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Test report No:
2220295R-RF-US-P06V01

FCC TEST REPORT

Product Name	Wondercise Timeless
Trademark	WONDERCISE
Model and /or type reference	WDC-TB-01
FCC ID	2AQIRWDC-TB-01
IC	24078-WDCTB01
Applicant´s name / address	WONDERCISE LIMITED 15/F LOCKHART CTR, 301-307 LOCKHART RD, WANCHAI
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KD558074 D01 15.247 Meas Guidance v05r02 RSS-Gen Issue 5 / RSS-247 Issue 2
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao/Project Engineer Tim. Cao
Approved by (name / position & signature)	Jack Zhang/ Manager Jack zhang
Date of issue	2022-05-27
Report Version	V1.1
Report template No	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jan. 18, 2022
Date (start test)	Jan. 28, 2022
Date (finish test)	Apr. 28, 2022

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
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4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT : Equipment Under Test
QP : Quasi-Peak
CAV : CISPR Average
AV : Average
CDN : Coupling Decoupling Network
SAC : Semi-Anechoic Chamber
OATS : Open Area Test Site
BW : Bandwidth
AM : Amplitude Modulation
PM : Pulse Modulation
HCP : Horizontal Coupling Plane
VCP : Vertical Coupling Plane
U_N : Nominal voltage
*T*x : Transmitter
*R*x : Receiver
N/A : Not Applicable
N/M : Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2220295R-RF-US-P06V01	V1.0	Initial issue of report.	2022-05-11
2220295R-RF-US-P06V01	V1.1	Page 8: Update enquipment list. (The test report No.: 2220295R-RF-US-P06V01 V1.1 is to replace the test report No.: 2220295R-RF-US-P06V01 V1.0, and test report 2220295R-RF-US-P06V01 V1.0 is obsoleted.)	2022-05-27

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247, RSS-Gen Issue 5, RSS-247 Issue 2.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
   - Chapter 1.1 General Description of the Item(s);
   - Chapter 1.2 Antenna Informaion;
   - Chapter 1.3 Channel List.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2021.04.28	2022.04.27
EMI Test Receiver	R&S	ESCI	100906	2022.04.07	2023.04.06
Two-Line V-Network	R&S	ENV216	101044	2021.03.20	2022.03.19
Two-Line V-Network	R&S	ENV216	101044	2022.03.12	2023.03.11
50ohm Termination	SHX	TF2	7081403	2021.09.04	2022.09.03
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2021.07.09	2022.07.08
Dekra test software	Dekra	-	-	-	-

Emissions in non-restricted frequency bands/ Occupied Bandwidth/ Fundamental emission output power Power Spectral Density / TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2021.07.11	2022.07.10
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2021.11.18	2022.11.17
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2021.07.09	2022.07.08
Dekra test software	Dekra	-	-	-	-

Radiated Emission(30MHz-1GHz) / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100176	2021.08.15	2022.08.14
Loop Antenna	R&S	HFH2-Z2	100548	2021.12.13	2022.12.12
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2021.08.23	2022.08.22
Coaxial Cable	Huber+Suhner	RG 214	AC3-C	2021.03.31	2022.03.30
Coaxial Cable	Huber+Suhner	RG 214	AC3-C	2022.03.21	2023.03.20
Temperature/Humidity Meter	RTS	RTS-8S	AC3-TH	2021.11.23	2022.11.22
Dekra test software	Dekra	-	-	-	-

Radiated Emission / AC5(1GHz-40GHz)(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MXA Signal Analyzer	Keysight	N9020B	MY60112218	2022.01.09	2023.01.08
Amplifier	Keleto	LNPA	SK20190225	2021.09.26	2022.09.25
Pre-Amplifier	EMCI	EMC184045SE	980263	2021.05.22	2022.05.21
DRG Horn Antenna	ETS-Lindgren	3117	167055	2021.08.06	2022.08.05
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2021.04.19	2022.04.18
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2022.04.04	2023.04.03
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2021.03.31	2022.03.30
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2022.03.21	2023.03.20
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2021.05.22	2022.05.21
Dekra test software	Dekra	-	-	-	-

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95% .

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.80dB 150kHz~30MHz: 2.40dB
Peak Power Output	± 1.27 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.50 dB 300MHz~1GHz: 3.60 dB Vertical: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.50 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB
RF antenna conducted test	± 1.27dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	±150Hz
Occupied Bandwidth	±1kHz
Power Density	±1.27dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name..... :	Wondercise Timeless
Trademark ..... :	WONDERCISE
Model No. ..... :	WDC-TB-01
Hardware version..... :	WDC-TB-01
Software version. ..... :	V1.0
Manufacturer..... :	YANTAI FUHUADA PRECISION ELECTRONICS CO., LTD.
Manufacturer Address..... :	A-7 Section,Yantai Economic & Technological Development Area, Shan Dong P.R.China
Factory ..... :	WANSTONIC ELECTRONICS (DONG GUAN)CO.,LTD
Factory Address..... :	Tung Fu Rd.West,Shi Jie Town,Dongguan ,City,Guangdong,China

Wireless specifiction..... :	BLE 5.2					
Operating frequency range(s)	2402~2480MHz					
Type of Modulation..... :	GFSK					
PHYs ..... :	☒	LE 1M	☒	LE 2M	☐	LE Coded S=2/8
Data Rate ..... :	☒	1Mbit/s	☒	2Mbit/s	☐	500/125 Kbit/s
Number of channel..... :	40					

Rated power supply .....:	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☐	AC: 100 – 120 V, 50/60 Hz
	☐	DC: ……
	☒	Battery: 3.7Vdc (USB 5V for charging)
Mounting position.....:	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held equipment
	☒	Other: Wearable euipment

1.2 Antenna Information

Antenna model / type number.....:	WiFi / Bluetooth Chip Antenna (CW324S)			
Antenna serial number .....:	H2U38D1E1B0100			
Antenna Delivery .....:	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:……		
Antenna technology.....:	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type.....:	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☒	Ceramic Chip
			☐	PIFA
			☐	PCB
			☐	Others……..
Antenna Gain.....:	1.5 dBi			

1.3 Channel List

Bluetooth Working Frequency of Each Channel: (For LE)							
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

Note: The General Description of the Item , antenna information and Channel List for the EUT in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Test Mode For Bluetooth	Mode 1: Transmit by LE_1Mbps
	Mode 2: Transmit by LE_2Mbps

2.2 Accessories Information

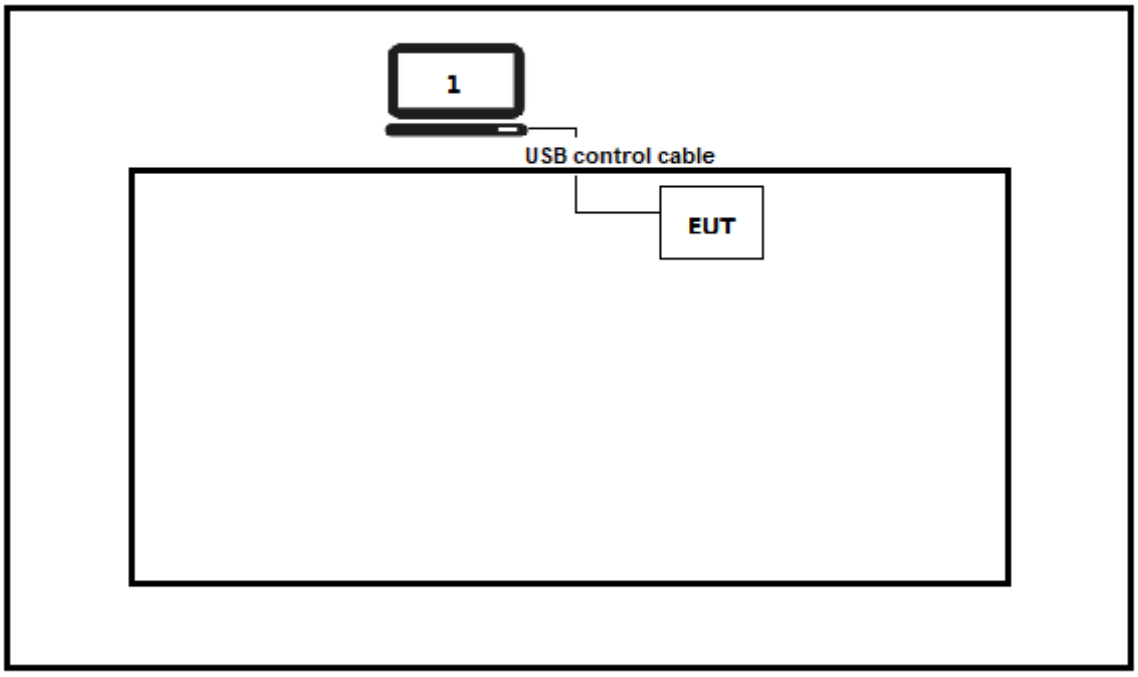
Accessories Information	Brand/model name	Cable		
		Length used during test [m]	Attached during test	Shielded
USB-serial cable	N/A	1.0	☐	☐
USB-serial cable	N/A	10.0	☐	☐
			☐	☐
			☐	☐
			☐	☐

2.3 Auxiliary equipment / Test software for the EUT

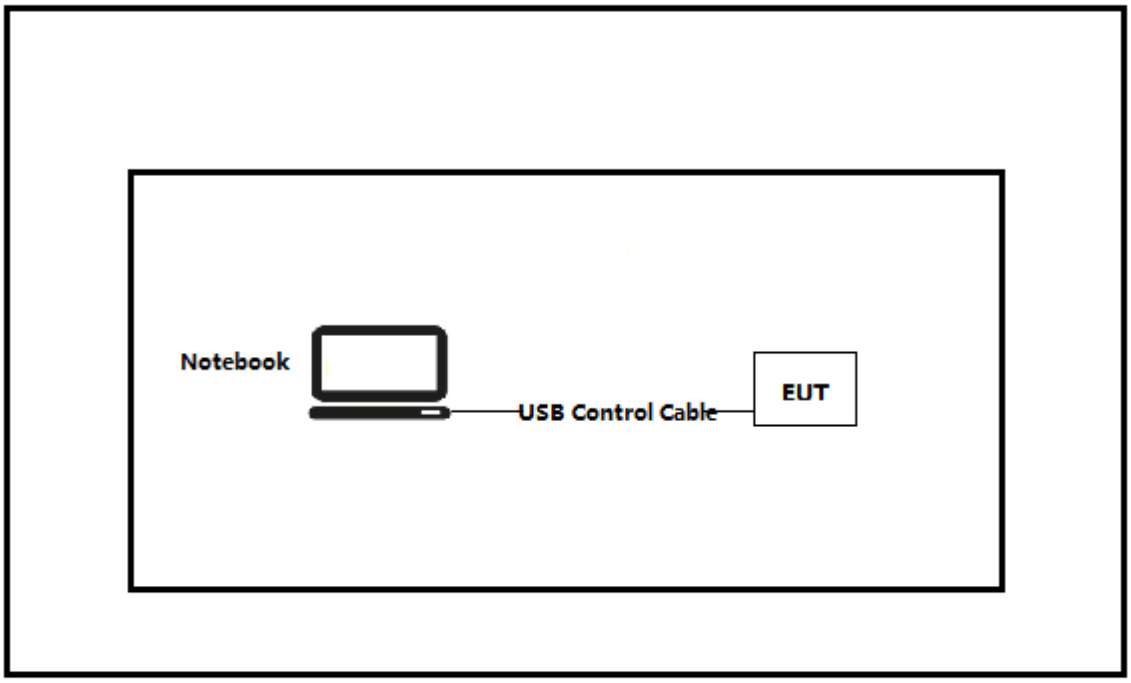
Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x280	Lenovo	Adapter
software	Type / Version	Manufacturer	Supplied by
SSCOM	V5.12	N/A	N/A

2.4 Test Configuration / Block diagram used for tests

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Conducted test



2.5 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Execute test software {SSCOM} on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2019	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 v05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247
RSS-Gen Issue 5 Amendment 1	2019	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2	2017	Digital Transmission Systems (DTSs),Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

For FCC

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC 15.207	PASS	---
Emissions in restricted frequency bands	FCC 15.247(b)(3)	PASS	---
Duty cycle	ANSI C63.10:2013	PASS	---
Emissions in non-restricted frequency bands	FCC 15.247(d), FCC 15.209	PASS	---
Radiated Emission Band Edge	FCC 15.247(d)	PASS	---
Fundamental emission output power	FCC 15.247(d), FCC 15.209	PASS	---
DTS Bandwidth	FCC 15.247(a)(2)	PASS	---
Power Spectral Density	FCC 15.247(e)	PASS	---
Antenna Requirement	FCC 15.203	PASS	---

For ISED

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	PASS	---
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9	PASS	---
Duty cycle	ANSI C63.10:2013	PASS	---
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section 5.5	PASS	---
Radiated Emission Band Edge	RSS-Gen Issue 5 Section 8.10	PASS	---
Fundamental emission output power	RSS-247 Issue 2 Section 5.4(d)	PASS	---
DTS Bandwidth	RSS-Gen Issue 5 Section 6.7	PASS	---
Power Spectral Density	RSS-247 Issue 2 Section 5.2(b)	PASS	---
Antenna Requirement	RSS-Gen Issue 5 Section 6.8	PASS	---

3.4 Test Facility

USA	**:**	**FCC Designation Number: CN1199**
CA	**:**	**ISED CAB identifier: CN0040**

4 TEST RESULTS

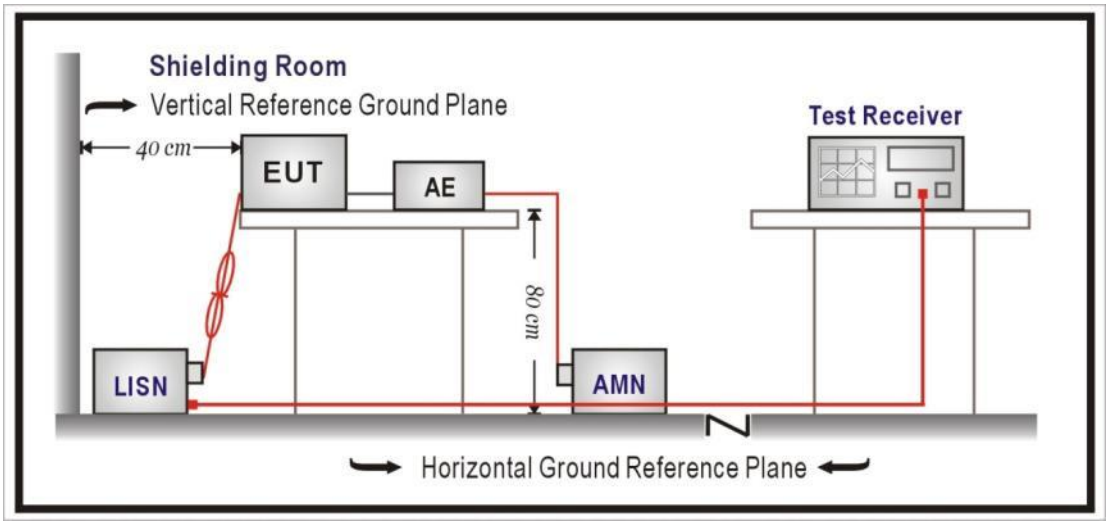
4.1 AC Power Line Conducted Emission	VERDICT: Pass

4.1.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV)[1)]]	Limit: AV [dB(μV) [1)]]
0,15 - 0,50	66 – 56 [2)]	56 - 46 [2)]
0,50 - 5,0	56	46
5,0 - 30	60	50

[1)] At the transition frequency, the lower limit applies.
[2)] The limit decreases linearly with the logarithm of the frequency.
NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.
NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.1.2 Test Setup

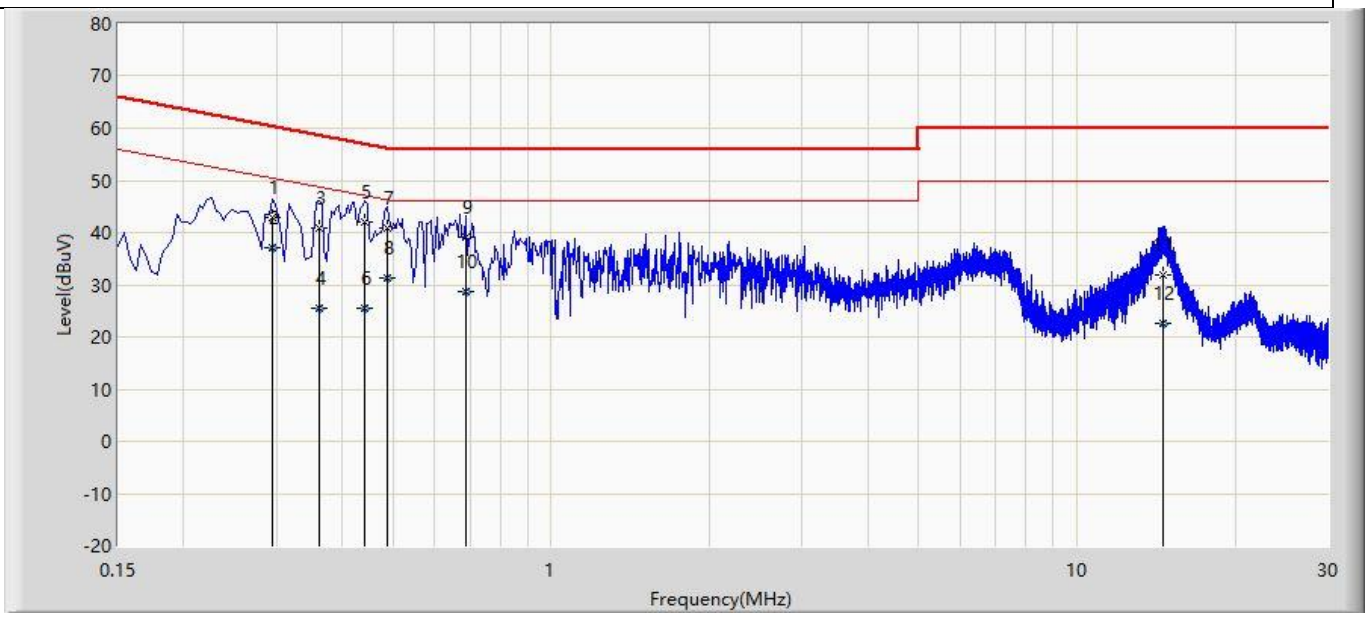


4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

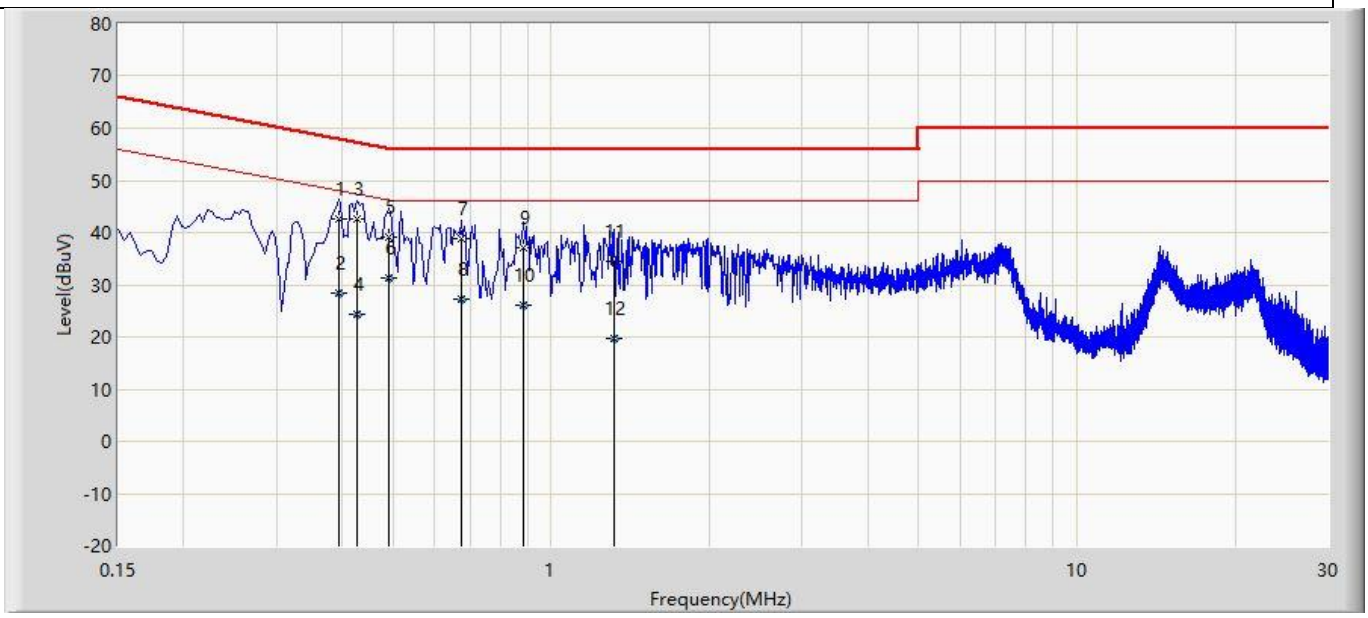
4.1.4 Test Data

Profile: 2220295R	Page No.: 1
Engineer: Neil	
Site: TR1	Time: 2022/04/24
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Wondercise Timeless	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.294	42.774	33.172	-17.637	60.411	9.602	QP
2	*	0.294	37.053	27.451	-13.358	50.411	9.602	AV
3		0.362	40.815	31.218	-17.867	58.682	9.597	QP
4		0.362	25.453	15.856	-23.230	48.682	9.597	AV
5		0.442	42.127	32.511	-14.897	57.024	9.616	QP
6		0.442	25.451	15.835	-21.574	47.024	9.616	AV
7		0.486	40.794	31.172	-15.442	56.236	9.622	QP
8		0.486	31.336	21.714	-14.900	46.236	9.622	AV
9		0.686	39.105	29.461	-16.895	56.000	9.644	QP
10		0.686	28.775	19.131	-17.225	46.000	9.644	AV
11		14.590	31.793	21.674	-28.207	60.000	10.118	QP
12		14.590	22.553	12.435	-27.447	50.000	10.118	AV

Profile: 2220295R	Page No.: 2
Engineer: Neil	
Site: TR1	Time: 2022/04/24
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Wondercise Timeless	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.394	42.593	32.983	-15.386	57.979	9.611	QP
2		0.394	28.420	18.809	-19.559	47.979	9.611	AV
3	*	0.426	42.604	32.987	-14.726	57.330	9.618	QP
4		0.426	24.463	14.845	-22.868	47.330	9.618	AV
5		0.490	39.187	29.564	-16.981	56.168	9.623	QP
6		0.490	31.358	21.735	-14.810	46.168	9.623	AV
7		0.674	38.945	29.318	-17.055	56.000	9.627	QP
8		0.674	27.232	17.605	-18.768	46.000	9.627	AV
9		0.886	36.966	27.330	-19.034	56.000	9.635	QP
10		0.886	26.168	16.533	-19.832	46.000	9.635	AV
11		1.318	34.610	24.957	-21.390	56.000	9.653	QP
12		1.318	19.816	10.163	-26.184	46.000	9.653	AV

Note:
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp). Test Photograph.

4.2 Emissions in restricted frequency bands — VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207		
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			
Restricted Bands of operation for IC			
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

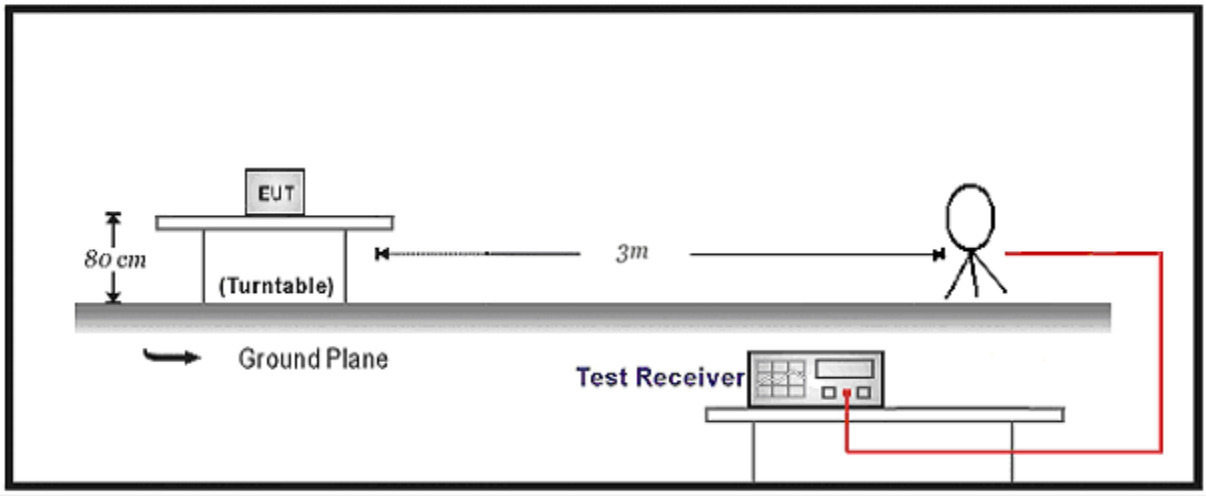
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 2)
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).

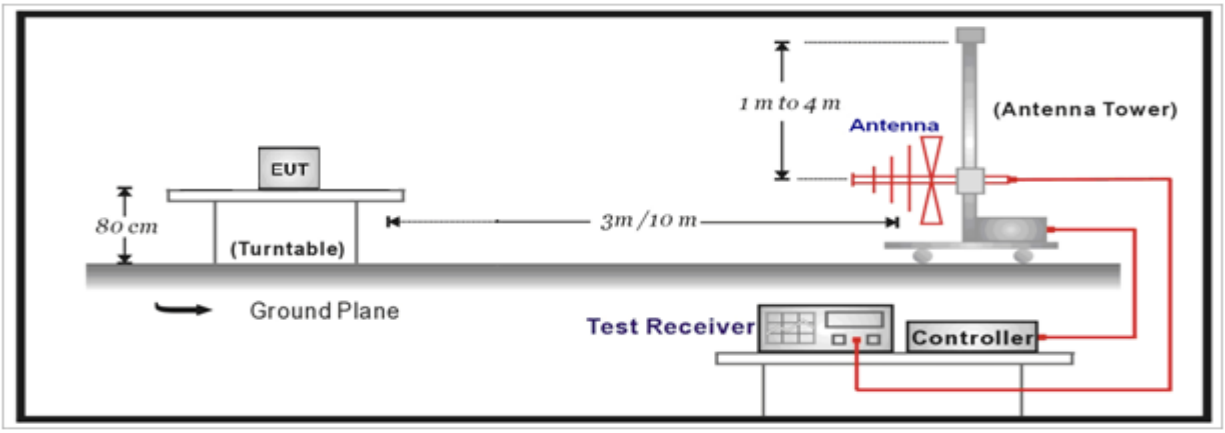
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated 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).

4.2.2 Test Setup

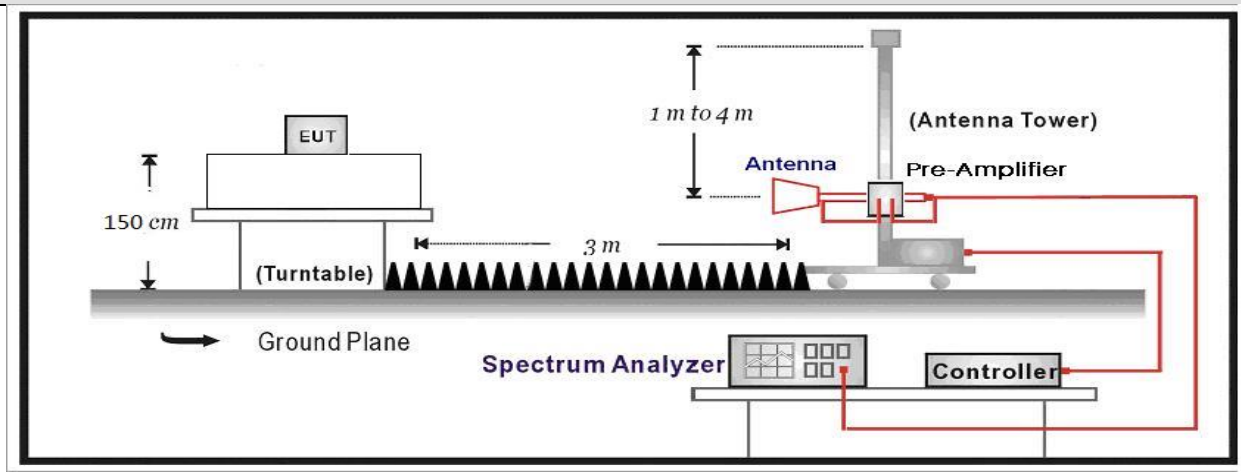
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

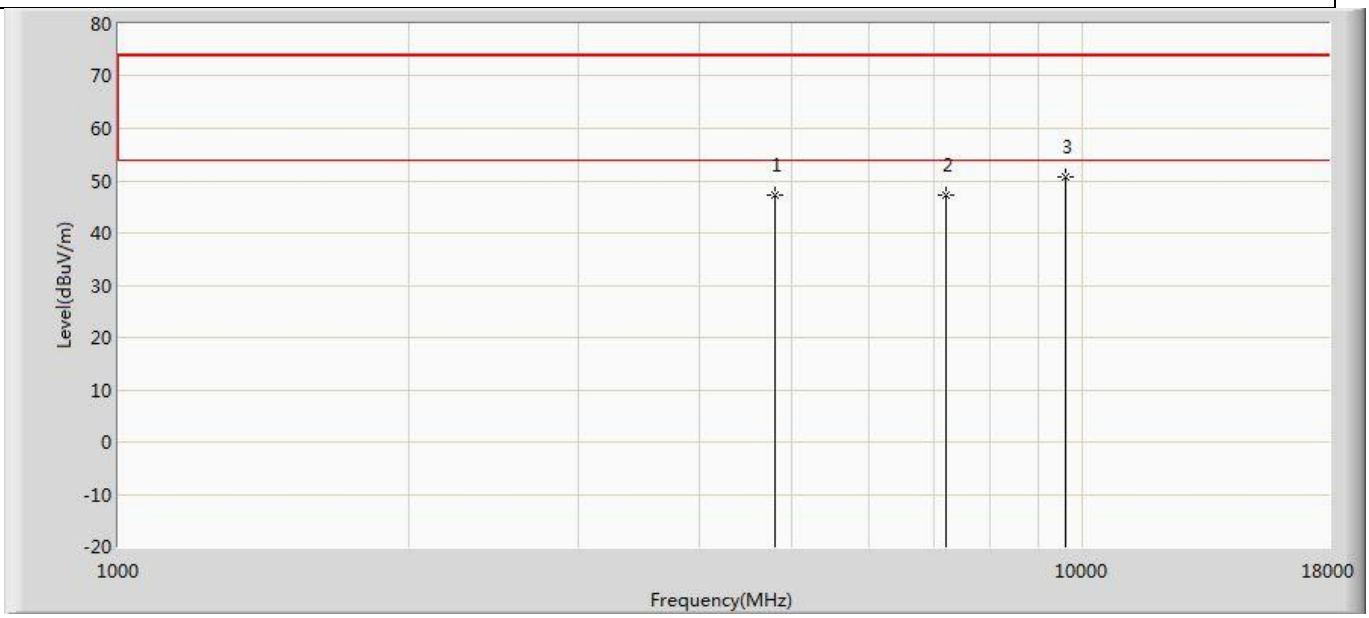


4.2.3 Test Procedure

	References Rule			Chapter	Description
☒	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

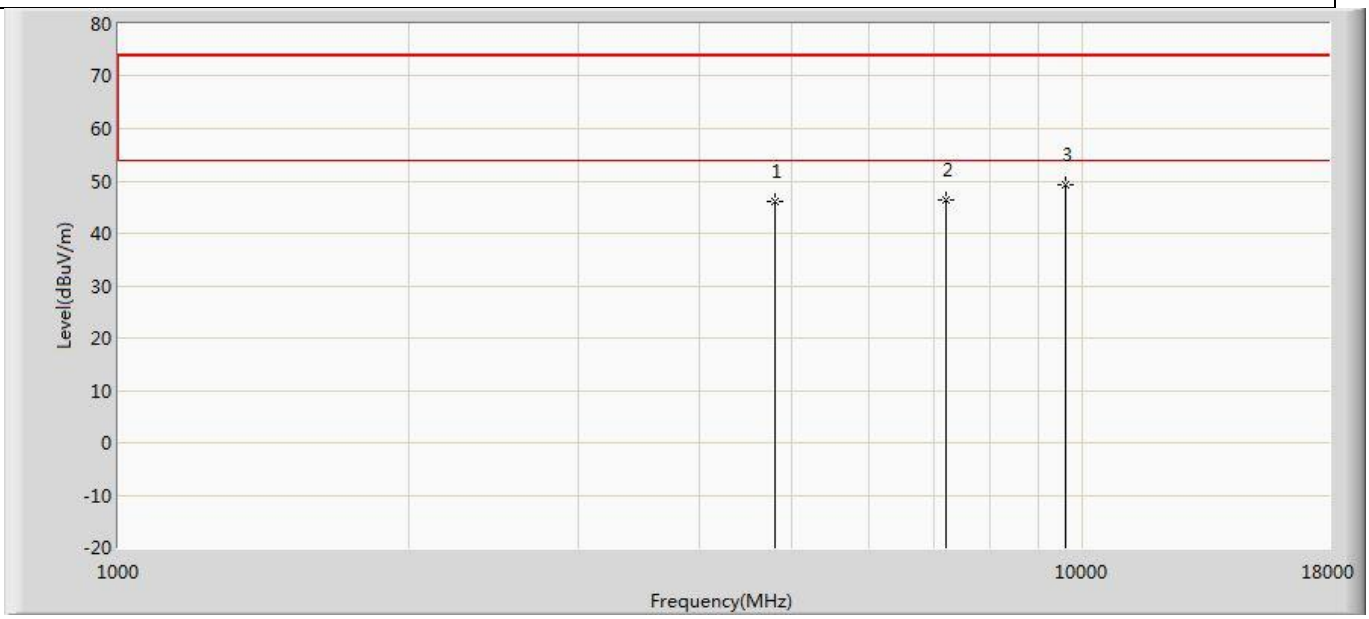
4.2.4 Test Data

Profile: 2220295R	Page No.: 13
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



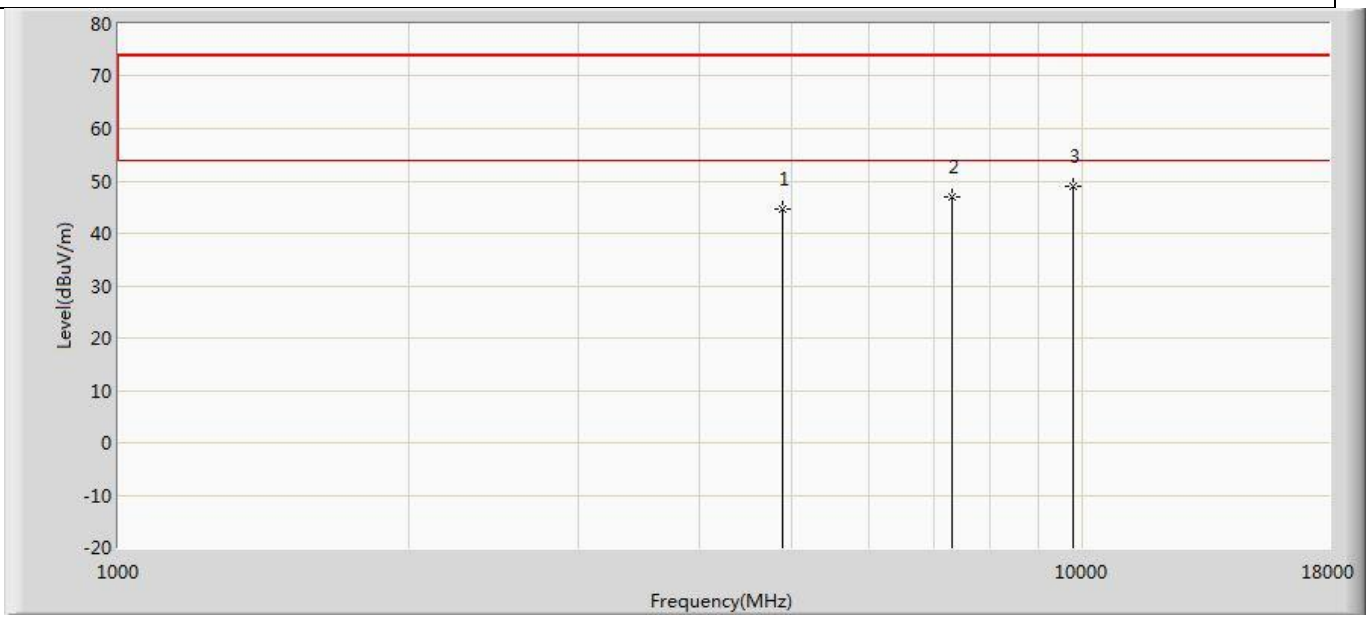
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	47.304	38.181	-26.696	74.000	9.122	PK
2		7206.000	47.298	35.618	-26.702	74.000	11.680	PK
3	*	9608.000	50.699	34.259	-23.301	74.000	16.440	PK

Profile: 2220295R	Page No.: 14
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



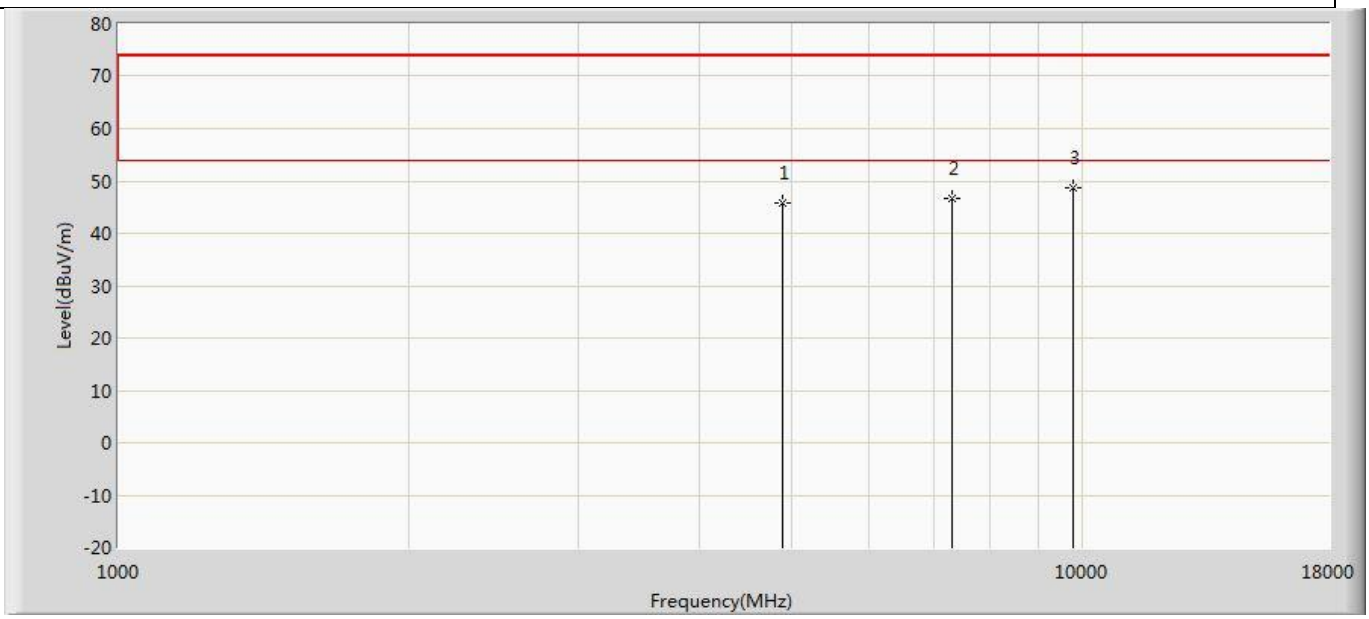
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	46.201	37.078	-27.799	74.000	9.122	PK
2		7206.000	46.255	34.575	-27.745	74.000	11.680	PK
3	*	9608.000	49.151	32.711	-24.849	74.000	16.440	PK

Profile: 2220295R	Page No.: 15
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2440MHz by LE_1Mbps	



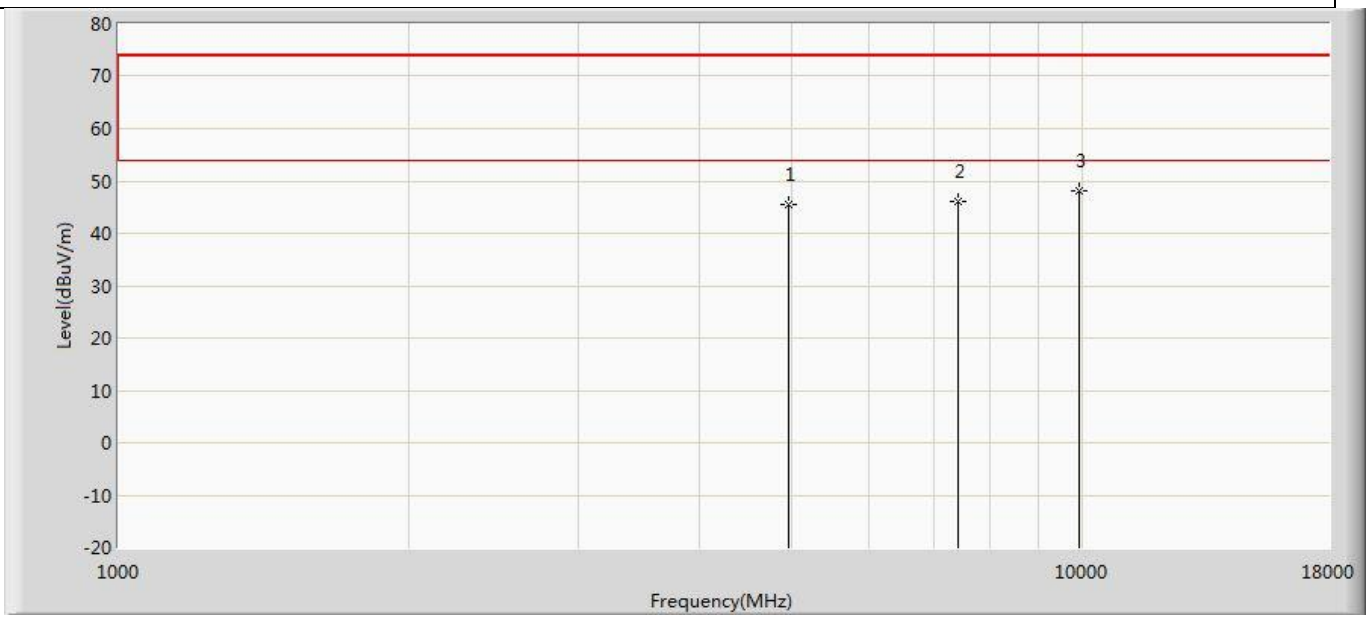
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	44.778	35.257	-29.222	74.000	9.521	PK
2		7320.000	46.871	34.593	-27.129	74.000	12.278	PK
3	*	9760.000	48.977	33.657	-25.023	74.000	15.320	PK

Profile: 2220295R	Page No.: 16
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2440MHz by LE_1Mbps	



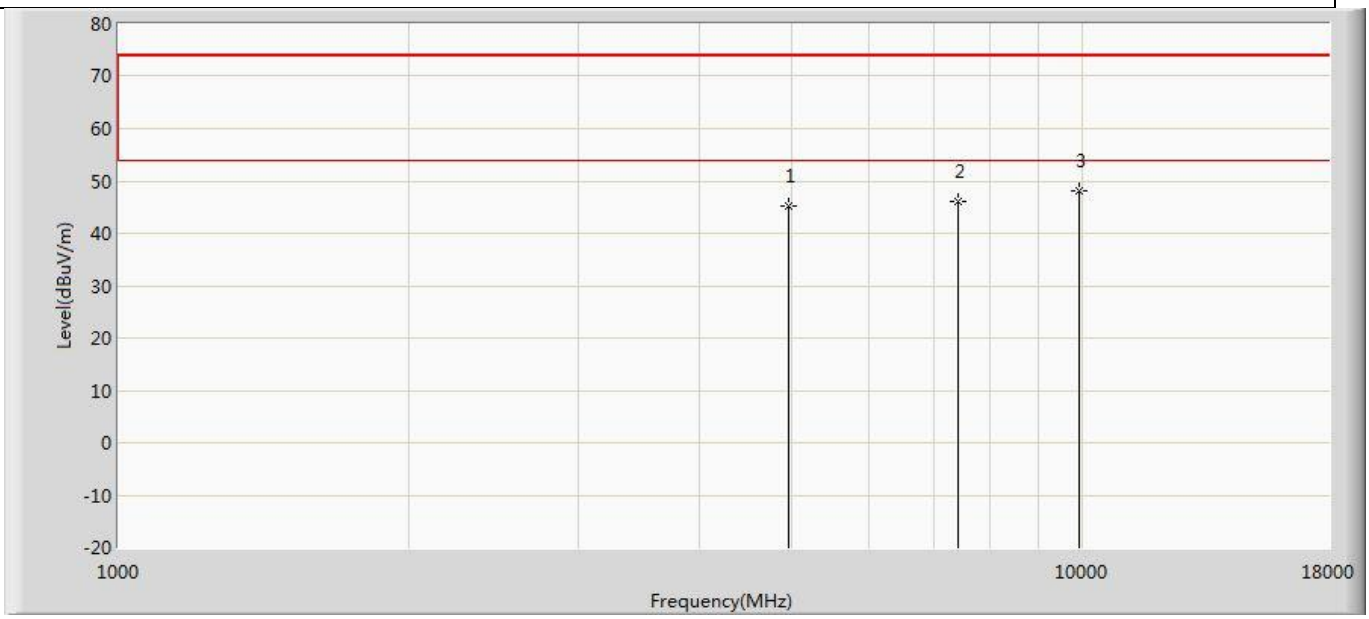
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	45.818	36.297	-28.182	74.000	9.521	PK
2		7320.000	46.771	34.493	-27.229	74.000	12.278	PK
3	*	9760.000	48.563	33.243	-25.437	74.000	15.320	PK

Profile: 2220295R	Page No.: 17
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2480MHz by LE_1Mbps	



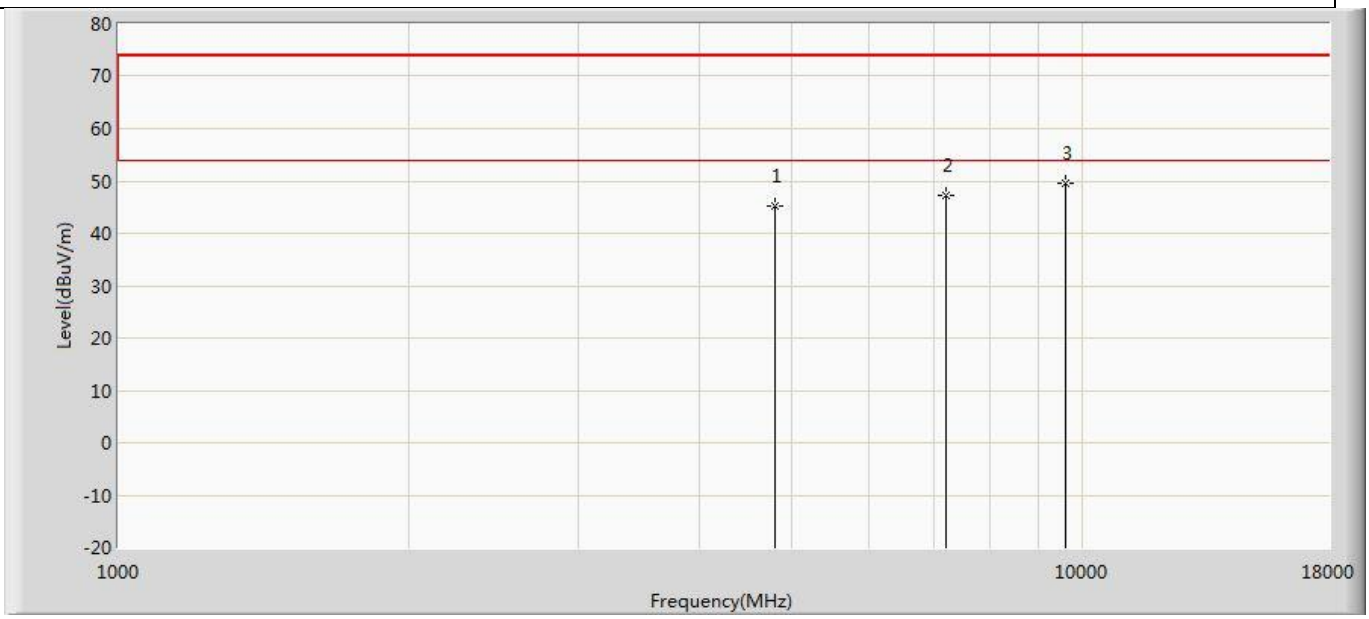
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	45.638	35.870	-28.362	74.000	9.769	PK
2		7440.000	46.171	34.300	-27.829	74.000	11.871	PK
3	*	9920.000	48.080	32.784	-25.920	74.000	15.296	PK

Profile: 2220295R	Page No.: 18
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2480MHz by LE_1Mbps	



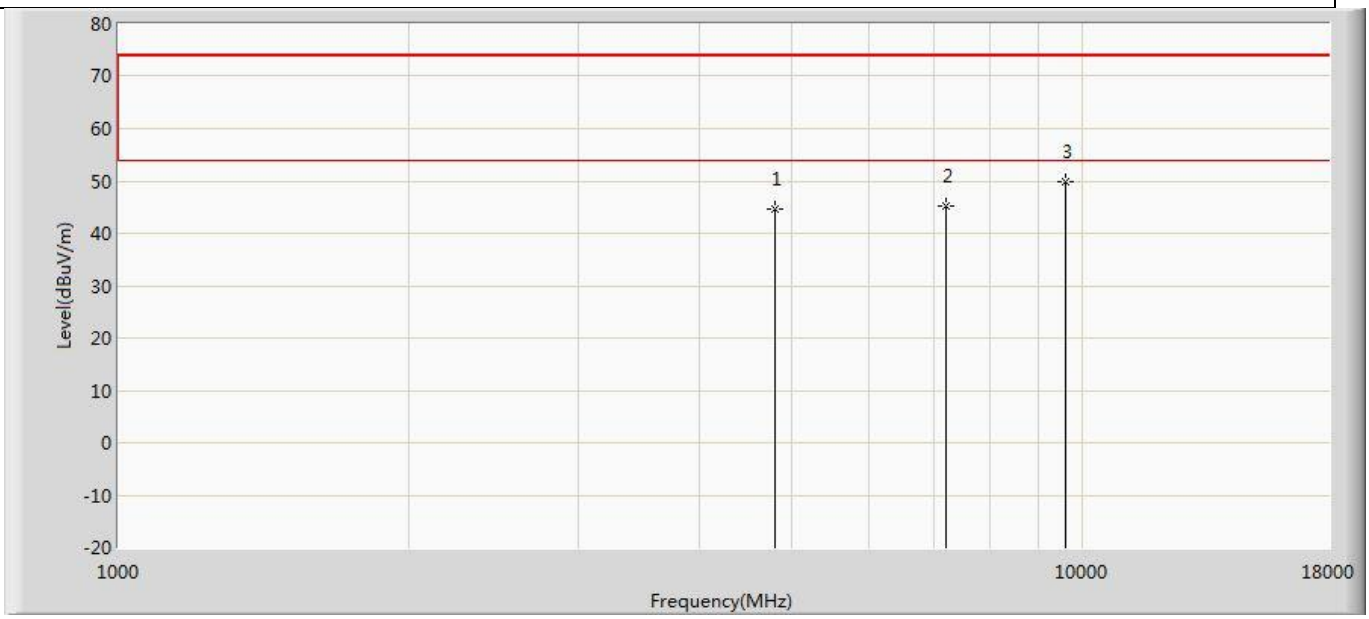
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	45.257	35.489	-28.743	74.000	9.769	PK
2		7440.000	46.026	34.155	-27.974	74.000	11.871	PK
3	*	9920.000	48.126	32.830	-25.874	74.000	15.296	PK

Profile: 2220295R	Page No.: 19
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2402MHz by LE_2Mbps	



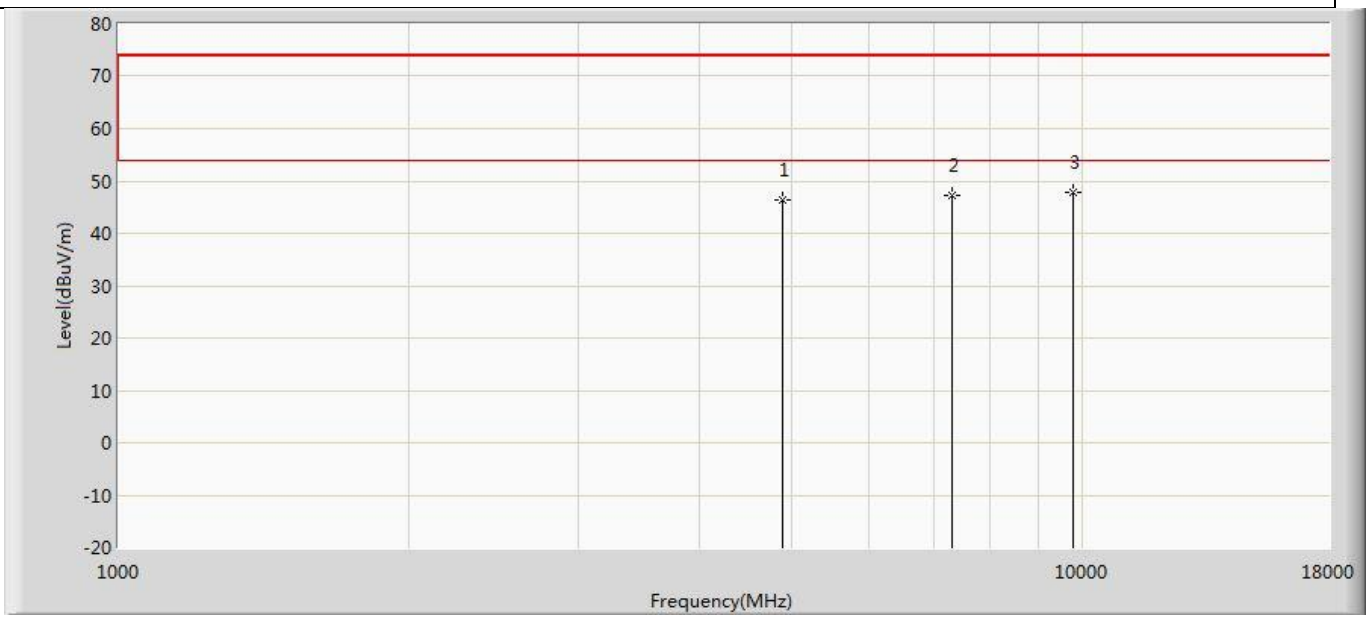
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	45.281	36.158	-28.719	74.000	9.122	PK
2		7206.000	47.257	35.577	-26.743	74.000	11.680	PK
3	*	9608.000	49.467	33.027	-24.533	74.000	16.440	PK

Profile: 2220295R	Page No.: 20
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2402MHz by LE_2Mbps	



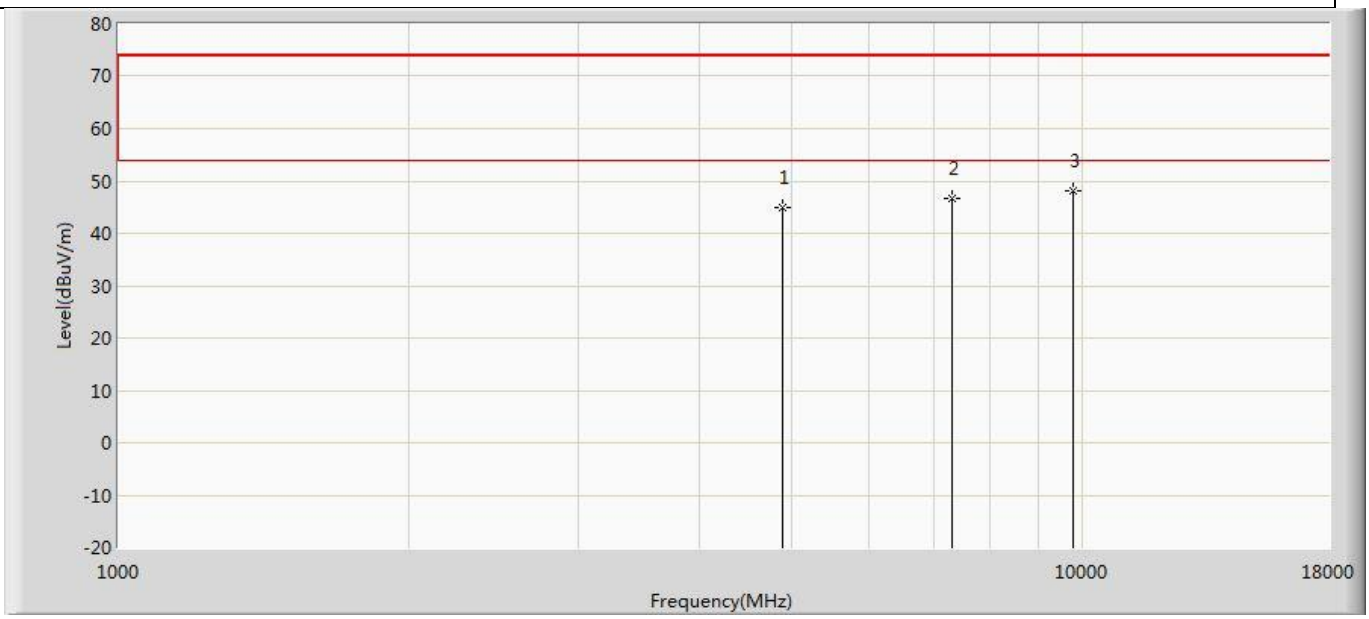
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	44.496	35.373	-29.504	74.000	9.122	PK
2		7206.000	45.236	33.556	-28.764	74.000	11.680	PK
3	*	9608.000	49.979	33.539	-24.021	74.000	16.440	PK

Profile: 2220295R	Page No.: 21
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2440MHz by LE_2Mbps	



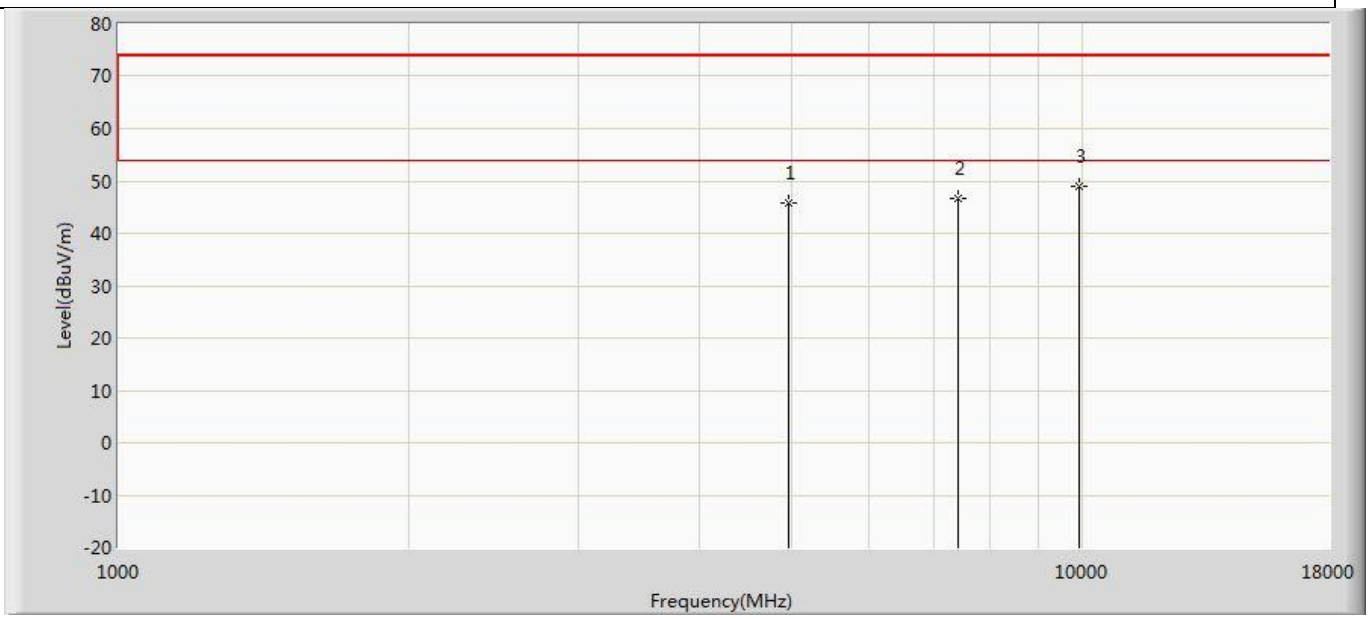
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	46.504	36.983	-27.496	74.000	9.521	PK
2		7320.000	47.195	34.917	-26.805	74.000	12.278	PK
3	*	9760.000	47.953	32.633	-26.047	74.000	15.320	PK

Profile: 2220295R	Page No.: 22
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2440MHz by LE_2Mbps	



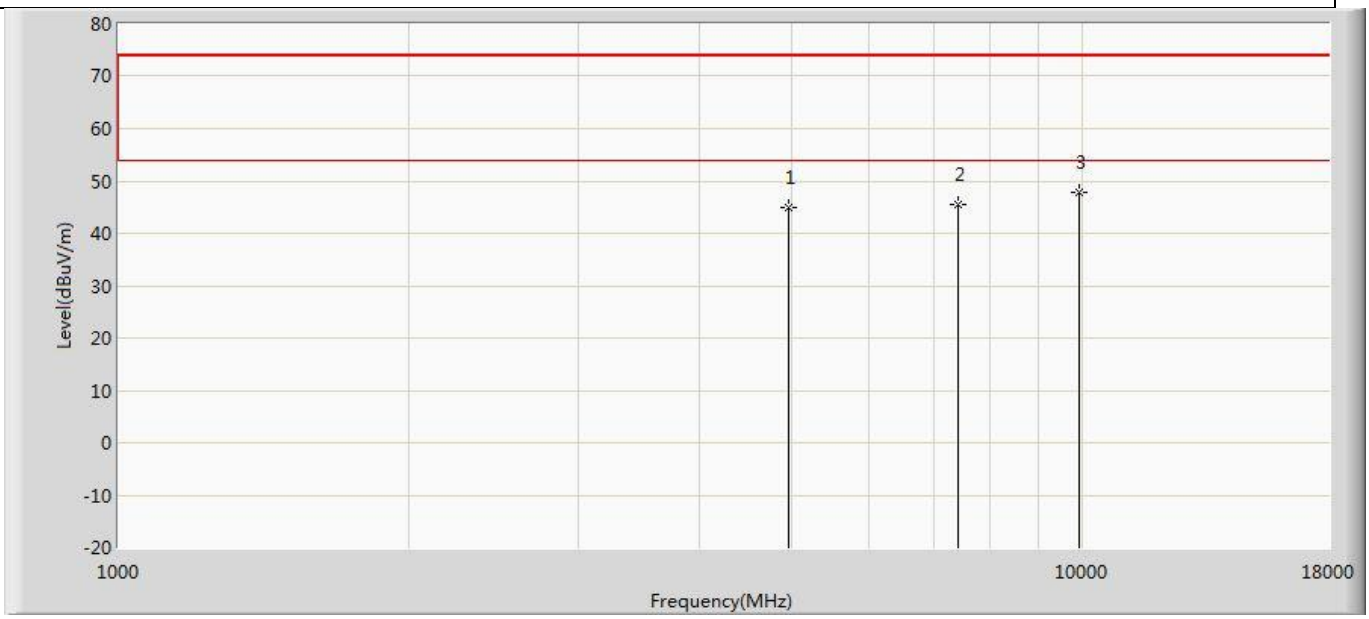
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4880.000	45.003	35.482	-28.997	74.000	9.521	PK
2		7320.000	46.692	34.414	-27.308	74.000	12.278	PK
3	*	9760.000	47.991	32.671	-26.009	74.000	15.320	PK

Profile: 2220295R	Page No.: 23
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2480MHz by LE_2Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	45.824	36.056	-28.176	74.000	9.769	PK
2		7440.000	46.559	34.688	-27.441	74.000	11.871	PK
3	*	9920.000	48.985	33.689	-25.015	74.000	15.296	PK

Profile: 2220295R	Page No.: 24
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/09 - 00:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2480MHz by LE_2Mbps	

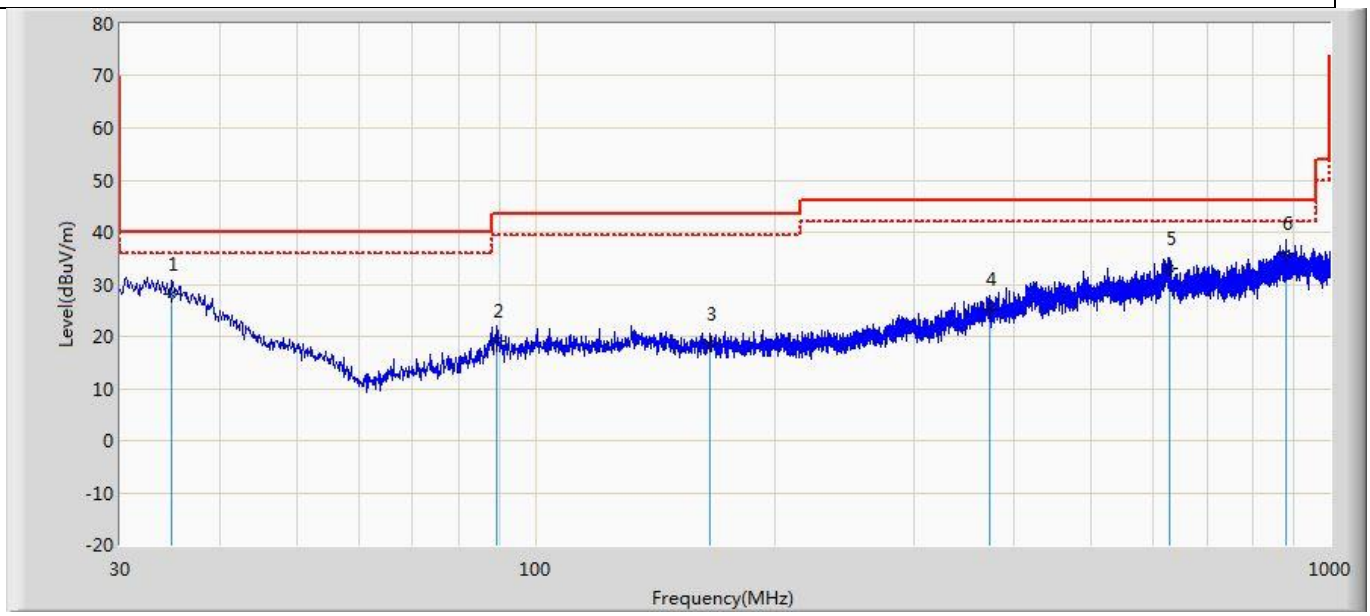


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	44.871	35.103	-29.129	74.000	9.769	PK
2		7440.000	45.551	33.680	-28.449	74.000	11.871	PK
3	*	9920.000	47.742	32.446	-26.258	74.000	15.296	PK

Note:
1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).
3. The test frequency range, 9kHz~30MHz and Above 18GHz worst case are at least 6dB below the limits, therefore no data appear in the report.
4. 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.

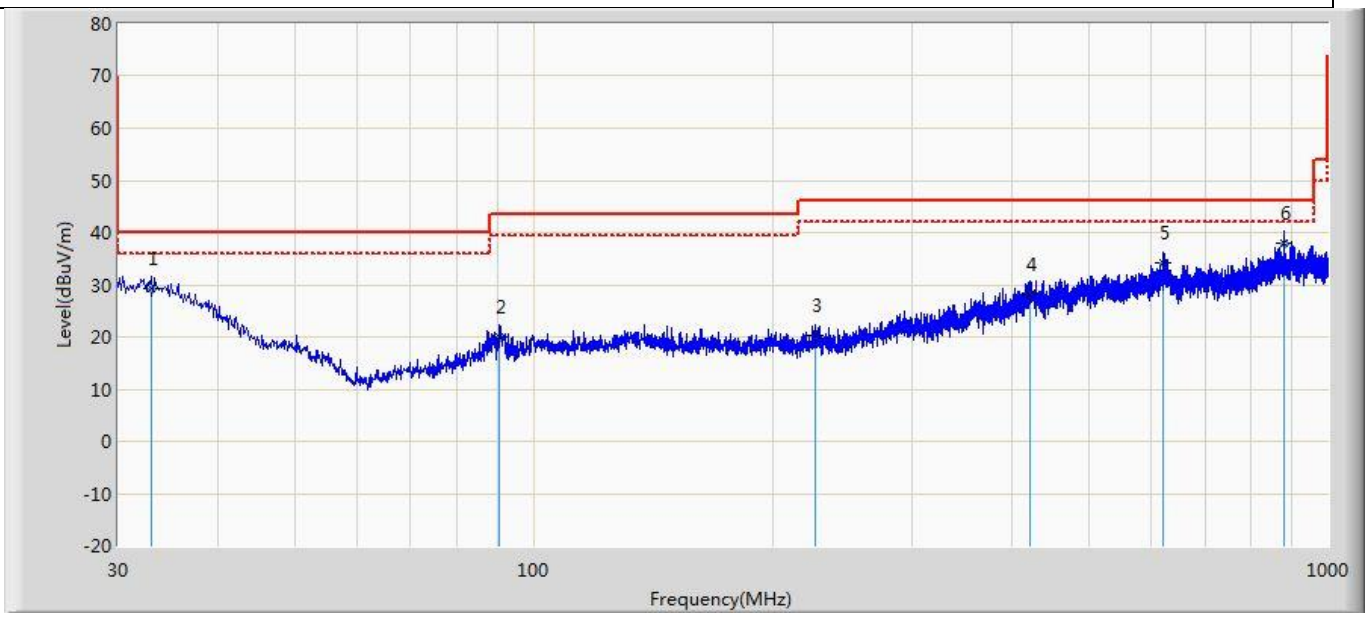
The worst case of Radiated Emission below 1GHz:

Profile: 2220295R	Page No.: 23
Engineer: Carlos. Shen	
Site: AC2	Time: 2022/02/16 - 20:32
Limit: FCC_Part15.209_RE(3m)	Margin: 4
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		34.850	28.154	1.139	-11.846	40.000	27.015	QP
2		89.412	19.025	5.408	-24.475	43.500	13.617	QP
3		166.042	18.695	1.356	-24.805	43.500	17.339	QP
4		373.016	25.154	1.213	-20.846	46.000	23.940	QP
5		627.884	33.125	2.752	-12.875	46.000	30.373	QP
6	*	879.963	36.015	3.584	-9.985	46.000	32.431	QP

Profile: 2220295R	Page No.: 24
Engineer: Carlos. Shen	
Site: AC2	Time: 2022/03/09 - 22:44
Limit: FCC_Part15.209_RE(3m)	Margin: 4
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		33.031	29.154	2.116	-10.846	40.000	27.039	QP
2		90.625	20.125	6.479	-23.375	43.500	13.646	QP
3		225.940	20.158	2.185	-25.842	46.000	17.973	QP
4		421.031	28.145	1.046	-17.855	46.000	27.098	QP
5		621.458	34.125	3.424	-11.875	46.000	30.701	QP
6	*	879.963	38.033	5.602	-7.967	46.000	32.431	QP

Note:
1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

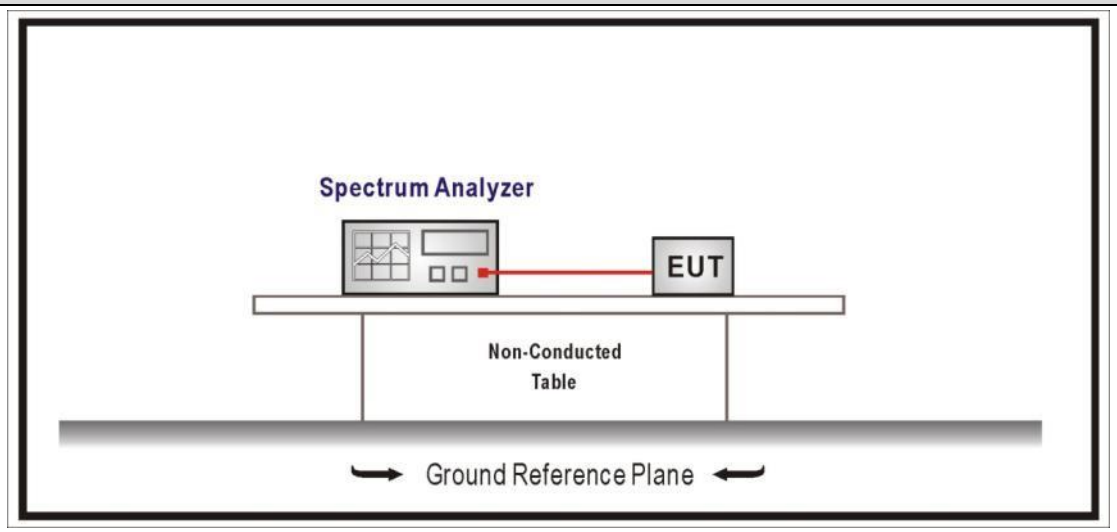
4.3 Emissions in non-restricted frequency band — VERDICT: PASS

4.3.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(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).

4.3.2 Test Setup

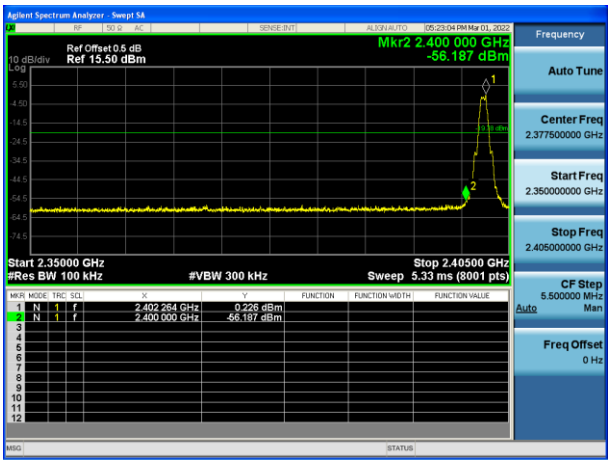


4.3.3 Test Procedure

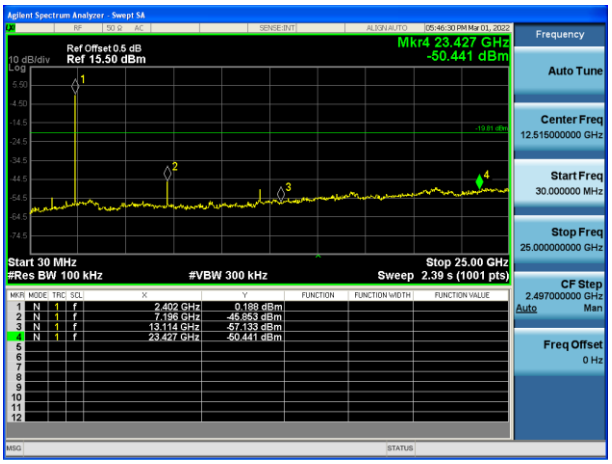
References Rule			Chapter	Description
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10	11.11.1	General
	☒	ANSI C63.10	11.11.2	Reference level measurement
	☒	ANSI C63.10	11.11.3	Emission level measurement

4.3.4 Test Data

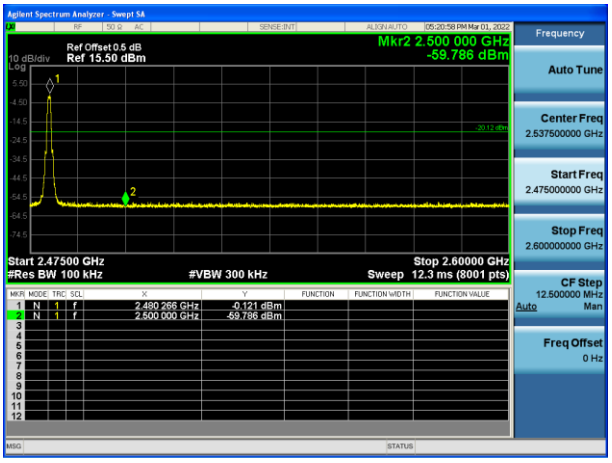
Mode 1 CH00 (2402MHz)



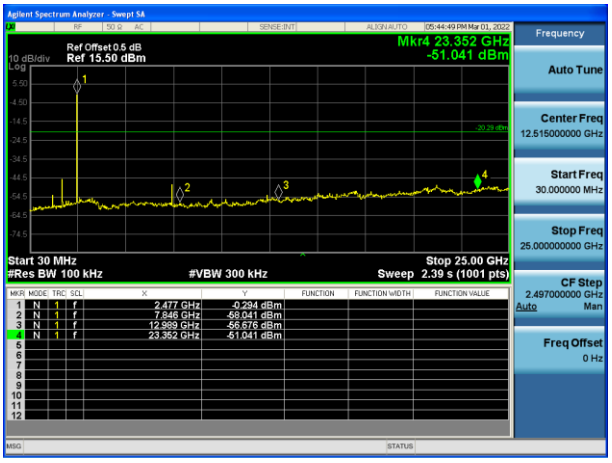
Mode 1 CH00 (2402MHz)



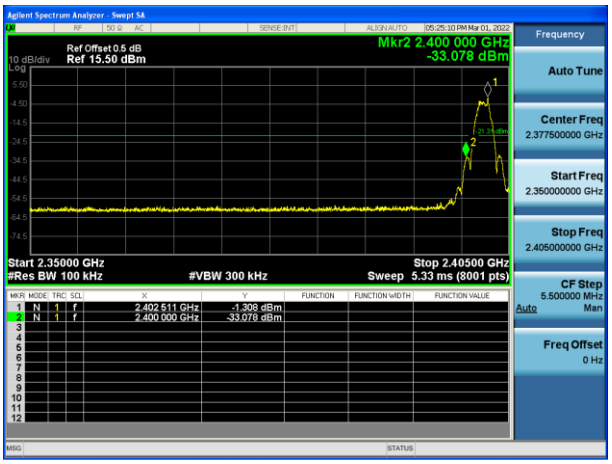
Mode 1 CH39 (2480MHz)



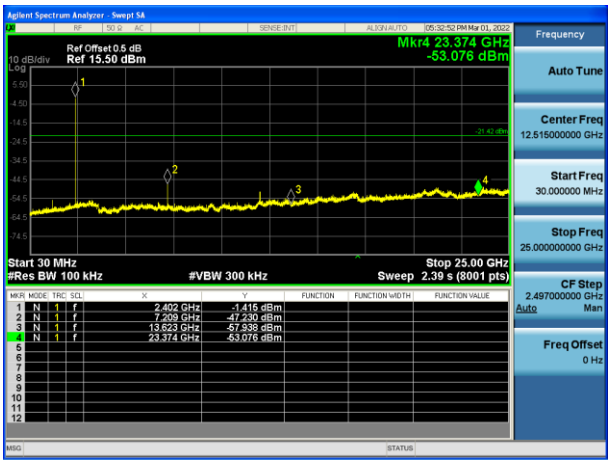
Mode 1 CH39 (2480MHz)



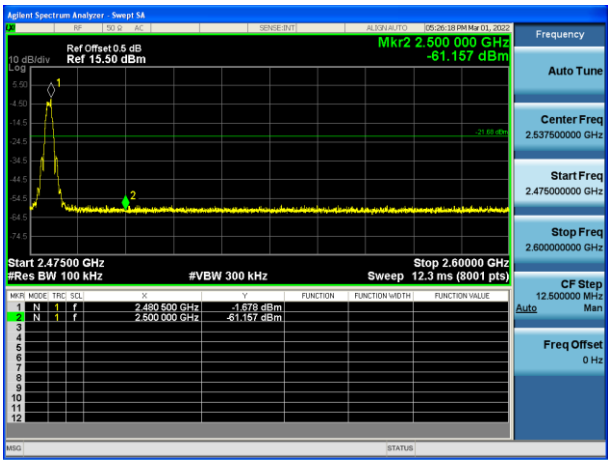
Mode 2 CH00 (2402MHz)



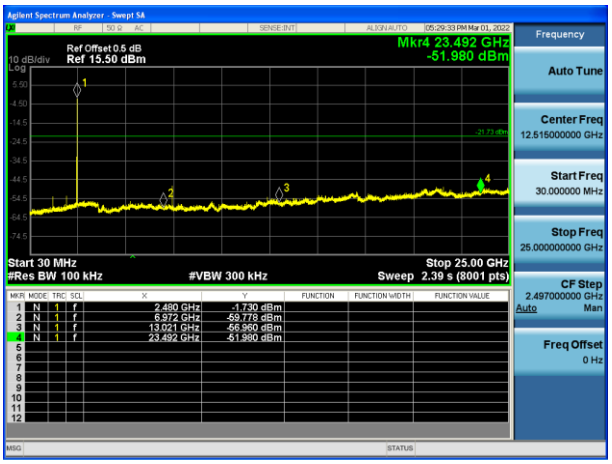
Mode 2 CH00 (2402MHz)



Mode 2 CH39 (2480MHz)



Mode 2 CH39 (2480MHz)

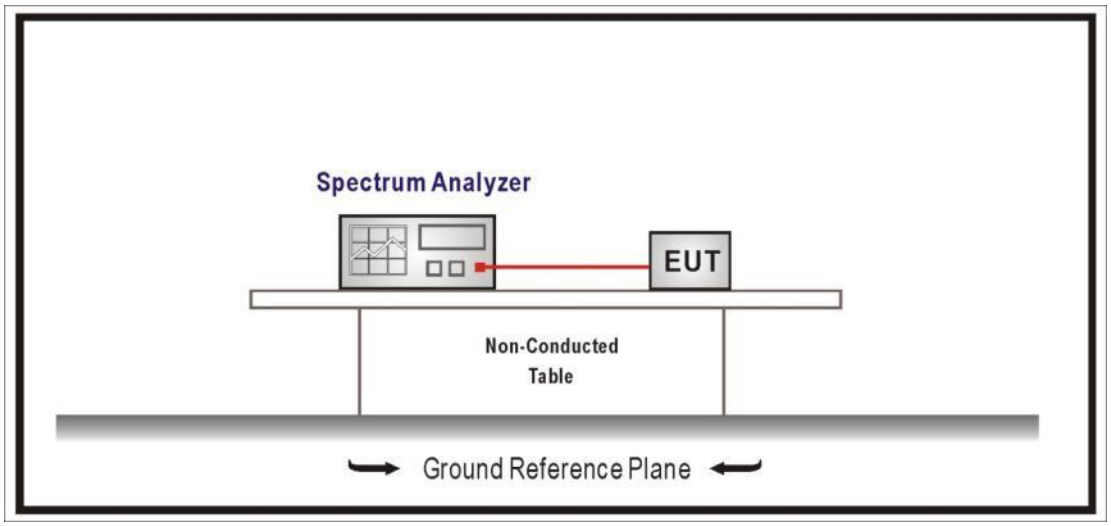


4.4 Duty cycle	VERDICT: PASS

4.4.1 Limit

N/A

4.4.2 Test Setup



4.4.3 Test Procedure

References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

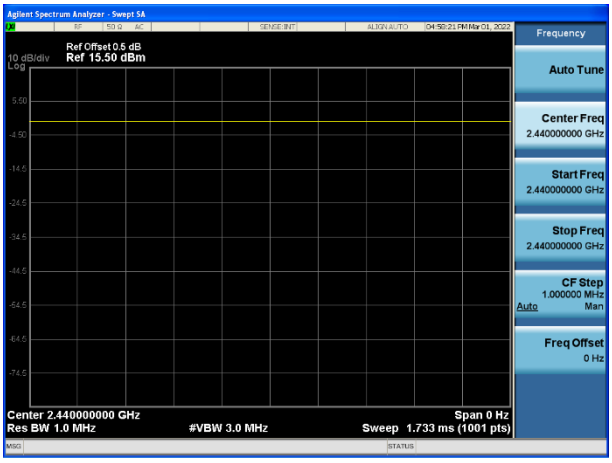
4.4.4 Test Data

Test Mode	Tx On (ms)	VBW (kHz)	Tx On + Tx Off (ms)	Duty Cycle
Mode 1	--	300	--	100%
Mode 2	--	300	--	100%

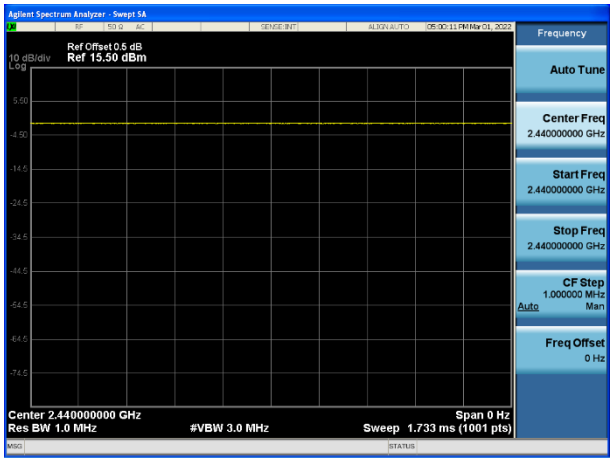
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control Level for the tested mode of operation.

Note 2: For duty cycle > 98%, according to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, for average detector set: VBW ≥ 1/T will be used.

Mode 1 CH18 2440MHz



Mode 2 CH18 2440MHz



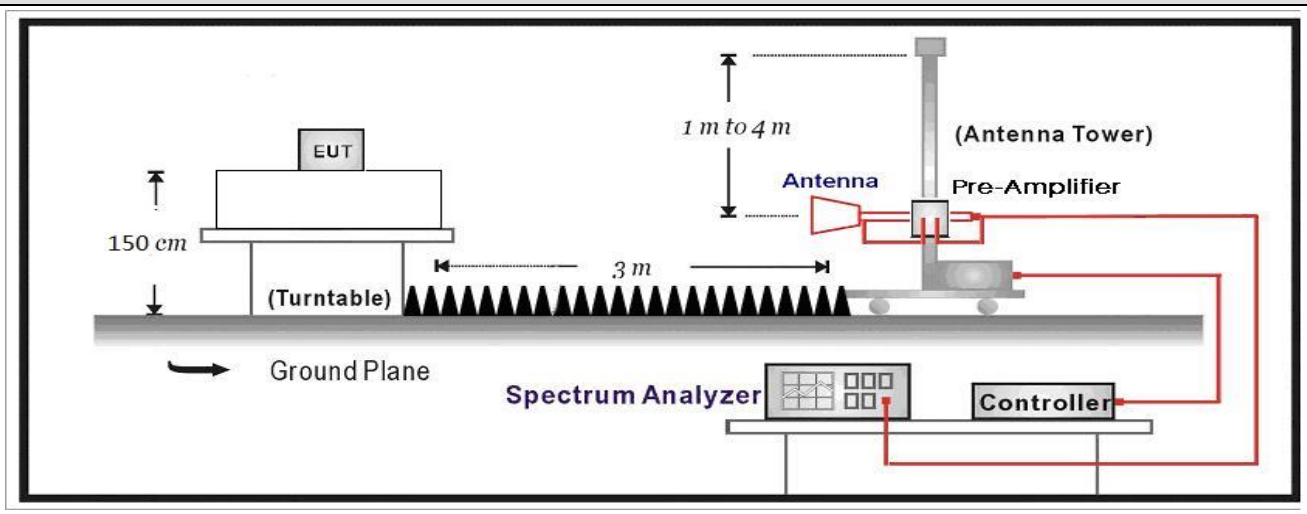
4.5 Radiated Emission Band Edge — VERDICT: PASS

4.5.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209			
Frequency bands (MHz)	Detector	Limit (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				

4.5.2 Test Setup

Above 1GHz Test Setup:

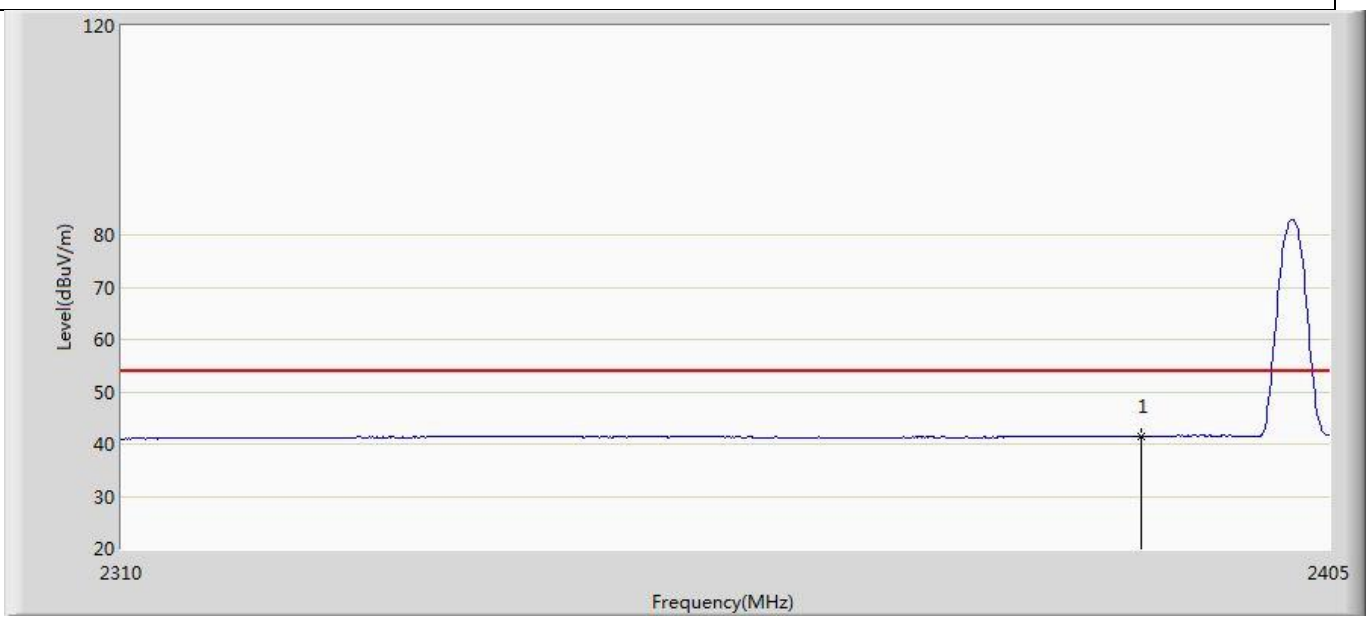


4.5.3 Test Procedure

	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

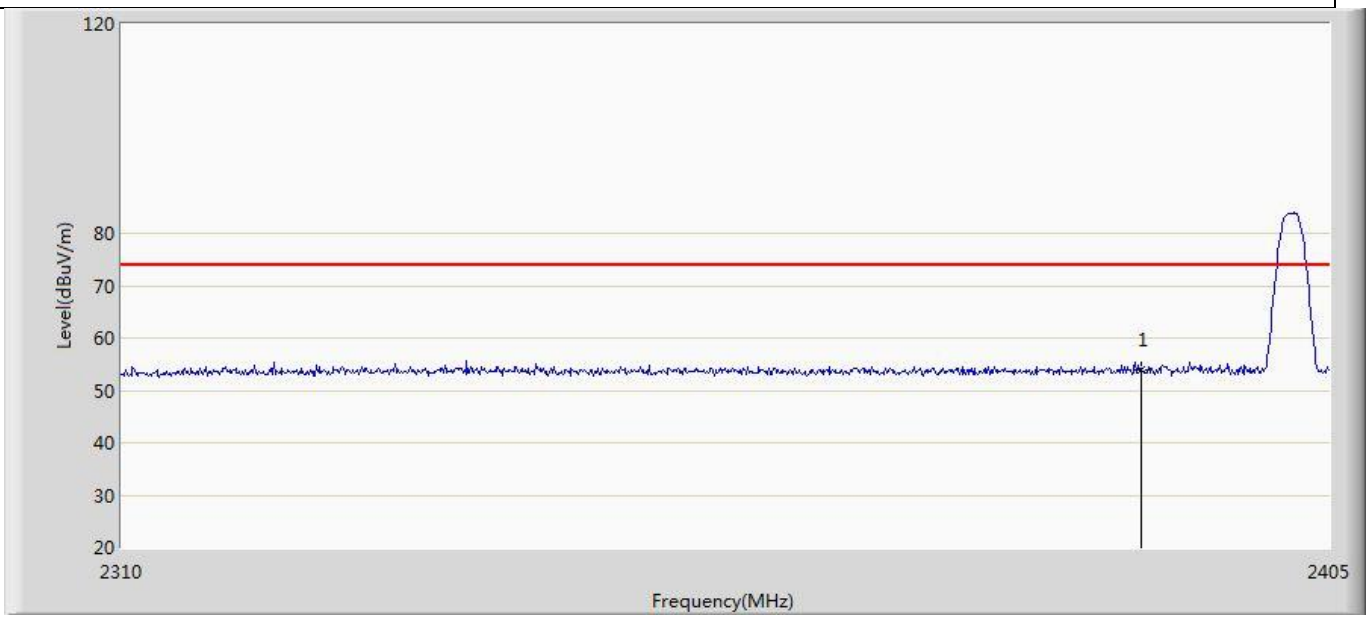
4.5.4 Test Data

Profile: 2220295R	Page No.: 1
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/03/12 - 00:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



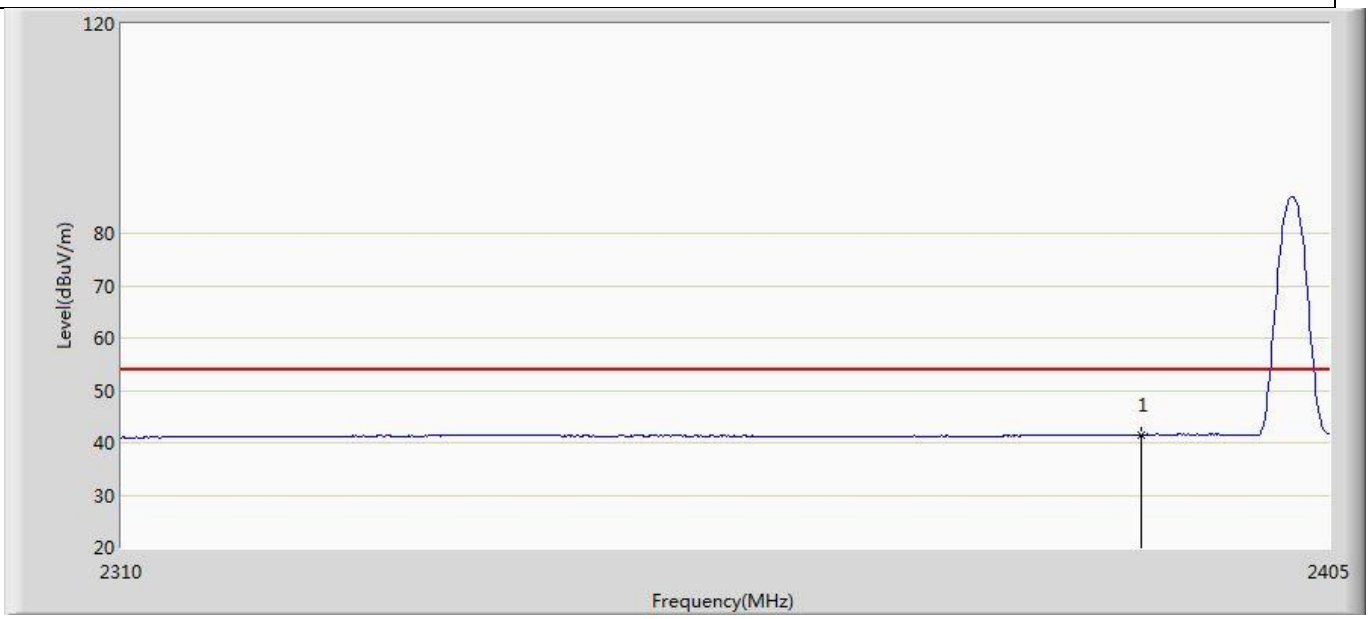
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	41.502	3.197	-12.498	54.000	38.305	AV

Profile: 2220295R	Page No.: 2
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



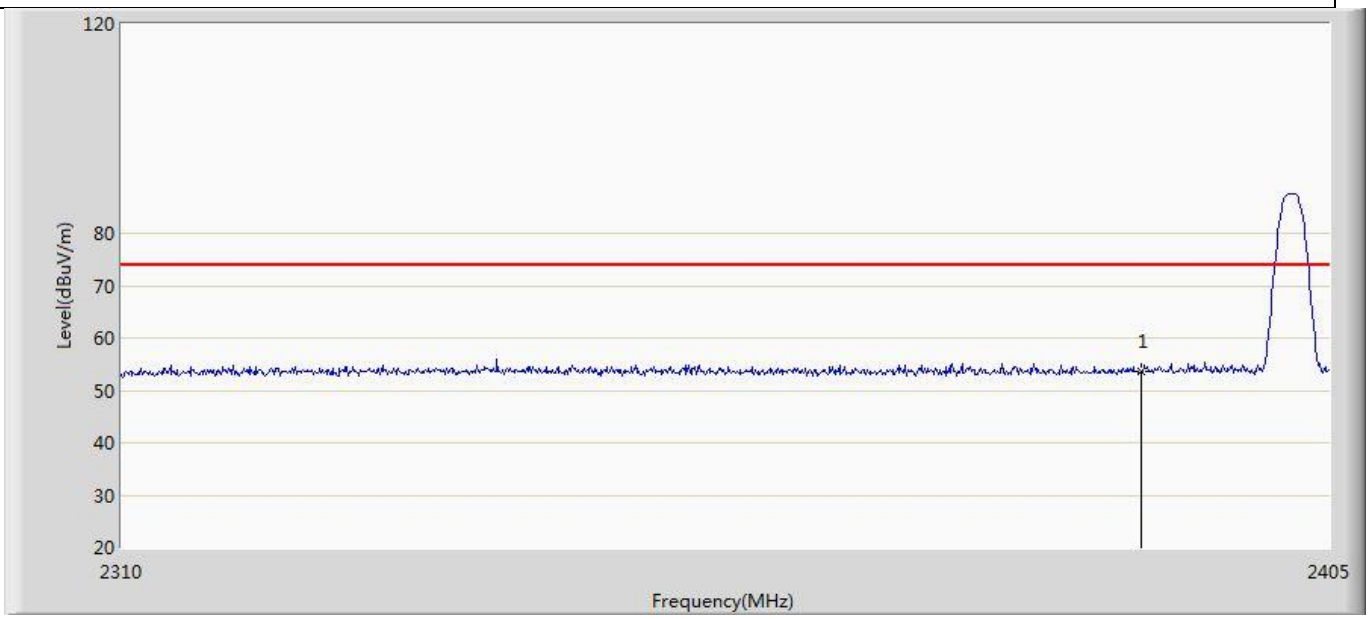
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	54.055	15.750	-19.945	74.000	38.305	PK

Profile: 2220295R	Page No.: 3
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



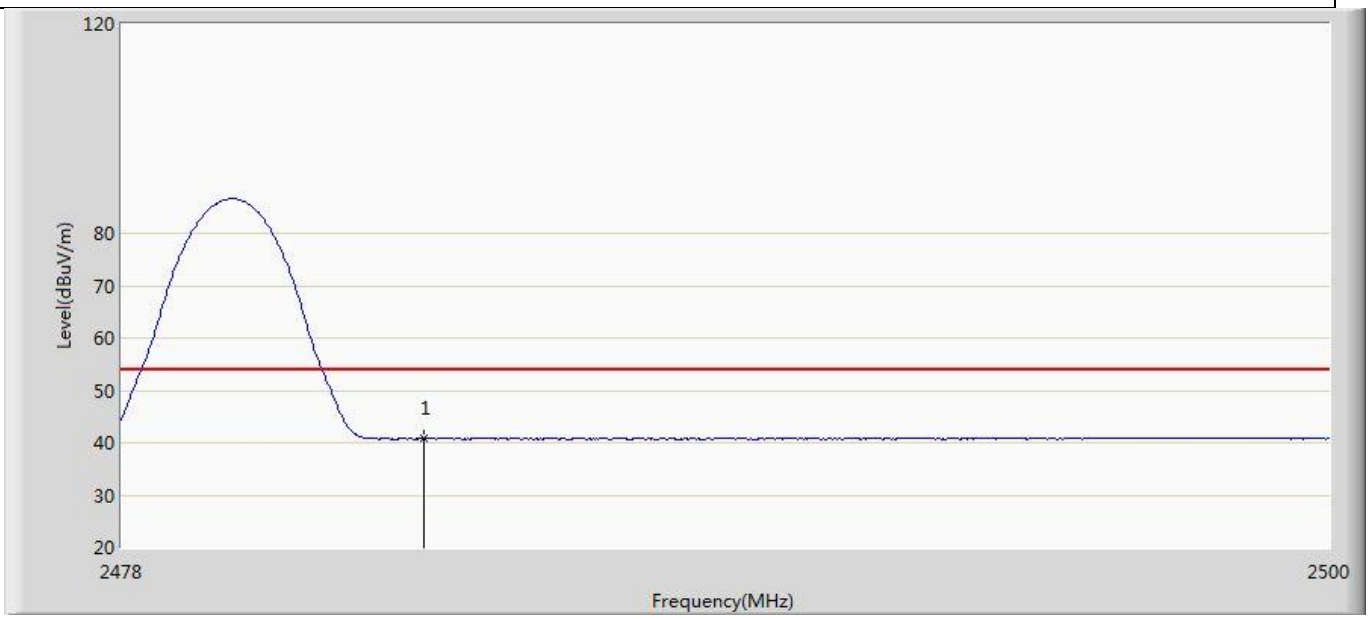
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	41.519	3.214	-12.481	54.000	38.305	AV

Profile: 2220295R	Page No.: 4
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2402MHz by LE_1Mbps	



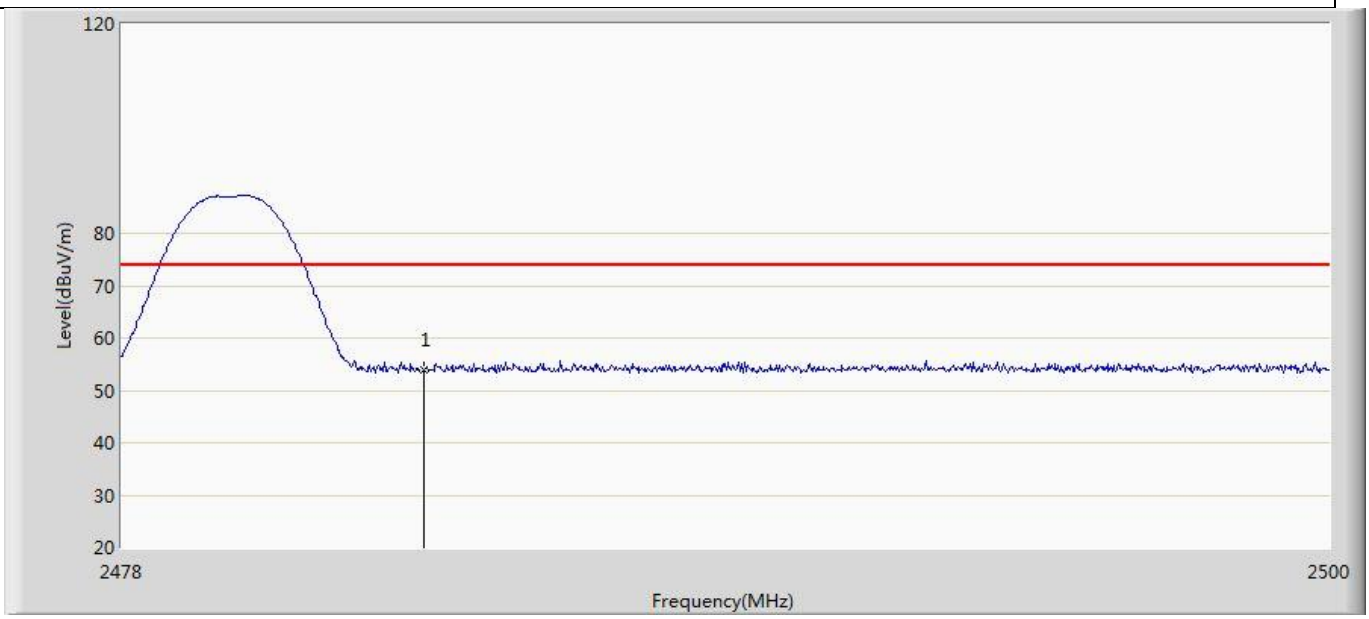
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	53.554	15.249	-20.446	74.000	38.305	PK

Profile: 2220295R	Page No.: 5
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2480MHz by LE_1Mbps	



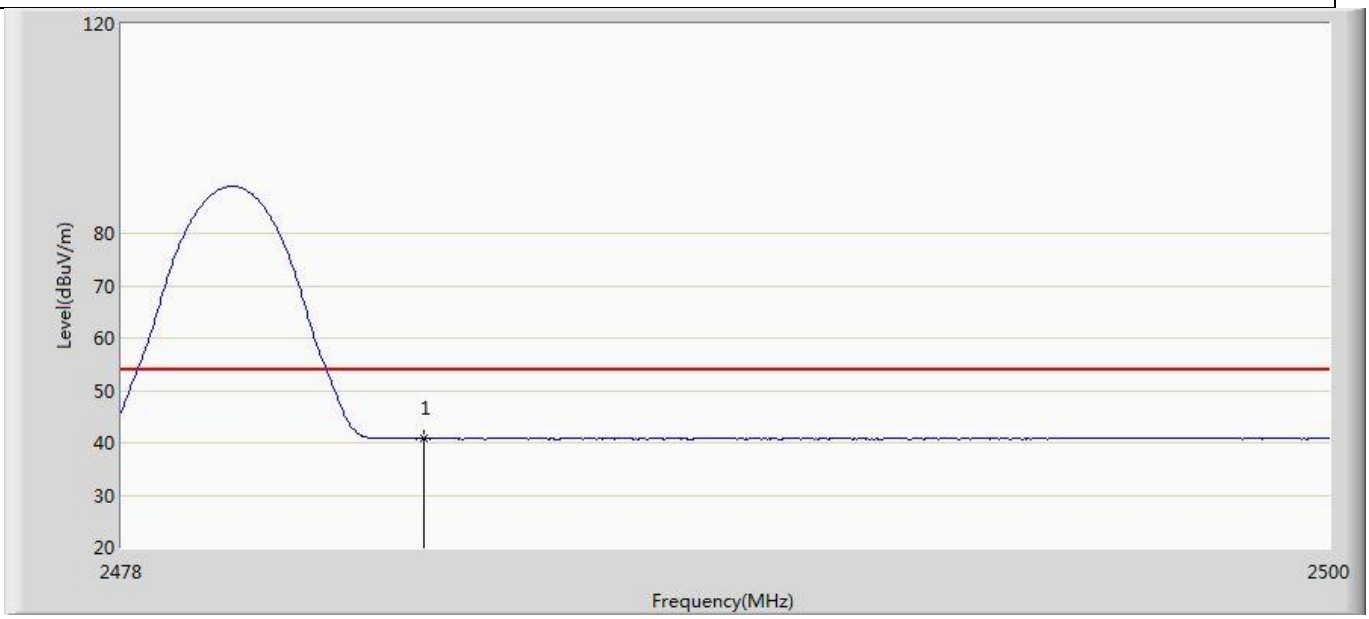
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	40.727	2.273	-13.273	54.000	38.453	AV

Profile: 2220295R	Page No.: 6
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2480MHz by LE_1Mbps	



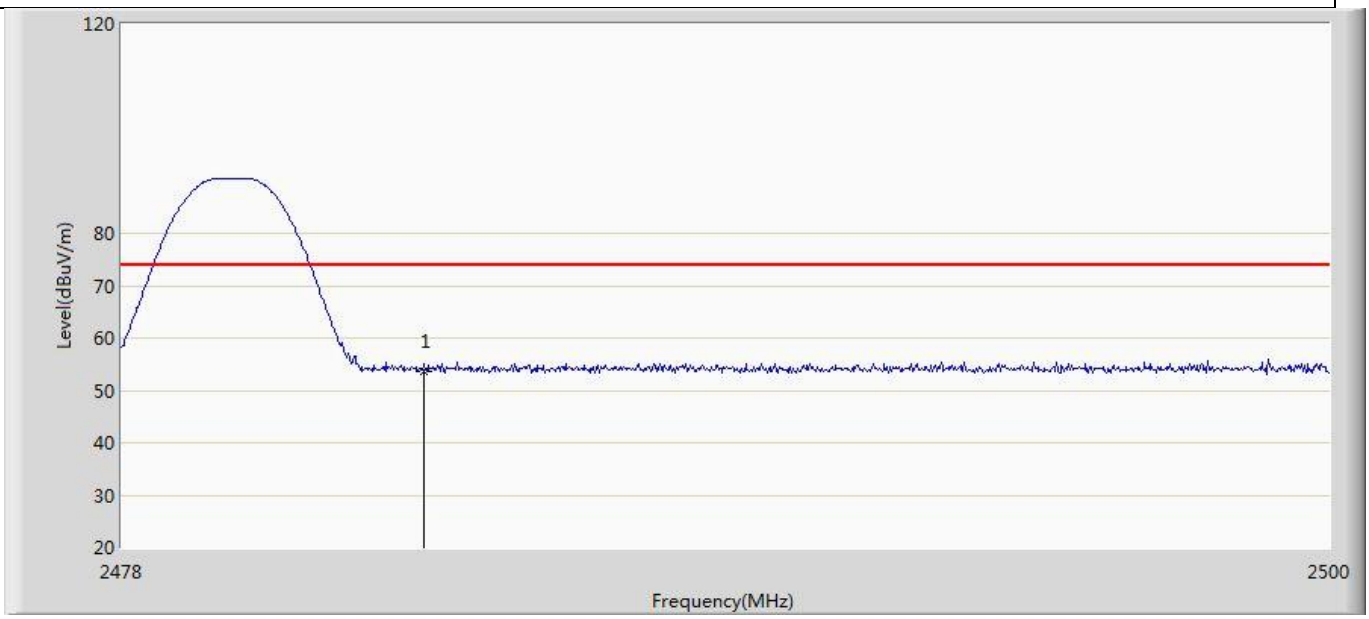
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	54.045	15.591	-19.955	74.000	38.453	PK

Profile: 2220295R	Page No.: 7
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2480MHz by LE_1Mbps	



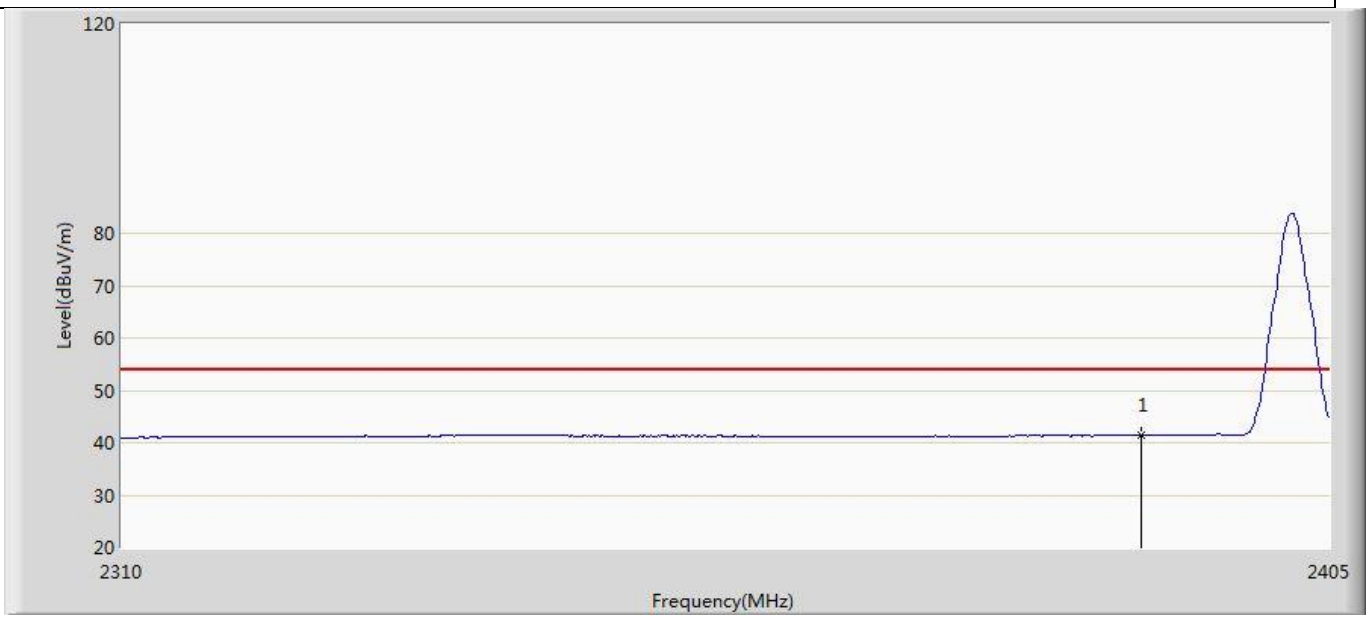
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	40.767	2.313	-13.233	54.000	38.453	AV

Profile: 2220295R	Page No.: 8
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 1:Transmit at 2480MHz by LE_1Mbps	



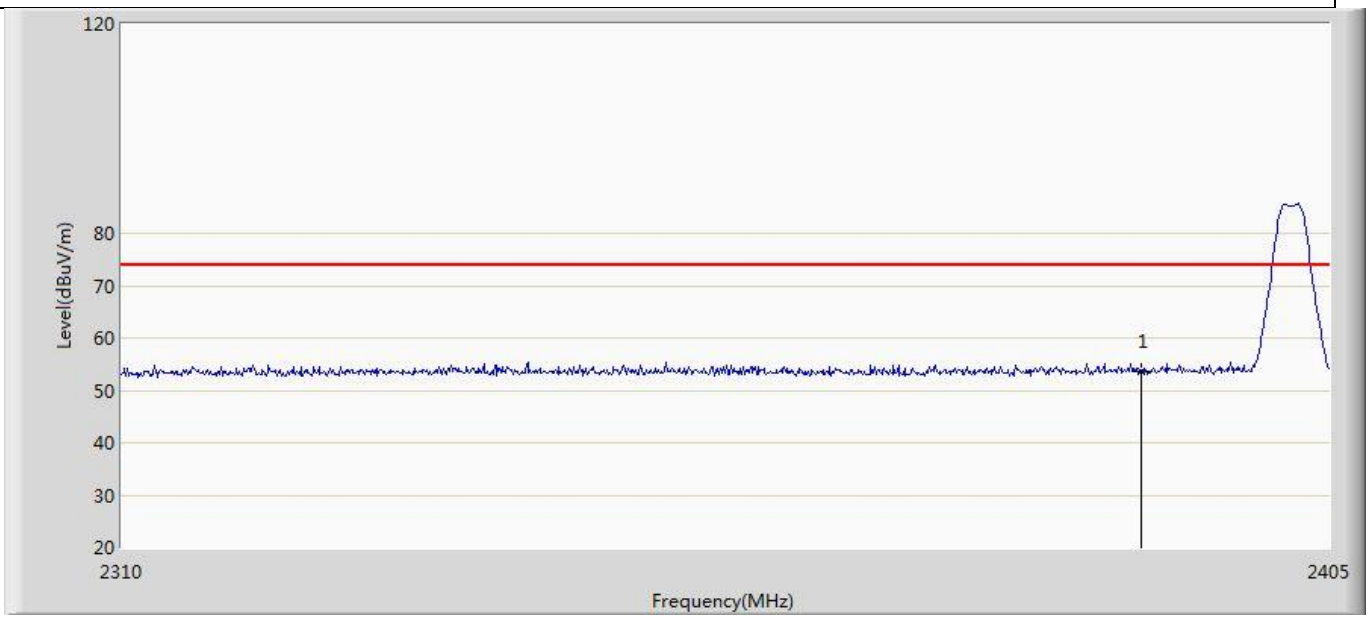
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	53.684	15.230	-20.316	74.000	38.453	PK

Profile: 2220295R	Page No.: 9
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2402MHz by LE_2Mbps	



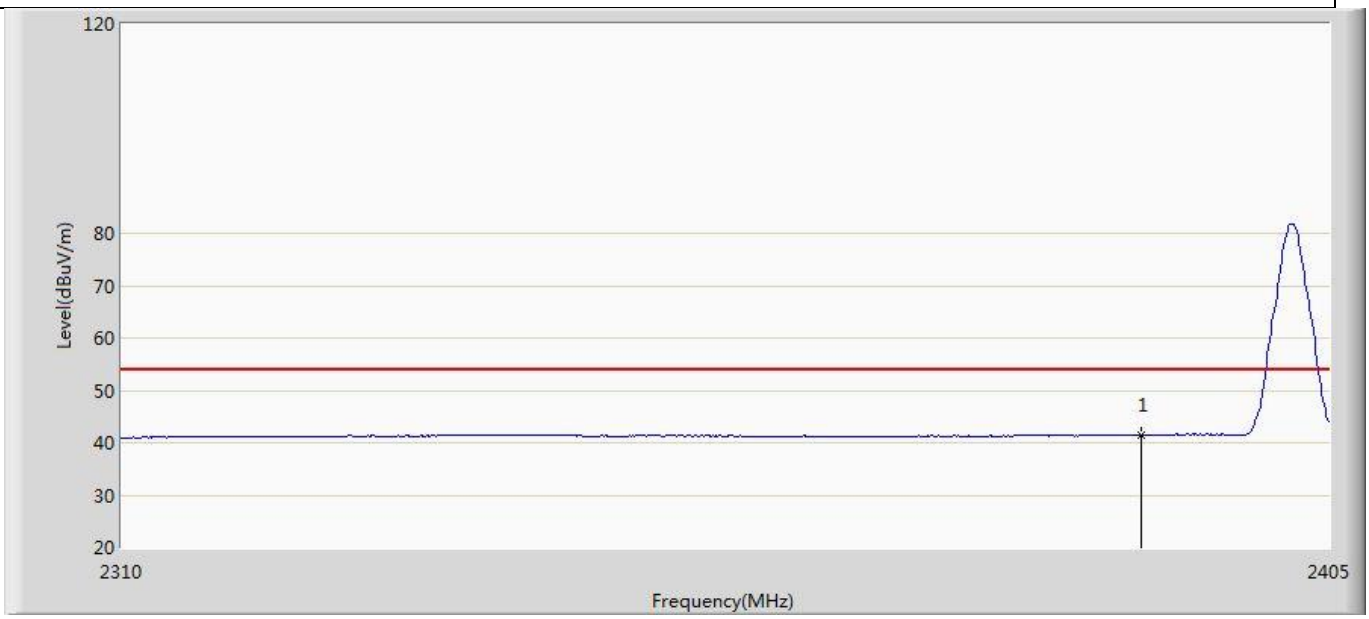
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	41.483	3.178	-12.517	54.000	38.305	AV

Profile: 2220295R	Page No.: 10
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2402MHz by LE_2Mbps	



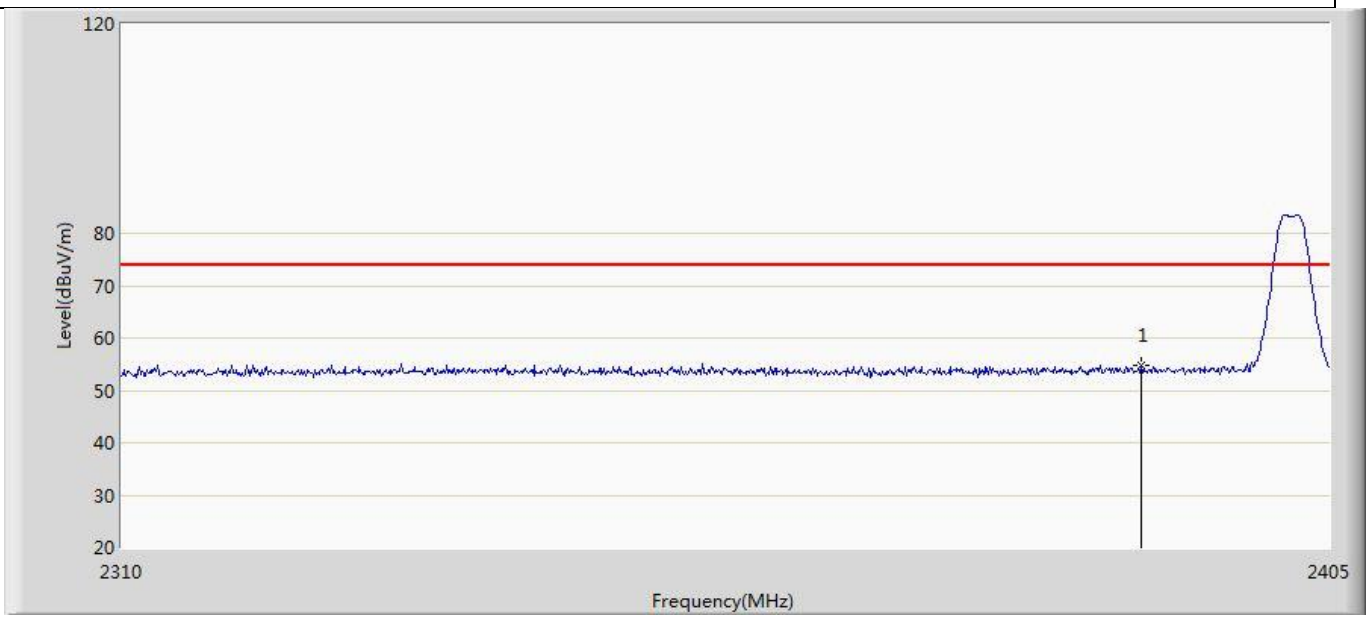
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	53.733	15.428	-20.267	74.000	38.305	PK

Profile: 2220295R	Page No.: 11
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2402MHz by LE_2Mbps	



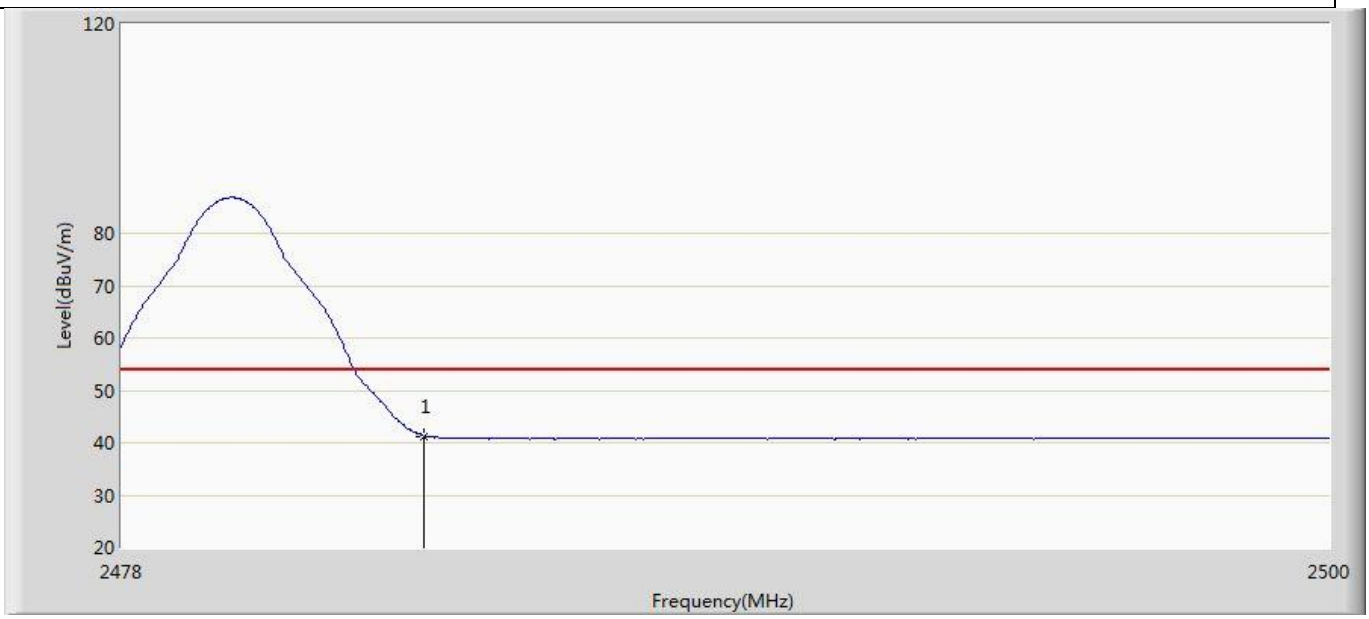
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	41.516	3.211	-12.484	54.000	38.305	AV

Profile: 2220295R	Page No.: 12
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2402MHz by LE_2Mbps	



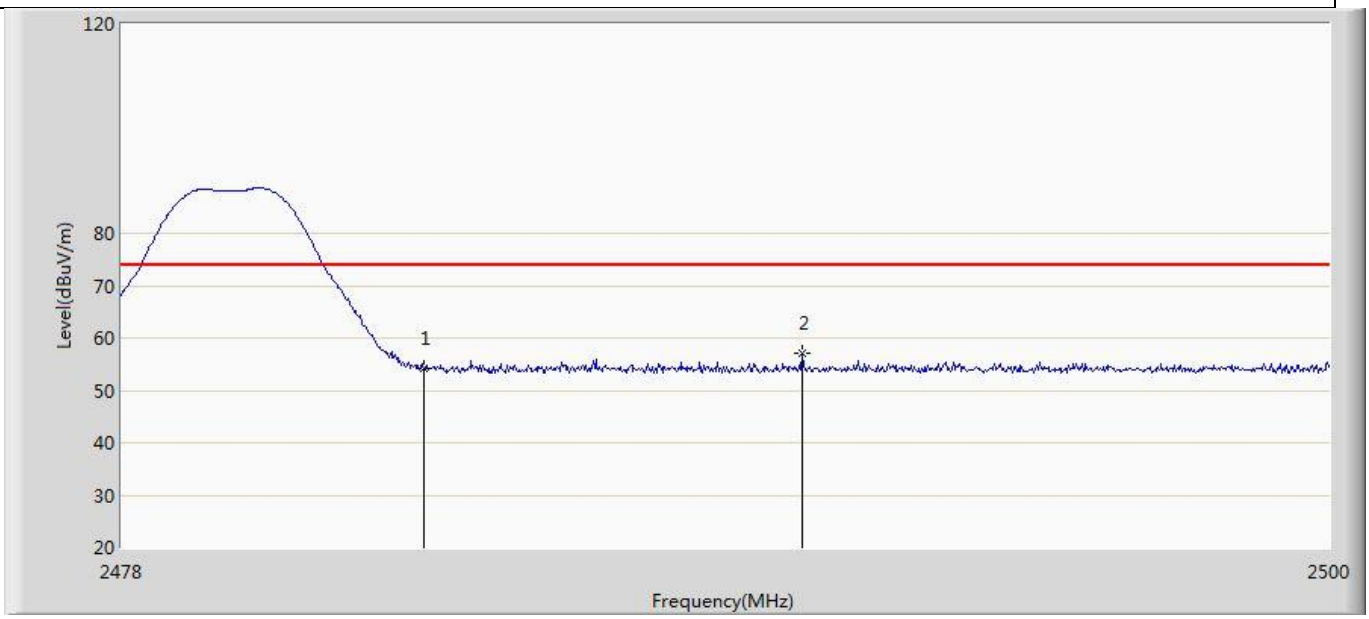
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	54.646	16.341	-19.354	74.000	38.305	PK

Profile: 2220295R	Page No.: 13
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2480MHz by LE_2Mbps	



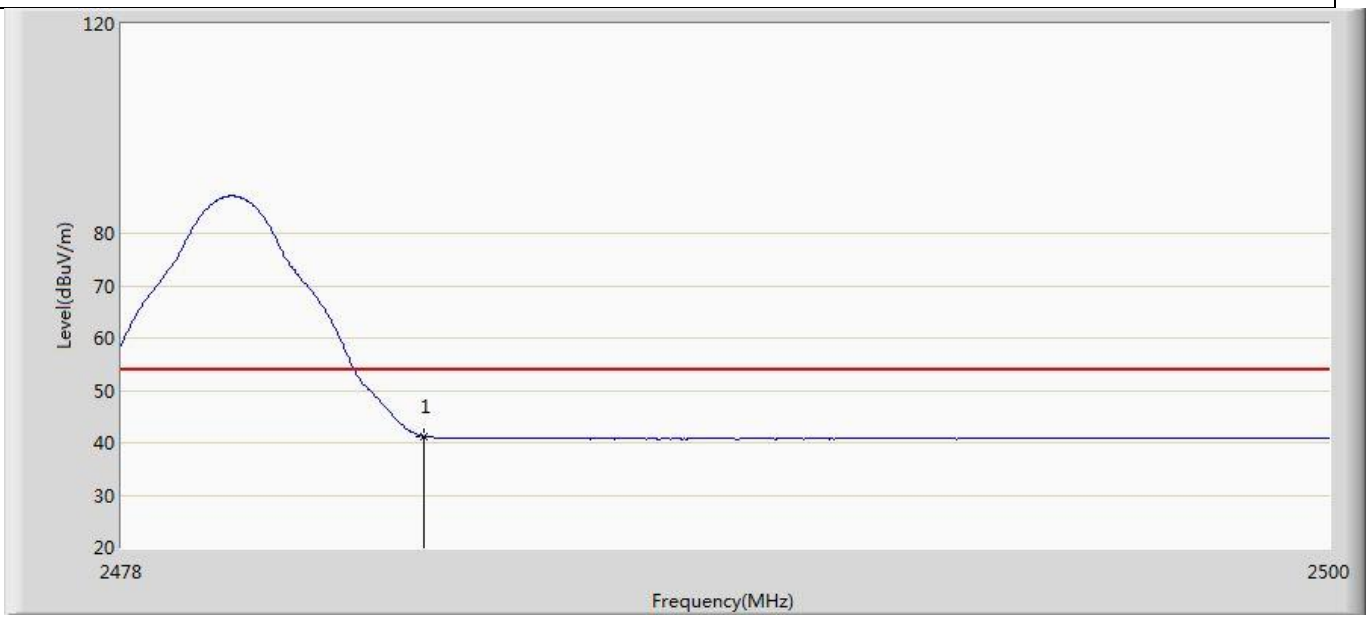
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	41.299	2.845	-12.701	54.000	38.453	AV

Profile: 2220295R	Page No.: 14
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2480MHz by LE_2Mbps	



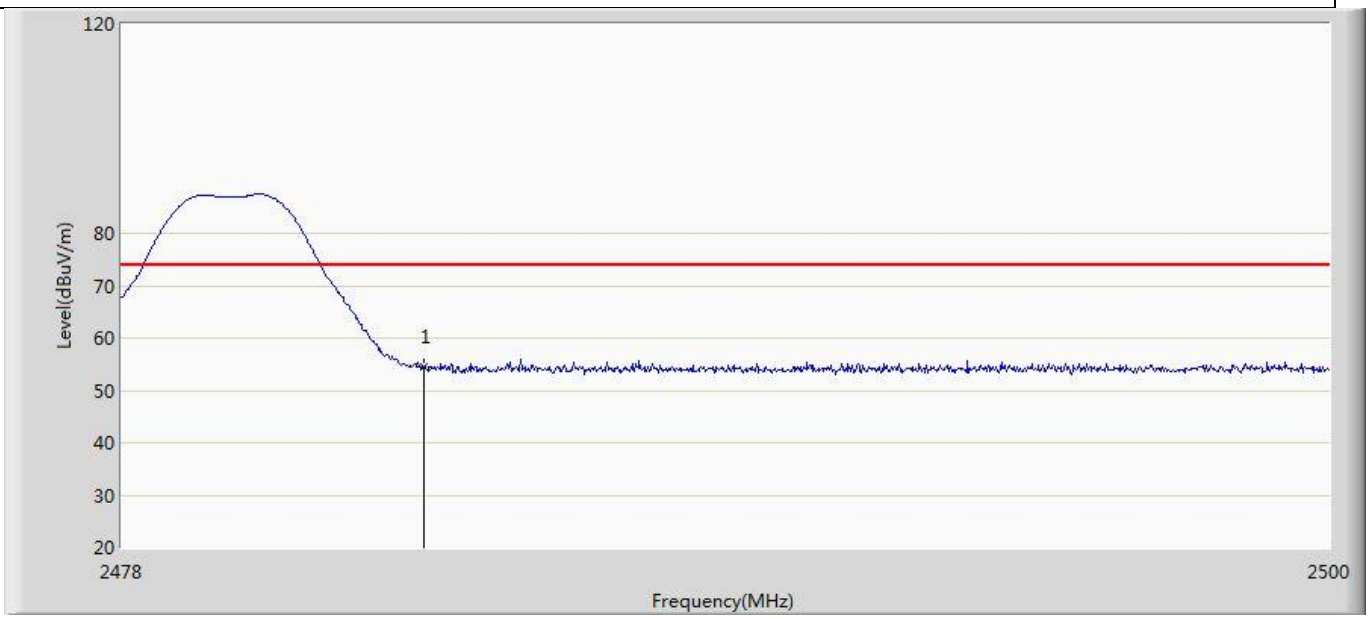
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2483.500	54.151	15.697	-19.849	74.000	38.453	PK
2	*	2490.386	56.980	18.508	-17.020	74.000	38.472	PK

Profile: 2220295R	Page No.: 15
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2480MHz by LE_2Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	41.276	2.822	-12.724	54.000	38.453	AV

Profile: 2220295R	Page No.: 16
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/03/08 - 23:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Wondercise Timeless	Power: Battery
Note: Mode 2:Transmit at 2480MHz by LE_2Mbps	



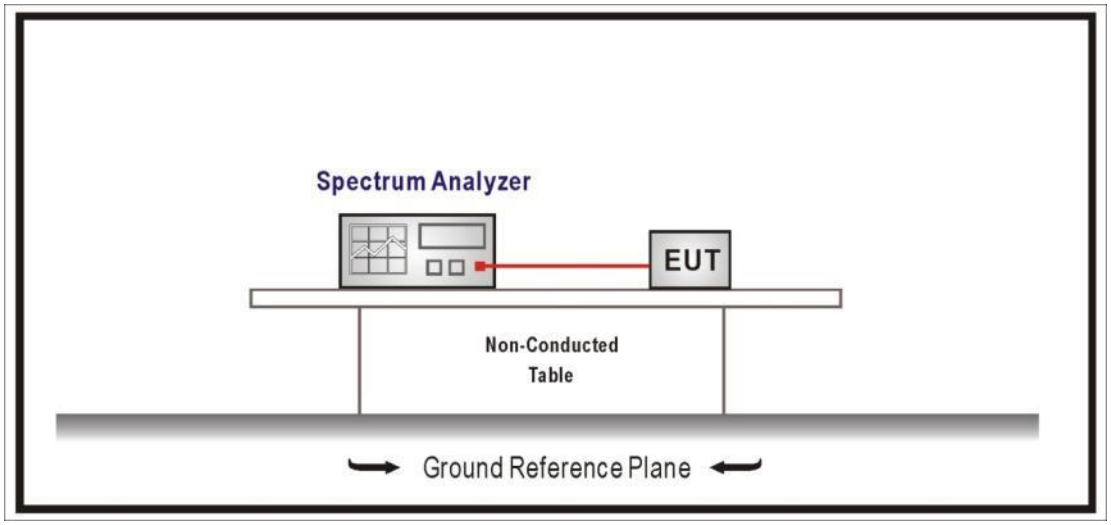
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	54.416	15.962	-19.584	74.000	38.453	PK

Note:
1. Measured Level = Reading Level + Factor.
2. As the radiated emission was performed, so conducted emission was not tested.

4.6 DTS Bandwidth	VERDICT: PASS

4.6.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz	

4.6.2 Test Setup



4.6.3 Test Procedure

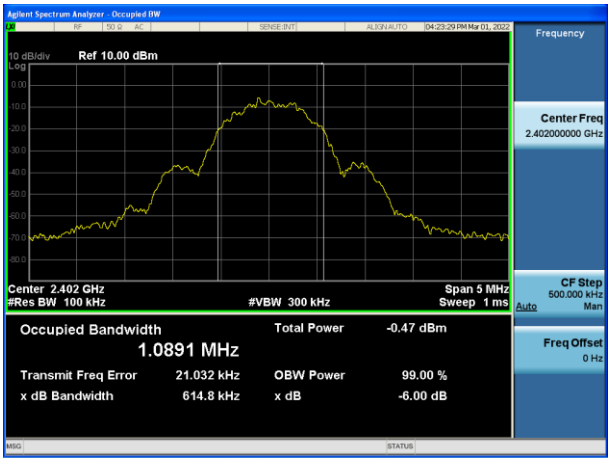
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

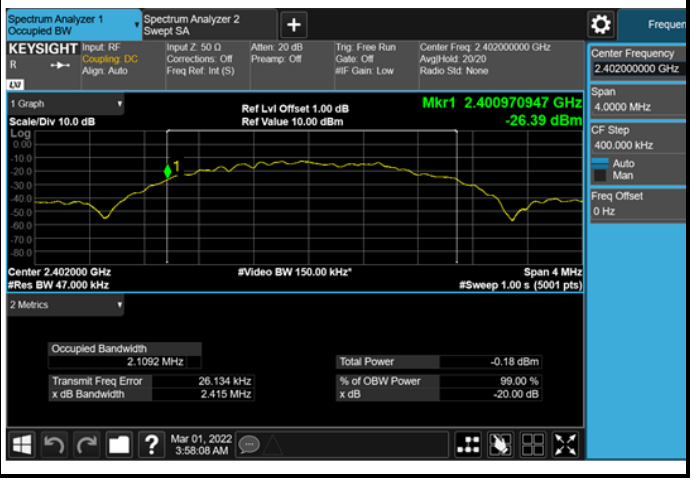
4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	99% Occupied Bandwidth (kHz)	Result
1	00	2402	614.8	>500	1065.7	Pass
	19	2440	721.0	>500	1066.2	Pass
	39	2480	708.6	>500	1060.6	Pass
2	00	2402	1224.0	>500	2109.2	Pass
	19	2440	1517.0	>500	2111.1	Pass
	39	2480	1338.0	>500	2110.8	Pass

Note : The worst case of Occupied Bandwidth as below:

6dB Occupied Bandwidth	99% Occupied Bandwidth
Mode 3 / CH00 (2402MHz)	Mode 3 / CH00 (2402MHz)





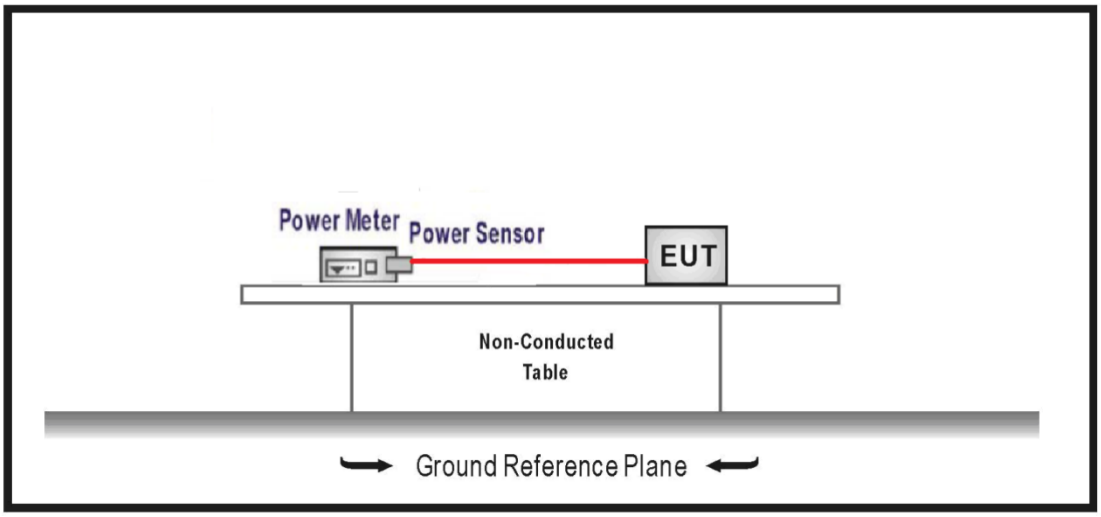
4.7 Fundamental emission output power	VERDICT: PASS

4.7.1 Limit

Standard			FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
☒	GTX ＜6dBi		Pout≤30dBm
☐	GTX ＞6dBi		
	☐	Non-Fix point-point	Pout≤30-(GTX -6)
	☐	Fix point-point	Pout≤30-[(GTX-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
	☐	single directional beam	Pout≤30-[(GTX-6)]/3+8dB

Note 1 : GTX directional gain of transmitting antennas.
Note 2 : Pout is maximum peak conducted output power .

4.7.2 Test Setup



4.7.3 Test Procedure

	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

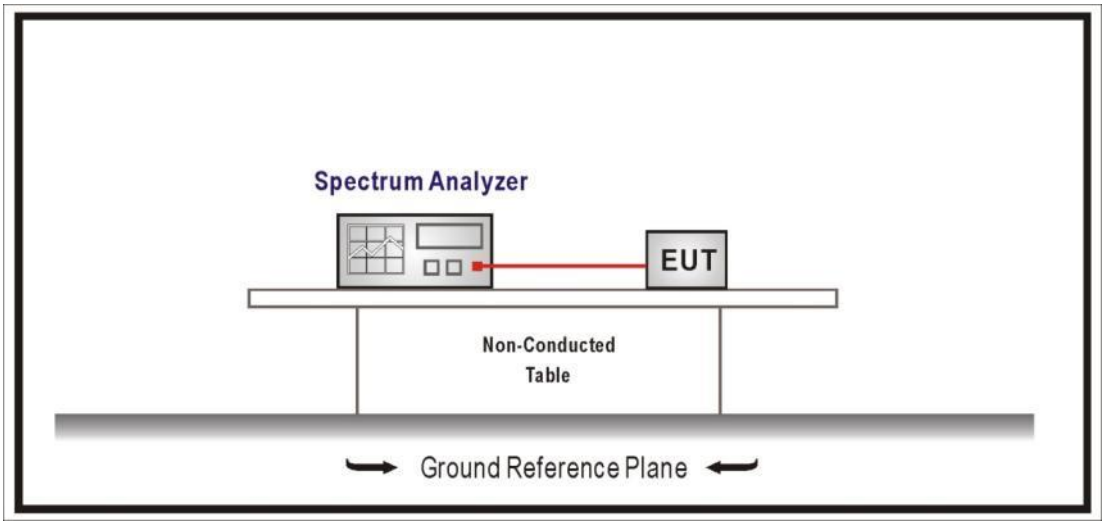
4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Power Output (dBm)	Limit (dBm)	Result
Mode 1	00	2402	1.16	≤30	Pass
	19	2440	0.62	≤30	Pass
	39	2480	1.09	≤30	Pass
Mode 2	00	2402	1.31	≤30	Pass
	19	2440	0.55	≤30	Pass
	39	2480	1.17	≤30	Pass

4.8 Power Density	VERDICT: PASS

4.8.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
Power Spectral Density≤8dBm/3kHz	

4.8.2 Test Setup



4.8.3 Test Procedure

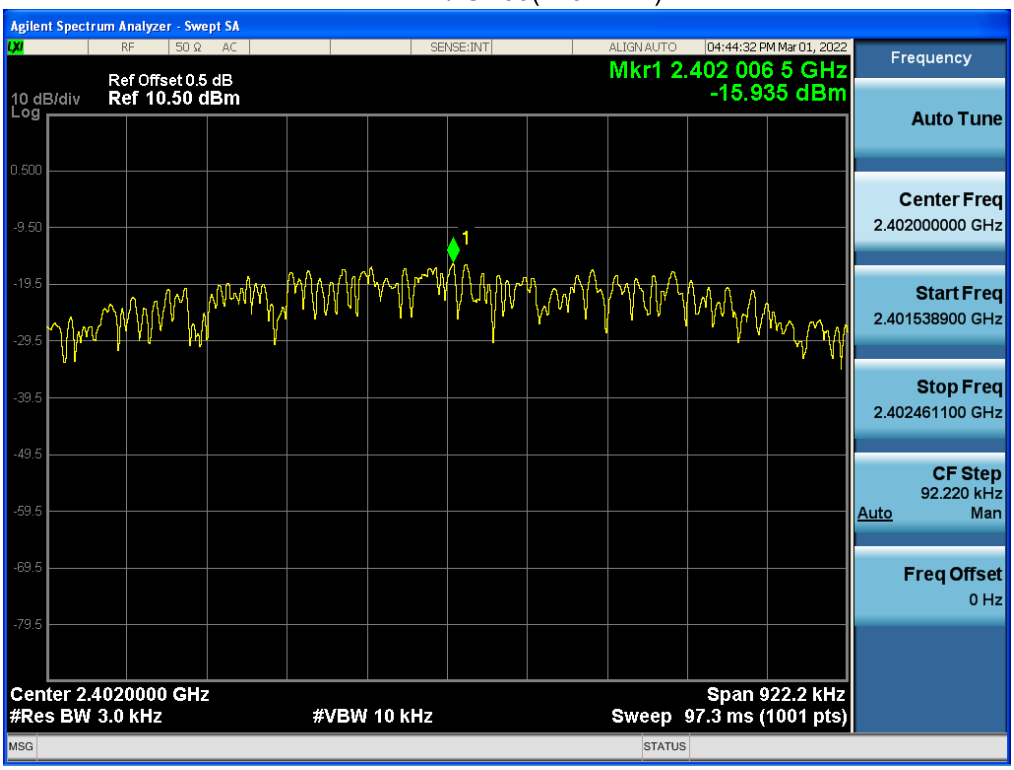
	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.5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

4.8.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Mode 1	00	2402	-15.935	≤8	Pass
	19	2440	-16.298	≤8	Pass
	39	2480	-16.467	≤8	Pass
Mode 2	00	2402	-17.564	≤8	Pass
	19	2440	-18.002	≤8	Pass
	39	2480	-18.048	≤8	Pass

Note : The worst case of PSD as below:

Mode 1 / CH00(2402MHz)



4.9 Antenna Requirement	VERDICT: PASS

4.9.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.203
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.	

4.9.2 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.	

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

The End

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