RF MEASUREMENT REPORT

FCC ID:	XMR024BG770ASN
Applicant:	Quectel Wireless Solutions Co., Ltd.
Product:	LTE NTN Module
Model No.:	BG770A-SN
Brand Name:	Quectel
FCC Rule(s):	Part 2, 22 (H), 24 (E), 27
Result:	Complies
Received Date:	2024-06-14
Test Date:	2024-07-19 ~ 2024-09-26

Reviewed By: Sunny Sun

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2406RSU025-U1	V01	Initial Report	2024-11-27	Valid

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1. General Information

1.1. Applicant

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

1.2. Manufacturer

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

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 Location (Suzhou - Wujiang)** Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of 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 NTN Module
Model No.	BG770A-SN
Brand Name	Quectel
IMEI	867953065839237 (Radiated) 867953065839203 (Conducted) 867953065838916 (Conducted)
3GPP Specification	L-Band 255 LTE Cat M1 Band 2/4/5/12/13/25/26/66 LTE Cat NB Band 2/4/5/12/13/17/25/66
GNSS Specification	GPS/GLONASS
Operating Temperature Range	-35 ~ 75°C
Supply Voltage Rating	3.1 ~ 4.2Vdc, typical 3.3Vdc
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 Testing

LTE Cat M1 Specification	
TX Frequency Range	Band 2: 1850 ~ 1910 MHz; Band 4: 1710 ~ 1755 MHz Band 5: 824 ~ 849 MHz; Band 12: 699 ~ 716 MHz Band 13: 777 ~ 787 MHz; Band 25: 1850 ~ 1915 MHz Band 26: 824 ~ 849 MHz; Band 66: 1710 ~ 1780 MHz
RX Frequency Range	Band 2: 1930 ~ 1990 MHz; Band 4: 2110 ~ 2155 MHz Band 5: 869 ~ 894 MHz; Band 12: 729 ~ 746 MHz Band 13: 746 ~ 756 MHz; Band 25: 1930 ~ 1995 MHz Band 26: 869 ~ 894 MHz； Band 66: 2110 ~ 2200 MHz
Support Bandwidth	Band 2/4/25/66: 1.4, 3, 5, 10, 15, 20 MHz Band 5/12: 1.4, 3, 5, 10 MHz Band 13: 5, 10 MHz Band 26: 1.4, 3, 5, 10, 15 MHz
Support Power Class	PC3
Modulation	Uplink up to 16QAM, Downlink up to 16QAM
Note: LTE Cat M1 band 26 transmit frequency for part 90 rule is 814 ~ 824MHz and part 22 rule is 824 ~ 849MHz. ERP over 15MHz bandwidth complies the ERP limit line of part 22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies	

1.6. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
LTE Cat M1 Band 2	1850 ~ 1910	Fixed External Antenna	1.3
LTE Cat M1 Band 4	1710 ~ 1755		1.4
LTE Cat M1 Band 5	824 ~ 849		1.1
LTE Cat M1 Band 12	699 ~ 716		1.1
LTE Cat M1 Band 13	777 ~ 787		1.1
LTE Cat M1 Band 25	1850 ~ 1915		1.3
LTE Cat M1 Band 26	814 ~ 849		1.1
LTE Cat M1 Band 66	1710 ~ 1780		1.4
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).			

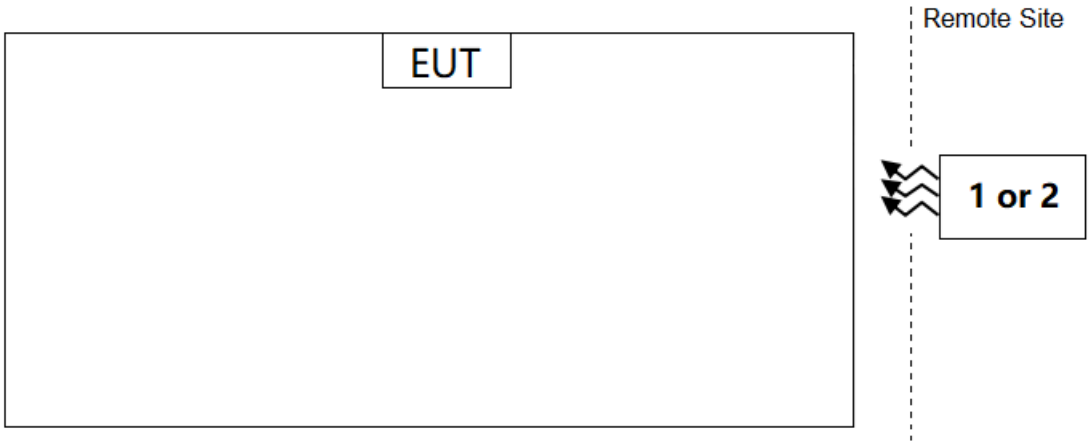
1.7. Test Methodology

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

- FCC CFR 47 Part 2, Part 22, Part 24, Part 27
- ANSI C63.26:2015
- 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	Radio Communication Analyzer	Anritsu	MT8821C
2	Communication Tester	R&S	CMW500

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
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2024-09-27	WZ-TR3
				1 year	2025-09-02	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE11268	1 year	2024-12-14	WZ-TR3
Radio Communication Analyzer	Anritsu	MT8821C	MRTSUE06960	1 year	2025-06-18	WZ-SR6
Communication Tester	R&S	CMW500	MRTSUE06881	1 year	2025-05-08	WZ-SR6
Shielding Room	HUAMING	WZ-SR6	MRTSUE06443	N/A	N/A	WZ-SR6
Signal Analyzer	Keysight	N9020B	MRTSUE06583	1 year	2025-06-29	WZ-SR6
Thermohygrometer	testo	608-H1	MRTSUE06362	1 year	2025-02-04	WZ-SR6
USB Power Sensor	Keysight	U2021XA	MRTSUE06447	1 year	2025-05-08	WZ-SR6
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2024-12-21	SIP-AC3
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2025-07-07	SIP-AC3
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2025-06-06	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2025-01-11	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2024-10-28	SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2024-08-04	SIP-AC3
				1 year	2025-07-29	SIP-AC3
Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2025-02-03	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2024-10-23	SIP-AC3
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2024-12-17	SIP-AC3
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2024-10-09	SIP-AC3
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2024-10-23	SIP-AC3
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2025-01-27	SIP-AC3
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07075	1 year	2024-12-04	SIP-AC3
Directional Coupler	MVE	MVE4912-10	MRTSUE07051	1 year	2024-08-23	WZ-SR6
				1 year	2025-08-22	WZ-SR6
Attenuator	MVE	MVE2213	MRTSUE11090	1 year	2025-06-05	WZ-SR6

Software	Version	Function
e3	230711	RE & CE
Controller_MF 7802BS	1.02	RE Antenna & Turntable
UCTS	V 6.23.217.99	license 3G & 4G & 5G
BenchVue Power Meter	2018.1	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: 2.35dB Coplanar: 9kHz~30MHz: 2.37dB Horizontal: 30MHz~200MHz: 3.46dB 200MHz~1GHz: 3.78dB 1GHz~40GHz: 4.97dB Vertical: 30MHz~200MHz: 4.07dB 200MHz~1GHz: 5.28dB 1GHz~40GHz: 4.78dB
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, 22.355, 24.235, 27.54	Frequency Stability		Pass
22.913(a)(5), 24.232(c) 27.50(b)(9) (c)(9) (d)(4)	Equivalent Radiated Power		Pass
22.913(d), 24.232(d), 27.50(d)(5)	Peak to Average Ratio		Pass
2.1051, 22.917(a), 24.238(a) 27.53(c) (f) (g) (h)	Transmitter unwanted emissions (band-edge)		Pass
2.1051, 22.917(a), 24.238(a) 27.53(c) (f) (g) (h)	Transmitter unwanted emissions (spurious)		
2.1051, 22.917(a), 24.238(a) 27.53(c) (f) (g) (h)	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 of the 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, Peak to Average Ratio, Channel Band Edge, Conducted Spurious Emission, Radiated Spurious Emission were presented the 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) LTE Cat M1 Band 25 (1850 ~ 1915 MHz) overlaps the entire frequency range of LTE Cat M1 Band 2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.
5) LTE Cat M1 Band 26 (824 ~ 849 MHz) overlaps the entire frequency range of LTE Cat M1 Band 5 (824 ~ 849 MHz). Therefore, test data provided in this report covers Band 5 as well as Band 26.
6) LTE Cat M1 Band 66 (1710 ~ 1780 MHz) overlaps the entire frequency range of LTE Cat M1 Band 4 (1710 ~ 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.

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.

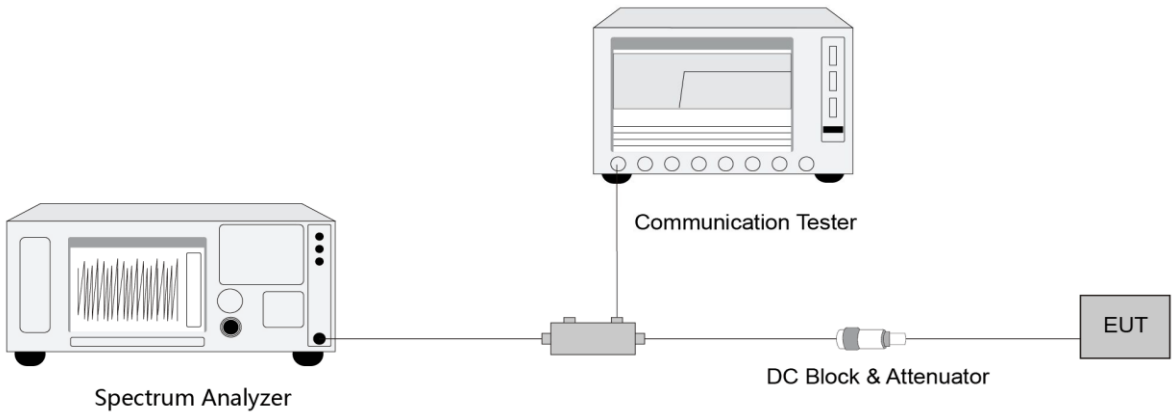
5.2.2. Test Procedure

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.

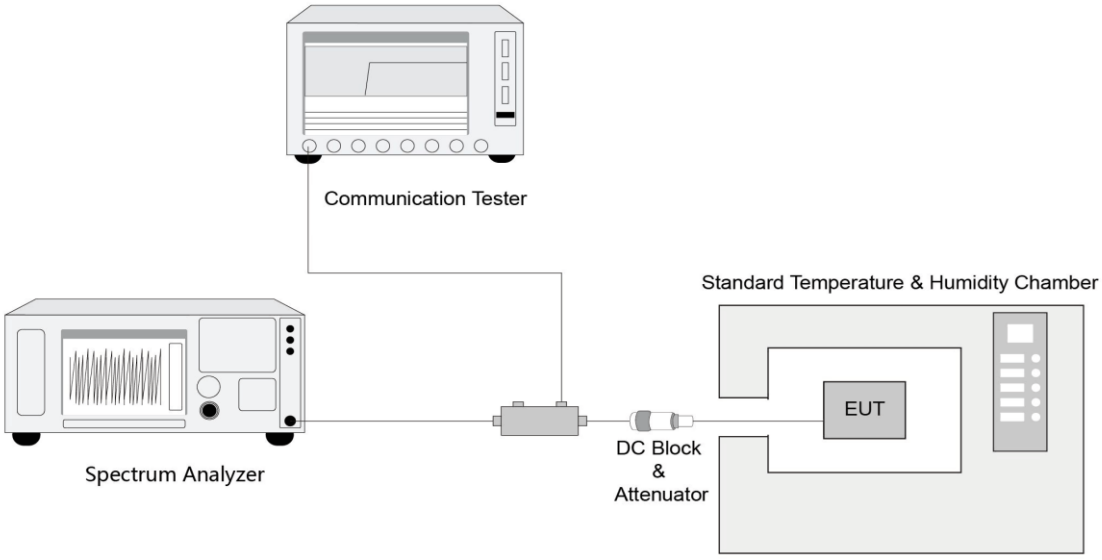
Frequency Stability Under Voltage Variations:

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 input voltage to specify extreme voltage variation (±15%) and endpoint, recordthe maximum

frequency change.

5.3.4. Test Setup



5.3.5. Test Result

Refer to Appendix A.2.

5.4. Equivalent Isotropically Radiated Power Measurement

5.4.1. Test Limit

Band 2/25:

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

Band 4/66:

Fixed, mobile stations operating in the 1710-1755 MHz band and mobile in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

Band 5/26:

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

Band 12, 13:

Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 30 watts ERP.

Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

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

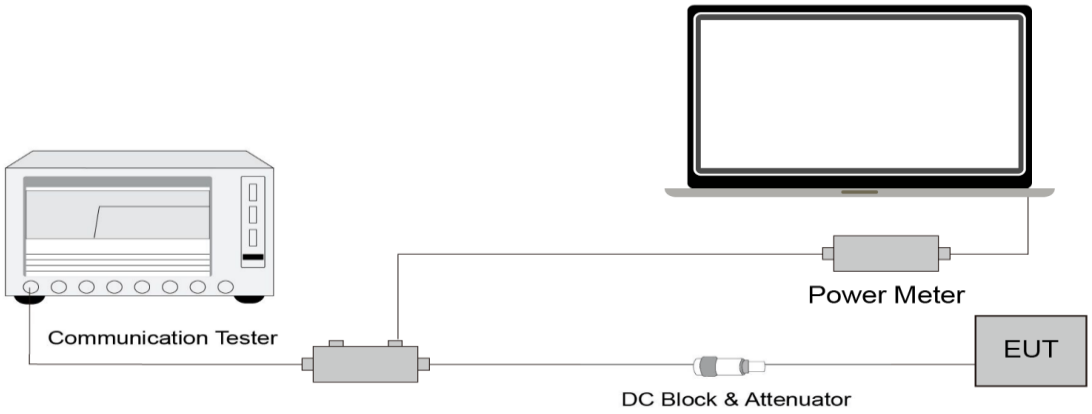
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

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. Peak to Average Ratio Measurement

5.5.1. Test Limit

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

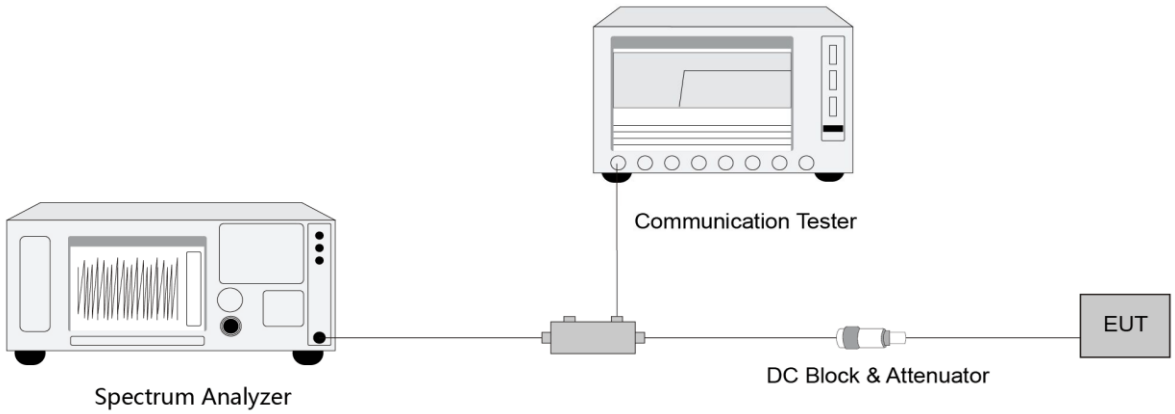
5.5.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.3.4 (CCDF).

5.5.3. Test Setting

1. Set the resolution / measurement bandwidth ≥ signal's occupied bandwidth
2. Set the number of counts to a value that stabilizes the measured CCDF curve
3. Record the maximum PARR level associated with a probability of 0.1%

5.5.4. Test Setup



5.5.5. Test Result

Refer to Appendix A.4

5.6. Conducted Band-Edge Measurement

5.6.1. Test Limit

22.917(a), 24.238 (a), 27.53 (g) (h)

For operations in the 824 ~ 849 MHz, 1850 ~ 1910 MHz, 1930 ~ 1990 MHz, 600MHz & 698 ~ 746 MHz and 1710 ~ 1755 MHz, the FCC limit is 43 + 10log10(P[$_{Watts}$]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is 43 + 10log10(P[$_{Watts}$]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 (P[$_{Watts}$]), dB, for mobile and portable equipment.

For LTE Cat M1 Band 13, For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.

5.6.2. Test Procedure

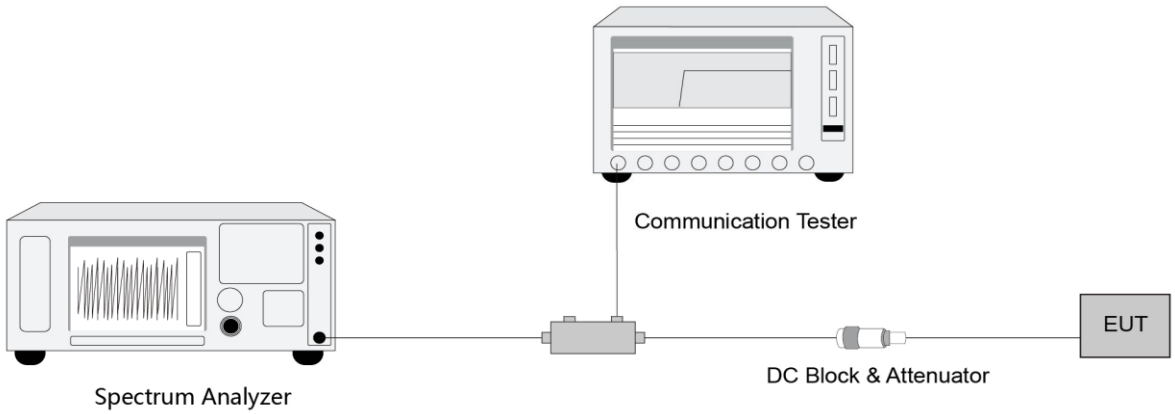
ANSI C63.26-2015 - Section 5.7

5.6.3. 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. 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.

5.6.4. Test Setup



5.6.5. Test Result

Refer to Appendix A.5.

5.7. Conducted Spurious Emissions Measurement

5.7.1. 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.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

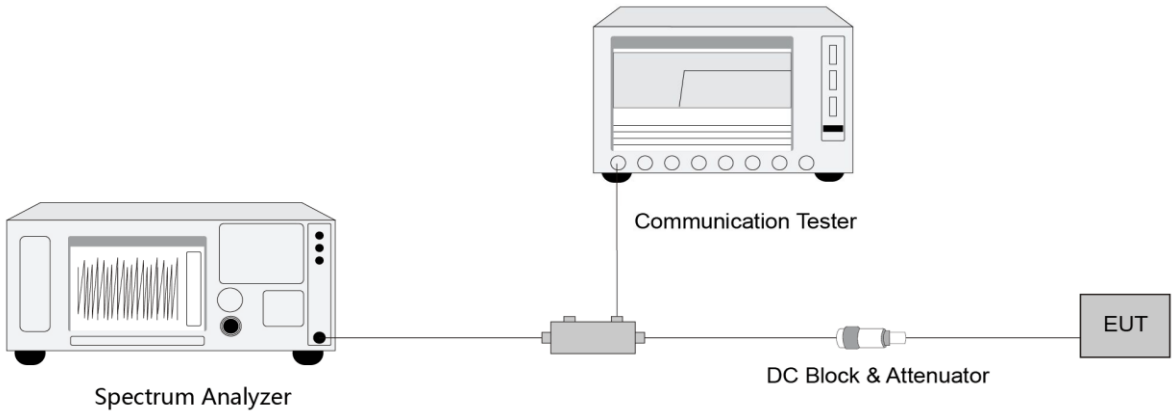
5.7.2. Test Procedure

ANSI C63.26-2015 - Section 5.7

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

5.7.4. Test Setup



5.7.5. Test Result

Refer to Appendix A.6

5.8. Radiated Spurious Emissions Measurement

5.8.1. Test Limit

The power of 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.
For LTE Cat M1 Band 13, For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.
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 or 55.3dBμV/m.

5.8.2. Test Procedure

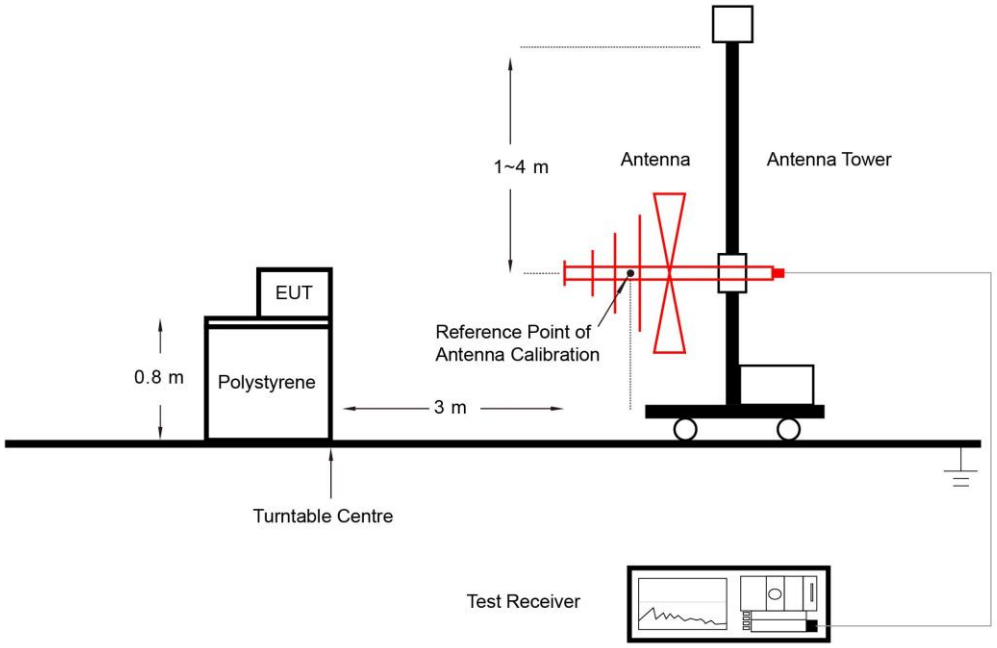
ANSI C63.26-2015 - Section 5.2.7 & 5.5

5.8.3. Test Setting

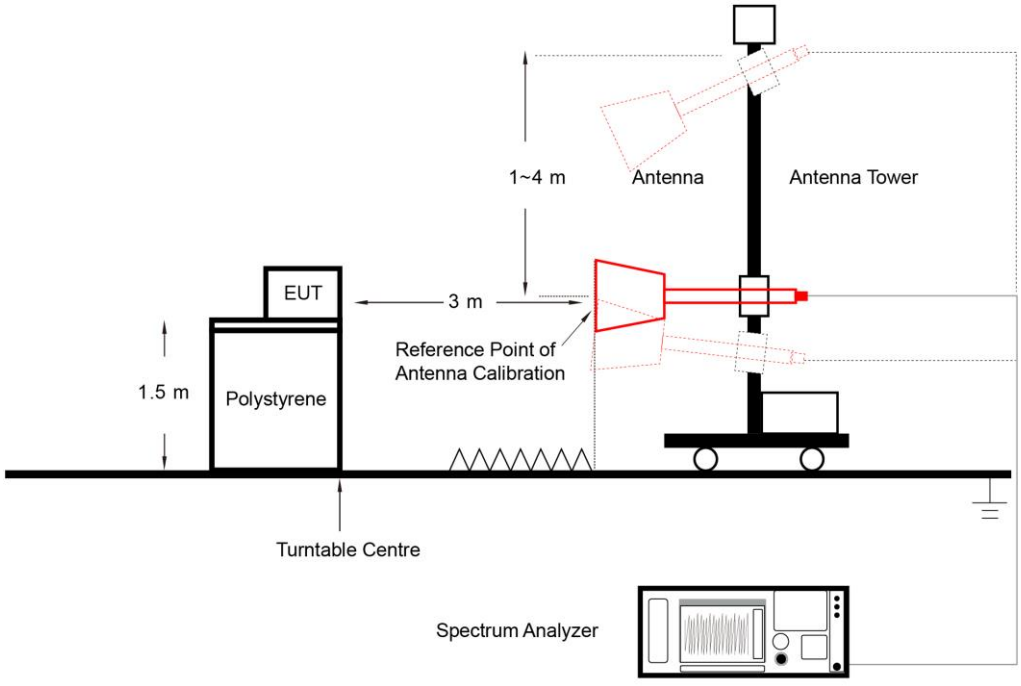
1. RBW = 120kHz or 1MHz
2. VBW ≥ 3*RBW
3. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period)
4. Detector = CISPR quasi-peak / average detector (Below 1 GHz, compliance with the limits shall be demonstrated using a CISPR quasi-peak detector and the related measurement bandwidth.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

5.8.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.8.5. Test Result

Refer to Appendix A.7.

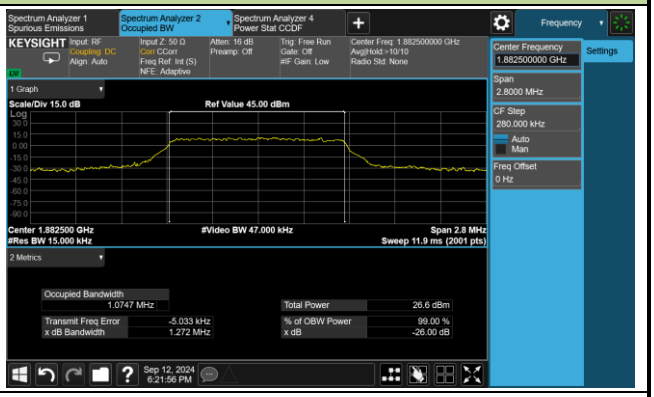
Appendix A - Test Result

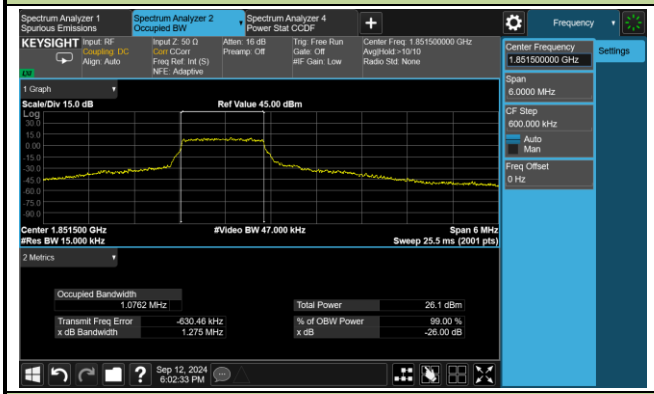
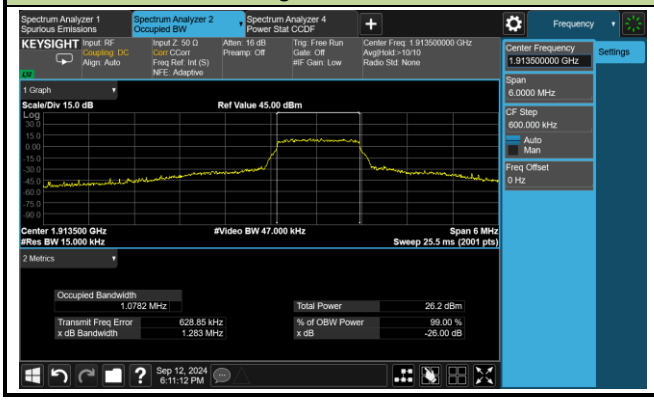
A.1 Occupied Bandwidth Test Result

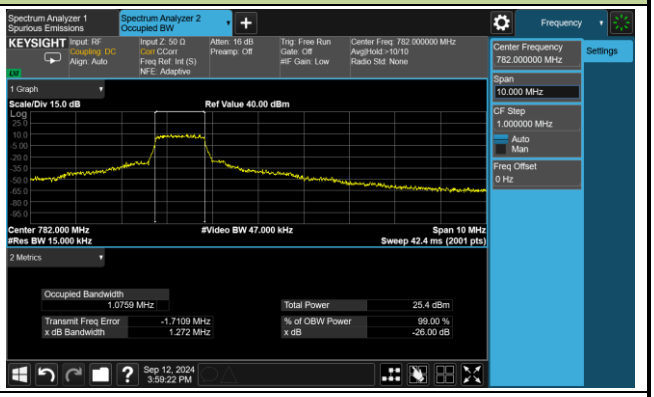
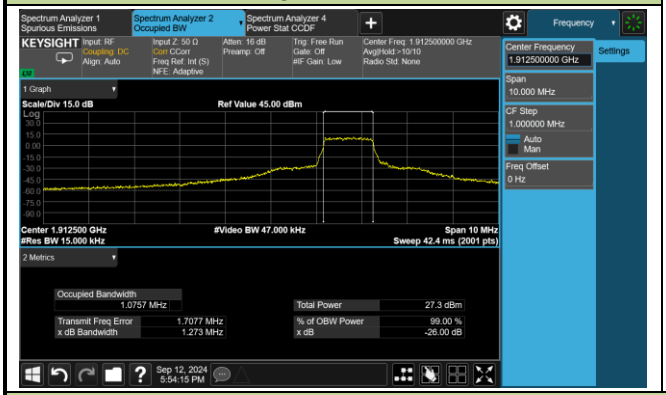
Test Site	WZ-SR6	Test Engineer	Lucas Wang
Test Date	2024-09-12 ~ 2024-09-24	Test Band	Band 2/25

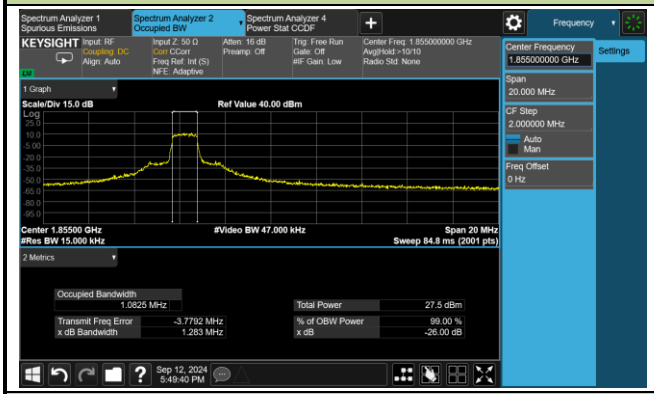
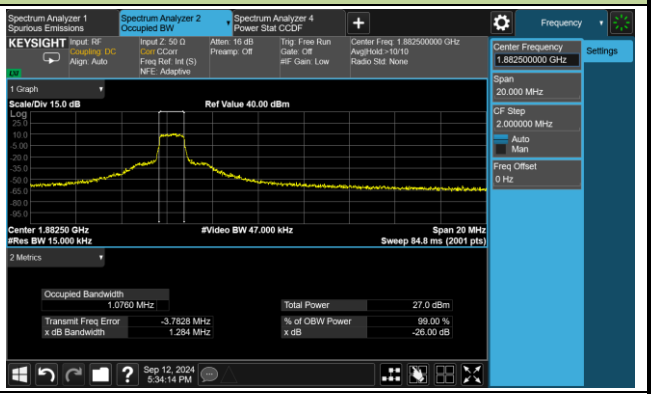
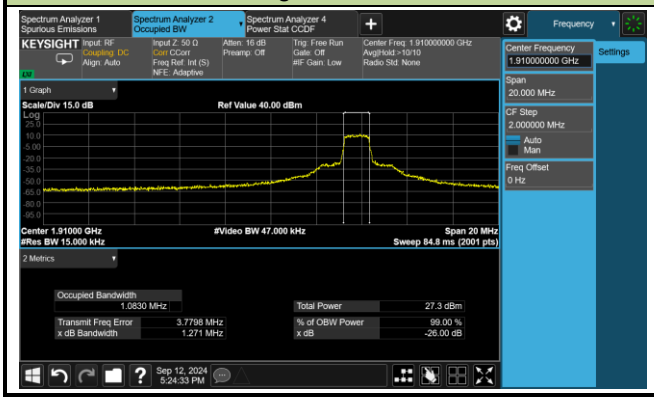
Modulation	Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
QPSK	1.4	1850.7	1.0778
		1882.5	1.0747
		1914.3	1.0733
	3	1851.5	1.0762
		1882.5	1.0706
		1913.5	1.0782
	5	1852.5	1.0775
		1882.5	1.0759
		1912.5	1.0757
	10	1855	1.0825
		1882.5	1.0760
		1910	1.0830
	15	1857.5	1.0836
		1882.5	1.0833
		1907.5	1.0838
	20	1860	1.0888
		1882.5	1.0922
		1905	1.0832
16QAM	1.4	1850.7	0.91557
		1882.5	0.90395
		1914.3	0.91054
	3	1851.5	0.90920
		1882.5	0.90354
		1913.5	0.92804
	5	1852.5	0.91773
		1882.5	0.91294
		1912.5	0.93230
	10	1855	0.91067
		1882.5	0.90482
		1910	0.92321

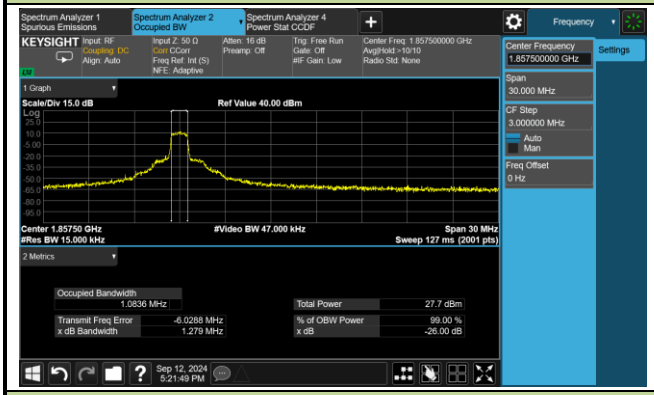
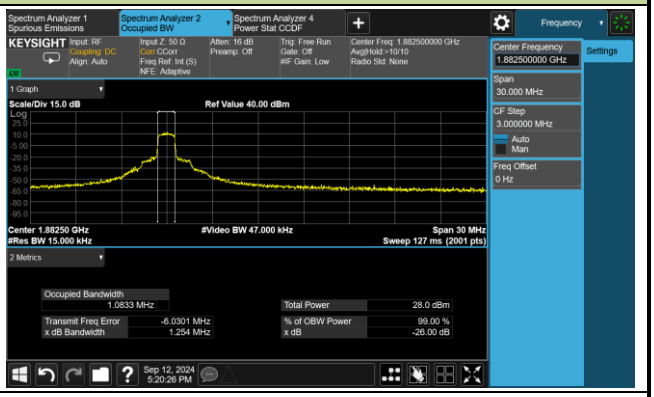
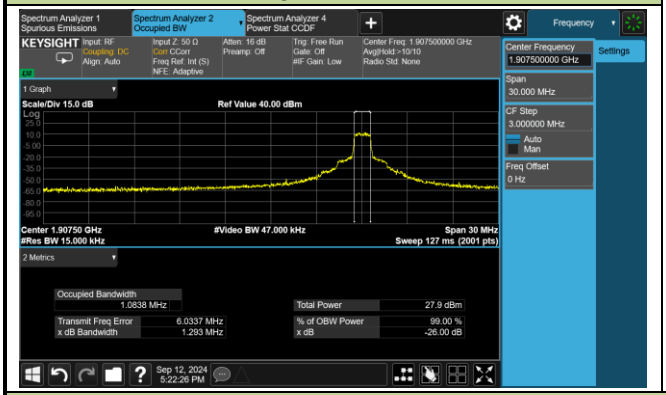
Modulation	Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
16QAM	15	1857.5	0.92084
		1882.5	0.92363
		1907.5	0.92913
	20	1860	0.93512
		1882.5	0.93033
		1905	0.93880

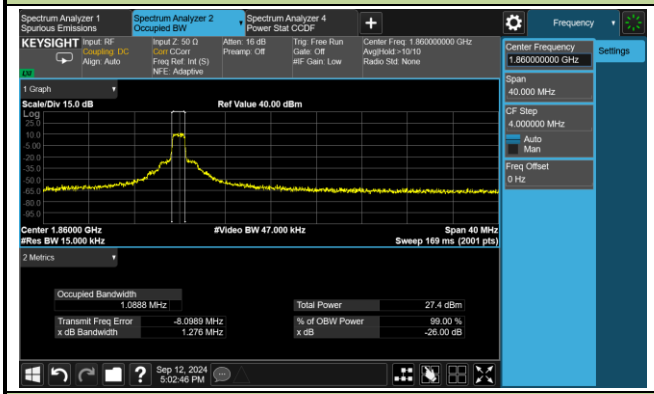
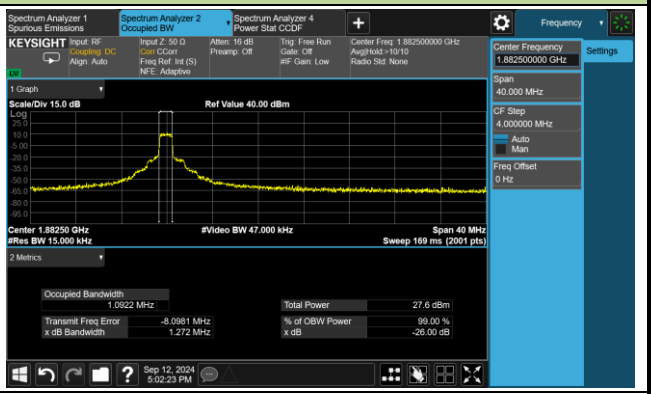
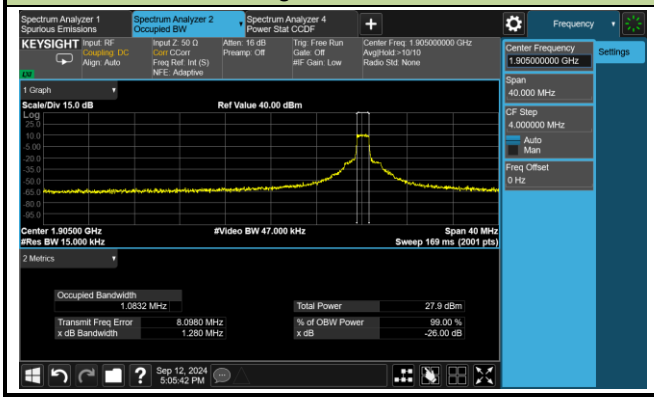
99% Bandwidth – QPSK 1.4MHz	
Low Channel	Middle Channel
	
High Channel	
	

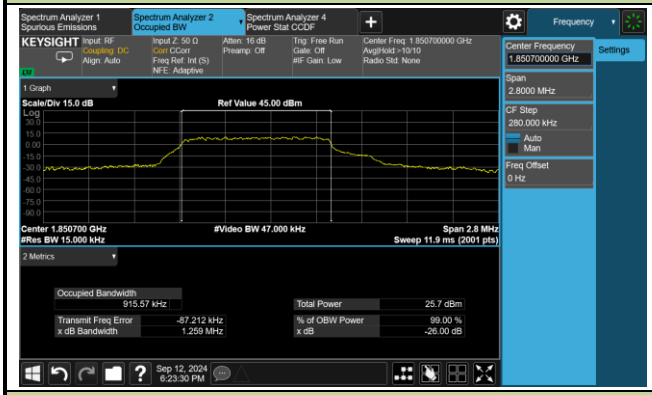
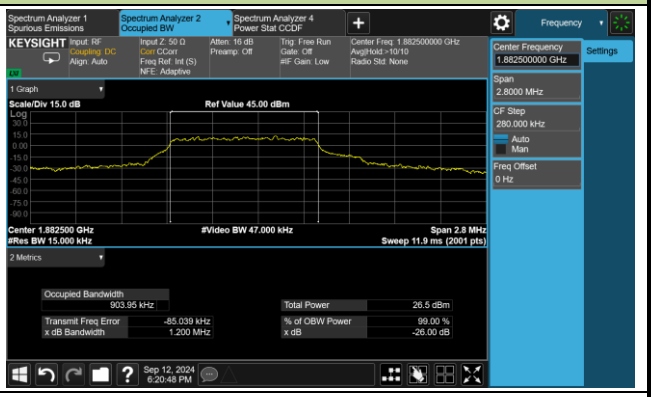
99% Bandwidth – QPSK 3MHz	
Low Channel	Middle Channel
	
High Channel	
	

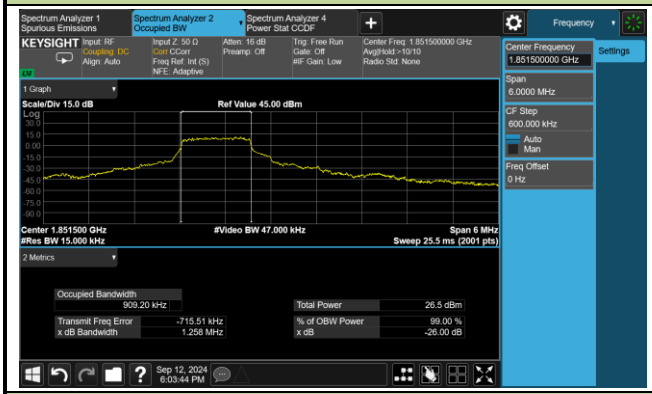
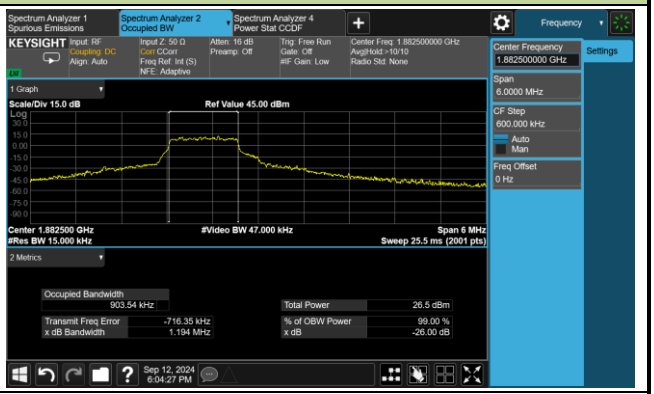
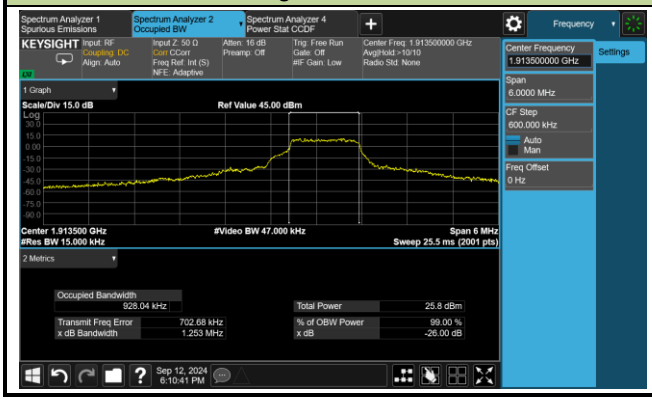
99% Bandwidth – QPSK 5MHz	
Low Channel	Middle Channel
	
High Channel	
	

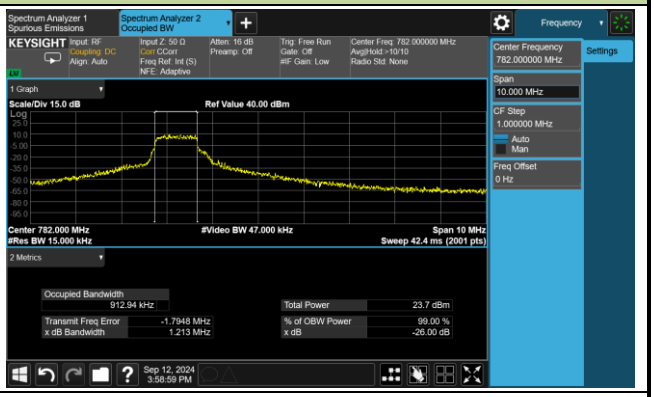
99% Bandwidth – QPSK 10MHz	
Low Channel	Middle Channel
	
High Channel	
	

99% Bandwidth – QPSK 15MHz	
Low Channel	Middle Channel
	
High Channel	
	

99% Bandwidth – QPSK 20MHz	
Low Channel	Middle Channel
	
High Channel	
	

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

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

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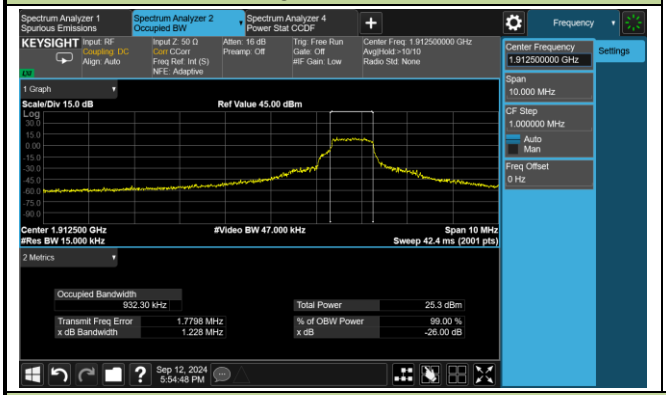
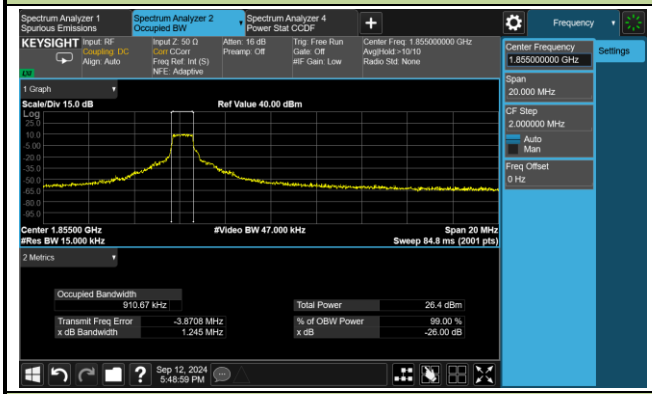
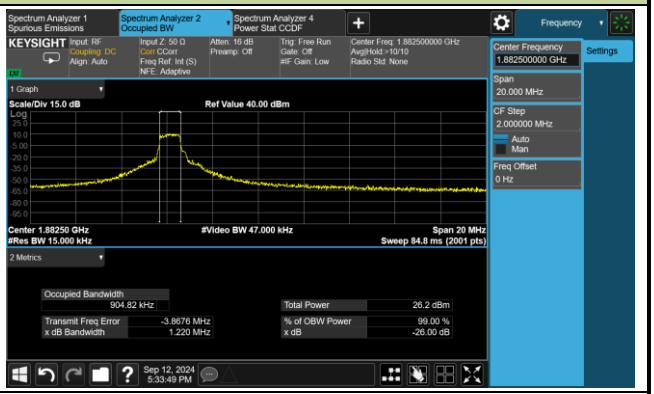
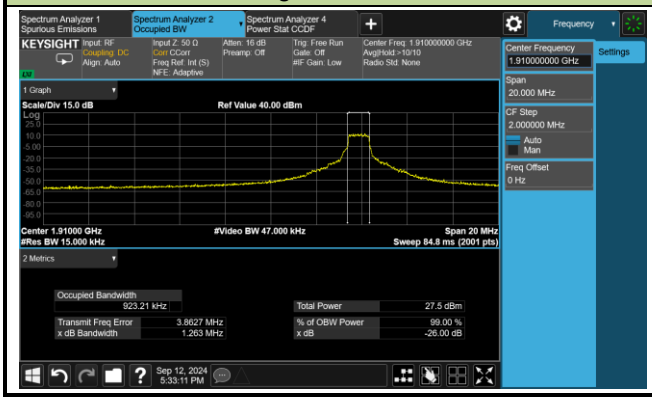
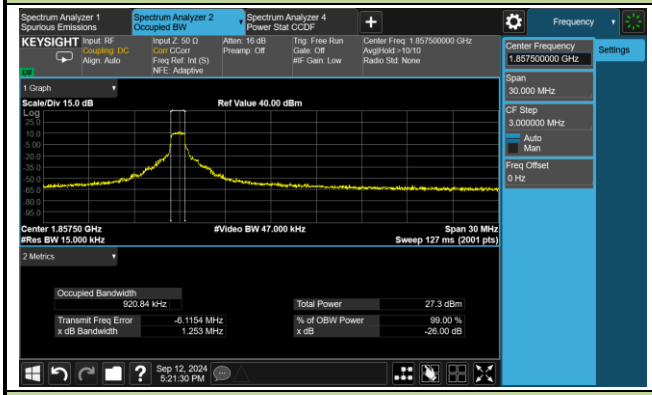
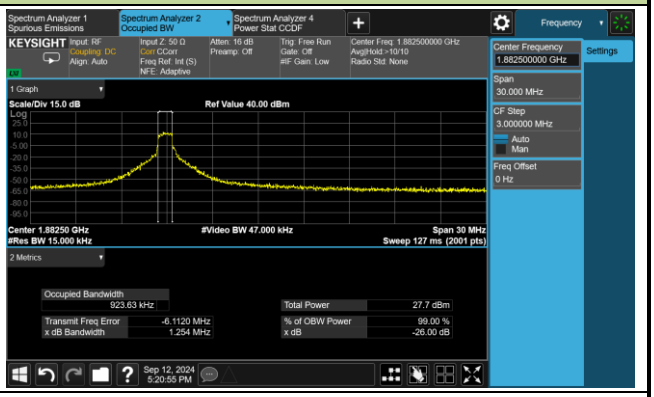
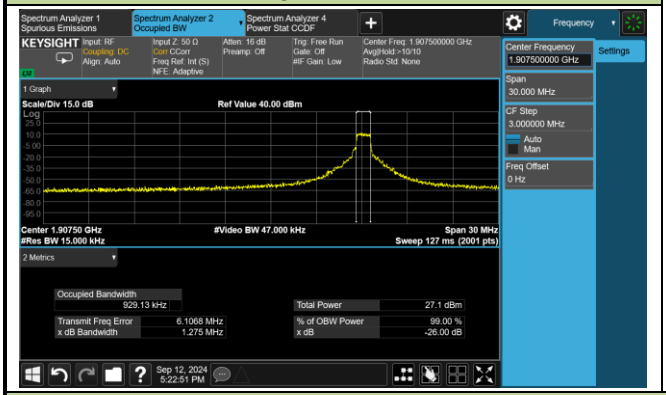
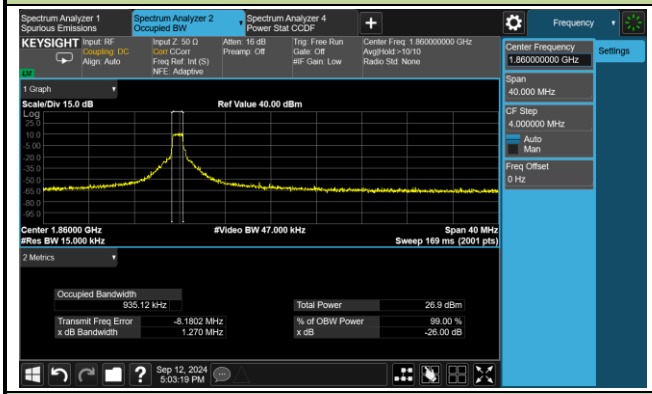
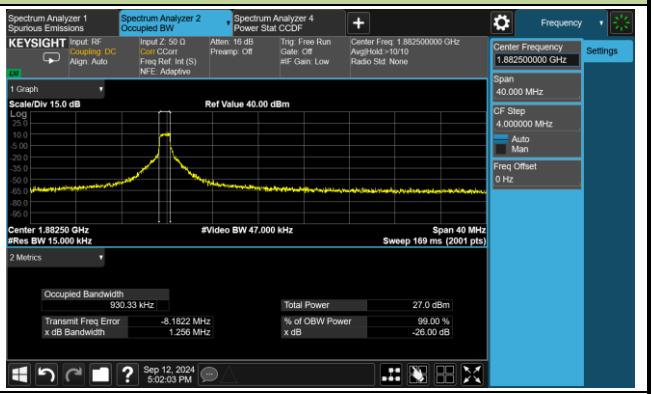
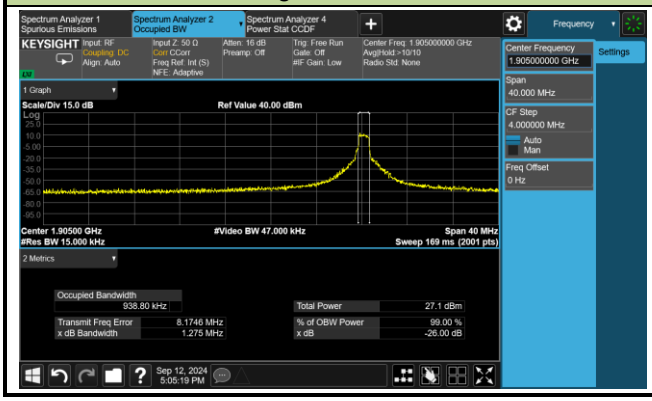
	

99% Bandwidth –16QAM 10MHz	
Low Channel	Middle Channel
	
High Channel	
	

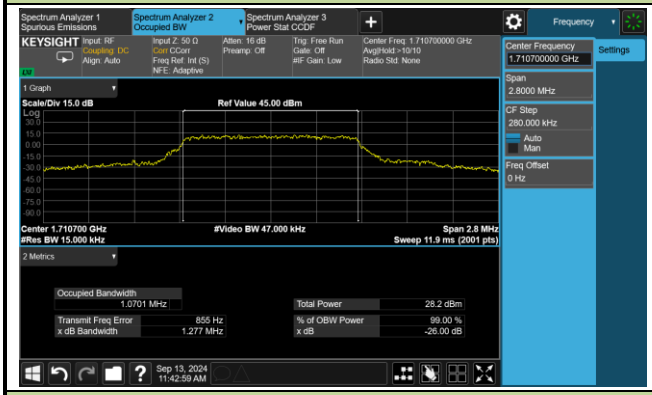
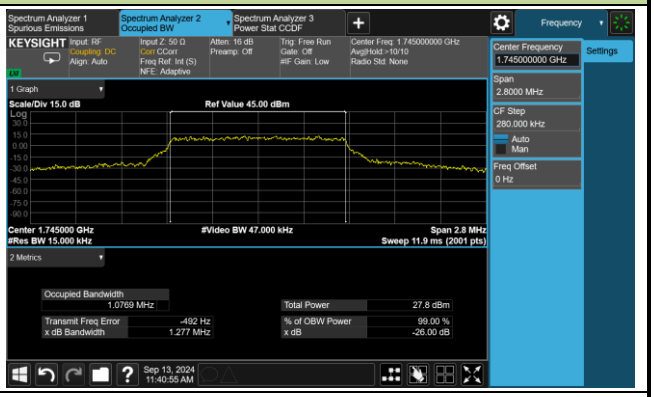
99% Bandwidth –16QAM 15MHz	
Low Channel	Middle Channel
	
High Channel	
	

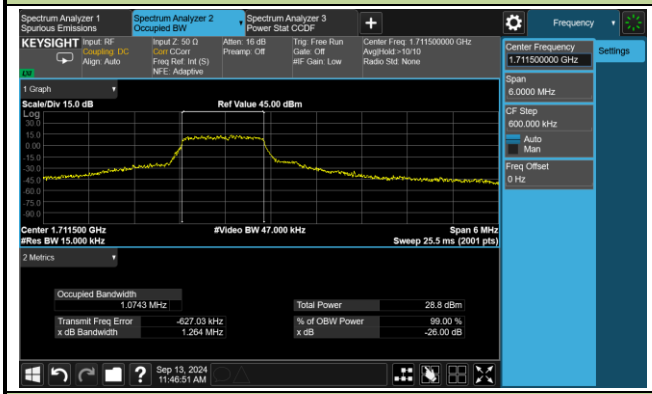
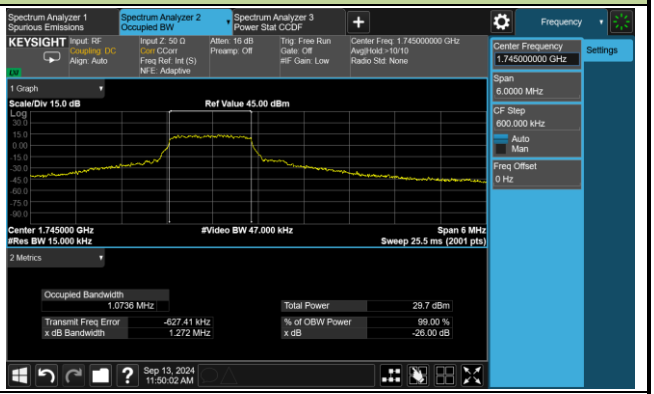
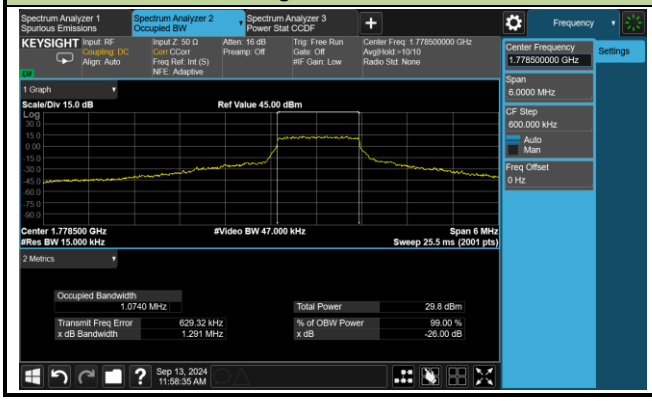
99% Bandwidth –16QAM 20MHz	
Low Channel	Middle Channel
	
High Channel	
	

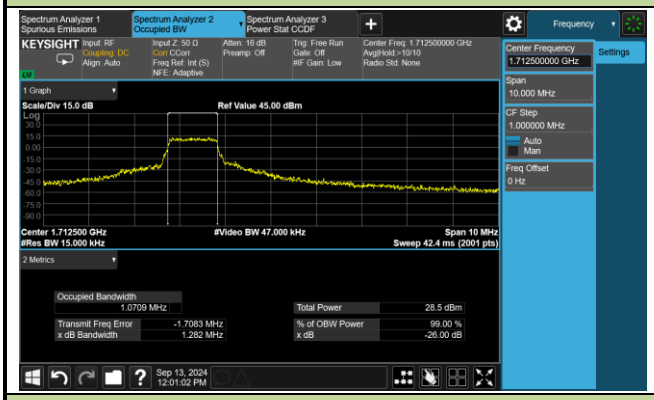
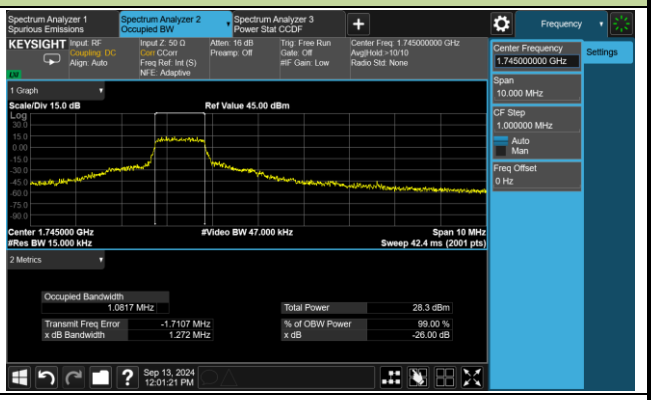
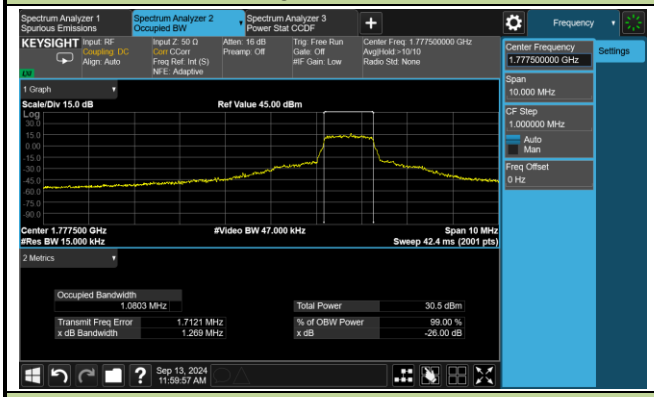
Test Site	WZ-SR6	Test Engineer	Lucas Wang
Test Date	2024-09-12 ~ 2024-09-24	Test Band	Band 4/66

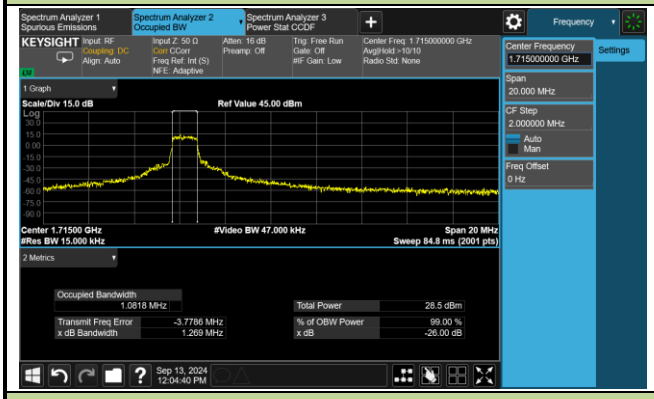
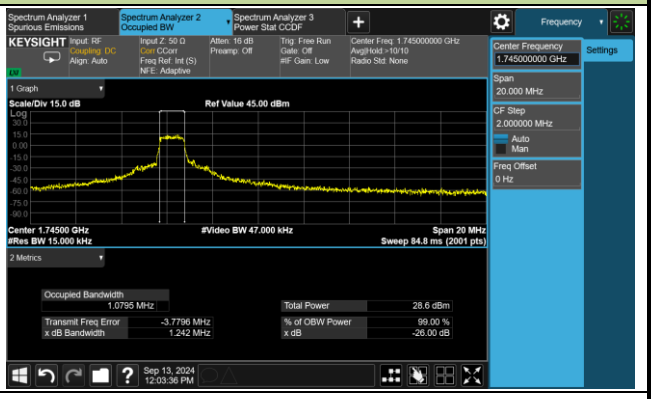
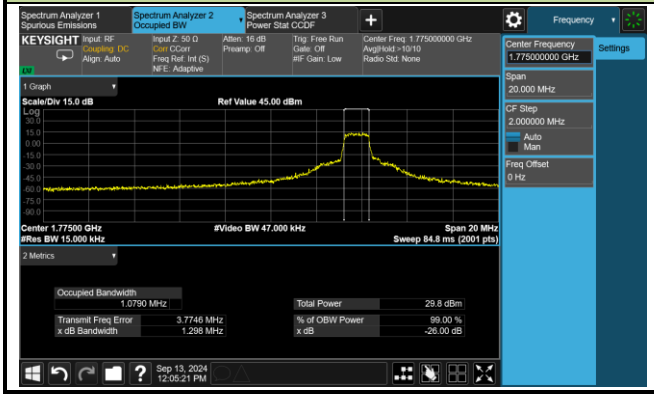
Modulation	Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
QPSK	1.4	1710.7	1.0701
		1745	1.0769
		1779.3	1.0760
	3	1711.5	1.0743
		1745	1.0736
		1778.5	1.0740
	5	1712.5	1.0709
		1745	1.0817
		1777.5	1.0803
	10	1715	1.0818
		1745	1.0795
		1775	1.0790
	15	1717.5	1.0822
		1745	1.0892
		1772.5	1.0838
	20	1720	1.0788
		1745	1.0832
		1770	1.0893
16QAM	1.4	1710.7	0.90428
		1745	0.90312
		1779.3	0.90302
	3	1711.5	0.90608
		1745	0.90258
		1778.5	0.91180
	5	1712.5	0.90254
		1745	0.90477
		1777.5	0.91002
	10	1715	0.92128
		1745	0.91875
		1775	0.91611

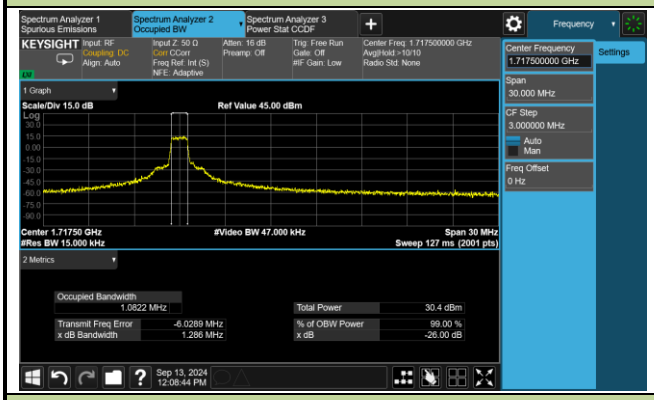
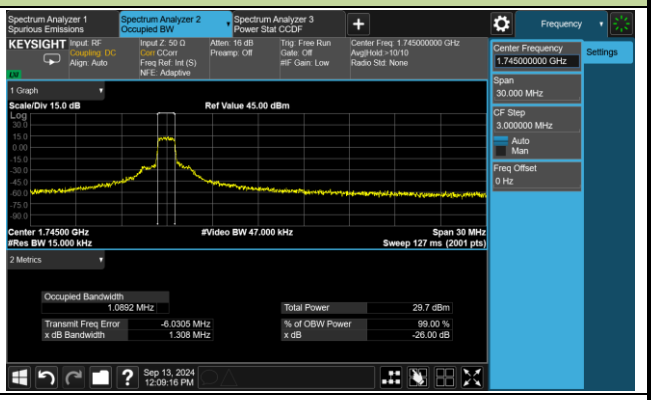
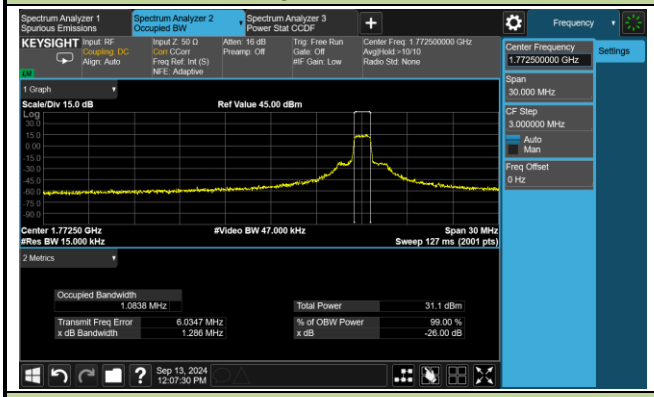
Modulation	Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
16QAM	15	1717.5	0.92085
		1745	0.91483
		1772.5	0.93092
	20	1720	0.92536
		1745	0.92530
		1770	0.93279

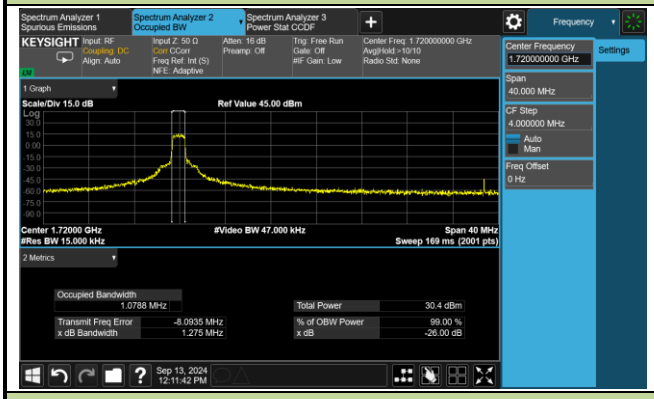
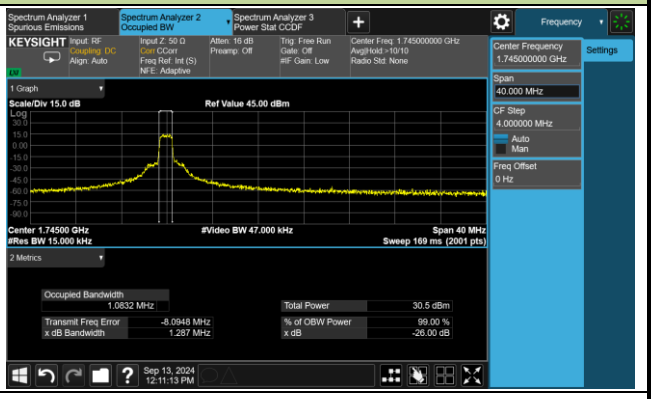
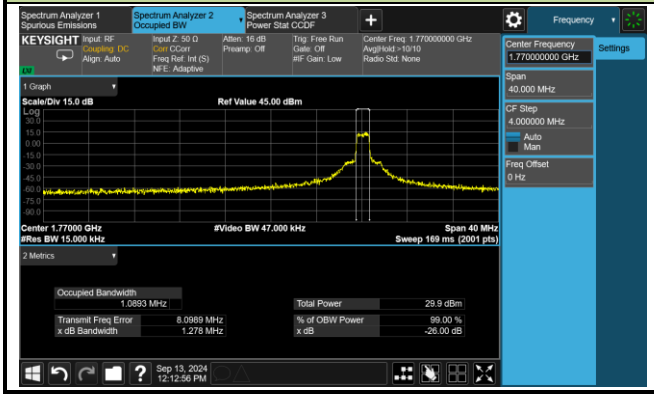
99% Bandwidth – QPSK 1.4MHz	
Low Channel	Middle Channel
	
High Channel	
	

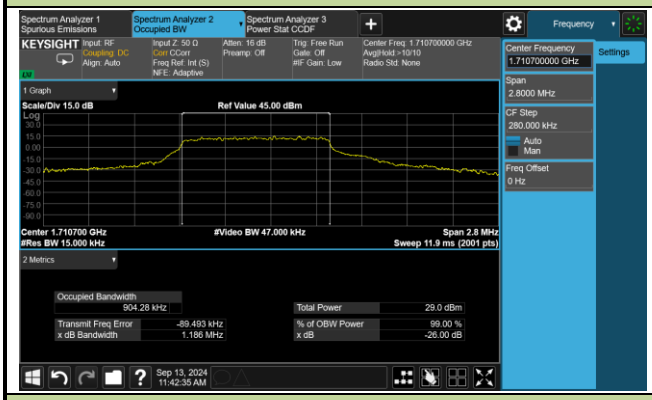
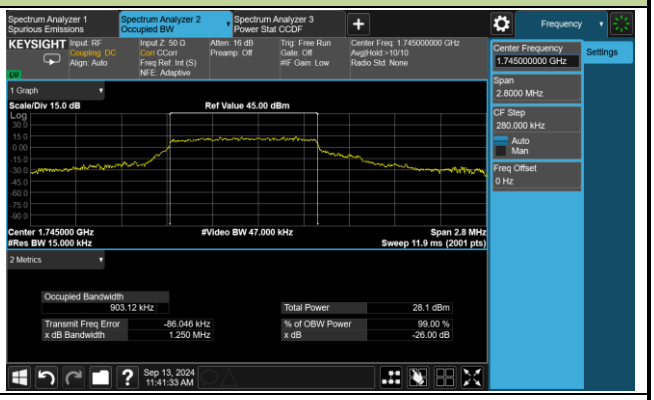
99% Bandwidth – QPSK 3MHz	
Low Channel	Middle Channel
	
High Channel	
	

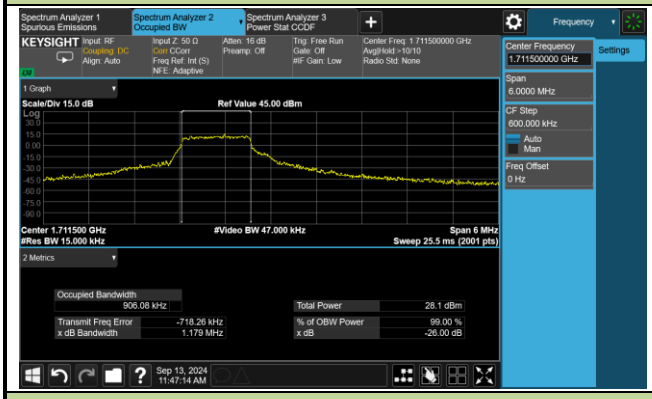
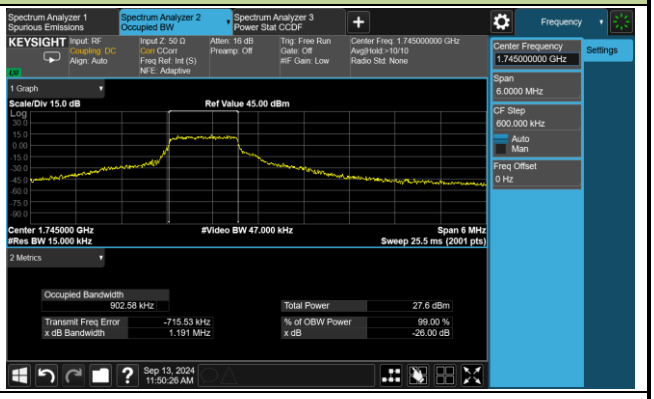
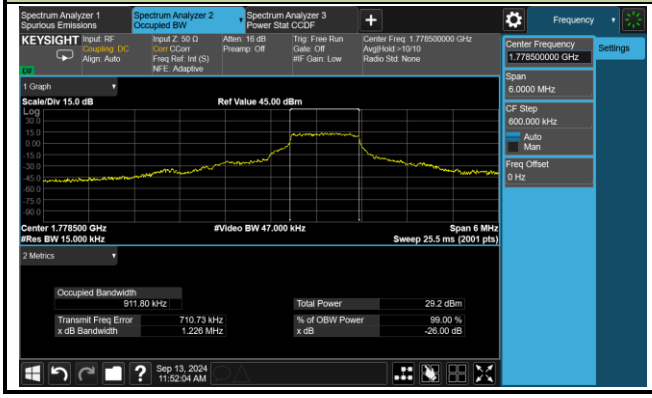
99% Bandwidth – QPSK 5MHz	
Low Channel	Middle Channel
	
High Channel	
	

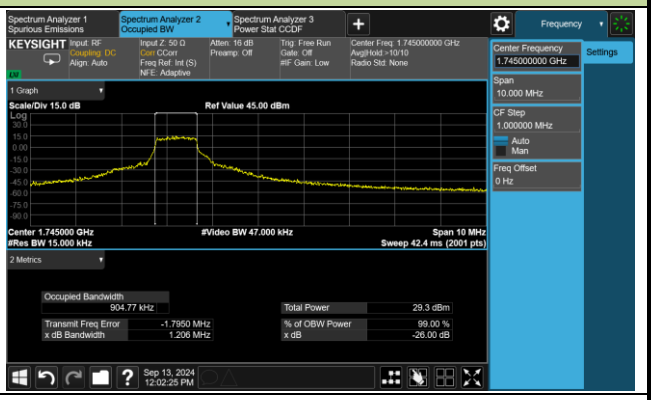
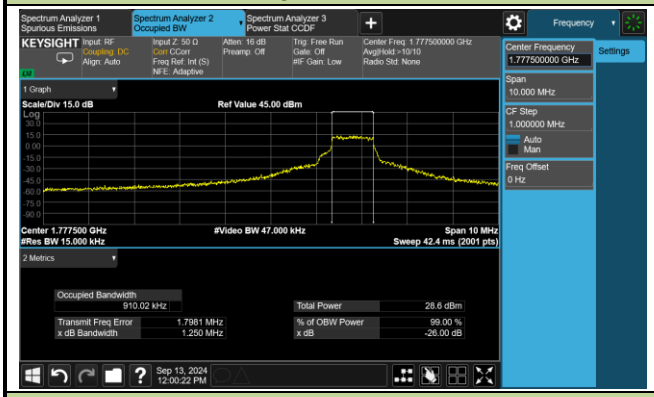
99% Bandwidth – QPSK 10MHz	
Low Channel	Middle Channel
	
High Channel	
	

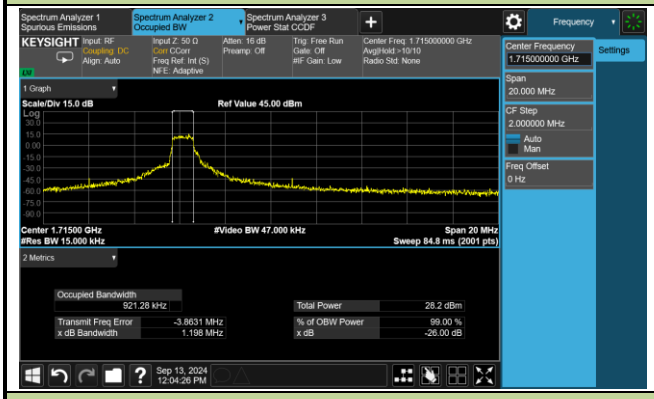
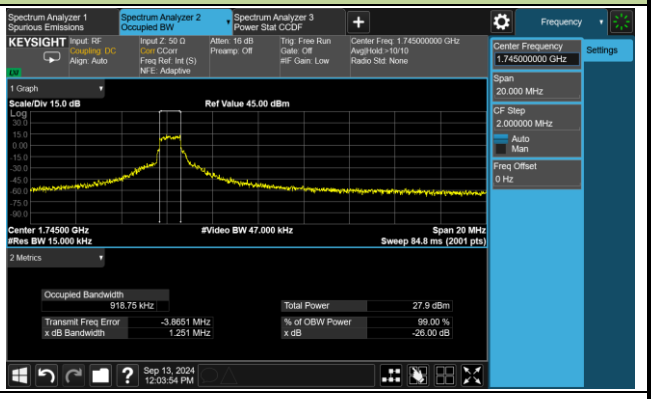
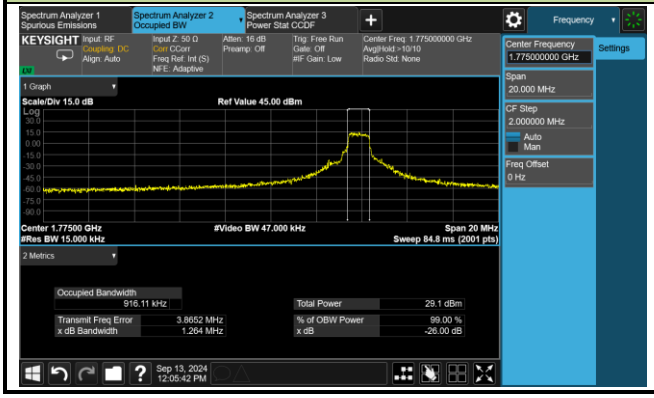
99% Bandwidth – QPSK 15MHz	
Low Channel	Middle Channel
	
High Channel	
	

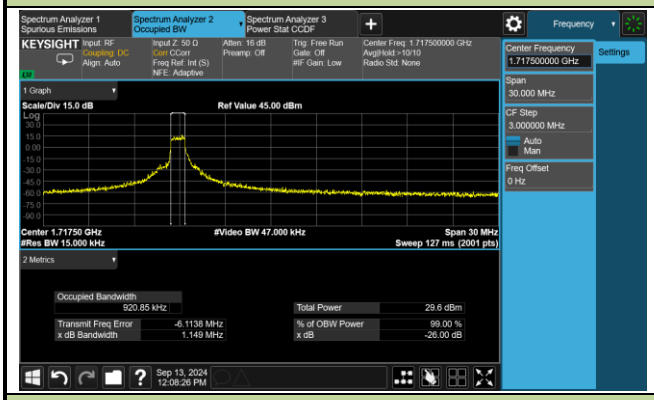
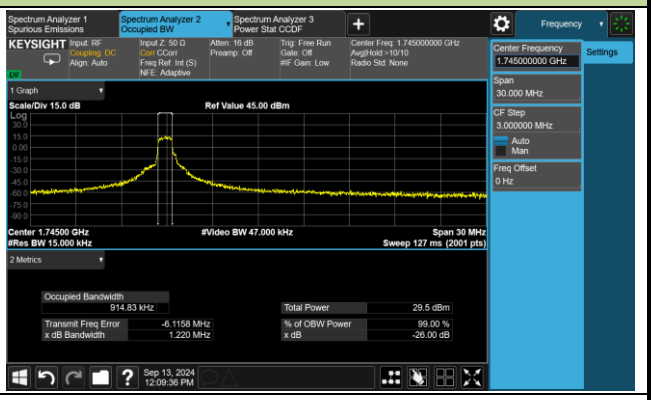
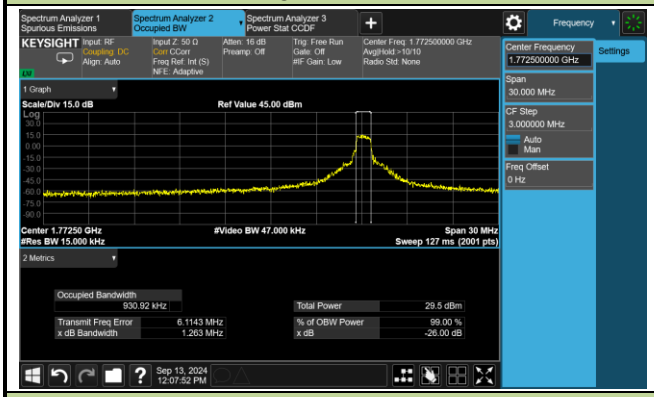
99% Bandwidth – QPSK 20MHz	
Low Channel	Middle Channel
	
High Channel	
	

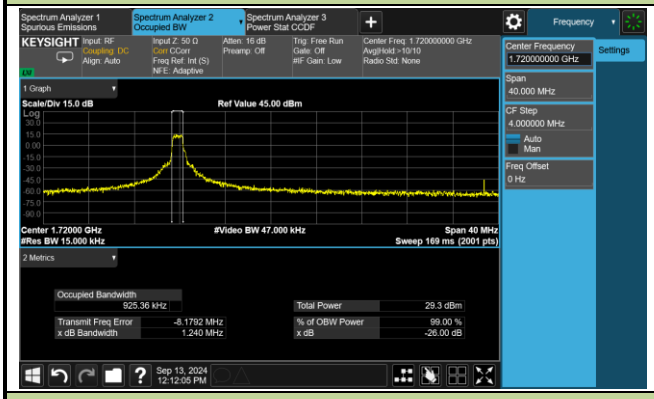
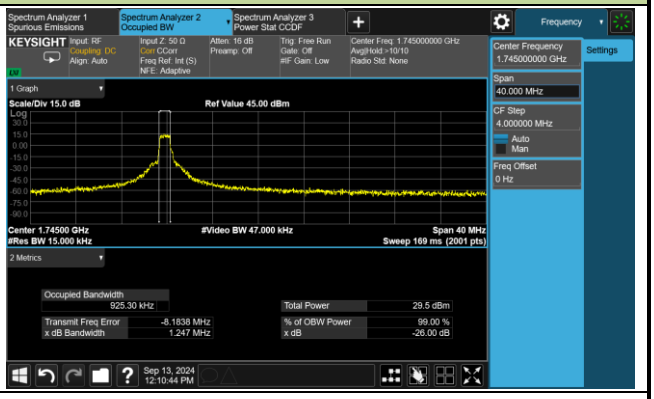
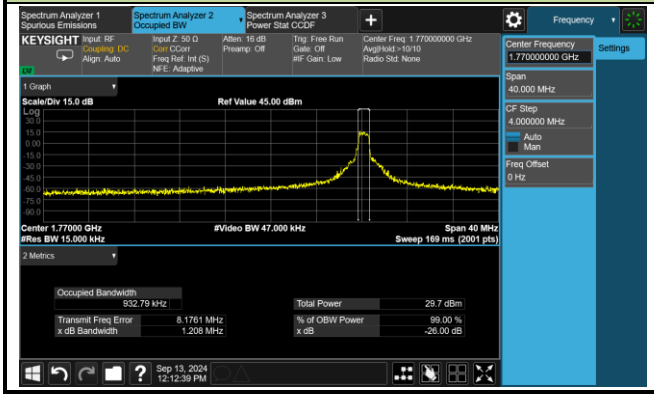
99% Bandwidth – 16QAM 1.4MHz	
Low Channel	Middle Channel
	
High Channel	
	

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

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

99% Bandwidth –16QAM 10MHz	
Low Channel	Middle Channel
	
High Channel	
	

99% Bandwidth –16QAM 15MHz	
Low Channel	Middle Channel
	
High Channel	
	

99% Bandwidth –16QAM 20MHz	
Low Channel	Middle Channel
	
High Channel	
	

1.Test Site	WZ-SR6	Test Engineer	Lucas Wang
Test Date	2024-09-12 ~ 2024-09-24	Test Band	Band 5/26

Modulation	Bandwidth (MHz)	Frequency (MHz)	99% Bandwidth (MHz)
QPSK	1.4	824.7	1.0770
		836.5	1.0776
		848.3	1.0717
	3	825.5	1.0708
		836.5	1.0734
		847.5	1.0730
	5	826.5	1.0739
		836.5	1.0763
		846.5	1.0782
	10	829	1.0850
		836.5	1.0828
		844	1.0756
	15	831.5	1.0850
		836.5	1.0811
		841.5	1.0850
16QAM	1.4	824.7	0.90871
		836.5	0.91299
		848.3	0.91115
	3	825.5	0.90937
		836.5	0.90374
		847.5	0.90971
	5	826.5	0.91600
		836.5	0.90367
		846.5	0.91401
	10	829	0.90587
		836.5	0.90902
		844	0.91737
	15	831.5	0.90796
		836.5	0.92291
		841.5	0.91752