SPOT CHECK REPORT

FCC PART 2 & 22 & 24 & 27

FCC ID:	XMR2020RM500QAE
Application:	Quectel Wireless Solutions Company Limited
Application Type:	Certification
Product:	5G Sub-6 GHz M.2 Module
Model No.:	RM500Q-AE
Brand Name:	Quectel
FCC Rule Part(s):	Part 2, 22 (H), 24 (E), 27
Test Date:	December 09, 2020 ~ January 04, 2021

Reviewed By: Sunny Sun

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.

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

Revision History

Report No.	Version	Description	Issue Date	Note
2011RSU077-U6	Rev. 01	Initial Report	01-10-2021	Valid

Note: This application for certification is leveraging the data reuse procedures from KDB 484596 based on reference FCC ID: XMR2020RM502QAE to cover variant FCC ID: XMR2020RM500QAE.

CONTENTS

Description Page

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

☒	**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	
☐	**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: L3261-190725	
	FCC: 291082, TW3261	ISED: TW3261

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	5G Sub-6 GHz M.2 Module
Model No.:	RM502Q-AE
Brand Name:	Quectel
IMEI:	867197050003215
Operating Temperature:	-20 ~ 60 ℃
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
Category:	Category 6
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_66C
Modulation:	UL & DL up to 256QAM
Category:	Category 18
5G NR Specification	
SA Band:	n2, n5, n7, n12, n25, n41, n66, n71, n77
SA UL MIMO Band:	n41
EN-DC Band:	DC_5A_n2A, DC_12A_n2, DC_13A_n2A, DC_2A_n5A DC_30A_n5A, DC_66A_n5A, DC_5A_n7A, DC_12A_n7A DC_2A_n12A, DC_12A_n25A, DC_2A_n41A, DC_25A_n41A DC_26A_n41A, DC_66A_n41A, DC_5A_n66A, DC_12A_n66A DC_13A_n66A, DC_14A_n66A, DC_71A_n66A, DC_2A_n71A DC_7A_n71A, DC_66A_n71A
HPUE Band:	n41, n77
SCS for NR cell:	FDD Band: 15kHz; TDD Band: 30kHz
Modulation:	UL & DL up to 256QAM

2.2. Product Specification Subjective to this Report

FDD T_X Frequency Range:	n2: 1850 ~ 1910 MHz; n5: 824 ~ 849 MHz n7: 2500 ~ 2570 MHz; n12: 699 ~ 716 MHz n25: 1850 ~ 1915 MHz; n66: 1710 ~ 1780 MHz n71: 663 ~ 698MHz
FDD R_X Frequency Range:	n2: 1930 ~ 1990 MHz; n5: 869 ~ 894 MHz n7: 2620 ~ 2690 MHz; n12: 729 ~ 746 MHz n25: 1930 ~ 1995 MHz; n66: 2110 ~ 2200 MHz n71: 617 ~ 652 MHz
TDD Frequency Range:	n41: 2496 ~ 2690 MHz; n77: 3700 ~ 3980MHz
Support Bandwidth:	n2, n5, n7, n25, n66, n71: 5, 10, 15, 20MHz n12: 5, 10, 15MHz n41: 20, 30, 40, 50, 60, 80, 100MHz n77: 100MHz

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.

2.3. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
n2	1850 ~ 1910	Dipole	0.25
n5	824 ~ 849		2.68
n7	2500 ~ 2570		0.55
n12	699 ~ 716		-0.20
n25	1850 ~ 1915		0.25
n41	2496 ~ 2690		0.78
n66	1710 ~ 1780		1.47
n71	663 ~ 698		1.22
n77	3700 ~ 3980		-4.11

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

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
- FCC KDB 662911 D01 v02r01: Multiple Transmitter Output

2.5. Device Capabilities

This device contains 5G NR SA & EN-DC the following capabilities: Working on NR Band n2, n5, n7, n12, n25, n41, n66, n71, n77.

n25 (1850 ~ 1915 MHz) overlaps the entire frequency range of n2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers n2 as well as n25.

PI/2 BPSK modulation applied for 5G NR band frequencies and has the same tune up power as QPSK modulations.

The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

UL MIMO mode only support CP-OFDM.

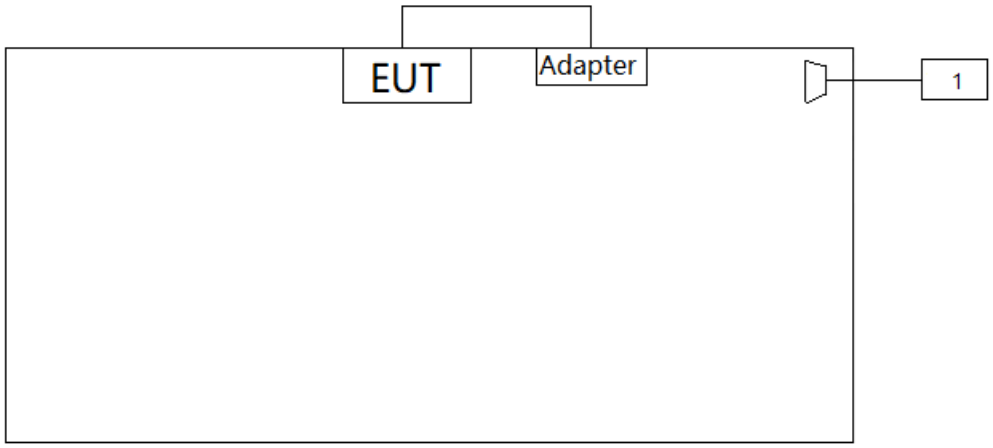
The worst-case scenario for all measurements is based on an engineering evaluation and QPSK was observed as the worst one and set for all conducted and radiated. Output power measurements were measured on PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM, and BPSK modulations.

For EN-DC mode, 5G NR FR1 bands are tested in this report (Ouput Power, Conducted Band Edge, Radiated Spurious Emissions), all the other RF bands are tested in the other reports separately.

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



Product		Manufacturer	Model No.
1	UXM 5G Wireless Test Platform	Keysight	E7515B

2.8. Test Environment Condition

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

3. TEST EQUIPMENT CALIBRATION DATE

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	2021/04/15
UXM 5G Wireless Test Platform	Keysight	E7515B	MRTSUE06869	1 year	2021/05/25
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06452	1 year	2021/07/11
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2021/04/15
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2021/11/18
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A
True RMS Clamp Meter	Fluke	319	MRTSUE06080	1 year	2021/05/06
Directional Coupler	Agilent	87301D	MRTSUE06082	1 year	2021/03/25
Attenuator	MVE	6dB	MRTSUE06534	1 year	2021/12/12
Attenuator	MVE	10dB	MRTSUE06543	1 year	2021/12/12
Temperature & Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2021/11/07
Thermohygrometer	testo	608-H1	MRTSUE06401	1 year	2021/08/08

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.

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

5. TEST RESULT

5.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
22.913(a)(5)	Equivalent Radiated Power (n5)	< 7 Watts Max ERP	Conducted	Pass	Section 5.2
27.50(c)(10)	Equivalent Radiated Power (n12, n71)	< 3 Watts Max ERP			
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (n2/25, n7, n41)	< 2 Watts Max EIRP			
27.50(d)(4) 27.50(j)(3)	Equivalent Isotropic Radiated Power (n66, n77)	< 1 Watts Max EIRP			
2.1051, 22.917(a) 24.238(a), 27.53(g),(h),(l)(2)	Spurious Emission (n2/25, n66, n5, n12, n71, n77)	< 43 + 10log10 (P[Watts])		Pass	Section 5.3
2.1051, 27.53(m)	Spurious Emission (n7, n41)	< 55 + 10log10 (P[Watts])			

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) The difference compared with the original report is only different DL CA bands. Output power and conducted spurious emissions verification worst test refer to original report.

5.2. Equivalent Isotropically Radiated Power Measurement

5.2.1.Test Limit

The ERP of mobile transmitters must not exceed 7 watts for n5.

The ERP of mobile transmitters must not exceed 3 watts for n12 & n71.

The EIRP of mobile transmitters must not exceed 2 watts for n2 & n7 & n25 & n41.

The EIRP of mobile transmitters must not exceed 1 watt for n66 & n77.

5.2.2.Test Procedures Used

ANSI C63.26-2015 - Section 5.2

5.2.3.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

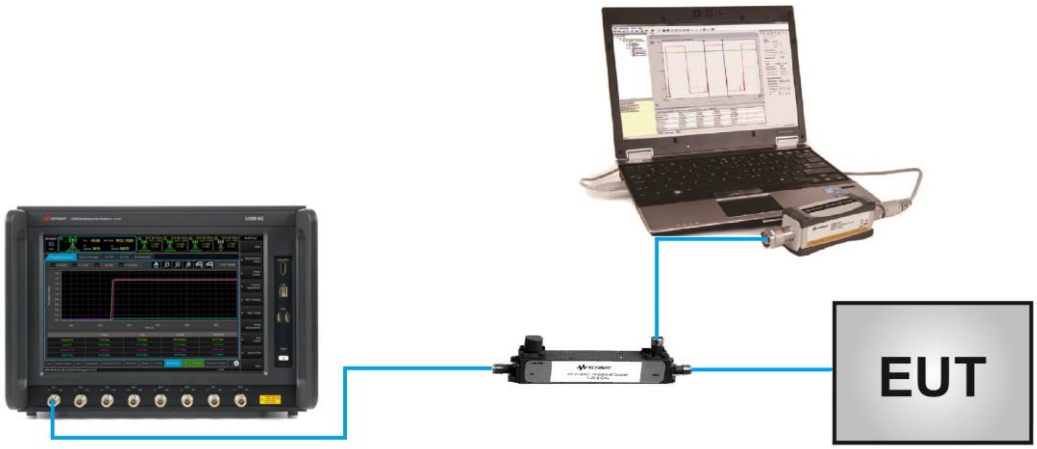
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

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

5.2.4.Test Setup



5.2.5.Test Result

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n2/25_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
370500	1852.5	5	1	0	23.15	23.40	< 33.01
			1	1	23.20	23.45	< 33.01
			12	6	23.27	23.52	< 33.01
			25	0	23.31	23.56	< 33.01
376500	1882.5	5	1	0	23.19	23.44	< 33.01
			1	1	23.25	23.50	< 33.01
			12	6	23.27	23.52	< 33.01
			25	0	23.32	23.57	< 33.01
382500	1912.5	5	1	0	23.22	23.47	< 33.01
			1	1	23.29	23.54	< 33.01
			12	6	23.22	23.47	< 33.01
			25	0	23.23	23.48	< 33.01
371000	1855.0	10	1	0	23.23	23.48	< 33.01
			1	1	23.14	23.39	< 33.01
			25	12	23.30	23.55	< 33.01
			50	0	23.32	23.57	< 33.01
376500	1882.5	10	1	0	23.17	23.42	< 33.01
			1	1	23.21	23.46	< 33.01
			25	12	23.29	23.54	< 33.01
			50	0	23.24	23.49	< 33.01
382000	1910.0	10	1	0	23.18	23.43	< 33.01
			1	1	23.20	23.45	< 33.01
			25	12	23.22	23.47	< 33.01
			50	0	23.18	23.43	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
371500	1857.5	15	1	0	23.29	23.54	< 33.01
			1	1	23.38	23.63	< 33.01
			36	18	23.33	23.58	< 33.01
			75	0	23.30	23.55	< 33.01
376500	1882.5	15	1	0	23.21	23.46	< 33.01
			1	1	23.19	23.44	< 33.01
			36	18	23.32	23.57	< 33.01
			75	0	23.19	23.44	< 33.01
381500	1907.5	15	1	0	23.18	23.43	< 33.01
			1	1	23.20	23.45	< 33.01
			36	18	23.31	23.56	< 33.01
			75	0	23.19	23.44	< 33.01
372000	1860.0	20	1	0	23.35	23.60	< 33.01
			1	1	23.34	23.59	< 33.01
			50	25	23.44	23.69	< 33.01
			100	0	23.43	23.68	< 33.01
376500	1882.5	20	1	0	23.23	23.48	< 33.01
			1	1	23.31	23.56	< 33.01
			50	25	23.22	23.47	< 33.01
			100	0	23.25	23.50	< 33.01
381000	1905.0	20	1	0	23.37	23.62	< 33.01
			1	1	23.35	23.60	< 33.01
			50	25	23.24	23.49	< 33.01
			100	0	23.29	23.54	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n5_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
165300	826.5	5	1	0	23.36	23.89	< 38.45
			1	1	23.31	23.84	< 38.45
			12	6	23.25	23.78	< 38.45
			25	0	23.28	23.81	< 38.45
167300	836.5	5	1	0	22.97	23.50	< 38.45
			1	1	22.93	23.46	< 38.45
			12	6	22.96	23.49	< 38.45
			25	0	22.88	23.41	< 38.45
169300	846.5	5	1	0	23.14	23.67	< 38.45
			1	1	23.25	23.78	< 38.45
			12	6	22.98	23.51	< 38.45
			25	0	23.03	23.56	< 38.45
165800	829.0	10	1	0	23.00	23.53	< 38.45
			1	1	23.02	23.55	< 38.45
			25	12	23.14	23.67	< 38.45
			50	0	22.99	23.52	< 38.45
167300	836.5	10	1	0	22.93	23.46	< 38.45
			1	1	22.88	23.41	< 38.45
			25	12	22.98	23.51	< 38.45
			50	0	22.96	23.49	< 38.45
168800	844.0	10	1	0	22.86	23.39	< 38.45
			1	1	22.85	23.38	< 38.45
			25	12	22.85	23.38	< 38.45
			50	0	22.95	23.48	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
166300	831.5	15	1	0	23.01	23.54	< 38.45
			1	1	23.03	23.56	< 38.45
			36	18	22.98	23.51	< 38.45
			75	0	22.94	23.47	< 38.45
167300	836.5	15	1	0	22.94	23.47	< 38.45
			1	1	23.02	23.55	< 38.45
			36	18	22.87	23.40	< 38.45
			75	0	22.91	23.44	< 38.45
168300	841.5	15	1	0	22.81	23.34	< 38.45
			1	1	22.79	23.32	< 38.45
			36	18	22.89	23.42	< 38.45
			75	0	22.81	23.34	< 38.45
166800	834.0	20	1	0	23.04	23.57	< 38.45
			1	1	23.04	23.57	< 38.45
			50	25	22.96	23.49	< 38.45
			100	0	22.99	23.52	< 38.45
167300	836.5	20	1	0	22.94	23.47	< 38.45
			1	1	22.98	23.51	< 38.45
			50	25	22.89	23.42	< 38.45
			100	0	23.05	23.58	< 38.45
167800	839.0	20	1	0	22.91	23.44	< 38.45
			1	1	23.02	23.55	< 38.45
			50	25	22.90	23.43	< 38.45
			100	0	22.86	23.39	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n7_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
500500	2502.5	5	1	0	22.83	23.38	< 33.01
			1	1	22.77	23.32	< 33.01
			12	6	22.85	23.40	< 33.01
			25	0	22.89	23.44	< 33.01
507000	2535.0	5	1	0	22.72	23.27	< 33.01
			1	1	22.71	23.26	< 33.01
			12	6	22.80	23.35	< 33.01
			25	0	22.87	23.42	< 33.01
513500	2567.5	5	1	0	22.59	23.14	< 33.01
			1	1	22.65	23.20	< 33.01
			12	6	22.67	23.22	< 33.01
			25	0	22.74	23.29	< 33.01
501000	2505.0	10	1	0	22.55	23.10	< 33.01
			1	1	22.47	23.02	< 33.01
			25	12	22.95	23.50	< 33.01
			50	0	23.01	23.56	< 33.01
507000	2535.0	10	1	0	22.79	23.34	< 33.01
			1	1	22.51	23.06	< 33.01
			25	12	22.87	23.42	< 33.01
			50	0	22.86	23.41	< 33.01
513000	2565.0	10	1	0	22.89	23.44	< 33.01
			1	1	23.01	23.56	< 33.01
			25	12	23.01	23.56	< 33.01
			50	0	23.02	23.57	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
501500	2507.5	15	1	0	23.29	23.84	< 33.01
			1	1	23.19	23.74	< 33.01
			36	18	23.30	23.85	< 33.01
			75	0	23.30	23.85	< 33.01
507000	2535.0	15	1	0	22.99	23.54	< 33.01
			1	1	23.01	23.56	< 33.01
			36	18	23.02	23.57	< 33.01
			75	0	23.03	23.58	< 33.01
512500	2562.5	15	1	0	22.91	23.46	< 33.01
			1	1	22.91	23.46	< 33.01
			36	18	23.04	23.59	< 33.01
			75	0	22.93	23.48	< 33.01
502000	2510.0	20	1	0	23.16	23.71	< 33.01
			1	1	23.36	23.91	< 33.01
			50	25	23.25	23.80	< 33.01
			100	0	23.21	23.76	< 33.01
507000	2535.0	20	1	0	23.02	23.57	< 33.01
			1	1	22.97	23.52	< 33.01
			50	25	23.03	23.58	< 33.01
			100	0	23.02	23.57	< 33.01
512000	2560.0	20	1	0	22.86	23.41	< 33.01
			1	1	22.85	23.40	< 33.01
			50	25	22.98	23.53	< 33.01
			100	0	22.89	23.44	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n12_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
140300	701.5	5	1	0	23.22	20.87	< 34.77
			1	1	23.24	20.89	< 34.77
			12	6	23.16	20.81	< 34.77
			25	0	23.22	20.87	< 34.77
141500	707.5	5	1	0	23.14	20.79	< 34.77
			1	1	23.23	20.88	< 34.77
			12	6	23.14	20.79	< 34.77
			25	0	23.14	20.79	< 34.77
142700	713.5	5	1	0	23.02	20.67	< 34.77
			1	1	22.99	20.64	< 34.77
			12	6	23.01	20.66	< 34.77
			25	0	22.98	20.63	< 34.77
140800	704.0	10	1	0	23.44	21.09	< 34.77
			1	1	23.74	21.39	< 34.77
			25	12	23.55	21.20	< 34.77
			50	0	23.74	21.39	< 34.77
141500	707.5	10	1	0	23.49	21.14	< 34.77
			1	1	23.41	21.06	< 34.77
			25	12	23.55	21.20	< 34.77
			50	0	23.43	21.08	< 34.77
142200	711.0	10	1	0	23.32	20.97	< 34.77
			1	1	23.23	20.88	< 34.77
			25	12	23.29	20.94	< 34.77
			50	0	23.00	20.65	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
141300	706.5	15	1	0	23.24	20.89	< 34.77
			1	1	23.26	20.91	< 34.77
			36	18	23.21	20.86	< 34.77
			75	0	23.13	20.78	< 34.77
141500	707.5	15	1	0	23.25	20.90	< 34.77
			1	1	23.24	20.89	< 34.77
			36	18	23.13	20.78	< 34.77
			75	0	23.11	20.76	< 34.77
141700	708.5	15	1	0	23.18	20.83	< 34.77
			1	1	23.28	20.93	< 34.77
			36	18	23.15	20.80	< 34.77
			75	0	23.10	20.75	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n66_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
342500	1712.5	5	1	0	23.20	24.67	< 30.00
			1	1	23.18	24.65	< 30.00
			12	6	23.25	24.72	< 30.00
			25	0	23.23	24.70	< 30.00
349000	1745.0	5	1	0	22.97	24.44	< 30.00
			1	1	22.98	24.45	< 30.00
			12	6	23.10	24.57	< 30.00
			25	0	23.05	24.52	< 30.00
355500	1777.5	5	1	0	23.07	24.54	< 30.00
			1	1	23.11	24.58	< 30.00
			12	6	23.22	24.69	< 30.00
			25	0	23.14	24.61	< 30.00
343000	1715.0	10	1	0	23.13	24.60	< 30.00
			1	1	23.17	24.64	< 30.00
			25	12	23.13	24.60	< 30.00
			50	0	23.16	24.63	< 30.00
349000	1745.0	10	1	0	23.01	24.48	< 30.00
			1	1	23.04	24.51	< 30.00
			25	12	23.04	24.51	< 30.00
			50	0	23.13	24.60	< 30.00
355000	1775.0	10	1	0	23.16	24.63	< 30.00
			1	1	23.21	24.68	< 30.00
			25	12	23.15	24.62	< 30.00
			50	0	23.12	24.59	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
343500	1717.5	15	1	0	23.37	24.84	< 30.00
			1	1	23.26	24.73	< 30.00
			36	18	23.15	24.62	< 30.00
			75	0	23.31	24.78	< 30.00
349000	1745.0	15	1	0	23.04	24.51	< 30.00
			1	1	23.07	24.54	< 30.00
			36	18	22.01	23.48	< 30.00
			75	0	23.02	24.49	< 30.00
354500	1772.5	15	1	0	23.11	24.58	< 30.00
			1	1	23.19	24.66	< 30.00
			36	18	23.15	24.62	< 30.00
			75	0	23.22	24.69	< 30.00
344000	1720.0	20	1	0	23.20	24.67	< 30.00
			1	1	23.22	24.69	< 30.00
			50	25	23.43	24.90	< 30.00
			100	0	23.40	24.87	< 30.00
349000	1745.0	20	1	0	23.12	24.59	< 30.00
			1	1	23.12	24.59	< 30.00
			50	25	23.01	24.48	< 30.00
			100	0	23.16	24.63	< 30.00
354000	1770.0	20	1	0	23.15	24.62	< 30.00
			1	1	23.12	24.59	< 30.00
			50	25	23.08	24.55	< 30.00
			100	0	23.11	24.58	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n71_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
133100	665.5	5	1	0	22.77	21.84	< 34.77
			1	1	23.04	22.11	< 34.77
			12	6	22.94	22.01	< 34.77
			25	0	22.93	22.00	< 34.77
136100	680.5	5	1	0	22.81	21.88	< 34.77
			1	1	22.86	21.93	< 34.77
			12	6	22.82	21.89	< 34.77
			25	0	22.83	21.90	< 34.77
139100	695.5	5	1	0	22.63	21.70	< 34.77
			1	1	22.71	21.78	< 34.77
			12	6	22.64	21.71	< 34.77
			25	0	22.72	21.79	< 34.77
133600	668.0	10	1	0	23.16	22.23	< 34.77
			1	1	23.98	23.05	< 34.77
			25	12	23.95	23.02	< 34.77
			50	0	23.02	22.09	< 34.77
136100	680.5	10	1	0	23.40	22.47	< 34.77
			1	1	23.60	22.67	< 34.77
			25	12	24.03	23.10	< 34.77
			50	0	23.42	22.49	< 34.77
138600	693.0	10	1	0	22.76	21.83	< 34.77
			1	1	22.83	21.90	< 34.77
			25	12	22.72	21.79	< 34.77
			50	0	22.71	21.78	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
134100	670.5	15	1	0	23.05	22.12	< 34.77
			1	1	23.23	22.30	< 34.77
			36	18	23.00	22.07	< 34.77
			75	0	23.02	22.09	< 34.77
136100	680.5	15	1	0	22.85	21.92	< 34.77
			1	1	23.00	22.07	< 34.77
			36	18	22.90	21.97	< 34.77
			75	0	22.83	21.90	< 34.77
138100	690.5	15	1	0	22.81	21.88	< 34.77
			1	1	22.90	21.97	< 34.77
			36	18	22.74	21.81	< 34.77
			75	0	22.73	21.80	< 34.77
134600	673.0	20	1	0	23.08	22.15	< 34.77
			1	1	23.21	22.28	< 34.77
			50	25	22.87	21.94	< 34.77
			100	0	23.02	22.09	< 34.77
136100	680.5	20	1	0	22.94	22.01	< 34.77
			1	1	22.93	22.00	< 34.77
			50	25	22.88	21.95	< 34.77
			100	0	22.83	21.90	< 34.77
137600	688.0	20	1	0	22.89	21.96	< 34.77
			1	1	22.88	21.95	< 34.77
			50	25	22.91	21.98	< 34.77
			100	0	22.80	21.87	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n41_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
501204	2506.02	20	1	0	22.52	23.30	< 33.01
			1	1	21.99	22.77	< 33.01
			25	12	22.49	23.27	< 33.01
			50	0	22.51	23.29	< 33.01
518598	2592.99	20	1	0	22.39	23.17	< 33.01
			1	1	22.18	22.96	< 33.01
			25	12	22.26	23.04	< 33.01
			50	0	22.51	23.29	< 33.01
535998	2679.99	20	1	0	22.21	22.99	< 33.01
			1	1	22.77	23.55	< 33.01
			25	12	22.59	23.37	< 33.01
			50	0	22.59	23.37	< 33.01
502200	2511.0	30	1	0	22.92	23.70	< 33.01
			1	1	22.42	23.20	< 33.01
			36	18	22.35	23.13	< 33.01
			75	0	22.40	23.18	< 33.01
518598	2592.99	30	1	0	22.67	23.45	< 33.01
			1	1	22.38	23.16	< 33.01
			36	18	22.20	22.98	< 33.01
			75	0	22.28	23.06	< 33.01
534996	2674.98	30	1	0	22.90	23.68	< 33.01
			1	1	22.12	22.90	< 33.01
			36	18	21.96	22.74	< 33.01
			75	0	22.29	23.07	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
503202	2516.01	40	1	0	22.70	23.48	< 33.01
			1	1	22.20	22.98	< 33.01
			50	25	22.88	23.66	< 33.01
			100	0	22.09	22.87	< 33.01
518598	2592.99	40	1	0	22.75	23.53	< 33.01
			1	1	22.25	23.03	< 33.01
			50	25	22.60	23.38	< 33.01
			100	0	22.43	23.21	< 33.01
534000	2670.0	40	1	0	22.83	23.61	< 33.01
			1	1	22.19	22.97	< 33.01
			50	25	22.55	23.33	< 33.01
			100	0	22.55	23.33	< 33.01
504204	2521.02	50	1	0	22.71	23.49	< 33.01
			1	1	22.22	23.00	< 33.01
			64	32	22.03	22.81	< 33.01
			128	0	22.07	22.85	< 33.01
518598	2592.99	50	1	0	22.45	23.23	< 33.01
			1	1	21.92	22.70	< 33.01
			64	32	22.03	22.81	< 33.01
			128	0	22.31	23.09	< 33.01
532998	2664.99	50	1	0	22.24	23.02	< 33.01
			1	1	22.07	22.85	< 33.01
			64	32	22.14	22.92	< 33.01
			128	0	22.15	22.93	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
505200	2526.0	60	1	0	22.33	23.11	< 33.01
			1	1	22.78	23.56	< 33.01
			81	40	22.96	23.74	< 33.01
			162	0	22.16	22.94	< 33.01
518598	2592.99	60	1	0	22.48	23.26	< 33.01
			1	1	21.94	22.72	< 33.01
			81	40	22.21	22.99	< 33.01
			162	0	22.15	22.93	< 33.01
531996	2659.98	60	1	0	22.21	22.99	< 33.01
			1	1	22.62	23.40	< 33.01
			81	40	22.28	23.06	< 33.01
			162	0	22.37	23.15	< 33.01
507204	2536.02	80	1	0	23.01	23.79	< 33.01
			1	1	22.93	23.71	< 33.01
			108	54	23.24	24.02	< 33.01
			216	0	22.21	22.99	< 33.01
518598	2592.99	80	1	0	22.04	22.82	< 33.01
			1	1	22.56	23.34	< 33.01
			108	54	22.21	22.99	< 33.01
			216	0	22.34	23.12	< 33.01
529998	2649.99	80	1	0	23.23	24.01	< 33.01
			1	1	22.76	23.54	< 33.01
			108	54	22.54	23.32	< 33.01
			216	0	22.51	23.29	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
509202	2546.01	100	1	0	22.83	23.61	< 33.01
			1	1	22.84	23.62	< 33.01
			135	67	22.91	23.69	< 33.01
			270	0	22.69	23.47	< 33.01
518598	2592.99	100	1	0	22.75	23.53	< 33.01
			1	1	22.57	23.35	< 33.01
			135	67	22.73	23.51	< 33.01
			270	0	22.44	23.22	< 33.01
528000	2640.0	100	1	0	23.03	23.81	< 33.01
			1	1	23.10	23.88	< 33.01
			135	67	23.25	24.03	< 33.01
			270	0	23.23	24.01	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n41_SA_HPUE		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
501204	2506.02	20	1	0	24.95	25.73	< 33.01
			1	1	25.95	26.73	< 33.01
			25	12	25.99	26.77	< 33.01
			50	0	24.97	25.75	< 33.01
518598	2592.99	20	1	0	24.42	25.20	< 33.01
			1	1	26.20	26.98	< 33.01
			25	12	26.35	27.13	< 33.01
			50	0	25.50	26.28	< 33.01
535998	2679.99	20	1	0	25.01	25.79	< 33.01
			1	1	25.55	26.33	< 33.01
			25	12	25.42	26.20	< 33.01
			50	0	25.44	26.22	< 33.01
502200	2511.0	30	1	0	24.92	25.70	< 33.01
			1	1	25.20	25.98	< 33.01
			36	18	25.28	26.06	< 33.01
			75	0	25.79	26.57	< 33.01
518598	2592.99	30	1	0	24.20	24.98	< 33.01
			1	1	25.01	25.79	< 33.01
			36	18	24.92	25.70	< 33.01
			75	0	24.87	25.65	< 33.01
534996	2674.98	30	1	0	24.78	25.56	< 33.01
			1	1	24.54	25.32	< 33.01
			36	18	24.75	25.53	< 33.01
			75	0	24.93	25.71	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
503202	2516.01	40	1	0	25.15	25.93	< 33.01
			1	1	26.28	27.06	< 33.01
			50	25	26.11	26.89	< 33.01
			100	0	25.15	25.93	< 33.01
518598	2592.99	40	1	0	24.59	25.37	< 33.01
			1	1	26.07	26.85	< 33.01
			50	25	26.25	27.03	< 33.01
			100	0	25.58	26.36	< 33.01
534000	2670.0	40	1	0	24.42	25.20	< 33.01
			1	1	26.35	27.13	< 33.01
			50	25	25.51	26.29	< 33.01
			100	0	24.99	25.77	< 33.01
504204	2521.02	50	1	0	24.68	25.46	< 33.01
			1	1	25.32	26.10	< 33.01
			64	32	25.24	26.02	< 33.01
			128	0	24.84	25.62	< 33.01
518598	2592.99	50	1	0	24.81	25.59	< 33.01
			1	1	25.60	26.38	< 33.01
			64	32	25.65	26.43	< 33.01
			128	0	25.70	26.48	< 33.01
532998	2664.99	50	1	0	24.76	25.54	< 33.01
			1	1	25.27	26.05	< 33.01
			64	32	26.09	26.87	< 33.01
			128	0	26.15	26.93	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
505200	2526.0	60	1	0	24.78	25.56	< 33.01
			1	1	25.83	26.61	< 33.01
			81	40	25.89	26.67	< 33.01
			162	0	24.94	25.72	< 33.01
518598	2592.99	60	1	0	24.95	25.73	< 33.01
			1	1	26.22	27.00	< 33.01
			81	40	26.45	27.23	< 33.01
			162	0	25.43	26.21	< 33.01
531996	2659.98	60	1	0	24.46	25.24	< 33.01
			1	1	26.23	27.01	< 33.01
			81	40	25.90	26.68	< 33.01
			162	0	24.94	25.72	< 33.01
507204	2536.02	80	1	0	24.85	25.63	< 33.01
			1	1	25.88	26.66	< 33.01
			108	54	25.93	26.71	< 33.01
			216	0	24.88	25.66	< 33.01
518598	2592.99	80	1	0	24.26	25.04	< 33.01
			1	1	26.20	26.98	< 33.01
			108	54	26.35	27.13	< 33.01
			216	0	25.35	26.13	< 33.01
529998	2649.99	80	1	0	24.27	25.05	< 33.01
			1	1	26.46	27.24	< 33.01
			108	54	26.27	27.05	< 33.01
			216	0	25.30	26.08	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
509202	2546.01	100	1	0	24.69	25.47	< 33.01
			1	1	25.91	26.69	< 33.01
			135	67	26.05	26.83	< 33.01
			270	0	25.13	25.91	< 33.01
518598	2592.99	100	1	0	24.39	25.17	< 33.01
			1	1	26.33	27.11	< 33.01
			135	67	26.39	27.17	< 33.01
			270	0	25.47	26.25	< 33.01
528000	2640.0	100	1	0	24.54	25.32	< 33.01
			1	1	26.24	27.02	< 33.01
			135	67	26.32	27.10	< 33.01
			270	0	25.36	26.14	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n77_SA		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
750000	3750.0	100	1	0	22.33	18.22	< 30.00
			1	1	22.45	18.34	< 30.00
			135	67	23.21	19.10	< 30.00
			270	0	23.04	18.93	< 30.00
772998	3864.99	100	1	0	22.69	18.58	< 30.00
			1	1	23.38	19.27	< 30.00
			135	67	23.53	19.42	< 30.00
			270	0	23.42	19.31	< 30.00
786000	3930.0	100	1	0	22.91	18.80	< 30.00
			1	1	23.54	19.43	< 30.00
			135	67	23.23	19.12	< 30.00
			270	0	23.31	19.20	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Cloud Guo	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n77_SA_HPUE		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
750000	3750.0	100	1	0	24.32	20.21	< 30.00
			1	1	25.16	21.05	< 30.00
			135	67	25.78	21.67	< 30.00
			270	0	24.72	20.61	< 30.00
772998	3864.99	100	1	0	24.24	20.13	< 30.00
			1	1	25.87	21.76	< 30.00
			135	67	26.15	22.04	< 30.00
			270	0	25.12	21.01	< 30.00
786000	3930.0	100	1	0	24.43	20.32	< 30.00
			1	1	26.00	21.89	< 30.00
			135	67	26.00	21.89	< 30.00
			270	0	25.02	20.91	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n2/25_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
370500	1852.5	5	1	0	22.70	22.95	< 33.01
			1	1	22.63	22.88	< 33.01
			12	6	22.76	23.01	< 33.01
			25	0	22.88	23.13	< 33.01
376500	1882.5	5	1	0	22.85	23.10	< 33.01
			1	1	22.77	23.02	< 33.01
			12	6	22.74	22.99	< 33.01
			25	0	22.88	23.13	< 33.01
382500	1912.5	5	1	0	22.71	22.96	< 33.01
			1	1	22.65	22.90	< 33.01
			12	6	22.65	22.90	< 33.01
			25	0	22.78	23.03	< 33.01
371000	1855.0	10	1	0	22.68	22.93	< 33.01
			1	1	22.63	22.88	< 33.01
			25	12	22.76	23.01	< 33.01
			50	0	22.70	22.95	< 33.01
376500	1882.5	10	1	0	22.59	22.84	< 33.01
			1	1	22.52	22.77	< 33.01
			25	12	22.62	22.87	< 33.01
			50	0	22.65	22.90	< 33.01
382000	1910.0	10	1	0	22.55	22.80	< 33.01
			1	1	22.38	22.63	< 33.01
			25	12	22.29	22.54	< 33.01
			50	0	22.05	22.30	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
371500	1857.5	15	1	0	22.98	23.23	< 33.01
			1	1	22.92	23.17	< 33.01
			36	18	22.89	23.14	< 33.01
			75	0	22.87	23.12	< 33.01
376500	1882.5	15	1	0	22.62	22.87	< 33.01
			1	1	22.63	22.88	< 33.01
			36	18	22.80	23.05	< 33.01
			75	0	22.71	22.96	< 33.01
381500	1907.5	15	1	0	22.78	23.03	< 33.01
			1	1	22.62	22.87	< 33.01
			36	18	22.76	23.01	< 33.01
			75	0	22.72	22.97	< 33.01
372000	1860.0	20	1	0	22.50	22.75	< 33.01
			1	1	22.53	22.78	< 33.01
			50	25	22.25	22.50	< 33.01
			100	0	22.51	22.76	< 33.01
376500	1882.5	20	1	0	22.75	23.00	< 33.01
			1	1	22.50	22.75	< 33.01
			50	25	22.69	22.94	< 33.01
			100	0	22.83	23.08	< 33.01
381000	1905.0	20	1	0	22.80	23.05	< 33.01
			1	1	22.82	23.07	< 33.01
			50	25	22.58	22.83	< 33.01
			100	0	22.50	22.75	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n5_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
165300	826.5	5	1	0	22.96	23.49	< 38.45
			1	1	22.74	23.27	< 38.45
			12	6	22.59	23.12	< 38.45
			25	0	22.97	23.50	< 38.45
167300	836.5	5	1	0	22.45	22.98	< 38.45
			1	1	22.95	23.48	< 38.45
			12	6	22.54	23.07	< 38.45
			25	0	23.01	23.54	< 38.45
169300	846.5	5	1	0	22.39	22.92	< 38.45
			1	1	22.86	23.39	< 38.45
			12	6	22.29	22.82	< 38.45
			25	0	23.15	23.68	< 38.45
165800	829.0	10	1	0	22.51	23.04	< 38.45
			1	1	22.59	23.12	< 38.45
			25	12	22.55	23.08	< 38.45
			50	0	22.03	22.56	< 38.45
167300	836.5	10	1	0	22.54	23.07	< 38.45
			1	1	22.69	23.22	< 38.45
			25	12	22.53	23.06	< 38.45
			50	0	21.99	22.52	< 38.45
168800	844.0	10	1	0	22.65	23.18	< 38.45
			1	1	22.29	22.82	< 38.45
			25	12	22.26	22.79	< 38.45
			50	0	21.85	22.38	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
166300	831.5	15	1	0	22.72	23.25	< 38.45
			1	1	22.78	23.31	< 38.45
			36	18	22.54	23.07	< 38.45
			75	0	21.97	22.50	< 38.45
167300	836.5	15	1	0	22.50	23.03	< 38.45
			1	1	22.69	23.22	< 38.45
			36	18	22.40	22.93	< 38.45
			75	0	21.68	22.21	< 38.45
168300	841.5	15	1	0	22.45	22.98	< 38.45
			1	1	22.58	23.11	< 38.45
			36	18	22.32	22.85	< 38.45
			75	0	21.84	22.37	< 38.45
166800	834.0	20	1	0	22.56	23.09	< 38.45
			1	1	22.97	23.50	< 38.45
			50	25	22.69	23.22	< 38.45
			100	0	22.29	22.82	< 38.45
167300	836.5	20	1	0	22.62	23.15	< 38.45
			1	1	22.87	23.40	< 38.45
			50	25	22.42	22.95	< 38.45
			100	0	22.39	22.92	< 38.45
167800	839.0	20	1	0	22.87	23.40	< 38.45
			1	1	22.72	23.25	< 38.45
			50	25	22.76	23.29	< 38.45
			100	0	22.30	22.83	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n7_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
500500	2502.5	5	1	0	22.64	23.19	< 33.01
			1	1	22.69	23.24	< 33.01
			12	6	22.77	23.32	< 33.01
			25	0	22.87	23.42	< 33.01
507000	2535.0	5	1	0	22.36	22.91	< 33.01
			1	1	22.48	23.03	< 33.01
			12	6	22.63	23.18	< 33.01
			25	0	22.53	23.08	< 33.01
513500	2567.5	5	1	0	22.42	22.97	< 33.01
			1	1	22.50	23.05	< 33.01
			12	6	22.52	23.07	< 33.01
			25	0	22.51	23.06	< 33.01
501000	2505.0	10	1	0	22.65	23.20	< 33.01
			1	1	22.76	23.31	< 33.01
			25	12	22.79	23.34	< 33.01
			50	0	22.80	23.35	< 33.01
507000	2535.0	10	1	0	22.58	23.13	< 33.01
			1	1	22.48	23.03	< 33.01
			25	12	22.68	23.23	< 33.01
			50	0	22.58	23.13	< 33.01
513000	2565.0	10	1	0	22.43	22.98	< 33.01
			1	1	22.54	23.09	< 33.01
			25	12	22.66	23.21	< 33.01
			50	0	22.46	23.01	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
501500	2507.5	15	1	0	22.91	23.46	< 33.01
			1	1	23.16	23.71	< 33.01
			36	18	22.86	23.41	< 33.01
			75	0	22.94	23.49	< 33.01
507000	2535.0	15	1	0	22.60	23.15	< 33.01
			1	1	22.57	23.12	< 33.01
			36	18	22.58	23.13	< 33.01
			75	0	22.73	23.28	< 33.01
512500	2562.5	15	1	0	22.58	23.13	< 33.01
			1	1	22.58	23.13	< 33.01
			36	18	22.53	23.08	< 33.01
			75	0	22.47	23.02	< 33.01
502000	2510.0	20	1	0	22.85	23.40	< 33.01
			1	1	22.96	23.51	< 33.01
			50	25	22.85	23.40	< 33.01
			100	0	22.80	23.35	< 33.01
507000	2535.0	20	1	0	22.99	23.54	< 33.01
			1	1	23.00	23.55	< 33.01
			50	25	22.93	23.48	< 33.01
			100	0	22.99	23.54	< 33.01
512000	2560.0	20	1	0	22.90	23.45	< 33.01
			1	1	22.86	23.41	< 33.01
			50	25	22.81	23.36	< 33.01
			100	0	22.87	23.42	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n12_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
140300	701.5	5	1	0	23.12	20.77	< 34.77
			1	1	23.06	20.71	< 34.77
			12	6	23.00	20.65	< 34.77
			25	0	23.14	20.79	< 34.77
141500	707.5	5	1	0	22.97	20.62	< 34.77
			1	1	23.02	20.67	< 34.77
			12	6	22.85	20.50	< 34.77
			25	0	22.96	20.61	< 34.77
142700	713.5	5	1	0	22.95	20.60	< 34.77
			1	1	23.08	20.73	< 34.77
			12	6	22.83	20.48	< 34.77
			25	0	22.93	20.58	< 34.77
140800	704.0	10	1	0	23.18	20.83	< 34.77
			1	1	23.20	20.85	< 34.77
			25	12	23.04	20.69	< 34.77
			50	0	22.96	20.61	< 34.77
141500	707.5	10	1	0	22.96	20.61	< 34.77
			1	1	23.10	20.75	< 34.77
			25	12	22.97	20.62	< 34.77
			50	0	23.03	20.68	< 34.77
142200	711.0	10	1	0	22.52	20.17	< 34.77
			1	1	22.65	20.30	< 34.77
			25	12	22.95	20.60	< 34.77
			50	0	22.66	20.31	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
141300	706.5	15	1	0	23.17	20.82	< 34.77
			1	1	23.21	20.86	< 34.77
			36	18	23.12	20.77	< 34.77
			75	0	23.12	20.77	< 34.77
141500	707.5	15	1	0	23.10	20.75	< 34.77
			1	1	22.82	20.47	< 34.77
			36	18	23.03	20.68	< 34.77
			75	0	22.93	20.58	< 34.77
141700	708.5	15	1	0	23.12	20.77	< 34.77
			1	1	23.14	20.79	< 34.77
			36	18	23.06	20.71	< 34.77
			75	0	23.03	20.68	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n66_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
342500	1712.5	5	1	0	22.65	24.12	< 30.00
			1	1	22.52	23.99	< 30.00
			12	6	22.76	24.23	< 30.00
			25	0	22.74	24.21	< 30.00
349000	1745.0	5	1	0	22.58	24.05	< 30.00
			1	1	22.56	24.03	< 30.00
			12	6	22.80	24.27	< 30.00
			25	0	22.82	24.29	< 30.00
355500	1777.5	5	1	0	22.54	24.01	< 30.00
			1	1	22.51	23.98	< 30.00
			12	6	22.62	24.09	< 30.00
			25	0	22.70	24.17	< 30.00
343000	1715.0	10	1	0	22.54	24.01	< 30.00
			1	1	22.59	24.06	< 30.00
			25	12	22.84	24.31	< 30.00
			50	0	22.78	24.25	< 30.00
349000	1745.0	10	1	0	22.38	23.85	< 30.00
			1	1	22.17	23.64	< 30.00
			25	12	22.31	23.78	< 30.00
			50	0	22.27	23.74	< 30.00
355000	1775.0	10	1	0	22.83	24.30	< 30.00
			1	1	22.60	24.07	< 30.00
			25	12	22.68	24.15	< 30.00
			50	0	22.66	24.13	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
343500	1717.5	15	1	0	22.75	24.22	< 30.00
			1	1	22.68	24.15	< 30.00
			36	18	22.77	24.24	< 30.00
			75	0	22.70	24.17	< 30.00
349000	1745.0	15	1	0	22.62	24.09	< 30.00
			1	1	22.70	24.17	< 30.00
			36	18	22.62	24.09	< 30.00
			75	0	22.68	24.15	< 30.00
354500	1772.5	15	1	0	22.66	24.13	< 30.00
			1	1	22.58	24.05	< 30.00
			36	18	22.56	24.03	< 30.00
			75	0	22.60	24.07	< 30.00
344000	1720.0	20	1	0	22.83	24.30	< 30.00
			1	1	22.78	24.25	< 30.00
			50	25	22.67	24.14	< 30.00
			100	0	22.75	24.22	< 30.00
349000	1745.0	20	1	0	22.88	24.35	< 30.00
			1	1	22.79	24.26	< 30.00
			50	25	22.69	24.16	< 30.00
			100	0	22.85	24.32	< 30.00
354000	1770.0	20	1	0	22.73	24.20	< 30.00
			1	1	22.67	24.14	< 30.00
			50	25	22.78	24.25	< 30.00
			100	0	22.74	24.21	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n71_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
133100	665.5	5	1	0	23.28	22.35	< 34.77
			1	1	23.23	22.30	< 34.77
			12	6	23.27	22.34	< 34.77
			25	0	23.24	22.31	< 34.77
136100	680.5	5	1	0	23.15	22.22	< 34.77
			1	1	23.14	22.21	< 34.77
			12	6	23.15	22.22	< 34.77
			25	0	23.11	22.18	< 34.77
139100	695.5	5	1	0	23.00	22.07	< 34.77
			1	1	22.97	22.04	< 34.77
			12	6	22.99	22.06	< 34.77
			25	0	22.94	22.01	< 34.77
133600	668.0	10	1	0	23.38	22.45	< 34.77
			1	1	23.30	22.37	< 34.77
			25	12	23.22	22.29	< 34.77
			50	0	23.29	22.36	< 34.77
136100	680.5	10	1	0	23.13	22.20	< 34.77
			1	1	23.04	22.11	< 34.77
			25	12	23.18	22.25	< 34.77
			50	0	23.15	22.22	< 34.77
138600	693.0	10	1	0	22.96	22.03	< 34.77
			1	1	23.02	22.09	< 34.77
			25	12	22.94	22.01	< 34.77
			50	0	22.97	22.04	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
PI/2 BPSK							
134100	670.5	15	1	0	23.43	22.50	< 34.77
			1	1	23.40	22.47	< 34.77
			36	18	23.34	22.41	< 34.77
			75	0	23.31	22.38	< 34.77
136100	680.5	15	1	0	23.26	22.33	< 34.77
			1	1	23.14	22.21	< 34.77
			36	18	23.24	22.31	< 34.77
			75	0	23.14	22.21	< 34.77
138100	690.5	15	1	0	23.05	22.12	< 34.77
			1	1	23.10	22.17	< 34.77
			36	18	23.06	22.13	< 34.77
			75	0	23.01	22.08	< 34.77
134600	673.0	20	1	0	23.43	22.50	< 34.77
			1	1	23.45	22.52	< 34.77
			50	25	23.19	22.26	< 34.77
			100	0	23.21	22.28	< 34.77
136100	680.5	20	1	0	23.19	22.26	< 34.77
			1	1	23.28	22.35	< 34.77
			50	25	23.10	22.17	< 34.77
			100	0	23.13	22.20	< 34.77
137600	688.0	20	1	0	23.19	22.26	< 34.77
			1	1	23.29	22.36	< 34.77
			50	25	23.08	22.15	< 34.77
			100	0	22.96	22.03	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/12/09 ~ 2020/12/30
Test Band	n41_EN-DC		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
501204	2506.02	20	1	0	22.52	23.30	< 33.01
			1	1	22.97	23.75	< 33.01
			25	12	22.95	23.73	< 33.01
			50	0	22.91	23.69	< 33.01
518598	2592.99	20	1	0	22.52	23.30	< 33.01
			1	1	22.97	23.75	< 33.01
			25	12	23.16	23.94	< 33.01
			50	0	23.10	23.88	< 33.01
535998	2679.99	20	1	0	22.29	23.07	< 33.01
			1	1	23.01	23.79	< 33.01
			25	12	22.92	23.70	< 33.01
			50	0	22.89	23.67	< 33.01
502200	2511.0	30	1	0	22.48	23.26	< 33.01
			1	1	22.99	23.77	< 33.01
			36	18	22.92	23.70	< 33.01
			75	0	23.03	23.81	< 33.01
518598	2592.99	30	1	0	22.83	23.61	< 33.01
			1	1	23.31	24.09	< 33.01
			36	18	23.33	24.11	< 33.01
			75	0	23.39	24.17	< 33.01
534996	2674.98	30	1	0	23.11	23.89	< 33.01
			1	1	23.65	24.43	< 33.01
			36	18	23.50	24.28	< 33.01
			75	0	23.54	24.32	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
503202	2516.01	40	1	0	22.48	23.26	< 33.01
			1	1	23.02	23.80	< 33.01
			50	25	22.94	23.72	< 33.01
			100	0	23.00	23.78	< 33.01
518598	2592.99	40	1	0	22.71	23.49	< 33.01
			1	1	23.15	23.93	< 33.01
			50	25	23.33	24.11	< 33.01
			100	0	23.49	24.27	< 33.01
534000	2670.0	40	1	0	23.04	23.82	< 33.01
			1	1	23.57	24.35	< 33.01
			50	25	23.45	24.23	< 33.01
			100	0	23.52	24.30	< 33.01
504204	2521.02	50	1	0	22.20	22.98	< 33.01
			1	1	22.63	23.41	< 33.01
			64	32	22.70	23.48	< 33.01
			128	0	22.69	23.47	< 33.01
518598	2592.99	50	1	0	22.32	23.10	< 33.01
			1	1	22.86	23.64	< 33.01
			64	32	23.03	23.81	< 33.01
			128	0	23.04	23.82	< 33.01
532998	2664.99	50	1	0	22.41	23.19	< 33.01
			1	1	23.12	23.90	< 33.01
			64	32	23.07	23.85	< 33.01
			128	0	23.15	23.93	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
505200	2526.0	60	1	0	22.10	22.88	< 33.01
			1	1	22.61	23.39	< 33.01
			81	40	22.80	23.58	< 33.01
			162	0	22.83	23.61	< 33.01
518598	2592.99	60	1	0	22.29	23.07	< 33.01
			1	1	22.70	23.48	< 33.01
			81	40	23.02	23.80	< 33.01
			162	0	23.01	23.79	< 33.01
531996	2659.98	60	1	0	22.64	23.42	< 33.01
			1	1	23.15	23.93	< 33.01
			81	40	23.20	23.98	< 33.01
			162	0	23.20	23.98	< 33.01
507204	2536.02	80	1	0	22.17	22.95	< 33.01
			1	1	22.63	23.41	< 33.01
			108	54	22.90	23.68	< 33.01
			216	0	22.81	23.59	< 33.01
518598	2592.99	80	1	0	22.31	23.09	< 33.01
			1	1	22.71	23.49	< 33.01
			108	54	23.28	24.06	< 33.01
			216	0	23.16	23.94	< 33.01
529998	2649.99	80	1	0	22.45	23.23	< 33.01
			1	1	22.95	23.73	< 33.01
			108	54	23.34	24.12	< 33.01
			216	0	23.27	24.05	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
PI/2 BPSK							
509202	2546.01	100	1	0	22.06	22.84	< 33.01
			1	1	22.58	23.36	< 33.01
			135	67	22.71	23.49	< 33.01
			270	0	22.90	23.68	< 33.01
518598	2592.99	100	1	0	22.35	23.13	< 33.01
			1	1	22.85	23.63	< 33.01
			135	67	23.06	23.84	< 33.01
			270	0	23.17	23.95	< 33.01
528000	2640.0	100	1	0	22.30	23.08	< 33.01
			1	1	22.81	23.59	< 33.01
			135	67	23.25	24.03	< 33.01
			270	0	23.17	23.95	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

5.3. Conducted Spurious Emissions

5.3.1.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.

For n7, n41 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 55 + 10 log(P) dB.

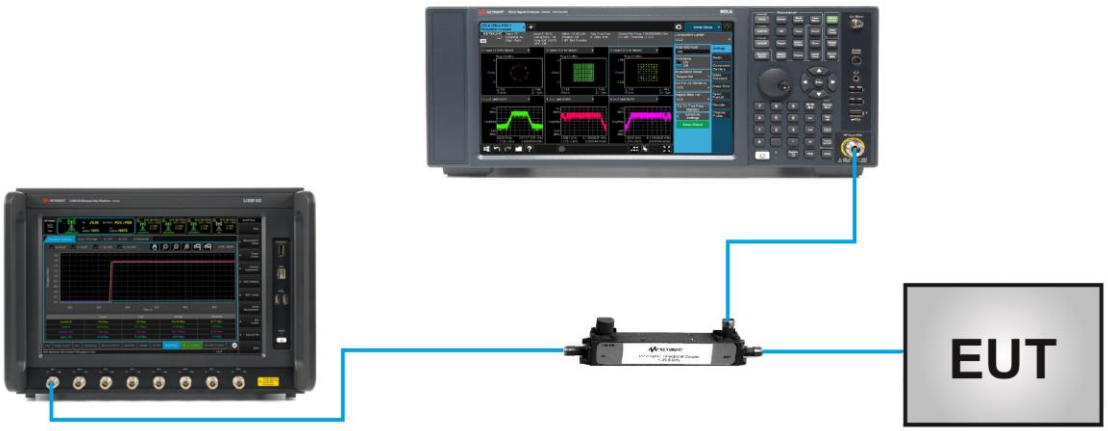
5.3.2.Test Procedure Used

ANSI C63.26-2015 - Section 5.7

5.3.3.Test Setting

1. Set the analyzer frequency to low, mid, high channel.
2. RBW = 1MHz
3. VBW ≥ 3*RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to “free run.”
7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power.
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

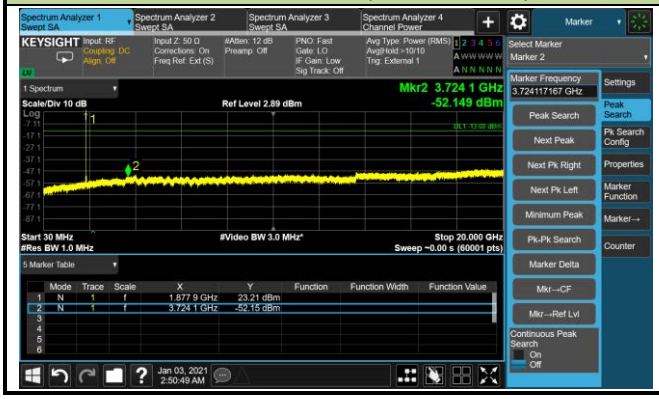
5.3.4.Test Setup



5.3.5.Test Result

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/02
Test Band	n2/25_SA		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
376500	1882.5	5	30 ~ 20000	-52.15	≤ -13.00	Pass

5MHz Channel Bandwidth	
Channel 376500 (1882.5MHz)	
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/02
Test Band	n5_SA		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
167300	836.5	5	30 ~ 10000	-45.59	≤ -13.00	Pass

5MHz Channel Bandwidth	
Channel 167300 (836.5MHz)	
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/02
Test Band	n7_SA		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
507000	2535.0	5	30 ~ 26000	-35.87	≤ -25.00	Pass

5MHz Channel Bandwidth	
Channel 507000 (2535MHz)	
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/02
Test Band	n12_SA		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
141500	707.5	5	30 ~ 10000	-53.00	≤ -13.00	Pass

5MHz Channel Bandwidth	
Channel 141500 (707.5MHz)	
	

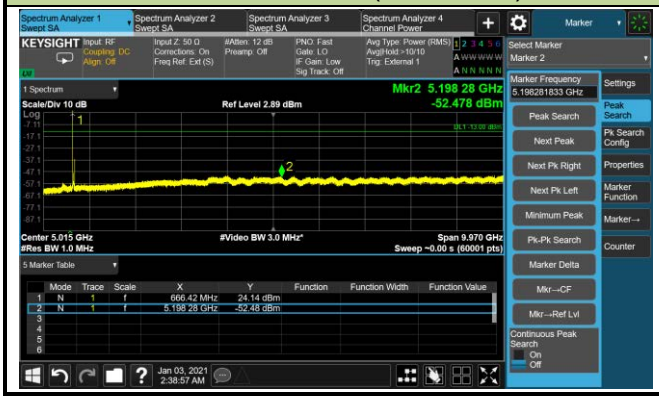
Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/02
Test Band	n66_SA		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
349000	1745.0	5	30 ~ 20000	-42.76	≤ -13.00	Pass

5MHz Channel Bandwidth	
Channel 349000 (1745MHz)	
	

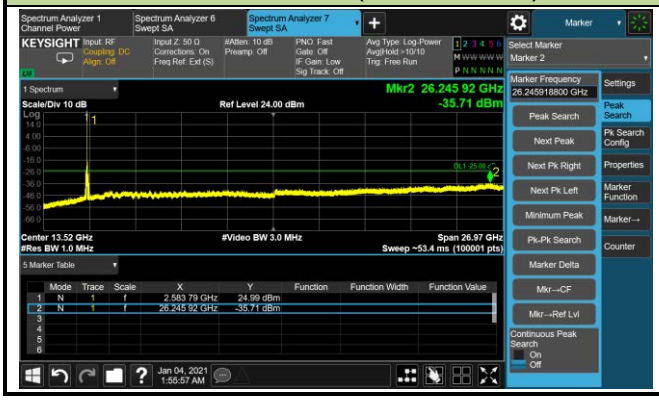
Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/02
Test Band	n71_SA		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
136100	680.5	5	30 ~ 10000	-52.48	≤ -13.00	Pass

5MHz Channel Bandwidth	
Channel 136100 (680.5MHz)	
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/04
Test Band	n41_SA_HPUE		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
518598	2592.99	20	30 ~ 27000	-35.71	≤ -25.00	Pass

20MHz Channel Bandwidth	
Channel 518598 (2592.99MHz)	
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Edgar Ma	Test Date	2021/01/04
Test Band	n77_HPUE		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
772998	3864.99	100	30 ~ 40000	-35.94	≤ -13.00	Pass

100MHz Channel Bandwidth	
Channel 772998 (3864.99MHz)	
	

6. CONCLUSION

The data collected relate only the item(s) tested and show that unit is compliance with FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “2011RSU077-UT” file.

Appendix B - EUT Photograph

Refer to “2011RSU077-UE” file.

Appendix C - Reference Test Report

MEASUREMENT REPORT

FCC PART 2 & 22 & 24 & 27

FCC ID:	XMR2020RM502QAE
Application:	Quectel Wireless Solutions Company Limited
Application Type:	Certification
Product:	5G Sub-6 GHz M.2 Module
Model No.:	RM502Q-AE
Brand Name:	Quectel
FCC Rule Part(s):	Part 2, 22 (H), 24 (E), 27
Test Date:	October 08 ~ November 25, 2020

Reviewed By: Sunny Sun
(Sunny Sun)

Approved By: Robin Wu
(Robin Wu)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
2010RSU005-U6	Rev. 01	Initial Report	11-16-2020	Invalid
2010RSU005-U6	Rev. 02	Added Bandwidth of BPSK modulation	11-30-2020	Valid

CONTENTS

Description Page

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

☒	**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	
☐	**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: L3261-190725	
	FCC: 291082, TW3261	ISED: TW3261

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	5G Sub-6 GHz M.2 Module
Model No.:	RM502Q-AE
Brand Name:	Quectel
IMEI:	Conducted Measurement 867826050002468; 867826050002559; 867826050002922 Radiated Measurement 867826050003060
Operating Temperature:	-20 ~ 60 ℃
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
Category:	Category 6
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_66C
Modulation:	UL & DL up to 256QAM
Category:	Category 18
5G NR Specification	
SA Band:	n2, n5, n7, n12, n25, n41, n66, n71, n77
SA UL MIMO Band:	n41
EN-DC Band:	DC_5A_n2A, DC_12A_n2, DC_13A_n2A, DC_2A_n5A DC_30A_n5A, DC_66A_n5A, DC_5A_n7A, DC_12A_n7A DC_2A_n12A, DC_12A_n25A, DC_2A_n41A, DC_25A_n41A DC_26A_n41A, DC_66A_n41A, DC_5A_n66A, DC_12A_n66A DC_13A_n66A, DC_14A_n66A, DC_71A_n66A, DC_2A_n71A DC_7A_n71A, DC_66A_n71A
HPUE Band:	n41, n77
SCS for NR cell:	FDD Band: 15kHz; TDD Band: 30kHz
Modulation:	UL & DL up to 256QAM

2.2. Product Specification Subjective to this Report

FDD T_X Frequency Range:	n2: 1850 ~ 1910 MHz; n5: 824 ~ 849 MHz n7: 2500 ~ 2570 MHz; n12: 699 ~ 716 MHz n25: 1850 ~ 1915 MHz; n66: 1710 ~ 1780 MHz n71: 663 ~ 698MHz
FDD R_X Frequency Range:	n2: 1930 ~ 1990 MHz; n5: 869 ~ 894 MHz n7: 2620 ~ 2690 MHz; n12: 729 ~ 746 MHz n25: 1930 ~ 1995 MHz; n66: 2110 ~ 2200 MHz n71: 617 ~ 652 MHz
TDD Frequency Range:	n41: 2496 ~ 2690 MHz; n77: 3700 ~ 3980MHz
Support Bandwidth:	n2, n5, n7, n25, n66, n71: 5, 10, 15, 20MHz n12: 5, 10, 15MHz n41: 20, 30, 40, 50, 60, 80, 100MHz n77: 100MHz

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.

2.3. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
n2	1850 ~ 1910	Dipole	0.25
n5	824 ~ 849		2.68
n7	2500 ~ 2570		0.55
n12	699 ~ 716		-0.20
n25	1850 ~ 1915		0.25
n41	2496 ~ 2690		0.78
n66	1710 ~ 1780		1.47
n71	663 ~ 698		1.22
n77	3700 ~ 3980		-4.11

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

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
- FCC KDB 662911 D01 v02r01: Multiple Transmitter Output

2.5. Device Capabilities

This device contains 5G NR SA & EN-DC the following capabilities:
Working on NR Band n2, n5, n7, n12, n25, n41, n66, n71, n77.

n25 (1850 ~ 1915 MHz) overlaps the entire frequency range of n2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers n2 as well as n25.

PI/2 BPSK modulation applied for 5G NR band frequencies and has the same tune up power as QPSK modulations.

The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

UL MIMO mode only support CP-OFDM.

The worst-case scenario for all measurements is based on an engineering evaluation and QPSK was observed as the worst one and set for all conducted and radiated. Output power measurements were measured on PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM, and BPSK modulations.

For EN-DC mode, 5G NR FR1 bands are tested in this report (Ouput Power, Conducted Band Edge, Radiated Spurious Emissions), all the other RF bands are tested in the other reports separately.

2.6. EMI Suppression Device(s)/Modifications

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

2.7. Maximum Power, Frequency Tolerance, and Emission Designator

n2_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1907.5	4M45F9W	--	0.2280	4M47G7D	--	0.2109
10	1855.0 ~ 1905.0	9M20F9W	--	0.2109	9M24G7D	--	0.2138
15	1857.5 ~ 1902.5	14M0F9W	--	0.2104	13M9G7D	--	0.2128
20	1860.0 ~ 1900.0	18M7F9W	--	0.2143	18M7G7D	-0.0136	0.2133
n2_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1907.5	4M46W7D	--	0.2070	4M46W7D	--	0.1570
10	1855.0 ~ 1905.0	9M21W7D	--	0.2193	9M21W7D	--	0.1476
15	1857.5 ~ 1902.5	14M0W7D	--	0.2223	14M0W7D	--	0.1549
20	1860.0 ~ 1900.0	18M7W7D	--	0.2270	18M8W7D	--	0.1560
n2_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	1852.5 ~ 1907.5	4M46W7D	--	0.1521			
10	1855.0 ~ 1905.0	9M20W7D	--	0.1486			
15	1857.5 ~ 1902.5	14M0W7D	--	0.1486			
20	1860.0 ~ 1900.0	18M7W7D	--	0.1549			
n25_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1912.5	4M45F9W	--	0.2280	4M47G7D	--	0.2109
10	1855.0 ~ 1910.0	9M20F9W	--	0.2109	9M24G7D	--	0.2138
15	1857.5 ~ 1907.5	14M0F9W	--	0.2104	13M9G7D	--	0.2128
20	1860.0 ~ 1905.0	18M7F9W	--	0.2143	18M7G7D	-0.0136	0.2133
n25_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1912.5	4M46W7D	--	0.2070	4M46W7D	--	0.1570
10	1855.0 ~ 1910.0	9M21W7D	--	0.2193	9M21W7D	--	0.1476
15	1857.5 ~ 1907.5	14M0W7D	--	0.2223	14M0W7D	--	0.1549
20	1860.0 ~ 1905.0	18M7W7D	--	0.2270	18M8W7D	--	0.1560

n25_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	1852.5 ~ 1912.5	4M46W7D	--	0.1521			
10	1855.0 ~ 1910.0	9M20W7D	--	0.1486			
15	1857.5 ~ 1907.5	14M0W7D	--	0.1486			
20	1860.0 ~ 1905.0	18M7W7D	--	0.1549			
n7_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2502.5 ~ 2567.5	4M46F9W	--	0.1968	4M46G7D	--	0.1991
10	2505.0 ~ 2565.0	9M20F9W	--	0.2244	9M26G7D	--	0.2296
15	2507.5 ~ 2562.5	14M1F9W	--	0.2323	13M9G7D	--	0.2312
20	2510.0 ~ 2560.0	18M7F9W	--	0.2344	18M7G7D	-0.0076	0.2317
n7_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2502.5 ~ 2567.5	4M46W7D	--	0.1936	4M46W7D	--	0.1390
10	2505.0 ~ 2565.0	9M24W7D	--	0.2280	9M21W7D	--	0.1611
15	2507.5 ~ 2562.5	14M0W7D	--	0.2388	14M0W7D	--	0.1862
20	2510.0 ~ 2560.0	18M7W7D	--	0.2360	18M8W7D	--	0.1614
n7_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	2502.5 ~ 2567.5	4M46W7D	--	0.0877			
10	2505.0 ~ 2565.0	9M21W7D	--	0.1023			
15	2507.5 ~ 2562.5	14M0W7D	--	0.1067			
20	2510.0 ~ 2560.0	18M7W7D	--	0.1016			
n41_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
20	2506.0 ~ 2680.0	18M0F9W	--	0.4355	17M9G7D	--	0.4406
30	2511.0 ~ 2675.0	27M6F9W	--	0.4036	26M8G7D	--	0.3459
40	2516.0 ~ 2670.0	37M3F9W	--	0.4315	35M7G7D	--	0.4315
50	2521.0 ~ 2665.0	47M0F9W	--	0.3420	45M7G7D	--	0.3396
60	2526.0 ~ 2660.0	57M6F9W	--	0.4416	57M8G7D	--	0.4345
80	2536.0 ~ 2650.0	76M8F9W	--	0.4560	76M9G7D	--	0.4446
100	2546.0 ~ 2640.0	96M1F9W	--	0.4457	96M2G7D	-0.0106	0.4498

n41_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
20	2506.0 ~ 2680.0	18M8W7D	--	0.3475	18M0W7D	--	0.2393
30	2511.0 ~ 2675.0	26M8W7D	--	0.2754	26M8W7D	--	0.2333
40	2516.0 ~ 2670.0	35M7W7D	--	0.3404	35M7W7D	--	0.2600
50	2521.0 ~ 2665.0	45M8W7D	--	0.2858	45M7W7D	--	0.2158
60	2526.0 ~ 2660.0	57M8W7D	--	0.3475	57M7W7D	--	0.2495
80	2536.0 ~ 2650.0	76M8W7D	--	0.3565	77M1W7D	--	0.2512
100	2546.0 ~ 2640.0	96M2W7D	--	0.3532	96M1W7D	--	0.2518
n41_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
20	2506.0 ~ 2680.0	17M9W7D	--	0.1592			
30	2511.0 ~ 2675.0	26M8W7D	--	0.1233			
40	2516.0 ~ 2670.0	35M7W7D	--	0.1567			
50	2521.0 ~ 2665.0	45M7W7D	--	0.1245			
60	2526.0 ~ 2660.0	57M8W7D	--	0.1439			
80	2536.0 ~ 2650.0	76M9W7D	--	0.1574			
100	2546.0 ~ 2640.0	96M3W7D	--	0.1570			
n5_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	826.6 ~ 846.5	4M46F9W	--	0.2158	4M46G7D	--	0.2128
10	829.0 ~ 844.0	9M25F9W	--	0.2133	9M25G7D	--	0.2128
15	831.5 ~ 841.5	13M9F9W	--	0.2128	13M9G7D	--	0.2128
20	834.0 ~ 839.0	18M7F9W	--	0.2004	18M7G7D	-0.0121	0.1954
n5_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	826.6 ~ 846.5	4M47W7D	--	0.2084	4M45W7D	--	0.1567
10	829.0 ~ 844.0	9M22W7D	--	0.1936	9M22W7D	--	0.1600
15	831.5 ~ 841.5	14M0W7D	--	0.2084	14M0W7D	--	0.1622
20	834.0 ~ 839.0	18M7W7D	--	0.1968	18M7W7D	--	0.1371
n5_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	826.6 ~ 846.5	4M46W7D	--	0.0955			
10	829.0 ~ 844.0	9M21W7D	--	0.0951			
15	831.5 ~ 841.5	14M0W7D	--	0.0933			
20	834.0 ~ 839.0	18M6W7D	--	0.0865			

n12_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	701.5 ~ 713.5	4M47F9W	--	0.2328	4M46G7D	--	0.2317
10	704.0 ~ 711.0	9M18F9W	--	0.2296	9M25G7D	--	0.2339
15	706.5 ~ 709.5	14M0F9W	--	0.2312	14M0G7D	-0.0110	0.2350
n12_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	701.5 ~ 713.5	4M46W7D	--	0.2317	4M46W7D	--	0.1644
10	704.0 ~ 711.0	9M22W7D	--	0.2350	9M21W7D	--	0.1614
15	706.5 ~ 709.5	14M0W7D	--	0.2377	14M0W7D	--	0.1626
n12_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	701.5 ~ 713.5	4M46W7D	--	0.1014			
10	704.0 ~ 711.0	9M20W7D	--	0.0995			
15	706.5 ~ 709.5	14M0W7D	--	0.0995			
n66_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1712.5 ~ 1777.5	4M47F9W	--	0.2259	4M46G7D	--	0.2301
10	1715.0 ~ 1775.0	9M17F9W	--	0.2432	9M25G7D	--	0.2244
15	1717.5 ~ 1772.5	14M0F9W	--	0.2265	14M0G7D	--	0.2213
20	1720.0 ~ 1770.0	18M7F9W	--	0.2270	18M7G7D	-0.0094	0.2286
n66_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1712.5 ~ 1777.5	4M46W7D	--	0.2301	4M46W7D	--	0.2275
10	1715.0 ~ 1775.0	9M21W7D	--	0.2244	9M21W7D	--	0.1656
15	1717.5 ~ 1772.5	14M0W7D	--	0.2265	14M0W7D	--	0.1574
20	1720.0 ~ 1770.0	18M7W7D	--	0.2393	18M8W7D	--	0.1600
n66_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	1712.5 ~ 1777.5	4M46W7D	--	0.1035			
10	1715.0 ~ 1775.0	9M18W7D	--	0.1042			
15	1717.5 ~ 1772.5	14M0W7D	--	0.1009			
20	1720.0 ~ 1770.0	18M7W7D	--	0.1009			

n71_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	619.5 ~ 649.5	4M47F9W	--	0.2472	4M46G7D	--	0.2449
10	622.0 ~ 647.0	9M21F9W	--	0.2472	9M25G7D	--	0.2460
15	624.5 ~ 644.5	13M9F9W	--	0.2388	13M9G7D	--	0.2382
20	627.0 ~ 642.0	18M6F9W	--	0.2466	18M6G7D	-0.0089	0.2377
n71_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	619.5 ~ 649.5	4M46W7D	--	0.1897	4M45W7D	--	0.1832
10	622.0 ~ 647.0	9M22W7D	--	0.1845	9M21W7D	--	0.1803
15	624.5 ~ 644.5	13M9W7D	--	0.1888	14M0W7D	--	0.1679
20	627.0 ~ 642.0	18M7W7D	--	0.1897	18M7W7D	--	0.1730
n71_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	619.5 ~ 649.5	4M46W7D	--	0.1040			
10	622.0 ~ 647.0	9M20W7D	--	0.1072			
15	624.5 ~ 644.5	14M0W7D	--	0.1035			
20	627.0 ~ 642.0	18M5W7D	--	0.1072			
n77_SA		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
100	3750.0 ~ 3930.0	96M2F9W	-	0.4159	96M5G7D	-0.0103	0.4130
n77_SA		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
100	3750.0 ~ 3930.0	96M5W7D	--	0.3350	96M4W7D	--	0.2296
n77_SA		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
100	3750.0 ~ 3930.0	96M1W7D	--	0.1567			

n2_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1907.5	4M45F9W	--	0.1959	4M47G7D	--	0.1945
10	1855.0 ~ 1905.0	9M20F9W	--	0.1910	9M24G7D	--	0.1954
15	1857.5 ~ 1902.5	14M0F9W	--	0.2004	13M9G7D	--	0.2051
20	1860.0 ~ 1900.0	18M7F9W	--	0.1954	18M7G7D	-0.0136	0.1972
n2_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1907.5	4M46W7D	--	0.1977	4M46W7D	--	0.1422
10	1855.0 ~ 1905.0	9M21W7D	--	0.1936	9M21W7D	--	0.1455
15	1857.5 ~ 1902.5	14M0W7D	--	0.1977	14M0W7D	--	0.1483
20	1860.0 ~ 1900.0	18M7W7D	--	0.2018	18M8W7D	--	0.1476
n2_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	1852.5 ~ 1907.5	4M46W7D	--	0.0863			
10	1855.0 ~ 1905.0	9M20W7D	--	0.0899			
15	1857.5 ~ 1902.5	14M0W7D	--	0.0873			
20	1860.0 ~ 1900.0	18M7W7D	--	0.0906			
n25_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1912.5	4M45F9W	--	0.1959	4M47G7D	--	0.1945
10	1855.0 ~ 1910.0	9M20F9W	--	0.1910	9M24G7D	--	0.1954
15	1857.5 ~ 1907.5	14M0F9W	--	0.2004	13M9G7D	--	0.2051
20	1860.0 ~ 1905.0	18M7F9W	--	0.1954	18M7G7D	-0.0136	0.1972
n25_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1852.5 ~ 1912.5	4M46W7D	--	0.1977	4M46W7D	--	0.1422
10	1855.0 ~ 1910.0	9M21W7D	--	0.1936	9M21W7D	--	0.1455
15	1857.5 ~ 1907.5	14M0W7D	--	0.1977	14M0W7D	--	0.1483
20	1860.0 ~ 1905.0	18M7W7D	--	0.2018	18M8W7D	--	0.1476

n25_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	1852.5 ~ 1912.5	4M46W7D	--	0.0863			
10	1855.0 ~ 1910.0	9M20W7D	--	0.0899			
15	1857.5 ~ 1907.5	14M0W7D	--	0.0873			
20	1860.0 ~ 1905.0	18M7W7D	--	0.0906			
n7_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2502.5 ~ 2567.5	4M46F9W	--	0.1941	4M46G7D	--	0.1928
10	2505.0 ~ 2565.0	9M20F9W	--	0.1936	9M26G7D	--	0.1932
15	2507.5 ~ 2562.5	14M1F9W	--	0.2089	13M9G7D	--	0.2148
20	2510.0 ~ 2560.0	18M7F9W	--	0.2032	18M7G7D	-0.0076	0.1991
n7_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	2502.5 ~ 2567.5	4M46W7D	--	0.1950	4M46W7D	--	0.1462
10	2505.0 ~ 2565.0	9M24W7D	--	0.1982	9M21W7D	--	0.1390
15	2507.5 ~ 2562.5	14M0W7D	--	0.200	14M0W7D	--	0.1524
20	2510.0 ~ 2560.0	18M7W7D	--	0.2070	18M8W7D	--	0.1542
n7_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	2502.5 ~ 2567.5	4M46W7D	--	0.0873			
10	2505.0 ~ 2565.0	9M21W7D	--	0.0853			
15	2507.5 ~ 2562.5	14M0W7D	--	0.0891			
20	2510.0 ~ 2560.0	18M7W7D	--	0.0879			
n41_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
20	2506.0 ~ 2680.0	18M0F9W	--	0.2075	17M9G7D	--	0.2084
30	2511.0 ~ 2675.0	27M6F9W	--	0.2333	26M8G7D	--	0.2265
40	2516.0 ~ 2670.0	37M3F9W	--	0.2280	35M7G7D	--	0.2254
50	2521.0 ~ 2665.0	47M0F9W	--	0.2089	45M7G7D	--	0.2089
60	2526.0 ~ 2660.0	57M6F9W	--	0.2128	57M8G7D	--	0.2109
80	2536.0 ~ 2650.0	76M8F9W	--	0.2178	76M9G7D	--	0.2183
100	2546.0 ~ 2640.0	96M1F9W	--	0.2128	96M2G7D	-0.0106	0.2109

n41_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
20	2506.0 ~ 2680.0	18M8W7D	--	0.2109	18M0W7D	--	0.2061
30	2511.0 ~ 2675.0	26M8W7D	--	0.2388	26M8W7D	--	0.2259
40	2516.0 ~ 2670.0	35M7W7D	--	0.2307	35M7W7D	--	0.2228
50	2521.0 ~ 2665.0	45M8W7D	--	0.2109	45M7W7D	--	0.2080
60	2526.0 ~ 2660.0	57M8W7D	--	0.2128	57M7W7D	--	0.2128
80	2536.0 ~ 2650.0	76M8W7D	--	0.2203	77M1W7D	--	0.2148
100	2546.0 ~ 2640.0	96M2W7D	--	0.2203	96M1W7D	--	0.2138
n41_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
20	2506.0 ~ 2680.0	17M9W7D	--	0.1452			
30	2511.0 ~ 2675.0	26M8W7D	--	0.1578			
40	2516.0 ~ 2670.0	35M7W7D	--	0.1574			
50	2521.0 ~ 2665.0	45M7W7D	--	0.1472			
60	2526.0 ~ 2660.0	57M8W7D	--	0.2812			
80	2536.0 ~ 2650.0	76M9W7D	--	0.1549			
100	2546.0 ~ 2640.0	96M3W7D	--	0.1517			
n5_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	826.6 ~ 846.5	4M46F9W	--	0.2270	4M46G7D	--	0.2163
10	829.0 ~ 844.0	9M25F9W	--	0.2265	9M25G7D	--	0.2158
15	831.5 ~ 841.5	13M9F9W	--	0.2143	13M9G7D	--	0.2218
20	834.0 ~ 839.0	18M7F9W	--	0.2244	18M7G7D	-0.0121	0.2128
n5_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	826.6 ~ 846.5	4M47W7D	--	0.2460	4M45W7D	--	0.1782
10	829.0 ~ 844.0	9M22W7D	--	0.2570	9M22W7D	--	0.1660
15	831.5 ~ 841.5	14M0W7D	--	0.2259	14M0W7D	--	0.1656
20	834.0 ~ 839.0	18M7W7D	--	0.2360	18M7W7D	--	0.1538
n5_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	826.6 ~ 846.5	4M46W7D	--	0.0975			
10	829.0 ~ 844.0	9M21W7D	--	0.0973			
15	831.5 ~ 841.5	14M0W7D	--	0.0968			
20	834.0 ~ 839.0	18M6W7D	--	0.0968			

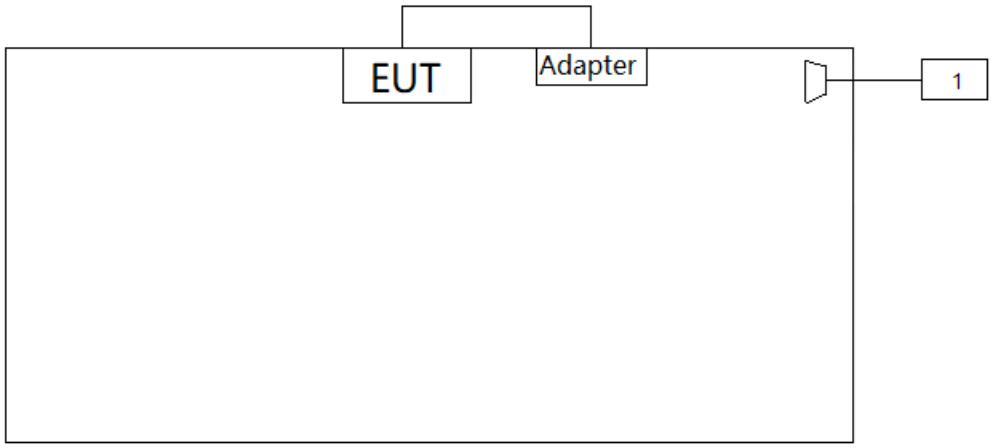
n12_EN-DC		QPSK			PI/2 BPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	701.5 ~ 713.5	4M46G7D	--	0.2239	4M47F9W	--	0.2291
10	704.0 ~ 711.0	9M25G7D	--	0.2218	9M18F9W	--	0.2218
15	706.5 ~ 709.5	14M0G7D	-0.0110	0.2280	14M0F9W	--	0.2254
n12_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	701.5 ~ 713.5	4M46W7D	--	0.2317	4M46W7D	--	0.1803
10	704.0 ~ 711.0	9M22W7D	--	0.2344	9M21W7D	--	0.1679
15	706.5 ~ 709.5	14M0W7D	--	0.2489	14M0W7D	--	0.1603
n12_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	701.5 ~ 713.5	4M46W7D	--	0.0984			
10	704.0 ~ 711.0	9M20W7D	--	0.0959			
15	706.5 ~ 709.5	14M0W7D	--	0.1050			
n66_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1712.5 ~ 1777.5	4M47F9W	--	0.1945	4M46G7D	--	0.1941
10	1715.0 ~ 1775.0	9M17F9W	--	0.1963	9M25G7D	--	0.1954
15	1717.5 ~ 1772.5	14M0F9W	--	0.1910	14M0G7D	--	0.2000
20	1720.0 ~ 1770.0	18M7F9W	--	0.1954	18M7G7D	-0.0094	0.2089
n66_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	1712.5 ~ 1777.5	4M46W7D	--	0.2042	4M46W7D	--	0.1667
10	1715.0 ~ 1775.0	9M21W7D	--	0.1888	9M21W7D	--	0.1409
15	1717.5 ~ 1772.5	14M0W7D	--	0.2014	14M0W7D	--	0.1500
20	1720.0 ~ 1770.0	18M7W7D	--	0.2037	18M8W7D	--	0.1496
n66_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	1712.5 ~ 1777.5	4M46W7D	--	0.0861			
10	1715.0 ~ 1775.0	9M18W7D	--	0.0927			
15	1717.5 ~ 1772.5	14M0W7D	--	0.0873			
20	1720.0 ~ 1770.0	18M7W7D	--	0.0899			

n71_EN-DC		PI/2 BPSK			QPSK		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	619.5 ~ 649.5	4M47F9W	--	0.2350	4M46G7D	--	0.2307
10	622.0 ~ 647.0	9M21F9W	--	0.2344	9M25G7D	--	0.2350
15	624.5 ~ 644.5	13M9F9W	--	0.2388	13M9G7D	--	0.2399
20	627.0 ~ 642.0	18M6F9W	--	0.2371	18M6G7D	-0.0089	0.2393
n71_EN-DC		16QAM			64QAM		
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)	Designator	Tolerance (ppm)	Max Power (W)
5	619.5 ~ 649.5	4M46W7D	--	0.2506	4M45W7D	--	0.1841
10	622.0 ~ 647.0	9M22W7D	--	0.2455	9M21W7D	--	0.1671
15	624.5 ~ 644.5	13M9W7D	--	0.2483	14M0W7D	--	0.1816
20	627.0 ~ 642.0	18M7W7D	--	0.2404	18M7W7D	--	0.1746
n71_EN-DC		256QAM					
BW (MHz)	Feq. (MHz)	Designator	Tolerance (ppm)	Max Power (W)			
5	619.5 ~ 649.5	4M46W7D	--	0.1030			
10	622.0 ~ 647.0	9M20W7D	--	0.1035			
15	624.5 ~ 644.5	14M0W7D	--	0.1064			
20	627.0 ~ 642.0	18M5W7D	--	0.1050			

2.8. Test Mode

Test Item	Test Channel	Channel Bandwidth (MHz)	Modulation Type	RB#
n2, n5, n7, n25, n66, n71				
Output Power & EIRP	L, M, H	5, 10, 15, 20	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1/Half/Full RB
Peak to Average Ratio	L, M, H	20	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Emission Bandwidth	L, M, H	5, 10, 15, 20	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Frequency Stability	M	20	QPSK	Full RB
Band Edge Measurements	L, H	5, 10, 15, 20	QPSK	1 RB/Full RB
Conducted Spurious Emissions	L, M, H	5, 10, 15, 20	QPSK	1 RB
Radiated Spurious Emissions	L, M, H	5	QPSK	1 RB
n12				
Output Power & EIRP	L, M, H	5, 10, 15	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1/Half/Full RB
Peak to Average Ratio	L, M, H	15	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Emission Bandwidth	L, M, H	5, 10, 15	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Frequency Stability	M	15	QPSK	Full RB
Band Edge Measurements	L, H	5, 10, 15	QPSK	1 RB/Full RB
Conducted Spurious Emissions	L, M, H	5, 10, 15	QPSK	1 RB
Radiated Spurious Emissions	L, M, H	5	QPSK	1 RB
n41				
Output Power & EIRP	L, M, H	20, 30, 40, 50, 60, 80, 100	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1/Half/Full RB
Peak to Average Ratio	L, M, H	100	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Emission Bandwidth	L, M, H	20, 30, 40, 50, 60, 80, 100	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Frequency Stability	M	100	QPSK	Full RB
Band Edge Measurements	L, H	20, 30, 40, 50, 60, 80, 100	QPSK	1 RB/Full RB
Conducted Spurious Emissions	L, M, H	20, 30, 40, 50, 60, 80, 100	QPSK	1 RB
Radiated Spurious Emissions	L, M, H	20	QPSK	1 RB
n77				
Output Power & EIRP	L, M, H	100	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1/Half/Full RB
Peak to Average Ratio	L, M, H	100	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Emission Bandwidth	L, M, H	100	QPSK, 16QAM, 64QAM, 256QAM	Full RB
Frequency Stability	M	100	QPSK	Full RB
Band Edge Measurements	L, H	100	QPSK	1 RB/Full RB
Conducted Spurious Emissions	L, M, H	100	QPSK	1 RB
Radiated Spurious Emissions	L, M, H	100	QPSK	1 RB

2.9. Configuration of Tested System



Product		Manufacturer	Model No.
1	UXM 5G Wireless Test Platform	Keysight	E7515B

2.10. Test Environment Condition

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

3. TEST EQUIPMENT CALIBRATION DATE

Radiated Emission - AC1 (WZ)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2021/08/01
UXM 5G Wireless Test Platform	Keysight	E7515B	MRTSUE06869	1 year	2021/05/25
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	2021/03/31
Broad Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2021/10/13
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2021/02/23
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
EMC Cable	HUBER+SUHNER	SF126	MRTSUE06883	1 year	2021/04/11
Thermohygrometer	Testo	608-H1	MRTSUE06403	1 year	2021/08/08
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2021/04/30

Radiated Emission - AC2 (WZ)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Keysight	N9038A	MRTSUE06125	1 year	2021/08/01
UXM 5G Wireless Test Platform	Keysight	E7515B	MRTSUE06869	1 year	2021/05/25
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	2021/02/23
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2021/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
EMC Cable	HUBER+SUHNER	SF126	MRTSUE06733	1 year	2021/04/11
Temperature/Humidity Meter	Minggao	ETH529	MRTSUE06170	1 year	2020/12/15
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2021/04/30

Conducted Test Equipment - SR6 (WZ)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2021/04/15
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06452	1 year	2021/07/11
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2021/04/15
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2021/11/18
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A
True RMS Clamp Meter	Fluke	319	MRTSUE06080	1 year	2021/05/06
Directional Coupler	Agilent	87301D	MRTSUE06082	1 year	2021/03/25
Attenuator	MVE	6dB	MRTSUE06534	1 year	2020/12/12
Attenuator	MVE	10dB	MRTSUE06543	1 year	2020/12/12
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

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 (n5)	< 7 Watts Max ERP		Pass	Section 5.4
27.50(c)(10)	Equivalent Radiated Power (n12, n71)	< 3 Watts Max ERP			
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (n2/25, n7, n41)	< 2 Watts Max EIRP			
27.50(d)(4) 27.50(j)(3)	Equivalent Isotropic Radiated Power (n66, n77)	< 1 Watts Max EIRP			
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(g),(h),(l)(2)	Band Edge (n2/25, n66, n5, n12, n71, n77)	< 43 + 10log10 (P[Watts])		Pass	Section 5.5, 5.7
27.53(m)	Band Edge (n7, n41)	27.53(m)(4)			
2.1051, 22.917(a) 24.238(a), 27.53(g),(h),(l)(2)	Spurious Emission (n2/25, n66, n5, n12, n71, n77)	< 43 + 10log10 (P[Watts])			
2.1051, 27.53(m)	Spurious Emission (n7, n41)	< 55 + 10log10 (P[Watts])			
2.1053, 22.917(a) 24.238(a), 27.53(g),(h),(l)(2)	Spurious Emissions (n2/25, n66, n5, n12, n71, n77)	< 43 + 10log10 (P[Watts])	Radiated	Pass	Section 5.8
2.1053, 27.53(m)	Spurious Emissions (n7, n41)	27.53(m)(4)			

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 & Radiated Spurious Emission were presented worst-case in the test report.

5.2. Occupied Bandwidth

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.

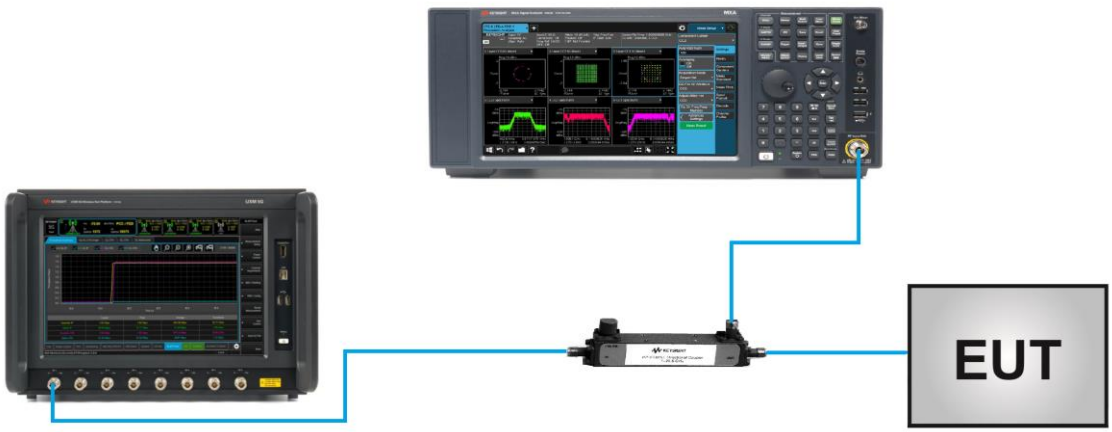
5.2.2.Test Procedure

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 ≥ 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.

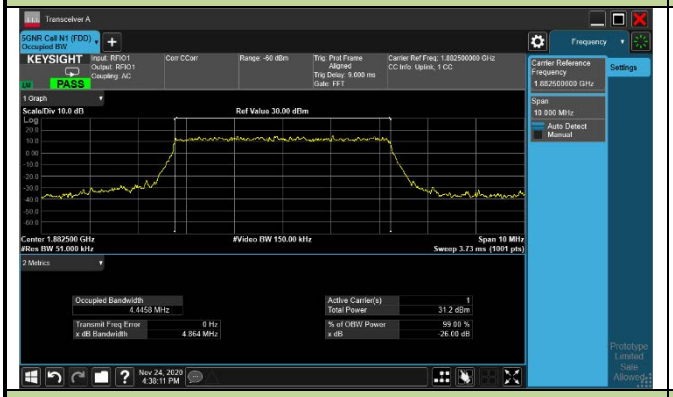
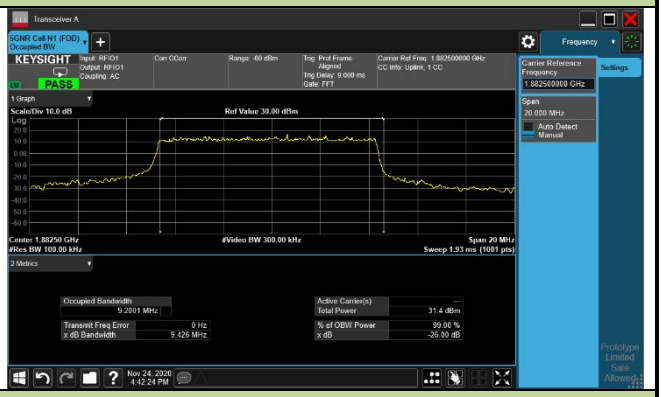
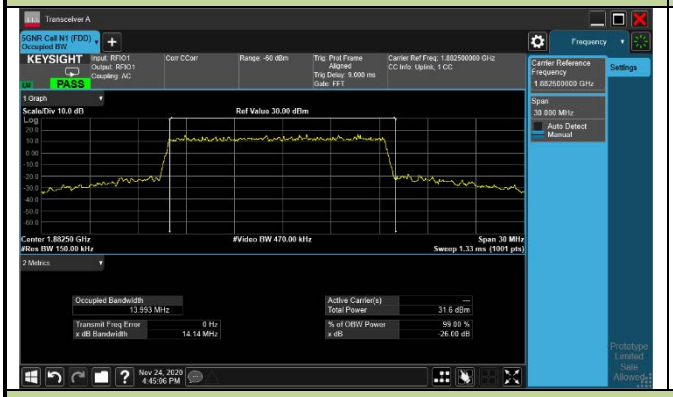
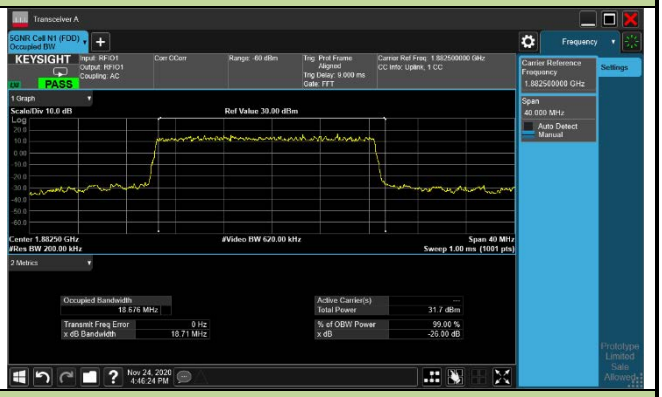
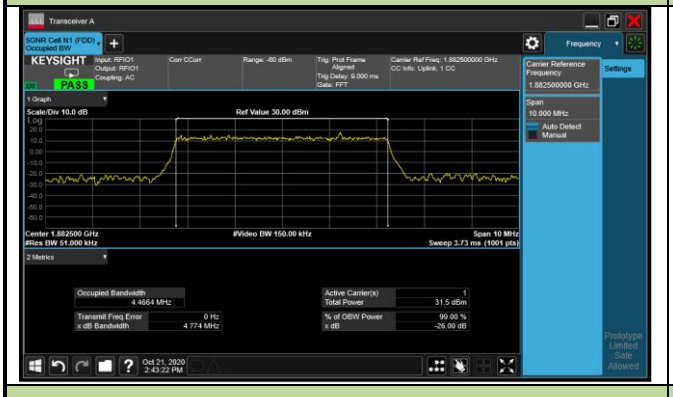
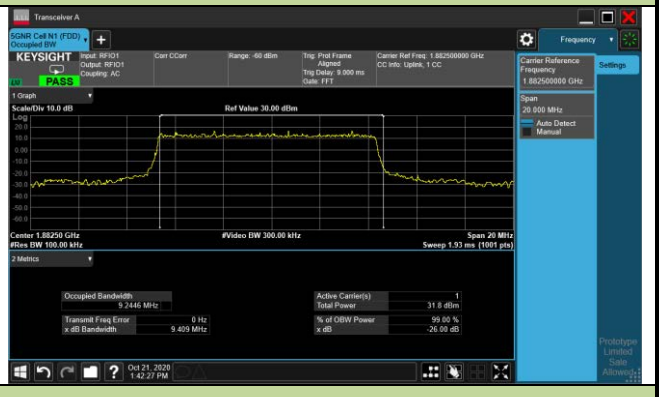
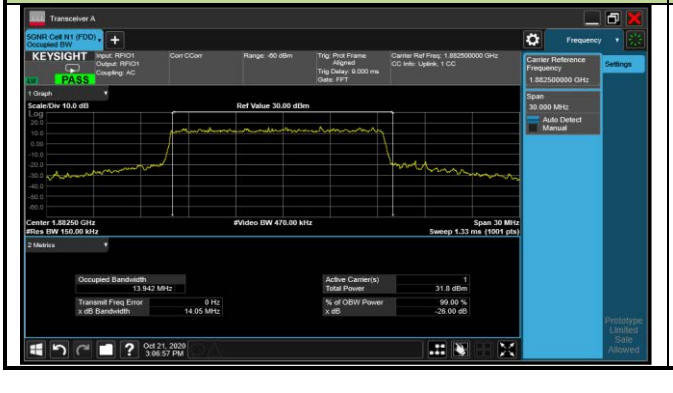
5.2.4.Test Setup

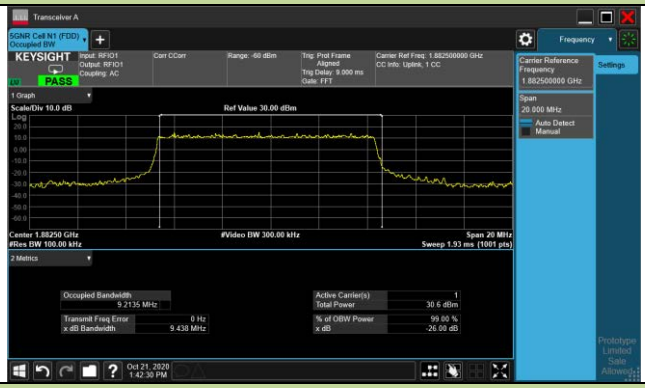
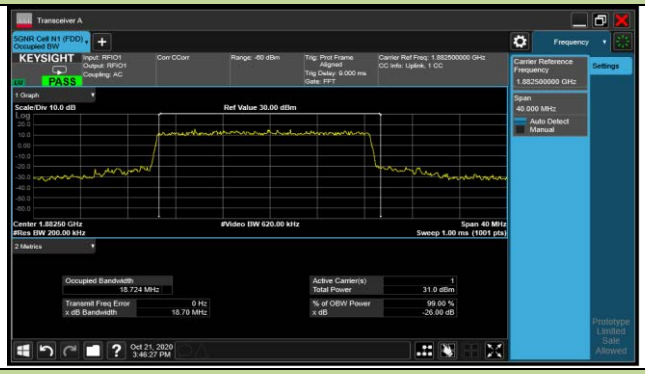


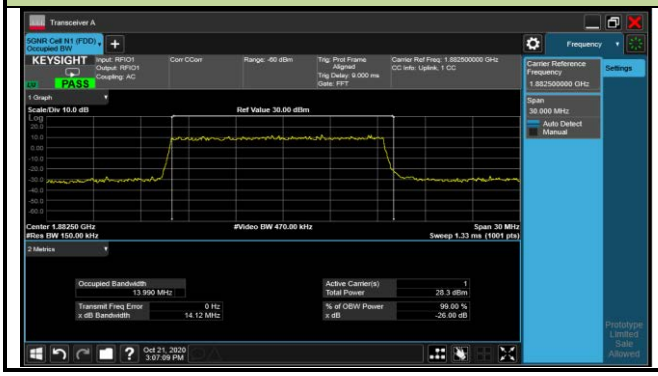
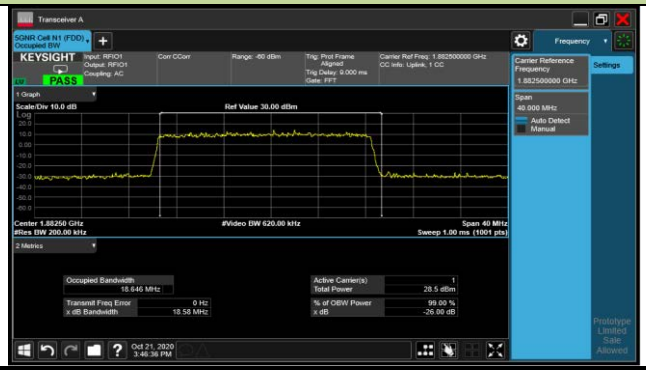
5.2.5.Test Result

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/10/21 ~ 2020/11/24
Test Band	n2/25		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
PI/2 BPSK			
376500	1882.5	5	4.45
376500	1882.5	10	9.20
376500	1882.5	15	13.99
376500	1882.5	20	18.68
QPSK			
376500	1882.5	5	4.47
376500	1882.5	10	9.24
376500	1882.5	15	13.94
376500	1882.5	20	18.66
16QAM			
376500	1882.5	5	4.46
376500	1882.5	10	9.21
376500	1882.5	15	13.98
376500	1882.5	20	18.72
64QAM			
376500	1882.5	5	4.46
376500	1882.5	10	9.21
376500	1882.5	15	13.95
376500	1882.5	20	18.75
256QAM			
376500	1882.5	5	4.46
376500	1882.5	10	9.20
376500	1882.5	15	13.99
376500	1882.5	20	18.65

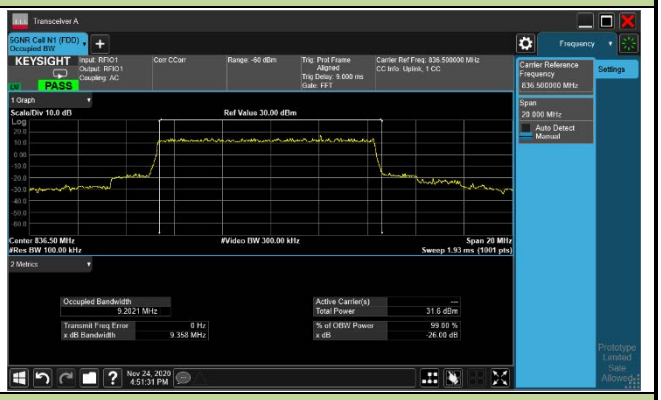
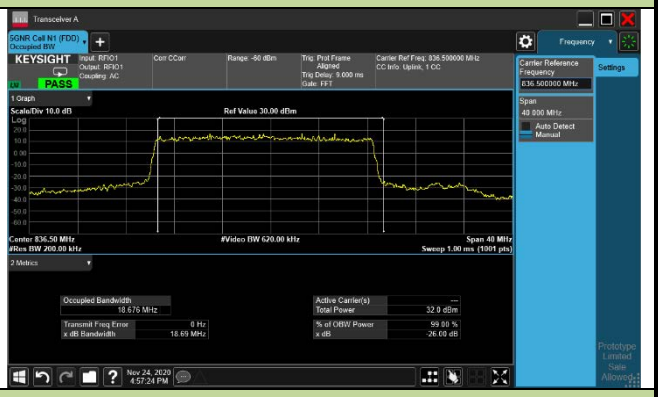
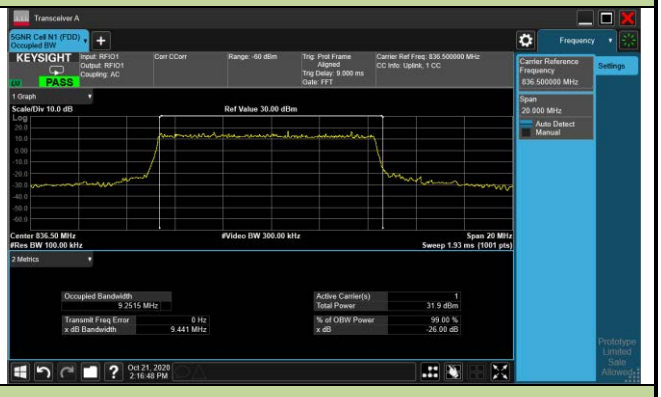
99% Bandwidth - PI/2 BPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	
99% Bandwidth - QPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

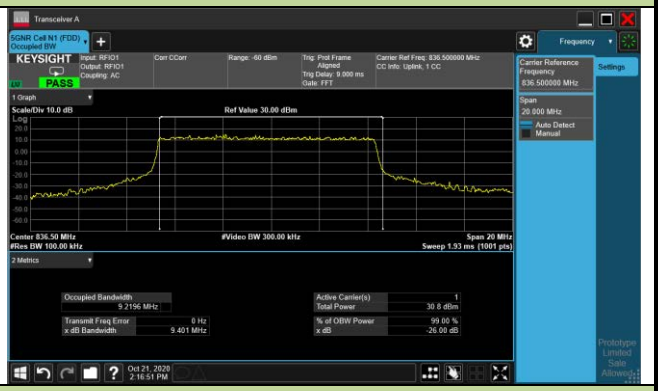
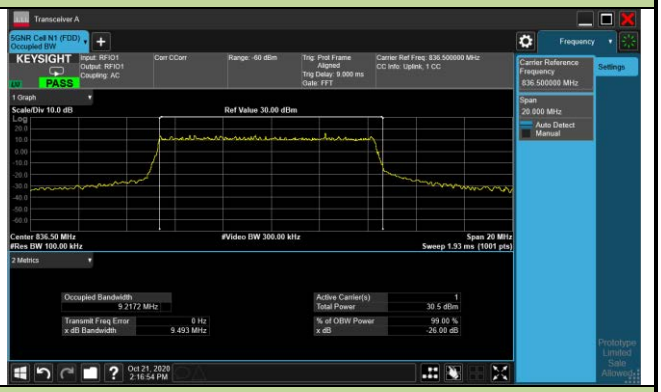
99% Bandwidth - 16QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	
99% Bandwidth - 64QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

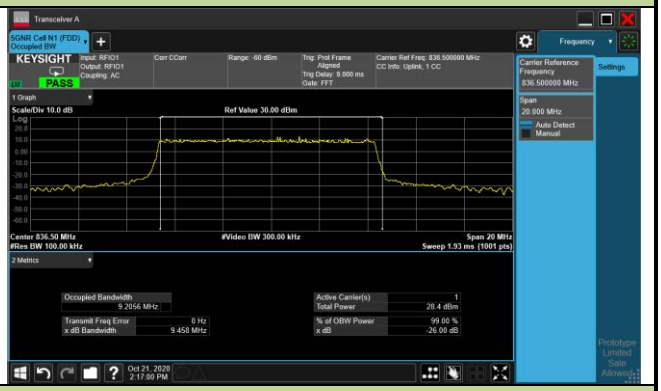
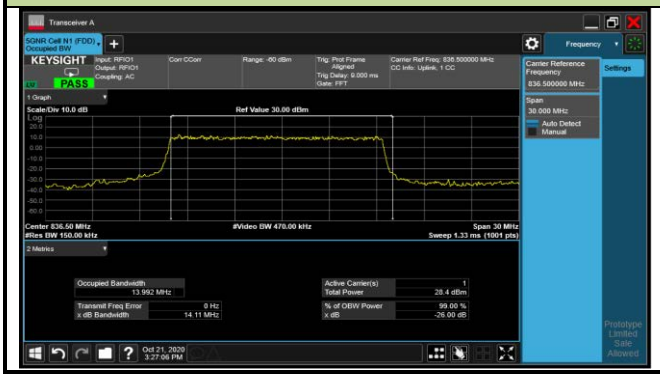
99% Bandwidth - 256QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/10/21
Test Band	n5		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
PI/2 BPSK			
167300	836.5	5	4.46
167300	836.5	10	9.20
167300	836.5	15	13.99
167300	836.5	20	18.68
QPSK			
167300	836.5	5	4.46
167300	836.5	10	9.25
167300	836.5	15	13.94
167300	836.5	20	18.65
16QAM			
167300	836.5	5	4.47
167300	836.5	10	9.22
167300	836.5	15	13.98
167300	836.5	20	18.73
64QAM			
167300	836.5	5	4.45
167300	836.5	10	9.22
167300	836.5	15	14.00
167300	836.5	20	18.74
256QAM			
167300	836.5	5	4.46
167300	836.5	10	9.21
167300	836.5	15	13.99
167300	836.5	20	18.62

99% Bandwidth - PI/2 BPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	
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
	
99% Bandwidth - 64QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

99% Bandwidth - 256QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

Product	5G Sub-6 GHz M.2 Module	Test Site	WZ-SR6
Test Engineer	Eric Xu	Test Date	2020/10/21
Test Band	n7		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
PI/2 BPSK			
507000	2535.0	5	4.46
507000	2535.0	10	9.20
507000	2535.0	15	14.01
507000	2535.0	20	18.73
QPSK			
507000	2535.0	5	4.46
507000	2535.0	10	9.26
507000	2535.0	15	13.95
507000	2535.0	20	18.73
16QAM			
507000	2535.0	5	4.46
507000	2535.0	10	9.24
507000	2535.0	15	13.99
507000	2535.0	20	18.74
64QAM			
507000	2535.0	5	4.46
507000	2535.0	10	9.21
507000	2535.0	15	13.99
507000	2535.0	20	18.76
256QAM			
507000	2535.0	5	4.46
507000	2535.0	10	9.21
507000	2535.0	15	14.00
507000	2535.0	20	18.72