

MEASUREMENT REPORT

FCC PART 2 & 22 & 24 & 27

FCC ID: XMR2021RM502QGL

Application: Quectel Wireless Solutions Company Limited

Application Type: Certification

Product: 5G Sub-6 GHz M.2 Module


Model No.: RM502Q-GL

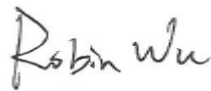
Brand Name: Quectel

FCC Rule Part(s): Part 2, 22 (H), 24 (E), 27

Test Procedure(s): ANSI C63.26: 2015

Test Date: January 21 ~ May 17, 2021

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.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2101RSU049-U2	Rev. 01	Initial Report	05-19-2021	Valid

CONTENTS

Description	Page
1. GENERAL INFORMATION	5
1.1. Applicant	5
1.2. Manufacturer	5
1.3. Testing Facility	5
1.4. Product Information	6
1.5. Radio Specification under Test	7
1.6. Description of Available Antennas.....	8
1.7. Test Methodology	8
1.8. Device Capabilities	9
1.9. EMI Suppression Device(s)/Modifications.....	9
1.10. Maximum Power, Frequency Tolerance, and Emission Designator.....	10
1.11. Configuration of Tested System.....	19
1.12. Test Environment Condition.....	19
2. TEST EQUIPMENT CALIBRATION DATE.....	20
3. MEASUREMENT UNCERTAINTY	22
4. TEST RESULT	23
4.1. Summary.....	23
4.2. Occupied Bandwidth Measurement.....	24
4.2.1. Test Limit	24
4.2.2. Test Procedure	24
4.2.3. Test Setting.....	24
4.2.4. Test Setup	24
4.2.5. Test Result.....	25
4.3. Frequency Stability Measurement	98
4.3.1. Test Limit	98
4.3.2. Test Procedure	98
4.3.3. Test Setting.....	98
4.3.4. Test Setup	99
4.3.5. Test Result.....	100
4.4. Equivalent Isotropically Radiated Power Measurement	109
4.4.1. Test Limit	109
4.4.2. Test Procedure	109
4.4.3. Test Setting.....	109
4.4.4. Test Setup	110
4.4.5. Test Result.....	111

4.5.	Band Edge Measurement	279
4.5.1.	Test Limit	279
4.5.2.	Test Procedure	279
4.5.3.	Test Setting.....	280
4.5.4.	Test Setup	280
4.5.5.	Test Result.....	281
4.6.	Peak to Average Ratio Measurement	375
4.6.1.	Test Limit	375
4.6.2.	Test Procedure	375
4.6.3.	Test Setting.....	375
4.6.4.	Test Setup	375
4.6.5.	Test Result.....	376
4.7.	Conducted Spurious Emission Measurement	385
4.7.1.	Test Limit	385
4.7.2.	Test Procedure	385
4.7.3.	Test Setting.....	385
4.7.4.	Test Setup	386
4.7.5.	Test Result.....	387
4.8.	Radiated Spurious Emission Measurement	440
4.8.1.	Test Limit	440
4.8.2.	Test Procedure	440
4.8.3.	Test Setting.....	440
4.8.4.	Test Setup	441
4.8.5.	Test Result.....	442
5.	CONCLUSION	453
	Appendix A - Test Setup Photograph	454
	Appendix B - EUT Photograph.....	455

1. GENERAL INFORMATION

1.1. Applicant

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

1.2. Manufacturer

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

1.3. Testing Facility

<input checked="" type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/>	Test Site - MRT Taiwan Laboratory
	Laboratory Location (Taiwan) No. 38, Fuxing 2 nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: L3261-190725
	FCC: 291082, TW3261 ISED: TW3261

1.4. Product Information

Product Name	5G Sub-6 GHz M.2 Module
Model No.	RM502Q-GL
Brand Name	Quectel
IMEI	Conducted Measurement: 355878110939501 Radiated Measurement: 865776040001173
Operating Temperature	-30 ~ 70 °C
Power Type	3.135 ~ 4.4Vdc, typical 3.7Vdc
UMTS Specification	
Single Band	Band 2, 4, 5
Modulation	Uplink up to 16QAM, Downlink up to 64QAM
E-UTRA Specification	
Single Band	Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 38, 41, 48, 66, 71
Intra-Band	CA_2C, CA_5B, CA_7C, CA_38C, CA_41C, CA_48C, CA_66C
HPUE Band	Band 38, 41
Modulation	UL & DL up to 256QAM
5G NR Specification	
SA Band	n2, n7, n5, n12, n25, n41, n66, n71, n77
SA UL MIMO Band	n41, n77
EN-DC Band	DC_25A_n41A, DC_26A_n41A, DC_2A_n41A, DC_66A_n41A DC_4A_n41A, DC_2A_n77A, DC_7A_n77A, DC_12A_n77A, DC_41A_n77A, DC_66A_n77A
HPUE Band	n41, n77 (SA & UL MIMO)
SCS for NR cell	FDD Band: 15kHz; TDD Band: 30kHz
Modulation	UL & DL up to 256QAM

1.5. Radio Specification under Test

FDD T _x Frequency Range:	Band 2: 1850 ~ 1910 MHz; Band 4: 1710 ~ 1755 MHz Band 5: 824 ~ 849 MHz; Band 7: 2500 ~ 2570 MHz Band 12: 699 ~ 716 MHz; Band 13: 777 ~ 787 MHz Band 17: 704 ~ 716 MHz; Band 25: 1850 ~ 1915 MHz Band 26: 824 ~ 849 MHz; Band 66: 1710 ~ 1780 MHz Band 71: 663 ~ 698 MHz
FDD R _x Frequency Range:	Band 2: 1930 ~ 1990 MHz; Band 4: 2110 ~ 2155 MHz Band 5: 869 ~ 894 MHz; Band 7: 2620 ~ 2690 MHz Band 12: 729 ~ 746 MHz; Band 13: 746 ~ 756 MHz Band 17: 734 ~ 746 MHz; Band 25: 1930 ~ 1995 MHz Band 26: 869 ~ 894 MHz; Band 66: 2110 ~ 2200 MHz Band 71: 617 ~ 652 MHz
TDD T _x & R _x Frequency Range:	Band 38: 2570 ~ 2620 MHz; Band 41: 2496 ~ 2690 MHz

Note 1: For other features of this EUT, test report will be issued separately.

Note 2: The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Note 3: LTE 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	MaxPeak Gain (dBi)
LTE Band 2	1850 ~ 1910	Dipole	0.25
LTE Band 4	1710 ~ 1755		1.47
LTE Band 5	824 ~ 849		2.68
LTE Band 7	2500 ~ 2570		0.78
LTE Band 12	699 ~ 716		-0.20
LTE Band 13	777 ~ 787		1.54
LTE Band 14	788 ~ 798		2.42
LTE Band 17	704~ 716		-0.20
LTE Band 25	1850 ~ 1915		0.25
LTE Band 26	814~849		2.68
LTE Band 30	2305 ~ 2315		-3.06
LTE Band 38	2570 ~ 2620		0.78
LTE Band 41	2496 ~ 2690		0.78
LTE Band 48	3550 ~ 3700		-4.29
LTE Band 66	1710 ~ 1780		1.47
LTE Band 71	663 ~ 698		1.22

Note: All antenna information (Antenna type and Peak Gain) is provided by the manufacturer.

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 2, Part 22, Part 24, Part 27
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices

1.8. Device Capabilities

This device contains the following capabilities:

Working on LTE Band 2, 4, 5, 7, 12, 13, 14, 25, 26, 30, 38, 41, 66; Intra-band CA_2C, CA_5B, CA_7C, CA_38C, CA_41C, CA_48C, CA_66C LTE Module.

LTE Band 66 (1710 ~ 1780 MHz) overlaps the entire frequency range of LTE Band 4 (1710 ~ 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.

LTE Band 25 (1850 ~ 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.

LTE Band 26 (814 ~ 849 MHz) overlaps the entire frequency range of LTE Band 5 (824 ~ 849 MHz). Therefore, test data provided in this report covers Band 5 as well as Band 26.

LTE Band 41 (2496 ~ 2690 MHz) overlaps the entire frequency range of LTE Band 38 (2570 ~ 2620 MHz). Therefore, test data provided in this report covers Band 38 as well as Band 41.

1.9. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

1.10. Maximum Power, Frequency Tolerance, and Emission Designator

LTE Band 2		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1850.7 ~ 1909.3	1M08G7D	-	0.1730	1M08W7D	-	0.1479
3	1851.5 ~ 1908.5	2M68G7D	-	0.1799	2M68W7D	-	0.1626
5	1852.5 ~ 1907.5	4M48G7D	-	0.1766	4M46W7D	-	0.1574
10	1855.0 ~ 1905.0	8M93G7D	-	0.1803	8M92W7D	-	0.1538
15	1857.5 ~ 1902.5	13M4G7D	-	0.1795	13M4W7D	-	0.1563
20	1860.0 ~ 1900.0	17M9G7D	0.0068	0.1849	17M9W7D	-	0.1563
LTE Band 2		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1850.7 ~ 1909.3	1M08W7D	-	0.0993	1M08W7D	-	0.0624
3	1851.5 ~ 1908.5	2M68W7D	-	0.1219	2M69W7D	-	0.0667
5	1852.5 ~ 1907.5	4M46W7D	-	0.1365	4M46W7D	-	0.0643
10	1855.0 ~ 1905.0	8M92W7D	-	0.1462	8M93W7D	-	0.0762
15	1857.5 ~ 1902.5	13M4W7D	-	0.1330	13M4W7D	-	0.0805
20	1860.0 ~ 1900.0	17M9W7D	-	0.1377	17M9W7D	-	0.0733
LTE Band 25		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1850.7 ~ 1914.3	1M08G7D	-	0.1730	1M08W7D	-	0.1479
3	1851.5 ~ 1913.5	2M68G7D	-	0.1799	2M68W7D	-	0.1626
5	1852.5 ~ 1912.5	4M48G7D	-	0.1766	4M46W7D	-	0.1574
10	1855.0 ~ 1910.0	8M93G7D	-	0.1803	8M92W7D	-	0.1538
15	1857.5 ~ 1907.5	13M4G7D	-	0.1795	13M4W7D	-	0.1563
20	1860.0 ~ 1905.0	17M9G7D	0.0068	0.1849	17M9W7D	-	0.1563
LTE Band 25		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1850.7 ~ 1914.3	1M08W7D	-	0.0993	1M08W7D	-	0.0624
3	1851.5 ~ 1913.5	2M68W7D	-	0.1219	2M69W7D	-	0.0667
5	1852.5 ~ 1912.5	4M46W7D	-	0.1365	4M46W7D	-	0.0643
10	1855.0 ~ 1910.0	8M92W7D	-	0.1462	8M93W7D	-	0.0762
15	1857.5 ~ 1907.5	13M4W7D	-	0.1330	13M4W7D	-	0.0805
20	1860.0 ~ 1905.0	17M9W7D	-	0.1377	17M9W7D	-	0.0733

LTE Band 4		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1710.7 ~ 1754.3	1M08G7D	-	0.1762	1M08W7D	-	0.1510
3	1711.5 ~ 1753.5	2M69G7D	-	0.1774	2M68W7D	-	0.1706
5	1712.5 ~ 1752.5	4M48G7D	-	0.1791	4M46W7D	-	0.1483
10	1715.0 ~ 1750.0	8M94G7D	-	0.1828	8M93W7D	-	0.1652
15	1717.5 ~ 1747.5	13M4G7D	-	0.1750	13M4W7D	-	0.1600
20	1720.0 ~ 1745.0	17M9G7D	0.0095	0.1738	17M9W7D	-	0.1556
LTE Band 4		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1710.7 ~ 1754.3	1M08W7D	-	0.1262	1M08W7D	-	0.0625
3	1711.5 ~ 1753.5	2M68W7D	-	0.1377	2M68W7D	-	0.0738
5	1712.5 ~ 1752.5	4M46W7D	-	0.1419	4M47W7D	-	0.0733
10	1715.0 ~ 1750.0	8M93W7D	-	0.1321	8M93W7D	-	0.0788
15	1717.5 ~ 1747.5	13M4W7D	-	0.1294	13M4W7D	-	0.0684
20	1720.0 ~ 1745.0	17M9W7D	-	0.1358	17M9W7D	-	0.0638
LTE Band 66		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1710.7 ~ 1779.3	1M08G7D	-	0.1762	1M08W7D	-	0.1510
3	1711.5 ~ 1778.5	2M69G7D	-	0.1774	2M68W7D	-	0.1706
5	1712.5 ~ 1777.5	4M48G7D	-	0.1791	4M46W7D	-	0.1483
10	1715.0 ~ 1775.0	8M94G7D	-	0.1828	8M93W7D	-	0.1652
15	1717.5 ~ 1772.5	13M4G7D	-	0.1750	13M4W7D	-	0.1600
20	1720.0 ~ 1770.0	17M9G7D	0.0095	0.1738	17M9W7D	-	0.1556
LTE Band 66		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	1710.7 ~ 1779.3	1M08W7D	-	0.1262	1M08W7D	-	0.0625
3	1711.5 ~ 1778.5	2M68W7D	-	0.1377	2M68W7D	-	0.0738
5	1712.5 ~ 1777.5	4M46W7D	-	0.1419	4M47W7D	-	0.0733
10	1715.0 ~ 1775.0	8M93W7D	-	0.1321	8M93W7D	-	0.0788
15	1717.5 ~ 1772.5	13M4W7D	-	0.1294	13M4W7D	-	0.0684
20	1720.0 ~ 1770.0	17M9W7D	-	0.1358	17M9W7D	-	0.0638

LTE Band 5		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	824.7 ~ 848.3	1M09G7D	-	0.1901	1M08W7D	-	0.1592
3	825.5 ~ 847.5	2M68G7D	-	0.1919	2M68W7D	-	0.1770
5	826.5 ~ 846.5	4M47G7D	-	0.1928	4M46W7D	-	0.1694
10	829.0 ~ 844.0	8M94G7D	0.0095	0.1901	8M94W7D	-	0.1786
LTE Band 5		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	824.7 ~ 848.3	1M08W7D	-	0.1384	1M07W7D	-	0.0701
3	825.5 ~ 847.5	2M68W7D	-	0.1535	2M68W7D	-	0.0750
5	826.5 ~ 846.5	4M46W7D	-	0.1452	4M46W7D	-	0.0700
10	829.0 ~ 844.0	8M94W7D	-	0.1556	8M92W7D	-	0.0769
LTE Band 26		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	824.7 ~ 848.3	1M09G7D	-	0.1901	1M08W7D	-	0.1592
3	825.5 ~ 847.5	2M68G7D	-	0.1919	2M68W7D	-	0.1770
5	826.5 ~ 846.5	4M47G7D	-	0.1928	4M46W7D	-	0.1694
10	829.0 ~ 844.0	8M94G7D	-	0.1901	8M94W7D	-	0.1786
15	831.5 ~ 841.5	13M4G7D	0.0095	0.1866	13M4W7D	-	0.1656
	821.5	13M4G7D	-	0.1828	13M4W7D	-	0.1618
LTE Band 26		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	824.7 ~ 848.3	1M08W7D	-	0.1384	1M07W7D	-	0.0701
3	825.5 ~ 847.5	2M68W7D	-	0.1535	2M68W7D	-	0.0750
5	826.5 ~ 846.5	4M46W7D	-	0.1452	4M46W7D	-	0.0700
10	829.0 ~ 844.0	8M94W7D	-	0.1556	8M92W7D	-	0.0769
15	831.5 ~ 841.5	13M4W7D	-	0.1396	13M4W7D	-	0.0701
	821.5	13M4W7D	-	0.1377	13M4W7D	-	0.0695
LTE Band 7		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2502.5 ~ 2567.5	4M46G7D	-	0.1766	4M47W7D	-	0.1507
10	2505.0 ~ 2565.0	8M94G7D	-	0.1770	8M92W7D	-	0.1644
15	2507.5 ~ 2562.5	13M4G7D	-	0.1795	13M4W7D	-	0.1633
20	2510.0 ~ 2560.0	17M9G7D	0.0078	0.1774	17M9W7D	-	0.1690

LTE Band 7		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2502.5 ~ 2567.5	4M46W7D	-	0.1371	4M47W7D	-	0.0689
10	2505.0 ~ 2565.0	8M94W7D	-	0.1514	8M92W7D	-	0.0760
15	2507.5 ~ 2562.5	13M4W7D	-	0.1545	13M4W7D	-	0.0760
20	2510.0 ~ 2560.0	17M9W7D	-	0.1469	17M9W7D	-	0.0701
LTE Band 12		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	699.7 ~ 715.3	1M08G7D	-	0.1816	1M08W7D	-	0.1493
3	700.5 ~ 714.5	2M68G7D	-	0.1828	2M68W7D	-	0.1663
5	701.5 ~ 713.5	4M46G7D	-	0.1828	4M46W7D	-	0.1549
10	704.0 ~ 711.0	8M94G7D	0.0512	0.1862	8M94W7D	-	0.1663
LTE Band 12		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
1.4	699.7 ~ 715.3	1M08W7D	-	0.1315	1M08W7D	-	0.0634
3	700.5 ~ 714.5	2M68W7D	-	0.1387	2M68W7D	-	0.0667
5	701.5 ~ 713.5	4M46W7D	-	0.1279	4M47W7D	-	0.0635
10	704.0 ~ 711.0	8M93W7D	-	0.1432	8M92W7D	-	0.0701
LTE Band 13		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	779.5 ~ 784.5	4M46G7D	-	0.1730	4M47W7D	-	0.1524
10	782.0	8M92G7D	0.0146	0.1734	8M92W7D	-	0.1472
LTE Band 13		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	779.5 ~ 784.5	4M46W7D	-	0.1297	4M48W7D	-	0.0647
10	782.0	8M92W7D	-	0.1371	8M94W7D	-	0.0740
LTE Band 17		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	706.5 ~ 713.5	4M47G7D	-	0.1754	4M45W7D	-	0.1517
10	709.0 ~ 711.0	8M94G7D	0.0212	0.1811	8M93W7D	-	0.1603
LTE Band 17		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	706.5 ~ 713.5	4M45W7D	-	0.1291	4M47W7D	-	0.0637
10	709.0 ~ 711.0	8M92W7D	-	0.1309	8M94W7D	-	0.0653

LTE Band 38		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max EIRP (W)	Designator	Tolerance (ppm)	Max EIRP (W)
5	2572.5 ~ 2617.5	4M46G7D	-	0.2148	4M46W7D	-	0.2404
10	2575.0 ~ 2615.0	8M93G7D	-	0.2163	8M95W7D	-	0.2244
15	2577.5 ~ 2612.5	13M4G7D	-	0.2133	13M4W7D	-	0.2203
20	2580.0 ~ 2610.0	17M9G7D	0.0145	0.2153	17M8W7D	-	0.2307
LTE Band 38		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2572.5 ~ 2617.5	4M45W7D	-	0.2280	4M47W7D	-	0.1387
10	2575.0 ~ 2615.0	8M96W7D	-	0.2133	8M94W7D	-	0.1371
15	2577.5 ~ 2612.5	13M4W7D	-	0.2061	13M4W7D	-	0.1321
20	2580.0 ~ 2610.0	17M9W7D	-	0.1982	17M9W7D	-	0.1426
LTE Band 41		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2498.5 ~ 2687.5	4M46G7D	-	0.2148	4M46W7D	-	0.2404
10	2501.0 ~ 2685.0	8M93G7D	-	0.2163	8M95W7D	-	0.2244
15	2503.5 ~ 2682.5	13M4G7D	-	0.2133	13M4W7D	-	0.2203
20	2506.0 ~ 2680.0	17M9G7D	0.0145	0.2153	17M8W7D	-	0.2307
LTE Band 41		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2498.5 ~ 2687.5	4M45W7D	-	0.2280	4M47W7D	-	0.1387
10	2501.0 ~ 2685.0	8M96W7D	-	0.2133	8M94W7D	-	0.1371
15	2503.5 ~ 2682.5	13M4W7D	-	0.2061	13M4W7D	-	0.1321
20	2506.0 ~ 2680.0	17M9W7D	-	0.1982	17M9W7D	-	0.1426
LTE Band 71		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	665.0 ~ 695.5	4M47G7D	-	0.1837	4M46W7D	-	0.1552
10	668.0 ~ 693.0	8M93G7D	-	0.1828	8M93W7D	-	0.1690
15	670.5 ~ 690.5	13M4G7D	-	0.1849	13M4W7D	-	0.1641
20	673.0 ~ 688.0	17M8G7D	-0.0193	0.1884	17M8W7D	-	0.1618

LTE Band 71		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	665.0 ~ 695.5	4M46W7D	-	0.1262	4M47W7D	-	0.0627
10	668.0 ~ 693.0	8M92W7D	-	0.1442	8M92W7D	-	0.0647
15	670.5 ~ 690.5	13M4W7D	-	0.1365	13M4W7D	-	0.0646
20	673.0 ~ 688.0	17M9W7D	-	0.1312	17M8W7D	-	0.0649
LTE Band 38 For HPUE		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2572.5 ~ 2617.5	4M46G7D	-	0.3573	4M46W7D	-	0.2951
10	2575.0 ~ 2615.0	8M93G7D	-	0.3524	8M95W7D	-	0.2825
15	2577.5 ~ 2612.5	13M4G7D	-	0.3499	13M4W7D	-	0.2838
20	2580.0 ~ 2610.0	17M9G7D	0.0145	0.3581	17M8W7D	-	0.2904
LTE Band 38 For HPUE		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2572.5 ~ 2617.5	4M45W7D	-	0.2506	4M47W7D	-	0.1416
10	2575.0 ~ 2615.0	8M96W7D	-	0.2547	8M94W7D	-	0.1321
15	2577.5 ~ 2612.5	13M4W7D	-	0.2438	13M4W7D	-	0.1324
20	2580.0 ~ 2610.0	17M9W7D	-	0.2427	17M9W7D	-	0.1368
LTE Band 41 For HPUE		QPSK			16QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2498.5 ~ 2687.5	4M46G7D	-	0.3573	4M46W7D	-	0.2951
10	2501.0 ~ 2685.0	8M93G7D	-	0.3524	8M95W7D	-	0.2825
15	2503.5 ~ 2682.5	13M4G7D	-	0.3499	13M4W7D	-	0.2838
20	2506.0 ~ 2680.0	17M9G7D	0.0145	0.3581	17M8W7D	-	0.2904
LTE Band 41 For HPUE		64QAM			256QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2498.5 ~ 2687.5	4M45W7D	-	0.2506	4M47W7D	-	0.1416
10	2501.0 ~ 2685.0	8M96W7D	-	0.2547	8M94W7D	-	0.1321
15	2503.5 ~ 2682.5	13M4W7D	-	0.2438	13M4W7D	-	0.1324
20	2506.0 ~ 2680.0	17M9W7D	-	0.2427	17M9W7D	-	0.1368

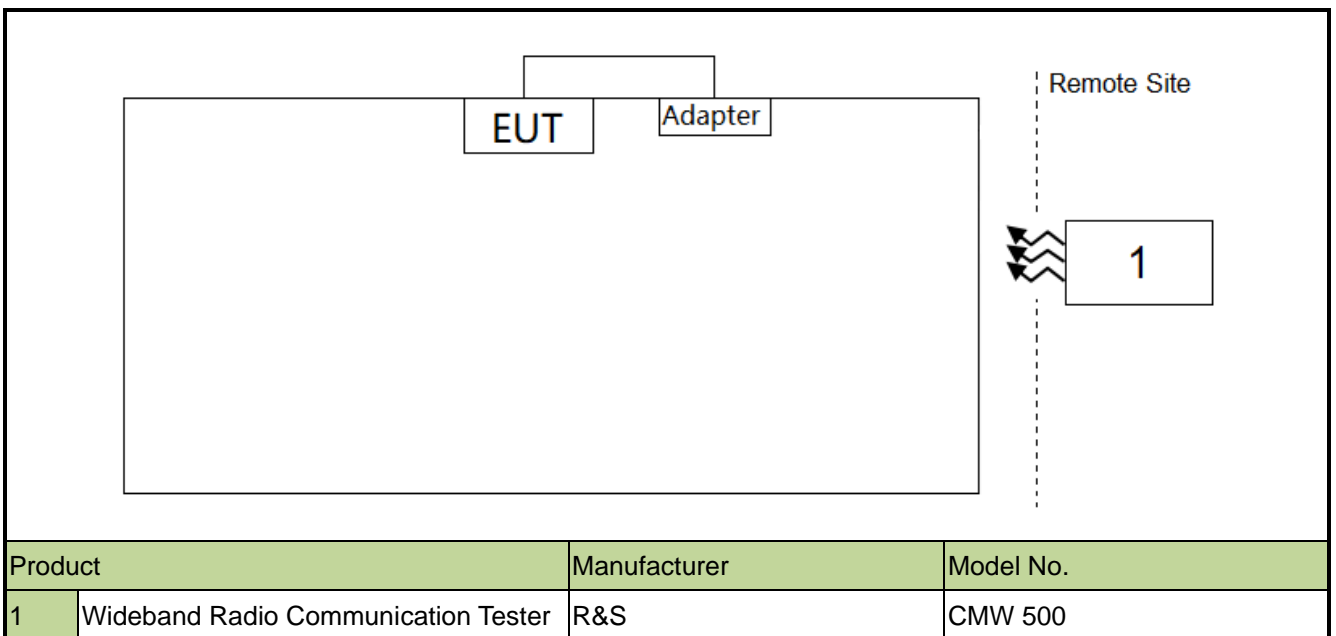
LTE Band 2C	QPSK			16QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power(W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 20MHz	22M8G7D	-	0.2123	22M7W7D	-	0.1799
10 + 15MHz	22M8G7D	-	0.2163	23M0W7D	-	0.1941
10 + 20MHz	27M7G7D	-	0.2075	27M6W7D	-	0.1897
15 + 10MHz	23M0G7D	-	0.2099	23M0W7D	-	0.1968
15 + 15MHz	28M3G7D	-	0.2065	28M2W7D	-	0.1986
15 + 20MHz	32M5G7D	-	0.2061	32M6W7D	-	0.1945
20 + 5MHz	22M8G7D	-	0.2056	22M8W7D	-	0.1936
20 + 10MHz	27M7G7D	-	0.2070	27M7W7D	-	0.1936
20 + 15MHz	32M7G7D	-	0.2084	32M6W7D	-	0.1914
20 + 20MHz	37M4G7D	-	0.2084	37M4W7D	-	0.1897
LTE Band 2C	64QAM			256QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 20MHz	22M8W7D	-	0.1400	22M6W7D	-	0.0716
10 + 15MHz	23M0W7D	-	0.1393	23M0W7D	-	0.0743
10 + 20MHz	27M7W7D	-	0.1435	27M6W7D	-	0.0740
15 + 10MHz	23M0W7D	-	0.1469	23M0W7D	-	0.0760
15 + 15MHz	28M2W7D	-	0.1469	28M2W7D	-	0.0741
15 + 20MHz	32M5W7D	-	0.1380	32M5W7D	-	0.0719
20 + 5MHz	22M8W7D	-	0.1462	22M8W7D	-	0.0789
20 + 10MHz	27M7W7D	-	0.1449	27M7W7D	-	0.0776
20 + 15MHz	32M6W7D	-	0.1387	32M5W7D	-	0.0700
20 + 20MHz	37M4W7D	-	0.1718	37M3W7D	-	0.0716
LTE Band 5B	QPSK			16QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power(W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 10MHz	13M8G7D	-	0.2168	13M8W7D	-	0.1910
10 + 5MHz	13M8G7D	-	0.2113	13M9W7D	-	0.1945
10 + 10MHz	18M7G7D	-	0.2065	18M6W7D	-	0.1928
LTE Band 5B	64QAM			256QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 10MHz	13M8W7D	-	0.1413	13M8W7D	-	0.0778
10 + 5MHz	13M9W7D	-	0.1459	13M8W7D	-	0.0760
10 + 10MHz	18M7W7D	-	0.1469	18M6W7D	-	0.0752

LTE Band 7C	QPSK			16QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power(W)	Designator	Tolerance (ppm)	Max Power (W)
10 + 20MHz	27M6G7D	-	0.2208	27M6W7D	-	0.2018
15 + 10MHz	23M1G7D	-	0.2244	23M1W7D	-	0.2032
15 + 15MHz	28M2G7D	-	0.2143	28M3W7D	-	0.2018
15 + 20MHz	32M4G7D	-	0.2143	32M5W7D	-	0.2037
20 + 10MHz	27M7G7D	-	0.2178	27M7W7D	-	0.2018
20 + 15MHz	32M5G7D	-	0.2198	32M5W7D	-	0.1977
20 + 20MHz	37M4G7D	-	0.2203	37M4W7D	-	0.1982
LTE Band 7C	64QAM			256QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
10 + 20MHz	27M6W7D	-	0.1510	27M6W7D	-	0.0771
15 + 10MHz	23M0W7D	-	0.1503	23M1W7D	-	0.0762
15 + 15MHz	28M3W7D	-	0.1545	28M2W7D	-	0.0774
15 + 20MHz	32M5W7D	-	0.1567	32M5W7D	-	0.0865
20 + 10MHz	27M7W7D	-	0.1531	27M6W7D	-	0.0787
20 + 15MHz	32M5W7D	-	0.1449	32M6W7D	-	0.0755
20 + 20MHz	37M3W7D	-	0.1466	37M8W7D	-	0.0731
LTE Band 38C	QPSK			16QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
15 + 15MHz	28M0G7D	-	0.2259	28M1W7D	-	0.1914
20 + 20MHz	37M1G7D	-	0.2249	37M0W7D	-	0.1871
LTE Band 38C	64QAM			256QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
15 + 15MHz	28M0W7D	-	0.1535	28M1W7D	-	0.0750
20 + 20MHz	37M0W7D	-	0.1535	37M1W7D	-	0.0785

LTE Band 41C	QPSK			16QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 20MHz	22M5G7D	-	0.2270	22M4W7D	-	0.1982
10 + 15MHz	22M8G7D	-	0.2270	22M9W7D	-	0.2014
10 + 20MHz	27M4G7D	-	0.2228	27M4W7D	-	0.1968
15 + 10MHz	22M9G7D	-	0.2218	22M9W7D	-	0.1959
15 + 15MHz	28M0G7D	-	0.2259	28M1W7D	-	0.1914
15 + 20MHz	32M2G7D	-	0.2270	32M2W7D	-	0.1875
20 + 5MHz	22M7G7D	-	0.2360	22M7W7D	-	0.2018
20 + 10MHz	27M6G7D	-	0.2323	27M6W7D	-	0.1888
20 + 15MHz	32M3G7D	-	0.2249	32M3W7D	-	0.1875
20 + 20MHz	37M1G7D	-	0.2249	37M0W7D	-	0.1871
LTE Band 41C	64QAM			256QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 20MHz	22M4W7D	-	0.1629	22M3W7D	-	0.0753
10 + 15MHz	22M9W7D	-	0.1592	22M8W7D	-	0.0769
10 + 20MHz	27M3W7D	-	0.1603	27M3W7D	-	0.0843
15 + 10MHz	22M9W7D	-	0.1603	22M9W7D	-	0.0755
15 + 15MHz	28M0W7D	-	0.1535	28M1W7D	-	0.0750
15 + 20MHz	32M2W7D	-	0.1542	32M2W7D	-	0.0796
20 + 5MHz	22M7W7D	-	0.1742	22M8W7D	-	0.0782
20 + 10MHz	27M6W7D	-	0.1545	27M5W7D	-	0.0800
20 + 15MHz	32M4W7D	-	0.1503	32M3W7D	-	0.0794
20 + 20MHz	37M0W7D	-	0.1535	37M1W7D	-	0.0785
LTE Band 66C	QPSK			16QAM		
BW (MHz)	Designator	Tolerance (ppm)	BW (MHz)	Designator	Tolerance (ppm)	BW (MHz)
5 + 20MHz	22M6G7D	-	0.1977	22M6W7D	-	0.1897
10 + 15MHz	22M9G7D	-	0.2004	22M9W7D	-	0.1837
10 + 20MHz	27M5G7D	-	0.2094	27M5W7D	-	0.1910
15 + 10MHz	22M9G7D	-	0.2094	23M0W7D	-	0.1841
15 + 15MHz	28M2G7D	-	0.2046	28M1W7D	-	0.1936
15 + 20MHz	32M5G7D	-	0.2070	32M4W7D	-	0.1897
20 + 5MHz	22M8G7D	-	0.2118	22M9W7D	-	0.1875
20 + 10MHz	27M6G7D	-	0.2138	27M6W7D	-	0.1758
20 + 15MHz	32M5G7D	-	0.2023	32M5W7D	-	0.1959
20 + 20MHz	37M3G7D	-	0.2070	37M3W7D	-	0.1892

LTE Band 66C	64QAM			256QAM		
BW (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5 + 20MHz	22M6W7D	-	0.1452	22M7W7D	-	0.0746
10 + 15MHz	22M9W7D	-	0.1403	23M0W7D	-	0.0774
10 + 20MHz	27M4W7D	-	0.1455	27M5W7D	-	0.0767
15 + 10MHz	23M0W7D	-	0.1393	23M0W7D	-	0.0785
15 + 15MHz	28M2W7D	-	0.1439	28M2W7D	-	0.0740
15 + 20MHz	32M4W7D	-	0.1429	32M5W7D	-	0.0693
20 + 5MHz	22M8W7D	-	0.1435	22M8W7D	-	0.0726
20 + 10MHz	27M6W7D	-	0.1387	27M6W7D	-	0.0710
20 + 15MHz	32M4W7D	-	0.1466	32M5W7D	-	0.0736
20 + 20MHz	37M4W7D	-	0.1368	37M3W7D	-	0.0690

1.11. Configuration of Tested System



1.12. Test Environment Condition

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

2. TEST EQUIPMENT CALIBRATION DATE

Radiated Emission (WZ-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2021/08/01
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2021/11/07
PXA Signal Analyzer	Keysight	9030B	MRTSUE06395	1 year	2021/09/03
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/10
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2022/03/30
Broad Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2021/10/13
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2022/02/22
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
Thermohygrometer	Testo	608-H1	MRTSUE06403	1 year	2021/08/08
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2022/04/29

Radiated Emission (WZ-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Keysight	N9038A	MRTSUE06125	1 year	2021/08/01
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2021/11/07
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/10
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2021/10/13
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06171	1 year	2021/10/27
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2022/02/22
Broad Band Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2021/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
Temperature/Humidity Meter	Minggao	ETH529	MRTSUE06170	1 year	2021/12/14
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2022/04/29

Conducted Test Equipment (WZ-SR6, WZ-TR3)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2022/04/14
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06452	1 year	2021/07/11
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2022/04/14
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2021/11/07
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2021/11/17
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A
True RMS Clamp Meter	Fluke	319	MRTSUE06080	1 year	2022/05/05
Directional Coupler	Agilent	87301D	MRTSUE06082	1 year	2022/03/24
Dual Directional Coupler	Agilent	7778D	MRTSUE06083	1 year	2022/03/24
Attenuator	MVE	6dB	MRTSUE06534	1 year	2021/12/11
Attenuator	MVE	10dB	MRTSUE06543	1 year	2021/12/11
Temperature & Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2021/11/07
Thermohygrometer	testo	608-H1	MRTSUE06401	1 year	2021/08/08

Software	Version	Function
EMI Software	V3	EMI Test Software

3. 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% ($U=2Uc(y)$): Horizontal: 9kHz ~ 300MHz: 5.04dB 300MHz ~ 1GHz: 4.95dB 1GHz ~ 40GHz: 6.40dB Vertical: 9kHz ~ 300MHz: 5.24dB 300MHz ~ 1GHz: 6.03dB 1GHz ~ 40GHz: 6.40dB
Conducted Spurious Emissions
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.78dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.13dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.28%
Frequency Stability
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 76.2Hz

4. TEST RESULT

4.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A	Conducted	Pass	Section 5.2
2.1055, 22.355 24.235, 27.54	Frequency Stability	< 2.5 ppm		Pass	Section 5.3
22.913(a)(5)	Equivalent Radiated Power (Band 5/26)	< 7 Watts Max ERP		Pass	Section 5.4
27.50(b)(9) 27.50(c)(9)	Equivalent Radiated Power (Band 12, 13, 17)	< 30 Watts Max ERP			
27.50(c)(10)	Equivalent Radiated Power (Band 71)	< 3 Watts Max ERP			
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2/25, 7, 38/41)	< 2 Watts Max EIRP			
27.50(d)(4) 27.50(j)(3)	Equivalent Isotropic Radiated Power (Band 4/66)	< 1 Watts Max EIRP			
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (l)(2), (m)	Band Edge	Refer to section 5.5			
24.232(d), 27.50(d)(5)	Peak to Average Ratio	< 13dB		Pass	Section 5.6
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (l)(2), (m)	Spurious Emission	Refer to section 5.7		Pass	Section 5.7
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (l)(2), (m)	Spurious Emission	Refer to section 5.8	Radiated	Pass	Section 5.8

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, Channel Band Edge, Conducted Spurious Emission, Radiated Spurious Emission (include the Intr-Band CA Mode) were presented the worst-case in the test report.

4.2. Occupied Bandwidth Measurement

4.2.1. 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.

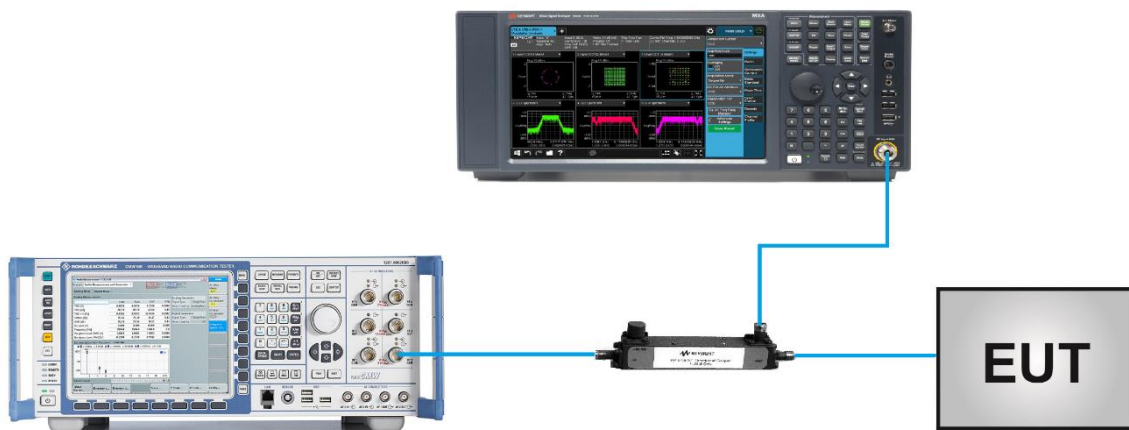
4.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.4

4.2.3. 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 $\geq 3 \times$ 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.

4.2.4. Test Setup



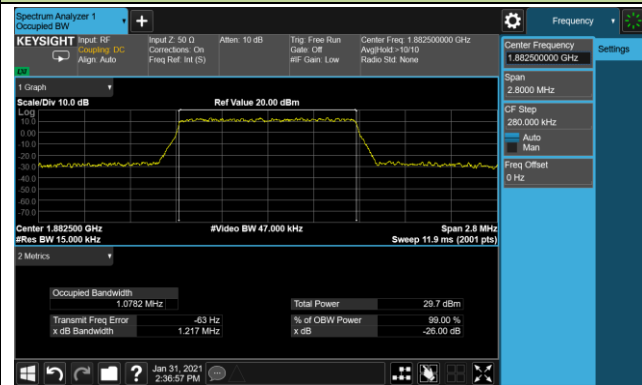
4.2.5. Test Result

Product	5G Sub-6 GHz M.2 Module	Test Site	SIP-SR6
Test Engineer	Candy Luo	Test Date	2021/01/31
Test Band	Band 2/25		

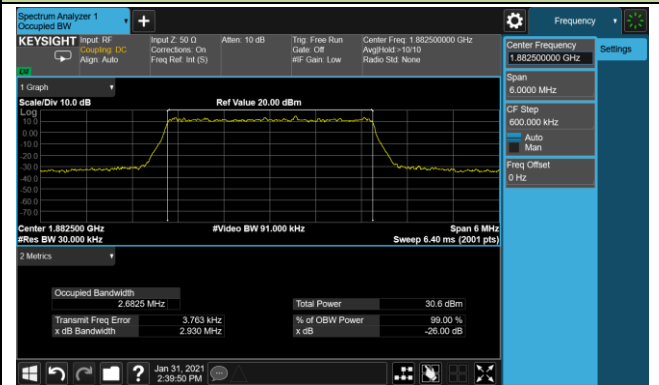
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.48
		10	8.93
		15	13.40
		20	17.88
16QAM			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.46
		10	8.92
		15	13.42
		20	17.86
64QAM			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.46
		10	8.92
		15	13.42
		20	17.87
256QAM			
26365	1882.5	1.4	1.08
		3	2.69
		5	4.46
		10	8.93
		15	13.40
		20	17.92

99% Bandwidth - QPSK

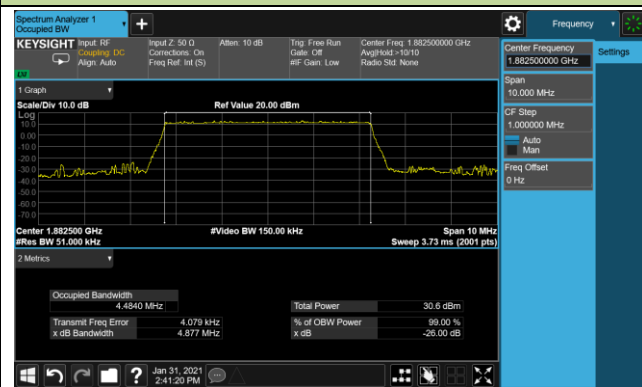
1.4MHz Channel Bandwidth



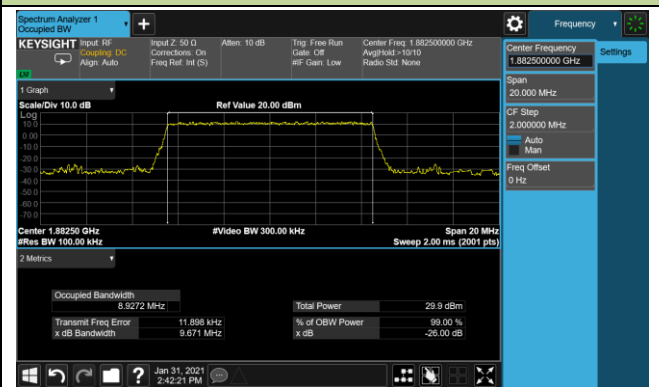
3MHz Channel Bandwidth



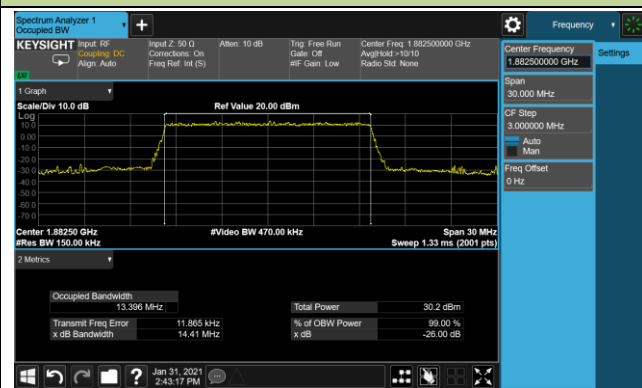
5MHz Channel Bandwidth



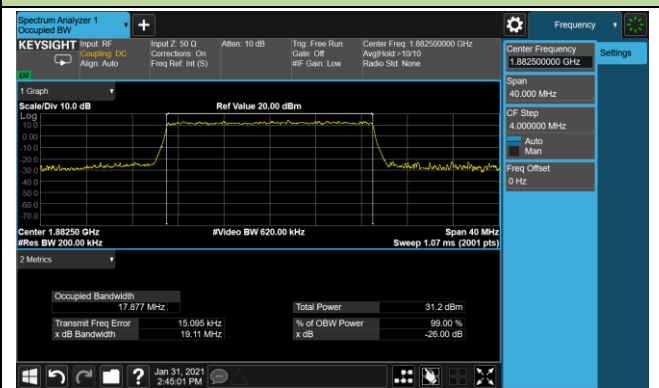
10MHz Channel Bandwidth



15MHz Channel Bandwidth

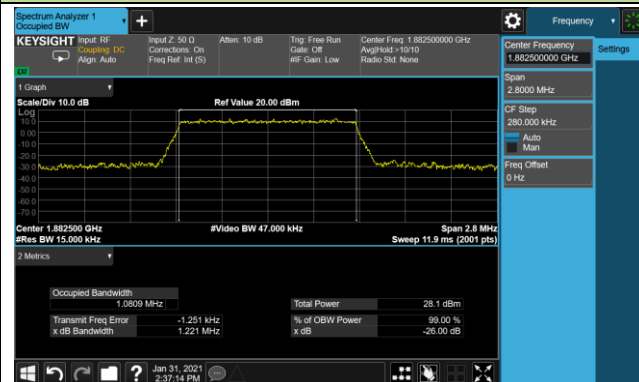


20MHz Channel Bandwidth

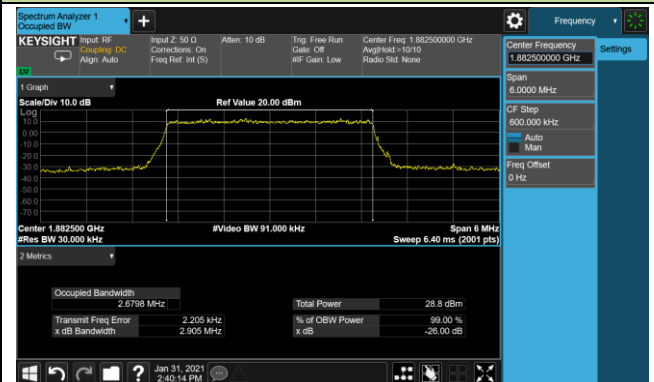


99% Bandwidth - 16QAM

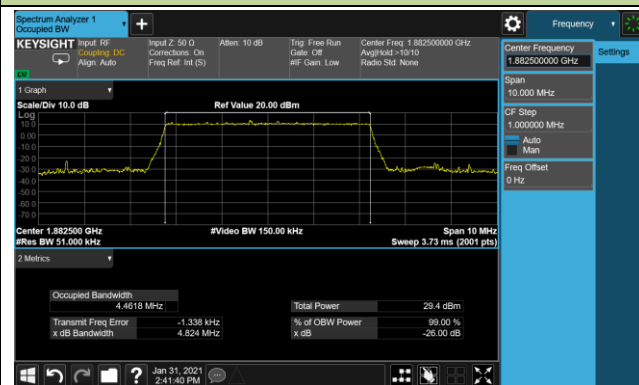
1.4MHz Channel Bandwidth



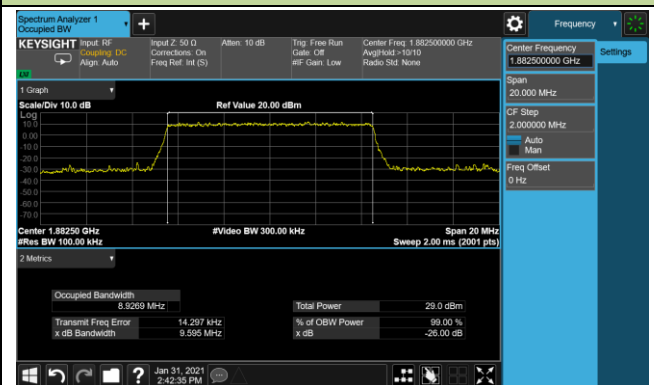
3MHz Channel Bandwidth



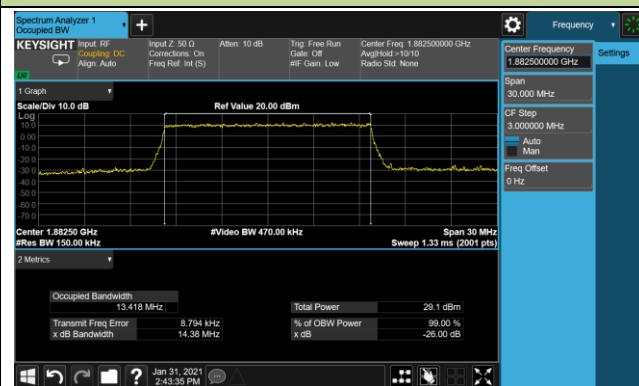
5MHz Channel Bandwidth



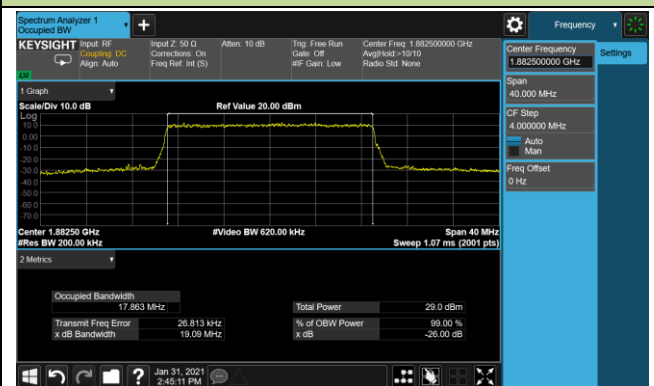
10MHz Channel Bandwidth



15MHz Channel Bandwidth

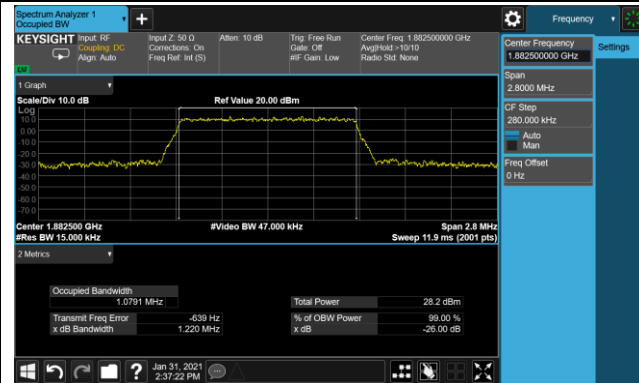


20MHz Channel Bandwidth

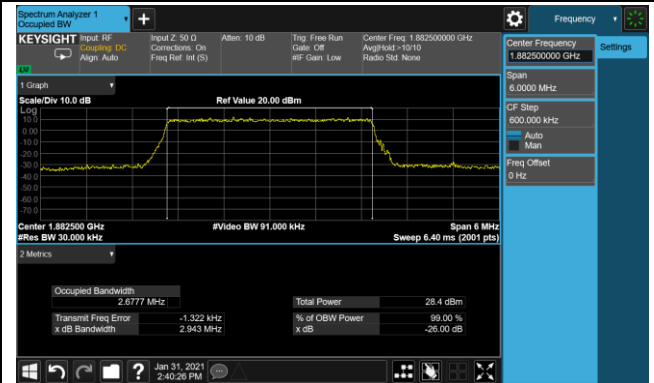


99% Bandwidth - 64QAM

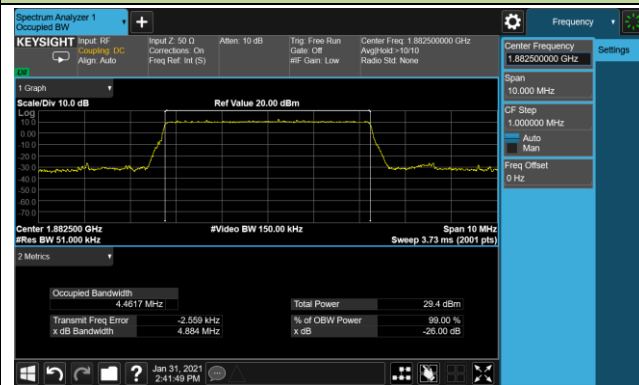
1.4MHz Channel Bandwidth



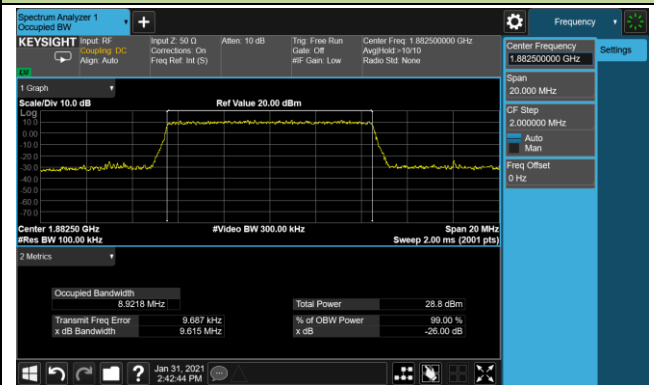
3MHz Channel Bandwidth



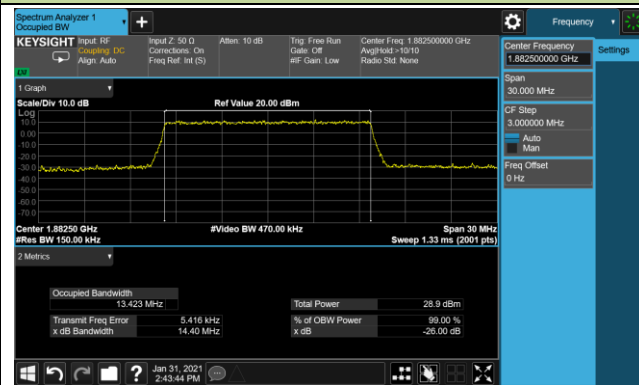
5MHz Channel Bandwidth



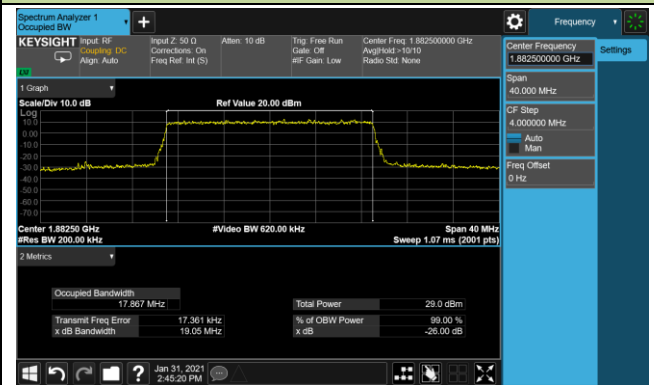
10MHz Channel Bandwidth



15MHz Channel Bandwidth

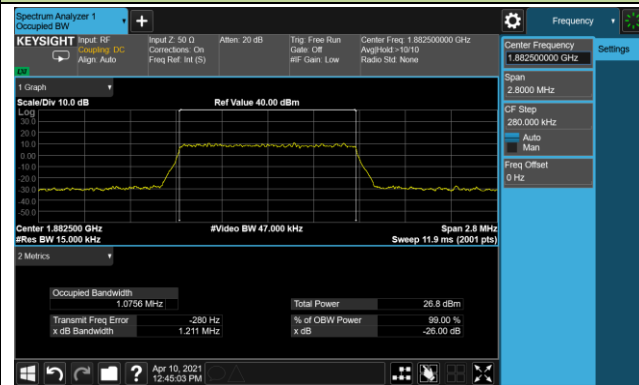


20MHz Channel Bandwidth

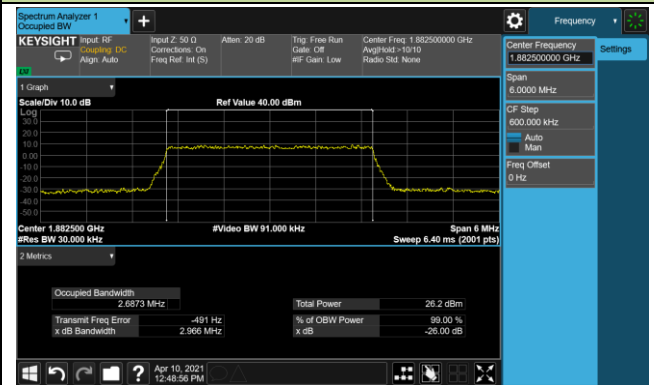


99% Bandwidth - 256QAM

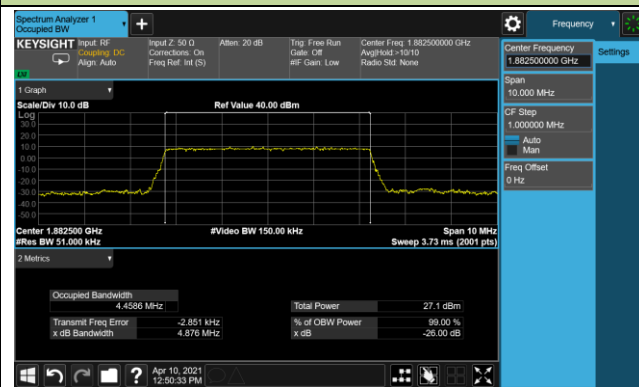
1.4MHz Channel Bandwidth



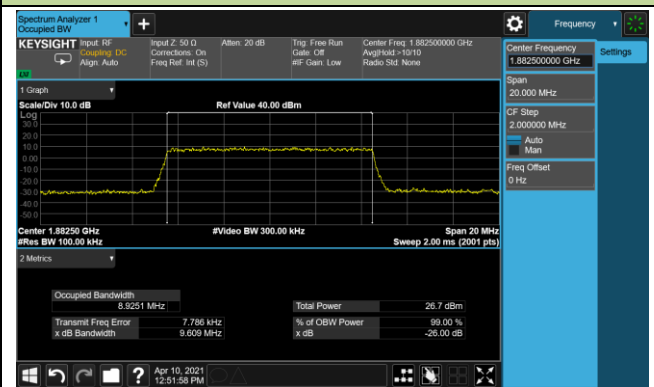
3MHz Channel Bandwidth



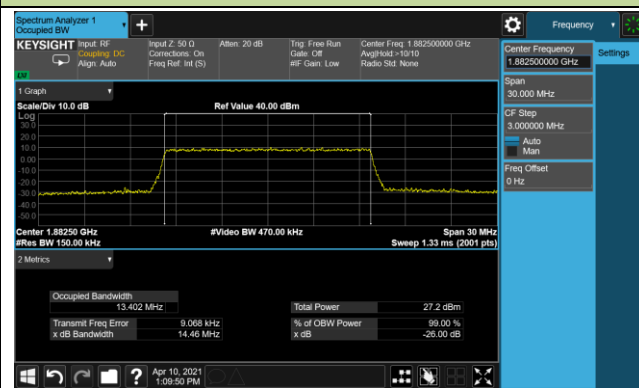
5MHz Channel Bandwidth



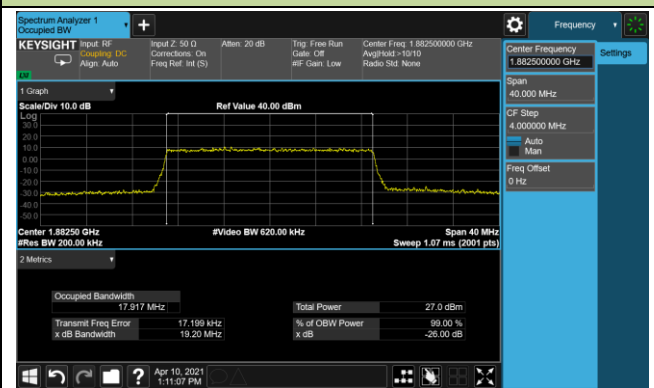
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

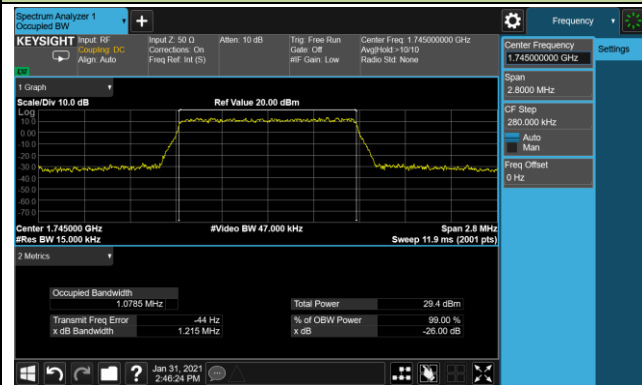


Product	5G Sub-6 GHz M.2 Module	Test Site	SIP-SR6
Test Engineer	Candy Luo	Test Date	2021/01/31
Test Band	Band 4/66		

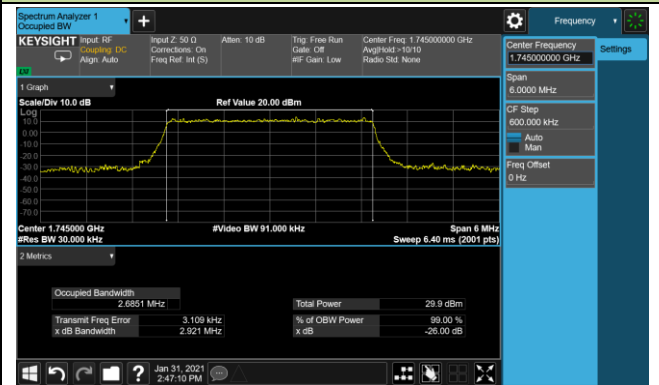
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
20300	1745.0	1.4	1.08
		3	2.69
		5	4.48
		10	8.94
		15	13.41
		20	17.86
16QAM			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.46
		10	8.93
		15	13.42
		20	17.85
64QAM			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.46
		10	8.93
		15	13.40
		20	17.91
256QAM			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.47
		10	8.93
		15	13.42
		20	17.90

99% Bandwidth - QPSK

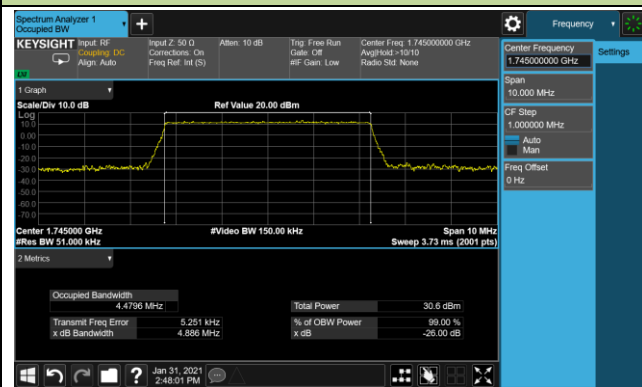
1.4MHz Channel Bandwidth



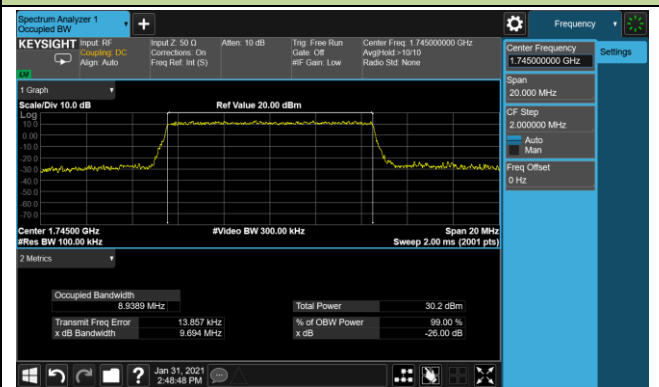
3MHz Channel Bandwidth



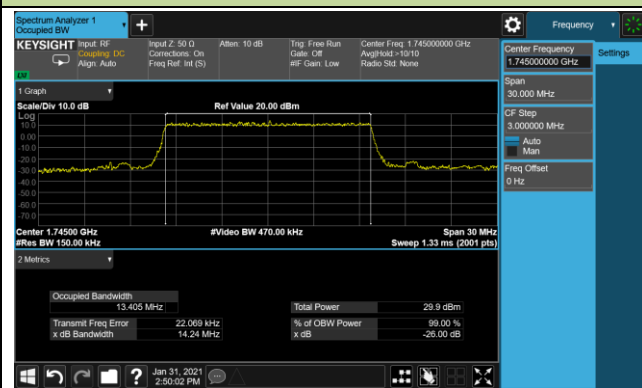
5MHz Channel Bandwidth



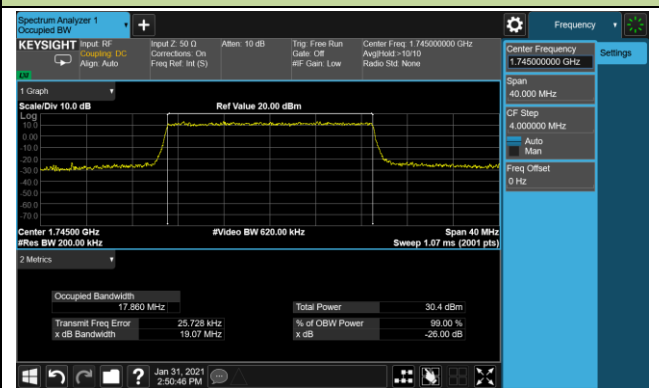
10MHz Channel Bandwidth



15MHz Channel Bandwidth

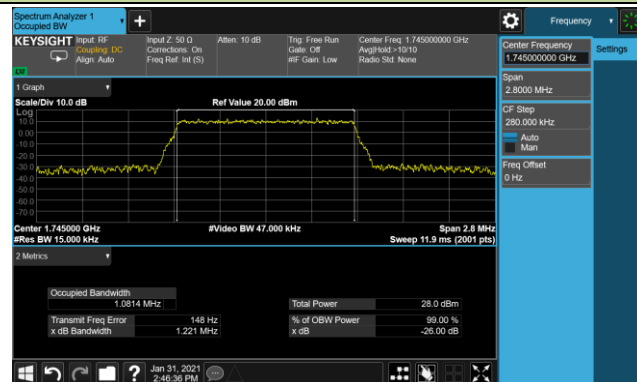


20MHz Channel Bandwidth

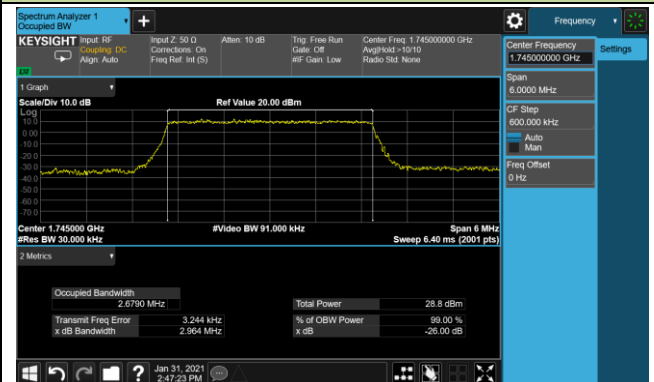


99% Bandwidth - 16QAM

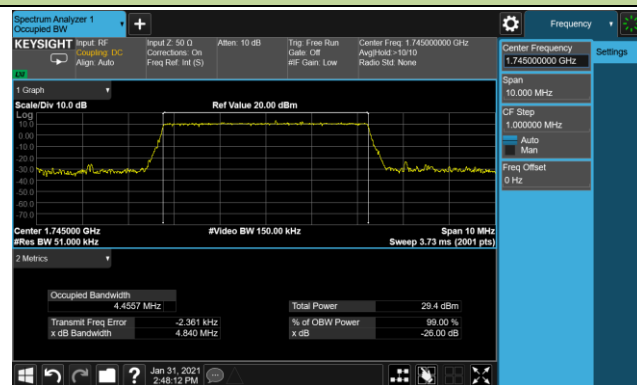
1.4MHz Channel Bandwidth



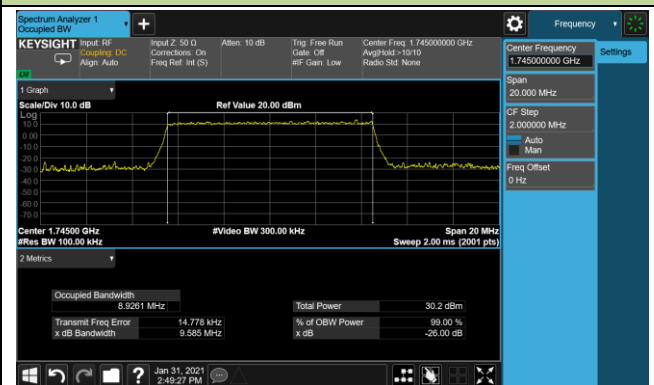
3MHz Channel Bandwidth



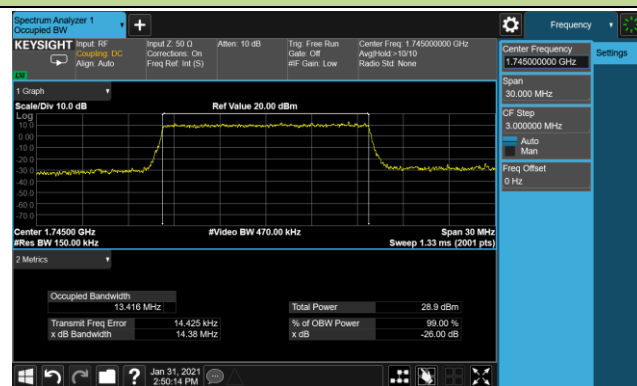
5MHz Channel Bandwidth



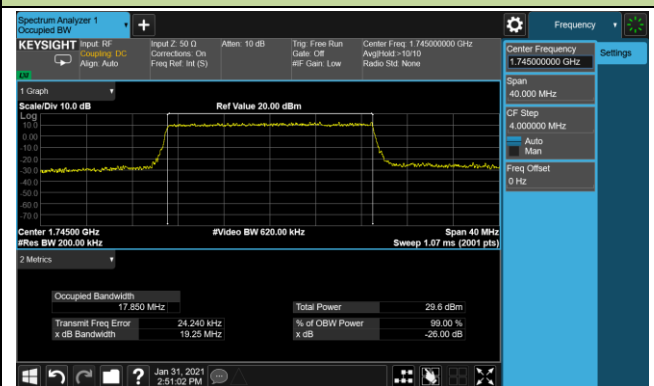
10MHz Channel Bandwidth



15MHz Channel Bandwidth

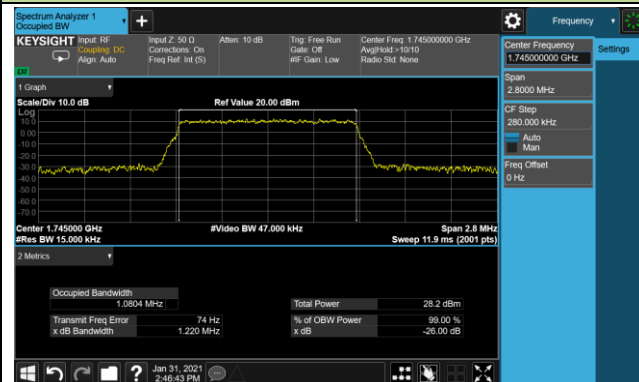


20MHz Channel Bandwidth

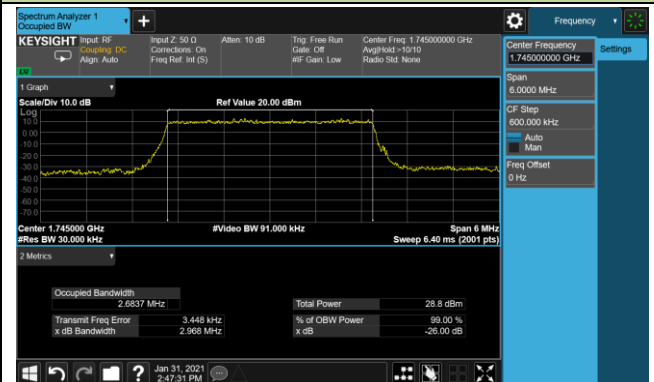


99% Bandwidth - 64QAM

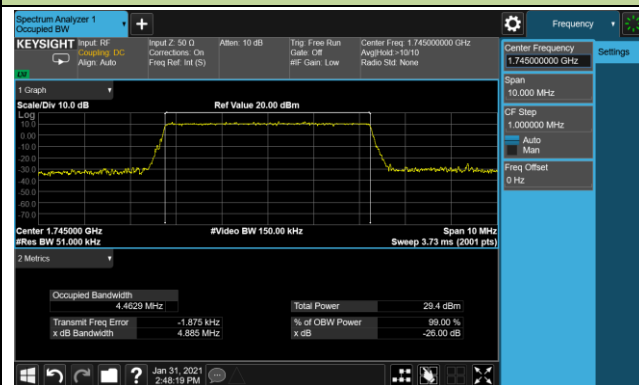
1.4MHz Channel Bandwidth



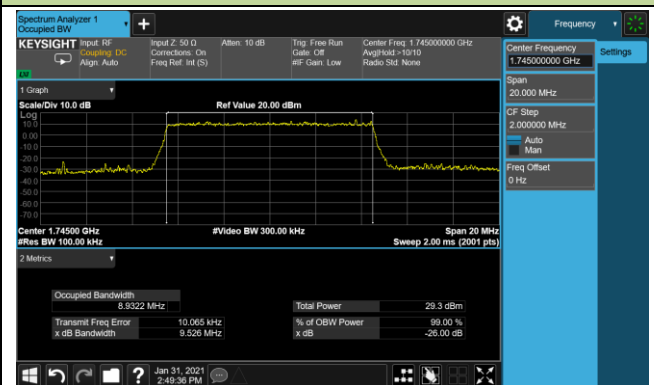
3MHz Channel Bandwidth



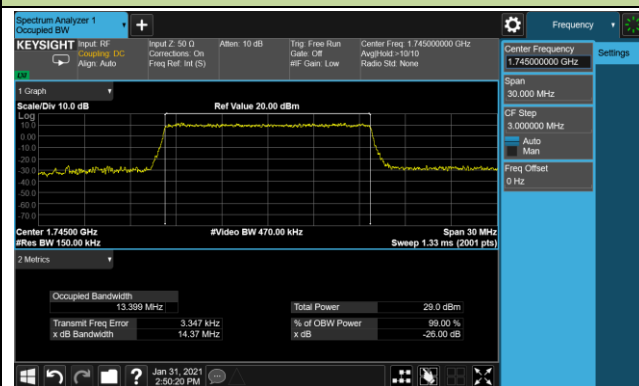
5MHz Channel Bandwidth



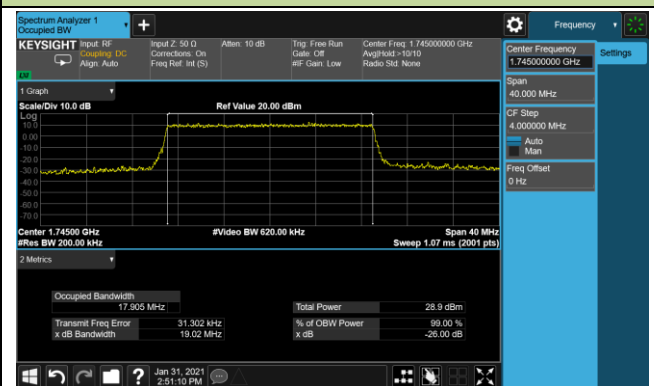
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

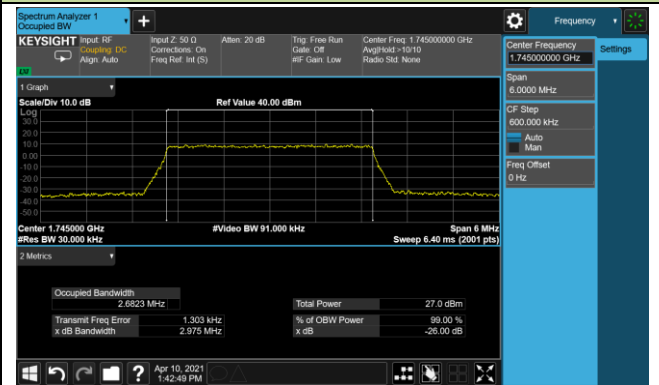


99% Bandwidth - 256QAM

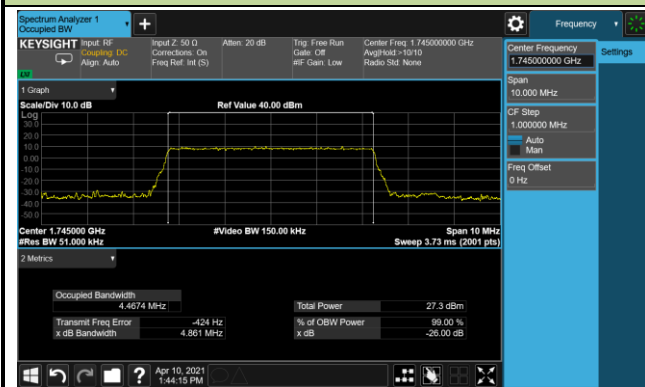
1.4MHz Channel Bandwidth



3MHz Channel Bandwidth



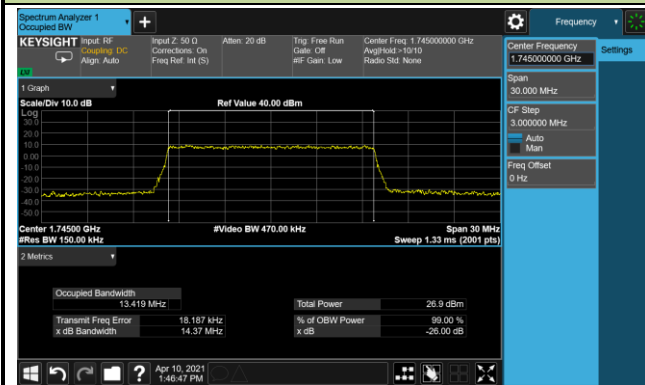
5MHz Channel Bandwidth



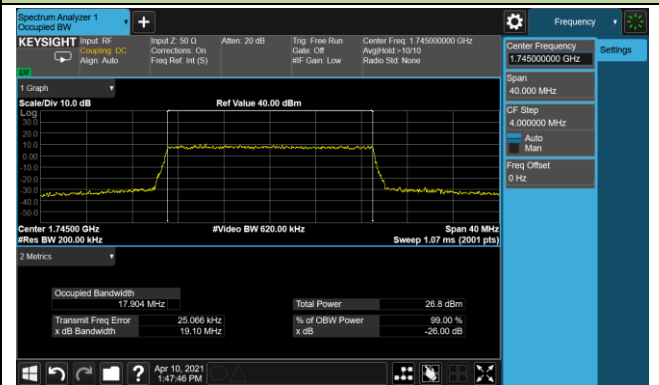
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

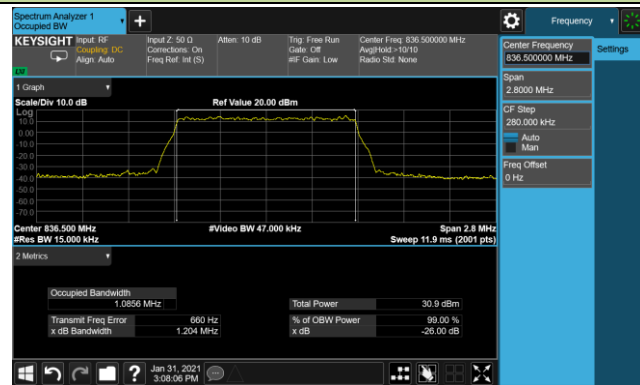


Product	5G Sub-6 GHz M.2 Module	Test Site	SIP-SR6
Test Engineer	Candy Luo	Test Date	2021/01/31
Test Band	LTE Band 5/26		

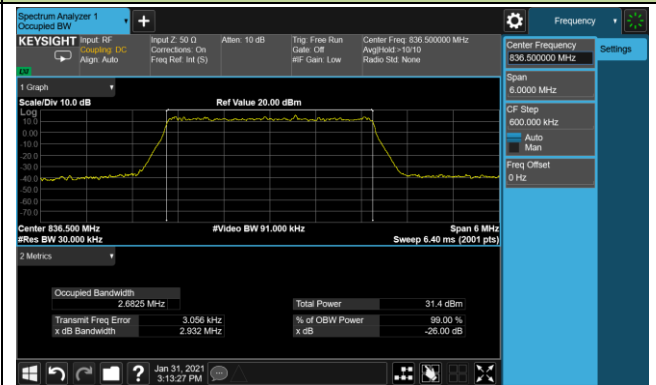
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
20525	836.5	1.4	1.09
		3	2.68
		5	4.47
		10	8.94
		15	13.41
27185	821.5	15	13.38
16QAM			
20525	836.5	1.4	1.08
		3	2.68
		5	4.46
		10	8.94
		15	13.38
27185	821.5	15	13.40
64QAM			
20525	836.5	1.4	1.08
		3	2.68
		5	4.46
		10	8.94
		15	13.41
27185	821.5	15	13.41
256QAM			
20525	836.5	1.4	1.07
		3	2.68
		5	4.46
		10	8.92
		15	13.40
27185	821.5	15	13.40

99% Bandwidth - QPSK

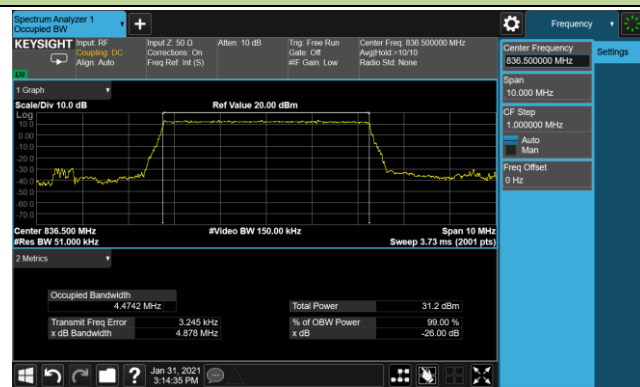
1.4MHz Channel Bandwidth



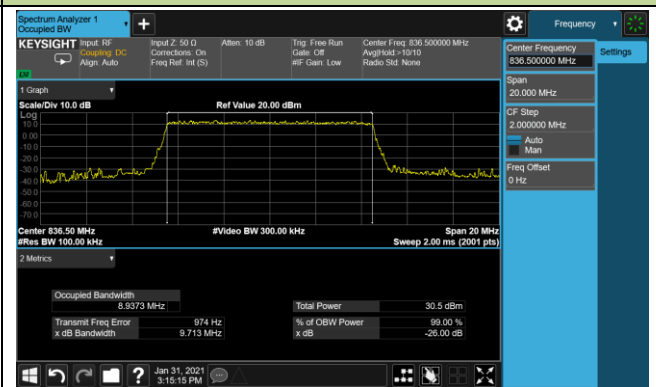
3MHz Channel Bandwidth



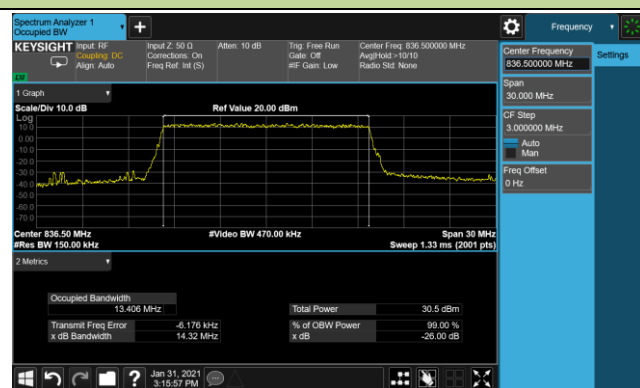
5MHz Channel Bandwidth



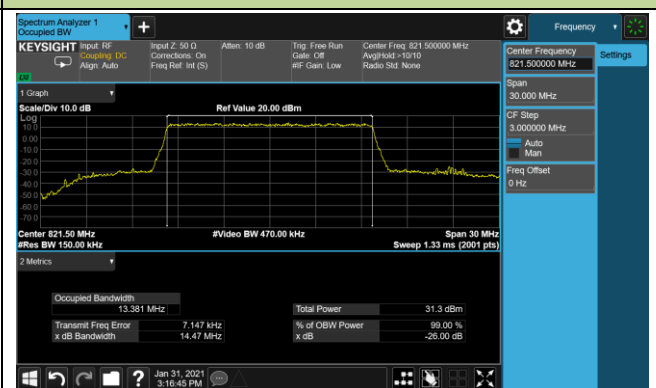
10MHz Channel Bandwidth



15MHz Channel Bandwidth

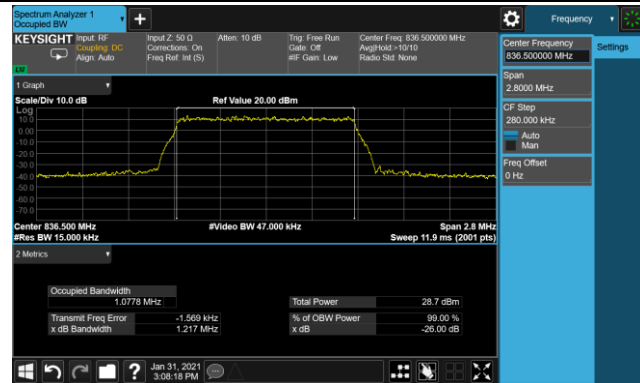


821.5MHz



99% Bandwidth -16QAM

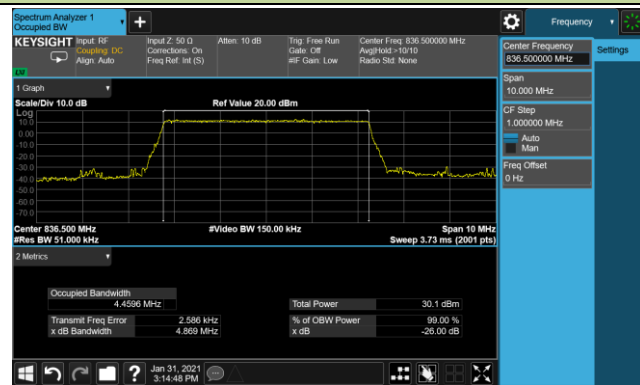
1.4MHz Channel Bandwidth



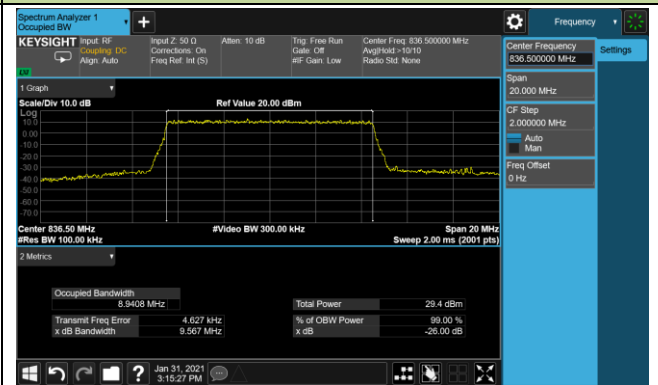
3MHz Channel Bandwidth



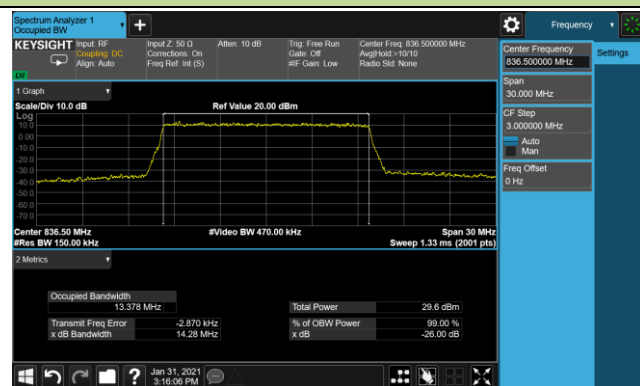
5MHz Channel Bandwidth



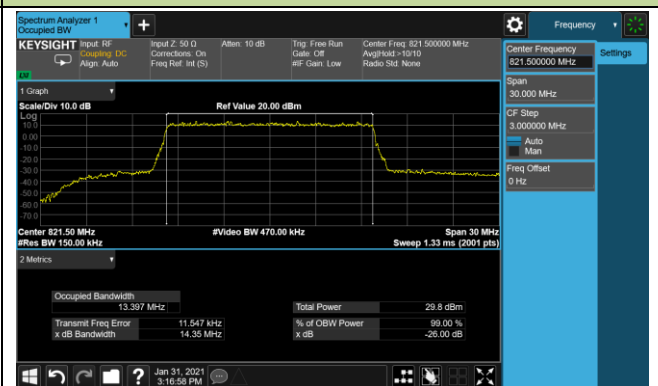
10MHz Channel Bandwidth



15MHz Channel Bandwidth

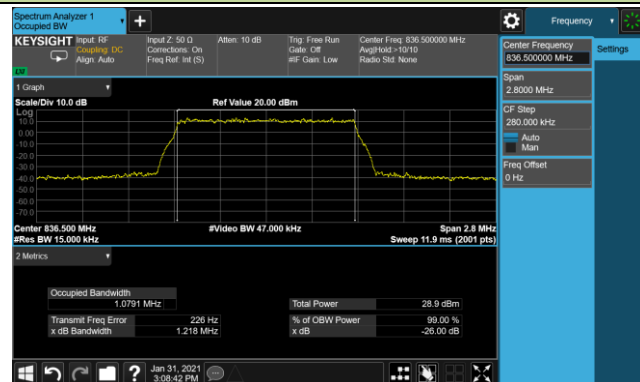


821.5MHz

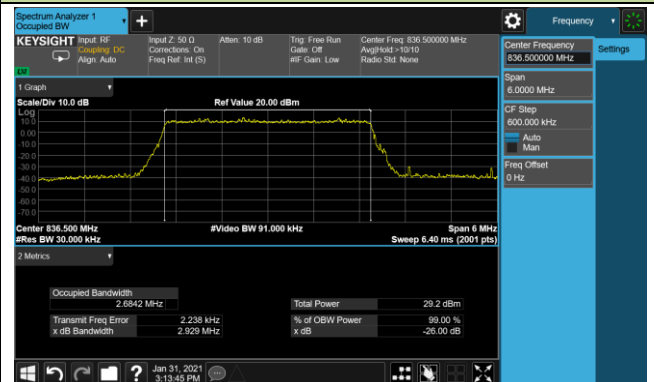


99% Bandwidth - 64QAM

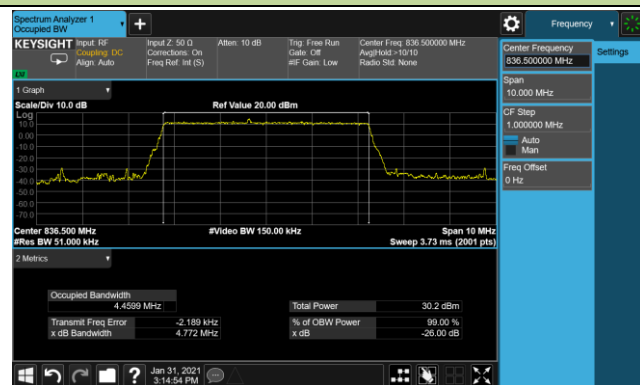
1.4MHz Channel Bandwidth



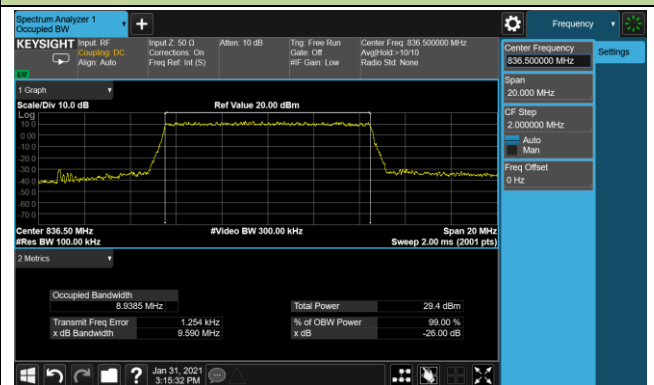
3MHz Channel Bandwidth



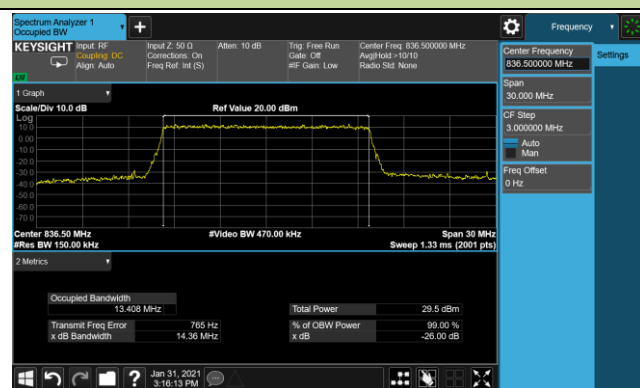
5MHz Channel Bandwidth



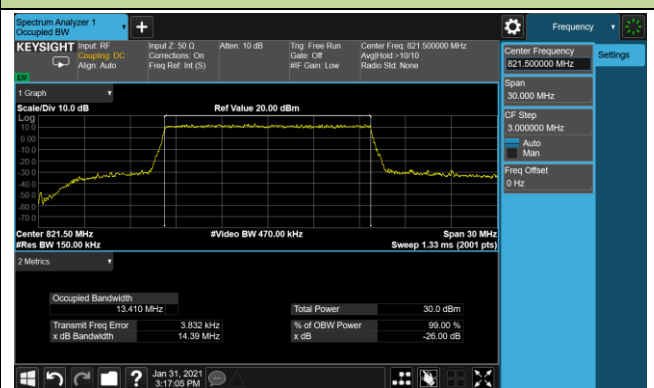
10MHz Channel Bandwidth

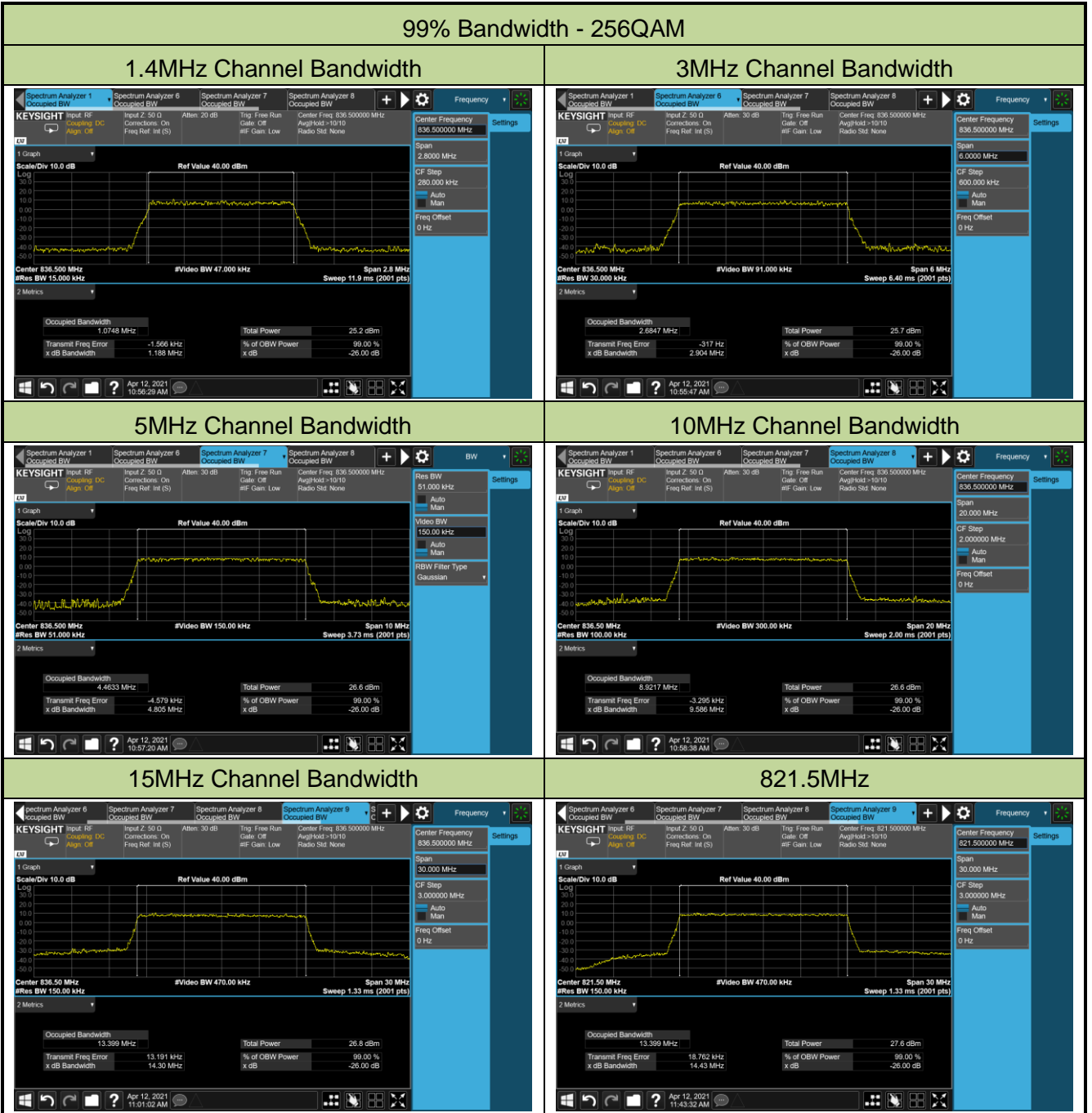


15MHz Channel Bandwidth



821.5MHz



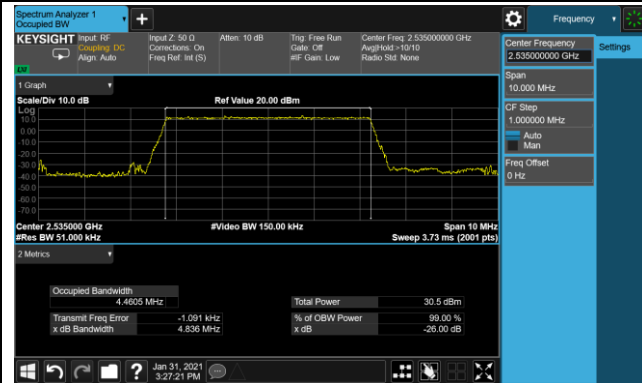


Product	5G Sub-6 GHz M.2 Module	Test Site	SIP-SR6
Test Engineer	Candy Luo	Test Date	2021/01/31
Test Band	LTE Band 7		

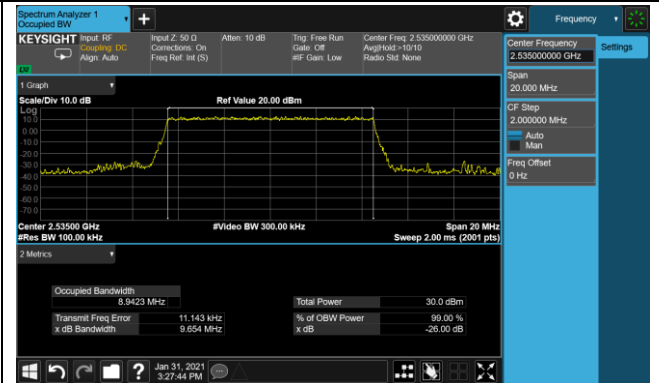
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
21100	2535.0	5	4.46
		10	8.94
		15	13.44
		20	17.86
16QAM			
21100	2535.0	5	4.47
		10	8.92
		15	13.40
		20	17.86
64QAM			
21100	2535.0	5	4.46
		10	8.93
		15	13.41
		20	17.88
256QAM			
21100	2535.0	5	4.47
		10	8.93
		15	13.41
		20	17.89

99% Bandwidth - QPSK

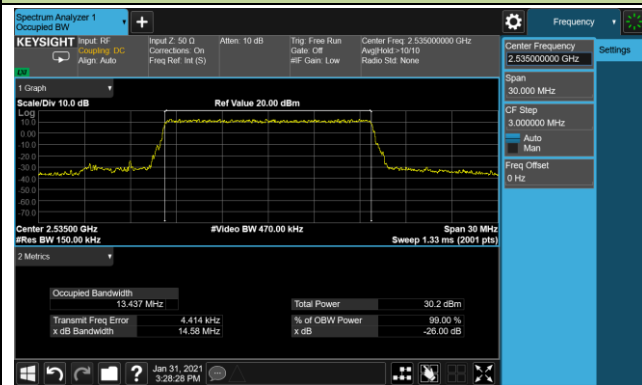
5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth

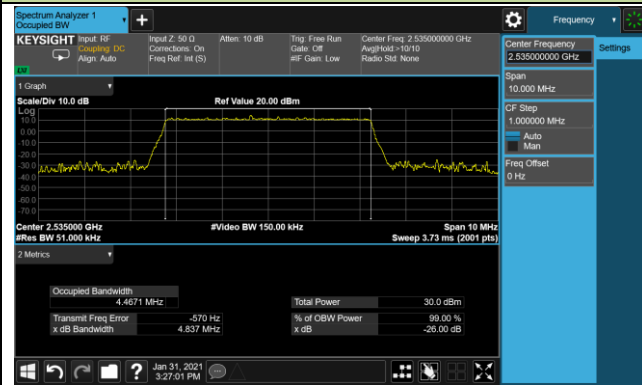


20MHz Channel Bandwidth

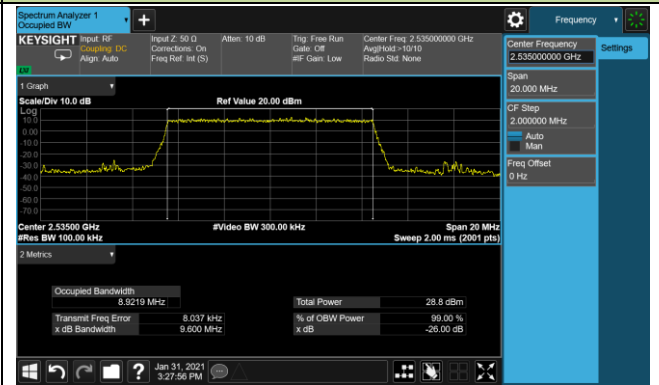


99% Bandwidth - 16QAM

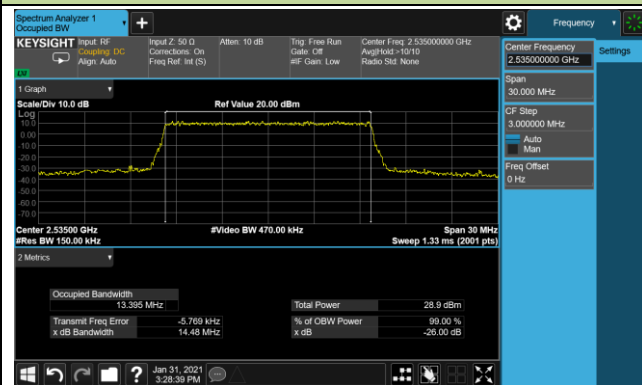
5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

