


RF Test Report

Applicant : PepperlFuchs SE

Product Name : Phone

Trade Name :  PEPPERL+FUCHS

Model Number : Smart-Ex 03

Applicable Standard : FCC 47 CFR PART 15 SUBPART E

Received Date : Apr. 20, 2023

Test Period : May 03 ~ Jan. 26, 2024

Issued Date : Jan. 29, 2024

Issued by

Eurofins E&E Wireless Taiwan Co., Ltd.
No. 140-1, Changan Street, Bade District,
Taoyuan City 334025, Taiwan (R.O.C.)
Tel : +886-3-2710188 / Fax : +886-3-2710190
Taiwan Accreditation Foundation accreditation number: 1330
Frequency Range : 9 kHz to 40 GHz
Test Firm Registration Number: 226252 (Bade test site)
Test Firm Registration Number: 191812 (Wugu test site)



Note:

- 1.The test results are valid only for samples provided by customers and under the test conditions described in this report.
- 2.This report shall not be reproduced except in full, without the written approval of Eurofins E&E Wireless Taiwan Co., Ltd.
- 3.The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.


Revision History

Rev.	Issued Date	Description	Revised By
00	Nov. 28, 2023	Initial Issue	Snow Wang
01	Jan. 29, 2024	Update chapter 3.4 (P.18) Update chapter 4.4 (P.30) Update chapter 5.3.3 (P.50~93) Update Appendix A. Test Data	Snow Wang

Verification of Compliance

Applicant : PepperlFuchs SE

Product Name : Phone

Trade Name : 

Model Number : Smart-Ex 03

FCC ID : 2AXZAS03GR01

Applicable Standard : FCC 47 CFR PART 15 SUBPART E

Test Result : Complied

Performing Lab. : Eurofins E&E Wireless Taiwan Co., Ltd.
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Eurofins E&E Wireless Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Eurofins E&E Wireless Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : _____

TABLE OF CONTENTS

1	General Information	5
	1.1. Summary of Test Result	5
	1.2. Testing Location	6
	1.3. Measurement Uncertainty	7
	1.4. Test Site Environment	7
2	EUT Description	8
3	Test Methodology	14
	3.1. Mode of Operation	14
	3.2. EUT Test Step	16
	3.3. Configuration of Test System Details	17
	3.4. Test Instruments.....	18
4	Measurement Procedure	21
	4.1. AC Power Conducted Emission Measurement	21
	4.2. Transmitter Radiated Emissions Measurement.....	23
	4.3. Maximum Output Power Measurement.....	28
	4.4. Emission Bandwidth Measurement.....	30
	4.5. In-Band Emission (Mask) Measurement	32
	4.6. Frequency Stability Measurement.....	34
	4.7. Maximum Power Spectral Density Measurement.....	36
	4.8. Contention Based Protocol Measurement.....	39
	4.9. Operational restrictions for 6 GHz U-NII devices	41
	4.10. Automatically discontinue transmission.....	41
	4.11. Antenna Requirement	41
5	Test Results	43
	5.1. Conducted Emission	43
	5.2. Radiated Emission Measurement	45
	5.3. Conducted Test Results	46

Appendix A. Test Data

Appendix B. Radiated Emission

Appendix C. Test Setup Photographs

1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
15.207	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	Transmitter Radiated Emissions	PASS	---
15.407(a)	Maximum Output Power	PASS	---
15.407(a)	Emission Bandwidth	PASS	---
15.407(a)	Maximum Power Spectral Density	PASS	---
15.407(b)	In-Band Emission (Mask)	PASS	---
15.407(g)	Frequency Stability	PASS	---
15.407(d)	Contention based Protocol	PASS	---
15.407(d)	Operational restrictions for 6 GHz U-NII devices	PASS	Note 2
15.407(a)	Dual Client Proper Power Adjustment	PASS	Note 3
15.407(c)	Automatically discontinue transmission	PASS	---
15.203	Antenna Requirement	PASS	---

Note 1: The above test items refer to the test standards

Note 2: Declaration by applicant

Note 3: The EUT EIRP Level less than 24 dBm

Decision Rule

- Uncertainty is not included.
- Uncertainty is included.

Standard	Description
CFR47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB789033 D02 v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
KDB 662911 D01 v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
KDB 987594 D02 v01r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure 6 GHz (U-NII) Devices Part 15, Subpart E

1.2. Testing Location

Lab Name: Eurofins E&E Wireless Taiwan Co., Ltd.

Site Address: No. 140-1, Changan Street, Bade District, Taoyuan City 334025, Taiwan (R.O.C.)

Site Address: No. 2, Wuquan 5th Rd. Wugu Dist., New Taipei City, Taiwan (R.O.C.)

1.3. Measurement Uncertainty

Test Item	Frequency	Uncertainty	
		BD	WG
Conducted Emission	150 kHz ~ 30 MHz	2.7 dB	2.6 dB
Conducted Output Power		1.1 dB	1.1 dB
RF Bandwidth		4.5 %	4.5 %
Power Spectral Density		1.1 dB	1.1 dB
Duty Cycle		1.1 %	1.0 %
Time Occupancy		1.5 %	1.2 %
Frequency Stability		1.3 x 10 ⁻⁷	1.3 x 10 ⁻⁷

Test Item	Frequency	Uncertainty			
		96601-BD	96603-BD	96602-WG	96603-WG
Radiated Emission	9 kHz ~ 30 MHz	1.9 dB	1.9 dB	1.6 dB	1.6 dB
	30 MHz ~ 1000 MHz	4.9 dB	4.9 dB	4.8 dB	4.8 dB
	1000 MHz ~ 18000 MHz	4.9 dB	5.0 dB	5.0 dB	5.2 dB
	18000 MHz ~ 26500 MHz	4.3 dB	4.4 dB	4.4 dB	4.5 dB
	26500 MHz ~ 40000 MHz	4.5 dB	4.5 dB	4.6 dB	4.5 dB


1.4. Test Site Environment

Items	Required (IEC 60068-1)	Interval(*)
Temperature (°C)	15-35	20-30
Humidity (%RH)	25-75	45-75

(*)The measurement ambient temperature is within this range.

2 EUT Description

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity(except Maximum Output Power (e.i.r.p.)).

Applicant	PepperlFuchs SE Lilienthalstrasse 200, Mannheim Germany		
Product Name	Phone		
Trade Name	 PEPPERL+FUCHS		
Model No.	Smart-Ex 03		
Variants Description	Smart-Ex 03 is provided to the end user in two variants, one with camera features and the other as a non-camera variant. The camera modules are also populated in the non-camera variant; only SW deactivation and assembling physical camera opening covers, which are not metal, are required. Therefore, the testing was completed on the DUT with the camera features only.		
FCC ID	2AXZAS03GR01		
Operate Frequency	Frequency Band		Frequency Range (MHz)
	802.11a	U-NII Band 5	5955 – 6415
		U-NII Band 6	6435 – 6515
		U-NII Band 7	6535 – 6855
		U-NII Band 8	6875 – 7115
	802.11ax HE20	U-NII Band 5	5955 – 6415
		U-NII Band 6	6435 – 6515
		U-NII Band 7	6535 – 6855
		U-NII Band 8	6875 – 7115
	802.11ax HE40	U-NII Band 5	5965 – 6405
		U-NII Band 6	6445 – 6485
		U-NII Band 7	6525 – 6845
		U-NII Band 8	6885 – 7085
	802.11ax HE80	U-NII Band 5	5985 – 6385
		U-NII Band 6	6465 – 6545
		U-NII Band 7	6625 – 6785
U-NII Band 8		6865 – 7025	

Operate Frequency	802.11ax HE160	U-NII Band 5	6025 – 6345
		U-NII Band 6	6505
		U-NII Band 7	6665 – 6825
		U-NII Band 8	6985
Modulation Type	OFDM/OFDMA		
Antenna information	ANT	Type	Max. Gain (dBi)
	ANT0	PIFA Type	1.70
	ANT1	PIFA Type	1.70
Antenna Delivery	Reference section 3.1		
Operate Temp. Range	-20 ~ +60 °C		
EUT Power Rating	3.70 Vdc, 4400 mAh		

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11a	U-NII Band 5	7.13	0.005
	U-NII Band 6	6.83	0.005
	U-NII Band 7	7.49	0.006
	U-NII Band 8	7.35	0.005
802.11ax HE20	U-NII Band 5	6.66	0.005
	U-NII Band 6	6.40	0.004
	U-NII Band 7	7.02	0.005
	U-NII Band 8	6.44	0.004
802.11ax HE40	U-NII Band 5	9.67	0.009
	U-NII Band 6	9.39	0.009
	U-NII Band 7	9.84	0.010
	U-NII Band 8	9.92	0.010
802.11ax HE80	U-NII Band 5	12.72	0.019
	U-NII Band 6	12.37	0.017
	U-NII Band 7	13.46	0.022
	U-NII Band 8	12.55	0.018
802.11ax HE160	U-NII Band 5	15.77	0.038
	U-NII Band 6	15.41	0.035
	U-NII Band 7	15.55	0.036
	U-NII Band 8	14.91	0.031

Beamforming on

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11ax HE20	U-NII Band 5	6.64	0.005
	U-NII Band 6	6.36	0.004
	U-NII Band 7	6.68	0.005
	U-NII Band 8	6.39	0.004
802.11ax HE40	U-NII Band 5	9.6	0.009
	U-NII Band 6	9.36	0.009
	U-NII Band 7	9.77	0.009
	U-NII Band 8	9.87	0.010
802.11ax HE80	U-NII Band 5	12.68	0.019
	U-NII Band 6	12.27	0.017
	U-NII Band 7	13.38	0.022
	U-NII Band 8	12.52	0.018
802.11ax HE160	U-NII Band 5	15.69	0.037
	U-NII Band 6	15.16	0.033
	U-NII Band 7	15.51	0.036
	U-NII Band 8	14.68	0.029

Equipment Type

Indoor access point	---
Subordinate device	---
Indoor Client devices	V

WIFI 6G

BW 20M	CH	1	5	9	13	17	21	25	29
	Freq.(MHz)	5955	5975	5995	6015	6035	6055	6075	6095
BW 40M	CH	3		11		19		27	
	Freq.(MHz)	5965		6005		6045		6085	
BW 80M	CH	7				23			
	Freq.(MHz)	5985				6065			
BW 160M	CH	15							
	Freq.(MHz)	6025							

BW 20M	CH	33	37	41	45	49	53	57	61
	Freq.(MHz)	6115	6135	6155	6175	6195	6215	6235	6255
BW 40M	CH	35		43		51		59	
	Freq.(MHz)	6125		6165		6205		6245	
BW 80M	CH	39				55			
	Freq.(MHz)	6145				6225			
BW 160M	CH	47							
	Freq.(MHz)	6185							

BW 20M	CH	65	69	73	77	81	85	89	93
	Freq.(MHz)	6275	6295	6315	6335	6355	6375	6395	6415
BW 40M	CH	67		75		83		91	
	Freq.(MHz)	6285		6325		6365		6405	
BW 80M	CH	71				87			
	Freq.(MHz)	6305				6385			
BW 160M	CH	79							
	Freq.(MHz)	6345							

BW 20M	CH	97	101	105	109	113	117	121	125
	Freq.(MHz)	6435	6455	6475	6495	6515	6535	6555	6575
BW 40M	CH	99		107		115		123	
	Freq.(MHz)	6445		6485		6525		6565	
BW 80M	CH	103				119			
	Freq.(MHz)	6465				6545			
BW 160M	CH	111							
	Freq.(MHz)	6505							

BW 20M	CH	129	133	137	141	145	149	153	157
	Freq.(MHz)	6595	6615	6635	6655	6675	6695	6715	6735
BW 40M	CH	131		139		147		155	
	Freq.(MHz)	6605		6645		6685		6725	
BW 80M	CH	135				151			
	Freq.(MHz)	6625				6705			
BW 160M	CH	143							
	Freq.(MHz)	6665							

BW 20M	CH	161	165	169	173	177	181	185	189
	Freq.(MHz)	6755	6775	6795	6815	6835	6855	6875	6895
BW 40M	CH	163		171		179		187	
	Freq.(MHz)	6765		6805		6845		6885	
BW 80M	CH	167				183			
	Freq.(MHz)	6785				6865			
BW 160M	CH	175							
	Freq.(MHz)	6825							

BW 20M	CH	193	197	201	205	209	213	217	221
	Freq.(MHz)	6915	6935	6955	6975	6995	7015	7035	7055
BW 40M	CH	195		203		211		219	
	Freq.(MHz)	6925		6965		7005		7045	
BW 80M	CH	199				215			
	Freq.(MHz)	6945				7025			
BW 160M	CH	207							
	Freq.(MHz)	6985							

BW 20M	CH	225			229		
	Freq.(MHz)	7075			7095		
BW 40M	CH	227					
	Freq.(MHz)	7085					

BW 20M	CH	223		
	Freq.(MHz)	7115		

3 Test Methodology

3.1. Mode of Operation

Decision of Test Eurofins has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	Final-Test Mode
Transmit Mode	V
802.11a	V
802.11ax HE20	V
802.11ax HE40	V
802.11ax HE80	V
802.11ax HE160	V

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “Z axis” position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Note 1: This product supports normal mode and Beamforming on mode. According to power table, the normal mode is worst power. So, normal mode has to test and record results for Conducted.

Note 2: 802.11ax only support Full RU.

Test Mode	ANT-0	ANT-1	ANT-0+1
802.11a	V	V	V
802.11ax HE20	V	V	V
802.11ax HE40	V	V	V
802.11ax HE80	V	V	V
802.11ax HE160	V	V	V

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11a	2TX (CDD/Beamforming on)	6	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11ax HE20	2TX (CDD/Beamforming on)	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11ax HE40	2TX (CDD/Beamforming on)	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11ax HE80	2TX (CDD/Beamforming on)	MCS0	U-NII Band 5	7, 39, 87
			U-NII Band 6	103
			U-NII Band 7	119, 135, 151, 167, 183
			U-NII Band 8	199, 215
802.11ax HE160	2TX (CDD/Beamforming on)	MCS0	U-NII Band 5	15, 47, 79
			U-NII Band 6	111
			U-NII Band 7	143, 175
			U-NII Band 8	207

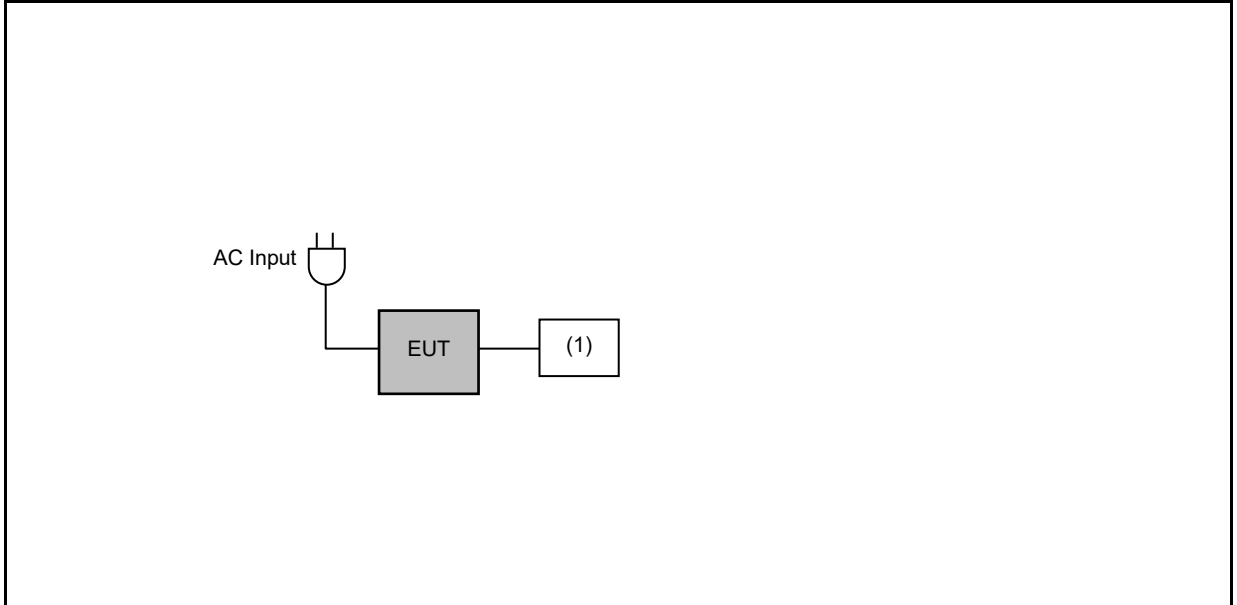
3.2. EUT Test Step

The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

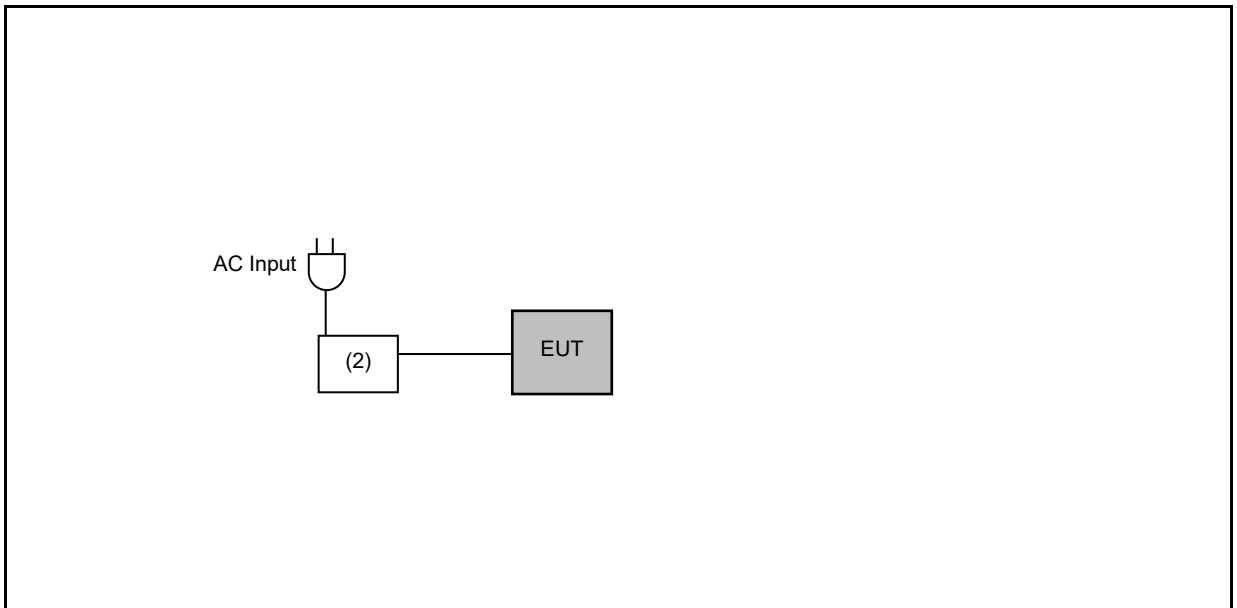
1.	Setup the EUT shown on "Configuration of Test System Details".
2.	Turn on the power of all equipment.
3.	Turn on TX function.
4.	EUT run test program.

3.3. Configuration of Test System Details

Conducted Emission



Radiated Emissions



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	Headset microphone	YUJI	S350	---	---
(2)	Notebook	HP	HSN-I14C-4	---	---

3.4. Test Instruments

For Conducted Emission

Test Period: Sep. 13, 2023

Testing Engineer: Jayson Hsieh

Test Site		Conduction01-BD				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESCI	100367	May 22, 2023	1 year
<input checked="" type="checkbox"/>	LISN	R&S	ENV216	101040	Mar. 21, 2023	1 year
<input checked="" type="checkbox"/>	LISN	R&S	ENV216	101140	Jan. 12, 2023	1 year
<input checked="" type="checkbox"/>	RF Cable	Woken	00100D1380194M	TE-02-03	Jun. 01, 2023	1 year
<input checked="" type="checkbox"/>	Software	EZ EMC	1.1.4.3	N/A	N.C.R.	---

For Conducted

Test Period: May. 03 ~ Oct. 11, 2023

Testing Engineer: Peter Shui, Luke Yang

Test Site		RF01-BD				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
<input checked="" type="checkbox"/>	Power Sensor	Agilent	N1921A	MY45241957	Nov. 30, 2022	1 year
<input checked="" type="checkbox"/>	Power Meter	Agilent	N1911A	MY45101619	Nov. 30, 2022	1 year
<input checked="" type="checkbox"/>	Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	Sep. 01, 2022 Sep. 04, 2023	1 year
<input checked="" type="checkbox"/>	Signal Generator	Keysight	N5182B	MY53052569	Apr. 17, 2023	1 year
<input checked="" type="checkbox"/>	Signal Generator	Keysight	N5182BX07	MY59360221	Apr. 17, 2023	1 year
<input checked="" type="checkbox"/>	Power Supply	KEITHLEY	2303	4045290	Jan. 06, 2023	1 year

For Conducted

Test Period: Jan. 27, 2024

Testing Engineer: Luke Yang

Test Site		RF01-BD				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
<input checked="" type="checkbox"/>	Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	Sep. 04 2023	1 year

Note: N.C.R. = No Calibration Request.

For Radiated Emissions

Test Period: Sep. 26 ~ Oct. 02, 2023

Testing Engineer: Hung Chou, Kerry Xu, Marc Yeh

Test Site		96603-BD				
Radiation test sites		Semi Anechoic Room				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
<input type="checkbox"/>	Spectrum Analyzer (10 Hz~44 GHz)	Keysight	N9010A	MY52221312	Jan. 07, 2023	1 year
<input type="checkbox"/>	Spectrum Analyzer (3 Hz~50 GHz)	Agilent	N9030A	MY53120541	Dec. 29, 2022	1 year
<input type="checkbox"/>	Spectrum Analyzer (2 Hz~50 GHz)	Keysight	N9030B	MY57143537	Apr. 14, 2022	1 year
<input checked="" type="checkbox"/>	Spectrum Analyzer (10 Hz~44 GHz)	Keysight	N9020B	MY60112363	Jan. 13, 2023	1 year
<input checked="" type="checkbox"/>	Amplifier (100 kHz~1.3 GHz)	Agilent	8447D	2944A11119	Jan. 07, 2023	1 year
<input type="checkbox"/>	Broadband Amplifier (100 kHz~1 GHz)	Titan	T0910E00014330 A1F	001	Jul. 24, 2023	1 year
<input type="checkbox"/>	Amplifier (1 GHz~26.5 GHz)	Agilent	8449B	3008A02237	Oct. 19, 2022	1 year
<input checked="" type="checkbox"/>	Broadband Amplifier (1 GHz~26.5 GHz)	Titan	T0912E01263025 A1F	002	Jul. 24, 2023	1 year
<input checked="" type="checkbox"/>	Preamplifier (26.5 GHz~40 GHz)	EMCI	EMC2654045	980028	Sep. 01, 2023	1 year
<input type="checkbox"/>	Loop Antenna (9 kHz~30 MHz)	COM-POWER CORPORATION	AL-130	121014	Mar. 23, 2023	1 year
<input type="checkbox"/>	Active Loop Antenna (9 kHz~30 MHz)	Schwarzbeck Mess-Elektronik	FMZB 1513-60	1513-60-031	Feb. 21, 2023	1 year
<input checked="" type="checkbox"/>	Trilog Broadband Antenna (30 kHz~1 GHz)	Schwarzbeck Mess-Elektronik	VULB9168	01146	Jun. 26, 2023	1 year
<input type="checkbox"/>	Trilog Broadband Antenna (30 kHz~1 GHz)	Schwarzbeck Mess-Elektronik	VULB9168	416	Jun.13,2023	1 year
<input checked="" type="checkbox"/>	Broadband Horn Antenna (1 GHz~18 GHz)	Schwarzbeck Mess-Elektronik	9120D	02207	Jul. 07, 2023	1 year
<input type="checkbox"/>	Broadband Horn Antenna (1 GHz~18 GHz)	Schwarzbeck Mess-Elektronik	9120D	9120D-550	Aug. 25, 2022	1 year
<input checked="" type="checkbox"/>	Broadband Horn Antenna (18 GHz~40 GHz)	Schwarzbeck Mess-Elektronik	9170	9170-320	Jul. 21, 2023	1 year

Note: N.C.R. = No Calibration Request.

For Radiated Emissions

Test Period: Sep. 26 ~ Oct. 02, 2023

Testing Engineer: Hung Chou, Kerry Xu, Marc Yeh

Test Site		96603-BD				
Radiation test sites		Semi Anechoic Room				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
<input type="checkbox"/>	Horn Antenna (18 GHz~40 GHz)	ETS	3116	00086467	Dec. 05, 2022	1 year
<input checked="" type="checkbox"/>	Coaxial Cable	Titan	T0710AT327A10A 100	J11005	Aug. 10, 2023	1 year
<input checked="" type="checkbox"/>	Coaxial Cable	Titan	T0710AT327A10A 900	J11004	Aug. 10, 2023	1 year
<input checked="" type="checkbox"/>	Coaxial Cable	Titan	CFD400NL-LW	001	Aug. 10, 2023	1 year
<input type="checkbox"/>	Bluetooth Tester	R&S	CBT	100350	Mar. 20, 2023	2 years
<input type="checkbox"/>	Wireless Connectivity Tester	R&S	CMW270	102208	Jun. 01, 2022	1 year
<input type="checkbox"/>	Power Supply	KEITHLEY	2303	4045290	Jan. 06, 2023	1 year
<input checked="" type="checkbox"/>	Software	EZ EMC	1.1.4.4	N/A	N.C.R.	---

Note: N.C.R. = No Calibration Request.

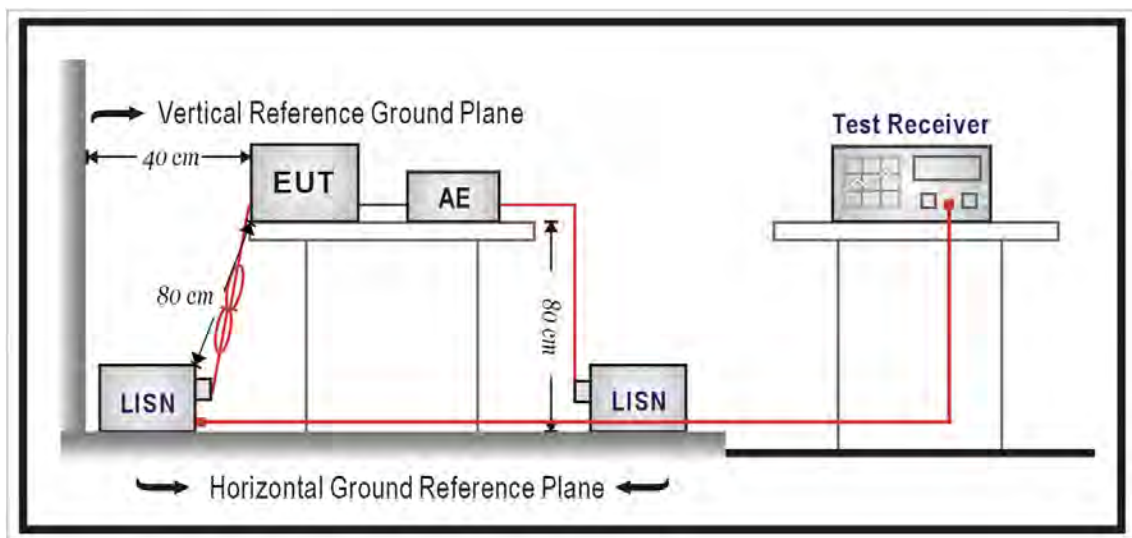
4 Measurement Procedure

4.1. AC Power Conducted Emission Measurement

■ **Limit**

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

■ **Test Setup**



■ Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a $50 \Omega // 50 \mu\text{H}$ coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a $50 \Omega // 50 \mu\text{H}$ coupling impedance with 50 ohm termination.

Tabletop device shall be placed on a non-conducting platform, of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The wall of screened room shall be located 40 cm to the rear of the EUT. Other surfaces of tabletop or floor standing EUT shall be at least 80 cm from any other ground conducting surface including one or more LISNs. For floor-standing device shall be placed under the EUT with a 12 mm insulating material.

Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a resolution bandwidth of 9 kHz. The equipment under test (EUT) shall be meet the limits in section 4.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average detector and quasi-peak detector measured in accordance with the methods described of related standard. When all of peak value were complied with quasi-peak and average limit from 150 kHz to 30 MHz then quasi-peak and average measurement was unnecessary.

The AMN shall be placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for AMNs mounted on top of the ground reference plane. This distance is between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8 m from the AMN. If the mains power cable is longer than 1 m then the cable shall be folded back and forth at the centre of the lead to form a bundle no longer than 0.4 m. All of interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long. All of EUT and AE shall be separate place more than 0.1 m. All 50Ω ports of the LISN shall be resistively terminated into 50Ω loads when not connected to the measuring instrument.

If the reading of the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 s at each measurement frequency; the higher reading shall be recorded with the exception of any brief isolated high reading which shall be ignored

4.2. Transmitter Radiated Emissions Measurement

■ Limit

(1)Undesirable emission limits. Except as shown in paragraph (b)(9) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (a) For transmitters operating in the band 5925~6425 MHz, 6425~6525 MHz, 6525~6875 MHz and 6875~7125 MHz all emissions outside the band 5925~7125 MHz shall not exceed -27 dBm/MHz E.I.R.P..

E.I.R.P. (dBm/MHz)	Avg Field Strength at 3 m(dBuV/m)
-7 (Peak)	88.2 (Peak)
-27 (AVG)	68.2 (AVG)

(2)Limits of Radiated Emission Measurement

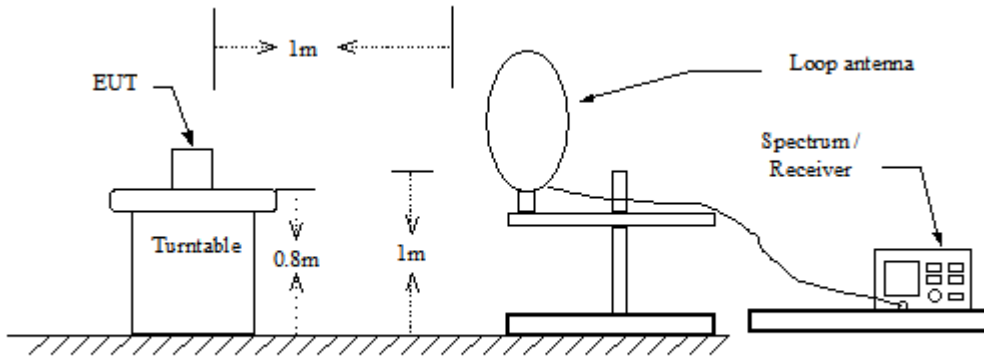
Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequency Range (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	10	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

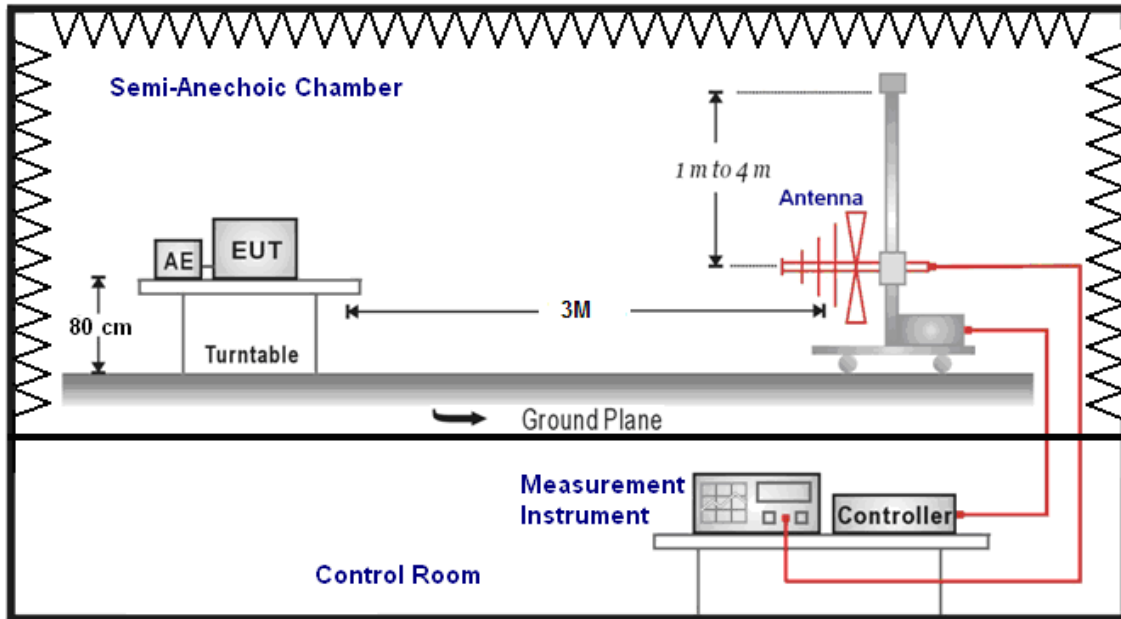
- Note:
1. The lower limit shall apply at the transition frequencies.
 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
 3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

■ Setup

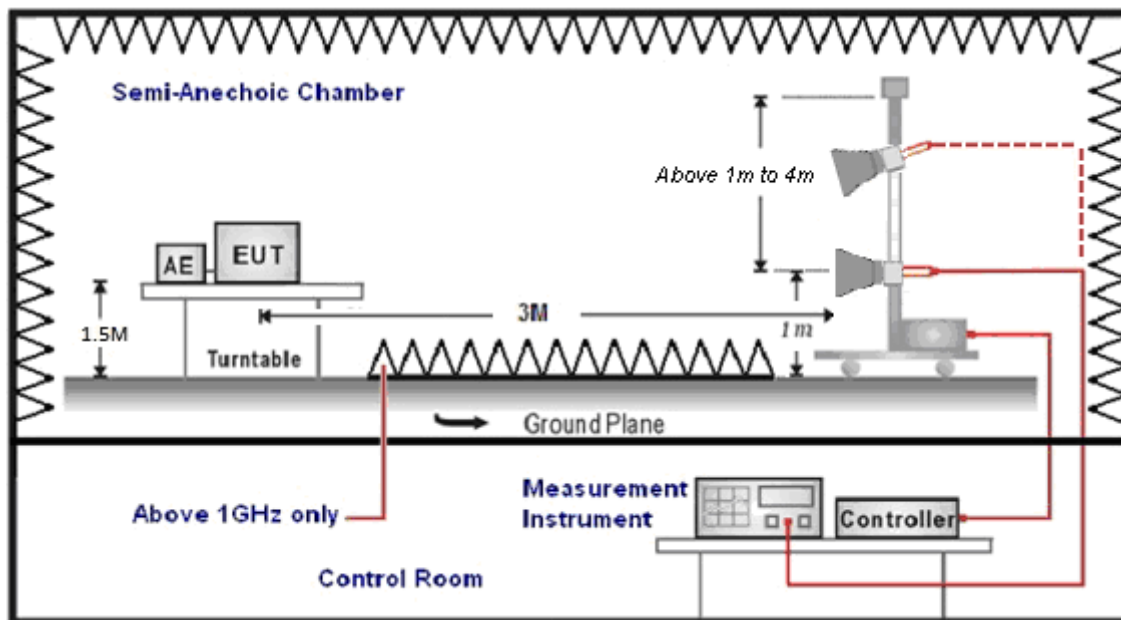
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



■ Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height (below 1 GHz use 0.8 m turntable / above 1 GHz use 1.5 m turntable), top surface 1.0 x 1.5 meter. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 GHz is investigated.

For measurements below 30 MHz the resolution bandwidth is set to 10 kHz for peak detection measurements or 9 kHz for quasi-peak detection measurements. The video bandwidth is 3 times of the resolution bandwidth.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For restricted measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle > 0.98 / 1/T for average measurements when Duty cycle < 0.98.

For out of band measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization. SCHWARZBECK MESS-ELEKTRONIK Trilog-Broadband Antenna at 3 Meter and the ETS-Lindgren Double-Ridged Waveguide Horn antenna Schwarzbeck Mess-Elektronik Broadband Horn Antenna was used in frequencies 1 – 40 GHz at a distance of 3 meter. The antenna at an angle toward the source of the emission. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20 dB/decade).

For testing above 1 GHz, the emission level of the EUT in peak mode was 20 dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB/m), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

- (1) Amplitude (dBuV/m) = FI (dBuV) +AF (dB/m) +CL (dB)
 FI= Reading of the field intensity.
 AF= Antenna factor.
 CL= Cable loss.
 P.S Amplitude is auto calculate in spectrum analyzer.

Measuring Instruments and setting

The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW/VBW(Emission in restricted band)	1 MHz / 3 MHz for Peak 1 MHz / (1/T) for Average
RBW/VBW(Emission in non-restricted band)	1 MHz / 3 MHz for Peak 1 MHz / (1/T) for Average (Only WLAN 6G)

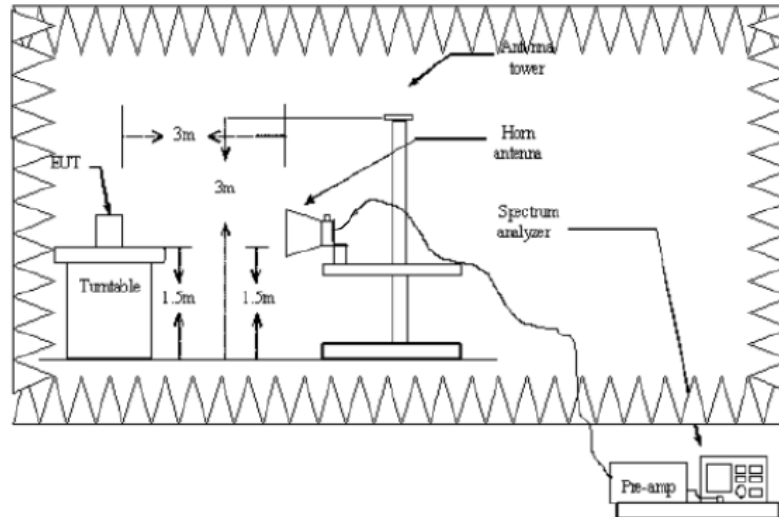
4.3. Maximum Output Power Measurement

■ Limit

Frequency Range (GHz)	Maximum Output Power Limit
5.925 ~ 6.425	For standard power access point and fixed client device : e.i.r.p. \leq 36dBm, For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125mW (21dBm).
	For indoor access point : e.i.r.p. \leq 30dBm.
	For subordinate device control of an indoor access point : e.i.r.p. \leq 30dBm.
	For client device control of a standard power access point : e.i.r.p. \leq 30dBm.
	For client device control of an indoor access point : e.i.r.p. \leq 24dBm.
6.425 ~ 6.525	For indoor access point : e.i.r.p. \leq 30dBm.
	For client device control of an indoor access point : e.i.r.p. \leq 24dBm.
6.525 ~ 6.875	For standard power access point and fixed client device : e.i.r.p. \leq 36dBm, For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125mW (21dBm).
	For indoor access point : e.i.r.p. \leq 30dBm.
	For subordinate device control of an indoor access point : e.i.r.p. \leq 30dBm.
	For client device control of a standard power access point : e.i.r.p. \leq 30dBm.
	For client device control of an indoor access point : e.i.r.p. \leq 24dBm.
6.875 ~ 7.125	For indoor access point : e.i.r.p. \leq 30dBm.
	For client device control of an indoor access point : e.i.r.p. \leq 24dBm.

For Radiation Method

■ **Test Setup**



■ **Test Procedure**

The test is performed in accordance with ANSI C63.10 section 12, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices.

Accordance with ANSI C63.10 section 12 use radiated compliance measurements.

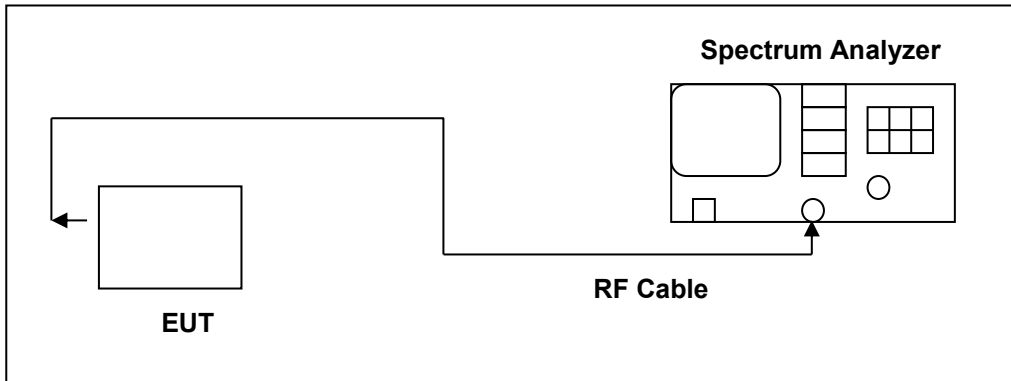
1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a antenna tower.
3. The height of antenna is fixed 1.5 meter , Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. Perform a EIRP level measurement and record the worse read value, is the EIRP level value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor.

4.4. Emission Bandwidth Measurement

■ **Limit**

≤ 320 MHz

■ **Test Setup**



■ **Test Procedure**

The test is performed in accordance with ANSI C63.10 section 12 Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

For 26 dB Bandwidth:

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	>26 dB Bandwidth
RBW	Approximately 1 %
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

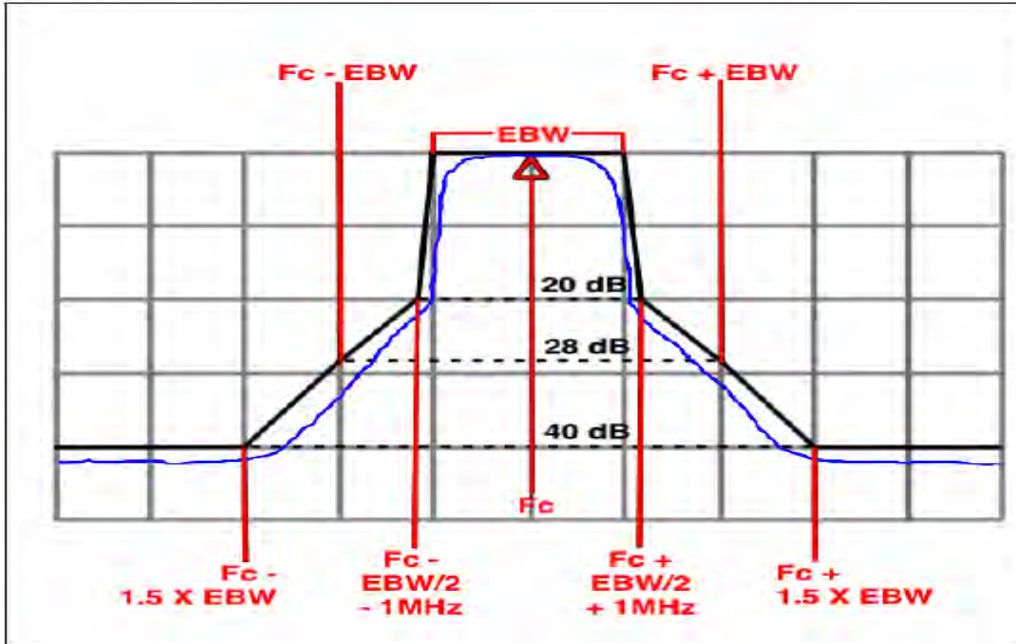
For 99% Bandwidth:

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

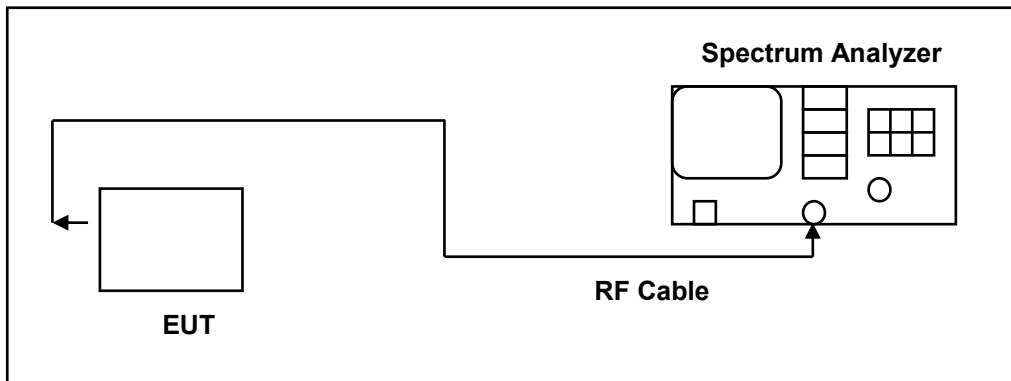
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	1.5 times and 5.0 times the OBW
RBW	Approximately 1 % ~ 5 % of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.5. In-Band Emission (Mask) Measurement

- Limit



- Test Setup



■ Test Procedure

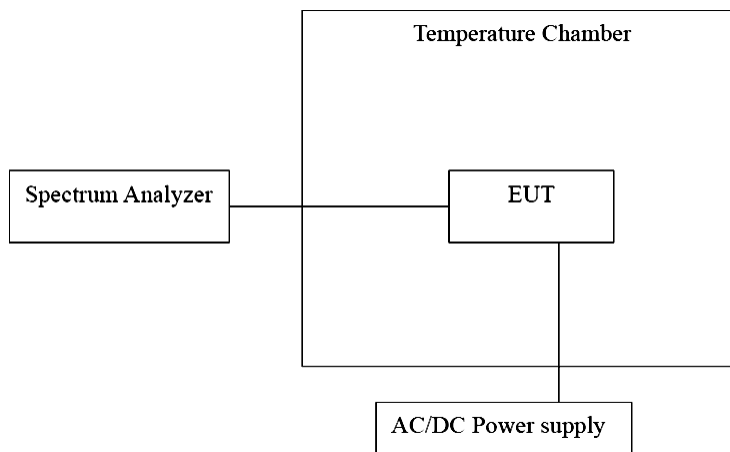
1. Connect output of the antenna port to a spectrum analyzer.
2. Measure the 26 dB EBW using the test procedure 12 of ANSI C63.10.
3. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
 - a) Set the span to encompass the entire 26 dB EBW of the signal.
 - b) Set RBW = same RBW used for 26 dB EBW measurement.
 - c) Set VBW $\geq 3 \times$ RBW
 - d) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$.
 - e) Sweep time = auto.
 - f) Detector = RMS (i.e., power averaging)
 - g) Trace average at least 100 traces in power averaging (rms) mode.
 - h) Use the peak search function on the instrument to find the peak of the spectrum.
4. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
5. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
 - a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
 - b) Suppressed by 28 dB at one channel bandwidth from the channel center.
 - c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
6. Adjust the span to encompass the entire mask as necessary.
7. Clear trace.
8. Trace average at least 100 traces in power averaging (rms) mode.
9. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

4.6. Frequency Stability Measurement

- Limit

The carrier frequency remains within the operating frequency band.

- Test Setup



■ **Test Procedure**

1. The EUT and test equipment were set up as shown on the following section.
2. Turn the on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized.
5. Repeat step 4 with the temperature chamber set to the lower the chamber temperature by not more than 10 °C, and allow the temperature inside the chamber to stabilize.
6. The test chamber was allowed to stabilize at +20°C for a minimum of 30 minutes. The supply voltage was then adjusted of the EUT from 85% (or end point) to 115% and the frequency record.

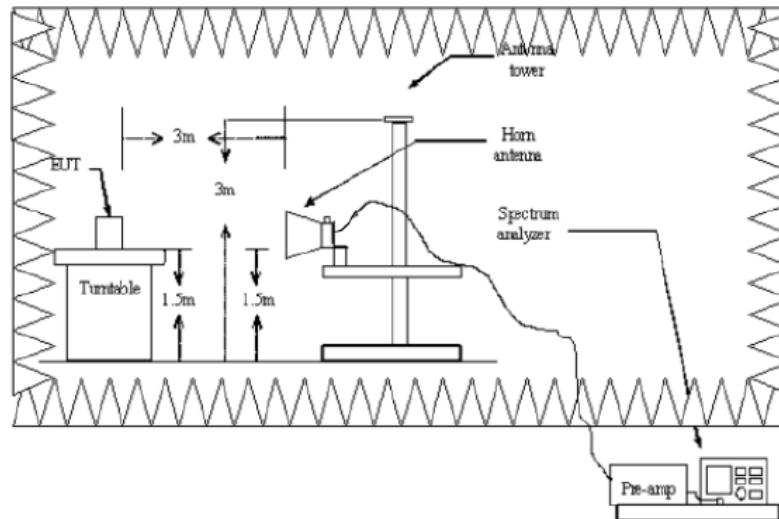
4.7. Maximum Power Spectral Density Measurement

■ Limit

Frequency Range (GHz)	Maximum Power Spectral Density Limit
5.925 ~ 6.425	For standard power access point and fixed client device : e.i.r.p. PSD ≤ 23 dBm/MHz.
	For indoor access point : e.i.r.p. PSD ≤ 5 dBm/MHz.
	For subordinate device control of an indoor access point : e.i.r.p. PSD ≤ 5 dBm/MHz.
	For client device control of a standard power access point : e.i.r.p. PSD ≤ 17 dBm/MHz.
	For client device control of an indoor access point : e.i.r.p. PSD ≤ -1 dBm/MHz.
6.425 ~ 6.525	For indoor access point : e.i.r.p. PSD ≤ 5 dBm/MHz.
	For client device control of an indoor access point : e.i.r.p. PSD ≤ -1 dBm/MHz.
6.525 ~ 6.875	For standard power access point and fixed client device : e.i.r.p. PSD ≤ 23 dBm/MHz.
	For indoor access point : e.i.r.p. PSD ≤ 5 dBm/MHz.
	For subordinate device control of an indoor access point : e.i.r.p. PSD ≤ 5 dBm/MHz.
	For client device control of a standard power access point : e.i.r.p. PSD ≤ 17 dBm/MHz.
	For client device control of an indoor access point : e.i.r.p. PSD ≤ -1 dBm/MHz.
6.875 ~ 7.125	For indoor access point : e.i.r.p. PSD ≤ 5 dBm/MHz.
	For client device control of an indoor access point : e.i.r.p. PSD ≤ -1 dBm/MHz.

For Radiation Method

■ **Test Setup**



■ **Test Procedure**

The test is performed in accordance with ANSI C63.10 section 12, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

Accordance with ANSI C63.10 section 12 use radiated compliance measurements.

1. The EUT was placed on the top of a rotating table 1.5 meters 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 antenna tower.
3. The height of antenna is fixed 1.5 meter , Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. Perform a EIRP level measurement and record the worse read value, is the EIRP level value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1 MHz
VBW	3 MHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times

4.8. Contention Based Protocol Measurement

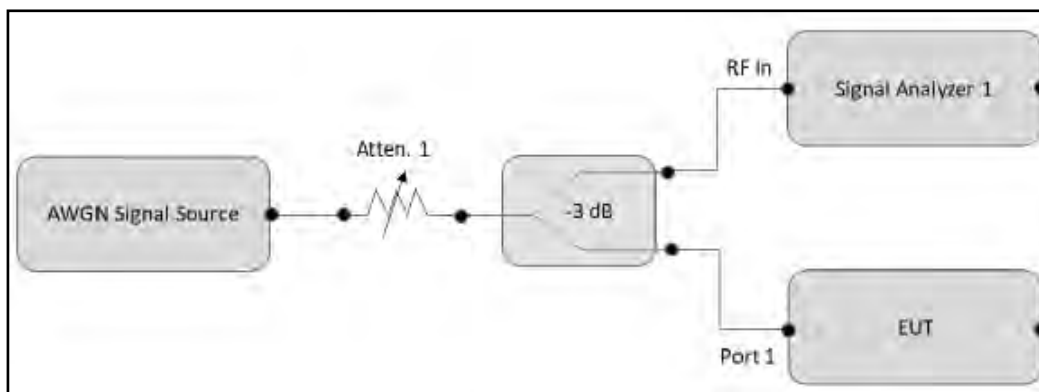
■ Limit

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain. Additionally, low-power indoor devices must detect co-channel energy with 90% or greater certainty.

Table 1. Criteria to determine number of times detection threshold test may be performed

If	Number of Tests	Placement of Incumbent Transmission
$BW_{EUT} \leq BW_{Inc}$	Once	Tune incumbent and EUT transmissions ($f_{c1} = f_{c2}$)
$BW_{Inc} < BW_{EUT} \leq 2BW_{Inc}$	Once	Incumbent transmission is contained within BW_{EUT}
$2BW_{Inc} < BW_{EUT} \leq 4BW_{Inc}$	Twice. Incumbent transmission is contained within BW_{EUT}	Incumbent transmission is located as closely as possible to the lower edge and upper edge, respectively, of the EUT channel
$BW_{EUT} > 4BW_{Inc}$	Three times	Incumbent transmission is located as closely as possible to the lower edge of the EUT channel, in the middle of EUT channel, and as closely as possible to the upper edge of the EUT channel

■ Test Setup



■ Test Procedure

1. Configure the EUT to transmit with a constant duty cycle.
2. Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth.
3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT.
4. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
5. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB divider, to the signal analyzer 1 and the EUT as shown in Test Setup.
6. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
7. Monitor the signal analyzer to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
8. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
9. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 4, choose a different center frequency for the AWGN signal and repeat the process.

4.9. Operational restrictions for 6 GHz U-NII devices

■ Limits

In the 5.925-7.125 GHz band, client devices, except fixed client devices, must operate under the control of a standard power access point, indoor access point or subordinate devices; Subordinate devices must operate under the control of an indoor access point.

■ Declare

Device is an indoor client device under the control of a low power indoor access point. Please refer to the declaration letter exhibit supplied within this application.

4.10. Automatically discontinue transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

■ Declare

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

4.11. Antenna Requirement

■ Limit

For intentional device, according to 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.

And According to 15.407 (a), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ Antenna Connector Construction

See section 2 – antenna information.

■ Directional Gain Calculated

Test mode	Band	Transmission Type	Antenna				Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
			Ant-0	Ant-1	Ant-2	Ant-3				
			(dBi)	(dBi)	(dBi)	(dBi)				
802.11a	Band 5	Ant-0	1.70	1.70	---	---	1.70	4.71	0.00	0.00
802.11ax HE20	Band 6		1.70	1.70	---	---	1.70	4.71	0.00	0.00
802.11ax HE40	Band 7		1.70	1.70	---	---	1.70	4.71	0.20	0.00
802.11ax HE80	Band 8		1.70	1.70	---	---	1.70	4.71	0.00	0.00

Directional gain (Power) = GANT

Directional gain (PSD) = Array Gain

Beamforming on

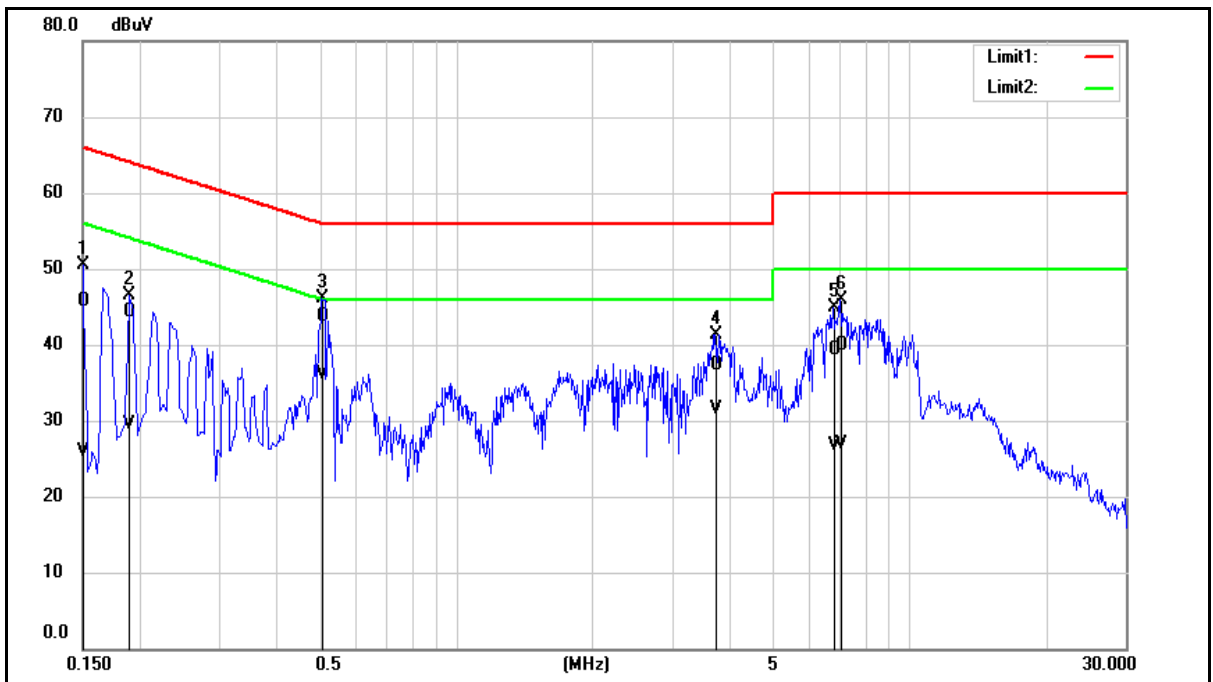
Test mode	Band	Transmission Type	Antenna				Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
			Ant-0	Ant-1	Ant-2	Ant-3				
			(dBi)	(dBi)	(dBi)	(dBi)				
802.11ax HE20	Band 5	Ant-0	1.70	1.70	---	---	4.71	4.71	0.00	0.00
802.11ax HE40	Band 6		1.70	1.70	---	---	4.71	4.71	0.00	0.00
802.11ax HE80	Band 7		1.70	1.70	---	---	4.71	4.71	0.20	0.00
802.11ax HE160	Band 8		1.70	1.70	---	---	4.71	4.71	0.00	0.00

Directional gain = GANT + Array Gain

5 Test Results

5.1. Conducted Emission

Standard:	FCC Part 15.407	Line:	L1
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Transmit mode		
Description:			

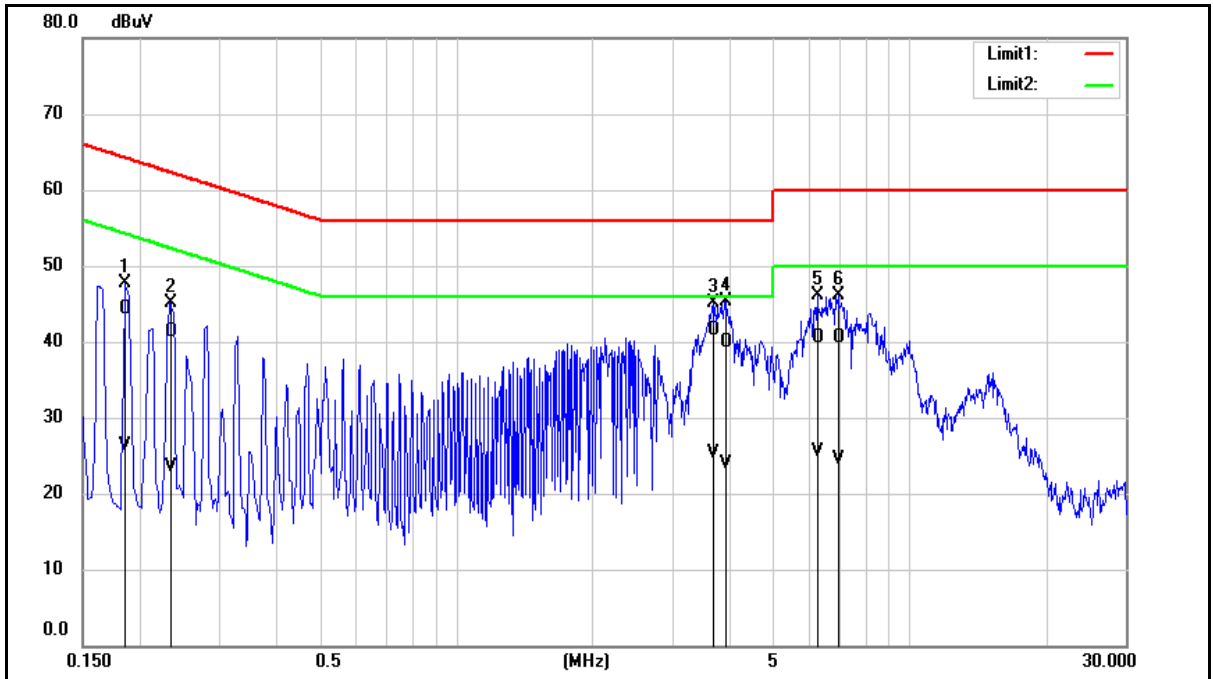


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	36.05	16.24	9.61	45.66	25.85	66.00	56.00	-20.34	-30.15	Pass
2	0.1900	34.67	19.93	9.61	44.28	29.54	64.04	54.04	-19.76	-24.50	Pass
3	0.5060	34.15	26.53	9.63	43.78	36.16	56.00	46.00	-12.22	-9.84	Pass
4	3.7300	27.61	21.70	9.74	37.35	31.44	56.00	46.00	-18.65	-14.56	Pass
5	6.7740	29.49	16.94	9.81	39.30	26.75	60.00	50.00	-20.70	-23.25	Pass
6	7.0340	30.15	17.03	9.82	39.97	26.85	60.00	50.00	-20.03	-23.15	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15.407	Line:	N
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Transmit mode		
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1860	34.64	16.63	9.61	44.25	26.24	64.21	54.21	-19.96	-27.97	Pass
2	0.2340	31.66	13.96	9.61	41.27	23.57	62.31	52.31	-21.04	-28.74	Pass
3	3.6860	31.73	15.63	9.74	41.47	25.37	56.00	46.00	-14.53	-20.63	Pass
4	3.9380	30.22	14.11	9.75	39.97	23.86	56.00	46.00	-16.03	-22.14	Pass
5	6.2540	30.67	15.68	9.81	40.48	25.49	60.00	50.00	-19.52	-24.51	Pass
6	6.9700	30.61	14.69	9.83	40.44	24.52	60.00	50.00	-19.56	-25.48	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).
 2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

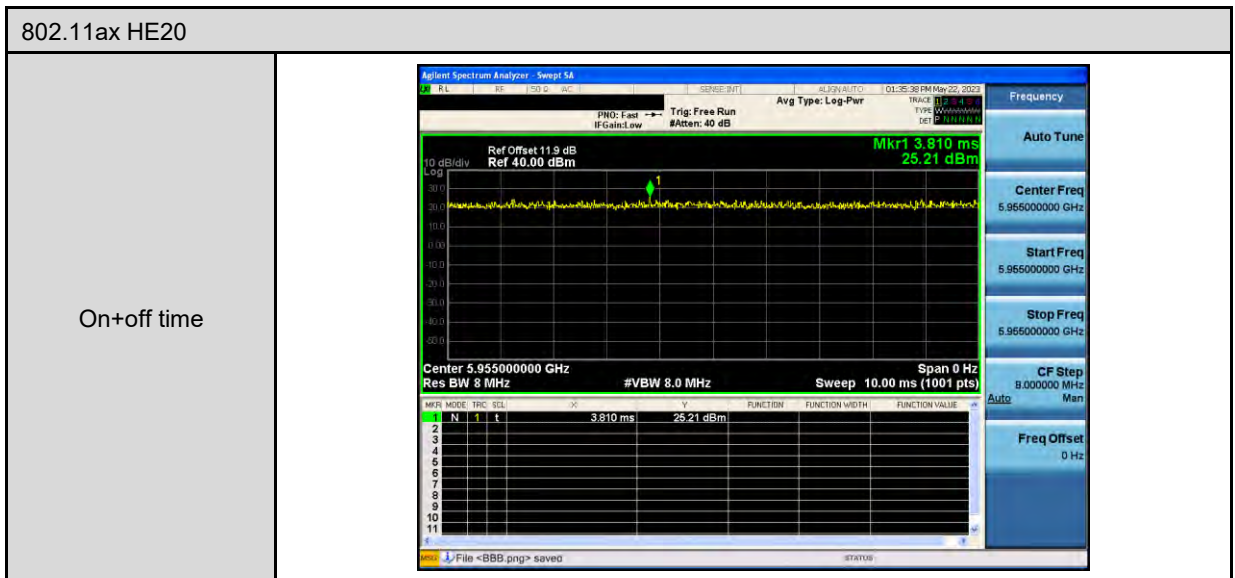
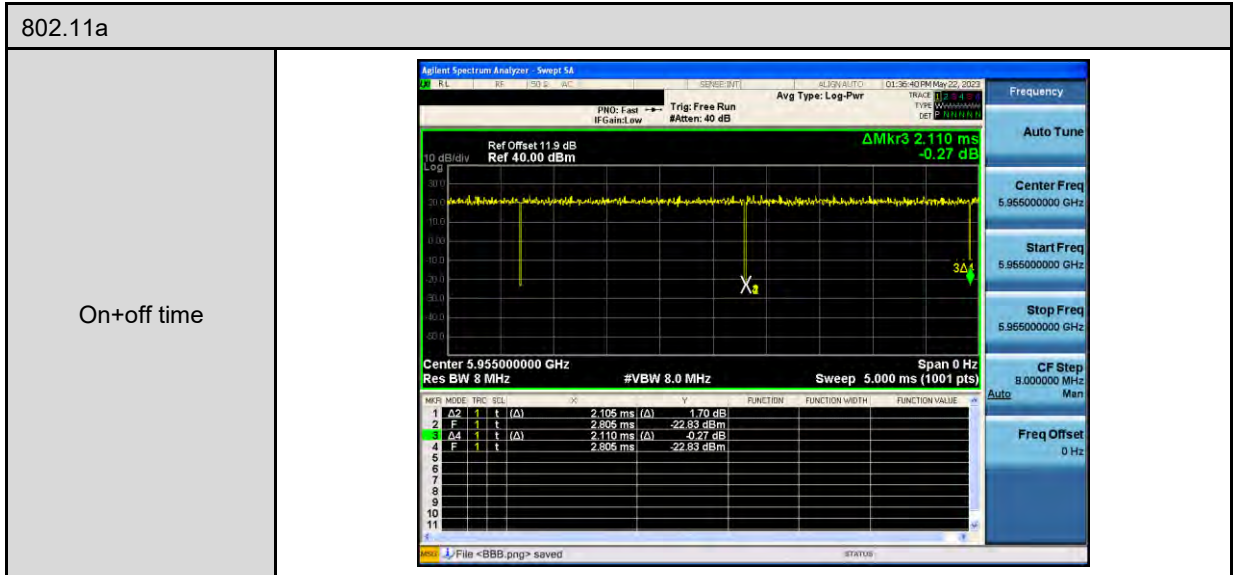
5.2. Radiated Emission Measurement

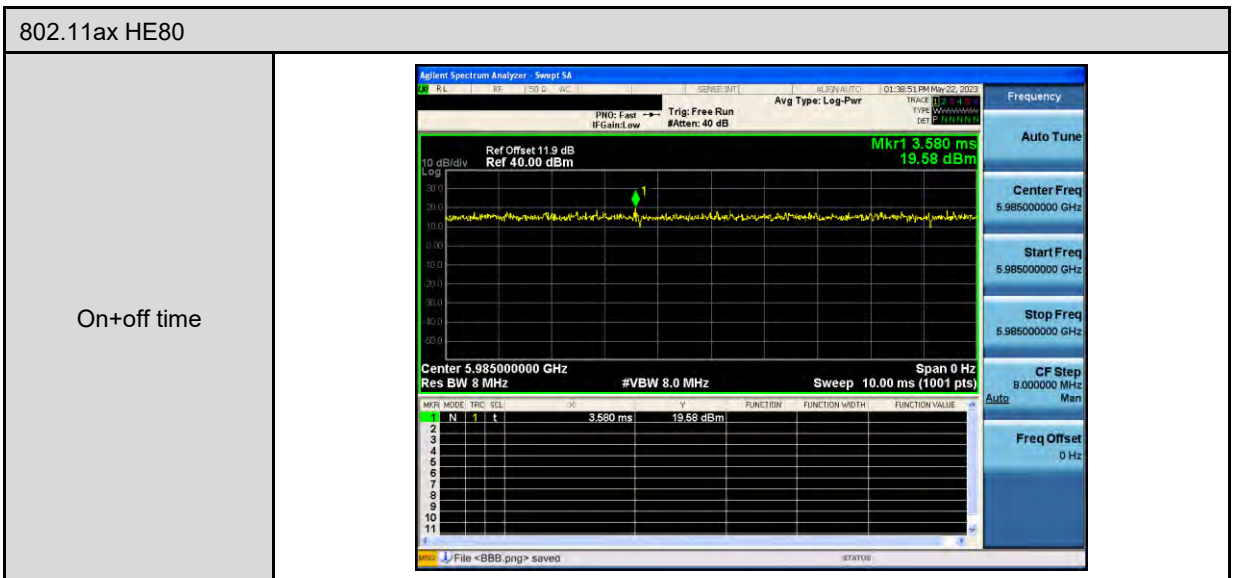
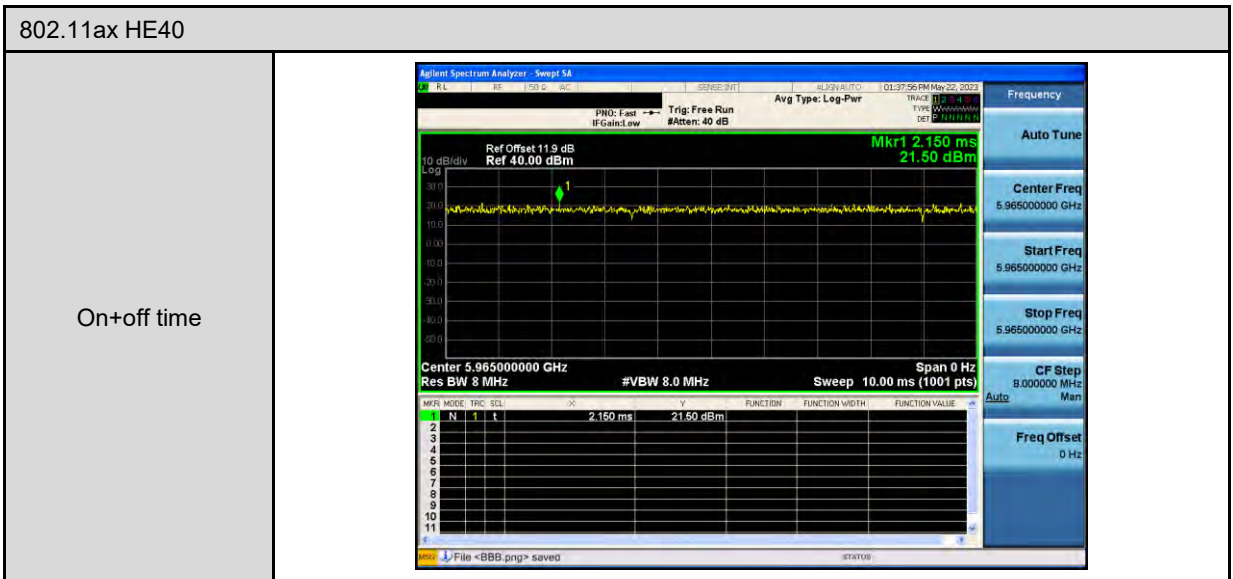
Reference Appendix B

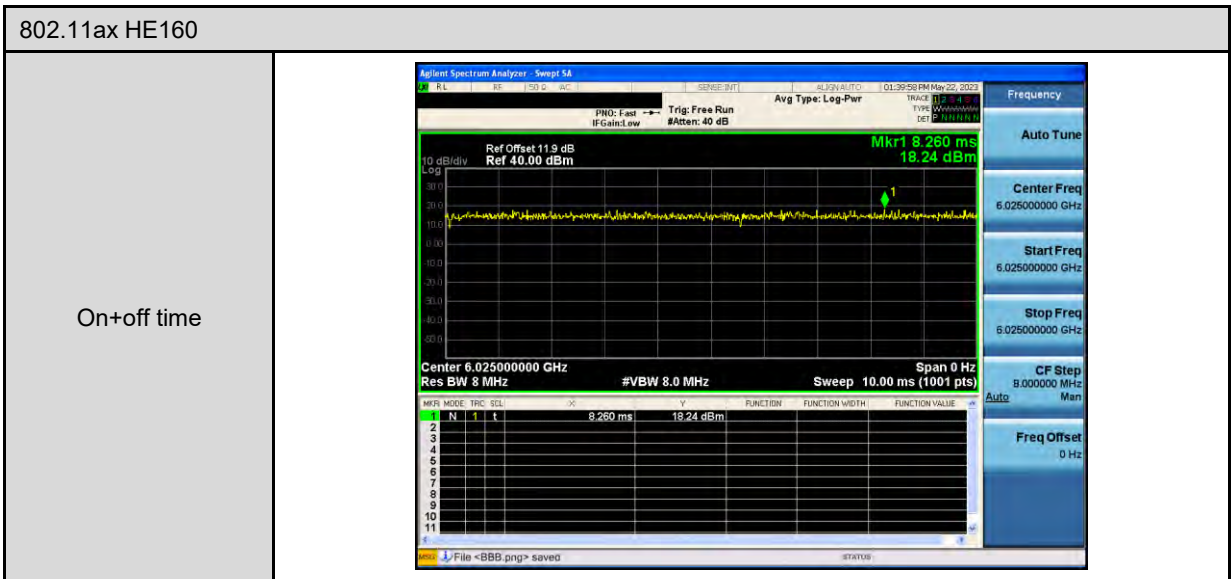
5.3. Conducted Test Results

5.3.1. Duty cycle

Duty Cycle Graphs







5.3.2. Maximum Output Power Measurement

Reference Appendix A. Test Data

5.3.3. Emission Bandwidth Measurement

Reference Appendix A. Test Data

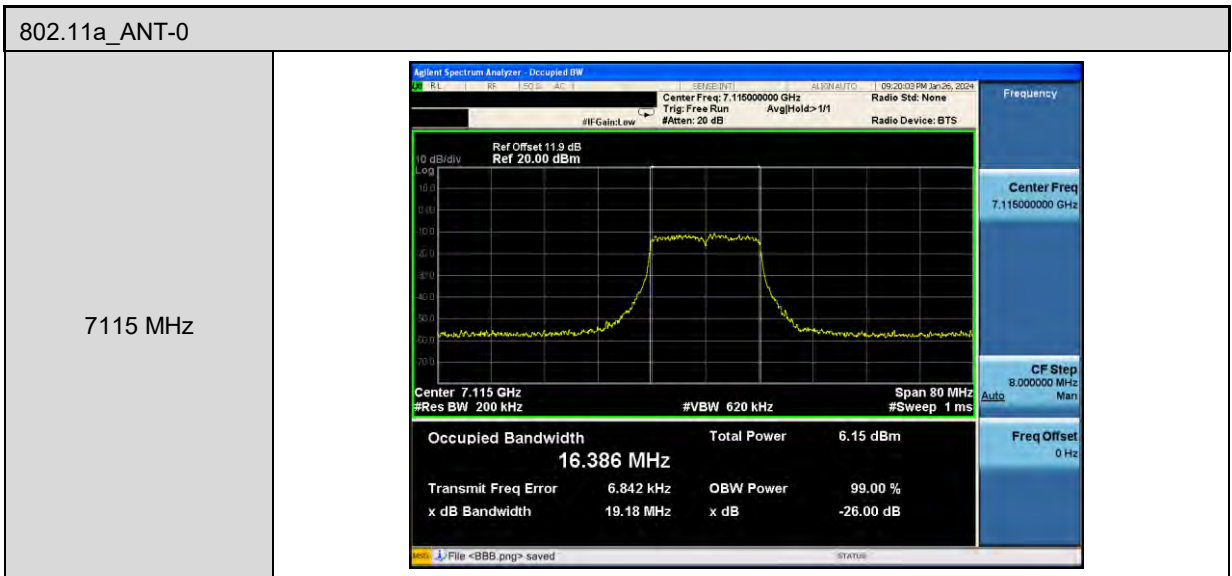
■ Test Graphs
 99%&26dB Occupied Bandwidth

802.11a_ANT-0	
5955 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.95500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 5.955 GHz</p> <p>Occupied Bandwidth 16.390 MHz</p> <p>Total Power 6.68 dBm</p> <p>Transmit Freq Error 31.148 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 19.10 MHz</p> <p>x dB -26.00 dB</p>
6175 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.17500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.175 GHz</p> <p>Occupied Bandwidth 16.413 MHz</p> <p>Total Power 6.27 dBm</p> <p>Transmit Freq Error 29.997 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 19.05 MHz</p> <p>x dB -26.00 dB</p>
6415 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.41500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.415 GHz</p> <p>Occupied Bandwidth 16.416 MHz</p> <p>Total Power 5.34 dBm</p> <p>Transmit Freq Error 32.659 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 19.09 MHz</p> <p>x dB -26.00 dB</p>

802.11a_ANT-0	
6435 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.43500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.435 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.433 MHz</p> <p>Total Power 5.06 dBm</p> <p>Transmit Freq Error 30.152 kHz</p> <p>x dB Bandwidth 19.00 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6475 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.47500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.475 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.440 MHz</p> <p>Total Power 5.48 dBm</p> <p>Transmit Freq Error 34.517 kHz</p> <p>x dB Bandwidth 19.19 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6515 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.51500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.515 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.423 MHz</p> <p>Total Power 5.59 dBm</p> <p>Transmit Freq Error 20.917 kHz</p> <p>x dB Bandwidth 19.10 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

802.11a_ANT-0	
6535 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.535000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.535 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.437 MHz</p> <p>Total Power 5.04 dBm</p> <p>Transmit Freq Error 21.991 kHz x dB Bandwidth 19.28 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>
6695 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.695000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.695 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.415 MHz</p> <p>Total Power 6.05 dBm</p> <p>Transmit Freq Error 25.625 kHz x dB Bandwidth 19.33 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>
6855 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.855000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.855 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.407 MHz</p> <p>Total Power 5.96 dBm</p> <p>Transmit Freq Error 10.403 kHz x dB Bandwidth 19.43 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>

802.11a_ANT-0	
6875 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.87500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.396 MHz</p> <p>Total Power: 5.83 dBm</p> <p>Transmit Freq Error: 16.769 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 19.01 MHz</p> <p>x dB: -26.00 dB</p>
6895 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.89500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.393 MHz</p> <p>Total Power: 6.16 dBm</p> <p>Transmit Freq Error: 13.044 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 19.24 MHz</p> <p>x dB: -26.00 dB</p>
6995 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.99500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.415 MHz</p> <p>Total Power: 6.91 dBm</p> <p>Transmit Freq Error: 18.909 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 19.27 MHz</p> <p>x dB: -26.00 dB</p>

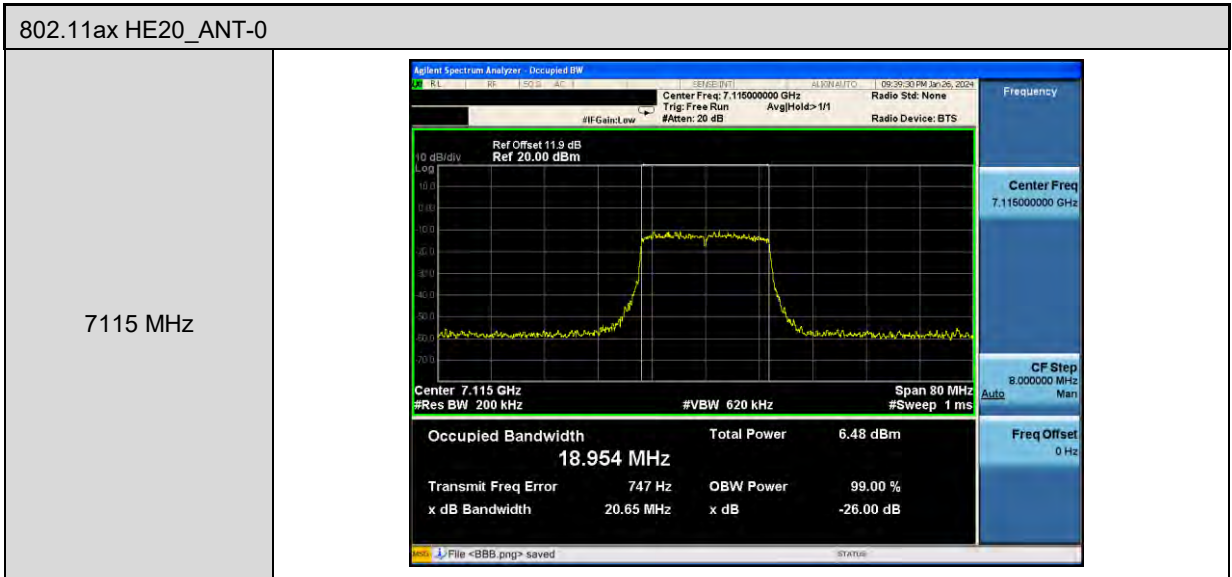


802.11ax HE20_ANT-0	
5955 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.95500000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 5.955 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth: 18.970 MHz</p> <p>Total Power: 8.31 dBm</p> <p>Transmit Freq Error: 16.323 kHz</p> <p>x dB Bandwidth: 20.80 MHz</p>
6175 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.17500000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.175 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth: 18.929 MHz</p> <p>Total Power: 10.3 dBm</p> <p>Transmit Freq Error: -11.495 kHz</p> <p>x dB Bandwidth: 20.91 MHz</p>
6415 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.41500000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.415 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth: 18.857 MHz</p> <p>Total Power: 6.94 dBm</p> <p>Transmit Freq Error: 30.150 kHz</p> <p>x dB Bandwidth: 20.75 MHz</p>

802.11ax HE20_ANT-0	
6435 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.43500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.435 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.872 MHz</p> <p>Total Power 7.31 dBm</p> <p>Transmit Freq Error 23.774 kHz</p> <p>x dB Bandwidth 20.88 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6475 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.47500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.475 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.883 MHz</p> <p>Total Power 7.01 dBm</p> <p>Transmit Freq Error 15.856 kHz</p> <p>x dB Bandwidth 20.87 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6515 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.51500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.515 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.834 MHz</p> <p>Total Power 6.92 dBm</p> <p>Transmit Freq Error 26.166 kHz</p> <p>x dB Bandwidth 20.60 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

802.11ax HE20_ANT-0	
6535 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.535000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.535 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.867 MHz</p> <p>Total Power 7.01 dBm</p> <p>Transmit Freq Error 22.724 kHz x dB Bandwidth 20.79 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>
6695 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.695000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.695 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.877 MHz</p> <p>Total Power 7.48 dBm</p> <p>Transmit Freq Error 12.588 kHz x dB Bandwidth 20.65 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>
6855 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.855000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.855 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.927 MHz</p> <p>Total Power 7.60 dBm</p> <p>Transmit Freq Error 13.355 kHz x dB Bandwidth 20.87 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>

802.11ax HE20_ANT-0	
6875 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.87500000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.875 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.939 MHz</p> <p>Total Power 7.74 dBm</p> <p>Transmit Freq Error 7.964 kHz</p> <p>x dB Bandwidth 20.83 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6895 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.89500000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.895 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.903 MHz</p> <p>Total Power 8.34 dBm</p> <p>Transmit Freq Error 10.036 kHz</p> <p>x dB Bandwidth 21.03 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6995 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.99500000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.995 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.916 MHz</p> <p>Total Power 9.31 dBm</p> <p>Transmit Freq Error 783 Hz</p> <p>x dB Bandwidth 20.97 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

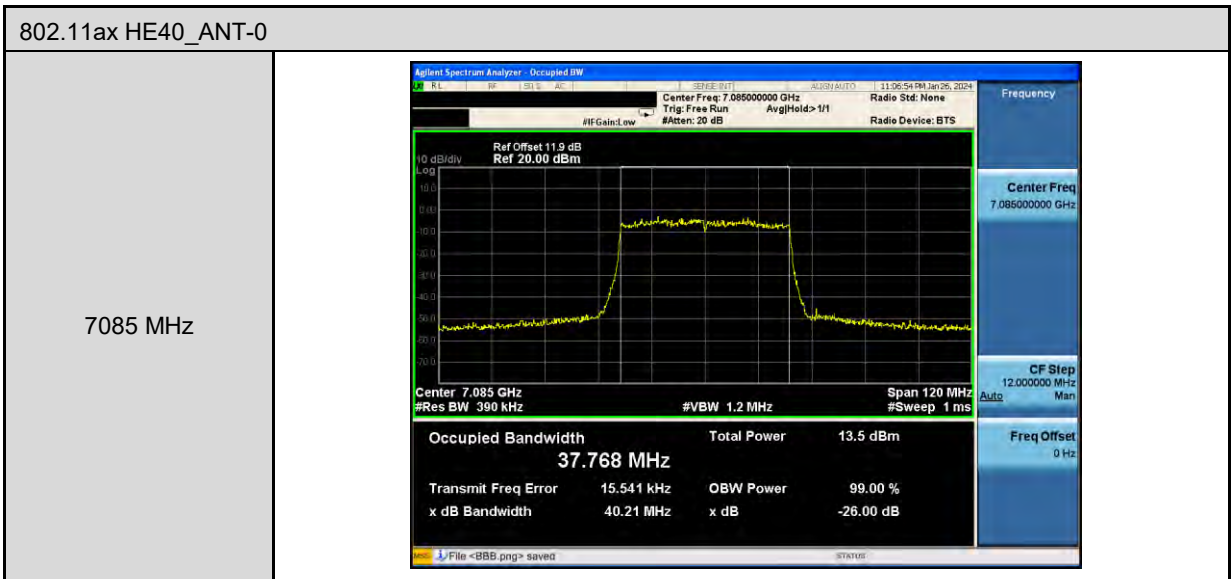


802.11ax HE40_ANT-0																					
5965 MHz	<table border="1"> <tr> <td>Center Freq</td> <td>5.96500000 GHz</td> <td>CF Step</td> <td>12.000000 MHz</td> </tr> <tr> <td>Occupied Bandwidth</td> <td>37.686 MHz</td> <td>Radio Std.</td> <td>None</td> </tr> <tr> <td>Total Power</td> <td>12.1 dBm</td> <td>Freq Offset</td> <td>0 Hz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>29.475 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>40.06 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> </table>	Center Freq	5.96500000 GHz	CF Step	12.000000 MHz	Occupied Bandwidth	37.686 MHz	Radio Std.	None	Total Power	12.1 dBm	Freq Offset	0 Hz	Transmit Freq Error	29.475 kHz	OBW Power	99.00 %	x dB Bandwidth	40.06 MHz	x dB	-26.00 dB
Center Freq	5.96500000 GHz	CF Step	12.000000 MHz																		
Occupied Bandwidth	37.686 MHz	Radio Std.	None																		
Total Power	12.1 dBm	Freq Offset	0 Hz																		
Transmit Freq Error	29.475 kHz	OBW Power	99.00 %																		
x dB Bandwidth	40.06 MHz	x dB	-26.00 dB																		
6165 MHz	<table border="1"> <tr> <td>Center Freq</td> <td>6.16500000 GHz</td> <td>CF Step</td> <td>12.000000 MHz</td> </tr> <tr> <td>Occupied Bandwidth</td> <td>37.773 MHz</td> <td>Radio Std.</td> <td>None</td> </tr> <tr> <td>Total Power</td> <td>12.6 dBm</td> <td>Freq Offset</td> <td>0 Hz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>24.881 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>39.86 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> </table>	Center Freq	6.16500000 GHz	CF Step	12.000000 MHz	Occupied Bandwidth	37.773 MHz	Radio Std.	None	Total Power	12.6 dBm	Freq Offset	0 Hz	Transmit Freq Error	24.881 kHz	OBW Power	99.00 %	x dB Bandwidth	39.86 MHz	x dB	-26.00 dB
Center Freq	6.16500000 GHz	CF Step	12.000000 MHz																		
Occupied Bandwidth	37.773 MHz	Radio Std.	None																		
Total Power	12.6 dBm	Freq Offset	0 Hz																		
Transmit Freq Error	24.881 kHz	OBW Power	99.00 %																		
x dB Bandwidth	39.86 MHz	x dB	-26.00 dB																		
6405 MHz	<table border="1"> <tr> <td>Center Freq</td> <td>6.40500000 GHz</td> <td>CF Step</td> <td>12.000000 MHz</td> </tr> <tr> <td>Occupied Bandwidth</td> <td>37.726 MHz</td> <td>Radio Std.</td> <td>None</td> </tr> <tr> <td>Total Power</td> <td>12.1 dBm</td> <td>Freq Offset</td> <td>0 Hz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-6.088 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>40.13 MHz</td> <td>x dB</td> <td>-26.00 dB</td> </tr> </table>	Center Freq	6.40500000 GHz	CF Step	12.000000 MHz	Occupied Bandwidth	37.726 MHz	Radio Std.	None	Total Power	12.1 dBm	Freq Offset	0 Hz	Transmit Freq Error	-6.088 kHz	OBW Power	99.00 %	x dB Bandwidth	40.13 MHz	x dB	-26.00 dB
Center Freq	6.40500000 GHz	CF Step	12.000000 MHz																		
Occupied Bandwidth	37.726 MHz	Radio Std.	None																		
Total Power	12.1 dBm	Freq Offset	0 Hz																		
Transmit Freq Error	-6.088 kHz	OBW Power	99.00 %																		
x dB Bandwidth	40.13 MHz	x dB	-26.00 dB																		

802.11ax HE40_ANT-0	
6445 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.44500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.745 MHz</p> <p>Total Power: 12.1 dBm</p> <p>Transmit Freq Error: 17.784 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 40.24 MHz</p> <p>x dB: -26.00 dB</p>
6485 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.48500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.747 MHz</p> <p>Total Power: 13.6 dBm</p> <p>Transmit Freq Error: 10.657 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 40.48 MHz</p> <p>x dB: -26.00 dB</p>
6525 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.52500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.775 MHz</p> <p>Total Power: 12.0 dBm</p> <p>Transmit Freq Error: 36.354 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 40.48 MHz</p> <p>x dB: -26.00 dB</p>

802.11ax HE40_ANT-0	
6565 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.565000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.799 MHz</p> <p>Total Power: 12.5 dBm</p> <p>Transmit Freq Error: 713 Hz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 40.19 MHz</p> <p>x dB: -26.00 dB</p>
6685 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.685000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.823 MHz</p> <p>Total Power: 12.1 dBm</p> <p>Transmit Freq Error: -33.445 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 40.39 MHz</p> <p>x dB: -26.00 dB</p>
6845 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.845000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.774 MHz</p> <p>Total Power: 13.1 dBm</p> <p>Transmit Freq Error: -1.425 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 40.42 MHz</p> <p>x dB: -26.00 dB</p>

802.11ax HE40_ANT-0	
6885 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.885000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.780 MHz</p> <p>Total Power: 12.3 dBm</p> <p>Transmit Freq Error: 21.988 kHz</p> <p>x dB Bandwidth: 40.48 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -26.00 dB</p>
6925 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.925000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.761 MHz</p> <p>Total Power: 12.7 dBm</p> <p>Transmit Freq Error: 3.628 kHz</p> <p>x dB Bandwidth: 40.18 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -26.00 dB</p>
7005 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 7.005000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.775 MHz</p> <p>Total Power: 12.4 dBm</p> <p>Transmit Freq Error: 2.896 kHz</p> <p>x dB Bandwidth: 40.43 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -26.00 dB</p>



802.11ax HE80_ANT-0	
5985 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.985000000 GHz</p> <p>Occupied Bandwidth: 77.254 MHz</p> <p>Total Power: 15.2 dBm</p> <p>Transmit Freq Error: 48.768 kHz</p> <p>x dB Bandwidth: 81.06 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: -26.00 dB</p>
6145 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.145000000 GHz</p> <p>Occupied Bandwidth: 77.202 MHz</p> <p>Total Power: 14.8 dBm</p> <p>Transmit Freq Error: -22.620 kHz</p> <p>x dB Bandwidth: 81.22 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: -26.00 dB</p>
6385 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.385000000 GHz</p> <p>Occupied Bandwidth: 77.227 MHz</p> <p>Total Power: 14.8 dBm</p> <p>Transmit Freq Error: 3.470 kHz</p> <p>x dB Bandwidth: 81.79 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: -26.00 dB</p>

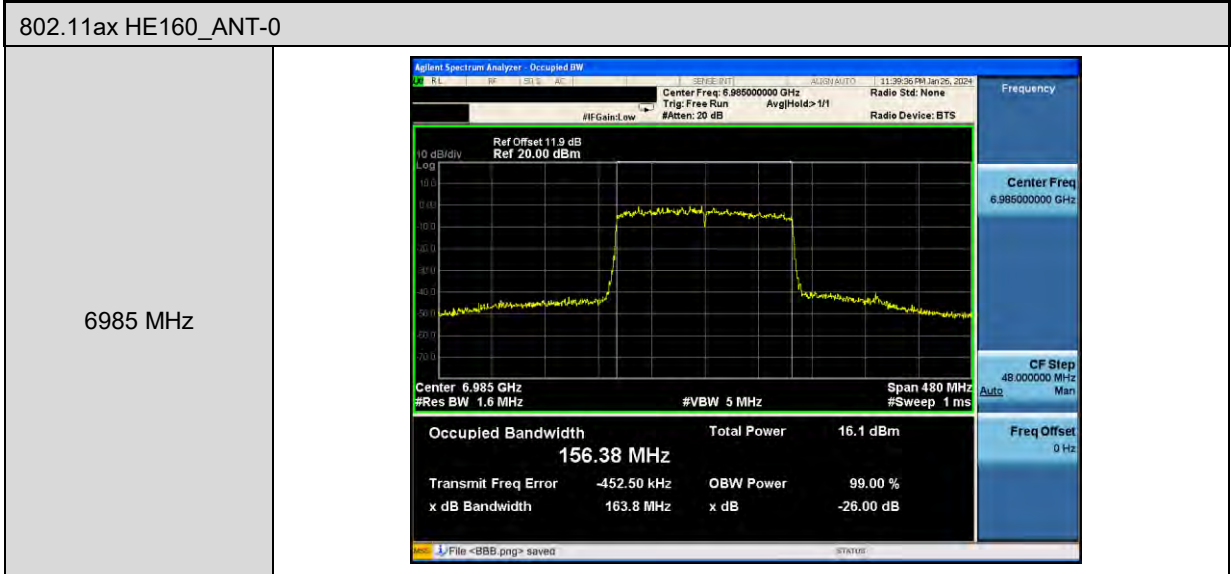
802.11ax HE80_ANT-0	
6465 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.465000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.233 MHz</p> <p>Total Power: 14.4 dBm</p> <p>Transmit Freq Error: 2.097 kHz</p> <p>x dB Bandwidth: 81.12 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -26.00 dB</p>
6545 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.545000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.354 MHz</p> <p>Total Power: 14.4 dBm</p> <p>Transmit Freq Error: -15.369 kHz</p> <p>x dB Bandwidth: 81.22 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -26.00 dB</p>
6625 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.625000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.292 MHz</p> <p>Total Power: 14.1 dBm</p> <p>Transmit Freq Error: -66.559 kHz</p> <p>x dB Bandwidth: 81.07 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -26.00 dB</p>

802.11ax HE80_ANT-0	
6705 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.705000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.342 MHz</p> <p>Total Power: 14.5 dBm</p> <p>Transmit Freq Error: -27.738 kHz</p> <p>x dB Bandwidth: 81.56 MHz</p>
6785 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.785000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.542 MHz</p> <p>Total Power: 14.5 dBm</p> <p>Transmit Freq Error: -16.654 kHz</p> <p>x dB Bandwidth: 81.76 MHz</p>
6865 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.865000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.324 MHz</p> <p>Total Power: 15.2 dBm</p> <p>Transmit Freq Error: 5.246 kHz</p> <p>x dB Bandwidth: 81.54 MHz</p>

802.11ax HE80_ANT-0	
6945 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.94500000 GHz Total Power: 15.4 dBm Occupied Bandwidth: 77.411 MHz Transmit Freq Error: 41.382 kHz x dB Bandwidth: 82.40 MHz</p>
7025 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 7.02500000 GHz Total Power: 15.0 dBm Occupied Bandwidth: 77.362 MHz Transmit Freq Error: -23.469 kHz x dB Bandwidth: 81.23 MHz</p>

802.11ax HE160_ANT-0	
6025 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.025000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.22 MHz</p> <p>Total Power: 16.4 dBm</p> <p>Transmit Freq Error: -204.64 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 163.2 MHz</p> <p>x dB: -26.00 dB</p>
6185 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.185000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.60 MHz</p> <p>Total Power: 17.0 dBm</p> <p>Transmit Freq Error: -423.84 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 163.3 MHz</p> <p>x dB: -26.00 dB</p>
6345 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.345000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.33 MHz</p> <p>Total Power: 17.9 dBm</p> <p>Transmit Freq Error: -373.59 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 163.8 MHz</p> <p>x dB: -26.00 dB</p>

802.11ax HE160_ANT-0	
6505 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.505000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.53 MHz</p> <p>Total Power: 16.1 dBm</p> <p>Transmit Freq Error: -467.87 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 163.8 MHz</p> <p>x dB: -26.00 dB</p>
6665 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.665000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.56 MHz</p> <p>Total Power: 15.1 dBm</p> <p>Transmit Freq Error: -462.94 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 163.7 MHz</p> <p>x dB: -26.00 dB</p>
6825 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.825000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.61 MHz</p> <p>Total Power: 16.8 dBm</p> <p>Transmit Freq Error: -332.41 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 163.4 MHz</p> <p>x dB: -26.00 dB</p>

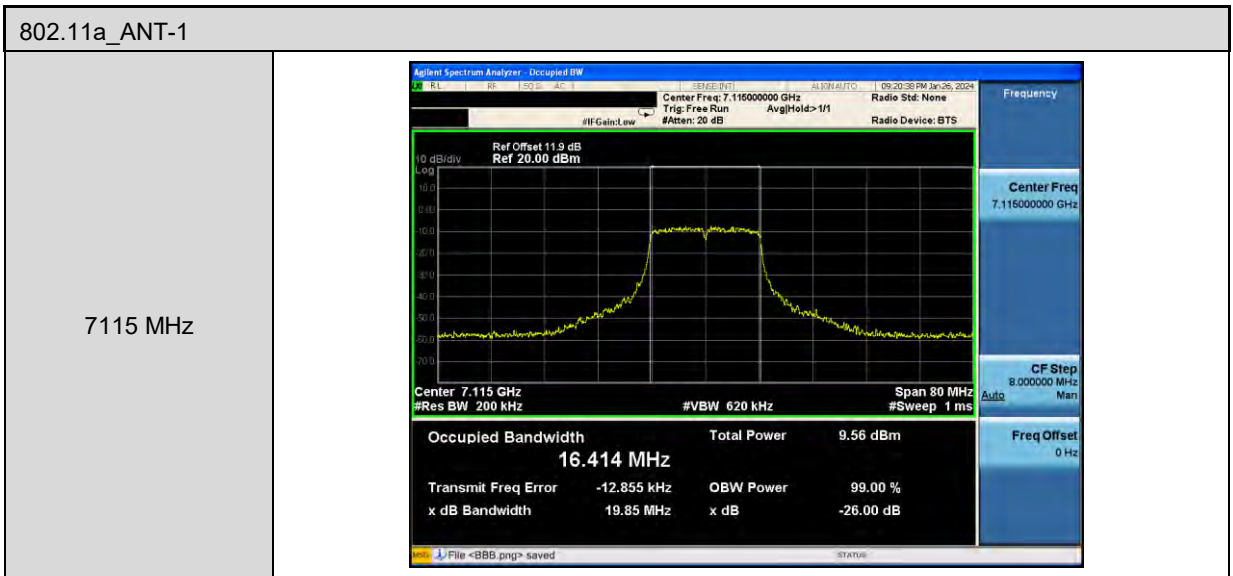


802.11a_ANT-1	
5955 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.95500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 5.955 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.387 MHz</p> <p>Total Power 7.84 dBm</p> <p>Transmit Freq Error -19 Hz</p> <p>x dB Bandwidth 19.06 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6175 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.17500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.175 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.409 MHz</p> <p>Total Power 8.10 dBm</p> <p>Transmit Freq Error 9.074 kHz</p> <p>x dB Bandwidth 18.95 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6415 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.41500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.415 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.392 MHz</p> <p>Total Power 8.29 dBm</p> <p>Transmit Freq Error 7.112 kHz</p> <p>x dB Bandwidth 19.21 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

802.11a_ANT-1	
6435 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.43500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.435 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.411 MHz</p> <p>Total Power 8.13 dBm</p> <p>Transmit Freq Error 14.596 kHz</p> <p>x dB Bandwidth 19.02 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6475 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.47500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.475 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.389 MHz</p> <p>Total Power 7.98 dBm</p> <p>Transmit Freq Error 14.959 kHz</p> <p>x dB Bandwidth 18.97 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6515 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.51500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.515 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 16.389 MHz</p> <p>Total Power 8.16 dBm</p> <p>Transmit Freq Error -140 Hz</p> <p>x dB Bandwidth 18.90 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

802.11a_ANT-1	
6535 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.535000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.394 MHz</p> <p>Total Power: 8.02 dBm</p> <p>Transmit Freq Error: 5.729 kHz</p> <p>OBW Power: 99.00 %</p>
6695 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.695000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.385 MHz</p> <p>Total Power: 6.56 dBm</p> <p>Transmit Freq Error: 4.139 kHz</p> <p>OBW Power: 99.00 %</p>
6855 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.855000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.398 MHz</p> <p>Total Power: 5.48 dBm</p> <p>Transmit Freq Error: -12.674 kHz</p> <p>OBW Power: 99.00 %</p>

802.11a_ANT-1	
6875 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.875000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.377 MHz</p> <p>Total Power: 5.77 dBm</p> <p>Transmit Freq Error: -6.894 kHz</p> <p>x dB Bandwidth: 19.04 MHz</p>
6895 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.895000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.382 MHz</p> <p>Total Power: 8.32 dBm</p> <p>Transmit Freq Error: -4.895 kHz</p> <p>x dB Bandwidth: 19.19 MHz</p>
6995 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.995000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.382 MHz</p> <p>Total Power: 9.68 dBm</p> <p>Transmit Freq Error: 466 Hz</p> <p>x dB Bandwidth: 19.09 MHz</p>

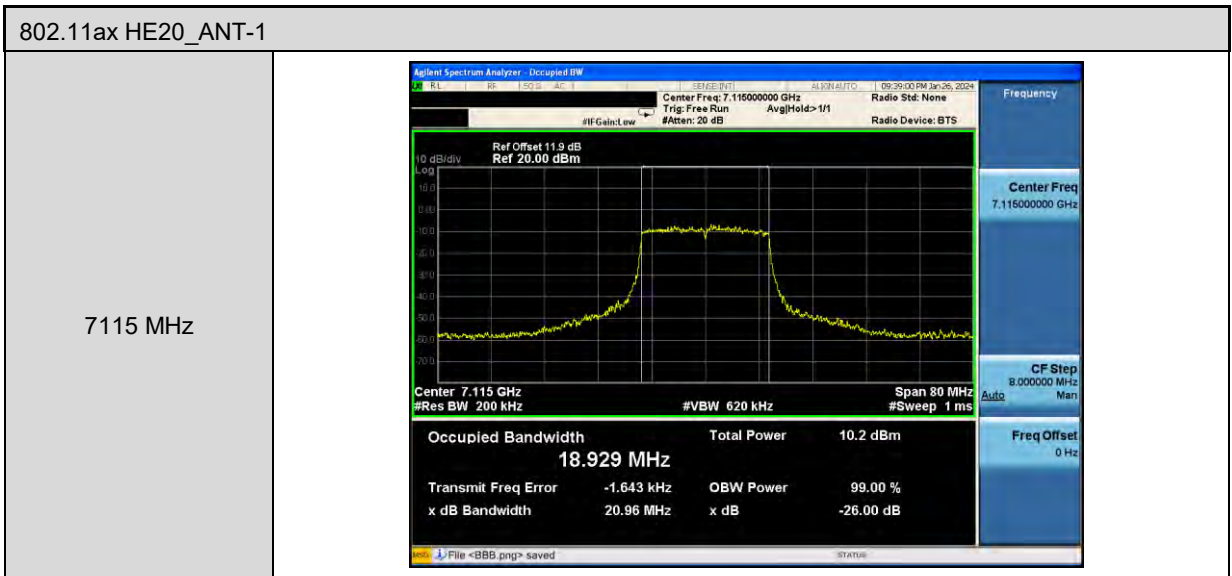


802.11ax HE20_ANT-1	
5955 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.95500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 5.955 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.939 MHz</p> <p>Total Power 8.45 dBm</p> <p>Transmit Freq Error 3.186 kHz</p> <p>x dB Bandwidth 20.90 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6175 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.17500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.175 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.954 MHz</p> <p>Total Power 10.3 dBm</p> <p>Transmit Freq Error 20.100 kHz</p> <p>x dB Bandwidth 21.06 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6415 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.41500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.415 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.908 MHz</p> <p>Total Power 10.4 dBm</p> <p>Transmit Freq Error 20.307 kHz</p> <p>x dB Bandwidth 20.95 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

802.11ax HE20_ANT-1	
6435 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.43500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.435 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.964 MHz</p> <p>Total Power 10.2 dBm</p> <p>Transmit Freq Error 36.300 kHz</p> <p>x dB Bandwidth 20.92 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6475 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.47500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.475 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.933 MHz</p> <p>Total Power 9.85 dBm</p> <p>Transmit Freq Error 25.223 kHz</p> <p>x dB Bandwidth 21.32 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>
6515 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.51500000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.515 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.959 MHz</p> <p>Total Power 9.47 dBm</p> <p>Transmit Freq Error 16.135 kHz</p> <p>x dB Bandwidth 21.12 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -26.00 dB</p>

802.11ax HE20_ANT-1	
6535 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.535000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.535 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.951 MHz</p> <p>Total Power 9.55 dBm</p> <p>Transmit Freq Error 23.357 kHz x dB Bandwidth 21.16 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>
6695 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.695000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.695 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.959 MHz</p> <p>Total Power 7.64 dBm</p> <p>Transmit Freq Error 3.061 kHz x dB Bandwidth 20.96 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>
6855 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.855000000 GHz Trig: Free Run #Atten: 20 dB</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.855 GHz #Res BW 200 kHz</p> <p>Occupied Bandwidth 18.962 MHz</p> <p>Total Power 6.82 dBm</p> <p>Transmit Freq Error 4.212 kHz x dB Bandwidth 21.33 MHz</p> <p>OBW Power 99.00 % x dB -26.00 dB</p>

802.11ax HE20_ANT-1	
6875 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.875000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 18.949 MHz</p> <p>Total Power: 8.69 dBm</p> <p>Transmit Freq Error: 6.300 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 21.02 MHz</p> <p>x dB: -26.00 dB</p>
6895 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.895000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 18.952 MHz</p> <p>Total Power: 9.42 dBm</p> <p>Transmit Freq Error: 6.360 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 20.89 MHz</p> <p>x dB: -26.00 dB</p>
6995 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.995000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 18.953 MHz</p> <p>Total Power: 11.9 dBm</p> <p>Transmit Freq Error: 3.133 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 20.85 MHz</p> <p>x dB: -26.00 dB</p>

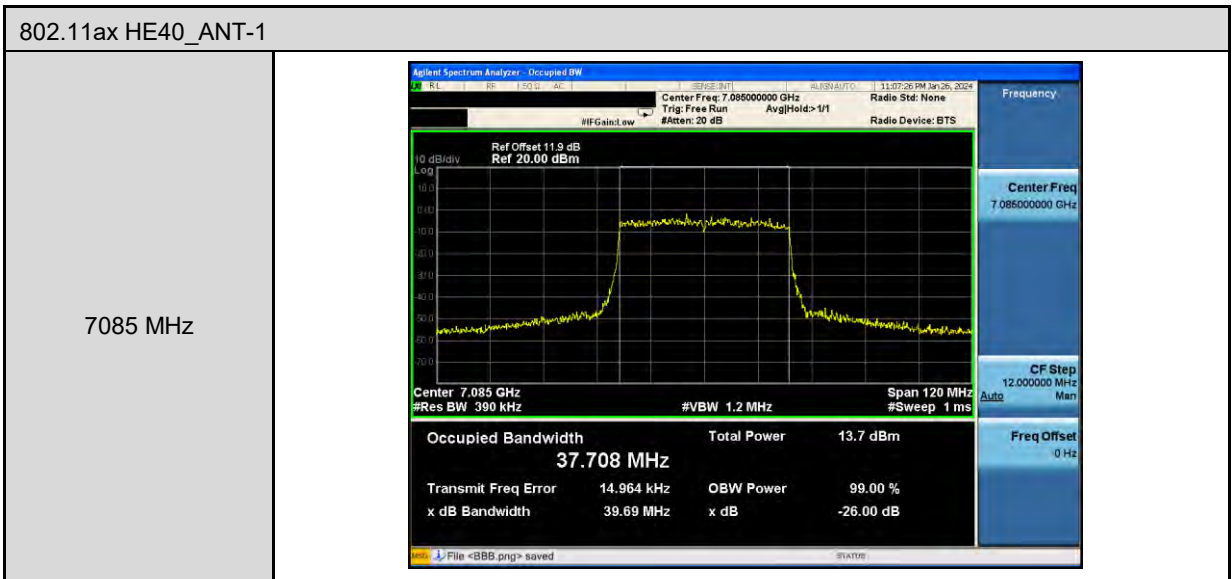


802.11ax HE40_ANT-1	
5965 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.965000000 GHz Total Power: 12.1 dBm Occupied Bandwidth: 37.722 MHz Transmit Freq Error: 26.579 kHz x dB Bandwidth: 40.26 MHz</p>
6165 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.165000000 GHz Total Power: 13.9 dBm Occupied Bandwidth: 37.741 MHz Transmit Freq Error: 30.841 kHz x dB Bandwidth: 40.54 MHz</p>
6405 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.405000000 GHz Total Power: 12.5 dBm Occupied Bandwidth: 37.796 MHz Transmit Freq Error: 38.475 kHz x dB Bandwidth: 40.08 MHz</p>

802.11ax HE40_ANT-1	
6445 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.44500000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.445 GHz #Res BW 390 kHz #VBW 1.2 MHz Span 120 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth 37.814 MHz Total Power 12.6 dBm Transmit Freq Error 36.811 kHz x dB Bandwidth 40.52 MHz</p>
6485 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.48500000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.485 GHz #Res BW 390 kHz #VBW 1.2 MHz Span 120 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth 37.778 MHz Total Power 12.9 dBm Transmit Freq Error 4.908 kHz x dB Bandwidth 40.28 MHz</p>
6525 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.52500000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.525 GHz #Res BW 390 kHz #VBW 1.2 MHz Span 120 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth 37.736 MHz Total Power 12.4 dBm Transmit Freq Error 3.538 kHz x dB Bandwidth 40.45 MHz</p>

802.11ax HE40_ANT-1	
6565 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.565000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.649 MHz Total Power: 11.9 dBm Transmit Freq Error: -30.508 kHz x dB Bandwidth: 40.29 MHz</p>
6685 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.685000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.743 MHz Total Power: 12.1 dBm Transmit Freq Error: 42.215 kHz x dB Bandwidth: 39.87 MHz</p>
6845 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.845000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 37.695 MHz Total Power: 12.1 dBm Transmit Freq Error: 7.697 kHz x dB Bandwidth: 40.31 MHz</p>

802.11ax HE40_ANT-1	
6885 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.88500000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.885 GHz #Res BW 390 kHz #VBW 1.2 MHz Span 120 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth: 37.742 MHz Total Power: 12.8 dBm Transmit Freq Error: 4.174 kHz x dB Bandwidth: 40.16 MHz</p> <p>OBW Power: 99.00 % x dB: -26.00 dB</p>
6925 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.92500000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.925 GHz #Res BW 390 kHz #VBW 1.2 MHz Span 120 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth: 37.754 MHz Total Power: 14.2 dBm Transmit Freq Error: 26.554 kHz x dB Bandwidth: 40.36 MHz</p> <p>OBW Power: 99.00 % x dB: -26.00 dB</p>
7005 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 7.00500000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 7.005 GHz #Res BW 390 kHz #VBW 1.2 MHz Span 120 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth: 37.732 MHz Total Power: 13.3 dBm Transmit Freq Error: -29.556 kHz x dB Bandwidth: 39.92 MHz</p> <p>OBW Power: 99.00 % x dB: -26.00 dB</p>



802.11ax HE80_ANT-1	
5985 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.985000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.293 MHz</p> <p>Total Power: 14.8 dBm</p> <p>Transmit Freq Error: 74.947 kHz</p> <p>x dB Bandwidth: 81.63 MHz</p>
6145 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.145000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.361 MHz</p> <p>Total Power: 15.0 dBm</p> <p>Transmit Freq Error: 26.702 kHz</p> <p>x dB Bandwidth: 81.70 MHz</p>
6385 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.385000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.123 MHz</p> <p>Total Power: 14.8 dBm</p> <p>Transmit Freq Error: 61.853 kHz</p> <p>x dB Bandwidth: 81.48 MHz</p>

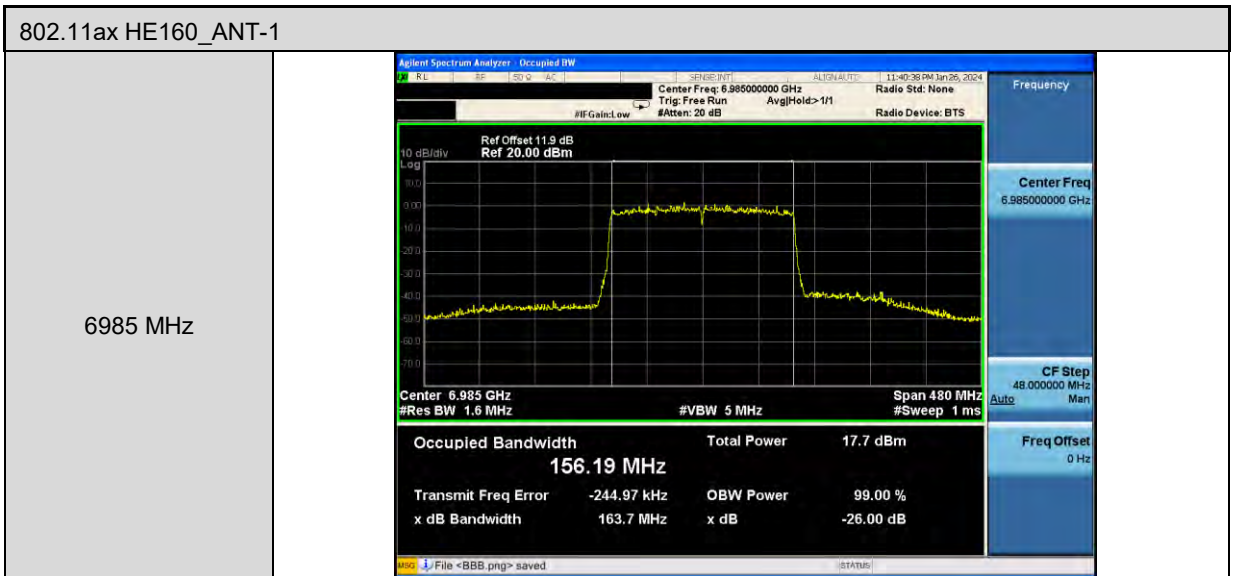
802.11ax HE80_ANT-1	
6465 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.465000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.177 MHz</p> <p>Total Power: 15.2 dBm</p> <p>Transmit Freq Error: 77.815 kHz</p>
6545 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.545000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.148 MHz</p> <p>Total Power: 14.5 dBm</p> <p>Transmit Freq Error: 2.567 kHz</p>
6625 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.625000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.119 MHz</p> <p>Total Power: 14.5 dBm</p> <p>Transmit Freq Error: 43.693 kHz</p>

802.11ax HE80_ANT-1	
6705 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.705000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.268 MHz Total Power: 13.9 dBm Transmit Freq Error: 44.242 kHz OBW Power: 99.00 % x dB Bandwidth: 81.15 MHz</p>
6785 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.785000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.190 MHz Total Power: 14.2 dBm Transmit Freq Error: -104.86 kHz OBW Power: 99.00 % x dB Bandwidth: 81.04 MHz</p>
6865 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.865000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 77.199 MHz Total Power: 15.5 dBm Transmit Freq Error: -55.350 kHz OBW Power: 99.00 % x dB Bandwidth: 81.54 MHz</p>

802.11ax HE80_ANT-1	
6945 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.945000000 GHz Total Power: 15.2 dBm Occupied Bandwidth: 77.391 MHz Transmit Freq Error: 28.668 kHz x dB Bandwidth: 81.75 MHz</p>
7025 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 7.025000000 GHz Total Power: 17.0 dBm Occupied Bandwidth: 77.285 MHz Transmit Freq Error: -53.200 kHz x dB Bandwidth: 81.59 MHz</p>

802.11ax HE160_ANT-1	
6025 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.025000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.33 MHz</p> <p>Total Power: 17.5 dBm</p> <p>Transmit Freq Error: -139.18 kHz</p> <p>x dB Bandwidth: 164.3 MHz</p>
6185 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.185000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.17 MHz</p> <p>Total Power: 17.1 dBm</p> <p>Transmit Freq Error: -123.45 kHz</p> <p>x dB Bandwidth: 162.7 MHz</p>
6345 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.345000000 GHz</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Occupied Bandwidth: 156.44 MHz</p> <p>Total Power: 17.3 dBm</p> <p>Transmit Freq Error: 34.258 kHz</p> <p>x dB Bandwidth: 163.7 MHz</p>

802.11ax HE160_ANT-1	
6505 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.505000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.505 GHz #Res BW 1.0 MHz #VBW 5 MHz Span 480 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth: 156.35 MHz Total Power: 16.9 dBm Transmit Freq Error: -260.93 kHz x dB Bandwidth: 163.2 MHz</p>
6665 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.665000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.665 GHz #Res BW 1.0 MHz #VBW 5 MHz Span 480 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth: 156.42 MHz Total Power: 14.9 dBm Transmit Freq Error: -374.45 kHz x dB Bandwidth: 163.7 MHz</p>
6825 MHz	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 6.825000000 GHz Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.825 GHz #Res BW 1.0 MHz #VBW 5 MHz Span 480 MHz #Sweep 1 ms</p> <p>Occupied Bandwidth: 156.47 MHz Total Power: 16.2 dBm Transmit Freq Error: -370.23 kHz x dB Bandwidth: 164.2 MHz</p>



5.3.4. Maximum Power Spectral Density Measurement

Reference Appendix A. Test Data

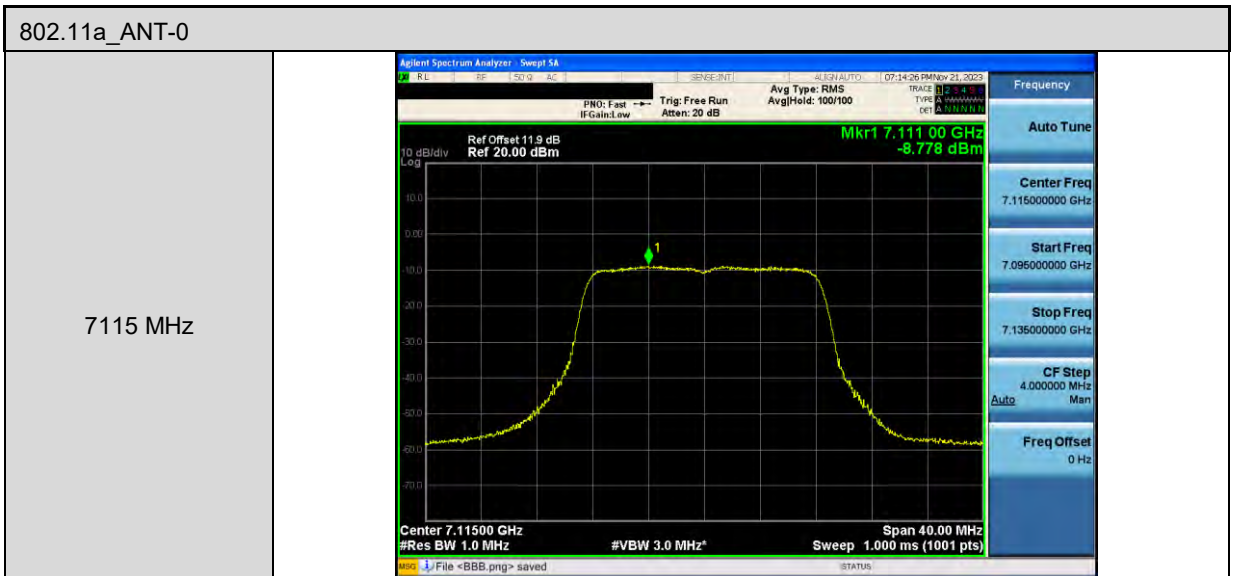
Test Graphs




802.11a_ANT-0	
5955 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center 5.95500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts)</p> <p>Mkr1 5.95164 GHz -9.548 dBm</p>
6175 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center 6.17500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts)</p> <p>Mkr1 6.17808 GHz -9.673 dBm</p>
6415 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center 6.41500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts)</p> <p>Mkr1 6.41832 GHz -9.753 dBm</p>




802.11a_ANT-0	
6435 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>10 dB/div</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.437 64 GHz -10.120 dBm</p> <p>Center 6.43500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts)</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 6.43500000 GHz</p> <p>Start Freq 6.41500000 GHz</p> <p>Stop Freq 6.45500000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
6475 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>10 dB/div</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.477 88 GHz -9.906 dBm</p> <p>Center 6.47500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts)</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 6.47500000 GHz</p> <p>Start Freq 6.45500000 GHz</p> <p>Stop Freq 6.49500000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
6515 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>10 dB/div</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.513 32 GHz -9.625 dBm</p> <p>Center 6.51500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts)</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 6.51500000 GHz</p> <p>Start Freq 6.49500000 GHz</p> <p>Stop Freq 6.53500000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>




802.11a_ANT-0	
6535 MHz	
6695 MHz	
6855 MHz	




802.11a_ANT-0	
6875 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Frequency: 6.87680000 GHz</p> <p>Center Freq: 6.87500000 GHz</p> <p>Start Freq: 6.85500000 GHz</p> <p>Stop Freq: 6.89500000 GHz</p> <p>CF Step: 4.000000 MHz</p> <p>Freq Offset: 0 Hz</p> <p>Mkr1 6.876 80 GHz -9.241 dBm</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.87500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6895 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Frequency: 6.89196000 GHz</p> <p>Center Freq: 6.89500000 GHz</p> <p>Start Freq: 6.87500000 GHz</p> <p>Stop Freq: 6.91500000 GHz</p> <p>CF Step: 4.000000 MHz</p> <p>Freq Offset: 0 Hz</p> <p>Mkr1 6.891 96 GHz -9.528 dBm</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.89500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6995 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Frequency: 6.99212000 GHz</p> <p>Center Freq: 6.99500000 GHz</p> <p>Start Freq: 6.97500000 GHz</p> <p>Stop Freq: 7.01500000 GHz</p> <p>CF Step: 4.000000 MHz</p> <p>Freq Offset: 0 Hz</p> <p>Mkr1 6.992 12 GHz -10.009 dBm</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Center 6.99500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>

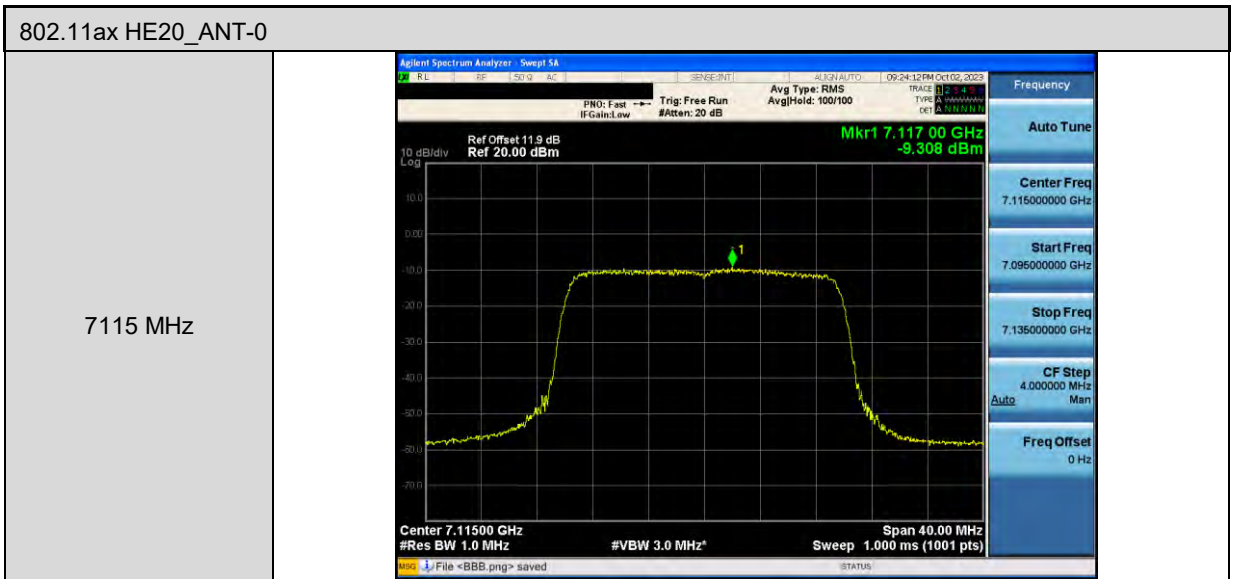


802.11ax HE20_ANT-0	
5955 MHz	
6175 MHz	
6415 MHz	




802.11ax HE20_ANT-0	
6435 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.431 68 GHz -9.862 dBm</p> <p>Center 6.43500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6475 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.471 40 GHz -10.070 dBm</p> <p>Center 6.47500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6515 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.510 04 GHz -9.948 dBm</p> <p>Center 6.51500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>

802.11ax HE20_ANT-0	
6535 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.533 40 GHz -9.135 dBm</p> <p>Center 6.53500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6695 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.693 44 GHz -9.905 dBm</p> <p>Center 6.69500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6855 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.856 44 GHz -8.774 dBm</p> <p>Center 6.85500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>

802.11ax HE20_ANT-0	
6875 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.877 32 GHz -8.752 dBm</p> <p>Center 6.87500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6895 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.896 52 GHz -8.372 dBm</p> <p>Center 6.89500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>
6995 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.996 08 GHz -8.567 dBm</p> <p>Center 6.99500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 40.00 MHz Sweep 1.000 ms (1001 pts)</p>



802.11ax HE40_ANT-0	
5965 MHz	
6165 MHz	
6405 MHz	

802.11ax HE40_ANT-0	
6445 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.448 78 GHz -9.120 dBm</p> <p>Center 6.44500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 60.00 MHz Sweep 1.000 ms (1001 pts)</p> <p>Frequency Auto Tune Center Freq 6.44500000 GHz Start Freq 6.41500000 GHz Stop Freq 6.47500000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz</p>
6485 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.487 64 GHz -9.233 dBm</p> <p>Center 6.48500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 60.00 MHz Sweep 1.000 ms (1001 pts)</p> <p>Frequency Auto Tune Center Freq 6.48500000 GHz Start Freq 6.45500000 GHz Stop Freq 6.51500000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz</p>
6525 MHz	 <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p> <p>Mkr1 6.528 18 GHz -9.491 dBm</p> <p>Center 6.52500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 60.00 MHz Sweep 1.000 ms (1001 pts)</p> <p>Frequency Auto Tune Center Freq 6.52500000 GHz Start Freq 6.49500000 GHz Stop Freq 6.55500000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz</p>

802.11ax HE40_ANT-0	
6565 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center 6.56500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 60.00 MHz Sweep 1.000 ms (1001 pts)</p> <p>Mkr1 6.55888 GHz -9.685 dBm</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p>
6685 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center 6.68500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 60.00 MHz Sweep 1.000 ms (1001 pts)</p> <p>Mkr1 6.68302 GHz -9.802 dBm</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p>
6845 MHz	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center 6.84500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Span 60.00 MHz Sweep 1.000 ms (1001 pts)</p> <p>Mkr1 6.83678 GHz -8.890 dBm</p> <p>Ref Offset 11.9 dB Ref 20.00 dBm</p>