

MEASUREMENT REPORT

FCC PART 15.407/ WLAN 802.11a/n/ac

FCC ID: SFK-WF808

APPLICANT: CIG Shanghai Co., Ltd.

Application Type: Certification

Product: WiFi 6 Extender

Model No.: WF-808

Brand Name: CIG

FCC Classification: Unlicensed National Information Infrastructure (NII)

FCC Rule Part(s): Part15 Subpart E (Section 15.407)

Test Procedure(s): ANSI C63.10-2013, KDB 789033 D02v02r01
KDB 662911 D01v02r01

Test Date: June 20 ~ August 24, 2021

Reviewed By:

Sunny Sun

Approved By:

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 789033 D02v02r01. Test results reported here in relate only to the item(s) tested.

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

Revision History

Report No.	Version	Description	Issue Date	Note
2105RSU006-U3	Rev. 01	Initial Report	09-30-2021	Valid

CONTENTS

Description	Page
1. General Information.....	5
1.1. Applicant.....	5
1.2. Manufacturer	5
1.3. Testing Facility	5
1.4. Product Infomation	6
1.5. Radio Specification under Test.....	6
1.6. Description of Available Antennas	7
1.7. Working Frequencies for this Report.....	7
1.8. Test Mode	8
1.9. Configuration of Test System.....	8
1.10. Test System Details.....	8
1.11. Duty Cycle	9
1.12. Description of Test Software	10
1.13. EMI Suppression Device(s)/Modifications	10
1.14. Test Environment Condition	10
2. ANTENNA REQUIREMENTS.....	11
3. TEST EQUIPMENT CALIBRATION DATE	12
4. MEASUREMENT UNCERTAINTY.....	15
5. TEST RESULT	16
5.1. Summary	16
5.2. 26dB Bandwidth Measurement.....	17
5.2.1. Test Limit	17
5.2.2. Test Procedure Used	17
5.2.3. Test Setting.....	17
5.2.4. Test Setup	17
5.2.5. Test Result.....	18
5.3. 6dB Bandwidth Measurement.....	27
5.3.1. Test Limit	27
5.3.2. Test Procedure Used	27
5.3.3. Test Setting.....	27
5.3.4. Test Setup	27
5.3.5. Test Result.....	28
5.4. Output Power Measurement	31
5.4.1. Test Limit	31
5.4.2. Test Procedure Used	31

5.4.3. Test Setting.....	31
5.4.4. Test Setup	31
5.4.5. Test Result.....	32
5.5. Transmit Power Control	35
5.5.1. Test Limit	35
5.5.2. Test Procedure Used	35
5.5.3. Test Setting.....	35
5.5.4. Test Setup	35
5.5.5. Test Result.....	35
5.6. Power Spectral Density Measurement	36
5.6.1. Test Limit	36
5.6.2. Test Procedure Used	36
5.6.3. Test Setting.....	36
5.6.4. Test Setup	37
5.6.5. Test Result.....	38
5.7. Radiated Spurious Emission Measurement	63
5.7.1. Test Limit	63
5.7.2. Test Procedure Used	63
5.7.3. Test Setting.....	63
5.7.4. Test Setup	65
5.7.5. Test Result.....	66
5.8. Radiated Restricted Band Edge Measurement	110
5.8.1. Test Limit	110
5.8.2. Test Procedure Used	111
5.8.3. Test Setting.....	111
5.8.4. Test Setup	112
5.8.5. Test Result.....	113
5.9. AC Conducted Emissions Measurement.....	183
5.9.1. Test Limit	183
5.9.2. Test Setup	183
5.9.3. Test Result.....	184
6. CONCLUSION.....	186
Appendix A - Test Setup Photograph	187
Appendix B - EUT Photograph.....	188

1. General Information

1.1. Applicant

CIG Shanghai Co., Ltd.

5F, Building 8, NO.2388 CHENGHANG ROAD, MINHANG DISTRICT, SHANGHAI

1.2. Manufacturer

CIG Shanghai Co., Ltd.

5F, Building 8, NO.2388 CHENGHANG ROAD, MINHANG DISTRICT, SHANGHAI

1.3. Testing Facility

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

1.4. Product Information

Product Name	WiFi 6 Extender
Model No.	WF-808
Brand Name	CIG
Operating Temperature	0 ~ 40°C
Wi-Fi Specification	802.11a/b/g/n/ac
Bluetooth Specification	v4.0 single mode
Antenna Information	Refer to section 1.7
Power Type	AC/DC Adapter
Accessory	
AC to DC Adapter	Model: ADS0248T-W050250 Input: 100-240V ~ 50-60Hz 0.6A Output: 5V, 2.5A
Remark:	
1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification under Test

Frequency Range	For 802.11a/n-HT20/ac-VHT20: 5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz For 802.11n-HT40/ac-VHT40: 5190 ~ 5230MHz, 5270 ~ 5310MHz, 5510 ~ 5710MHz, 5755 ~ 5795MHz For 802.11ac-VHT80: 5210MHz, 5290MHz, 5530MHz, 5610MHz, 5690MHz, 5775MHz
Type of Modulation	802.11a/n/ac: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.2Mbps

1.6. Description of Available Antennas

Antenna Type	Frequency (MHz)	TX Path	Max Antenna Gain (dBi)	Uncorrelated Antenna Gain (dBi)
Wi-Fi Antenna				
PCB Antenna	2400 ~ 2483.5	2	3.0	0.51
PCB Antenna	5150 ~ 5350	4	6.5	1.95
PCB Antenna	5470 ~ 5725	4	7.2	1.97
Bluetooth Antenna				
PCB Antenna	2400 ~ 2483.5	1	1.9	--
Remark				
1. The device supports SISO Mode for 802.11a and support MIMO mode for 802.11b/g/n/ac and supports the STBC mode only.				
2. Due to the same modulation & power setting between 802.11n and 802.11ac, so 802.11n-HT20 and HT40 are covered by 802.11ac-VHT20 and VHT40 in this report.				

1.7. Working Frequencies for this Report

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

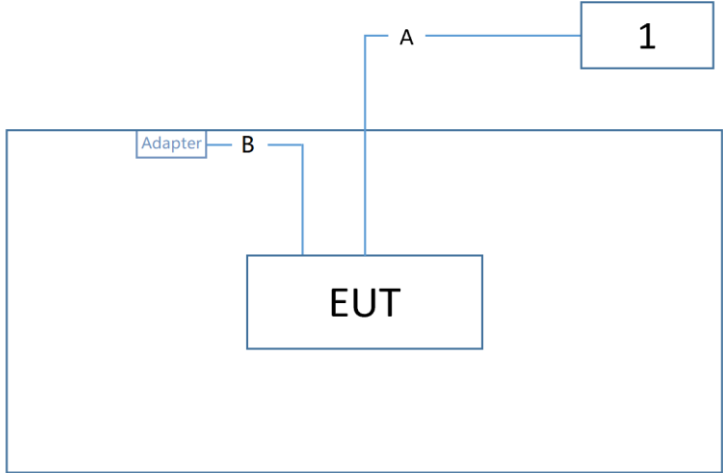
Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz	106	5530 MHz
122	5610 MHz	138	5690 MHz	155	5775 MHz

1.8. Test Mode

Test Mode	Mode 1: Transmit by 802.11a (6Mbps)
	Mode 2: Transmit by 802.11ac-VHT20 (MCS0)
	Mode 3: Transmit by 802.11ac-VHT40 (MCS0)
	Mode 4: Transmit by 802.11ac-VHT80 (MCS0)

1.9. Configuration of Test System

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.

Connection Diagram - Radiated Emission testing & AC Conducted Emissions		
		
Cable Type		Cable Description
A	LAN Cable	Non shielded, >10m
B	Power Cable	Non shielded, < 2.0m

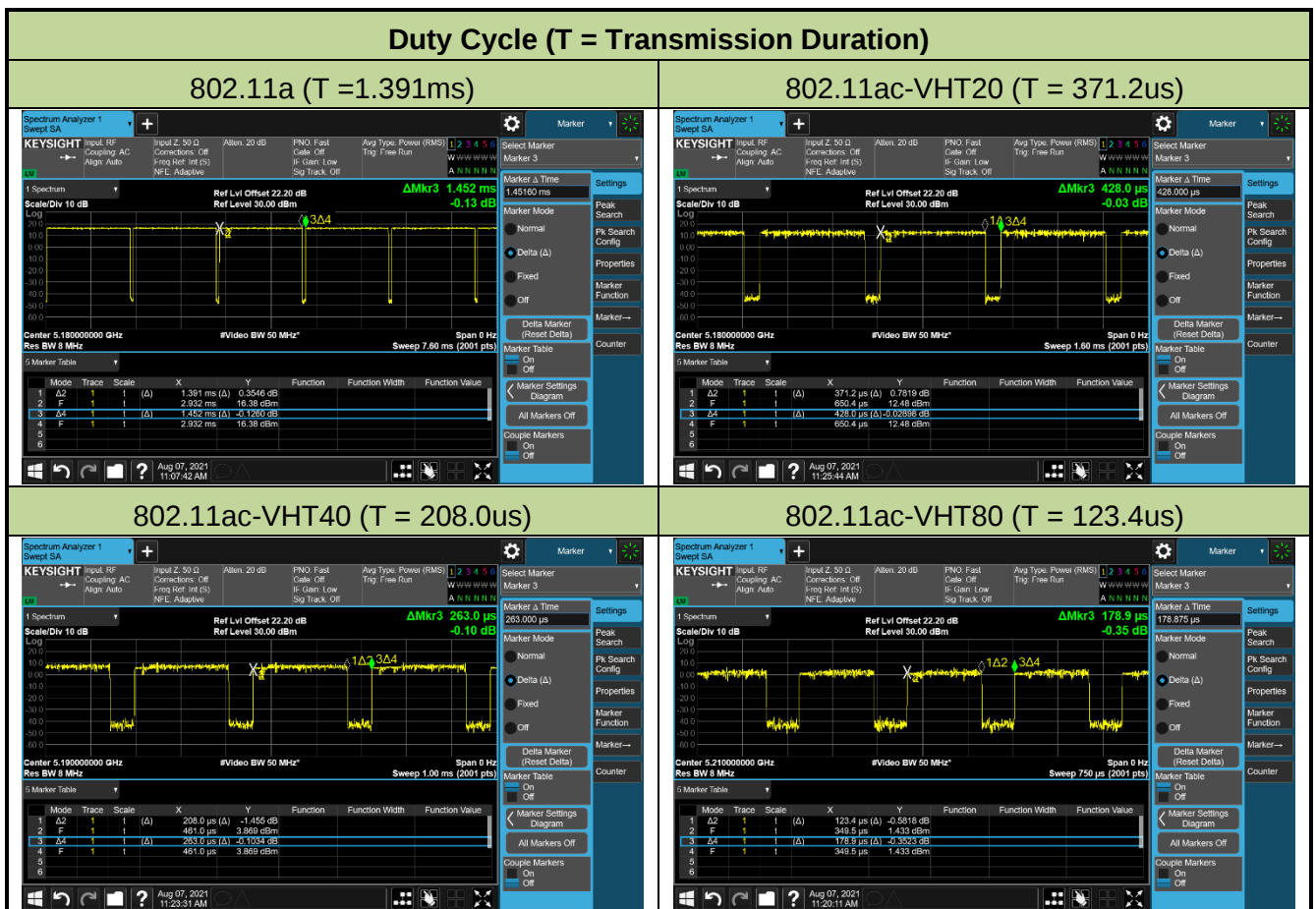
1.10. Test System Details

Product	Manufacturer	Model No.
1 Notebook	Dell	P62G

1.11. Duty Cycle

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. 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. The duty cycles are as follows:

Test Mode	Duty Cycle
802.11a	95.80%
802.11ac-VHT20	86.73%
802.11ac-VHT40	79.09%
802.11ac-VHT80	68.98%



1.12. Description of Test Software

The test utility software used during testing was “QATool_Dbg.exe”, and the version was 0.0.2.33.

1.13. EMI Suppression Device(s)/Modifications

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

1.14. Test Environment Condition

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

2. 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 there sponsible 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 theprovisions of this section.”

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

Conclusion:

The unit complies with the requirement of §15.203.

3. TEST EQUIPMENT CALIBRATION DATE

Conducted Emission (WZ-SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2021/11/22
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2022/06/08
Thermal Hygrometer	testo	608-H1	MRTSUE06404	1 year	2022/06/28
Shielding Room	MIX-BEP	Chamber-SR2	MRTSUE06215	N/A	N/A

Conducted Emission (SIP-SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2022/06/24
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2022/06/08
Thermal Hygrometer	testo	608-H1	MRTSUE06621	1 year	2021/12/03

Radiated Emission (WZ-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022/01/04
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2022/08/05
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2021/09/27
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06597	1 year	2021/12/14
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/11/14
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2022/06/10
Thermal Hygrometer	testo	608-H1	MRTSUE06403	1 year	2022/06/28
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2022/04/29

Radiated Emission (WZ-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Keysight	N9038A	MRTSUE06125	1 year	2022/06/24
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2022/05/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2021/10/25
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06597	1 year	2021/12/14
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2021/11/14
Thermal Hygrometer	Minggao	ETH529	MRTSUE06170	1 year	2021/12/08
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2022/04/29

Radiated Emission (SIP-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2022/06/24
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/06/24
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2022/03/09
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06645	1 year	2021/08/30
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2021/08/30
Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2021/11/09
Thermal Hygrometer	testo	608-H1	MRTSUE06620	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2021/12/24

Radiated Emission (SIP-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2022/06/24
MXA Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2021/09/26
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2022/03/09
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06646	1 year	2021/08/30
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06648	1 year	2021/11/26
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06599	1 year	2021/11/26
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/09
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2021/10/12
Thermal Hygrometer	testo	608-H1	MRTSUE06624	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2021/12/24

Radiated Emission (SIP-AC3)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2022/06/10
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2022/06/24
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/06/24
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06646	1 year	2021/08/30
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2021/09/13
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06598	1 year	2021/11/26
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2022/01/14
Thermal Hygrometer	testo	608-H1	MRTSUE06622	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2021/12/24

Conducted Test Equipment (WZ-TR3)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2022/04/13
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2022/01/06
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2021/10/22
USB wideband power sensor	Keysight	U2021XA	MRTSUE06446	1 year	2022/06/08
USB wideband power sensor	Keysight	U2021XA	MRTSUE06447	1 year	2022/06/08
Bluetooth Test Set	Anritsu	MT8852B-042	MRTSUE06389	1 year	2022/06/08
Modulation Analyzer	HP	HP8901A	MRTSUE06098	1 year	2021/09/26
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A
Temperature & Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2021/10/22
Thermal Hygrometer	testo	608-H1	MRTSUE06401	1 year	2022/06/28

Conducted Test Equipment (SIP-TR1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTSUE06603	1 year	2021/11/23
PXA Signal Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2021/08/30
USB wideband power sensor	Agilent	U2021XA	MRTSUE06595	1 year	2021/09/26
USB wideband power sensor	Agilent	U2021XA	MRTSUE06596	1 year	2021/09/26
Temperature Chamber	BAOYT	BYG-408CS	MRTSUE06847	1 year	2022/02/23
Thermal Hygrometer	testo	608-H1	MRTSUE11022	1 year	2021/11/25

Software	Version	Function
EMI Software	V3	EMI Test Software

4. MEASUREMENT UNCERTAINTY

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

AC Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.78dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.13dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.15dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.28%

5. TEST RESULT

5.1. Summary

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)	26dB Bandwidth	N/A	Conducted	N/A	Section 5.2
15.407(e)	6dB Bandwidth	$\geq 500\text{kHz}$		Pass	Section 5.3
15.407(a)(1)(ii), (2), (3)	Maximum Output Power	<1Watt for UNII-1 & UNII-3 < 250mW for UNII-2		Pass	Section 5.4
15.407(h)(1)	Transmit Power Control	<24 dBm		N/A	Section 5.5
15.407(a)(1)(ii), (2), (3), (5)	Power Spectral Density	<17dBm/MHz for UNII-1 <11dBm/MHz for UNII-2 < 30dBm/500kHz for UNII-3		Pass	Section 5.6
15.407(b)(1), (2), (3), (4)(i)	Undesirable Emissions	Refer to Section 6.7	Radiated	Pass	Section 5.7, 5.8
15.205, 15.209 15.407(b)(7), (8), (9)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Pass	
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 5.9

Notes:

- 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.
- Output power test was verified over all data rates of each mode (data refers to operational description), and then choose the maximum power output (low data rate) for final test of each channel.
- Test items "26dB Bandwidth" & "6dB Bandwidth" showed the worst test data in this report.

5.2. 26dB Bandwidth Measurement

5.2.1. Test Limit

N/A

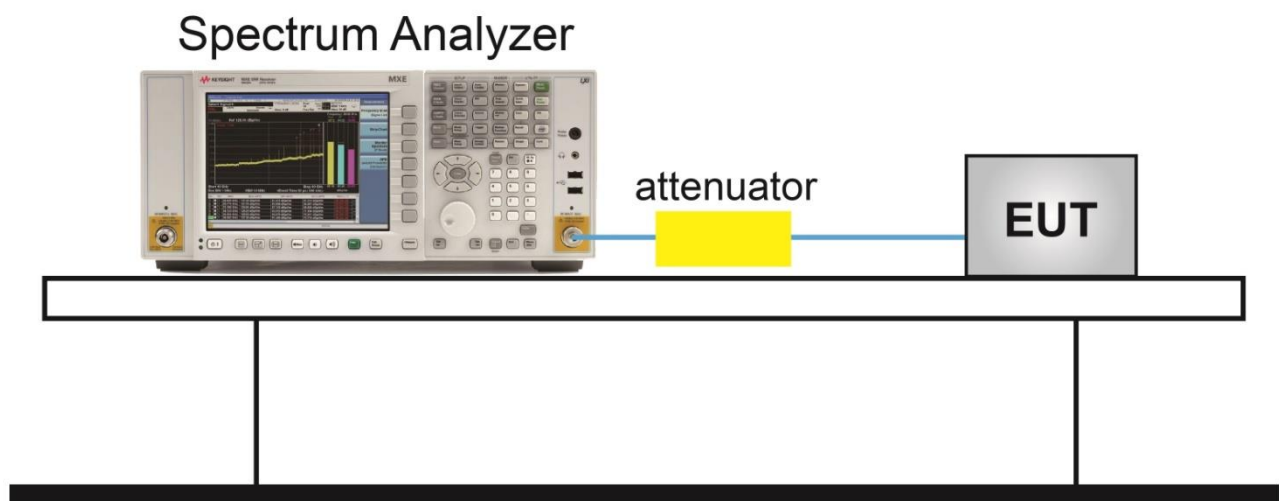
5.2.2. Test Procedure Used

KDB 789033 D02v02r01 -Section C.1

5.2.3. 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.

5.2.4. Test Setup



5.2.5.Test Result

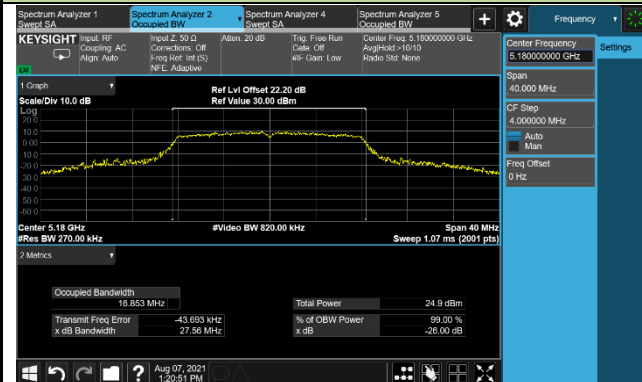
Test Site	WZ-TR3	Test Engineer	Amy Zhang
Test Date	2021/08/07 ~ 2021/08/08		

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)
802.11a	6Mbps	36	5180	27.56
802.11a	6Mbps	44	5220	27.64
802.11a	6Mbps	48	5240	27.71
802.11a	6Mbps	52	5260	26.80
802.11a	6Mbps	60	5300	27.80
802.11a	6Mbps	64	5320	24.55
802.11a	6Mbps	100	5500	19.68
802.11a	6Mbps	116	5580	30.84
802.11a	6Mbps	140	5700	26.73
802.11a	6Mbps	144	5720	29.76
802.11a	6Mbps	149	5745	26.81
802.11a	6Mbps	157	5785	26.81
802.11a	6Mbps	165	5825	27.87
802.11ac-VHT20	MCS0	36	5180	20.14
802.11ac-VHT20	MCS0	44	5220	24.62
802.11ac-VHT20	MCS0	48	5240	24.02
802.11ac-VHT20	MCS0	52	5260	20.19
802.11ac-VHT20	MCS0	60	5300	20.14
802.11ac-VHT20	MCS0	64	5320	20.01
802.11ac-VHT20	MCS0	100	5500	20.18
802.11ac-VHT20	MCS0	116	5580	20.17
802.11ac-VHT20	MCS0	140	5700	20.05
802.11ac-VHT20	MCS0	144	5720	20.11
802.11ac-VHT20	MCS0	149	5745	26.52
802.11ac-VHT20	MCS0	157	5785	20.44
802.11ac-VHT20	MCS0	165	5825	27.55

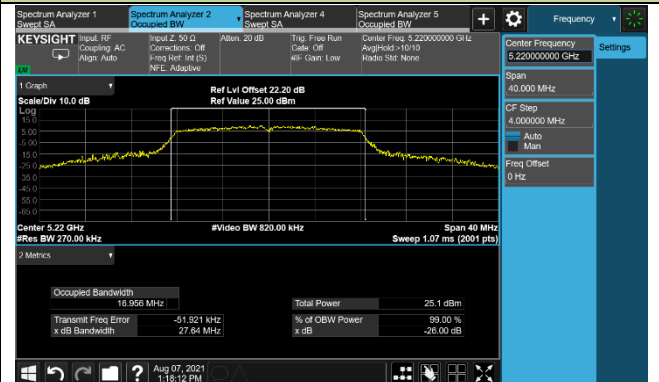
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)
802.11ac-VHT40	MCS0	38	5190	39.81
802.11ac-VHT40	MCS0	46	5230	60.39
802.11ac-VHT40	MCS0	54	5270	39.23
802.11ac-VHT40	MCS0	62	5310	39.66
802.11ac-VHT40	MCS0	102	5510	39.77
802.11ac-VHT40	MCS0	110	5550	39.65
802.11ac-VHT40	MCS0	134	5670	39.30
802.11ac-VHT40	MCS0	142	5710	39.62
802.11ac-VHT40	MCS0	151	5755	68.95
802.11ac-VHT40	MCS0	159	5795	68.87
802.11ac-VHT80	MCS0	42	5210	80.05
802.11ac-VHT80	MCS0	58	5290	80.44
802.11ac-VHT80	MCS0	106	5530	80.13
802.11ac-VHT80	MCS0	122	5610	80.63
802.11ac-VHT80	MCS0	138	5690	83.29
802.11ac-VHT80	MCS0	155	5775	109.80

802.11a 26dB Bandwidth

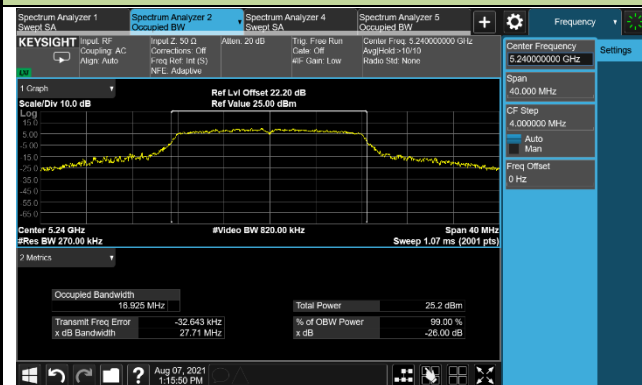
Channel 36 (5180MHz)



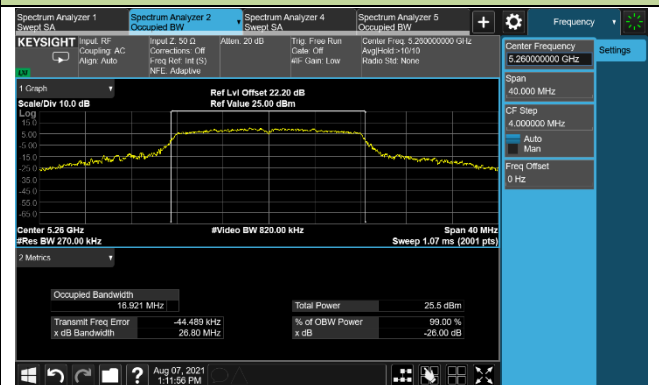
Channel 44 (5220MHz)



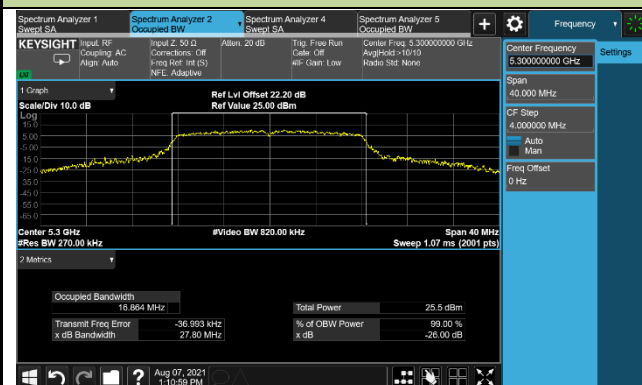
Channel 48 (5240MHz)



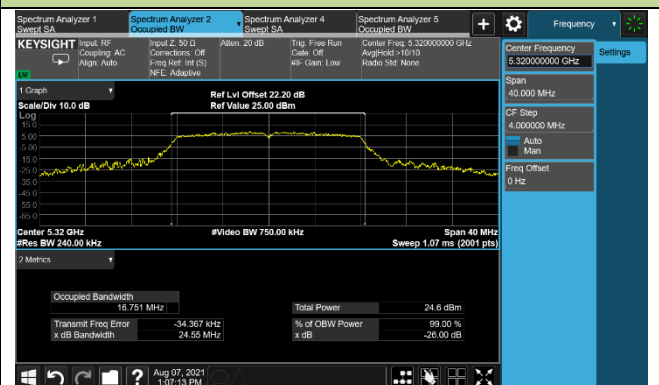
Channel 52 (5260MHz)



Channel 60 (5300MHz)

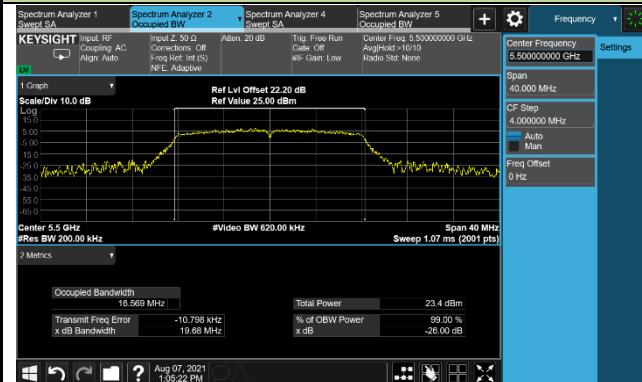


Channel 64 (5320MHz)

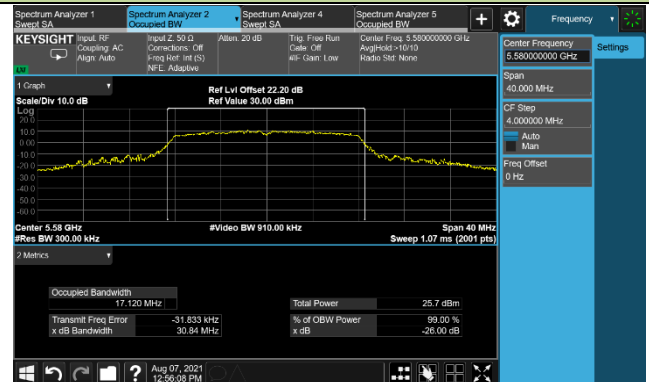


802.11a 26dB Bandwidth

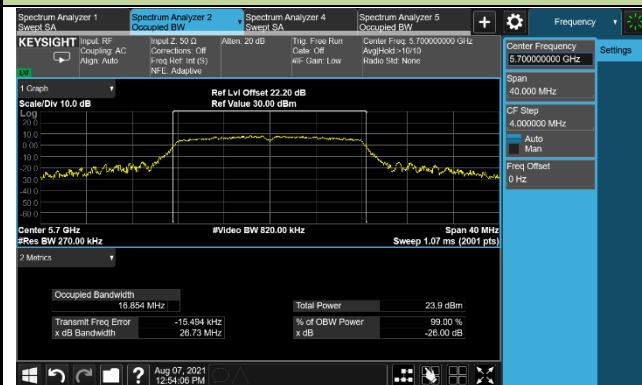
Channel 100 (5500MHz)



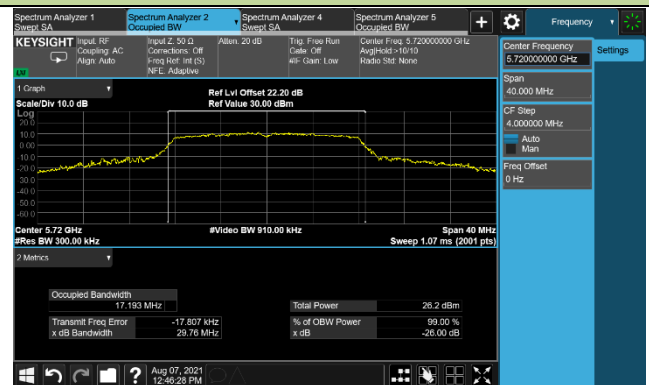
Channel 116 (5580MHz)



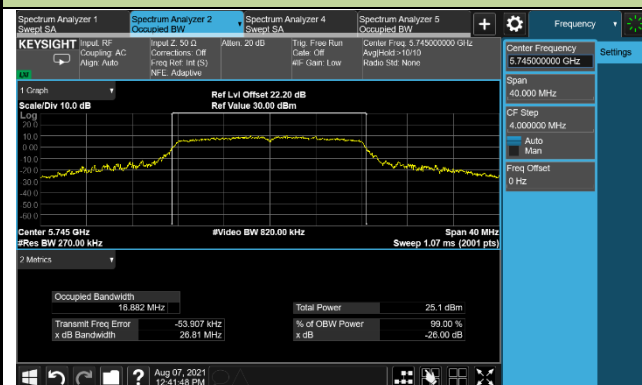
Channel 140 (5700MHz)



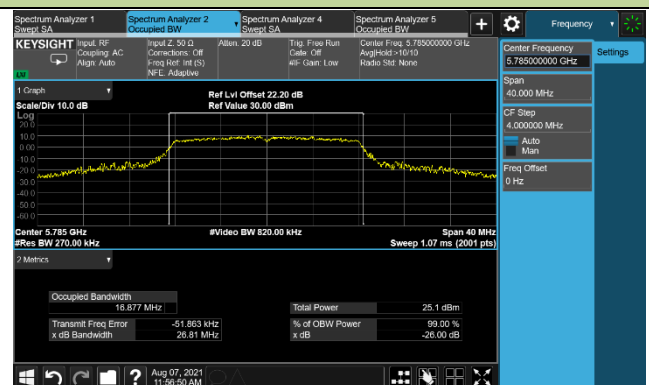
Channel 144 (5720MHz)



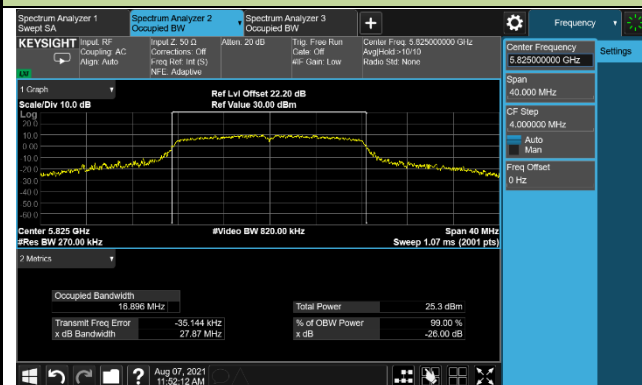
Channel 149 (5745MHz)



Channel 157 (5785MHz)

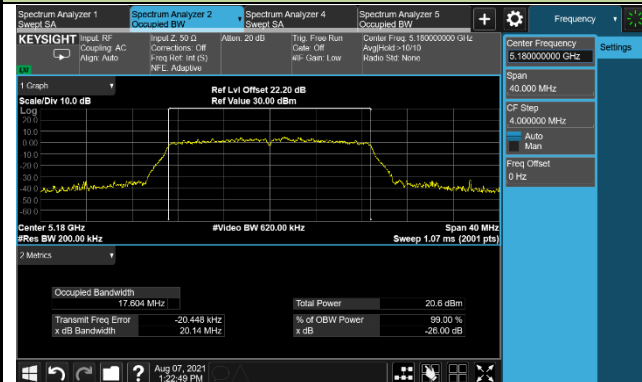


Channel 165 (5825MHz)

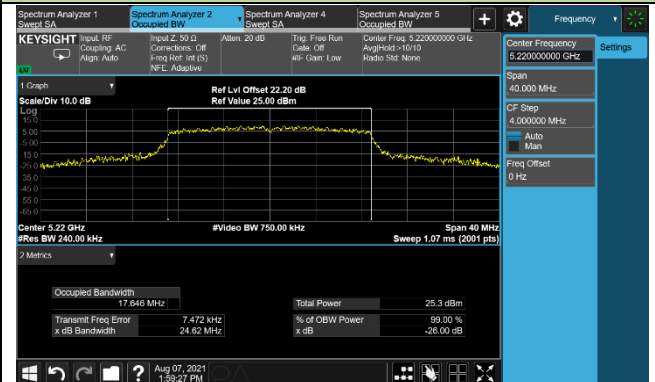


802.11ac-VHT20 26dB Bandwidth

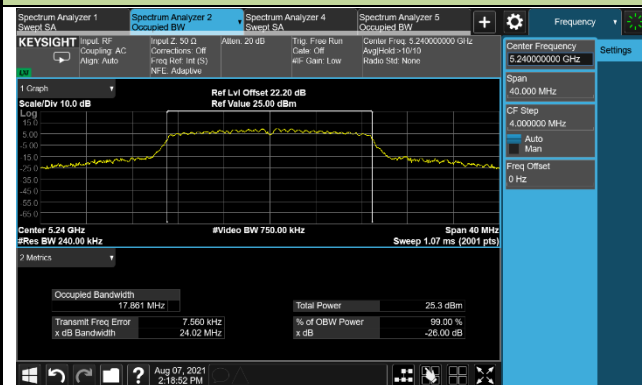
Channel 36 (5180MHz)



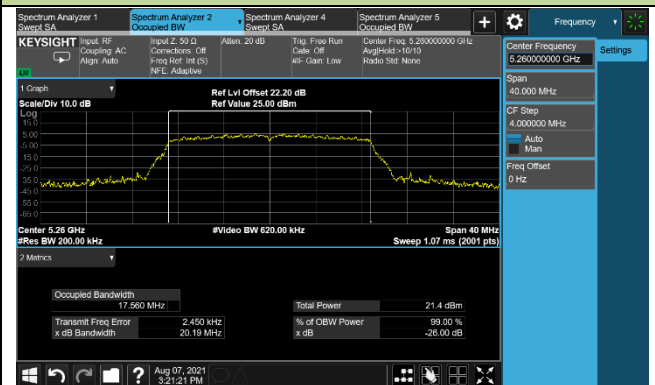
Channel 44 (5220MHz)



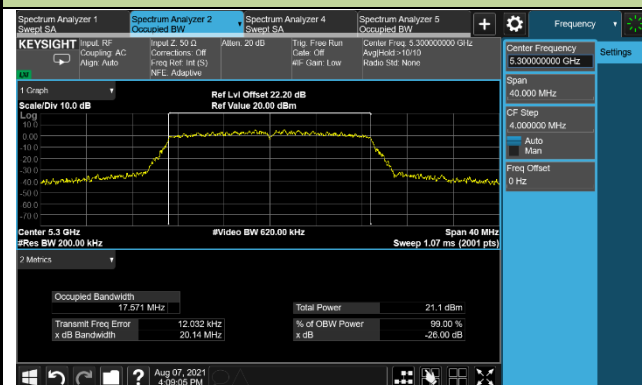
Channel 48 (5240MHz)



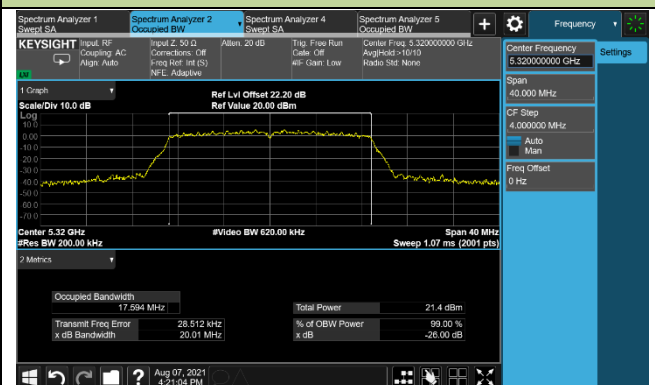
Channel 52 (5260MHz)



Channel 60 (5300MHz)

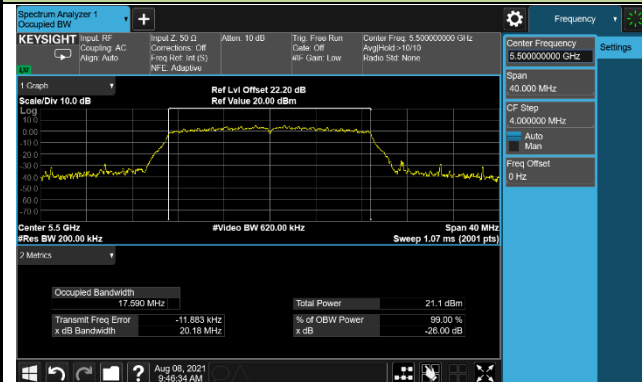


Channel 64 (5320MHz)

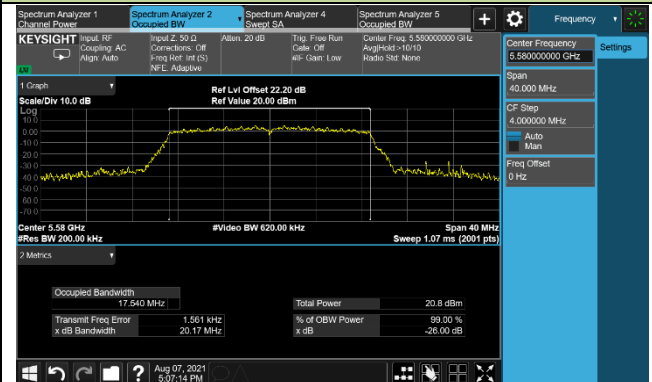


802.11ac-VHT20 26dB Bandwidth

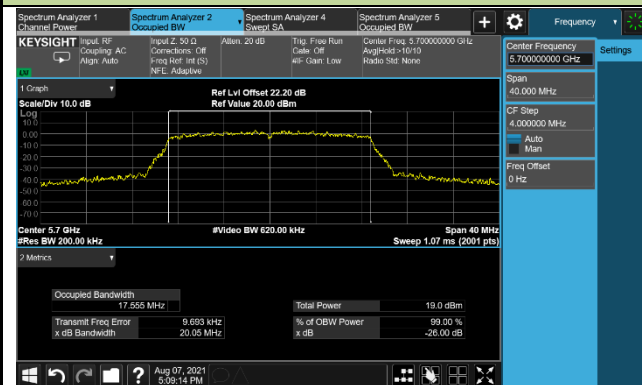
Channel 100 (5500MHz)



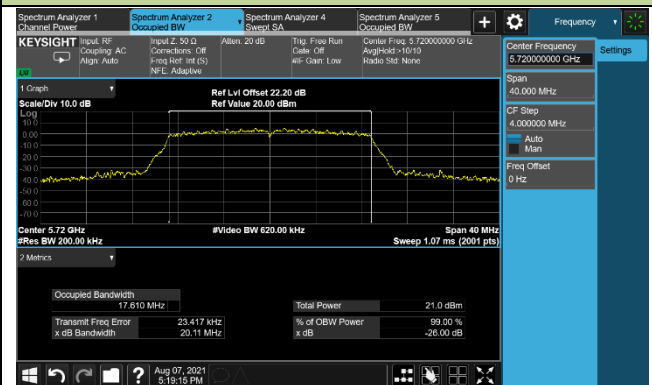
Channel 116 (5580MHz)



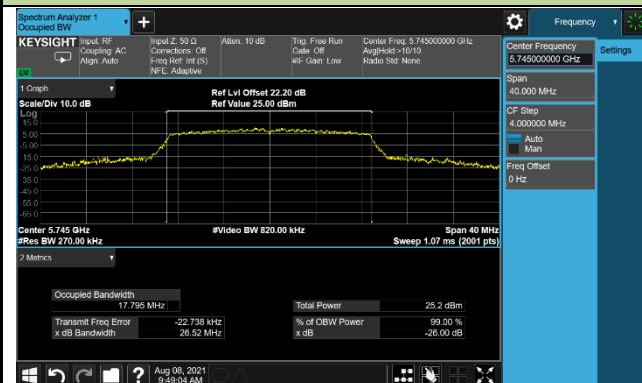
Channel 140 (5700MHz)



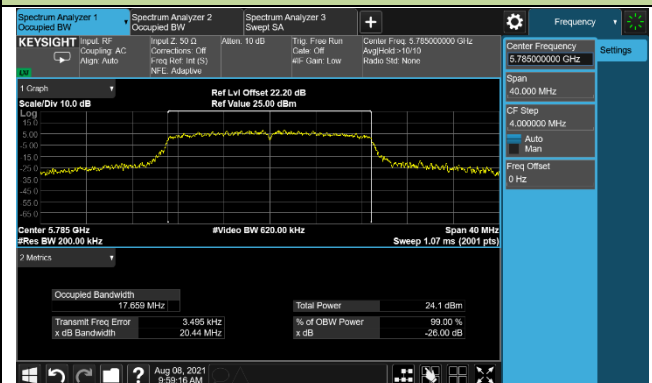
Channel 144 (5720MHz)



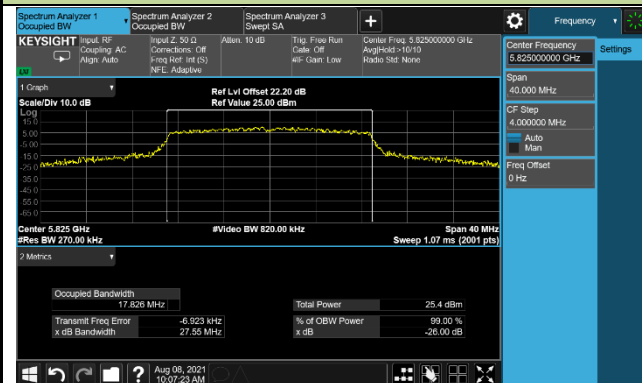
Channel 149 (5745MHz)



Channel 157 (5785MHz)

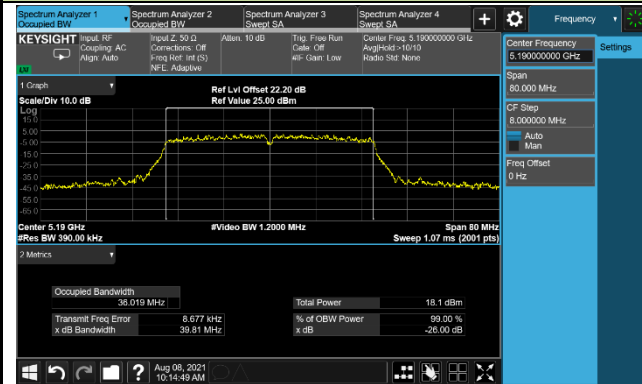


Channel 165 (5825MHz)

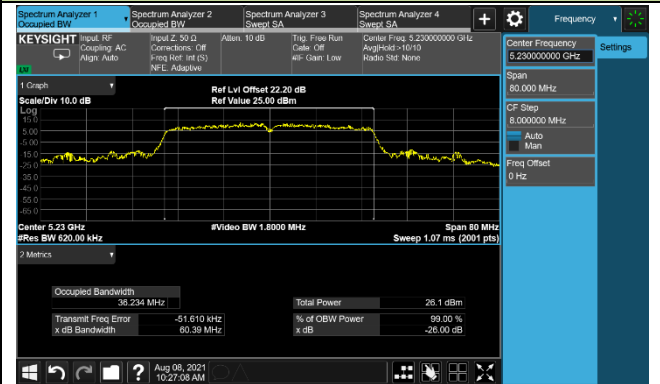


802.11ac-VHT40 26dB Bandwidth

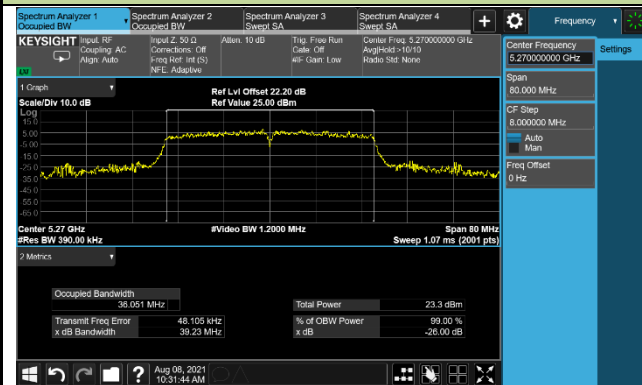
Channel 38 (5190MHz)



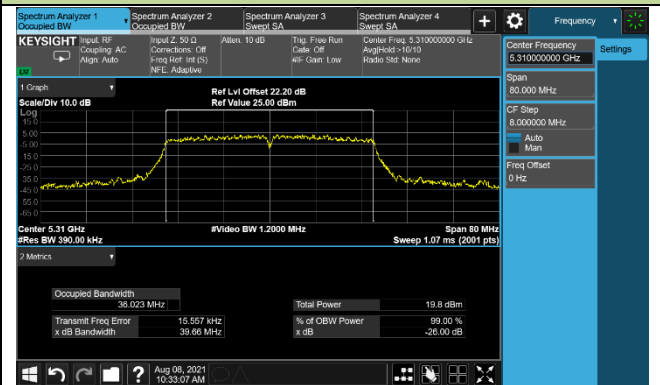
Channel 46 (5230MHz)



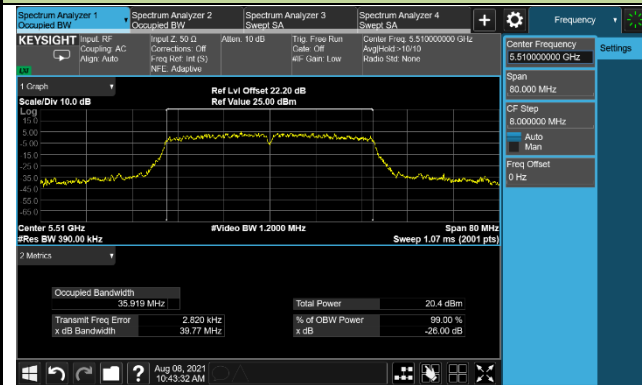
Channel 54 (5270MHz)



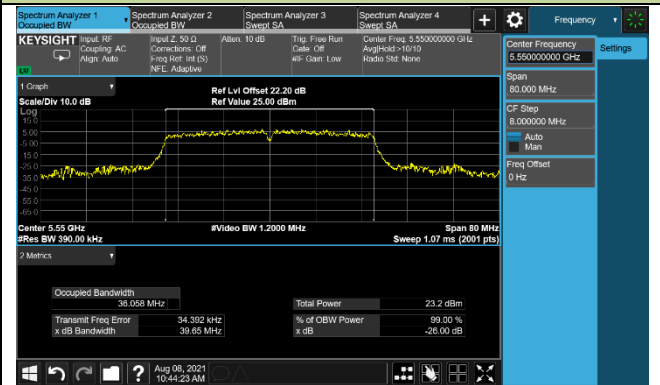
Channel 62 (5310MHz)



Channel 102 (5510MHz)

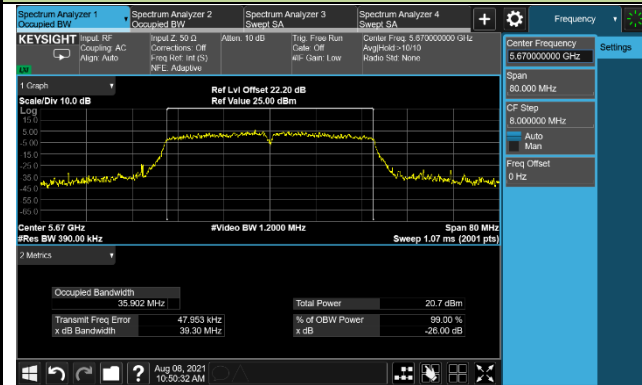


Channel 110 (5550MHz)

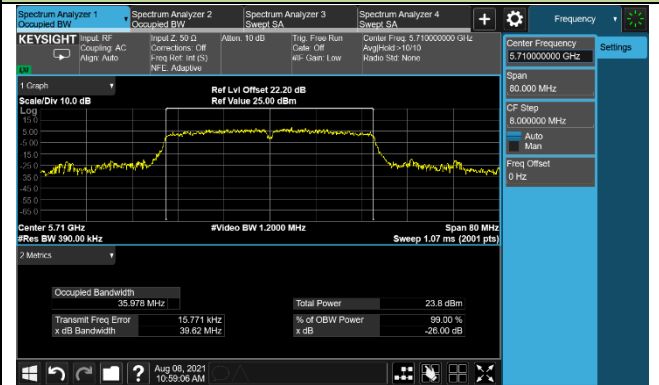


802.11ac-VHT20 26dB Bandwidth

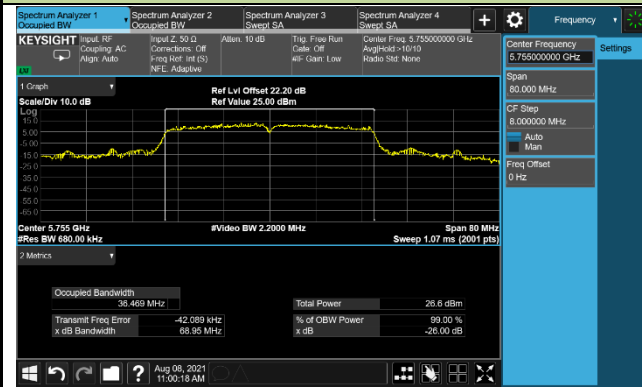
Channel 134 (5670MHz)



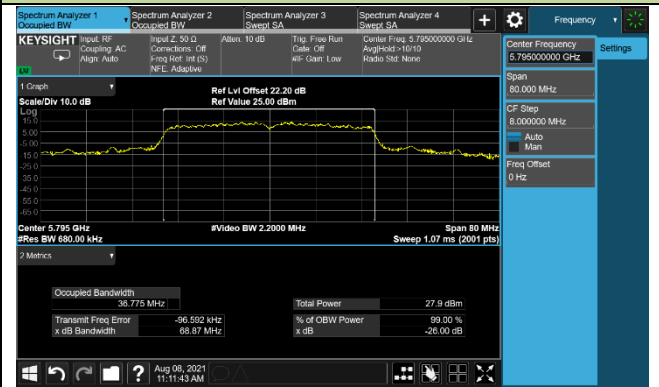
Channel 142 (5710MHz)



Channel 151 (5755MHz)

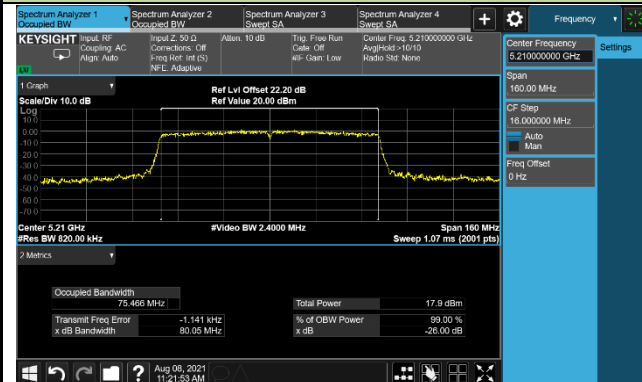


Channel 159 (5795MHz)

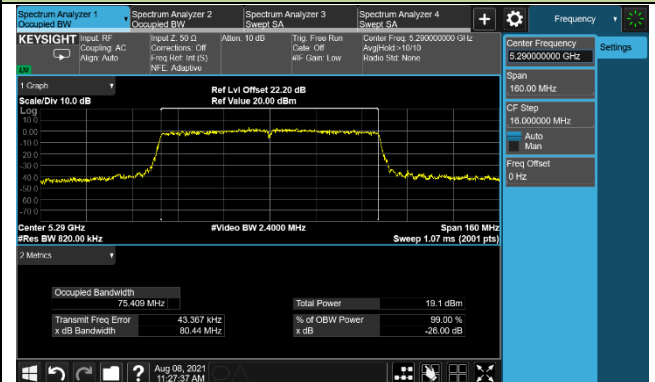


802.11ac-VHT80 26dB Bandwidth

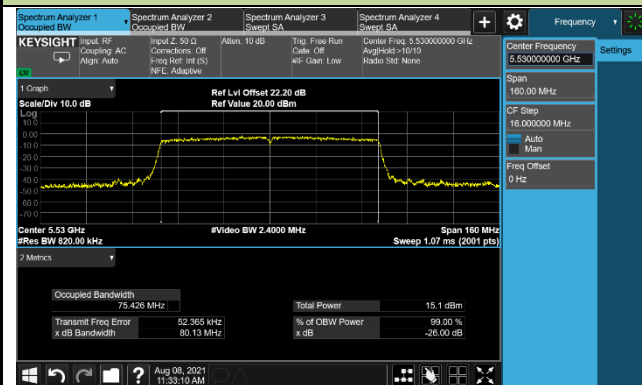
Channel 42 (5210MHz)



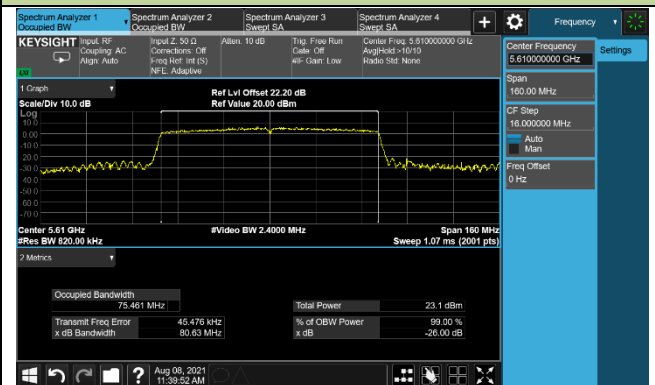
Channel 58 (5290MHz)



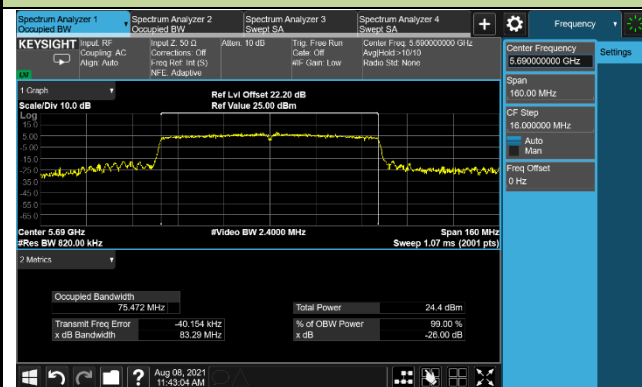
Channel 106 (5530MHz)



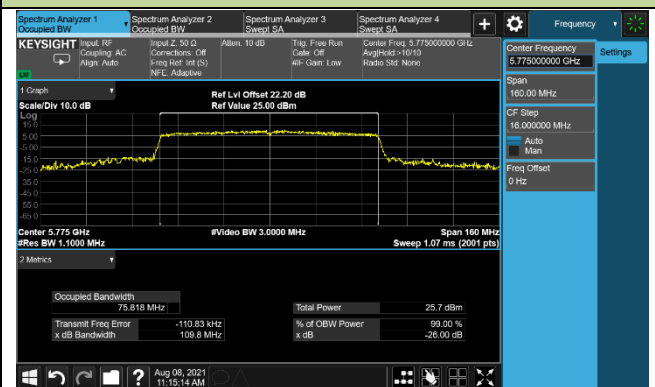
Channel 122 (5610MHz)



Channel 138(5690MHz)



Channel 155 (5775MHz)



5.3. 6dB Bandwidth Measurement

5.3.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

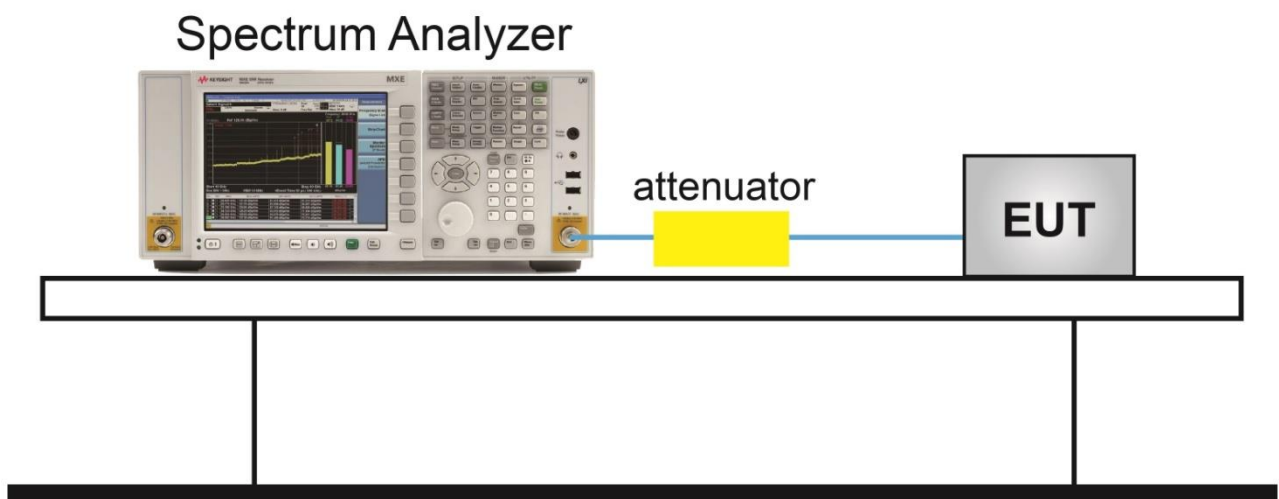
5.3.2. Test Procedure Used

KDB 789033 D02v02r01 - Section C.2

5.3.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = Max hold.
6. Sweep = Auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.3.4. Test Setup



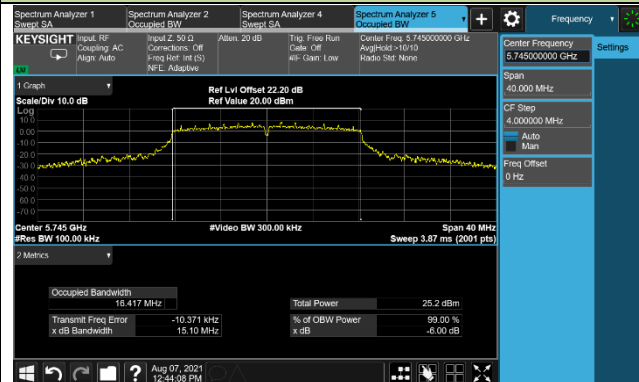
5.3.5.Test Result

Test Site	WZ-TR3	Test Engineer	Amy Zhang
Test Date	2021/08/07 ~ 2021/08/08		

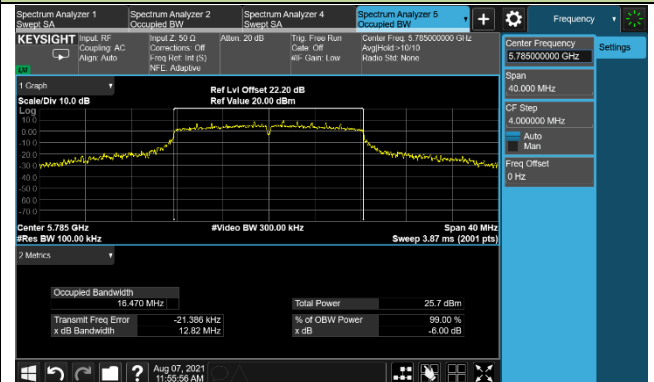
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
11a	6Mbps	149	5745	15.10	≥ 0.5	Pass
11a	6Mbps	157	5785	12.82	≥ 0.5	Pass
11a	6Mbps	165	5825	15.09	≥ 0.5	Pass
11ac-VHT20	MCS0	149	5745	15.14	≥ 0.5	Pass
11ac-VHT20	MCS0	157	5785	16.29	≥ 0.5	Pass
11ac-VHT20	MCS0	165	5825	15.15	≥ 0.5	Pass
11ac-VHT40	MCS0	151	5755	35.14	≥ 0.5	Pass
11ac-VHT40	MCS0	159	5795	35.14	≥ 0.5	Pass
11ac-VHT80	MCS0	155	5775	75.22	≥ 0.5	Pass

802.11a 6dB Bandwidth

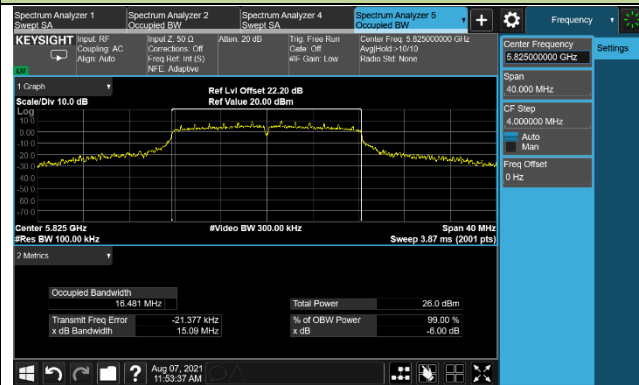
Channel 149 (5745MHz)



Channel 157 (5785MHz)

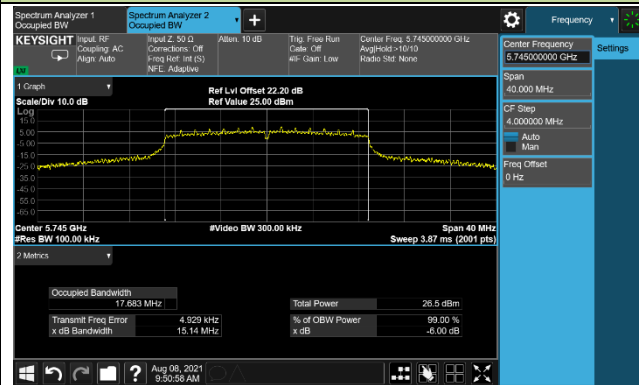


Channel 165 (5825MHz)

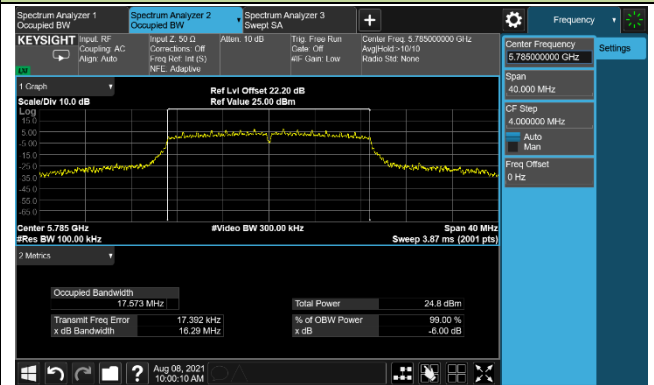


802.11ac-VHT20 6dB Bandwidth

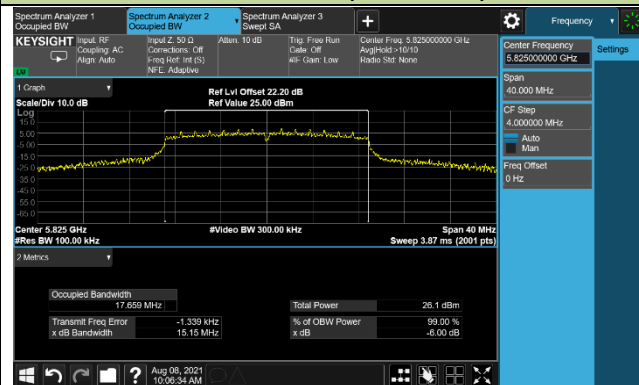
Channel 149 (5745MHz)



Channel 157 (5785MHz)

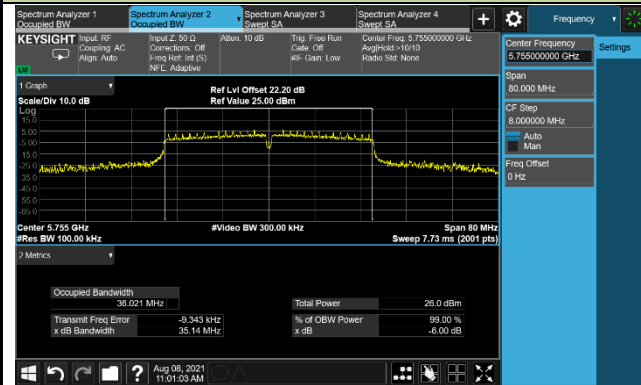


Channel 165 (5825MHz)

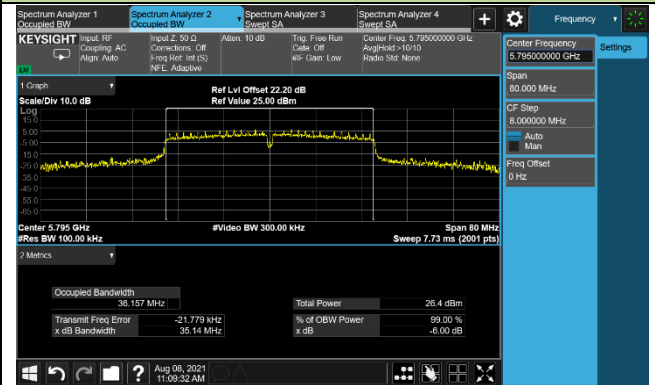


802.11ac-VHT40 6dB Bandwidth

Channel 151 (5755MHz)

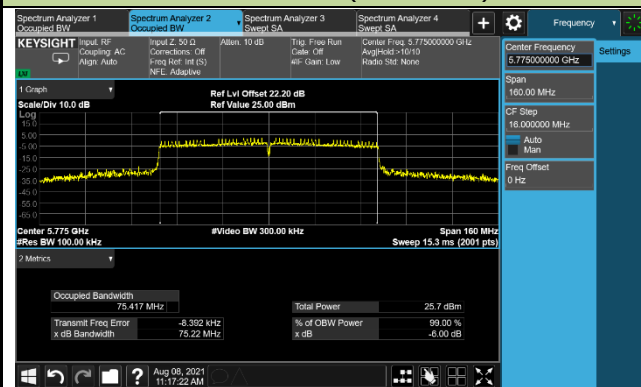


Channel 159 (5795MHz)



802.11ac-VHT80 6dB Bandwidth

Channel 155 (5775MHz)



5.4. Output Power Measurement

5.4.1. Test Limit

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (23.98dBm) or 11dBm +10 log (26dB BW).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

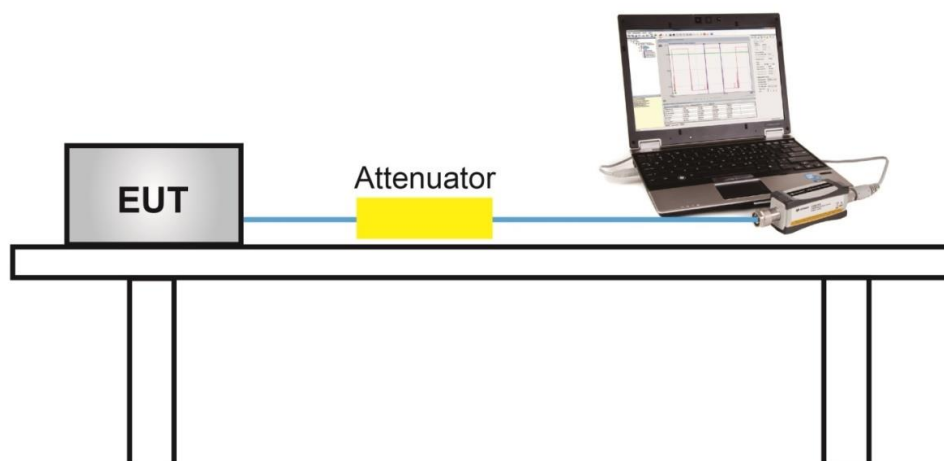
5.4.2. Test Procedure Used

KDB 789033D02v02r01- Section E)3)b) Method PM-G

5.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

5.4.4. Test Setup



5.4.5. Test Result

Output power test was verified over all data rates of each mode shown as below table, and then choose the maximum output power (gray marker) for final test of each channel.

Test Mode	Bandwidth	Channel No.	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11a	20	36	5180	6Mbps	19.29
				24Mbps	19.12
				54Mbps	19.04
802.11ac	20	36	5180	MCS0	15.16
				MCS4	15.07
				MCS9	14.95
802.11ac	40	38	5190	MCS0	13.85
				MCS4	13.65
				MCS9	13.54
802.11ac	80	42	5210	MCS0	11.92
				MCS4	11.86
				MCS9	11.77

Test Site	WZ-TR3	Test Engineer	Amy Zhang
Test Date	2021/08/07		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1	Ant 2	Ant 3			
11a	6Mbps	36	5180	19.29	--	--	--	19.29	≤ 29.50	Pass
11a	6Mbps	44	5220	19.39	--	--	--	19.39	≤ 29.50	Pass
11a	6Mbps	48	5240	19.30	--	--	--	19.30	≤ 29.50	Pass
11a	6Mbps	52	5260	19.43	--	--	--	19.43	≤ 23.48	Pass
11a	6Mbps	60	5300	19.60	--	--	--	19.60	≤ 23.48	Pass
11a	6Mbps	64	5320	18.65	--	--	--	18.65	≤ 23.48	Pass
11a	6Mbps	100	5500	17.51	--	--	--	17.51	≤ 23.48	Pass
11a	6Mbps	116	5580	19.58	--	--	--	19.58	≤ 23.48	Pass
11a	6Mbps	140	5700	18.06	--	--	--	18.06	≤ 23.48	Pass
11a	6Mbps	144	5720	19.66	--	--	--	19.66	≤ 23.48	Pass
11a	6Mbps	149	5745	19.38	--	--	--	19.38	≤ 28.80	Pass
11a	6Mbps	157	5785	19.24	--	--	--	19.24	≤ 28.80	Pass
11a	6Mbps	165	5825	19.42	--	--	--	19.42	≤ 28.80	Pass
11ac-VHT20	MCS0	36	5180	15.16	14.87	13.60	15.45	20.85	≤ 30.00	Pass
11ac-VHT20	MCS0	44	5220	19.53	19.39	18.73	19.42	25.30	≤ 30.00	Pass
11ac-VHT20	MCS0	48	5240	19.12	18.95	18.75	19.61	25.14	≤ 30.00	Pass
11ac-VHT20	MCS0	52	5260	14.80	15.89	14.99	15.36	21.30	≤ 23.98	Pass
11ac-VHT20	MCS0	60	5300	14.92	16.12	16.03	15.31	21.64	≤ 23.98	Pass
11ac-VHT20	MCS0	64	5320	15.19	16.03	15.73	15.56	21.66	≤ 23.98	Pass
11ac-VHT20	MCS0	100	5500	15.24	14.99	14.80	15.16	21.07	≤ 23.98	Pass
11ac-VHT20	MCS0	116	5580	15.65	15.55	14.66	15.53	21.39	≤ 23.98	Pass
11ac-VHT20	MCS0	140	5700	12.66	12.68	12.60	12.77	18.70	≤ 23.98	Pass
11ac-VHT20	MCS0	144	5720	14.82	15.01	14.58	15.12	20.91	≤ 23.98	Pass
11ac-VHT20	MCS0	149	5745	18.89	19.03	18.55	19.85	25.13	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	18.66	18.96	18.43	19.51	24.93	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	19.29	18.70	18.87	19.53	25.13	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Average Power (dBm)	Limit (dBm)	Result
				Ant 0	Ant 1	Ant 2	Ant 3			
11ac-VHT40	MCS0	38	5190	13.85	13.88	13.01	14.43	19.84	≤ 30.00	Pass
11ac-VHT40	MCS0	46	5230	19.00	18.90	18.45	19.49	25.00	≤ 30.00	Pass
11ac-VHT40	MCS0	54	5270	17.00	18.13	17.26	17.57	23.53	≤ 23.98	Pass
11ac-VHT40	MCS0	62	5310	13.47	14.16	13.93	13.49	19.79	≤ 23.98	Pass
11ac-VHT40	MCS0	102	5510	14.69	14.65	14.29	14.86	20.65	≤ 23.98	Pass
11ac-VHT40	MCS0	110	5550	17.92	17.72	17.18	17.59	23.63	≤ 23.98	Pass
11ac-VHT40	MCS0	134	5670	14.56	14.83	14.57	14.82	20.72	≤ 23.98	Pass
11ac-VHT40	MCS0	142	5710	17.38	17.31	17.29	17.49	23.39	≤ 23.98	Pass
11ac-VHT40	MCS0	151	5755	18.91	18.74	18.43	19.38	24.90	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	18.66	18.87	19.28	19.43	25.09	≤ 30.00	Pass
11ac-VHT80	MCS0	42	5210	11.92	11.78	11.46	12.12	17.85	≤ 30.00	Pass
11ac-VHT80	MCS0	58	5290	12.78	13.41	13.11	12.78	19.05	≤ 23.98	Pass
11ac-VHT80	MCS0	106	5530	9.91	9.81	9.36	9.72	15.73	≤ 23.98	Pass
11ac-VHT80	MCS0	122	5610	16.99	16.68	16.61	16.52	22.72	≤ 23.98	Pass
11ac-VHT80	MCS0	138	5690	17.75	17.72	17.81	17.95	23.83	≤ 23.98	Pass
11ac-VHT80	MCS0	155	5775	17.48	18.42	17.58	19.06	24.20	≤ 30.00	Pass

Note: Total Average Power (dBm) = $10 \cdot \log\{10^{(\text{ANT 0 Average Power} / 10)} + 10^{(\text{ANT 1 Average Power} / 10)} + 10^{(\text{ANT 2 Average Power} / 10)} + 10^{(\text{ANT 3 Average Power} / 10)}\}$ (dBm).

5.5. Transmit Power Control

5.5.1. Test Limit

The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

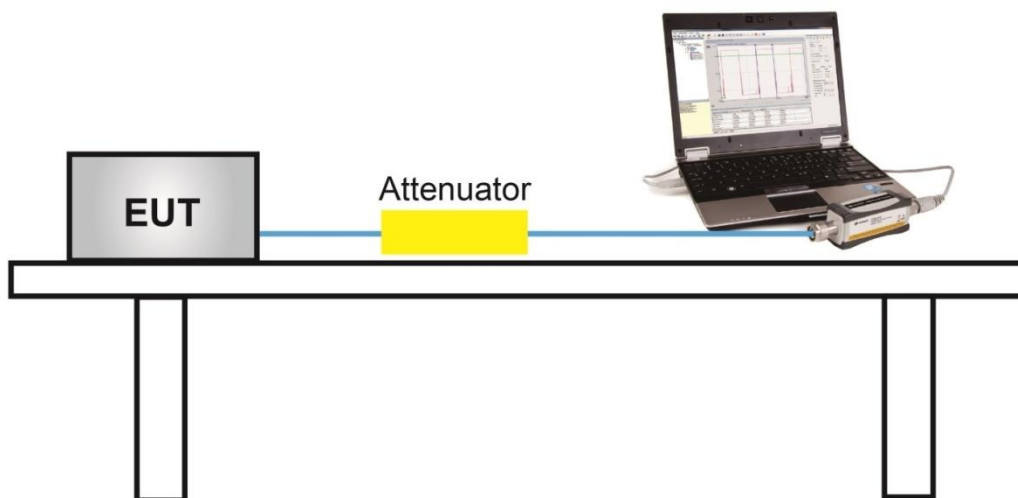
5.5.2. Test Procedure Used

ANSI C63.10-2013- Section 12.3.3.2 Method PM-G

5.5.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

5.5.4. Test Setup



5.5.5. Test Result

Device supports TPC mechanism, details refer to the operational description.

5.6. Power Spectral Density Measurement

5.6.1. Test Limit

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1MHz band.

For the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1MHz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

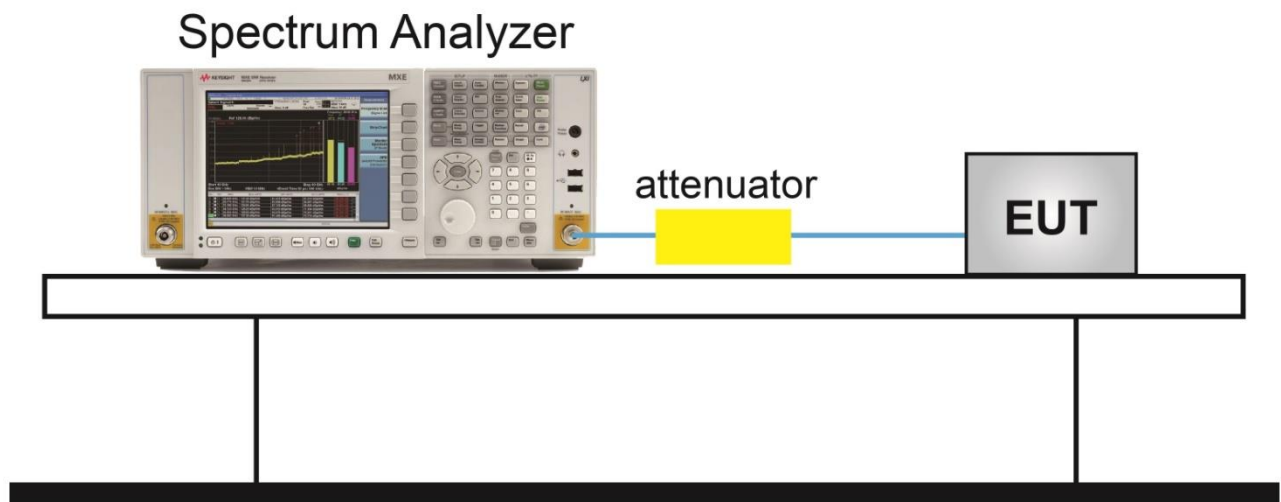
5.6.2. Test Procedure Used

KDB 789033 D02v02r01 - Section F

5.6.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, VBW $\geq 3 \times$ RBW for U-NII-1, U-NII-2A, and U-NII-2C
RBW = 510kHz; VBW $\geq 3 \times$ RBW for U-NII-3
4. Number of sweep points $\geq 2 \times (\text{span} / \text{RBW})$
5. Detector = power averaging (Average)
6. Sweep time = auto
7. Trigger = free run
8. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
9. Add $10 \times \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \times \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.

5.6.4. Test Setup



5.6.5.Test Result

Test Site	WZ-TR3	Test Engineer	Amy Zhang
Test Date	2021/08/07 ~ 2021/08/08	Test Item	Power Spectral Density (UNII-Band 1 & UNII-2A & UNII-2C)

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/ MHz)				Duty Cycle (%)	Final PSD (dBm/ MHz)	PSD Limit (dBm/ MHz)	Result
				Ant 0	Ant 1	Ant 2	Ant 3				
11a	6Mbps	36	5180	8.71	--	--	--	95.80	8.90	≤16.50	Pass
11a	6Mbps	44	5220	8.70	--	--	--	95.80	8.89	≤16.50	Pass
11a	6Mbps	48	5240	8.93	--	--	--	95.80	9.11	≤16.50	Pass
11a	6Mbps	52	5260	8.89	--	--	--	95.80	9.08	≤ 10.50	Pass
11a	6Mbps	60	5300	9.29	--	--	--	95.80	9.47	≤ 10.50	Pass
11a	6Mbps	64	5320	8.02	--	--	--	95.80	8.21	≤ 10.50	Pass
11a	6Mbps	100	5500	6.65	--	--	--	95.80	6.83	≤ 9.80	Pass
11a	6Mbps	116	5580	8.89	--	--	--	95.80	9.08	≤ 9.80	Pass
11a	6Mbps	140	5700	7.72	--	--	--	95.80	7.90	≤ 9.80	Pass
11a	6Mbps	144	5720	8.95	--	--	--	95.80	9.13	≤ 9.80	Pass
11ac-VHT20	MCS0	36	5180	3.56	4.78	3.03	4.72	86.73	10.73	≤17.00	Pass
11ac-VHT20	MCS0	44	5220	7.67	7.67	7.29	8.58	86.73	14.47	≤17.00	Pass
11ac-VHT20	MCS0	48	5240	7.75	7.75	7.36	8.02	86.73	14.36	≤17.00	Pass
11ac-VHT20	MCS0	52	5260	3.67	4.53	3.41	4.38	86.73	10.66	≤11.00	Pass
11ac-VHT20	MCS0	60	5300	4.12	4.51	4.45	3.76	86.73	10.86	≤11.00	Pass
11ac-VHT20	MCS0	64	5320	4.32	4.57	4.14	3.72	86.73	10.84	≤11.00	Pass
11ac-VHT20	MCS0	100	5500	3.87	3.98	3.61	4.20	86.73	10.56	≤11.00	Pass
11ac-VHT20	MCS0	116	5580	4.00	4.56	3.60	3.81	86.73	10.65	≤11.00	Pass
11ac-VHT20	MCS0	140	5700	1.81	1.91	1.79	1.83	86.73	8.47	≤11.00	Pass
11ac-VHT20	MCS0	144	5720	4.33	3.99	3.97	4.26	86.73	10.78	≤11.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/ MHz)				Duty Cycle (%)	Final PSD (dBm/ MHz)	PSD Limit (dBm/ MHz)	Result
				Ant 0	Ant 1	Ant 2	Ant 3				
11ac-VHT40	MCS0	38	5190	-0.61	-1.22	-2.50	-0.42	79.09	5.93	≤17.00	Pass
11ac-VHT40	MCS0	46	5230	4.11	3.88	4.01	4.55	79.09	11.19	≤17.00	Pass
11ac-VHT40	MCS0	54	5270	3.38	4.11	3.56	3.96	79.09	10.80	≤11.00	Pass
11ac-VHT40	MCS0	62	5310	-0.94	-0.47	-0.49	-0.90	79.09	6.34	≤11.00	Pass
11ac-VHT40	MCS0	102	5510	0.26	0.62	-0.35	0.70	79.09	7.37	≤11.00	Pass
11ac-VHT40	MCS0	110	5550	3.75	3.15	2.87	3.08	79.09	10.26	≤11.00	Pass
11ac-VHT40	MCS0	134	5670	-0.17	0.06	0.18	0.44	79.09	7.17	≤11.00	Pass
11ac-VHT40	MCS0	142	5710	3.13	3.09	2.84	3.13	79.09	10.09	≤11.00	Pass
11ac-VHT80	MCS0	42	5210	-6.02	-6.34	-6.84	-5.64	68.98	1.45	≤17.00	Pass
11ac-VHT80	MCS0	58	5290	-4.59	-3.98	-3.82	-4.21	68.98	3.49	≤11.00	Pass
11ac-VHT80	MCS0	106	5530	-8.75	-8.86	-9.47	-8.63	68.98	-1.28	≤11.00	Pass
11ac-VHT80	MCS0	122	5610	-0.42	-0.98	-0.85	-1.23	68.98	6.77	≤11.00	Pass
11ac-VHT80	MCS0	138	5690	-0.34	-0.76	-0.54	-0.39	68.98	7.13	≤11.00	Pass

Note:

When EUT duty cycle < 98%, Final PSD (dBm / MHz) = $10 \cdot \log\{10^{(\text{ANT 0 AVGPSD}/10)} + 10^{(\text{ANT 1 AVGPSD}/10)} + 10^{(\text{ANT 2 AVGPSD}/10)} + 10^{(\text{ANT 3 AVGPSD}/10)}\} + 10 \cdot \log(1/\text{Duty cycle})$.

Test Site	WZ-TR3	Test Engineer	Amy Zhang
Test Date	2021/08/07 ~ 2021/08/08	Test Item	Power Spectral Density (UNII-Band 3)

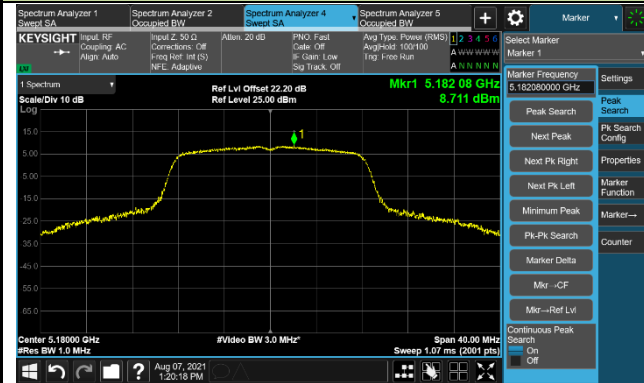
Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/ MHz)				Duty Cycle (%)	Final PSD (dBm/ 510kHz)	Limit (dBm/ 500kHz)	Result
				Ant 0	Ant 1	Ant 2	Ant 3				
11a	6Mbps	149	5745	6.35	--	--	--	95.80	6.54	≤ 28.80	Pass
11a	6Mbps	157	5785	6.19	--	--	--	95.80	6.38	≤ 28.80	Pass
11a	6Mbps	165	5825	6.62	--	--	--	95.80	6.81	≤ 28.80	Pass
11ac-VHT20	MCS0	149	5745	5.04	4.89	4.41	5.90	86.73	11.73	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	4.56	4.73	4.51	5.32	86.73	11.43	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	5.44	5.00	5.05	5.55	86.73	11.91	≤ 30.00	Pass
11ac-VHT40	MCS0	151	5755	1.56	2.06	1.07	2.48	79.09	8.86	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	2.59	2.33	1.54	2.87	79.09	9.40	≤ 30.00	Pass
11ac-VHT80	MCS0	155	5775	-2.90	-2.83	-3.23	-2.52	68.98	4.77	≤ 30.00	Pass

Note:

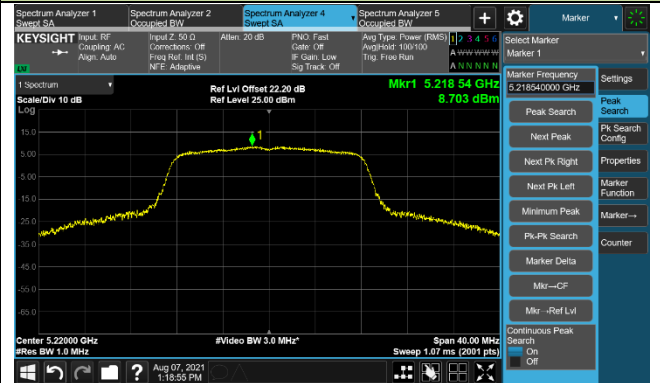
When EUT duty cycle < 98%, Final PSD (dBm / MHz) = $10 \cdot \log\{10^{(\text{ANT 0 AVGPSD}/10)} + 10^{(\text{ANT 1 AVGPSD}/10)} + 10^{(\text{ANT 2 AVGPSD}/10)} + 10^{(\text{ANT 3 AVGPSD}/10)}\} + 10 \cdot \log(1/\text{Duty cycle})$.

802.11a Power Spectral Density- Ant 0

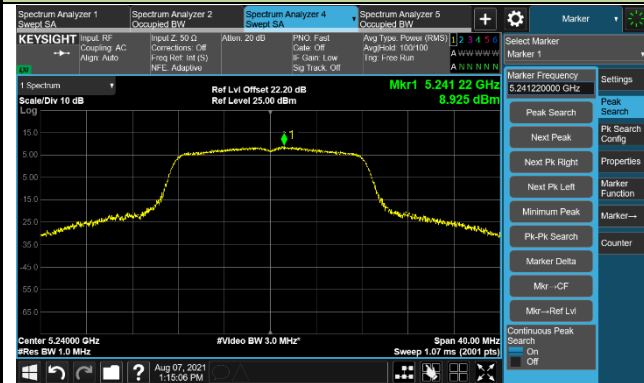
Channel 36 (5180MHz)



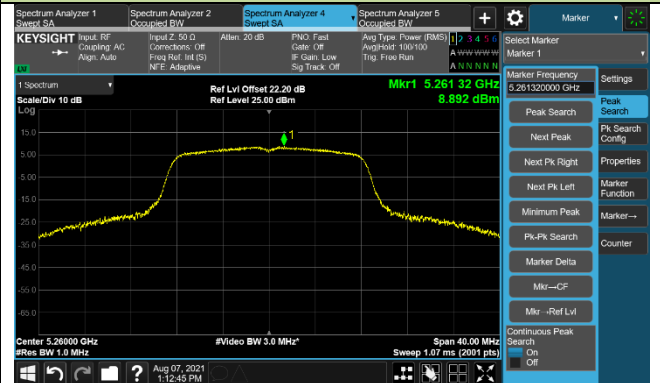
Channel 44 (5220MHz)



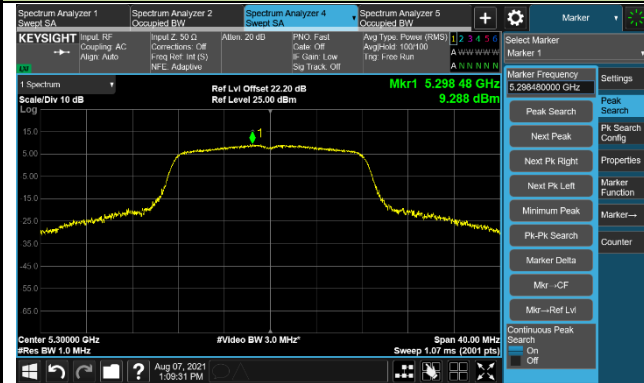
Channel 48 (5240MHz)



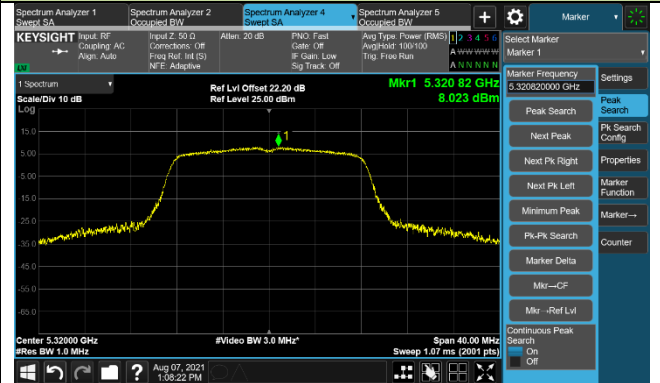
Channel 52 (5260MHz)



Channel 60 (5300MHz)

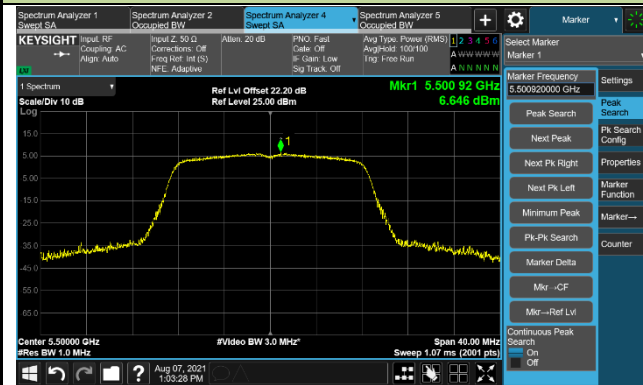


Channel 64 (5320MHz)

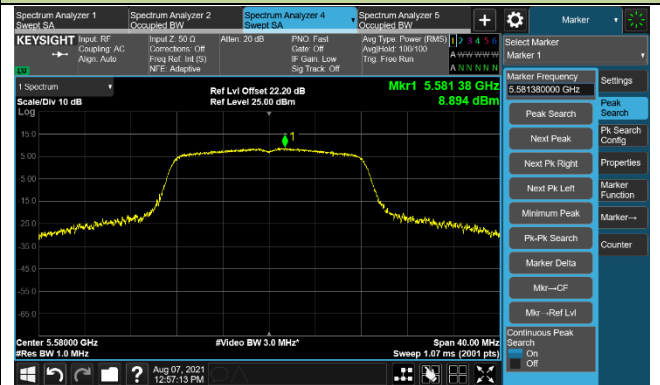


802.11a Power Spectral Density - Ant 0

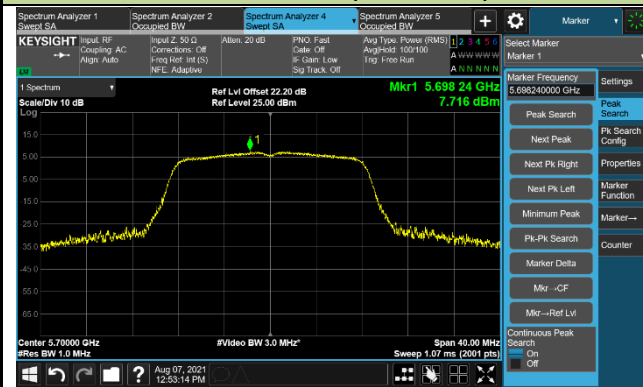
Channel 100 (5500MHz)



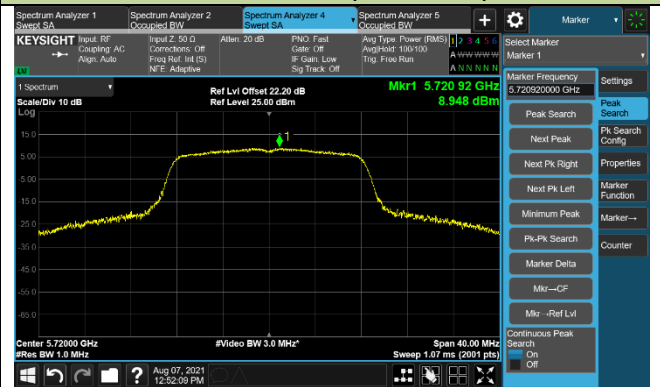
Channel 116 (5580MHz)



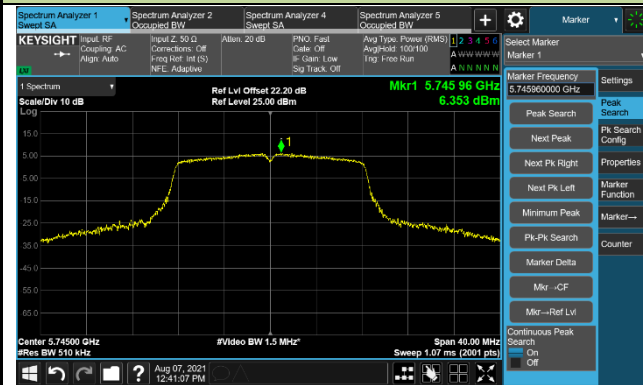
Channel 140 (5700MHz)



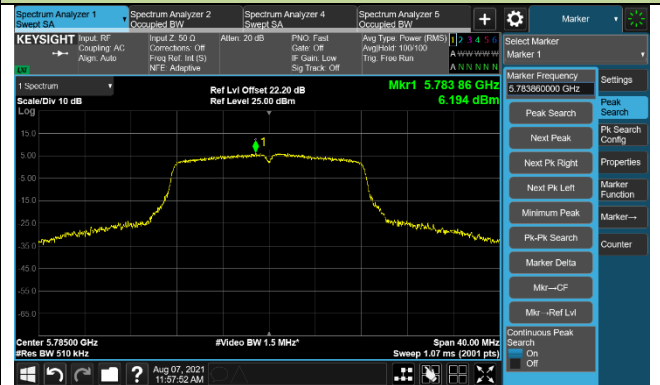
Channel 144 (5720MHz)



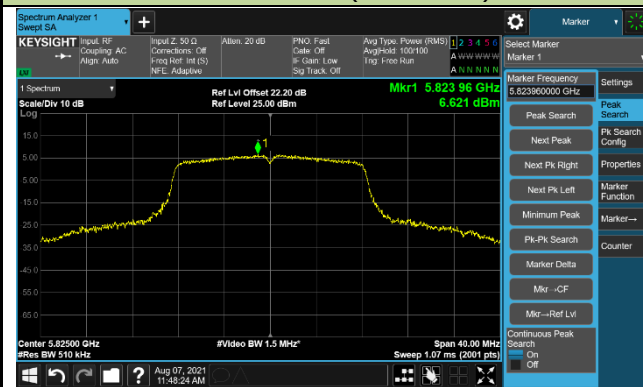
Channel 149 (5745MHz)



Channel 157 (5785MHz)

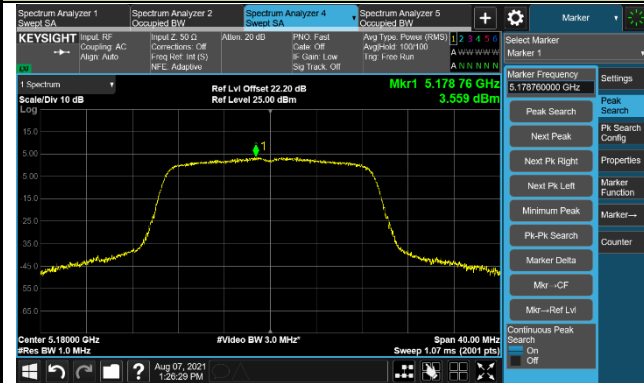


Channel 165 (5825MHz)

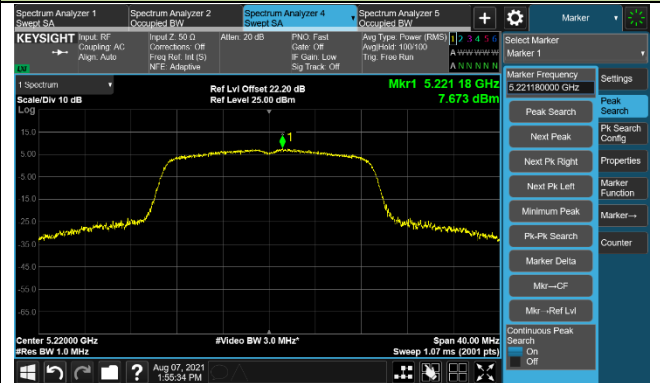


802.11ac-VHT20 Power Spectral Density - Ant 0

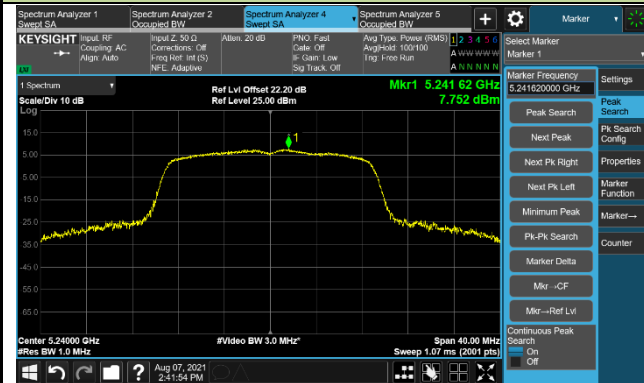
Channel 36 (5180MHz)



Channel 44 (5220MHz)



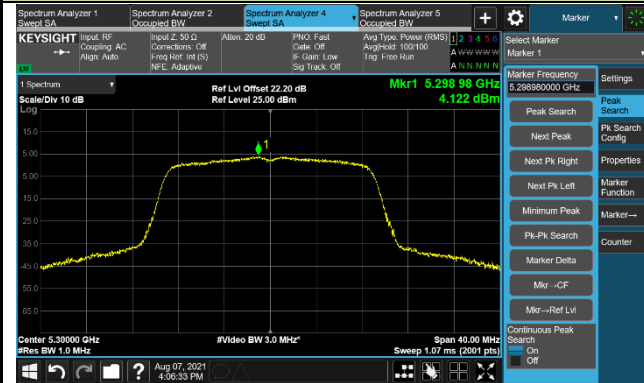
Channel 48 (5240MHz)



Channel 52 (5260MHz)



Channel 60 (5300MHz)



Channel 64 (5320MHz)

