

# TEST REPORT

**Product Name** : Smart Wireless PT Camera  
**Brand Mark** : AONI  
**Model No.** : EP01J05  
**Extension Model** : P-XY,B-XY,D-XY,953,95A,95E  
**Report Number** : BLA-EMC-202308-A7502  
**FCC ID** : Z63-SHM01  
**Date of Sample Receipt** : 2023/9/6  
**Date of Test** : 2023/9/6 to 2023/10/12  
**Date of Issue** : 2023/11/22  
**Test Standard** : 47 CFR Part 15, Subpart C 15.247  
**Test Result** : Pass

*Note:the first X represents 0-99, A-Z; The second Y represents 0-99, A-Z*

Prepared for:

**SHENZHEN AONI ELECTRONIC CO.,LTD.**  
**No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'Anstreets,Bao'an District**

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2023/11/22



**REPORT REVISE RECORD**

<b>Version No.</b>	<b>Date</b>	<b>Description</b>
00	2023/11/22	Original

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**TABLE OF CONTENTS**

<b>1 TEST SUMMARY</b> .....	<b>5</b>
<b>2 GENERAL INFORMATION</b> .....	<b>6</b>
<b>3 GENERAL DESCRIPTION OF E.U.T.</b> .....	<b>6</b>
<b>4 TEST ENVIRONMENT</b> .....	<b>8</b>
<b>5 TEST MODE</b> .....	<b>8</b>
<b>6 MEASUREMENT UNCERTAINTY</b> .....	<b>8</b>
<b>7 DESCRIPTION OF SUPPORT UNIT</b> .....	<b>9</b>
<b>8 LABORATORY LOCATION</b> .....	<b>9</b>
<b>9 TEST INSTRUMENTS LIST</b> .....	<b>10</b>
<b>10 RADIATED SPURIOUS EMISSIONS</b> .....	<b>13</b>
10.1 LIMITS .....	13
10.2 BLOCK DIAGRAM OF TEST SETUP .....	14
10.3 PROCEDURE .....	14
10.4 TEST DATA .....	16
<b>11 ANTENNA REQUIREMENT</b> .....	<b>24</b>
11.1 CONCLUSION .....	24
<b>12 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS</b> .....	<b>25</b>
12.1 LIMITS .....	25
12.2 BLOCK DIAGRAM OF TEST SETUP .....	26
12.3 PROCEDURE .....	26
12.4 TEST DATA .....	28
<b>13 CONDUCTED SPURIOUS EMISSIONS</b> .....	<b>44</b>
13.1 LIMITS .....	44
13.2 BLOCK DIAGRAM OF TEST SETUP .....	45
13.3 TEST DATA .....	45
<b>14 CONDUCTED BAND EDGES MEASUREMENT</b> .....	<b>46</b>
14.1 LIMITS .....	46
14.2 BLOCK DIAGRAM OF TEST SETUP .....	47
14.3 TEST DATA .....	47

<b>15 MINIMUM 6DB BANDWIDTH .....</b>	<b>48</b>
15.1 LIMITS .....	48
15.2 BLOCK DIAGRAM OF TEST SETUP .....	48
15.3 TEST DATA .....	48
<b>16 POWER SPECTRUM DENSITY .....</b>	<b>49</b>
16.1 LIMITS .....	49
16.2 BLOCK DIAGRAM OF TEST SETUP .....	49
16.3 TEST DATA .....	49
<b>17 CONDUCTED PEAK OUTPUT POWER .....</b>	<b>50</b>
17.1 LIMITS .....	50
17.2 BLOCK DIAGRAM OF TEST SETUP .....	50
17.3 TEST DATA .....	51
<b>18 APPENDIX .....</b>	<b>52</b>
18.1 MAXIMUM CONDUCTED OUTPUT POWER .....	52
18.2 -6dB BANDWIDTH .....	59
18.3 OCCUPIED CHANNEL BANDWIDTH .....	66
18.4 MAXIMUM POWER SPECTRAL DENSITY LEVEL .....	73
18.5 BAND EDGE .....	80
18.6 CONDUCTED RF SPURIOUS EMISSION .....	89
<b>APPENDIX A: PHOTOGRAPHS OF TEST SETUP .....</b>	<b>102</b>
<b>APPENDIX B: PHOTOGRAPHS OF EUT .....</b>	<b>104</b>

## 1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3)	Pass
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass

## 2 GENERAL INFORMATION

<b>Applicant</b>	SHENZHEN AONI ELECTRONIC CO.,LTD.
<b>Address</b>	No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'Anstreets,Bao'an District
<b>Manufacturer</b>	SHENZHE NAONI ELECTRONIC CO.,LTD.
<b>Address</b>	No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'Anstreets,Bao'an District
<b>Factory</b>	SHENZHE NAONI ELECTRONIC CO.,LTD.
<b>Address</b>	No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'Anstreets,Bao'an District
<b>Product Name</b>	Smart Wireless PT Camera
<b>Test Model No.</b>	EP01J05
<b>Extension Model</b>	P-XY,B-XY,D-XY,953,95A,95E
<b>Remark</b>	Appearance and color difference, the first X represents 0-99, A-Z; The second Y represents 0-99, A-Z

## 3 GENERAL DESCRIPTION OF E.U.T.

<b>Hardware Version</b>	EP01J05-MAIN-V1.2
<b>Software Version</b>	V3.2.0.3585
<b>Operation Frequency:</b>	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40):2422MHz to 2452MHz
<b>Modulation Type:</b>	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
<b>Channel Spacing:</b>	5MHz
<b>Number of Channels:</b>	802.11b/g/n(HT20):11 802.11n(HT40):7
<b>Antenna Type:</b>	FPC Antenna
<b>Antenna Gain:</b>	2.71 dBi (Provided by the applicant)

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz	X	

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)
	802.11b/802.11g/802.11n(HT20)
Lowest channel	2412MHz
Middle channel	2437MHz
Highest channel	2462MHz
Test channel	802.11n(HT40)
Lowest channel	2422MHz
Middle channel	2437MHz
Highest channel	2452MHz

#### 4 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25°C	AC 120V

#### 5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
Transmitting mode	Keep the EUT in continuously transmitting mode with modulation. (The duty cycle is greater than 98%)
Remark: Full battery is used during all test except ac conducted emission, 802.11b/g/n(HT20) and 802.11n(HT40) all have been tested, During the radiated spurious emission test, 802.11b/11g/11n(HT20) and 802.11n(HT40) modulations all have been tested, only worse case 802.11g is reported.	

#### 6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Unwanted Radiated Emission (30MHz ~ 1000MHz)	±4.35 dB
Unwanted Radiated Emission (1GHz ~ 18GHz)	±4.44 dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB



## 7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	lenovo	E460C	N/A	From lab (No.BLA-ZC-BS-2022005)

## 8 LABORATORY LOCATION

All tests were performed at:  
BlueAsia of Technical Services(Shenzhen) Co.,Ltd.  
Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province,  
China  
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673

## 9 TEST INSTRUMENTS LIST

Test Equipment Of Radiated Spurious Emissions					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber 1	SKET	966	N/A	2020/11/10	2023/11/9
Chamber 2	SKET	966	N/A	2021/07/20	2023/11/9
Spectrum	R&S	FSP40	100817	2023/08/30	2024/08/29
Receiver	R&S	ESR7	101199	2023/08/30	2024/08/29
Receiver	R&S	ESPI7	101477	2023/07/07	2024/07/06
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2022/10/12	2025/10/11
Horn Antenna	Schwarzbeck	BBHA9120D	01892 P:00331	2022/09/13	2025/09/12
Horn Antenna	Schwarzbeck	BBHA 9170	1106	2022/04/24	2024/04/23
Amplifier	SKET	LNPA_30M01G-30	SK2021060801	2023/07/07	2024/07/06
Amplifier	SKET	PA-000318G-45	N/A	2023/08/30	2024/08/29
Amplifier	SKET	LNPA_18G40G-50	SK2022071301	2023/07/14	2024/07/13
Filter group	SKET	2.4G/5G Filter group r	N/A	2023/07/07	2024/07/06
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2022/09/14	2025/09/13
1kHz calibration audio source	SKET	MCS-ABT-C35	N/A	2023/09/04	2024/09/03
Free Field Microphone	SKET	MGS MP 663	0414	2023/09/04	2024/09/03
Audio shielding box	SKET	SB-ABT-C35	N/A	2023/03/30	2024/03/29
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A

Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A
Signal Generator DTV	ECREDIX	DSG-1000	N/A	N/A	N/A

**Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)**

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2023/08/30	2024/08/29
LISN	R&S	ENV216	3560.6550.15	2023/08/30	2024/08/29
LISN	AT	AT166-2	AKK1806000003	2023/08/30	2024/08/29
ISN	TESEQ	ISNT8-cat6	53580	2023/08/30	2024/08/29
Single-channel vehicle artificial power network	Schwarzbeck	NNBM 8124	01045	2023/07/07	2024/07/06
Single-channel vehicle artificial power network	Schwarzbeck	NNBM 8124	01075	2023/07/07	2024/07/06
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

**Test Equipment Of RF Conducted Test**

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2023/08/30	2024/08/29
Spectrum	Agilent	N9020A	MY49100060	2023/08/30	2024/08/29
Spectrum	Agilent	N9020A	MY54420161	2023/08/30	2024/08/29
Signal Generator	Agilent	N5182A	MY47420955	2023/08/30	2024/08/29
Signal Generator	Agilent	N5181A	MY46240904	2023/07/07	2024/07/06
Signal Generator	R&S	CMW500	132429	2023/08/30	2024/08/29
BluetoothTester	Anritsu	MT8852B	06262047872	2023/08/30	2024/08/29

Power probe	DARE	RPR3006W	14I00889SN042	2023/09/01	2024/08/31
Power detection box	CDKMV	MW100-PSB	MW201020JYT	2023/07/07	2024/07/06
DC Powersupply	zhaoxin	KXN-305D	20K305D1221363	2023/08/30	2024/08/29
DC Powersupply	zhaoxin	RXN-1505D	19R1505D050168	2023/08/30	2024/08/29
2.4GHz/5GHz RF Test software	MTS	MTS 8310	Version 2.0.0.0	N/A	N/A
Audio Analyzer	Audio Precision	ATS-1	ATS141094	2023/07/07	2024/07/06

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## 10 RADIATED SPURIOUS EMISSIONS

<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 6.4,6.5,6.6
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Aiden
<b>Temperature</b>	25°C
<b>Humidity</b>	54%

### 10.1 LIMITS

<b>Frequency(MHz)</b>	<b>Field strength(microvolts/meter)</b>	<b>Measurement distance(meters)</b>
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 10.2 BLOCK DIAGRAM OF TEST SETUP



## 10.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

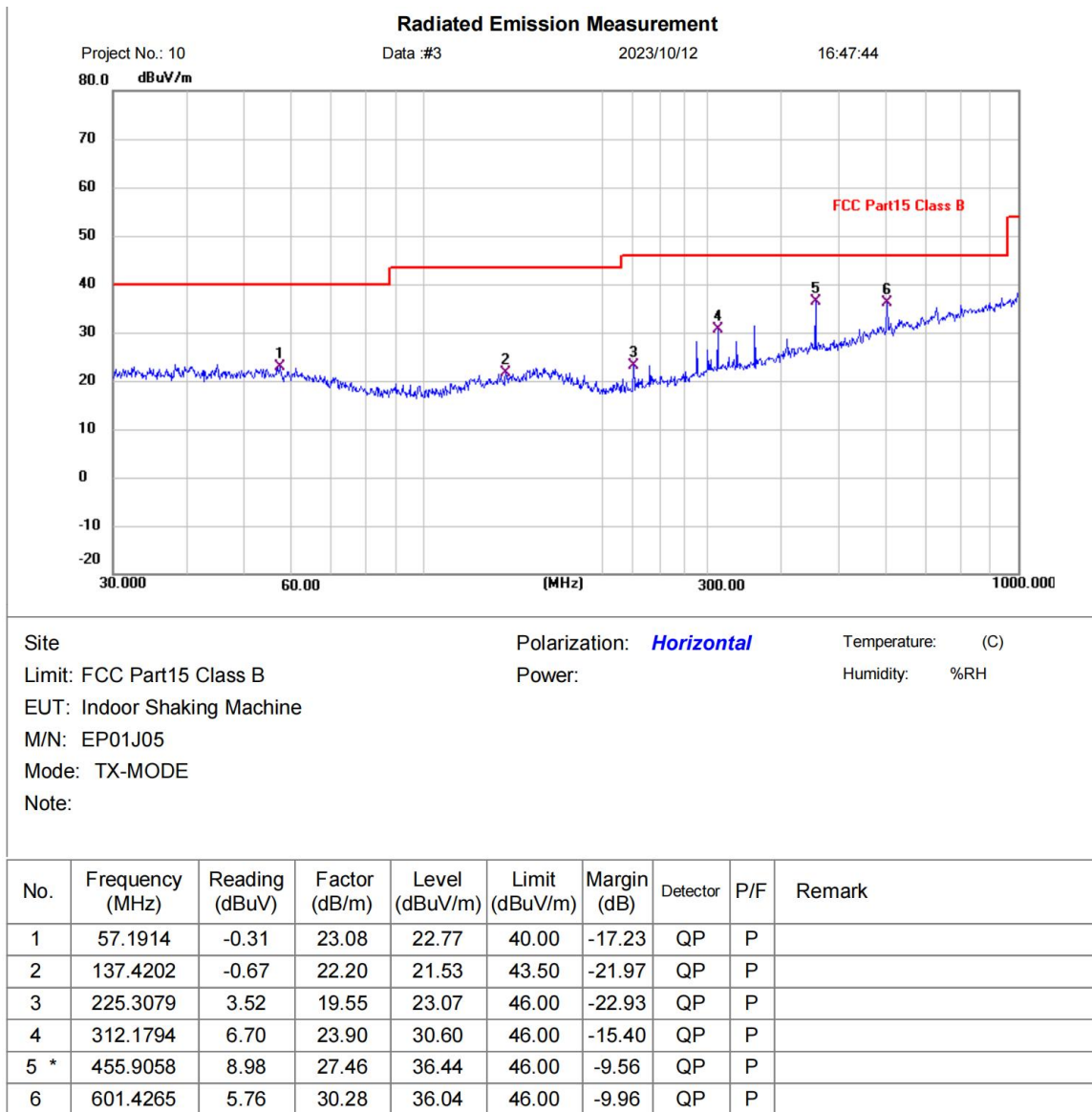
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:  
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
- 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

### 10.4 TEST DATA

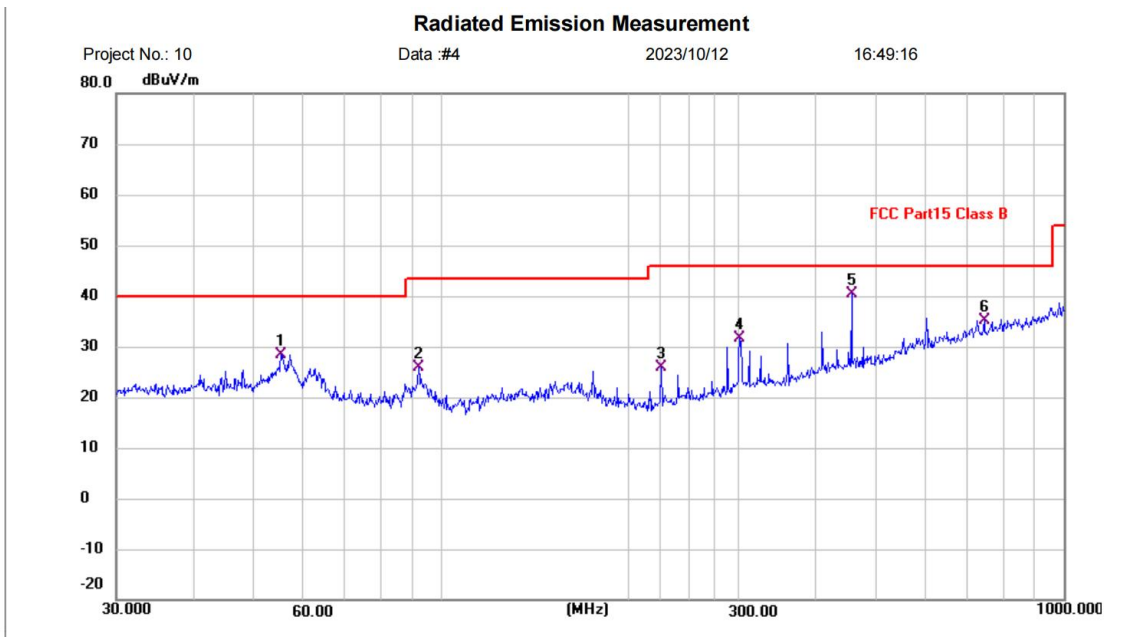
[TestMode: TX mode below 1G]; [Polarity: Horizontal]



**Test Result: Pass**



[TestMode: TX mode below 1G]; [Polarity: Vertical]



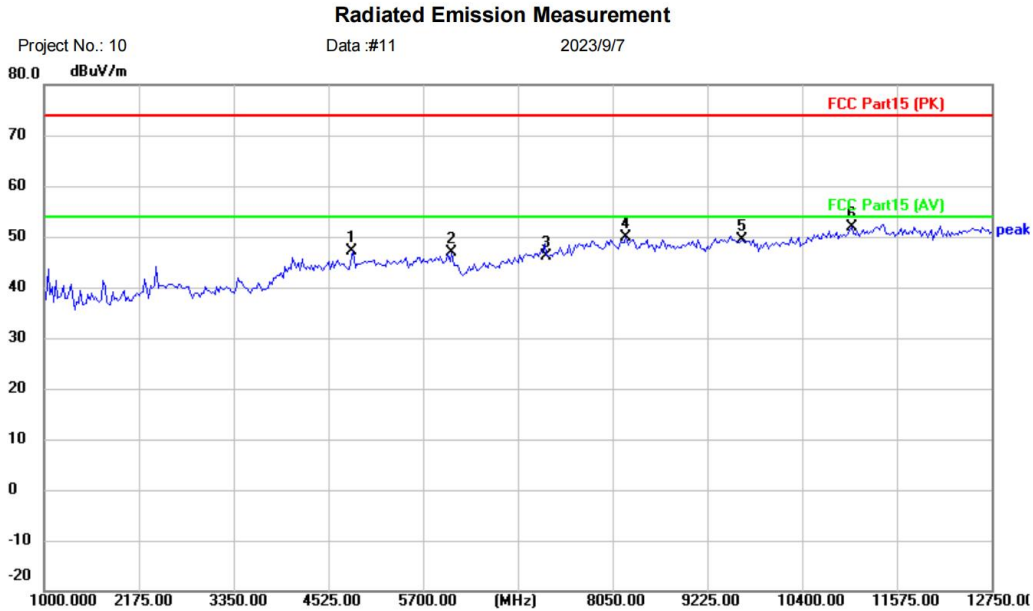
Site:      Polarization: **Vertical**      Temperature: (C)  
 Limit: FCC Part15 Class B      Power:      Humidity: %RH  
 EUT: Indoor Shaking Machine  
 M/N: EP01J05  
 Mode: TX-MODE  
 Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	55.2207	5.43	23.02	28.45	40.00	-11.55	QP	P	
2	91.8163	6.50	19.42	25.92	43.50	-17.58	QP	P	
3	225.3080	6.33	19.55	25.88	46.00	-20.12	QP	P	
4	301.4224	8.12	23.44	31.56	46.00	-14.44	QP	P	
5 *	455.9058	13.03	27.46	40.49	46.00	-5.51	QP	P	
6	744.8661	2.17	33.01	35.18	46.00	-10.82	QP	P	

**Test Result: Pass**

Remark: During the test, pre-scan the 802.11b/g/n mode, and found the 802.11g mode which it is worse case.

[TestMode: TX low channel]; [Polarity: Horizontal]



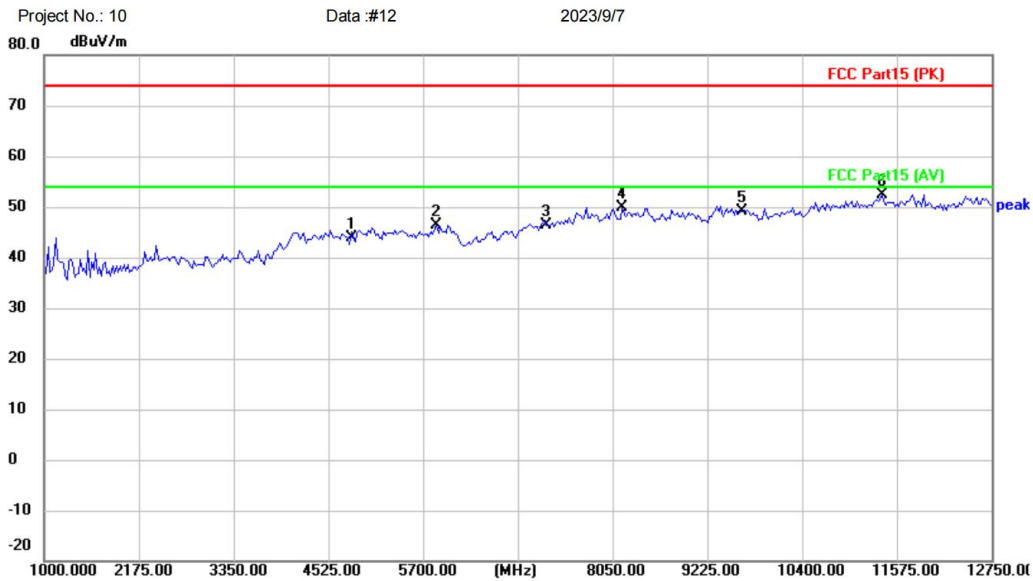
Site	Polarization: <b>Horizontal</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-L		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	42.68	4.38	47.06	74.00	-26.94	peak	
2		6052.500	42.84	4.08	46.92	74.00	-27.08	peak	
3		7236.000	38.40	7.80	46.20	74.00	-27.80	peak	
4		8214.500	40.65	9.35	50.00	74.00	-24.00	peak	
5		9648.000	38.23	11.06	49.29	74.00	-24.71	peak	
6	*	11011.00	38.36	13.44	51.80	74.00	-22.20	peak	

**Test Result: Pass**

[TestMode: TX low channel]; [Polarity: Vertical]

**Radiated Emission Measurement**

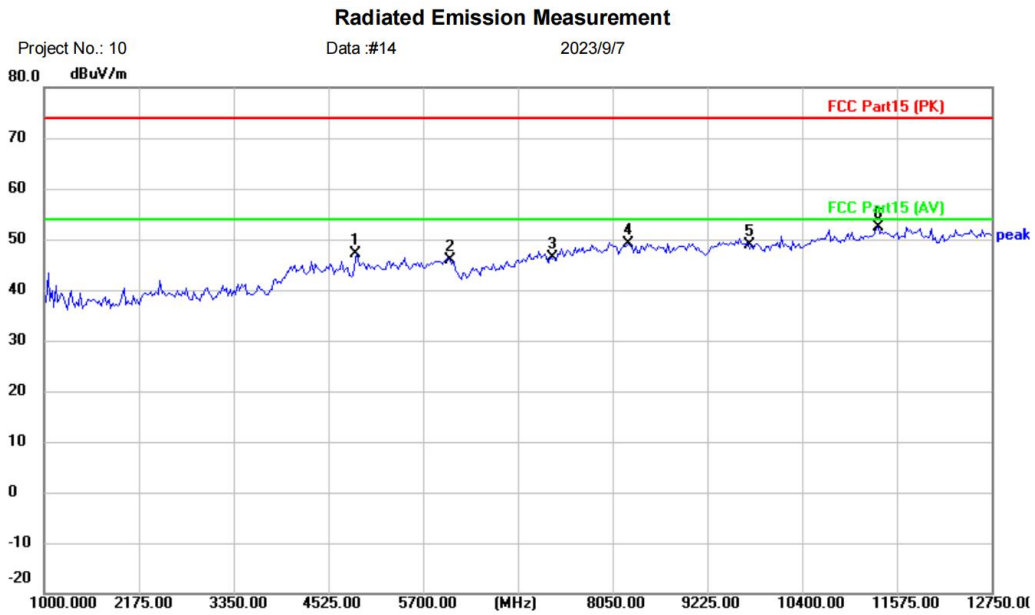


Site	Polarization: <b>Vertical</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-L		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	39.43	4.38	43.81	74.00	-30.19	peak	
2		5864.500	39.92	6.55	46.47	74.00	-27.53	peak	
3		7236.000	38.48	7.80	46.28	74.00	-27.72	peak	
4		8167.500	40.50	9.30	49.80	74.00	-24.20	peak	
5		9648.000	38.02	11.06	49.08	74.00	-24.92	peak	
6	*	11387.00	39.05	13.32	52.37	74.00	-21.63	peak	

**Test Result: Pass**

[TestMode: TX mid channel]; [Polarity: Horizontal]

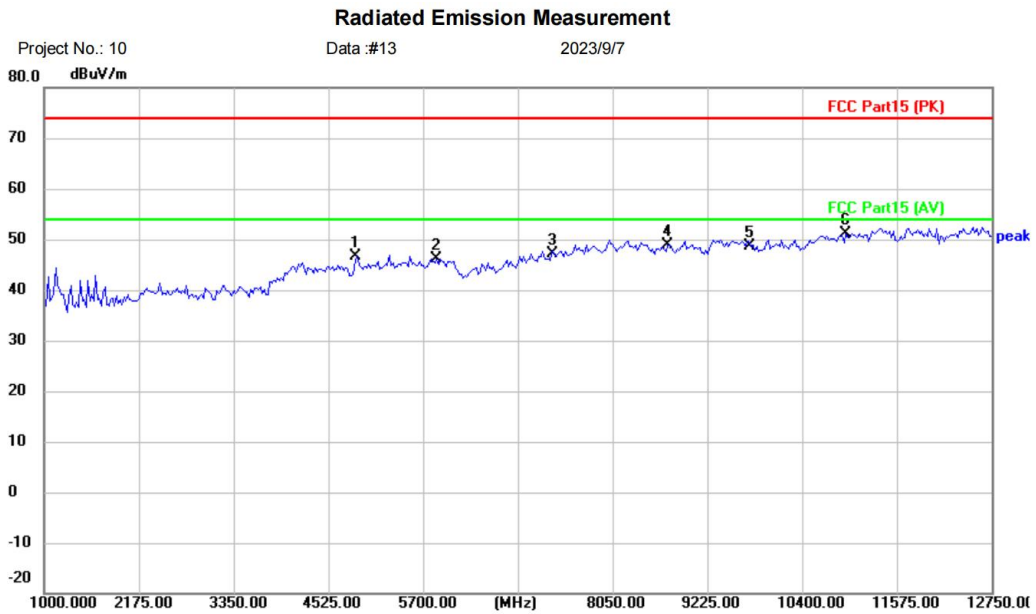


Site	Polarization: <b>Horizontal</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-M		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		4874.000	42.63	4.47	47.10	74.00	-26.90	peak	
2		6029.000	41.83	4.00	45.83	74.00	-28.17	peak	
3		7311.000	38.37	8.01	46.38	74.00	-27.62	peak	
4		8238.000	39.87	9.37	49.24	74.00	-24.76	peak	
5		9748.000	37.82	11.18	49.00	74.00	-25.00	peak	
6	*	11340.00	38.97	13.33	52.30	74.00	-21.70	peak	

**Test Result: Pass**

[TestMode: TX mid channel]; [Polarity: Vertical]

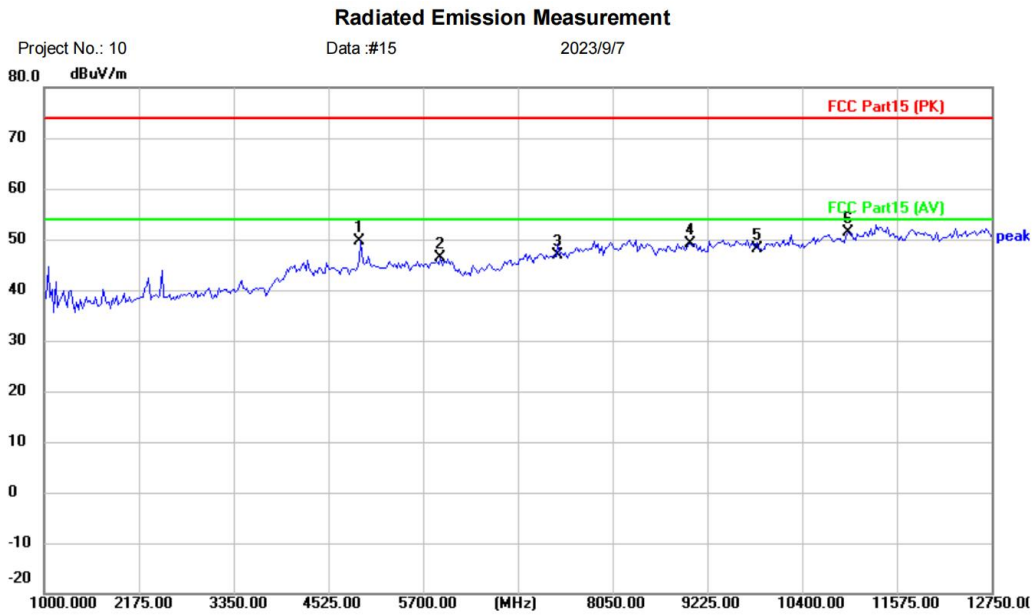


Site	Polarization: <b>Vertical</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-M		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	42.05	4.47	46.52	74.00	-27.48	peak	
2		5864.500	39.68	6.55	46.23	74.00	-27.77	peak	
3		7311.000	39.05	8.01	47.06	74.00	-26.94	peak	
4		8731.500	38.96	9.94	48.90	74.00	-25.10	peak	
5		9748.000	37.45	11.18	48.63	74.00	-25.37	peak	
6	*	10940.50	37.88	13.34	51.22	74.00	-22.78	peak	

**Test Result: Pass**

[TestMode: TX high channel]; [Polarity: Horizontal]

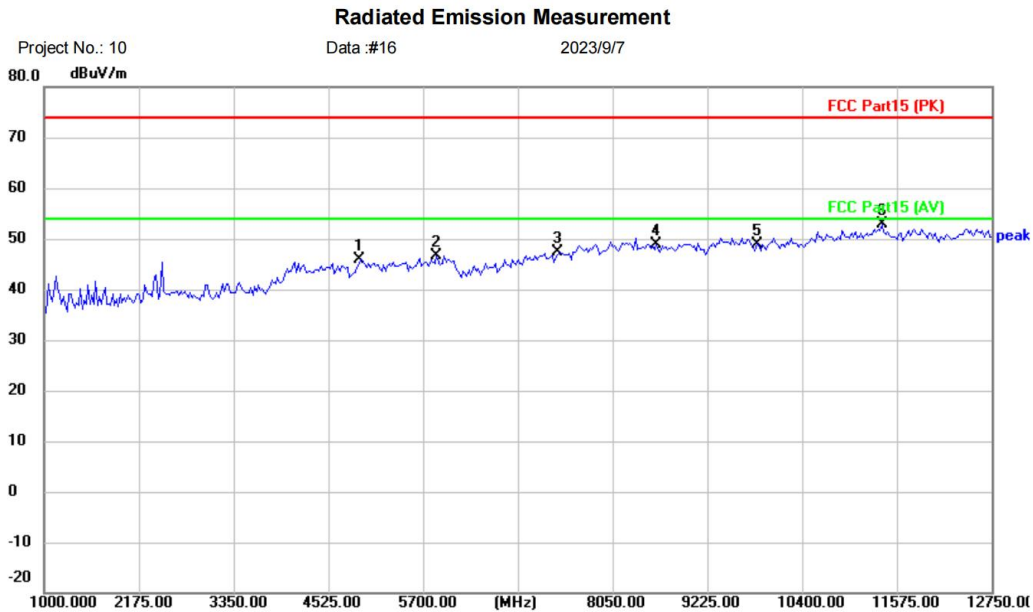


Site	Polarization: <b>Horizontal</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-H		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	44.69	4.87	49.56	74.00	-24.44	peak	
2		5911.500	39.79	6.69	46.48	74.00	-27.52	peak	
3		7386.000	38.57	8.22	46.79	74.00	-27.21	peak	
4		9013.500	38.91	10.26	49.17	74.00	-24.83	peak	
5		9848.000	36.86	11.31	48.17	74.00	-25.83	peak	
6	*	10964.00	37.94	13.38	51.32	74.00	-22.68	peak	

**Test Result: Pass**

[TestMode: TX high channel]; [Polarity: Vertical]



Site	Polarization: <b>Vertical</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-H		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	40.92	4.87	45.79	74.00	-28.21	peak	
2		5864.500	40.04	6.55	46.59	74.00	-27.41	peak	
3		7386.000	39.10	8.22	47.32	74.00	-26.68	peak	
4		8590.500	39.10	9.78	48.88	74.00	-25.12	peak	
5		9848.000	37.62	11.31	48.93	74.00	-25.07	peak	
6	*	11387.00	39.63	13.32	52.95	74.00	-21.05	peak	

**Test Result: Pass**

Remark:

1. Final Level = Receiver Read level + Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 11 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

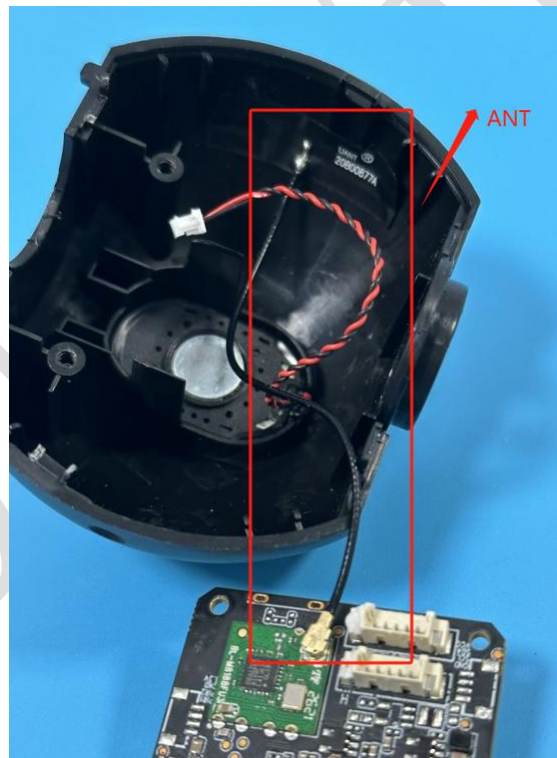
### 11.1 CONCLUSION

Standard Requirement:

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 an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.71dBi.





## 12 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

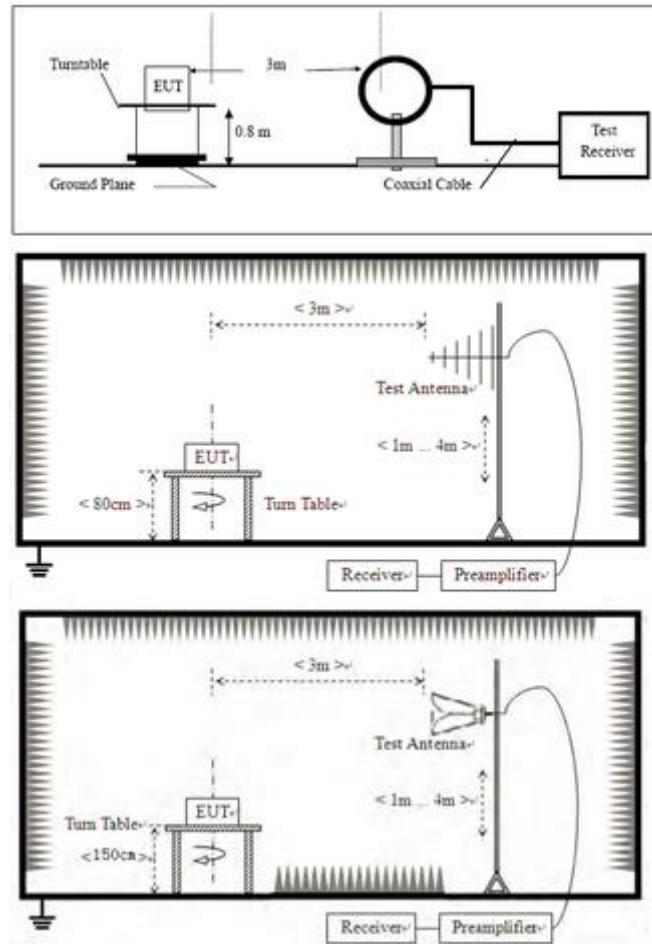
<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 6.10.5
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Aiden
<b>Temperature</b>	25°C
<b>Humidity</b>	54%

### 12.1 LIMITS

<b>Frequency(MHz)</b>	<b>Field strength(microvolts/meter)</b>	<b>Measurement distance(meters)</b>
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 12.2 BLOCK DIAGRAM OF TEST SETUP



## 12.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

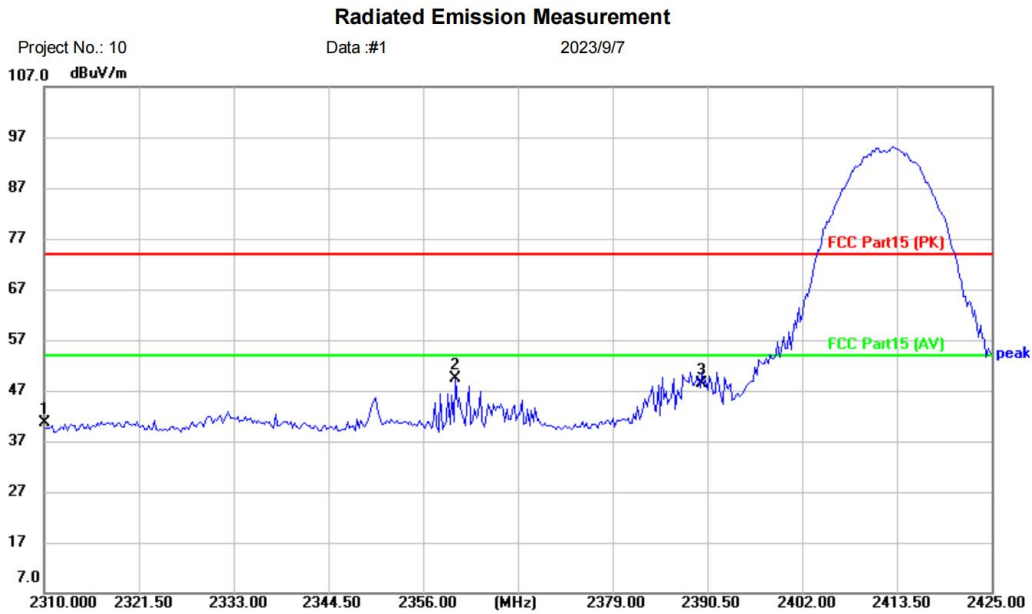
Remark 1:  $Level = Read\ Level + Cable\ Loss + Antenna\ Factor - Preamp\ Factor$

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

BLUEASIA

### 12.4 TEST DATA

[TestMode: TX b low channel]; [Polarity: Horizontal]

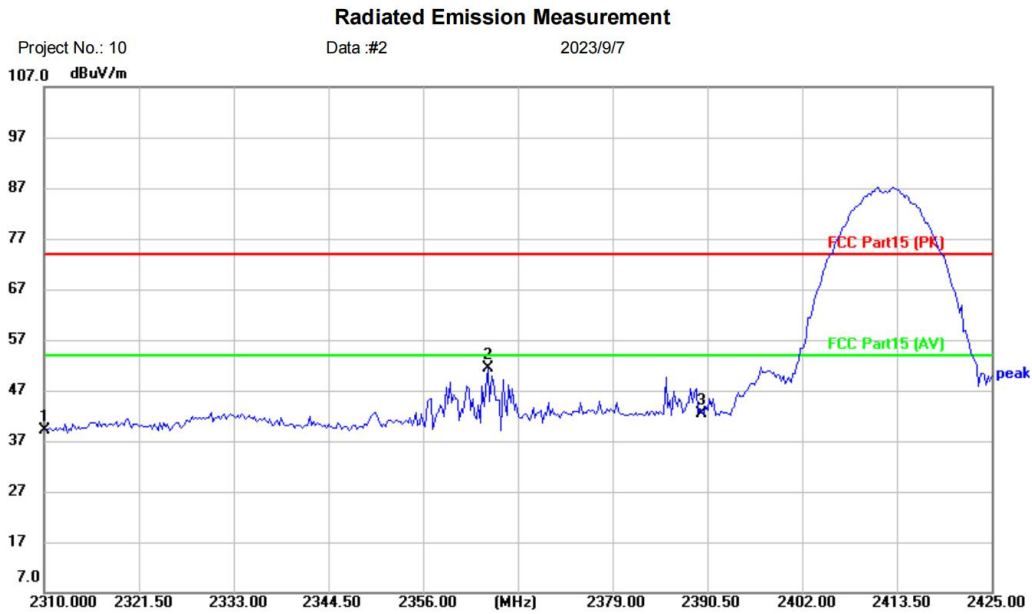


Site	Polarization: <b>Horizontal</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11B-L		
Note:		

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2310.000	44.87	-4.21	40.66	74.00	-33.34	peak	
2	*	2359.910	53.11	-3.84	49.27	74.00	-24.73	peak	
3		2390.000	52.04	-3.62	48.42	74.00	-25.58	peak	

**Test Result: Pass**

[TestMode: TX b low channel]; [Polarity: Vertical]



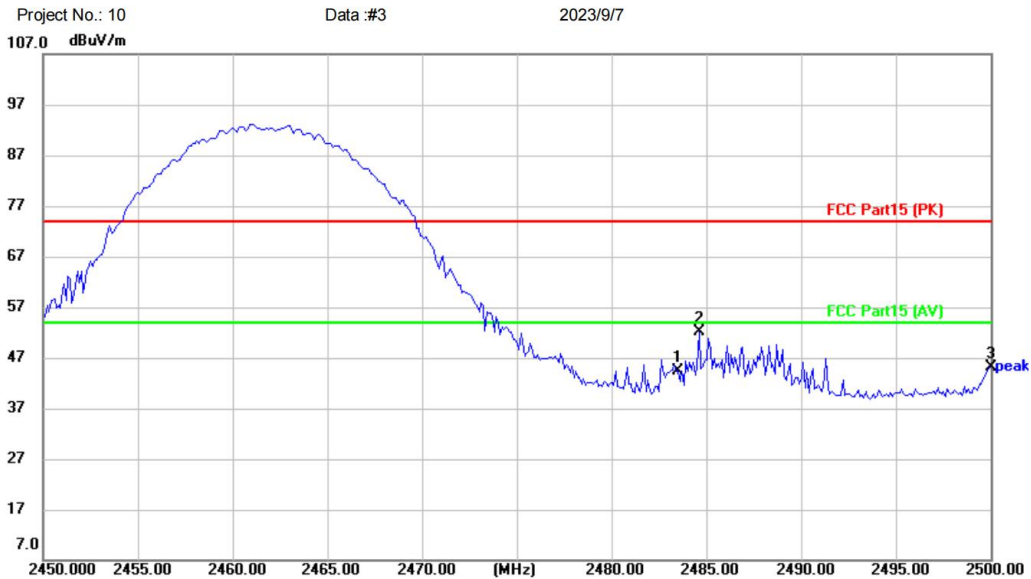
Site	Polarization: <b>Vertical</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11B-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2310.000	43.27	-4.21	39.06	74.00	-34.94	peak	
2	*	2363.820	55.08	-3.81	51.27	74.00	-22.73	peak	
3		2390.000	45.99	-3.62	42.37	74.00	-31.63	peak	

**Test Result: Pass**

[TestMode: TX b high channel]; [Polarity: Horizontal]

**Radiated Emission Measurement**

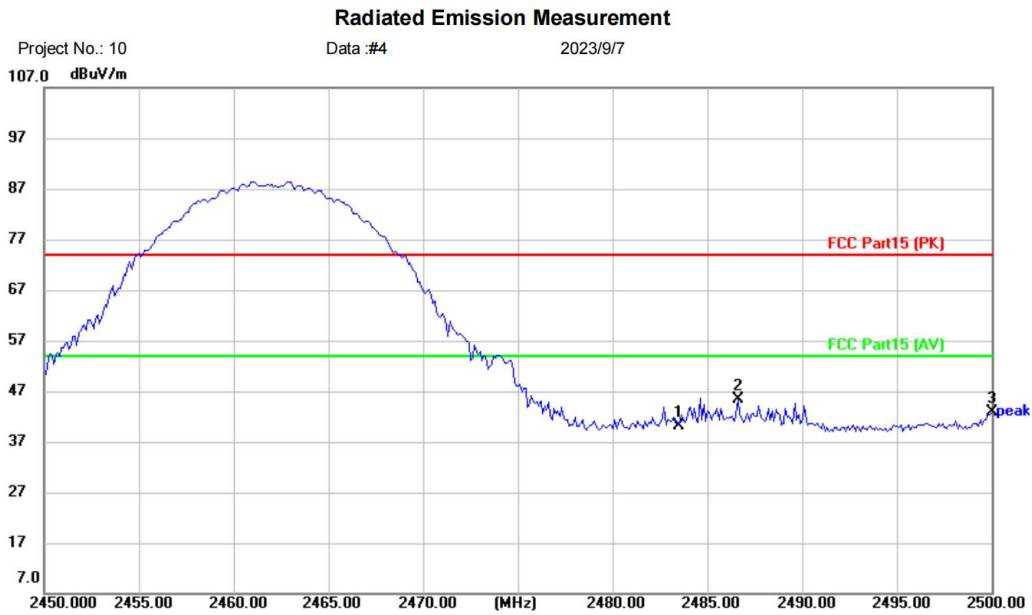


Site	Polarization: <b>Horizontal</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11B-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2483.500	47.92	-3.59	44.33	74.00	-29.67	peak	
2	*	2484.600	55.75	-3.60	52.15	74.00	-21.85	peak	
3		2500.000	48.80	-3.60	45.20	74.00	-28.80	peak	

**Test Result: Pass**

[TestMode: TX b high channel]; [Polarity: Vertical]



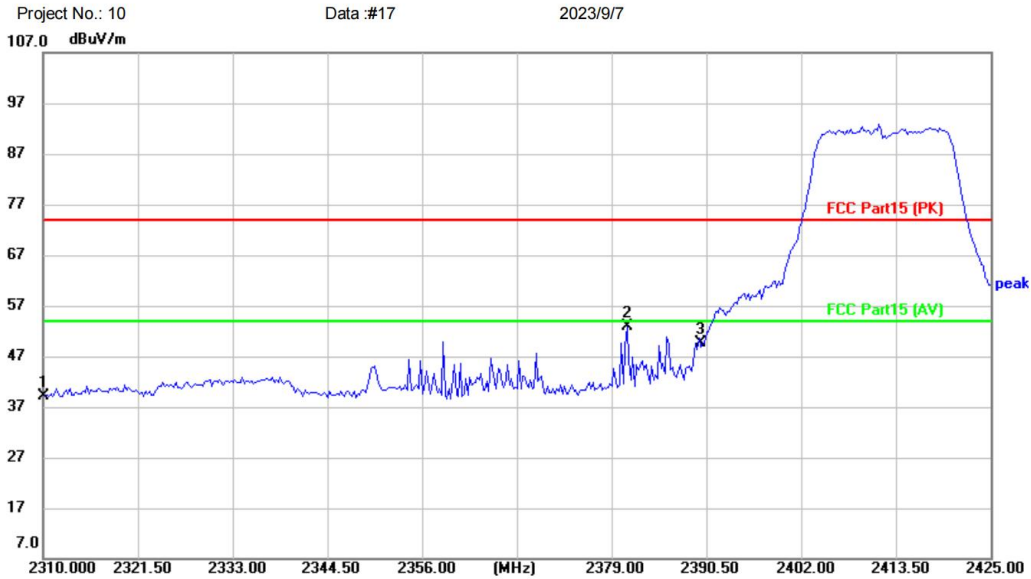
Site	Polarization: <b>Vertical</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11B-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2483.500	43.84	-3.59	40.25	74.00	-33.75	peak	
2	*	2486.600	49.04	-3.59	45.45	74.00	-28.55	peak	
3		2500.000	46.44	-3.60	42.84	74.00	-31.16	peak	

**Test Result: Pass**

[TestMode: TX g low channel]; [Polarity: Horizontal]

**Radiated Emission Measurement**



Site:      Polarization: **Horizontal**      Temperature: (C)  
 Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
 EUT: Indoor Shaking Machine  
 M/N: EP01J05  
 Mode: TX-2.4G-11G-L  
 Note:

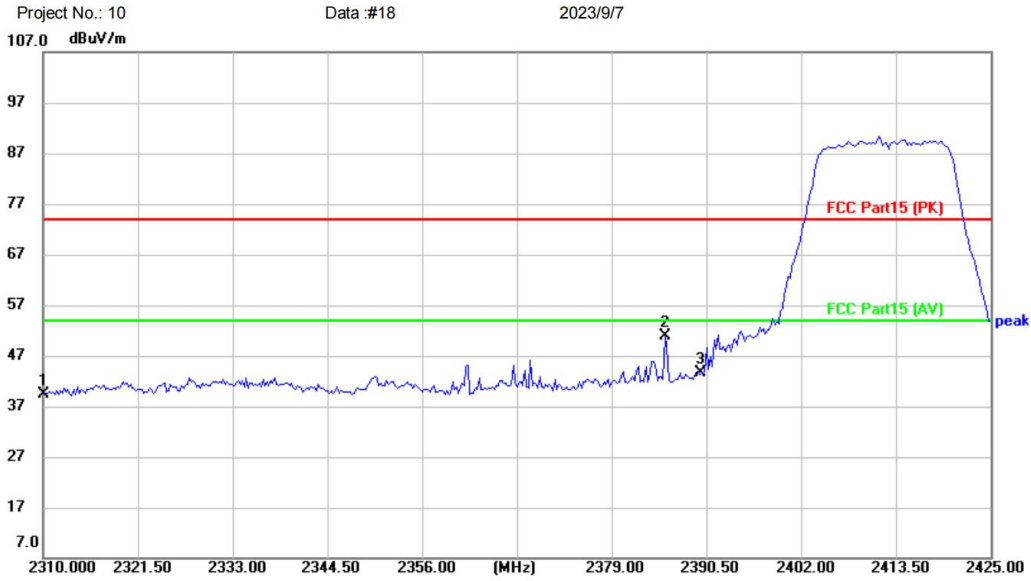
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2310.000	43.22	-4.21	39.01	74.00	-34.99	peak	
2	*	2380.840	56.48	-3.69	52.79	74.00	-21.21	peak	
3		2390.000	53.14	-3.62	49.52	74.00	-24.48	peak	

**Test Result: Pass**



[TestMode: TX g low channel]; [Polarity: Vertical]

**Radiated Emission Measurement**



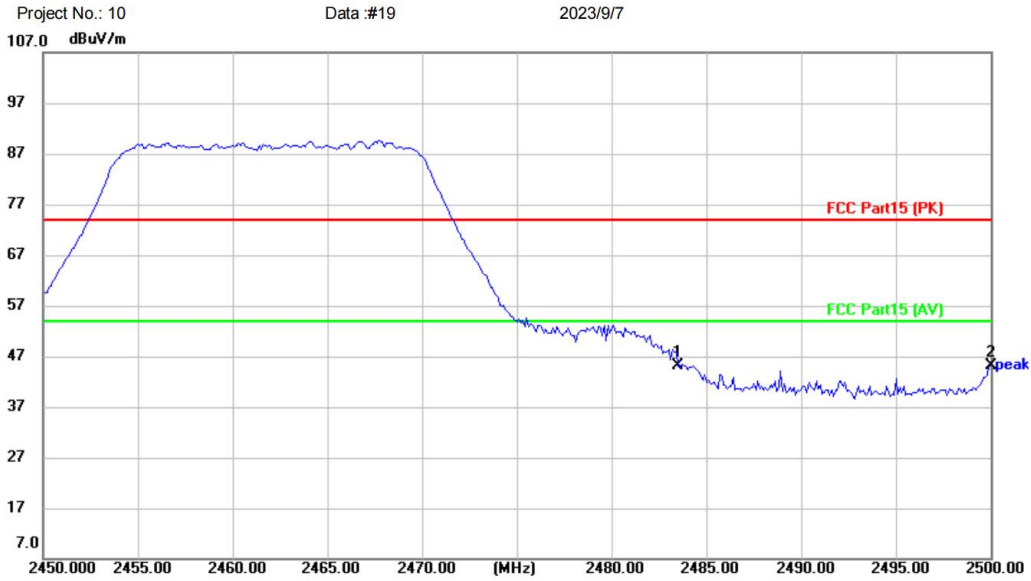
Site: Polarization: **Vertical** Temperature: (C)  
 Limit: FCC Part15 (PK) Power: Humidity: %RH  
 EUT: Indoor Shaking Machine  
 M/N: EP01J05  
 Mode: TX-2.4G-11G-L  
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2310.000	43.56	-4.21	39.35	74.00	-34.65	peak	
2	*	2385.440	54.49	-3.66	50.83	74.00	-23.17	peak	
3		2390.000	47.13	-3.62	43.51	74.00	-30.49	peak	

**Test Result: Pass**

[TestMode: TX g high channel]; [Polarity: Horizontal]

**Radiated Emission Measurement**



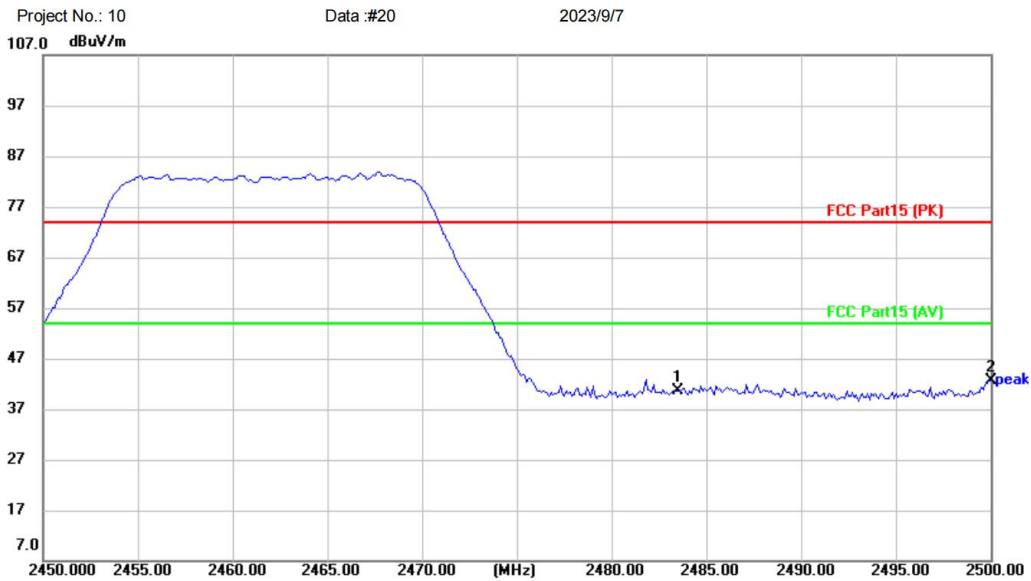
Site	Polarization: <b>Horizontal</b>	Temperature: (C)
Limit: FCC Part15 (PK)	Power:	Humidity: %RH
EUT: Indoor Shaking Machine		
M/N: EP01J05		
Mode: TX-2.4G-11G-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2483.500	48.60	-3.59	45.01	74.00	-28.99	peak	
2	*	2500.000	48.71	-3.60	45.11	74.00	-28.89	peak	

**Test Result: Pass**

[TestMode: TX g high channel]; [Polarity: Vertical]

**Radiated Emission Measurement**



Site: Polarization: **Vertical** Temperature: (C)  
Limit: FCC Part15 (PK) Power: Humidity: %RH  
EUT: Indoor Shaking Machine  
M/N: EP01J05  
Mode: TX-2.4G-11G-H  
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2483.500	44.20	-3.59	40.61	74.00	-33.39	peak	
2	*	2500.000	46.25	-3.60	42.65	74.00	-31.35	peak	

**Test Result: Pass**