RF MEASUREMENT REPORT

FCC ID:	2AI9TOAW-AP1542
Applicant:	ALE USA Inc.
Product:	OmniAccess Stellar
Model No.:	OAW-AP1542
Brand Name:	Alcatel-Lucent Enterprise
FCC Classification:	15E 6 GHz Standard Power Access Point (6SD)
FCC Rule Part(s):	Part 15 Subpart E (Section 15.407)
Result:	Complies
Received Date:	2025-12-01
Test Date:	2025-12-16 ~ 2026-03-30

Reviewed By: Vincent Yu

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

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. Testing was performed in accordance with the applicable measurement procedures. The test results reported herein apply only to the specific item(s) tested.
The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
R25S1061112-U203	V01	Initial Report	2026-05-21	Valid

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1. General Information

1.1. Applicant

ALE USA Inc.

2000 Corporate Center Drive

Thousand Oaks, CA 91320

1.2. Manufacturer

ALE USA Inc.

2000 Corporate Center Drive

Thousand Oaks, CA 91320

1.3. Testing Facility

☒	**Test Site - MRT Suzhou Laboratory**	
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China **Laboratory Location (Suzhou - SIP)** 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China **Laboratory Location (Suzhou - Wujiang)** Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China	
	Laboratory Accreditations	
	A2LA: 3628.01	CNAS: L10551
	FCC: CN1166	ISED: CN0001
☐	**Test Site - MRT Shenzhen Laboratory**	
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China	
	Laboratory Accreditations	
	A2LA: 3628.02	
	FCC: CN1284	ISED: CN0105
☐	**Test Site - MRT Taiwan Laboratory**	
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
	Laboratory Accreditations	
	TAF: 3261	
	FCC: 291082, TW3261	ISED: TW3261

1.4. Product Information

Product Name	OmniAccess Stellar
Model No.	OAW-AP1542
Brand Name	Alcatel-Lucent Enterprise
EUT Identification No.	20251201Sample#03
Bluetooth Specification	Bluetooth_LE
ZigBee Specification	802.15.4
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be
Operating Temperature	0 ~ 50 °C
Antenna Information	Refer to section 1.7
Operating Environment	Indoor Use
Power Type	AC/DC Adapter or PoE Injector
Accessory (ies)	
Adapter	Model No.: AA65U-540A Input Power: 100 – 240 V ~ 50/60 Hz, 1.6 A Output Power: 54 V ⎓ 1.2 A, 64.8 W
PoE Injector	Model: POE60U-1BT-X Input: 100-240 V ~ 1.5 A, 50-60 Hz,98-104 VA Output: 56 V⎓0.535 A, 30 W PIN 3, 6+ PIN 1, 2 Return Output: 56 V⎓0.535 A, 30 W PIN 4, 5+ PIN 7, 8 Return

Notes:

1. The information of the EUT (Equipment Under Test) was provided by the manufacturer. The accuracy, completeness, and validity of the information are solely the responsibility of the manufacturer.
2. AC/DC Adapter and PoE Injector are not marketed in conjunction with the device.

1.5. Radio Specification under Test

Frequency Range	UNII-5: 5925 ~ 6425 MHz UNII-7: 6525 ~ 6875 MHz	
Modulation Technology	802.11ax/be: OFDMA	
Data Rate	802.11ax: up to 4804 Mbps 802.11be: up to 11528 Mbps	
Channel Puncturing Function	☐ Supported	☒ Unsupported
Support RU	☒ Full RU	☐ Partial RU

1.6. Working Frequencies

802.11ax-HE20/be-EHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	5955 MHz	5	5975 MHz	9	5995 MHz
13	6015 MHz	17	6035 MHz	21	6055 MHz
25	6075 MHz	29	6095 MHz	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
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	--	--

802.11ax-HE40/be-EHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
3	5965 MHz	11	6005 MHz	19	6045 MHz
27	6085 MHz	35	6125 MHz	43	6165 MHz
51	6205 MHz	59	6245 MHz	67	6285 MHz
75	6325 MHz	83	6365 MHz	91	6405 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	--	--

802.11ax-HE80/be-EHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
7	5985 MHz	23	6065 MHz	39	6145 MHz
55	6225 MHz	71	6305 MHz	87	6385 MHz
135	6625 MHz	151	6705 MHz	167	6785 MHz

802.11ax-HE160/be-EHT160

Channel	Frequency	Channel	Frequency	Channel	Frequency
15	6025 MHz	47	6185 MHz	79	6345 MHz
143	6665 MHz	--	--	--	--

802.11be-EHT320

Channel	Frequency	Channel	Frequency	Channel	Frequency
31	6105 MHz	63	6265 MHz	--	--

1.7. Antenna Details

Antenna Type	Frequency Band (MHz)	Antenna Gain (dBi)				Directional Gain (dBi)	
		Ant 0	Ant 1	Ant 2	Ant 3	For Power	For PSD
Wi-Fi Antenna (2.4 GHz / 5 GHz / 6 GHz)							
Omni-directional	2400 ~ 2483.5	3.30	3.30	3.30	3.30	3.30	9.32
	5150 ~ 5850	3.30	3.30	3.30	3.30	3.30	9.32
	5925 ~ 6425	4.40	4.40	4.40	4.40	4.40	10.42
	6525 ~ 6875	4.40	4.40	4.40	4.40	4.40	10.42

Notes:

1. The EUT supports Cyclic Delay Diversity (CDD) mode for 802.11a/b/g/n/ac/ax/be.
2. The EUT also supports Beamforming mode for 802.11n/ac/ax/be, not include 802.11a/b/g.
3. All antenna information is provided by the manufacturer.

1.8. WLAN Configuration

Model No.	WLAN Antenna Port	WLAN Config 1 - Supporting Band	WLAN Config 2 - Supporting Band
OAW-AP1541	5 GHz 4TX Port	5GHz Full Band: U-NII-1 (5150-5250 MHz) U-NII-2A (5250-5350 MHz) U-NII-2C (5470-5725 MHz) U-NII-3 (5725-5850 MHz)	5GHz Low Band: U-NII-1 (5150-5250 MHz) U-NII-2A (5250-5350 MHz)
	2 GHz 4TX Port	2412 to 2462 MHz	2412 to 2462 MHz
	6 GHz 4TX Port	U-NII-5 (5925-6425 MHz) U-NII-7 (6525-6875 MHz)	5GHz High Band: U-NII-2C (5470-5725 MHz) U-NII-3 (5725-5850 MHz)

Note 1: WLAN Config 1 and WLAN Config 2 only differ in the software settings and there are no changes in the hardware.

Note 2: For WLAN Config 2, only the 5GHz High Band was tested; the data for the 5GHz Low Band is referenced from WLAN Config 1.

2. Test Configuration

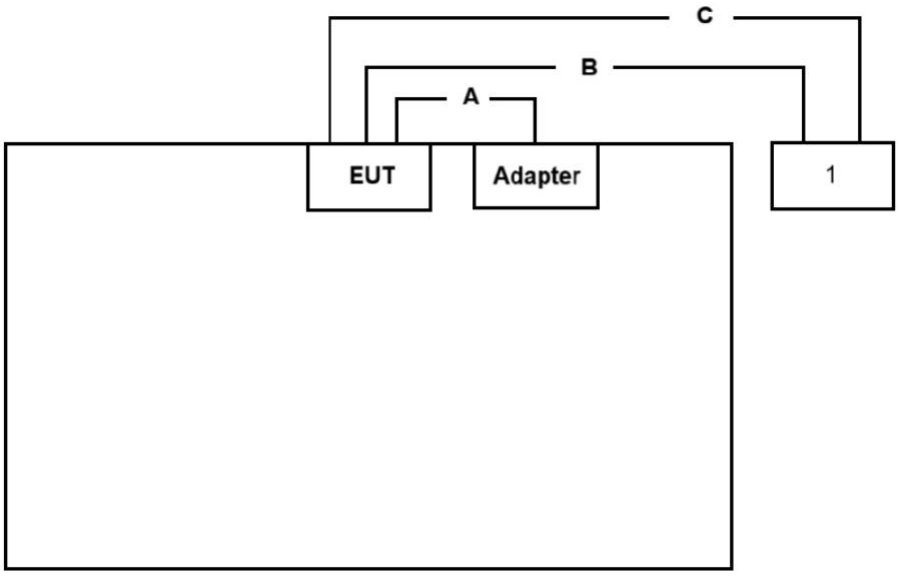
2.1. Test Mode

Mode 1: Transmit by 802.11ax-HE20 (MCS0)
Mode 2: Transmit by 802.11ax-HE40 (MCS0)
Mode 3: Transmit by 802.11ax-HE80 (MCS0)
Mode 4: Transmit by 802.11ax-HE160 (MCS0)
Mode 5: Transmit by 802.11be-EHT20 (MCS0)
Mode 6: Transmit by 802.11be-EHT40 (MCS0)
Mode 7: Transmit by 802.11be-EHT80 (MCS0)
Mode 8: Transmit by 802.11be-EHT160 (MCS0)
Mode 9: Transmit by 802.11be-EHT320 (MCS0)
Note 1: All applicable modes of operation and data rates were investigated. The RF test requirements were performed on the selected representative worst-case configurations with the highest measured output power. Note 2: For beamforming operation, the software automatically backs power down based on CDD power. Therefore, only the CDD mode was evaluated in this report. Note 3: 802.11ax (HE) and 802.11be (EHT) are both OFDMA-based modes. Considering the similarity of the modulation technology and the output power verification results, 802.11be were selected as representative worst-case modes for RF testing. Therefore, only the 802.11be test data are presented in this report.

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10-2020 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.

Connection Diagram - Radiated Emission testing & AC Conducted Emissions



Cable Type		Cable Description	Length
A	Power Cable	Non shielded	1.5 m
B	USB Cable	Shielded	> 10 m
C	LAN Cable	Non shielded, Cat.5e	> 10 m
Product		Manufacturer	Model No.
1	Notebook	ThinkPad	Gen 5 E14

2.3. Test Software

The test utility software used during testing was “QSPR” and the version was “5.0-00202”.

2.4. Applied Standards

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

- ANSI C63.10-2020
- ANSI C63.10-2020/Cor1-2023
- ANSI C63.10a-2024
- FCC KDB 789033 D02 v02r01
- FCC KDB 987594 D02 v03
- FCC KDB 987594 D04 v03
- FCC KDB 662911 D01 v02r01
- FCC KDB 414788 D01 v01r01
- FCC KDB 412172 D01 v01r01

2.5. Test Environment Condition

Ambient Temperature	15 ~ 35 °C
Relative Humidity	20 ~ 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."

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2026-12-03	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2026-04-26	SIP-AC3
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2026-09-29	SIP-AC3
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2026-06-20	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2026-10-16	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2026-01-04 2027-01-03	SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2026-07-03	SIP-AC3
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2026-12-15	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2026-09-28	SIP-AC3
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07075	1 year	2026-11-18	SIP-AC3
USB Power Sensor	Keysight	U2021XA	MRTSUE06596	1 year	2026-07-14	SIP-TR2
Temperature Chamber	BAOYT	BYG-408CS	MRTSUE06847	1 year	2026-01-18 2027-01-17	SIP-TR1
Signal Analyzer	Keysight	N9010B	MRTSUE07036	1 year	2026-01-18 2027-01-17	SIP-TR1/SIP-TR2
Thermohygrometer	testo	608-H1	MRTSUE11022	1 year	2026-10-16	SIP-TR1
Thermohygrometer	testo	608-H1	MRTSUE11563	1 year	2026-03-03 2027-03-02	SIP-TR2
Attenuator	MVE	MVE2213	MRTSUE11100	1 year	2026-06-04	SIP-TR1/SIP-TR2
Attenuator	MVE	MVE2213	MRTSUE11057	1 year	2026-06-04	SIP-TR1/SIP-TR2
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2026-04-29	SIP-SR2
Four-Line V-Network	R&S	ENV432	MRTSUE06614	1 year	2026-09-28	SIP-SR2
Thermohygrometer	testo	608-H1	MRTSUE06621	1 year	2026-10-08	SIP-SR2
Shielding Room	MIX-BEP	SIP-SR2	MRTSUE06949	5 years	2029-10-13	SIP-SR2

Note: The loss of the Attenuator & Cable will be measured before testing.

Software	Version	Function
e3	230711	RE & CE
Controller_MF 7802BS	1.02	RE Antenna & Turntable
Agilent Power Analyzer/Agilent Power Panel	V R03.09.00	Power

5. Decision Rules and Measurement Uncertainty

5.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.2. 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
The maximum measurement uncertainty is evaluated as: 9 kHz ~ 150 kHz: 3.59 dB 150 kHz ~ 30 MHz: 3.20 dB
Radiated Emission Measurement
The maximum measurement uncertainty is evaluated as: Coaxial: 9 kHz ~ 30 MHz: 2.56 dB Coplanar: 9 kHz ~ 30 MHz: 2.55 dB Horizontal: 30 MHz ~ 200 MHz: 3.48 dB 200 MHz ~ 1 GHz: 4.17 dB 1 GHz ~ 40 GHz: 5.01 dB Vertical: 30 MHz ~ 200 MHz: 4.09 dB 200 MHz ~ 1 GHz: 5.30 dB 1 GHz ~ 40 GHz: 4.85 dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% (U=2 Uc(y)): 2.9 dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2 Uc(y)): 1.4 dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% (U=2 Uc(y)): 2.9 dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2 Uc(y)): 2.6%

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.407(a)(11)	Channel Bandwidth	Conducted	Pass
15.407(a)(4)	Maximum Equivalent Isotopically Radiated Power (EIRP)		Pass
15.407(a)(4)	Maximum Power Spectral Density (EIRP)		Pass
15.407(b)(7)	In-Band Emission		Pass
15.407(g)	Frequency Stability		Pass
15.407(k)	Automated Frequency Coordination		Pass Note 3
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 150 kHz - 30 MHz	Line Conducted	Pass

Notes:

1. The analyzer plots shown in this section were captured using a correction table to account for cable and attenuator losses in the system connecting the EUT to the analyzer across relevant frequencies.
2. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.
3. Automated Frequency Coordination refers to report “R25S1061112-U204”.

6.2. Channel Bandwidth Measurement

6.2.1. Test Limit

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

6.2.2. Test Procedure

KDB 789033 D02 v02r01- Section II)C)1) (26 dB Bandwidth)

KDB 789033 D02 v02r01- Section II)D) (99% Bandwidth)

6.2.3. Test Setting

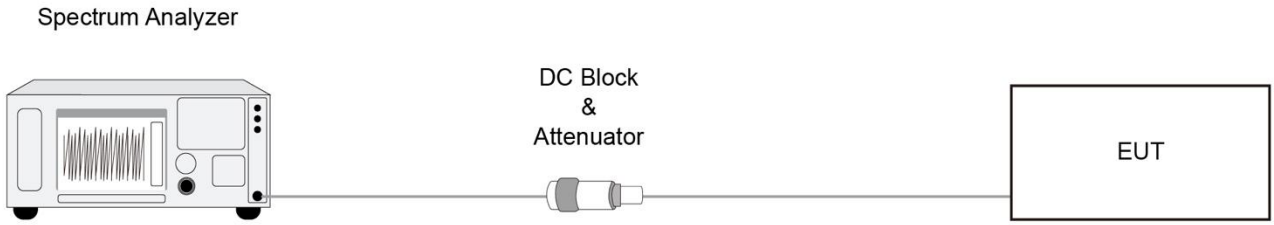
26 dB Bandwidth

1. The analyzers' automatic bandwidth measurement capability was used to perform the 26 dB bandwidth
2. RBW = approximately 1% of the emission bandwidth.
3. VBW > RBW
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

99% Bandwidth

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 1% to 5% of the OBW
3. VBW ≥ 3 × RBW
4. Span = 1.5 times to 5 times the OBW
5. Detector = peak
6. Trace mode = max hold
7. Allow the trace to stabilize
8. Use the 99% power bandwidth function of the instrument.

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.2.

6.3. Equivalent Isotopically Radiated Power Measurement

6.3.1. Test Limit

For a standard access point operating in the 5.925 - 6.425 GHz and 6.525 - 6.875 GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm.

For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

6.3.2. Test Procedure

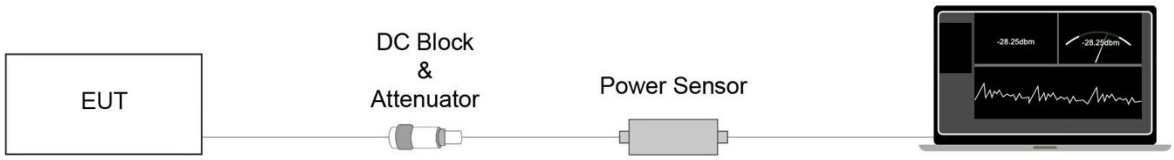
KDB 789033 D02 v02r01- Section II)E)3)b) Method PM-G

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

Refer to Appendix A.3.

6.4. Power Spectral Density Measurement

6.4.1. Test Limit

For a standard access point operating in the 5.925-6.425 GHz and 6.525-6.875 GHz band, the maximum power spectral density must not exceed 23 dBm e.i.r.p. in any 1-megahertz band.

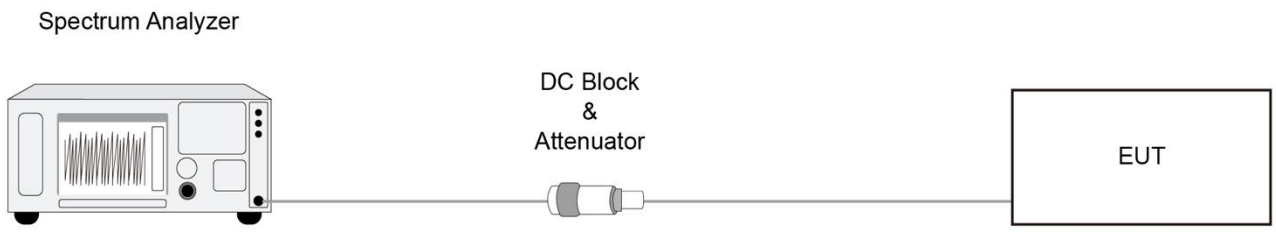
6.4.2. Test Procedure

KDB 789033 D02 v02r01-Section II)F)

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 26 dB EBW of the signal.
3. RBW = 1 MHz
4. VBW = 3 MHz
5. Number of sweep points ≥ 2 × (span / RBW)
6. Detector = power averaging (Average)
7. Sweep time = auto
8. Trigger = free run
9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
10. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
11. 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

Refer to Appendix A.4.

6.5. In-Band Emission Measurement

6.5.1. Test Limit

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.)

Suppressed by 28 dB at one channel bandwidth from the channel center.

Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.

6.5.2. Test Procedure

KDB 987594 D02 v03 - Section II)J)

6.5.3. Test Setting

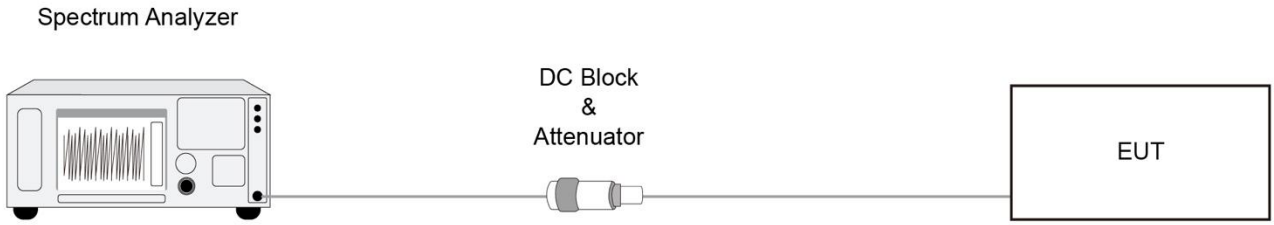
Emissions Mask Reference Level Measurement

1. Set the span to encompass the entire 26 dB EBW of the signal.
2. Set RBW = same RBW used for 26 dB EBW measurement.
3. Set VBW ≥ 3 × RBW.
4. Number of points in sweep ≥ [2 x span / RBW].
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging (rms) mode.
8. Use the peak search function on the instrument to find the peak of the spectrum.

In-Band Emission

1. Using the measuring equipment limit line function, develop the emissions mask based on rule.
2. Adjust the span to encompass the entire mask as necessary.
3. Clear trace.
4. Trace average at least 100 traces in power averaging (rms) mode.
5. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

6.5.4. Test Setup



6.5.5. Test Result

Refer to Appendix A.5.

6.6. Frequency Stability Measurement

6.6.1. Test Limit

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

6.6.2. Test Procedure

Frequency Stability Under Temperature Variations:

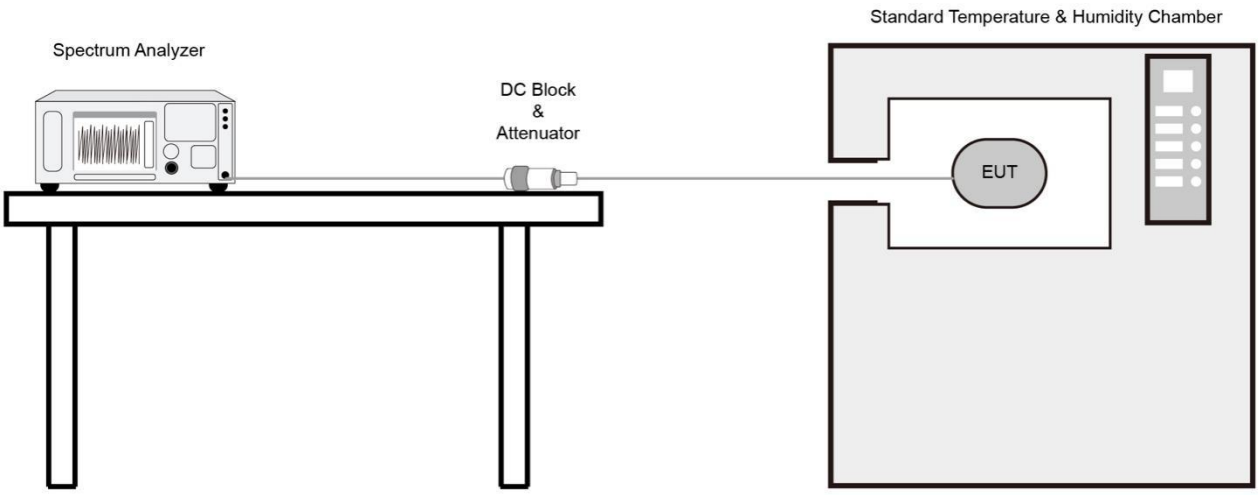
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20 °C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10 °C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20 °C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

6.6.3. Test Setup



6.6.4. Test Result

Refer to Appendix A.6.

6.7. Radiated Spurious Emission Measurement

6.7.1. Test Limit

For 15.407(b)(5) requirement

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

Refer to 987594 D02 U-NII 6 GHz EMC Measurement v03 clause G

Use guidance in KDB 789033 for measurements below 1000 MHz and above 1000 MHz. Unwanted emissions outside of restricted bands are measured with a RMS detector. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2. Test Procedure

KDB 789033 D02 v02r01-Section II)G)

6.7.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Quasi-Peak Measurements below 1 GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1 MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1 GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW = 3 MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1 GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW = 1 MHz

3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.

If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.

4. Detector = Peak

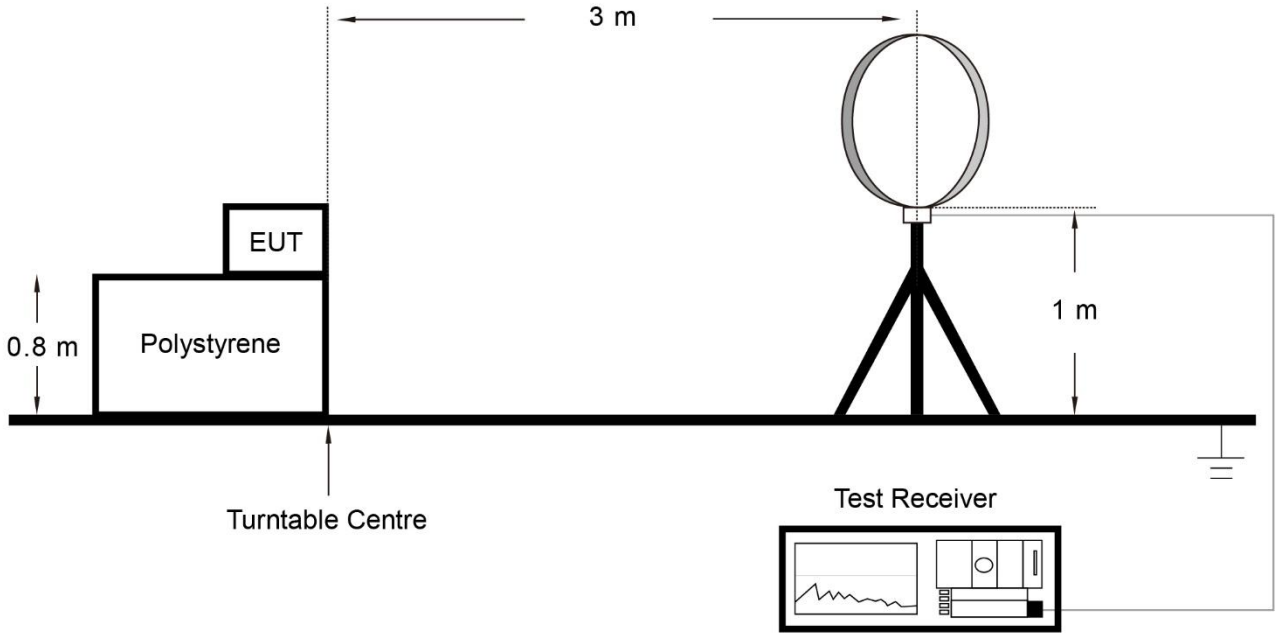
5. Sweep time = auto

6. Trace mode = max hold

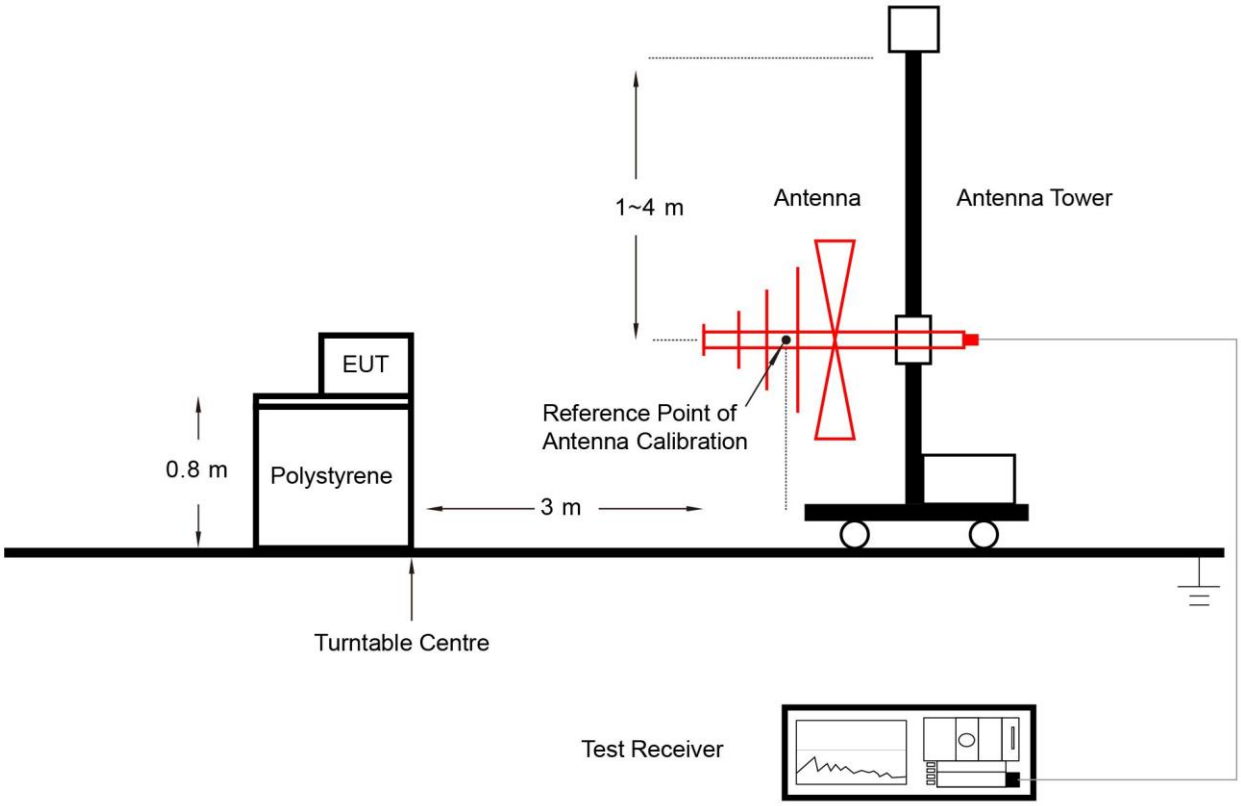
7. Trace was allowed to stabilize

6.7.4. Test Setup

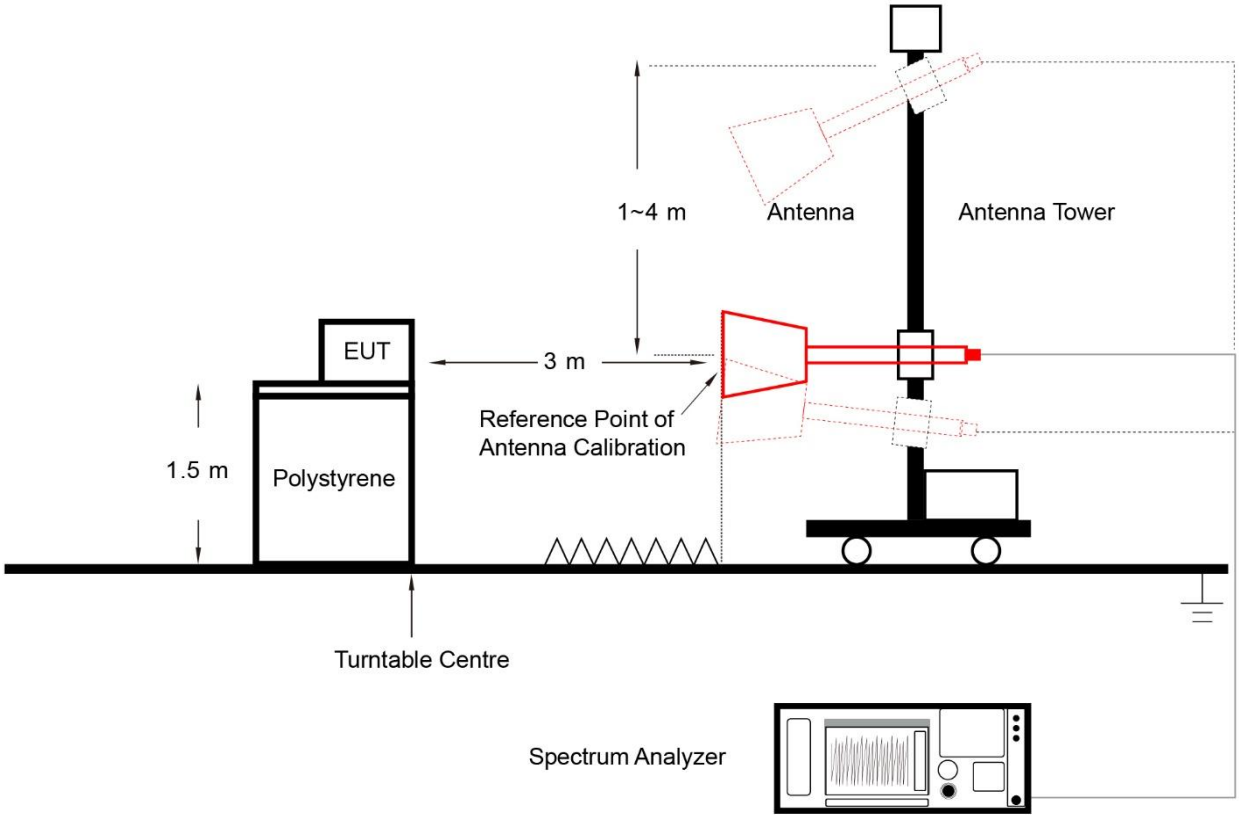
Below 30 MHz Test Setup:



Below 1 GHz Test Setup:



Above 1 GHz Test Setup:



6.7.5. Test Result

Refer to Appendix A.7.

6.8. Radiated Restricted Band Edge Measurement

6.8.1. Test Limit

For 15.407(b)(6) requirement:

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of −27 dBm/MHz.

Refer to 987594 D02 U-NII 6 GHz EMC Measurement v03 clause G - Unwanted Emission Measurement

Use guidance in KDB 789033 for measurements below 1000 MHz and above 1000 MHz. Unwanted emissions outside of restricted bands are measured with a RMS detector. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.

6.8.2. Test Procedure

KDB 789033 D02 v02r01-Section II)G)

6.8.3. Test Setting

Peak Measurements above 1 GHz

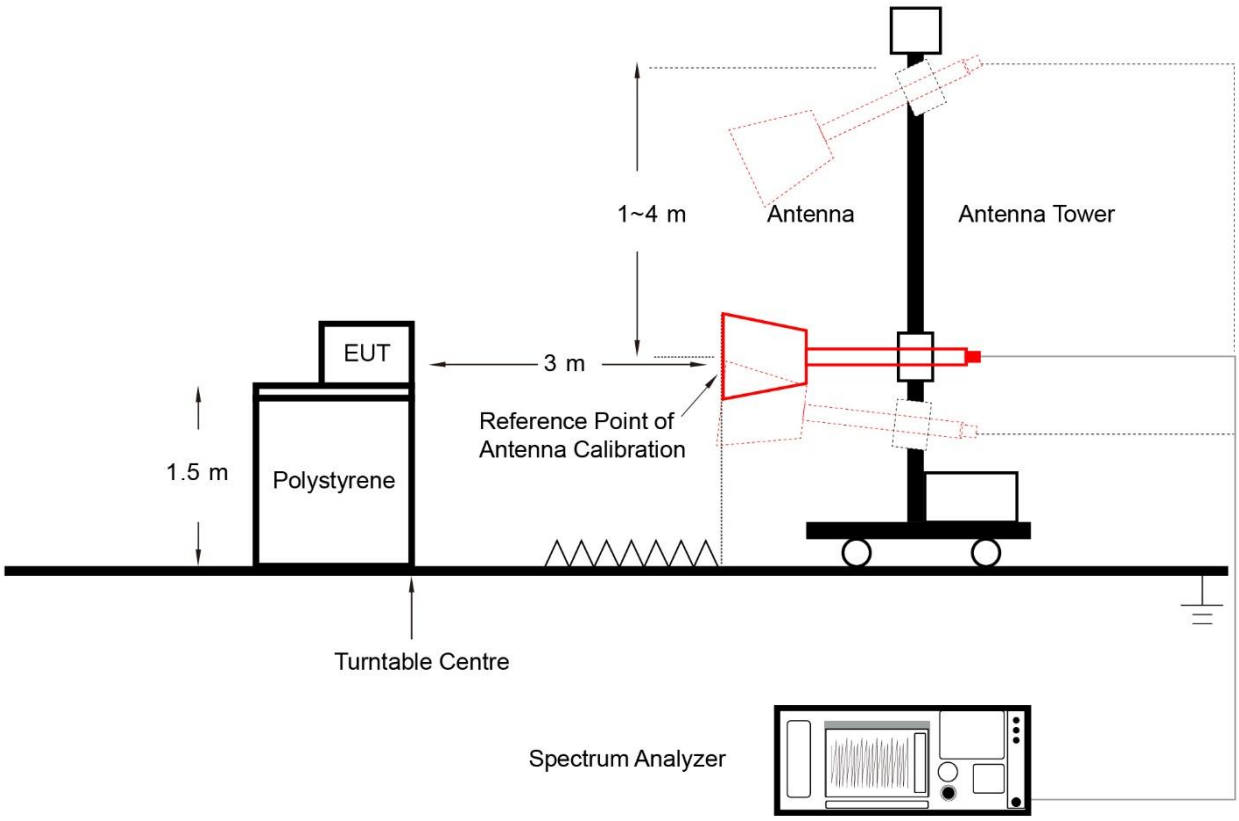
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW = 3 MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1 GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW; if the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz

   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = Auto
6. Trace mode = Max hold
7. Trace was allowed to stabilize

6.8.4. Test Setup



6.8.5. Test Result

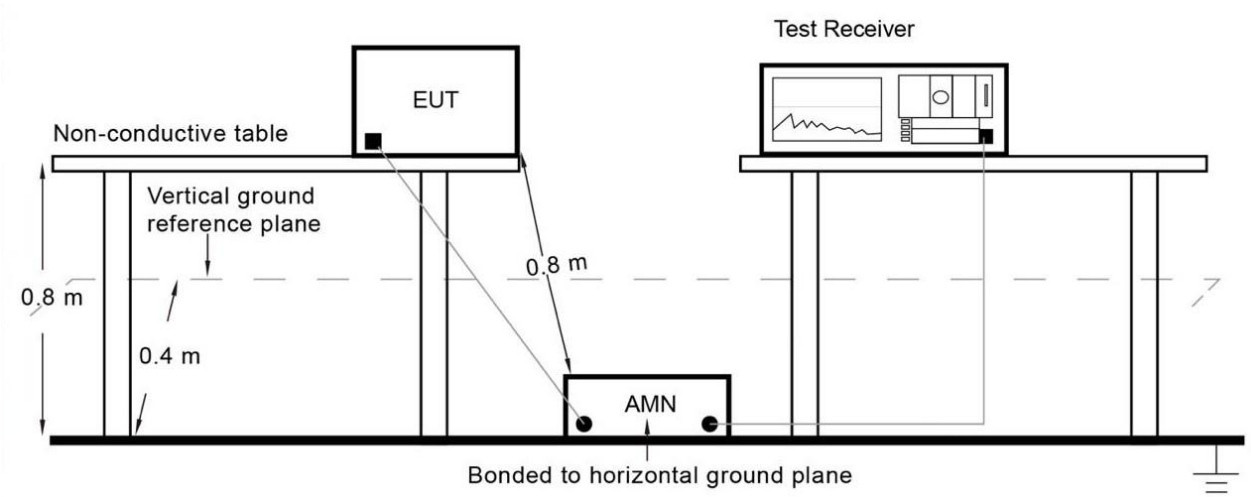
Refer to Appendix A.8.

6.9. AC Conducted Emissions Measurement

6.9.1. Test Limit

FCC Part 15.207 Limits		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

6.9.2. Test Setup



6.9.3. Test Result

Refer to Appendix A.9.

Appendix A - Test Result

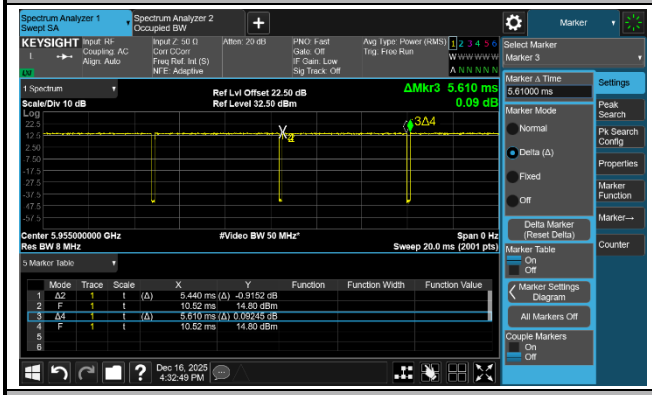
A.1 Duty Cycle Test Result

Test Site	SIP-TR2	Test Engineer	Nolan Chen
Test Date	2025-12-16	Model No.	OAW-AP1542

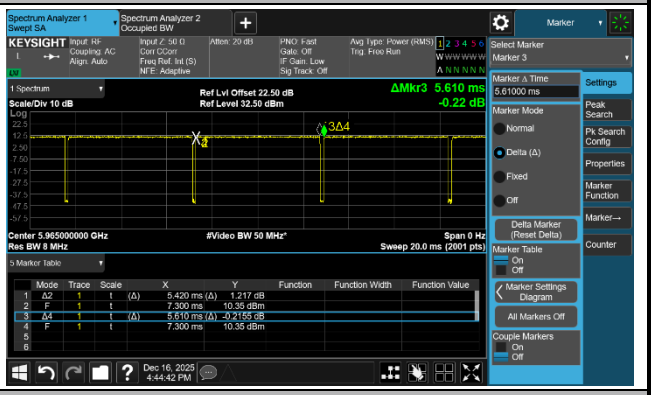
Test Mode	Duty Cycle
802.11be-EHT20	96.97%
802.11be-EHT40	96.61%
802.11be-EHT80	96.38%
802.11be-EHT160	96.11%
802.11be-EHT320-1	96.45%
802.11be-EHT320-2	96.80%

Duty Cycle (T = Transmission Duration)

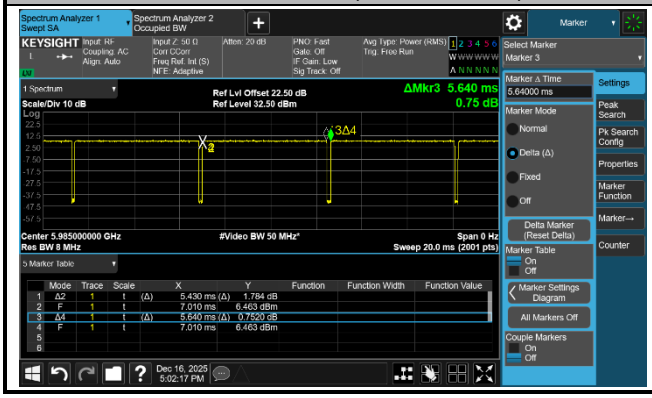
802.11be-EHT20 (T = 5.440 ms)



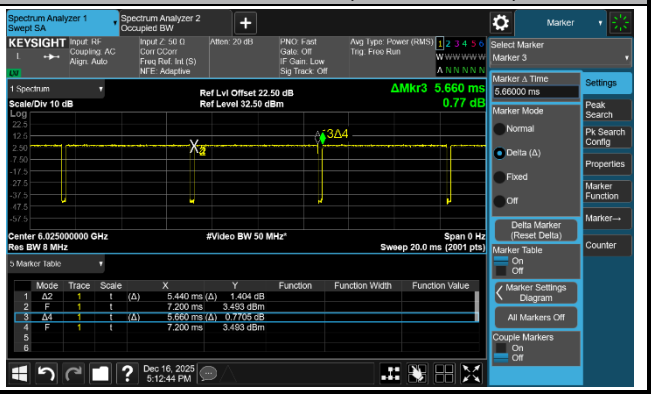
802.11be-EHT40 (T = 5.420 ms)

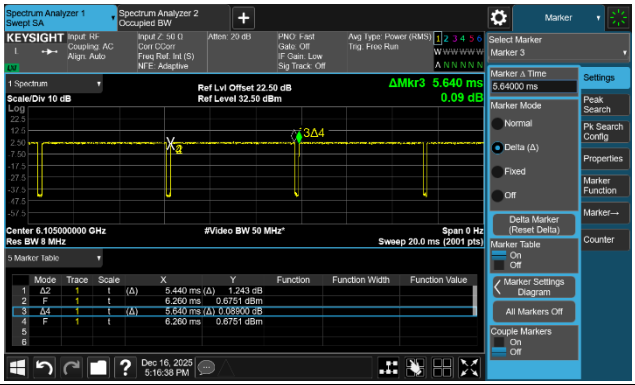
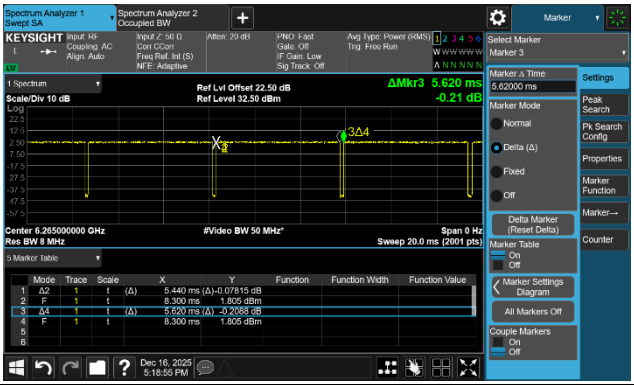


802.11be-EHT80 (T = 5.430 ms)



802.11be-EHT160 (T = 5.440 ms)



Duty Cycle (T = Transmission Duration)	
802.11be-EHT320-1 (T = 5.440 ms)	802.11be-EHT320-2 (T = 5.440 ms)
	

A.2 Channel Bandwidth Test Result

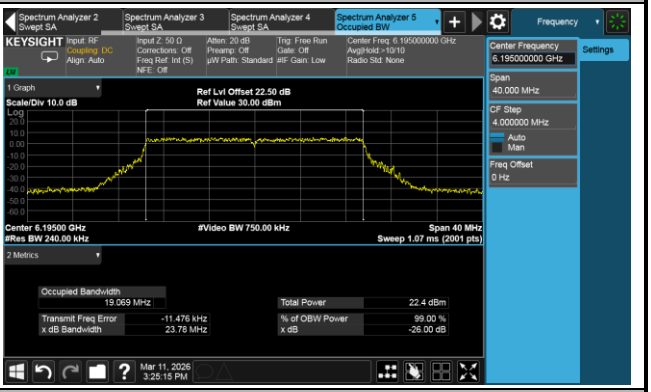
Test Site	SIP-TR2	Test Engineer	Nolan Chen
Test Date	2025-12-25 ~ 2026-03-11	Model No.	OAW-AP1542

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Result
802.11be-EHT20	MCS0	1	5955	23.05	19.077	Pass
802.11be-EHT20	MCS0	49	6195	23.78	19.069	Pass
802.11be-EHT20	MCS0	93	6415	22.29	19.052	Pass
802.11be-EHT20	MCS0	117	6535	22.14	19.021	Pass
802.11be-EHT20	MCS0	149	6695	22.11	19.066	Pass
802.11be-EHT20	MCS0	181	6855	22.38	19.059	Pass
802.11be-EHT40	MCS0	3	5965	43.24	37.954	Pass
802.11be-EHT40	MCS0	51	6205	44.64	38.072	Pass
802.11be-EHT40	MCS0	91	6405	44.01	38.032	Pass
802.11be-EHT40	MCS0	123	6565	42.92	37.986	Pass
802.11be-EHT40	MCS0	147	6685	44.07	38.070	Pass
802.11be-EHT40	MCS0	179	6845	45.58	38.114	Pass
802.11be-EHT80	MCS0	7	5985	87.86	77.657	Pass
802.11be-EHT80	MCS0	55	6225	89.02	77.728	Pass
802.11be-EHT80	MCS0	87	6385	88.83	77.660	Pass
802.11be-EHT80	MCS0	135	6625	89.66	77.783	Pass
802.11be-EHT80	MCS0	151	6705	86.97	77.647	Pass
802.11be-EHT80	MCS0	167	6785	90.07	77.826	Pass
802.11be-EHT160	MCS0	15	6025	170.7	157.11	Pass
802.11be-EHT160	MCS0	47	6185	173.6	157.05	Pass
802.11be-EHT160	MCS0	79	6345	171.7	157.08	Pass
802.11be-EHT160	MCS0	143	6665	172.3	156.94	Pass
802.11be-EHT320-1	MCS0	31	6105	333.5	314.93	Pass
802.11be-EHT320-2	MCS0	63	6265	336.2	315.25	Pass

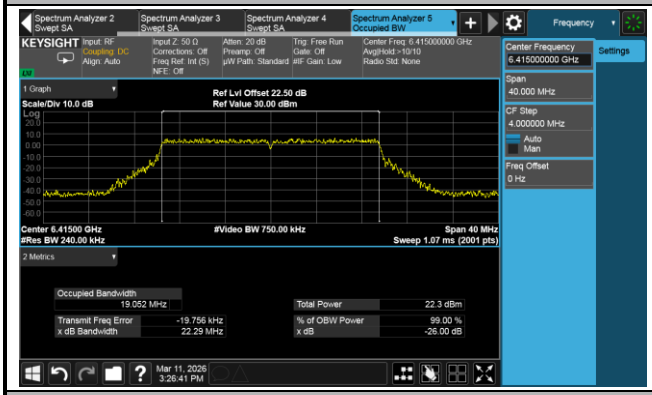
802.11be-EHT20 26 dB Bandwidth

Channel 1 (5955 MHz)

Channel 49 (6195 MHz)

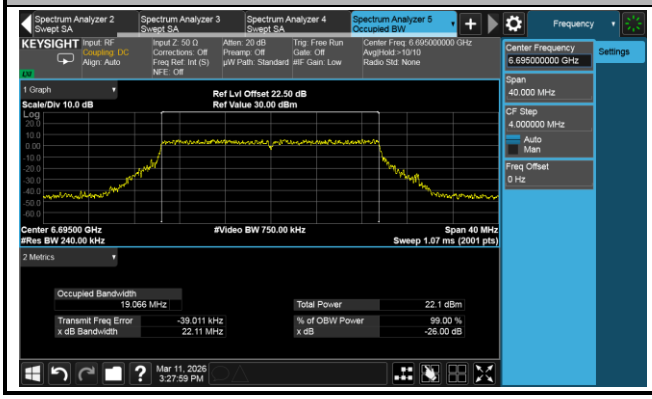


Channel 93 (6415 MHz)

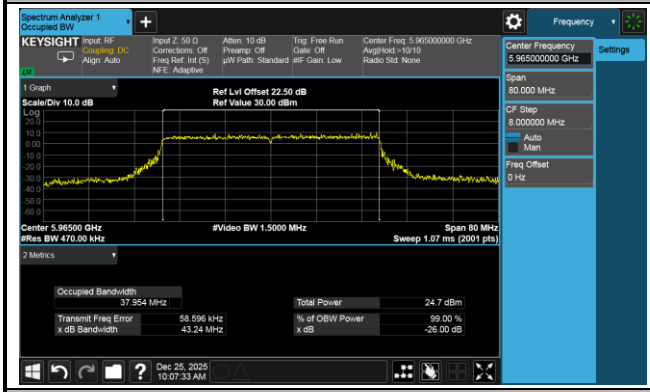
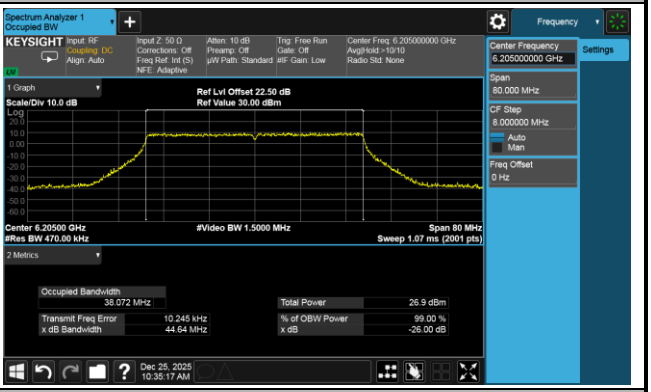
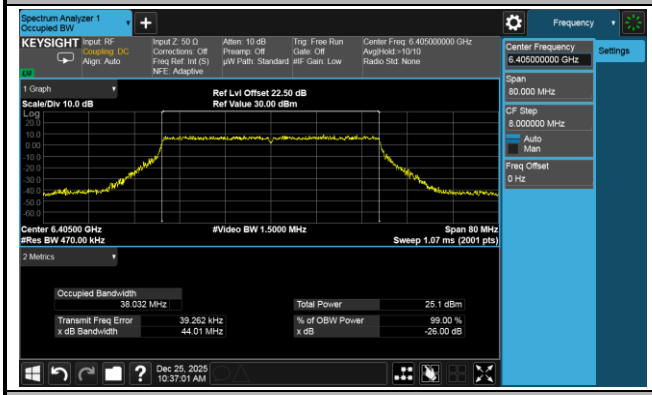
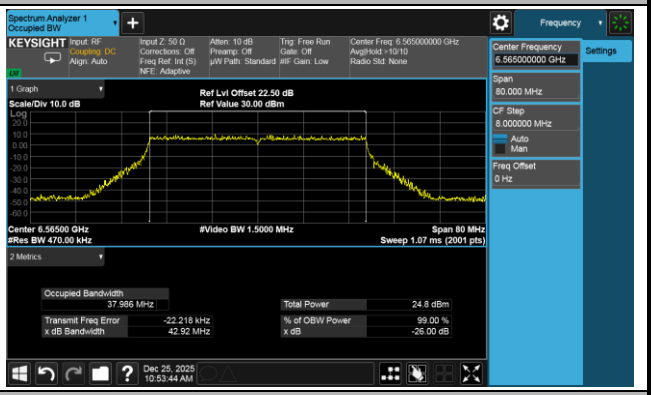
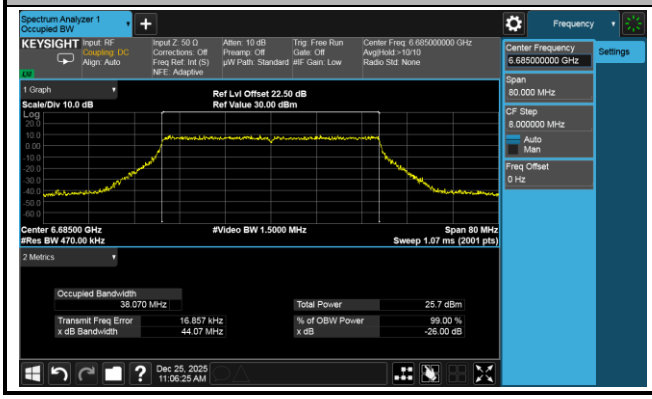
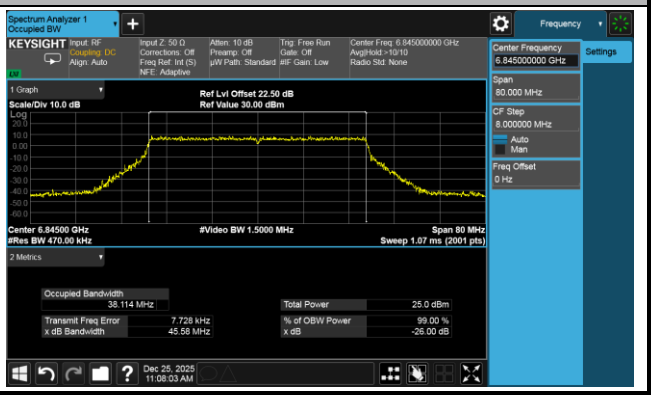


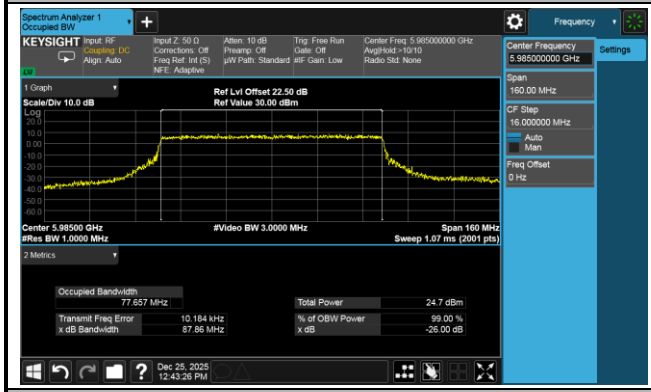
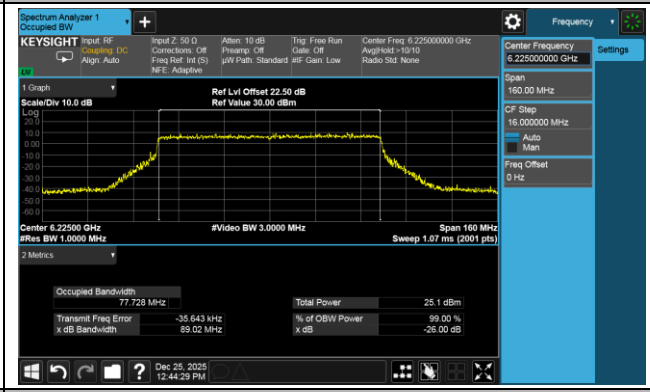
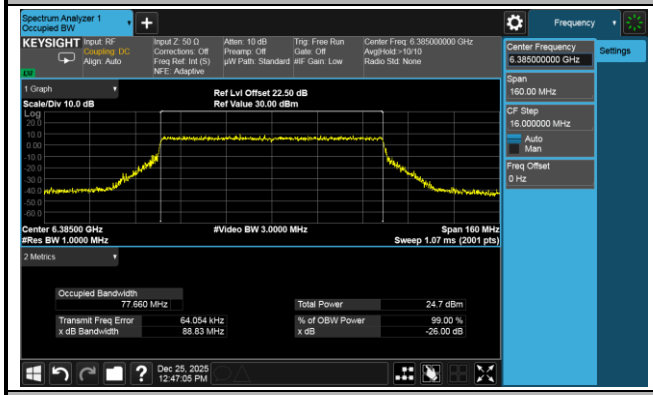
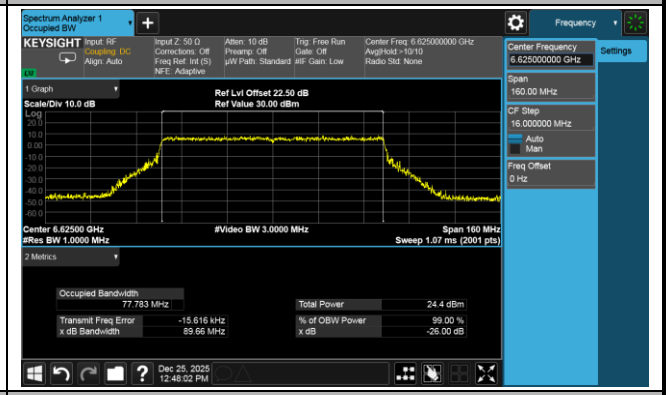
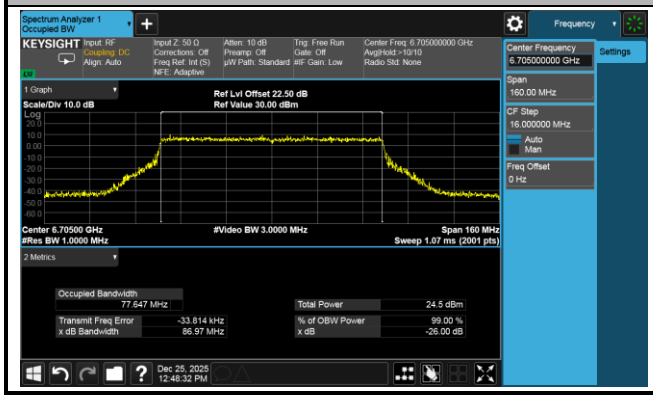
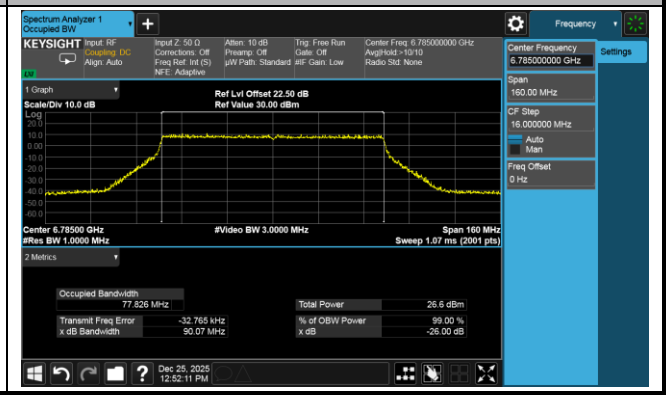
Channel 117 (6535 MHz)

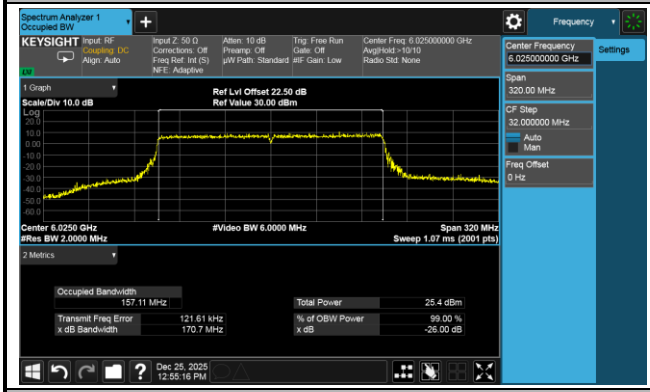
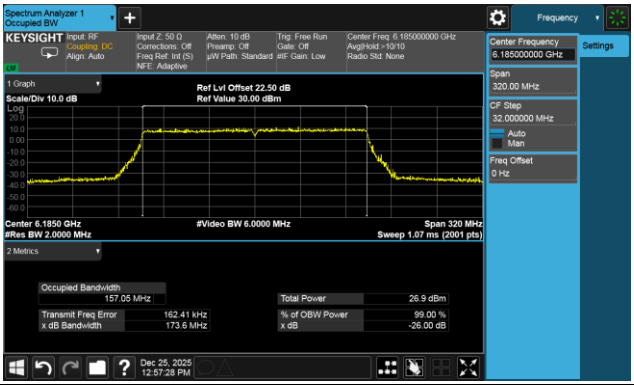
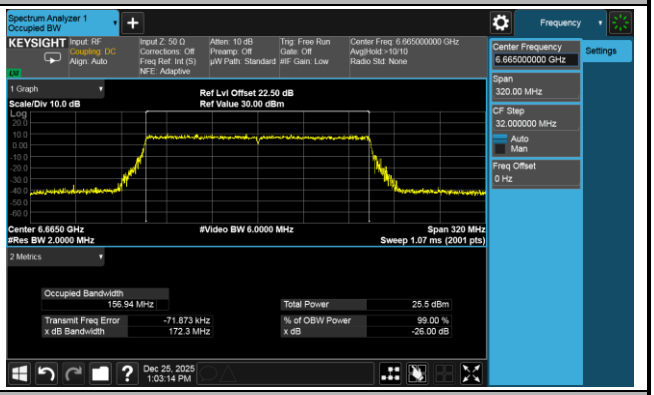
Channel 149 (6695 MHz)

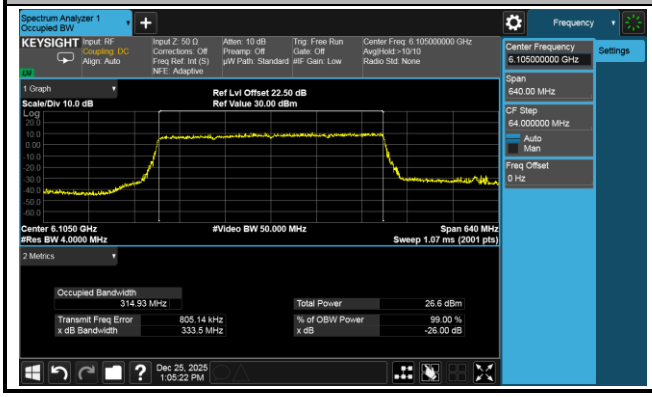
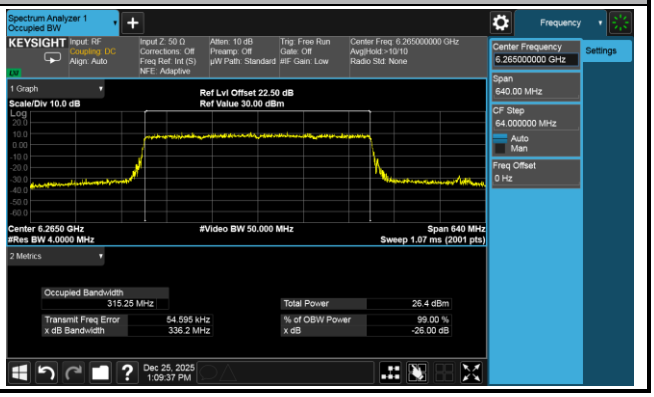


Channel 181 (6855 MHz)

802.11be-EHT40 26 dB Bandwidth	
Channel 3 (5965 MHz)	Channel 51 (6205 MHz)
	
Channel 91 (6405 MHz)	Channel 123 (6565 MHz)
	
Channel 147 (6685 MHz)	Channel 179 (6845 MHz)
	

802.11be-EHT80 26 dB Bandwidth	
Channel 7 (5985 MHz)	Channel 55 (6225 MHz)
	
Channel 87 (6385 MHz)	Channel 135 (6625 MHz)
	
Channel 151 (6705 MHz)	Channel 167 (6785 MHz)
	

802.11be-EHT160 26 dB Bandwidth	
Channel 15 (6025 MHz)	Channel 47 (6185 MHz)
	
Channel 79 (6345 MHz)	Channel 143 (6665 MHz)
	

802.11be-EHT320 26 dB Bandwidth	
Channel 31 (6105 MHz)	Channel 63 (6265 MHz)
	

A.3 Equivalent Isotopically Radiated Power Test Result

Test Site	SIP-TR2	Test Engineer	Nolan Chen
Test Date	2025-12-16 ~ 2025-12-18	Model No.	OAW-AP1542

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total AV Power (dBm)	EIRP (dBm)	Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3			
802.11ax-HE20	MCS0	1	5955	17.71	17.56	17.46	17.19	23.50	27.90	≤ 36.00
802.11ax-HE20	MCS0	49	6195	17.78	17.58	17.42	17.23	23.53	27.93	≤ 36.00
802.11ax-HE20	MCS0	93	6415	17.84	16.79	16.54	16.17	22.90	27.30	≤ 36.00
802.11ax-HE20	MCS0	117	6535	17.70	16.72	16.43	16.40	22.87	27.27	≤ 36.00
802.11ax-HE20	MCS0	149	6695	17.43	16.78	16.44	16.52	22.83	27.23	≤ 36.00
802.11ax-HE20	MCS0	181	6855	17.56	17.02	16.76	17.11	23.14	27.54	≤ 36.00
802.11ax-HE40	MCS0	3	5965	17.66	17.47	17.29	17.20	23.43	27.83	≤ 36.00
802.11ax-HE40	MCS0	51	6205	17.74	17.53	17.07	17.02	23.37	27.77	≤ 36.00
802.11ax-HE40	MCS0	91	6405	17.62	16.73	16.45	16.01	22.76	27.16	≤ 36.00
802.11ax-HE40	MCS0	123	6565	17.68	16.46	16.40	16.21	22.75	27.15	≤ 36.00
802.11ax-HE40	MCS0	147	6685	17.67	17.11	16.87	16.75	23.14	27.54	≤ 36.00
802.11ax-HE40	MCS0	179	6845	17.55	16.79	16.52	16.45	22.87	27.27	≤ 36.00
802.11ax-HE80	MCS0	7	5985	17.68	17.29	17.43	17.18	23.42	27.82	≤ 36.00
802.11ax-HE80	MCS0	55	6225	17.55	16.96	16.88	16.56	23.02	27.42	≤ 36.00
802.11ax-HE80	MCS0	87	6385	17.74	16.78	16.45	16.03	22.82	27.22	≤ 36.00
802.11ax-HE80	MCS0	135	6625	17.39	16.31	16.29	16.17	22.59	26.99	≤ 36.00
802.11ax-HE80	MCS0	151	6705	17.75	17.02	16.98	16.90	23.20	27.60	≤ 36.00
802.11ax-HE80	MCS0	167	6785	17.72	16.94	16.97	16.63	23.10	27.50	≤ 36.00
802.11ax-HE160	MCS0	15	6025	17.47	16.98	16.79	16.67	23.01	27.41	≤ 36.00
802.11ax-HE160	MCS0	47	6185	17.54	17.28	16.95	17.02	23.22	27.62	≤ 36.00
802.11ax-HE160	MCS0	79	6345	17.59	16.82	16.44	16.08	22.79	27.19	≤ 36.00
802.11ax-HE160	MCS0	143	6665	17.69	16.83	16.50	16.45	22.92	27.32	≤ 36.00
802.11be-EHT20	MCS0	1	5955	17.75	17.60	17.53	17.23	23.55	27.95	≤ 36.00
802.11be-EHT20	MCS0	49	6195	17.81	17.62	17.48	17.27	23.57	27.97	≤ 36.00
802.11be-EHT20	MCS0	93	6415	17.87	16.82	16.59	16.25	22.95	27.35	≤ 36.00
802.11be-EHT20	MCS0	117	6535	17.74	16.77	16.47	16.44	22.91	27.31	≤ 36.00
802.11be-EHT20	MCS0	149	6695	17.51	16.81	16.48	16.58	22.88	27.28	≤ 36.00
802.11be-EHT20	MCS0	181	6855	17.59	17.04	16.82	17.15	23.18	27.58	≤ 36.00

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total AV Power (dBm)	EIRP (dBm)	Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3			
802.11be-EHT40	MCS0	3	5965	17.71	17.55	17.34	17.24	23.48	27.88	≤ 36.00
802.11be-EHT40	MCS0	51	6205	17.79	17.60	17.10	17.06	23.42	27.82	≤ 36.00
802.11be-EHT40	MCS0	91	6405	17.69	16.76	16.52	16.04	22.82	27.22	≤ 36.00
802.11be-EHT40	MCS0	123	6565	17.75	16.52	16.44	16.26	22.80	27.20	≤ 36.00
802.11be-EHT40	MCS0	147	6685	17.75	17.15	16.92	16.79	23.19	27.59	≤ 36.00
802.11be-EHT40	MCS0	179	6845	17.62	16.85	16.55	16.51	22.93	27.33	≤ 36.00
802.11be-EHT80	MCS0	7	5985	17.74	17.32	17.48	17.23	23.47	27.87	≤ 36.00
802.11be-EHT80	MCS0	55	6225	17.65	17.01	16.91	16.62	23.08	27.48	≤ 36.00
802.11be-EHT80	MCS0	87	6385	17.81	16.81	16.47	16.05	22.86	27.26	≤ 36.00
802.11be-EHT80	MCS0	135	6625	17.44	16.36	16.34	16.21	22.64	27.04	≤ 36.00
802.11be-EHT80	MCS0	151	6705	17.80	17.06	17.02	16.92	23.24	27.64	≤ 36.00
802.11be-EHT80	MCS0	167	6785	17.74	16.98	17.01	16.67	23.14	27.54	≤ 36.00
802.11be-EHT160	MCS0	15	6025	17.52	17.02	16.85	16.72	23.06	27.46	≤ 36.00
802.11be-EHT160	MCS0	47	6185	17.60	17.34	16.98	17.08	23.28	27.68	≤ 36.00
802.11be-EHT160	MCS0	79	6345	17.63	16.88	16.47	16.14	22.84	27.24	≤ 36.00
802.11be-EHT160	MCS0	143	6665	17.74	16.87	16.54	16.52	22.97	27.37	≤ 36.00
802.11be-EHT320-1	MCS0	31	6105	17.43	16.84	16.53	16.31	22.82	27.22	≤ 36.00
802.11be-EHT320-2	MCS0	63	6265	17.94	17.08	16.69	16.58	23.13	27.53	≤ 36.00

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: EIRP (dBm) = Total Average Power (dBm) + Directional Gain for Power (dBi).

A.4 Power Spectral Density Test Result

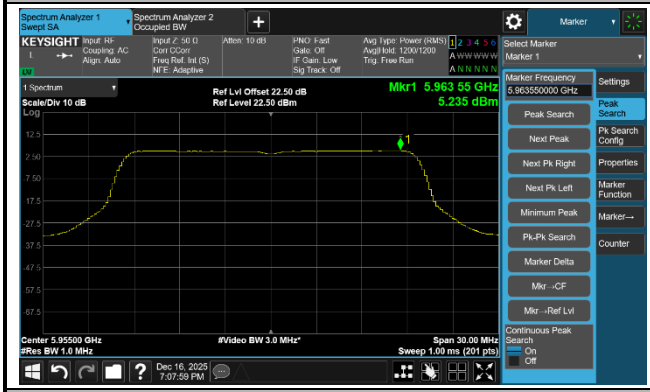
Test Site	SIP-TR2	Test Engineer	Nolan Chen
Test Date	2025-12-16 ~ 2025-12-18	Model No.	OAW-AP1542

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)				Duty Cycle (%)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)
				Ant 0	Ant 1	Ant 2	Ant 3			
802.11be-EHT20	MCS0	1	5955	5.235	5.201	5.108	4.524	96.97	11.181	≤ 23.00
802.11be-EHT20	MCS0	49	6195	4.895	4.592	4.310	4.519	96.97	10.738	≤ 23.00
802.11be-EHT20	MCS0	93	6415	5.060	3.973	3.703	3.394	96.97	10.234	≤ 23.00
802.11be-EHT20	MCS0	117	6535	4.912	3.863	3.625	3.669	96.97	10.204	≤ 23.00
802.11be-EHT20	MCS0	149	6695	4.665	3.938	3.742	3.864	96.97	10.222	≤ 23.00
802.11be-EHT20	MCS0	181	6855	5.033	4.729	4.195	4.483	96.97	10.775	≤ 23.00
802.11be-EHT40	MCS0	3	5965	2.540	2.053	2.087	1.890	96.61	8.320	≤ 23.00
802.11be-EHT40	MCS0	51	6205	2.387	1.821	1.460	1.244	96.61	7.920	≤ 23.00
802.11be-EHT40	MCS0	91	6405	2.140	1.131	0.795	0.288	96.61	7.313	≤ 23.00
802.11be-EHT40	MCS0	123	6565	2.160	0.620	0.594	0.329	96.61	7.159	≤ 23.00
802.11be-EHT40	MCS0	147	6685	2.034	1.217	1.078	0.963	96.61	7.514	≤ 23.00
802.11be-EHT40	MCS0	179	6845	2.073	1.510	1.112	0.970	96.61	7.608	≤ 23.00
802.11be-EHT80	MCS0	7	5985	-0.802	-1.175	-1.422	-1.537	96.28	4.960	≤ 23.00
802.11be-EHT80	MCS0	55	6225	-0.978	-1.590	-1.934	-2.109	96.28	4.554	≤ 23.00
802.11be-EHT80	MCS0	87	6385	-1.005	-1.638	-2.176	-2.740	96.28	4.343	≤ 23.00
802.11be-EHT80	MCS0	135	6625	-1.450	-2.243	-2.466	-2.703	96.28	3.996	≤ 23.00
802.11be-EHT80	MCS0	151	6705	-0.822	-1.526	-1.685	1.853	96.28	5.896	≤ 23.00
802.11be-EHT80	MCS0	167	6785	-1.015	-1.672	-1.830	-1.993	96.28	4.574	≤ 23.00
802.11be-EHT160	MCS0	15	6025	-3.733	-4.116	-4.610	-4.183	96.11	2.044	≤ 23.00
802.11be-EHT160	MCS0	47	6185	-3.415	-4.118	-4.271	-4.232	96.11	2.198	≤ 23.00
802.11be-EHT160	MCS0	79	6345	-3.459	-4.235	-4.842	-5.221	96.11	1.806	≤ 23.00
802.11be-EHT160	MCS0	143	6665	-3.823	-4.930	-4.999	-5.246	96.11	1.479	≤ 23.00
802.11be-EHT320-1	MCS0	31	6105	-6.048	-7.286	-7.576	-7.371	96.45	-0.849	≤ 23.00
802.11be-EHT320-2	MCS0	63	6265	-5.932	-6.903	-7.193	-7.523	96.80	-0.684	≤ 23.00

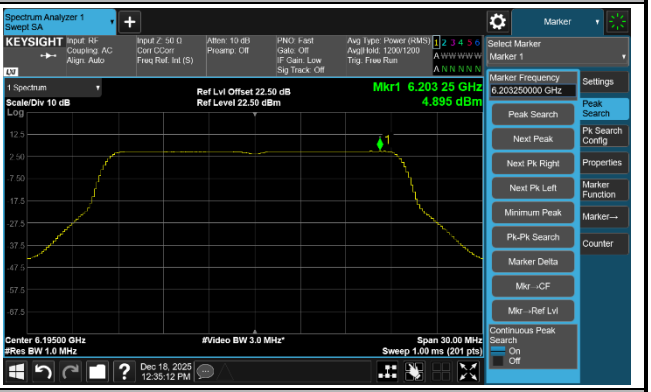
Note: When EUT duty cycle < 98%, EIRP PSD (dBm/MHz) = 10*log {$10^{(\text{Ant 0 PSD}/10)}$ + $10^{(\text{Ant 1 PSD}/10)}$ +$10^{(\text{Ant 2 PSD}/10)}$ + $10^{(\text{Ant 3 PSD}/10)}$} (dBm/MHz) + 10×log (1/Duty Cycle) + Directional Gain for PSD (dBi).

802.11be-EHT20 Power Spectral Density- Ant 0

Channel 1 (5955 MHz)

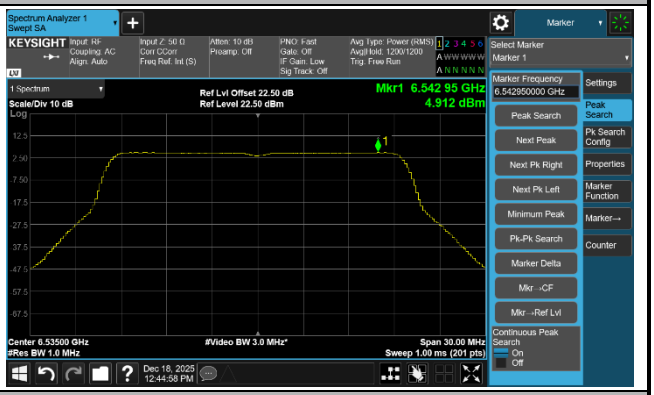


Channel 49 (6195 MHz)

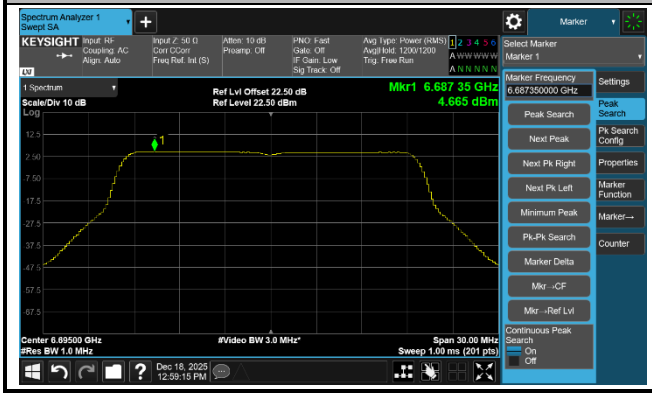


Channel 93 (6415 MHz)

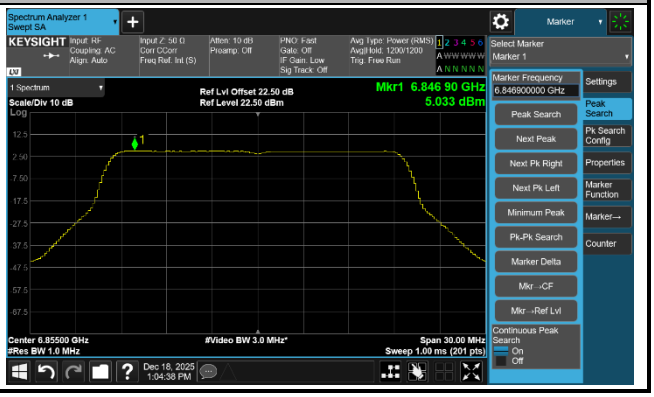
Channel 117 (6535 MHz)



Channel 149 (6695 MHz)



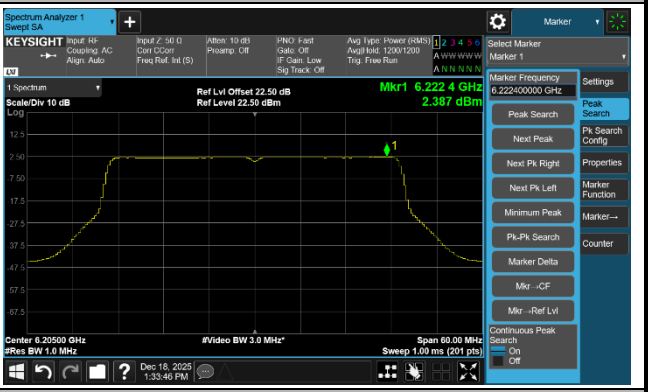
Channel 181 (6855 MHz)



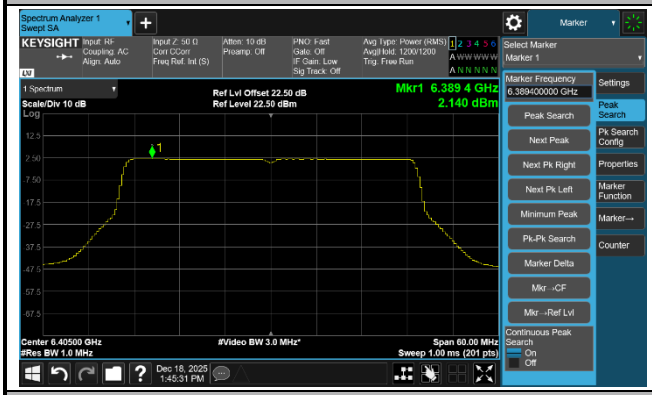
802.11be-EHT40 Power Spectral Density- Ant 0

Channel 3 (5965 MHz)

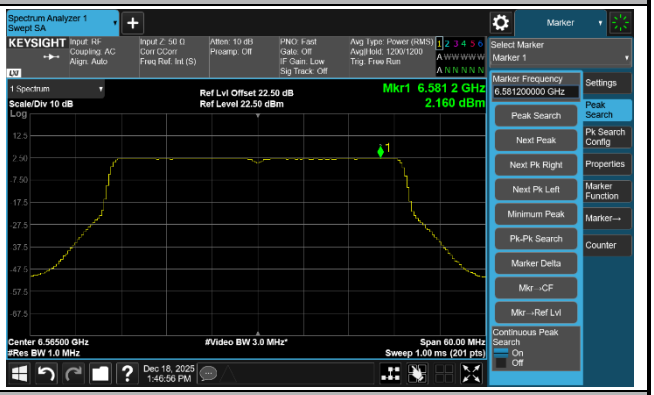
Channel 51 (6205 MHz)



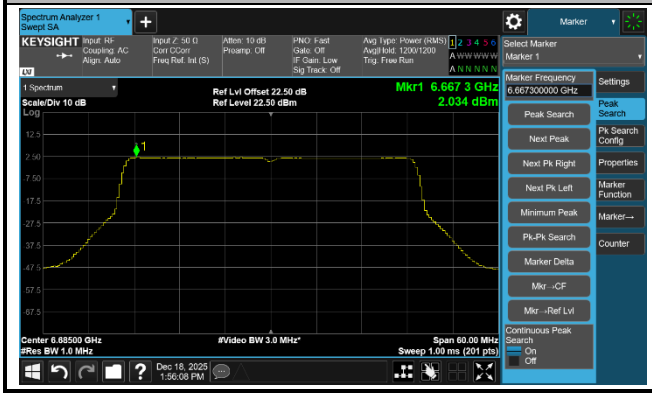
Channel 91 (6405 MHz)



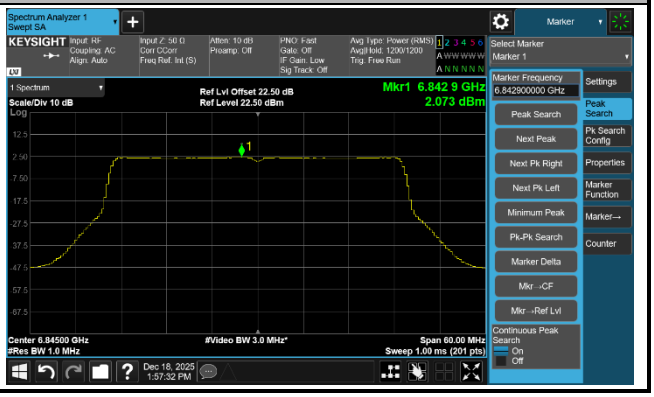
Channel 123 (6565 MHz)



Channel 147 (6685 MHz)

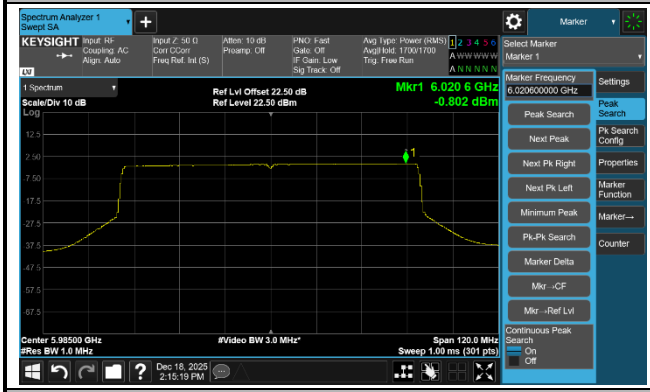


Channel 179 (6845 MHz)

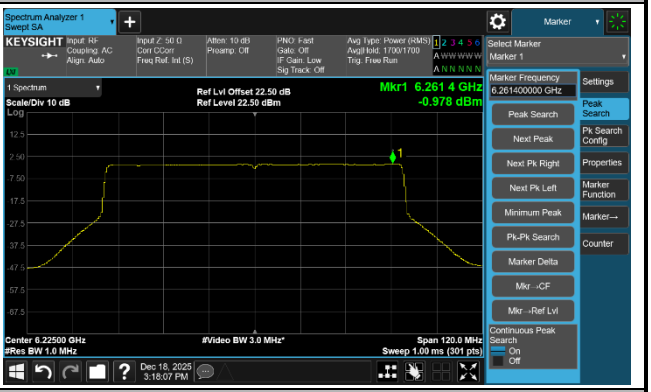


802.11be-EHT80 Power Spectral Density- Ant 0

Channel 7 (5985 MHz)

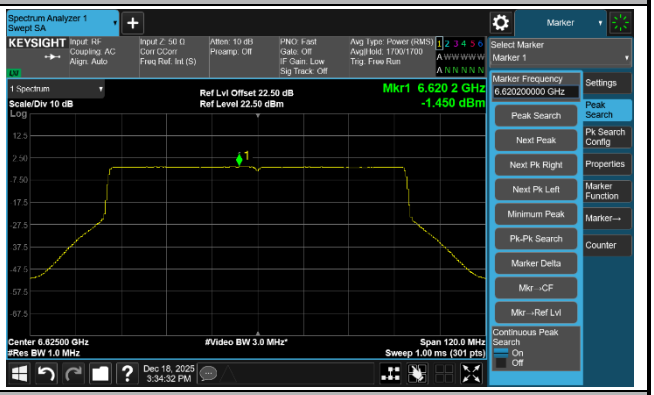


Channel 55 (6225 MHz)

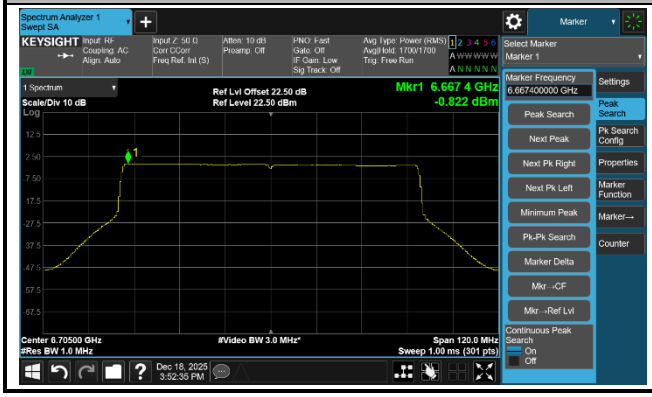


Channel 87 (6385 MHz)

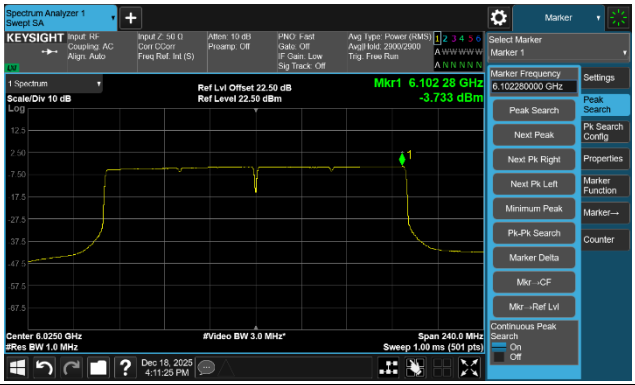
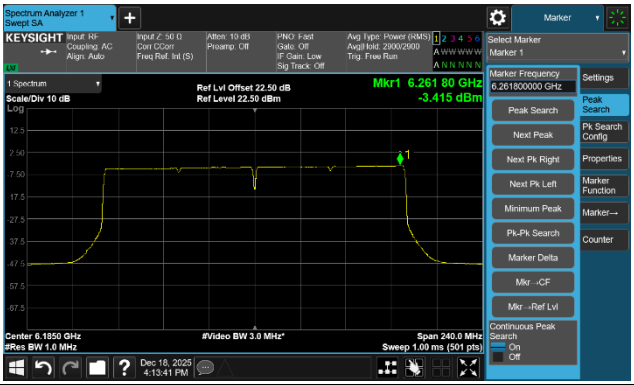
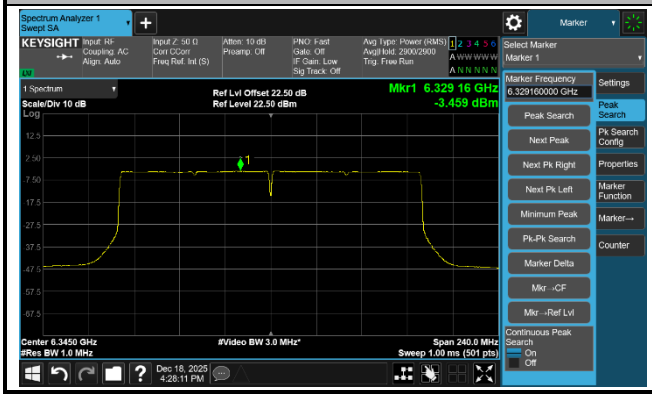
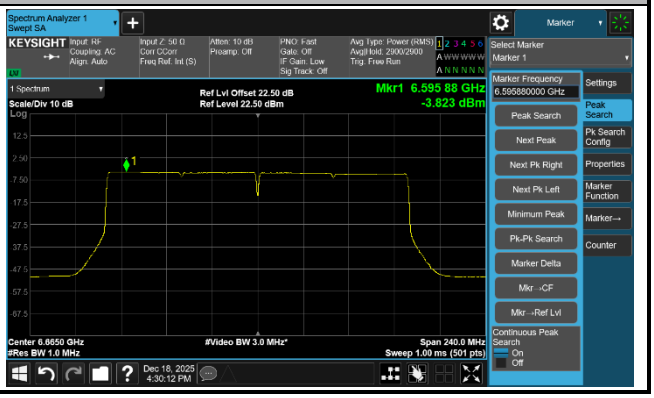
Channel 135 (6625 MHz)

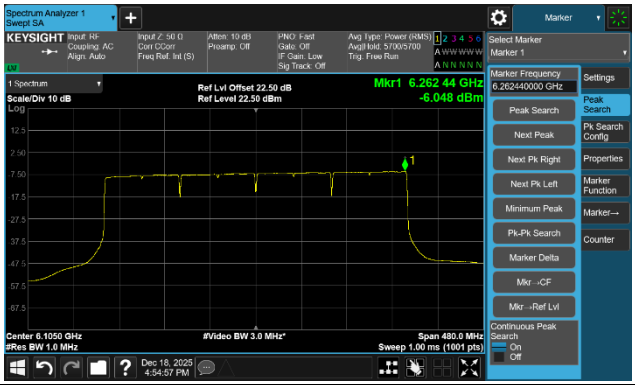


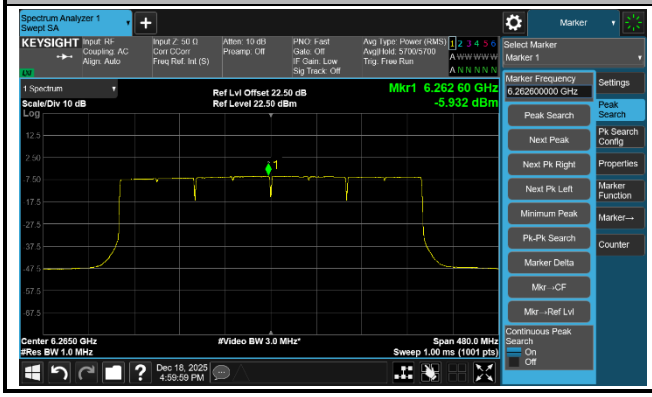
Channel 151 (6705 MHz)



Channel 167 (6785 MHz)

802.11be-EHT160 Power Spectral Density- Ant 0	
Channel 15 (6025 MHz)	Channel 47 (6185 MHz)
	
Channel 79 (6345 MHz)	Channel 143 (6665 MHz)
	

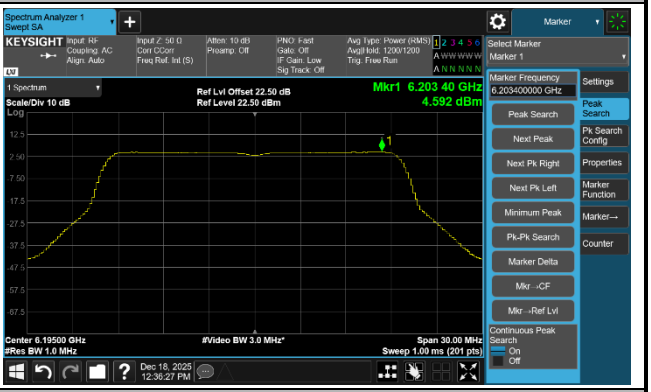
802.11be-EHT320-1 Power Spectral Density- Ant 0	
Channel 31 (6105 MHz)	
	

802.11be-EHT320-2 Power Spectral Density- Ant 0	
Channel 63 (6265 MHz)	
	

802.11be-EHT20 Power Spectral Density- Ant 1

Channel 1 (5955 MHz)

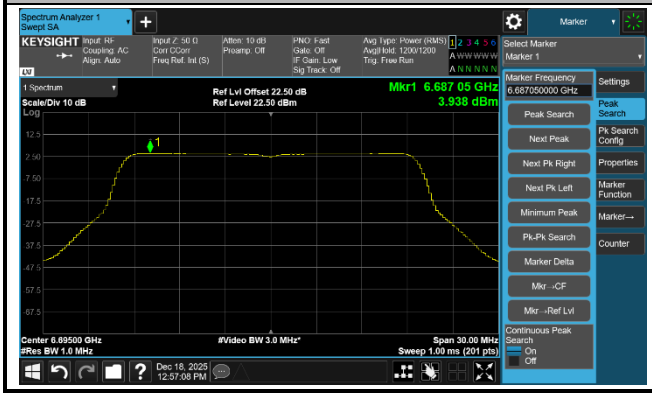
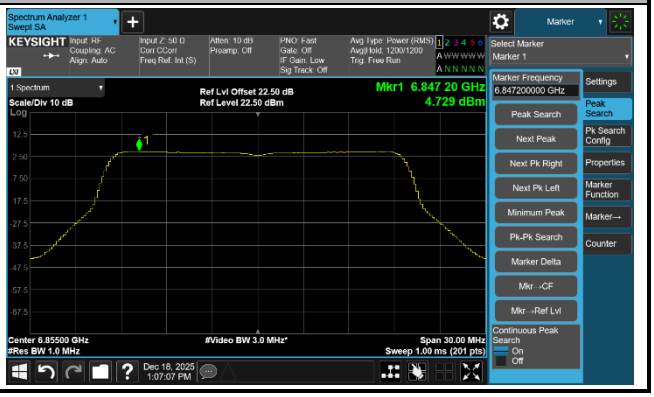
Channel 49 (6195 MHz)



Channel 93 (6415 MHz)

Channel 117 (6535 MHz)

Channel 149 (6695 MHz)



Channel 181 (6855 MHz)