

RF TEST REPORT

Applicant Quectel Wireless Solutions Company
 Limited

FCC ID XMR202008EC25AFXD

Product LTE Module

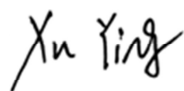
Brand Quectel

Model EC25-AFXD; EC25-AFXD MINIPCIE

Report No. EFTA25080400-IE-02-R20V1

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 90R (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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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	October 14, 2025
Rev.1	Update description	October 24, 2025
Note: This revised report (Report No.: EFTA25080400-IE-02-R20V1) supersedes and replaces the previously issued report (Report No.: EFTA25080400-IE-02-R20). 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 Radiated Power	2.1046 90.542(a)(7)	PASS
2	Occupied Bandwidth	2.1049	PASS
3	Emission Masks	2.1051 90.543(e)	PASS
4	Peak-to-Average Power Ratio	KDB 971168 D01(5.7)	PASS
5	Frequency Stability	2.1055 90.539 (c)	PASS
6	Spurious Emissions at Antenna Terminals	2.1051 90.543 (e)(f)	PASS
7	Radiated Spurious Emission	2.1053 90.543 (e)(f)	PASS
Date of Testing: (Original) June 29, 2018~ July 16, 2018 and July 30, 2018~ July 31, 2018 and August 3, 2019~ August 13, 2019 (Variant) September 3, 2025 ~ September 18, 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-AFXD; EC25-AFXD MINIPCIE (Report No.: EFTA25080400-IE-02-R20V1) is a variant model of EC25-AFXD; EC25-AFXD MINIPCIE (Report No.: R2203A0238-R4).

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 just some RF components.**

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

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 electromagnetic emissions measurements.

A2LA (Certificate Number: 3857.01)

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

1.3. Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City: Shanghai
Post code: 201201
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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-AFX; EC25-AFX MINIPCIE		
IMEI	Original	863010031218428	
	Variant	862044077764758	
Hardware Version	R1.0		
Software Version	EC25AFXDGAR07A02M1G		
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	4.45 dBi		
Test Mode(s)	LTE Band 14;		
Test Modulation	QPSK 16QAM;		
LTE Category	4		
Maximum E.R.P.	LTE Band 14:	25.66dBm	
Rated Power Supply Voltage	3.8VDC		
Operating Voltage	Minimum: 3.3VDC Maximum: 4.3VDC		
Operating Temperature	Lowest: -40°C Highest: +85°C		
Testing Temperature	Lowest: -40°C Highest: +85°C		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	LTE Band 14	788 ~ 798	758 ~ 768
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-AFXD and EC25-AFXD 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-AFXD MINIPCIE makes up of EC25-AFXD module and PCIe transferred board.

The transferred board switches EC25-AFXD module to follow PCI Express Mini Card 1.2 standard connector protocol. No any other internal changes in EC25-AFXD 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 90R (2024)

ANSI C63.26-2015

Reference standard:

FCC 47 CFR Part 2 (2024)

KDB 971168 D01 Power Meas License Digital Systems v03r01

4. Test Configuration

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

All mode and data rates and positions were investigated.

The following testing in LTE is set based on the maximum RF Output Power.

Test modes are chosen as the worst case configuration below for LTE Band 14

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

Ambient Condition

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

Methods of Measurement

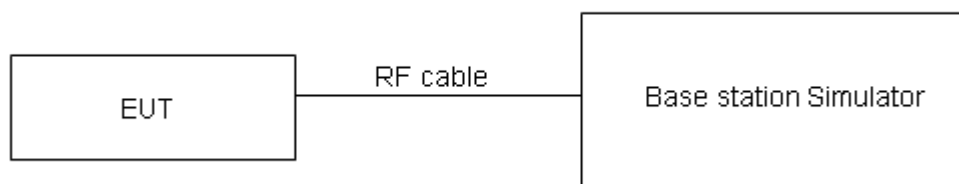
During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

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

Part 90.635 (b) the maximum output power of the transmitter for mobile stations is 100 watts.

90.542(a) (7) Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

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 ERP.

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

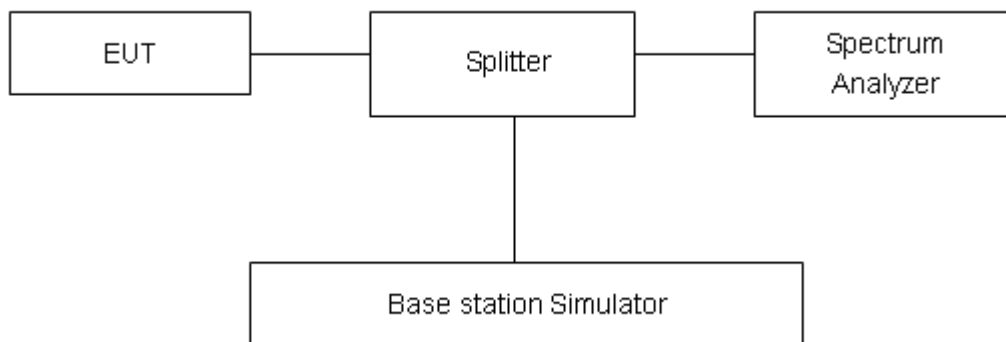
Method of Measurement

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 $\geq 1\% \text{EBW}$, 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.

Part 90.209 (a) Each authorization issued to a station licensed under this part will show an emission designator representing the class of emission authorized. The designator will be prefixed by a specified necessary bandwidth. This number does not necessarily indicate the bandwidth occupied by the emission at any instant. In those cases where part 2.202 of this chapter does not provide a formula for the computation of necessary bandwidth, the occupied bandwidth, as defined in part 2 of this chapter, may be used in lieu of the necessary bandwidth.

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

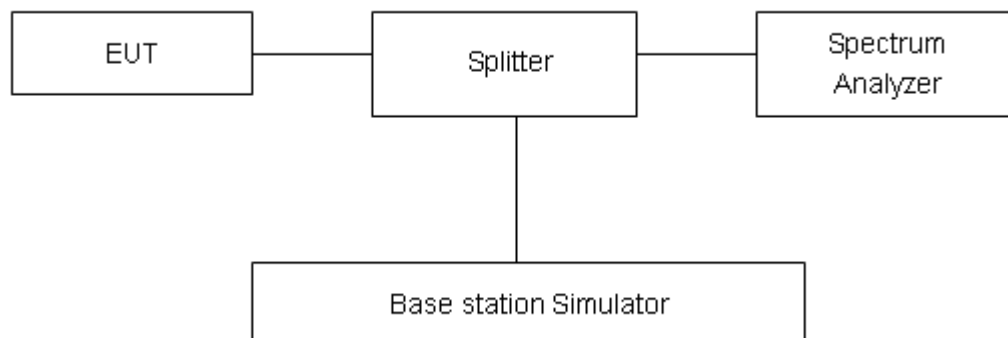
Method of Measurement

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 testing follows KDB 971168 v03r01 Section 6.0

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
RBW is set to $\geq 1\%$ EBW, VBW is set to 3x RBW.
3. Set spectrum analyzer with RMS detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. Checked that all the results comply with the emission limit line.

Test Setup



Limits

90.543 Emission limitations (e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.

- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.
- (f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Measurement Uncertainty

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

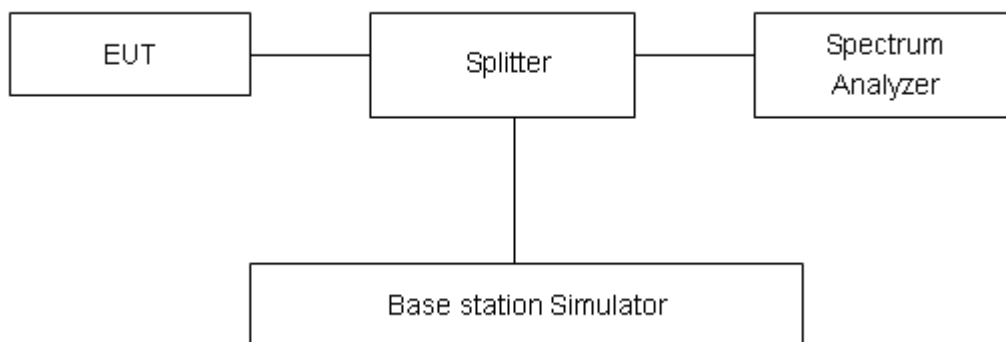
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

Measure the total peak power and record as P_{Pk} . And measure the total average power and record as P_{Avg} . Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).$$

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

1. Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +55°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 +55°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

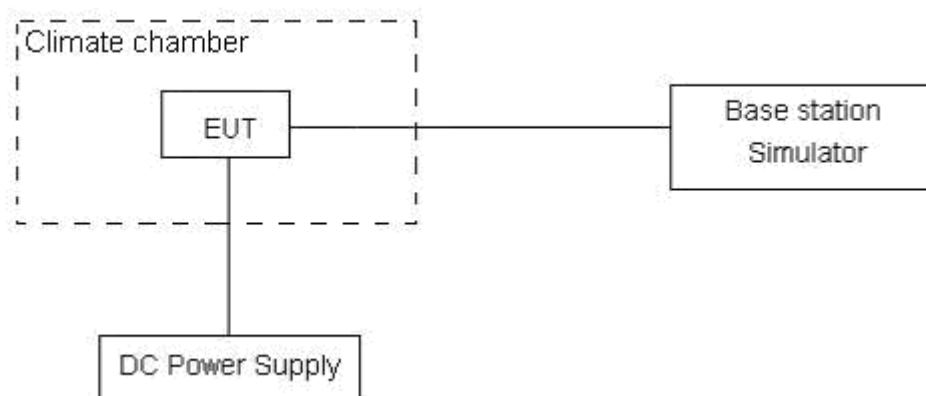
2. Frequency Stability (Voltage Variation)

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

90.539 (c) The frequency stability of mobile, portable, and control transmitters operating in the narrowband segment must be 400 parts per billion or better when AFC is locked to the base station. When AFC is not locked to the base station, the frequency stability must be at least 1.0 ppm for 6.25 kHz, 1.5 ppm for 12.5 kHz (2 channel aggregate), and 2.5 ppm for 25 kHz (4 channel aggregate).

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

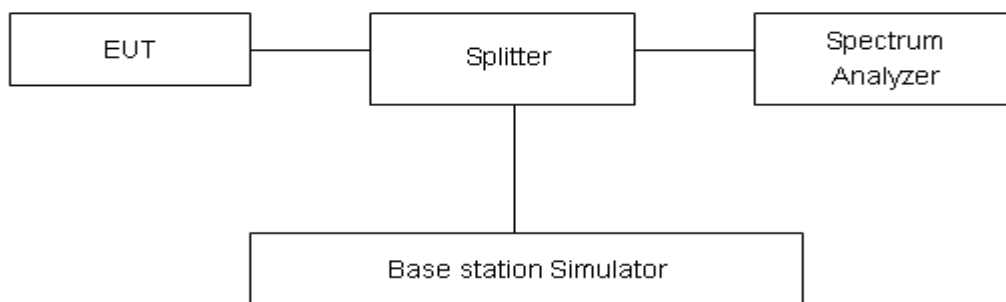
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW 1MHz and VBW 3MHz, Sweep is set to ATUO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

Test Setup



Limits

90.543 Emission limitations (e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

(f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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
100kHz-1GHz	0.684 dB
1GHz-12.75GHz	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 D01 v03r01 Section 5.8 and ANSI C63.26.
2. Above 30MHz: 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=100KHz, VBW=300KHz for all frequency, 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:

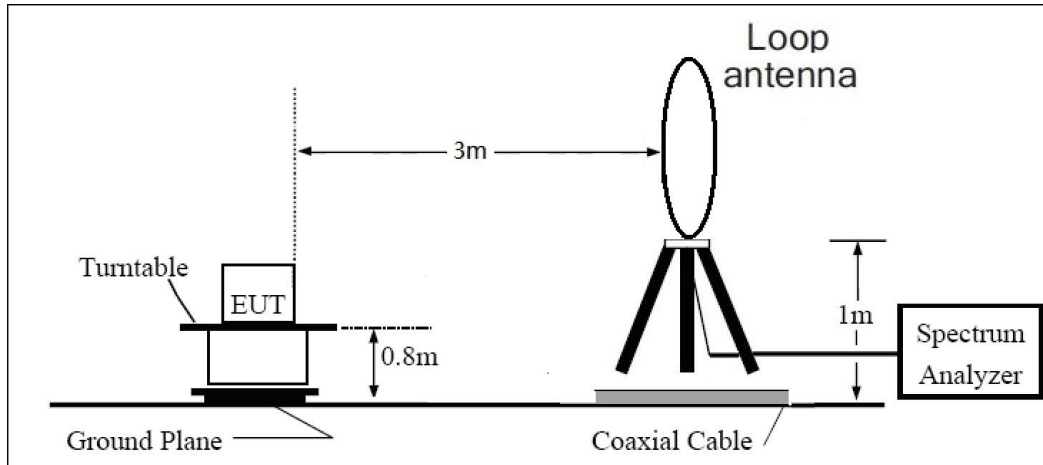
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP

= EIRP-2.15dBi.

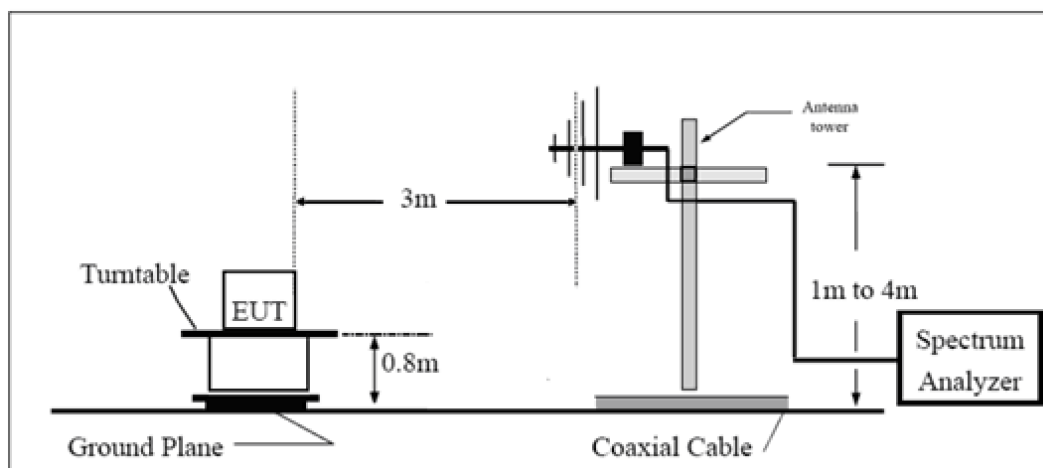
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test Setup

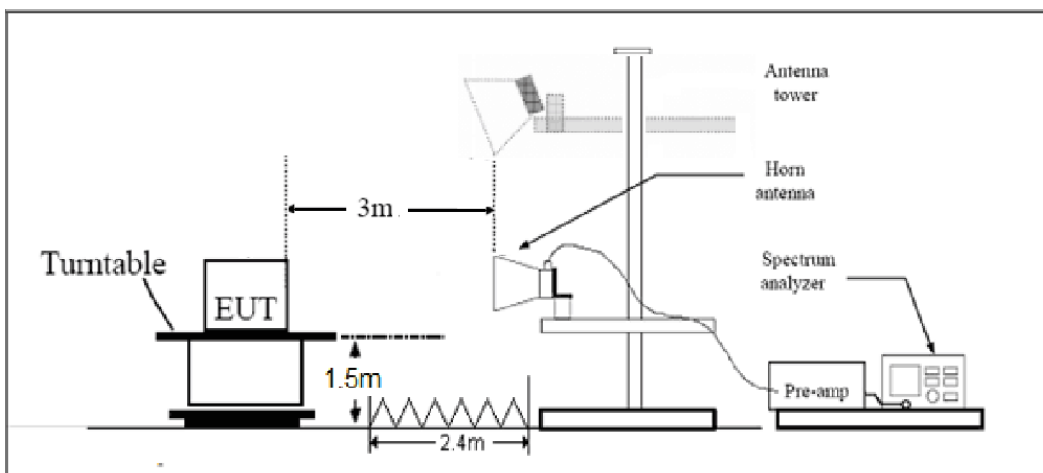
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Limits

90.543 Emission limitations (e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.
- (f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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 Result

6.1. RF Power Output and Effective Radiated Power

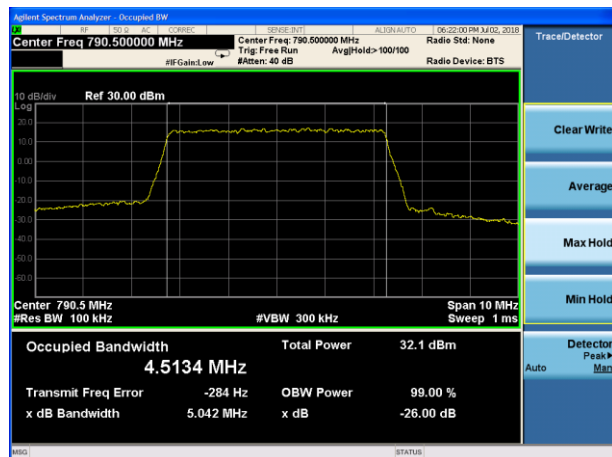
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	ERP (dBm)
Band14	5	23305	1	#0	QPSK	22.41	24.71
Band14	5	23305	1	#Mid	QPSK	22.64	24.94
Band14	5	23305	1	#Max	QPSK	22.66	24.96
Band14	5	23305	12	#0	QPSK	21.81	24.11
Band14	5	23305	12	#Mid	QPSK	21.85	24.15
Band14	5	23305	12	#Max	QPSK	21.74	24.04
Band14	5	23305	25	#0	QPSK	21.81	24.11
Band14	5	23305	1	#0	16QAM	21.87	24.17
Band14	5	23305	1	#Mid	16QAM	21.63	23.93
Band14	5	23305	1	#Max	16QAM	21.46	23.76
Band14	5	23305	12	#0	16QAM	20.86	23.16
Band14	5	23305	12	#Mid	16QAM	20.87	23.17
Band14	5	23305	12	#Max	16QAM	20.79	23.09
Band14	5	23305	25	#0	16QAM	20.85	23.15
Band14	5	23330	1	#0	QPSK	22.6	24.9
Band14	5	23330	1	#Mid	QPSK	22.92	25.22
Band14	5	23330	1	#Max	QPSK	22.83	25.13
Band14	5	23330	12	#0	QPSK	21.9	24.2
Band14	5	23330	12	#Mid	QPSK	21.96	24.26
Band14	5	23330	12	#Max	QPSK	21.77	24.07
Band14	5	23330	25	#0	QPSK	21.88	24.18
Band14	5	23330	1	#0	16QAM	21.63	23.93
Band14	5	23330	1	#Mid	16QAM	21.79	24.09
Band14	5	23330	1	#Max	16QAM	21.39	23.69
Band14	5	23330	12	#0	16QAM	20.67	22.97
Band14	5	23330	12	#Mid	16QAM	20.74	23.04
Band14	5	23330	12	#Max	16QAM	20.69	22.99
Band14	5	23330	25	#0	16QAM	20.74	23.04
Band14	5	23355	1	#0	QPSK	22.85	25.15
Band14	5	23355	1	#Mid	QPSK	22.85	25.15
Band14	5	23355	1	#Max	QPSK	22.83	25.13
Band14	5	23355	12	#0	QPSK	21.84	24.14
Band14	5	23355	12	#Mid	QPSK	21.83	24.13
Band14	5	23355	12	#Max	QPSK	21.78	24.08
Band14	5	23355	25	#0	QPSK	21.87	24.17
Band14	5	23355	1	#0	16QAM	22.24	24.54

Band14	5	23355	1	#Mid	16QAM	21.6	23.9
Band14	5	23355	1	#Max	16QAM	21.47	23.77
Band14	5	23355	12	#0	16QAM	20.69	22.99
Band14	5	23355	12	#Mid	16QAM	20.66	22.96
Band14	5	23355	12	#Max	16QAM	20.59	22.89
Band14	5	23355	25	#0	16QAM	20.7	23
Band14	10	23330	1	#0	QPSK	22.67	24.97
Band14	10	23330	1	#Mid	QPSK	23.36	25.66
Band14	10	23330	1	#Max	QPSK	22.8	25.1
Band14	10	23330	25	#0	QPSK	21.92	24.22
Band14	10	23330	25	#Mid	QPSK	21.95	24.25
Band14	10	23330	25	#Max	QPSK	21.76	24.06
Band14	10	23330	50	#0	QPSK	21.85	24.15
Band14	10	23330	1	#0	16QAM	21.72	24.02
Band14	10	23330	1	#Mid	16QAM	21.9	24.2
Band14	10	23330	1	#Max	16QAM	21.67	23.97
Band14	10	23330	25	#0	16QAM	21.09	23.39
Band14	10	23330	25	#Mid	16QAM	20.93	23.23
Band14	10	23330	25	#Max	16QAM	20.92	23.22
Band14	10	23330	50	#0	16QAM	20.91	23.21

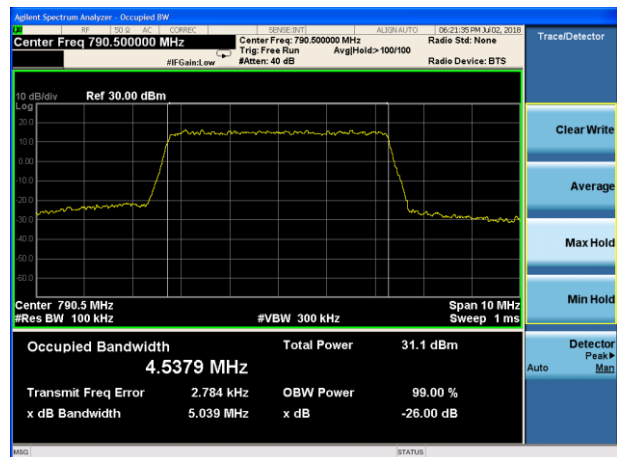
6.2. Occupied Bandwidth

LTE Band 14						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	23305	790.5	4.5134	5.042
			23330	793	4.5283	5.041
			23355	795.5	4.5084	5.030
		10	23330	793	9.0203	10.150
	16QAM	5	23305	790.5	4.5379	5.039
			23330	793	4.5042	5.004
			23355	795.5	4.5339	5.041
		10	23330	793	9.0272	9.992

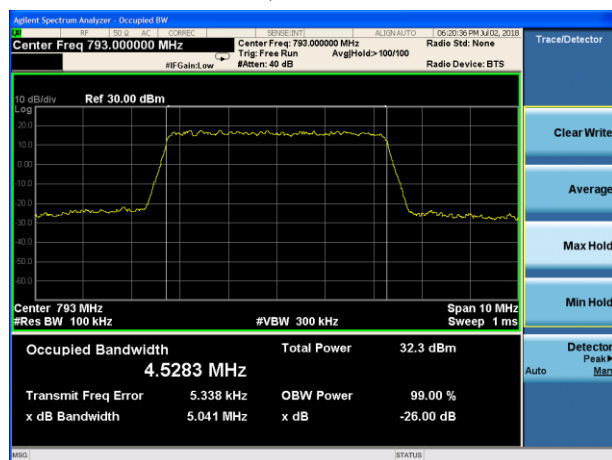
LTE Band 14 QPSK 5MHz CH-Low



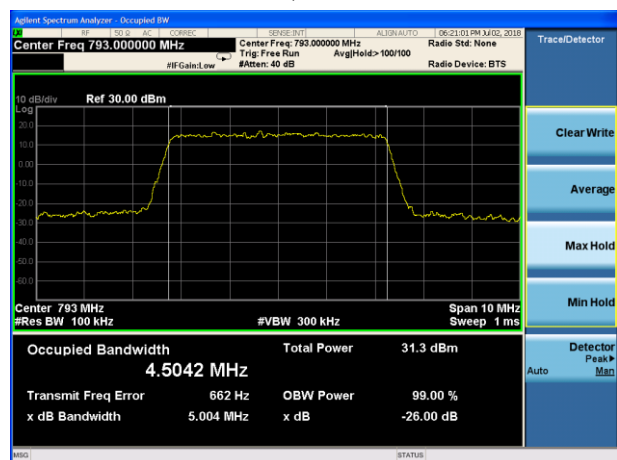
LTE Band 14 16QAM 5MHz CH-Low



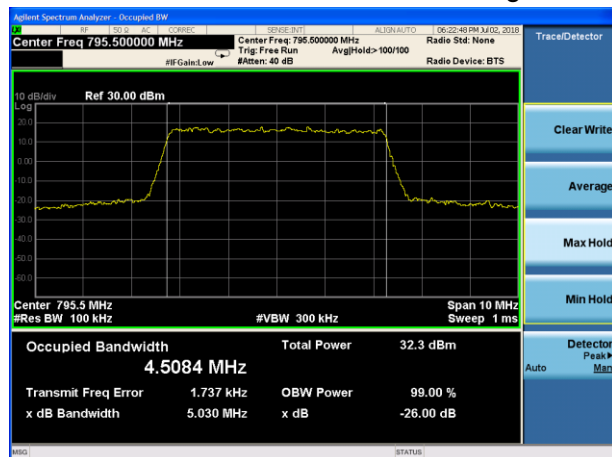
LTE Band 14 QPSK 5MHz CH-Middle



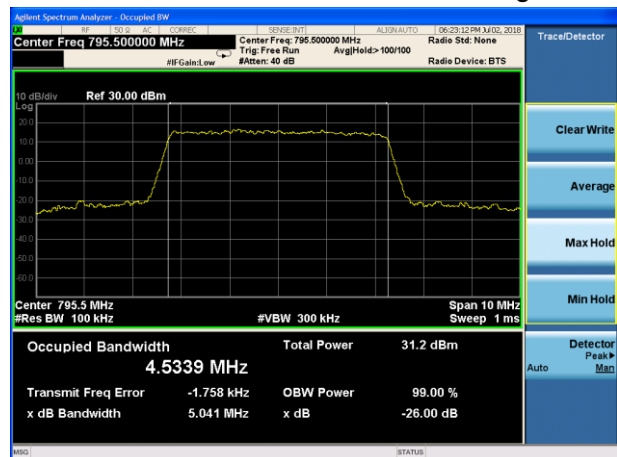
LTE Band 14 16QAM 5MHz CH-Middle

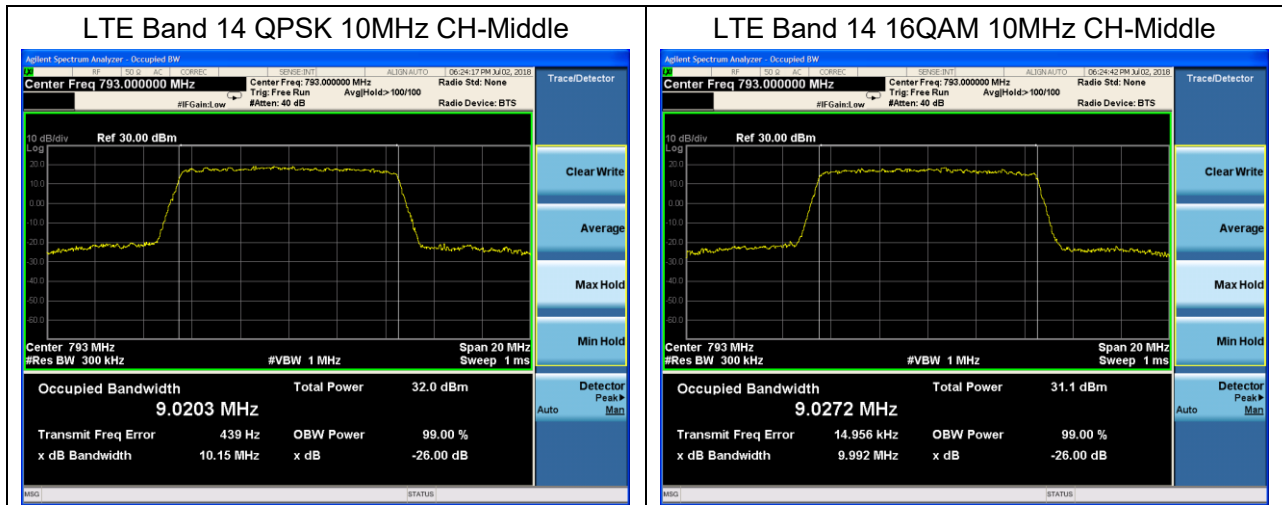


LTE Band 14 QPSK 5MHz CH-High



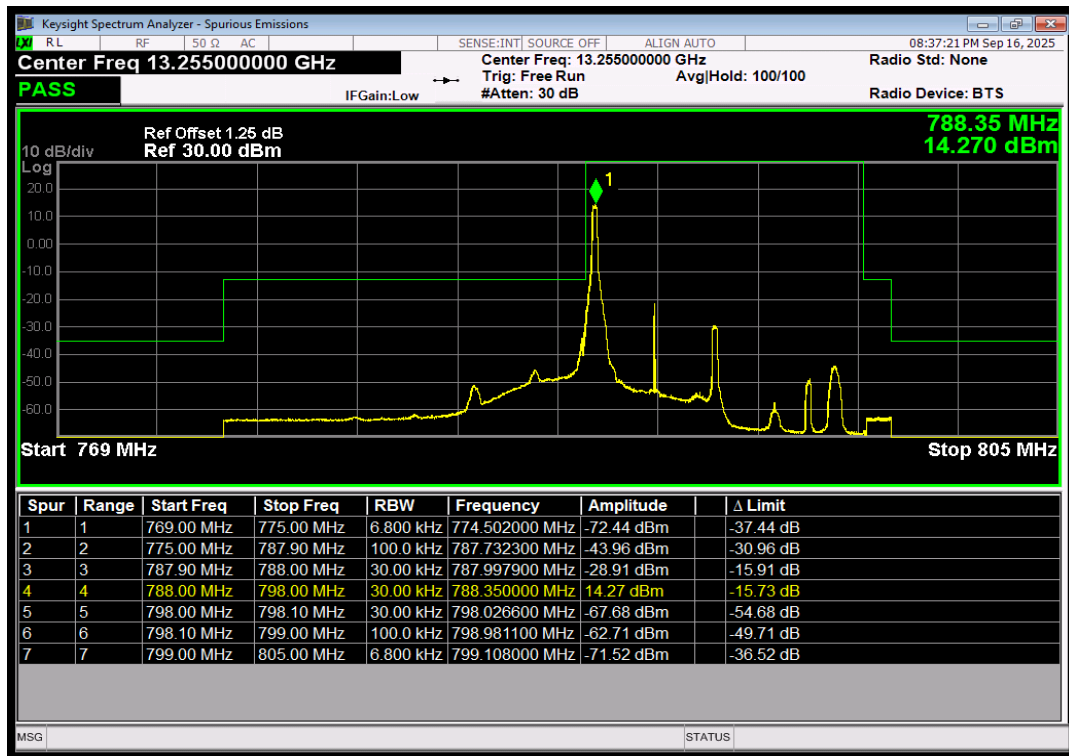
LTE Band 14 16QAM 5MHz CH-High



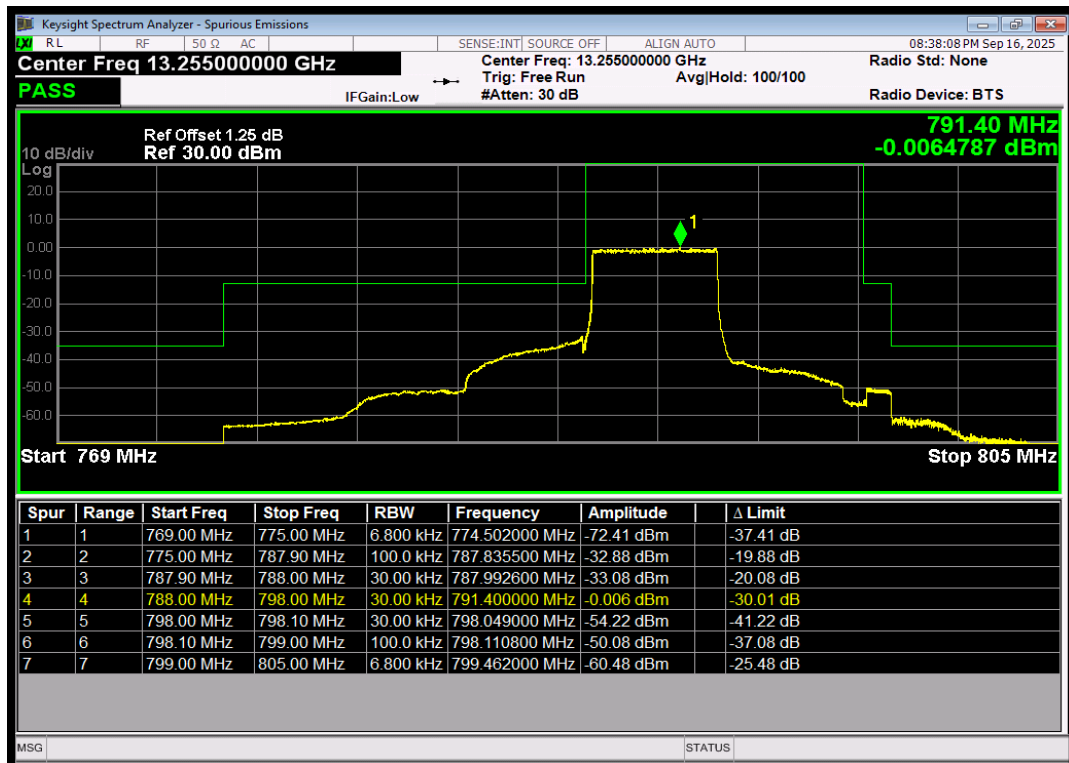


6.3. Band Edge Compliance

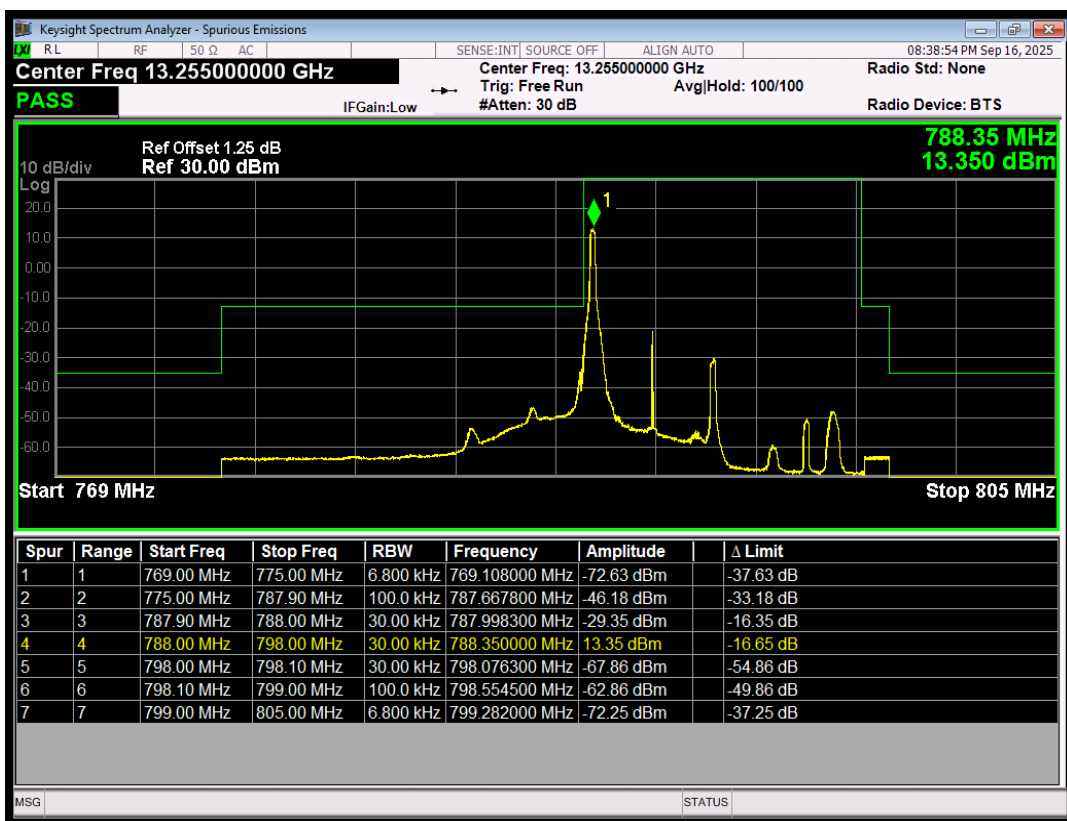
Band14 QPSK BW=5MHz LowChannel=23305 RB Size=1 Position=#0



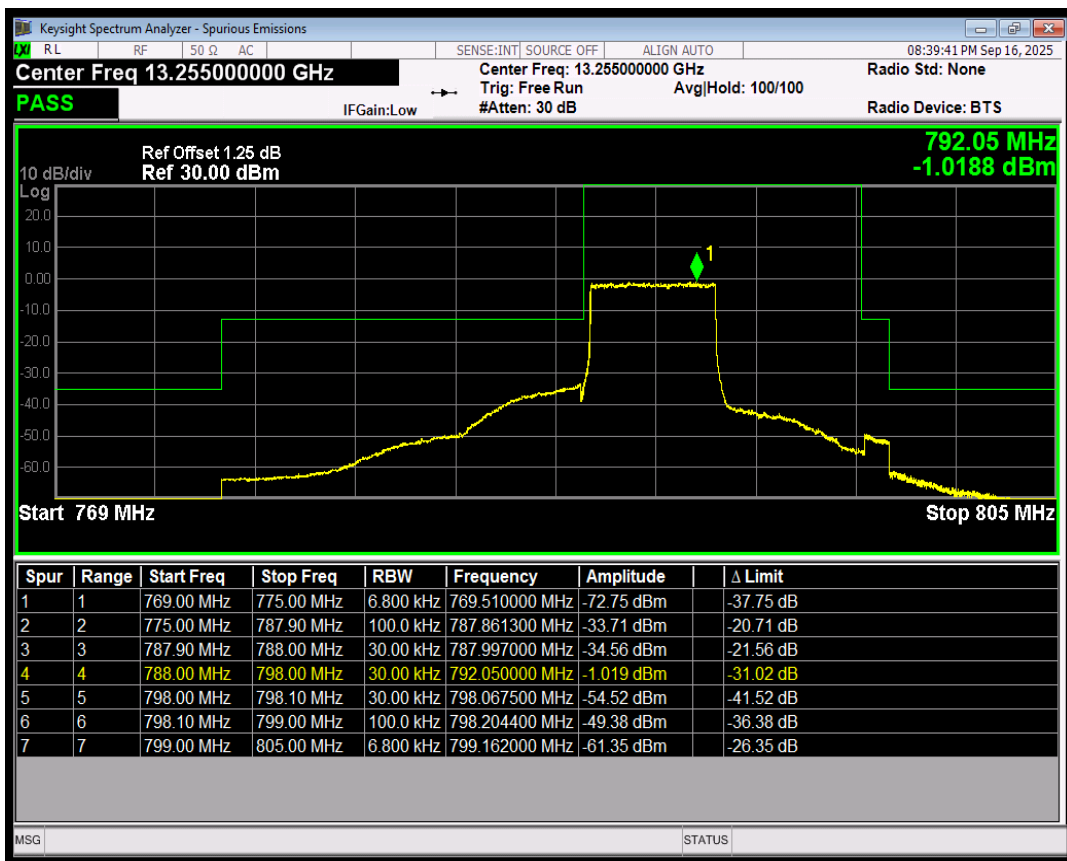
Band14 QPSK BW=5MHz LowChannel=23305 RB Size=25 Position=#0



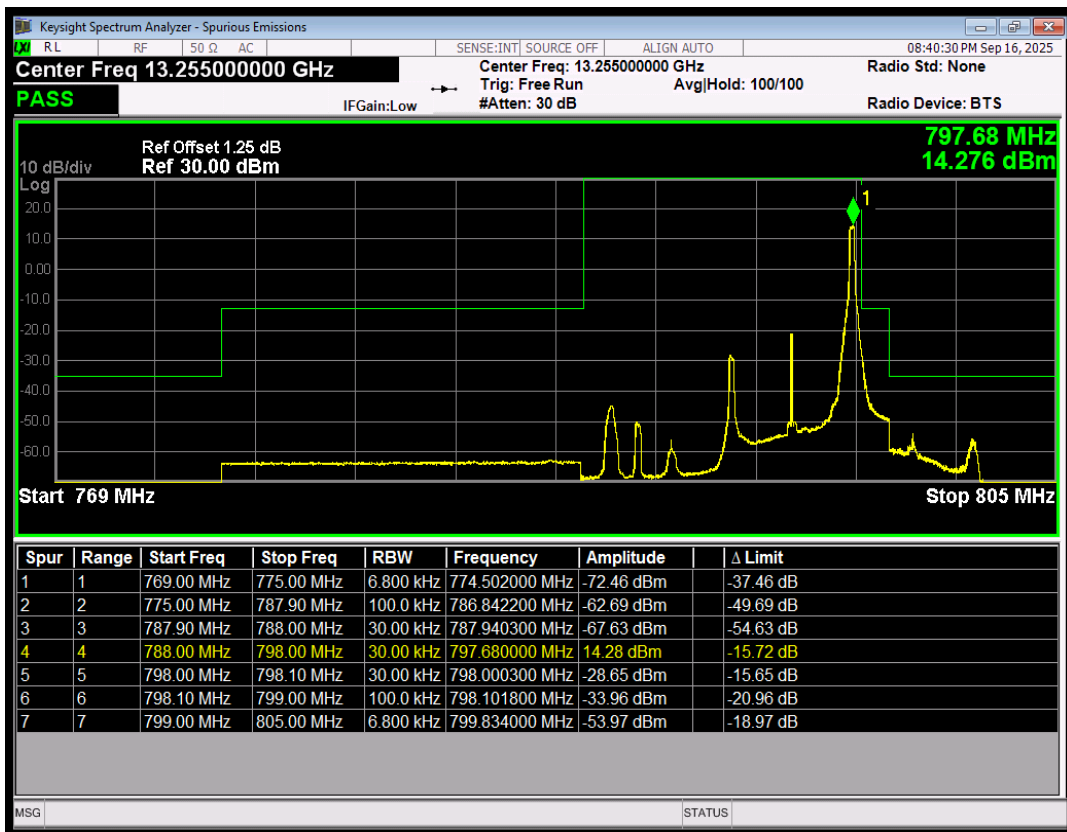
Band14 16QAM BW=5MHz LowChannel=23305 RB Size=1 Position=#0



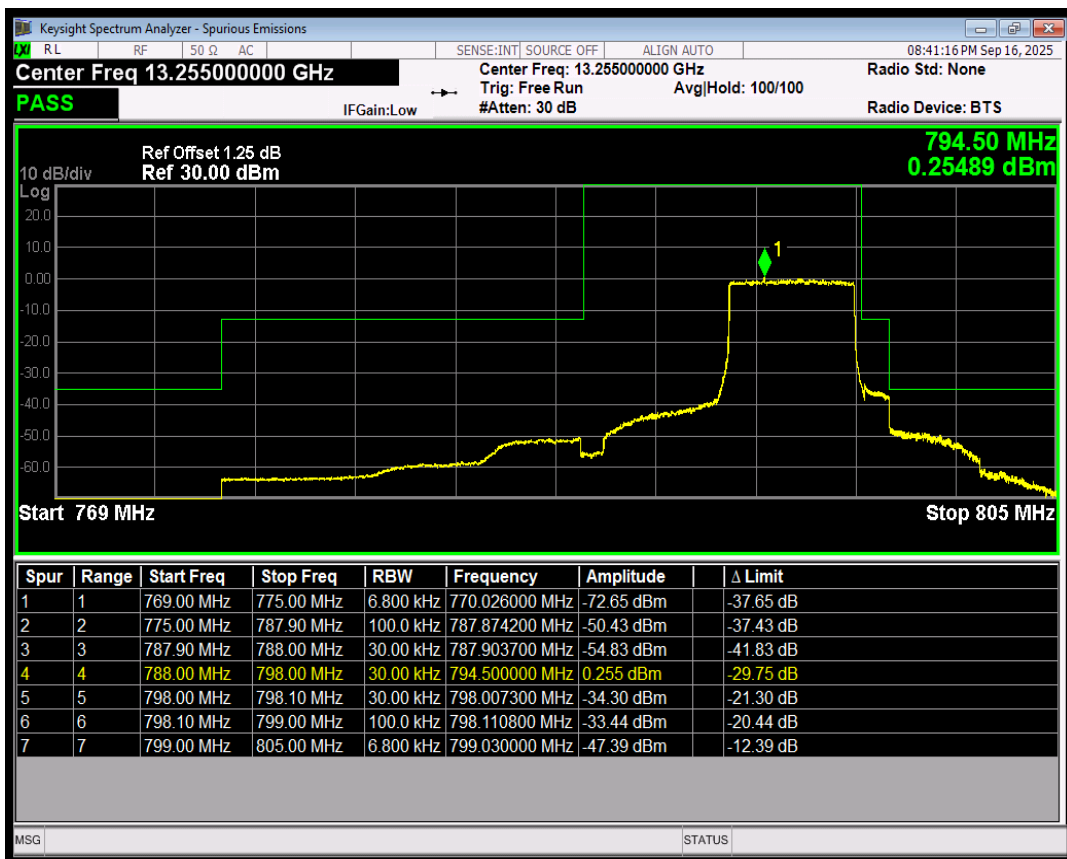
Band14 16QAM BW=5MHz LowChannel=23305 RB Size=25 Position=#0



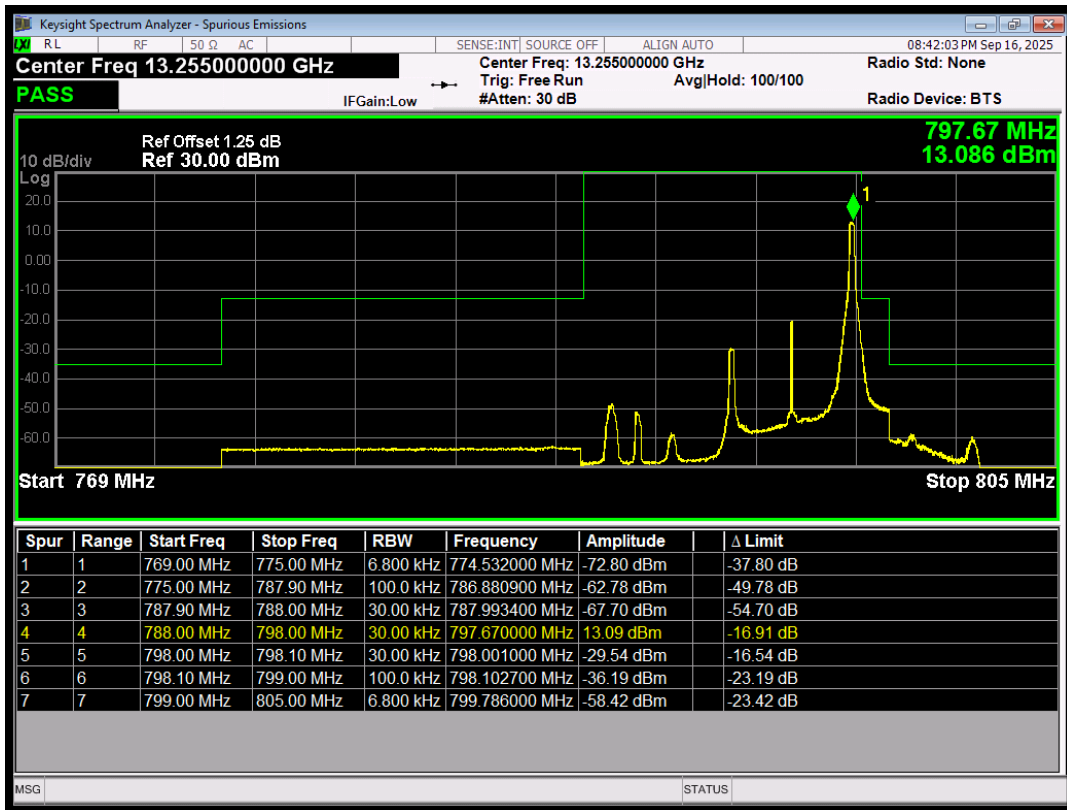
Band14 QPSK BW=5MHz HighChannel=23355 RB Size=1 Position=#Max



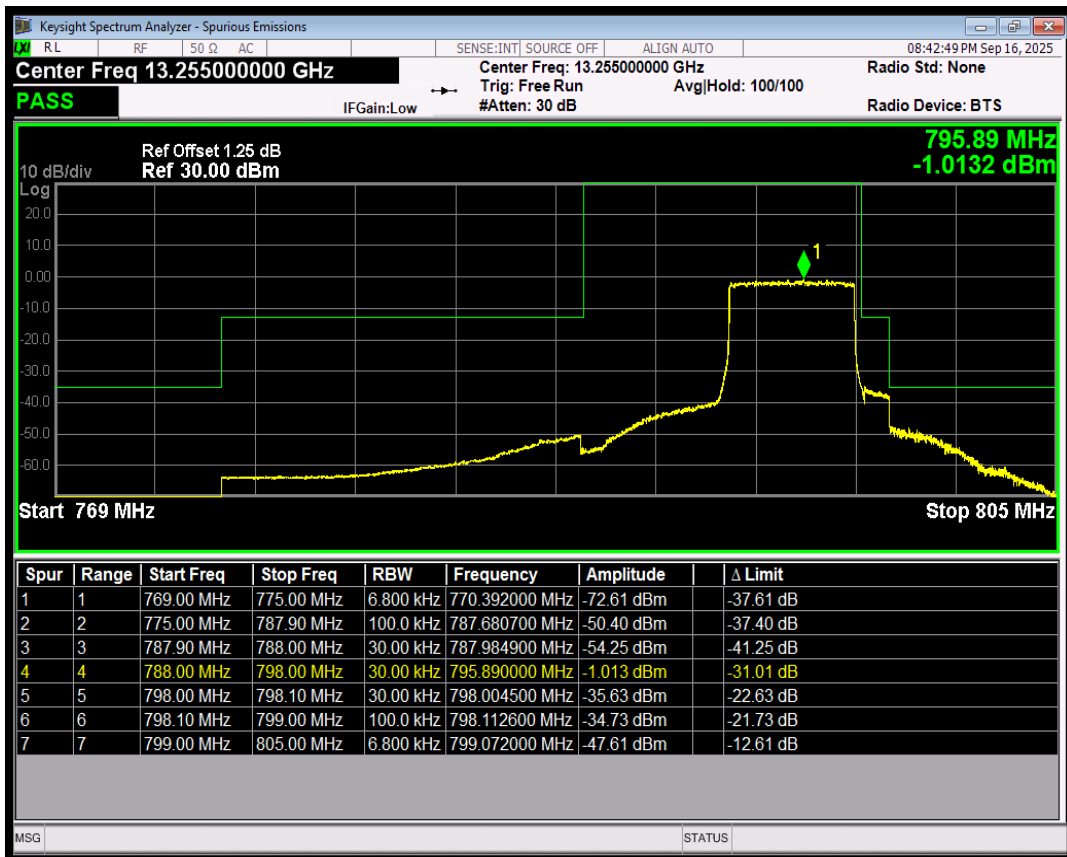
Band14 QPSK BW=5MHz HighChannel=23355 RB Size=25 Position=#0



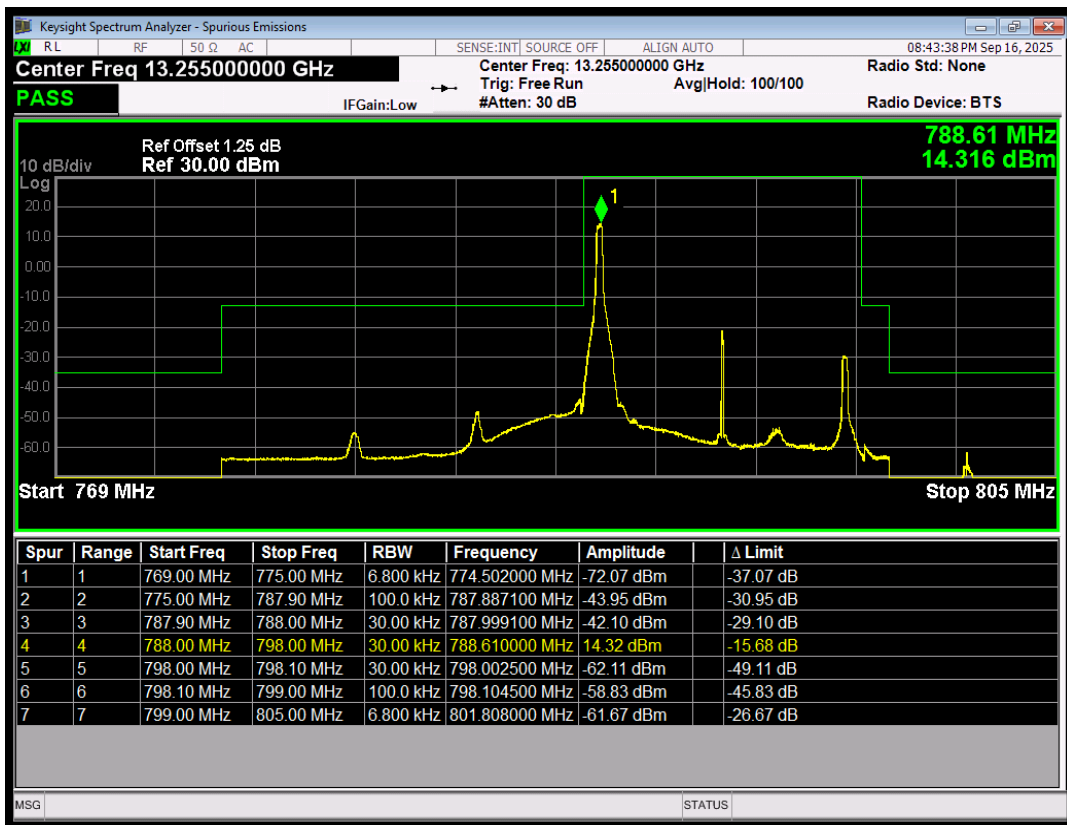
Band14 16QAM BW=5MHz HighChannel=23355 RB Size=1 Position=#Max



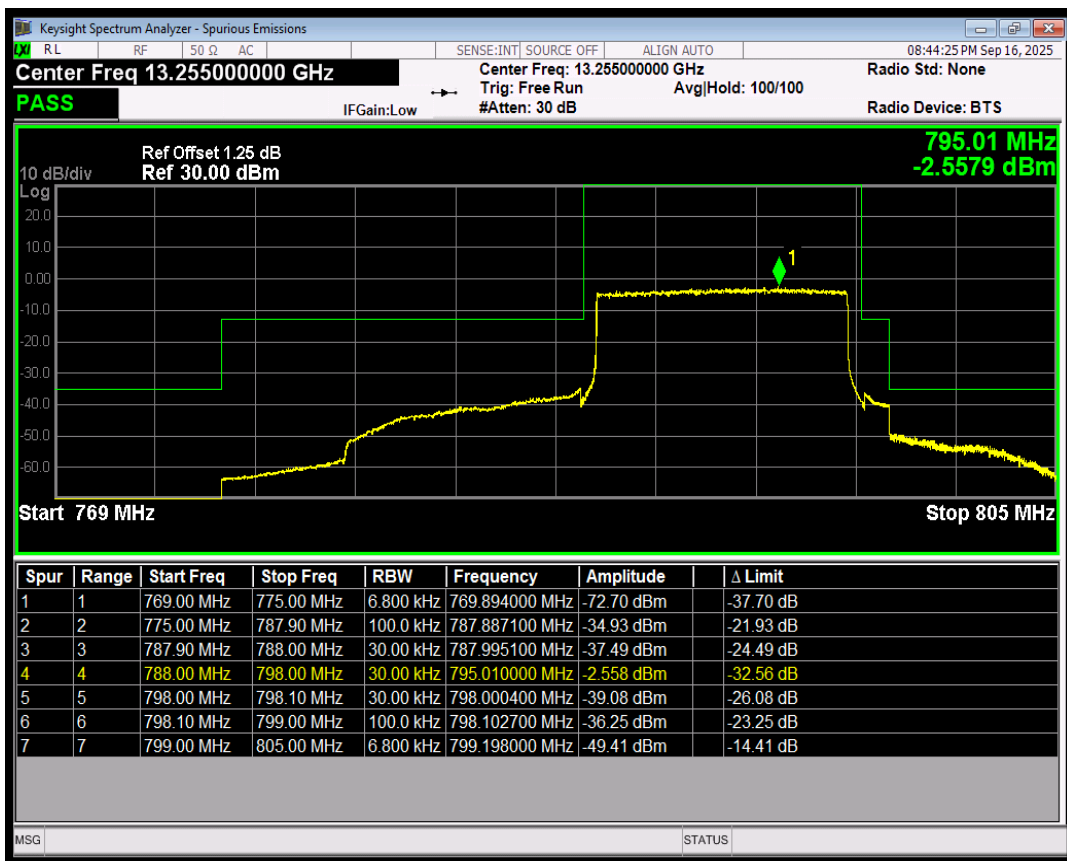
Band14 16QAM BW=5MHz HighChannel=23355 RB Size=25 Position=#0



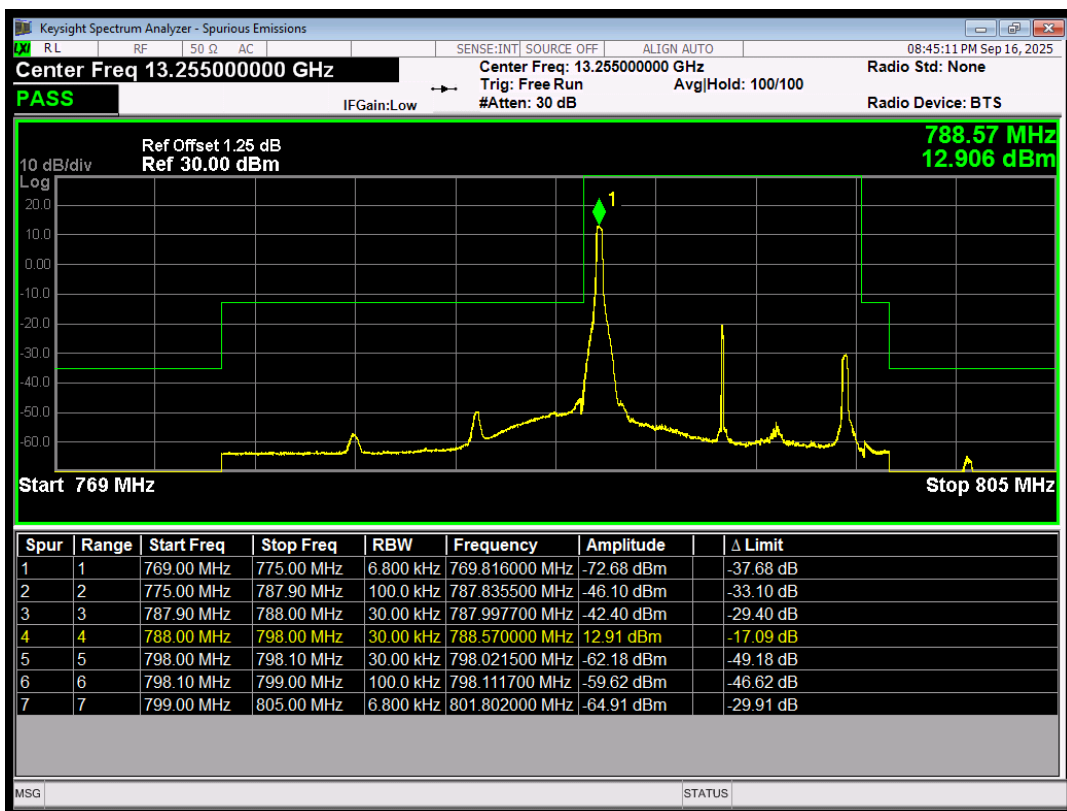
Band14 QPSK BW=10MHz LowChannel=23330 RB Size=1 Position=#0



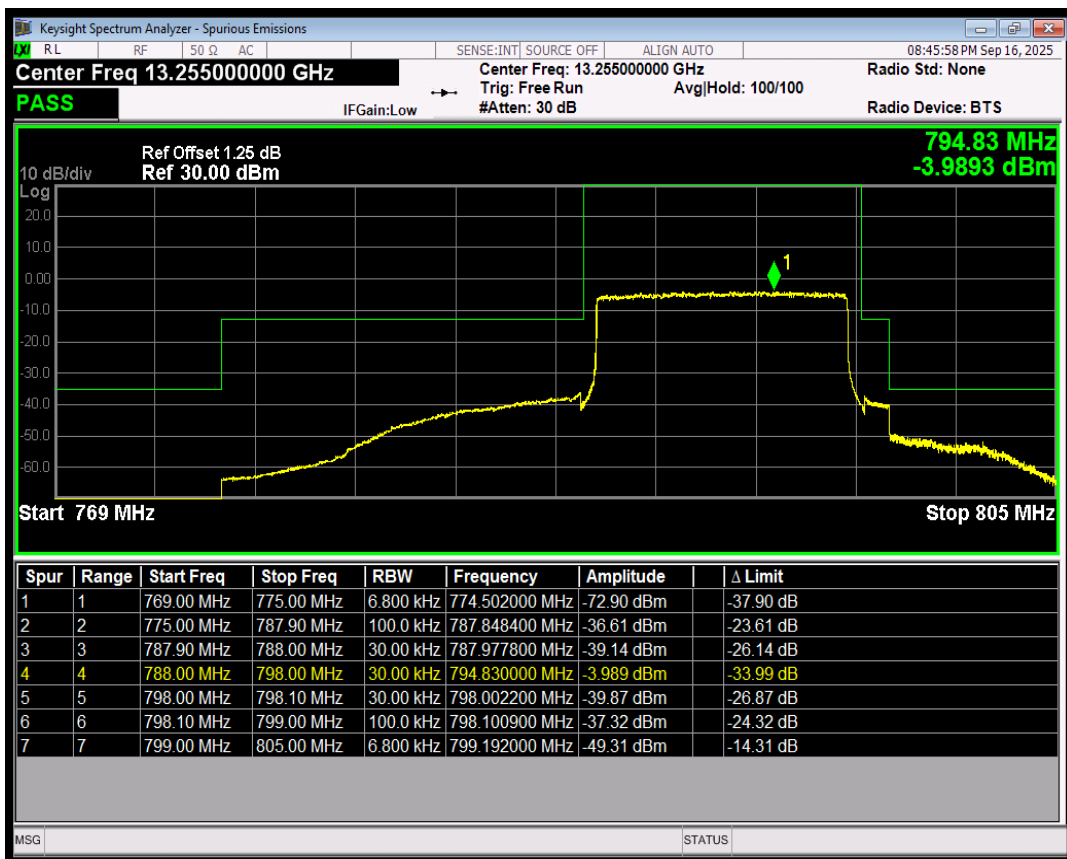
Band14 QPSK BW=10MHz LowChannel=23330 RB Size=50 Position=#0



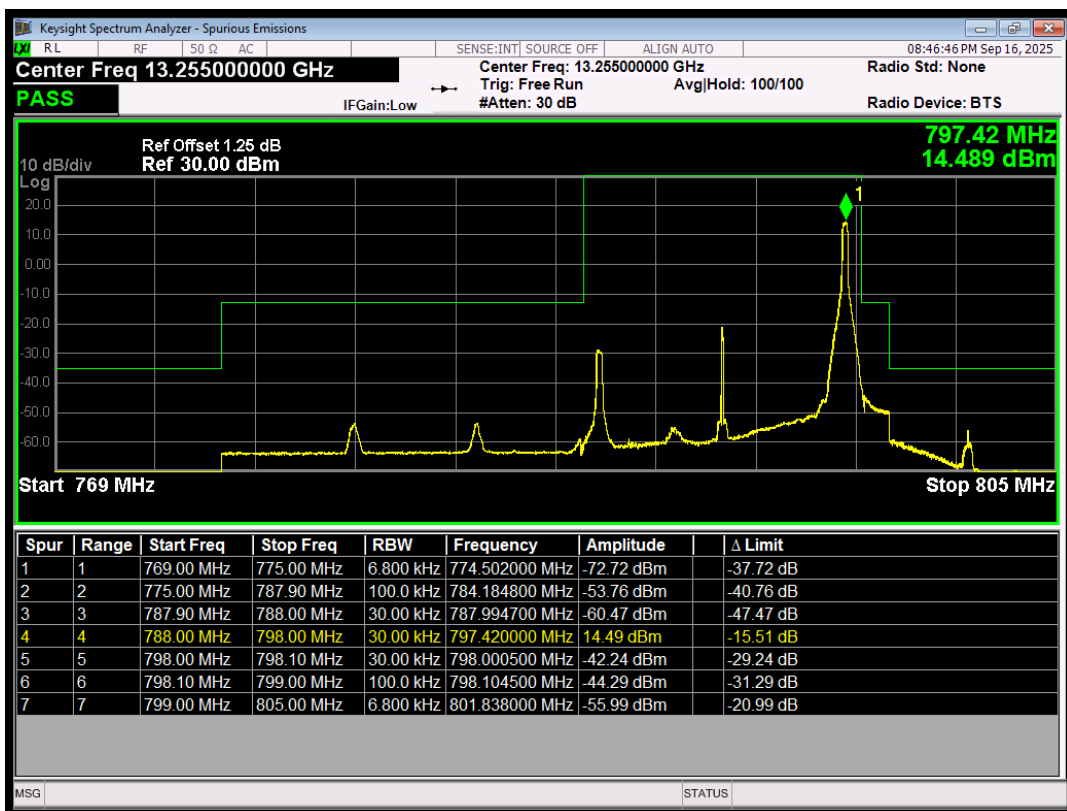
Band14 16QAM BW=10MHz LowChannel=23330 RB Size=1 Position=#0



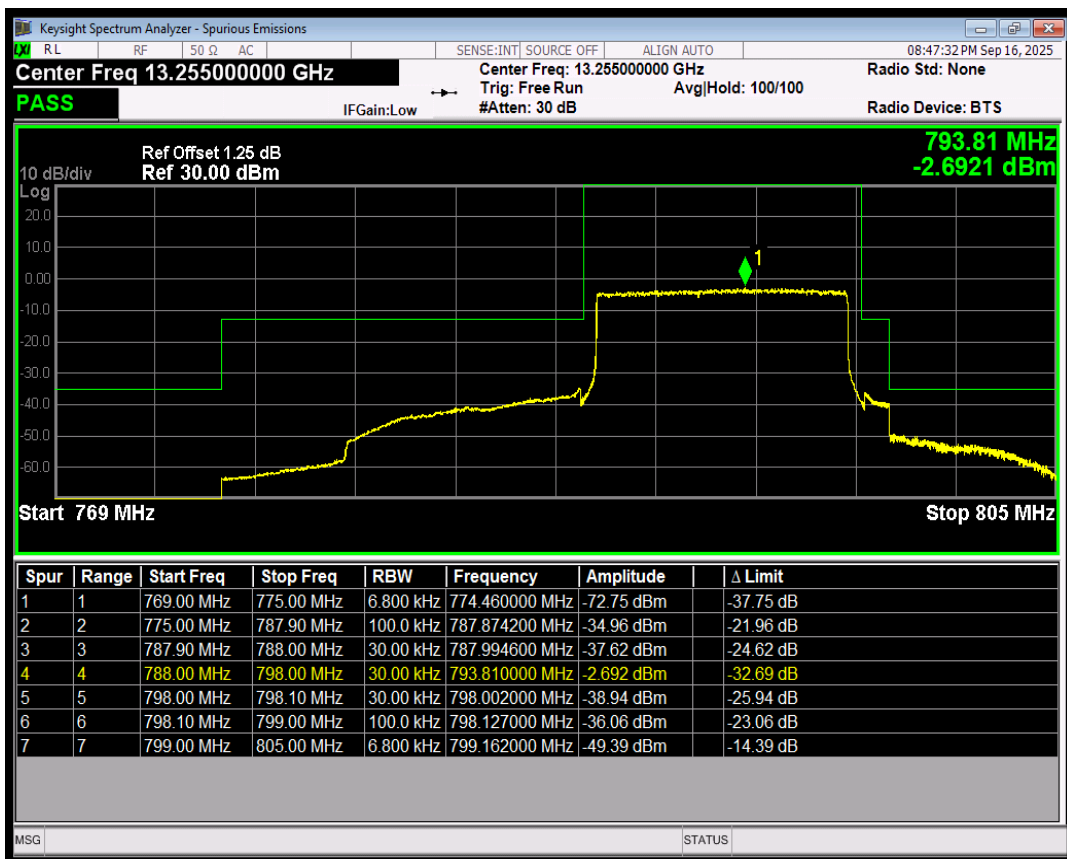
Band14 16QAM BW=10MHz LowChannel=23330 RB Size=50 Position=#0



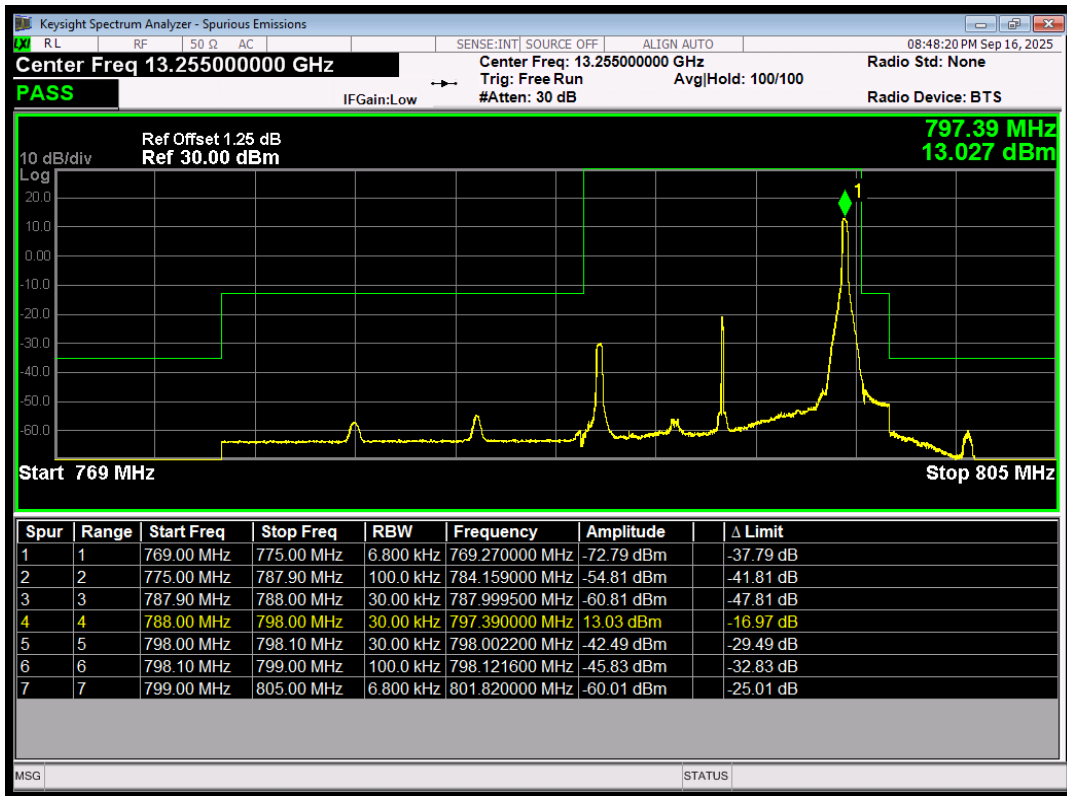
Band14 QPSK BW=10MHz HighChannel=23330 RB Size=1 Position=#Max



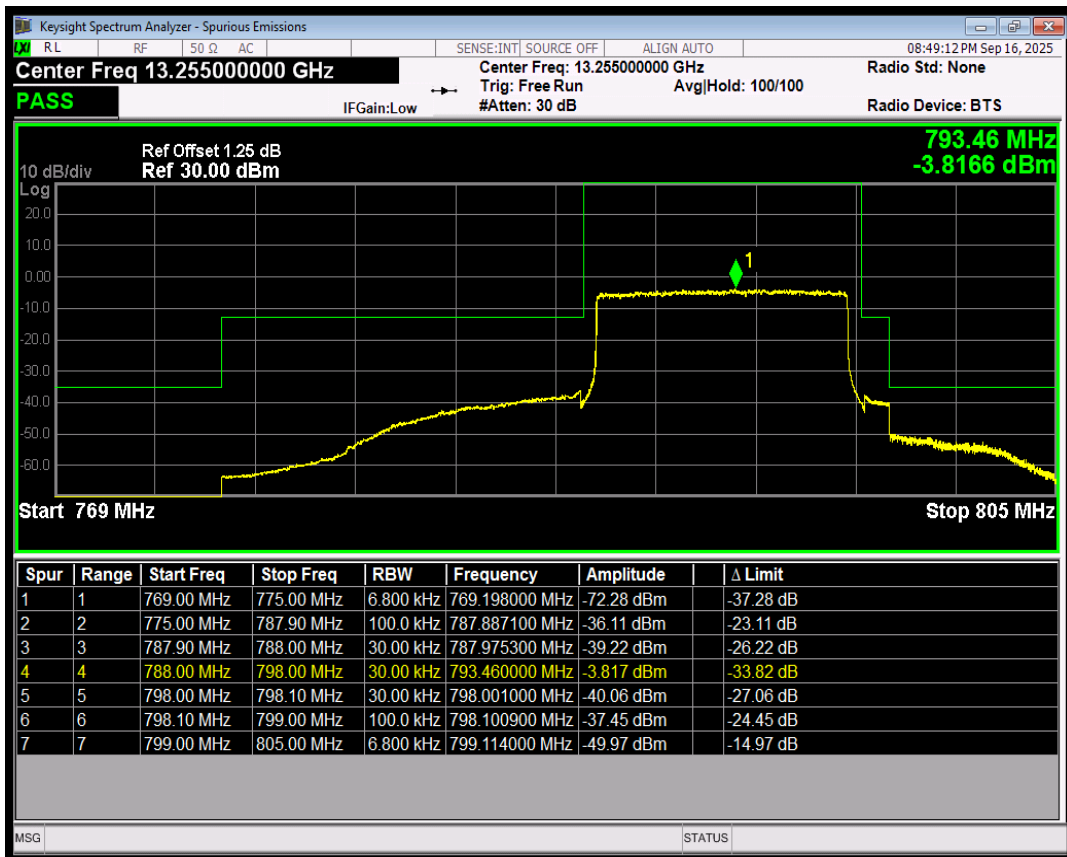
Band14 QPSK BW=10MHz HighChannel=23330 RB Size=50 Position=#0



Band14 16QAM BW=10MHz HighChannel=23330 RB Size=1 Position=#Max



Band14 16QAM BW=10MHz HighChannel=23330 RB Size=50 Position=#0



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

LTE Band 14								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	23305	790.5	28.02	22.89	5.13	≤13	PASS
		23330	793	27.70	22.76	4.94	≤13	PASS
		23355	795.5	27.46	22.73	4.73	≤13	PASS
	10	23330	793	27.69	22.83	4.86	≤13	PASS
16QAM	5	23305	790.5	27.73	21.77	5.96	≤13	PASS
		23330	793	27.48	21.73	5.75	≤13	PASS
		23355	795.5	27.23	21.69	5.54	≤13	PASS
	10	23330	793	27.45	21.77	5.68	≤13	PASS

6.5. Frequency Stability

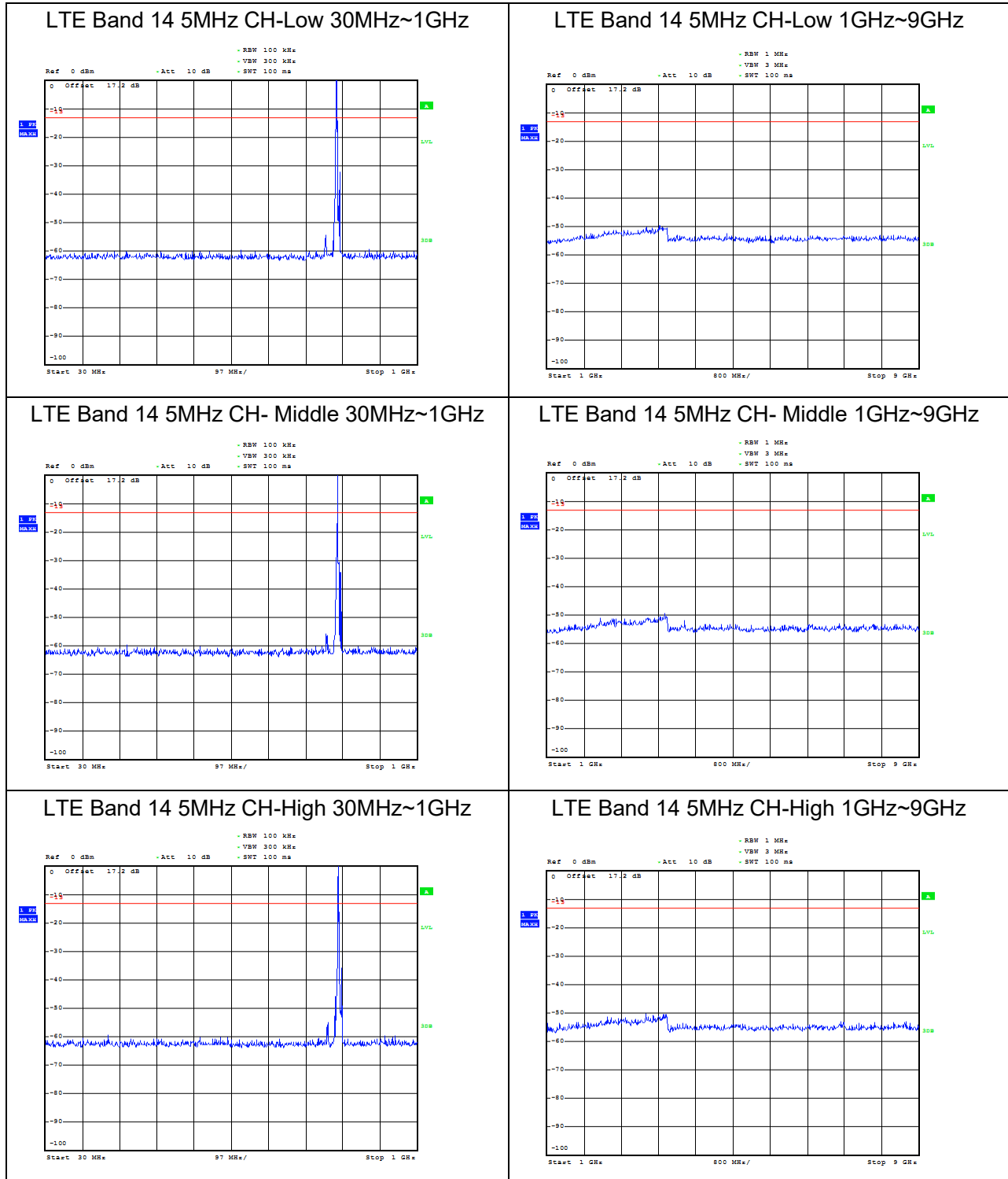
LTE B14 Fc(MHz)	Condition		F Low (MHz)	F High (MHz)	Limit (MHz)	Verdict
790.5	BANDWIDTH	5MHz	QPSK	QPSK	788-798	PASS
	Temperature	Voltage				
	Extreme (50°C)	NV	788.259	792.741	788-798	PASS
	Extreme (40°C)		788.268	792.732	788-798	PASS
	Extreme (30°C)		788.253	792.747	788-798	PASS
	Extreme (20°C)		788.282	792.718	788-798	PASS
	Extreme (10°C)		788.288	792.712	788-798	PASS
	Extreme (0°C)		788.276	792.724	788-798	PASS
	Extreme (-10°C)		788.212	792.788	788-798	PASS
	Extreme (-20°C)		788.294	792.706	788-798	PASS
	Extreme (-30°C)		788.210	792.790	788-798	PASS
	25°C	LV	788.206	792.794	788-798	PASS
		HV	788.286	792.714	788-798	PASS
LTE B14 Fc(MHz)	Condition		F Low (MHz)	F High (MHz)	Limit (MHz)	Verdict
793	BANDWIDTH	10MHz	QPSK	QPSK	788-798	PASS
	Temperature	Voltage				
	Extreme (50°C)	NV	788.517	797.483	788-798	PASS
	Extreme (40°C)		788.543	797.457	788-798	PASS
	Extreme (30°C)		788.548	797.452	788-798	PASS
	Extreme (20°C)		788.532	797.468	788-798	PASS
	Extreme (10°C)		788.577	797.423	788-798	PASS
	Extreme (0°C)		788.524	797.476	788-798	PASS
	Extreme (-10°C)		788.566	797.434	788-798	PASS
	Extreme (-20°C)		788.531	797.469	788-798	PASS
	Extreme (-30°C)		788.557	797.443	788-798	PASS
	25°C	LV	788.582	797.418	788-798	PASS
		HV	788.542	797.458	788-798	PASS
LTE B14 Fc(MHz)	Condition		F Low (MHz)	F High (MHz)	Limit (MHz)	Verdict
795.5	BANDWIDTH	5MHz	QPSK	QPSK	788-798	PASS
	Temperature	Voltage				
	Extreme (50°C)	NV	793.221	797.779	788-798	PASS

RF Test Report
Report No.: EFTA25080400-IE-02-R20V1

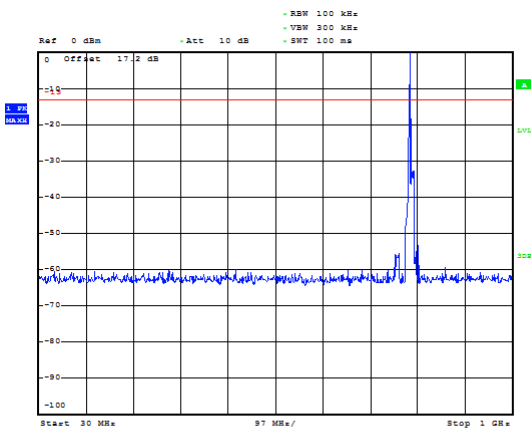
	Extreme (40°C)		793.207	797.793	788-798	PASS
	Extreme (30°C)		793.247	797.753	788-798	PASS
	Extreme (20°C)		793.251	797.749	788-798	PASS
	Extreme (10°C)		793.232	797.768	788-798	PASS
	Extreme (0°C)		793.283	797.717	788-798	PASS
	Extreme (-10°C)		793.205	797.795	788-798	PASS
	Extreme (-20°C)		793.255	797.745	788-798	PASS
	Extreme (-30°C)		793.212	797.788	788-798	PASS
	25°C	LV	793.229	797.771	788-798	PASS
		HV	793.256	797.744	788-798	PASS

6.6. Spurious Emissions at Antenna Terminals

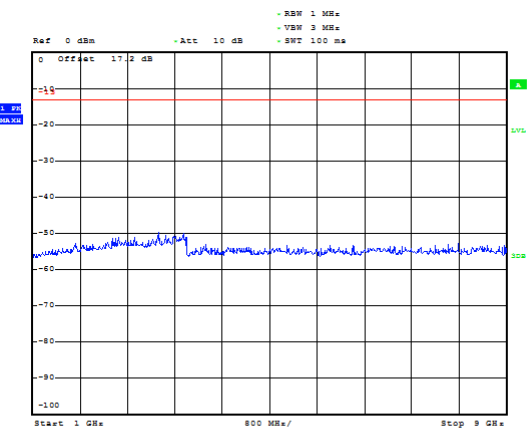
If disturbances were found more than 20dB below limit line, the mark is not required for the EUT.
The signal beyond the limit is carrier.



LTE Band 14 10MHz CH- Middle 30MHz~1GHz



LTE Band 14 10MHz CH- Middle 1GHz~9GHz



6.7. Radiated Spurious Emission

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

LTE Band 14 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1582	-64.48	2.00	10.75	Horizontal	-57.88	-40.00	17.88	45
3	2379	-55.52	2.51	11.05	Horizontal	-49.13	-13.00	36.13	135
4	3172	-60.45	4.20	11.15	Horizontal	-55.65	-13.00	42.65	315
5	3965	-58.09	5.20	11.15	Horizontal	-54.29	-13.00	41.29	45
6	4758	-59.43	5.50	11.95	Horizontal	-55.13	-13.00	42.13	135
7	5551	-60.90	5.70	13.55	Horizontal	-55.20	-13.00	42.20	90
8	6344	-58.30	6.30	13.75	Horizontal	-53.00	-13.00	40.00	180
9	7137	-53.71	6.80	13.85	Horizontal	-48.81	-13.00	35.81	270
10	7930	-53.70	6.90	14.25	Horizontal	-48.50	-13.00	35.50	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

7. Main Test Instruments

Date of Testing: June 29, 2018~ July 16, 2018 and July 30, 2018~ July 31, 2018 and August 3, 2019~ August 13, 2019

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2019-05-19	2020-05-18
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2019-05-19	2020-05-18
Universal Radio Communication Tester	Key sight	E5515C	MY48367192	2019-05-19	2020-05-18
Signal Analyzer	R&S	FSV30	100815	2018-12-16	2019-12-15
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-09-26	2019-09-25
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2019-11-17
Horn Antenna	R&S	HF907	100126	2018-07-07	2020-07-06
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2020-06-19
Signal generator	R&S	SMB 100A	102594	2019-05-19	2020-05-18
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
Preamplifier	R&S	SCU18	102327	2019-05-19	2020-05-18
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2019-05-20	2020-05-21
RF Cable	Agilent	SMA 15cm	0001	2019-06-14	2019-09-13
Software	R&S	EMC32	9.26.0	/	/

Date of Testing: September 3, 2025 ~ September 18, 2025

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Wireless Communication Tester	Anritsu	MT8821C	6201538758	2025-05-06	2026-05-05
Climate Chamber	WEISS	VT 4002	58226119450 010	2025-05-06	2026-05-05
Spectrum Analyzer	Keysight	N9020A	MY52330084	2025-05-06	2026-05-05
DC Power Supply	UNI-T	UTP1310+	C220795889	2025-05-06	2026-05-05

8. The EUT Appearance

Refer to *EUT Appearance*.

9. Test Setup Photos

Refer to *Part27 Test Setup*.

10. Product Change Description

The Product Change Description are submitted separately.

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