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 Low-power indoor access point (6ID) 15E 6 GHz Subordinate indoor device (6PP)
FCC Rule Part(s):	Part 15 Subpart E (Section 15.407)
Result:	Complies
Received Date:	2025-04-30
Test Date:	2025-05-07 ~ 2025-06-30

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-U201	V01	Initial Report	2025-07-25	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) 20250526Sample#04 (CBP_6ID) 20250526Sample#03 (CBP_6PP)	
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be	
Bluetooth Specification	BLE 500Kbps, 125Kbps, 1Mbps	
Antenna Information	Refer to section 1.7	
Power Type	Power: 12Vdc, 2.5A; PoE: 802.3bt PoE	
Operating Temperature	0 ~ 40℃	
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-6: 6425 ~ 6525 MHz UNII-7: 6525 ~ 6875 MHz UNII-8: 6875 ~ 7125 MHz		
Type of Modulation	802.11ax/be: OFDMA		
Data Rate	802.11ax: up to 2402Mbps 802.11be: up to 5764Mbps		
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	97	6435 MHz	101	6455 MHz
105	6475 MHz	109	6495 MHz	113	6515 MHz
117	6535 MHz	121	6555 MHz	125	6575 MHz
129	6595 MHz	133	6615 MHz	137	6635 MHz
141	6655 MHz	145	6675 MHz	149	6695 MHz
153	6715 MHz	157	6735 MHz	161	6755 MHz
165	6775 MHz	169	6795 MHz	173	6815 MHz
177	6835 MHz	181	6855 MHz	185	6875 MHz
189	6895 MHz	193	6915 MHz	197	6935 MHz
201	6955 MHz	205	6975 MHz	209	6995 MHz
213	7015 MHz	217	7035 MHz	221	7055 MHz
225	7075 MHz	229	7095 MHz	--	--

802.11ax-HE40/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	99	6445 MHz
107	6485 MHz	115	6525 MHz	123	6565 MHz
131	6605 MHz	139	6645 MHz	147	6685 MHz
155	6725 MHz	163	6765 MHz	171	6805 MHz
179	6845 MHz	187	6885 MHz	195	6925 MHz
203	6965 MHz	211	7005 MHz	219	7045 MHz
227	7085 MHz	--	--	--	--

802.11ax-HE80/be-EHT80

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

802.11ax-HE160/be-EHT160

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

802.11be-EHT320

Channel	Frequency	Channel	Frequency	Channel	Frequency
63	6265 MHz	127	6585 MHz	191	6905 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
		2	2	2.0	2.0	--	2.0	2.0

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

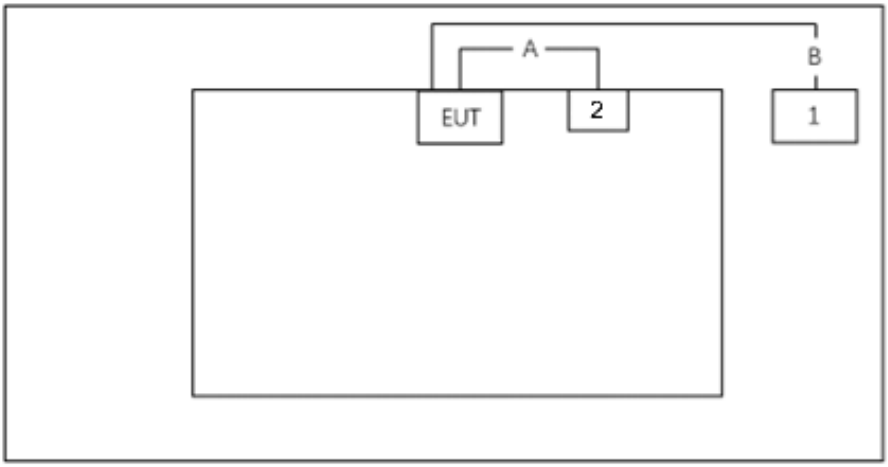
2.1. Test Mode

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)
Mode 10: Transmit by 802.11ax-HE20_N_{SS}=2 (MCS0)
Mode 11: Transmit by 802.11ax-HE40_N_{SS}=2 (MCS0)
Mode 12: Transmit by 802.11ax-HE80_N_{SS}=2 (MCS0)
Mode 13: Transmit by 802.11ax-HE160_N_{SS}=2 (MCS0)
Mode 14: Transmit by 802.11be-EHT20_N_{SS}=2 (MCS0)
Mode 15: Transmit by 802.11be-EHT40_N_{SS}=2 (MCS0)
Mode 16: Transmit by 802.11be-EHT80_N_{SS}=2 (MCS0)
Mode 17: Transmit by 802.11be-EHT160_N_{SS}=2 (MCS0)
Mode 18: Transmit by 802.11be-EHT320_N_{SS}=2 (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	1.5m
B	LAN Cable	Non shielded	> 10m
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 §15.407(a)(10) of the FCC Rules/Regulations:

Access points operating under the provisions of paragraphs (a)(5) and (a)(6) of this section must employ a permanently attached integrated antenna.

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

Conclusion:

The device complies with the requirement of §15.407(a)(10).

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
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
Attenuator	MVE	MVE2213	MRTSUE11086	1 year	2025-06-05	WZ-SR5
Cable	UCwave	UCE500	24060015	Note	Note	WZ-SR5

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)	26dB Bandwidth	Conducted	Pass
15.407(a)(5), (6)	Maximum Equivalent Isotopically Radiated Power (EIRP)		Pass
15.407(a)(5), (6)	Maximum Power Spectral Density (EIRP)		Pass
15.407(b)(7)	In-Band Emission		Pass
15.407(d)(6)	Contention-Based Protocol		Pass
15.407(b)(6)	Unwanted Emissions	Radiated	Pass
15.407(b)(9), (10)	General Field Strength (Restricted Bands and Radiated Emission)		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. For “Unwanted Emissions” and “General Field Strength (Restricted Bands and Radiated Emission)”, tests were performed with Nss=2 which has higher power level. For other items, Nss=1 and Nss=2 were test separately.

6.2. 26dB 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

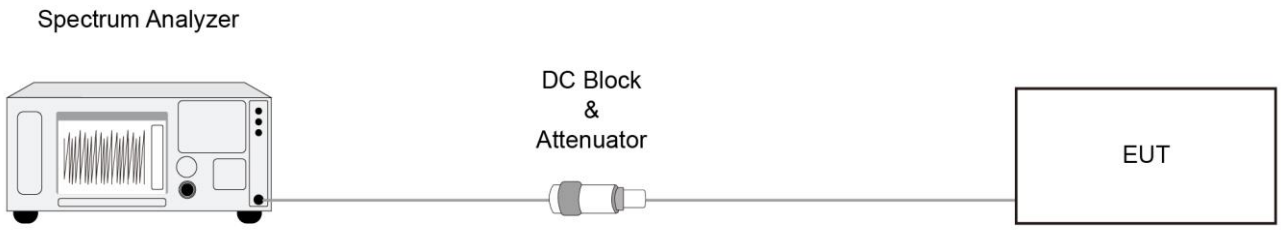
26dB Bandwidth

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

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

6.3.2. Test Procedure

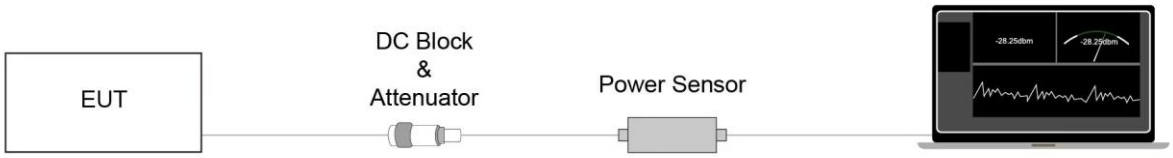
KDB 789033D02v02r01- Section II)E)3)b) Method PM-G

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

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

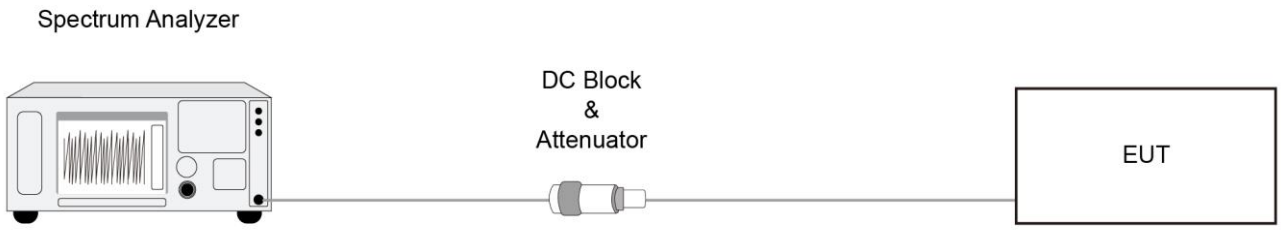
6.4.2. Test Procedure

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

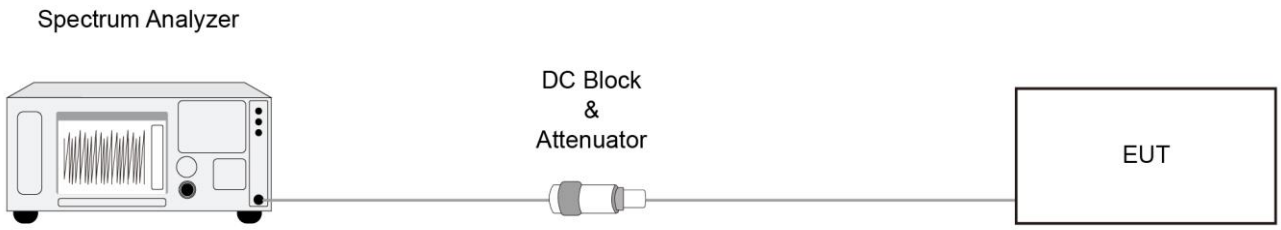
Emissions Mask Reference Level Measurement

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. Contention Based Protocol Measurement

6.6.1. Test Limit

Unlicensed indoor low power device must detect co-channel radio frequency power that is at least -62dBm (The threshold is referenced to a 0dBi antenna gain.) or low.

Indoor low power device must detect an AWGN signal with 90% (or better) level of certainty.

6.6.2. Test Procedure

KDB 987594 D02v03- Section II)I)

6.6.3. Test Setting

1. Configure the EUT to transmit with a constant duty cycle.

2. Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth.

3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT.

Connect the output port of the EUT to the signal analyzer 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.

4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.

5. Using an AWGN signal source, generate a 10 MHz-wide AWGN signal. Use Table 1 of KDB 987594 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.

6. Set the AWGN signal power to an extremely low level. Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in below figure.

7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.

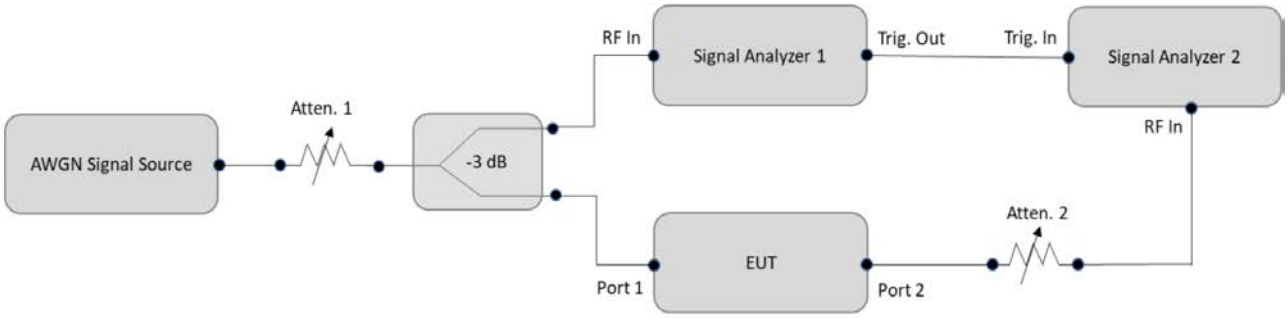
8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.

9. Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.

10. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If

testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal and repeat the process.

6.6.4. Test Setup



6.6.5. 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 EIRP. 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. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode

5. Detector = Peak

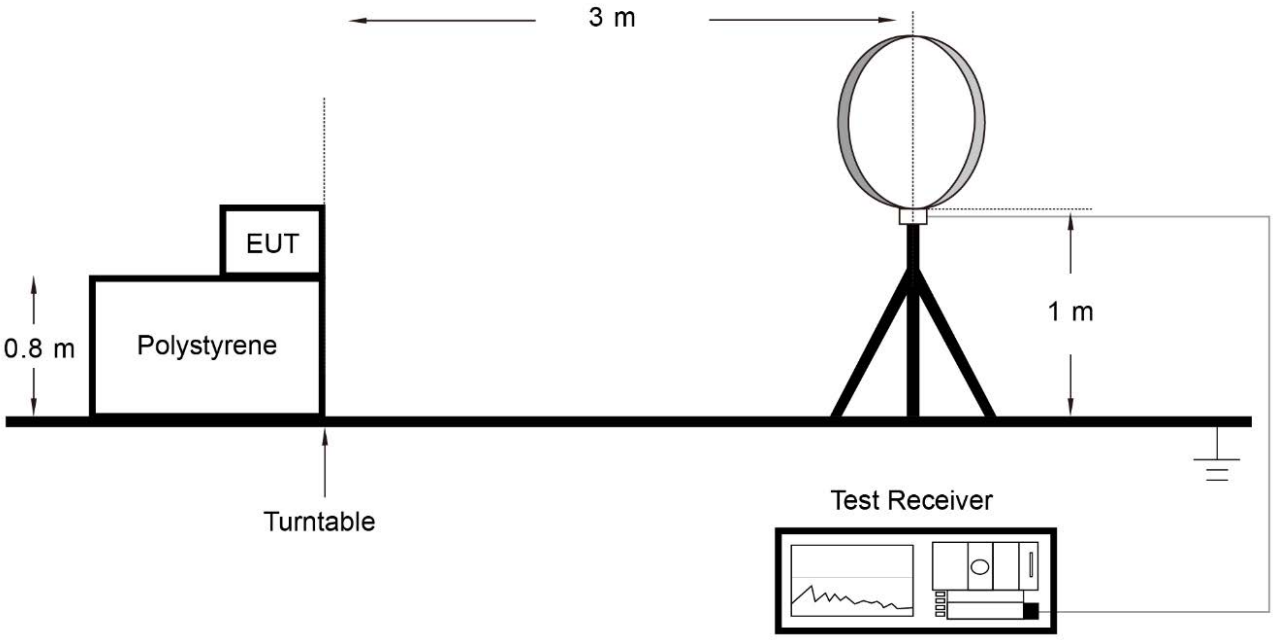
6. Sweep time = auto

7. Trace mode = max hold

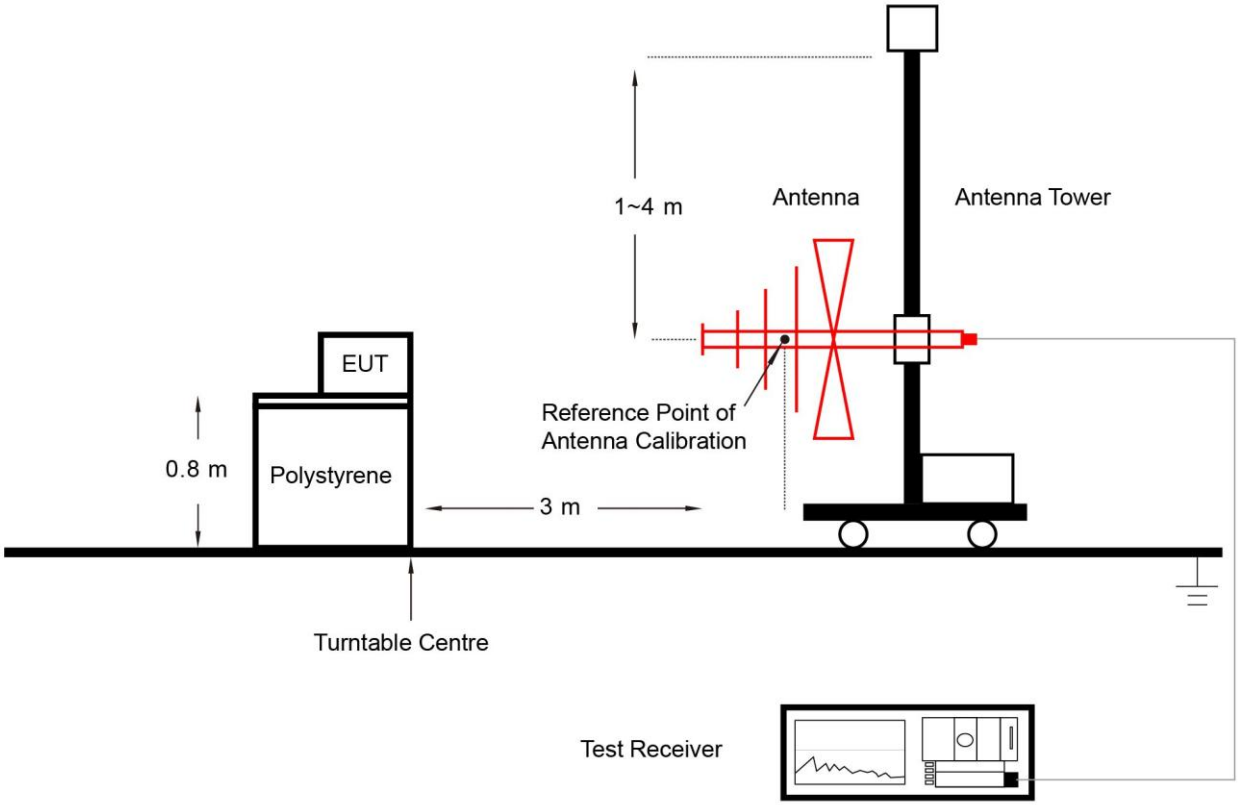
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup

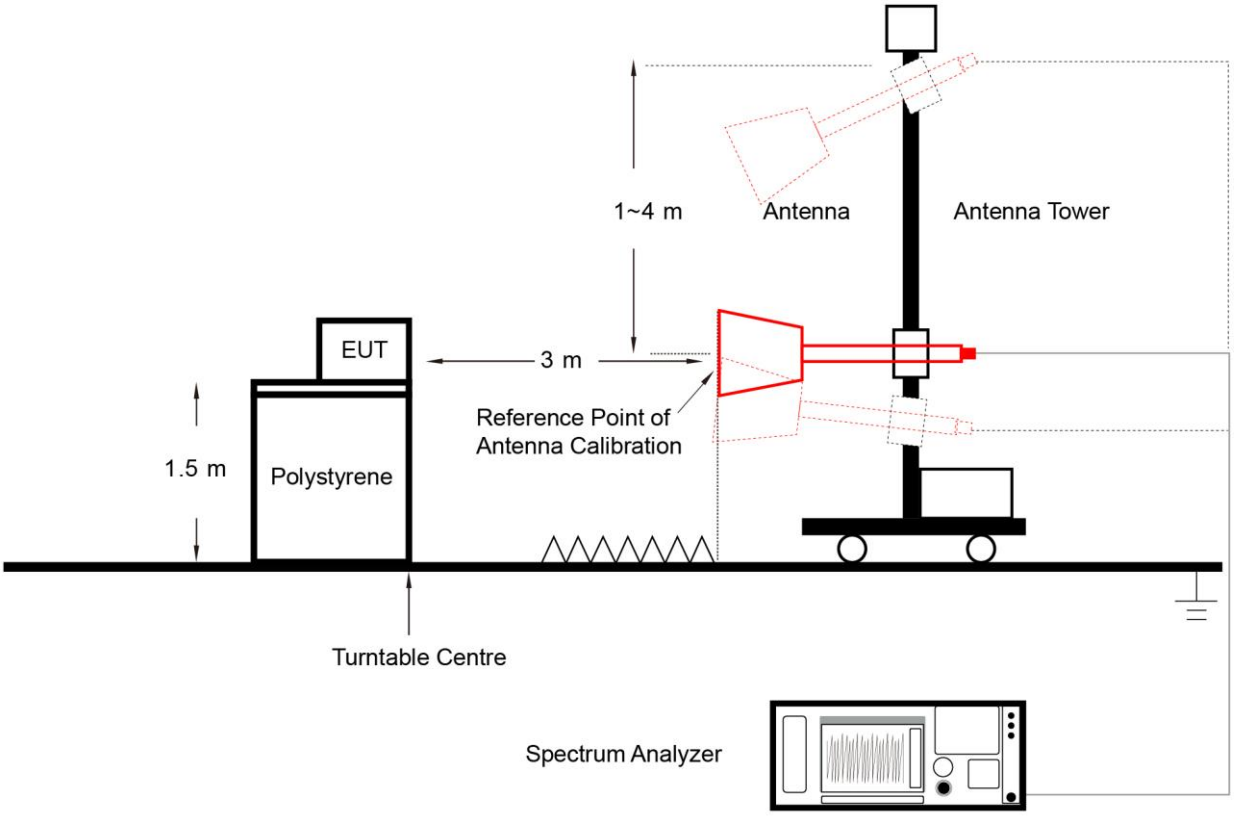
Below 30MHz Test Setup:



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 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1] 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41	--	--	--

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 EIRP. 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.

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

6.8.2. Test Procedure

KDB 789033 D02v02r01-Section Ⅱ)G)

6.8.3. Test Setting

Peak Measurements above 1GHz

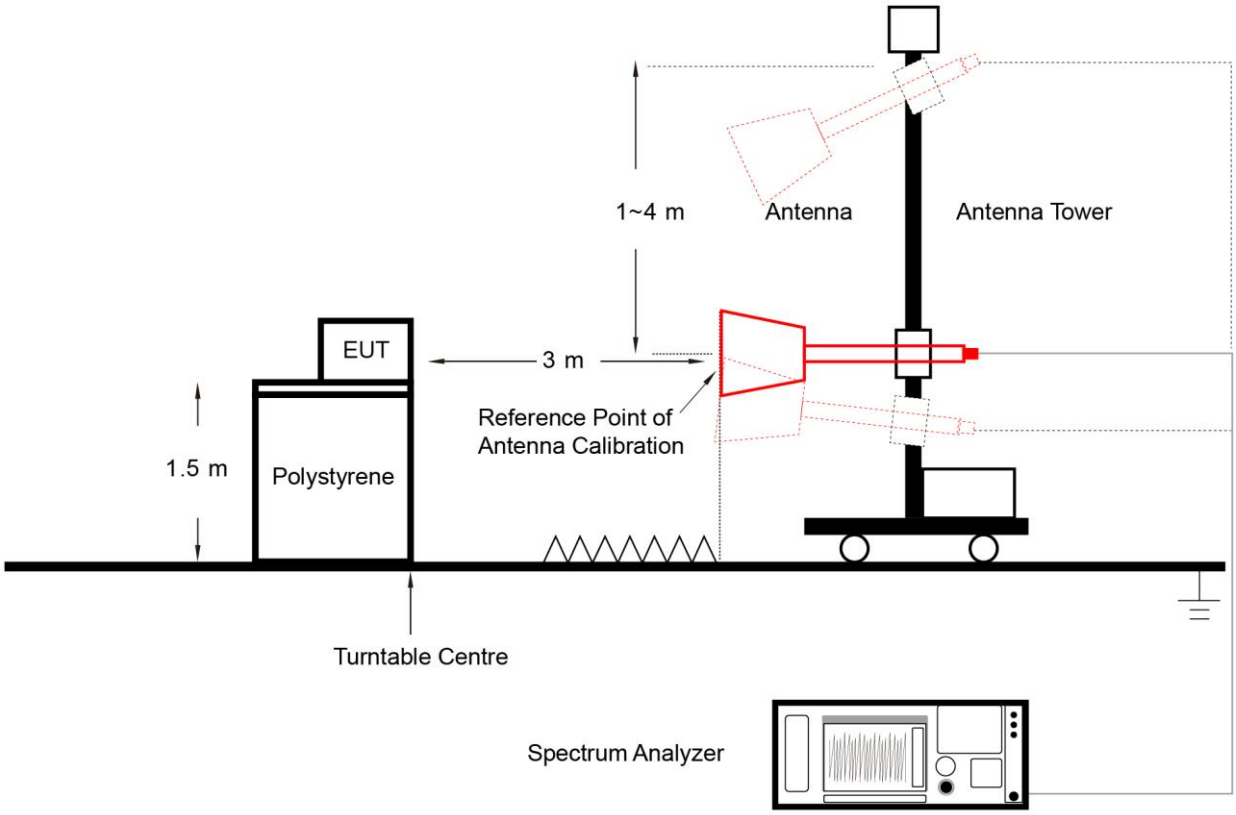
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

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 = 10 Hz.

   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Trace was allowed to stabilize

6.8.4. Test Setup



6.8.5. Test Result

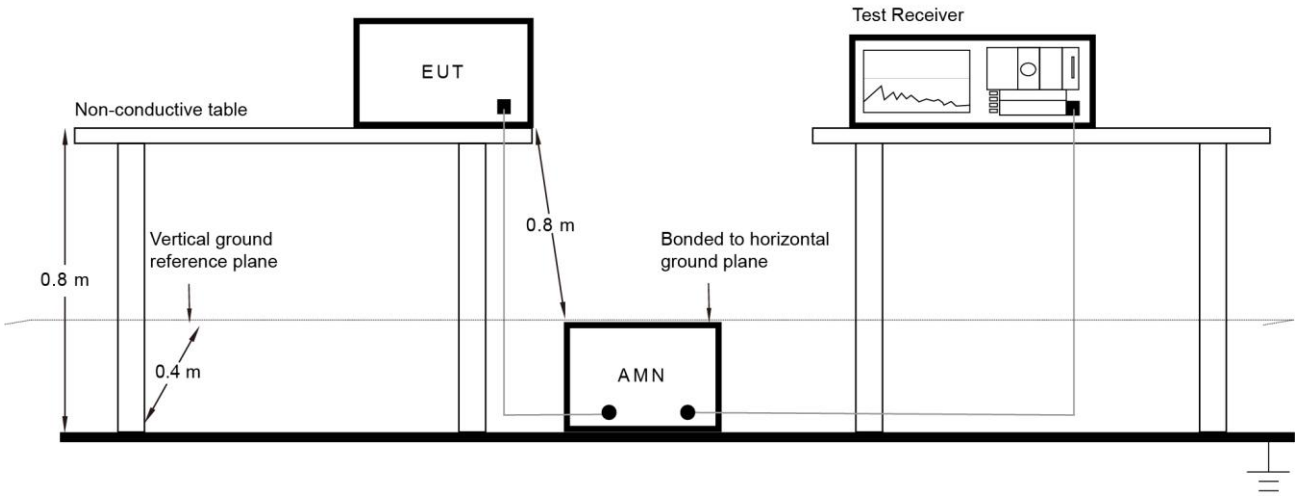
Refer to Appendix A.8.

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

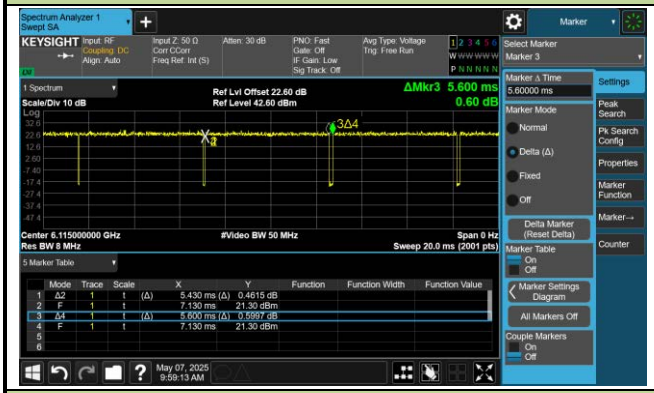
A.1 Duty Cycle Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-05-07	Test Mode	Nss=1

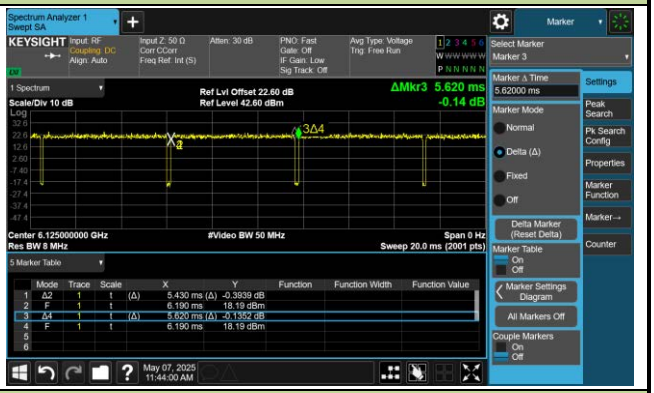
Test Mode	Duty Cycle
802.11ax-HE20	96.96%
802.11ax-HE40	96.62%
802.11ax-HE80	97.67%
802.11ax-HE160	97.32%
802.11be-EHT20	98.38%
802.11be-EHT40	97.50%
802.11be-EHT80	98.37%
802.11be-EHT160	97.85%
802.11be-EHT320	97.15%

Duty Cycle (T = Transmission Duration)

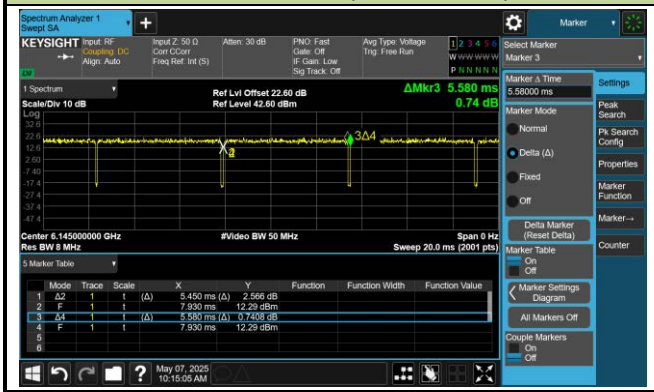
802.11ax-HE20 (T = 5.430ms)



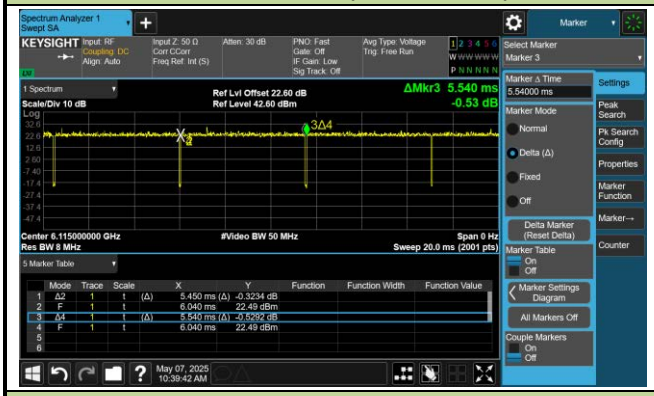
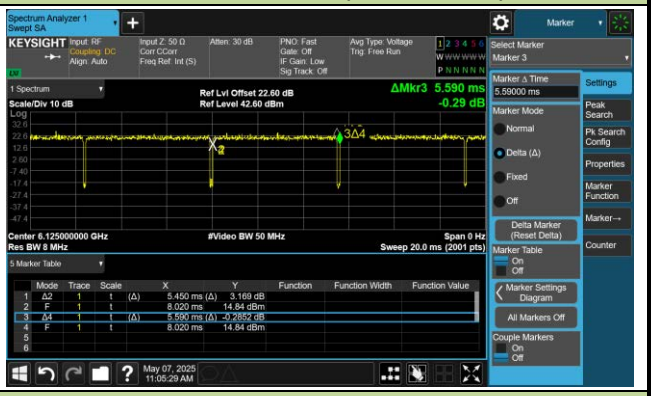
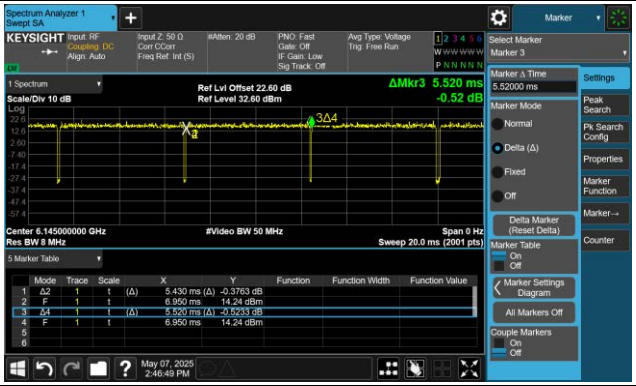
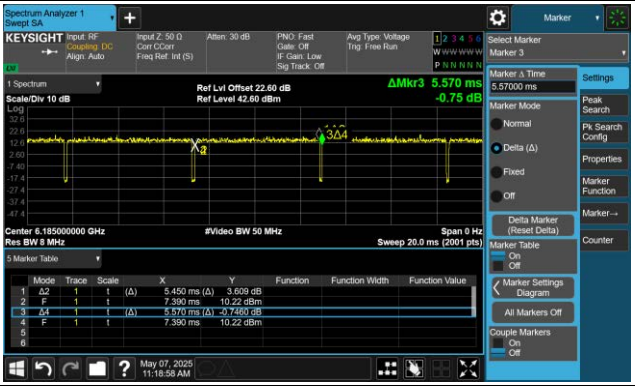
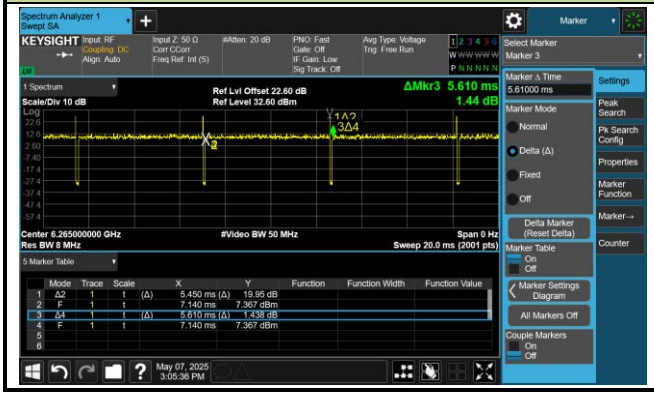
802.11ax-HE40 (T = 5.430ms)



802.11ax-HE80 (T = 5.450ms)



802.11ax-HE160 (T = 5.440ms)

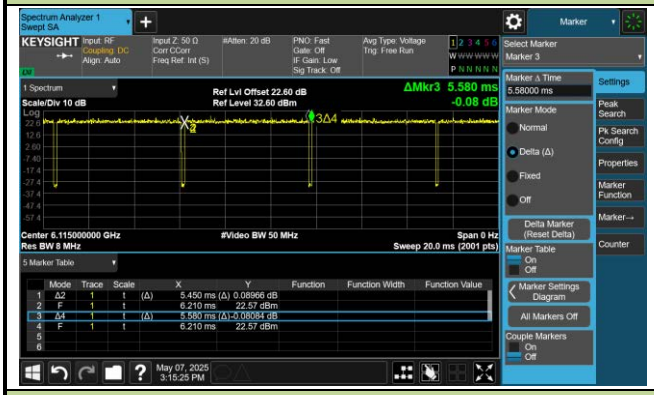
Duty Cycle (T = Transmission Duration)	
802.11be-EH20 (T = 5.450ms)	802.11be-EHT40 (T = 5.450ms)
	
802.11be-EHT80 (T = 5.430ms)	802.11be-EH160 (T = 5.450ms)
	
802.11be-EHT320 (T = 5.450ms)	
	

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-05-07	Test Mode	Nss=2

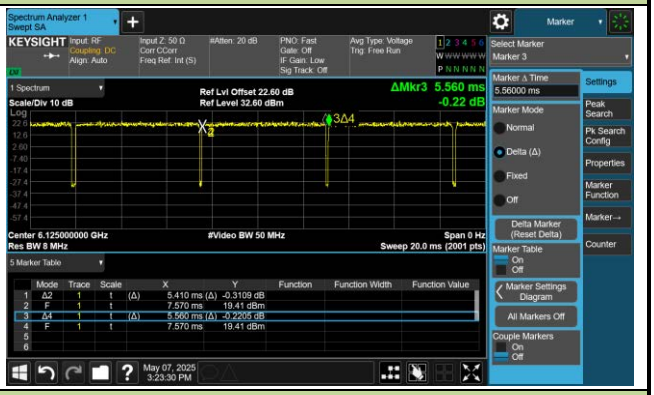
Test Mode	Duty Cycle
802.11ax-HE20	97.67%
802.11ax-HE40	97.30%
802.11ax-HE80	96.67%
802.11ax-HE160	97.84%
802.11be-EHT20	98.01%
802.11be-EHT40	97.14%
802.11be-EHT80	96.77%
802.11be-EHT160	98.02%
802.11be-EHT320	98.02%

Duty Cycle (T = Transmission Duration)

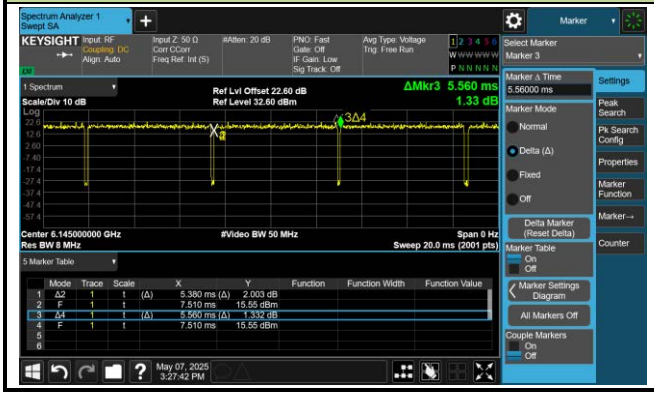
802.11ax-HE20 (T = 5.450ms)



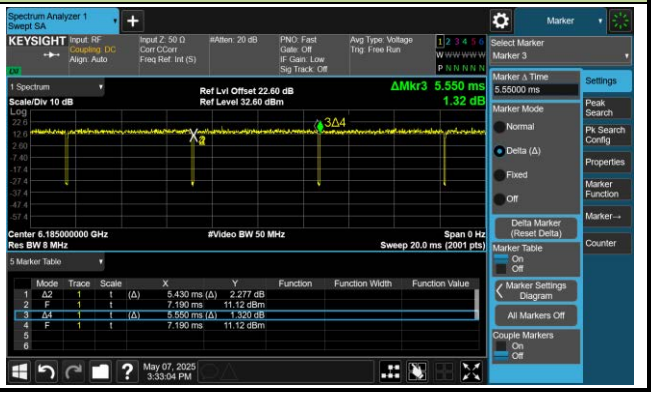
802.11ax-HE40 (T = 5.410ms)

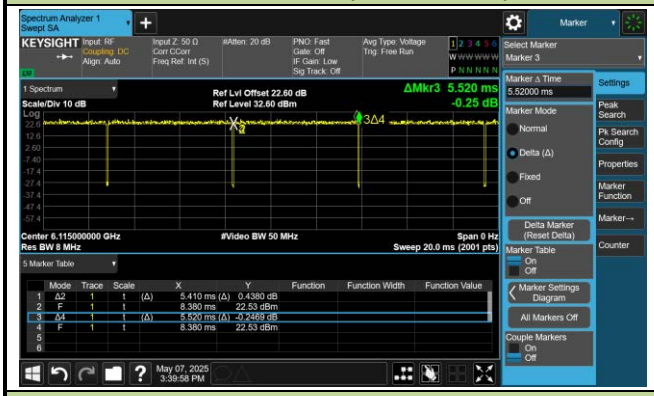
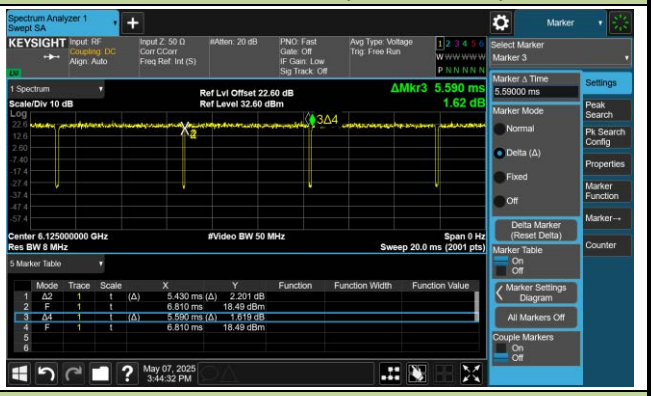
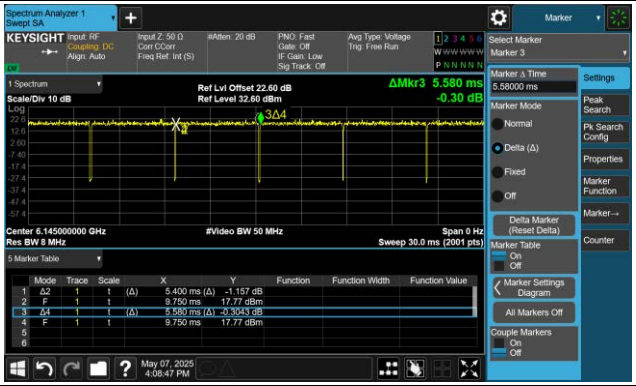
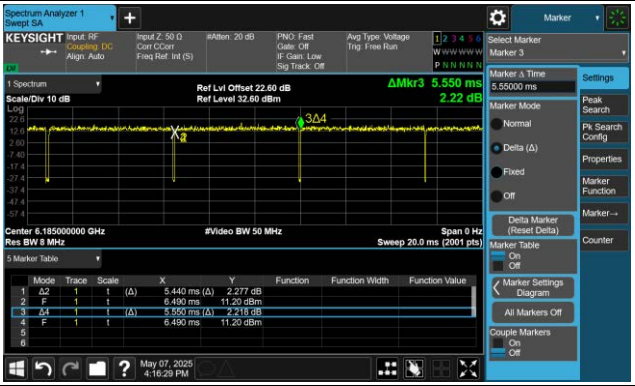
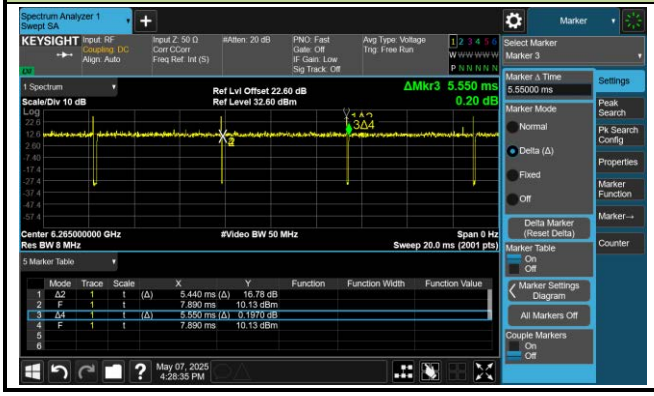


802.11ax-HE80 (T = 5.380ms)



802.11ax-HE160 (T = 5.430ms)



Duty Cycle (T = Transmission Duration)	
802.11be-EH20 (T = 5.410ms)	802.11be-EHT40 (T = 5.430ms)
	
802.11be-EHT80 (T = 5.400ms)	802.11be-EH160 (T = 5.440ms)
	
802.11be-EHT320 (T = 5.440ms)	
	

A.2 26dB Bandwidth Test Result

Test Site	WZ-SR5	Test Engineer	Luis Yang
Test Date	2025-05-30	Test Mode	N_{SS}=1

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Limit (MHz)
802.11ax-HE20	MCS0	33	6115	23.16	19.256	≤ 320
802.11ax-HE20	MCS0	61	6255	23.13	19.210	≤ 320
802.11ax-HE20	MCS0	93	6415	23.55	19.168	≤ 320
802.11ax-HE20	MCS0	97	6435	22.95	19.159	≤ 320
802.11ax-HE20	MCS0	105	6475	22.98	19.140	≤ 320
802.11ax-HE20	MCS0	113	6515	22.84	19.168	≤ 320
802.11ax-HE20	MCS0	117	6535	22.58	19.146	≤ 320
802.11ax-HE20	MCS0	149	6695	22.84	19.211	≤ 320
802.11ax-HE20	MCS0	181	6855	22.77	19.173	≤ 320
802.11ax-HE20	MCS0	185	6875	23.05	19.120	≤ 320
802.11ax-HE20	MCS0	189	6895	22.77	19.151	≤ 320
802.11ax-HE20	MCS0	209	6995	22.34	19.220	≤ 320
802.11ax-HE20	MCS0	229	7095	22.68	19.189	≤ 320
802.11ax-HE40	MCS0	35	6125	44.45	38.130	≤ 320
802.11ax-HE40	MCS0	59	6245	44.86	38.122	≤ 320
802.11ax-HE40	MCS0	91	6405	44.35	38.172	≤ 320
802.11ax-HE40	MCS0	99	6445	43.33	38.151	≤ 320
802.11ax-HE40	MCS0	107	6485	44.23	38.204	≤ 320
802.11ax-HE40	MCS0	115	6525	44.75	38.152	≤ 320
802.11ax-HE40	MCS0	123	6565	45.34	38.203	≤ 320
802.11ax-HE40	MCS0	147	6685	44.14	38.146	≤ 320
802.11ax-HE40	MCS0	179	6845	43.83	38.217	≤ 320
802.11ax-HE40	MCS0	187	6885	45.15	38.165	≤ 320
802.11ax-HE40	MCS0	195	6925	43.75	38.117	≤ 320
802.11ax-HE40	MCS0	211	7005	44.20	38.149	≤ 320
802.11ax-HE40	MCS0	227	7085	44.66	38.180	≤ 320

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Limit (MHz)
802.11ax-HE80	MCS0	39	6145	90.92	77.905	≤ 320
802.11ax-HE80	MCS0	55	6225	90.40	78.093	≤ 320
802.11ax-HE80	MCS0	87	6385	91.27	77.974	≤ 320
802.11ax-HE80	MCS0	103	6465	91.26	77.974	≤ 320
802.11ax-HE80	MCS0	119	6545	91.45	78.212	≤ 320
802.11ax-HE80	MCS0	135	6625	91.67	78.072	≤ 320
802.11ax-HE80	MCS0	151	6705	89.32	78.174	≤ 320
802.11ax-HE80	MCS0	167	6785	91.40	78.003	≤ 320
802.11ax-HE80	MCS0	183	6865	93.74	77.877	≤ 320
802.11ax-HE80	MCS0	199	6945	89.81	77.934	≤ 320
802.11ax-HE80	MCS0	215	7025	93.30	78.037	≤ 320
802.11ax-HE160	MCS0	47	6185	177.8	158.15	≤ 320
802.11ax-HE160	MCS0	79	6345	177.5	158.14	≤ 320
802.11ax-HE160	MCS0	111	6505	177.2	157.99	≤ 320
802.11ax-HE160	MCS0	143	6665	175.0	157.76	≤ 320
802.11ax-HE160	MCS0	175	6825	175.1	158.09	≤ 320
802.11ax-HE160	MCS0	207	6985	176.4	158.20	≤ 320
802.11be-EHT20	MCS0	33	6115	23.36	19.258	≤ 320
802.11be-EHT20	MCS0	61	6255	23.02	19.193	≤ 320
802.11be-EHT20	MCS0	93	6415	23.24	19.170	≤ 320
802.11be-EHT20	MCS0	97	6435	22.58	19.198	≤ 320
802.11be-EHT20	MCS0	105	6475	23.09	19.207	≤ 320
802.11be-EHT20	MCS0	113	6515	23.00	19.143	≤ 320
802.11be-EHT20	MCS0	117	6535	22.75	19.172	≤ 320
802.11be-EHT20	MCS0	149	6695	22.81	19.195	≤ 320
802.11be-EHT20	MCS0	181	6855	22.55	19.182	≤ 320
802.11be-EHT20	MCS0	185	6875	23.26	19.171	≤ 320
802.11be-EHT20	MCS0	189	6895	22.99	19.204	≤ 320
802.11be-EHT20	MCS0	209	6995	22.59	19.161	≤ 320
802.11be-EHT20	MCS0	229	7095	22.96	19.277	≤ 320

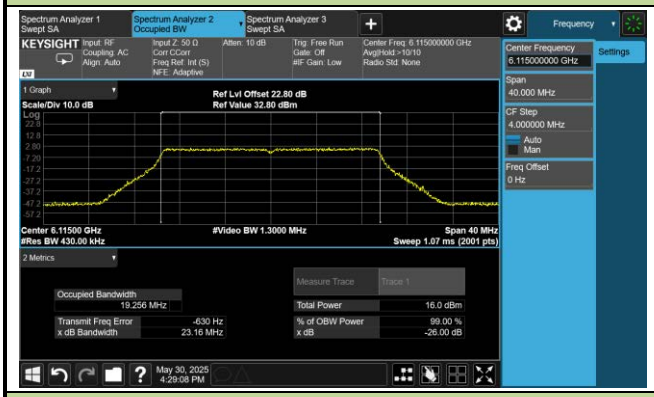
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Limit (MHz)
802.11be-EHT40	MCS0	35	6125	44.87	38.224	≤ 320
802.11be-EHT40	MCS0	59	6245	45.01	38.185	≤ 320
802.11be-EHT40	MCS0	91	6405	43.84	38.234	≤ 320
802.11be-EHT40	MCS0	99	6445	45.99	38.218	≤ 320
802.11be-EHT40	MCS0	107	6485	44.61	38.186	≤ 320
802.11be-EHT40	MCS0	115	6525	44.25	38.169	≤ 320
802.11be-EHT40	MCS0	123	6565	44.19	38.172	≤ 320
802.11be-EHT40	MCS0	147	6685	44.47	38.164	≤ 320
802.11be-EHT40	MCS0	179	6845	44.99	38.245	≤ 320
802.11be-EHT40	MCS0	187	6885	44.56	38.201	≤ 320
802.11be-EHT40	MCS0	195	6925	45.15	38.172	≤ 320
802.11be-EHT40	MCS0	211	7005	44.80	38.241	≤ 320
802.11be-EHT40	MCS0	227	7085	44.17	38.207	≤ 320
802.11be-EHT80	MCS0	39	6145	90.37	77.990	≤ 320
802.11be-EHT80	MCS0	55	6225	90.61	78.129	≤ 320
802.11be-EHT80	MCS0	87	6385	91.27	77.882	≤ 320
802.11be-EHT80	MCS0	103	6465	90.91	78.380	≤ 320
802.11be-EHT80	MCS0	119	6545	91.74	78.198	≤ 320
802.11be-EHT80	MCS0	135	6625	90.87	78.081	≤ 320
802.11be-EHT80	MCS0	151	6705	91.74	78.057	≤ 320
802.11be-EHT80	MCS0	167	6785	90.35	78.002	≤ 320
802.11be-EHT80	MCS0	183	6865	90.93	78.094	≤ 320
802.11be-EHT80	MCS0	199	6945	91.68	78.039	≤ 320
802.11be-EHT80	MCS0	215	7025	92.64	78.213	≤ 320
802.11be-EHT160	MCS0	47	6185	178.0	157.56	≤ 320
802.11be-EHT160	MCS0	79	6345	178.2	157.86	≤ 320
802.11be-EHT160	MCS0	111	6505	175.8	157.96	≤ 320
802.11be-EHT160	MCS0	143	6665	176.8	158.26	≤ 320
802.11be-EHT160	MCS0	175	6825	175.6	158.08	≤ 320
802.11be-EHT160	MCS0	207	6985	174.1	158.20	≤ 320

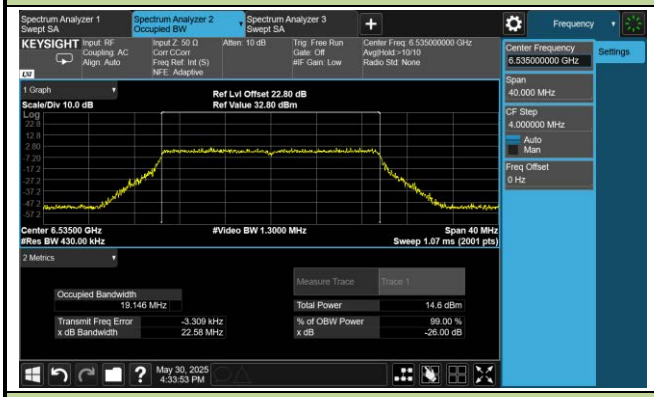
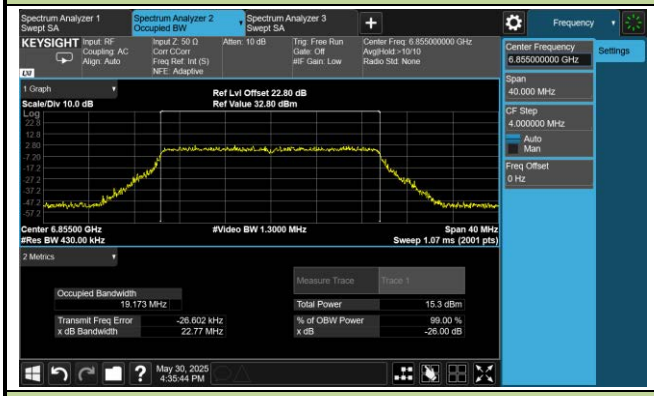
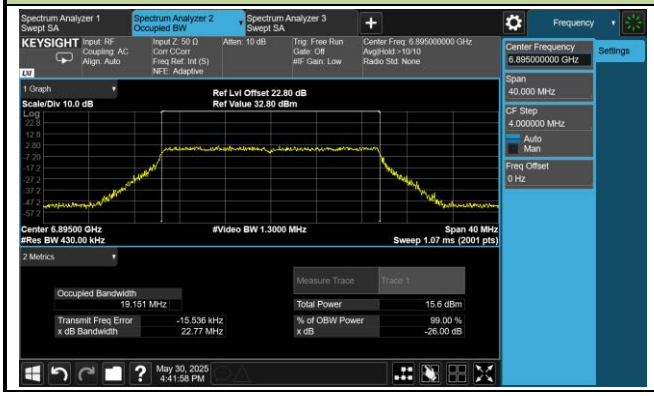
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Test Limit (MHz)
802.11be-EHT320	MCS0	63	6265	323.0	315.32	≤ 320
802.11be-EHT320	MCS0	127	6585	322.1	315.40	≤ 320
802.11be-EHT320	MCS0	191	6905	323.4	315.26	≤ 320

Note:

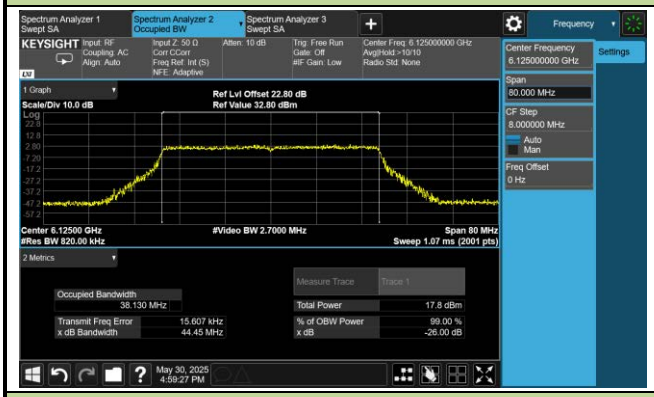
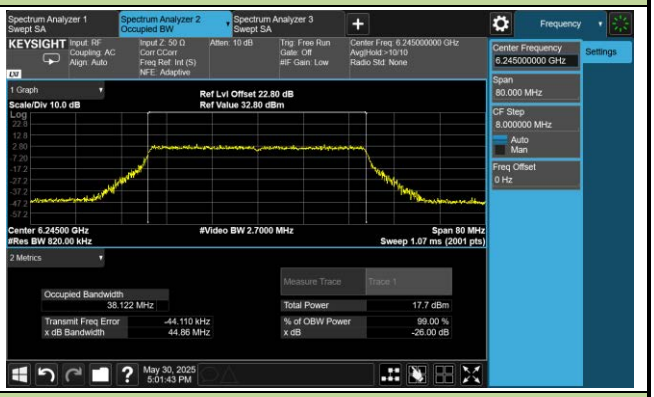
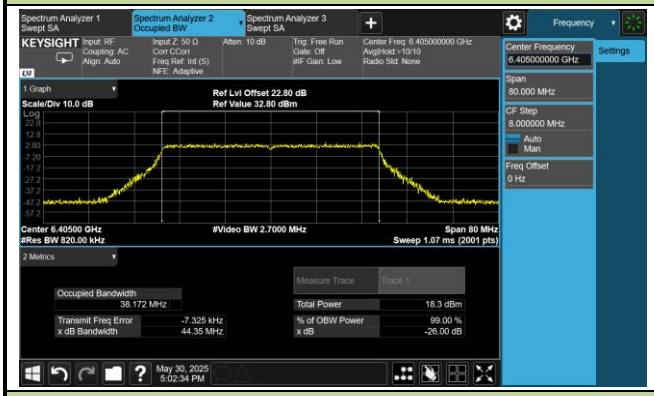
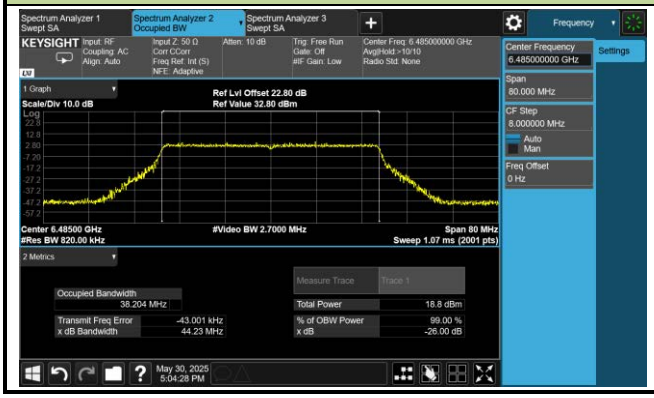
For channels with a nominal bandwidth less than 320 MHz compliance is demonstrated by way of the 26 dB EBW.

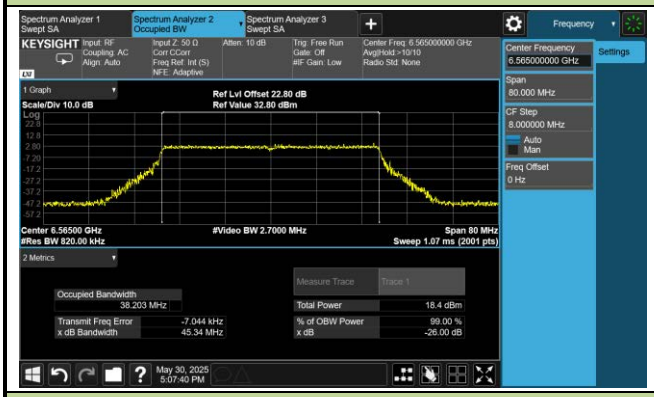
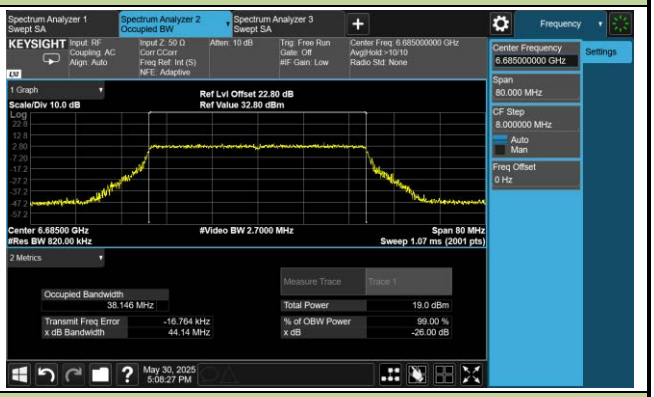
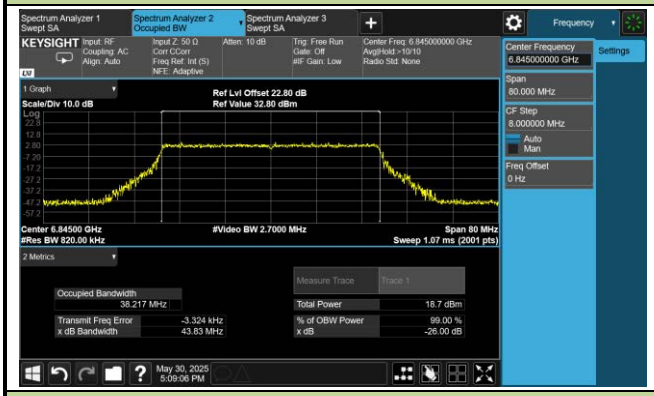
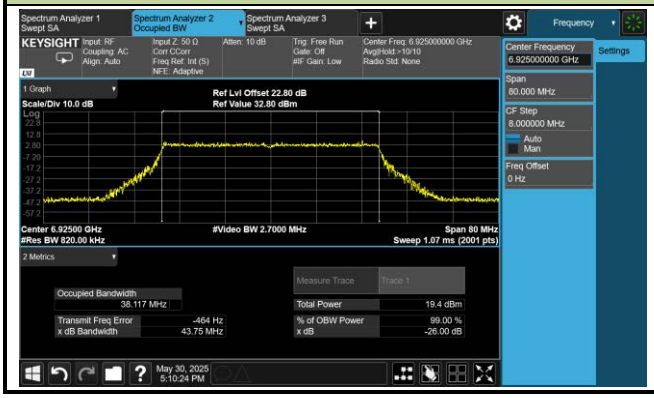
For channels with a nominal bandwidth of 320 MHz compliance is demonstrated by way of the 99% BW.

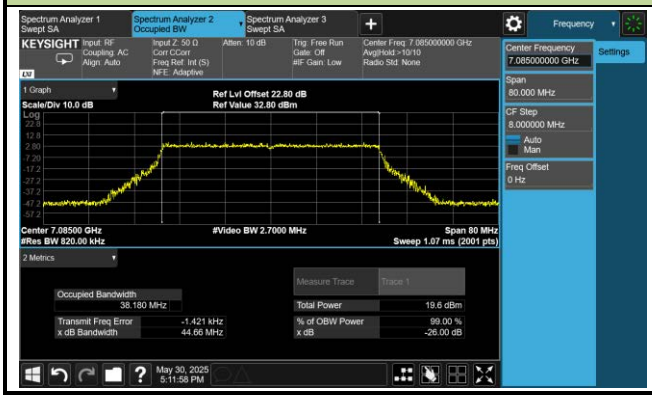
802.11ax-HE20 26dB Bandwidth	
Channel 33 (6115MHz)	Channel 61 (6255MHz)
	
Channel 93 (6415MHz)	Channel 97 (6435MHz)
	
Channel 105 (6475MHz)	Channel 113 (6515MHz)
	

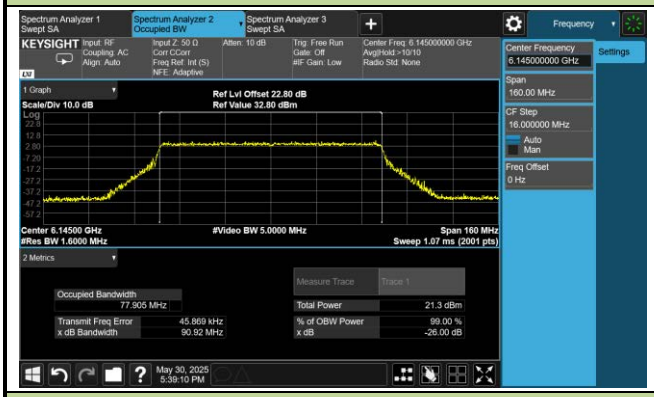
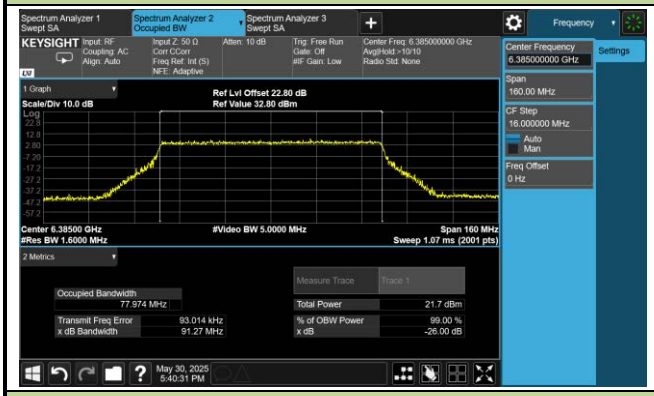
802.11ax-HE20 26dB Bandwidth	
Channel 117 (6535MHz)	Channel 149 (6695MHz)
	
Channel 181 (6855MHz)	Channel 185 (6875MHz)
	
Channel 189 (6895MHz)	Channel 209 (6995MHz)
	

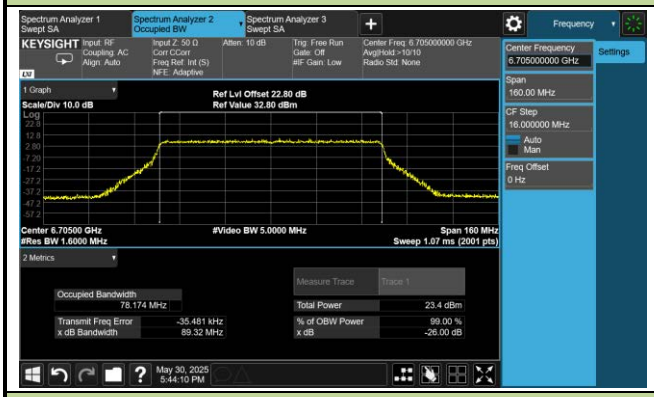
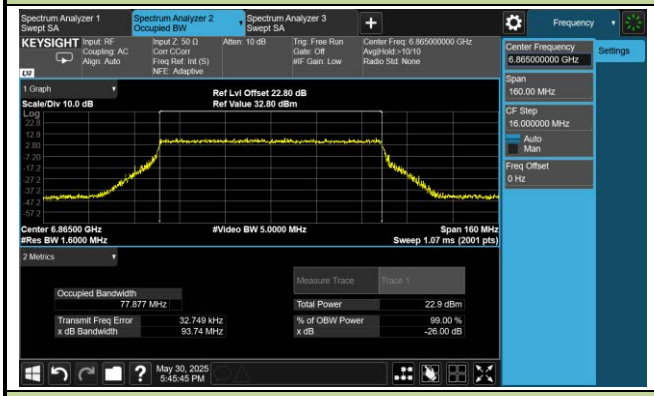
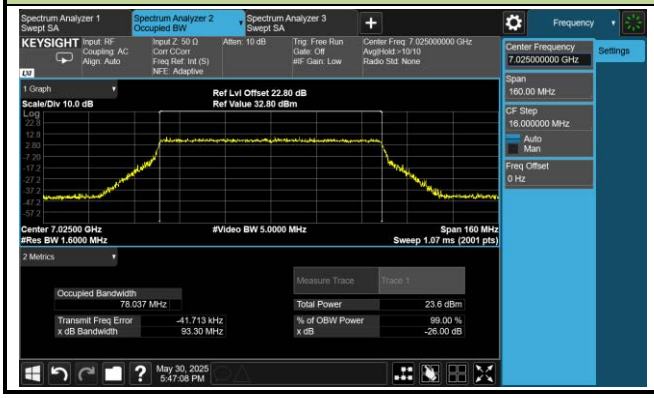
802.11ax-HE20 26dB Bandwidth	
Channel 229 (7095MHz)	
	

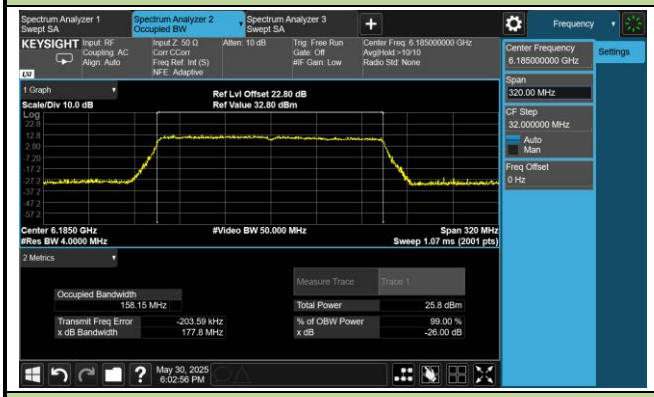
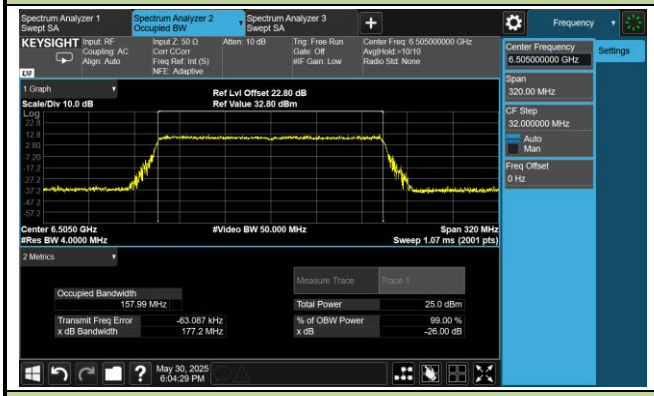
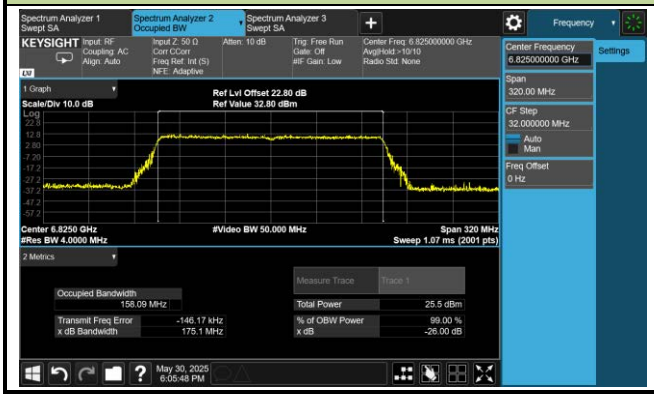
802.11ax-HE40 26dB Bandwidth	
Channel 35 (6125MHz)	Channel 59 (6245MHz)
	
Channel 91 (6405MHz)	Channel 99 (6445MHz)
	
Channel 107 (6485MHz)	Channel 115 (6525MHz)
	

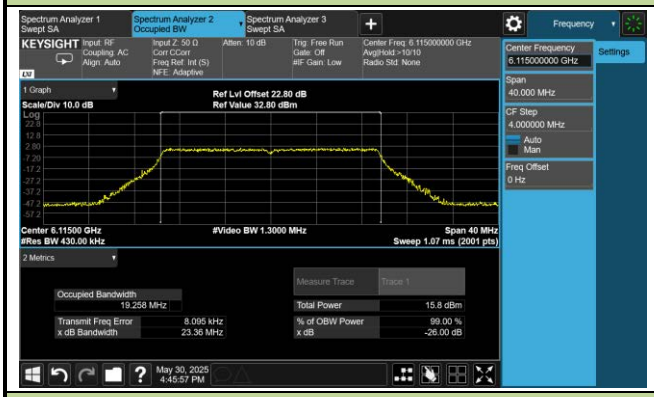
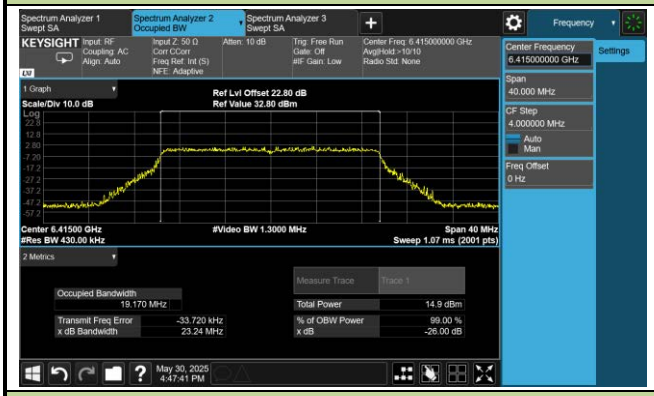
802.11ax-HE40 26dB Bandwidth	
Channel 123 (6565MHz)	Channel 147 (6685MHz)
	
Channel 179 (6845MHz)	Channel 187 (6885MHz)
	
Channel 195 (6925MHz)	Channel 211 (7005MHz)
	

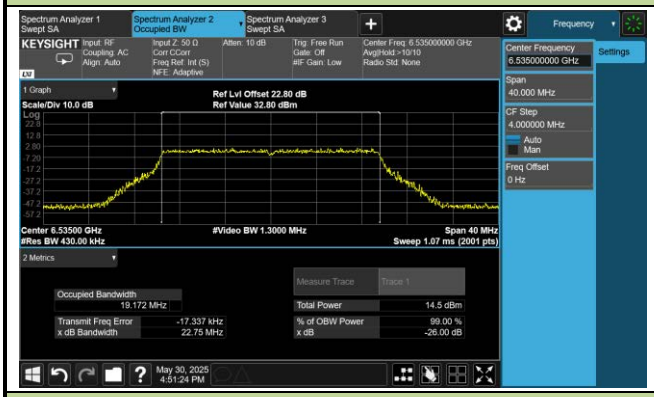
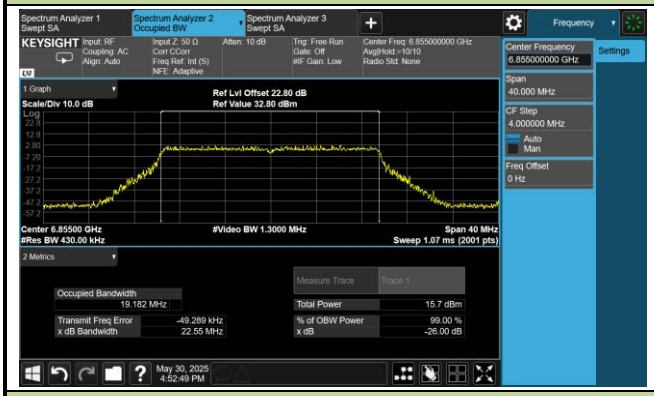
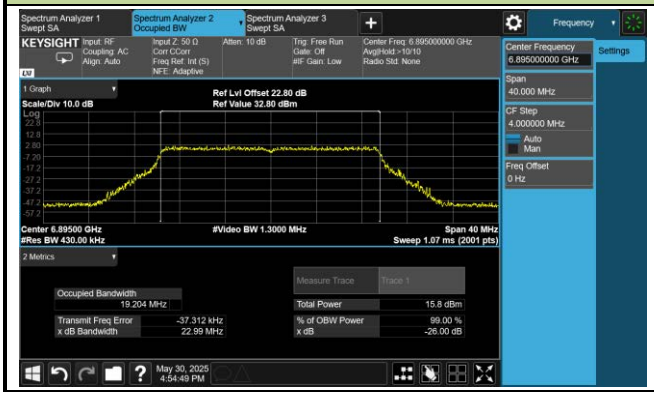
802.11ax-HE40 26dB Bandwidth	
Channel 227 (7085MHz)	
	

802.11ax-HE80 26dB Bandwidth	
Channel 39 (6145MHz)	Channel 55 (6225MHz)
	
Channel 87 (6385MHz)	Channel 103 (6465MHz)
	
Channel 119 (6545MHz)	Channel 135 (6625MHz)
	

802.11ax-HE80 26dB Bandwidth	
Channel 151 (6705MHz)	Channel 167 (6785MHz)
	
Channel 183 (6865MHz)	Channel 199 (6945MHz)
	
Channel 215 (7025MHz)	
	

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

802.11be-EHT20 26dB Bandwidth	
Channel 33 (6115MHz)	Channel 61 (6255MHz)
	
Channel 93 (6415MHz)	Channel 97 (6435MHz)
	
Channel 105 (6475MHz)	Channel 113 (6515MHz)
	

802.11be-EHT20 26dB Bandwidth	
Channel 117 (6535MHz)	Channel 149 (6695MHz)
	
Channel 181 (6855MHz)	Channel 185 (6875MHz)
	
Channel 189 (6895MHz)	Channel 209 (6995MHz)
	

802.11be-EHT20 26dB Bandwidth	
Channel 229 (7095MHz)