TEST REPORT

Applicant Name :	Premier Logitech, LLC
Address :	511 S. Royal Lane Coppell TX 75019 United States
Report Number :	2401X96326E-RF-00B
FCC ID:	2BKIJMQ20

Test Standard (s)

FCC PART 15.407

Sample Description

Product Type:	Motorola MQ20 WIFI 6E TRI-BAND MESH ROUTER
Model No.:	MQ20
Multiple Model(s) No.:	N/A
Trade Mark:	Premier Logitech
Date Received:	2024-09-23
Issue Date:	2025-05-27

Test Result:	Pass▲

▲ In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Ekko Wu
RF Engineer

Approved By:

Nancy Wang
RF Supervisor

Note: The information marked# is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "▼".

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2401X96326E-RF-00B	Original Report	2025-05-27

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Motorola MQ20 WIFI 6E TRI-BAND MESH ROUTER
Tested Model	MQ20
Multiple Models	N/A
Frequency Range	U-NII 5: 5925-6425 MHz, U-NII 6: 6425-6525 MHz U-NII 7: 6525-6875 MHz, U-NII 8: 6875-7125 MHz
Equipment Classes	Low-power indoor Access Points (6ID)
Mode	802.11ax20/ax40/ax80/ax160
Maximum Conducted Average Output Power	U-NII 5: 16.17dBm, U-NII 6: 16.57dBm, U-NII 7: 16.68dBm, U-NII 8: 15.46dBm
Maximum EIRP	U-NII 5: 23.55dBm, U-NII 6: 23.36dBm, U-NII 7: 24.36dBm, U-NII 8: 23.70dBm
Modulation Technique	OFDMA
Antenna Specification#	U-NII 5: ANT0: 4.08dBi, ANT1: 4.77dBi, ANT2: 3.76dBi, ANT3: 3.54dBi Directional Gain: 7.38dBi U-NII 6: ANT0: 4.31dBi, ANT1: 2.75dBi, ANT2: 2.68dBi, ANT3: 2.06dBi Directional Gain: 6.79dBi U-NII 7: ANT0: 4.44dBi, ANT1: 4.41dBi, ANT2: 3.30dBi, ANT3: 2.89dBi Directional Gain: 7.68dBi U-NII 8: ANT0: 5.91dBi, ANT1: 5.31dBi, ANT2: 4.84dBi, ANT3: 3.91dBi Directional Gain: 8.24dBi (It is provided by the applicant)
Voltage Range	DC 12V from adapter
Sample serial number	2S0O-2 for Conducted and Radiated Emissions Test 2S0O-6 for RF Conducted Test (Assigned by BACL, Shenzhen)
Sample/EUT Status	Good condition
Adapter Information	Adapter 1 Manufacture: Chenzhou Frecom Electronics Co., Ltd. Model: F36L7-120300SPAU Input: AC 100-240V, 50/60Hz, 0.9A. Output: DC 12.0V, 3.0A 36.0W Adapter 2 Manufacture: FLYPOWER Model: PS36LA120K3000UD Input: AC 100-240V, 50/60Hz, 1.0A Max. Output: DC 12.0V, 3.0A 36.0W
Note: 1. The EUT charged by two adapters, the worst case Adapter 2 was selected to test for AC line conducted and radiated emission below 1GHz according to 2.4G Wi-Fi report test result. 2. The directional gain is the test value provided by the applicant.	

Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts E of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And

KDB789033 D02 General U-NII Test Procedures New Rules v02r01,
KDB 987594 D01 U-NII 6GHz General Requirements v03,
KDB 987594 D02 U-NII 6 GHZ EMC Measurement v03,
KDB 662911 D01 Multiple Transmitter Output v02r01 and ANS C63.10-2013.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		109.2kHz(k=2, 95% level of confidence)
RF output power, conducted		0.86dB(k=2, 95% level of confidence)
Power Spectral Density		0.90dB(k=2, 95% level of confidence)
Unwanted Emission, conducted		1.60dB(k=2, 95% level of confidence)
AC Power Lines Conducted Emissions	9kHz-150kHz	3.63dB(k=2, 95% level of confidence)
	150kHz-30MHz	3.66dB(k=2, 95% level of confidence)
Radiated Emissions	9kHz - 30MHz	3.60dB(k=2, 95% level of confidence)
	30MHz~200MHz (Horizontal)	5.32dB(k=2, 95% level of confidence)
	30MHz~200MHz (Vertical)	5.43dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Horizontal)	5.77dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Vertical)	5.73dB(k=2, 95% level of confidence)
	1GHz - 6GHz	5.34dB(k=2, 95% level of confidence)
	6GHz - 18GHz	5.40dB(k=2, 95% level of confidence)
	18GHz - 40GHz	5.64dB(k=2, 95% level of confidence)
Temperature		±1℃
Humidity		±1%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 715558, the FCC Designation No. : CN5045.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode, which was provided by manufacturer.

For 5925-7125 MHz Band, 94 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
33	6115	73	6315	113	6515	153	6715	195	6925
35	6125	75	6325	115	6525	155	6725	197	6935
37	6135	77	6335	117	6535	157	6735	199	6945
39	6145	79	6345	119	6545	161	6755	201	6955
41	6155	81	6355	121	6555	163	6765	203	6965
43	6165	83	6365	123	6565	165	6775	205	6975
45	6175	85	6375	125	6575	167	6785	207	6985
47	6185	87	6385	129	6595	169	6795	209	6995
49	6195	89	6395	131	6605	171	6805	211	7005
51	6205	91	6405	133	6615	173	6815	213	7015
53	6215	93	6415	135	6625	175	6825	215	7025
55	6225	97	6435	137	6635	177	6835	217	7035
57	6235	99	6445	139	6645	179	6845	219	7045
59	6245	101	6455	141	6655	181	6855	221	7055
61	6255	103	6465	143	6665	183	6865	225	7075
65	6275	105	6475	145	6675	185	6875	227	7085
67	6285	107	6485	147	6685	187	6885	229	7095
69	6295	109	6495	149	6695	189	6895	233	7115
71	6305	111	6505	151	6705	193	6915	/	/

Tested Channels:

CH. #	U-NII 5	U-NII 6	U-NII 7	U-NII 8
	802.11ax20	802.11ax20	802.11ax20	802.11ax20
Low	33	97	117	189
Middle	45	105	149	209
High	93	113	181	233
Straddle	-	-	-	185

CH. #	U-NII 5	U-NII 6	U-NII 7	U-NII 8
	802.11 ax40	802.11 ax40	802.11 ax40	802.11 ax40
Low	35	99	123	195
Middle	43	-	147	203
High	91	107	179	227
Straddle	-	115	-	187

CH. #	U-NII 5	U-NII 6	U-NII 7	U-NII 8
	802.11 ax80	802.11 ax80	802.11 ax80	802.11 ax80
Low	39	-	135	199
Middle	-	103	151	-
High	87	-	167	215
Straddle	-	119	183	-

CH. #	U-NII 5	U-NII 6	U-NII 7	U-NII 8
	802.11 ax160	802.11 ax160	802.11 ax160	802.11 ax160
Low	47	-	-	-
Middle	-	-	143	207
High	79	-	-	-
Straddle	-	111	175	-

EUT Exercise Software

"Authentication tool.exe v2.0.5.0"[#] software was used and power level as below. The software and power level was provided by the applicant. The device was tested with the worst case was performed as below:

U-NII	Mode	Data rate	Antenna	Power Level[#]			
				Low Channel	Middle Channel	High Channel	Straddle Channel
U-NII-5	802.11ax-HE20	MCS0	ANT0/1/2/3	5	5	4	/
	802.11ax-HE40	MCS0	ANT0/1/2/3	8	8	8	/
	802.11ax-HE80	MCS0	ANT0/1/2/3	11	/	10.5	/
	802.11ax-HE160	MCS0	ANT0/1/2/3	12	/	13	/
U-NII-6	802.11ax-HE20	MCS0	ANT0/1/2/3	4	6	6	/
	802.11ax-HE40	MCS0	ANT0/1/2/3	8.5	/	8.5	8.5
	802.11ax-HE80	MCS0	ANT0/1/2/3	/	10	/	12
	802.11ax-HE160	MCS0	ANT0/1/2/3	/	/	/	14
U-NII-7	802.11ax-HE20	MCS0	ANT0/1/2/3	5	4.5	5	/
	802.11ax-HE40	MCS0	ANT0/1/2/3	8	8	8	/
	802.11ax-HE80	MCS0	ANT0/1/2/3	11	11	11	11
	802.11ax-HE160	MCS0	ANT0/1/2/3	/	14	/	13
U-NII-8	802.11ax-HE20	MCS0	ANT0/1/2/3	5	5	3	4.5
	802.11ax-HE40	MCS0	ANT0/1/2/3	8	8	8	7.5
	802.11ax-HE80	MCS0	ANT0/1/2/3	12	/	9	/
	802.11ax-HE160	MCS0	ANT0/1/2/3	/	13	/	/

Note:
1. The worst-case data rates are determined to be as follows for each mode based upon inverstigation by measuring the average power and PSD across all data rates bandwidths, and modulations.
2. For 802.11ax mode, the device support SISO and MIMO, the MIMO mode support beamforming, the SISO/MIMO and beamforming/nonbeamforming modes have same parameter, which was declared by applicant. The MIMO/beamforming was the worst mode which was selected to test.
3. For 802.11ax modes, the device not support partial RU mode.

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

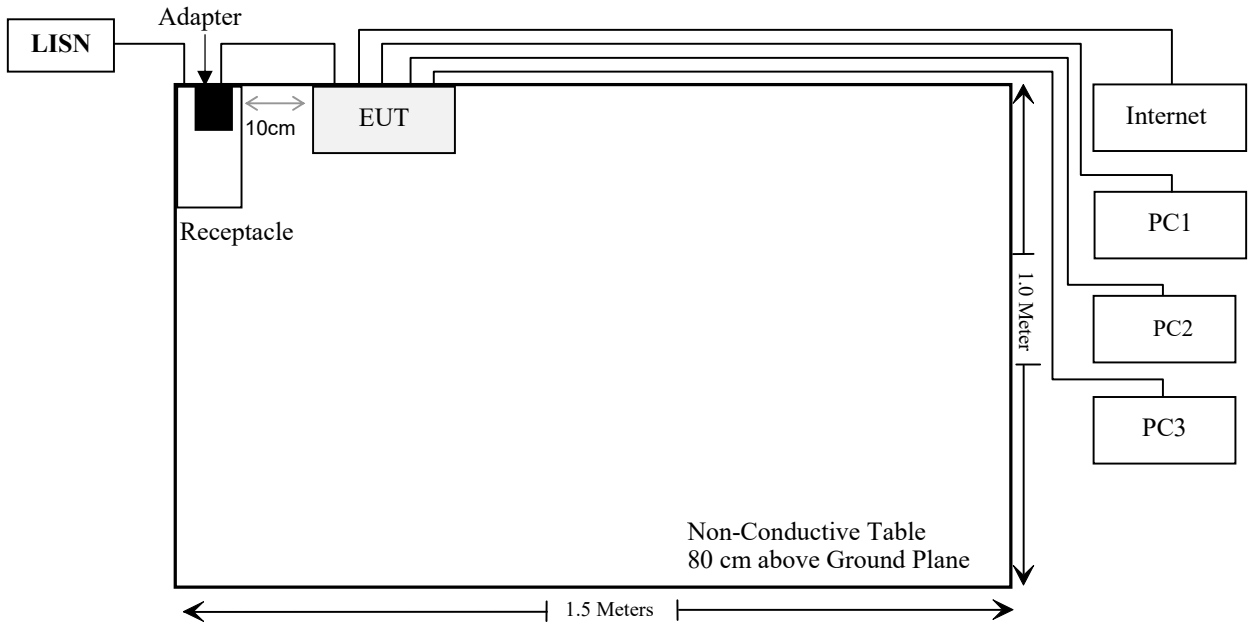
Manufacturer	Description	Model	Serial Number
DELL	PC1	Latitude E6520	DL0ZCS1
DELL	PC2	Latitude E5430	JG3NLV1
DELL	PC3	Latitude E5570	GNDLKC2

External I/O Cable

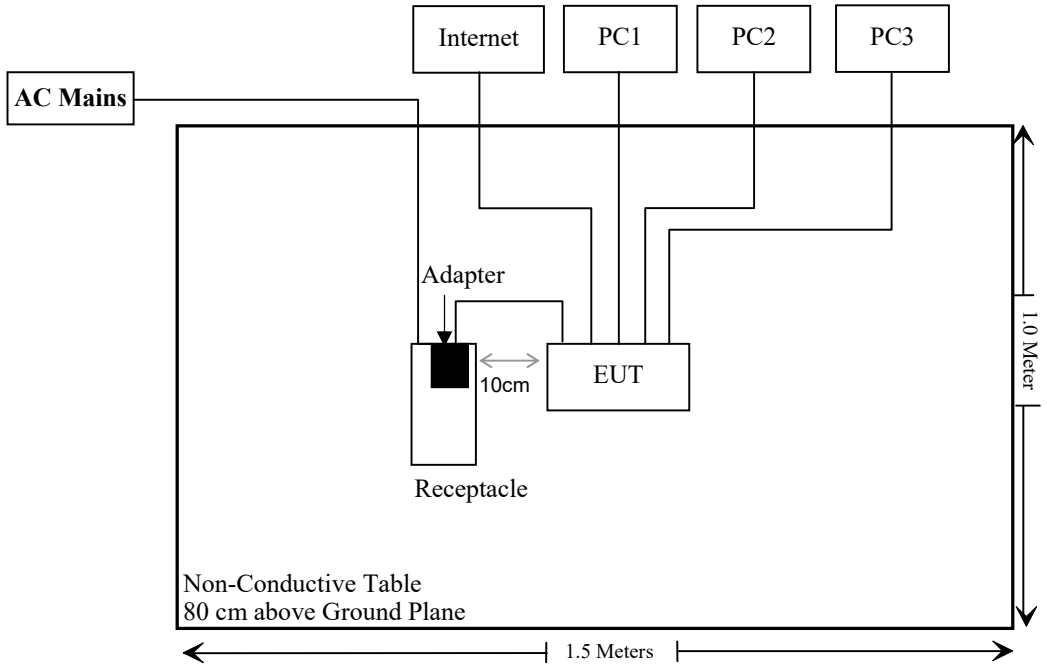
Cable Description	Length (m)	From Port	To
Unshielded Un-detachable AC cable	1.5	Receptacle	LISN/AC Mains
Unshielded Un-detachable DC cable	1.5	Adapter	EUT
Unshielded detachable RJ45 cable*3	5.0	EUT	PC
Unshielded detachable RJ45 cable	8.0	EUT	Internet

Block Diagram of Test Setup

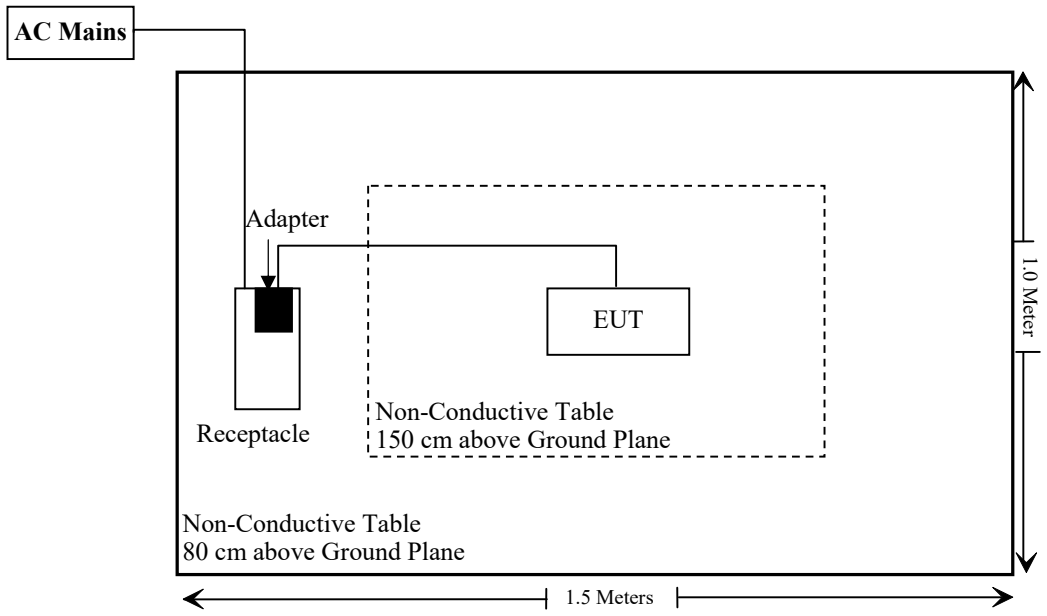
For Conducted Emissions:



For Radiated Emissions below 1GHz:



For Radiated Emissions above 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.407(b)(9)& §15.207(a)	Conducted Emissions	Compliant
§15.205& §15.209 &§15.407(b)	Undesirable Emission& Restricted Bands	Compliant
§15.407(a) (11)	26 dB Emission Bandwidth & 99% Occupied bandwidth	Compliant
§15.407(a) (5)	Conducted Transmitter Output Power	Compliant
§15.407(a) (5)	Power Spectral Density	Compliant
§15.407 (b) (7)	In-Band Emissions	Compliant
§15.407 (d) (6)	Contention Based Protocol	Compliant
C63.10 §11.6	Duty Cycle	/

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2024/12/04	2025/12/03
Rohde & Schwarz	LISN	ENV216	101613	2024/12/04	2025/12/03
Rohde & Schwarz	Transient Limiter	ESH3Z2	DE25985	2024/05/21	2025/05/20
Unknown	CE Cable	Unknown	UF A210B-1-0720-504504	2024/05/21	2025/05/20
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
Radiated Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/12/04	2025/12/03
Sonoma instrument	Pre-amplifier	310 N	186238	2024/05/21	2025/05/20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
Unknown	Cable	Chamber A Cable 1	N/A	2024/06/18	2025/06/17
Unknown	Cable	XH500C	J-10M-A	2024/06/18	2025/06/17
BACL	Active Loop Antenna	1313-1A	4031911	2024/05/14	2027/05/13
Unknown	Cable	2Y194	0735	2024/12/04	2025/12/03
Unknown	Cable	PNG214	1354	2024/12/04	2025/12/03
Audix	EMI Test software	E3	19821b(V9)	NCR	NCR
Rohde & Schwarz	Spectrum Analyzer	FSV40	101605	2024/03/27	2025/03/26
A.H.System	Preamplifier	PAM-0118P	489	2024/11/15	2025/11/14
Schwarzbeck	Horn Antenna	BBHA9120D(1201)	1143	2023/07/26	2026/07/25
Unknown	RF Cable	KMSE	735	2024/12/06	2025/12/05
Unknown	RF Cable	UFA147	219661	2024/12/06	2025/12/05
Unknown	RF Cable	XH750A-N	J-10M	2024/12/06	2025/12/05
JD	Filter Switch Unit	DT7220FSU	DS79906	2024/09/09	2025/09/08
JD	Multiplex Switch Test Control Set	DT7220SCU	DS79903	2024/09/09	2025/09/08
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
A.H.System	Pre-amplifier	PAM-1840VH	190	2024/06/18	2025/06/17
Electro-Mechanics Co	Horn Antenna	3116	9510-2270	2023/09/18	2026/09/17
UTIFLEX	RF Cable	NO. 13	232308-001	2024/12/18	2025/12/17

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
ANRITSU	Microwave peak power sensor	MA24418A	12622	2024/05/21	2025/05/20
Rohde & Schwarz	Spectrum Analyzer	FSV40	101942	2024/09/20	2025/09/19
Unknown	10dB Attenuator	Unknown	F-03-EM190	2024/06/27	2025/06/26
Rohde & Schwarz	Spectrum Analyzer	FSV40	101473	2024/12/04	2025/12/03
Keysight	MXG Vector Signal Generator	N5182B	MY53051503	2024/12/04	2025/12/03
Keysight	Frequency Extender	N5182BX07	MY59362537	2024/05/21	2025/05/20
HP	Power Splitter	11667A	1610A	2024/06/27	2025/06/26
WEINSCHEL	3dB Attenuator	Unknown	F-03-EM220	2024/06/27	2025/06/26
Unknown	RF Cable	65475	01670515	2024/06/27	2025/06/26

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Result

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

For worst case:

Mode	Frequency (MHz)	Antenna Gain#		Max Tune-up Power#		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
BLE	2402-2480	4.10	2.57	12.0	15.85	30	0.0036	1.0
2.4G Wi-Fi	2412-2462	7.78	6.00	29.0	794.33	30	0.4214	1.0
5G Wi-Fi	5150-5250	6.04	4.02	28.5	707.95	30	0.2516	1.0
	5250-5350	6.55	4.52	23.5	223.87	30	0.0895	1.0
	5470-5725	5.74	3.75	24.0	251.19	30	0.0833	1.0
	5725-5850	5.36	3.44	27.5	562.34	30	0.1710	1.0
6G Wi-Fi	5925-6425	7.38	5.47	16.5	44.67	30	0.0216	1.0
	6425-6525	6.79	4.78	17.0	50.12	30	0.0212	1.0
	6525-6875	7.68	5.86	17.0	50.12	30	0.0260	1.0
	6875-7125	8.24	6.67	16.0	39.81	30	0.0235	1.0

Note:
1) The tune up conducted power and antenna gain was declared by the applicant.
2) For the Wi-Fi mode, the antenna gain should be the directional gain.
3) The BLE, 2.4G Wi-Fi, 5G Wi-Fi and 6G Wi-Fi can simultaneous transmitting.

Simultaneous transmitting consideration (worst case):

The ratio=MPE_{BLE}/limit+ $MPE_{2.4G\ Wi\text{-}Fi}$/limit+$MPE_{5G\ Wi\text{-}Fi}$/limit +$MPE_{6G\ Wi\text{-}Fi}$/limit

= 0.0036/1.0+0.4214/1.0+0.2516/1.0+0.0260/1.0 =0.703<1.0

So simultaneous exposure is compliant.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 30cm from nearby persons.

Result: Compliant.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.407 (a), if the transmitting antennas of directional gain greater than 6dBi are used, the transmit power and power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has four internal antennas arrangement, which were permanently attached, fulfill the requirement of this section. Please refer to the EUT photos.

ANT	Type	Antenna Gain#	Impedance	Frequency Range
ANT0	PCB	4.08dBi	50Ω	5925-6425MHz
ANT1		4.77dBi		
ANT2		3.76dBi		
ANT3		3.54dBi		
ANT0	PCB	4.31dBi	50Ω	6425-6525MHz
ANT1		2.75dBi		
ANT2		2.68dBi		
ANT3		2.06dBi		
ANT0	PCB	4.44dBi	50Ω	6525-6875MHz
ANT1		4.41dBi		
ANT2		3.30dBi		
ANT3		2.89dBi		
ANT0	PCB	5.91dBi	50Ω	6875-7125MHz
ANT1		5.31dBi		
ANT2		4.84dBi		
ANT3		3.91dBi		

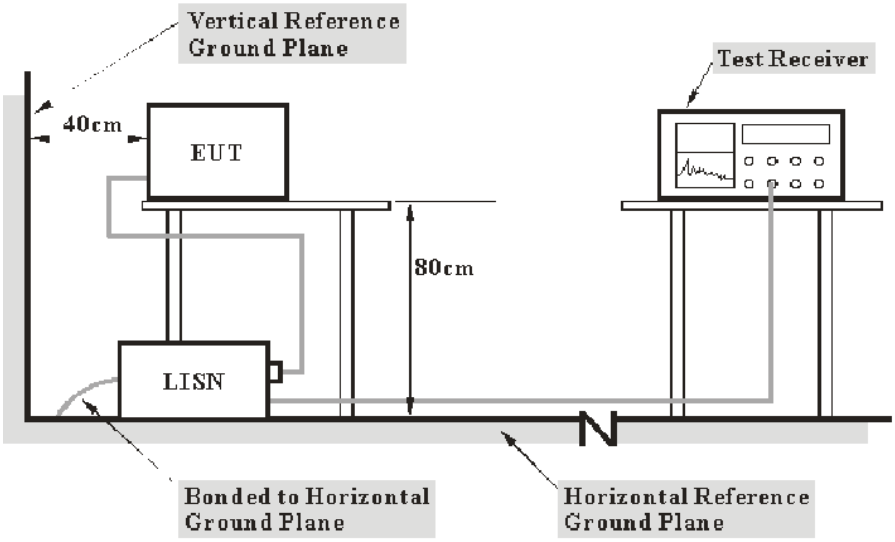
Result: Compliant.

FCC §15.407 (b) (9) §15.207 (a) – CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207, §15.407(b) (9)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and Average detection mode.

Transd Factor & Margin Calculation

The factor is calculated by adding LISN VDF (Voltage Division Factor) and Cable Loss. The basic equation is as follows:

Factor = LISN VDF + Cable Loss

The "**Over limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

Over Limit = Level – Limit
Level = Read Level + Factor

Note: The term "cable loss" refers to the combination of a cable and a 10dB transient limiter (attenuator).

Test Data

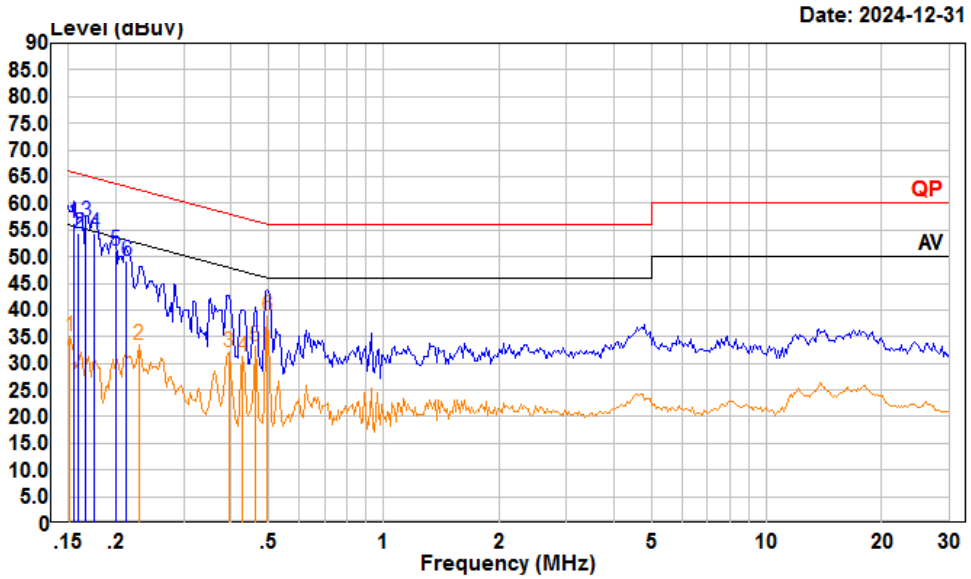
Environmental Conditions

Temperature:	26 ℃
Relative Humidity:	46 %
ATM Pressure:	101 kPa

The testing was performed by Macy Shi on 2024-12-31.

EUT operation mode: Transmitting (Maximum Output Power Mode, 802.11ax160 6665MHz)

AC 120V/60 Hz, Line



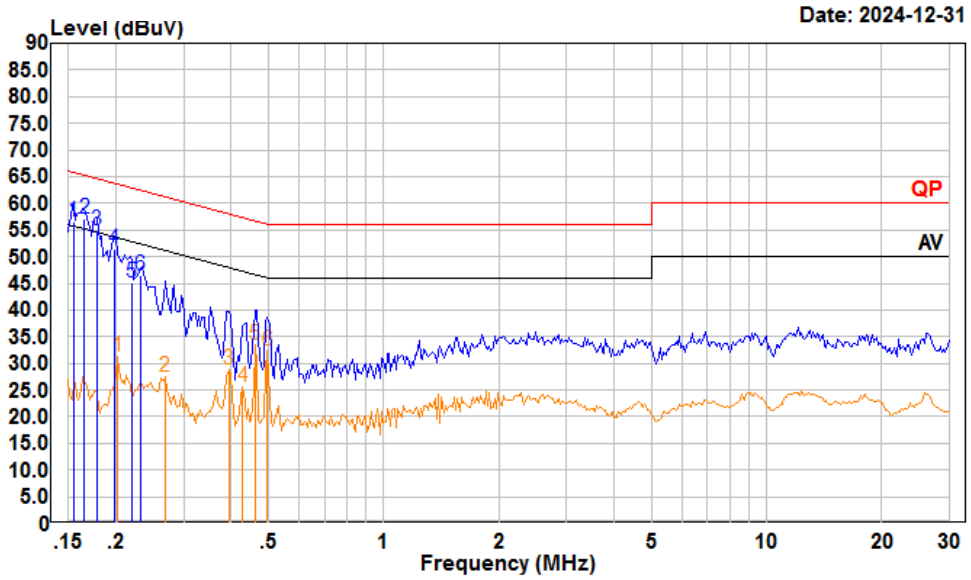
Trace: 1

Condition: Line
Project : 2401X96326E-RF
tester : Macy.shi Note:Transmitting
Setting : RBW:9kHz VBW:Auto SWT:Auto

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.155	35.39	56.40	10.89	10.12	65.74	-9.34	QP
2	0.160	33.47	54.47	10.88	10.12	65.47	-11.00	QP
3	0.167	35.67	56.63	10.86	10.10	65.12	-8.49	QP
4	0.176	33.35	54.29	10.84	10.10	64.68	-10.39	QP
5	0.200	30.20	51.09	10.80	10.09	63.62	-12.53	QP
6	0.213	28.34	49.21	10.78	10.09	63.10	-13.89	QP

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.152	14.14	35.17	10.90	10.13	55.91	-20.74	Average
2	0.229	12.63	33.47	10.76	10.08	52.48	-19.01	Average
3	0.393	11.47	32.15	10.58	10.10	47.99	-15.84	Average
4	0.428	10.62	31.28	10.55	10.11	47.29	-16.01	Average
5	0.461	12.66	33.31	10.53	10.12	46.67	-13.36	Average
6	0.497	18.25	38.89	10.50	10.14	46.05	-7.16	Average

AC 120V/60 Hz, Neutral



Trace: 1

Condition: Neutral
Project : 2401X96326E-RF
tester : Macy.shi Note:Transmitting
Setting : RBW:9kHz VBW:Auto SWT:Auto

	Freq	Read Level	LISN Level	Cable Factor	Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.155	35.90	56.60	10.58	10.12	65.74	-9.14	QP
2	0.165	36.50	57.14	10.53	10.11	65.21	-8.07	QP
3	0.178	34.30	54.88	10.48	10.10	64.59	-9.71	QP
4	0.198	31.00	51.50	10.41	10.09	63.71	-12.21	QP
5	0.220	24.60	45.12	10.43	10.09	62.83	-17.71	QP
6	0.232	26.10	46.63	10.45	10.08	62.39	-15.76	QP

	Freq	Read Level	LISN Level	Cable Factor	Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.202	10.72	31.21	10.40	10.09	53.54	-22.33	Average
2	0.269	6.97	27.56	10.50	10.09	51.16	-23.60	Average
3	0.393	8.18	28.90	10.62	10.10	47.99	-19.09	Average
4	0.428	4.78	25.54	10.65	10.11	47.29	-21.75	Average
5	0.461	12.60	33.39	10.67	10.12	46.67	-13.28	Average
6	0.497	11.41	32.25	10.70	10.14	46.05	-13.80	Average

§15.205 & §15.209 & §15.407(B)– UNDESIRABLE EMISSION

Applicable Standard

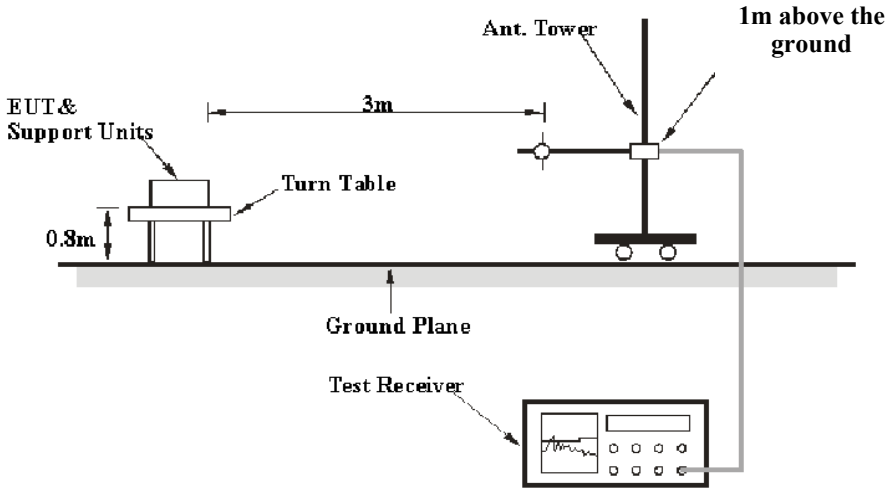
FCC §15.407 (b); §15.209; §15.205;

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(6) 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.

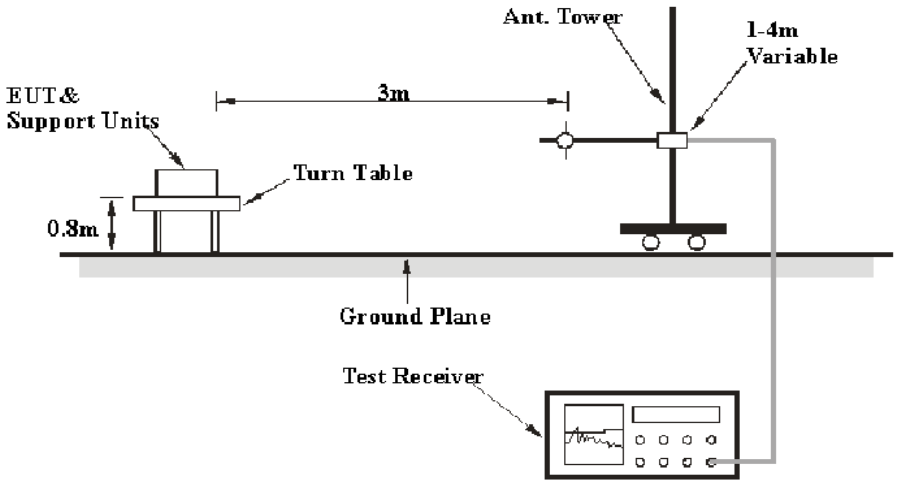
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

EUT Setup

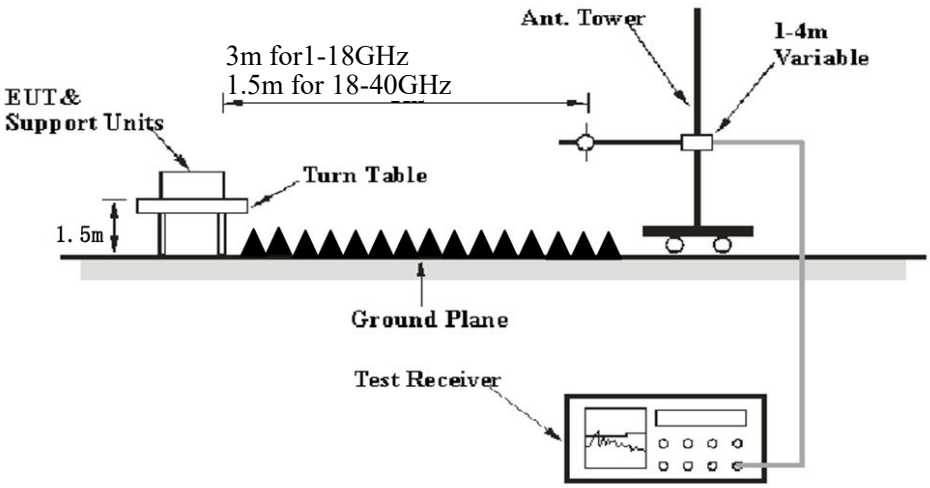
9 kHz-30MHz:



Below 1 GHz:



Above 1 GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.209 and FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9 kHz-1GHz:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	/	/	200 Hz	QP
	300 Hz	1 kHz	/	PK
150 kHz – 30 MHz	/	/	9 kHz	QP
	10 kHz	30 kHz	/	PK
30 MHz – 1000 MHz	/	/	120 kHz	QP
	100 kHz	300 kHz	/	PK

1-40GHz:

Pre-scan

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	5 kHz
	<98%	1MHz	≥1/Ton

Final measurement for emission identified during pre-scan

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	≥1/Ton

Note: Ton is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

Radiated Spurious Emission

During the radiated emission test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all the installation combinations.

All final data was recorded in Quasi-peak detection mode except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz, average detection modes for frequency bands 9–90 kHz and 110–490 kHz, peak and average detection modes for frequencies above 1 GHz.

For 9 kHz-30MHz, the report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground-parallel) unless the margin is greater than 20 dB.

All emissions under the average limit and under the noise floor have not recorded in the report.

According to ANSI C63.10-2013,9.4: For field strength measurements made at other than the distance at which the applicable limit is specified, extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance). In some cases, a different distance correction factor may be required;

$$E_{\mathrm{SpecLimit}} = E_{\mathrm{Meas}} + 20\log\left(\frac{d_{\mathrm{Meas}}}{d_{\mathrm{SpecLimit}}}\right)$$

where

$E_{\mathrm{SpecLimit}}$ is the field strength of the emission at the distance specified by the limit, in dBμV/m
E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m
d_{Meas} is the measurement distance, in m
$d_{\mathrm{SpecLimit}}$ is the distance specified by the limit, in m

So the extrapolation factor of 1m is 20*log(1.5/3)= -6.0dB, for 18-40GHz range, the limit of 1.5m distance was added by 6.0dB from limit of 3m to compared with the result measurement at 1.5m distance.

Factor & Margin Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

Factor = Antenna Factor + Cable Loss - Amplifier Gain

The "**Over Limit/Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit/margin of -7dB means the emission is 7dB below the limit. The equation for calculation is as follows:

Over Limit = Level – Limit; Margin = Limit–Corrected Amplitude
Level / Corrected Amplitude = Read Level + Factor

Test Data

Environmental Conditions

Temperature:	22.8~25.5 ℃
Relative Humidity:	44~59 %
ATM Pressure:	101~101.3 kPa

The testing was performed by Anson Su on 2024-12-21 for below 1GHz and Wing K Ji from 2025-02-18 to 2025-02-19 for above 1GHz.

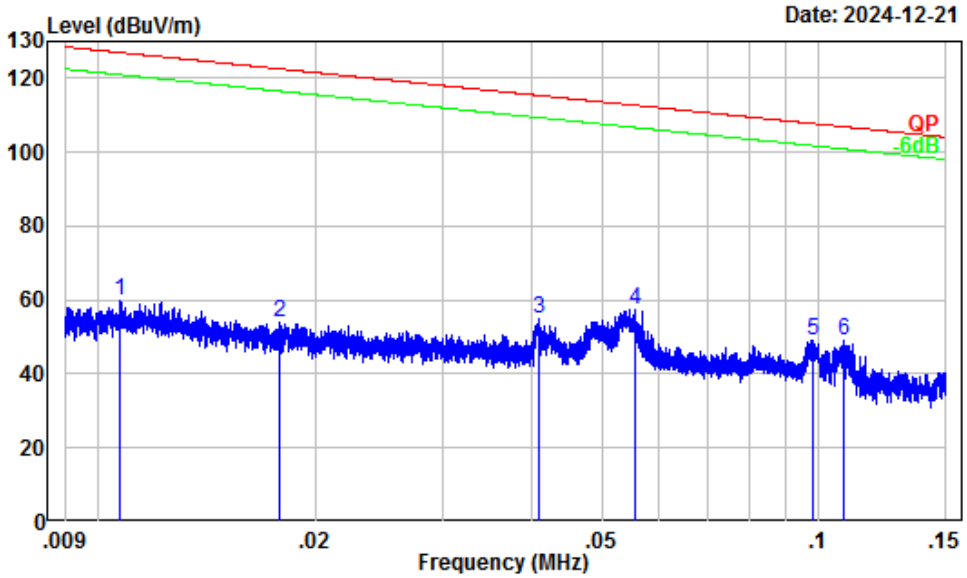
EUT operation mode: Transmitting

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.

9 kHz-30MHz: *(Maximum Output Power Mode, 802.11ax160 6665MHz)*

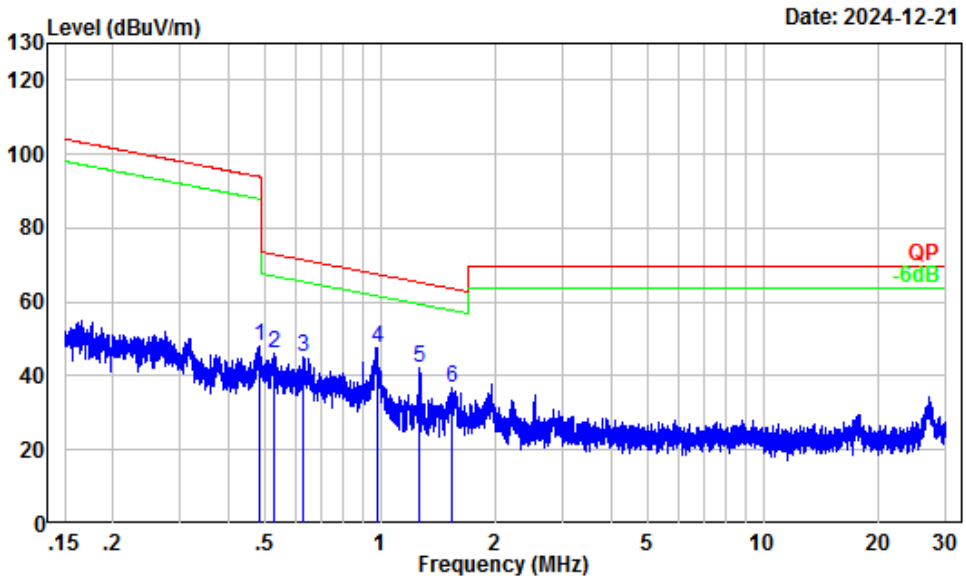
Note: When the test result of peak was less than the limit of QP/Average more than 6dB, just peak value were recorded.

Parallel (worst case)



Site : Chamber A
Condition : 3m
Project Number: 2401X96326E-RF
Test Mode : 6E WIFI Transmitting
Setting PK RBW: 0.3KHz VBW:1KHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.01	32.16	27.45	59.61	126.99	-67.38	Peak
2	0.02	30.81	23.27	54.08	122.58	-68.50	Peak
3	0.04	27.36	27.46	54.82	115.37	-60.55	Peak
4	0.06	25.83	31.50	57.33	112.69	-55.36	Peak
5	0.10	22.13	26.97	49.10	107.77	-58.67	Peak
6	0.11	21.51	27.34	48.85	106.91	-58.06	Peak

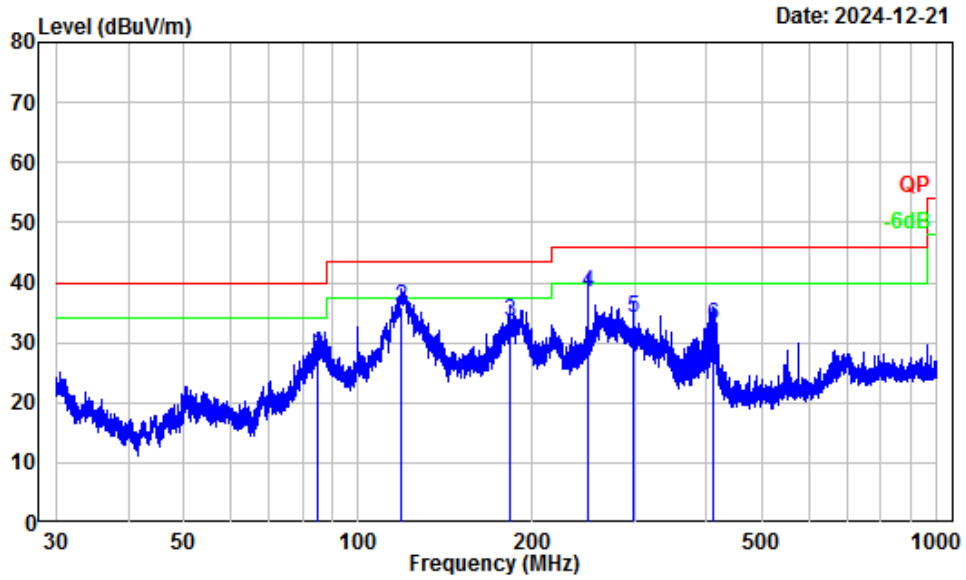


Site : Chamber A
Condition : 3m
Project Number: 2401X96326E-RF
Test Mode : 6E WIFI Transmitting
Setting PK RBW: 10KHz VBW:30KHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.48	6.74	41.29	48.03	93.94	-45.91	Peak
2	0.53	6.05	40.29	46.34	73.13	-26.79	Peak
3	0.63	4.81	40.16	44.97	71.58	-26.61	Peak
4	0.98	1.36	46.29	47.65	67.66	-20.01	Peak
5	1.26	0.46	41.85	42.31	65.40	-23.09	Peak
6	1.53	-0.29	36.90	36.61	63.69	-27.08	Peak

30 MHz–1 GHz: *(Maximum Output Power Mode, 802.11ax160 6665MHz)*

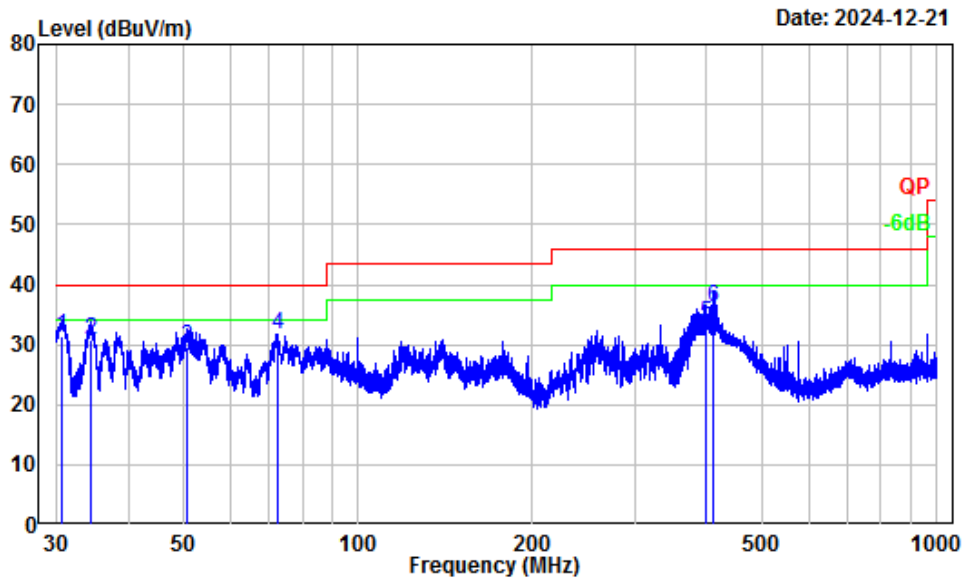
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401X96326E-RF
Test Mode : 6E WIFI Transmitting
Setting QP RBW: 120kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	84.96	-18.09	46.30	28.21	40.00	-11.79	QP
2	118.97	-11.56	47.45	35.89	43.50	-7.61	QP
3	182.64	-13.87	47.29	33.42	43.50	-10.08	QP
4	249.97	-13.09	51.34	38.25	46.00	-7.75	QP
5	299.45	-11.20	45.20	34.00	46.00	-12.00	QP
6	409.66	-8.19	41.12	32.93	46.00	-13.07	QP

Vertical



Site : Chamber A
Condition : 3m Vertical
Project Number: 2401X96326E-RF
Test Mode : 6E WIFI Transmitting
Setting QP RBW: 120kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	30.83	-6.38	37.70	31.32	40.00	-8.68	QP
2	34.40	-8.52	39.20	30.68	40.00	-9.32	QP
3	50.72	-18.05	47.49	29.44	40.00	-10.56	QP
4	72.50	-17.85	49.55	31.70	40.00	-8.30	Peak
5	400.08	-8.41	41.93	33.52	46.00	-12.48	QP
6	411.28	-8.13	44.36	36.23	46.00	-9.77	QP

Above 1GHz:

Wi-Fi 6E_ U-NII 5:

Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax20							
6115MHz							
5850	66.86	PK	H	-4.68	62.18	88.2	-26.02
5850	67.14	PK	V	-4.68	62.46	88.2	-25.74
5925	66.72	PK	H	-4.45	62.27	88.2	-25.93
5925	66.69	PK	V	-4.45	62.24	88.2	-25.96
12230.000	50.48	PK	H	4.72	55.20	74.00	-18.80
12230.000	39.84	AV	H	4.72	44.56	54.00	-9.44
12230.000	50.23	PK	V	4.72	54.95	74.00	-19.05
12230.000	39.34	AV	V	4.72	44.06	54.00	-9.94
6175MHz							
12350.000	51.84	PK	H	4.19	56.03	74.00	-17.97
12350.000	40.20	AV	H	4.19	44.39	54.00	-9.61
12350.000	50.87	PK	V	4.19	55.06	74.00	-18.94
12350.000	39.87	AV	V	4.19	44.06	54.00	-9.94
6415MHz							
12830.000	51.73	PK	H	4.26	55.99	88.20	-32.21
12830.000	51.75	PK	V	4.26	56.01	88.20	-32.19
802.11ax40							
6125MHz							
5850	66.99	PK	H	-4.68	62.31	88.2	-25.89
5850	66.87	PK	V	-4.68	62.19	88.2	-26.01
5925	66.9	PK	H	-4.45	62.45	88.2	-25.75
5925	66.8	PK	V	-4.45	62.35	88.2	-25.85
12250.000	51.62	PK	H	4.71	56.33	74	-17.67
12250.000	40.55	AV	H	4.71	45.26	54	-8.74
12250.000	51.24	PK	V	4.71	55.95	74	-18.05
12250.000	40.17	AV	V	4.71	44.88	54	-9.12
6165MHz							
12330.000	51.95	PK	H	4.14	56.09	74.00	-17.91
12330.000	40.44	AV	H	4.14	44.58	54.00	-9.42
12330.000	51.69	PK	V	4.14	55.83	74.00	-18.17
12330.000	40.88	AV	V	4.14	45.02	54.00	-8.98
6405MHz							
12810.000	50.52	PK	H	5.11	55.63	88.20	-32.57
12810.000	50.53	PK	V	5.11	55.64	88.20	-32.56

Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax80							
6145MHz							
5850	66.82	PK	H	-4.68	62.14	88.2	-26.06
5850	67	PK	V	-4.68	62.32	88.2	-25.88
5925	66.87	PK	H	-4.45	62.42	88.2	-25.78
5925	66.91	PK	V	-4.45	62.46	88.2	-25.74
12290.000	50.88	PK	H	4.16	55.04	74.00	-18.96
12290.000	39.88	AV	H	4.16	44.04	54.00	-9.96
12290.000	52.56	PK	V	4.16	56.72	74.00	-17.28
12290.000	41.02	AV	V	4.16	45.18	54.00	-8.82
6385MHz							
12770.000	50.23	PK	H	4.74	54.97	88.20	-33.23
12770.000	51.37	PK	V	4.74	56.11	88.20	-32.09
802.11ax160							
6185MHz							
5850	67.03	PK	H	-4.68	62.35	88.2	-25.85
5850	67.09	PK	V	-4.68	62.41	88.2	-25.79
5925	66.82	PK	H	-4.45	62.37	88.2	-25.83
5925	66.74	PK	V	-4.45	62.29	88.2	-25.91
12370.000	51.09	PK	H	4.24	55.33	74.00	-18.67
12370.000	40.08	AV	H	4.24	44.32	54.00	-9.68
12370.000	51.87	PK	V	4.24	56.11	74.00	-17.89
12370.000	41.02	AV	V	4.24	45.26	54.00	-8.74
6345MHz							
12690.000	51.13	PK	H	3.98	55.11	74.00	-18.89
12690.000	39.22	AV	H	3.98	43.20	54.00	-10.80
12690.000	51.35	PK	V	3.98	55.33	74.00	-18.67
12690.000	40.44	AV	V	3.98	44.42	54.00	-9.58

Wi-Fi 6E_ U-NII 6：

Frequency (MHz)	Reading (dBμV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11ax20							
6435MHz							
12870.000	49.81	PK	H	5.49	55.30	88.20	-32.90
12870.000	50.25	PK	V	5.49	55.74	88.20	-32.46
6475MHz							
12950.000	50.17	PK	H	5.29	55.46	88.20	-32.74
12950.000	50.66	PK	V	5.29	55.95	88.20	-32.25
6515MHz							
13030.000	50.95	PK	H	4.72	55.67	88.20	-32.53
13030.000	51.05	PK	V	4.72	55.77	88.20	-32.43
802.11ax40							
6445MHz							
12890.000	47.55	PK	H	5.63	53.18	88.20	-35.02
12890.000	48.96	PK	V	5.63	54.59	88.20	-33.61
6485MHz							
12970.000	48.39	PK	H	5.15	53.54	88.20	-34.66
12970.000	48.90	PK	V	5.15	54.05	88.20	-34.15
6525MHz							
13050.000	51.48	PK	H	5.43	56.91	88.20	-31.29
13050.000	50.69	PK	V	5.43	56.12	88.20	-32.08
802.11ax80							
6465MHz							
12930.000	49.99	PK	H	5.45	55.44	88.20	-32.76
12930.000	50.52	PK	V	5.45	55.97	88.20	-32.23
6545MHz							
13090.000	50.37	PK	H	5.45	55.82	88.20	-32.38
13090.000	50.01	PK	V	5.45	55.46	88.20	-32.74
802.11ax160							
6505MHz							
13010.000	50.38	PK	H	5.01	55.39	88.20	-32.81
13010.000	50.66	PK	V	5.01	55.67	88.20	-32.53

Wi-Fi 6E_ U-NII 7:

Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax20							
6535MHz							
13070	51.40	PK	H	5.63	57.03	88.2	-31.17
13070	52.35	PK	V	5.63	57.98	88.2	-30.22
6695MHz							
13390	51.14	PK	H	5.1	56.24	74	-17.76
13390	39.56	AV	H	5.1	44.66	54	-9.34
13390	51.24	PK	V	5.1	56.34	74	-17.66
13390	39.59	AV	V	5.1	44.69	54	-9.31
6855MHz							
13710	51.42	PK	H	5.39	56.81	88.2	-31.39
13710	52.42	PK	V	5.39	57.81	88.2	-30.39
802.11ax40							
6565MHz							
13130	52.39	PK	H	5.54	57.93	88.2	-30.27
13130	51.98	PK	V	5.54	57.52	88.2	-30.68
6685MHz							
13370	52.24	PK	H	5.08	57.32	74	-16.68
13370	39.97	AV	H	5.08	45.05	54	-8.95
13370	52.27	PK	V	5.08	57.35	74	-16.65
13370	39.04	AV	V	5.08	44.12	54	-9.88
6845MHz							
13690	51.88	PK	H	5.34	57.22	88.2	-30.98
13690	51.56	PK	V	5.34	56.9	88.2	-31.30

Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax80							
6625MHz							
13250	52.65	PK	H	4.79	57.44	74	-16.56
13250	40.83	AV	H	4.79	45.62	54	-8.38
13250	53.54	PK	V	4.79	58.33	74	-15.67
13250	40.26	AV	V	4.79	45.05	54	-8.95
6705MHz							
13410	52.36	PK	H	5.07	57.43	88.2	-30.77
13410	52.62	PK	V	5.07	57.69	88.2	-30.51
6785MHz							
13570	51.37	PK	H	5.42	56.79	88.2	-31.41
13570	51.39	PK	V	5.42	56.81	88.2	-31.39
6865MHz							
13730	51.79	PK	H	5.57	57.36	88.2	-30.84
13730	51.50	PK	V	5.57	57.07	88.2	-31.13
802.11ax160							
6665MHz							
13330	51.28	PK	H	5.03	56.31	74	-17.69
13330	39.92	AV	H	5.03	44.95	54	-9.05
13330	52.50	PK	V	5.03	57.53	74	-16.47
13330	40.85	AV	V	5.03	45.88	54	-8.12
6825MHz							
13650	51.43	PK	H	5.51	56.94	88.2	-31.26
13650	52.37	PK	V	5.51	57.88	88.2	-30.32

Wi-Fi 6E_ U-NII 8:

Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax20							
6875MHz							
13750.000	50.78	PK	H	5.76	56.54	88.20	-31.66
13750.000	51.05	PK	V	5.76	56.81	88.20	-31.39
6895MHz							
13790.000	51.23	PK	H	6.11	57.34	88.20	-30.86
13790.000	50.98	PK	V	6.11	57.09	88.20	-31.11
6995MHz							
13990.000	49.81	PK	H	7.13	56.94	88.20	-31.26
13990.000	50.90	PK	V	7.13	58.03	88.20	-30.17
7115MHz							
7125	78.14	PK	H	-2.4	75.74	88.2	-12.46
7125	66.38	AV	H	-2.4	63.98	68.2	-4.22
7125	80.97	PK	V	-2.4	78.57	88.2	-9.63
7125	67.14	AV	V	-2.4	64.74	68.2	-3.46
7250	67.12	PK	H	-2.43	64.69	74	-9.31
7250	53.54	AV	H	-2.43	51.11	54	-2.89
7250	67.55	PK	V	-2.43	65.12	74	-8.88
7250	53.57	AV	V	-2.43	51.14	54	-2.86
14190.000	50.46	PK	H	6.83	57.29	88.20	-30.91
14190.000	50.43	PK	V	6.83	57.26	88.20	-30.94

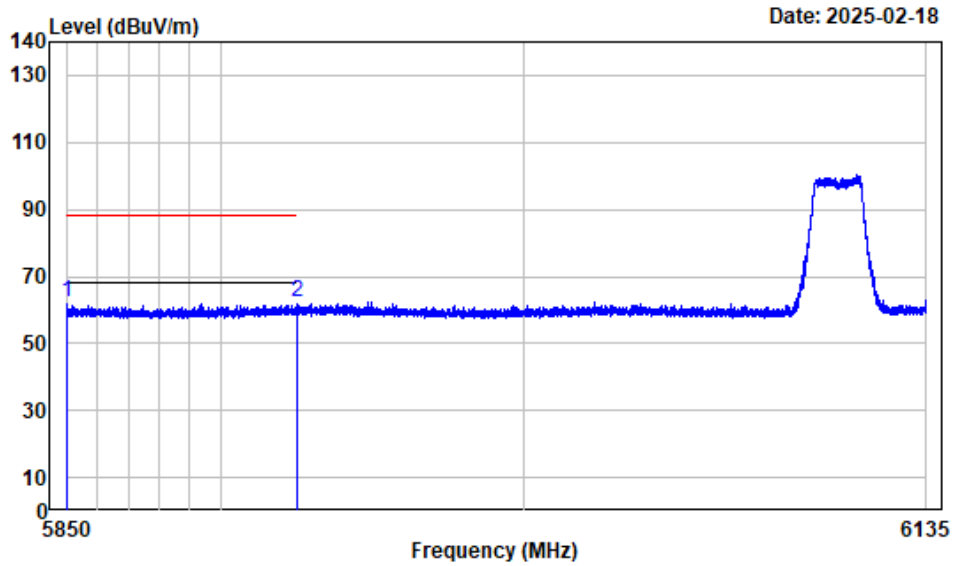
Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax40							
6885MHz							
13770.000	51.98	PK	H	5.94	57.92	88.20	-30.28
13770.000	51.04	PK	V	5.94	56.98	88.20	-31.22
6925MHz							
13850.000	51.26	PK	H	6.45	57.71	88.20	-30.49
13850.000	51.11	PK	V	6.45	57.56	88.20	-30.64
6965MHz							
13930.000	50.61	PK	H	6.85	57.46	88.20	-30.74
13930.000	50.85	PK	V	6.85	57.70	88.20	-30.50
7085MHz							
7125	71.61	PK	H	-2.4	69.21	88.2	-18.99
7125	55.97	AV	H	-2.4	53.57	68.2	-14.63
7125	72.73	PK	V	-2.4	70.33	88.2	-17.87
7125	56.19	AV	V	-2.4	53.79	68.2	-14.41
7250	66.94	PK	H	-2.43	64.51	74	-9.49
7250	53.04	AV	H	-2.43	50.61	54	-3.39
7250	66.97	PK	V	-2.43	64.54	74	-9.46
7250	53.34	AV	V	-2.43	50.91	54	-3.09
14170.000	50.36	PK	H	7.02	57.38	88.20	-30.82
14170.000	51.29	PK	V	7.02	58.31	88.20	-29.89

Frequency (MHz)	Reading (dBµV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11ax80							
6945MHz							
13890.000	50.81	PK	H	6.66	57.47	88.20	-30.73
13890.000	50.46	PK	V	6.66	57.12	88.20	-31.08
7025MHz							
7125	68.61	PK	H	-2.4	66.21	88.2	-21.99
7125	67.73	PK	V	-2.4	65.33	88.2	-22.87
7250	66.51	PK	H	-2.43	64.08	74	-9.92
7250	52.88	AV	H	-2.43	50.45	54	-3.55
7250	66.97	PK	V	-2.43	64.54	74	-9.46
7250	53.01	AV	V	-2.43	50.58	54	-3.42
14050.000	50.55	PK	H	7.47	58.02	88.20	-30.18
14050.000	50.73	PK	V	7.47	58.20	88.20	-30.00
802.11ax160							
6985MHz							
7125	67.54	PK	H	-2.4	65.14	88.2	-23.06
7125	68.78	PK	V	-2.4	66.38	88.2	-21.82
7250	66.87	PK	H	-2.43	64.44	74	-9.56
7250	52.37	AV	H	-2.43	49.94	54	-4.06
7250	66.59	PK	V	-2.43	64.16	74	-9.84
7250	52.27	AV	V	-2.43	49.84	54	-4.16
13970.000	50.96	PK	H	7.04	58.00	88.20	-30.20
13970.000	51.38	PK	V	7.04	58.42	88.20	-29.78

Note:
Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude = Factor + Reading
Margin = Corrected. Amplitude - Limit
The other spurious emission which is in the noise floor level was not recorded.
The test result of peak was less than the limit of average, so just peak values were recorded.

Band Edge Measurements (Radiated): *Listed with the worst margin test plot*

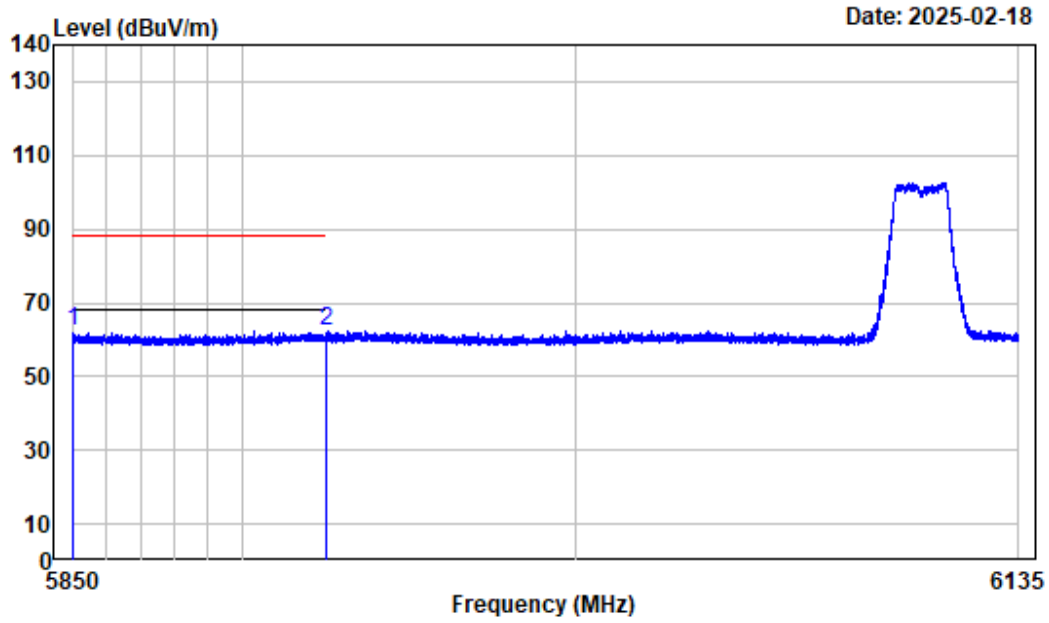
802.11ax20			
Test Channel:	**6115MHz**	**Ant. Polar. :**	**Horizontal**



Condition : Horizontal
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : WiFi 6E-U5_AX20_6115

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5850.000	-4.68	66.86	62.18	88.20	-26.02	Peak
2	5925.000	-4.45	66.72	62.27	88.20	-25.93	Peak

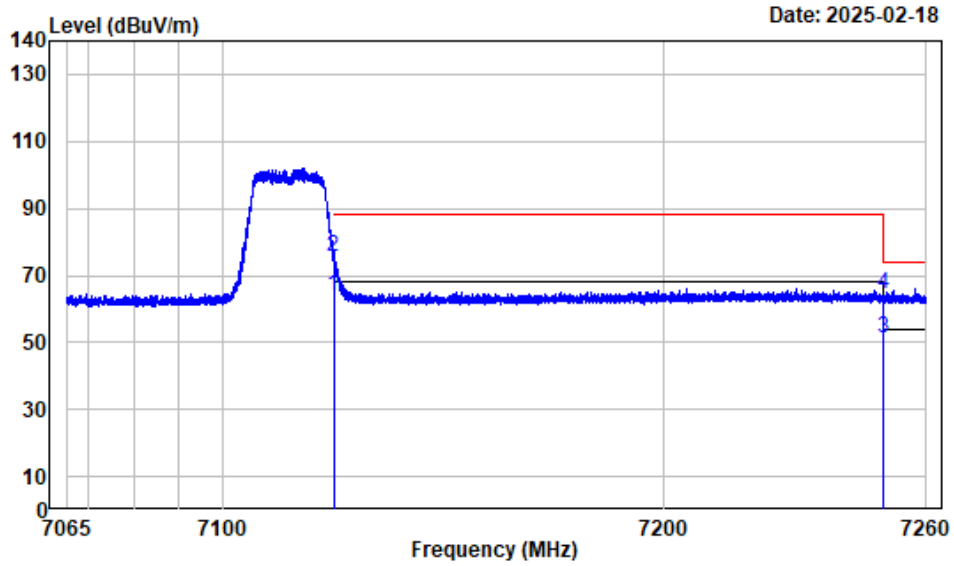
802.11ax20			
Test Channel:	**6115MHz**	**Ant. Polar. :**	**Vertical**



Condition : Vertical
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : WiFi 6E-U5_AX20_6115

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5850.000	-4.68	67.14	62.46	88.20	-25.74	Peak
2	5925.000	-4.45	66.69	62.24	88.20	-25.96	Peak

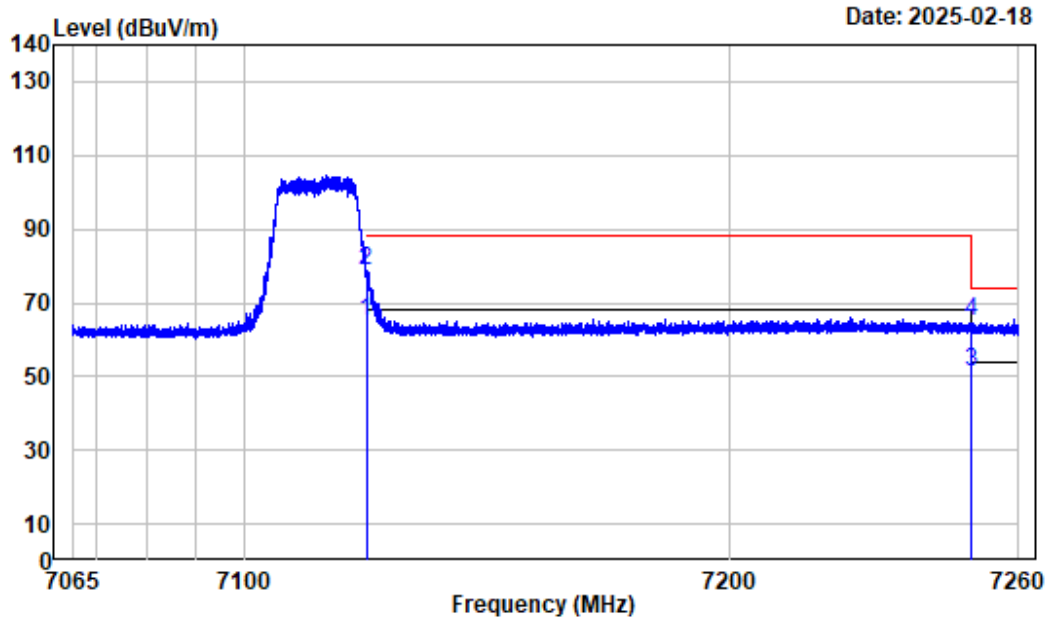
802.11ax20			
Test Channel:	**7115MHz**	**Ant. Polar. :**	**Horizontal**



Condition : Horizontal
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
: Average reading: RBW:1MHz VBW:1kHz Detector:Peak
Note : WiFi 6E-U8_AX20_7115

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	7125.000	-2.40	66.38	63.98	68.20	-4.22	Average
2	7125.000	-2.40	78.14	75.74	88.20	-12.46	Peak
3	7250.000	-2.43	53.54	51.11	54.00	-2.89	Average
4	7250.000	-2.43	67.12	64.69	74.00	-9.31	Peak

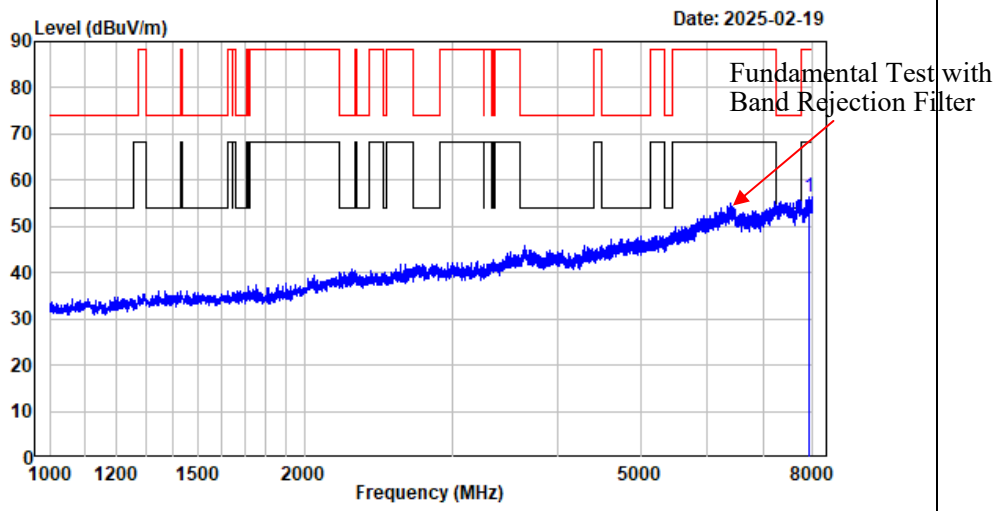
802.11ax20			
Test Channel:	**7115MHz**	**Ant. Polar. :**	**Vertical**



Condition : Vertical
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
: Average reading: RBW:1MHz VBW:1kHz Detector:Peak
Note : WiFi 6E-U8_AX20_7115

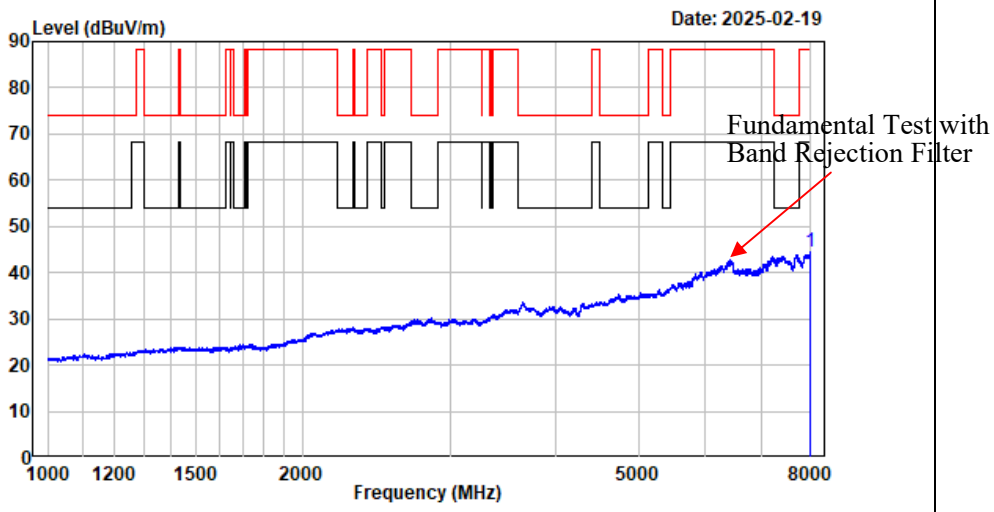
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	7125.000	-2.40	67.14	64.74	68.20	-3.46	Average
2	7125.000	-2.40	80.97	78.57	88.20	-9.63	Peak
3	7250.000	-2.43	53.57	51.14	54.00	-2.86	Average
4	7250.000	-2.43	67.55	65.12	74.00	-8.88	Peak

Listed with the worst harmonic margin test plots:

Horizontal-Peak	
1-8GHz	 Condition : Horizontal Project No. : 2401X96326E-RF Tester : Wing K Ji Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak Note : WiFi 6E-Band7-ax160-6665 Freq / Factor / Read Level / Limit Level / Limit Line / Over Limit / Remark MHz / dB/m / dBuV / dBuV/m / dBuV/m / dB 1 7935.242 -1.23 57.70 56.47 88.20 -31.73 Peak

Horizontal-Average

1-8GHz

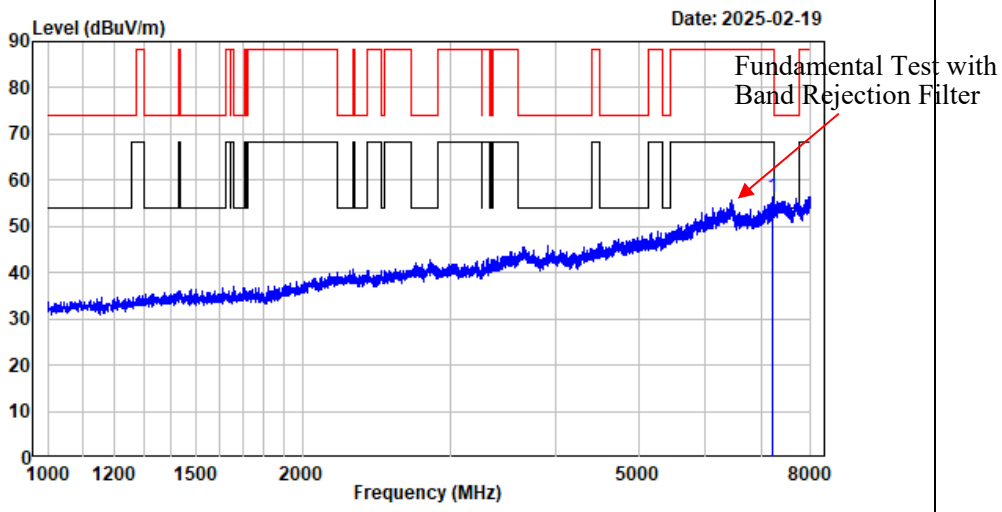


Condition : Horizontal
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Average reading: RBW:1MHz VBW:5kHz Detector:Peak
Note : WiFi 6E-Band7-ax160-6665

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	7993.874	-0.95	45.31	44.36	54.00	-9.64	Average

Vertical-Peak

1-8GHz

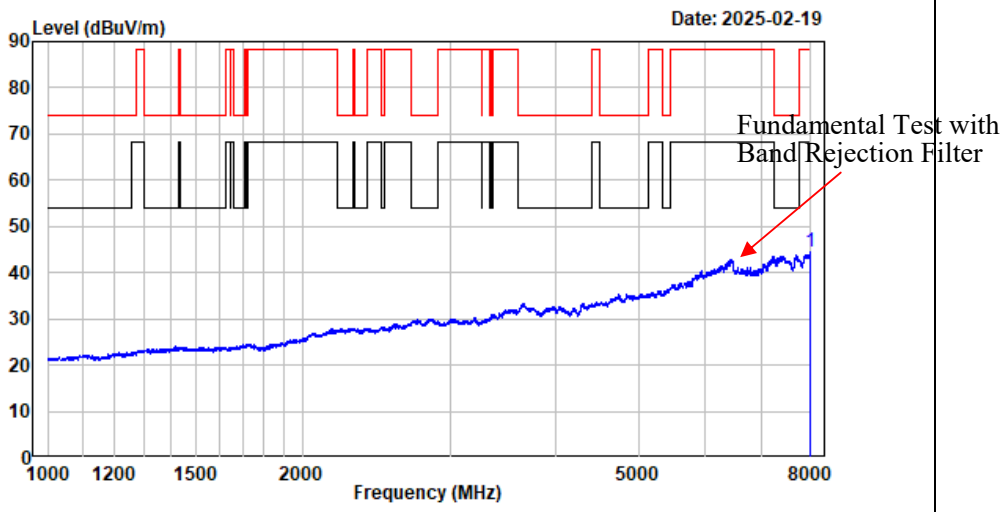



```
Condition        : Vertical
Project No.      : 2401X96326E-RF
Tester           : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note             : WiFi 6E-Band7-ax160-6665
```

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	7218.527	-2.26	58.78	56.52	88.20	-31.68	Peak

Vertical-Average

1-8GHz

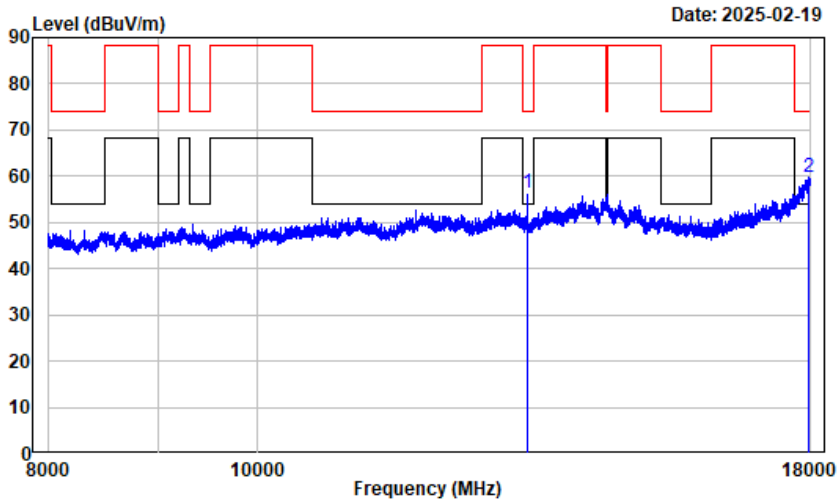



```
Condition        : Vertical
Project No.      : 2401X96326E-RF
Tester           : Wing K Ji
Spectrum setting: Average reading: RBW:1MHz VBW:5kHz Detector:Peak
Note             : WiFi 6E-Band7-ax160-6665
```

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	7987.749	-0.97	45.44	44.47	54.00	-9.53	Average

Horizontal-Peak

8-18GHz

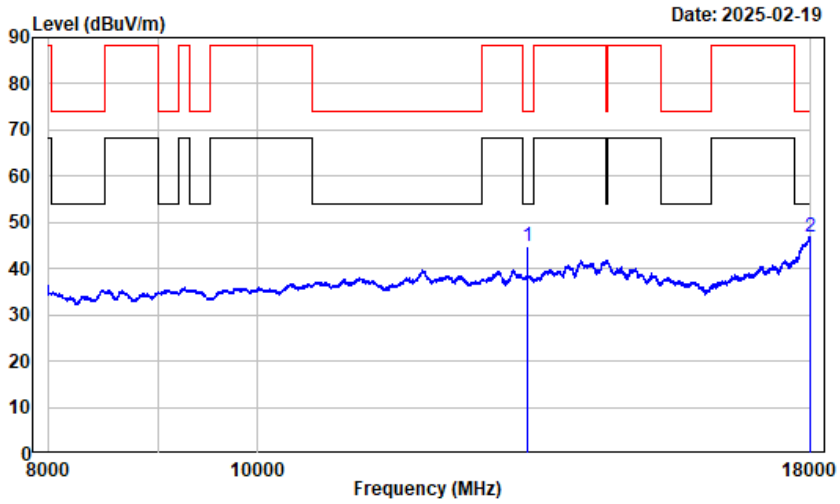


Condition : Horizontal
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : WiFi 6E-Band7-ax160-6665

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	13330.000	5.03	51.28	56.31	74.00	-17.69	Peak
2	17970.000	13.05	46.71	59.76	74.00	-14.24	Peak

Horizontal-Average

8-18GHz

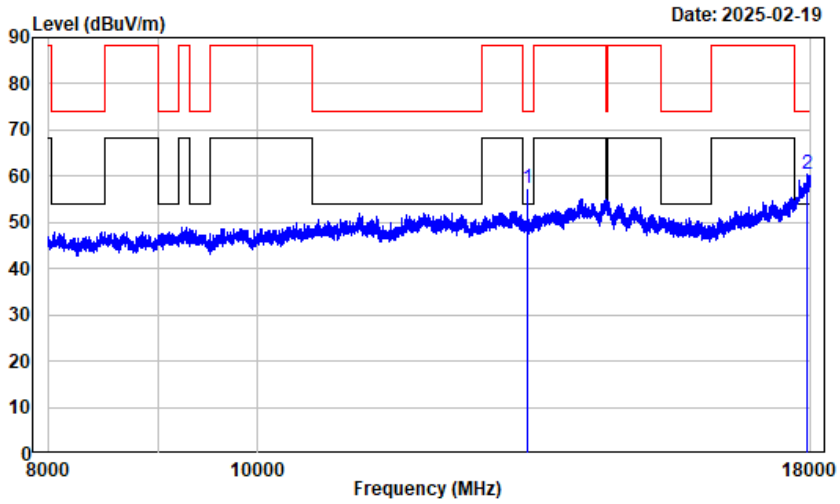


Condition : Horizontal
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Average reading: RBW:1MHz VBW:5kHz Detector:Peak
Note : WiFi 6E-Band7-ax160-6665

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	13330.000	5.03	39.92	44.95	54.00	-9.05	Average
2	17997.500	13.19	33.75	46.94	54.00	-7.06	Average

Vertical-Peak

8-18GHz

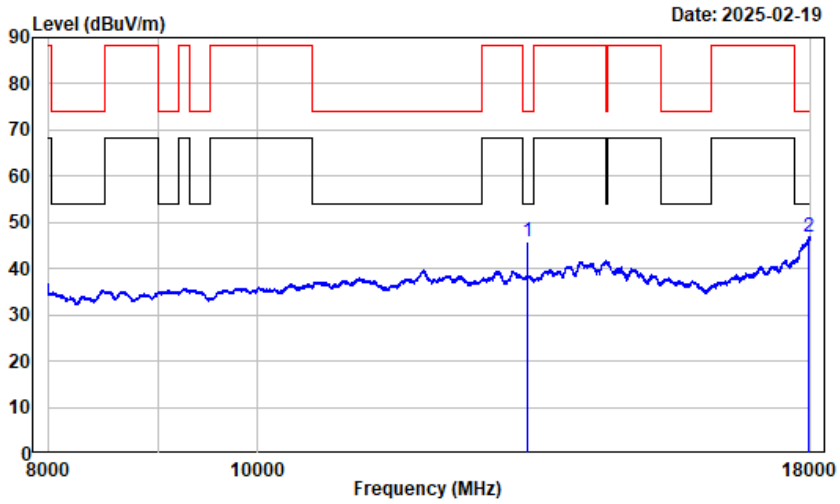


Condition : Vertical
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : WiFi 6E-Band7-ax160-6665

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	13330.000	5.03	52.50	57.53	74.00	-16.47	Peak
2	17941.240	12.91	47.56	60.47	74.00	-13.53	Peak

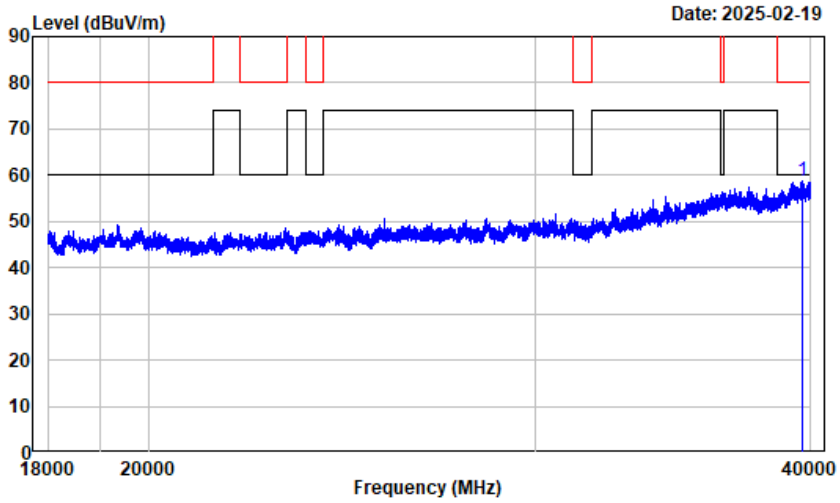
Vertical-Average

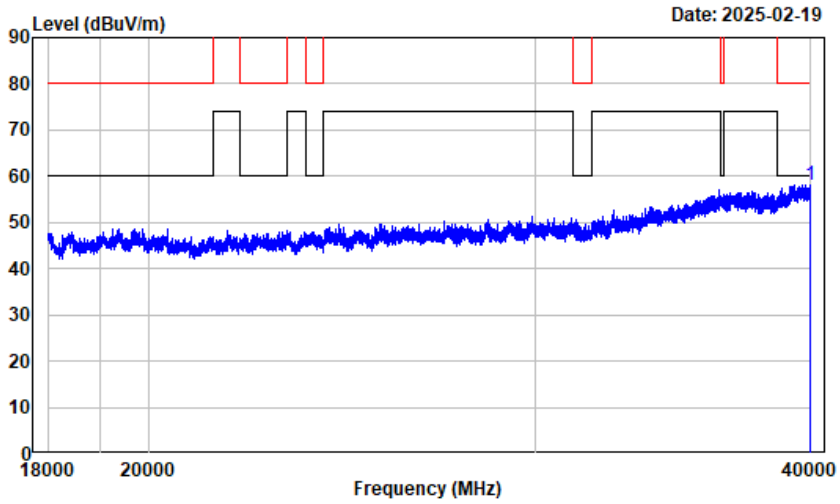
8-18GHz



Condition : Vertical
Project No. : 2401X96326E-RF
Tester : Wing K Ji
Spectrum setting: Average reading: RBW:1MHz VBW:5kHz Detector:Peak
Note : WiFi 6E-Band7-ax160-6665

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	13330.000	5.03	40.85	45.88	54.00	-8.12	Average
2	17975.000	13.07	33.90	46.97	54.00	-7.03	Average

Horizontal	
18-40GHz	 Condition : Horizontal Project No. : 2401X96326E-RF Tester : Wing K Ji Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak Note : WiFi 6E-Band7-ax160-6665 Freq / Factor / Read Level / Limit Level / Limit Line / Over Limit / Remark MHz / dB/m / dBuV / dBuV/m / dBuV/m / dB 1 39656.210 22.71 36.02 58.73 80.00 -21.27 Peak

Vertical	
18-40GHz	 Condition : Vertical Project No. : 2401X96326E-RF Tester : Wing K Ji Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak Note : WiFi 6E-Band7-ax160-6665 Freq / Factor / Read Level / Limit Level / Limit Line / Over Limit / Remark MHz / dB/m / dBuV / dBuV/m / dBuV/m / dB 1 39961.500 22.58 35.62 58.20 80.00 -21.80 Peak

FCC §15.407(a)(11) – 26 dB Emission Bandwidth & 99% Occupied bandwidth

Applicable Standard

According to FCC§15.407(a)(11), The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz..

Test Procedure

1. Emission Bandwidth (EBW)

Test Method: KDB789033 D02 Clause II.C

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
f) For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥3* RBW.
g) Measure and record the results in the test report.

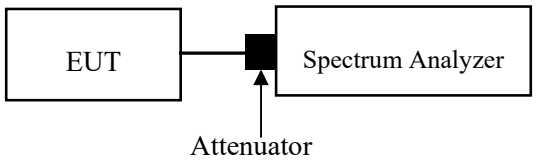
2. 99% Occupied Bandwidth:

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:
a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
d) Step a) through step c) might require iteration to adjust within the specified range.
e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



Test Data

Environmental Conditions

Temperature:	25.3~25.7 ℃
Relative Humidity:	50~53 %
ATM Pressure:	101.6~101.9 kPa

The testing was performed by Cheeb Huang from 2024-12-15 to 2024-12-17.

EUT operation mode: Transmitting

Test Result: Pass

The test data please refer to the Appendix C1&C2.

FCC §15.407(a)(5) –CONDUCTED TRANSMITTER OUTPUT POWER

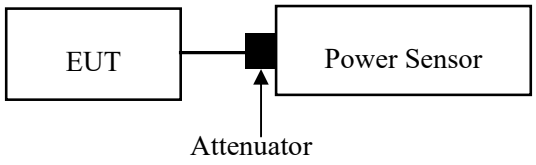
Applicable Standard

According to the FCC §15.407(a)(5), For an indoor access point operating in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method PM-G should be applied

a) Place the EUT on a bench and set it in transmitting mode.
b) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
c) Add a correction factor to the display.



Note: A short RF cable with low cable loss connected to the EUT antenna port, which was provided by client or lab, the cable loss was add with offset into test equipment, the total offset consists of attenuator and/or RF cable and/or power splitter loss.

Test Data

Environmental Conditions

Temperature:	23.3~24.2 ℃
Relative Humidity:	35~42 %
ATM Pressure:	101.6~101.8 kPa

The testing was performed by Cheeb Huang from 2025-02-07 to 2025-02-18.

EUT operation mode: Transmitting

Test Result: Pass

The test data please refer to the Appendix D.

FCC §15.407(a)(5) –POWER SPECTRAL DENSITY

Applicable Standard

According to the FCC §15.407(a)(5), For an indoor access point operating in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle ≥98%

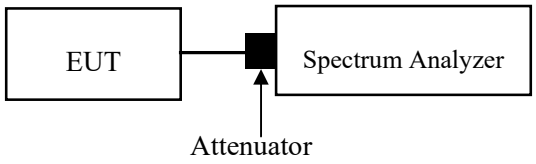
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle <98%, duty cycle variations are less than ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle <98%, duty cycle variations exceed ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.



Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Test Data

Environmental Conditions

Temperature:	23.3~24.2 ℃
Relative Humidity:	35~42 %
ATM Pressure:	101.6~101.8 kPa

The testing was performed by Cheeb Huang from 2025-02-07 to 2025-05-27.

EUT operation mode: Transmitting

Test Result: Pass

The test data please refer to the Appendix E.

FCC §15.407(b) (7) IN-BAND EMISSIONS

Applicable Standard

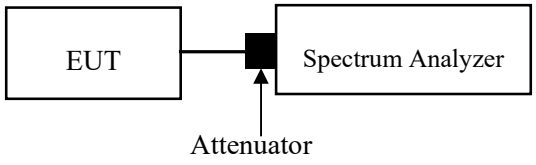
According to FCC§15.407(b) (7),

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

Test Procedure

Test Method: KDB 987594 D02 Clause J

1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
2. Set the reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10-2013.
3. Take nominal bandwidth as reference channel bandwidth provided that 26 dB emission bandwidth is always larger than nominal bandwidth.
4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
   a) Set the span to encompass the entire 26 dB EBW of the signal.
   b) Set RBW = same RBW used for 26 dB EBW measurement.
   c) Set VBW ≥ 3 X RBW
   d) Number of points in sweep ≥ [2 X span / RBW].
   e) Sweep time = auto.
   f) Detector = RMS (i.e., power averaging)
   g) Trace average at least 100 traces in power averaging (rms) mode.
   h) Use the peak search function on the instrument to find the peak of the spectrum.
5. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
   a. Suppressed by 20 dB at 1 MHz outside of the channel edge.
   b. Suppressed by 28 dB at one channel bandwidth from the channel center.
   c. Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
6. Adjust the span to encompass the entire mask as necessary.
7. Clear trace.
8. Trace average at least 100 traces in power averaging (rms) mode.
9. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.



Test Data

Environmental Conditions

Temperature:	25.3~25.7 ℃
Relative Humidity:	50~53 %
ATM Pressure:	101.6~101.9 kPa

The testing was performed by Cheeb Huang from 2024-12-15 to 2024-12-17.

EUT operation mode: Transmitting

Test Result: Pass

The test data please refer to the Appendix F.

FCC §15.407(d) (6) CONTENTION BASED PROTOCOL

Applicable Standard

According to FCC15.407(d) (6) &KDB 98754 D02.

Indoor access points , subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band . To ensure incumbent co-channel operations are detected in a technology-agnosticic manner,unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least-62 dBm or lower . Upon detection of energy in the band , unlicensed low power indoor devices must vacate the channel (in which incumbent signal is transmitted) and stay off the incumbent channel as long as detected radio frequency power is equal to or greater than the threshold(-62dBm)1.The -62dBm(or lower) Threshold is referenced to a 0dBi antenna gain.

To ensure incumbent operations are reliably detected in the band , low power indoor devices must detect RF energy throughout intended operating channel . For example , an 802 .device that plans to transmit a 40 MHz-wide signal (on a primary 20 MHz channel and a secondary 20 MHz channel) must detect energy throughout the entire 40 MHz channel.Additionally , low-power indoor devices must detect co-channel energy with 90% or greater certainty .

Table 1. Criteria to determine number of times detection threshold test may be performed

If	Number of Tests	Placement of Incumbent Transmission
$BW_{EUT} \leq BW_{Inc}$	Once	Tune incumbent and EUT transmissions ($f_{c1} = f_{c2}$)
$BW_{Inc} < BW_{EUT} \leq 2BW_{Inc}$	Once	Incumbent transmission is contained within BW_{EUT}
$2BW_{Inc} < BW_{EUT} \leq 4BW_{Inc}$	Twice. Incumbent transmission is contained within BW_{EUT}	Incumbent transmission is located as closely as possible to the lower edge and upper edge, respectively, of the EUT channel
$BW_{EUT} > 4BW_{Inc}$	Three times	Incumbent transmission is located as closely as possible to the lower edge of the EUT channel, in the middle of EUT channel, and as closely as possible to the upper edge of the EUT channel

where:
$BWEUT$: Transmission bandwidth of EUT signal
$BWInc$: Transmission bandwidth of the simulated incumbent signal (10 MHz wide AWGN signal)
$fc1$: Center frequency of EUT transmission
$fc2$: Center frequency of simulated incumbent signal

Test Procedure

Test Method: KDB 987594 D02 Clause I

1. Configure the EUT to transmit with a constant duty cycle.
2. Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth.
3. Set the signal analyzer center frequency to the nominal EEUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT.
   Connect the output port of the EUT to the signal analyzer 2, as shown in Figure 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.
4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.
5. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
6. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.
7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
9. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
10. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal and repeat the process.

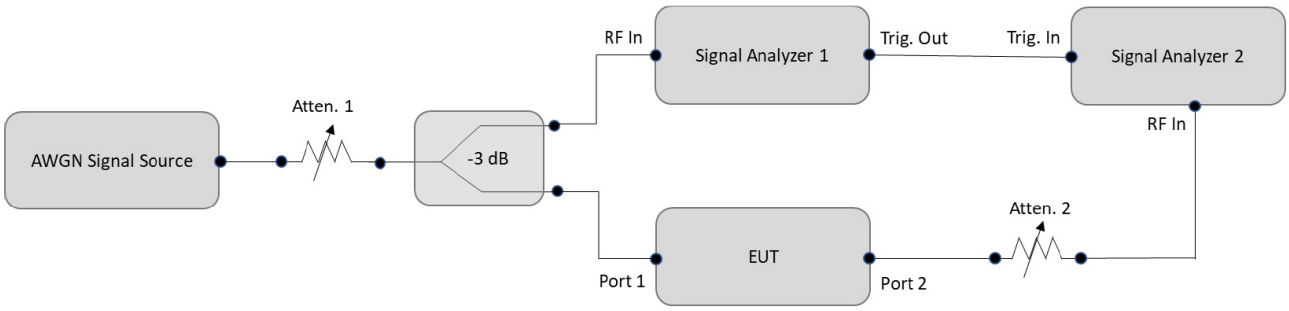


Figure 2. Contention-based protocol test setup, conducted method Step-by-Step Procedure, Conducted Setup

Test Data

Environmental Conditions

Temperature:	25.3~25.7 ℃
Relative Humidity:	50~53 %
ATM Pressure:	101.6~101.9 kPa

The testing was performed by Navilite Cai from 2024-12-21 to 2024-12-24.

EUT operation mode: Transmitting

Test Result: Pass

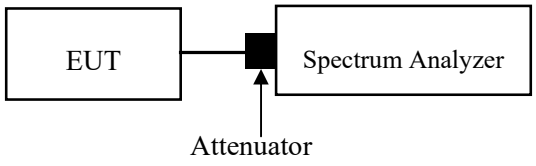
The test data please refer to the Appendix H.

C63.10 §11.6- DUTY CYCLE

Test Procedure

According to ANSI C63.10-2013 Section 11.6

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
1) Set the center frequency of the instrument to the center frequency of the transmission.
2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ RBW. Set detector = peak or average.
4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 μs.)



Test Data

Environmental Conditions

Temperature:	25.3 ℃
Relative Humidity:	50 %
ATM Pressure:	101.6 kPa

The testing was performed by Cheeb Huang on 2024-12-17.

EUT operation mode: Transmitting

Test Result: Pass

The test data please refer to the Appendix G.

EUT PHOTOGRAPHS

Please refer to the attachment 2401X96326E-RF External photo and 2401X96326E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2401X96326E-RFC Test Setup photo.

******* END OF REPORT *******