

**FCC PART 15C TEST REPORT FOR CERTIFICATION****On Behalf of****Sony Group Corporation****Wireless Stereo Headset****YY2957****FCC ID: AK8YY2957**

**Prepared for :** Sony Group Corporation  
1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

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**TESTING****NVLAP LAB CODE 200372-0**

**Report Number :** ACS-F21244  
**Date of Test :** Sep.01~20,2021  
**Date of Report :** Sep.22,2021

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Appendix A. Photograph of Test  
Appendix B. Photo of the EUT

**TEST REPORT**

Applicant : Sony Group Corporation  
 Manufacturer : Sony Group Corporation  
 Product : Wireless Stereo Headset  
 FCC ID : AK8YY2957  
 (A) Model No. : YY2957  
 (B) Test Voltage : (1)DC 5V From PC input AC 120V/60Hz  
 : (2)DC 3.7V From battery

Tested for comply with:  
 FCC CFR47 Part 15 Subpart C

Test procedure used:  
 ANSI C63.10: 2013

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 2.1074. 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. And 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 :     Sep.01~20,2021     Report of date:     Sep.22,2021    

Prepared by :     Brave Zhang     Reviewed by :     Sunny Lu      
 Brave Zhang / Assistant Sunny Lu / Deputy Manager



Approved & Authorized Signer :     Signature: 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 Test	FCC Part 15: 15.207 ANSI C63.10 2013	PASS
Radiated Emission Test	FCC Part 15 15.209 FCC Part 15 15.205 FCC Part 15 15.247(d) ANSI C63.10 2013	PASS
Conducted Spurious Emissions	FCC Part 15: 15.247(d) ANSI C63.10 2013	PASS
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) ANSI C63.10 2013	PASS
20dB & 99% Bandwidth Test	FCC Part 15: 15.215 ANSI C63.10 2013	PASS
Number Of Hopping Frequency Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 2013	PASS
Dwell Time Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 2013	PASS
Maximum Peak Output Power Test	FCC Part 15 15.247(b)(1) ANSI C63.10 2013	PASS
Band Edge Compliance Test	FCC Part 15 15.247(d) ANSI C63.10 2013	PASS

Note: Measurement uncertainty affection to the result is considered, the EUT is technically compliant with standard requirements.

## 2. GENERAL INFORMATION

### 2.1. Description of Equipment Under Test

Applicant	Sony Group Corporation
Applicant Address	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Manufacturer	Sony Group Corporation
Manufacturer Address	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Product	Wireless Stereo Headset
Model No.	YY2957
FCC ID	AK8YY2957
Sample Type	Prototype production
Date of Receipt	Aug.17,2021
Date of Test	Sep.01~20,2021
Remark: This report only for BDR+EDR.	

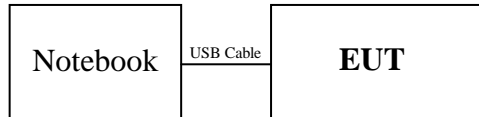
<b>Product Feature &amp; Specification</b>		
Product	Wireless Stereo Headset	
Model No.	YY2957	
Power Source	<input checked="" type="checkbox"/> Commercial Power	AC 100~240 V
	<input checked="" type="checkbox"/> External Power Source	DC 5V
	<input checked="" type="checkbox"/> Li-ion Battery	DC 3.7V
	<input type="checkbox"/> UM battery	DC V

<b>Bluetooth</b>	
Radio	Bluetooth V3.0+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
<b>Antenna System</b>	
Type of Antenna	Chip Antenna
Antenna Peak Gain	2.28dBi

### 2.2. Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number
1.	Notebook	N/A	DELL	PP09S	N/A
		Power Cord: Unshielded, Detachable, 1.8m			
		Power Adapter: Manufacturer: DELL, M/N: LA65NS1-00 Cable: Unshielded, Detachable, 4.0m(Bond one ferrite core)			
2.	USB Cable	Unshielded, Detachable, 0.3m			

### 2.3. Block Diagram of connection between EUT and simulators



**(EUT: Wireless Stereo Headset)**

### 2.4. Test information

A special software(Airoha Tool Kit-V1.5.1.0203) was used to control EUT work in continuous TX mode (GFSK,  $\pi/4$ DQPSK, 8-DPSK Modulation)

Tested mode, data rate, channel, and Power setting information				
Mode	data rate (Mbps)	Channel	Power setting	Frequency (MHz)
Tx Mode GFSK modulation	1	Low :CH 0	43	2402
	1	Middle: CH39	43	2441
	1	High: CH78	43	2480
Tx Mode 8-DPSK modulation	3	Low :CH 0	43	2402
	3	Middle: CH39	43	2441
	3	High: CH78	43	2480

Note:  $\pi/4$ DQPSK modulation is same type modulation with 8-DPSK, and according exploratory test, 8-DPSK will have worse emissions, so the final test were only performed with GFSK and 8-DPSK modulation.



2.5. 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. : Certificated by ISED, Canada  
 : Company Number: 5183A  
 : CAB identifier: CN0034  
 : Valid Date: Mar.31, 2022

: Certificated by FCC, USA  
 : Designation No.: CN5022  
 : Valid Date: Mar.31, 2022

: Accredited by NVLAP, USA  
 : NVLAP Code: 200372-0  
 : Valid Date: Mar.31, 2022

2.6. 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~18GHz)	5.0dB(1GHz~6GHz)
	5.2dB(6GHz~18GHz)
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	1.0%
Uncertainty for test site temperature and humidity	0.6°C
	3%

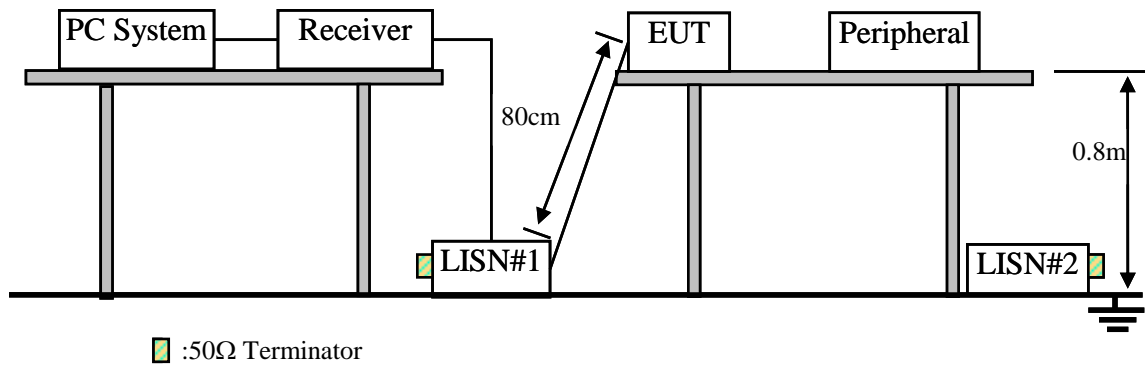
### 3. POWER LINE CONDUCTED EMISSION TEST

#### 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. Emission Level (dBμV) = Factor (L.I.S.N.) (dB) + Cable Loss (dB)+Reading (Receiver) (dBμV)

#### 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. Wireless Stereo Headset (EUT)

Model Number : YY2957

Serial Number : 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 and simulator as shown as Section 3.2.
- 3.5.2. Turn on the power of all equipments.
- 3.5.3. PC run test software to control EUT work in Tx mode.

### 3.6. Test Procedure

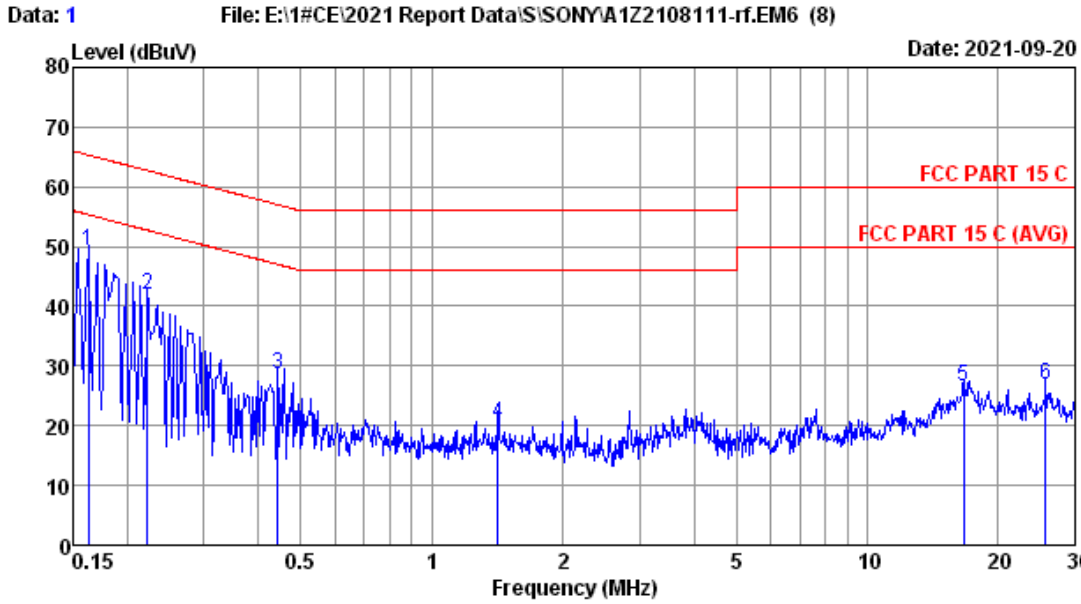
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via AC unit connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). 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.)



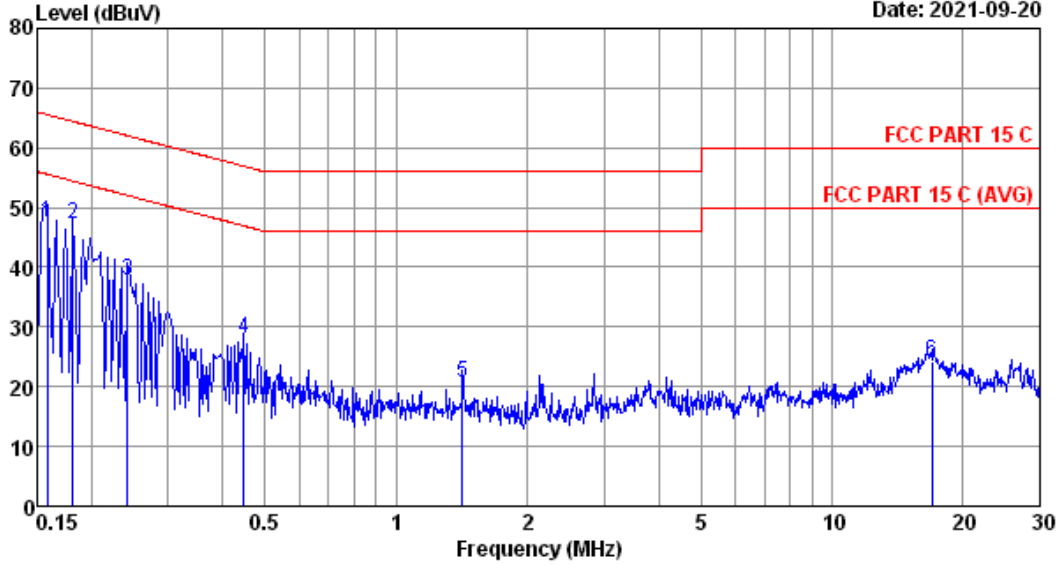
```

Site no       :1# Conduction
Dis./Lisn    :2020 ENV216-L
Limit        :FCC PART 15 C
Env./Ins.    :25.2*C/56%
EUT          :Wireless Stereo Headset
Power Rating :AC 120V/60Hz
Test Mode    :BT3.0 Tx
Data No      :1
LISN phase   :
Engineer     :Evan
    
```

No	Freq (MHz)	LISN Factor (dB)	Cable loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.162	9.70	0.01	39.45	49.16	65.34	16.18	QP
2	0.222	9.70	0.01	32.33	42.04	62.74	20.70	QP
3	0.442	9.70	0.01	19.07	28.78	57.02	28.24	QP
4	1.418	9.70	0.02	10.78	20.50	56.00	35.50	QP
5	16.661	9.83	0.09	16.63	26.55	60.00	33.45	QP
6	25.727	9.90	0.11	16.71	26.72	60.00	33.28	QP

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.

Data: 2 File: E:\1#CE\2021 Report Data\SI\SONYA\1Z2108111-rf.EM6 (8) Date: 2021-09-20



```

Site no       :1# Conduction           Data No      :2
Dis./Lisn    :2020 ENV216-N          LISN phase:
Limit        :FCC PART 15 C
Env./Ins.    :25.2*C/56%             Engineer   :Evan
EUT          :Wireless Stereo Headset
Power Rating :AC 120V/60Hz
Test Mode    :BT3.0 Tx
    
```

No	Freq (MHz)	LISN Factor (dB)	Cable loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.158	9.70	0.01	37.89	47.60	65.56	17.96	QP
2	0.182	9.70	0.01	37.44	47.15	64.42	17.27	QP
3	0.242	9.70	0.01	28.11	37.82	62.04	24.22	QP
4	0.447	9.70	0.01	18.19	27.90	56.93	29.03	QP
5	1.418	9.70	0.02	10.96	20.68	56.00	35.32	QP
6	16.928	9.84	0.09	14.37	24.30	60.00	35.70	QP

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 MEASUREMENT

### 4.1. Test Equipment

Frequency range: 30~1000MHz

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.	Bi log Antenna	TESEQ	CBL6112D	25237	Dec.22,20	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

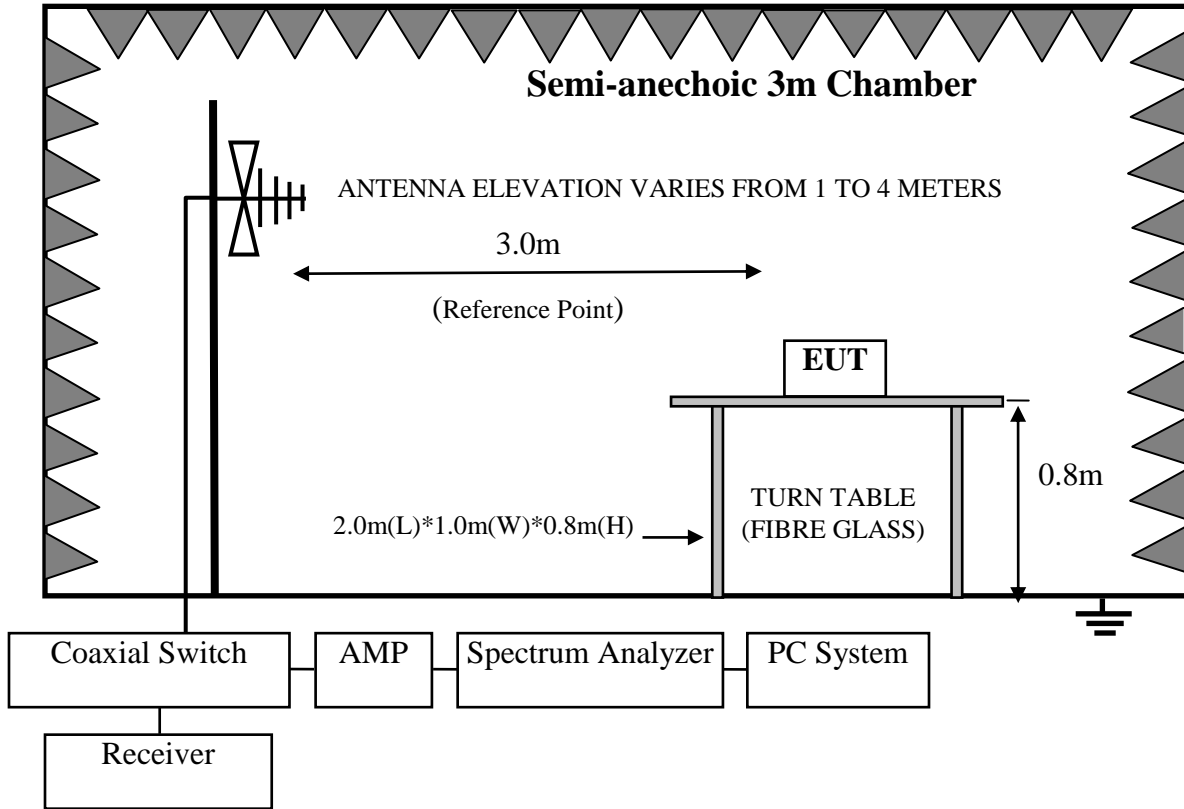
Note: N/A means Not applicable.

Frequency range: above 1000MHz

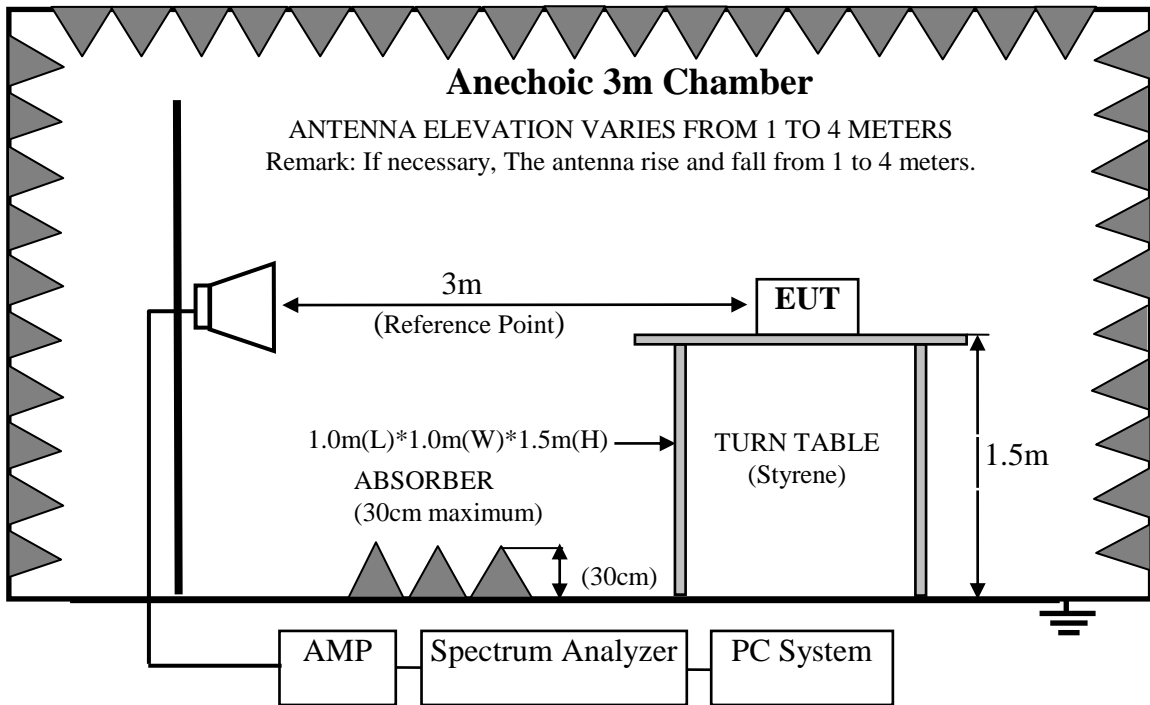
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber(Svswr)	AUDIX	N/A	N/A	Apr.14,21	1 Year
2.	3#Chamber(SE)	AUDIX	N/A	N/A	May.17,18	5 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	104050	Apr.07,21	1 Year
4.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	Jul.26,21	1 Year
5.	Horn Antenna	ETS	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	6.100913a	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 Standard:

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 1000MHz	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) Emission Level (dBμV/m) = Reading (Receiver) (dBμV) + Antenna Factor (dB/m) + Cable Loss (dB)  
Emission Level (dBμV/m) = Reading (Spectrum) (dBμV) + Antenna Factor (dB/m) – Amp Factor (dB) + Cable Loss (dB)(above 1000MHz)
  - (3) The smaller limit shall apply at the cross point between two frequency bands.
  - (4) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
  - (5)The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.4.EUT Configuration on Test

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

4.4.1. Wireless Stereo Headset (EUT)

Model Number : YY2957  
Serial Number : N/A

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 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 is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10-2013 on radiated emission Test.

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

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

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

This device is pulse Modulated, a duty cycle factor was used to calculated average level based measured peak level.

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

#### 4.7.Radiated Emission Test Results

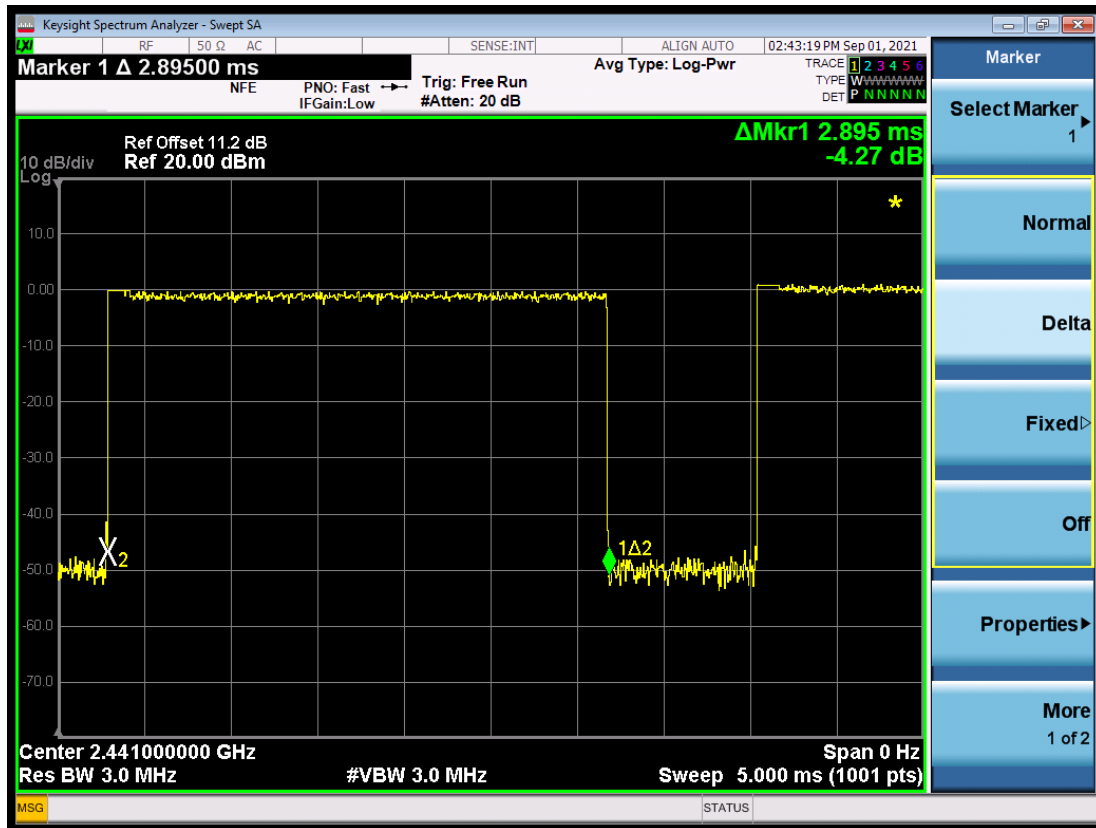
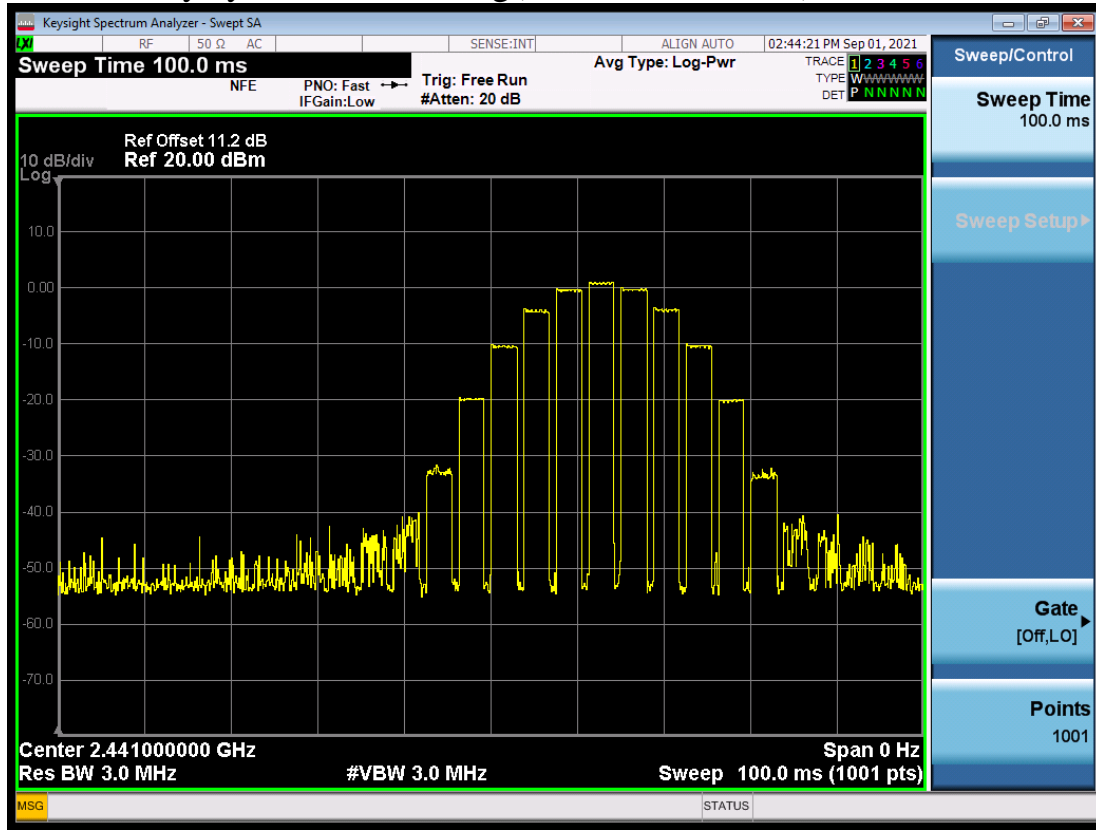
**PASS.**

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

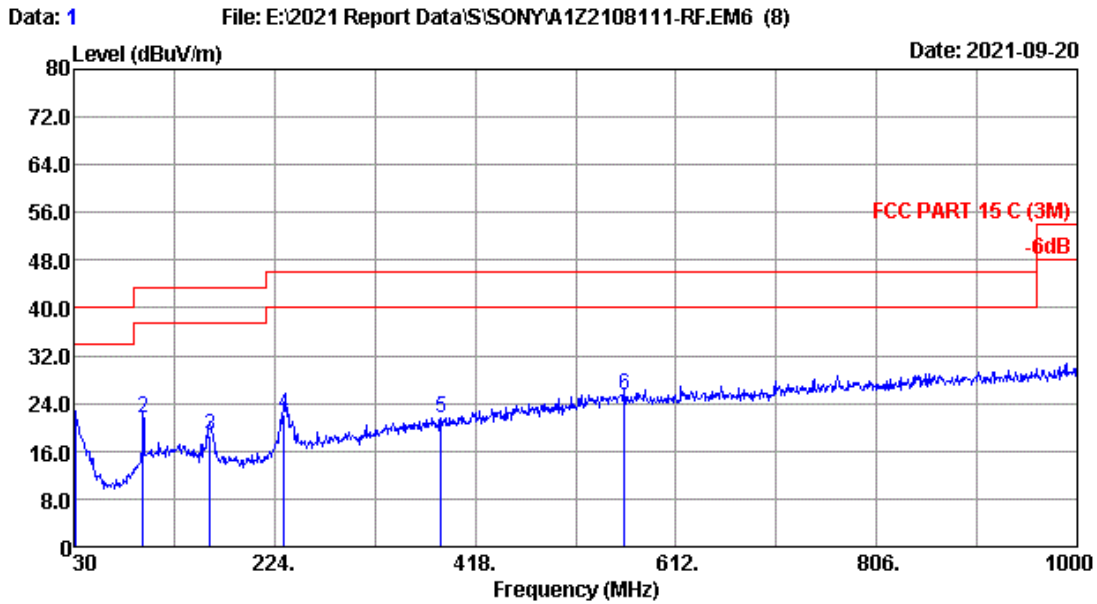
Note 1: The duty cycle factor for calculate average level is -9.939dB, and average limit is 20dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.

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

$$\text{Duty cycle factor} = 20\log(\text{Dwell time}/100\text{ms}) = -9.939\text{dB}$$



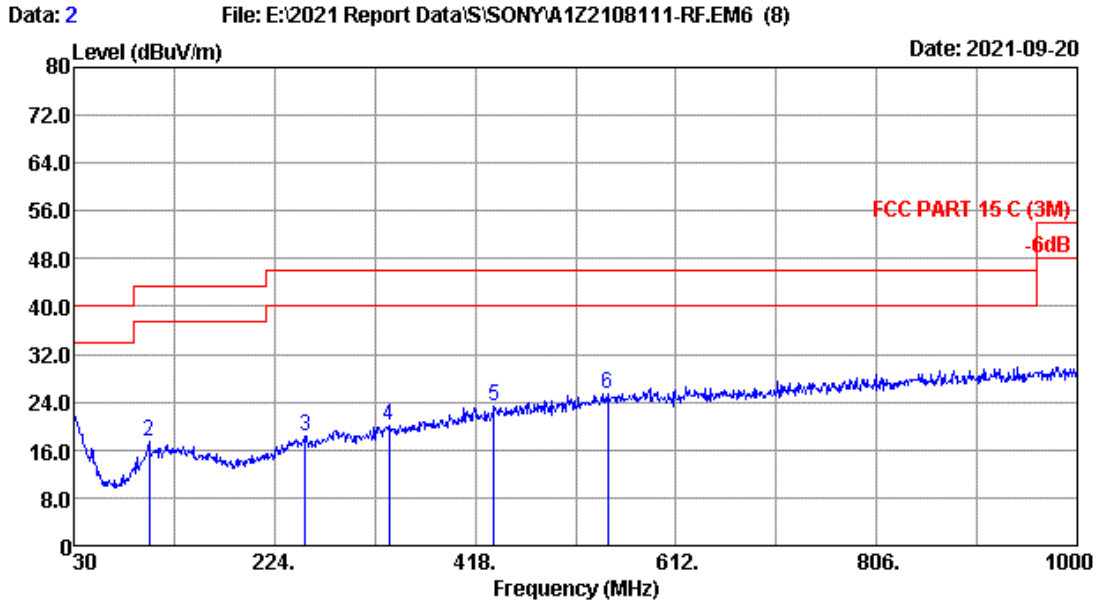
Frequency: 30MHz~1GHz



Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 2020 CBL6112D-25237 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 22.6\*C/54% Engineer : Hognr  
 Test Mode : BT3.0 Tx

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	30.970	24.26	0.64	-2.14	22.76	40.00	17.24	QP
2	96.930	16.37	0.99	4.20	21.56	43.50	21.94	QP
3	161.920	15.64	1.29	1.76	18.69	43.50	24.81	QP
4	233.700	17.22	1.52	3.43	22.17	46.00	23.83	QP
5	385.020	21.05	1.99	-1.35	21.69	46.00	24.31	QP
6	562.530	24.58	2.48	-1.57	25.49	46.00	20.51	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 CBL6112D-25237 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 22.6°C/54% Engineer : Hogrn  
 Test Mode : BT3.0 Tx

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	30.000	24.80	0.63	-3.03	22.40	40.00	17.60	QP
2	102.750	17.27	1.03	-0.96	17.34	43.50	26.16	QP
3	254.070	18.35	1.59	-1.53	18.41	46.00	27.59	QP
4	334.580	19.80	1.84	-1.68	19.96	46.00	26.04	QP
5	436.430	22.28	2.14	-1.18	23.24	46.00	22.76	QP
6	546.040	24.57	2.45	-1.66	25.36	46.00	20.64	QP

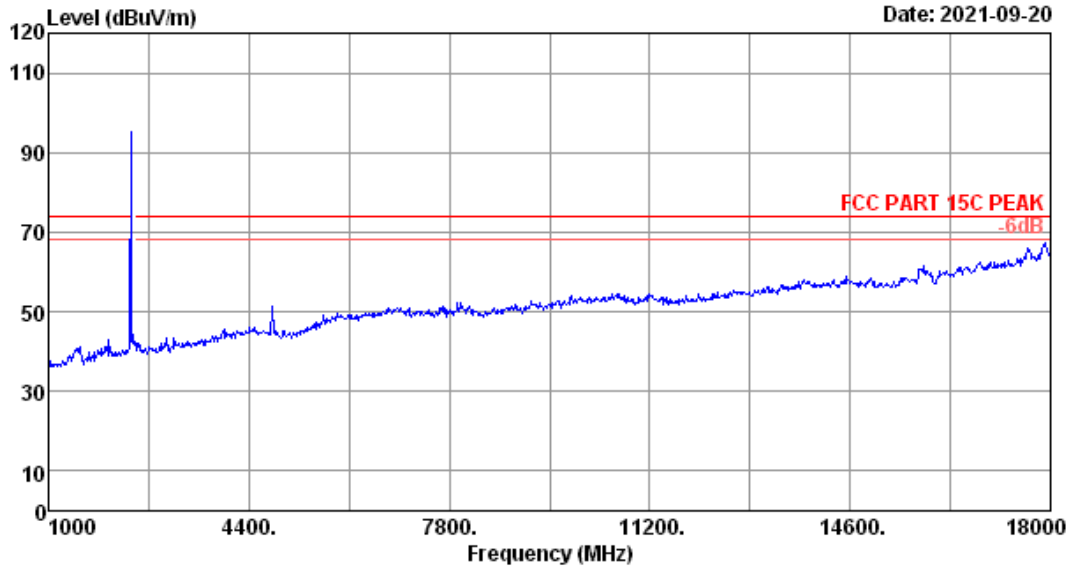
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Frequency: 1GHz~18GHz**

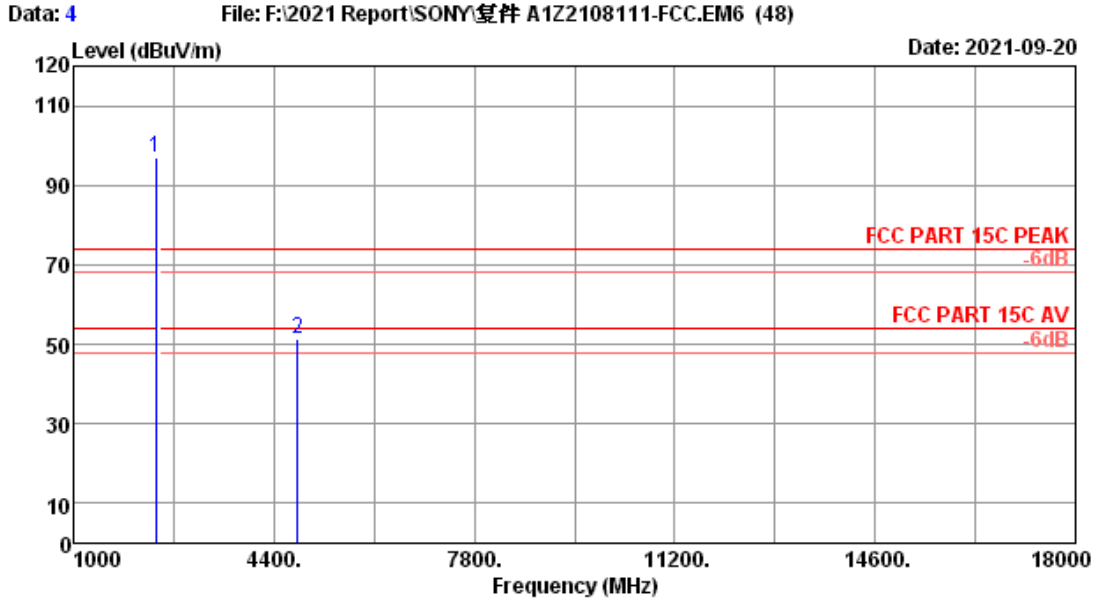
Data: 3

File: F:\2021 Report\SONY\复印件 A1Z2108111-FCC.EM6 (48)

Date: 2021-09-20



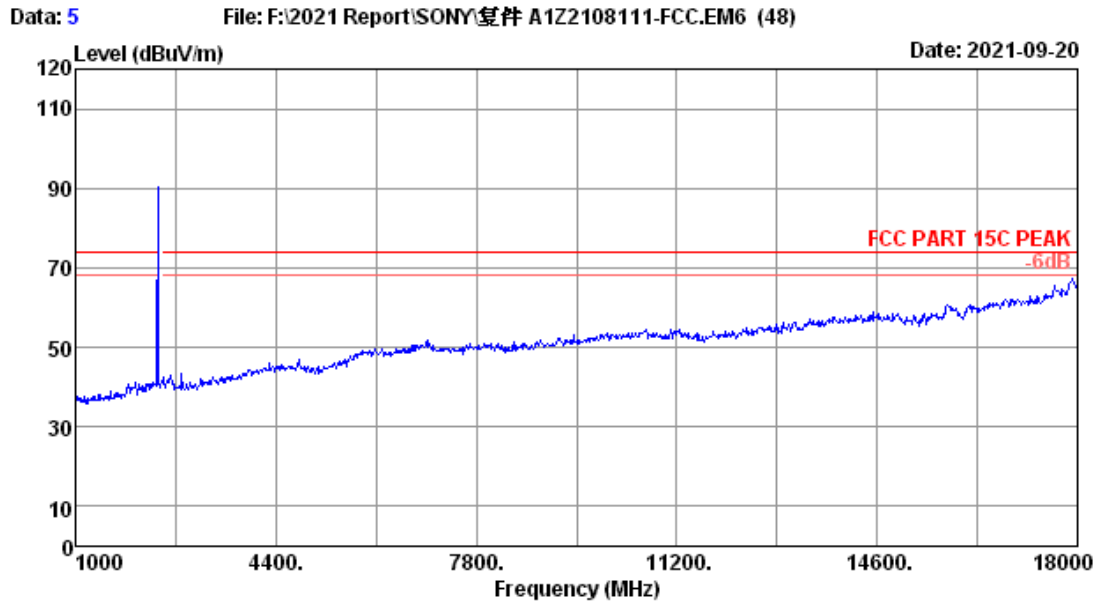
Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2402MHz Tx		



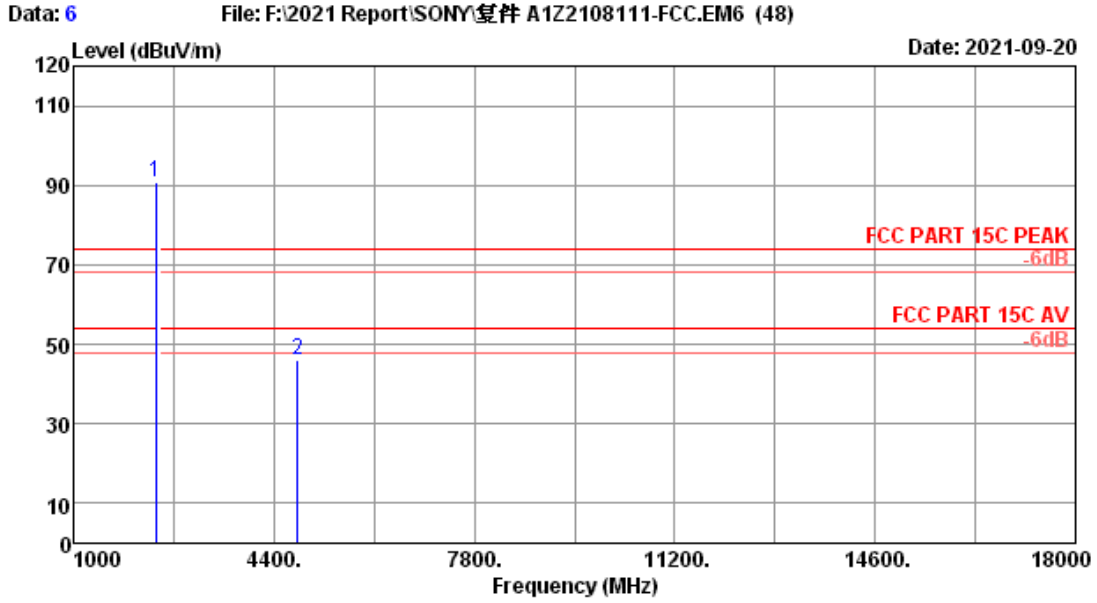
Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 GFSK 2402MHz Tx

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	2402.00	27.89	1.66	102.88	35.24	97.19	-----	-----	Peak
2	4804.00	32.69	2.66	50.30	34.46	51.19	74.00	22.81	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.	: 5
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2402MHz Tx		

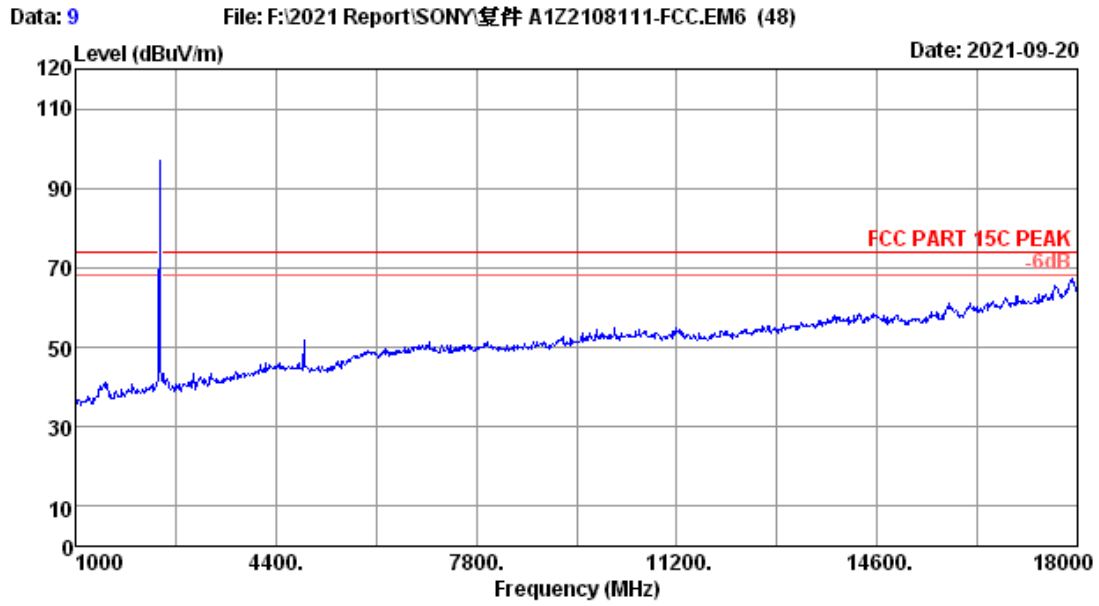


Site no. : 3m Chamber Data no. : 6  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 GFSK 2402MHz Tx

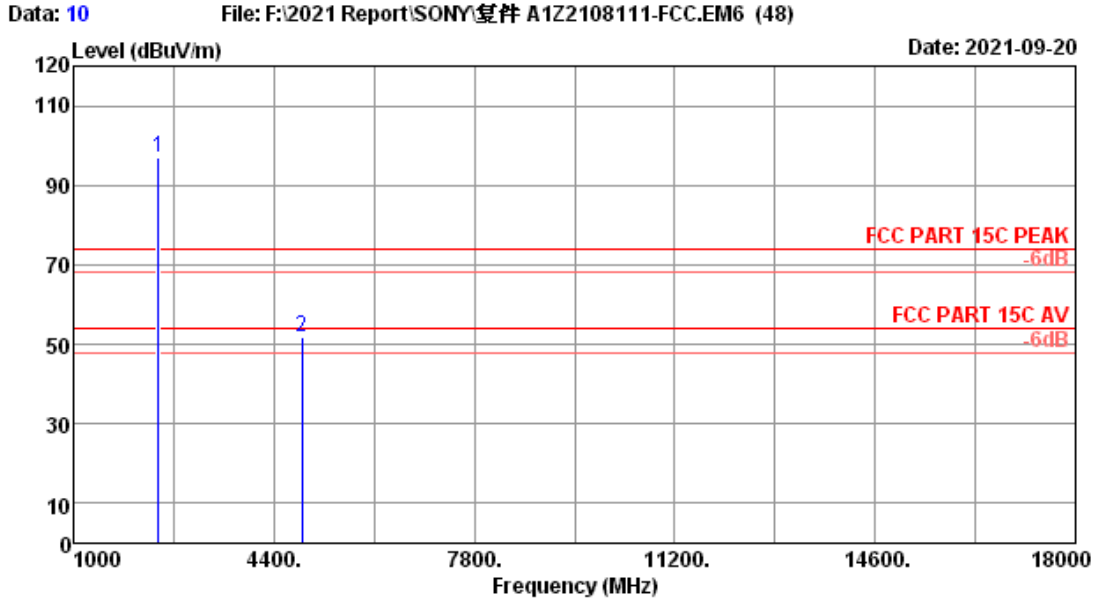
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.89	1.66	96.26	35.24	90.57	-----	-----	Peak
2	4804.00	32.69	2.66	45.26	34.46	46.15	74.00	27.85	Peak

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.





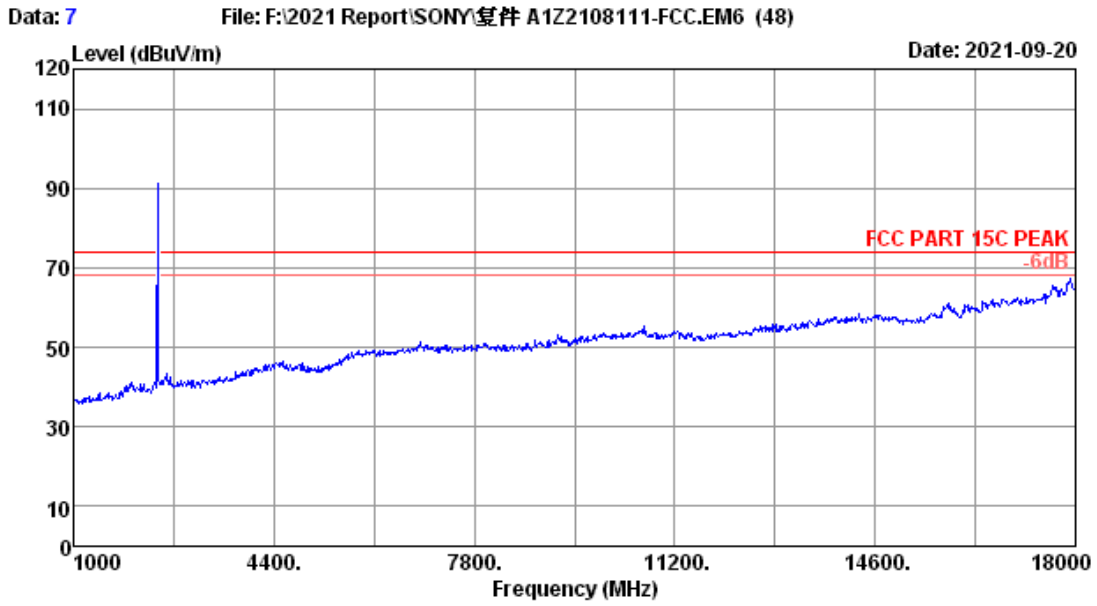
Site no.	: 3m Chamber	Data no.	: 9
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2441MHz Tx		



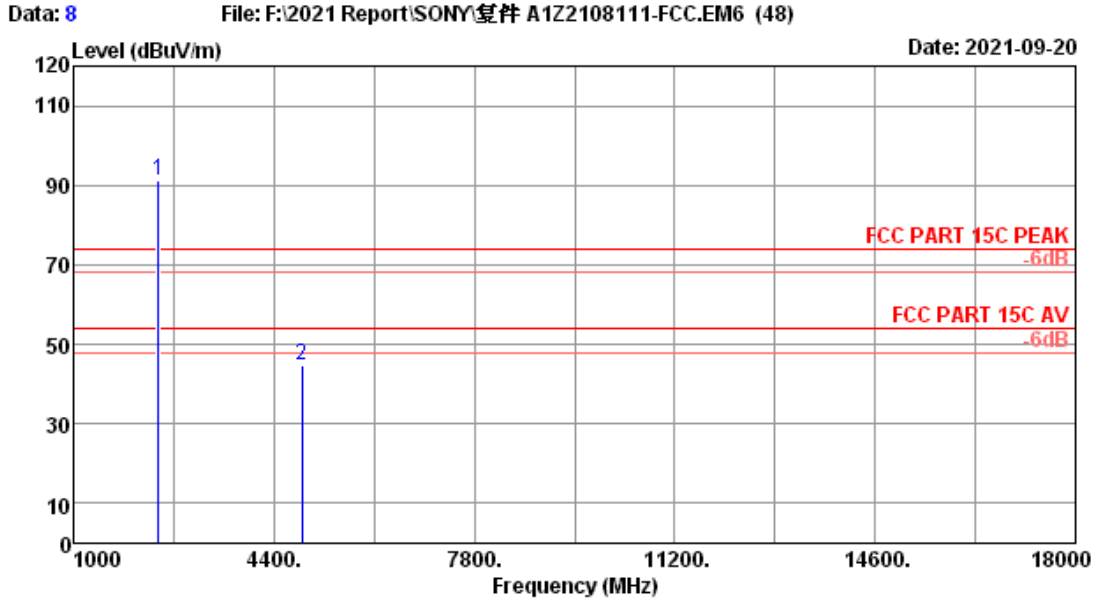
Site no. : 3m Chamber Data no. : 10  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 GFSK 2441MHz Tx

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	2441.00	28.00	1.68	102.63	35.25	97.06	-----	-----	Peak
2	4882.00	32.73	2.69	50.67	34.47	51.62	74.00	22.38	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.



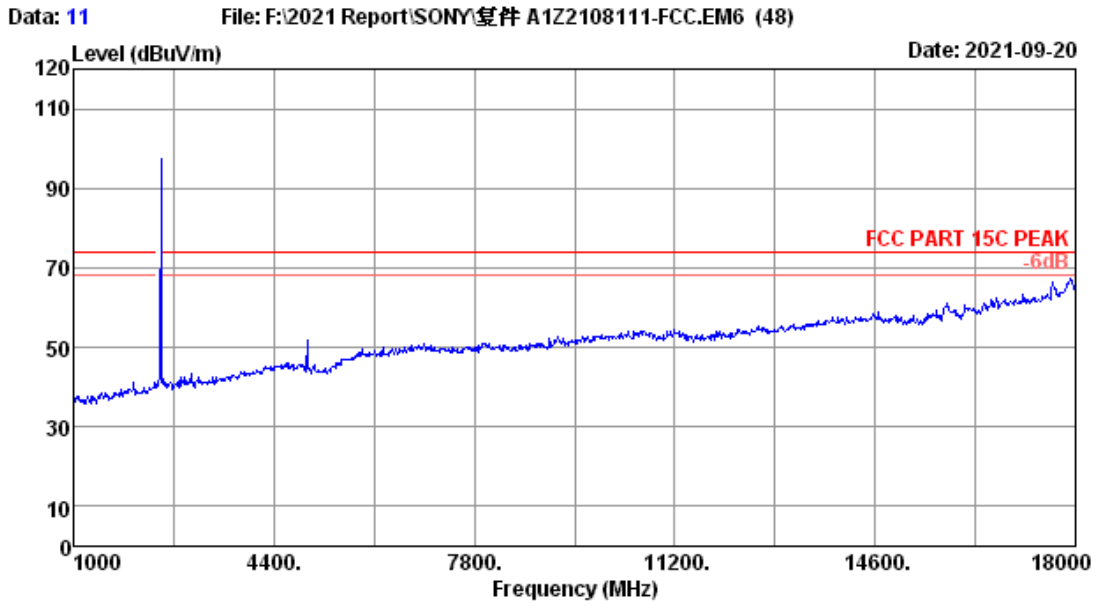
Site no.	: 3m Chamber	Data no.	: 7
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2441MHz Tx		



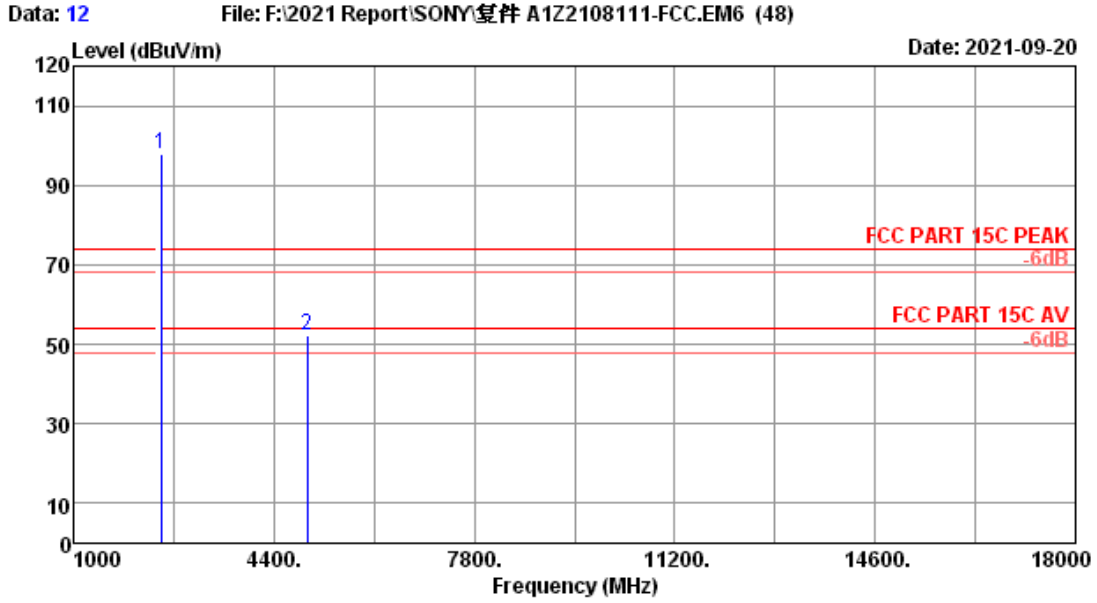
Site no. : 3m Chamber Data no. : 8  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 GFSK 2441MHz Tx

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	2441.00	28.00	1.68	96.81	35.25	91.24	-----	-----	Peak
2	4882.00	32.73	2.69	43.93	34.47	44.88	74.00	29.12	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.



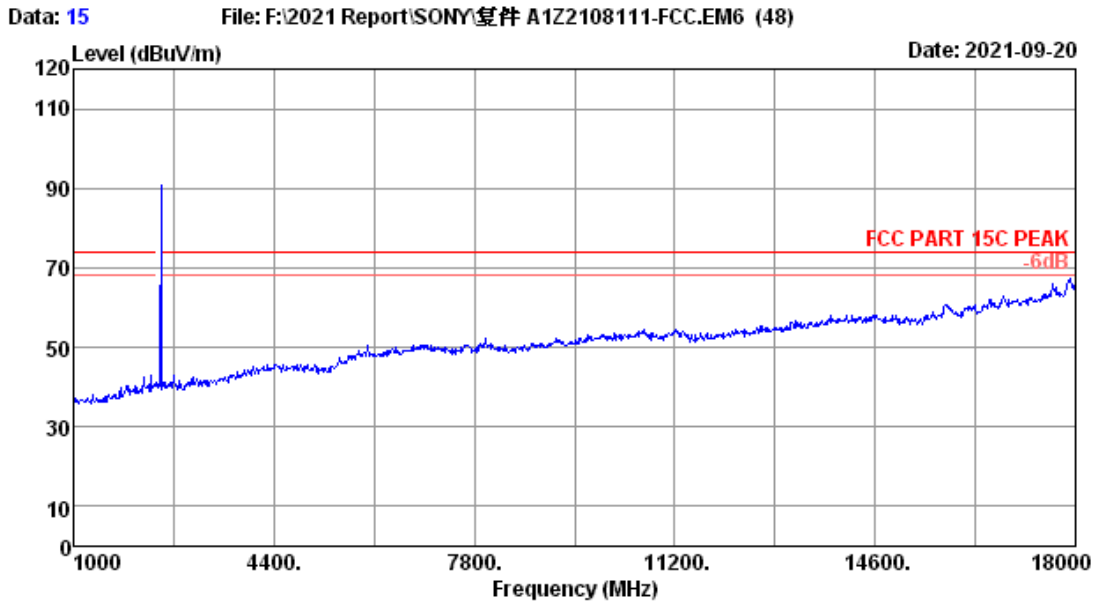
Site no.	: 3m Chamber	Data no.	: 11
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2480MHz Tx		



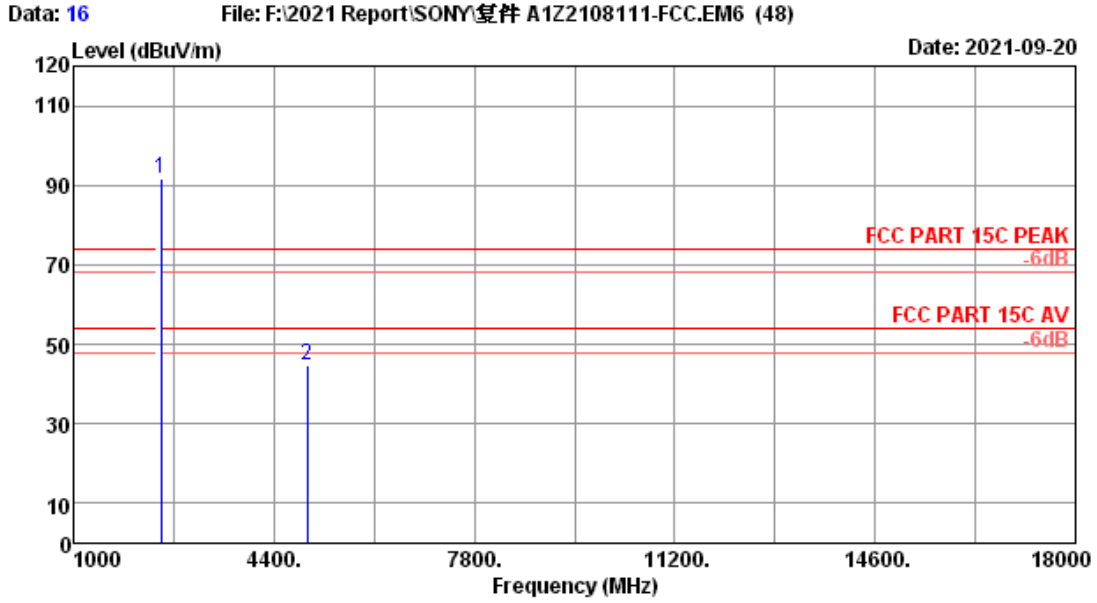
Site no. : 3m Chamber Data no. : 12  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 GFSK 2480MHz Tx

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	2480.00	28.07	1.69	103.27	35.25	97.78	-----	-----	Peak
2	4960.00	32.78	2.73	51.03	34.49	52.05	74.00	21.95	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 2021 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2480MHz Tx		

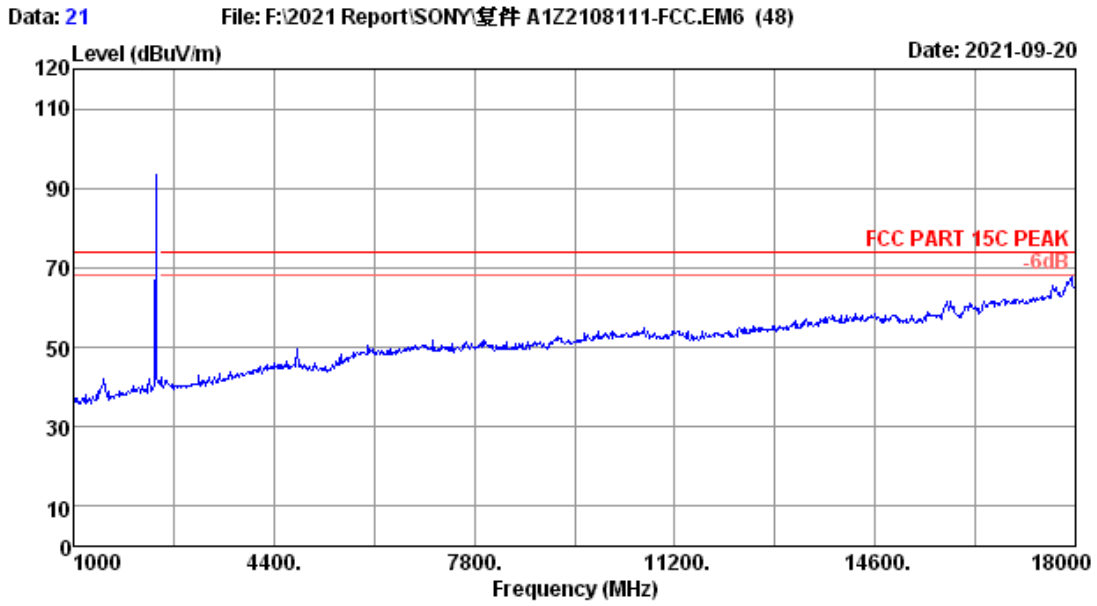


Site no. : 3m Chamber Data no. : 16  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 GFSK 2480MHz Tx

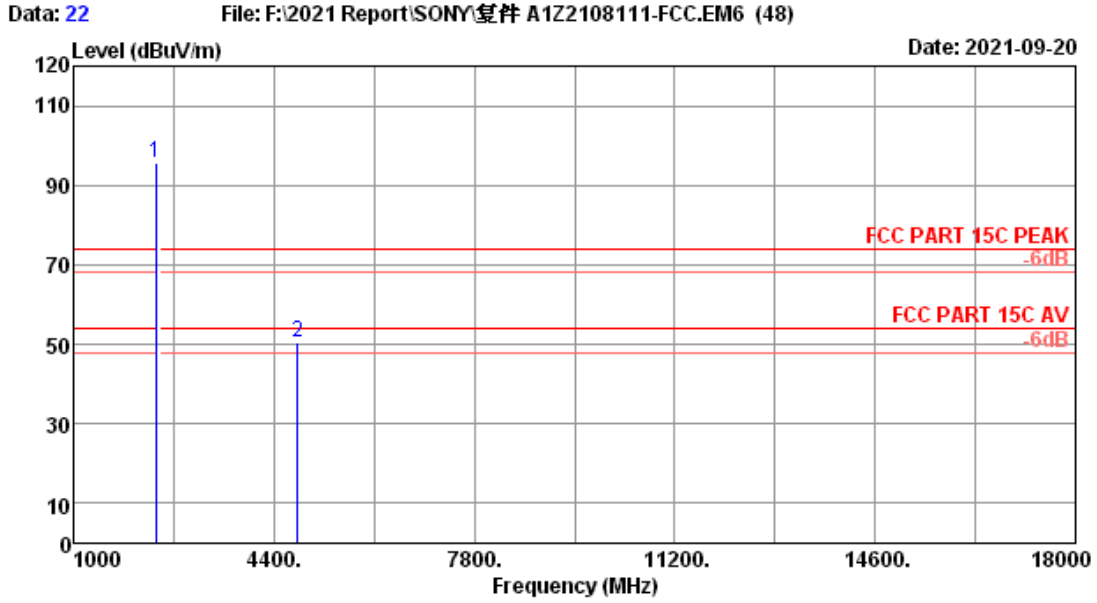
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	28.07	1.69	97.09	35.25	91.60	-----	-----	Peak
2	4960.00	32.78	2.73	43.83	34.49	44.85	74.00	29.15	Peak

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.





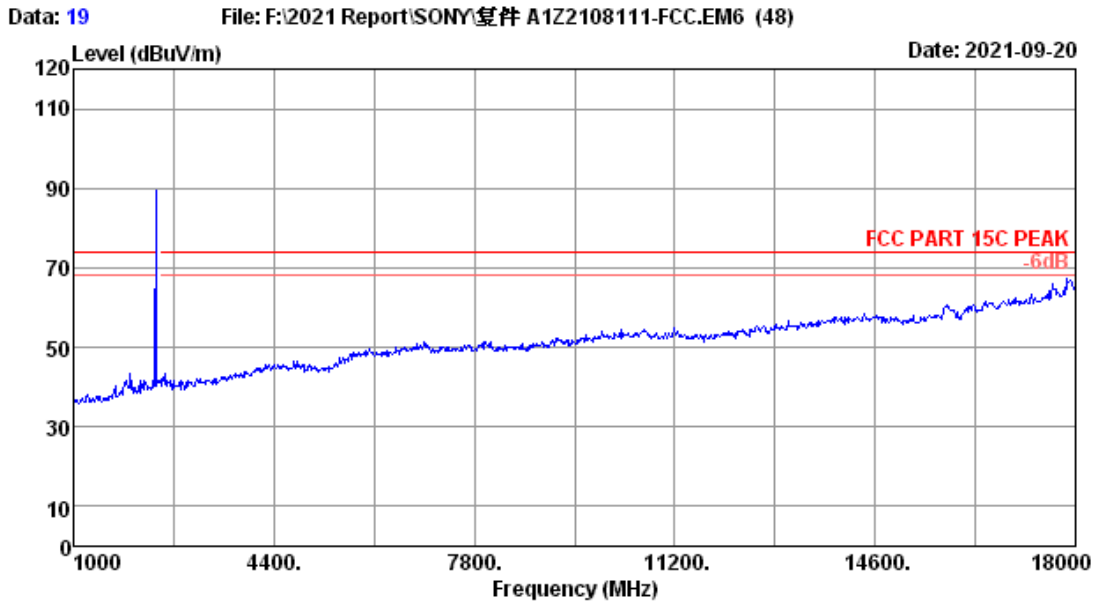
Site no.	: 3m Chamber	Data no.	: 21
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2402MHz Tx		



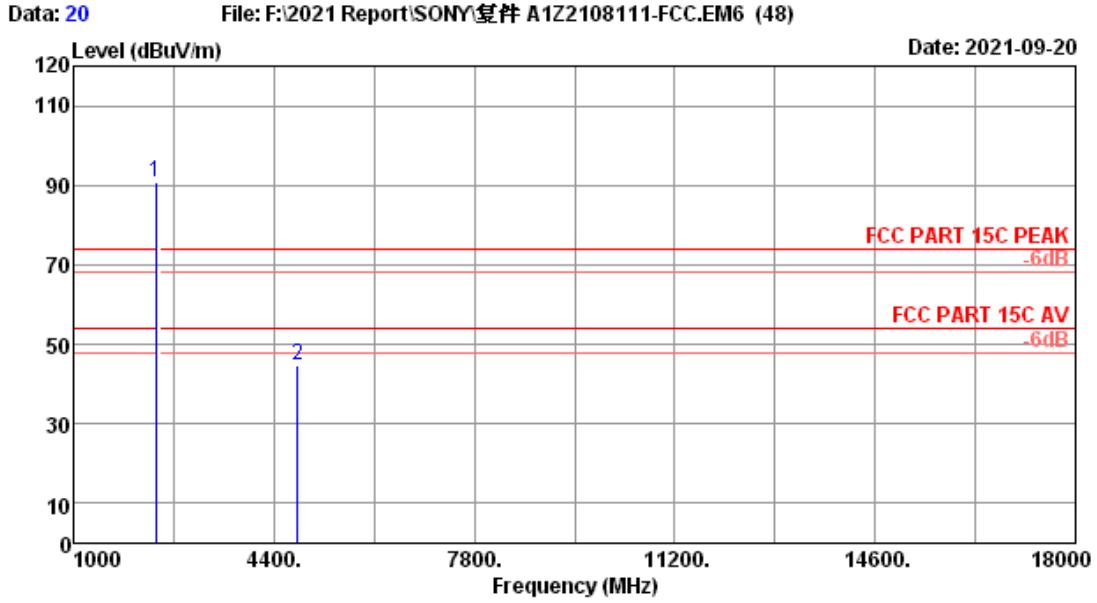
Site no. : 3m Chamber Data no. : 22  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 8DPSK 2402MHz Tx

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	2402.00	27.89	1.66	101.45	35.24	95.76	-----	-----	Peak
2	4804.00	32.69	2.66	49.79	34.46	50.68	74.00	23.32	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.



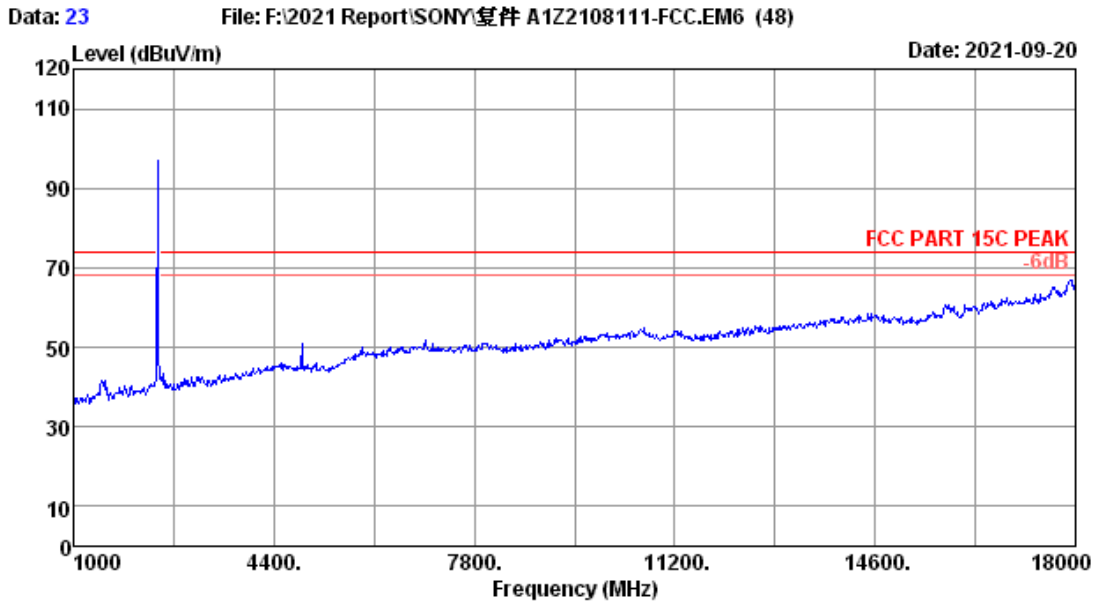
Site no.	: 3m Chamber	Data no.	: 19
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2402MHz Tx		



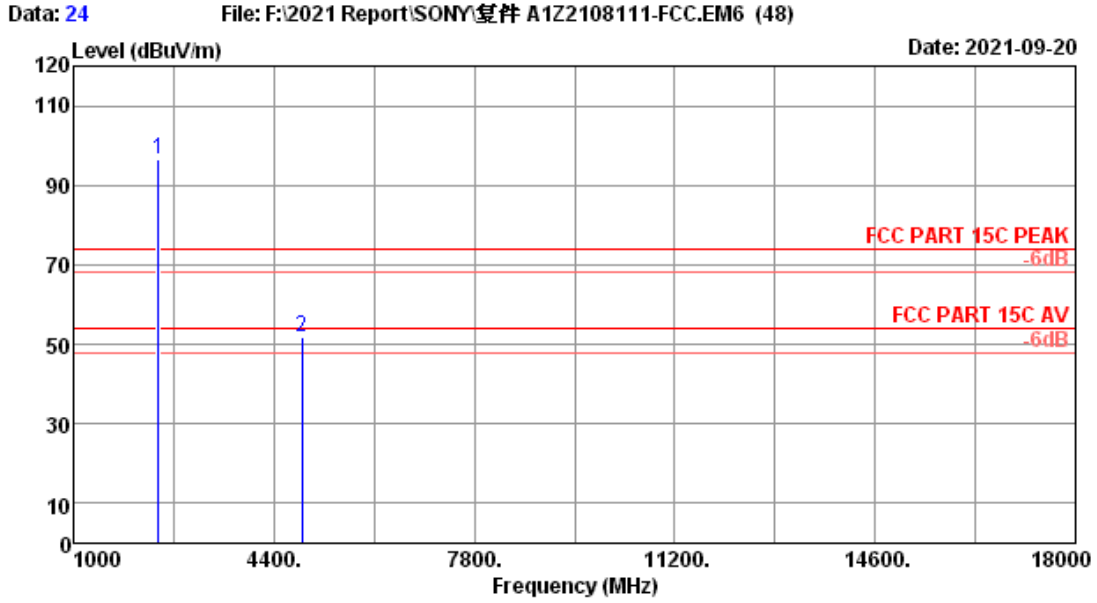
Site no. : 3m Chamber Data no. : 20  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 8DPSK 2402MHz Tx

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	2402.00	27.89	1.66	96.40	35.24	90.71	-----	-----	Peak
2	4804.00	32.69	2.66	43.95	34.46	44.84	74.00	29.16	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.



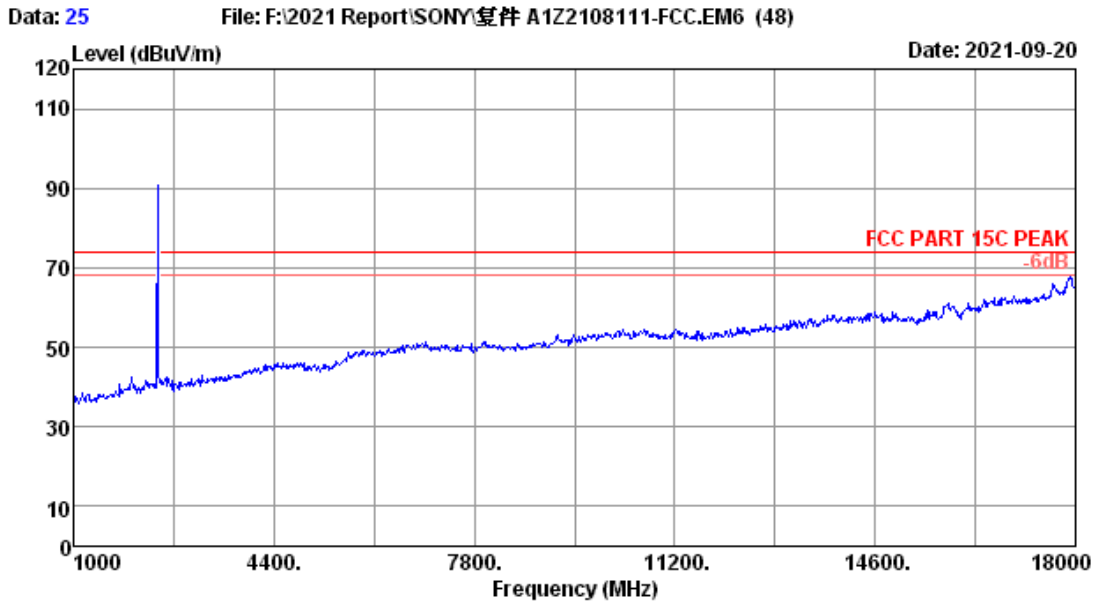
Site no.	: 3m Chamber	Data no.	: 23
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2441MHz Tx		



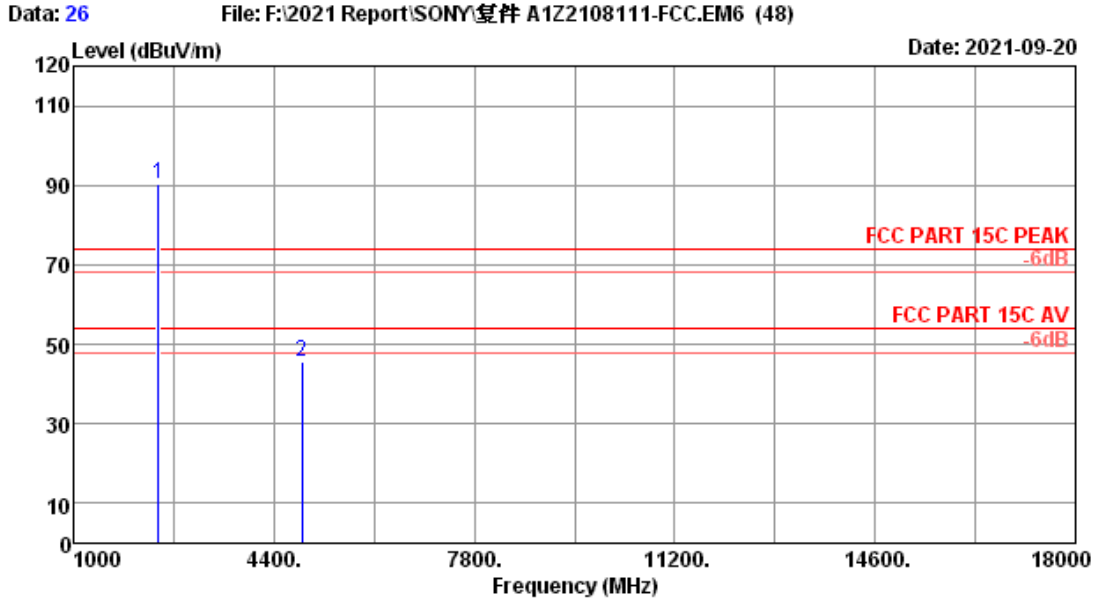
Site no. : 3m Chamber Data no. : 24  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 8DPSK 2441MHz Tx

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	2441.00	28.00	1.68	102.14	35.25	96.57	-----	-----	Peak
2	4882.00	32.73	2.69	50.81	34.47	51.76	74.00	22.24	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.	: 25
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2441MHz Tx		

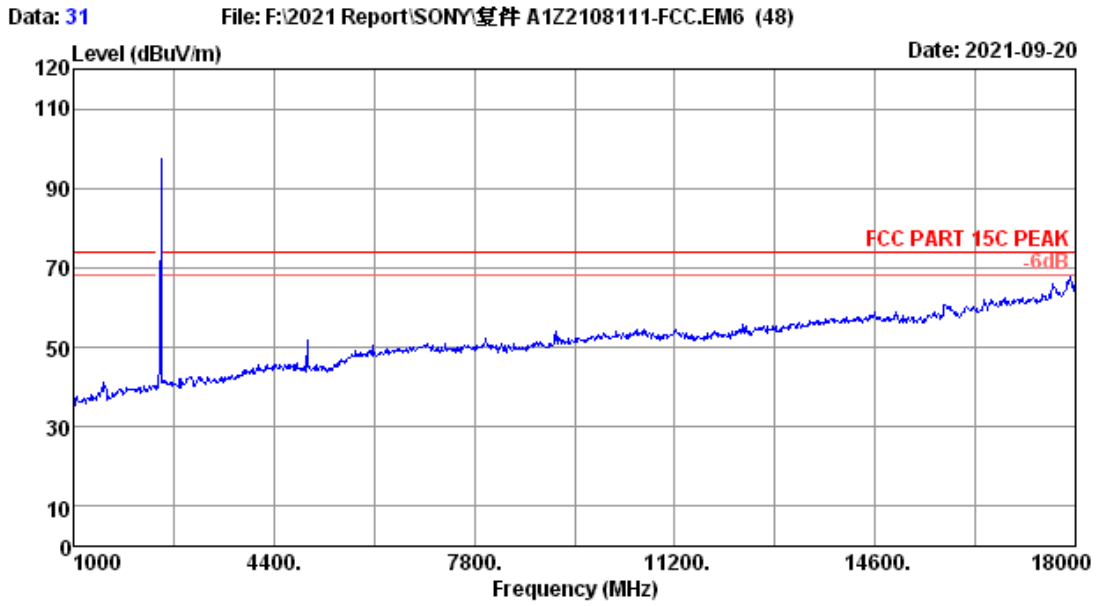


Site no. : 3m Chamber Data no. : 26  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 8DPSK 2441MHz Tx

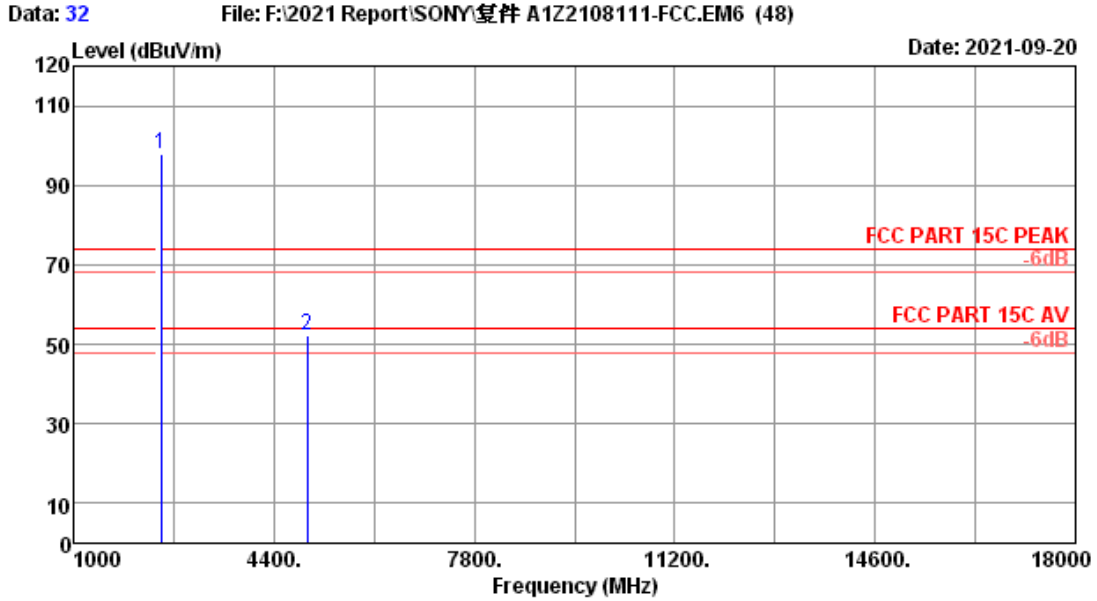
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	28.00	1.68	95.73	35.25	90.16	-----	-----	Peak
2	4882.00	32.73	2.69	44.67	34.47	45.62	74.00	28.38	Peak

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.





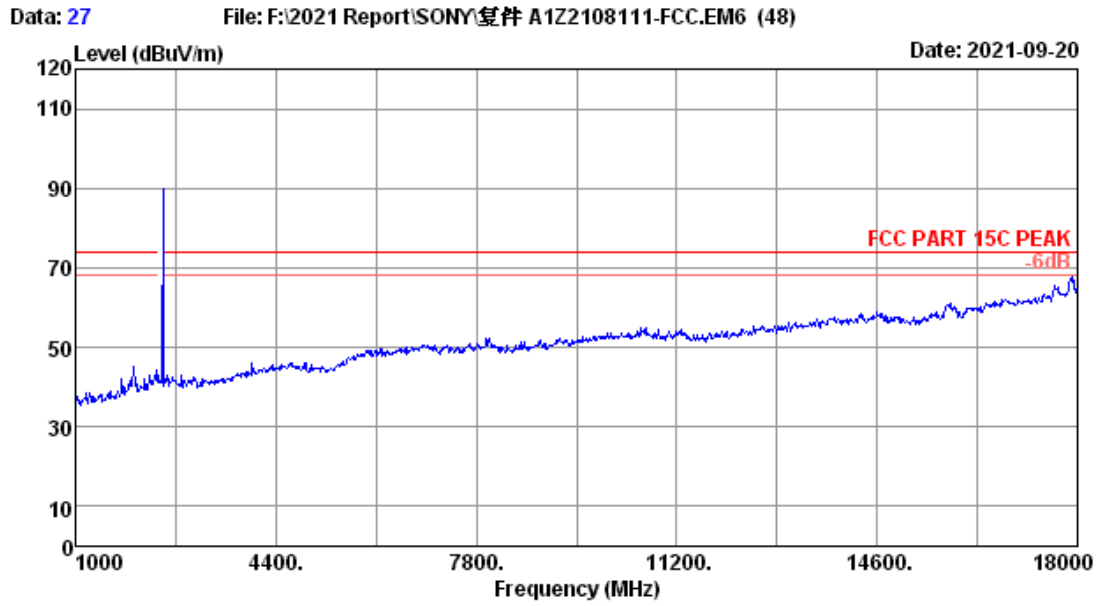
Site no.	: 3m Chamber	Data no.	: 31
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2480MHz Tx		



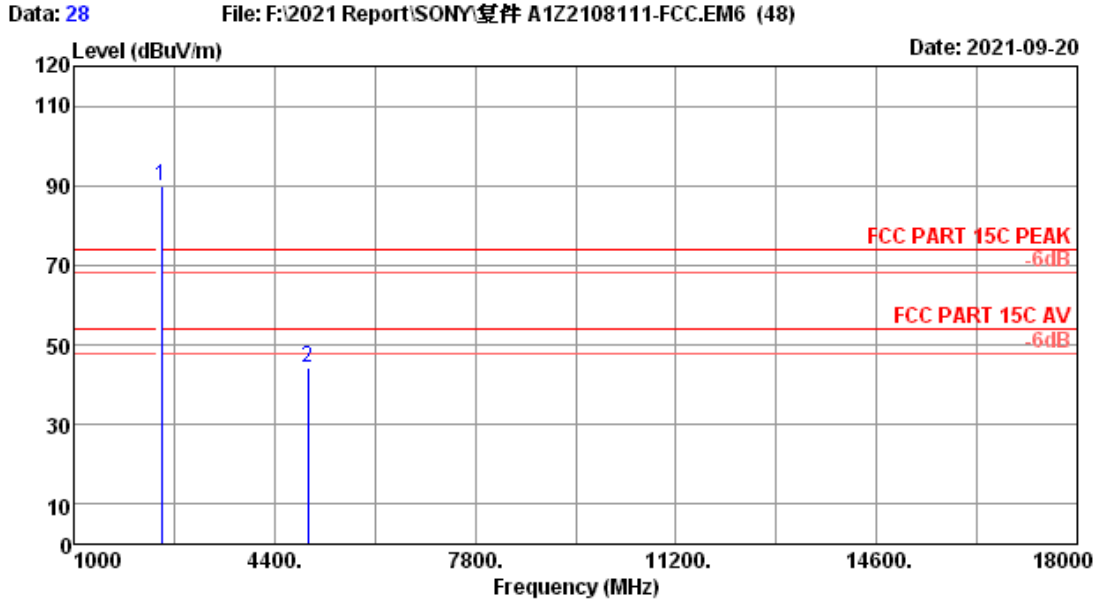
Site no. : 3m Chamber Data no. : 32  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 8DPSK 2480MHz Tx

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	2480.00	28.07	1.69	103.48	35.25	97.99	-----	-----	Peak
2	4960.00	32.78	2.73	51.27	34.49	52.29	74.00	21.71	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.	: 27
Dis. / Ant.	: 3m 2021 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8°C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2480MHz Tx		



Site no. : 3m Chamber Data no. : 28  
 Dis. / Ant. : 3m 2021 MCTD1209-3006 Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23.8°C/53.5% Engineer : Lynn  
 Test Mode : BT3.0 8DPSK 2480MHz 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	2480.00	28.07	1.69	95.25	35.25	89.76	-----	-----	Peak
2	4960.00	32.78	2.73	43.39	34.49	44.41	74.00	29.59	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.