

RF TEST REPORT

Applicant Quectel Wireless Solutions Company Limited

FCC ID XMR201808EC25AF

Product LTE Module

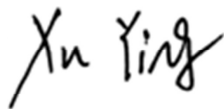
Brand Quectel

Model EC25-AF; EC25-AF MINIPCIE

Report No. EFTA25080400-IE-02-R2

Issue Date October 14, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2024)/ FCC CFR 47 Part 24E (2024)**. 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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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: (Original): June 29, 2018~ July 16, 2018 and July 30, 2018~ July 31, 2018 (Variant): September 3, 2025 ~ September 11, 2025 Date of Sample Received: (Variant): August 28, 2025 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 Eurofins 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.			

EC25-AF; EC25-AF MINIPCIE (Report No.: EFTA25080400-IE-02-R2) is a variant model of EC25-AF; EC25-AF MINIPCIE (Report No.: R1806A0301-R2V1).

The detailed product change description please refers to following table:

The new version and original version both use Qualcomm 9x07 chipset, share the same chipset baseline, software and hardware design, the difference is some RF related components.

Module	Chipset	Frequency
EC25-AF, EC25-AF MINIPCIE (Original)	MDM9207	LTE Cat 4: B2/4/5/12/13/14/66/71
EC25-AF, EC25-AF MINIPCIE (New)		WCDMA: B2/4/5 *GPS/GLONASS/BDS/Galileo/QZSS

According to customer requirements the detailed standard upgrade please refers to following table:

Old Standard(s)	New Standard(s)
ANSI/TIA-603-E (2016)	ANSI C63.26-2015

Tested Cases refer to the following table.

Test Cases	Original	Variant
RF Power Output and Effective Radiated Power	PASS	PASS
Occupied Bandwidth	PASS	-
Band Edge Compliance	PASS	PASS
Peak-to-Average Power Ratio	PASS	-
Frequency Stability	PASS	PASS
Spurious Emissions at Antenna Terminals	PASS	-
Radiated Spurious Emission	PASS	-

The detailed product change description please refers to the *Difference Declaration Letter*.

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 **Eurofins 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)

Eurofins 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)

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

1.3. Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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City: Shanghai
Post code: 201201
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Website: <https://www.eurofins.com/electrical-and-electronics>
E-mail: Kain.Xu@cpt.eurofinscn.com

2. General Description of Equipment under Test

2.1.Applicant and Manufacturer Information

Applicant	Quectel Wireless Solutions Company Limited
Applicant address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233
Manufacturer	Quectel Wireless Solutions Company Limited
Manufacturer address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

2.2.General information

EUT Description			
Model	EC25-AF; EC25-AF MINIPCIE		
IMEI	EC25-AF :866834040000767 EC25-AF MINIPCIE: 866834040002375		
Hardware Version	R1.0		
Software Version	EC25AFFAR07A14M4G		
Power Supply	External Power Supply		
Antenna Type	The EUT don't have standard Antenna, The Antenna used for testing in this report is the after-market accessory (Dipole Antenna)		
Antenna Gain	1.59 dBi		
Test Mode(s)	WCDMA Band II; LTE Band 2;		
Test Modulation	(WCDMA)QPSK; (LTE)QPSK,16QAM		
HSDPA UE Category	24		
HSUPA UE Category	6		
LTE Category	4		
Maximum E.I.R.P	WCDMA Band II	24.87 dBm	
	LTE Band 2	25.25 dBm	
Rated Power Supply Voltage	3.8V		
Operating Voltage	Minimum: 3.3V Maximum: 4.3V		
Operating Temperature	Lowest: -40°C Highest: +85°C		
Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
Note:			
1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.			

Accessory equipment	
Evaluation Board	RF Cable
RS232-to-USB Cable	Antenna: Dipole Antenna
Headset	DC 5V Adaptor

EC25-AF and EC25-AF MINIPCIE are all LTE modules. They support the same frequency bands, use the same chipset and share the same software & hardware design. The main difference is on the carrier board.

EC25-AF MINIPCIE makes up of EC25-AF module and PCIe transferred board.

The transferred board switches EC25-AF module to follow PCI Express Mini Card 1.2 standard connector protocol. No any other internal changes in EC25-AF module.

Two models are identical in interior structure and components, and just connector interface is different for the marketing requirement.

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 (2024)

FCC CFR47 Part 2 (2024)

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

4. Test Configuration

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
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 LTE Band 2:

Test items	Bandwidth (MHz)						Modulation		RB			Test Channel		
	1.4	3	5	10	15	20	QPSK	16QAM	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	-	O
Spurious Emissions at Antenna Terminals	O	O	O	O	O	O	O	-	O	-	-	O	O	O
Radiated 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
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

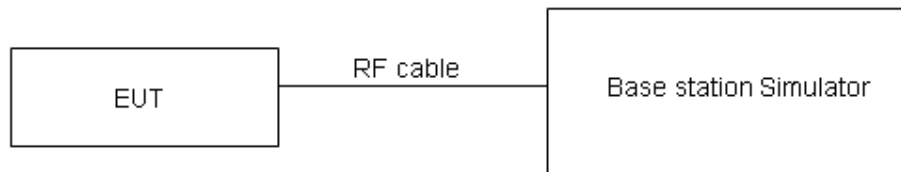
During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

ERP can then be calculated as follows:

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

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

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
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

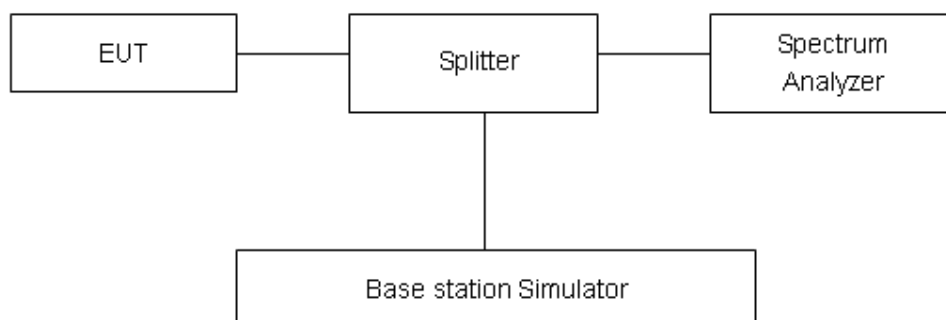
Method of Measurement

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

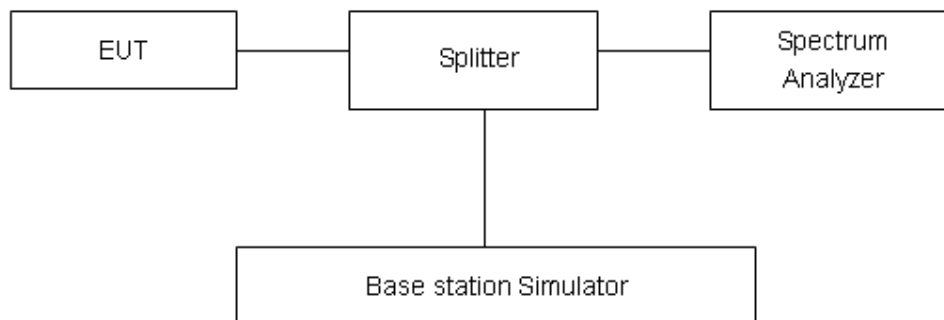
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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

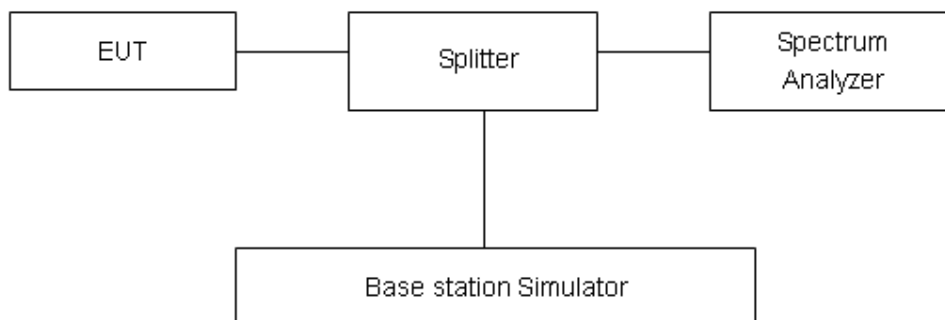
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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 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
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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.

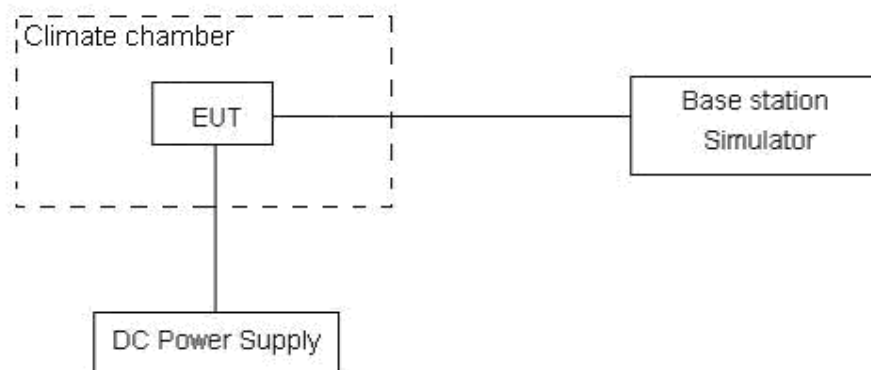
Frequency Stability (Voltage Variation)

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 3.3 V and 4.3 V, with a nominal voltage of 3.8V.

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
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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)

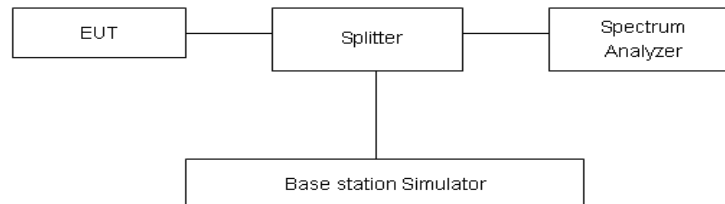
RBW is set to 100 kHz (30MHz~1000 MHz)

RBW is set to 1000 kHz (above 1000MHz)

Sweep is set to AUTO.

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. Radiated Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

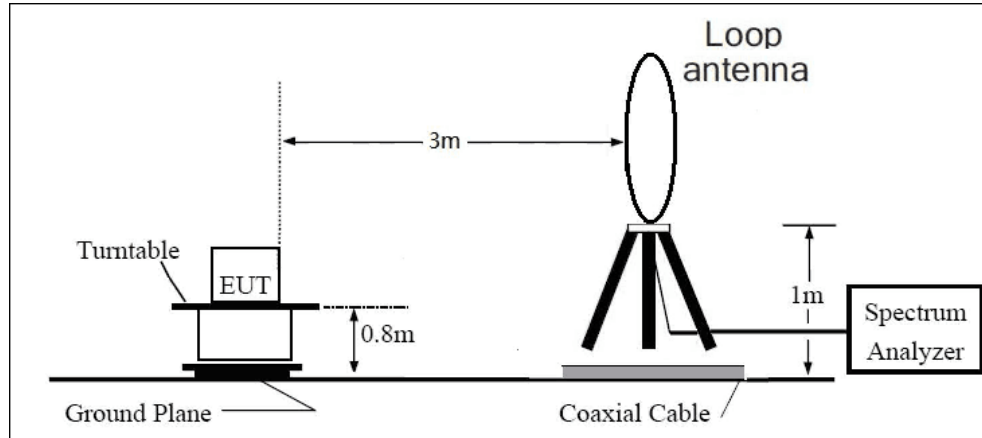
1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26-2015.
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable 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, $\text{ERP} = \text{EIRP} - 2.15\text{dB}$.

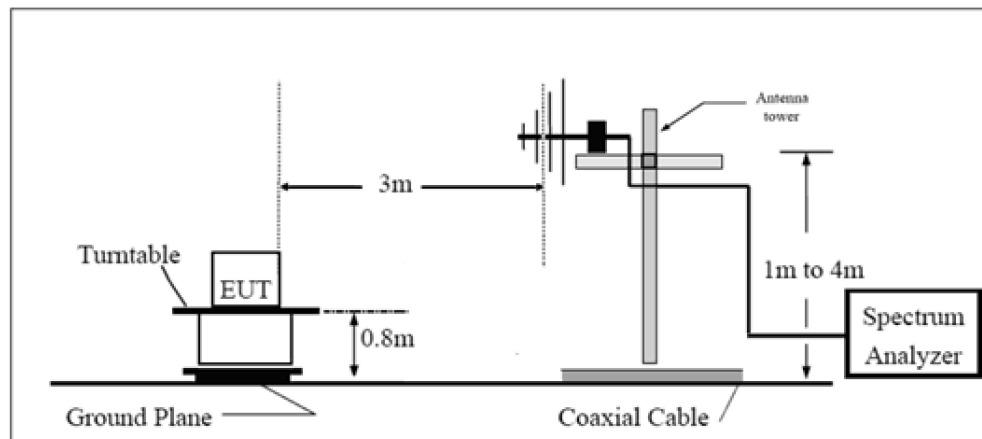
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

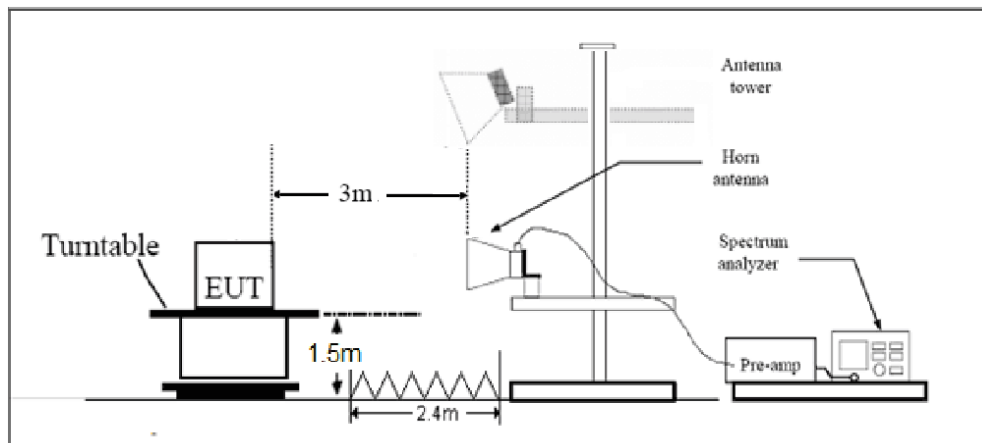
9KHz~ 30MHz



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

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		23.28	23.08	23.18	24.87	24.67	24.77
HSDPA	Sub - Test 1	22.74	22.50	22.62	24.33	24.09	24.21
	Sub - Test 2	22.73	22.52	22.59	24.32	24.11	24.18
	Sub - Test 3	22.20	22.02	22.11	23.79	23.61	23.70
	Sub - Test 4	22.21	22.03	22.09	23.80	23.62	23.68
HSUPA	Sub - Test 1	22.70	22.49	22.57	24.29	24.08	24.16
	Sub - Test 2	21.69	21.47	21.56	23.28	23.06	23.15
	Sub - Test 3	22.16	21.95	22.05	23.75	23.54	23.64
	Sub - Test 4	21.62	21.44	21.53	23.21	23.03	23.12
	Sub - Test 5	22.63	22.42	22.51	24.22	24.01	24.10
DC-HSDPA	Sub - Test 1	22.62	22.44	22.52	24.21	24.03	24.11
	Sub - Test 2	22.61	22.43	22.51	24.20	24.02	24.10
	Sub - Test 3	22.19	21.92	22.02	23.78	23.51	23.61
	Sub - Test 4	22.18	21.91	22.01	23.77	23.50	23.60

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	EIRP (dBm)
Band2	1.4	18607	1	#0	QPSK	22.73	24.32
Band2	1.4	18607	1	#Mid	QPSK	22.93	24.52
Band2	1.4	18607	1	#Max	QPSK	22.71	24.30
Band2	1.4	18607	3	#0	QPSK	22.93	24.52
Band2	1.4	18607	3	#Mid	QPSK	22.97	24.56
Band2	1.4	18607	3	#Max	QPSK	22.91	24.50
Band2	1.4	18607	6	#0	QPSK	22.03	23.62
Band2	1.4	18607	1	#0	16QAM	22.24	23.83
Band2	1.4	18607	1	#Mid	16QAM	21.95	23.54
Band2	1.4	18607	1	#Max	16QAM	21.72	23.31
Band2	1.4	18607	3	#0	16QAM	21.82	23.41
Band2	1.4	18607	3	#Mid	16QAM	21.87	23.46
Band2	1.4	18607	3	#Max	16QAM	21.84	23.43
Band2	1.4	18607	6	#0	16QAM	20.84	22.43
Band2	1.4	18900	1	#0	QPSK	22.92	24.51
Band2	1.4	18900	1	#Mid	QPSK	23.09	24.68
Band2	1.4	18900	1	#Max	QPSK	23.01	24.60
Band2	1.4	18900	3	#0	QPSK	22.99	24.58
Band2	1.4	18900	3	#Mid	QPSK	23.03	24.62
Band2	1.4	18900	3	#Max	QPSK	22.99	24.58
Band2	1.4	18900	6	#0	QPSK	22.00	23.59
Band2	1.4	18900	1	#0	16QAM	21.92	23.51
Band2	1.4	18900	1	#Mid	16QAM	21.95	23.54
Band2	1.4	18900	1	#Max	16QAM	21.84	23.43
Band2	1.4	18900	3	#0	16QAM	21.80	23.39
Band2	1.4	18900	3	#Mid	16QAM	21.96	23.55
Band2	1.4	18900	3	#Max	16QAM	22.16	23.75
Band2	1.4	18900	6	#0	16QAM	21.02	22.61
Band2	1.4	19193	1	#0	QPSK	23.06	24.65
Band2	1.4	19193	1	#Mid	QPSK	23.05	24.64
Band2	1.4	19193	1	#Max	QPSK	23.00	24.59
Band2	1.4	19193	3	#0	QPSK	23.14	24.73
Band2	1.4	19193	3	#Mid	QPSK	23.10	24.69
Band2	1.4	19193	3	#Max	QPSK	23.19	24.78
Band2	1.4	19193	6	#0	QPSK	22.16	23.75
Band2	1.4	19193	1	#0	16QAM	21.98	23.57
Band2	1.4	19193	1	#Mid	16QAM	22.04	23.63
Band2	1.4	19193	1	#Max	16QAM	21.87	23.46
Band2	1.4	19193	3	#0	16QAM	22.11	23.70
Band2	1.4	19193	3	#Mid	16QAM	22.24	23.83

Band2	1.4	19193	3	#Max	16QAM	22.16	23.75
Band2	1.4	19193	6	#0	16QAM	21.07	22.66
Band2	3	18615	1	#0	QPSK	23.09	24.68
Band2	3	18615	1	#Mid	QPSK	22.96	24.55
Band2	3	18615	1	#Max	QPSK	23.16	24.75
Band2	3	18615	8	#0	QPSK	22.18	23.77
Band2	3	18615	8	#Mid	QPSK	22.21	23.80
Band2	3	18615	8	#Max	QPSK	22.18	23.77
Band2	3	18615	15	#0	QPSK	22.08	23.67
Band2	3	18615	1	#0	16QAM	21.96	23.55
Band2	3	18615	1	#Mid	16QAM	21.71	23.30
Band2	3	18615	1	#Max	16QAM	21.77	23.36
Band2	3	18615	8	#0	16QAM	21.11	22.70
Band2	3	18615	8	#Mid	16QAM	21.05	22.64
Band2	3	18615	8	#Max	16QAM	21.18	22.77
Band2	3	18615	15	#0	16QAM	21.18	22.77
Band2	3	18900	1	#0	QPSK	23.15	24.74
Band2	3	18900	1	#Mid	QPSK	23.10	24.69
Band2	3	18900	1	#Max	QPSK	23.14	24.73
Band2	3	18900	8	#0	QPSK	22.15	23.74
Band2	3	18900	8	#Mid	QPSK	22.19	23.78
Band2	3	18900	8	#Max	QPSK	22.15	23.74
Band2	3	18900	15	#0	QPSK	22.06	23.65
Band2	3	18900	1	#0	16QAM	21.86	23.45
Band2	3	18900	1	#Mid	16QAM	21.85	23.44
Band2	3	18900	1	#Max	16QAM	21.90	23.49
Band2	3	18900	8	#0	16QAM	20.86	22.45
Band2	3	18900	8	#Mid	16QAM	20.79	22.38
Band2	3	18900	8	#Max	16QAM	20.75	22.34
Band2	3	18900	15	#0	16QAM	20.95	22.54
Band2	3	19185	1	#0	QPSK	23.27	24.86
Band2	3	19185	1	#Mid	QPSK	23.12	24.71
Band2	3	19185	1	#Max	QPSK	23.23	24.82
Band2	3	19185	8	#0	QPSK	22.31	23.90
Band2	3	19185	8	#Mid	QPSK	22.23	23.82
Band2	3	19185	8	#Max	QPSK	22.28	23.87
Band2	3	19185	15	#0	QPSK	22.29	23.88
Band2	3	19185	1	#0	16QAM	21.88	23.47
Band2	3	19185	1	#Mid	16QAM	21.87	23.46
Band2	3	19185	1	#Max	16QAM	21.95	23.54
Band2	3	19185	8	#0	16QAM	20.94	22.53
Band2	3	19185	8	#Mid	16QAM	20.96	22.55
Band2	3	19185	8	#Max	16QAM	20.92	22.51

Band2	3	19185	15	#0	16QAM	21.00	22.59
Band2	5	18625	1	#0	QPSK	23.23	24.82
Band2	5	18625	1	#Mid	QPSK	23.09	24.68
Band2	5	18625	1	#Max	QPSK	22.97	24.56
Band2	5	18625	12	#0	QPSK	22.14	23.73
Band2	5	18625	12	#Mid	QPSK	22.13	23.72
Band2	5	18625	12	#Max	QPSK	22.12	23.71
Band2	5	18625	25	#0	QPSK	22.17	23.76
Band2	5	18625	1	#0	16QAM	21.85	23.44
Band2	5	18625	1	#Mid	16QAM	21.74	23.33
Band2	5	18625	1	#Max	16QAM	21.60	23.19
Band2	5	18625	12	#0	16QAM	20.93	22.52
Band2	5	18625	12	#Mid	16QAM	20.92	22.51
Band2	5	18625	12	#Max	16QAM	20.89	22.48
Band2	5	18625	25	#0	16QAM	21.05	22.64
Band2	5	18900	1	#0	QPSK	23.17	24.76
Band2	5	18900	1	#Mid	QPSK	23.13	24.72
Band2	5	18900	1	#Max	QPSK	23.13	24.72
Band2	5	18900	12	#0	QPSK	22.16	23.75
Band2	5	18900	12	#Mid	QPSK	22.22	23.81
Band2	5	18900	12	#Max	QPSK	22.14	23.73
Band2	5	18900	25	#0	QPSK	22.15	23.74
Band2	5	18900	1	#0	16QAM	21.98	23.57
Band2	5	18900	1	#Mid	16QAM	21.87	23.46
Band2	5	18900	1	#Max	16QAM	21.83	23.42
Band2	5	18900	12	#0	16QAM	20.96	22.55
Band2	5	18900	12	#Mid	16QAM	20.92	22.51
Band2	5	18900	12	#Max	16QAM	20.84	22.43
Band2	5	18900	25	#0	16QAM	21.05	22.64
Band2	5	19175	1	#0	QPSK	23.29	24.88
Band2	5	19175	1	#Mid	QPSK	23.26	24.85
Band2	5	19175	1	#Max	QPSK	23.20	24.79
Band2	5	19175	12	#0	QPSK	22.41	24.00
Band2	5	19175	12	#Mid	QPSK	22.22	23.81
Band2	5	19175	12	#Max	QPSK	22.22	23.81
Band2	5	19175	25	#0	QPSK	22.22	23.81
Band2	5	19175	1	#0	16QAM	22.09	23.68
Band2	5	19175	1	#Mid	16QAM	21.71	23.30
Band2	5	19175	1	#Max	16QAM	21.83	23.42
Band2	5	19175	12	#0	16QAM	21.05	22.64
Band2	5	19175	12	#Mid	16QAM	21.05	22.64
Band2	5	19175	12	#Max	16QAM	21.24	22.83
Band2	5	19175	25	#0	16QAM	21.14	22.73

Band2	10	18650	1	#0	QPSK	23.31	24.90
Band2	10	18650	1	#Mid	QPSK	23.14	24.73
Band2	10	18650	1	#Max	QPSK	23.20	24.79
Band2	10	18650	25	#0	QPSK	22.06	23.65
Band2	10	18650	25	#Mid	QPSK	22.00	23.59
Band2	10	18650	25	#Max	QPSK	22.00	23.59
Band2	10	18650	50	#0	QPSK	22.04	23.63
Band2	10	18650	1	#0	16QAM	21.92	23.51
Band2	10	18650	1	#Mid	16QAM	21.83	23.42
Band2	10	18650	1	#Max	16QAM	21.73	23.32
Band2	10	18650	25	#0	16QAM	21.04	22.63
Band2	10	18650	25	#Mid	16QAM	21.09	22.68
Band2	10	18650	25	#Max	16QAM	21.07	22.66
Band2	10	18650	50	#0	16QAM	21.02	22.61
Band2	10	18900	1	#0	QPSK	23.24	24.83
Band2	10	18900	1	#Mid	QPSK	23.22	24.81
Band2	10	18900	1	#Max	QPSK	23.13	24.72
Band2	10	18900	25	#0	QPSK	22.37	23.96
Band2	10	18900	25	#Mid	QPSK	22.08	23.67
Band2	10	18900	25	#Max	QPSK	21.97	23.56
Band2	10	18900	50	#0	QPSK	22.13	23.72
Band2	10	18900	1	#0	16QAM	22.03	23.62
Band2	10	18900	1	#Mid	16QAM	22.05	23.64
Band2	10	18900	1	#Max	16QAM	21.88	23.47
Band2	10	18900	25	#0	16QAM	21.26	22.85
Band2	10	18900	25	#Mid	16QAM	21.26	22.85
Band2	10	18900	25	#Max	16QAM	20.95	22.54
Band2	10	18900	50	#0	16QAM	21.00	22.59
Band2	10	19150	1	#0	QPSK	23.17	24.76
Band2	10	19150	1	#Mid	QPSK	23.29	24.88
Band2	10	19150	1	#Max	QPSK	23.21	24.80
Band2	10	19150	25	#0	QPSK	22.38	23.97
Band2	10	19150	25	#Mid	QPSK	22.34	23.93
Band2	10	19150	25	#Max	QPSK	22.19	23.78
Band2	10	19150	50	#0	QPSK	22.24	23.83
Band2	10	19150	1	#0	16QAM	22.03	23.62
Band2	10	19150	1	#Mid	16QAM	22.22	23.81
Band2	10	19150	1	#Max	16QAM	21.97	23.56
Band2	10	19150	25	#0	16QAM	21.29	22.88
Band2	10	19150	25	#Mid	16QAM	21.25	22.84
Band2	10	19150	25	#Max	16QAM	21.11	22.70
Band2	10	19150	50	#0	16QAM	21.27	22.86
Band2	15	18675	1	#0	QPSK	23.32	24.91

Band2	15	18675	1	#Mid	QPSK	23.27	24.86
Band2	15	18675	1	#Max	QPSK	23.27	24.86
Band2	15	18675	36	#0	QPSK	22.00	23.59
Band2	15	18675	36	#Mid	QPSK	22.19	23.78
Band2	15	18675	36	#Max	QPSK	22.22	23.81
Band2	15	18675	75	#0	QPSK	22.19	23.78
Band2	15	18675	1	#0	16QAM	22.12	23.71
Band2	15	18675	1	#Mid	16QAM	21.94	23.53
Band2	15	18675	1	#Max	16QAM	22.02	23.61
Band2	15	18675	36	#0	16QAM	20.97	22.56
Band2	15	18675	36	#Mid	16QAM	21.15	22.74
Band2	15	18675	36	#Max	16QAM	21.18	22.77
Band2	15	18675	75	#0	16QAM	21.14	22.73
Band2	15	18900	1	#0	QPSK	23.24	24.83
Band2	15	18900	1	#Mid	QPSK	23.13	24.72
Band2	15	18900	1	#Max	QPSK	23.14	24.73
Band2	15	18900	36	#0	QPSK	22.30	23.89
Band2	15	18900	36	#Mid	QPSK	22.13	23.72
Band2	15	18900	36	#Max	QPSK	22.01	23.60
Band2	15	18900	75	#0	QPSK	22.17	23.76
Band2	15	18900	1	#0	16QAM	22.13	23.72
Band2	15	18900	1	#Mid	16QAM	21.74	23.33
Band2	15	18900	1	#Max	16QAM	21.92	23.51
Band2	15	18900	36	#0	16QAM	21.17	22.76
Band2	15	18900	36	#Mid	16QAM	21.08	22.67
Band2	15	18900	36	#Max	16QAM	21.09	22.68
Band2	15	18900	75	#0	16QAM	21.15	22.74
Band2	15	19125	1	#0	QPSK	23.27	24.86
Band2	15	19125	1	#Mid	QPSK	23.34	24.93
Band2	15	19125	1	#Max	QPSK	23.08	24.67
Band2	15	19125	36	#0	QPSK	22.19	23.78
Band2	15	19125	36	#Mid	QPSK	22.20	23.79
Band2	15	19125	36	#Max	QPSK	22.14	23.73
Band2	15	19125	75	#0	QPSK	22.23	23.82
Band2	15	19125	1	#0	16QAM	21.92	23.51
Band2	15	19125	1	#Mid	16QAM	21.96	23.55
Band2	15	19125	1	#Max	16QAM	21.73	23.32
Band2	15	19125	36	#0	16QAM	21.15	22.74
Band2	15	19125	36	#Mid	16QAM	21.21	22.80
Band2	15	19125	36	#Max	16QAM	21.06	22.65
Band2	15	19125	75	#0	16QAM	21.21	22.80
Band2	20	18700	1	#0	QPSK	23.32	24.91
Band2	20	18700	1	#Mid	QPSK	23.66	25.25

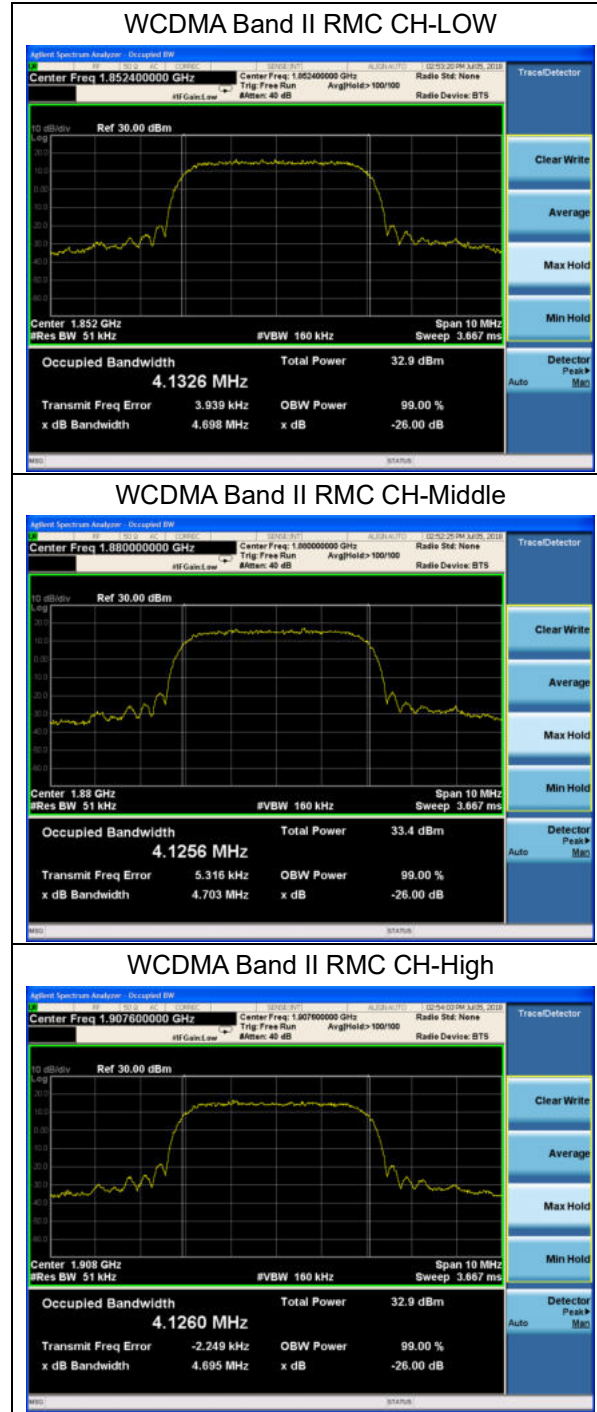
Band2	20	18700	1	#Max	QPSK	23.59	25.18
Band2	20	18700	50	#0	QPSK	22.23	23.82
Band2	20	18700	50	#Mid	QPSK	22.22	23.81
Band2	20	18700	50	#Max	QPSK	22.14	23.73
Band2	20	18700	100	#0	QPSK	22.05	23.64
Band2	20	18700	1	#0	16QAM	22.02	23.61
Band2	20	18700	1	#Mid	16QAM	22.11	23.70
Band2	20	18700	1	#Max	16QAM	21.93	23.52
Band2	20	18700	50	#0	16QAM	20.91	22.50
Band2	20	18700	50	#Mid	16QAM	21.30	22.89
Band2	20	18700	50	#Max	16QAM	21.14	22.73
Band2	20	18700	100	#0	16QAM	21.01	22.60
Band2	20	18900	1	#0	QPSK	23.26	24.85
Band2	20	18900	1	#Mid	QPSK	23.23	24.82
Band2	20	18900	1	#Max	QPSK	23.05	24.64
Band2	20	18900	50	#0	QPSK	22.20	23.79
Band2	20	18900	50	#Mid	QPSK	22.15	23.74
Band2	20	18900	50	#Max	QPSK	22.01	23.60
Band2	20	18900	100	#0	QPSK	22.06	23.65
Band2	20	18900	1	#0	16QAM	21.88	23.47
Band2	20	18900	1	#Mid	16QAM	21.81	23.40
Band2	20	18900	1	#Max	16QAM	21.52	23.11
Band2	20	18900	50	#0	16QAM	21.11	22.70
Band2	20	18900	50	#Mid	16QAM	21.15	22.74
Band2	20	18900	50	#Max	16QAM	21.02	22.61
Band2	20	18900	100	#0	16QAM	21.04	22.63
Band2	20	19100	1	#0	QPSK	23.16	24.75
Band2	20	19100	1	#Mid	QPSK	23.42	25.01
Band2	20	19100	1	#Max	QPSK	23.27	24.86
Band2	20	19100	50	#0	QPSK	22.28	23.87
Band2	20	19100	50	#Mid	QPSK	22.22	23.81
Band2	20	19100	50	#Max	QPSK	22.21	23.80
Band2	20	19100	100	#0	QPSK	22.23	23.82
Band2	20	19100	1	#0	16QAM	22.02	23.61
Band2	20	19100	1	#Mid	16QAM	22.09	23.68
Band2	20	19100	1	#Max	16QAM	21.70	23.29
Band2	20	19100	50	#0	16QAM	21.04	22.63
Band2	20	19100	50	#Mid	16QAM	21.32	22.91
Band2	20	19100	50	#Max	16QAM	21.23	22.82
Band2	20	19100	100	#0	16QAM	21.11	22.70

6.2.Occupied Bandwidth

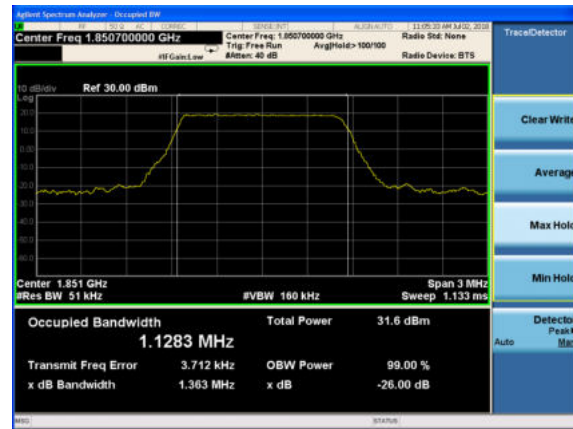
Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
WCDMA Band II (RMC)	9262	1852.4	4.1326	4.698
	9400	1880	4.1256	4.703
	9538	1907.6	4.1260	4.695

LTE Band 2					
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
QPSK	1.4	18607	1850.7	1.1283	1.363
		18900	1880.0	1.1245	1.347
		19193	1909.3	1.1360	1.344
	3	18615	1851.5	2.7521	3.071
		18900	1880	2.7423	3.074
		19185	1908.5	2.7429	3.071
	5	18625	1852.5	4.5158	5.049
		18900	1880	4.5340	5.036
		19175	1907.5	4.5091	5.036
	10	18650	1855	8.9999	10.100
		18900	1880	9.0377	10.180
		19150	1905	9.0453	10.070
	15	18675	1857.5	13.4130	14.680
		18900	1880	13.4790	14.810
		19125	1902.5	13.4540	14.800
	20	18700	1860	17.8360	19.250
		18900	1880	17.8820	19.240
		19100	1900	17.8620	19.410
16QAM	1.4	18607	1850.7	1.1258	1.330
		18900	1880.0	1.1317	1.348
		19193	1909.3	1.1225	1.362
	3	18615	1851.5	2.7358	3.059
		18900	1880	2.7655	3.083

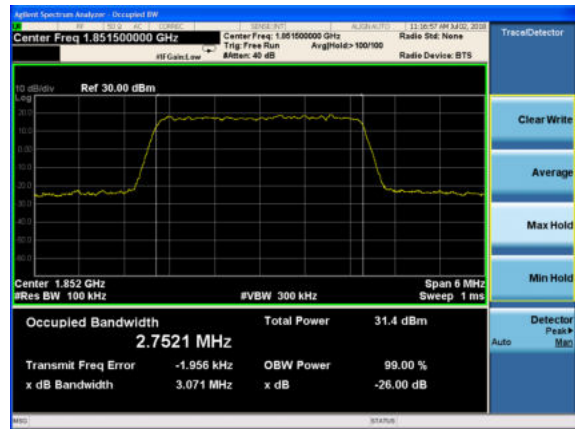
		19185	1908.5	2.7377	3.067
	5	18625	1852.5	4.5387	5.046
		18900	1880	4.5117	5.028
		19175	1907.5	4.5298	5.057
	10	18650	1855	9.0229	10.090
		18900	1880	9.0420	10.020
		19150	1905	9.0252	10.090
	15	18675	1857.5	13.4540	14.740
		18900	1880	13.4620	14.730
		19125	1902.5	13.4640	14.800
	20	18700	1860	17.8810	19.380
		18900	1880	17.9150	19.350
		19100	1900	17.8400	19.300



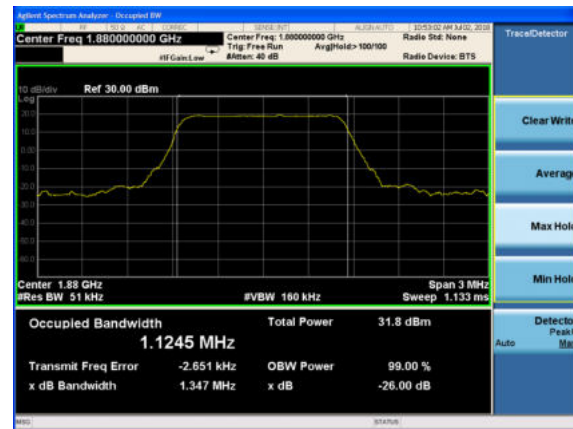
LTE Band 2 1.4MHz QPSK CH-Low



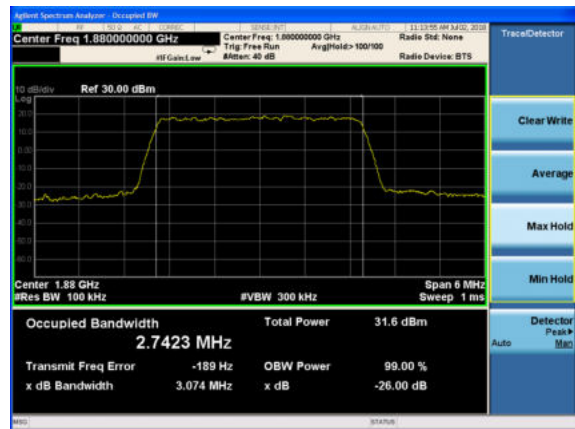
LTE Band 2 3MHz QPSK CH-Low



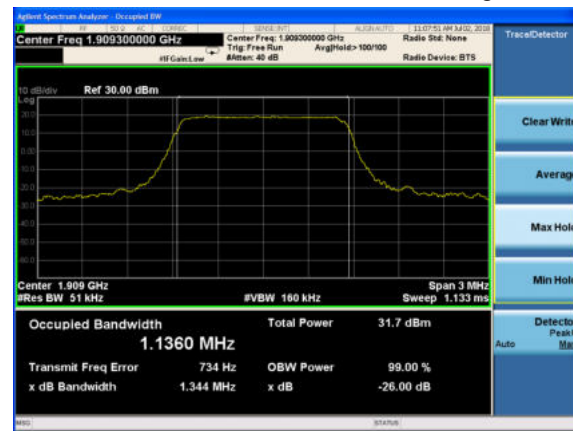
LTE Band 2 1.4MHz QPSK CH-Middle



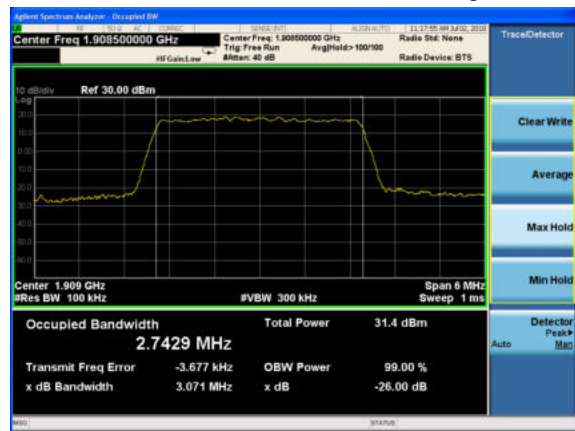
LTE Band 2 3MHz QPSK CH-Middle



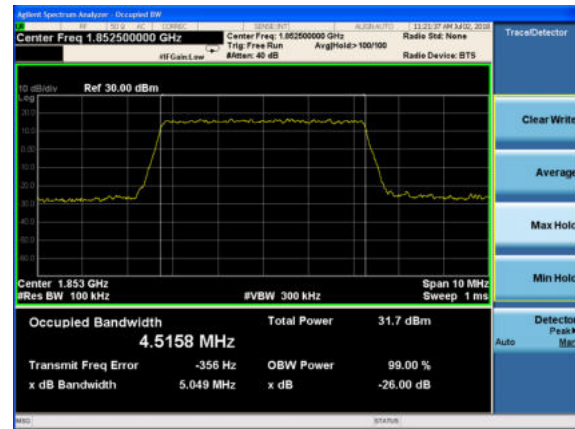
LTE Band 2 1.4MHz QPSK CH-High



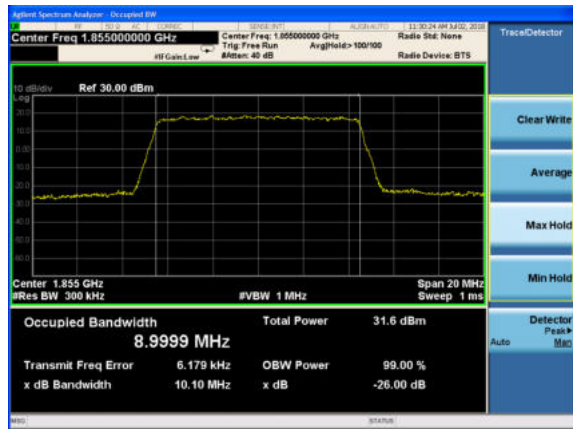
LTE Band 2 3MHz QPSK CH-High



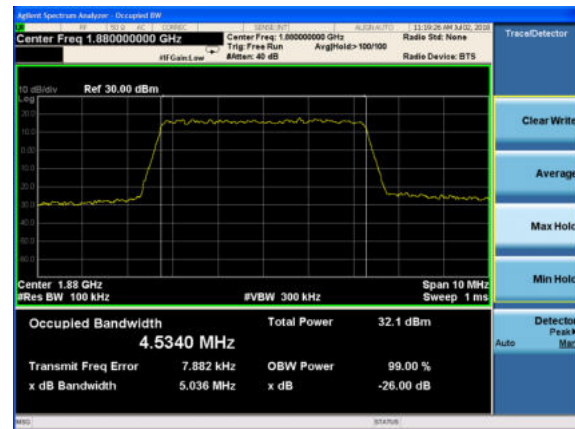
LTE Band 2 5MHz QPSK CH-Low



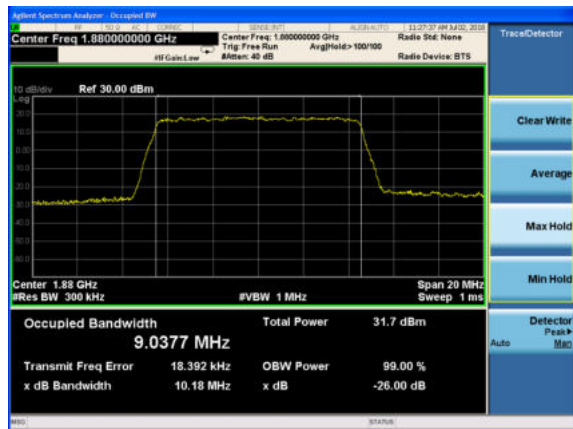
LTE Band 2 10MHz QPSK CH-Low



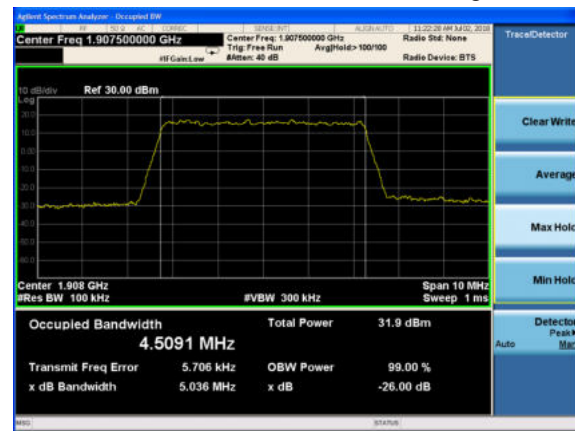
LTE Band 2 5MHz QPSK CH-Middle



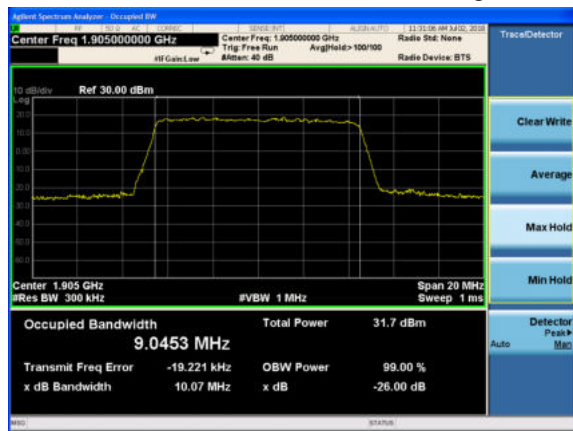
LTE Band 2 10MHz QPSK CH-Middle



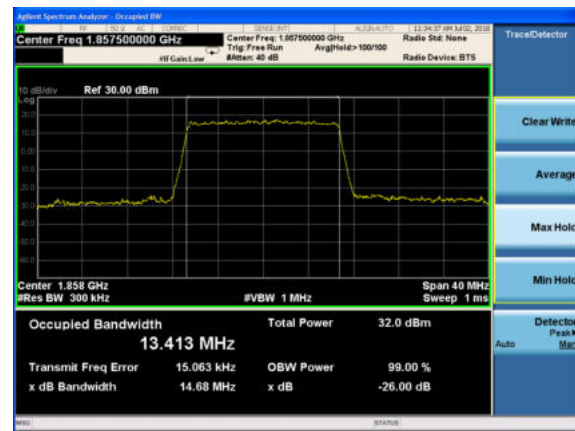
LTE Band 2 5MHz QPSK CH-High



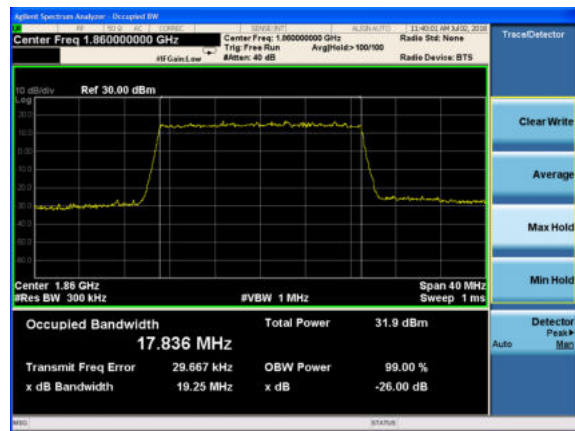
LTE Band 2 10MHz QPSK CH-High



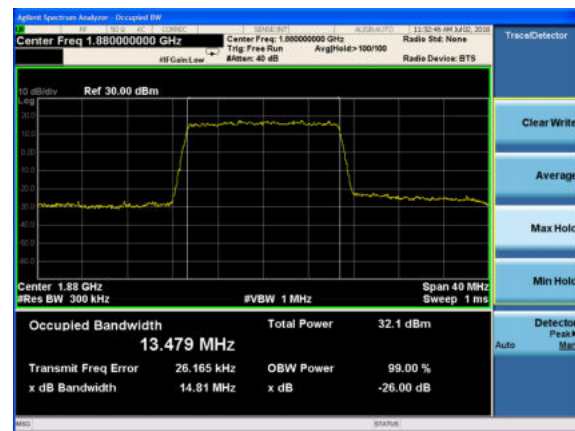
LTE Band 2 15MHz QPSK CH-Low



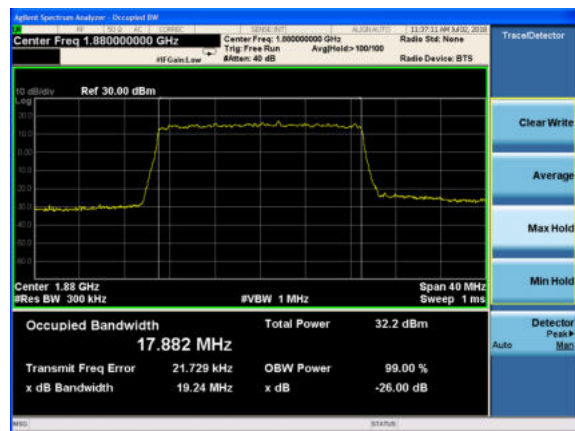
LTE Band 2 20MHz QPSK CH-Low



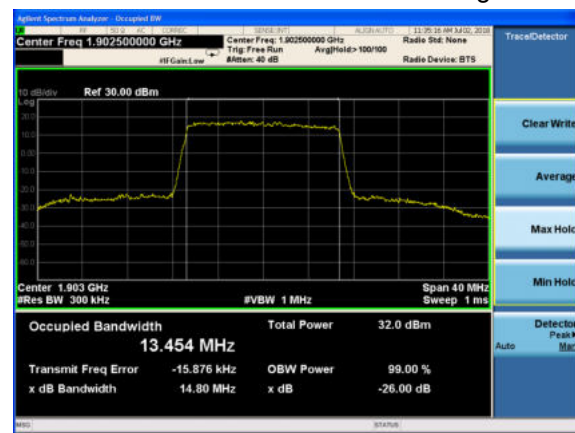
LTE Band 2 15MHz QPSK CH-Middle



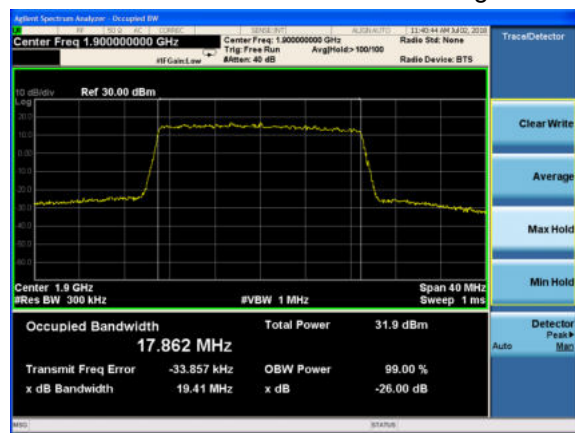
LTE Band 2 20MHz QPSK CH-Middle



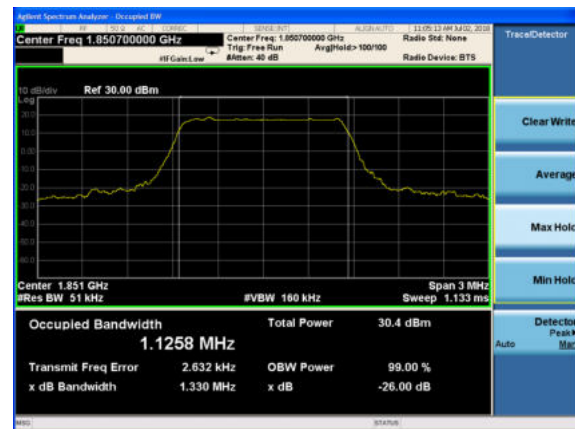
LTE Band 2 15MHz QPSK CH-High



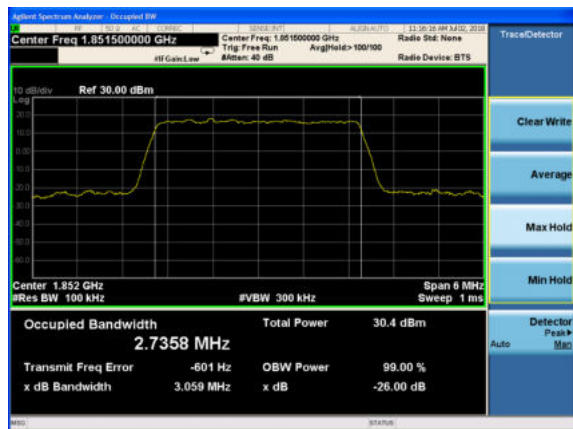
LTE Band 2 20MHz QPSK CH-High



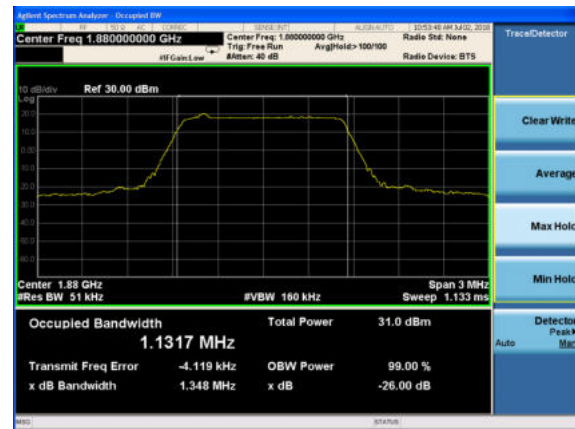
LTE Band 2 1.4MHz 16QAM CH-Low



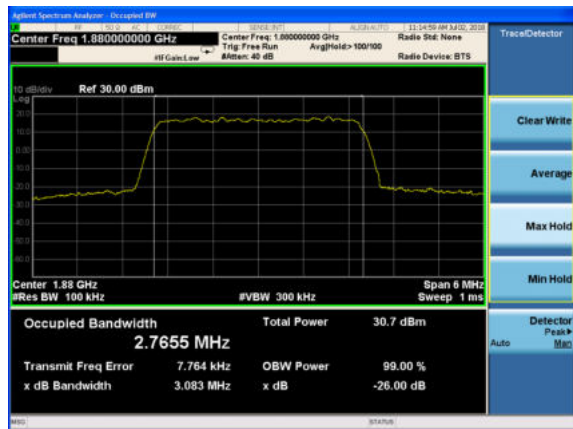
LTE Band 2 3MHz 16QAM CH-Low



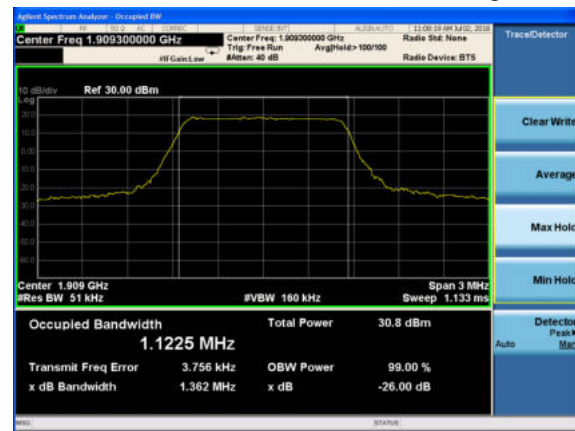
LTE Band 2 1.4MHz 16QAM CH-Middle



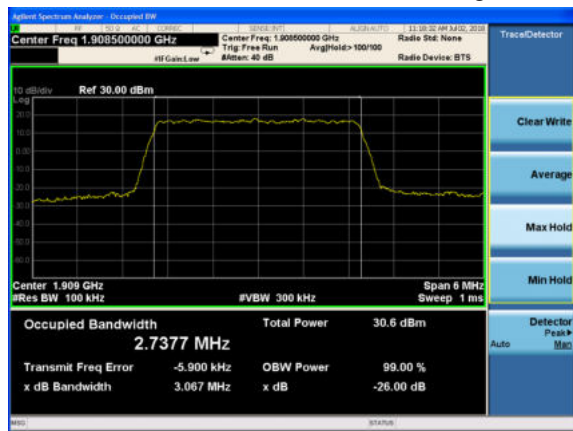
LTE Band 2 3MHz 16QAM CH-Middle



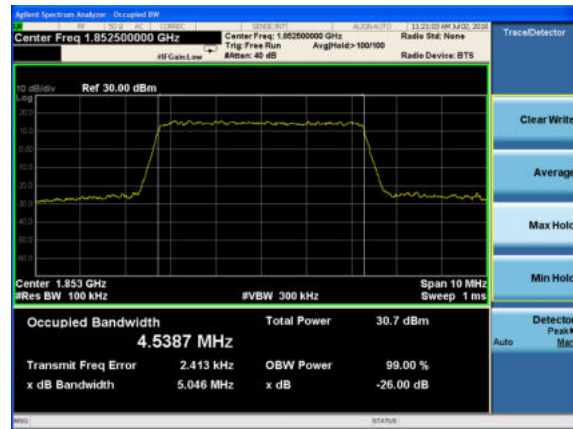
LTE Band 2 1.4MHz 16QAM CH-High



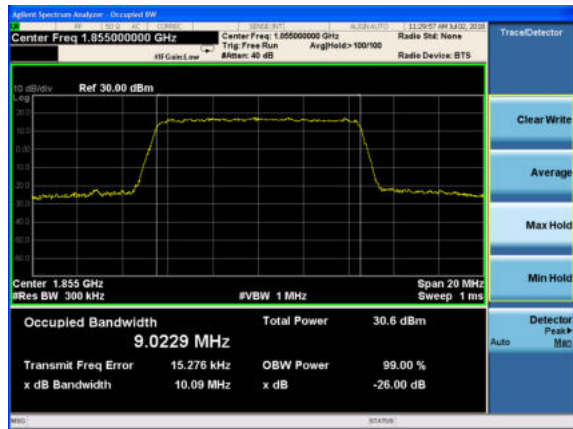
LTE Band 2 3MHz 16QAM CH-High



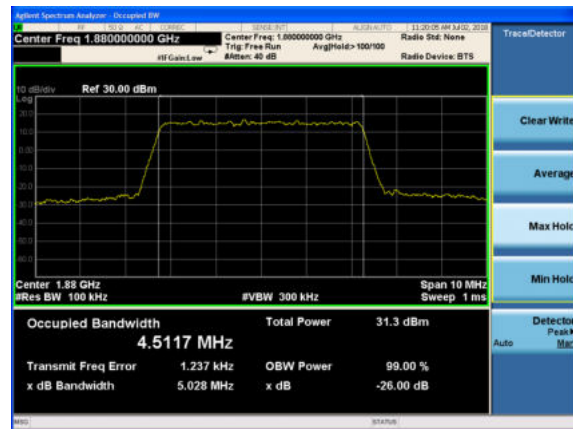
LTE Band 2 5MHz 16QAM CH-Low



LTE Band 2 10MHz 16QAM CH-Low



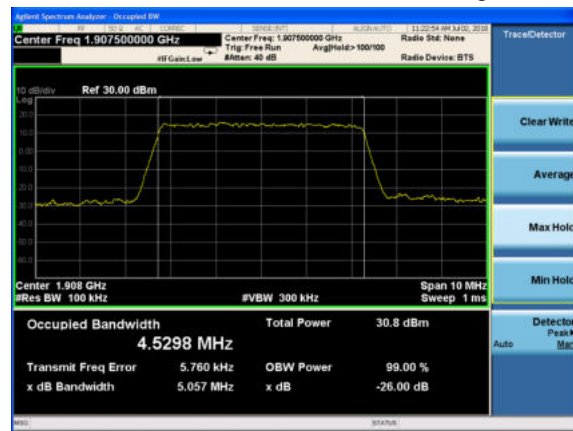
LTE Band 2 5MHz 16QAM CH-Middle



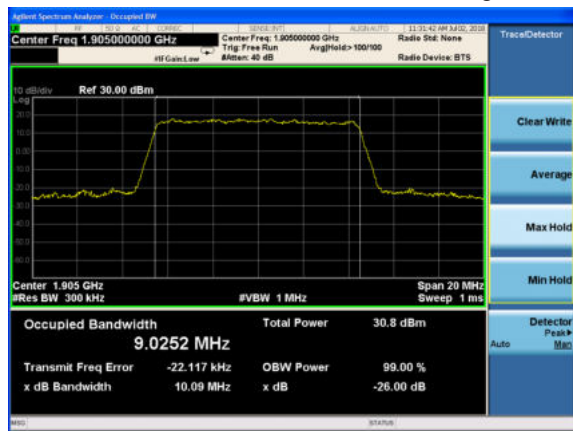
LTE Band 2 10MHz 16QAM CH-Middle



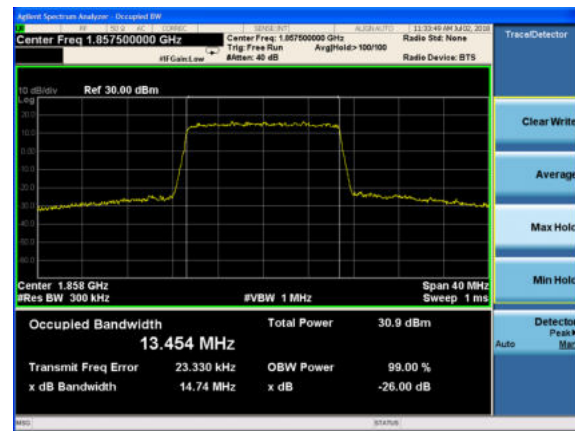
LTE Band 2 5MHz 16QAM CH-High



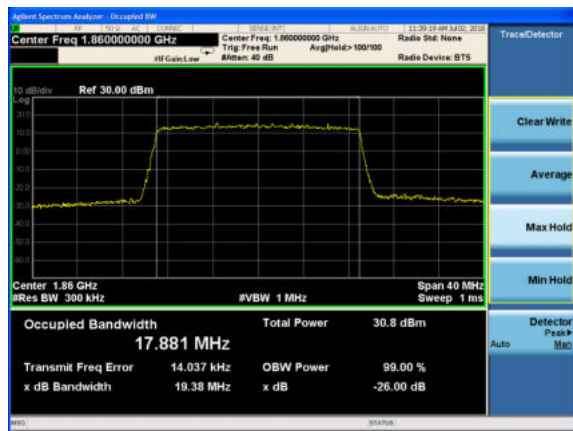
LTE Band 2 10MHz 16QAM CH-High



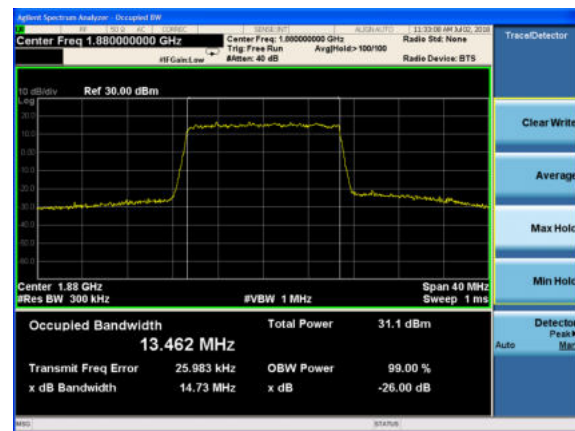
LTE Band 2 15MHz 16QAM CH-Low



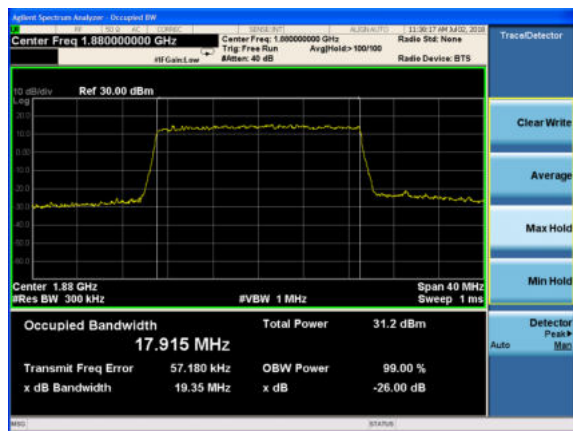
LTE Band 2 20MHz 16QAM CH-Low



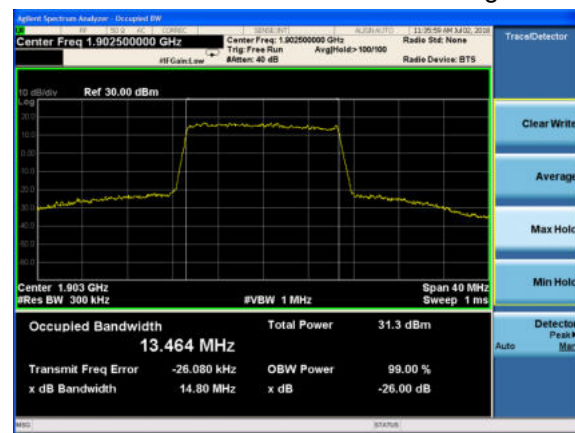
LTE Band 2 15MHz 16QAM CH-Middle



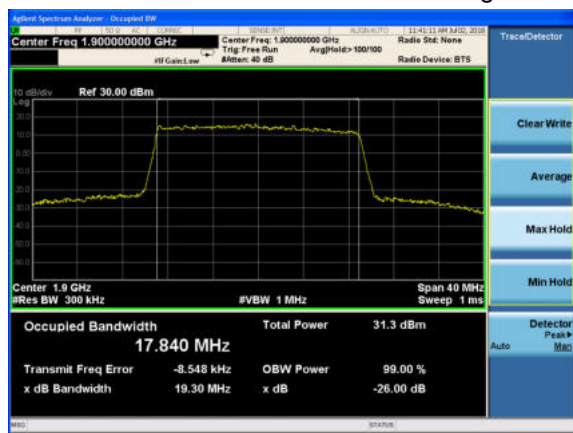
LTE Band 2 20MHz 16QAM CH-Middle



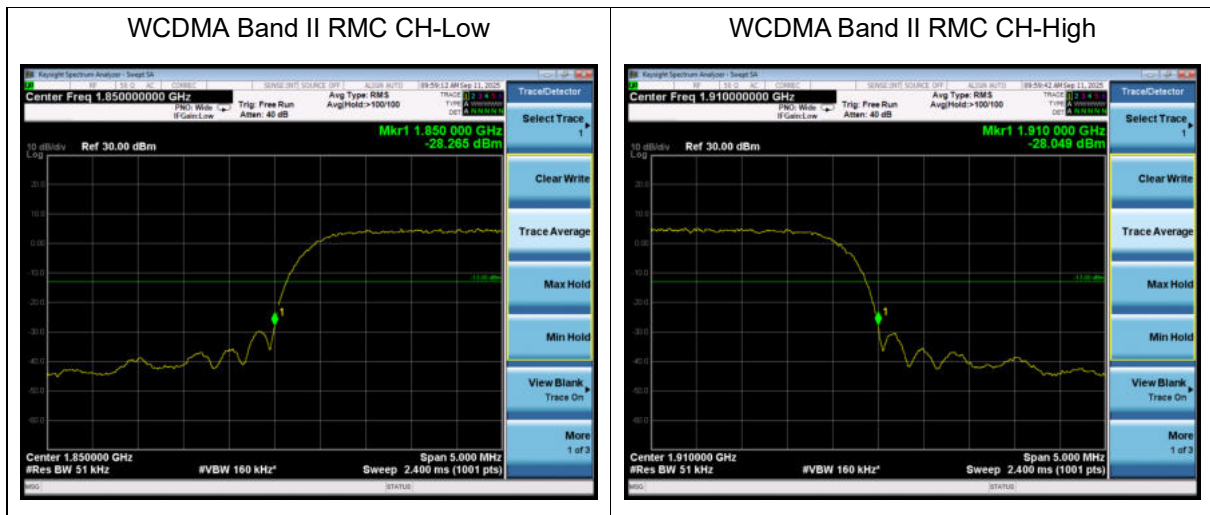
LTE Band 2 15MHz 16QAM CH-High



LTE Band 2 20MHz 16QAM CH-High

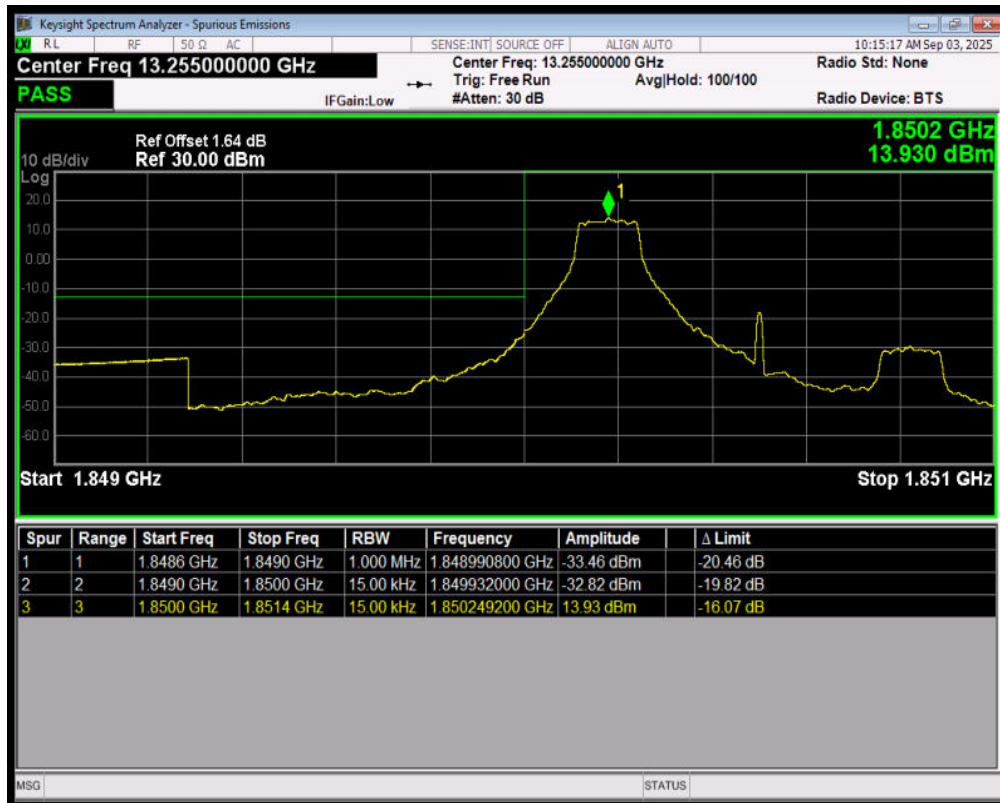


6.3. Band Edge Compliance

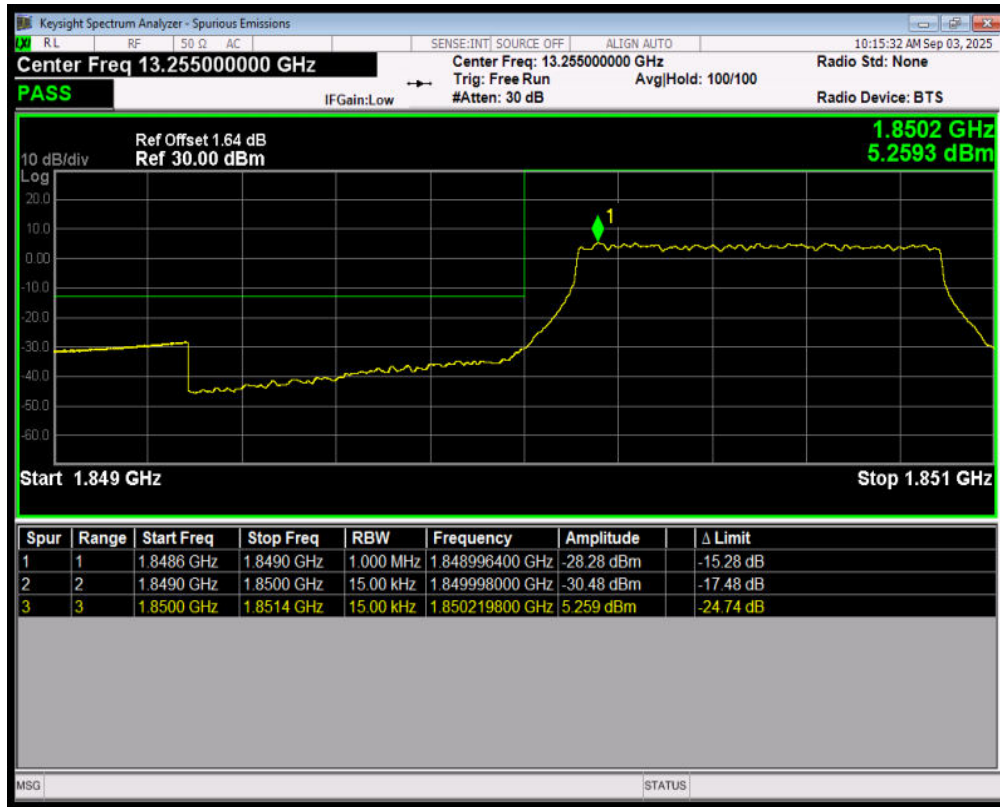




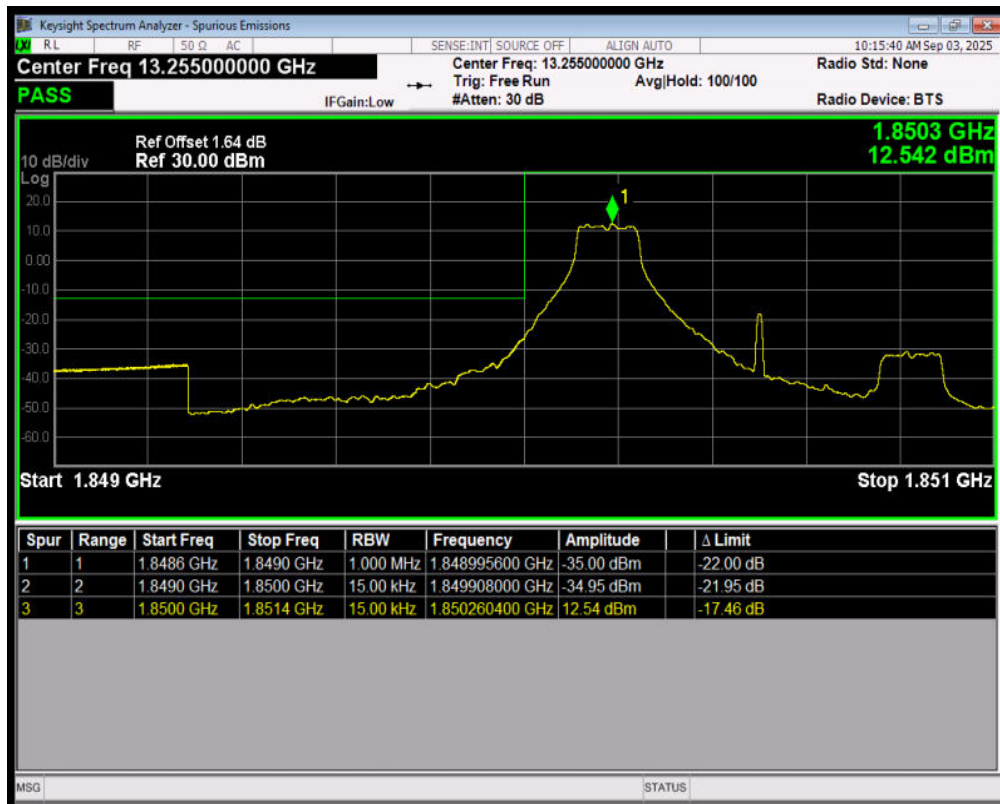
Band2 QPSK BW=1.4MHz LowChannel=18607 RB Size=1 Position=#0



Band2 QPSK BW=1.4MHz LowChannel=18607 RB Size=6 Position=#0



Band2 16QAM BW=1.4MHz LowChannel=18607 RB Size=1 Position=#0



Band2 16QAM BW=1.4MHz LowChannel=18607 RB Size=6 Position=#0