Testing Laboratory
3023

Test report No.: 23B0886R-RFUSV03S-A

TEST REPORT
(Class II Permissive Change)

Product Name	3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Trademark	EVEREST NETWORKS
Model and /or type reference	AP610
FCC ID	2AGMR-AP610
Applicant´s name / address	Everest Networks, Inc. 42808 Christy Street Suite 108, Fremont CA, 94538 United States
Manufacturer´s name	Everest Networks, Inc.
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart E ANSI C63.4: 2014, ANSI C63.10: 2013 KDB Publication 789033
Verdict Summary	IN COMPLIANCE
Documented By (Supervisor / Jinn Chen)	Jinn Chen
Tested By (Senior Engineer / Ivan Chuang)	Ivan Chuang
Approved By (Senior Engineer / Alan Chen)	Alan Chen
Date of Receipt	2023/11/28
Date of Issue	2023/12/29
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

General conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Report No.	Version	Description	Issued Date
23B0886R-RFUSV03S-A	V1.0	Initial issue of report.	2023/12/29

1. General Information

1.1. EUT Description

Product Name	3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Trade Name	EVEREST NETWORKS
Model No.	AP610
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Frequency Range	802.11a/n/ac/ax-20 MHz: 5745-5825 MHz 802.11n/ac/ax-40 MHz: 5755-5795 MHz 802.11ac/ax-80 MHz: 5775 MHz
Number of Channels	802.11a/n/ac/ax-20 MHz: 5 CH 802.11n/ac/ax-40 MHz: 2 CH 802.11ac/ax-80 MHz: 1 CH
Data Rate	802.11a: 6-54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2402 Mbps
Type of Modulation	802.11a/n/ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Senao	5718A0665300	PIFA antenna	5.09dBi for 5725~5850 MHz
2	Senao	5718A0666300	PIFA antenna	3.04dBi for 5725~5850 MHz
3	Senao	5718A0667300	PIFA antenna	4.56dBi for 5725~5850 MHz
4	Senao	5718A0668300	PIFA antenna	4.01dBi for 5725~5850 MHz

Note:

1. The antenna of EUT is conforming to FCC 15.203.
2. Only the higher gain antenna was tested and recorded in this report.
3. The antenna gain as by the manufacturer provided.

For power CDD Directional gain	For power Beamforming Directional gain
5.09dBi for 5725~5850 MHz	11.11dBi for 5725~5850 MHz
5725MHz-5850MHz: Directional gain = 5.09 dBi (Directional gain = $G_{ANT\ MAX}$ + Array Gain, Array Gain = 0 dB for $N_{ANT} \leq 4$)	5725MHz-5850MHz: Directional gain = 11.11 dBi Directional gain = $G_{ANT\ MAX}$ + Array Gain, Array Gain = 10*log(4) = 6.02 dB)

For PSD Directional gain
10.26dBi for 5725~5850 MHz

5725MHz-5850MHz: Directional gain = 10.26 dBi

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$ dBi

802.11a/n/ac/ax-20 MHz Center Working Frequency of Each Channel:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	--	--	--	--	--	--

802.11n/ac/ax-40 MHz Center Working Frequency of Each Channel:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	--	--	--	--

802.11ac/ax-80 MHz Center Working Frequency of Each Channel:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775	--	--	--	--	--	--

Note:

1. This device is a 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point with built-in WLAN transceiver, this report for 5GHz WLAN.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps、802.11ax-20BW/40BW/80BW is MCS0)
4. This is to request a Class II permissive change.
   The major change filed under this application is:
   Change #1: Software update Wi-Fi 5G B4 power.
5. The CDD mode and Beamforming mode are presented in the power output test item. For other test items, CDD mode is the worst case for the final test and shown in this report.
6. The spectrum plot against conducted item only shows the worst case.
7. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance of transmitter with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.

Test Mode	Mode 1	Transmit (802.11a) Transmit (802.11ax-20 MHz) Transmit (802.11ax-40 MHz) Transmit (802.11ax-80 MHz)

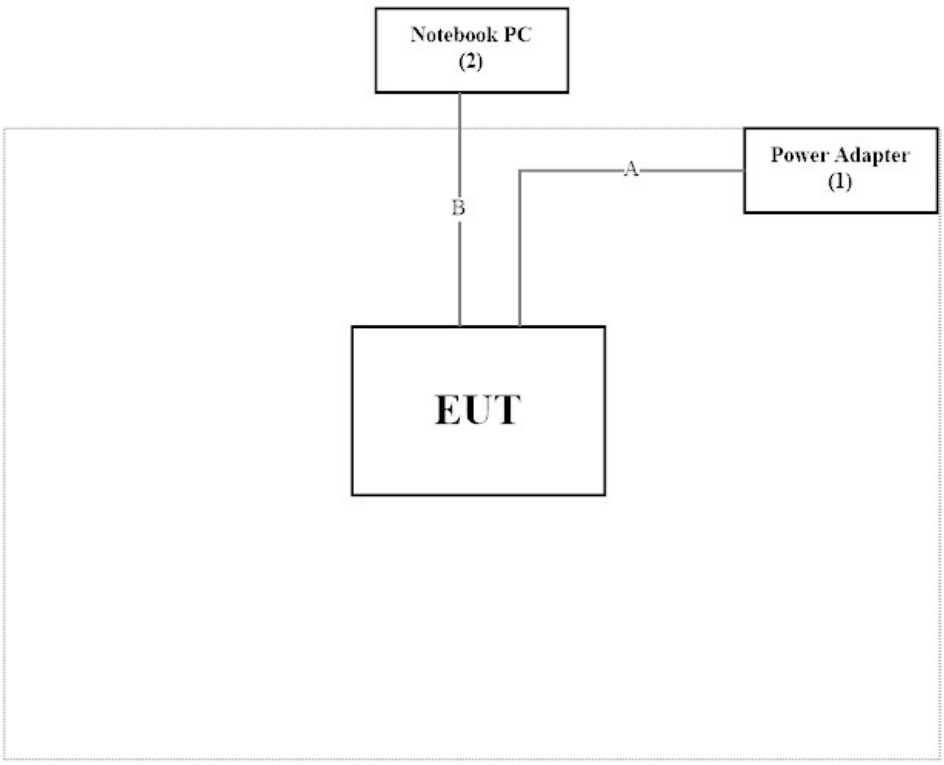
1.2. Tested System Datails

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Power Adapter	APD	WA-30J12R	N/A	N/A
2	Notebook PC	Lenovo	TP00067C	PF-0EW0C3	N/A

Cable Type		Cable Description
A	Power Cable	Non-shielded, 1.5m
B	LAN Cable	Non-shielded, 3m

1.3. Configuration of tested System



1.4. EUT Exercise Software

1	Setup the EUT as shown in Section 1.3.
2	Execute software “QSPR Ver. V5.0-00197” on the Notebook PC.
3	Configure the test mode, the test channel, and the data rate.
4	Press “OK” to start the continuous transmit.
5	Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	26.7 °C
	Humidity (%RH)	10~90 %	54.0 %
Radiated Emission	Temperature (°C)	10~40 °C	24.6 °C
	Humidity (%RH)	10~90 %	58.0 %
Conductive	Temperature (°C)	10~40 °C	20.9 °C
	Humidity (%RH)	10~90 %	62.9 %

USA	FCC Registration Number: TW0033
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist.,Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

1.6. List of Test Equipment

For Conduction Measurements / HY-SR01

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	EMI Test Receiver	R&S	ESR7	101601	2023/06/20	2024/06/19
V	Two-Line V-Network	R&S	ENV216	101306	2023/03/16	2024/03/15
V	Two-Line V-Network	R&S	ENV216	101307	2023/08/17	2024/08/16
V	Coaxial Cable	SUHNER	RG400_BNC	RF001	2023/01/10	2024/01/09

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

For Conducted Measurements / HY-SR02

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Spectrum Analyzer	R&S	FSV30	103466	2022/12/22	2023/12/21
V	Peak Power Analyzer	KEYSIGHT	8990B	MY51000539	2023/05/15	2024/05/14
V	Power Sensor	KEYSIGHT	N1923A	MY59240002	2023/05/18	2024/05/17
V	Power Sensor	KEYSIGHT	N1923A	MY59240003	2023/05/18	2024/05/17

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: RF Conducted Test Tools R3 V3.0.1.14.

For Radiated Measurements / HY-CB03

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Loop Antenna	AMETEK	HLA6121	49611	2023/02/21	2024/02/20
V	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2023/08/09	2025/08/08
V	Horn Antenna	Com-Power	AH-840	101100	2023/10/02	2025/10/01
V	Horn Antenna	RF SPIN	DRH18-E	210507A18ES	2023/05/11	2024/05/10
V	Pre-Amplifier	SGH	SGH0301-9	20211007-11	2023/01/10	2024/01/09
V	Pre-Amplifier	SGH	PRAMP118	20200701	2023/01/10	2024/01/09
V	Pre-Amplifier	EMCI	EMC05820SE	980310	2023/01/10	2024/01/09
V	Pre-Amplifier	EMCI	EMC184045SE	980369	2023/01/10	2024/01/09
	Coaxial Cable	EMCI	EMC102-KM-KM-600	1160314		
	Coaxial Cable	EMCI	EMC102-KM-KM-7000	170242		
	Filter	MICRO TRONICS	BRM50702	G269	2023/01/05	2024/01/04
V	Filter	MICRO TRONICS	BRM50716	G196	2023/01/05	2024/01/04
V	EMI Test Receiver	R&S	ESR3	102793	2022/12/05	2023/12/04
V	Spectrum Analyzer	R&S	FSV3044	101113	2023/02/04	2024/02/03
V	Coaxial Cable	SGH	SGH18	2021005-1	2023/01/10	2024/01/09
	Coaxial Cable	SGH	SGH18	202108-4		
	Coaxial Cable	SGH	HA800	GD20110223-1		
	Coaxial Cable	SGH	HA800	GD20110222-3		

Note:
1. Bi-Log Antenna and Horn Antenna (AH-840) is calibrated every two years, the other equipments are calibrated every one year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

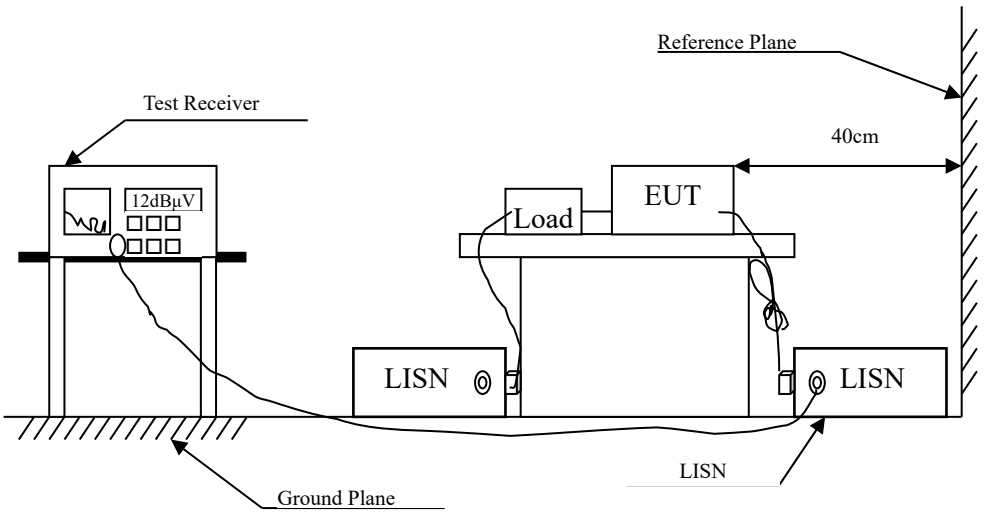
1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document.
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	**Uncertainty**
Conducted Emission	±3.50 dB
Maximum conducted output power	Spectrum Analyzer: ±2.14 dB Power Meter: ±1.05 dB
Peak Power Spectral Density	±2.14 dB
Radiated Emission	9 kHz~30 MHz: ±3.88 dB 30 MHz~1 GHz: ±4.42 dB 1 GHz~18 GHz: ±4.28 dB 18 GHz~40 GHz: ±3.90 dB
Band Edge	9 kHz~30 MHz: ±3.88 dB 30 MHz~1 GHz: ±4.42 dB 1 GHz~18 GHz: ±4.28 dB 18 GHz~40 GHz: ±3.90 dB
Occupied Bandwidth	±1580.61 Hz
Duty Cycle	±0.53 %

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

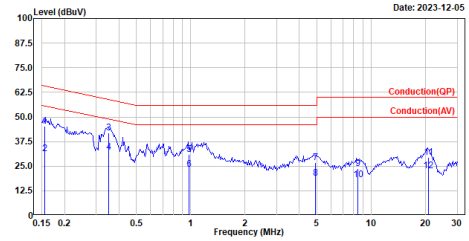
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:2014 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

2.4. Test Result of Conducted Emission

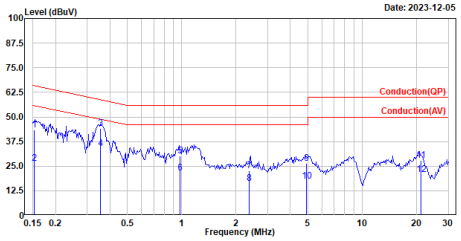
Site :HY-SR01
Condition :Line
Mode :ax80_5775MHz_TX
test by :Ryan



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1	0.155	45.31	65.70	-20.39	35.63	9.68	QP
2	0.155	31.17	55.70	-24.53	21.49	9.68	Average
3	0.351	42.00	58.93	-16.93	32.32	9.68	QP
4	0.351	32.23	48.93	-16.70	22.55	9.68	Average
5	0.975	30.96	56.00	-25.04	21.24	9.72	QP
6	0.975	23.25	46.00	-22.75	13.53	9.72	Average
7	4.892	26.98	56.00	-29.02	16.18	10.80	QP
8	4.892	18.82	46.00	-27.18	8.02	10.80	Average
9	8.450	23.92	60.00	-36.08	13.11	10.81	QP
10	8.450	17.95	50.00	-32.05	7.14	10.81	Average
11	20.672	29.49	60.00	-30.51	18.83	10.66	QP
12	20.672	22.65	50.00	-27.35	11.99	10.66	Average

Note:
1. Level = Read Level + Factor
2. Factor = LISN insertion loss + Cable loss
3. Over Limit = Level - Limit Line

Site :HY-SR01
Condition :Neutral
Mode :ax80_5775MHz_TX
test by :Ryan



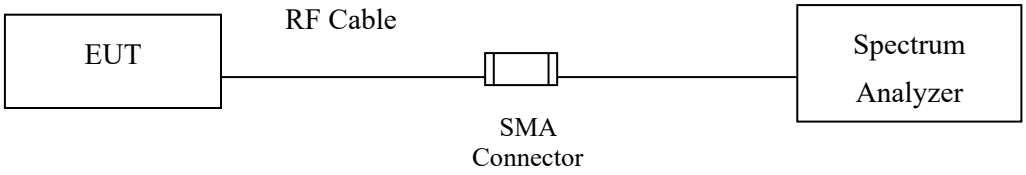
No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1	0.153	43.45	65.85	-22.40	33.79	9.66	QP
2	0.153	26.52	55.85	-29.33	16.86	9.66	Average
3	0.355	44.25	58.85	-14.60	34.59	9.66	QP
4	0.355	33.91	48.85	-14.94	24.25	9.66	Average
5	0.975	30.16	56.00	-25.84	20.46	9.70	QP
6	0.975	21.56	46.00	-24.44	11.86	9.70	Average
7	2.358	22.56	56.00	-33.44	12.64	9.92	QP
8	2.358	16.36	46.00	-29.64	6.44	9.92	Average
9	4.903	26.36	56.00	-29.64	15.57	10.79	QP
10	4.903	17.51	46.00	-28.49	6.72	10.79	Average
11	21.081	28.10	60.00	-31.90	17.34	10.76	QP
12	21.081	20.68	50.00	-29.32	9.92	10.76	Average

Note:
1. Level = Read Level + Factor
2. Factor = LISN insertion loss + Cable loss
3. Over Limit = Level - Limit Line

3. Maximun conducted output power

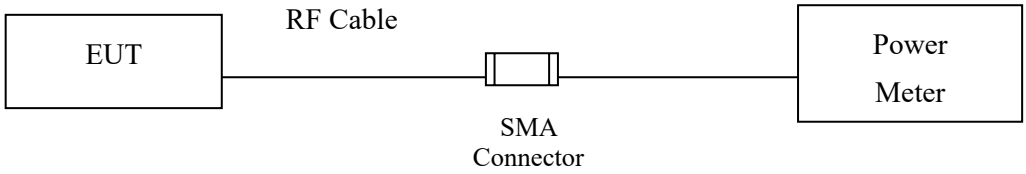
3.1. Test Setup

26dB Occupied Bandwidth

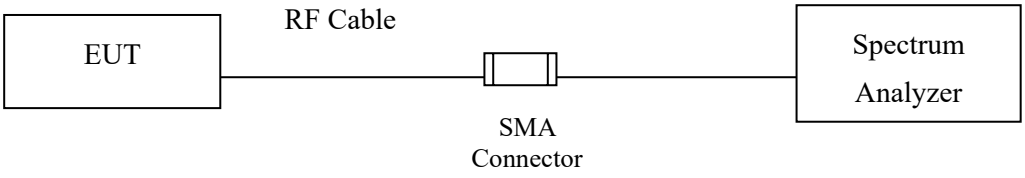


Conduction Power Measurement

Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac/ax)



3.2. Limits

For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

The maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For CDD mode:

5725MHz-5850MHz: Directional gain = 5.09 dBi, Limit= 30dBm

(Directional gain = GANT MAX + Array Gain, Array Gain = 0 dB for NANT ≤ 4)

For Beamforming mode:

5725MHz-5850MHz: Directional gain = 11.11 dBi, Limit= 24.89dBm

(Directional gain = GANT MAX + Array Gain, Array Gain = 10*log(4) = 6.02 dB)

3.3. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)

Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (KEYSIGHT / 8990B video bandwidth: 160MHz)

Maximum conducted output power using KDB 789033 section E)2)b)

Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D03 section D) procedure is used for measurements.

3.4. Test Result of Maximum conducted output power

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11a)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
149	5745	--	18.64	18.61	18.82	18.67	--	24.71	30	--
157	5785	--	18.28	18.02	18.31	18.04	--	24.19	30	--
165	5825	--	18.16	17.93	18.13	17.84	--	24.04	30	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW)) + Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power itation is more stringent.

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11ax-20 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
149	5745	--	18.86	18.61	18.88	18.76	--	24.80	30.00	--
157	5785	--	17.44	17.36	17.50	17.26	--	23.41	30.00	--
165	5825	--	17.93	17.77	17.75	17.52	--	23.77	30.00	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW)) + Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power limitation is more stringent.

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11ax-40 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
151	5755	--	19.56	19.37	19.76	19.56	--	25.59	30.00	--
159	5795	--	20.75	20.21	20.84	20.57	--	26.62	30.00	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW)) + Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power limitation is more stringent.

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11ax-80 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
155	5775	--	16.27	16.06	16.63	16.32	--	22.35	30.00	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW))
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power limitation is ore stringent.

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11a)-Beamforming
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
149	5745	--	12.62	12.59	12.80	12.65	--	18.69	24.89	--
157	5785	--	12.26	12.00	12.29	12.02	--	18.17	24.89	--
165	5825	--	12.14	11.91	12.11	11.82	--	18.02	24.89	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW)) + Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power itation is more stringent.

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11ax-20 MHz)-Beamforming
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
149	5745	--	12.84	12.59	12.86	12.74	--	18.78	24.89	--
157	5785	--	11.42	11.34	11.48	11.24	--	17.39	24.89	--
165	5825	--	11.91	11.75	11.73	11.50	--	17.75	24.89	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW)) + Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power limitation is more stringent.

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11ax-40 MHz)-Beamforming
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
151	5755	--	13.54	13.35	13.74	13.54	--	19.57	24.89	--
159	5795	--	14.73	14.19	14.82	14.55	--	20.60	24.89	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW)) + Duty factor.
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power limitation is more stringent.

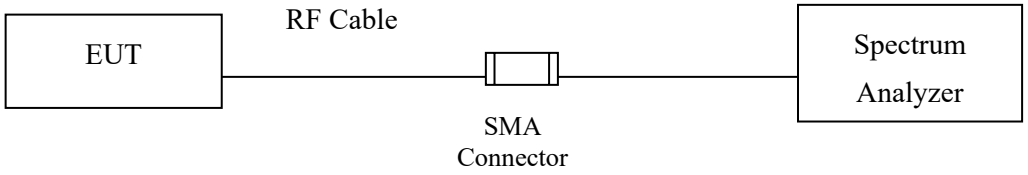
Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Maximum conducted output power
Test Mode : Transmit (802.11ax-80 MHz)-Beamforming
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Duty factor (dB)	Output Power (dBm)	Output Power Limit	
									(dBm)	dBm+10log(BW)
155	5775	--	10.25	10.04	10.61	10.30	--	16.33	24.89	--

Note:
1. Output Power Value (dBm) = 10*LOG (Chain A(mW) + Chain B(mW))
2. 26dB Bandwidth is the bandwidth of chain A or B whichever is less bandwidth, output power limitation is ore stringent.

4. Peak Power Spectral Density

4.1. Test Setup



4.2. Limits

For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

The maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For CDD mode:

5725MHz-5850MHz: Directional gain = 10.26 dBi, Limit= 25.74dBm

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$ dBi

4.3. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

4.4. Test Result of Peak Power Spectral Density

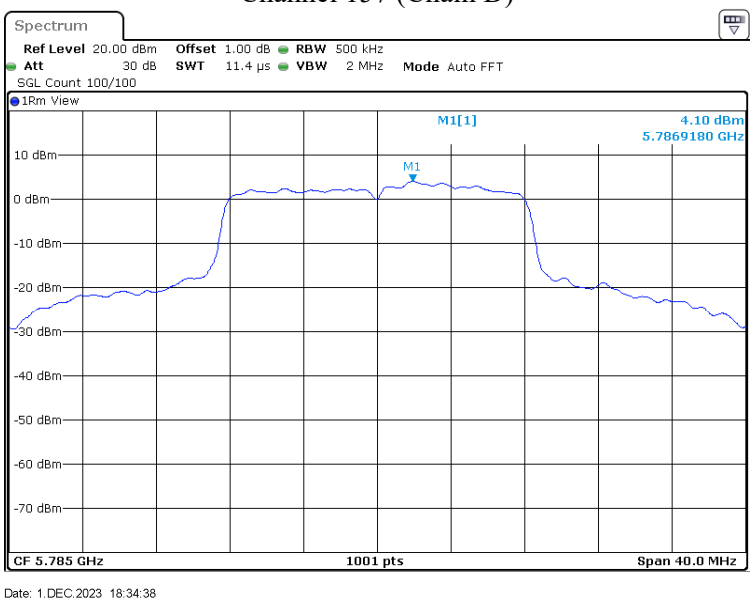
Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Peak Power Spectral Density
Test Mode : Transmit (802.11a)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Chain	PPSD (dBm)	Duty factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	A	3.40	0.32	9.77	<25.74	Pass
			B	3.28	0.32			Pass
			C	3.42	0.32			Pass
			D	3.60	0.32			Pass
157	5785	6	A	3.45	0.32	9.88	<25.74	Pass
			B	3.31	0.32			Pass
			C	3.24	0.32			Pass
			D	4.10	0.32			Pass
165	5825	6	A	2.53	0.32	8.86	<25.74	Pass
			B	2.63	0.32			Pass
			C	2.64	0.32			Pass
			D	2.28	0.32			Pass

Note:

1. Total PPSD/MHz = PPSD/MHz +10*log 2 (two antennas)+Duty factor.
2. The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel 157 (Chain D)



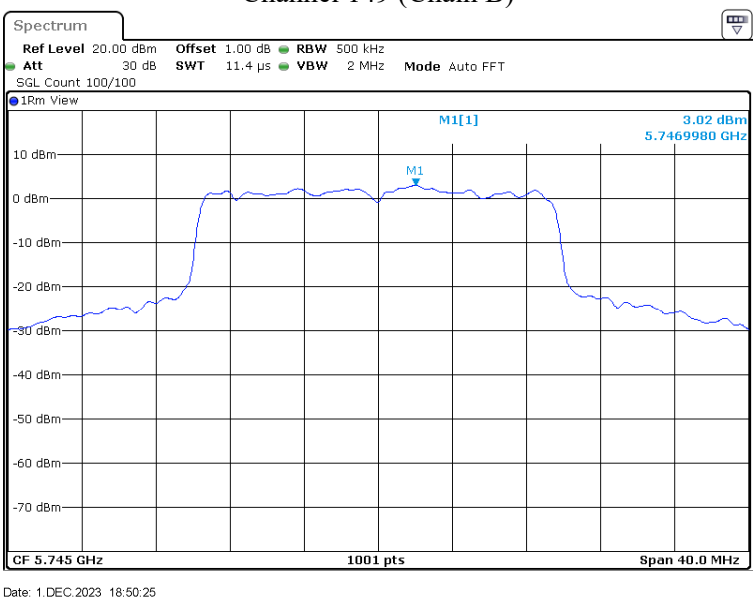
Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Peak Power Spectral Density
Test Mode : Transmit (802.11ax-20 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Chain	PPSD (dBm)	Duty factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	MCS0	A	2.33	0.95	9.61	<25.74	Pass
			B	3.02	0.95			Pass
			C	2.35	0.95			Pass
			D	2.82	0.95			Pass
157	5785	MCS0	A	2.02	0.95	8.68	<25.74	Pass
			B	1.42	0.95			Pass
			C	1.10	0.95			Pass
			D	2.21	0.95			Pass
165	5825	MCS0	A	1.45	0.95	8.27	<25.74	Pass
			B	1.17	0.95			Pass
			C	1.24	0.95			Pass
			D	1.32	0.95			Pass

Note:

1. Total PPSD/MHz = PPSD/MHz +10*log 2 (two antennas)+Duty factor.
2. The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel 149 (Chain B)



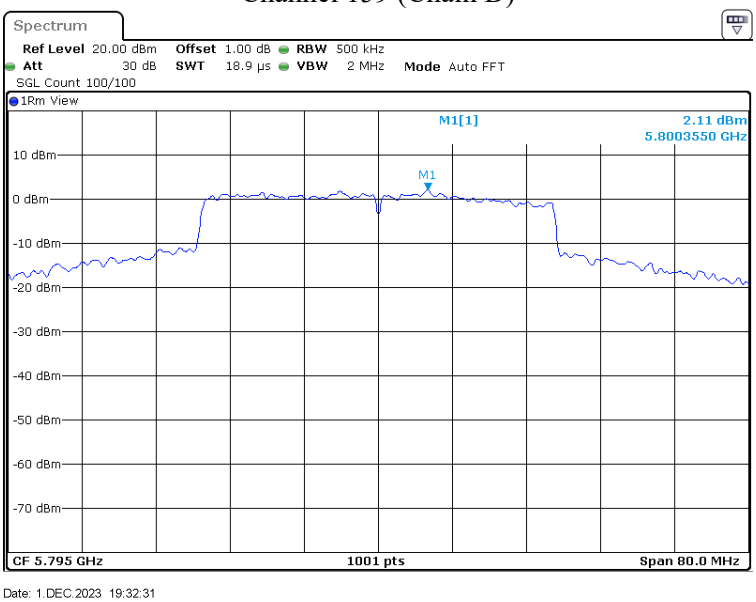
Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Peak Power Spectral Density
Test Mode : Transmit (802.11ax-40 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Chain	PPSD (dBm)	Duty factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
151	5755	MCS0	A	0.53	0.99	7.76	<25.74	Pass
			B	0.85	0.99			Pass
			C	0.87	0.99			Pass
			D	0.74	0.99			Pass
159	5795	MCS0	A	1.77	0.99	8.82	<25.74	Pass
			B	1.85	0.99			Pass
			C	1.51	0.99			Pass
			D	2.11	0.99			Pass

Note:

1. Total PPSD/MHz = PPSD/MHz +10*log 2 (two antennas)+Duty factor.
2. The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

Channel 159 (Chain D)



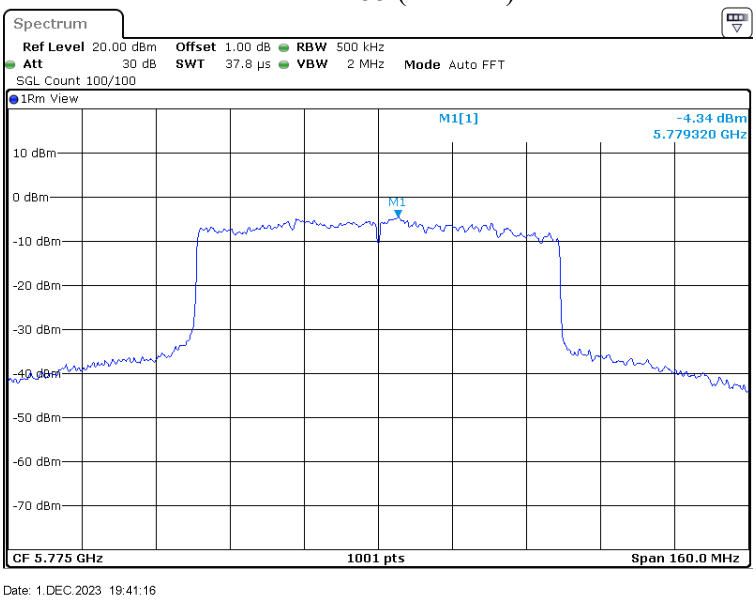
Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Peak Power Spectral Density
Test Mode : Transmit (802.11ax-80 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Chain	PPSD (dBm)	Duty factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
155	5775	MCS0	A	-5.14	0.97	1.99	<25.74	Pass
			B	-5.28	0.97			Pass
			C	-5.33	0.97			Pass
			D	-4.34	0.97			Pass

Note:

1. Total PPSD/MHz = PPSD/MHz +10*log 2 (two antennas)+Duty factor.
2. The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

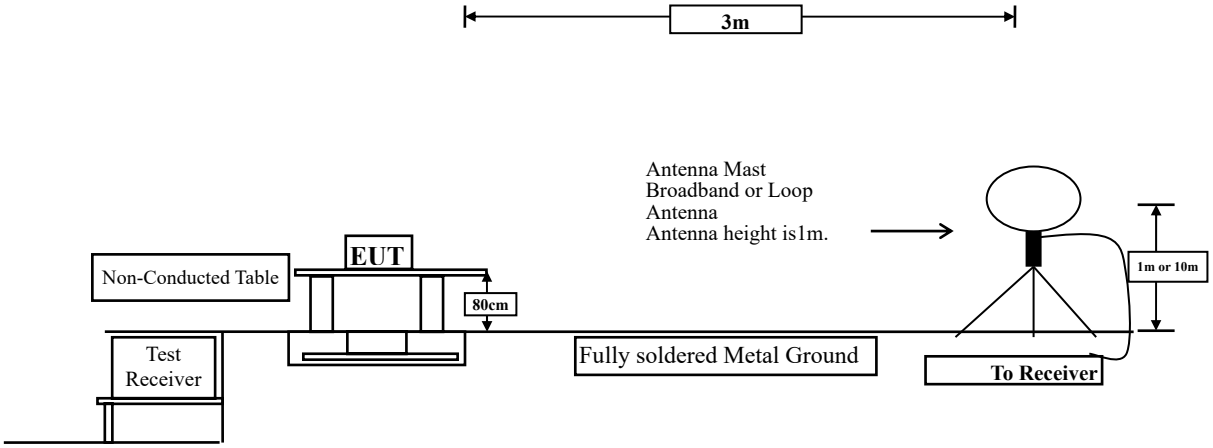
Channel 155 (Chain D)



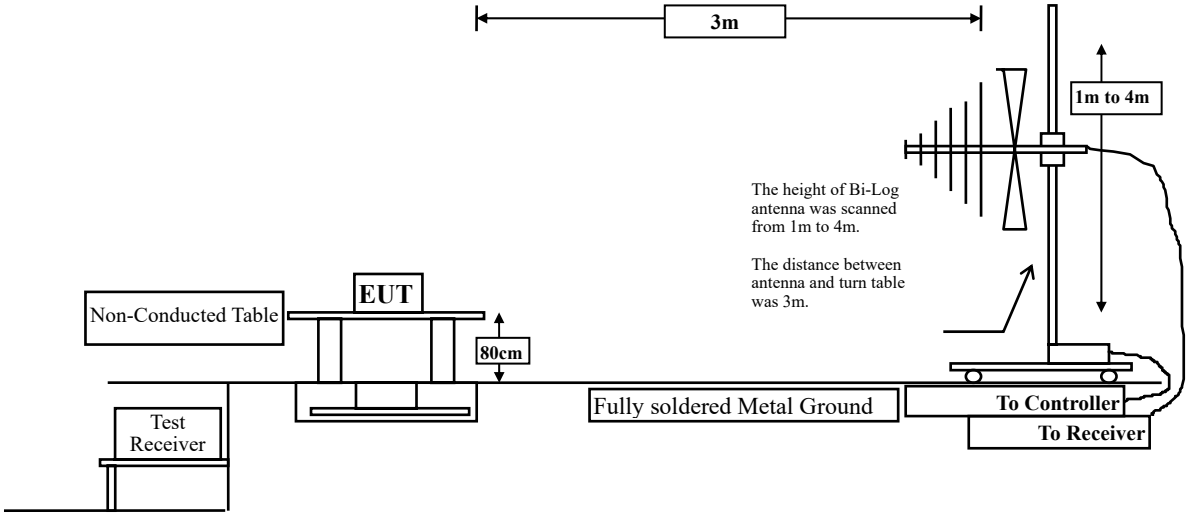
5. Radiated Emission

5.1. Test Setup

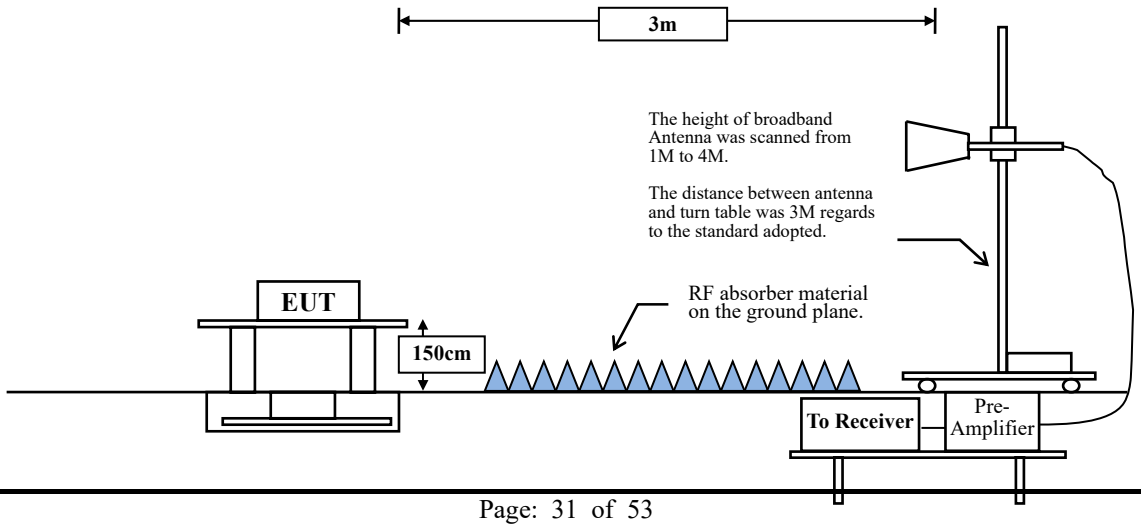
Radiated Emission Under 30 MHz



Radiated Emission Below 1 GHz



Radiated Emission Above 1 GHz



5.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
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

Remarks: E field strength (dBμV/m) = 20 log E field strength (μV/m)

- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.725-5.85 GHz band:
  All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of −27 dBm/MHz.

Based on ANSI C63.10-2013 Section 12.7.3 d) provides the conversion formula between field strength and EIRP, if distance is 3m, -27dBm is equivalent to 68.22dBuV/m.

5.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.
Measuring the frequency range below 1 GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1 GHz, the EUT is placed on a turn table which is 1.5 meter above ground.
The turn table is rotated 360 degrees to determine the position of the maximum emission level.
The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.
The resolution bandwidth below 30 MHz setting on the field strength meter is 9kHz and
30 MHz~1 GHz is 120 kHz and above 1 GHz is 1 MHz.
Radiated emission measurements below 30 MHz are made using Loop Antenna and 30 MHz~1 GHz are made using broadband Bilog antenna and above 1 GHz are made using Horn Antennas.
The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.
The measurement frequency range form 9 kHz - 10th Harmonic of fundamental was investigated.

RBW and VBW Parameter setting:
According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.
RBW = 1 MHz.
VBW ≥ 3 MHz.

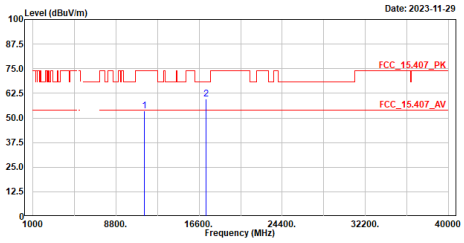
According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.
RBW = 1 MHz.
VBW = 10 Hz, when duty cycle ≥ 98 %
VBW ≥ 1/T, when duty cycle < 98 %
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

5 GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	92.86	1.4300	699	1000
802.11ax-20 MHz	80.29	5.4600	183	200
802.11ax-40 MHz	79.71	5.4200	185	200
802.11ax-80 MHz	80.00	5.4400	184	200

Note: Duty Cycle Refer to Section 8.

5.4. Test Result of Radiated Emission

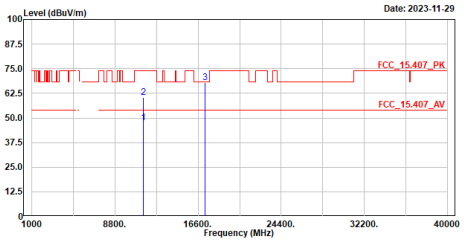
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_a_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	53.56	74.00	-20.44	55.66	-2.10	Peak
2	17235.000	59.77	68.22	-8.45	60.71	-0.94	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

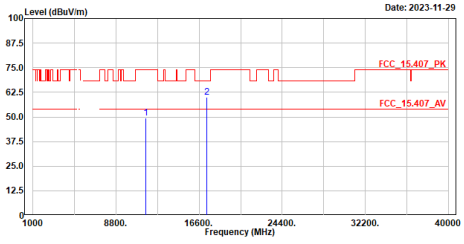
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_a_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	47.72	54.00	-6.28	49.82	-2.10	Average
2	11490.000	60.55	74.00	-13.45	62.65	-2.10	Peak
3	17235.000	67.90	68.22	-0.32	68.84	-0.94	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

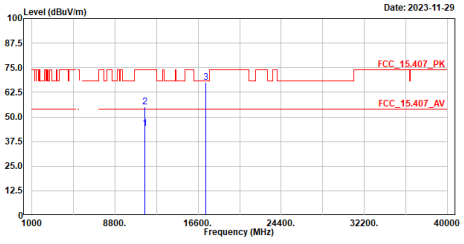
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_a_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	49.49	74.00	-24.51	51.34	-1.85	Peak
2	17355.000	59.95	68.22	-8.27	60.56	-0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

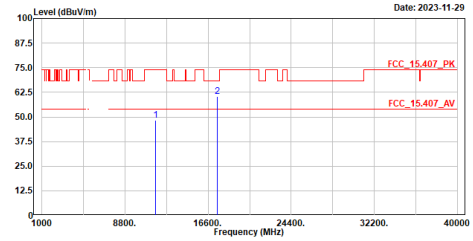
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_a_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	44.14	54.00	-9.86	45.99	-1.85	Average
2	11570.000	54.91	74.00	-19.09	56.76	-1.85	Peak
3	17355.000	67.73	68.22	-0.49	68.34	-0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

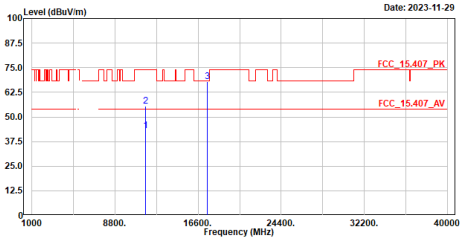
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_a_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	48.21	74.00	-25.79	50.13	-1.92	Peak
2	17475.000	60.50	68.22	-7.72	60.89	-0.39	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

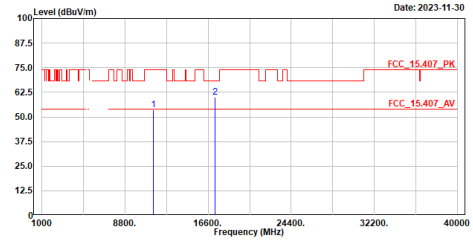
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_a_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	43.13	54.00	-10.87	45.05	-1.92	Average
2	11650.000	55.61	74.00	-18.39	57.53	-1.92	Peak
3	17475.000	68.00	68.22	-0.22	68.39	-0.39	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

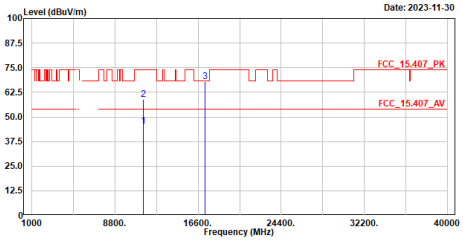
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax20_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	53.42	74.00	-20.58	55.52	-2.10	Peak
2	17235.000	60.03	68.22	-8.19	60.97	-0.94	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

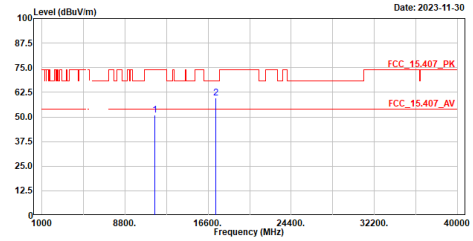
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax20_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	45.46	54.00	-8.54	47.56	-2.10	Average
2	11490.000	58.81	74.00	-15.19	60.91	-2.10	Peak
3	17235.000	67.97	68.22	-0.25	68.91	-0.94	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

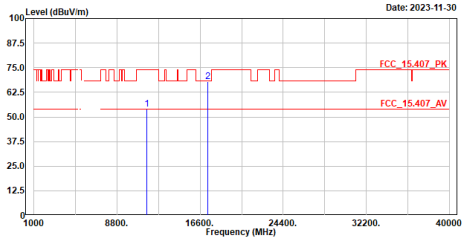
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax20_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	50.82	74.00	-23.18	52.67	-1.85	Peak
2	17355.000	59.75	68.22	-8.47	60.36	-0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

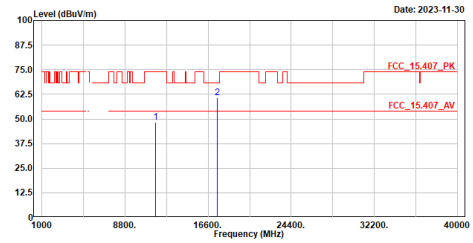
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax20_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	53.84	74.00	-20.16	55.69	-1.85	Peak
2	17355.000	68.01	68.22	-0.21	68.62	-0.61	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

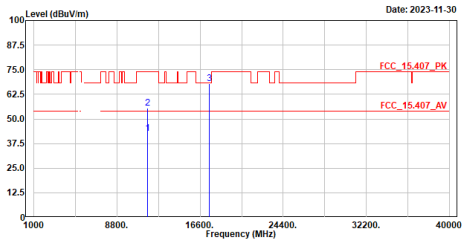
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax20_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	48.13	74.00	-25.87	50.05	-1.92	Peak
2	17475.000	60.65	68.22	-7.57	61.04	-0.39	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

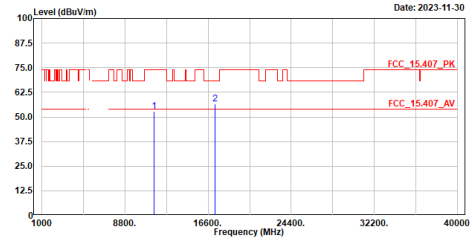
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax20_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	42.78	54.00	-11.22	44.70	-1.92	Average
2	11650.000	55.34	74.00	-18.66	57.26	-1.92	Peak
3	17475.000	67.82	68.22	-0.40	68.21	-0.39	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

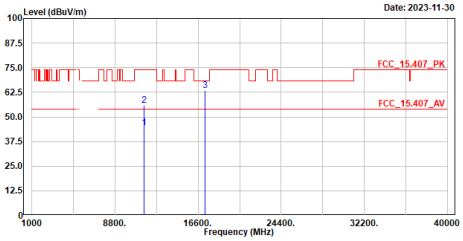
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax40_5755MHz
Test BY :Ashton



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11510.000	52.92	74.00	-21.08	54.92	-2.00	Peak
2	17265.000	56.75	68.22	-11.47	57.54	-0.79	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

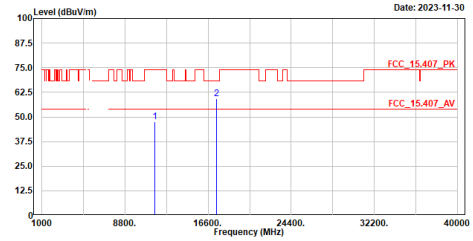
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax40_5755MHz
Test BY :Ashton



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11510.000	44.57	54.00	-9.43	46.57	-2.00	Average
2	11510.000	55.71	74.00	-18.29	57.71	-2.00	Peak
3	17265.000	63.39	68.22	-4.83	64.18	-0.79	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

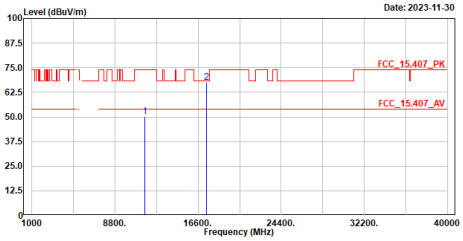
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax40_5795MHz
Test BY :Ashton



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11590.000	47.39	74.00	-26.61	49.30	-1.91	Peak
2	17385.000	59.22	68.22	-9.00	59.80	-0.58	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

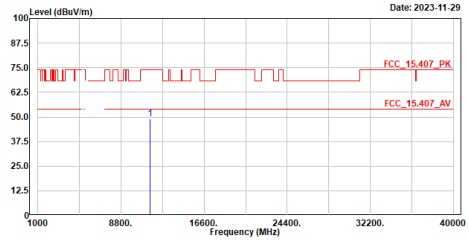
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax40_5795MHz
Test BY :Ashton



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11590.000	50.17	74.00	-23.83	51.99	-1.82	Peak
2	17385.000	67.45	68.22	-0.77	68.07	-0.62	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

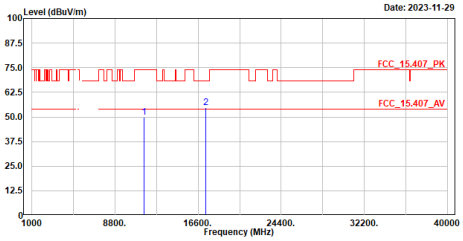
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax80_5775MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11550.000	48.99	74.00	-25.01	50.78	-1.79	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

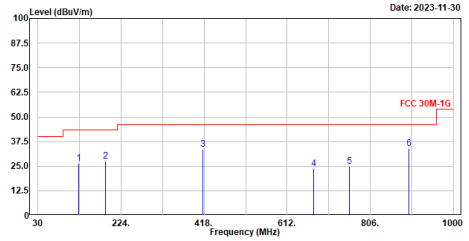
Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax80_5775MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11550.000	49.77	74.00	-24.23	51.56	-1.79	Peak
2	17325.000	54.84	68.22	-13.38	55.44	-0.60	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

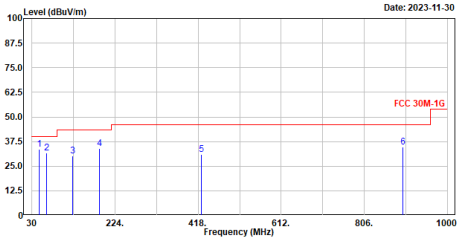
Site :HY-CB03
Condition :3m ,HORIZONTAL
Mode :TX_ax80_5775MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	126.030	26.27	43.50	-17.23	51.83	-25.56	QP
2	188.110	27.56	43.50	-15.94	53.63	-26.07	QP
3	415.090	33.42	46.00	-12.58	53.27	-19.85	QP
4	673.110	23.91	46.00	-22.09	38.51	-14.60	QP
5	756.530	25.07	46.00	-20.93	37.97	-12.90	QP
6	896.210	34.00	46.00	-12.00	45.41	-11.41	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

Site :HY-CB03
Condition :3m ,VERTICAL
Mode :TX_ax80_5775MHz
Test BY :Peter



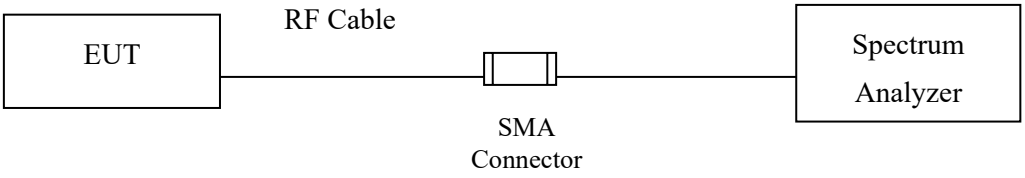
No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	46.490	33.60	40.00	-6.40	56.86	-23.26	QP
2	64.920	31.77	40.00	-8.23	57.04	-25.27	QP
3	126.030	30.30	43.50	-13.20	55.86	-25.56	QP
4	188.110	34.01	43.50	-9.49	60.08	-26.07	QP
5	424.790	31.00	46.00	-15.00	50.72	-19.72	QP
6	896.210	34.85	46.00	-11.15	46.26	-11.41	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

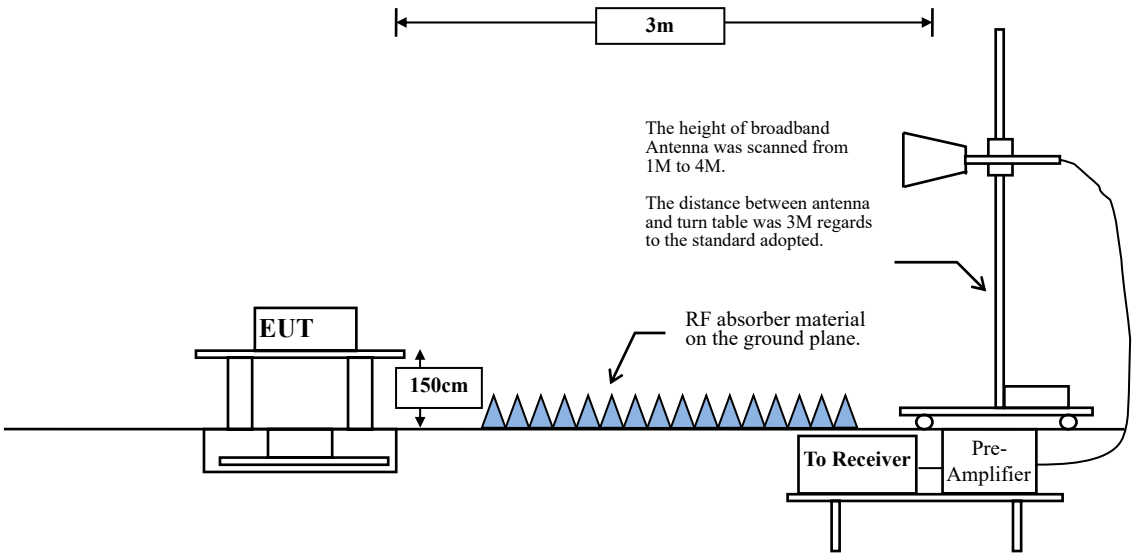
6. Band Edge

6.1. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



6.2. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section. Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	μV/m @3m	dBμV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBμV) = 20 log RF Voltage (μV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.725-5.85 GHz band:
  All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of −27 dBm/MHz.

Based on ANSI C63.10-2013 Section 12.7.3 d) provides the conversion formula between field strength and EIRP, if distance is 3m, -27dBm is equivalent to 68.22dBuV/m.

6.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

RBW and VBW Parameter setting:

According to KDB 789033 section II.G.5 Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz.

RBW = 1 MHz.

VBW ≥ 3 MHz.

According to KDB 789033 section II.G.6 Procedures for Average Unwanted Emissions Measurements above 1000 MHz.

RBW = 1 MHz.

VBW = 10 Hz, when duty cycle ≥ 98 %

VBW ≥ 1/T, when duty cycle < 98 %

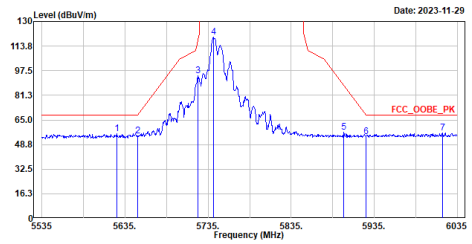
(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

5 GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
802.11a	92.86	1.4300	699	1000
802.11ax-20 MHz	80.29	5.4600	183	200
802.11ax-40 MHz	79.71	5.4200	185	200
802.11ax-80 MHz	80.00	5.4400	184	200

Note: Duty Cycle Refer to Section 8.

6.4. Test Result of Band Edge

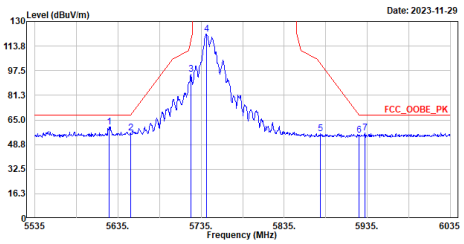
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_a_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5625.000	55.97	68.20	-12.23	38.95	17.02	Peak
2	5650.000	54.68	68.21	-13.53	37.71	16.97	Peak
3	5722.500	94.25	116.50	-22.25	76.78	17.47	Peak
4	5741.500	119.47	------	------	101.87	17.60	Peak
5	5898.500	56.85	87.81	-30.96	38.87	17.98	Peak
6	5925.000	53.79	68.21	-14.42	35.91	17.88	Peak
7	6017.500	56.29	68.20	-11.91	38.44	17.85	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

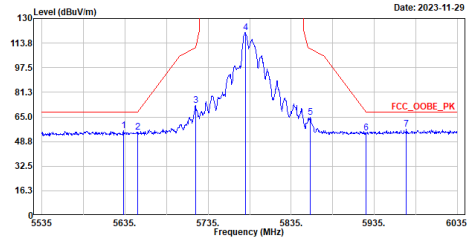
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_a_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5624.500	60.41	68.20	-7.79	43.39	17.02	Peak
2	5650.000	56.18	68.21	-12.03	39.21	16.97	Peak
3	5722.500	95.25	116.50	-21.25	77.78	17.47	Peak
4	5741.500	121.60	------	------	104.00	17.60	Peak
5	5878.500	56.07	102.61	-46.54	38.08	17.99	Peak
6	5925.000	54.89	68.21	-13.32	37.01	17.88	Peak
7	5932.000	56.55	68.20	-11.65	38.71	17.84	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

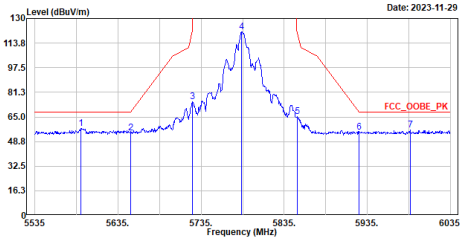
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_a_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5633.000	55.76	68.20	-12.44	38.75	17.01	Peak
2	5650.000	54.74	68.21	-13.47	37.77	16.97	Peak
3	5720.000	72.57	110.80	-38.23	55.12	17.45	Peak
4	5780.000	120.64	------	------	102.85	17.79	Peak
5	5858.000	64.64	109.96	-45.32	46.64	18.00	Peak
6	5925.000	54.69	68.21	-13.52	36.81	17.88	Peak
7	5973.500	56.70	68.20	-11.50	38.93	17.77	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

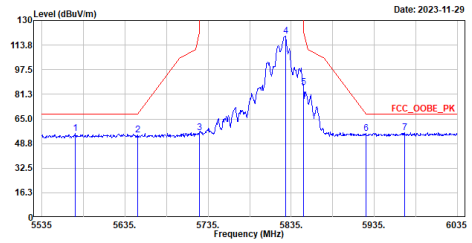
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_a_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5590.000	57.26	68.20	-10.94	40.19	17.07	Peak
2	5650.000	54.56	68.21	-13.65	37.59	16.97	Peak
3	5725.000	74.98	122.20	-47.22	57.50	17.48	Peak
4	5783.500	121.20	------	------	103.39	17.81	Peak
5	5850.500	65.36	121.06	-55.70	47.36	18.00	Peak
6	5925.000	55.13	68.21	-13.08	37.25	17.88	Peak
7	5986.500	56.31	68.20	-11.89	38.53	17.78	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

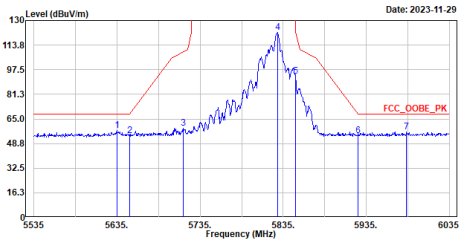
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_a_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5575.500	55.38	68.20	-12.82	38.44	16.94	Peak
2	5650.000	54.31	68.21	-13.90	37.34	16.97	Peak
3	5725.000	55.99	122.20	-66.21	38.51	17.48	Peak
4	5828.000	119.48	------	------	101.52	17.96	Peak
5	5850.000	85.63	122.20	-36.57	67.63	18.00	Peak
6	5925.000	55.55	68.21	-12.66	37.67	17.88	Peak
7	5971.500	56.07	68.20	-12.13	38.29	17.78	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

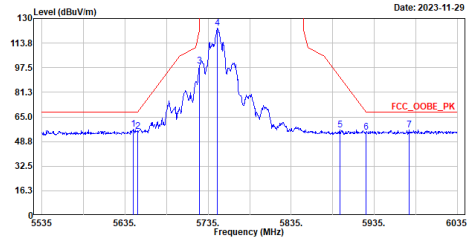
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_a_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5635.000	57.45	68.20	-10.75	40.45	17.00	Peak
2	5650.000	54.08	68.21	-14.13	37.11	16.97	Peak
3	5714.500	58.97	109.26	-50.29	41.56	17.41	Peak
4	5828.500	122.17	------	------	104.21	17.96	Peak
5	5850.000	92.97	122.20	-29.23	74.97	18.00	Peak
6	5925.000	54.00	68.21	-14.21	36.12	17.88	Peak
7	5983.500	56.54	68.20	-11.66	38.76	17.78	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

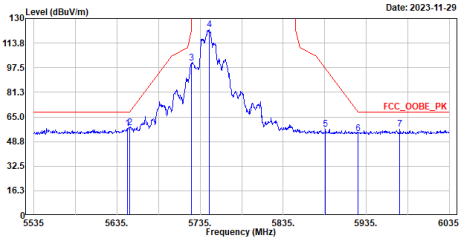
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_ax20_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5645.000	57.12	68.20	-11.08	40.14	16.98	Peak
2	5650.000	55.56	68.21	-12.65	38.59	16.97	Peak
3	5725.000	98.76	122.20	-23.44	81.28	17.48	Peak
4	5746.500	123.47	------	------	105.83	17.64	Peak
5	5893.500	56.40	91.51	-35.11	38.41	17.99	Peak
6	5925.000	55.17	68.21	-13.04	37.29	17.88	Peak
7	5977.000	56.37	68.20	-11.83	38.60	17.77	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

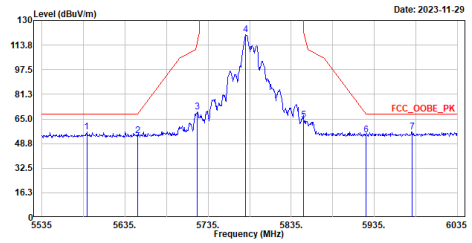
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_ax20_5745MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5647.500	57.56	68.20	-10.64	40.59	16.97	Peak
2	5650.000	57.96	68.21	-10.25	40.99	16.97	Peak
3	5725.000	100.63	122.20	-21.57	83.15	17.48	Peak
4	5746.000	122.65	------	------	105.01	17.64	Peak
5	5886.000	57.07	97.06	-39.99	39.08	17.99	Peak
6	5925.000	53.72	68.21	-14.49	35.84	17.88	Peak
7	5975.500	56.96	68.20	-11.24	39.19	17.77	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

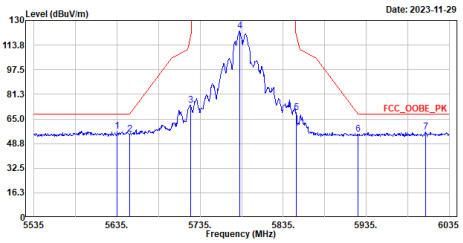
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_ax20_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5589.000	56.42	68.20	-11.78	39.35	17.07	Peak
2	5650.000	53.97	68.21	-14.24	37.00	16.97	Peak
3	5722.000	69.71	115.36	-45.65	52.25	17.46	Peak
4	5780.500	120.71	------	------	102.92	17.79	Peak
5	5850.000	64.38	122.20	-57.82	46.38	18.00	Peak
6	5925.000	54.57	68.21	-13.64	36.69	17.88	Peak
7	5980.500	56.37	68.20	-11.83	38.59	17.78	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

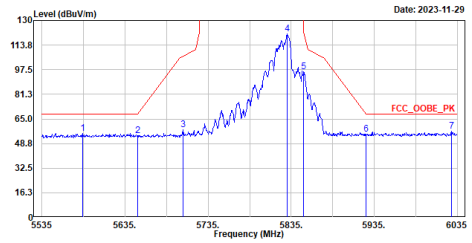
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_ax20_5785MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5635.500	57.03	68.20	-11.17	40.03	17.00	Peak
2	5650.000	54.80	68.21	-13.41	37.83	16.97	Peak
3	5723.500	74.02	118.78	-44.76	56.55	17.47	Peak
4	5782.500	122.94	------	------	105.13	17.81	Peak
5	5850.500	69.41	121.06	-51.65	51.41	18.00	Peak
6	5925.000	54.96	68.21	-13.25	37.08	17.88	Peak
7	6006.500	56.55	68.20	-11.65	38.74	17.81	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

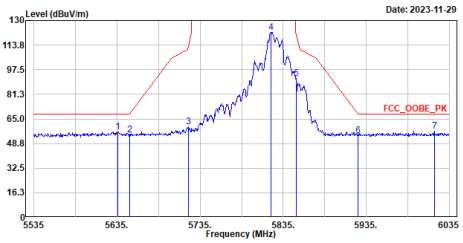
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_ax20_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5584.000	55.44	68.20	-12.76	38.41	17.03	Peak
2	5650.000	53.79	68.21	-14.42	36.82	16.97	Peak
3	5705.000	57.91	106.60	-48.69	40.57	17.34	Peak
4	5830.000	121.14	------	------	103.18	17.96	Peak
5	5850.000	96.13	122.20	-26.07	78.13	18.00	Peak
6	5925.000	54.71	68.21	-13.50	36.83	17.88	Peak
7	6028.000	56.82	68.20	-11.38	38.88	17.94	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

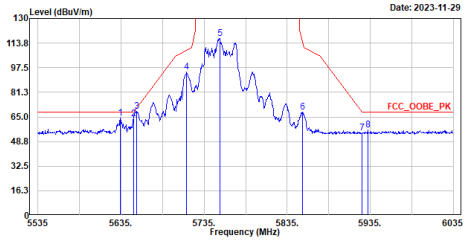
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_ax20_5825MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5636.000	56.61	68.20	-11.59	39.62	16.99	Peak
2	5650.000	54.70	68.21	-13.51	37.73	16.97	Peak
3	5721.000	59.74	113.08	-53.34	42.28	17.46	Peak
4	5820.500	122.29	------	------	104.35	17.94	Peak
5	5850.500	91.92	121.06	-29.14	73.92	18.00	Peak
6	5925.000	53.90	68.21	-14.31	36.02	17.88	Peak
7	6017.000	56.70	68.20	-11.50	38.85	17.85	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

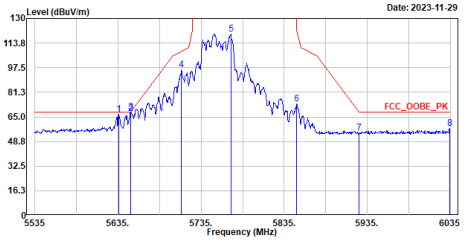
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_ax40_5755MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5634.000	64.03	68.20	-4.17	47.03	17.00	Peak
2	5650.000	63.83	68.21	-4.38	46.86	16.97	Peak
3	5653.500	68.82	70.80	-1.98	51.84	16.98	Peak
4	5714.000	94.76	109.12	-14.36	77.36	17.40	Peak
5	5754.000	116.99	------	------	99.31	17.68	Peak
6	5853.500	68.08	114.22	-46.14	50.08	18.00	Peak
7	5925.000	54.57	68.21	-13.64	36.69	17.88	Peak
8	5932.000	56.20	68.20	-12.00	38.36	17.84	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

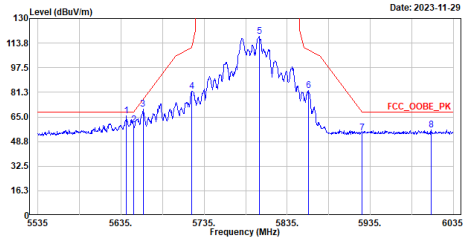
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_ax40_5755MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5636.000	66.47	68.20	-1.73	49.48	16.99	Peak
2	5650.000	67.10	68.21	-1.11	50.13	16.97	Peak
3	5650.500	68.02	68.58	-0.56	51.05	16.97	Peak
4	5711.500	96.08	108.42	-12.34	78.70	17.38	Peak
5	5771.000	119.56	------	------	101.82	17.74	Peak
6	5850.000	73.62	122.20	-48.58	55.62	18.00	Peak
7	5925.000	54.21	68.21	-14.00	36.33	17.88	Peak
8	6034.000	57.19	68.20	-11.01	39.20	17.99	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

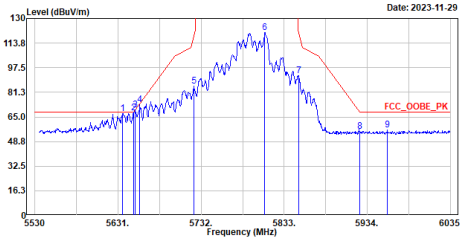
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_ax40_5795MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5641.500	65.56	68.20	-2.64	48.57	16.99	Peak
2	5650.000	59.74	68.21	-8.47	42.77	16.97	Peak
3	5661.500	70.13	76.72	-6.59	53.12	17.01	Peak
4	5720.000	82.07	110.80	-28.73	64.62	17.45	Peak
5	5801.500	118.17	------	------	100.28	17.89	Peak
6	5860.500	82.65	109.26	-26.61	64.65	18.00	Peak
7	5925.000	54.36	68.21	-13.85	36.48	17.88	Peak
8	6008.500	56.34	68.20	-11.86	38.54	17.80	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

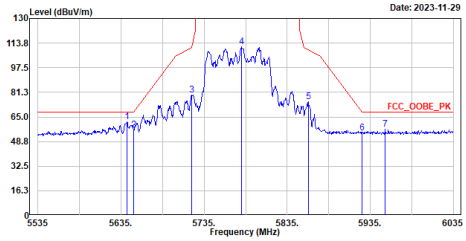
Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_ax40_5795MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5636.500	67.43	68.20	-0.77	50.44	16.99	Peak
2	5650.000	67.74	68.21	-0.47	50.77	16.97	Peak
3	5652.000	69.49	69.69	-0.20	52.51	16.98	Peak
4	5657.500	73.00	73.76	-0.76	56.00	17.00	Peak
5	5723.500	85.22	118.78	-33.56	67.75	17.47	Peak
6	5809.500	120.88	------	------	102.97	17.91	Peak
7	5850.500	92.13	121.06	-28.93	74.13	18.00	Peak
8	5925.000	55.23	68.21	-12.98	37.35	17.88	Peak
9	5958.500	56.47	68.20	-11.73	38.70	17.77	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

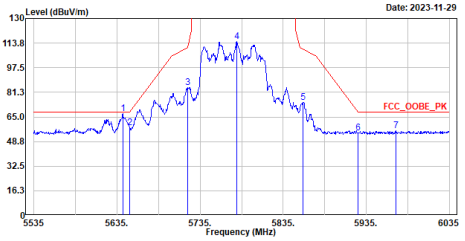
Site :HY-CB03
Condition :3m ,Horizontal
Mode :TX_ax80_5775MHz
Test BY :Peter



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5642.500	61.72	68.20	-6.48	44.73	16.99	Peak
2	5650.000	56.18	68.21	-12.03	39.21	16.97	Peak
3	5720.000	79.67	110.80	-31.13	62.22	17.45	Peak
4	5780.500	111.24	------	------	93.45	17.79	Peak
5	5860.500	74.87	109.26	-34.39	56.87	18.00	Peak
6	5925.000	54.44	68.21	-13.77	36.56	17.88	Peak
7	5953.000	56.76	68.20	-11.44	38.98	17.78	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

Site :HY-CB03
Condition :3m ,Vertical
Mode :TX_ax80_5775MHz
Test BY :Peter

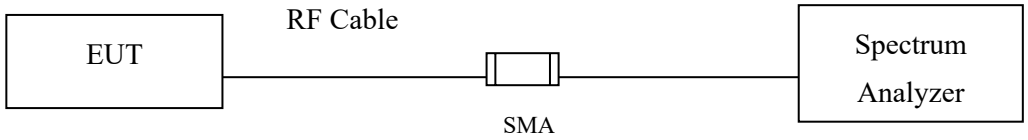


No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5642.000	67.11	68.20	-1.09	50.12	16.99	Peak
2	5650.000	58.02	68.21	-10.19	41.05	16.97	Peak
3	5720.000	84.57	110.80	-26.23	67.12	17.45	Peak
4	5779.500	114.65	------	------	96.86	17.79	Peak
5	5858.500	74.52	109.82	-35.30	56.52	18.00	Peak
6	5925.000	54.47	68.21	-13.74	36.59	17.88	Peak
7	5971.000	55.82	68.20	-12.38	38.04	17.78	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

7. Occupied Bandwidth

7.1. Test Setup



7.2. Limits

For the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

7.3. Test Procedure

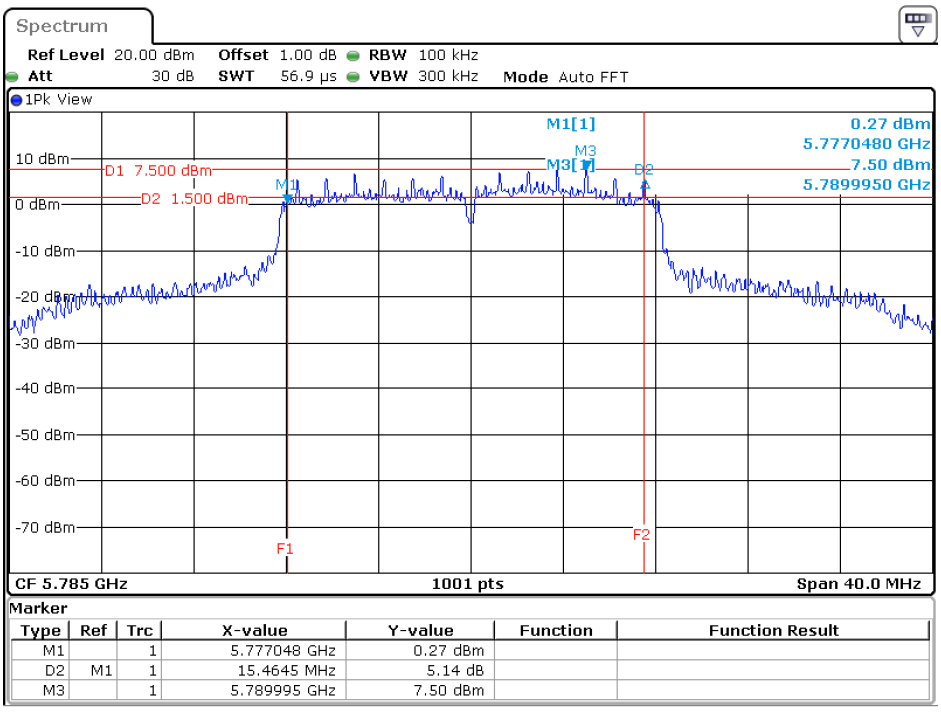
The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

7.4. Test Result of Occupied Bandwidth

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Occupied Bandwidth Data
Test Mode : Transmit (802.11a)-CDD
Test Date : 2023/12/01

Channel No.	Chain	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	A	5745	15984	>500	Pass
157	A	5785	15904	>500	Pass
165	A	5825	15984	>500	Pass
149	B	5745	16264	>500	Pass
157	B	5785	16344	>500	Pass
165	B	5825	16304	>500	Pass
149	C	5745	16024	>500	Pass
157	C	5785	15904	>500	Pass
165	C	5825	15704	>500	Pass
149	D	5745	15744	>500	Pass
157	D	5785	15465	>500	Pass
165	D	5825	15904	>500	Pass

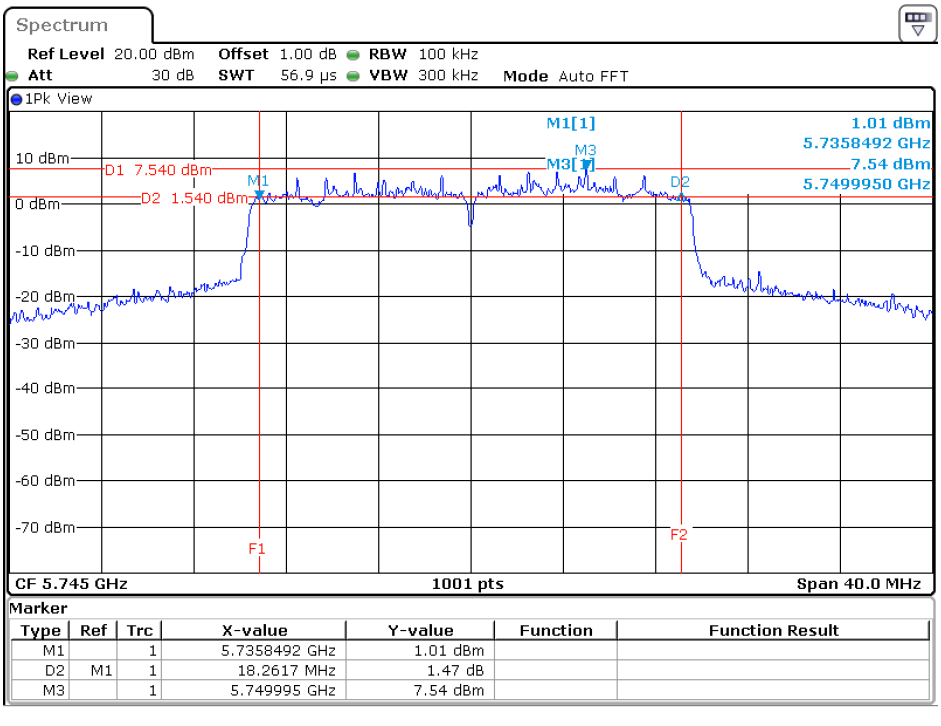
Channel 157 (Chain D)



Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Occupied Bandwidth Data
Test Mode : Transmit (802.11ax-20 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Chain	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	A	5745	18981	>500	Pass
157	A	5785	18861	>500	Pass
165	A	5825	18781	>500	Pass
149	B	5745	18981	>500	Pass
157	B	5785	18741	>500	Pass
165	B	5825	18861	>500	Pass
149	C	5745	18901	>500	Pass
157	C	5785	18861	>500	Pass
165	C	5825	18581	>500	Pass
149	D	5745	18262	>500	Pass
157	D	5785	18342	>500	Pass
165	D	5825	18342	>500	Pass

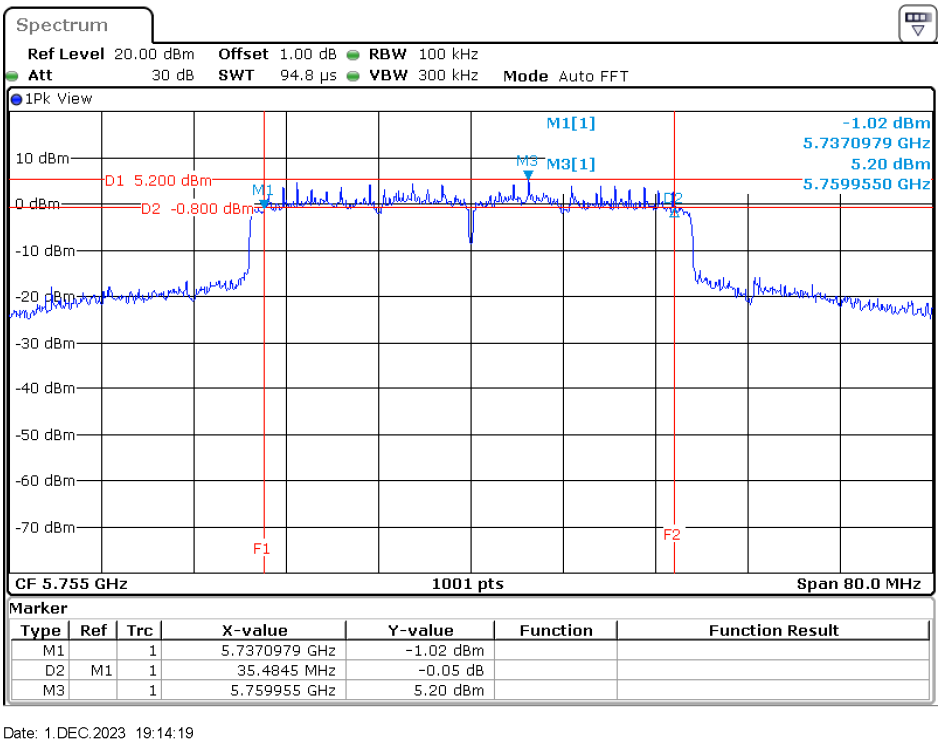
Channel 149 (Chain D)



Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Occupied Bandwidth Data
Test Mode : Transmit (802.11ax-40 MHz)-CDD
Test Date : 2023/12/01

Channel No.	Chain	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	A	5755	38042	>500	Pass
159	A	5795	37642	>500	Pass
151	B	5755	35485	>500	Pass
159	B	5795	35884	>500	Pass
151	C	5755	38202	>500	Pass
159	C	5795	37243	>500	Pass
151	D	5755	36444	>500	Pass
159	D	5795	37882	>500	Pass

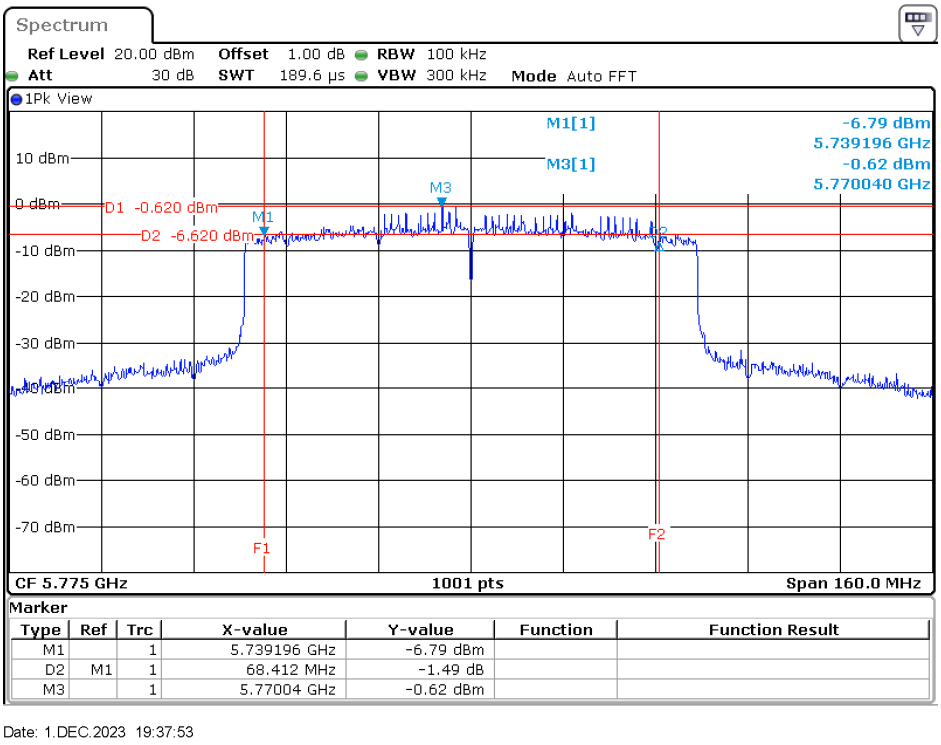
Channel 151 (Chain B)



Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Occupied Bandwidth Data
Test Mode : Transmit (802.11ax-80 MHz)-CDD
Test Date : 2023/12/01

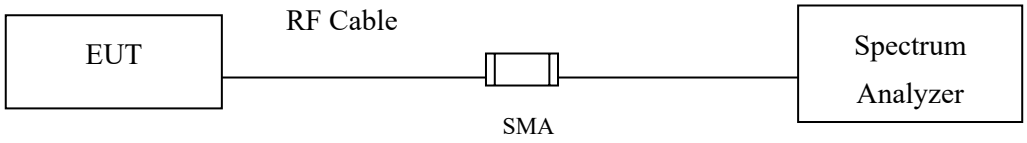
Channel No.	Chain	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	A	5775	68412	>500	Pass
155	B	5775	76723	>500	Pass
155	C	5775	75924	>500	Pass
155	D	5775	70330	>500	Pass

Channel 155 (Chain A)



8. Duty Cycle

8.1. Test Setup



8.2. Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to U-NII test procedure of KDB789033 for compliance to FCC 47CFR 15.407 requirements.

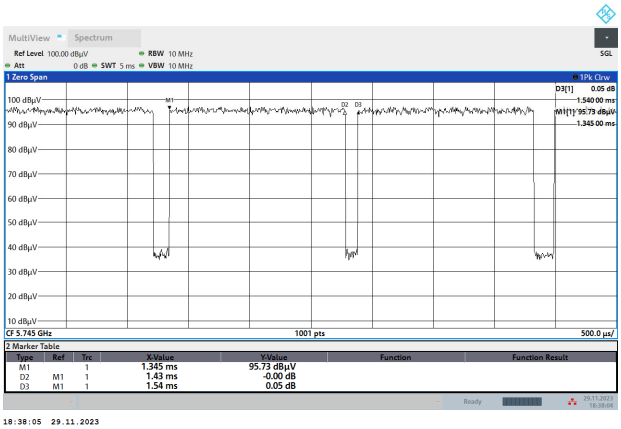
8.3. Test Result of Duty Cycle

Product : 3-Radio Omni-Directional Indoor Wi-Fi 6E Access Point
Test Item : Duty Cycle
Test Mode : Transmit

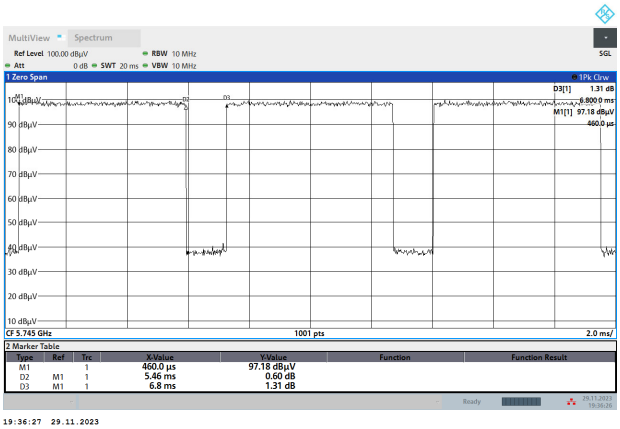
Duty Cycle Formula:
Duty Cycle = Ton / (Ton + Toff)
Duty Factor = 10 Log (1/Duty Cycle)
Results:

5 GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	1.4300	1.5400	92.86	0.32
802.11ax-20 MHz	5.4600	6.8000	80.29	0.95
802.11ax-40 MHz	5.4200	6.8000	79.71	0.99
802.11ax-80 MHz	5.4400	6.8000	80.00	0.97

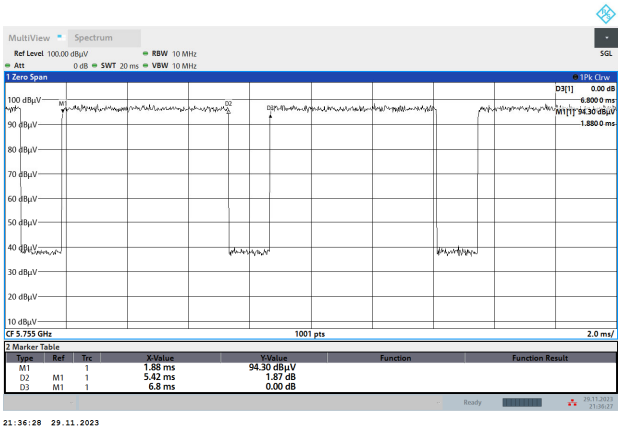
802.11b



802.11ax-20 MHz



802.11ax-40 MHz



802.11ax-80 MHz