RF MEASUREMENT REPORT

FCC ID:	2BEY3LCUR57WWDC
Applicant:	NETPRISMA INC.
Product:	LTE-A Cat 16 M.2 Module
Model No.:	LCUR57-WWD
Brand Name:	Vrileg
FCC Rule(s):	Part90 Subpart S
Result:	Complies
Received Date:	2024-04-22
Test Date:	2024-04-29 ~ 2024-05-27

Reviewed By: Sunny Sun

Approved By: Robin Wu

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26-2015. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date	Note
2404RSU035-U4	V01	Initial Report	2024-06-07	Valid

CONTENTS

1. General Information

1.1. Applicant

NETPRISMA INC.

1301 6TH AVE, SEATTLE, WA, 98101-2304, UNITED STATES

1.2. Manufacturer

NETPRISMA INC.

1301 6TH AVE, SEATTLE, WA, 98101-2304, UNITED STATES

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**				
	Laboratory Location (Suzhou - Wuzhong)				
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China				
	Laboratory Location (Suzhou - SIP)				
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China				
	Laboratory Accreditations				
	A2LA: 3628.01		CNAS: L10551		
	FCC: CN1166		ISED: CN0001		
	VCCI:	☐R-20025	☐G-20034	☐C-20020	☐T-20020
		☐R-20141	☐G-20134	☐C-20103	☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**				
	Laboratory Location (Shenzhen)				
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	**Test Site – MRT Taiwan Laboratory**				
	Laboratory Location (Taiwan)				
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: 3261				
	FCC: 291082, TW3261		ISED: TW3261		

1.4. Product Information

Product Name	LTE-A Cat 16 M.2 Module
Model No.	LCUR57-WWD
Brand Name	Vrileg
Serial No.	D1C24CG1D000013 (Conducted) D1C24CG1D000108 (Radiated)
3GPP Specification	WCDMA Band II/IV/V LTE Band 2, 4, 5, 7, 12, 13, 14, 25, 26, 30, 38, 41, 42, 43, 48, 66
Operating Temperature Range	-25 ~ 75 °C
Supply Voltage Rating	3.135 – 4.4Vdc, typical 3.7Vdc
Antenna Specification	Refer to Section 1.6
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification under Test

E-UTRA Specification	
TX Frequency Range	Band 26: 814 ~ 824 MHz
RX Frequency Range	Band 26: 859 ~ 869 MHz
Support Bandwidth	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz
Support Power Class	PC3
Modulation	UL up to 64QAM, DL up to 256QAM

1.6. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	MaxPeak Gain (dBi)
LTE Band 26	814 ~ 849	PIFA	3.32dBi
Note 1: All antenna information (Antenna type and Peak Gain) is provided by the manufacturer. Note 2: The typical antennas used to calculate the ERP (EIRP).			

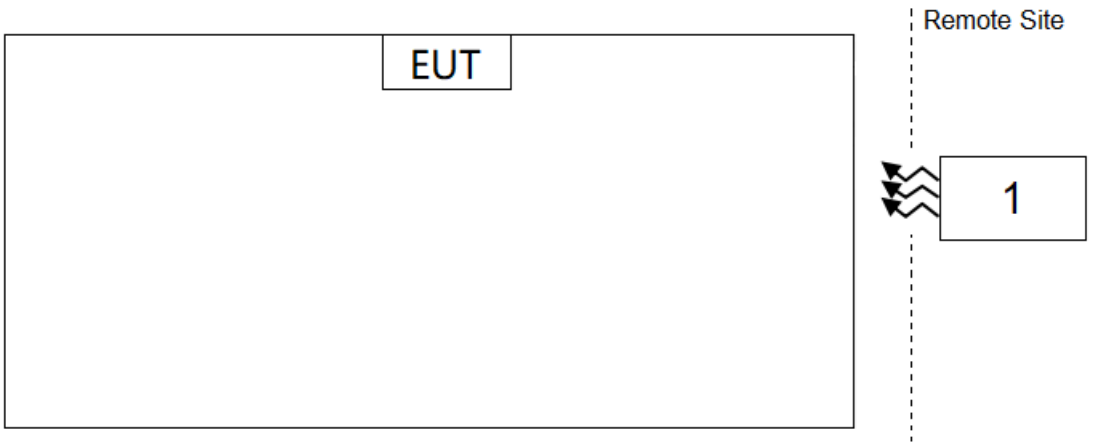
1.7. Test Methodology

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

- ANSI C63.26:2015
- FCC CFR 47 Part 90
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01: Determining ERP and EIRP

2. Test Configuration

2.1. Test System Connection Diagram



Product		Manufacturer	Model No.
1	Wideband Radio Communication Tester	R&S	CMW 500

2.2. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20% ~ 75%RH

3. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Communication Tester	R&S	CMW500	MRTSUE06243	1 year	2024-09-27	SIP-SR1
Thermohygrometer	testo	622	MRTSUE06629	1 year	2024-12-21	SIP-SR1
Communication Tester	R&S	CMW500	MRTSUE06881	1 year	2024-05-09	SIP-SR1
				1 year	2025-05-08	SIP-SR1
Temperature Chamber	BAOYT	BYG-80CL	MRTSUE06932	1 year	2025-02-03	SIP-SR1
Shielding Room	MIX-BEP	SIP-SR1	MRTSUE06948	N/A	N/A	SIP-SR1
Directional Coupler	MVE	MVE4912-10	MRTSUE07052	1 year	2024-08-24	SIP
Attenuator	MVE	MVE2213	MRTSUE11111	1 year	2024-08-02	SIP
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2024-10-23	SIP-SR1
Directional Coupler	MVE	MVE4816-10	MRTSUE11120	1 year	2024-08-24	SIP
Communication Tester	R&S	CMW500	MRTSUE06108	1 year	2024-10-23	WZ-SR6
Thermohygrometer	testo	608-H1	MRTSUE06362	1 year	2025-02-04	WZ-SR6
Shielding Room	HUAMING	WZ-SR6	MRTSUE06443	N/A	N/A	WZ-SR6
Radio Communication Analyzer	Anritsu	MT8821C	MRTSUE06960	1 year	2024-07-06	WZ-SR6
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2024-09-27	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE11268	1 year	2024-12-14	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE06362	1 year	2025-02-04	WZ-SR6
Shielding Room	HUAMING	WZ-SR6	MRTSUE06443	N/A	N/A	WZ-SR6
Signal Analyzer	Keysight	N9020B	MRTSUE06583	1 year	2024-09-27	WZ-SR6
USB Power Sensor	Keysight	U8488A	MRTSUE06958	5 years	2026-07-08	SIP-SR3
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2024-10-28	SIP-AC1
Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2024-06-17	SIP-AC1
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2024-12-17	SIP-AC1
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2024-12-21	SIP-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2024-05-09	SIP-AC1
				1 year	2025-05-08	SIP-AC1
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2024-09-24	SIP-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2024-10-09	SIP-AC1
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2025-01-27	SIP-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2024-10-23	SIP-AC1
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07075	1 year	2024-12-04	SIP-AC1
Cable	HUBER+SUHNER	SF106	MRTSUE06594	1 year	2024-12-21	SIP-AC1
Cable	HUBER+SUHNER	SF106	MRTSUE06874	1 year	2024-12-21	SIP-AC1

Software	Version	Function
EMI Software	V3.0.0	EMI Test Software
Controller_MF 7802BS	1.02	RE Antenna & Turntable
CMWrun	V 1.9.10.20	license 2G & 3G & 4G
UCTS	V 6.23.217.99	license 3G & 4G & 5G
Agilent Power Analyzer/Agilent Power Panel	V R03.09.00	Power

4. Decision Rules and Measurement Uncertainty

4.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

4.2. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Radiated Spurious Emissions
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): Coaxial: 9kHz~30MHz: 2.61dB Coplanar: 9kHz~30MHz: 2.62dB Horizontal: 30MHz~200MHz: 3.79dB 200MHz~1GHz: 3.91dB 1GHz~40GHz: 4.99dB Vertical: 30MHz~200MHz: 4.06dB 200MHz~1GHz: 5.21dB 1GHz~40GHz: 4.90dB
Conducted Spurious Emissions
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.47dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.66dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 69.28kHz
Frequency Stability
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 8.04Hz

5. Test Result

5.1. Summary

FCC Part Section(s)	Test Description	Test Condition	Test Result
2.1049	Occupied Bandwidth	Conducted	Pass
2.1055, 90.213	Frequency Stability		Pass
90.635	Transmitter Output Power		Pass
2.1051, 90.691(a)	Transmitter unwanted emissions (band-edge)		Pass
2.1051, 90.691(a)	Transmitter unwanted emissions (spurious)		
2.1053, 90.691(a)	Transmitter Spurious Emissions	Radiated	Pass

Notes:

1) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part ofthe system to connect the EUT to the analyzer at all frequencies of interest.
2) All supported modulation types were evaluated. The worst-case emission of modulation was selected. Therefore, the Frequency Stability, Transmitter unwanted emissions (band-edge), Transmitter unwanted emissions (spurious), Radiated Spurious Emissions were presented worst-case in the test report.
3) For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.
4) This report is based on MRT Original “2404RSU035-U4” Report, FCC ID: 2BEY3LCUR57WWDA to copying report and updating the FCC ID.

5.2. Occupied Bandwidth Measurement

5.2.1. Test Limit

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

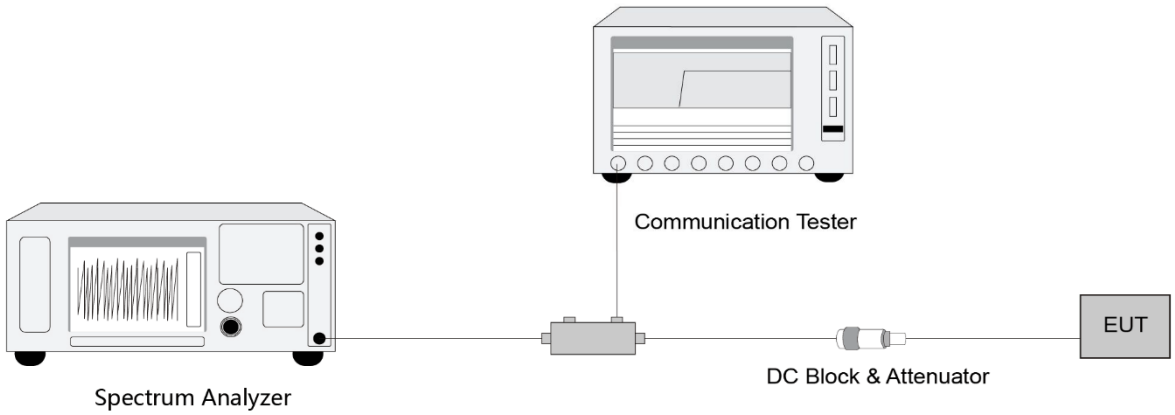
5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.4.4

5.2.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency
2. RBW = The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize
8. Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

5.2.4. Test Setup



5.2.5. Test Result

Refer to Appendix A.1.

5.3. Frequency Stability Measurement

5.3.1. Test Limit

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

5.3.2. Test Procedure

ANSI C63.26-2015 - Section 5.6

5.3.3. Test Setting

1. A reference point shall be established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as f_L and f_H respectively.
2. Use the frequency error function of the instrument and record the frequency error.
3. Change the temperature of equipment and repeat Steps 2.
4. Change the Voltage of equipment and repeat Steps 2.
5. The frequency error offset determined in the above methods shall be added or subtracted from the values of f_L and f_H and the resulting frequencies must remain within the band

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

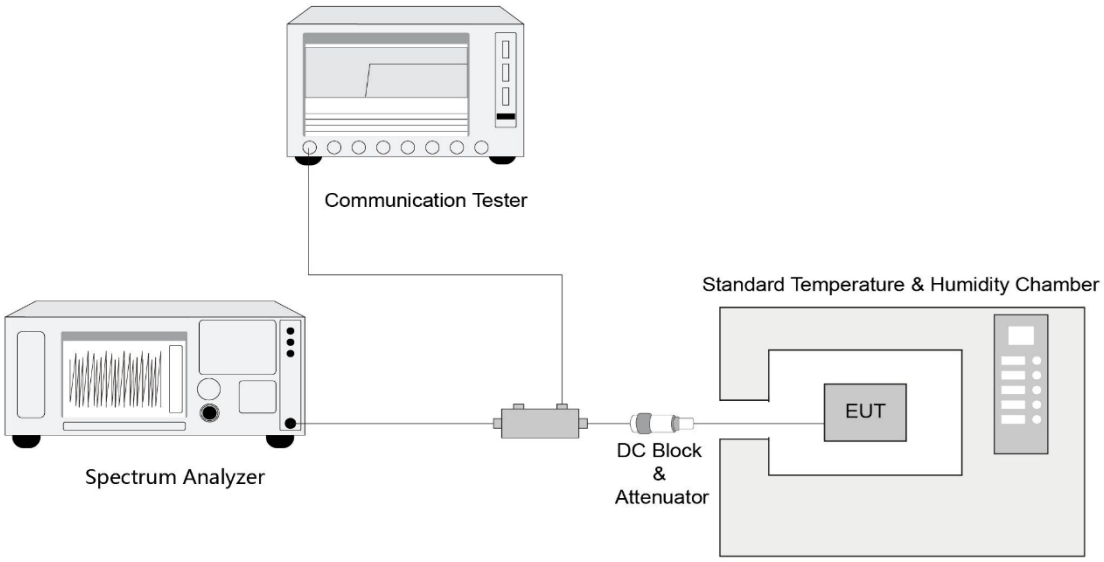
Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the inputvoltage to specify extreme voltage variation (±15%) and end point, record the maximum

frequency change.

5.3.4. Test Setup



5.3.5. Test Result

Refer to Appendix A.2.

5.4. Transmitter Output Power Measurement

5.4.1. Test Limit

The maximum output power of the transmitter for mobile stations is 100 watts (20dBw).

5.4.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.4.2

5.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

ERP or EIRP = P_{Meas} + G_T

where

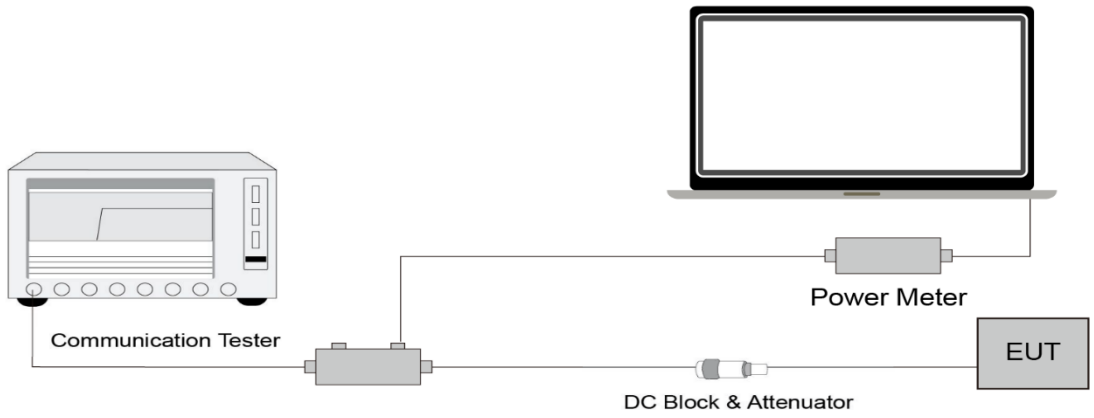
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

ERP = EIRP -2.15

5.4.4. Test Setup



5.4.5. Test Result

Refer to Appendix A.3.

5.5. Transmitter unwanted emissions (band-edge) Measurement

5.5.1. Test Limit

Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

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

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

5.5.2. Test Procedure

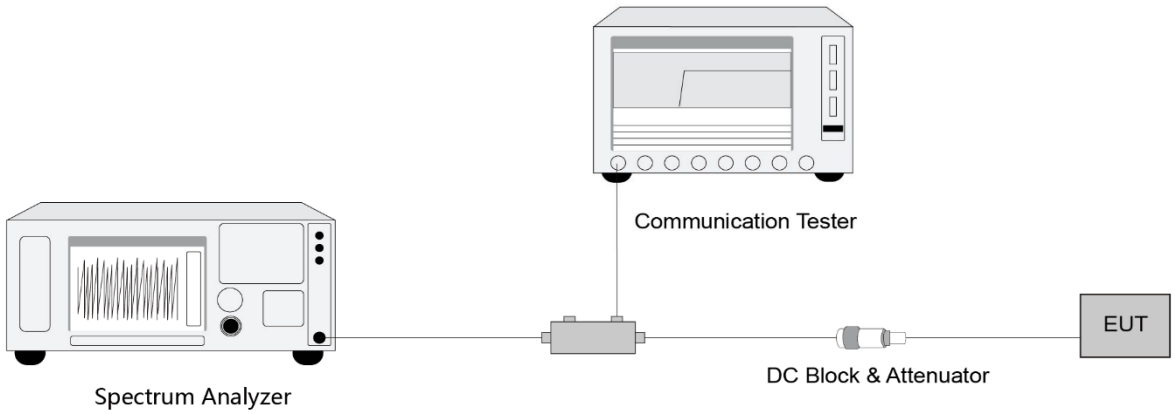
ANSI C63.26-2015 – Section 5.7

5.5.3. Test Setting

1. Set the analyzer frequency to Low or High channel
2. RBW = specified resolution bandwidth, for improvement of the accuracy in the measurement of the average power of a noise-like emission, a RBW narrower than the specified reference bandwidth can be used (generally limited to no less than 1% of the frequency block group, provided that a subsequent integration is performed over the full required measurement bandwidth. This integration should be performed using the spectrum analyzer’s band power functions.
3. VBW ≥ 3*RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. If the EUT can be configured to transmit continuously, then set the trigger to free run
7. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints

8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.
9. Compute the power by integrating the spectrum across the specified resolution bandwidth using the instrument's band or channel power measurement function, with the band/channel limits set equal to the specified resolution bandwidth, when using a measurement bandwidth smaller than the specified bandwidth. Otherwise, Use the peak marker function to determine the maximum amplitude level.

5.5.4. Test Setup



5.5.5. Test Result

Refer to Appendix A.4.

5.6. Transmitter unwanted emissions (spurious) Measurement

5.6.1. Test Limit

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst-case configuration. All modes of operation were investigated, and the worst-case configuration results are reported in this section.

For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

5.6.2. Test Procedure

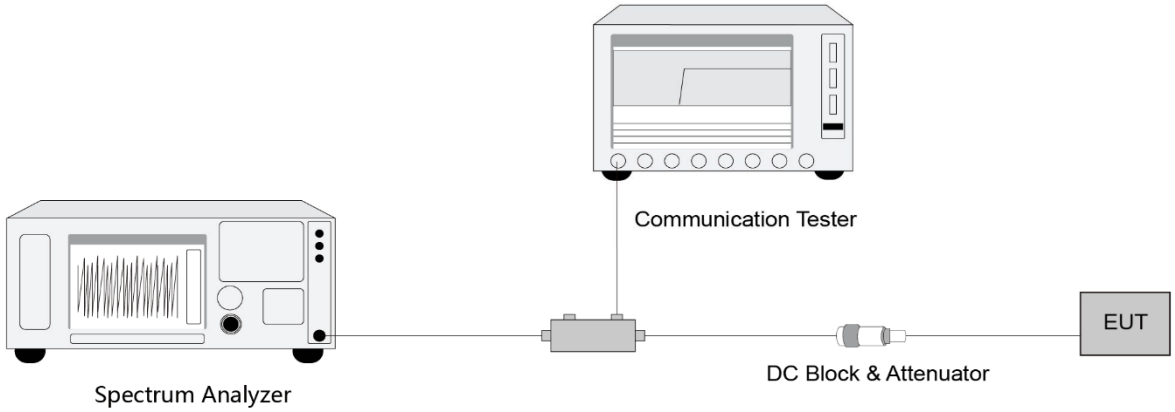
ANSI C63.26-2015 - Section 5.7

5.6.3. Test Setting

1. Set the analyzer frequency to low, Mid or high channel.
2. RBW = specified resolution bandwidth
3. VBW ≥ 3*RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. If the EUT can be configured to transmit continuously, then set the trigger to free run
7. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

9. Use the peak marker function to determine the maximum amplitude level.

5.6.4. Test Setup



5.6.5. Test Result

Refer to Appendix A.5.

5.7. Radiated Spurious Emissions Measurement

5.7.1. Test Limit

Out of band emissions: The powerof any emission outside of theauthorized operating frequency ranges must be attenuated below the transmitting power (P) by a factorof at least 43 + 10 log(P) dB. The emission limit equal to -13dBm.

E (dBμV/m) = EIRP (dBm) - 20 log D + 104.8; where D is the measurement distance in meters. The emission limit equal to 82.3dBμV/m.

5.7.2. Test Procedure

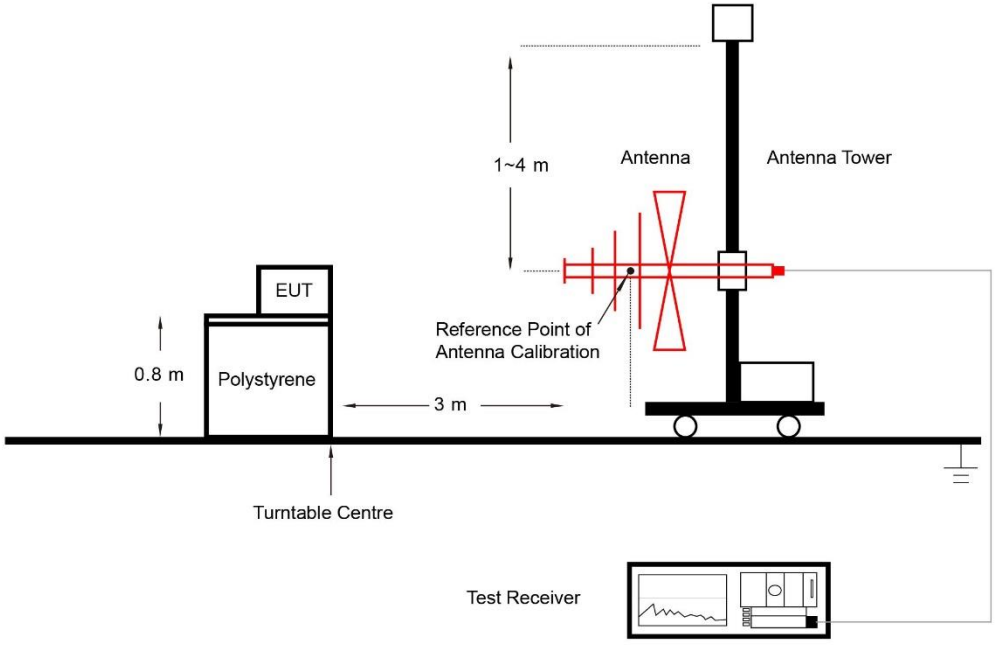
ANSI C63.26-2015 - Section 5.2.7 & 5.5

5.7.3. Test Setting

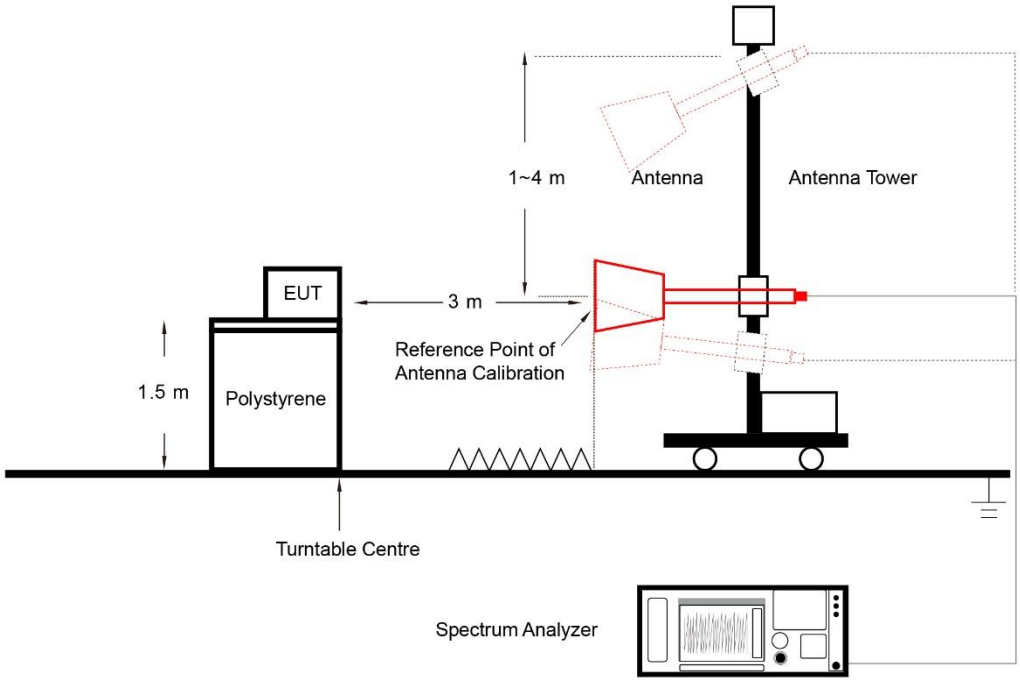
1. RBW = 120kHz or 1MHz
2. VBW ≥ 3*RBW
3. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period)
4. Detector = CISPR quasi-peak / average detector (Below 1 GHz, compliance with the limits shall be demonstrated using a CISPR quasi-peak detector and the related measurement bandwidth. Above 1 GHz, compliance with the limits shall be demonstrated using a linear average detector with a minimum resolution bandwidth of 1 MHz.)
5. The trace was allowed to stabilize

5.7.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.7.5. Test Result

Refer to Appendix A.6.

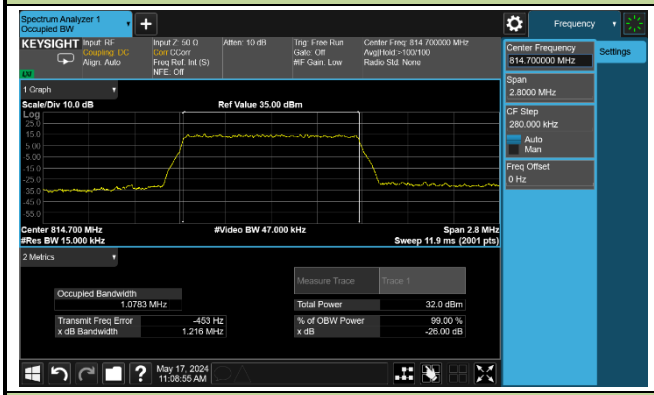
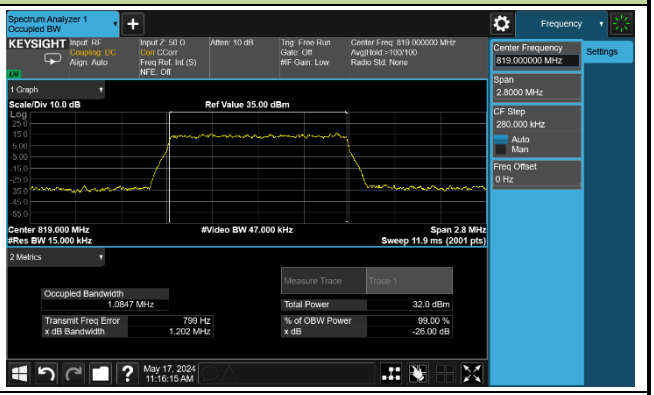
Appendix A - Test Result

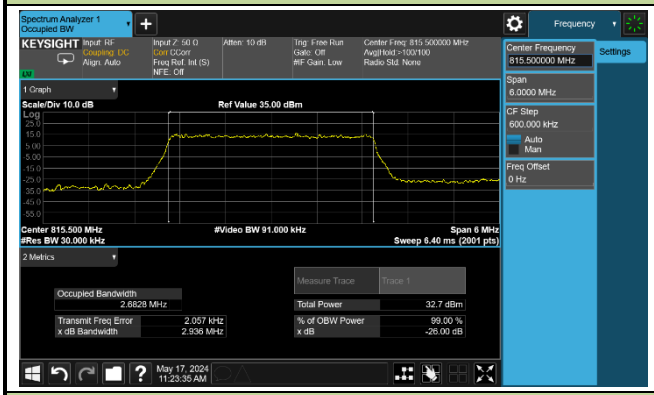
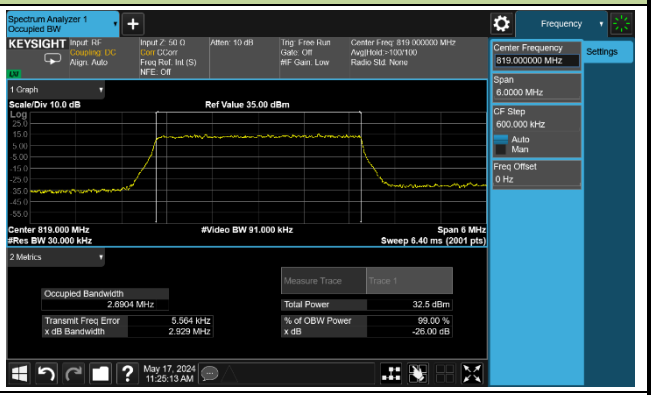
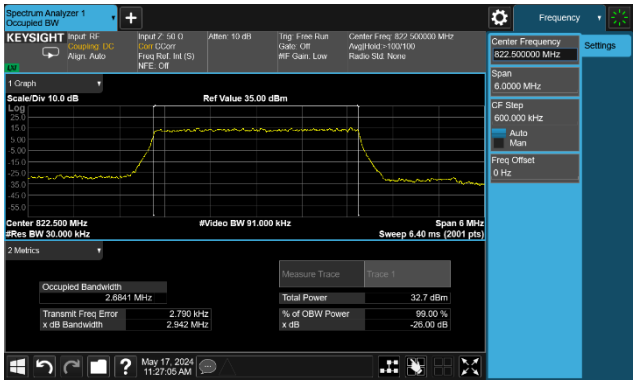
A.1 Occupied Bandwidth Test Result

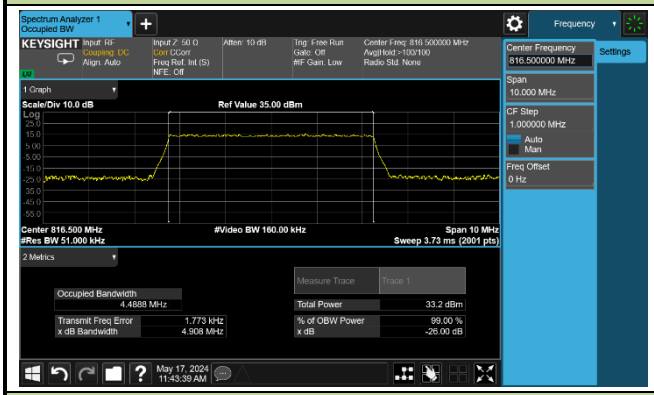
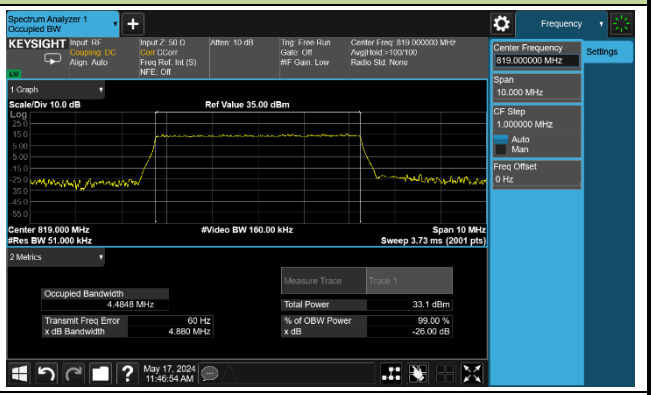
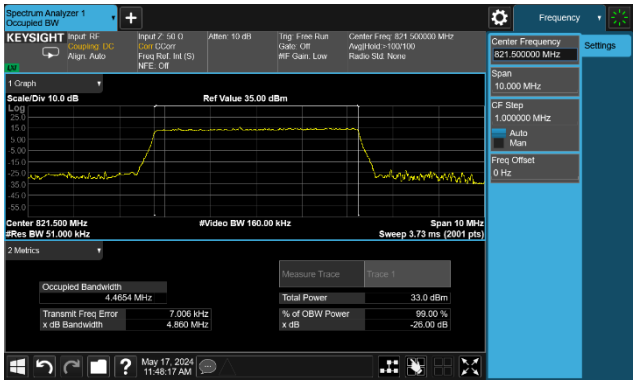
Test Site	SIP-SR1	Test Engineer	Yoniter Yang
Test Date	2024-05-17	Test Band	LTE Band 26

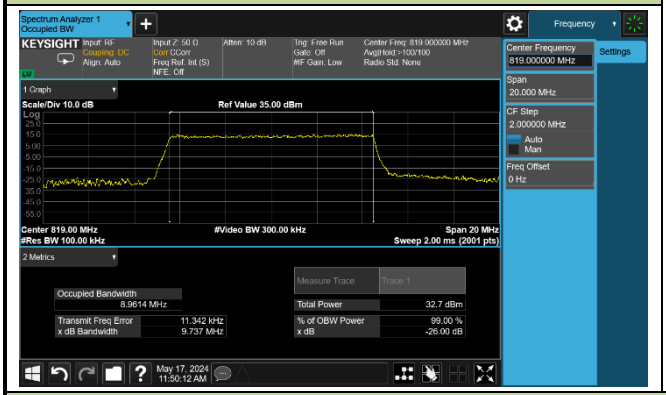
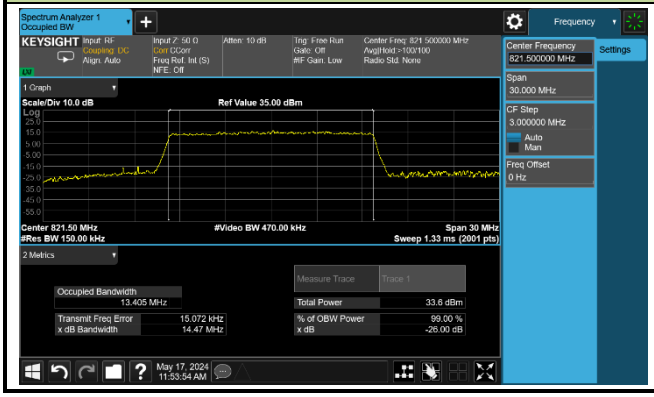
Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
QPSK		
1.4	814.7	1.08
	819.0	1.08
	823.3	1.08
3	815.5	2.68
	819.0	2.69
	822.5	2.68
5	816.5	4.49
	819.0	4.48
	821.5	4.47
10	819.0	8.96
15	821.5	13.41
16QAM		
1.4	814.7	1.08
	819.0	1.09
	823.3	1.08
3	815.5	2.68
	819.0	2.68
	822.5	2.68
5	816.5	4.47
	819.0	4.48
	821.5	4.47
10	819.0	8.95
15	821.5	13.39

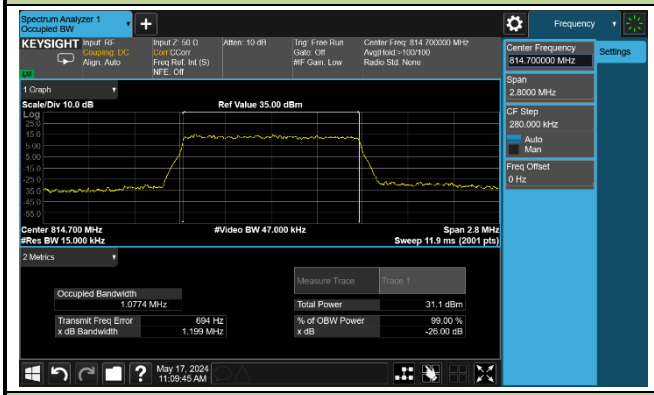
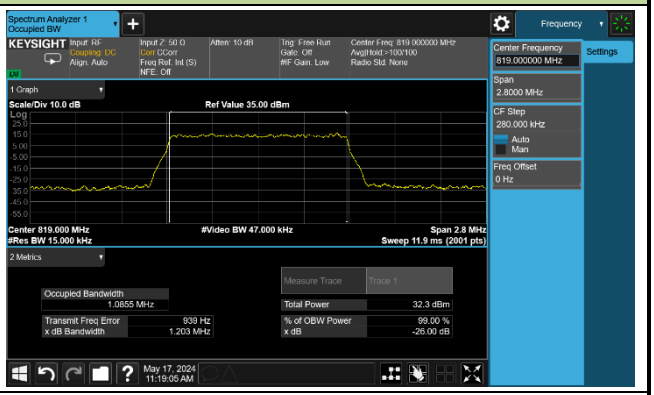
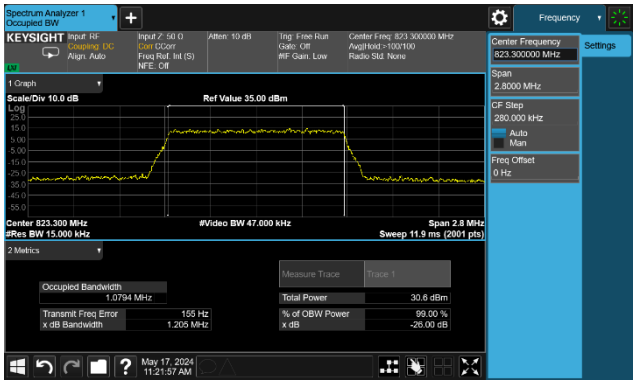
Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
64QAM		
1.4	814.7	1.09
	819.0	1.08
	823.3	1.08
3	815.5	2.69
	819.0	2.68
	822.5	2.68
5	816.5	4.46
	819.0	4.47
	821.5	4.47
10	819.0	8.96
15	821.5	13.36

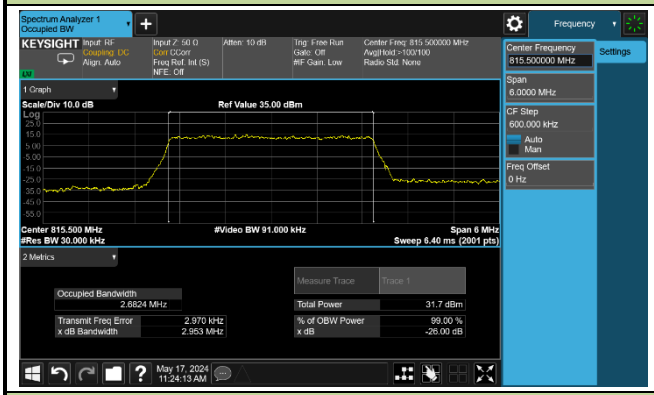
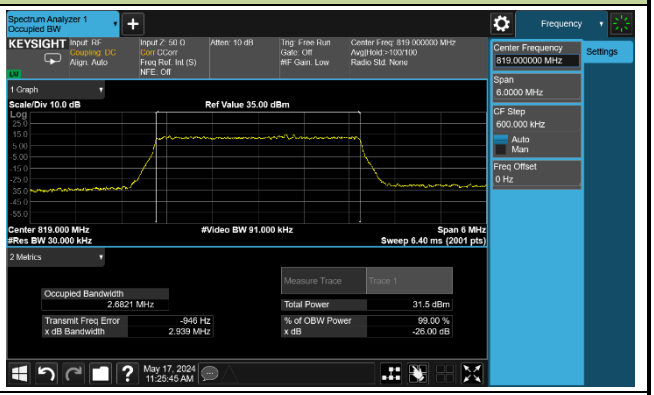
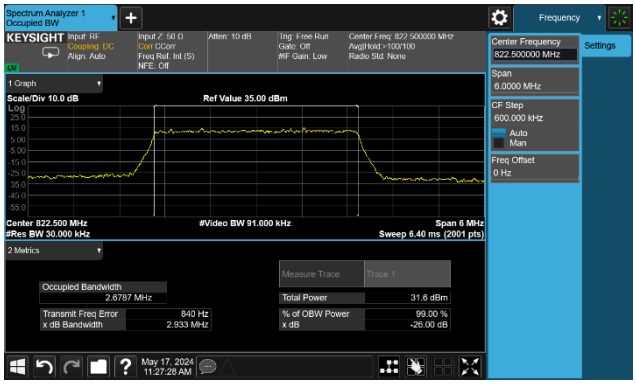
99% Bandwidth – 1.4MHz Bandwidth QPSK	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

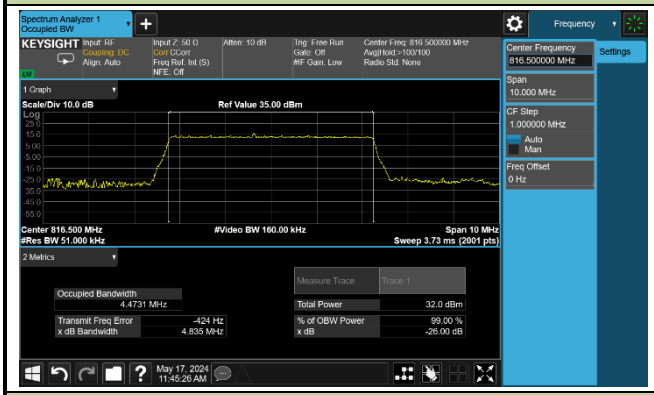
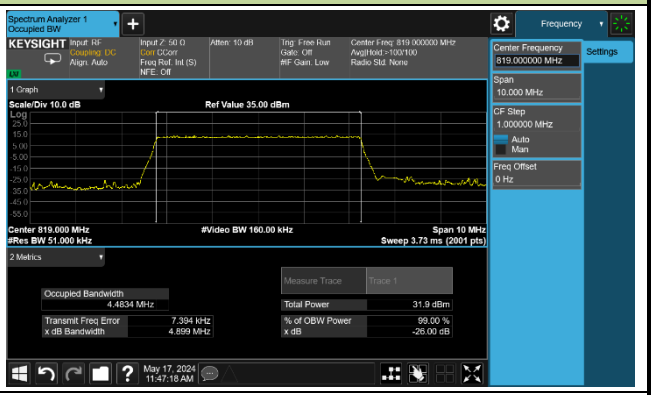
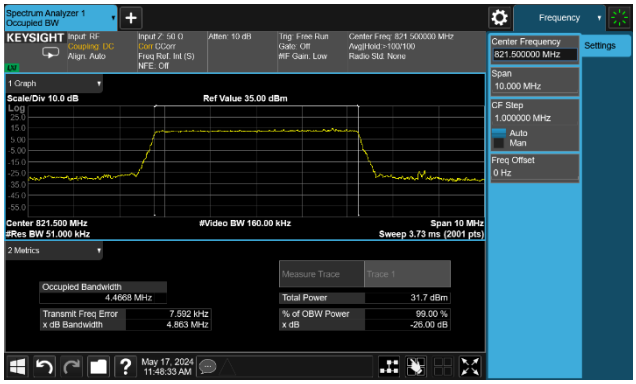
99% Bandwidth – 3MHz Bandwidth QPSK	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

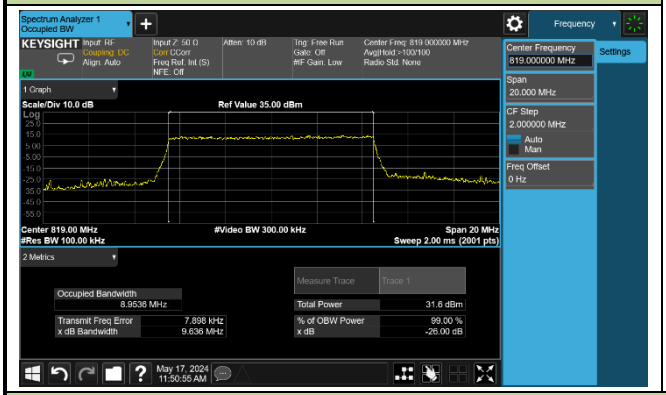
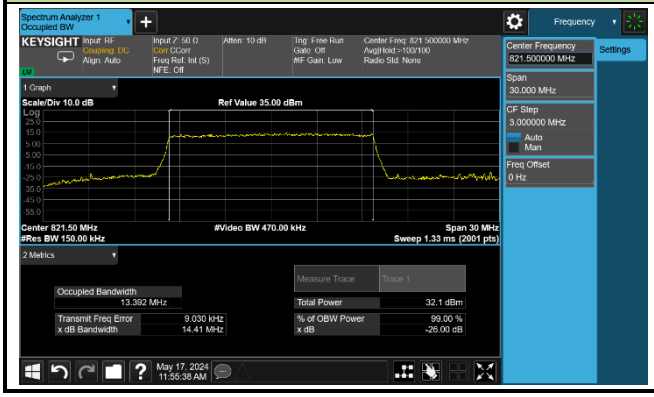
99% Bandwidth – 5MHz Bandwidth QPSK	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

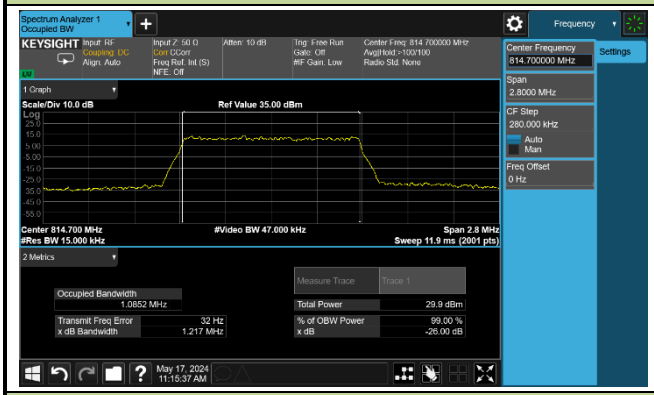
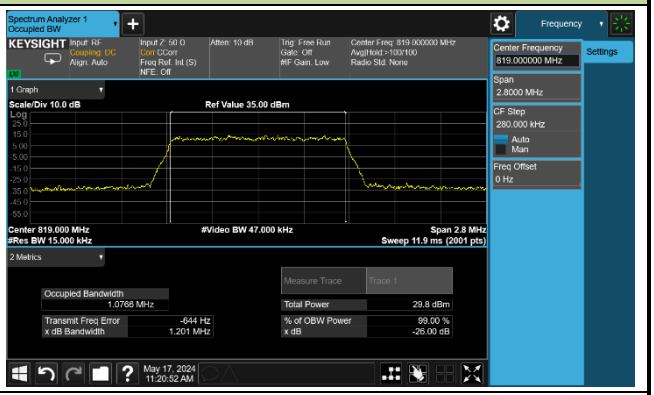
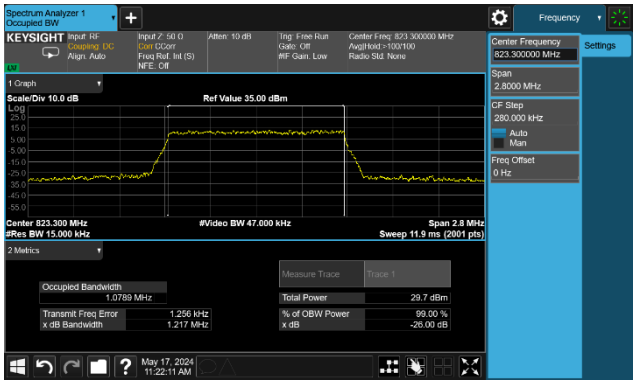
99% Bandwidth – 10MHz Bandwidth QPSK	
Middle Channel Bandwidth	
	
99% Bandwidth – 15MHz Bandwidth QPSK	
Middle Channel Bandwidth	
	

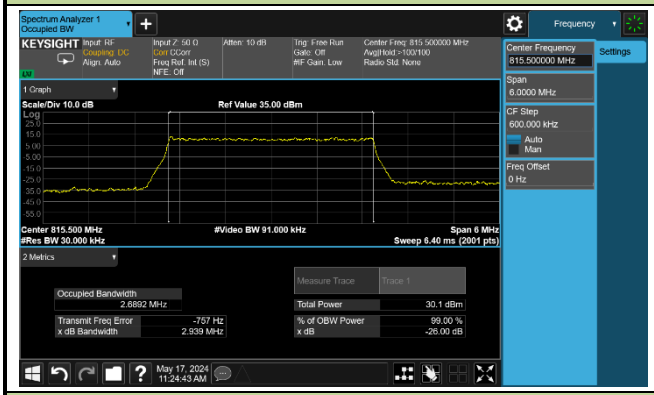
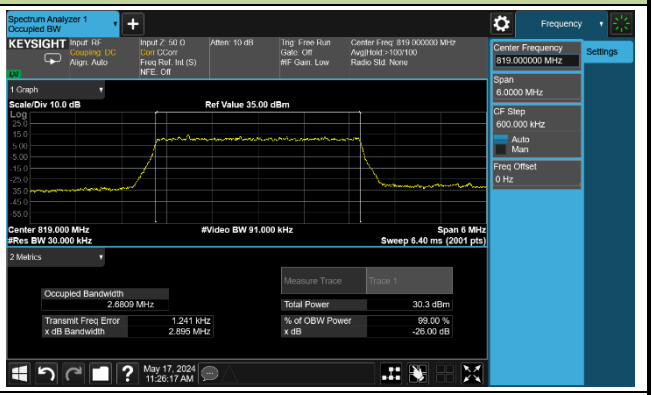
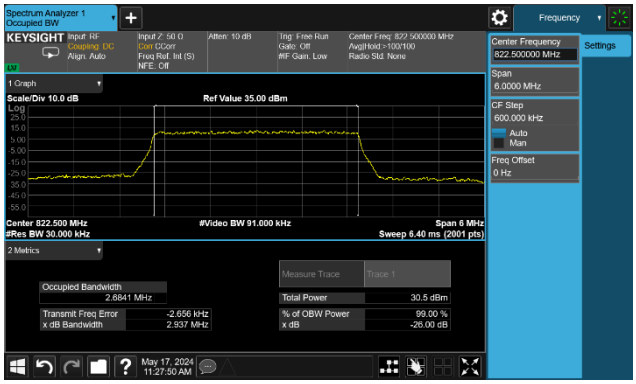
99% Bandwidth – 1.4MHz Bandwidth 16QAM	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

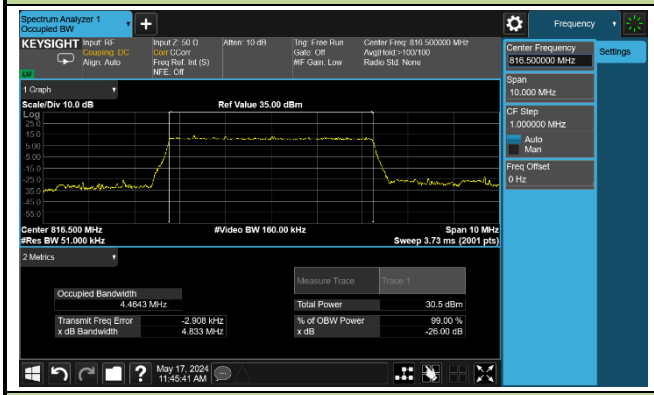
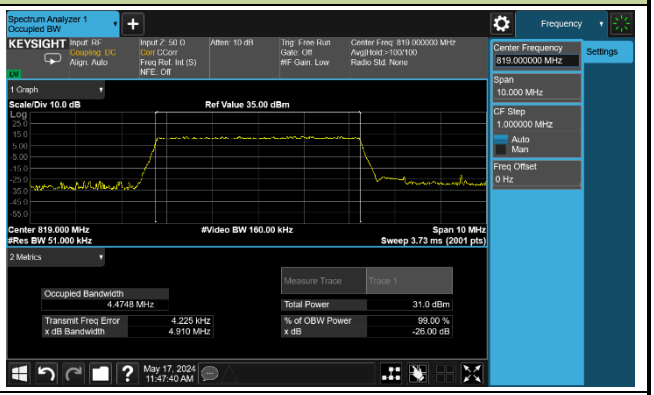
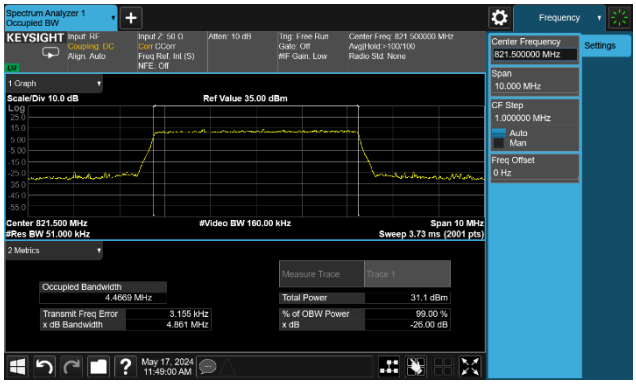
99% Bandwidth – 3MHz Bandwidth 16QAM	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

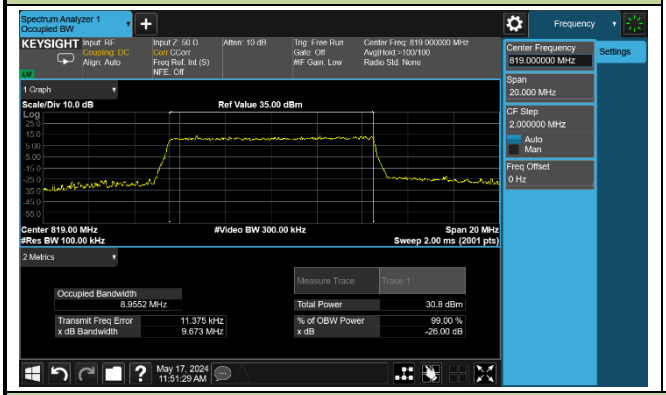
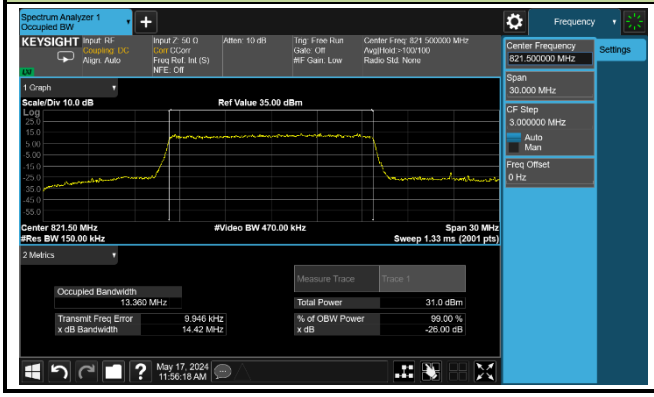
99% Bandwidth – 5MHz Bandwidth 16QAM	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

99% Bandwidth – 10MHz Bandwidth 16QAM	
Middle Channel Bandwidth	
	
99% Bandwidth – 15MHz Bandwidth 16QAM	
Middle Channel Bandwidth	
	

99% Bandwidth – 1.4MHz Bandwidth 64QAM	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

99% Bandwidth – 3MHz Bandwidth 64QAM	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

99% Bandwidth – 5MHz Bandwidth 64QAM	
Low Channel Bandwidth	Middle Channel Bandwidth
	
High Channel Bandwidth	
	

99% Bandwidth – 10MHz Bandwidth 64QAM	
Middle Channel Bandwidth	
	
99% Bandwidth – 15MHz Bandwidth 64QAM	
Middle Channel Bandwidth	
	

A.2 Frequency Stability Test Result

Test Site	WZ-TR3	Test Engineer	Jone Zhang
Test Date	2024-05-23 ~ 202405-27	Test Band	LTE Band 26

Voltage	Temp (°C)	Frequency Range (MHz)		Delta (Hz)	Frequency stability (ppm)	Within Authorized Frequency Block
		814.0	824.0			
		f_L	f_H			
Normal	+ 20 (Ref)	814.0868	823.9090	0.00	0.0000	Pass
	+ 50	814.0868	823.9090	25.20	0.0308	Pass
	+ 40	814.0868	823.9090	11.50	0.0140	Pass
	+ 30	814.0868	823.9090	-12.70	-0.0155	Pass
	+ 10	814.0868	823.9090	-5.20	-0.0063	Pass
	0	814.0868	823.9090	9.90	0.0121	Pass
	- 10	814.0868	823.9090	-14.50	-0.0177	Pass
	- 20	814.0868	823.9090	5.40	0.0066	Pass
	- 30	814.0868	823.9090	11.10	0.0136	Pass
15%	+ 20	814.0868	823.9090	12.90	0.0158	Pass
-15%	+ 20	814.0868	823.9090	-5.50	-0.0067	Pass

A.3 Transmitter Output Power Test Result

Test Site	SIP-SR1	Test Engineer	Yoniter Yang
Test Date	2024-05-21	Test Band	LTE Band 26

Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	Output Power (W)	Limit (W)
QPSK						
814.7	1.4	1	0	23.78	0.2388	< 100
819.0				23.83	0.2415	< 100
823.3				23.77	0.2382	< 100
814.7	1.4	1	2	23.97	0.2495	< 100
819.0				23.98	0.2500	< 100
823.3				23.93	0.2472	< 100
814.7	1.4	1	6	23.85	0.2427	< 100
819.0				23.93	0.2472	< 100
823.3				23.91	0.2460	< 100
814.7	1.4	6	0	23.07	0.2028	< 100
819.0				23.01	0.2000	< 100
823.3				23.00	0.1995	< 100
815.5	3	1	0	24.01	0.2518	< 100
819.0				24.06	0.2547	< 100
822.5				24.00	0.2512	< 100
815.5	3	1	7	24.12	0.2582	< 100
819.0				24.13	0.2588	< 100
822.5				24.12	0.2582	< 100
815.5	3	1	14	24.03	0.2529	< 100
819.0				24.08	0.2559	< 100
822.5				24.09	0.2564	< 100
815.5	3	15	0	23.07	0.2028	< 100
819.0				23.03	0.2009	< 100
822.5				23.02	0.2004	< 100

Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	Output Power (W)	Limit (W)
QPSK						
816.5	5	1	0	23.78	0.2388	< 100
819.0				23.97	0.2495	< 100
821.5				23.98	0.2500	< 100
816.5	5	1	12	24.15	0.2600	< 100
819.0				24.14	0.2594	< 100
821.5				24.10	0.2570	< 100
816.5	5	1	24	23.82	0.2410	< 100
819.0				24.10	0.2570	< 100
821.5				24.04	0.2535	< 100
816.5	5	25	0	23.14	0.2061	< 100
819.0				23.15	0.2065	< 100
821.5				23.10	0.2042	< 100
819.0	10	1	0	23.98	0.2500	< 100
		1	24	23.83	0.2415	< 100
		1	49	23.80	0.2399	< 100
		50	0	22.84	0.1923	< 100
821.5	15	1	0	24.06	0.2547	< 100
		1	36	24.11	0.2576	< 100
		1	74	24.23	0.2649	< 100
		75	0	23.20	0.2089	< 100

Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	Output Power (W)	Limit (W)
16QAM						
814.7	1.4	1	0	22.99	0.1991	< 100
819.0				23.04	0.2014	< 100
823.3				23.14	0.2061	< 100
814.7	1.4	1	2	23.12	0.2051	< 100
819.0				23.10	0.2042	< 100
823.3				23.28	0.2128	< 100
814.7	1.4	1	6	23.08	0.2032	< 100
819.0				23.09	0.2037	< 100
823.3				23.20	0.2089	< 100
814.7	1.4	6	0	22.05	0.1603	< 100
819.0				22.17	0.1648	< 100
823.3				22.19	0.1656	< 100
815.5	3	1	0	23.07	0.2028	< 100
819.0				23.23	0.2104	< 100
822.5				23.57	0.2275	< 100
815.5	3	1	7	23.23	0.2104	< 100
819.0				23.38	0.2178	< 100
822.5				23.66	0.2323	< 100
815.5	3	1	14	23.14	0.2061	< 100
819.0				23.23	0.2104	< 100
822.5				23.59	0.2286	< 100
815.5	3	15	0	22.24	0.1675	< 100
819.0				22.19	0.1656	< 100
822.5				22.27	0.1687	< 100

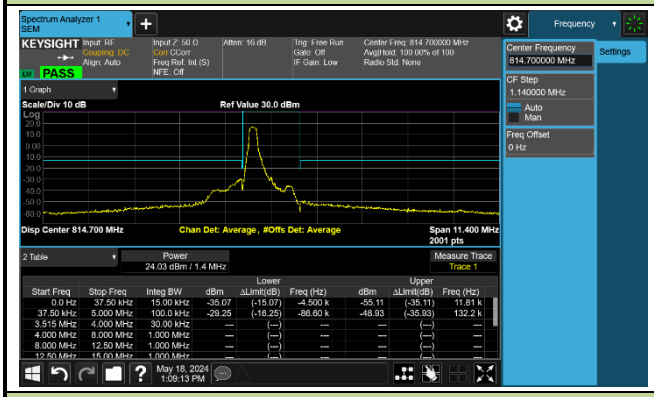
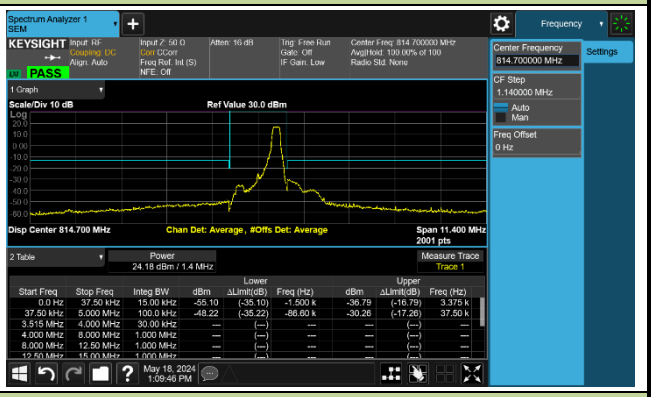
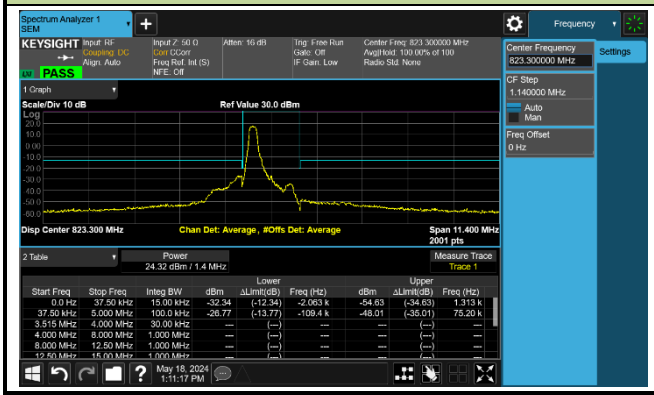
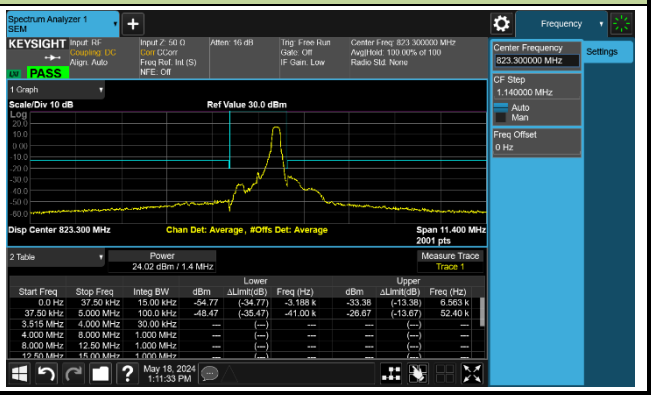
Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	Output Power (W)	Limit (W)
16QAM						
816.5	5	1	0	22.73	0.1875	< 100
819.0				23.37	0.2173	< 100
821.5				23.05	0.2018	< 100
816.5	5	1	12	23.07	0.2028	< 100
819.0				23.52	0.2249	< 100
821.5				23.18	0.2080	< 100
816.5	5	1	24	23.16	0.2070	< 100
819.0				23.40	0.2188	< 100
821.5				23.14	0.2061	< 100
816.5	5	25	0	22.19	0.1656	< 100
819.0				22.16	0.1644	< 100
821.5				22.11	0.1626	< 100
819.0	10	1	0	23.53	0.2254	< 100
		1	24	23.40	0.2188	< 100
		1	49	23.27	0.2123	< 100
		50	0	21.74	0.1493	< 100
821.5	15	1	0	23.72	0.2355	< 100
		1	36	23.66	0.2323	< 100
		1	74	23.72	0.2355	< 100
		75	0	22.10	0.1622	< 100

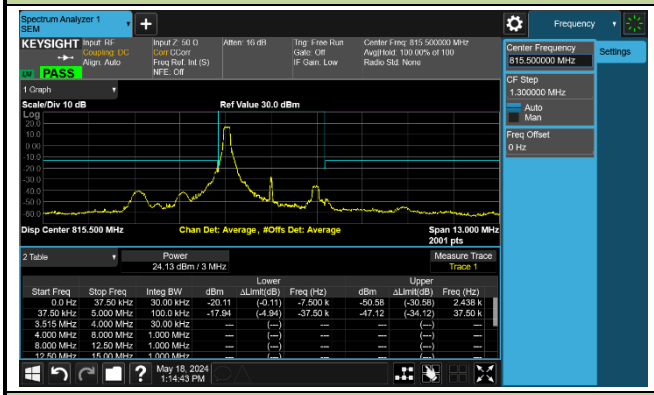
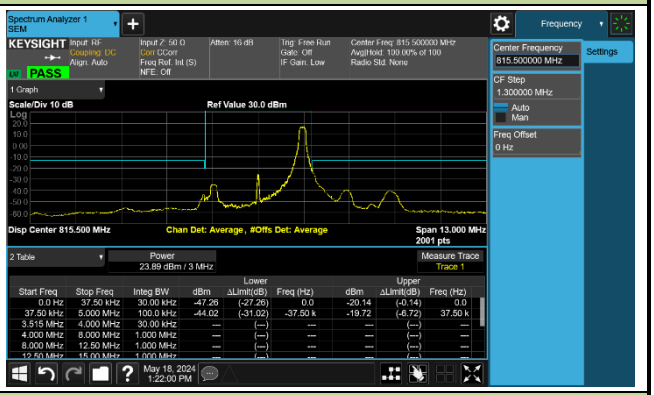
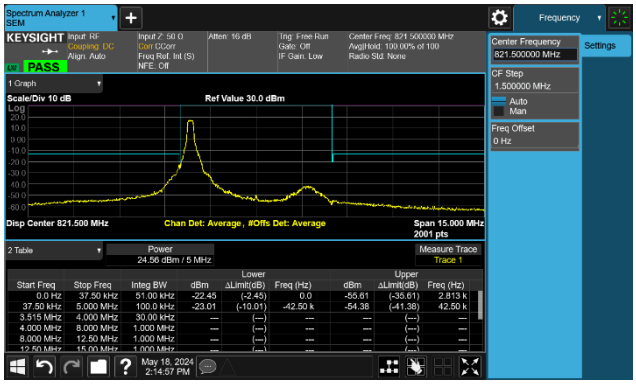
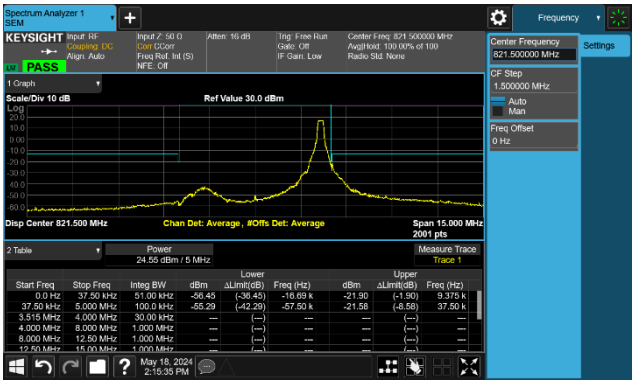
Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	Output Power (W)	Limit (W)
64QAM						
814.7	1.4	1	0	21.45	0.1396	< 100
819.0				22.38	0.1730	< 100
823.3				22.14	0.1637	< 100
814.7	1.4	1	2	21.49	0.1409	< 100
819.0				22.46	0.1762	< 100
823.3				22.28	0.1690	< 100
814.7	1.4	1	6	21.45	0.1396	< 100
819.0				22.39	0.1734	< 100
823.3				22.19	0.1656	< 100
814.7	1.4	6	0	20.73	0.1183	< 100
819.0				21.23	0.1327	< 100
823.3				21.39	0.1377	< 100
815.5	3	1	0	21.60	0.1445	< 100
819.0				22.19	0.1656	< 100
822.5				22.37	0.1726	< 100
815.5	3	1	7	21.63	0.1455	< 100
819.0				22.34	0.1714	< 100
822.5				22.43	0.1750	< 100
815.5	3	1	14	21.61	0.1449	< 100
819.0				22.23	0.1671	< 100
822.5				22.38	0.1730	< 100
815.5	3	15	0	20.82	0.1208	< 100
819.0				21.38	0.1374	< 100
822.5				21.22	0.1324	< 100

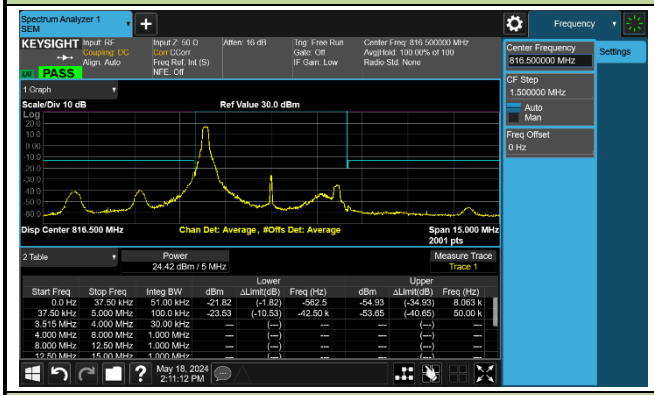
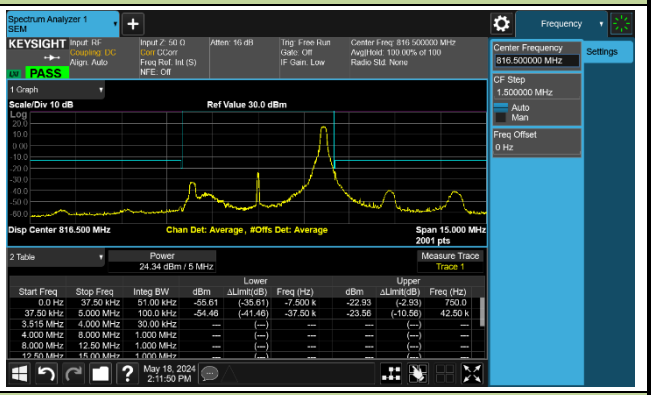
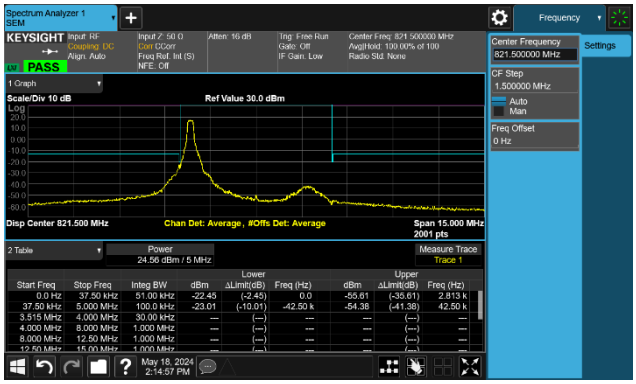
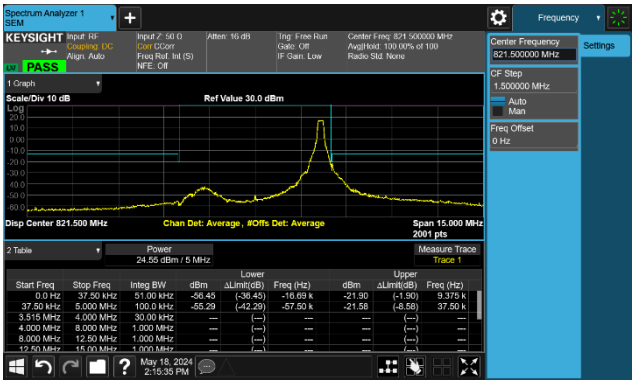
Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	Output Power (W)	Limit (W)
64QAM						
816.5	5	1	0	21.66	0.1466	< 100
819.0				22.21	0.1663	< 100
821.5				22.20	0.1660	< 100
816.5	5	1	12	21.76	0.1500	< 100
819.0				22.39	0.1734	< 100
821.5				22.32	0.1706	< 100
816.5	5	1	24	21.93	0.1560	< 100
819.0				22.30	0.1698	< 100
821.5				22.25	0.1679	< 100
816.5	5	25	0	21.07	0.1279	< 100
819.0				21.18	0.1312	< 100
821.5				21.06	0.1276	< 100
819.0	10	1	0	22.29	0.1694	< 100
		1	24	22.21	0.1663	< 100
		1	49	22.07	0.1611	< 100
		50	0	20.80	0.1202	< 100
821.5	15	1	0	22.51	0.1782	< 100
		1	36	22.45	0.1758	< 100
		1	74	22.54	0.1795	< 100
		75	0	21.13	0.1297	< 100

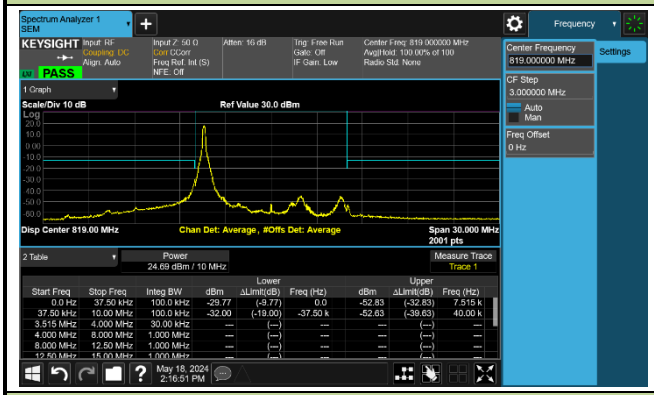
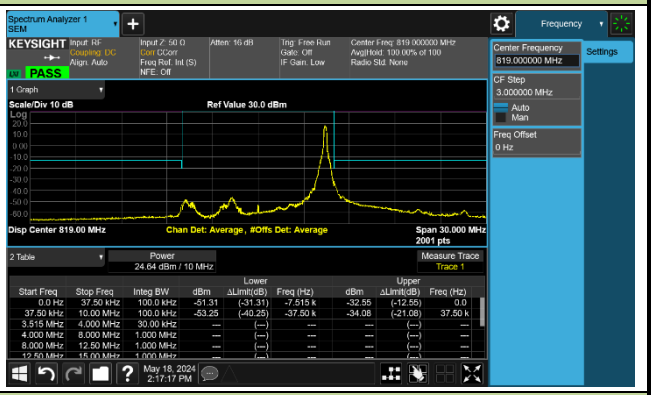
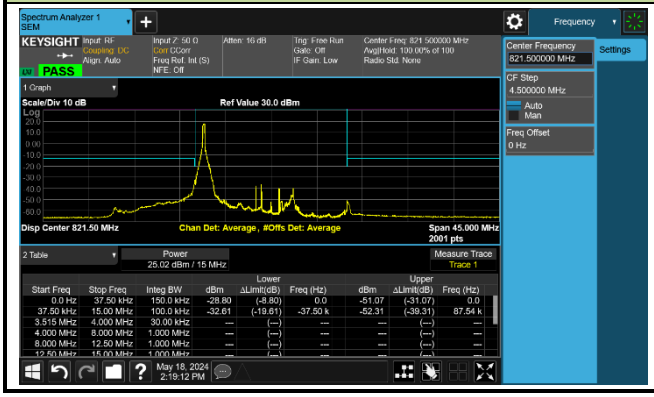
A.4 Transmitter unwanted emissions (band-edge) Test Result

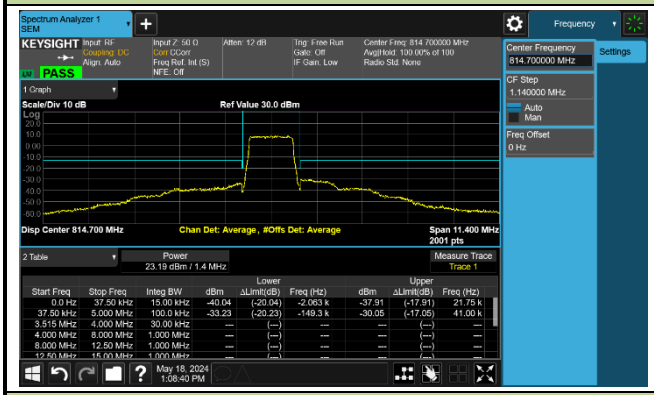
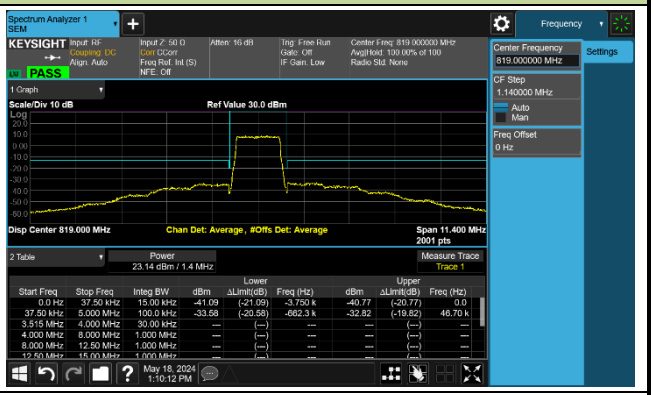
Test Site	SIP-SR1	Test Engineer	Yoniter Yang
Test Date	2024-05-18	Test Band	LTE Band 26

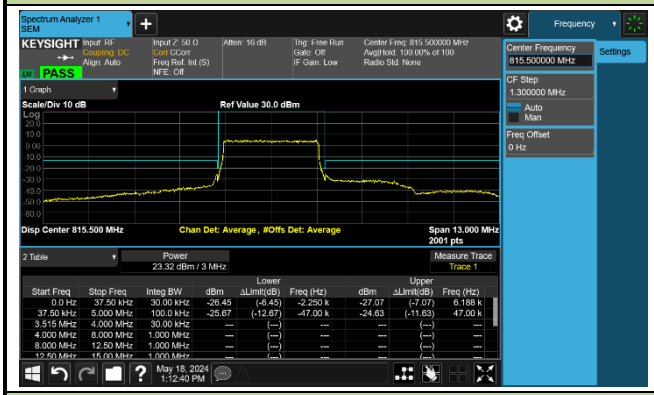
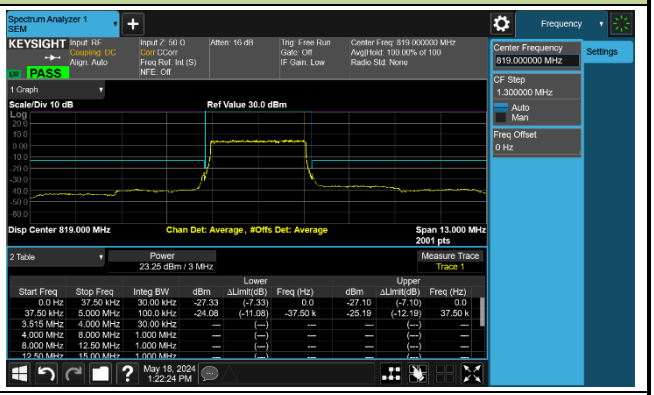
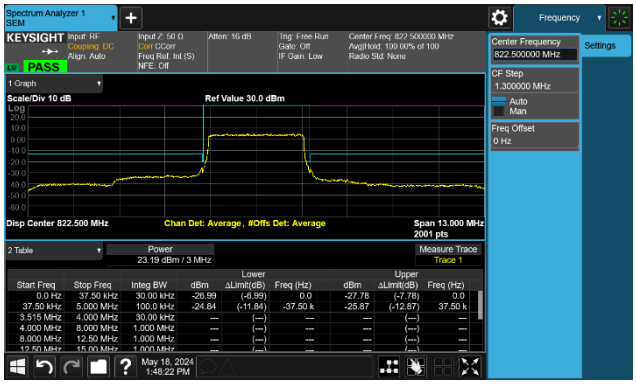
1.4MHz Channel Bandwidth – 1RB	
Low Channel_1RB_Low	Low Channel_1RB_High
	
High Channel_1RB_Low	High Channel_1RB_High
	

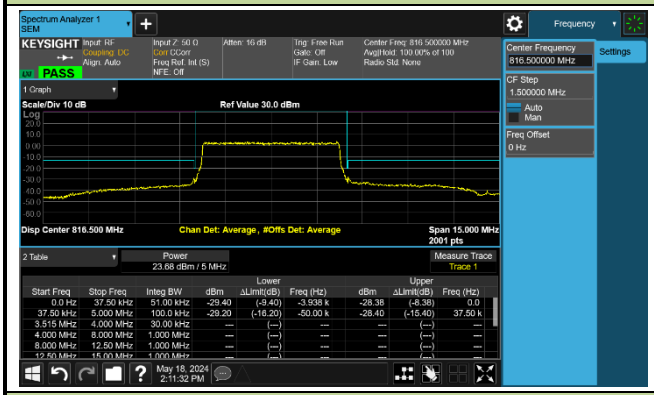
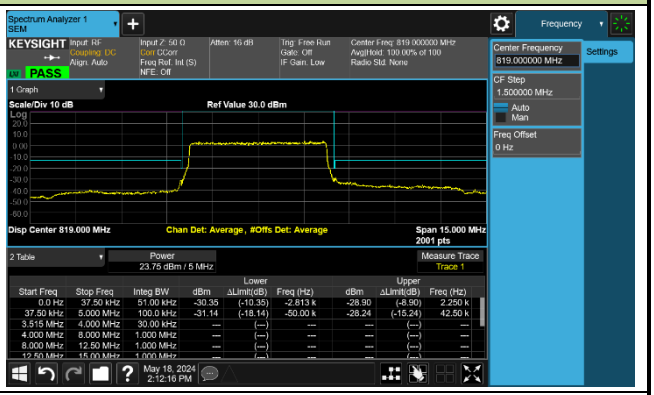
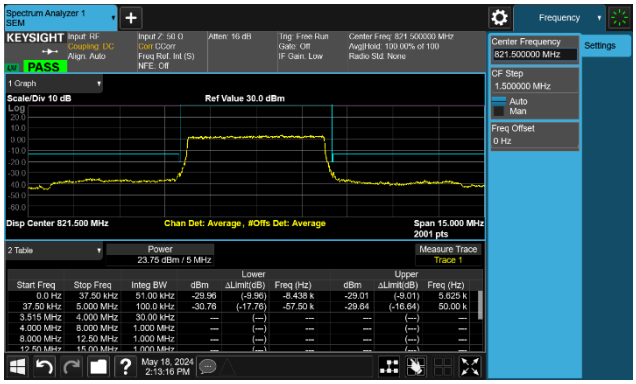
3MHz Channel Bandwidth – 1RB	
Low Channel_1RB_Low	Low Channel_1RB_High
	
High Channel_1RB_Low	High Channel_1RB_High
	

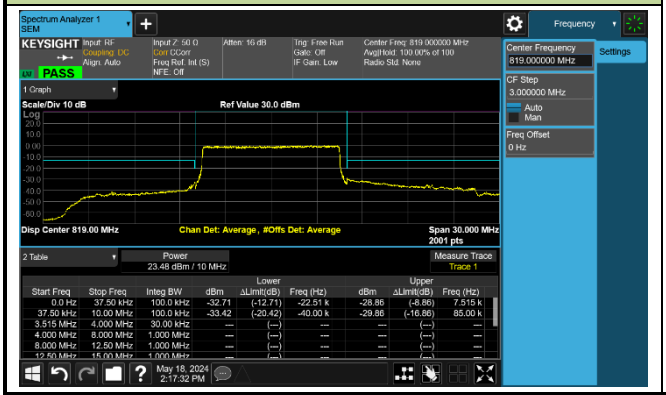
5MHz Channel Bandwidth – 1RB	
Low Channel_1RB_Low	Low Channel_1RB_High
	
High Channel_1RB_Low	High Channel_1RB_High
	

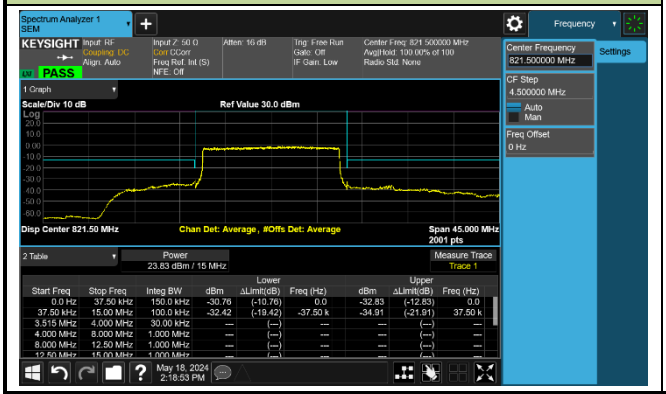
10MHz Channel Bandwidth – 1RB	
Middle Channel_1RB_Low	Middle Channel_1RB_High
	
15MHz Channel Bandwidth – 1RB	
Middle Channel_1RB_Low	Middle Channel_1RB_High
	

1.4MHz Channel Bandwidth – Full RB	
Low Channel	Middle Channel
	
High Channel	
	

3MHz Channel Bandwidth – Full RB	
Low Channel	Middle Channel
	
High Channel	
	

5MHz Channel Bandwidth – Full RB	
Low Channel	Middle Channel
	
High Channel	
	

10MHz Channel Bandwidth – Full RB	
Middle Channel	
	

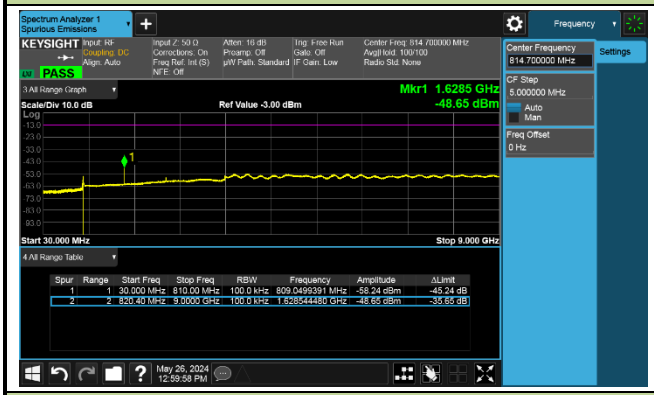
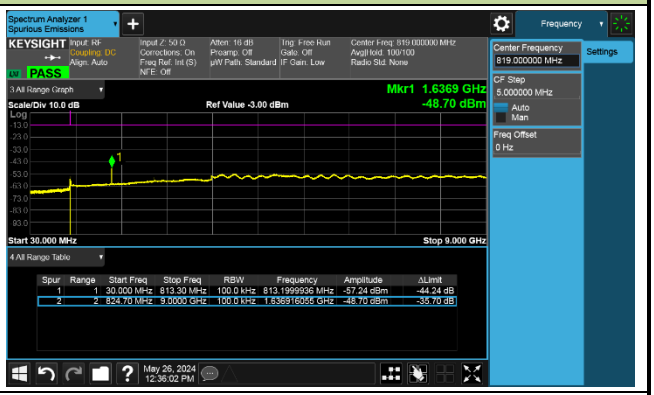
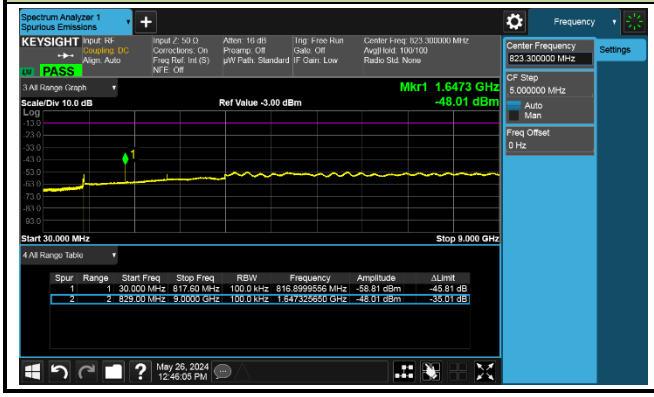
15MHz Channel Bandwidth – Full RB	
Middle Channel	
	

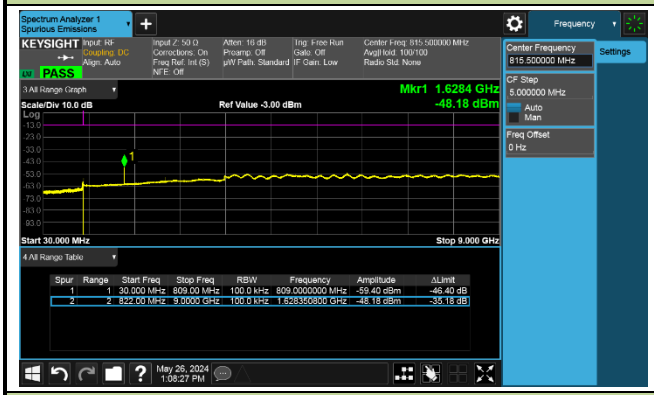
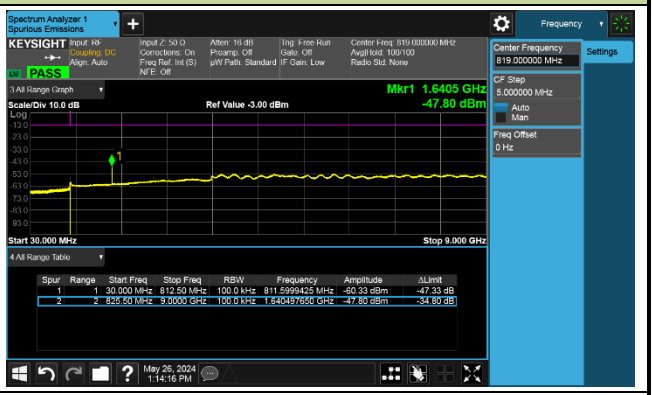
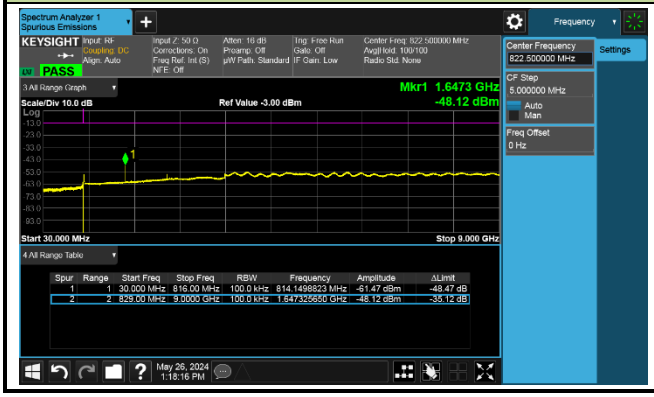
A.5 Transmitter unwanted emissions (spurious) Test Result

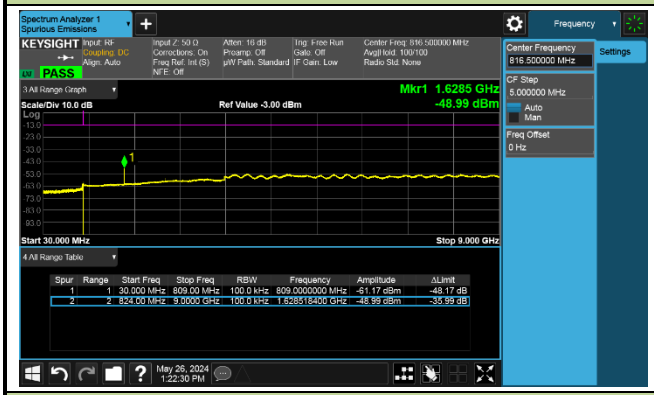
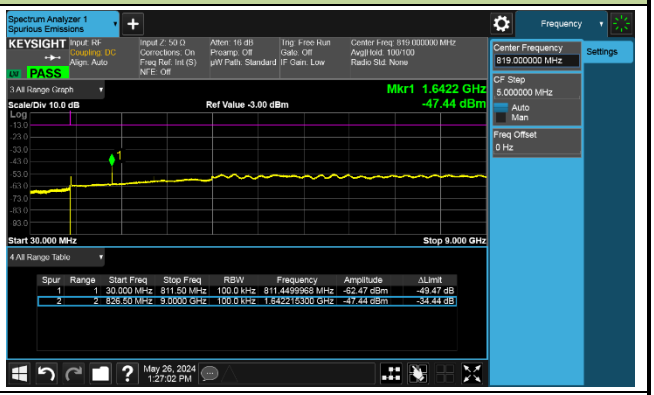
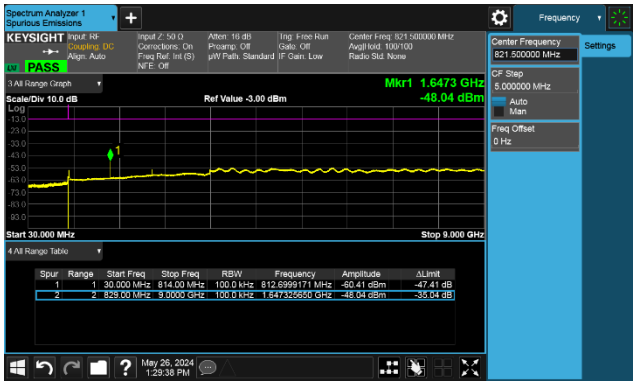
Test Site	SIP-SR1	Test Engineer	Yoniter Yang
Test Date	2024-05-26	Test Band	LTE Band 26, 1RB, QPSK

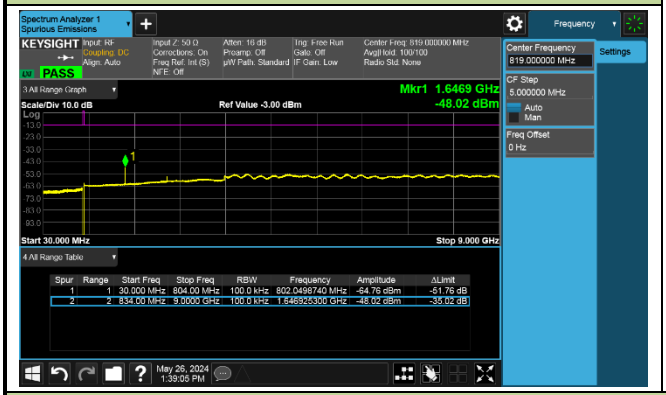
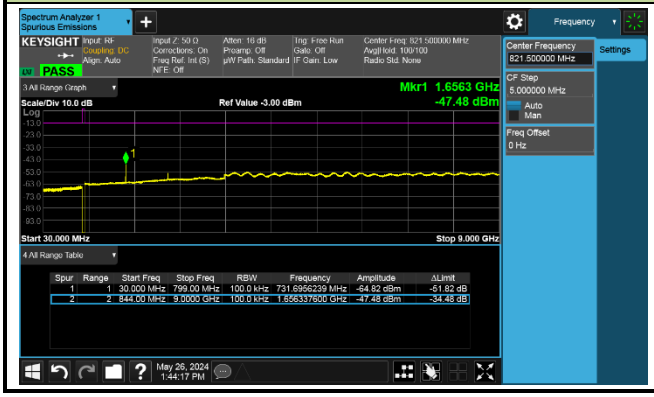
Channel Bandwidth (MHz)	Frequency (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
1.4	814.7	30 ~ 9000	-48.65	≤ -13.00	Pass
1.4	819.0	30 ~ 9000	-48.70	≤ -13.00	Pass
1.4	823.3	30 ~ 9000	-48.01	≤ -13.00	Pass
3	815.5	30 ~ 9000	-48.18	≤ -13.00	Pass
3	819.0	30 ~ 9000	-47.80	≤ -13.00	Pass
3	822.5	30 ~ 9000	-48.12	≤ -13.00	Pass
5	816.5	30 ~ 9000	-48.99	≤ -13.00	Pass
5	819.0	30 ~ 9000	-47.44	≤ -13.00	Pass
5	821.5	30 ~ 9000	-48.04	≤ -13.00	Pass
10	819.0	30 ~ 9000	-48.02	≤ -13.00	Pass
15	821.5	30 ~ 9000	-47.48	≤ -13.00	Pass

Note: The amplitude of Conducted Spurious emissions (frequency range from 9kHz to 30MHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

1.4MHz Channel Bandwidth	
Low Channel 30 ~ 9000MHz	Middle Channel 30 ~ 9000MHz
	
High Channel 30 ~ 9000MHz	
	

3MHz Channel Bandwidth	
Low Channel 30 ~ 9000MHz	Middle Channel 30 ~ 9000MHz
	
High Channel 30 ~ 9000MHz	
	

5MHz Channel Bandwidth	
Low Channel 30 ~ 9000MHz	Middle Channel 30 ~ 9000MHz
	
High Channel 30 ~ 9000MHz	
	

10MHz Channel Bandwidth	
Middle Channel 30 ~ 9000MHz	
	
15MHz Channel Bandwidth	
Middle Channel 30 ~ 9000MHz	
	

A.6 Radiated Spurious Emissions Test Result

Test Site	SIP-AC1	Test Engineer	Fusco Pan
Test Date	2024-04-29 ~ 2024-05-09	Test Band	LTE Band 26, 1RB, QPSK

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
68.8	17.6	15.9	33.5	82.3	-48.8	Quasi-Peak	Horizontal
964.6	13.8	29.9	43.7	82.3	-38.6	Quasi-Peak	Horizontal
468.4	14.8	22.4	37.2	82.3	-45.1	Quasi-Peak	Vertical
918.5	13.5	29.6	43.1	82.3	-39.2	Quasi-Peak	Vertical
3261.0	41.7	0.0	41.7	82.3	-40.6	Peak	Horizontal
16529.5	34.0	20.7	54.7	82.3	-27.6	Peak	Horizontal
4340.5	39.1	3.8	42.9	82.3	-39.4	Peak	Vertical
15110.0	35.0	19.3	54.3	82.3	-28.0	Peak	Vertical
Middle Channel							
68.8	17.1	15.9	33.0	82.3	-49.3	Quasi-Peak	Horizontal
957.8	14.8	29.7	44.5	82.3	-37.8	Quasi-Peak	Horizontal
66.9	18.9	16.3	35.2	82.3	-47.1	Quasi-Peak	Vertical
906.4	12.9	29.7	42.6	82.3	-39.7	Quasi-Peak	Vertical
3278.0	40.9	0.3	41.2	82.3	-41.1	Peak	Horizontal
15093.0	35.0	18.9	53.9	82.3	-28.4	Peak	Horizontal
1255.0	48.3	-9.0	39.3	82.3	-43.0	Peak	Vertical
17923.5	31.0	23.5	54.5	82.3	-27.8	Peak	Vertical
High Channel							
68.8	18.0	15.9	33.9	82.3	-48.4	Quasi-Peak	Horizontal
904.5	14.7	29.6	44.3	82.3	-38.0	Quasi-Peak	Horizontal
590.7	15.9	25.3	41.2	82.3	-41.1	Quasi-Peak	Vertical
970.4	14.2	29.9	44.1	82.3	-38.2	Quasi-Peak	Vertical
1272.0	46.2	-9.2	37.0	82.3	-45.3	Peak	Horizontal
16886.5	33.8	20.8	54.6	82.3	-27.7	Peak	Horizontal
1255.0	49.4	-9.0	40.4	82.3	-41.9	Peak	Vertical
15314.0	34.6	19.4	54.0	82.3	-28.3	Peak	Vertical

Note1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note2: The peak-detection value will always be equal to or greater than average-detection value. In a result, the peak-detection value measured by spectrum analyzer shall represent the worst-case results.

Note 3: The amplitude of Radiated transmitter spurious emissions (Frequency range from 9kHz to 30MHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Appendix B - Test Setup Photograph

Refer to “2404RSU035-UT” file.

Appendix C - EUT Photograph

Refer to “2404RSU035-UE” file.

The End