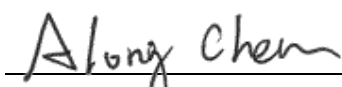


FCC Test Report

FCC ID : RI7LE910C1NS
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 90
Received Date : Apr. 07, 2017
Tested Date : Apr. 07 ~ Apr. 18, 2017

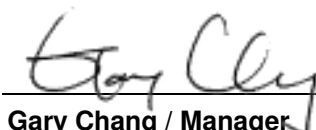
We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval 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



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Local Support Equipment List	7
1.3	Test Setup Chart	7
1.4	The Equipment List	8
1.5	Test Standards	9
1.6	Measurement Uncertainty	9
2	TEST CONFIGURATION	10
2.1	Testing Condition and Location Information.....	10
2.2	The Worst Test Modes and Channel Details	10
3	TEST RESULTS.....	11
3.1	Effective Radiated Power	11
3.2	Radiated Emissions.....	16
3.3	Conducted Emissions.....	25
3.4	Band edge	30
3.5	Occupied Bandwidth	49
3.6	Peak to Average Ratio	54
3.7	Frequency Stability.....	60
4	TEST LABORATORY INFORMATION	66

Release Record

Report No.	Version	Description	Issued Date
FG740703P90	Rev. 01	Initial issue	May 02, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 90.635(b)	Effective Radiated Power	Max ERP [dBm]: 21.79	Pass
2.1053 / 90.691	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 90.691	Conducted Emissions	Meet the requirement of limit	Pass
2.1051 / 90.691	Band Edge	Meet the requirement of limit	Pass
2.1049	Occupied Bandwidth	Meet the requirement of limit	Pass
-	Peak to Average Ratio	Meet the requirement of limit	Pass
2.1055 / 90.213	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: 814.7 MHz ~823.3 MHz Channel Bandwidth: 3MHz: 815.5 MHz ~822.5 MHz Channel Bandwidth: 5MHz: 816.5 MHz ~ 821.5 MHz Channel Bandwidth: 10MHz: 819.0 MHz Channel Bandwidth: 15MHz: 821.5 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	0.147	1M08G7D
LTE Band 26, CB: 1.4MHz	16QAM	0.119	1M09W7D
LTE Band 26, CB: 3MHz	QPSK	0.147	2M69G7D
LTE Band 26, CB: 3MHz	16QAM	0.118	2M69W7D
LTE Band 26, CB: 5MHz	QPSK	0.146	4M48G7D
LTE Band 26, CB: 5MHz	16QAM	0.117	4M48W7D
LTE Band 26, CB: 10MHz	QPSK	0.151	8M94G7D
LTE Band 26, CB: 10MHz	16QAM	0.128	4M93W7D
LTE Band 26, CB: 15MHz	QPSK	0.151	13M4G7D
LTE Band 26, CB: 15MHz	16QAM	0.128	5M05W7D

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 Accessories

N/A

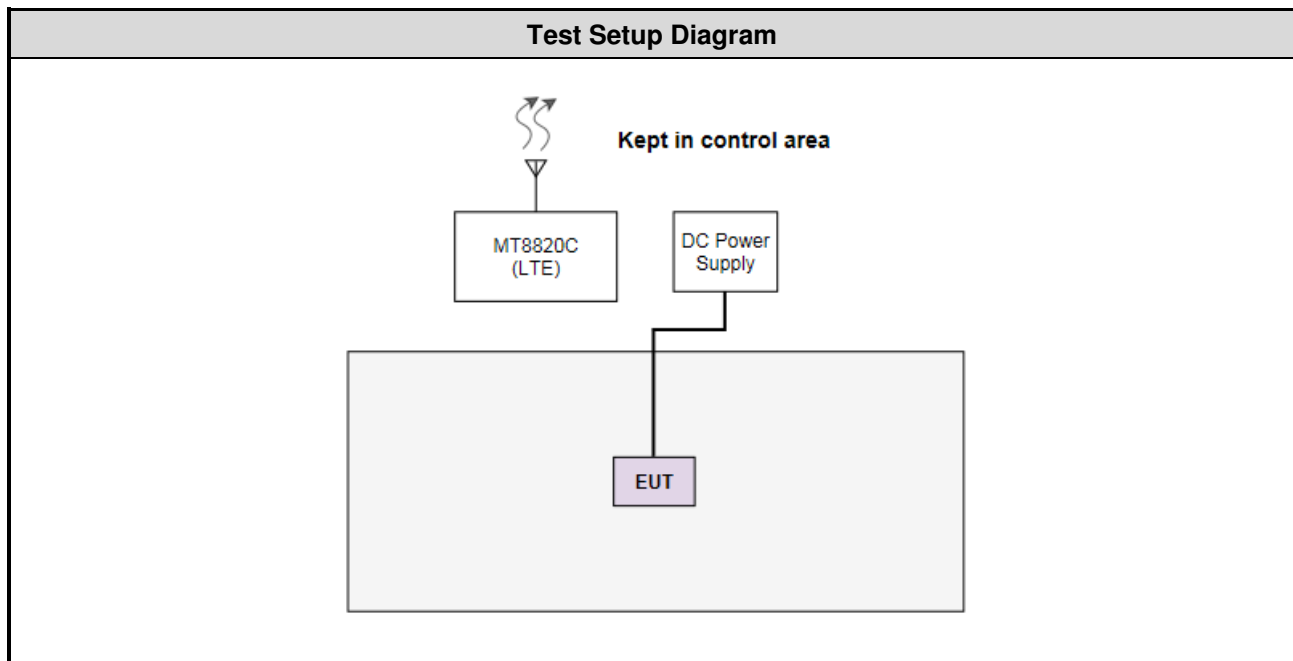
1.1.6 Operating Channel List

LTE Band 26		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
1.4	26697	814.7
1.4	26740	819.0
1.4	26783	823.3
3	26705	815.5
3	26740	819.0
3	26775	822.5
5	26715	816.5
5	26740	819.0
5	26765	821.5
10	26740	819.0
15	26765	821.5

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 90

47 CFR FCC Part 2

ANSI C63.4-2014

ANSI/TIA-603-D 2010

KDB 971168 D01 Power Meas License Digital Systems v02r02

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	26697 / 26740 / 26783
Conducted Emissions	3 MHz	QPSK / 16QAM	26705 / 26740 / 26775
Occupied Bandwidth	5 MHz	QPSK / 16QAM	26715 / 26740 / 26765
Peak to Average Ratio	10 MHz	QPSK / 16QAM	26740
	15 MHz	QPSK / 16QAM	26765
Radiated Emission ≤ 1GHz	1.4 MHz	QPSK	26697
	3 MHz	QPSK	26775
	5 MHz	QPSK	26740
	10 MHz	QPSK	26740
	15 MHz	QPSK	26765
Radiated Emission > 1GHz	1.4 MHz	QPSK	26697 / 26740 / 26783
	3 MHz	QPSK	26705 / 26740 / 26775
	5 MHz	QPSK	26715 / 26740 / 26765
	10 MHz	QPSK	26740
	15 MHz	QPSK	26765
Band Edge	1.4 MHz	QPSK / 16QAM	26697 / 26783
	3 MHz	QPSK / 16QAM	26705 / 26775
	5 MHz	QPSK / 16QAM	26715 / 26765
	10 MHz	QPSK / 16QAM	26740
	15 MHz	QPSK / 16QAM	26765
Frequency Stability	1.4 MHz	QPSK	26740
	3 MHz	QPSK	26740
	5 MHz	QPSK	26740
	10 MHz	QPSK	26740
	15 MHz	QPSK	26765
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 50 Watts.

3.1.2 Test Procedures

For Conducted power measurement:

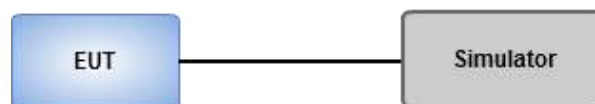
1. The EUT links up with simulator and is set to maximum output power level at low / middel / high channel.
2. Measure the output power of low / middle / high channel of the EUT.

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	26697	1	0	23.28	0.46	23.74	21.59	0.144	50
		1	2	23.35	0.46	23.81	21.66	0.147	50
		1	5	23.24	0.46	23.70	21.55	0.143	50
		3	0	23.16	0.46	23.62	21.47	0.140	50
		3	1	23.17	0.46	23.63	21.48	0.141	50
		3	2	23.04	0.46	23.50	21.35	0.136	50
		6	0	22.12	0.46	22.58	20.43	0.110	50
	26740	1	0	23.15	0.46	23.61	21.46	0.140	50
		1	2	23.24	0.46	23.70	21.55	0.143	50
		1	5	23.05	0.46	23.51	21.36	0.137	50
		3	0	23.15	0.46	23.61	21.46	0.140	50
		3	1	23.21	0.46	23.67	21.52	0.142	50
		3	2	23.16	0.46	23.62	21.47	0.140	50
		6	0	22.06	0.46	22.52	20.37	0.109	50
	26783	1	0	23.01	0.46	23.47	21.32	0.136	50
		1	2	23.19	0.46	23.65	21.50	0.141	50
		1	5	23.14	0.46	23.60	21.45	0.140	50
		3	0	23.08	0.46	23.54	21.39	0.138	50
		3	1	23.19	0.46	23.65	21.50	0.141	50
		3	2	23.10	0.46	23.56	21.41	0.138	50
		6	0	22.15	0.46	22.61	20.46	0.111	50
16QAM	26697	1	0	21.88	0.46	22.34	20.19	0.104	50
		1	2	22.32	0.46	22.78	20.63	0.116	50
		1	5	21.92	0.46	22.38	20.23	0.105	50
		3	0	21.62	0.46	22.08	19.93	0.098	50
		3	1	21.74	0.46	22.20	20.05	0.101	50
		3	2	21.76	0.46	22.22	20.07	0.102	50
		6	0	20.66	0.46	21.12	18.97	0.079	50
	26740	1	0	22.21	0.46	22.67	20.52	0.113	50
		1	2	22.45	0.46	22.91	20.76	0.119	50
		1	5	22.12	0.46	22.58	20.43	0.110	50
		3	0	21.76	0.46	22.22	20.07	0.102	50
		3	1	22.26	0.46	22.72	20.57	0.114	50
		3	2	22.22	0.46	22.68	20.53	0.113	50
		6	0	21.10	0.46	21.56	19.41	0.087	50
	26783	1	0	21.83	0.46	22.29	20.14	0.103	50
		1	2	21.97	0.46	22.43	20.28	0.107	50
		1	5	21.88	0.46	22.34	20.19	0.104	50
		3	0	21.73	0.46	22.19	20.04	0.101	50
		3	1	21.83	0.46	22.29	20.14	0.103	50
		3	2	21.78	0.46	22.24	20.09	0.102	50
		6	0	21.06	0.46	21.52	19.37	0.086	50

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	26705	1	0	23.11	0.46	23.57	21.42	0.139	50
		1	7	23.13	0.46	23.59	21.44	0.139	50
		1	14	23.12	0.46	23.58	21.43	0.139	50
		8	0	22.17	0.46	22.63	20.48	0.112	50
		8	4	22.13	0.46	22.59	20.44	0.111	50
		8	7	22.10	0.46	22.56	20.41	0.110	50
		15	0	22.09	0.46	22.55	20.40	0.110	50
	26740	1	0	23.12	0.46	23.58	21.43	0.139	50
		1	7	23.30	0.46	23.76	21.61	0.145	50
		1	14	23.21	0.46	23.67	21.52	0.142	50
		8	0	22.01	0.46	22.47	20.32	0.108	50
		8	4	22.09	0.46	22.55	20.40	0.110	50
		8	7	22.16	0.46	22.62	20.47	0.111	50
		15	0	22.05	0.46	22.51	20.36	0.109	50
	26775	1	0	23.11	0.46	23.57	21.42	0.139	50
		1	7	23.35	0.46	23.81	21.66	0.147	50
		1	14	23.25	0.46	23.71	21.56	0.143	50
		8	0	22.04	0.46	22.50	20.35	0.108	50
		8	4	22.07	0.46	22.53	20.38	0.109	50
		8	7	22.12	0.46	22.58	20.43	0.110	50
		15	0	21.89	0.46	22.35	20.20	0.105	50
16QAM	26705	1	0	21.77	0.46	22.23	20.08	0.102	50
		1	7	22.01	0.46	22.47	20.32	0.108	50
		1	14	21.63	0.46	22.09	19.94	0.099	50
		8	0	21.10	0.46	21.56	19.41	0.087	50
		8	4	21.06	0.46	21.52	19.37	0.086	50
		8	7	20.93	0.46	21.39	19.24	0.084	50
		15	0	21.07	0.46	21.53	19.38	0.087	50
	26740	1	0	22.20	0.46	22.66	20.51	0.112	50
		1	7	22.42	0.46	22.88	20.73	0.118	50
		1	14	22.39	0.46	22.85	20.70	0.117	50
		8	0	20.86	0.46	21.32	19.17	0.083	50
		8	4	22.08	0.46	22.54	20.39	0.109	50
		8	7	20.92	0.46	21.38	19.23	0.084	50
		15	0	21.08	0.46	21.54	19.39	0.087	50
	26775	1	0	22.21	0.46	22.67	20.52	0.113	50
		1	7	22.41	0.46	22.87	20.72	0.118	50
		1	14	22.24	0.46	22.70	20.55	0.114	50
		8	0	20.74	0.46	21.20	19.05	0.080	50
		8	4	20.96	0.46	21.42	19.27	0.085	50
		8	7	20.95	0.46	21.41	19.26	0.084	50
		15	0	20.95	0.46	21.41	19.26	0.084	50

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	26715	1	0	22.82	0.46	23.28	21.13	0.130	50
		1	12	22.91	0.46	23.37	21.22	0.132	50
		1	24	22.70	0.46	23.16	21.01	0.126	50
		12	0	22.16	0.46	22.62	20.47	0.111	50
		12	6	22.10	0.46	22.56	20.41	0.110	50
		12	11	22.16	0.46	22.62	20.47	0.111	50
		25	0	22.13	0.46	22.59	20.44	0.111	50
	26740	1	0	23.05	0.46	23.51	21.36	0.137	50
		1	12	23.34	0.46	23.80	21.65	0.146	50
		1	24	23.15	0.46	23.61	21.46	0.140	50
		12	0	22.02	0.46	22.48	20.33	0.108	50
		12	6	22.22	0.46	22.68	20.53	0.113	50
		12	11	22.25	0.46	22.71	20.56	0.114	50
		25	0	22.02	0.46	22.48	20.33	0.108	50
	26765	1	0	22.98	0.46	23.44	21.29	0.135	50
		1	12	23.25	0.46	23.71	21.56	0.143	50
		1	24	23.02	0.46	23.48	21.33	0.136	50
		12	0	21.96	0.46	22.42	20.27	0.106	50
		12	6	22.19	0.46	22.65	20.50	0.112	50
		12	11	21.99	0.46	22.45	20.30	0.107	50
		25	0	21.96	0.46	22.42	20.27	0.106	50
16QAM	26715	1	0	22.04	0.46	22.50	20.35	0.108	50
		1	12	21.96	0.46	22.42	20.27	0.106	50
		1	24	21.83	0.46	22.29	20.14	0.103	50
		12	0	21.12	0.46	21.58	19.43	0.088	50
		12	6	21.20	0.46	21.66	19.51	0.089	50
		12	11	21.05	0.46	21.51	19.36	0.086	50
		25	0	21.21	0.46	21.67	19.52	0.090	50
	26740	1	0	22.20	0.46	22.66	20.51	0.112	50
		1	12	22.39	0.46	22.85	20.70	0.117	50
		1	24	22.25	0.46	22.71	20.56	0.114	50
		12	0	21.07	0.46	21.53	19.38	0.087	50
		12	6	21.22	0.46	21.68	19.53	0.090	50
		12	11	21.11	0.46	21.57	19.42	0.087	50
		25	0	20.96	0.46	21.42	19.27	0.085	50
	26765	1	0	21.76	0.46	22.22	20.07	0.102	50
		1	12	21.96	0.46	22.42	20.27	0.106	50
		1	24	21.74	0.46	22.20	20.05	0.101	50
		12	0	20.96	0.46	21.42	19.27	0.085	50
		12	6	21.25	0.46	21.71	19.56	0.090	50
		12	11	21.02	0.46	21.48	19.33	0.086	50
		25	0	20.66	0.46	21.12	18.97	0.079	50

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	26740	1	0	23.17	0.46	23.63	21.48	0.141	50
		1	24	23.48	0.46	23.94	21.79	0.151	50
		1	49	23.20	0.46	23.66	21.51	0.142	50
		25	0	22.07	0.46	22.53	20.38	0.109	50
		25	12	22.16	0.46	22.62	20.47	0.111	50
		25	24	22.11	0.46	22.57	20.42	0.110	50
		50	0	22.02	0.46	22.48	20.33	0.108	50
16QAM	26740	1	0	22.26	0.46	22.72	20.57	0.114	50
		1	24	22.66	0.46	23.12	20.97	0.125	50
		1	49	22.76	0.46	23.22	21.07	0.128	50
		27	0	21.21	0.46	21.67	19.52	0.090	50
		27	12	21.22	0.46	21.68	19.53	0.090	50
		27	23	21.20	0.46	21.66	19.51	0.089	50

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	26765	1	0	23.17	0.46	23.63	21.48	0.141	50
		1	24	23.48	0.46	23.94	21.79	0.151	50
		1	49	23.20	0.46	23.66	21.51	0.142	50
		25	0	22.07	0.46	22.53	20.38	0.109	50
		25	12	22.16	0.46	22.62	20.47	0.111	50
		25	24	22.11	0.46	22.57	20.42	0.110	50
		50	0	22.02	0.46	22.48	20.33	0.108	50
16QAM	26765	1	0	22.26	0.46	22.72	20.57	0.114	50
		1	24	22.66	0.46	23.12	20.97	0.125	50
		1	49	22.76	0.46	23.22	21.07	0.128	50
		27	0	20.96	0.46	21.42	19.27	0.085	50
		27	12	21.11	0.46	21.57	19.42	0.087	50
		27	23	21.14	0.46	21.60	19.45	0.088	50

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

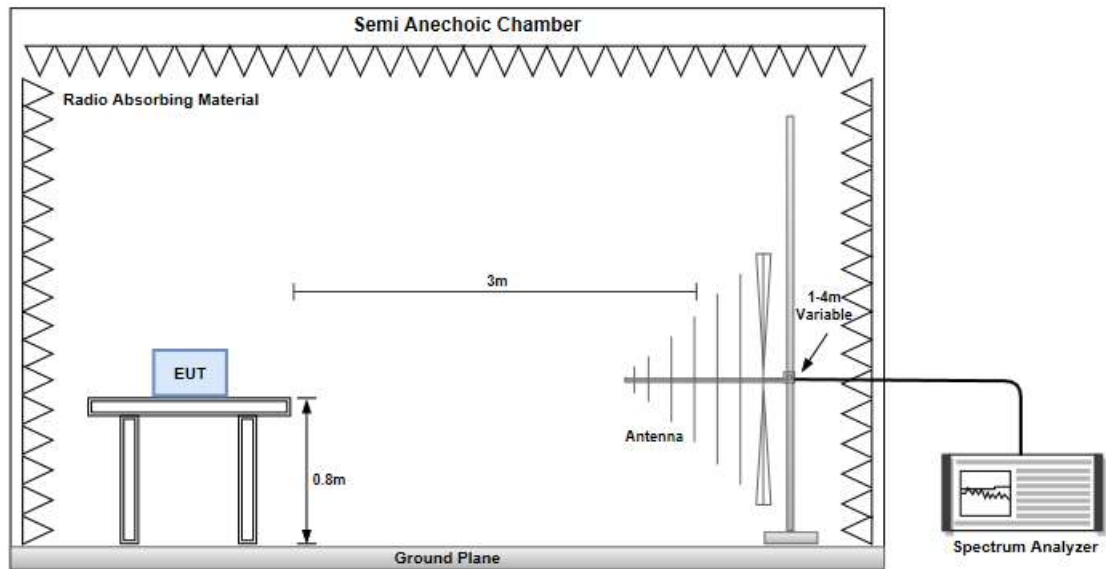
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB equal to -13dBm.

3.2.2 Test Procedures

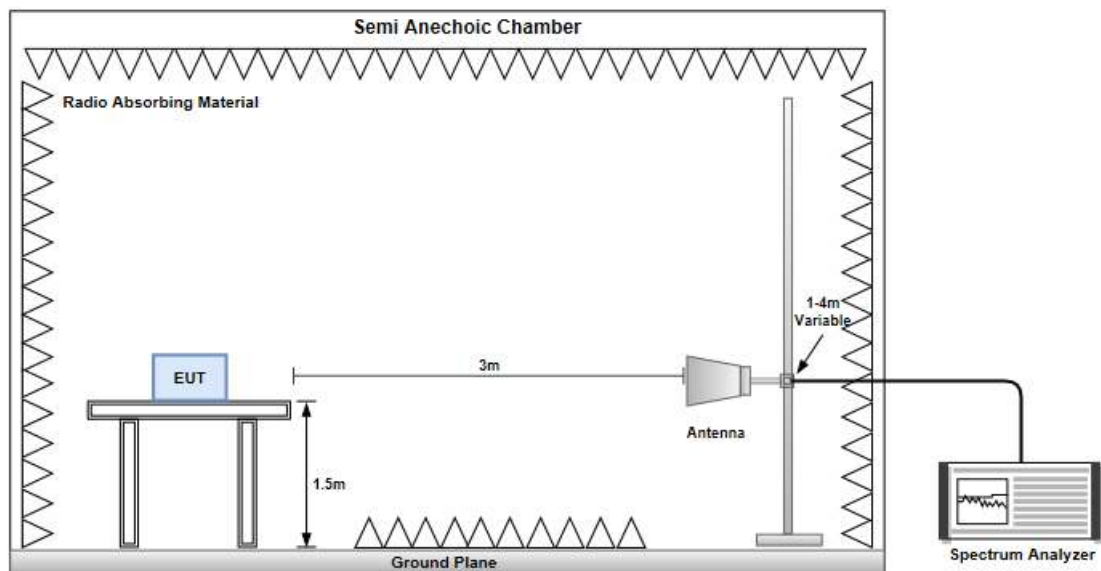
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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:26697						
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	-57.72	-13.00	-44.72	-63.19	-41.60	-13.97
170.65	H	-63.65	-13.00	-50.65	-60.76	-62.60	1.10
291.90	H	-68.73	-13.00	-55.73	-65.38	-70.89	4.31
367.56	H	-66.81	-13.00	-53.81	-67.03	-68.98	4.32
517.91	H	-65.53	-13.00	-52.53	-68.03	-67.46	4.08
651.77	H	-62.77	-13.00	-49.77	-67.06	-64.47	3.85
33.88	V	-61.31	-13.00	-48.31	-56.76	-45.89	-13.27
90.14	V	-61.88	-13.00	-48.88	-59.98	-60.51	0.78
179.38	V	-55.63	-13.00	-42.63	-56.18	-55.70	2.22
236.61	V	-63.46	-13.00	-50.46	-63.63	-65.74	4.43
467.47	V	-59.75	-13.00	-46.75	-61.87	-61.66	4.06
600.36	V	-59.69	-13.00	-46.69	-67.01	-61.08	3.54

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

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26775						
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	-58.15	-13.00	-45.15	-63.92	-42.03	-13.97
135.73	H	-66.96	-13.00	-53.96	-64.42	-63.56	-1.25
295.78	H	-68.72	-13.00	-55.72	-65.50	-70.87	4.30
411.21	H	-65.64	-13.00	-52.64	-66.56	-67.72	4.23
518.88	H	-64.92	-13.00	-51.92	-67.43	-66.85	4.08
692.51	H	-62.05	-13.00	-49.05	-66.80	-63.63	3.73
33.88	V	-60.42	-13.00	-47.42	-55.87	-45.00	-13.27
90.14	V	-61.29	-13.00	-48.29	-59.39	-59.92	0.78
229.82	V	-62.39	-13.00	-49.39	-62.45	-64.65	4.41
348.16	V	-61.21	-13.00	-48.21	-61.61	-63.40	4.34
587.75	V	-60.19	-13.00	-47.19	-67.02	-61.69	3.65
721.61	V	-59.28	-13.00	-46.28	-66.50	-60.72	3.59

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

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26740						
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	-58.12	-13.00	-45.12	-63.89	-42.00	-13.97
151.25	H	-68.94	-13.00	-55.94	-66.54	-66.05	-0.74
293.84	H	-67.60	-13.00	-54.60	-64.32	-69.75	4.30
384.05	H	-66.76	-13.00	-53.76	-67.27	-68.92	4.31
572.23	H	-63.79	-13.00	-50.79	-67.03	-65.42	3.78
664.38	H	-62.62	-13.00	-49.62	-67.05	-64.28	3.81
33.88	V	-61.38	-13.00	-48.38	-56.83	-45.96	-13.27
90.14	V	-60.08	-13.00	-47.08	-58.18	-58.71	0.78
235.64	V	-64.15	-13.00	-51.15	-64.30	-66.42	4.42
353.01	V	-66.81	-13.00	-53.81	-67.26	-69.00	4.34
481.05	V	-64.56	-13.00	-51.56	-67.06	-66.50	4.09
603.27	V	-60.40	-13.00	-47.40	-67.70	-61.81	3.56

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

Mode	LTE Band 26, CB:10MHz, 1RB, Offset 24,Channel:26740						
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	-55.83	-13.00	-42.83	-61.60	-39.71	-13.97
156.10	H	-67.76	-13.00	-54.76	-65.31	-65.14	-0.47
348.16	H	-66.78	-13.00	-53.78	-66.58	-68.97	4.34
468.44	H	-65.66	-13.00	-52.66	-67.36	-67.57	4.06
603.27	H	-63.21	-13.00	-50.21	-66.92	-64.62	3.56
728.40	H	-61.04	-13.00	-48.04	-67.03	-62.45	3.56
38.73	V	-60.55	-13.00	-47.55	-56.16	-45.93	-12.47
121.18	V	-58.78	-13.00	-45.78	-57.01	-55.77	-0.86
235.64	V	-61.85	-13.00	-48.85	-62.00	-64.12	4.42
440.31	V	-65.62	-13.00	-52.62	-67.10	-67.53	4.06
559.62	V	-61.30	-13.00	-48.30	-67.00	-63.04	3.89
628.49	V	-60.18	-13.00	-47.18	-67.37	-61.75	3.72

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

Mode	LTE Band 26, CB:15MHz, 1RB, Offset 37,Channel:26765						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
32.24	H	-55.99	-13.00	-42.99	-61.74	-40.18	-13.66
176.68	H	-66.39	-13.00	-53.39	-63.27	-66.12	1.88
353.42	H	-66.43	-13.00	-53.43	-66.41	-68.62	4.34
472.34	H	-65.82	-13.00	-52.82	-67.59	-67.74	4.07
604.58	H	-62.98	-13.00	-49.98	-66.70	-64.40	3.57
733.40	H	-61.35	-13.00	-48.35	-67.54	-62.73	3.53
36.51	V	-60.25	-13.00	-47.25	-55.78	-45.31	-12.79
141.53	V	-58.11	-13.00	-45.11	-57.33	-54.68	-1.28
241.39	V	-59.86	-13.00	-46.86	-61.10	-62.15	4.44
421.43	V	-64.53	-13.00	-51.53	-65.72	-66.55	4.17
564.27	V	-58.40	-13.00	-45.40	-64.29	-60.10	3.85
652.84	V	-58.57	-13.00	-45.57	-65.65	-60.26	3.84

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:26697						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1629.40	H	-55.72	-13.00	-42.72	-58.67	-58.32	4.75
2444.10	H	-51.79	-13.00	-38.79	-59.90	-55.69	6.05
4073.50	H	-50.99	-13.00	-37.99	-63.18	-55.43	6.59
1629.40	V	-49.66	-13.00	-36.66	-52.43	-52.26	4.75
2444.10	V	-51.54	-13.00	-38.54	-59.73	-55.44	6.05
4073.50	V	-50.50	-13.00	-37.50	-62.96	-54.94	6.59

Mode	LTE Band 26, CB:1.4MHz, 1RB, Offset 2,Channel:26740						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1638.00	H	-50.68	-13.00	-37.68	-53.67	-53.30	4.77
2457.00	H	-48.43	-13.00	-35.43	-56.56	-52.33	6.05
4095.00	H	-48.56	-13.00	-35.56	-60.72	-52.99	6.58
1638.00	V	-48.47	-13.00	-35.47	-51.29	-51.09	4.77
2457.00	V	-44.65	-13.00	-31.65	-52.83	-48.55	6.05
4095.00	V	-49.00	-13.00	-36.00	-61.46	-53.43	6.58

Mode	LTE Band 26, CB:1.4MHz, 1RB, Offset 2,Channel:26783						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1646.60	H	-51.52	-13.00	-38.52	-54.56	-54.16	4.79
2469.90	H	-49.83	-13.00	-36.83	-57.97	-53.73	6.05
4116.50	H	-50.68	-13.00	-37.68	-62.79	-55.09	6.56
1646.60	V	-50.27	-13.00	-37.27	-53.14	-52.91	4.79
2469.90	V	-51.28	-13.00	-38.28	-59.45	-55.18	6.05
4116.50	V	-50.51	-13.00	-37.51	-62.96	-54.92	6.56

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

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26705						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1631.00	H	-50.58	-13.00	-37.58	-53.53	-53.18	4.75
2446.50	H	-48.99	-13.00	-35.99	-57.11	-52.89	6.05
4077.50	H	-50.36	-13.00	-37.36	-62.54	-54.80	6.59
1631.00	V	-48.25	-13.00	-35.25	-51.03	-50.85	4.75
2446.50	V	-45.44	-13.00	-32.44	-53.64	-49.34	6.05
4077.50	V	-47.50	-13.00	-34.50	-59.96	-51.94	6.59

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26740						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1638.00	H	-50.79	-13.00	-37.79	-53.78	-53.41	4.77
2457.00	H	-44.52	-13.00	-31.52	-52.65	-48.42	6.05
4095.00	H	-48.50	-13.00	-35.50	-60.66	-52.93	6.58
1638.00	V	-50.79	-13.00	-37.79	-53.61	-53.41	4.77
2457.00	V	-44.52	-13.00	-31.52	-52.70	-48.42	6.05
4095.00	V	-48.50	-13.00	-35.50	-60.96	-52.93	6.58

Mode	LTE Band 26, CB:3MHz, 1RB, Offset 7,Channel:26775						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1645.00	H	-50.73	-13.00	-37.73	-53.77	-53.37	4.79
2467.50	H	-42.79	-13.00	-29.79	-50.93	-46.69	6.05
4112.50	H	-44.50	-13.00	-31.50	-56.62	-48.92	6.57
1645.00	V	-45.56	-13.00	-32.56	-48.42	-48.20	4.79
2467.50	V	-43.70	-13.00	-30.70	-51.88	-47.60	6.05
4112.50	V	-45.77	-13.00	-32.77	-58.22	-50.19	6.57

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

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26715						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1633.00	H	-57.08	-13.00	-44.08	-60.04	-59.69	4.76
2449.50	H	-48.92	-13.00	-35.92	-57.04	-52.82	6.05
4082.50	H	-51.77	-13.00	-38.77	-63.94	-56.21	6.59
1633.00	V	-48.78	-13.00	-35.78	-51.57	-51.39	4.76
2449.50	V	-51.43	-13.00	-38.43	-59.62	-55.33	6.05
4082.50	V	-49.78	-13.00	-36.78	-62.23	-54.22	6.59

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26740						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1638.00	H	-58.17	-13.00	-45.17	-61.16	-60.79	4.77
2457.00	H	-51.61	-13.00	-38.61	-59.74	-55.51	6.05
4095.00	H	-51.54	-13.00	-38.54	-63.70	-55.97	6.58
1638.00	V	-50.23	-13.00	-37.23	-53.05	-52.85	4.77
2457.00	V	-49.98	-13.00	-36.98	-58.16	-53.88	6.05
4095.00	V	-49.17	-13.00	-36.17	-61.63	-53.60	6.58

Mode	LTE Band 26, CB:5MHz, 1RB, Offset 12,Channel:26765						
Frequency (MHz)	Antenna Polarity.	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1643.00	H	-57.01	-13.00	-44.01	-60.04	-59.64	4.78
2464.50	H	-53.08	-13.00	-40.08	-61.21	-56.98	6.05
4107.50	H	-50.68	-13.00	-37.68	-62.81	-55.10	6.57
1643.00	V	-49.57	-13.00	-36.57	-52.42	-52.20	4.78
2464.50	V	-50.50	-13.00	-37.50	-58.67	-54.40	6.05
4107.50	V	-49.47	-13.00	-36.47	-61.92	-53.89	6.57

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

Mode	LTE Band 26, CB:10MHz, 1RB, Offset 24,Channel:26740						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1638.00	H	-58.38	-13.00	-45.38	-61.37	-61.00	4.77
2457.00	H	-51.90	-13.00	-38.90	-60.03	-55.80	6.05
4095.00	H	-51.07	-13.00	-38.07	-63.23	-55.50	6.58
1638.00	V	-50.06	-13.00	-37.06	-52.88	-52.68	4.77
2457.00	V	-49.68	-13.00	-36.68	-57.86	-53.58	6.05
4095.00	V	-48.66	-13.00	-35.66	-61.12	-53.09	6.58

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

Mode	LTE Band 26, CB:15MHz, 1RB, Offset 37,Channel:26765						
Frequency (MHz)	Antenna Polarity	E.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
1643.00	H	-55.62	-13.00	-42.62	-58.61	-58.25	4.78
2464.50	H	-50.99	-13.00	-37.99	-59.12	-54.89	6.05
4107.50	H	-48.46	-13.00	-35.46	-60.62	-52.88	6.57
1643.00	V	-50.17	-13.00	-37.17	-52.99	-52.80	4.78
2464.50	V	-48.42	-13.00	-35.42	-56.60	-52.32	6.05
4107.50	V	-49.40	-13.00	-36.40	-62.36	-53.82	6.57

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

3.3 Conducted Emissions

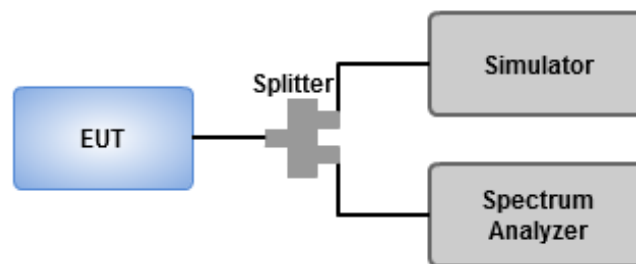
3.3.1 Limit of Conducted Emissions

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.

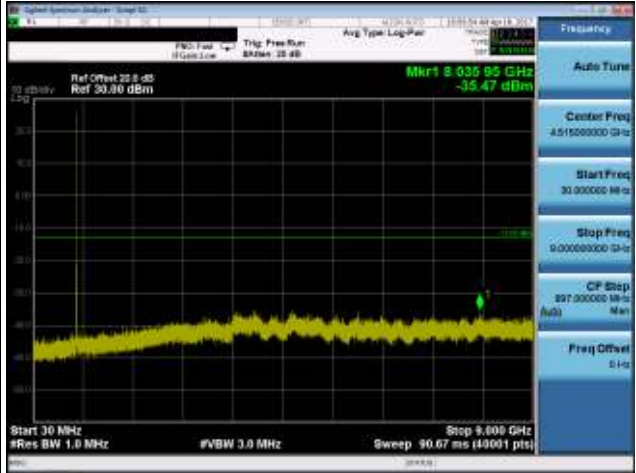
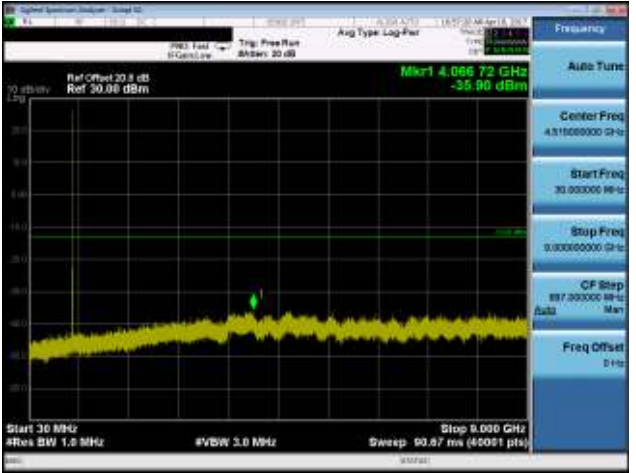
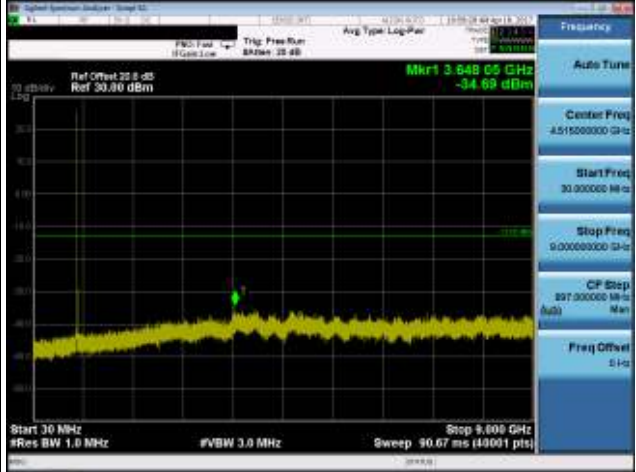
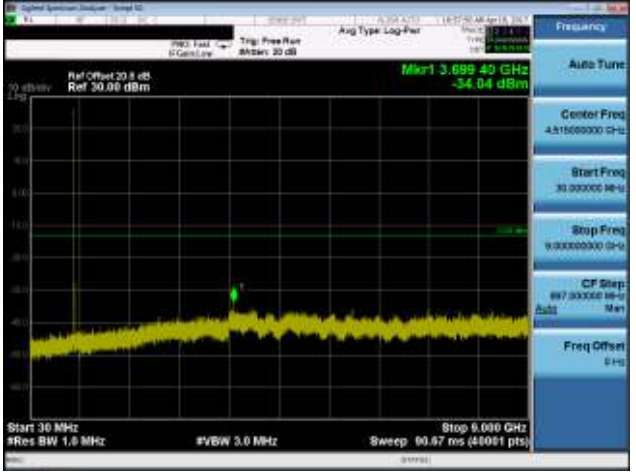
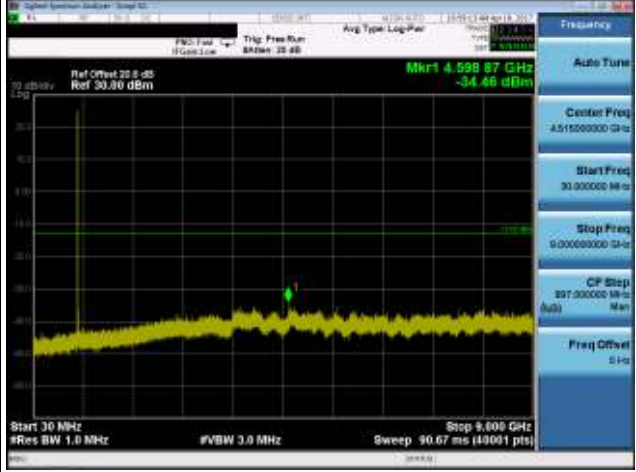
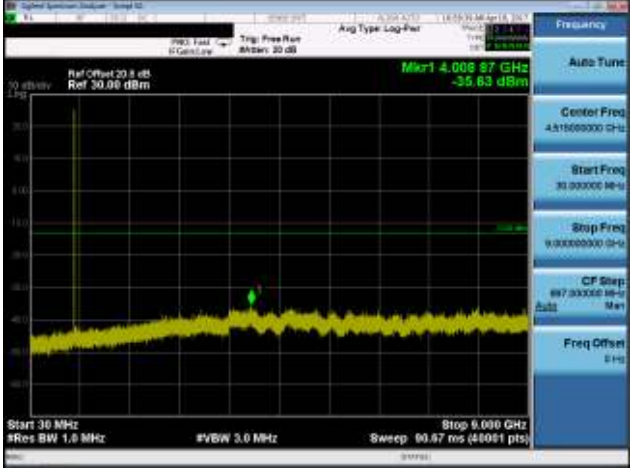
3.3.2 Test Procedures

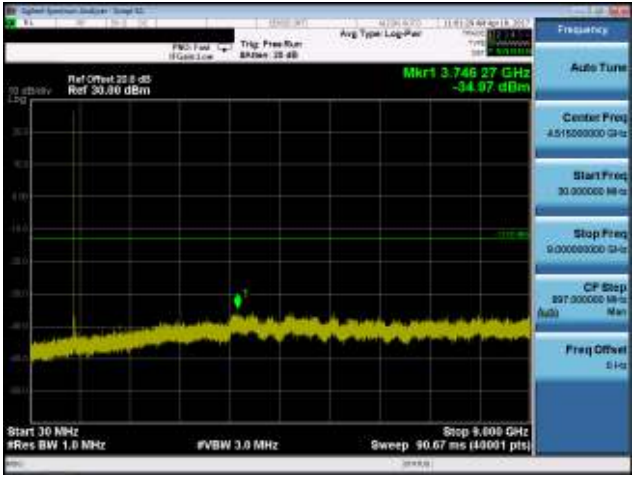
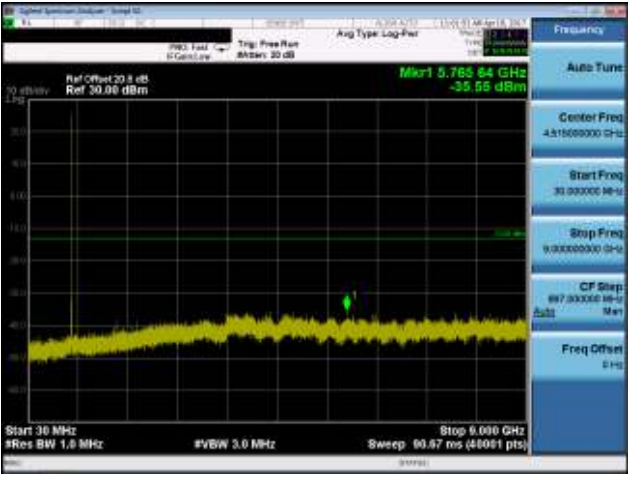
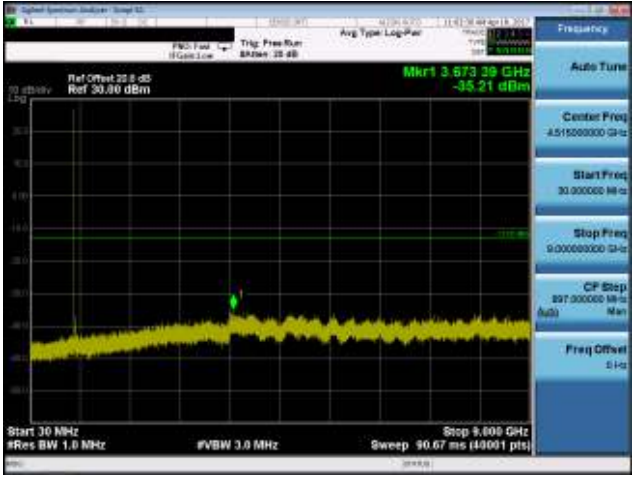
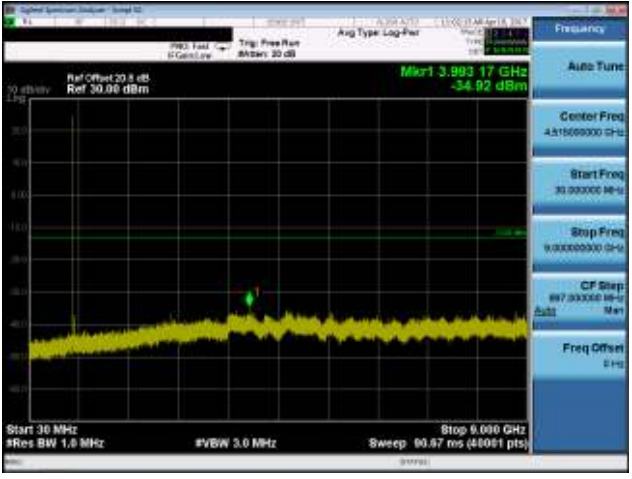
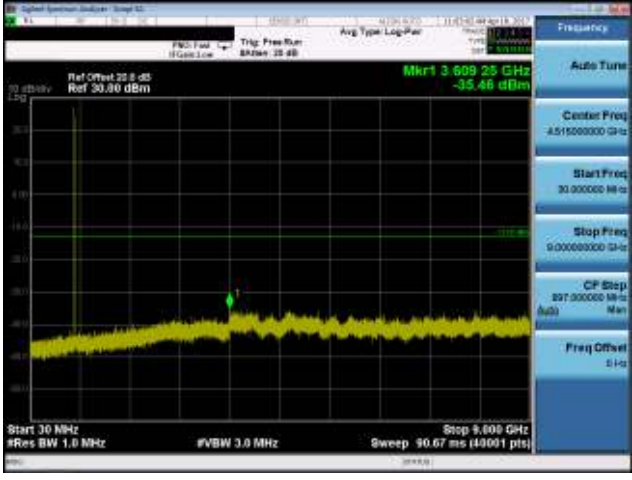
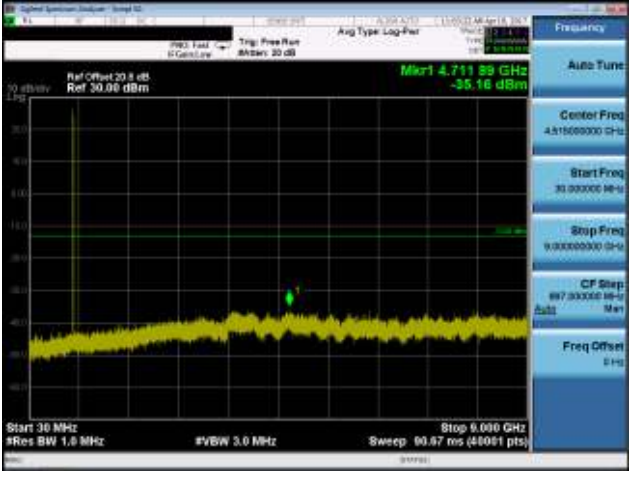
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz ~ 9GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = RMS, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

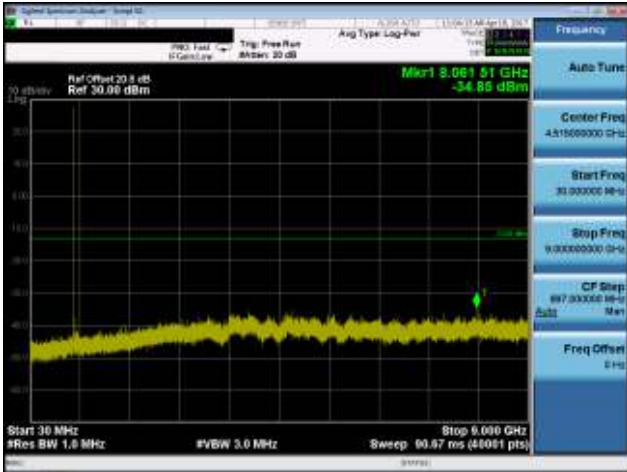
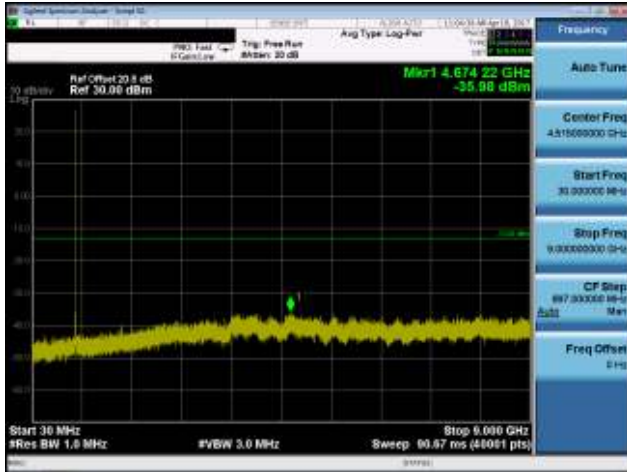
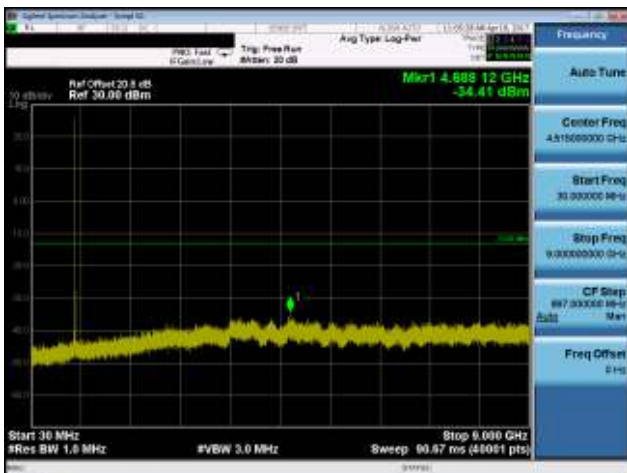
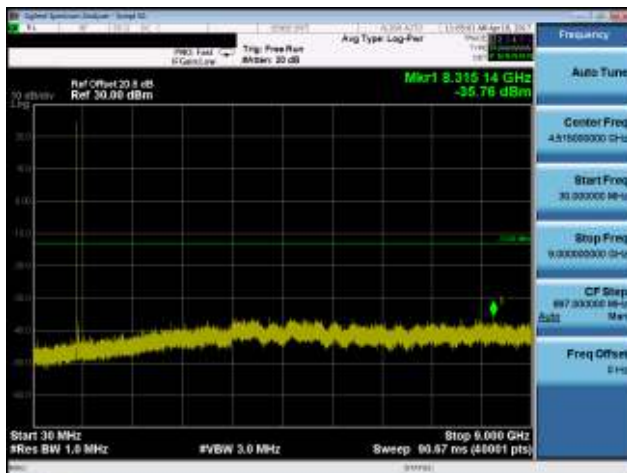
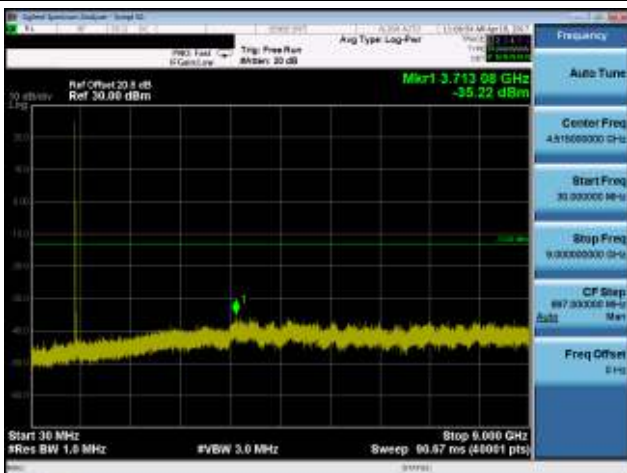
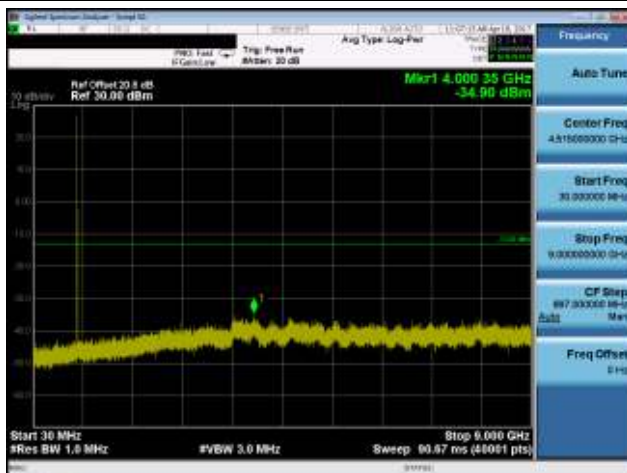
3.3.3 Test Setup

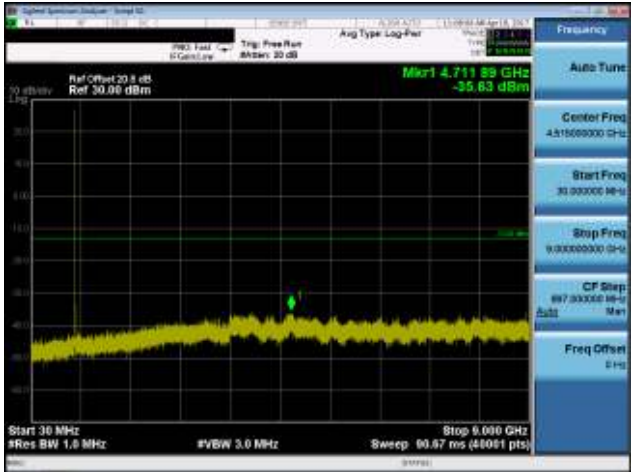
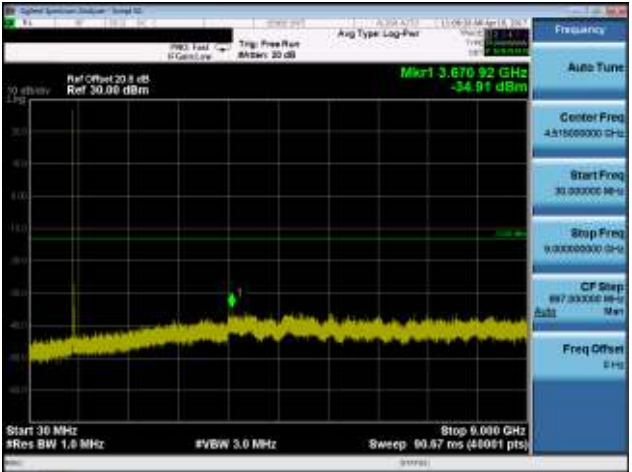


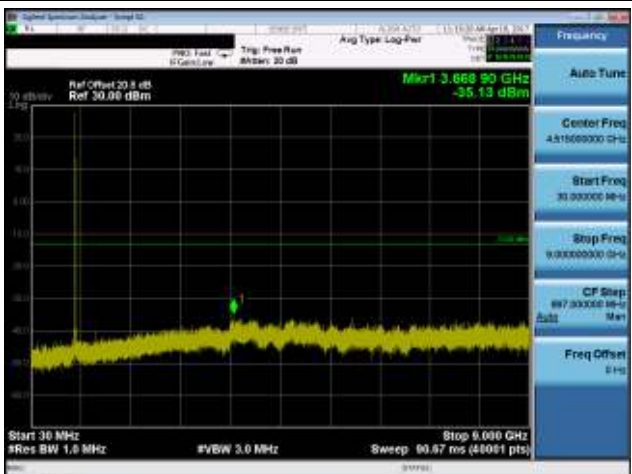
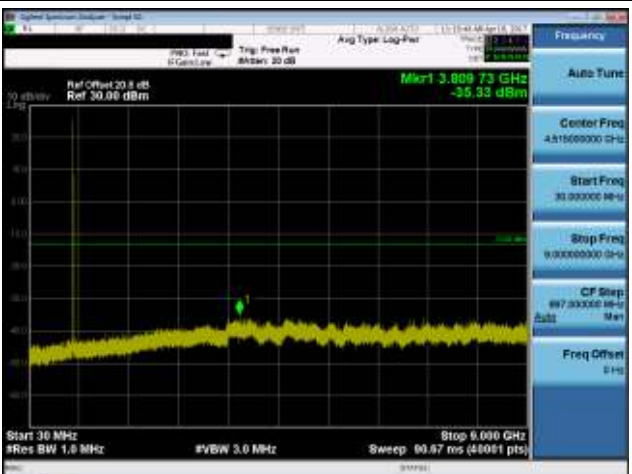
3.3.4 Test Result of Conducted Emissions

Mode	LTE Band 26, CB: 1.4MHz, QPSK	Mode	LTE Band 26, CB: 1.4MHz, 16QAM
Channel	26697	Channel	26697
			
Channel	26740	Channel	26740
			
Channel	26783	Channel	26783
			

Mode	LTE Band 26, CB: 3MHz, QPSK	Mode	LTE Band 26, CB: 3MHz, 16QAM
Channel	26705	Channel	26705
			
Channel	26740	Channel	26740
			
Channel	26775	Channel	26775
			

Mode	LTE Band 26, CB: 5MHz, QPSK	Mode	LTE Band 26, CB: 5MHz, 16QAM
Channel	26715	Channel	26715
			
Channel	26740	Channel	26740
			
Channel	26765	Channel	26765
			

Mode	LTE Band 26, CB: 10MHz, QPSK	Mode	LTE Band 26, CB: 10MHz, 16QAM
Channel	26740	Channel	26740
			

Mode	LTE Band 26, CB: 15MHz, QPSK	Mode	LTE Band 26, CB: 10MHz, 16QAM
Channel	26765	Channel	26765
			

3.4 Band edge

3.4.1 Limit of band edge

For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

3.4.2 Test Procedures

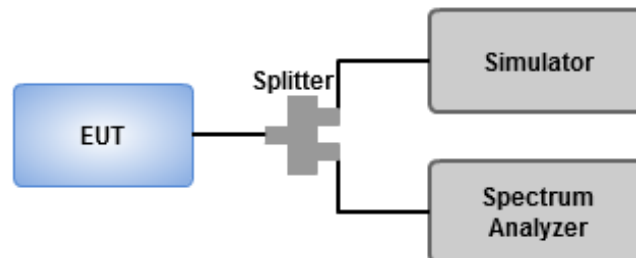
For out-of band emission except emission within 1MHz band immediately outside and adjacent to the edge

- 1 Lowest and highest operating channels are tested for this item.
- 2 Set RBW = 100 kHz, VBW = 300 kHz detector = RMS, sweep time = auto to measure trace.

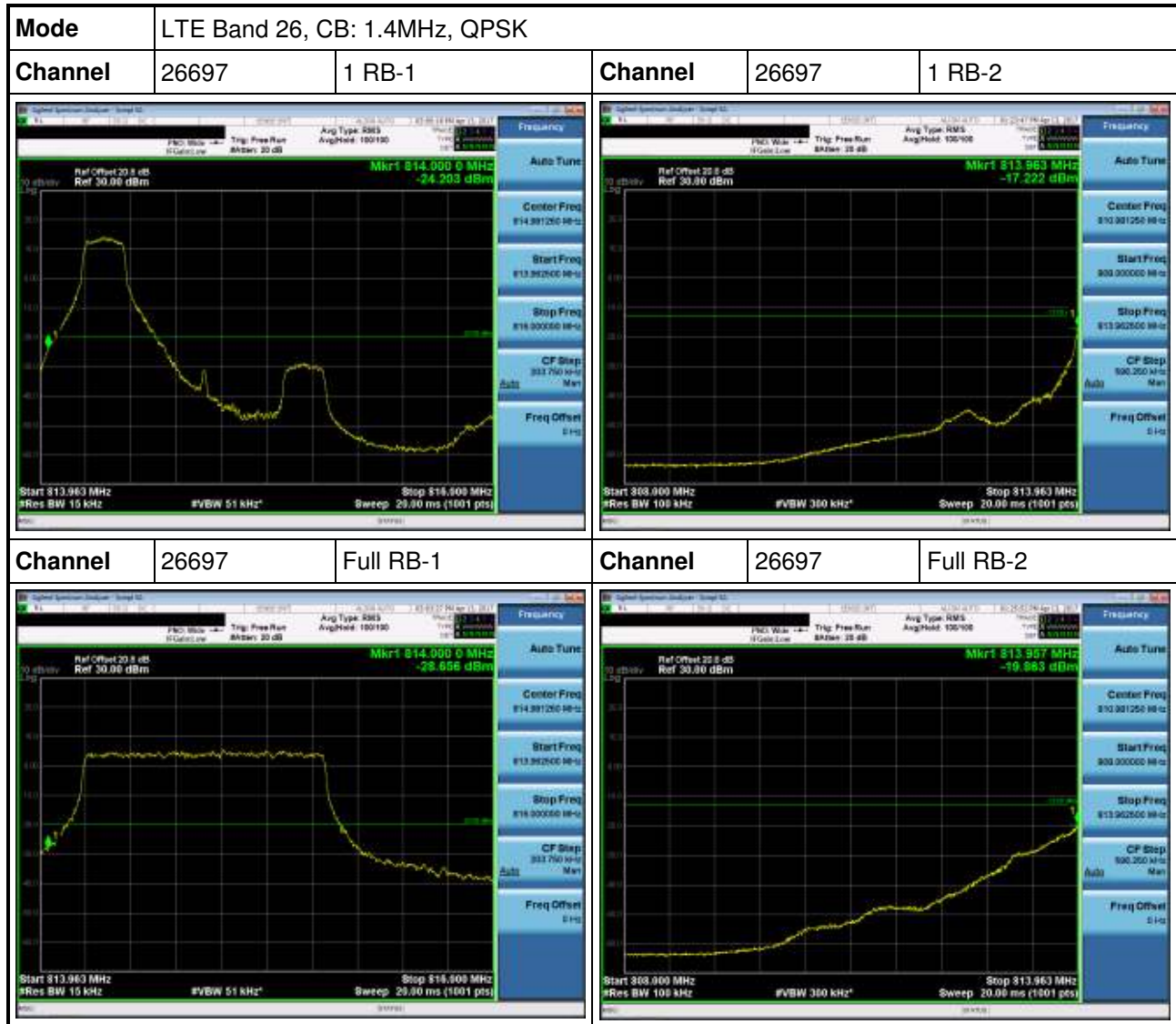
For emission within 1MHz band immediately outside and adjacent to the edge

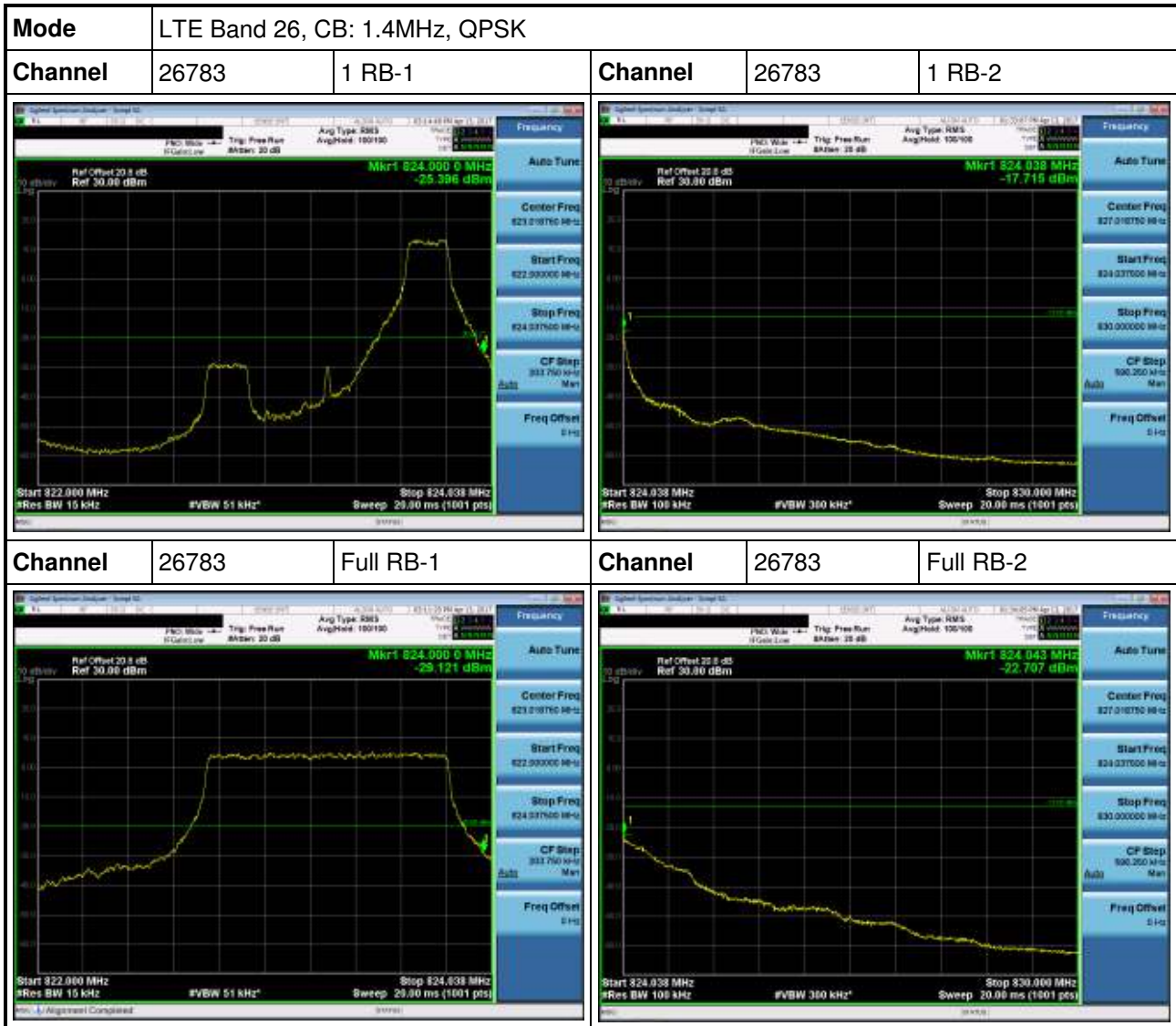
- 1 Lowest and highest operating channels are tested for this item.
- 2 Set RBW = at least 1% of 26dB bandwidth, VBW = 3 x RBW detector = RMS, sweep time = auto to measure trace.

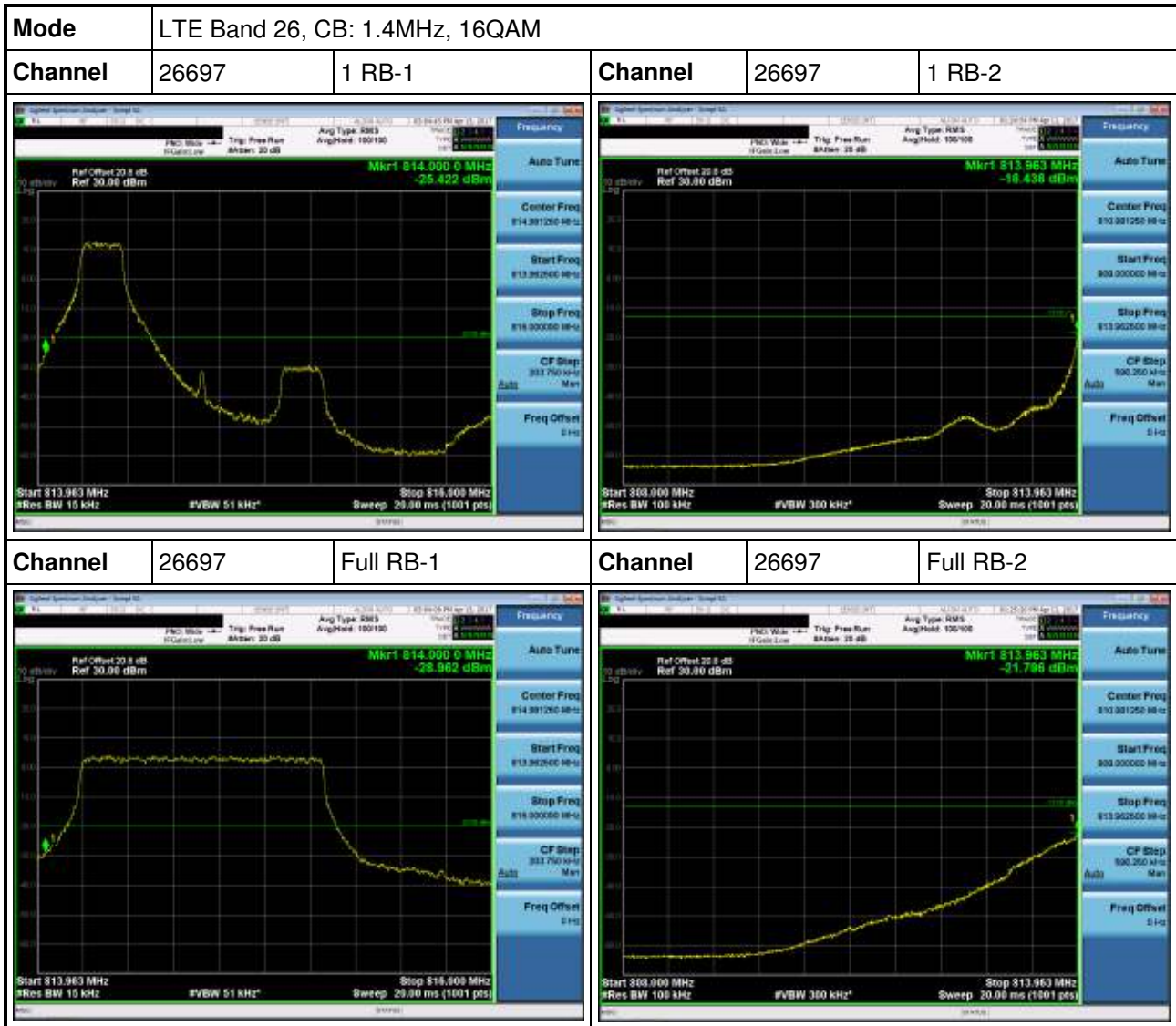
3.4.3 Test Setup

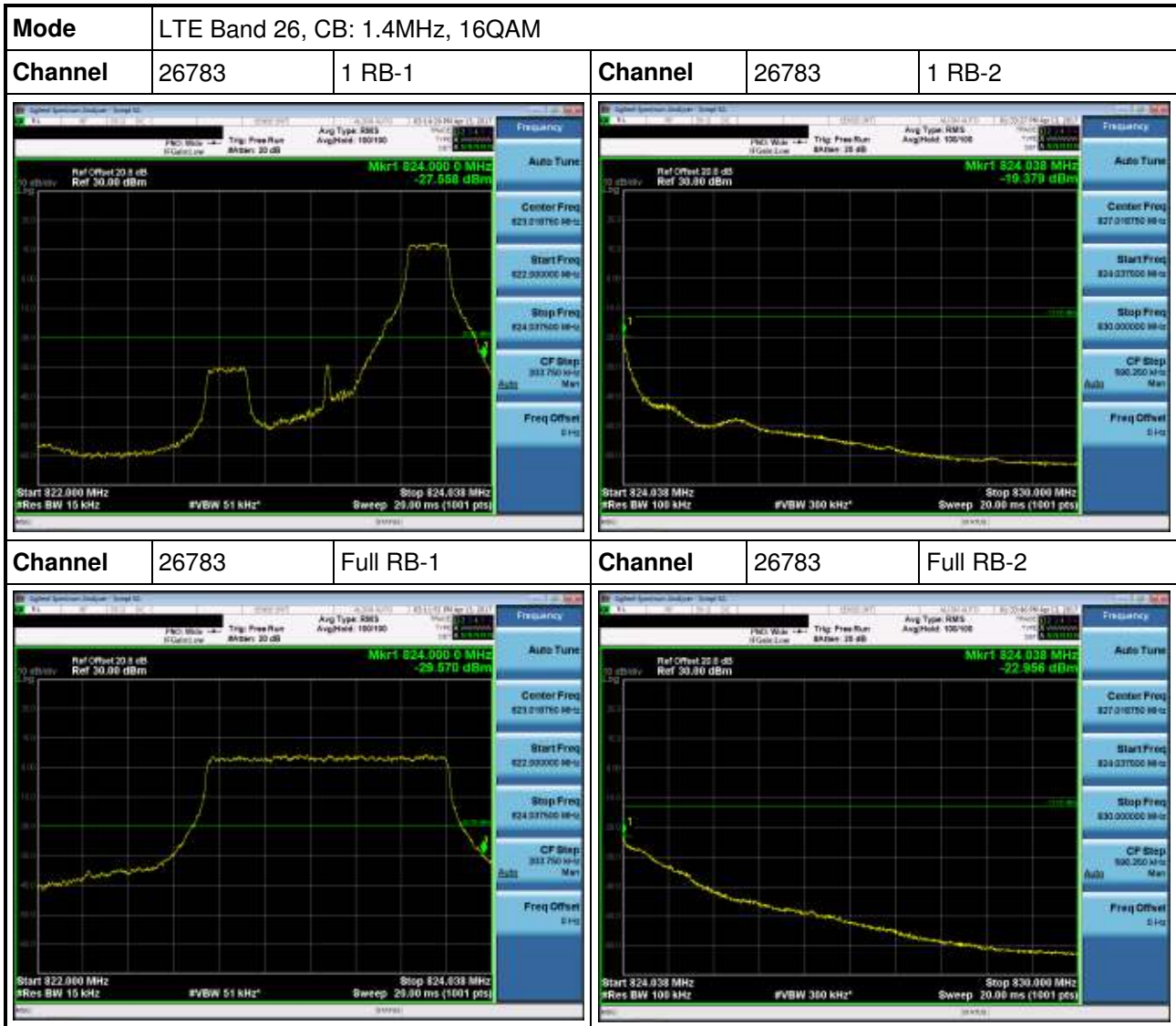


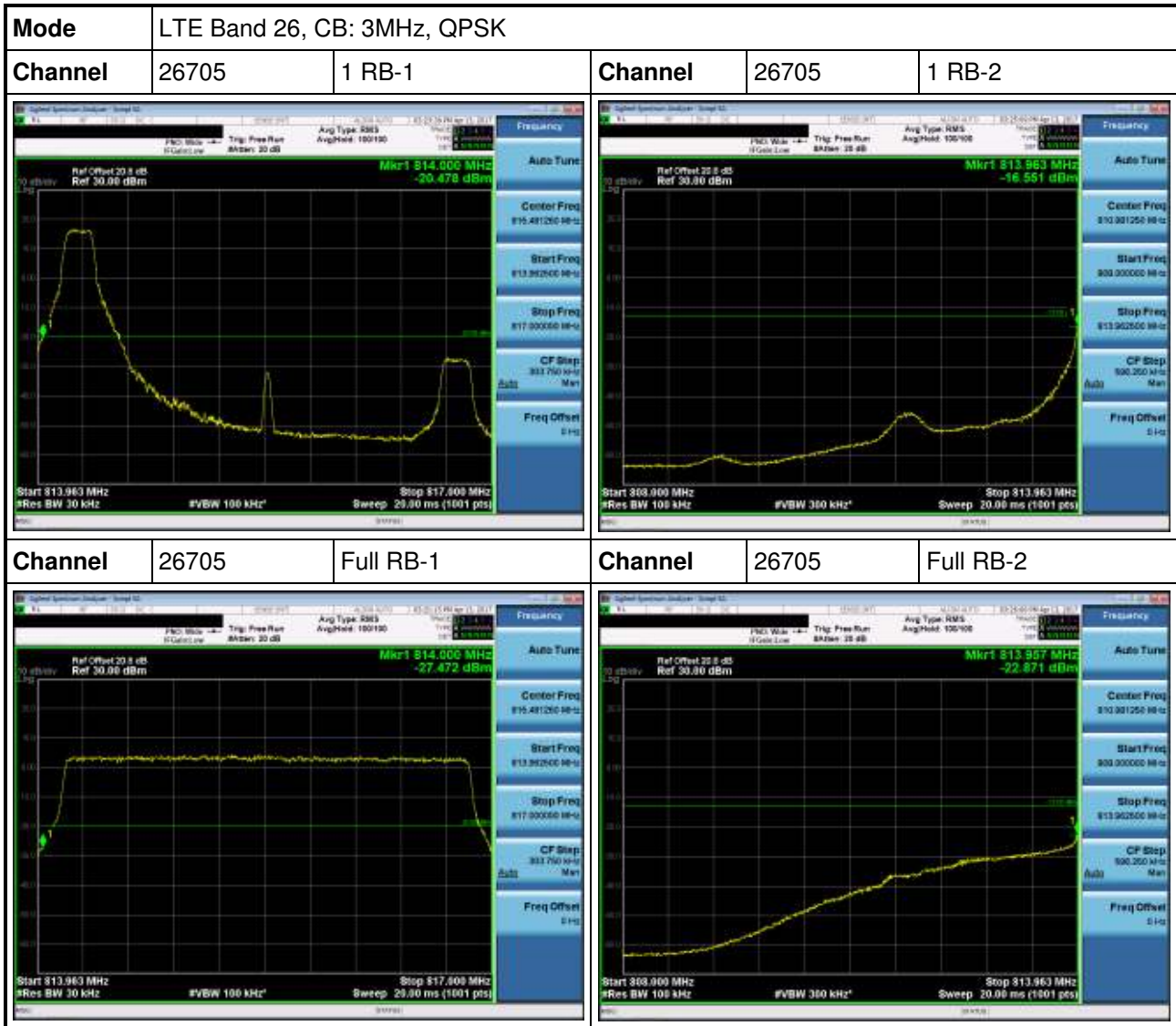
3.4.4 Test Result of Band Edge

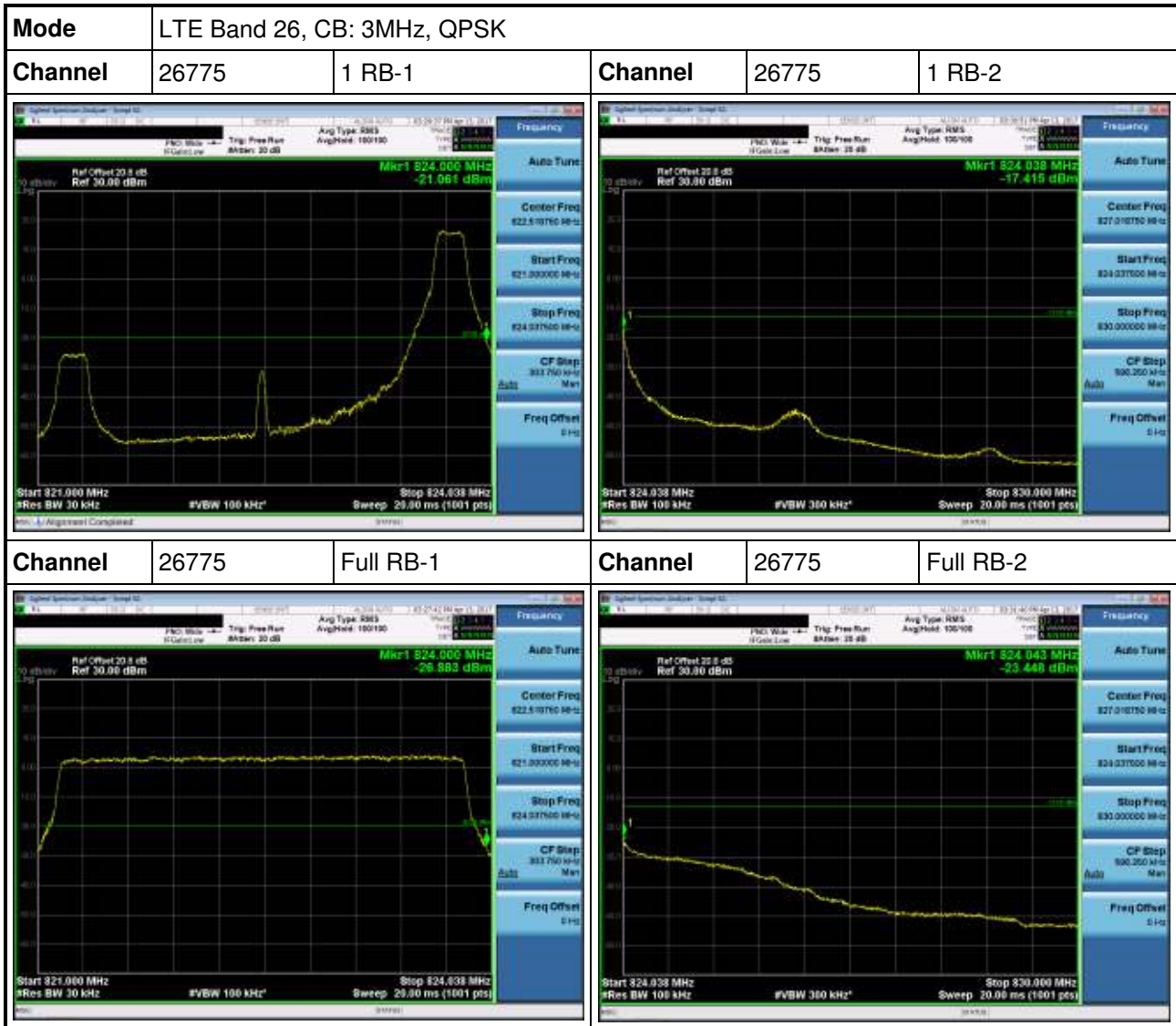


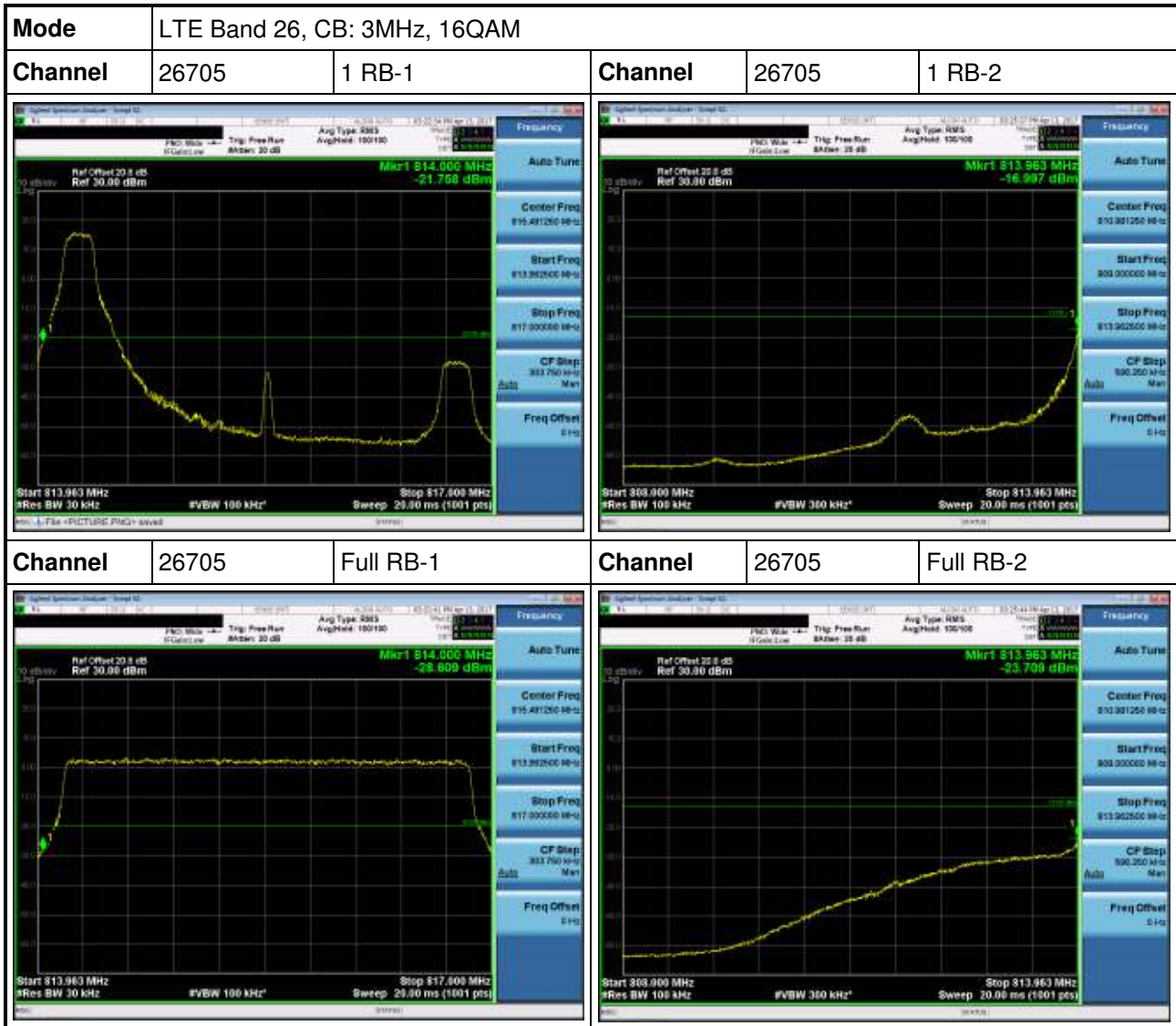


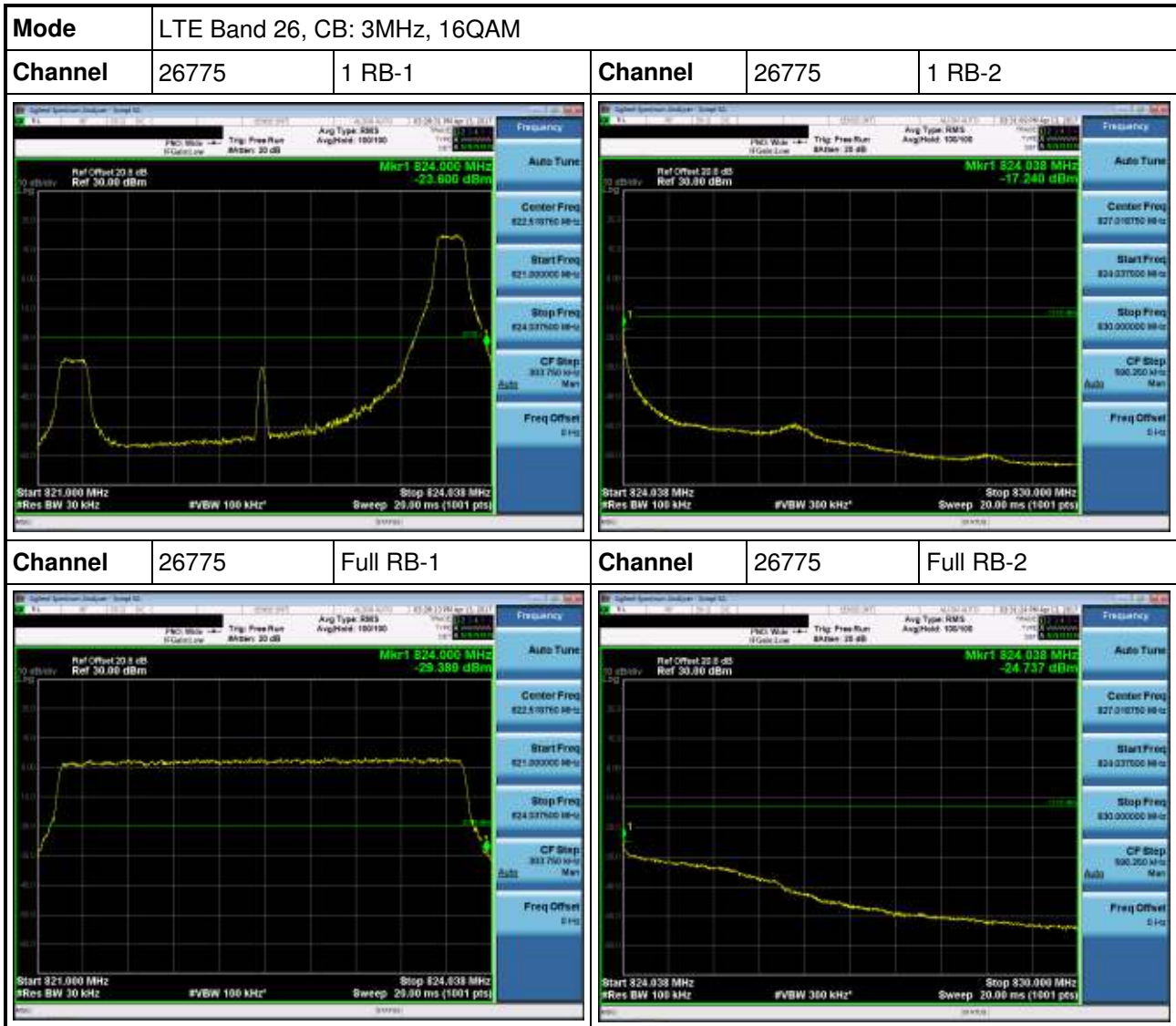


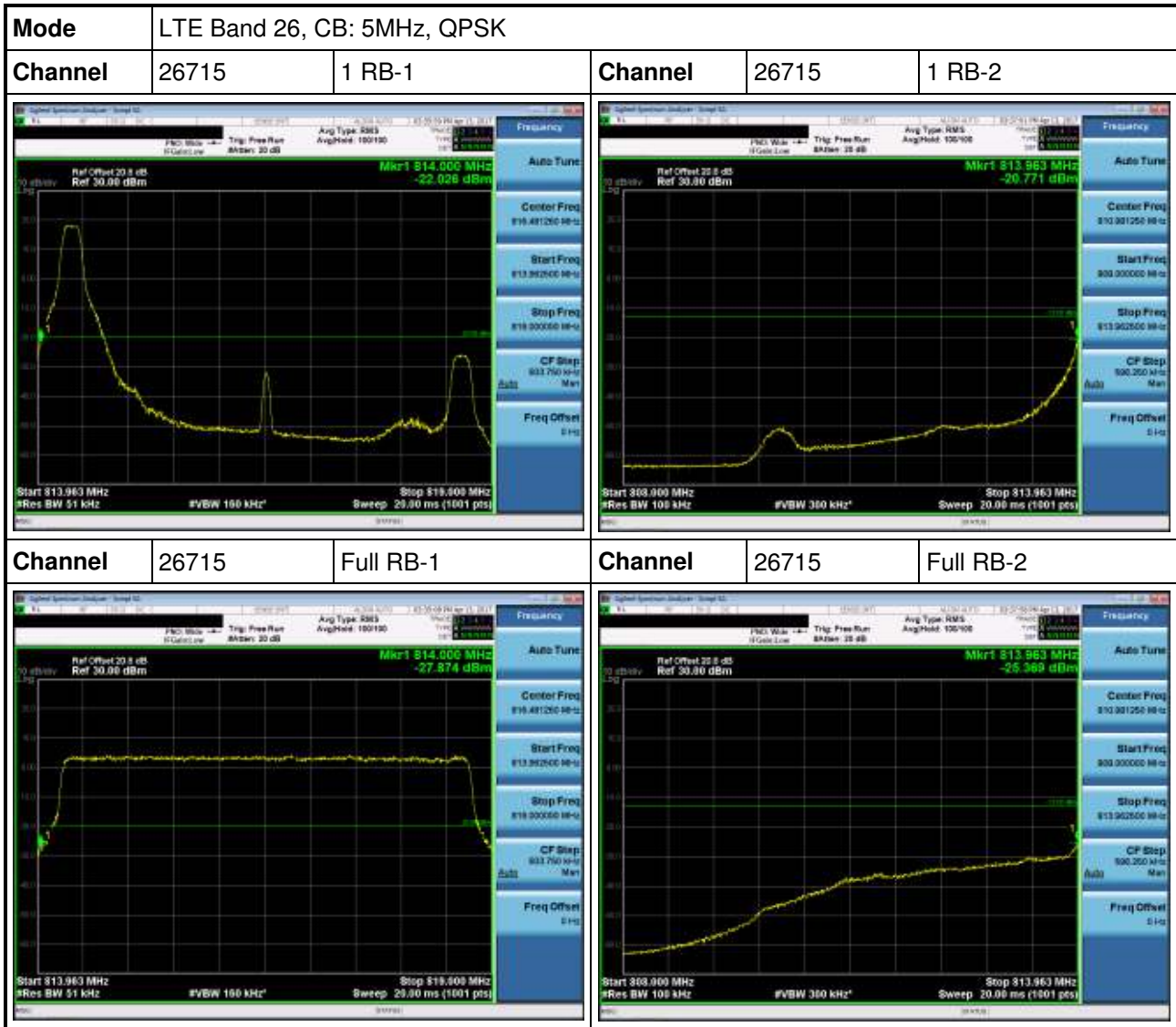


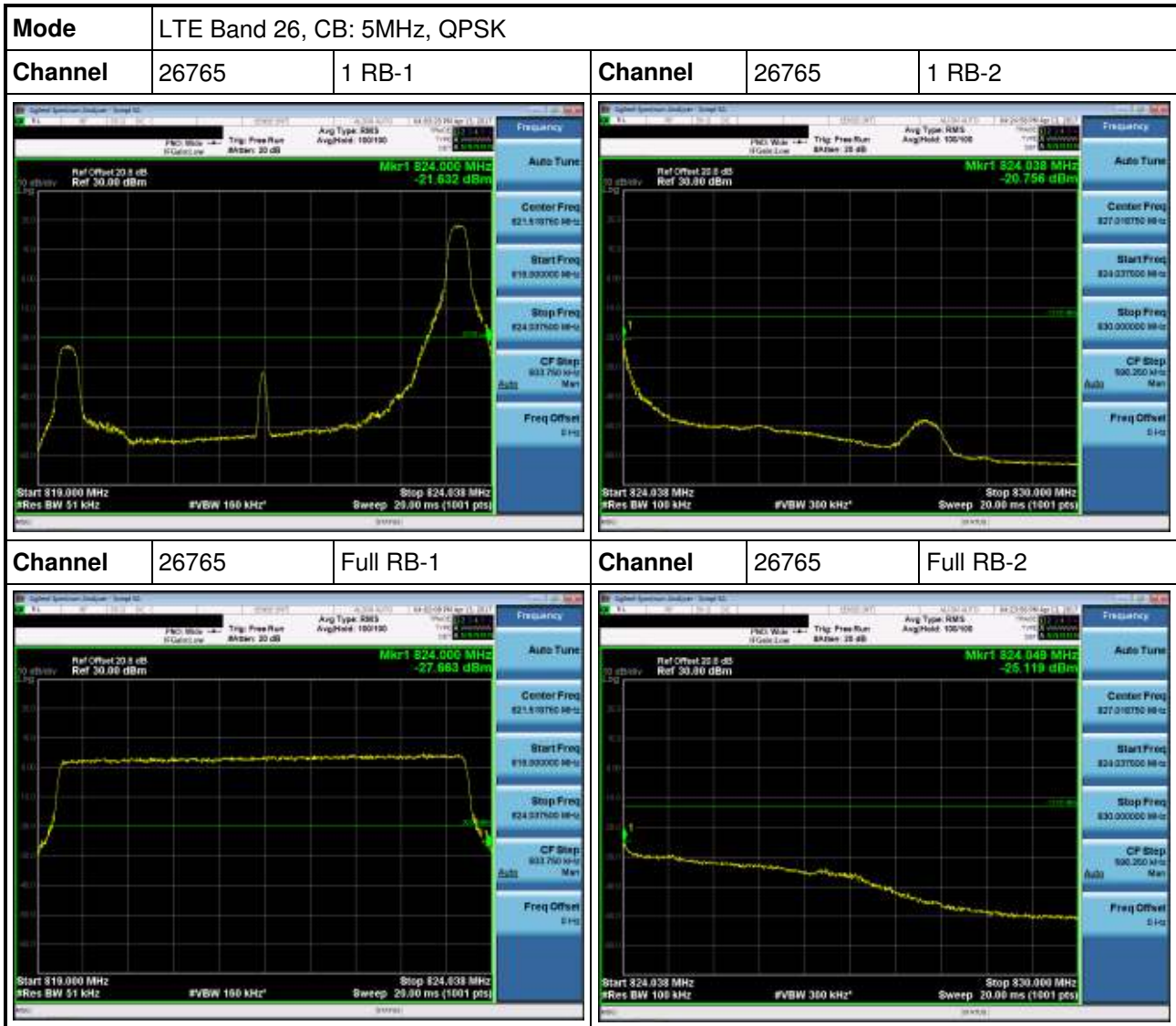


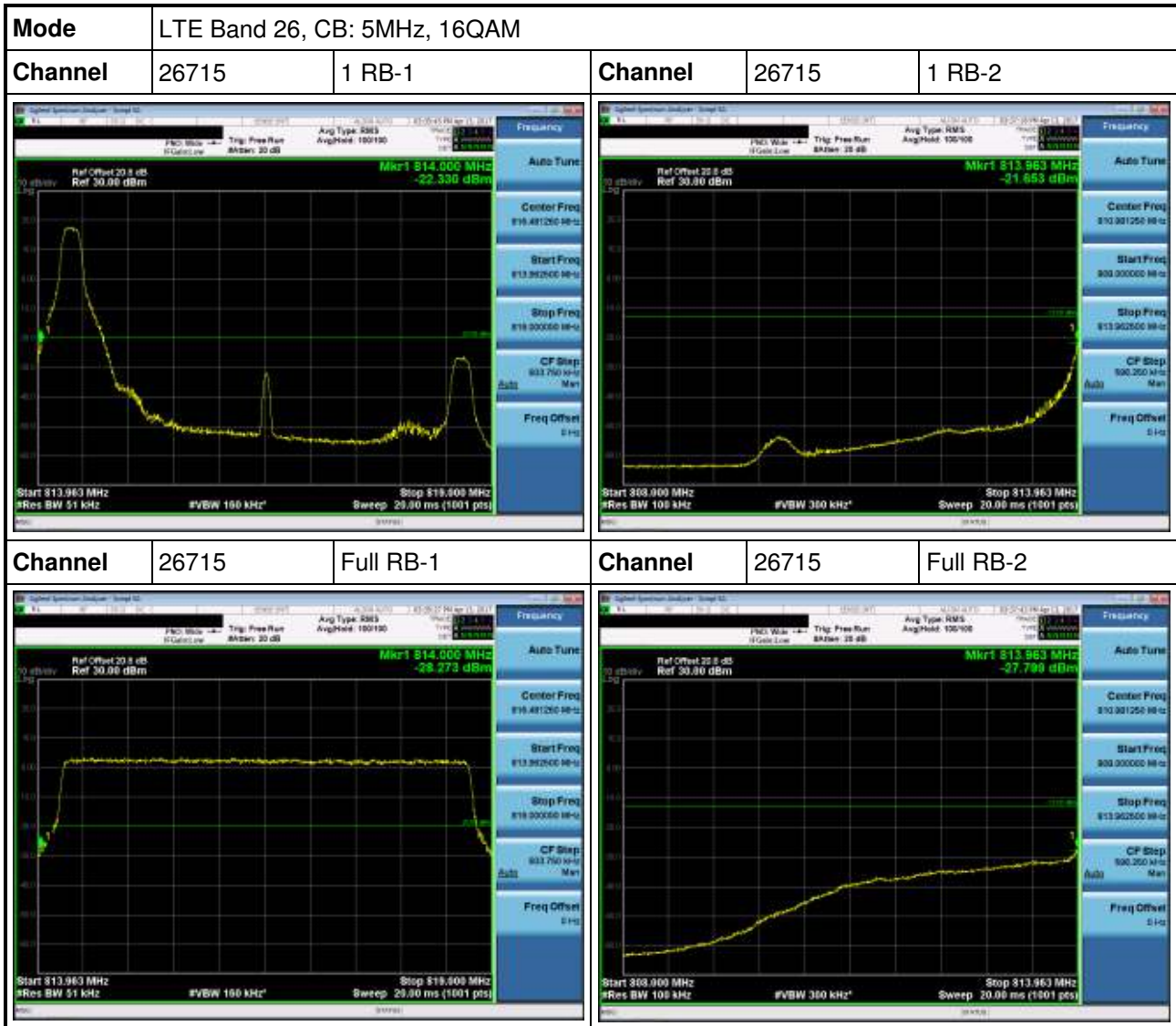


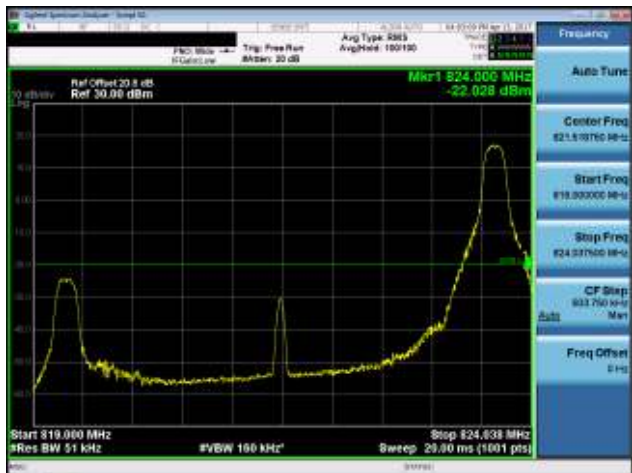


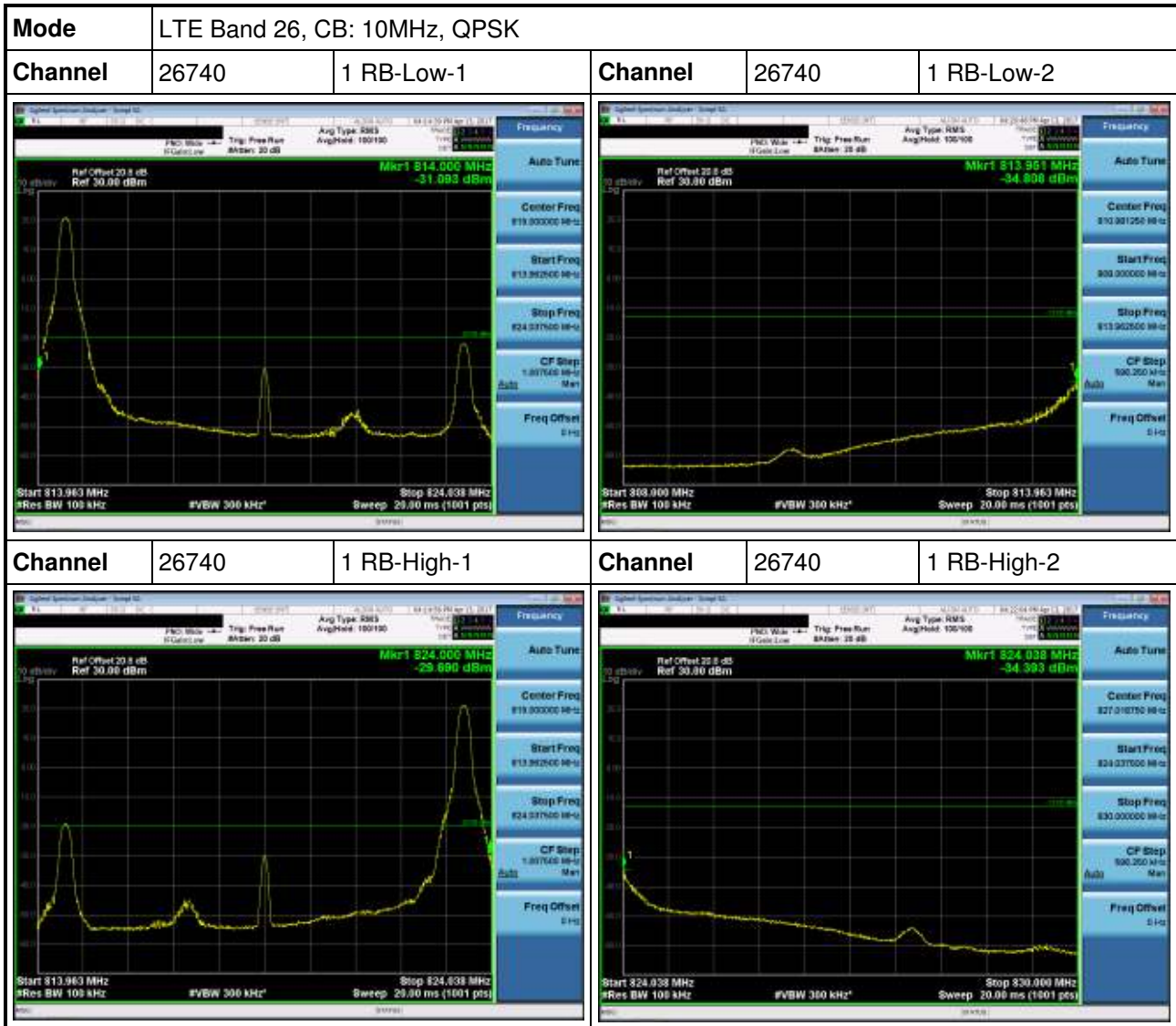


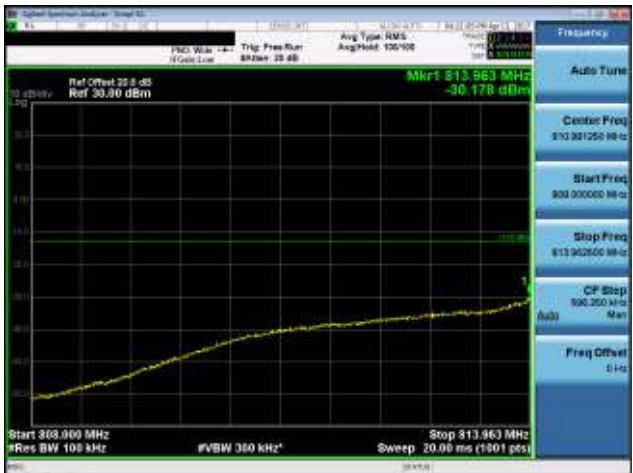
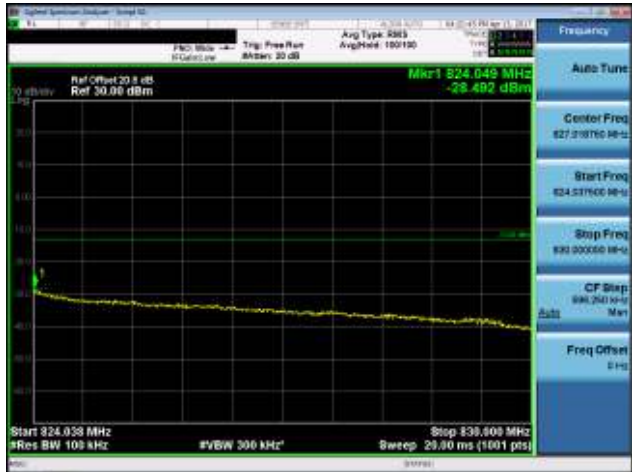


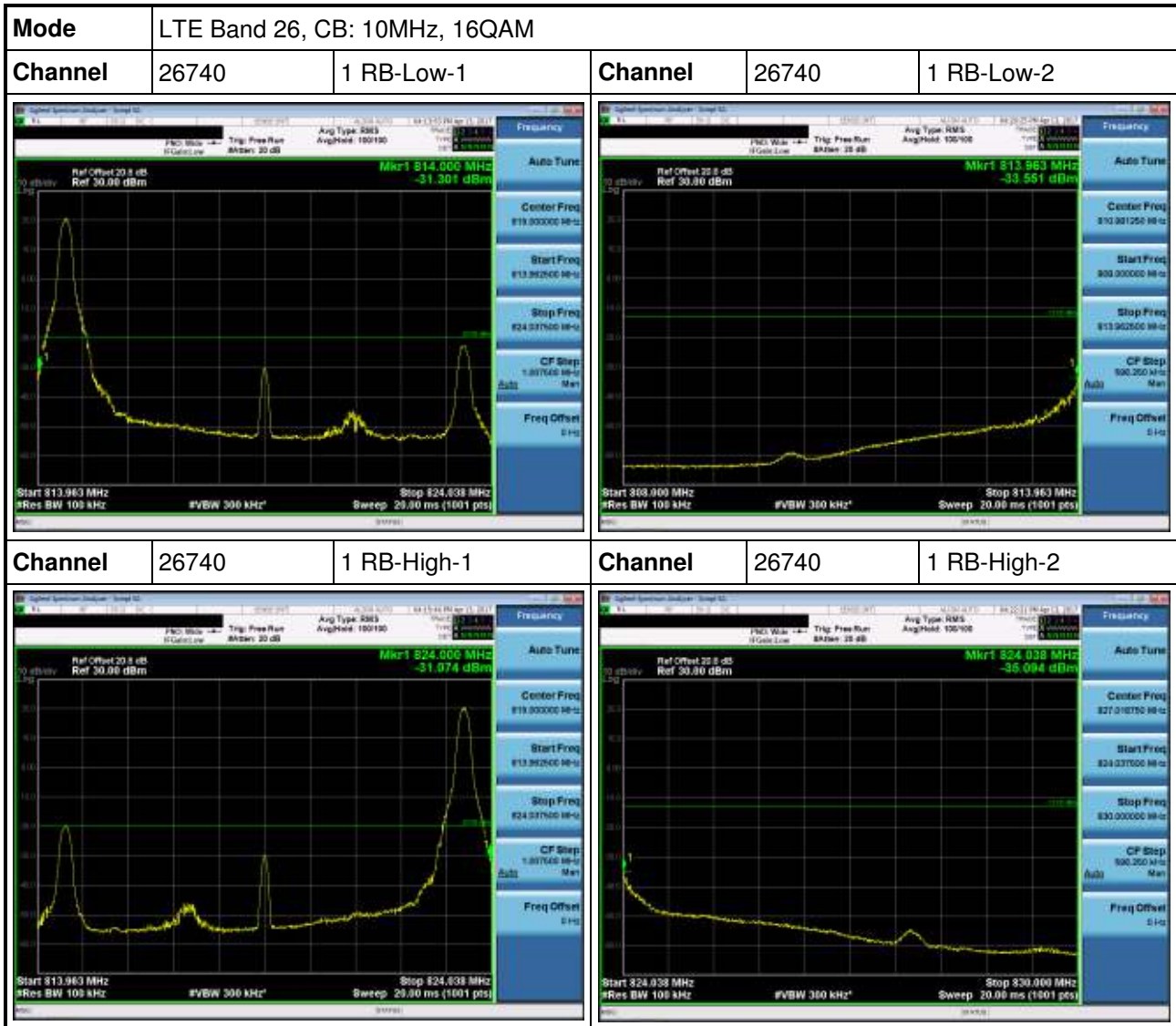


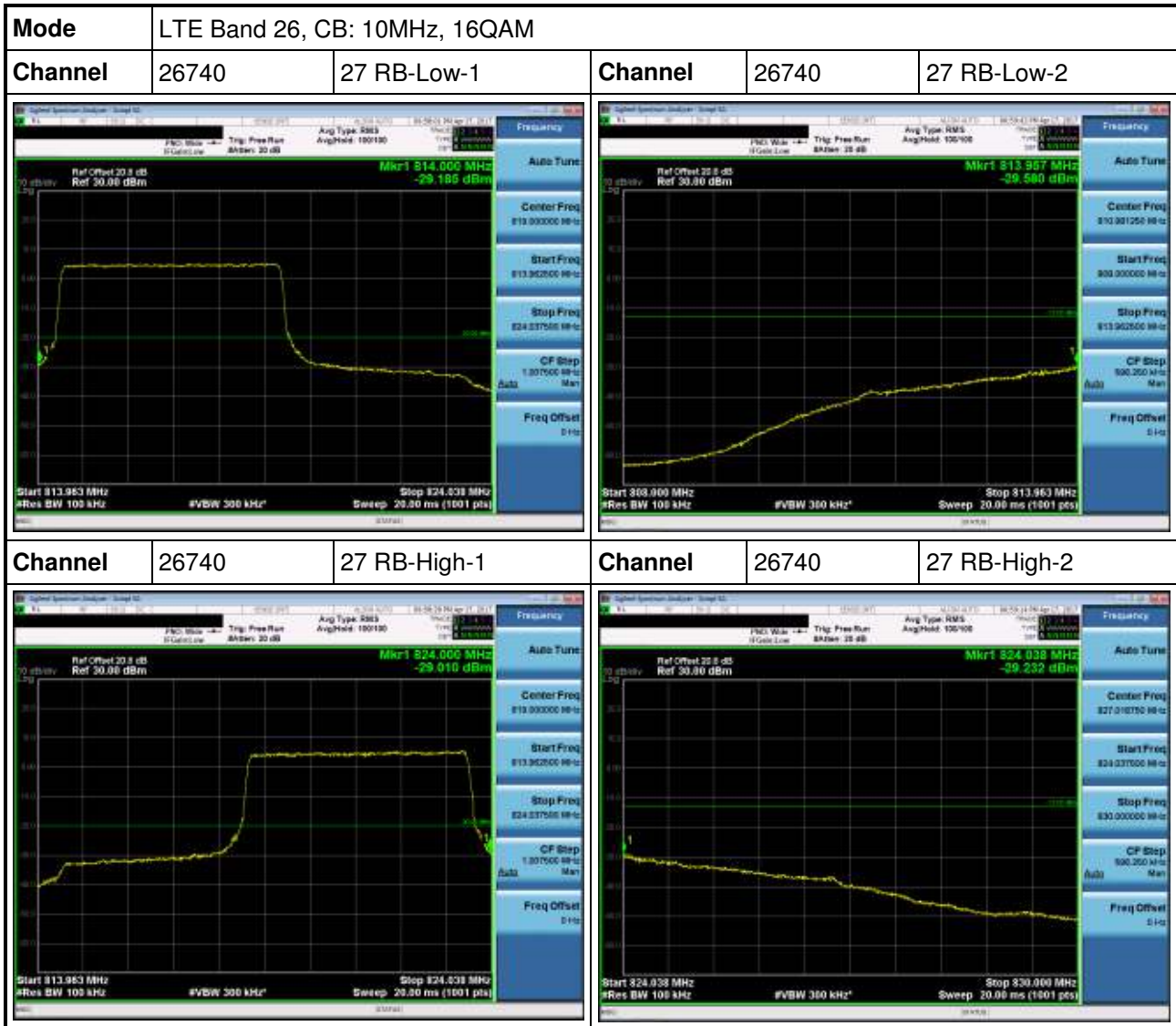


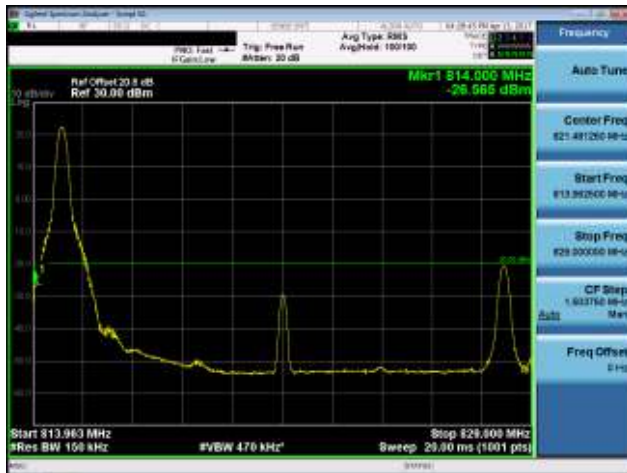
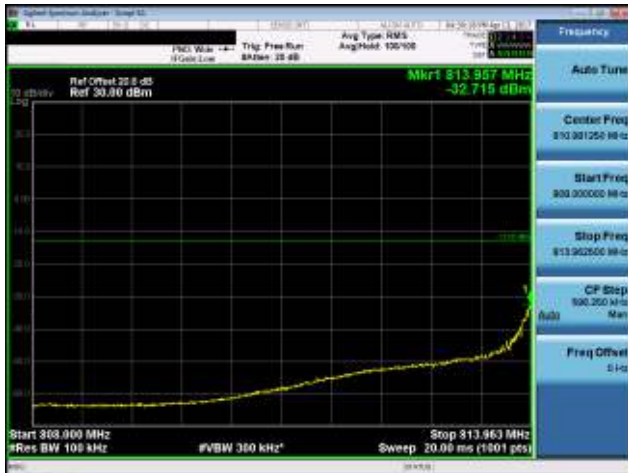
Mode		LTE Band 26, CB: 5MHz, 16QAM				
Channel		26765	1 RB-1	Channel	26765	1 RB-2
						
Channel		26765	Full RB-1	Channel	26765	Full RB-2
						

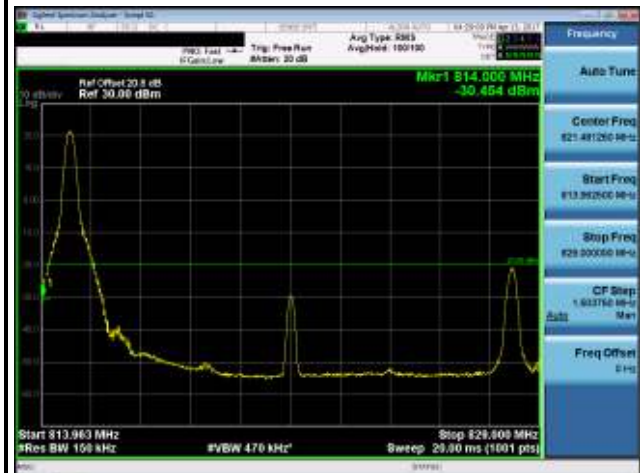
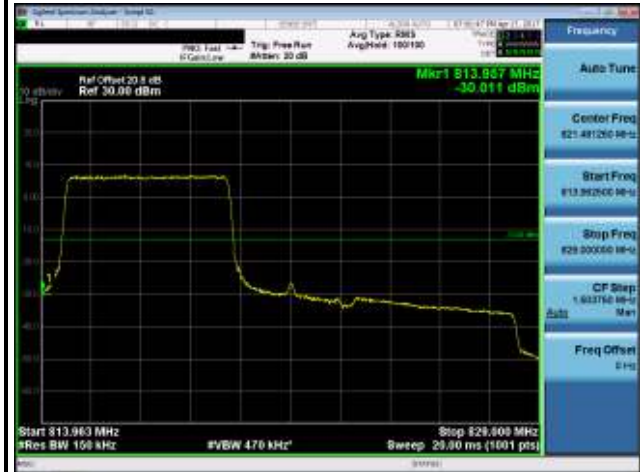


Mode		LTE Band 26, CB: 10MHz, QPSK				
Channel		26740	Full RB-1	Channel	26740	Full RB-2
						
Channel		26740	Full RB-3	---		
		---				





Mode	LTE Band 26, CB: 15MHz, QPSK				
Channel	26765	1 RB-1	Channel	26765	1 RB-2
					
Channel	26765	Full RB-1	Channel	26765	Full RB-2
					

Mode		LTE Band 26, CB: 15MHz, 16QAM				
Channel		26765	1 RB-1	Channel	26765	1 RB-2
						
Channel		26765	27 RB-1	Channel	26765	27 RB-2
						

3.5 Occupied Bandwidth

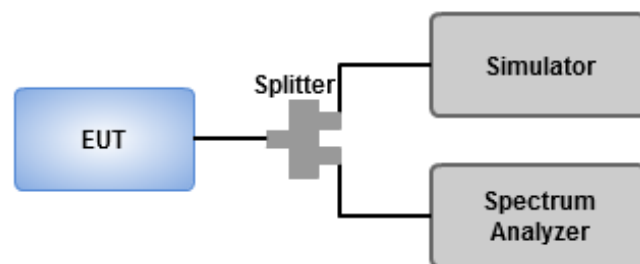
3.5.1 Test Procedures

1. Set as below setting for LTE mode

Bandwidth (MHz)	RBW (kHz)	VBW (KHz)
1.4	15	51
3	30	100
5	51	160
10	100	300
15	150	470

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

3.5.2 Test Setup



3.5.3 Test Result of Occupied Bandwidth

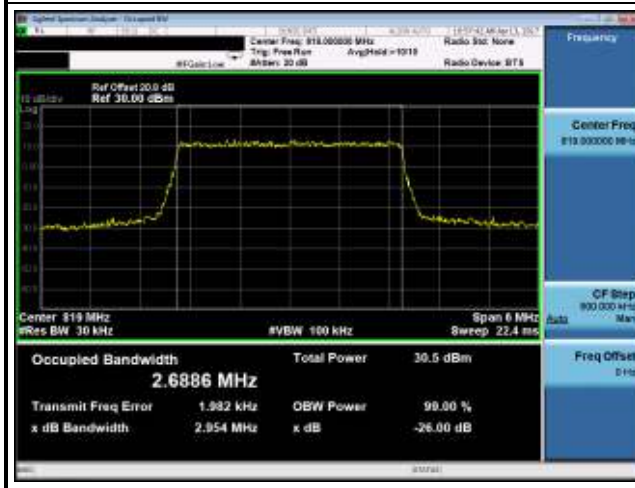
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	1.4	QPSK	26697	814.7	1.2570	1.0776
LTE Band 26	1.4	QPSK	26740	819.0	1.2530	1.0802
LTE Band 26	1.4	QPSK	26783	823.3	1.2410	1.0738
LTE Band 26	1.4	16QAM	26697	814.7	1.2600	1.0866
LTE Band 26	1.4	16QAM	26740	819.0	1.2610	1.0799
LTE Band 26	1.4	16QAM	26783	823.3	1.2580	1.0779



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	3	QPSK	26705	815.5	2.9290	2.6877
LTE Band 26	3	QPSK	26740	819.0	2.9540	2.6886
LTE Band 26	3	QPSK	26775	822.5	2.9410	2.6799
LTE Band 26	3	16QAM	26705	815.5	2.9280	2.6890
LTE Band 26	3	16QAM	26740	819.0	2.9530	2.6886
LTE Band 26	3	16QAM	26775	822.5	2.9350	2.6840

Worst plots

26dB bandwidth



OBW



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	5	QPSK	26715	816.5	4.9100	4.4815
LTE Band 26	5	QPSK	26740	819.0	4.9580	4.4819
LTE Band 26	5	QPSK	26765	821.5	4.8890	4.4772
LTE Band 26	5	16QAM	26715	816.5	4.9130	4.4806
LTE Band 26	5	16QAM	26740	819.0	4.9360	4.4814
LTE Band 26	5	16QAM	26765	821.5	4.9450	4.4817



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	10	QPSK	26740	819.0	9.8340	8.9486
LTE Band 26	10	16QAM	26740	819.0	6.0770	4.9321



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
LTE Band 26	15	QPSK	26765	821.5	14.3700	13.4000
LTE Band 26	15	16QAM	26765	821.5	7.1590	5.0475



3.6 Peak to Average Ratio

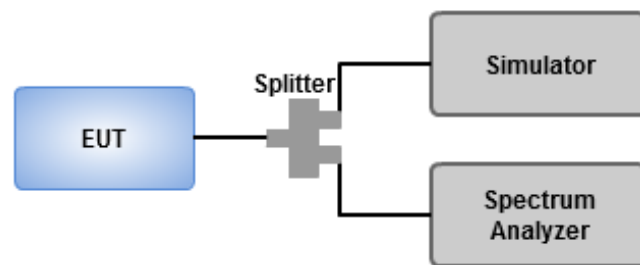
3.6.1 Limit of Peak to Average Ratio

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

3.6.2 Test Procedures

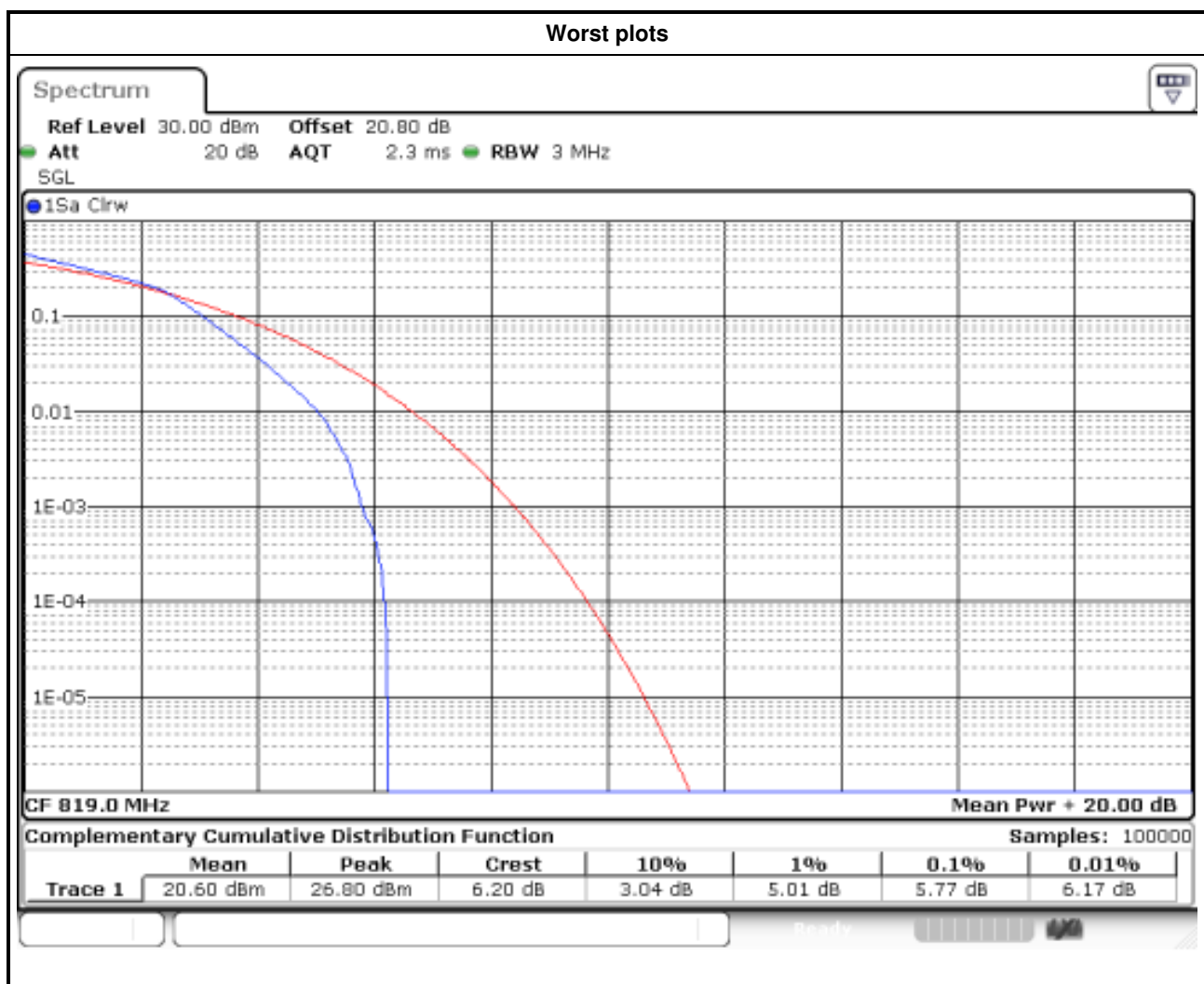
1. Enable CCDF function of spectrum analyzer and set RBW = 10 MHz.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.6.3 Test Setup

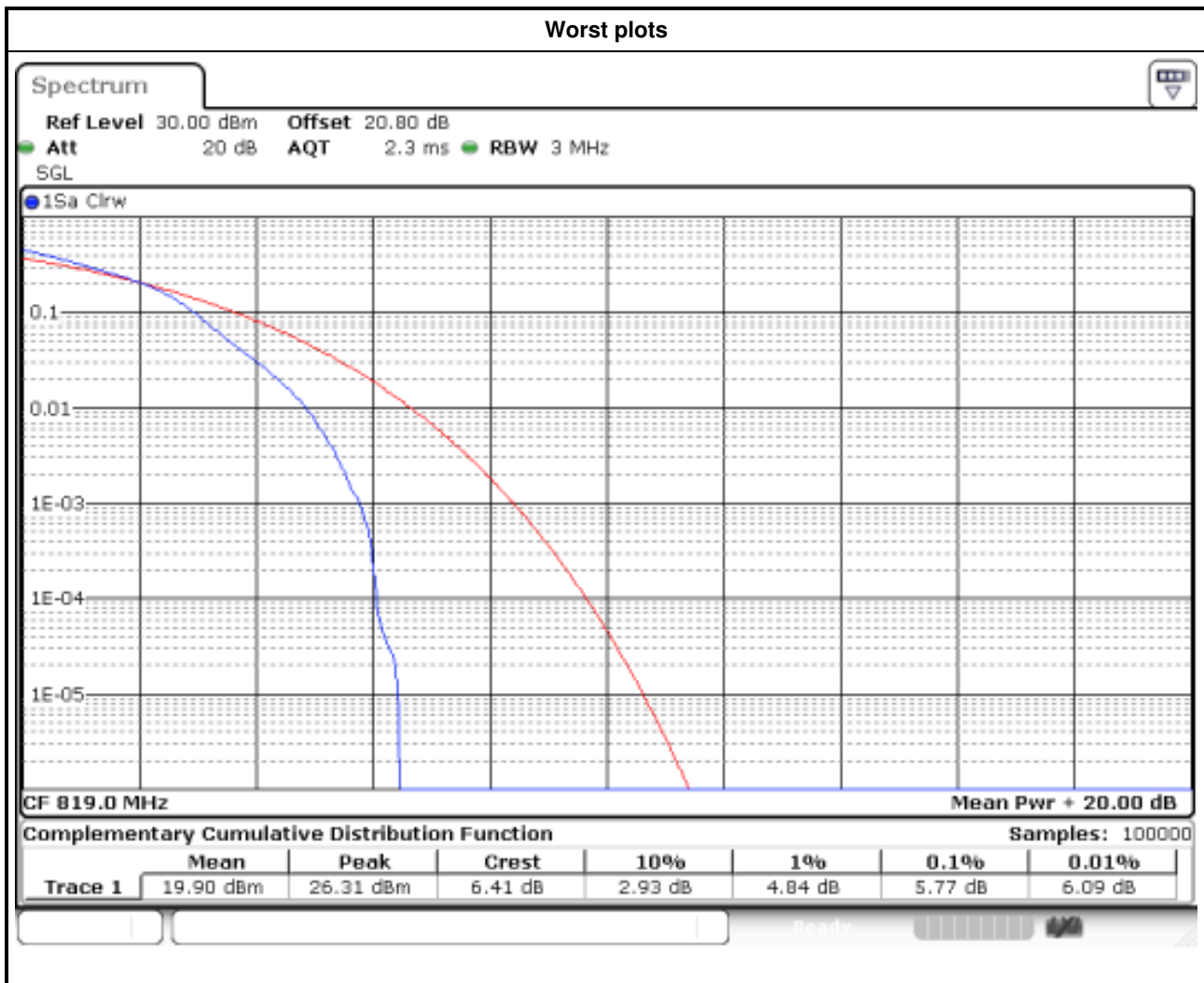


3.6.4 Test Result of Peak to Average Ratio

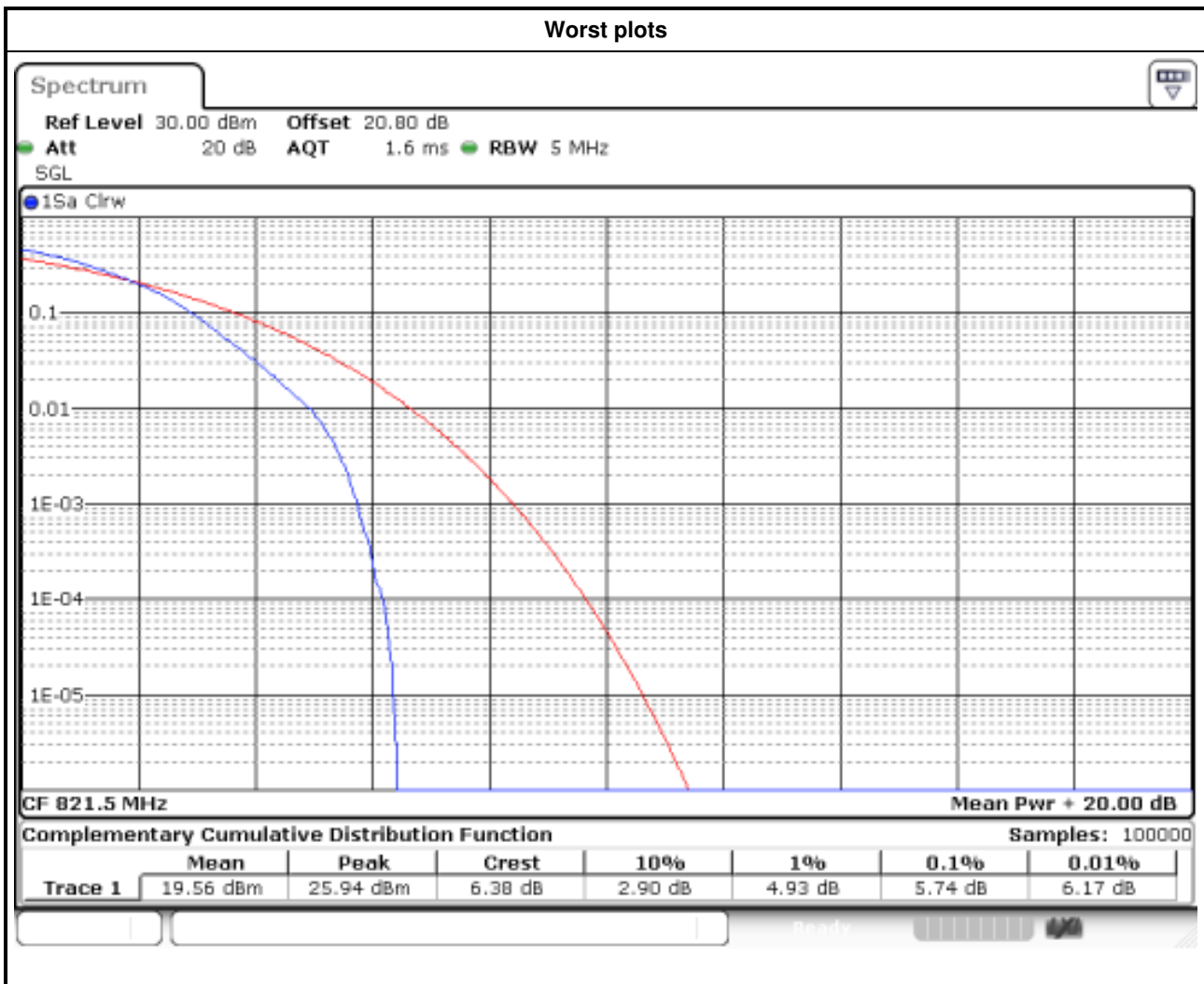
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	1.4	QPSK	26697	814.7	4.70
LTE Band 26	1.4	QPSK	26740	819.0	5.01
LTE Band 26	1.4	QPSK	26783	823.3	4.72
LTE Band 26	1.4	16QAM	26697	814.7	5.59
LTE Band 26	1.4	16QAM	26740	819.0	5.77
LTE Band 26	1.4	16QAM	26783	823.3	5.68



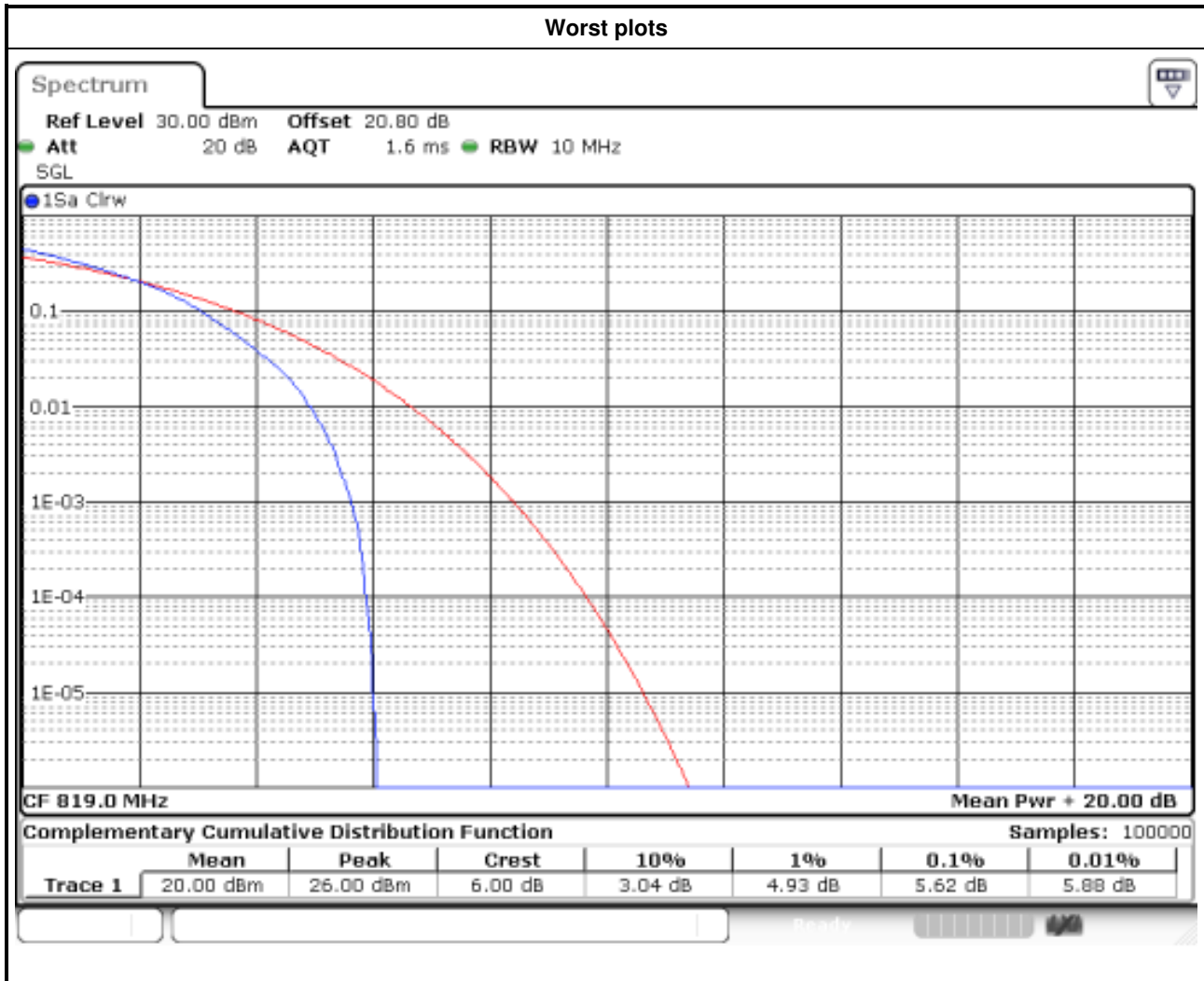
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	3	QPSK	26705	815.5	4.70
LTE Band 26	3	QPSK	26740	819.0	4.75
LTE Band 26	3	QPSK	26775	822.5	4.64
LTE Band 26	3	16QAM	26705	815.5	5.71
LTE Band 26	3	16QAM	26740	819.0	5.77
LTE Band 26	3	16QAM	26775	822.5	5.68



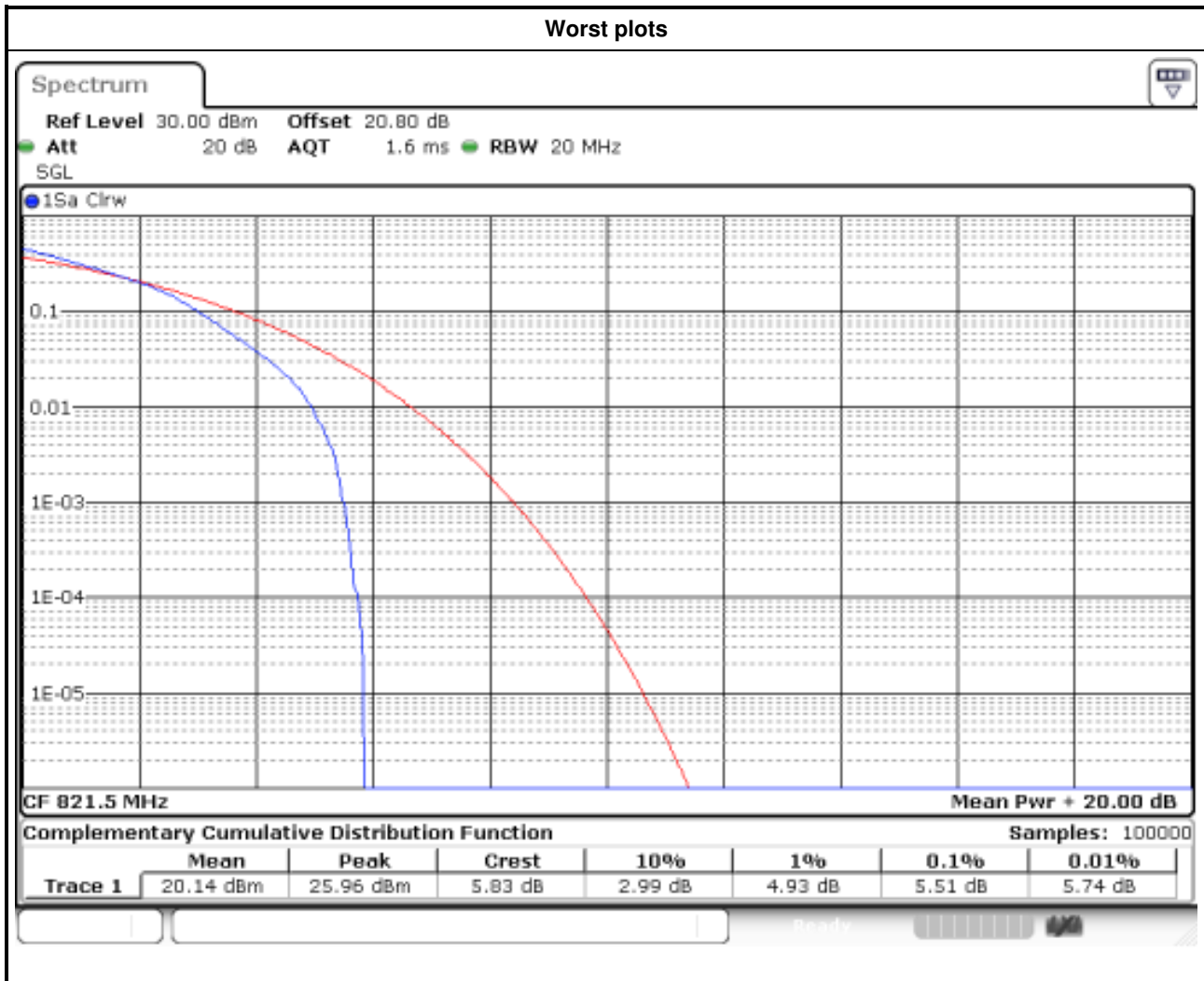
Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	5	QPSK	26715	816.5	4.70
LTE Band 26	5	QPSK	26740	819.0	4.70
LTE Band 26	5	QPSK	26765	821.5	4.64
LTE Band 26	5	16QAM	26715	816.5	5.59
LTE Band 26	5	16QAM	26740	819.0	5.65
LTE Band 26	5	16QAM	26765	821.5	5.74



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	10	QPSK	26740	819.0	4.87
LTE Band 26	10	16QAM	26740	819.0	5.62



Mode	CB (MHz)	Modulation	Channel	Frequency (MHz)	Peak to Average ratio (dB)
LTE Band 26	15	QPSK	26765	821.5	5.07
LTE Band 26	15	16QAM	26765	821.5	5.51



3.7 Frequency Stability

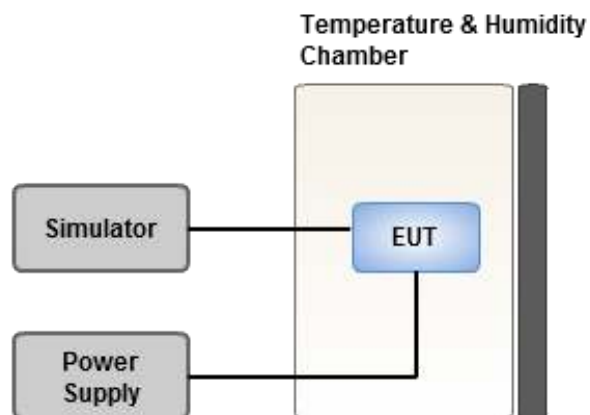
3.7.1 Limit of Frequency Stability

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: 819.0MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.009	2.5
T20°C Vmin	0.005	2.5
T85°C Vnom	0.011	2.5
T80°C Vnom	0.009	2.5
T70°C Vnom	0.011	2.5
T60°C Vnom	0.003	2.5
T50°C Vnom	-0.008	2.5
T40°C Vnom	0.009	2.5
T30°C Vnom	-0.008	2.5
T20°C Vnom	0.007	2.5
T10°C Vnom	-0.008	2.5
T0°C Vnom	0.006	2.5
T-10°C Vnom	-0.007	2.5
T-20°C Vnom	0.008	2.5
T-30°C Vnom	-0.011	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: 3MHz

Frequency: 819.0MHz	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	-0.008	2.5
T70°C Vnom	0.007	2.5
T60°C Vnom	-0.005	2.5
T50°C Vnom	0.007	2.5
T40°C Vnom	0.008	2.5
T30°C Vnom	0.011	2.5
T20°C Vnom	-0.006	2.5
T10°C Vnom	-0.007	2.5
T0°C Vnom	-0.005	2.5
T-10°C Vnom	-0.011	2.5
T-20°C Vnom	-0.009	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

Channel Bandwidth: 5MHz

Frequency: 819.0MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.009	2.5
T20°C Vmin	0.009	2.5
T85°C Vnom	0.008	2.5
T80°C Vnom	-0.011	2.5
T70°C Vnom	-0.005	2.5
T60°C Vnom	-0.006	2.5
T50°C Vnom	-0.008	2.5
T40°C Vnom	0.008	2.5
T30°C Vnom	-0.006	2.5
T20°C Vnom	-0.008	2.5
T10°C Vnom	0.008	2.5
T0°C Vnom	-0.011	2.5
T-10°C Vnom	0.01	2.5
T-20°C Vnom	0.008	2.5
T-30°C Vnom	-0.006	2.5
T-40°C Vnom	-0.005	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: 819.0MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	-0.01	2.5
T20°C Vmin	-0.012	2.5
T85°C Vnom	-0.004	2.5
T80°C Vnom	0.004	2.5
T70°C Vnom	-0.008	2.5
T60°C Vnom	0.009	2.5
T50°C Vnom	-0.007	2.5
T40°C Vnom	-0.007	2.5
T30°C Vnom	-0.005	2.5
T20°C Vnom	-0.011	2.5
T10°C Vnom	-0.009	2.5
T0°C Vnom	-0.008	2.5
T-10°C Vnom	-0.004	2.5
T-20°C Vnom	0.006	2.5
T-30°C Vnom	0.007	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: 15MHz

Frequency: 821.5MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.011	2.5
T20°C Vmin	0.008	2.5
T85°C Vnom	-0.008	2.5
T80°C Vnom	-0.008	2.5
T70°C Vnom	-0.007	2.5
T60°C Vnom	-0.006	2.5
T50°C Vnom	0.007	2.5
T40°C Vnom	0.008	2.5
T30°C Vnom	-0.009	2.5
T20°C Vnom	-0.01	2.5
T10°C Vnom	0.005	2.5
T0°C Vnom	-0.007	2.5
T-10°C Vnom	-0.005	2.5
T-20°C Vnom	-0.007	2.5
T-30°C Vnom	-0.009	2.5
T-40°C Vnom	-0.011	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>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin
Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C..

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

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==