RF MEASUREMENT REPORT

FCC ID	:	2AXJ4AXE300
Applicant	:	TP-Link Corporation Limited
Application Type	:	Certification
Product	:	AXE16000 Quad-Band Wi-Fi 6E Router
Model No.	:	Archer AXE300
Brand Name	:	tp-link
FCC Classification	:	15E 6GHz Low Power Indoor Access Point (6ID)
FCC Rule Part(s)	:	Part 15 Subpart E (Section 15.407)
Received Date	:	June 28, 2022
Test Date	:	July 08, 2022~August 15, 2022

Tested By : Owen Tsai
(Owen Tsai)

Reviewed By : Paddy Chen
(Paddy Chen)

Approved By : Chenz Ker
(Chenz Ker)

Testing Laboratory
3261

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB789033. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date	Note
2206TW0120-U5	V1.0	Original Report	2022-09-09	Valid

CONTENTS

Description Page

General Information....6

1. INTRODUCTION....7

1.1. Scope....7

1.2. MRT Test Location....7

2. Product Information....8

2.1. Equipment Description....8

2.2. Radio Specification....8

2.3. Working Frequencies....9

2.4. Antenna Details....10

2.5. Test Mode....11

2.6. Test System Connection Diagram....12

2.7. Test System Details....12

2.8. Test Software....13

2.9. Applied Standards....13

2.10. Duty Cycle....13

2.11. Test Environment Condition....14

3. Antenna Requirements....15

4. Measuring Instrument....16

5. Measurement Uncertainty....17

6. Test Result....18

6.1 Summary....18

6.2 26dB Bandwidth....19

6.2.1 Test Limit....19

6.2.2 Test Procedure used....19

6.2.3 Test Setting....19

6.2.4 Test Setup....20

6.2.5 Test Result....21

6.3 Output Power....30

6.3.1 Test Limit....30

6.3.2 Test Procedure Used....30

6.3.3 Test Setting....30

6.3.4 Test Setup....30

6.3.5 Test Result....31

6.4 Power Spectral Density....37

6.4.1 Test Limit....37

6.4.2 Test Procedure Used 37
6.4.3 Test Setting 37
6.4.4 Test Setup 38
6.4.5 Test Result 39
6.5 In-Band Emission Measurement 99
6.5.1 Test Limit 99
6.5.2 Test Procedure used 99
6.5.3 Test Setting 99
6.5.4 Test Setup 100
6.5.5 Test Result 101
6.6 Frequency Stability Measurement 157
6.6.1 Test Limit 157
6.6.2 Test Limit 157
6.6.3 Test Setup 158
6.6.4 Test Result 158
6.7 Contention Based Protocol 159
6.7.1 Test Limit 159
6.7.2 Test Procedure Used 159
6.7.3 Test Setting 159
6.7.4 Test Setup 160
6.7.5 Test Result 161
6.8 Radiated Spurious Emission 172
6.8.1 Test Limit 172
6.8.2 Test Procedure Used 172
6.8.3 Test Setting 172
6.8.4 Test Setup 174
6.8.5 Test Result 175
6.9 Radiated Restricted Band Edge 351
6.9.1 Test Limit 351
6.9.2 Test Procedure Used 352
6.9.3 Test Setting 352
6.9.4 Test Setup 353
6.9.5 Test Result 354
6.10 AC Conducted Emissions 418
6.10.1 Test Limit 418
6.10.2 Test Setup 418
6.10.3 Test Result 419
7. Conclusion 423

Appendix A : Test Setup Photograph 424

Appendix B : External Photograph 425

Appendix C : Internal Photograph 426

General Information

Applicant	TP-Link Corporation Limited
Applicant Address	Room 901, 9/F., New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hongkong
Manufacturer	TP-Link Corporation Limited
Manufacturer Address	Room 901, 9/F., New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hongkong
Test Site	MRT Technology (Taiwan) Co., Ltd
Test Site Address	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.	291082
FCC Rule Part(s)	Part 15.407

Test Facility / Accreditations

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

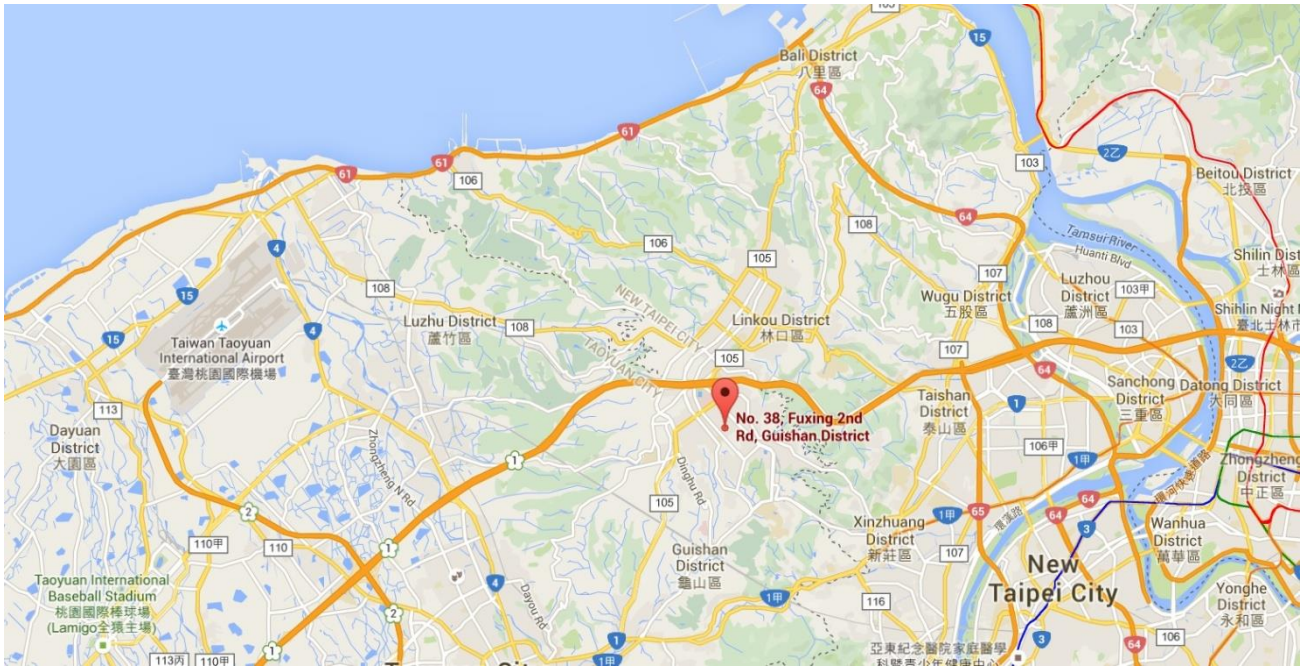
1. INTRODUCTION

1.1. Scope

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

1.2. MRT Test Location

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



2. Product Information

2.1. Equipment Description

Product Name	AXE16000 Quad-Band Wi-Fi 6E Router
Model No.	Archer AXE300
Brand Name	tp-link
Bluetooth Specification	Bluetooth v4.2 (Single mode, LE only)
Wi-Fi Specification:	802.11a/b/g/n/ac/ax
EUT Identification No.:	20220628Sample#1 (Conducted) 20220628Sample#2 (Radiated)
Power Supply	AC/DC Adapter
Accessory	
Adapter	MODEL: S065PQ1200500 INPUT: 100 - 240V ~ 50/60Hz 1.8A. OUTPUT: 12.0V⎓5.0A Cable Out: Non-shielding, 1.2m
Remark: 1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

2.2. Radio Specification

Frequency Range	For 802.11ax-HE20: 6115 ~ 7095MHz For 802.11ax-HE40: 6125 ~ 7085MHz For 802.11ax-HE80: 6145 ~ 7025MHz For 802.11ax-HE160: 6185 ~ 6985MHz
Type of Modulation	802.11ax: OFDMA
Data Rate	802.11ax: up to 4804Mbps

2.3. Working Frequencies

802.11ax-HE20

Channel	Frequency	Channel	Frequency	Channel	Frequency
33	6115 MHz	37	6135 MHz	41	6155 MHz
45	6175 MHz	49	6195 MHz	53	6215 MHz
57	6235 MHz	61	6255 MHz	65	6275 MHz
69	6295 MHz	73	6315 MHz	77	6335 MHz
81	6355 MHz	85	6375 MHz	89	6395 MHz
93	6415 MHz	97	6435 MHz	101	6455 MHz
105	6475 MHz	109	5495 MHz	113	6515 MHz
117	6535 MHz	121	6555 MHz	125	6575 MHz
129	6595 MHz	133	6615 MHz	137	6635 MHz
141	6655 MHz	145	6675 MHz	149	6695 MHz
153	6715 MHz	157	6735 MHz	161	6755 MHz
165	6775 MHz	169	6795 MHz	173	6815 MHz
177	6835 MHz	181	6855 MHz	185	6875 MHz
189	6895 MHz	193	6915 MHz	197	6935 MHz
201	6955 MHz	205	6975 MHz	209	6995 MHz
213	7015 MHz	217	7035 MHz	221	7055 MHz
225	7075 MHz	229	7095 MHz	--	--

802.11ax-HE40

Channel	Frequency	Channel	Frequency	Channel	Frequency
35	6125 MHz	43	6165 MHz	51	6205 MHz
59	6245 MHz	67	6285 MHz	75	6325 MHz
83	6365 MHz	91	6405 MHz	99	6445 MHz
107	6485 MHz	115	6525 MHz	123	6565 MHz
131	6605 MHz	139	6645 MHz	147	6685 MHz
155	6725 MHz	163	6765 MHz	171	6805 MHz
179	6845 MHz	187	6885 MHz	195	6925 MHz
203	6965 MHz	211	7005 MHz	219	7045 MHz
227	7085 MHz	--	--	--	--

802.11ax-HE80

Channel	Frequency	Channel	Frequency	Channel	Frequency
39	6145 MHz	55	6225 MHz	71	6305 MHz
87	6385 MHz	103	6465 MHz	119	6545 MHz
135	6625 MHz	151	6705 MHz	167	6785 MHz
183	6865 MHz	199	6945 MHz	215	7025 MHz

802.11ax-HE160

Channel	Frequency	Channel	Frequency	Channel	Frequency
47	6185 MHz	79	6345 MHz	111	6505 MHz
143	6665 MHz	175	6825 MHz	207	6985 MHz

2.4. Antenna Details

Antenna Type	Frequency Band (MHz)	T_X Paths	Number of spatial streams	Max Antenna Gain (dBi)	Beamforming Directional Gain(dBi)	CDD Directional Gain (dBi)	
						For Power	For PSD
Bluetooth Antenna							
IFA	2402 ~ 2480	1	1	3.0	--	--	--
Wi-Fi Antenna							
Dipole	2412 ~ 2462	4	1	2.91	8.93	2.91	8.93
	5150 ~ 5250	4	1	3.02	9.04	3.02	9.04
	5250 ~ 5350	4	1	3.08	9.10	3.08	9.10
	5470 ~ 5725	4	1	3.13	9.15	3.13	9.15
	5725 ~ 5850	4	1	2.97	8.99	2.97	8.99
	6105 ~ 6425	4	1	3.10	9.12	3.10	9.12
		4	4	3.10	--	3.10	3.10
	6425 ~ 6525	4	1	3.03	9.05	3.03	9.05
		4	4	3.03	--	3.03	3.03
	6525 ~ 6885	4	1	3.04	9.06	3.04	9.06
		4	4	3.04	--	3.04	3.04
	6885 ~ 7105	4	1	2.93	8.95	2.93	8.95
		4	4	2.93	--	2.93	2.93

Remark:

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

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

   - For power spectral density (PSD) measurements on all devices,

   Array Gain = 10 log (N_{ANT}/ N_{SS}) dB;

   - For power measurements on IEEE 802.11 devices,

   Array Gain = 0 dB for $N_{ANT} \leq 4$;

2. The EUT also supports Beam Forming mode, and the Beam Forming support 802.11ac/ax, not include 802.11a/b/g/n. BF Directional gain = G_{ANT} + 10 log (N_{ANT}).
3. All messages of antenna were declared by manufacturer.

Test Mode	T_X Paths	CDD Mode	Beamforming Mode
802.11b/g/n (DTS)	4	√	X
802.11ax (DTS)	4	√	√
802.11a/n (NII)	4	√	X
802.11ac/ax (NII)	4	√	√
802.11ax (6ID)	4	√	√

2.5. Test Mode

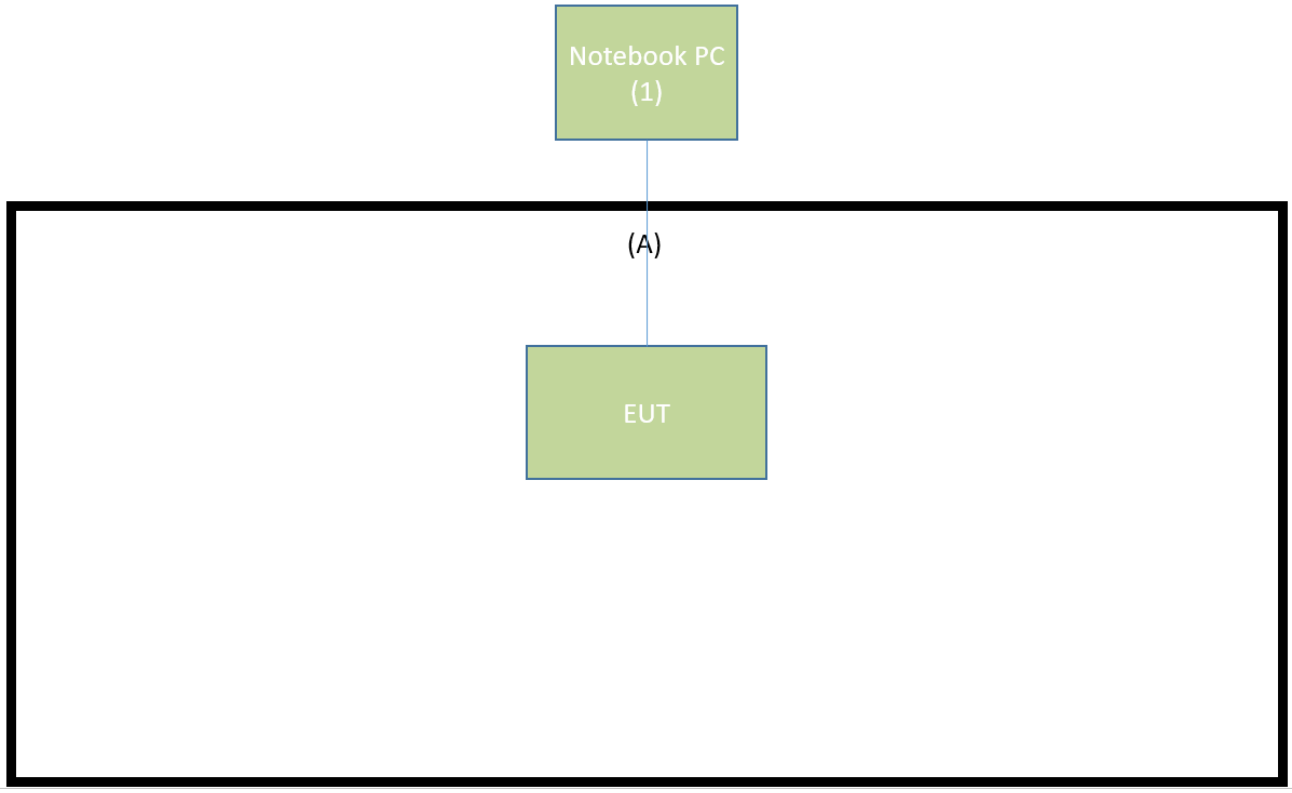
CDD Mode
Mode 1: Transmit by 802.11ax-HE20_Nss=1 (MCS0) (CDD mode)
Mode 2: Transmit by 802.11ax-HE40_Nss=1 (MCS0) (CDD mode)
Mode 3: Transmit by 802.11ax-HE80_Nss=1 (MCS0) (CDD mode)
Mode 4: Transmit by 802.11ax-HE160_Nss=1 (MCS0) (CDD mode)
Mode 5: Transmit by 802.11ax-HE20_Nss=4 (MCS0) (CDD mode)
Mode 6: Transmit by 802.11ax-HE40_Nss=4 (MCS0) (CDD mode)
Mode 7: Transmit by 802.11ax-HE80_Nss=4 (MCS0) (CDD mode)
Mode 8: Transmit by 802.11ax-HE160_Nss=4 (MCS0) (CDD mode)
Beamforming Mode
Mode 9: Transmit by 802.11ax-HE20_Nss=1 (MCS0) (Beam-Forming mode)
Mode 10: Transmit by 802.11ax-HE40_Nss=1 (MCS0) (Beam-Forming mode)
Mode 11: Transmit by 802.11ax-HE80_Nss=1 (MCS0) (Beam-Forming mode)
Mode 12: Transmit by 802.11ax-HE160_Nss=1 (MCS0) (Beam-Forming mode)

Remark:
1. For Radiated emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.
2. Due to CDD mode was the worst mode, so all test items were evaluated in this report. The beamforming mode only evaluated the RF output power.
3. EUT supports one configuration only in 802.11ax full RU mode.

2.6. Test System Connection Diagram

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

Connection Diagram



Signal Cable Type		Signal Cable Description
A	Lan Cable	Non-Shielded, 10.0m

2.7. Test System Details

No.	Product	Brand	Model No.	Serial No.	Power Cord
1	Notebook PC	Lenovo	20Y7-006KTW	N/A	Non-shielded, 0.8m

2.8. Test Software

The test utility software used during testing was “accessMtool_ver_3.2.1.2”.

Note: Final power setting please refer to operational description.

2.9. Applied Standards

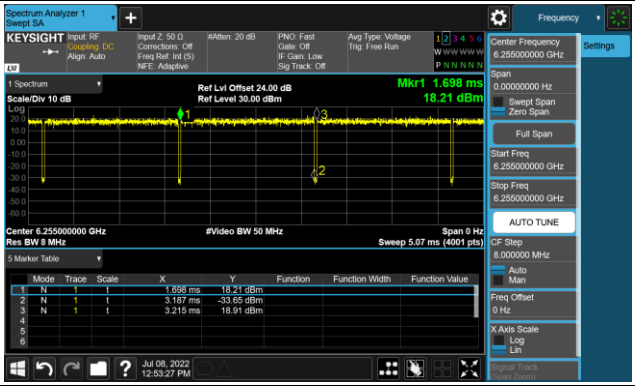
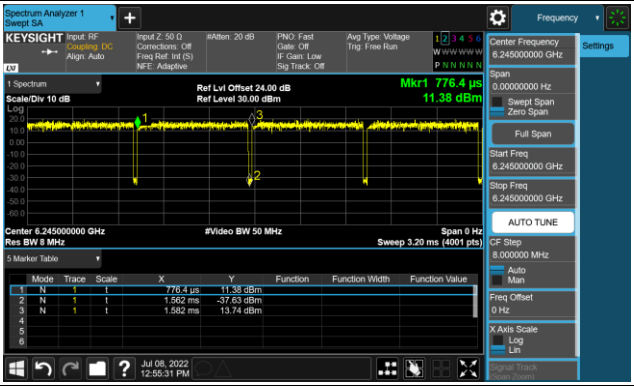
According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

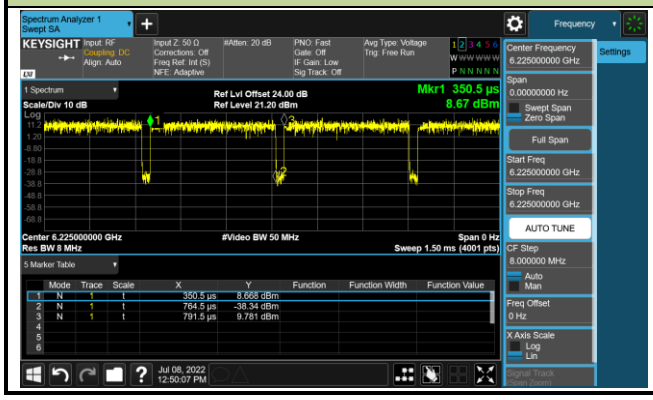
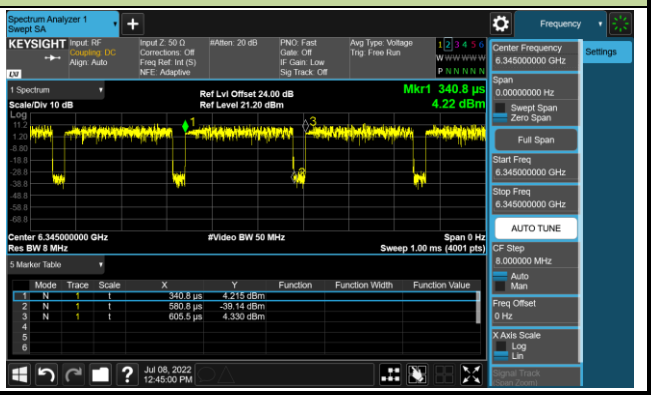
- ANSI C63.10-2013
- FCC KDB 789033 D02v02r01
- FCC KDB 987594 D02v01
- FCC KDB 662911 D01v02r01
- FCC KDB 414788 D01v01r01
- FCC KDB 412172 D01v01r01

2.10. Duty Cycle

The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
802.11ax-HE20	98.15%
802.11ax-HE40	97.52%
802.11ax-HE80	93.88%
802.11ax-HE160	89.52%

Duty Cycle	
802.11ax-HE20	802.11ax-HE40
	

Duty Cycle	
802.11ax-HE80	802.11ax-HE160
	

2.11. Test Environment Condition

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

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

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

The antenna of the device is built in and locked inside the enclosure.

Conclusion:

The device complies with the requirement of §15.407(a)(9).

4. Measuring Instrument

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2023/3/7
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2023/4/20
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2023/5/9
DIVA PLUS Funk-Wetterstation	TFA	35.1083	MRTTWA00050	1 year	2023/6/16

Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2022/10/4
Acitve Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2023/5/24
Broadband Hornantenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2023/3/30
BreitbandHornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2023/3/29
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2023/3/30
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2023/3/30
Signal Analyzer	R&S	FSV40	MRTTWA00007	1 year	2023/3/16
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2023/3/9
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2022/10/18
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2023/7/19
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2023/6/14
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00032	1 year	2023/6/5

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2023/4/20
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2022/10/18
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2023/7/19
Attenuator	WTI	218FS-20	MRTTWE00026	1 year	2022/11/18
Attenuator	WTI	218FS-10	MRTTWE00027	1 year	2023/6/15
Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2023/6/14
DIVA PLUS Funk-Wetterstation	TFA	35.1083	MRTTWA00050	1 year	2023/6/16

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

5. Measurement Uncertainty

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

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: ± 2.53dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: ± 4.25dB 1GHz ~ 40GHz: ± 4.45dB
Conducted Power (Carrier Power / Power Density)
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ± 0.84dB
Conducted Spurious Emission
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):± 2.65 dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ± 3.3%
Temp. / Humidity
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ±0.82°C/ ±3%
Frequency Error
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): ±78.4Hz

6. Test Result

6.1 Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.407(a)	26dB Bandwidth	Conducted	Pass
15.407(a)(5), (a)(6)	Maximum Equivalent Isotopically Radiated Power (E.I.R.P)		Pass
15.407(a)(5), (a)(6)	Peak Power Spectral Density (E.I.R.P)		Pass
15.407(b)(7)	In-Band Emission		Pass
15.407(g)	Frequency Stability		Pass
15.407(d)(6)	Contention-Based Protocol		Pass
15.407(b)(6)	Unwanted Emissions		Pass
15.407(b)(8), (9), (10)	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Remark:

1. Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.
2. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3. For radiated emission test, the test results shown in the following sections represent the worst-case emissions.

6.2 26dB Bandwidth

6.2.1 Test Limit

N/A

6.2.2 Test Procedure used

KDB 789033 D02v02r01- Section II) C.1 (26dB Bandwidth)

KDB 789033 D02v02r01- Section II) D (99% Bandwidth)

6.2.3 Test Setting

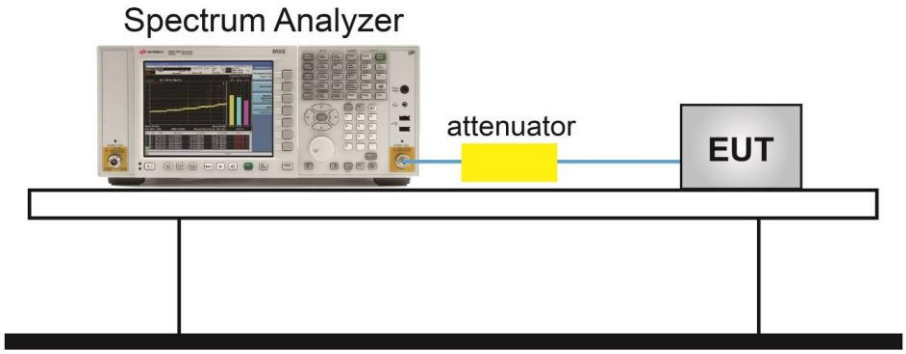
26dB Bandwidth

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

99% Bandwidth

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1% to 5% of the OBW
4. Set VBW ≥ 3×RBW
5. Detector = Peak.
6. Use the 99% power bandwidth function of the instrument.

6.2.4 Test Setup

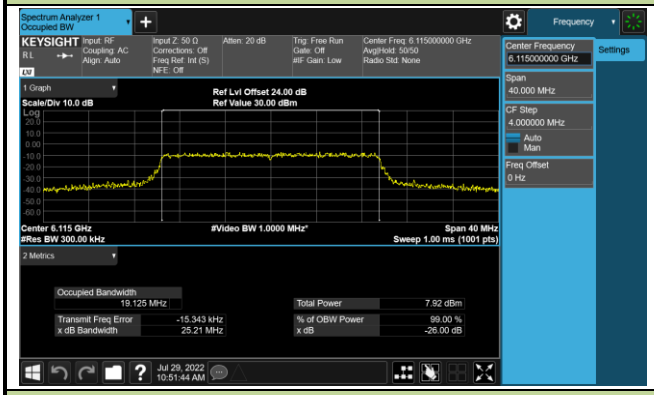
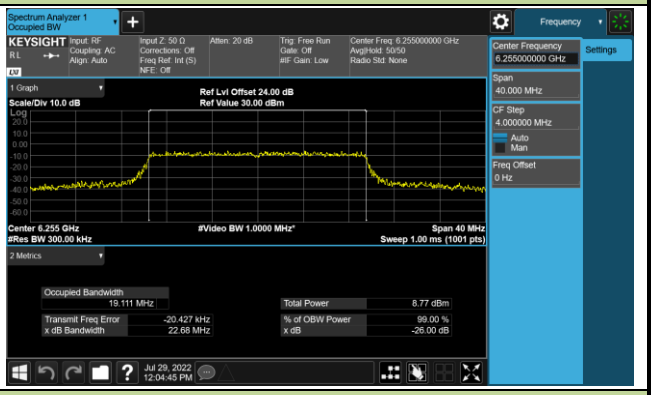
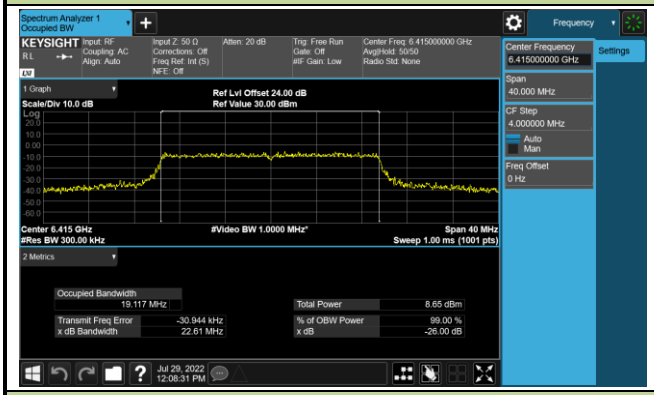
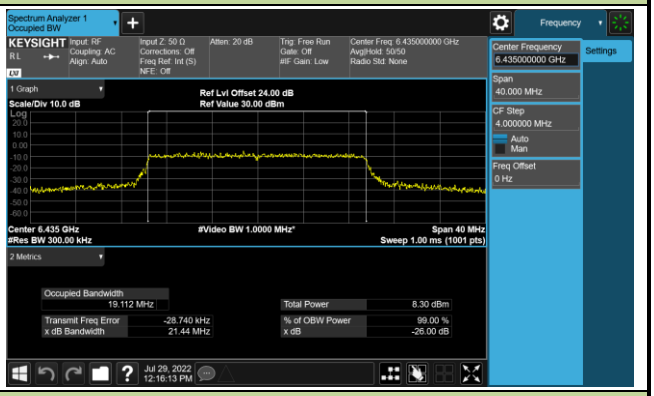
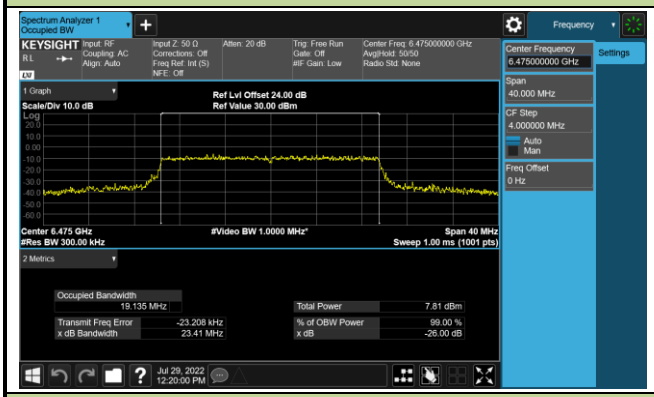
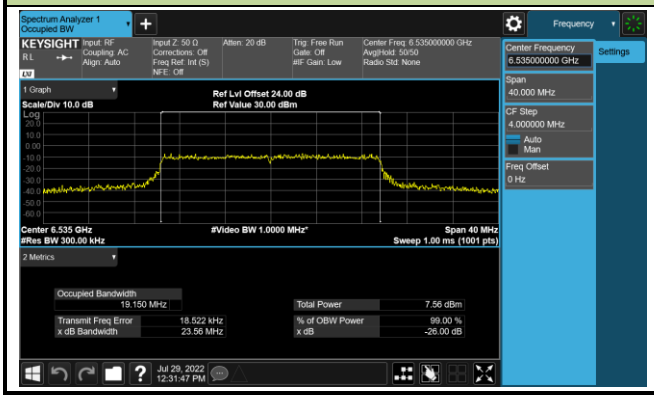


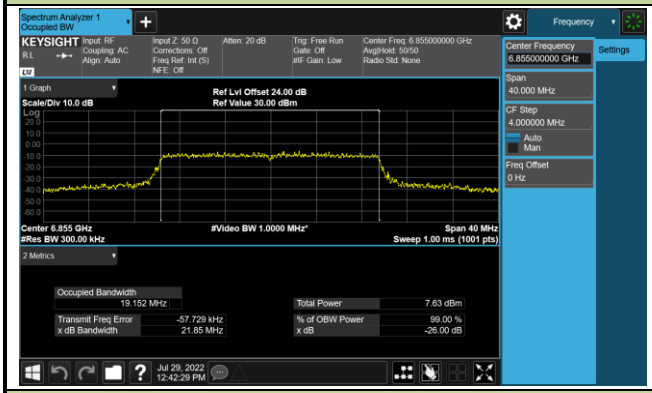
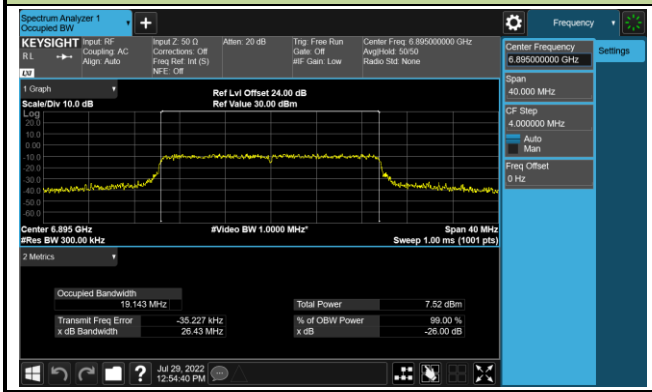
6.2.5 Test Result

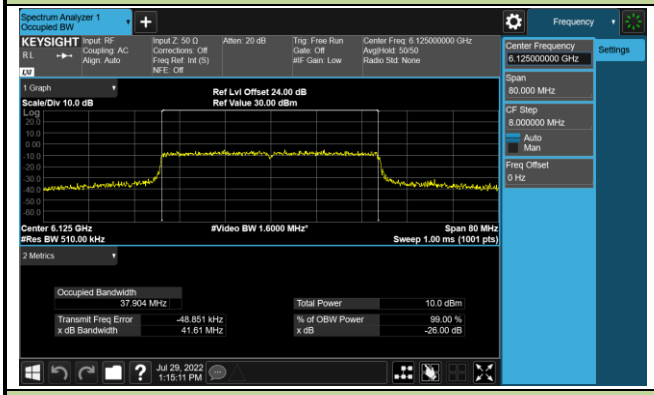
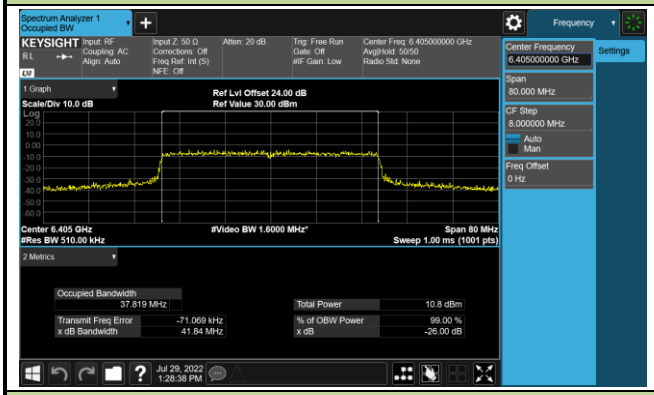
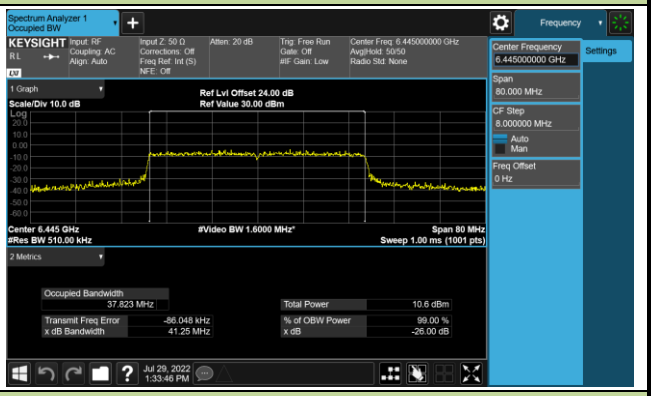
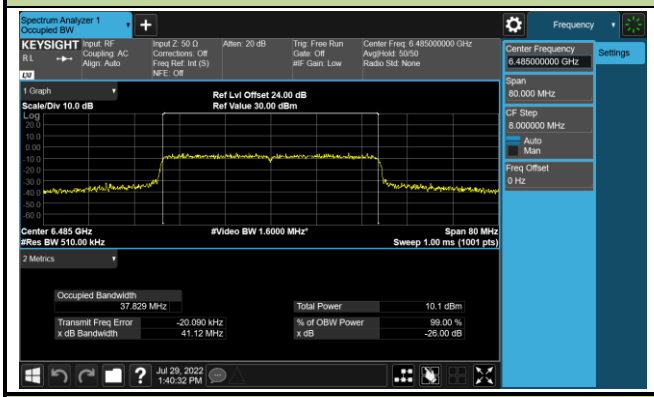
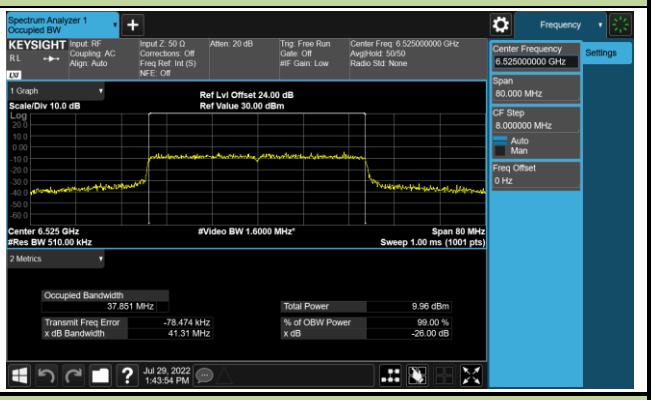
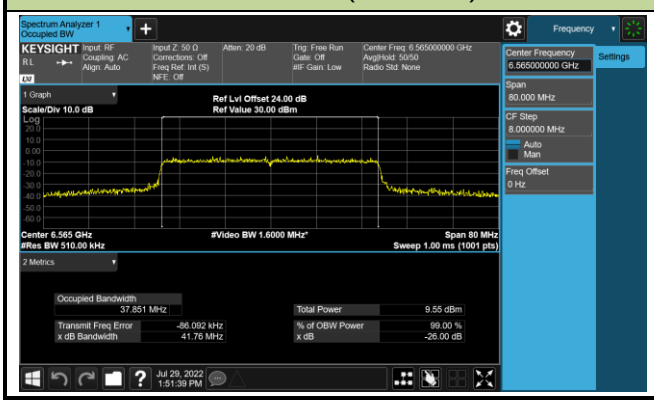
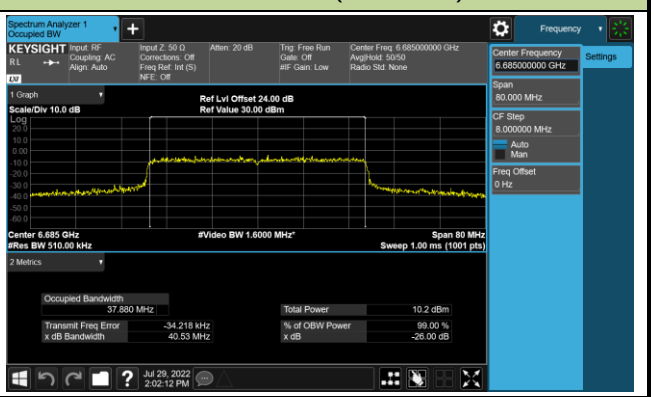
Test Site	SR5	Test Engineer	Jay
Test Date	2022/7/29		

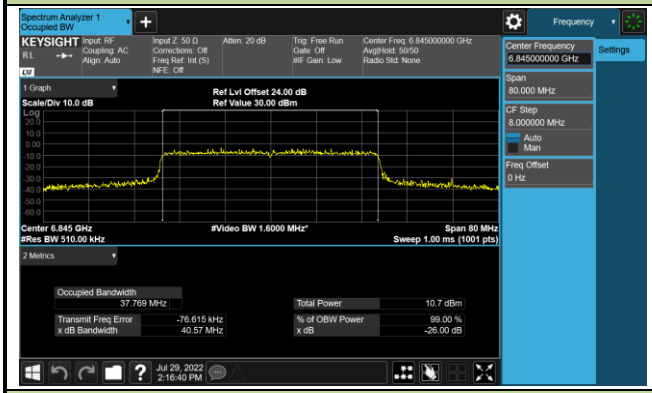
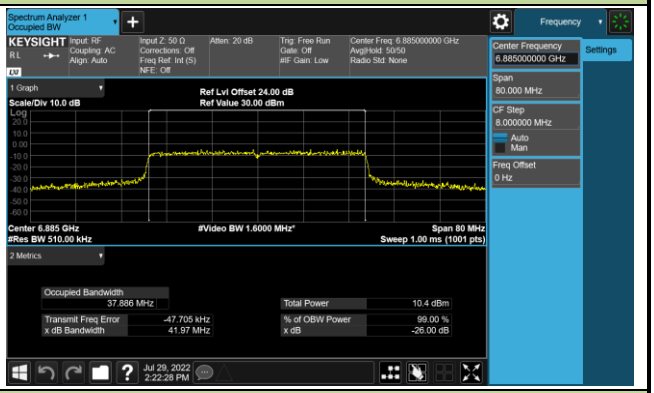
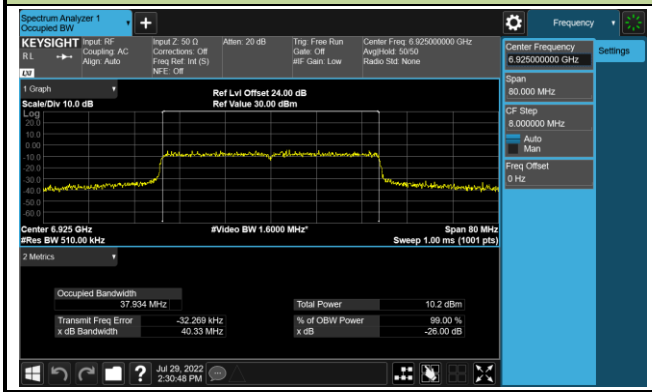
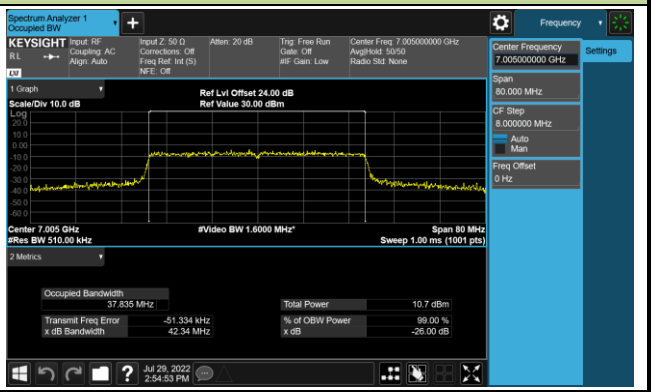
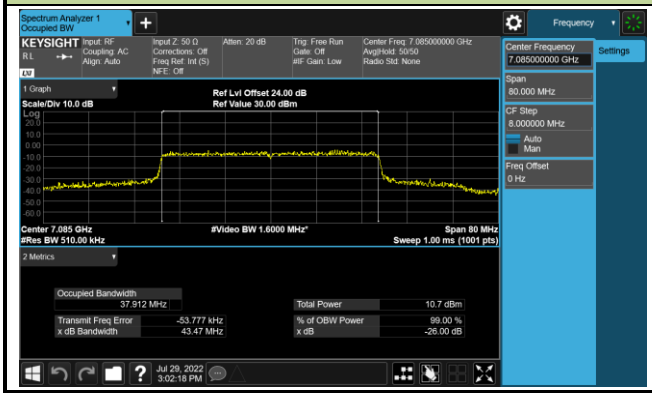
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Nss=1_Ant 1					
802.11ax-HE20	MCS0	33	6115	25.210	19.125
802.11ax-HE20	MCS0	61	6255	22.680	19.111
802.11ax-HE20	MCS0	93	6415	22.610	19.117
802.11ax-HE20	MCS0	97	6435	21.440	19.112
802.11ax-HE20	MCS0	105	6475	23.410	19.135
802.11ax-HE20	MCS0	113	6515	23.030	19.095
802.11ax-HE20	MCS0	117	6535	23.560	19.150
802.11ax-HE20	MCS0	153	6715	22.000	19.128
802.11ax-HE20	MCS0	181	6855	21.850	19.152
802.11ax-HE20	MCS0	185	6875	21.810	19.184
802.11ax-HE20	MCS0	189	6895	26.430	19.143
802.11ax-HE20	MCS0	213	7015	22.860	19.127
802.11ax-HE20	MCS0	229	7095	22.070	19.208
802.11ax-HE40	MCS0	35	6125	41.610	37.904
802.11ax-HE40	MCS0	59	6245	45.670	37.871
802.11ax-HE40	MCS0	91	6405	41.840	37.819
802.11ax-HE40	MCS0	99	6445	41.250	37.823
802.11ax-HE40	MCS0	107	6485	41.120	37.829
802.11ax-HE40	MCS0	115	6525	41.310	37.851
802.11ax-HE40	MCS0	123	6565	41.760	37.851
802.11ax-HE40	MCS0	147	6685	40.530	37.880
802.11ax-HE40	MCS0	179	6845	40.570	37.769
802.11ax-HE40	MCS0	187	6885	41.970	37.886
802.11ax-HE40	MCS0	195	6925	40.330	37.934
802.11ax-HE40	MCS0	211	7005	42.340	37.835
802.11ax-HE40	MCS0	227	7085	43.470	37.912

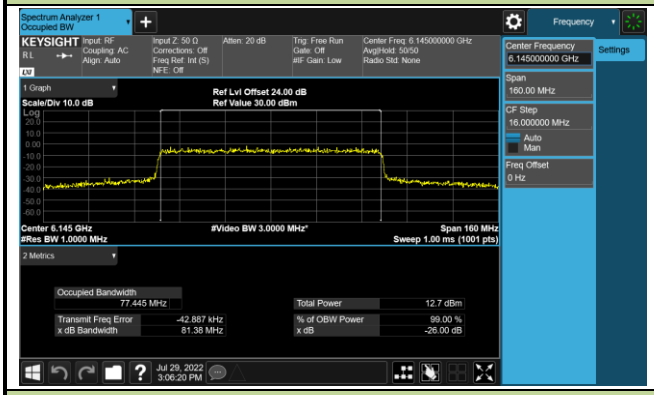
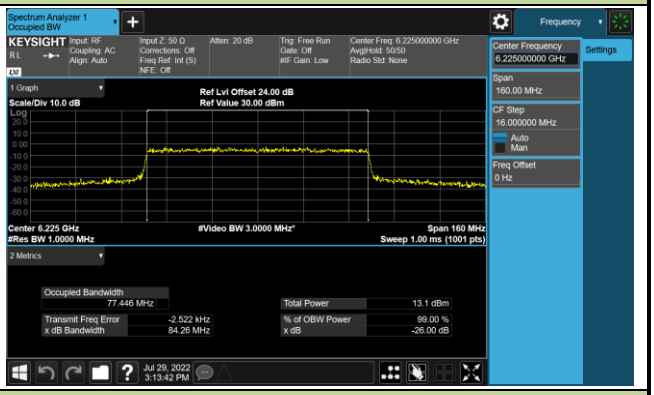
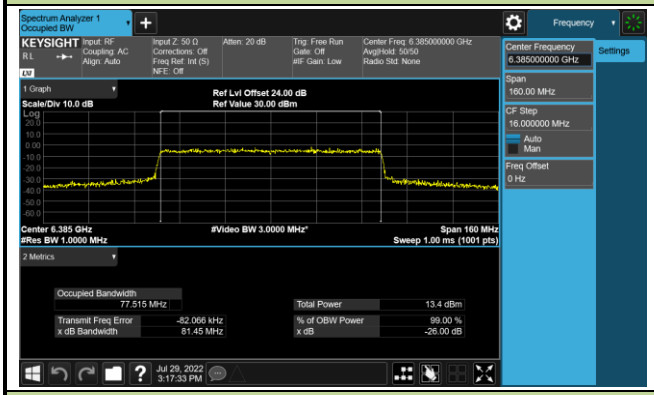
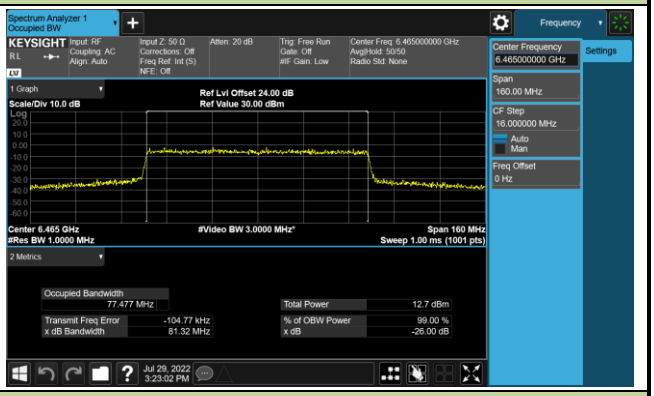
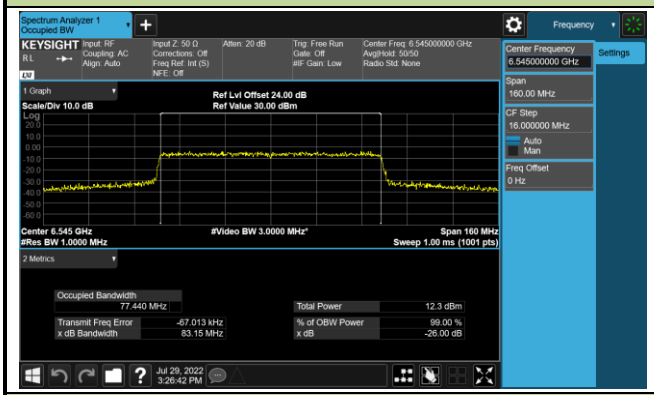
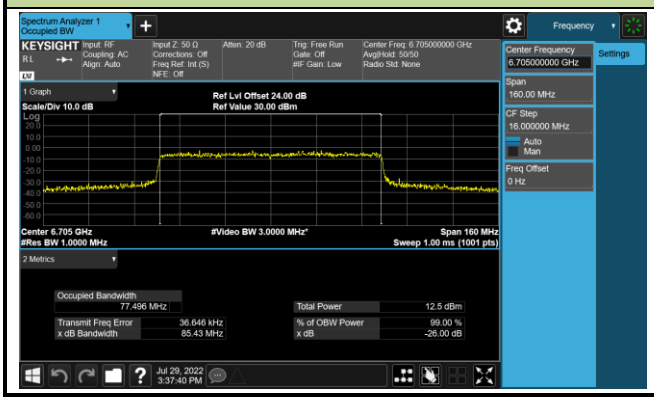
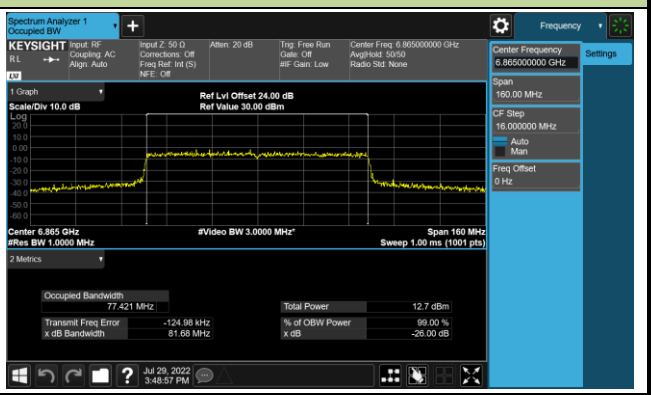
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Nss=1_Ant 1					
802.11ax-HE80	MCS0	39	6145	81.380	77.445
802.11ax-HE80	MCS0	55	6225	84.260	77.446
802.11ax-HE80	MCS0	87	6385	81.450	77.515
802.11ax-HE80	MCS0	103	6465	81.320	77.477
802.11ax-HE80	MCS0	119	6545	83.150	77.440
802.11ax-HE80	MCS0	135	6625	82.930	77.422
802.11ax-HE80	MCS0	151	6705	85.430	77.496
802.11ax-HE80	MCS0	183	6865	81.680	77.421
802.11ax-HE80	MCS0	199	6945	82.770	77.331
802.11ax-HE80	MCS0	215	7025	82.340	77.389
802.11ax-HE160	MCS0	47	6185	163.200	156.720
802.11ax-HE160	MCS0	79	6345	164.000	156.720
802.11ax-HE160	MCS0	111	6505	163.600	156.700
802.11ax-HE160	MCS0	143	6665	163.000	156.560
802.11ax-HE160	MCS0	175	6825	163.100	156.540
802.11ax-HE160	MCS0	207	6985	164.600	156.820

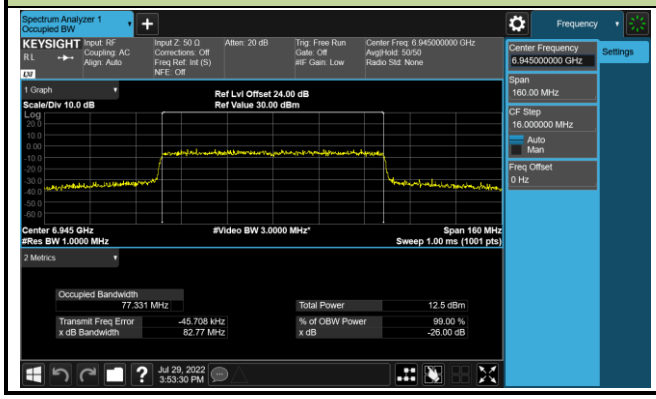
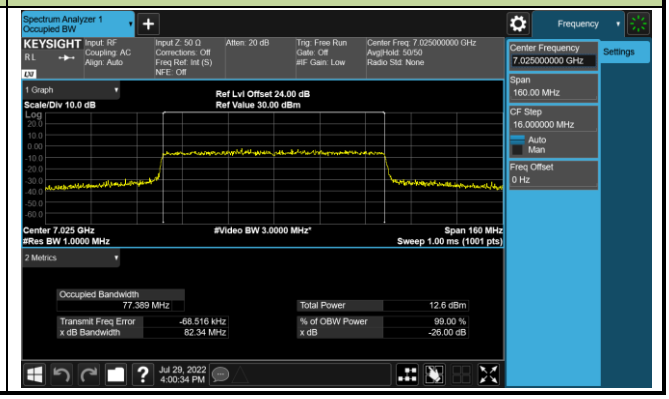
802.11ax-HE20 26dB Bandwidth & 99% Bandwidth	
Channel 33 (6115MHz)	Channel 65 (6255MHz)
	
Channel 93 (6415MHz)	Channel 97 (6435MHz)
	
Channel 105 (6475MHz)	Channel 113 (6515MHz)
	
Channel 117 (6535MHz)	Channel 153 (6715MHz)
	

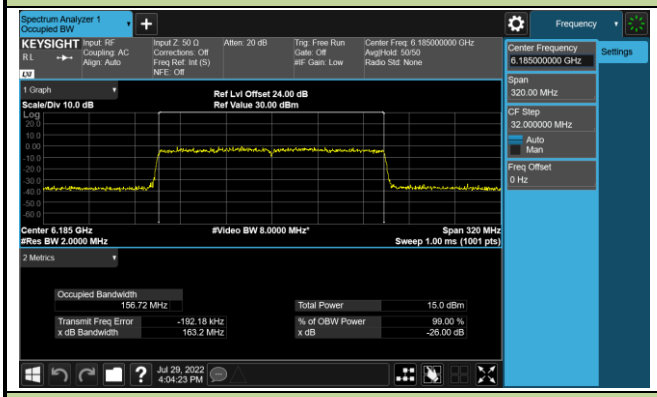
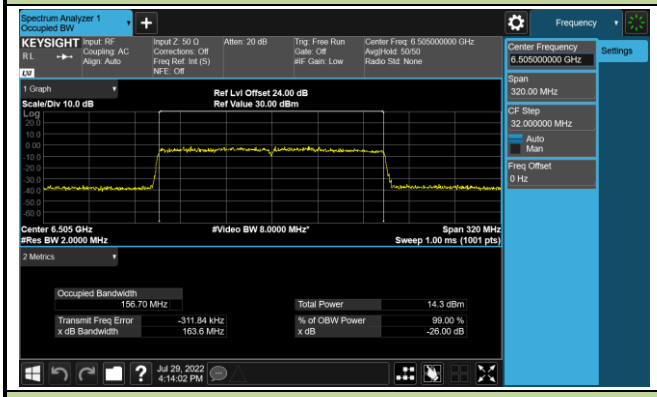
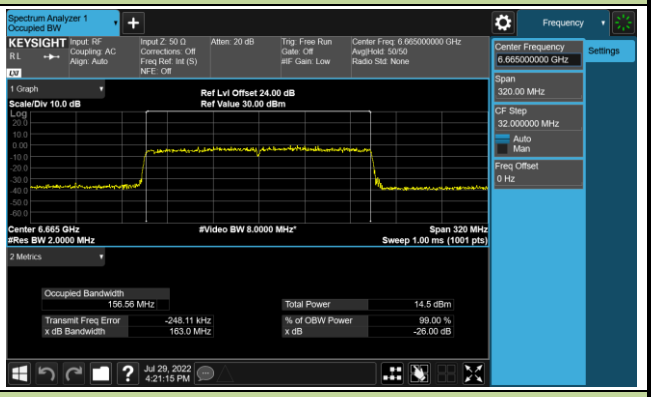
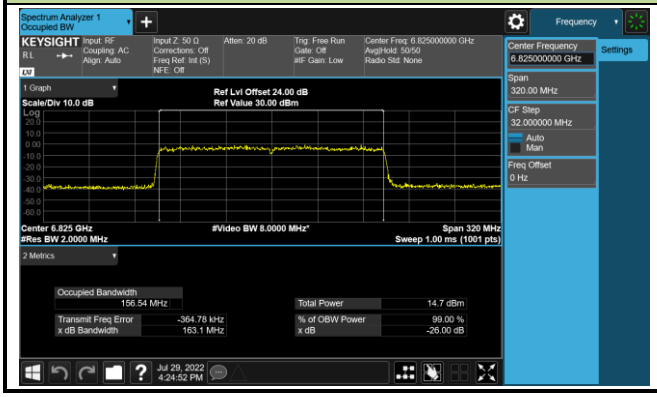
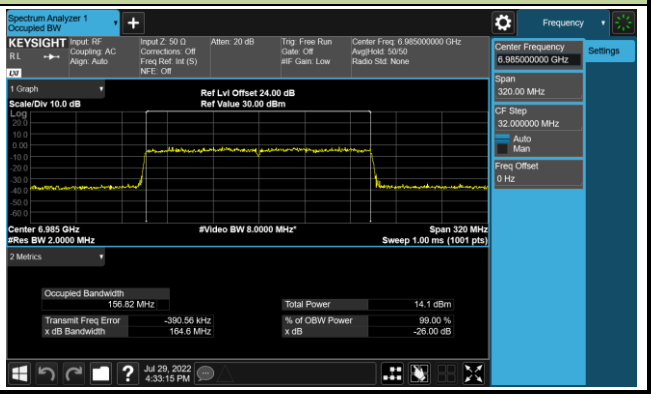
802.11ax-HE20 26dB Bandwidth & 99% Bandwidth	
Channel 181 (6855MHz)	Channel 185 (6875MHz)
	
Channel 189 (6895MHz)	Channel 213 (7015MHz)
	
Channel 229 (7095MHz)	
	

802.11ax-HE40 26dB Bandwidth & 99% Bandwidth	
Channel 35 (6125MHz)	Channel 67 (6245MHz)
	
Channel 91 (6405MHz)	Channel 99 (6445MHz)
	
Channel 107 (6485MHz)	Channel 115 (6525MHz)
	
Channel 123 (6565MHz)	Channel 147 (6685MHz)
	

802.11ax-HE40 26dB Bandwidth & 99% Bandwidth	
Channel 179 (6845MHz)	Channel 187 (6885MHz)
	
Channel 195 (6925MHz)	Channel 211 (7005MHz)
	
Channel 227 (7085MHz)	
	

802.11ax-HE80 26dB Bandwidth & 99% Bandwidth	
Channel 39 (6145MHz)	Channel 55 (6225MHz)
	
Channel 87 (6385MHz)	Channel 103 (6465MHz)
	
Channel 119 (6545MHz)	Channel 135 (6625MHz)
	
Channel 151 (6705MHz)	Channel 183 (6865MHz)
	

802.11ax-HE80 26dB Bandwidth & 99% Bandwidth	
Channel 199 (6945MHz)	Channel 215 (7025MHz)
	

802.11ax-HE160 26dB Bandwidth & 99% Bandwidth	
Channel 47 (6185MHz)	Channel 79 (6345MHz)
	
Channel 111 (6505MHz)	Channel 143 (6665MHz)
	
Channel 175 (6825MHz)	Channel 207 (6985MHz)
	

6.3 Output Power

6.3.1 Test Limit

For an indoor access point operating in the 5.925-7.125 GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.

For a subordinate device operating under the control of an indoor access point in the 5.925-7.125 GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.

6.3.2 Test Procedure Used

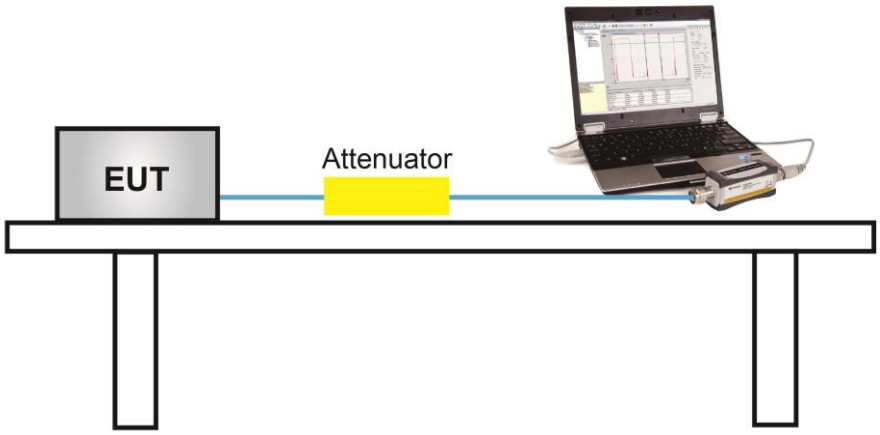
KDB 789033D02v02r01- Section II) E)3)b) Method PM-G

6.3.3 Test Setting

Average Power Measurement

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

6.3.4 Test Setup



6.3.5 Test Result

Test Site	SR5	Test Engineer	Jay
Test Date	2022/7/29		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	CDD Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3				
CDD Mode (Nss = 1)											
11ax-HE20	MCS0	33	6115	2.68	0.95	2.11	2.58	8.15	3.10	11.25	≤ 30.00
11ax-HE20	MCS0	61	6255	3.07	0.98	2.45	2.37	8.30	3.10	11.40	≤ 30.00
11ax-HE20	MCS0	93	6415	2.87	0.60	2.23	2.11	8.05	3.10	11.15	≤ 30.00
11ax-HE20	MCS0	97	6435	2.13	0.93	2.47	2.05	7.95	3.03	10.98	≤ 30.00
11ax-HE20	MCS0	105	6475	2.19	0.81	2.54	1.95	7.94	3.03	10.97	≤ 30.00
11ax-HE20	MCS0	113	6515	2.13	0.62	2.41	1.94	7.85	3.03	10.88	≤ 30.00
11ax-HE20	MCS0	117	6535	2.79	2.10	2.91	3.05	8.75	3.04	11.79	≤ 30.00
11ax-HE20	MCS0	153	6715	3.07	2.77	3.26	1.50	8.72	3.04	11.76	≤ 30.00
11ax-HE20	MCS0	181	6855	1.85	1.41	2.92	2.95	8.35	3.04	11.39	≤ 30.00
11ax-HE20	MCS0	185	6875	1.99	1.07	2.61	3.05	8.26	3.04	11.30	≤ 30.00
11ax-HE20	MCS0	189	6895	1.77	1.02	2.80	3.14	8.28	2.93	11.21	≤ 30.00
11ax-HE20	MCS0	213	7015	1.95	0.89	2.56	2.16	7.95	2.93	10.88	≤ 30.00
11ax-HE20	MCS0	229	7095	2.64	0.85	3.32	2.46	8.43	2.93	11.36	≤ 30.00
11ax-HE40	MCS0	35	6125	4.55	4.44	4.43	4.74	10.56	3.10	13.66	≤ 30.00
11ax-HE40	MCS0	59	6245	5.16	5.20	4.50	5.04	11.00	3.10	14.10	≤ 30.00
11ax-HE40	MCS0	91	6405	4.71	5.31	4.93	4.75	10.95	3.10	14.05	≤ 30.00
11ax-HE40	MCS0	99	6445	5.11	4.31	4.98	4.65	10.79	3.03	13.82	≤ 30.00
11ax-HE40	MCS0	107	6485	4.63	4.89	5.38	5.38	11.10	3.03	14.13	≤ 30.00
11ax-HE40	MCS0	115	6525	5.23	5.02	5.32	5.66	11.33	3.03	14.36	≤ 30.00
11ax-HE40	MCS0	123	6565	5.47	5.16	5.77	5.58	11.52	3.04	14.56	≤ 30.00
11ax-HE40	MCS0	147	6685	4.40	4.95	5.62	5.26	11.10	3.04	14.14	≤ 30.00
11ax-HE40	MCS0	179	6845	4.45	4.97	5.35	5.06	10.99	3.04	14.03	≤ 30.00
11ax-HE40	MCS0	187	6885	4.36	4.78	5.19	5.28	10.94	2.93	13.87	≤ 30.00
11ax-HE40	MCS0	195	6925	3.82	3.91	4.88	5.18	10.51	2.93	13.44	≤ 30.00
11ax-HE40	MCS0	211	7005	4.10	4.30	5.07	5.58	10.82	2.93	13.75	≤ 30.00
11ax-HE40	MCS0	227	7085	4.78	4.68	5.66	5.78	11.27	2.93	14.20	≤ 30.00

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	CDD Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3				
CDD Mode (Nss = 1)											
11ax-HE80	MCS0	39	6145	7.85	7.46	8.12	7.84	13.84	3.10	16.94	≤ 30.00
11ax-HE80	MCS0	55	6225	8.09	7.61	8.40	7.82	14.01	3.10	17.11	≤ 30.00
11ax-HE80	MCS0	87	6385	7.22	7.85	8.16	8.35	13.94	3.10	17.04	≤ 30.00
11ax-HE80	MCS0	103	6465	7.44	7.10	8.16	8.35	13.81	3.03	16.84	≤ 30.00
11ax-HE80	MCS0	119	6545	7.30	7.36	8.16	8.51	13.88	3.04	16.92	≤ 30.00
11ax-HE80	MCS0	135	6625	8.31	7.15	8.01	8.20	13.96	3.04	17.00	≤ 30.00
11ax-HE80	MCS0	151	6705	8.19	7.45	8.04	7.92	13.93	3.04	16.97	≤ 30.00
11ax-HE80	MCS0	183	6865	8.53	8.40	8.87	8.75	14.66	3.04	17.70	≤ 30.00
11ax-HE80	MCS0	199	6945	7.53	7.20	7.42	8.64	13.76	2.93	16.69	≤ 30.00
11ax-HE80	MCS0	215	7025	7.51	7.67	7.91	9.04	14.10	2.93	17.03	≤ 30.00
11ax-HE160	MCS0	47	6185	11.24	10.08	10.87	11.45	16.96	3.10	20.06	≤ 30.00
11ax-HE160	MCS0	79	6345	10.60	10.16	11.24	10.81	16.74	3.10	19.84	≤ 30.00
11ax-HE160	MCS0	111	6505	10.49	10.64	10.91	11.18	16.83	3.03	19.86	≤ 30.00
11ax-HE160	MCS0	143	6665	11.59	10.33	11.39	10.34	16.97	3.04	20.01	≤ 30.00
11ax-HE160	MCS0	175	6825	10.49	10.10	11.26	10.23	16.56	3.04	19.60	≤ 30.00
11ax-HE160	MCS0	207	6985	10.95	9.93	10.61	11.17	16.71	2.93	19.64	≤ 30.00

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

Note 2: CDD EIRP Power (dBm) = Total Average Power (dBm) + CDD Directional Gain (dBi).

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	Beamforming Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3				
Beamforming Mode (Nss = 1)											
11ax-HE20	MCS0	33	6115	2.68	0.95	2.11	2.58	8.15	9.12	17.27	≤ 30.00
11ax-HE20	MCS0	61	6255	3.07	0.98	2.45	2.37	8.30	9.12	17.42	≤ 30.00
11ax-HE20	MCS0	93	6415	2.87	0.60	2.23	2.11	8.05	9.12	17.17	≤ 30.00
11ax-HE20	MCS0	97	6435	2.13	0.93	2.47	2.05	7.95	9.05	17.00	≤ 30.00
11ax-HE20	MCS0	105	6475	2.19	0.81	2.54	1.95	7.94	9.05	16.99	≤ 30.00
11ax-HE20	MCS0	113	6515	2.13	0.62	2.41	1.94	7.85	9.05	16.90	≤ 30.00
11ax-HE20	MCS0	117	6535	2.79	2.10	2.91	3.05	8.75	9.06	17.81	≤ 30.00
11ax-HE20	MCS0	153	6715	3.07	2.77	3.26	1.50	8.72	9.06	17.78	≤ 30.00
11ax-HE20	MCS0	181	6855	1.85	1.41	2.92	2.95	8.35	9.06	17.41	≤ 30.00
11ax-HE20	MCS0	185	6875	1.99	1.07	2.61	3.05	8.26	9.06	17.32	≤ 30.00
11ax-HE20	MCS0	189	6895	1.77	1.02	2.80	3.14	8.28	8.95	17.23	≤ 30.00
11ax-HE20	MCS0	213	7015	1.95	0.89	2.56	2.16	7.95	8.95	16.90	≤ 30.00
11ax-HE20	MCS0	229	7095	2.64	0.85	3.32	2.46	8.43	8.95	17.38	≤ 30.00
11ax-HE40	MCS0	35	6125	4.55	4.44	4.43	4.74	10.56	9.12	19.68	≤ 30.00
11ax-HE40	MCS0	59	6245	5.16	5.20	4.50	5.04	11.00	9.12	20.13	≤ 30.00
11ax-HE40	MCS0	91	6405	4.71	5.31	4.93	4.75	10.95	9.12	20.07	≤ 30.00
11ax-HE40	MCS0	99	6445	5.11	4.31	4.98	4.65	10.79	9.05	19.84	≤ 30.00
11ax-HE40	MCS0	107	6485	4.63	4.89	5.38	5.38	11.10	9.05	20.15	≤ 30.00
11ax-HE40	MCS0	115	6525	5.23	5.02	5.32	5.66	11.33	9.05	20.38	≤ 30.00
11ax-HE40	MCS0	123	6565	5.47	5.16	5.77	5.58	11.52	9.06	20.58	≤ 30.00
11ax-HE40	MCS0	147	6685	4.40	4.95	5.62	5.26	11.10	9.06	20.16	≤ 30.00
11ax-HE40	MCS0	179	6845	4.45	4.97	5.35	5.06	10.99	9.06	20.05	≤ 30.00
11ax-HE40	MCS0	187	6885	4.36	4.78	5.19	5.28	10.94	8.95	19.89	≤ 30.00
11ax-HE40	MCS0	195	6925	3.82	3.91	4.88	5.18	10.51	8.95	19.46	≤ 30.00
11ax-HE40	MCS0	211	7005	4.10	4.30	5.07	5.58	10.82	8.95	19.77	≤ 30.00
11ax-HE40	MCS0	227	7085	4.78	4.68	5.66	5.78	11.27	8.95	20.22	≤ 30.00

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	Beamforming Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3				
Beamforming Mode (Nss = 1)											
11ax-HE80	MCS0	39	6145	7.85	7.46	8.12	7.84	13.84	9.12	22.96	≤ 30.00
11ax-HE80	MCS0	55	6225	8.09	7.61	8.40	7.82	14.01	9.12	23.13	≤ 30.00
11ax-HE80	MCS0	87	6385	7.22	7.85	8.16	8.35	13.94	9.12	23.06	≤ 30.00
11ax-HE80	MCS0	103	6465	7.44	7.10	8.16	8.35	13.81	9.05	22.86	≤ 30.00
11ax-HE80	MCS0	119	6545	7.30	7.36	8.16	8.51	13.88	9.06	22.94	≤ 30.00
11ax-HE80	MCS0	135	6625	8.31	7.15	8.01	8.20	13.96	9.06	23.02	≤ 30.00
11ax-HE80	MCS0	151	6705	8.19	7.45	8.04	7.92	13.93	9.06	22.99	≤ 30.00
11ax-HE80	MCS0	183	6865	8.53	8.40	8.87	8.75	14.66	9.06	23.72	≤ 30.00
11ax-HE80	MCS0	199	6945	7.53	7.20	7.42	8.64	13.76	8.95	22.71	≤ 30.00
11ax-HE80	MCS0	215	7025	7.51	7.67	7.91	9.04	14.10	8.95	23.05	≤ 30.00
11ax-HE160	MCS0	47	6185	11.24	10.08	10.87	11.45	16.96	9.12	26.08	≤ 30.00
11ax-HE160	MCS0	79	6345	10.60	10.16	11.24	10.81	16.74	9.12	25.86	≤ 30.00
11ax-HE160	MCS0	111	6505	10.49	10.64	10.91	11.18	16.83	9.05	25.88	≤ 30.00
11ax-HE160	MCS0	143	6665	11.59	10.33	11.39	10.34	16.97	9.06	26.03	≤ 30.00
11ax-HE160	MCS0	175	6825	10.49	10.10	11.26	10.23	16.56	9.06	25.63	≤ 30.00
11ax-HE160	MCS0	207	6985	10.95	9.93	10.61	11.17	16.71	8.95	25.66	≤ 30.00

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

Note 2: Beamforming EIRP Power (dBm) = Total Average Power (dBm) + Beamforming Directional Gain (dBi).

Test Site	SR5	Test Engineer	Jay
Test Date	2022/7/29		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	CDD Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3				
CDD Mode (Nss = 4)											
11ax-HE20	MCS0	33	6115	7.37	6.85	7.23	8.07	13.42	3.10	16.52	≤ 30.00
11ax-HE20	MCS0	61	6255	7.68	6.93	7.49	8.24	13.63	3.10	16.73	≤ 30.00
11ax-HE20	MCS0	93	6415	7.63	7.35	7.25	8.30	13.67	3.10	16.77	≤ 30.00
11ax-HE20	MCS0	97	6435	7.25	7.11	7.08	7.64	13.30	3.03	16.33	≤ 30.00
11ax-HE20	MCS0	105	6475	7.43	7.29	7.25	7.80	13.47	3.03	16.50	≤ 30.00
11ax-HE20	MCS0	113	6515	7.12	6.89	7.09	7.70	13.23	3.03	16.26	≤ 30.00
11ax-HE20	MCS0	117	6535	8.05	8.02	7.72	8.56	14.12	3.04	17.16	≤ 30.00
11ax-HE20	MCS0	153	6715	7.72	7.96	7.72	8.51	14.01	3.04	17.05	≤ 30.00
11ax-HE20	MCS0	181	6855	7.53	7.70	7.85	8.42	13.91	3.04	16.95	≤ 30.00
11ax-HE20	MCS0	185	6875	7.31	7.74	7.31	8.68	13.82	3.04	16.86	≤ 30.00
11ax-HE20	MCS0	189	6895	7.35	7.71	7.59	8.51	13.83	2.93	16.76	≤ 30.00
11ax-HE20	MCS0	213	7015	6.87	7.57	7.22	7.26	13.26	2.93	16.19	≤ 30.00
11ax-HE20	MCS0	229	7095	7.78	8.14	8.00	8.08	14.02	2.93	16.95	≤ 30.00
11ax-HE40	MCS0	33	6125	10.35	10.14	10.08	10.66	16.33	3.10	19.43	≤ 30.00
11ax-HE40	MCS0	57	6245	11.07	10.89	10.77	10.50	16.83	3.10	19.93	≤ 30.00
11ax-HE40	MCS0	89	6405	10.64	10.44	10.60	10.60	16.59	3.10	19.69	≤ 30.00
11ax-HE40	MCS0	97	6445	10.95	10.86	11.05	10.70	16.91	3.03	19.94	≤ 30.00
11ax-HE40	MCS0	105	6485	11.19	10.73	11.17	10.80	17.00	3.03	20.03	≤ 30.00
11ax-HE40	MCS0	113	6525	11.23	10.91	11.34	11.07	17.16	3.03	20.19	≤ 30.00
11ax-HE40	MCS0	121	6565	11.54	10.84	11.35	11.20	17.26	3.04	20.30	≤ 30.00
11ax-HE40	MCS0	145	6685	10.53	10.52	10.94	11.29	16.85	3.04	19.89	≤ 30.00
11ax-HE40	MCS0	177	6845	10.71	10.97	11.03	11.16	16.99	3.04	20.03	≤ 30.00
11ax-HE40	MCS0	185	6885	10.64	11.14	10.90	11.04	16.95	2.93	19.88	≤ 30.00
11ax-HE40	MCS0	193	6925	10.32	9.78	10.44	10.22	16.22	2.93	19.15	≤ 30.00
11ax-HE40	MCS0	209	7005	10.58	10.35	10.87	10.56	16.61	2.93	19.54	≤ 30.00
11ax-HE40	MCS0	225	7085	11.22	10.64	11.25	11.13	17.09	2.93	20.02	≤ 30.00

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	CDD Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3				
CDD Mode (Nss = 4)											
11ax-HE80	MCS0	33	6145	13.76	13.29	13.76	13.43	19.59	3.10	22.69	≤ 30.00
11ax-HE80	MCS0	49	6225	13.88	13.48	14.09	13.42	19.75	3.10	22.85	≤ 30.00
11ax-HE80	MCS0	81	6385	13.00	13.45	13.53	13.96	19.52	3.10	22.62	≤ 30.00
11ax-HE80	MCS0	97	6465	13.16	12.88	13.62	13.19	19.24	3.03	22.27	≤ 30.00
11ax-HE80	MCS0	113	6545	13.46	13.04	13.59	14.12	19.59	3.04	22.63	≤ 30.00
11ax-HE80	MCS0	129	6625	14.23	13.04	13.51	14.17	19.79	3.04	22.83	≤ 30.00
11ax-HE80	MCS0	145	6705	14.20	13.02	13.60	14.04	19.76	3.04	22.80	≤ 30.00
11ax-HE80	MCS0	177	6865	13.95	14.04	14.17	14.37	20.16	3.04	23.20	≤ 30.00
11ax-HE80	MCS0	193	6945	13.44	13.15	13.32	14.13	19.55	2.93	22.48	≤ 30.00
11ax-HE80	MCS0	209	7025	13.72	13.63	13.69	14.36	19.88	2.93	22.81	≤ 30.00
11ax-HE160	MCS0	33	6185	17.00	15.88	16.47	16.91	22.61	3.10	25.71	≤ 30.00
11ax-HE160	MCS0	65	6345	16.45	15.75	16.60	16.55	22.37	3.10	25.47	≤ 30.00
11ax-HE160	MCS0	97	6505	16.13	16.22	16.30	16.13	22.22	3.03	25.25	≤ 30.00
11ax-HE160	MCS0	129	6665	17.13	16.20	16.85	17.00	22.83	3.04	25.87	≤ 30.00
11ax-HE160	MCS0	161	6825	16.72	15.54	16.98	16.11	22.39	3.04	25.43	≤ 30.00
11ax-HE160	MCS0	193	6985	15.90	15.40	16.43	16.29	22.04	2.93	24.97	≤ 30.00

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

Note 2: CDD EIRP Power (dBm) = Total Average Power (dBm) + CDD Directional Gain (dBi).

6.4 Power Spectral Density

6.4.1 Test Limit

For an indoor access point operating in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p. in any 1-megahertz band.

For a subordinate device operating under the control of an indoor access point in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p in any 1-megahertz band.

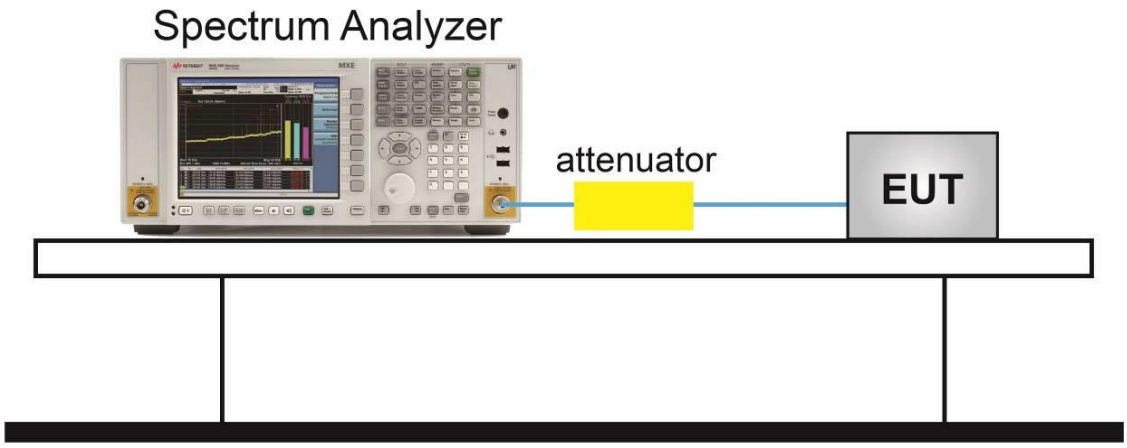
6.4.2 Test Procedure Used

KDB 789033 D02v02r01-SectionF

6.4.3 Test Setting

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

6.4.4 Test Setup



6.4.5 Test Result

Test Site	SR5	Test Engineer	Jay
Test Date	2022/7/14~2022/8/4		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Duty Cycle (%)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)
				Ant 0	Ant 1	Ant 2	Ant 3					
CDD Mode (Nss = 1)												
11ax-HE20	MCS0	33	6115	-10.398	-9.649	-10.569	-11.563	-4.471	98.15%	9.12	4.73	≤ 5.00
11ax-HE20	MCS0	61	6255	-11.171	-9.257	-9.825	-12.835	-4.545	98.15%	9.12	4.66	≤ 5.00
11ax-HE20	MCS0	93	6415	-11.546	-8.783	-10.375	-11.429	-4.364	98.15%	9.12	4.84	≤ 5.00
11ax-HE20	MCS0	97	6435	-11.277	-8.999	-10.329	-11.540	-4.397	98.15%	9.05	4.73	≤ 5.00
11ax-HE20	MCS0	105	6475	-11.134	-9.307	-10.112	-11.853	-4.473	98.15%	9.05	4.66	≤ 5.00
11ax-HE20	MCS0	113	6515	-10.660	-9.827	-10.721	-10.963	-4.500	98.15%	9.05	4.63	≤ 5.00
11ax-HE20	MCS0	117	6535	-10.511	-9.334	-11.001	-10.640	-4.304	98.15%	9.06	4.84	≤ 5.00
11ax-HE20	MCS0	153	6715	-10.114	-9.305	-9.907	-12.243	-4.241	98.15%	9.06	4.90	≤ 5.00
11ax-HE20	MCS0	181	6855	-11.122	-9.612	-9.795	-11.014	-4.311	98.15%	9.06	4.83	≤ 5.00
11ax-HE20	MCS0	185	6875	-11.519	-9.607	-10.014	-11.014	-4.451	98.15%	9.06	4.69	≤ 5.00
11ax-HE20	MCS0	189	6895	-11.364	-9.175	-10.197	-10.249	-4.157	98.15%	8.95	4.87	≤ 5.00
11ax-HE20	MCS0	213	7015	-10.928	-9.461	-10.628	-9.830	-4.151	98.15%	8.95	4.88	≤ 5.00
11ax-HE20	MCS0	229	7095	-10.257	-9.785	-10.281	-11.074	-4.304	98.15%	8.95	4.73	≤ 5.00
11ax-HE40	MCS0	33	6125	-10.563	-9.578	-9.996	-11.577	-4.345	97.52%	9.12	4.88	≤ 5.00
11ax-HE40	MCS0	57	6245	-11.068	-9.338	-9.675	-12.409	-4.439	97.52%	9.12	4.79	≤ 5.00
11ax-HE40	MCS0	89	6405	-11.575	-8.761	-10.061	-11.669	-4.326	97.52%	9.12	4.90	≤ 5.00
11ax-HE40	MCS0	97	6445	-11.286	-9.151	-10.063	-11.545	-4.382	97.52%	9.05	4.78	≤ 5.00
11ax-HE40	MCS0	105	6485	-11.122	-9.576	-10.493	-11.836	-4.656	97.52%	9.05	4.50	≤ 5.00
11ax-HE40	MCS0	113	6525	-10.748	-9.491	-10.280	-10.879	-4.294	97.52%	9.05	4.87	≤ 5.00
11ax-HE40	MCS0	121	6565	-10.600	-10.124	-10.510	-11.045	-4.537	97.52%	9.06	4.63	≤ 5.00
11ax-HE40	MCS0	145	6685	-9.903	-9.571	-10.076	-12.038	-4.278	97.52%	9.06	4.89	≤ 5.00
11ax-HE40	MCS0	177	6845	-11.190	-9.191	-9.914	-11.354	-4.298	97.52%	9.06	4.87	≤ 5.00
11ax-HE40	MCS0	185	6885	-11.681	-9.577	-10.129	-10.779	-4.452	97.52%	8.95	4.61	≤ 5.00
11ax-HE40	MCS0	193	6925	-11.604	-9.596	-10.447	-10.064	-4.346	97.52%	8.95	4.71	≤ 5.00
11ax-HE40	MCS0	209	7005	-10.917	-9.505	-10.342	-10.103	-4.167	97.52%	8.95	4.89	≤ 5.00
11ax-HE40	MCS0	225	7085	-10.422	-9.605	-10.130	-10.630	-4.159	97.52%	8.95	4.90	≤ 5.00

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Duty Cycle (%)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)
				Ant 0	Ant 1	Ant 2	Ant 3					
CDD Mode (Nss = 1)												
11ax-HE80	MCS0	33	6145	-10.771	-9.927	-10.281	-12.188	-4.691	93.88%	9.12	4.70	≤ 5.00
11ax-HE80	MCS0	49	6225	-10.583	-9.623	-10.200	-12.627	-4.601	93.88%	9.12	4.79	≤ 5.00
11ax-HE80	MCS0	81	6385	-11.967	-9.417	-10.138	-12.092	-4.729	93.88%	9.12	4.67	≤ 5.00
11ax-HE80	MCS0	97	6465	-11.688	-9.619	-10.272	-12.079	-4.777	93.88%	9.05	4.55	≤ 5.00
11ax-HE80	MCS0	113	6545	-11.202	-10.145	-10.765	-11.357	-4.821	93.88%	9.06	4.51	≤ 5.00
11ax-HE80	MCS0	129	6625	-10.458	-9.987	-10.585	-11.532	-4.585	93.88%	9.06	4.75	≤ 5.00
11ax-HE80	MCS0	145	6705	-9.961	-9.671	-10.451	-12.773	-4.538	93.88%	9.06	4.80	≤ 5.00
11ax-HE80	MCS0	177	6865	-11.433	-9.673	-10.111	-10.925	-4.461	93.88%	9.06	4.87	≤ 5.00
11ax-HE80	MCS0	193	6945	-11.713	-9.888	-10.583	-10.130	-4.504	93.88%	8.95	4.72	≤ 5.00
11ax-HE80	MCS0	209	7025	-10.905	-9.862	-10.302	-10.369	-4.323	93.88%	8.95	4.90	≤ 5.00
11ax-HE160	MCS0	33	6185	-10.832	-11.259	-10.094	-12.428	-5.052	89.52%	9.12	4.55	≤ 5.00
11ax-HE160	MCS0	65	6345	-12.594	-9.402	-10.508	-12.661	-5.045	89.52%	9.12	4.56	≤ 5.00
11ax-HE160	MCS0	97	6505	-11.535	-10.238	-10.551	-11.572	-4.913	89.52%	9.05	4.62	≤ 5.00
11ax-HE160	MCS0	129	6665	-10.456	-10.131	-10.869	-12.153	-4.817	89.52%	9.06	4.72	≤ 5.00
11ax-HE160	MCS0	161	6825	-11.351	-9.764	-10.234	-11.721	-4.674	89.52%	9.06	4.87	≤ 5.00
11ax-HE160	MCS0	193	6985	-11.974	-10.410	-11.139	-10.637	-4.979	89.52%	8.95	4.45	≤ 5.00

Note 1: Total PSD (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$

Note 2: When EUT duty cycle < 98%, EIRP PSD (dBm/MHz) = Total PSD (dBm/MHz) + 10*log (1/Duty Cycle) + Directional Gain (dBi).

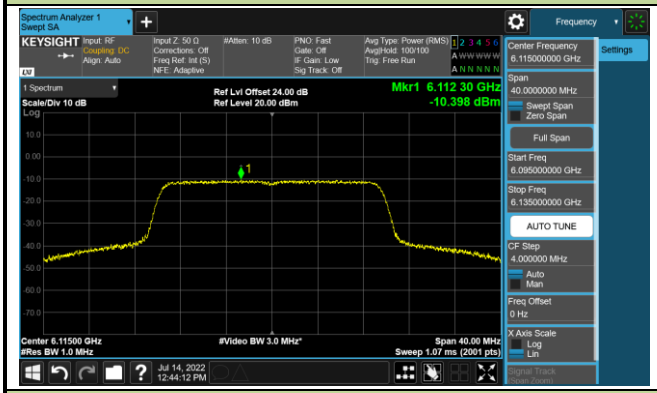
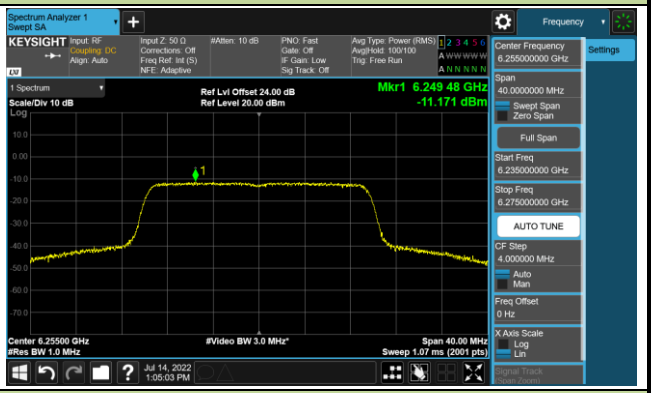
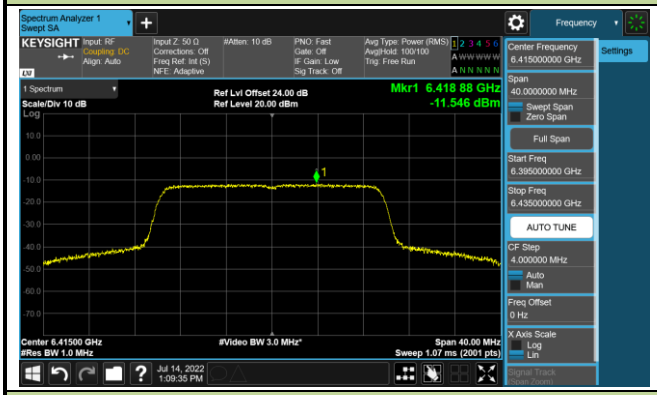
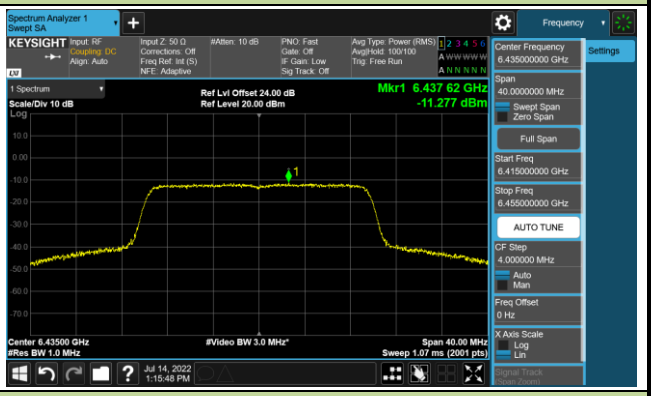
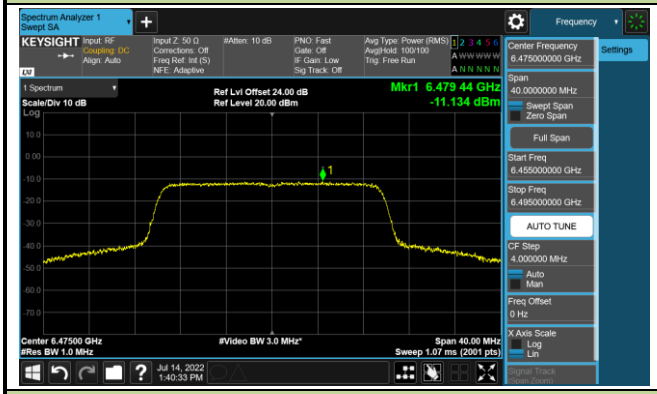
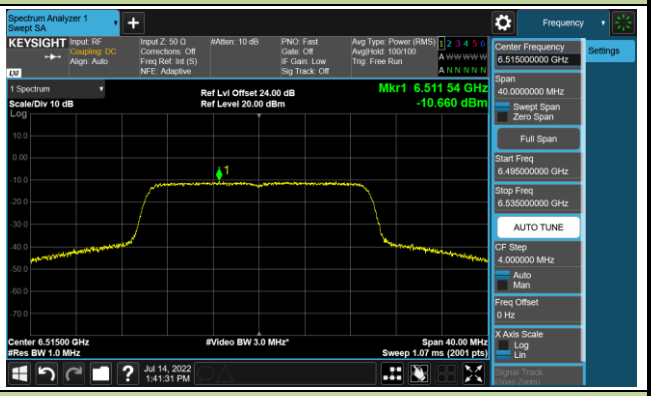
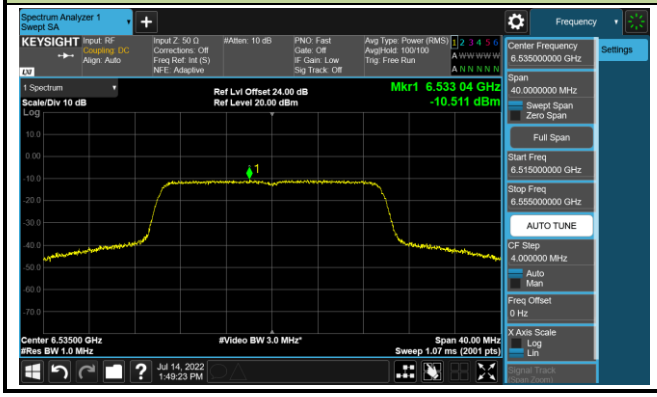
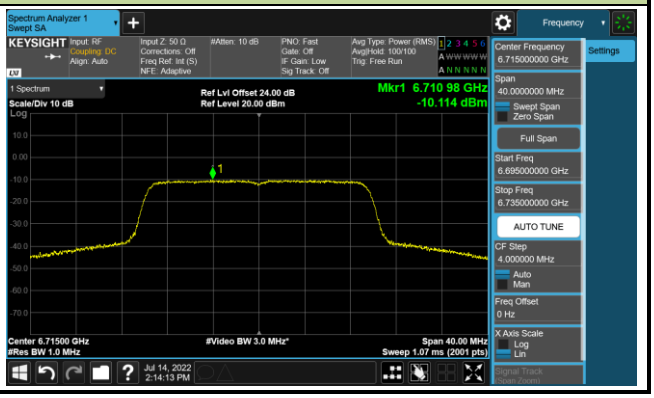
Test Site	SR5	Test Engineer	Jay
Test Date	2022/7/14~2022/8/4		

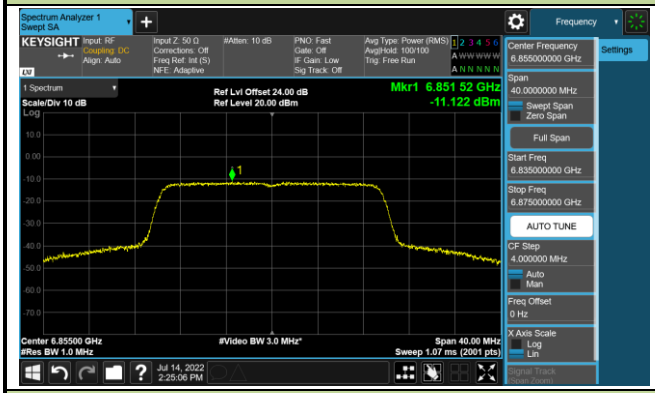
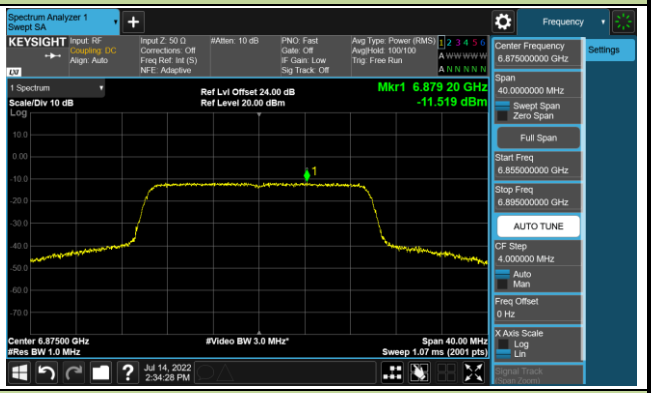
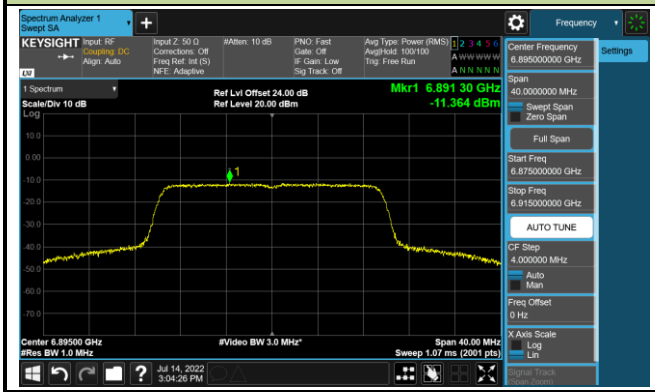
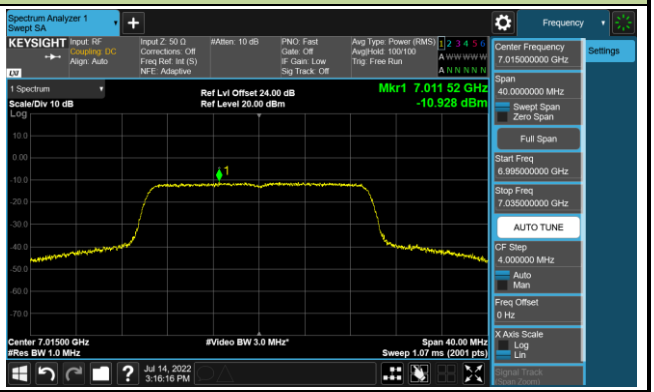
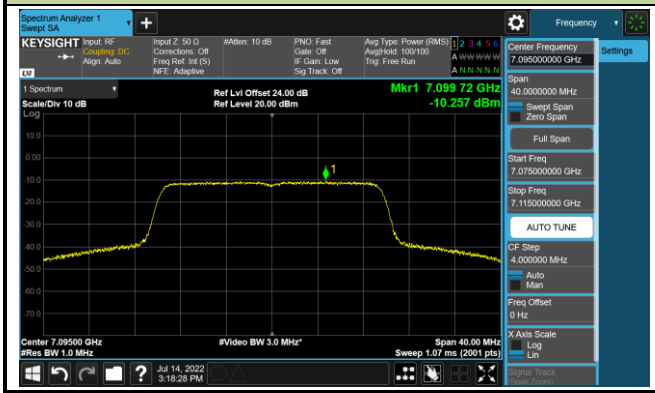
Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Duty Cycle (%)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)
				Ant 0	Ant 1	Ant 2	Ant 3					
CDD Mode (Nss = 4)												
11ax-HE20	MCS0	33	6115	-4.712	-3.459	-4.243	-5.639	1.578	98.15%	3.10	4.76	≤ 5.00
11ax-HE20	MCS0	61	6255	-5.125	-3.079	-4.072	-6.643	1.485	98.15%	3.10	4.67	≤ 5.00
11ax-HE20	MCS0	93	6415	-5.768	-3.027	-3.973	-5.896	1.526	98.15%	3.10	4.71	≤ 5.00
11ax-HE20	MCS0	97	6435	-5.799	-3.126	-3.524	-5.902	1.617	98.15%	3.03	4.73	≤ 5.00
11ax-HE20	MCS0	105	6475	-4.962	-3.259	-3.903	-5.200	1.762	98.15%	3.03	4.87	≤ 5.00
11ax-HE20	MCS0	113	6515	-4.945	-3.696	-4.338	-5.147	1.527	98.15%	3.03	4.64	≤ 5.00
11ax-HE20	MCS0	117	6535	-4.854	-3.709	-4.318	-4.904	1.602	98.15%	3.04	4.72	≤ 5.00
11ax-HE20	MCS0	153	6715	-4.188	-3.612	-4.281	-6.566	1.493	98.15%	3.04	4.61	≤ 5.00
11ax-HE20	MCS0	181	6855	-5.634	-3.542	-4.097	-5.420	1.437	98.15%	3.04	4.56	≤ 5.00
11ax-HE20	MCS0	185	6875	-5.536	-3.324	-4.018	-4.522	1.744	98.15%	3.04	4.87	≤ 5.00
11ax-HE20	MCS0	189	6895	-5.741	-3.744	-4.015	-4.160	1.671	98.15%	2.93	4.68	≤ 5.00
11ax-HE20	MCS0	213	7015	-5.220	-3.655	-4.514	-4.186	1.663	98.15%	2.93	4.67	≤ 5.00
11ax-HE20	MCS0	229	7095	-4.475	-3.672	-3.824	-4.684	1.878	98.15%	2.93	4.89	≤ 5.00
11ax-HE40	MCS0	33	6125	-4.452	-3.811	-4.395	-5.969	1.433	97.52%	3.10	4.64	≤ 5.00
11ax-HE40	MCS0	57	6245	-5.092	-3.315	-4.125	-6.821	1.369	97.52%	3.10	4.58	≤ 5.00
11ax-HE40	MCS0	89	6405	-6.037	-2.952	-4.074	-5.800	1.493	97.52%	3.10	4.70	≤ 5.00
11ax-HE40	MCS0	97	6445	-5.675	-3.279	-4.129	-5.727	1.445	97.52%	3.03	4.58	≤ 5.00
11ax-HE40	MCS0	105	6485	-5.047	-3.435	-3.979	-5.221	1.664	97.52%	3.03	4.80	≤ 5.00
11ax-HE40	MCS0	113	6525	-4.958	-3.565	-4.388	-4.890	1.607	97.52%	3.03	4.75	≤ 5.00
11ax-HE40	MCS0	121	6565	-4.812	-3.847	-4.576	-5.016	1.481	97.52%	3.04	4.63	≤ 5.00
11ax-HE40	MCS0	145	6685	-3.722	-4.073	-4.616	-6.092	1.484	97.52%	3.04	4.63	≤ 5.00
11ax-HE40	MCS0	177	6845	-5.505	-3.655	-4.127	-5.683	1.365	97.52%	3.04	4.51	≤ 5.00
11ax-HE40	MCS0	185	6885	-5.102	-3.185	-4.350	-4.438	1.808	97.52%	2.93	4.85	≤ 5.00
11ax-HE40	MCS0	193	6925	-5.700	-3.461	-4.668	-3.418	1.808	97.52%	2.93	4.85	≤ 5.00
11ax-HE40	MCS0	209	7005	-5.513	-3.845	-4.499	-4.092	1.578	97.52%	2.93	4.62	≤ 5.00
11ax-HE40	MCS0	225	7085	-4.413	-3.708	-4.048	-4.659	1.829	97.52%	2.93	4.87	≤ 5.00

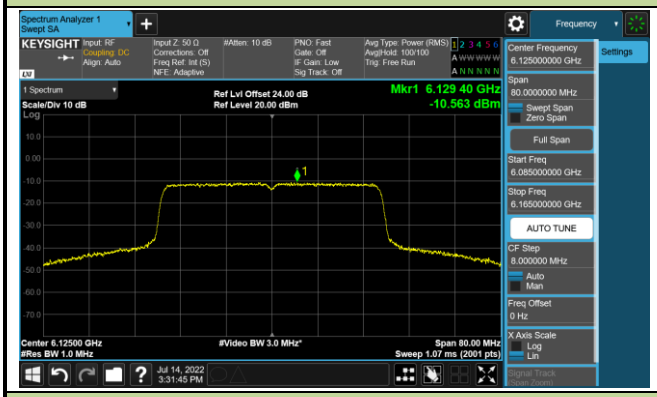
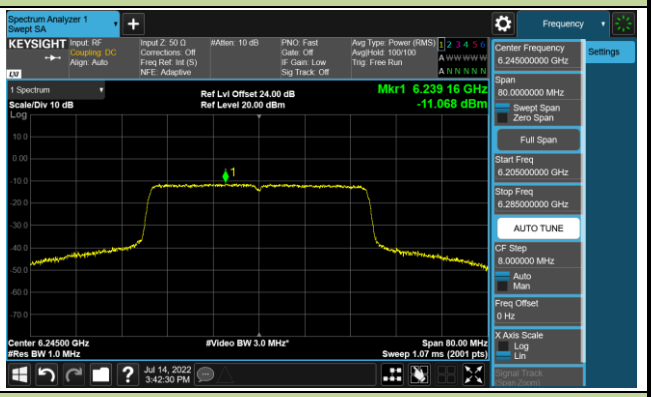
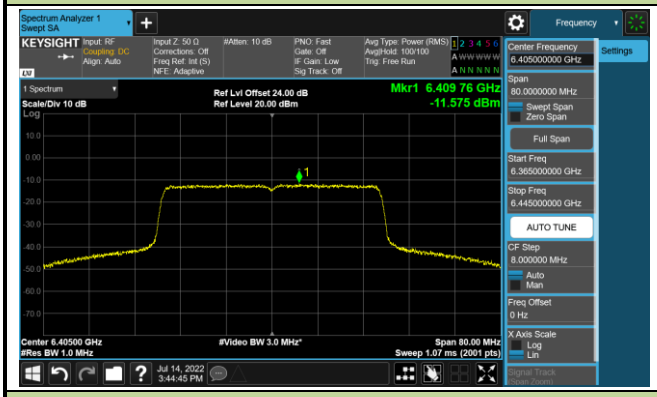
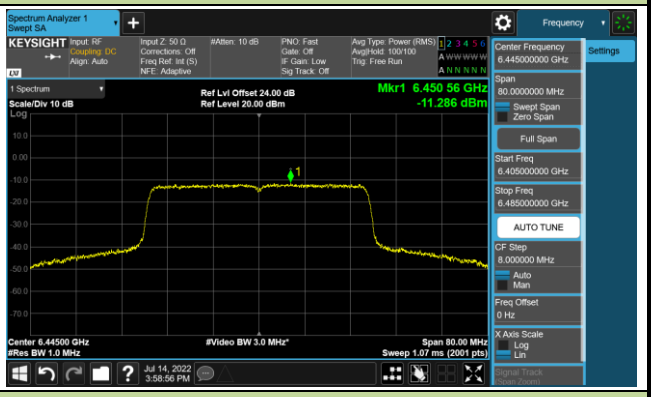
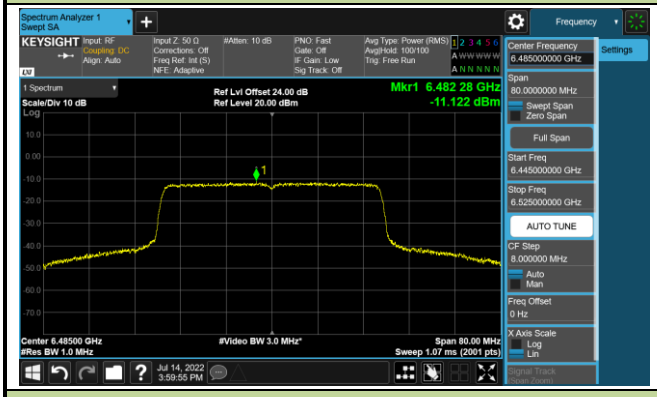
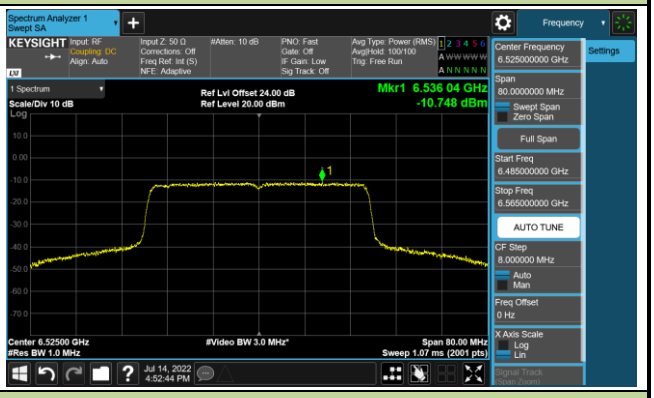
Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Duty Cycle (%)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)
				Ant 0	Ant 1	Ant 2	Ant 3					
CDD Mode (Nss = 4)												
11ax-HE80	MCS0	33	6145	-4.974	-4.399	-4.228	-6.007	1.172	93.88%	3.10	4.55	≤ 5.00
11ax-HE80	MCS0	49	6225	-4.419	-3.618	-4.062	-6.568	1.489	93.88%	3.10	4.86	≤ 5.00
11ax-HE80	MCS0	81	6385	-6.147	-3.042	-3.922	-5.972	1.453	93.88%	3.10	4.83	≤ 5.00
11ax-HE80	MCS0	97	6465	-5.563	-3.748	-3.800	-6.020	1.356	93.88%	3.03	4.66	≤ 5.00
11ax-HE80	MCS0	113	6545	-5.041	-4.300	-4.799	-5.021	1.241	93.88%	3.04	4.56	≤ 5.00
11ax-HE80	MCS0	129	6625	-4.411	-4.005	-4.208	-5.351	1.556	93.88%	3.04	4.87	≤ 5.00
11ax-HE80	MCS0	145	6705	-4.030	-4.114	-4.768	-6.567	1.262	93.88%	3.04	4.58	≤ 5.00
11ax-HE80	MCS0	177	6865	-5.660	-3.453	-4.350	-4.967	1.489	93.88%	3.04	4.80	≤ 5.00
11ax-HE80	MCS0	193	6945	-5.787	-3.906	-4.793	-4.148	1.421	93.88%	2.93	4.63	≤ 5.00
11ax-HE80	MCS0	209	7025	-5.038	-3.855	-4.600	-3.911	1.697	93.88%	2.93	4.90	≤ 5.00
11ax-HE160	MCS0	33	6185	-4.871	-4.039	-4.427	-6.443	1.166	89.52%	3.10	4.75	≤ 5.00
11ax-HE160	MCS0	65	6345	-5.935	-3.559	-4.090	-5.854	1.288	89.52%	3.10	4.87	≤ 5.00
11ax-HE160	MCS0	97	6505	-5.387	-3.719	-4.431	-5.395	1.346	89.52%	3.03	4.86	≤ 5.00
11ax-HE160	MCS0	129	6665	-4.392	-4.152	-5.048	-6.047	1.171	89.52%	3.04	4.69	≤ 5.00
11ax-HE160	MCS0	161	6825	-5.890	-4.174	-4.384	-5.909	1.007	89.52%	3.04	4.53	≤ 5.00
11ax-HE160	MCS0	193	6985	-5.487	-4.581	-5.089	-4.311	1.177	89.52%	2.93	4.59	≤ 5.00

Note 1: Total PSD (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$

Note 2: When EUT duty cycle < 98%, EIRP PSD (dBm/MHz) = Total PSD (dBm/MHz) + 10*log (1/Duty Cycle) + Directional Gain (dBi).

802.11ax-HE20 Power Spectral Density – Ant 0 (Nss=1)	
Channel 33 (6115MHz)	Channel 65 (6255MHz)
	
Channel 93 (6415MHz)	Channel 97 (6435MHz)
	
Channel 105 (6475MHz)	Channel 113 (6515MHz)
	
Channel 117 (6535MHz)	Channel 153 (6715MHz)
	

802.11ax-HE20 Power Spectral Density – Ant 0 (Nss=1)	
Channel 181 (6855MHz)	Channel 185 (6875MHz)
	
Channel 189 (6895MHz)	Channel 213 (7015MHz)
	
Channel 229 (7095MHz)	
	

802.11ax-HE40 Power Spectral Density – Ant 0 (Nss=1)	
Channel 35 (6125MHz)	Channel 67 (6245MHz)
	
Channel 91 (6405MHz)	Channel 99 (6445MHz)
	
Channel 107 (6485MHz)	Channel 115 (6525MHz)
	
Channel 123 (6565MHz)	Channel 147 (6685MHz)