RF TEST REPORT

Applicant	COOSEA GROUP (HK) COMPANY LIMITED
FCC ID	2A28USL112
Product	Smart Phone
Model	SL112A; SL112C
Report No.	R2212A1312-R2
Issue Date	March 16, 2023

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2022)/ FCC CFR 47 Part 24E (2022)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

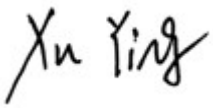

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TABLE OF CONTENT

1. Test Laboratory 4
1.1. Notes of the test report 4
1.2. Test facility 4
1.3. Testing Location 4
2. General Description of Equipment under Test 5
2.1. Applicant and Manufacturer Information 5
2.2. General information 5
3. Applied Standards 7
4. Test Configuration 8
5. Test Case 10
5.1. RF Power Output and Effective Isotropic Radiated Power 10
5.2. Occupied Bandwidth 11
5.3. Band Edge Compliance 12
5.4. Peak-to-Average Power Ratio (PAPR) 13
5.5. Frequency Stability 14
5.6. Spurious Emissions at Antenna Terminals 16
5.7. Radiated Spurious Emission 17
6. Test Results 20
6.1. RF Power Output and Effective Isotropic Radiated Power 20
6.2. Occupied Bandwidth 30
6.3. Band Edge Compliance 42
6.4. Peak-to-Average Power Ratio (PAPR) 55
6.5. Frequency Stability 57
6.6. Spurious Emissions at Antenna Terminals 61
6.7. Radiated Spurious Emission 65
7. Main Test Instruments 67
ANNEX A: The EUT Appearance 68
ANNEX B: Test Setup Photos 69

Summary of measurement results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Band Edge Compliance	2.1051 /24.238(a)	PASS
4	Peak-to-Average Power Ratio	24.232/KDB 971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 / 24.235	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 / 24.238(a)	PASS
7	Radiated Spurious Emission	2.1053 / 24.238(a)	PASS
Date of Testing: January 18, 2023 ~ February 6, 2023 Date of Sample Received: January 11, 2023			
Note: PASS: The EUT complies with the essential requirements in the standard. FAIL: The EUT does not comply with the essential requirements in the standard. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City:	Shanghai
Post code:	201201
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E-mail:	xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	COOSEA GROUP (HK) COMPANY LIMITED
Applicant address	UNIT 5-6 16/F MULTIFIELD PLAZA 3-7A PRAT AVENUE TSIMSHATSUI KL, HONG KONG, CHINA
Manufacturer	COOSEA GROUP (HK) COMPANY LIMITED
Manufacturer address	UNIT 5-6 16/F MULTIFIELD PLAZA 3-7A PRAT AVENUE TSIMSHATSUI KL, HONG KONG, CHINA

2.2. General information

EUT Description			
Model	SL112A; SL112C		
IMEI	351384680004663		
Hardware Version	1.0		
Software Version	SL112A10010		
Power Supply	Battery / AC adapter		
Antenna Type	PIFA Antenna		
Antenna Gain	Band	Frequency (MHz)	Gain(dBi)
	WCDMA Band II/ LTE Band 2	1850	-1.88
		1860	-1.90
		1870	-2.05
		1880	-2.04
		1890	-1.92
		1900	-1.63
		1910	-1.67
Test Mode(s)	WCDMA Band II; LTE Band 2		
Test Modulation	(WCDMA) BPSK, QPSK,16QAM; (LTE) QPSK, 16QAM, 64QAM;		
HSDPA UE Category	10		
HSUPA UE Category	6		
DC-HSDPA UE Category	24		
HSPA+ UE Category	7		
LTE Category	5		
Maximum E.R.P.	WCDMA Band II:	21.54 dBm	
	LTE Band 2:	22.65 dBm	
Rated Power Supply Voltage	3.85V		
Operating Voltage	Minimum: 3.6V Maximum: 4.4V		
Operating Temperature	Lowest:-10C Highest: +55°C		
Testing Temperature	Lowest: -30°C Highest: +50°C		

Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
EUT Accessory			
Adapter	Manufacturer: ShenZhen BaiJunDa Electronic Co.，Ltd Model: UT-592A-5200ZY		
Battery	Manufacturer: Huizhou Highpower Technology Co., Ltd Model: BL-A50CT		
USB Cable	Manufacturer: Shenzhen Yihuaxing Electronics Co.Ltd.. Model: K342-002		
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant. 2. The customer claims that SL112A and SL112C are only different in model, and the others are the same. This report only tests SL112A.			

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:
FCC CFR 47 Part 24E (2022)

FCC CFR47 Part 2 (2022)

Reference standard:
ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

4. Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Y axis, vertical polarization for WCDMA; X axis, horizontal polarization for LTE) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.
Subsequently, only the worst case emissions are reported.
The following testing in WCDMA/LTE is set based on the maximum RF Output Power.

Test modes are chosen to be reported as the worst case configuration below:

Test items	Modes/Modulation
	WCDMA Band II
RF Power Output and Effective Isotropic Radiated Power	RMC HSDPA/HSUPA DC-HSDPA/HSPA+
Occupied Bandwidth	RMC
Band Edge Compliance	RMC
Peak-to-Average Power Ratio	RMC
Frequency Stability	RMC
Spurious Emissions at Antenna Terminals	RMC
Radiated Spurious Emission	RMC

Test modes are chosen to be reported as the worst case configuration below for NB-IOT Band 2

Test items	Deployment mode	Subcarrier Spacing (kHz)		Modulation		Test Channel		
	Stand-alone	3.75	15	BPSK	QPSK	L	M	H
RF Power Output and Effective Isotropic Radiated Power	O	O	O	O	O	O	O	O
Occupied Bandwidth	O	O	O	O	O	O	O	O
Band Edge Compliance	O	O	O	O	O	O	-	O
Peak-to-Average Power Ratio	O	O	O	O	O	-	O	-
Frequency Stability	O	O	O	O	O	O	O	O
Spurious Emissions at Antenna Terminals	O	-	O	-	O	O	O	O
Radiated Spurious Emission	O	-	O	-	O	-	O	-

Note

1. The mark “O” means that this configuration is chosen for testing.
2. The mark “-” means that this configuration is not testing.

5. Test Case

5.1. RF Power Output and Effective Isotropic Radiated Power

Ambient condition

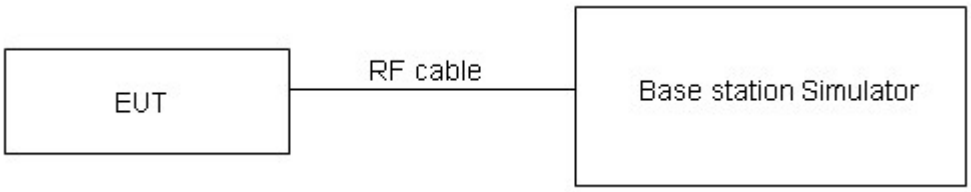
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

ERP can then be calculated as follows:
EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)
EIRP (dBm) = ERP (dBm) + 2.15 (dB.)

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.
Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Limit	≤ 2 W (33 dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.4 dB for RF power output, k = 2, U= 1.19 dB for EIRP.

Test Results

Refer to the section 6.1 of this report for test data.

5.2. Occupied Bandwidth

Ambient condition

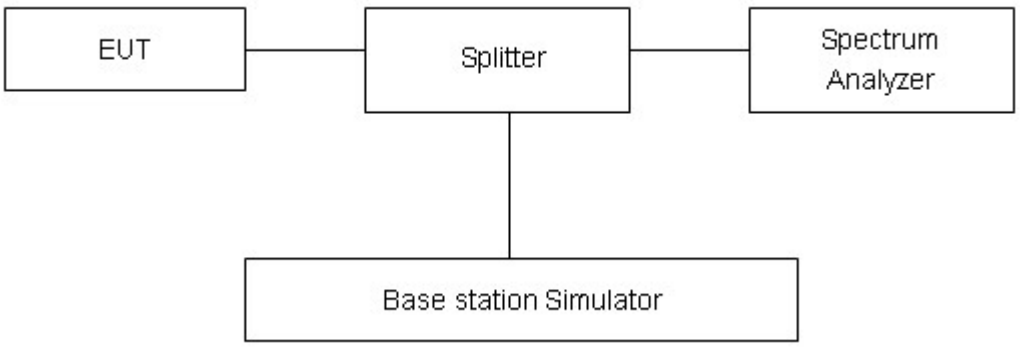
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.
RBW is set to ≥1%EBW, VBW is set to 3x RBW.

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 624Hz.

Test Results

Refer to the section 6.2 of this report for test data.

5.3. Band Edge Compliance

Ambient condition

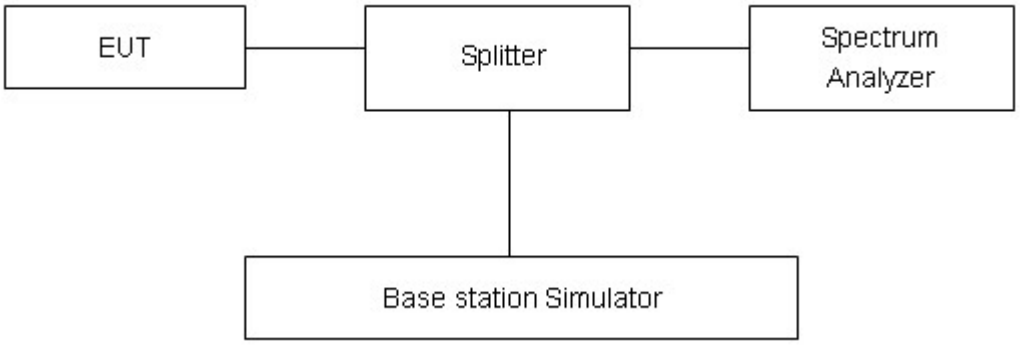
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured. The Average detector is used and RBW is set to ≥1%EBW, VBW is set to 3x RBW.

Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB.”

Limit	-13 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U=0.684dB.

Test Results

Refer to the section 6.3 of this report for test data.

5.4. Peak-to-Average Power Ratio (PAPR)

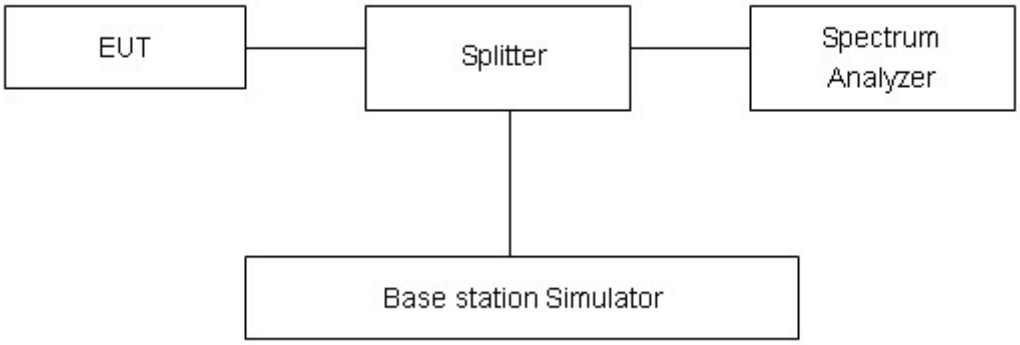
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPk. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (*e.g.*, dBm). Determine the PAPR from:
PAPR (dB) = PPk (dBm) - PAvg (dBm).

Test Setup



Limits

In measuring transmissions in this band using an average power technique, the peakto-average ratio (PAR) of the transmission may not exceed 13 dB in 24.232(d).

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.4 dB.

Test Results

Refer to the section 6.4 of this report for test data.

5.5. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

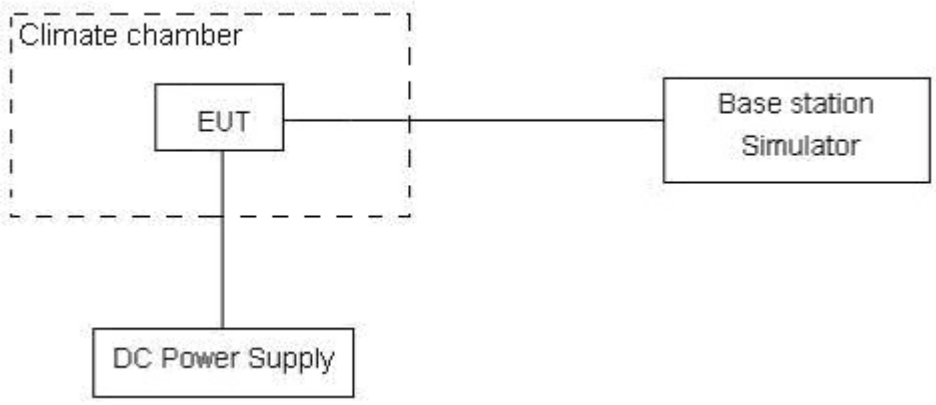
Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.6 V and 4.4 V, with a nominal voltage of 3.85V.

Test setup



Limits

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor *k* = 3, U= 0.01ppm.

Test Results

Refer to the section 6.5 of this report for test data.

5.6. Spurious Emissions at Antenna Terminals

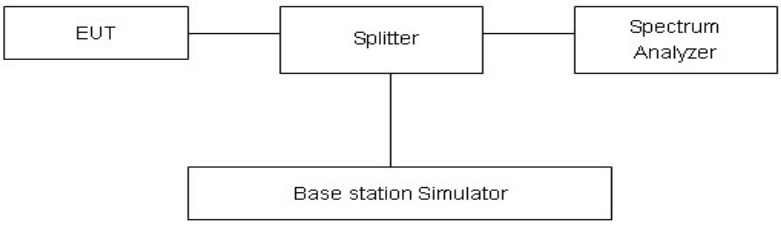
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.
RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),
RBW is set to 10 kHz (0.15 MHz~ 30 MHz)
RBW is set to 100 kHz (30MHz~1000 MHz)
RBW is set to 1000 kHz (above 1000MHz)
Sweep is set to ATUO.
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB.”

Limit	-13 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75％ confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-20GHz	1.407 dB

Test Results

Refer to the section 6.6 of this report for test data.

5.7. Radiated Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

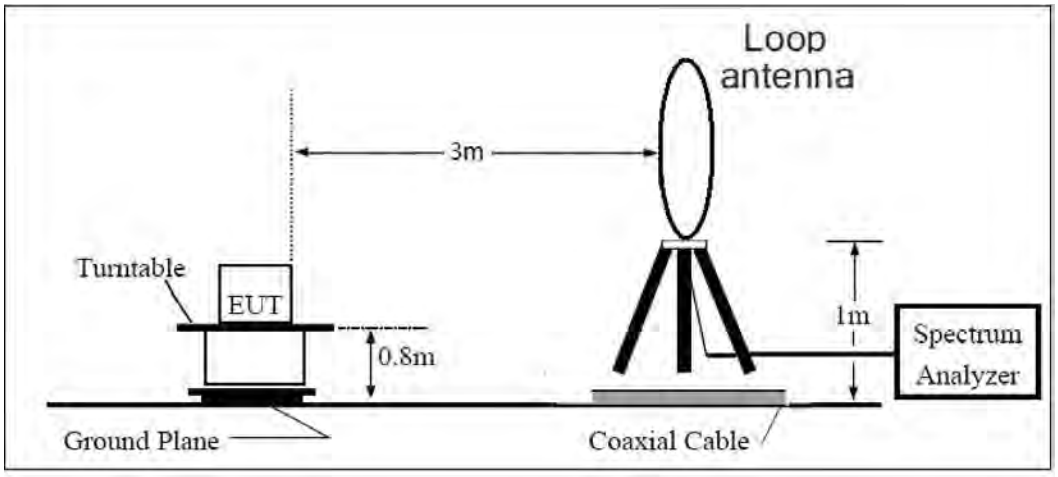
Method of Measurement

1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26-2015.
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, and the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:
Power(EIRP)=PMea- PAg - Pcl + Ga
The measurement results are amend as described below:
Power(EIRP)=PMea- Pcl + Ga
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dB.

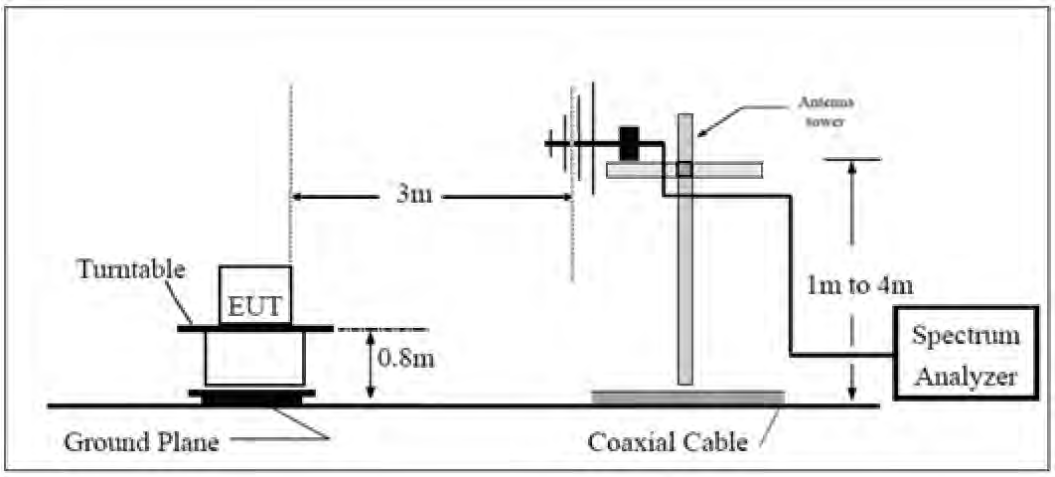
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

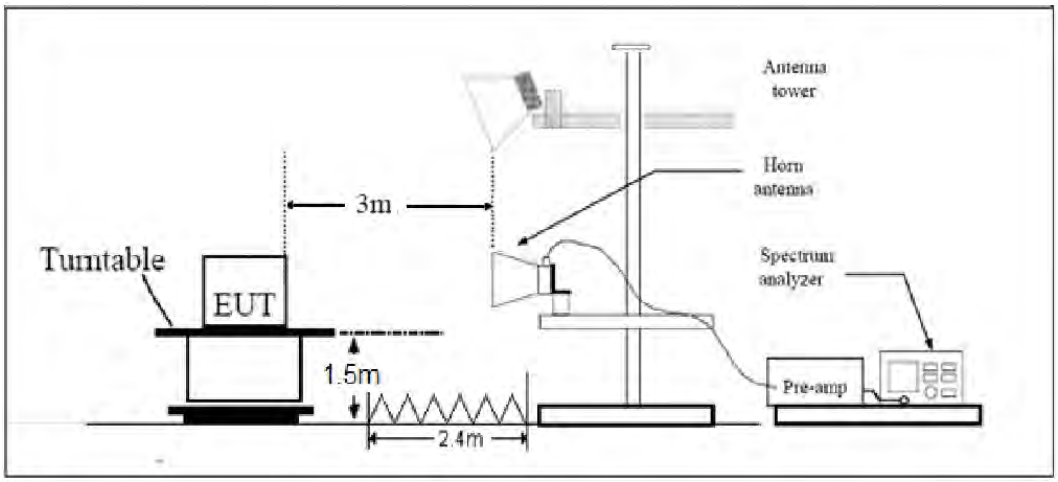
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB.”

Limit	-13 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95％ confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

Test Results

Refer to the section 6.7 of this report for test data.

6. Test Results

6.1. RF Power Output and Effective Isotropic Radiated Power

WCDMA Band II		Maximum Output Power (dBm)			EIRP (dBm)		
		Channel 9262	Channel 9400	Channel 9538	Channel 9262	Channel 9400	Channel 9538
		1852.4 (MHz)	1880 (MHz)	1907.6 (MHz)	1852.4 (MHz)	1880 (MHz)	1907.6 (MHz)
RMC		23.22	23.15	23.21	21.34	21.11	21.54
HSDPA	Sub - Test 1	22.64	22.57	22.63	20.76	20.69	20.75
	Sub - Test 2	22.63	22.56	22.62	20.75	20.68	20.74
	Sub - Test 3	22.12	22.05	22.11	20.24	20.17	20.23
	Sub - Test 4	22.11	22.04	22.10	20.23	20.16	20.22
HSUPA	Sub - Test 1	21.60	21.53	21.59	19.72	19.65	19.71
	Sub - Test 2	19.59	19.52	19.58	17.71	17.64	17.70
	Sub - Test 3	20.57	20.51	20.57	18.69	18.63	18.69
	Sub - Test 4	19.56	19.50	19.56	17.68	17.62	17.68
	Sub - Test 5	23.05	22.99	23.05	21.17	21.11	21.17
DC-HSDPA	Sub - Test 1	22.56	22.51	22.55	20.68	20.63	20.67
	Sub - Test 2	22.55	22.50	22.54	20.67	20.62	20.66
	Sub - Test 3	22.13	21.99	22.05	20.25	20.11	20.17
	Sub - Test 4	22.12	21.98	22.04	20.24	20.10	20.16
HSPA+	16QAM	20.71	20.66	20.72	18.83	18.78	18.84

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Maximum Output Power (dBm)	EIRP (dBm)
LTE Band2	1.4	18607	1	#0	QPSK	24.30	22.42
LTE Band2	1.4	18607	1	#Mid	QPSK	24.53	22.65
LTE Band2	1.4	18607	1	#Max	QPSK	24.35	22.47
LTE Band2	1.4	18607	3	#0	QPSK	24.29	22.41
LTE Band2	1.4	18607	3	#Mid	QPSK	24.26	22.38
LTE Band2	1.4	18607	3	#Max	QPSK	24.23	22.35
LTE Band2	1.4	18607	6	#0	QPSK	23.34	21.46
LTE Band2	1.4	18607	1	#0	16QAM	23.08	21.20
LTE Band2	1.4	18607	1	#Mid	16QAM	23.17	21.29
LTE Band2	1.4	18607	1	#Max	16QAM	23.07	21.19
LTE Band2	1.4	18607	3	#0	16QAM	23.13	21.25
LTE Band2	1.4	18607	3	#Mid	16QAM	23.14	21.26
LTE Band2	1.4	18607	3	#Max	16QAM	23.15	21.27
LTE Band2	1.4	18607	6	#0	16QAM	22.24	20.36
LTE Band2	1.4	18900	1	#0	QPSK	23.91	21.87
LTE Band2	1.4	18900	1	#Mid	QPSK	24.16	22.12
LTE Band2	1.4	18900	1	#Max	QPSK	23.92	21.88
LTE Band2	1.4	18900	3	#0	QPSK	23.85	21.81
LTE Band2	1.4	18900	3	#Mid	QPSK	23.88	21.84
LTE Band2	1.4	18900	3	#Max	QPSK	23.88	21.84
LTE Band2	1.4	18900	6	#0	QPSK	22.91	20.87
LTE Band2	1.4	18900	1	#0	16QAM	22.76	20.72
LTE Band2	1.4	18900	1	#Mid	16QAM	22.97	20.93
LTE Band2	1.4	18900	1	#Max	16QAM	22.79	20.75
LTE Band2	1.4	18900	3	#0	16QAM	22.95	20.91
LTE Band2	1.4	18900	3	#Mid	16QAM	22.95	20.91
LTE Band2	1.4	18900	3	#Max	16QAM	23.00	20.96
LTE Band2	1.4	18900	6	#0	16QAM	21.85	19.81
LTE Band2	1.4	19193	1	#0	QPSK	23.61	21.94
LTE Band2	1.4	19193	1	#Mid	QPSK	23.83	22.16
LTE Band2	1.4	19193	1	#Max	QPSK	23.63	21.96
LTE Band2	1.4	19193	3	#0	QPSK	23.69	22.02
LTE Band2	1.4	19193	3	#Mid	QPSK	23.68	22.01
LTE Band2	1.4	19193	3	#Max	QPSK	23.70	22.03
LTE Band2	1.4	19193	6	#0	QPSK	22.74	21.07
LTE Band2	1.4	19193	1	#0	16QAM	22.75	21.08
LTE Band2	1.4	19193	1	#Mid	16QAM	22.95	21.28
LTE Band2	1.4	19193	1	#Max	16QAM	22.77	21.10
LTE Band2	1.4	19193	3	#0	16QAM	22.68	21.01

LTE Band2	1.4	19193	3	#Mid	16QAM	22.70	21.03
LTE Band2	1.4	19193	3	#Max	16QAM	22.69	21.02
LTE Band2	1.4	19193	6	#0	16QAM	21.63	19.96
LTE Band2	3	18615	1	#0	QPSK	24.41	22.53
LTE Band2	3	18615	1	#Mid	QPSK	24.44	22.56
LTE Band2	3	18615	1	#Max	QPSK	24.40	22.52
LTE Band2	3	18615	8	#0	QPSK	23.34	21.46
LTE Band2	3	18615	8	#Mid	QPSK	23.39	21.51
LTE Band2	3	18615	8	#Max	QPSK	23.35	21.47
LTE Band2	3	18615	15	#0	QPSK	23.29	21.41
LTE Band2	3	18615	1	#0	16QAM	23.14	21.26
LTE Band2	3	18615	1	#Mid	16QAM	23.16	21.28
LTE Band2	3	18615	1	#Max	16QAM	23.09	21.21
LTE Band2	3	18615	8	#0	16QAM	22.31	20.43
LTE Band2	3	18615	8	#Mid	16QAM	22.31	20.43
LTE Band2	3	18615	8	#Max	16QAM	22.31	20.43
LTE Band2	3	18615	15	#0	16QAM	22.23	20.35
LTE Band2	3	18900	1	#0	QPSK	23.89	21.85
LTE Band2	3	18900	1	#Mid	QPSK	23.83	21.79
LTE Band2	3	18900	1	#Max	QPSK	23.79	21.75
LTE Band2	3	18900	8	#0	QPSK	22.90	20.86
LTE Band2	3	18900	8	#Mid	QPSK	22.87	20.83
LTE Band2	3	18900	8	#Max	QPSK	22.90	20.86
LTE Band2	3	18900	15	#0	QPSK	22.82	20.78
LTE Band2	3	18900	1	#0	16QAM	23.03	20.99
LTE Band2	3	18900	1	#Mid	16QAM	23.05	21.01
LTE Band2	3	18900	1	#Max	16QAM	22.98	20.94
LTE Band2	3	18900	8	#0	16QAM	21.88	19.84
LTE Band2	3	18900	8	#Mid	16QAM	21.88	19.84
LTE Band2	3	18900	8	#Max	16QAM	21.86	19.82
LTE Band2	3	18900	15	#0	16QAM	21.77	19.73
LTE Band2	3	19185	1	#0	QPSK	23.68	22.01
LTE Band2	3	19185	1	#Mid	QPSK	23.72	22.05
LTE Band2	3	19185	1	#Max	QPSK	23.70	22.03
LTE Band2	3	19185	8	#0	QPSK	22.76	21.09
LTE Band2	3	19185	8	#Mid	QPSK	22.77	21.10
LTE Band2	3	19185	8	#Max	QPSK	22.77	21.10
LTE Band2	3	19185	15	#0	QPSK	22.71	21.04
LTE Band2	3	19185	1	#0	16QAM	22.84	21.17
LTE Band2	3	19185	1	#Mid	16QAM	22.82	21.15
LTE Band2	3	19185	1	#Max	16QAM	22.82	21.15
LTE Band2	3	19185	8	#0	16QAM	21.72	20.05
LTE Band2	3	19185	8	#Mid	16QAM	21.72	20.05
LTE Band2	3	19185	8	#Max	16QAM	21.72	20.05

LTE Band2	3	19185	15	#0	16QAM	21.57	19.90
LTE Band2	5	18625	1	#0	QPSK	24.26	22.38
LTE Band2	5	18625	1	#Mid	QPSK	24.34	22.46
LTE Band2	5	18625	1	#Max	QPSK	24.23	22.35
LTE Band2	5	18625	12	#0	QPSK	23.35	21.47
LTE Band2	5	18625	12	#Mid	QPSK	23.29	21.41
LTE Band2	5	18625	12	#Max	QPSK	23.24	21.36
LTE Band2	5	18625	25	#0	QPSK	23.28	21.40
LTE Band2	5	18625	1	#0	16QAM	23.31	21.43
LTE Band2	5	18625	1	#Mid	16QAM	23.43	21.55
LTE Band2	5	18625	1	#Max	16QAM	23.28	21.40
LTE Band2	5	18625	12	#0	16QAM	22.22	20.34
LTE Band2	5	18625	12	#Mid	16QAM	22.20	20.32
LTE Band2	5	18625	12	#Max	16QAM	22.19	20.31
LTE Band2	5	18625	25	#0	16QAM	22.24	20.36
LTE Band2	5	18900	1	#0	QPSK	23.69	21.65
LTE Band2	5	18900	1	#Mid	QPSK	23.85	21.81
LTE Band2	5	18900	1	#Max	QPSK	23.64	21.60
LTE Band2	5	18900	12	#0	QPSK	22.86	20.82
LTE Band2	5	18900	12	#Mid	QPSK	22.84	20.80
LTE Band2	5	18900	12	#Max	QPSK	22.79	20.75
LTE Band2	5	18900	25	#0	QPSK	22.81	20.77
LTE Band2	5	18900	1	#0	16QAM	22.91	20.87
LTE Band2	5	18900	1	#Mid	16QAM	23.06	21.02
LTE Band2	5	18900	1	#Max	16QAM	22.86	20.82
LTE Band2	5	18900	12	#0	16QAM	21.86	19.82
LTE Band2	5	18900	12	#Mid	16QAM	21.85	19.81
LTE Band2	5	18900	12	#Max	16QAM	21.79	19.75
LTE Band2	5	18900	25	#0	16QAM	21.80	19.76
LTE Band2	5	19175	1	#0	QPSK	23.58	21.91
LTE Band2	5	19175	1	#Mid	QPSK	23.71	22.04
LTE Band2	5	19175	1	#Max	QPSK	23.60	21.93
LTE Band2	5	19175	12	#0	QPSK	22.72	21.05
LTE Band2	5	19175	12	#Mid	QPSK	22.72	21.05
LTE Band2	5	19175	12	#Max	QPSK	22.66	20.99
LTE Band2	5	19175	25	#0	QPSK	22.68	21.01
LTE Band2	5	19175	1	#0	16QAM	22.82	21.15
LTE Band2	5	19175	1	#Mid	16QAM	22.93	21.26
LTE Band2	5	19175	1	#Max	16QAM	22.82	21.15
LTE Band2	5	19175	12	#0	16QAM	21.68	20.01
LTE Band2	5	19175	12	#Mid	16QAM	21.67	20.00
LTE Band2	5	19175	12	#Max	16QAM	21.56	19.89
LTE Band2	5	19175	25	#0	16QAM	21.69	20.02
LTE Band2	10	18650	1	#0	QPSK	24.29	22.39

LTE Band2	10	18650	1	#Mid	QPSK	24.38	22.48
LTE Band2	10	18650	1	#Max	QPSK	24.17	22.27
LTE Band2	10	18650	25	#0	QPSK	23.33	21.43
LTE Band2	10	18650	25	#Mid	QPSK	23.35	21.45
LTE Band2	10	18650	25	#Max	QPSK	23.25	21.35
LTE Band2	10	18650	50	#0	QPSK	23.27	21.37
LTE Band2	10	18650	1	#0	16QAM	23.40	21.50
LTE Band2	10	18650	1	#Mid	16QAM	23.50	21.60
LTE Band2	10	18650	1	#Max	16QAM	23.32	21.42
LTE Band2	10	18650	25	#0	16QAM	22.33	20.43
LTE Band2	10	18650	25	#Mid	16QAM	22.32	20.42
LTE Band2	10	18650	25	#Max	16QAM	22.27	20.37
LTE Band2	10	18650	50	#0	16QAM	22.24	20.34
LTE Band2	10	18900	1	#0	QPSK	23.94	21.90
LTE Band2	10	18900	1	#Mid	QPSK	24.10	22.06
LTE Band2	10	18900	1	#Max	QPSK	23.89	21.85
LTE Band2	10	18900	25	#0	QPSK	22.84	20.80
LTE Band2	10	18900	25	#Mid	QPSK	22.84	20.80
LTE Band2	10	18900	25	#Max	QPSK	22.78	20.74
LTE Band2	10	18900	50	#0	QPSK	22.79	20.75
LTE Band2	10	18900	1	#0	16QAM	22.69	20.65
LTE Band2	10	18900	1	#Mid	16QAM	22.78	20.74
LTE Band2	10	18900	1	#Max	16QAM	22.59	20.55
LTE Band2	10	18900	25	#0	16QAM	21.88	19.84
LTE Band2	10	18900	25	#Mid	16QAM	21.85	19.81
LTE Band2	10	18900	25	#Max	16QAM	21.77	19.73
LTE Band2	10	18900	50	#0	16QAM	21.81	19.77
LTE Band2	10	19150	1	#0	QPSK	23.72	22.05
LTE Band2	10	19150	1	#Mid	QPSK	23.76	22.09
LTE Band2	10	19150	1	#Max	QPSK	23.68	22.01
LTE Band2	10	19150	25	#0	QPSK	22.78	21.11
LTE Band2	10	19150	25	#Mid	QPSK	22.74	21.07
LTE Band2	10	19150	25	#Max	QPSK	22.64	20.97
LTE Band2	10	19150	50	#0	QPSK	22.70	21.03
LTE Band2	10	19150	1	#0	16QAM	22.93	21.26
LTE Band2	10	19150	1	#Mid	16QAM	23.09	21.42
LTE Band2	10	19150	1	#Max	16QAM	22.90	21.23
LTE Band2	10	19150	25	#0	16QAM	21.79	20.12
LTE Band2	10	19150	25	#Mid	16QAM	21.82	20.15
LTE Band2	10	19150	25	#Max	16QAM	21.72	20.05
LTE Band2	10	19150	50	#0	16QAM	21.70	20.03
LTE Band2	15	18675	1	#0	QPSK	24.23	22.33
LTE Band2	15	18675	1	#Mid	QPSK	24.19	22.29
LTE Band2	15	18675	1	#Max	QPSK	23.94	22.04

LTE Band2	15	18675	36	#0	QPSK	23.43	21.53
LTE Band2	15	18675	36	#Mid	QPSK	23.44	21.54
LTE Band2	15	18675	36	#Max	QPSK	23.26	21.36
LTE Band2	15	18675	75	#0	QPSK	23.32	21.42
LTE Band2	15	18675	1	#0	16QAM	23.33	21.43
LTE Band2	15	18675	1	#Mid	16QAM	23.30	21.40
LTE Band2	15	18675	1	#Max	16QAM	23.13	21.23
LTE Band2	15	18675	36	#0	16QAM	22.34	20.44
LTE Band2	15	18675	36	#Mid	16QAM	22.34	20.44
LTE Band2	15	18675	36	#Max	16QAM	22.20	20.30
LTE Band2	15	18675	75	#0	16QAM	22.29	20.39
LTE Band2	15	18900	1	#0	QPSK	23.92	21.88
LTE Band2	15	18900	1	#Mid	QPSK	24.01	21.97
LTE Band2	15	18900	1	#Max	QPSK	23.75	21.71
LTE Band2	15	18900	36	#0	QPSK	22.99	20.95
LTE Band2	15	18900	36	#Mid	QPSK	22.97	20.93
LTE Band2	15	18900	36	#Max	QPSK	22.87	20.83
LTE Band2	15	18900	75	#0	QPSK	22.92	20.88
LTE Band2	15	18900	1	#0	16QAM	22.87	20.83
LTE Band2	15	18900	1	#Mid	16QAM	22.86	20.82
LTE Band2	15	18900	1	#Max	16QAM	22.63	20.59
LTE Band2	15	18900	36	#0	16QAM	21.87	19.83
LTE Band2	15	18900	36	#Mid	16QAM	21.86	19.82
LTE Band2	15	18900	36	#Max	16QAM	21.75	19.71
LTE Band2	15	18900	75	#0	16QAM	21.85	19.81
LTE Band2	15	19125	1	#0	QPSK	23.64	22.01
LTE Band2	15	19125	1	#Mid	QPSK	23.73	22.10
LTE Band2	15	19125	1	#Max	QPSK	23.57	21.94
LTE Band2	15	19125	36	#0	QPSK	22.80	21.17
LTE Band2	15	19125	36	#Mid	QPSK	22.81	21.18
LTE Band2	15	19125	36	#Max	QPSK	22.74	21.11
LTE Band2	15	19125	75	#0	QPSK	22.77	21.14
LTE Band2	15	19125	1	#0	16QAM	22.90	21.27
LTE Band2	15	19125	1	#Mid	16QAM	22.94	21.31
LTE Band2	15	19125	1	#Max	16QAM	22.80	21.17
LTE Band2	15	19125	36	#0	16QAM	21.78	20.15
LTE Band2	15	19125	36	#Mid	16QAM	21.77	20.14
LTE Band2	15	19125	36	#Max	16QAM	21.74	20.11
LTE Band2	15	19125	75	#0	16QAM	21.76	20.13
LTE Band2	20	18700	1	#0	QPSK	24.27	22.37
LTE Band2	20	18700	1	#Mid	QPSK	24.38	22.48
LTE Band2	20	18700	1	#Max	QPSK	23.89	21.99
LTE Band2	20	18700	50	#0	QPSK	23.26	21.36
LTE Band2	20	18700	50	#Mid	QPSK	23.24	21.34

LTE Band2	20	18700	50	#Max	QPSK	23.13	21.23
LTE Band2	20	18700	100	#0	QPSK	23.16	21.26
LTE Band2	20	18700	1	#0	16QAM	22.97	21.07
LTE Band2	20	18700	1	#Mid	16QAM	23.21	21.31
LTE Band2	20	18700	1	#Max	16QAM	22.69	20.79
LTE Band2	20	18700	50	#0	16QAM	22.24	20.34
LTE Band2	20	18700	50	#Mid	16QAM	22.22	20.32
LTE Band2	20	18700	50	#Max	16QAM	22.16	20.26
LTE Band2	20	18700	100	#0	16QAM	22.19	20.29
LTE Band2	20	18900	1	#0	QPSK	23.83	21.79
LTE Band2	20	18900	1	#Mid	QPSK	24.00	21.96
LTE Band2	20	18900	1	#Max	QPSK	23.55	21.51
LTE Band2	20	18900	50	#0	QPSK	22.83	20.79
LTE Band2	20	18900	50	#Mid	QPSK	22.83	20.79
LTE Band2	20	18900	50	#Max	QPSK	22.68	20.64
LTE Band2	20	18900	100	#0	QPSK	22.74	20.70
LTE Band2	20	18900	1	#0	16QAM	22.58	20.54
LTE Band2	20	18900	1	#Mid	16QAM	22.75	20.71
LTE Band2	20	18900	1	#Max	16QAM	22.27	20.23
LTE Band2	20	18900	50	#0	16QAM	21.84	19.80
LTE Band2	20	18900	50	#Mid	16QAM	21.88	19.84
LTE Band2	20	18900	50	#Max	16QAM	21.69	19.65
LTE Band2	20	18900	100	#0	16QAM	21.74	19.70
LTE Band2	20	19100	1	#0	QPSK	23.57	21.94
LTE Band2	20	19100	1	#Mid	QPSK	23.87	22.24
LTE Band2	20	19100	1	#Max	QPSK	23.52	21.89
LTE Band2	20	19100	50	#0	QPSK	22.72	21.09
LTE Band2	20	19100	50	#Mid	QPSK	22.69	21.06
LTE Band2	20	19100	50	#Max	QPSK	22.64	21.01
LTE Band2	20	19100	100	#0	QPSK	22.64	21.01
LTE Band2	20	19100	1	#0	16QAM	22.70	21.07
LTE Band2	20	19100	1	#Mid	16QAM	23.02	21.39
LTE Band2	20	19100	1	#Max	16QAM	22.64	21.01
LTE Band2	20	19100	50	#0	16QAM	21.71	20.08
LTE Band2	20	19100	50	#Mid	16QAM	21.73	20.10
LTE Band2	20	19100	50	#Max	16QAM	21.62	19.99
LTE Band2	20	19100	100	#0	16QAM	21.67	20.04
LTE Band2	1.4	18607	1	#0	64QAM	22.56	20.68
LTE Band2	1.4	18607	1	#Mid	64QAM	22.80	20.92
LTE Band2	1.4	18607	1	#Max	64QAM	22.60	20.72
LTE Band2	1.4	18607	3	#0	64QAM	22.66	20.78
LTE Band2	1.4	18607	3	#Mid	64QAM	22.66	20.78
LTE Band2	1.4	18607	3	#Max	64QAM	22.68	20.80
LTE Band2	1.4	18607	6	#0	64QAM	21.73	19.85

LTE Band2	1.4	18900	1	#0	64QAM	22.25	20.21
LTE Band2	1.4	18900	1	#Mid	64QAM	22.44	20.40
LTE Band2	1.4	18900	1	#Max	64QAM	22.25	20.21
LTE Band2	1.4	18900	3	#0	64QAM	22.45	20.41
LTE Band2	1.4	18900	3	#Mid	64QAM	22.42	20.38
LTE Band2	1.4	18900	3	#Max	64QAM	22.47	20.43
LTE Band2	1.4	18900	6	#0	64QAM	21.32	19.28
LTE Band2	1.4	19193	1	#0	64QAM	22.24	20.57
LTE Band2	1.4	19193	1	#Mid	64QAM	22.37	20.70
LTE Band2	1.4	19193	1	#Max	64QAM	22.26	20.59
LTE Band2	1.4	19193	3	#0	64QAM	22.12	20.45
LTE Band2	1.4	19193	3	#Mid	64QAM	22.15	20.48
LTE Band2	1.4	19193	3	#Max	64QAM	22.17	20.50
LTE Band2	1.4	19193	6	#0	64QAM	21.12	19.45
LTE Band2	3	18615	1	#0	64QAM	22.87	20.99
LTE Band2	3	18615	1	#Mid	64QAM	22.85	20.97
LTE Band2	3	18615	1	#Max	64QAM	22.81	20.93
LTE Band2	3	18615	8	#0	64QAM	21.76	19.88
LTE Band2	3	18615	8	#Mid	64QAM	21.76	19.88
LTE Band2	3	18615	8	#Max	64QAM	21.75	19.87
LTE Band2	3	18615	15	#0	64QAM	21.63	19.75
LTE Band2	3	18900	1	#0	64QAM	22.17	20.13
LTE Band2	3	18900	1	#Mid	64QAM	22.22	20.18
LTE Band2	3	18900	1	#Max	64QAM	22.14	20.10
LTE Band2	3	18900	8	#0	64QAM	21.31	19.27
LTE Band2	3	18900	8	#Mid	64QAM	21.34	19.30
LTE Band2	3	18900	8	#Max	64QAM	21.29	19.25
LTE Band2	3	18900	15	#0	64QAM	21.25	19.21
LTE Band2	3	19185	1	#0	64QAM	22.37	20.70
LTE Band2	3	19185	1	#Mid	64QAM	22.38	20.71
LTE Band2	3	19185	1	#Max	64QAM	22.38	20.71
LTE Band2	3	19185	8	#0	64QAM	21.20	19.53
LTE Band2	3	19185	8	#Mid	64QAM	21.19	19.52
LTE Band2	3	19185	8	#Max	64QAM	21.18	19.51
LTE Band2	3	19185	15	#0	64QAM	21.14	19.47
LTE Band2	5	18625	1	#0	64QAM	22.82	20.94
LTE Band2	5	18625	1	#Mid	64QAM	22.92	21.04
LTE Band2	5	18625	1	#Max	64QAM	22.84	20.96
LTE Band2	5	18625	12	#0	64QAM	21.68	19.80
LTE Band2	5	18625	12	#Mid	64QAM	21.71	19.83
LTE Band2	5	18625	12	#Max	64QAM	21.67	19.79
LTE Band2	5	18625	25	#0	64QAM	21.77	19.89
LTE Band2	5	18900	1	#0	64QAM	22.36	20.32
LTE Band2	5	18900	1	#Mid	64QAM	22.47	20.43

LTE Band2	5	18900	1	#Max	64QAM	22.29	20.25
LTE Band2	5	18900	12	#0	64QAM	21.26	19.22
LTE Band2	5	18900	12	#Mid	64QAM	21.27	19.23
LTE Band2	5	18900	12	#Max	64QAM	21.21	19.17
LTE Band2	5	18900	25	#0	64QAM	21.22	19.18
LTE Band2	5	19175	1	#0	64QAM	22.25	20.58
LTE Band2	5	19175	1	#Mid	64QAM	22.35	20.68
LTE Band2	5	19175	1	#Max	64QAM	22.25	20.58
LTE Band2	5	19175	12	#0	64QAM	21.17	19.50
LTE Band2	5	19175	12	#Mid	64QAM	21.21	19.54
LTE Band2	5	19175	12	#Max	64QAM	21.13	19.46
LTE Band2	5	19175	25	#0	64QAM	21.15	19.48
LTE Band2	10	18650	1	#0	64QAM	22.57	20.67
LTE Band2	10	18650	1	#Mid	64QAM	22.70	20.80
LTE Band2	10	18650	1	#Max	64QAM	22.55	20.65
LTE Band2	10	18650	25	#0	64QAM	21.76	19.86
LTE Band2	10	18650	25	#Mid	64QAM	21.78	19.88
LTE Band2	10	18650	25	#Max	64QAM	21.73	19.83
LTE Band2	10	18650	50	#0	64QAM	21.74	19.84
LTE Band2	10	18900	1	#0	64QAM	22.52	20.48
LTE Band2	10	18900	1	#Mid	64QAM	22.59	20.55
LTE Band2	10	18900	1	#Max	64QAM	22.38	20.34
LTE Band2	10	18900	25	#0	64QAM	21.39	19.35
LTE Band2	10	18900	25	#Mid	64QAM	21.39	19.35
LTE Band2	10	18900	25	#Max	64QAM	21.31	19.27
LTE Band2	10	18900	50	#0	64QAM	21.26	19.22
LTE Band2	10	19150	1	#0	64QAM	22.27	20.60
LTE Band2	10	19150	1	#Mid	64QAM	22.43	20.76
LTE Band2	10	19150	1	#Max	64QAM	22.30	20.63
LTE Band2	10	19150	25	#0	64QAM	21.20	19.53
LTE Band2	10	19150	25	#Mid	64QAM	21.23	19.56
LTE Band2	10	19150	25	#Max	64QAM	21.14	19.47
LTE Band2	10	19150	50	#0	64QAM	21.11	19.44
LTE Band2	15	18675	1	#0	64QAM	22.77	20.87
LTE Band2	15	18675	1	#Mid	64QAM	22.78	20.88
LTE Band2	15	18675	1	#Max	64QAM	22.58	20.68
LTE Band2	15	18675	36	#0	64QAM	21.81	19.91
LTE Band2	15	18675	36	#Mid	64QAM	21.79	19.89
LTE Band2	15	18675	36	#Max	64QAM	21.67	19.77
LTE Band2	15	18675	75	#0	64QAM	21.78	19.88
LTE Band2	15	18900	1	#0	64QAM	22.34	20.30
LTE Band2	15	18900	1	#Mid	64QAM	22.32	20.28
LTE Band2	15	18900	1	#Max	64QAM	22.06	20.02
LTE Band2	15	18900	36	#0	64QAM	21.34	19.30

LTE Band2	15	18900	36	#Mid	64QAM	21.33	19.29
LTE Band2	15	18900	36	#Max	64QAM	21.19	19.15
LTE Band2	15	18900	75	#0	64QAM	21.35	19.31
LTE Band2	15	19125	1	#0	64QAM	22.31	20.68
LTE Band2	15	19125	1	#Mid	64QAM	22.36	20.73
LTE Band2	15	19125	1	#Max	64QAM	22.26	20.63
LTE Band2	15	19125	36	#0	64QAM	21.22	19.59
LTE Band2	15	19125	36	#Mid	64QAM	21.21	19.58
LTE Band2	15	19125	36	#Max	64QAM	21.17	19.54
LTE Band2	15	19125	75	#0	64QAM	21.21	19.58
LTE Band2	20	18700	1	#0	64QAM	22.69	20.79
LTE Band2	20	18700	1	#Mid	64QAM	23.03	21.13
LTE Band2	20	18700	1	#Max	64QAM	22.47	20.57
LTE Band2	20	18700	50	#0	64QAM	21.73	19.83
LTE Band2	20	18700	50	#Mid	64QAM	21.73	19.83
LTE Band2	20	18700	50	#Max	64QAM	21.69	19.79
LTE Band2	20	18700	100	#0	64QAM	21.67	19.77
LTE Band2	20	18900	1	#0	64QAM	22.16	20.12
LTE Band2	20	18900	1	#Mid	64QAM	22.26	20.22
LTE Band2	20	18900	1	#Max	64QAM	21.83	19.79
LTE Band2	20	18900	50	#0	64QAM	21.27	19.23
LTE Band2	20	18900	50	#Mid	64QAM	21.27	19.23
LTE Band2	20	18900	50	#Max	64QAM	21.09	19.05
LTE Band2	20	18900	100	#0	64QAM	21.20	19.16
LTE Band2	20	19100	1	#0	64QAM	21.74	20.11
LTE Band2	20	19100	1	#Mid	64QAM	22.06	20.43
LTE Band2	20	19100	1	#Max	64QAM	21.72	20.09
LTE Band2	20	19100	50	#0	64QAM	21.17	19.54
LTE Band2	20	19100	50	#Mid	64QAM	21.16	19.53
LTE Band2	20	19100	50	#Max	64QAM	21.11	19.48
LTE Band2	20	19100	100	#0	64QAM	21.12	19.49

6.2. Occupied Bandwidth

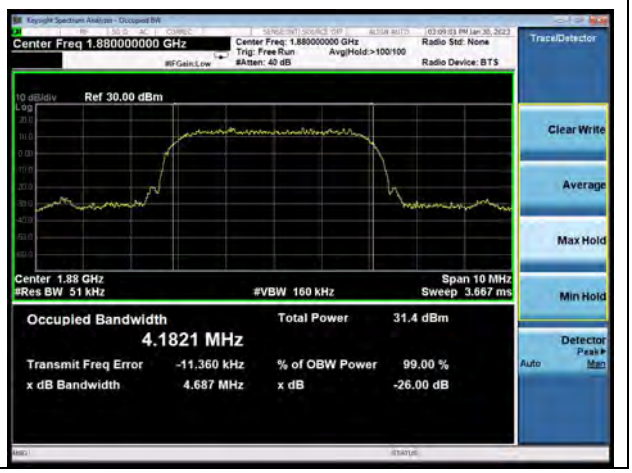
Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
WCDMA Band II (RMC)	9262	1852.4	4.1694	4.696
	9400	1880.0	4.1821	4.687
	9538	1907.6	4.1856	4.684

LTE Band 2						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	18607	1850.7	1.106	1.292
			18900	1880.0	1.096	1.258
			19193	1909.3	1.094	1.283
		3	18615	1851.5	2.704	2.963
			18900	1880	2.705	2.929
			19185	1908.5	2.690	2.911
		5	18625	1852.5	4.508	4.847
			18900	1880	4.500	4.875
			19175	1907.5	4.525	4.917
		10	18650	1855	8.983	9.734
			18900	1880	9.017	9.786
			19150	1905	8.969	9.732
		15	18675	1857.5	13.461	14.610
			18900	1880	13.497	14.500
			19125	1902.5	13.447	14.530
		20	18700	1860	17.992	19.090
			18900	1880	17.917	19.270
			19100	1900	17.951	19.130
	16QAM	1.4	18607	1850.7	1.097	1.303
			18900	1880.0	1.098	1.283
			19193	1909.3	1.090	1.265
		3	18615	1851.5	2.698	2.898
			18900	1880	2.687	2.985
			19185	1908.5	2.685	2.904
		5	18625	1852.5	4.506	4.933
			18900	1880	4.505	4.913
			19175	1907.5	4.501	4.869
		10	18650	1855	8.988	9.681

			18900	1880	8.973	9.707
			19150	1905	8.963	9.624
		15	18675	1857.5	13.479	14.570
			18900	1880	13.500	14.350
			19125	1902.5	13.497	14.540
		20	18700	1860	18.016	19.270
			18900	1880	17.969	19.220
			19100	1900	17.973	19.300
	64QAM	1.4	18607	1850.7	1.098	1.276
			18900	1880.0	1.102	1.312
			19193	1909.3	1.090	1.271
		3	18615	1851.5	2.690	2.926
			18900	1880	2.688	2.928
			19185	1908.5	2.689	2.920
		5	18625	1852.5	4.496	4.901
			18900	1880	4.494	4.927
			19175	1907.5	4.514	4.896
		10	18650	1855	8.997	9.737
			18900	1880	8.995	9.656
			19150	1905	8.978	9.652
		15	18675	1857.5	13.475	14.440
			18900	1880	13.512	14.510
			19125	1902.5	13.451	14.400
		20	18700	1860	17.975	19.430
			18900	1880	17.887	19.340
			19100	1900	17.936	19.230

WCDMA Band II RMC CH-LOW

WCDMA Band II RMC CH-Middle



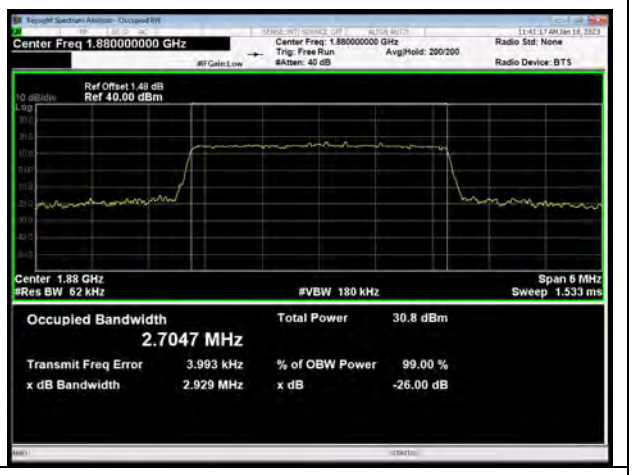
WCDMA Band II RMC CH-High

LTE Band 2 1.4MHz QPSK CH-Low

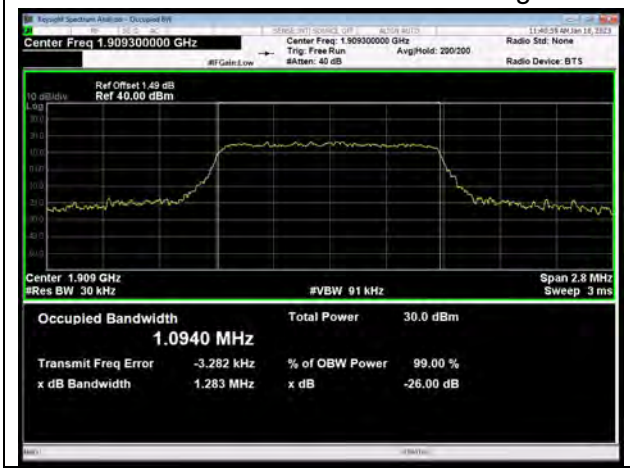
LTE Band 2 3MHz QPSK CH-Low

LTE Band 2 1.4MHz QPSK CH-Middle

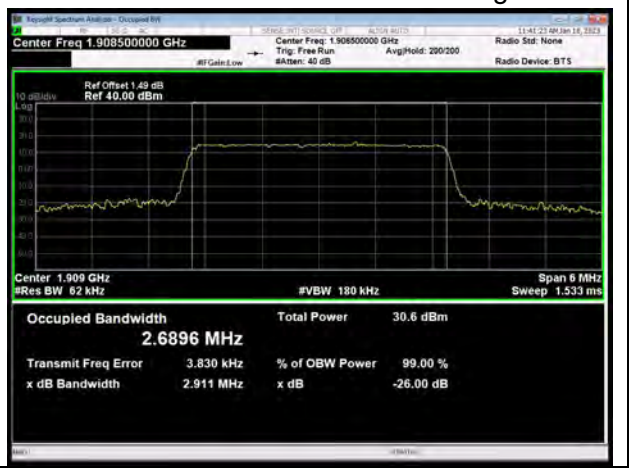
LTE Band 2 3MHz QPSK CH-Middle



LTE Band 2 1.4MHz QPSK CH-High



LTE Band 2 3MHz QPSK CH-High

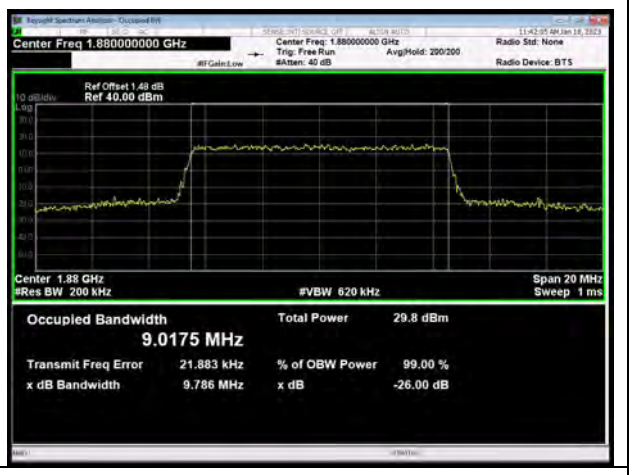


LTE Band 2 5MHz QPSK CH-Low

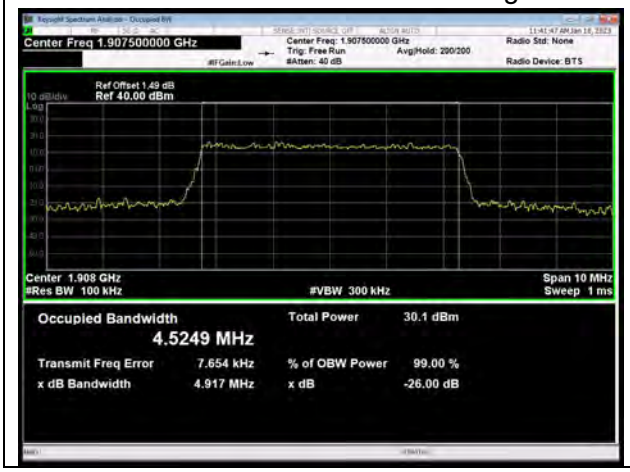
LTE Band 2 10MHz QPSK CH-Low

LTE Band 2 5MHz QPSK CH-Middle

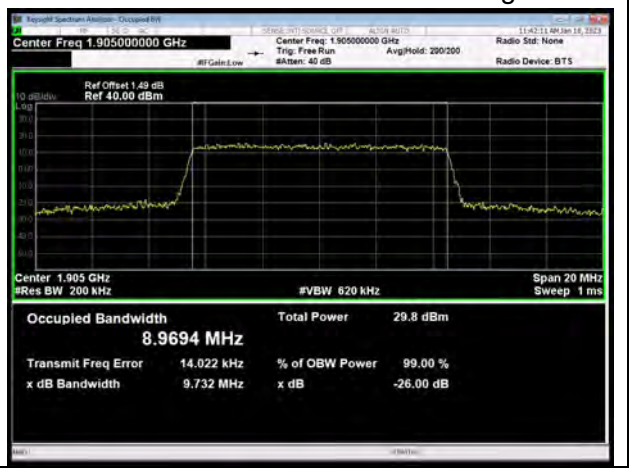
LTE Band 2 10MHz QPSK CH-Middle



LTE Band 2 5MHz QPSK CH-High

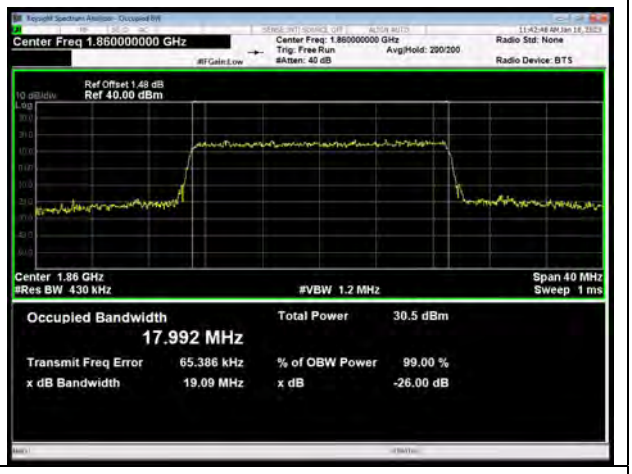


LTE Band 2 10MHz QPSK CH-High

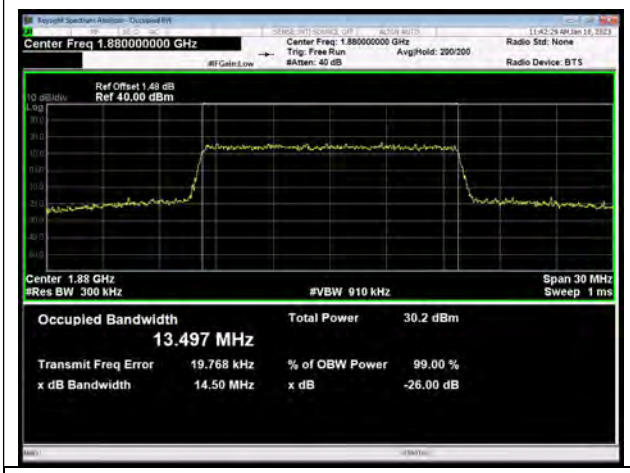


LTE Band 2 15MHz QPSK CH-Low

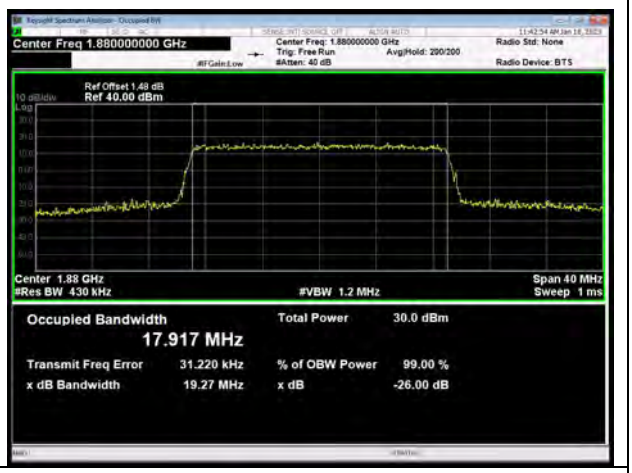
LTE Band 2 20MHz QPSK CH-Low



LTE Band 2 15MHz QPSK CH-Middle

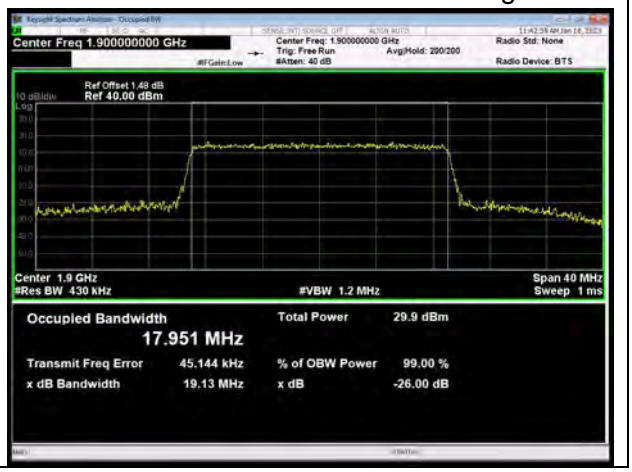


LTE Band 2 20MHz QPSK CH-Middle



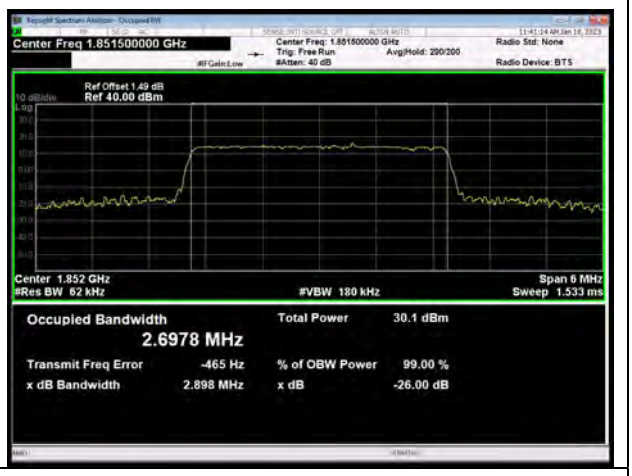
LTE Band 2 15MHz QPSK CH-High

LTE Band 2 20MHz QPSK CH-High

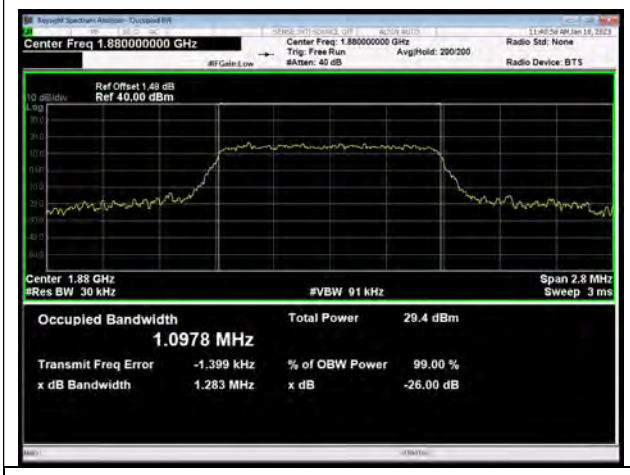


LTE Band 2 1.4MHz 16QAM CH-Low

LTE Band 2 3MHz 16QAM CH-Low



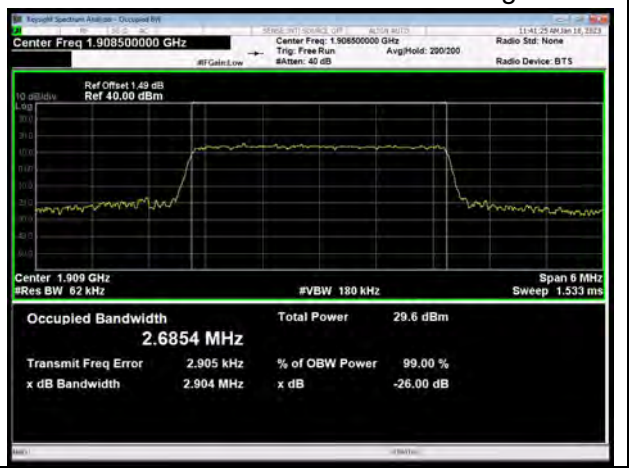
LTE Band 2 1.4MHz 16QAM CH-Middle



LTE Band 2 3MHz 16QAM CH-Middle

LTE Band 2 1.4MHz 16QAM CH-High

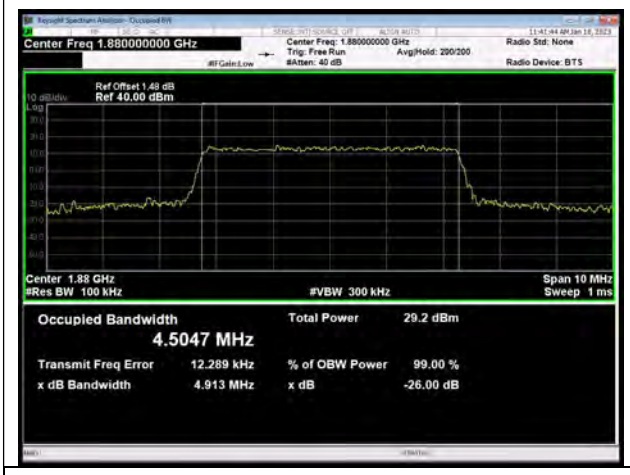
LTE Band 2 3MHz 16QAM CH-High



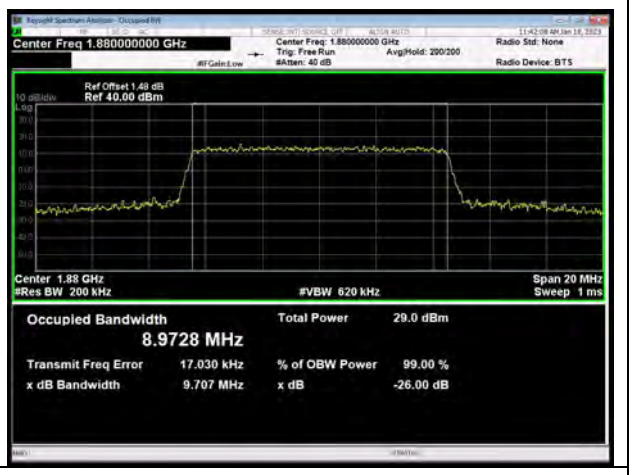
LTE Band 2 5MHz 16QAM CH-Low

LTE Band 2 10MHz 16QAM CH-Low

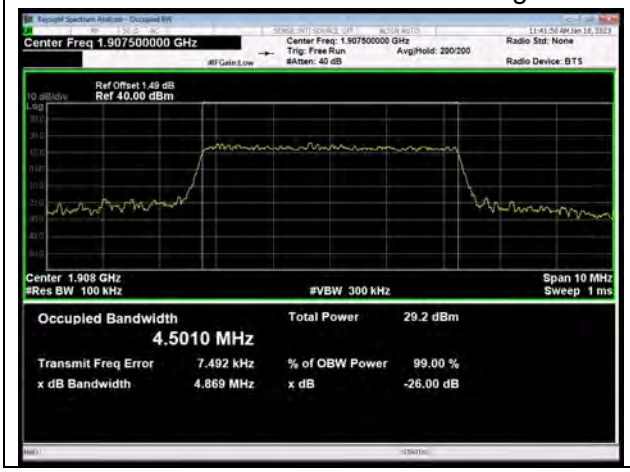
LTE Band 2 5MHz 16QAM CH-Middle



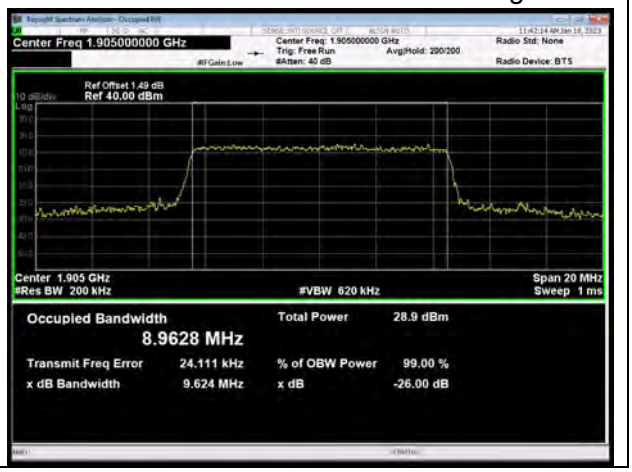
LTE Band 2 10MHz 16QAM CH-Middle



LTE Band 2 5MHz 16QAM CH-High



LTE Band 2 10MHz 16QAM CH-High



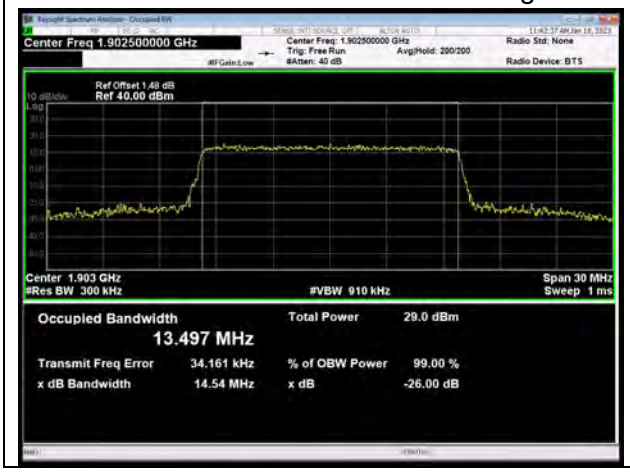
LTE Band 2 15MHz 16QAM CH-Low

LTE Band 2 20MHz 16QAM CH-Low

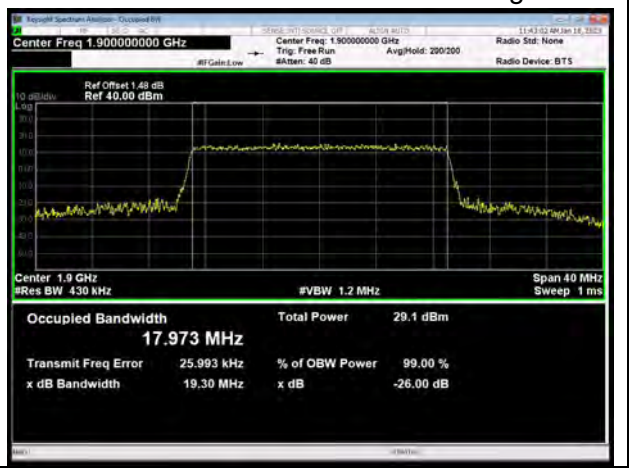
LTE Band 2 15MHz 16QAM CH-Middle

LTE Band 2 20MHz 16QAM CH-Middle

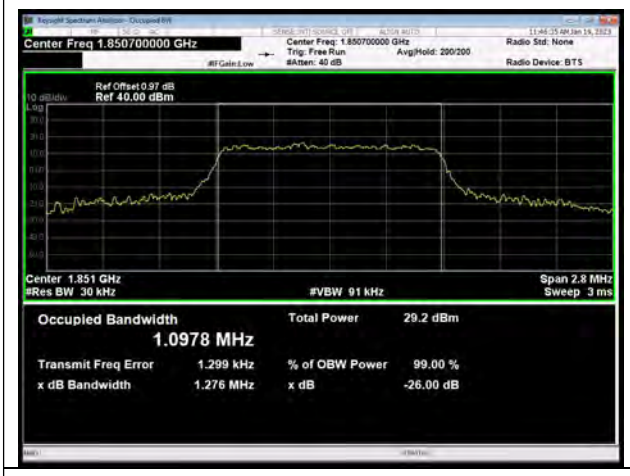
LTE Band 2 15MHz 16QAM CH-High



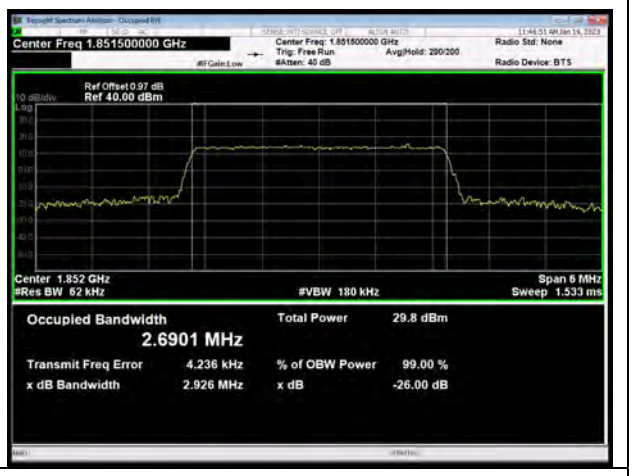
LTE Band 2 20MHz 16QAM CH-High



LTE Band 2 1.4MHz 64QAM CH-Low

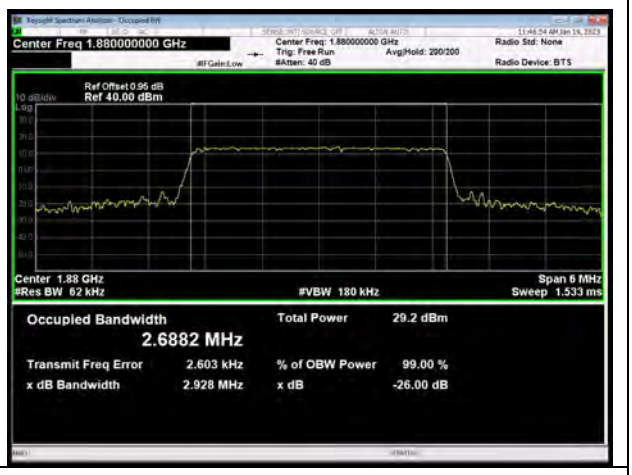


LTE Band 2 3MHz 64QAM CH-Low

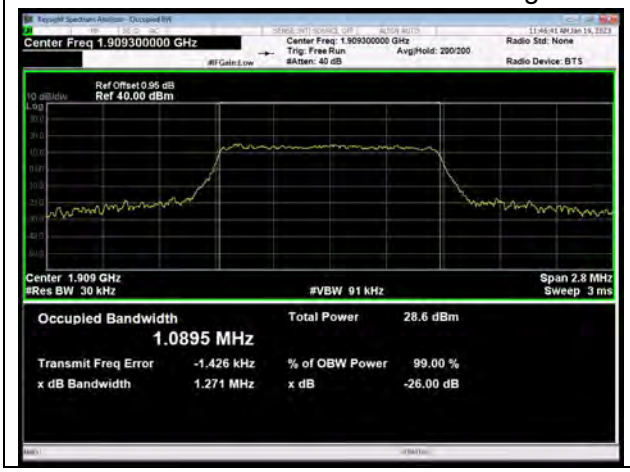


LTE Band 2 1.4MHz 64QAM CH-Middle

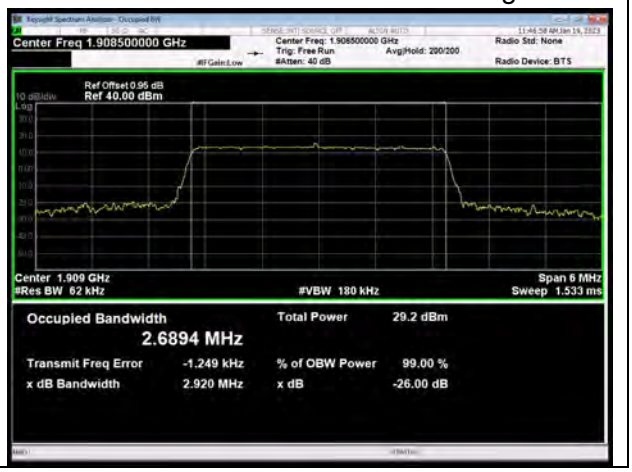
LTE Band 2 3MHz 64QAM CH-Middle



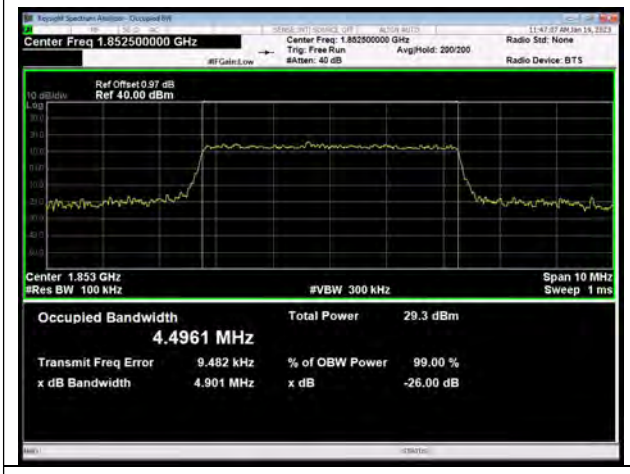
LTE Band 2 1.4MHz 64QAM CH-High



LTE Band 2 3MHz 64QAM CH-High

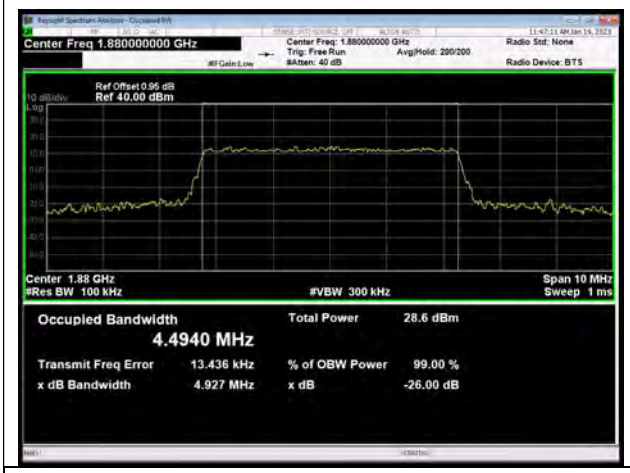


LTE Band 2 5MHz 64QAM CH-Low

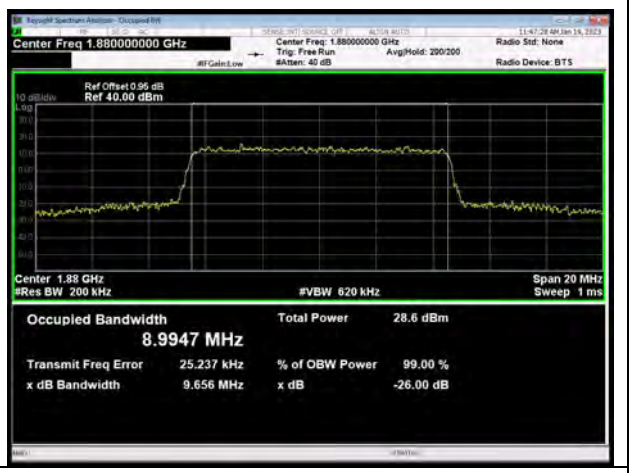


LTE Band 2 10MHz 64QAM CH-Low

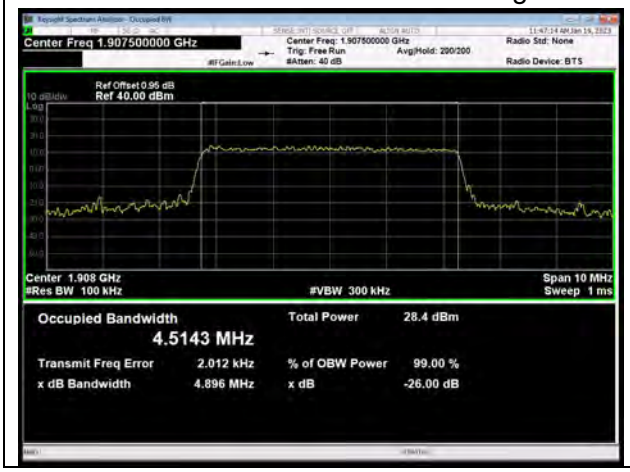
LTE Band 2 5MHz 64QAM CH-Middle



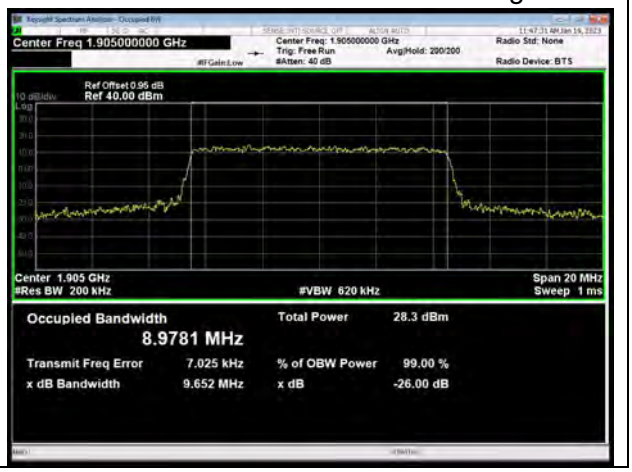
LTE Band 2 10MHz 64QAM CH-Middle



LTE Band 2 5MHz 64QAM CH-High

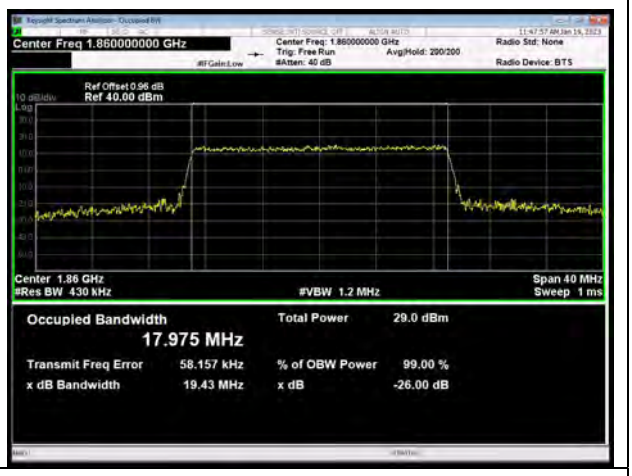


LTE Band 2 10MHz 64QAM CH-High

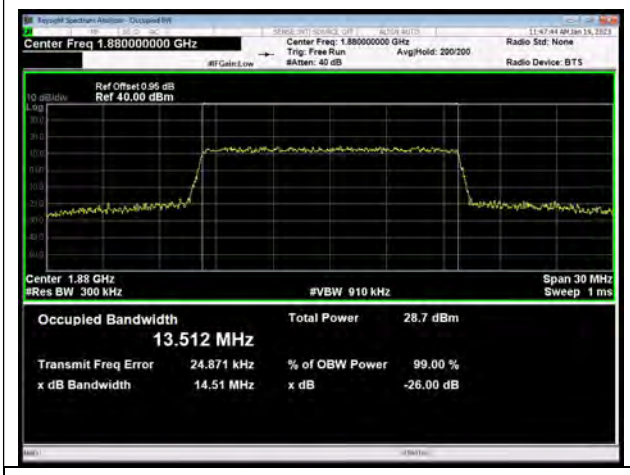


LTE Band 2 15MHz 64QAM CH-Low

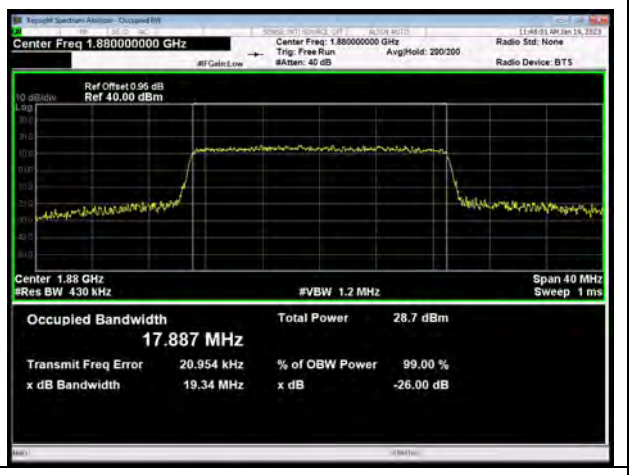
LTE Band 2 20MHz 64QAM CH-Low



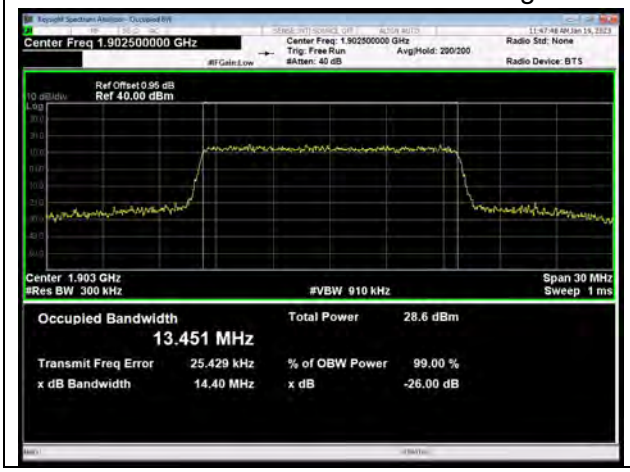
LTE Band 2 15MHz 64QAM CH-Middle



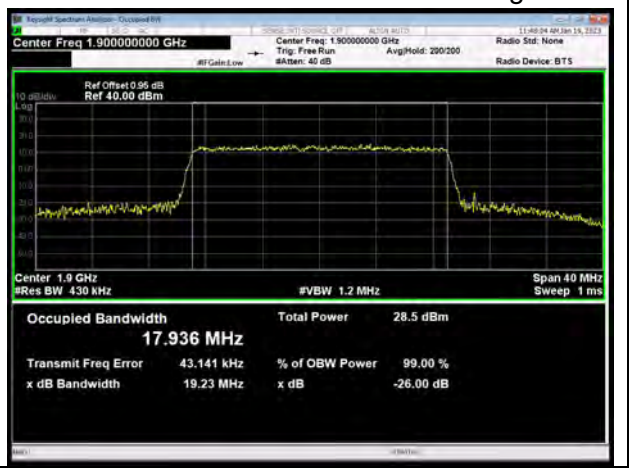
LTE Band 2 20MHz 64QAM CH-Middle



LTE Band 2 15MHz 64QAM CH-High



LTE Band 2 20MHz 64QAM CH-High

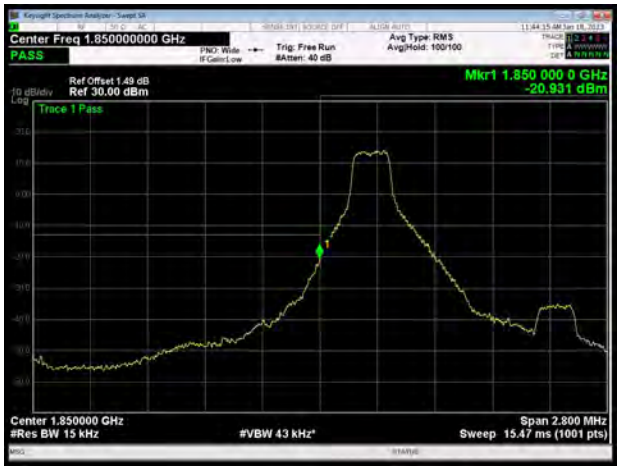


6.3. Band Edge Compliance

WCDMA Band II RMC CH-Low

WCDMA Band II RMC CH-High

LTE Band 2 1.4MHz QPSK 1RB CH-Low

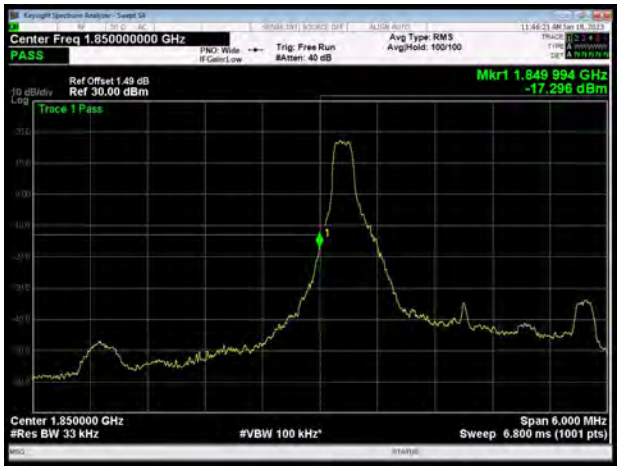


LTE Band 2 1.4MHz QPSK 1RB CH-High

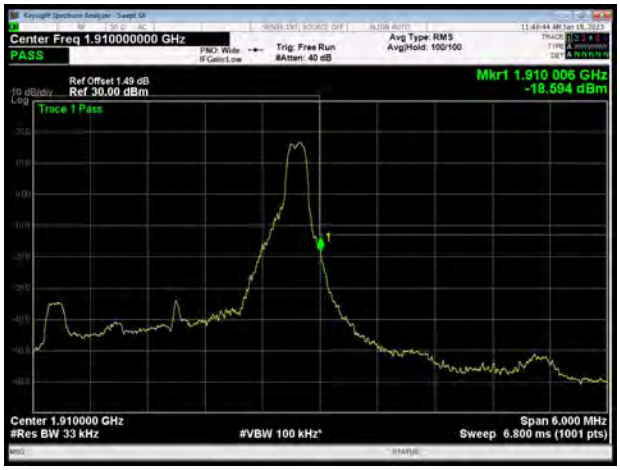
LTE Band 2 1.4MHz QPSK 100%RB CH-Low

LTE Band 2 1.4MHz QPSK 100%RB CH-High

LTE Band 2 3MHz QPSK 1RB CH-Low

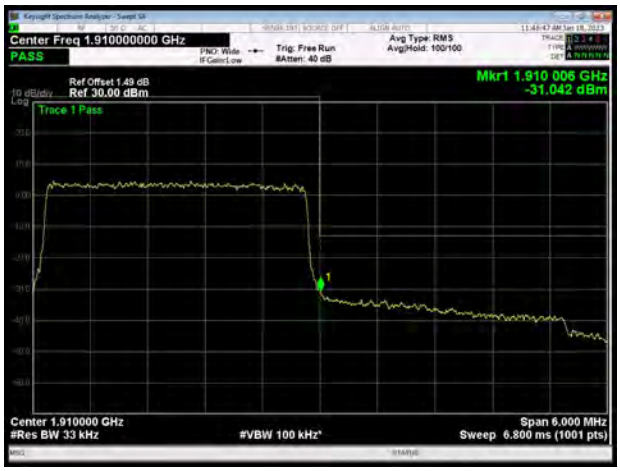


LTE Band 2 3MHz QPSK 1RB CH-High



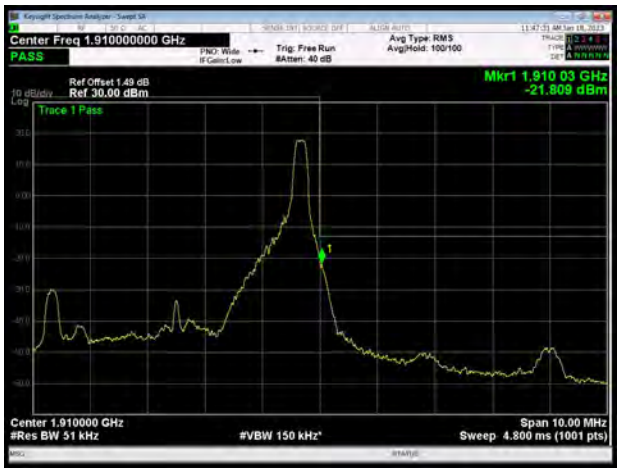
LTE Band 2 3MHz QPSK 100%RB CH-Low

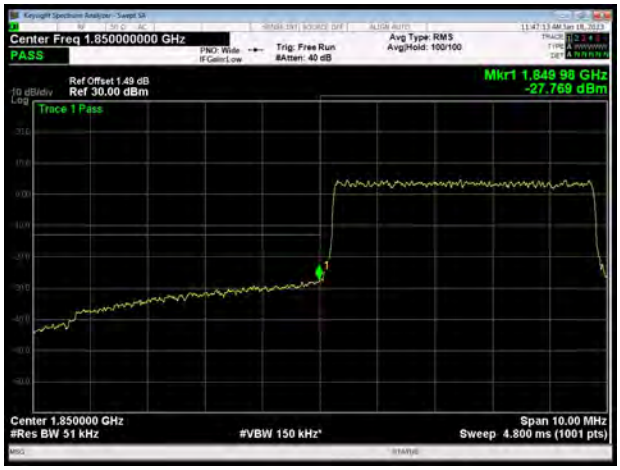
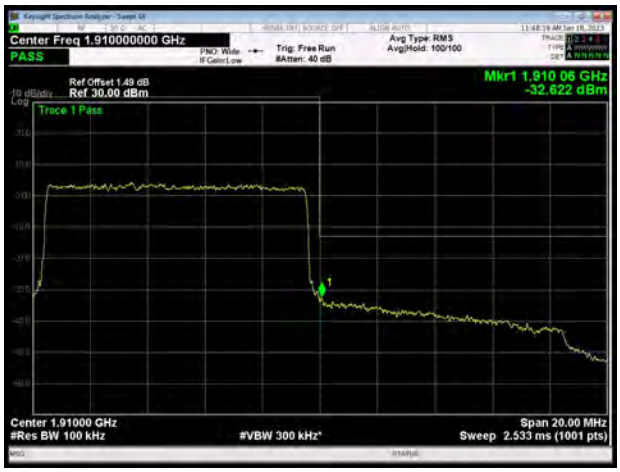
LTE Band 2 3MHz QPSK 100%RB CH-High



LTE Band 2 5MHz QPSK 1RB CH-Low

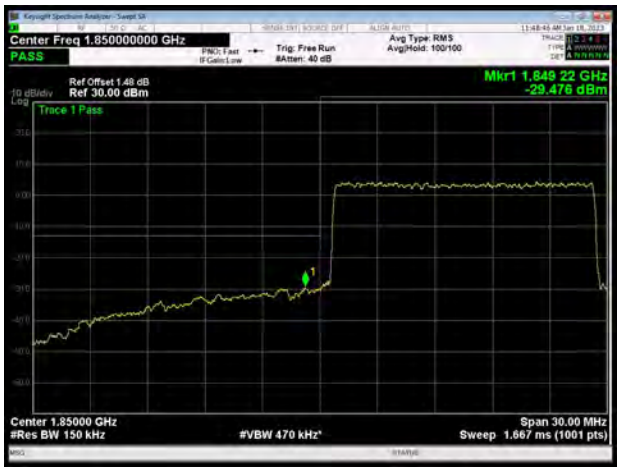
LTE Band 2 5MHz QPSK 1RB CH-High



LTE Band 2 5MHz QPSK 100%RB CH-Low	LTE Band 2 5MHz QPSK 100%RB CH-High
	
LTE Band 2 10MHz QPSK 1RB CH-Low	LTE Band 2 10MHz QPSK 1RB CH-High
	
LTE Band 2 10MHz QPSK 100%RB CH-Low	LTE Band 2 10MHz QPSK 100%RB CH-High
	
LTE Band 2 15MHz QPSK 1RB CH-Low	LTE Band 2 15MHz QPSK 1RB CH-High

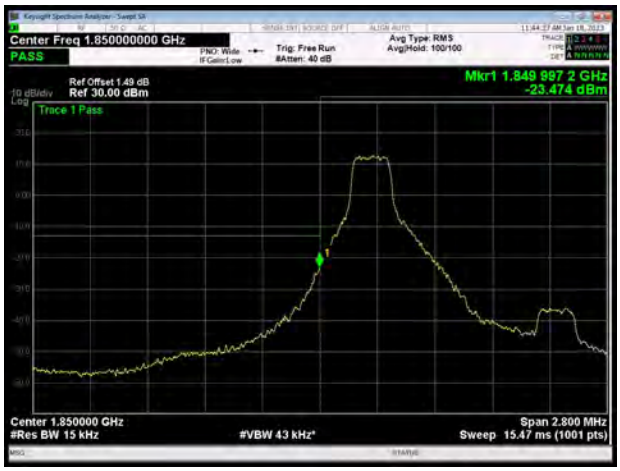
LTE Band 2 15MHz QPSK 100%RB CH-Low

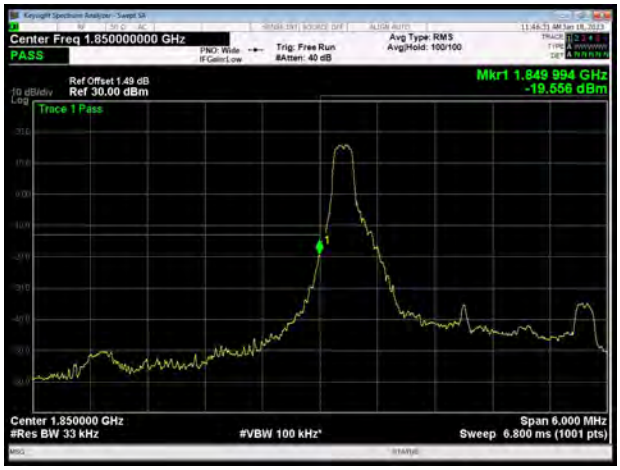
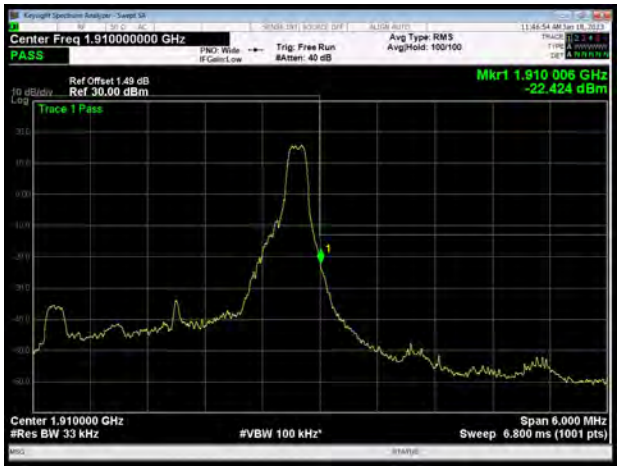
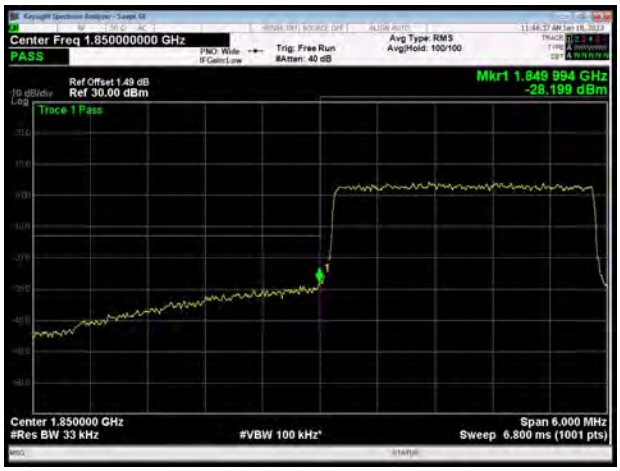
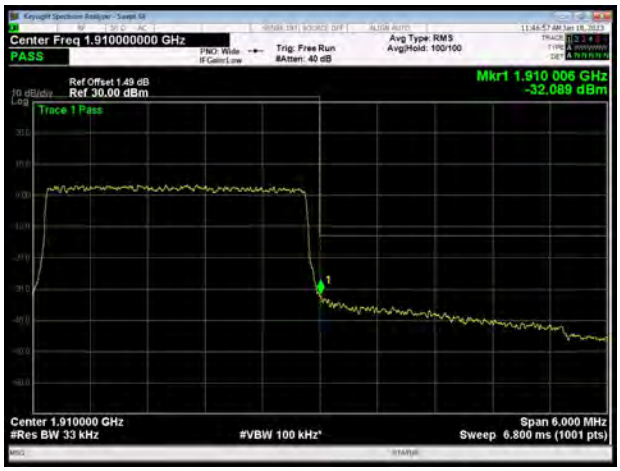
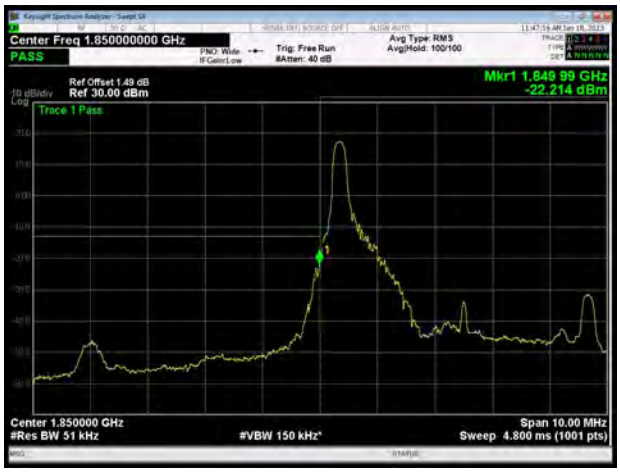
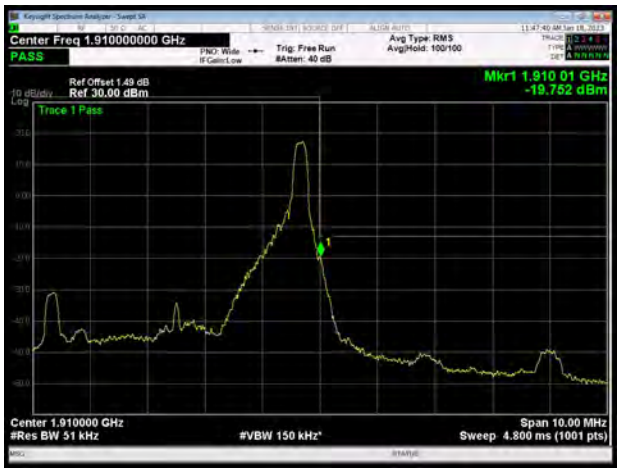
LTE Band 2 15MHz QPSK 100%RB CH-High



LTE Band 2 20MHz QPSK 1RB CH-Low

LTE Band 2 20MHz QPSK 1RB CH-High

LTE Band 2 20MHz QPSK 100%RB CH-Low	LTE Band 2 20MHz QPSK 100%RB CH-High
	
LTE Band 2 1.4MHz 16QAM 1RB CH-Low	LTE Band 2 1.4MHz 16QAM 1RB CH-High
	
LTE Band 2 1.4MHz 16QAM 100%RB CH-Low	LTE Band 2 1.4MHz 16QAM 100%RB CH-High
	

LTE Band 2 3MHz 16QAM 1RB CH-Low	LTE Band 2 3MHz 16QAM 1RB CH-High
	
LTE Band 2 3MHz 16QAM 100%RB CH-Low	LTE Band 2 3MHz 16QAM 100%RB CH-High
	
LTE Band 2 5MHz 16QAM 1RB CH-Low	LTE Band 2 5MHz 16QAM 1RB CH-High
	

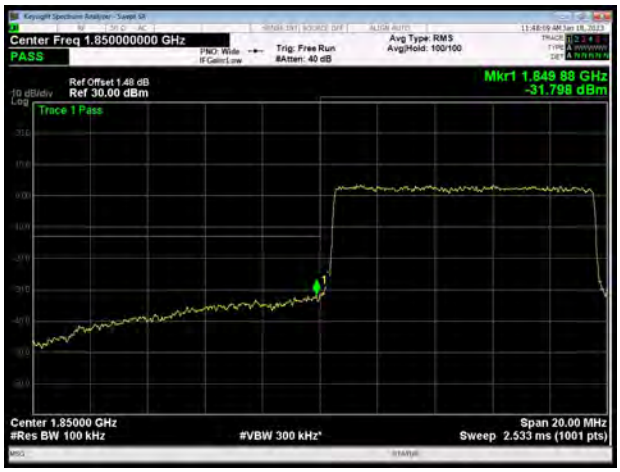
LTE Band 2 5MHz 16QAM 100%RB CH-Low

LTE Band 2 5MHz 16QAM 100%RB CH-High

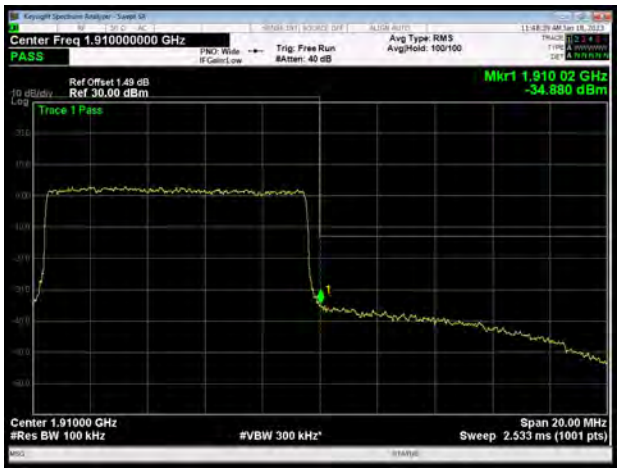
LTE Band 2 10MHz 16QAM 1RB CH-Low

LTE Band 2 10MHz 16QAM 1RB CH-High

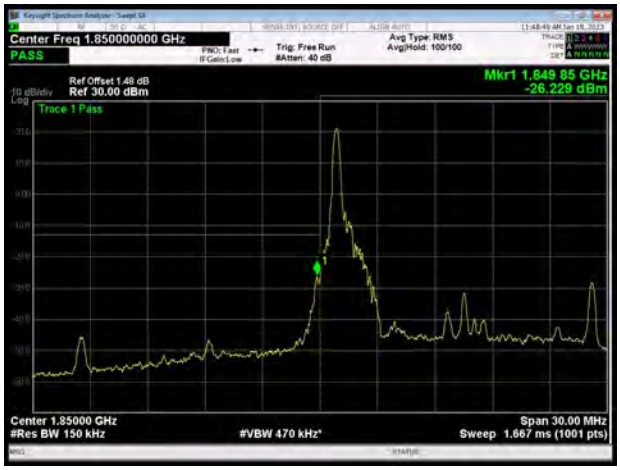
LTE Band 2 10MHz 16QAM 100%RB CH-Low



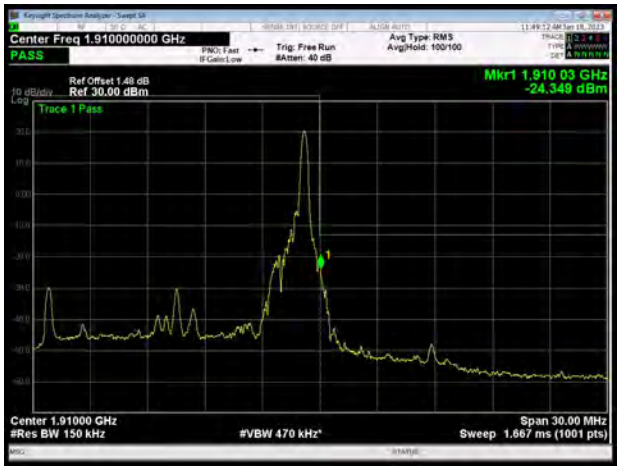
LTE Band 2 10MHz 16QAM 100%RB CH-High



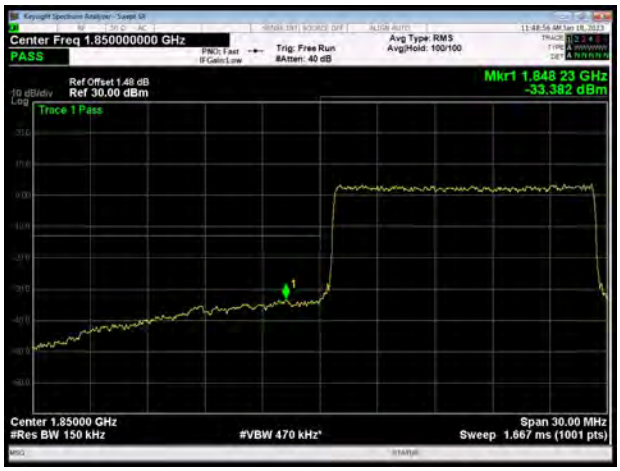
LTE Band 2 15MHz 16QAM 1RB CH-Low



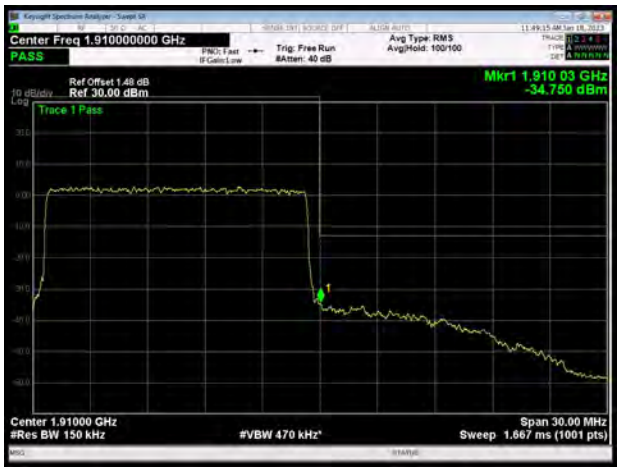
LTE Band 2 15MHz 16QAM 1RB CH-High



LTE Band 2 15MHz 16QAM 100%RB CH-Low



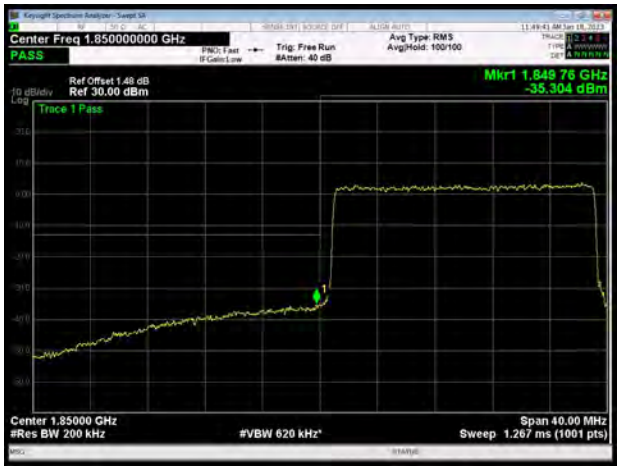
LTE Band 2 15MHz 16QAM 100%RB CH-High



LTE Band 2 20MHz 16QAM 1RB CH-Low

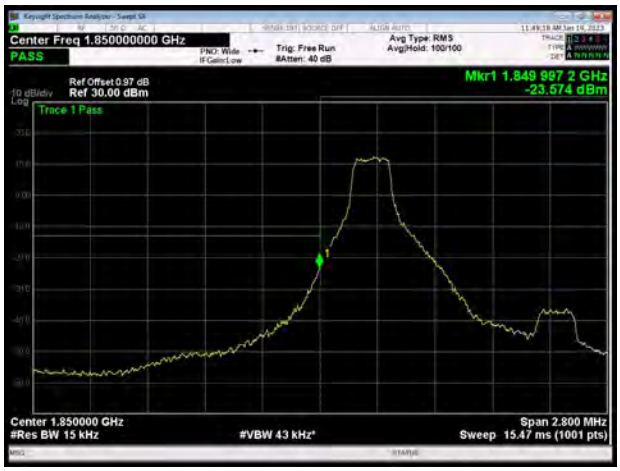
LTE Band 2 20MHz 16QAM 1RB CH-High

LTE Band 2 20MHz 16QAM 100%RB CH-Low



LTE Band 2 20MHz 16QAM 100%RB CH-High

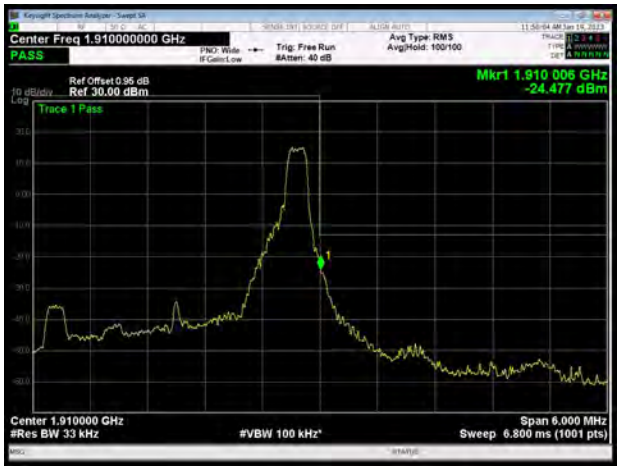
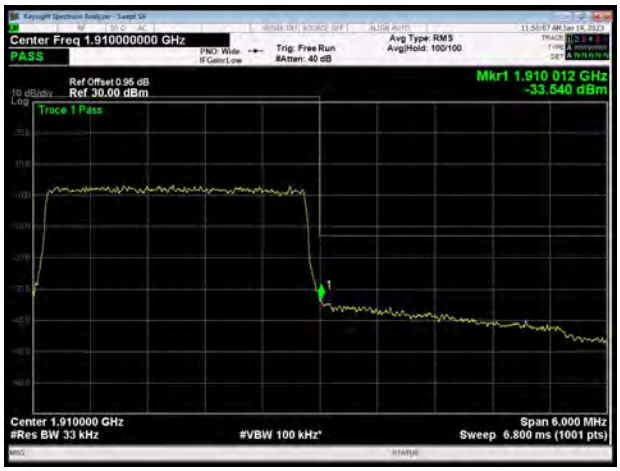
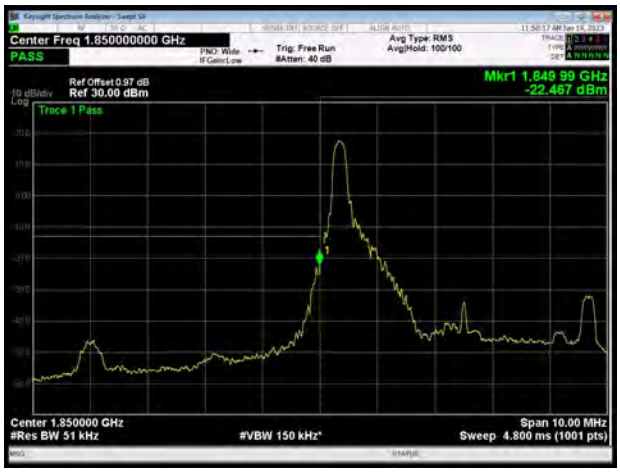
LTE Band 2 1.4MHz 64QAM 1RB CH-Low

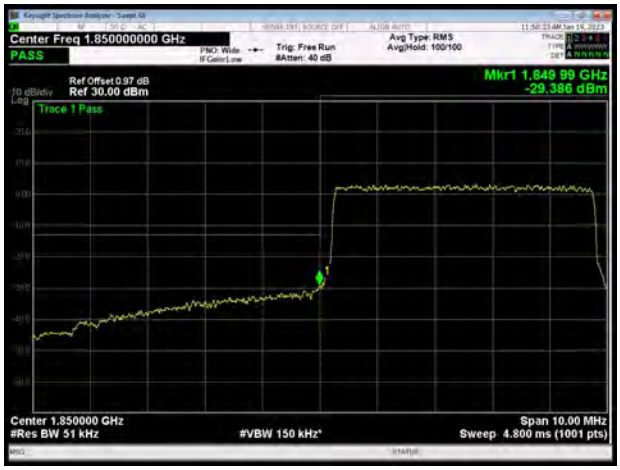
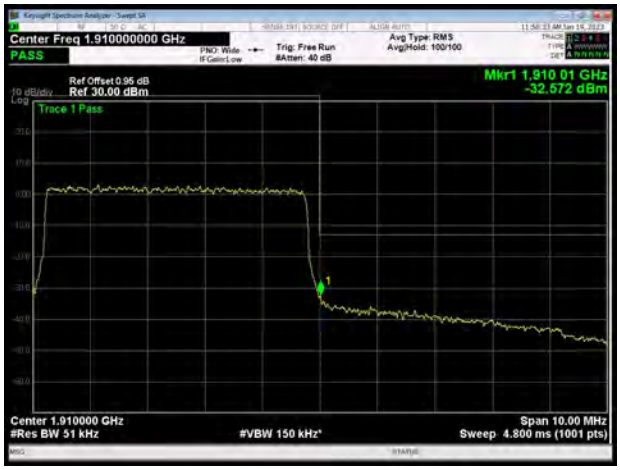
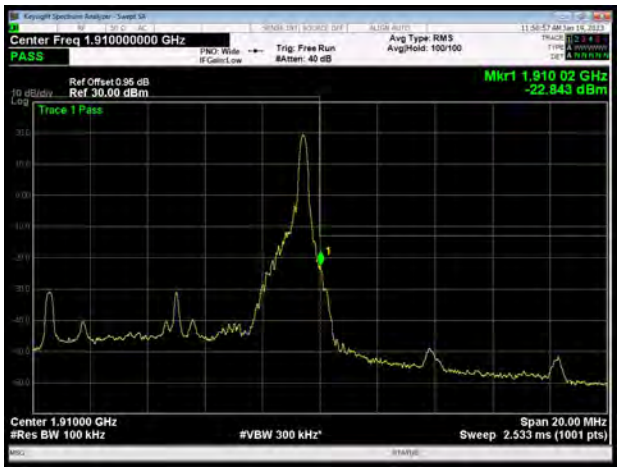
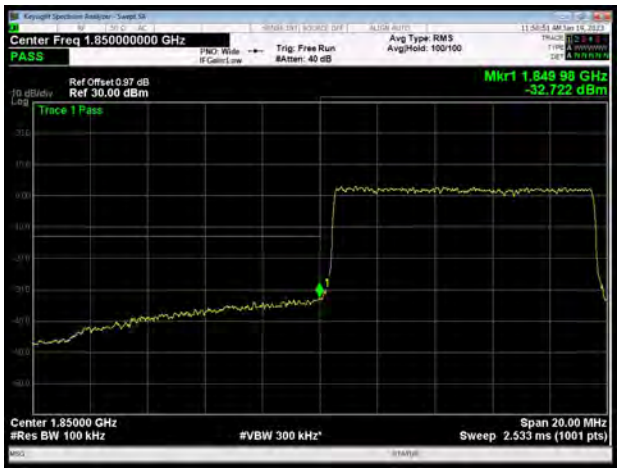
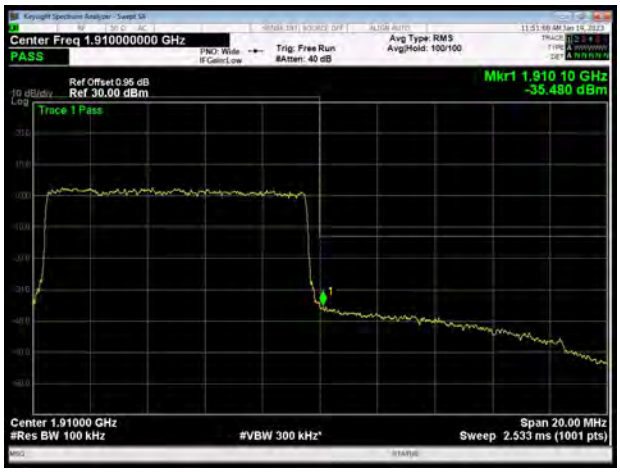


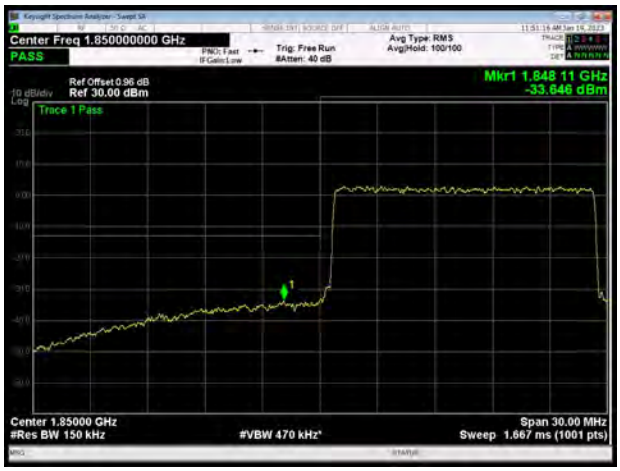
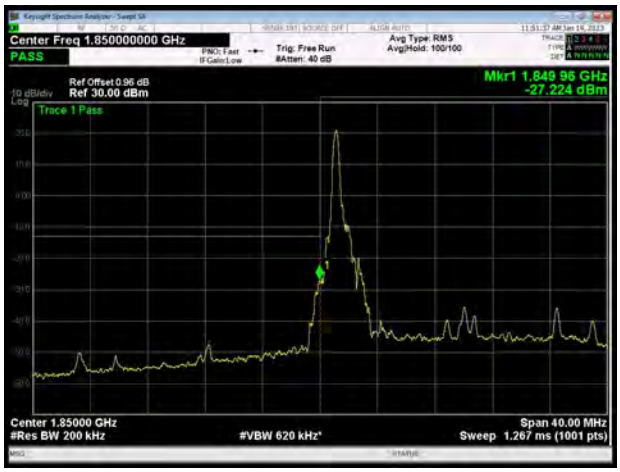
LTE Band 2 1.4MHz 64QAM 1RB CH-High

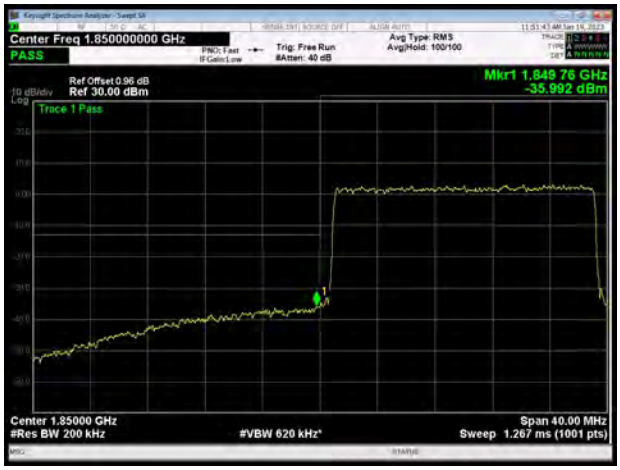
LTE Band 2 1.4MHz 64QAM 100%RB CH-Low

LTE Band 2 1.4MHz 64QAM 100%RB CH-High

LTE Band 2 3MHz 64QAM 1RB CH-Low	LTE Band 2 3MHz 64QAM 1RB CH-High
	
LTE Band 2 3MHz 64QAM 100%RB CH-Low	LTE Band 2 3MHz 64QAM 100%RB CH-High
	
LTE Band 2 5MHz 64QAM 1RB CH-Low	LTE Band 2 5MHz 64QAM 1RB CH-High
	

LTE Band 2 5MHz 64QAM 100%RB CH-Low	LTE Band 2 5MHz 64QAM 100%RB CH-High
	
LTE Band 2 10MHz 64QAM 1RB CH-Low	LTE Band 2 10MHz 64QAM 1RB CH-High
	
LTE Band 2 10MHz 64QAM 100%RB CH-Low	LTE Band 2 10MHz 64QAM 100%RB CH-High
	

LTE Band 2 15MHz 64QAM 1RB CH-Low	LTE Band 2 15MHz 64QAM 1RB CH-High
	
LTE Band 2 15MHz 64QAM 100%RB CH-Low	LTE Band 2 15MHz 64QAM 100%RB CH-High
	
LTE Band 2 20MHz 64QAM 1RB CH-Low	LTE Band 2 20MHz 64QAM 1RB CH-High
	

LTE Band 2 20MHz 64QAM 100%RB CH-Low	LTE Band 2 20MHz 64QAM 100%RB CH-High
	

6.4. Peak-to-Average Power Ratio (PAPR)

Mode	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Limit(dB)	Conclusion
WCDMA Band II (RMC)	9262	1852.4	25.61	22.85	2.76	≤13	PASS
	9400	1880	25.59	22.80	2.79	≤13	PASS
	9538	1907.6	25.34	22.57	2.77	≤13	PASS

LTE Band 2								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	18607	1850.7	26.44	22.75	3.69	≤13	PASS
		18900	1880.0	26.58	22.31	4.27	≤13	PASS
		19193	1909.3	26.64	22.14	4.50	≤13	PASS
	3	18615	1851.5	26.53	22.64	3.89	≤13	PASS
		18900	1880	26.56	22.19	4.37	≤13	PASS
		19185	1908.5	26.67	22.08	4.59	≤13	PASS
	5	18625	1852.5	26.68	22.63	4.05	≤13	PASS
		18900	1880	26.59	22.17	4.42	≤13	PASS
		19175	1907.5	26.72	22.07	4.65	≤13	PASS
	10	18650	1855	27.05	22.60	4.45	≤13	PASS
		18900	1880	26.68	22.17	4.51	≤13	PASS
		19150	1905	26.83	22.06	4.77	≤13	PASS
	15	18675	1857.5	27.82	22.69	5.13	≤13	PASS
		18900	1880	27.25	22.29	4.96	≤13	PASS
		19125	1902.5	27.35	22.15	5.20	≤13	PASS
	20	18700	1860	27.78	22.53	5.25	≤13	PASS
		18900	1880	27.14	22.09	5.05	≤13	PASS
		19100	1900	27.14	22.01	5.13	≤13	PASS
16QAM	1.4	18607	1850.7	26.32	21.63	4.69	≤13	PASS
		18900	1880.0	26.37	21.24	5.13	≤13	PASS
		19193	1909.3	26.53	21.12	5.41	≤13	PASS
	3	18615	1851.5	26.44	21.61	4.83	≤13	PASS
		18900	1880	26.42	21.15	5.27	≤13	PASS
		19185	1908.5	26.56	21.02	5.54	≤13	PASS
	5	18625	1852.5	26.59	21.63	4.96	≤13	PASS
		18900	1880	26.44	21.17	5.27	≤13	PASS
		19175	1907.5	26.51	21.06	5.45	≤13	PASS
	10	18650	1855	26.91	21.60	5.31	≤13	PASS
		18900	1880	26.52	21.16	5.36	≤13	PASS
		19150	1905	26.68	21.07	5.61	≤13	PASS

	15	18675	1857.5	27.45	21.65	5.80	≤13	PASS
		18900	1880	26.87	21.22	5.65	≤13	PASS
		19125	1902.5	26.94	21.09	5.85	≤13	PASS
	20	18700	1860	27.51	21.50	6.01	≤13	PASS
		18900	1880	26.87	21.09	5.78	≤13	PASS
		19100	1900	26.98	21.04	5.94	≤13	PASS
64QAM	1.4	18607	1850.7	25.81	21.15	4.66	≤13	PASS
		18900	1880.0	25.88	20.75	5.13	≤13	PASS
		19193	1909.3	25.98	20.63	5.35	≤13	PASS
	3	18615	1851.5	25.95	21.10	4.85	≤13	PASS
		18900	1880	25.85	20.64	5.21	≤13	PASS
		19185	1908.5	26.05	20.60	5.45	≤13	PASS
	5	18625	1852.5	26.08	21.12	4.96	≤13	PASS
		18900	1880	25.94	20.67	5.27	≤13	PASS
		19175	1907.5	26.02	20.56	5.46	≤13	PASS
	10	18650	1855	26.45	21.14	5.31	≤13	PASS
		18900	1880	26.00	20.64	5.36	≤13	PASS
		19150	1905	26.16	20.56	5.60	≤13	PASS
	15	18675	1857.5	26.95	21.16	5.79	≤13	PASS
		18900	1880	26.36	20.71	5.65	≤13	PASS
		19125	1902.5	26.51	20.61	5.90	≤13	PASS
	20	18700	1860	27.05	21.06	5.99	≤13	PASS
		18900	1880	26.36	20.57	5.79	≤13	PASS
		19100	1900	26.48	20.54	5.94	≤13	PASS

6.5. Frequency Stability

WCDMA Band II						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	QPSK	BPSK	QPSK	BPSK	
Normal (25℃)	Normal	9.10	8.21	0.00484	0.00437	PASS
Extreme (50℃)		5.01	11.88	0.00266	0.00632	PASS
Extreme (40℃)		6.06	3.65	0.00323	0.00194	PASS
Extreme (30℃)		8.02	8.23	0.00426	0.00438	PASS
Extreme (20℃)		15.58	3.06	0.00829	0.00163	PASS
Extreme (10℃)		13.50	11.48	0.00718	0.00611	PASS
Extreme (0℃)		10.46	16.11	0.00556	0.00857	PASS
Extreme (-10℃)		3.34	5.34	0.00178	0.00284	PASS
Extreme (-20℃)		10.15	10.11	0.00540	0.00538	PASS
Extreme (-30℃)		17.90	8.90	0.00952	0.00473	PASS
25℃	LV	2.51	12.60	0.00133	0.00670	PASS
	HV	16.21	3.67	0.00862	0.00195	PASS

LTE Band 2								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	1.4MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	12.61	9.83	1.24	0.00671	0.00523	0.00066	PASS
Extreme (50℃)		4.90	9.97	12.21	0.00260	0.00530	0.00649	PASS
Extreme (40℃)		15.44	15.93	9.45	0.00821	0.00848	0.00503	PASS
Extreme (30℃)		16.91	9.40	10.79	0.00900	0.00500	0.00574	PASS
Extreme (20℃)		11.96	17.65	3.96	0.00636	0.00939	0.00211	PASS
Extreme (10℃)		6.93	13.50	14.04	0.00369	0.00718	0.00747	PASS
Extreme (0℃)		5.13	4.28	11.29	0.00273	0.00228	0.00601	PASS
Extreme (-10℃)		6.92	1.95	8.70	0.00368	0.00104	0.00463	PASS
Extreme (-20℃)		15.98	10.25	15.46	0.00850	0.00545	0.00822	PASS
Extreme (-30℃)		11.94	13.96	15.66	0.00635	0.00743	0.00833	PASS
25℃	LV	16.13	5.38	6.72	0.00858	0.00286	0.00358	PASS
	HV	2.41	6.71	7.07	0.00128	0.00357	0.00376	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	16.54	9.85	5.25	0.00880	0.00524	0.00279	PASS
Extreme (50℃)		9.01	6.33	9.97	0.00479	0.00337	0.00530	PASS
Extreme (40℃)		15.11	16.60	4.71	0.00803	0.00883	0.00251	PASS
Extreme (30℃)		6.01	7.83	11.07	0.00320	0.00417	0.00589	PASS
Extreme (20℃)		14.90	14.66	3.94	0.00793	0.00780	0.00209	PASS
Extreme (10℃)		17.05	14.31	11.57	0.00907	0.00761	0.00616	PASS
Extreme (0℃)		7.91	10.46	4.60	0.00421	0.00557	0.00245	PASS
Extreme (-10℃)		2.86	1.03	7.98	0.00152	0.00055	0.00425	PASS
Extreme (-20℃)		9.03	7.51	9.96	0.00480	0.00399	0.00530	PASS
Extreme (-30℃)		3.24	16.70	4.49	0.00172	0.00888	0.00239	PASS
25℃	LV	8.09	10.99	10.23	0.00431	0.00585	0.00544	PASS
	HV	9.39	11.59	14.28	0.00500	0.00616	0.00759	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	9.42	13.33	10.22	0.00501	0.00709	0.00544	PASS
Extreme (50℃)		1.54	2.00	7.27	0.00082	0.00106	0.00387	PASS
Extreme (40℃)		11.97	1.13	7.16	0.00637	0.00060	0.00381	PASS
Extreme (30℃)		4.46	1.67	10.11	0.00237	0.00089	0.00538	PASS
Extreme (20℃)		11.66	8.25	7.43	0.00620	0.00439	0.00395	PASS

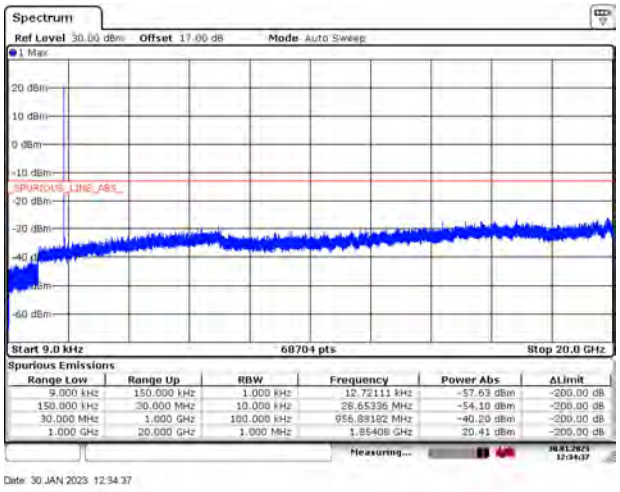
Extreme (10℃)		10.95	14.86	7.76	0.00583	0.00790	0.00413	PASS
Extreme (0℃)		1.66	2.52	15.63	0.00088	0.00134	0.00832	PASS
Extreme (-10℃)		6.28	17.74	17.35	0.00334	0.00944	0.00923	PASS
Extreme (-20℃)		17.78	11.14	3.20	0.00946	0.00593	0.00170	PASS
Extreme (-30℃)		9.60	4.16	6.74	0.00511	0.00221	0.00359	PASS
25℃	LV	3.34	2.16	3.26	0.00178	0.00115	0.00174	PASS
	HV	7.26	2.44	11.92	0.00386	0.00130	0.00634	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	11.27	13.37	4.40	0.00600	0.00711	0.00234	PASS
Extreme (50℃)		14.01	5.69	8.36	0.00745	0.00303	0.00445	PASS
Extreme (40℃)		17.30	13.60	3.96	0.00920	0.00723	0.00211	PASS
Extreme (30℃)		13.94	3.43	11.16	0.00741	0.00183	0.00594	PASS
Extreme (20℃)		4.91	7.60	13.95	0.00261	0.00404	0.00742	PASS
Extreme (10℃)		2.24	7.47	1.79	0.00119	0.00397	0.00095	PASS
Extreme (0℃)		10.26	7.16	10.90	0.00546	0.00381	0.00580	PASS
Extreme (-10℃)		6.18	13.87	9.76	0.00329	0.00738	0.00519	PASS
Extreme (-20℃)		16.05	15.34	3.69	0.00854	0.00816	0.00196	PASS
Extreme (-30℃)		2.54	4.59	15.50	0.00135	0.00244	0.00825	PASS
25℃	LV	5.35	14.54	5.08	0.00285	0.00773	0.00270	PASS
	HV	5.53	5.21	3.78	0.00294	0.00277	0.00201	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.93	16.72	8.13	0.00368	0.00889	0.00432	PASS
Extreme (50℃)		9.81	3.46	17.25	0.00522	0.00184	0.00917	PASS
Extreme (40℃)		5.31	8.03	14.92	0.00282	0.00427	0.00793	PASS
Extreme (30℃)		15.27	1.02	7.70	0.00812	0.00054	0.00410	PASS
Extreme (20℃)		14.61	15.57	5.85	0.00777	0.00828	0.00311	PASS
Extreme (10℃)		16.80	3.89	12.35	0.00893	0.00207	0.00657	PASS
Extreme (0℃)		13.27	3.68	5.62	0.00706	0.00196	0.00299	PASS
Extreme (-10℃)		5.42	7.77	9.17	0.00288	0.00413	0.00488	PASS
Extreme (-20℃)		11.48	1.48	12.57	0.00611	0.00079	0.00669	PASS
Extreme (-30℃)		1.21	4.60	3.42	0.00064	0.00244	0.00182	PASS
25℃	LV	4.43	7.67	9.13	0.00235	0.00408	0.00486	PASS
	HV	12.62	4.80	2.64	0.00672	0.00255	0.00140	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	17.81	3.75	10.26	0.00947	0.00199	0.00546	PASS

Extreme (50℃)		12.63	2.54	7.08	0.00672	0.00135	0.00376	PASS
Extreme (40℃)		4.61	4.30	14.70	0.00245	0.00229	0.00782	PASS
Extreme (30℃)		2.08	4.53	1.80	0.00110	0.00241	0.00096	PASS
Extreme (20℃)		3.81	3.19	12.04	0.00203	0.00170	0.00640	PASS
Extreme (10℃)		15.07	6.74	11.56	0.00802	0.00359	0.00615	PASS
Extreme (0℃)		16.92	6.79	11.10	0.00900	0.00361	0.00591	PASS
Extreme (-10℃)		3.52	10.07	12.00	0.00187	0.00536	0.00638	PASS
Extreme (-20℃)		11.38	16.49	9.88	0.00605	0.00877	0.00526	PASS
Extreme (-30℃)		4.50	1.49	3.59	0.00240	0.00079	0.00191	PASS
25℃	LV	1.90	9.51	2.29	0.00101	0.00506	0.00122	PASS
	HV	9.04	5.93	4.07	0.00481	0.00315	0.00217	PASS

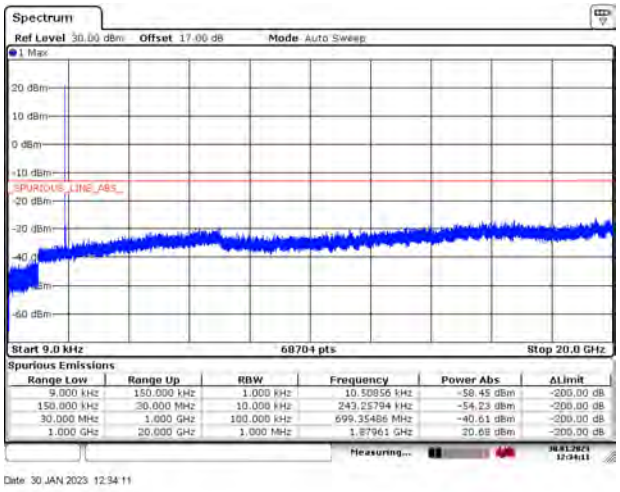
6.6. Spurious Emissions at Antenna Terminals

Sweep the whole frequency band through the range from 9kHz to the 20th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.
The signal beyond the limit is carrier.

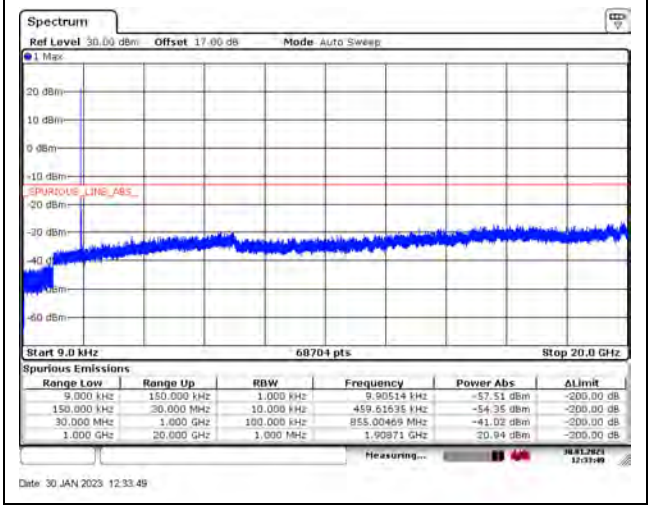
WCDMA BAND II CH-Low 9kHz ~ 20GHz



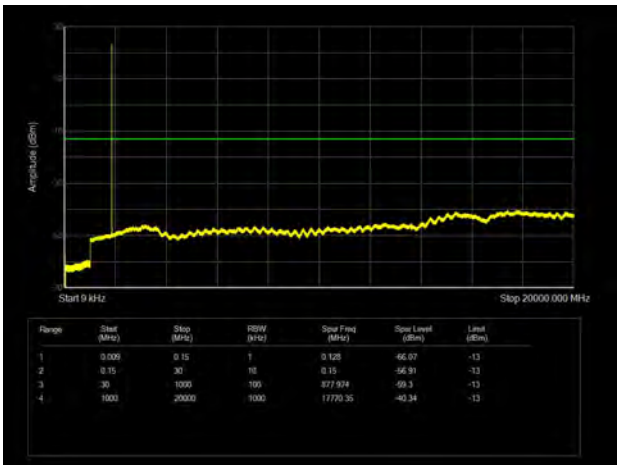
WCDMA BAND II CH- Middle 9kHz ~ 20GHz



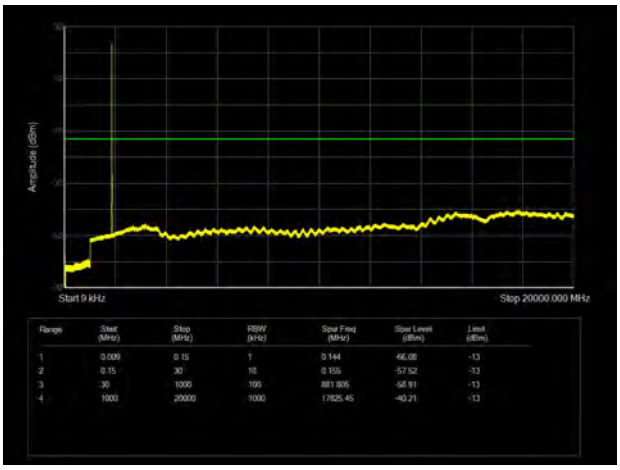
WCDMA BAND II CH-High 9kHz ~ 20GHz



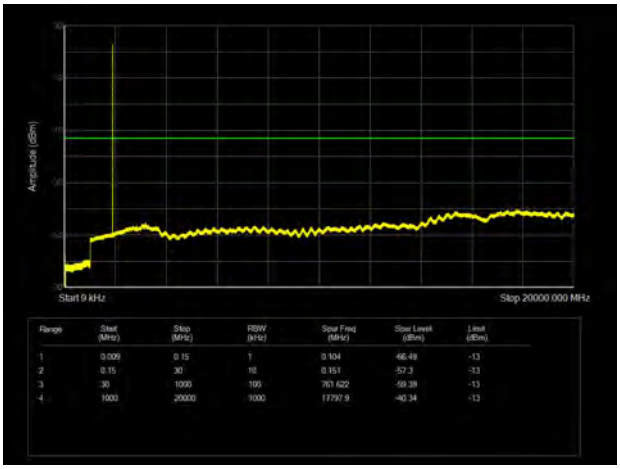
LTE Band 2 1.4MHz CH-Low 9kHz~20GHz



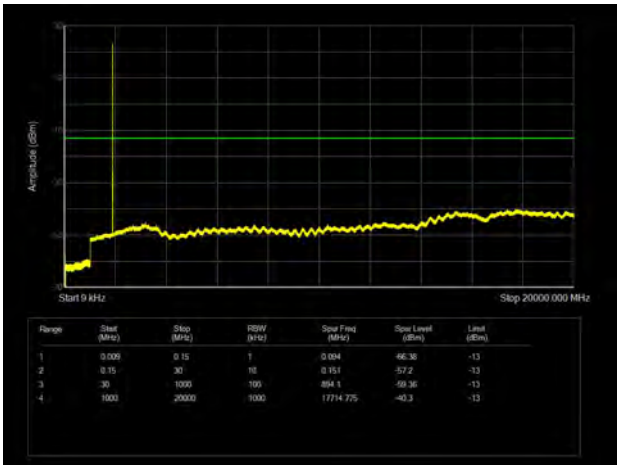
LTE Band 2 3MHz CH-Low 9kHz~20GHz



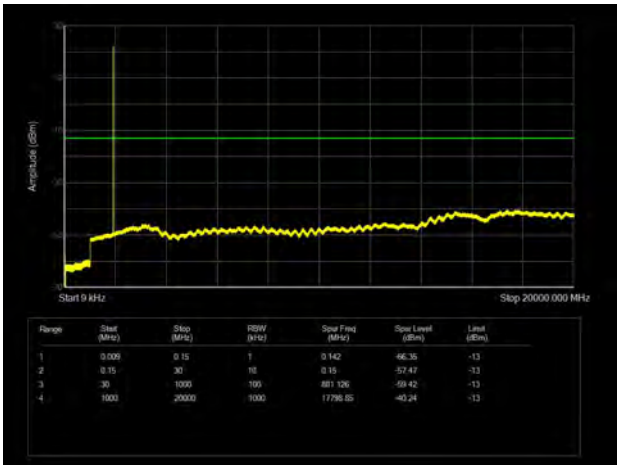
LTE Band 2 1.4MHz CH-Middle 9kHz~20GHz



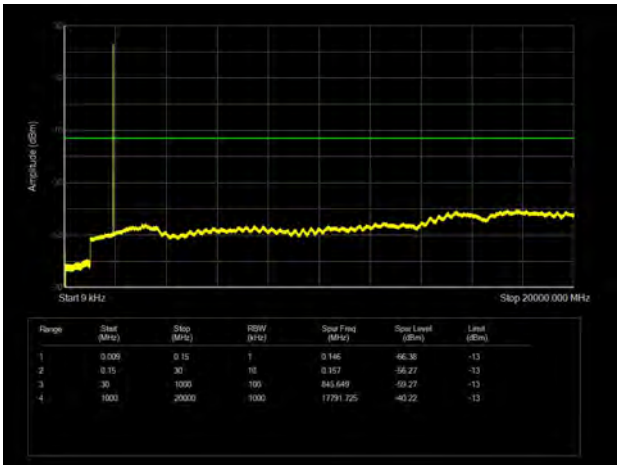
LTE Band 2 3MHz CH-Middle 9kHz~20GHz



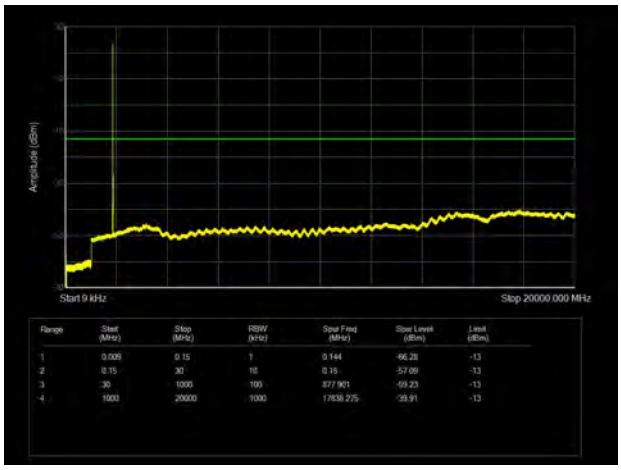
LTE Band 2 1.4MHz CH-High 9kHz~20GHz



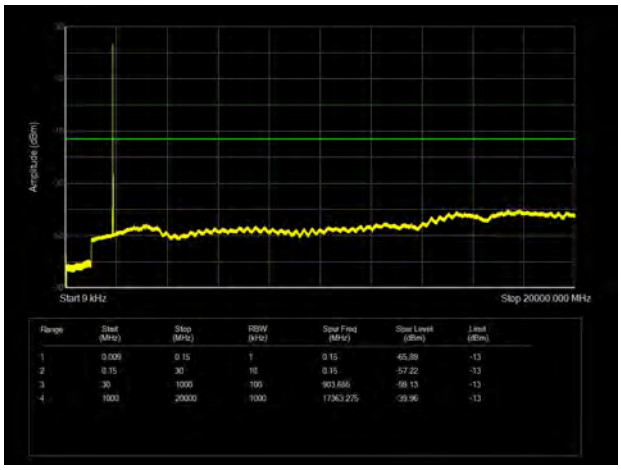
LTE Band 2 3MHz CH-High 9kHz~20GHz



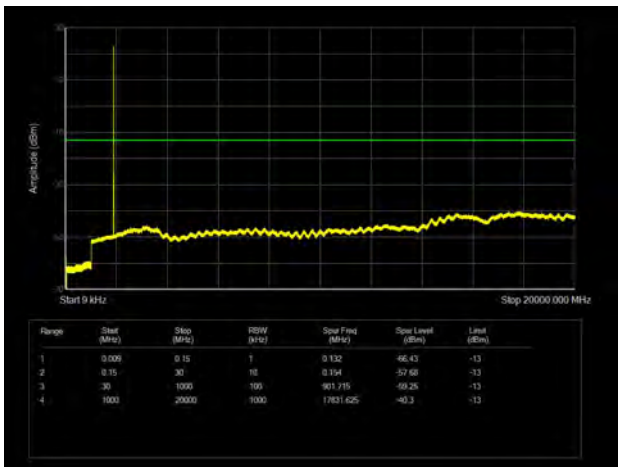
LTE Band 2 5MHz CH-Low 9kHz~20GHz



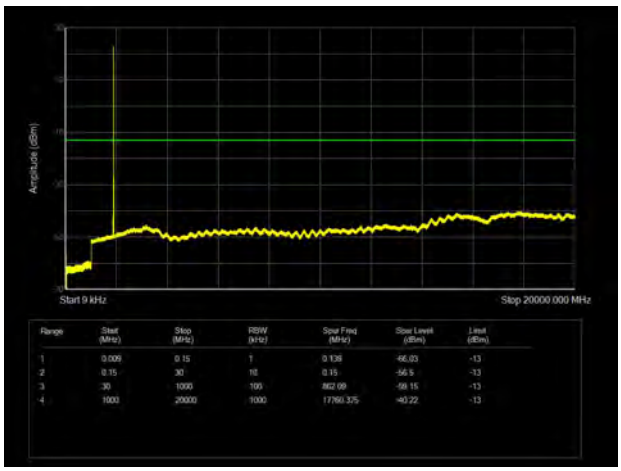
LTE Band 2 10MHz CH-Low 9kHz~20GHz



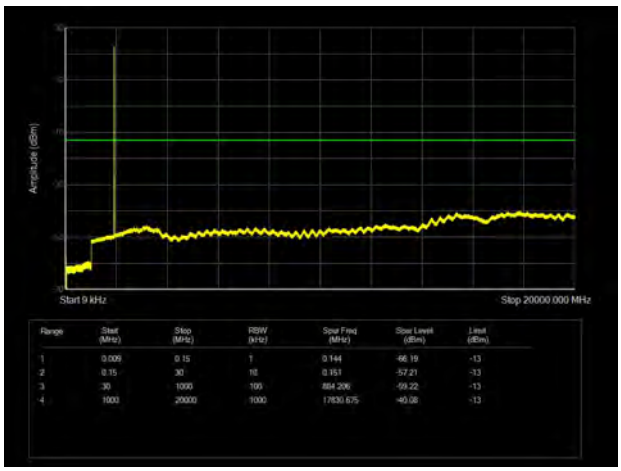
LTE Band 2 5MHz CH-Middle 9kHz~20GHz



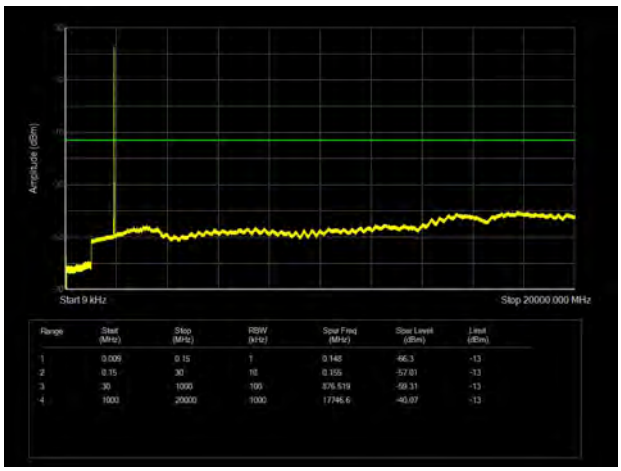
LTE Band 2 10MHz CH-Middle 9kHz~20GHz



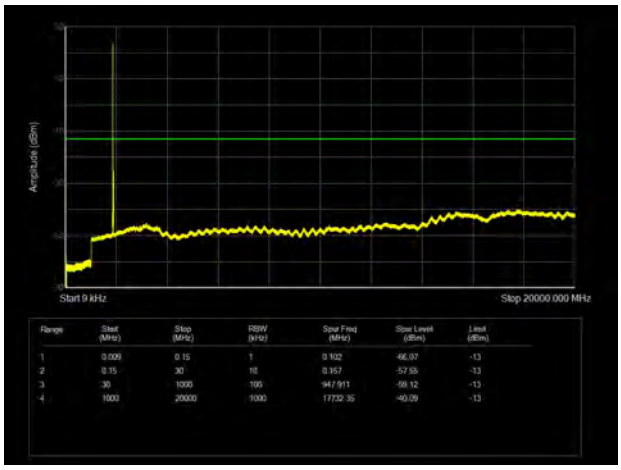
LTE Band 2 5MHz CH-High 9kHz~20GHz



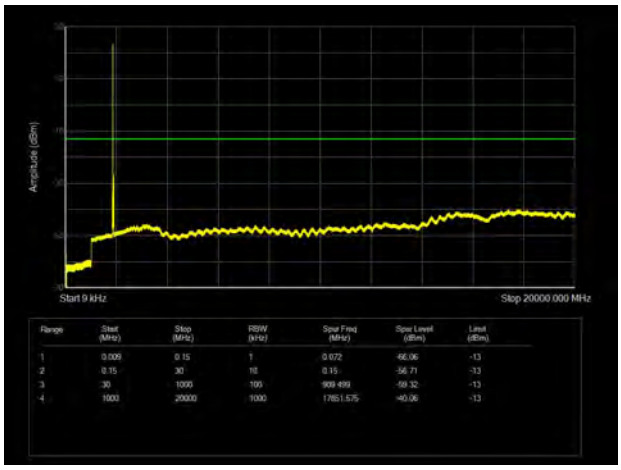
LTE Band 2 10MHz CH-High 9kHz~20GHz



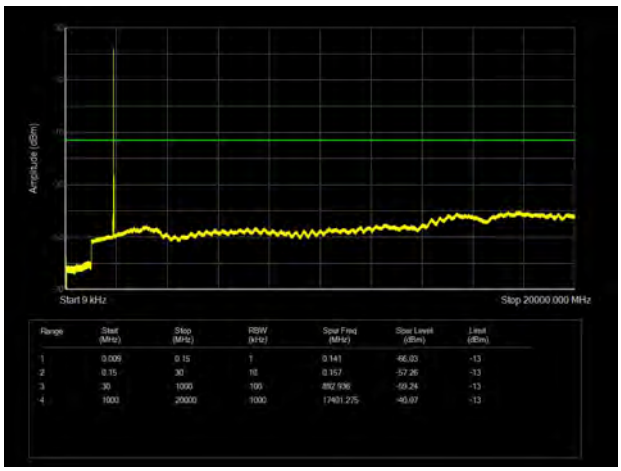
LTE Band 2 15MHz CH-Low 9kHz~20GHz



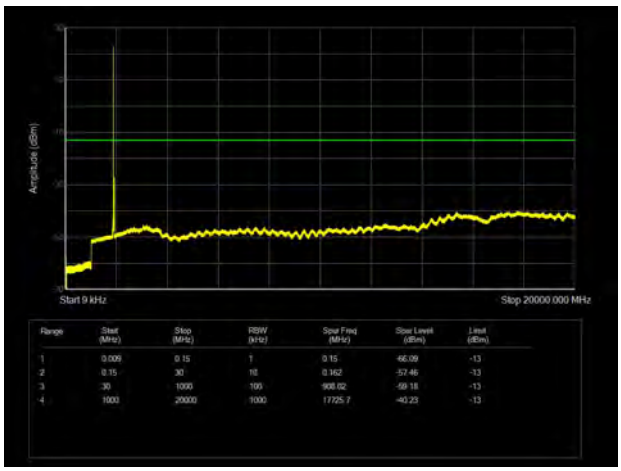
LTE Band 2 20MHz CH-Low 9kHz~20GHz



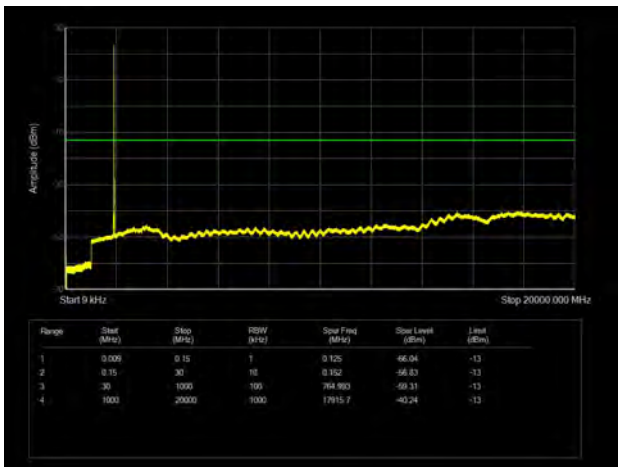
LTE Band 2 15MHz CH-Middle 9kHz~20GHz



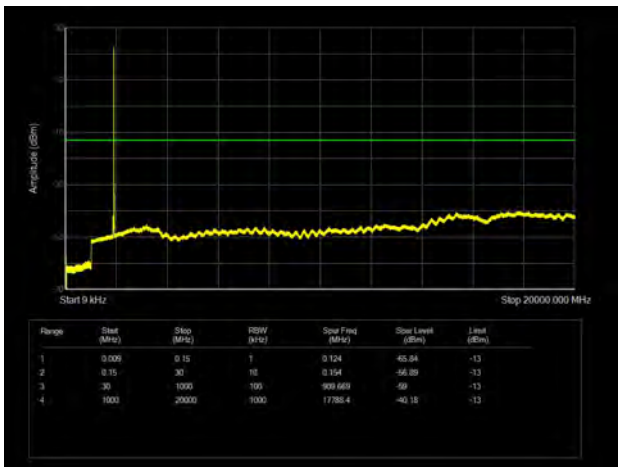
LTE Band 2 20MHz CH-Middle 9kHz~20GHz



LTE Band 2 15MHz CH-High 9kHz~20GHz



LTE Band 2 20MHz CH-High 9kHz~20GHz



6.7. Radiated Spurious Emission

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

WCDMA Band II CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-64.86	2.60	12.50	Horizontal	-54.96	-13.00	41.96	225
3	5640.00	-61.77	3.30	12.50	Horizontal	-52.57	-13.00	39.57	45
4	7520.00	-60.19	4.20	12.20	Horizontal	-52.19	-13.00	39.19	180
5	9400.00	-55.25	4.30	11.10	Horizontal	-48.45	-13.00	35.45	315
6	11280.00	-56.10	5.90	11.90	Horizontal	-50.10	-13.00	37.10	0
7	13160.00	-54.62	5.70	14.00	Horizontal	-46.32	-13.00	33.32	135
8	15040.00	-50.25	5.80	13.10	Horizontal	-42.95	-13.00	29.95	90
9	16920.00	-54.24	6.10	14.60	Horizontal	-45.74	-13.00	32.74	225
10	18800.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3759.00	-63.73	2.60	12.50	Horizontal	-53.83	-13.00	40.83	45
3	5638.88	-58.64	3.30	12.50	Horizontal	-49.44	-13.00	36.44	90
4	7520.00	-60.70	4.20	12.20	Horizontal	-52.70	-13.00	39.70	135
5	9400.00	-58.26	4.30	11.10	Horizontal	-51.46	-13.00	38.46	45
6	11280.00	-51.35	5.90	11.90	Horizontal	-45.35	-13.00	32.35	225
7	13160.00	-54.75	5.70	14.00	Horizontal	-46.45	-13.00	33.45	0
8	15040.00	-50.51	5.80	13.10	Horizontal	-43.21	-13.00	30.21	135
9	16920.00	-55.62	6.10	14.60	Horizontal	-47.12	-13.00	34.12	45
10	18800.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 2 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.63	-63.17	2.60	12.50	Horizontal	-53.27	-13.00	40.27	45
3	5633.63	-56.47	3.30	12.50	Horizontal	-47.27	-13.00	34.27	0
4	7520.00	-60.40	4.20	12.20	Horizontal	-52.40	-13.00	39.40	135
5	9400.00	-57.62	4.30	11.10	Horizontal	-50.82	-13.00	37.82	0
6	11280.00	-53.83	5.90	11.90	Horizontal	-47.83	-13.00	34.83	45
7	13160.00	-54.86	5.70	14.00	Horizontal	-46.56	-13.00	33.56	0
8	15040.00	-50.11	5.80	13.10	Horizontal	-42.81	-13.00	29.81	45
9	16920.00	-55.35	6.10	14.60	Horizontal	-46.85	-13.00	33.85	225
10	18800.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 2 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3742.13	-64.57	2.60	12.50	Horizontal	-54.67	-13.00	41.67	45
3	5613.38	-55.67	3.30	12.50	Horizontal	-46.47	-13.00	33.47	225
4	7484.63	-60.81	4.20	12.20	Horizontal	-52.81	-13.00	39.81	45
5	9400.00	-58.29	4.30	11.10	Horizontal	-51.49	-13.00	38.49	0
6	11280.00	-51.72	5.90	11.90	Horizontal	-45.72	-13.00	32.72	0
7	13160.00	-54.86	5.70	14.00	Horizontal	-46.56	-13.00	33.56	90
8	15040.00	-49.56	5.80	13.10	Horizontal	-42.26	-13.00	29.26	225
9	16920.00	-54.58	6.10	14.60	Horizontal	-46.08	-13.00	33.08	45
10	18800.00	--	--	--	--	--	--	--	--
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

7. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Climatic Chamber	WEISS	VT 4002	582261194500 10	2022-05-14	2023-05-13
Base Station Simulator	R&S	CMW500	150415	2022-05-14	2023-05-13
Spectrum Analyzer	Keysight	N9020A	MY50510203	2022-05-14	2023-05-13
Signal Analyzer	R&S	FSV30	103591	2022-05-14	2023-05-13
Universal Radio Communication Tester	Agilent	E5515C	MY48367192	2022-05-14	2023-05-13
Signal Analyzer	R&S	FSV30	100815	2022-12-10	2023-12-09
Loop antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	01439	2021-06-30	2024-06-29
Horn Antenna	Schwarzbeck	BBHA 9120D	01799	2022-09-01	2025-08-31
Software	R&S	EMC32	10.35.10	/	/

********END OF REPORT ********

ANNEX A: The EUT Appearance

The EUT Appearance is submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos is submitted separately.