



RF TEST REPORT

Applicant XCHENG TECH CO., LIMITED
FCC ID 2AZ4F-T0511-T5
Product PDA
Brand Kobile
Model T0511;T5;T05;T05_ROW
Report No. R2111A1062-R2V2
Issue Date April 28, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2021)/ FCC CFR 47 Part 24E (2021)**. 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	5
1.1. Notes of the test report	5
1.2. Test facility	5
1.3. Testing Location	5
2. General Description of Equipment under Test	6
2.1. Applicant and Manufacturer Information	6
2.2. General information	6
3. Applied Standards	8
4. Test Configuration	9
5. Test Case	11
5.1. RF Power Output and Effective Isotropic Radiated Power	11
5.2. Occupied Bandwidth	12
5.3. Band Edge Compliance	13
5.4. Peak-to-Average Power Ratio (PAPR)	14
5.5. Frequency Stability	15
5.6. Spurious Emissions at Antenna Terminals	17
5.7. Radiates Spurious Emission	18
6. Test Results	21
6.1. RF Power Output and Effective Isotropic Radiated Power	21
6.2. Occupied Bandwidth	32
6.3. Band Edge Compliance	45
6.4. Peak-to-Average Power Ratio (PAPR)	59
6.5. Frequency Stability	61
6.6. Spurious Emissions at Antenna Terminals	65
6.7. Radiates Spurious Emission	70
7. Main Test Instruments	73
ANNEX A: The EUT Appearance	74
ANNEX B: Test Setup Photos	75

Version	Revision description	Issue Date
Rev.0	Initial issue of report.	April 2, 2022
Rev.1	Update description.	April 20, 2022
Rev.2	Update Applicant.	April 28, 2022
Note: This revised report (Report No. R2111A1062-R2V2) supersedes and replaces the previously issued report (Report No. R2111A1062-R2V1). Please discard or destroy the previously issued report and dispose of it accordingly.		

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	Radiates Spurious Emission	2.1053 / 24.238(a)	PASS
Date of Testing: November 26, 2021 ~ March 30, 2022			
Date of Sample Received: November 25, 2021			
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: No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City: Shanghai
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E-mail: xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.1.Applicant and Manufacturer Information

Applicant	XCHENG TECH CO., LIMITED
Applicant address	ROOM 401F, Building 5, No.3000 LONG DONG Avenue, Pudong New District, Shanghai, China
Manufacturer	XCHENG TECH CO., LIMITED
Manufacturer address	ROOM 401F, Building 5, No.3000 LONG DONG Avenue, Pudong New District, Shanghai, China

2.2.General information

EUT Description		
Model	T0511;T5;T05;T05_ROW	
IMEI	IMEI 1: 354721087287226 IMEI 2: 354721087287770	
Hardware Version	MT6761	
Software Version	V01	
Power Supply	Battery / AC adapter	
Antenna Type	Internal Antenna	
Antenna Gain	Frequency (MHz)	Gain(dBi)
	1850	0.20
	1860	-0.11
	1870	-0.25
	1880	-0.16
	1890	-0.27
	1900	-0.17
	1910	-0.09
Test Mode(s)	GSM1900;WCDMA Band II;LTE Band 2;	
Test Modulation	(GSM/GPRS)GMSK, (EGPRS) GMSK/ 8PSK; (WCDMA) BPSK, QPSK, 16QAM; (LTE) QPSK, 16QAM, 64QAM;	
GPRS Multislot Class	12	
EGPRS Multislot Class	33	
HSDPA UE Category	12	
HSUPA UE Category	7	
DC-HSDPA UE Category	24	
HSPA+ UE Category	7	
LTE Category	7	
Maximum E.I.R.P	GSM 1900:	28.18 dBm

	WCDMA Band II:	21.16 dBm	
	LTE Band 2:	23.79 dBm	
Rated Power Supply Voltage	4.0V		
Operating Voltage	Minimum: 3.5V Maximum: 5.0V		
Operating Temperature	Lowest: -0°C Highest: +54°C		
Testing Temperature	Lowest: -30°C Highest: +50°C		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM1900	1850 ~ 1910	1930 ~ 1990
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
EUT Accessory			
Battery	Manufacturer: Zhongshan Tianmao Battery Co.,Ltd Model: BP1826-3		
Adapter 1	Manufacturer: SHENZHENG EAST SUN ELECTRONIC CO.,LTD Model: WI-RD-191105-001		
Adapter 2	Manufacturer: SHENZHENG EAST SUN ELECTRONIC CO.,LTD Model: TPA-59050200BU01-C		
Adapter 3	Manufacturer: SHENZHENG EAST SUN ELECTRONIC CO.,LTD Model: TPA-23A050200UU02-C		
USB Cable	Manufacturer: Shenzhen HuaJiaShengMing Technology Co.,Ltd Model: 262202110B0011		
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant. 2. There is more than one Adapter, each one should be applied throughout the compliance test respectively, and however, only the worst case (Adapter 2) will be recorded in this report. 3. Customer declaration, The four products are the same, except for model. Only T0511 will be recorded in this report.			

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 (2021)

FCC CFR47 Part 2 (2021)

Reference standard:

ANSI C63.26 (2015)

KDB 971168 D01 Power Meas License Digital Systems v03r01

4. Test Configuration

There is more than one SIM card slot, each one should be applied throughout the compliance test respectively, and however, only the worst case (SIM 1) will be recorded in this report

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 (X, horizontal polarization for GSM/WCDMA; X, vertical 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 GSM/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	
	GSM 1900	WCDMA Band II
RF Power Output and Effective Isotropic Radiated Power	GSM GPRS EGPRS	RMC HSDPA/HSUPA/ DC-HSDPA/HSPA+
Occupied Bandwidth	GSM GPRS(1Tx slot) EGPRS(1Tx slot)	RMC
Band Edge Compliance	GSM GPRS(1Tx slot) EGPRS(1Tx slot)	RMC
Peak-to-Average Power Ratio	GSM GPRS(1Tx slot) EGPRS(1Tx slot)	RMC
Frequency Stability	GSM GPRS(1Tx slot) EGPRS(1Tx slot)	RMC
Spurious Emissions at Antenna Terminals	GSM	RMC
Radiates Spurious Emission	GSM	RMC

Test modes are chosen to be reported as the worst case configuration below for LTE Band 2:

Test items	Bandwidth (MHz)						Modulation		RB			Test Channel		
	1.4	3	5	10	15	20	QPSK	16QAM/ 64QAM	1	50%	100%	L	M	H
RF Power Output and Effective Isotropic Radiated Power	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Occupied Bandwidth	O	O	O	O	O	O	O	O	-	-	O	O	O	O
Band Edge Compliance	O	O	O	O	O	O	O	O	O	-	O	O	-	O
Peak-to-Average Power Ratio	O	O	O	O	O	O	O	O	-	-	O	O	O	O
Frequency Stability	O	O	O	O	O	O	O	O	O	-	-	-	O	-
Spurious Emissions at Antenna Terminals	O	O	O	O	O	O	O	-	O	-	-	O	O	O
Radiates Spurious Emission	O	-	O	-	-	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.

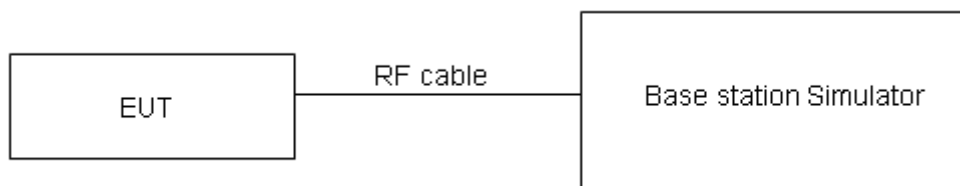
ERP can then be calculated as follows:

$$\text{EIRP (dBm)} = \text{Output Power (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBi)}$$

where:dBd refers to gain relative to an ideal dipole.

$$\text{EIRP (dBm)} = \text{ERP (dBm)} + 2.15 \text{ (dB.)}$$

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	$\leq 2 \text{ W}$ (33 dBm)
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Measurement Uncertainty

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

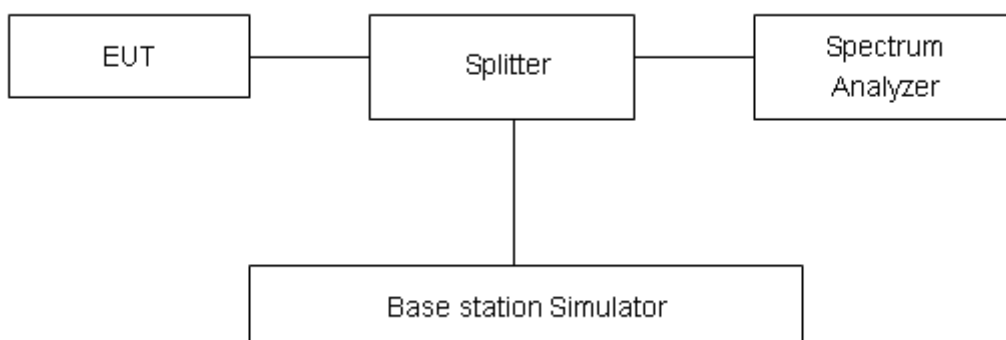
Method of Measurement

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 $\geq 1\%EBW$, 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 $k = 2$, $U = 624\text{Hz}$.

Test Results

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

5.3. Band Edge Compliance

Ambient condition

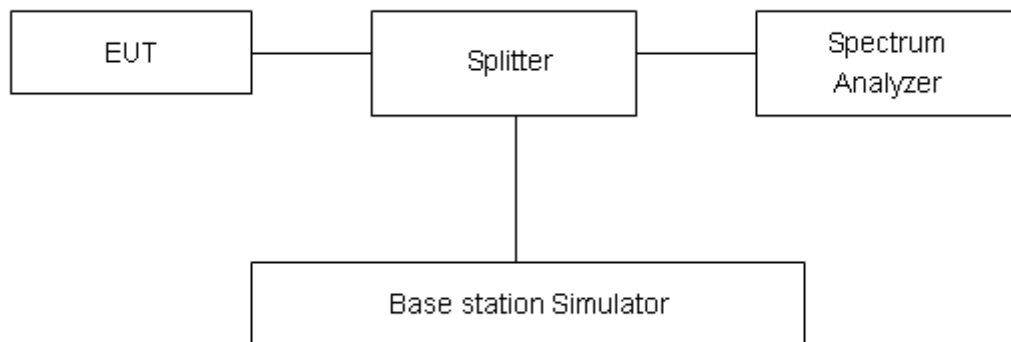
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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 $\geq 1\%EBW$, 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 $43 + 10 \log_{10} (P)$ dB.”

Limit	-13 dBm
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Measurement Uncertainty

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

Test Results

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

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

Ambient condition

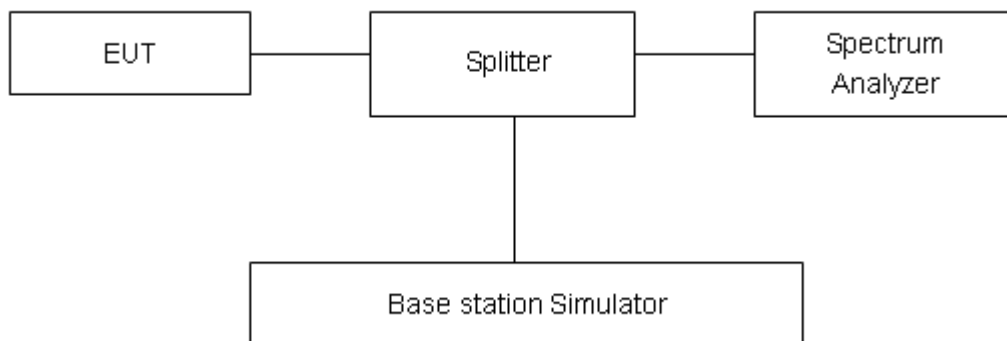
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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:

$$\text{PAPR (dB)} = \text{PPk (dBm)} - \text{PAvg (dBm)}.$$

Test Setup



Limits

In measuring transmissions in this band using an average power technique, the peak-to-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.

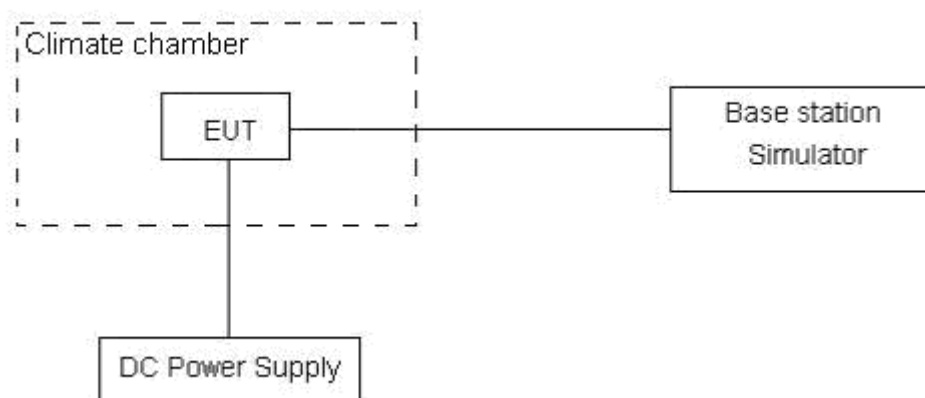
Frequency Stability (Voltage Variation)

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 3.5 V and 5.0 V, with a nominal voltage of 4.0V.

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 $k = 3$, $U = 0.01\text{ppm}$.

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 100kHz, VBW is set to 300kHz for 30MHz~1GHz

RBW is set to 1MHz, VBW is set to 3MHz for above 1GHz, Sweep is set to ATUO.

RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),

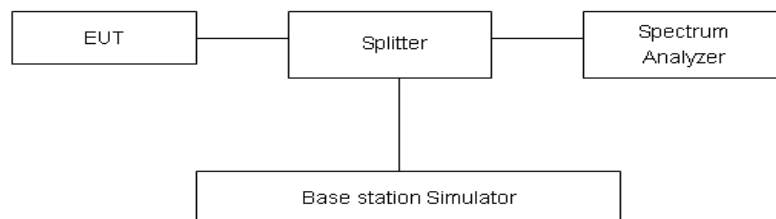
RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

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 $43 + 10 \log_{10} (P)$ dB.”

Limit	-13 dBm
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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. Radiates 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:

$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

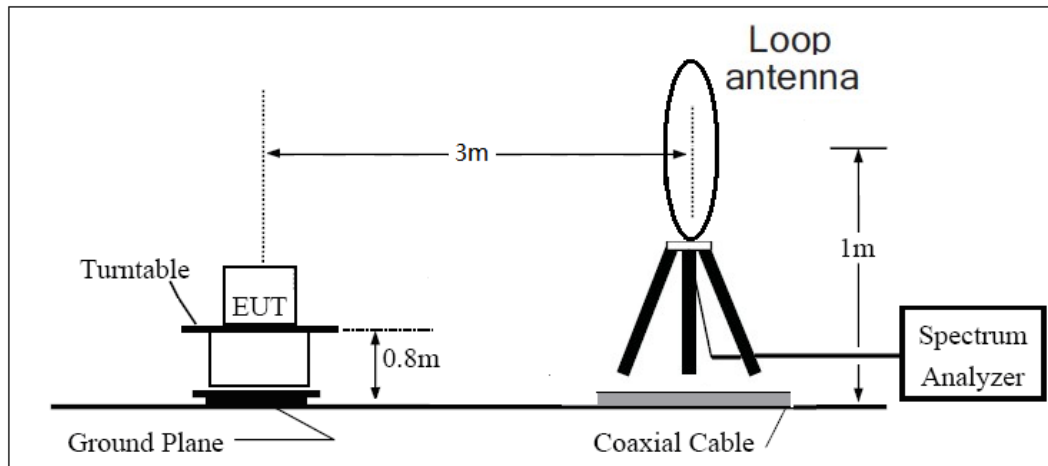
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP

= EIRP-2.15dB.

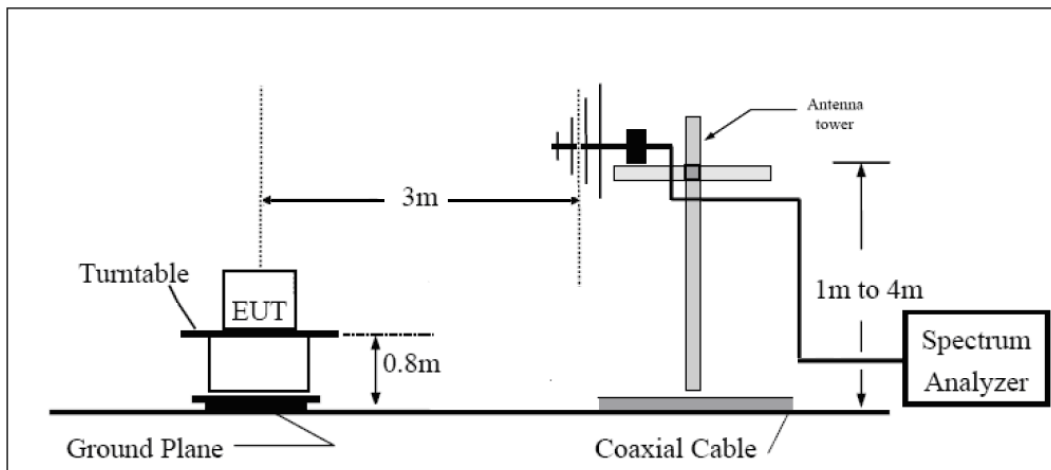
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

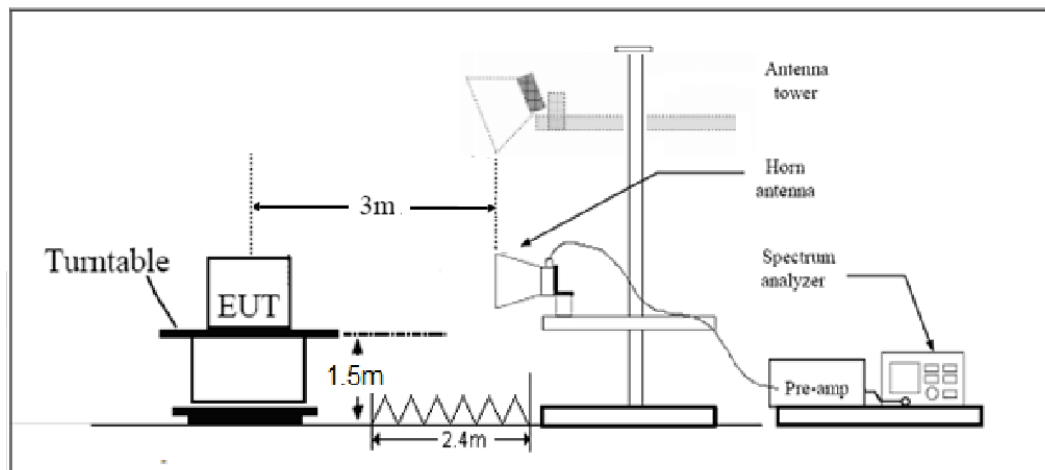
9KHz ~ 30MHz



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 $43 + 10 \log_{10} (P)$ dB.”

Limit	-13 dBm
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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

GSM 1900		Maximum Output Power (dBm)			EIRP (dBm)		
		Channel 512	Channel 661	Channel 810	Channel 512	Channel 661	Channel 810
		1850.2 (MHz)	1880 (MHz)	1909.8 (MHz)	1850.2 (MHz)	1880 (MHz)	1909.8 (MHz)
GSM(GMSK)	Results	27.98	27.83	27.86	28.18	27.67	27.77
GPRS (GMSK)	1TXslot	27.97	27.84	27.85	28.17	27.68	27.76
	2TXslots	27.36	27.23	27.21	27.56	27.07	27.12
	3TXslots	25.78	25.63	25.62	25.98	25.47	25.53
	4TXslots	24.60	24.46	24.58	24.80	24.30	24.49
EGPRS (8PSK)	1TXslot	24.78	24.58	24.37	24.98	24.42	24.28
	2TXslots	23.96	23.73	23.54	24.16	23.57	23.45
	3TXslots	22.08	21.85	21.70	22.28	21.69	21.61
	4TXslots	21.13	20.97	20.72	21.33	20.81	20.63

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		20.96	20.87	20.85	21.16	20.71	20.76
HSDPA	Sub - Test 1	20.42	20.29	20.29	20.62	20.13	20.20
	Sub - Test 2	20.41	20.31	20.26	20.61	20.15	20.17
	Sub - Test 3	19.88	19.81	19.78	20.08	19.65	19.69
	Sub - Test 4	19.89	19.82	19.76	20.09	19.66	19.67
HSUPA	Sub - Test 1	20.38	20.28	20.24	20.58	20.12	20.15
	Sub - Test 2	19.37	19.26	19.23	19.57	19.10	19.14
	Sub - Test 3	19.84	19.74	19.72	20.04	19.58	19.63
	Sub - Test 4	19.30	19.23	19.20	19.50	19.07	19.11
	Sub - Test 5	20.31	20.21	20.18	20.51	20.05	20.09
DC-HSDPA	Sub - Test 1	20.30	20.23	20.19	20.50	20.07	20.10
	Sub - Test 2	20.29	20.22	20.18	20.49	20.06	20.09
	Sub - Test 3	19.87	19.71	19.69	20.07	19.55	19.60
	Sub - Test 4	19.86	19.70	19.68	20.06	19.54	19.59
HSPA+	16QAM	20.28	19.86	19.92	20.28	19.86	19.92

LTE Band 2							
Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)	Verdict
1.4	18607	1	#0	QPSK	23.47	23.67	PASS
1.4	18607	1	#Mid	QPSK	23.59	23.79	PASS
1.4	18607	1	#Max	QPSK	23.47	23.67	PASS
1.4	18607	3	#0	QPSK	23.49	23.69	PASS
1.4	18607	3	#Mid	QPSK	23.47	23.67	PASS
1.4	18607	3	#Max	QPSK	23.40	23.60	PASS
1.4	18607	6	#0	QPSK	22.37	22.57	PASS
1.4	18607	1	#0	QAM16	22.39	22.59	PASS
1.4	18607	1	#Mid	QAM16	22.55	22.75	PASS
1.4	18607	1	#Max	QAM16	22.39	22.59	PASS
1.4	18607	3	#0	QAM16	22.56	22.76	PASS
1.4	18607	3	#Mid	QAM16	22.54	22.74	PASS
1.4	18607	3	#Max	QAM16	22.62	22.82	PASS
1.4	18607	6	#0	QAM16	21.46	21.66	PASS
1.4	18900	1	#0	QPSK	22.38	22.22	PASS
1.4	18900	1	#Mid	QPSK	22.59	22.43	PASS
1.4	18900	1	#Max	QPSK	22.48	22.32	PASS
1.4	18900	3	#0	QPSK	22.49	22.33	PASS
1.4	18900	3	#Mid	QPSK	22.45	22.29	PASS
1.4	18900	3	#Max	QPSK	22.50	22.34	PASS
1.4	18900	6	#0	QPSK	21.50	21.34	PASS
1.4	18900	1	#0	QAM16	21.57	21.41	PASS
1.4	18900	1	#Mid	QAM16	21.85	21.69	PASS
1.4	18900	1	#Max	QAM16	21.61	21.45	PASS
1.4	18900	3	#0	QAM16	21.46	21.30	PASS
1.4	18900	3	#Mid	QAM16	21.48	21.32	PASS
1.4	18900	3	#Max	QAM16	21.51	21.35	PASS
1.4	18900	6	#0	QAM16	20.39	20.23	PASS
1.4	19193	1	#0	QPSK	22.47	22.38	PASS
1.4	19193	1	#Mid	QPSK	22.67	22.58	PASS
1.4	19193	1	#Max	QPSK	22.47	22.38	PASS
1.4	19193	3	#0	QPSK	22.58	22.49	PASS
1.4	19193	3	#Mid	QPSK	22.47	22.38	PASS
1.4	19193	3	#Max	QPSK	22.51	22.42	PASS
1.4	19193	6	#0	QPSK	21.45	21.36	PASS
1.4	19193	1	#0	QAM16	21.36	21.27	PASS
1.4	19193	1	#Mid	QAM16	21.42	21.33	PASS
1.4	19193	1	#Max	QAM16	21.34	21.25	PASS
1.4	19193	3	#0	QAM16	21.44	21.35	PASS



1.4	19193	3	#Mid	QAM16	21.39	21.30	PASS
1.4	19193	3	#Max	QAM16	21.41	21.32	PASS
1.4	19193	6	#0	QAM16	20.39	20.30	PASS
3	18615	1	#0	QPSK	23.39	23.59	PASS
3	18615	1	#Mid	QPSK	23.51	23.71	PASS
3	18615	1	#Max	QPSK	23.34	23.54	PASS
3	18615	8	#0	QPSK	22.44	22.64	PASS
3	18615	8	#Mid	QPSK	22.43	22.63	PASS
3	18615	8	#Max	QPSK	22.42	22.62	PASS
3	18615	15	#0	QPSK	22.38	22.58	PASS
3	18615	1	#0	QAM16	22.31	22.51	PASS
3	18615	1	#Mid	QAM16	22.29	22.49	PASS
3	18615	1	#Max	QAM16	22.22	22.42	PASS
3	18615	8	#0	QAM16	21.37	21.57	PASS
3	18615	8	#Mid	QAM16	21.45	21.65	PASS
3	18615	8	#Max	QAM16	21.43	21.63	PASS
3	18615	15	#0	QAM16	21.21	21.41	PASS
3	18900	1	#0	QPSK	22.51	22.35	PASS
3	18900	1	#Mid	QPSK	22.50	22.34	PASS
3	18900	1	#Max	QPSK	22.58	22.42	PASS
3	18900	8	#0	QPSK	21.56	21.40	PASS
3	18900	8	#Mid	QPSK	21.51	21.35	PASS
3	18900	8	#Max	QPSK	21.62	21.46	PASS
3	18900	15	#0	QPSK	21.56	21.40	PASS
3	18900	1	#0	QAM16	21.71	21.55	PASS
3	18900	1	#Mid	QAM16	21.85	21.69	PASS
3	18900	1	#Max	QAM16	21.81	21.65	PASS
3	18900	8	#0	QAM16	20.53	20.37	PASS
3	18900	8	#Mid	QAM16	20.57	20.41	PASS
3	18900	8	#Max	QAM16	20.65	20.49	PASS
3	18900	15	#0	QAM16	20.53	20.37	PASS
3	19185	1	#0	QPSK	22.49	22.40	PASS
3	19185	1	#Mid	QPSK	22.56	22.47	PASS
3	19185	1	#Max	QPSK	22.43	22.34	PASS
3	19185	8	#0	QPSK	21.50	21.41	PASS
3	19185	8	#Mid	QPSK	21.51	21.42	PASS
3	19185	8	#Max	QPSK	21.46	21.37	PASS
3	19185	15	#0	QPSK	21.51	21.42	PASS
3	19185	1	#0	QAM16	21.74	21.65	PASS
3	19185	1	#Mid	QAM16	21.62	21.53	PASS
3	19185	1	#Max	QAM16	21.62	21.53	PASS
3	19185	8	#0	QAM16	20.47	20.38	PASS
3	19185	8	#Mid	QAM16	20.49	20.40	PASS



3	19185	8	#Max	QAM16	20.46	20.37	PASS
3	19185	15	#0	QAM16	20.31	20.22	PASS
5	18625	1	#0	QPSK	23.18	23.38	PASS
5	18625	1	#Mid	QPSK	23.37	23.57	PASS
5	18625	1	#Max	QPSK	23.09	23.29	PASS
5	18625	12	#0	QPSK	22.42	22.62	PASS
5	18625	12	#Mid	QPSK	22.26	22.46	PASS
5	18625	12	#Max	QPSK	22.21	22.41	PASS
5	18625	25	#0	QPSK	22.38	22.58	PASS
5	18625	1	#0	QAM16	22.54	22.74	PASS
5	18625	1	#Mid	QAM16	22.61	22.81	PASS
5	18625	1	#Max	QAM16	22.38	22.58	PASS
5	18625	12	#0	QAM16	21.37	21.57	PASS
5	18625	12	#Mid	QAM16	21.41	21.61	PASS
5	18625	12	#Max	QAM16	21.32	21.52	PASS
5	18625	25	#0	QAM16	21.39	21.59	PASS
5	18900	1	#0	QPSK	22.33	22.17	PASS
5	18900	1	#Mid	QPSK	22.62	22.46	PASS
5	18900	1	#Max	QPSK	22.65	22.49	PASS
5	18900	12	#0	QPSK	21.49	21.33	PASS
5	18900	12	#Mid	QPSK	21.49	21.33	PASS
5	18900	12	#Max	QPSK	21.66	21.50	PASS
5	18900	25	#0	QPSK	21.60	21.44	PASS
5	18900	1	#0	QAM16	21.56	21.40	PASS
5	18900	1	#Mid	QAM16	21.88	21.72	PASS
5	18900	1	#Max	QAM16	21.83	21.67	PASS
5	18900	12	#0	QAM16	20.45	20.29	PASS
5	18900	12	#Mid	QAM16	20.49	20.33	PASS
5	18900	12	#Max	QAM16	20.64	20.48	PASS
5	18900	25	#0	QAM16	20.62	20.46	PASS
5	19175	1	#0	QPSK	22.51	22.42	PASS
5	19175	1	#Mid	QPSK	22.53	22.44	PASS
5	19175	1	#Max	QPSK	22.41	22.32	PASS
5	19175	12	#0	QPSK	21.65	21.56	PASS
5	19175	12	#Mid	QPSK	21.62	21.53	PASS
5	19175	12	#Max	QPSK	21.50	21.41	PASS
5	19175	25	#0	QPSK	21.56	21.47	PASS
5	19175	1	#0	QAM16	21.68	21.59	PASS
5	19175	1	#Mid	QAM16	21.82	21.73	PASS
5	19175	1	#Max	QAM16	21.50	21.41	PASS
5	19175	12	#0	QAM16	20.55	20.46	PASS
5	19175	12	#Mid	QAM16	20.51	20.42	PASS
5	19175	12	#Max	QAM16	20.42	20.33	PASS



5	19175	25	#0	QAM16	20.57	20.48	PASS
10	18650	1	#0	QPSK	23.35	23.24	PASS
10	18650	1	#Mid	QPSK	23.32	23.21	PASS
10	18650	1	#Max	QPSK	22.88	22.77	PASS
10	18650	25	#0	QPSK	22.49	22.38	PASS
10	18650	25	#Mid	QPSK	22.49	22.38	PASS
10	18650	25	#Max	QPSK	22.18	22.07	PASS
10	18650	50	#0	QPSK	22.33	22.22	PASS
10	18650	1	#0	QAM16	22.69	22.58	PASS
10	18650	1	#Mid	QAM16	22.62	22.51	PASS
10	18650	1	#Max	QAM16	22.10	21.99	PASS
10	18650	25	#0	QAM16	21.59	21.48	PASS
10	18650	25	#Mid	QAM16	21.57	21.46	PASS
10	18650	25	#Max	QAM16	21.22	21.11	PASS
10	18650	50	#0	QAM16	21.29	21.18	PASS
10	18900	1	#0	QPSK	22.31	22.15	PASS
10	18900	1	#Mid	QPSK	22.76	22.60	PASS
10	18900	1	#Max	QPSK	22.86	22.70	PASS
10	18900	25	#0	QPSK	21.49	21.33	PASS
10	18900	25	#Mid	QPSK	21.49	21.33	PASS
10	18900	25	#Max	QPSK	21.90	21.74	PASS
10	18900	50	#0	QPSK	21.68	21.52	PASS
10	18900	1	#0	QAM16	21.45	21.29	PASS
10	18900	1	#Mid	QAM16	21.83	21.67	PASS
10	18900	1	#Max	QAM16	21.99	21.83	PASS
10	18900	25	#0	QAM16	20.58	20.42	PASS
10	18900	25	#Mid	QAM16	20.54	20.38	PASS
10	18900	25	#Max	QAM16	20.90	20.74	PASS
10	18900	50	#0	QAM16	20.65	20.49	PASS
10	19150	1	#0	QPSK	22.96	22.87	PASS
10	19150	1	#Mid	QPSK	22.82	22.73	PASS
10	19150	1	#Max	QPSK	22.49	22.40	PASS
10	19150	25	#0	QPSK	21.90	21.81	PASS
10	19150	25	#Mid	QPSK	21.88	21.79	PASS
10	19150	25	#Max	QPSK	21.58	21.49	PASS
10	19150	50	#0	QPSK	21.72	21.63	PASS
10	19150	1	#0	QAM16	21.77	21.68	PASS
10	19150	1	#Mid	QAM16	21.77	21.68	PASS
10	19150	1	#Max	QAM16	21.31	21.22	PASS
10	19150	25	#0	QAM16	20.85	20.76	PASS
10	19150	25	#Mid	QAM16	20.91	20.82	PASS
10	19150	25	#Max	QAM16	20.57	20.48	PASS
10	19150	50	#0	QAM16	20.77	20.68	PASS



15	18675	1	#0	QPSK	23.33	23.22	PASS
15	18675	1	#Mid	QPSK	23.05	22.94	PASS
15	18675	1	#Max	QPSK	22.41	22.30	PASS
15	18675	36	#0	QPSK	22.42	22.31	PASS
15	18675	36	#Mid	QPSK	22.43	22.32	PASS
15	18675	36	#Max	QPSK	21.90	21.79	PASS
15	18675	75	#0	QPSK	22.20	22.09	PASS
15	18675	1	#0	QAM16	22.36	22.25	PASS
15	18675	1	#Mid	QAM16	22.10	21.99	PASS
15	18675	1	#Max	QAM16	21.48	21.37	PASS
15	18675	36	#0	QAM16	21.40	21.29	PASS
15	18675	36	#Mid	QAM16	21.39	21.28	PASS
15	18675	36	#Max	QAM16	20.91	20.80	PASS
15	18675	75	#0	QAM16	21.12	21.01	PASS
15	18900	1	#0	QPSK	22.18	22.02	PASS
15	18900	1	#Mid	QPSK	22.54	22.38	PASS
15	18900	1	#Max	QPSK	22.79	22.63	PASS
15	18900	36	#0	QPSK	21.51	21.35	PASS
15	18900	36	#Mid	QPSK	21.51	21.35	PASS
15	18900	36	#Max	QPSK	21.91	21.75	PASS
15	18900	75	#0	QPSK	21.74	21.58	PASS
15	18900	1	#0	QAM16	21.42	21.26	PASS
15	18900	1	#Mid	QAM16	21.60	21.44	PASS
15	18900	1	#Max	QAM16	22.05	21.89	PASS
15	18900	36	#0	QAM16	20.55	20.39	PASS
15	18900	36	#Mid	QAM16	20.37	20.21	PASS
15	18900	36	#Max	QAM16	20.79	20.63	PASS
15	18900	75	#0	QAM16	20.51	20.35	PASS
15	19125	1	#0	QPSK	22.97	22.80	PASS
15	19125	1	#Mid	QPSK	22.72	22.55	PASS
15	19125	1	#Max	QPSK	22.15	21.98	PASS
15	19125	36	#0	QPSK	22.01	21.84	PASS
15	19125	36	#Mid	QPSK	22.02	21.85	PASS
15	19125	36	#Max	QPSK	21.61	21.44	PASS
15	19125	75	#0	QPSK	21.53	21.36	PASS
15	19125	1	#0	QAM16	21.97	21.80	PASS
15	19125	1	#Mid	QAM16	21.63	21.46	PASS
15	19125	1	#Max	QAM16	21.12	20.95	PASS
15	19125	36	#0	QAM16	20.90	20.73	PASS
15	19125	36	#Mid	QAM16	20.97	20.80	PASS
15	19125	36	#Max	QAM16	20.33	20.16	PASS
15	19125	75	#0	QAM16	20.72	20.55	PASS
20	18700	1	#0	QPSK	23.10	22.99	PASS



20	18700	1	#Mid	QPSK	22.88	22.77	PASS
20	18700	1	#Max	QPSK	22.03	21.92	PASS
20	18700	50	#0	QPSK	22.19	22.08	PASS
20	18700	50	#Mid	QPSK	22.15	22.04	PASS
20	18700	50	#Max	QPSK	21.65	21.54	PASS
20	18700	100	#0	QPSK	21.87	21.76	PASS
20	18700	1	#0	QAM16	21.55	21.44	PASS
20	18700	1	#Mid	QAM16	21.45	21.34	PASS
20	18700	1	#Max	QAM16	20.48	20.37	PASS
20	18700	50	#0	QAM16	21.11	21.00	PASS
20	18700	50	#Mid	QAM16	20.88	20.77	PASS
20	18700	50	#Max	QAM16	20.62	20.51	PASS
20	18700	100	#0	QAM16	20.74	20.63	PASS
20	18900	1	#0	QPSK	21.51	21.35	PASS
20	18900	1	#Mid	QPSK	22.23	22.07	PASS
20	18900	1	#Max	QPSK	22.23	22.07	PASS
20	18900	50	#0	QPSK	21.17	21.01	PASS
20	18900	50	#Mid	QPSK	21.09	20.93	PASS
20	18900	50	#Max	QPSK	21.62	21.46	PASS
20	18900	100	#0	QPSK	21.33	21.17	PASS
20	18900	1	#0	QAM16	20.19	20.03	PASS
20	18900	1	#Mid	QAM16	20.98	20.82	PASS
20	18900	1	#Max	QAM16	21.02	20.86	PASS
20	18900	50	#0	QAM16	20.21	20.05	PASS
20	18900	50	#Mid	QAM16	20.13	19.97	PASS
20	18900	50	#Max	QAM16	20.58	20.42	PASS
20	18900	100	#0	QAM16	20.38	20.22	PASS
20	19100	1	#0	QPSK	22.44	22.27	PASS
20	19100	1	#Mid	QPSK	22.56	22.39	PASS
20	19100	1	#Max	QPSK	21.68	21.51	PASS
20	19100	50	#0	QPSK	21.59	21.42	PASS
20	19100	50	#Mid	QPSK	21.71	21.54	PASS
20	19100	50	#Max	QPSK	21.27	21.10	PASS
20	19100	100	#0	QPSK	21.41	21.24	PASS
20	19100	1	#0	QAM16	21.53	21.36	PASS
20	19100	1	#Mid	QAM16	21.72	21.55	PASS
20	19100	1	#Max	QAM16	20.86	20.69	PASS
20	19100	50	#0	QAM16	20.65	20.48	PASS
20	19100	50	#Mid	QAM16	20.78	20.61	PASS
20	19100	50	#Max	QAM16	20.15	19.98	PASS
20	19100	100	#0	QAM16	20.45	20.28	PASS
1.4	18607	1	#0	64QAM	21.65	21.85	PASS
1.4	18607	1	#Mid	64QAM	22.01	22.21	PASS



1.4	18607	1	#Max	64QAM	21.74	21.94	PASS
1.4	18607	3	#0	64QAM	21.96	22.16	PASS
1.4	18607	3	#Mid	64QAM	21.82	22.02	PASS
1.4	18607	3	#Max	64QAM	21.92	22.12	PASS
1.4	18607	6	#0	64QAM	20.82	21.02	PASS
1.4	18900	1	#0	64QAM	21.20	21.04	PASS
1.4	18900	1	#Mid	64QAM	21.40	21.24	PASS
1.4	18900	1	#Max	64QAM	21.24	21.08	PASS
1.4	18900	3	#0	64QAM	21.09	20.93	PASS
1.4	18900	3	#Mid	64QAM	21.09	20.93	PASS
1.4	18900	3	#Max	64QAM	21.13	20.97	PASS
1.4	18900	6	#0	64QAM	20.07	19.91	PASS
1.4	19193	1	#0	64QAM	20.94	20.85	PASS
1.4	19193	1	#Mid	64QAM	21.07	20.98	PASS
1.4	19193	1	#Max	64QAM	21.00	20.91	PASS
1.4	19193	3	#0	64QAM	21.04	20.95	PASS
1.4	19193	3	#Mid	64QAM	21.06	20.97	PASS
1.4	19193	3	#Max	64QAM	21.10	21.01	PASS
1.4	19193	6	#0	64QAM	20.06	19.97	PASS
3	18615	1	#0	64QAM	22.06	22.26	PASS
3	18615	1	#Mid	64QAM	21.85	22.05	PASS
3	18615	1	#Max	64QAM	21.88	22.08	PASS
3	18615	8	#0	64QAM	20.75	20.95	PASS
3	18615	8	#Mid	64QAM	20.86	21.06	PASS
3	18615	8	#Max	64QAM	20.80	21.00	PASS
3	18615	15	#0	64QAM	20.72	20.92	PASS
3	18900	1	#0	64QAM	21.21	21.05	PASS
3	18900	1	#Mid	64QAM	21.25	21.09	PASS
3	18900	1	#Max	64QAM	21.29	21.13	PASS
3	18900	8	#0	64QAM	20.10	19.94	PASS
3	18900	8	#Mid	64QAM	20.08	19.92	PASS
3	18900	8	#Max	64QAM	20.17	20.01	PASS
3	18900	15	#0	64QAM	20.00	19.84	PASS
3	19185	1	#0	64QAM	20.97	20.88	PASS
3	19185	1	#Mid	64QAM	21.00	20.91	PASS
3	19185	1	#Max	64QAM	20.95	20.86	PASS
3	19185	8	#0	64QAM	20.20	20.11	PASS
3	19185	8	#Mid	64QAM	20.09	20.00	PASS
3	19185	8	#Max	64QAM	20.13	20.04	PASS
3	19185	15	#0	64QAM	20.04	19.95	PASS
5	18625	1	#0	64QAM	21.93	22.13	PASS
5	18625	1	#Mid	64QAM	21.90	22.10	PASS
5	18625	1	#Max	64QAM	21.67	21.87	PASS



5	18625	12	#0	64QAM	20.84	21.04	PASS
5	18625	12	#Mid	64QAM	20.84	21.04	PASS
5	18625	12	#Max	64QAM	20.62	20.82	PASS
5	18625	25	#0	64QAM	20.75	20.95	PASS
5	18900	1	#0	64QAM	21.20	21.04	PASS
5	18900	1	#Mid	64QAM	21.43	21.27	PASS
5	18900	1	#Max	64QAM	21.41	21.25	PASS
5	18900	12	#0	64QAM	20.03	19.87	PASS
5	18900	12	#Mid	64QAM	19.96	19.80	PASS
5	18900	12	#Max	64QAM	20.20	20.04	PASS
5	18900	25	#0	64QAM	20.16	20.00	PASS
5	19175	1	#0	64QAM	21.23	21.14	PASS
5	19175	1	#Mid	64QAM	21.38	21.29	PASS
5	19175	1	#Max	64QAM	21.15	21.06	PASS
5	19175	12	#0	64QAM	20.15	20.06	PASS
5	19175	12	#Mid	64QAM	20.18	20.09	PASS
5	19175	12	#Max	64QAM	20.11	20.02	PASS
5	19175	25	#0	64QAM	20.12	20.03	PASS
10	18650	1	#0	64QAM	21.70	21.59	PASS
10	18650	1	#Mid	64QAM	21.62	21.51	PASS
10	18650	1	#Max	64QAM	21.05	20.94	PASS
10	18650	25	#0	64QAM	20.87	20.76	PASS
10	18650	25	#Mid	64QAM	20.86	20.75	PASS
10	18650	25	#Max	64QAM	20.55	20.44	PASS
10	18650	50	#0	64QAM	20.70	20.59	PASS
10	18900	1	#0	64QAM	21.10	20.94	PASS
10	18900	1	#Mid	64QAM	21.51	21.35	PASS
10	18900	1	#Max	64QAM	21.59	21.43	PASS
10	18900	25	#0	64QAM	20.15	19.99	PASS
10	18900	25	#Mid	64QAM	20.14	19.98	PASS
10	18900	25	#Max	64QAM	20.50	20.34	PASS
10	18900	50	#0	64QAM	20.28	20.12	PASS
10	19150	1	#0	64QAM	21.53	21.44	PASS
10	19150	1	#Mid	64QAM	21.49	21.40	PASS
10	19150	1	#Max	64QAM	21.24	21.15	PASS
10	19150	25	#0	64QAM	20.46	20.37	PASS
10	19150	25	#Mid	64QAM	20.47	20.38	PASS
10	19150	25	#Max	64QAM	20.17	20.08	PASS
10	19150	50	#0	64QAM	20.26	20.17	PASS
15	18675	1	#0	64QAM	21.81	21.70	PASS
15	18675	1	#Mid	64QAM	21.56	21.45	PASS
15	18675	1	#Max	64QAM	20.97	20.86	PASS
15	18675	36	#0	64QAM	20.74	20.63	PASS



15	18675	36	#Mid	64QAM	20.78	20.67	PASS
15	18675	36	#Max	64QAM	20.23	20.12	PASS
15	18675	75	#0	64QAM	20.48	20.37	PASS
15	18900	1	#0	64QAM	20.71	20.55	PASS
15	18900	1	#Mid	64QAM	21.21	21.05	PASS
15	18900	1	#Max	64QAM	21.40	21.24	PASS
15	18900	36	#0	64QAM	20.01	19.85	PASS
15	18900	36	#Mid	64QAM	20.02	19.86	PASS
15	18900	36	#Max	64QAM	20.47	20.31	PASS
15	18900	75	#0	64QAM	20.29	20.13	PASS
15	19125	1	#0	64QAM	21.78	21.61	PASS
15	19125	1	#Mid	64QAM	21.52	21.35	PASS
15	19125	1	#Max	64QAM	21.23	21.06	PASS
15	19125	36	#0	64QAM	20.46	20.29	PASS
15	19125	36	#Mid	64QAM	20.49	20.32	PASS
15	19125	36	#Max	64QAM	20.17	20.00	PASS
15	19125	75	#0	64QAM	20.35	20.18	PASS
20	18700	1	#0	64QAM	21.73	21.62	PASS
20	18700	1	#Mid	64QAM	21.44	21.33	PASS
20	18700	1	#Max	64QAM	20.65	20.54	PASS
20	18700	50	#0	64QAM	20.49	20.38	PASS
20	18700	50	#Mid	64QAM	20.53	20.42	PASS
20	18700	50	#Max	64QAM	20.07	19.96	PASS
20	18700	100	#0	64QAM	20.22	20.11	PASS
20	18900	1	#0	64QAM	20.31	20.15	PASS
20	18900	1	#Mid	64QAM	21.12	20.96	PASS
20	18900	1	#Max	64QAM	21.14	20.98	PASS
20	18900	50	#0	64QAM	20.07	19.91	PASS
20	18900	50	#Mid	64QAM	20.06	19.90	PASS
20	18900	50	#Max	64QAM	20.53	20.37	PASS
20	18900	100	#0	64QAM	20.34	20.18	PASS
20	19100	1	#0	64QAM	21.13	20.96	PASS
20	19100	1	#Mid	64QAM	21.35	21.18	PASS
20	19100	1	#Max	64QAM	20.54	20.37	PASS
20	19100	50	#0	64QAM	20.63	20.46	PASS
20	19100	50	#Mid	64QAM	20.60	20.43	PASS
20	19100	50	#Max	64QAM	20.22	20.05	PASS
20	19100	100	#0	64QAM	20.31	20.14	PASS

6.2.Occupied Bandwidth

Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
GSM 1900 (GMSK)	512	1850.2	0.246	0.313
	661	1880.0	0.248	0.320
	810	1909.8	0.248	0.314
GPRS 1900 (GMSK)	512	1850.2	0.245	0.314
	661	1880.0	0.250	0.313
	810	1909.8	0.246	0.312
EGPRS 1900 (8PSK)	512	1850.2	0.255	0.331
	661	1880.0	0.250	0.311
	810	1909.8	0.250	0.323
WCDMA Band II (RMC)	9262	1852.4	4.167	4.667
	9400	1880	4.179	4.682
	9538	1907.6	4.161	4.662

LTE Band 2						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	18607	1850.7	1.096	1.288
			18900	1880.0	1.096	1.276
			19193	1909.3	1.094	1.278
		3	18615	1851.5	2.687	2.903
			18900	1880	2.690	2.910
			19185	1908.5	2.687	2.927
		5	18625	1852.5	4.498	4.900
			18900	1880	4.506	4.945
			19175	1907.5	4.506	4.911
		10	18650	1855	9.010	9.765
			18900	1880	9.009	9.704
			19150	1905	8.974	9.768
		15	18675	1857.5	13.457	14.496
			18900	1880	13.454	14.555
			19125	1902.5	13.466	14.723
		20	18700	1860	17.906	19.178
			18900	1880	17.993	19.298

	16QAM		19100	1900	17.930	19.413
			18607	1850.7	1.093	1.262
			18900	1880.0	1.097	1.327
			19193	1909.3	1.095	1.275
		3	18615	1851.5	2.691	2.918
			18900	1880	2.682	2.934
			19185	1908.5	2.691	2.902
		5	18625	1852.5	4.499	4.919
			18900	1880	4.500	4.870
			19175	1907.5	4.500	4.916
		10	18650	1855	9.008	9.716
			18900	1880	8.993	9.791
			19150	1905	9.001	9.672
		15	18675	1857.5	13.479	14.473
			18900	1880	13.476	14.611
			19125	1902.5	13.455	14.414
		20	18700	1860	17.982	21.827
			18900	1880	18.067	19.334
			19100	1900	17.905	19.134
	64QAM	1.4	18607	1850.7	1.099	1.293
			18900	1880.0	1.101	1.316
			19193	1909.3	1.092	1.260
		3	18615	1851.5	2.694	2.911
			18900	1880	2.689	2.917
			19185	1908.5	2.688	2.953
		5	18625	1852.5	4.505	4.925
			18900	1880	4.511	4.886
			19175	1907.5	4.505	4.975
		10	18650	1855	8.997	9.792
			18900	1880	8.997	9.599
			19150	1905	8.995	9.728
		15	18675	1857.5	13.475	14.632
			18900	1880	13.489	14.513
			19125	1902.5	13.508	14.522
		20	18700	1860	17.980	19.261
			18900	1880	18.012	19.540
			19100	1900	17.966	19.181

GSM1900 GSM CH-Low



GSM1900 GPRS CH-Low



GSM 1900 GSM CH-Middle



GSM 1900 GPRS CH-Middle



GSM 1900 GSM CH-High



GSM 1900 GPRS CH-High



GSM1900 EGPRS CH-Low



WCDMA Band II RMC CH-LOW



GSM 1900 EGPRS CH-Middle



WCDMA Band II RMC CH-Middle



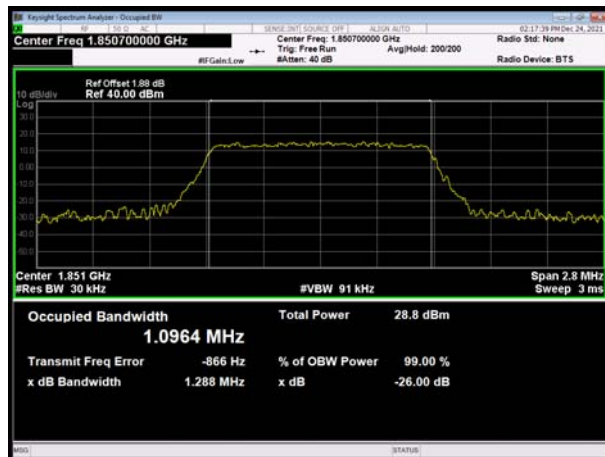
GSM 1900 EGPRS CH-High



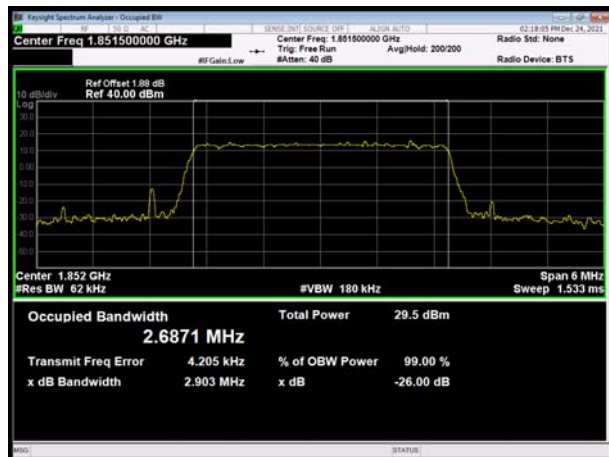
WCDMA Band II RMC CH-High



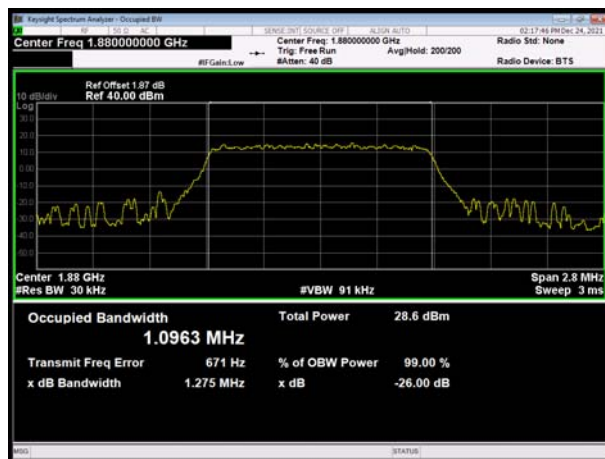
LTE Band 2 1.4MHz QPSK CH-Low



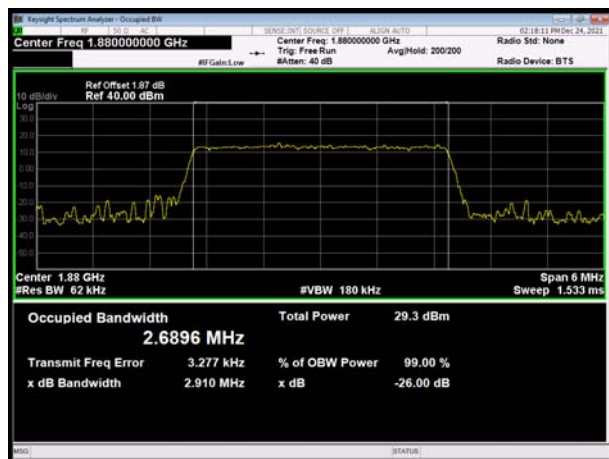
LTE Band 2 3MHz QPSK CH-Low



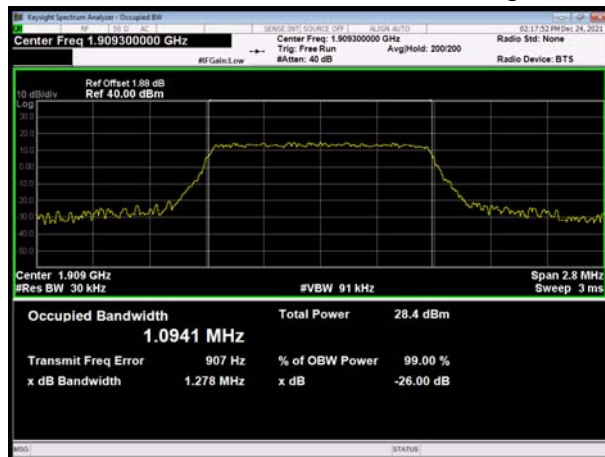
LTE Band 2 1.4MHz QPSK CH-Middle



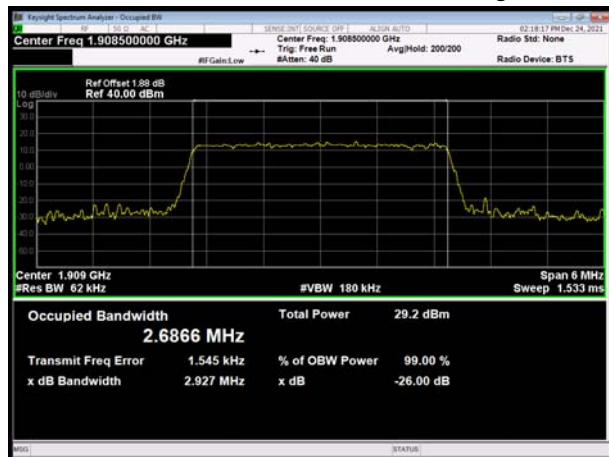
LTE Band 2 3MHz QPSK CH-Middle



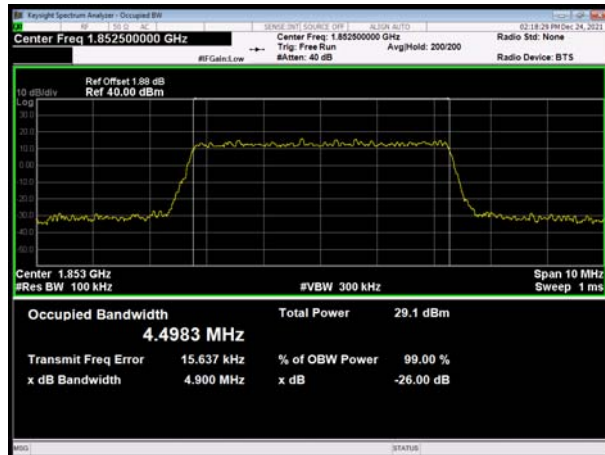
LTE Band 2 1.4MHz QPSK CH-High



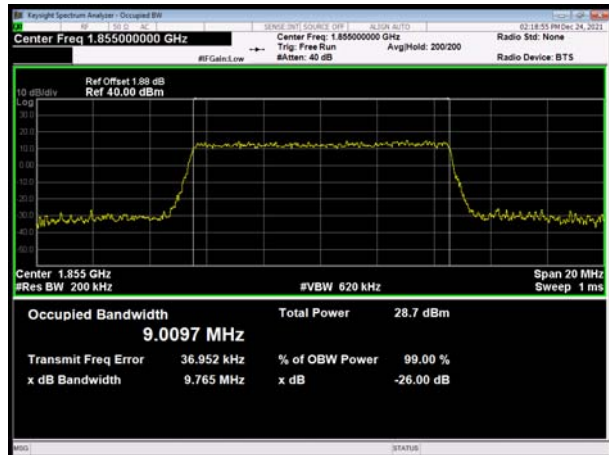
LTE Band 2 3MHz QPSK CH-High



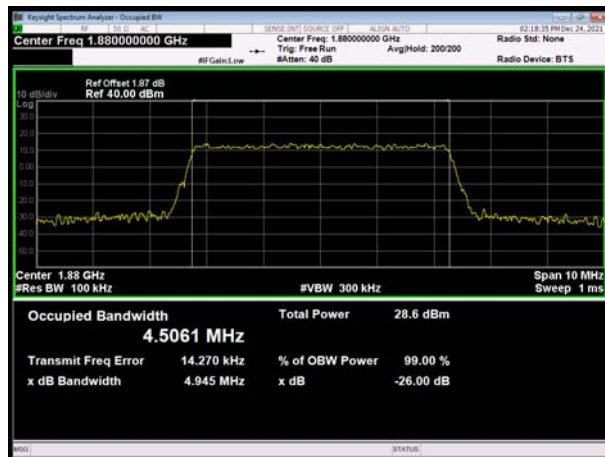
LTE Band 2 5MHz QPSK CH-Low



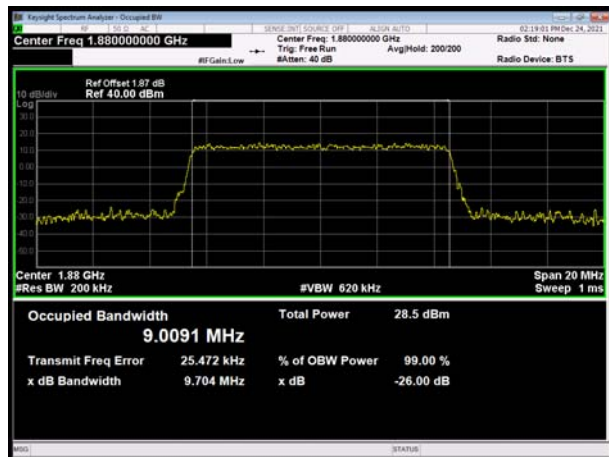
LTE Band 2 10MHz QPSK CH-Low



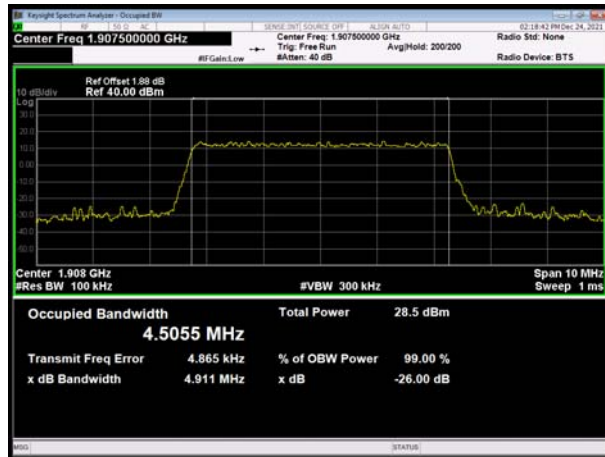
LTE Band 2 5MHz QPSK CH-Middle



LTE Band 2 10MHz QPSK CH-Middle



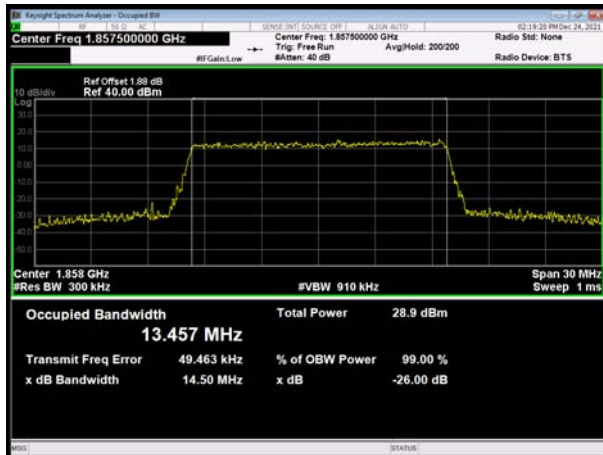
LTE Band 2 5MHz QPSK CH-High



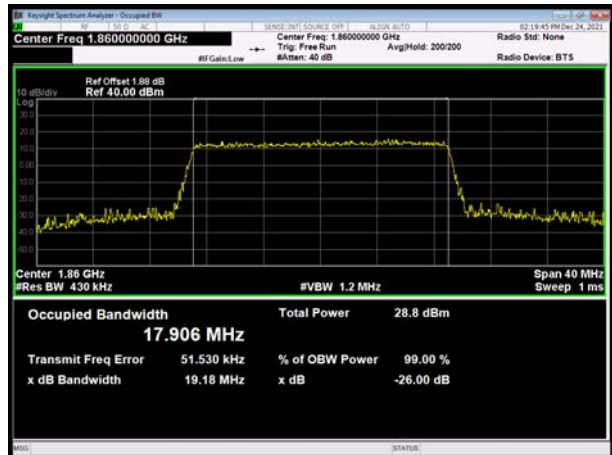
LTE Band 2 10MHz QPSK CH-High



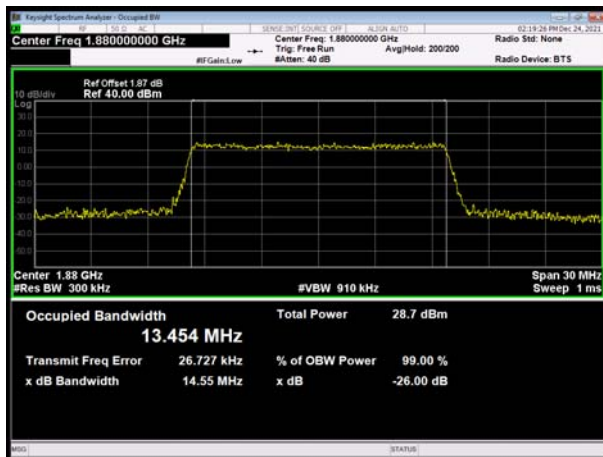
LTE Band 2 15MHz QPSK CH-Low



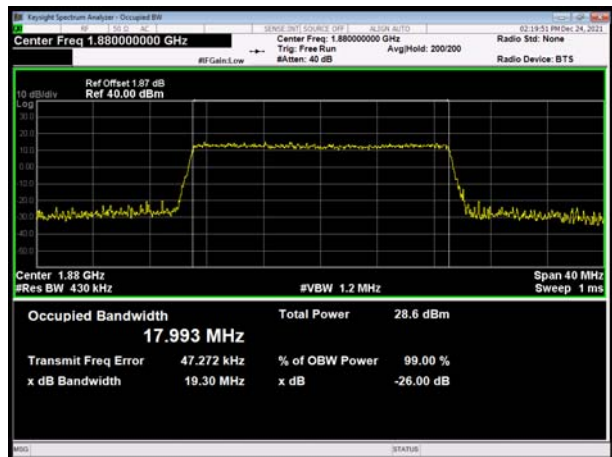
LTE Band 2 20MHz QPSK CH-Low



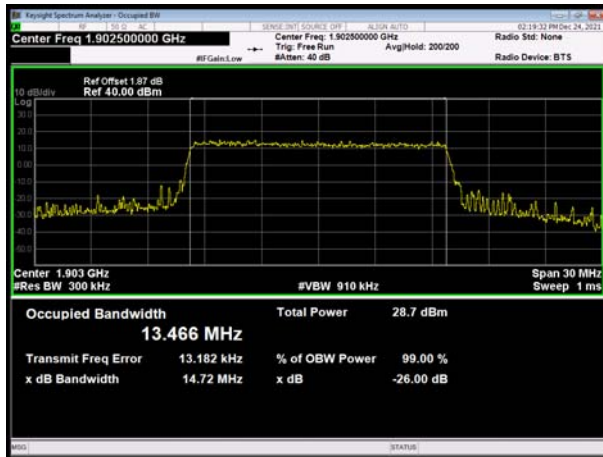
LTE Band 2 15MHz QPSK CH-Middle



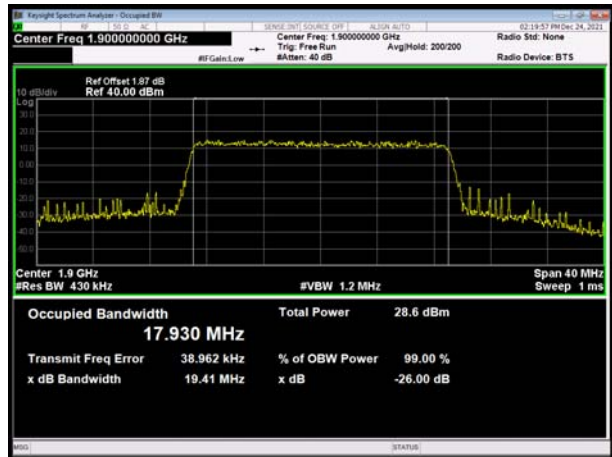
LTE Band 2 20MHz QPSK CH-Middle



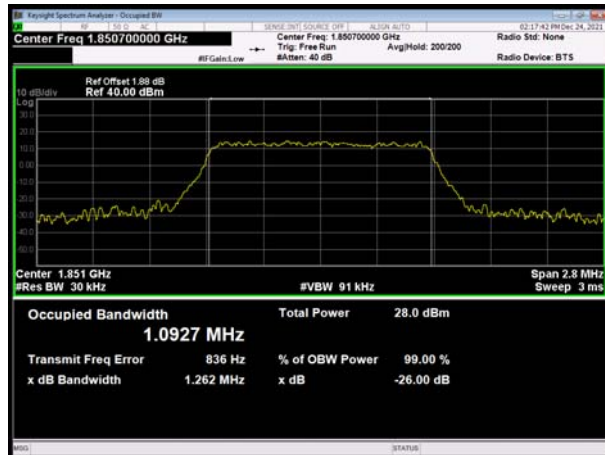
LTE Band 2 15MHz QPSK CH-High



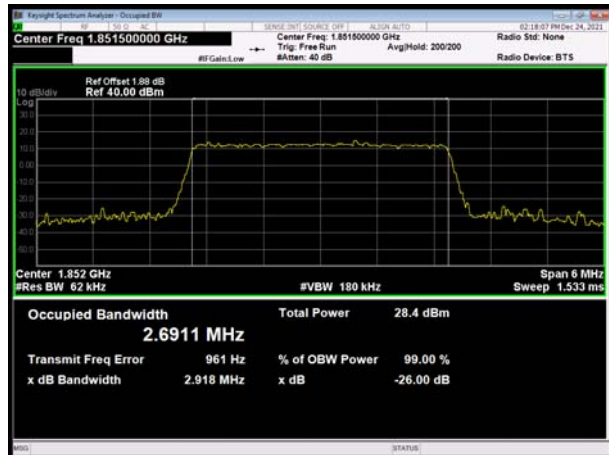
LTE Band 2 20MHz QPSK CH-High



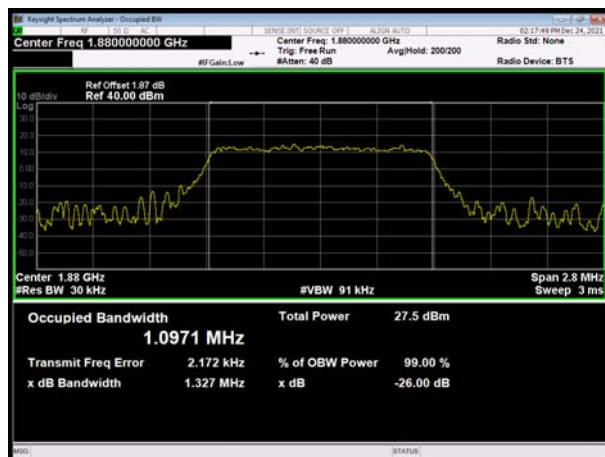
LTE Band 2 1.4MHz 16QAM CH-Low



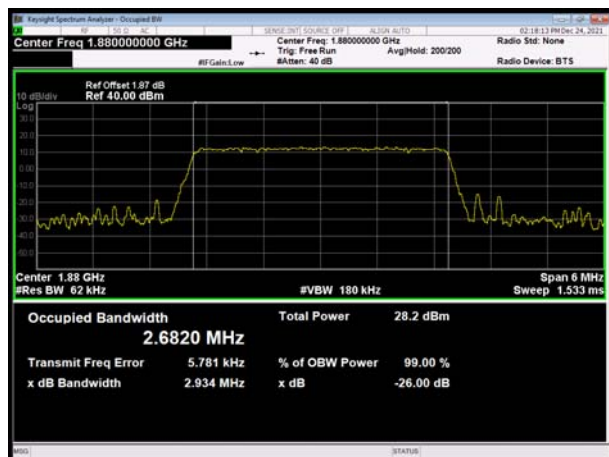
LTE Band 2 3MHz 16QAM CH-Low



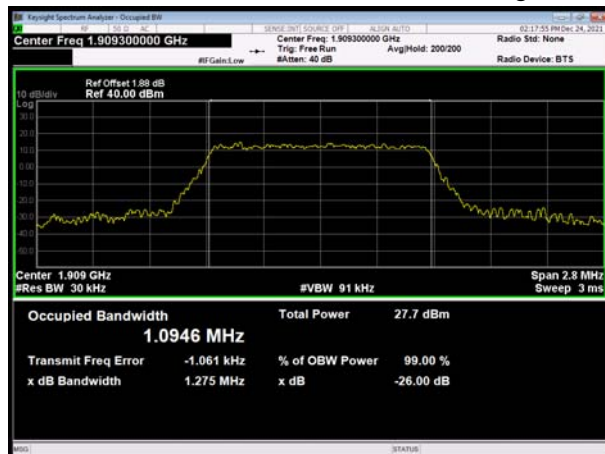
LTE Band 2 1.4MHz 16QAM CH-Middle



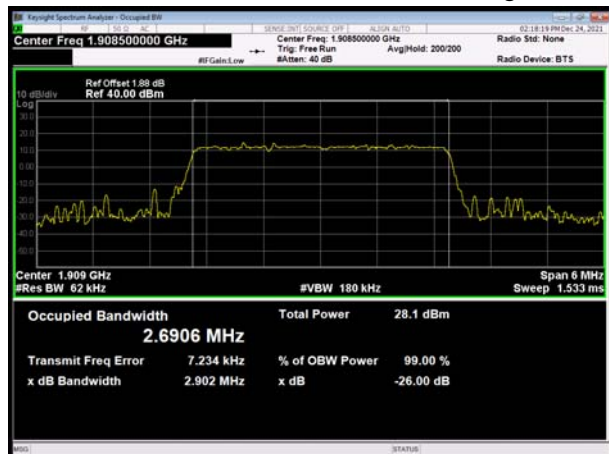
LTE Band 2 3MHz 16QAM CH-Middle



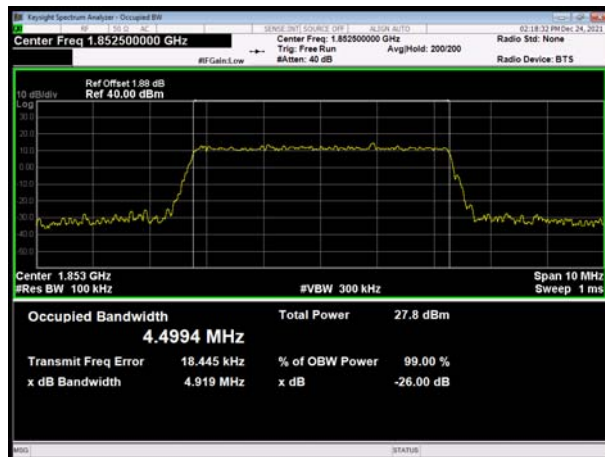
LTE Band 2 1.4MHz 16QAM CH-High



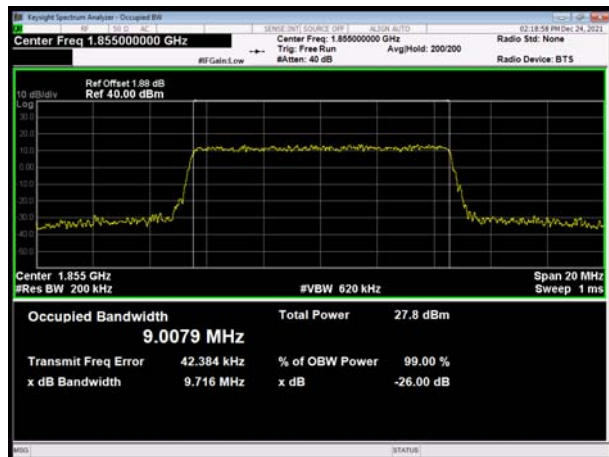
LTE Band 2 3MHz 16QAM CH-High



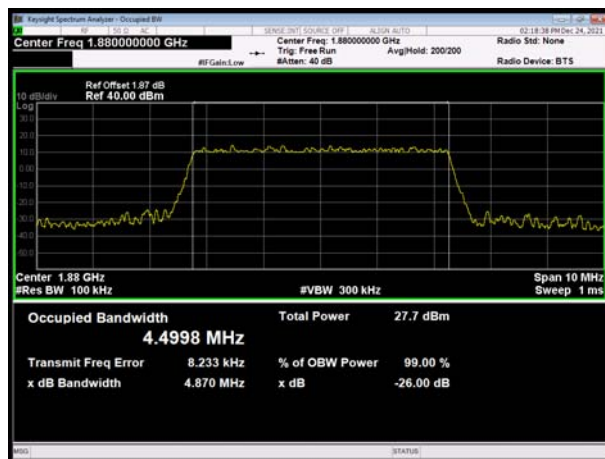
LTE Band 2 5MHz 16QAM CH-Low



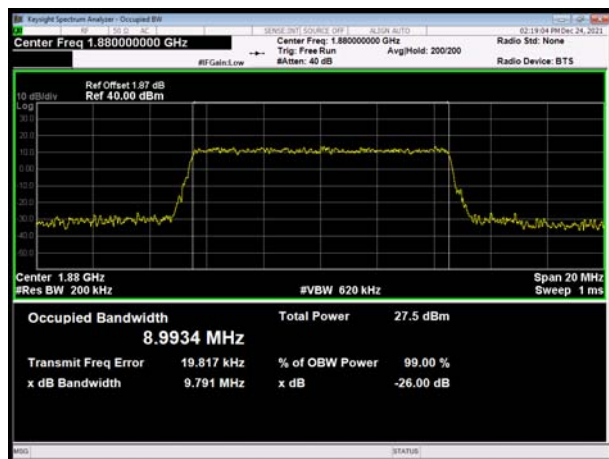
LTE Band 2 10MHz 16QAM CH-Low



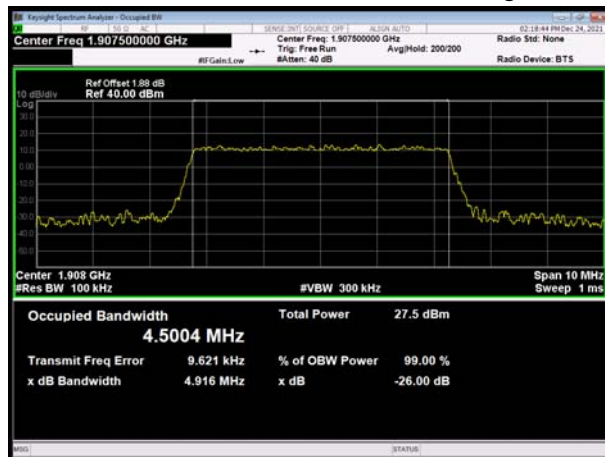
LTE Band 2 5MHz 16QAM CH-Middle



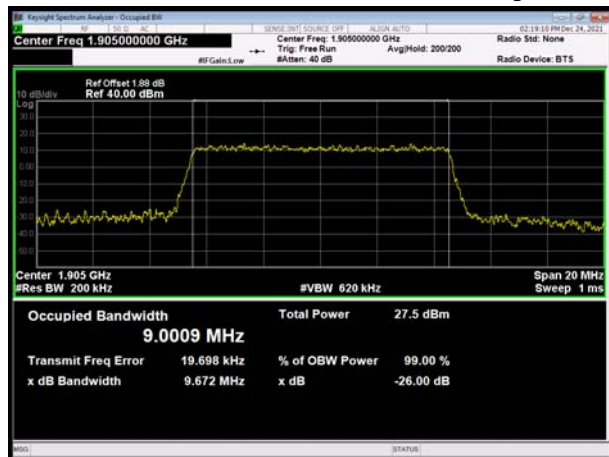
LTE Band 2 10MHz 16QAM CH-Middle



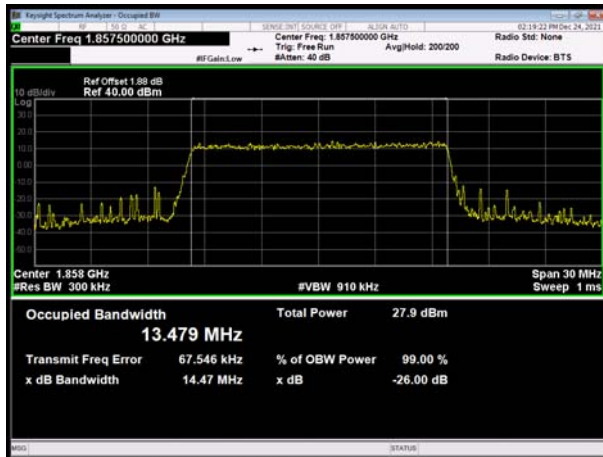
LTE Band 2 5MHz 16QAM CH-High



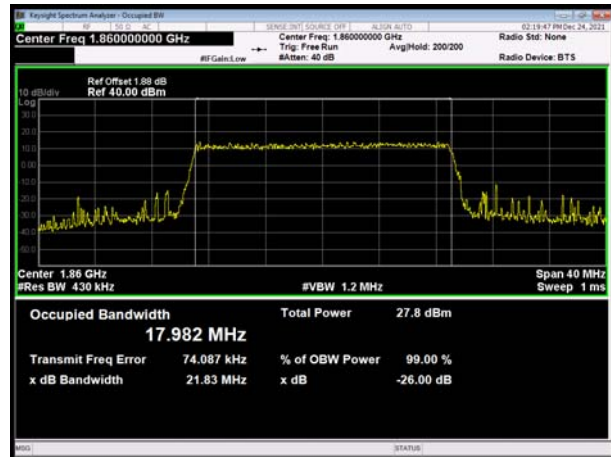
LTE Band 2 10MHz 16QAM CH-High



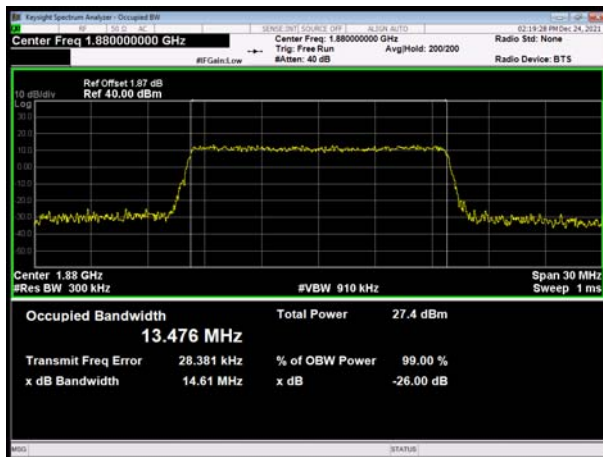
LTE Band 2 15MHz 16QAM CH-Low



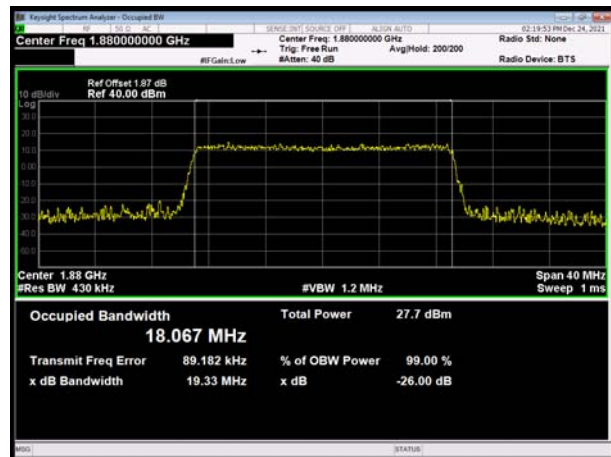
LTE Band 2 20MHz 16QAM CH-Low



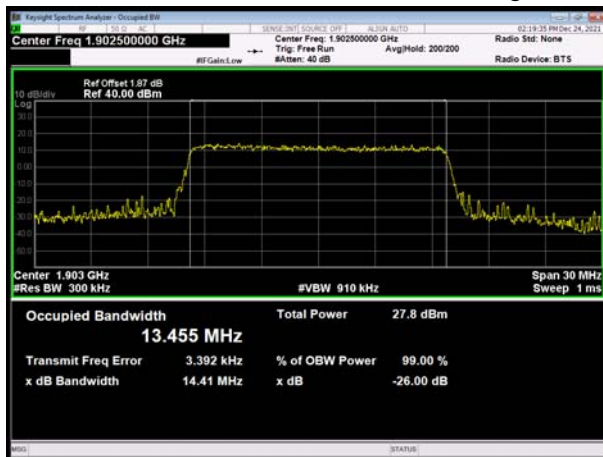
LTE Band 2 15MHz 16QAM CH-Middle



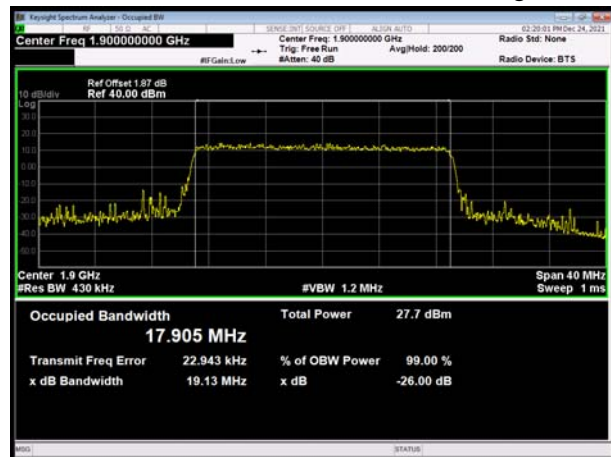
LTE Band 2 20MHz 16QAM CH-Middle



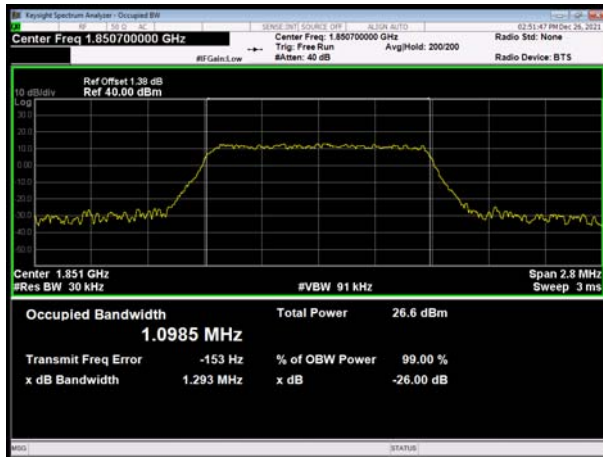
LTE Band 2 15MHz 16QAM CH-High



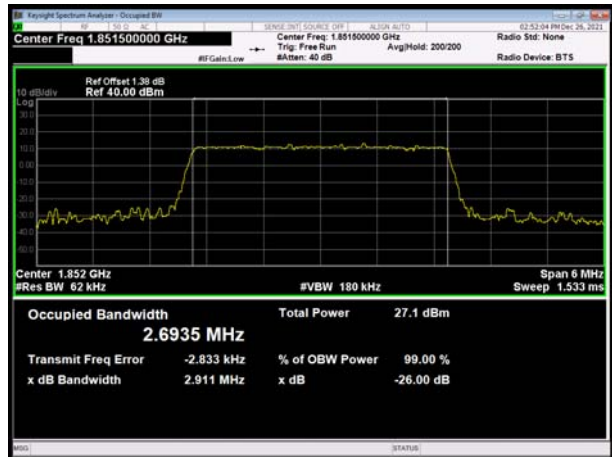
LTE Band 2 20MHz 16QAM CH-High



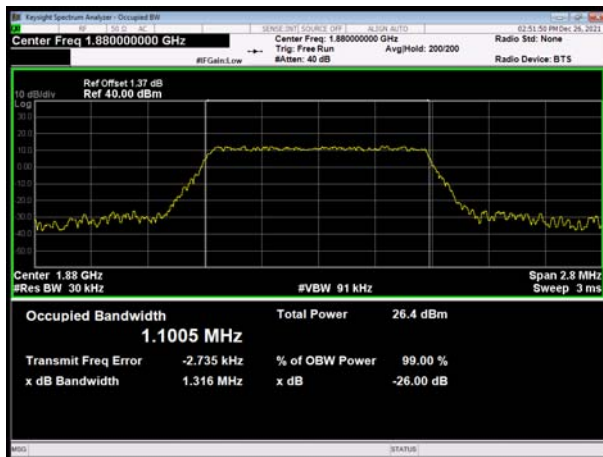
LTE Band 2 1.4MHz 64QAM CH-Low



LTE Band 2 3MHz 64QAM CH-Low



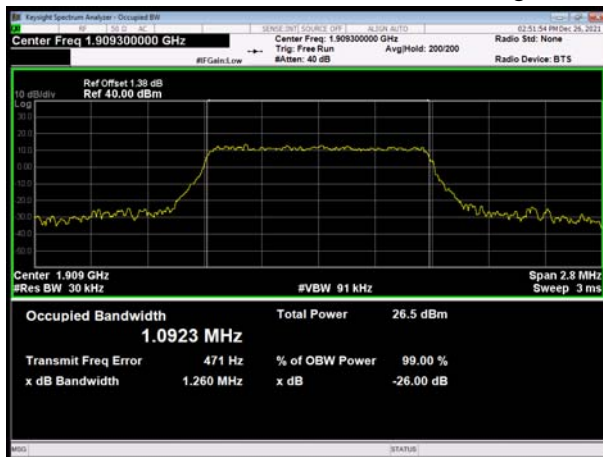
LTE Band 2 1.4MHz 64QAM CH-Middle



LTE Band 2 3MHz 64QAM CH-Middle



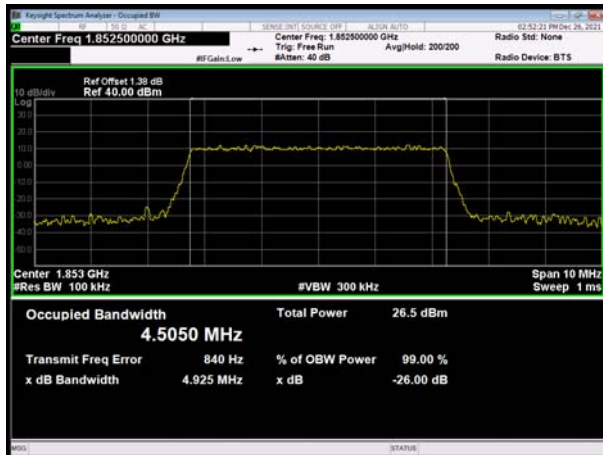
LTE Band 2 1.4MHz 64QAM CH-High



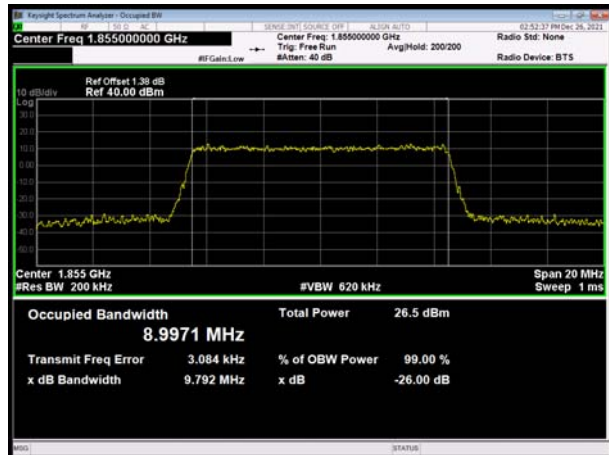
LTE Band 2 3MHz 64QAM CH-High



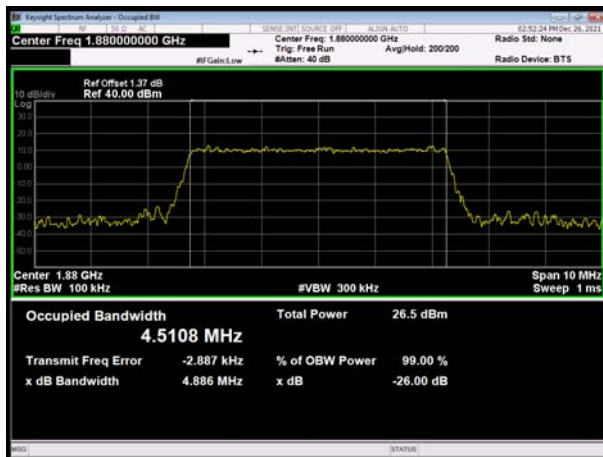
LTE Band 2 5MHz 64QAM CH-Low



LTE Band 2 10MHz 64QAM CH-Low



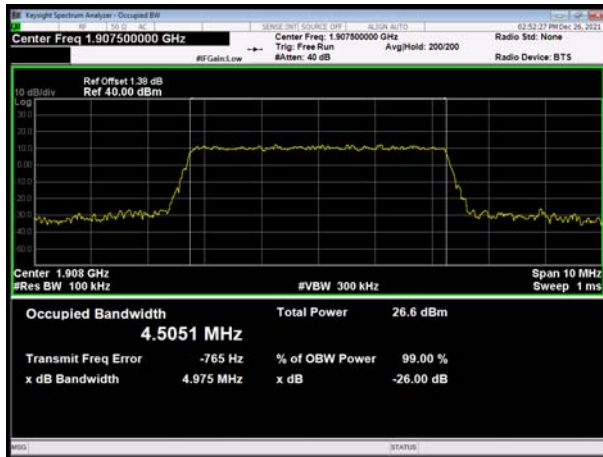
LTE Band 2 5MHz 64QAM CH-Middle



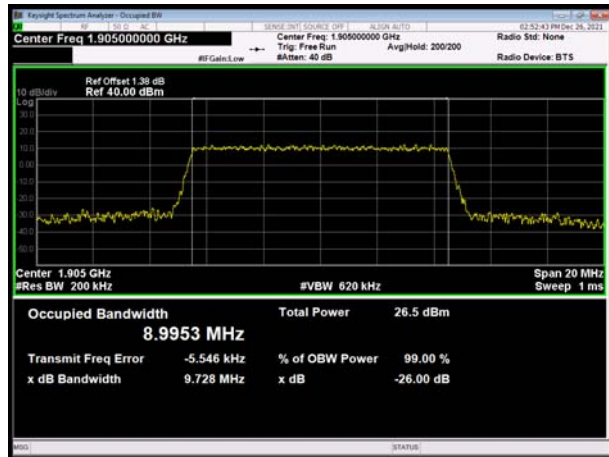
LTE Band 2 10MHz 64QAM CH-Middle



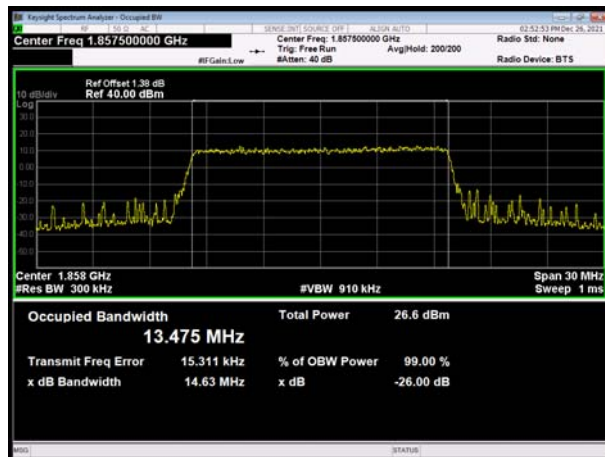
LTE Band 2 5MHz 64QAM CH-High



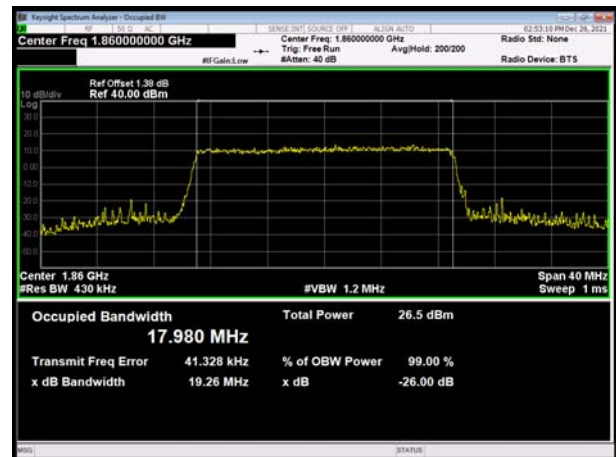
LTE Band 2 10MHz 64QAM CH-High



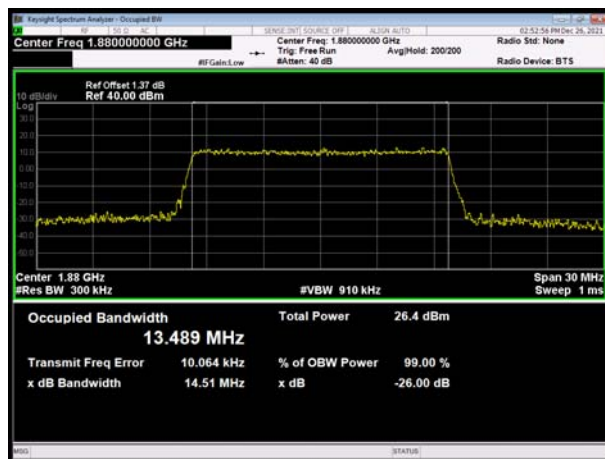
LTE Band 2 15MHz 64QAM CH-Low



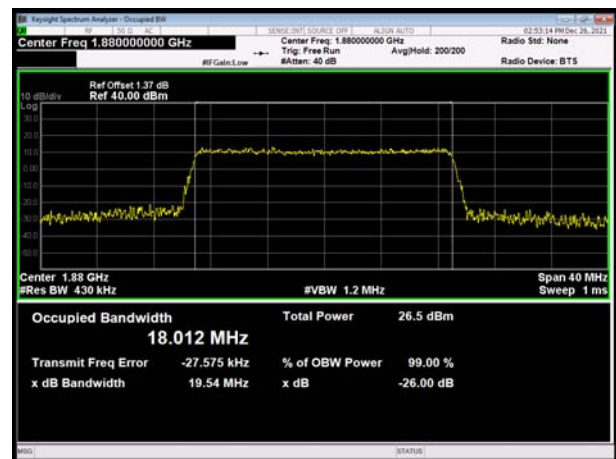
LTE Band 2 20MHz 64QAM CH-Low



LTE Band 2 15MHz 64QAM CH-Middle



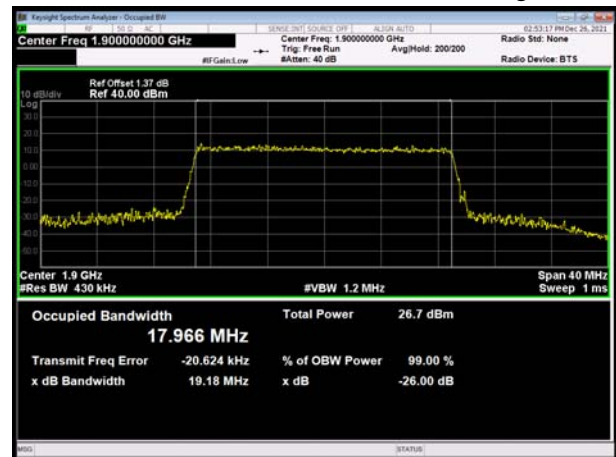
LTE Band 2 20MHz 64QAM CH-Middle



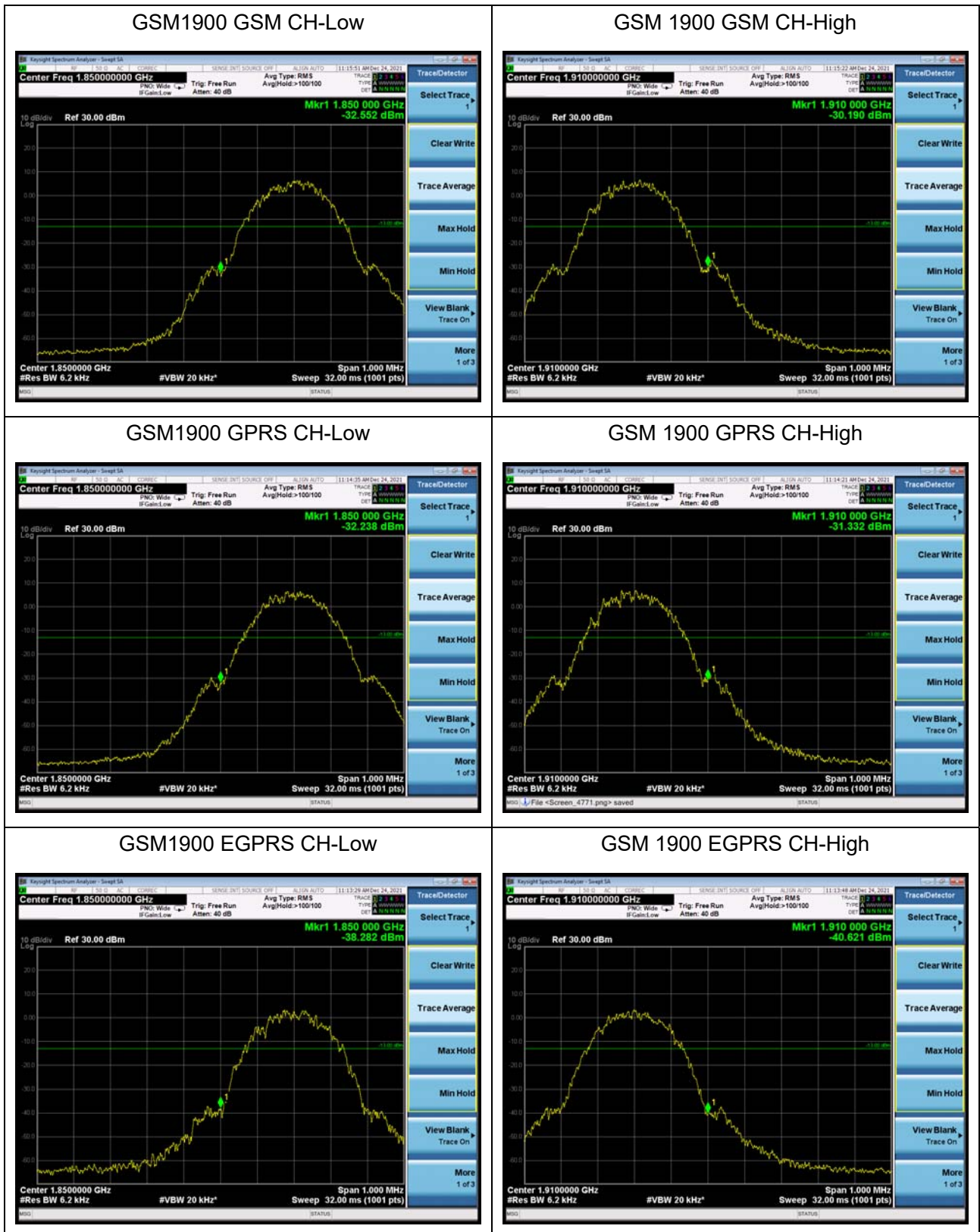
LTE Band 2 15MHz 64QAM CH-High



LTE Band 2 20MHz 64QAM CH-High



6.3. Band Edge Compliance



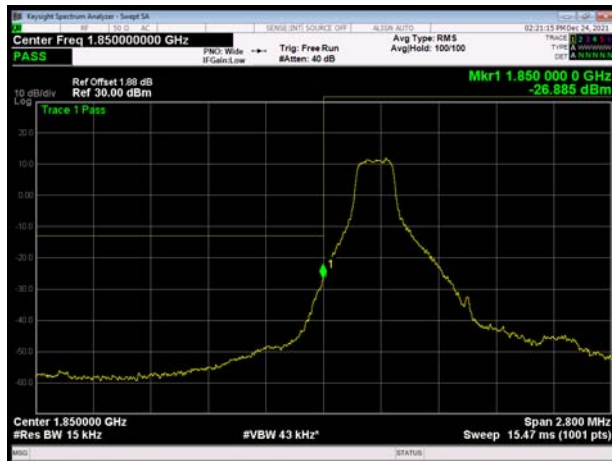
WCDMA Band II RMC CH-Low



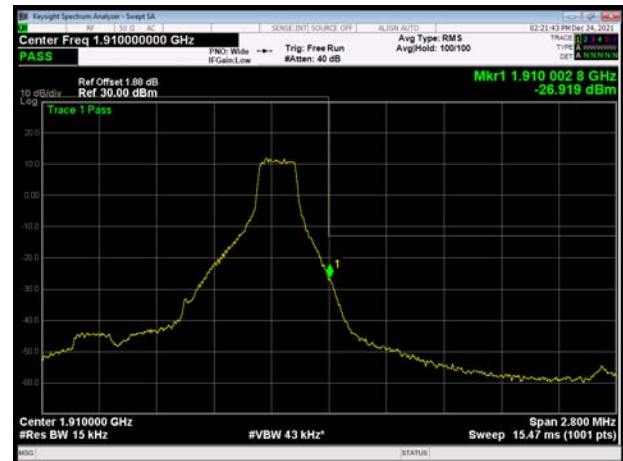
WCDMA Band II RMC CH-High



LTE Band 2 1.4MHz QPSK 1RB CH-Low



LTE Band 2 1.4MHz QPSK 1RB CH-High



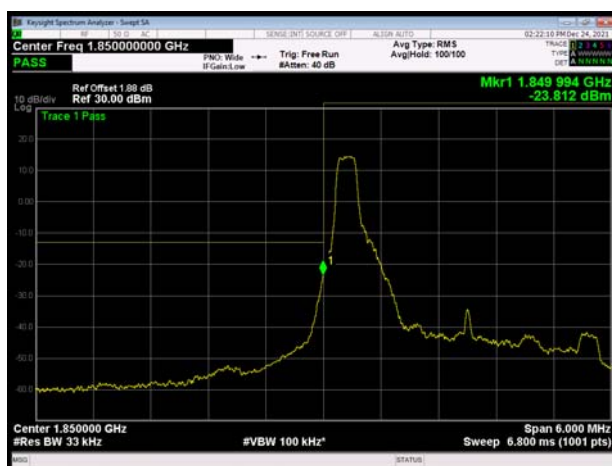
LTE Band 2 1.4MHz QPSK 100%RB CH-Low



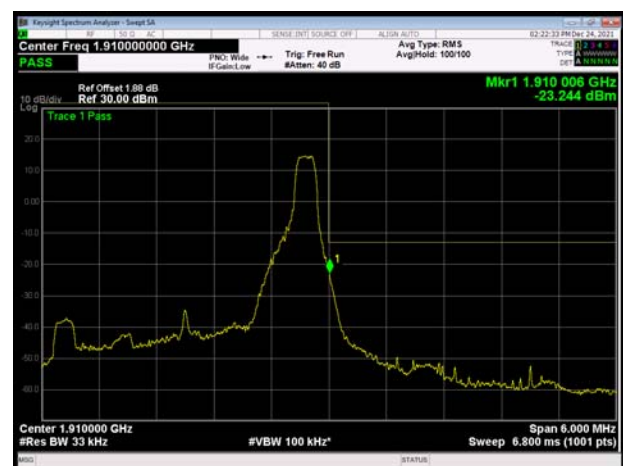
LTE Band 2 1.4MHz QPSK 100%RB CH-High



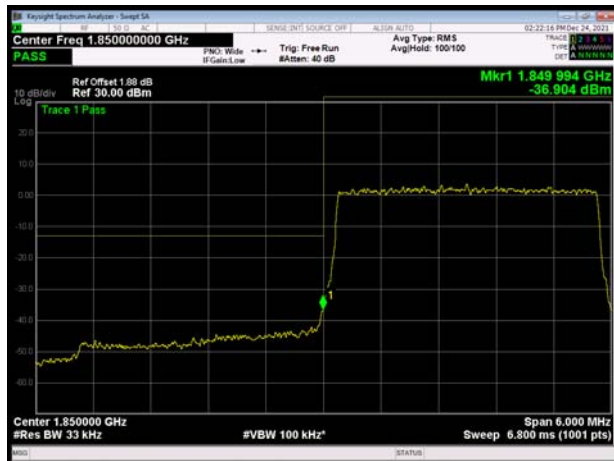
LTE Band 2 3MHz QPSK 1RB CH-Low



LTE Band 2 3MHz QPSK 1RB CH-High



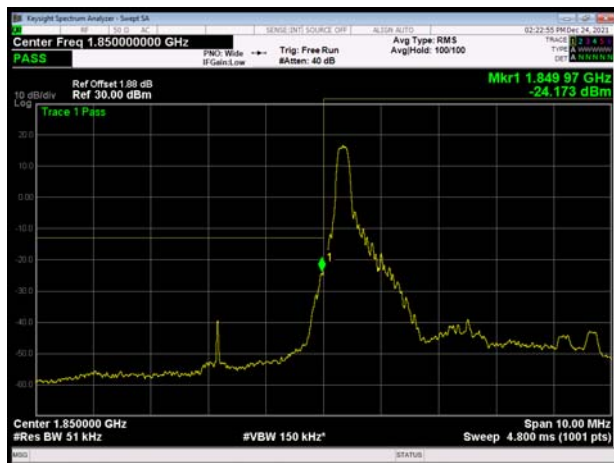
LTE Band 2 3MHz QPSK 100%RB CH-Low



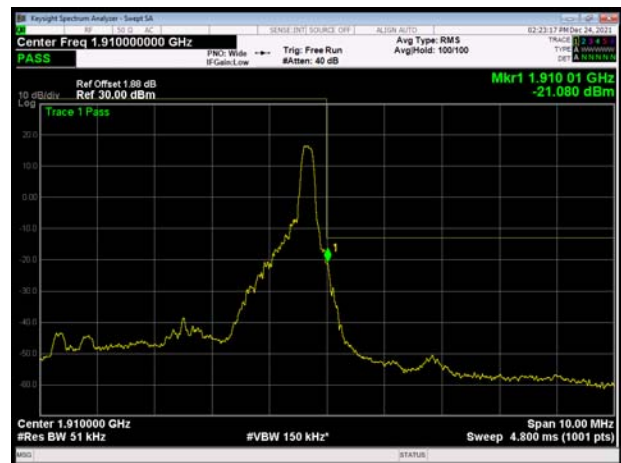
LTE Band 2 3MHz QPSK 100%RB CH-High



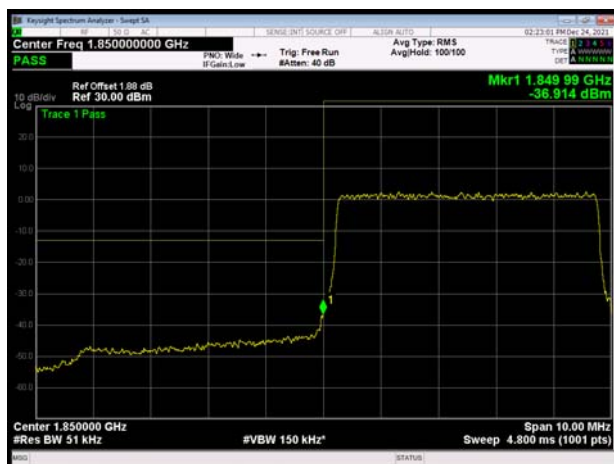
LTE Band 2 5MHz QPSK 1RB CH-Low



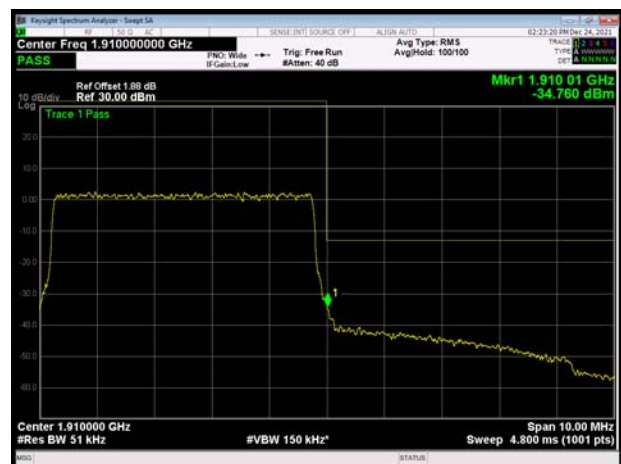
LTE Band 2 5MHz QPSK 1RB CH-High



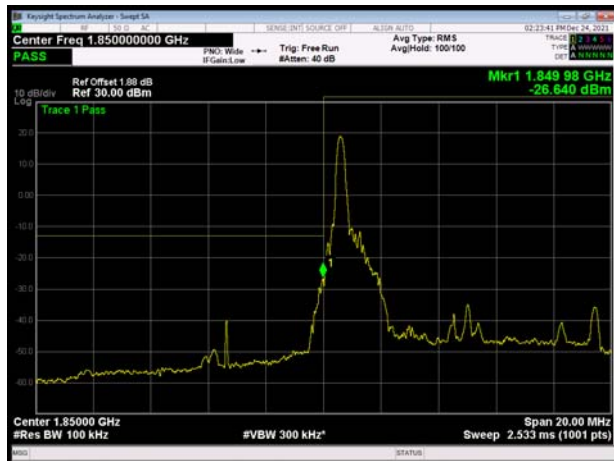
LTE Band 2 5MHz QPSK 100%RB CH-Low



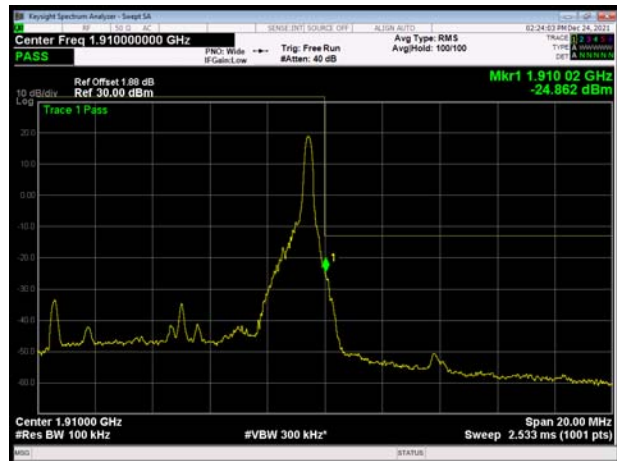
LTE Band 2 5MHz QPSK 100%RB CH-High



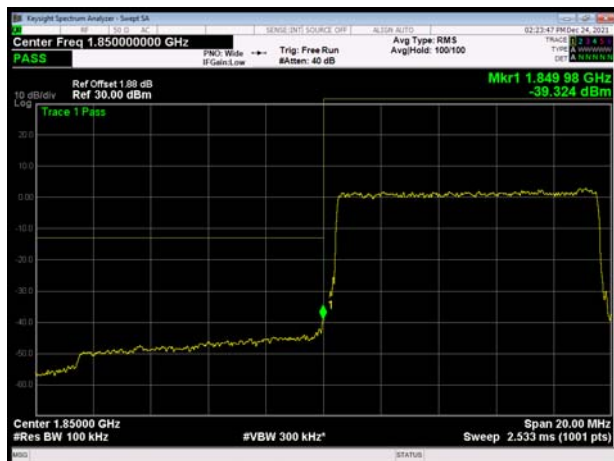
LTE Band 2 10MHz QPSK 1RB CH-Low



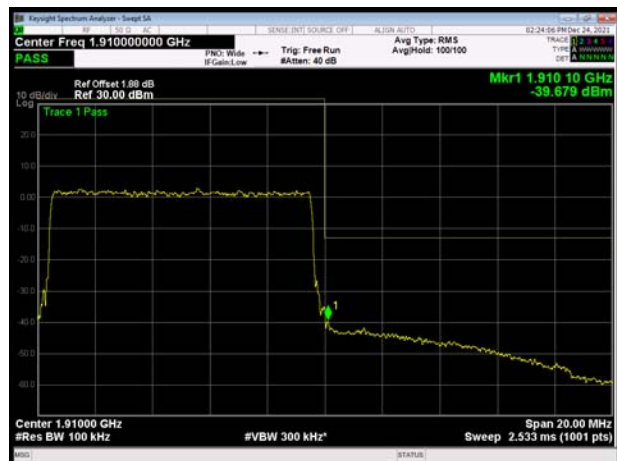
LTE Band 2 10MHz QPSK 1RB CH-High



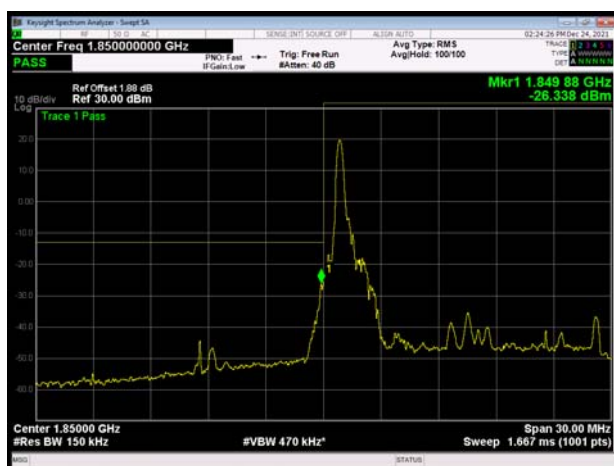
LTE Band 2 10MHz QPSK 100%RB CH-Low



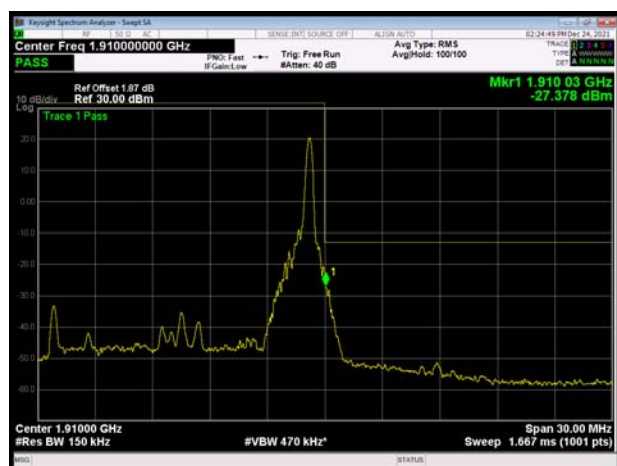
LTE Band 2 10MHz QPSK 100%RB CH-High



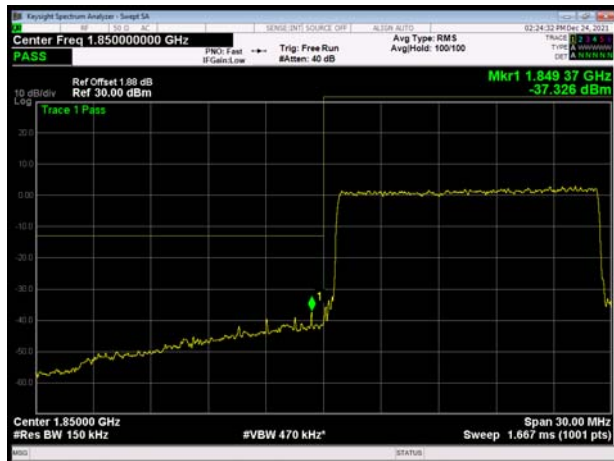
LTE Band 2 15MHz QPSK 1RB CH-Low



LTE Band 2 15MHz QPSK 1RB CH-High



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



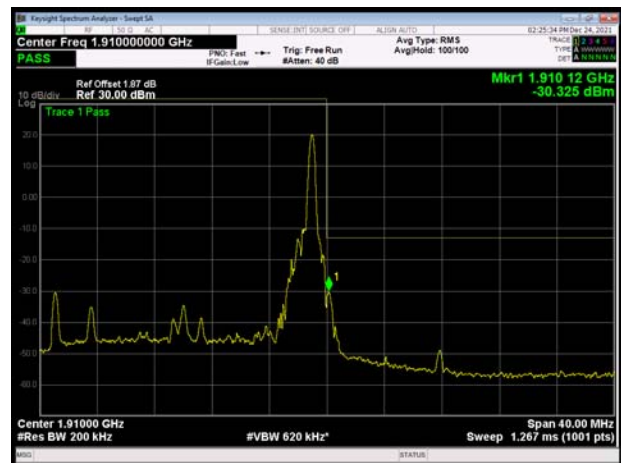
LTE Band 2 15MHz QPSK 100%RB CH-High



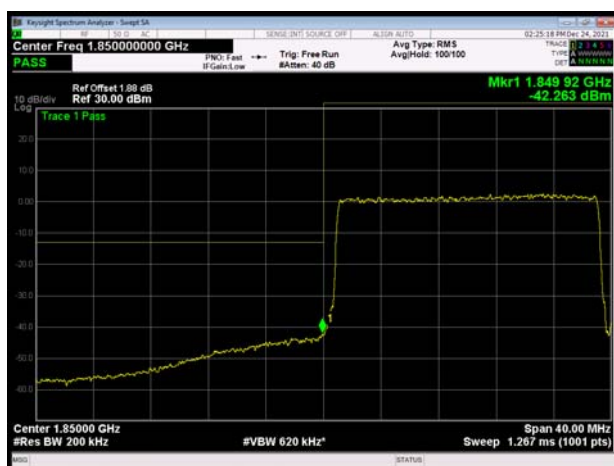
LTE Band 2 20MHz QPSK 1RB CH-Low



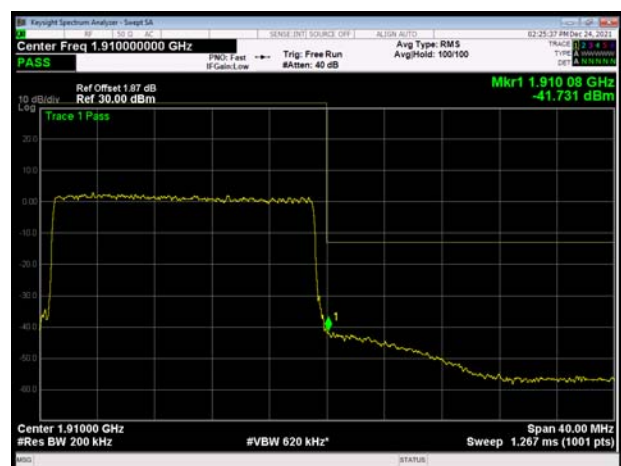
LTE Band 2 20MHz QPSK 1RB CH-High



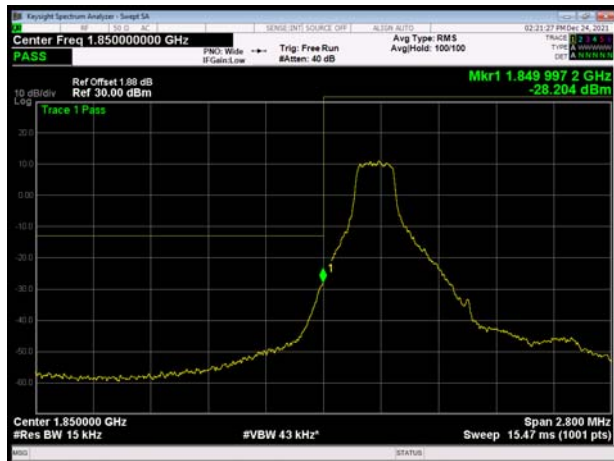
LTE Band 2 20MHz QPSK 100%RB CH-Low



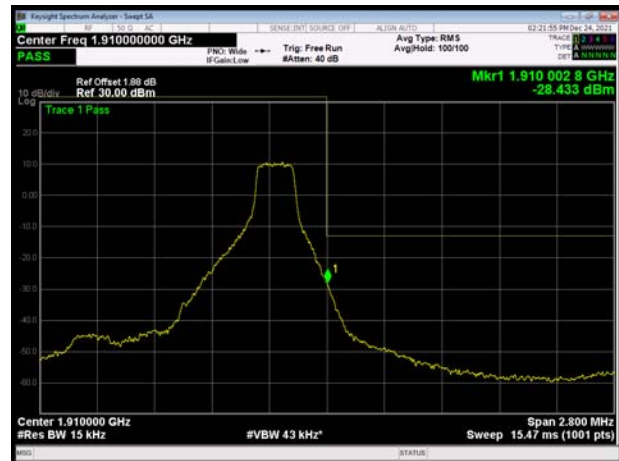
LTE Band 2 20MHz QPSK 100%RB CH-High



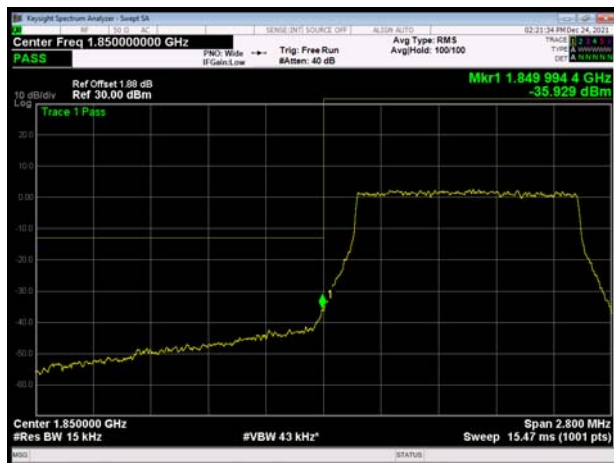
LTE Band 2 1.4MHz 16QAM 1RB CH-Low



LTE Band 2 1.4MHz 16QAM 1RB CH-High



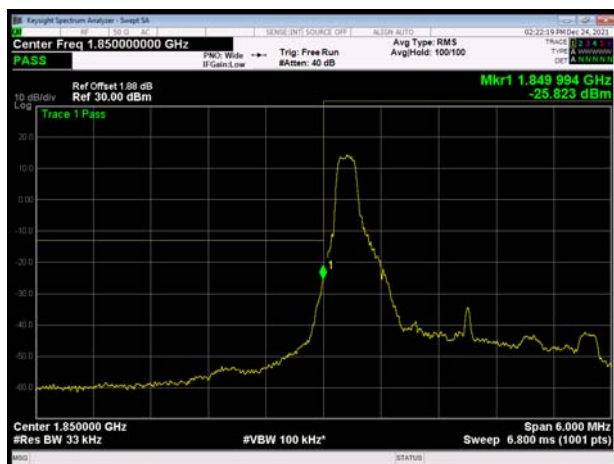
LTE Band 2 1.4MHz 16QAM 100%RB CH-Low



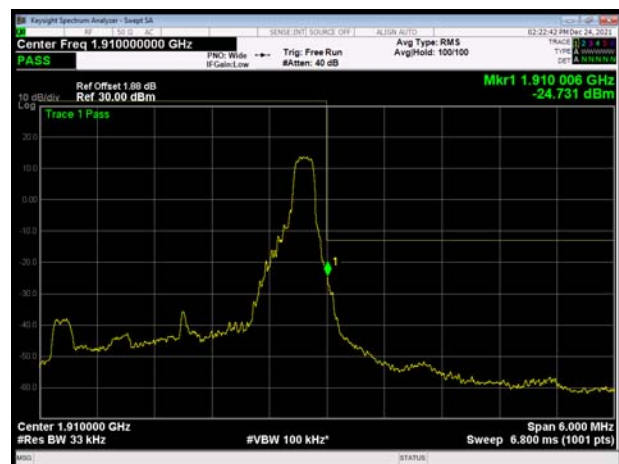
LTE Band 2 1.4MHz 16QAM 100%RB CH-High



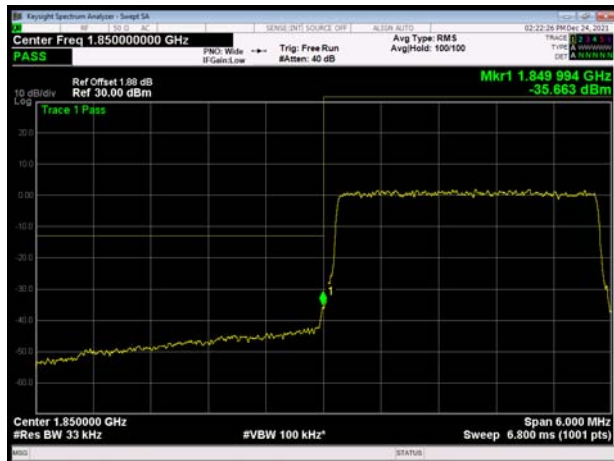
LTE Band 2 3MHz 16QAM 1RB CH-Low



LTE Band 2 3MHz 16QAM 1RB CH-High



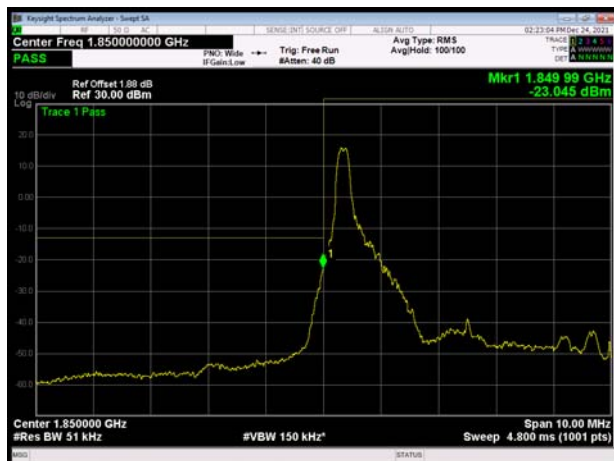
LTE Band 2 3MHz 16QAM 100%RB CH-Low



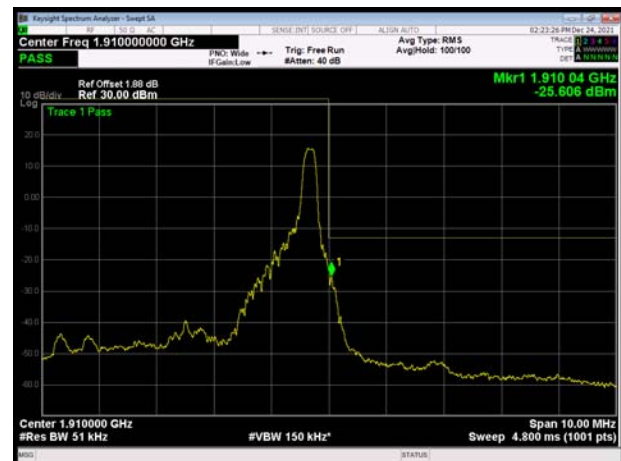
LTE Band 2 3MHz 16QAM 100%RB CH-High



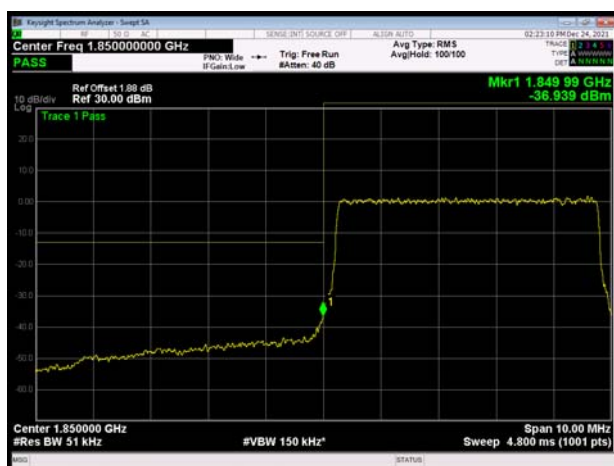
LTE Band 2 5MHz 16QAM 1RB CH-Low



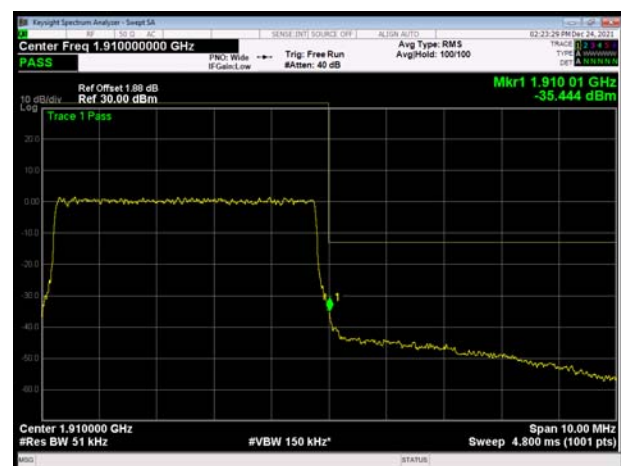
LTE Band 2 5MHz 16QAM 1RB CH-High



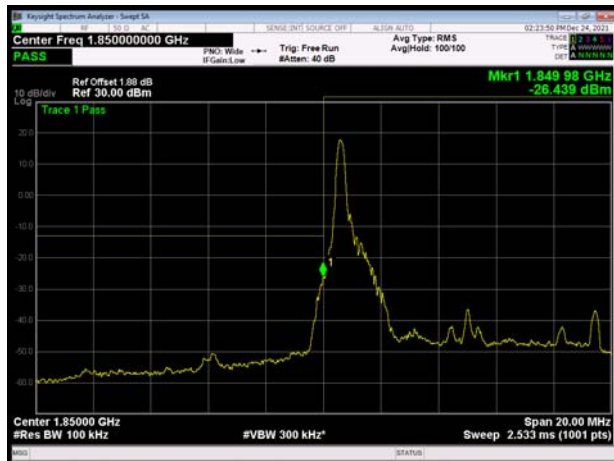
LTE Band 2 5MHz 16QAM 100%RB CH-Low



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



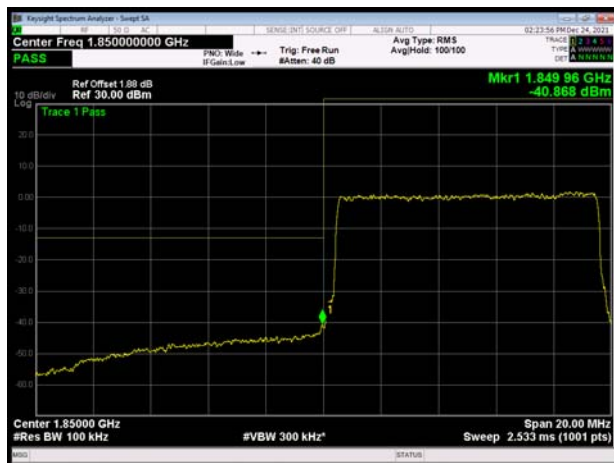
LTE Band 2 10MHz 16QAM 1RB CH-Low



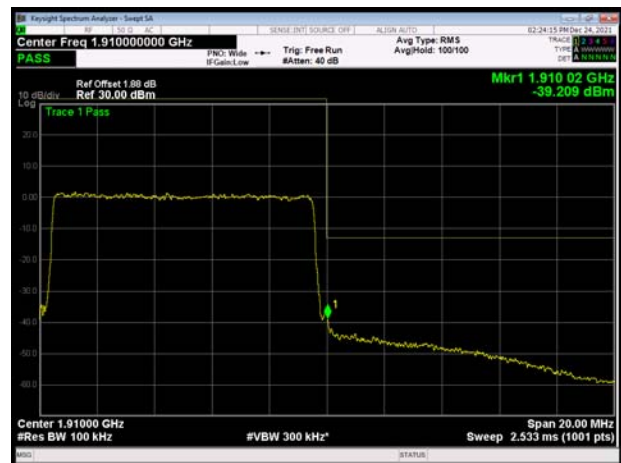
LTE Band 2 10MHz 16QAM 1RB CH-High



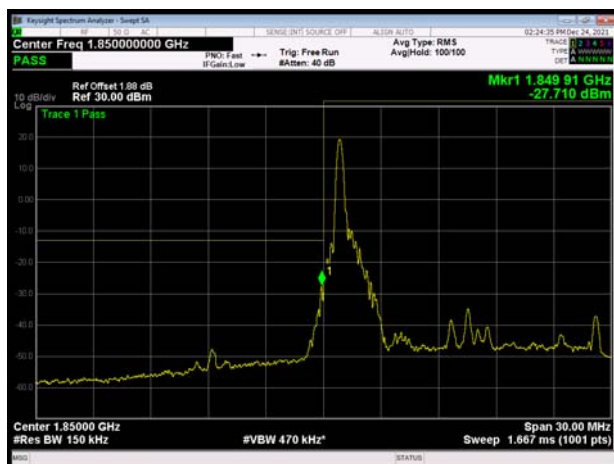
LTE Band 2 10MHz 16QAM 100%RB CH-Low



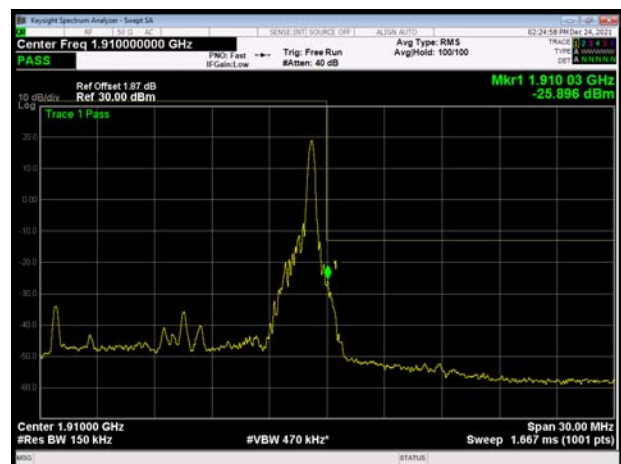
LTE Band 2 10MHz 16QAM 100%RB CH-High



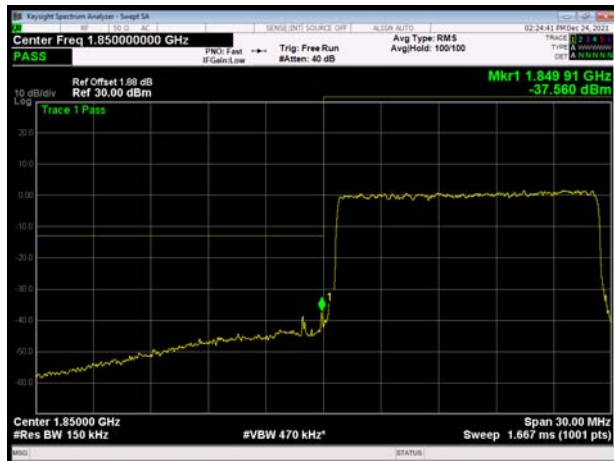
LTE Band 2 15MHz 16QAM 1RB CH-Low



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



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



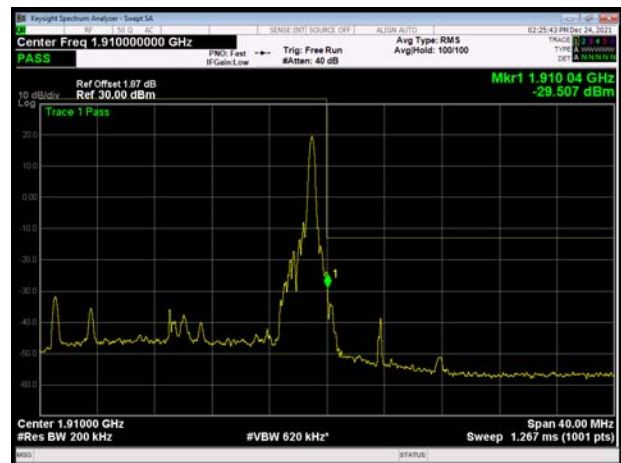
LTE Band 2 15MHz 16QAM 100%RB CH-High



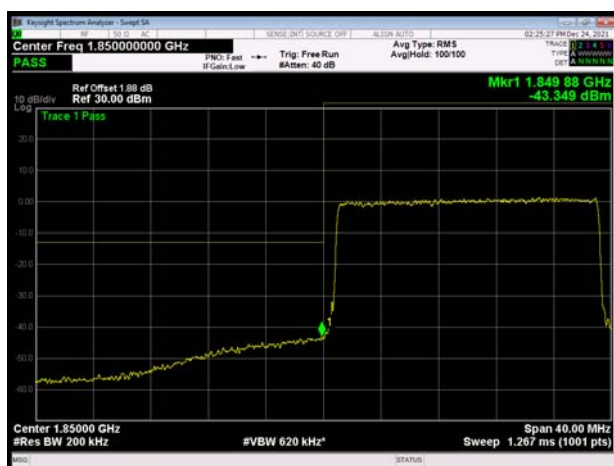
LTE Band 2 20MHz 16QAM 1RB CH-Low



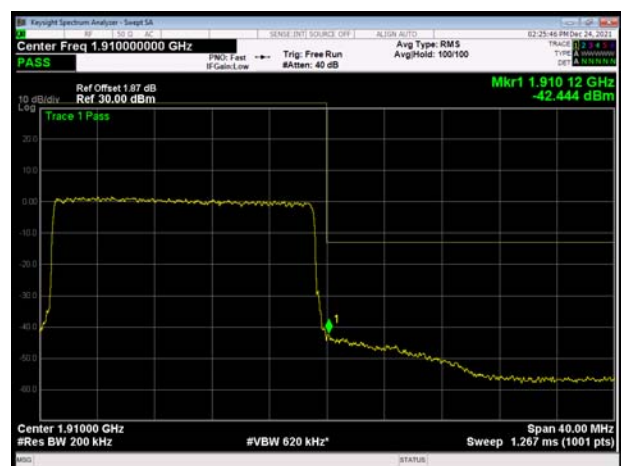
LTE Band 2 20MHz 16QAM 1RB CH-High



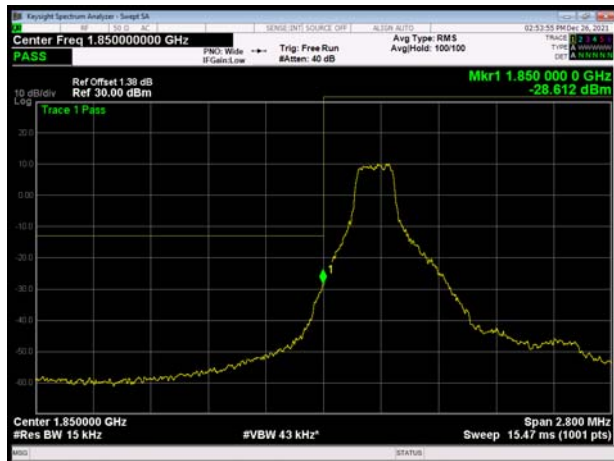
LTE Band 2 20MHz 16QAM 100%RB CH-Low



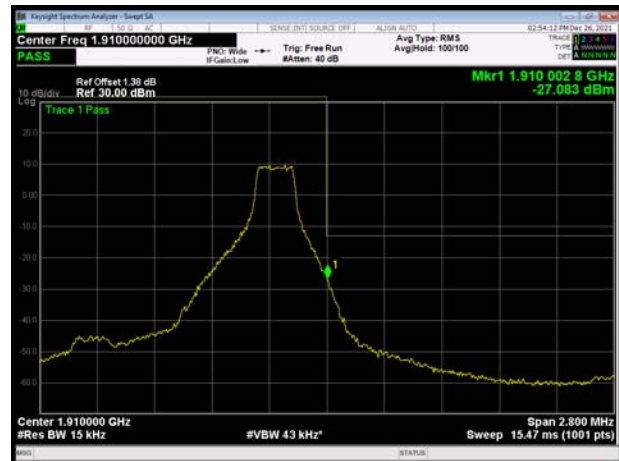
LTE Band 2 20MHz 16QAM 100%RB CH-High



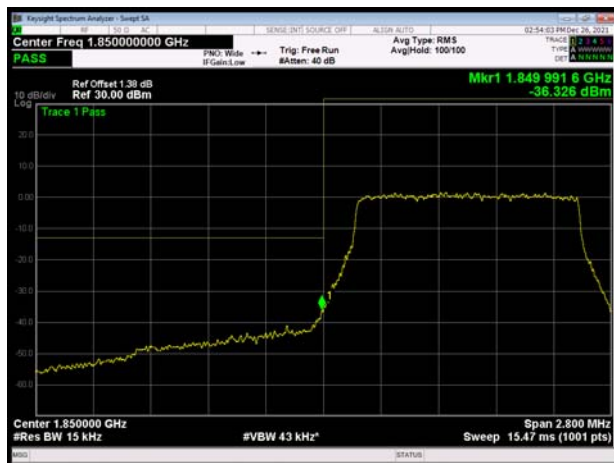
LTE Band 2 1.4MHz 64QAM 1RB CH-Low



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



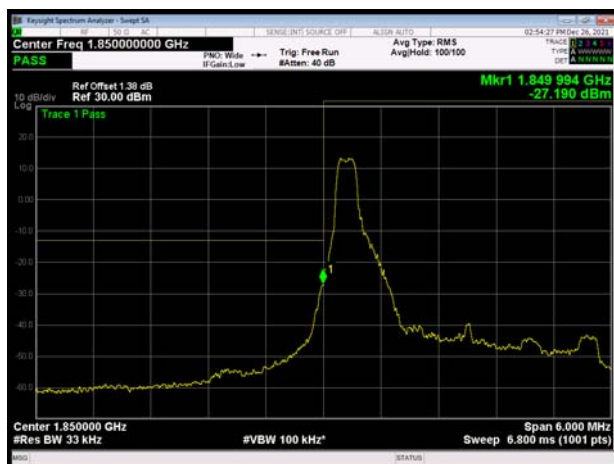
LTE Band 2 1.4MHz 64QAM 100%RB CH-Low



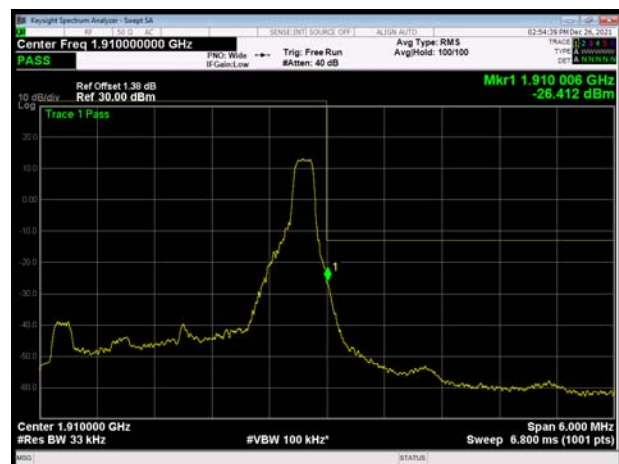
LTE Band 2 1.4MHz 64QAM 100%RB CH-High



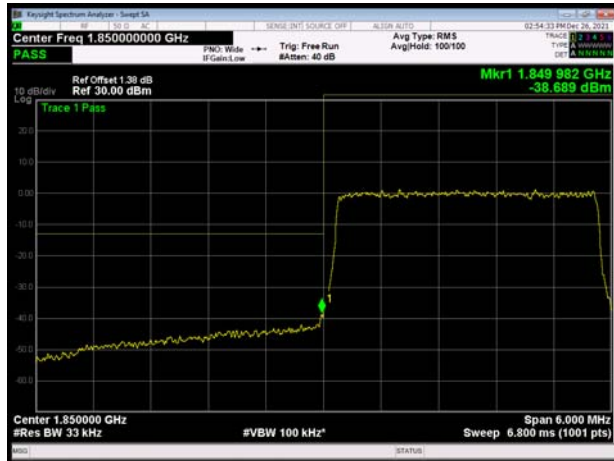
LTE Band 2 3MHz 64QAM 1RB CH-Low



LTE Band 2 3MHz 64QAM 1RB CH-High



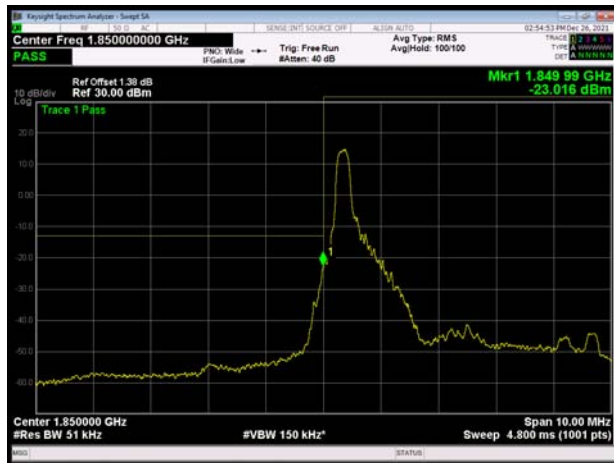
LTE Band 2 3MHz 64QAM 100%RB CH-Low



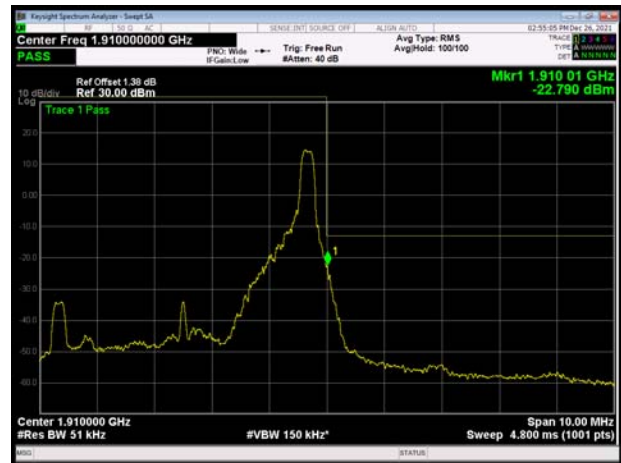
LTE Band 2 3MHz 64QAM 100%RB CH-High



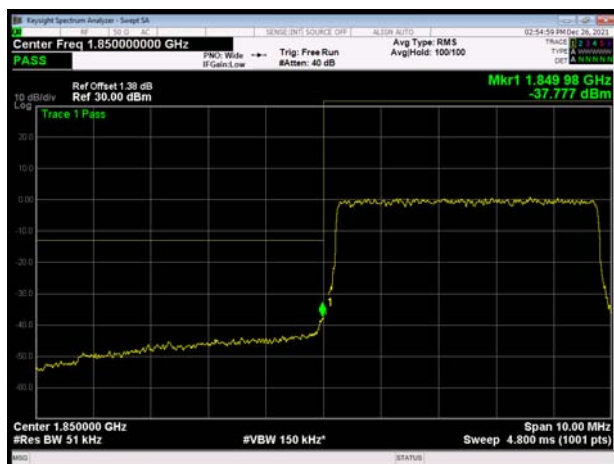
LTE Band 2 5MHz 64QAM 1RB CH-Low



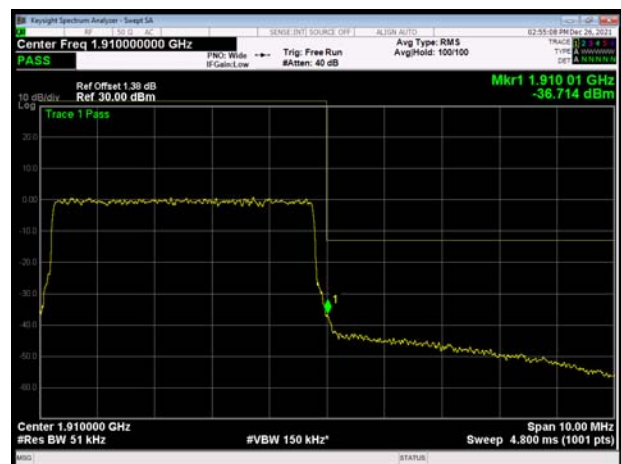
LTE Band 2 5MHz 64QAM 1RB CH-High



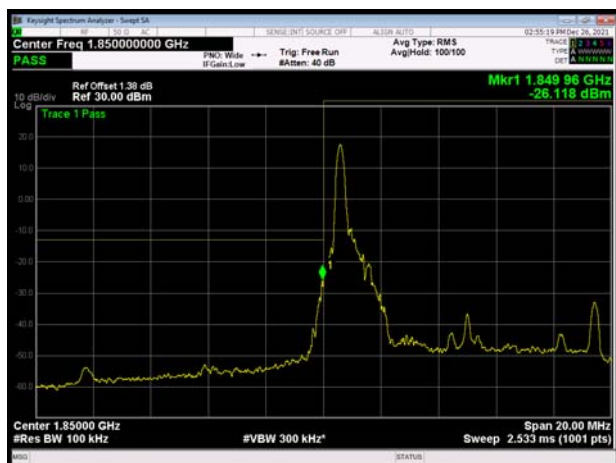
LTE Band 2 5MHz 64QAM 100%RB CH-Low



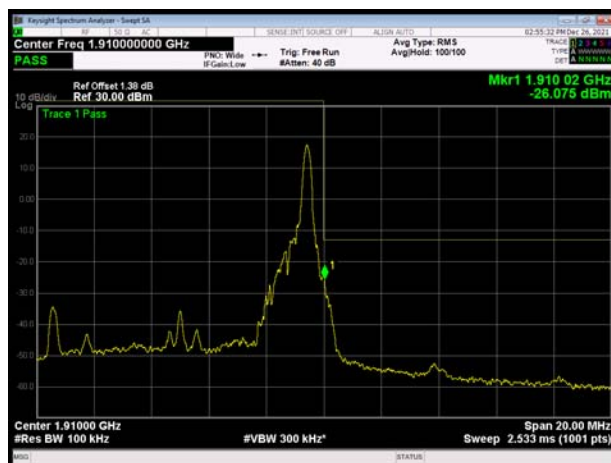
LTE Band 2 5MHz 64QAM 100%RB CH-High



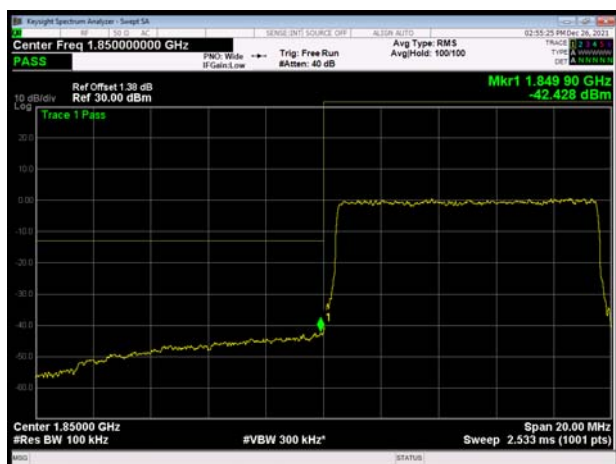
LTE Band 2 10MHz 64QAM 1RB CH-Low



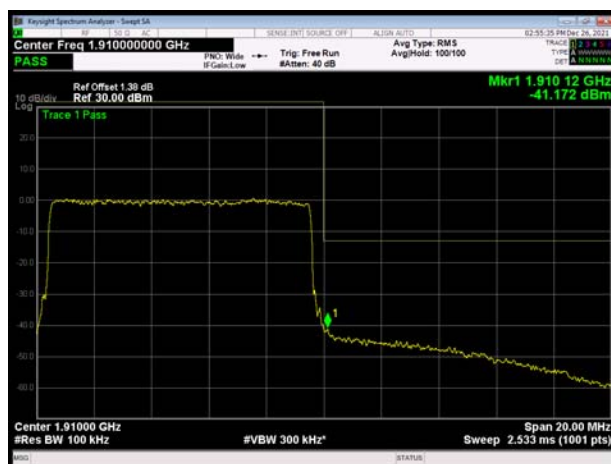
LTE Band 2 10MHz 64QAM 1RB CH-High



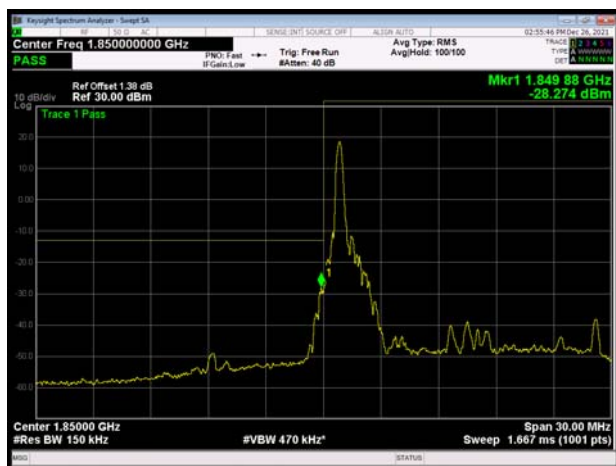
LTE Band 2 10MHz 64QAM 100%RB CH-Low



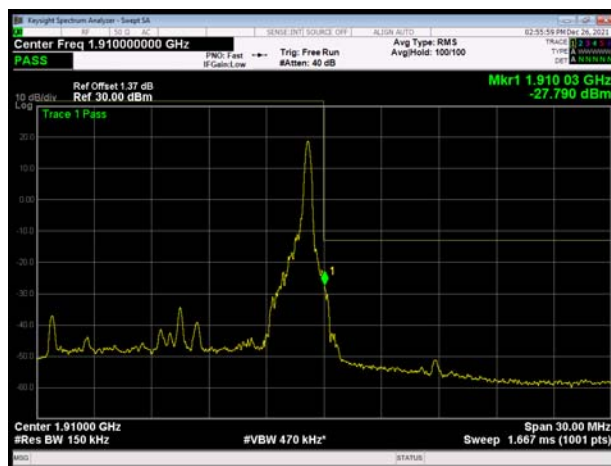
LTE Band 2 10MHz 64QAM 100%RB CH-High



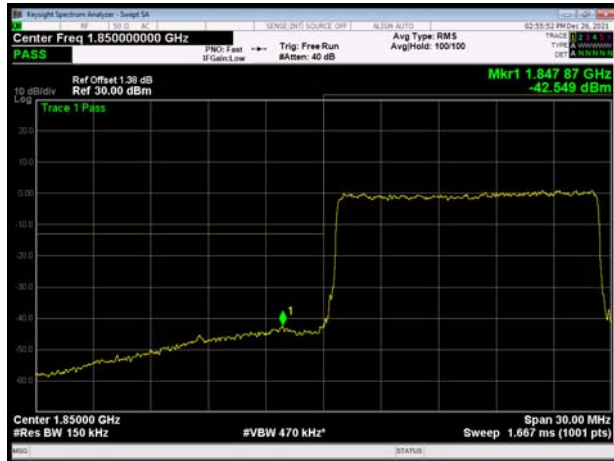
LTE Band 2 15MHz 64QAM 1RB CH-Low



LTE Band 2 15MHz 64QAM 1RB CH-High



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



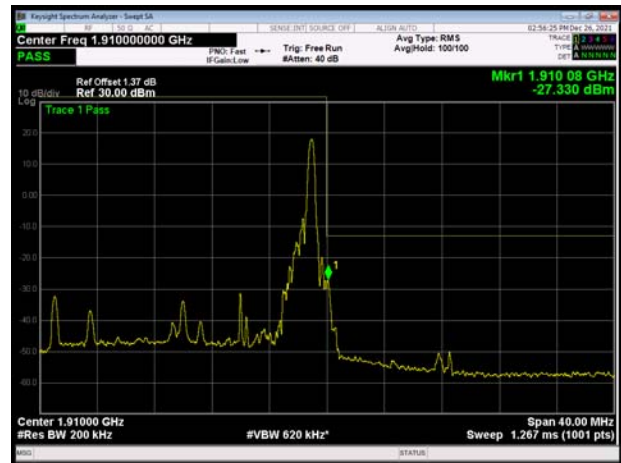
LTE Band 2 15MHz 64QAM 100%RB CH-High



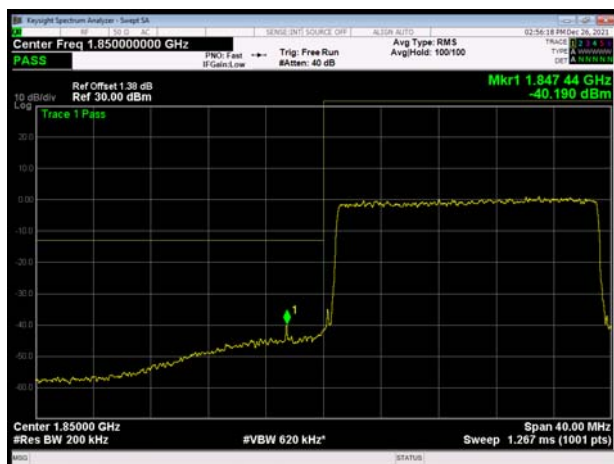
LTE Band 2 20MHz 64QAM 1RB CH-Low



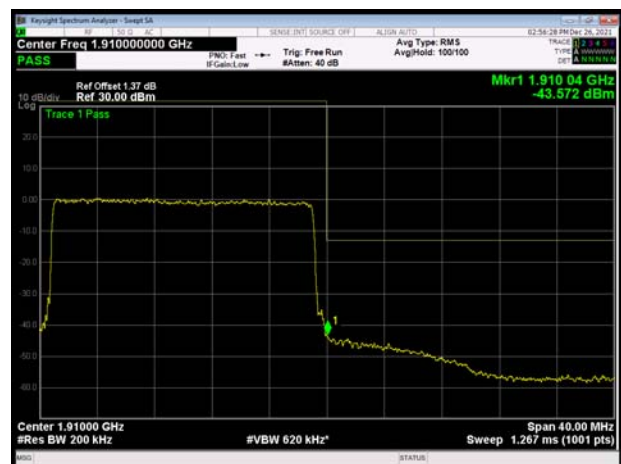
LTE Band 2 20MHz 64QAM 1RB CH-High



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
GSM 1900 (GMSK)	512	1850.2	27.69	25.07	2.62	≤13	PASS
	661	1880	27.60	24.97	2.63	≤13	PASS
	810	1909.8	27.74	25.09	2.65	≤13	PASS
GPRS 1900 (GMSK)	512	1850.2	27.75	25.12	2.63	≤13	PASS
	661	1880	27.66	25.02	2.64	≤13	PASS
	810	1909.8	27.76	25.12	2.64	≤13	PASS
EGPRS 1900 (8PSK)	512	1850.2	27.36	21.95	5.41	≤13	PASS
	661	1880	27.10	21.69	5.41	≤13	PASS
	810	1909.8	27.21	21.79	5.42	≤13	PASS
WCDMA Band II (RMC)	9262	1852.4	23.82	20.77	3.05	≤13	PASS
	9400	1880	23.77	20.72	3.05	≤13	PASS
	9538	1907.6	23.77	20.78	2.99	≤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	26.29	20.93	5.36	≤13	PASS
		18900	1880.0	26.28	20.94	5.34	≤13	PASS
		19193	1909.3	26.07	20.91	5.16	≤13	PASS
	3	18615	1851.5	26.28	20.91	5.37	≤13	PASS
		18900	1880	26.25	20.87	5.38	≤13	PASS
		19185	1908.5	26.07	20.96	5.11	≤13	PASS
	5	18625	1852.5	26.39	20.92	5.47	≤13	PASS
		18900	1880	26.32	20.93	5.39	≤13	PASS
		19175	1907.5	26.21	20.94	5.27	≤13	PASS
	10	18650	1855	26.50	21.00	5.50	≤13	PASS
		18900	1880	26.35	20.99	5.36	≤13	PASS
		19150	1905	26.37	21.04	5.33	≤13	PASS
	15	18675	1857.5	26.83	20.98	5.85	≤13	PASS
		18900	1880	26.78	21.01	5.77	≤13	PASS
		19125	1902.5	26.70	21.00	5.70	≤13	PASS
	20	18700	1860	26.40	20.87	5.53	≤13	PASS
		18900	1880	26.62	20.99	5.63	≤13	PASS
		19100	1900	26.30	20.85	5.45	≤13	PASS



16QAM	1.4	18607	1850.7	26.12	20.01	6.11	≤13	PASS
		18900	1880.0	26.02	19.87	6.15	≤13	PASS
		19193	1909.3	25.75	19.84	5.91	≤13	PASS
	3	18615	1851.5	26.17	19.98	6.19	≤13	PASS
		18900	1880	26.13	19.92	6.21	≤13	PASS
		19185	1908.5	25.90	19.90	6.00	≤13	PASS
	5	18625	1852.5	26.15	19.95	6.20	≤13	PASS
		18900	1880	26.08	19.93	6.15	≤13	PASS
		19175	1907.5	25.93	19.91	6.02	≤13	PASS
	10	18650	1855	26.28	20.02	6.26	≤13	PASS
		18900	1880	26.15	20.01	6.14	≤13	PASS
		19150	1905	25.98	19.89	6.09	≤13	PASS
	15	18675	1857.5	26.36	20.00	6.36	≤13	PASS
		18900	1880	26.29	19.95	6.34	≤13	PASS
		19125	1902.5	26.26	20.02	6.24	≤13	PASS
	20	18700	1860	26.20	19.89	6.31	≤13	PASS
		18900	1880	26.22	19.91	6.31	≤13	PASS
		19100	1900	26.02	19.81	6.21	≤13	PASS
64QAM	1.4	18607	1850.7	24.67	18.57	6.10	≤13	PASS
		18900	1880.0	24.50	18.42	6.08	≤13	PASS
		19193	1909.3	24.51	18.65	5.86	≤13	PASS
	3	18615	1851.5	24.76	18.58	6.18	≤13	PASS
		18900	1880	24.64	18.42	6.22	≤13	PASS
		19185	1908.5	24.58	18.58	6.00	≤13	PASS
	5	18625	1852.5	24.80	18.59	6.21	≤13	PASS
		18900	1880	24.63	18.43	6.20	≤13	PASS
		19175	1907.5	24.60	18.61	5.99	≤13	PASS
	10	18650	1855	24.97	18.65	6.32	≤13	PASS
		18900	1880	24.71	18.50	6.21	≤13	PASS
		19150	1905	24.70	18.65	6.05	≤13	PASS
	15	18675	1857.5	25.02	18.59	6.43	≤13	PASS
		18900	1880	24.87	18.52	6.35	≤13	PASS
		19125	1902.5	24.85	18.65	6.20	≤13	PASS
	20	18700	1860	24.72	18.48	6.24	≤13	PASS
		18900	1880	24.90	18.58	6.32	≤13	PASS
		19100	1900	24.78	18.56	6.22	≤13	PASS

6.5. Frequency Stability

GSM 1900						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	GMSK	8PSK	GMSK	8PSK	
Normal (25℃)	Normal	5.06	17.51	0.00269	0.00931	PASS
Extreme (50℃)		17.79	11.61	0.00946	0.00618	PASS
Extreme (40℃)		7.19	15.42	0.00383	0.00820	PASS
Extreme (30℃)		13.18	7.55	0.00701	0.00401	PASS
Extreme (20℃)		15.33	5.32	0.00816	0.00283	PASS
Extreme (10℃)		14.57	5.01	0.00775	0.00266	PASS
Extreme (0℃)		13.44	1.98	0.00715	0.00105	PASS
Extreme (-10℃)		11.05	17.45	0.00588	0.00928	PASS
Extreme (-20℃)		14.03	14.06	0.00747	0.00748	PASS
Extreme (-30℃)		2.07	11.07	0.00110	0.00589	PASS
25℃	LV	15.99	1.41	0.00851	0.00075	PASS
	HV	2.79	9.64	0.00148	0.00513	PASS

WCDMA Band II						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	BPSK	QPSK	BPSK	QPSK	
Normal (25℃)	Normal	3.41	17.98	0.00181	0.00956	PASS
Extreme (50℃)		5.82	16.51	0.00310	0.00878	PASS
Extreme (40℃)		16.41	8.73	0.00873	0.00464	PASS
Extreme (30℃)		8.30	1.78	0.00441	0.00095	PASS
Extreme (20℃)		5.66	5.74	0.00301	0.00305	PASS
Extreme (10℃)		17.50	3.63	0.00931	0.00193	PASS
Extreme (0℃)		4.99	9.82	0.00265	0.00522	PASS
Extreme (-10℃)		15.62	2.51	0.00831	0.00133	PASS
Extreme (-20℃)		7.44	1.07	0.00396	0.00057	PASS
Extreme (-30℃)		12.80	16.47	0.00681	0.00876	PASS
25℃	LV	7.49	4.24	0.00399	0.00226	PASS
	HV	9.96	16.57	0.00530	0.00881	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	PASS
Normal (25℃)	Normal	10.62	4.73	13.25	0.00565	0.00252	0.00705	
Extreme (50℃)		13.30	13.05	13.48	0.00707	0.00694	0.00717	
Extreme (40℃)		7.79	13.18	13.57	0.00414	0.00701	0.00722	
Extreme (30℃)		15.04	10.61	10.24	0.00800	0.00565	0.00545	
Extreme (20℃)		6.99	3.63	10.94	0.00372	0.00193	0.00582	
Extreme (10℃)		13.83	13.07	13.00	0.00736	0.00695	0.00692	
Extreme (0℃)		5.79	17.32	5.82	0.00308	0.00922	0.00310	
Extreme (-10℃)		2.00	15.30	10.08	0.00107	0.00814	0.00536	
Extreme (-20℃)		17.86	3.35	3.16	0.00950	0.00178	0.00168	
Extreme (-30℃)		5.48	12.01	6.74	0.00292	0.00639	0.00358	
25℃	LV	17.51	8.02	10.28	0.00931	0.00426	0.00547	PASS
	HV	7.90	10.87	13.79	0.00420	0.00578	0.00734	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	PASS
Normal (25℃)	Normal	2.25	6.19	13.74	0.00120	0.00329	0.00731	
Extreme (50℃)		9.20	4.71	4.11	0.00489	0.00251	0.00219	
Extreme (40℃)		9.51	4.53	16.97	0.00506	0.00241	0.00903	
Extreme (30℃)		5.85	4.69	2.27	0.00311	0.00249	0.00121	
Extreme (20℃)		15.40	9.69	17.80	0.00819	0.00515	0.00947	
Extreme (10℃)		5.15	1.98	5.37	0.00274	0.00105	0.00286	
Extreme (0℃)		15.54	4.25	9.24	0.00826	0.00226	0.00491	
Extreme (-10℃)		1.57	10.25	6.82	0.00083	0.00545	0.00363	
Extreme (-20℃)		17.68	8.21	8.42	0.00940	0.00436	0.00448	
Extreme (-30℃)		17.83	2.67	15.40	0.00948	0.00142	0.00819	
25℃	LV	9.70	9.98	8.96	0.00516	0.00531	0.00477	PASS
	HV	2.12	6.17	8.57	0.00113	0.00328	0.00456	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	PASS
Normal (25℃)	Normal	3.71	13.41	3.00	0.00197	0.00713	0.00160	
Extreme (50℃)		9.94	11.46	6.95	0.00529	0.00610	0.00370	



Extreme (40℃)		10.54	4.22	9.05	0.00560	0.00225	0.00481	PASS
Extreme (30℃)		16.03	14.29	16.70	0.00853	0.00760	0.00888	PASS
Extreme (20℃)		9.53	15.45	2.09	0.00507	0.00822	0.00111	PASS
Extreme (10℃)		5.97	14.03	4.37	0.00318	0.00746	0.00232	PASS
Extreme (0℃)		2.99	7.75	4.03	0.00159	0.00412	0.00214	PASS
Extreme (-10℃)		14.09	16.68	9.97	0.00749	0.00887	0.00530	PASS
Extreme (-20℃)		9.09	10.32	17.11	0.00484	0.00549	0.00910	PASS
Extreme (-30℃)		2.44	3.08	7.66	0.00130	0.00164	0.00407	PASS
25℃	LV	10.67	5.87	16.65	0.00567	0.00312	0.00886	PASS
	HV	8.48	5.24	14.76	0.00451	0.00279	0.00785	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	17.62	8.73	16.93	0.00937	0.00464	0.00901	
Extreme (50℃)		5.64	11.05	4.96	0.00300	0.00588	0.00264	PASS
Extreme (40℃)		4.92	8.44	4.92	0.00262	0.00449	0.00262	PASS
Extreme (30℃)		5.45	6.66	3.30	0.00290	0.00354	0.00176	PASS
Extreme (20℃)		15.55	14.75	9.68	0.00827	0.00784	0.00515	PASS
Extreme (10℃)		1.47	8.36	7.75	0.00078	0.00445	0.00412	PASS
Extreme (0℃)		10.53	11.01	12.36	0.00560	0.00586	0.00658	PASS
Extreme (-10℃)		12.50	12.89	9.43	0.00665	0.00686	0.00502	PASS
Extreme (-20℃)		5.75	11.66	8.86	0.00306	0.00620	0.00472	PASS
Extreme (-30℃)		13.72	11.58	5.20	0.00730	0.00616	0.00277	PASS
25℃	LV	16.25	13.45	4.73	0.00864	0.00716	0.00252	PASS
	HV	3.49	6.44	1.22	0.00186	0.00343	0.00065	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	13.69	11.81	10.14	0.00728	0.00628	0.00540	
Extreme (50℃)		1.32	2.03	7.92	0.00070	0.00108	0.00421	PASS
Extreme (40℃)		10.22	11.63	16.60	0.00543	0.00619	0.00883	PASS
Extreme (30℃)		14.37	5.78	4.10	0.00764	0.00307	0.00218	PASS
Extreme (20℃)		4.90	3.92	14.23	0.00261	0.00208	0.00757	PASS
Extreme (10℃)		4.72	3.13	8.00	0.00251	0.00166	0.00425	PASS
Extreme (0℃)		16.53	16.85	5.19	0.00879	0.00896	0.00276	PASS
Extreme (-10℃)		4.91	3.84	6.11	0.00261	0.00204	0.00325	PASS
Extreme (-20℃)		16.63	13.48	4.41	0.00884	0.00717	0.00235	PASS
Extreme (-30℃)		10.37	2.50	10.00	0.00552	0.00133	0.00532	PASS
25℃	LV	13.34	12.42	12.14	0.00709	0.00661	0.00646	PASS



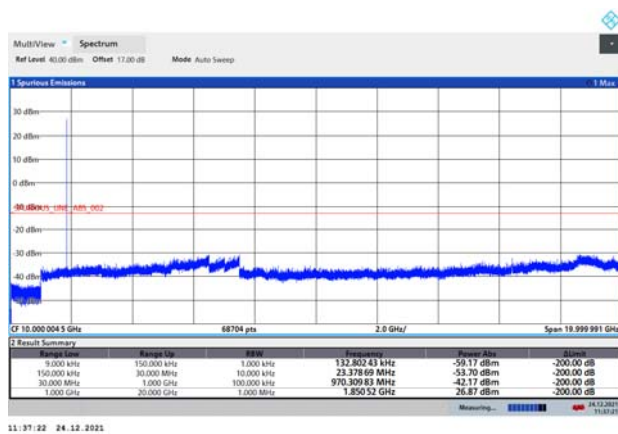
	HV	15.90	2.09	13.31	0.00846	0.00111	0.00708	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	12.92	16.40	11.15	0.00687	0.00872	0.00593	PASS
Extreme (50℃)		7.15	8.12	6.85	0.00380	0.00432	0.00365	PASS
Extreme (40℃)		6.18	10.60	15.57	0.00329	0.00564	0.00828	PASS
Extreme (30℃)		9.27	8.79	7.94	0.00493	0.00468	0.00422	PASS
Extreme (20℃)		12.94	12.75	15.25	0.00688	0.00678	0.00811	PASS
Extreme (10℃)		14.99	8.70	2.09	0.00798	0.00463	0.00111	PASS
Extreme (0℃)		13.43	12.44	2.59	0.00714	0.00662	0.00138	PASS
Extreme (-10℃)		16.06	12.82	6.28	0.00854	0.00682	0.00334	PASS
Extreme (-20℃)		6.81	11.37	4.97	0.00362	0.00605	0.00264	PASS
Extreme (-30℃)		10.43	7.03	1.13	0.00555	0.00374	0.00060	PASS
25℃	LV	11.47	13.18	2.30	0.00610	0.00701	0.00122	PASS
	HV	7.57	17.25	13.16	0.00403	0.00918	0.00700	PASS

6.6. Spurious Emissions at Antenna Terminals

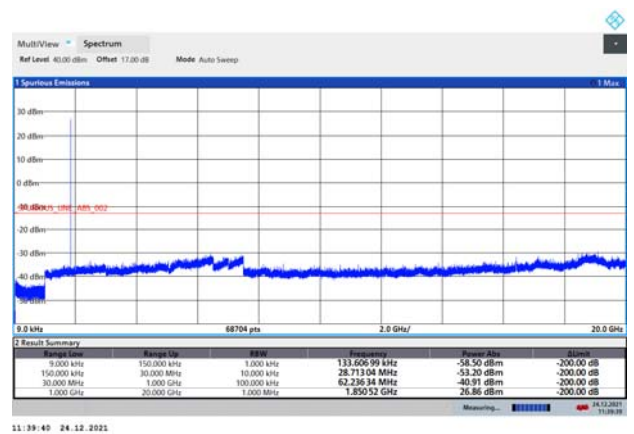
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

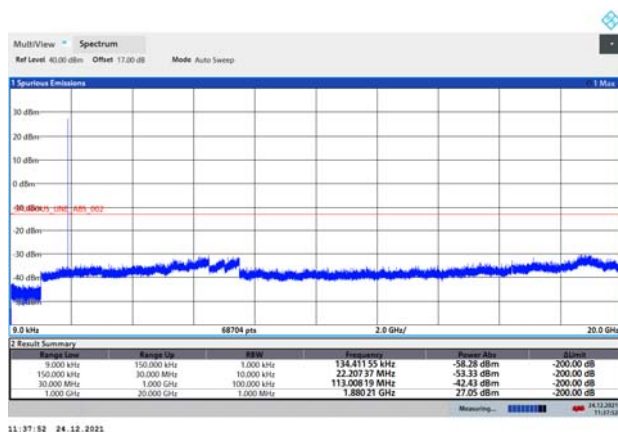
GSM 1900 CH-Low 9kHz ~ 20GHz



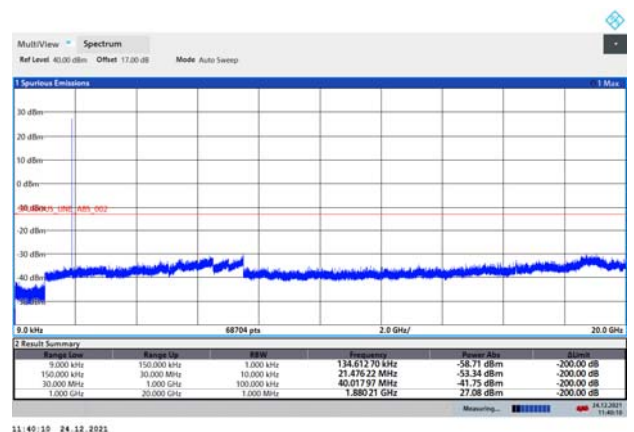
GPRS 1900 CH-Low 9kHz ~ 20GHz



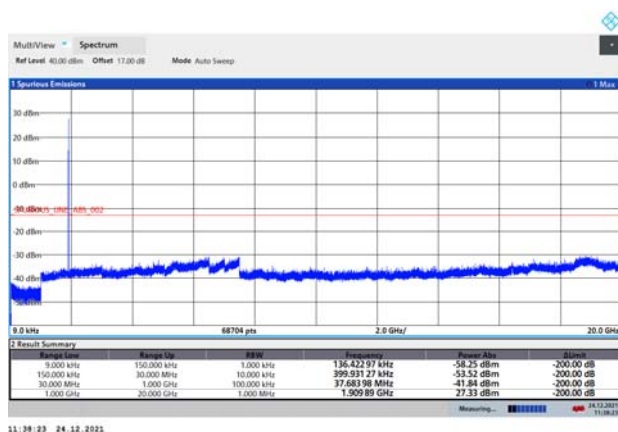
GSM 1900 CH- Middle 9kHz ~ 20GHz



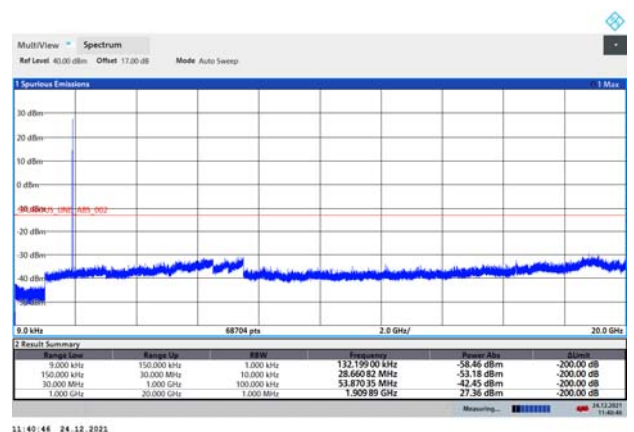
GPRS 1900 CH- Middle 9kHz ~ 20GHz



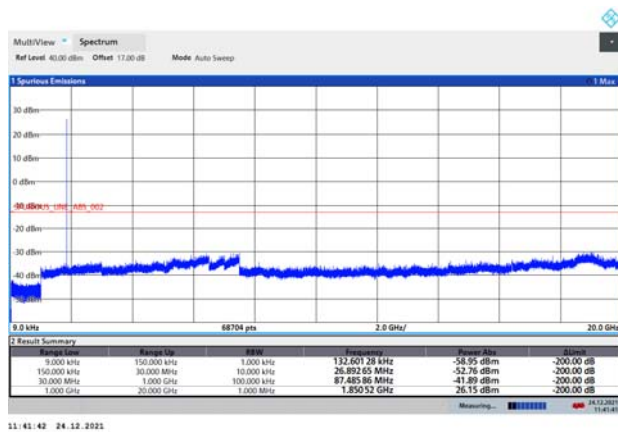
GSM 1900 CH-High 9kHz ~ 20GHz



GPRS 1900 CH-High 9kHz ~ 20GHz

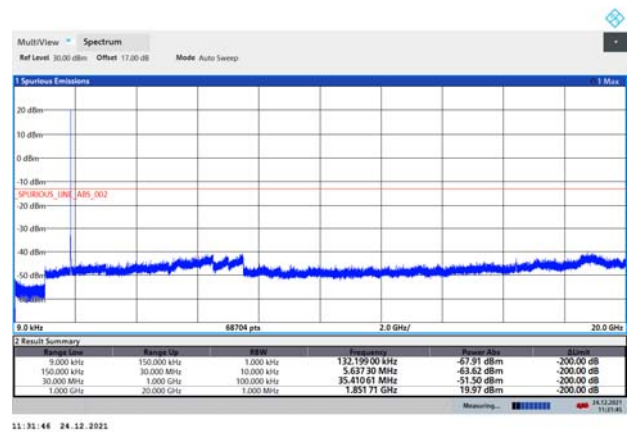


EGPRS 1900 CH-Low 9kHz ~ 20GHz



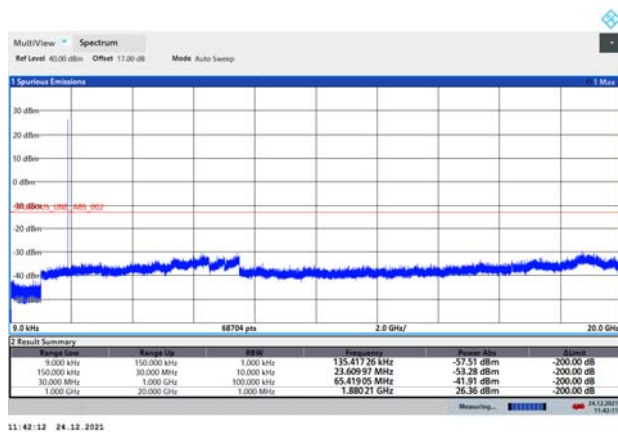
11:41:42 24.12.2021

WCDMA BAND II CH-Low 9kHz ~ 20GHz



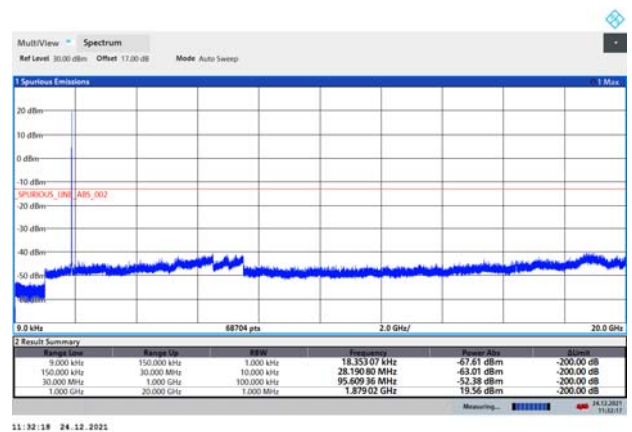
11:31:46 24.12.2021

EGPRS 1900 CH- Middle 9kHz ~ 20GHz



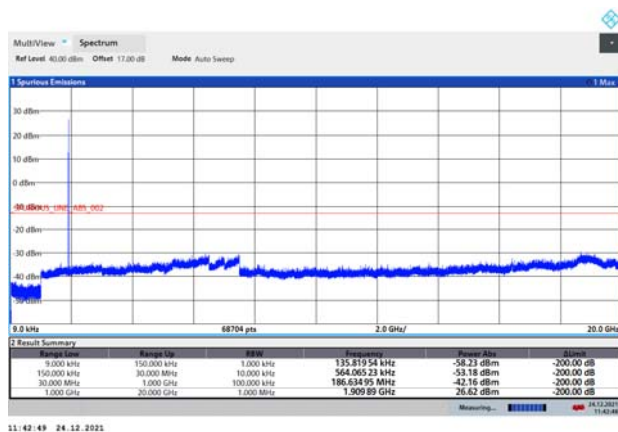
11:42:12 24.12.2021

WCDMA BAND II CH- Middle 9kHz ~ 20GHz



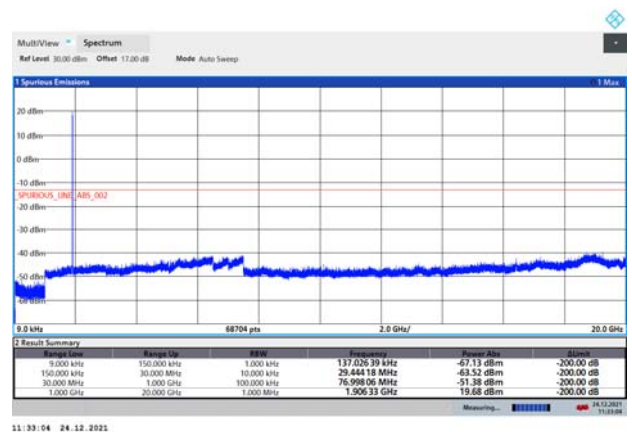
11:32:18 24.12.2021

EGPRS 1900 CH-High 9kHz ~ 20GHz



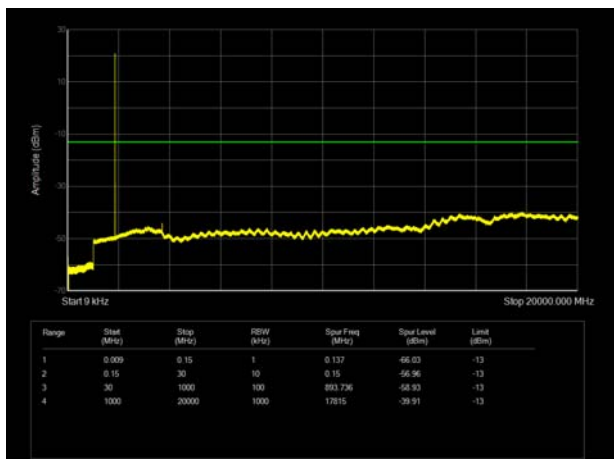
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WCDMA BAND II CH-High 9kHz ~ 20GHz

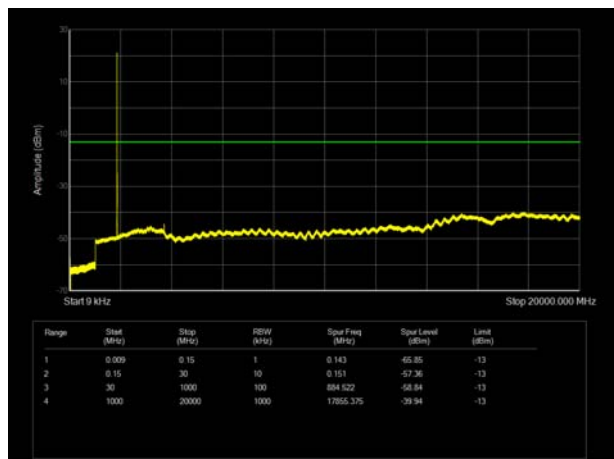


11:33:04 24.12.2021

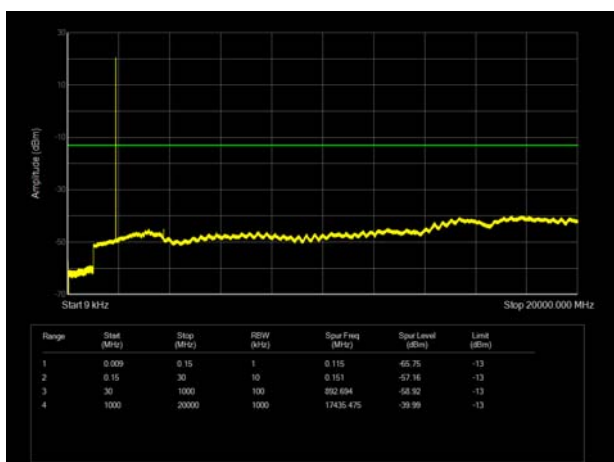
LTE Band 2 1.4MHz CH-Low 9kHz~20GHz



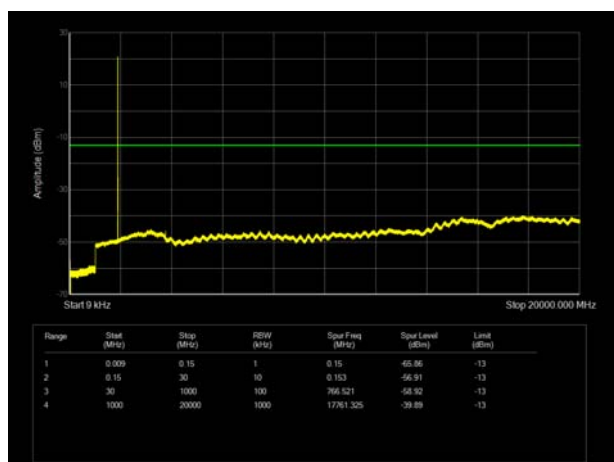
LTE Band 2 3MHz CH-Low 9kHz~20GHz



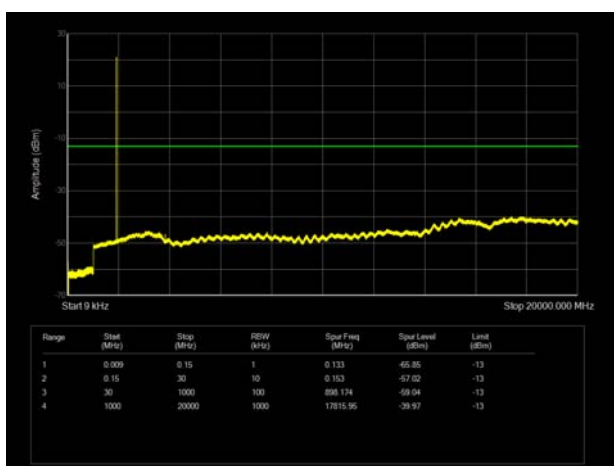
LTE Band 2 1.4MHz CH-Middle 9kHz~20GHz



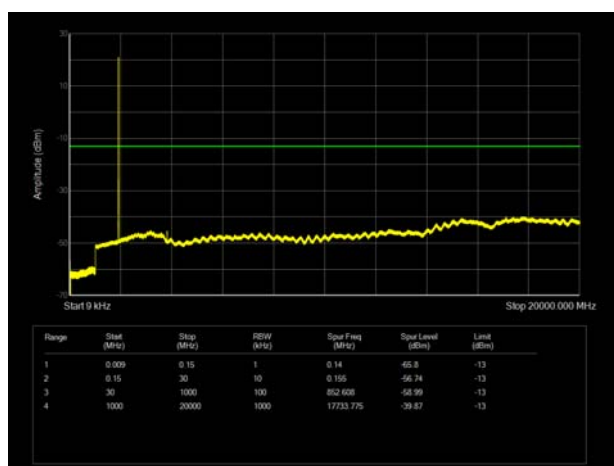
LTE Band 2 3MHz CH-Middle 9kHz~20GHz



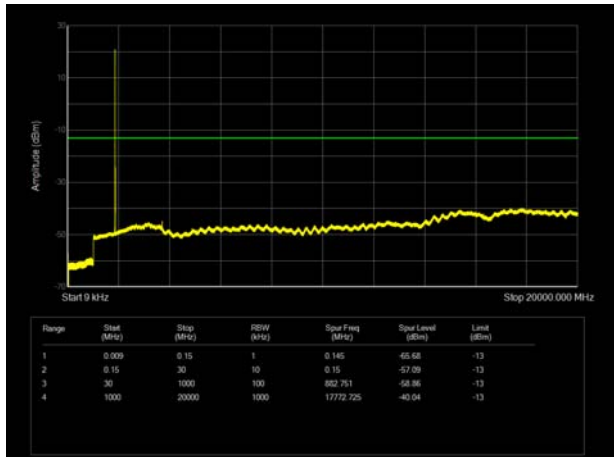
LTE Band 2 1.4MHz CH-High 9kHz~20GHz



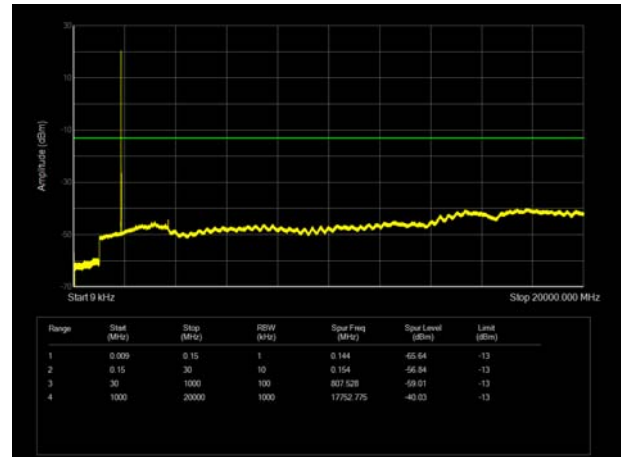
LTE Band 2 3MHz CH-High 9kHz~20GHz



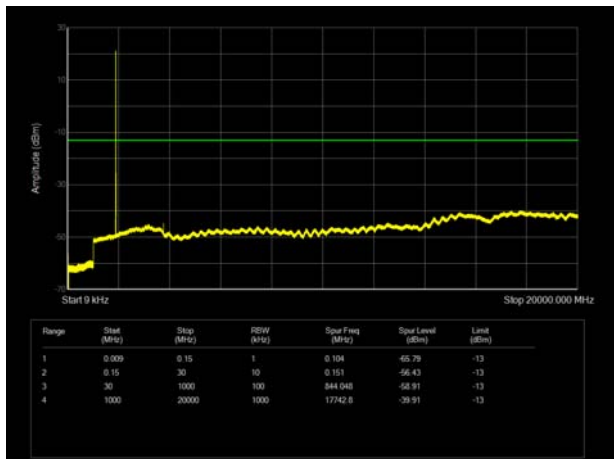
LTE Band 2 5MHz CH-Low 9kHz~20GHz



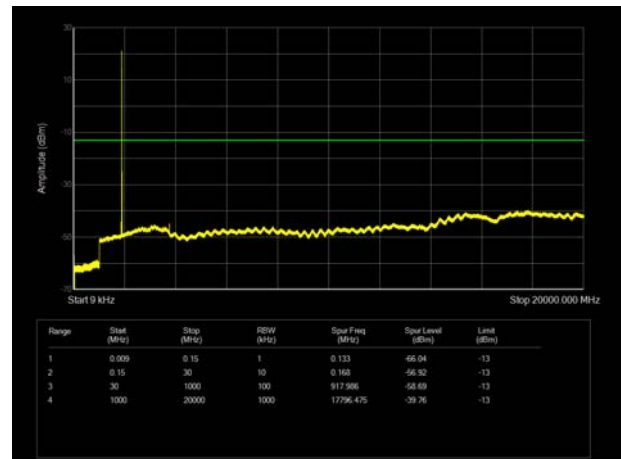
LTE Band 2 10MHz CH-Low 9kHz~20GHz



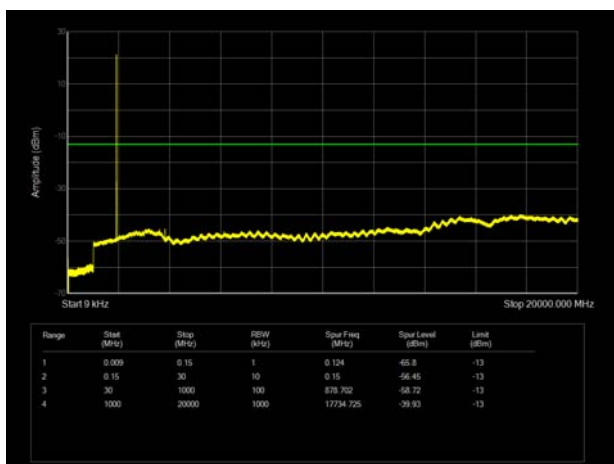
LTE Band 2 5MHz CH-Middle 9kHz~20GHz



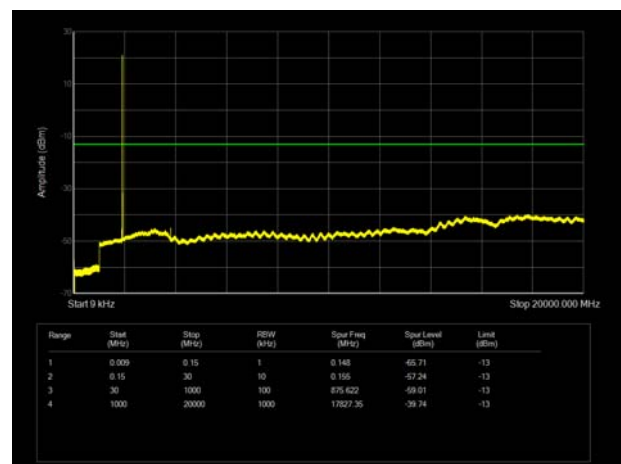
LTE Band 2 10MHz CH-Middle 9kHz~20GHz



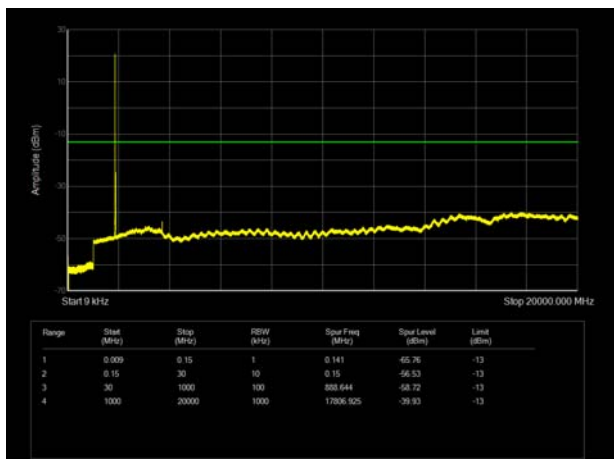
LTE Band 2 5MHz CH-High 9kHz~20GHz



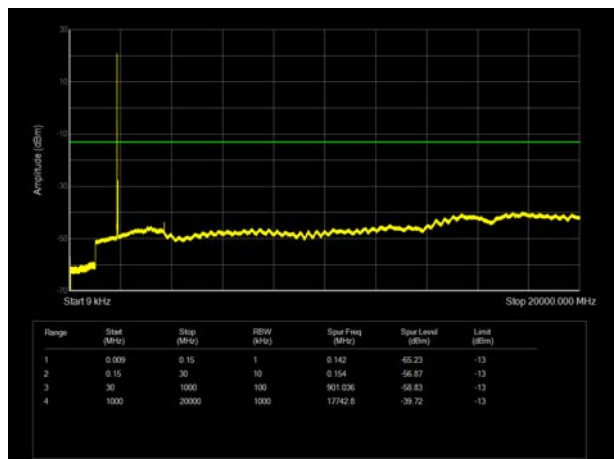
LTE Band 2 10MHz CH-High 9kHz~20GHz



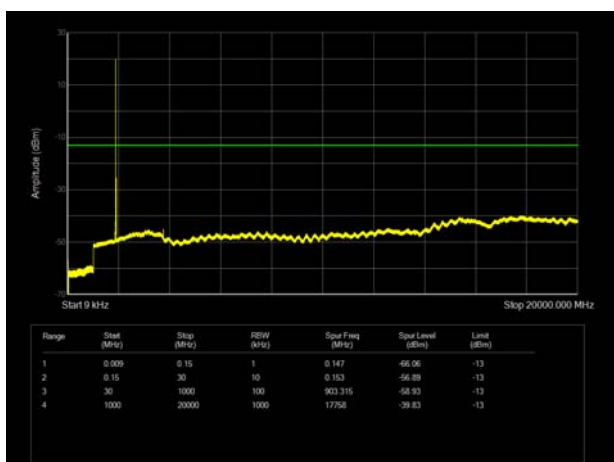
LTE Band 2 15MHz CH-Low 9kHz~20GHz



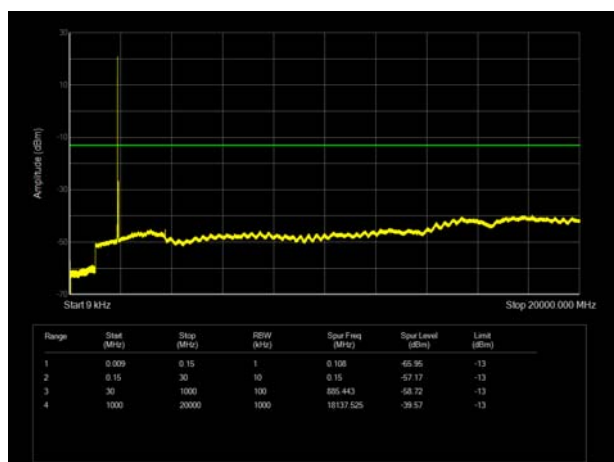
LTE Band 2 20MHz CH-Low 9kHz~20GHz



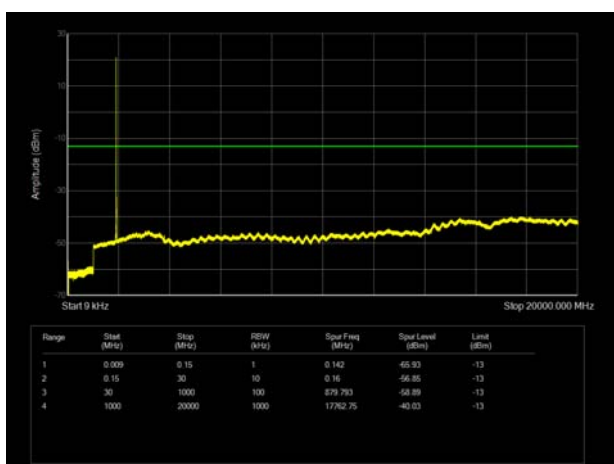
LTE Band 2 15MHz CH-Middle 9kHz~20GHz



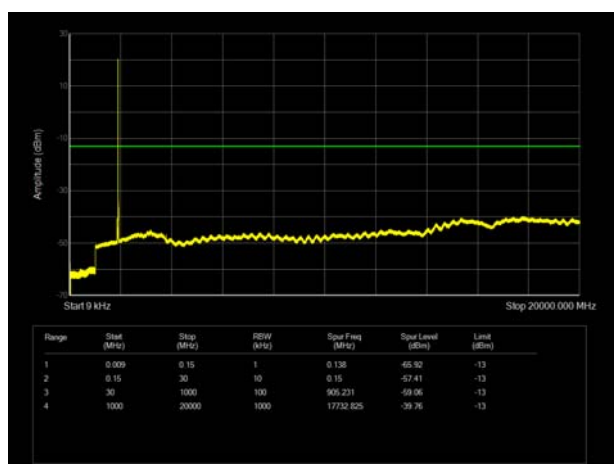
LTE Band 2 20MHz CH-Middle 9kHz~20GHz



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



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



6.7. Radiates 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.

GSM 1900 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	-54.59	2.60	12.50	Horizontal	-44.69	-13.00	31.69	270
3	5640.00	-45.11	3.30	12.50	Horizontal	-35.91	-13.00	22.91	45
4	7520.00	-52.16	4.20	12.20	Horizontal	-44.16	-13.00	31.16	0
5	9400.00	-51.66	4.30	11.10	Horizontal	-44.86	-13.00	31.86	180
6	11280.00	-48.82	5.90	11.90	Horizontal	-42.82	-13.00	29.82	135
7	13160.00	-48.98	5.70	14.00	Horizontal	-40.68	-13.00	27.68	0
8	15040.00	-45.30	5.80	13.10	Horizontal	-38.00	-13.00	25.00	45
9	16920.00	-46.42	6.10	14.60	Horizontal	-37.92	-13.00	24.92	45
10	-	-	-	-	-	-	-	-	-

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.

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	-47.70	2.60	12.50	Horizontal	-37.80	-13.00	24.80	45
3	5640.00	-54.99	3.30	12.50	Horizontal	-45.79	-13.00	32.79	45
4	7520.00	-56.45	4.20	12.20	Horizontal	-48.45	-13.00	35.45	315
5	9400.00	-51.30	4.30	11.10	Horizontal	-44.50	-13.00	31.50	90
6	11280.00	-50.24	5.90	11.90	Horizontal	-44.24	-13.00	31.24	315
7	13160.00	-52.77	5.70	14.00	Horizontal	-44.47	-13.00	31.47	90
8	15040.00	-46.43	5.80	13.10	Horizontal	-39.13	-13.00	26.13	270
9	16920.00	-49.33	6.10	14.60	Horizontal	-40.83	-13.00	27.83	90
10	-	-	-	-	-	-	-	-	-

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	-39.70	2.60	12.50	Vertical	-29.80	-13.00	16.80	0
3	5638.88	-53.34	3.30	12.50	Vertical	-44.14	-13.00	31.14	135
4	7520.00	-50.95	4.20	12.20	Vertical	-42.95	-13.00	29.95	225
5	9400.00	-50.38	4.30	11.10	Vertical	-43.58	-13.00	30.58	180
6	11280.00	-50.68	5.90	11.90	Vertical	-44.68	-13.00	31.68	315
7	13160.00	-50.85	5.70	14.00	Vertical	-42.55	-13.00	29.55	45
8	15040.00	-47.16	5.80	13.10	Vertical	-39.86	-13.00	26.86	135
9	16920.00	-49.60	6.10	14.60	Vertical	-41.10	-13.00	28.10	270
10	-	-	-	-	-	-	-	-	-

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 Vertical 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	3755.60	-43.10	2.60	12.50	Vertical	-33.20	-13.00	20.20	45
3	5633.40	-55.19	3.30	12.50	Vertical	-45.99	-13.00	32.99	135
4	7511.20	-53.72	4.20	12.20	Vertical	-45.72	-13.00	32.72	0
5	9389.00	-51.93	4.30	11.10	Vertical	-45.13	-13.00	32.13	225
6	11266.80	-50.64	5.90	11.90	Vertical	-44.64	-13.00	31.64	90
7	13144.60	-52.93	5.70	14.00	Vertical	-44.63	-13.00	31.63	180
8	15022.40	-46.79	5.80	13.10	Vertical	-39.49	-13.00	26.49	315
9	16900.20	-50.16	6.10	14.60	Vertical	-41.66	-13.00	28.66	225
10	-	-	-	-	-	-	-	-	-

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 Vertical 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	3742.00	-47.58	2.60	12.50	Vertical	-37.68	-13.00	24.68	135
3	5613.00	-50.29	3.30	12.50	Vertical	-41.09	-13.00	28.09	270
4	7484.00	-55.20	4.20	12.20	Vertical	-47.20	-13.00	34.20	45
5	9355.00	-51.94	4.30	11.10	Vertical	-45.14	-13.00	32.14	180
6	11226.00	-51.04	5.90	11.90	Vertical	-45.04	-13.00	32.04	0
7	13097.00	-52.48	5.70	14.00	Vertical	-44.18	-13.00	31.18	315
8	14968.00	-45.28	5.80	13.10	Vertical	-37.98	-13.00	24.98	90
9	16839.00	-49.36	6.10	14.60	Vertical	-40.86	-13.00	27.86	135
10	-	-	-	-	-	-	-	-	-

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 Vertical position.

7. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	150415	2021-05-15	2022-05-14
Climate Chamber	WEISS	VT 4002	58226119450010	2021-05-15	2022-05-14
Spectrum Analyzer	Keysight	N9020A	MY52330084	2021-05-15	2022-05-14
Universal Radio Communication Tester	Agilent	E5515C	GB44400275	2021-05-15	2022-05-14
Signal Analyzer	R&S	FSV3030	101411	2020-12-13	2021-12-12
				2021-12-12	2022-12-11
Signal Analyzer	R&S	FSV30	103591	2021-05-15	2022-05-14
Horn Antenna	Schwarzbeck	BBHA 9120D	1594	2020-12-17	2023-12-16
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.