RF MEASUREMENT REPORT

FCC ID:	2BH7FEAP787
Applicant:	TP-Link Systems Inc.
Product:	BE15000 Ceiling Mount Tri-Band Wi-Fi 7 Access Point
Model No.:	EAP787
Brand Name:	tp-link
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:	2025-04-30
Test Date:	2025-05-07 ~ 2025-09-03

Reviewed By: Kevin Guo

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 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
R25S1080046-U202	V01	Initial Report	2025-08-12	Invalid
R25S1080046-U202	V02	Add Frequency Stability Measurement	2025-09-03	Valid

CONTENTS

1. General Information

1.1. Applicant

TP-Link Systems Inc.

10 Mauchly, Irvine, CA 92618

1.2. Manufacturer

TP-Link Systems Inc.

10 Mauchly, Irvine, CA 92618

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 VCCI: ☐R-20025 ☐G-20034 ☐C-20020 ☐T-20020 ☐R-20141 ☐G-20134 ☐C-20103 ☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105
☐	**Test Site – MRT Taiwan Laboratory**
	Laboratory Location (Taiwan) No. 38, Fuxing 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	BE15000 Ceiling Mount Tri-Band Wi-Fi 7 Access Point	
Model No.	EAP787	
EUT Identification No.	20250430Sample#04 (Conducted) 20250430Sample#05 (Radiated)	
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be	
Bluetooth Specification	BLE 500 Kbps, 125 Kbps, 1 Mbps	
Antenna Information	Refer to section 1.7	
Power Type	Power: 12 Vdc, 2.5 A; PoE: 802.3bt PoE	
Operating Temperature	0 ~ 40 °C	
Operating Environment	☒ Indoor Use	☐ Outdoor Use
Note: 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.		

1.5. Radio Specification under Test

Frequency Range	UNII-5: 5925 ~ 6425 MHz UNII-7: 6525 ~ 6875 MHz		
Type of Modulation	802.11ax/be: OFDMA		
Data Rate	802.11ax: up to 2402 Mbps 802.11be: up to 5764 Mbps		
Support RU	☒ Full RU	☐ Partial RU	☐ Single RU ☐ Multi RU ☐ Channel Puncturing

1.6. Working Frequencies

802.11ax-HE20/be-EHT20

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	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
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
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
47	6185 MHz	79	6345 MHz	143	6665 MHz

802.11be-EHT320

Channel	Frequency	Channel	Frequency	Channel	Frequency
63	6265 MHz	--	--	--	--

1.7. Antenna Details

Antenna Type	Frequency Band (MHz)	T_X Paths	Number of spatial streams	Antenna Gain (dBi)		Beamforming Directional Gain (dBi)	CDD Directional Gain (dBi)	
				Ant 0	Ant 1		For Power	For PSD
PIFA	5945 ~ 7125	2	1	2.0	2.0	5.01	2.0	5.01

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, BF Directional gain = G_{ANT} + 10 log (N_{ANT}).
3. The information as above is from the antenna report.

Test Mode	T_X Paths	CDD Mode	Beamforming Mode
802.11ax/be	2	√	√

2. Test Configuration

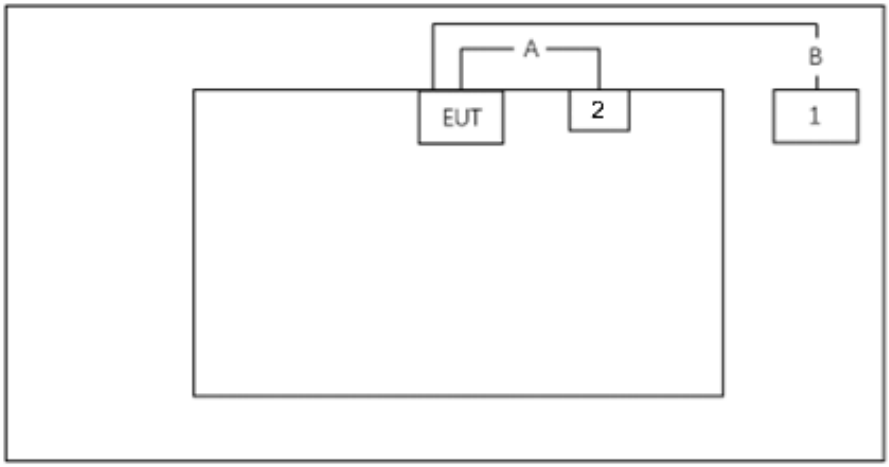
2.1. Test Mode

Mode 1: Transmit by 802.11ax-HE20_N_{SS}=1 (MCS0)
Mode 2: Transmit by 802.11ax-HE40_N_{SS}=1 (MCS0)
Mode 3: Transmit by 802.11ax-HE80_N_{SS}=1 (MCS0)
Mode 4: Transmit by 802.11ax-HE160_N_{SS}=1 (MCS0)
Mode 5: Transmit by 802.11be-EHT20_N_{SS}=1 (MCS0)
Mode 6: Transmit by 802.11be-EHT40_N_{SS}=1 (MCS0)
Mode 7: Transmit by 802.11be-EHT80_N_{SS}=1 (MCS0)
Mode 8: Transmit by 802.11be-EHT160_N_{SS}=1 (MCS0)
Mode 9: Transmit by 802.11be-EHT320_N_{SS}=1 (MCS0)
Notes: 1. All modes of operation and data rates were investigated, so all RF test requirements shall be executed at the worst data rate. 2. For beamforming operation, the manufacturer automatically reduces power based on a factor calculated as the difference between the beamforming directional gain and the CDD directional power gain. Thus, only the CDD mode was evaluated in this report.

2.2. 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



Cable Type		Cable Description	Length
A	Power Cable	Non shielded	1.5 m
B	LAN Cable	Non shielded	> 10 m
Product		Manufacturer	Model No.
1	Notebook	Lenovo	E430C
2	AC/DC Adapter	tp-link	T120250-2B4

2.3. Test Software

The test utility software used during testing was “QSPR”, and the version was 5.0-00202
Final power setting please refer to operational description.

2.4. Applied Standards

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

- ANSI C63.10-2013
- FCC KDB 789033 D02v02r01
- FCC KDB 987594 D02v03
- FCC KDB 662911 D01v02r01

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."

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

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2025-12-05	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2025-07-26	WZ-AC1
					2026-07-25	
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2025-11-08	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2025-05-15	WZ-AC1
				1 year	2026-05-11	WZ-AC1
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2026-04-17	WZ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2025-10-13	WZ-AC1
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2026-01-04	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11039	1 year	2025-10-16	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2025-11-03	WZ-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06640	1 year	2026-01-09	WZ-AC1
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2026-04-26	WZ-SR2
Shielding Room	MIX-BEP	WZ-SR2	MRTSUE06215	5 years	2026-12-20	WZ-SR2
Thermohygrometer	testo	608-H1	MRTSUE06404	1 year	2026-04-24	WZ-SR2
EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2025-09-05	WZ-SR2
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2026-04-24	WZ-SR5
Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	N/A	N/A	WZ-SR5
USB Power Sensor	Keysight	U2021XA	MRTSUE06446	1 year	2026-04-26	WZ-SR5
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2026-04-26	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11073	1 year	2025-06-05	WZ-SR5
				1 year	2026-06-02	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11086	1 year	2025-06-05	WZ-SR5
				1 year	2026-06-02	WZ-SR5
Cable	UCwave	UCE500	24060015	Note	Note	WZ-SR5
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2025-09-02	WZ-TR3
					2026-09-01	
Signal Analyzer	Keysight	N9010B	MRTSUE07027	1 year	2025-10-13	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE11268	1 year	2025-12-10	WZ-TR3

Note: The loss of the RF cable will be measured before testing.

Software	Version	Function
e3	230711	RE & CE
BenchVue Power Meter	2018.1	Power
Controller_MF 7802	2.03C	RE Antenna & Turntable

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: 9kHz~150kHz: 3.58dB 150kHz~30MHz: 3.20dB
Radiated Emission Measurement
The maximum measurement uncertainty is evaluated as: Coaxial: 9kHz~30MHz: 2.35dB Coplanar: 9kHz~30MHz: 2.37dB Horizontal: 30MHz~200MHz: 3.47dB 200MHz~1GHz: 4.17dB 1GHz~40GHz: 4.97dB Vertical: 30MHz~200MHz: 4.07dB 200MHz~1GHz: 5.28dB 1GHz~40GHz: 4.84dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.5dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.5dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.5dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 3.2%

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)(9), (10)	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	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 “R25S1080046-U203”.

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 D02v02r01- Section II)C)1) (26dB Bandwidth)

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

6.2.3. Test Setting

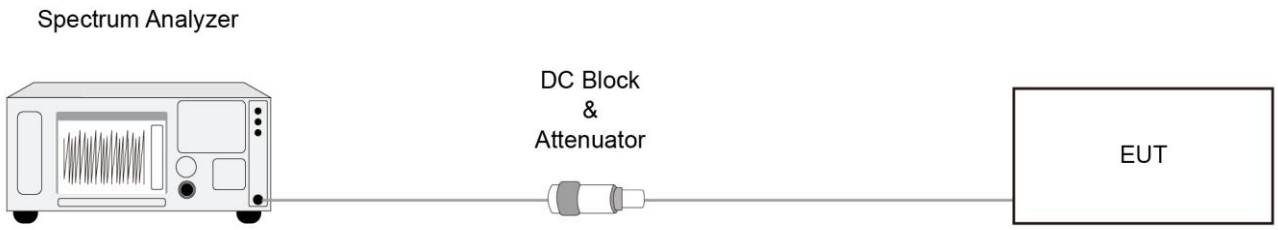
26dB Bandwidth

1. The analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth
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. Output 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.

6.3.2. Test Procedure

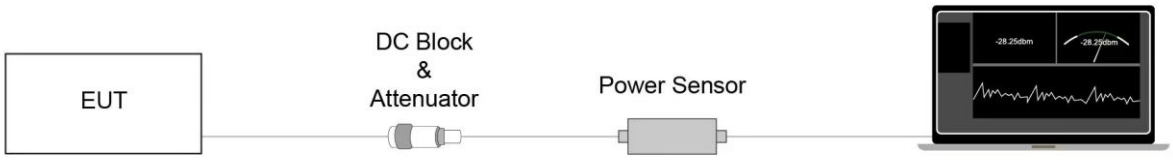
KDB 789033D02v02r01- Section II)E)3)b) Method PM-G

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

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.

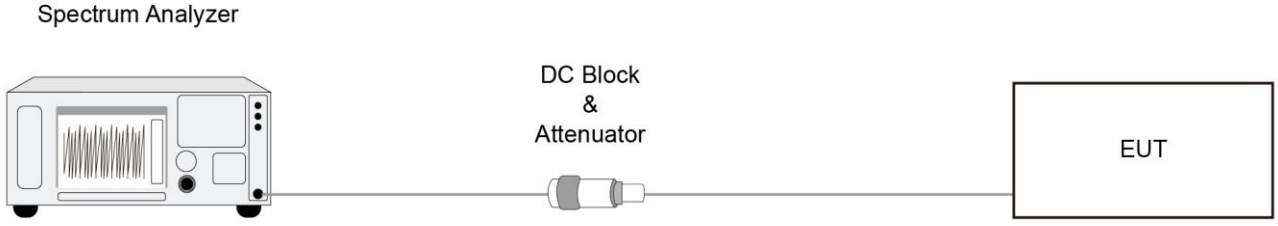
6.4.2. Test Procedure

KDB 789033 D02v02r01-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 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. 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 D02v03 - Section II)J)

6.5.3. Test Setting

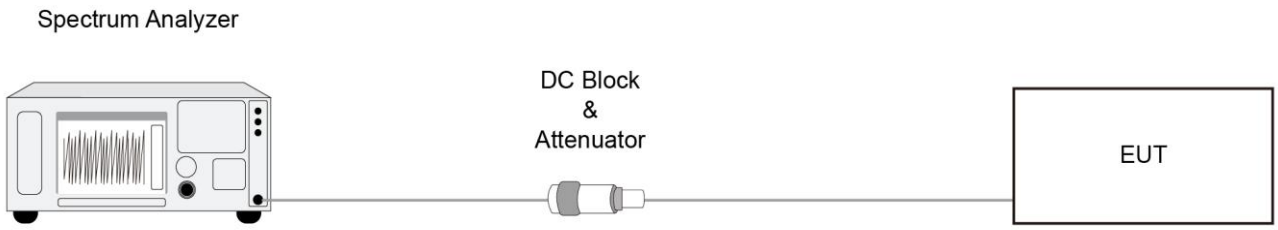
Emissions Mask Reference Level Measurement

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 X 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:

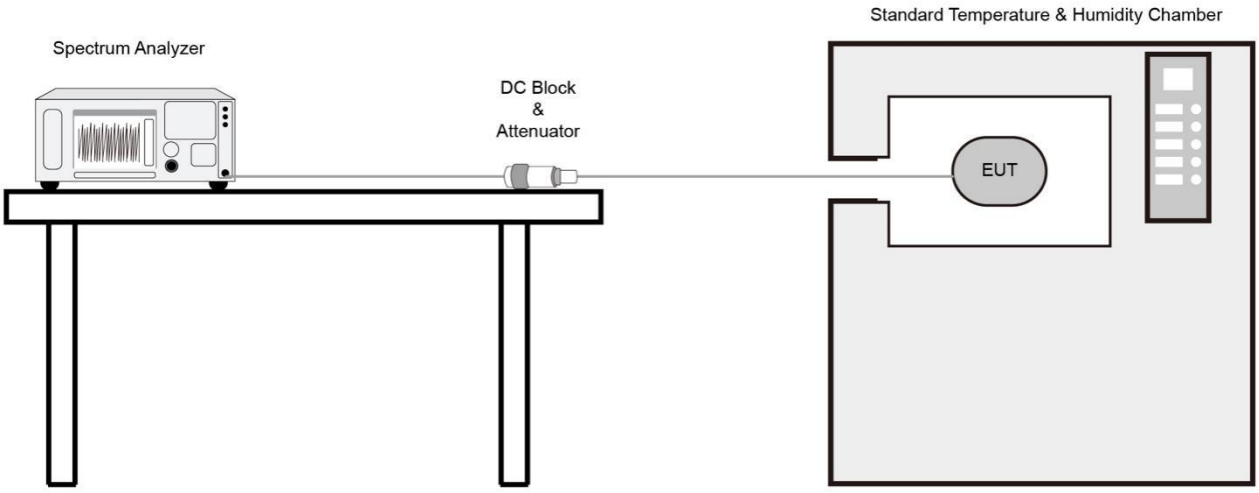
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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 6GHz 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 47CFR 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 D02v02r01-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
> 1000MHz	1MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
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 1GHz

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

Average Measurements above 1GHz (Method VB)

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

2. RBW = 1MHz

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

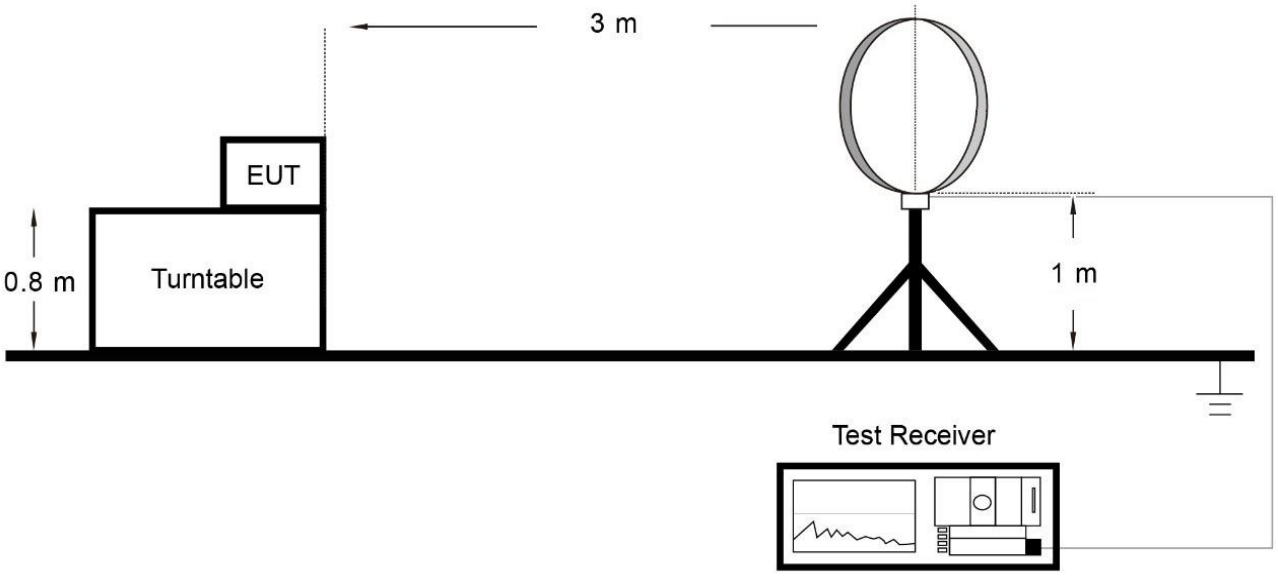
5. Sweep time = auto

6. Trace mode = max hold

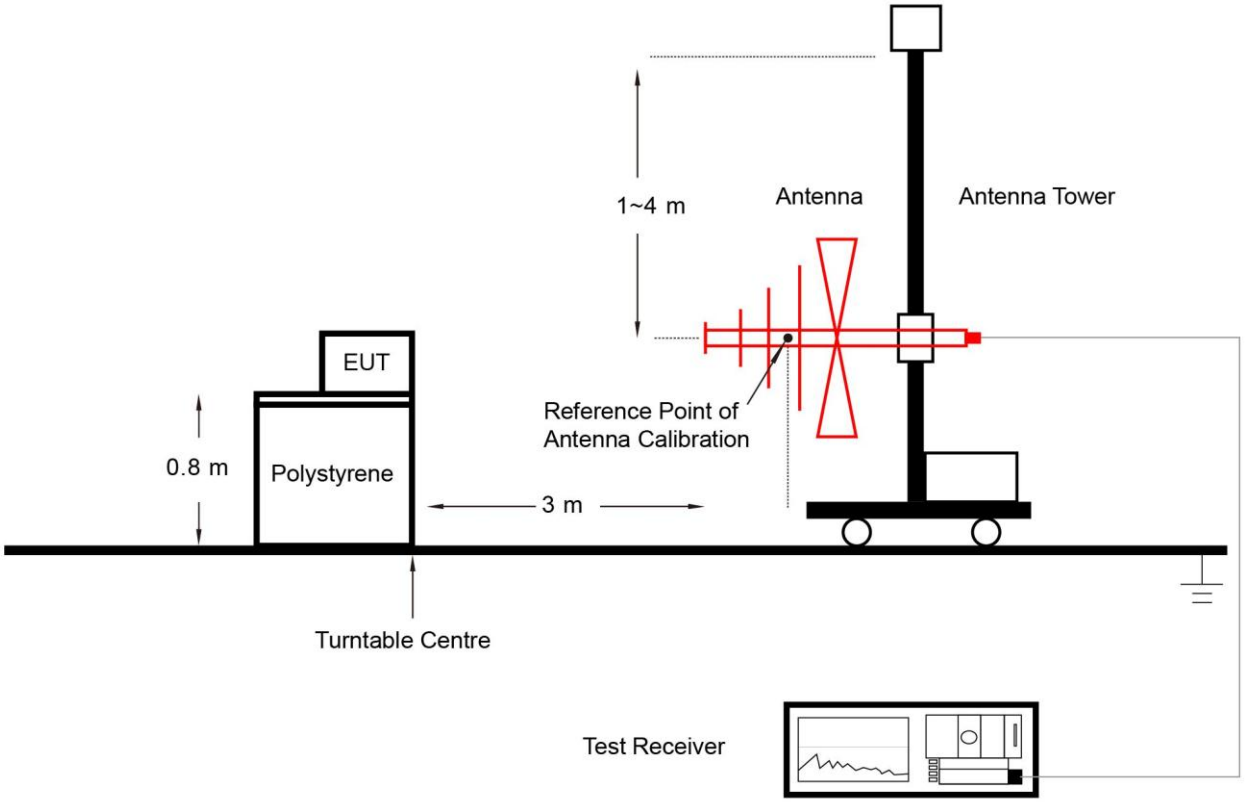
7. Trace was allowed to stabilize

6.7.4. Test Setup

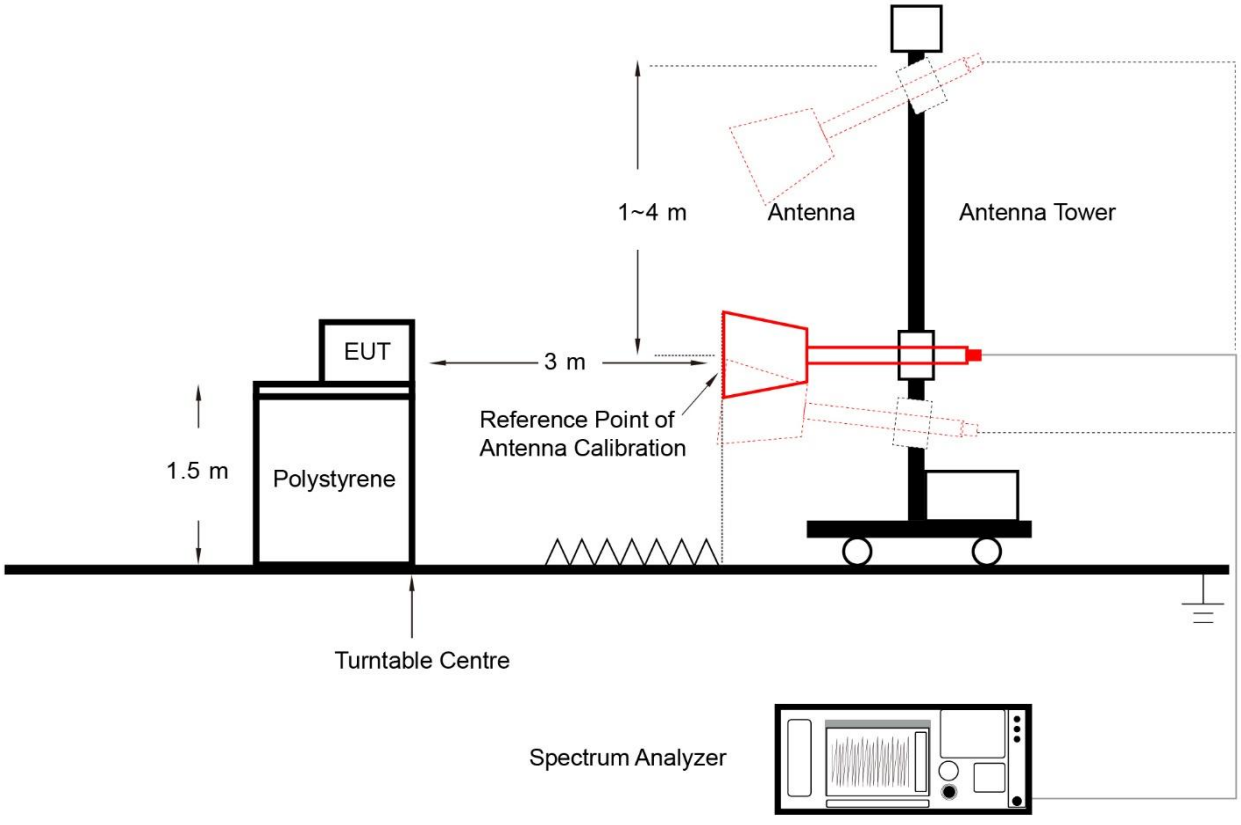
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz 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 6GHz 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 D02v02r01-Section II)G)

6.8.3. Test Setting

Peak Measurements above 1GHz

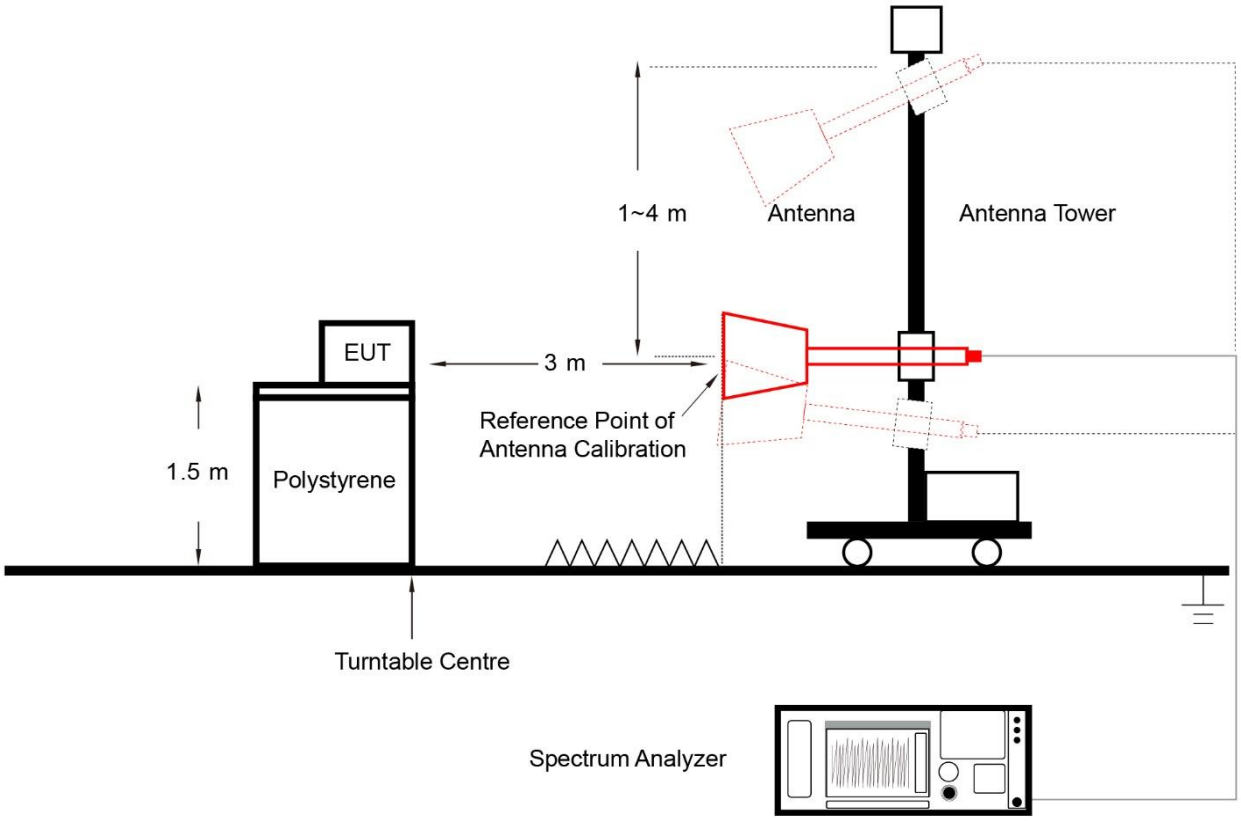
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

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

   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

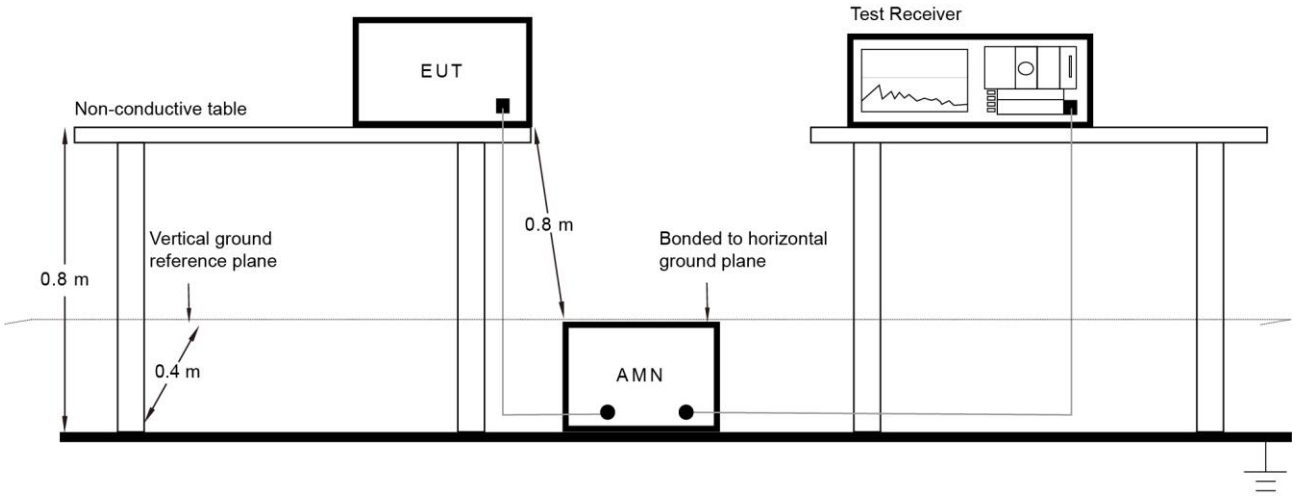
Refer to Appendix A.8.

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 0.15MHz to 0.5MHz.		

6.9.2. Test Setup



6.9.3. Test Result

Refer to Appendix A.9.

Appendix A – Test Result

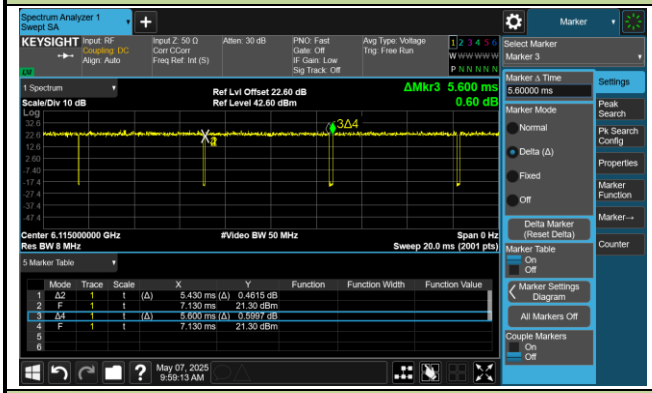
A.1 Duty Cycle Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-05-07		

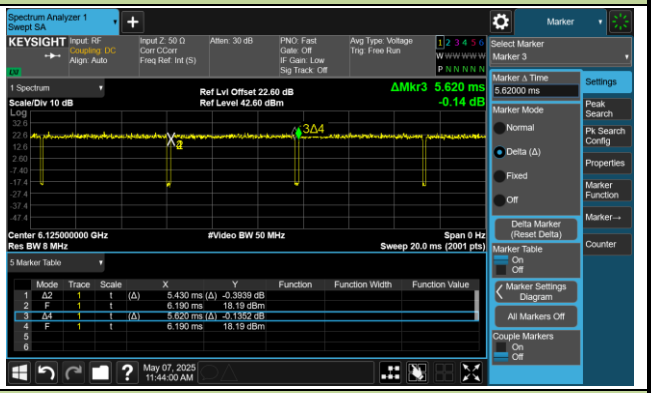
Test Mode	Duty Cycle
802.11ax-HE20	96.96%
802.11ax-HE40	96.62%
802.11ax-HE80	97.67%
802.11ax-HE160	97.32%
802.11be-EHT20	98.38%
802.11be-EHT40	97.50%
802.11be-EHT80	98.37%
802.11be-EHT160	97.85%
802.11be-EHT320	97.15%

Duty Cycle (T = Transmission Duration)

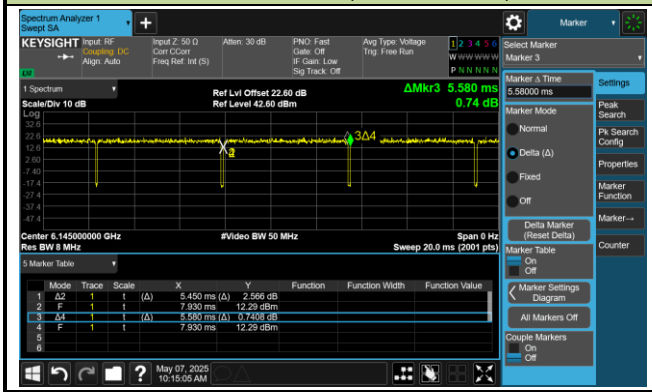
802.11ax-HE20 (T = 5.430ms)



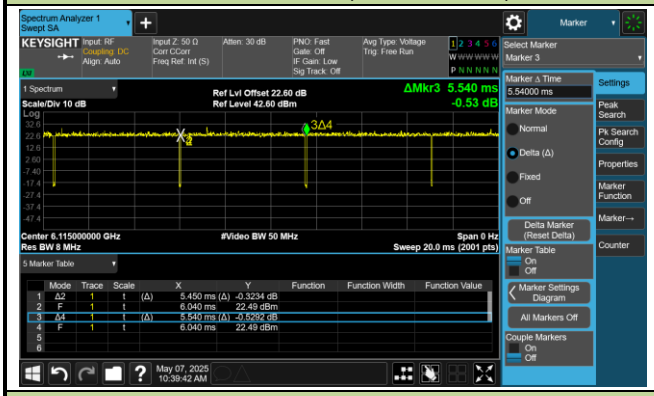
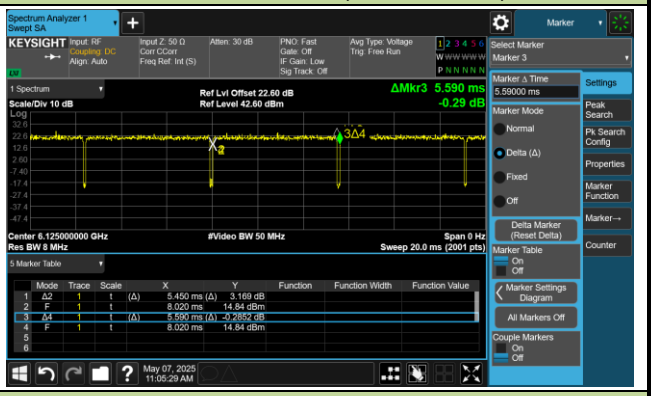
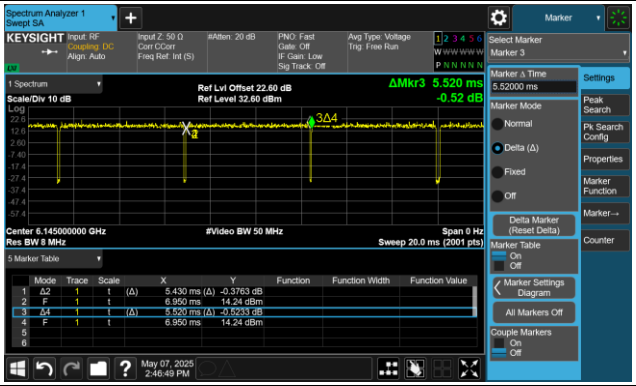
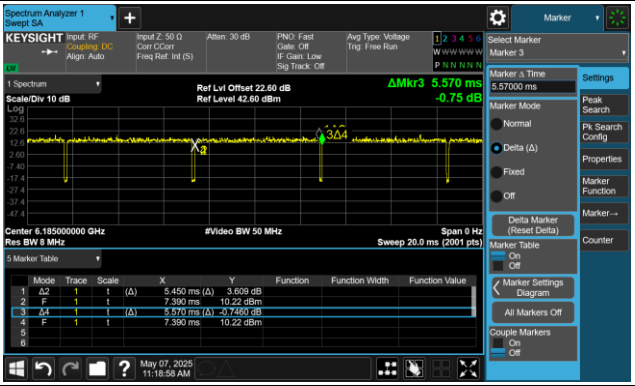
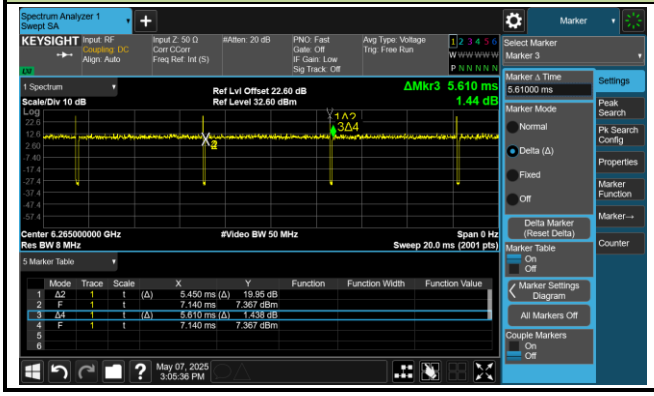
802.11ax-HE40 (T = 5.430ms)



802.11ax-HE80 (T = 5.450ms)



802.11ax-HE160 (T = 5.440ms)

Duty Cycle (T = Transmission Duration)	
802.11be-EH20 (T = 5.450ms)	802.11be-EHT40 (T = 5.450ms)
	
802.11be-EHT80 (T = 5.430ms)	802.11be-EH160 (T = 5.450ms)
	
802.11be-EHT320 (T = 5.450ms)	
	

A.2 Channel Bandwidth Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-05-27~2025-07-11		

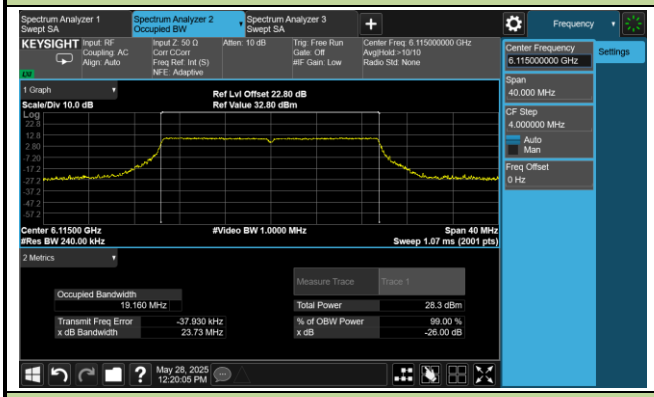
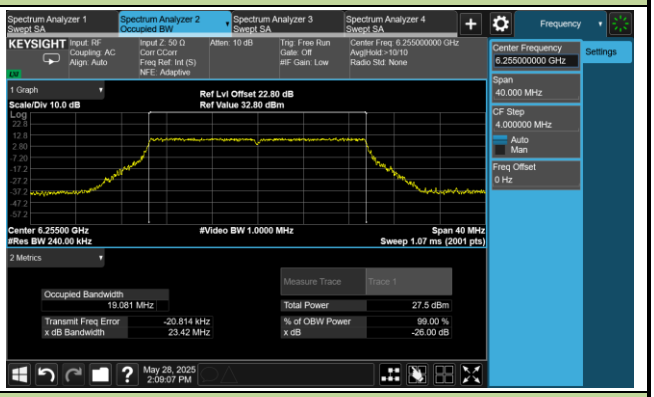
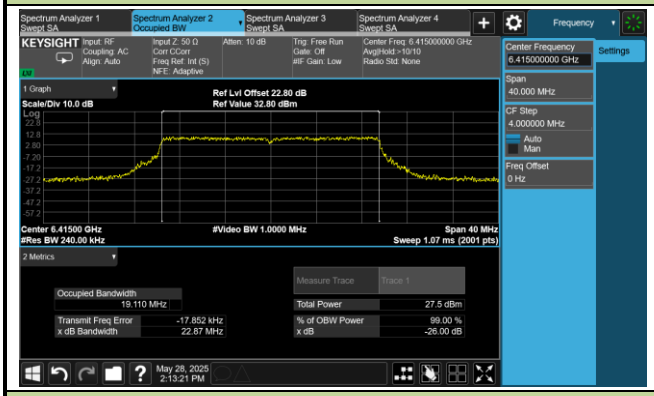
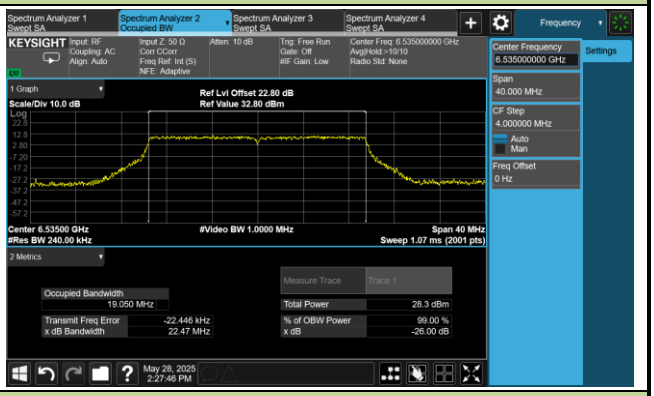
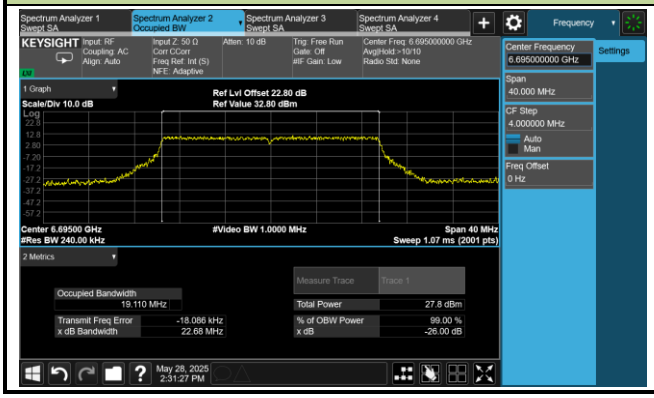
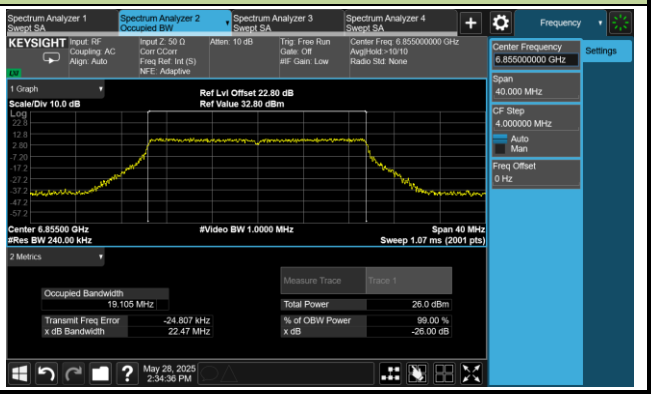
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Limit (MHz)
802.11ax-HE20	MCS0	33	6115	23.73	19.160	≤ 320
802.11ax-HE20	MCS0	61	6255	23.42	19.081	≤ 320
802.11ax-HE20	MCS0	93	6415	22.87	19.110	≤ 320
802.11ax-HE20	MCS0	117	6535	22.47	19.050	≤ 320
802.11ax-HE20	MCS0	149	6695	22.68	19.110	≤ 320
802.11ax-HE20	MCS0	181	6855	22.47	19.105	≤ 320
802.11ax-HE40	MCS0	35	6125	45.38	38.087	≤ 320
802.11ax-HE40	MCS0	59	6245	44.91	38.054	≤ 320
802.11ax-HE40	MCS0	91	6405	43.32	38.055	≤ 320
802.11ax-HE40	MCS0	123	6565	44.18	38.079	≤ 320
802.11ax-HE40	MCS0	147	6685	44.18	38.035	≤ 320
802.11ax-HE40	MCS0	179	6845	44.21	37.937	≤ 320
802.11ax-HE80	MCS0	39	6145	89.49	77.998	≤ 320
802.11ax-HE80	MCS0	55	6225	89.61	77.700	≤ 320
802.11ax-HE80	MCS0	87	6385	87.96	77.724	≤ 320
802.11ax-HE80	MCS0	135	6625	89.79	77.710	≤ 320
802.11ax-HE80	MCS0	151	6705	87.14	77.669	≤ 320
802.11ax-HE80	MCS0	167	6785	88.23	77.718	≤ 320
802.11ax-HE160	MCS0	47	6185	169.7	156.83	≤ 320
802.11ax-HE160	MCS0	79	6345	171.8	157.25	≤ 320
802.11ax-HE160	MCS0	143	6665	172.2	156.78	≤ 320
802.11be-EHT20	MCS0	33	6115	22.58	19.067	≤ 320
802.11be-EHT20	MCS0	61	6255	22.83	19.063	≤ 320
802.11be-EHT20	MCS0	93	6415	23.22	19.061	≤ 320
802.11be-EHT20	MCS0	117	6535	23.29	19.078	≤ 320
802.11be-EHT20	MCS0	149	6695	23.50	19.076	≤ 320
802.11be-EHT20	MCS0	181	6855	22.45	19.046	≤ 320

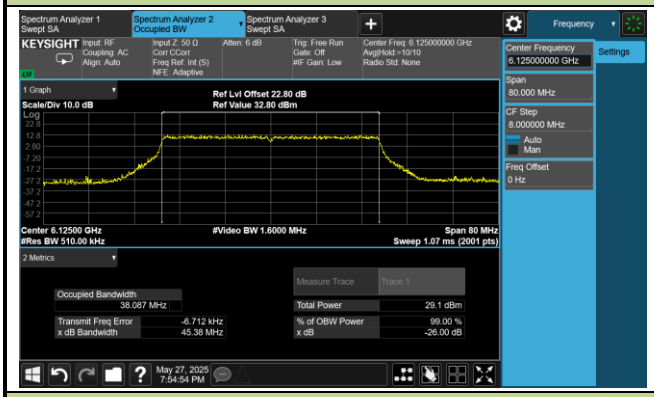
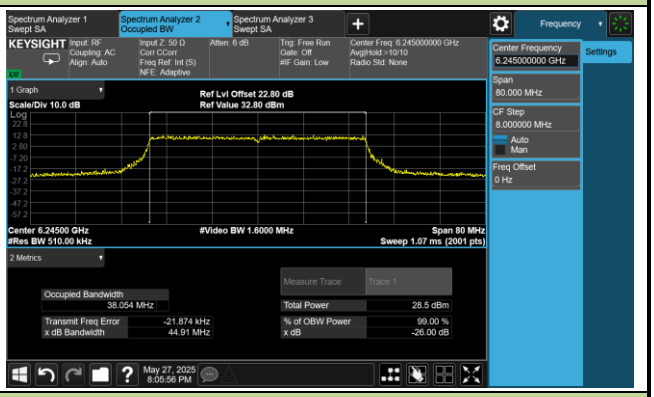
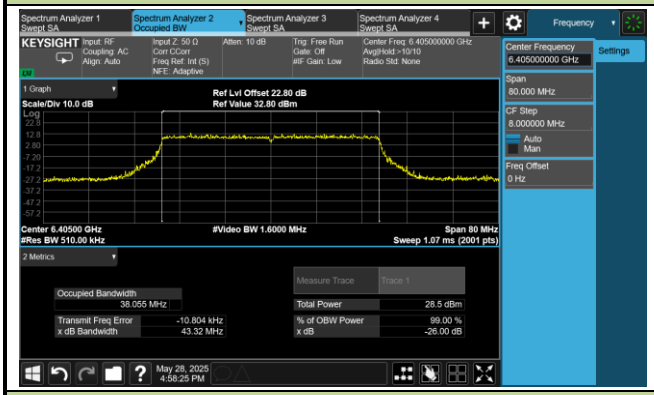
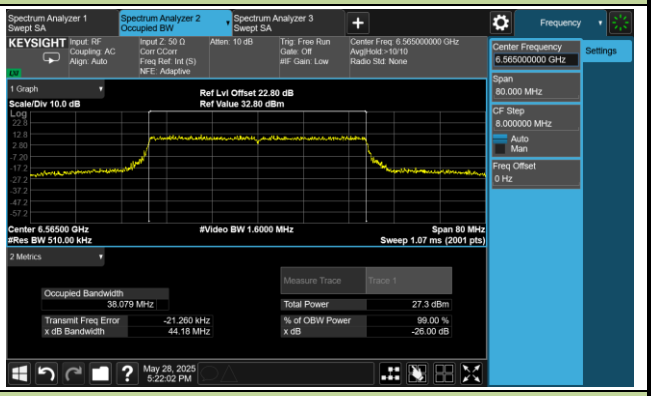
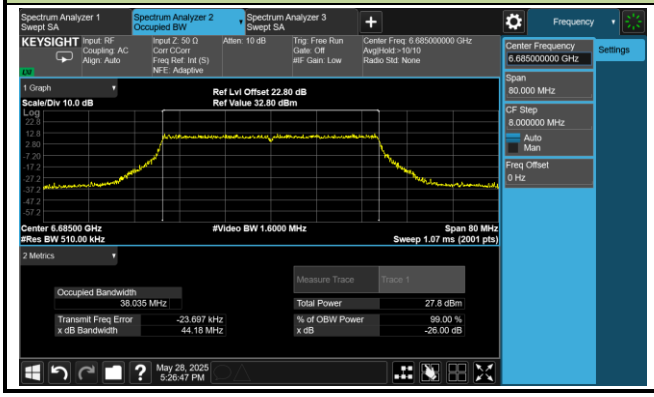
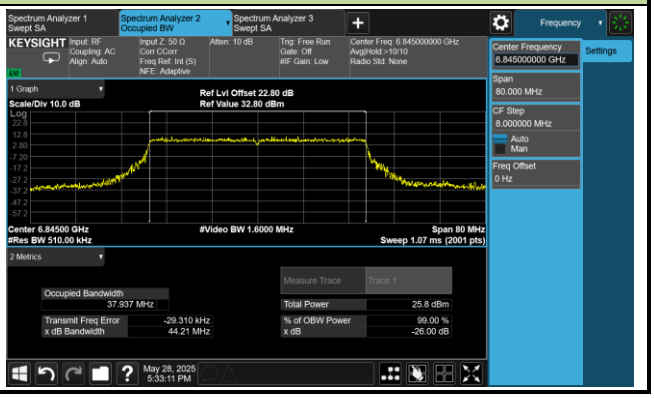
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Limit (MHz)
802.11be-EHT40	MCS0	35	6125	43.34	38.032	≤ 320
802.11be-EHT40	MCS0	59	6245	44.40	38.068	≤ 320
802.11be-EHT40	MCS0	91	6405	43.87	38.068	≤ 320
802.11be-EHT40	MCS0	123	6565	44.68	38.081	≤ 320
802.11be-EHT40	MCS0	147	6685	43.85	38.039	≤ 320
802.11be-EHT40	MCS0	179	6845	43.48	38.005	≤ 320
802.11be-EHT80	MCS0	39	6145	90.03	77.554	≤ 320
802.11be-EHT80	MCS0	55	6225	89.59	77.744	≤ 320
802.11be-EHT80	MCS0	87	6385	89.65	77.809	≤ 320
802.11be-EHT80	MCS0	135	6625	87.73	77.582	≤ 320
802.11be-EHT80	MCS0	151	6705	87.41	77.683	≤ 320
802.11be-EHT80	MCS0	167	6785	87.77	77.543	≤ 320
802.11be-EHT160	MCS0	47	6185	172.1	156.72	≤ 320
802.11be-EHT160	MCS0	79	6345	170.5	156.91	≤ 320
802.11be-EHT160	MCS0	143	6665	173.4	156.95	≤ 320
802.11be-EHT320	MCS0	63	6265	325.2	315.74	≤ 320

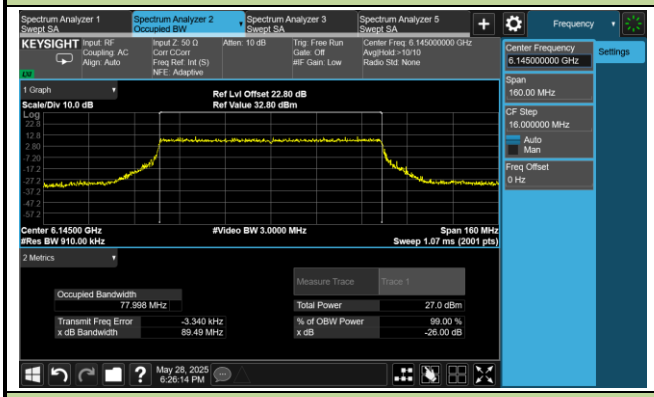
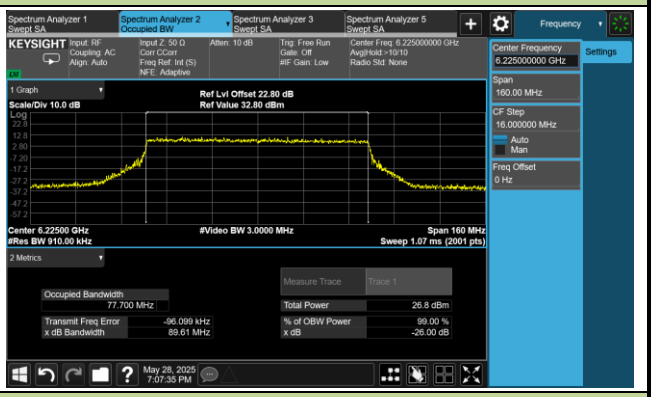
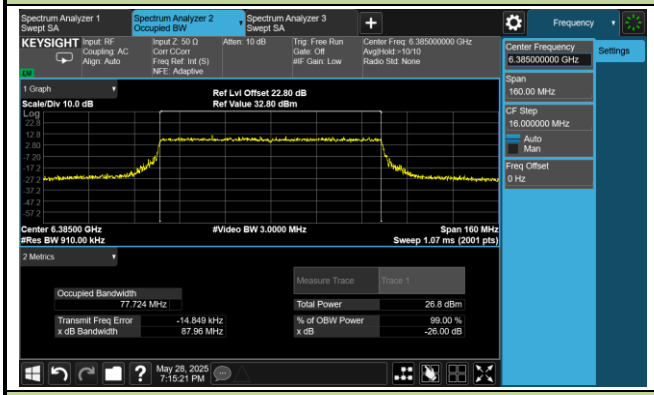
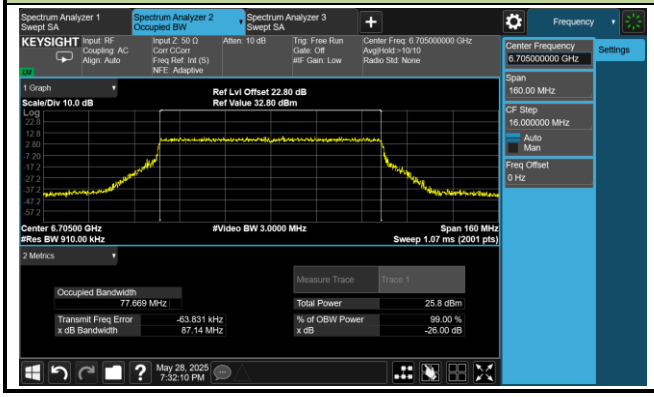
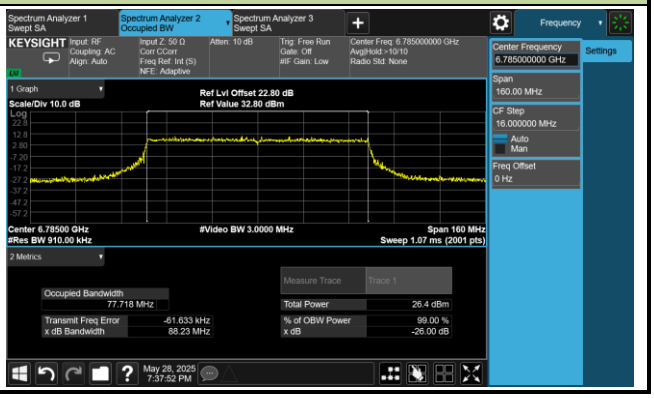
Note:

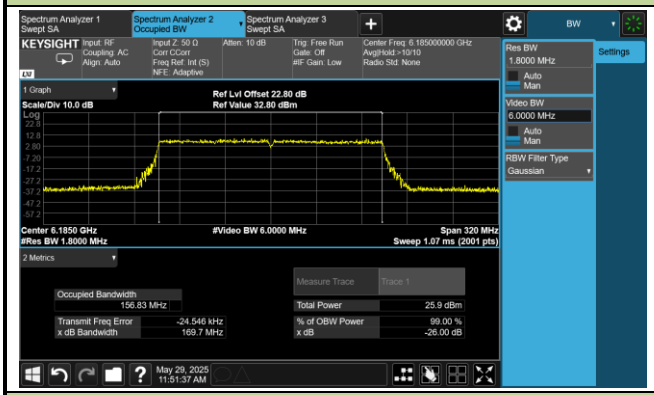
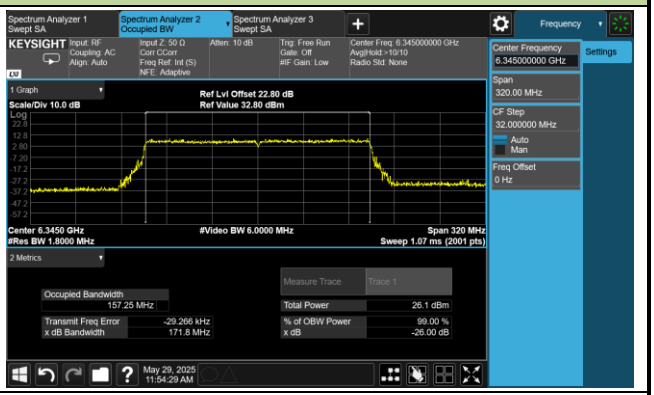
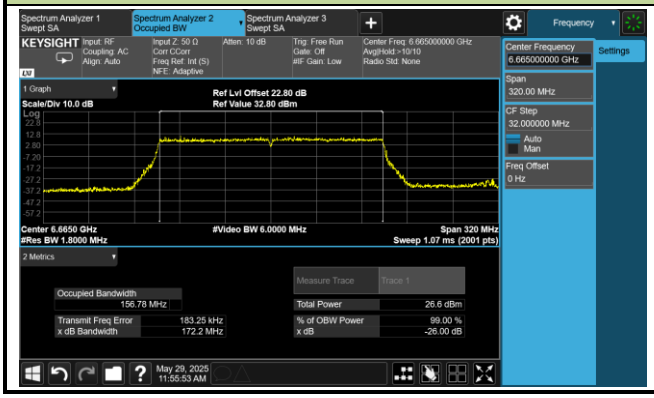
For channels with a nominal bandwidth less than 320 MHz compliance is demonstrated by way of the 26 dB EBW.

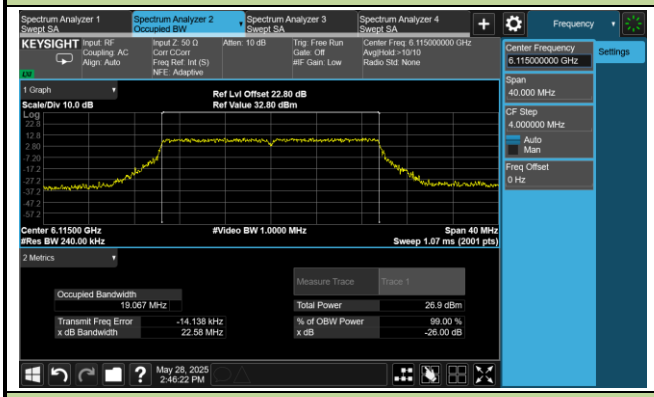
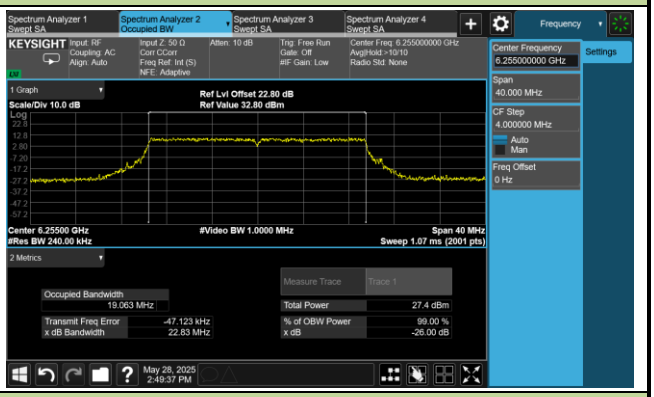
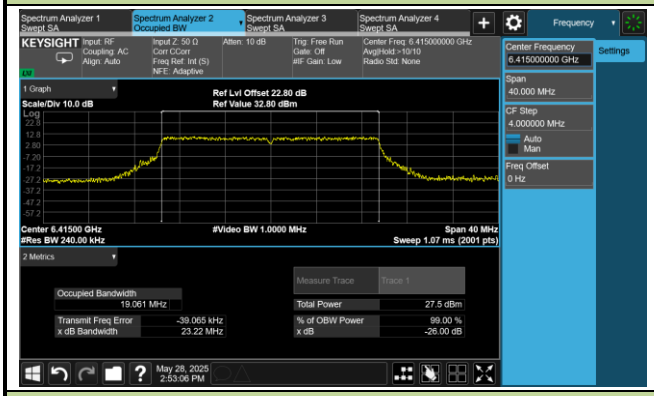
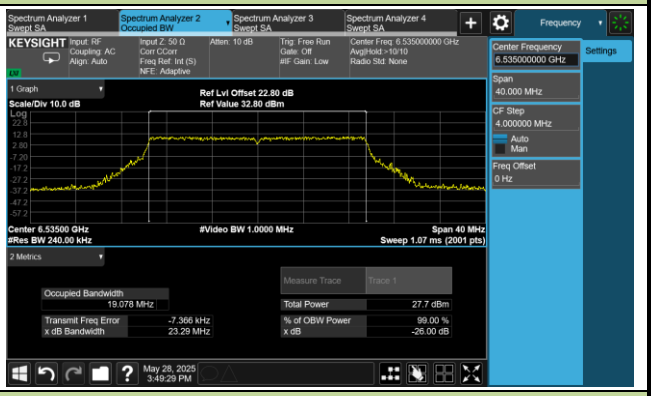
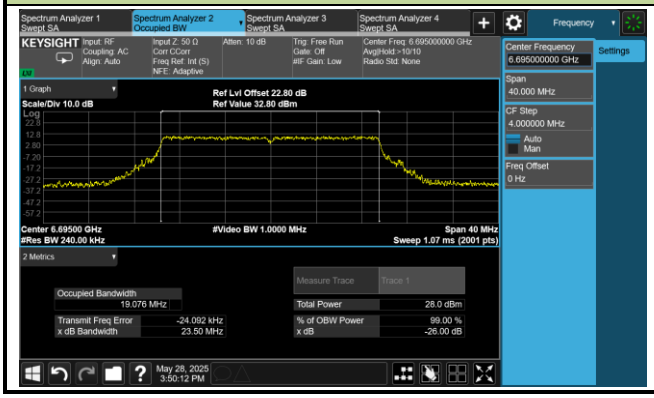
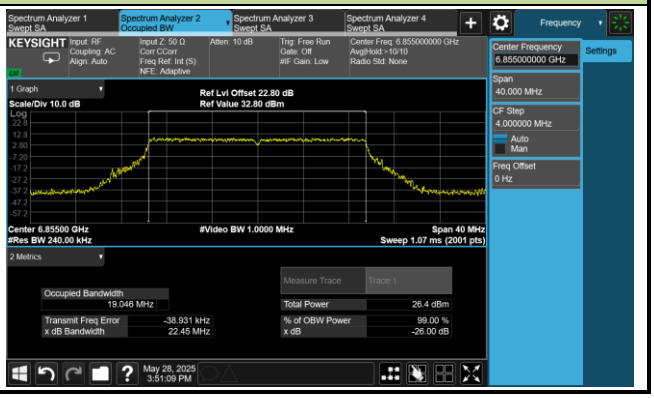
For channels with a nominal bandwidth of 320 MHz compliance is demonstrated by way of the 99% BW.

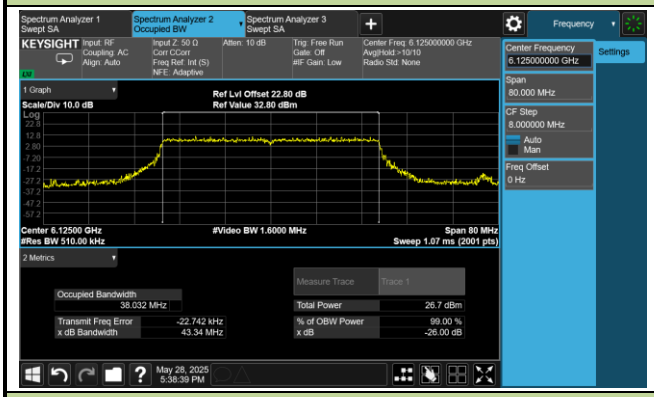
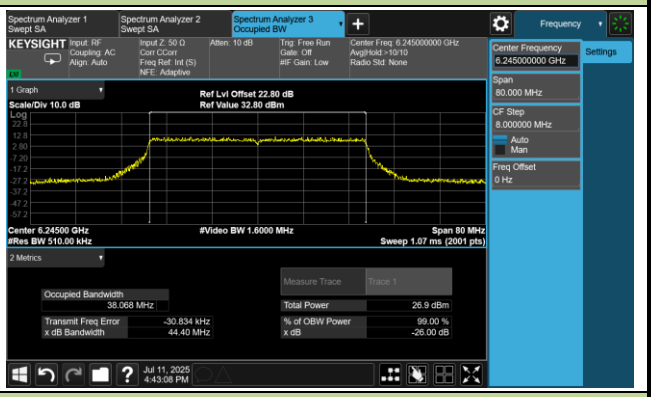
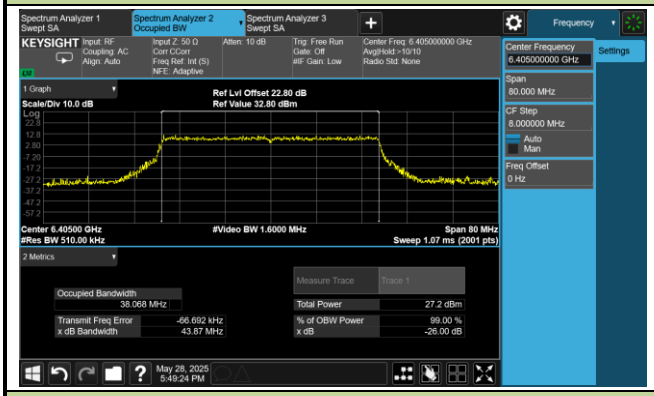
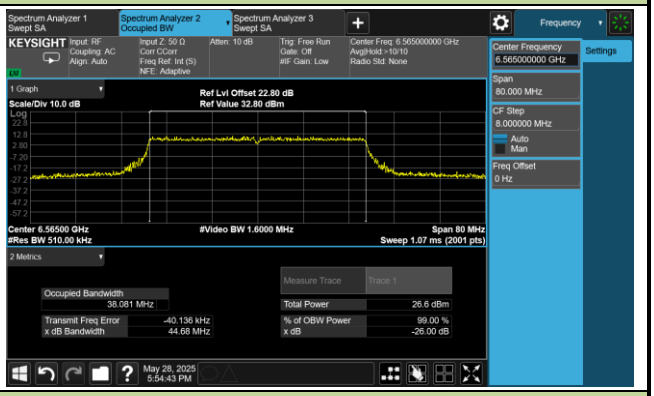
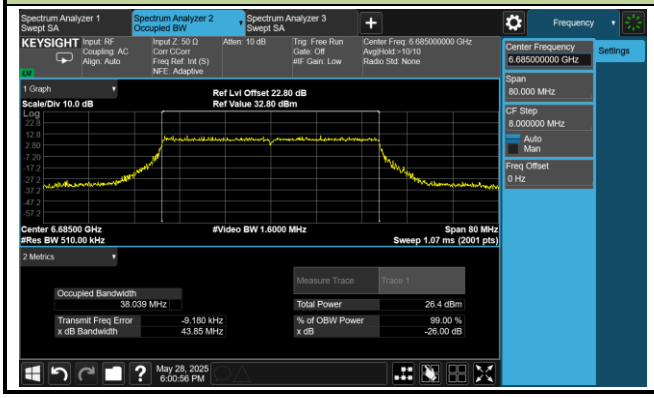
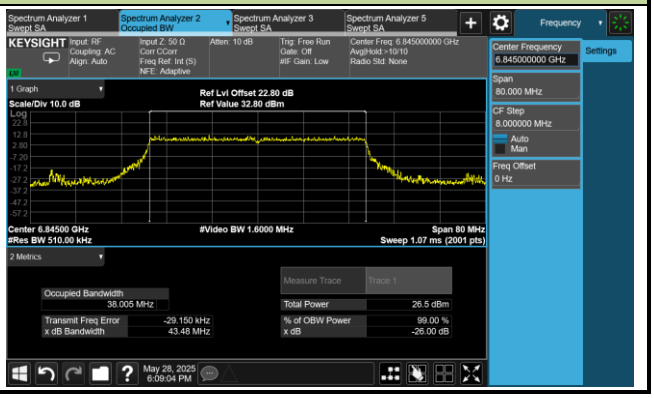
802.11ax-HE20 26dB Bandwidth	
Channel 33 (6115MHz)	Channel 61 (6255MHz)
	
Channel 93 (6415MHz)	Channel 117 (6535MHz)
	
Channel 149 (6695MHz)	Channel 181 (6855MHz)
	

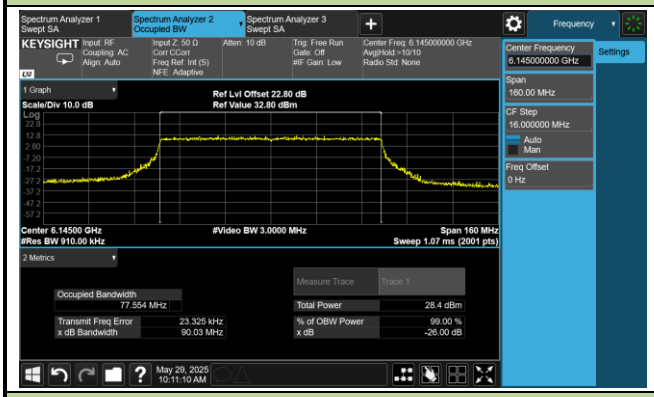
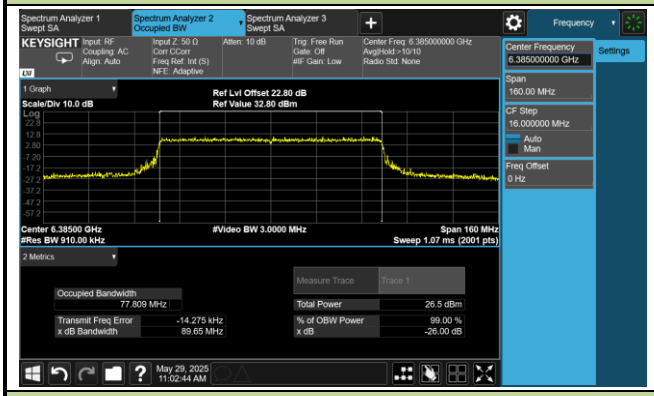
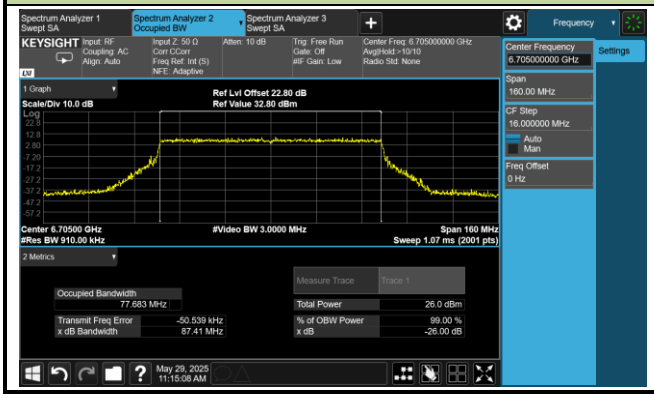
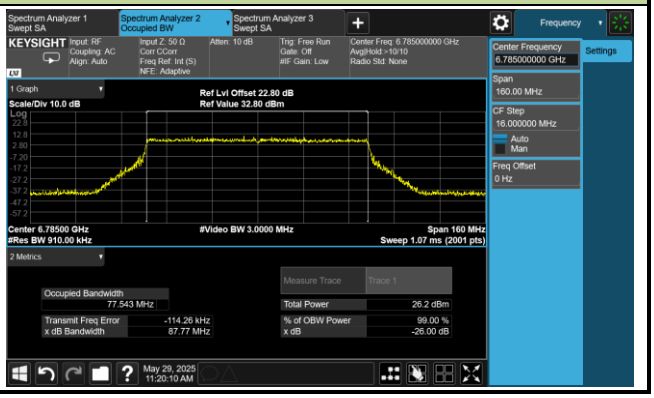
802.11ax-HE40 26dB Bandwidth	
Channel 35 (6125MHz)	Channel 59 (6245MHz)
	
Channel 91 (6405MHz)	Channel 123 (6565MHz)
	
Channel 147 (6685MHz)	Channel 179 (6845MHz)
	

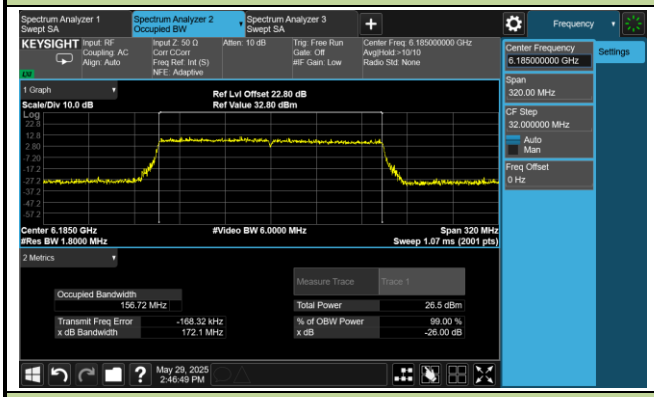
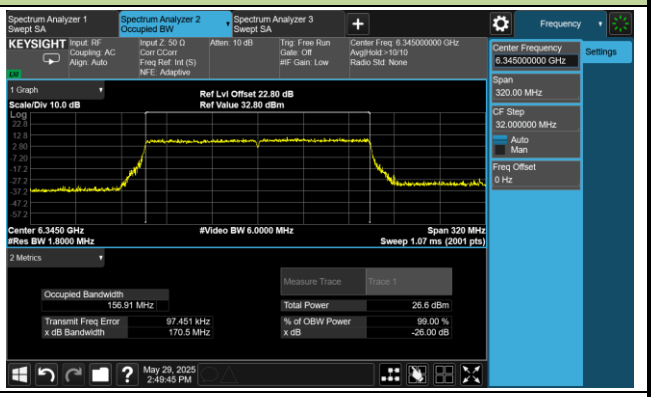
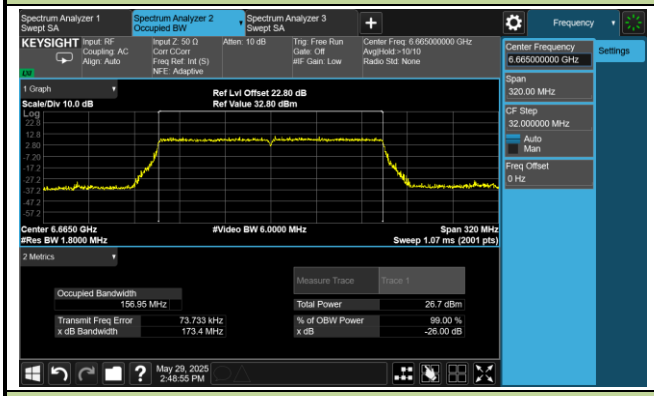
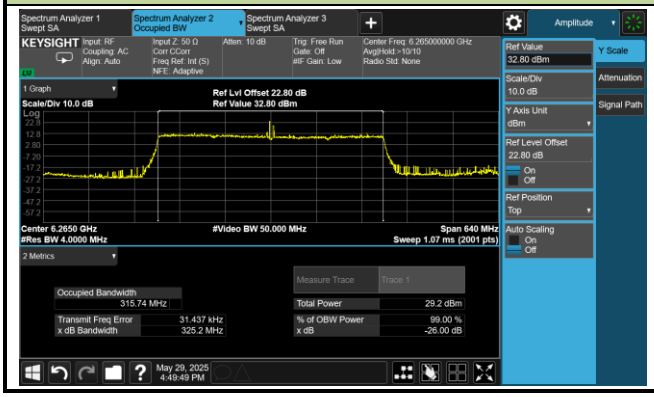
802.11ax-HE80 26dB Bandwidth	
Channel 39 (6145MHz)	Channel 55 (6225MHz)
	
Channel 87 (6385MHz)	Channel 135 (6625MHz)
	
Channel 151 (6705MHz)	Channel 167 (6785MHz)
	

802.11ax-HE160 26dB Bandwidth	
Channel 47 (6185MHz)	Channel 79 (6345MHz)
	
Channel 143 (6665MHz)	
	

802.11be-EHT20 26dB Bandwidth	
Channel 33 (6115MHz)	Channel 61 (6255MHz)
	
Channel 93 (6415MHz)	Channel 117 (6535MHz)
	
Channel 149 (6695MHz)	Channel 181 (6855MHz)
	

802.11be-EHT40 26dB Bandwidth	
Channel 35 (6125MHz)	Channel 59 (6245MHz)
	
Channel 91 (6405MHz)	Channel 123 (6565MHz)
	
Channel 147 (6685MHz)	Channel 179 (6845MHz)
	

802.11be-EHT80 26dB Bandwidth	
Channel 39 (6145MHz)	Channel 55 (6225MHz)
	
Channel 87 (6385MHz)	Channel 135 (6625MHz)
	
Channel 151 (6705MHz)	Channel 167 (6785MHz)
	

802.11be-EHT160 26dB Bandwidth	
Channel 47 (6185MHz)	Channel 79 (6345MHz)
	
Channel 143 (6665MHz)	
	
802.11be-EHT320 26dB Bandwidth	
Channel 63 (6265MHz)	
	

A.3 Output Power Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-06-03		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total AV Power (dBm)	EIRP (dBm)	Limit (dBm)
				Ant 0	Ant 1			
802.11ax-HE20	MCS0	33	6115	19.34	20.45	22.94	24.94	≤ 36.00
802.11ax-HE20	MCS0	61	6255	19.15	20.48	22.88	24.88	≤ 36.00
802.11ax-HE20	MCS0	93	6415	20.98	20.64	23.82	25.82	≤ 36.00
802.11ax-HE20	MCS0	117	6535	20.09	21.51	23.87	25.87	≤ 36.00
802.11ax-HE20	MCS0	149	6695	21.00	20.73	23.88	25.88	≤ 36.00
802.11ax-HE20	MCS0	181	6855	18.49	18.99	21.76	23.76	≤ 36.00
802.11ax-HE40	MCS0	35	6125	20.30	20.38	23.35	25.35	≤ 36.00
802.11ax-HE40	MCS0	59	6245	20.24	20.82	23.55	25.55	≤ 36.00
802.11ax-HE40	MCS0	91	6405	20.72	20.26	23.51	25.51	≤ 36.00
802.11ax-HE40	MCS0	123	6565	19.86	20.02	22.95	24.95	≤ 36.00
802.11ax-HE40	MCS0	147	6685	20.02	19.62	22.83	24.83	≤ 36.00
802.11ax-HE40	MCS0	179	6845	19.21	19.18	22.21	24.21	≤ 36.00
802.11ax-HE80	MCS0	39	6145	19.48	19.37	22.44	24.44	≤ 36.00
802.11ax-HE80	MCS0	55	6225	18.88	19.25	22.08	24.08	≤ 36.00
802.11ax-HE80	MCS0	87	6385	19.02	19.18	22.11	24.11	≤ 36.00
802.11ax-HE80	MCS0	135	6625	18.82	18.75	21.80	23.80	≤ 36.00
802.11ax-HE80	MCS0	151	6705	18.63	18.66	21.66	23.66	≤ 36.00
802.11ax-HE80	MCS0	167	6785	19.02	19.13	22.09	24.09	≤ 36.00
802.11ax-HE160	MCS0	47	6185	18.68	18.30	21.50	23.50	≤ 36.00
802.11ax-HE160	MCS0	79	6345	18.83	18.28	21.57	23.57	≤ 36.00
802.11ax-HE160	MCS0	143	6665	18.82	18.05	21.46	23.46	≤ 36.00
802.11be-EHT20	MCS0	33	6115	19.87	20.34	23.12	25.12	≤ 36.00
802.11be-EHT20	MCS0	61	6255	19.62	20.71	23.21	25.21	≤ 36.00
802.11be-EHT20	MCS0	93	6415	20.51	20.83	23.68	25.68	≤ 36.00
802.11be-EHT20	MCS0	117	6535	20.30	20.35	23.34	25.34	≤ 36.00
802.11be-EHT20	MCS0	149	6695	20.98	20.83	23.92	25.92	≤ 36.00
802.11be-EHT20	MCS0	181	6855	19.33	19.03	22.19	24.19	≤ 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			
802.11be-EHT40	MCS0	35	6125	19.76	19.80	22.79	24.79	≤ 36.00
802.11be-EHT40	MCS0	59	6245	19.34	19.87	22.62	24.62	≤ 36.00
802.11be-EHT40	MCS0	91	6405	20.03	19.57	22.82	24.82	≤ 36.00
802.11be-EHT40	MCS0	123	6565	19.23	19.33	22.29	24.29	≤ 36.00
802.11be-EHT40	MCS0	147	6685	19.35	18.99	22.18	24.18	≤ 36.00
802.11be-EHT40	MCS0	179	6845	19.14	19.11	22.14	24.14	≤ 36.00
802.11be-EHT80	MCS0	39	6145	20.34	19.83	23.10	25.10	≤ 36.00
802.11be-EHT80	MCS0	55	6225	19.14	19.33	22.25	24.25	≤ 36.00
802.11be-EHT80	MCS0	87	6385	19.27	19.21	22.25	24.25	≤ 36.00
802.11be-EHT80	MCS0	135	6625	19.16	18.76	21.97	23.97	≤ 36.00
802.11be-EHT80	MCS0	151	6705	17.80	18.58	21.22	23.22	≤ 36.00
802.11be-EHT80	MCS0	167	6785	17.78	18.73	21.29	23.29	≤ 36.00
802.11be-EHT160	MCS0	47	6185	17.45	17.98	20.73	22.73	≤ 36.00
802.11be-EHT160	MCS0	79	6345	17.13	18.08	20.64	22.64	≤ 36.00
802.11be-EHT160	MCS0	143	6665	16.96	17.69	20.35	22.35	≤ 36.00
802.11be-EHT320	MCS0	63	6265	18.33	18.66	21.51	23.51	≤ 36.00

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

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

A.4 Power Spectral Density Test Result

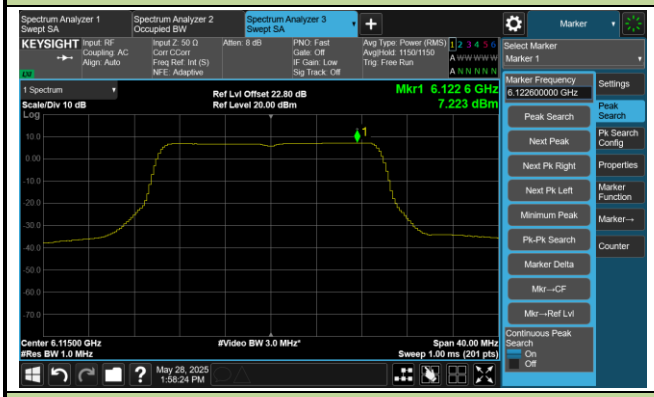
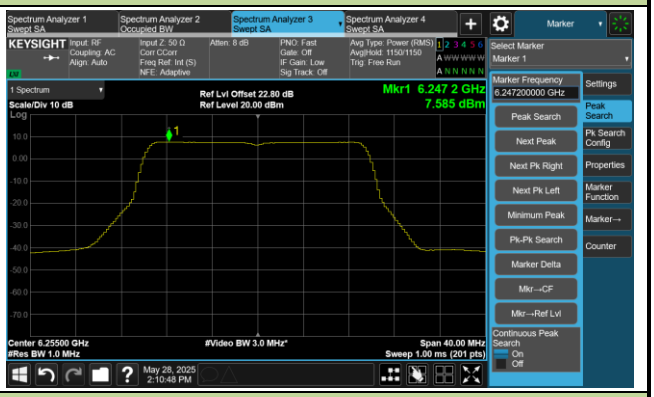
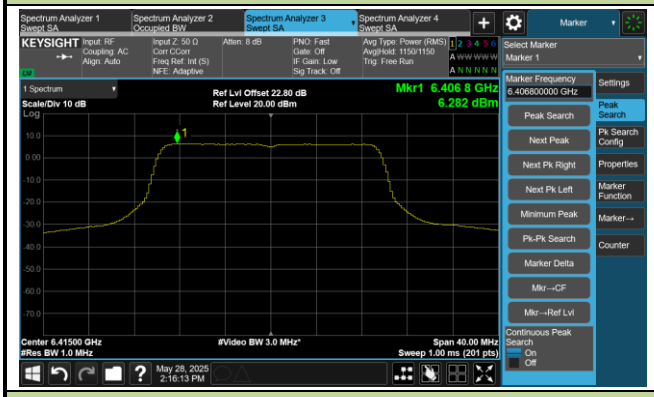
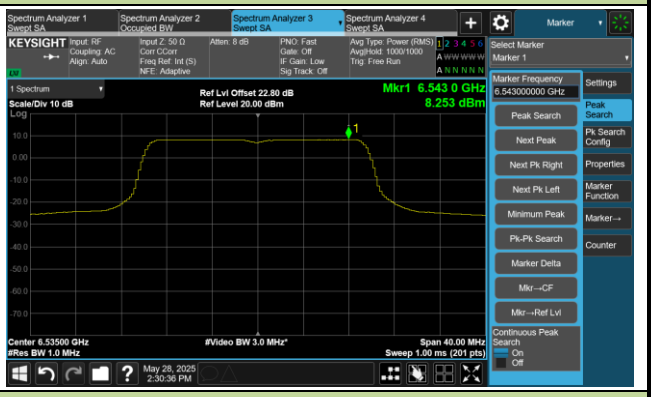
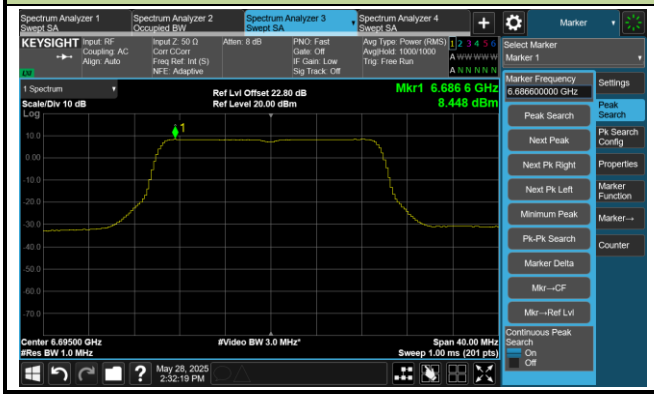
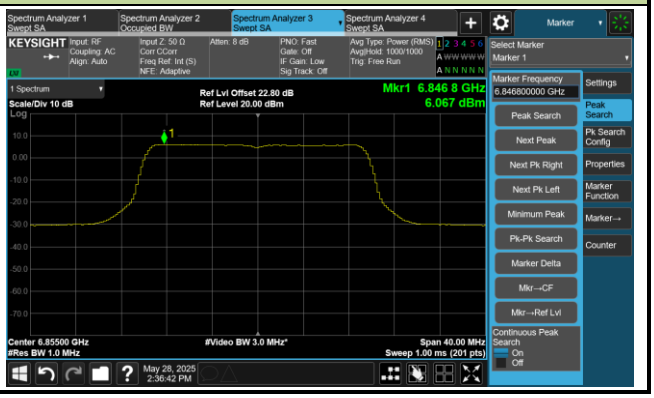
Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-05-26~2025-05-29		

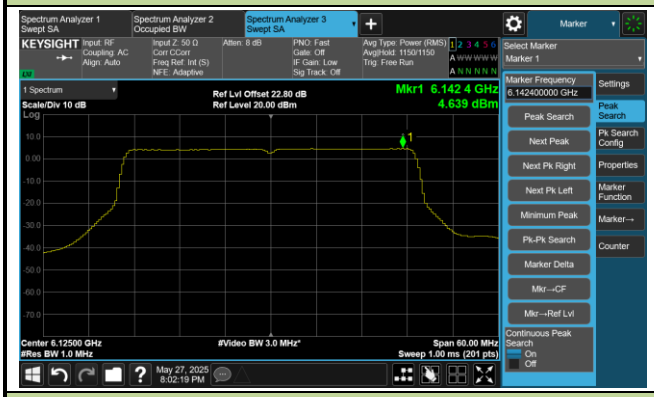
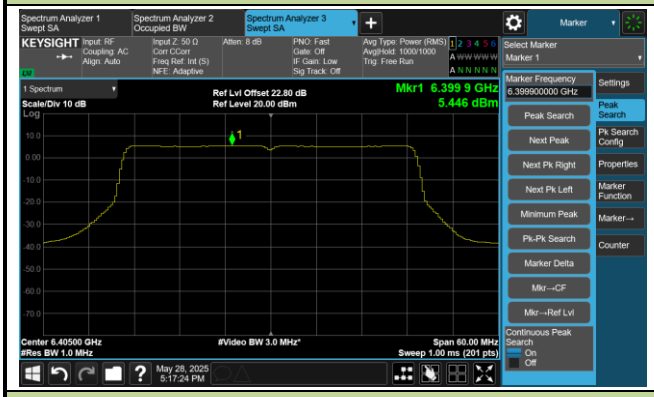
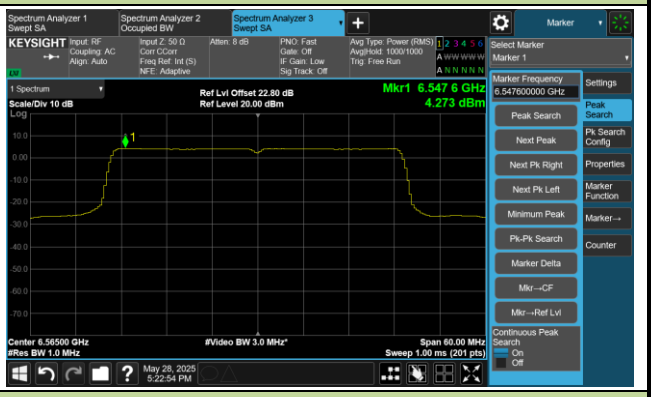
Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)		Duty Cycle (%)	EIRP PSD (dBm/MHz)	Limit (dBm/MHz)
				Ant 0	Ant 1			
802.11ax-HE20	MCS0	33	6115	7.223	7.350	96.96	15.44	≤ 23.00
802.11ax-HE20	MCS0	61	6255	7.585	7.525	96.96	15.71	≤ 23.00
802.11ax-HE20	MCS0	93	6415	6.282	8.209	96.96	15.51	≤ 23.00
802.11ax-HE20	MCS0	117	6535	8.253	8.610	96.96	16.59	≤ 23.00
802.11ax-HE20	MCS0	149	6695	8.448	8.038	96.96	16.40	≤ 23.00
802.11ax-HE20	MCS0	181	6855	6.067	6.578	96.96	14.48	≤ 23.00
802.11ax-HE40	MCS0	35	6125	4.639	4.843	96.62	12.91	≤ 23.00
802.11ax-HE40	MCS0	59	6245	4.781	5.190	96.62	13.16	≤ 23.00
802.11ax-HE40	MCS0	91	6405	5.446	4.602	96.62	13.21	≤ 23.00
802.11ax-HE40	MCS0	123	6565	4.273	4.077	96.62	12.35	≤ 23.00
802.11ax-HE40	MCS0	147	6685	4.244	3.892	96.62	12.24	≤ 23.00
802.11ax-HE40	MCS0	179	6845	3.742	3.589	96.62	11.84	≤ 23.00
802.11ax-HE80	MCS0	39	6145	0.886	0.623	97.67	8.88	≤ 23.00
802.11ax-HE80	MCS0	55	6225	1.458	0.822	97.67	9.27	≤ 23.00
802.11ax-HE80	MCS0	87	6385	0.262	0.750	97.67	8.64	≤ 23.00
802.11ax-HE80	MCS0	135	6625	-0.174	0.003	97.67	8.04	≤ 23.00
802.11ax-HE80	MCS0	151	6705	-0.427	-0.100	97.67	7.86	≤ 23.00
802.11ax-HE80	MCS0	167	6785	0.570	0.418	97.67	8.62	≤ 23.00
802.11ax-HE160	MCS0	47	6185	-2.438	-2.527	97.32	5.66	≤ 23.00
802.11ax-HE160	MCS0	79	6345	-2.876	-2.389	97.32	5.51	≤ 23.00
802.11ax-HE160	MCS0	143	6665	-4.318	-3.224	97.32	4.40	≤ 23.00
802.11be-EHT20	MCS0	33	6115	7.737	7.544	98.38	15.66	≤ 23.00
802.11be-EHT20	MCS0	61	6255	7.148	7.998	98.38	15.61	≤ 23.00
802.11be-EHT20	MCS0	93	6415	8.129	8.144	98.38	16.16	≤ 23.00
802.11be-EHT20	MCS0	117	6535	7.847	7.783	98.38	15.84	≤ 23.00
802.11be-EHT20	MCS0	149	6695	8.610	8.129	98.38	16.40	≤ 23.00
802.11be-EHT20	MCS0	181	6855	7.280	6.439	98.38	14.90	≤ 23.00

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			
802.11be-EHT40	MCS0	35	6125	4.013	4.297	97.50	12.29	≤ 23.00
802.11be-EHT40	MCS0	59	6245	4.024	4.364	97.50	12.33	≤ 23.00
802.11be-EHT40	MCS0	91	6405	4.836	3.906	97.50	12.53	≤ 23.00
802.11be-EHT40	MCS0	123	6565	3.657	3.423	97.50	11.67	≤ 23.00
802.11be-EHT40	MCS0	147	6685	3.627	3.115	97.50	11.51	≤ 23.00
802.11be-EHT40	MCS0	179	6845	4.000	3.489	97.50	11.88	≤ 23.00
802.11be-EHT80	MCS0	39	6145	1.458	0.987	98.37	9.25	≤ 23.00
802.11be-EHT80	MCS0	55	6225	1.216	0.688	98.37	8.98	≤ 23.00
802.11be-EHT80	MCS0	87	6385	-0.630	0.679	98.37	8.09	≤ 23.00
802.11be-EHT80	MCS0	135	6625	-0.128	0.133	98.37	8.03	≤ 23.00
802.11be-EHT80	MCS0	151	6705	-0.119	-0.031	98.37	7.95	≤ 23.00
802.11be-EHT80	MCS0	167	6785	-0.069	0.443	98.37	8.22	≤ 23.00
802.11be-EHT160	MCS0	47	6185	-2.891	-3.053	97.85	5.14	≤ 23.00
802.11be-EHT160	MCS0	79	6345	-3.034	-2.540	97.85	5.34	≤ 23.00
802.11be-EHT160	MCS0	143	6665	-3.641	-3.521	97.85	4.53	≤ 23.00
802.11be-EHT320	MCS0	63	6265	-4.733	-5.390	97.15	3.10	≤ 23.00

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

When EUT duty cycle ≥ 98%, EIRP PSD (dBm/MHz) = 10*log {$10^{(\text{Ant 0 PSD/10})}$ + $10^{(\text{Ant 1 PSD/10})}$} (dBm/MHz) + Directional Gain for PSD (dBi).

802.11ax-HE20 Power Spectral Density- Ant 0	
Channel 33 (6115MHz)	Channel 61 (6255MHz)
	
Channel 93 (6415MHz)	Channel 117 (6535MHz)
	
Channel 149 (6695MHz)	Channel 181 (6855MHz)
	

802.11ax-HE40 Power Spectral Density- Ant 0	
Channel 35 (6125MHz)	Channel 59 (6245MHz)
	
Channel 91 (6405MHz)	Channel 123 (6565MHz)
	
Channel 147 (6685MHz)	Channel 179 (6845MHz)