RF MEASUREMENT REPORT

FCC ID:	PIDAV2700
Application:	Airspan Networks Inc
Product:	AirVelocity2700, 3.55-3.7GHz (n48),FM,PoE/DC
Model No.:	AV27-N48-P4CXP-FM-C
Brand Name:	Airspan
FCC Rule Part(s):	Part 96
Test Procedure(s):	ANSI C63.26: 2015
Test Date:	January 20 ~ February 24, 2022

Reviewed By: Kevin Guo

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.02

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
2203RSU006-U1	Rev. 01	Initial Report	04-07-2022	Valid

CONTENTS

1. General Information

1.1. Applicant

Airspan Networks Inc

777 Yamato Road Suite 310 Boca Raton FL 33431 USA

1.2. Manufacturer

Airspan Networks Inc

777 Yamato Road Suite 310 Boca Raton FL 33431 USA

1.3. Testing Facility

<table>
<tr><td>☒</td><td colspan="5">Test Site – MRT Suzhou Laboratory</td></tr>
<tr><td></td><td colspan="5">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</td></tr>
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<tr><td>☐</td><td colspan="5">Test Site – MRT Shenzhen Laboratory</td></tr>
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1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China</td></tr>
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No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)</td></tr>
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<tr><td></td><td colspan="2">FCC: 291082, TW3261</td><td colspan="3">ISED: TW3261</td></tr>
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1.4. Product Information

Product Name	AirVelocity2700, 3.55-3.7GHz (n48),FM,PoE/DC
Model No.	AV27-N48-P4CXP-FM-C
Test Device Serial No.	20210618Sample#9
Operating Band	5G NR n48
CBSD Category	Category A CBSD
Antenna Information	Refer to section 1.6
Emission Designator	Refer to Section 1.7
Voltage Range	DC 42-57V/1A PoE 41.1-57V/1A
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification to this Report

Operating Band	5G NR n48 Band
CBSD Category	Category A CBSD
Frequency Range	3550 ~ 3700 MHz
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM
Max EIRP Density	2Tx Mode: 23.23 dBm/10MHz 4Tx Mode: 20.80 dBm/10MHz

1.6. Antenna Details

Band Support	Antenna Type	Manufacturer	Antenna Gain
n48	Omni Internal	Galtronics	5.00 dBi

Remark:

1. This device can operate with 2Tx and 4Tx mode.
2. This device operates with Multiple Antennas Using Multiple-input, Multiple-output (MIMO) Technology for Uncorrelated Transmission.
3. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.

1.7. Emission Designator

Bandwidth (MHz)	Modulation	Emission Designator
40	QPSK	37M9G7D
	16QAM	37M9W7D
	64QAM	37M8W7D
	256QAM	37M8W7D

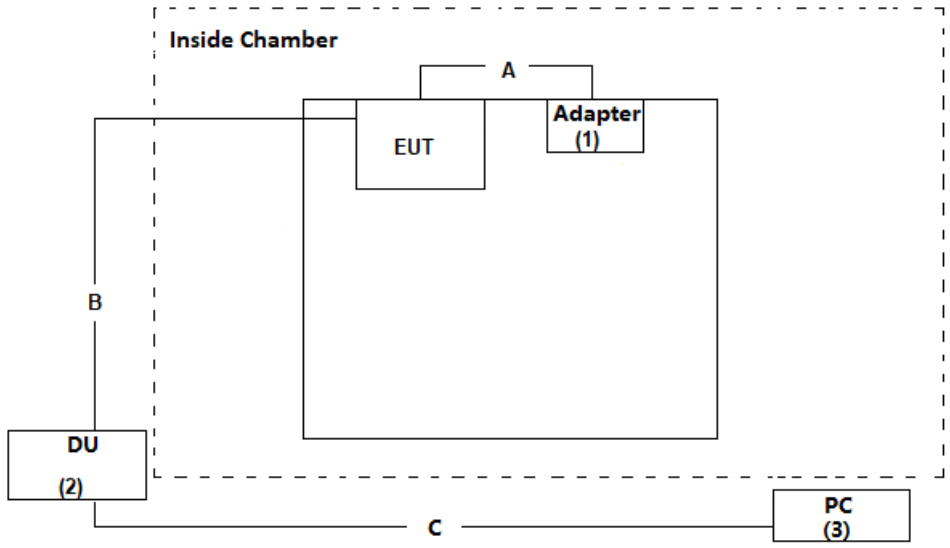
2. Test Configuration

2.1. Test Details for Class II Perssive Change

C2PC Change List	Verified Test Item	Channel Bandwidth	Modulation
Add the 40MHz Bandwidth via the software	Equivalent Isotropically Radiated Power	40MHz	QPSK, 16QAM, 64QAM, 256QAM
	Emission Bandwidth		
	Peak to Average Ratio		QPSK
	Conducted Spurious Emissions		
	Band Edge Measurements		
	Frequency Stability		

Note: This product is an extension based on the one reported in MRT original report (Report No.: 2106RSU047-U1), the changes and verified item refer to the table as above.

2.2. Test System Connection Diagram



Cable Type			Cable Description
1	Power cable		Non-Shielding, 2.0m
2	Optical fiber cable		Non-Shielding, >10.0m
3	LAN cable		Non-Shielding, >10.0m
Product		Manufacturer	Model No.
1	Adapter	Great Wall	GA150SD2-5602679
2	HUB	Airspan	SC-60C O-DU Chassis
3	Personal Computer	LENOVO	Legion Y7000 2020

2.3. Applicable Standards

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 96
- 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 940660 D01 v03: Part 96 CBRS Eqpt

2.4. Test Environment Condition

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

3. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Last Cali. Date	Cali. Due Date	Test Site
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2022/10/10	WZ-TR3
Vibration Test System	DongLing	ES-1-150	MRTSUE06206	1 year	2022/8/8	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE06362	1 year	2022/2/24	WZ-SR6
Thermohygrometer	testo	608-H1	MRTSUE06401	1 year	2022/6/28	WZ-TR3
Shielding Room	HUAMING	WZ-SR6	MRTSUE06443	/	/	WZ-SR6
Signal Analyzer	Keysight	N9020B	MRTSUE06583	1 year	2022/10/10	WZ-SR6
Signal Generator	Keysight	N5173B	MRTSUE06606	1 year	2022/11/29	WZ-SR6
5G Wireless Test Platform	Keysight	E7515B	MRTSUE06942	1 year	2022/3/29	WZ-SR6
Radio Communication Analyzer	Anritsu	MT8821C	MRTSUE06960	1 year	2022/7/1	WZ-SR6
Radio Communication Test Station	Anritsu	MT8000A	MRTSUE06961	1 year	2022/7/1	WZ-SR6

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 Condition	Verdict
2.1049	Occupied Bandwidth	Conducted	Pass
2.1055	Frequency Stability		Pass
96.41(g)	Peak-to-average power ratio		Pass
96.41(b)	Equivalent Isotropic Radiated Power		Pass
2.1051 96.41(e)	Spurious Emissions Band Edge Emissions		Pass

Remark:

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 ofthe system to connect the EUT to the analyzer at all frequencies of interest.
2. The Channel Band-edge, Radiated Spurious Emission were presented the worst test data of modultation 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.

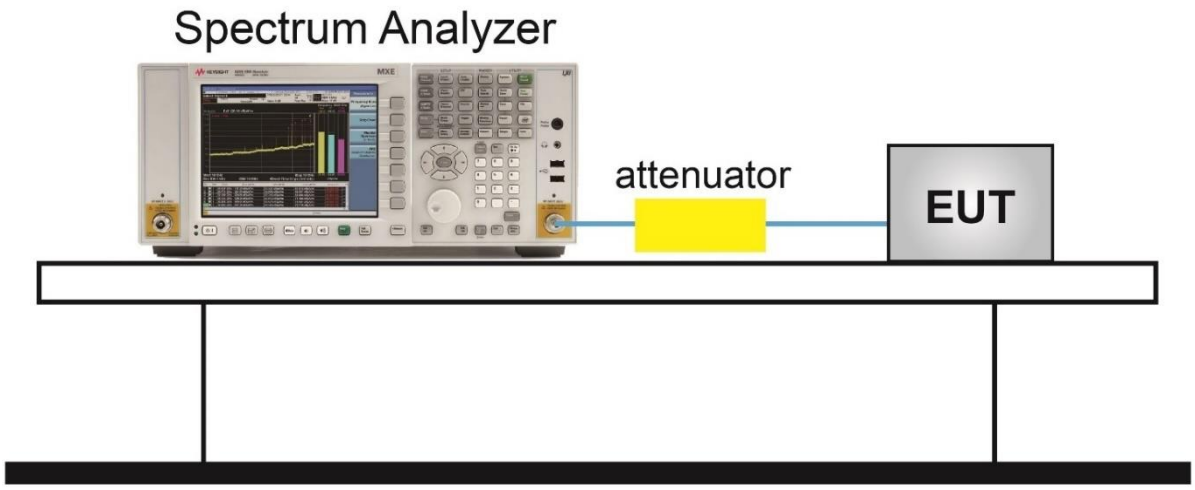
5.2.2. Test Procedure

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.

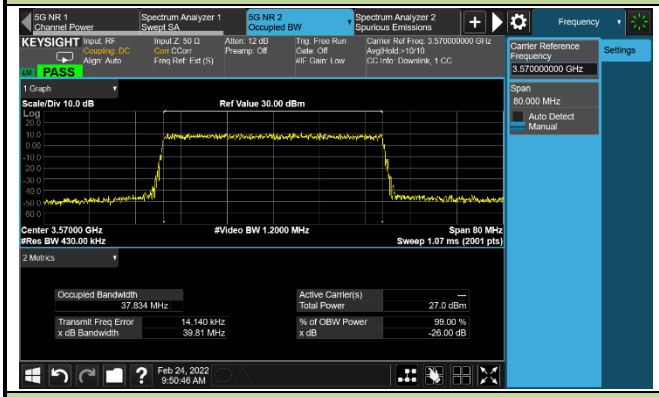
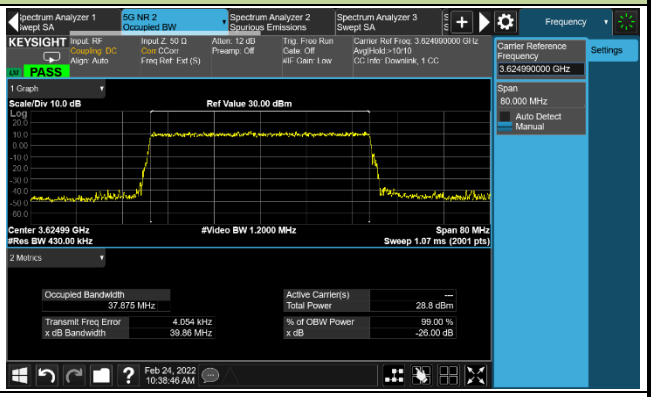
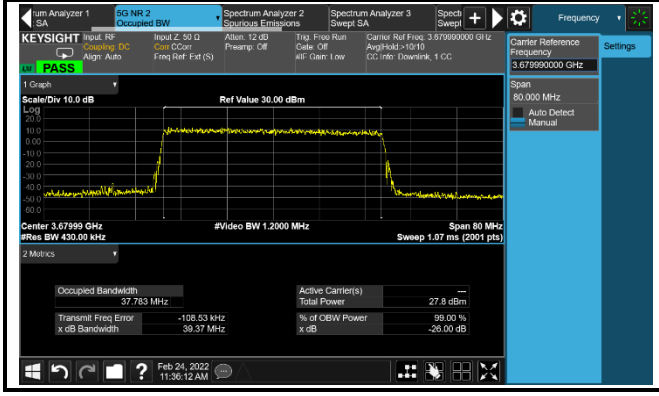
5.2.4. Test Setup

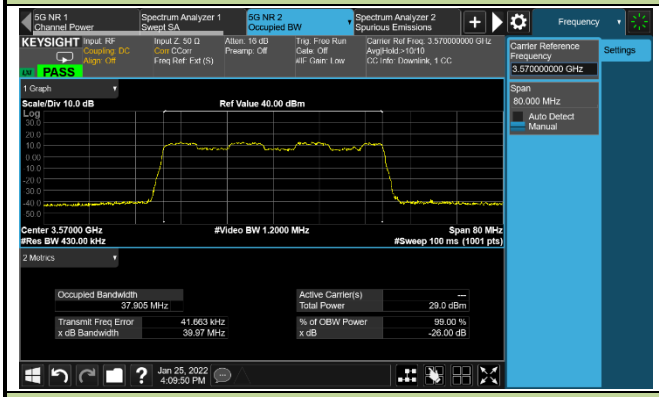
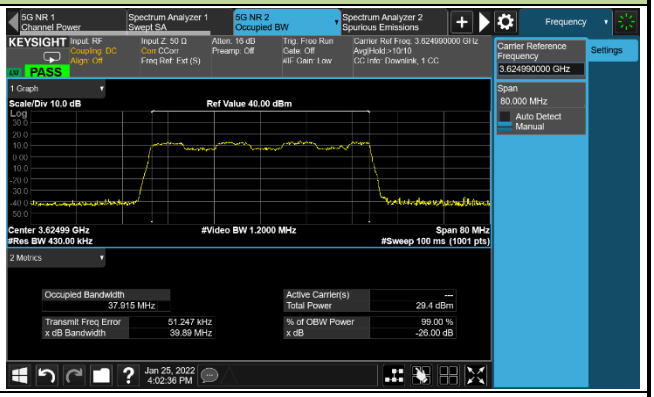
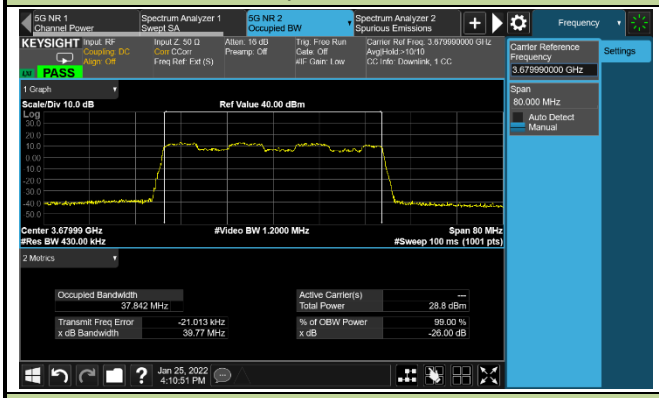


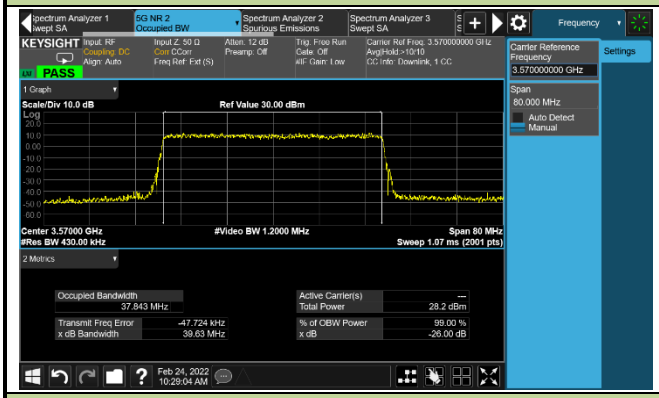
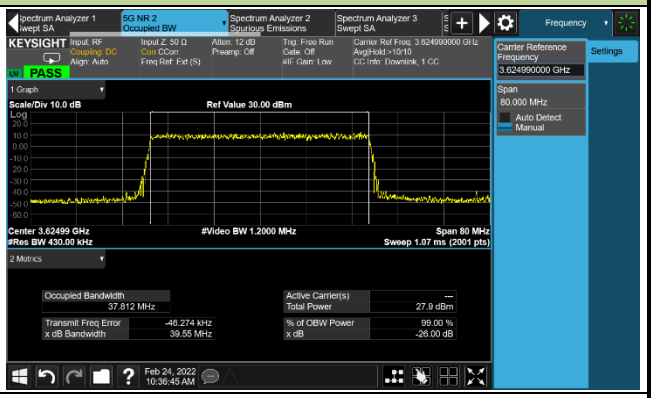
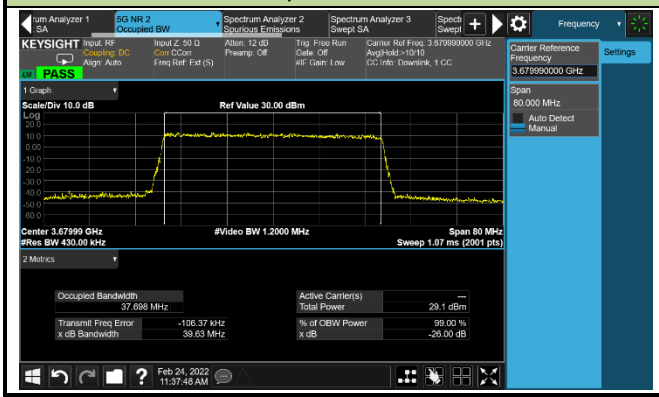
5.2.5. Test Result

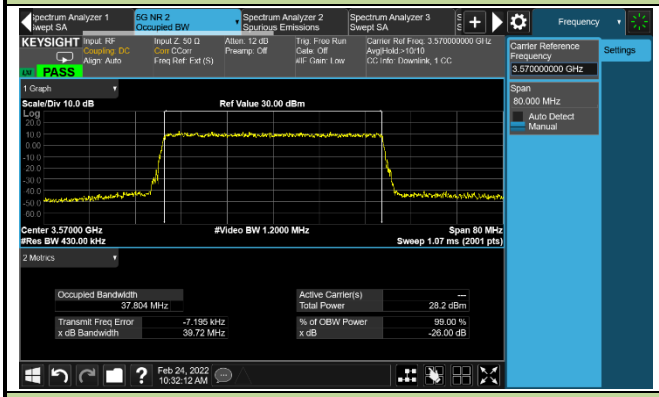
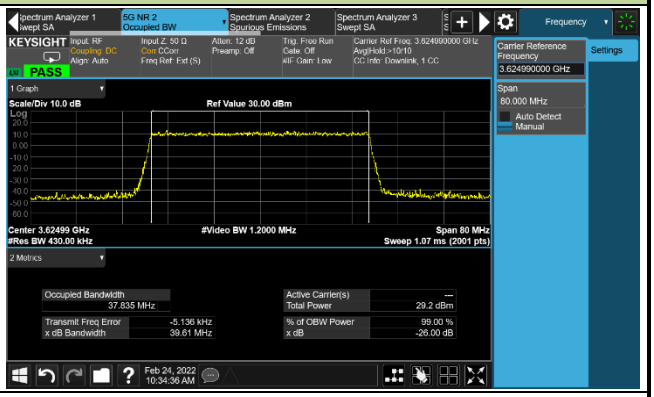
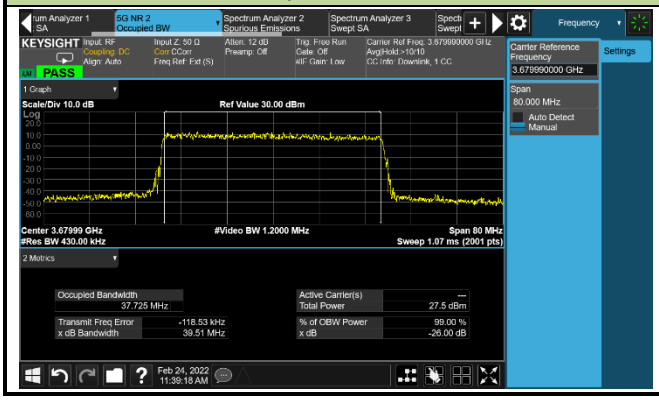
Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/24		

Modulation	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK	3570.000	40	37.83
	3624.990		37.88
	3679.995		37.78
16QAM	3570.000	40	37.91
	3624.990		37.92
	3679.995		37.84
64QAM	3570.000	40	37.84
	3624.990		37.81
	3679.995		37.70
256QAM	3570.000	40	37.80
	3624.990		37.84
	3679.995		37.73

99% Bandwidth - QPSK	
Low Channel	Middle Channel
	
Top Channel	
	

99% Bandwidth - 16QAM	
Low Channel	Middle Channel
	
Top Channel	
	

99% Bandwidth - 64QAM	
Low Channel	Middle Channel
	
Top Channel	
	

99% Bandwidth - 256QAM	
Low Channel	Middle Channel
	
Top Channel	
	

5.3. Frequency Stability

5.3.1. Test Limit

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

5.3.2. Test Procedure

ANSI C63.26-2015 - Section 5.6

5.3.3. Test Setting

Frequency Stability Under Temperature Variations:

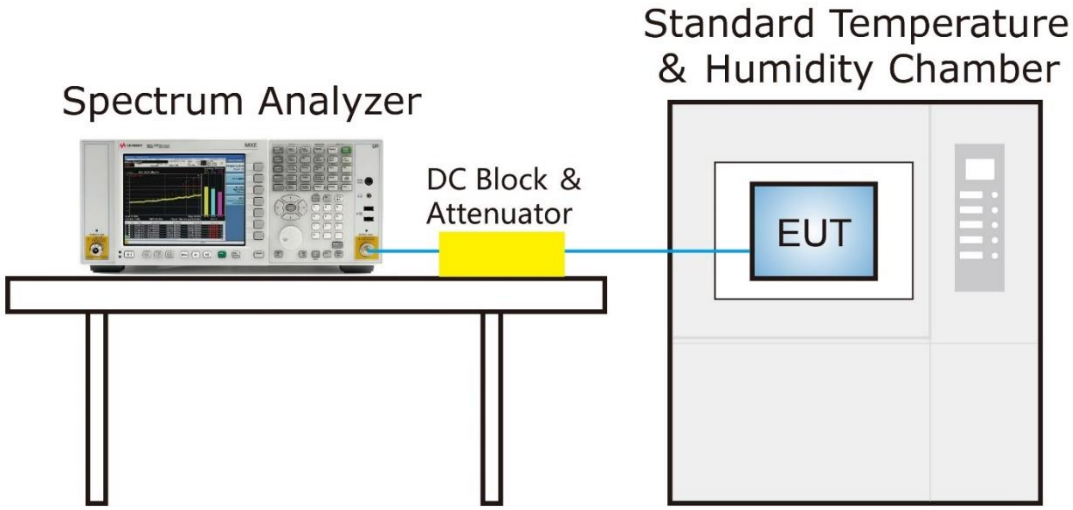
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint (If a product is specified to operate over a range of input voltage then the −15% variation is applied to the lowermost voltage and the +15%is applied to the uppermost voltage), recordthe maximum frequency change.

5.3.4. Test Setup



5.3.5. Test Setup

Test Site	WZ-TR3	Test Engineer	Cloud Guo
Test Date	2022/02/24		

Voltage (DC)	Temp (°C)	Frequency Tolerance (ppm)
54V	- 30	-0.006
	- 20	-0.003
	- 10	-0.001
	0	-0.001
	+ 10	-0.003
	+ 20	-0.004
	+ 30	-0.006
	+ 40	0.001
	+ 50	-0.003
42.0V	+ 20	-0.007
57.0V	+ 20	-0.006

5.4. Peak to Average Ratio Measurement

5.4.1. Test Limit

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

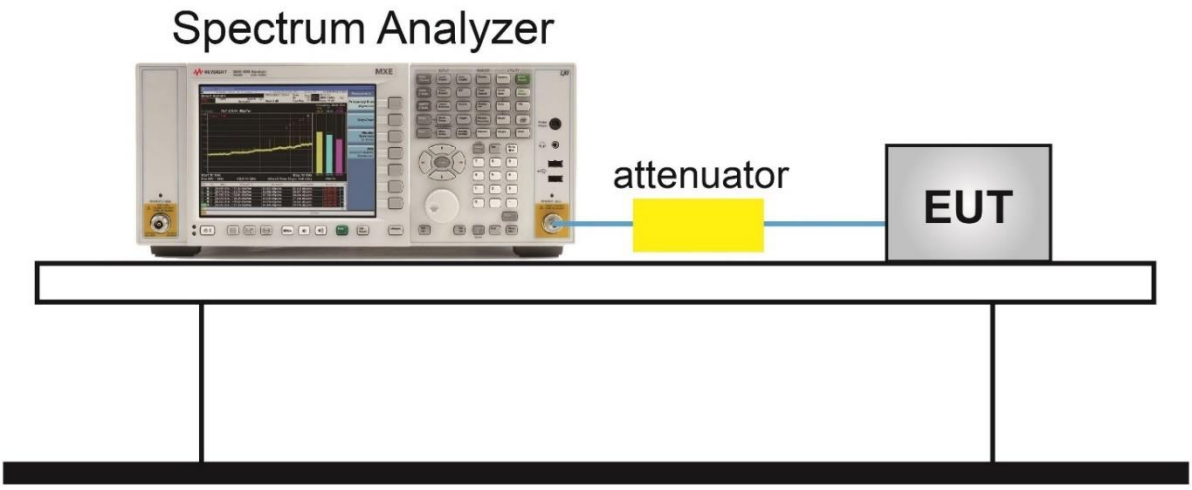
5.4.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.6

5.4.3. Test Setting

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

5.4.4. Test Setup



5.4.5. Test Result

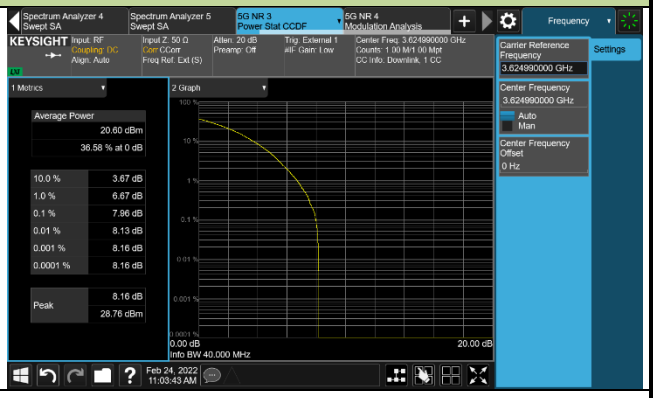
Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/24		

Frequency (MHz)	Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
3570.000	40	7.92	≤ 13.00	Pass
3624.990	40	7.96	≤ 13.00	Pass
3679.995	40	7.88	≤ 13.00	Pass

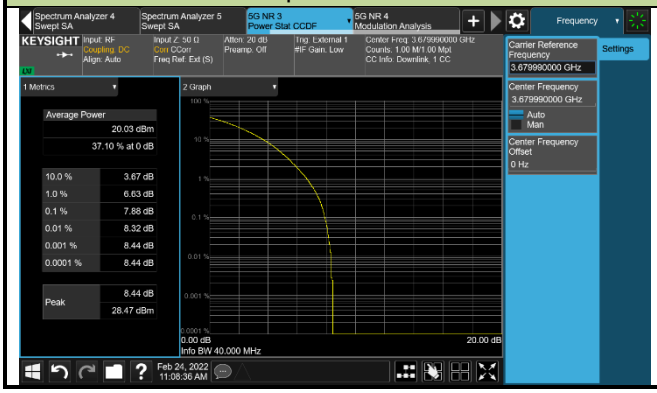
40MHz Channel Bandwidth

Bottom Channel

Middle Channel



Top Channel



5.5. Equivalent Isotropically Radiated Power Measurement

5.5.1. Test Limit

The maximum effective isotropic radiated power (EIRP) Category A CBSD is 30dBm/10MHz, Maximum PSD is 20dBm/MHz.

5.5.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.4.4.2 & 5.2.5.5

5.5.3. Test Setting

When the fundamental condition for average power measurements cannot be realized (i.e., the EUT can not be configured to transmit at full-power on a continuous basis (i.e., duty cycle < 98%) and the instrumentation cannot be configured to measure only during active full-power transmissions), then thefollowing procedure can be used if the EUT duty cycle is constant (i.e., duty cycle variations are less thanor equal to ±2%).

1. Set span to 2 × to 3 × the OBW.
2. Set RBW = 1% to 5% of the OBW.
3. Set VBW ≥ 3 × RBW.
4. Set number of measurement points in sweep ≥ 2 × span / RBW.
5. Sweep time:
   a) Set = auto-couple, or
   b) Set ≥ [10 × (number of points in sweep) × (transmission symbol period)] for single sweep (automation-compatible) measurement.
6. Detector = power averaging (rms).
7. Set sweep trigger to “free run.”
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.
9. Using the marker function to identify the maximum PSD.
10. Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission. For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is a constant 25%.
11. 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 (1)

Where

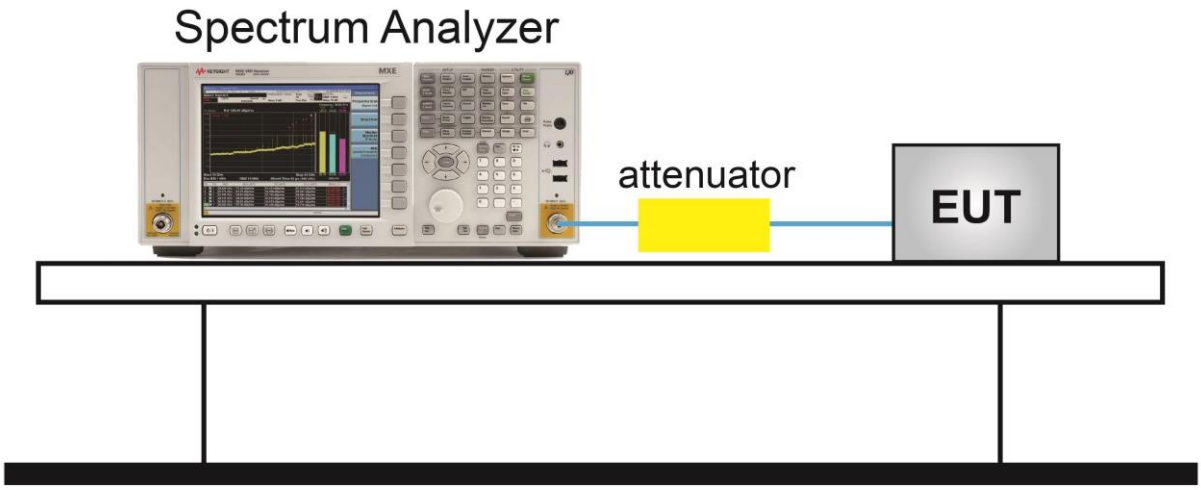
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

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)

For devices utilizing multiple antennas, see 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.

5.5.4. Test Setup



5.5.5. Test Result

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/23	Test Configuration	4Tx Mode
Test Item	Maximum EIRP		

Frequency (MHz)	BW (MHz)	Power Density (dBm/10MHz)				Total Power Density (dBm/10MHz)	EIRP Density (dBm/10MHz)	Limit (dBm/10MHz)
		Ant 1	Ant 2	Ant 3	Ant 4			
QPSK								
3570.000	40	8.58	8.99	8.64	8.63	14.73	19.73	30.00
3624.990	40	8.92	9.11	8.96	9.08	15.04	20.04	30.00
3679.995	40	8.99	9.22	9.16	8.20	14.93	19.93	30.00
16QAM								
3570.000	40	8.98	9.55	9.18	9.11	15.23	20.23	30.00
3624.990	40	9.67	9.87	9.76	9.81	15.80	20.80	30.00
3679.995	40	9.61	9.51	9.35	9.35	15.48	20.48	30.00
64QAM								
3570.000	40	8.05	8.33	8.25	8.33	14.26	19.26	30.00
3624.990	40	9.27	9.40	8.76	9.24	15.19	20.19	30.00
3679.995	40	9.45	9.19	9.09	9.03	15.21	20.21	30.00
256QAM								
3570.000	40	8.17	8.47	8.30	8.39	14.35	19.35	30.00
3624.990	40	8.95	9.33	9.17	9.17	15.18	20.18	30.00
3679.995	40	9.18	9.10	8.94	8.92	15.06	20.06	30.00
Verdict		Pass						

Note 1: Total Power Desnsity = $10*\log(10^{(\text{Ant 1 Power Density}/10)} + 10^{(\text{Ant 2 Power Density}/10)} + 10^{(\text{Ant 3 Power Density}/10)} + 10^{(\text{Ant 4 Power Density}/10)})$

Note 2: EIRP Density = Total Power Density + Antenna Gain.

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/23	Test Configuration	4Tx Mode
Test Item	Maximum EIRP (Reported Only)		

Frequency (MHz)	BW (MHz)	Output Power (dBm)				Total Power (dBm)	EIRP (dBm)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3570.000	40	13.88	14.20	13.94	14.06	20.04	25.04
3624.990	40	14.86	14.85	14.85	14.81	20.86	25.86
3679.995	40	14.25	14.52	14.38	13.50	20.20	25.20
16QAM							
3570.000	40	14.30	14.75	14.41	14.45	20.50	25.50
3624.990	40	14.00	15.02	14.96	14.89	20.76	25.76
3679.995	40	14.34	14.96	14.80	14.81	20.75	25.75
64QAM							
3570.000	40	13.94	14.34	14.05	14.06	20.12	25.12
3624.990	40	14.77	14.87	14.81	14.74	20.82	25.82
3679.995	40	14.76	14.51	14.36	14.42	20.54	25.54
256QAM							
3570.000	40	14.06	14.50	14.18	14.22	20.26	25.26
3624.990	40	14.52	14.93	14.75	14.88	20.79	25.79
3679.995	40	14.36	14.42	14.09	14.22	20.29	25.29

Note 1: Total Power = $10*\log(10^{(\text{Ant 1 Power}/10)} + 10^{(\text{Ant 2 Power}/10)} + 10^{(\text{Ant 3 Power}/10)} + 10^{(\text{Ant 4 Power}/10)})$

Note 2: EIRP = Total Power + Antenna Gain.

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/23	Test Configuration	4Tx Mode
Test Item	Maximum PSD		

Frequency (MHz)	BW (MHz)	Power Density (dBm/MHz)				Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3570.000	40	-1.17	-0.74	-1.06	-1.09	10.01	20.00
3624.990	40	-1.19	-0.96	-1.12	-0.98	9.96	20.00
3679.995	40	-0.83	-0.71	-0.79	-1.69	10.03	20.00
16QAM							
3570.000	40	0.48	1.04	0.77	0.65	11.76	20.00
3624.990	40	1.20	1.24	1.14	1.33	12.25	20.00
3679.995	40	1.53	1.43	1.35	1.24	12.41	20.00
64QAM							
3570.000	40	-1.68	-1.42	-1.48	-1.40	9.53	20.00
3624.990	40	-0.36	-0.23	-0.88	-0.41	10.56	20.00
3679.995	40	-0.49	-0.59	-0.68	-0.74	10.40	20.00
256QAM							
3570.000	40	-1.92	-1.38	-1.44	-1.47	9.47	20.00
3624.990	40	-0.71	-0.30	-0.46	-0.39	10.56	20.00
3679.995	40	-0.79	-0.75	-0.78	-0.68	10.27	20.00
Verdict		Pass					

Note: Total Power Density = $10*\log(10^{(\text{Ant 1 Power Density}/10)} + 10^{(\text{Ant 2 Power Density}/10)} + 10^{(\text{Ant 3 Power Density}/10)} + 10^{(\text{Ant 4 Power Density}/10)}) + \text{Antenna Gain}$.

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/25	Test Configuration	2Tx Mode
Test Item	Maximum EIRP		

Frequency (MHz)	BW (MHz)	Power Density (dBm/10MHz)		Total Power Density (dBm/10MHz)	EIRP Density (dBm/10MHz)	Limit (dBm/10MHz)
		Ant 1	Ant 2			
QPSK						
3570.000	40	16.79	17.58	20.21	25.21	30.00
3624.990	40	17.79	18.10	20.95	25.95	30.00
3679.995	40	18.21	18.34	21.28	26.28	30.00
16QAM						
3570.000	40	14.24	15.00	17.65	22.65	30.00
3624.990	40	15.16	15.28	18.23	23.23	30.00
3679.995	40	15.14	14.94	18.05	23.05	30.00
64QAM						
3570.000	40	14.06	14.59	17.34	22.34	30.00
3624.990	40	14.67	14.92	17.81	22.81	30.00
3679.995	40	14.89	14.68	17.80	22.80	30.00
256QAM						
3570.000	40	14.02	14.57	17.31	22.31	30.00
3624.990	40	14.64	14.89	17.78	22.78	30.00
3679.995	40	14.83	14.64	17.75	22.75	30.00
Verdict		Pass				

Note 1: Total Power Density = 10*log ($10^{(\text{Ant 1 Power Density}/10)}$ + $10^{(\text{Ant 2 Power Density}/10)}$)

Note 2: EIRP Density = Total Power Density + Antenna Gain.

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/25	Test Configuration	2Tx Mode
Test Item	Maximum EIRP (Reported Only)		

Frequency (MHz)	BW (MHz)	Output Power (dBm)		Total Power (dBm)	EIRP (dBm)
		Ant 1	Ant 2		
QPSK					
3570.000	40	19.74	20.28	23.03	28.03
3624.990	40	20.48	20.60	23.55	28.55
3679.995	40	20.11	19.91	23.02	28.02
16QAM					
3570.000	40	20.22	20.61	23.43	28.43
3624.990	40	20.32	20.56	23.45	28.45
3679.995	40	20.38	20.79	23.60	28.60
64QAM					
3570.000	40	19.88	20.22	23.06	28.06
3624.990	40	20.31	20.58	23.46	28.46
3679.995	40	20.01	19.94	22.99	27.99
256QAM					
3570.000	40	19.81	20.27	23.06	28.06
3624.990	40	20.35	20.60	23.49	28.49
3679.995	40	20.15	20.12	23.15	28.15

Note 1: Total Power = $10*\log(10^{(\text{Ant 1 Ouput Power}/10)} + 10^{(\text{Ant 2 Ouput Power}/10)})$

Note 2: EIRP = Total Power + Antenna Gain.

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/25	Test Configuration	2Tx Mode
Test Item	Maximum PSD		

Frequency (MHz)	BW (MHz)	Power Density (dBm/MHz)		Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
		Ant 1	Ant 2		
QPSK					
3570.000	40	4.04	4.36	12.21	20.00
3624.990	40	4.78	4.93	12.87	20.00
3679.995	40	5.00	4.70	12.86	20.00
16QAM					
3570.000	40	5.75	6.63	14.22	20.00
3624.990	40	6.82	6.90	14.87	20.00
3679.995	40	7.01	6.74	14.89	20.00
64QAM					
3570.000	40	4.16	4.63	12.41	20.00
3624.990	40	4.65	4.90	12.79	20.00
3679.995	40	5.10	4.80	12.96	20.00
256QAM					
3570.000	40	4.22	4.83	12.54	20.00
3624.990	40	4.92	5.16	13.05	20.00
3679.995	40	5.04	4.65	12.86	20.00
Verdict		Pass			

Note: Total PSD = $10*\log (10^{(\text{Ant 1 Power Density}/10)} + 10^{(\text{Ant 2 Power Density}/10)})$ + Antenna Gain

5.6. Band Edge Measurement

5.6.1. Test Limit

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 conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed −13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any emission shall not exceed −25 dBm/MHz.

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/Mhz.

Note: This device can be impelement MIMO function, so the limit os spurious emissions needs to be reduced 10*log($Numbers_{Ant}$) according to FCC KDB 662911 D01 guidance.

For 4Tx Mode: The limit is adjusted to -13dBm - 10 * log(4) = -19.02dBm & -25dBm - 10 * log(4) = -31.02dBm.

For 2Tx Mode: The limit is adjusted to -13dBm - 10 * log(2) = -16.01dBm & -25dBm - 10 * log(2) = -28.01dBm.

5.6.2. Test Procedure

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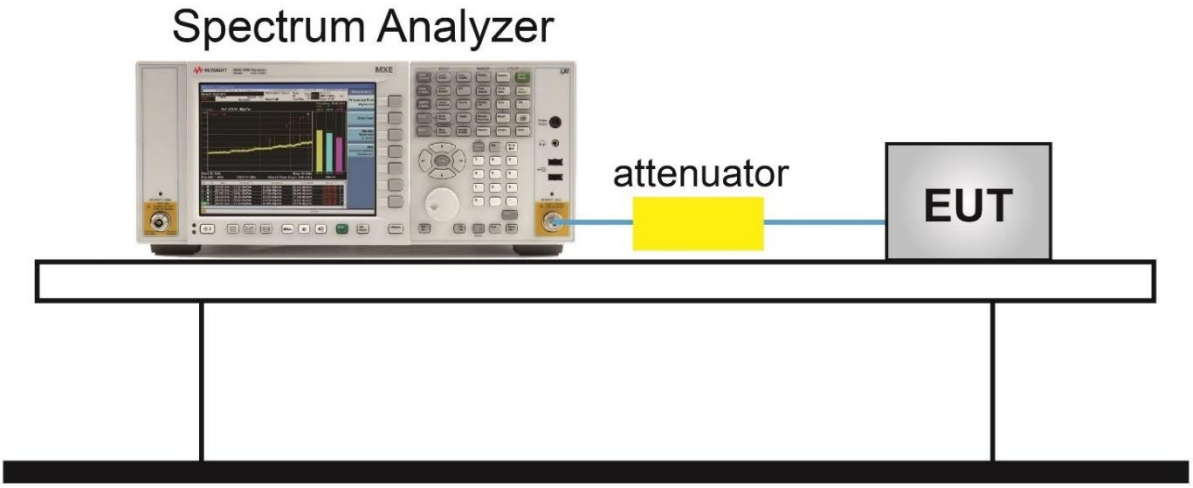
5.6.3. Test Setting

1. Set the analyzer frequency to low, middle, high channel.
2. RBW ≥ 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 ≥ 3*RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to “free run.”

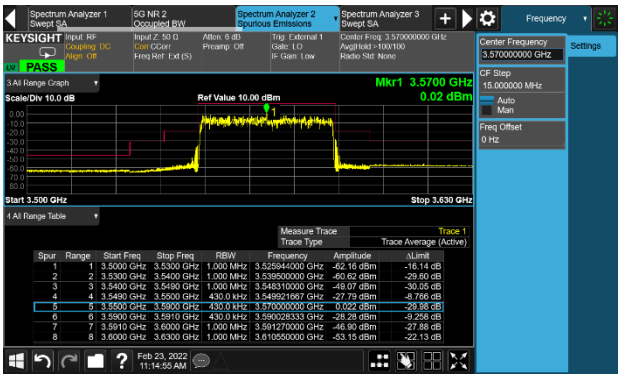
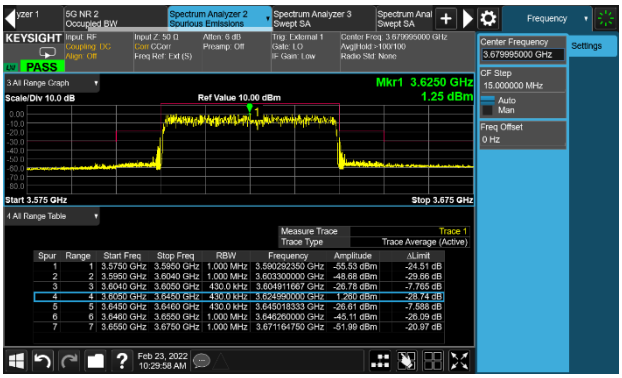
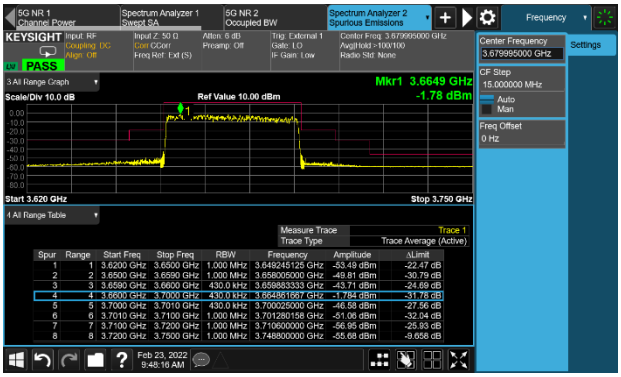
7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.
9. Used power integration whenusing a measurement bandwidth smaller than the specified bandwidth.

5.6.4. Test Setup



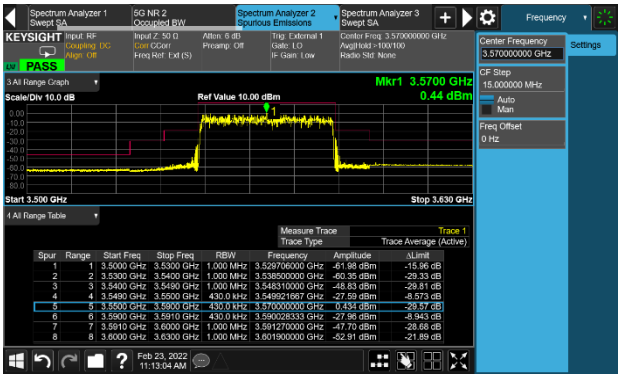
5.6.5. Test Result

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/23	Test Configuration	4Tx Mode

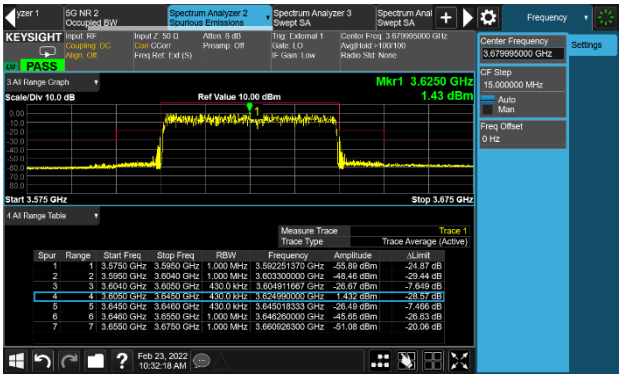
40MHz Channel Bandwidth - Ant 1	
Low Channel ACP	MiddleChannel ACP
	
High Channel ACP	
	

40MHz Channel Bandwidth - Ant 2

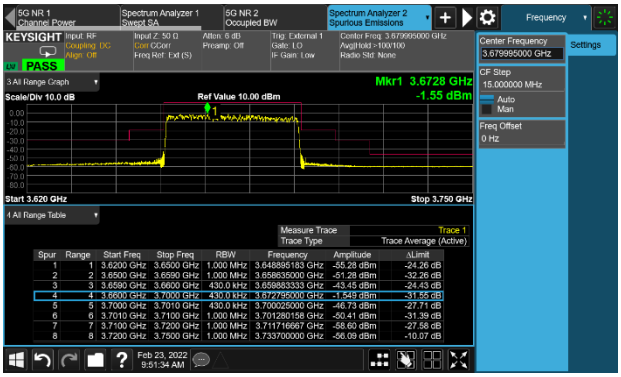
Low Channel ACP



MiddleChannel ACP

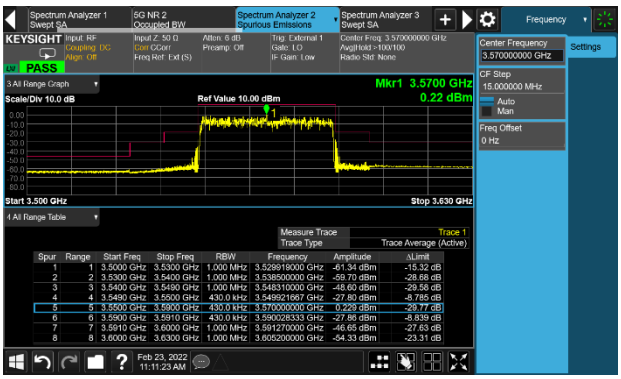


High Channel ACP

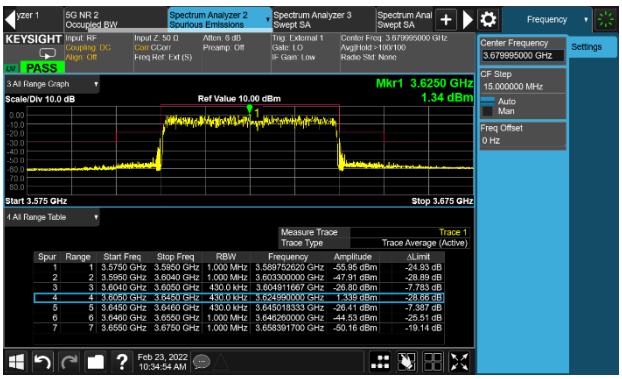


40MHz Channel Bandwidth - Ant 3

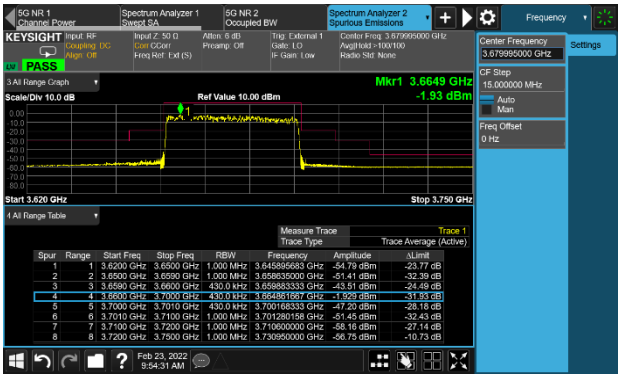
Low Channel ACP

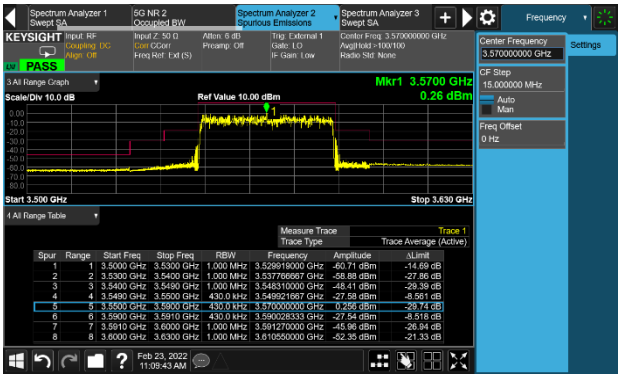
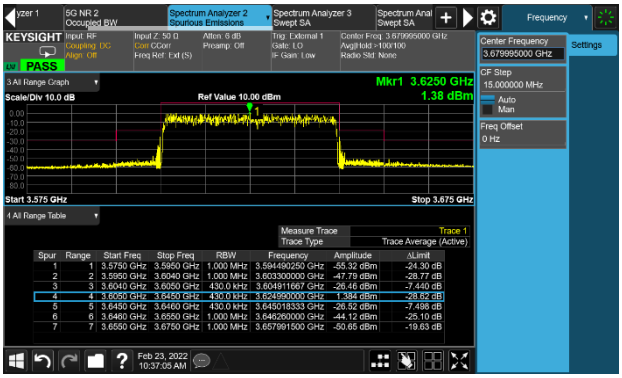
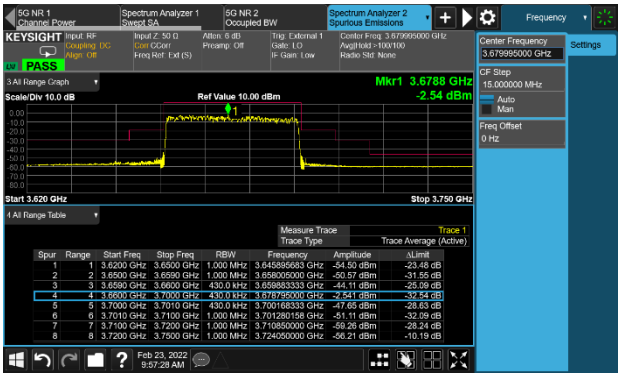


MiddleChannel ACP

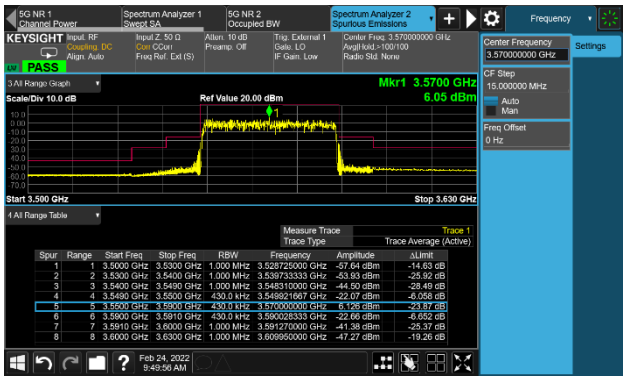
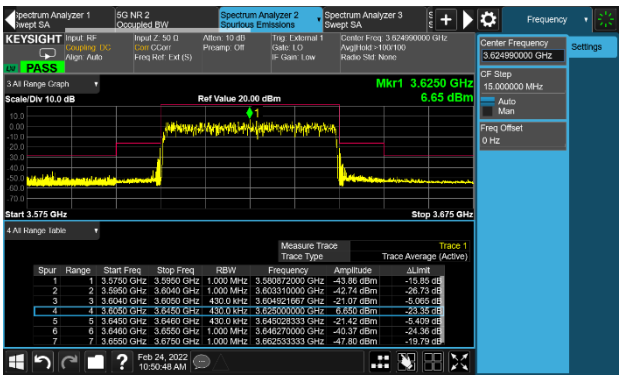
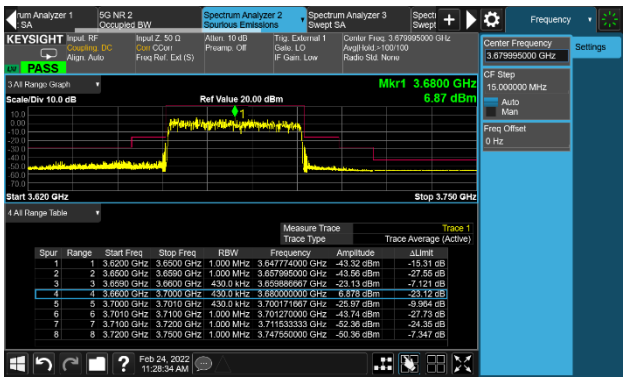


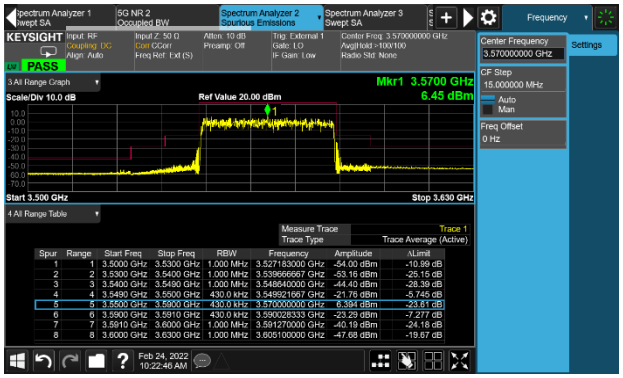
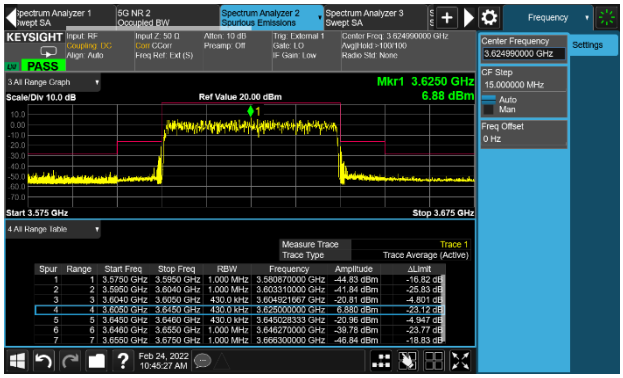
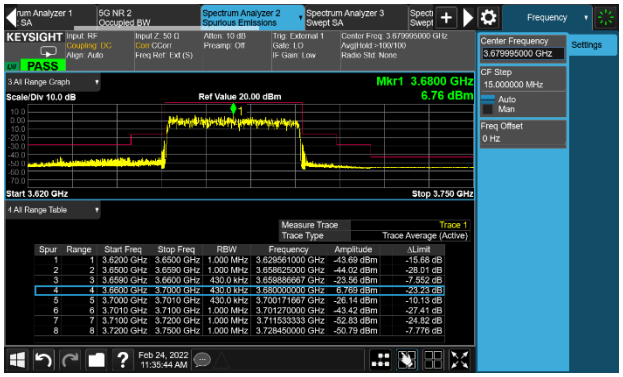
High Channel ACP



40MHz Channel Bandwidth - Ant 4	
Low Channel ACP	MiddleChannel ACP
	
High Channel ACP	
	

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/24	Test Configuration	2Tx Mode

40MHz Channel Bandwidth - Ant 1	
Low Channel ACP	MiddleChannel ACP
	
High Channel ACP	
	

40MHz Channel Bandwidth - Ant 2	
Low Channel ACP	MiddleChannel ACP
	
High Channel ACP	
	

5.7. Conducted Spurious Emissions Measurement

5.7.1. Test Limit

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10^{th} 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 conducted power of any emissions below 3530MHz or above 3720MHz shall not exceed -40dBm/MHz.

Note: This device can be impelement MIMO function, so the limit os spurious emissions needs to be reduced $10*\log(Numbers_{Ant})$ according to FCC KDB 662911 D01 guidance.

For 4Tx Mode: The limit is adjusted to -40dBm - 10 * log(4) = -46.02dBm.

For 2Tx Mode: The limit is adjusted to -40dBm - 10 * log(2) = -43.01dBm.

5.7.2. Test Procedure

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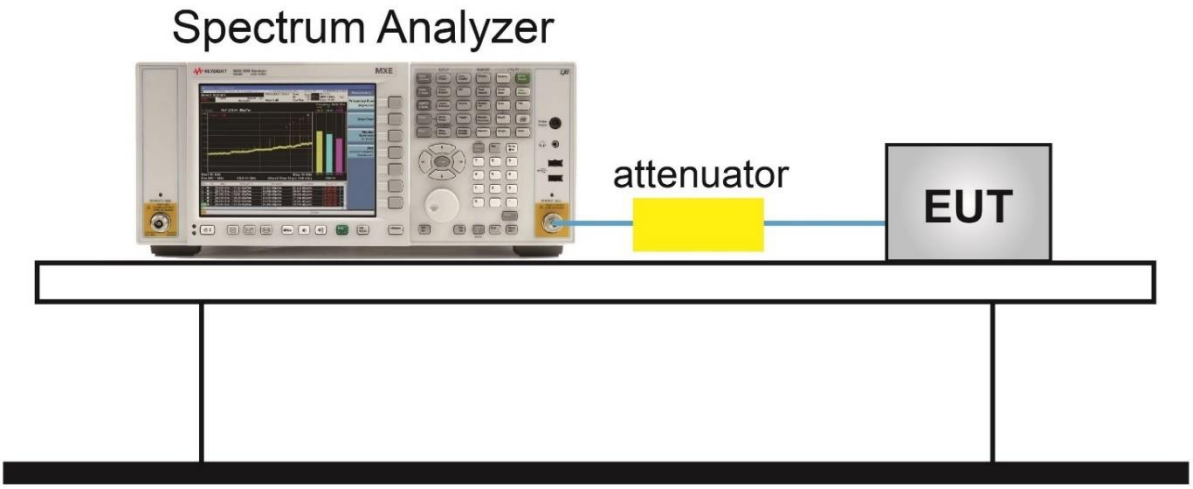
5.7.3. Test Setting

1. Set the analyzer frequency to low or high channel.
2. RBW = 100kHz or 1MHz
3. VBW ≥ 3*RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to “free run.”
7. 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.

5.7.4. Test Setup



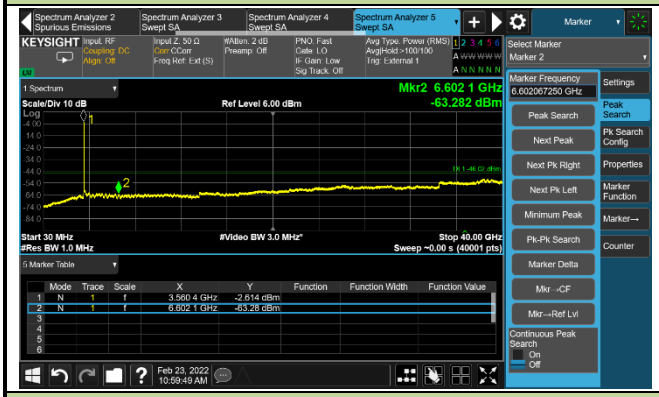
5.7.5. Test Result

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/23	Test Configuration	4Tx Mode

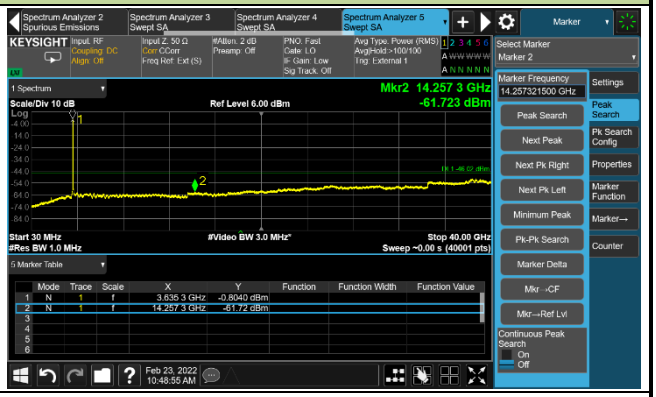
Frequency (MHz)	Channel BW (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
Ant 1					
3570.000	40	30 ~ 40000	-63.28	≤ -46.02	Pass
3624.990	40	30 ~ 40000	-61.72	≤ -46.02	Pass
3679.995	40	30 ~ 40000	-62.98	≤ -46.02	Pass
Ant 2					
3570.000	40	30 ~ 40000	-55.79	≤ -46.02	Pass
3624.990	40	30 ~ 40000	-62.79	≤ -46.02	Pass
3679.995	40	30 ~ 40000	-63.01	≤ -46.02	Pass
Ant 3					
3570.000	40	30 ~ 40000	-62.71	≤ -46.02	Pass
3624.990	40	30 ~ 40000	-62.47	≤ -46.02	Pass
3679.995	40	30 ~ 40000	-62.45	≤ -46.02	Pass
Ant 4					
3570.000	40	30 ~ 40000	-62.76	≤ -46.02	Pass
3624.990	40	30 ~ 40000	-62.73	≤ -46.02	Pass
3679.995	40	30 ~ 40000	-62.58	≤ -46.02	Pass

40MHz Channel Bandwidth - Ant1

Low Channel



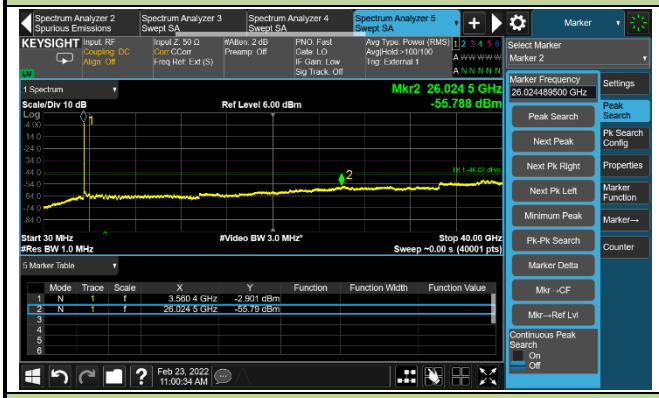
Middle Channel



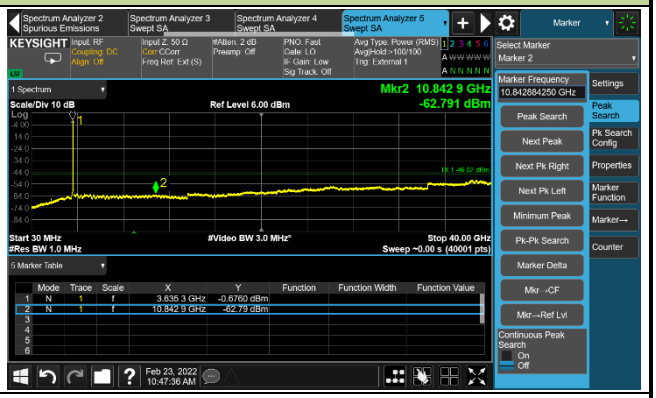
High Channel

40MHz Channel Bandwidth - Ant2

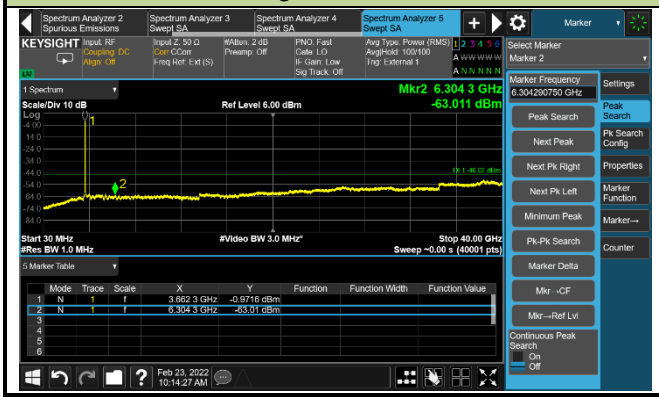
Low Channel



Middle Channel

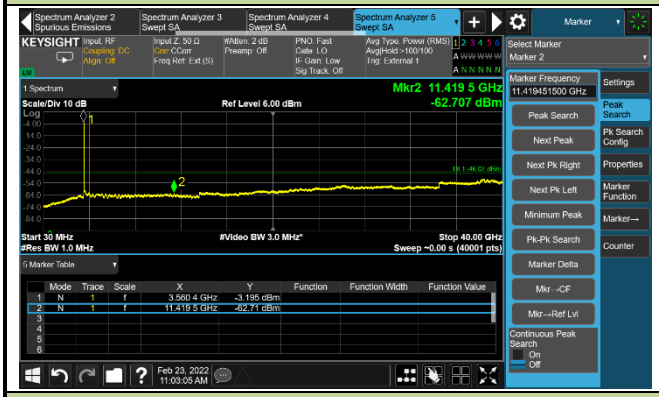


High Channel

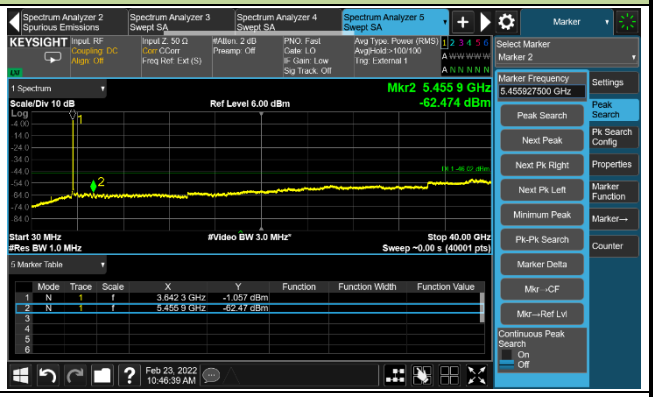


40MHz Channel Bandwidth - Ant3

Low Channel



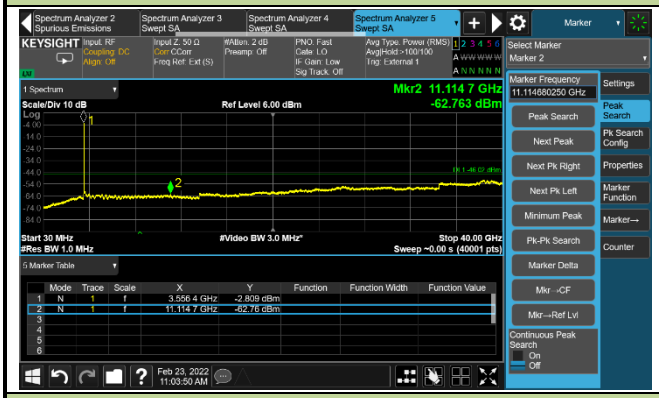
Middle Channel



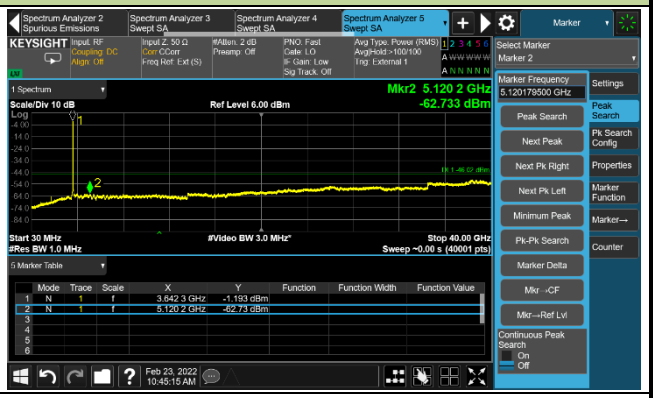
High Channel

40MHz Channel Bandwidth - Ant4

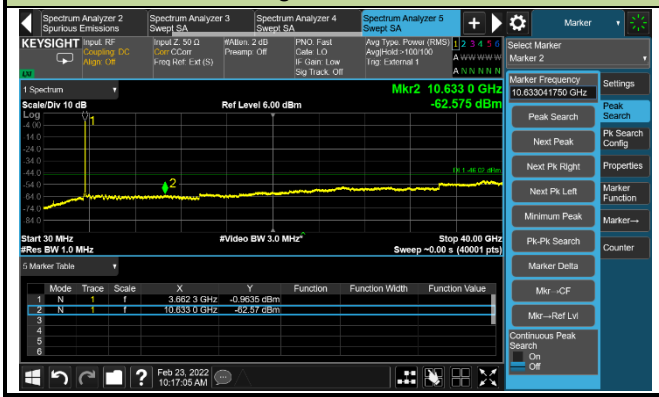
Low Channel



Middle Channel



High Channel

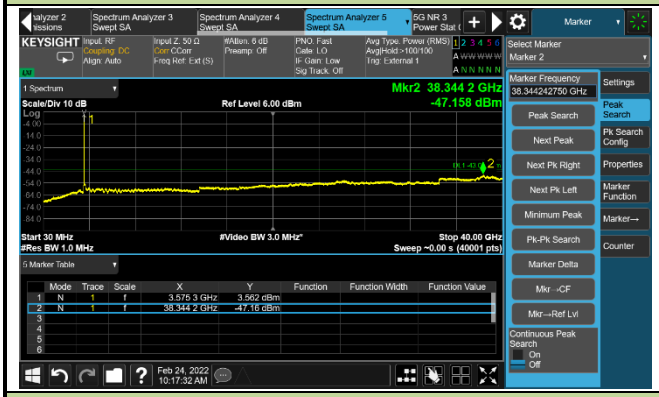


Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/02/24	Test Configuration	2Tx Mode

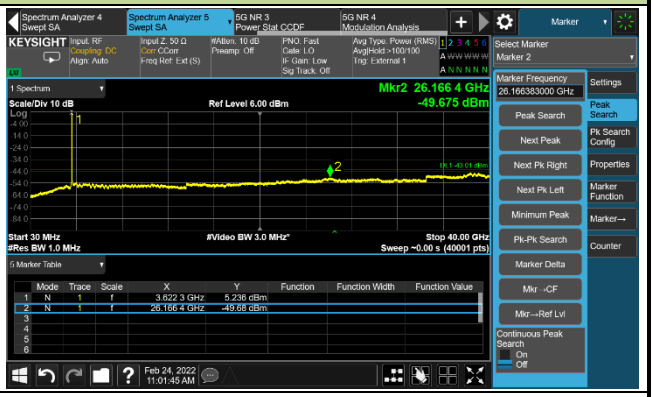
Frequency (MHz)	Channel BW (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
Ant 1					
3570.000	40	30 ~ 40000	-47.16	≤ -43.01	Pass
3624.990	40	30 ~ 40000	-49.68	≤ -43.01	Pass
3679.995	40	30 ~ 40000	-51.13	≤ -43.01	Pass
Ant 2					
3570.000	40	30 ~ 40000	-47.70	≤ -43.01	Pass
3624.990	40	30 ~ 40000	-50.33	≤ -43.01	Pass
3679.995	40	30 ~ 40000	-50.85	≤ -43.01	Pass

40MHz Channel Bandwidth - Ant1

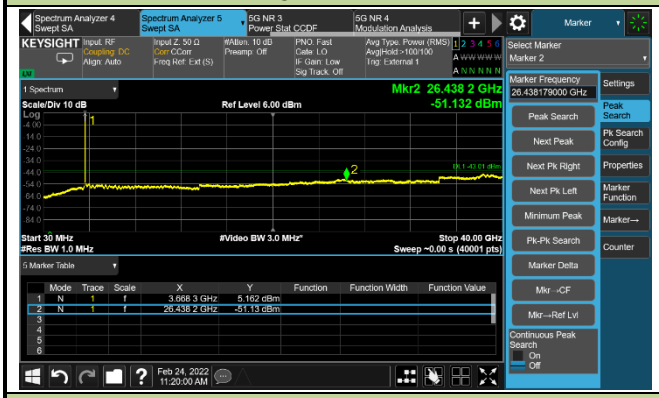
Low Channel



Middle Channel



High Channel

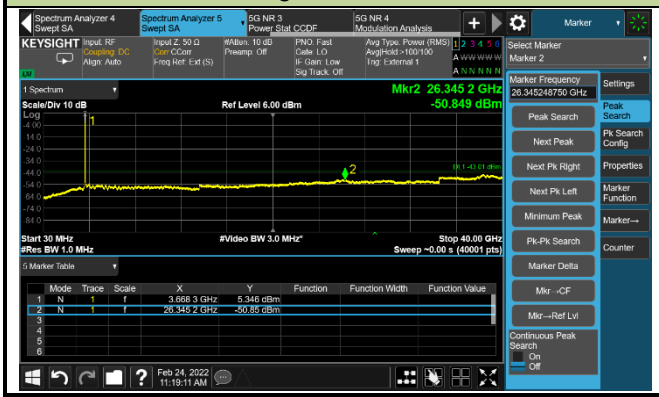


40MHz Channel Bandwidth - Ant2

Low Channel

Middle Channel

High Channel



6. Conclusion

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

The End

Appendix A - Test Setup Photograph

Refer to “2203RSU006-UT” file.

Appendix B - EUT Photograph

Refer to “2203RSU006-UE” file.