

## RF MEASUREMENT REPORT

---

**FCC ID:** XMR2023RG520FNA  
**Applicant:** Quectel Wireless Solutions Co., Ltd  
**Product:** 5G Sub-6 GHz LGA Module  
**Model No.:** RG520F-NA  
**Brand Name:** Quectel  
**FCC Rule Part(s):** Part 90 Subpart R  
**Test Procedure(s):** ANSI C63.26: 2015  
**Result:** Complies  
**Received Date:** 2023-05-11  
**Test Date:** 2023-05-13 ~ 2023-06-06

**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
2305RSU024-U3	Rev. 01	Initial Report	2023-07-01	Valid

Note: RG520F-NA and RG520N-NA share the same chipset baseline, same software and hardware design, support same bands, the difference is on software enable or disable modem features like some ENDC/CA combs. This application for certification is leveraging the data reuse procedures from KDB 484596 based on reference FCC ID “XMR2023RG520NNA” to cover this variant and assessing the output power, band edge, radiated spurious emissions.

Test Item	Reuse Data Description
Occupied Bandwidth	Refer to FCC ID: XMR2023RG520NNA
Frequency Stability	Refer to FCC ID: XMR2023RG520NNA
Equivalent (Isotropic) Radiated Power	Make Spot Check
Peak to Average Ratio	Refer to FCC ID: XMR2023RG520NNA
Band Edge	Make Spot Check
Spurious Emission	Make Spot Check
<p>Remark: This application reused the following bands test data of the original FCC ID: XMR2023RG520NNA</p> <p>LTE Band: Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 38, 41, 48, 66, 71</p> <p>NR Bands: n2, n5, n7, n12, n13, n14, n25, n26, n30, n38, n41, n48, n66, n71, n77, n78</p>	

## CONTENTS

Description	Page
<b>1. General Information.....</b>	<b>5</b>
1.1. Applicant .....	5
1.2. Manufacturer .....	5
1.3. Testing Facility .....	5
1.4. Product Information .....	6
1.5. Radio Specification under Test.....	6
1.6. Description of Available Antennas .....	7
1.7. Test Methodology.....	7
1.8. Device Capabilities .....	8
<b>2. Test Configuration .....</b>	<b>9</b>
2.1. Test System Connection Diagram .....	9
2.2. Test Environment Condition .....	9
<b>3. Measuring Instrument .....</b>	<b>10</b>
<b>4. Decision Rules and Measurement Uncertainty .....</b>	<b>12</b>
4.1. Decision Rules.....	12
4.2. Measurement Uncertainty .....	12
<b>5. Test Result .....</b>	<b>13</b>
5.1. Summary.....	13
5.2. Equivalent Isotropically Radiated Power Measurement .....	14
5.2.1. Test Limit .....	14
5.2.2. Test Procedure .....	14
5.2.3. Test Setting.....	14
5.2.4. Test Setup .....	14
5.2.5. Test Result.....	15
5.3. Band Edge Measurement .....	16
5.3.1. Test Limit .....	16
5.3.2. Test Procedure .....	16
5.3.3. Test Setting.....	16
5.3.4. Test Setup .....	17
5.3.5. Test Result.....	17
5.4. Emission Mask Measurement .....	18
5.4.1. Test Limit .....	18
5.4.2. Test Procedure .....	18
5.4.3. Test Setting.....	18

5.4.4. Test Setup .....	19
5.4.5. Test Result.....	19
5.5. Radiated Spurious Emissions Measurement .....	20
5.5.1. Test Limit .....	20
5.5.2. Test Procedure .....	20
5.5.3. Test Setting.....	20
5.5.4. Test Setup .....	21
5.5.5. Test Result.....	21
<b>Appendix A - Test Result.....</b>	<b>22</b>
A.1 Equivalent Isotropically Radiated Power Test Result .....	22
A.2 Band Edge Test Result .....	23
A.3 Emission Mask Test Result.....	25
A.4 Radiated Spurious Emissions Test Result .....	28
<b>Appendix B - Test Setup Photograph .....</b>	<b>29</b>
<b>Appendix C - EUT Photograph.....</b>	<b>30</b>

## 1. General Information

### 1.1. Applicant

Quectel Wireless Solutions Co., Ltd

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

### 1.2. Manufacturer

Quectel Wireless Solutions Co., Ltd

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

### 1.3. Testing Facility

<input checked="" type="checkbox"/>	<b>Test Site – MRT Suzhou Laboratory</b> <b>Laboratory Location (Suzhou - Wuzhong)</b> D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China <b>Laboratory Location (Suzhou - SIP)</b> 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China <b>Laboratory Accreditations</b> A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001 VCCI: <input type="checkbox"/> R-20025 <input type="checkbox"/> G-20034 <input type="checkbox"/> C-20020 <input type="checkbox"/> T-20020 <input type="checkbox"/> R-20141 <input type="checkbox"/> G-20134 <input type="checkbox"/> C-20103 <input type="checkbox"/> T-20104
<input type="checkbox"/>	<b>Test Site – MRT Shenzhen Laboratory</b> <b>Laboratory Location (Shenzhen)</b> 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China <b>Laboratory Accreditations</b> A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105
<input type="checkbox"/>	<b>Test Site – MRT Taiwan Laboratory</b> <b>Laboratory Location (Taiwan)</b> No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) <b>Laboratory Accreditations</b> TAF: L3261-190725 FCC: 291082, TW3261 ISED: TW3261

#### 1.4. Product Information

Product Name	5G Sub-6 GHz LGA Module
Model No.	RG520F-NA
Brand Name	Quectel
IMEI	Conducted Measurement 1: 864766050012138 Conducted Measurement 2: 864766050012534 Radiated Measurement 1: 864766050012070 Radiated Measurement 2: 864766050012716
E-UTRA Band	Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 38, 41, 42, 43, 48, 66, 71
5G NR Band	n2, n5, n7, n12, n13, n14, n25, n26, n30, n38, n41, n48, n66, n71, n77, n78
5G NR NSA Band	n2, n5, n7, n12, n13, n14, n25, n26, n30, n38, n41, n48, n66, n71, n77, n78
Operating Temperature	-30 ~ 75 °C
Power Type	3.3 ~ 4.4Vdc, typical 3.8Vdc
Remark: 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.	

#### 1.5. Radio Specification under Test

Single Band	n14
FDD T <sub>x</sub> Frequency Range	788 ~ 798 MHz
FDD R <sub>x</sub> Frequency Range	758 ~ 768 MHz
Support Bandwidth	5, 10MHz
SCS for NR cell	FDD Band: 15kHz
Modulation	UL up to 256QAM, DL up to 256QAM

### 1.6. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
n2	1850 ~ 1910	Dipole	1.37
n5	824 ~ 849		1.18
n7	2500 ~ 2570		2.07
n12	699 ~ 716		1.18
n13	777 ~ 787		1.18
n14	788 ~ 798		1.18
n25	1850 ~ 1915		1.37
n26	814-849		1.18
n30	2305 ~ 2315		1.11
n38	2570 ~ 2620		2.07
n41	2496 ~ 2690		2.07
n66	1710 ~ 1780		1.37
n71	663 ~ 698		1.18
n77	3450 ~ 3550		0.58
	3700 ~ 3980		
n78	3450 ~ 3550		0.58
	3700 ~ 3980		

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

### 1.7. Test Methodology

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

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

### **1.8. Device Capabilities**

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

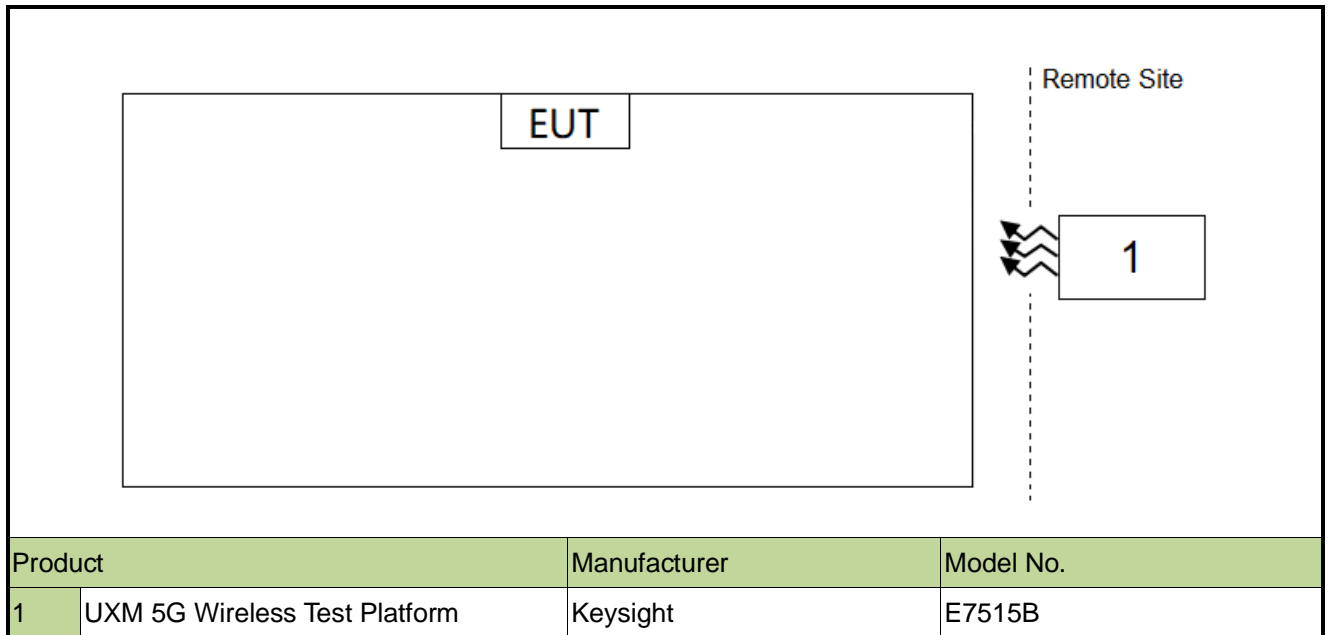
The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

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 modulations.



## 2. Test Configuration

### 2.1. Test System Connection Diagram



### 2.2. Test Environment Condition

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

### 3. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2023-11-25	SIP-SR1
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2024-05-23	SIP-SR1
Signal Analyzer	Keysight	N9010B	MRTSUE06603	1 year	2023-10-25	SIP-SR1
Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2023-11-07	SIP-SR1
Communication Tester	R&S	CMU 200	MRTSUE06009	1 year	2023-08-23	SIP-SR1
Communication Tester	R&S	CMW500	MRTSUE06243	1 year	2023-10-08	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06453	1 year	2024-05-23	SIP-SR1
Thermohygrometer	testo	622	MRTSUE06629	1 year	2024-01-03	SIP-SR1
5G Wireless Test Platform	Keysight	E7515B	MRTSUE06903	1 year	2023-10-25	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06904	1 year	2023-10-25	SIP-SR1
DC POWER MODULE	Keysight	N6743B	MRTSUE06905	N/A	N/A	SIP-SR1
DC POWER MODULE	Keysight	N6743B	MRTSUE06906	N/A	N/A	SIP-SR1
Low-Profile Modular Power System Mainframe	Keysight	N6700C	MRTSUE06907	N/A	N/A	SIP-SR1
FR1 Switching Unit	Keysight	C8880A	MRTSUE06908	N/A	N/A	SIP-SR1
Signal Analyzer	Keysight	N9021B	MRTSUE06915	1 year	2023-12-28	SIP-SR1
Temperature Chamber	BAOYT	BYG-80CL	MRTSUE06932	1 year	2024-02-12	SIP-SR1
Shielding Room	MIX-BEP	SIP-SR1	MRTSUE06948	N/A	N/A	SIP-SR1
Millimeter-Wave Transceiver for 5G	Keysight	M1740A	MRTSUE06954	3 years	2024-06-02	SIP-SR1
Millimeter-Wave Transceiver for 5G	Keysight	M1740A	MRTSUE06955	3 years	2024-06-02	SIP-SR1
5G Wireless Test Platform	Keysight	E7515B	MRTSUE06956	1 year	2024-05-23	SIP-SR1
Common Interface Unit	Keysight	E7770A	MRTSUE06957	N/A	N/A	SIP-SR1
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2024-06-07	SIP-AC3
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2023-12-28	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2024-05-23	SIP-AC3
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06598	1 year	2023-11-05	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE06603	1 year	2023-10-25	SIP-AC3
Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2023-11-07	SIP-AC3
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2023-07-30	SIP-AC3
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2024-05-23	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2023-11-01	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06622	1 year	2023-11-27	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2024-01-12	SIP-AC3

Preamplifier	EMCI	EMC001330	MRTSUE06643	1 year	2024-01-12	SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2023-08-16	SIP-AC3
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2023-12-22	SIP-AC3
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2024-02-26	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2023-11-25	SIP-AC3
Directional Coupler	ar	DC7200A	MRTSUE06147	N/A	N/A	SIP
Directional Coupler	ar	DC6080A	MRTSUE06148	N/A	N/A	SIP
Directional Coupler	narda	4226-10	MRTSUE06564	1 year	2023-10-10	SIP
Directional Coupler	PULSAR	CS10-23-436/20	MRTSUE06846	1 year	2024-06-01	SIP
Directional Coupler	PULSAR	CS10-23-436/20	MRTSUE06848	1 year	2024-06-01	SIP
Attenuator	MVE	MVE2213	MRTSUE11055	1 year	2024-06-08	SIP
Attenuator	MVE	MVE2213	MRTSUE11056	1 year	2024-06-08	SIP
Attenuator	MVE	MVE2213	MRTSUE11057	1 year	2024-06-08	SIP
Attenuator	MVE	MVE2213	MRTSUE11058	1 year	2024-06-08	SIP
Attenuator	MVE	MVE2213	MRTSUE11059	1 year	2024-06-08	SIP
Attenuator	MVE	MVE2213	MRTSUE11060	1 year	2024-06-08	SIP

Software	Version	Function
EMI Software	V3.0.0	EMI Test Software

## 4. Decision Rules and Measurement Uncertainty

### 4.1. Decision Rules

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

### 4.2. Measurement Uncertainty

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

Radiated Spurious Emissions	
Measurement Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):	
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% ( $U=2U_c(y)$ ):	
0.78dB	
Output Power	
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):	
1.13dB	

## 5. Test Result

### 5.1. Summary

FCC Part Section(s)	Test Description	Test Condition	Verdict
90.542(a)(7)	Equivalent Radiated Power	Conducted	Pass
2.1051, 90.543(e)(2)(3)	Band Edge		Pass
2.1051, 90.210(n)	Emission Mask		
2.1053, 90.543(e)(3), 90.543(f)	Spurious Emissions	Radiated	Pass

#### Notes:

- 1) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 2) The worst-case emission of modulation was selected. Therefore, the Channel Band Edge, Radiated Spurious Emission were presented worst-case in the test report.
- 3) For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

## 5.2. Equivalent Isotropically Radiated Power Measurement

### 5.2.1. Test Limit

Control stations and mobile stations transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 30 watts ERP.

### 5.2.2. Test Procedure

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:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T$$

where

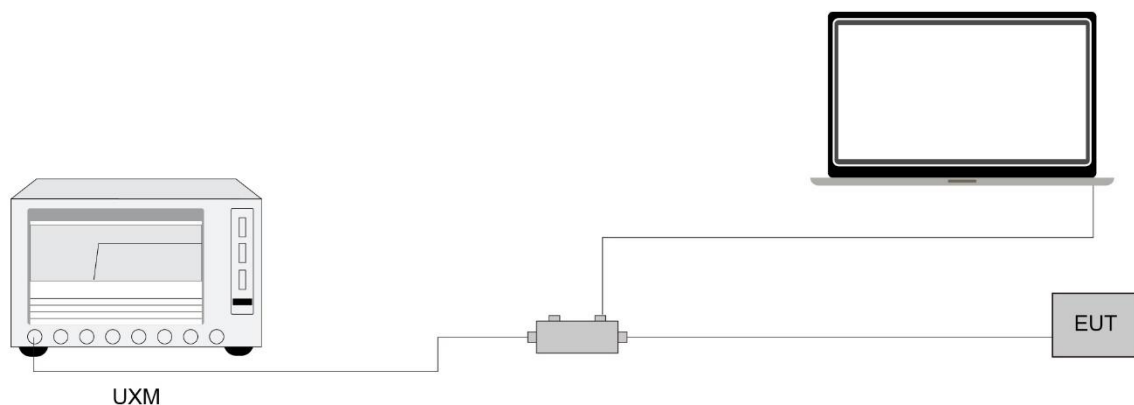
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as  $P_{\text{Meas}}$ , e.g., dBm or dBW)

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

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

$$\text{ERP} = \text{EIRP} - 2.15$$

### 5.2.4. Test Setup



#### **5.2.5. Test Result**

Refer to Appendix A.1.

### **5.3. Band Edge Measurement**

#### **5.3.1. Test Limit**

For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations;
- (2) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least  $43 + 10 \log (P)$  dB.

#### **5.3.2. Test Procedure**

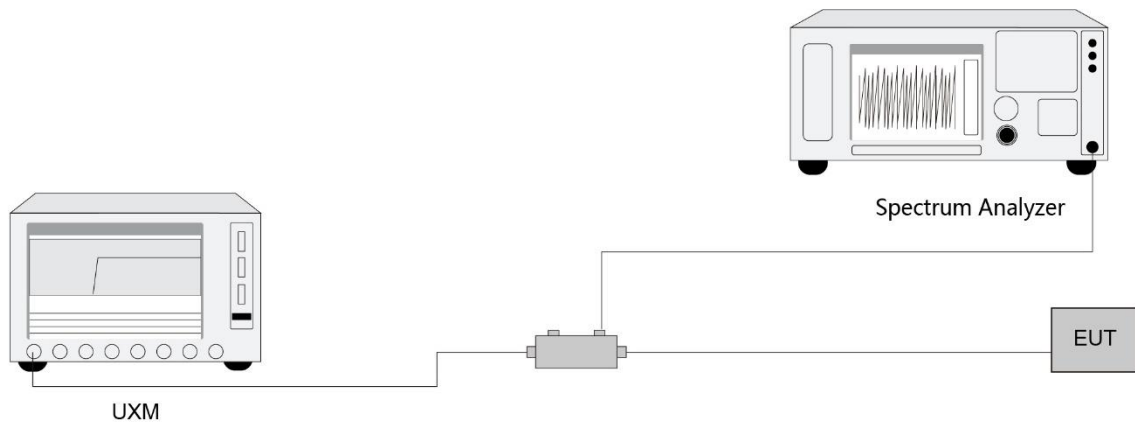
ANSI C63.26-2015 - Section 5.7

#### **5.3.3. Test Setting**

1. Set the analyzer frequency to low or high channel
2.  $RBW \geq$  The nominal RBW shall be in the range of 1% of the anticipated OBW (in the 1MHz band immediately outside and adjacent to the band edge). For improvement of the accuracy in the measurement of the average power of a noise-like emission, a RBW narrower than the specified reference bandwidth can be used (generally limited to no less than 1% of the OBW), provided that a subsequent integration is performed over the full required measurement bandwidth. This integration should be performed using the spectrum analyzer's band power functions.
3.  $VBW \geq 3 \cdot RBW$
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

Refer to Appendix A.2.

## **5.4. Emission Mask Measurement**

### **5.4.1. Test Limit**

Emission Mask B. for transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

- (1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.
- (2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.
- (3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least  $43 + 10 \log (P)$  dB.

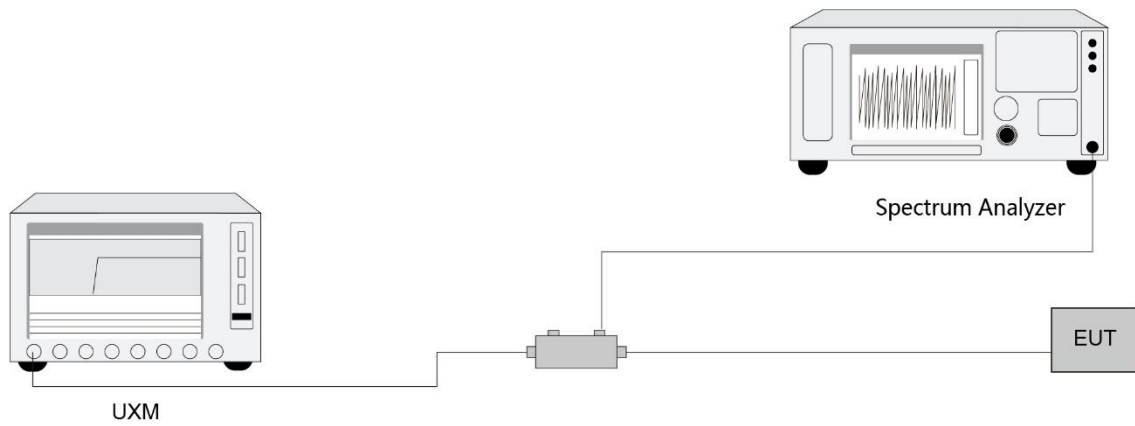
### **5.4.2. Test Procedure**

ANSI C63.26-2015 - Section 5.7

### **5.4.3. Test Setting**

1. Set the analyzer frequency to low or high channel
2.  $RBW \geq$  The nominal RBW shall be in the range of 1% of the anticipated OBW (in the 1MHz band immediately outside and adjacent to the band edge). For improvement of the accuracy in the measurement of the average power of a noise-like emission, a RBW narrower than the specified reference bandwidth can be used (generally limited to no less than 1% of the OBW), provided that a subsequent integration is performed over the full required measurement bandwidth. This integration should be performed using the spectrum analyzer's band power functions.
3.  $VBW \geq 3 \cdot RBW$
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.

#### 5.4.4. Test Setup



#### 5.4.5. Test Result

Refer to Appendix A.3.

## **5.5. Radiated Spurious Emissions Measurement**

### **5.5.1. Test Limit**

Out of band emissions: 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. The emission limit equal to -13dBm.

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$ ; where D is the measurement distance in meters. The emission limit equal to 82.3dB $\mu$ V/m or 55.3dB $\mu$ V/m.

### **5.5.2. Test Procedure**

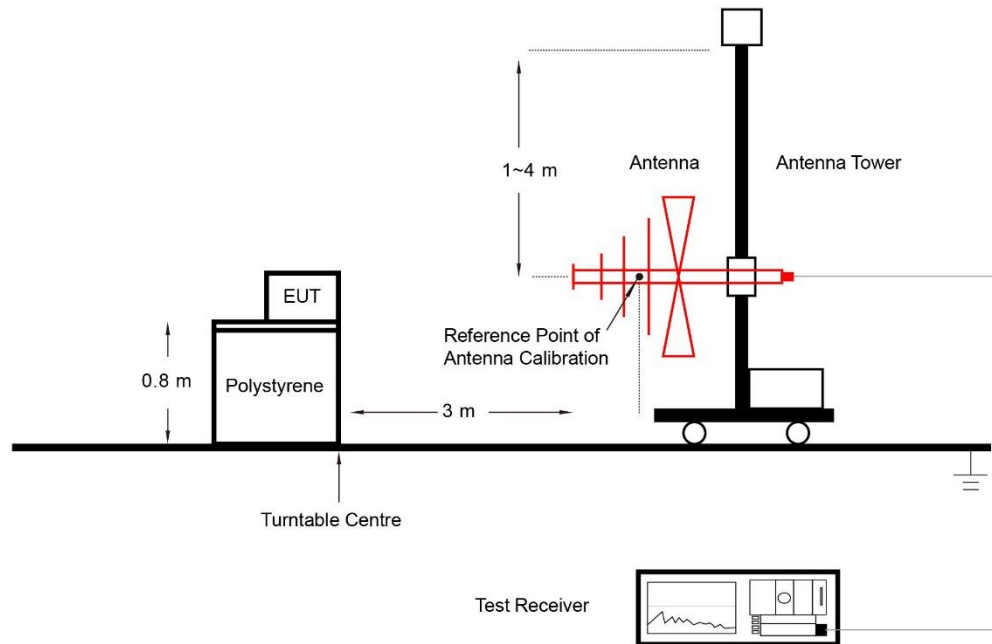
ANSI C63.26-2015 - Section 5.2.7 & 5.5

### **5.5.3. Test Setting**

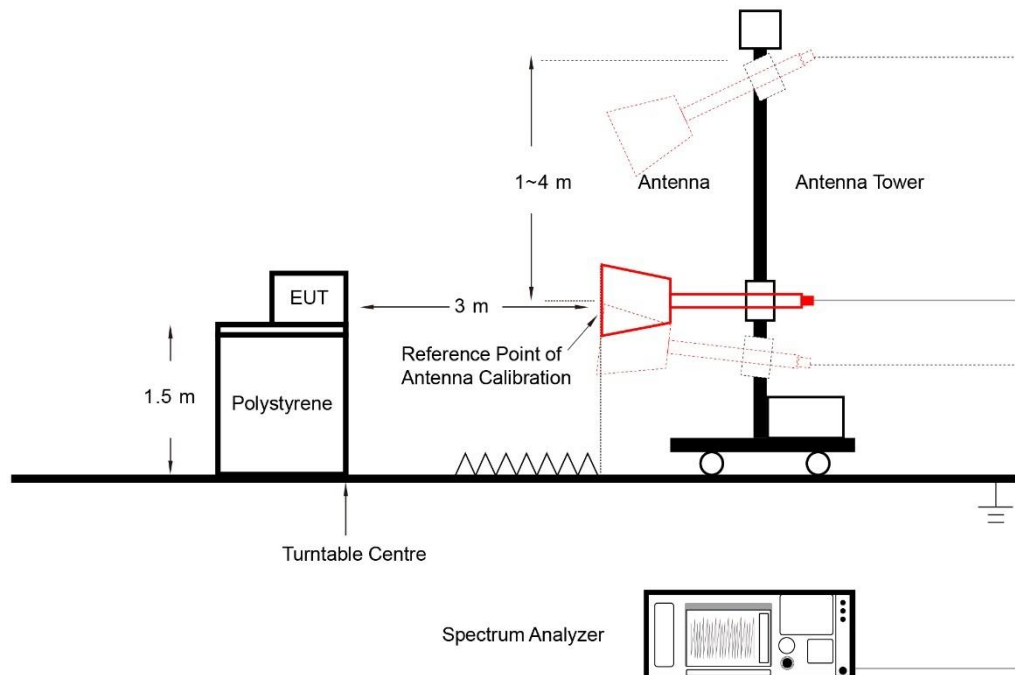
1. RBW = 1MHz
2. VBW  $\geq 3 \times$  RBW
3. Sweep time  $\geq 10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})$
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

#### 5.5.4. Test Setup

##### Below 1GHz Test Setup:



##### Above 1GHz Test Setup:



#### 5.5.5. Test Result

Refer to Appendix A.4.

## Appendix A - Test Result

### A.1 Equivalent Isotropically Radiated Power Test Result

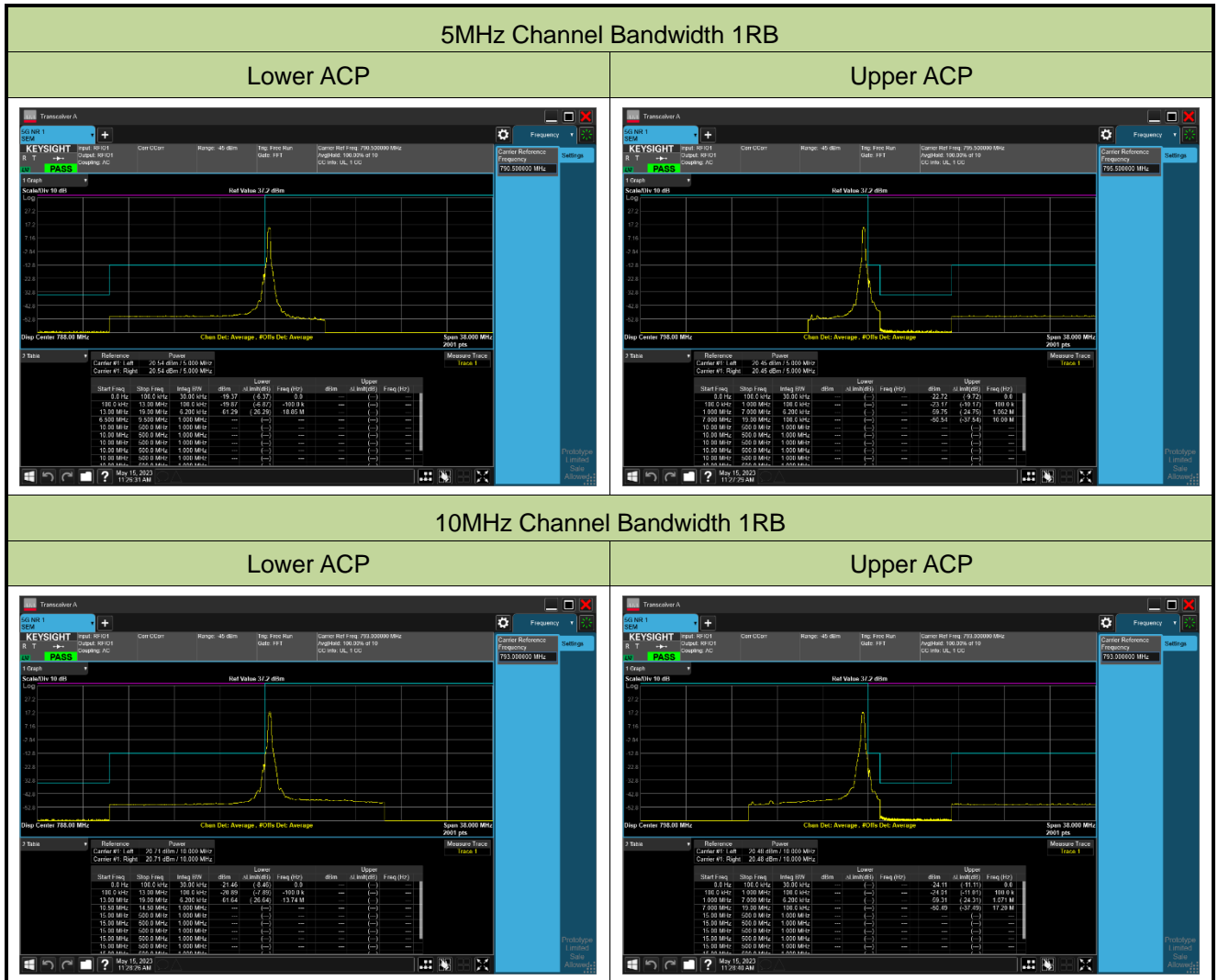
Test Site	SIP-SR1	Test Engineer	Candy Luo
Test Date	2023/05/11	Test Band	NR n14

Channel Bandwidth (MHz)	Frequency (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
DFT-s-OFDM PI/2 BPSK						
5	790.5	12	6	23.07	22.10	<44.77
		1	1	22.99	22.02	<44.77
		1	23	22.99	22.02	<44.77
		25	0	23.06	22.09	<44.77
		1	24	23.00	22.03	<44.77
		1	0	23.02	22.05	<44.77
	793.0	12	6	23.13	22.16	<44.77
		1	1	22.98	22.01	<44.77
		1	23	23.05	22.08	<44.77
		25	0	23.14	22.17	<44.77
		1	24	22.87	21.90	<44.77
		1	0	23.15	22.18	<44.77
	795.5	12	6	23.08	22.11	<44.77
		1	1	23.14	22.17	<44.77
		1	23	22.93	21.96	<44.77
		25	0	23.05	22.08	<44.77
		1	24	22.88	21.91	<44.77
		1	0	23.01	22.04	<44.77
10	793	25	12	23.08	22.11	<44.77
		1	1	23.10	22.13	<44.77
		1	50	22.88	21.91	<44.77
		50	0	23.05	22.08	<44.77
		1	51	22.90	21.93	<44.77
		1	0	23.12	22.15	<44.77

Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15

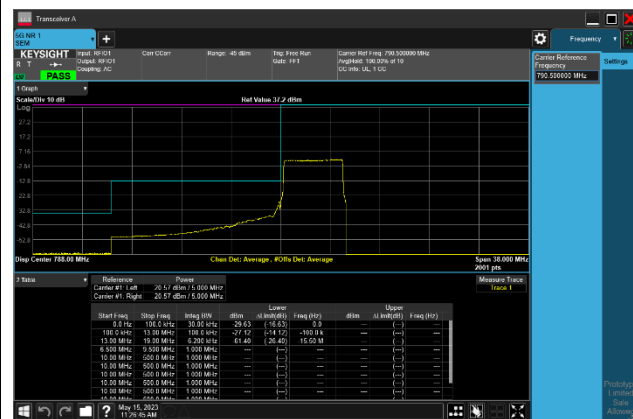
## A.2 Band Edge Test Result

Test Site	SIP-SR1	Test Engineer	Candy Luo
Test Date	2023/05/15	Test Band	NR n14

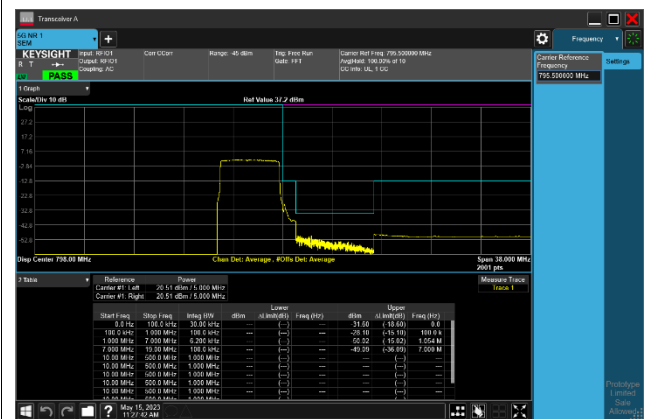


## 5MHz Channel Bandwidth Full RB

### Lower ACP

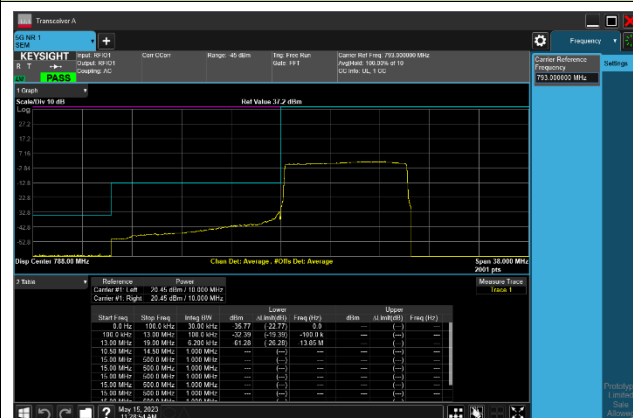


### Upper ACP



## 10MHz Channel Bandwidth Full RB

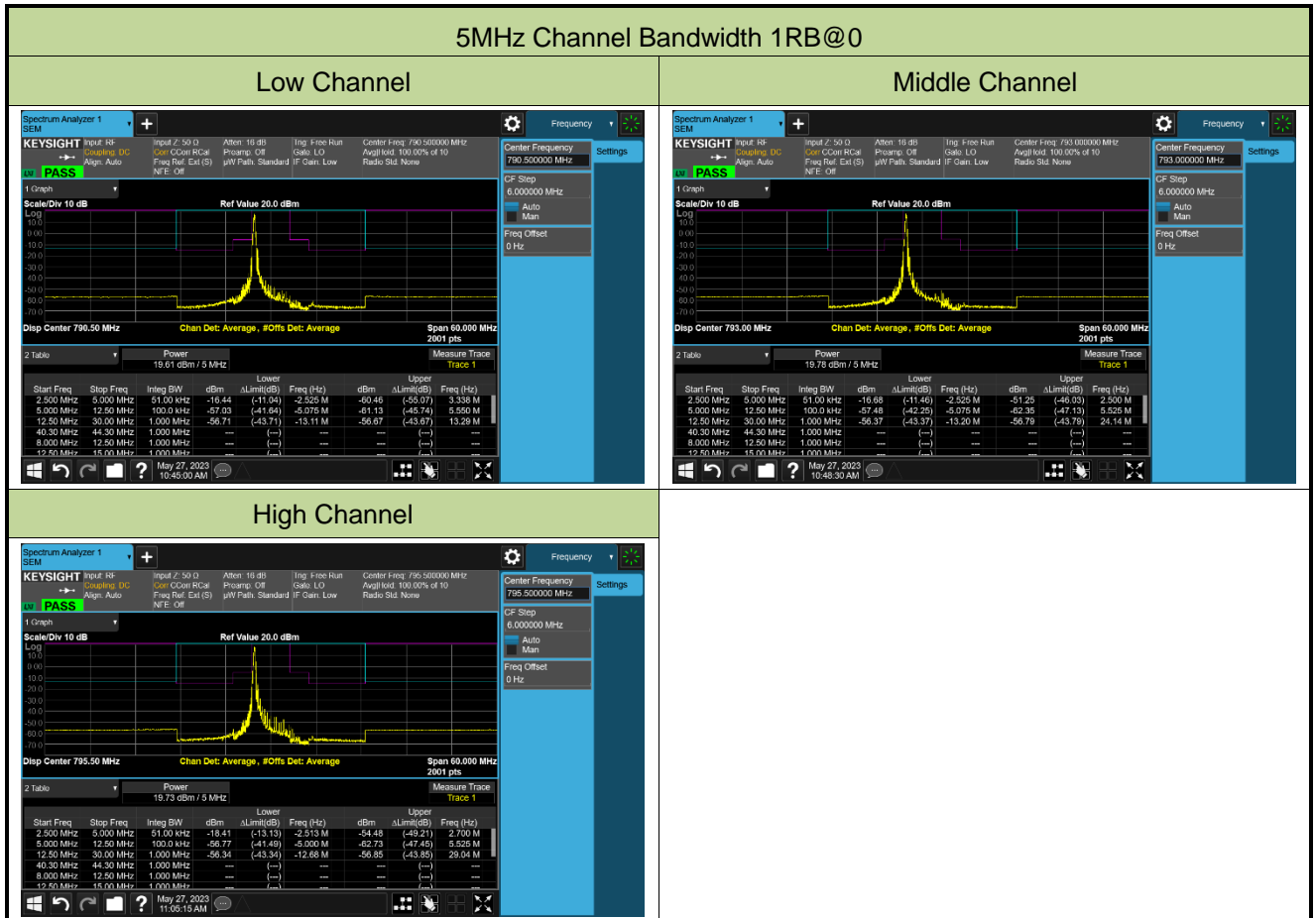
### Middle ACP





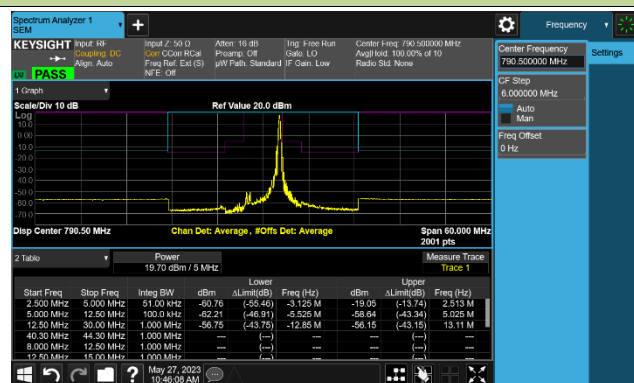
### A.3 Emission Mask Test Result

Test Site	SIP-SR1	Test Engineer	Candy Luo
Test Date	2023/05/27	Test Band	NR n14

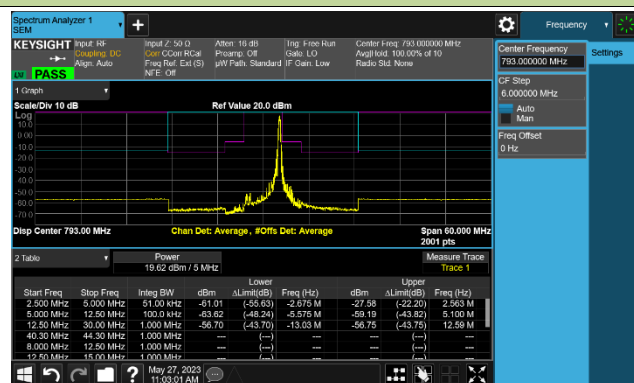


## 5MHz Channel Bandwidth 1RB@24

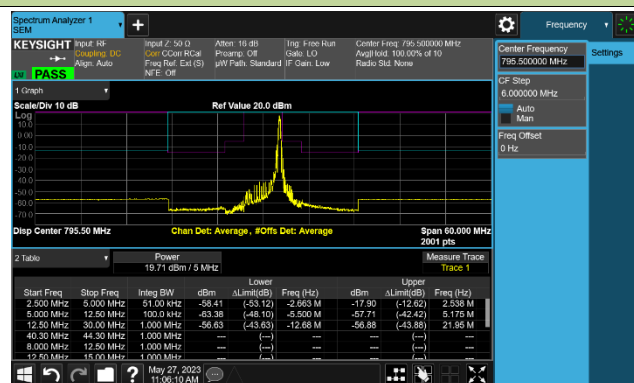
## Low Channel



## Middle Channel

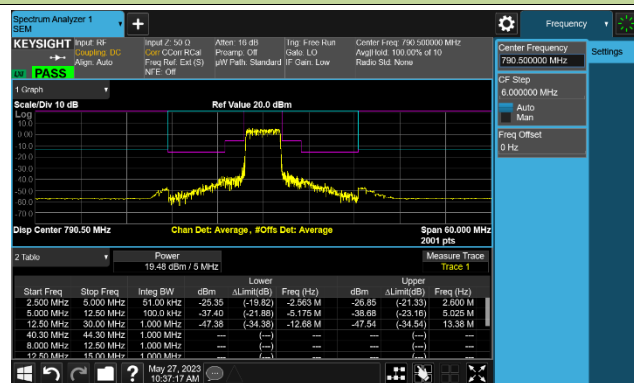


## High Channel

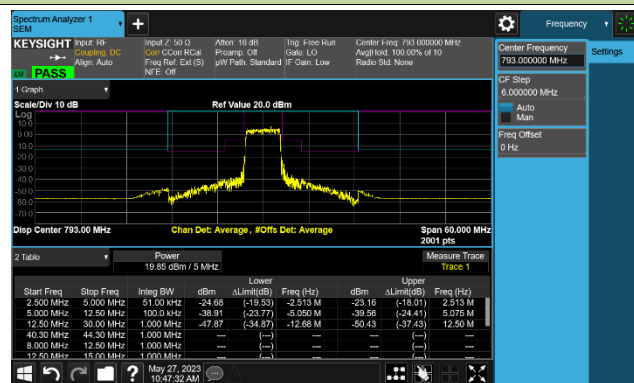


## 5MHz Channel Bandwidth Full RB

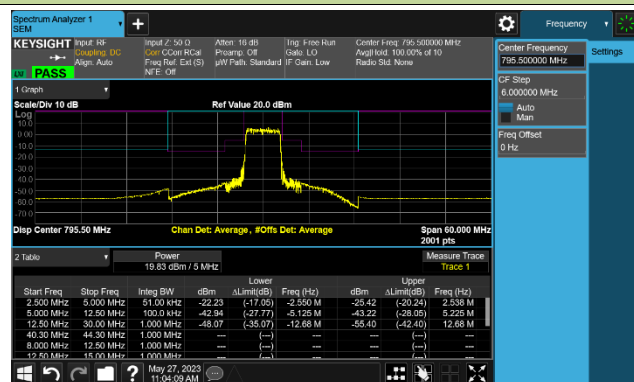
## Low Channel



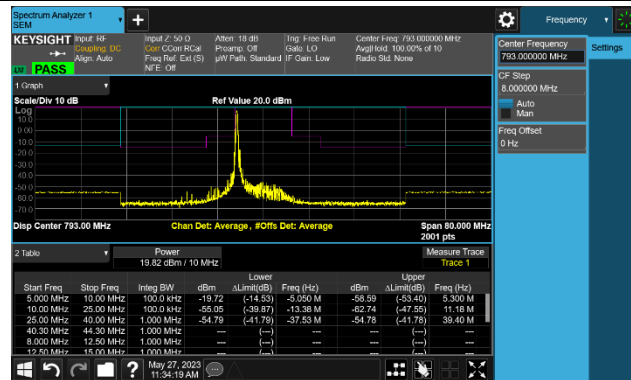
## Middle Channel



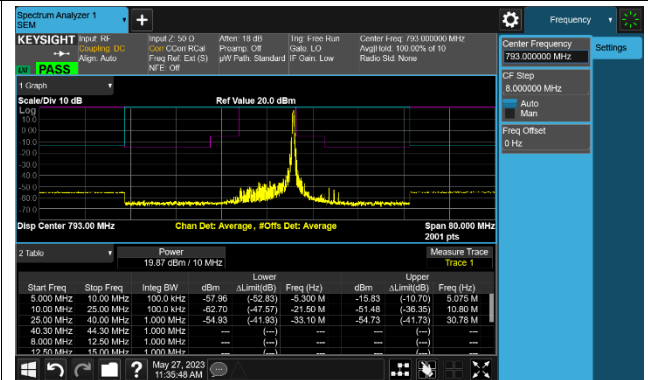
## High Channel



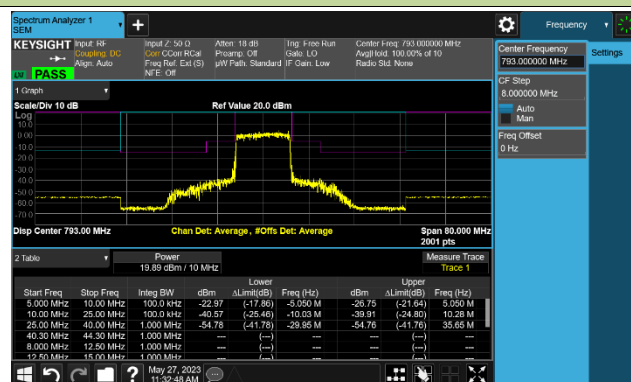
### 10MHz Channel Bandwidth 1RB@0



### 10MHz Channel Bandwidth 1RB@49



### 10MHz Channel Bandwidth Full RB



#### A.4 Radiated Spurious Emissions Test Result

Test Site	WZ-AC2	Test Engineer	Dick Shen
Test Date	2023/05/13 ~ 2023/06/06	Test Band	NR n14, 5MHz, 1RB

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Low Channel							
611.515	11.1	26.0	37.1	82.3	-45.2	Peak	Horizontal
910.760	12.0	30.0	42.1	82.3	-40.2	Peak	Horizontal
516.940	8.9	24.0	32.9	82.3	-49.4	Peak	Vertical
605.210	10.9	25.9	36.8	82.3	-45.5	Peak	Vertical
1595.000	33.5	-5.8	27.7	55.3	-27.6	Peak	Horizontal
9899.500	30.8	13.9	44.7	82.3	-37.6	Peak	Horizontal
1586.500	34.5	-5.7	28.8	55.3	-26.5	Peak	Vertical
11633.500	30.2	17.7	48.0	82.3	-34.3	Peak	Vertical

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

## **Appendix B - Test Setup Photograph**

Refer to "2305RSU024-UT" file.

## **Appendix C - EUT Photograph**

Refer to "2303RSU050-UE" file.