FCC PART 15C TEST REPORT FOR CERTIFICATION

On Behalf of

Sony Group Corporation

Wireless Neckband Speaker

SRS-NB10

FCC ID: AK8SRSNB10

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

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Kefeng Road, Science & Technology Park,
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TESTING
NVLAP LAB CODE 200372-0

Report Number : ACS-F21092
Date of Test : Apr.21~May.22,2021
Date of Report : Jun.09,2021

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Description Page

TEST REPORT

Applicant	:	Sony Group Corporation
Manufacturer	:	Sony Group Corporation
Product	:	Wireless Neckband Speaker
FCC ID	:	AK8SRSNB10
		(A) Model No. : SRS-NB10
		(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 : Apr.21~May.22,2021 Report of date: Jun.09,2021

Prepared by : Brave Zhang / Assistant

Reviewed by : Sunny Lu / Deputy Manager

AUDIX 信華科技（深圳）有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章
Stamp only for EMC Dept. Report

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

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 Neckband Speaker
Model No.	SRS-NB10
FCC ID	AK8SRSNB10
USB Cable	Unshielded, Detachable, 0.3m
Sample Type	Prototype production
Date of Receipt	Apr.13,2021
Date of Test	Apr.21~May.22,2021
Remark: This report only for BDR+EDR.	

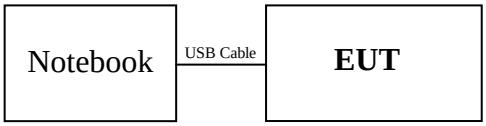
Product Feature & Specification		
Product	Wireless Neckband Speaker	
Model No.	SRS-NB10	
Power Source	☒ Commercial Power	AC 100~240 V
	☒ External Power Source	DC 5V
	☒ Li-ion Battery	DC 3.7V
	☐ UM battery	DC V

Bluetooth	
Radio	Bluetooth V3.0+EDR; BLE
Frequency Range	2402-2480MHz
Type of Modulation	GFSK, π/4DQPSK, 8DPSK
Data Rate	1Mbps, 2Mbps, 3Mbps
Quantity of Channels	79/40
Channel Separation	1MHz/2MHz
Antenna System	
Type of Antenna	PCB Antenna
Antenna Peak Gain	3.2dBi

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, Detachabled, 1.8m Power Adapter: Manufacturer: DELL, M/N: LA65NS1-00 Cable: Unshielded, Detachabled, 4.0m(Bond one ferrite core)			

2.3. Block Diagram of connection between EUT and simulators



(EUT: Wireless Neckband Speaker)

2.4. Test information

A special software was used to control EUT work in continuous TX mode (GFSK, π/4DQPSK, 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	9	2402
	1	Middle: CH39	9	2441
	1	High: CH78	9	2480
Tx Mode 8-DPSK modulation	3	Low :CH 0	9	2402
	3	Middle: CH39	9	2441
	3	High: CH78	9	2480
Note: π/4DQPSK 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.	:	Accredited by Industry Canada Registration Number: IC 5183A-1 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)	4.6dB(1GHz~6GHz)
	4.6dB(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	1.9%
Uncertainty for test site temperature and humidity	0.6℃
	3%

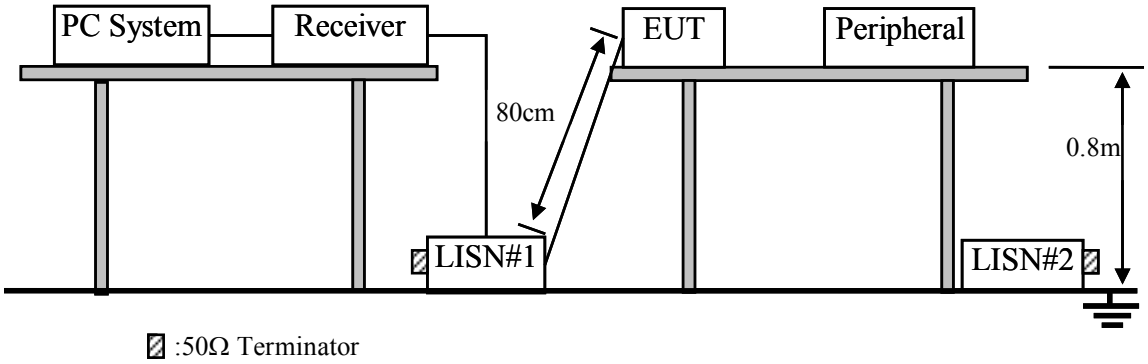
Note: EMI uncertainty is evaluated by CISPR16-4-2.
The value of measurement uncertainty of EMI is less than U_{CISPR}.
The value is not calculated in the test results.

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-BM-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



:50Ω Terminator

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. Wireless Neckband Speaker (EUT)

Model Number : SRS-NB10
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

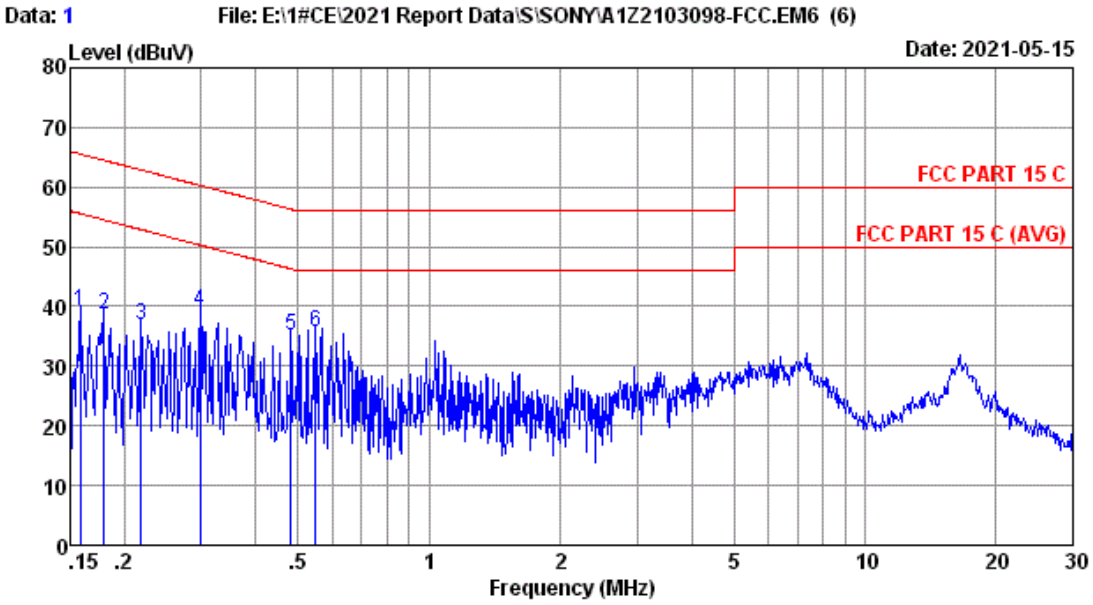
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via AC unit connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs).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

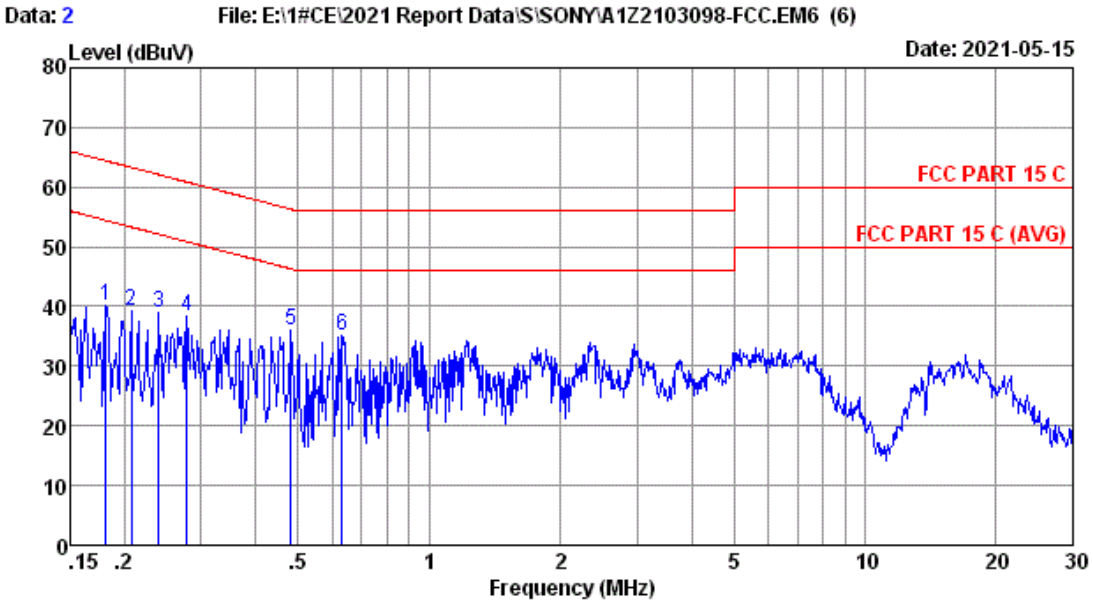
PASS. **(**All emissions not reported below are too low against the prescribed limits.)



Site no :1# Conduction Data No :1
Dis./Lisn :2020 ENV216-L LISN phase:
Limit :FCC PART 15 C
Env./Ins. :23.8*C/48% Engineer :Evan
EUT :Wireless Neckband Speaker M/N:SRS-NB10
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	29.52	39.23	65.56	26.33	QP
2	0.180	9.70	0.01	28.94	38.65	64.50	25.85	QP
3	0.219	9.70	0.01	27.25	36.96	62.88	25.92	QP
4	0.299	9.70	0.01	29.52	39.23	60.28	21.05	QP
5	0.481	9.70	0.01	25.44	35.15	56.32	21.17	QP
6	0.549	9.70	0.01	26.07	35.78	56.00	20.22	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.



Site no :1# Conduction Data No :2
Dis./Lisn :2020 ENV216-N LISN phase:
Limit :FCC PART 15 C
Env./Ins. :23.8*C/48% Engineer :Evan
EUT :Wireless Neckband Speaker M/N:SRS-NB10
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	0.182	9.70	0.01	30.46	40.17	64.42	24.25	QP
2	0.207	9.70	0.01	29.65	39.36	63.32	23.96	QP
3	0.239	9.70	0.01	29.13	38.84	62.13	23.29	QP
4	0.277	9.70	0.01	28.63	38.34	60.90	22.56	QP
5	0.481	9.70	0.01	26.43	36.14	56.32	20.18	QP
6	0.630	9.70	0.01	25.57	35.28	56.00	20.72	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

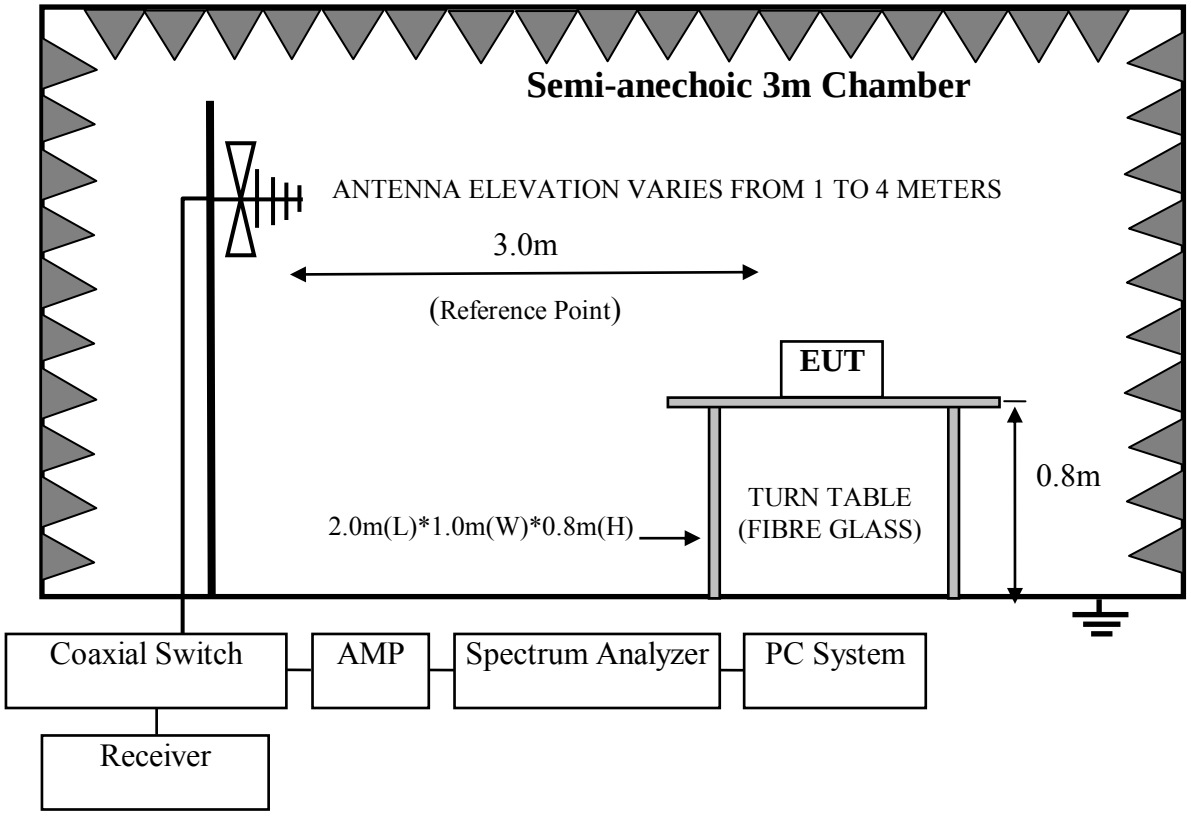
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber(NSA)	AUDIX	N/A	N/A	May.02,21	1 Year
2.	3#Chamber(SE)	AUDIX	N/A	N/A	May.17,18	5 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	104050	Apr.07,21	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR7	101547	Apr.07,21	1 Year
5.	Amplifier	HP	8447D	2648A04738	Apr.08,21	1 Year
6.	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.						

Frequency range: above 1000MHz

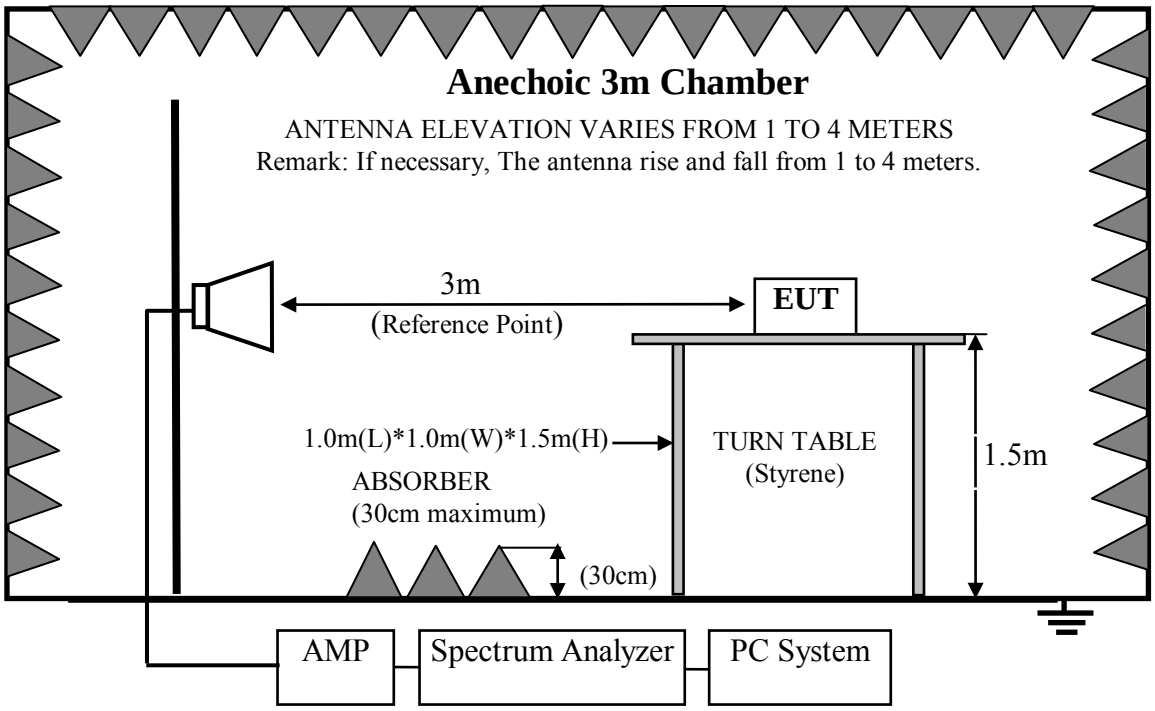
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber(Svswr)	AUDIX	N/A	N/A	Apr.14,21	1 Year
2.	3#Chamber(SE)	AUDIX	N/A	N/A	May.17,18	5 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	104050	Apr.07,21	1 Year
4.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	Jul.30,20	1 Year
5.	Horn 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	6.2009-5-21a(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 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) 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) 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 Neckband Speaker (EUT)

Model Number : SRS-NB10

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 Horm 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.

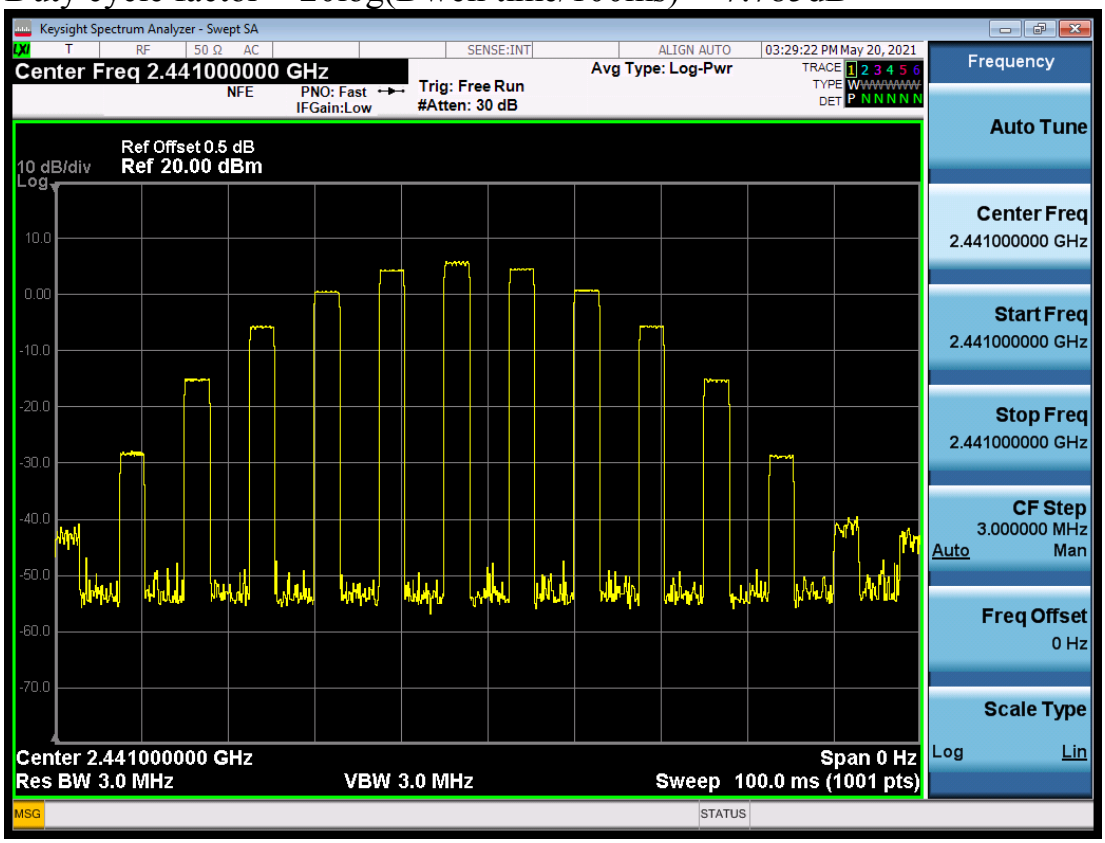
The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

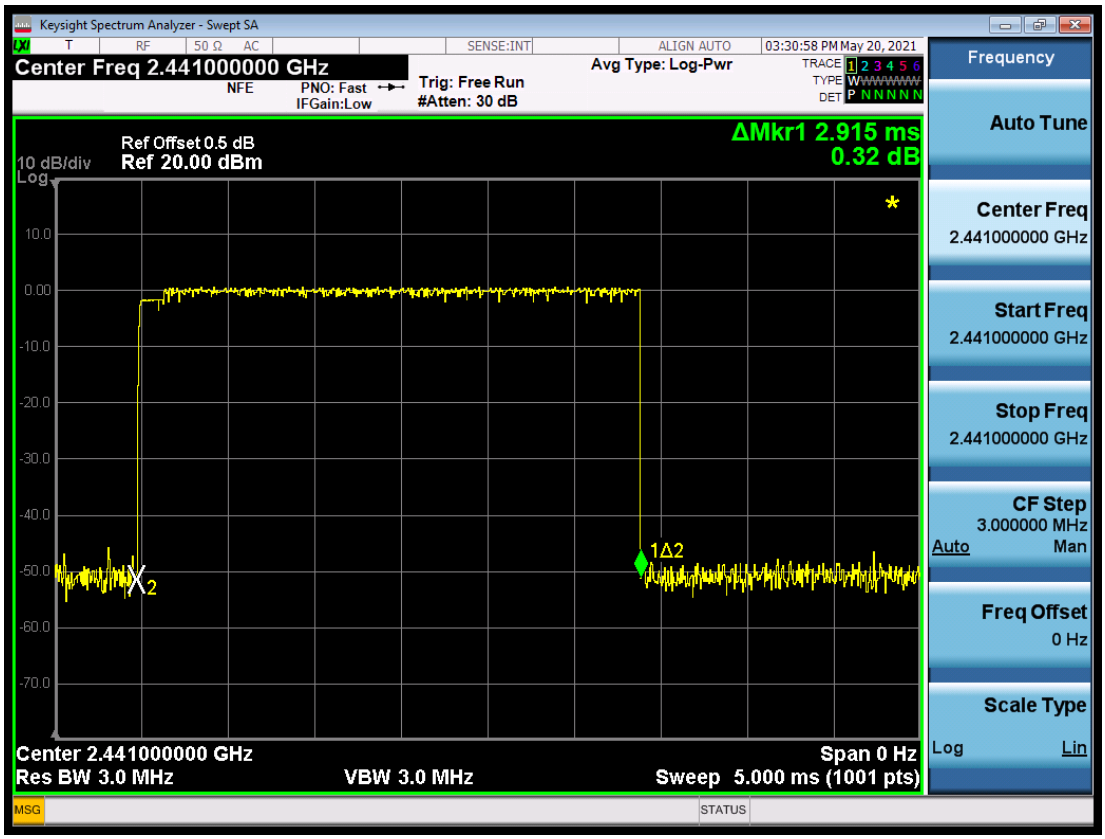
4.7. Radiated Emission Test Results

PASS.

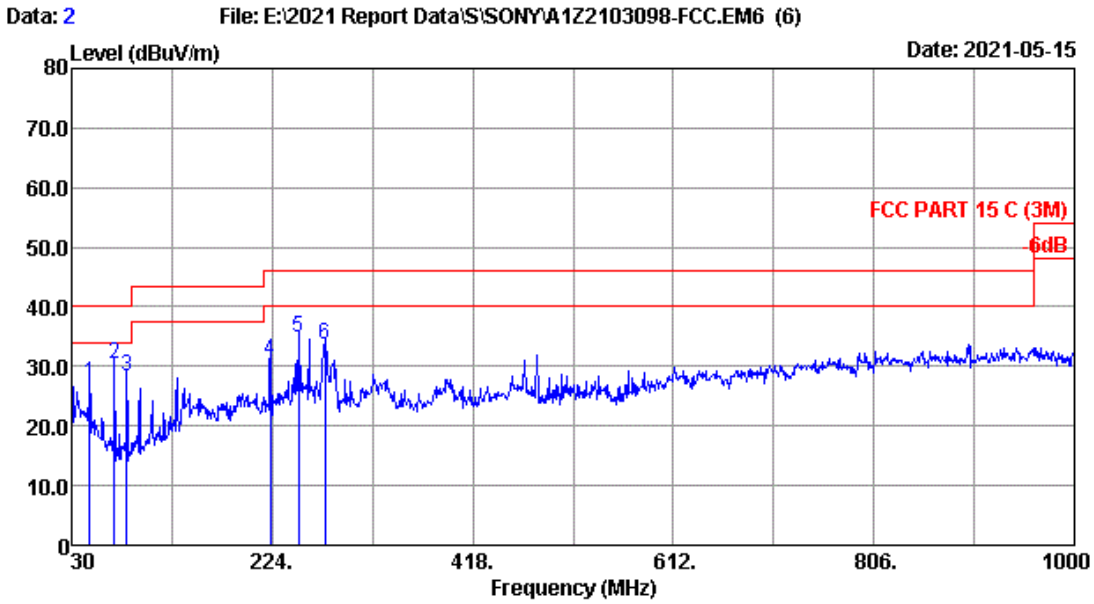
All the emissions from 30MHz to 25GHz were comply with the 15.209 Limit.
Note 1: The duty cycle factor for calculate average level is -7.785dB, and average limit is 20dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.
Note 2: The emissions (9kHz~30MHz) not reported for there is no emission be found.

Duty cycle factor = 20log(Dwell time/100ms)= -7.785dB





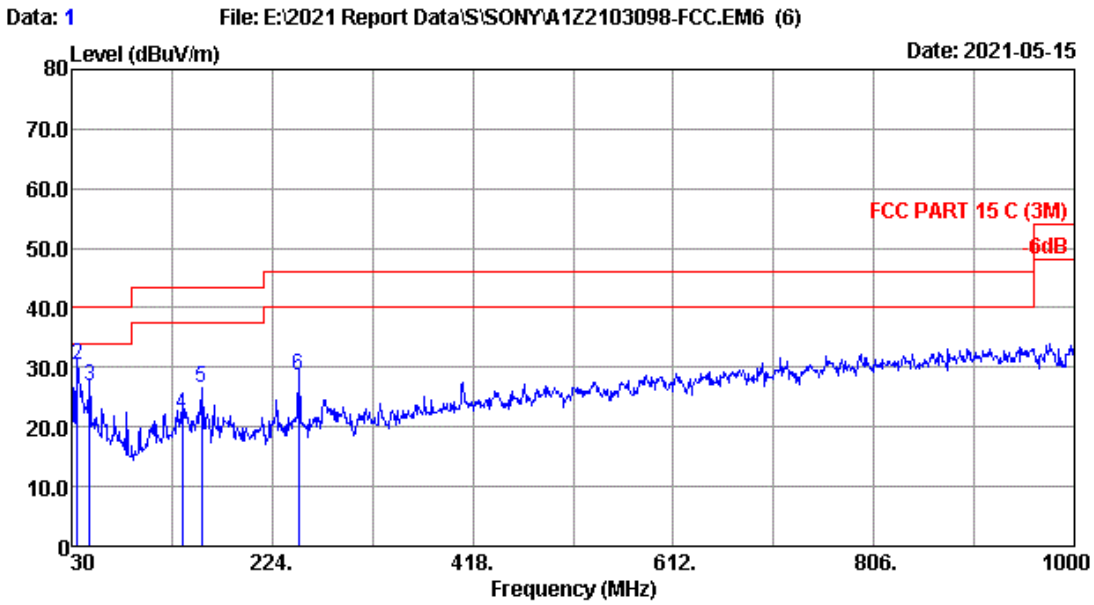
Frequency: 30MHz~1GHz



Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2020 VULB9168-710 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23.5*C/54% Engineer : Hogrn
EUT : Wireless Neckband Speaker M/N:SRS-NB10
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	47.460	19.70	0.73	6.68	27.11	40.00	12.89	QP
2	71.710	16.90	0.82	12.68	30.40	40.00	9.60	QP
3	83.350	13.70	0.87	13.87	28.44	40.00	11.56	QP
4	222.060	15.64	1.50	13.94	31.08	46.00	14.92	QP
5	249.220	17.50	1.57	15.88	34.95	46.00	11.05	QP
6	275.410	18.40	1.66	13.48	33.54	46.00	12.46	QP

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

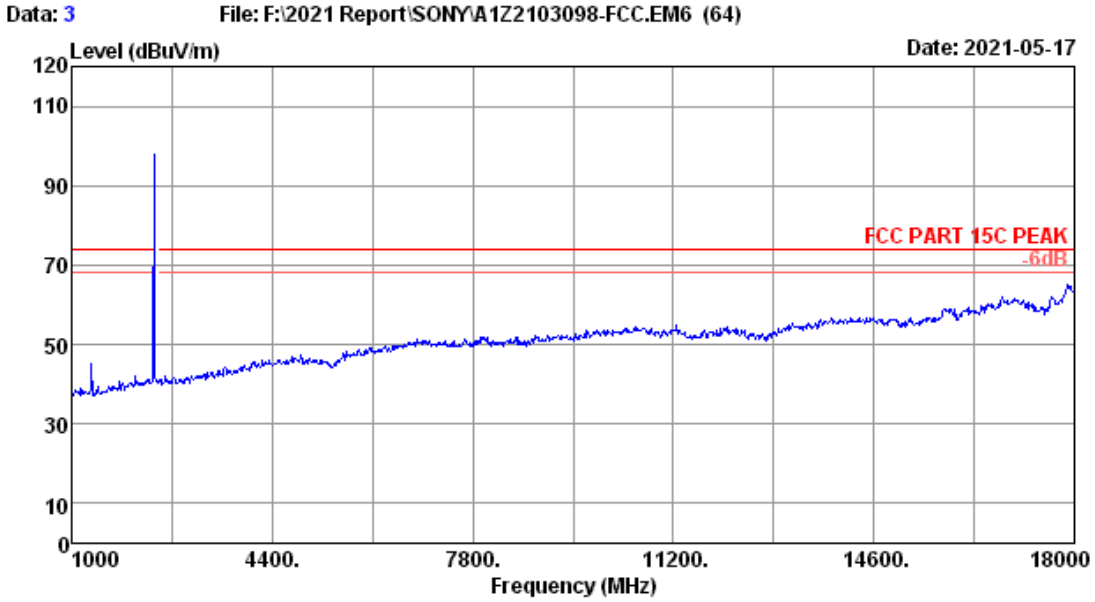


Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2020 VULB9168-710 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23.5*C/54% Engineer : Hogrn
EUT : Wireless Neckband Speaker M/N:SRS-NB10
Test Mode : BT3.0 Tx

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	18.30	0.63	8.92	27.85	40.00	12.15	QP
2	35.820	18.60	0.67	11.02	30.29	40.00	9.71	QP
3	47.460	19.70	0.73	6.48	26.91	40.00	13.09	QP
4	136.700	18.50	1.18	2.42	22.10	43.50	21.40	QP
5	156.100	19.20	1.26	6.09	26.55	43.50	16.95	QP
6	249.220	17.50	1.57	9.64	28.71	46.00	17.29	QP

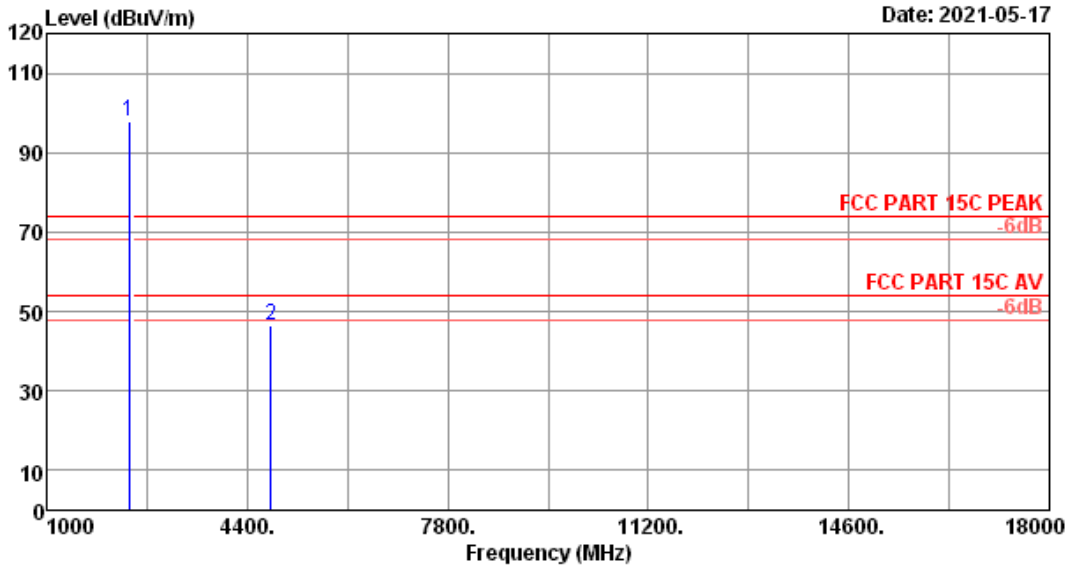
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 1GHz~18GHz



Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 2020 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		

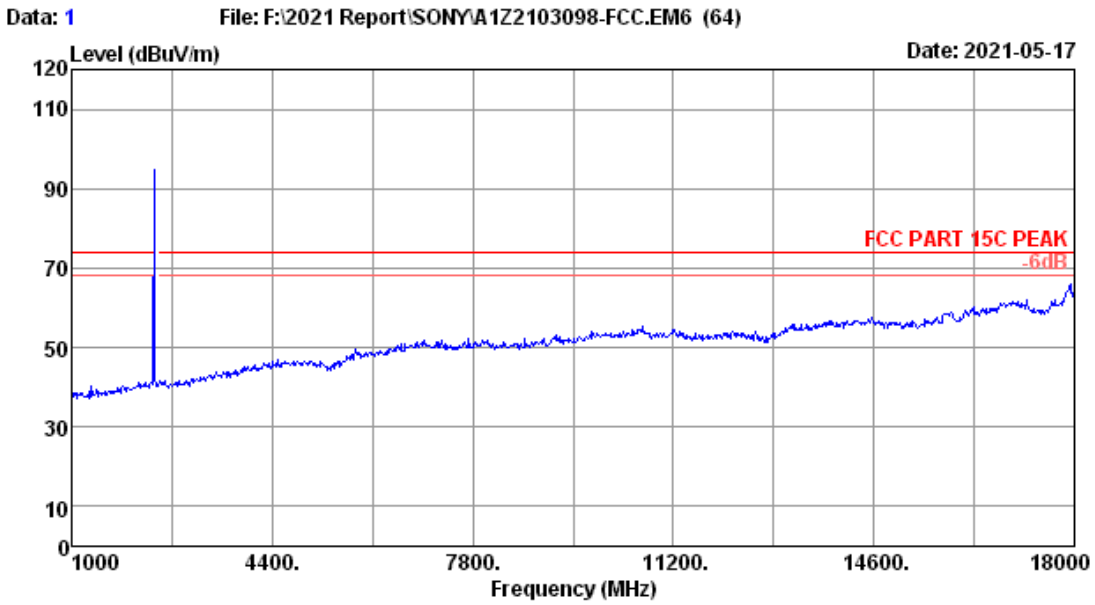
Data: 4 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)



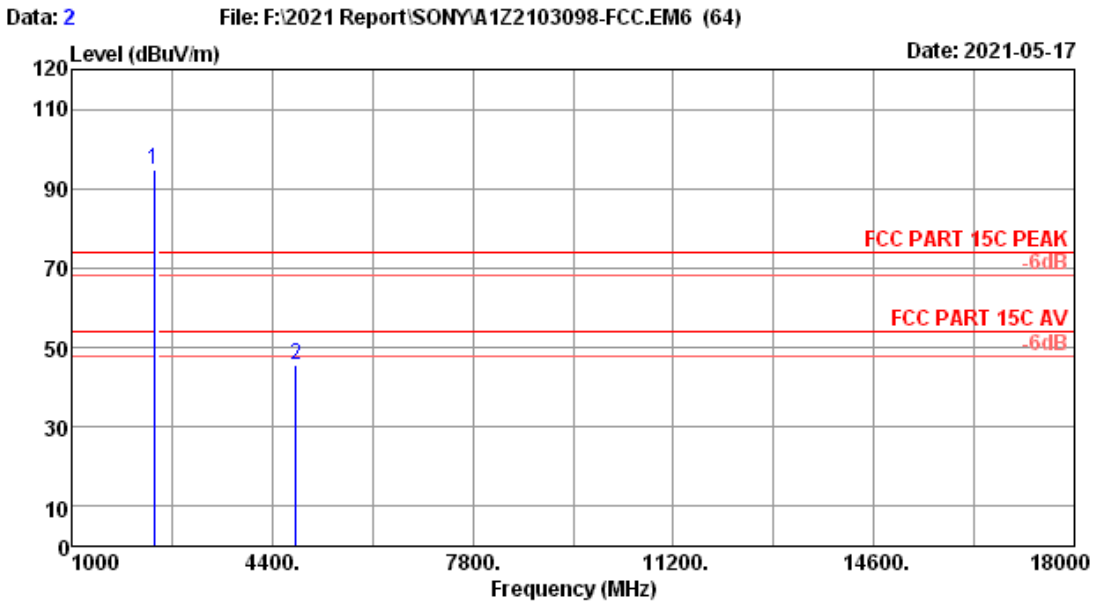
Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 GFSK 2402MHz Tx

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	28.01	0.92	104.04	35.24	97.73	------	------	Peak
2	4804.00	32.61	1.38	46.79	34.46	46.32	74.00	27.68	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.



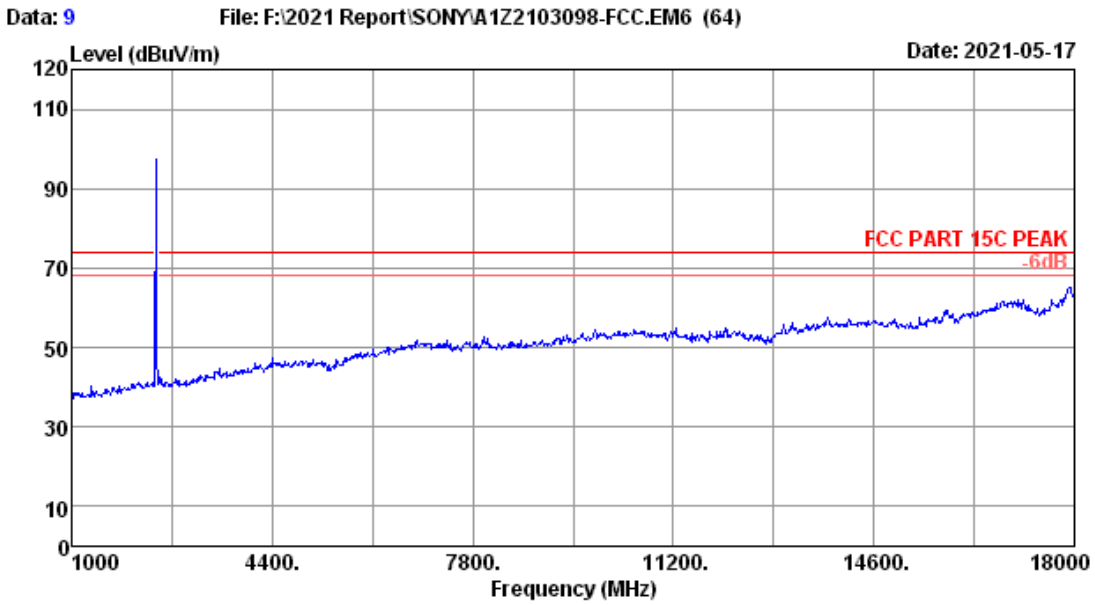

```
Site no.      : 3m Chamber                    Data no.   : 1
Dis. / Ant.   : 3m   2020 MCTD1209-3006       Ant. pol.  : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.8*C/53.5%                  Engineer   : Lynn
Test Mode     : BT3.0 GFSK 2402MHz Tx
```



Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2020 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

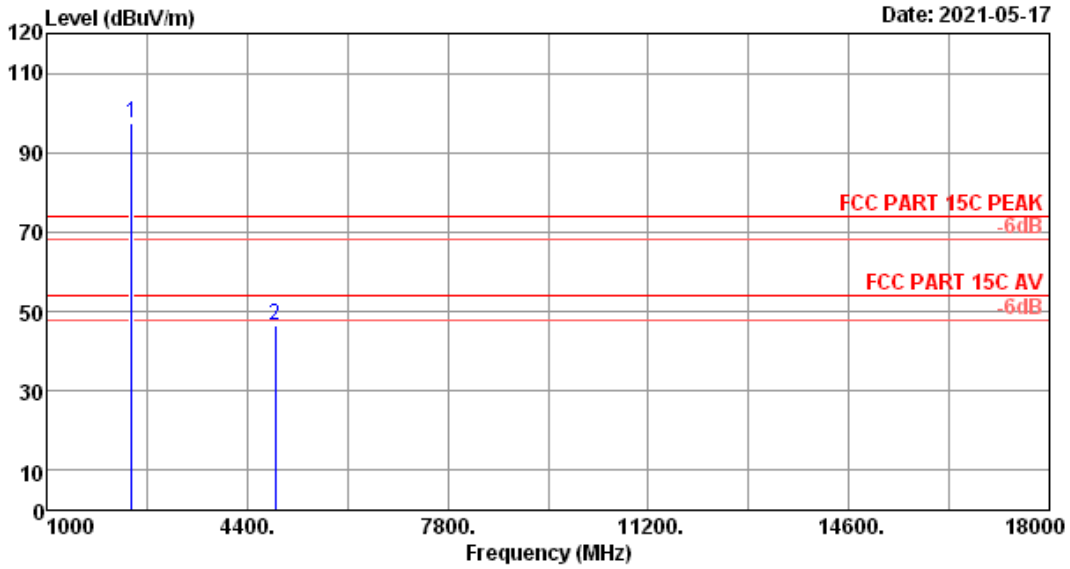
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	28.01	0.92	101.09	35.24	94.78	------	------	Peak
2	4804.00	32.61	1.38	45.99	34.46	45.52	74.00	28.48	Peak

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.  : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.8*C/53.5%                Engineer   : Lynn
Test Mode     : BT3.0 GFSK 2441MHz Tx
```

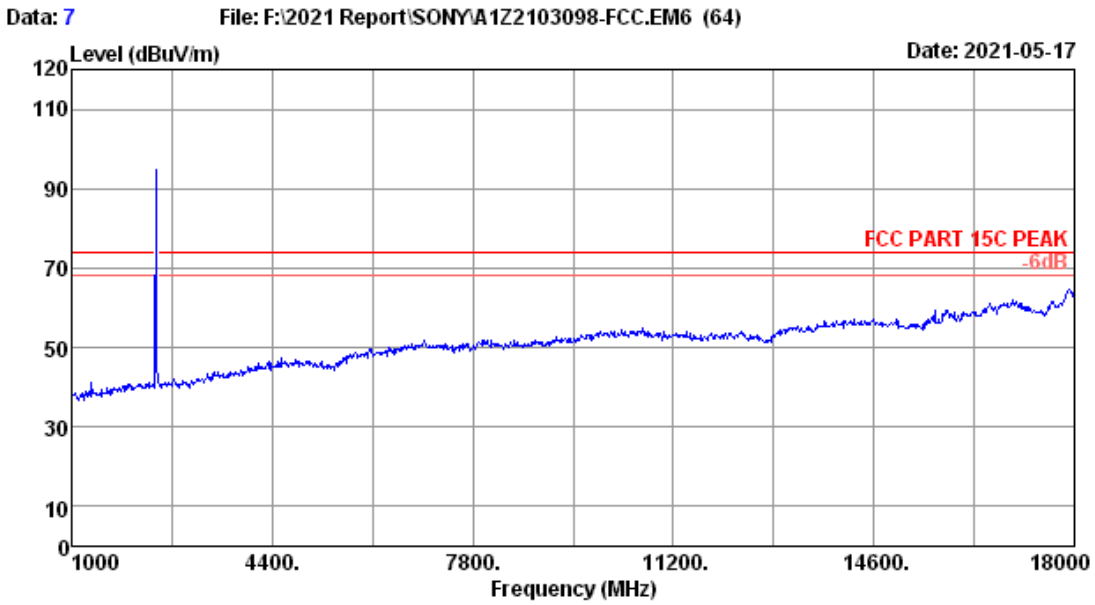
Data: 10 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)



Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 2020 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

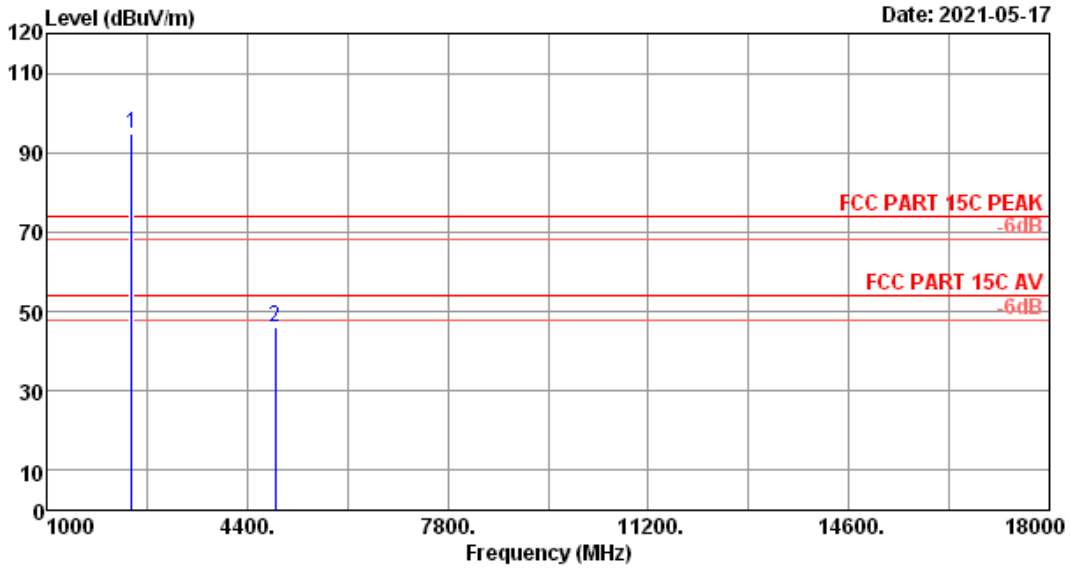
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	28.11	0.93	103.63	35.25	97.42	------	------	Peak
2	4882.00	32.68	1.39	47.01	34.47	46.61	74.00	27.39	Peak

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. : 7
Dis. / Ant. : 3m 2020 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

Data: 8 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)

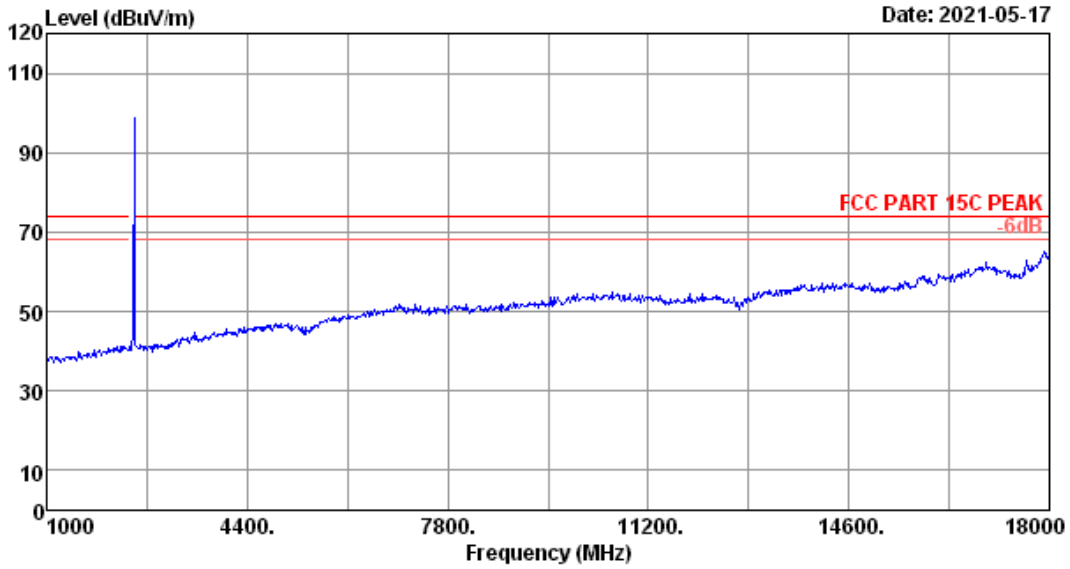


Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 GFSK 2441MHz Tx

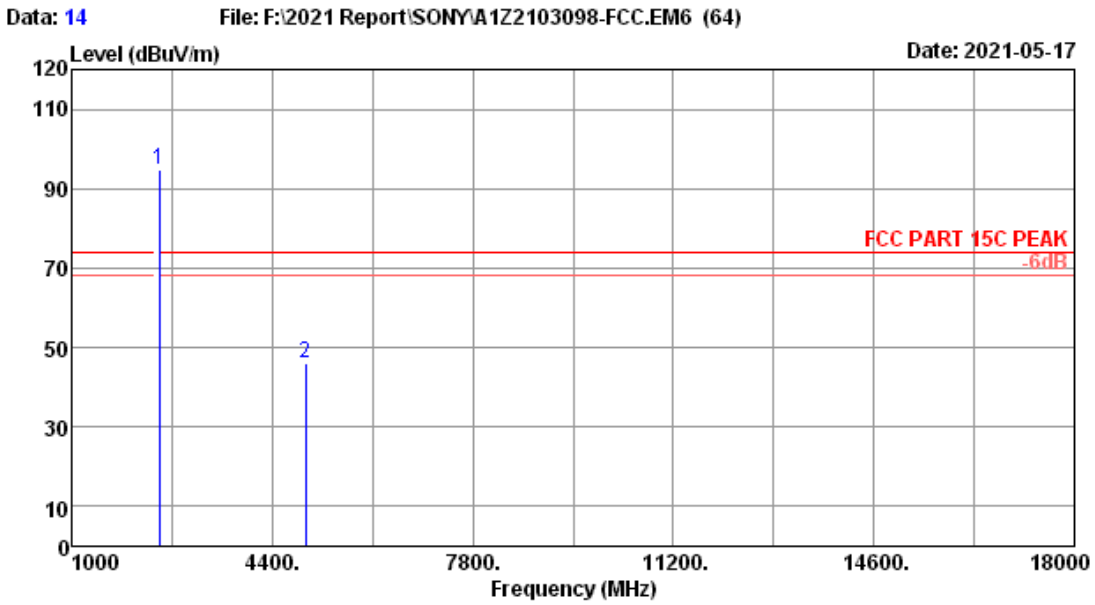
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	28.11	0.93	100.95	35.25	94.74	------	------	Peak
2	4882.00	32.68	1.39	46.44	34.47	46.04	74.00	27.96	Peak

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.

Data: 13 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)



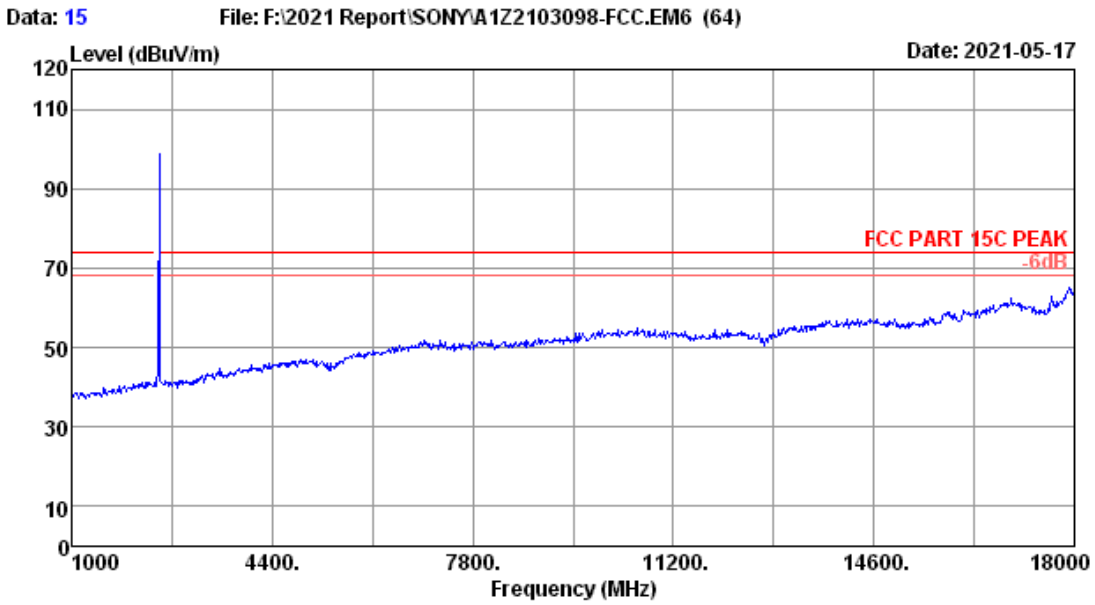
Site no.	: 3m Chamber	Data no.	: 13
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8*C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 GFSK 2480MHz Tx		



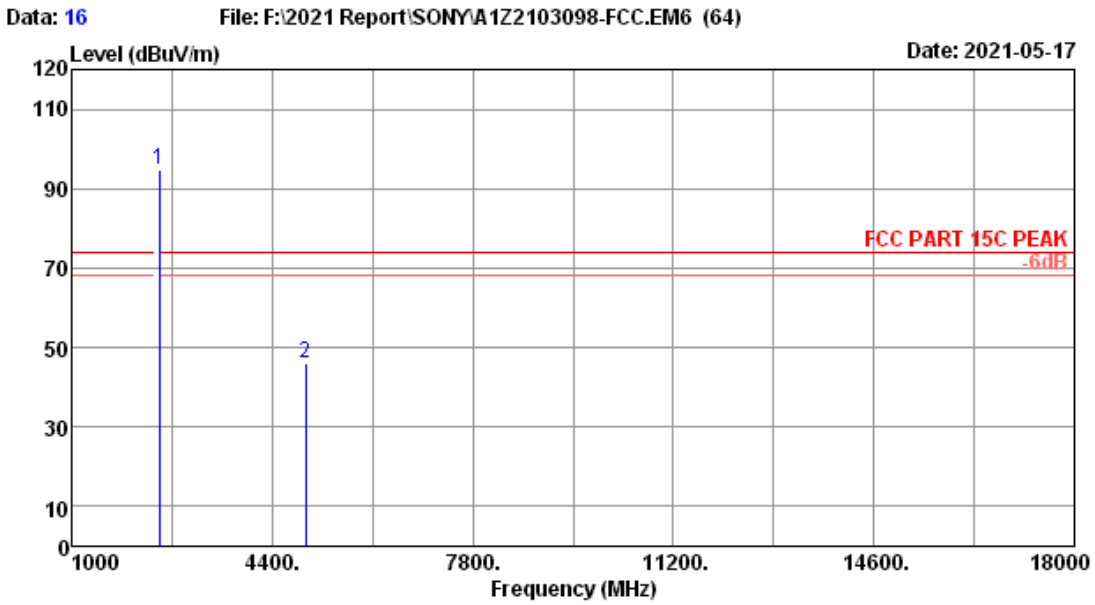
Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 GFSK 2480MHz Tx

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	28.17	0.94	100.93	35.25	94.79	------	------	Peak
2	4960.00	32.77	1.39	46.22	34.49	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.



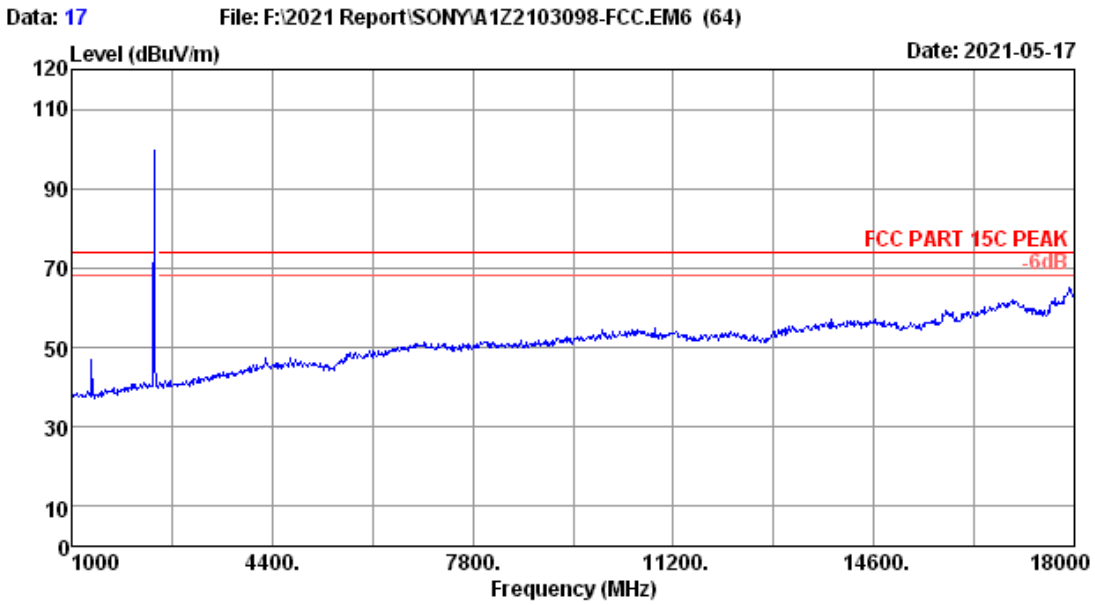
Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 GFSK 2480MHz Tx



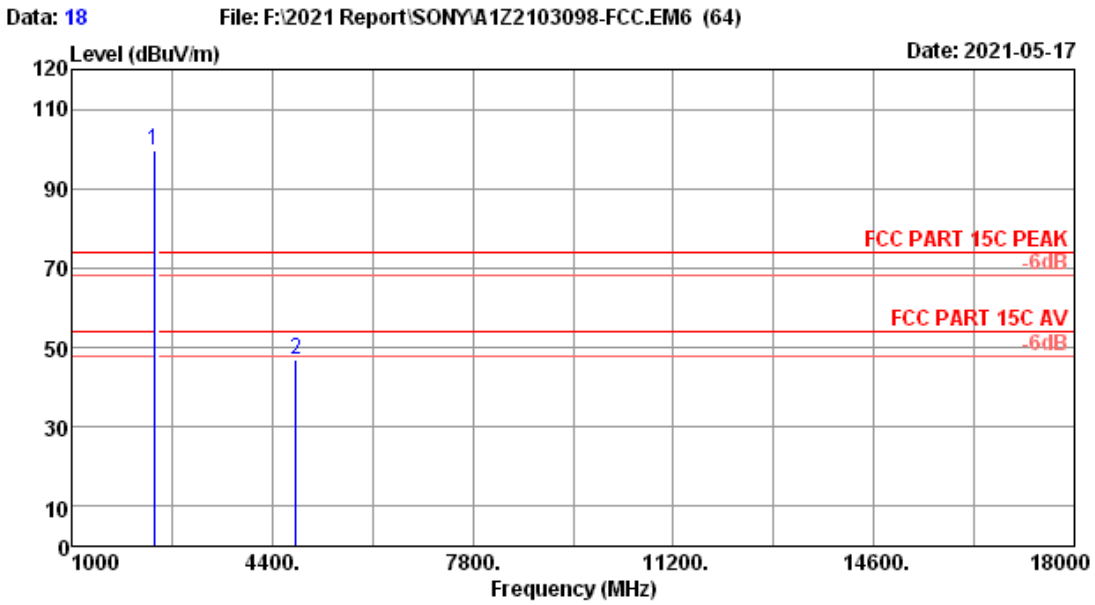
Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 GFSK 2480MHz Tx

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	28.17	0.94	100.93	35.25	94.79	------	------	Peak
2	4960.00	32.77	1.39	46.22	34.49	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.



Site no. : 3m Chamber
Data no. : 17
Dis. / Ant. : 3m 2020 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

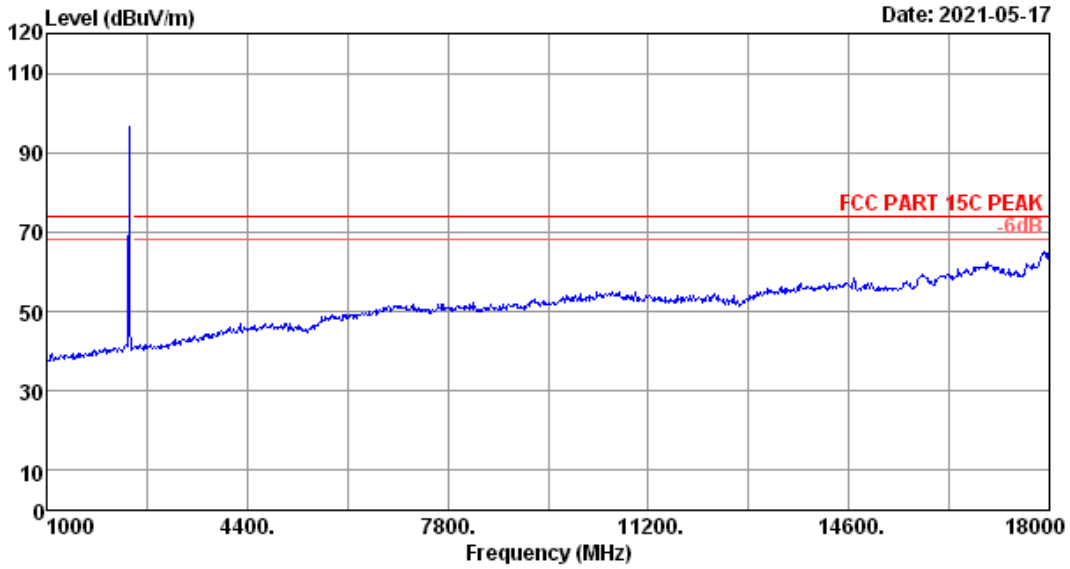


Site no. : 3m Chamber Data no. : 18
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 8DPSK 2402MHz Tx

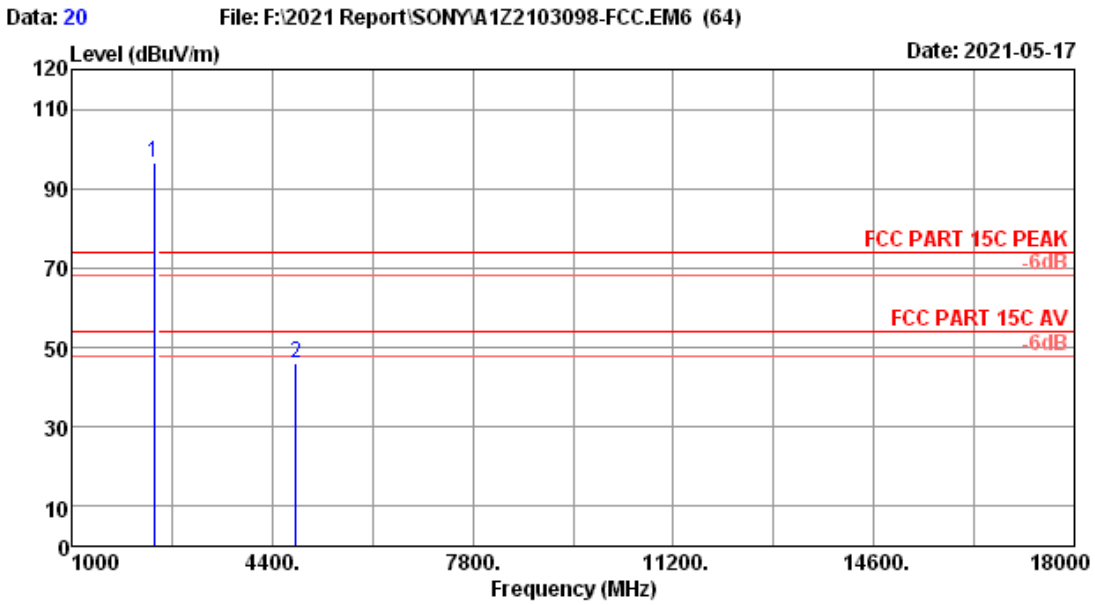
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	28.01	0.92	105.89	35.24	99.58	------	------	Peak
2	4804.00	32.61	1.38	47.20	34.46	46.73	74.00	27.27	Peak

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.

Data: 19 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)



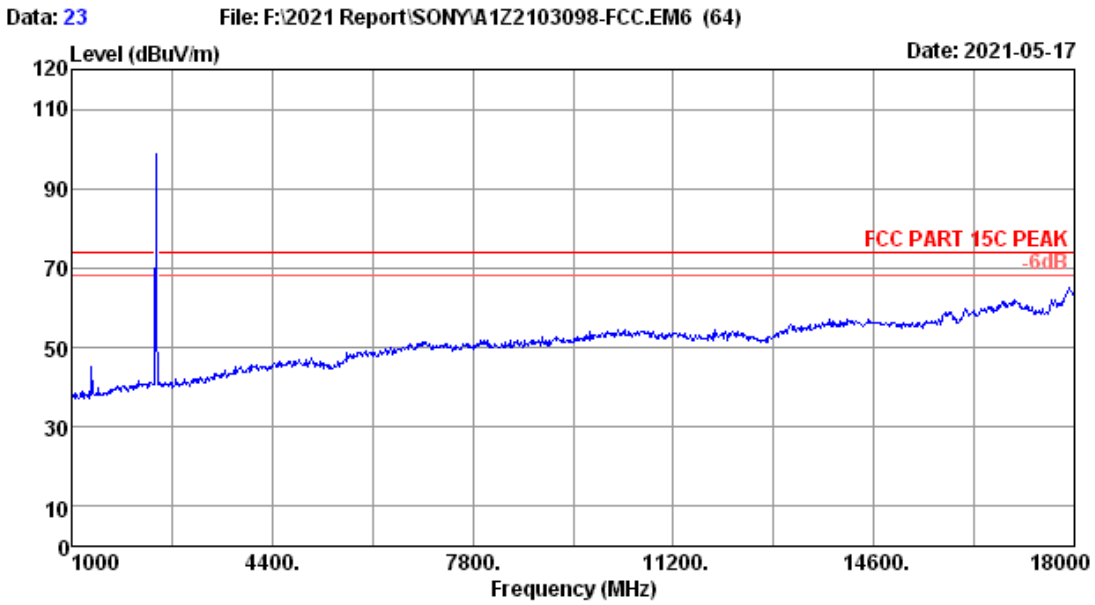
Site no.	: 3m Chamber	Data no.	: 19
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8*C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2402MHz Tx		



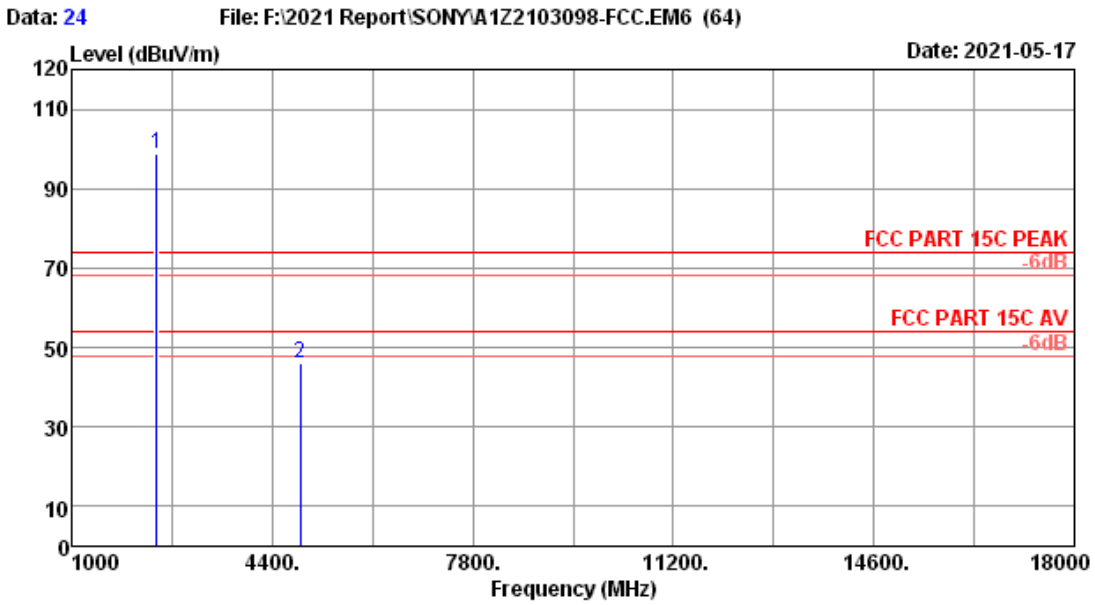
Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 8DPSK 2402MHz Tx

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	28.01	0.92	102.94	35.24	96.63	------	------	Peak
2	4804.00	32.61	1.38	46.49	34.46	46.02	74.00	27.98	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.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8*C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2441MHz Tx		

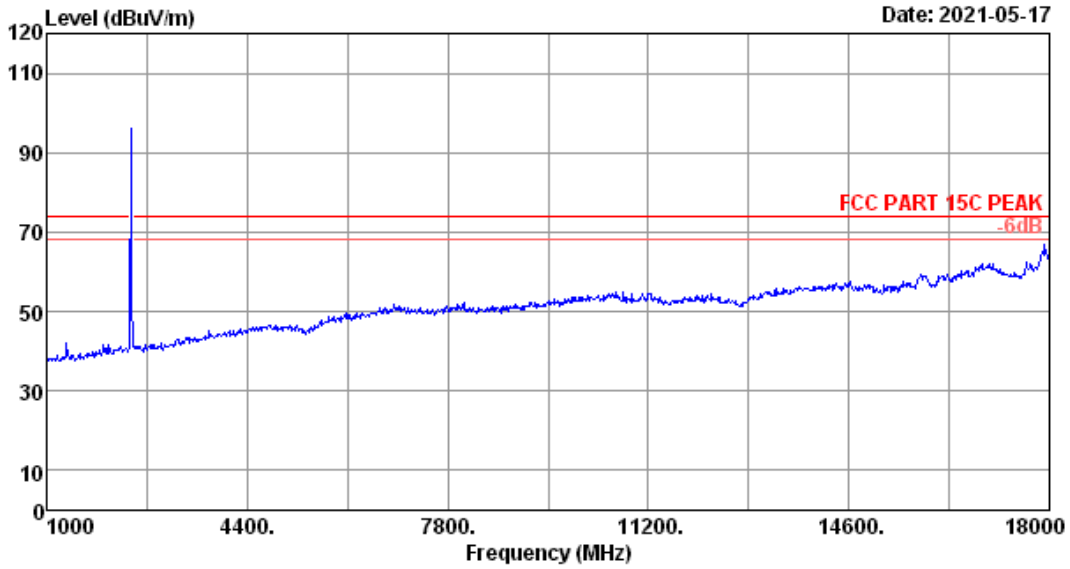


Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 8DPSK 2441MHz Tx

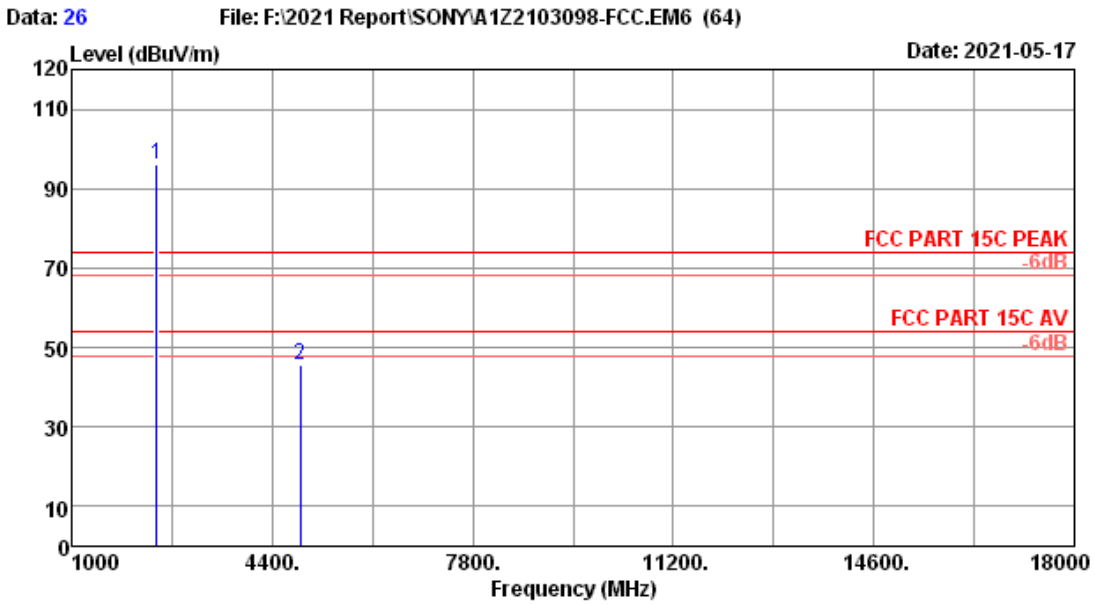
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	28.11	0.93	105.08	35.25	98.87	------	------	Peak
2	4882.00	32.68	1.39	46.51	34.47	46.11	74.00	27.89	Peak

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.

Data: 25 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)



Site no.	: 3m Chamber	Data no.	: 25
Dis. / Ant.	: 3m 2020 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		

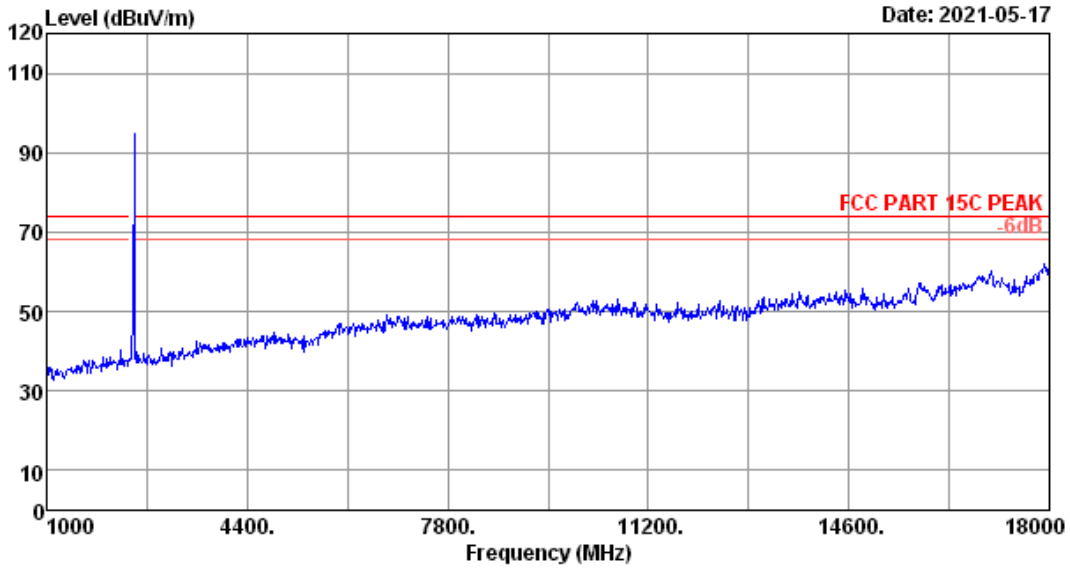


Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 8DPSK 2441MHz Tx

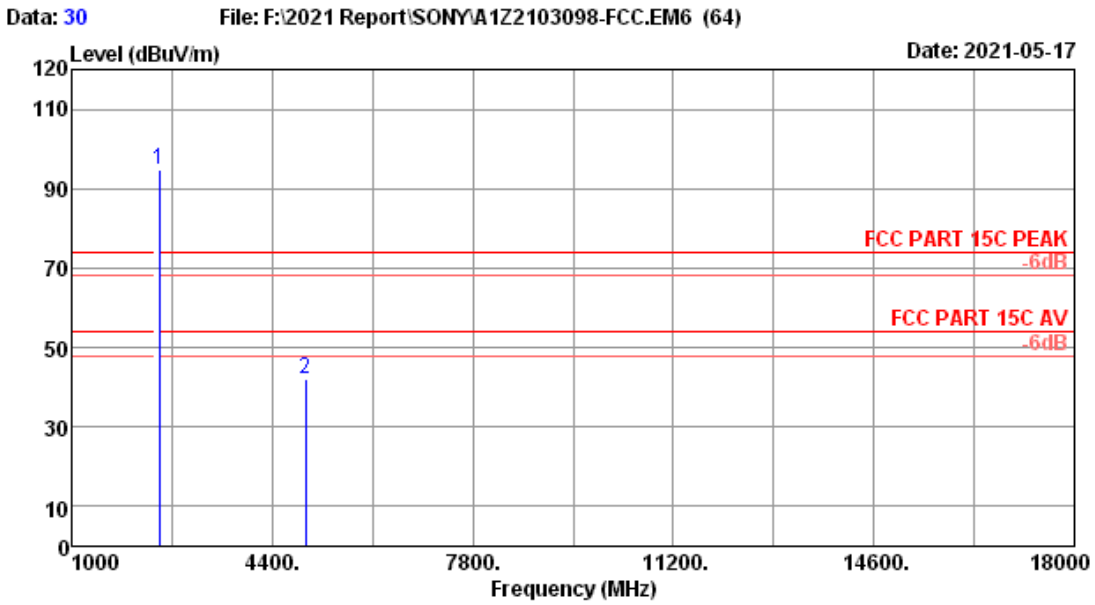
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	28.11	0.93	102.34	35.25	96.13	------	------	Peak
2	4882.00	32.68	1.39	46.12	34.47	45.72	74.00	28.28	Peak

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.

Data: 29 File: F:\2021 Report\SONY\A1Z2103098-FCC.EM6 (64)



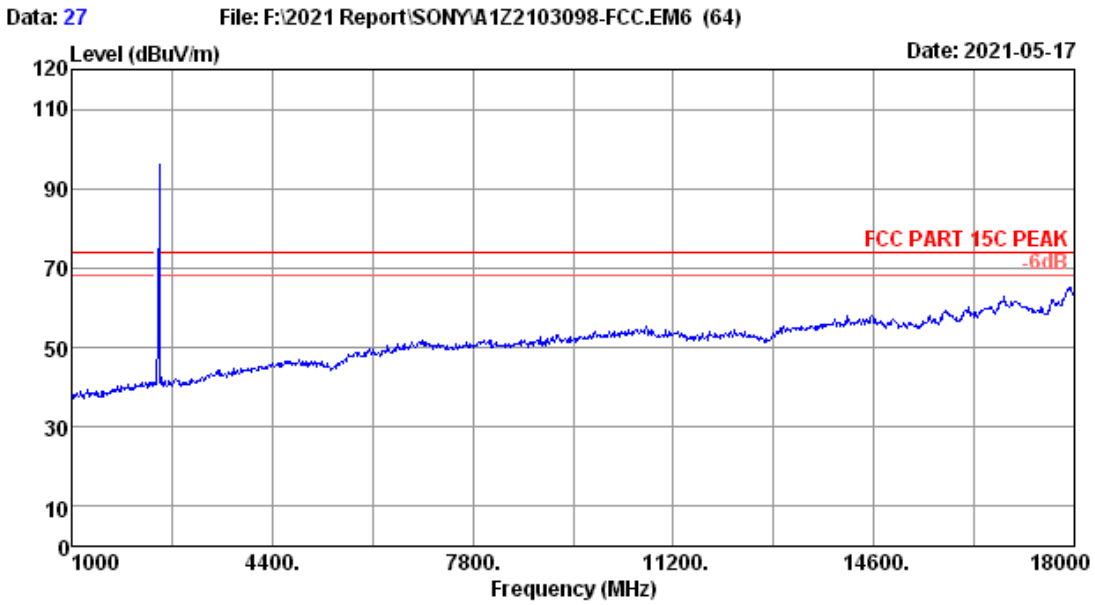
Site no.	: 3m Chamber	Data no.	: 29
Dis. / Ant.	: 3m 2020 MCTD1209-3006	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23.8*C/53.5%	Engineer	: Lynn
Test Mode	: BT3.0 8DPSK 2480MHz Tx		



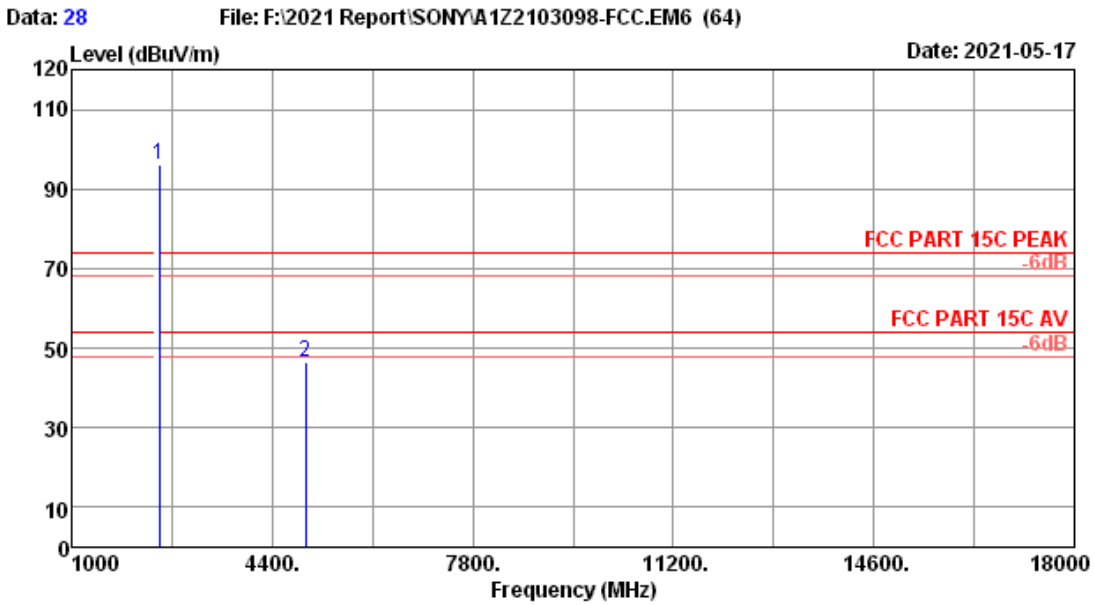
Site no. : 3m Chamber Data no. : 30
Dis. / Ant. : 3m 2020 MCTD1209-3006 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.8*C/53.5% Engineer : Lynn
Test Mode : BT3.0 8DPSK 2480MHz Tx

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	28.17	0.94	100.82	35.25	94.68	------	------	Peak
2	4960.00	32.77	1.39	42.49	34.49	42.16	74.00	31.84	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.



Site no. : 3m Chamber
Data no. : 27
Dis. / Ant. : 3m 2020 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 2020 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	28.17	0.94	102.42	35.25	96.28	------	------	Peak
2	4960.00	32.77	1.39	46.63	34.49	46.30	74.00	27.70	Peak

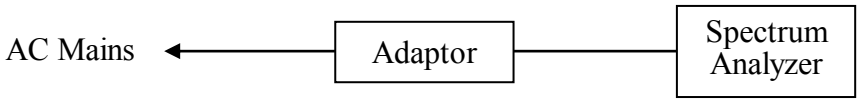
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.

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	1Year
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. Block Diagram of Test Setup



5.3. Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in 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.

5.4. Test Procedure

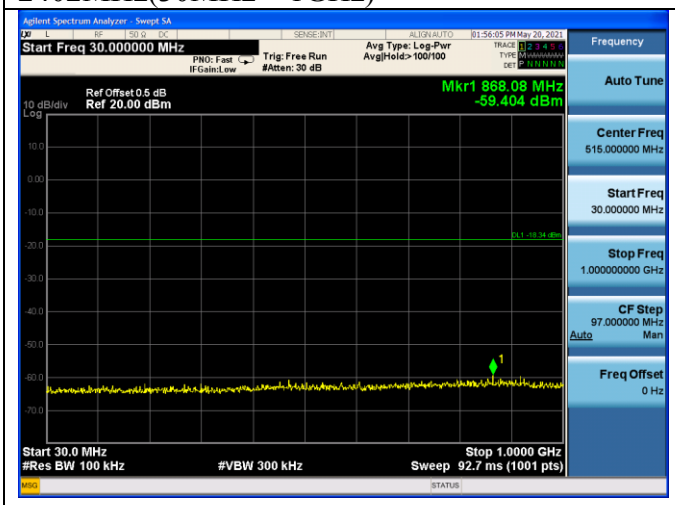
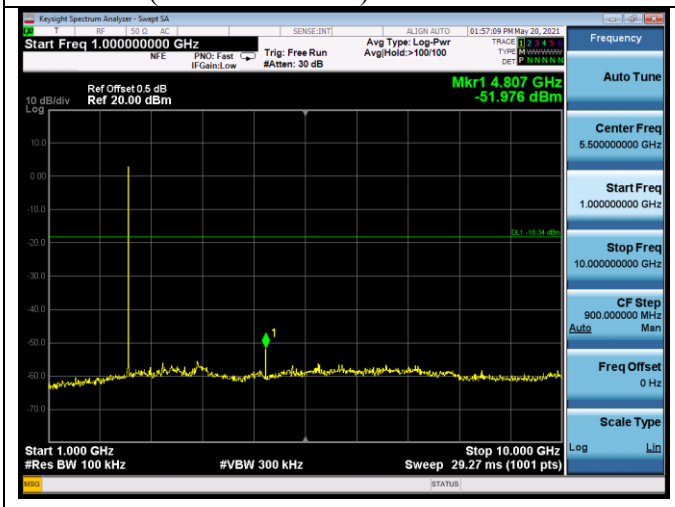
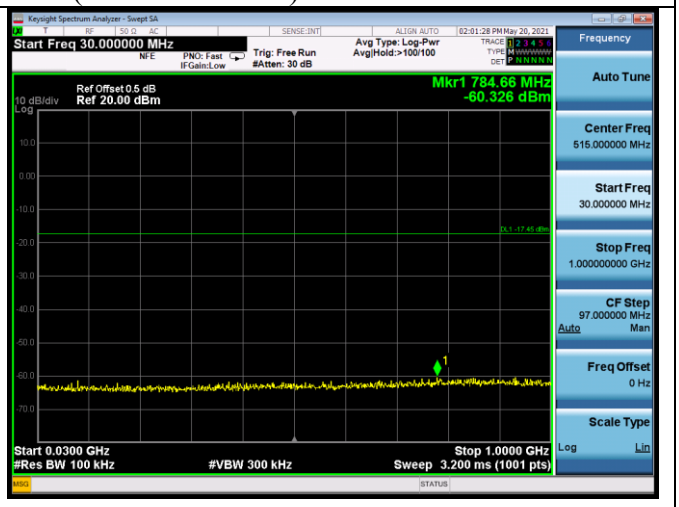
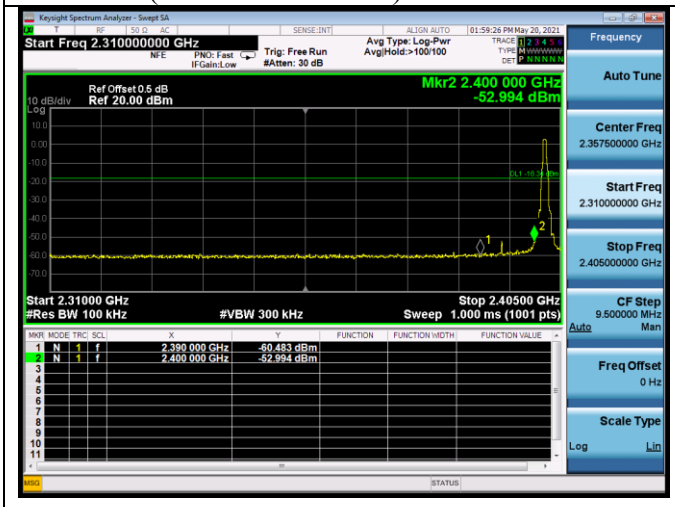
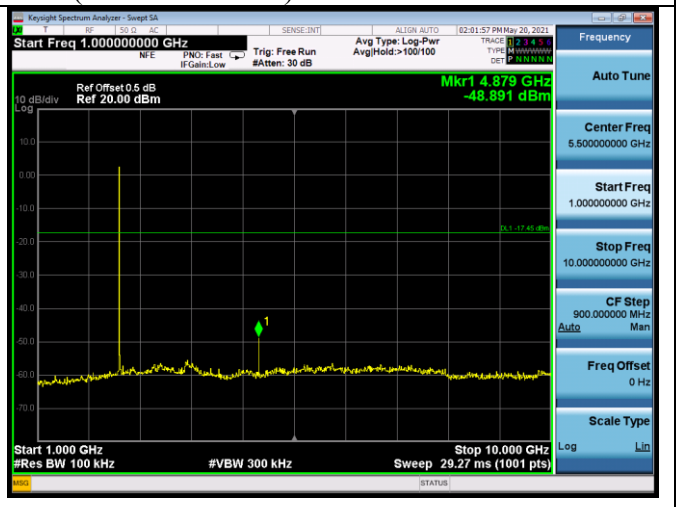
Use the test method descried in ANSI C63.10 clause 7.8.8:
The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions With peak detector.

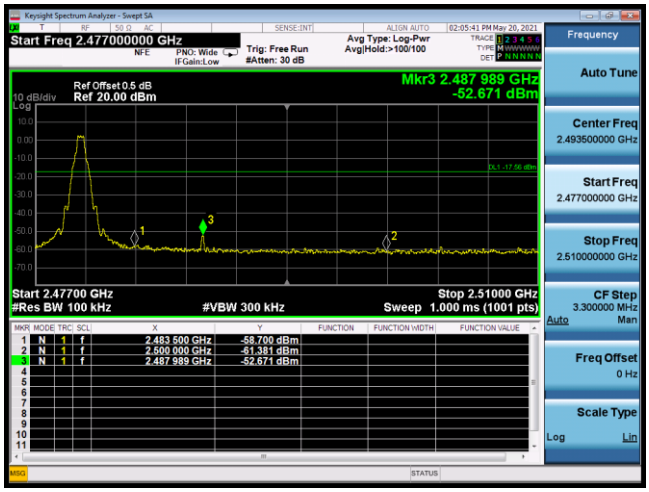
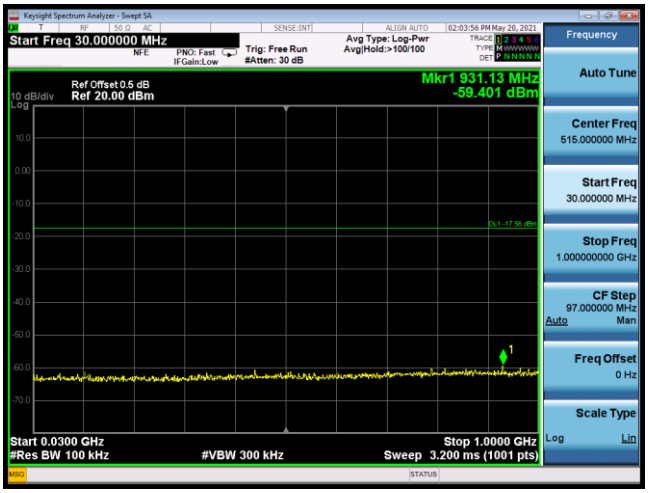
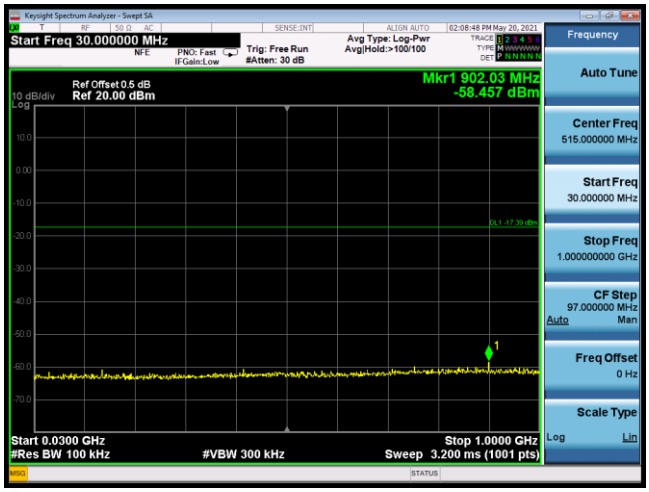
Note: The cable loss and attenuator loss were offset into spectrum analyzer as an amplitude offset.

5.5. Test result

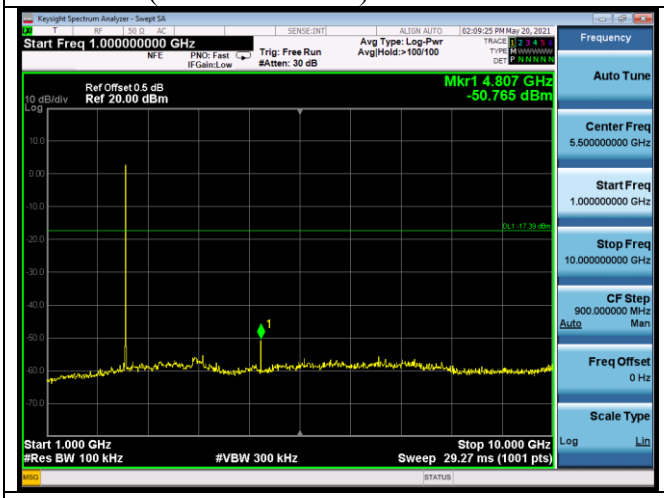
PASS (The testing data was attached in the next pages.)

EUT: Wireless Neckband Speaker		
M/N: SRS-NB10		
Test date: 2021-05-20	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Thomax	Test site: RF site	Temperature:22.8±0.6 ℃

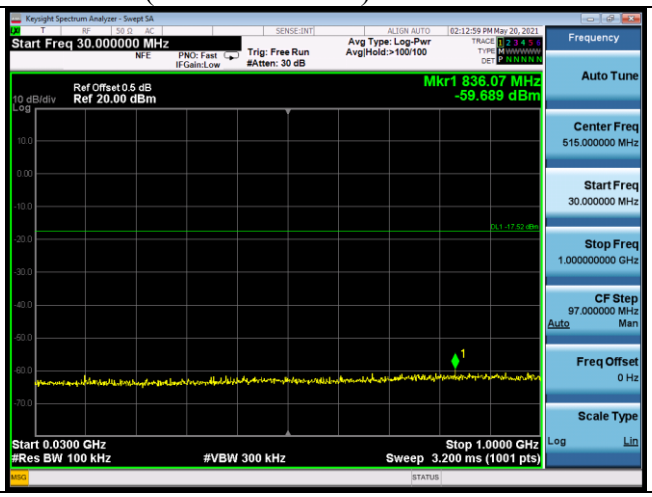
Hopping off	
GFSK	
2402MHz(30MHz – 1GHz)	2402MHz(10GHz – 26GHz)
	
2402MHz(1GHz – 10GHz)	2441(30MHz – 1GHz)
	
2402MHz(2.3GHz – 2.4GHz)	2441(1GHz – 10GHz)
	

2441(10GHz – 26GHz)	2480MHz(2.4GHz – 2.5GHz)
	
2480MHz(30MHz – 1GHz)	2480MHz(10GHz – 26GHz)
	
	8-DPSK
2480MHz(1GHz – 10GHz)	2402MHz(30MHz – 1GHz)
	

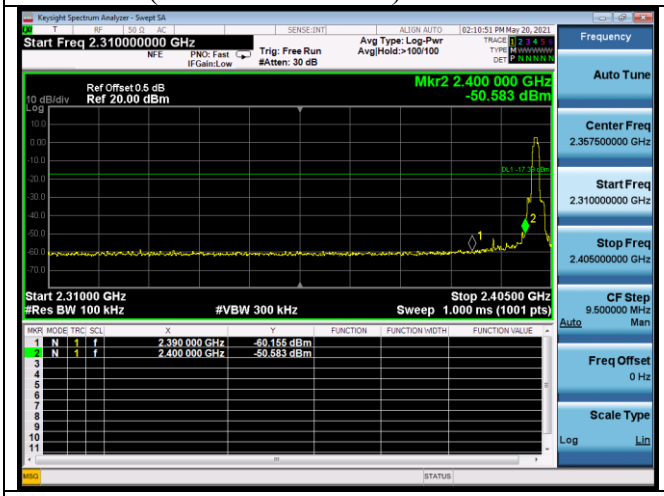
2402MHz(1GHz – 10GHz)



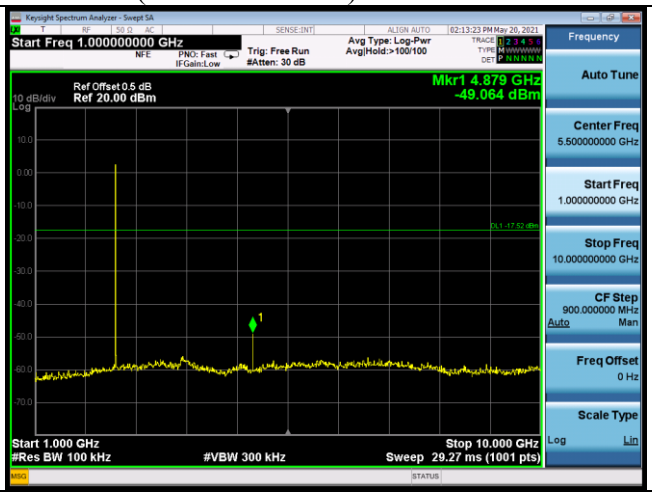
2441MHz (30MHz – 1GHz)



2402MHz(2.3GHz – 2.4GHz)



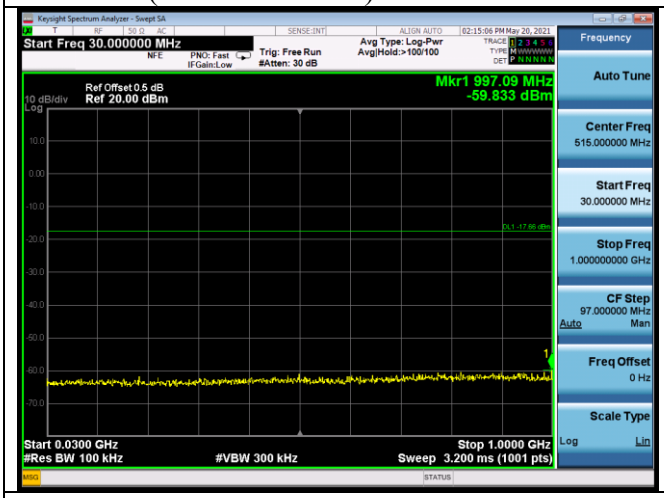
2441MHz(1GHz – 10GHz)



2402MHz(10GHz – 26GHz)

2441MHz(10GHz – 26GHz)

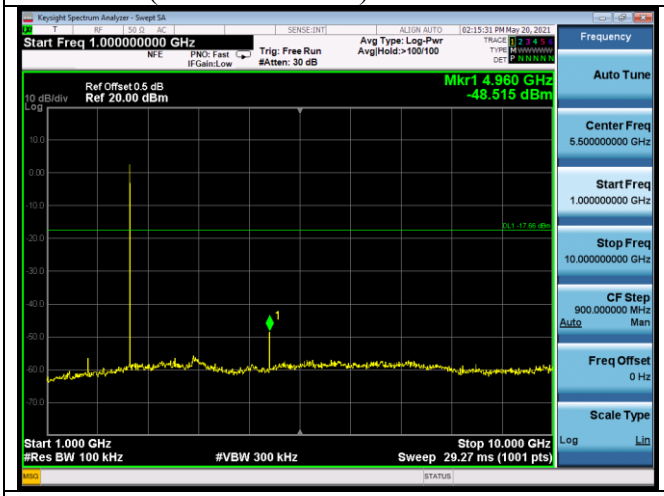
2480MHz(30MHz – 1GHz)



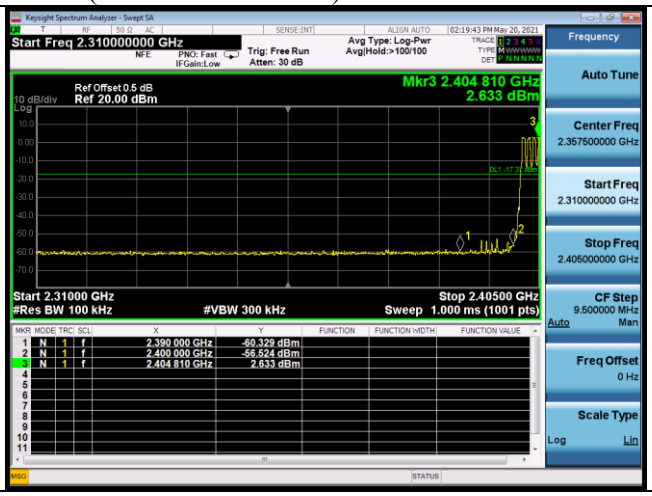
2480MHz(10GHz – 26GHz)

Hopping on

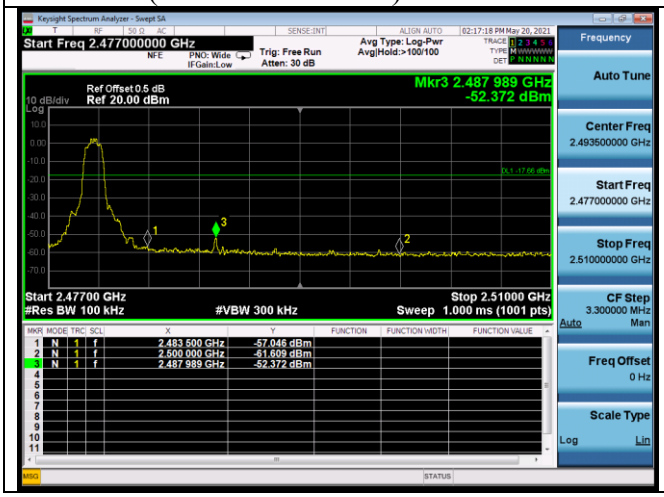
2480MHz(1GHz – 10GHz)



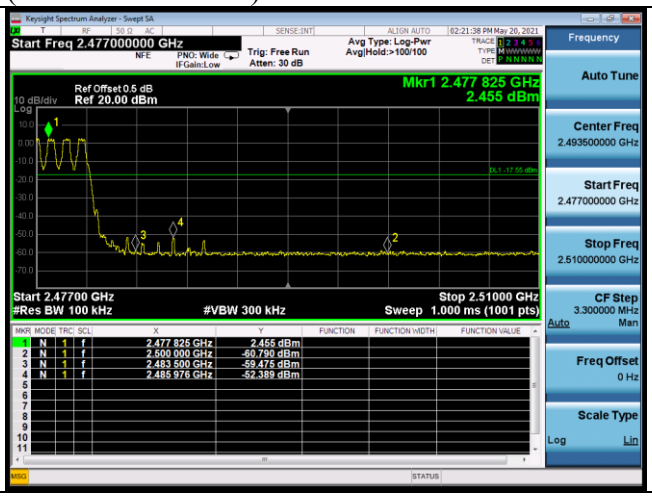
GFSK(2.3GHz – 2.4GHz)

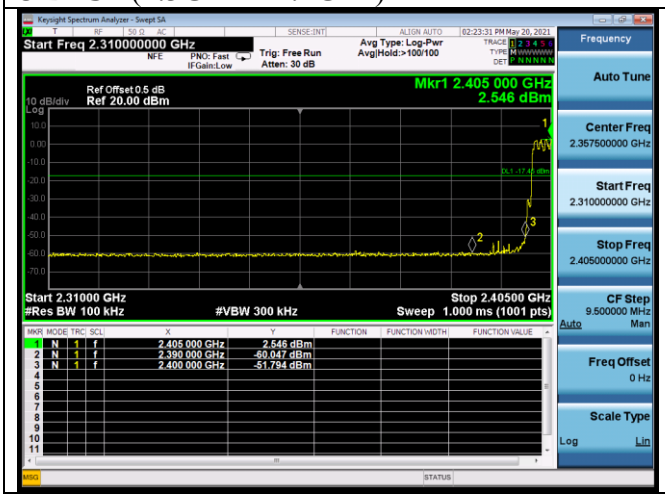
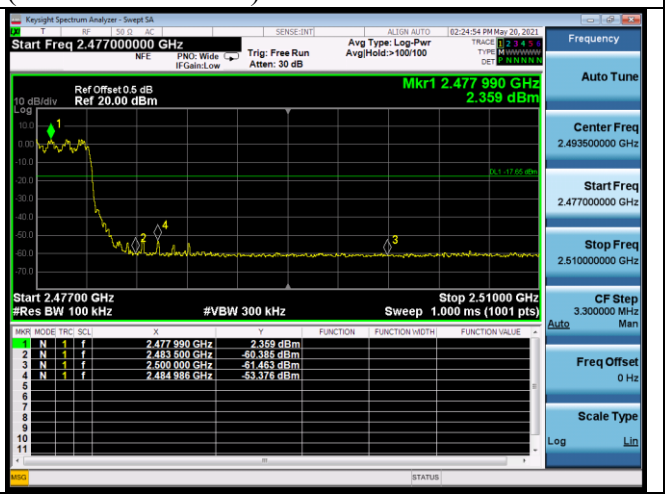


2480MHz(2.4GHz – 2.5GHz)



(2.4GHz – 2.5GHz)



8-DPSK(2.3GHz – 2.4GHz)	(2.4GHz – 2.5GHz)
	

6. 20 DB & 99% BANDWIDTH TEST

6.1. Test Equipment

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

6.2. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

6.3. Test Procedure

Use the test method descried in ANSI C63.10 clause 7.8.7:

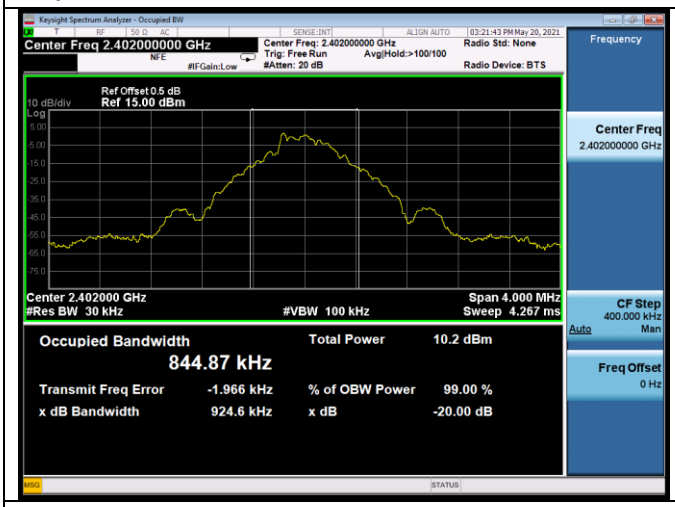
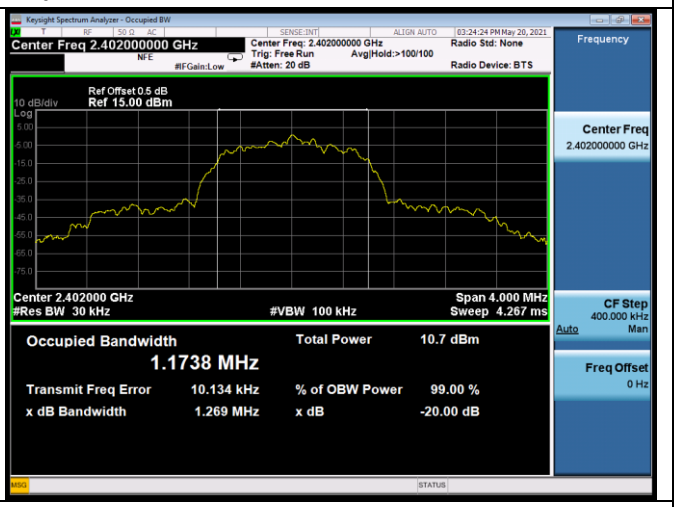
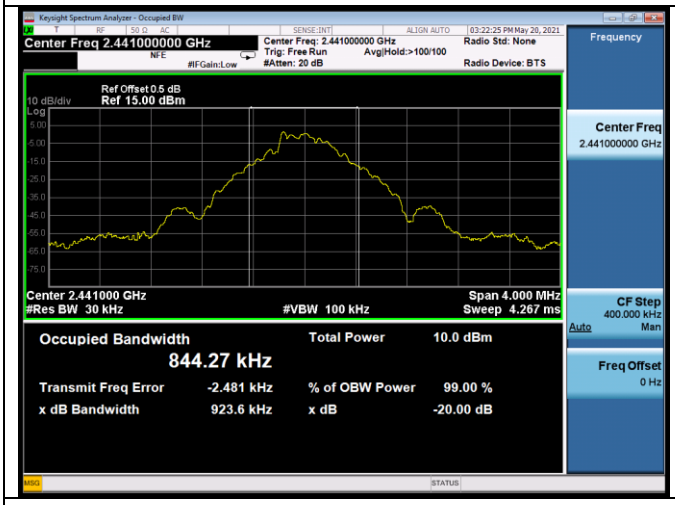
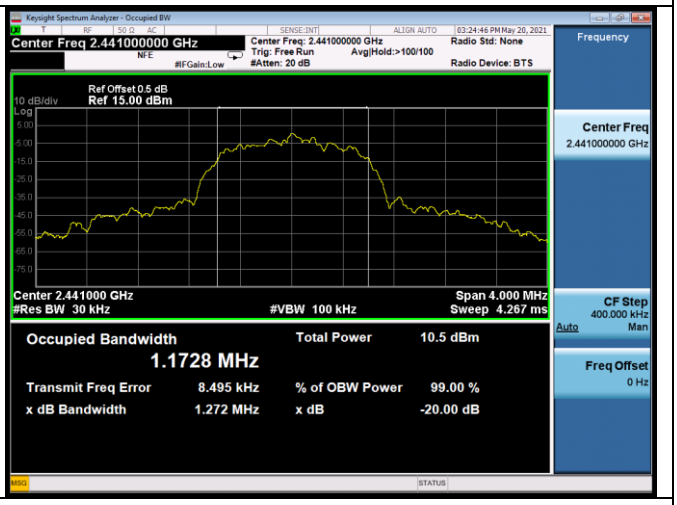
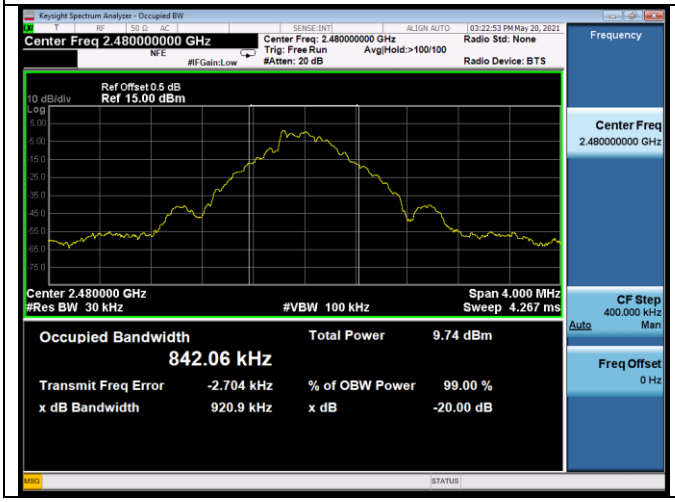
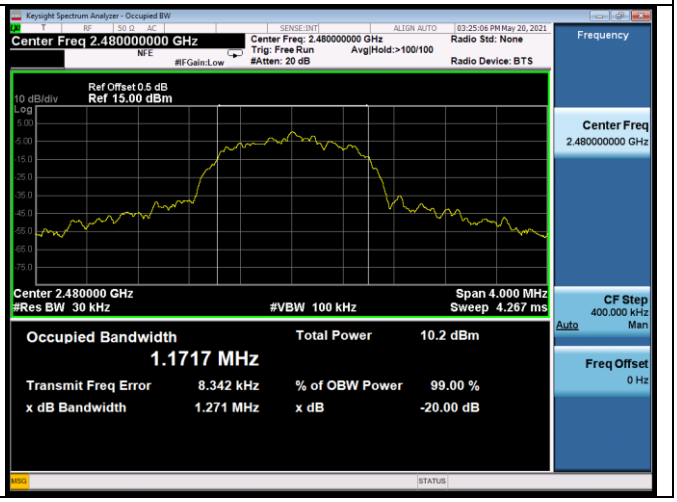
1. Connect the antenna port of the EUT to the spectrum analyzer.
2. Let the EUT transmit at Low/ Mid/ High channel with test software.
3. Setting of SA is following as: RBW: 30kHz / VBW: 100kHz
   Sweep Mode: Continuous sweep
   Detect mode: Positive peak
   Trace mode: Max hold.
4. Use the occupied bandwidth function of the SA measure the 20dB bandwidth directly.

6.4.Test Results

EUT: Wireless Neckband Speaker		
M/N: SRS-NB10		
Test date: 2021-05-20	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Thomax	Test site: RF site	Temperature:22.8±0.6 ℃

Test Mode	Frequency (MHz)	20dB bandwidth (kHz)	Limit (kHz)
GFSK	2402	924.6	N/A
	2441	923.6	N/A
	2480	920.9	N/A
8-DPSK	2402	1269	N/A
	2441	1272	N/A
	2480	1271	N/A
Conclusion：PASS			

Test Mode	Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
GFSK	2402	844.87	N/A
	2441	844.27	N/A
	2480	842.06	N/A
8-DPSK	2402	1173.8	N/A
	2441	1172.8	N/A
	2480	1171.7	N/A
Conclusion：PASS			

GFSK	8-DPSK
2402MHz	2402MHz
	
2441MHz	2441MHz
	
2480MHz	2480MHz
	

7. CARRIER FREQUENCY SEPARATION TEST

7.1. Test Equipment

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

7.2. Limit

Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

7.3. Test Procedure

Use the test method descried in ANSI C63.10 clause 7.8.2:

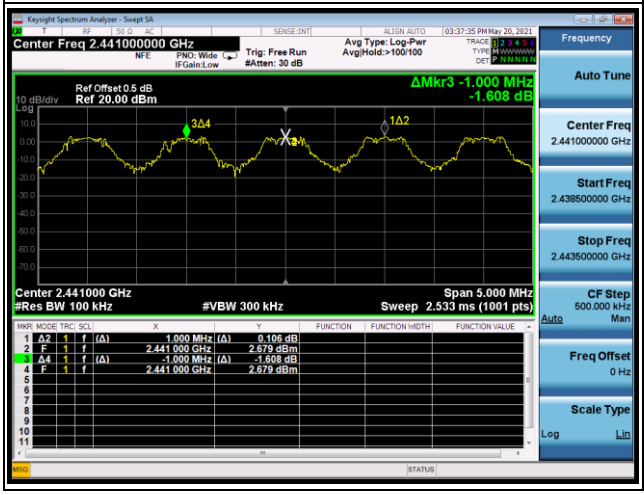
1. Connect the antenna port of the EUT to the Spectrum analyzer.
2. Let the EUT transmit at Low/ Mid/ High channel.
3. Setting of SA is following as: RBW: 100kHz / VBW: 300kHz.Span: 3MHz
4. Use the mark Delta function of the SA measure out the channel separation.

7.4. Test Results.

EUT: Wireless Neckband Speaker		
M/N: SRS-NB10		
Test date: 2021-05-20	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Thomax	Test site: RF site	Temperature:22.8±0.6 ℃

Test Mode	Channel separation	Limit(kHz)	Conclusion
GFSK	1.0MHz	616.4	PASS
8-DPSK	1.0MHz	848.0	PASS

GFSK



8-DPSK