

FCC PART 15C TEST REPORT FOR CERTIFICATION

On Behalf of

GT Technology Chongqing Limited

Projector

Model No.: MP250

FCC ID: 2AZ3IMP250

Prepared for : GT Technology Chongqing Limited
Room 3-1, No.20 Qixin Road Yanjia Street Changshou District,
Chongqing, China

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Kefeng Road, Science & Technology Park,
Nanshan District , Shenzhen, Guangdong, China

Tel: (0755) 26639496

Report Number : ACS-F21159
Date of Test : May.09~Jun.03, 2021
Date of Report : Jun.25, 2021

TABLE OF CONTENTS

Description	Page
1. SUMMARY OF STANDARDS AND RESULTS	5
1.1. Description of Standards and Results	5
2. GENERAL INFORMATION.....	6
2.1. Description of Equipment Under Test	6
2.2. Feature of Equipment Under Test	7
2.3. Tested Supporting System Details	8
2.4. Block diagram of connection between the EUT and simulators	8
2.5. Test Information	9
2.6. Test Facility	10
2.7. Measurement Uncertainty (95% confidence levels, k=2)	10
3. POWER LINE CONDUCTED EMISSION TEST	11
3.1. Test Equipments	11
3.2. Block Diagram of Test Setup	11
3.3. Power Line Conducted Emission Test Limits	11
3.4. Configuration of EUT on Test	12
3.5. Operating Condition of EUT	12
3.6. Test Procedure	12
3.7. Power Line Conducted Emission Test Results	12
4. RADIATED EMISSION TEST	15
4.1. Test Equipment	15
4.2. Block Diagram of Test Setup	16
4.3. Radiated Emission Limit	17
4.4. EUT Configuration on Test	17
4.5. Operating Condition of EUT	18
4.6. Test Procedure	18
4.7. Radiated Emission Test Results	18
5. CONDUCTED SPURIOUS EMISSIONS	76
5.1. Test Equipment	76
5.2. Limit	76
5.3. Test Procedure	76
5.4. Test result	76
6. BAND EDGE COMPLIANCE TEST.....	83
6.1. Test Equipment	83
6.2. Limit	83
6.3. Test Procedure	83
6.4. Test Results	83
7. 6dB Bandwidth Test	108
7.1. Test Equipment	108
7.2. Limit	108
7.3. Test Procedure	108
7.4. Test Results	108
8. OUTPUT POWER TEST	111
8.1. Test Equipment	111
8.2. Limit (FCC Part 15C 15.247 b(3))	111
8.3. Test Procedure	111
8.4. Test Results	112

9.	POWER SPECTRAL DENSITY TEST	115
9.1.	Test Equipment	115
9.2.	Limit	115
9.3.	Test Procedure.....	115
9.4.	Test Results	116
10.	ANTENNA REQUIREMENT	119
10.1.	Standard Applicable	119
10.2.	Antenna Connected Construction	119
11.	DEVIATION TO TEST SPECIFICATIONS	120

Appendix A. Photograph of Test

Appendix B. Photo of the EUT

TEST REPORT CERTIFICATION

Applicant : GT Technology Chongqing Limited
Manufacturer : GT Technology Chongqing Limited
Product : Projector
FCC ID : 2AZ3IMP250
(A) Model No. : MP250
(B) Test Voltage : AC 120V/60Hz

Tested for comply with:
FCC CFR 47 Part 15 Subpart C

Test procedure used:
ANSI C63.10: 2013
KDB 558074 D01v05

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements. The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements. This report contains data that are not covered by the NVLAP accreditation.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to single evaluation of one sample of above mentioned product. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : May.09~Jun.03, 2021 Report of date: Jun.25, 2021

Prepared by : Kayli He Reviewed by : Sunny Lu
Kayli He / Assistant Sunny Lu / Deputy Manager



Approved & Authorized Signer : David Jin
David Jin / Deputy General Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT has been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission	FCC Part 15: 15.207	PASS
Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.205	PASS
Band Edge Compliance	FCC Part 15: 15.247(d)	PASS
Conducted spurious emissions	FCC Part 15: 15.247(d)	PASS
6dB Bandwidth	FCC Part 15: 15.247(a)(2)	PASS
Peak Output Power	FCC Part 15: 15.247(b)(3)	PASS
Power Spectral Density	FCC Part 15: 15.247(e)	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

2. GENERAL INFORMATION

2.1. Description of Equipment Under Test

Applicant	GT Technology Chongqing Limited
Applicant Address	Room 3-1, No.20 Qixin Road Yanjia Street Changshou District, Chongqing, China
Manufacturer	GT Technology Chongqing Limited
Manufacturer Address	Room 3-1, No.20 Qixin Road Yanjia Street Changshou District, Chongqing, China
Factory	Wistron InfoComm (Zhongshan) Corporation Linhai Branch
Factory Address	No.23, Wugui Road, Tsuihang New District, Zhongshan, Guangdong, P.R.China
Product	Projector
Model No.	MP250
FCC ID	2AZ3IMP250
Adapter	Brand: hp; Model No.: TPN-LA15 Input: AC 100-240V, 1.1A, 50-60Hz DC Output: DC 19.5V, 2.31A, 45W DC Cable: Shielded, Undetachable, 1.75m
Remoter	Model No.: N/A
Sample Type	Prototype production
Date of Receipt	Mar.30, 2021
Date of Test	May.09~Jun.03, 2021
Remark: This report only for WIFI 2.4GHz.	

2.2.Feature of Equipment Under Test

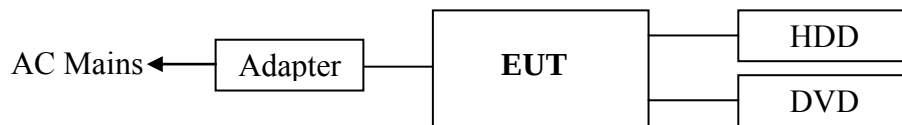
Product Feature & Specification			
Product	Projector		
Model No.	MP250		
Power Source	☒ Commercial Power	AC 100 ~ 240V, 50-60Hz, 1.1A	
	☒ External Power Source	DC 19.5V, 2.31A, 45W	
	☐ Lithium battery	DC V, mAh	
	☐ UM battery	DC V	
Bluetooth			
Specification	☒ BDR	☒ EDR	☒ BLE
Frequency Range	2402-2480MHz		
Type of Modulation	GFSK, $\pi/4$ DQPSK, 8DPSK		
Data Rate	1Mbps, 2Mbps, 3Mbps		
Quantity of Channels	79/40		
Channel Separation	1MHz/2MHz		
2.4GHz Wi-Fi			
Support Modes	802.11b/g/n20		
Frequency Range	2412-2462MHz		
Type of Modulation	802.11b(DSSS): CCK, QPSK, BPSK; 802.11g/n(OFDM): 64QAM,16QAM, QPSK, BPSK		
Data Rate	802.11b: 1/2/5.5/11 Mbps; 802.11g: 6/9/12/18/24/36/48/54 Mbps; 802.11n: up to 300Mbps		
Channel Separation	5MHz		
5GHz Wi-Fi			
Support Modes	802.11a/n20/n40/ac20/ac40/ac80		
Frequency Range	5180-5240MHz, 5745-5825MHz		
Type of Modulation	802.11a/n (OFDM): QPSK, BPSK, 16QAM, 64QAM 802.11ac (OFDM): QPSK, BPSK, 16QAM, 64QAM,256QAM		
Data Rate	802.11a: 6/9/12/18/24/36/48/54 Mbps; 802.11n: up to 300Mbps; 802.11ac: up to 867Mbps		
Channel Separation	5MHz		

Antenna System	
Type of Antenna	FPC Antenna
Antenna Peak Gain	Bluetooth Peak Gain: -2.31dBi DTS/DSS Band (2400-2483.5MHz) Peak Gain: -2.31dBi. U-NII-1 Band(5150-5250MHz) Peak Gain: 1.81dBi. U-NII-3 Band (5725-5850MHz) Peak Gain: 1.8dBi.

2.3. Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number
1.	HDD	ACS-EMC-HDD02	Terasys	F12-UF	A0100215-5390018
		Data Cable: Shielded, Detachable, 1.8m			
2.	DVD	ACS-EMC-DVD01	DENON	DVD-3910	4098400342E
		Data Cable: Shielded, Detachable, 1.8m			
		Power Cable: Unshielded, Detachable , 1.8m			

2.4. Block diagram of connection between the EUT and simulators



(EUT: Projector)

2.5. Test Information

A special test software was used to control EUT work in Continuous TX mode(The duty cycle of the test signal is 100%), and select test channel, wireless mode and data rate.

---	Channel	Frequency (MHz)	Power setting	Channel	Frequency (MHz)	Power setting
Mode	IEEE 802.11b			IEEE 802.11g		
Info.	CH1	2412	Default	CH1	2412	Default
	CH2	2417	Default	CH2	2417	Default
	CH3	2422	Default	CH3	2422	Default
	CH4	2427	Default	CH4	2427	Default
	CH5	2432	Default	CH5	2432	Default
	CH6	2437	Default	CH6	2437	Default
	CH7	2442	Default	CH7	2442	Default
	CH8	2447	Default	CH8	2447	Default
	CH9	2452	Default	CH9	2452	Default
	CH10	2457	Default	CH10	2457	Default
	CH11	2462	Default	CH11	2462	Default
Data Rate (Mbps) (see Note)	1			6		
Mode	IEEE 802.11n HT20			IEEE 802.11n HT40		
Info.	CH1	2412	Default	---	---	---
	CH2	2417	Default	---	---	---
	CH3	2422	Default	---	---	---
	CH4	2427	Default	---	---	---
	CH5	2432	Default	---	---	---
	CH6	2437	Default	---	---	---
	CH7	2442	Default	---	---	---
	CH8	2447	Default	---	---	---
	CH9	2452	Default	---	---	---
	CH10	2457	Default	---	---	---
	CH11	2462	Default	---	---	---
Data Rate (Mbps) (see Note)	MCS0			MCS0		
Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.						

2.6. Test Facility

Site Description

Name of Firm	: Audix Technology (Shenzhen) Co., Ltd. No. 6, Kefeng Road, Science & Technology Park, Nanshan District , Shenzhen, Guangdong, China
EMC Lab.	: Accredited by Industry Canada Registration Number: IC 5183A-1 Valid Date: Mar.31, 2022 Accredited by NVLAP, USA NVLAP Code: 200372-0 Valid Date: Mar.31, 2022 Certificated by FCC USA. Designation No.: CN5022 Valid Date: Mar.31, 2022

2.7.Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	2.6dB(150KHz to 30MHz)
Uncertainty for Radiation Emission test in 3m chamber	3.2dB(30~200MHz, Polarization: H)
	3.6dB(30~200MHz, Polarization: V)
	3.4dB(200M~1GHz, Polarization: H)
	3.4dB(200M~1GHz, Polarization: V)
Uncertainty for Radiation Emission test in 3m chamber(1GHz-25GHz)	5.0dB(1~6GHz, Distance: 3m)
	5.0dB(6~25GHz, Distance: 3m)
Uncertainty for Radiated Spurious Emission test in RF chamber	3.7dB(30MHz~1000MHz)
	3.3dB(1~26.5GHz)
Uncertainty for Conduction Spurious emission test	2.0dB
Uncertainty for Output power test	0.8dB
Uncertainty for Bandwidth test	83kHz
Uncertainty for DC power test	0.1 %
Uncertainty for test site temperature and humidity	0.6°C
	3%

Note: EMI uncertainty is evaluated by CISPR16-4-2.

The value of measurement uncertainty of EMI is less than U_{CISPR} .

The value is not calculated in the test results.

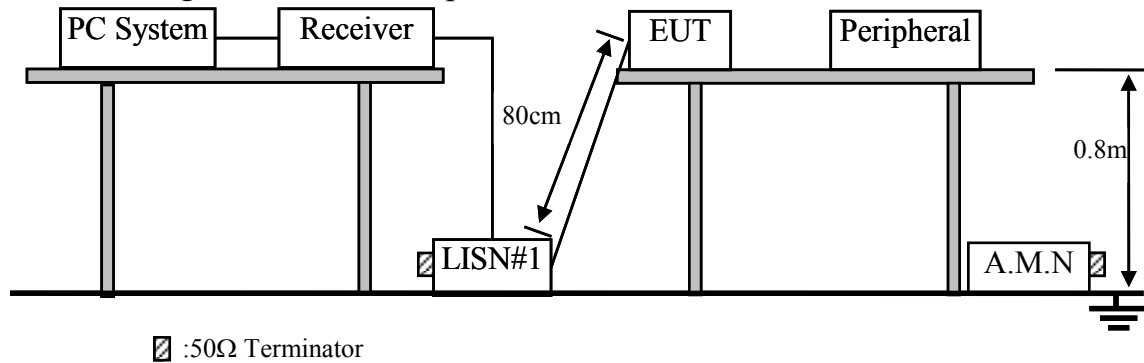
3. POWER LINE CONDUCTED EMISSION TEST

3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	1# Shielding Room	AUDIX	N/A	N/A	May.17,18	5 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100842	Apr.07,21	1 Year
3.	L.I.S.N.#1	Rohde & Schwarz	ENV216	102160	Oct.11,20	1 Year
4.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	Apr.06,21	1 Year
5.	Terminator	Hubersuhner	50Ω	No.1	Apr.06,21	1 Year
6.	Terminator	Hubersuhner	50Ω	No.2	Apr.06,21	1 Year
7.	RF Cable	EMCI	EMCCFD300-B M-NM-2000	190422	Apr.08,21	1 Year
8.	Test Software	AUDIX	e3	6.100913a	N/A	N/A

Note: N/A means Not applicable.

3.2. Block Diagram of Test Setup



3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1. Projector (EUT)

Model No. : MP250

Serial No. : N/A

3.4.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

3.5.Operating Condition of EUT

3.5.1. Setup the EUT as shown as Section 3.2.

3.5.2. Turn on the power of EUT.

3.5.3. PC run test software to control EUT work in Tx mode.

3.6.Test Procedure

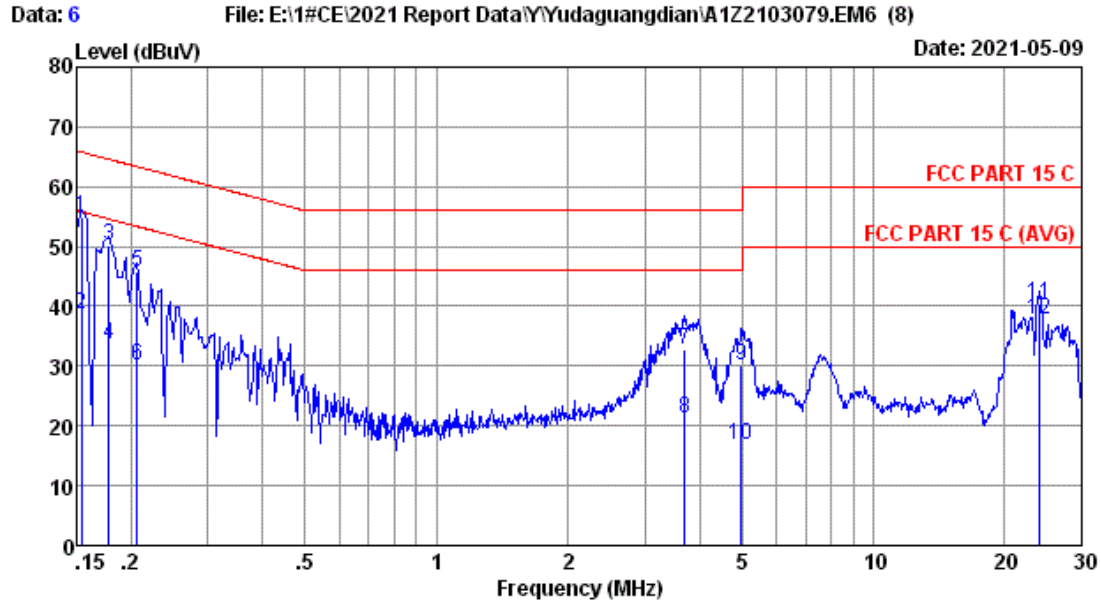
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via AC unit connected to the power mains through a line impedance stabilization network (L.I.S.N. #1). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

3.7.Power Line Conducted Emission Test Results

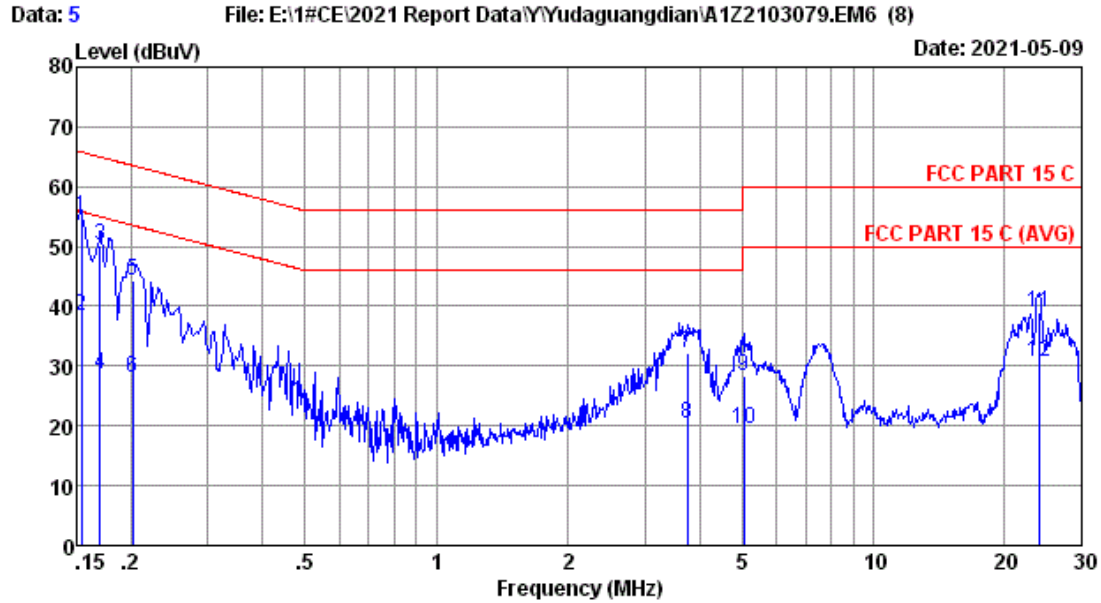
PASS. (All emissions not reported below are too low against the prescribed limits.)



Site no :1# Conduction Data No :6
 Dis./Lisn :2020 ENV216-L LISN phase:
 Limit :FCC PART 15 C
 Env./Ins. :Temp:23.7°C Humi:52% Engineer :Evan
 Test Mode :WIFI 2.4G TX

No	Freq (MHz)	LISN Factor (dB)	Cable loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.154	9.70	0.01	45.20	54.91	65.78	10.87	QP
2	0.154	9.70	0.01	28.90	38.61	55.78	17.17	Average
3	0.178	9.70	0.01	40.50	50.21	64.58	14.37	QP
4	0.178	9.70	0.01	24.00	33.71	54.58	20.87	Average
5	0.206	9.70	0.01	36.00	45.71	63.37	17.66	QP
6	0.206	9.70	0.01	20.50	30.21	53.37	23.16	Average
7	3.698	9.70	0.04	22.90	32.64	56.00	23.36	QP
8	3.698	9.70	0.04	11.40	21.14	46.00	24.86	Average
9	4.990	9.70	0.04	20.50	30.24	56.00	25.76	QP
10	4.990	9.70	0.04	7.10	16.84	46.00	29.16	Average
11	23.906	9.90	0.11	30.30	40.31	60.00	19.69	QP
12	23.906	9.90	0.11	27.80	37.81	50.00	12.19	Average

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
 2.If the average limit is met when using a quasi-peak detector.
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.



Site no :1# Conduction Data No :5
 Dis./Lisn :2020 ENV216-N LISN phase:
 Limit :FCC PART 15 C
 Env./Ins. :Temp:23.7°C Humi:52% Engineer :Evan
 Test Mode :WIFI 2.4G TX

No	Freq (MHz)	LISN Factor (dB)	Cable loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.154	9.70	0.01	45.10	54.81	65.78	10.97	QP
2	0.154	9.70	0.01	28.80	38.51	55.78	17.27	Average
3	0.170	9.70	0.01	40.50	50.21	64.96	14.75	QP
4	0.170	9.70	0.01	19.00	28.71	54.96	26.25	Average
5	0.202	9.70	0.01	34.50	44.21	63.53	19.32	QP
6	0.202	9.70	0.01	18.30	28.01	53.53	25.52	Average
7	3.754	9.70	0.04	22.30	32.04	56.00	23.96	QP
8	3.754	9.70	0.04	10.50	20.24	46.00	25.76	Average
9	5.046	9.70	0.04	18.60	28.34	60.00	31.66	QP
10	5.046	9.70	0.04	9.80	19.54	50.00	30.46	Average
11	23.966	9.90	0.11	28.90	38.91	60.00	21.09	QP
12	23.966	9.90	0.11	20.60	30.61	50.00	19.39	Average

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
 2.If the average limit is met when using a quasi-peak detector.
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

4. RADIATED EMISSION TEST

4.1. Test Equipment

4.1.1. For frequency range 30MHz~1000MHz (In 3m Anechoic Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber(NSA)	AUDIX	N/A	N/A	May.02,21	1 Year
2.	3#Chamber(SE)	AUDIX	N/A	N/A	May.17,18	5 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	104050	Apr.07,21	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR7	101547	Apr.07,21	1 Year
5.	Amplifier	HP	8447D	2648A04738	Apr.08,21	1 Year
6.	Tri-log-Broadband Antenna	SCHWARZBECK	VULB 9168	710	Oct.19,20	1 Year
7.	NSA Cable	HUBER+SUHNER	CFD400NL-LW	No.3	Oct.11,20	1 Year
8.	Coaxial Switch	Anritsu	MP59B	6201397223	Apr.07,21	1 Year
9.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A

Note: N/A means Not applicable.

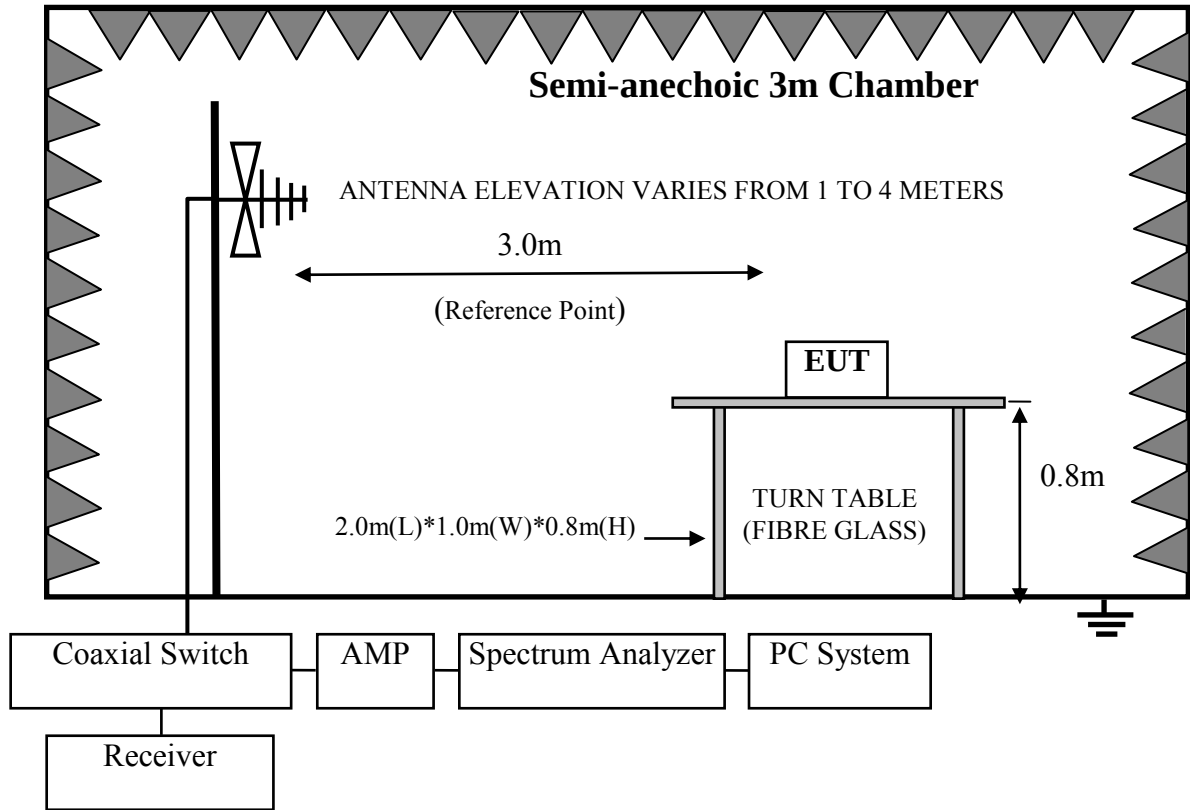
4.1.2. For frequency range 1GHz~25GHz (In 3m Anechoic Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber(Svswr)	AUDIX	N/A	N/A	Apr.14,21	1 Year
2.	3#Chamber(SE)	AUDIX	N/A	N/A	May.17,18	5 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	104050	Apr.07,21	1 Year
4.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	Jul.30,20	1 Year
5.	Horn Antenna	ETC	3116	00060089	Dec.09,20	1 Year
6.	Amplifier	Agilent	83017A	MY53270084	Oct.11,20	1 Year
7.	RF Cable	Hubersuhner	SUCOFLEX-106	505238/6	Apr.07,21	1 Year
8.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A

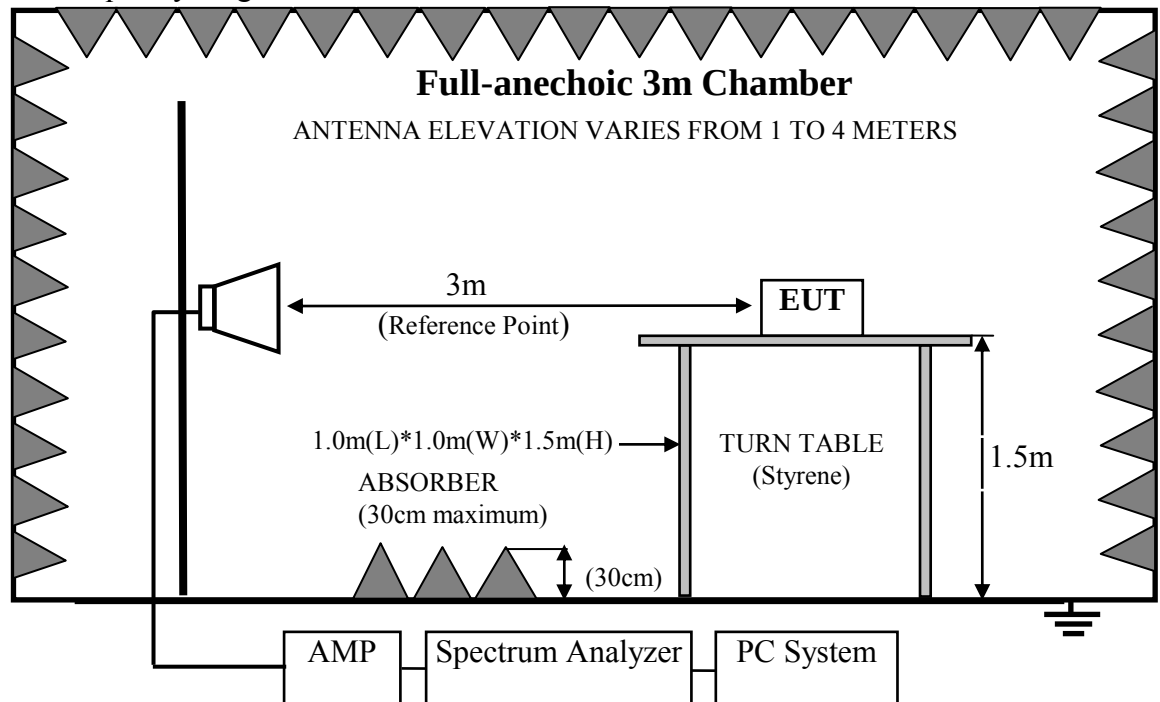
Note: N/A means Not applicable.

4.2. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range 1GHz-25GHz



4.3.Radiated Emission Limit

4.3.1. 15.247&209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark : (1) Emission level dBμV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.3.2. 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

4.4.EUT Configuration on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

4.4.1. Projector (EUT)

Model No. : MP250

Serial No. : N/A

4.4.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

4.5. Operating Condition of EUT

- 4.5.1. Setup the EUT and simulator as shown as Section 4.2.
- 4.5.2. Turn on the power of all equipments.
- 4.5.3. Let EUT work in Tx (WiFi 2.4GHz) mode

4.6. Test Procedure

Frequency below 30MHz:

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground for frequency 30MHz~1000MHz, 1.5 meter high above ground for frequency above 1GHz and put the absorbing with 2.4m(L)*2.4m(W)*0.3m(H) on the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna for frequency 30MHz~1000MHz, and the Horn antenna is used as receiving antenna for frequency above 1GHz. Both horizontal and vertical polarization of the antenna are set on test.

This test was performed with EUT in X, Y, Z position, and the worse case was found when EUT in X position as test photo indicated.

The bandwidth of the EMI test receiver (R&S ESR7) is set at 120kHz for frequency range from 30MHz to 1000MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25GHz, So the radiated emissions from 18GHz to 25GHz were not record.

4.7. Radiated Emission Test Results

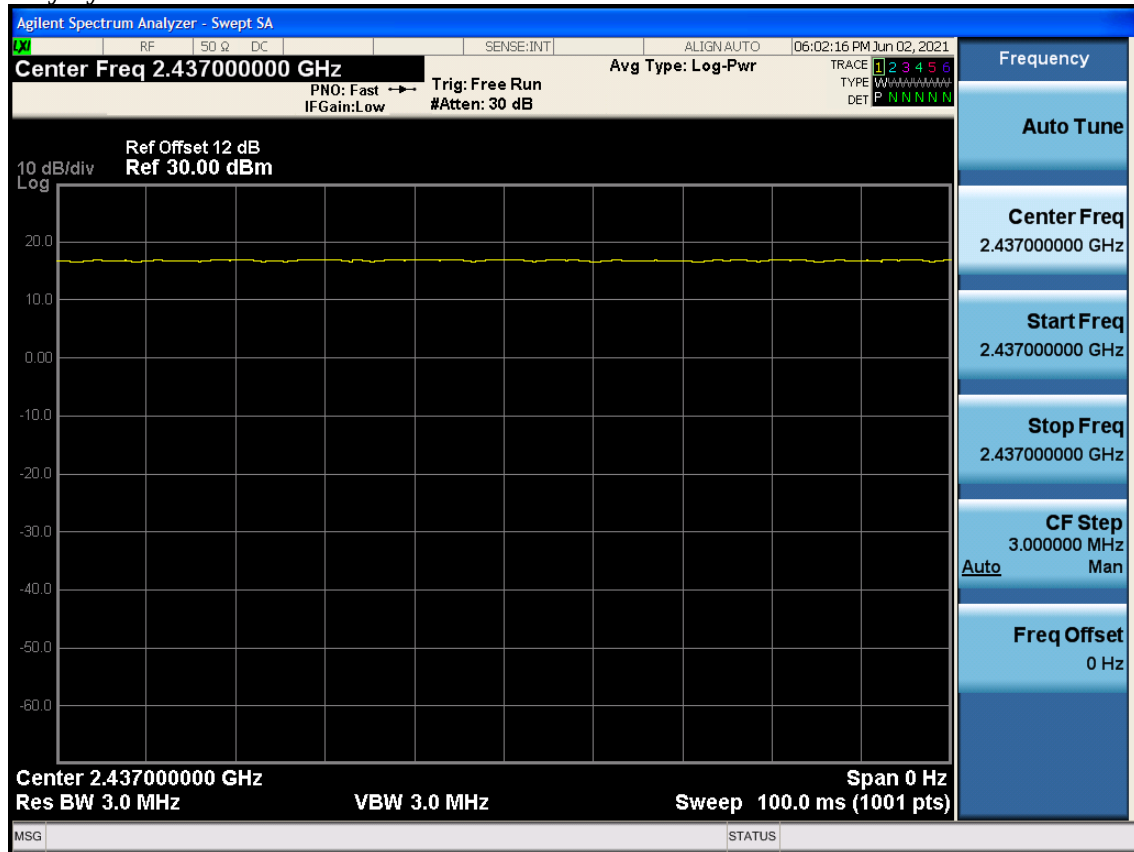
PASS.

All the emissions from 30MHz to 25 GHz were comply with 15.209 limits.

Note 1: For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

Note 2: The emissions (9kHz~30MHz) not reported for there is no emission be found.

Duty cycle



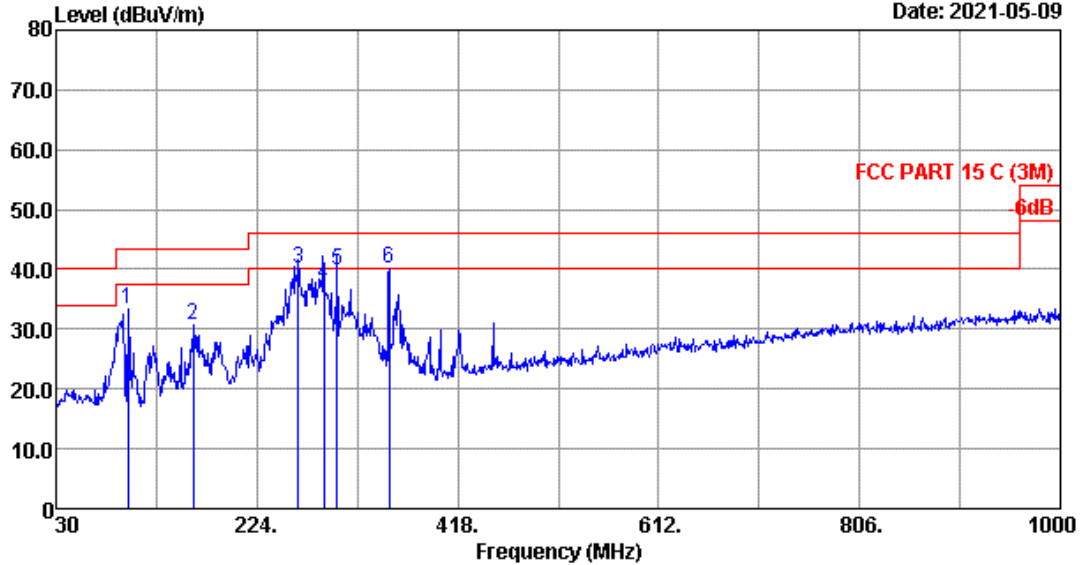
Note: The duty cycle of the test signal is 100%.

Frequency: 30MHz~1GHz

Data: 1

File: E:\2021 Report Data\Y元大光电\A1Z2103079.EM6 (8)

Date: 2021-05-09



Site no. : 3m Chamber

Data no. : 1

Dis. / Ant. : 3m 2020 VULB9168-710

Ant. pol. : HORIZONTAL

Limit : FCC PART 15 C (3M)

Env. / Ins. : 23.6°C/54%

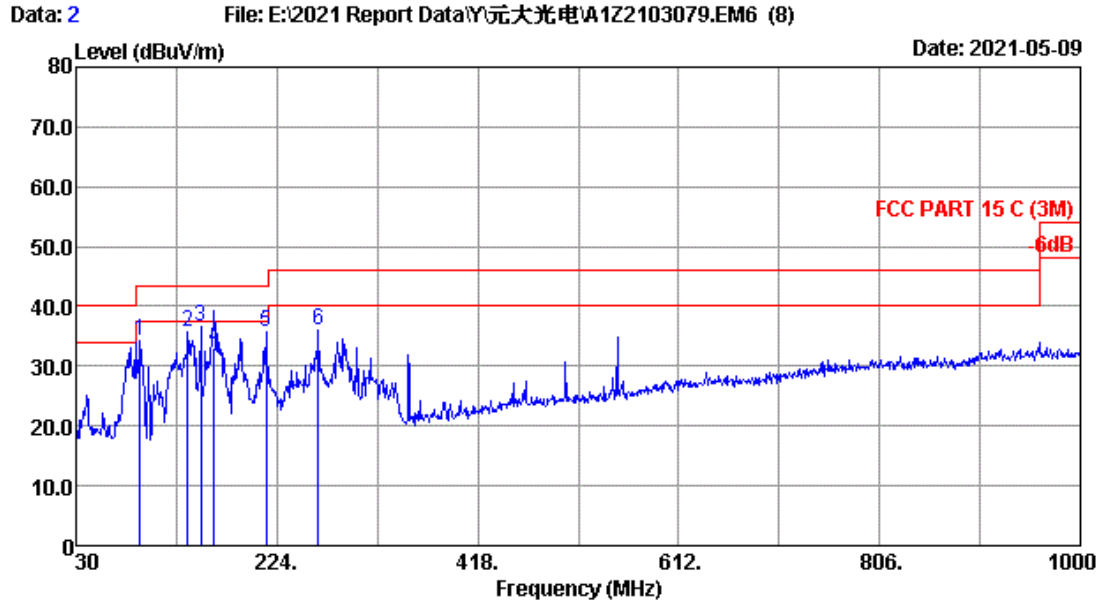
Engineer : Hognrn

Test Mode : WIFI 2.4G TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1	99.840	14.80	1.02	17.45	33.27	43.50	10.23	QP
2	162.890	19.00	1.30	10.42	30.72	43.50	12.78	QP
3	264.059	17.92	1.62	20.70	40.24	46.00	5.76	QP
4	288.599	18.86	1.70	16.90	37.46	46.00	8.54	QP
5	301.440	19.10	1.74	18.90	39.74	46.00	6.26	QP
6	352.040	20.02	1.89	18.12	40.03	46.00	5.97	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 2
 Dis. / Ant. : 3m 2020 VULB9168-710 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C (3M)
 Env. / Ins. : 23.6°C/54% Engineer : Hogrn
 Test Mode : WIFI 2.4G TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	92.080	13.60	0.95	19.70	34.25	43.50	9.25	QP
2	137.670	18.60	1.18	16.02	35.80	43.50	7.70	QP
3	150.280	19.20	1.23	16.21	36.64	43.50	6.86	QP
4	163.538	19.00	1.30	12.70	33.00	43.50	10.50	QP
5	213.330	15.50	1.50	18.77	35.77	43.50	7.73	QP
6	263.770	17.92	1.62	16.39	35.93	46.00	10.07	QP

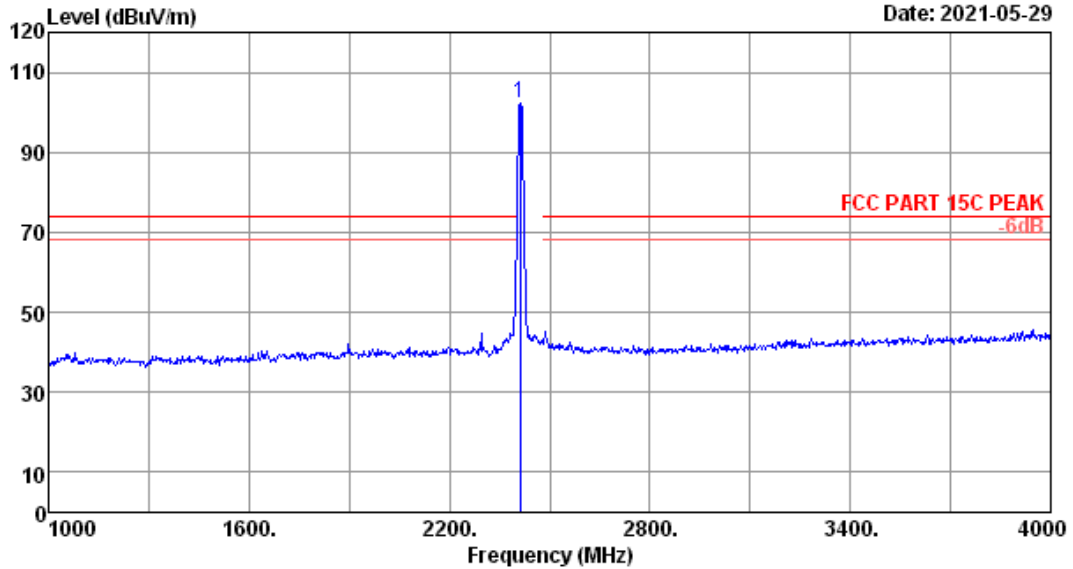
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 1GHz~18GHz

Data: 1

File: F:\2021 Report\yuandaguangdian\WiFi2.4.EM6 (78)

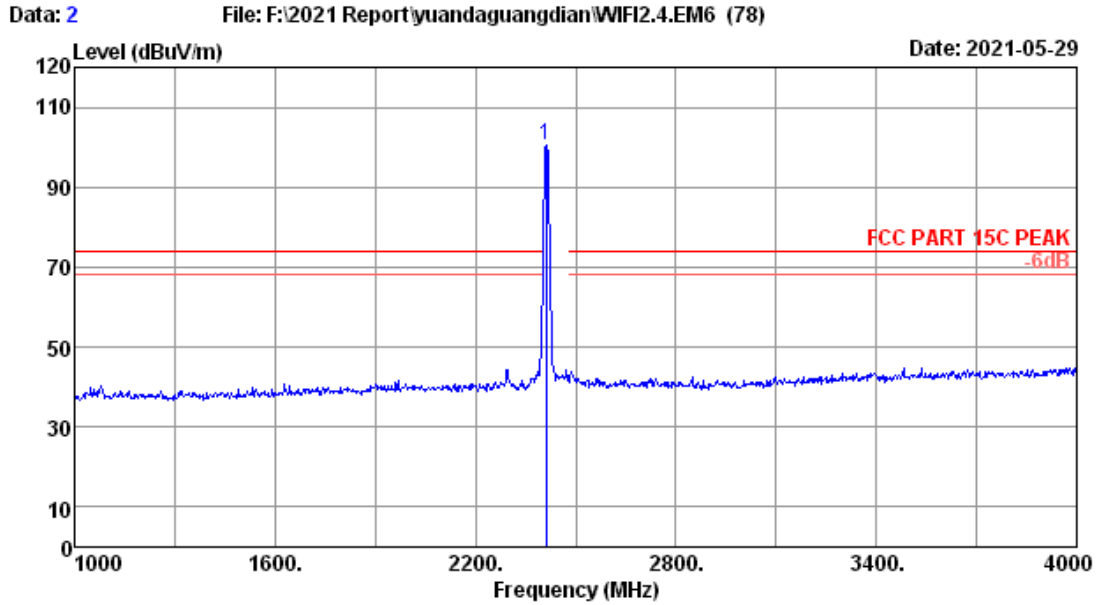
Date: 2021-05-29



Site no. : 3m Chamber Data no. : 1
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	28.04	0.92	108.64	35.24	102.36	-----	-----	Peak

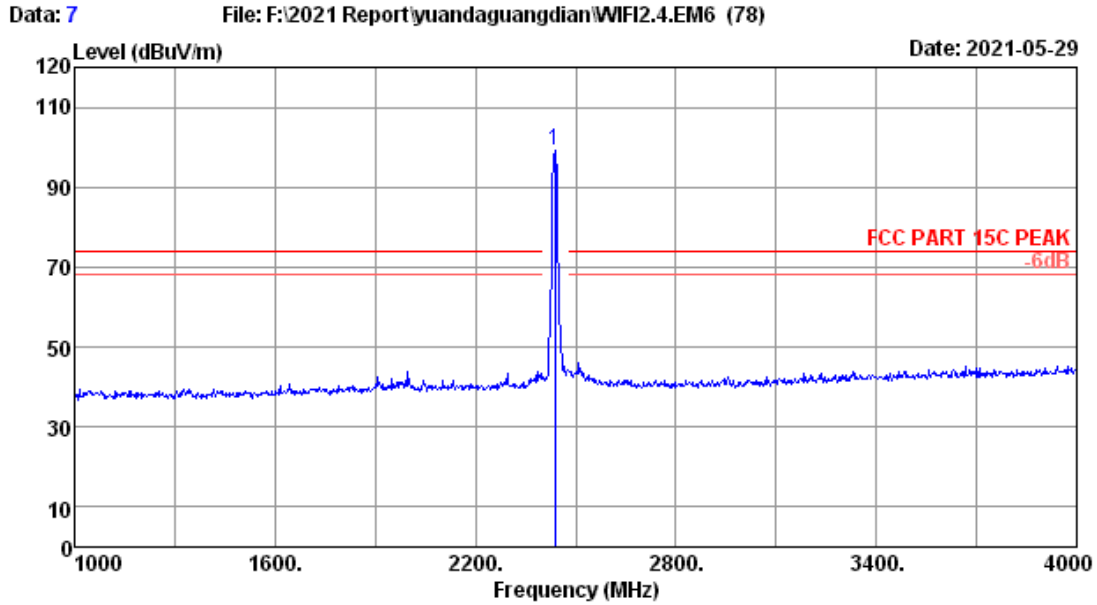
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 2
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	28.04	0.92	106.60	35.24	100.32	-----	-----	Peak

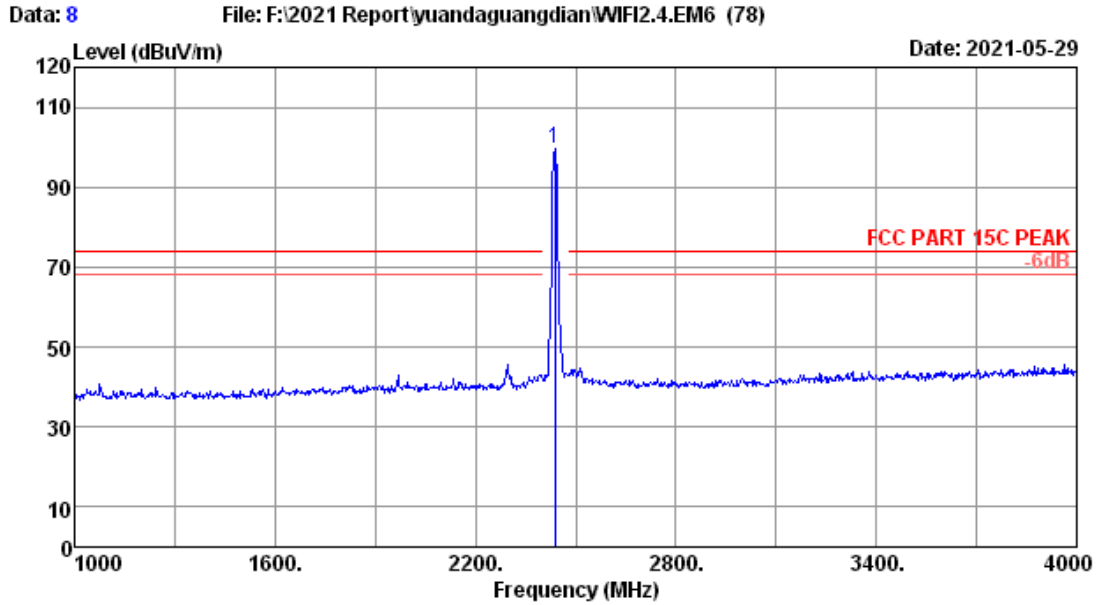
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 7
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.11	0.93	105.20	35.24	99.00	-----	-----	Peak

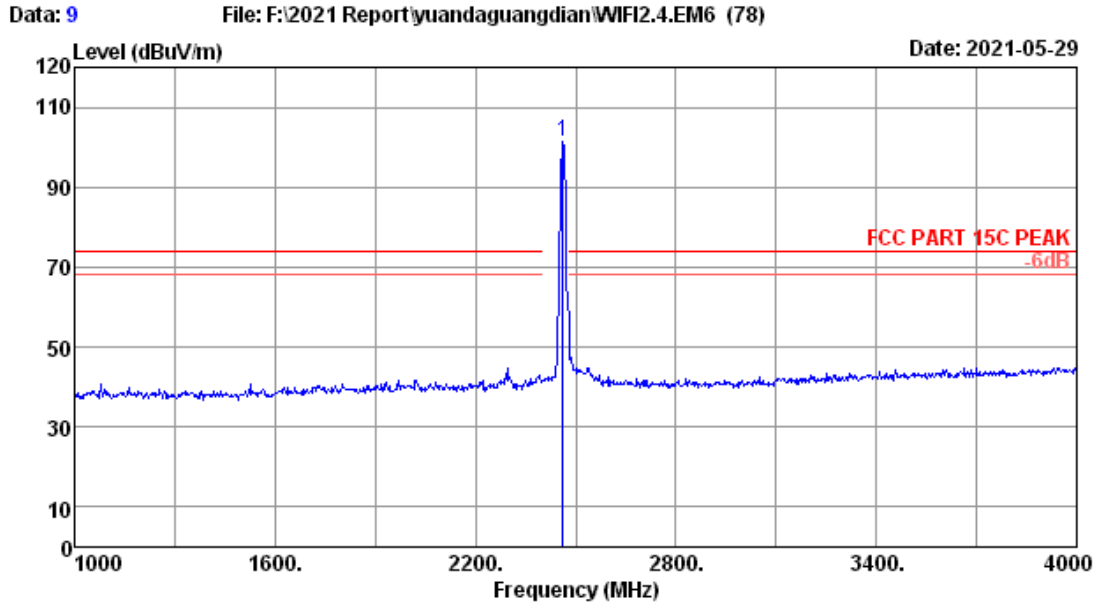
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 8
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.11	0.93	105.64	35.24	99.44	-----	-----	Peak

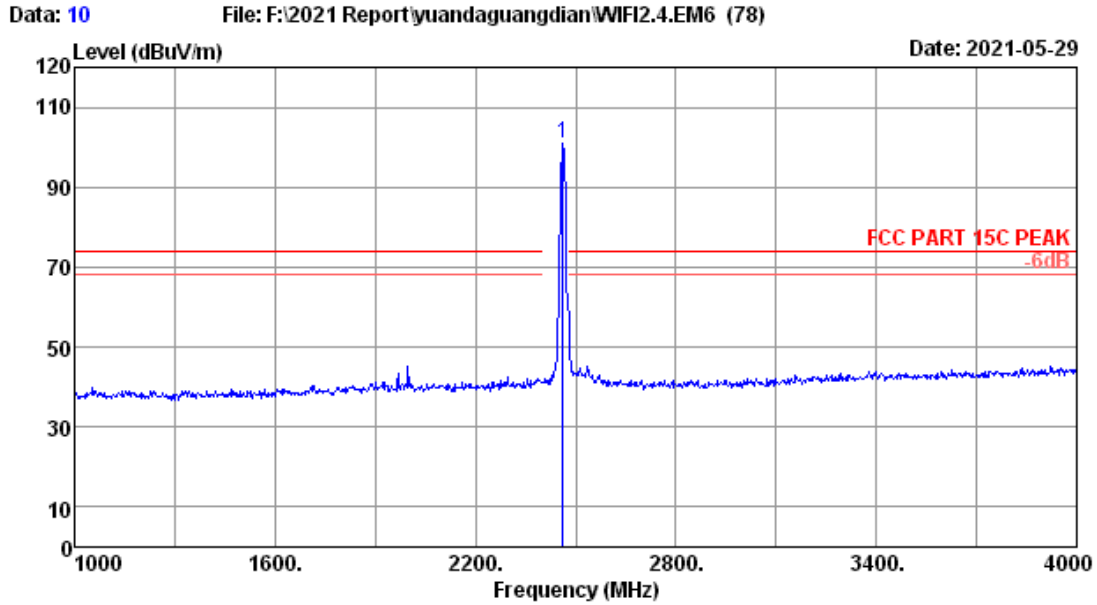
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 9
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.14	0.94	107.41	35.25	101.24	-----	-----	Peak

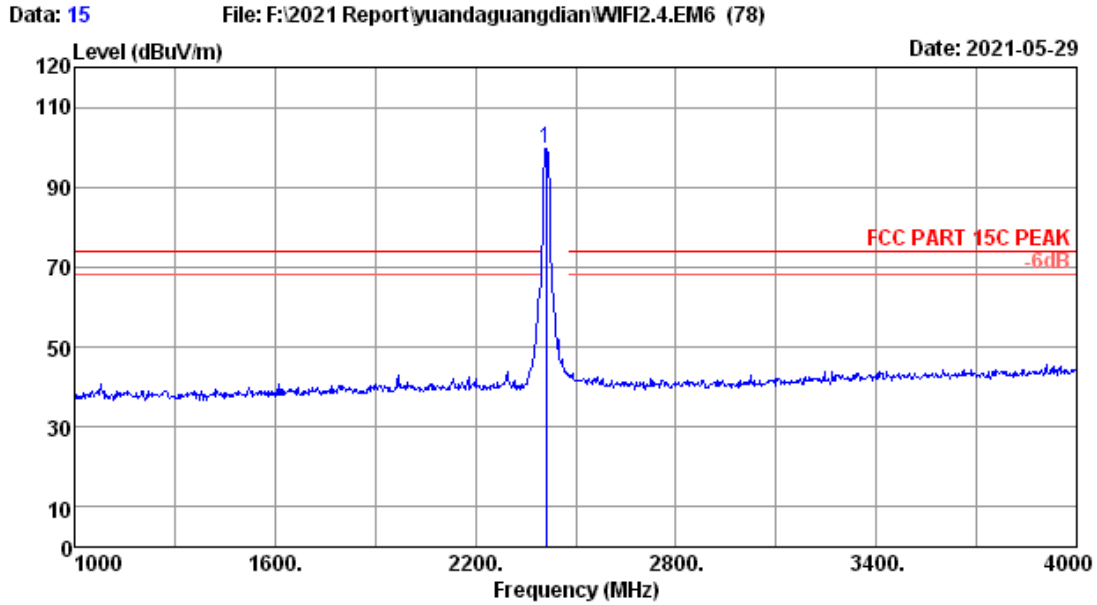
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 10
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.14	0.94	107.09	35.25	100.92	-----	-----	Peak

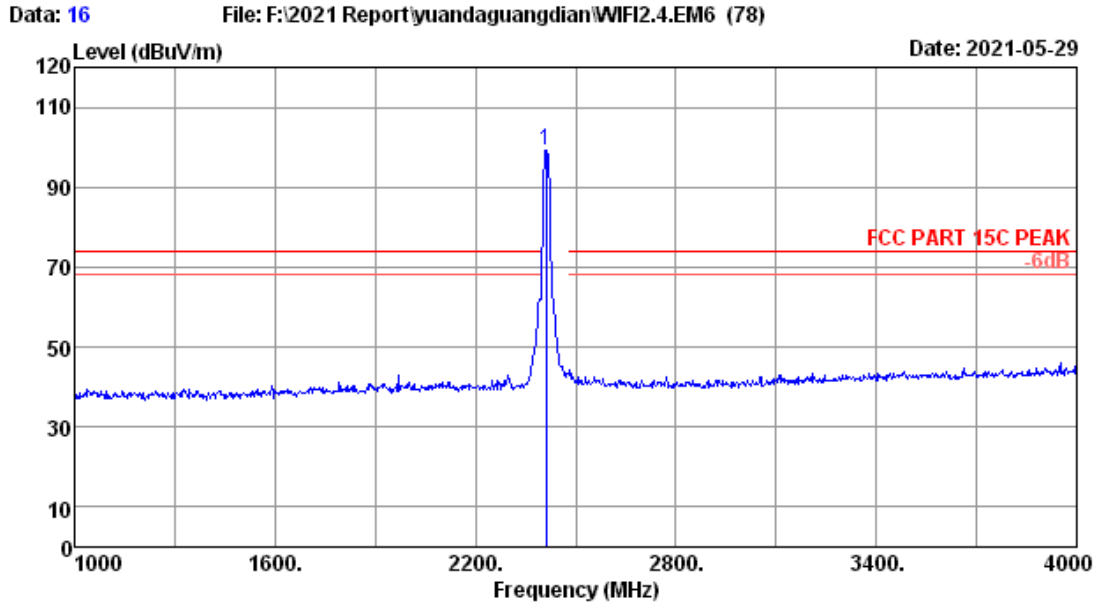
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 15
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	28.04	0.92	106.04	35.24	99.76	-----	-----	Peak

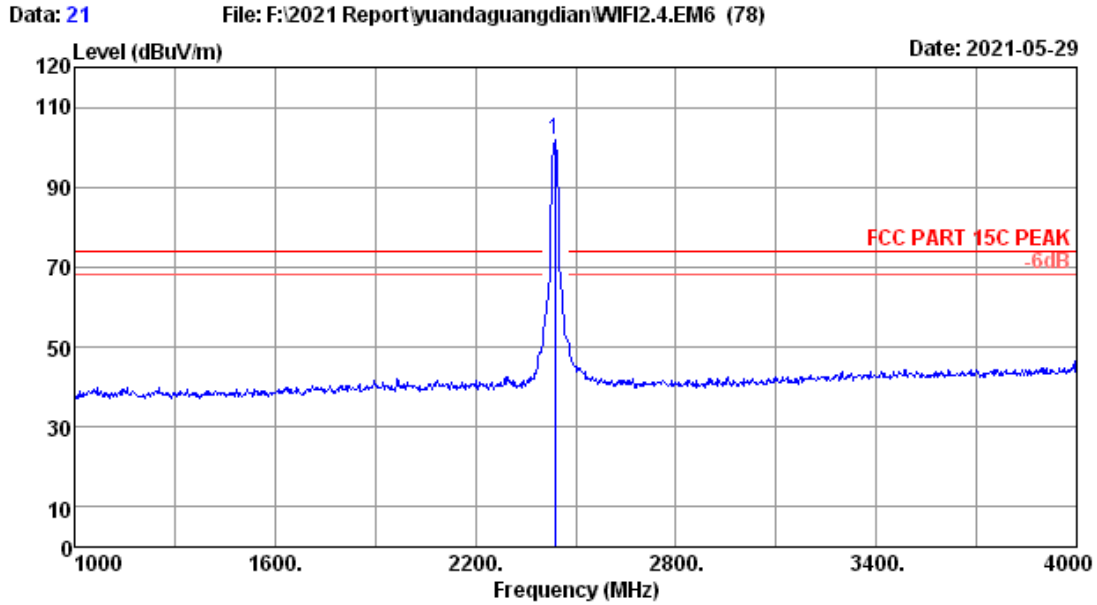
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 16
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	28.04	0.92	105.51	35.24	99.23	-----	-----	Peak

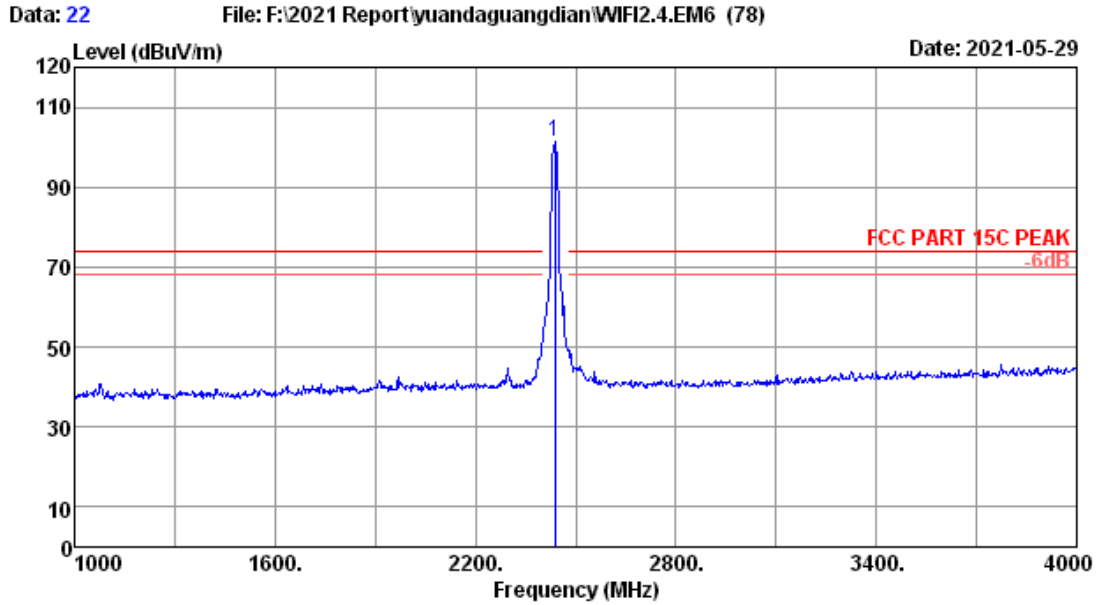
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 21
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.11	0.93	108.01	35.24	101.81	-----	-----	Peak

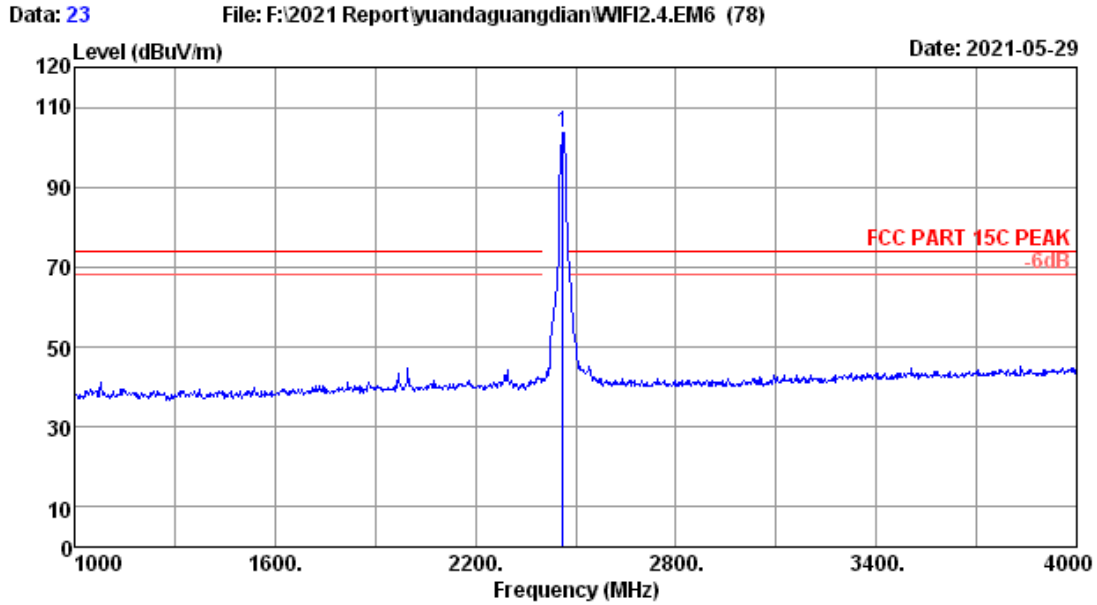
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 22
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.11	0.93	107.49	35.24	101.29	-----	-----	Peak

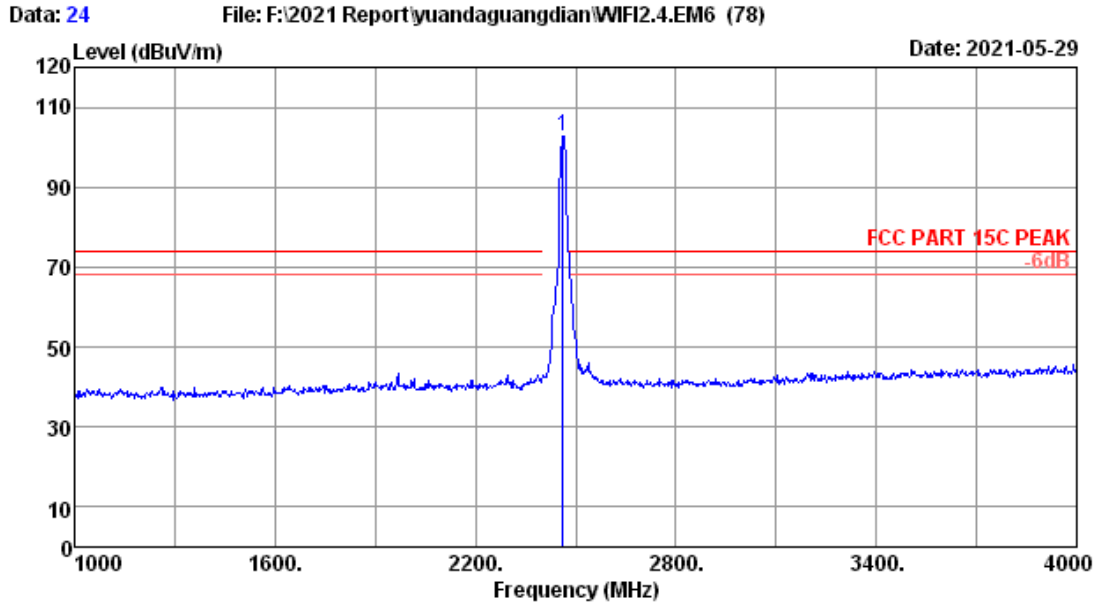
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 23
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.14	0.94	109.69	35.25	103.52	-----	-----	Peak

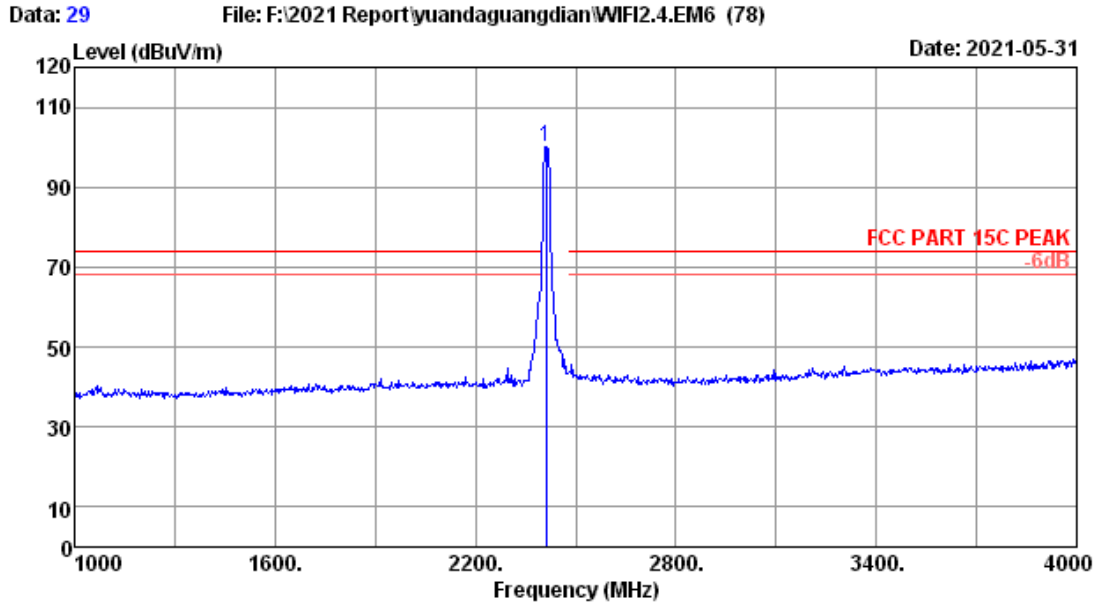
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 24
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.14	0.94	108.93	35.25	102.76	-----	-----	Peak

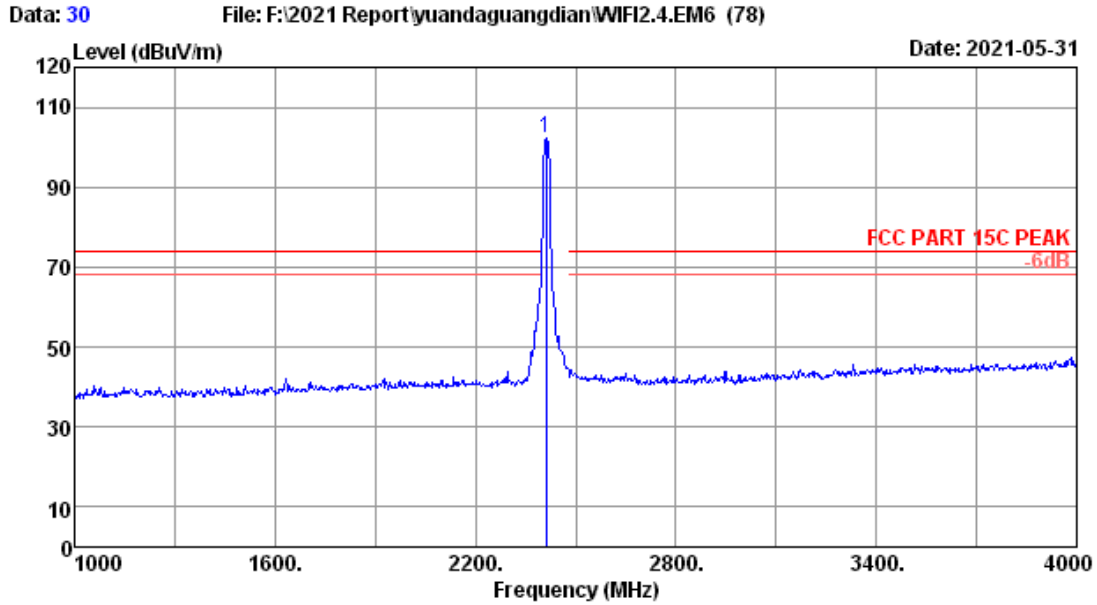
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 29
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	28.04	0.92	106.30	35.24	100.02	-----	-----	Peak

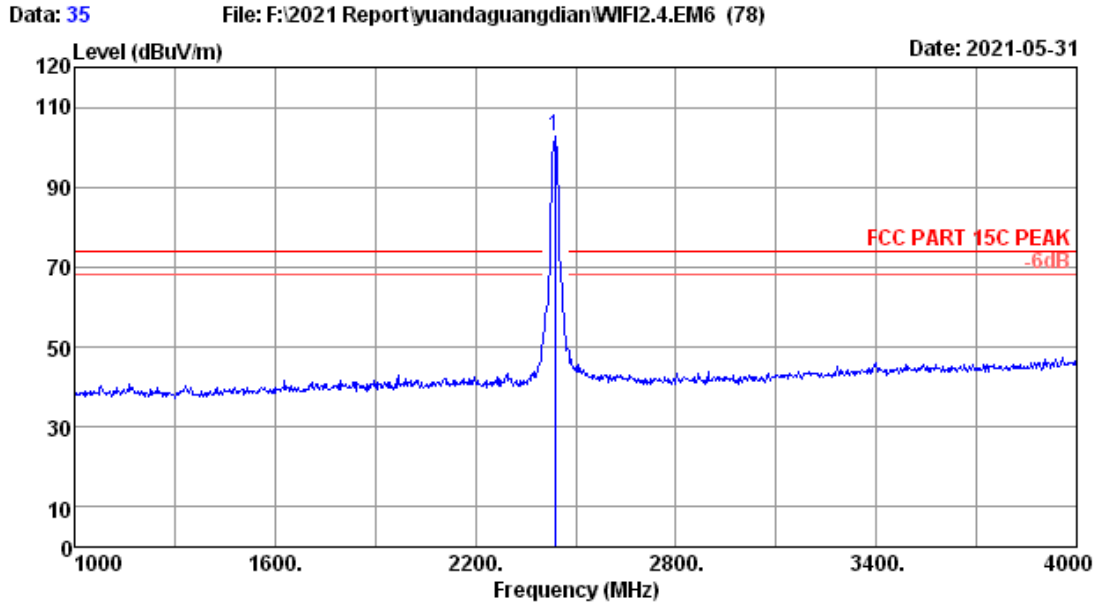
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 30
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	28.04	0.92	108.61	35.24	102.33	-----	-----	Peak

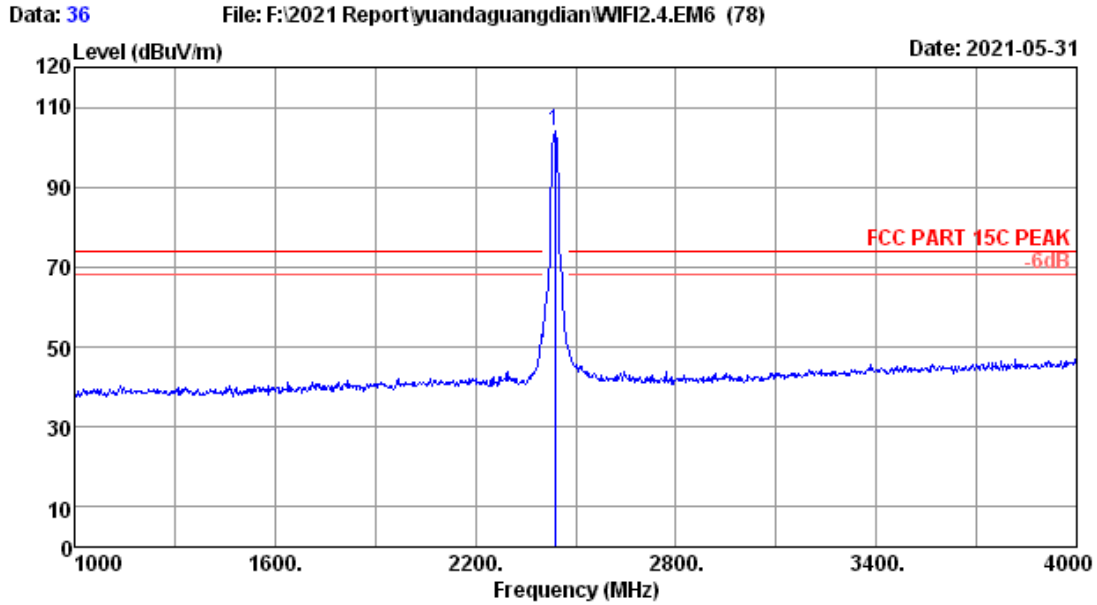
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 35
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.11	0.93	109.02	35.24	102.82	-----	-----	Peak

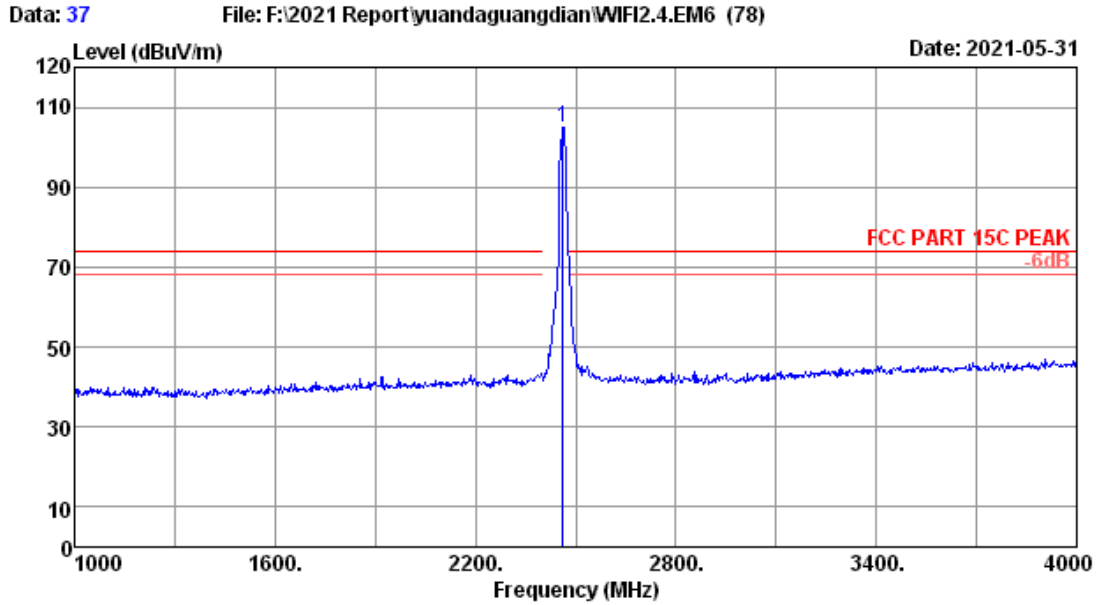
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 36
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.11	0.93	110.37	35.24	104.17	-----	-----	Peak

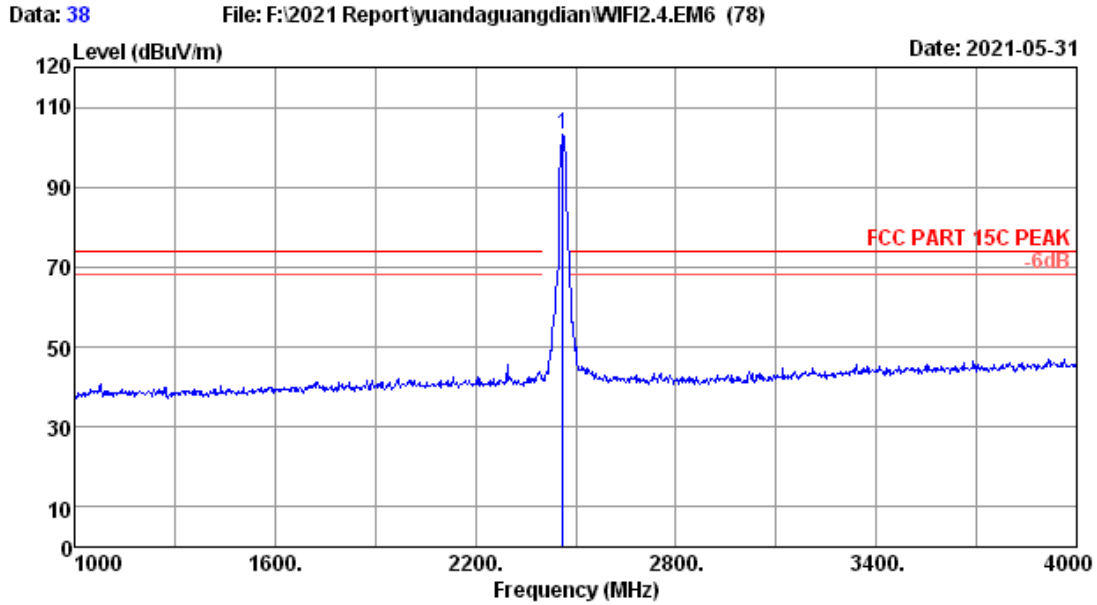
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no. : 3m Chamber Data no. : 37
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.14	0.94	111.26	35.25	105.09	-----	-----	Peak

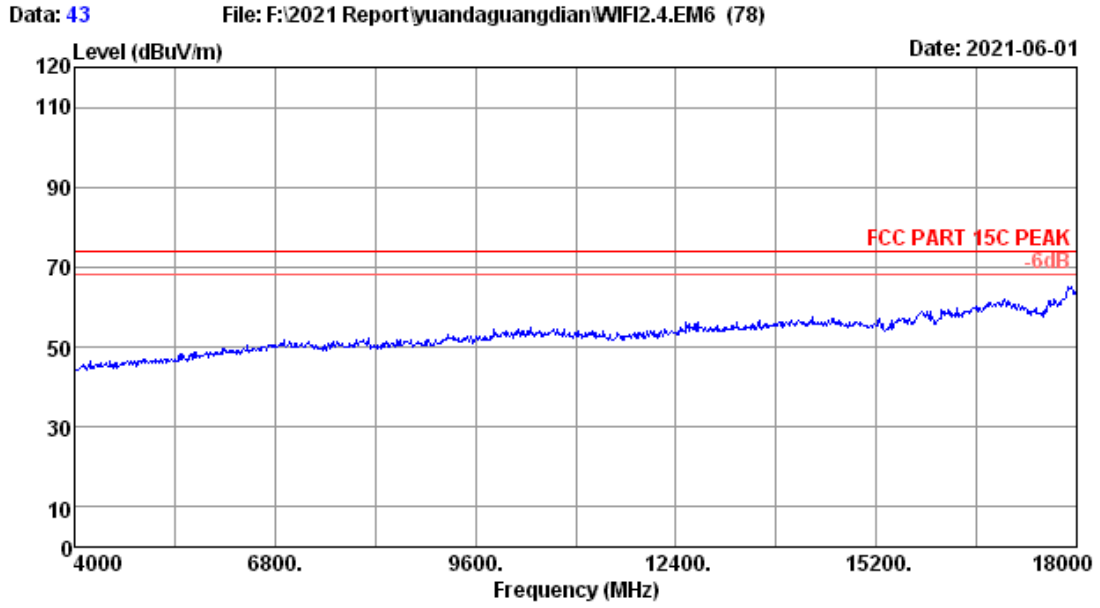
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



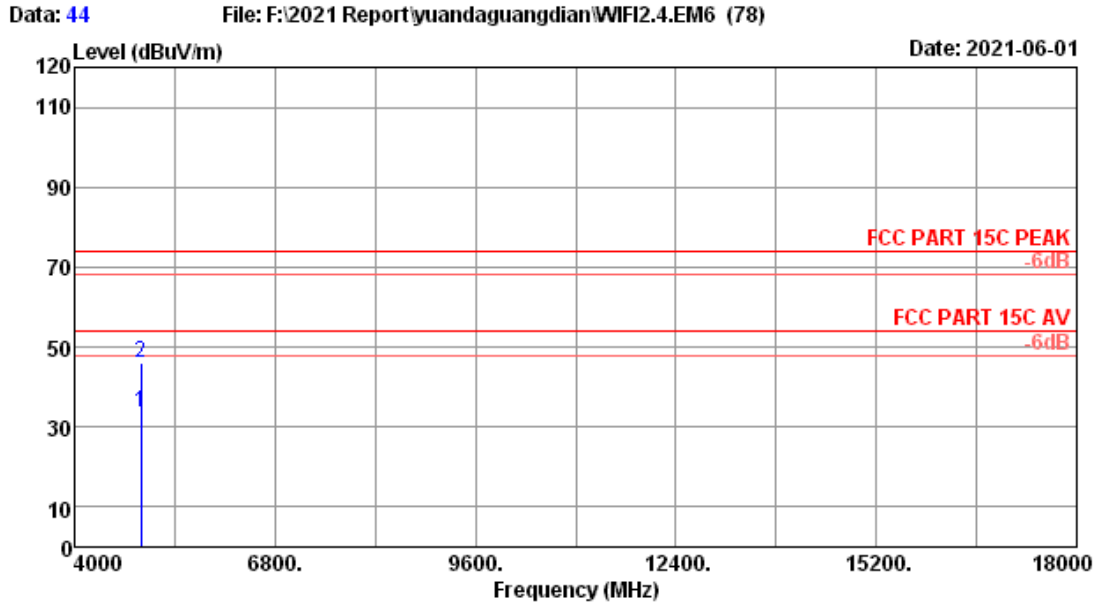
Site no. : 3m Chamber Data no. : 38
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.14	0.94	109.22	35.25	103.05	-----	-----	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



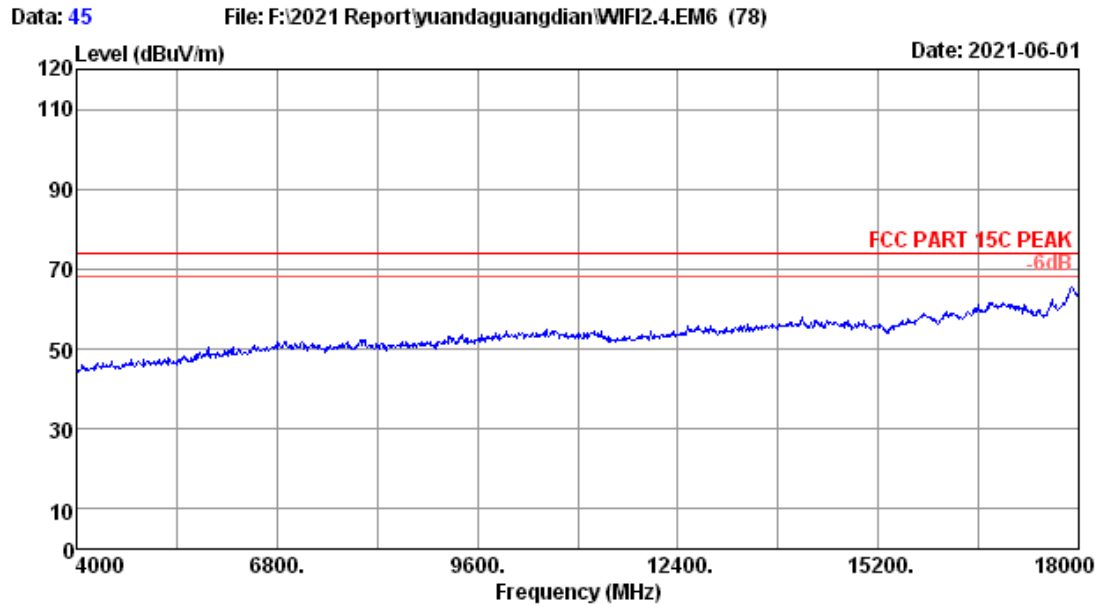
Site no.	: 3m Chamber	Data no.	: 43
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11n HT20 2462MHz TX		



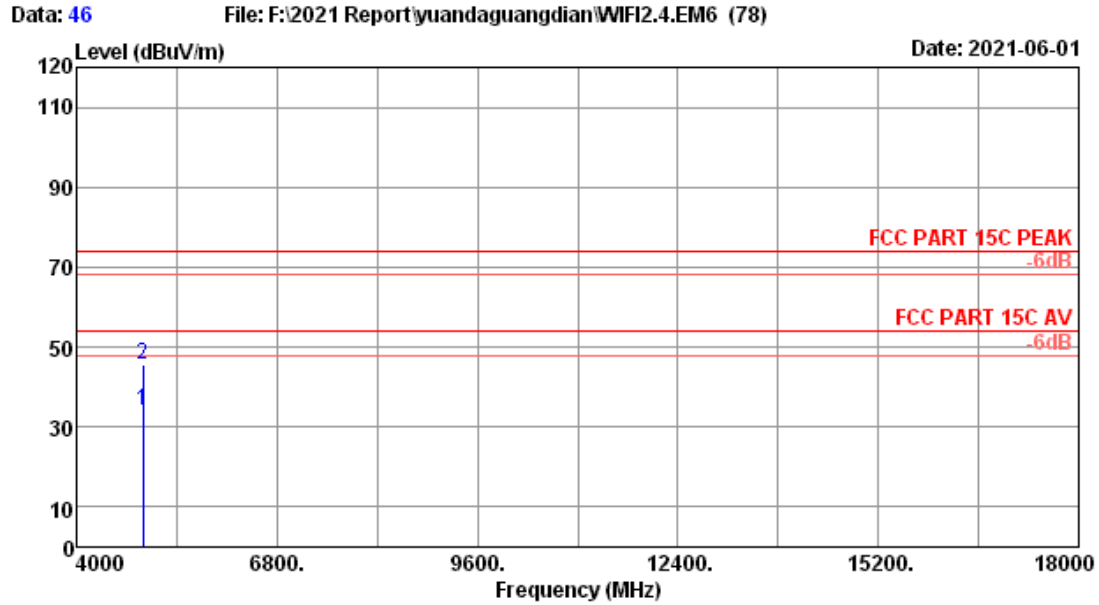
Site no. : 3m Chamber Data no. : 44
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	32.73	1.39	34.04	34.48	33.68	54.00	20.32	Average
2	4924.00	32.73	1.39	46.44	34.48	46.08	74.00	27.92	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



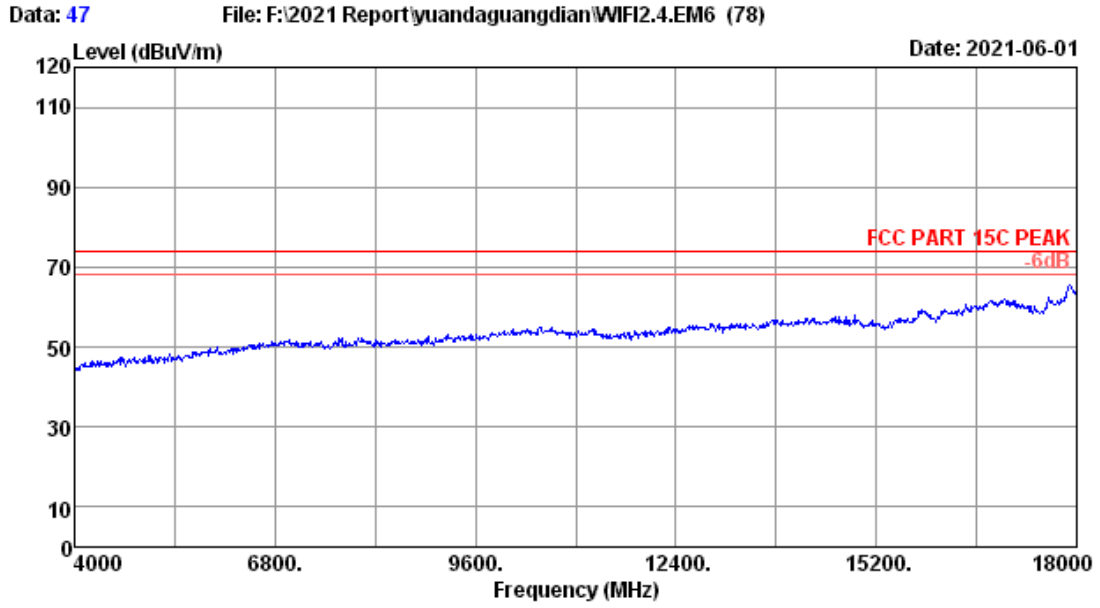
Site no.	: 3m Chamber	Data no.	: 45
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11n HT20 2462MHz TX		



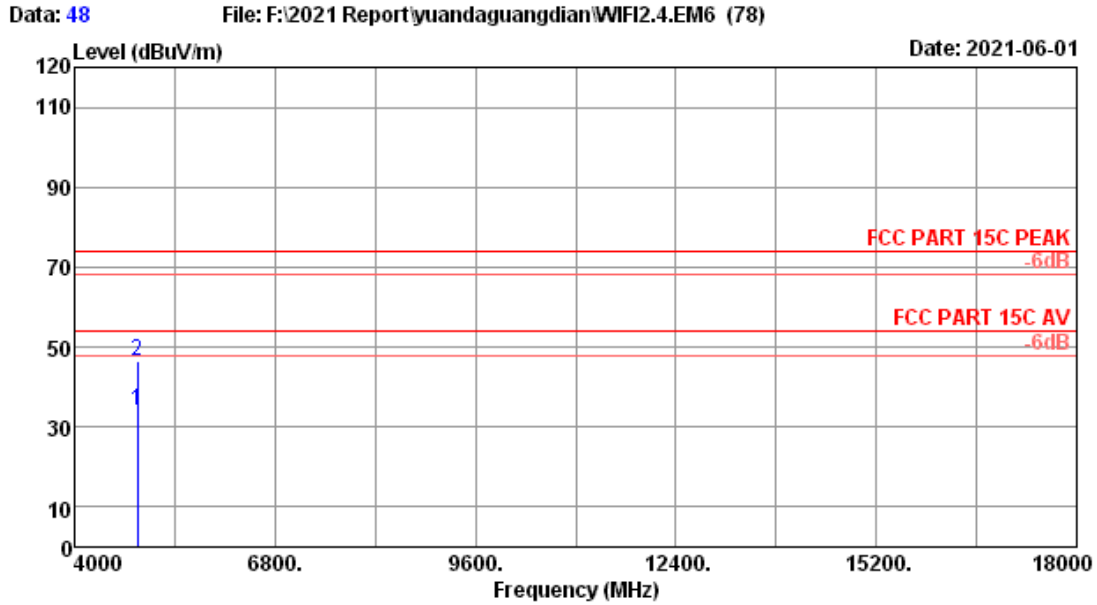
Site no. : 3m Chamber Data no. : 46
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2462MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	32.73	1.39	34.48	34.48	34.12	54.00	19.88	Average
2	4924.00	32.73	1.39	46.09	34.48	45.73	74.00	28.27	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



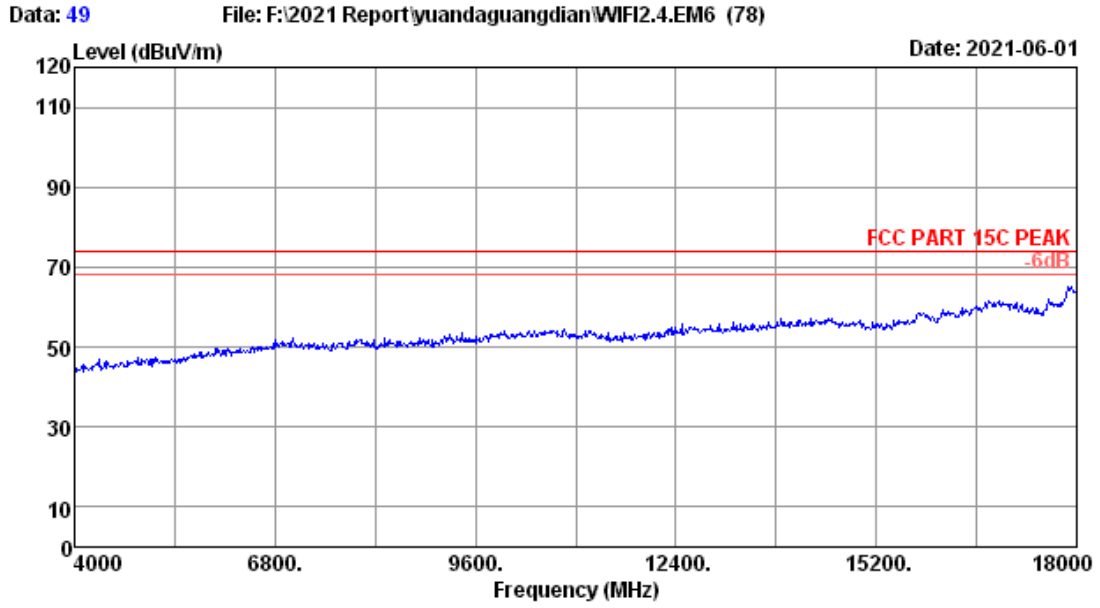
Site no.	: 3m Chamber	Data no.	: 47
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11n HT20 2437MHz TX		



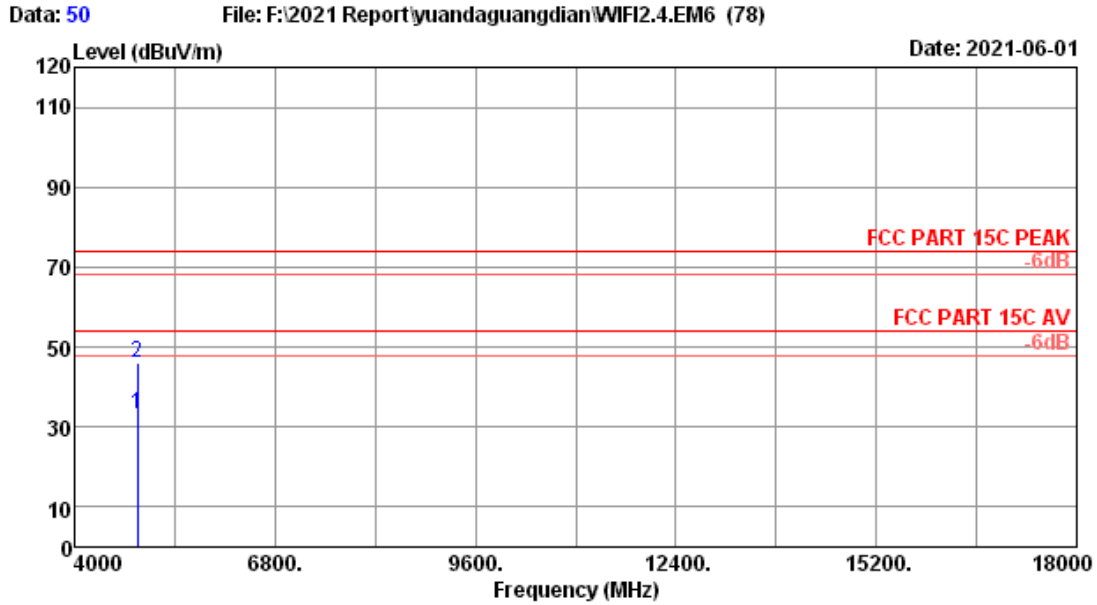
Site no. : 3m Chamber Data no. : 48
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	32.68	1.39	34.30	34.47	33.90	54.00	20.10	Average
2	4874.00	32.68	1.39	46.78	34.47	46.38	74.00	27.62	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



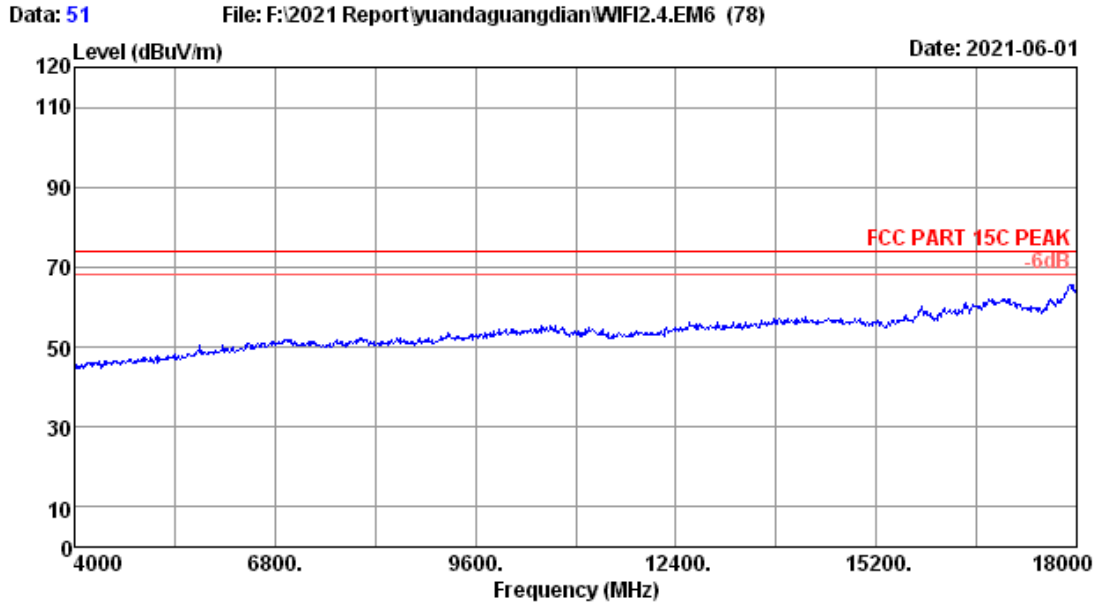
Site no.	: 3m Chamber	Data no.	: 49
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11n HT20 2437MHz TX		



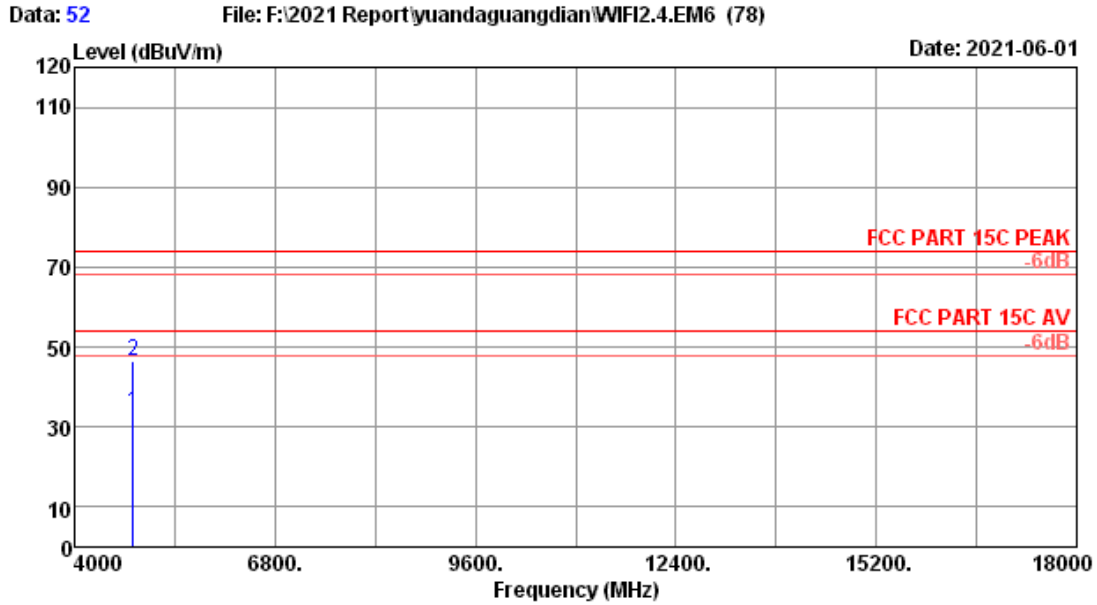
Site no. : 3m Chamber Data no. : 50
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2437MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	32.68	1.39	33.78	34.47	33.38	54.00	20.62	Average
2	4874.00	32.68	1.39	46.37	34.47	45.97	74.00	28.03	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



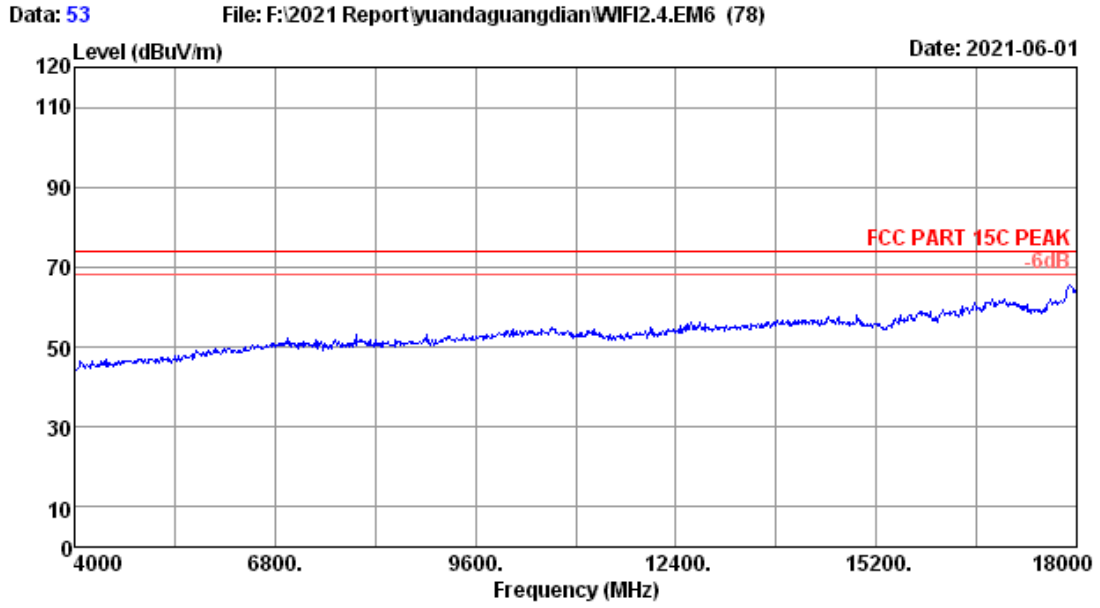
Site no.	: 3m Chamber	Data no.	: 51
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11n HT20 2412MHz TX		



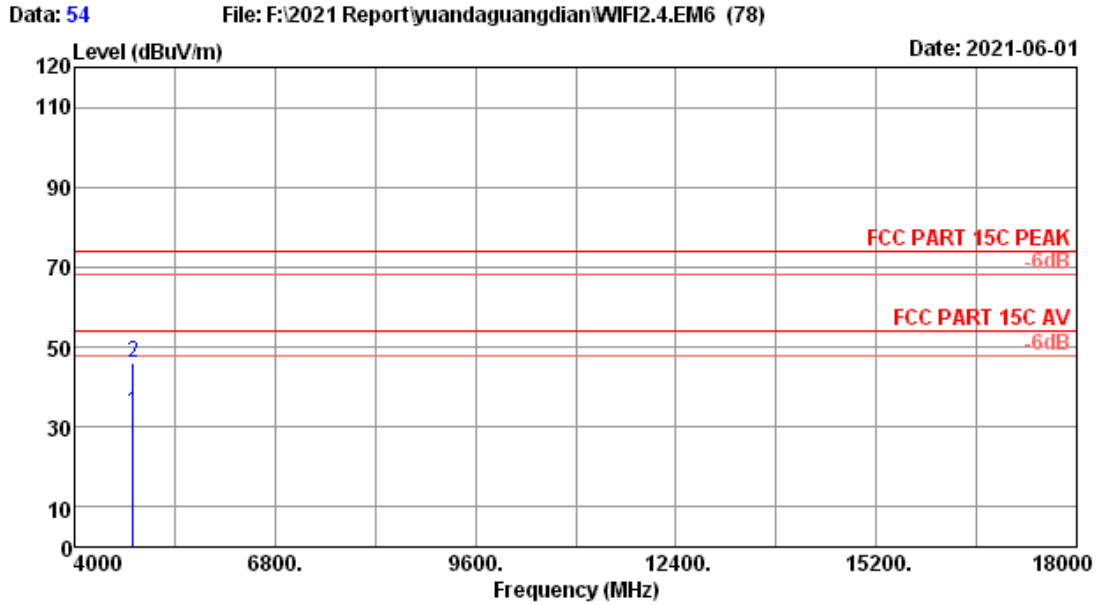
Site no. : 3m Chamber Data no. : 52
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	32.63	1.38	33.93	34.46	33.48	54.00	20.52	Average
2	4824.00	32.63	1.38	47.06	34.46	46.61	74.00	27.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.



Site no.	: 3m Chamber	Data no.	: 53
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11n HT20 2412MHz TX		

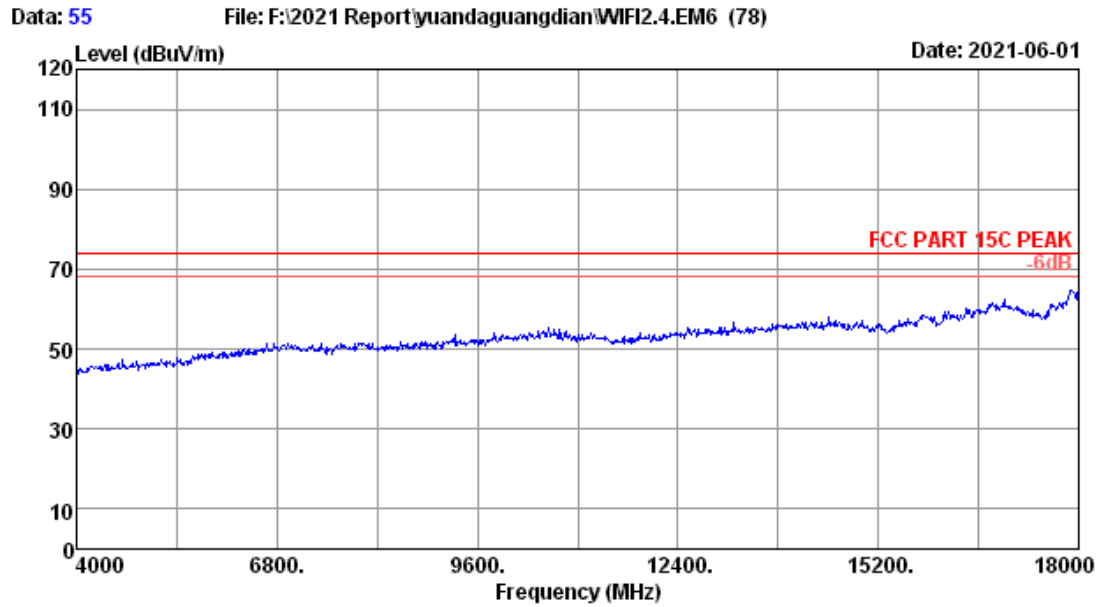


Site no. : 3m Chamber Data no. : 54
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11n HT20 2412MHz TX

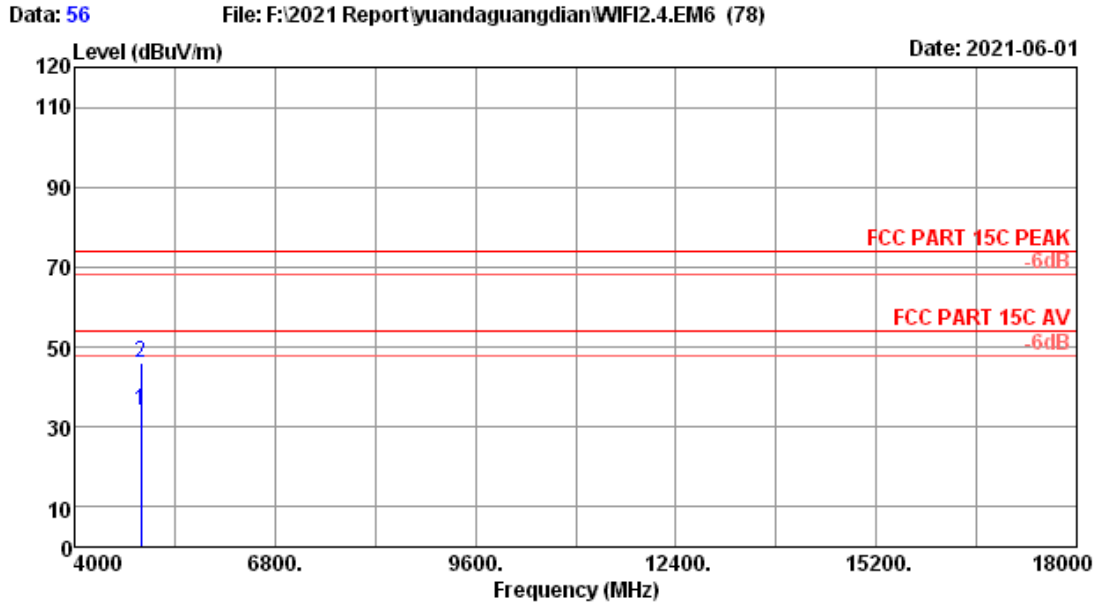
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	32.63	1.38	33.96	34.46	33.51	54.00	20.49	Average
2	4824.00	32.63	1.38	46.57	34.46	46.12	74.00	27.88	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 55
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11g 2462MHz TX		

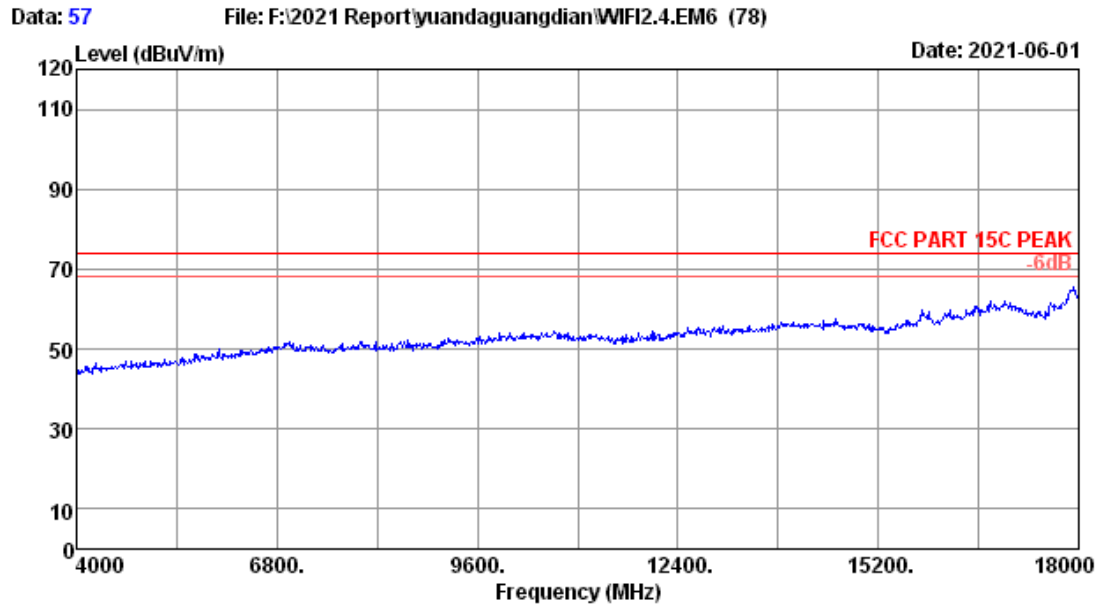


Site no. : 3m Chamber Data no. : 56
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2462MHz TX

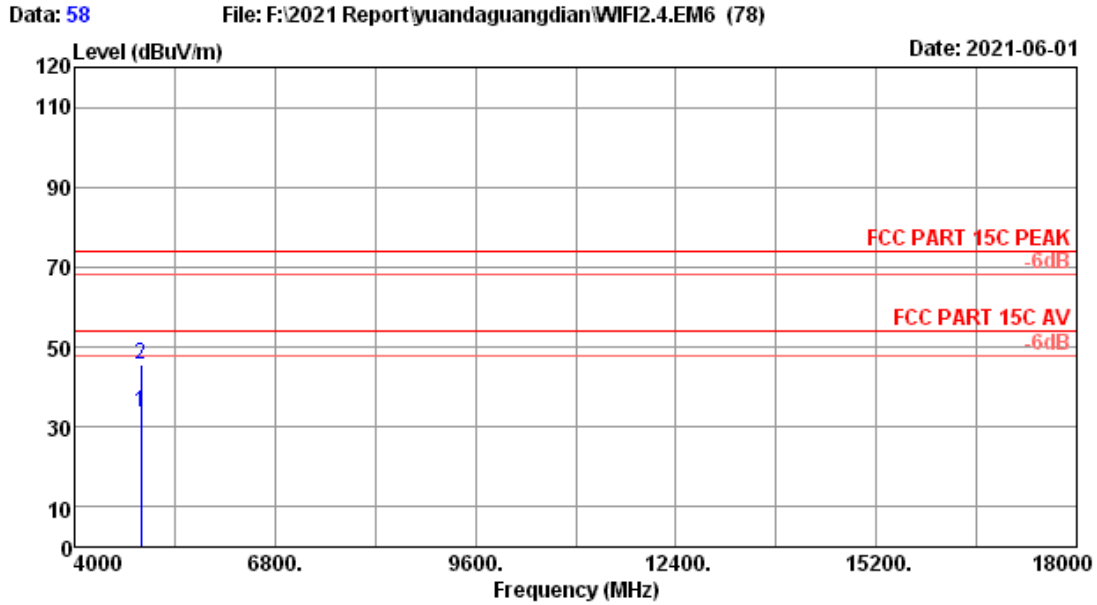
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	32.73	1.39	34.43	34.48	34.07	54.00	19.93	Average
2	4924.00	32.73	1.39	46.52	34.48	46.16	74.00	27.84	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 57
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11g 2462MHz TX		

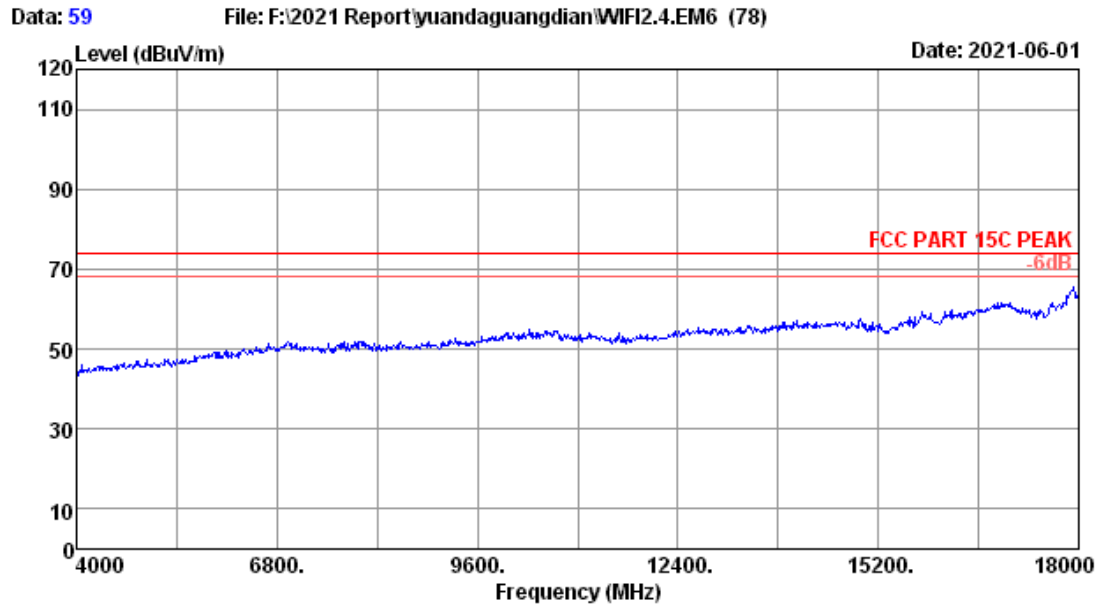


Site no. : 3m Chamber Data no. : 58
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2462MHz TX

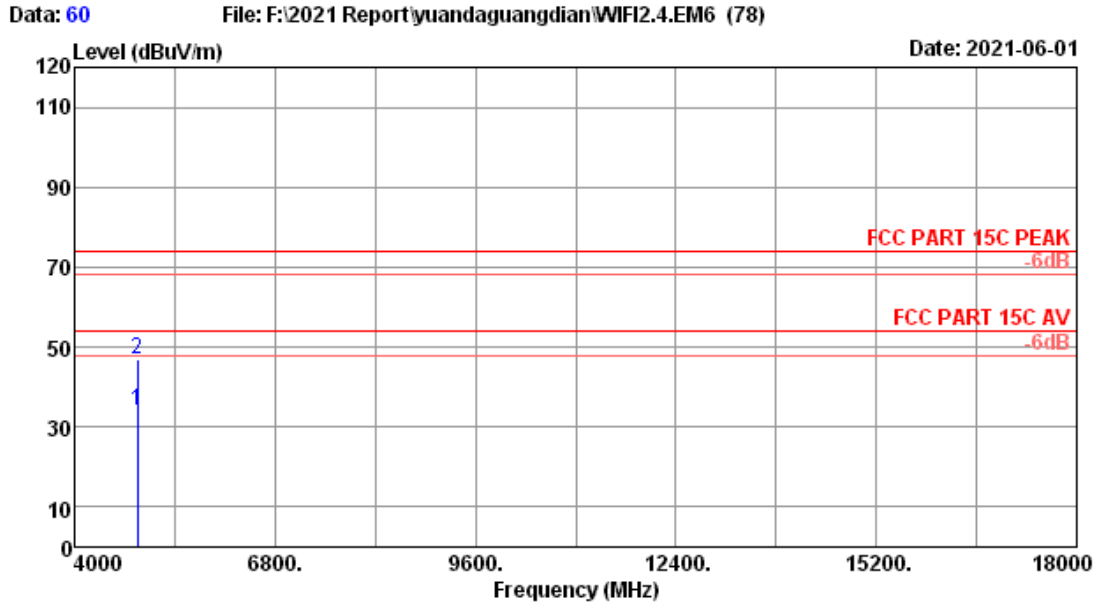
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	32.73	1.39	34.15	34.48	33.79	54.00	20.21	Average
2	4924.00	32.73	1.39	46.14	34.48	45.78	74.00	28.22	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 59
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11g 2437MHz TX		

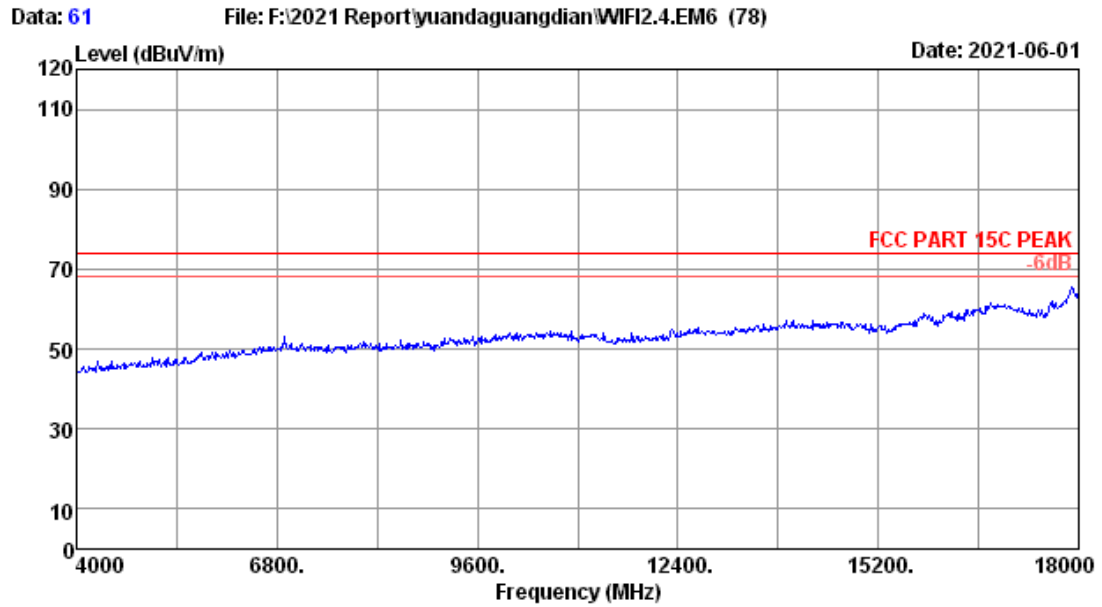


Site no. : 3m Chamber Data no. : 60
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2437MHz TX

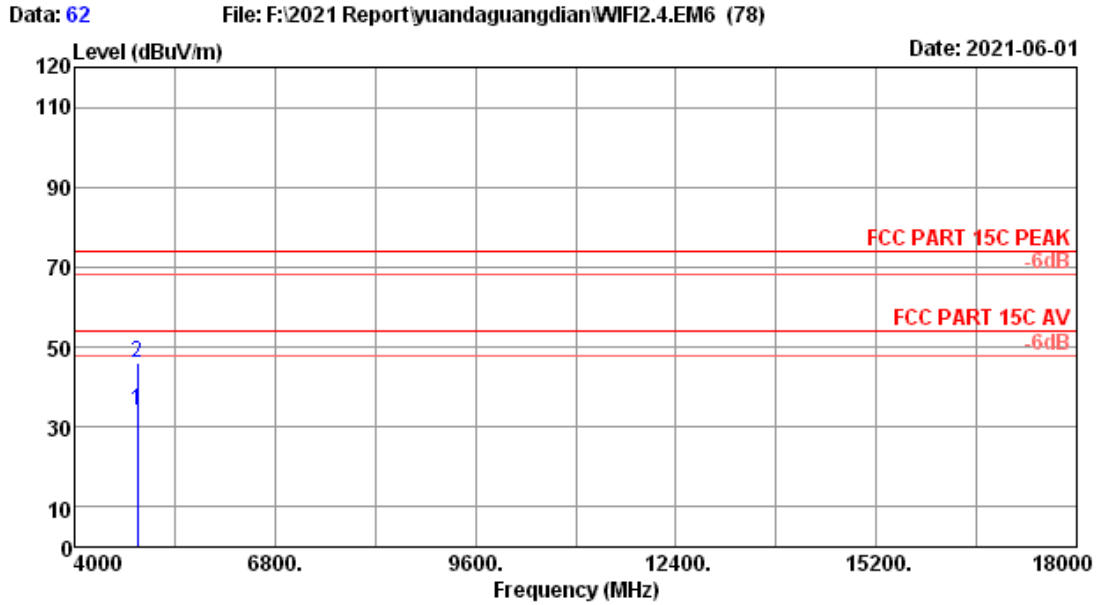
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	32.68	1.39	34.34	34.47	33.94	54.00	20.06	Average
2	4874.00	32.68	1.39	47.21	34.47	46.81	74.00	27.19	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 61
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11g 2437MHz TX		

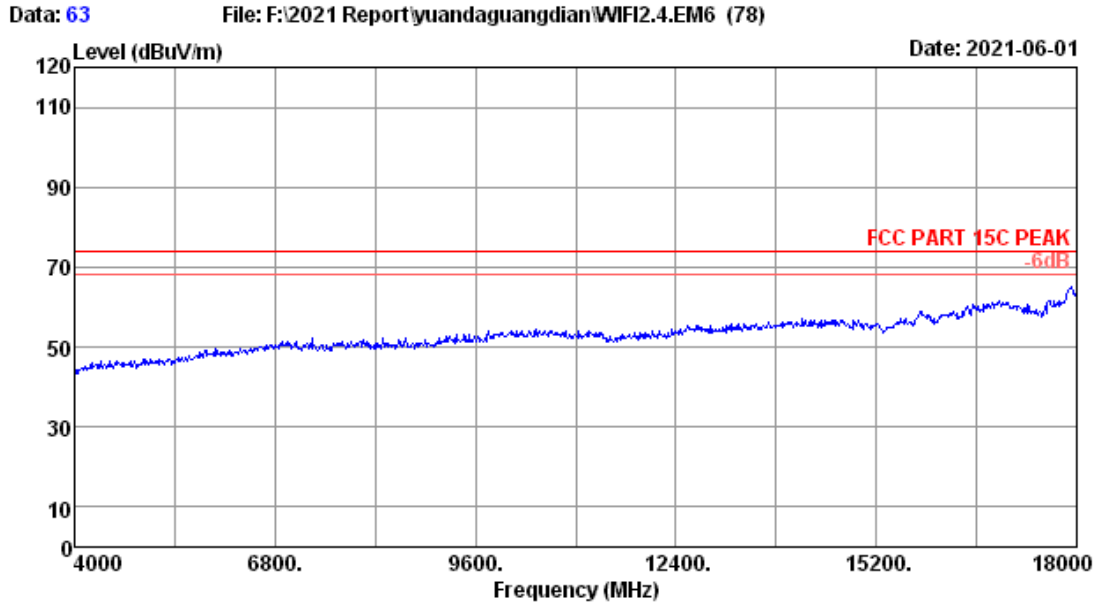


Site no. : 3m Chamber Data no. : 62
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2437MHz TX

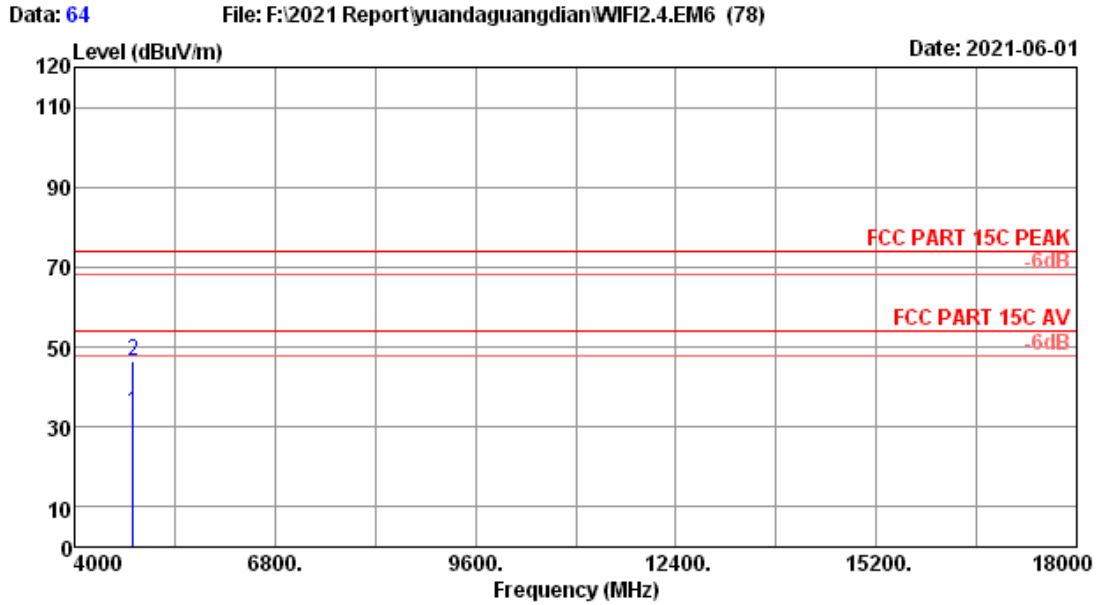
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	32.68	1.39	34.34	34.47	33.94	54.00	20.06	Average
2	4874.00	32.68	1.39	46.29	34.47	45.89	74.00	28.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 63
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11g 2412MHz TX		

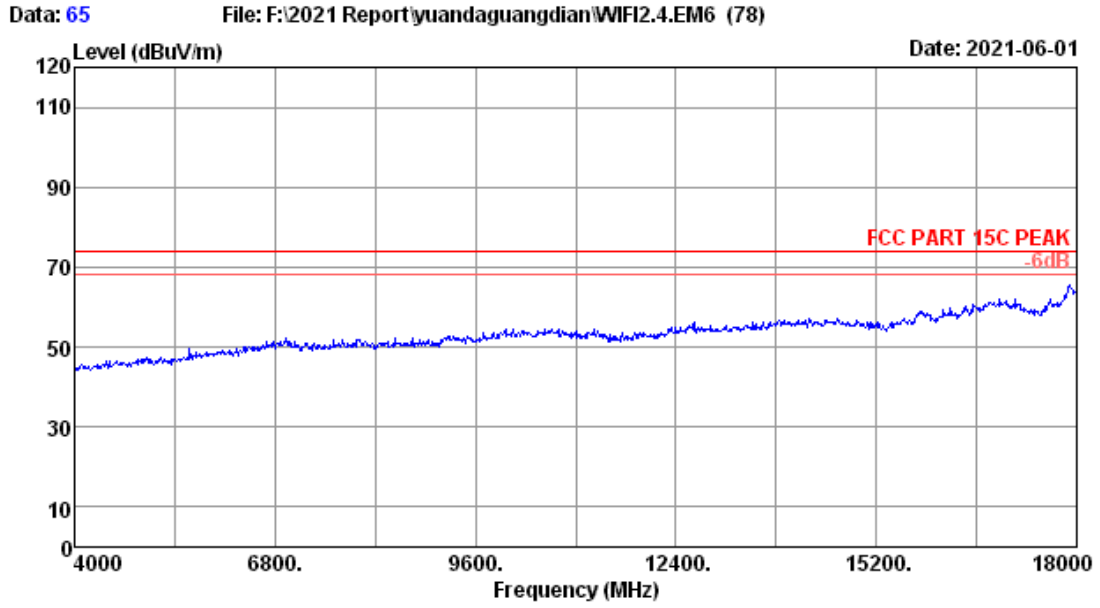


Site no. : 3m Chamber Data no. : 64
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	32.63	1.38	34.24	34.46	33.79	54.00	20.21	Average
2	4824.00	32.63	1.38	47.02	34.46	46.57	74.00	27.43	Peak

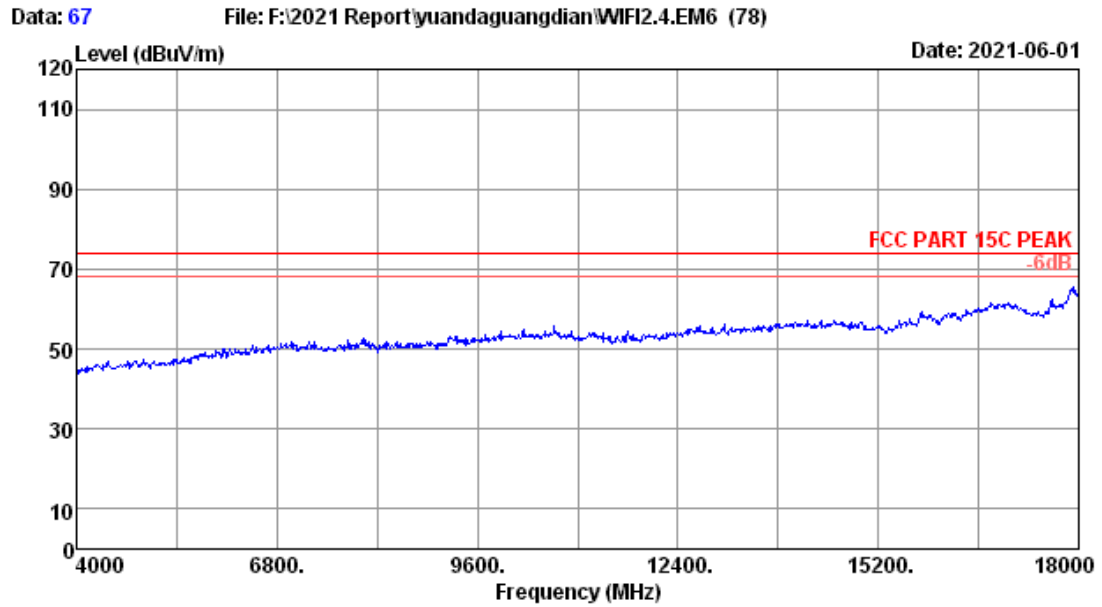
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250

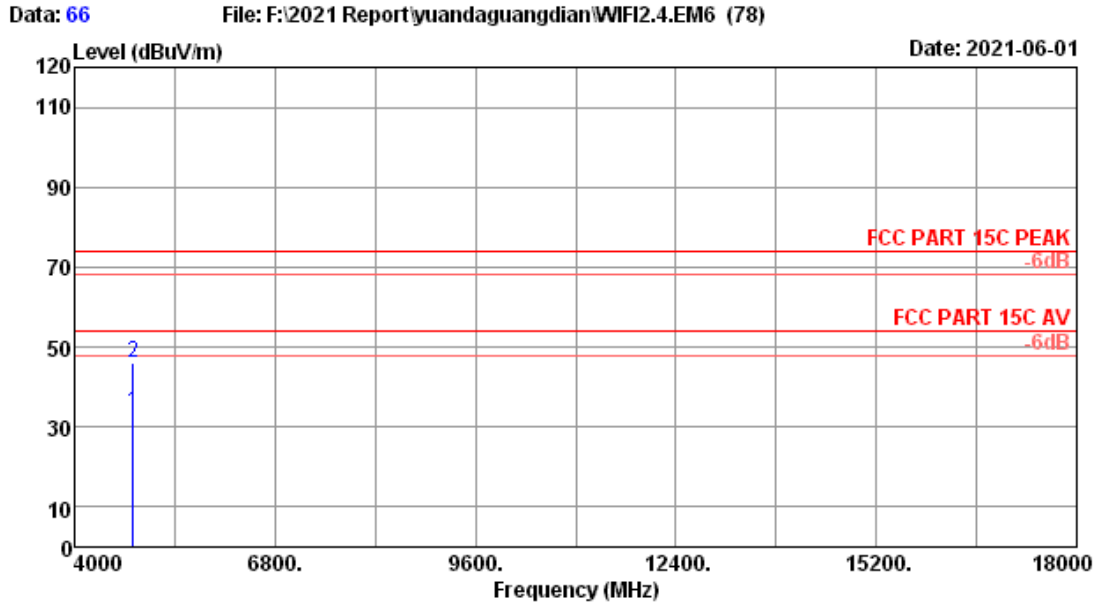


Site no.	: 3m Chamber	Data no.	: 65
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11g 2412MHz TX		

FCC ID: 2AZ3IMP250



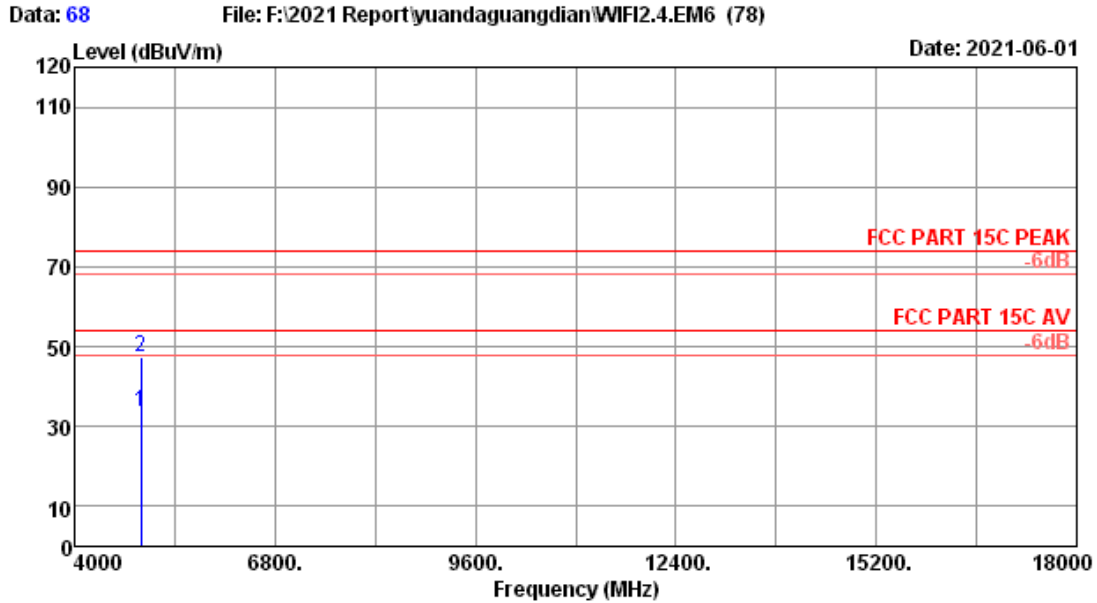
Site no.	: 3m Chamber	Data no.	: 67
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11b 2462MHz TX		



Site no. : 3m Chamber Data no. : 66
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11g 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	32.63	1.38	34.15	34.46	33.70	54.00	20.30	Average
2	4824.00	32.63	1.38	46.43	34.46	45.98	74.00	28.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

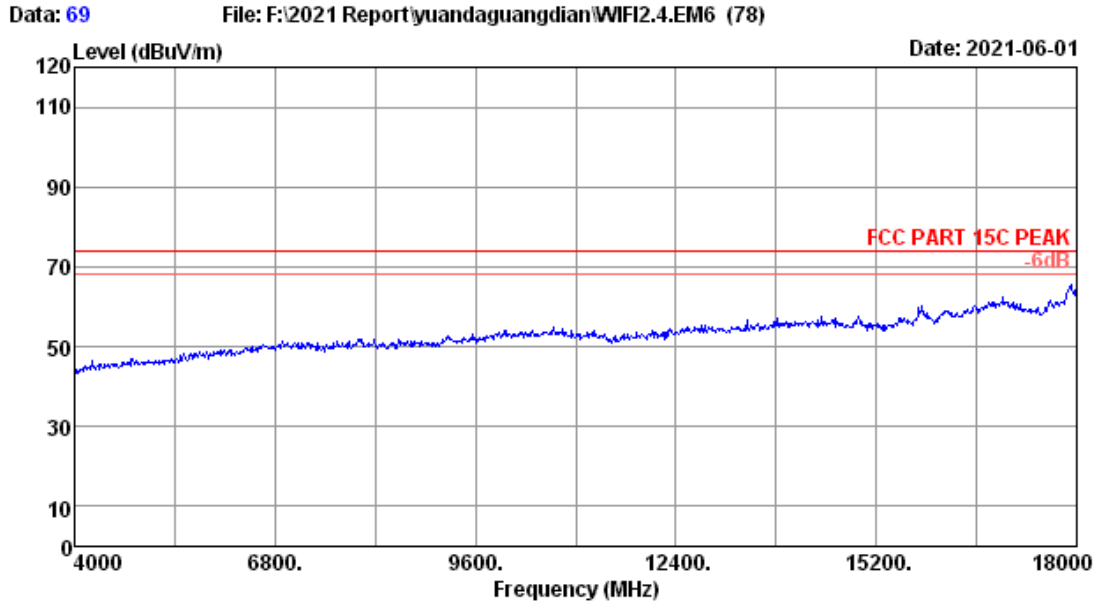


Site no. : 3m Chamber Data no. : 68
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2462MHz TX

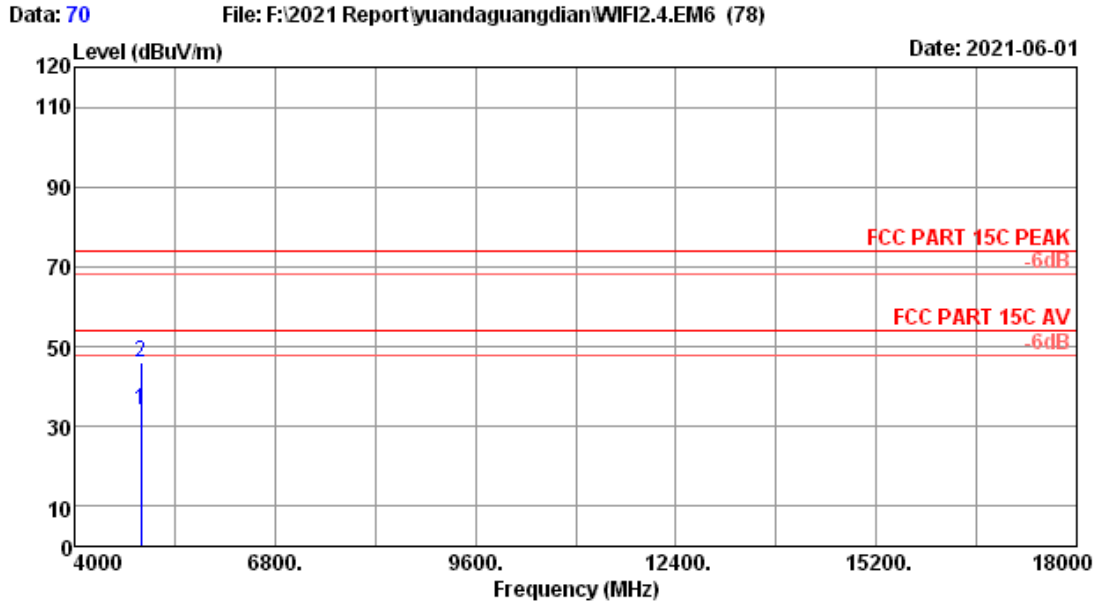
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	32.73	1.39	34.19	34.48	33.83	54.00	20.17	Average
2	4924.00	32.73	1.39	47.66	34.48	47.30	74.00	26.70	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 69
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11b 2462MHz TX		

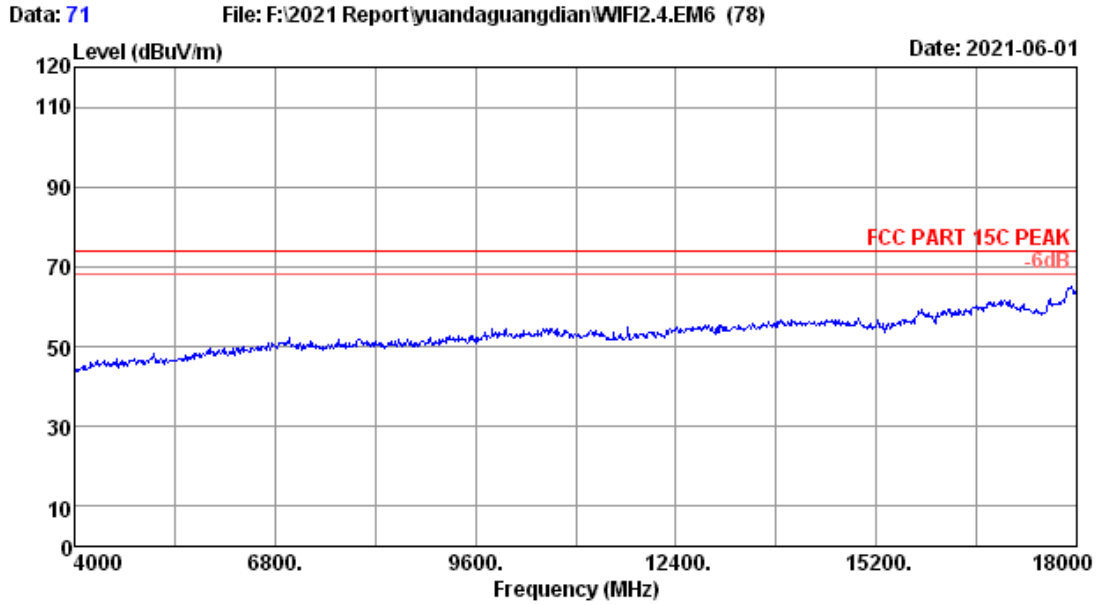


Site no. : 3m Chamber Data no. : 70
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2462MHz TX

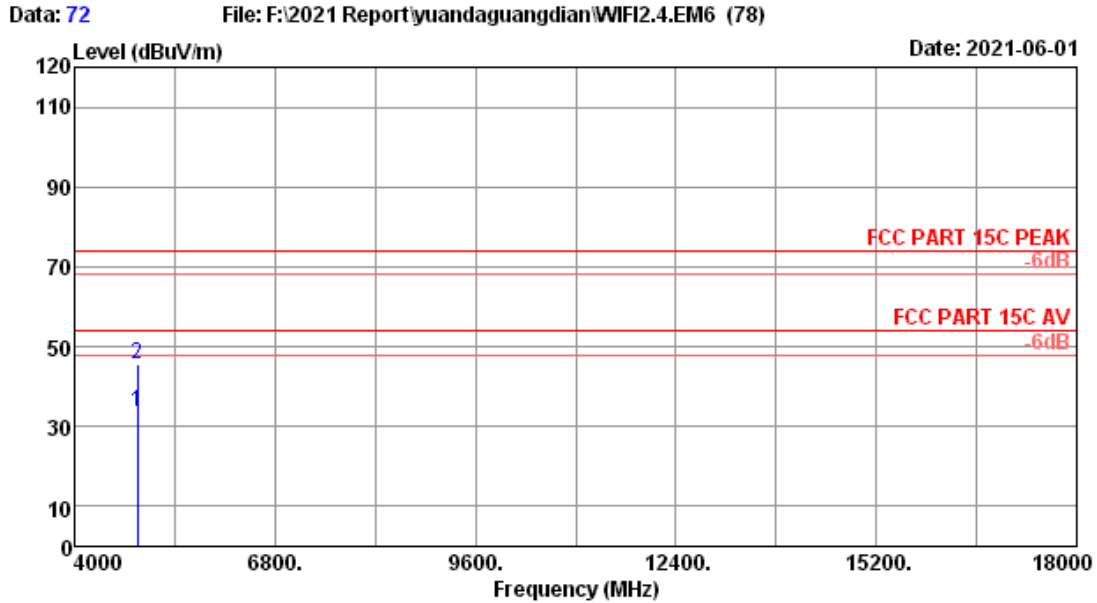
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	32.73	1.39	34.44	34.48	34.08	54.00	19.92	Average
2	4924.00	32.73	1.39	46.54	34.48	46.18	74.00	27.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 71
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11b 2437MHz TX		

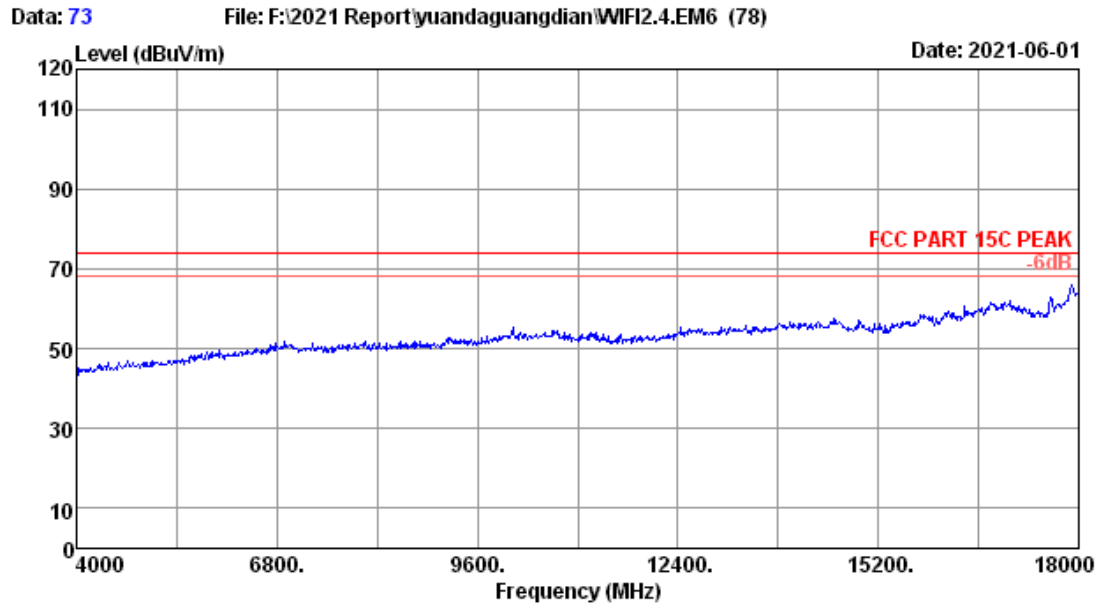


Site no. : 3m Chamber Data no. : 72
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2437MHz TX

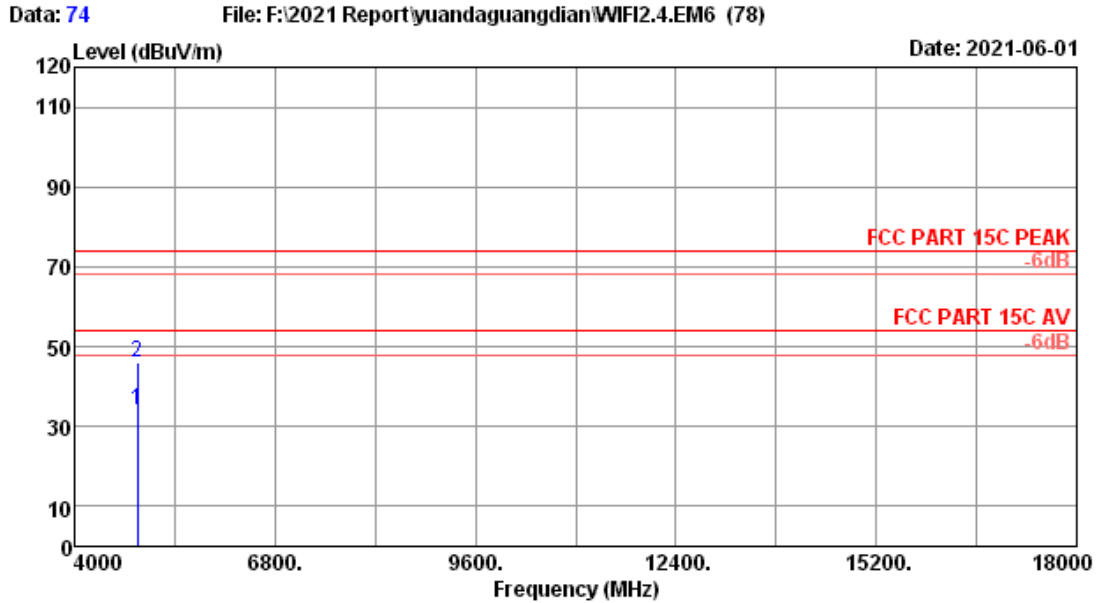
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	32.68	1.39	34.15	34.47	33.75	54.00	20.25	Average
2	4874.00	32.68	1.39	46.10	34.47	45.70	74.00	28.30	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 73
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11b 2437MHz TX		

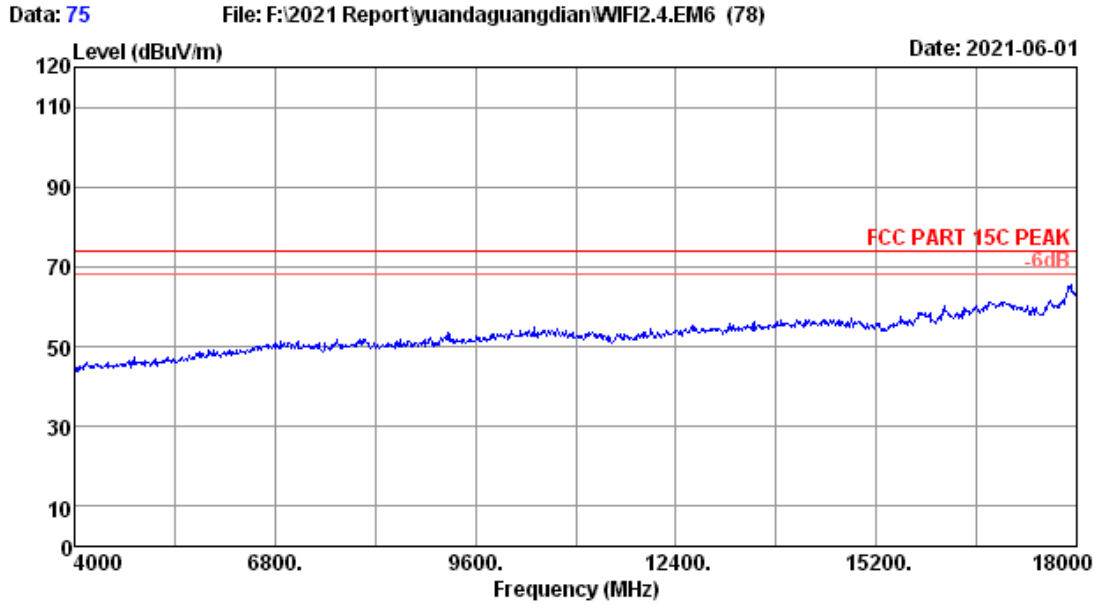


Site no. : 3m Chamber Data no. : 74
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2437MHz TX

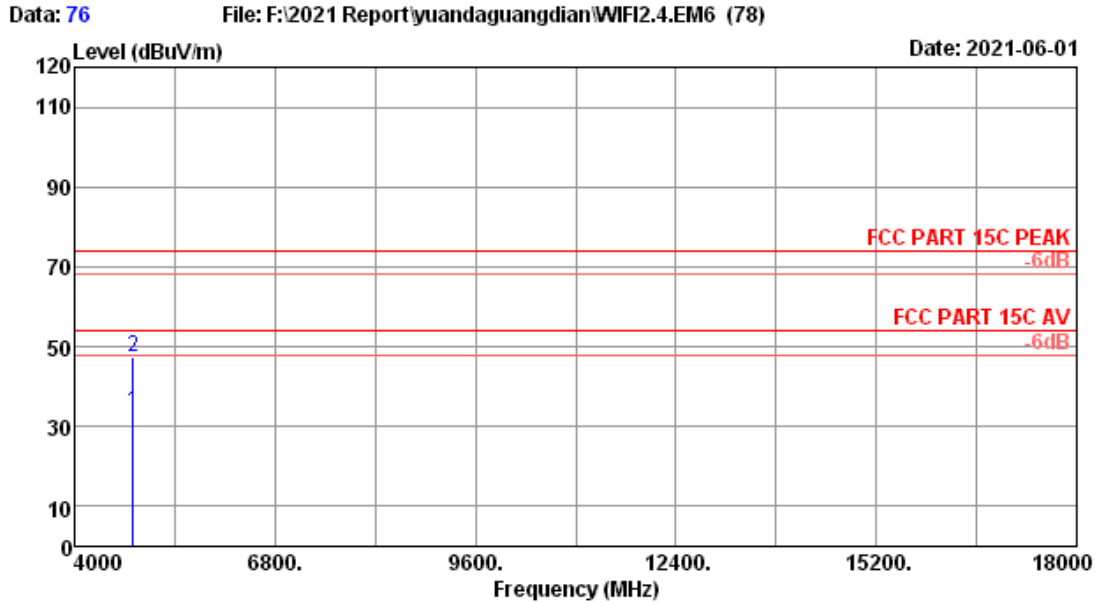
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	32.68	1.39	34.58	34.47	34.18	54.00	19.82	Average
2	4874.00	32.68	1.39	46.51	34.47	46.11	74.00	27.89	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 75
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11b 2412MHz TX		

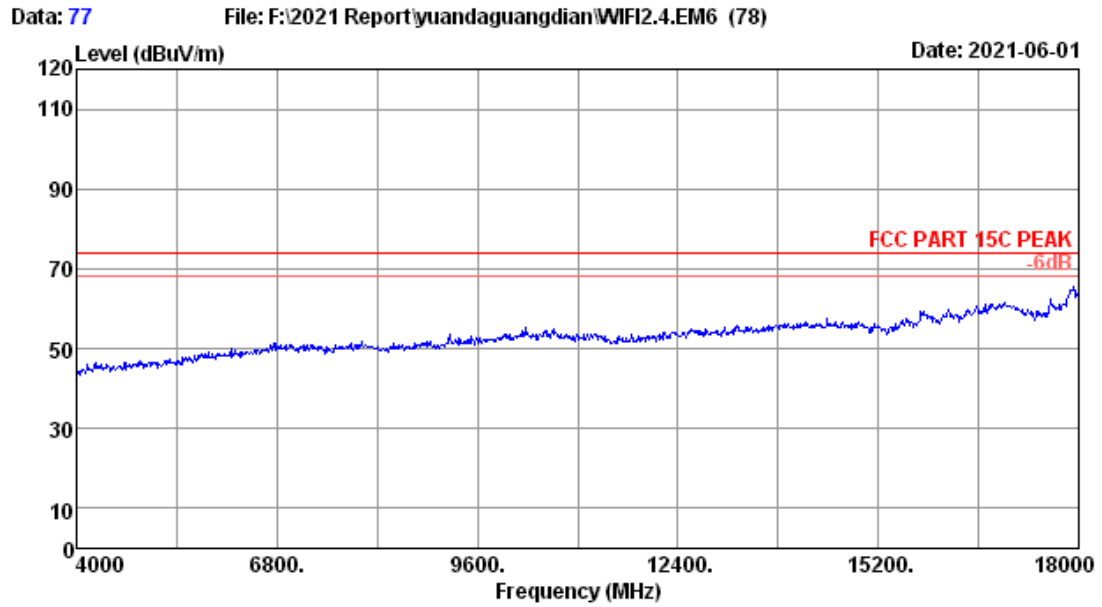


Site no. : 3m Chamber Data no. : 76
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2412MHz TX

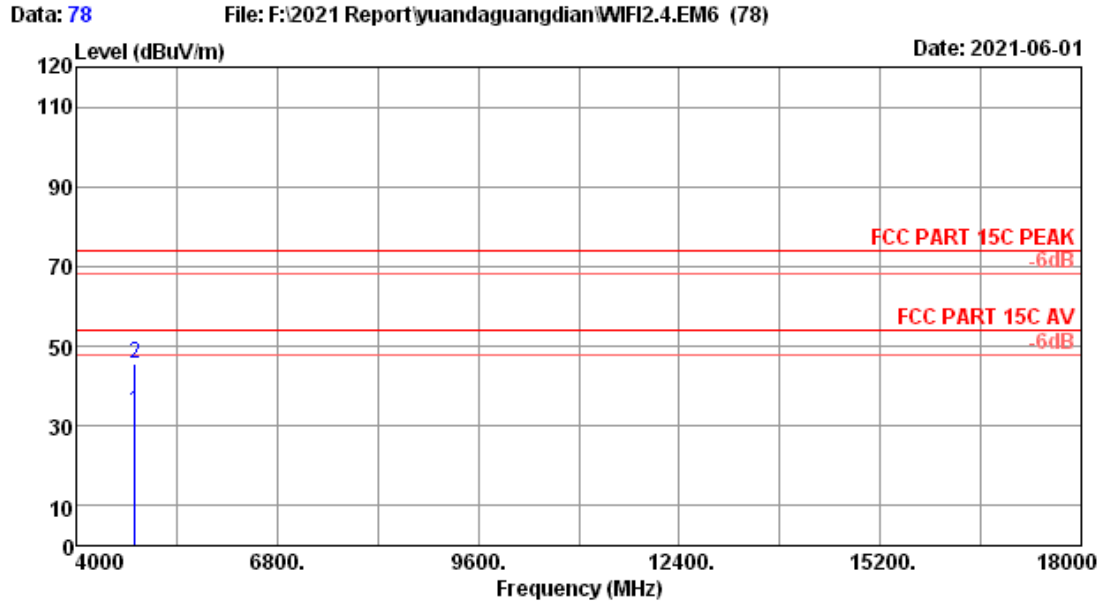
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	32.63	1.38	34.25	34.46	33.80	54.00	20.20	Average
2	4824.00	32.63	1.38	47.86	34.46	47.41	74.00	26.59	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

FCC ID: 2AZ3IMP250



Site no.	: 3m Chamber	Data no.	: 77
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.2°C/52.5%	Engineer	: Lynn
Test Mode	: 11b 2412MHz TX		



Site no. : 3m Chamber Data no. : 78
 Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23.2°C/52.5% Engineer : Lynn
 Test Mode : 11b 2412MHz TX

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	32.63	1.38	34.28	34.46	33.83	54.00	20.17	Average
2	4824.00	32.63	1.38	46.23	34.46	45.78	74.00	28.22	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
 -Amp factor.
 2. The emission levels that are 20dB below the official
 limit are not reported.

5. CONDUCTED SPURIOUS EMISSIONS

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.07,21	1 Year
2.	Attenuator	Agilent	8491B	MY39269201	Oct.12,20	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX-106	505238/6	Apr.07,21	1 Year

5.2. Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

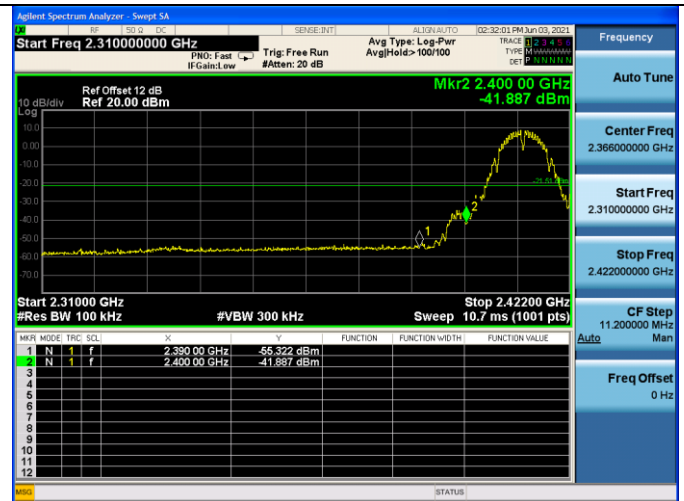
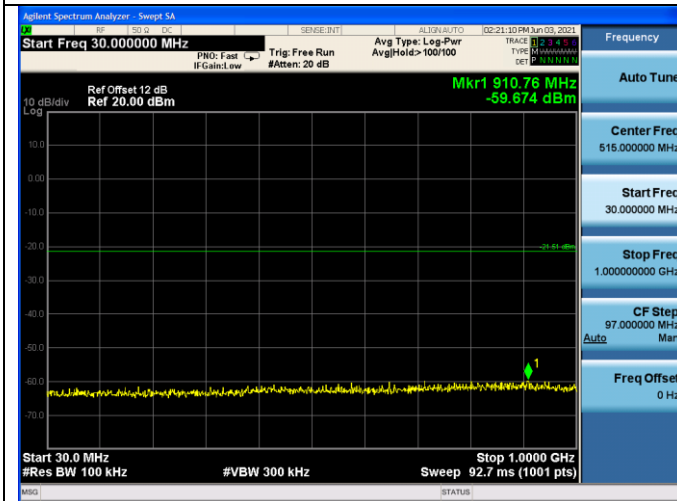
5.3. Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions with peak detector.

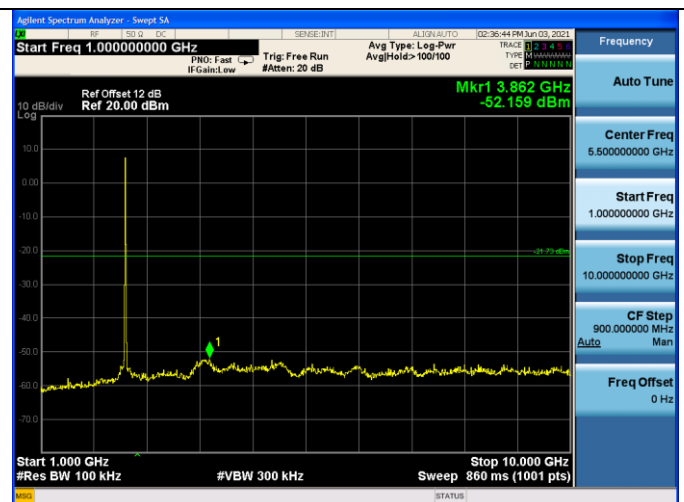
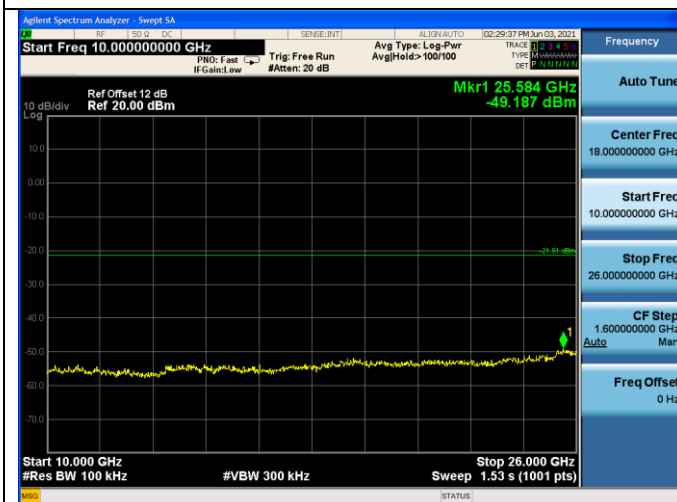
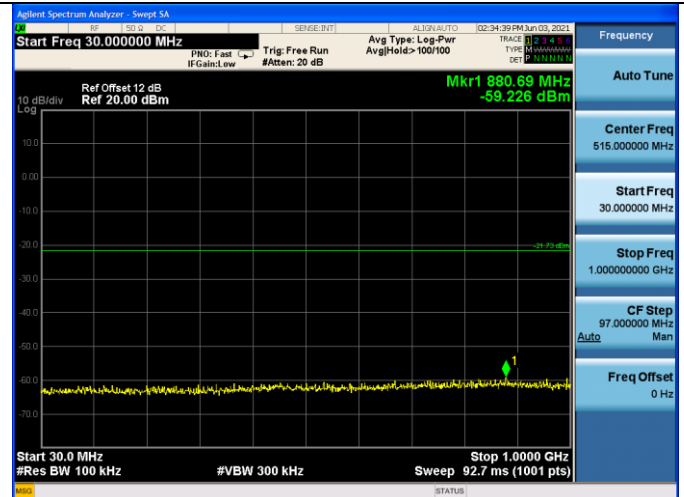
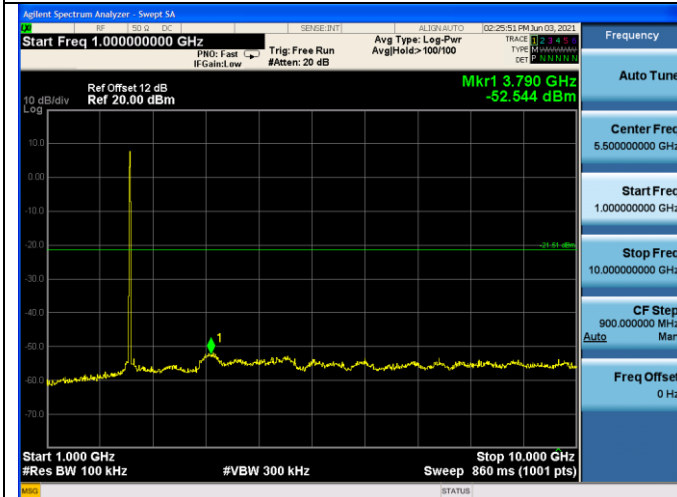
5.4. Test result

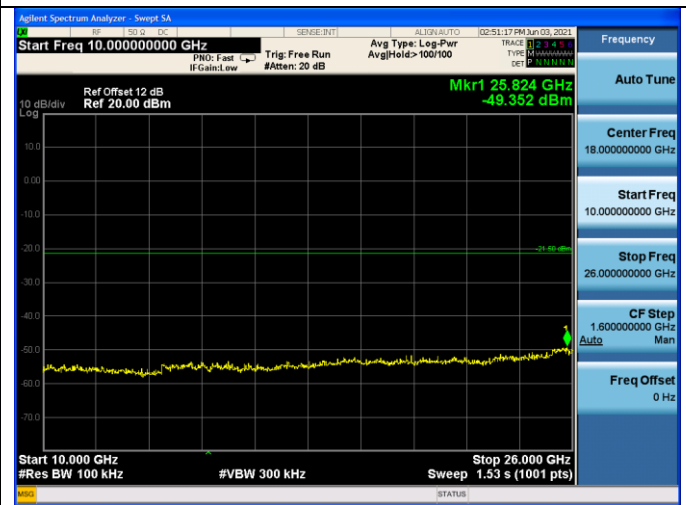
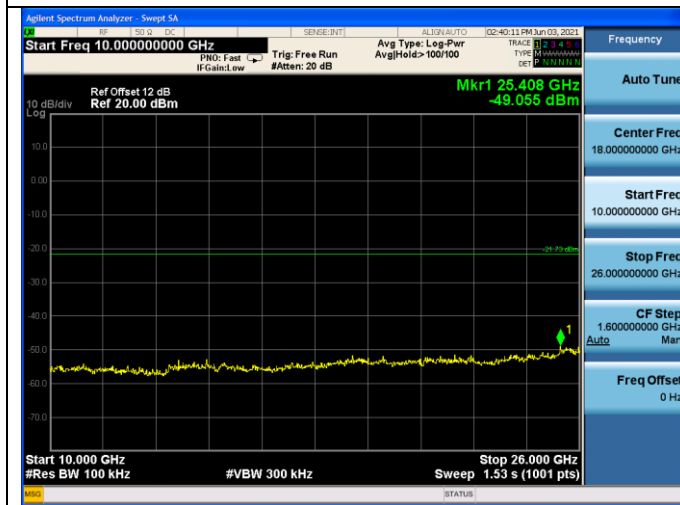
PASS (The testing data was attached in the next pages.)

Test Mode: IEEE 802.11b
Test CH1: 2412MHz

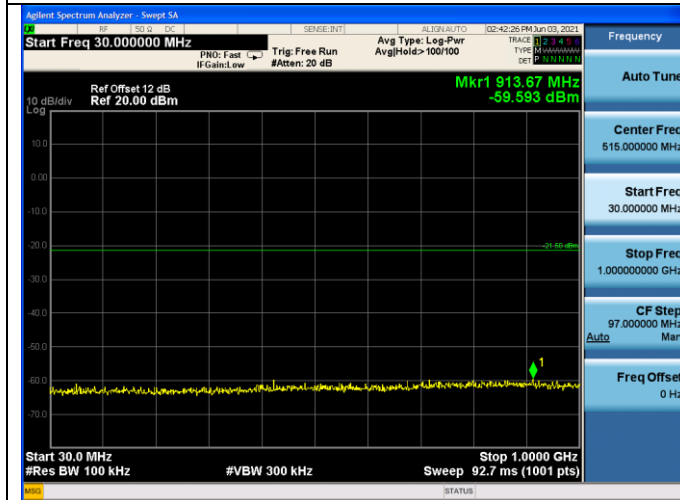


Test CH6: 2437MHz



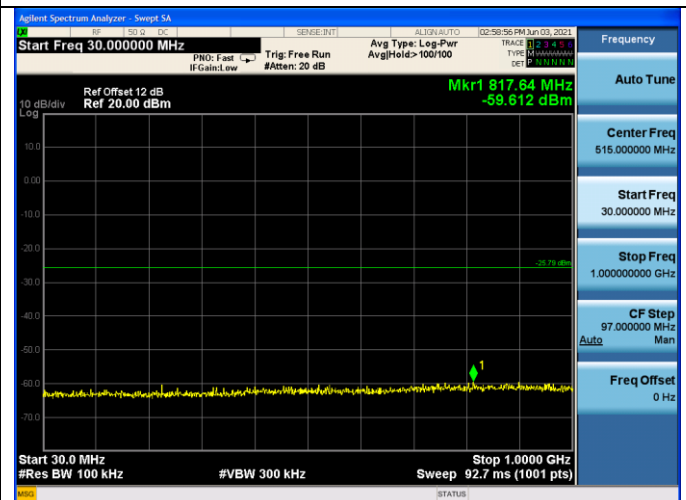
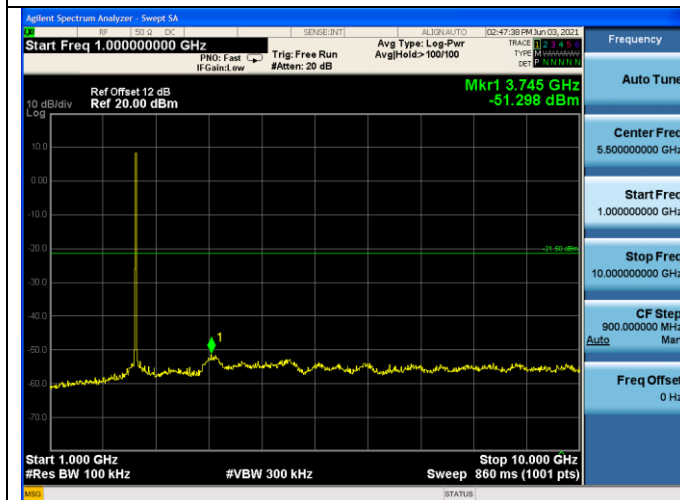


Test CH11: 2462MHz

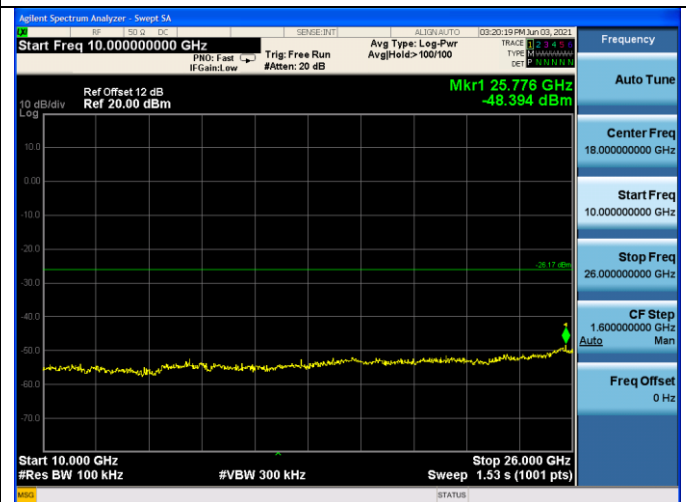
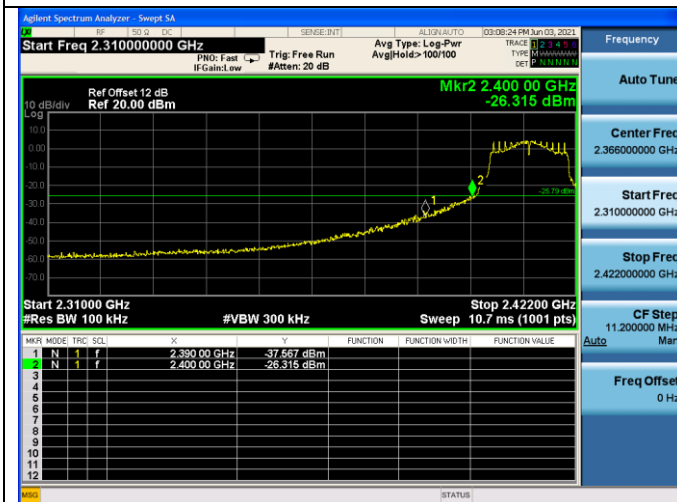
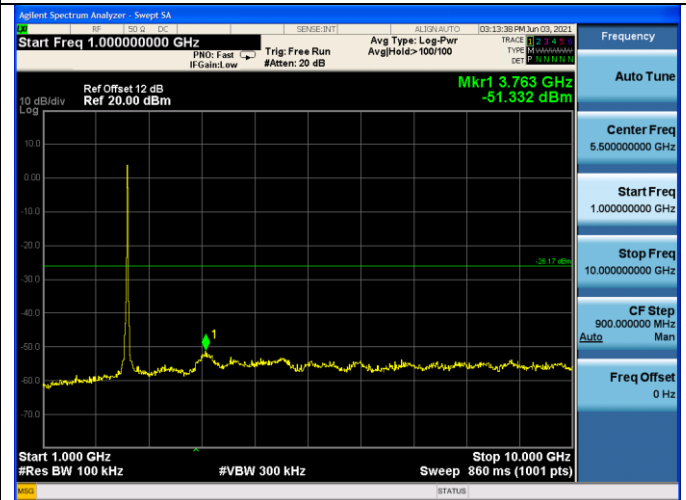
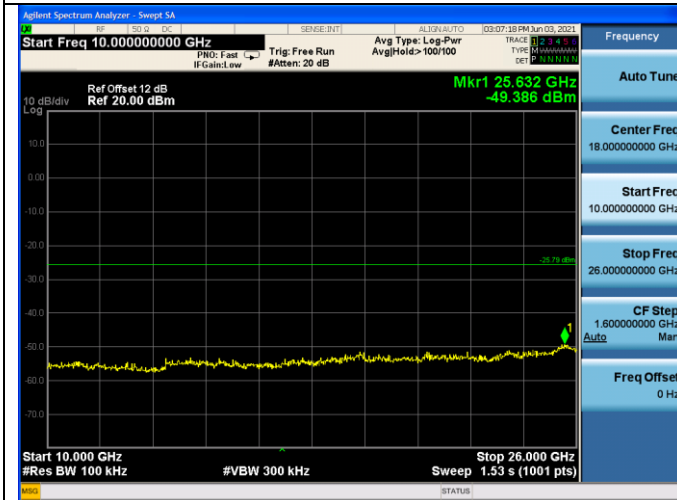
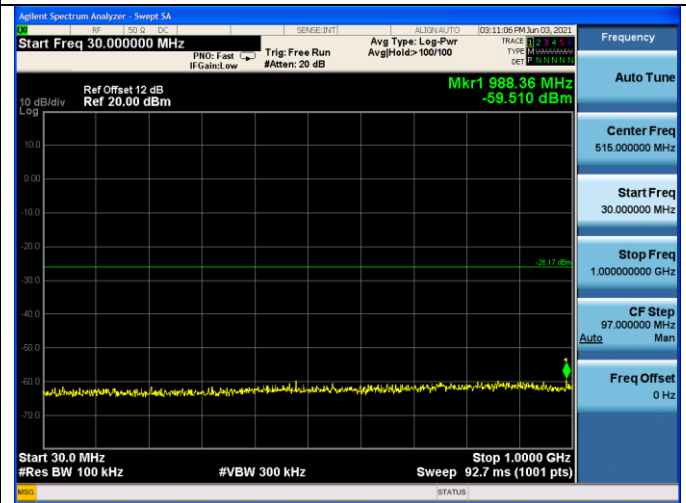
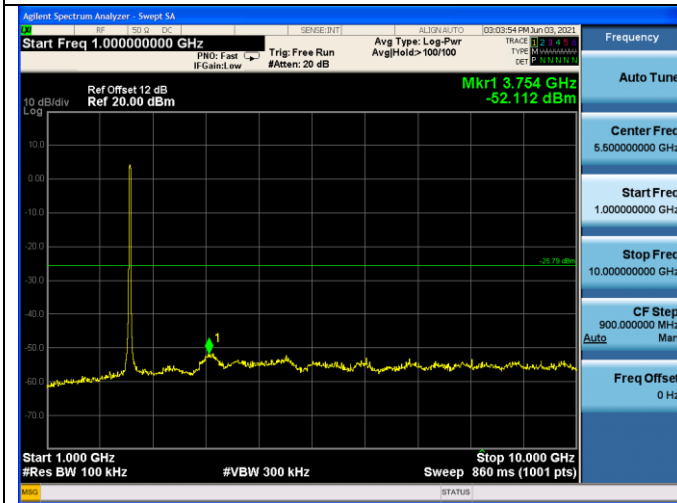


Test Mode: IEEE 802.11g

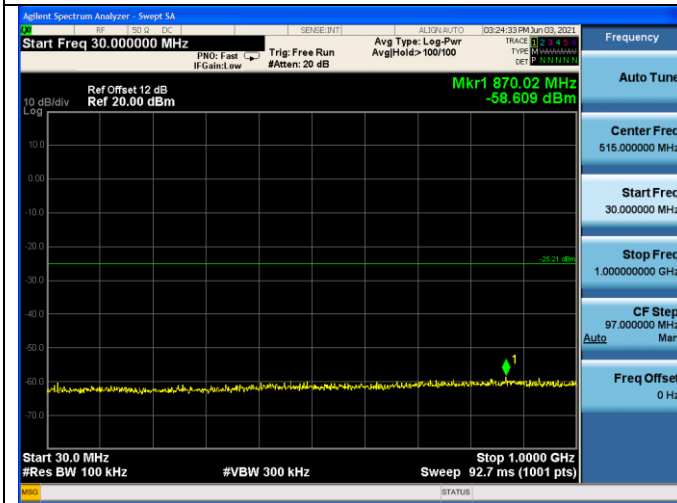
Test CH1: 2412MHz



Test CH6: 2437MHz

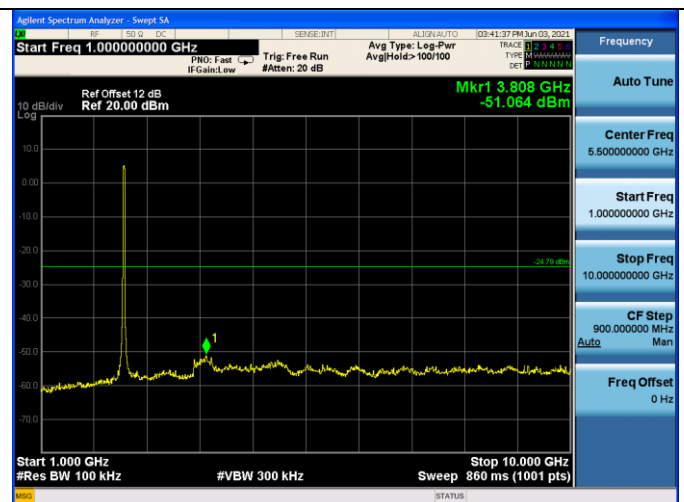
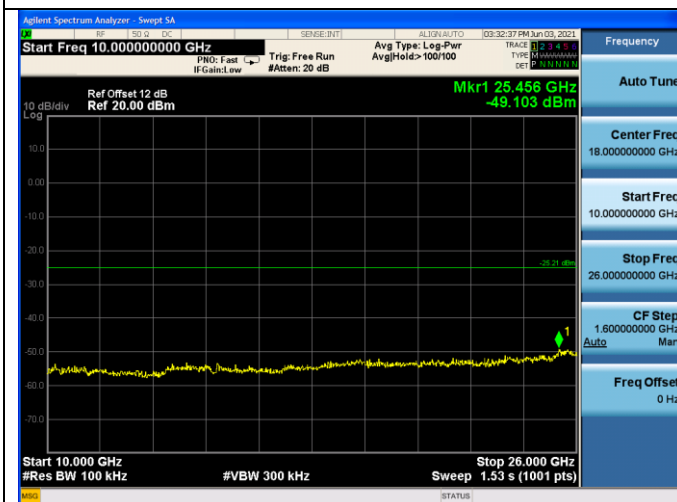
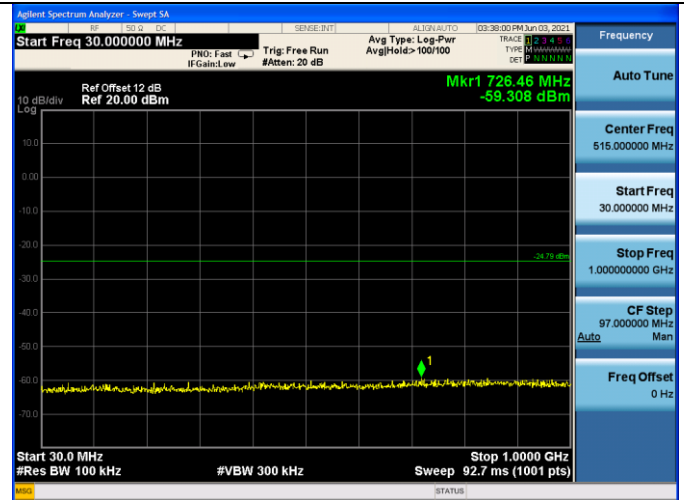
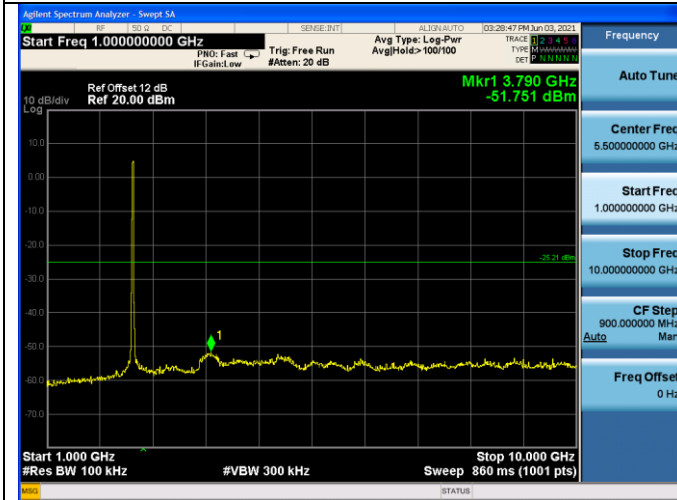


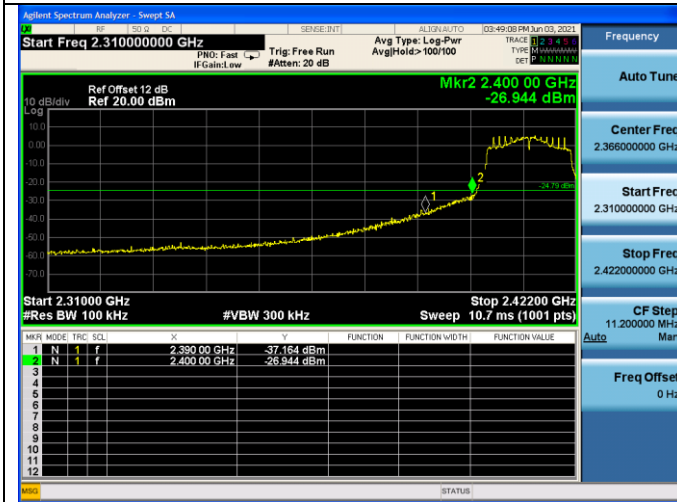
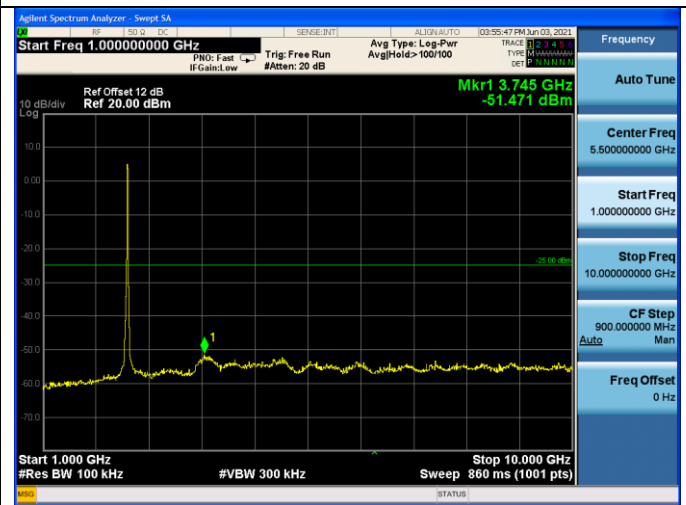
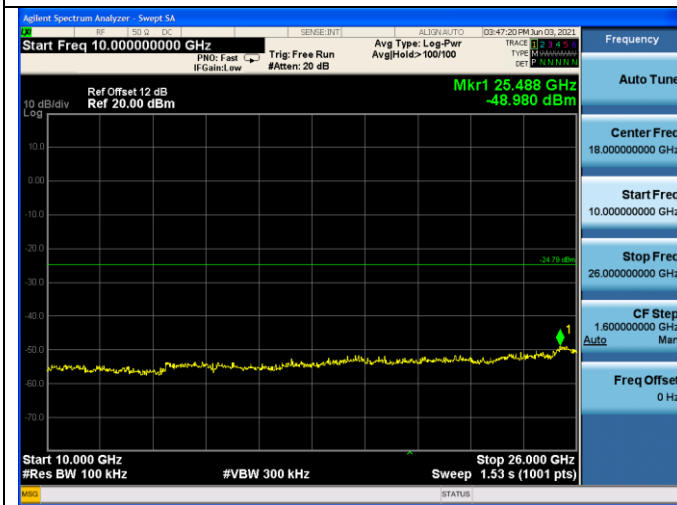
Test CH11: 2462MHz



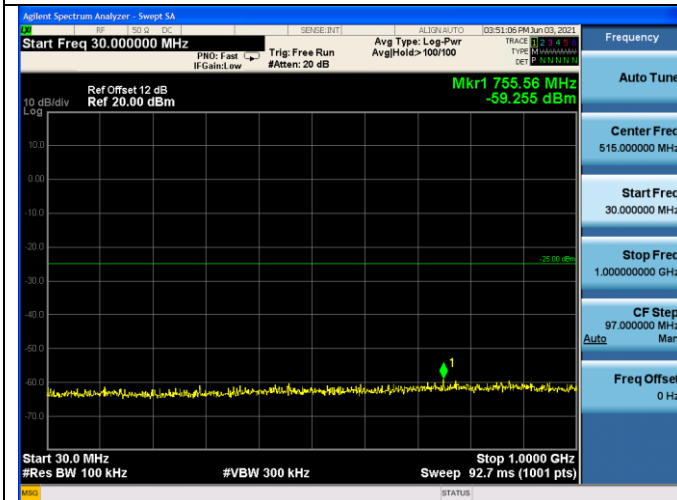
Test Mode: IEEE 802.11n HT20

Test CH1: 2412MHz





Test CH6: 2437MHz



Test CH11: 2462MHz

