.43	0.088	7
	26965	1	0	21.84	0.46	22.30	20.15	0.104	7
		1	37	22.14	0.46	22.60	20.45	0.111	7
		1	74	21.44	0.46	21.90	19.75	0.094	7
		27	0	21.16	0.46	21.62	19.47	0.089	7
		27	12	21.18	0.46	21.64	19.49	0.089	7
		27	23	20.95	0.46	21.41	19.26	0.084	7

Note: Uplink support to 5Mbps only, RB setup of 16QAM is up to 27RB.

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

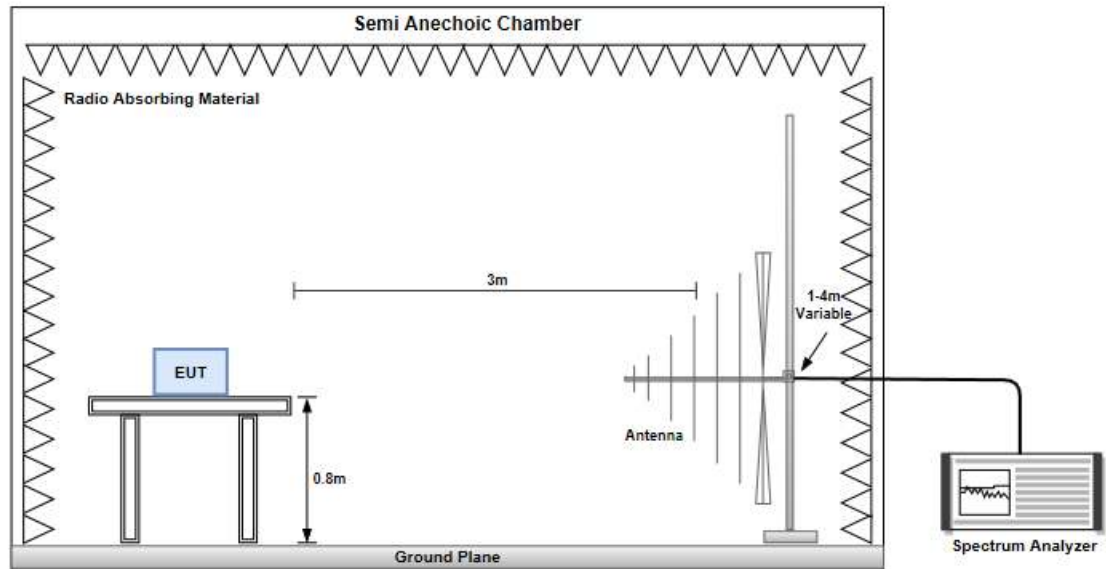
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB equal to -13dBm.

3.2.2 Test Procedures

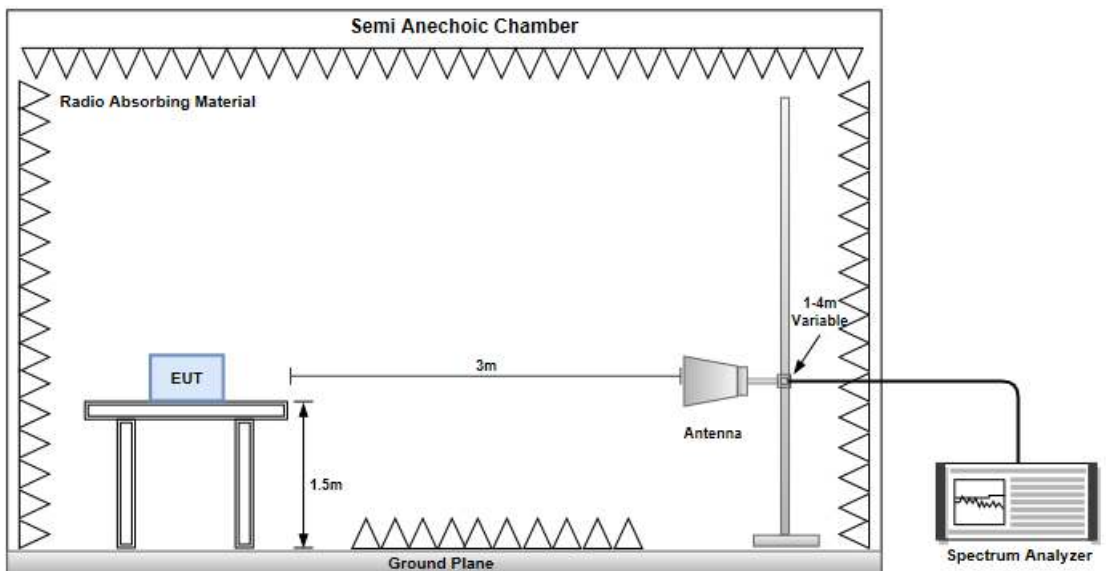
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. 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. $E.I.R.P = \text{output power of step 4} + \text{gain of substitution antenna} - \text{cable loss of RF cable}$. ERP can be calculated by below formula:
 $E.R.P = E.I.R.P - 2.15\text{dB}$.

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 26, CB:1.4MHz, 1RB, Offset 2,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.97	H	-59.60	-13.00	-46.60	-65.37	-43.48	-13.97
179.38	H	-66.67	-13.00	-53.67	-63.45	-66.74	2.22
357.86	H	-67.32	-13.00	-54.32	-67.37	-69.50	4.33
440.31	H	-65.48	-13.00	-52.48	-66.73	-67.39	4.06
537.31	H	-64.91	-13.00	-51.91	-67.75	-66.77	4.01
702.21	H	-62.61	-13.00	-49.61	-67.53	-64.16	3.70
30.97	V	-59.31	-13.00	-46.31	-54.69	-43.19	-13.97
90.14	V	-62.41	-13.00	-49.41	-60.51	-61.04	0.78
232.73	V	-62.37	-13.00	-49.37	-62.48	-64.64	4.42
515.00	V	-62.34	-13.00	-49.34	-66.05	-64.28	4.09
611.03	V	-60.17	-13.00	-47.17	-67.44	-61.63	3.61
697.36	V	-60.05	-13.00	-47.05	-66.93	-61.62	3.72

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.97	H	-59.95	-13.00	-46.95	-65.72	-43.83	-13.97
118.27	H	-67.71	-13.00	-54.71	-64.16	-64.83	-0.73
289.96	H	-68.64	-13.00	-55.64	-65.23	-70.81	4.32
440.31	H	-63.97	-13.00	-50.97	-65.22	-65.88	4.06
592.60	H	-63.86	-13.00	-50.86	-67.41	-65.31	3.60
753.62	H	-60.24	-13.00	-47.24	-67.15	-61.54	3.45
33.88	V	-59.89	-13.00	-46.89	-55.34	-44.47	-13.27
126.03	V	-58.15	-13.00	-45.15	-56.61	-55.01	-0.99
235.64	V	-62.57	-13.00	-49.57	-62.72	-64.84	4.42
485.90	V	-64.73	-13.00	-51.73	-67.36	-66.68	4.10
605.21	V	-60.54	-13.00	-47.54	-67.83	-61.96	3.57
720.64	V	-59.55	-13.00	-46.55	-66.75	-61.00	3.60

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.97	H	-56.49	-13.00	-43.49	-62.26	-40.37	-13.97
115.36	H	-62.05	-13.00	-49.05	-58.57	-59.33	-0.57
358.83	H	-66.55	-13.00	-53.55	-66.61	-68.73	4.33
502.39	H	-64.54	-13.00	-51.54	-66.85	-66.52	4.13
646.92	H	-62.33	-13.00	-49.33	-66.57	-64.01	3.83
759.44	H	-60.27	-13.00	-47.27	-67.25	-61.58	3.46
38.73	V	-60.35	-13.00	-47.35	-55.96	-45.73	-12.47
98.87	V	-62.56	-13.00	-49.56	-60.85	-60.74	0.33
239.52	V	-62.60	-13.00	-49.60	-62.81	-64.88	4.43
478.14	V	-64.43	-13.00	-51.43	-66.85	-66.36	4.08
596.48	V	-59.93	-13.00	-46.93	-67.11	-61.35	3.57
679.90	V	-60.05	-13.00	-47.05	-67.01	-61.67	3.77

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:10MHz, 1RB, Offset 24,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.97	H	-55.85	-13.00	-42.85	-61.62	-39.73	-13.97
143.49	H	-69.32	-13.00	-56.32	-67.01	-66.00	-1.17
198.78	H	-61.80	-13.00	-48.80	-55.75	-63.86	4.21
349.13	H	-67.23	-13.00	-54.23	-67.09	-69.42	4.34
482.99	H	-64.98	-13.00	-51.98	-66.95	-66.93	4.10
659.53	H	-62.22	-13.00	-49.22	-66.60	-63.89	3.82
30.97	V	-59.59	-13.00	-46.59	-54.97	-43.47	-13.97
110.51	V	-55.83	-13.00	-42.83	-54.08	-53.37	-0.31
173.56	V	-58.96	-13.00	-45.96	-59.46	-58.29	1.48
258.92	V	-63.55	-13.00	-50.55	-63.82	-65.83	4.43
376.29	V	-66.01	-13.00	-53.01	-66.66	-68.17	4.31
570.29	V	-60.09	-13.00	-47.09	-66.22	-61.74	3.80

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:15MHz, 1RB, Offset 37,Channel:26865						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.97	H	-56.47	-13.00	-43.47	-62.24	-40.35	-13.97
124.09	H	-69.27	-13.00	-56.27	-65.96	-66.18	-0.94
334.58	H	-68.48	-13.00	-55.48	-67.47	-70.65	4.32
454.86	H	-65.58	-13.00	-52.58	-67.03	-67.45	4.02
571.26	H	-64.11	-13.00	-51.11	-67.33	-65.75	3.79
727.43	H	-60.84	-13.00	-47.84	-66.79	-62.25	3.56
33.88	V	-60.55	-13.00	-47.55	-56.00	-45.13	-13.27
90.14	V	-60.86	-13.00	-47.86	-58.96	-59.49	0.78
237.58	V	-62.12	-13.00	-49.12	-62.30	-64.40	4.43
412.18	V	-65.42	-13.00	-52.42	-66.47	-67.49	4.22
530.52	V	-62.12	-13.00	-49.12	-66.54	-64.01	4.04
623.64	V	-60.59	-13.00	-47.59	-67.81	-62.13	3.69

NOTE: ERP = S.G power value + correction factor - 2.15.

3.2.5 Test Result of Radiated Emissions above 1GHz

Mode	LTE Band 26, CB:1.4MHz, 1RB, Offset 2,Channel:26797						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1649.40	H	-59.18	-13.00	-46.18	-62.25	-61.83	4.80
2474.10	H	-52.56	-13.00	-39.56	-60.70	-56.47	6.06
4123.50	H	-51.95	-13.00	-38.95	-64.05	-56.36	6.56
1649.40	V	-50.51	-13.00	-37.51	-53.40	-53.16	4.80
2474.10	V	-50.76	-13.00	-37.76	-58.93	-54.67	6.06
4123.50	V	-50.31	-13.00	-37.31	-62.76	-54.72	6.56

Mode	LTE Band 26, CB:1.4MHz, 1RB, Offset 2,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1673.00	H	-58.06	-13.00	-45.06	-61.28	-60.77	4.86
2509.50	H	-53.11	-13.00	-40.11	-61.26	-57.03	6.07
4182.50	H	-51.71	-13.00	-38.71	-63.71	-56.08	6.52
1673.00	V	-50.76	-13.00	-37.76	-53.79	-53.47	4.86
2509.50	V	-51.15	-13.00	-38.15	-59.27	-55.07	6.07
4182.50	V	-50.67	-13.00	-37.67	-63.11	-55.04	6.52

Mode	LTE Band 26, CB:1.4MHz, 1RB, Offset 2,Channel:27033						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1696.60	H	-57.85	-13.00	-44.85	-61.20	-60.63	4.93
2544.90	H	-52.88	-13.00	-39.88	-61.03	-56.81	6.08
4241.50	H	-51.47	-13.00	-38.47	-63.66	-55.81	6.49
1696.60	V	-50.27	-13.00	-37.27	-53.44	-53.05	4.93
2544.90	V	-51.28	-13.00	-38.28	-59.35	-55.21	6.08
4241.50	V	-50.51	-13.00	-37.51	-63.12	-54.85	6.49

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26805						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1651.00	H	-57.11	-13.00	-44.11	-60.18	-59.77	4.81
2476.50	H	-52.64	-13.00	-39.64	-60.78	-56.55	6.06
4127.50	H	-51.47	-13.00	-38.47	-63.57	-55.88	6.56
1651.00	V	-49.27	-13.00	-36.27	-52.17	-51.93	4.81
2476.50	V	-50.87	-13.00	-37.87	-59.03	-54.78	6.06
4127.50	V	-50.35	-13.00	-37.35	-62.80	-54.76	6.56

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1673.00	H	-58.57	-13.00	-45.57	-61.79	-61.28	4.86
2509.50	H	-52.24	-13.00	-39.24	-60.39	-56.16	6.07
4182.50	H	-51.53	-13.00	-38.53	-63.53	-55.90	6.52
1673.00	V	-50.11	-13.00	-37.11	-53.14	-52.82	4.86
2509.50	V	-50.36	-13.00	-37.36	-58.48	-54.28	6.07
4182.50	V	-49.97	-13.00	-36.97	-62.41	-54.34	6.52

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:27025						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1695.00	H	-57.49	-13.00	-44.49	-60.84	-60.26	4.92
2542.50	H	-52.61	-13.00	-39.61	-60.76	-56.54	6.08
4237.50	H	-50.97	-13.00	-37.97	-63.14	-55.31	6.49
1695.00	V	-49.96	-13.00	-36.96	-53.12	-52.73	4.92
2542.50	V	-51.01	-13.00	-38.01	-59.08	-54.94	6.08
4237.50	V	-50.08	-13.00	-37.08	-62.68	-54.42	6.49

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26815						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1653.00	H	-57.34	-13.00	-44.34	-60.42	-60.00	4.81
2479.50	H	-49.08	-13.00	-36.08	-57.22	-52.99	6.06
4132.50	H	-51.89	-13.00	-38.89	-63.98	-56.29	6.55
1653.00	V	-49.04	-13.00	-36.04	-51.95	-51.70	4.81
2479.50	V	-51.28	-13.00	-38.28	-59.44	-55.19	6.06
4132.50	V	-50.03	-13.00	-37.03	-62.48	-54.43	6.55

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1673.00	H	-58.33	-13.00	-45.33	-61.55	-61.04	4.86
2509.50	H	-51.83	-13.00	-38.83	-59.98	-55.75	6.07
4182.50	H	-51.74	-13.00	-38.74	-63.74	-56.11	6.52
1673.00	V	-50.40	-13.00	-37.40	-53.43	-53.11	4.86
2509.50	V	-50.24	-13.00	-37.24	-58.36	-54.16	6.07
4182.50	V	-49.41	-13.00	-36.41	-61.85	-53.78	6.52

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:27015						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1693.00	H	-57.23	-13.00	-44.23	-60.57	-60.00	4.92
2539.50	H	-53.26	-13.00	-40.26	-61.41	-57.19	6.08
4232.50	H	-50.64	-13.00	-37.64	-62.78	-54.98	6.49
1693.00	V	-49.68	-13.00	-36.68	-52.83	-52.45	4.92
2539.50	V	-50.73	-13.00	-37.73	-58.80	-54.66	6.08
4232.50	V	-49.70	-13.00	-36.70	-62.28	-54.04	6.49

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:10MHz, 1RB, Offset 24,Channel:26840						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1658.00	H	-57.41	-13.00	-44.41	-60.53	-60.08	4.82
2487.00	H	-52.34	-13.00	-39.34	-60.48	-56.25	6.06
4145.00	H	-50.97	-13.00	-37.97	-63.04	-55.37	6.55
1658.00	V	-49.03	-13.00	-36.03	-51.97	-51.70	4.82
2487.00	V	-50.69	-13.00	-37.69	-58.84	-54.60	6.06
4145.00	V	-50.01	-13.00	-37.01	-62.46	-54.41	6.55

Mode	LTE Band 26, CB:10MHz, 1RB, Offset 24,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1673.00	H	-58.62	-13.00	-45.62	-61.84	-61.33	4.86
2509.50	H	-52.24	-13.00	-39.24	-60.39	-56.16	6.07
4182.50	H	-51.31	-13.00	-38.31	-63.31	-55.68	6.52
1673.00	V	-50.24	-13.00	-37.24	-53.27	-52.95	4.86
2509.50	V	-50.01	-13.00	-37.01	-58.13	-53.93	6.07
4182.50	V	-48.97	-13.00	-35.97	-61.41	-53.34	6.52

Mode	LTE Band 26, CB:10MHz, 1RB, Offset 24,Channel:26990						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1688.00	H	-57.51	-13.00	-44.51	-60.81	-60.26	4.90
2532.00	H	-52.89	-13.00	-39.89	-61.04	-56.82	6.08
4220.00	H	-50.31	-13.00	-37.31	-62.38	-54.66	6.50
1688.00	V	-49.38	-13.00	-36.38	-52.50	-52.13	4.90
2532.00	V	-50.34	-13.00	-37.34	-58.43	-54.27	6.08
4220.00	V	-50.13	-13.00	-37.13	-62.65	-54.48	6.50

NOTE: ERP = S.G power value + correction factor - 2.15.

Mode	LTE Band 26, CB:15MHz, 1RB, Offset 37,Channel:26865						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1663.00	H	-56.75	-13.00	-43.75	-59.90	-59.44	4.84
2494.50	H	-51.97	-13.00	-38.97	-60.12	-55.88	6.06
4157.50	H	-50.67	-13.00	-37.67	-62.71	-55.06	6.54
1663.00	V	-48.67	-13.00	-35.67	-51.64	-51.36	4.84
2494.50	V	-50.31	-13.00	-37.31	-58.45	-54.22	6.06
4157.50	V	-49.61	-13.00	-36.61	-62.05	-54.00	6.54

Mode	LTE Band 26, CB:15MHz, 1RB, Offset 37,Channel:26915						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1673.00	H	-56.38	-13.00	-43.38	-59.60	-59.09	4.86
2509.50	H	-51.67	-13.00	-38.67	-59.82	-55.59	6.07
4182.50	H	-50.28	-13.00	-37.28	-62.20	-54.65	6.52
1673.00	V	-48.33	-13.00	-35.33	-51.36	-51.04	4.86
2509.50	V	-49.87	-13.00	-36.87	-57.99	-53.79	6.07
4182.50	V	-49.41	-13.00	-36.41	-61.85	-53.78	6.52

Mode	LTE Band 26, CB:15MHz, 1RB, Offset 37,Channel:26965						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1683.00	H	-57.11	-13.00	-44.11	-60.38	-59.85	4.89
2524.50	H	-52.61	-13.00	-39.61	-60.76	-56.53	6.07
4207.50	H	-49.97	-13.00	-36.97	-61.98	-54.33	6.51
1683.00	V	-49.23	-13.00	-36.23	-52.32	-51.97	4.89
2524.50	V	-49.98	-13.00	-36.98	-58.08	-53.90	6.07
4207.50	V	-48.77	-13.00	-35.77	-61.24	-53.13	6.51

NOTE: ERP = S.G power value + correction factor - 2.15.

3.3 Conducted Emissions

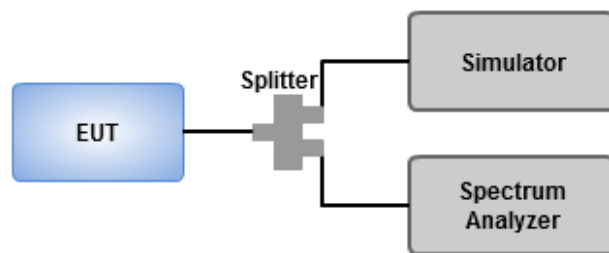
3.3.1 Limit of Conducted Emissions

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.

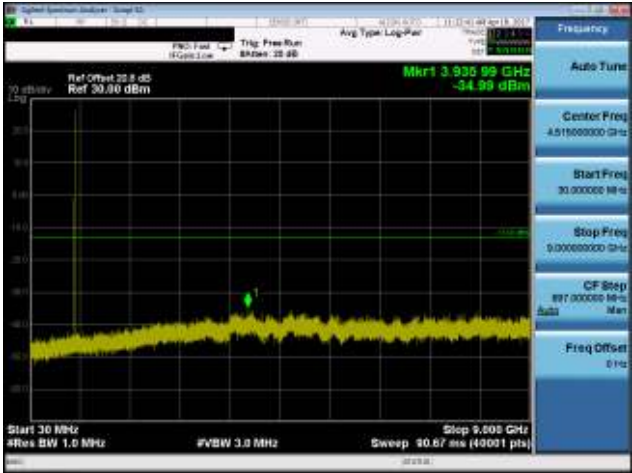
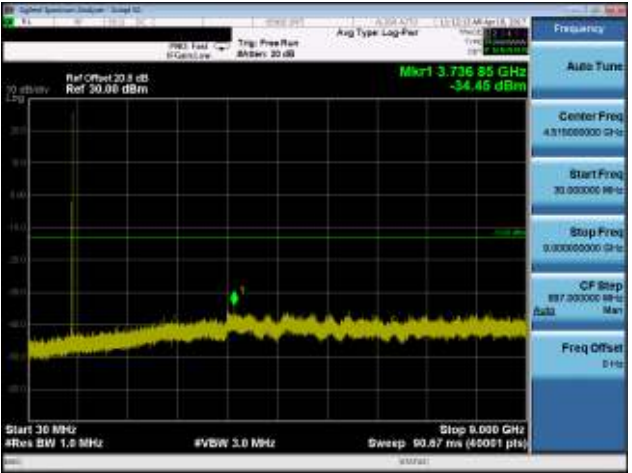
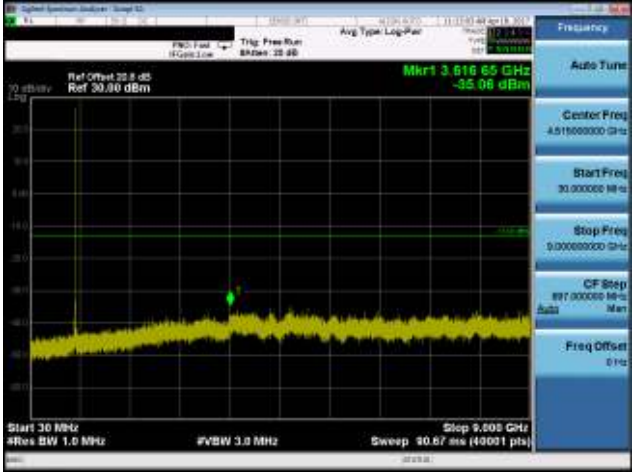
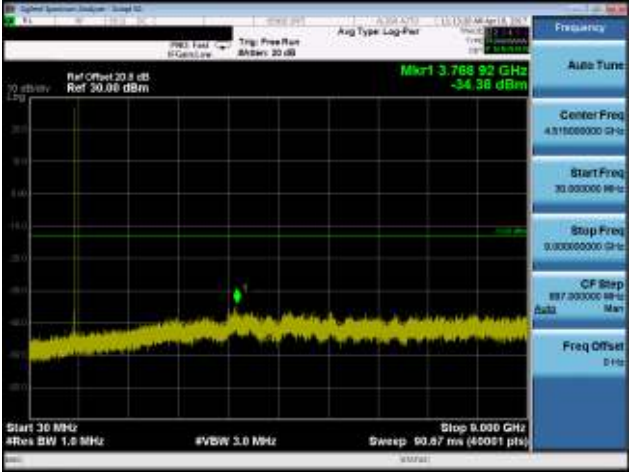
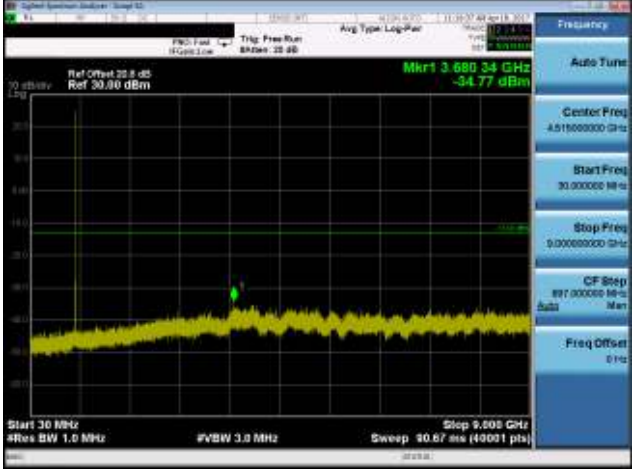
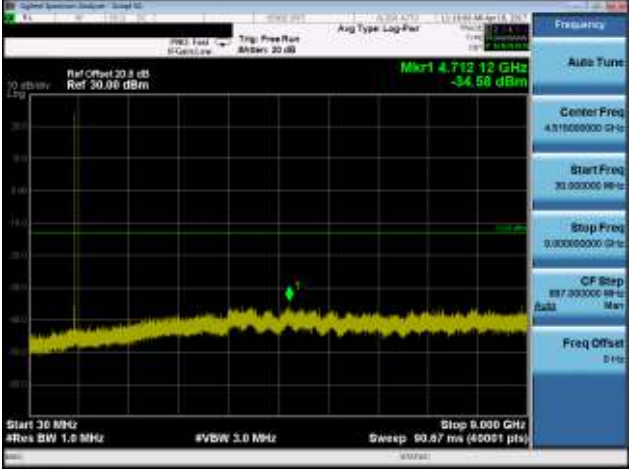
3.3.2 Test Procedures

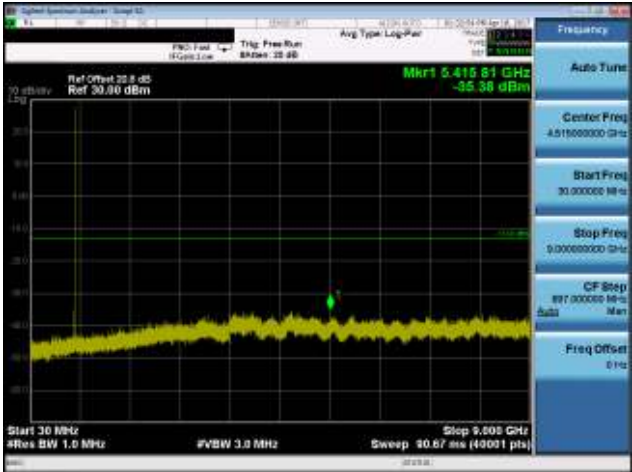
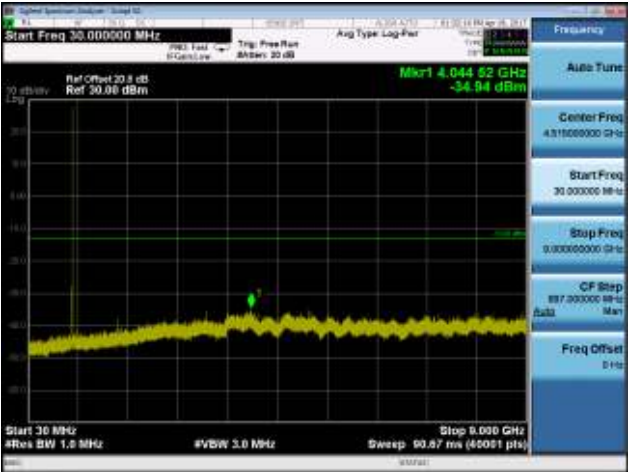
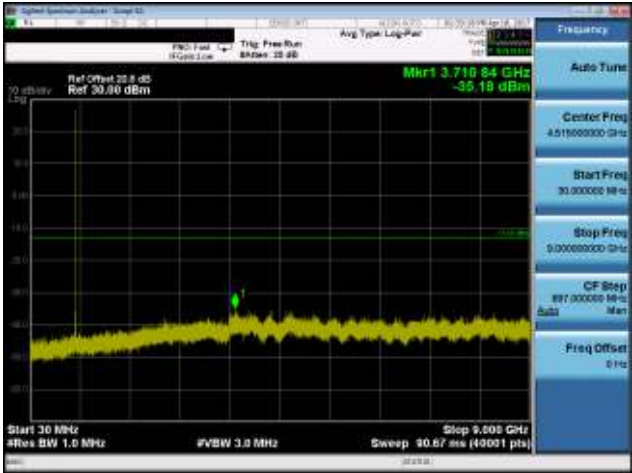
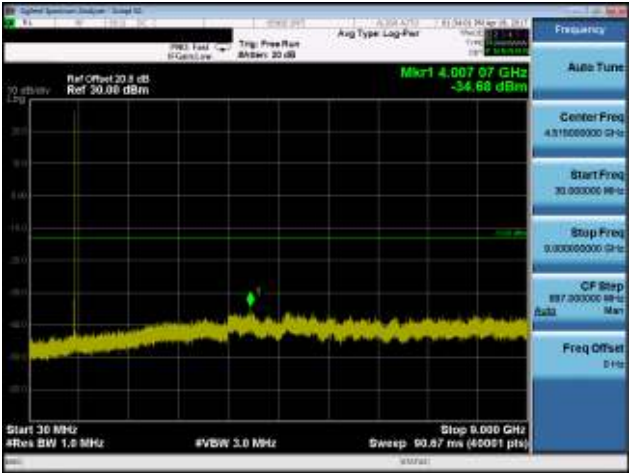
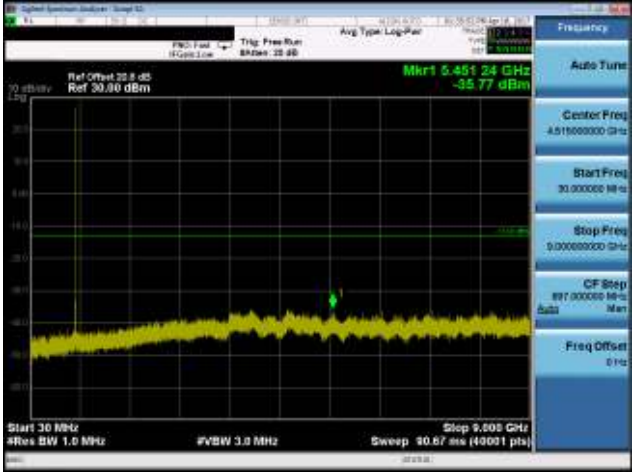
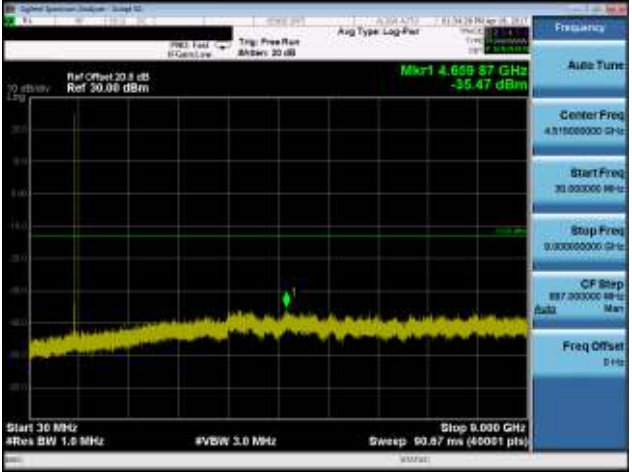
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30 MHz ~ 9 GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = RMS, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

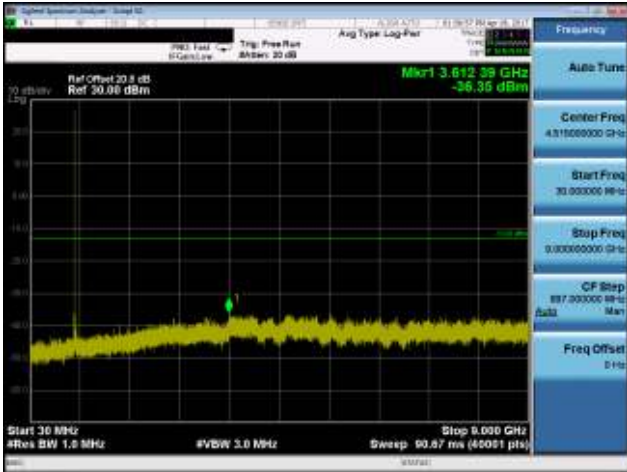
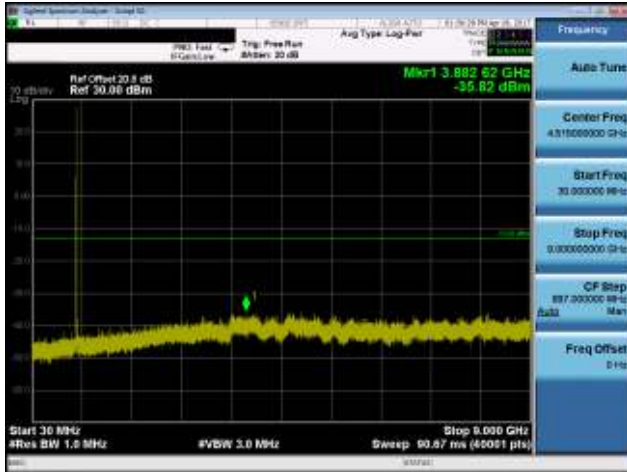
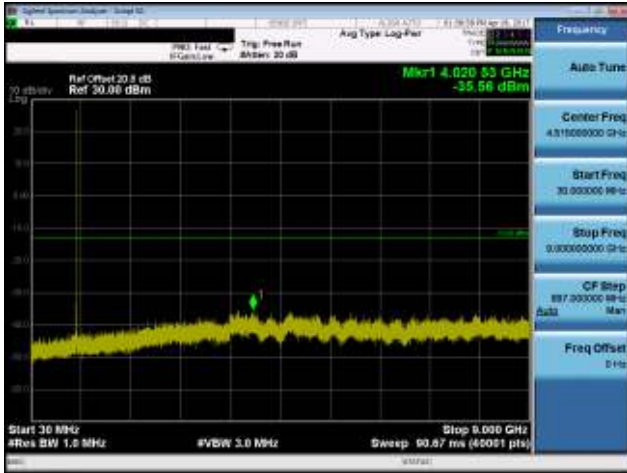
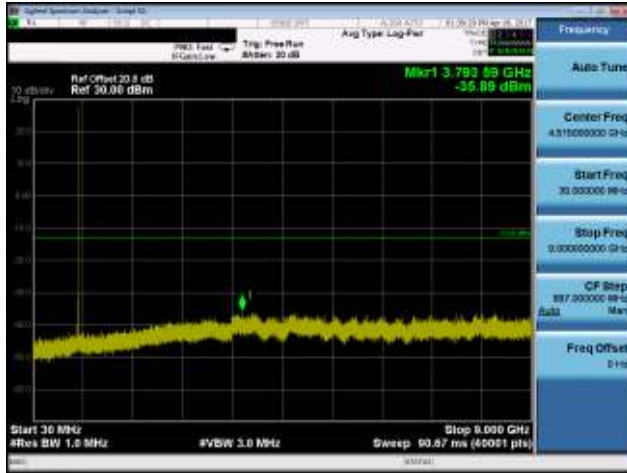
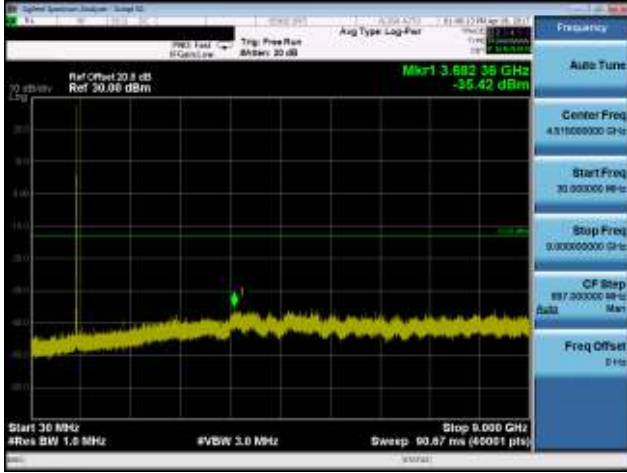
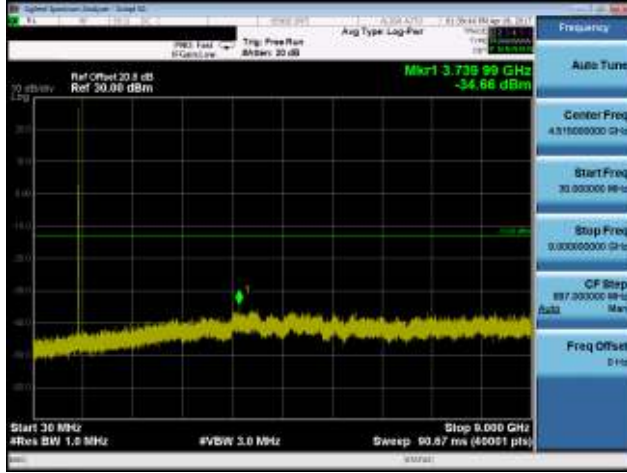
3.3.3 Test Setup

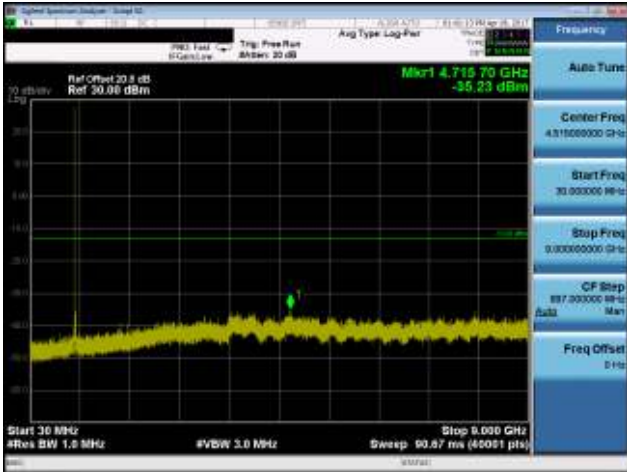
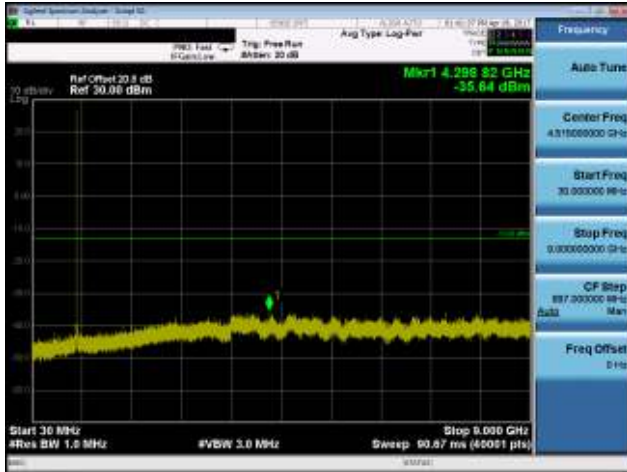
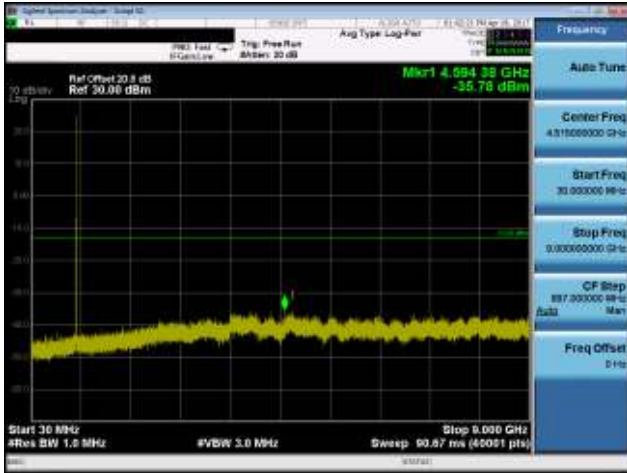
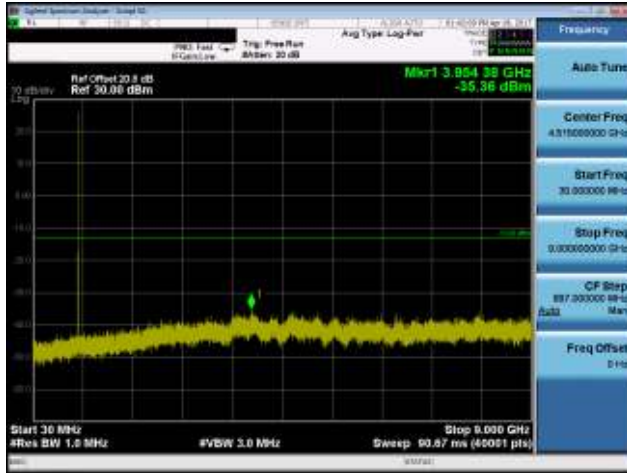
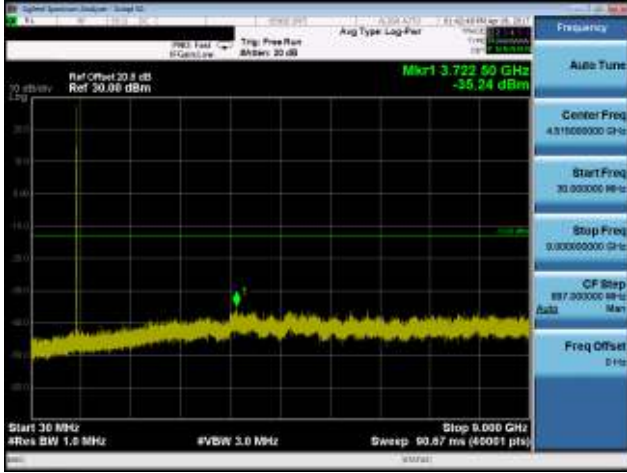
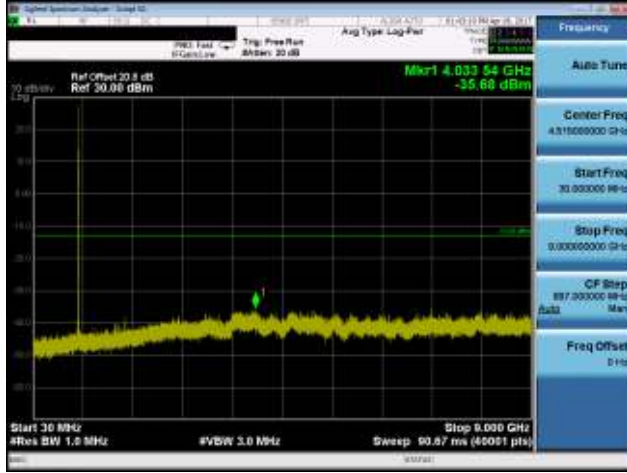


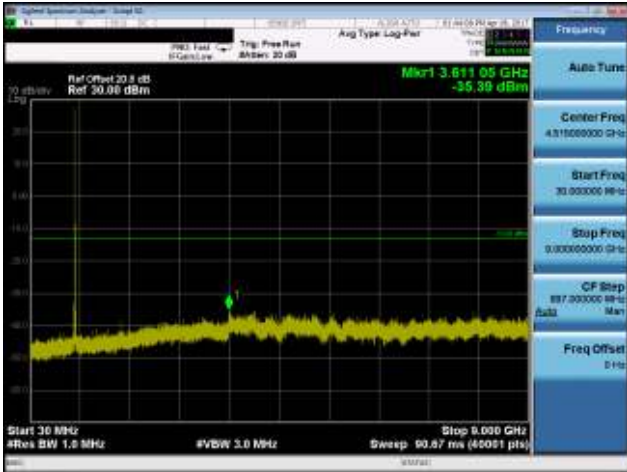
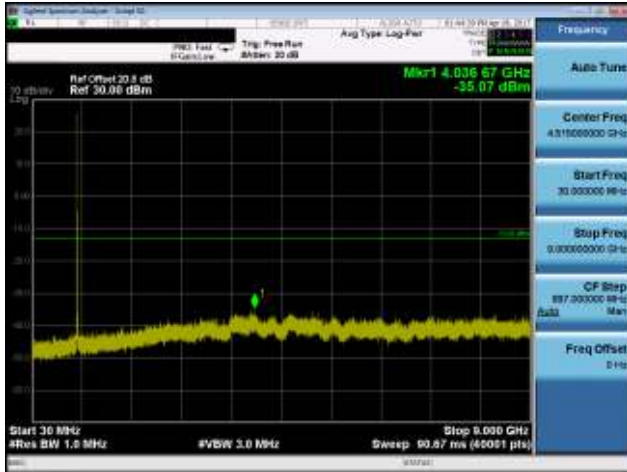
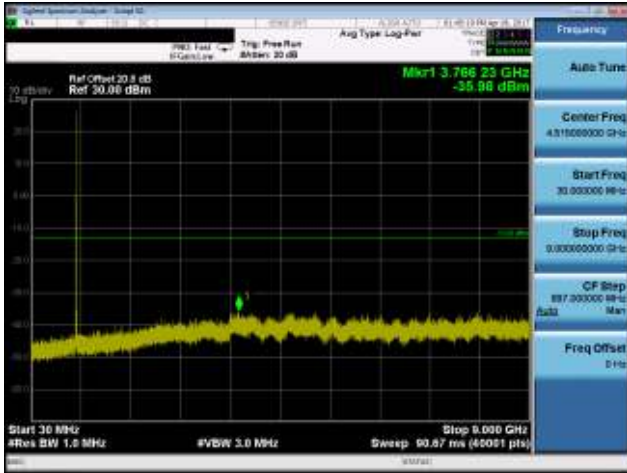
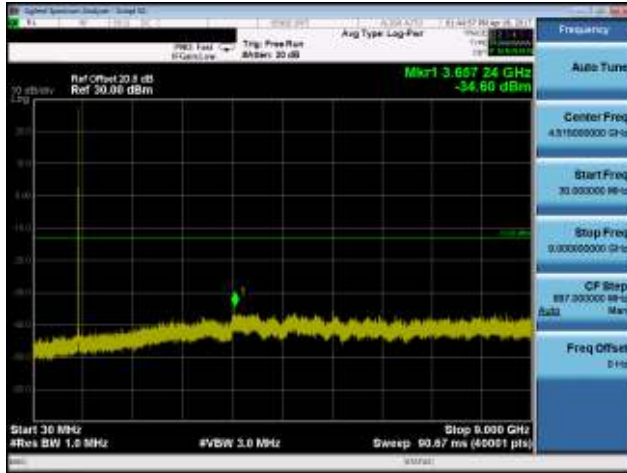
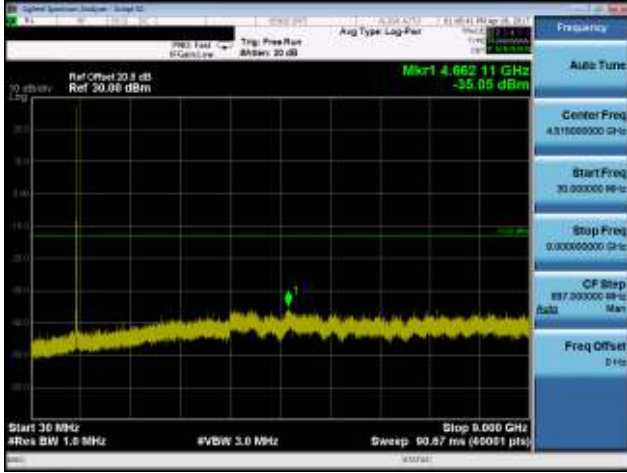
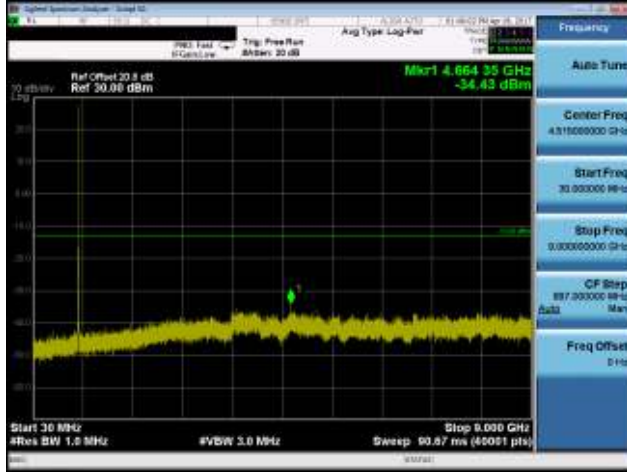
3.3.4 Test Result of Conducted Emissions

Mode	LTE Band 26, CB: 1.4MHz, QPSK	Mode	LTE Band 26, CB: 1.4MHz, 16QAM
Channel	26797	Channel	26797
			
Channel	26915	Channel	26915
			
Channel	27033	Channel	27033
			

Mode	LTE Band 26, CB: 3MHz, QPSK	Mode	LTE Band 26, CB: 3MHz, 16QAM
Channel	26805	Channel	26805
			
Channel	26915	Channel	26915
			
Channel	27025	Channel	27025
			

Mode	LTE Band 26, CB: 5MHz, QPSK	Mode	LTE Band 26, CB: 5MHz, 16QAM
Channel	26815	Channel	26815
			
Channel	26915	Channel	26915
			
Channel	27015	Channel	27015
			

Mode	LTE Band 26, CB: 10MHz, QPSK	Mode	LTE Band 26, CB: 10MHz, 16QAM
Channel	26840	Channel	26840
			
Channel	26915	Channel	26915
			
Channel	26990	Channel	26990
			

Mode	LTE Band 26, CB: 15MHz, QPSK	Mode	LTE Band 26, CB: 5MHz, 16QAM
Channel	26865	Channel	26865
			
Channel	26915	Channel	26915
			
Channel	26965	Channel	26965
			

3.4 Band Edge

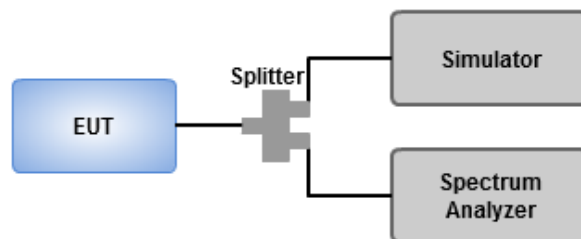
3.4.1 Limit of Band Edge

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

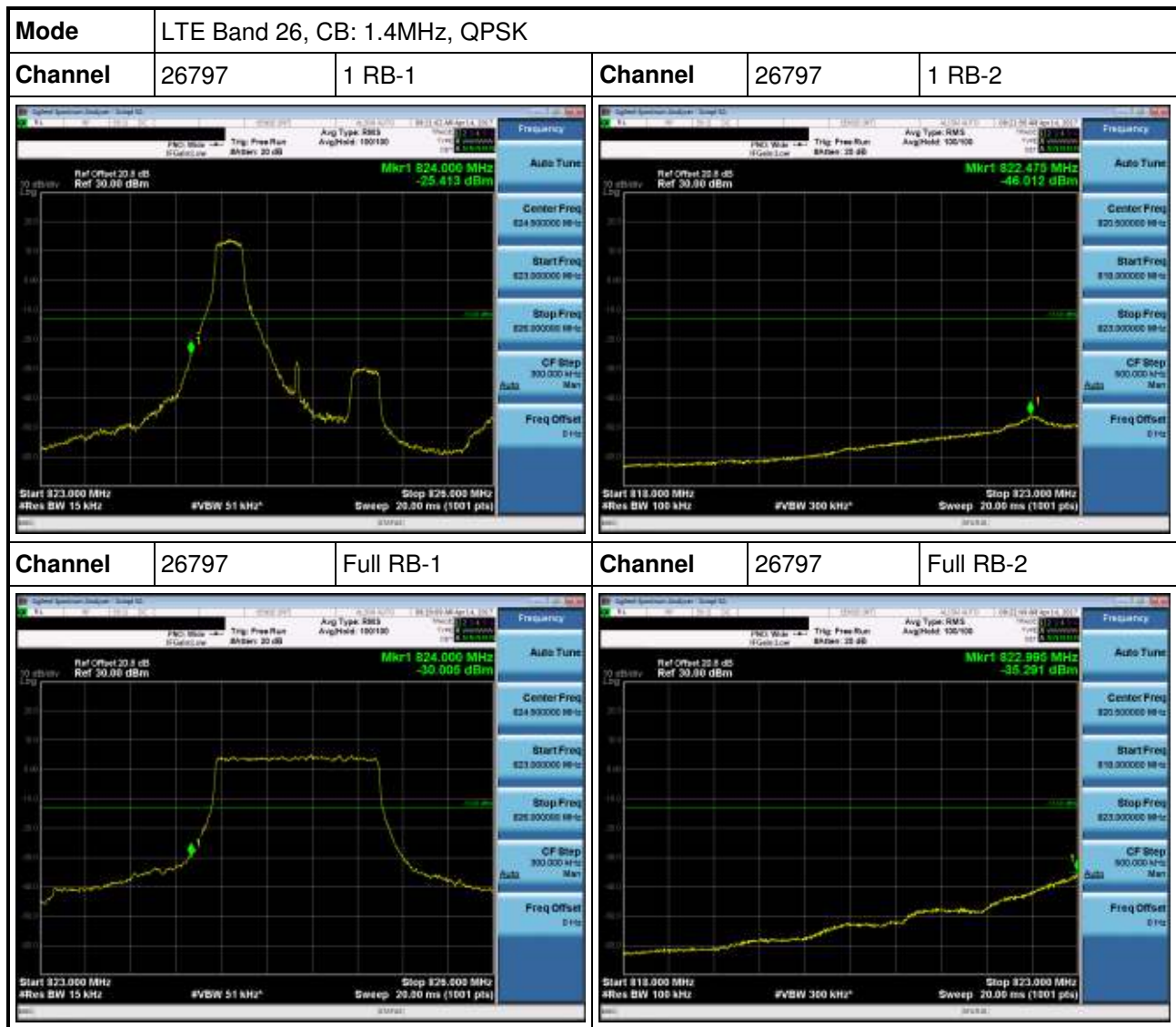
3.4.2 Test Procedures

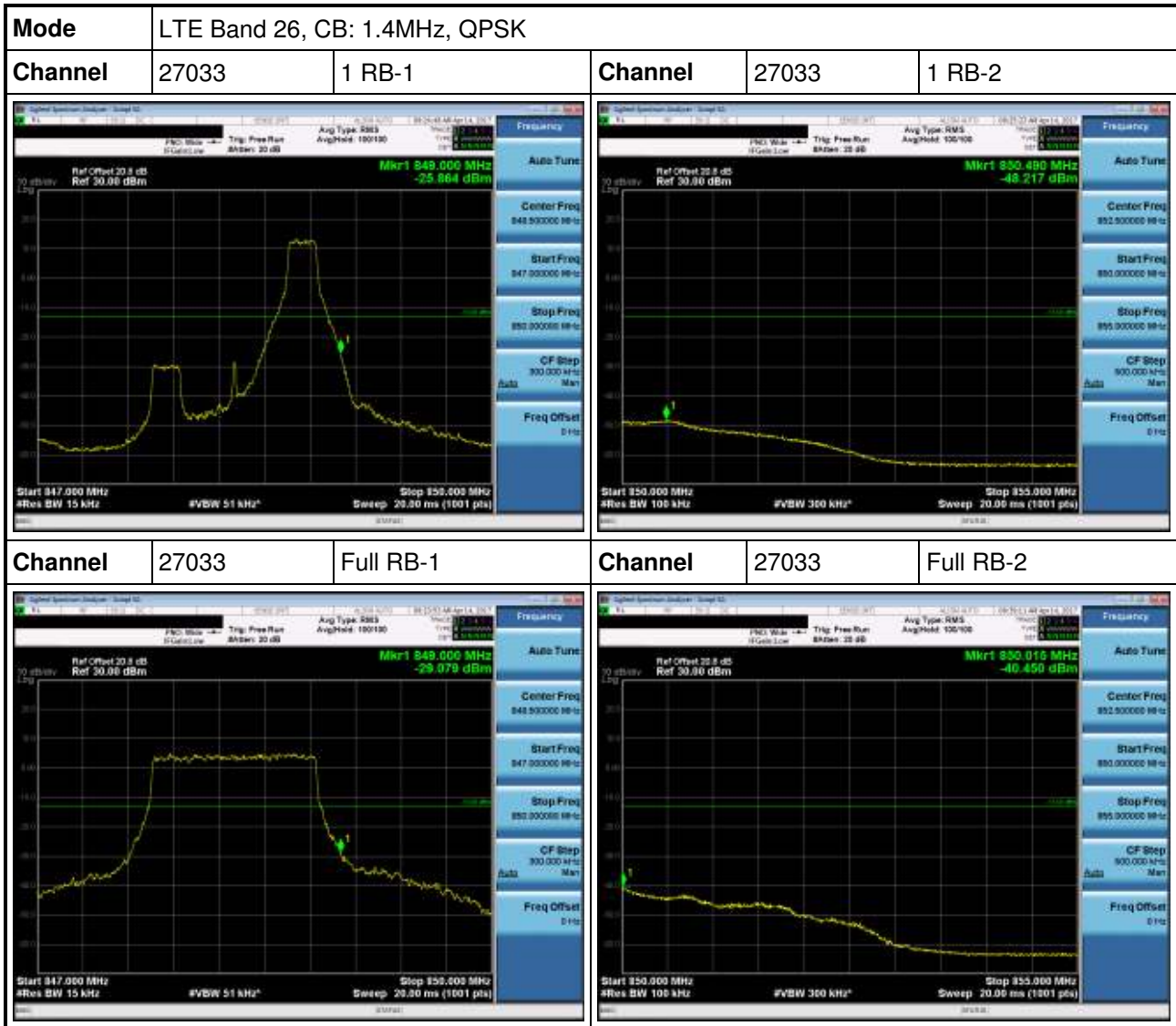
- 1 Lowest and highest operating channels are tested for this item.
- 2 Set RBW = 15 / 30 / 51 / 100 / 150 kHz, VBW = 51 / 100 / 160 / 300 / 470 kHz for LTE channel bandwidth 1.4 / 3 / 5 / 10 / 15 MHz, detector = RMS, sweep time = auto to measure trace in 1MHz bands immediately outside and adjacent to the frequency block.
- 3 Set RBW = 100 kHz, VBW = 300 kHz for LTE channel bandwidth 1.4 / 3 / 5 / 10 / 15 MHz, detector = RMS for other frequency bands

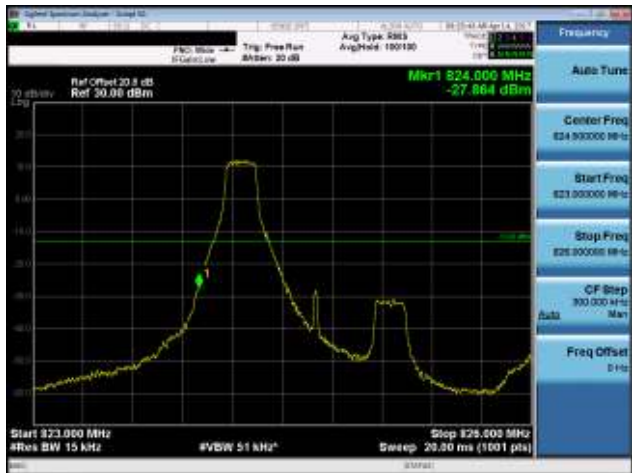
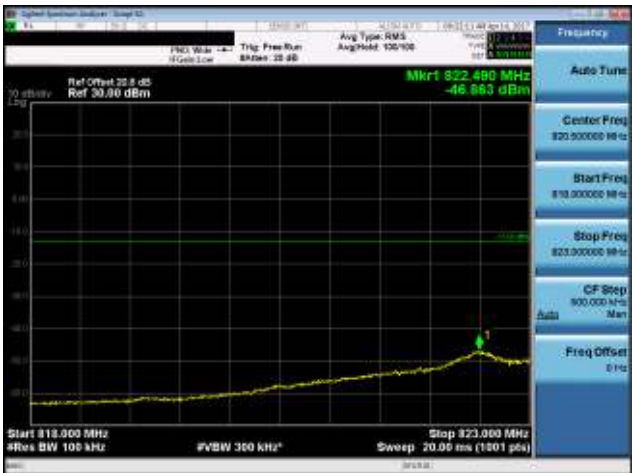
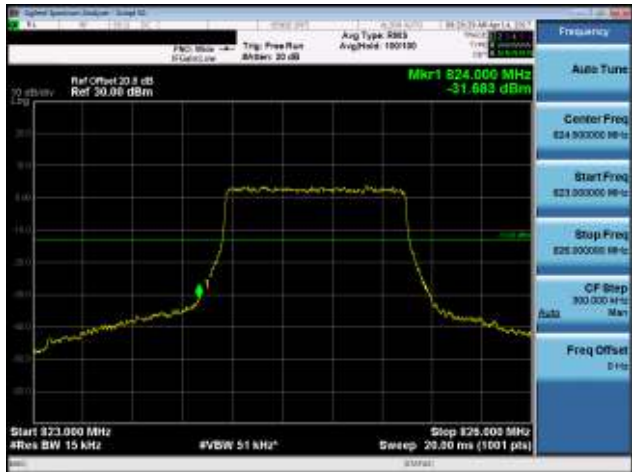
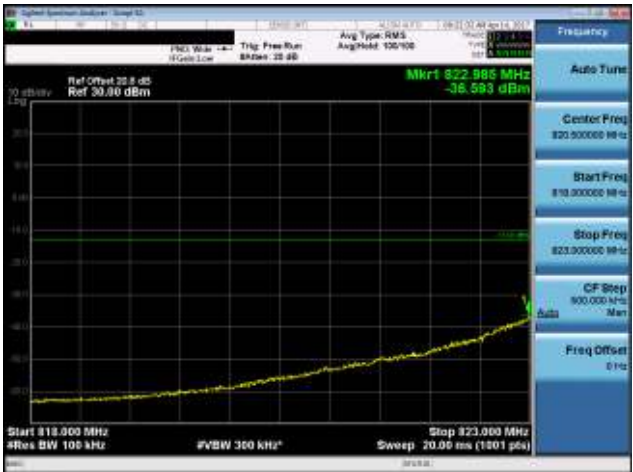
3.4.3 Test Setup

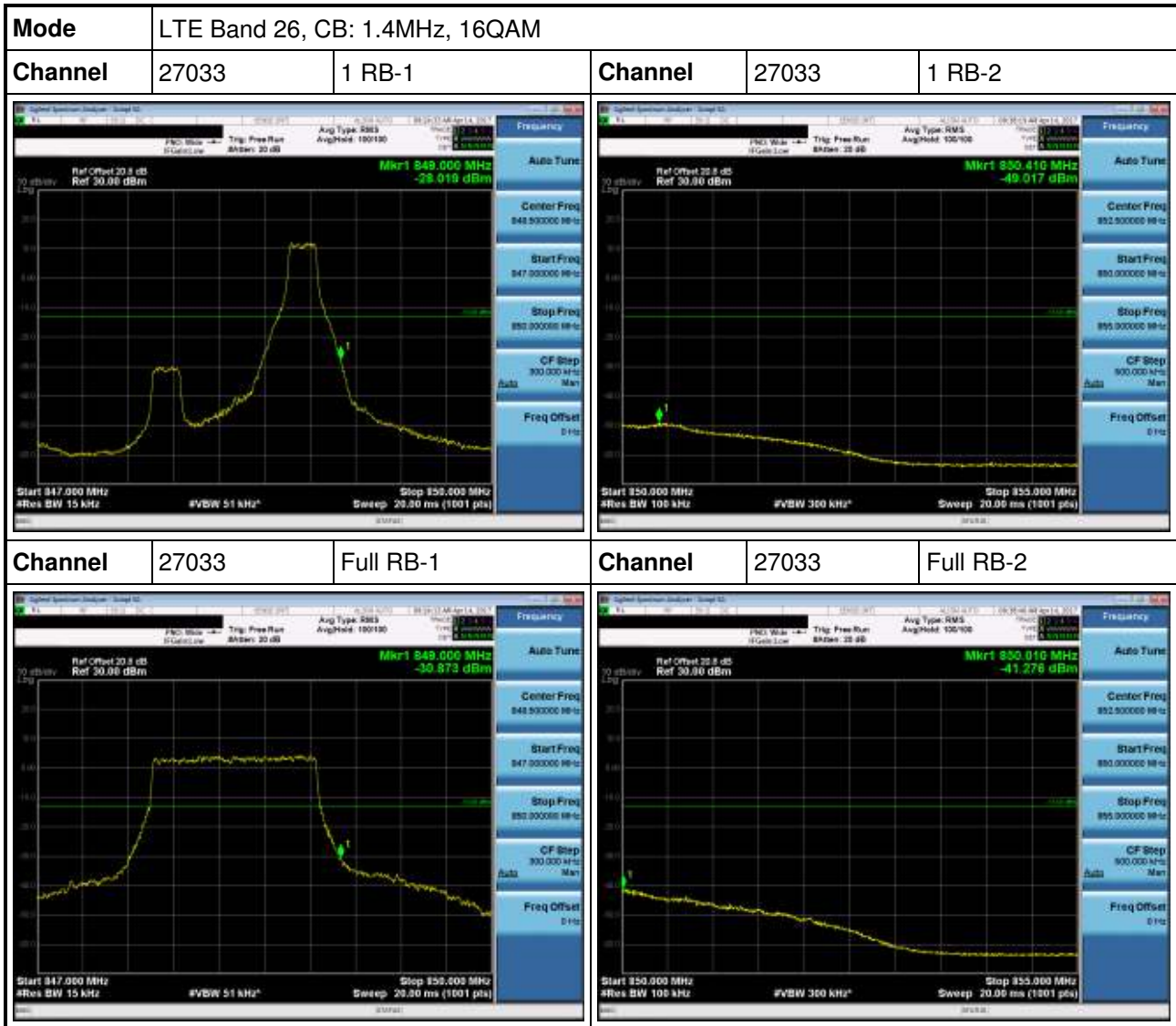


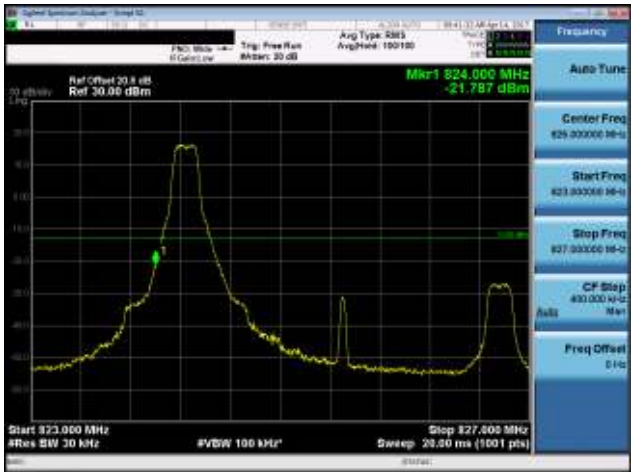
3.4.4 Test Result of Band Edge

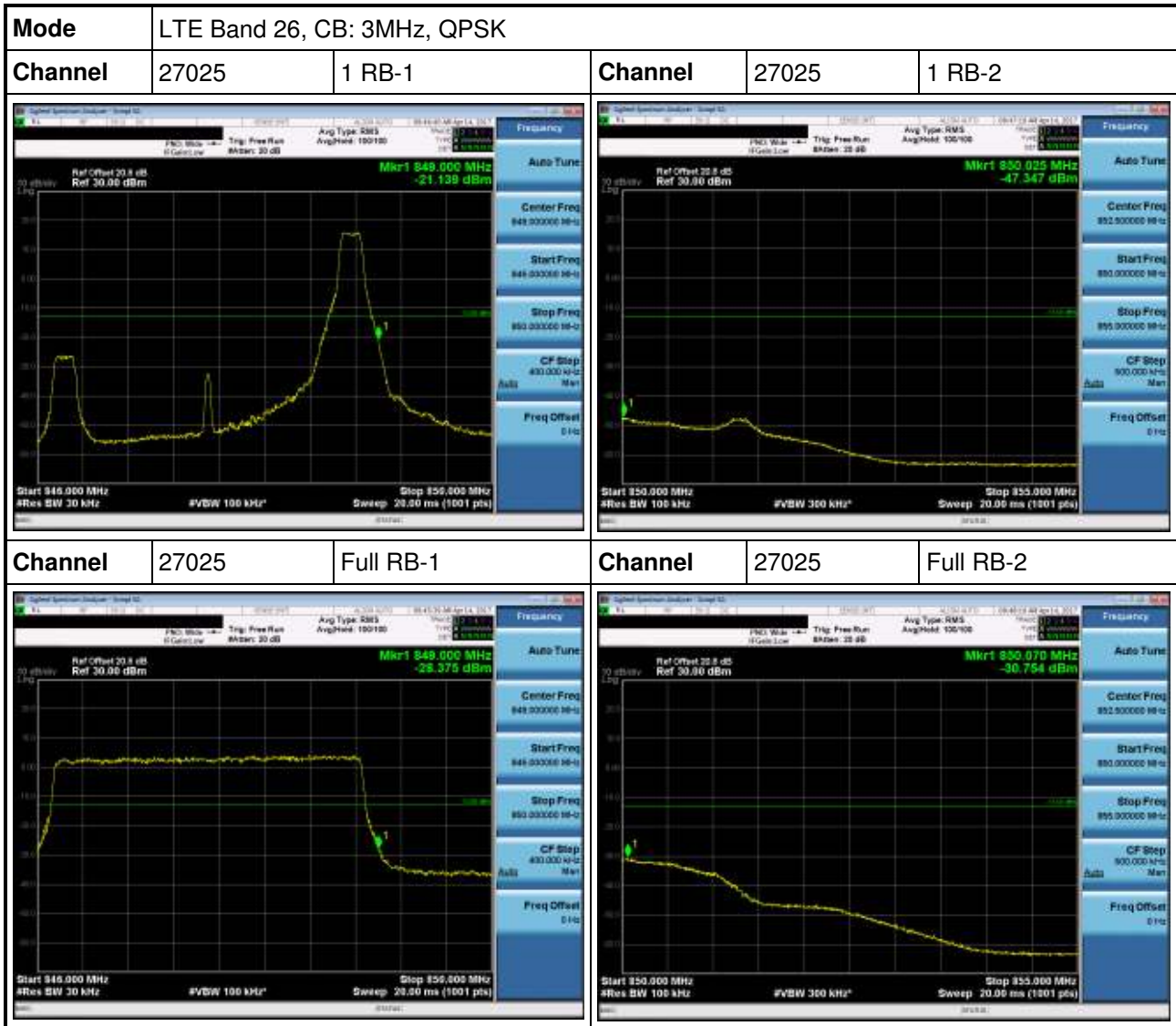


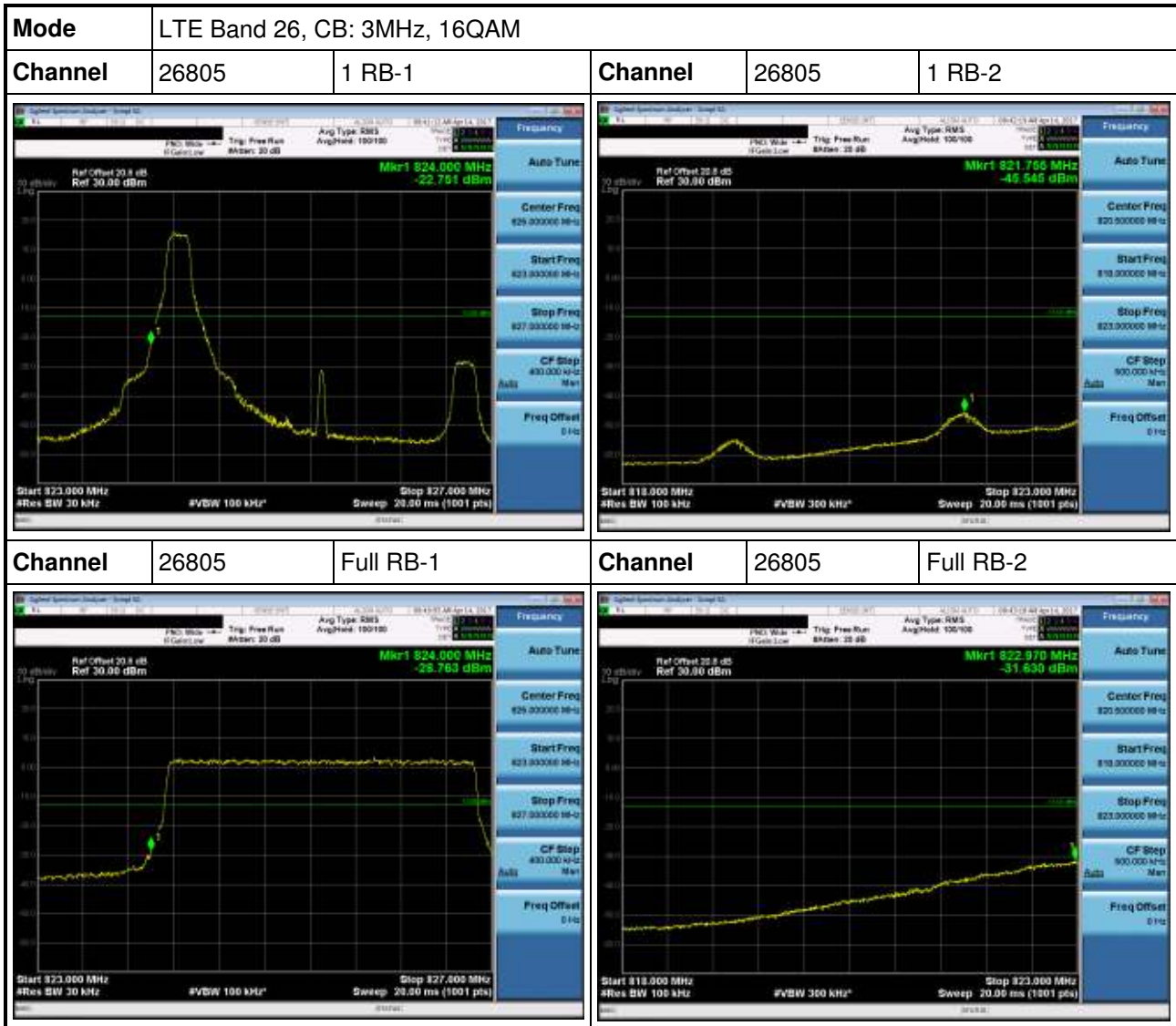


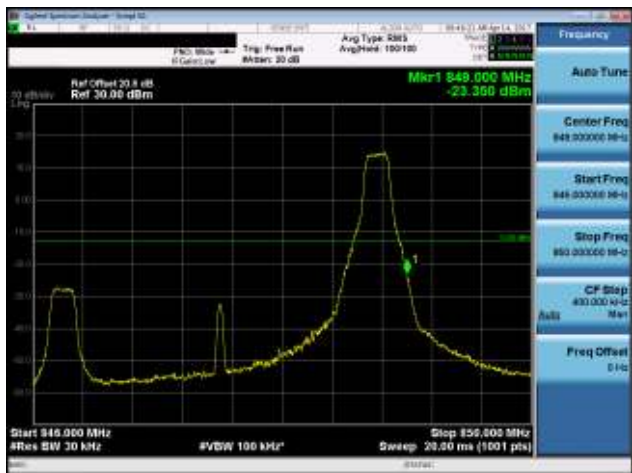
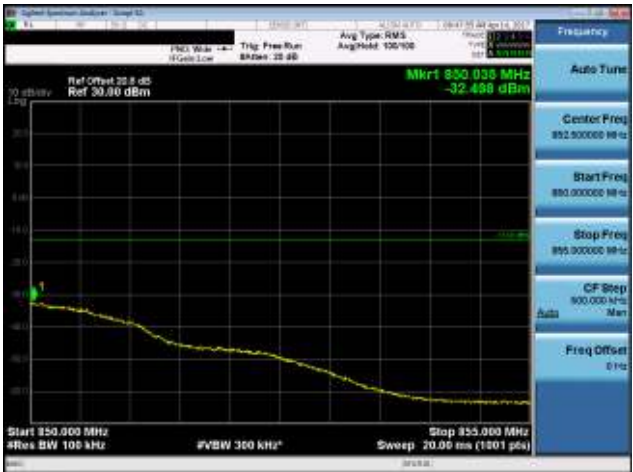
Mode		LTE Band 26, CB: 1.4MHz, 16QAM				
Channel		26797	1 RB-1	Channel	26797	1 RB-2
						
Channel		26797	Full RB-1	Channel	26797	Full RB-2
						

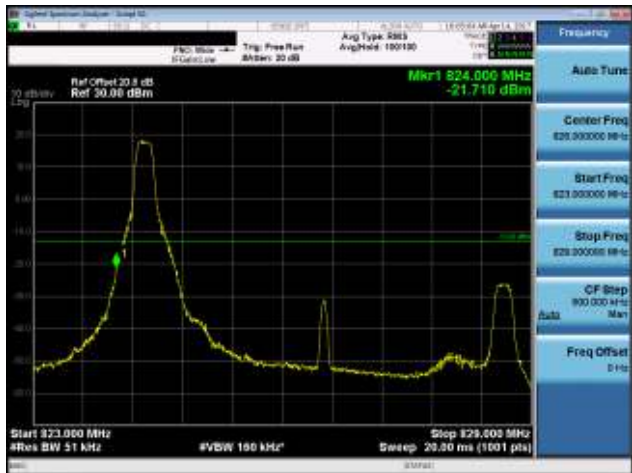
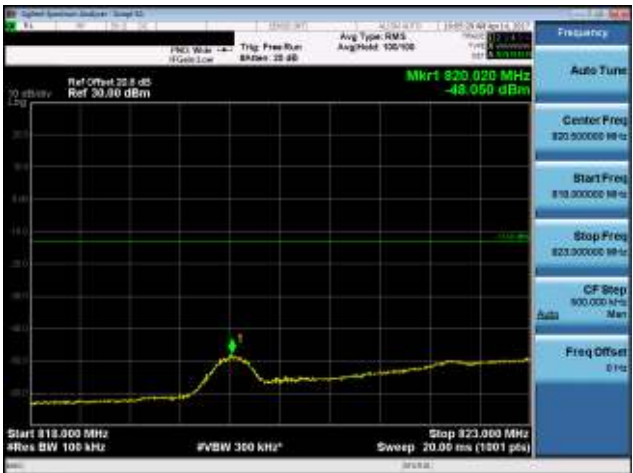


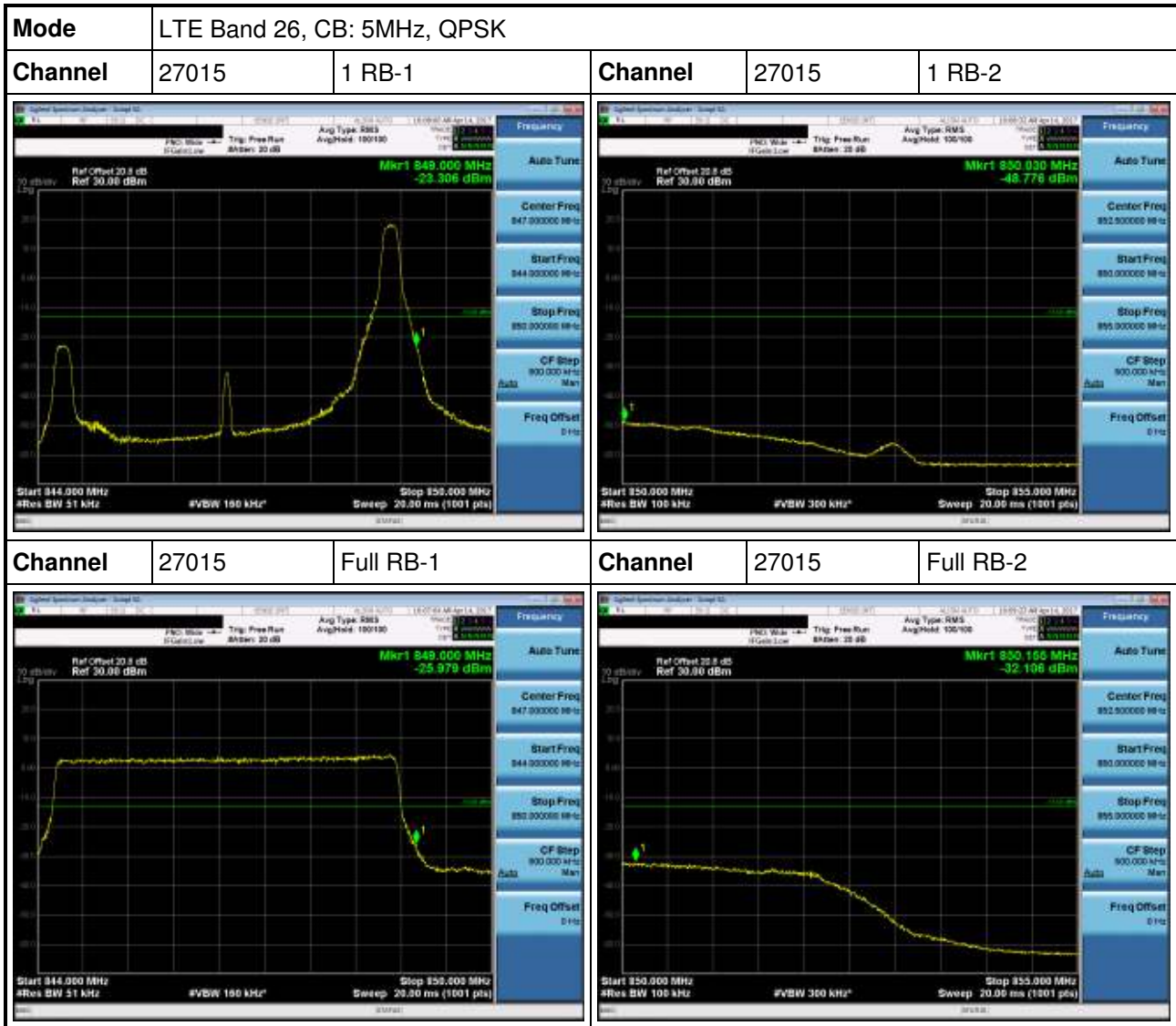
Mode		LTE Band 26, CB: 3MHz, QPSK			
Channel		26805	1 RB-1	Channel	26805
					1 RB-2
					
					
Channel		26805	Full RB-1	Channel	26805
					Full RB-2
					
					

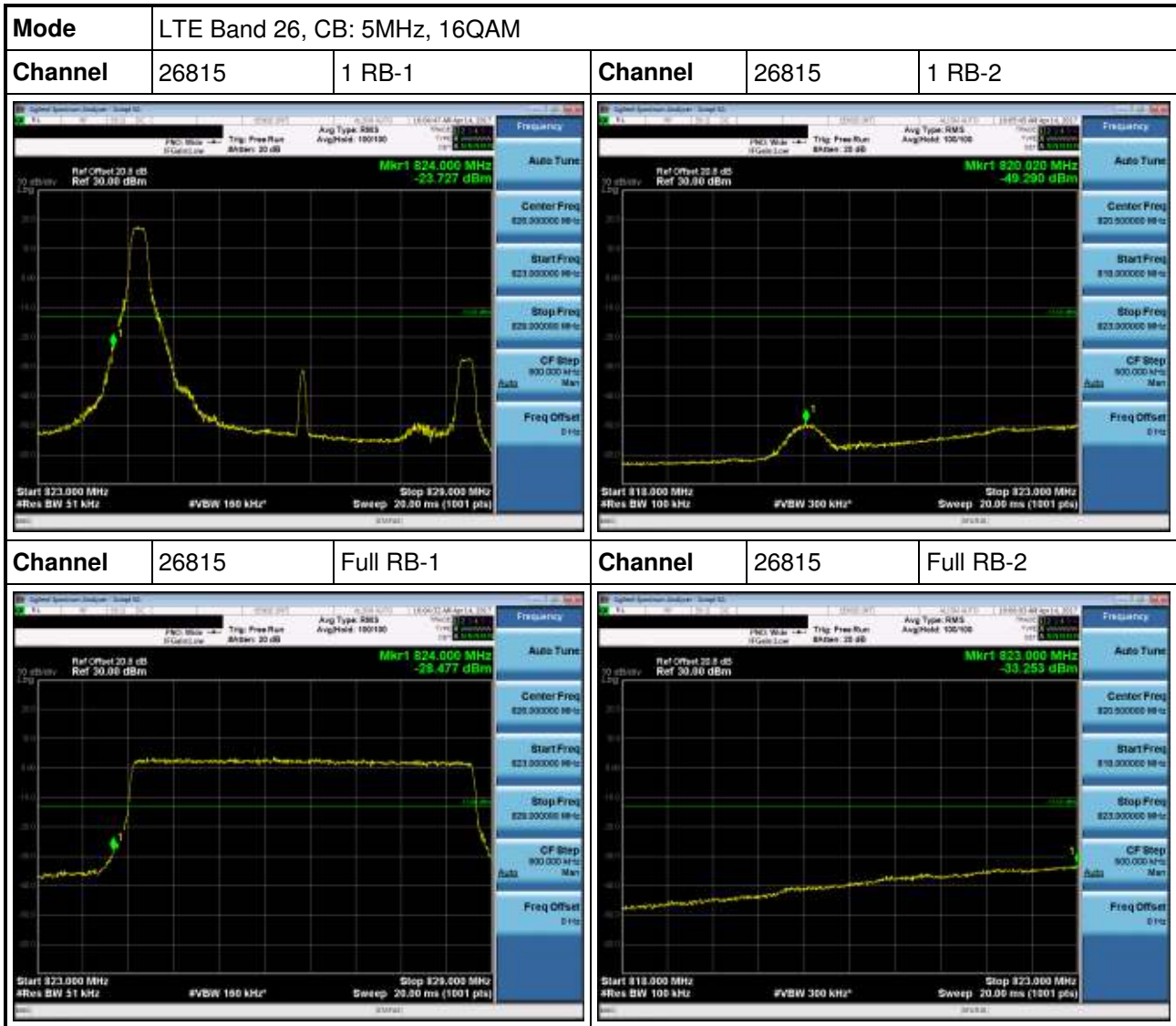


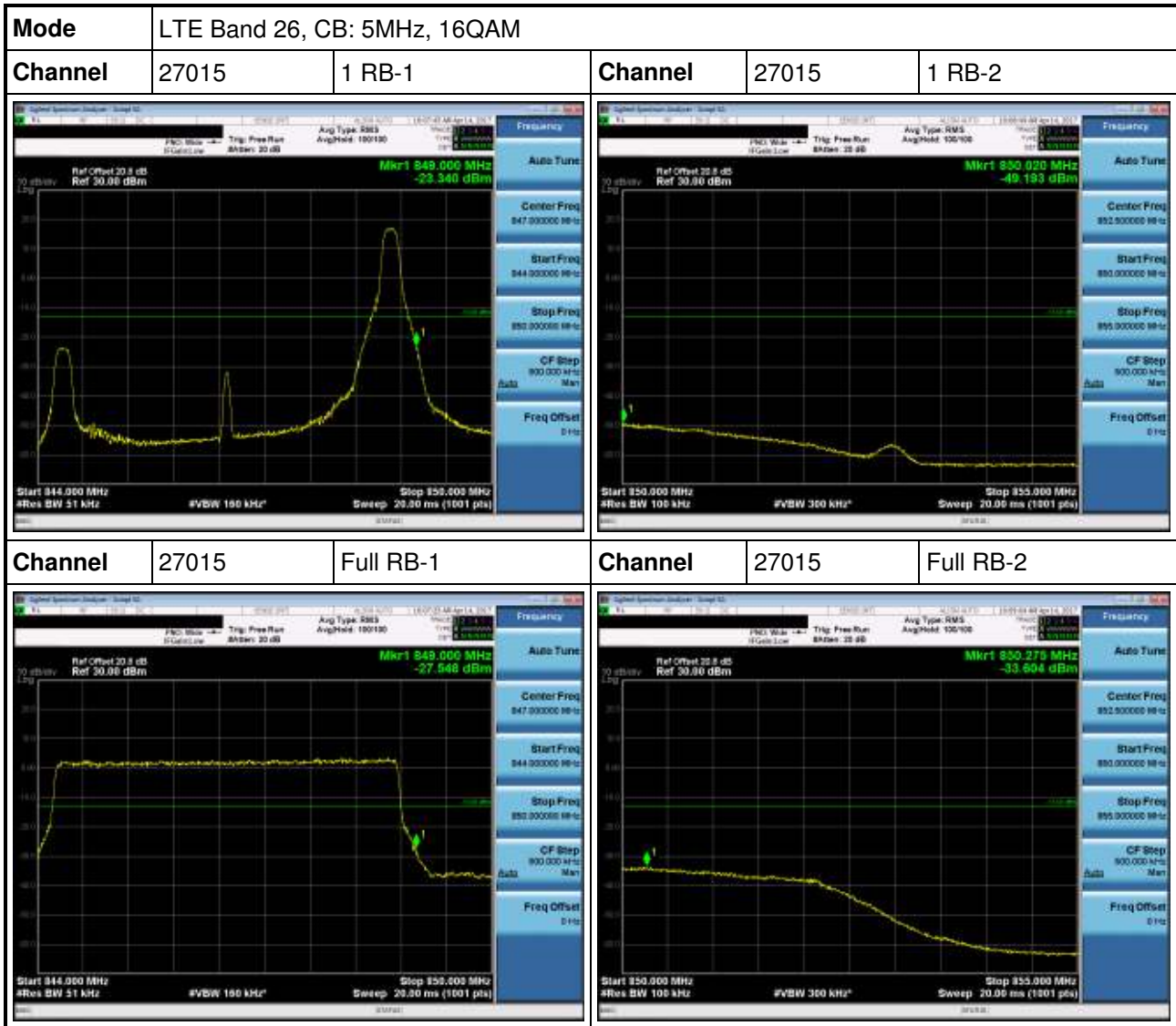


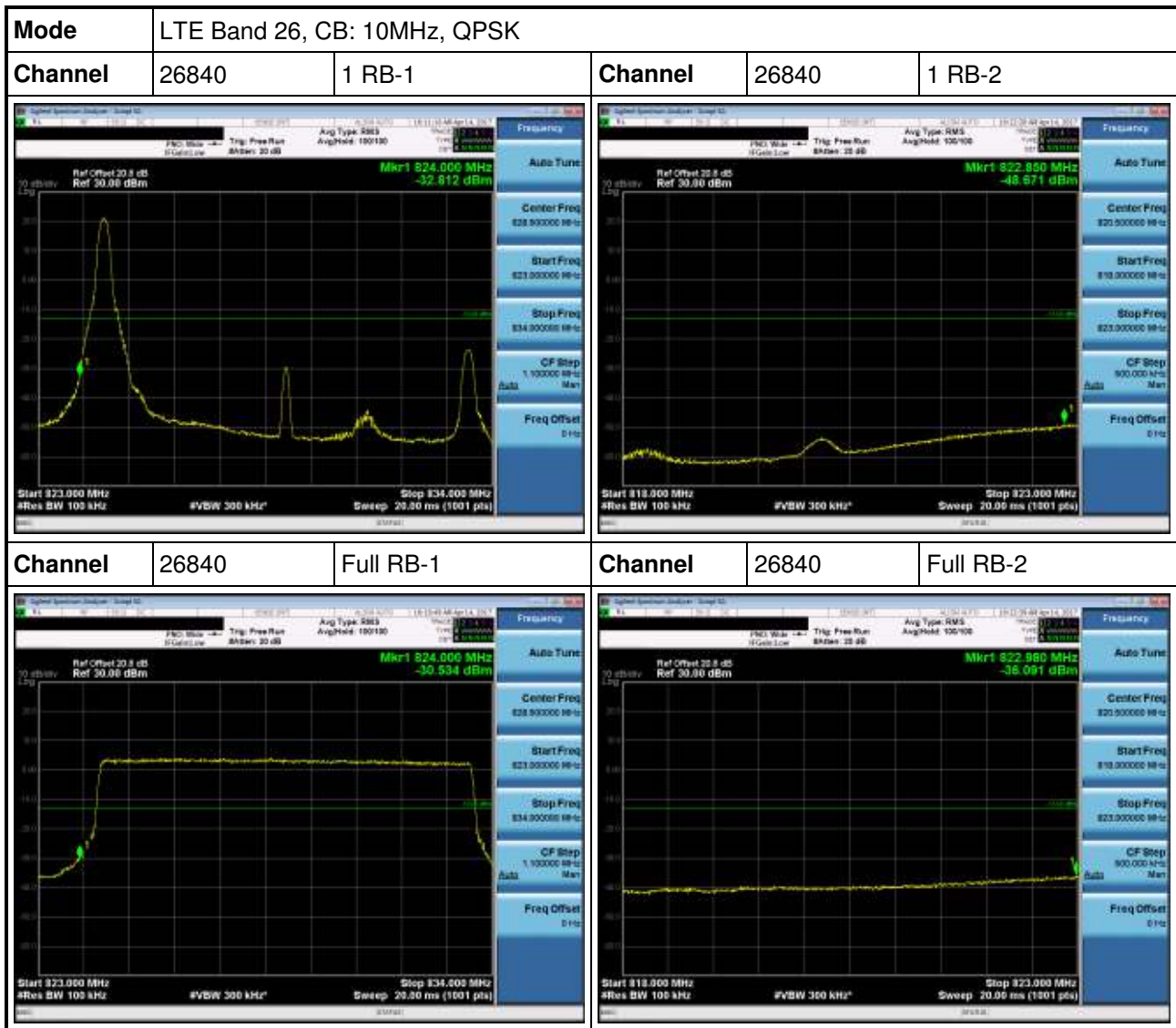
Mode		LTE Band 26, CB: 3MHz, 16QAM				
Channel		27025	1 RB-1	Channel	27025	1 RB-2
						
Channel		27025	Full RB-1	Channel	27025	Full RB-2
						

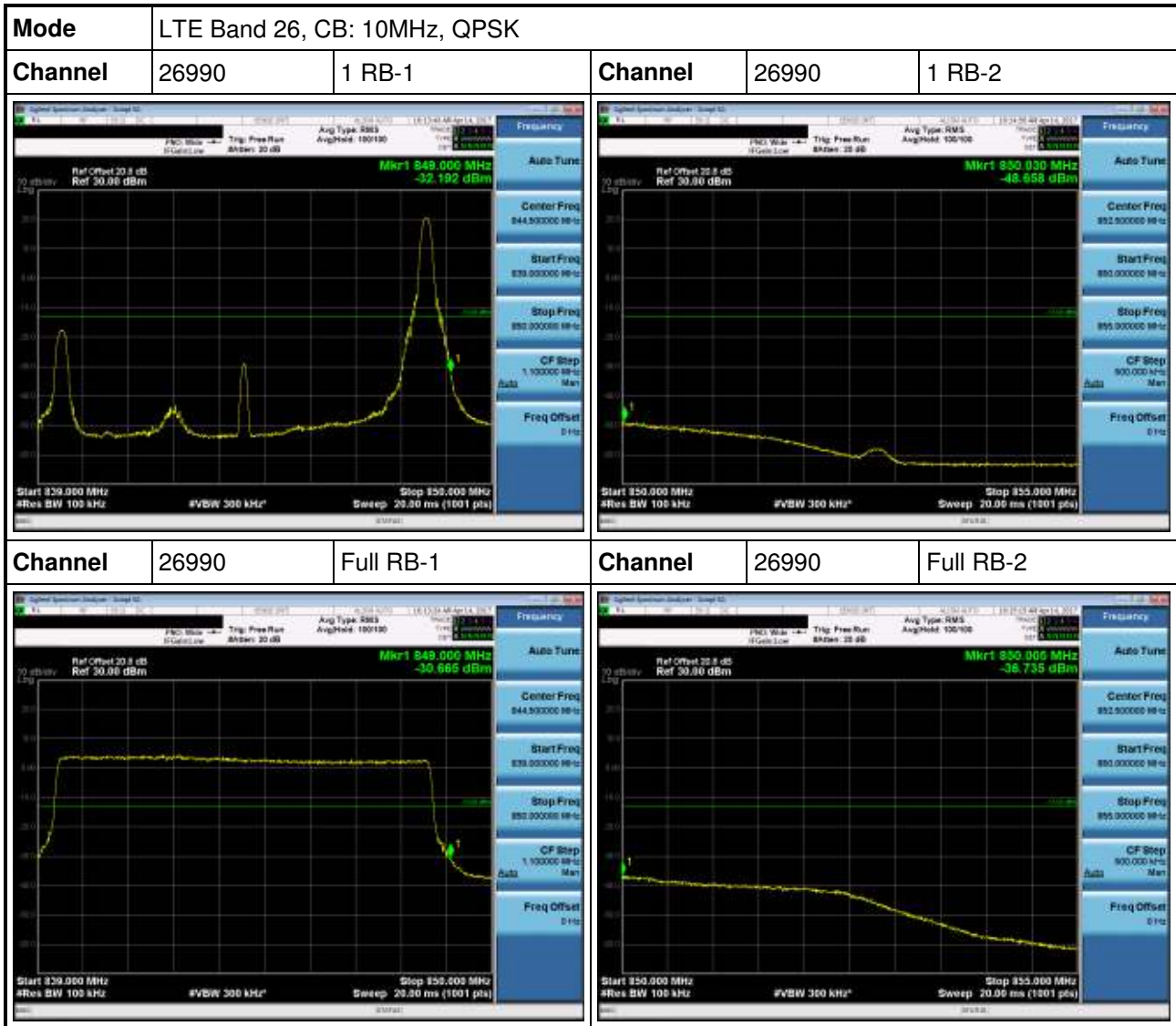
Mode		LTE Band 26, CB: 5MHz, QPSK				
Channel		26815	1 RB-1	Channel	26815	1 RB-2
						
Channel		26815	Full RB-1	Channel	26815	Full RB-2
						

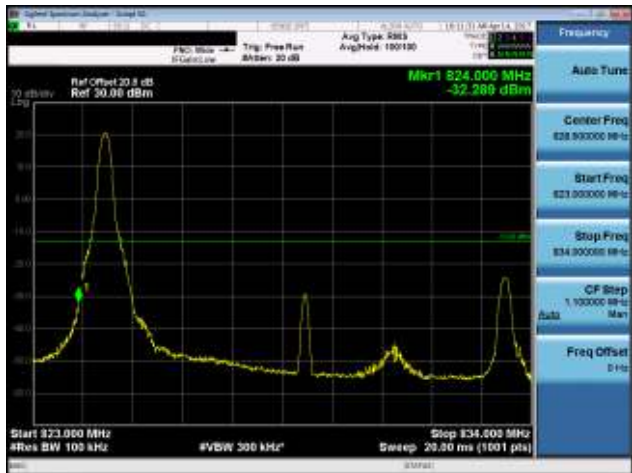
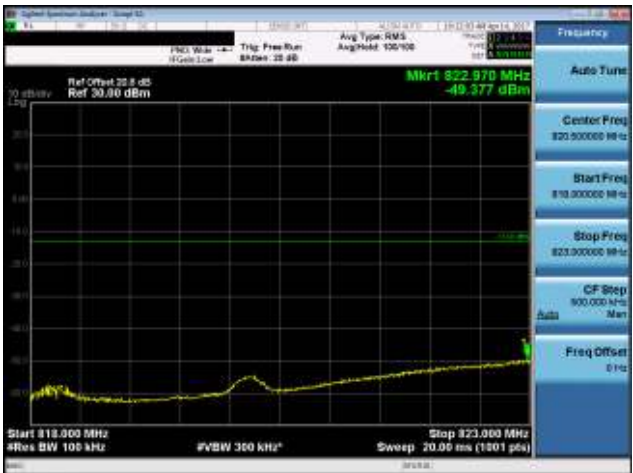
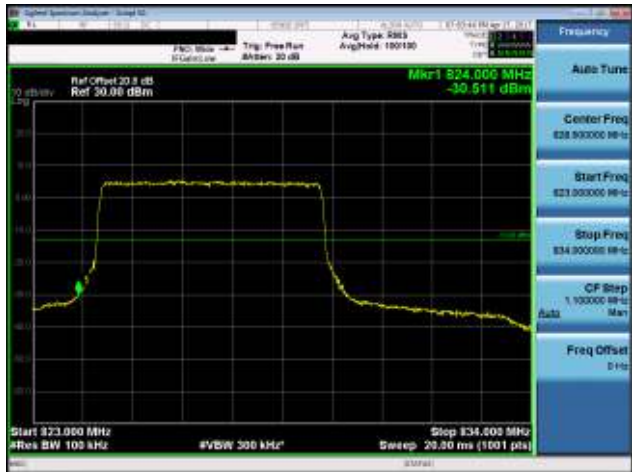


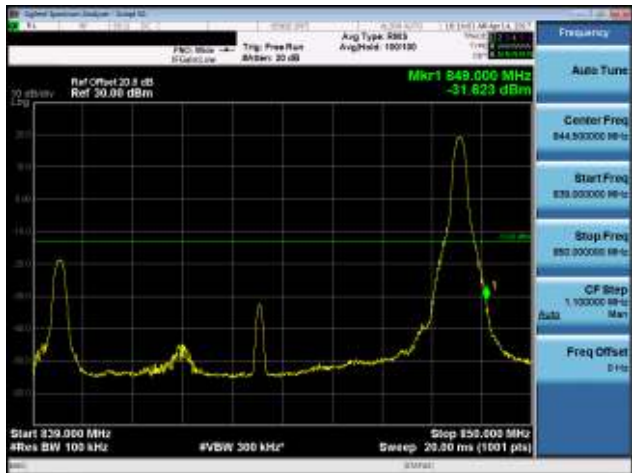
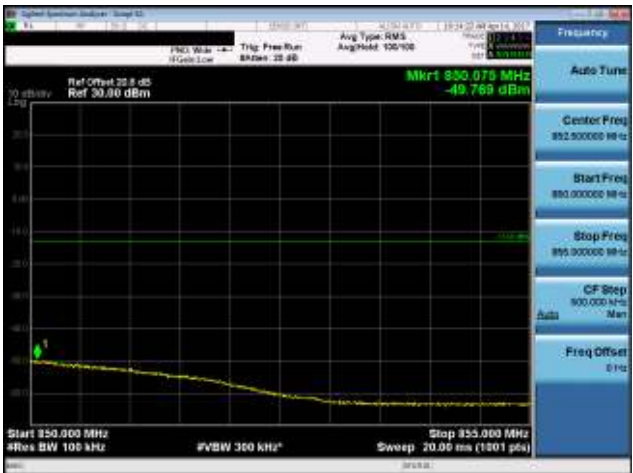
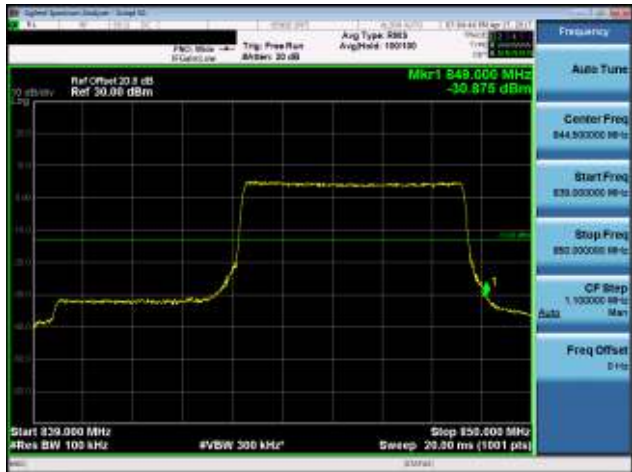
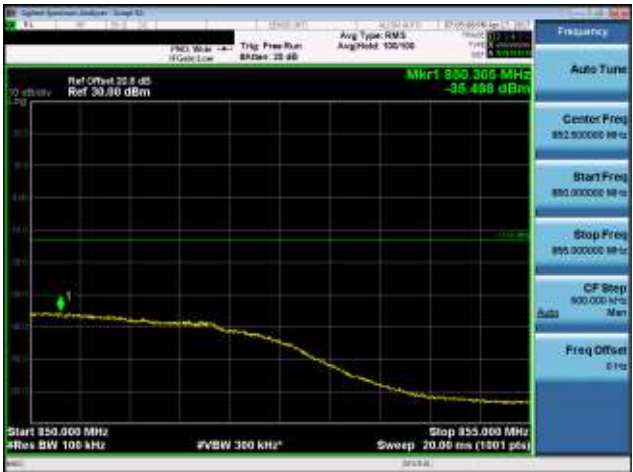


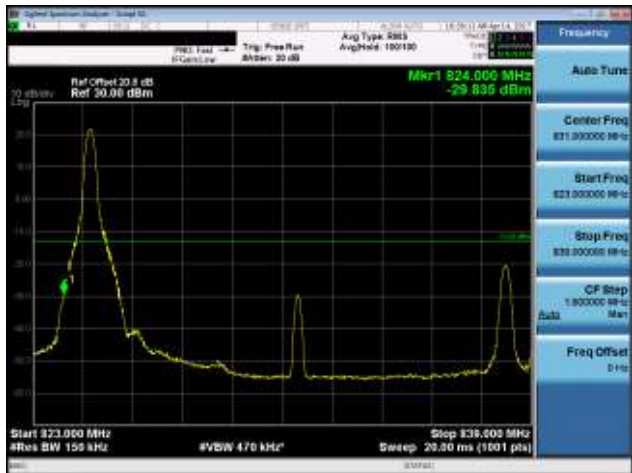
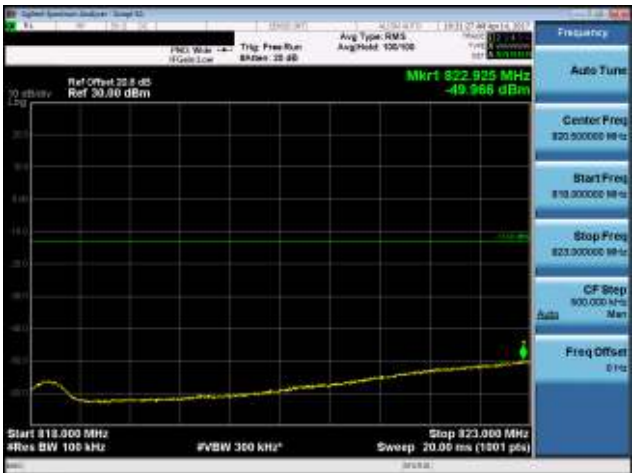
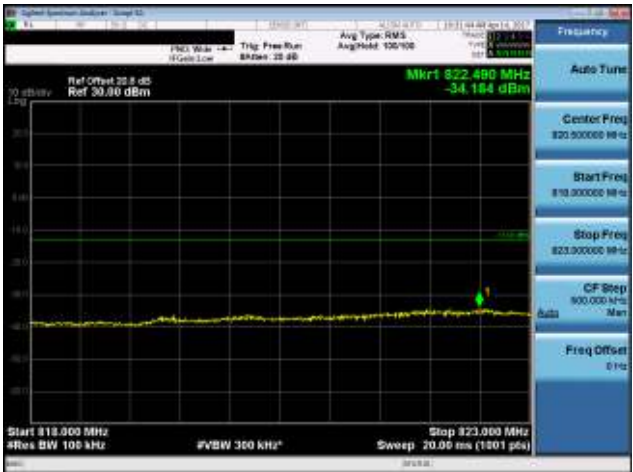


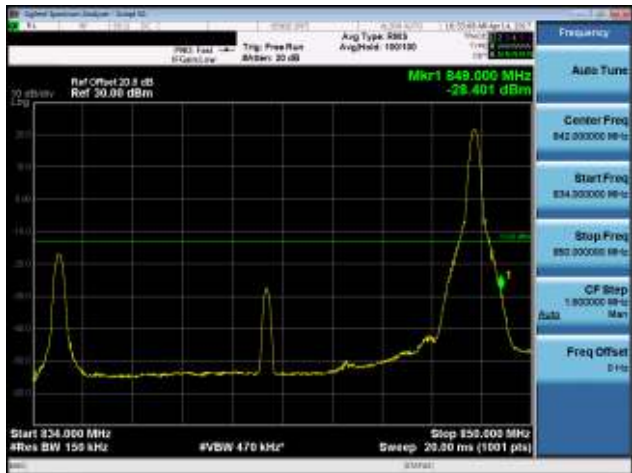
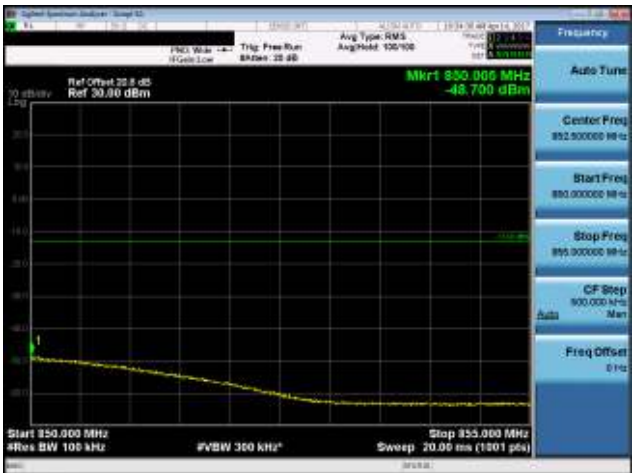
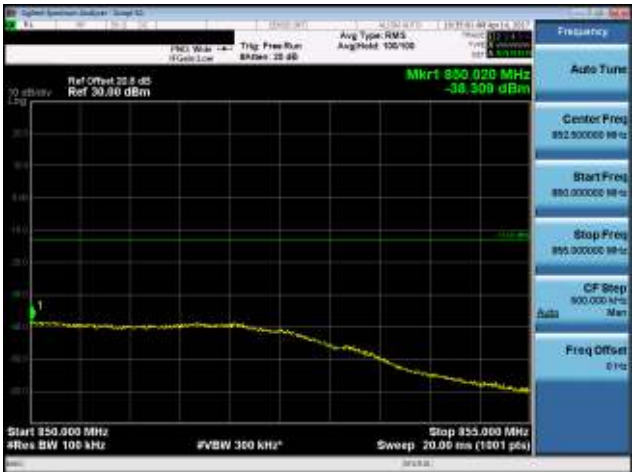


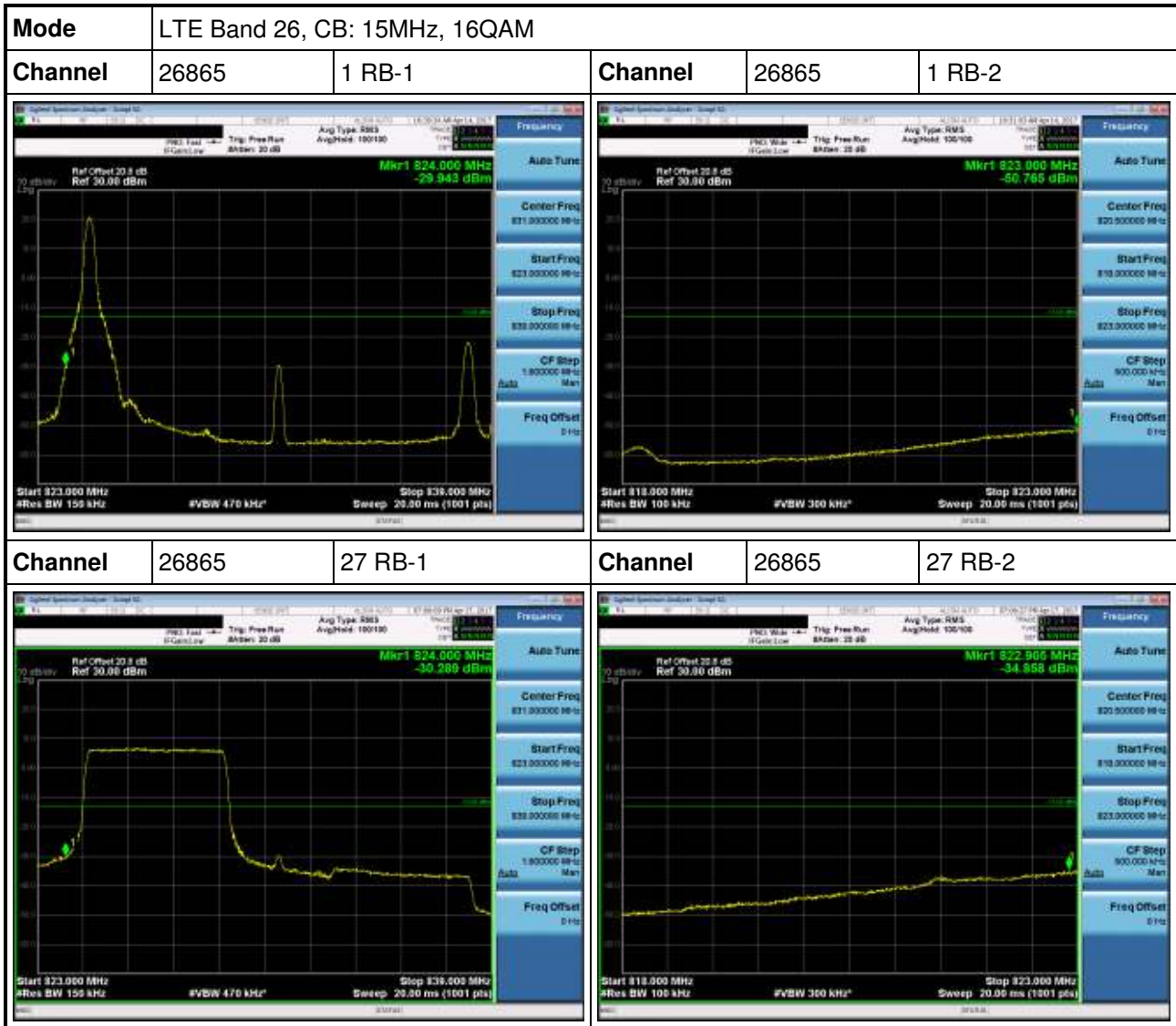


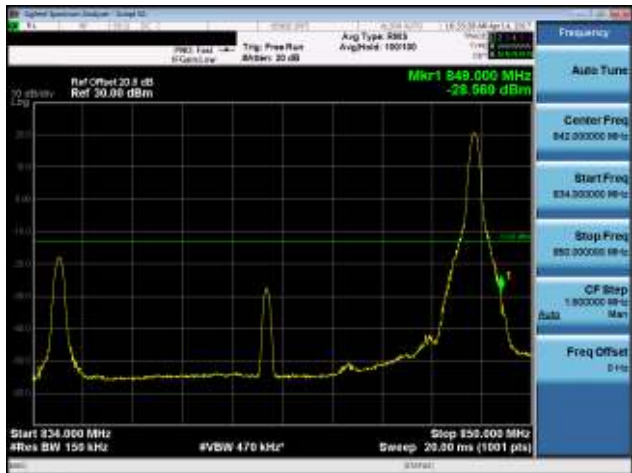
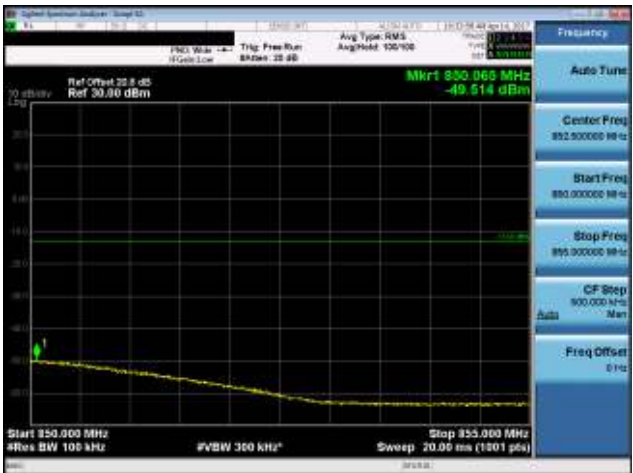
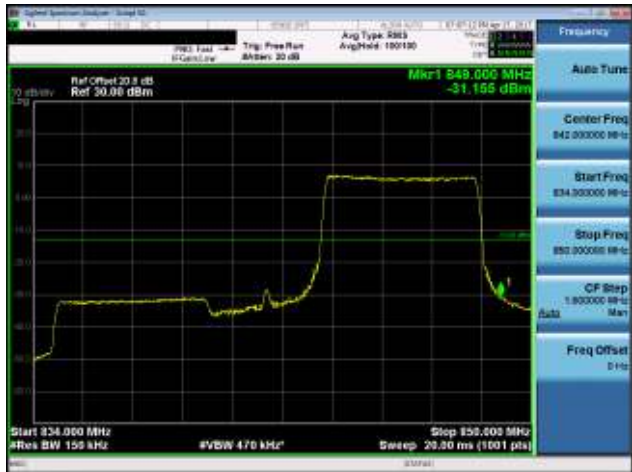
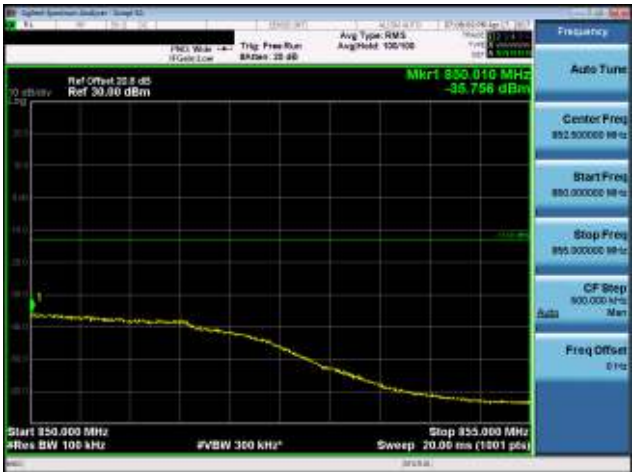
Mode		LTE Band 26, CB: 10MHz, 16QAM				
Channel		26840	1 RB-1	Channel	26840	1 RB-2
						
Channel		26840	27 RB-1	Channel	26840	27 RB-2
						

Mode		LTE Band 26, CB: 10MHz, 16QAM				
Channel		26990	1 RB-1	Channel	26990	1 RB-2
						
Channel		26990	27 RB-1	Channel	26990	27 RB-2
						

Mode		LTE Band 26, CB: 15MHz, QPSK				
Channel		26865	1 RB-1	Channel	26865	1 RB-2
						
Channel		26865	Full RB-1	Channel	26865	Full RB-2
						

Mode		LTE Band 26, CB: 15MHz, QPSK				
Channel		26965	1 RB-1	Channel	26965	1 RB-2
						
Channel		26965	Full RB-1	Channel	26965	Full RB-2
						



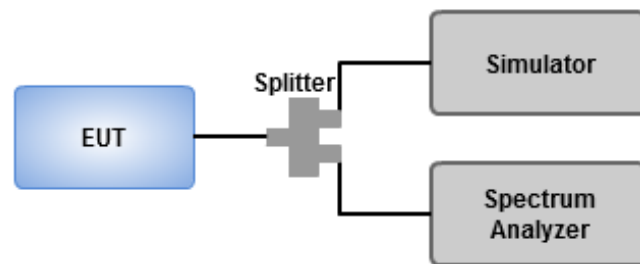
Mode		LTE Band 26, CB: 15MHz, 16QAM				
Channel		26965	1 RB-1	Channel	26965	1 RB-2
						
Channel		26965	27 RB-1	Channel	26965	27 RB-2
						

3.5 Occupied and 26 dB Bandwidth

3.5.1 Test Procedures

1. Set RBW = 15 / 30 / 51 / 100 / 150 kHz, VBW = 51 / 100 / 160 / 300 / 470 kHz for LTE channel bandwidth 1.4 / 3 / 5 / 10 / 15 MHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Using occupied bandwidth measurement function of spectrum analyzer to measure occupied bandwidth
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 26dB relative to the maximum level measured in the fundamental emission.

3.5.2 Test Setup



3.5.3 Test Result of Occupied Bandwidth

Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	1.4	QPSK	26797	824.7	1.2550	1.0797
LTE Band 26	1.4	QPSK	26915	836.5	1.2480	1.0800
LTE Band 26	1.4	QPSK	27033	848.3	1.2550	1.0764
LTE Band 26	1.4	16QAM	26797	824.7	1.2640	1.0844
LTE Band 26	1.4	16QAM	26915	836.5	1.2640	1.0774
LTE Band 26	1.4	16QAM	27033	848.3	1.2520	1.0791



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	3	QPSK	26805	825.5	2.9250	2.6849
LTE Band 26	3	QPSK	26915	836.5	2.9500	2.6816
LTE Band 26	3	QPSK	27025	847.5	2.9490	2.6864
LTE Band 26	3	16QAM	26805	825.5	2.9390	2.6874
LTE Band 26	3	16QAM	26915	836.5	2.9430	2.6846
LTE Band 26	3	16QAM	27025	847.5	2.9490	2.6867



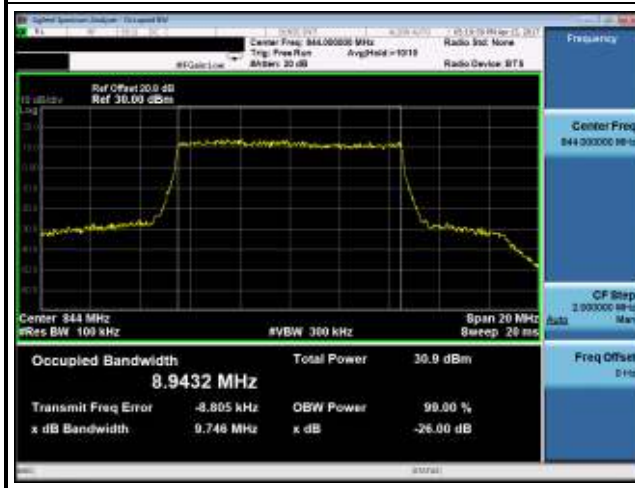
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	5	QPSK	26815	826.5	4.9220	4.4740
LTE Band 26	5	QPSK	26915	836.5	4.9190	4.4753
LTE Band 26	5	QPSK	27015	846.5	4.9060	4.4836
LTE Band 26	5	16QAM	26815	826.5	4.8840	4.4811
LTE Band 26	5	16QAM	26915	836.5	4.8760	4.4748
LTE Band 26	5	16QAM	27015	846.5	4.9300	4.4890



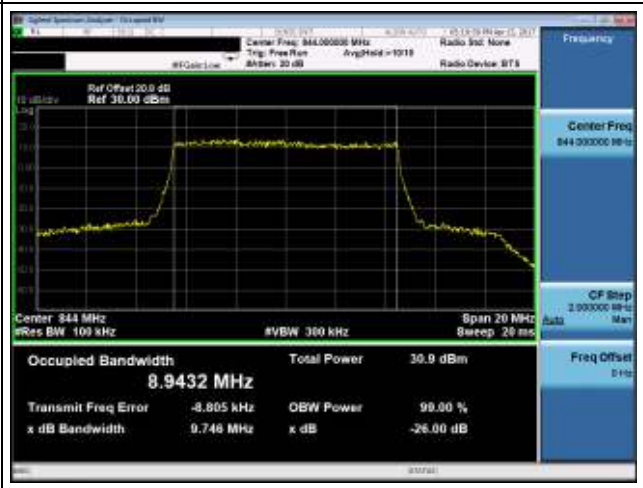
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	10	QPSK	26840	829.0	9.7340	8.9362
LTE Band 26	10	QPSK	26915	836.5	9.6900	8.9258
LTE Band 26	10	QPSK	26990	844.0	9.7460	8.9432
LTE Band 26	10	16QAM	26840	829.0	6.0770	4.9064
LTE Band 26	10	16QAM	26915	836.5	6.0300	4.9208
LTE Band 26	10	16QAM	26990	844.0	5.9200	4.9039

Worst plots

26dB bandwidth



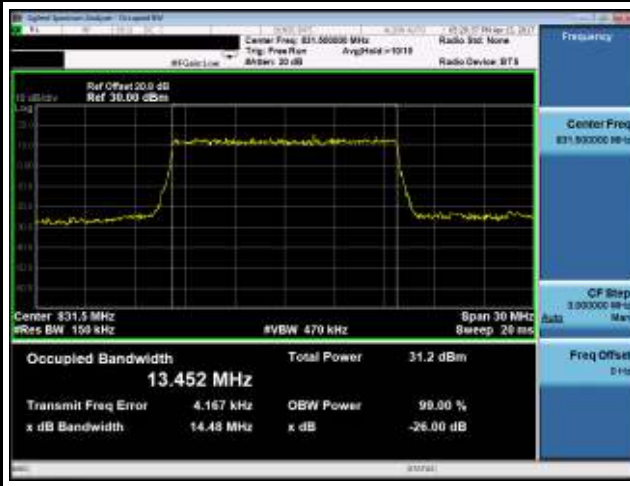
OBW



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	15	QPSK	26865	831.5	14.4800	13.4520
LTE Band 26	15	QPSK	26915	836.5	14.3100	13.3800
LTE Band 26	15	QPSK	26965	841.5	14.3400	13.3590
LTE Band 26	15	16QAM	26865	831.5	7.1170	5.0400
LTE Band 26	15	16QAM	26915	836.5	6.8260	5.0145
LTE Band 26	15	16QAM	26965	841.5	6.6040	4.9704

Worst plots

26dB bandwidth



OBW



3.6 Peak to Average Ratio

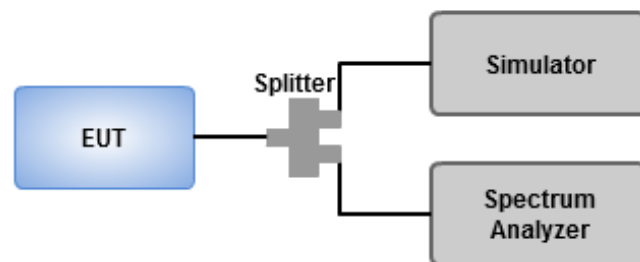
3.6.1 Limit of Peak to Average Ratio

Peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.6.2 Test Procedures

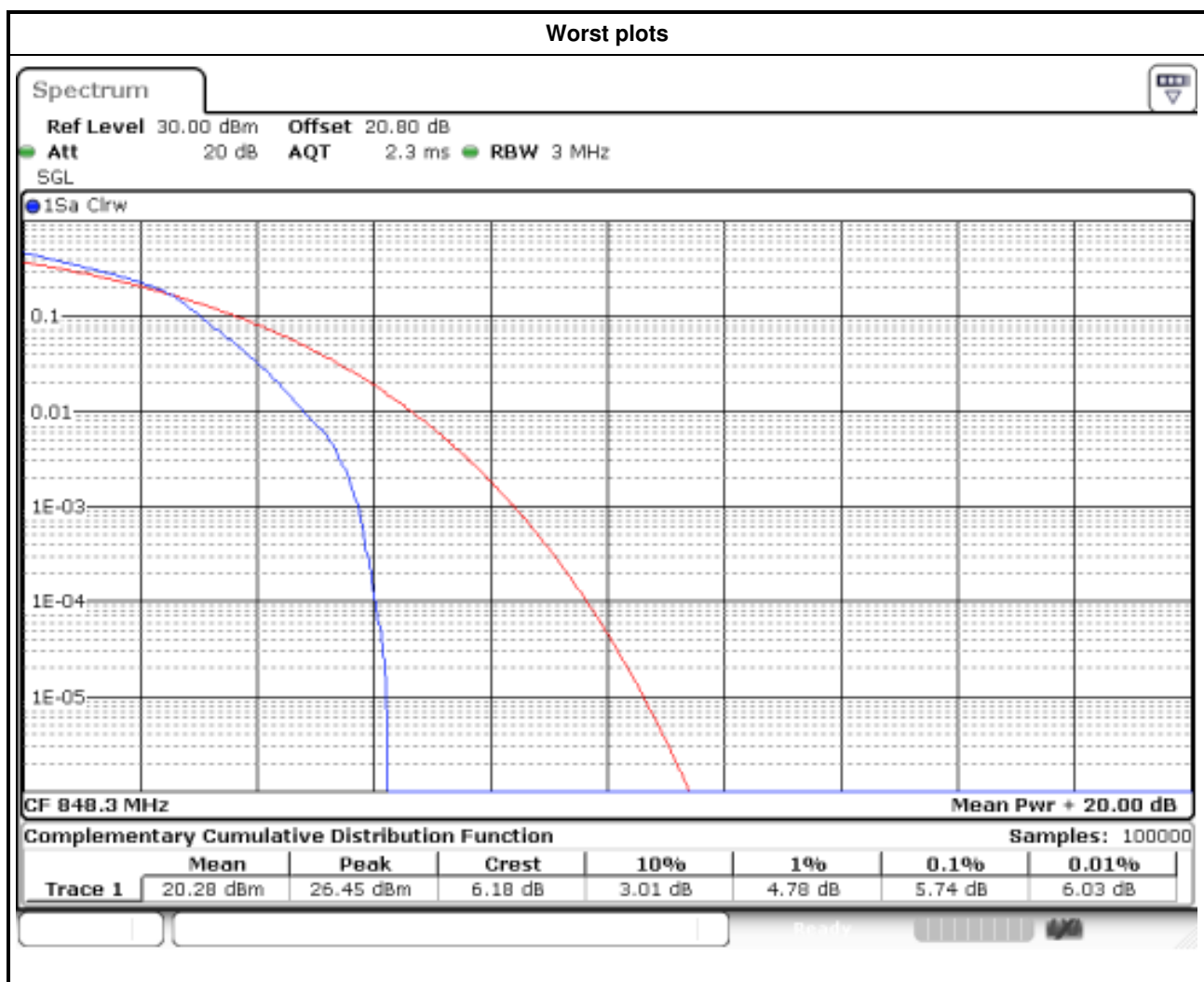
1. Enable CCDF function of spectrum analyzer and set RBW = 10 MHz.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.6.3 Test Setup

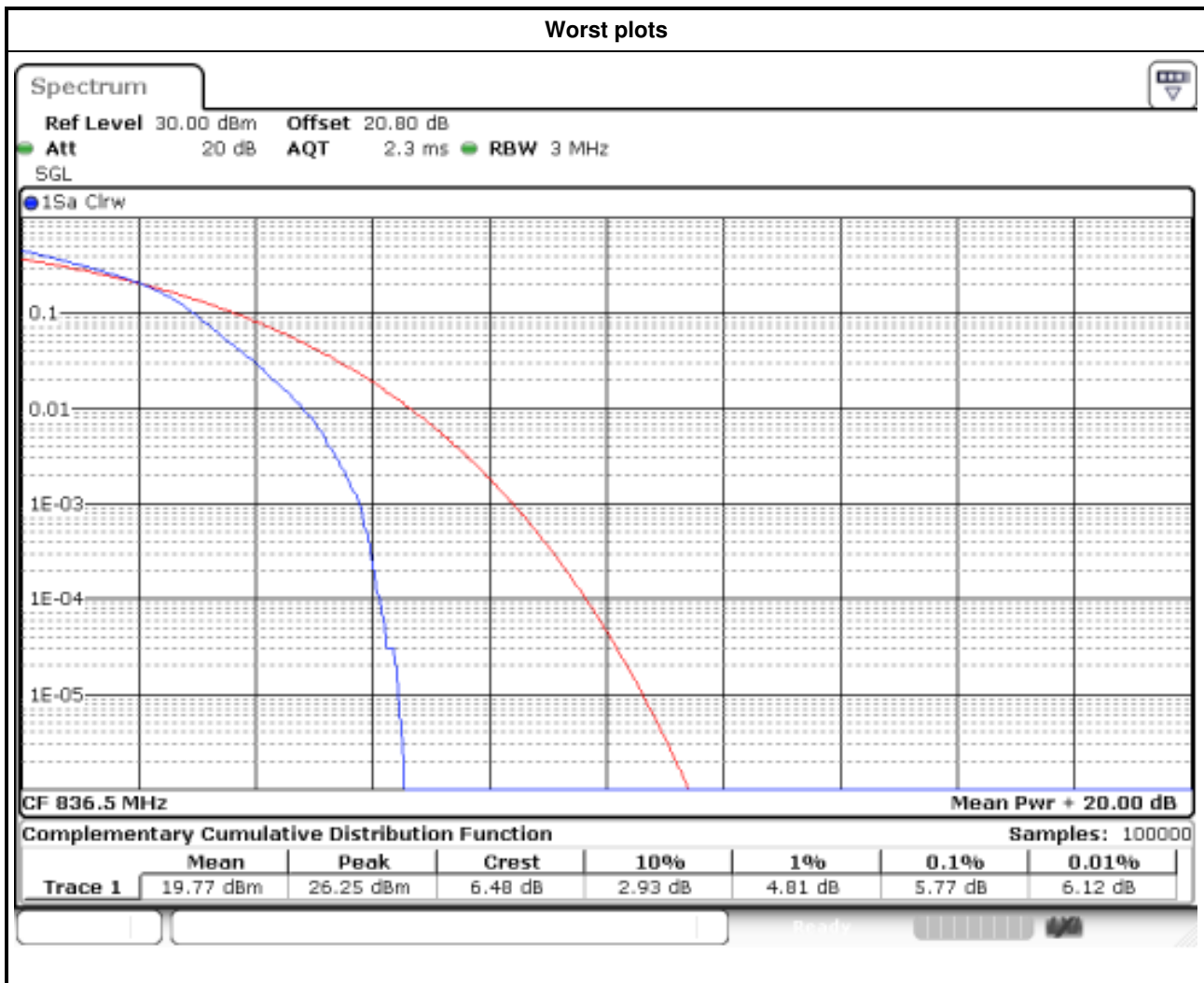


3.6.4 Test Result of Peak to Average Ratio

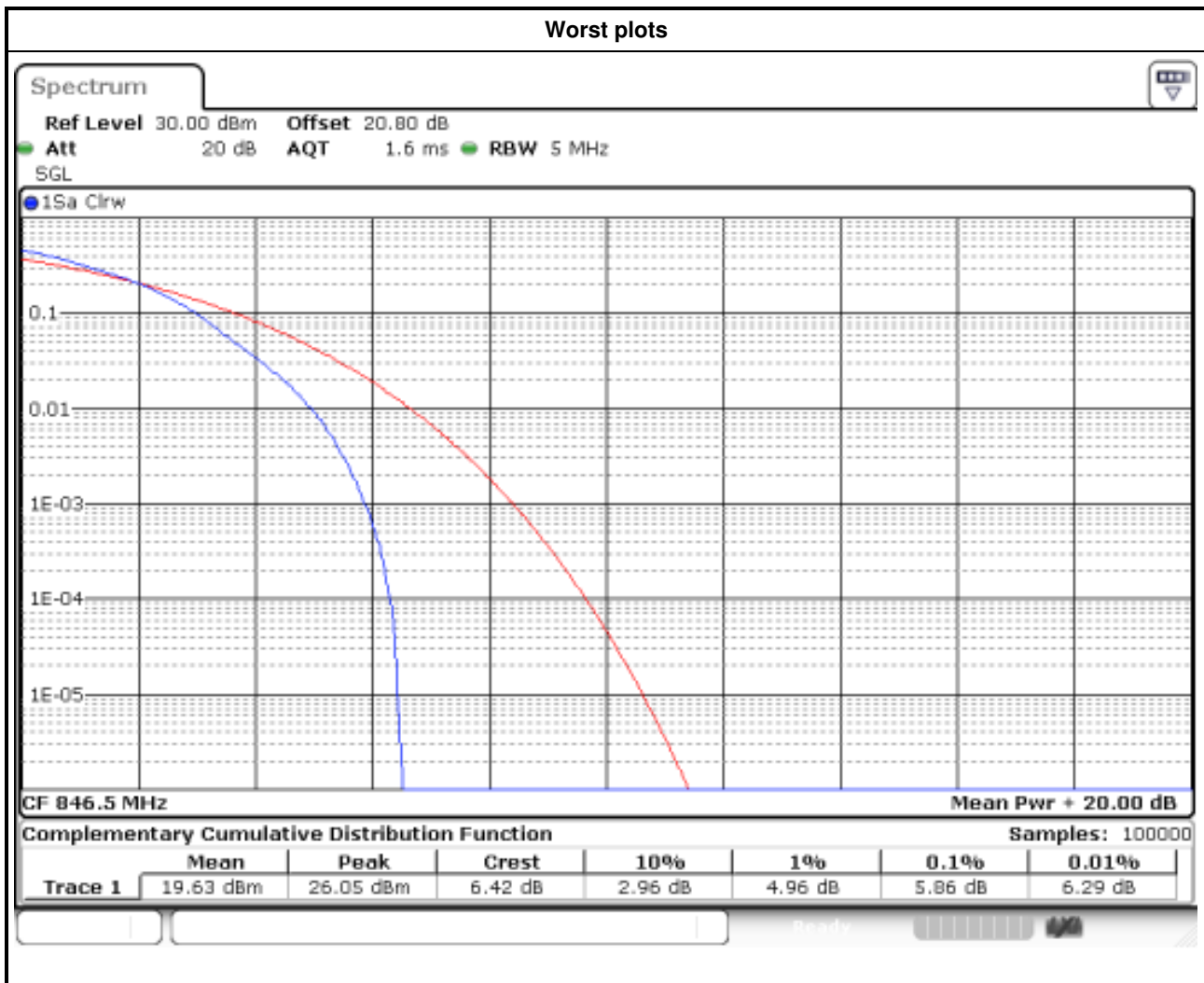
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	1.4	QPSK	26797	824.7	4.78
LTE Band 26	1.4	QPSK	26915	836.5	4.96
LTE Band 26	1.4	QPSK	27033	848.3	4.72
LTE Band 26	1.4	16QAM	26797	824.7	5.71
LTE Band 26	1.4	16QAM	26915	836.5	5.65
LTE Band 26	1.4	16QAM	27033	848.3	5.74



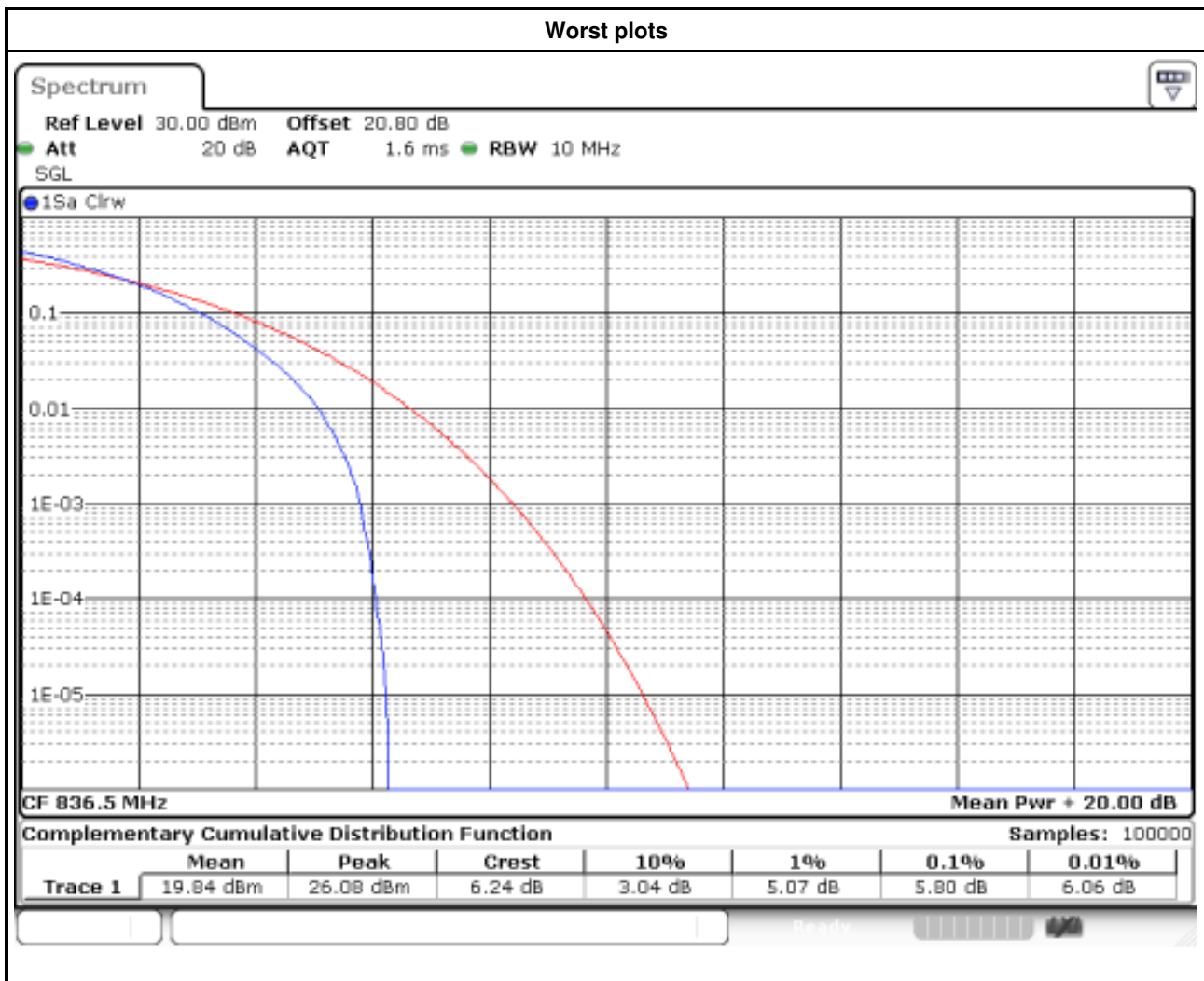
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	3	QPSK	26805	825.5	4.72
LTE Band 26	3	QPSK	26915	836.5	4.72
LTE Band 26	3	QPSK	27025	847.5	4.70
LTE Band 26	3	16QAM	26805	825.5	5.68
LTE Band 26	3	16QAM	26915	836.5	5.77
LTE Band 26	3	16QAM	27025	847.5	5.74



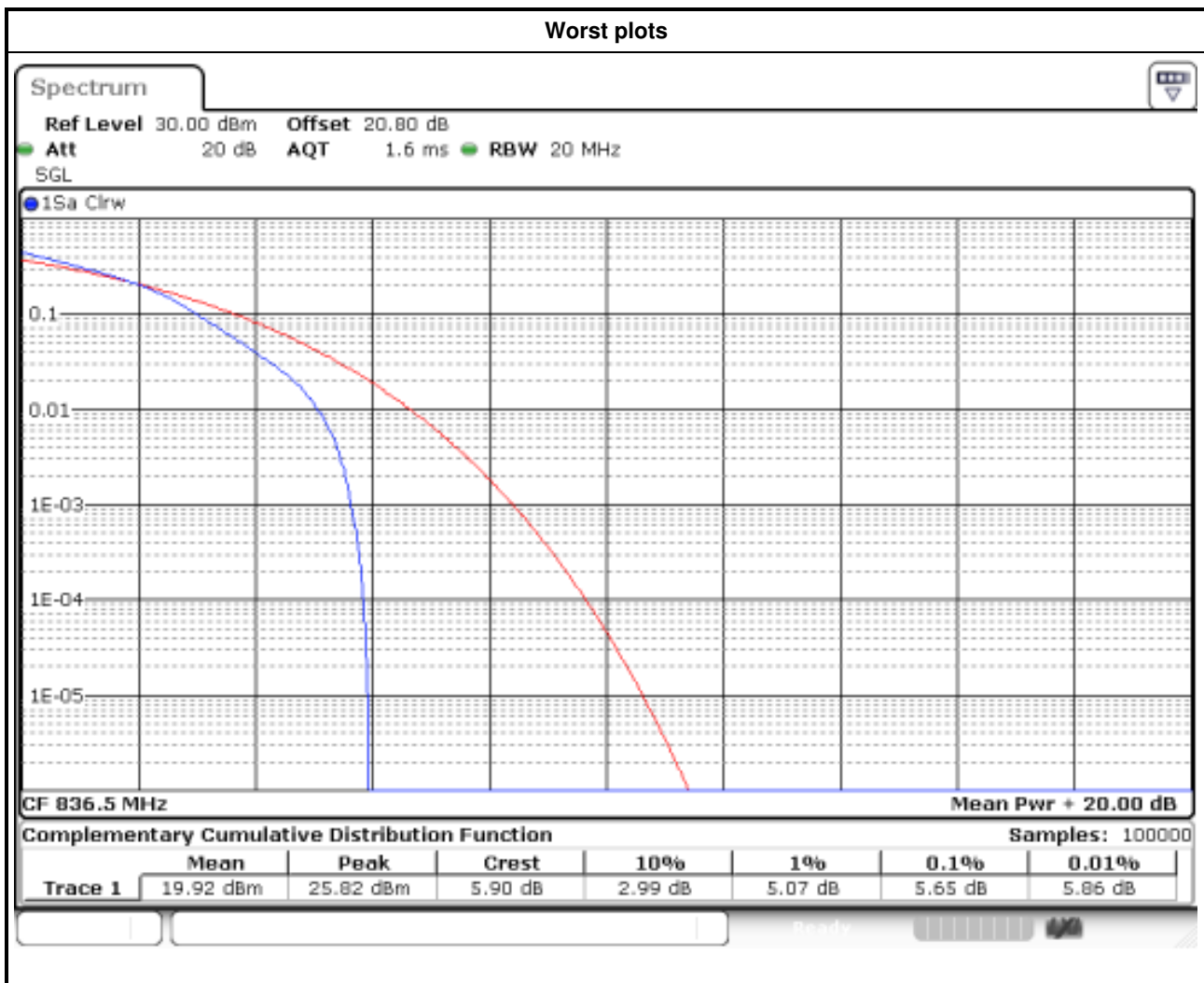
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	5	QPSK	26815	826.5	4.64
LTE Band 26	5	QPSK	26915	836.5	4.70
LTE Band 26	5	QPSK	27015	846.5	4.87
LTE Band 26	5	16QAM	26815	826.5	5.74
LTE Band 26	5	16QAM	26915	836.5	5.74
LTE Band 26	5	16QAM	27015	846.5	5.86



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	10	QPSK	26840	829.0	4.78
LTE Band 26	10	QPSK	26915	836.5	4.70
LTE Band 26	10	QPSK	26990	844.0	4.84
LTE Band 26	10	16QAM	26840	829.0	5.59
LTE Band 26	10	16QAM	26915	836.5	5.80
LTE Band 26	10	16QAM	26990	844.0	5.54



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	15	QPSK	26865	831.5	5.25
LTE Band 26	15	QPSK	26915	836.5	5.01
LTE Band 26	15	QPSK	26965	841.5	4.84
LTE Band 26	15	16QAM	26865	831.5	5.57
LTE Band 26	15	16QAM	26915	836.5	5.65
LTE Band 26	15	16QAM	26965	841.5	5.59



3.7 Frequency Stability

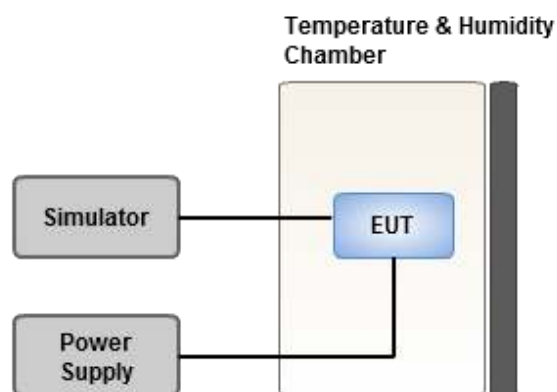
3.7.1 Limit of Frequency Stability

The frequency stability shall be less $\pm 2.5\text{ppm}$.

3.7.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from $-40\sim 85^{\circ}\text{C}$ and voltage range is from lowest to highest working voltage.
4. Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.7.3 Test Setup



3.7.4 Test Result of Frequency Stability

Channel Bandwidth: 1.4MHz

Frequency: 836.5MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.011	2.5
T20°C Vmin	0.01	2.5
T85°C Vnom	0.009	2.5
T80°C Vnom	0.006	2.5
T70°C Vnom	0.008	2.5
T60°C Vnom	-0.009	2.5
T50°C Vnom	-0.008	2.5
T40°C Vnom	0.007	2.5
T30°C Vnom	0.009	2.5
T20°C Vnom	-0.008	2.5
T10°C Vnom	-0.011	2.5
T0°C Vnom	-0.01	2.5
T-10°C Vnom	0.009	2.5
T-20°C Vnom	0.007	2.5
T-30°C Vnom	-0.011	2.5
T-40°C Vnom	-0.009	2.5
Vnom [Vdc]: 3.8	Vmax [Vdc]: 4.2	Vmin [Vdc]: 3.4
Tnom [°C]: 20	Tmax [°C]: 85	Tmin [°C]: -40

Channel Bandwidth: 3MHz

Frequency: 836.5MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.009	2.5
T20°C Vmin	-0.011	2.5
T85°C Vnom	0.008	2.5
T80°C Vnom	-0.007	2.5
T70°C Vnom	0.006	2.5
T60°C Vnom	0.011	2.5
T50°C Vnom	-0.012	2.5
T40°C Vnom	-0.006	2.5
T30°C Vnom	0.004	2.5
T20°C Vnom	-0.008	2.5
T10°C Vnom	-0.009	2.5
T0°C Vnom	-0.008	2.5
T-10°C Vnom	0.007	2.5
T-20°C Vnom	0.006	2.5
T-30°C Vnom	0.01	2.5
T-40°C Vnom	0.01	2.5
Vnom [Vdc]: 3.8	Vmax [Vdc]: 4.2	Vmin [Vdc]: 3.4
Tnom [°C]: 20	Tmax [°C]: 85	Tmin [°C]: -40

Channel Bandwidth: 5MHz

Frequency: 836.5MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.005	2.5
T20°C Vmin	-0.06	2.5
T85°C Vnom	-0.009	2.5
T80°C Vnom	-0.011	2.5
T70°C Vnom	0.008	2.5
T60°C Vnom	0.006	2.5
T50°C Vnom	-0.008	2.5
T40°C Vnom	-0.007	2.5
T30°C Vnom	0.005	2.5
T20°C Vnom	-0.009	2.5
T10°C Vnom	-0.011	2.5
T0°C Vnom	-0.006	2.5
T-10°C Vnom	0.005	2.5
T-20°C Vnom	-0.007	2.5
T-30°C Vnom	-0.008	2.5
T-40°C Vnom	-0.009	2.5
Vnom [Vdc]: 3.8	Vmax [Vdc]: 4.2	Vmin [Vdc]: 3.4
Tnom [°C]: 20	Tmax [°C]: 85	Tmin [°C]: -40

Channel Bandwidth: 10MHz

Frequency: 836.5MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.011	2.5
T20°C Vmin	0.009	2.5
T85°C Vnom	0.007	2.5
T80°C Vnom	-0.006	2.5
T70°C Vnom	-0.007	2.5
T60°C Vnom	0.005	2.5
T50°C Vnom	-0.011	2.5
T40°C Vnom	-0.012	2.5
T30°C Vnom	0.009	2.5
T20°C Vnom	-0.004	2.5
T10°C Vnom	0.008	2.5
T0°C Vnom	-0.005	2.5
T-10°C Vnom	-0.007	2.5
T-20°C Vnom	0.009	2.5
T-30°C Vnom	-0.011	2.5
T-40°C Vnom	0.012	2.5
Vnom [Vdc]: 3.8	Vmax [Vdc]: 4.2	Vmin [Vdc]: 3.4
Tnom [°C]: 20	Tmax [°C]: 85	Tmin [°C]: -40

Channel Bandwidth: 15MHz

Frequency: 836.5MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.008	2.5
T20°C Vmin	0.004	2.5
T85°C Vnom	-0.011	2.5
T80°C Vnom	0.008	2.5
T70°C Vnom	-0.009	2.5
T60°C Vnom	-0.006	2.5
T50°C Vnom	-0.004	2.5
T40°C Vnom	0.008	2.5
T30°C Vnom	0.008	2.5
T20°C Vnom	-0.011	2.5
T10°C Vnom	0.011	2.5
T0°C Vnom	-0.006	2.5
T-10°C Vnom	0.008	2.5
T-20°C Vnom	-0.01	2.5
T-30°C Vnom	-0.005	2.5
T-40°C Vnom	0.006	2.5
Vnom [Vdc]: 3.8	Vmax [Vdc]: 4.2	Vmin [Vdc]: 3.4
Tnom [°C]: 20	Tmax [°C]: 85	Tmin [°C]: -40

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

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Kwei Shan Site II

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City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

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==END==