

MEASUREMENT REPORT

FCC PART 2 & 22 & 24 & 27

FCC ID: ZMOFM101NA
Applicant: Fibocom Wireless Inc.
Application Type: Certification
Product: LTE Module
Model No.: FM101-NA
Brand Name: Fibocom
FCC Rule Part(s): Part 2, 22 (H), 24 (E), 27
Test Procedure(s): ANSI C63.26: 2015
Test Date: November 04 ~ December 23, 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
2110RSU053-U2	Rev. 01	Initial Report	12-17-2021	Invalid
2110RSU053-U2	Rev. 02	Corrected the calibration date of equipment and updated B41/43 EIRP	12-23-2021	Valid

CONTENTS

Description	Page
1. GENERAL INFORMATION.....	5
1.1. Applicant.....	5
1.2. Manufacturer.....	5
1.3. Testing Facility.....	5
2. PRODUCT INFORMATION	6
2.1. Product Information	6
2.2. Radio Specification under Test	7
2.3. Description of Available Antennas.....	8
2.4. Test Methodology.....	8
2.5. Device Capabilities	9
2.6. EMI Suppression Device(s)/Modifications	9
2.7. Configuration of Tested System	10
2.8. Test Environment Condition.....	10
3. TEST EQUIPMENT CALIBRATION DATE.....	11
4. MEASUREMENT UNCERTAINTY.....	12
5. TEST RESULT	13
5.1. Summary	13
5.2. Occupied Bandwidth Measurement.....	15
5.2.1. Test Limit.....	15
5.2.2. Test Procedure.....	15
5.2.3. Test Setting	15
5.2.4. Test Setup	15
5.2.5. Test Result	16
5.3. Frequency Stability Measurement	41
5.3.1. Test Limit.....	41
5.3.2. Test Procedure.....	41
5.3.3. Test Setting	41
5.3.4. Test Setup	42
5.3.5. Test Result	43
5.4. Equivalent Isotropically Radiated Power Measurement	54
5.4.1. Test Limit.....	54
5.4.2. Test Procedure.....	54
5.4.3. Test Setting	54
5.4.4. Test Setup	55

5.4.5.	Test Result	56
5.5.	Band Edge Measurement	106
5.5.1.	Test Limit.....	106
5.5.2.	Test Procedure	107
5.5.3.	Test Setting	107
5.5.4.	Test Setup	107
5.5.5.	Test Result	108
5.6.	Peak to Average Ratio Measurement	163
5.6.1.	Test Limit.....	163
5.6.2.	Test Procedure	163
5.6.3.	Test Setting	163
5.6.4.	Test Setup	163
5.6.5.	Test Result	164
5.7.	Conducted Spurious Emission Measurement.....	175
5.7.1.	Test Limit.....	175
5.7.2.	Test Procedure	175
5.7.3.	Test Setting	175
5.7.4.	Test Setup	176
5.7.5.	Test Result	177
5.8.	Radiated Spurious Emission Measurement.....	213
5.8.1.	Test Limit.....	213
5.8.2.	Test Procedure	213
5.8.3.	Test Setting	213
5.8.4.	Test Setup	214
5.8.5.	Test Result	215
6.	CONCLUSION	226
	Appendix A - Test Setup Photograph	227
	Appendix B - EUT Photograph	228

2. PRODUCT INFORMATION

2.1. Product Information

Product Name	LTE Module
Model No.	FM101-NA
Brand Name	Fibocom
IMEI	Conducted Measurement: 867141050004112 Radiated Measurement: 867141050004062
Operating Temperature	-30 ~ 75 °C
Power Type	3.135 ~ 4.4Vdc, typical 3.8Vdc
Antenna Information	Refer to Section 2.3
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, 41, 42, 43, 48, 66, 71
HPUE Band	Band 41
Modulation	Uplink up to 16QAM, Downlink up to 64QAM

Note: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.

2.2. Radio Specification under Test

FDD Tx 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 Rx 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 Tx & Rx Frequency Range:	Band 41: 2496 ~ 2690 MHz; Band 42: 3450 ~ 3550 MHz Band 43: 3700 ~ 3800 MHz

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

Note 2: 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.

2.3. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
LTE Band 2	1850 ~ 1910	PIFA	2.63
LTE Band 4	1710 ~ 1755		2.86
LTE Band 5	824 ~ 849		1.61
LTE Band 7	2500 ~ 2570		1.07
LTE Band 12	699 ~ 716		1.61
LTE Band 13	777 ~ 787		2.19
LTE Band 14	788 ~ 798		2.22
LTE Band 17	704 ~ 716		1.61
LTE Band 25	1850 ~ 1915		2.63
LTE Band 26	814 ~ 849		1.93
LTE Band 30	2305 ~ 2315		0.67
LTE Band 41	2496 ~ 2690		2.49
LTE Band 42	3450 ~ 3550		-1.18
LTE Band 42	3550 ~ 3600		-1.18
LTE Band 43	3600 ~ 3700		-0.13
LTE Band 43	3700 ~ 3800		-0.71
LTE Band 48	3550 ~ 3700		-0.13
LTE Band 66	1710 ~ 1780		3.76
LTE Band 71	663 ~ 698		1.39

2.4. 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
- FCC KDB 412172 D01 v01r01: Determining ERP and EIRP

2.5. Device Capabilities

This device contains the following capabilities:

Working on LTE Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 41, 42, 43, 48, 66, 71.

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.

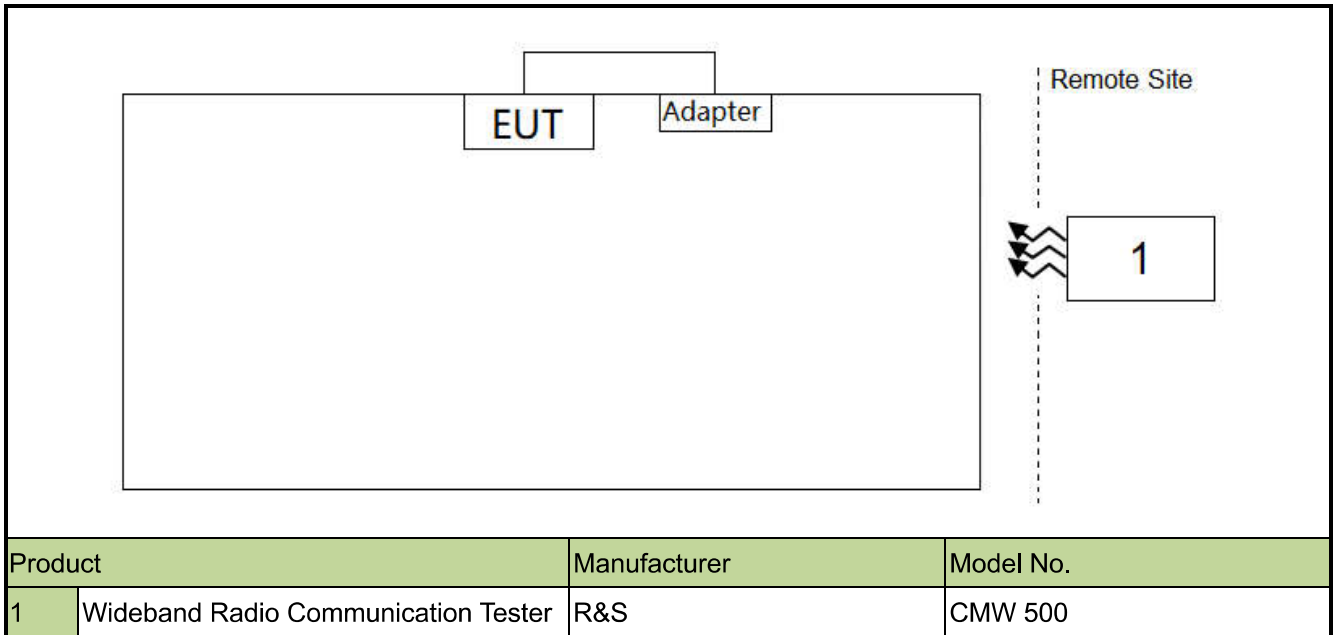
LTE Band 25 (1850 ~ 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.

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.

2.6. EMI Suppression Device(s)/Modifications

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

2.7. Configuration of Tested System



2.8. Test Environment Condition

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

3. TEST EQUIPMENT CALIBRATION DATE

Instrument Name	Manufacturer	Model No.	Asset No.	Cali. Interval	Cal. Due Date	Test Site
Communication Tester	R&S	CMU 200	MRTSUE06009	1 year	2022/9/7	SIP-SR1
Communication Tester	R&S	CMW500	MRTSUE06243	1 year	2022/10/10	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06453	1 year	2022/6/24	SIP-SR1
Thermohygrometer	testo	622	MRTSUE06629	1 year	2022/11/2	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06904	1 year	2021/12/8	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06904	1 year	2022/11/23	SIP-SR1
DC POWER MODULE	Keysight	N6743B	MRTSUE06905	/	/	SIP-SR1
DC POWER MODULE	Keysight	N6743B	MRTSUE06906	/	/	SIP-SR1
Low-Profile Modular Power System Mainframe	Keysight	N6700C	MRTSUE06907	/	/	SIP-SR1
Signal Analyzer	Keysight	N9021B	MRTSUE06915	1 year	2022/1/18	SIP-SR1
Temperature Chamber	BAOYT	BYG-80CL	MRTSUE06932	1 year	2022/3/16	SIP-SR1
Shielding Room	MIX-BEP	SIP-SR1	MRTSUE06948	/	/	SIP-SR1
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022/1/12	SIP-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/6/24	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2022/10/20	SIP-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2022/10/11	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06623	1 year	2021/12/3	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06623	1 year	2022/11/28	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06624	1 year	2021/12/3	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06624	1 year	2022/11/28	SIP-AC2
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/26	SIP-AC2
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2022/11/8	SIP-AC2
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06647	1 year	2022/8/5	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06648	1 year	2021/11/26	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06648	1 year	2022/11/9	SIP-AC2
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2021/12/24	SIP-AC2

Software	Version	Function
EMI Software	V3	EMI Test Software

4. 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

5. TEST RESULT

5.1. 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, 41)	< 2 Watts Max EIRP			
27.50(d)(4) 27.50(j)(3) 27.50(k)(3)	Equivalent Isotropic Radiated Power (Band 4/66, 42, 43)	< 1 Watts Max EIRP			
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (l)(2), (m), (n)(2)	Band Edge	Refer to section 5.5			
22.913(d), 24.232(d), 27.50(d)(5), (j)(3), (k)(4)	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), (n)(2)	Spurious Emission	Refer to section 5.7		Pass	Section 5.7
2.1053, 22.917(a) 24.238(a), 27.53(c), (g), (h), (l)(2), (m), (n)(2)	Spurious Emission	Refer to section 5.8	Radiated	Pass	Section 5.8

Notes:

- The analyzer plots shown in this report 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) Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations the worst-case was found.
- 3) 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 were presented the worst-case in the test report.

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.

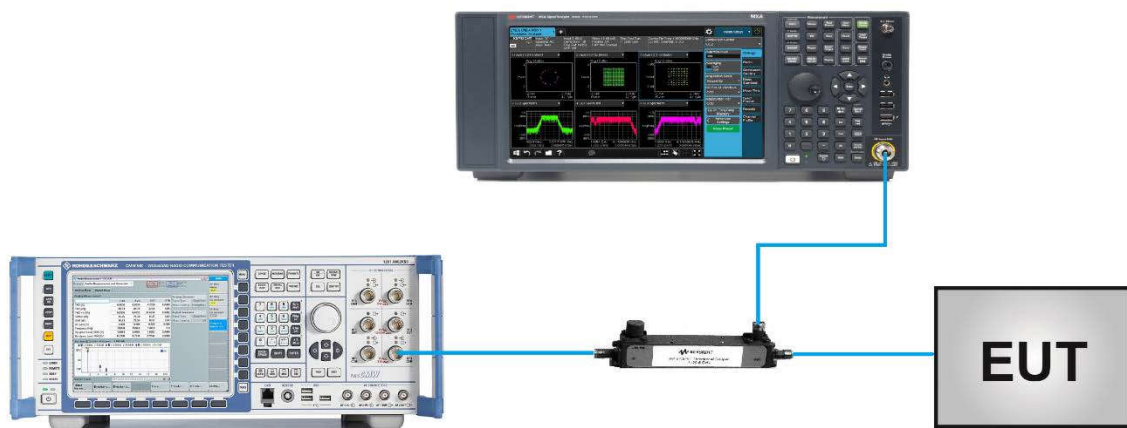
5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.4

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 $\geq 3 \times$ 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.

5.2.4. Test Setup



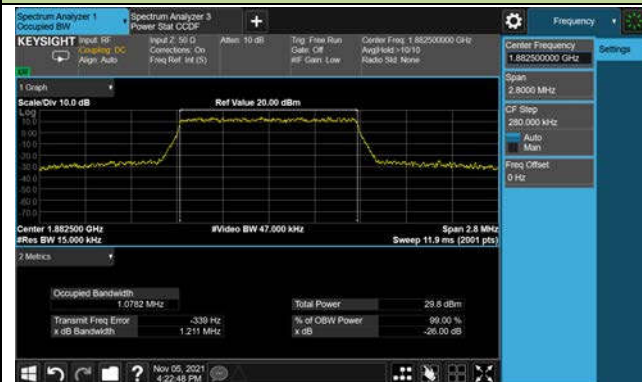
5.2.5.Test Result

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 2/25		

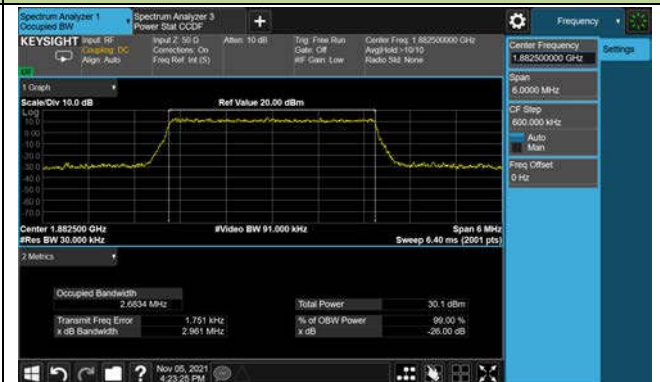
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.48
		10	8.96
		15	13.42
		20	17.87
16QAM			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.47
		10	8.94
		15	13.42
		20	17.94

99% Bandwidth - QPSK

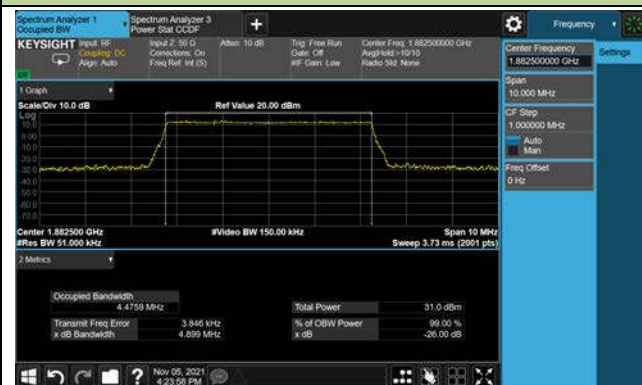
1.4MHz Channel Bandwidth



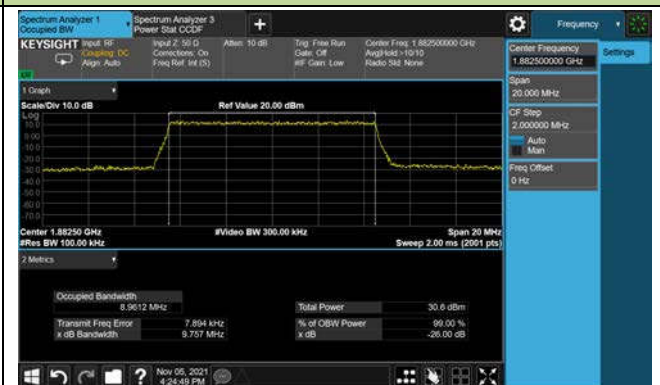
3MHz Channel Bandwidth



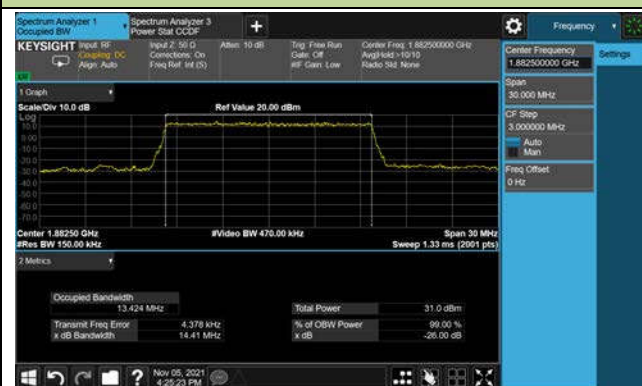
5MHz Channel Bandwidth



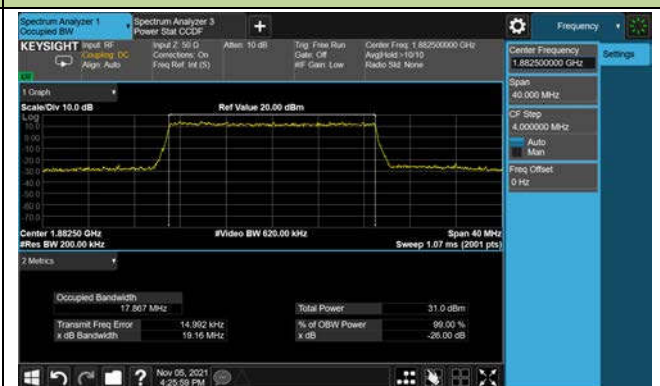
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth



99% Bandwidth - 16QAM

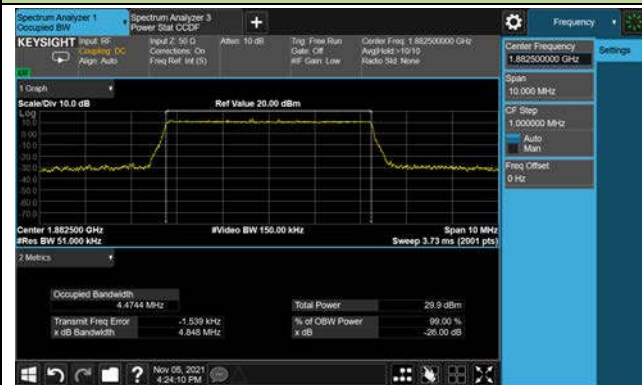
1.4MHz Channel Bandwidth



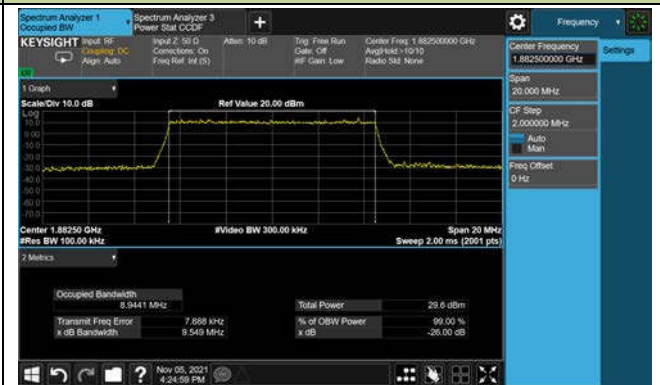
3MHz Channel Bandwidth



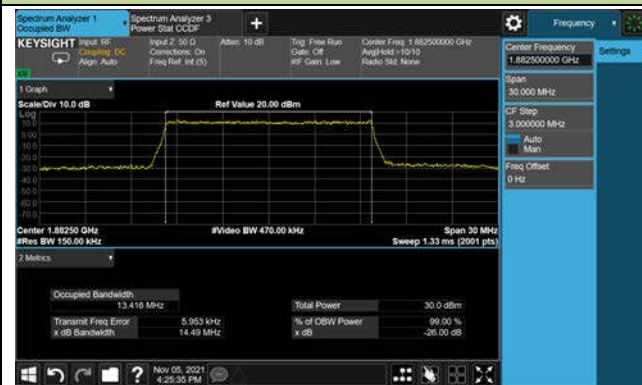
5MHz Channel Bandwidth



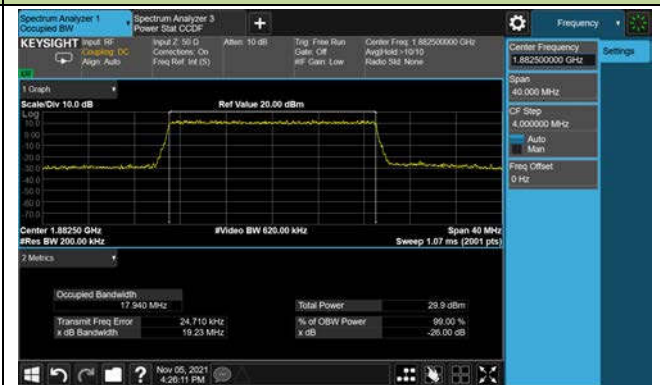
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

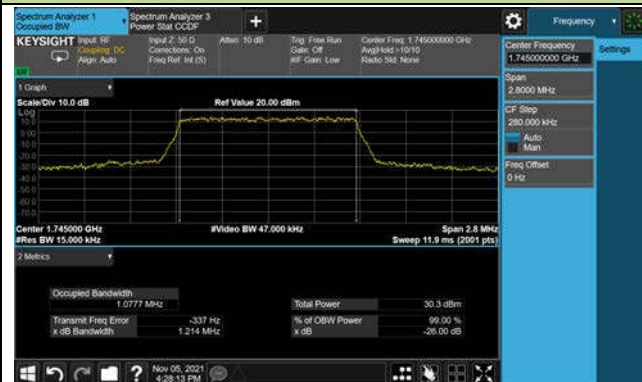


Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 4/66		

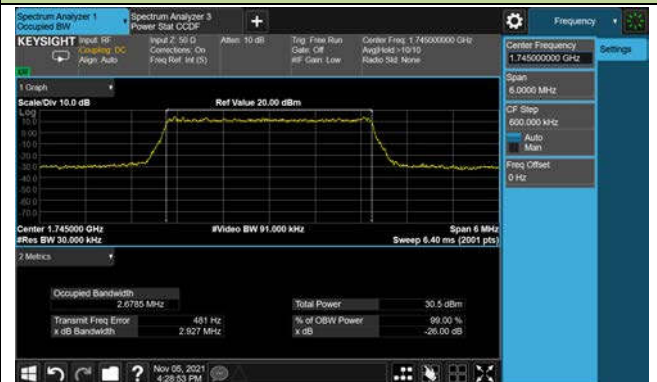
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.49
		10	8.95
		15	13.41
		20	17.85
16QAM			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.46
		10	8.94
		15	13.40
		20	17.87

99% Bandwidth - QPSK

1.4MHz Channel Bandwidth



3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth

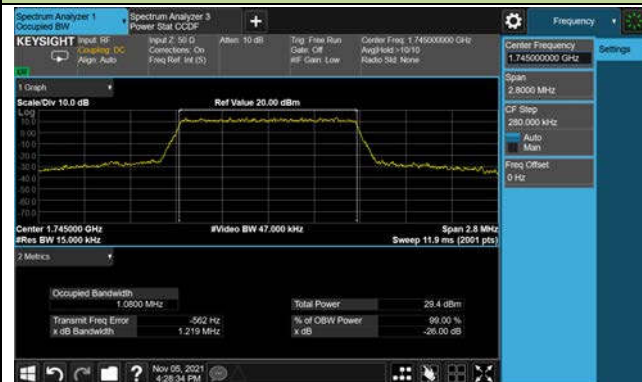


20MHz Channel Bandwidth



99% Bandwidth - 16QAM

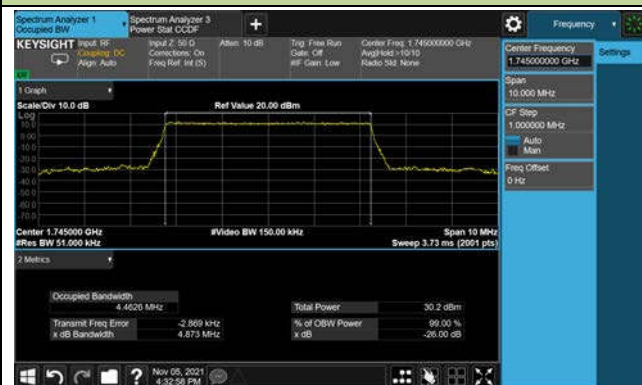
1.4MHz Channel Bandwidth



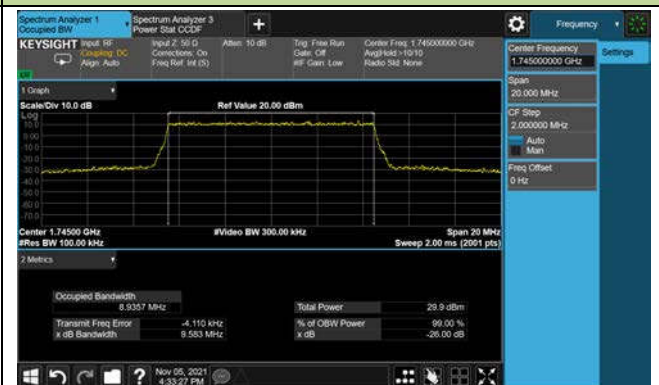
3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 5/26		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
20525	836.5	1.4	1.08
		3	2.68
		5	4.48
		10	8.96
		15	13.43
27185	821.5	15	13.44
16QAM			
20525	836.5	1.4	1.08
		3	2.68
		5	4.47
		10	8.94
		15	13.40
27185	821.5	15	13.41

99% Bandwidth - QPSK

1.4MHz Channel Bandwidth



3MHz Channel Bandwidth



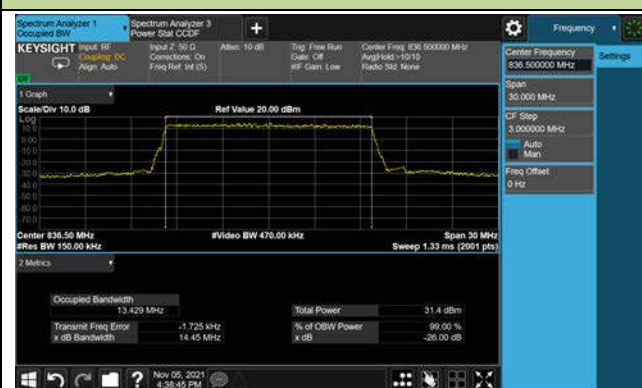
5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth



821.5MHz

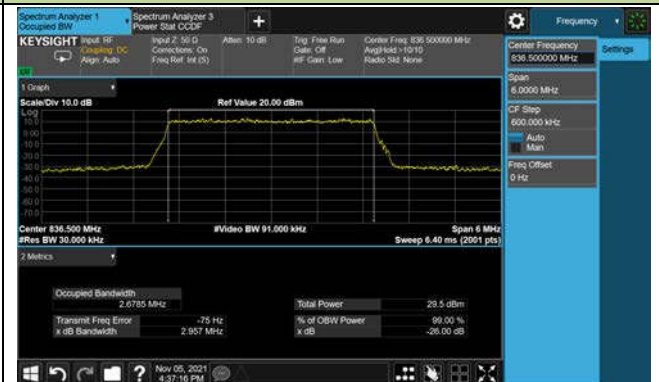


99% Bandwidth -16QAM

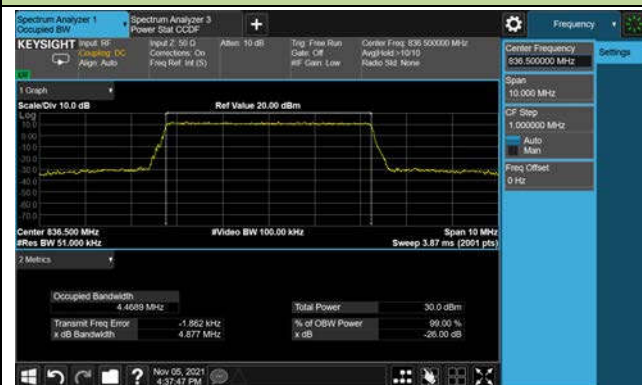
1.4MHz Channel Bandwidth



3MHz Channel Bandwidth



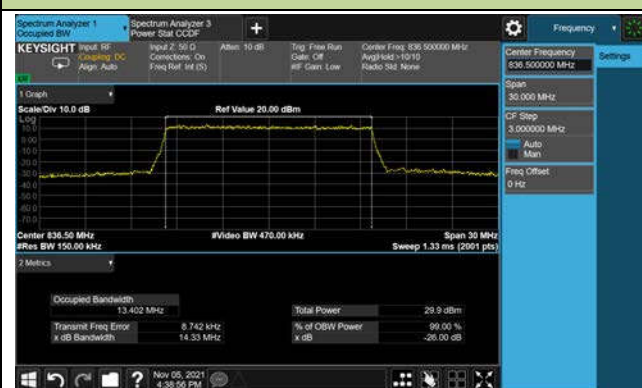
5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth



821.5MHz

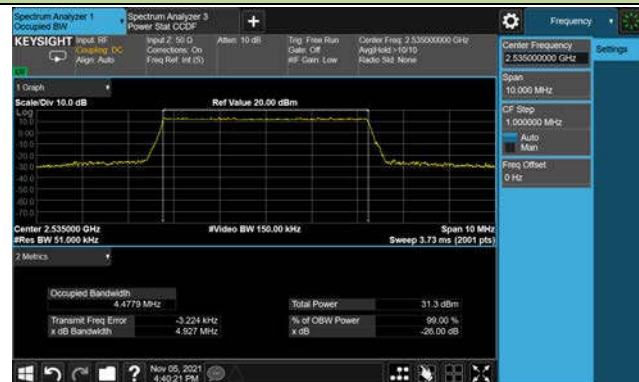


Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 7		

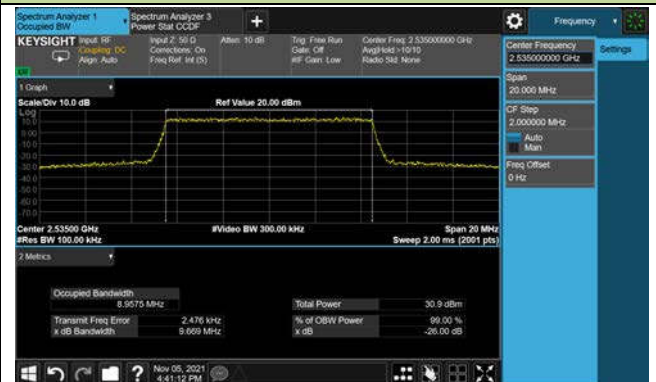
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
21100	2535.0	5	4.48
		10	8.96
		15	13.41
		20	17.83
16QAM			
21100	2535.0	5	4.46
		10	8.95
		15	13.39
		20	17.83

99% Bandwidth - QPSK

5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth

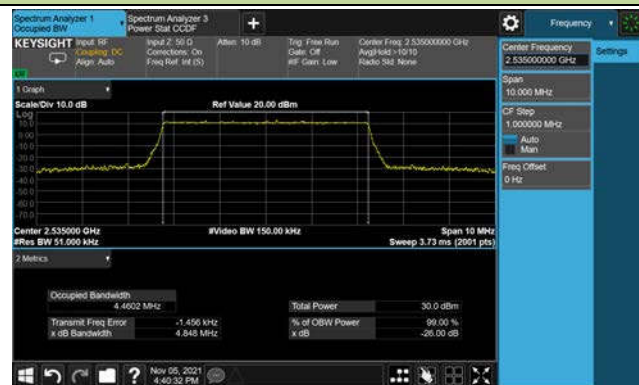


20MHz Channel Bandwidth



99% Bandwidth - 16QAM

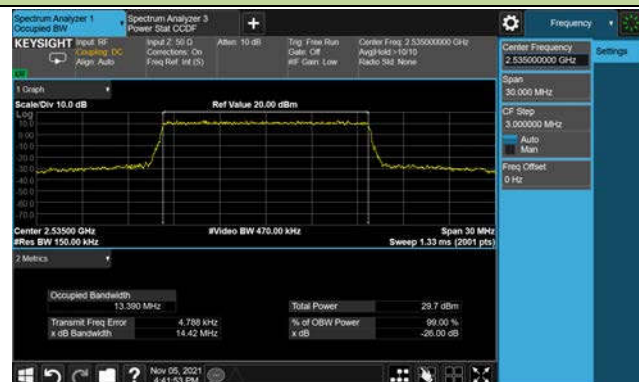
5MHz Channel Bandwidth



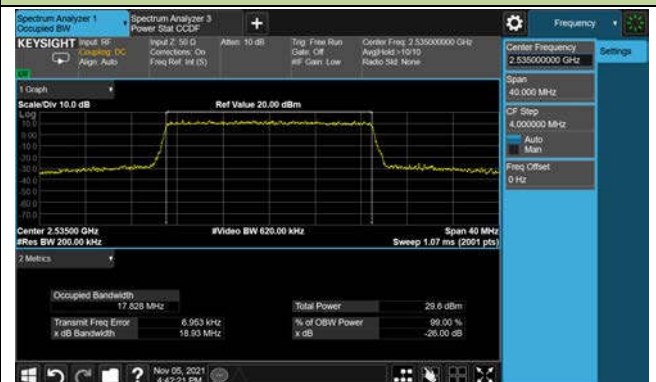
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

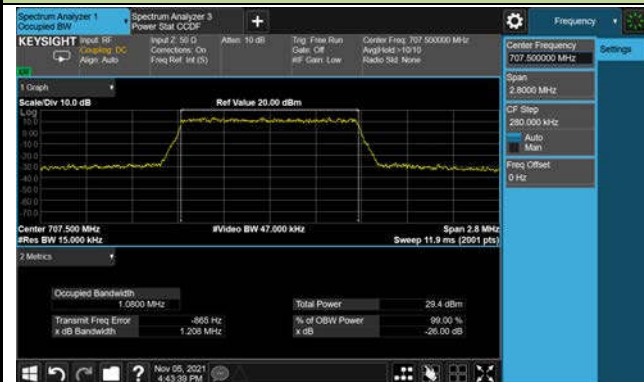


Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 12		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
23095	707.5	1.4	1.08
		3	2.68
		5	4.49
		10	8.96
16QAM			
23095	707.5	1.4	1.08
		3	2.68
		5	4.47
		10	8.95

99% Bandwidth - QPSK

1.4MHz Channel Bandwidth



3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth

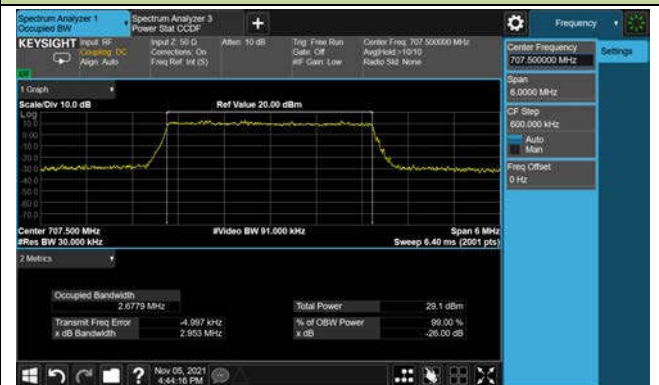


99% Bandwidth - 16QAM

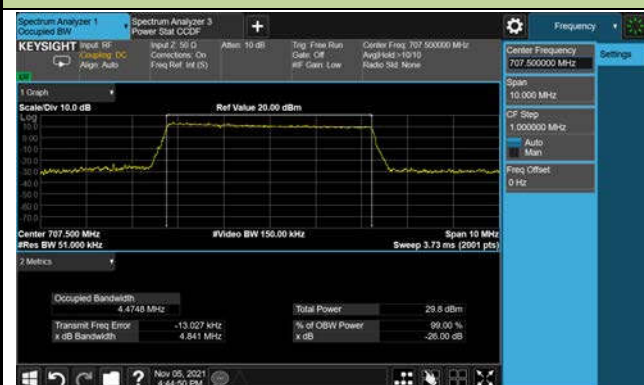
1.4MHz Channel Bandwidth



3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 13		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
23230	782.0	5	4.48
		10	8.94
16QAM			
23230	782.0	5	4.46
		10	8.93

99% Bandwidth - QPSK

5MHz Channel Bandwidth



10MHz Channel Bandwidth

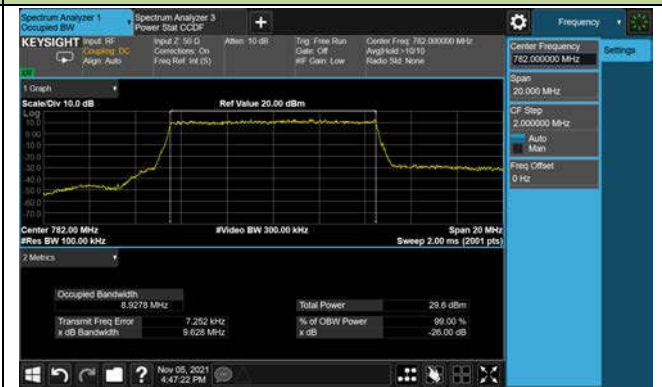


99% Bandwidth - 16QAM

5MHz Channel Bandwidth



10MHz Channel Bandwidth



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 17		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
23790	710.0	5	4.48
		10	9.00
16QAM			
23790	710.0	5	4.48
		10	8.98

99% Bandwidth - QPSK

5MHz Channel Bandwidth



10MHz Channel Bandwidth

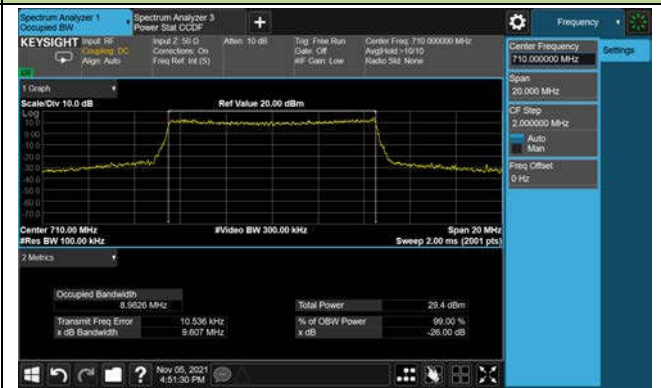


99% Bandwidth - 16QAM

5MHz Channel Bandwidth



10MHz Channel Bandwidth



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 41_HPUE		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
37980	2593.0	5	4.47
		10	8.94
		15	13.38
		20	17.85
16QAM			
37980	2593.0	5	4.46
		10	8.93
		15	13.39
		20	17.85

99% Bandwidth - QPSK

5MHz Channel Bandwidth



10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

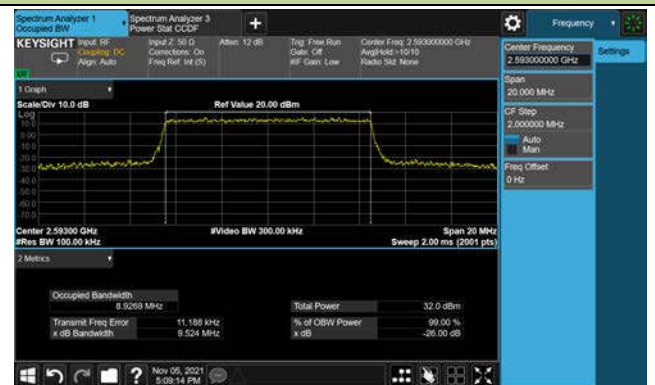


99% Bandwidth - 16QAM

5MHz Channel Bandwidth



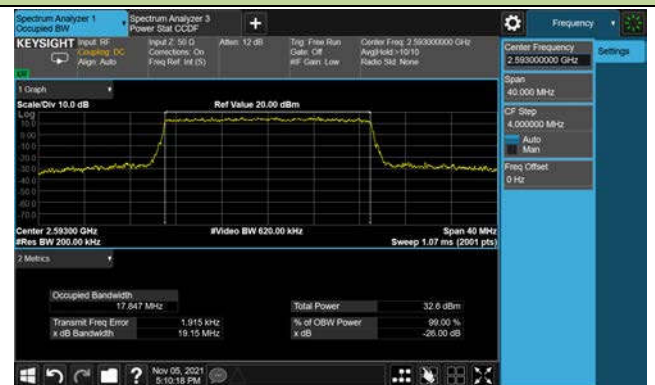
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/09
Test Band	LTE Band 42		

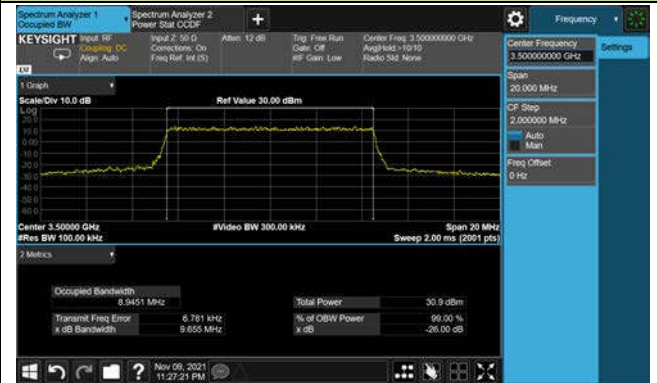
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
42590	3500.0	5	4.47
		10	8.95
		15	13.40
		20	17.84
16QAM			
42590	3500.0	5	4.46
		10	8.95
		15	13.40
		20	17.85

99% Bandwidth - QPSK

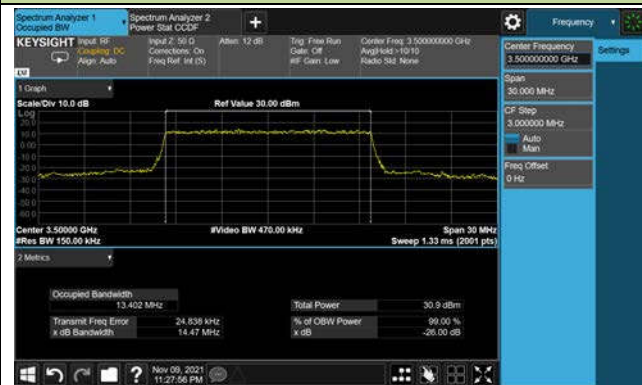
5MHz Channel Bandwidth



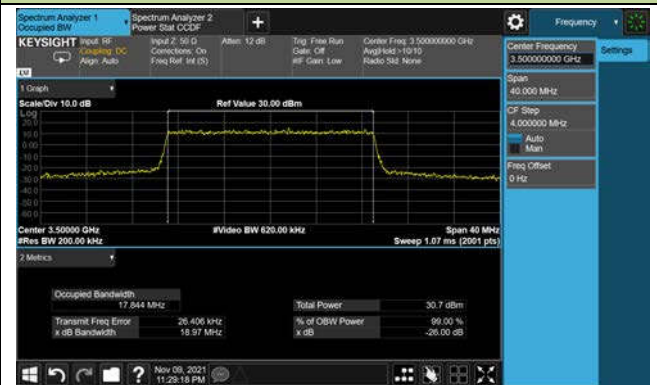
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

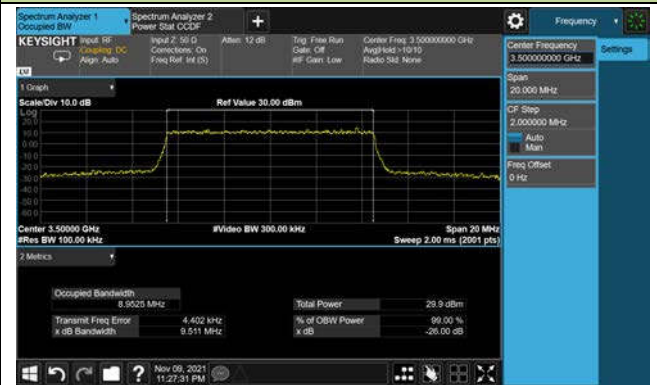


99% Bandwidth - 16QAM

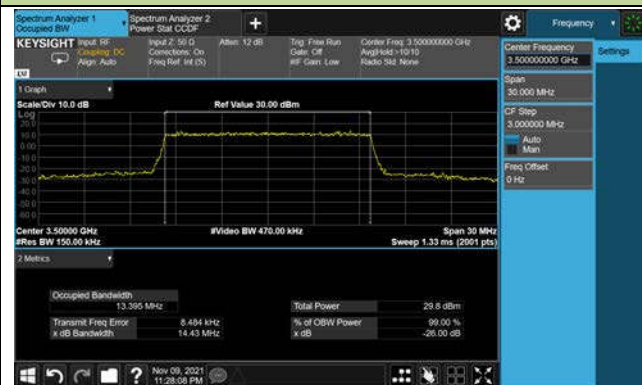
5MHz Channel Bandwidth



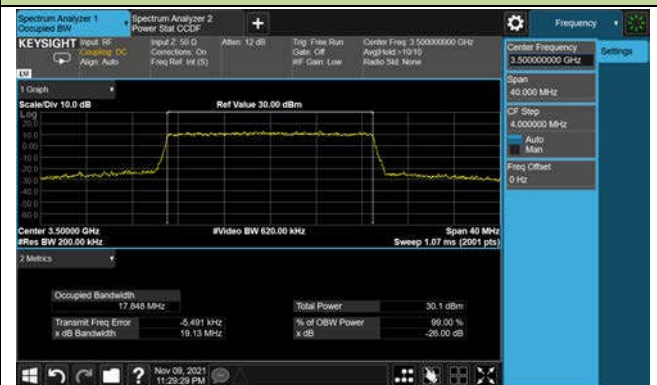
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth



Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/09
Test Band	LTE Band 43		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
45565	3750.0	5	4.46
		10	8.94
		15	13.43
		20	17.79
16QAM			
45565	3750.0	5	4.47
		10	8.96
		15	13.40
		20	17.85