

MEASUREMENT REPORT

FCC ID: ZWM-M2-6398SV

IC: 11883A-M26398SV

APPLICANT: Ubiqconn Technology, Inc.

Application Type: Certification

Product: Module

Model No.: AP6398SV

FCC Classification: Unlicensed National Information Infrastructure (UNII)

FCC Rule Part(s): Part 15 Subpart E (Section 15.407)

ISED Standard: RSS-247 Issue 2

Test Procedure(s): ANSI C63.10-2013

Received Date: November 15, 2021

Test Date: December 22, 2022 ~ March 3, 2022

Tested By : *Peter Syu*

(Peter Syu)



Reviewed By : *Paddy Chen*

(Paddy Chen)



Approved By : *Chenz Ker*

(Chenz Ker)

The test results only relate to the tested samples.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2111TWK301-U4	1.0	Original Report	2022-03-31	

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§2.1033 General Information

Applicant	Ubiqconn Technology, Inc.
Applicant Address	8F, No. 300, Yang Guang St., NeiHu, Taipei, Taiwan, 114
Manufacturer	Ubiqconn Technology, Inc.
Manufacturer Address	8F, No. 300, Yang Guang St., NeiHu, Taipei, Taiwan, 114
Test Site	MRT Technology (Taiwan) Co., Ltd
Test Site Address	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.	291082
FCC Rule Part(s)	Part 15 Subpart E (Section 15.407)
ISED Standard:	RSS-247 Issue 2
Test Device Serial No.	#1 <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Fuxing Rd., Taoyuan, Taiwan (R.O.C)

- MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
- MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
- MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.

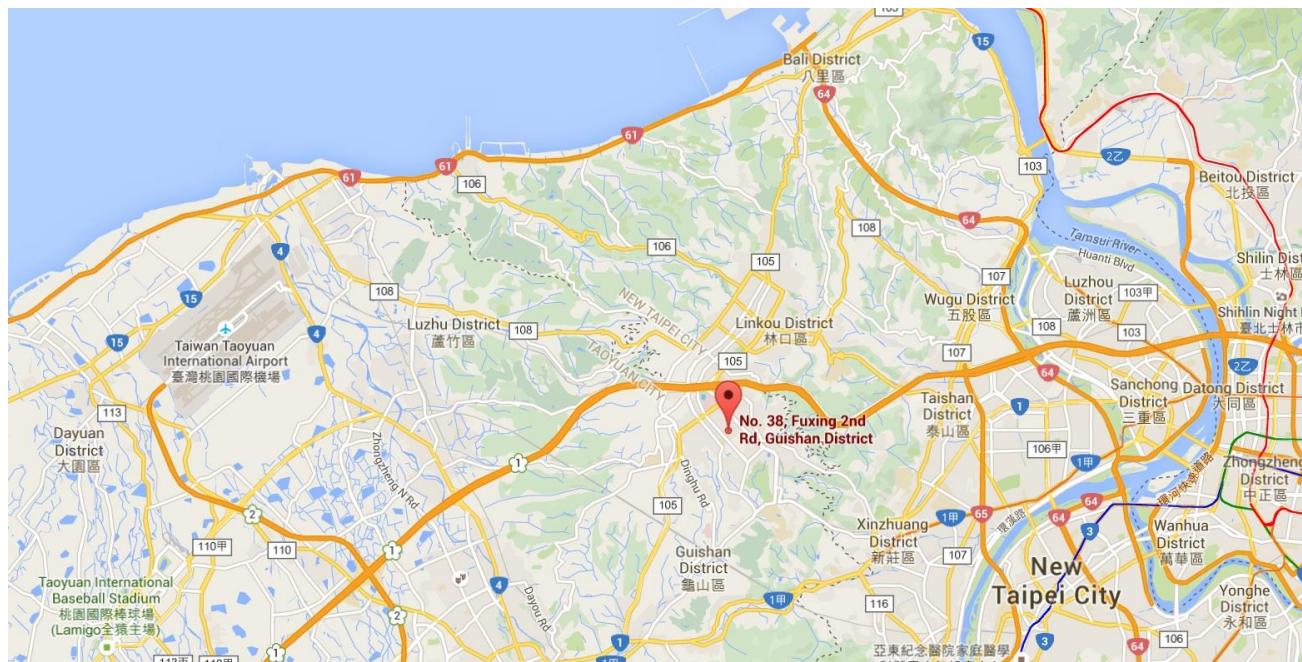
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Module
Model No.	AP6398SV
Brand Name	Ubiqconn
Supports Radios Spec.	WLAN: 2.4G: 802.11b/g/n-20 5G: 802.11a/n-20/ac-20/n-40/ac-40/ac-80, Band 1~4 WPAN: Bluetooth Dual Mode: V5.0
Wi-Fi Specification	802.11a/n/ac (2TX / 2RX)
Frequency Range	5GHz: For 802.11a/n-HT20/ac-VHT-20: 5180~5320MHz, 5500~5720MHz, 5745~5825MHz For 802.11n-HT40/ ac-VHT40: 5190~5310MHz, 5510~5710MHz, 5755~5795MHz For 802.11ac-VHT80: 5210MHz, 5290MHz, 5530MHz, 5610MHz, 5690MHz, 5775MHz
Maximum Output Power	802.11a: 21.42dBm 802.11n-HT20: 21.52dBm, 802.11n-HT40: 21.27dBm, 802.11ac-VHT20: 21.10dBm, 802.11ac-VHT40: 20.91dBm, 802.11ac-VHT80: 15.15dBm
Modulation Type	802.11a/n-20/ac-20/n-40/ac-40/ac-80: OFDM (BPSK, QPSK, 16QAM, 64QAM,256QAM)

2.2. Operation Frequencies and Channel List

802.11a/n-HT20/ ac-VHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz	100	5500 MHz
104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz
128	5640 MHz	132	5660 MHz	136	5680 MHz
140	5700 MHz	144	5720 MHz	149	5745 MHz
153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	--	--	--	--

802.11n-HT40/ ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz
62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz
142	5710 MHz	151	5755 MHz	159	5795 MHz

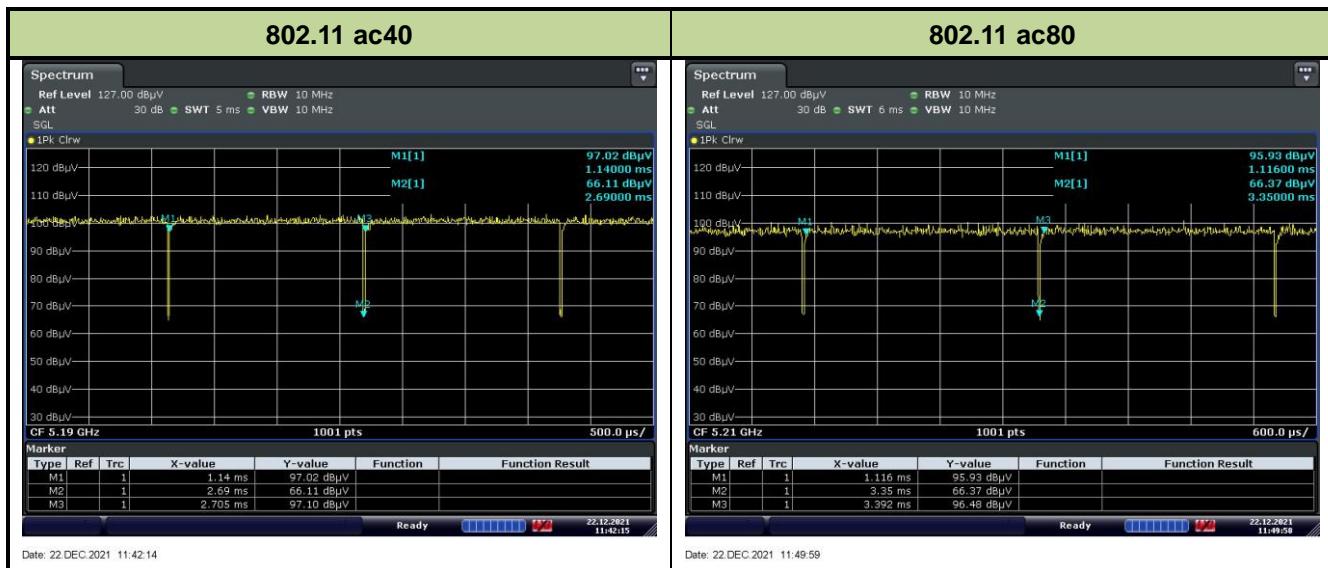
802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz	106	5530 MHz
122	5610 MHz	138	5690 MHz	155	5775 MHz

Duty Cycle

Test Mode	Duty Cycle
802.11a	98.09%
802.11 n-HT20	98.72%
802.11 n-HT40	98.98%
802.11ac-VHT20	96.64%
802.11ac-VHT40	99.04%
802.11ac-VHT80	98.15%





2.3. Test Mode

Test Mode	Mode 1: Transmit by 802.11a
	Mode 2: Transmit by 802.11n-HT20
	Mode 3: Transmit by 802.11n-HT40
	Mode 4: Transmit by 802.11ac-VHT20
	Mode 5: Transmit by 802.11ac-VHT40
	Mode 6: Transmit by 802.11ac-VHT80
	Mode 7: Receive by 802.11n-HT20

Note: Since 802.11n and 802.11ac have the same modulation/data rate/bandwidth, and after confirmation of conducted power, we select 802.11n-HT20 and HT40 are covered by 802.11ac-VHT20 and VHT40 in this report.

2.4. Test Software

The test utility software used during testing was “cmd.exe”.

2.5. Device Capabilities

This device contains the following capabilities:

2.4GHz WLAN (DTS) and 5GHz WLAN (NII).

Note: 5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = average per the guidance of Section B)2)b) of KDB 789033 D02v02r01. The RBW and VBW were both greater than $50/T$, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100.

2.6. Test Configuration

This device was tested per the guidance of KDB 789033 D02v02r01. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.7. EMI Suppression Device(s)/Modifications

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

2.8. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 789033 were used in the measurement of the device.

Deviation from measurement procedure..........**None**

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 9'x4'x3' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

Line conducted emissions test results are shown in Section 7.10.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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.”

- The antenna of the **Module**, is permanently attached.
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT unit complies with the requirement of §15.203.

Antenna List

(Brand: N/A, M/N: FDAH0I17, Antenna Type : Dipole)

Antenna Type	Frequency Band (MHz)	TX Paths	Max Antenna Gain (dBi)	BF Directional Gain (dBi)	CDD Directional Gain (dBi)	
					For Power	For PSD
Wi-Fi External Antenna						
Antenna	2412 ~ 2462	2	3.94	6.95	3.94	6.95
	5150 ~ 5850	2	4.92	7.93	4.92	7.93

Note 1: The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

If all antennas have the same gain, G_{ANT} , Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,
 $\text{Array Gain} = 10 \log (N_{ANT} / N_{SS}) \text{ dB};$
- For power measurements on IEEE 802.11 devices,
 $\text{Array Gain} = 0 \text{ dB for } N_{ANT} \leq 4;$

Note 2: The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac, not include 802.11a/b/g. BF Directional gain = $G_{ANT} + 10 \log (N_{ANT})$.

Note 3: All information declared by manufacturer.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions – SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2022/3/23
Cable	Rosnol	N1C50-RG400-B 1C50-500CM	MRTTWE00013	1 year	2022/6/20
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2022/3/24

Radiated Emissions – AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2022/10/4
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2022/3/24
Acitive Loop Antenna	Schwarzbeck	FMZB 1519B	MRTTWA00002	1 year	2022/5/6
Broadband Hornantenna	RFSPIN	DRH18-E	MRTTWA00087	1 year	2022/8/31
Breitband Hornantenna	Schwarzbeck	BBHA 9170	MRTTWA00004	1 year	2022/4/28
Broadband Preamplifier	EMC Instruments corporation	EMC118A45SE	MRTTWA00088	1 year	2022/8/31
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2022/4/21
Cable	HUBERSUHNER	SF106	MRTTWE00034	1 year	2022/6/28

Conducted Test Equipment – SR5

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2022/10/18
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2022/7/19
USB Wideband Power Sensor	KEYSIGHT	U2021XA	MRTTWA00015	1 year	2022/3/24

Test Software

Software	Version	Function
e3	9.160520a	EMI Test Software
EMI	V3	EMI Test Software

6. MEASUREMENT UNCERTAINTY

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

Conducted Emission- Power Line
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): 0.15MHz~30MHz: $\pm 2.53\text{dB}$
Radiated Spurious Emission
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): 9kHz~30MHz: $\pm 3.92\text{dB}$ 30MHz~1GHz: $\pm 4.25\text{dB}$ 1GHz~18GHz: $\pm 4.40\text{dB}$ 18GHz~40GHz: $\pm 4.45\text{dB}$
Frequency Error
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): $\pm 78.4\text{Hz}$
Conducted Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): $\pm 0.84\text{dB}$
Conducted Spurious Emission
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): $\pm 2.65\text{ dB}$
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): 3.3%
Temp. / Humidity
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): $\pm 0.82^\circ\text{C}$ / $\pm 3\%$
DC Voltage
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$): $\pm 0.3\%$

7. TEST RESULT

7.1. Summary

Company Name: **Module**
FCC Classification: **Unlicensed National Information Infrastructure (UNII)**
Data Rate(s) Tested: **6Mbps ~ 54Mbps (a);**
6.5/7.2Mbps ~ 130/144.4Mbps (n-HT20);
13.5/15.0Mbps ~ 270/300Mbps (n-HT40);
6.5/7.2Mbps ~ 156/173.4Mbps (ac-VHT20MHz);
13.5/15.0Mbps ~ 360/400Mbps (ac-VHT40MHz);
29.3/32.5Mbps ~ 780/866.6Mbps (ac-VHT80MHz)

FCC Section(s)	ISED Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)	RSS-247 §6.2.1	26dB Bandwidth	N/A	Conducted	Pass	Section 7.2
15.407(e)	RSS-247 §6.2.4	6dB Bandwidth	≥ 500kHz		Pass	Section 7.3
15.407(a)(1)(i), (2), (3)	RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	Maximum Conducted Output Power	Refer to Section 7.5		Pass	Section 7.5
15.407(h)(1)	RSS-247 §6.2.2, §6.2.3	Transmit Power Control	≤ 24 dBm		N/A	Section 7.6
15.407(a)(1)(i), (2), (3), (5)	RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	Power Spectral Density	Refer to Section 7.7		Pass	Section 7.7
15.407(b)(1), (4)	RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	Undesirable Emissions	≤ -27dBm/MHz EIRP ≤ -17dBm/MHz EIRP	Radiated	Pass	Section 7.8 & 7.9
15.205, 15.209 15.407(b)(5), (6), (7)	RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	< FCC 15.209 limits/ < RSS-Gen 8.9 limits.		Pass	
15.207	RSS-Gen §7.2	AC Conducted Emissions	< FCC 15.207 limits/ < RSS-Gen 8.8 limits.	Line Conducted	Pass	Section 7.10

Notes:

- 1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

7.2. 26dB Bandwidth Measurement

7.2.1. Test Limit

N/A

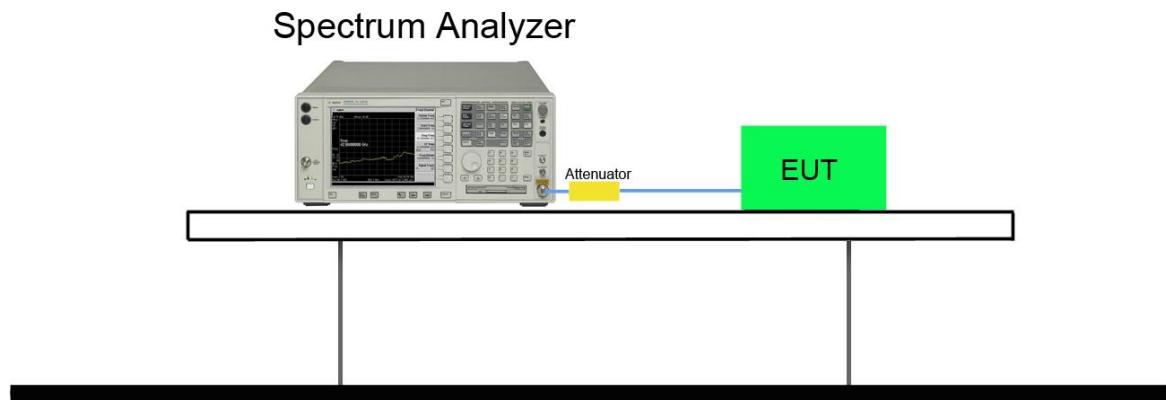
7.2.2. Test Procedure used

KDB 789033 D02v02r01 - Section C.1 / ANSI C63.10 6.9.3 / RSS-Gen 6.7

7.2.3. Test Setting

1. The analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 26$. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediated power nulls in the fundamental emission.
2. RBW = approximately 1% of the emission bandwidth.
3. VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.

7.2.4. Test Setup



7.2.5. Test Result

Product	Module	Test Engineer	Peter
Test Site	SR5	Test Date	2022/2/15
Test Item	26dB Bandwidth & 99% Bandwidth		

Test Mode	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Antenna 1				
802.11a	36	5180	20.730	16.701
802.11a	44	5220	21.130	16.638
802.11a	48	5240	21.370	16.700
802.11a	52	5260	20.950	16.576
802.11a	60	5300	21.400	16.675
802.11a	64	5320	21.290	16.622
802.11a	100	5500	20.780	16.620
802.11a	116	5580	20.790	16.599
802.11a	140	5700	20.930	16.657
802.11a	144	5720	21.010	16.617
802.11a	149	5745	20.880	16.574
802.11a	157	5785	21.720	16.794
802.11a	165	5825	21.200	16.603
802.11n-HT20	36	5180	20.990	17.808
802.11n-HT20	44	5220	21.590	17.812
802.11n-HT20	48	5240	21.240	17.706
802.11n-HT20	52	5260	21.330	17.794
802.11n-HT20	60	5300	21.420	17.809
802.11n-HT20	64	5320	21.030	17.726
802.11n-HT20	100	5500	21.260	17.750
802.11n-HT20	116	5580	20.900	17.780
802.11n-HT20	140	5700	21.170	17.735
802.11n-HT20	144	5720	21.070	17.719
802.11n-HT20	149	5745	21.470	17.845
802.11n-HT20	157	5785	21.520	17.806
802.11n-HT20	165	5825	21.780	17.819

Test Mode	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11n-HT40	38	5190	39.920	36.341
802.11n-HT40	46	5230	40.150	36.401
802.11n-HT40	54	5270	40.280	36.333
802.11n-HT40	62	5310	39.850	36.368
802.11n-HT40	102	5510	39.810	36.351
802.11n-HT40	110	5550	40.150	36.358
802.11n-HT40	134	5670	39.890	36.346
802.11n-HT40	142	5710	39.850	36.291
802.11n-HT40	151	5755	40.020	36.385
802.11n-HT40	159	5795	39.660	36.226
802.11ac-VHT80	42	5210	81.600	75.840
802.11ac-VHT80	58	5290	81.740	75.848
802.11ac-VHT80	106	5530	81.660	75.765
802.11ac-VHT80	122	5610	80.610	75.779
802.11ac-VHT80	138	5690	81.470	75.911
802.11ac-VHT80	155	5775	80.620	75.812

802.11a 26dB Bandwidth & 99% Bandwidth - Ant 1

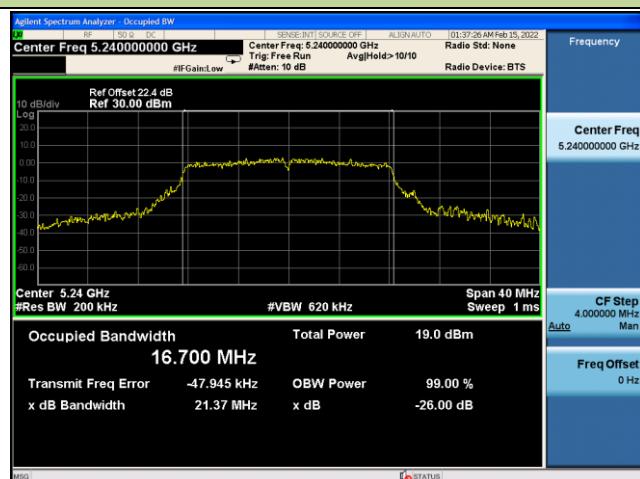
Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)



Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)



Channel 140 (5700MHz)



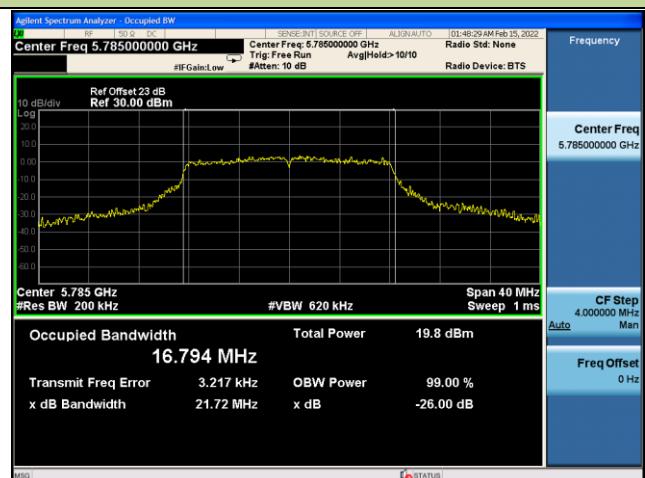
Channel 144 (5720MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)



802.11n-HT20 26dB Bandwidth & 99% Bandwidth - Ant 1

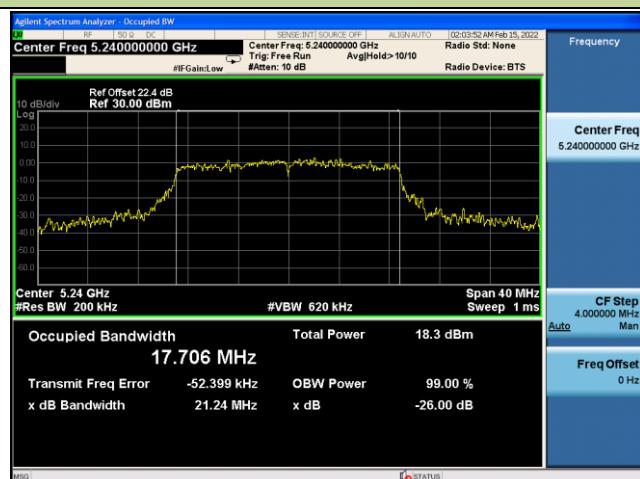
Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)



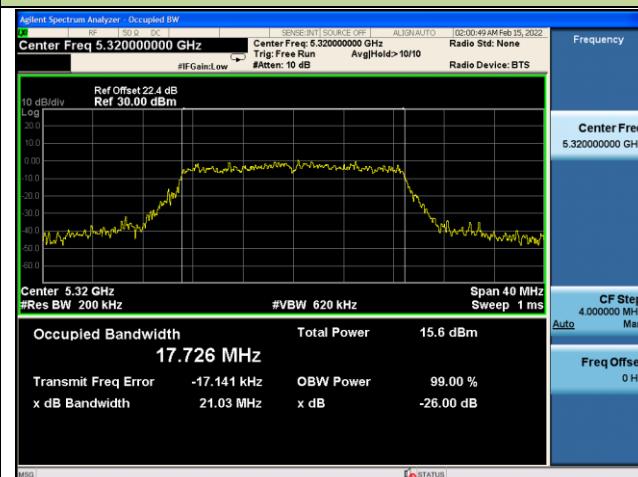
Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)



Channel 100 (5500MHz)



Channel 116 (5580MHz)



Channel 140 (5700MHz)



Channel 144 (5720MHz)

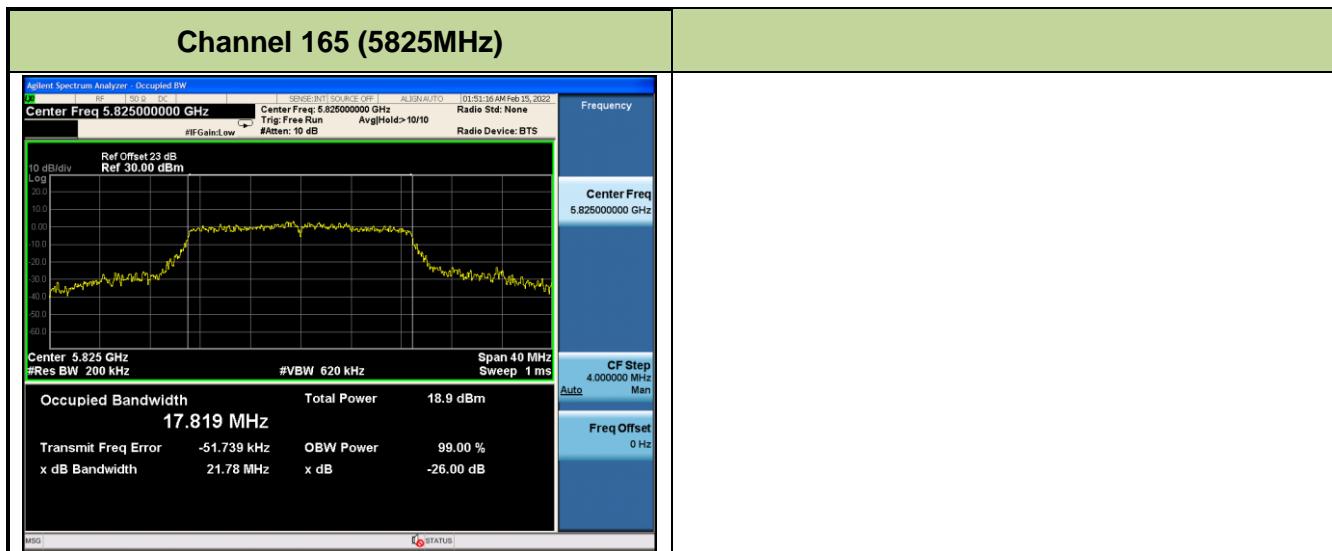


Channel 149 (5745MHz)



Channel 157 (5785MHz)





802.11n-HT40 26dB Bandwidth & 99% Bandwidth - Ant 1

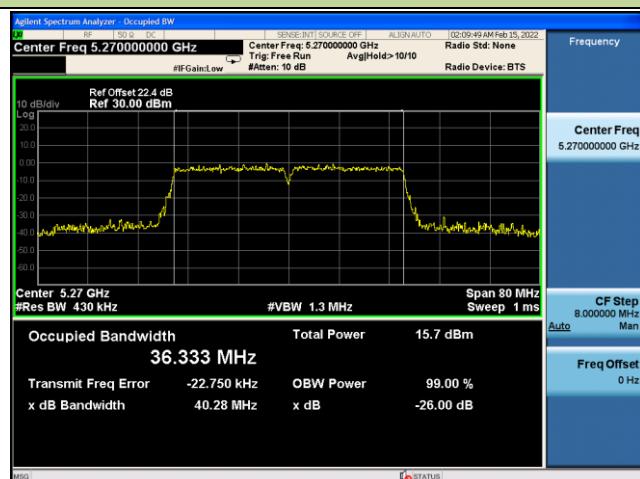
Channel 38 (5190MHz)



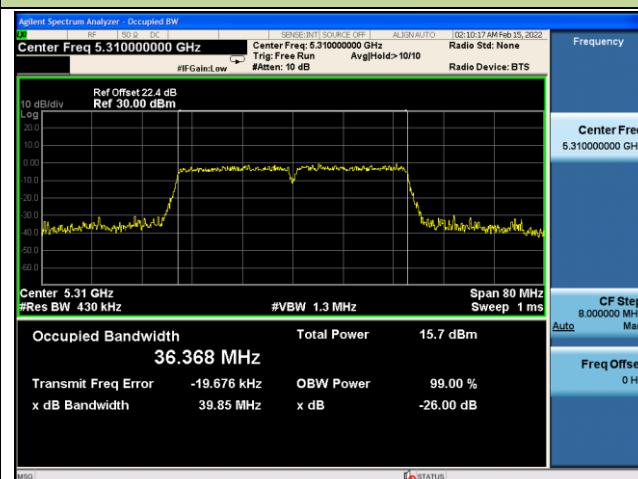
Channel 46 (5230MHz)



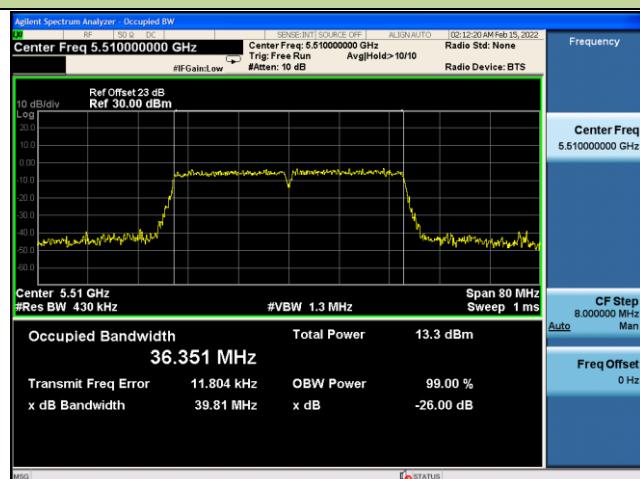
Channel 54 (5270MHz)



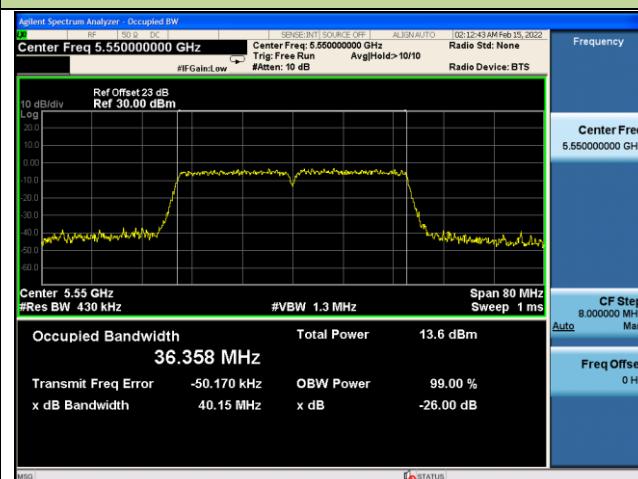
Channel 62 (5310MHz)



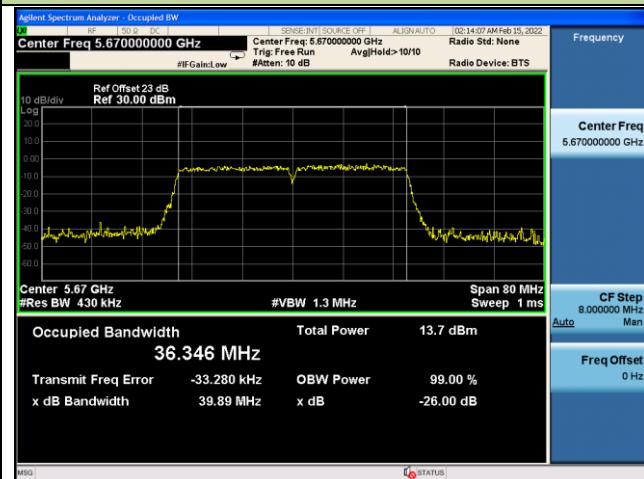
Channel 102 (5510MHz)



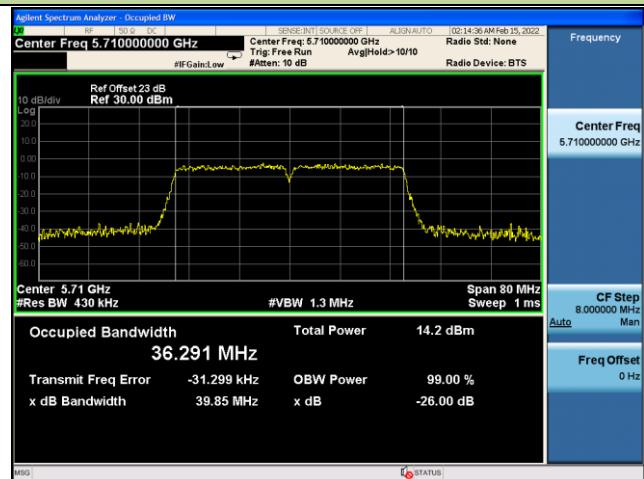
Channel 110 (5550MHz)



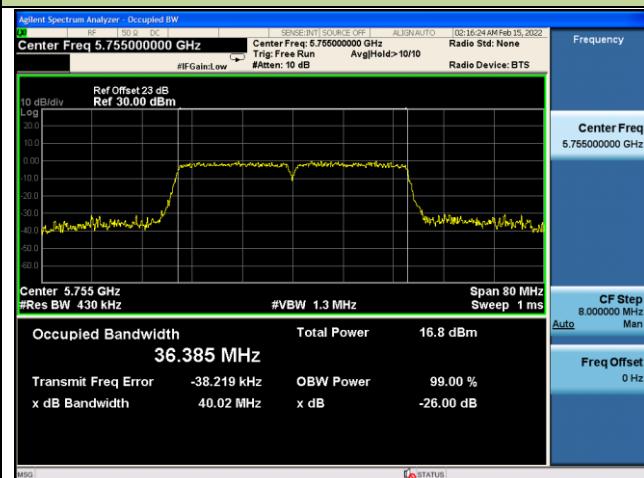
Channel 134 (5670MHz)



Channel 142 (5710MHz)



Channel 151 (5755MHz)



Channel 159 (5795MHz)

