

TEST REPORT

Applicant Name: Grandstream Networks, Inc.
Address: 126 Brookline Ave., 3rd Floor Boston, MA 02215, USA
Report Number: 2401Y48404E-EM-00
FCC ID: YZZWP836

Test Standard (s)

FCC Part 15, Subpart B (Class B)

Sample Description

Product Type: Cordless Wi-Fi IP Phone
Model No.: WP836
Multiple Model(s) No.: N/A
Trade Mark: GRANDSTREAM
Date Received: 2024/10/09
Issue Date: 2024/12/09

Test Result:	Pass [▲]
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▲ In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Carl Lu

Carl Lu
EMC Engineer

Approved By:

Moon Liu

Moon Liu
EMC 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.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2401Y48404E-EM-00	Original Report	2024/12/09

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Cordless Wi-Fi IP Phone
Tested Model	WP836
Multiple Model(s)	N/A
Voltage Range	DC5V from adapter or DC 5V from charger or DC 3.7V from battery
Highest operating frequency [#]	5895MHz (Provided by the applicant)
Equipment Class	Class B
Sample number	WP836: 2SGD-1 Adapter (GQ12-050200-AU): 2SGD-4 Adapter (DCT12W050200US-A2): 2SGD-2 Adapter (GLH0502000): 2SGD-3 (Assigned by BACL, Shenzhen)
Sample/EUT Status	Good condition
Adapter Information	Adapter 1 Model: GQ12-050200-AU Input: 100-240V~50/60Hz 0.4A Max Output: 5.0V, 2.0A Adapter 2 Model: GLH0502000 Input: 100-240V~50/60Hz 0.5A Output: 5.0V, 2.0A Adapter 3 Model: DCT12W050200US-A2 Input: 100-240V~50/60Hz 0.3A max Output: 5.0V, 2.0A

Objective

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

The objective of the manufacturer is to determine the compliance of the EUT with FCC Part 15B.

Measurement Uncertainty

Item	Frequency Range		Expanded Measurement uncertainty
Conducted Emissions	AC Mains	150 kHz ~30MHz	3.84dB(k=2, 95% level of confidence)
Radiated Disturbance	30MHz~200MHz	Horizontal	4.48dB(k=2, 95% level of confidence)
	30MHz~200MHz	Vertical	4.55dB(k=2, 95% level of confidence)
	200MHz~1000MHz	Horizontal	4.85dB(k=2, 95% level of confidence)
	200MHz~1000MHz	Vertical	5.05dB(k=2, 95% level of confidence)
	1GHz~6GHz	/	5.35dB(k=2, 95% level of confidence)
	6GHz~18GHz	/	5.44dB(k=2, 95% level of confidence)
	18GHz~40GHz	/	5.16dB(k=2, 95% level of confidence)

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.

Each test item follows test standards and with no deviation.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in worst case condition.

Test Mode1: Charging by charger + Talking+ Adapter (GQ12-050200-AU)

Test Mode2: Charging by charger + Talking + Adapter (DCT12W050200US-A2)

Test Mode3: Charging by charger + Talking + Adapter (GLH0502000)

Test Mode4: Charging directly+ Talking + Adapter (GQ12-050200-AU)

Note: EMI test evaluation principle Mode 1 to Mode 3 go through all adapters, select the worst mode adapter test mode 4.

EUT exercise software

No exercise software was used.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
BULL	Socket	GN-415K	5503290068073
Grandstream	IP Phone	GXV3480	T11223323B898
xiaomi	Router	R4AC	N/A

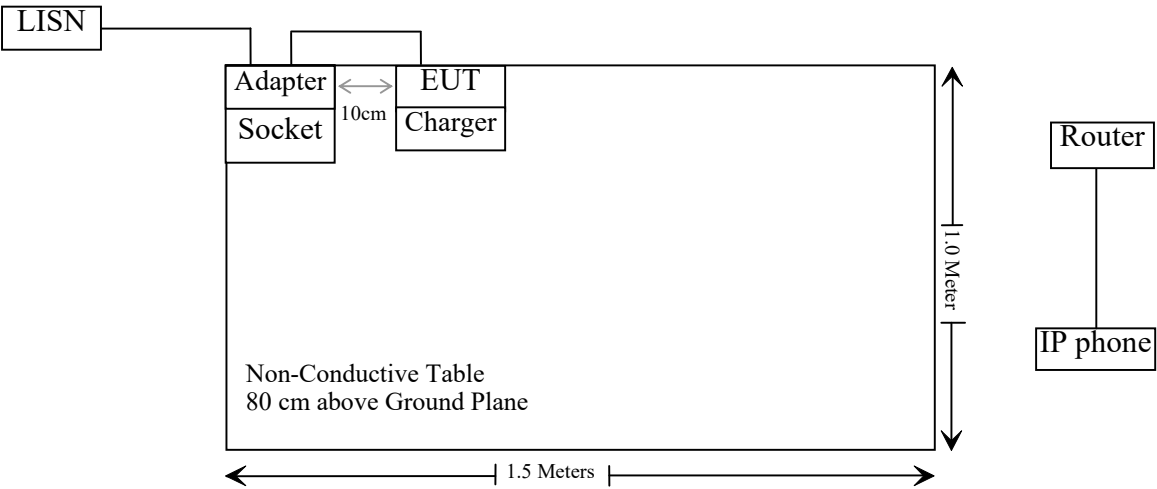
External I/O Cable

Cable Description	Length (m)	From/Port	To
Un-shielded un-detachable AC cable	1.2	Socket	Mains
Un-shielded un-detachable USB cable	1.6	Adapter	Charger/EUT
Un-shielded detachable RJ45 cable	10.0	Base	IP Phone

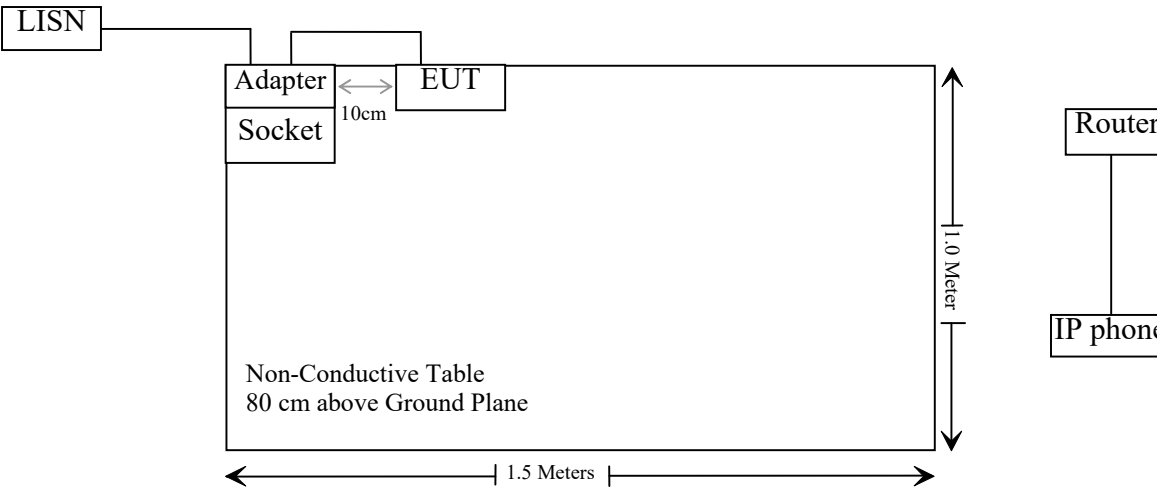
Block Diagram of Test Setup

For Conducted Emission:

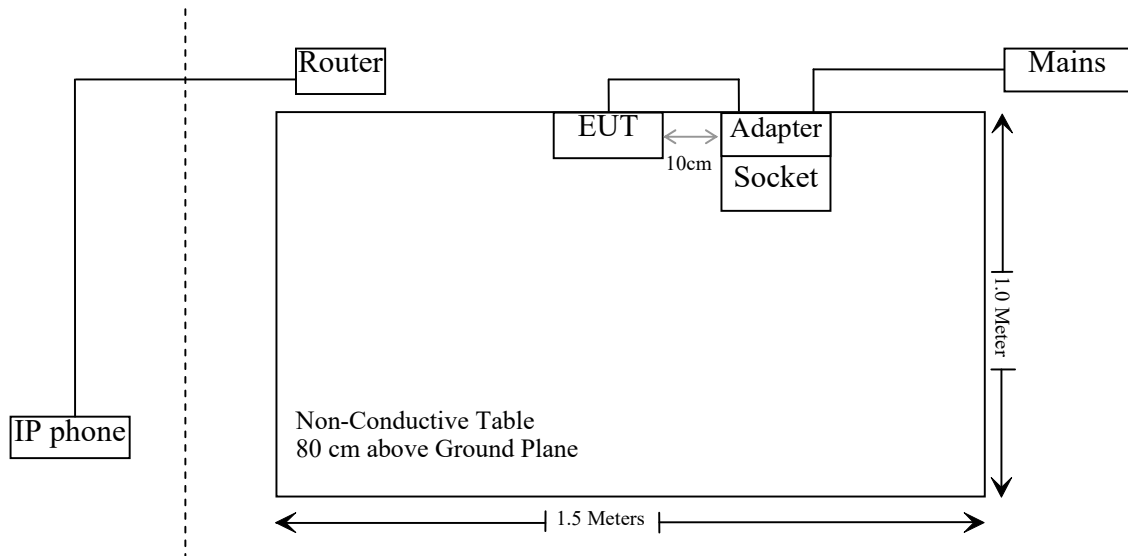
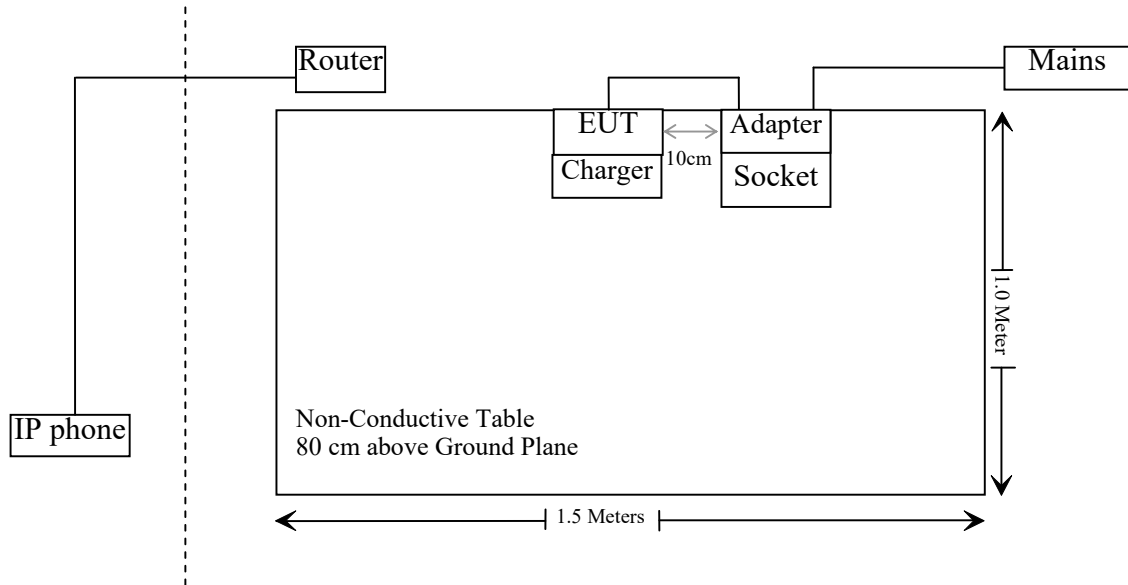
Test Mode1&2&3:



Test Mode4:



Test Model1&2&3:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliant
§15.109	Radiated Emissions	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2024/01/16	2025/01/15
Rohde & Schwarz	LISN	ENV216	101613	2024/01/16	2025/01/15
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 Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/01/16	2025/01/15
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
Audix	EMI Test software	E3	19821b(V9)	NCR	NCR
Rohde & Schwarz	Spectrum Analyzer	FSV40	101605	2024/03/27	2025/03/26
COM-POWER	Pre-amplifier	PA-122	181919	2024/06/18	2025/06/17
Schwarzbeck	Horn Antenna	BBHA9120D(1201)	1143	2023/07/26	2026/07/25
Unknown	RF Cable	KMSE	735	2024/06/18	2025/06/17
Unknown	RF Cable	UFA147	219661	2024/06/18	2025/06/17
JD	Multiplex Switch Test Control Set	DT7220FSU	DQ77926	2024/06/18	2025/06/17
SNSD	2.4G Band Reject filter	BSF2402-2480MN-0898-001	2.4G filter	2024/06/27	2025/06/26
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
A.H.System	Pre-amplifier	PAM-1840VH	190	2024/06/18	2025/06/17
UTIFLEX	RF Cable	NO. 13	232308-001	2024/06/18	2025/06/17
Electro-Mechanics Co	Horn Antenna	3116	9510-2270	2023/09/18	2026/09/17

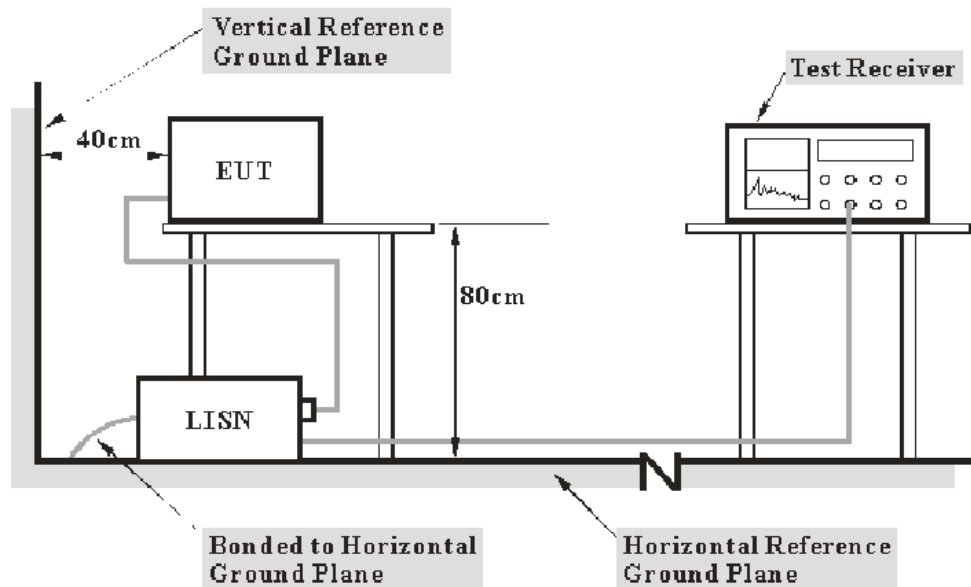
* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.107 - AC LINE CONDUCTED EMISSIONS

Applicable Standard

According to FCC§15.107

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 measurement procedure of EUT setup is according with ANSI C63.4-2014. The related limit was specified in FCC Part 15.107.

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

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

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

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

Level & Over Limit Calculation

The Level is calculated by adding the LISN Factor, Cable Loss and the Read Level. The basic equation is as follows:

$$\text{Level (dBuV)} = \text{Read Level (dBuV)} + \text{LISN Factor} + \text{Cable Loss}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit.

$$\text{Over Limit (dB)} = \text{Level (dBuV)} - \text{Limit Line (dBuV)}$$

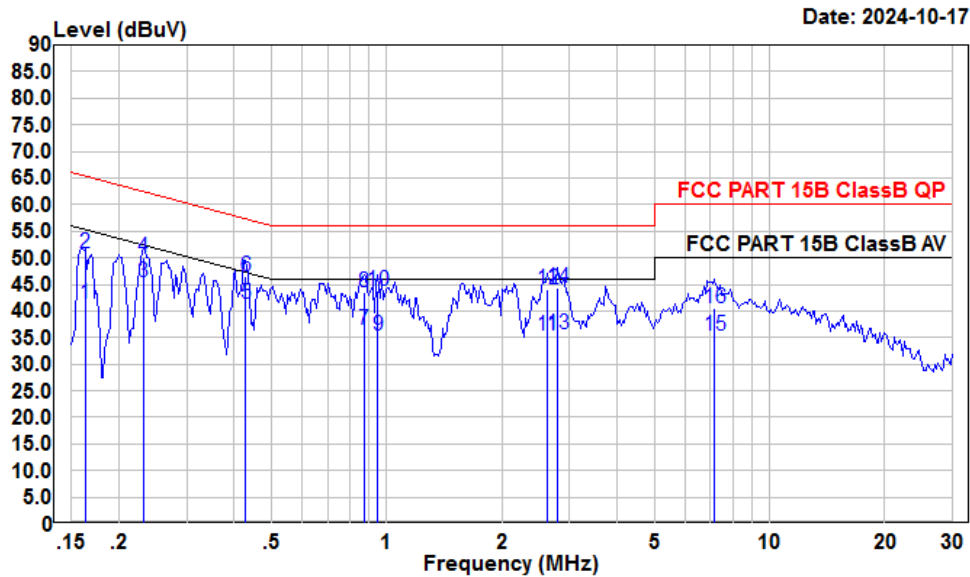
Note: The term "cable loss" refers to the combination of a cable and a 10dB transient limiter (attenuator).

Test Data

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	64 %
ATM Pressure:	101 kPa

The testing was performed by Macy Shi from 2024-10-12 to 2024-10-17.

*Test Model***AC 120V/60 Hz, Line**

Condition: Line

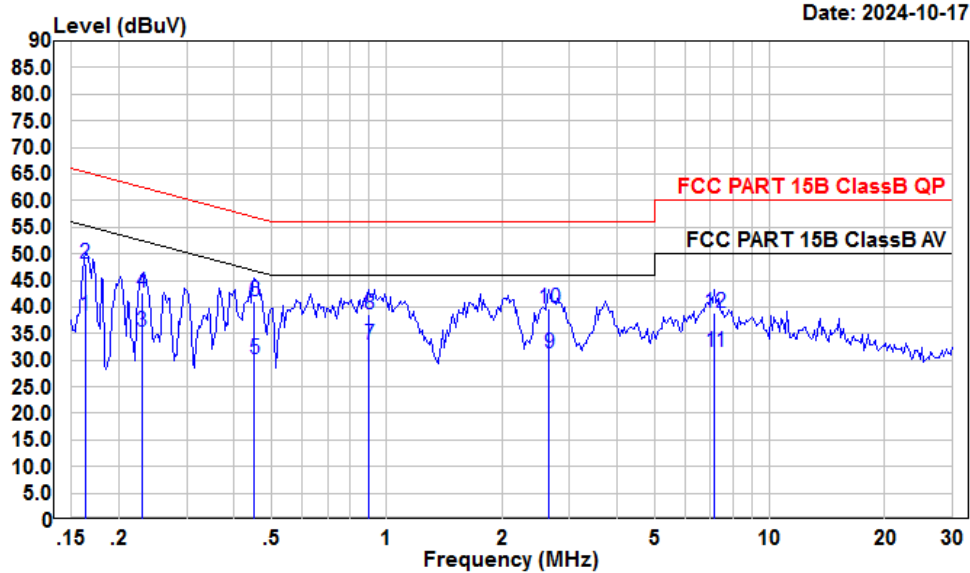
Project : 2401Y48404E-EM

test Mode: Model1

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.163	20.28	41.26	10.87	10.11	55.30	-14.04	Average
2	0.163	29.79	50.77	10.87	10.11	65.30	-14.53	QP
3	0.232	24.46	45.29	10.75	10.08	52.39	-7.10	Average
4	0.232	29.21	50.04	10.75	10.08	62.39	-12.35	QP
5	0.428	20.64	41.30	10.55	10.11	47.29	-5.99	Average
6	0.428	25.81	46.47	10.55	10.11	57.29	-10.82	QP
7	0.871	15.89	36.44	10.44	10.11	46.00	-9.56	Average
8	0.871	22.94	43.49	10.44	10.11	56.00	-12.51	QP
9	0.948	14.81	35.32	10.41	10.10	46.00	-10.68	Average
10	0.948	23.21	43.72	10.41	10.10	56.00	-12.28	QP
11	2.622	14.61	35.26	10.48	10.17	46.00	-10.74	Average
12	2.622	23.41	44.06	10.48	10.17	56.00	-11.94	QP
13	2.794	14.97	35.61	10.46	10.18	46.00	-10.39	Average
14	2.794	23.58	44.22	10.46	10.18	56.00	-11.78	QP
15	7.175	14.59	35.29	10.51	10.19	50.00	-14.71	Average
16	7.175	19.69	40.39	10.51	10.19	60.00	-19.61	QP

AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2401Y48404E-EM

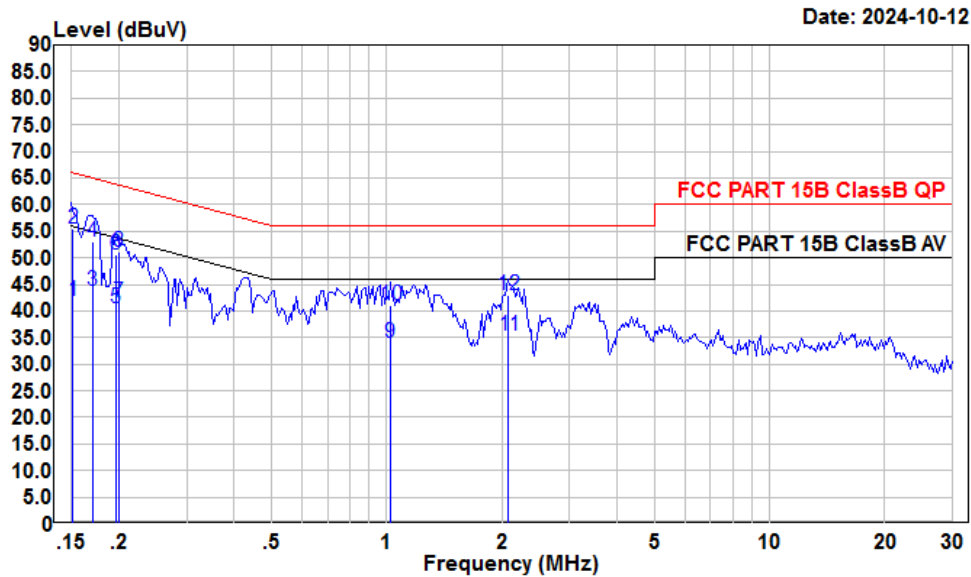
test Mode: Model

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.163	17.71	38.36	10.54	10.11	55.30	-16.94	Average
2	0.163	27.58	48.23	10.54	10.11	65.30	-17.07	QP
3	0.229	14.80	35.32	10.44	10.08	52.48	-17.16	Average
4	0.229	22.19	42.71	10.44	10.08	62.48	-19.77	QP
5	0.452	9.47	30.26	10.67	10.12	46.85	-16.59	Average
6	0.452	20.20	40.99	10.67	10.12	56.85	-15.86	QP
7	0.899	11.96	32.90	10.84	10.10	46.00	-13.10	Average
8	0.899	17.61	38.55	10.84	10.10	56.00	-17.45	QP
9	2.650	10.61	31.18	10.40	10.17	46.00	-14.82	Average
10	2.650	19.09	39.66	10.40	10.17	56.00	-16.34	QP
11	7.175	10.56	31.46	10.71	10.19	50.00	-18.54	Average
12	7.175	18.00	38.90	10.71	10.19	60.00	-21.10	QP

Test Mode2

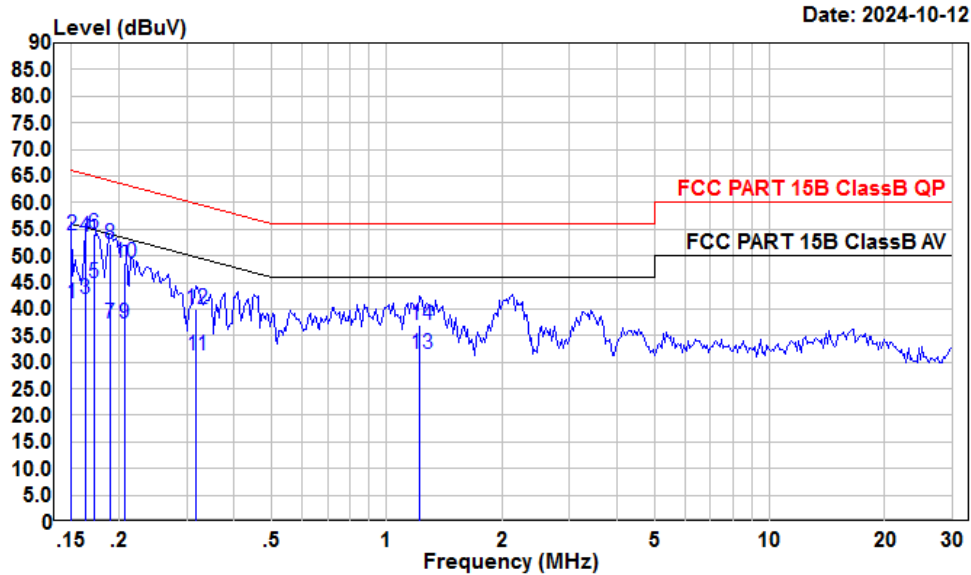
AC 120V/60 Hz, Line



Condition: Line
Project : 2401Y48404E-EM
test Mode: Mode2
tester : Macy.shi

	Freq	Read Level	LISN Level	Cable Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.152	20.98	42.01	10.90	10.13	55.91	-13.90	Average
2	0.152	34.42	55.45	10.90	10.13	65.91	-10.46	QP
3	0.170	22.80	43.76	10.86	10.10	54.94	-11.18	Average
4	0.170	32.10	53.06	10.86	10.10	64.94	-11.88	QP
5	0.196	19.70	40.60	10.81	10.09	53.80	-13.20	Average
6	0.196	29.70	50.60	10.81	10.09	63.80	-13.20	QP
7	0.200	20.78	41.67	10.80	10.09	53.62	-11.95	Average
8	0.200	30.35	51.24	10.80	10.09	63.62	-12.38	QP
9	1.021	13.54	34.06	10.41	10.11	46.00	-11.94	Average
10	1.021	20.63	41.15	10.41	10.11	56.00	-14.85	QP
11	2.077	14.65	35.42	10.58	10.19	46.00	-10.58	Average
12	2.077	22.08	42.85	10.58	10.19	56.00	-13.15	QP

AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2401Y48404E-EM

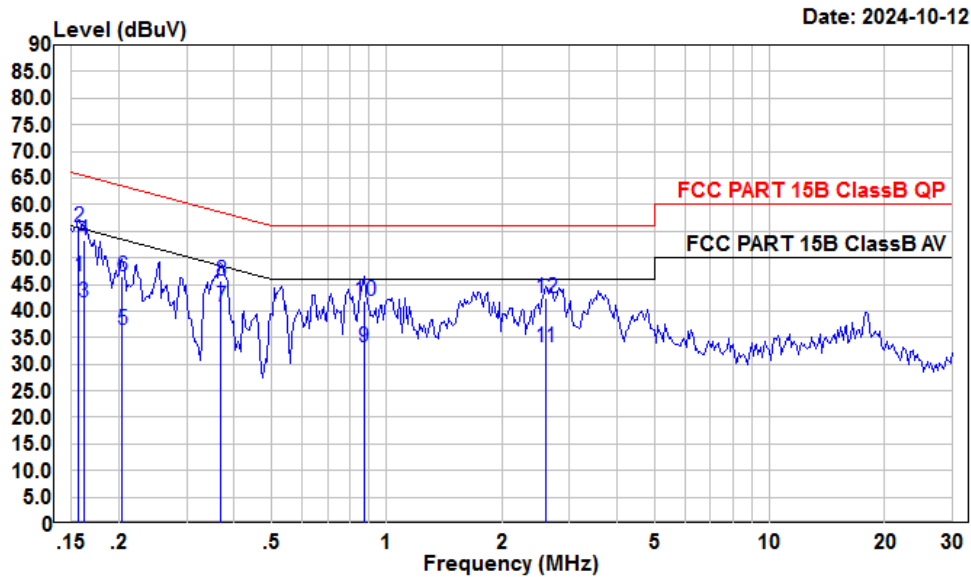
test Mode: Mode2

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.150	20.30	41.03	10.60	10.13	56.00	-14.97	Average
2	0.150	33.10	53.83	10.60	10.13	66.00	-12.17	QP
3	0.163	21.20	41.85	10.54	10.11	55.30	-13.45	Average
4	0.163	32.90	53.55	10.54	10.11	65.30	-11.75	QP
5	0.172	24.14	44.74	10.50	10.10	54.86	-10.12	Average
6	0.172	33.57	54.17	10.50	10.10	64.86	-10.69	QP
7	0.189	16.70	37.23	10.44	10.09	54.06	-16.83	Average
8	0.189	31.60	52.13	10.44	10.09	64.06	-11.93	QP
9	0.206	16.64	37.14	10.41	10.09	53.36	-16.22	Average
10	0.206	28.14	48.64	10.41	10.09	63.36	-14.72	QP
11	0.318	10.52	31.18	10.55	10.11	49.75	-18.57	Average
12	0.318	19.38	40.04	10.55	10.11	59.75	-19.71	QP
13	1.223	10.61	31.50	10.75	10.14	46.00	-14.50	Average
14	1.223	16.09	36.98	10.75	10.14	56.00	-19.02	QP

Test Mode3

AC 120V/60 Hz, Line



Condition: Line

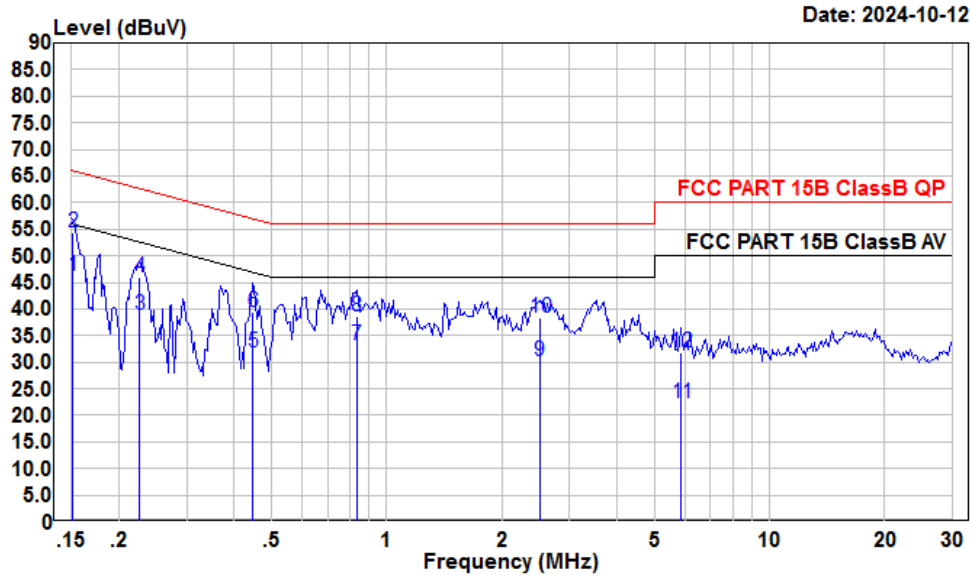
Project : 2401Y48404E-EM

test Mode: Mode3

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.156	25.61	46.62	10.89	10.12	55.65	-9.03	Average
2	0.156	34.76	55.77	10.89	10.12	65.65	-9.88	QP
3	0.162	20.71	41.69	10.87	10.11	55.38	-13.69	Average
4	0.162	32.31	53.29	10.87	10.11	65.38	-12.09	QP
5	0.204	15.56	36.44	10.79	10.09	53.45	-17.01	Average
6	0.204	25.58	46.46	10.79	10.09	63.45	-16.99	QP
7	0.369	20.08	40.79	10.60	10.11	48.52	-7.73	Average
8	0.369	25.07	45.78	10.60	10.11	58.52	-12.74	QP
9	0.871	12.76	33.31	10.44	10.11	46.00	-12.69	Average
10	0.871	21.31	41.86	10.44	10.11	56.00	-14.14	QP
11	2.594	12.58	33.24	10.49	10.17	46.00	-12.76	Average
12	2.594	21.79	42.45	10.49	10.17	56.00	-13.55	QP

AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2401Y48404E-EM

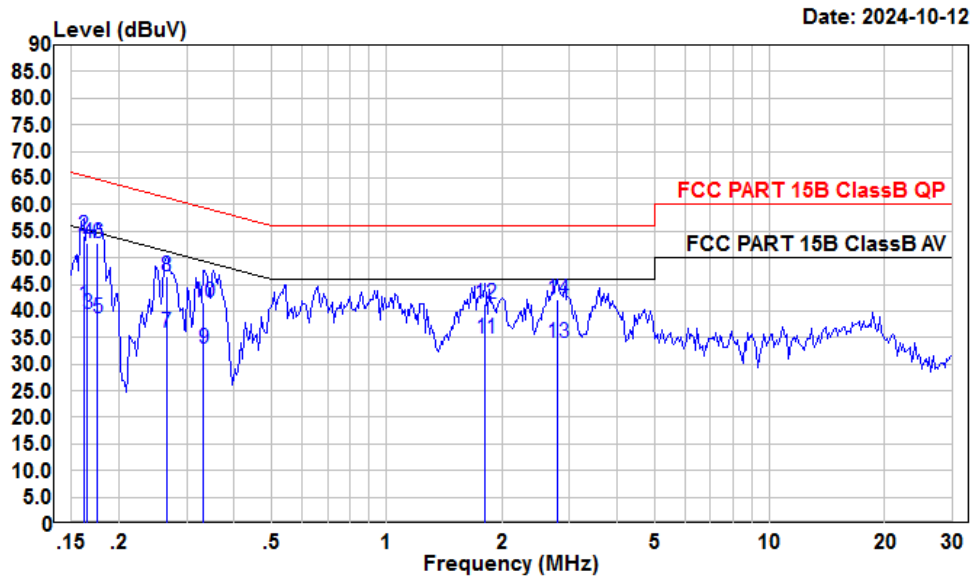
test Mode: Mode3

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.152	25.55	46.27	10.59	10.13	55.91	-9.64	Average
2	0.152	33.73	54.45	10.59	10.13	65.91	-11.46	QP
3	0.227	18.38	38.90	10.44	10.08	52.57	-13.67	Average
4	0.227	25.34	45.86	10.44	10.08	62.57	-16.71	QP
5	0.447	10.98	31.76	10.66	10.12	46.93	-15.17	Average
6	0.447	18.66	39.44	10.66	10.12	56.93	-17.49	QP
7	0.835	12.26	33.17	10.80	10.11	46.00	-12.83	Average
8	0.835	17.74	38.65	10.80	10.11	56.00	-17.35	QP
9	2.513	9.50	30.07	10.40	10.17	46.00	-15.93	Average
10	2.513	17.85	38.42	10.40	10.17	56.00	-17.58	QP
11	5.867	1.52	22.31	10.61	10.18	50.00	-27.69	Average
12	5.867	11.03	31.82	10.61	10.18	60.00	-28.18	QP

Test Mode4

AC 120V/60 Hz, Line



Condition: Line

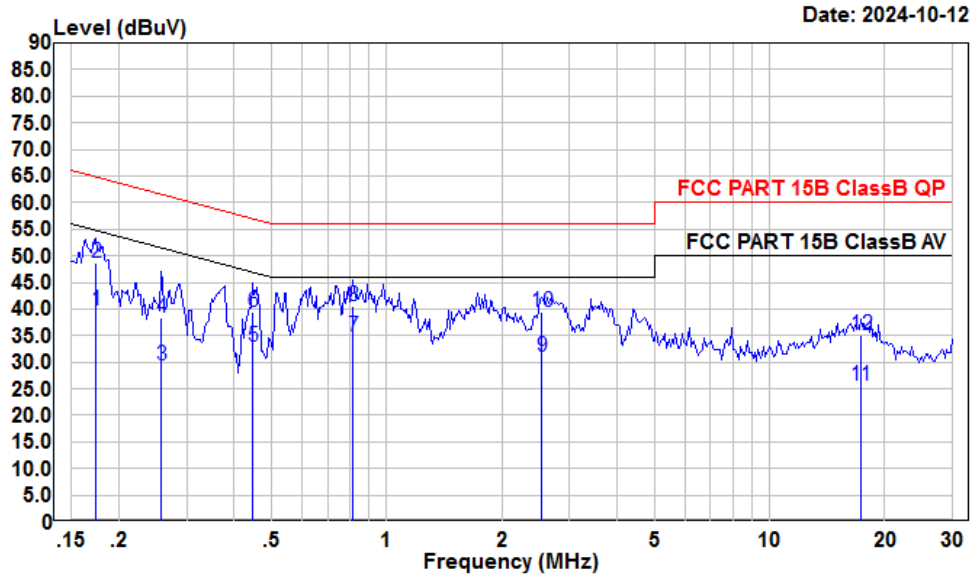
Project : 2401Y48404E-EM

test Mode: Mode4

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.162	20.09	41.07	10.87	10.11	55.38	-14.31	Average
2	0.162	33.04	54.02	10.87	10.11	65.38	-11.36	QP
3	0.165	18.49	39.47	10.87	10.11	55.21	-15.74	Average
4	0.165	31.79	52.77	10.87	10.11	65.21	-12.44	QP
5	0.176	17.80	38.74	10.84	10.10	54.68	-15.94	Average
6	0.176	31.80	52.74	10.84	10.10	64.68	-11.94	QP
7	0.266	15.19	35.99	10.71	10.09	51.25	-15.26	Average
8	0.266	25.69	46.49	10.71	10.09	61.25	-14.76	QP
9	0.332	12.22	32.97	10.63	10.12	49.40	-16.43	Average
10	0.332	20.79	41.54	10.63	10.12	59.40	-17.86	QP
11	1.810	14.05	34.80	10.57	10.18	46.00	-11.20	Average
12	1.810	20.59	41.34	10.57	10.18	56.00	-14.66	QP
13	2.794	13.37	34.01	10.46	10.18	46.00	-11.99	Average
14	2.794	21.63	42.27	10.46	10.18	56.00	-13.73	QP

AC 120V/60 Hz, Neutral



Condition: Neutral

Project : 2401Y48404E-EM

test Mode: Mode4

tester : Macy.shi

	Freq	Read Level	LISN Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.174	19.17	39.77	10.50	10.10	54.77	-15.00	Average
2	0.174	28.12	48.72	10.50	10.10	64.77	-16.05	QP
3	0.258	8.72	29.28	10.48	10.08	51.51	-22.23	Average
4	0.258	17.87	38.43	10.48	10.08	61.51	-23.08	QP
5	0.447	12.13	32.91	10.66	10.12	46.93	-14.02	Average
6	0.447	18.69	39.47	10.66	10.12	56.93	-17.46	QP
7	0.817	13.87	34.78	10.79	10.12	46.00	-11.22	Average
8	0.817	19.61	40.52	10.79	10.12	56.00	-15.48	QP
9	2.540	10.57	31.14	10.40	10.17	46.00	-14.86	Average
10	2.540	18.82	39.39	10.40	10.17	56.00	-16.61	QP
11	17.291	4.75	25.70	10.75	10.20	50.00	-24.30	Average
12	17.291	14.14	35.09	10.75	10.20	60.00	-24.91	QP

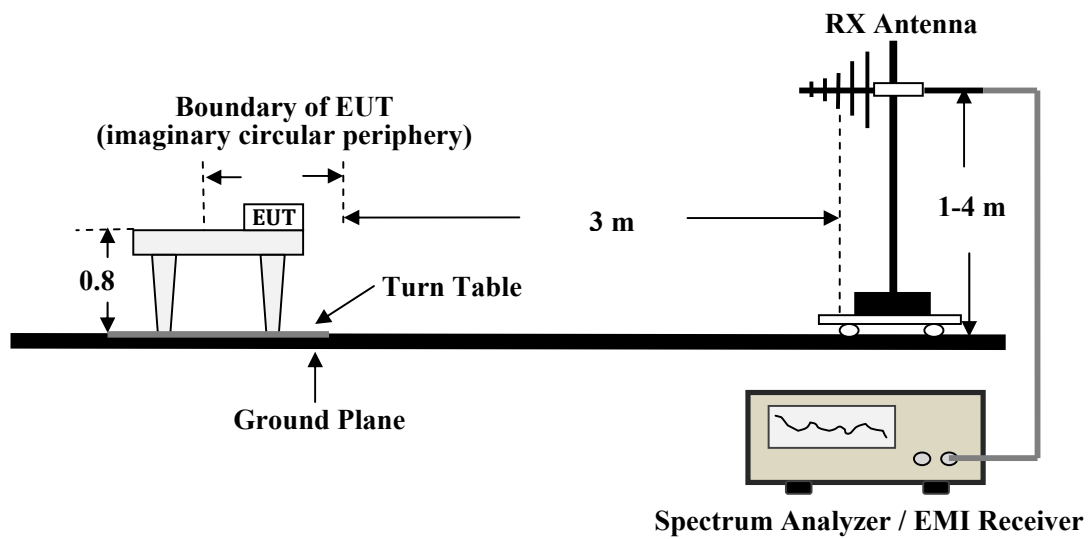
FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

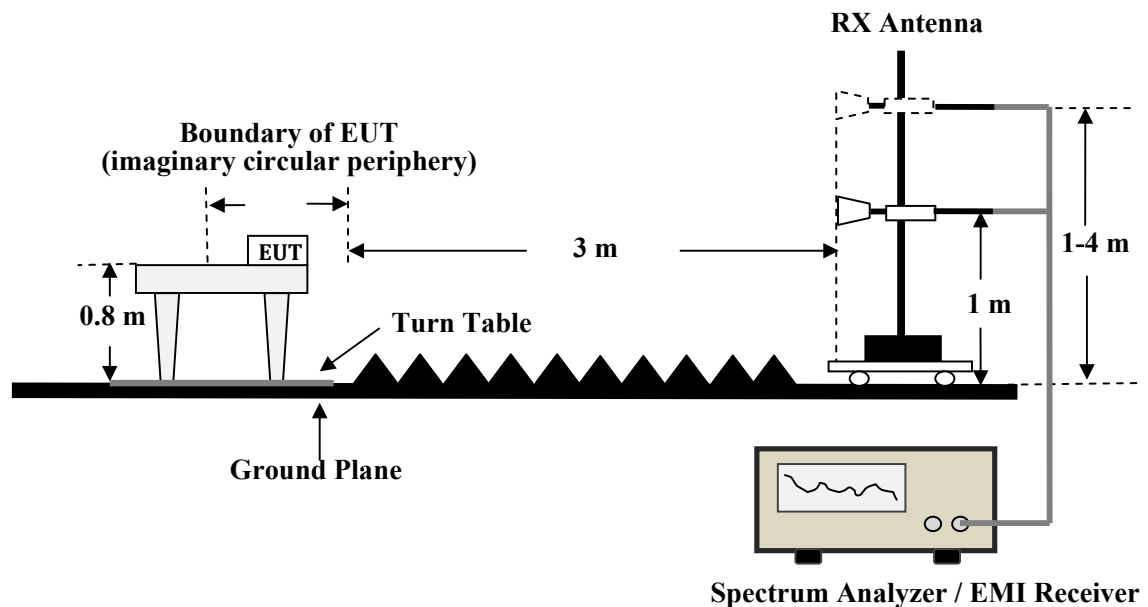
FCC §15.109

EUT Setup

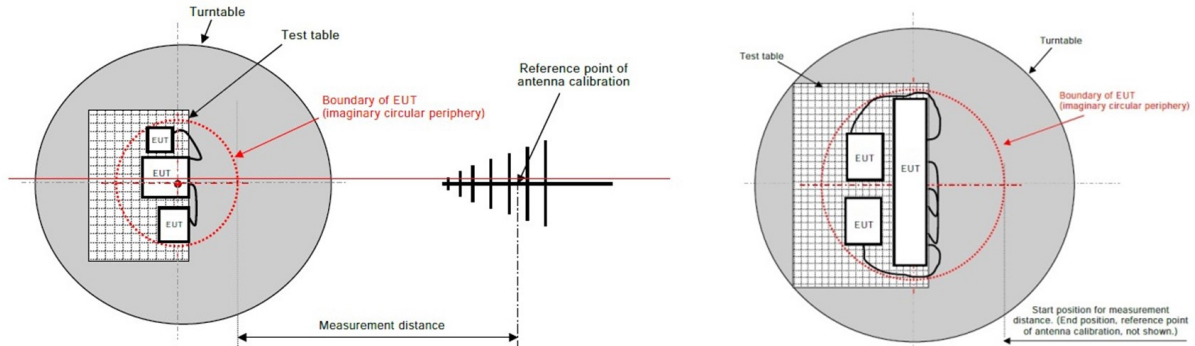
Below 1GHz for Radiated Emissions



Above 1GHz for Radiated Emissions



Radiated Emissions Setup Configuration



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The related limit was specified in FCC Part 15B.

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

The spacing between the peripherals was 10 cm.

EMI Test Receiver and Spectrum analyzer Setup

During the radiated emission test, the EMI test receiver and spectrum analyzer setup was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	1KHz	/	Ave.

Test Procedure

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

If emission level of the EUT in Peak measurement mode is 20dB lower than peak limit line (that means the emission level in Peak measurement mode complies with both Peak and average limit lines) then only Peak measurement result is reported .Otherwise, Emission in average measurement mode shall be measured, and reported for frequency range above 1GHz.

Level & Over Limit Calculation

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

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

$$\text{Level} = \text{Read Level} + \text{Factor}$$

The “Over limit” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over limit of -6 dB means the emission is 6dB below the limit for Class B. The equation for Over Limit calculation is as follows:

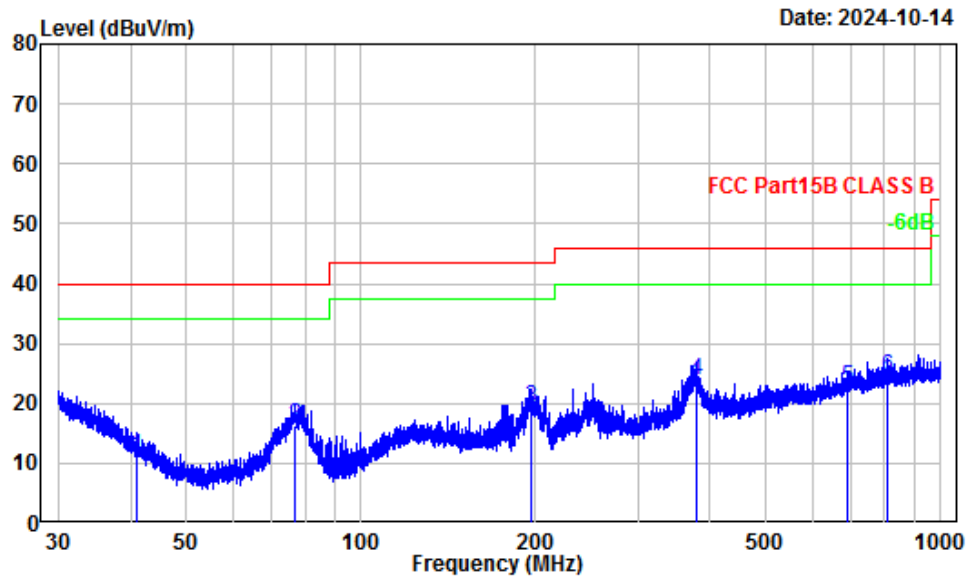
$$\text{Over limit} = \text{Level} - \text{Limit}$$

Test Data

Environmental Conditions

Temperature:	23~25.1 °C
Relative Humidity:	51~53 %
ATM Pressure:	101 kPa

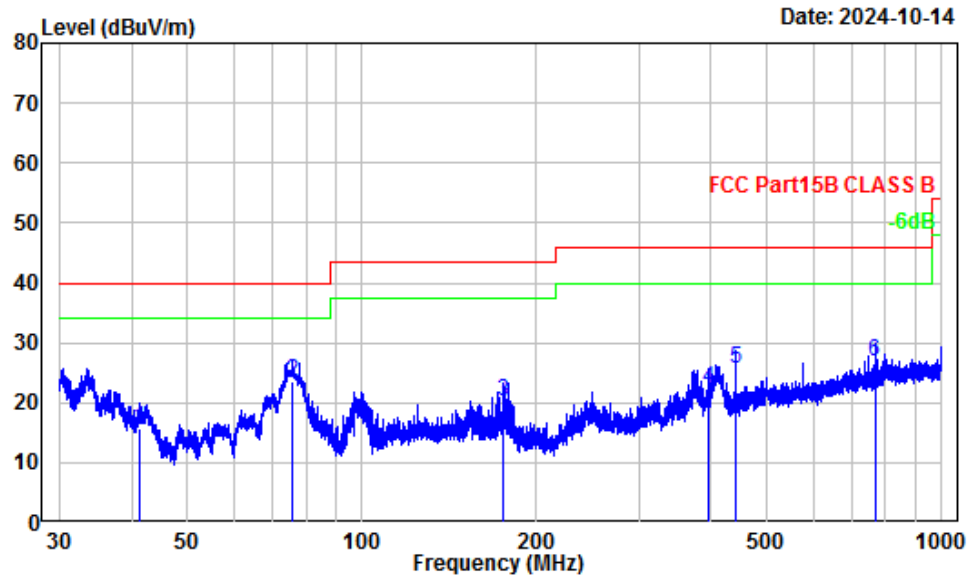
The testing was performed by Anson Su on 2024-10-14 for below 1GHz and Karl Xu on 2024-12-09 for above 1GHz.

*Test Model***30 MHz~1 GHz****Horizontal**

Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401Y48404E-EM
Test Mode : Mode1
Tester : Anson Su

	Freq Factor		Read	Limit	Over	Remark
	MHz	dB/m	Level	Level	Limit	
			dBuV	dBuV/m	dBuV/m	dB
1	40.92	-13.02	24.16	11.14	40.00	-28.86 QP
2	76.81	-17.82	34.16	16.34	40.00	-23.66 QP
3	196.51	-13.46	32.64	19.18	43.50	-24.32 QP
4	378.25	-9.19	33.11	23.92	46.00	-22.08 QP
5	689.56	-3.67	26.16	22.49	46.00	-23.51 QP
6	810.98	-2.03	26.39	24.36	46.00	-21.64 QP

Vertical

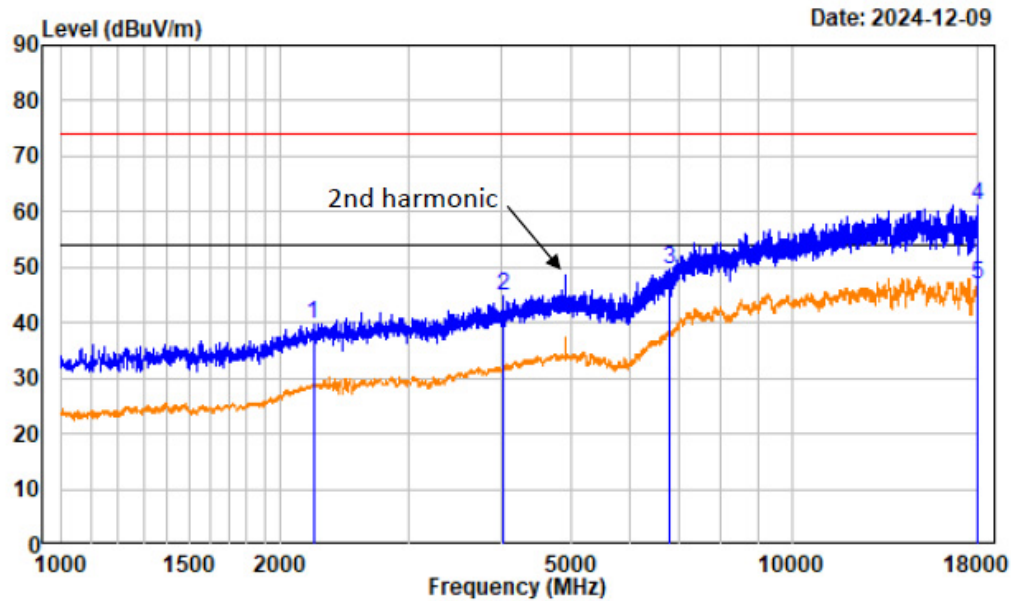


Site : Chamber A
Condition : 3m Vertical
Project Number: 2401Y48404E-EM
Test Mode : Mode1
Tester : Anson Su

	Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	41.42	-13.41	29.19	15.78	40.00	-24.22	QP
2	75.88	-17.83	41.34	23.51	40.00	-16.49	QP
3	175.65	-13.44	33.69	20.25	43.50	-23.25	QP
4	396.07	-8.60	31.08	22.48	46.00	-23.52	QP
5	442.32	-7.60	33.28	25.68	46.00	-20.32	QP
6	766.73	-2.57	29.53	26.96	46.00	-19.04	QP

1 ~ 18 GHz

Horizontal



Trace: 1

Condition : Horizontal

Project Number : 2401Y48404E-EM

Test mode : Mode1

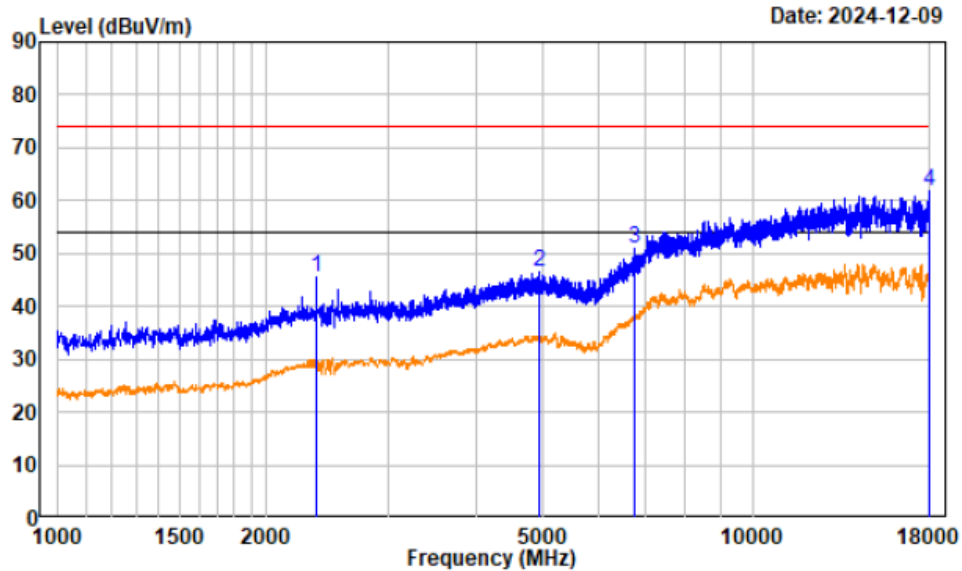
Tester : Karl Xu

Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2217.777	-3.25	42.82	39.57	74.00	-34.43	Peak
2	4024.253	-0.03	44.90	44.87	74.00	-29.13	Peak
3	6810.476	7.46	42.22	49.68	74.00	-24.32	Peak
4	17970.250	24.41	36.88	61.29	74.00	-12.71	Peak
5	17970.250	24.41	22.41	46.82	54.00	-7.18	Average

Vertical



Trace: 1

Condition : Vertical

Project Number : 2401Y48404E-EM

Test mode : Model

Tester : Karl Xu

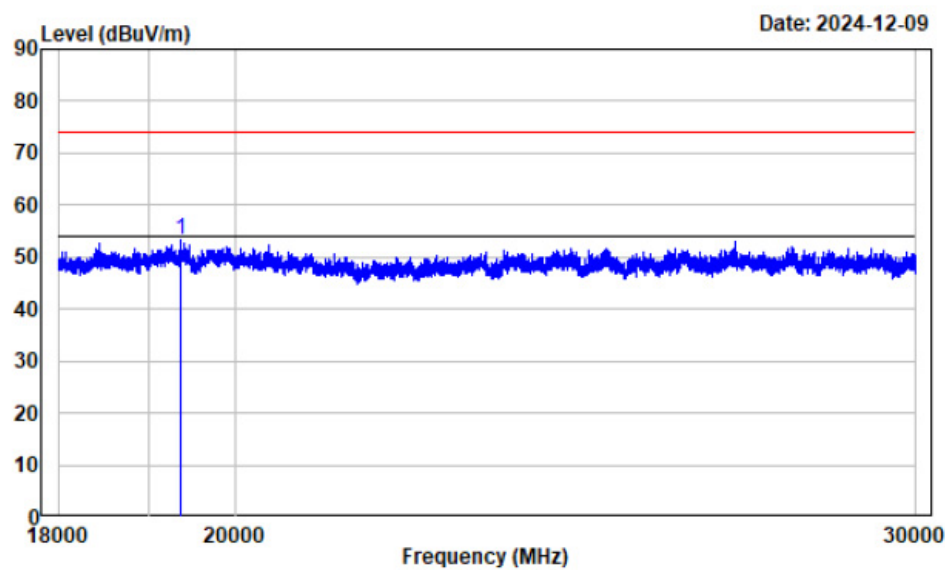
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

Freq Factor		Read Level	Level	Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2355.919	-3.15	48.65	45.50	74.00	-28.50 Peak
2	4929.616	2.62	43.89	46.51	74.00	-27.49 Peak
3	6761.595	7.35	43.47	50.82	74.00	-23.18 Peak
4	17974.500	24.44	37.27	61.71	74.00	-12.29 Peak

18 ~ 30 GHz

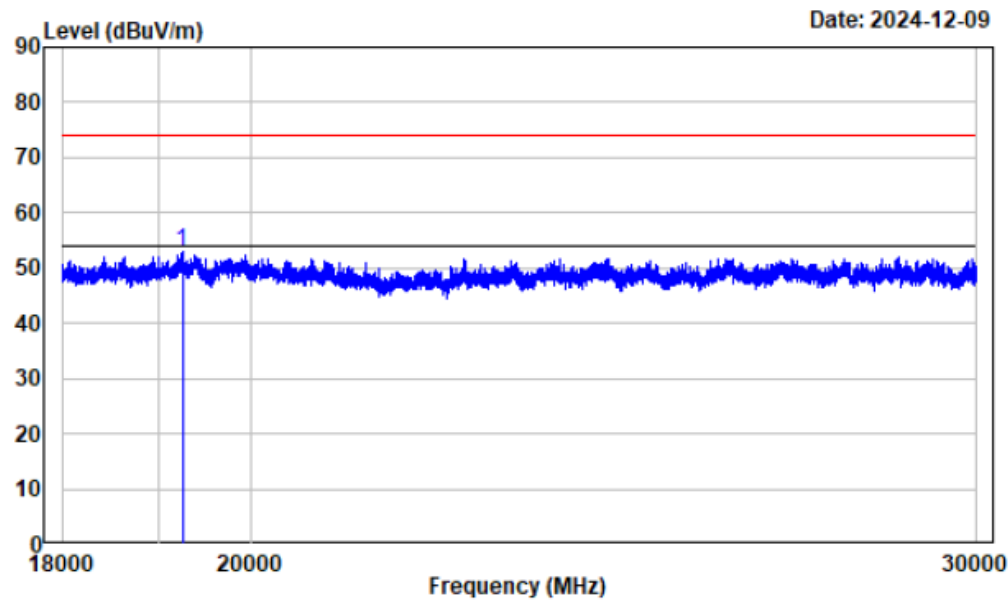
Horizontal



Site : chamber B
Condition : Horizontal
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode1

Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 19353.170	15.14	38.14	53.28	74.00	-20.72	Peak

Vertical



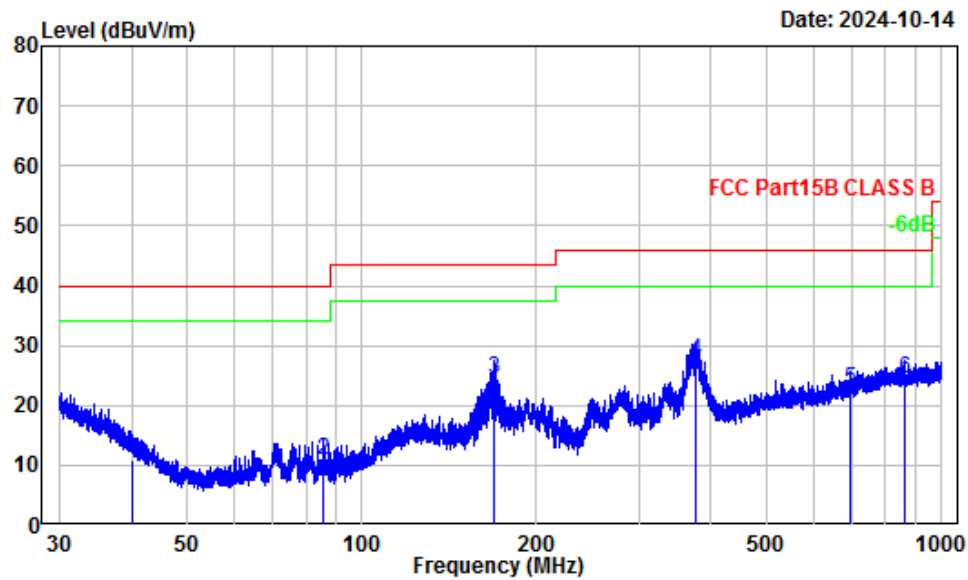
Site : chamber B
Condition : Vertical
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode1

Freq Factor		Read Level		Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 19249.660	15.27	37.63	52.90	74.00	-21.10	Peak

Test Mode2

30 MHz~1 GHz

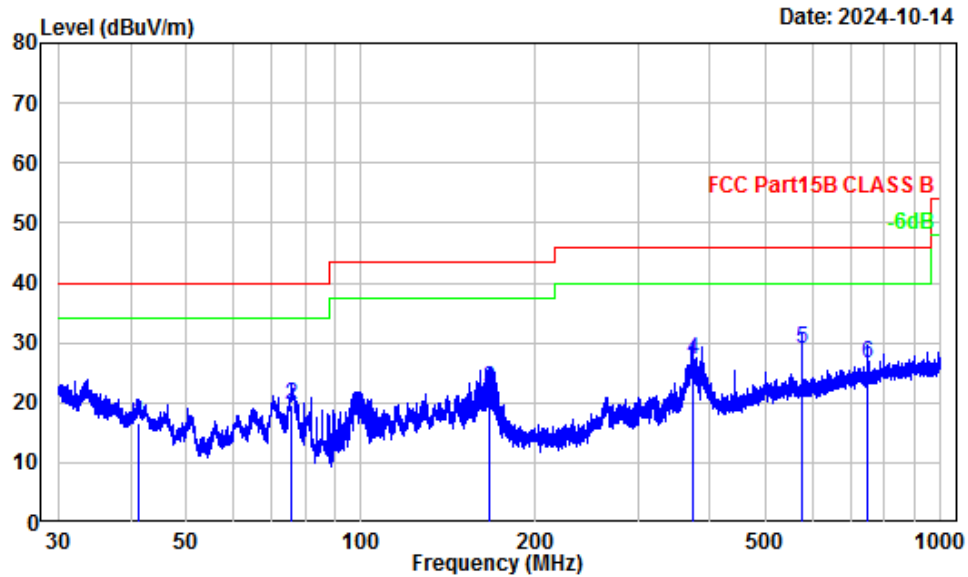
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401Y48404E-EM
Test Mode : Mode2
Tester : Anson Su

	Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	40.22	-12.53	23.53	11.00	40.00	-29.00	QP
2	85.79	-18.09	28.97	10.88	40.00	-29.12	QP
3	168.71	-13.07	37.43	24.36	43.50	-19.14	QP
4	377.42	-9.22	36.69	27.47	46.00	-18.53	QP
5	693.81	-3.56	26.30	22.74	46.00	-23.26	QP
6	861.17	-1.62	25.94	24.32	46.00	-21.68	QP

Vertical

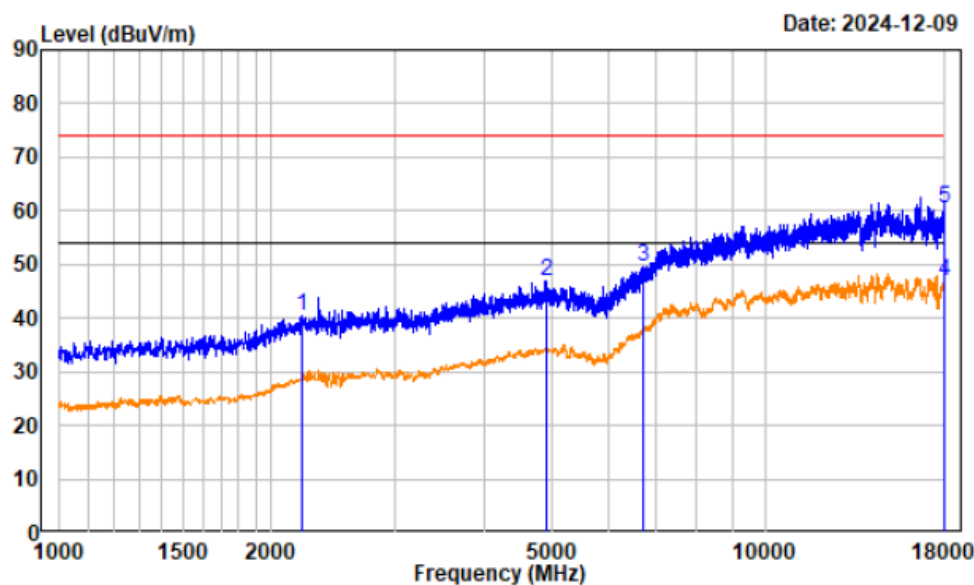


Site : Chamber A
Condition : 3m Vertical
Project Number: 2401Y48404E-EM
Test Mode : Mode2
Tester : Anson Su

	Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	41.26	-13.28	29.83	16.55	40.00	-23.45	QP
2	75.88	-17.83	37.34	19.51	40.00	-20.49	QP
3	166.72	-12.98	35.43	22.45	43.50	-21.05	QP
4	374.13	-9.32	36.44	27.12	46.00	-18.88	QP
5	575.13	-5.25	34.18	28.93	46.00	-17.07	QP
6	750.11	-2.88	29.54	26.66	46.00	-19.34	QP

1 ~ 18 GHz

Horizontal

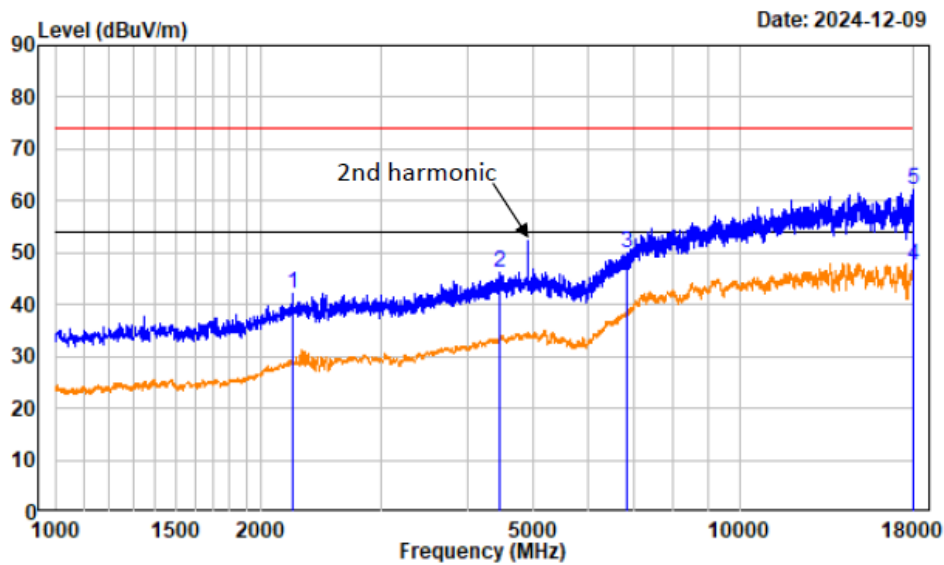


Trace: 1

Condition : Horizontal
Project Number : 2401Y48404E-EM
Test mode : Mode2
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

Freq Factor		Read Level		Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	Limit	
1	2215.652	-3.24	43.75	40.51	74.00	-33.49 Peak
2	4910.489	2.64	44.36	47.00	74.00	-27.00 Peak
3	6742.468	7.30	42.19	49.49	74.00	-24.51 Peak
4	18000.000	24.62	22.28	46.90	54.00	-7.10 Average
5	18000.000	24.62	35.70	60.32	74.00	-13.68 Peak

Vertical



Trace: 1

Condition : Vertical

Project Number : 2401Y48404E-EM

Test mode : Mode2

Tester : Karl Xu

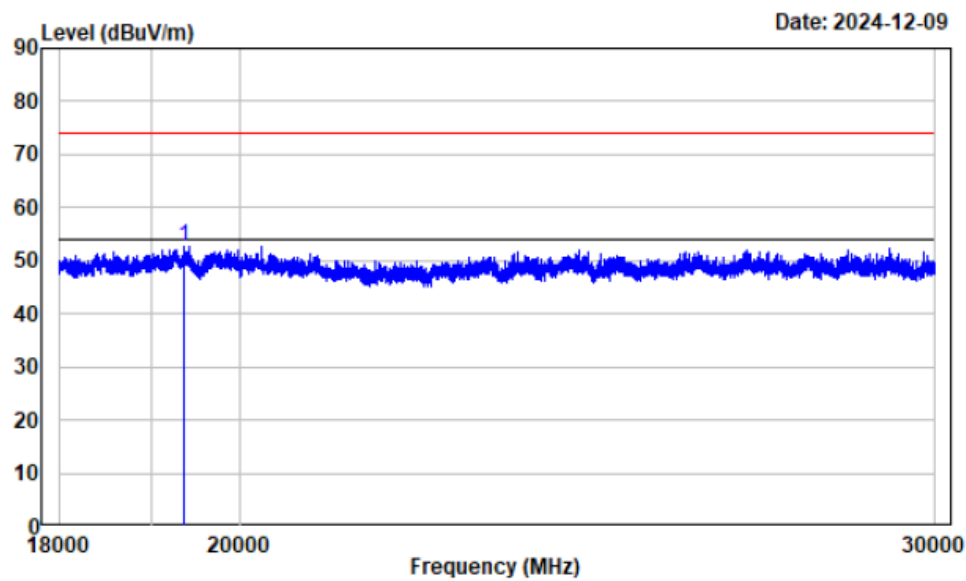
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2219.903	-3.26	45.53	42.27	74.00	-31.73 Peak
2	4459.933	1.25	44.83	46.08	74.00	-27.92 Peak
3	6867.858	7.96	41.84	49.80	74.00	-24.20 Peak
4	17974.500	24.44	23.18	47.62	54.00	-6.38 Average
5	17974.500	24.44	37.59	62.03	74.00	-11.97 Peak

18 ~ 30 GHz

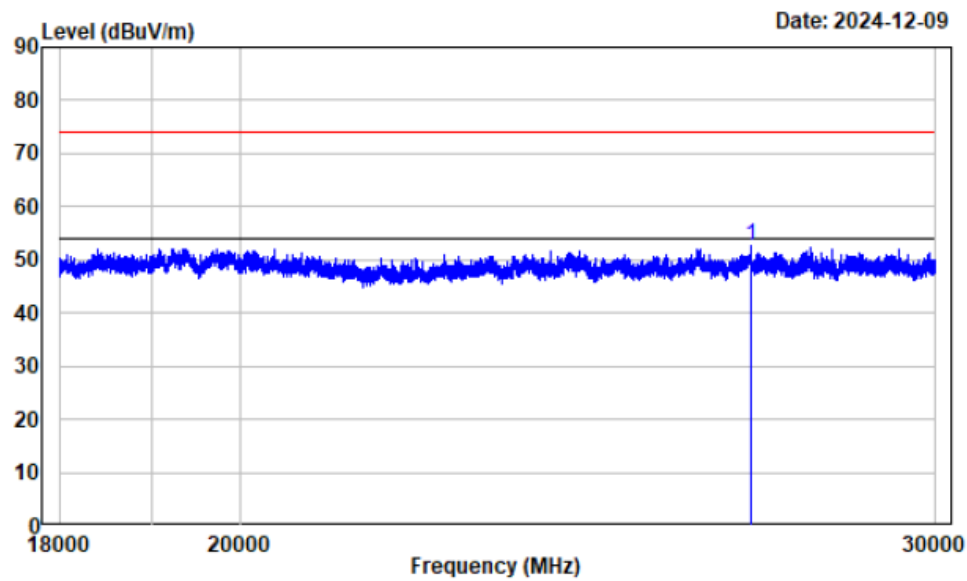
Horizontal



Site : chamber B
Condition : Horizontal
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode2

Freq Factor		Read	Limit	Over	Remark
MHz	dB/m	Level	Level	Line	
		dBuV	dBuV/m	dBuV/m	dB
1 19359.170	15.13	37.57	52.70	74.00	-21.30 Peak

Vertical



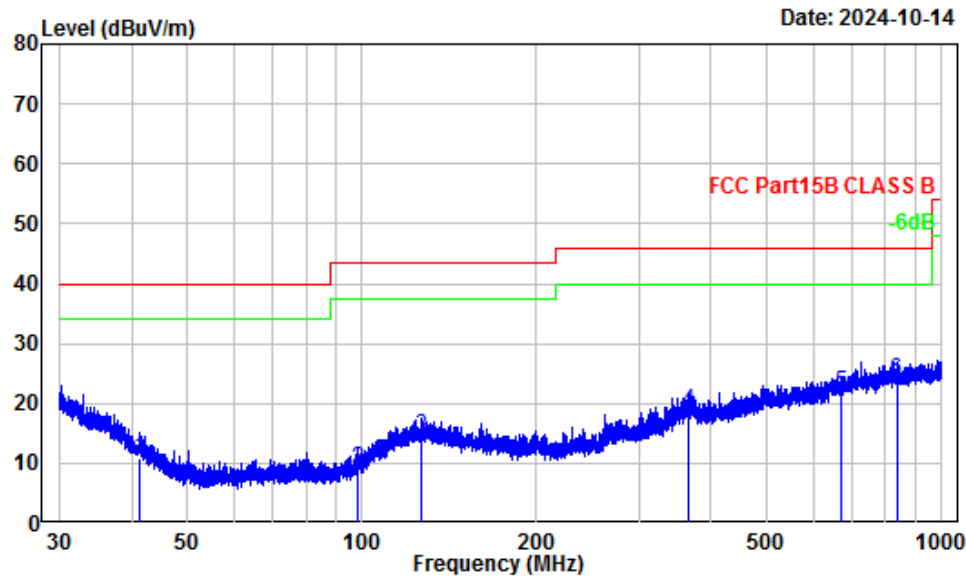
Site : chamber B
Condition : Vertical
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode2

		Read		Limit	Over	Remark
Freq Factor		Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 26933.620	18.14	34.33	52.47	74.00	-21.53	Peak

Test Mode3

30 MHz~1 GHz

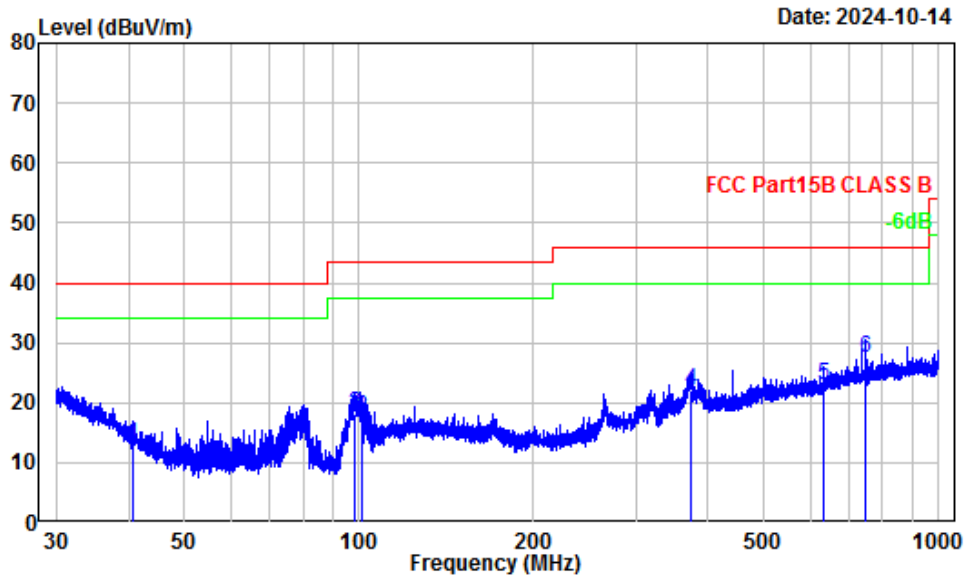
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401Y48404E-EM
Test Mode : Mode3
Tester : Anson Su

	Freq Factor		Read	Limit	Over	Remark
	MHz	dB/m	Level	Level	Limit	
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	41.26	-13.28	24.30	11.02	40.00	-28.98 QP
2	98.53	-16.35	25.51	9.16	43.50	-34.34 QP
3	126.27	-11.12	25.61	14.49	43.50	-29.01 QP
4	365.54	-9.64	28.34	18.70	46.00	-27.30 QP
5	672.25	-3.83	25.56	21.73	46.00	-24.27 QP
6	836.24	-1.83	25.59	23.76	46.00	-22.24 QP

Vertical

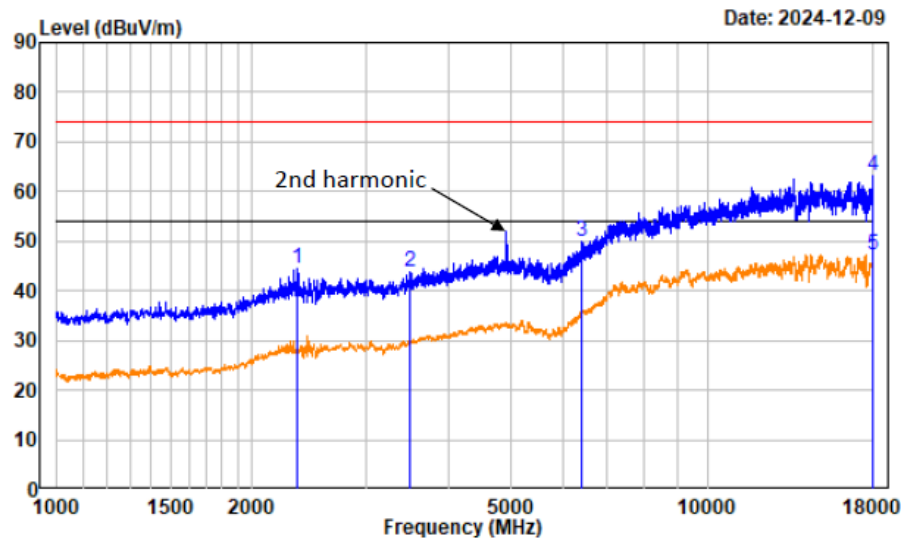


Site : Chamber A
Condition : 3m Vertical
Project Number: 2401Y48404E-EM
Test Mode : Mode3
Tester : Anson Su

	Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	40.83	-12.95	25.98	13.03	40.00	-26.97	QP
2	98.10	-16.47	34.52	18.05	43.50	-25.45	QP
3	101.07	-15.66	33.03	17.37	43.50	-26.13	QP
4	374.29	-9.32	31.29	21.97	46.00	-24.03	QP
5	633.07	-4.42	27.47	23.05	46.00	-22.95	QP
6	750.11	-2.88	30.21	27.33	46.00	-18.67	QP

1 ~ 18 GHz

Horizontal



Trace: 1

Condition : Horizontal

Project Number : 2401Y48404E-EM

Test mode : Mode3

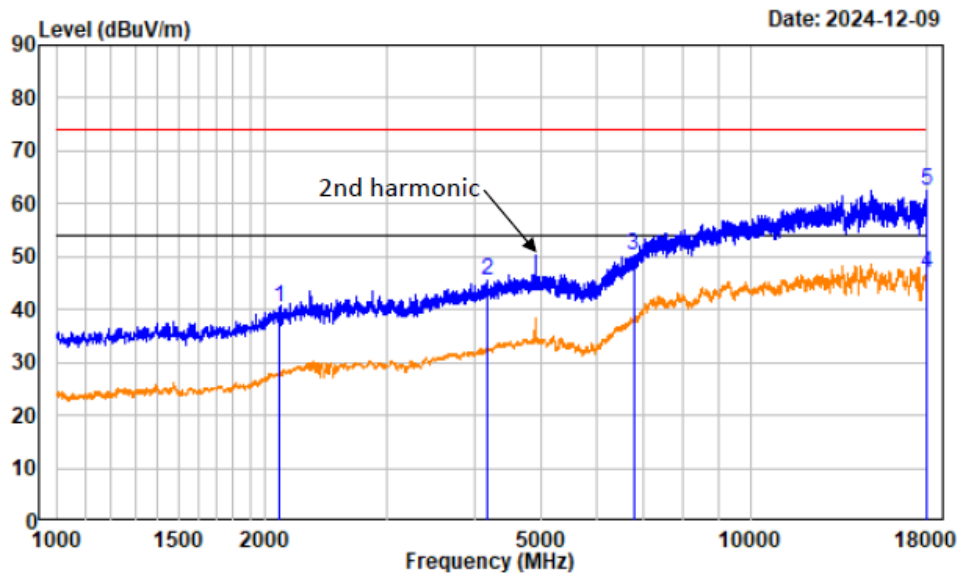
Tester : Karl Xu

Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

		Read		Limit	Over	Remark
Freq	Factor	Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2351.669	-3.15	47.49	44.34	74.00	-29.66 Peak
2	3495.062	-1.85	45.56	43.71	74.00	-30.29 Peak
3	6427.929	6.25	43.52	49.77	74.00	-24.23 Peak
4	17993.630	24.58	38.66	63.24	74.00	-10.76 Peak
5	17993.630	24.58	22.47	47.05	54.00	-6.95 Average

Vertical



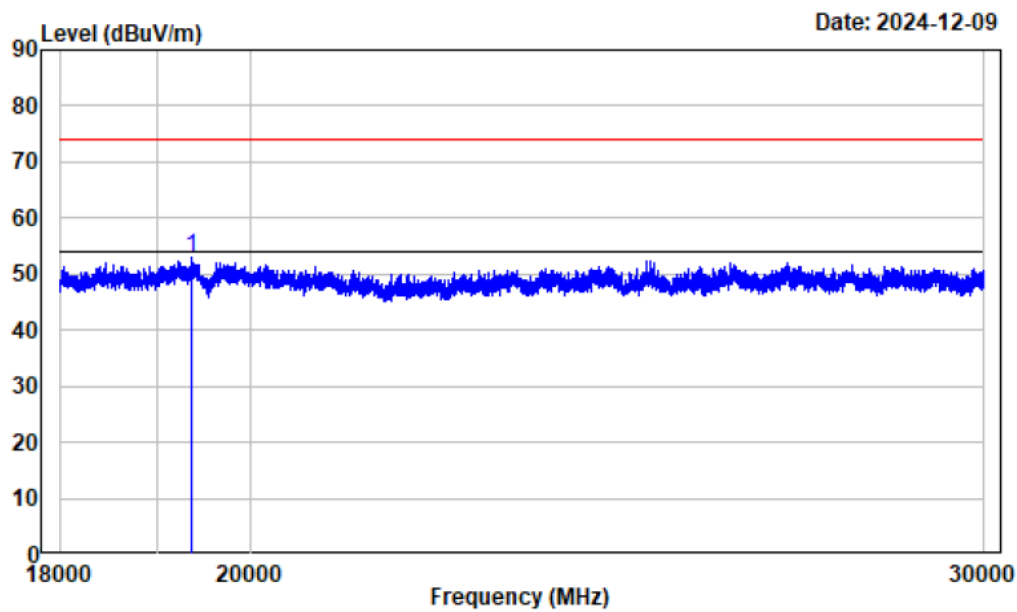
Trace: 1

Condition : Vertical
Project Number : 2401Y48404E-EM
Test mode : Mode3
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

Freq		Factor	Read Level	Level	Limit Line	Over Limit	Remark
MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2092.386	-4.07	44.44	40.37	74.00	-33.63	Peak
2	4190.024	0.54	44.95	45.49	74.00	-28.51	Peak
3	6791.349	7.36	42.90	50.26	74.00	-23.74	Peak
4	17989.370	24.55	22.47	47.02	54.00	-6.98	Average
5	17989.370	24.55	37.81	62.36	74.00	-11.64	Peak

18 ~ 30 GHz

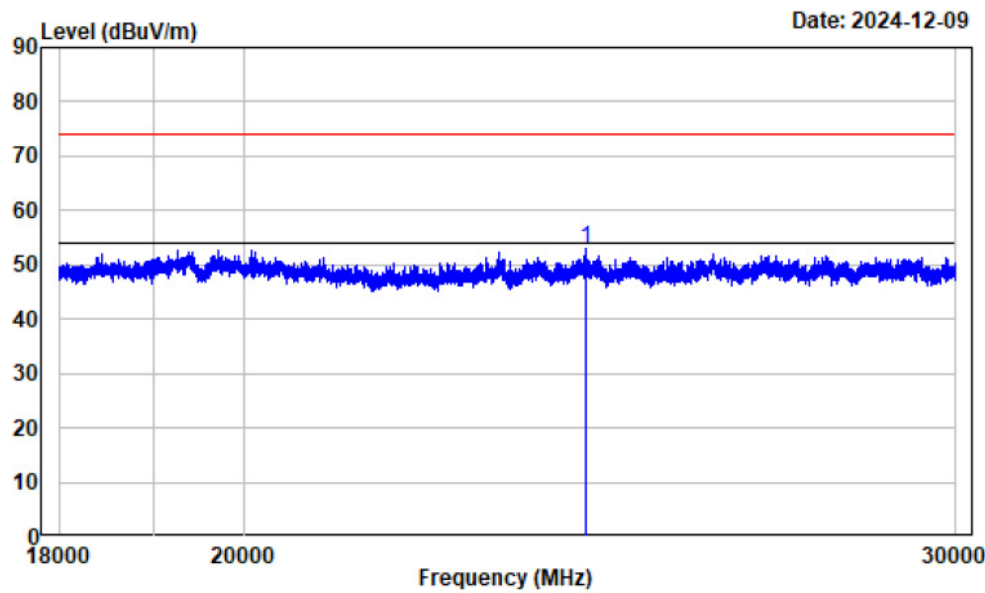
Horizontal



Site : chamber B
Condition : Horizontal
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode3

		Read		Limit	Over	Remark
Freq Factor		Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 19360.670	15.13	37.73	52.86	74.00	-21.14	Peak

Vertical



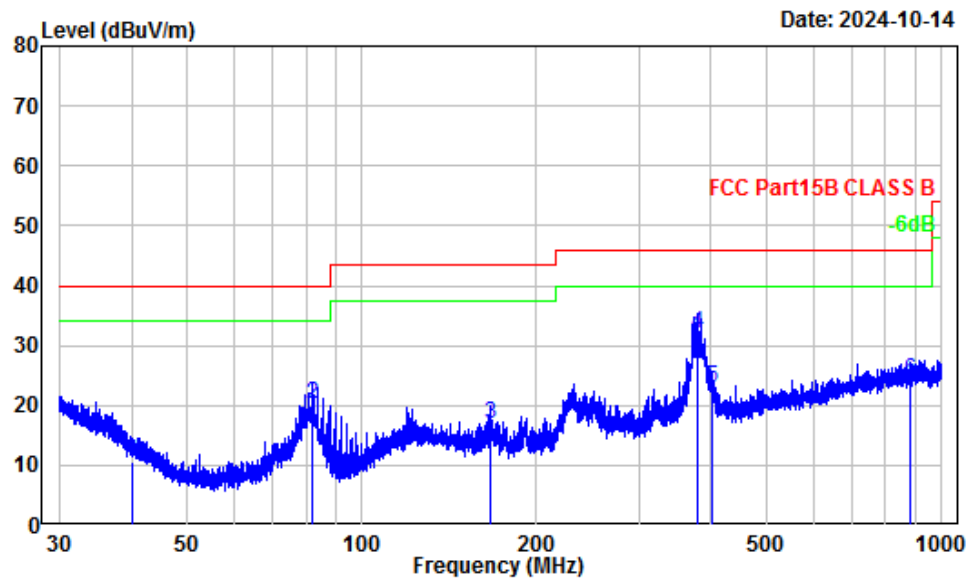
Site : chamber B
Condition : Vertical
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode3

Freq Factor		Read Level		Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	24312.790	17.07	35.75	52.82	74.00	-21.18 Peak

Test Mode4

30 MHz~1 GHz

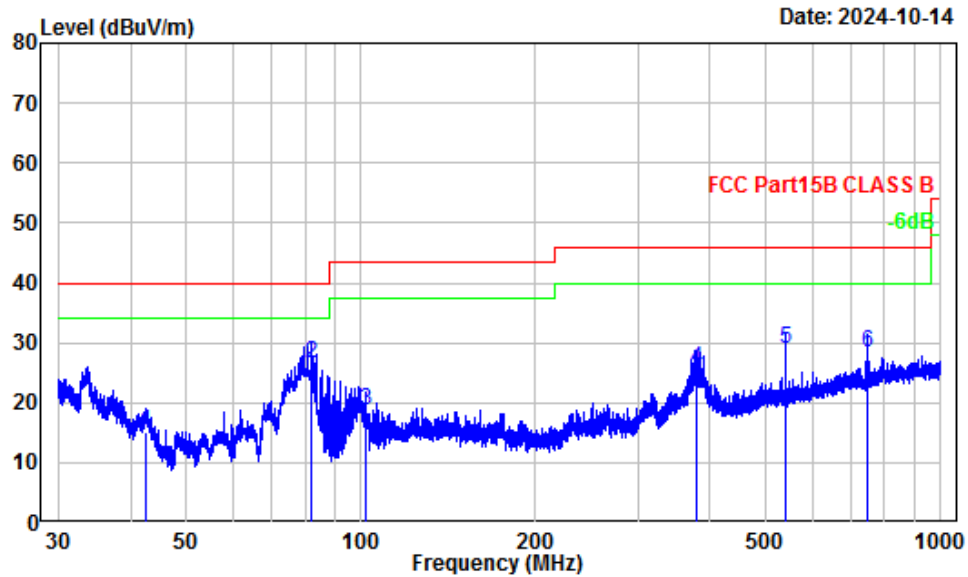
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401Y48404E-EM
Test Mode : Mode4
Tester : Anson Su

	Freq Factor		Read	Limit	Over	Remark
	MHz	dB/m	Level	Level	Limit	
			dBuV	dBuV/m	dBuV/m	dB
1	40.12	-12.45	22.94	10.49	40.00	-29.51 QP
2	81.89	-18.00	38.08	20.08	40.00	-19.92 QP
3	167.02	-13.01	29.78	16.77	43.50	-26.73 QP
4	378.42	-9.19	41.30	32.11	46.00	-13.89 QP
5	401.49	-8.36	31.26	22.90	46.00	-23.10 QP
6	884.89	-1.42	25.56	24.14	46.00	-21.86 QP

Vertical

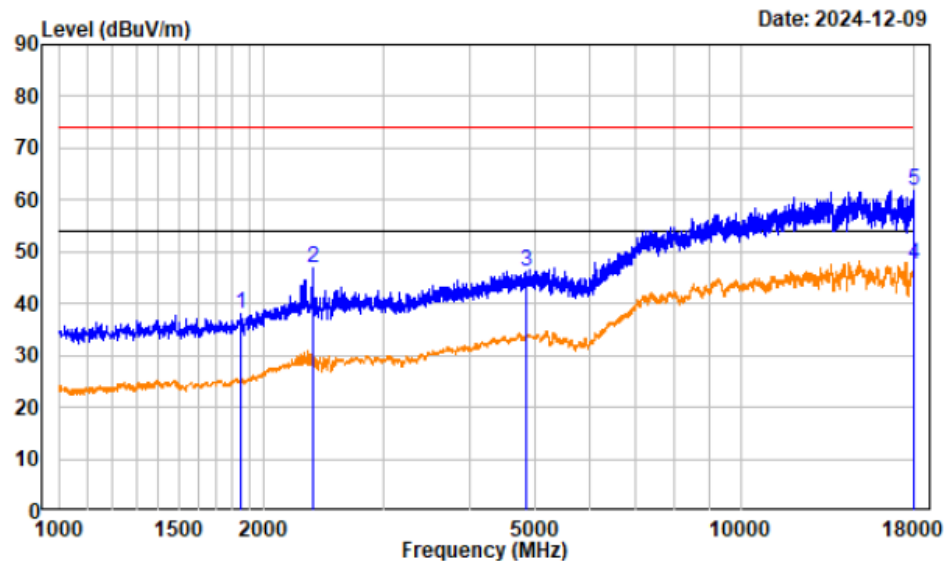


Site : Chamber A
Condition : 3m Vertical
Project Number: 2401Y48404E-EM
Test Mode : Mode4
Tester : Anson Su

	Freq Factor		Read Level	Level	Limit	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	42.56	-14.27	29.28	15.01	40.00	-24.99	QP
2	81.86	-17.99	44.43	26.44	40.00	-13.56	QP
3	101.78	-15.45	34.02	18.57	43.50	-24.93	QP
4	378.42	-9.19	34.89	25.70	46.00	-20.30	QP
5	540.19	-5.62	34.46	28.84	46.00	-17.16	QP
6	750.11	-2.88	31.29	28.41	46.00	-17.59	QP

1 ~ 18 GHz

Horizontal



Trace: 1

Condition : Horizontal

Project Number : 2401Y48404E-EM

Test mode : Mode4

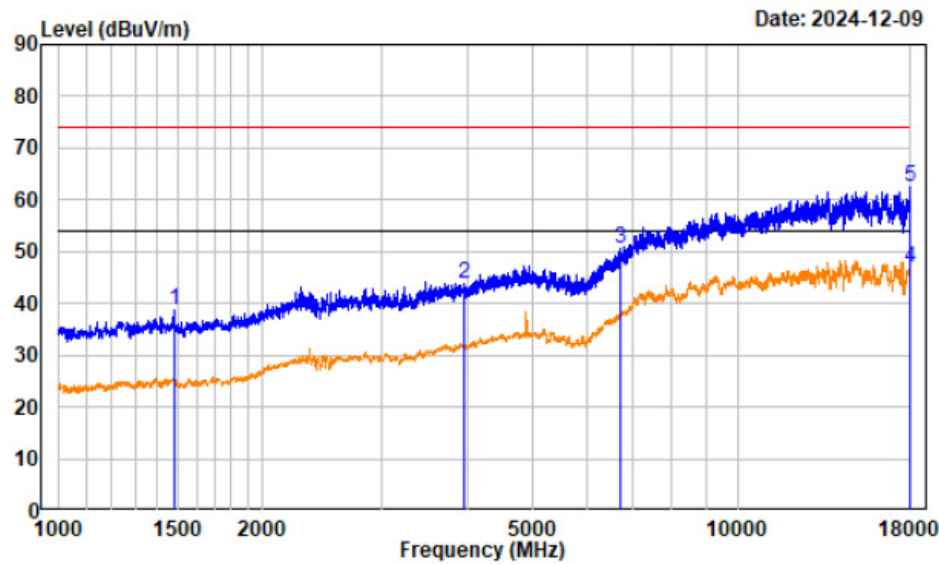
Tester : Karl Xu

Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

Freq Factor		Read Level		Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1847.981	-6.35	44.35	38.00	74.00	-36.00 Peak
2	2360.170	-3.16	49.92	46.76	74.00	-27.24 Peak
3	4861.608	2.51	43.74	46.25	74.00	-27.75 Peak
4	17953.240	24.29	23.24	47.53	54.00	-6.47 Average
5	17953.240	24.29	37.55	61.84	74.00	-12.16 Peak

Vertical



Trace: 1

Condition : Vertical

Project Number : 2401Y48404E-EM

Test mode : Mode4

Tester : Karl Xu

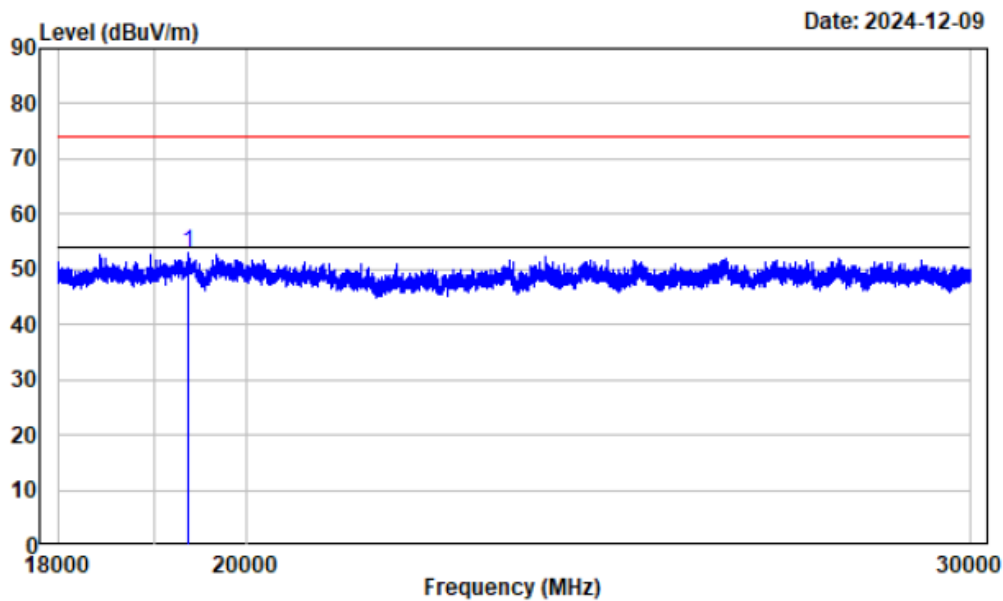
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak

: Average reading: RBW:1MHz VBW:1KHz Detector:Peak

	Freq	Factor	Read		Limit	Over	Remark
			Level	Level	Line	Limit	
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1480.310	-7.17	46.03	38.86	74.00	-35.14	Peak
2	3964.746	-0.18	44.03	43.85	74.00	-30.15	Peak
3	6738.217	7.26	43.31	50.57	74.00	-23.43	Peak
4	17980.870	24.48	22.48	46.96	74.00	-27.04	Average
5	17980.870	24.48	37.98	62.46	74.00	-11.54	Peak

18 ~ 30 GHz

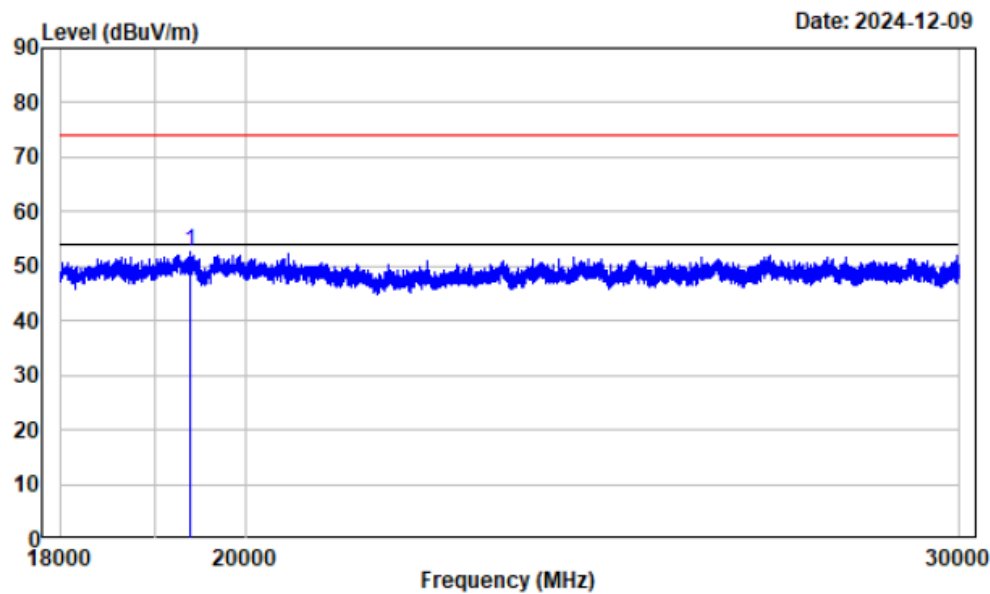
Horizontal



Site : chamber B
Condition : Horizontal
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode4

Freq Factor		Read Level	Limit Level	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1 19365.170	15.12	37.84	52.96	74.00	-21.04 Peak

Vertical



Site : chamber B
Condition : Vertical
Project Number : 2401Y48404E-EM
Tester : Karl Xu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Test Mode : Mode4

Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 19387.670	15.11	37.64	52.75	74.00	-21.25	Peak

EUT PHOTOGRAPHS

Please refer to the attachment 2401Y48404E-RF External photo and 2401Y48404E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2401Y48404E-EM Test Setup photo.

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