



RF TEST REPORT

Report No.: SET2023-02192

Product Name: PoC Radio

Model No.: iTALK-310, iTALK-300

FCC ID: 2A2II-ITALK310

Applicant: iTALKPTT Corporation

Address: 6905 S 1300 E #450, Cottonwood Heights, UT 84047-1817, USA

Dates of Testing: 02/14/2023 - 03/09/2023

Issued by: CCIC Southern Testing Co., Ltd.

Lab Location: Electronic Testing Building, No. 43 Shahe Road, Xili Street,
Nanshan District, Shenzhen, Guangdong, China.

Tel: 86 755 26627338 **Fax:** 86 755 26627238

This test report consists of 97 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CCIC-SET. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CCIC-SET within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.



Test Report

Product: PoC Radio

Brand Name: iTALKPTT

Trade Name: iTALKPTT

Applicant.....: iTALKPTT Corporation

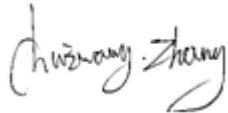
Applicant Address.....: 6905 S 1300 E #450, Cottonwood Heights, UT
84047-1817, USA

Manufacturer: Shenzhen VTU Systems Co., Ltd.

Manufacturer Address: 6/F, Building A, Ganghongji High-tech Intelligent
Industrial Park, No. 1008, Songbai Road, Nanshan
District, Shenzhen 518055, P.R. China

Test Standards: 47 CFR Part 15 Subpart E 15.407
ANSI C63.10-2013

Test Result.....: Pass

Tested by:  2023.03.21
Chuiwang Zhang, Test Engineer

Reviewed by:  2023.03.21
Chris You, Senior Engineer

Approved by:  2023.03.21
Yang Fan, Manager

Table of Contents

1. GENERAL INFORMATION.....	5
1.1. EUT Description	5
1.2. Test Standards and Results.....	6
1.3. Channel List	7
1.4. Test environment and mode	9
1.5. Table for Supporting Units.....	11
1.6. Laboratory Facilities	12
2. 47 CFR PART 15E REQUIREMENTS	13
2.1. Antenna requirement	13
2.2. Maximum Conducted Output Power	14
2.3. Power spectral density (PSD)	16
2.4. Emission Bandwidth and Occupied Bandwidth.....	18
2.5. Frequency Stability	20
2.6. Radiated Band Edge and Spurious Emission.....	22
2.7. AC Power Line Conducted Emission.....	42
3. LIST OF MEASURING EQUIPMENT.....	46
4. UNCERTAINTY OF EVALUATION.....	47
APPENDIX A	48



Change History		
Issue	Date	Reason for change
1.0	2023.03.21	First edition

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	PoC Radio	
Model No.	iTALK-310, iTALK-300	
Hardware Version	IT330_MB_V1.0	
Software Version	iTALK310_V1.0	
EUT supports Radios application	WLAN5.0GHz 802.11a/n	
Product Type	Client devices	
Modulation Type	802.11a/n: OFDM (BPSK/QPSK/16QAM/64QAM)	
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n: up to 150 Mbps	
Frequency Range	UNII-1: 5150 ~ 5250MHz, UNII-2a: 5250 ~ 5350MHz UNII-2c: 5470 ~ 5725MHz, UNII-3: 5725 ~ 5850MHz	
Channel Bandwidth	802.11a: 20MHz 802.11n: 20MHz/40MHz	
Channel Number	UNII-1: 4 for 802.11a, 802.11n(HT20) 2 for 802.11n(HT40)	UNII-2a: 4 for 802.11a, 802.11n(HT20) 2 for 802.11n(HT40)
	UNII-2c: 11 for 802.11a, 802.11n(HT20) 5 for 802.11n(HT40)	UNII-3: 5 for 802.11a, 802.11n(HT20) 2 for 802.11n(HT40)
Antenna Type	Internal Antenna	
Antenna Gain	3.03dBi	
Output Power (Max.)	UNII-1: 12.444.30dBm UNII-2a: 12.68dBm UNII-2c: 11.19dBm UNII-3: 11.02dBm	
Power supply	Rechargeable Li-ion Polymer Battery DC3.8V/4000mAh	

Note 1: Model No.: iTALK-310 and iTALK-300 are same in circuit board and specification, the same frequency range, antenna, modulation method, and RF output power. The difference is the Screen and keys, iTALK-310 with screen and keys, while iTALK-300 does not.

Note 2: Both the iTALK-310 and iTALK-300 were tested, iTALK-310 was found to have the worst test results, only the worst cases are recorded in this report.

1.2. Test Standards and Results

The objective of the report is to perform testing according to below standards for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E §15.407	Radio Frequency Devices
2	KDB789033 D02 General UNII Test Procedures New Rules v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Test detailed items/section required by FCC rules and results are as below:

No.	FCC Rule	Description	Result
1	15.203 15.407(a)	Antenna Requirement	PASS
2	15.407(a)(1)(iv) 15.407 (a)(2) 15.407(a)(3)(i)	Maximum Conducted Output Power	PASS
3	15.407(a)(12)	26dB Emission Bandwidth 99% Occupied Bandwidth	PASS
4	15.407(e)	6dB Emission Bandwidth	PASS
5	15.407(a)(1)(iv) 15.407 (a)(2) 15.407(a)(3)(i)	Power spectral density (PSD)	PASS
6	15.207	AC Power Line Conducted Emission	PASS
7	15.205 15.209 15.407(b)(1) 15.407(b)(2) 15.407(b)(3) 15.407(b)(4)	Radiated Band Edges and Spurious Emission	PASS
8	15.407(g)	Frequency Stability	PASS

1.3. Channel List

Operated band in 5150 MHz ~ 5250MHz

4 channels are provided for 802.11a and 802.11n-HT20.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are provided for 802.11n-HT40.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
38	5190	46	5230

Operated band in 5250 MHz ~ 5350MHz

4 channels are provided for 802.11a and 802.11n-HT20.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
52	5260	60	5300
56	5280	64	5320

2 channels are provided for 802.11n-HT40.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
54	5270	62	5310

Operated band in 5470 MHz ~ 5725MHz

11 channels are provided for 802.11a and 802.11n-HT20.

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
100	5500	116	5580	132	5660
104	5520	120	5600	136	5680
108	5540	124	5620	140	5700
112	5560	128	5640	/	/

5 channels are provided for 802.11n-HT40.

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
102	5510	118	5590	134	5670
110	5550	126	5630	/	/

Operated band in 5725 MHz ~ 5850MHz

5 channels are provided for 802.11a and 802.11n-HT20.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

2 channels are provided for 802.11n-HT40.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
151	5755	159	5795

1.4. Test environment and mode

During the measurement, the environmental conditions were within the listed ranges:

Operating Environment	
Temperature	15 °C - 35 °C
Humidity	30% -60%
Atmospheric Pressure	86KPa-106KPa

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

For Frequency band 5150 ~ 5250 MHz				
Test Mode	Frequency(MHz)			Data rate
	LCH	MCH	HCH	
802.11a	5180	5220	5240	6 Mbps
802.11n-HT20				MCS 0
802.11n-HT40	5190	/	5230	MCS 0
Note: After scanning all modulation types and data rates for all test patterns, the above list was found to be the worst case.				

For Frequency band 5250 ~ 5350 MHz				
Test Mode	Frequency(MHz)			Data rate
	LCH	MCH	HCH	
802.11a	5260	5300	5320	6 Mbps
802.11n-HT20				MCS 0
802.11n-HT40	5270	/	5310	MCS 0
Note: After scanning all modulation types and data rates for all test patterns, the above list was found to be the worst case.				

For Frequency band 5470 ~ 5725 MHz				
Test Mode	Frequency(MHz)			Data rate
	LCH	MCH	HCH	
802.11a	5500	5600	5700	6 Mbps
802.11n-HT20				MCS 0
802.11n-HT40	5510	5590	5670	MCS 0
Note: After scanning all modulation types and data rates for all test patterns, the above list was found to be the worst case.				

For Frequency band 5725 ~ 5850 MHz				
Test Mode	Frequency(MHz)			Data rate
	LCH	MCH	HCH	
802.11a	5745	5785	5825	6 Mbps
802.11n-HT20				MCS 0
802.11n-HT40	5755	/	5795	MCS 0
Note: After scanning all modulation types and data rates for all test patterns, the above list was found to be the worst case.				

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation modes or test configuration modes mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	TX A SISO Mode
Mode 2	TX 802.11n-HT20 SISO Mode
Mode 3	TX 802.11n-HT40 SISO Mode
Mode 4	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 4	TX Mode
For Radiated Test	
Final Test Mode	Description
Mode 1	TX A SISO Mode
Mode 2	TX 802.11n-HT20 SISO Mode
Mode 3	TX 802.11n-HT40 SISO Mode

1.5. Table for Supporting Units

No.	Equipment	Brand Name	Model Name	Manufacturer	Serial No.	Note
1	Laptop	HP	TPN-Q221	HP	5CD14347QB	FCC DOC

1.6. Laboratory Facilities

FCC-Registration No.: 406086

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until April 19th, 2023.

ISED Registration: 11185A-1

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until Jun. 30th, 2023.

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

2. 47 CFR Part 15E Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

According to FCC 15.407(a)(1): For client devices in the 5.15-5.25 GHz band, If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to FCC 15.407(a)(3): For the band 5.725-5.850 GHz, If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2.1.2. Antenna Information

Antenna General Information:

No.	EUT	Ant. Type	Operating frequency range	Ant. Gain
1	PoC Radio	Internal	UNII-1, UNII-2a, UNII-2c, UNII-3	3.03dBi

2.1.3. Result: comply

The EUT has a unique antenna connector. Please refer to the EUT internal photos.

2.2. Maximum Conducted Output Power

2.2.1. Limit of Maximum Conducted Output Power

FCC Part 15.407(a)

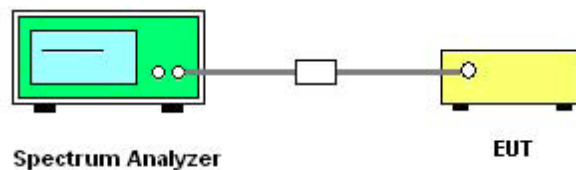
The maximum conducted output power should not exceed:

Band	EUT Category	Limit
U-NII-1	☐ Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21dBm) at any elevation angle above 30 degrees as measured from the horizon)
	☐ Fixed point-to-point Access device	1 Watt (30 dBm)
	☐ Indoor Access Point	1 Watt (30 dBm)
	☒ Mobile and portable client device	250mW (24 dBm)
U-NII-2A	☒	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-2C	☒	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-3	☒	1 Watt (30 dBm)
Note: B* is the 26 dB emission bandwidth in MHz.		

2.2.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.2.3. Test Setup



2.2.4. Test Procedures

1. The testing follows the of KDB 789033 D02 v02r01 Section II.E.2.b and ANSI C63.10-2013 Section 12.3.2.2.
2. The RF output of EUT was connected to spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Power is calculated by integrating over the spectrum of the entire 99% OBW signal using the instrument's band power measurement feature.
4. Set span to encompass the entire 99% OBW of the signal.
5. Set RBW = 1MHz, VBW $\geq$ 3MHz, Sweep time = Auto, Detector = power averaging (RMS).

6. Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
7. Trace average at least 100 traces in power averaging (rms) mode.
8. Replace the EUT center frequency and repeat steps 3~7.

2.2.5. Test Results of Maximum Conducted Output Power

Please refer to APPENDIX A for detail

2.3. Power spectral density (PSD)

2.3.1. Limit of Power Spectral Density

FCC Part 15.407(a)

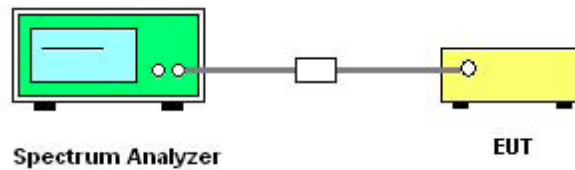
The maximum power spectral density should not exceed:

Band	EUT Category	Limit
U-NII-1	☐ Outdoor Access Point	17 dBm/MHz
	☐ Fixed point-to-point Access device	
	☐ Indoor Access Point	
	☒ Mobile and portable client device	11 dBm/MHz
U-NII-2A	☒	11 dBm/MHz
U-NII-2C	☒	11 dBm/MHz
U-NII-3	☒	30dBm/500kHz

2.3.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.3.3. Test Setup



2.3.4. Test Procedures

1. The testing follows the of KDB 789033 D02 v02r01 Section II.F and ANSI C63.10-2013 Section 12.5.
2. The RF output of EUT was connected to spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set span to encompass the entire 99% OBW of the signal.
4. For U-NII-1 Band: Set RBW = 1MHz, VBW $\geq$ 3MHz, Sweep time = Auto, Detector = power averaging (RMS).
5. For U-NII-3 Band: Set RBW = 500kHz, VBW $\geq$ 3MHz, Sweep time = Auto, Detector = power averaging (RMS).
6. Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
7. Trace average at least 100 traces in power averaging (rms) mode.
8. Use the peak search function on the instrument to find the peak of the spectrum.

9. Replace the EUT center frequency and repeat steps 3~8.

2.3.5. Test Result of Power Spectral Density

Please refer to APPENDIX A for detail

2.4. Emission Bandwidth and Occupied Bandwidth

2.4.1. Limit of Emission Bandwidth and Occupied Bandwidth

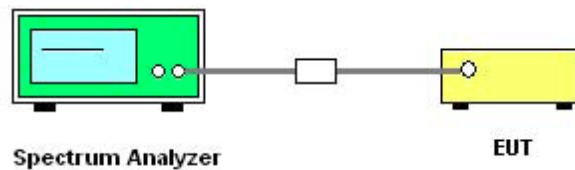
26dB Emission Bandwidth and 99% Occupied Bandwidth no Bandwidth limit.

The minimum 6dB bandwidth of U-NII-3 shall be at least 500 kHz.

2.4.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.4.3. Test Description



2.4.4. Test Procedures

1. The testing follows the of KDB 789033 D02 v02r01 Section II.C.D and ANSI C63.10-2013 Section 12.4.
2. The RF output of EUT was connected to spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Use the spectrum analyzer “Channel Bandwidth” function to easurement the 26dB EBW, 6dB EBW and 99% OBW.
4. Set center frequency to the nominal EUT channel center frequency.
5. Set span = 1.5 times to 5.0 times the OBW or EBW.
6. For 26dB EBW and 99% OBW Measurement:
Set RBW = approximately 1% EBW or 1.5 times to 5.0 times the OBW, VBW $\geq 3 \times$ RBW.
7. For 6dB EBW Measurement:
Set RBW =100kHz, VBW $\geq 3 \times$ RBW.
8. Set Detector = Peak, Trace mode = max hold and Sweep time = auto couple.
9. Allow the trace to stabilize.
10. Replace the EUT center frequency and repeat steps 3~9.

2.4.5. Test Results of Emission Bandwidth and Occupied Bandwidth

Please refer to APPENDIX A for detail

2.5. Frequency Stability

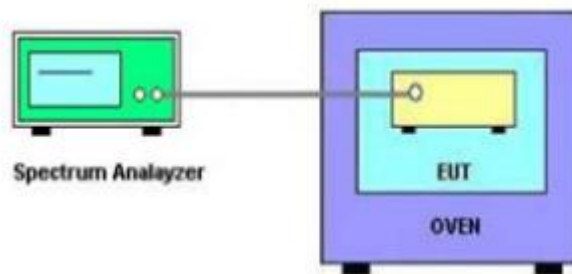
2.5.1. Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

2.5.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.5.3. Test Setup



2.5.4. Test Procedures

1. The testing follows the of KDB 789033 D02 v02r01 Section II.A.3 and ANSI C63.10-2013 Section 6.8.
2. The EUT is installed in an environment test chamber with external power source, was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set the chamber to operate at 50 °C and external power source to output at nominal voltage of EUT.
5. A sufficient stabilization period at each temperatures in used prior to each frequency measurement.
6. The test shall be performed under -30 °C to 50 °C and 85% to 115% of the nominal voltage. Change setting of chamber and external power source to complete all conditions.
7. Replace the EUT center frequency and repeat steps 3~6.

2.5.5. Test Result of Frequency Stability

Please refer to APPENDIX A for detail

2.6. Radiated Band Edge and Spurious Emission

2.6.1. Limit of Radiated Band Edges and Spurious Emission

Radiated emission which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level ($\mu\text{V/m}$).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

FCC Part 15.407(b)			
Frequency Band (MHz)	Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength @3m (dBuV/m)
5150 - 5250	Outside of the 5.15~5.35 GHz	-27	68.2
5250 - 5350	Outside of the 5.15~5.35 GHz	-27	68.2
5470 - 5725	Outside of the 5.47~5.725 GHz	-27	68.2
5725 - 5850	< 5650	-27	68.2
	5650~5700	-27~10	68.2~105.2
	5700~5720	10~15.6	105.2~110.8
	5720~5725	15.6~27	110.8~122.2
	5850~5855	27~15.6	122.2~110.8
	5855~5875	15.6~10	110.8~105.2
	5875~5925	10~-27	105.2~68.2
	> 5925	-27	68.2

Note:

- 1) $\text{EIRP}[\text{dBm}] = \text{E}[\text{dB}\mu\text{V/m}] + 20 \log (d[\text{m}]) - 104.77$, d is the measurement distance in m.
- 2) $\text{E}[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2 = 68.2 \text{ dBuV/m}$, for $\text{EIRP}[\text{dBm}] = -27\text{dBm}$.
 $\text{E}[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2 = 105.2 \text{ dBuV/m}$, for $\text{EIRP}[\text{dBm}] = 10\text{dBm}$.
 $\text{E}[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2 = 110.8 \text{ dBuV/m}$, for $\text{EIRP}[\text{dBm}] = 15.6\text{dBm}$.
 $\text{E}[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2 = 122.2 \text{ dBuV/m}$, for $\text{EIRP}[\text{dBm}] = 27\text{dBm}$.

Applicable To	Limit	
KDB 789033 D02 General UNII Test Procedures New Rules v02r01	Field Strength at 3m	
	PK: 68.2(dB μ V/m)	AV: 54 (dB μ V/m)

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41	/	/	/

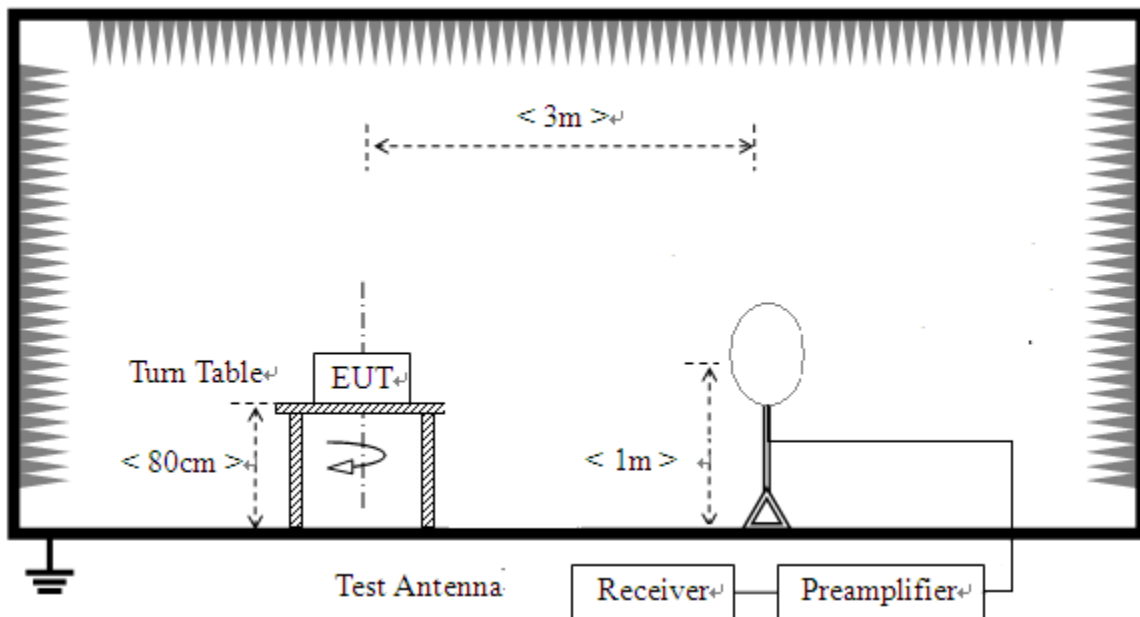
Note: ¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
²Above 38.6.

2.6.2. Measuring Instruments

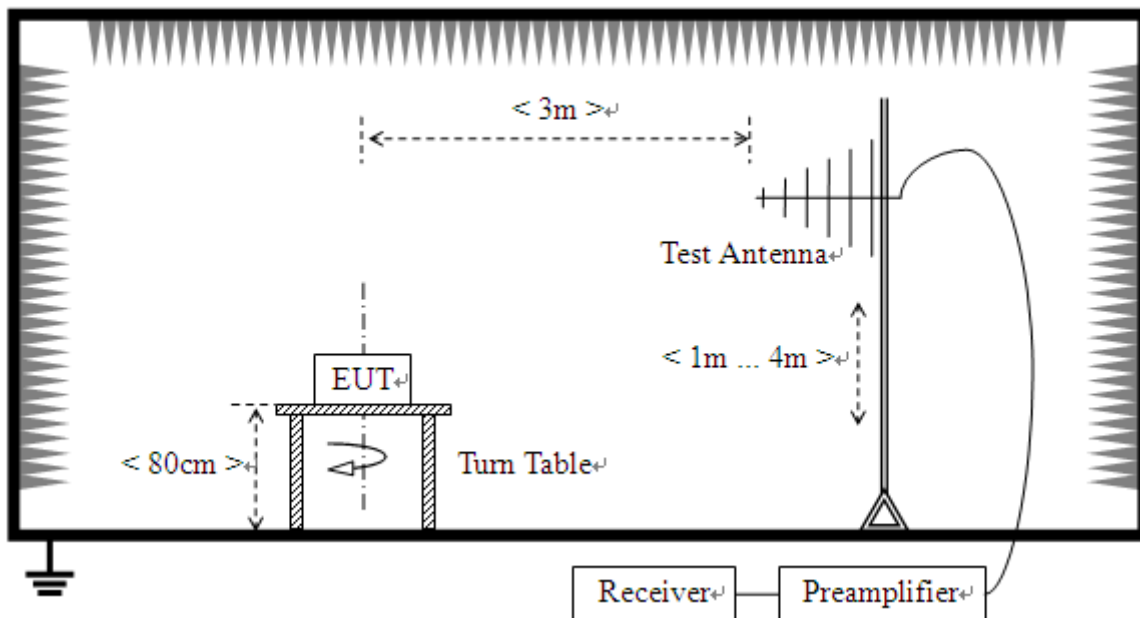
The measuring equipment is listed in the section 3 of this test report.

2.6.3. Test Setup

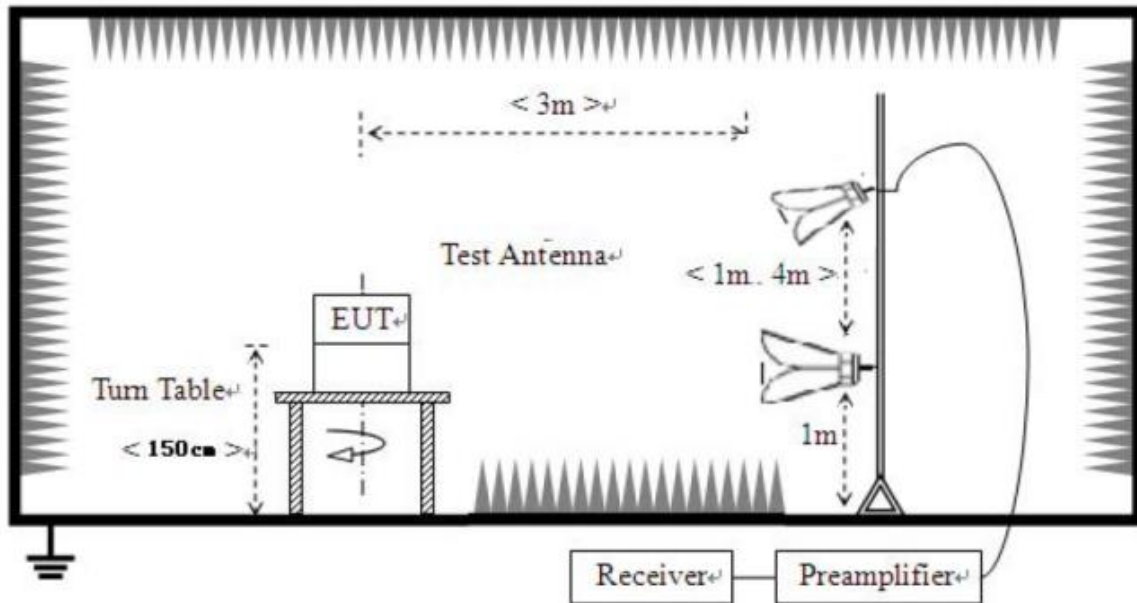
For radiated emissions from 9 kHz to 30 MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



2.6.4. Test Procedures

1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
6. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.

2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

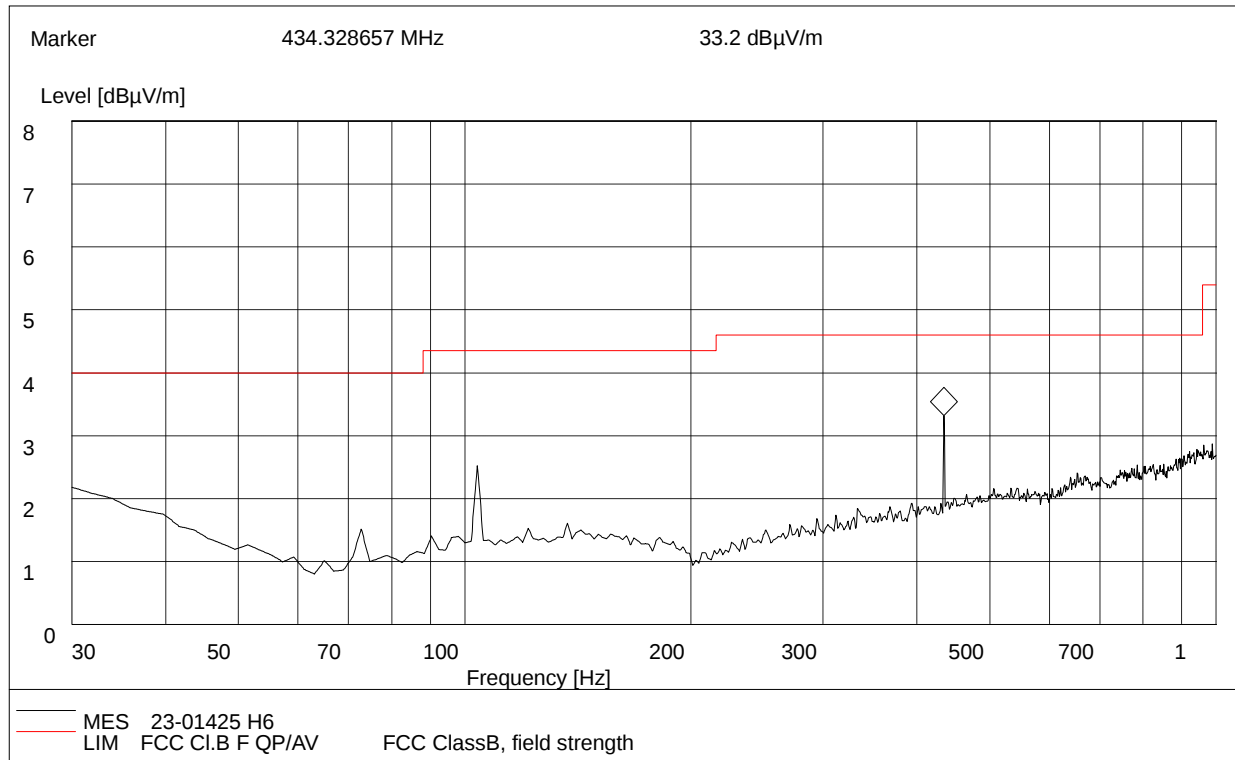
2.6.5. Test Result of Radiated Band Edge and Spurious Emission

NOTE 1: For 9 kHz to 30MHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

NOTE 2: For 30MHz to 1GHz, All of the EUT Configure mode were tested and found 802.11a 5180MHz channel is the worst mode, the worst case is recorded in this report.

NOTE 3: Antenna height and turntable angle are the worst positions, the worst case is recorded in this report.

For 30MHz to 1000 MHz

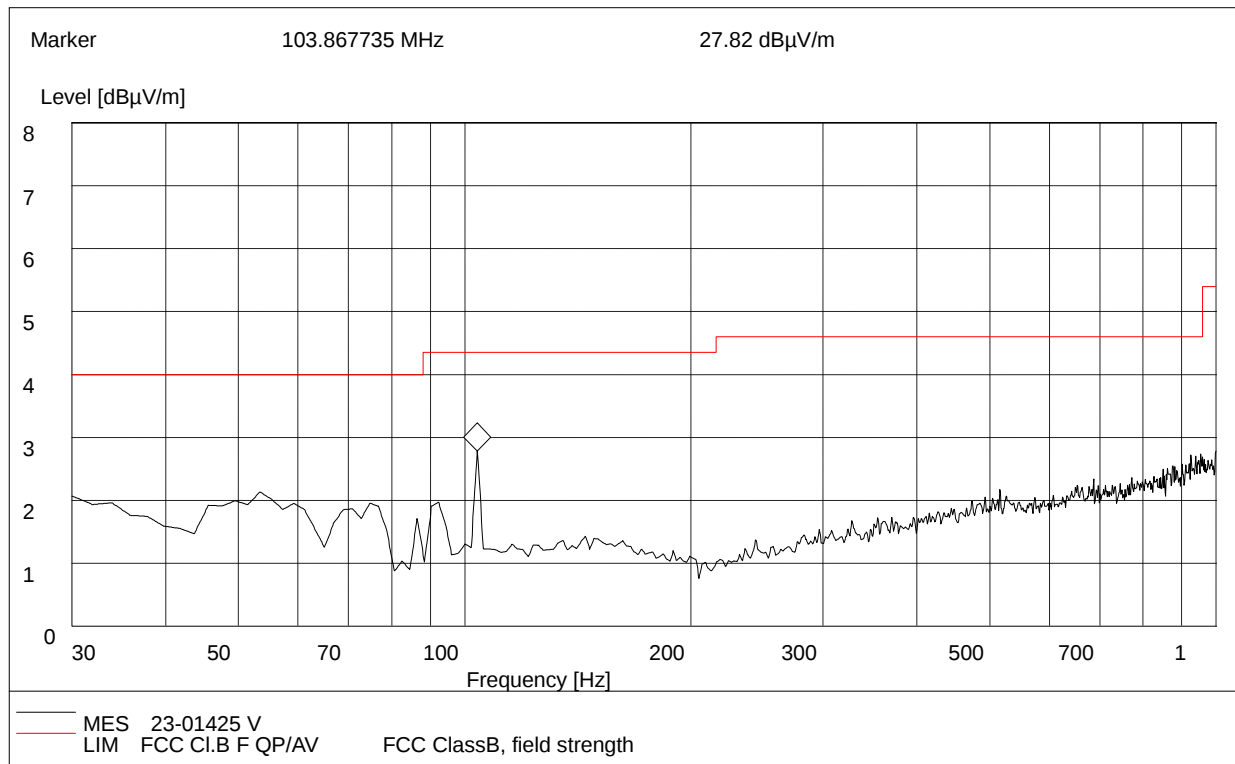


Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Corr.Factor (dB/m)	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)	Polarity
31.520000	20.64	120.000	19.3	100.0	40.0	19.36	Horizontal
38.450000	17.05	120.000	16.7	100.0	40.0	22.95	Horizontal
102.850000	24.13	120.000	10.9	100.0	43.5	19.37	Horizontal
135.480000	16.37	120.000	12.6	100.0	43.5	27.13	Horizontal
434.180000	32.06	120.000	17.9	100.0	46.0	13.94	Horizontal
652.140000	22.95	120.000	21.8	100.0	46.0	23.05	Horizontal

Test Result : Pass

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value - Emission Level.
4. The other emission levels were very low against the limit.



Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Corr.Factor (dB/m)	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)	Polarity
31.670000	20.14	120.000	19.3	100.0	40.0	19.86	Vertical
52.190000	20.33	120.000	8.6	100.0	40.0	19.67	Vertical
102.650000	26.41	120.000	10.9	100.0	43.5	17.09	Vertical
162.420000	15.33	120.000	12.5	100.0	43.5	28.17	Vertical
515.970000	21.78	120.000	19.5	100.0	46.0	24.22	Vertical
687.030000	23.41	120.000	21.8	100.0	46.0	22.59	Vertical

Test Result : Pass

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value - Emission Level.
4. The other emission levels were very low against the limit.

For 1GHz to 40 GHz

U-NII-1_802.11a_5180MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5150.00	57.79	68.20	-10.41	1.50	100	50.29	7.50	Horizontal	Peak
5150.00	49.37	54.00	-4.63	1.50	100	41.87	7.50	Horizontal	Average
10360.00	52.92	68.20	-15.28	1.50	100	33.12	19.80	Horizontal	Peak
10360.00	44.31	54.00	-9.69	1.50	100	24.51	19.80	Horizontal	Average
5150.00	58.71	68.20	-9.49	1.50	220	51.21	7.50	Vertical	Peak
5150.00	49.01	54.00	-4.99	1.50	220	41.51	7.50	Vertical	Average
10360.00	52.57	68.20	-15.63	1.50	220	32.77	19.80	Vertical	Peak
10360.00	44.14	54.00	-9.86	1.50	220	24.34	19.80	Vertical	Average
U-NII-1_802.11a_5220MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
10440.00	53.05	68.20	-15.15	1.60	200	33.15	19.90	Horizontal	Peak
10440.00	44.49	54.00	-9.51	1.60	200	24.59	19.90	Horizontal	Average
10440.00	52.65	68.20	-15.55	1.70	180	32.75	19.90	Vertical	Peak
10440.00	44.34	54.00	-9.66	1.70	180	24.44	19.90	Vertical	Average
U-NII-1_802.11a_5240MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5350.00	57.65	68.20	-10.55	1.50	100	49.65	8.00	Horizontal	Peak
5350.00	48.98	54.00	-5.02	1.50	100	40.98	8.00	Horizontal	Average
10480.00	52.88	68.20	-15.32	1.50	100	32.98	19.90	Horizontal	Peak
10480.00	44.46	54.00	-9.54	1.50	100	24.56	19.90	Horizontal	Average
5350.00	58.28	68.20	-9.92	1.50	220	50.28	8.00	Vertical	Peak
5350.00	49.21	54.00	-4.79	1.50	220	41.21	8.00	Vertical	Average
10480.00	52.35	68.20	-15.85	1.50	220	32.45	19.90	Vertical	Peak
10480.00	43.93	54.00	-10.07	1.50	220	24.03	19.90	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report.									

U-NII-1_802.11n-HT20_5180MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5150.00	57.63	68.20	-10.57	1.50	100	50.13	7.50	Horizontal	Peak
5150.00	49.68	54.00	-4.32	1.50	100	42.18	7.50	Horizontal	Average
10360.00	52.56	68.20	-15.64	1.50	100	32.76	19.80	Horizontal	Peak
10360.00	44.16	54.00	-9.84	1.50	100	24.36	19.80	Horizontal	Average
5150.00	58.45	68.20	-9.75	1.50	220	50.95	7.50	Vertical	Peak
5150.00	49.39	54.00	-4.61	1.50	220	41.89	7.50	Vertical	Average
10360.00	52.51	68.20	-15.69	1.50	220	32.71	19.80	Vertical	Peak
10360.00	44.09	54.00	-9.91	1.50	220	24.29	19.80	Vertical	Average
U-NII-1_802.11n-HT20_5220MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
10440.00	52.57	68.20	-15.63	1.50	100	32.67	19.90	Horizontal	Peak
10440.00	44.75	54.00	-9.25	1.50	100	24.85	19.90	Horizontal	Average
10440.00	52.54	68.20	-15.66	1.50	220	32.64	19.90	Vertical	Peak
10440.00	44.44	54.00	-9.56	1.50	220	24.54	19.90	Vertical	Average
U-NII-1_802.11n-HT20_5240MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5350.00	57.37	68.20	-10.83	1.50	100	49.37	8.00	Horizontal	Peak
5350.00	48.49	54.00	-5.51	1.50	100	40.49	8.00	Horizontal	Average
10480.00	52.95	68.20	-15.25	1.50	100	33.05	19.90	Horizontal	Peak
10480.00	44.85	54.00	-9.15	1.50	100	24.95	19.90	Horizontal	Average
5350.00	58.01	68.20	-10.19	1.50	220	50.01	8.00	Vertical	Peak
5350.00	48.95	54.00	-5.05	1.50	220	40.95	8.00	Vertical	Average
10480.00	51.88	68.20	-16.32	1.50	220	31.98	19.90	Vertical	Peak
10480.00	44.30	54.00	-9.70	1.50	220	24.40	19.90	Vertical	Average
Remark: - Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) - Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) - Margin value = Emission Level – Limit value - The emission levels of other frequencies are very lower than the limit and not show in test report.									

U-NII-1_802.11n-HT40_5190MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5150.00	58.28	68.20	-9.92	1.50	100	50.78	7.50	Horizontal	Peak
5150.00	49.36	54.00	-4.64	1.50	100	41.86	7.50	Horizontal	Average
10380.00	53.16	68.20	-15.04	1.50	100	33.36	19.80	Horizontal	Peak
10380.00	44.04	54.00	-9.96	1.50	100	24.24	19.80	Horizontal	Average
5150.00	59.00	68.20	-9.20	1.50	220	51.50	7.50	Vertical	Peak
5150.00	48.98	54.00	-5.02	1.50	220	41.48	7.50	Vertical	Average
10380.00	52.27	68.20	-15.93	1.50	220	32.47	19.80	Vertical	Peak
10380.00	44.13	54.00	-9.87	1.50	220	24.33	19.80	Vertical	Average
U-NII-1_802.11n-HT40_5230MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5350.00	57.37	68.20	-10.83	1.50	100	49.37	8.00	Horizontal	Peak
5350.00	48.38	54.00	-5.62	1.50	100	40.38	8.00	Horizontal	Average
10460.00	53.12	68.20	-15.08	1.50	100	33.22	19.90	Horizontal	Peak
10460.00	45.18	54.00	-8.82	1.50	100	25.28	19.90	Horizontal	Average
5350.00	57.65	68.20	-10.55	1.50	220	49.65	8.00	Vertical	Peak
5350.00	48.93	54.00	-5.07	1.50	220	40.93	8.00	Vertical	Average
10460.00	52.35	68.20	-15.85	1.50	220	32.45	19.90	Vertical	Peak
10460.00	43.98	54.00	-10.02	1.50	220	24.08	19.90	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report.									

U-NII-2A_802.11a_5260MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5150.00	57.96	68.20	-10.24	1.50	100	50.46	7.50	Horizontal	Peak
5150.00	49.52	54.00	-4.48	1.50	100	42.02	7.50	Horizontal	Average
10520.00	53.94	68.20	-14.26	1.50	100	33.94	20.00	Horizontal	Peak
10520.00	44.67	54.00	-9.33	1.50	100	24.67	20.00	Horizontal	Average
5150.00	58.84	68.20	-9.36	1.50	220	51.34	7.50	Vertical	Peak
5150.00	49.19	54.00	-4.81	1.50	220	41.69	7.50	Vertical	Average
10520.00	52.03	68.20	-16.17	1.50	220	32.03	20.00	Vertical	Peak
10520.00	45.20	54.00	-8.80	1.50	220	25.20	20.00	Vertical	Average
U-NII-2A_802.11a_5300MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
10600.00	52.82	68.20	-15.38	1.50	100	32.82	20.00	Horizontal	Peak
10600.00	44.90	54.00	-9.10	1.50	100	24.90	20.00	Horizontal	Average
10600.00	53.25	68.20	-14.95	1.50	220	33.25	20.00	Vertical	Peak
10600.00	44.24	54.00	-9.76	1.50	220	24.24	20.00	Vertical	Average
U-NII-2A_802.11a_5300MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5350.00	57.74	68.20	-10.46	1.50	100	49.74	8.00	Horizontal	Peak
5350.00	49.05	54.00	-4.95	1.50	100	41.05	8.00	Horizontal	Average
10640.00	52.92	68.20	-15.28	1.50	100	32.82	20.10	Horizontal	Peak
10640.00	44.53	54.00	-9.47	1.50	100	24.43	20.10	Horizontal	Average
5350.00	58.41	68.20	-9.79	1.50	220	50.41	8.00	Vertical	Peak
5350.00	49.38	54.00	-4.62	1.50	220	41.38	8.00	Vertical	Average
10640.00	52.49	68.20	-15.71	1.50	220	32.39	20.10	Vertical	Peak
10640.00	44.11	54.00	-9.89	1.50	220	24.01	20.10	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report.									

U-NII-2A_802.11n-HT20_5260MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5150.00	58.01	68.20	-10.19	1.50	100	50.51	7.50	Horizontal	Peak
5150.00	49.96	54.00	-4.04	1.50	100	42.46	7.50	Horizontal	Average
10520.00	54.27	68.20	-13.93	1.50	100	34.27	20.00	Horizontal	Peak
10520.00	44.27	54.00	-9.73	1.50	100	24.27	20.00	Horizontal	Average
5150.00	58.92	68.20	-9.28	1.50	220	51.42	7.50	Vertical	Peak
5150.00	48.82	54.00	-5.18	1.50	220	41.32	7.50	Vertical	Average
10520.00	51.96	68.20	-16.24	1.50	220	31.96	20.00	Vertical	Peak
10520.00	44.94	54.00	-9.06	1.50	220	24.94	20.00	Vertical	Average
U-NII-2A_802.11n-HT20_5300MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
10600.00	53.29	68.20	-14.91	1.50	100	33.29	20.00	Horizontal	Peak
10600.00	44.47	54.00	-9.53	1.50	100	24.47	20.00	Horizontal	Average
10600.00	52.98	68.20	-15.22	1.50	220	32.98	20.00	Vertical	Peak
10600.00	43.97	54.00	-10.03	1.50	220	23.97	20.00	Vertical	Average
U-NII-2A_802.11n-HT20_5320MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5350.00	57.35	68.20	-10.85	1.50	100	49.35	8.00	Horizontal	Peak
5350.00	49.15	54.00	-4.85	1.50	100	41.15	8.00	Horizontal	Average
10640.00	53.40	68.20	-14.80	1.50	100	33.30	20.10	Horizontal	Peak
10640.00	44.69	54.00	-9.31	1.50	100	24.59	20.10	Horizontal	Average
5350.00	58.20	68.20	-10.00	1.50	220	50.20	8.00	Vertical	Peak
5350.00	49.34	54.00	-4.66	1.50	220	41.34	8.00	Vertical	Average
10640.00	52.00	68.20	-16.20	1.50	220	31.90	20.10	Vertical	Peak
10640.00	43.71	54.00	-10.29	1.50	220	23.61	20.10	Vertical	Average
Remark: - Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) - Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) - Margin value = Emission Level – Limit value - The emission levels of other frequencies are very lower than the limit and not show in test report. - ANT 9 and ANT 8 is 2*2MIMO.									

U-NII-2A_802.11n-HT40_5270MHz

Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5150.00	57.99	68.20	-10.21	1.50	100	50.49	7.50	Horizontal	Peak
5150.00	50.44	54.00	-3.56	1.50	100	42.94	7.50	Horizontal	Average
10540.00	54.36	68.20	-13.84	1.50	100	34.36	20.00	Horizontal	Peak
10540.00	44.46	54.00	-9.54	1.50	100	24.46	20.00	Horizontal	Average
5150.00	59.31	68.20	-8.89	1.50	220	51.81	7.50	Vertical	Peak
5150.00	48.60	54.00	-5.40	1.50	220	41.10	7.50	Vertical	Average
10540.00	52.28	68.20	-15.92	1.50	220	32.28	20.00	Vertical	Peak
10540.00	44.92	54.00	-9.08	1.50	220	24.92	20.00	Vertical	Average

U-NII-2A_802.11n-HT40_5310MHz

Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5350.00	57.38	68.20	-10.82	1.50	100	49.38	8.00	Horizontal	Peak
5350.00	49.23	54.00	-4.77	1.50	100	41.23	8.00	Horizontal	Average
10620.00	53.25	68.20	-14.95	1.50	100	33.15	20.10	Horizontal	Peak
10620.00	44.83	54.00	-9.17	1.50	100	24.73	20.10	Horizontal	Average
5350.00	58.68	68.20	-9.52	1.50	220	50.68	8.00	Vertical	Peak
5350.00	49.13	54.00	-4.87	1.50	220	41.13	8.00	Vertical	Average
10620.00	51.84	68.20	-16.36	1.50	220	31.74	20.10	Vertical	Peak
10620.00	43.38	54.00	-10.62	1.50	220	23.28	20.10	Vertical	Average

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. ANT 9 and ANT 8 is 2*2MIMO.

U-NII-2C_802.11a_5500MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5470.00	52.13	68.20	-16.07	1.50	100	43.63	8.50	Horizontal	Peak
5470.00	45.88	54.00	-8.12	1.50	100	37.38	8.50	Horizontal	Average
11000.00	53.93	68.20	-14.27	1.50	100	32.93	21.00	Horizontal	Peak
11000.00	44.84	54.00	-9.16	1.50	100	23.84	21.00	Horizontal	Average
5470.00	51.37	68.20	-16.83	1.50	220	42.87	8.50	Vertical	Peak
5470.00	45.55	54.00	-8.45	1.50	220	37.05	8.50	Vertical	Average
11000.00	53.94	68.20	-14.26	1.50	220	32.94	21.00	Vertical	Peak
11000.00	45.64	54.00	-8.36	1.50	220	24.64	21.00	Vertical	Average
U-NII-2C_802.11a_5600MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
11200.00	54.37	68.20	-13.83	1.50	100	32.87	21.50	Horizontal	Peak
11200.00	45.22	54.00	-8.78	1.50	100	23.72	21.50	Horizontal	Average
11200.00	54.69	68.20	-13.51	1.50	220	33.19	21.50	Vertical	Peak
11200.00	45.94	54.00	-8.06	1.50	220	24.44	21.50	Vertical	Average
U-NII-2C_802.11a_5700MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5725.00	53.21	68.20	-14.99	1.50	100	43.56	9.65	Horizontal	Peak
5725.00	46.12	54.00	-7.88	1.50	100	36.47	9.65	Horizontal	Average
11400.00	54.15	68.20	-14.05	1.50	100	32.65	21.50	Horizontal	Peak
11400.00	45.34	54.00	-8.66	1.50	100	23.84	21.50	Horizontal	Average
5725.00	51.86	68.20	-16.34	1.50	220	42.21	9.65	Vertical	Peak
5725.00	46.74	54.00	-7.26	1.50	220	37.09	9.65	Vertical	Average
11400.00	54.28	68.20	-13.92	1.50	220	32.78	21.50	Vertical	Peak
11400.00	45.86	54.00	-8.14	1.50	220	24.36	21.50	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report.									

U-NII-2C_802.11n-HT20_5500MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5470.00	52.36	68.20	-15.84	1.50	100	43.86	8.50	Horizontal	Peak
5470.00	45.95	54.00	-8.05	1.50	100	37.45	8.50	Horizontal	Average
11000.00	53.59	68.20	-14.61	1.50	100	32.59	21.00	Horizontal	Peak
11000.00	44.84	54.00	-9.16	1.50	100	23.84	21.00	Horizontal	Average
5470.00	51.76	68.20	-16.44	1.50	220	43.26	8.50	Vertical	Peak
5470.00	45.59	54.00	-8.41	1.50	220	37.09	8.50	Vertical	Average
11000.00	53.57	68.20	-14.63	1.50	220	32.57	21.00	Vertical	Peak
11000.00	45.28	54.00	-8.72	1.50	220	24.28	21.00	Vertical	Average
U-NII-2C_802.11n-HT20_5600MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
11200.00	54.67	68.20	-13.53	1.50	100	33.17	21.50	Horizontal	Peak
11200.00	45.52	54.00	-8.48	1.50	100	24.02	21.50	Horizontal	Average
11200.00	54.83	68.20	-13.37	1.50	220	33.33	21.50	Vertical	Peak
11200.00	46.29	54.00	-7.71	1.50	220	24.79	21.50	Vertical	Average
U-NII-2C_802.11n-HT20_5700MHz									
Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5725.00	53.55	68.20	-14.65	1.50	100	43.90	9.65	Horizontal	Peak
5725.00	46.21	54.00	-7.79	1.50	100	36.56	9.65	Horizontal	Average
11400.00	54.35	68.20	-13.85	1.50	100	32.85	21.50	Horizontal	Peak
11400.00	45.74	54.00	-8.26	1.50	100	24.24	21.50	Horizontal	Average
5725.00	51.90	68.20	-16.30	1.50	220	42.25	9.65	Vertical	Peak
5725.00	46.42	54.00	-7.58	1.50	220	36.77	9.65	Vertical	Average
11400.00	54.30	68.20	-13.90	1.50	220	32.80	21.50	Vertical	Peak
11400.00	45.90	54.00	-8.10	1.50	220	24.40	21.50	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report. 5. ANT 9 and ANT 8 is 2*2MIMO.									

U-NII-2C_802.11n-HT40_5510MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5470.00	52.36	68.20	-15.84	1.50	100	43.86	8.50	Horizontal	Peak
5470.00	45.77	54.00	-8.23	1.50	100	37.27	8.50	Horizontal	Average
11020.00	53.23	68.20	-14.97	1.50	100	32.23	21.00	Horizontal	Peak
11020.00	45.03	54.00	-8.97	1.50	100	24.03	21.00	Horizontal	Average
5470.00	52.03	68.20	-16.17	1.50	220	43.53	8.50	Vertical	Peak
5470.00	45.10	54.00	-8.90	1.50	220	36.60	8.50	Vertical	Average
11020.00	53.29	68.20	-14.91	1.50	220	32.29	21.00	Vertical	Peak
11020.00	45.34	54.00	-8.66	1.50	220	24.34	21.00	Vertical	Average
U-NII-2C_802.11n-HT40_5590MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
11180.00	54.31	68.20	-13.89	1.50	100	32.81	21.50	Horizontal	Peak
11180.00	45.79	54.00	-8.21	1.50	100	24.29	21.50	Horizontal	Average
11180.00	55.20	68.20	-13.00	1.50	220	33.70	21.50	Vertical	Peak
11180.00	46.68	54.00	-7.32	1.50	220	25.18	21.50	Vertical	Average
U-NII-2C_802.11n-HT40_5670MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5725.00	53.24	68.20	-14.96	1.50	100	43.59	9.65	Horizontal	Peak
5725.00	46.46	54.00	-7.54	1.50	100	36.81	9.65	Horizontal	Average
11340.00	54.16	68.20	-14.04	1.50	100	32.76	21.40	Horizontal	Peak
11340.00	45.61	54.00	-8.39	1.50	100	24.21	21.40	Horizontal	Average
5725.00	52.13	68.20	-16.07	1.50	220	42.48	9.65	Vertical	Peak
5725.00	46.64	54.00	-7.36	1.50	220	36.99	9.65	Vertical	Average
11340.00	54.31	68.20	-13.89	1.50	220	32.91	21.40	Vertical	Peak
11340.00	46.24	54.00	-7.76	1.50	220	24.84	21.40	Vertical	Average
Remark: - Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) - Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) - Margin value = Emission Level – Limit value - The emission levels of other frequencies are very lower than the limit and not show in test report. - ANT 9 and ANT 8 is 2*2MIMO.									

U-NII-3_802.11a_5745MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5650.00	53.12	68.20	-15.08	1.50	100	43.66	9.46	Horizontal	Peak
5700.00	53.87	105.20	-51.33	1.50	100	44.28	9.59	Horizontal	Peak
5720.00	52.96	110.80	-57.84	1.50	100	43.32	9.64	Horizontal	Peak
5725.00	53.39	122.20	-68.81	1.50	100	43.74	9.65	Horizontal	Peak
11490.00	53.57	68.20	-14.63	1.50	100	31.87	21.70	Horizontal	Peak
11490.00	44.89	54.00	-9.11	1.50	100	23.19	21.70	Horizontal	Average
5650.00	51.47	68.20	-16.73	1.50	220	42.01	9.46	Vertical	Peak
5700.00	53.55	105.20	-51.65	1.50	220	43.96	9.59	Vertical	Peak
5720.00	53.14	110.80	-57.66	1.50	220	43.50	9.64	Vertical	Peak
5725.00	53.68	122.20	-68.52	1.50	220	44.03	9.65	Vertical	Peak
11490.00	52.71	68.20	-15.49	1.50	220	31.01	21.70	Vertical	Peak
11490.00	44.12	54.00	-9.88	1.50	220	22.42	21.70	Vertical	Average
U-NII-3_802.11a_5825MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5850.00	53.56	122.20	-68.64	1.50	100	43.78	59.65	Horizontal	Peak
5855.00	54.03	110.80	-56.77	1.50	100	44.24	49.73	Horizontal	Peak
5875.00	53.12	105.20	-52.08	1.50	100	43.28	51.90	Horizontal	Peak
5925.00	53.74	68.20	-14.46	1.50	100	43.77	49.28	Horizontal	Peak
11650.00	53.86	68.20	-14.34	1.50	100	31.96	52.73	Horizontal	Peak
11650.00	45.14	54.00	-8.86	1.50	100	23.24	45.44	Horizontal	Average
5850.00	51.75	122.20	-70.45	1.50	220	41.97	60.22	Vertical	Peak
5855.00	53.95	110.80	-56.85	1.50	220	44.16	50.01	Vertical	Peak
5875.00	53.83	105.20	-51.37	1.50	220	43.99	61.51	Vertical	Peak
5925.00	53.79	68.20	-14.41	1.50	220	43.82	49.85	Vertical	Peak
11650.00	53.62	68.20	-14.58	1.50	220	31.72	54.36	Vertical	Peak
11650.00	44.70	54.00	-9.30	1.50	220	22.80	45.90	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report.									

U-NII-3_802.11n-HT20_5745MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5650.00	53.28	68.20	-14.92	1.50	100	43.82	9.46	Horizontal	Peak
5700.00	53.64	105.20	-51.56	1.50	100	44.05	9.59	Horizontal	Peak
5720.00	53.19	110.80	-57.61	1.50	100	43.55	9.64	Horizontal	Peak
5725.00	53.70	122.20	-68.50	1.50	100	44.05	9.65	Horizontal	Peak
11490.00	53.90	68.20	-14.30	1.50	100	32.20	21.70	Horizontal	Peak
11490.00	44.47	54.00	-9.53	1.50	100	22.77	21.70	Horizontal	Average
5650.00	51.27	68.20	-16.93	1.50	220	41.81	9.46	Vertical	Peak
5700.00	53.22	105.20	-51.98	1.50	220	43.63	9.59	Vertical	Peak
5720.00	52.67	110.80	-58.13	1.50	220	43.03	9.64	Vertical	Peak
5725.00	53.91	122.20	-68.29	1.50	220	44.26	9.65	Vertical	Peak
11490.00	52.39	68.20	-15.81	1.50	220	30.69	21.70	Vertical	Peak
11490.00	43.95	54.00	-10.05	1.50	220	22.25	21.70	Vertical	Average
U-NII-3_802.11n-HT20_5825MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5850.00	54.04	122.20	-68.16	1.50	100	44.26	9.78	Horizontal	Peak
5855.00	54.11	110.80	-56.69	1.50	100	44.32	9.79	Horizontal	Peak
5875.00	52.67	105.20	-52.53	1.50	100	42.83	9.84	Horizontal	Peak
5925.00	53.89	68.20	-14.31	1.50	100	43.92	9.97	Horizontal	Peak
11650.00	53.84	68.20	-14.36	1.50	100	31.94	21.90	Horizontal	Peak
11650.00	45.63	54.00	-8.37	1.50	100	23.73	21.90	Horizontal	Average
5850.00	52.19	122.20	-70.01	1.50	220	42.41	9.78	Vertical	Peak
5855.00	54.28	110.80	-56.52	1.50	220	44.49	9.79	Vertical	Peak
5875.00	54.03	105.20	-51.17	1.50	220	44.19	9.84	Vertical	Peak
5925.00	53.67	68.20	-14.53	1.50	220	43.70	9.97	Vertical	Peak
11650.00	53.20	68.20	-15.00	1.50	220	31.30	21.90	Vertical	Peak
11650.00	44.71	54.00	-9.29	1.50	220	22.81	21.90	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report. 5. ANT 0, ANT 1, ANT 2 and ANT 3 is 4*4MIMO.									

U-NII-3_802.11a_5785MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
11570.00	53.86	68.20	-14.34	1.50	100	32.16	21.70	Horizontal	Peak
11570.00	45.17	54.00	-8.83	1.50	100	23.47	21.70	Horizontal	Average
11570.00	53.21	68.20	-14.99	1.50	220	31.51	21.70	Vertical	Peak
11570.00	44.88	54.00	-9.12	1.50	220	23.18	21.70	Vertical	Average
U-NII-3_802.11n-HT20_5785MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
11570.00	54.23	68.20	-13.97	1.50	100	32.53	21.70	Horizontal	Peak
11570.00	45.64	54.00	-8.36	1.50	100	23.94	21.70	Horizontal	Average
11570.00	52.88	68.20	-15.32	1.50	220	31.18	21.70	Vertical	Peak
11570.00	44.65	54.00	-9.35	1.50	220	22.95	21.70	Vertical	Average
<i>Remark:</i> <i>Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)</i> <i>Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)</i> <i>Margin value = Emission Level – Limit value</i> <i>The emission levels of other frequencies are very lower than the limit and not show in test report.</i>									

U-NII-3_802.11n-HT40_5755MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5650.00	52.89	68.20	-15.31	1.50	100	43.43	9.46	Horizontal	Peak
5700.00	53.38	105.20	-51.82	1.50	100	43.79	9.59	Horizontal	Peak
5720.00	52.87	110.80	-57.93	1.50	100	43.23	9.64	Horizontal	Peak
5725.00	53.83	122.20	-68.37	1.50	100	44.18	9.65	Horizontal	Peak
11510.00	54.36	68.20	-13.84	1.50	100	32.66	21.70	Horizontal	Peak
11510.00	44.96	54.00	-9.04	1.50	100	23.26	21.70	Horizontal	Average
5650.00	51.19	68.20	-17.01	1.50	220	41.73	9.46	Vertical	Peak
5700.00	53.41	105.20	-51.79	1.50	220	43.82	9.59	Vertical	Peak
5720.00	53.03	110.80	-57.77	1.50	220	43.39	9.64	Vertical	Peak
5725.00	53.74	122.20	-68.46	1.50	220	44.09	9.65	Vertical	Peak
11510.00	52.85	68.20	-15.35	1.50	220	31.15	21.70	Vertical	Peak
11510.00	43.50	54.00	-10.50	1.50	220	21.80	21.70	Vertical	Average
U-NII-3_802.11n-HT40_5795MHz									
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV/m)	Correction Factor (dB/m)	Polarity	Detector
5850.00	53.62	122.20	-68.58	1.50	100	43.84	9.78	Horizontal	Peak
5855.00	53.81	110.80	-56.99	1.50	100	44.02	9.79	Horizontal	Peak
5875.00	52.30	105.20	-52.90	1.50	100	42.46	9.84	Horizontal	Peak
5925.00	54.38	68.20	-13.82	1.50	100	44.41	9.97	Horizontal	Peak
11590.00	53.93	68.20	-14.27	1.50	100	32.03	21.90	Horizontal	Peak
11590.00	45.49	54.00	-8.51	1.50	100	23.59	21.90	Horizontal	Average
5850.00	52.47	122.20	-69.73	1.50	220	42.69	9.78	Vertical	Peak
5855.00	54.09	110.80	-56.71	1.50	220	44.30	9.79	Vertical	Peak
5875.00	53.75	105.20	-51.45	1.50	220	43.91	9.84	Vertical	Peak
5925.00	53.86	68.20	-14.34	1.50	220	43.89	9.97	Vertical	Peak
11590.00	53.04	68.20	-15.16	1.50	220	31.14	21.90	Vertical	Peak
11590.00	44.89	54.00	-9.11	1.50	220	22.99	21.90	Vertical	Average
Remark: 1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB) 3. Margin value = Emission Level – Limit value 4. The emission levels of other frequencies are very lower than the limit and not show in test report.									

2.7. AC Power Line Conducted Emission

2.7.1. Limit of AC Power Line Conducted Emission

FCC Part 15.207:

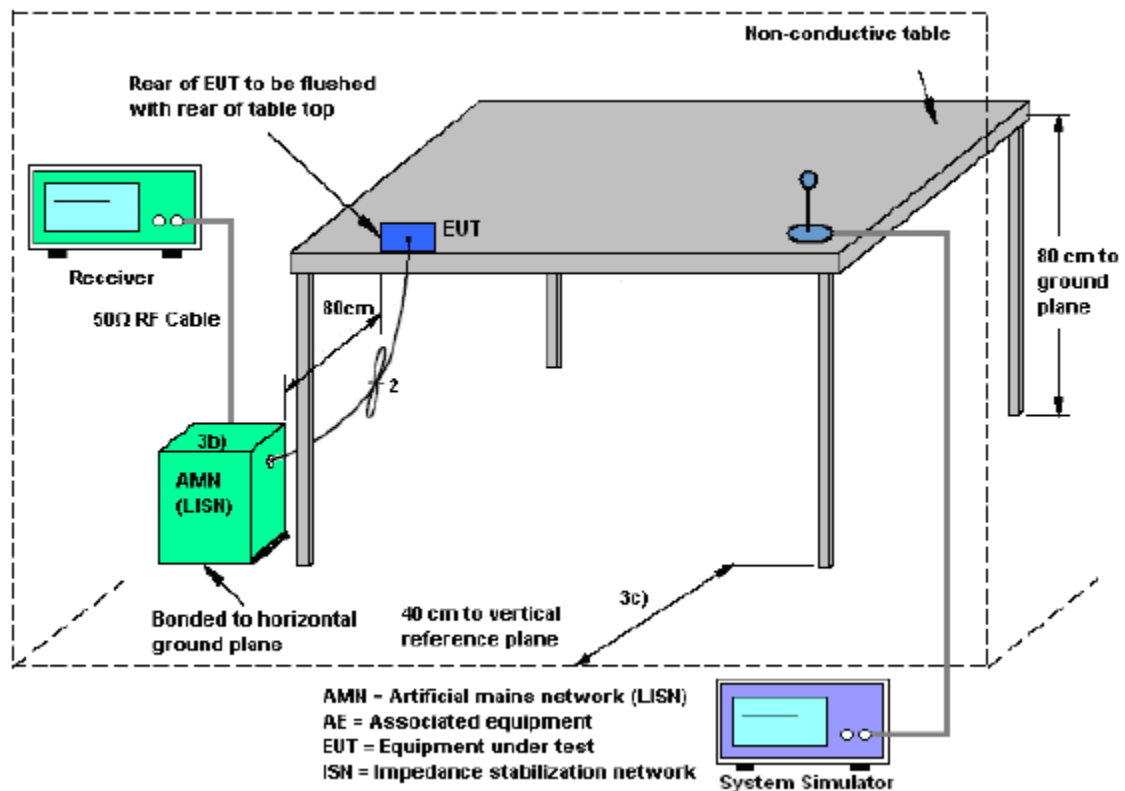
For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

2.7.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.7.3. Test Setup



2.7.4. Test Procedures

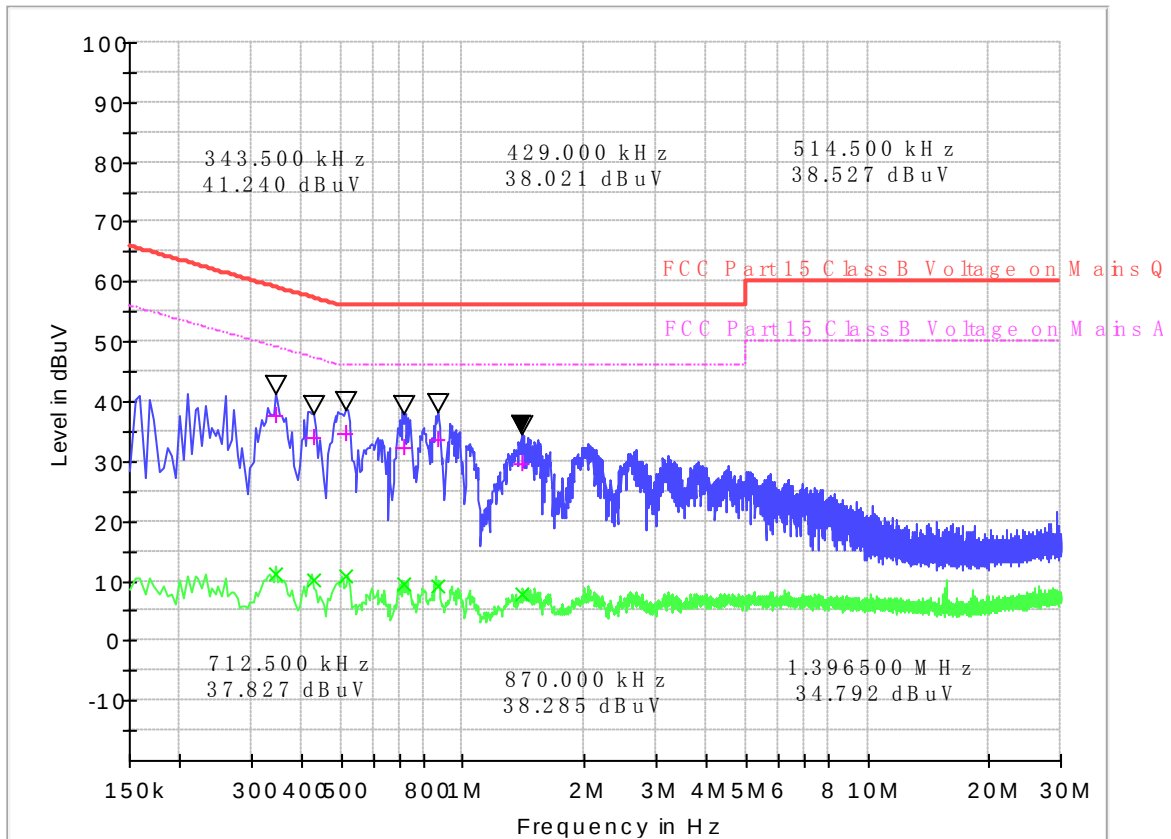
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

2.7.5. Test Result of AC Power Line Conducted Emission

NOTE 1: The EUT configuration of the emission tests is 5G WIFI Link + Charging from Adapter.

NOTE 2: All of the EUT Configure mode were tested and found 802.11a 5180MHz channel is the worst mode, the worst case is recorded in this report.

Line Phase

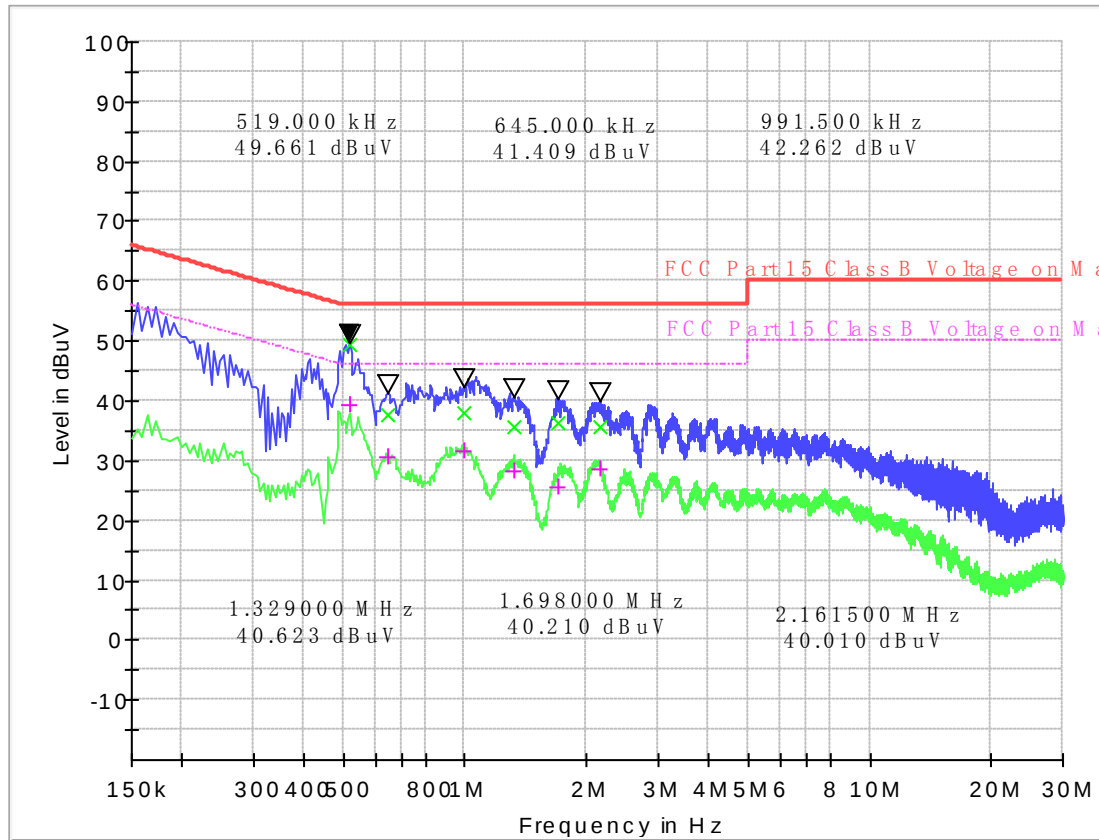


Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Corr.Factor (dB)	Margin - QPK	Limit - QPK	Margin - AV	Limit - AV (dBμV)
0.343500	37.49	11.03	10.3	21.63	59.1	38.09	49.1
0.429000	34.07	10.22	10.3	23.20	57.3	37.05	47.3
0.514500	34.49	10.69	10.2	21.51	56.0	35.31	46.0
0.712500	32.25	9.35	10.3	23.75	56.0	36.65	46.0
0.870000	33.73	9.18	10.3	22.27	56.0	36.82	46.0
1.396500	29.50	7.91	10.2	26.50	56.0	38.09	46.0

Test Result : Pass

Note: Final Level = Receiver Read level + Correction factor.

Neutral Phase



Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Corr.Factor (dB)	Margin - QPK	Limit - QPK	Margin - AV	Limit - AV (dBμV)
0.519000	49.50	39.46	10.2	6.50	56.0	6.54	46.0
0.645000	37.64	30.54	10.2	18.36	56.0	15.46	46.0
0.991500	38.13	31.56	10.2	17.87	56.0	14.44	46.0
1.329000	35.56	28.42	10.2	20.44	56.0	17.58	46.0
1.698000	36.18	25.59	10.2	19.82	56.0	20.41	46.0
2.161500	35.56	28.62	10.2	20.44	56.0	17.38	46.0

Test Result : Pass

Note: Final Level = Receiver Read level + Correction factor.

3. List of measuring equipment

Item	Description	Manufacturer	Model	Serial No.	Cal. Date	Due Date
1	EMI Test Receiver	ROHDE&SCHWARZ	ESW26	A180502935	2022.07.21	2023.07.20
2	5M Anechoic Chamber	Albatross	SAC-5MAC 12.8x6.8x6.4m	A0304210	2019.03.25	2023.03.24
3	Loop Antenna	Schwarz beck	HFH2-Z2	A0304220	2022.05.02	2025.05.01
4	Broadband antenna (30MHz~1GHz)	R&S	HL562	A0304224	2020.06.19	2023.06.18
5	EMI Horn Ant. (1-18G)	ETC	1209	A150402241	2021.01.02	2024.01.01
6	Horn antenna (18GHz~26.5GHz)	AR	AT4510	A0804450	2020.06.19	2023.06.18
7	Amplifier 30M~1GHz	MILMEGA	80RF1000-10004	A140101634	2022.12.13	2023.12.12
8	Amplifier 1G~18GHz	MILMEGA	AS0104R-800/400	A160302517	2022.12.13	2023.12.12
9	Spectrum Analyzer	KEYSIGHT	N9030A	A160702554	2022.03.25	2023.03.24
10	Test Receiver	R&S	ESIB7	A0501375	2022.04.18	2023.04.17
11	Broadband Ant.	2786	ETC	A150402240	2021.09.16	2024.03.03
12	3M Anechoic Chamber	Albatross	SAC-3MAC 9*6*6m	A0412375	2019.03.26	2023.03.25
13	Temperature chamber	TABAI	PS-232	A8708054	2022.08.18	2023.08.17
14	Test Receiver	KEYSIGHT	N9038A	A141202036	2022.07.21	2023.07.20
15	LISN	ROHDE&SCHWARZ	ENV216	A140701847	2022.07.21	2023.07.20
16	Cable	MATCHING PAD	W7	/	2022.07.21	2023.07.20

4. Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence . The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of AC Power Line Conducted Emission Measurement (150kHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	2.8dB
--	-------

Uncertainty of Radiated Emission Measurement (9kHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	3.5dB
--	-------

Uncertainty of Radiated Emission Measurement (30MHz~1GHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	3.91dB
--	--------

Uncertainty of Radiated Emission Measurement (1GHz~18GHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	4.5dB
--	-------

Uncertainty of Radiated Emission Measurement (18GHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	4.9dB
--	-------

Uncertainty of RF Conducted Measurement (9kHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%($U=2U_c(y)$)	1.2dB
--	-------

Appendix A

Duty Cycle

Test results

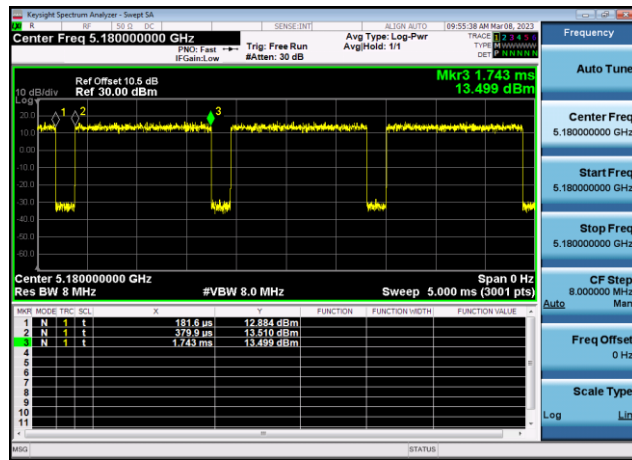
U-NII-1 Duty Cycle				
Mode	Test Frequency (MHz)	Ant	Duty Cycle (%)	Duty Cycle Factor (dB)
802.11a (20MHz)	5180	Ant1	87.30	0.59
802.11n (20MHz)	5180	Ant1	86.65	0.62
802.11n (40MHz)	5190	Ant1	76.05	1.19

U-NII-2a Duty Cycle				
Mode	Test Frequency (MHz)	Ant	Duty Cycle (%)	Duty Cycle Factor (dB)
802.11a (20MHz)	5260	Ant1	87.42	0.58
802.11n (20MHz)	5260	Ant1	87.41	0.58
802.11n (40MHz)	5270	Ant1	76.05	1.19

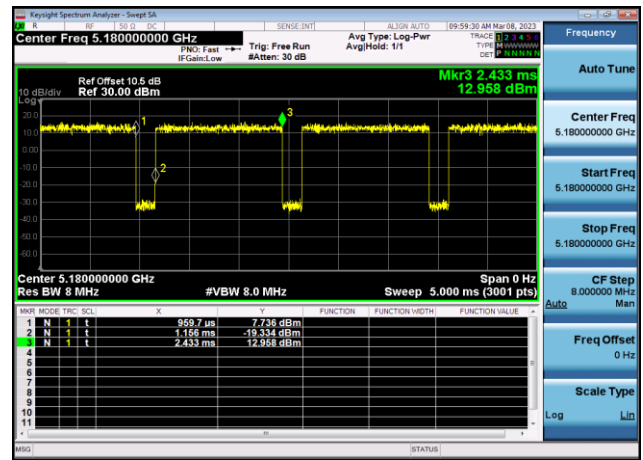
U-NII-2c Duty Cycle				
Mode	Test Frequency (MHz)	Ant	Duty Cycle (%)	Duty Cycle Factor (dB)
802.11a (20MHz)	5500	Ant1	87.31	0.59
802.11n (20MHz)	5500	Ant1	86.54	0.63
802.11n (40MHz)	5510	Ant1	76.10	1.19

U-NII-3 Duty Cycle				
Mode	Test Frequency (MHz)	Ant	Duty Cycle (%)	Duty Cycle Factor (dB)
802.11a (20MHz)	5745	Ant1	87.42	0.58
802.11n (20MHz)	5745	Ant1	86.67	0.62
802.11n (40MHz)	5755	Ant1	76.45	1.17

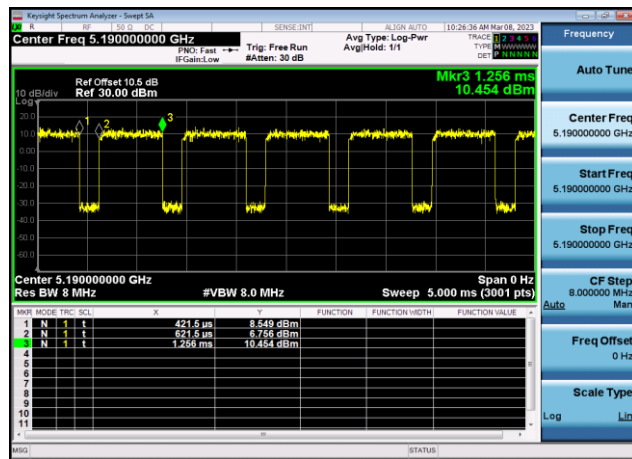
U-NII-1 DutyCycle-802.11a(20MHz)
,5180MHz,Ant1



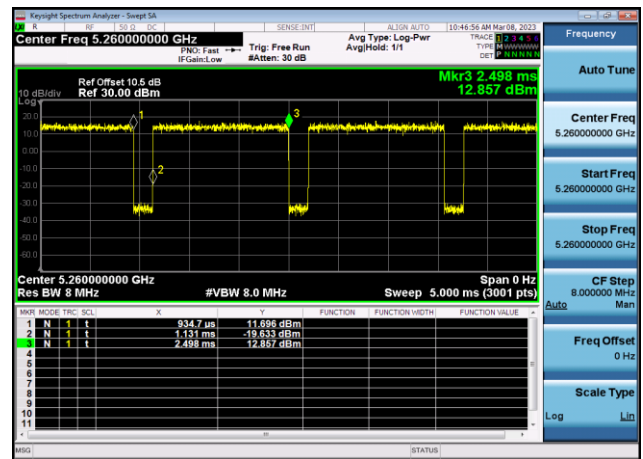
U-NII-1 DutyCycle-802.11n(20MHz)
,5180MHz,Ant1



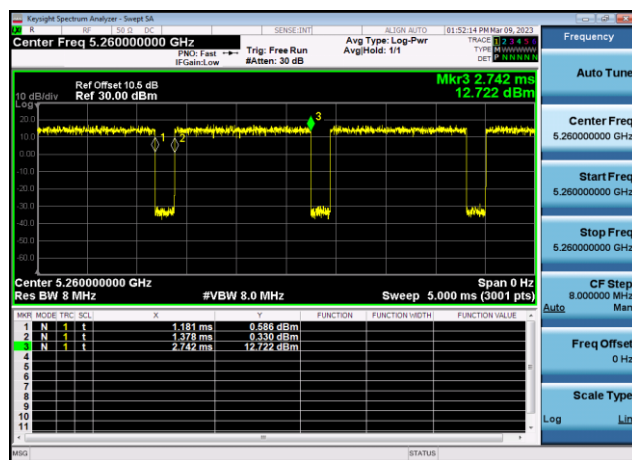
U-NII-1 DutyCycle-802.11n(40MHz)
,5190MHz,Ant1



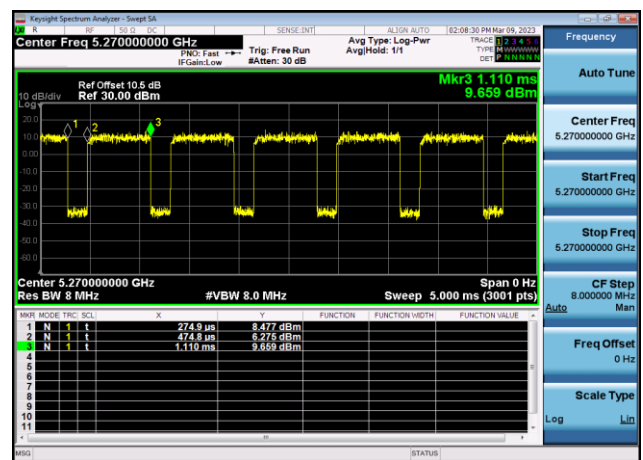
U-NII-2a DutyCycle-802.11a(20MHz)
,5260MHz,Ant1



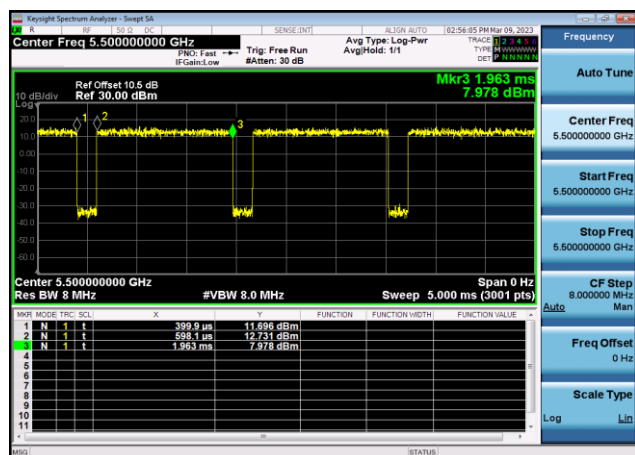
U-NII-2a DutyCycle-802.11n(20MHz)
,5260MHz,Ant1



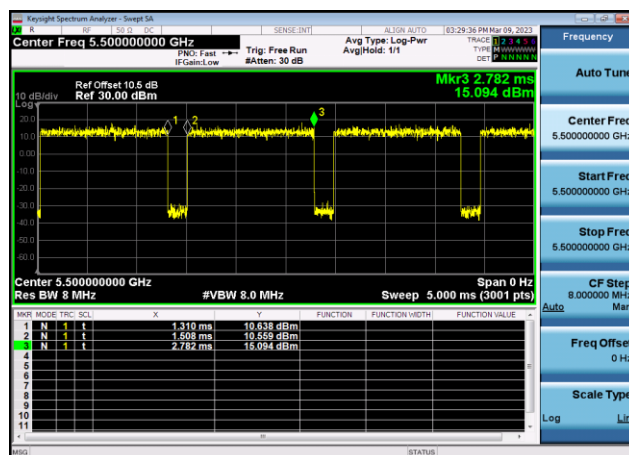
U-NII-2a DutyCycle-802.11n(40MHz)
,5270MHz,Ant1



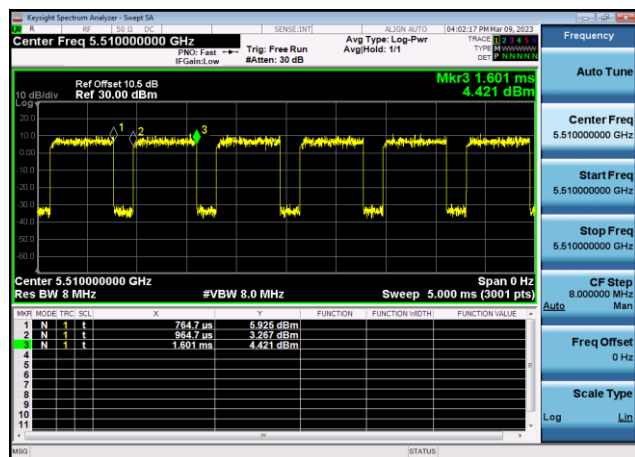
U-NII-2c DutyCycle-802.11a(20MHz)
,5500MHz,Ant1



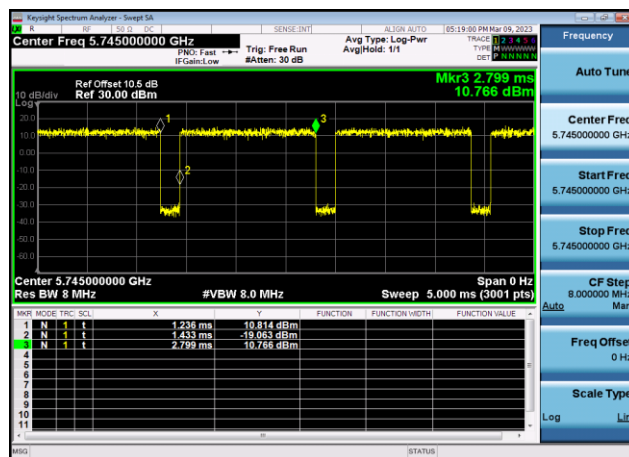
U-NII-2c DutyCycle-802.11n(20MHz)
,5500MHz,Ant1



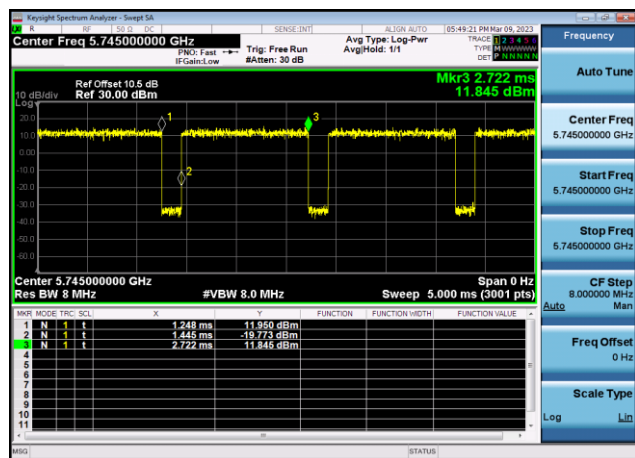
U-NII-2c DutyCycle-802.11n(40MHz)
,5510MHz,Ant1



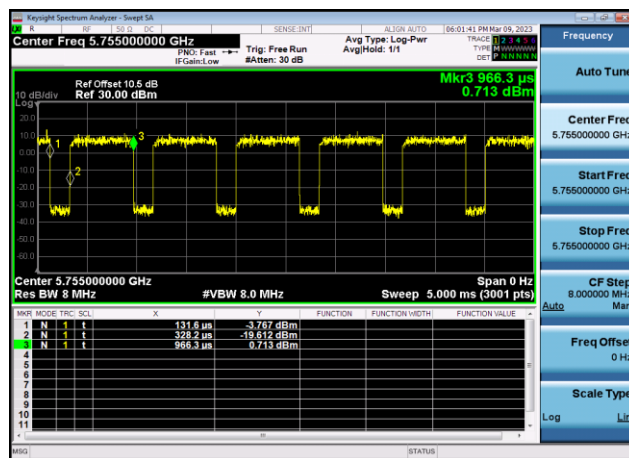
U-NII-3 DutyCycle-802.11a(20MHz)
,5745MHz,Ant1



U-NII-3 DutyCycle-802.11n(20MHz)
,5745MHz,Ant1



U-NII-3 DutyCycle-802.11n(40MHz)
,5755MHz,Ant1



Output power

Test results

U-NII-1 AVGSA Output Power						
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	Max Power (dBm)	Total Power (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5180	0.62	10.56	11.18	24	Pass
802.11n (20MHz)	5220	0.62	11.37	11.99	24	Pass
802.11n (20MHz)	5240	0.62	11.82	12.44	24	Pass
802.11n (40MHz)	5190	1.19	9.76	10.95	24	Pass
802.11n (40MHz)	5230	1.19	10.37	11.56	24	Pass
802.11a (20MHz)	5180	0.59	10.94	11.53	24	Pass
802.11a (20MHz)	5220	0.59	11.45	12.04	24	Pass
802.11a (20MHz)	5240	0.59	11.74	12.33	24	Pass

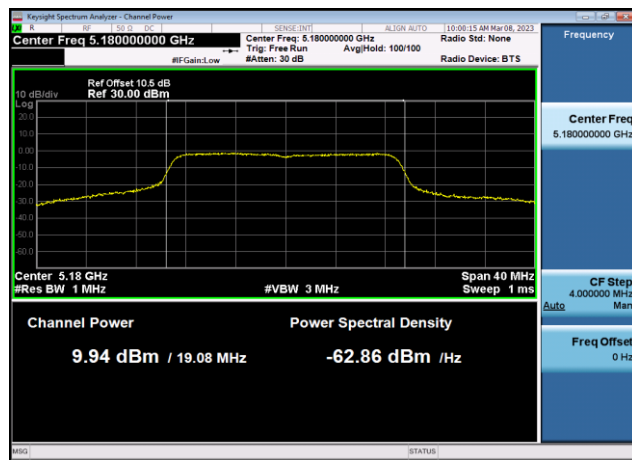
U-NII-2a AVGSA Output Power						
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	Max Power (dBm)	Total Power (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5260	0.58	11.90	12.48	24	Pass
802.11n (20MHz)	5300	0.58	12.06	12.64	24	Pass
802.11n (20MHz)	5320	0.58	12.10	12.68	24	Pass
802.11n (40MHz)	5270	1.19	10.53	11.72	24	Pass
802.11n (40MHz)	5310	1.19	10.53	11.72	24	Pass
802.11a (20MHz)	5260	0.58	11.67	12.25	24	Pass
802.11a (20MHz)	5300	0.58	11.80	12.38	24	Pass
802.11a (20MHz)	5320	0.58	11.80	12.38	24	Pass

U-NII-2c AVGSA Output Power						
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	Max Power (dBm)	Total Power (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5500	0.63	10.54	11.17	24	Pass
802.11n (20MHz)	5600	0.63	10.08	10.71	24	Pass
802.11n (20MHz)	5700	0.63	9.89	10.52	24	Pass
802.11n (40MHz)	5510	1.19	7.54	8.73	24	Pass
802.11n (40MHz)	5590	1.19	7.29	8.48	24	Pass
802.11n (40MHz)	5670	1.19	7.52	8.71	24	Pass
802.11a (20MHz)	5500	0.59	10.60	11.19	24	Pass
802.11a (20MHz)	5600	0.59	10.08	10.67	24	Pass
802.11a (20MHz)	5700	0.59	10.57	11.16	24	Pass

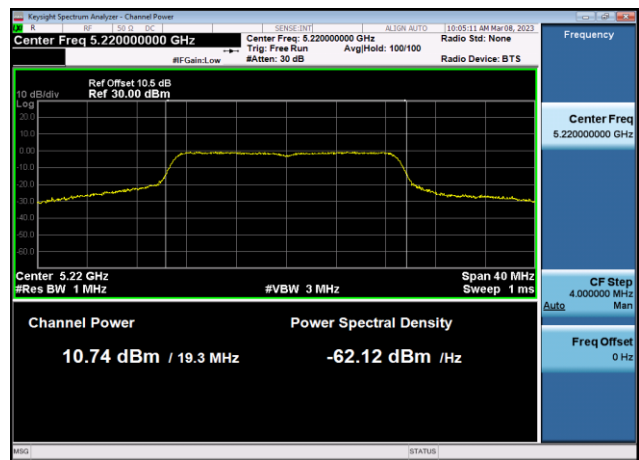
U-NII-3 AVGSA Output Power						
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	Max Power (dBm)	Total Power (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5745	0.62	10.40	11.02	30	Pass
802.11n (20MHz)	5785	0.62	10.27	10.89	30	Pass
802.11n (20MHz)	5825	0.62	8.93	9.55	30	Pass
802.11n (40MHz)	5755	1.17	9.32	10.49	30	Pass
802.11n (40MHz)	5795	1.17	9.43	10.60	30	Pass
802.11a (20MHz)	5745	0.58	10.25	10.83	30	Pass
802.11a (20MHz)	5785	0.58	9.87	10.45	30	Pass
802.11a (20MHz)	5825	0.58	8.73	9.31	30	Pass

Test plots

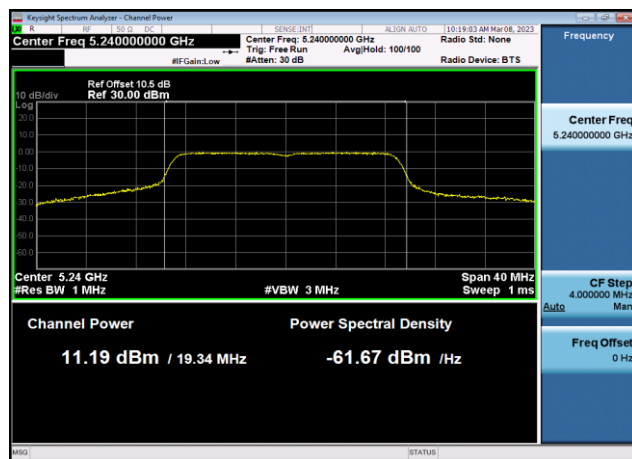
U-NII-1 Output Power-802.11n(20MHz)
,5180MHz,Ant1



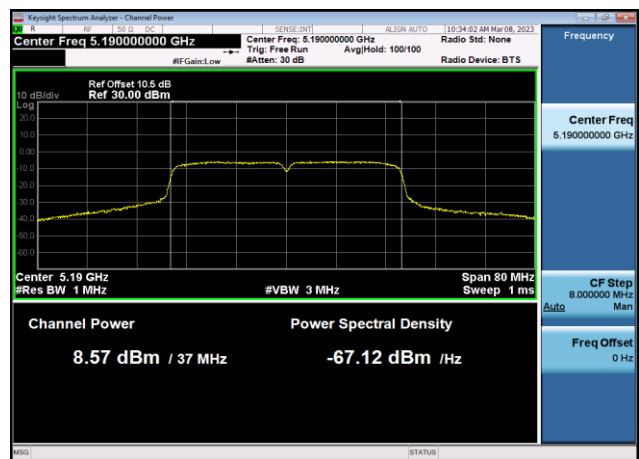
U-NII-1 Output Power-802.11n(20MHz)
,5220MHz,Ant1



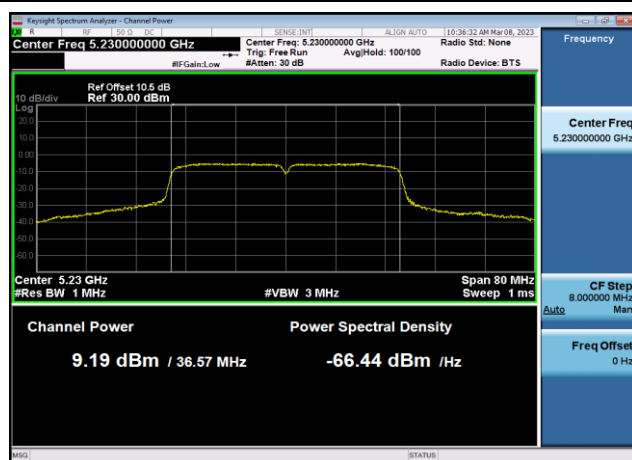
U-NII-1 Output Power-802.11n(20MHz)
,5240MHz,Ant1



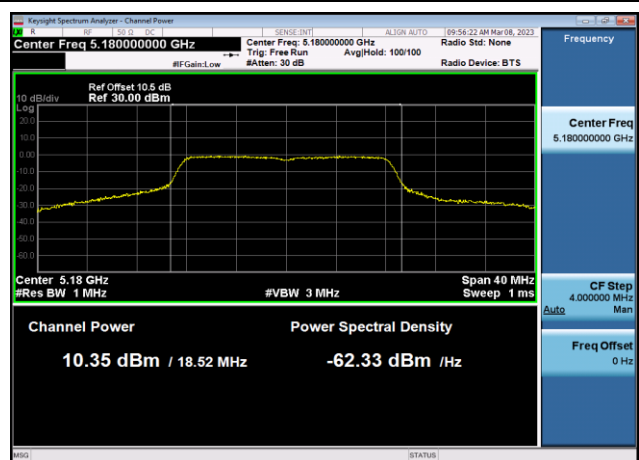
U-NII-1 Output Power-802.11n(40MHz)
,5190MHz,Ant1



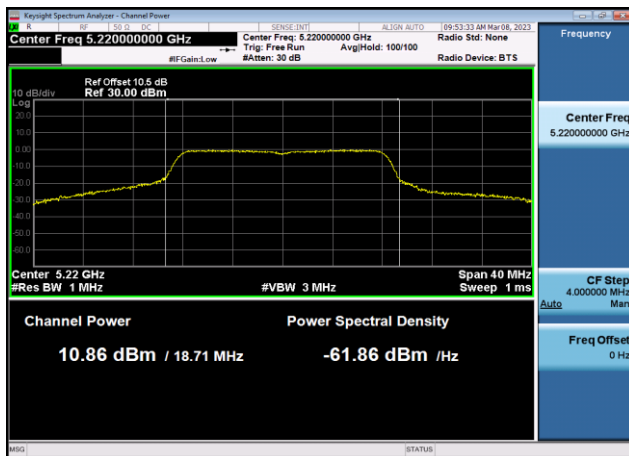
U-NII-1 Output Power-802.11n(40MHz)
,5230MHz,Ant1



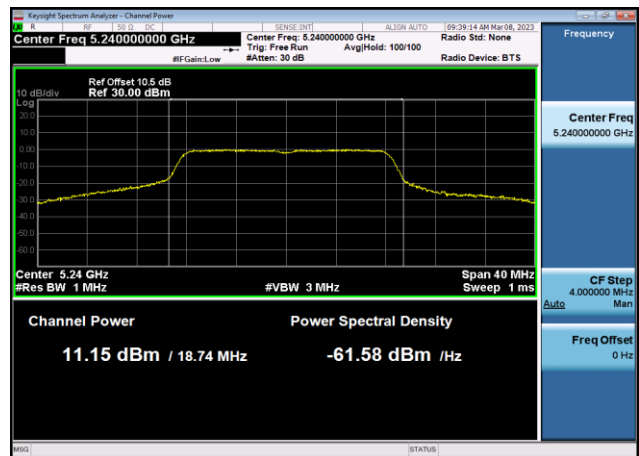
U-NII-1 Output Power-802.11a(20MHz)
,5180MHz,Ant1



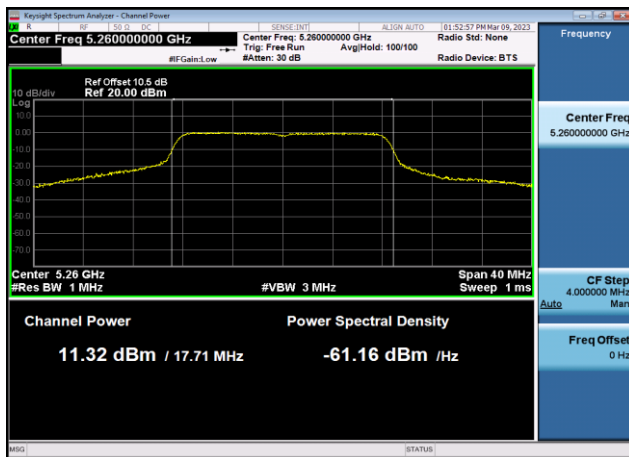
U-NII-1 Output Power-802.11a(20MHz)
,5220MHz,Ant1



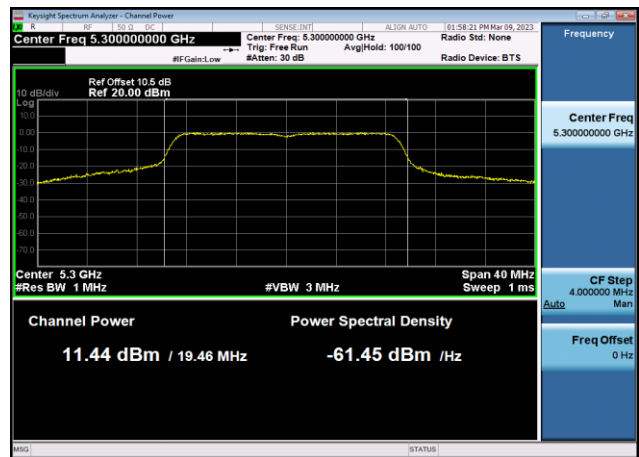
U-NII-1 Output Power-802.11a(20MHz)
,5240MHz,Ant1



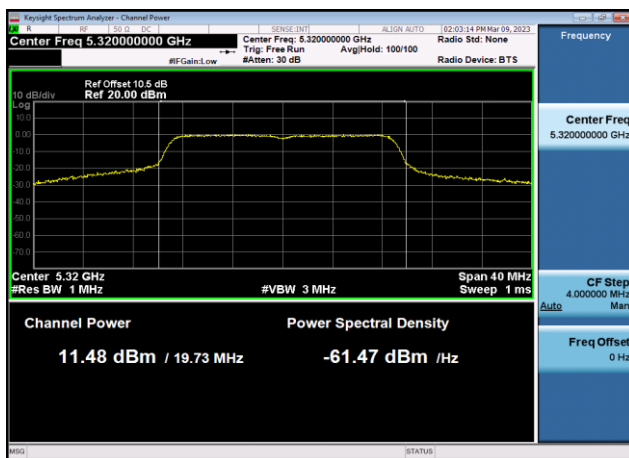
U-NII-2a Output Power-802.11n(20MHz)
,5260MHz,Ant1



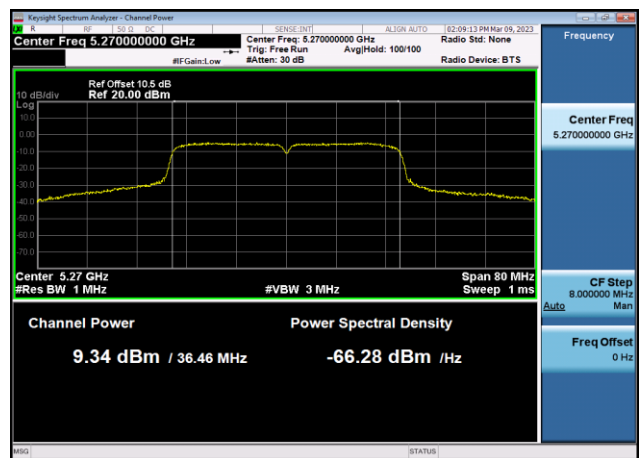
U-NII-2a Output Power-802.11n(20MHz)
,5300MHz,Ant1



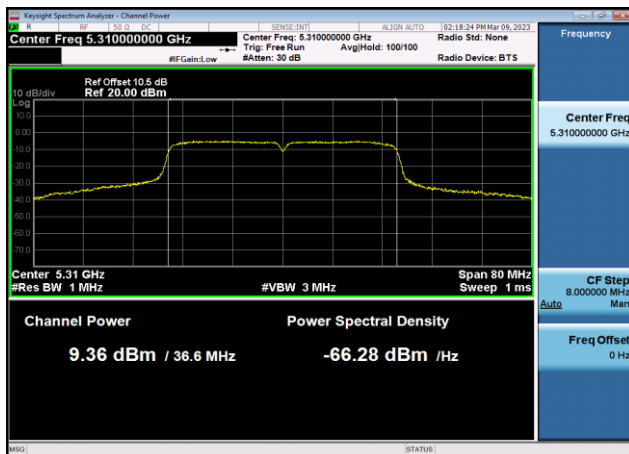
U-NII-2a Output Power-802.11n(20MHz)
,5320MHz,Ant1



U-NII-2a Output Power-802.11n(40MHz)
,5270MHz,Ant1



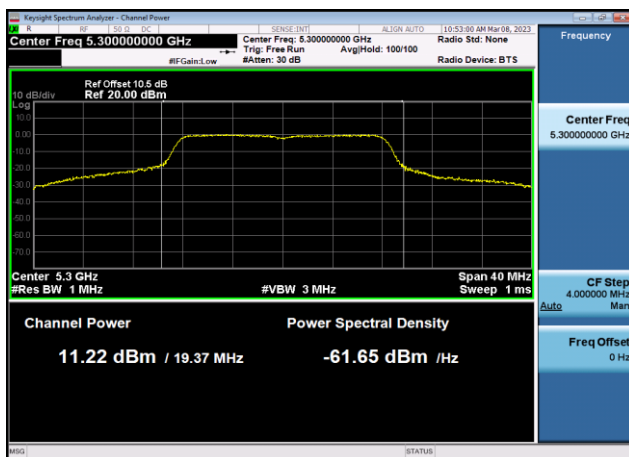
U-NII-2a Output Power-802.11n(40MHz)
,5310MHz,Ant1



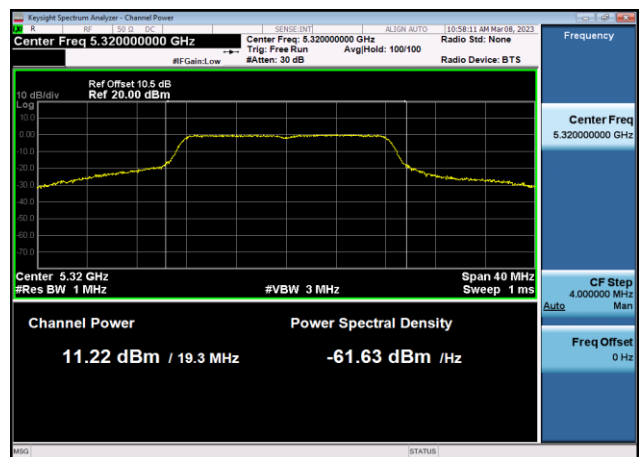
U-NII-2a Output Power-802.11a(20MHz)
,5260MHz,Ant1



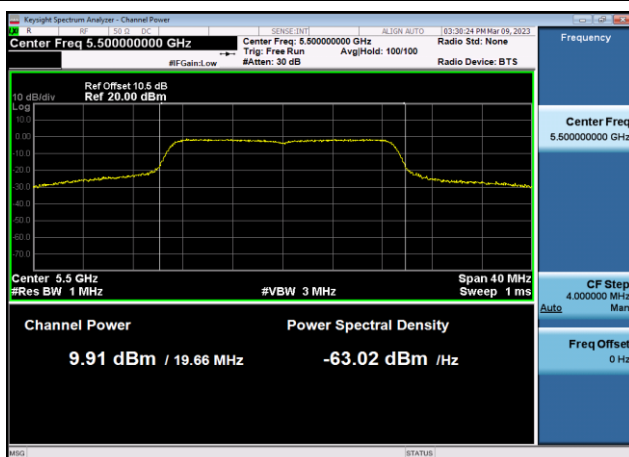
U-NII-2a Output Power-802.11a(20MHz)
,5300MHz,Ant1



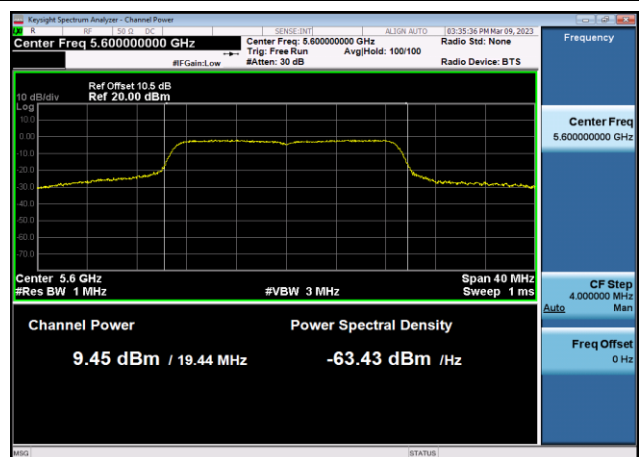
U-NII-2a Output Power-802.11a(20MHz)
,5320MHz,Ant1



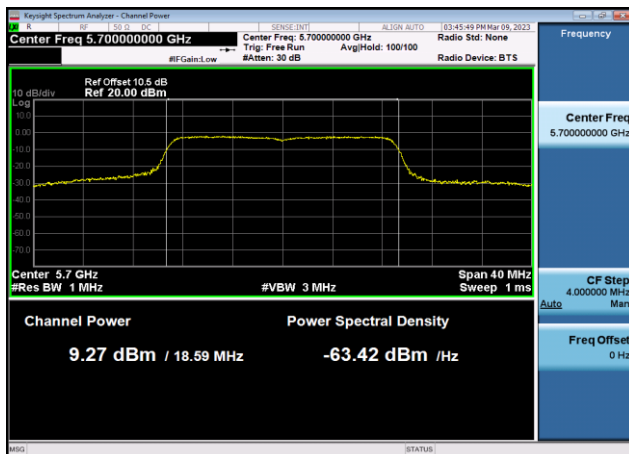
U-NII-2c Output Power-802.11n(20MHz)
,5500MHz,Ant1



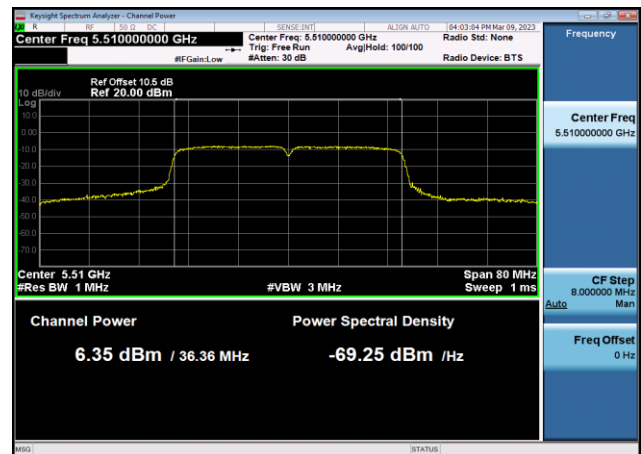
U-NII-2c Output Power-802.11n(20MHz)
,5600MHz,Ant1



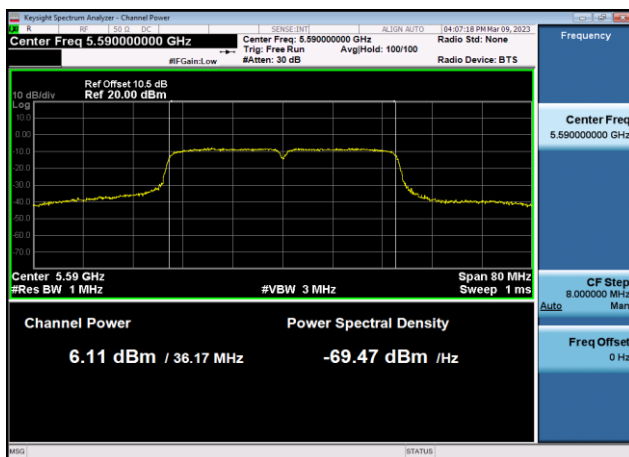
U-NII-2c Output Power-802.11n(20MHz)
,5700MHz,Ant1



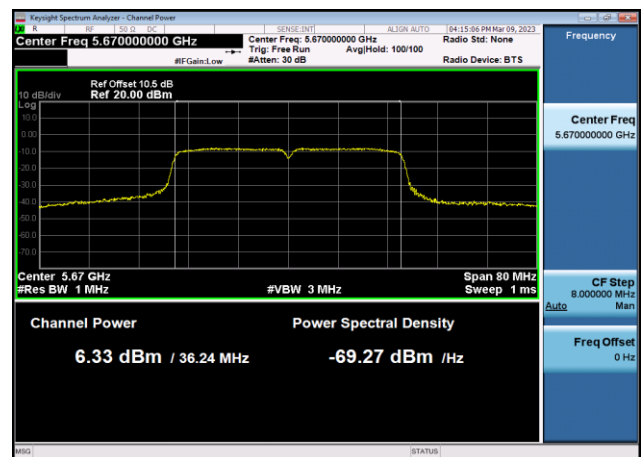
U-NII-2c Output Power-802.11n(40MHz)
,5510MHz,Ant1



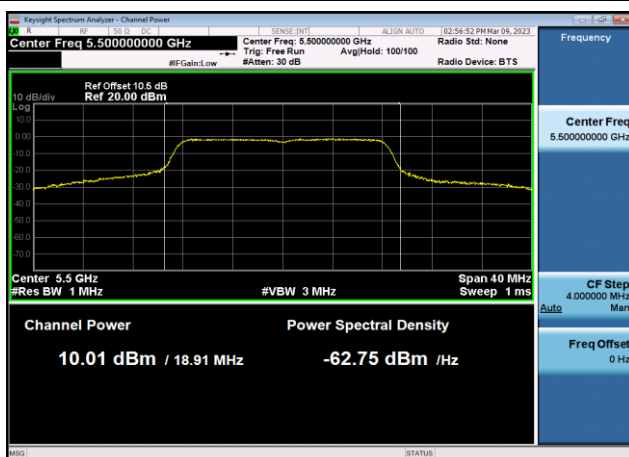
U-NII-2c Output Power-802.11n(40MHz)
,5590MHz,Ant1



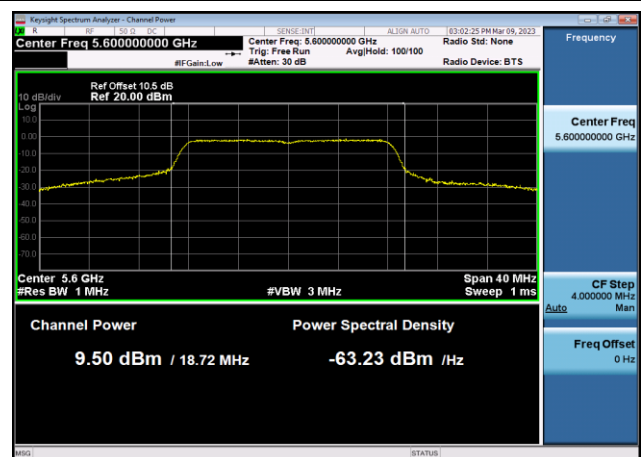
U-NII-2c Output Power-802.11n(40MHz)
,5670MHz,Ant1



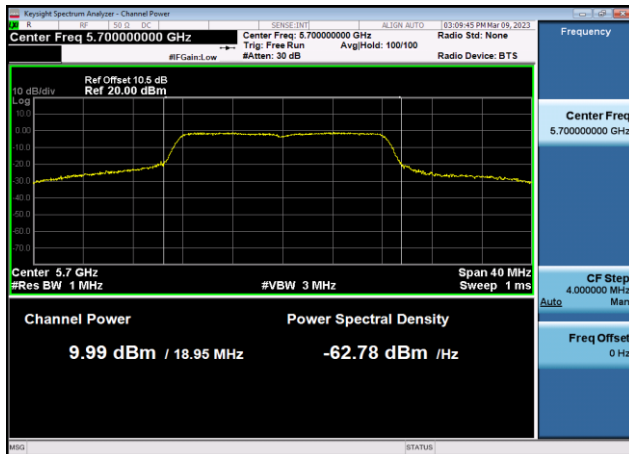
U-NII-2c Output Power-802.11a(20MHz)
,5500MHz,Ant1



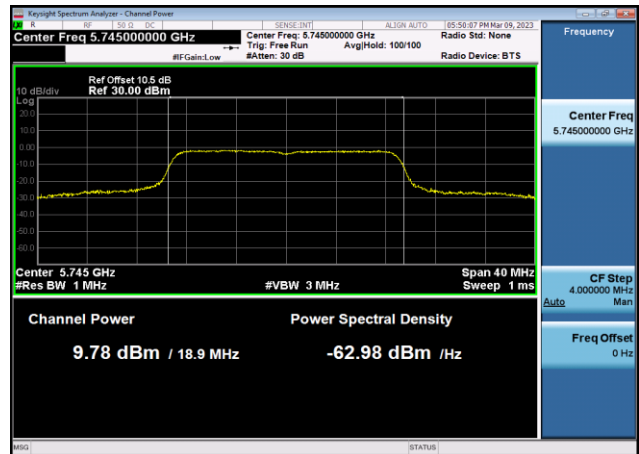
U-NII-2c Output Power-802.11a(20MHz)
,5600MHz,Ant1



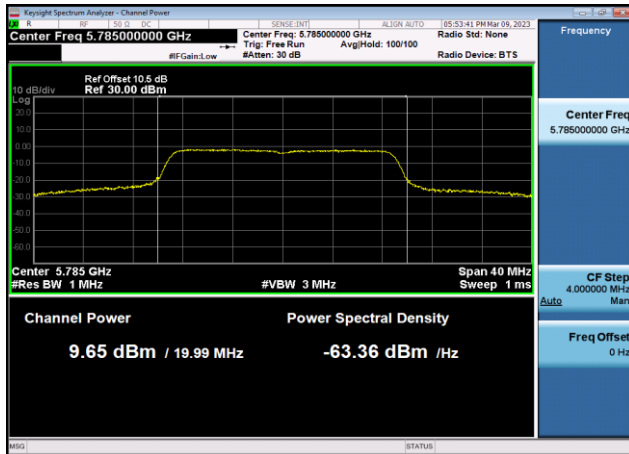
U-NII-2c Output Power-802.11a(20MHz)
,5700MHz,Ant1



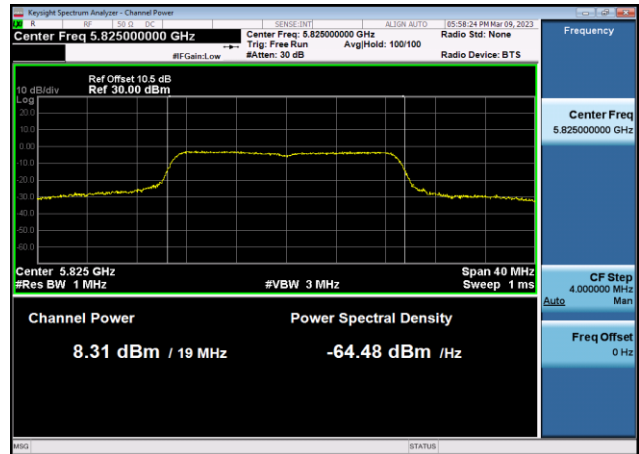
U-NII-3 Output Power-802.11n(20MHz)
,5745MHz,Ant1



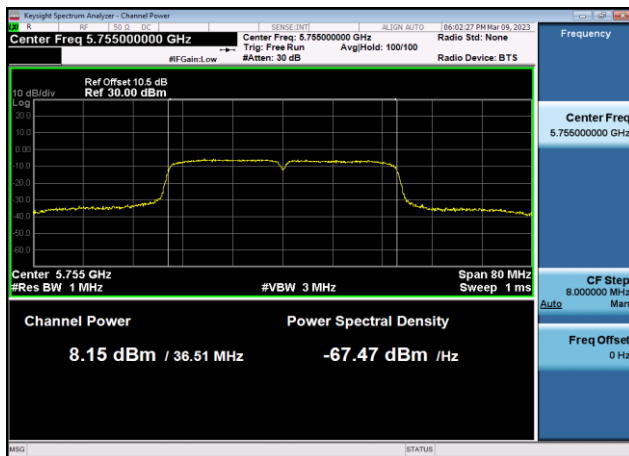
U-NII-3 Output Power-802.11n(20MHz)
,5785MHz,Ant1



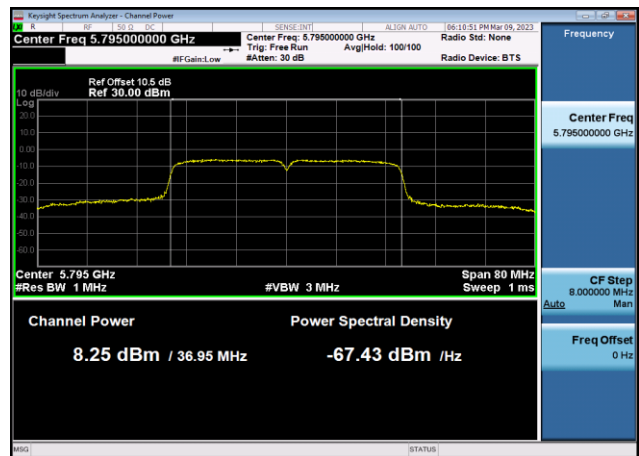
U-NII-3 Output Power-802.11n(20MHz)
,5825MHz,Ant1



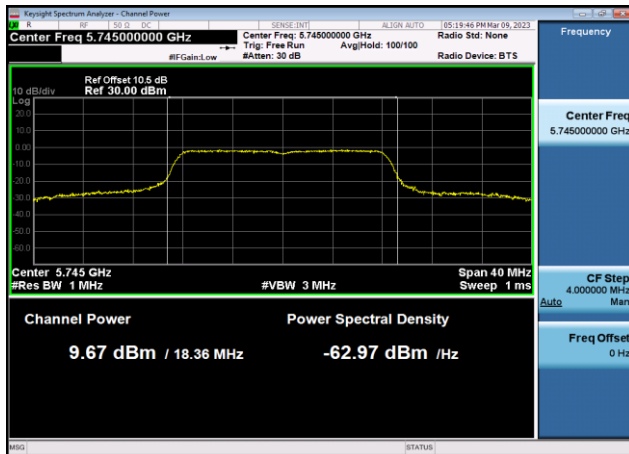
U-NII-3 Output Power-802.11n(40MHz)
,5755MHz,Ant1



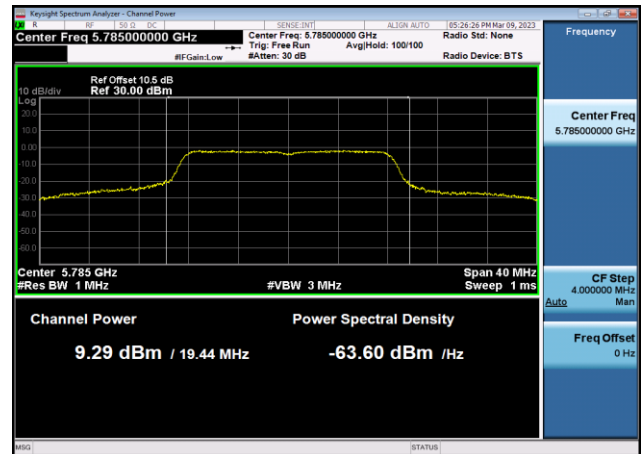
U-NII-3 Output Power-802.11n(40MHz)
,5795MHz,Ant1



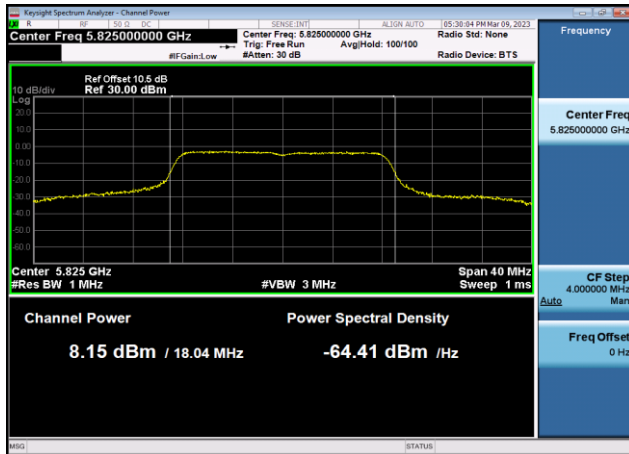
U-NII-3 Output Power-802.11a(20MHz) ,5745MHz,Ant1



U-NII-3 Output Power-802.11a(20MHz) ,5785MHz,Ant1



U-NII-3 Output Power-802.11a(20MHz) ,5825MHz,Ant1



AVGSA Power Spectral Density

Test Result and Data

U-NII-1 AVGSA Power Spectral Density					
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	PSD (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5180	0.62	-0.226	11	Pass
802.11n (20MHz)	5220	0.62	0.187	11	Pass
802.11n (20MHz)	5240	0.62	0.293	11	Pass
802.11n (40MHz)	5190	1.19	-2.638	11	Pass
802.11n (40MHz)	5230	1.19	-3.857	11	Pass
802.11a (20MHz)	5180	0.59	-0.173	11	Pass
802.11a (20MHz)	5220	0.59	0.474	11	Pass
802.11a (20MHz)	5240	0.59	0.526	11	Pass

U-NII-2a AVGSA Power Spectral Density					
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	PSD (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5260	0.58	1.169	11	Pass
802.11n (20MHz)	5300	0.58	1.336	11	Pass
802.11n (20MHz)	5320	0.58	1.085	11	Pass
802.11n (40MHz)	5270	1.19	-2.934	11	Pass
802.11n (40MHz)	5310	1.19	-2.994	11	Pass
802.11a (20MHz)	5260	0.58	1.028	11	Pass
802.11a (20MHz)	5300	0.58	1.013	11	Pass
802.11a (20MHz)	5320	0.58	1.001	11	Pass

U-NII-2c AVGSA Power Spectral Density					
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	PSD (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5500	0.63	-0.41	11	Pass
802.11n (20MHz)	5600	0.63	-0.785	11	Pass
802.11n (20MHz)	5700	0.63	-1.199	11	Pass
802.11n (40MHz)	5510	1.19	-5.757	11	Pass
802.11n (40MHz)	5590	1.19	-6.407	11	Pass
802.11n (40MHz)	5670	1.19	-5.928	11	Pass
802.11a (20MHz)	5500	0.59	-0.223	11	Pass
802.11a (20MHz)	5600	0.59	-0.526	11	Pass
802.11a (20MHz)	5700	0.59	-0.402	11	Pass

U-NII-3 AVGSA Power Spectral Density					
Mode	Test Frequency (MHz)	Duty Cycle Factor (dB)	PSD (dBm)	Limit (dBm)	Result
802.11n (20MHz)	5260	0.62	-3.689	30	Pass
802.11n (20MHz)	5300	0.62	-3.905	30	Pass
802.11n (20MHz)	5320	0.62	-5.314	30	Pass
802.11n (40MHz)	5270	1.17	-6.942	30	Pass
802.11n (40MHz)	5310	1.17	-6.818	30	Pass
802.11a (20MHz)	5260	0.58	-3.514	30	Pass
802.11a (20MHz)	5300	0.58	-4.097	30	Pass
802.11a (20MHz)	5320	0.58	-5.075	30	Pass

Test Plots

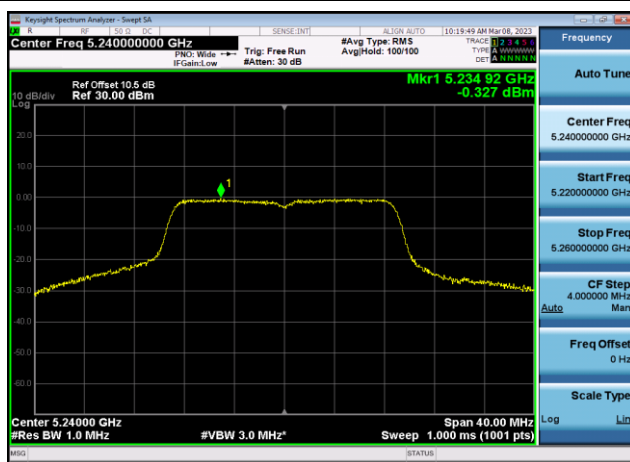
U-NII-1 Power spectral density-802.11
n(20MHz),5180MHz,Ant1



U-NII-1 Power spectral density-802.11
n(20MHz),5220MHz,Ant1



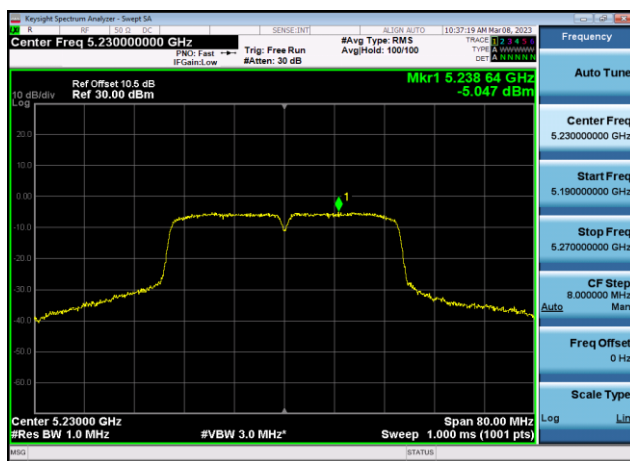
U-NII-1 Power spectral density-802.11
n(20MHz),5240MHz,Ant1



U-NII-1 Power spectral density-802.11
n(40MHz),5190MHz,Ant1



U-NII-1 Power spectral density-802.11
n(40MHz),5230MHz,Ant1



U-NII-1 Power spectral density-802.11
a(20MHz),5180MHz,Ant1

