

## RF MEASUREMENT REPORT

---

**FCC ID** : 2BCGWGE550  
**Applicant** : TP-LINK CORPORATION PTE. LTD.  
**Application Type** : Certification  
**Product** : BE11000 Tri-Band Wi-Fi 7 Gaming Router  
BE9300 Tri-Band Wi-Fi 7 Gaming Router  
**Model No.** : Archer GE650, Archer GE550  
**Brand Name** : tp-link  
**FCC Classification** : 15E 6GHz Low Power Indoor Access Point (6ID)  
15E 6GHz Subordinate Indoor Device (6PP)  
**FCC Rule Part(s)** : Part 15 Subpart E (Section 15.407)  
**Received Date** : January 5, 2024  
**Test Date** : January 9, 2024~ January 29, 2024

**Tested By** : Owen Tsai

( Owen Tsai )

**Reviewed By** : Paddy Chen

( Paddy Chen )

**Approved By** : Chenz Ker

( Chenz Ker )



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.

The test report shall not be reproduced except in full without the written approval of MRT Technology ( Taiwan ) Co., Ltd.

### Revision History

Report No.	Version	Description	Issue Date	Note
2401TW0104-U5	1.0	Original Report	2024-06-14	Valid

---

## CONTENTS

Description	Page
<b>1. INTRODUCTION .....</b>	<b>7</b>
1.1. Scope .....	7
1.2. MRT Test Location .....	7
<b>2. Product Information .....</b>	<b>8</b>
2.1. Equipment Description .....	8
2.2. Radio Specification .....	8
2.3. Working Frequencies .....	9
2.4. Antenna Details .....	10
2.5. Test Mode .....	11
2.6. Test System Connection Diagram .....	12
2.7. Test System Details .....	13
2.8. Test Software .....	13
2.9. Applied Standards .....	13
2.10. Duty Cycle .....	13
2.11. Test Environment Condition .....	15
<b>3. Antenna Requirements .....</b>	<b>16</b>
<b>4. Measuring Instrument .....</b>	<b>17</b>
<b>5. Measurement Uncertainty .....</b>	<b>18</b>
<b>6. Test Result .....</b>	<b>19</b>
6.1. Summary .....	19
6.2. 26dB Bandwidth .....	20
6.2.1. Test Limit .....	20
6.2.2. Test Procedure used .....	20
6.2.3. Test Setting .....	20
6.2.4. Test Setup .....	21
6.2.5. Test Result .....	22
6.3. Output Power .....	41
6.3.1. Test Limit .....	41
6.3.2. Test Procedure Used .....	41
6.3.3. Test Setting .....	41
6.3.4. Test Setup .....	41
6.3.5. Test Result .....	42
6.4. Power Spectral Density .....	54
6.4.1. Test Limit .....	54
6.4.2. Test Procedure Used .....	54
6.4.3. Test Setting .....	54

---

6.4.4.	Test Setup .....	55
6.4.5.	Test Result .....	56
6.5.	In-Band Emission Measurement.....	124
6.5.1.	Test Limit .....	124
6.5.2.	Test Procedure used .....	124
6.5.3.	Test Setting .....	124
6.5.4.	Test Setup .....	125
6.5.5.	Test Result .....	126
6.6.	Frequency Stability Measurement .....	186
6.6.1.	Test Limit .....	186
6.6.2.	Test Procedure.....	186
6.6.3.	Test Setup .....	187
6.6.4.	Test Result .....	188
6.7.	Contention Based Protocol .....	189
6.7.1.	Test Limit .....	189
6.7.2.	Test Procedure Used .....	189
6.7.3.	Test Setting .....	189
6.7.4.	Test Setup .....	190
6.7.5.	Test Result .....	190
6.8.	Radiated Spurious Emission.....	191
6.8.1.	Test Limit .....	191
6.8.2.	Test Procedure Used .....	191
6.8.3.	Test Setting .....	191
6.8.4.	Test Setup .....	193
6.8.5.	Test Result .....	194
6.9.	Radiated Restricted Band Edge .....	366
6.9.1.	Test Limit .....	366
6.9.2.	Test Procedure Used .....	367
6.9.3.	Test Setting .....	367
6.9.4.	Test Setup .....	368
6.9.5.	Test Result .....	369
6.10.	AC Conducted Emissions .....	441
6.10.1.	Test Limit.....	441
6.10.2.	Test Setup.....	441
6.10.3.	Test Result.....	442
<b>7.</b>	<b>Conclusion .....</b>	<b>450</b>
	<b>Appendix A : Test Setup Photograph .....</b>	<b>451</b>
	<b>Appendix B : External Photograph .....</b>	<b>451</b>

---

**Appendix C : Internal Photograph .....451**

## General Information

<b>Applicant</b>	TP-LINK CORPORATION PTE. LTD.
<b>Applicant Address</b>	7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987
<b>Manufacturer</b>	TP-LINK CORPORATION PTE. LTD.
<b>Manufacturer Address</b>	7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987
<b>Test Site</b>	MRT Technology (Taiwan) Co., Ltd
<b>Test Site Address</b>	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
<b>MRT FCC Registration No.</b>	291082
<b>FCC Rule Part(s)</b>	Part 15.407

## Test Facility / Accreditations

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

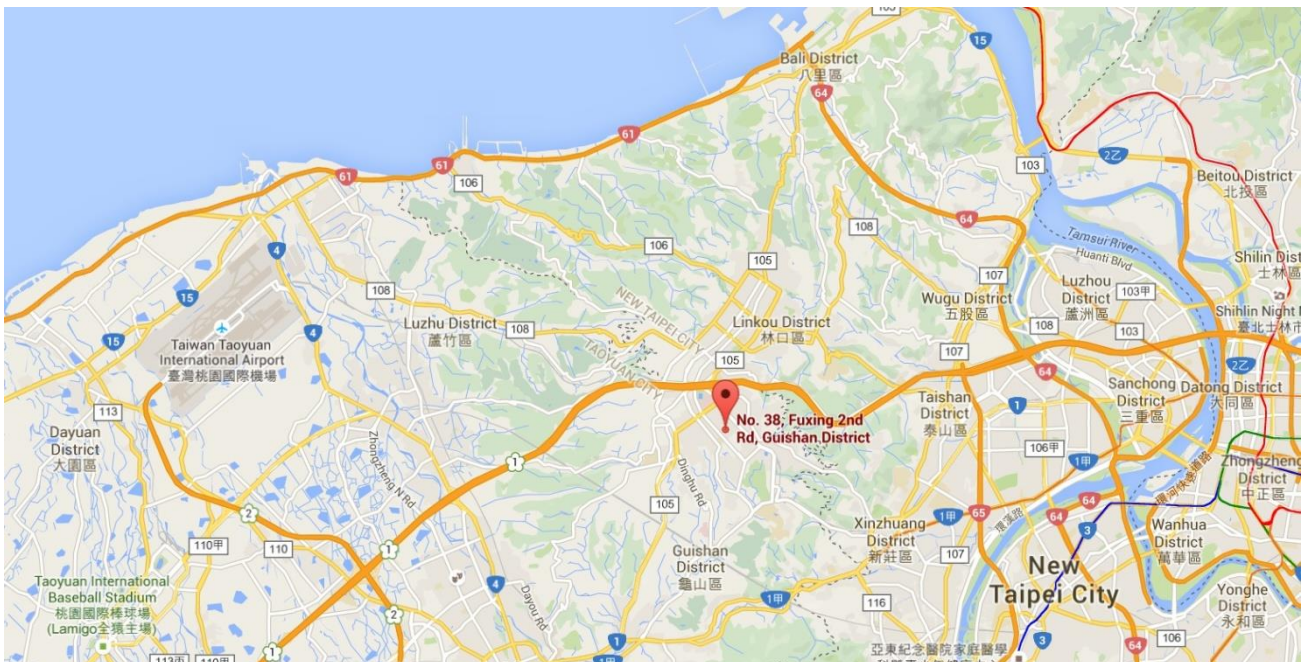
## 1. INTRODUCTION

### 1.1. Scope

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

### 1.2. MRT Test Location

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



## 2. Product Information

### 2.1. Equipment Description

Product Name	BE11000 Tri-Band Wi-Fi 7 Gaming Router BE9300 Tri-Band Wi-Fi 7 Gaming Router
Model No.	Archer GE650, Archer GE550
Brand Name	tp-link
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be
Antenna Information	Refer to section 2.4
EUT Identification No.	#1-1 (Conducted) #1-2 (Radiated)
Accessory	
Power Adapter	Brand: tp-link Model No: T120330-2B4 Input: AC 100-240V~1A, 50-60Hz Output: 12.0V--3.3A DC Cable Out: Non-Shielded, 1.5m
Remark: 1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. 2. Archer GE650 supports 802.11be-ETH240 at Wi-Fi 5GHz, but Archer GE550 does not support, and it's closed by the software based on the Archer GE650. Others are exactly the same. So only Archer GE650 was accessed in this report.	

### 2.2. Radio Specification

Frequency Range	For 802.11ax-HE20/be-EHT20: 5955 ~ 7095MHz For 802.11ax-HE40/be-EHT40: 5965 ~ 7085MHz For 802.11ax-HE80/be-EHT80: 5985 ~ 7025MHz For 802.11ax-HE160/be-EHT160: 6025 ~ 6985MHz For 802.11be-EHT320: 6105 ~ 6905MHz
Type of Modulation	802.11ax/be: OFDMA
Data Rate	802.11ax: up to 2402Mbps 802.11be: up to 5764Mbps

Note: For other features of this EUT, test report will be issued separately.



## 2.3. Working Frequencies

### 802.11ax-HE20/be-EHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	5955 MHz	5	5975 MHz	9	5995 MHz
13	6015 MHz	17	6035 MHz	21	6055 MHz
25	6075 MHz	29	6095 MHz	33	6115 MHz
37	6135 MHz	41	6155 MHz	45	6175 MHz
49	6195 MHz	53	6215 MHz	57	6235 MHz
61	6255 MHz	65	6275 MHz	69	6295 MHz
73	6315 MHz	77	6335 MHz	81	6355 MHz
85	6375 MHz	89	6395 MHz	93	6415 MHz
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
225	7075 MHz	229	7095 MHz	--	--

### 802.11ax-HE40/be-EHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
3	5965 MHz	11	6005 MHz	19	6045 MHz
27	6085 MHz	35	6125 MHz	43	6165 MHz
51	6205 MHz	59	6245 MHz	67	6285 MHz
75	6325 MHz	83	6365 MHz	91	6405 MHz
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
7	5985 MHz	23	6065 MHz	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
15	6025 MHz	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
31	6105 MHz	63	6265 MHz	95	6425 MHz
127	6585 MHz	159	6745 MHz	191	6905 MHz

## 2.4. Antenna Details

Antenna Type	Frequency Band (MHz)	Tx Paths	Number of spatial streams	Antenna Gain (dBi)		Beamforming Directional Gain(dBi)	CDD Directional Gain (dBi)	
				Ant 0	Ant 1		For Power	For PSD
Dipole	5955 ~ 7095	2	1	3.0	3.0	6.01	3.0	6.01
		2	2	3.0	3.0	--	3.0	3.0

**Remark:**

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

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

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

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

- For power measurements on IEEE 802.11 devices,

- Array Gain = 0 dB for  $N_{ANT} \leq 4$ ;
2. The EUT also supports Beam Forming mode, and the Beam Forming support 802.11ac/ax/be, not include 802.11a/b/g/n. BF Directional gain =  $G_{ANT} + 10 \log(N_{ANT})$ .
  3. The information as above is from the antenna report.

Test Mode	T <sub>x</sub> Paths	CDD Mode	Beamforming Mode
802.11ax/be (6ID/6PP)	2	√	√

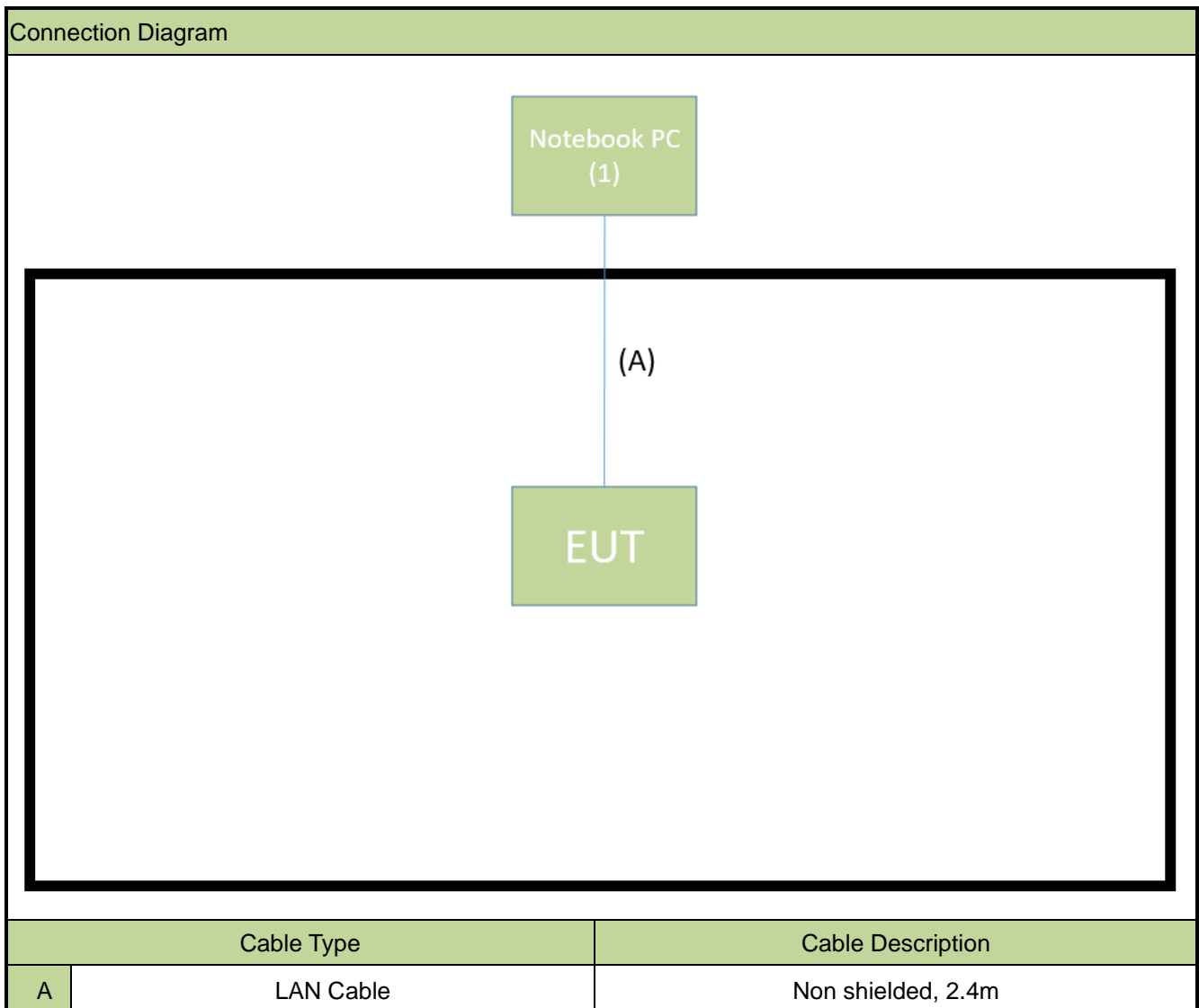
## 2.5. Test Mode

CDD Mode
Mode 1: Transmit by 802.11ax-HE20_Nss=1 (MCS0)
Mode 2: Transmit by 802.11ax-HE40_Nss=1 (MCS0)
Mode 3: Transmit by 802.11ax-HE80_Nss=1 (MCS0)
Mode 4: Transmit by 802.11ax-HE160_Nss=1 (MCS0)
Mode 5: Transmit by 802.11be-EHT20_Nss=1 (MCS0)
Mode 6: Transmit by 802.11be-EHT40_Nss=1 (MCS0)
Mode 7: Transmit by 802.11be-EHT80_Nss=1 (MCS0)
Mode 8: Transmit by 802.11be-EHT160_Nss=1 (MCS0)
Mode 9: Transmit by 802.11be-EHT320_Nss=1 (MCS0)
Mode 10: Transmit by 802.11ax-HE20_Nss=2 (MCS0)
Mode 11: Transmit by 802.11ax-HE40_Nss=2 (MCS0)
Mode 12: Transmit by 802.11ax-HE80_Nss=2 (MCS0)
Mode 13: Transmit by 802.11ax-HE160_Nss=2 (MCS0)
Mode 14: Transmit by 802.11be-EHT20_Nss=2 (MCS0)
Mode 15: Transmit by 802.11be-EHT40_Nss=2 (MCS0)
Mode 16: Transmit by 802.11be-EHT80_Nss=2 (MCS0)
Mode 17: Transmit by 802.11be-EHT160_Nss=2 (MCS0)
Mode 18: Transmit by 802.11be-EHT320_Nss=2 (MCS0)
Beamforming Mode
Mode 19: Transmit by 802.11ax-HE20_Nss=1 (MCS0)
Mode 20: Transmit by 802.11ax-HE40_Nss=1 (MCS0)
Mode 21: Transmit by 802.11ax-HE80_Nss=1 (MCS0)
Mode 22: Transmit by 802.11ax-HE160_Nss=1 (MCS0)
Mode 23: Transmit by 802.11be-EHT20_Nss=1 (MCS0)
Mode 24: Transmit by 802.11be-EHT40_Nss=1 (MCS0)
Mode 25: Transmit by 802.11be-EHT80_Nss=1 (MCS0)

Mode 26: Transmit by 802.11be-EHT160_Nss=1 (MCS0)
Mode 27: Transmit by 802.11be-EHT320_Nss=1 (MCS0)
<p>Remark:</p> <ol style="list-style-type: none"> <li>1. For Radiated emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.</li> <li>2. Due to CDD mode was the worst mode, so all test items were evaluated in this report. The beamforming mode only evaluated the RF output power.</li> <li>3. EUT supports one configuration only in 802.11ax/be full RU mode.</li> </ol>

## 2.6. Test System Connection Diagram

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



## 2.7. Test System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	Lenovo	MP25ZAKY	N/A	Non-Shielded, 0.8m

## 2.8. Test Software

The test utility software used during testing was “accessMTool”, and the version was 3.2.1.2.

Note: Final power setting please refer to operational description.

## 2.9. Applied Standards

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

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

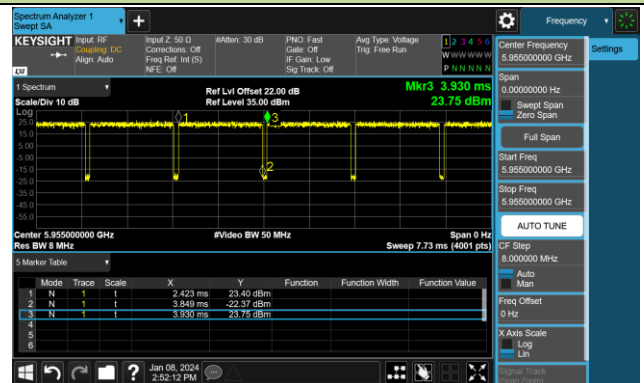
## 2.10. Duty Cycle

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

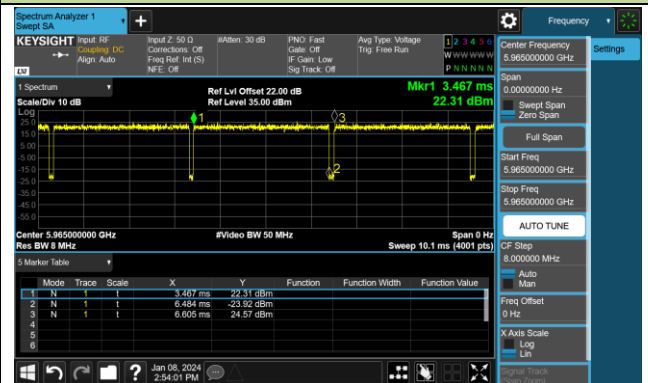
Test Mode	Duty Cycle
802.11ax-HE20	94.63%
802.11ax-HE40	96.14%
802.11ax-HE80	94.34%
802.11ax-HE160	94.37%
802.11be-EHT20	94.47%
802.11be-EHT40	95.57%
802.11be-EHT80	93.14%
802.11be-EHT160	93.64%
802.11be-EHT320	95.24%

Duty Cycle (T = Transmission Duration)

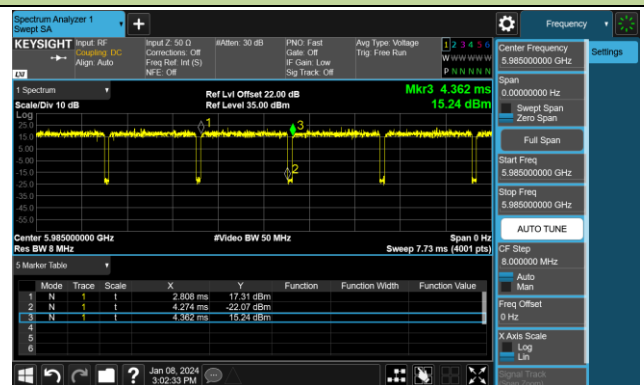
802.11ax-HE20



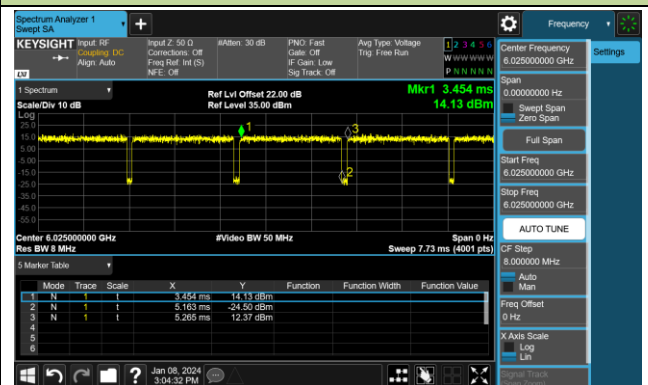
802.11ax-HE40



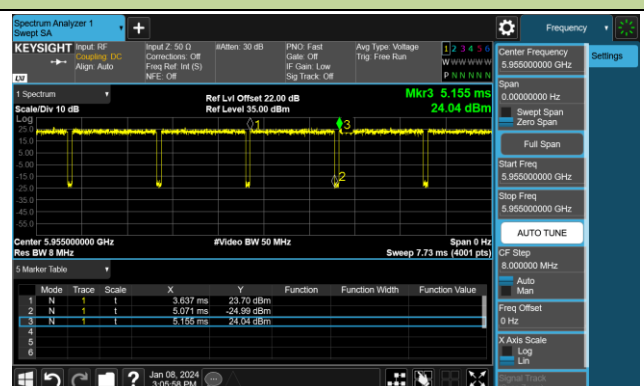
802.11ax-HE80



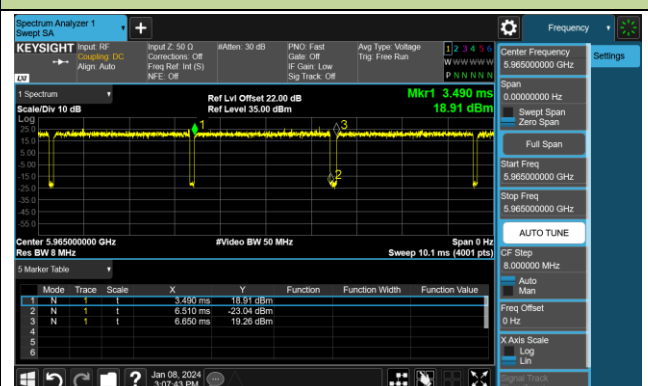
802.11ax-HE160



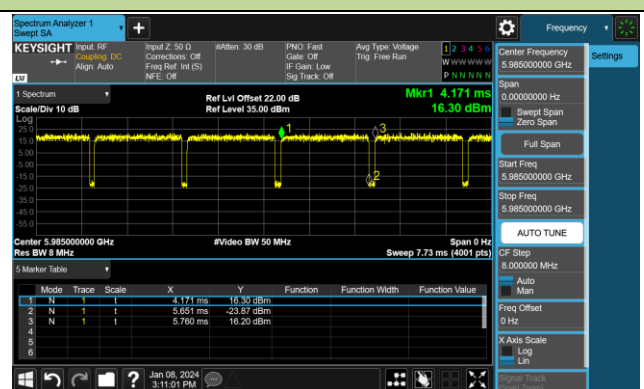
802.11be-EHT20



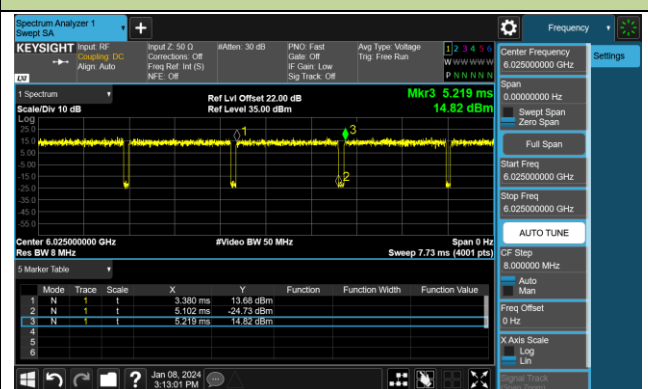
802.11be-EHT40

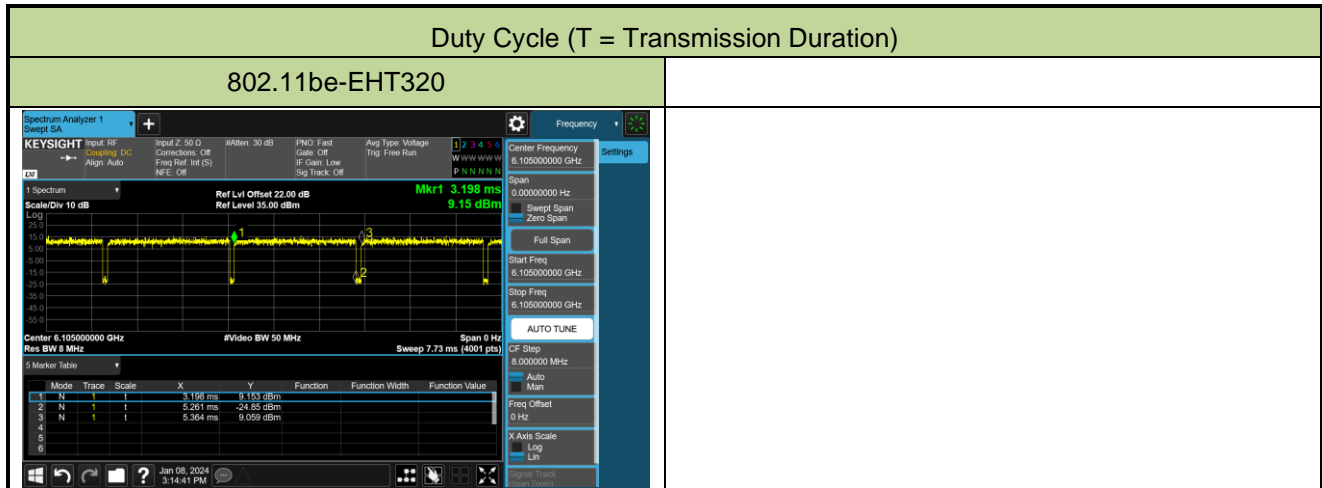


802.11be-EHT80



802.11be-EHT160





## 2.11. Test Environment Condition

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

### 3. Antenna Requirements

Excerpt from §15.407(a)(9) 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)(9)



## 4. Measuring Instrument

### Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2025/3/5
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2024/4/17
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2024/5/10
DIVA PLUS Funk-Wetterstation	TFA	35.1083	MRTTWA00050	1 year	2024/6/15

### Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Active Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2024/5/22
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2024/10/31
Broadband Hornantenna	RFSPIN	DRH18-E	MRTTWA00087	1 year	2024/5/17
Broadband Preamplifier	EMC Instruments corporation	EMC118A45SE	MRTTWA00088	1 year	2024/5/17
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2025/3/26
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2025/3/21
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2025/3/5
Signal Analyzer	R&S	FSVA3044	MRTTWA00092	1 year	2024/6/29
Antenna Cable	HUBERSUHNER	SF106	MRTTWE00034	1 year	2024/6/26
Cable	HUBERSUHNER	EMC105-NM-NM-3000	MRTTWE00035	1 year	2024/6/26
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00032	1 year	2024/6/4

### Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2024/4/19
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2024/10/17
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2024/7/19
Attenuator	WTI	218FS-20	MRTTWE00026	1 year	2024/11/1
Attenuator	WTI	218FS-10	MRTTWE00027	1 year	2024/6/14
Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2024/6/11
DIVA PLUS Funk-Wetterstation	TFA	35.1083	MRTTWA00050	1 year	2024/6/15

Software	Version	Function
e3	9.160520a	EMI Test Software

## 5. Measurement Uncertainty

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

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

## 6. Test Result

### 6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.407(a)(10)	Channel Bandwidth	Conducted	Pass
15.407(a)(5)	Maximum Equivalent Isotropically Radiated Power (EIRP)		Pass
15.407(a)(5)	Maximum Power Spectral Density (EIRP)		Pass
15.407(g)	Frequency Stability		Pass
15.407(d)(6)	Contention-Based Protocol		Note 4
15.407(b)(7)	In-Band Emission	Radiated	Pass
15.407(b)(6)	Unwanted Emissions		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

**Remark:**

1. Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.
2. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3. For radiated emission test, the test results shown in the following sections represent the worst-case emissions.
4. Please refer to the report (report number: 2405RSU009-U1) for Contention Based Protocol.

## 6.2. 26dB Bandwidth

### 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 used

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

KDB 789033 D02v02r01- Section D (99% Bandwidth)

### 6.2.3. Test Setting

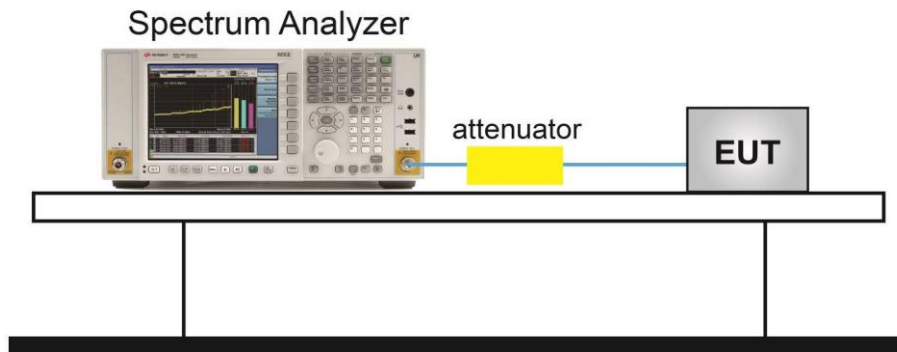
#### 26dB Bandwidth

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

#### 99% Bandwidth

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

### 6.2.4. Test Setup



### 6.2.5. Test Result

Test Site	SR6	Test Engineer	Owen
Test Date	2024/1/18~2024/1/19		

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11ax-HE20	MCS0	1	5955	23.470	19.039	≤ 320
802.11ax-HE20	MCS0	45	6175	21.780	19.106	≤ 320
802.11ax-HE20	MCS0	93	6415	22.390	19.068	≤ 320
802.11ax-HE20	MCS0	97	6435	22.010	19.100	≤ 320
802.11ax-HE20	MCS0	105	6475	22.160	19.046	≤ 320
802.11ax-HE20	MCS0	113	6515	21.680	19.110	≤ 320
802.11ax-HE20	MCS0	117	6535	22.440	19.094	≤ 320
802.11ax-HE20	MCS0	149	6695	22.240	19.094	≤ 320
802.11ax-HE20	MCS0	181	6855	21.740	19.081	≤ 320
802.11ax-HE20	MCS0	185	6875	22.100	19.067	≤ 320
802.11ax-HE20	MCS0	189	6895	21.930	19.105	≤ 320
802.11ax-HE20	MCS0	213	7015	21.840	19.138	≤ 320
802.11ax-HE20	MCS0	229	7095	22.210	19.016	≤ 320
802.11ax-HE40	MCS0	3	5965	43.730	37.987	≤ 320
802.11ax-HE40	MCS0	43	6165	43.330	37.990	≤ 320
802.11ax-HE40	MCS0	91	6405	43.860	37.956	≤ 320
802.11ax-HE40	MCS0	99	6445	42.350	37.976	≤ 320
802.11ax-HE40	MCS0	107	6485	43.370	38.020	≤ 320
802.11ax-HE40	MCS0	115	6525	44.190	37.970	≤ 320
802.11ax-HE40	MCS0	123	6565	42.390	37.938	≤ 320
802.11ax-HE40	MCS0	147	6685	42.240	38.003	≤ 320
802.11ax-HE40	MCS0	179	6845	43.370	38.023	≤ 320
802.11ax-HE40	MCS0	187	6885	43.090	38.026	≤ 320
802.11ax-HE40	MCS0	195	6925	42.790	38.010	≤ 320
802.11ax-HE40	MCS0	211	7005	44.450	38.046	≤ 320
802.11ax-HE40	MCS0	227	7085	43.040	37.934	≤ 320

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11ax-HE80	MCS0	7	5985	86.140	77.814	≤ 320
802.11ax-HE80	MCS0	39	6145	87.940	77.807	≤ 320
802.11ax-HE80	MCS0	87	6385	86.880	77.824	≤ 320
802.11ax-HE80	MCS0	103	6465	88.060	77.693	≤ 320
802.11ax-HE80	MCS0	119	6545	86.530	77.582	≤ 320
802.11ax-HE80	MCS0	135	6625	88.870	77.879	≤ 320
802.11ax-HE80	MCS0	151	6705	90.780	77.806	≤ 320
802.11ax-HE80	MCS0	167	6785	89.510	77.680	≤ 320
802.11ax-HE80	MCS0	183	6865	86.910	77.778	≤ 320
802.11ax-HE80	MCS0	199	6945	86.860	77.776	≤ 320
802.11ax-HE80	MCS0	215	7025	88.820	77.696	≤ 320
802.11ax-HE160	MCS0	15	6025	165.300	156.990	≤ 320
802.11ax-HE160	MCS0	47	6185	164.900	157.080	≤ 320
802.11ax-HE160	MCS0	79	6345	167.000	157.130	≤ 320
802.11ax-HE160	MCS0	111	6505	166.100	157.270	≤ 320
802.11ax-HE160	MCS0	143	6665	165.900	157.230	≤ 320
802.11ax-HE160	MCS0	175	6825	167.700	156.960	≤ 320
802.11ax-HE160	MCS0	207	6985	167.200	157.460	≤ 320
802.11be-EHT20	MCS0	1	5955	22.810	19.051	≤ 320
802.11be-EHT20	MCS0	45	6175	23.550	19.135	≤ 320
802.11be-EHT20	MCS0	93	6415	23.040	19.059	≤ 320
802.11be-EHT20	MCS0	97	6435	22.690	19.050	≤ 320
802.11be-EHT20	MCS0	105	6475	23.540	19.114	≤ 320
802.11be-EHT20	MCS0	113	6515	22.740	19.080	≤ 320
802.11be-EHT20	MCS0	117	6535	23.070	19.109	≤ 320
802.11be-EHT20	MCS0	149	6695	24.000	19.182	≤ 320
802.11be-EHT20	MCS0	181	6855	22.410	19.085	≤ 320
802.11be-EHT20	MCS0	185	6875	22.690	19.104	≤ 320
802.11be-EHT20	MCS0	189	6895	22.410	19.077	≤ 320
802.11be-EHT20	MCS0	213	7015	22.040	19.087	≤ 320
802.11be-EHT20	MCS0	229	7095	22.420	19.106	≤ 320

Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11be-EHT40	MCS0	3	5965	43.320	38.029	≤ 320
802.11be-EHT40	MCS0	43	6165	44.440	37.950	≤ 320
802.11be-EHT40	MCS0	91	6405	42.970	38.040	≤ 320
802.11be-EHT40	MCS0	99	6445	43.060	37.964	≤ 320
802.11be-EHT40	MCS0	107	6485	43.800	38.017	≤ 320
802.11be-EHT40	MCS0	115	6525	43.430	38.154	≤ 320
802.11be-EHT40	MCS0	123	6565	42.610	38.004	≤ 320
802.11be-EHT40	MCS0	147	6685	43.430	38.034	≤ 320
802.11be-EHT40	MCS0	179	6845	42.990	38.006	≤ 320
802.11be-EHT40	MCS0	187	6885	43.920	38.046	≤ 320
802.11be-EHT40	MCS0	195	6925	43.170	38.033	≤ 320
802.11be-EHT40	MCS0	211	7005	43.010	37.981	≤ 320
802.11be-EHT40	MCS0	227	7085	42.640	38.059	≤ 320
802.11be-EHT80	MCS0	7	5985	86.040	77.668	≤ 320
802.11be-EHT80	MCS0	39	6145	84.460	77.703	≤ 320
802.11be-EHT80	MCS0	87	6385	87.770	77.902	≤ 320
802.11be-EHT80	MCS0	103	6465	86.210	77.629	≤ 320
802.11be-EHT80	MCS0	119	6545	86.630	77.802	≤ 320
802.11be-EHT80	MCS0	135	6625	87.120	77.681	≤ 320
802.11be-EHT80	MCS0	151	6705	85.800	77.860	≤ 320
802.11be-EHT80	MCS0	167	6785	84.690	77.884	≤ 320
802.11be-EHT80	MCS0	183	6865	87.410	77.805	≤ 320
802.11be-EHT80	MCS0	199	6945	85.740	77.752	≤ 320
802.11be-EHT80	MCS0	215	7025	86.760	77.912	≤ 320
802.11be-EHT160	MCS0	15	6025	166.600	156.720	≤ 320
802.11be-EHT160	MCS0	47	6185	167.600	157.210	≤ 320
802.11be-EHT160	MCS0	79	6345	167.800	157.290	≤ 320
802.11be-EHT160	MCS0	111	6505	170.400	157.240	≤ 320
802.11be-EHT160	MCS0	143	6665	165.900	157.220	≤ 320
802.11be-EHT160	MCS0	175	6825	169.100	157.080	≤ 320
802.11be-EHT160	MCS0	207	6985	168.500	157.740	≤ 320



Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11be-EHT320	MCS0	31	6105	328.000	315.700	≤ 320
802.11be-EHT320	MCS0	63	6265	329.600	315.200	≤ 320
802.11be-EHT320	MCS0	95	6425	336.400	316.540	≤ 320
802.11be-EHT320	MCS0	127	6585	332.100	315.040	≤ 320
802.11be-EHT320	MCS0	159	6745	330.200	316.340	≤ 320
802.11be-EHT320	MCS0	191	6905	329.800	317.120	≤ 320

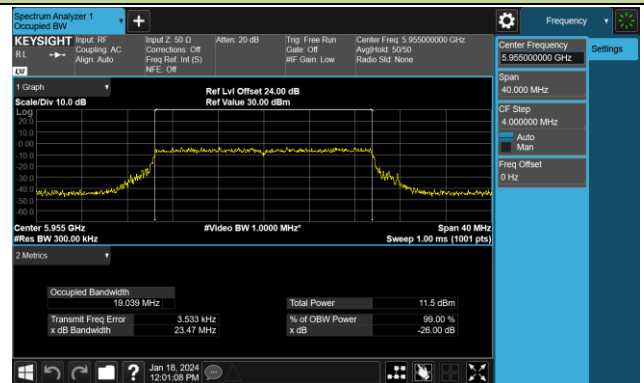
Note:

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

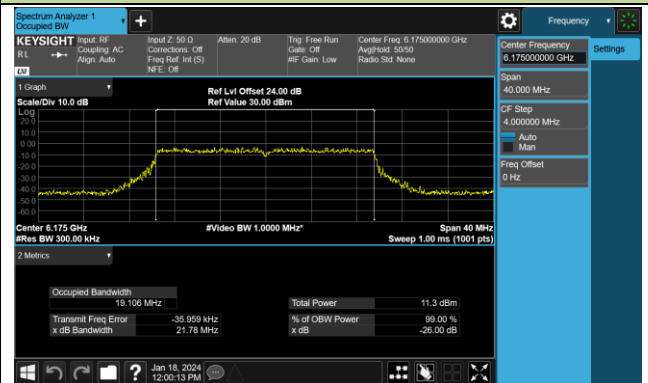
For channels with a nominal bandwidth of 320 MHz compliance is demonstrated by way of the 99% BW.

802.11ax-HE20 26dB Bandwidth & 99% Bandwidth

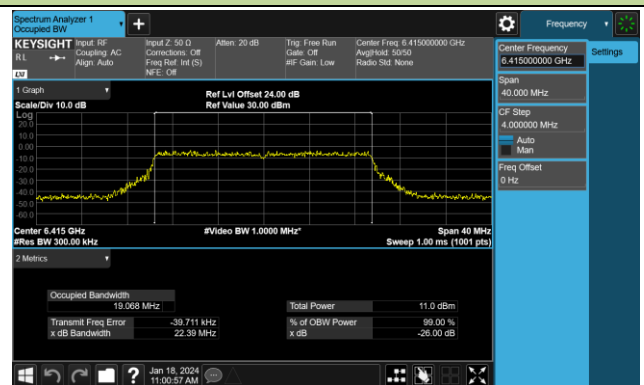
Channel 01 (5955MHz)



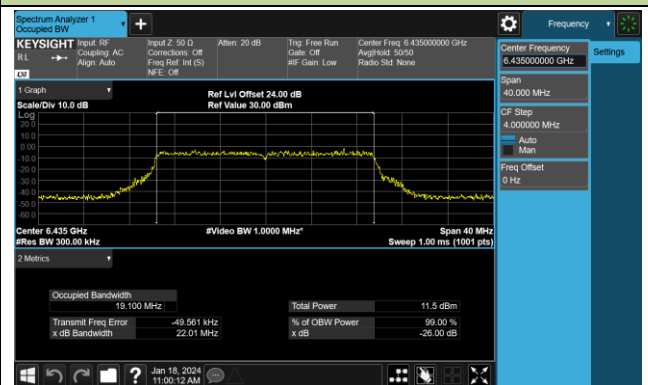
Channel 45 (6175MHz)



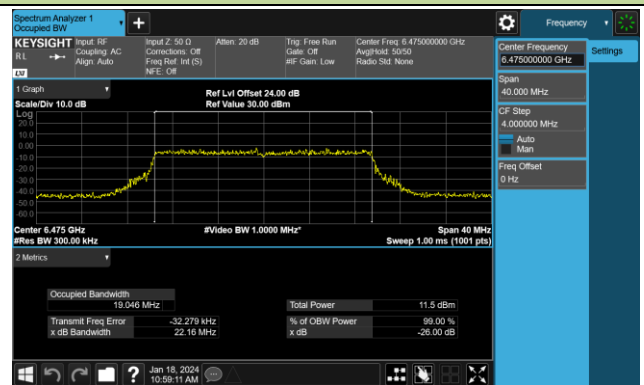
Channel 93 (6415MHz)



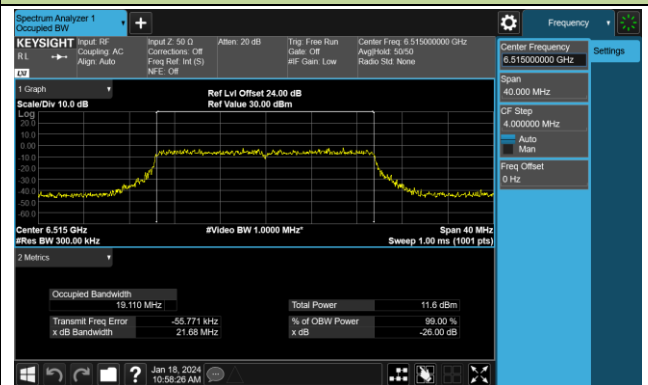
Channel 97 (6435MHz)



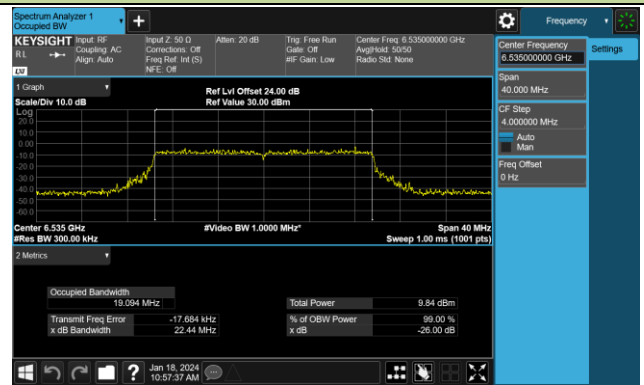
Channel 105 (6475MHz)



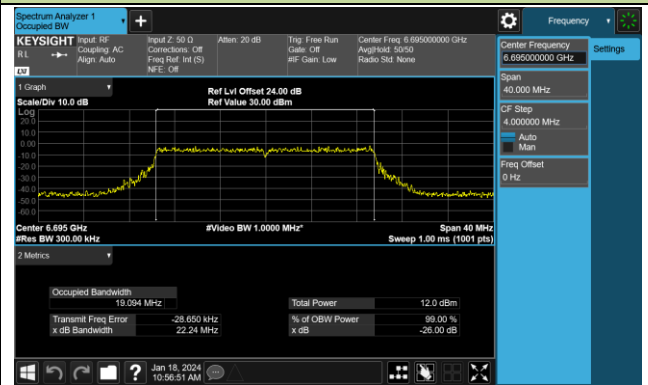
Channel 113 (6515MHz)



Channel 117 (6535MHz)

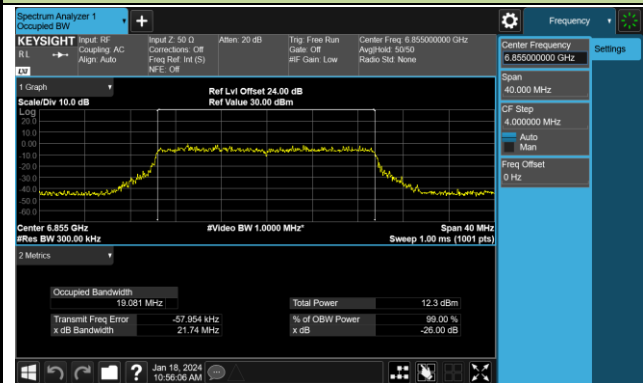


Channel 149 (6695MHz)

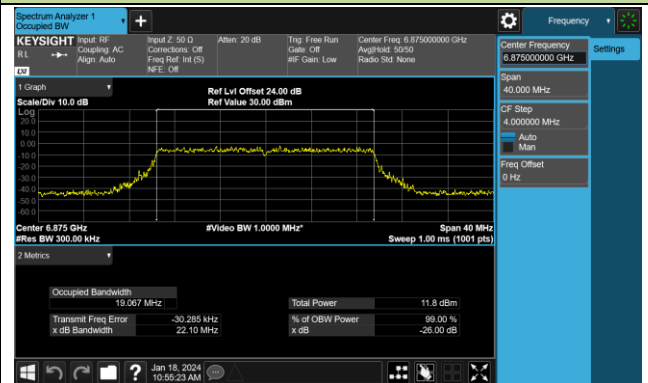


802.11ax-HE20 26dB Bandwidth & 99% Bandwidth

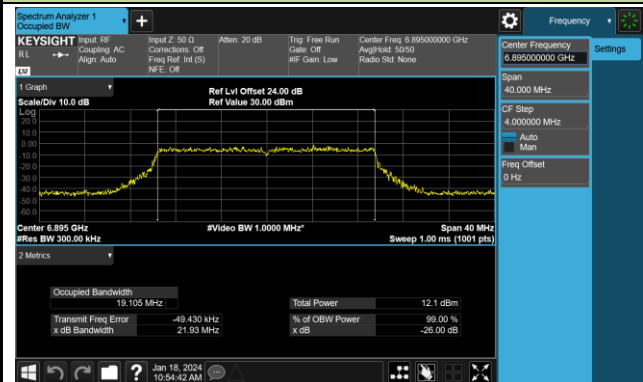
Channel 181 (6855MHz)



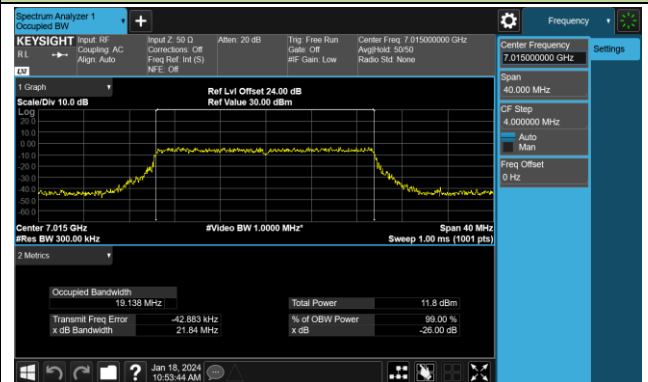
Channel 185 (6875MHz)



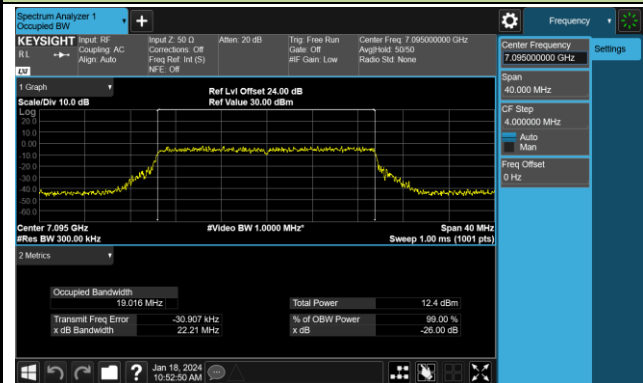
Channel 189 (6895MHz)



Channel 213 (7015MHz)

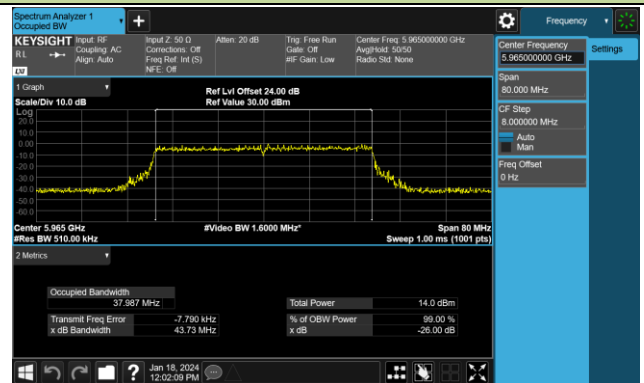


Channel 229 (7095MHz)

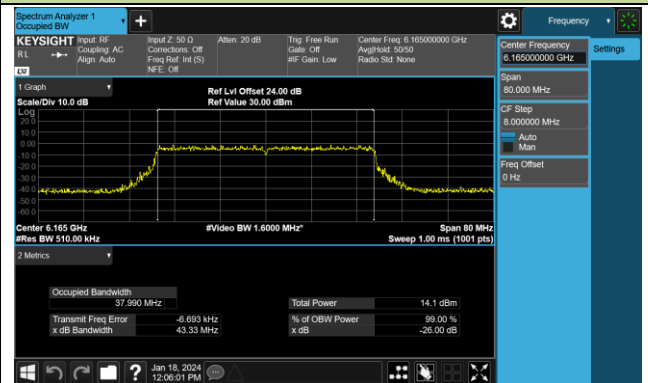


802.11ax-HE40 26dB Bandwidth & 99% Bandwidth

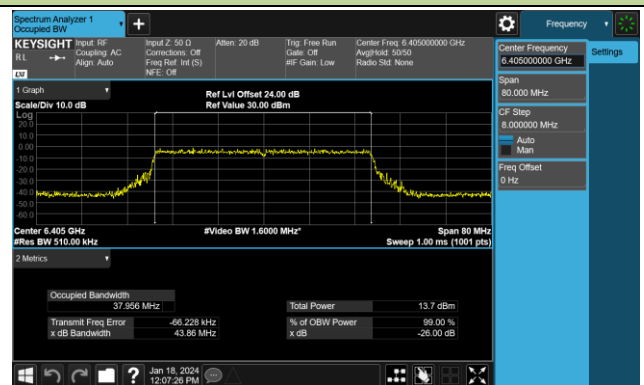
Channel 03 (5965MHz)



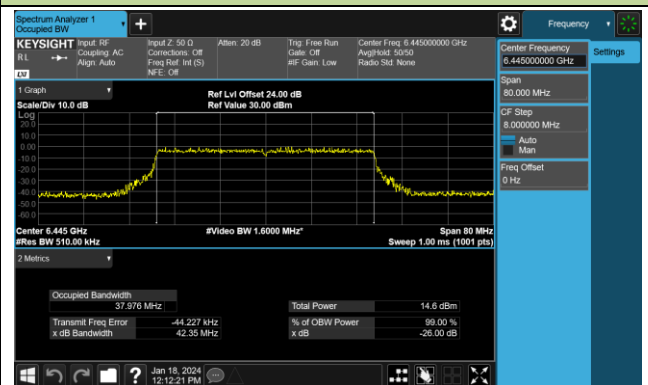
Channel 43 (6165MHz)



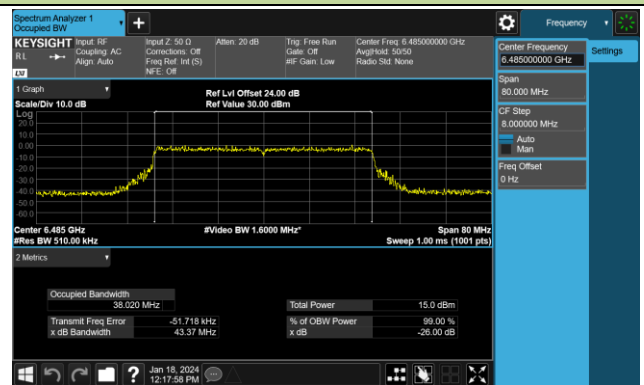
Channel 91 (6405MHz)



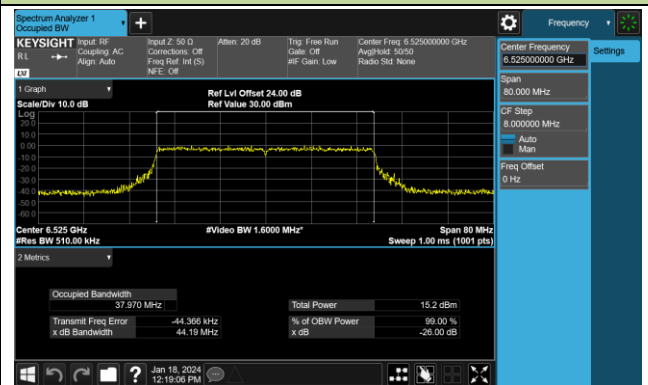
Channel 99 (6445MHz)



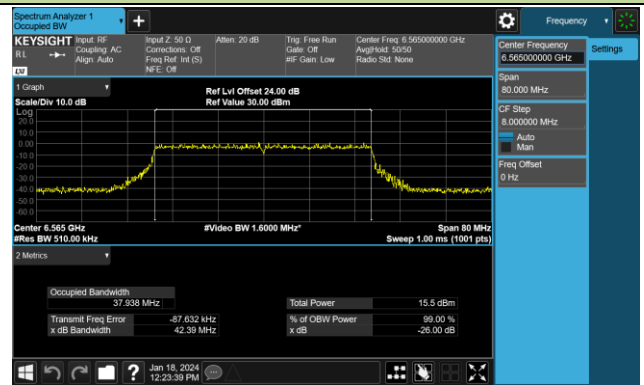
Channel 107 (6485MHz)



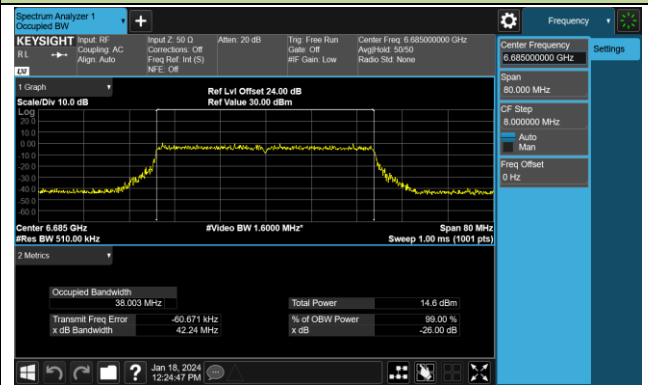
Channel 115 (6525MHz)



Channel 123 (6565MHz)

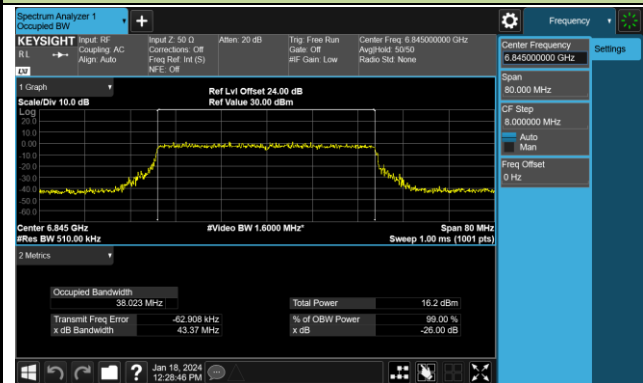


Channel 147 (6685MHz)

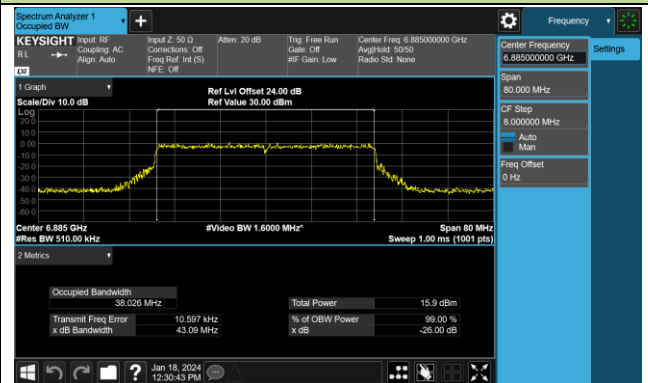


## 802.11ax-HE40 26dB Bandwidth &amp; 99% Bandwidth

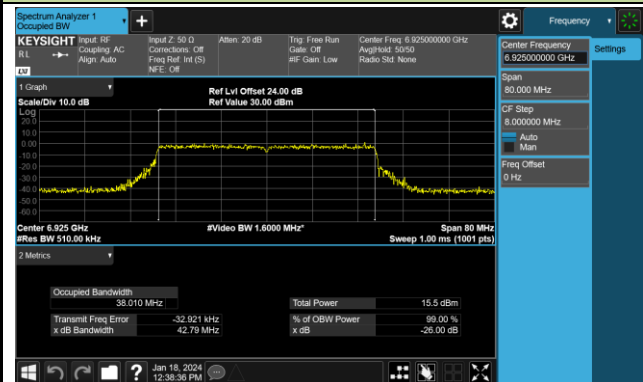
Channel 179 (6845MHz)



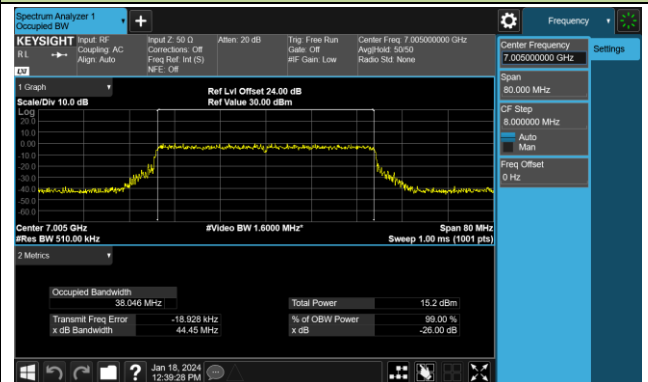
Channel 187 (6885MHz)



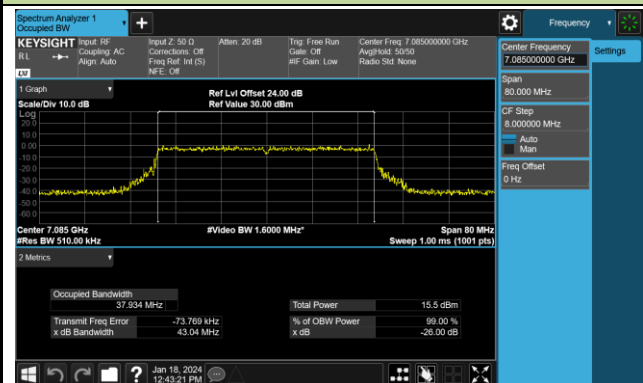
Channel 195 (6925MHz)



Channel 211 (7005MHz)

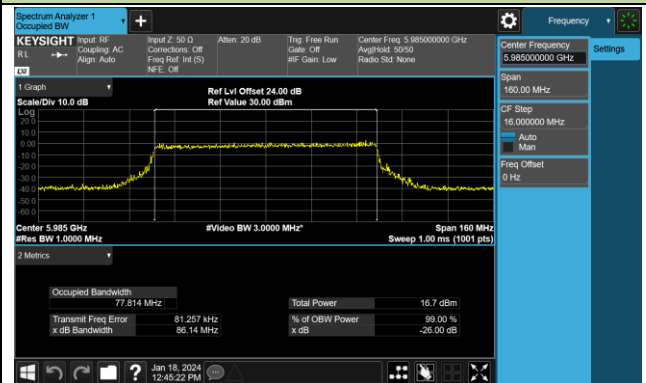


Channel 227 (7085MHz)

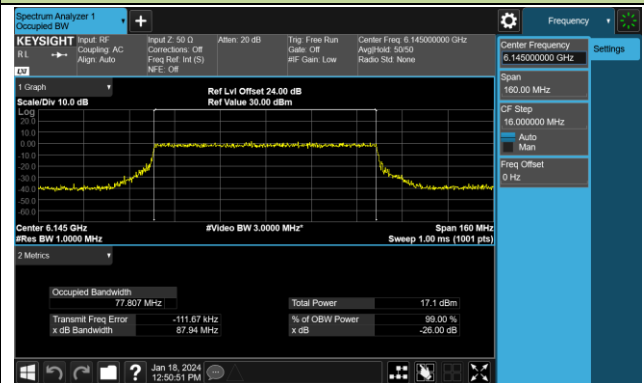


802.11ax-HE80 26dB Bandwidth & 99% Bandwidth

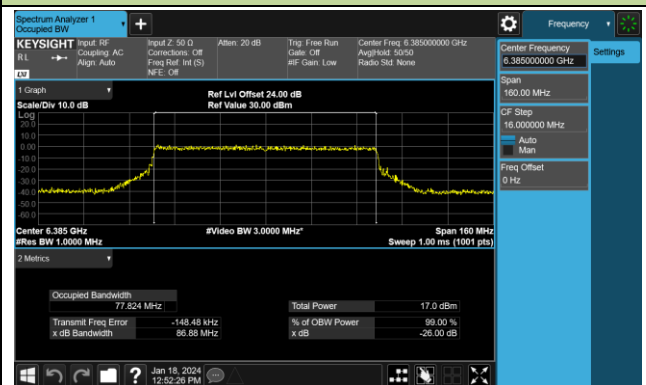
Channel 07 (5985MHz)



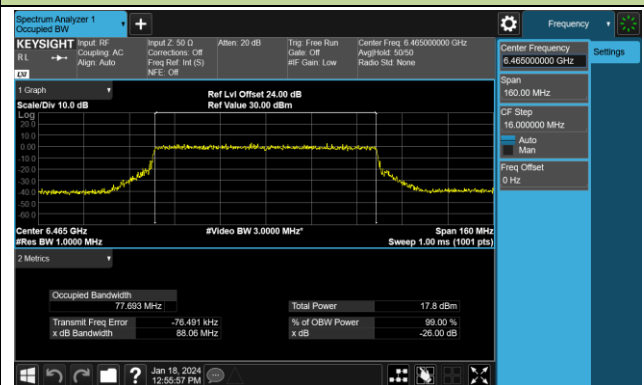
Channel 39 (6145MHz)



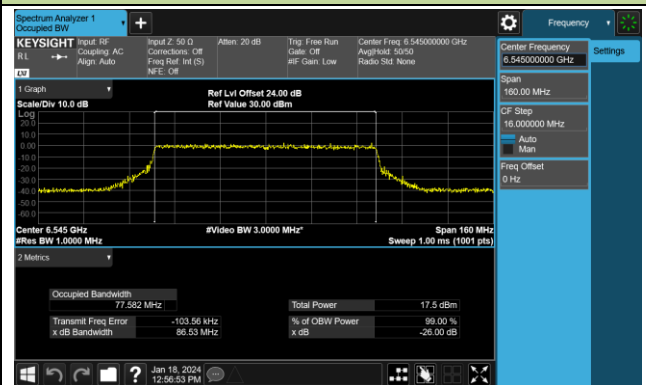
Channel 87 (6385MHz)



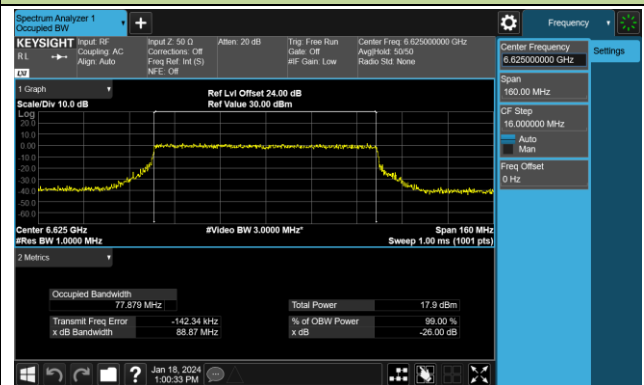
Channel 103 (6465MHz)



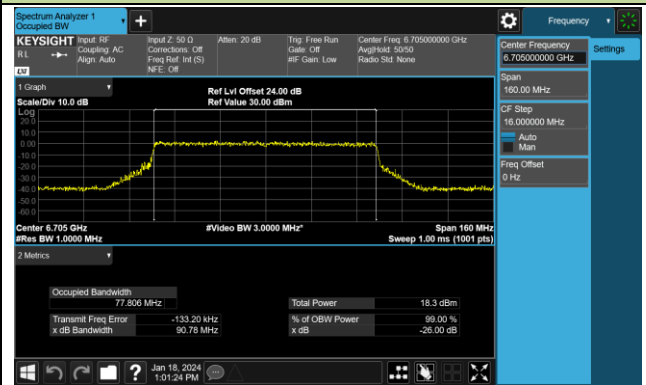
Channel 119 (6545MHz)



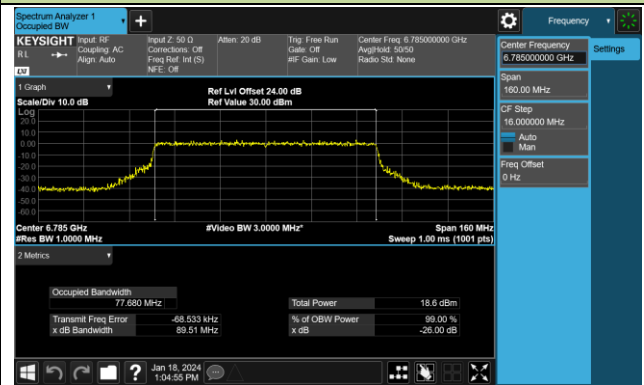
Channel 135 (6625MHz)



Channel 151 (6705MHz)

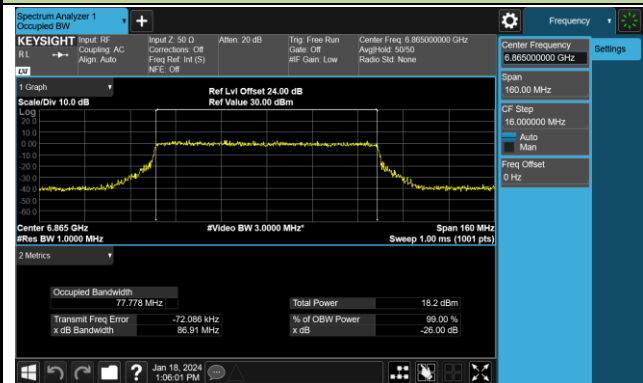


Channel 167 (6785MHz)

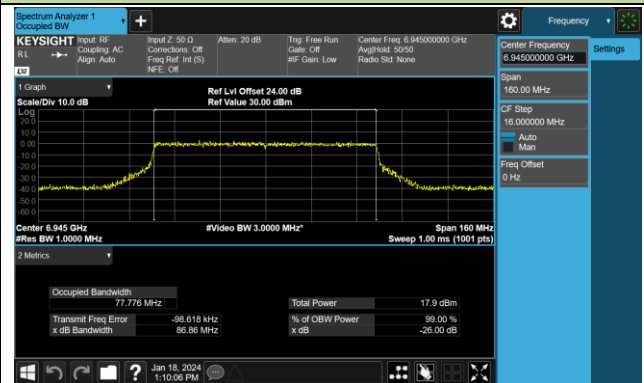


802.11ax-HE80 26dB Bandwidth & 99% Bandwidth (Nss=1)

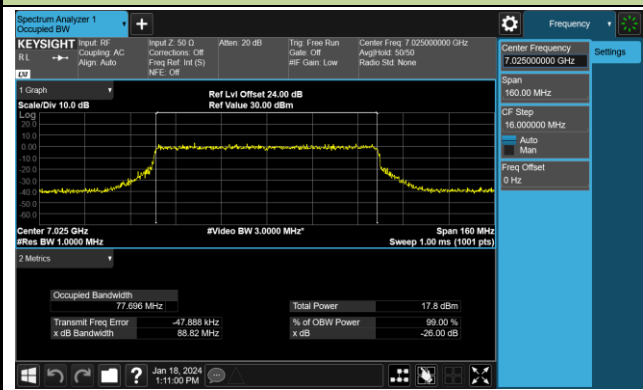
Channel 183 (6865MHz)



Channel 199 (6945MHz)



Channel 215 (7025MHz)

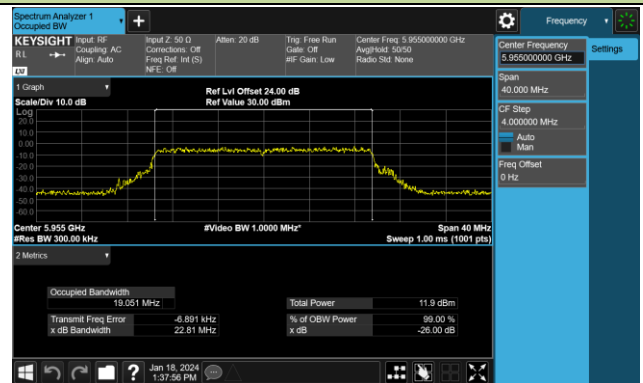




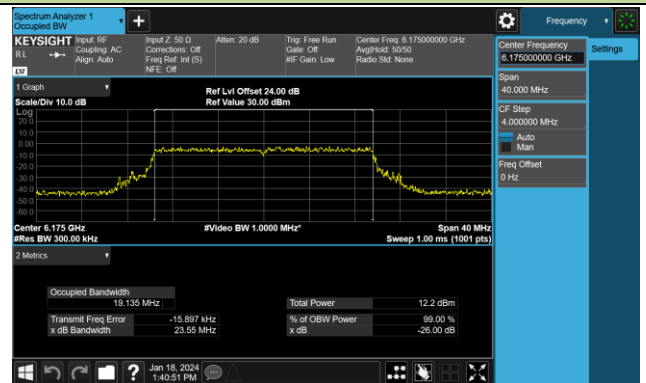


## 802.11be-EHT20 26dB Bandwidth &amp; 99% Bandwidth

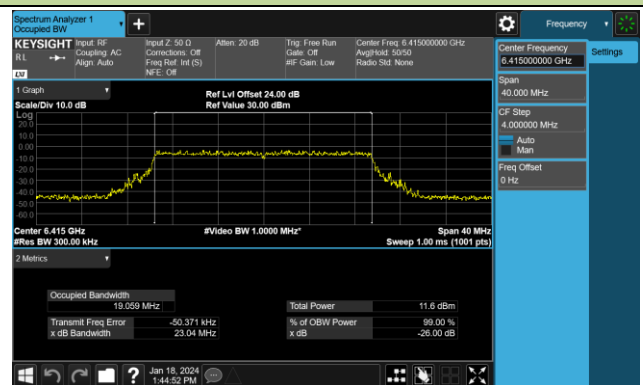
Channel 01 (5955MHz)



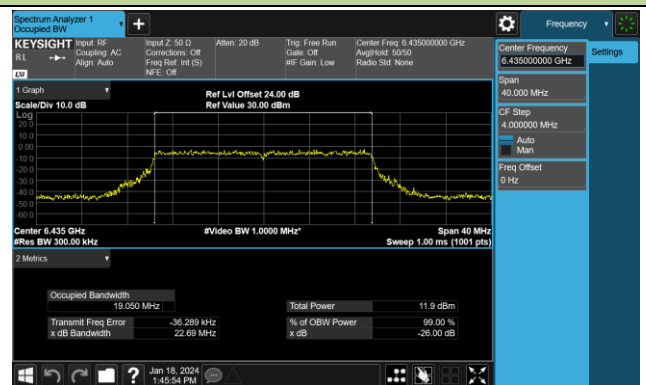
Channel 45 (6175MHz)



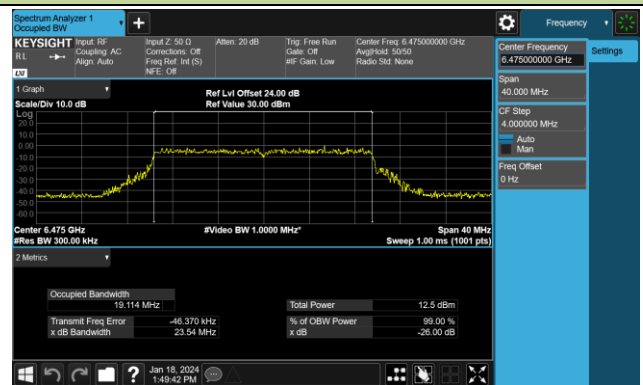
Channel 93 (6415MHz)



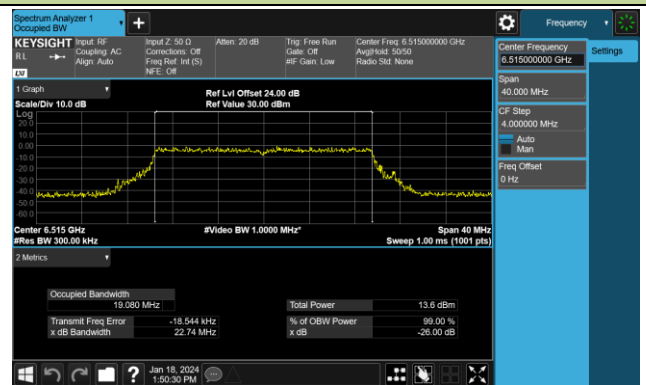
Channel 97 (6435MHz)



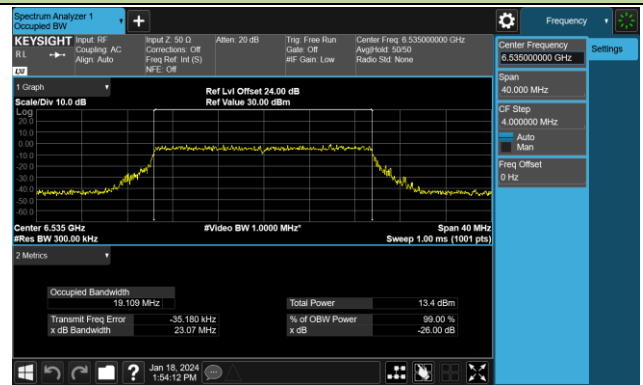
Channel 105 (6475MHz)



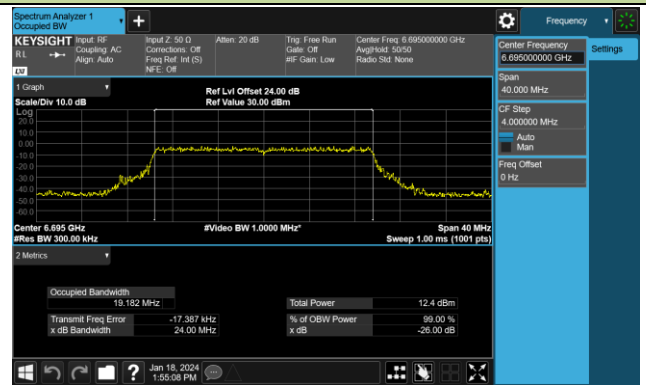
Channel 113 (6515MHz)



Channel 117 (6535MHz)

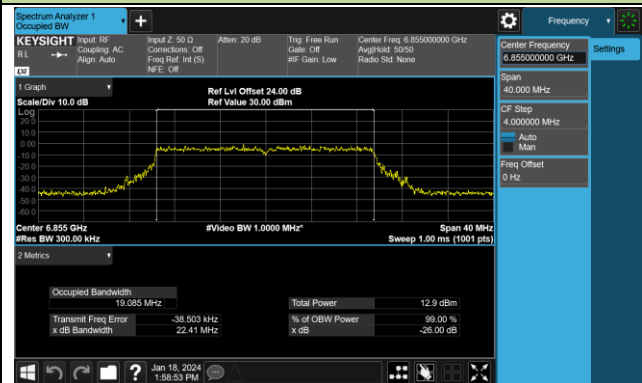


Channel 149 (6695MHz)

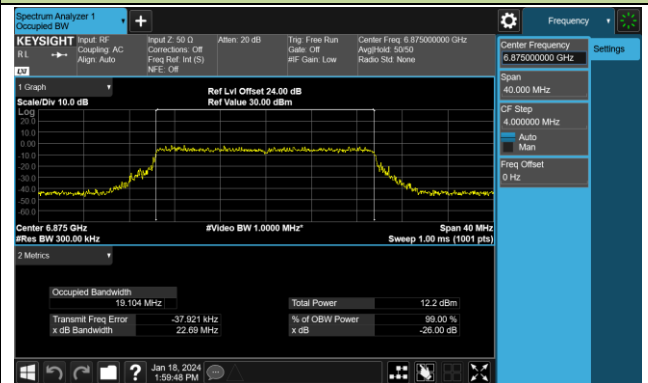


## 802.11be-EHT20 26dB Bandwidth &amp; 99% Bandwidth

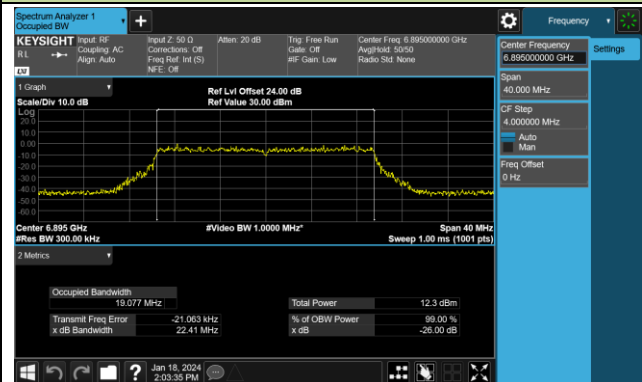
Channel 181 (6855MHz)



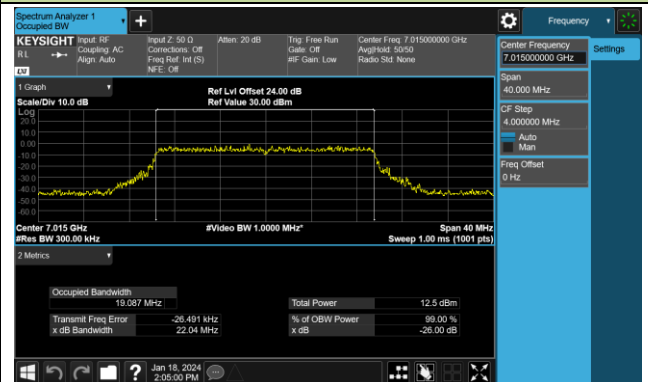
Channel 185 (6875MHz)



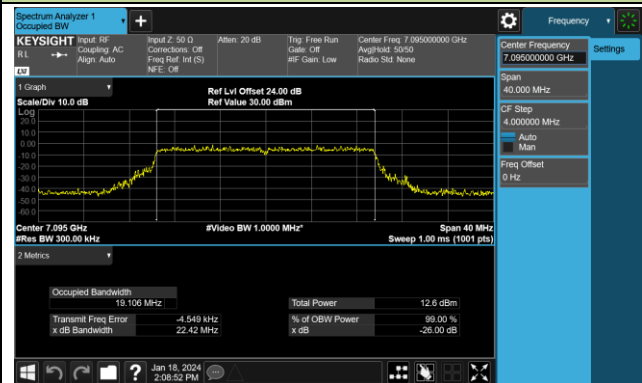
Channel 189 (6895MHz)



Channel 213 (7015MHz)

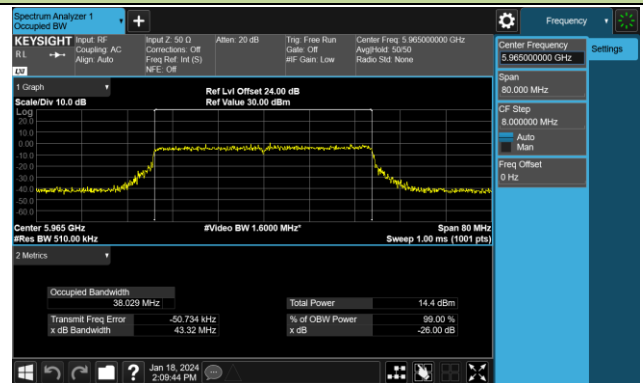


Channel 229 (7095MHz)

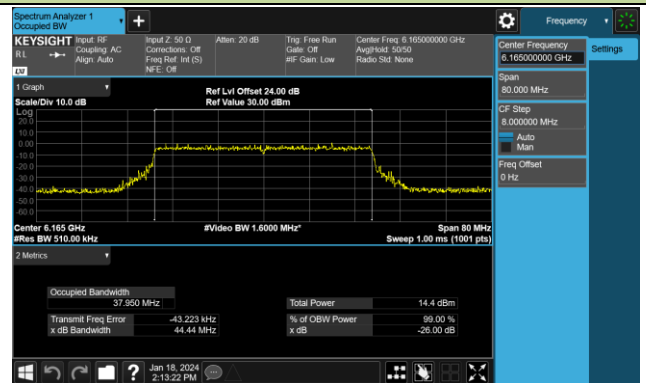


## 802.11be-EHT40 26dB Bandwidth &amp; 99% Bandwidth

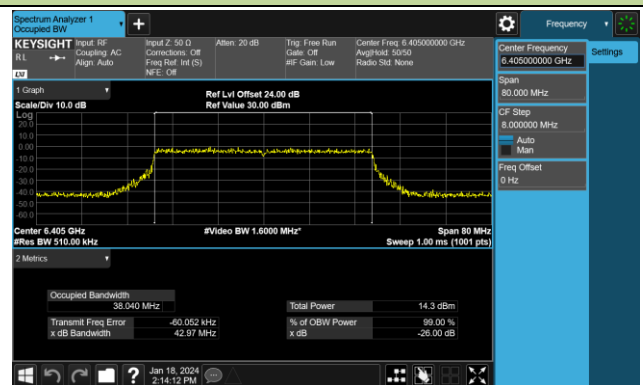
Channel 03 (5965MHz)



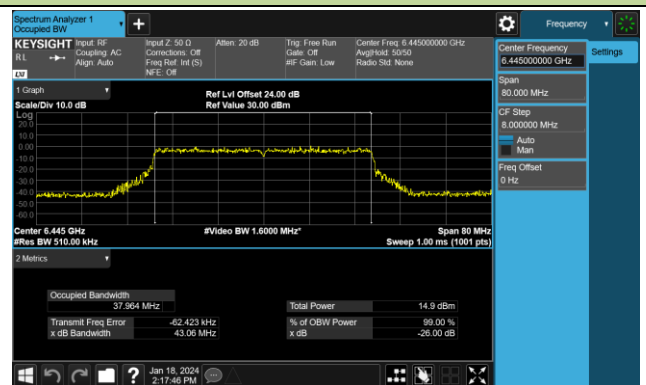
Channel 43 (6165MHz)



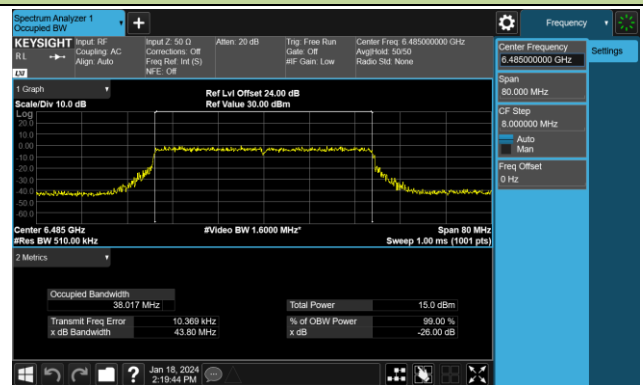
Channel 91 (6405MHz)



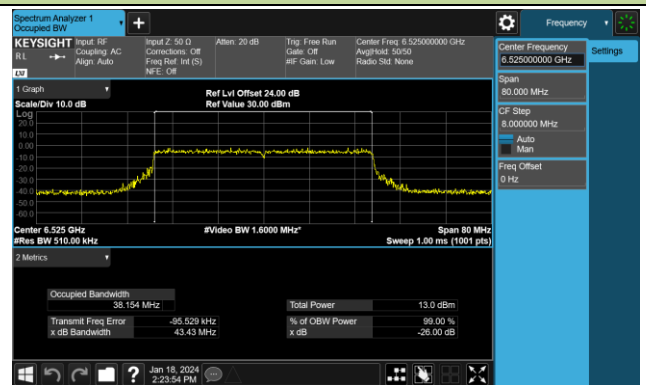
Channel 99 (6445MHz)



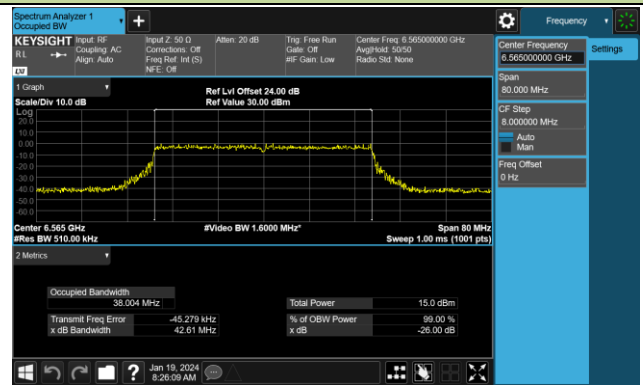
Channel 107 (6485MHz)



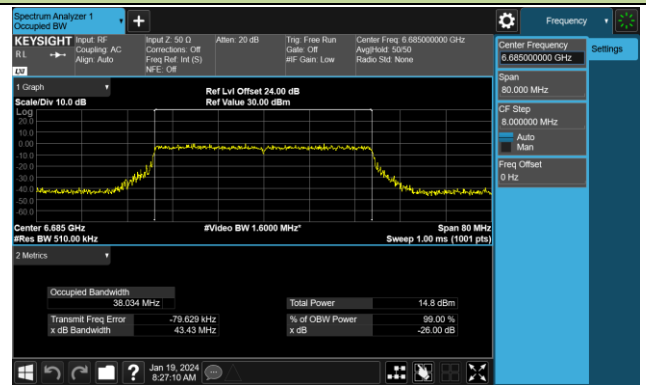
Channel 115 (6525MHz)



Channel 123 (6565MHz)

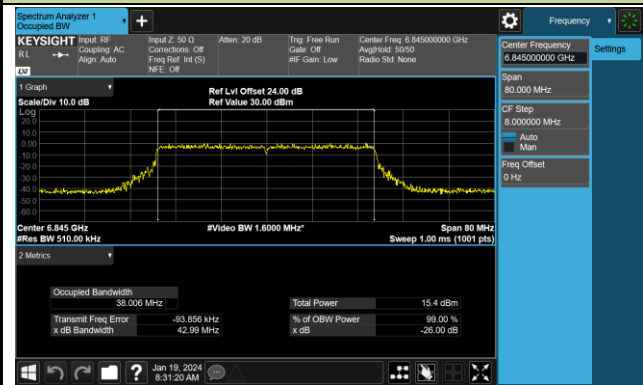


Channel 147 (6685MHz)

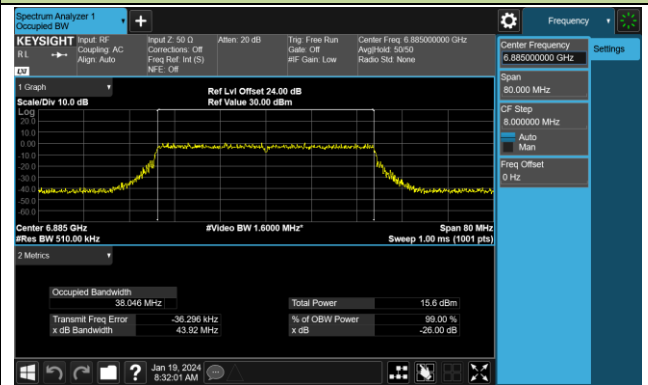


802.11be-EHT40 26dB Bandwidth & 99% Bandwidth

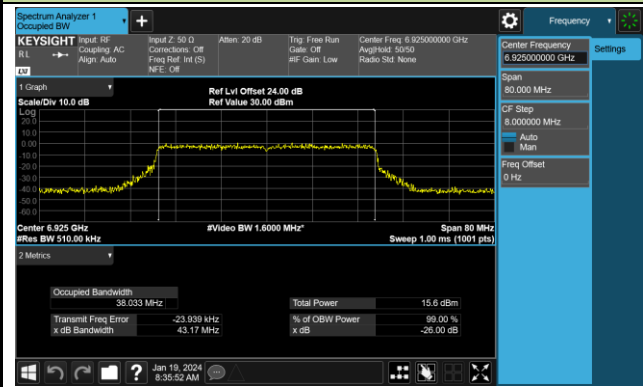
Channel 179 (6845MHz)



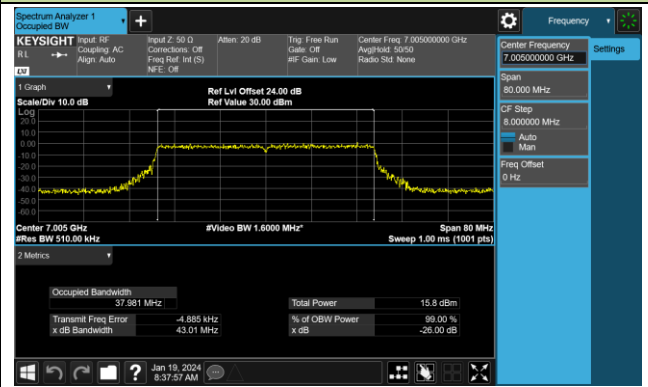
Channel 187 (6885MHz)



Channel 195 (6925MHz)



Channel 211 (7005MHz)



Channel 227 (7085MHz)

