

Test Report

FCC Part15 Subpart C

Product Name : Massage Chair

Model No. : RT6891

FCC ID : 2A2VFRT6891

Applicant : ARONT(H.K.)LIMITED

Address : ROOM 3602 LEVEL 36 TOWER 1 ENTERPRISE
SQUARE FIVE 38 WANG CHIU ROAD KOWLOON
BAYKL HONGKONG

Tested by : 
(Testing Engineer: Heaven Yang)

Reviewed by : 
(Technical Manager: Harry Zhao)

Approved by : 
(Technical Manager: Harry Zhao)

Performed Location : Suzhou EPIN Electrical Testing Technology Co., Ltd.
Building B, No.5 Minsheng Road, Suzhou Industrial Park,
Suzhou, China Tel: +86-512-67997780

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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1. General Information

1.1. EUT Description

Product Name	Massage Chair
Brand Name	
Model No.	RT6891
EUT Voltage	120V/60Hz
Frequency Range	2402 ~ 2480 MHz
Channel Number	40
Type of Modulation	V4.0: GFSK
Data Rate	V4.0: 1Mbps, GFSK
Antenna Type	PCB
Peak Antenna Gain	3.4dBi

1.2. Working Frequency of Each Channel:

Bluetooth Working Frequency of Each Channel: (For V4.0)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

1.3. Antenna information

Antenna Manufacturer						
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna Technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☐	Spatial Multiplexing		
			☐	CDD		
			☐	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
	☒	Internal	☐	PIFA		
			☒	PCB		
			☐	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
			☐	FPC		
			☐	Cross-polarize Antenna		
Antenna Gain	3.4dBi					

1.4. Mode of Operation by antenna

Test mode	ANT 1
Transmit-1Mbps(GFSK_BLE)	√

1.5. Power Setting

Test Software	EspRFTTestTool_v2.8	
Antenna technology	SISO	
Test Mode	Test Frequency	Ant 1 Power Setting
Transmit-1Mbps(GFSK_BLE)	2402	8
	2442	8
	2480	8

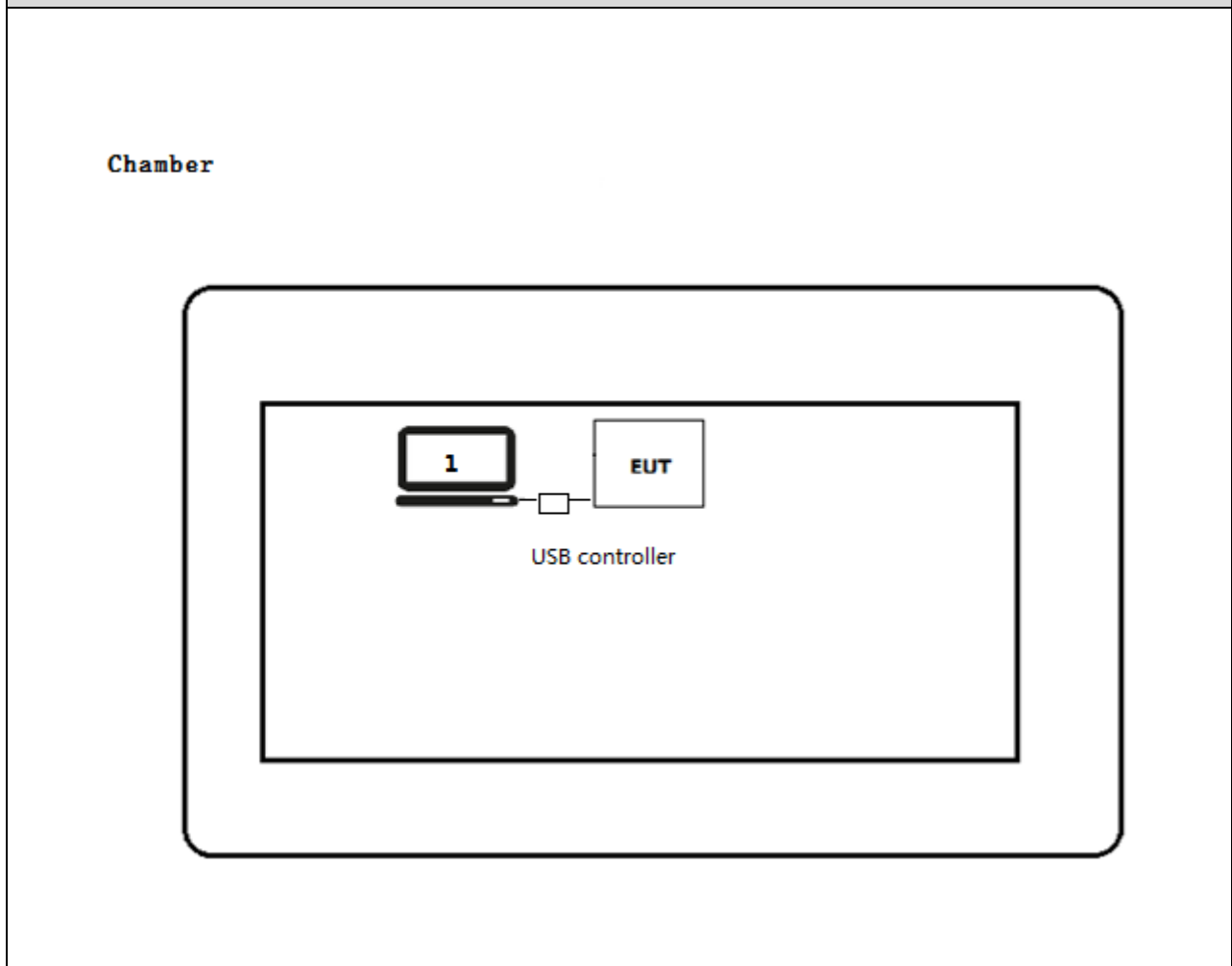
1.6. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Think Pad	20KN-A001CD	PF-17SAMW	Power by adapter
Power Adapter information: Model :ADLX65YDC3A Input: 100-240V~ 1.8A 50-60Hz Output: 20VDC 3.25A AC Cable: 1.1m unshielded and no ferrite core DC Cable 1.8m unshielded and no ferrite core					

1.7. Configuration of Tested System

Test setup Diagram- Radiated Emission



1.8. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	Run the software EspRFTestTool_v2.8 and set the test mode and channel, then press start to continue for transmitting testing.

1.9. Mode of Operation

See the all test mode shown in this test report and defined as:

Test Mode Listed		
Mode 1: Transmit-1Mbps(GFSK_BLE)		
According to the test items in part 2.1, the following channels may be selected to be the test channel:		
Lowest channel:	Channel 00	2402MHz
Middle channel:	Channel 20	2442MHz
Highest channel:	Channel 39	2480MHz

2. Technical Test

2.1. Summary of Test Result

For FCC rule

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C Section 15.207	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C Section 15.209	FCC 15.209	PASS
Fundamental emission output power	FCC CFR Title 47 Part 15 Subpart C Section 15.247(b)(3)	$\leq 30\text{dBm}$	PASS
6dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C Section 15.247(a)(2)	$\geq 500\text{kHz}$	PASS
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C Section 15.247(e)	$\leq 8\text{dBm}/3\text{kHz}$	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C Section 15.247(d)	$\geq 20\text{dBc}$	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C 15.247(d)	FCC 15.209	PASS
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C Section 15.203	FCC 15.203	PASS

2.2. Test Lab Description

The test is performed in the location of:

Suzhou EPIN Electrical Testing Technology Co., Ltd.

Building B, No.5 Minsheng Road, Suzhou Industrial Park, Suzhou, China

Tel: +86-512-67997780

The test facility is recognized, certified, or accredited by the following organizations:

FCC – Designation Number: CN1285

ISED– Recognition Number: CN0106

2.3. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	25
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

2.4. Measurement Uncertainty

Test Items	Uncertainty
AC Power Line Conducted Emission	The maximum measurement uncertainty is evaluated as: Mains: 9kHz~150kHz: 1.70dB 150kHz~30MHz: 2.50dB
Radiated Emission	Horizontal: 30MHz~300MHz: 3.38 dB 300MHz~1GHz: 3.17 dB 1GHz~18GHz: 4.27 dB 18~40GHz: 4.34 dB Vertical: 30MHz~300MHz: 3.93 dB 300MHz~1GHz: 3.19 dB 1GHz~18GHz: 4.84 dB 18~40GHz: 4.90 dB
RF Antenna Port Conducted Emission	± 1.27dB
Radiated Emission Band Edge	± 4.84dB
Occupied Bandwidth	± 1kHz
Power Spectral Density	± 1.27dB

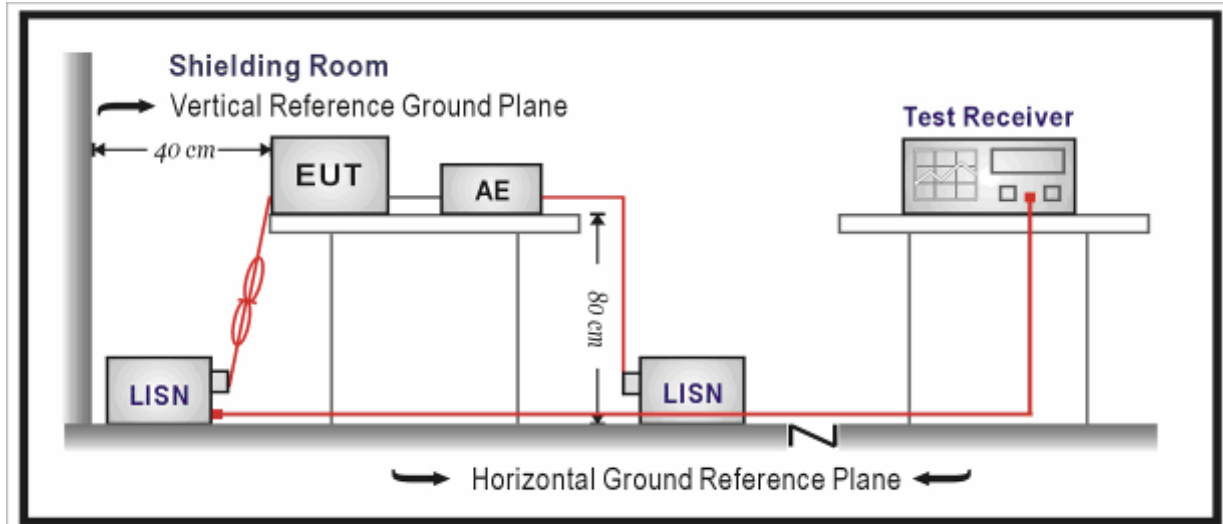
2.5. Test Equipment

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
USB Wideband power sensor	Keysight	U2021XA	MY54320002	2022.05.05
USB Wideband power sensor	Keysight	U2021XA	MY55060009	2022.05.05
USB Wideband power sensor	Keysight	U2021XA	MY55240005	2022.05.05
USB Wideband power sensor	Keysight	U2021XA	MY55060008	2022.05.05
USB Modular Simultaneous Sampling Multifunction DAQ Devices	Agilent	U2531A	TW59323513	N/A
MXA Signal Analyzer	Agilent	N9020A	MY51110329	2021.09.22
Radio frequency control box	MW	MW100-RFCB	N/A	N/A
Power detection box	MW	MW100-PSB	N/A	N/A
Horn Antenna	ZKY	LOG 70180	YP-LBTX-001	2022.05.22
Horn Antenna	Schwarzbeck	BBHA9120D	01938	2021.09.22
Pre Amplifier	SKET	LNPA_0118G-45	SK2018063001	2022.02.21
Broadband Amplifier	Schwarzbeck	BBV 9721	79	2021.10.10
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	01029	2021.10.10
RF Cable	SHX-SH	PT40-KMKM-2M	N/A	2021.09.18
RF Cable	SHX-SH	PT40-KMKM-8M	N/A	2021.09.18
RF Cable	SHX-SH	PT40-KMKM-1M	N/A	2021.09.18
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.				

3. AC Power Line Conducted Emission

3.1. Test Setup

AC Power Line Conducted Emission test setup



3.2. Limit

Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dBμV)	Average(dBμV)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

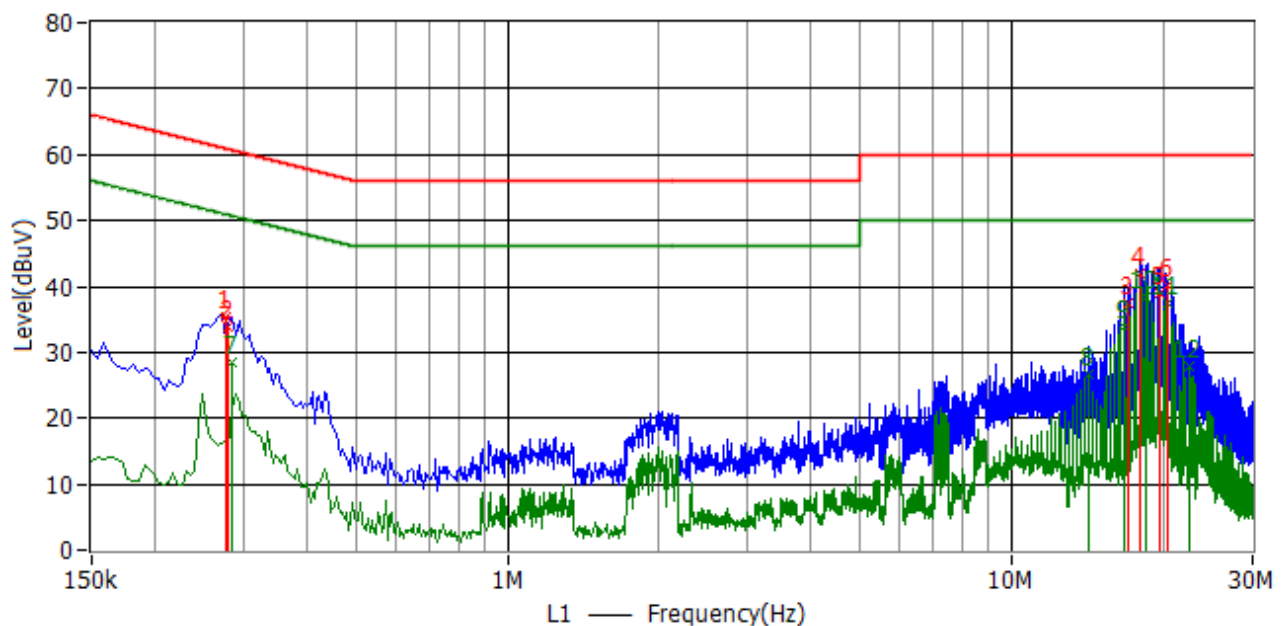
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.3. Test Procedure

Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
☒	ANSI C63.4-2014	7	AC power-line conducted emission measurements

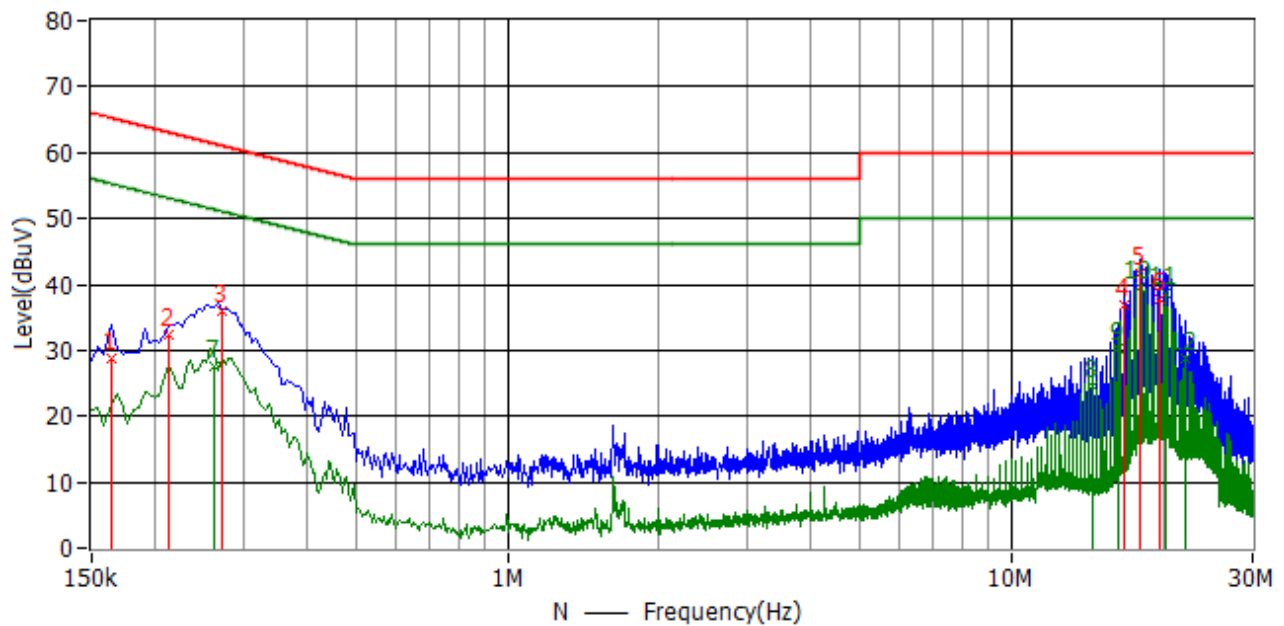
3.4. Test Result

Test Site	Shielding Room	Date of Test	2021.08.19
EUT	Massage Chair	Test Voltage	120V/60Hz
Temperature	25°C	Humidity	50%RH
Barometric Pressure	101.3kPa	Test Engineer	Heaven
Test Mode	Mode 1: Transmit-1Mbps(GFSK_BLE)		
Note	Mains terminal disturbance voltage (Test line L)		



No.	Frequency	Limit dBuV	Level dBuV	Margin dB	Factor dB	Detector	Phase
1	276.000 kHz	60.9	35.4	-25.5	9.5	QP	L1
2	280.500 kHz	60.8	33.9	-26.9	9.5	QP	L1
3	16.939 MHz	60.0	37.6	-22.4	9.8	QP	L1
4	17.939 MHz	60.0	41.9	-18.1	9.8	QP	L1
5	19.680 MHz	60.0	39.0	-21.0	9.9	QP	L1
6	20.436 MHz	60.0	40.2	-19.8	9.9	QP	L1
7	285.000 kHz	50.7	28.5	-22.1	9.5	CAV	L1
8	14.204 MHz	50.0	26.6	-23.4	9.7	CAV	L1
9	16.692 MHz	50.0	33.8	-16.2	9.8	CAV	L1
10	18.442 MHz	50.0	38.3	-11.7	9.8	CAV	L1
11	20.431 MHz	50.0	37.5	-12.5	9.9	CAV	L1
12	22.425 MHz	50.0	28.0	-22.0	9.9	CAV	L1

Test Site	Shielding Room	Date of Test	2021.08.19
EUT	Massage Chair	Test Voltage	120V/60Hz
Temperature	25°C	Humidity	50%RH
Barometric Pressure	101.3kPa	Test Engineer	Heaven
Test Mode	Mode 1: Transmit-1Mbps(GFSK_BLE)		
Note	Mains terminal disturbance voltage (Test line N)		

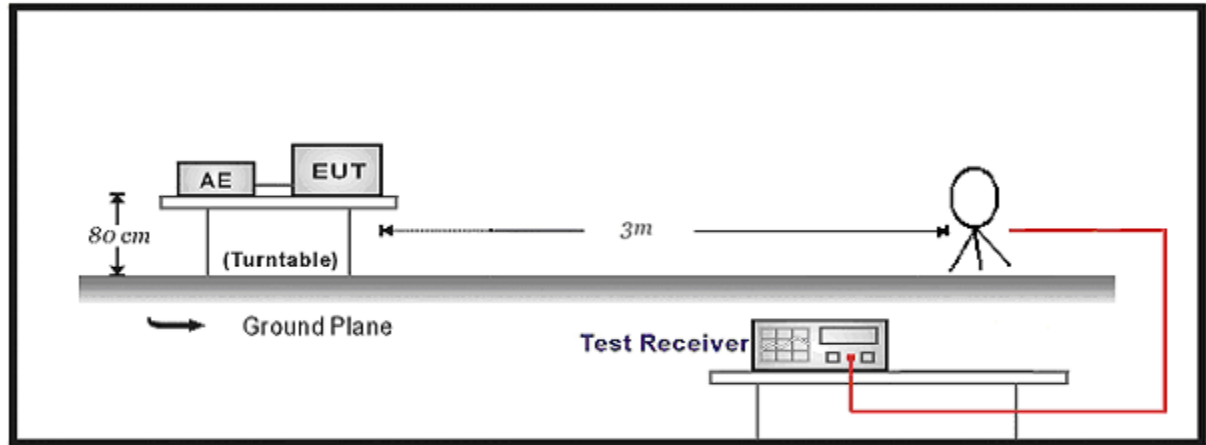


No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Factor dB	Detector	Phase
1	163.500 kHz	65.3	28.8	-36.5	9.5	QP	N
2	213.000 kHz	63.1	32.5	-30.6	9.5	QP	N
3	271.500 kHz	61.1	36.1	-25.0	9.4	QP	N
4	16.687 MHz	60.0	36.9	-23.1	9.8	QP	N
5	17.934 MHz	60.0	41.5	-18.5	9.8	QP	N
6	19.680 MHz	60.0	37.9	-22.1	9.9	QP	N
7	262.500 kHz	51.4	27.5	-23.8	9.4	CAV	N
8	14.447 MHz	50.0	24.7	-25.3	9.7	CAV	N
9	16.192 MHz	50.0	30.3	-19.7	9.8	CAV	N
10	17.934 MHz	50.0	39.6	-10.4	9.8	CAV	N
11	20.171 MHz	50.0	38.8	-11.2	9.9	CAV	N
12	22.164 MHz	50.0	28.7	-21.3	9.8	CAV	N

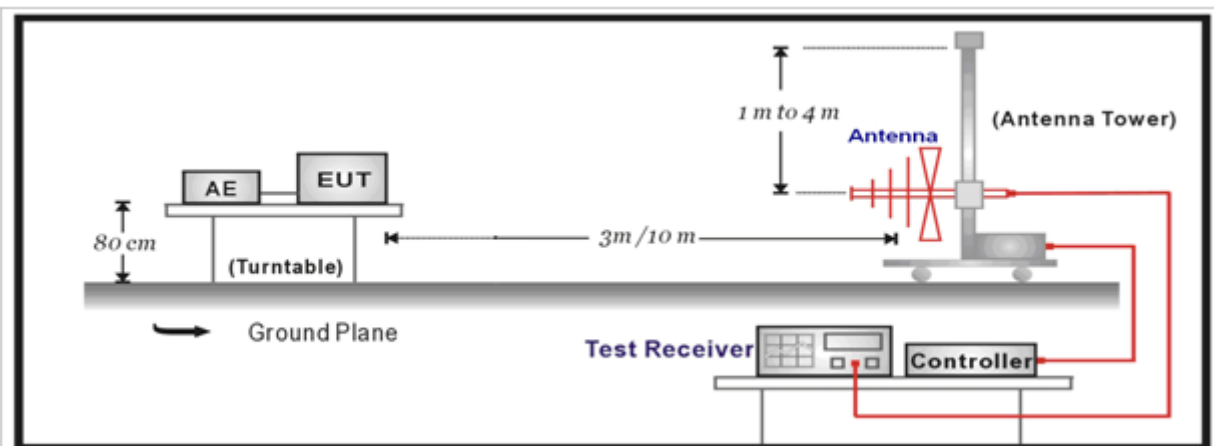
4. Emissions in restricted frequency bands

4.1. Test Setup

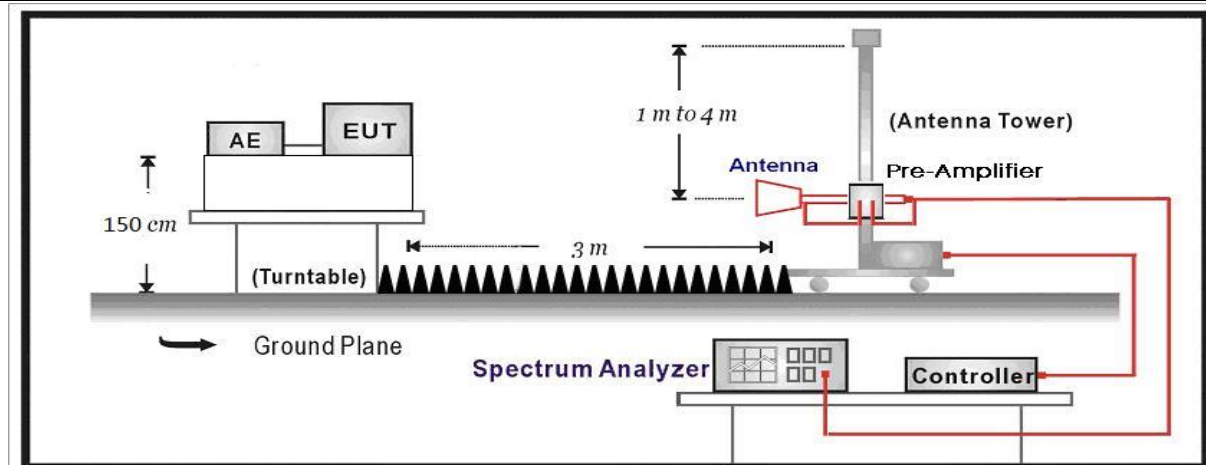
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.2. Limit

For FCC

Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
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
8.81425 – 8.81475	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	
13.36 – 13.41			

For IC:
Restricted Bands of operation

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090-0.110	13.36-13.41	1645.5-1646.5	9.0-9.2
2.1735-2.1905	16.42-16.423	1660-1710	9.3-9.5
3.020-3.026	16.69475-16.69525	1718.8-1722.2	10.6-12.7
4.125-4.128	16.80425-16.80475	2200-2300	13.25-13.4
4.17725-4.17775	25.5-25.67	2310-2390	14.47-14.5
4.20725-4.20775	37.5-38.25	2655-2900	15.35-16.2
5.677-5.683	73-74.6	3260-3267	17.7-21.4
6.215-6.218	74.8-75.2	3332-3339	22.01-23.12
6.26775-6.26825	108-138	3345.8-3358	23.6-24.0
6.31175-6.31225	156.52475-156.52525	3500-4400	31.2-31.8
8.291-8.294	156.7-156.9	4500-5150	36.43-36.5
8.362-8.366	240-285	5350-5460	Above 38.6
8.37625-8.38675	322-335.4	7250-7750	
8.41425-8.41475	399.9-410	8025-8500	
12.29-12.293	608-614		
12.51975-12.52025	960-1427		
12.57675-12.57725	1435-1626.5		

Restricted Band Emissions Limit			
Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

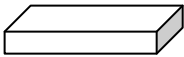
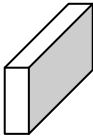
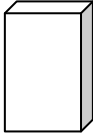
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.3. Test Procedure

Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☐	ANSI C63.10	11.11.2	Reference level measurement
	☐	ANSI C63.10	11.11.3	Emission level measurement
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		ANSI C63.10	11.12.2.4	Peak power measurement procedure
		ANSI C63.10	11.12.2.5	Average power measurement procedures
	☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

4.4. EUT test Axis definition

Item	Emissions in restricted frequency bands			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☒	Worst Axis ☐	Worst Axis ☐
	☐	Conducted		
	☐	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

4.5. Test Result

Test Site	3m Semi -Anechoic Chamber	Date of Test	2021.08.11
EUT	Massage Chair	Test Voltage	120V/60Hz
Temperature	25°C	Humidity	50%RH
Barometric Pressure	101.3kPa	Test Engineer	Heaven
Test Mode	Mode 1: Transmit-1Mbps(GFSK_BLE)		

CH	Antenna	Frequency (MHz)	Reading Level (dBμV/m)	Factor (dB)	Measured Level (dBμV/m)	Limit (dBμV/m)	Delta (dB)	Detector
0	H	4804	43.5	-1.6	41.9	54.0(Note1)	-12.1	PK
	H	7212	38.5	4.1	42.6	54.0(Note1)	-11.4	PK
	V	4804	43.8	-1.6	42.2	54.0(Note1)	-11.8	PK
	V	7212	38.1	4.1	42.2	54.0(Note1)	-11.8	PK
20	H	4884	44.2	-1.7	42.5	54.0(Note1)	-11.5	PK
	H	7326	38.1	4.2	42.3	54.0(Note1)	-11.7	PK
	V	4884	44.1	-1.7	42.4	54.0(Note1)	-11.6	PK
	V	7326	37.8	4.2	42.0	54.0(Note1)	-12.0	PK
39	H	4960	43.2	-1.2	42.0	54.0(Note1)	-12.0	PK
	H	9920	39.0	6.2	45.2	54.0(Note1)	-8.8	PK
	V	4960	44.1	-1.2	42.9	54.0(Note1)	-11.1	PK
	V	9920	38.7	6.2	44.9	54.0(Note1)	-9.1	PK

Note 1: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

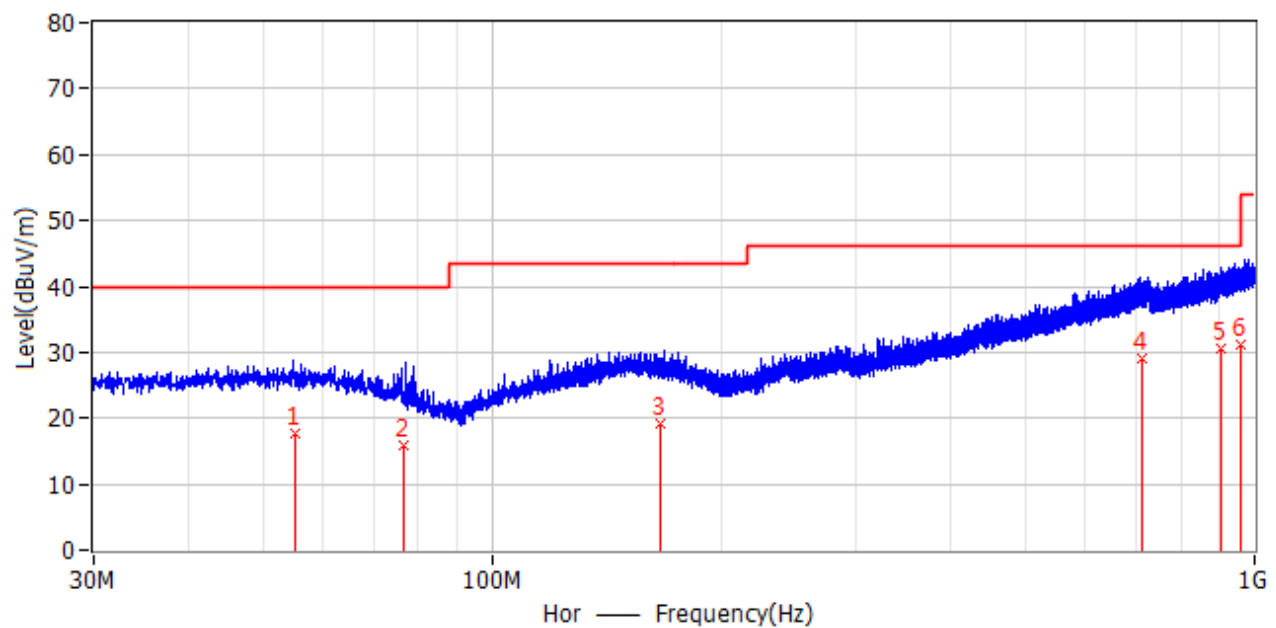
Note 2: Measured Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss – Pre-amplifier gain

Note 3: The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report

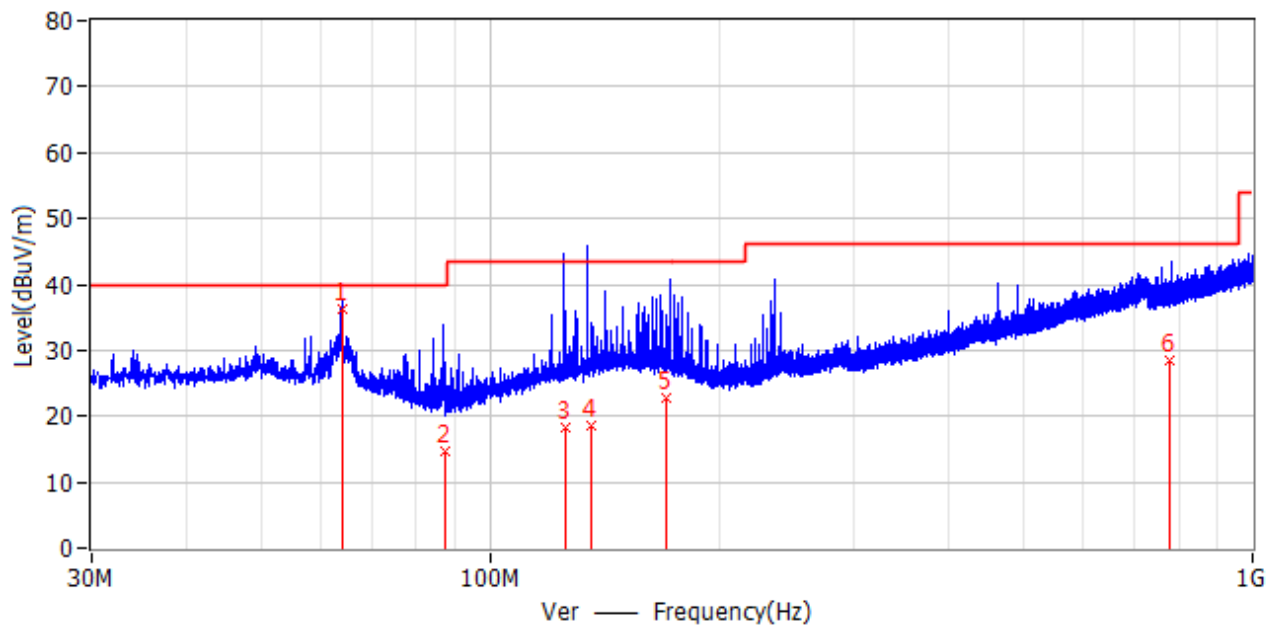
The worst case of Radiated Emission below 1GHz:

Test Site	3m Semi -Anechoic Chamber	Date of Test	2021.08.09
EUT	Massage Chair	Test Voltage	120V/60Hz
Temperature	25°C	Humidity	50%RH
Barometric Pressure	101.3kPa	Test Engineer	Heaven
Test Mode	Mode 1: Transmit-1Mbps(GFSK_BLE)		
Polarity	Horizontal polarization		



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Factor dB/m	Detector	Polar	Height cm	Angle deg
1	54.961 MHz	40.0	17.8	-22.2	20.0	QP	Hor	100.0	20.0
2	76.401 MHz	40.0	15.9	-24.1	16.5	QP	Hor	100.0	359.0
3	166.318 MHz	43.5	19.1	-24.4	20.0	QP	Hor	100.0	315.0
4	712.565 MHz	46.0	29.1	-16.9	29.9	QP	Hor	100.0	143.0
5	905.755 MHz	46.0	30.5	-15.5	32.7	QP	Hor	100.0	175.0
6	959.803 MHz	46.0	31.3	-14.7	33.2	QP	Hor	100.0	222.0

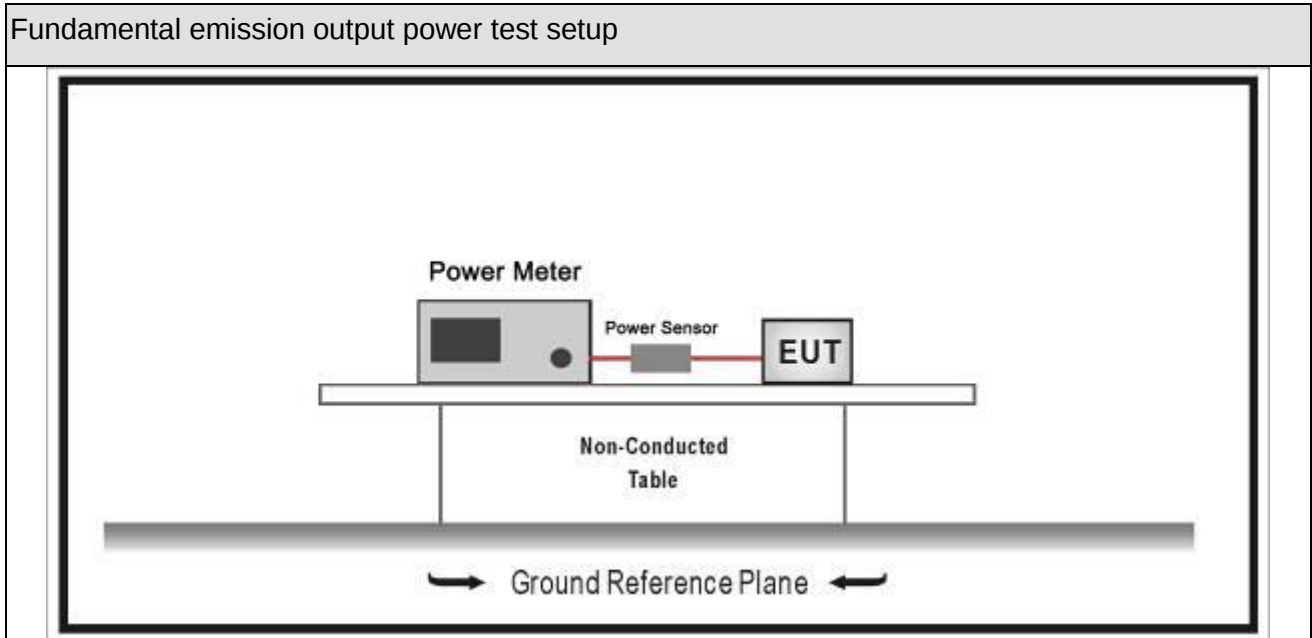
Test Site	3m Semi -Anechoic Chamber	Date of Test	2021.08.09
EUT	Massage Chair	Test Voltage	120V/60Hz
Temperature	25°C	Humidity	50%RH
Barometric Pressure	101.3kPa	Test Engineer	Heaven
Test Mode	Mode 1: Transmit-1Mbps(GFSK_BLE)		
Polarity	Vertical polarization		



No.	Frequency	Limit dB μ V/m	Level dB μ V/m	Delta dB	Factor dB/m	Detector	Polar	Height cm	Angle deg
1	63.846 MHz	40.0	36.4	-3.6	19.1	QP	Ver	100.0	108.0
2	87.360 MHz	40.0	14.7	-25.3	14.3	QP	Ver	100.0	332.0
3	125.672 MHz	43.5	18.3	-25.2	18.5	QP	Ver	100.0	0.0
4	135.541 MHz	43.5	18.6	-24.9	19.5	QP	Ver	100.0	0.0
5	170.528 MHz	43.5	22.8	-20.7	19.7	QP	Ver	100.0	249.0
6	776.312 MHz	46.0	28.4	-17.6	31.2	QP	Ver	100.0	195.0

5. Fundamental emission output power

5.1. Test Setup



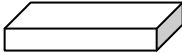
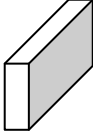
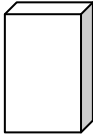
5.2. Limit

Fundamental emission output power Limit			
☒	$G_{TX} < 6\text{dBi}$		$P_{out} \leq 30\text{dBm}$
☐	$G_{TX} > 6\text{dBi}$		
	☐	Non-Fix point-point	$P_{out} \leq 30 - (G_{TX} - 6)$
	☐	Fix point-point	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
	☐	Point-to-multipoint	$P_{out} \leq 30 - (G_{TX} - 6)$
	☐	Overlap Beams	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
	☐	Aggregate power transmitted simultaneously on all beams	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
	☐	single directional beam	$P_{out} \leq 30 - [(G_{TX} - 6)]/3 + 8\text{dB}$
Note 1 : G_{TX} directional gain of transmitting antennas.			
Note 2 : P_{out} is maximum peak conducted output power .			

5.3. Test Procedure

Fundamental emission output power Test Method						
	References Rule			Chapter	Description	
☒	ANSI C63.10			11.9	Fundamental emission output power	
	☐	ANSI C63.10		11.9.1	Maximum peak conducted output power	
		☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth	
		☐	ANSI C63.10	11.9.1.2	Integrated band power method	
		☐	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method	
	☒	ANSI C63.10		11.9.2	Maximum conducted (average) output power	
		☒	ANSI C63.10		11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle ≥ 98%)
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle ≥ 98%)
			☒	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle ≤ 98%)
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle ≤ 98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☐	ANSI C63.10		11.9.2.3	Measurement using a power meter (PM)
			☐	ANSI C63.10	11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G

5.4. EUT test definition

Item	Fundamental emission output power			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

5.5. Test Result

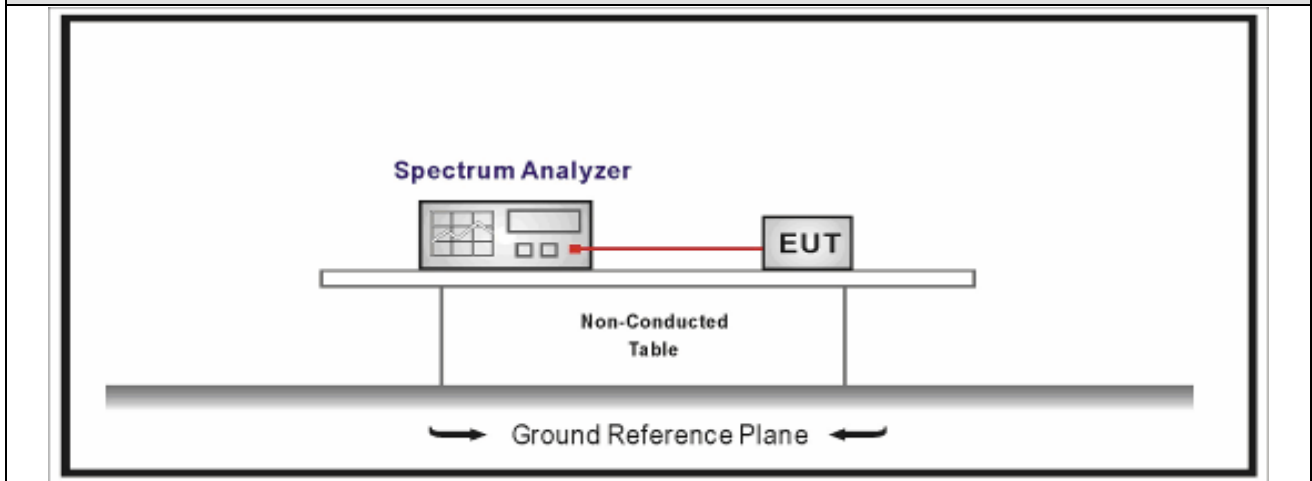
Product Name	:	Massage Chair	Power	:	120V/60Hz
Test Mode	:	Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	:	Test Room#1
Test Date	:	2021.08.09	Test Engineer	:	Heaven

Mode	Channel	Test Frequency (MHz)	Measurement Power Output (dBm)	Limit (dBm)	Result
Transmit-1Mbps(GFSK_BLE)	00	2402	6.499	30	Pass
	20	2442	7.334	30	Pass
	39	2480	6.306	30	Pass

6. Occupied Bandwidth

6.1. Test Setup

Occupied Bandwidth test setup:



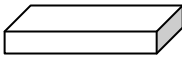
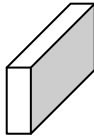
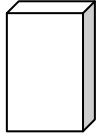
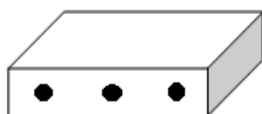
6.2. Limit

Occupied Bandwidth
Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

6.3. Test Procedure

Test Method				
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

6.4. EUT test definition

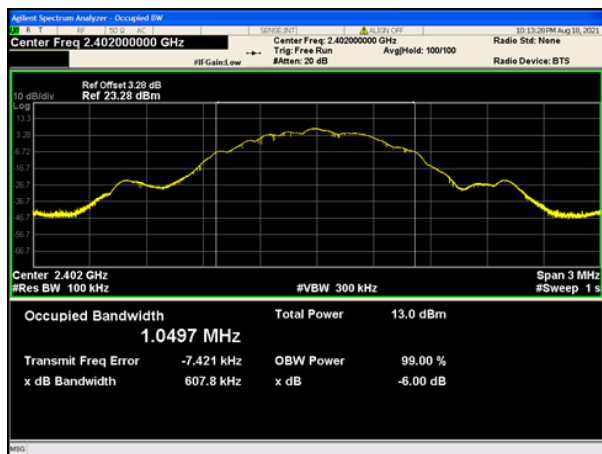
Item	Occupied Bandwidth			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

6.5. Test Result

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Test Room#1
Test Date	: 2021.08.09	Test Engineer	: Heaven

Mode	CH.	Test Frequency (MHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
Transmit -1Mbps(GFSK_BLE)	00	2402	607.8	>500	Pass
	20	2442	543.7	>500	Pass
	39	2480	561.0	>500	Pass

BLE 2402MHz



BLE 2442MHz

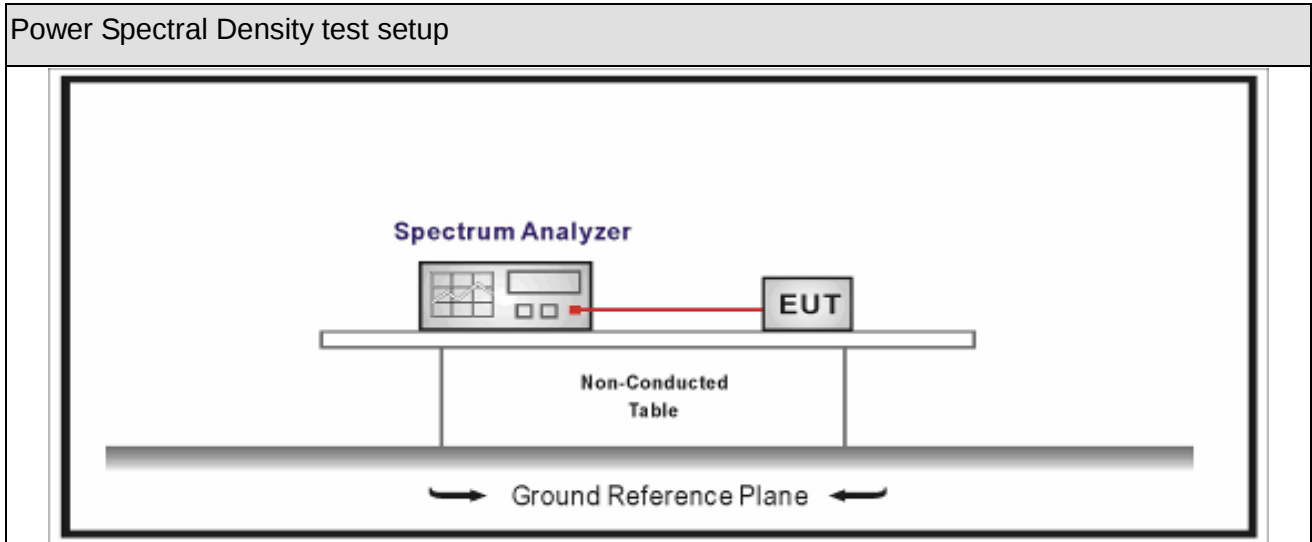


BLE 2480MHz



7. Power Spectral Density

7.1. Test Setup



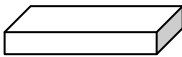
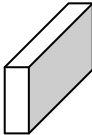
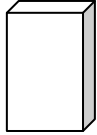
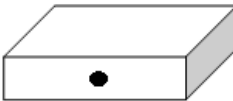
7.2. Limit

Power Spectral Density Limit
Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

7.3. Test Procedure

Power Spectral Density Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☐	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPS-1(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPS-1A(Duty cycle $\geq 98\%$)
	☒	ANSI C63.10	11.10.5	Method AVGPS-2(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.6	Method AVGPS-2A(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.7	Method AVGPS-3
	☐	ANSI C63.10	11.10.8	Method AVGPS-3A

7.4. EUT test definition

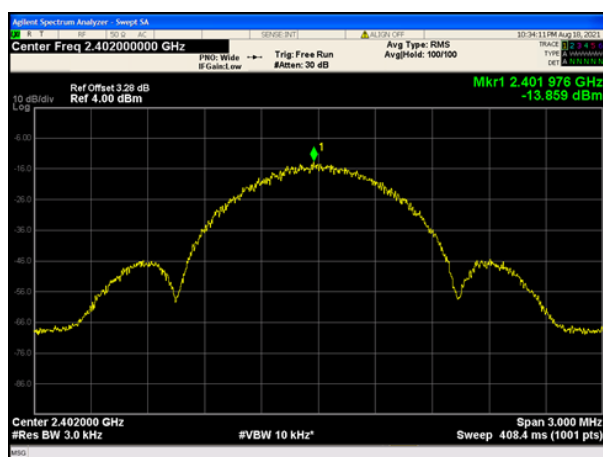
Item	Power Spectral Density Test Method			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

7.5. Test Result

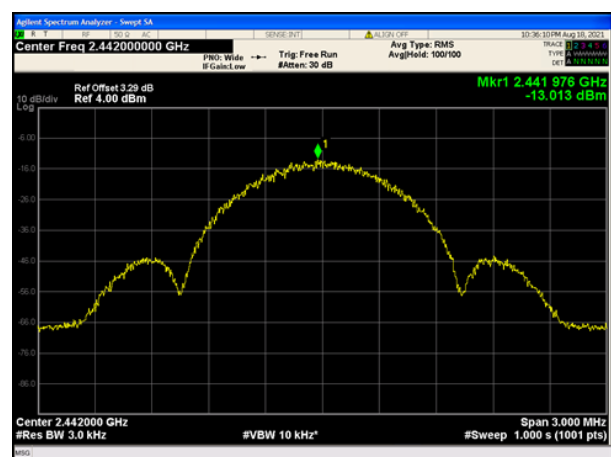
Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Test Room #1
Test Date	: 2021.08.09	Test Engineer	: Heaven

Mode	Channel	Test Frequency (MHz)	Measured PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Transmit -1Mbps(GFSK_BLE)	00	2402	-13.859	8	Pass
	20	2442	-13.013	8	Pass
	39	2480	-14.163	8	Pass

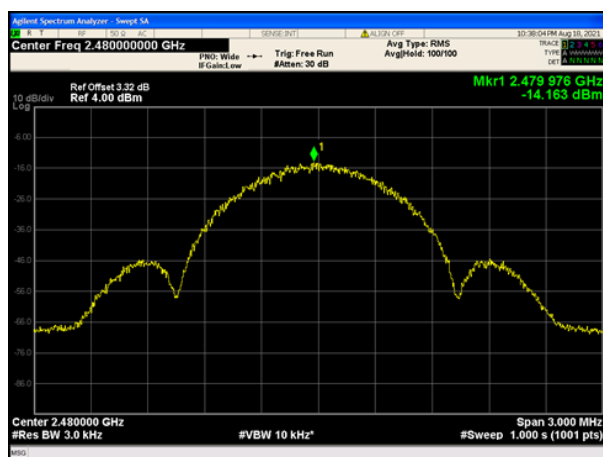
BLE 2402MHz



BLE 2442MHz



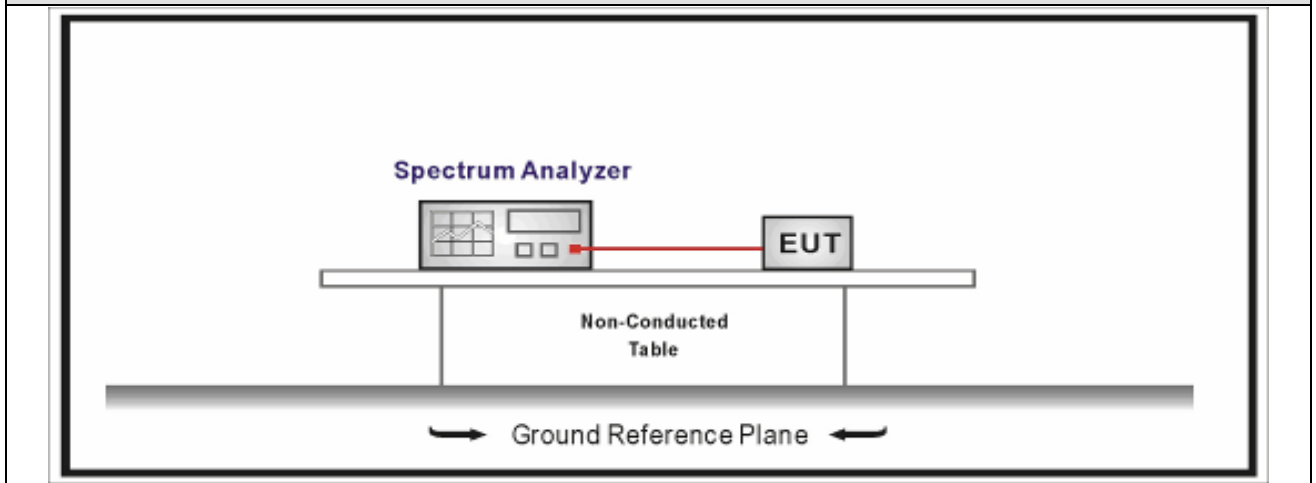
BLE 2480MHz



8. Emissions in non-restricted frequency bands

8.1. Test Setup

Emissions in non-restricted frequency bands test setup:



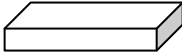
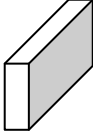
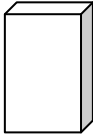
8.2. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc). Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).	

8.3. Test Procedure

Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10	11.11.2	Reference level measurement
	☒	ANSI C63.10	11.11.3	Emission level measurement
☐	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☐	ANSI C63.10	11.12.1	Radiated emission measurements
	☐	ANSI C63.10	11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☐	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☒	ANSI C63.10	11.12.2	Antenna-port conducted measurements
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10	Average power measurement procedures
	☐	☐	ANSI C63.10	11.12.2.5.1 Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2 Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☐	ANSI C63.10	11.12.2.5.3 Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

8.4. EUT test Axis definition

Item	Emissions in non-restricted frequency bands			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☒	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

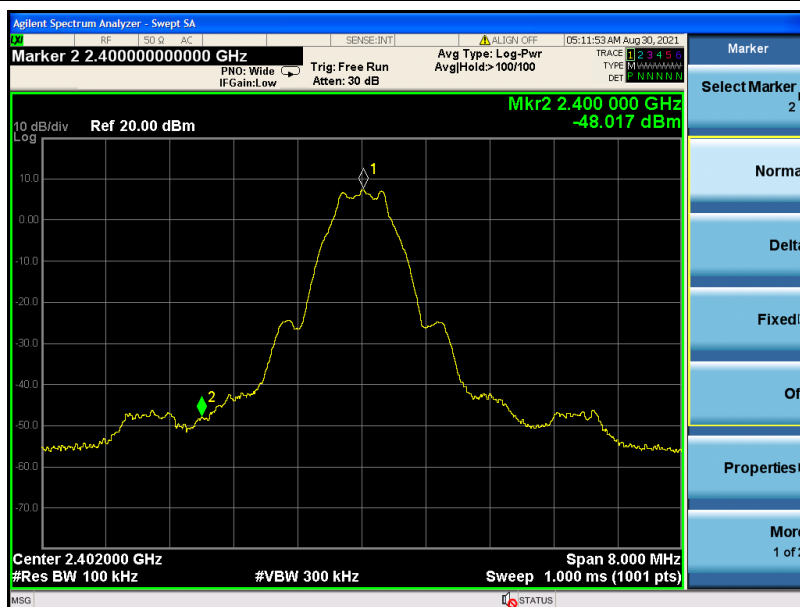
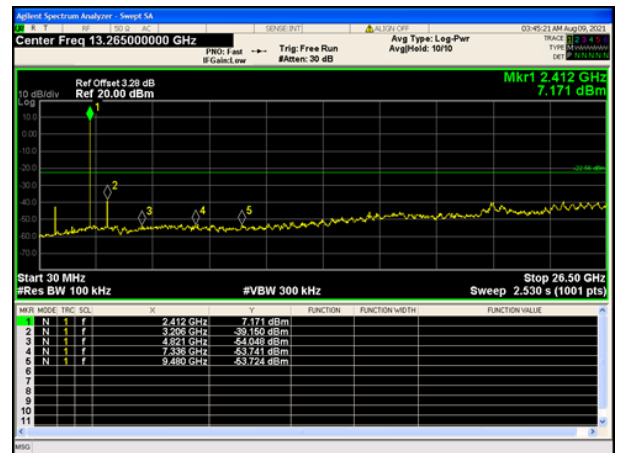
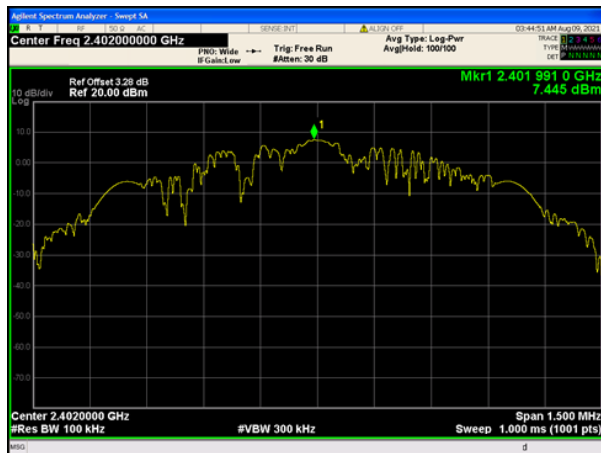
8.5. Test Result

Product Name	:	Massage Chair	Power	:	120V/60Hz
Test Mode	:	Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	:	Test Room#1
Test Date	:	2021.08.09 & 2021.08.30	Test Engineer	:	Heaven

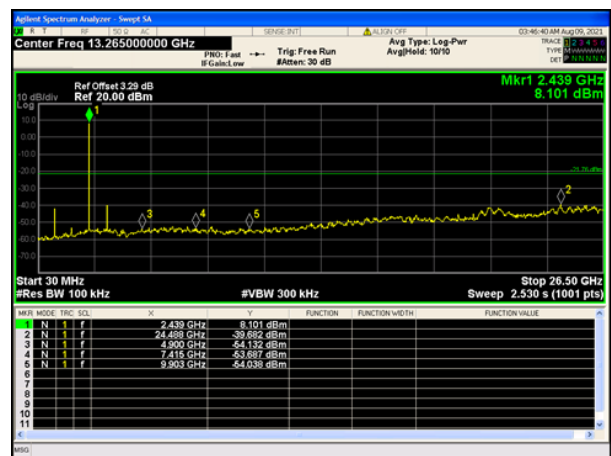
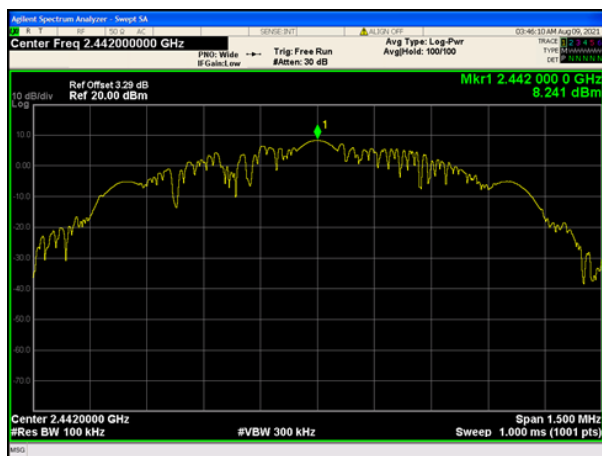
Mode	Channel	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
Transmit -1Mbps(GFSK_BLE)	00	2402	-46.59	-30	Pass
	20	2442	-47.92	-30	Pass
	39	2480	-46.69	-30	Pass

Note: For channel 00, the frequency point 2400MHz level is $-48.017 - 7.445 = -55.462\text{dBc} < -30\text{dBc}$, pass.

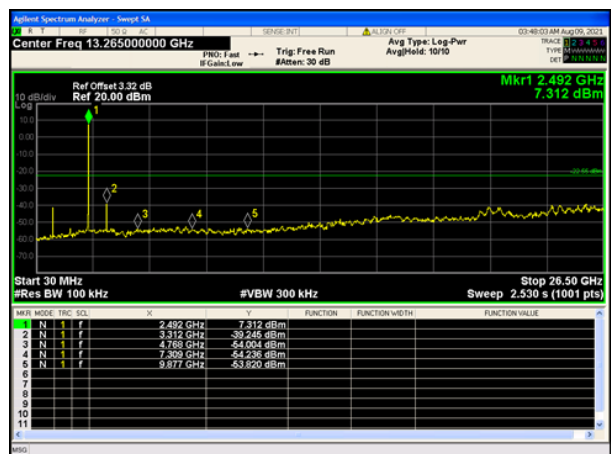
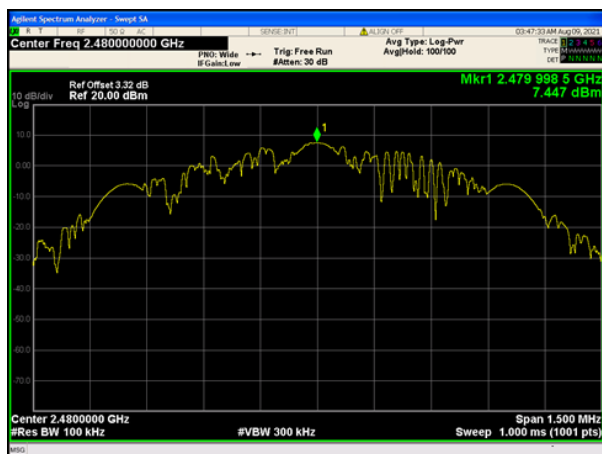
BLE 2402MHz



BLE 2442MHz

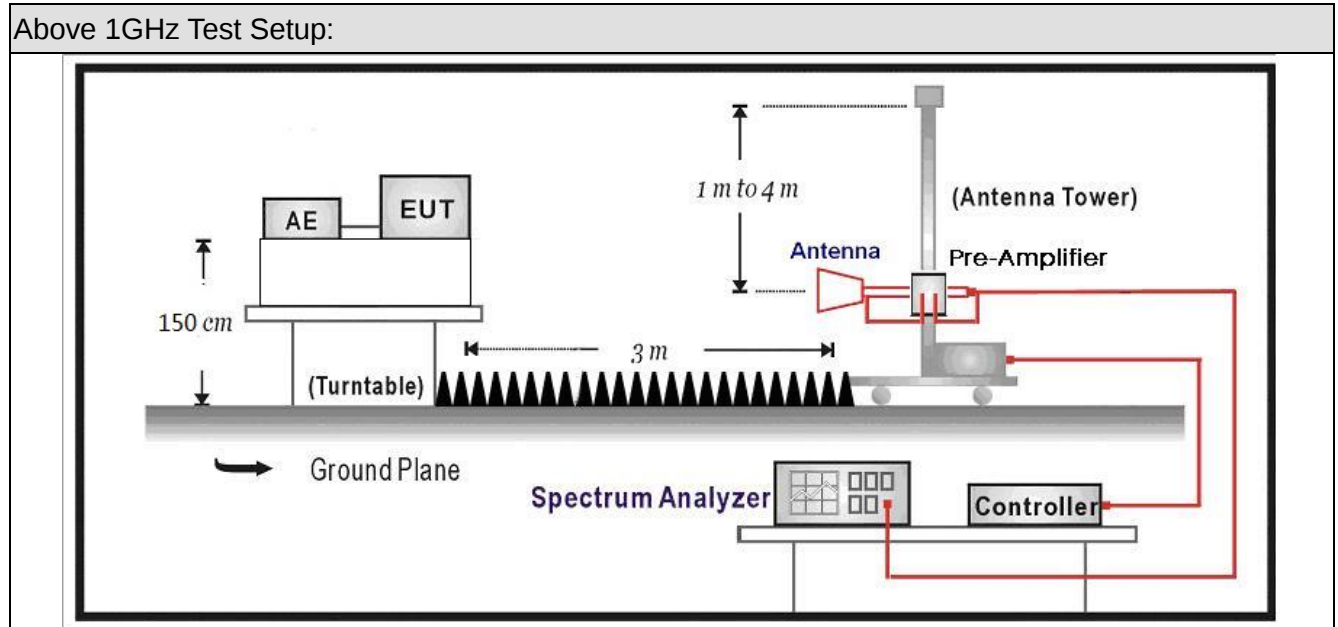


BLE 2480MHz



9. Radiated Emission Band Edge

9.1. Test Setup



9.2. Limit

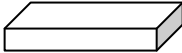
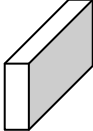
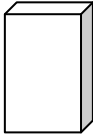
Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

9.3. Test Procedure

Test Method						
	References Rule			Chapter	Description	
☒	ANSI C63.10			6.10	Band-edge testing	
	☒	ANSI C63.10		6.10.5	Restricted-band band-edge measurements	
	☐	ANSI C63.10		6.10.6	Marker-delta method	
☒	ANSI C63.10			11.12	Emissions in restricted frequency bands	
	☒	ANSI C63.10		11.12.1	Radiated emission measurements	
	☒	ANSI C63.10		11.12.2.7	Radiated spurious emission test	
☐	ANSI C63.10			6.4	Radiated emissions from unlicensed wireless devices below 30 MHz	
☐	ANSI C63.10			6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz	
☒	ANSI C63.10			6.6	Radiated emissions from unlicensed wireless devices above 1 GHz	
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure	
		☒	ANSI C63.10	11.12.2.4	Peak power measurement procedure	
		☒	ANSI C63.10	11.12.2.5	Average power measurement procedures	
			☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☒	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

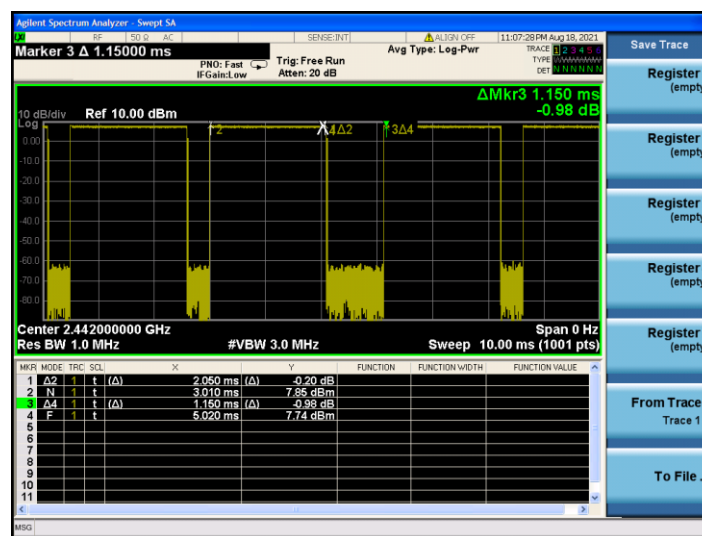
9.4. EUT test definition

Item	Radiated Emission Band Edge			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☒	Worst Axis ☐	Worst Axis ☐
	☐	Conducted		
	☐	Chain 0		
				
	☐	Chain 0	Chain 1	
				
	☐	Chain 0	Chain 1	Chain 2
				

9.5. Duty Cycle

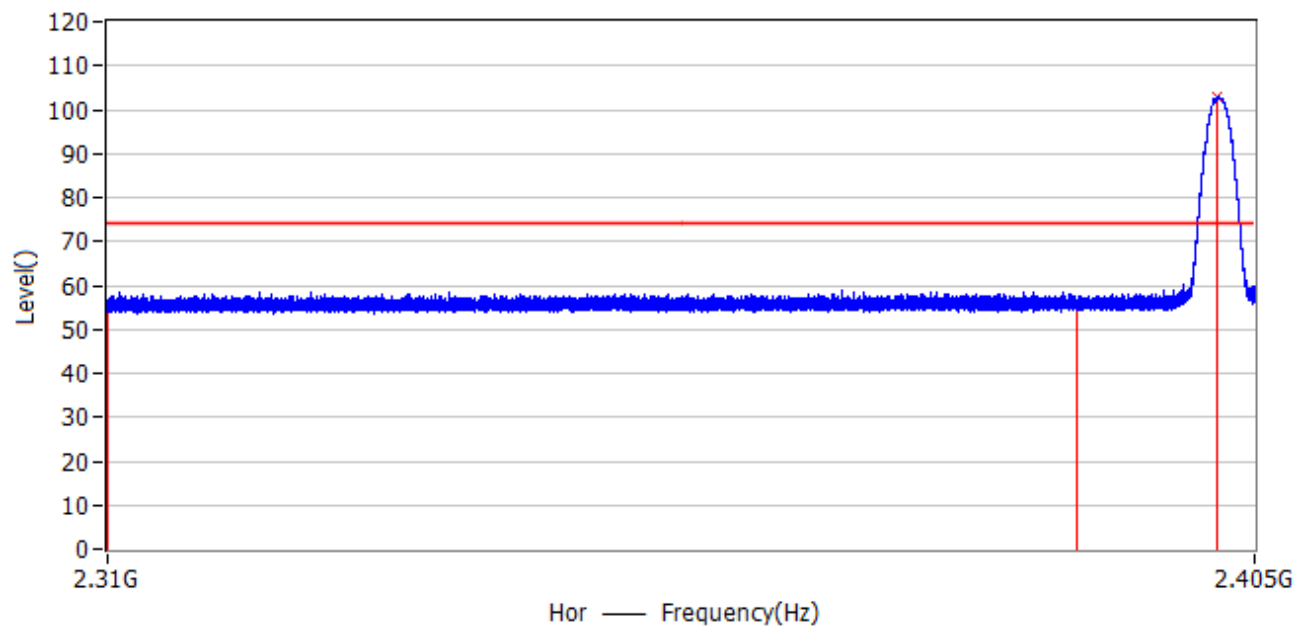
Test Mode	Tx On (ms)	Tx Off (ms)	Reduced VBW (kHz)	Tx On + Tx Off (ms)	Duty Cycle
Transmit -1Mbps(GFSK_BLE)	2.050	1.150	0.487kHz	3.200	64.06%

BLE



9.6. Test Result

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Horizontal	Low Frequency	: 2402MHz

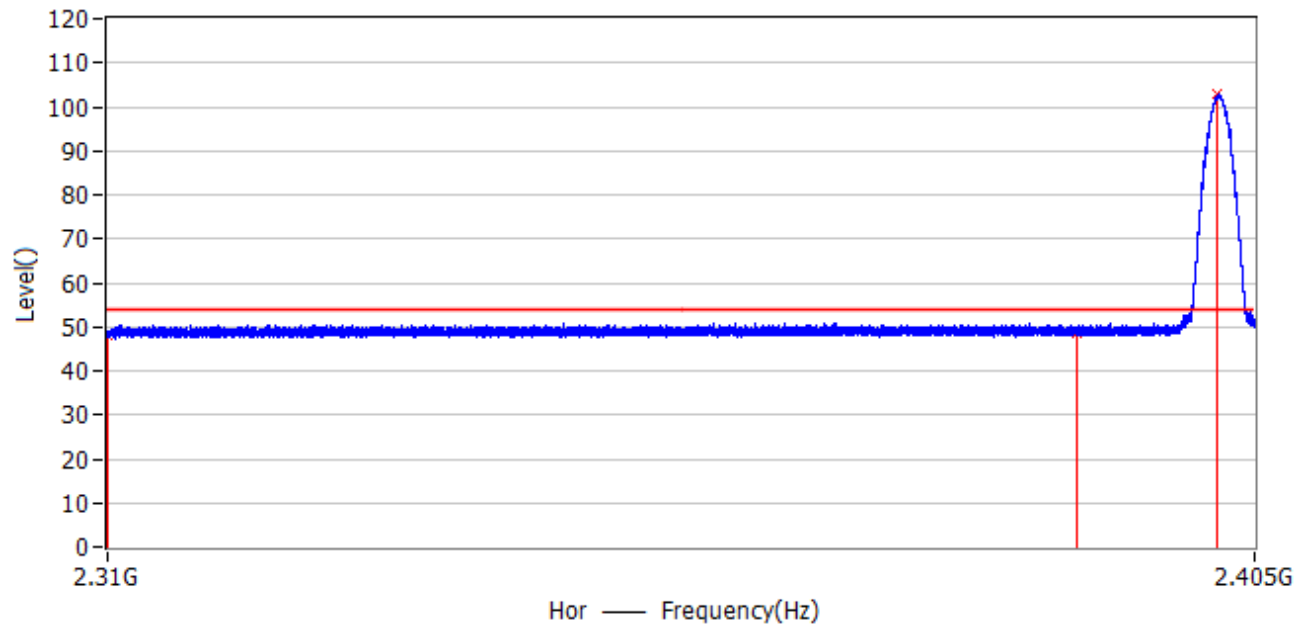


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	74.0	55.9	-18.1	30.0	PK	Hor
2	2.390 GHz	74.0	55.2	-18.8	30.2	PK	Hor
3	2.402 GHz	N/A	103.0	N/A	30.3	PK	Hor

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Horizontal	Low Frequency	: 2402MHz

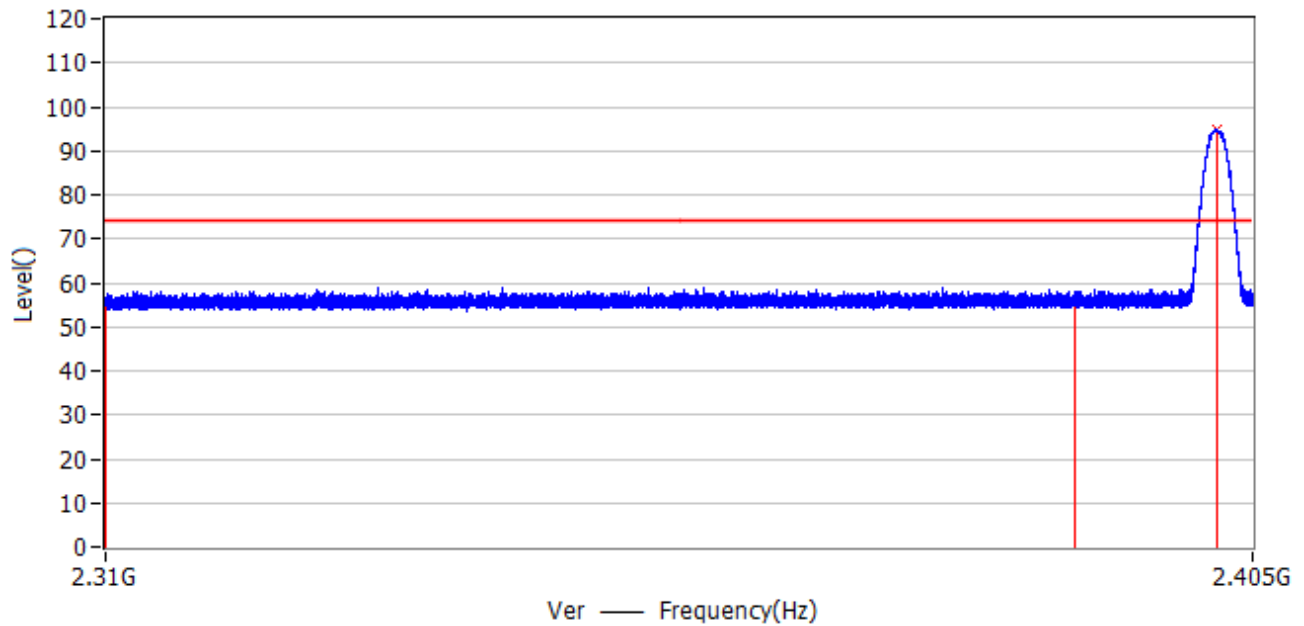


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	54.0	48.1	-5.9	30.0	AV	Hor
2	2.390 GHz	54.0	48.7	-5.3	30.2	AV	Hor
3	2.402 GHz	N/A	102.9	N/A	30.3	AV	Hor

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Vertical	Low Frequency	: 2402MHz

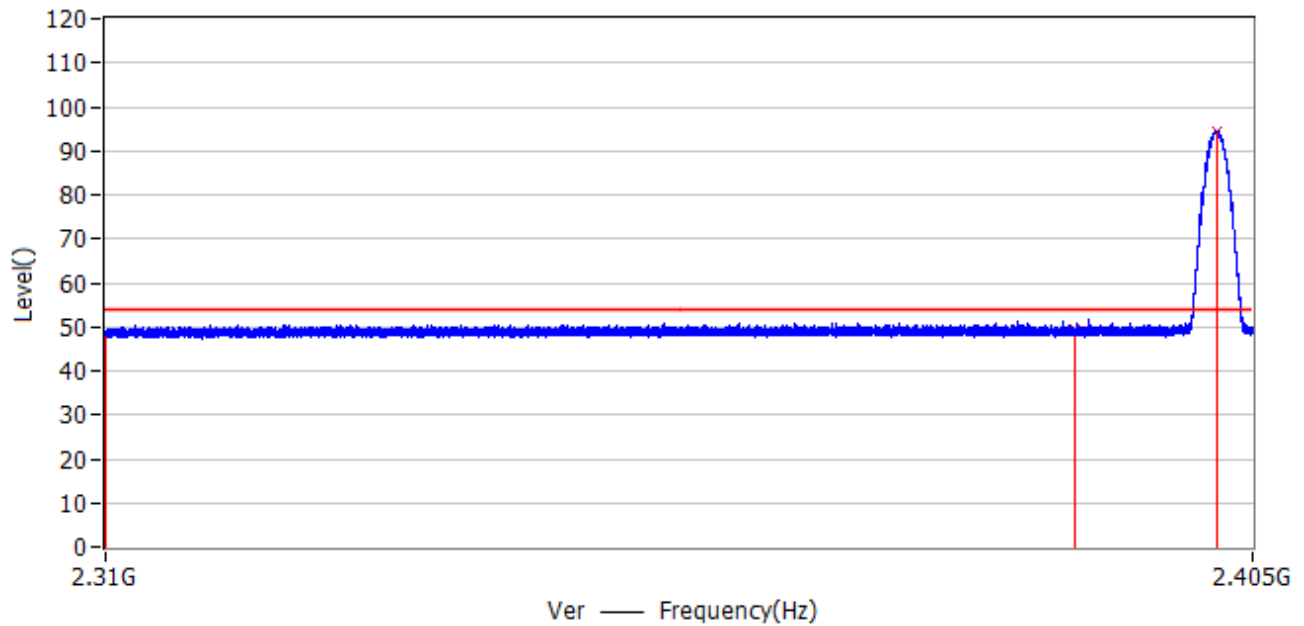


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	74.0	55.0	-19.0	30.0	PK	Ver
2	2.390 GHz	74.0	55.1	-18.9	30.2	PK	Ver
3	2.402 GHz	N/A	94.8	N/A	30.3	PK	Ver

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Vertical	Low Frequency	: 2402MHz

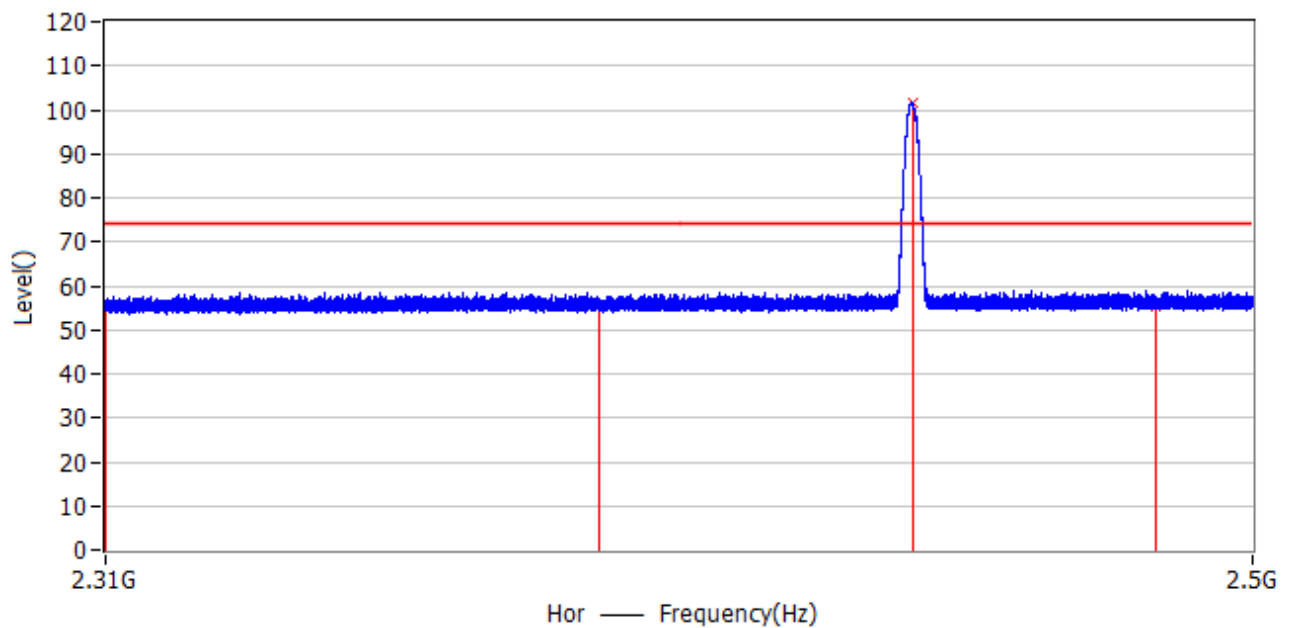


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	54.0	48.7	-5.3	30.0	AV	Ver
2	2.390 GHz	54.0	49.5	-4.5	30.2	AV	Ver
3	2.402 GHz	N/A	94.5	N/A	30.3	AV	Ver

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Horizontal	Middle Frequency	: 2442MHz

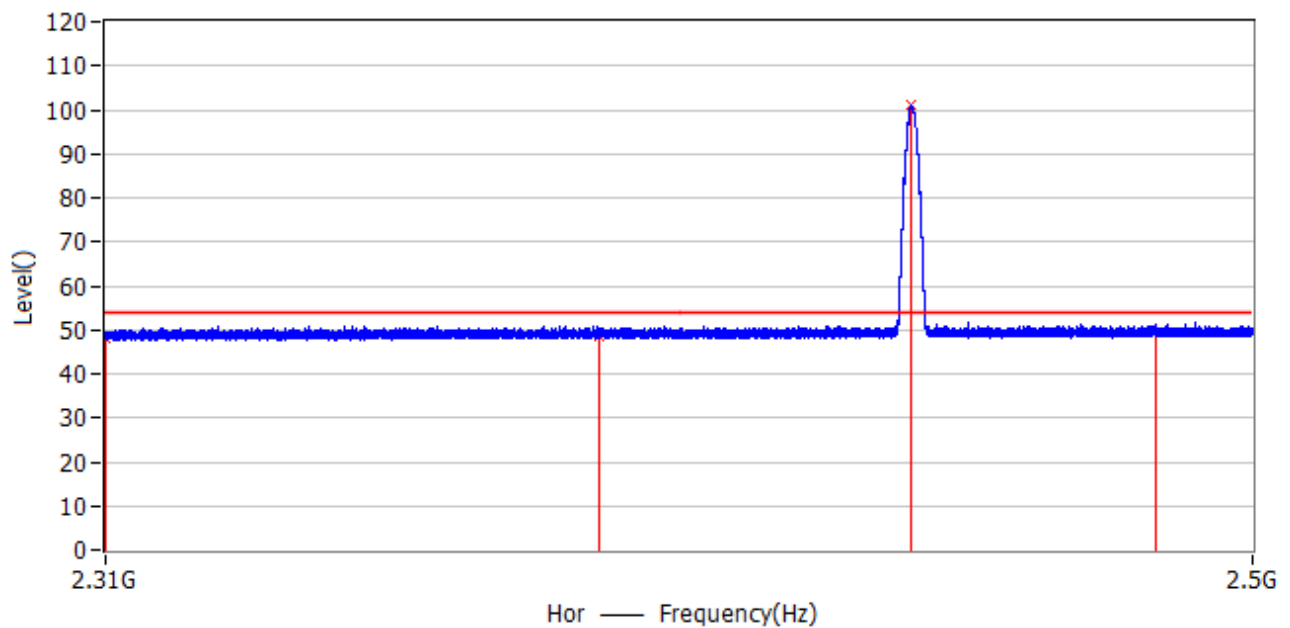


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	74.0	55.8	-18.2	30.0	PK	Hor
2	2.390 GHz	74.0	55.8	-18.2	30.2	PK	Hor
3	2.442 GHz	N/A	101.6	N/A	30.4	PK	Hor
4	2.4835 GHz	74.0	55.1	-18.9	30.5	PK	Hor

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Horizontal	Middle Frequency	: 2442MHz

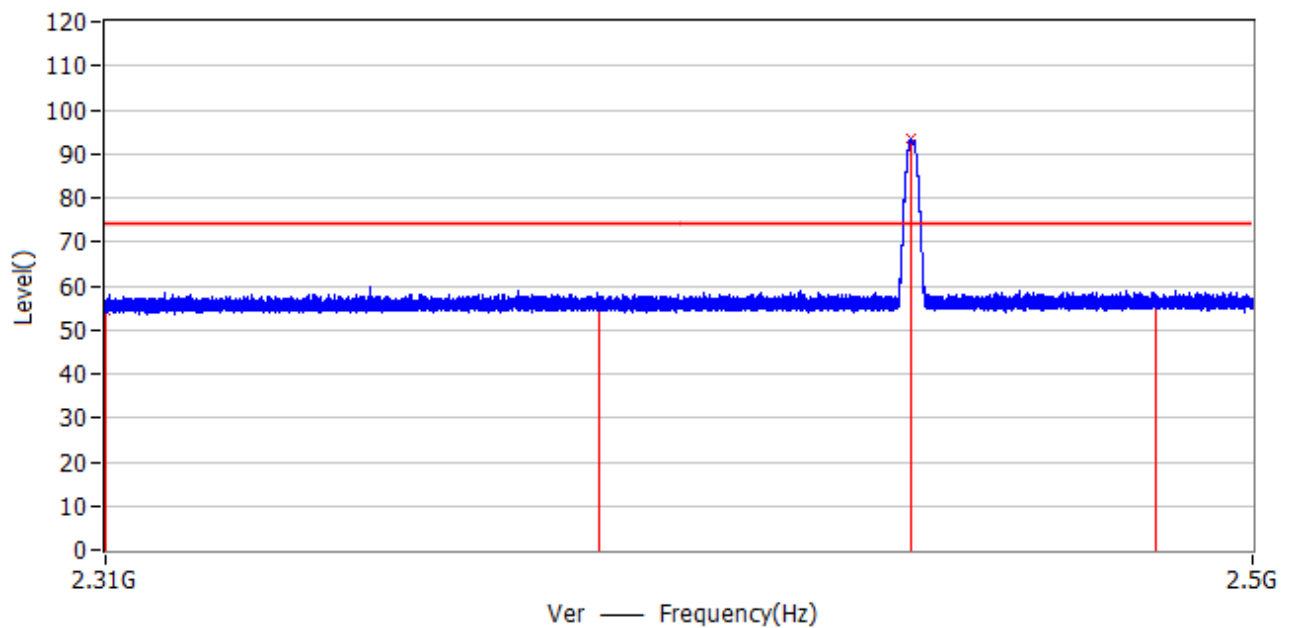


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	54.0	48.3	-5.7	30.0	AV	Hor
2	2.390 GHz	54.0	48.4	-5.6	30.2	AV	Hor
3	2.442 GHz	N/A	101.0	N/A	30.4	AV	Hor
4	2.4835 GHz	54.0	49.3	-4.7	30.5	AV	Hor

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Vertical	Middle Frequency	: 2442MHz

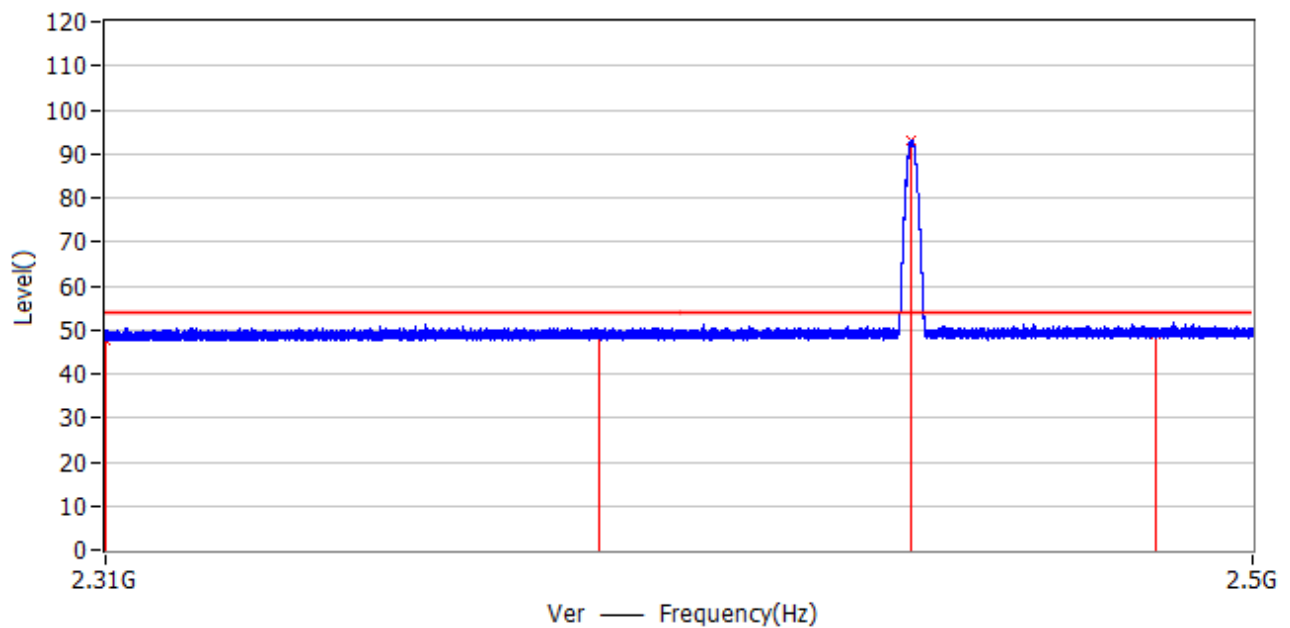


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	74.0	54.4	-19.6	30.0	PK	Ver
2	2.390 GHz	74.0	56.4	-17.6	30.2	PK	Ver
3	2.442 GHz	N/A	93.4	N/A	30.4	PK	Ver
4	2.4835 GHz	74.0	56.2	-17.8	30.5	PK	Ver

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Vertical	Middle Frequency	: 2442MHz

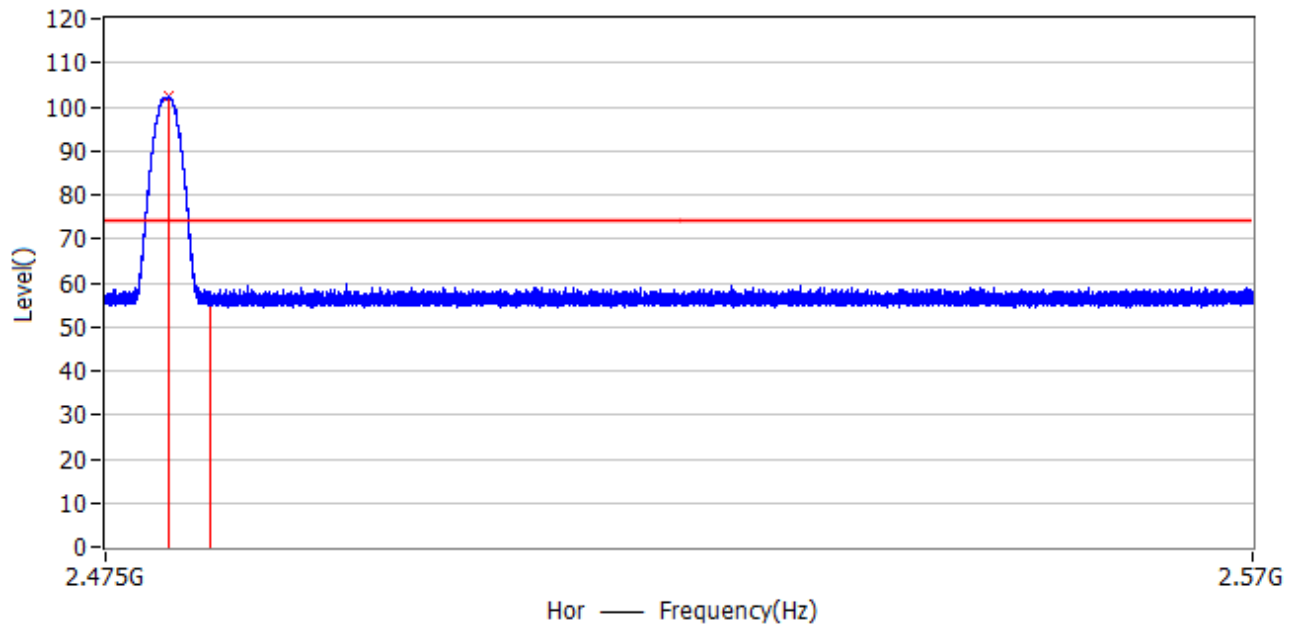


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.310 GHz	54.0	47.8	-6.2	30.0	AV	Ver
2	2.390 GHz	54.0	49.0	-5.0	30.2	AV	Ver
3	2.442 GHz	N/A	93.1	N/A	30.4	AV	Ver
4	2.4835 GHz	54.0	49.0	-5.0	30.5	AV	Ver

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Horizontal	High Frequency	: 2480MHz

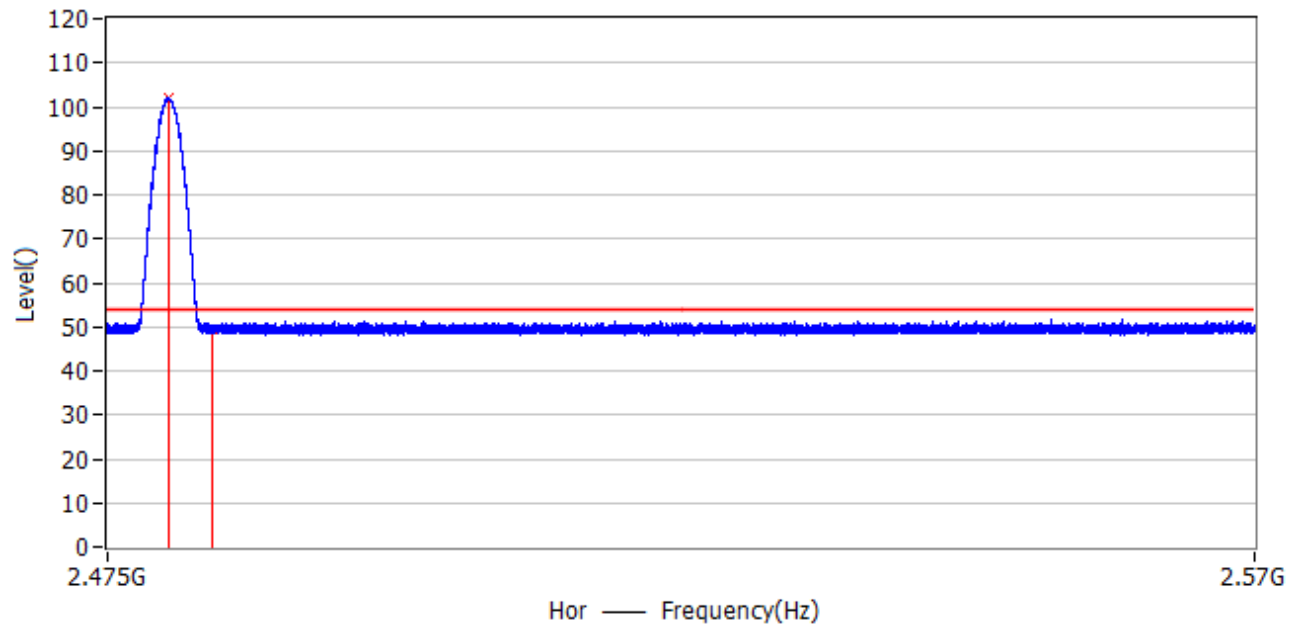


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.480 GHz	N/A	102.4	N/A	30.5	PK	Hor
2	2.4835 GHz	74.0	56.3	-17.7	30.5	PK	Hor

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Horizontal	High Frequency	: 2480MHz

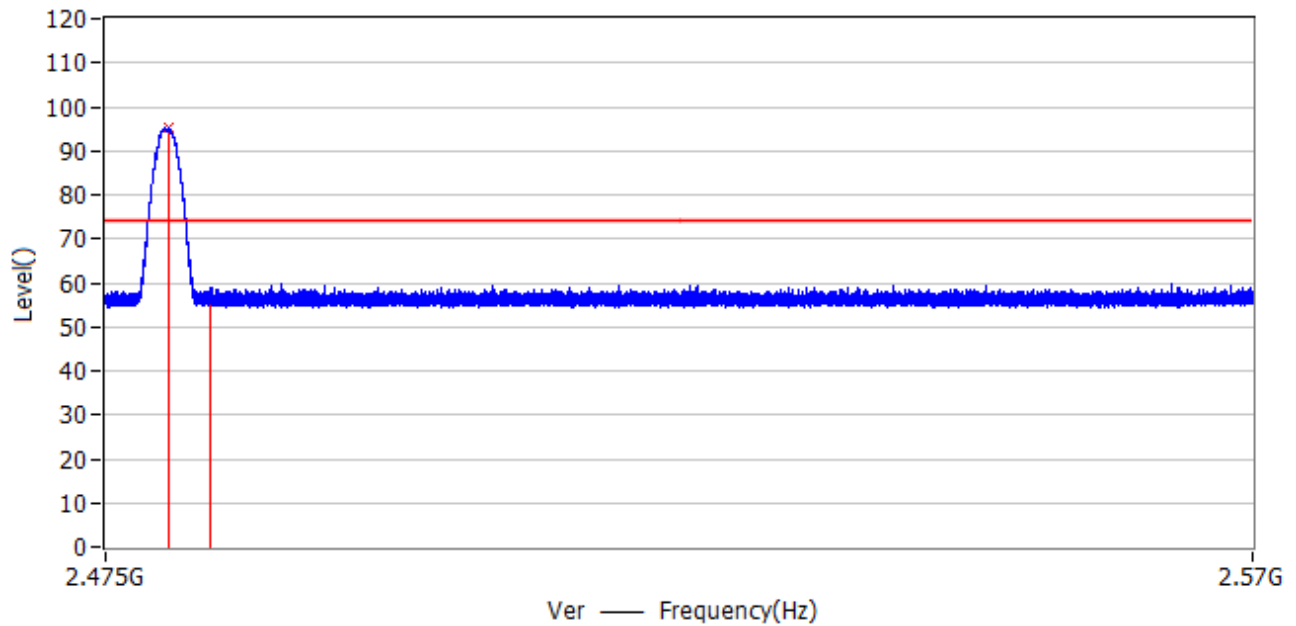


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.480 GHz	N/A	101.9	N/A	30.5	AV	Hor
2	2.4835 GHz	54.0	49.3	-4.7	30.5	AV	Hor

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Vertical	High Frequency	: 2480MHz

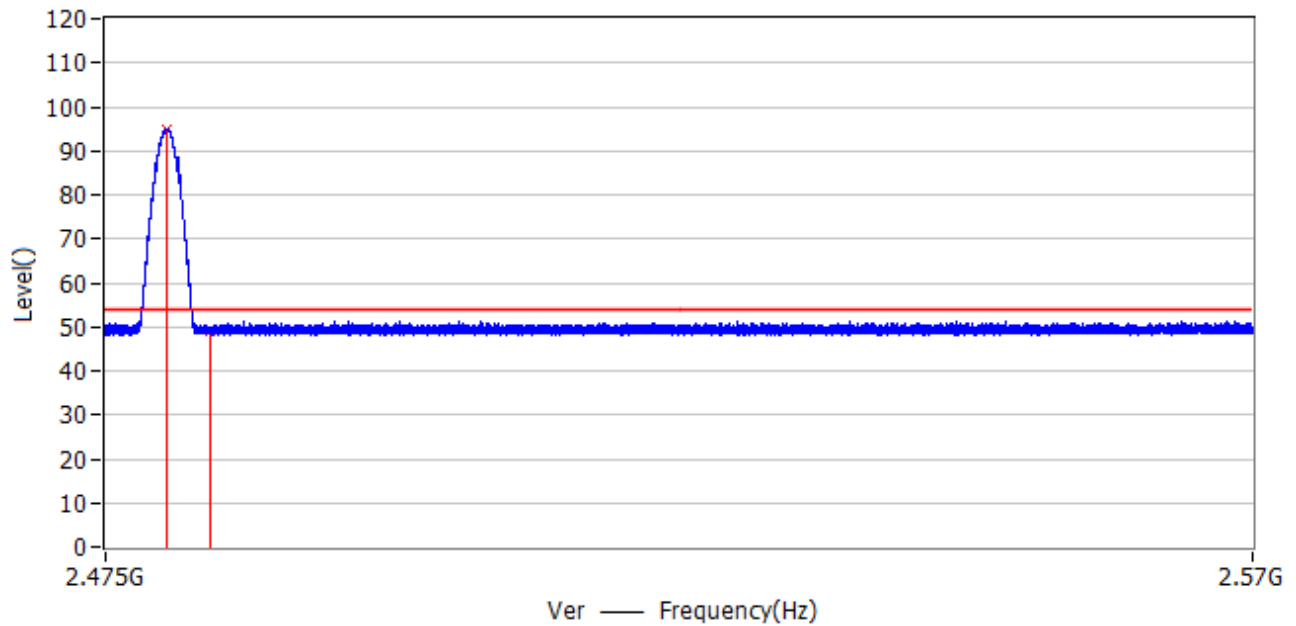


No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.480 GHz	N/A	95.2	N/A	30.5	PK	Ver
2	2.4835 GHz	74.0	56.2	-17.8	30.5	PK	Ver

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

Product Name	: Massage Chair	Power	: 120V/60Hz
Test Mode	: Mode 1: Transmit-1Mbps(GFSK_BLE)	Test Site	: Chamber
Test Date	: 2021.08.11	Test Engineer	: Heaven
Polarization	: Vertical	High Frequency	: 2480MHz



No.	Frequency (GHz)	Limit (dBμV/m)	Level (dBμV/m)	Delta dB	Factor dB	Detector	Polar
1	2.480 GHz	N/A	94.9	N/A	30.5	AV	Ver
2	2.4835 GHz	54.0	49.0	-5.0	30.5	AV	Ver

Note: Level = Reading Level + Factor

Factor = Antenna factor + Cable Loss

10. Antenna Requirement

10.1. Limit

Antenna Requirement Limit	
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.	

10.2. Antenna Connector Construction

Antenna Connector Construction	
☐	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☒	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document "Internal Photograph" to show the antenna connector.	

_____ The End _____