RF MEASUREMENT REPORT

FCC ID:	PIDAV2700CBM
Application:	Airspan Networks Inc
Product:	AirVelocity2700, 3.7-4.0GHz (n77P/78P),FM,PoE/DC
Model No.:	AV27-F370-P4CXP-FM-C AV27-F370-P4CXP-CN-C
Brand Name:	Airspan
FCC Rule Part(s):	Part 27
Test Date:	December 25, 2021 ~ January 13, 2022

Reviewed By: Kevin Guo

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2111RSU018-U1	Rev. 01	Initial Report	03-04-2022	Valid

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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>
<tr><td></td><td colspan="5">Laboratory Location (Shenzhen)
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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1.4. Product Information

Product Name	AirVelocity2700, 3.7-4.0GHz (n77P/78P),FM,PoE/DC
Model No.	AV27-F370-P4CXP-FM-C, AV27-F370-P4CXP-CN-C
Test Device Serial No.	1EU214500011
Operating Band	5G NR n77/n78
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: 1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. 2. The difference between the models is only the different antennas, AV27-F370-P4CXP-FM-C configurates with internal antenna, AV27-F370-P4CXP-CN-C configurates with external antenna.	

1.5. Radio Specification to this Report

Operating Band	5G NR n77/n78
T_X Frequency Range	n77: 3700 ~ 3980 MHz n78: 3700 ~ 3800 MHz
R_X Frequency Range	n77: 3700 ~ 3980 MHz n78: 3700 ~ 3800 MHz
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM
Max EIRP Power	35.71dBm
Remark: The wider band (n77) was selected for full test, for n78 band, only the bandedge emission was evaluated in this report.	

1.6. Antenna Details

Frequency Range	Antenna Type	Antenna Gain
3700 ~ 3980	Omni	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.		

1.7. Emission Designator

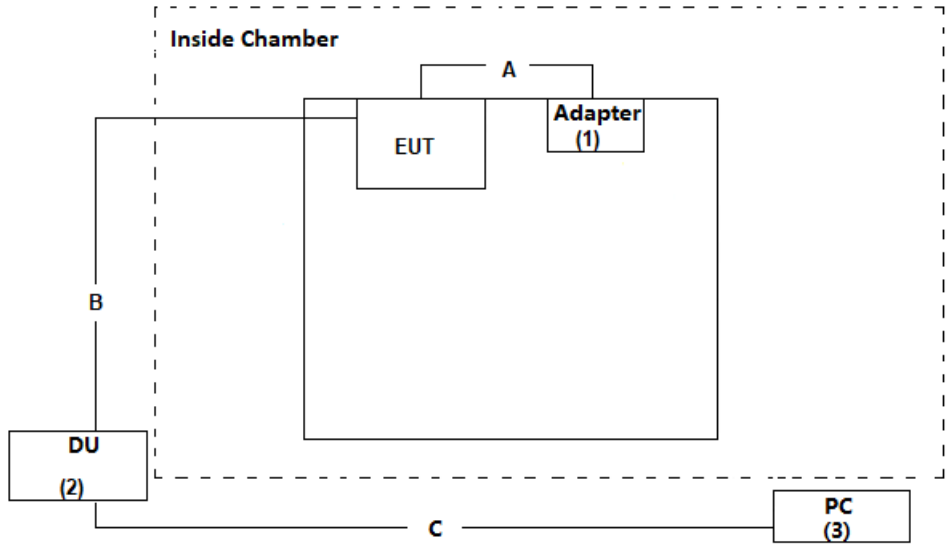
Bandwidth (MHz)	Modulation	Emission Designator
100	QPSK	97M4G7D
	16QAM	97M6W7D
	64QAM	97M4W7D
	256QAM	97M5W7D

2. Test Configuration

2.1. Test Mode and Channel Details

Test Item	Channel Bandwidth	Modulation
Equivalent Isotropically Radiated Power	100MHz	QPSK, 16QAM, 64QAM, 256QAM
Occupied Bandwidth		
Peak-to-average power ratio		QPSK
Spurious Emissions Band Edge Emissions		
Band Edge Measurements		
Frequency Stability		
Radiated Spurious Emissions		
Remark: 1. For 2Tx mode, only the EIRP was shown. 2. RSE was evaluated under internal antenna and external antenna (with a specified load) modes.		

2.2. Test System Connection Diagram



Cable Type		Spec	Length
1	Power cable	Non-Shielding	2.0m
2	Optical fiber cable	Non-Shielding	>10.0m
3	LAN cable	Cat 5e, 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. 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 27
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01: Determining ERP and EIRP

2.4. 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
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022/12/29	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2022/9/16	WZ-AC1
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2022/10/28	WZ-AC1/WZ-AC2
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2022/10/10	WZ-TR3
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2022/11/12	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2022/8/5	WZ-AC1
Vibration Test System	DongLing	ES-1-150	MRTSUE06206	1 year	2022/8/8	WZ-TR3
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2022/4/29	WZ-AC1
Horn Antenna	ETS	3117	MRTSUE06257	1 year	2022/9/25	WZ-AC1/WZ-AC2
Thermohygrometer	testo	608-H1	MRTSUE06362	1 year	2022/2/25	WZ-SR6
Thermohygrometer	testo	608-H1	MRTSUE06401	1 year	2022/6/28	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE06403	1 year	2022/6/28	WZ-AC1
Shielding Room	HUAMING	WZ-SR6	MRTSUE06443	/	/	WZ-SR6
Signal Analyzer	Keysight	N9020B	MRTSUE06583	1 year	2022/10/10	WZ-SR6
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2022/12/1	WZ-AC1/WZ-AC2
Signal Generator	Keysight	N5173B	MRTSUE06606	1 year	2022/11/29	WZ-SR6
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2022/12/29	WZ-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06640	1 year	2023/1/13	WZ-AC1/WZ-AC2
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
Preamplifier	EMCI	EMC051845SE	MRTSUE06987	1 year	2022/9/9	WZ-AC1/WZ-AC2
Thermohygrometer	testo	Testo 608-H1	MRTSUE11039	1 year	2022/11/11	WZ-AC1

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 Condition	Verdict
2.1049	Occupied Bandwidth	Conducted	Pass
2.1055	Frequency Stability		Pass
27.50(j)	Peak-to-average power ratio		Pass
27.50(j)	Equivalent Isotropic Radiated Power		Pass
2.1051 27.53(l)	Spurious Emissions Band Edge Emissions		Pass
2.1053, 27.53(l)	Spurious Emissions	Radiated	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. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations the worst-case was found.

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.

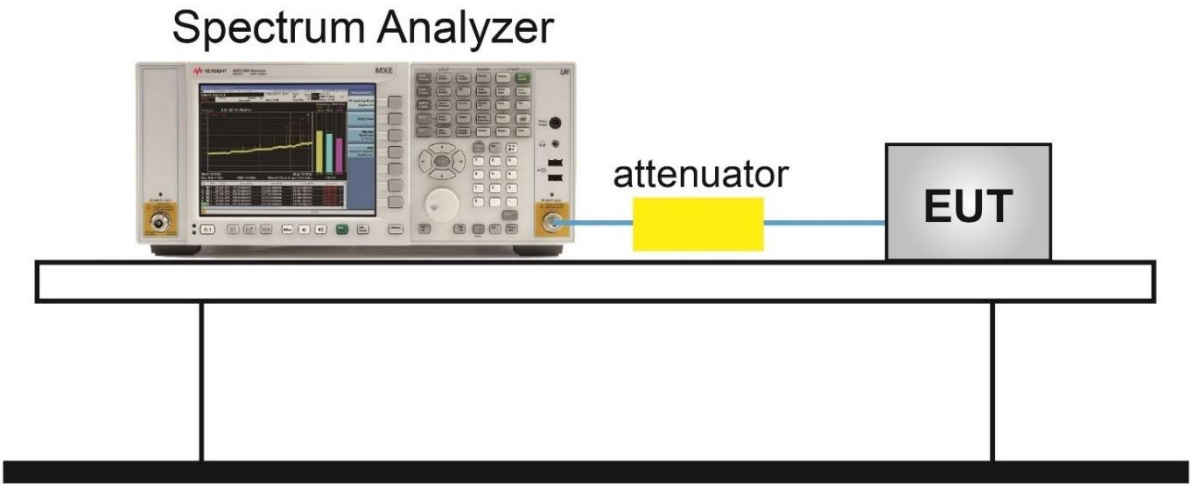
5.2.2. Test Procedure

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.

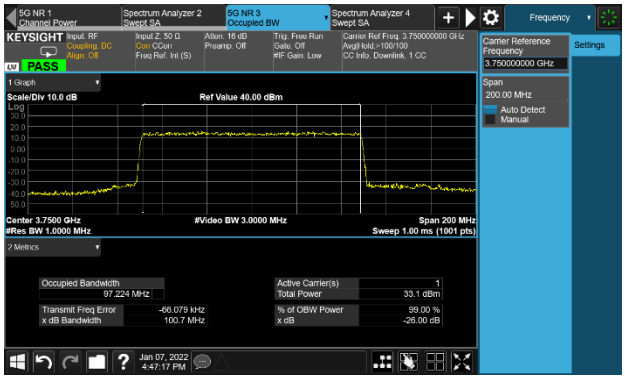
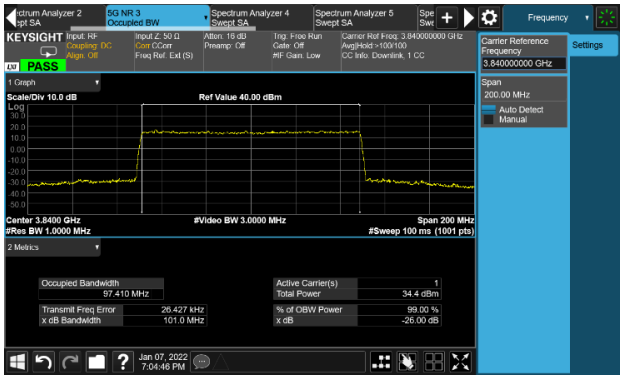
5.2.4. Test Setup

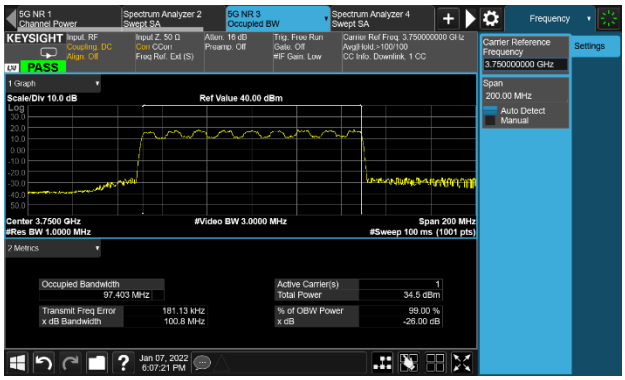
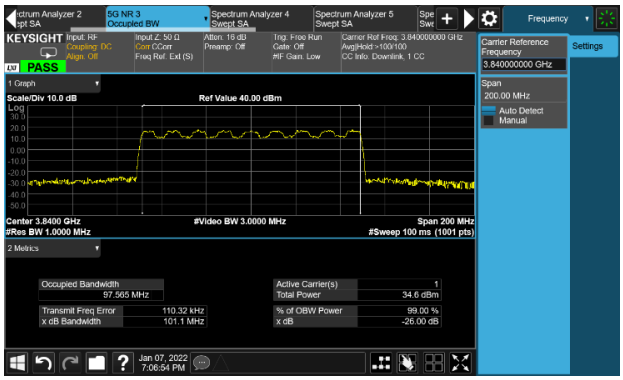
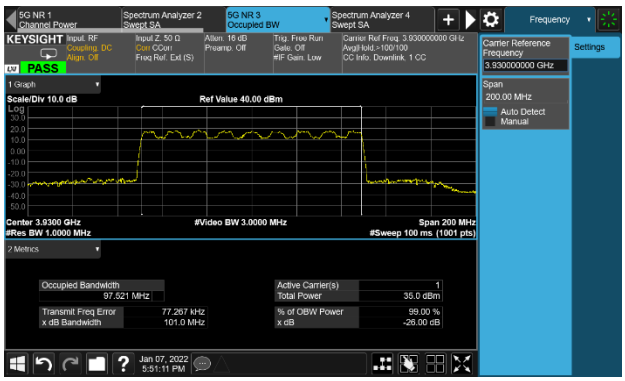


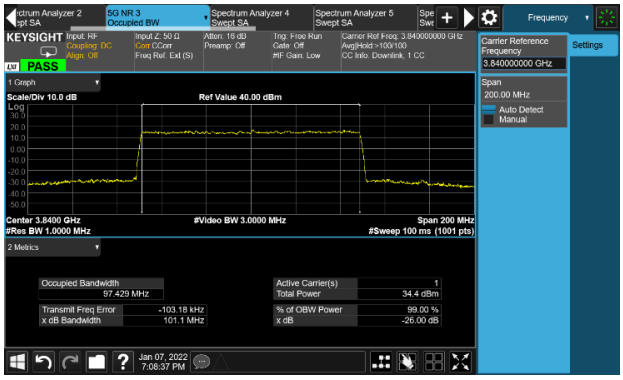
5.2.5. Test Result

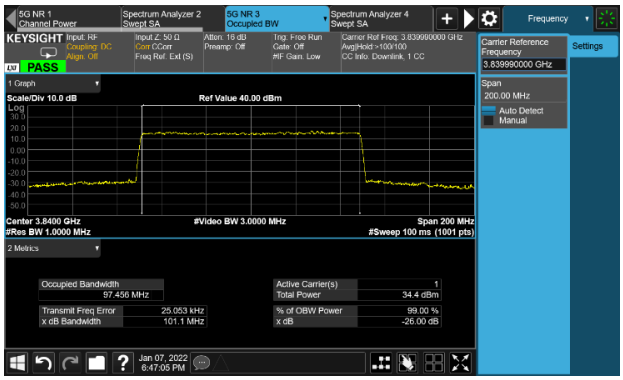
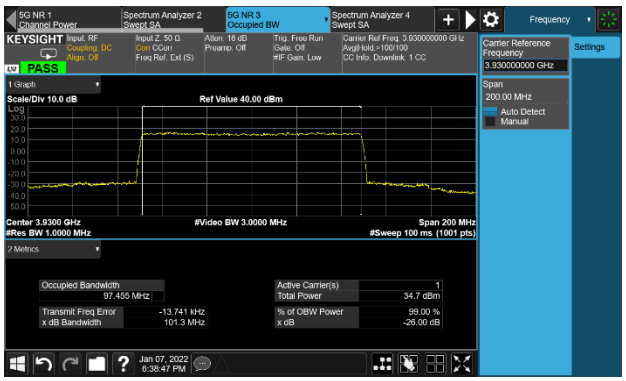
Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/07		

Modulation	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
n77/78 Band			
QPSK	3750	100	97.22
	3840		97.41
	3930		97.25
16QAM	3750	100	97.40
	3840		97.57
	3930		97.52
64QAM	3750	100	97.32
	3840		97.43
	3930		97.42
256QAM	3750	100	97.32
	3840		97.46
	3930		97.46

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 Measurement

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 Procedures Used

ANSI C63.26-2015 - Section 5.6

5.3.3. Test Setting

Frequency Stability Under Temperature Variations:

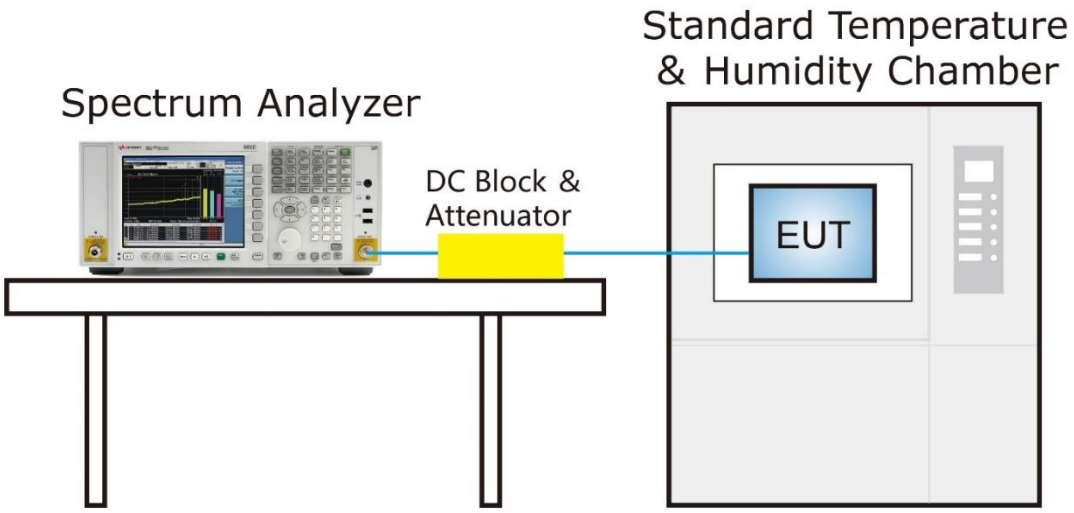
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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 inputvoltage to specify extreme voltage variation (±15%) and endpoint, recordthe maximum frequency change.

5.3.4. Test Setup



5.3.5. Test Result

Test Site	WZ-TR3	Test Engineer	Cloud Guo
Test Date	2022/01/10		

Power (Vdc)	Temp. (°C)	Frequency Tolerance (ppm)
n77/78 Band		
54V	- 30	0.004
	- 20	0.003
	- 10	0.005
	0	0.004
	+ 10	0.005
	+ 20	0.005
	+ 30	0.004
	+ 40	0.004
	+ 50	0.003
45.9V	+ 20	0.005
62.1V	+ 20	0.004

5.4. Peak to Average Ratio

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 Used

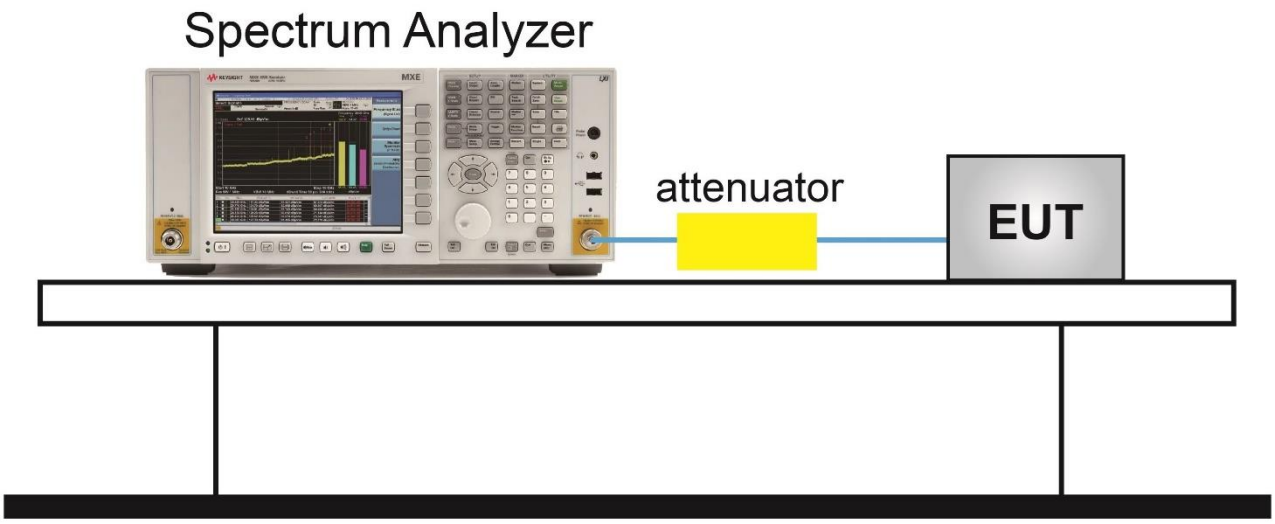
KDB 971168 D01v03r01 - Section 5.7

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%.

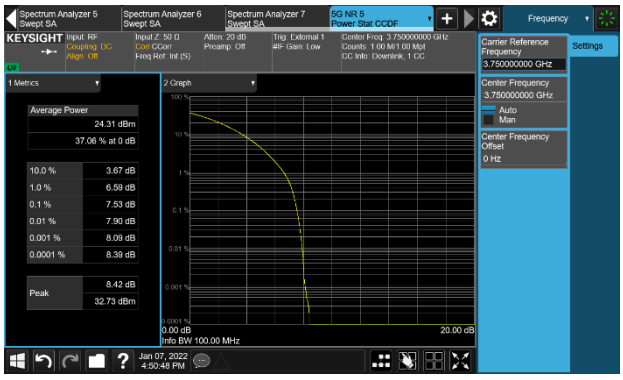
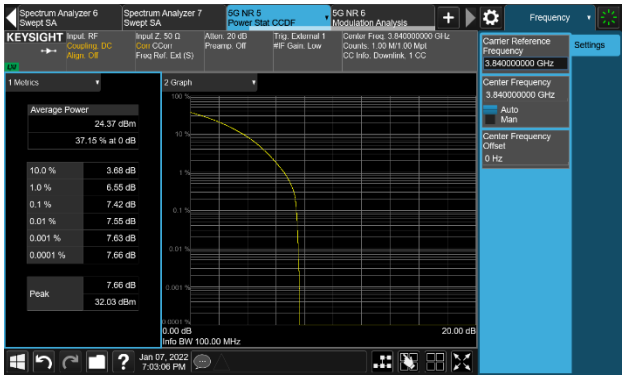
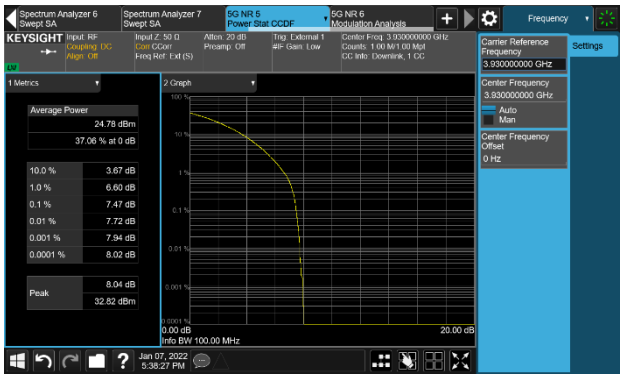
5.4.4. Test Setup



5.4.5. Test Result

Test Site	WZ-TR3	Test Engineer	Cloud Guo
Test Date	2022/01/07	Test Configuration	n77/78, QPSK

Frequency (MHz)	Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
3750	100	7.53	≤ 13.00	Pass
3840	100	7.42	≤ 13.00	Pass
3930	100	7.47	≤ 13.00	Pass

100MHz Channel Bandwidth	
Bottom Channel	Middle Channel
	
Top Channel	
	

5.5. Equivalent Isotropically Radiated Power Measurement

5.5.1. Test Limit

The power of each fixed or base station transmitting in the 3700-3980 MHz band is limited to an equivalent isotropically radiated power (EIRP) of 1640 Watts/MHz.

5.5.2. Test Procedures Used

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%).

a) Set span to 2 × to 3 × the OBW.

b) Set RBW = 1% to 5% of the OBW.

c) Set VBW ≥ 3 × RBW.

d) Set number of measurement points in sweep ≥ 2 × span / RBW.

e) Sweep time:

1) Set = auto-couple, or

2) Set ≥ [10 × (number of points in sweep) × (transmission symbol period)] for single sweep (Automation-compatible) measurement.

f) Detector = power averaging (rms).

g) Set sweep trigger to “free run.”

h) 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.

i) Using the marker function to identify the maximum PSD.

j) 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%.

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

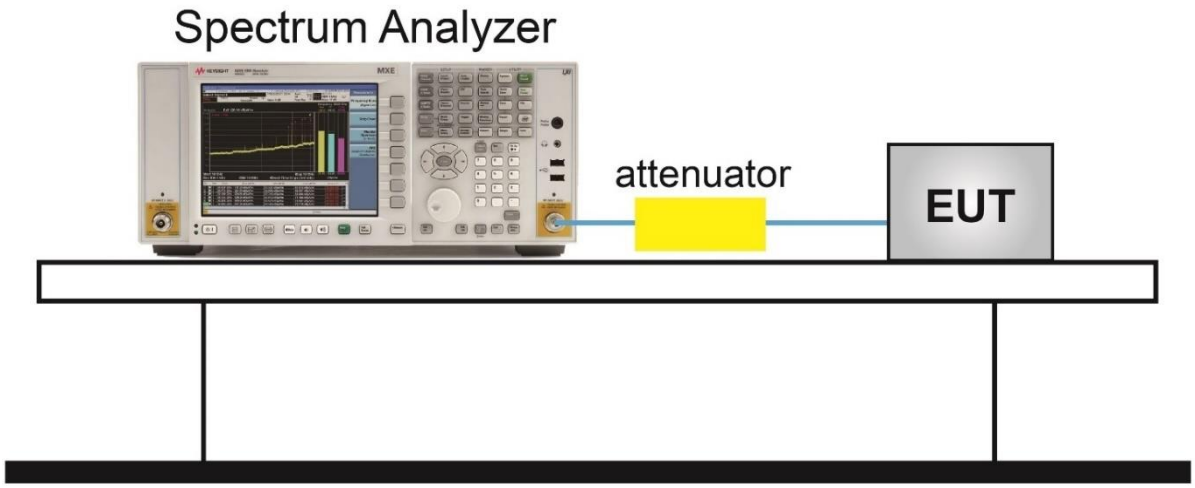
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

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	2022/01/07	Test Configuration	4Tx mode

Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)				Total power Density (dBm/MHz)	EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2	Ant 3	Ant 4			
QPSK								
3750.0	100	4.67	4.79	4.94	4.56	10.76	15.76	< 62.15
3840.0	100	6.19	6.43	6.86	6.19	12.45	17.45	< 62.15
3930.0	100	6.50	6.96	7.03	6.51	12.78	17.78	< 62.15
16QAM								
3750.0	100	8.45	8.67	8.83	8.14	14.55	19.55	< 62.15
3840.0	100	8.20	8.33	8.87	8.26	14.44	19.44	< 62.15
3930.0	100	8.30	9.16	8.93	8.14	14.67	19.67	< 62.15
64QAM								
3750.0	100	6.51	6.73	6.90	6.81	12.76	17.76	< 62.15
3840.0	100	6.32	6.51	7.02	4.26	12.17	17.17	< 62.15
3930.0	100	6.70	7.36	7.25	6.98	13.10	18.10	< 62.15
256QAM								
3750.0	100	6.80	6.71	6.77	6.18	12.64	17.64	< 62.15
3840.0	100	6.41	6.76	6.77	6.25	12.57	17.57	< 62.15
3930.0	100	6.41	7.29	7.30	6.94	13.02	18.02	< 62.15

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

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

Frequency (MHz)	Channel BW (MHz)	Power (dBm)				Total Power (dBm)	EIRP Power (dBm)
		Ant 1	Ant 2	Ant 3	Ant 4		
QPSK							
3750.0	100	24.10	24.30	24.41	23.97	30.22	35.22
3840.0	100	24.05	24.38	24.63	24.10	30.32	35.32
3930.0	100	24.21	24.66	24.77	24.35	30.52	35.52
16QAM							
3750.0	100	24.41	24.65	24.61	24.08	30.46	35.46
3840.0	100	24.33	24.66	24.80	24.36	30.56	35.56
3930.0	100	24.46	24.90	25.08	24.26	30.71	35.71
64QAM							
3750.0	100	24.21	24.46	24.53	23.98	30.32	35.32
3840.0	100	24.15	24.45	24.73	24.23	30.42	35.42
3930.0	100	24.34	24.69	24.88	24.45	30.62	35.62
256QAM							
3750.0	100	24.10	24.47	24.41	24.29	30.34	35.34
3840.0	100	24.39	24.45	24.66	24.05	30.41	35.41
3930.0	100	24.43	24.74	24.89	24.67	30.71	35.71

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

Note 2: EIRP = Total Power + Antenna Gain.

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/07	Test Configuration	2Tx mode (Reporting Only)

Frequency (MHz)	Channel BW (MHz)	Power Density (dBm/MHz)		Total power Density (dBm/MHz)	EIRP Density (dBm/MHz)	Limit (dBm/MHz)
		Ant 1	Ant 2			
QPSK						
3750.0	100	4.67	4.79	7.74	12.74	< 62.15
3840.0	100	6.19	6.43	9.32	14.32	< 62.15
3930.0	100	6.50	6.96	9.75	14.75	< 62.15
16QAM						
3750.0	100	8.45	8.67	11.57	16.57	< 62.15
3840.0	100	8.20	8.33	11.28	16.28	< 62.15
3930.0	100	8.30	9.16	11.76	16.76	< 62.15
64QAM						
3750.0	100	6.51	6.73	9.63	14.63	< 62.15
3840.0	100	6.32	6.51	9.43	14.43	< 62.15
3930.0	100	6.70	7.36	10.05	15.05	< 62.15
256QAM						
3750.0	100	6.80	6.71	9.77	14.77	< 62.15
3840.0	100	6.41	6.76	9.60	14.60	< 62.15
3930.0	100	6.41	7.29	9.88	14.88	< 62.15

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.

Frequency (MHz)	Channel BW (MHz)	Power (dBm)		Total Power (dBm)	EIRP Power (dBm)
		Ant 1	Ant 2		
QPSK					
3750.0	100	24.10	24.30	27.21	32.21
3840.0	100	24.05	24.38	27.23	32.23
3930.0	100	24.21	24.66	27.45	32.45
16QAM					
3750.0	100	24.41	24.65	27.54	32.54
3840.0	100	24.33	24.66	27.51	32.51
3930.0	100	24.46	24.90	27.70	32.70
64QAM					
3750.0	100	24.21	24.46	27.35	32.35
3840.0	100	24.15	24.45	27.31	32.31
3930.0	100	24.34	24.69	27.53	32.53
256QAM					
3750.0	100	24.10	24.47	27.30	32.30
3840.0	100	24.39	24.45	27.43	32.43
3930.0	100	24.43	24.74	27.60	32.60

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.

5.6. Band Edge Measurement

5.6.1. Test Limit

For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

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.

The limit is adjusted to -13dBm - 10 * log(4) = -19.02dBm.

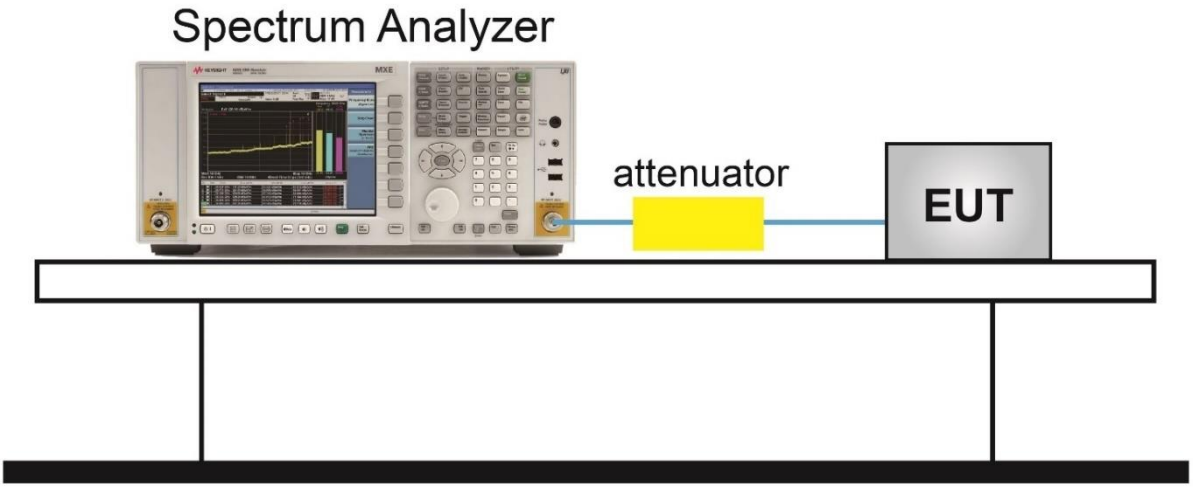
5.6.2. Test Procedure Used

ANSI C63.26-2015 - Section5.7

5.6.3. Test Setting

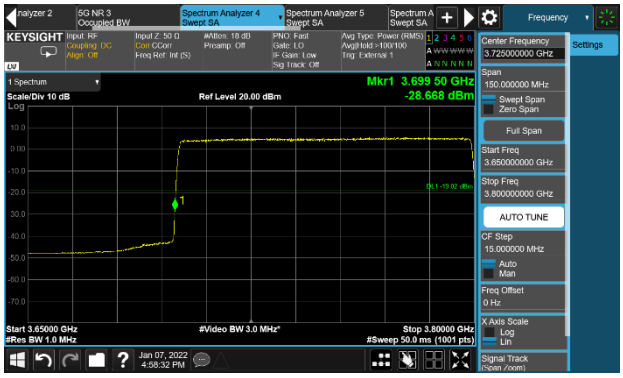
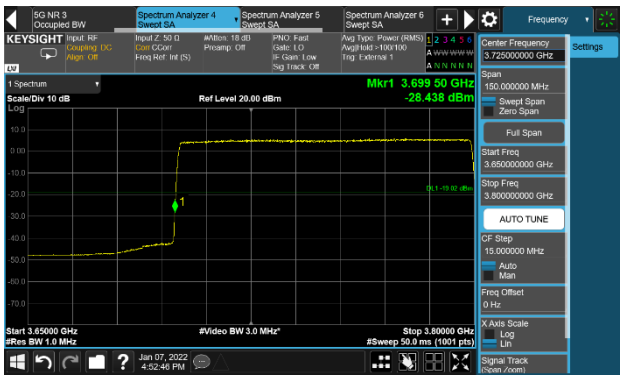
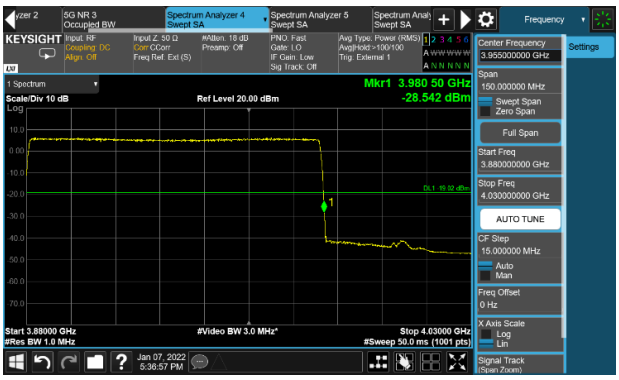
1. Set the analyzer frequency to low, middle, high channel.
2. RBW ≥ The nominal RBW shall be in the range of 1% of the anticipated OBW (in the 1MHz band immediately outside and adjacent to the band edge). For improvement of the accuracy in the measurement of the average power of a noise-like emission, 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.

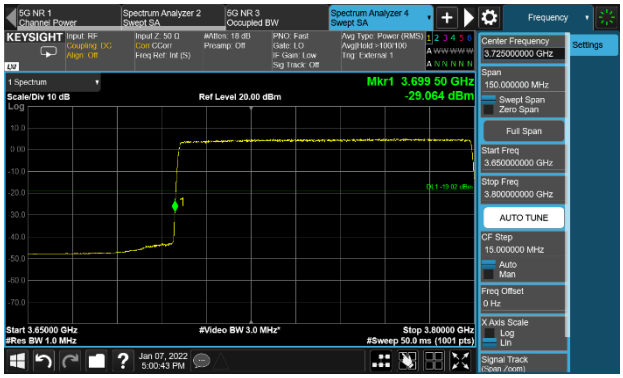
5.6.4.Test Setup



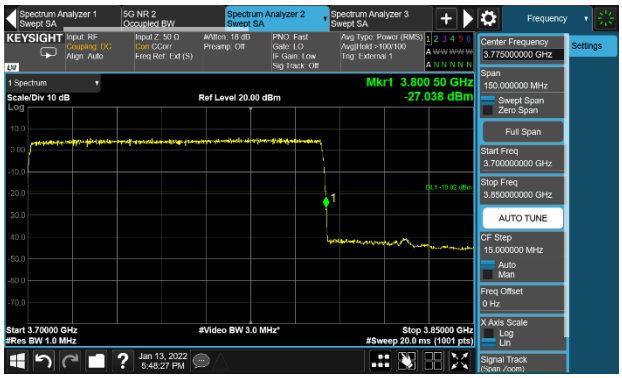
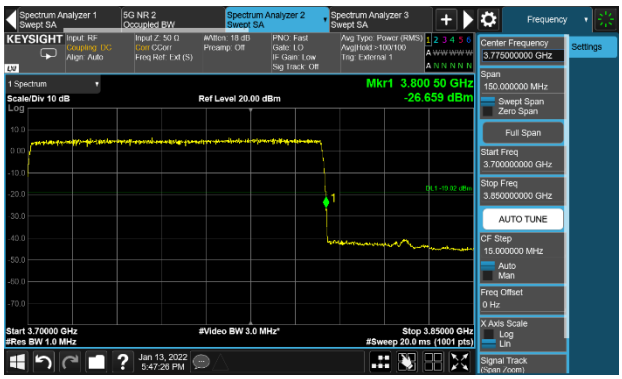
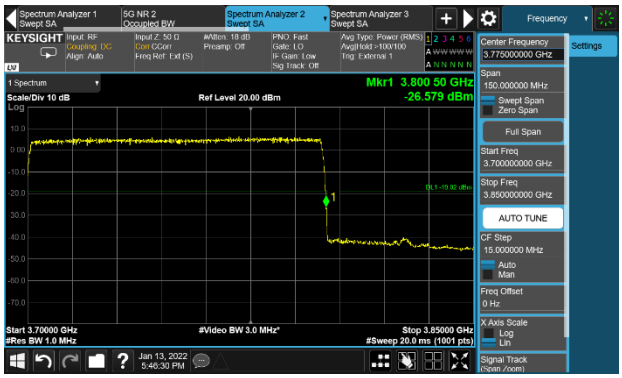
5.6.5. Test Result

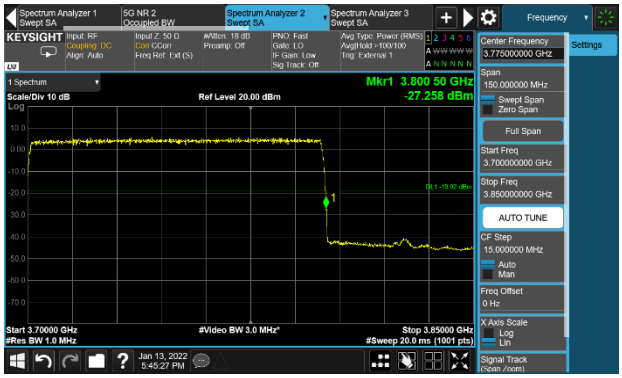
Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/07	Test Configuration	n77 (3700 ~ 3980MHz)

100MHz Channel Bandwidth – Ant 1	
Low Channel	High Channel
	
100MHz Channel Bandwidth – Ant 2	
Low Channel	High Channel
	
100MHz Channel Bandwidth – Ant 3	
Low Channel	High Channel
	

100MHz Channel Bandwidth – Ant 4	
Low Channel	High Channel
	

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/13	Test Configuration	N78 (3700 ~ 3800MHz)

100MHz Channel Bandwidth – Ant 1	
High Channel	
	
100MHz Channel Bandwidth – Ant 2	
High Channel	
	
100MHz Channel Bandwidth – Ant 3	
High Channel	
	

100MHz Channel Bandwidth – Ant 4	
High Channel	
	

5.7. Conducted Spurious Emissions

5.7.1. Test Limit

For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 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.

The limit is adjusted to -13dBm - 10 * log(4) = -19.02dBm For 4Tx mode.

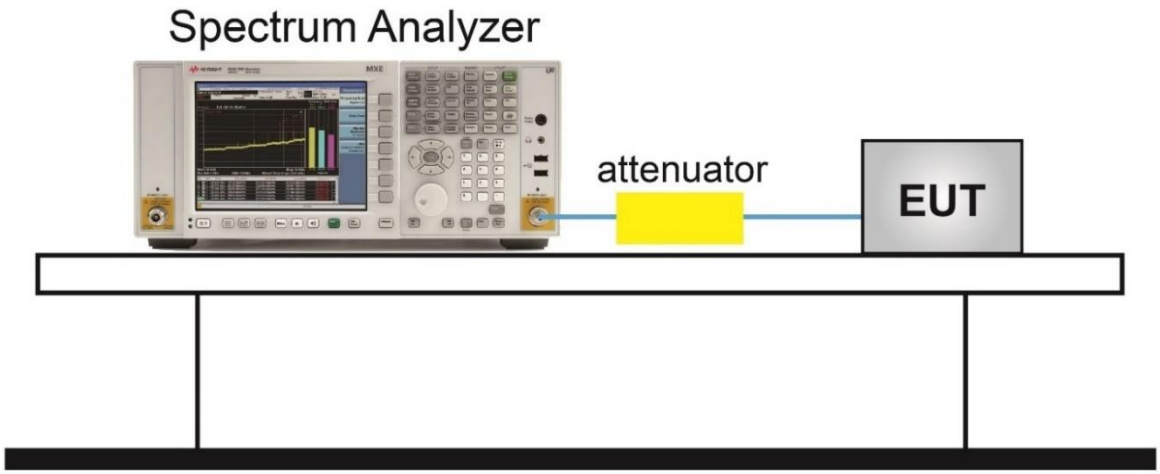
5.7.2. Test Procedure Used

ANSI C63.26-2015 - Section 5.7

5.7.3. 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.

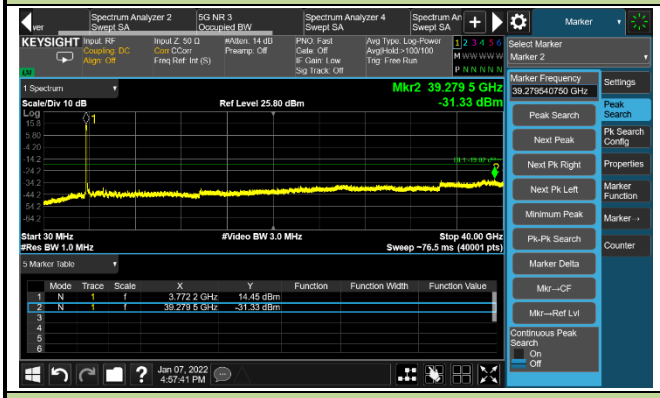
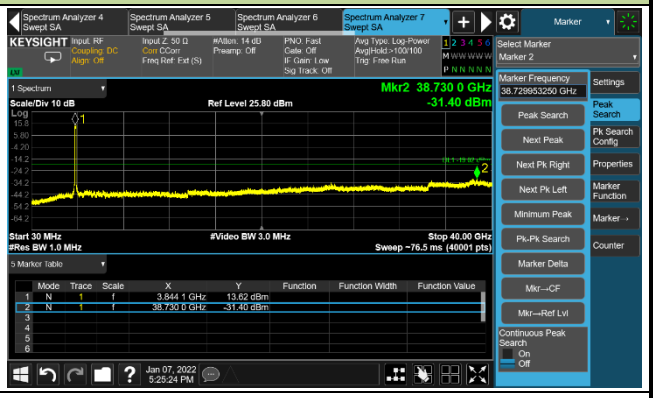
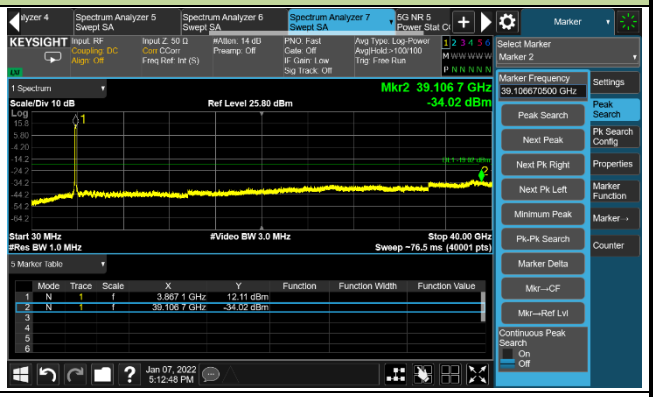
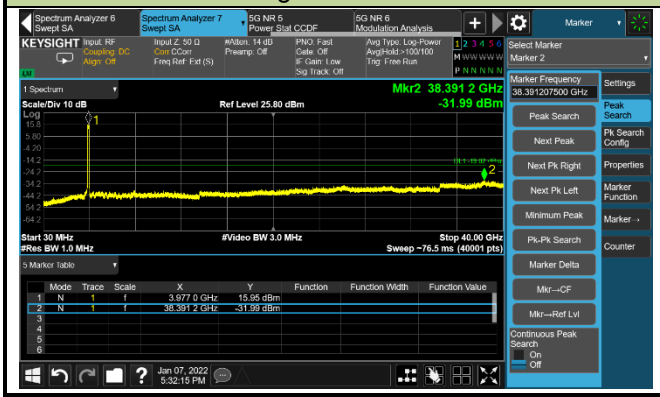
5.7.4. Test Setup

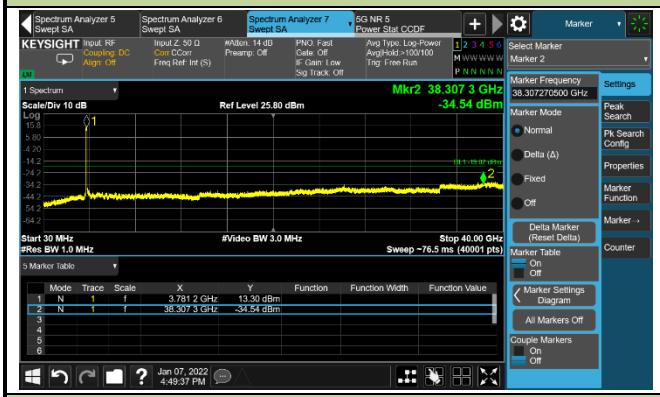
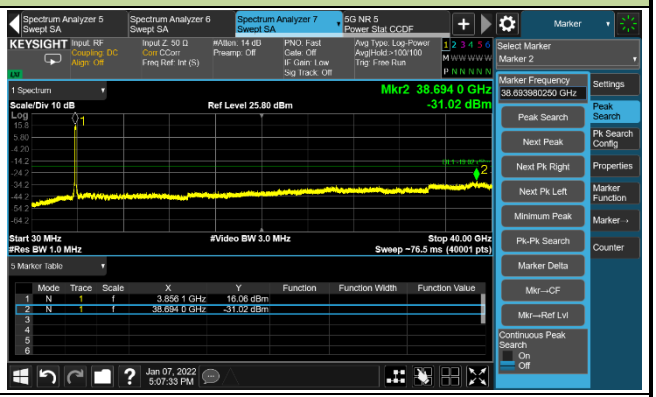
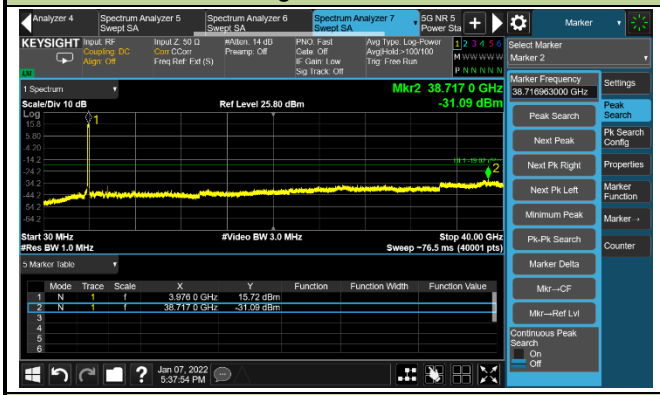
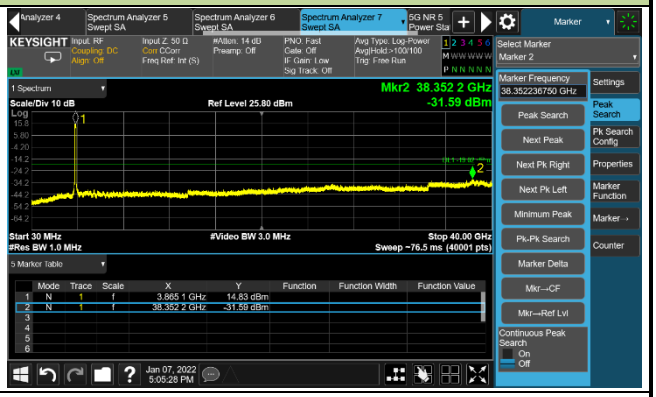
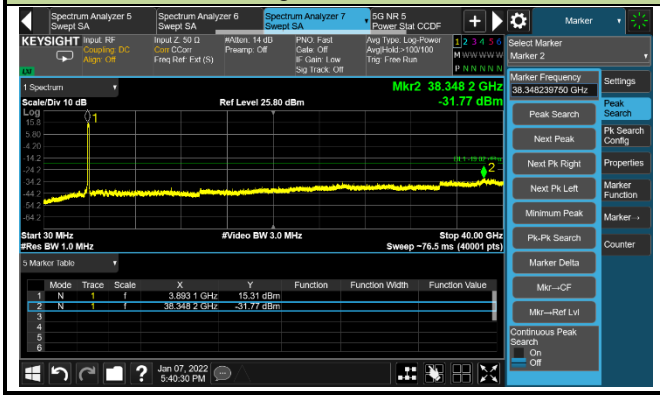


5.7.5. Test Result

Test Site	WZ-SR6	Test Engineer	Cloud Guo
Test Date	2022/01/07	Test Configuration	4Tx mode

Frequency (MHz)	Channel Bandwidth (MHz)	Ant	Frequency Range (MHz)	Max Spurious Emissions (dBm/MHz)	Limit (dBm/ MHz)	Result
3750.0	100	1	30 ~ 40000	-31.33	≤ -19.02	Pass
		2	30 ~ 40000	-33.35	≤ -19.02	Pass
		3	30 ~ 40000	-34.54	≤ -19.02	Pass
		4	30 ~ 40000	-31.42	≤ -19.02	Pass
3840.0	100	1	30 ~ 40000	-31.40	≤ -19.02	Pass
		2	30 ~ 40000	-34.02	≤ -19.02	Pass
		3	30 ~ 40000	-31.02	≤ -19.02	Pass
		4	30 ~ 40000	-31.59	≤ -19.02	Pass
3930.0	100	1	30 ~ 40000	-30.91	≤ -19.02	Pass
		2	30 ~ 40000	-31.99	≤ -19.02	Pass
		3	30 ~ 40000	-31.09	≤ -19.02	Pass
		4	30 ~ 40000	-31.77	≤ -19.02	Pass

100MHz Channel Bandwidth-Ant1	
Low Channel	Middle Channel
	
High Channel	
	
100MHz Channel Bandwidth-Ant2	
Low Channel	Middle Channel
	
High Channel	
	

100MHz Channel Bandwidth-Ant3	
Low Channel	Middle Channel
	
High Channel	
	
100MHz Channel Bandwidth-Ant4	
Low Channel	Middle Channel
	
High Channel	
	

5.8. Radiated Spurious Emissions Measurements

5.8.1. Test Limit

For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

E (dBμV/m) = EIRP (dBm) - 20 log D + 104.8; where D is the measurement distance in meters. The emission limit equal to 82.3dBμV/m.

5.8.2. Test Procedure Used

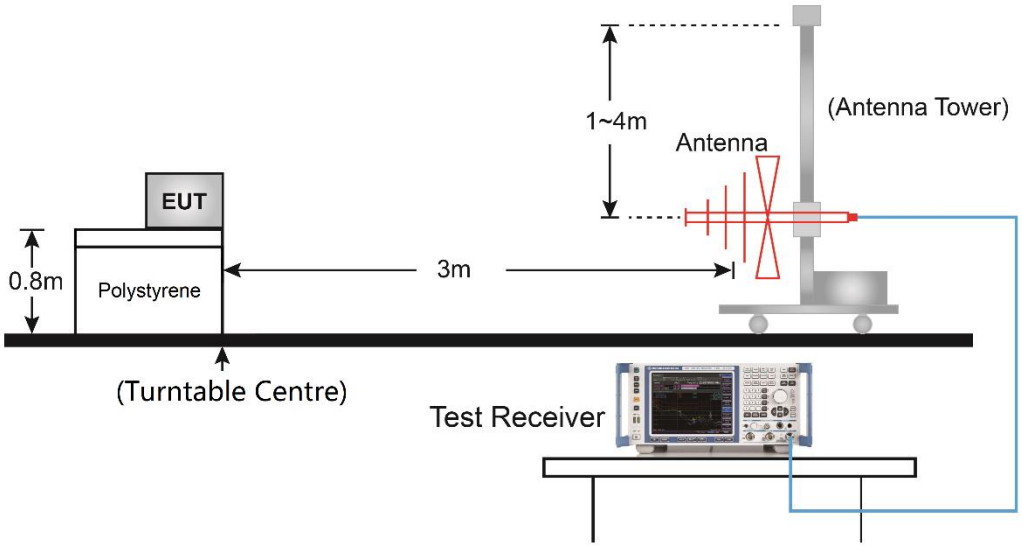
ANSI C63.26-2015 - Section 5.2.7 & 5.5

5.8.3. Test Setting

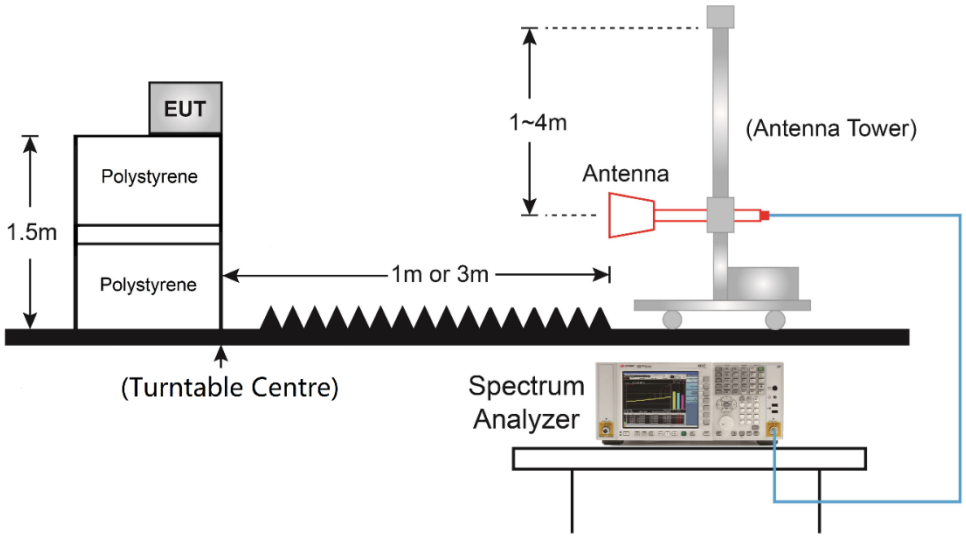
1. RBW = 1MHz
2. VBW ≥ 3*RBW
3. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

5.8.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.8.5. Test Result

Test Site	WZ-AC1	Test Engineer	Cloud Guo
Test Date	2022/01/10	Test Mode	4Tx Mode - Internal ANT

Frequency (MHz)	Reading Level (dBµV)	Factor (dB/m)	Measure Level(dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
Bottom Channel							
33.40	12.15	16.80	28.95	82.30	-53.35	Peak	Horizontal
152.71	4.65	18.13	22.78	82.30	-59.52	Peak	Horizontal
33.40	18.32	16.80	35.12	82.30	-47.18	Peak	Vertical
74.14	12.33	15.03	27.36	82.30	-54.94	Peak	Vertical
7502.50	41.32	8.94	50.26	82.30	-32.04	Peak	Horizontal
14999.50	48.14	14.36	62.50	82.30	-19.80	Peak	Horizontal
7502.50	45.28	8.94	54.22	82.30	-28.08	Peak	Vertical
14999.50	43.67	14.36	58.03	82.30	-24.27	Peak	Vertical
Middle Channel							
33.40	16.48	16.80	33.28	82.30	-49.02	Peak	Horizontal
153.68	3.71	18.13	21.84	82.30	-60.46	Peak	Horizontal
33.40	15.36	16.80	32.16	82.30	-50.14	Peak	Vertical
72.68	10.96	15.35	26.31	82.30	-55.99	Peak	Vertical
7681.00	41.91	8.55	50.46	82.30	-31.84	Peak	Horizontal
15356.50	48.53	13.66	62.19	82.30	-20.11	Peak	Horizontal
7681.00	43.29	8.55	51.84	82.30	-30.46	Peak	Vertical
15356.50	45.91	13.66	59.57	82.30	-22.73	Peak	Vertical
Top Channel							
32.91	13.22	16.71	29.93	82.30	-52.37	Peak	Horizontal
233.22	17.12	15.12	32.24	82.30	-50.06	Peak	Horizontal
70.26	9.43	15.84	25.27	82.30	-57.03	Peak	Vertical
232.73	13.12	15.06	28.18	82.30	-54.12	Peak	Vertical
11072.50	36.51	13.70	50.21	82.30	-32.09	Peak	Horizontal
14642.50	36.28	14.97	51.25	82.30	-31.05	Peak	Horizontal
10885.50	36.24	13.90	50.14	82.30	-32.16	Peak	Vertical
14234.50	37.09	14.94	52.03	82.30	-30.27	Peak	Vertical
Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m).							

Test Site	WZ-AC1	Test Engineer	Cloud Guo
Test Date	2022/01/10	Test Mode	4Tx Mode – External ANT

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level(dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Bottom Channel							
32.91	13.22	16.71	29.93	82.30	-52.37	Peak	Horizontal
233.22	17.12	15.12	32.24	82.30	-50.06	Peak	Horizontal
70.26	9.43	15.84	25.27	82.30	-57.03	Peak	Vertical
232.73	13.12	15.06	28.18	82.30	-54.12	Peak	Vertical
11072.50	36.51	13.70	50.21	82.30	-32.09	Peak	Horizontal
14642.50	36.28	14.97	51.25	82.30	-31.05	Peak	Horizontal
10885.50	36.24	13.90	50.14	82.30	-32.16	Peak	Vertical
14234.50	37.09	14.94	52.03	82.30	-30.27	Peak	Vertical
Middle Channel							
32.91	13.64	16.71	30.35	82.30	-51.95	Peak	Horizontal
232.73	15.99	15.06	31.05	82.30	-51.25	Peak	Horizontal
32.91	10.13	16.71	26.84	82.30	-55.46	Peak	Vertical
233.22	12.81	15.12	27.93	82.30	-54.37	Peak	Vertical
10698.50	36.23	13.63	49.86	82.30	-32.44	Peak	Horizontal
14192.00	36.90	14.72	51.62	82.30	-30.68	Peak	Horizontal
10877.00	36.35	13.91	50.26	82.30	-32.04	Peak	Vertical
14217.50	36.79	14.86	51.65	82.30	-30.65	Peak	Vertical
Top Channel							
32.91	13.54	16.71	30.25	82.30	-52.05	Peak	Horizontal
233.22	17.17	15.12	32.29	82.30	-50.01	Peak	Horizontal
73.17	11.11	15.24	26.35	82.30	-55.95	Peak	Vertical
233.22	11.78	15.12	26.90	82.30	-55.40	Peak	Vertical
11064.00	36.53	13.69	50.22	82.30	-32.08	Peak	Horizontal
14506.50	36.43	15.10	51.53	82.30	-30.77	Peak	Horizontal
11038.50	36.65	13.75	50.40	82.30	-31.90	Peak	Vertical
14812.50	35.72	15.05	50.77	82.30	-31.53	Peak	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).							

6. Conclusion

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

The End

Appendix A - Test Setup Photograph

Refer to “2111RSU018-UT” file.

Appendix B - EUT Photograph

Refer to “2111RSU018-UE” file.