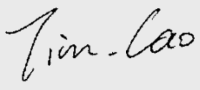
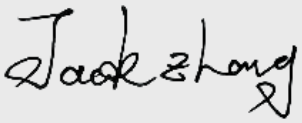
DEKRA Testing and Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098

Test report No:
2250730R-RF-US-P06V01

FCC TEST REPORT

Product Name	Barcode Scanner
Trademark	Honeywell
Model and /or type reference	1602g
FCC ID	HD5-1602-B
Applicant´s name / address	HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions 9680 OLD BAILES RD FORT MILL SC 29707-7539,USA
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
Verdict Summary	IN COMPLIANCE
Tested by (name / position & signature)	Tim Cao/Project Engineer 
Approved by (name / position & signature)	Jack Zhang/ Supervisor 
Date of issue	2022-06-20
Report Version	V1.0
Report template No	Template_FCC 15.247-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.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	May. 25, 2022
Date (start test)	May. 26, 2022
Date (finish test)	Jun. 13, 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.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
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
2250730R-RF-US-P06V01	V1.0	Initial issue of report.	2022-06-20

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.
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 Information;
   - Chapter 1.3Channel 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	2021.07.11	2022.07.10
Two-Line V-Network	R&S	ENV216	15/Jan/77	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/Band Edge/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2021.07.11	2022.07.10
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2021.08.12	2022.08.11
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2021.07.11	2022.07.10
4TX MIMO Power Sensor	Keysight	X8750A	MY59400102	2022.03.16	2023.03.15
Coaxial Cable	Woken	SFL402	F02-150410-044	2021.06.10	2022.06.09
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2021.07.09	2022.07.08

Radiated Emission(30MHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100176	2021.08.15	2022.08.14
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2021.08.23	2022.08.22
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(1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2021.08.12	2022.08.11
Pre-Amplifier	Quietek	AP-025C	CHM-0511006	2021.11.26	2022.11.25
Pre-Amplifier	SKET	LNPA_0118G-45	SK2021090101	2021.12.13	2022.12.12
DRG Horn Antenna	AP-025C	AP-025C	CHM-0511006	2021.11.26	2022.11.25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2021.04.14	2023.04.13
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2021.06.10	2022.06.09
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2022.03.21	2023.03.20
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2021.07.09	2022.07.08
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%.The Uncertainties is complice with standard required as below.

Test item	Uncertainty
Conducted Emission	± 2.02 dB
Emissions in restricted frequency bands	above 1G : ± 3.9 dB below 1G is :± 3.8 dB
20dB Bandwidth	± 1 kHz
Carrier Frequency Separation	± 1 kHz
Number of Hopping Frequencies	± 1 kHz
Time of Occupancy (Dwell Time)	± 0.1 us
Peak OutputPower	± 1.0 dB
Emissions in non-restricted frequency bands	± 1.0 dB
Radiated Emission Band Edge	above 1G : ± 3.9 dB below 1G : ± 3.8 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name..... :	Barcode Scanner
Model No. ..... :	1602g
FCC ID ..... :	HD5-1602-B
Manufacturter..... :	HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions
Manufacturer Address..... :	9680 OLD BAILES RD FORT MILL SC 29707-7539,USA

Wireless specification..... :	Bluetooth					
Bluetooth Specification..... :	V3.0					
Operating frequency range(s)..... :	2400~2483.5MHz					
Type of Modulation..... :	GFSK					
PHYs ..... :	☒	GFSK	☒	Pi/4 DQPSK	☒	8DPSK
Data Rate ..... :	☒	1Mbit/s	☒	2Mbit/s	☒	3Mbit/s
Number of channel..... :	79					

Rated power supply .....:	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☐	AC: 100 – 240 V, 50/60 Hz
	☐	19 Vdc and POE 44-57V for ESY10I4, ESY15I4, ESY22I4
	☒	Battery: 3.7 V
Mounting position.....:	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☒	Hand-held equipment
	☐	Other: Wearable equipment

1.2 Antenna Information

Antenna model / type number.....:	N/A			
Antenna serial number .....:	N/A			
Antenna Delivery .....:	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:……		
Antenna technology.....:	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type.....:	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☒	Ceramic Antenna
			☐	PCB
			☐	Dipole
			☐	Others……..
Antenna Gain.....:	2.9 dBi			

1.3 Channel List

Bluetooth Working Frequency of Each Channel: (For V3.0)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2403 MHz	02	2404 MHz	03	2405 MHz
04	2406 MHz	05	2407 MHz	06	2408 MHz	07	2409 MHz
08	2410 MHz	09	2411 MHz	10	2412 MHz	11	2413 MHz
12	2414 MHz	13	2415 MHz	14	2416 MHz	15	2417 MHz
16	2418 MHz	17	2419 MHz	18	2420 MHz	19	2421 MHz
20	2422 MHz	21	2423 MHz	22	2424 MHz	23	2425 MHz
24	2426 MHz	25	2427 MHz	26	2428 MHz	27	2429 MHz
28	2430 MHz	29	2431 MHz	30	2432 MHz	31	2433 MHz
32	2434 MHz	33	2435 MHz	34	2436 MHz	35	2437 MHz
36	2438 MHz	37	2439 MHz	38	2440 MHz	39	2441 MHz
40	2442 MHz	41	2443 MHz	42	2444 MHz	43	2445 MHz
44	2446 MHz	45	2447 MHz	46	2448 MHz	47	2449 MHz
48	2450 MHz	49	2451 MHz	50	2452 MHz	51	2453 MHz
52	2454 MHz	53	2455 MHz	54	2456 MHz	55	2457 MHz
56	2458 MHz	57	2459 MHz	58	2460 MHz	59	2461 MHz
60	2462 MHz	61	2463 MHz	62	2464 MHz	63	2465 MHz
64	2466 MHz	65	2467 MHz	66	2468 MHz	67	2469 MHz
68	2470 MHz	69	2471 MHz	70	2472 MHz	71	2473 MHz
72	2474 MHz	73	2475 MHz	74	2476 MHz	75	2477 MHz
76	2478 MHz	77	2479 MHz	78	2480 MHz	N/A	N/A

Note: The general description of the Item(s), antenna information and channel list 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.

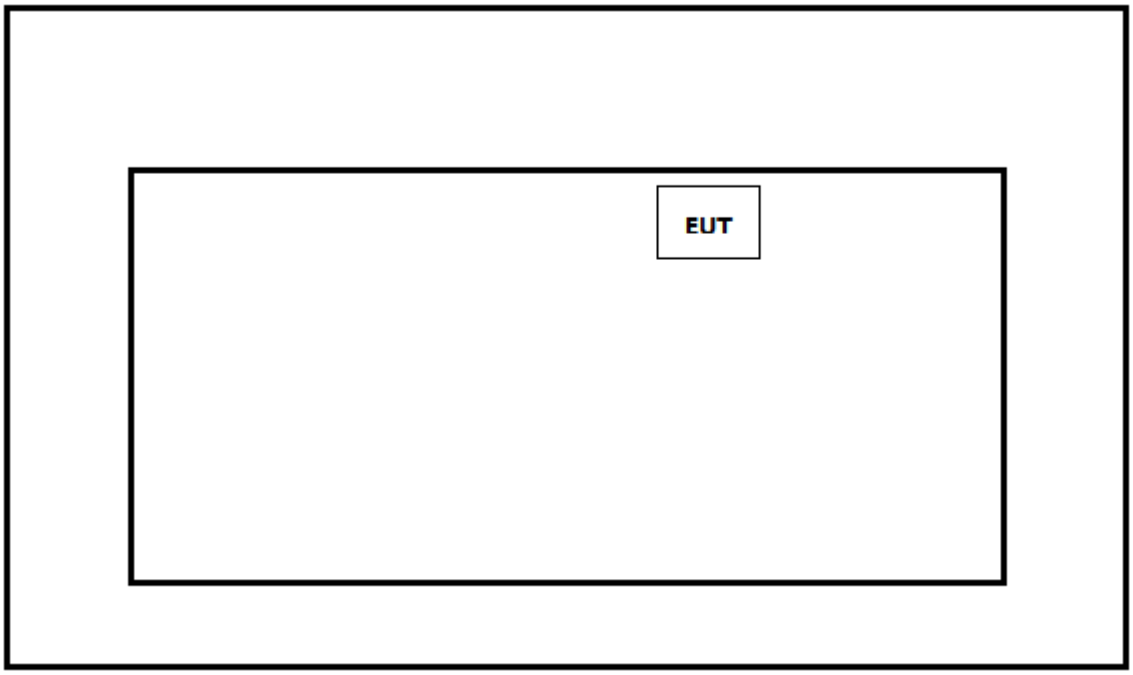
Test Mode For Bluetooth	Mode 1: Transmitter-1Mbps(GFSK_DH5)
	Mode 2: Transmitter-2Mbps(Pi/4 DQPSK_DH5)
	Mode 3: Transmitter-3Mbps(8DPSK_DH5)
	Mode 4: Transmitter-Hopping-1Mbps(GFSK_DH5)
	Mode 5: Transmitter-Hopping-2Mbps(Pi/4 DQPSK_DH5)
	Mode 6: Transmitter-Hopping-3Mbps(8DPSK_DH5)

2.2 Auxiliary equipment / Test software for the EUT

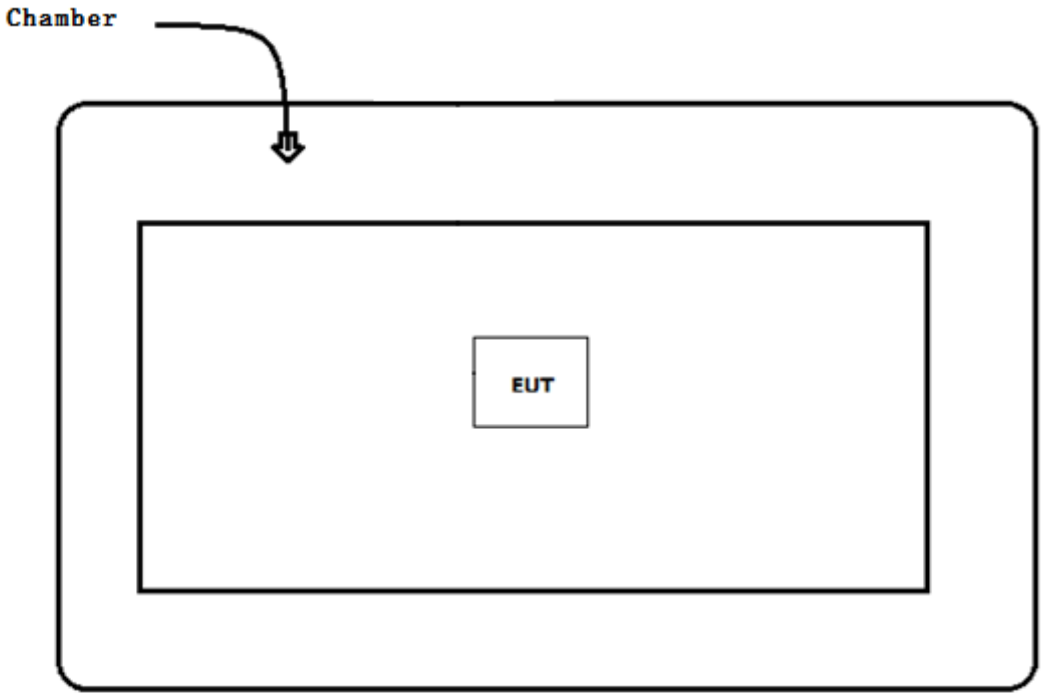
Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	2526	Think Pad	N/A
Software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A

2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



2.4 Testing process

1	Setup the EUT as shown in Section 2.3
2	Execute the test program.
3	Configure the test mode and test channel.
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	2021	Operation within the bands902–928 MHz, 2400–2483.5 MHz, and5725–5850 MHz.
ANSI C63.10	2013	American National Standard ofProcedures for Compliance Testing ofUnlicensed Wireless Devices
KDB558074 D01 v05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247

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

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015Section 15.207	Yes	No
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015Section 15.209	Yes	No
20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)	Yes	No
Carrier Frequency Separation	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)	Yes	No
Number of Hopping Frequencies	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)(iii)	Yes	No
Time of Occupancy (Dwell Time)	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(1)(iii)	Yes	No
Peak OutputPower	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(1)	Yes	No
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.215(c), 15.247(d)	Yes	No
Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d)	Yes	No
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.203	Yes	No

3.4 Test Facility

USA	**:**	**FCC Designation Number: CN1199**

4 TEST RESULTS

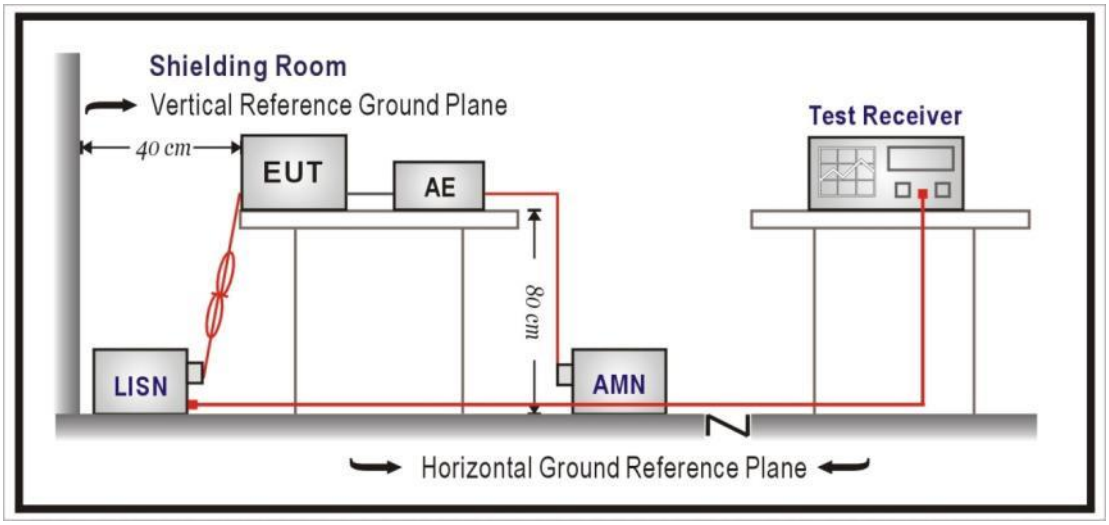
4.1 Conducted Emission	VERDICT: PASS

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

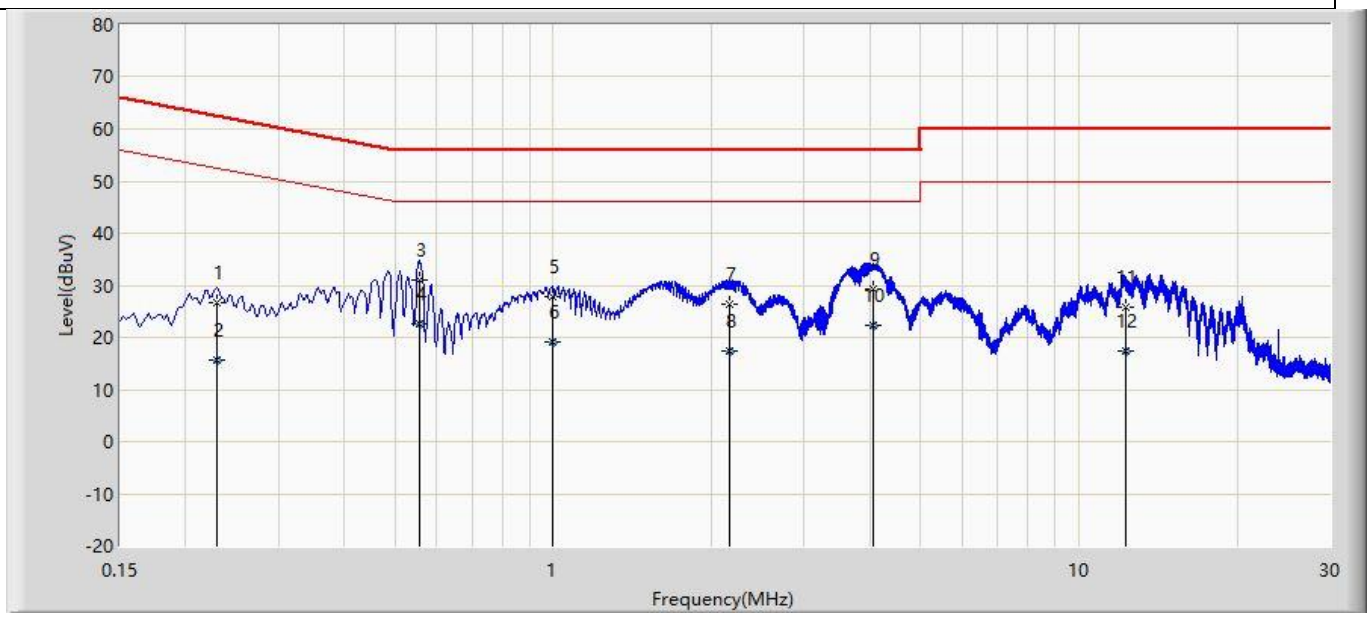


4.1.3 Test Procedure

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

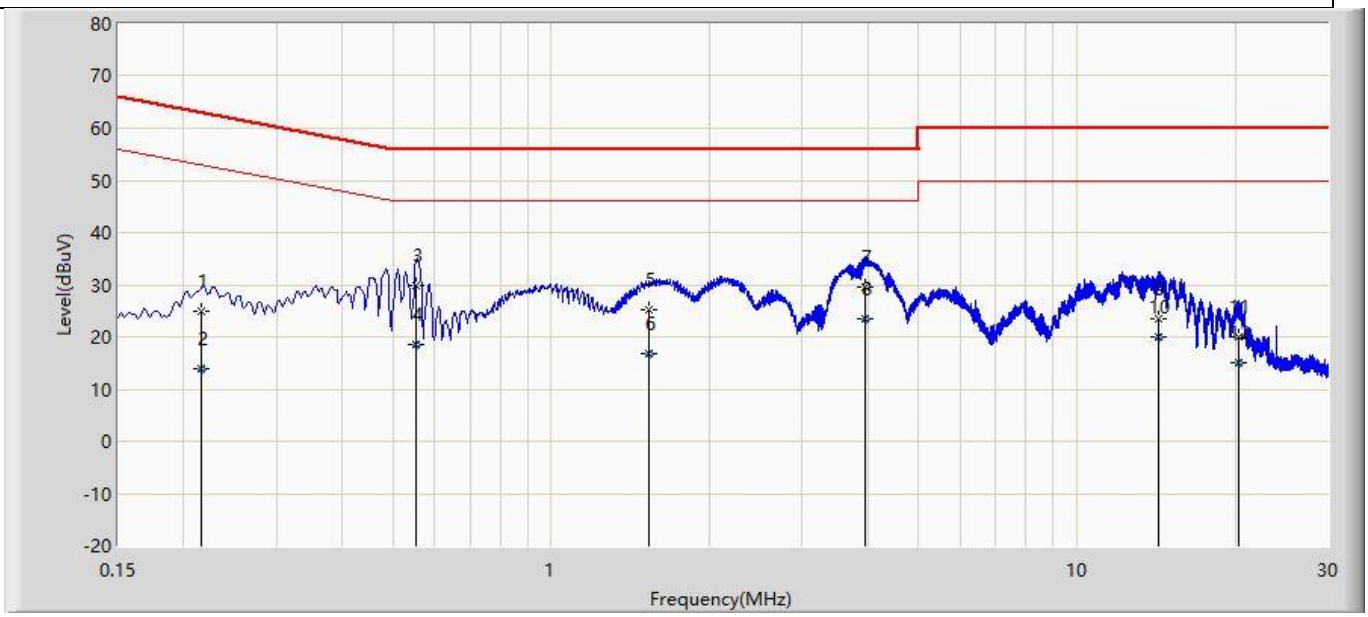
4.1.4 Test Data

Profile: 2250730R	Page No.: 59
Engineer: Pengchengyang	
Site: TR1	Time: 2022/05/26 - 20:53
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode: N-line	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.229	26.566	16.983	-35.929	62.495	9.582	QP
2		0.229	15.696	6.113	-36.799	52.495	9.582	AV
3		0.555	30.878	21.250	-25.122	56.000	9.628	QP
4	*	0.555	22.632	13.003	-23.368	46.000	9.628	AV
5		0.996	27.839	18.192	-28.161	56.000	9.647	QP
6		0.996	19.239	9.592	-26.761	46.000	9.647	AV
7		2.157	26.383	16.697	-29.617	56.000	9.686	QP
8		2.157	17.495	7.809	-28.505	46.000	9.686	AV
9		4.051	29.391	19.624	-26.609	56.000	9.767	QP
10		4.051	22.357	12.590	-23.643	46.000	9.767	AV
11		12.242	25.759	15.682	-34.241	60.000	10.077	QP
12		12.242	17.363	7.286	-32.637	50.000	10.077	AV

Profile: 2250730R	Page No.: 60
Engineer: Pengchengyang	
Site: TR1	Time: 2022/05/26 - 20:58
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode: L-line	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.216	24.999	15.411	-37.970	62.970	9.588	QP
2		0.216	13.941	4.353	-39.028	52.970	9.588	AV
3		0.553	29.811	20.181	-26.189	56.000	9.629	QP
4		0.553	18.567	8.938	-27.433	46.000	9.629	AV
5		1.538	25.178	15.518	-30.822	56.000	9.660	QP
6		1.538	16.865	7.205	-29.135	46.000	9.660	AV
7		3.953	29.497	19.727	-26.503	56.000	9.770	QP
8	*	3.953	23.367	13.598	-22.633	46.000	9.770	AV
9		14.267	23.614	13.501	-36.386	60.000	10.112	QP
10		14.267	20.051	9.939	-29.949	50.000	10.112	AV
11		20.256	20.098	9.856	-39.902	60.000	10.242	QP
12		20.256	15.075	4.833	-34.925	50.000	10.242	AV

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).

4.2 Emissions in restricted frequency bands — VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.209

Restricted Bands of operation for FCC

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 Band Emissions Limit

Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ 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)

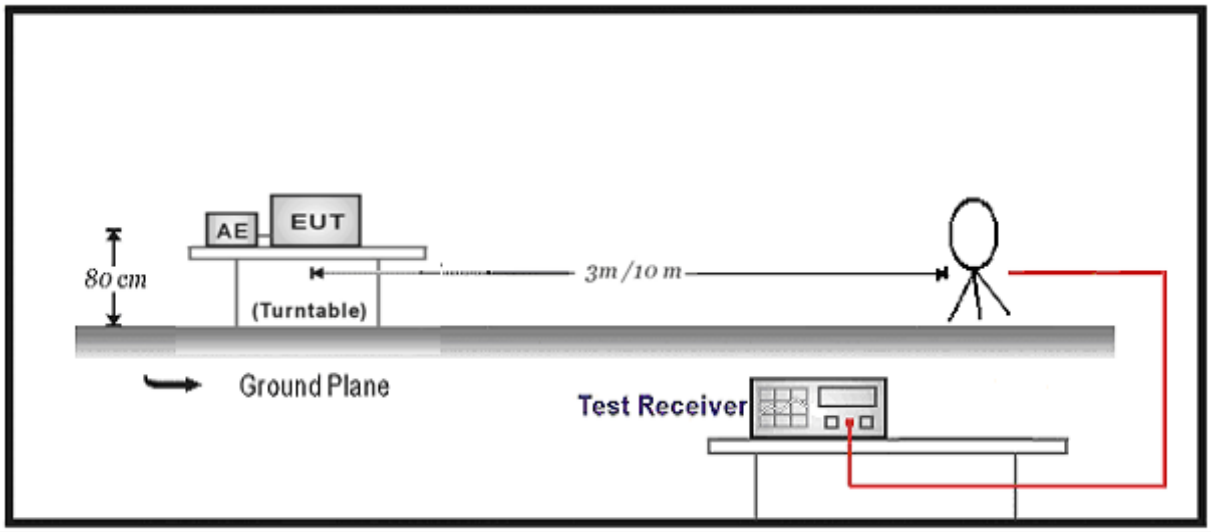
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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

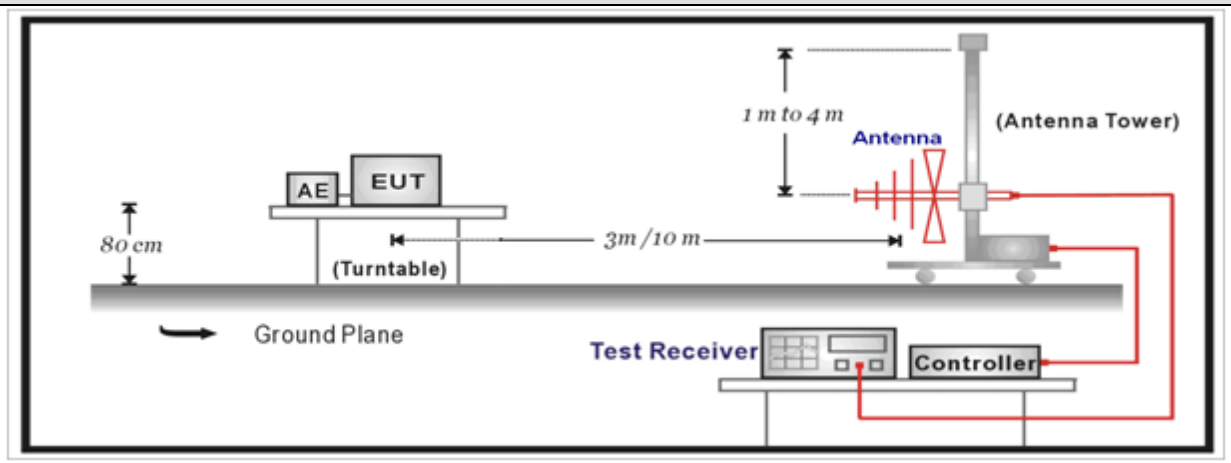
dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

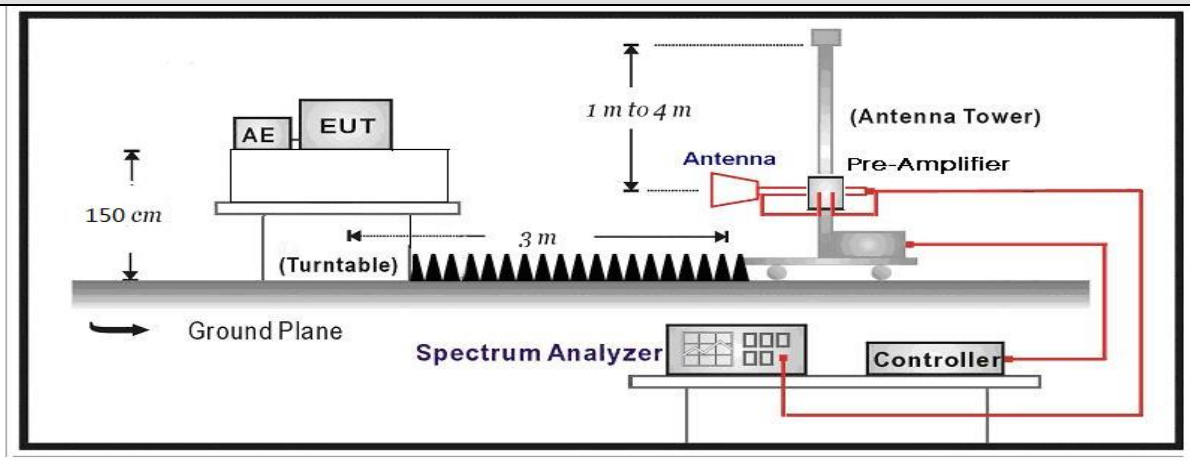
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

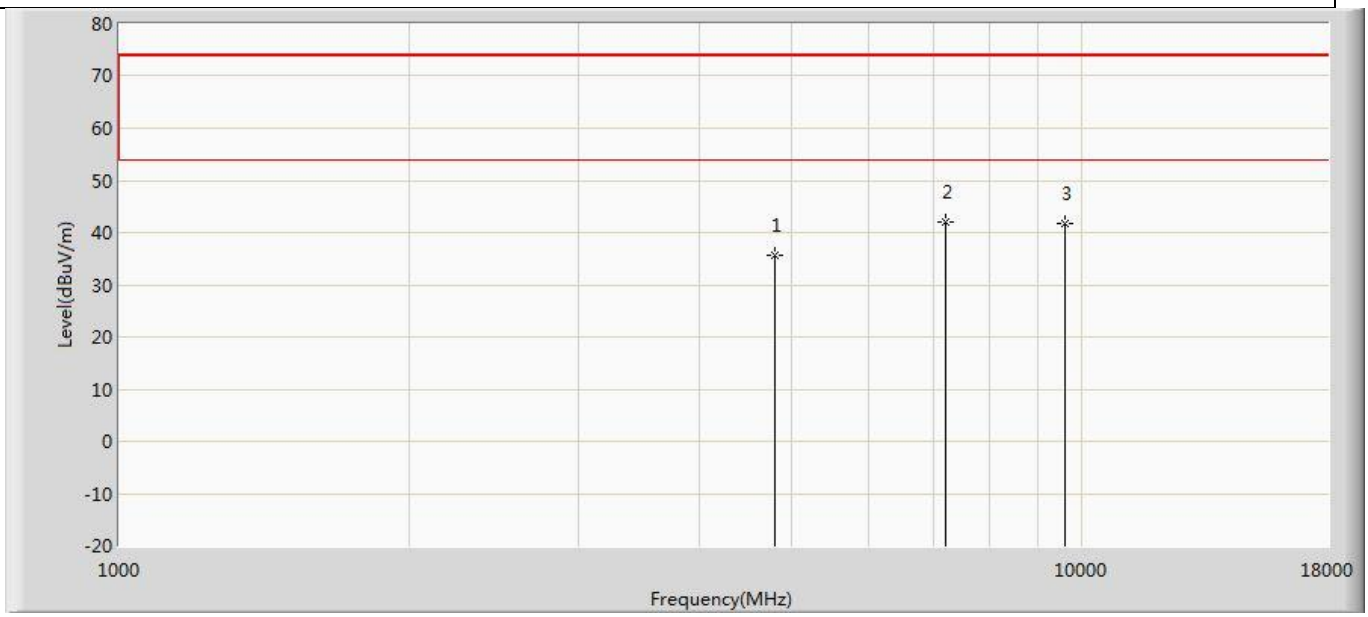


4.2.3 Test Procedure

	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

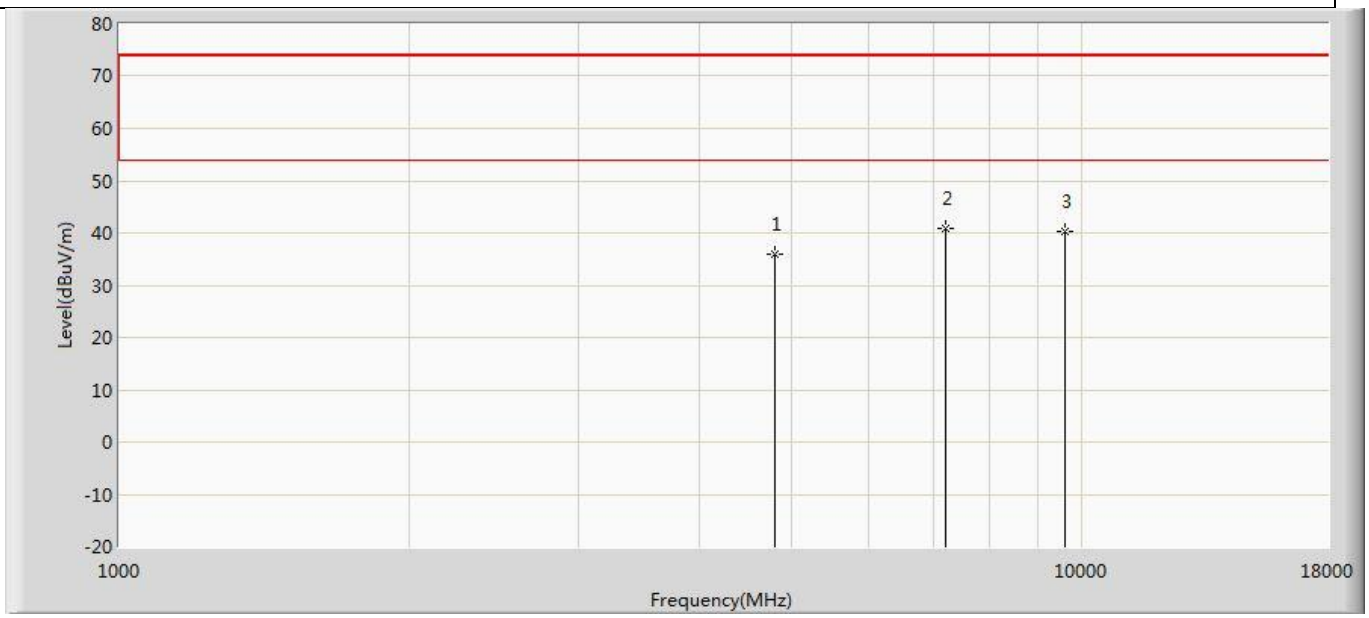
4.2.4 Test Data

Profile: 2250730R	Page No.: 19
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2402MHz by DH5	



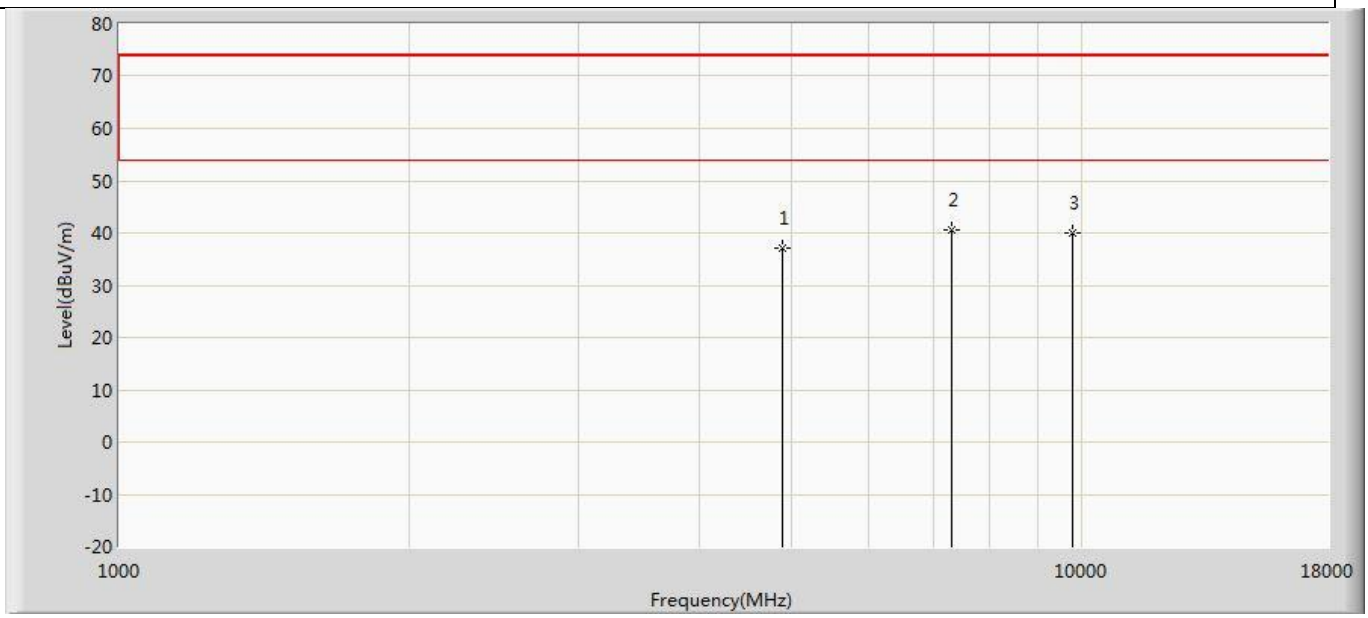
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	35.644	38.337	-38.356	74.000	-2.692	PK
2	*	7206.000	41.893	40.109	-32.107	74.000	1.785	PK
3		9608.000	41.604	38.663	-32.396	74.000	2.942	PK

Profile: 2250730R	Page No.: 20
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2402MHz by DH5	



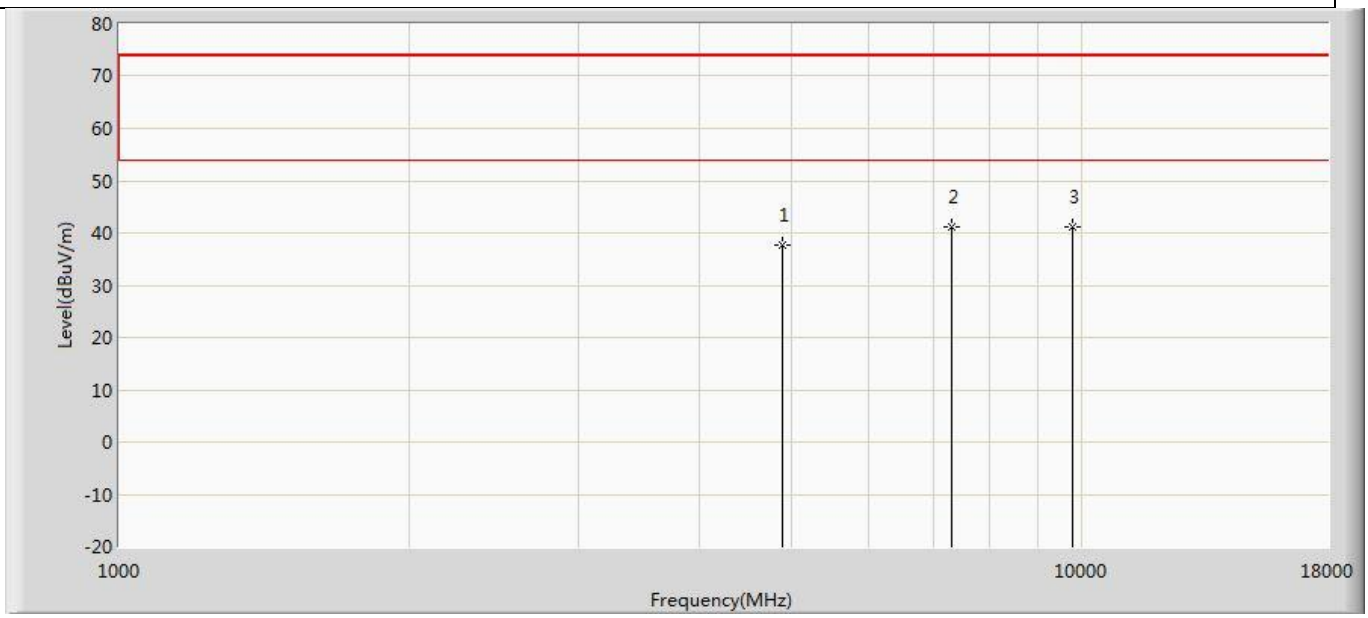
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	35.940	38.633	-38.060	74.000	-2.692	PK
2	*	7206.000	40.736	38.952	-33.264	74.000	1.785	PK
3		9608.000	40.323	37.382	-33.677	74.000	2.942	PK

Profile: 2250730R	Page No.: 21
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2441MHz by DH5	



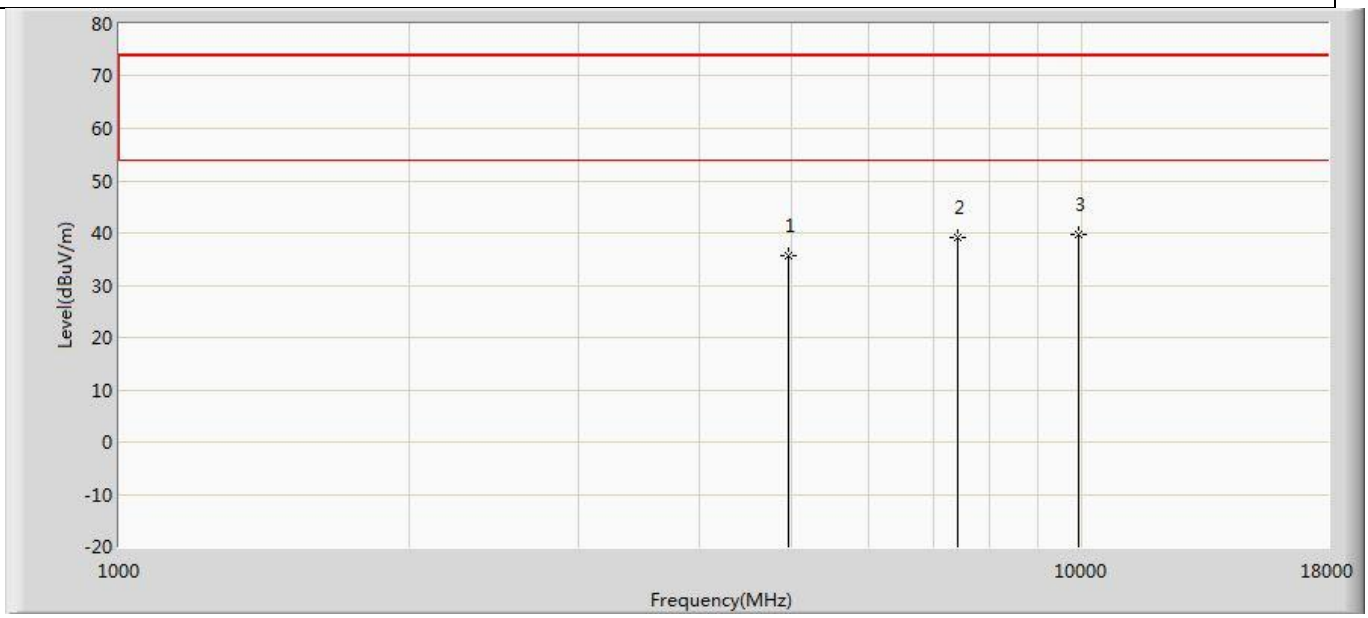
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	37.167	39.606	-36.833	74.000	-2.438	PK
2	*	7323.000	40.630	38.952	-33.370	74.000	1.678	PK
3		9764.000	40.098	36.638	-33.902	74.000	3.460	PK

Profile: 2250730R	Page No.: 22
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2441MHz by DH5	



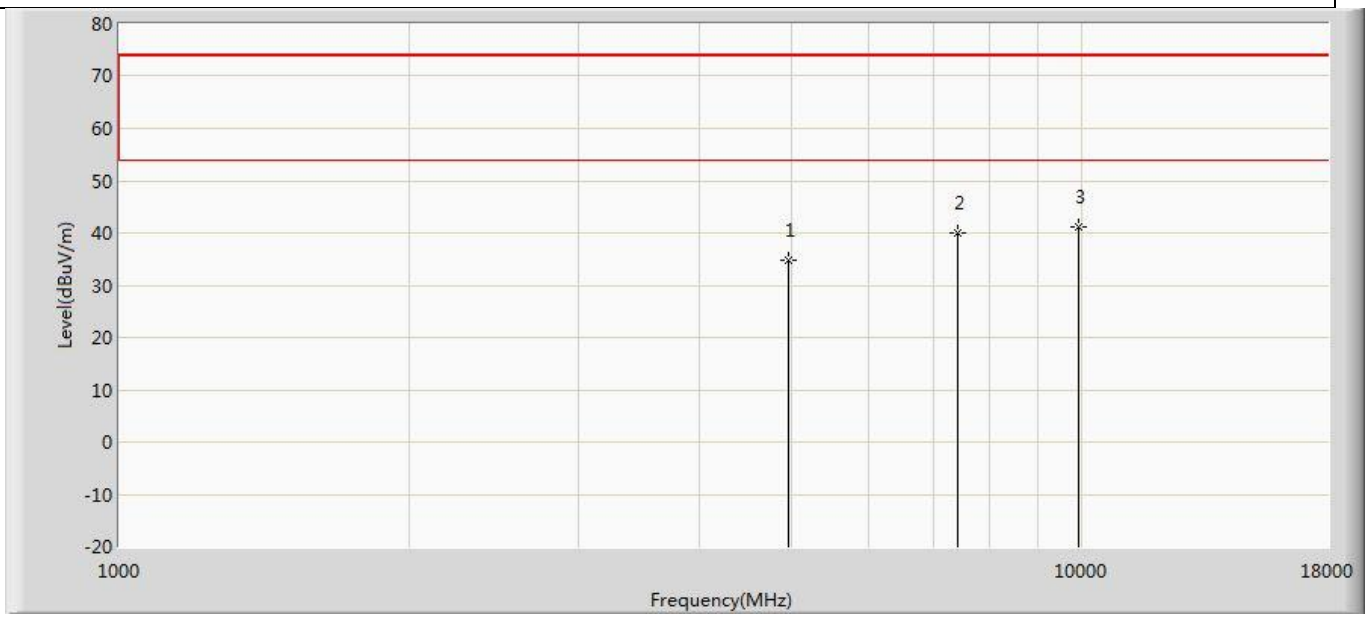
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4882.000	37.718	40.157	-36.282	74.000	-2.438	PK
2	*	7323.000	41.212	39.534	-32.788	74.000	1.678	PK
3		9764.000	41.113	37.653	-32.887	74.000	3.460	PK

Profile: 2250730R	Page No.: 23
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2480MHz by DH5	



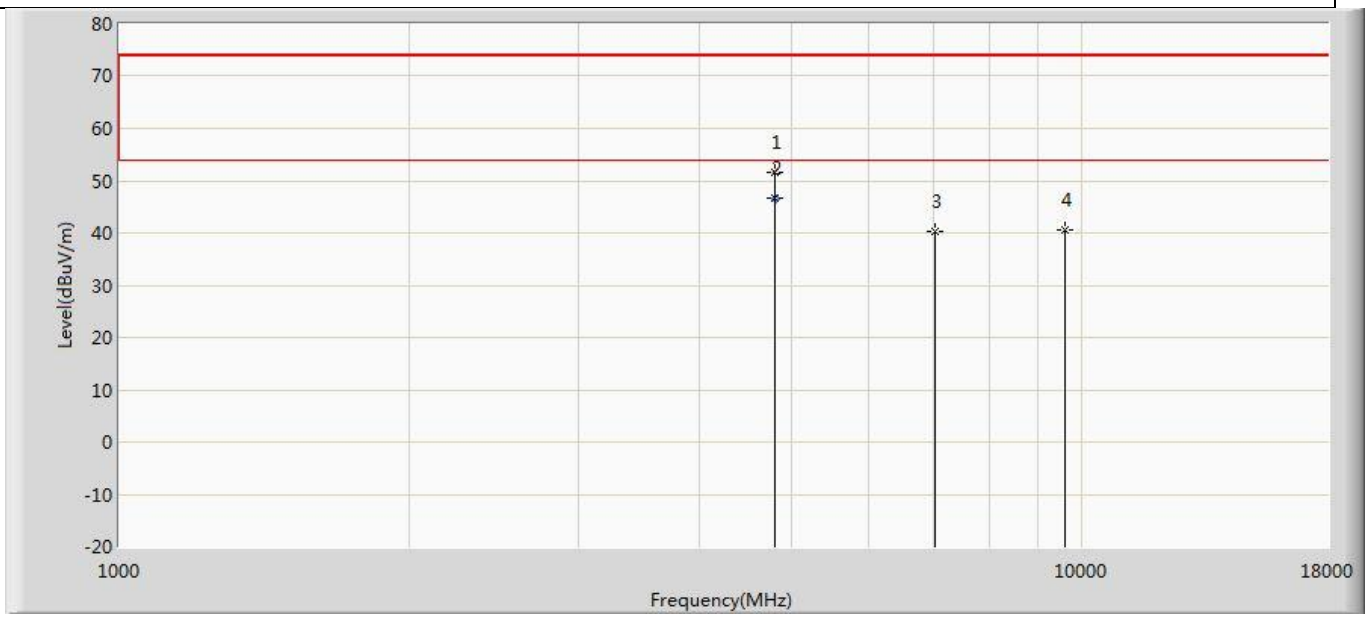
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	35.551	38.364	-38.449	74.000	-2.813	PK
2		7440.000	39.027	37.385	-34.973	74.000	1.642	PK
3	*	9920.000	39.786	36.642	-34.214	74.000	3.145	PK

Profile: 2250730R	Page No.: 24
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2480MHz by DH5	



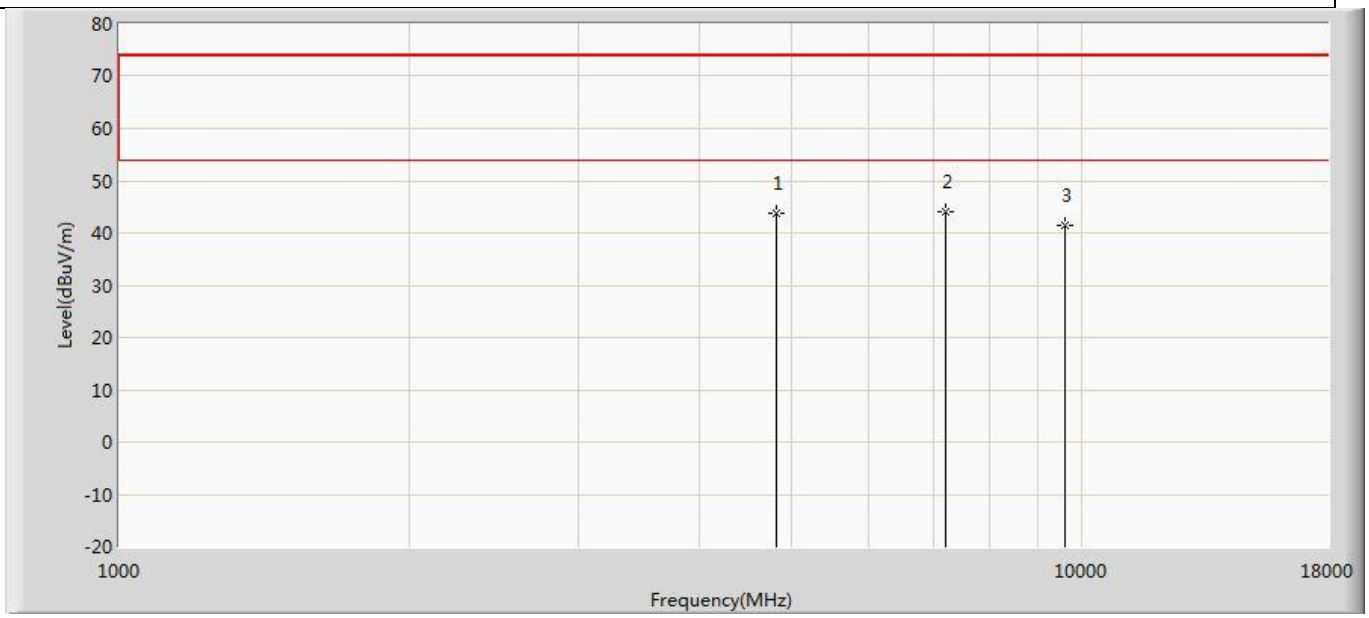
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4960.000	34.829	37.642	-39.171	74.000	-2.813	PK
2		7440.000	40.067	38.425	-33.933	74.000	1.642	PK
3	*	9920.000	41.105	37.961	-32.895	74.000	3.145	PK

Profile: 2250730R	Page No.: 25
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



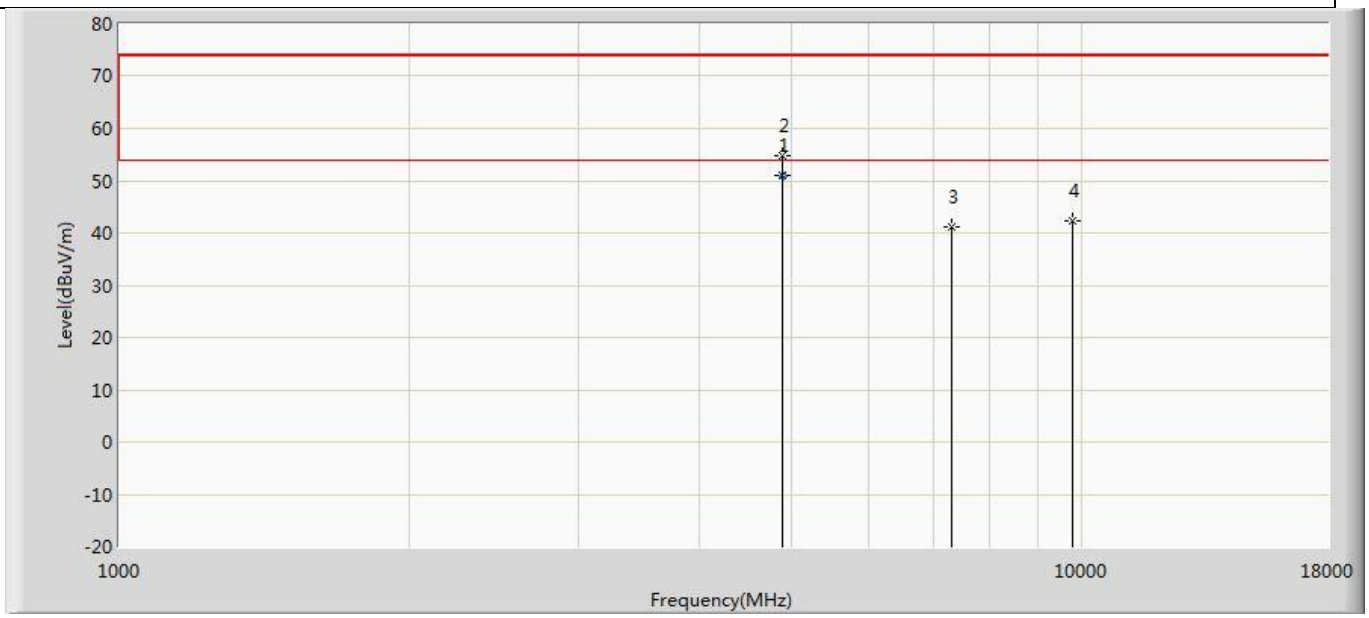
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4799.500	51.510	54.202	-22.490	74.000	-2.692	PK
2	*	4803.950	46.715	49.408	-7.285	54.000	-2.692	AV
3		7026.000	40.183	38.345	-33.817	74.000	1.838	PK
4		9608.000	40.443	37.502	-33.557	74.000	2.942	PK

Profile: 2250730R	Page No.: 26
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



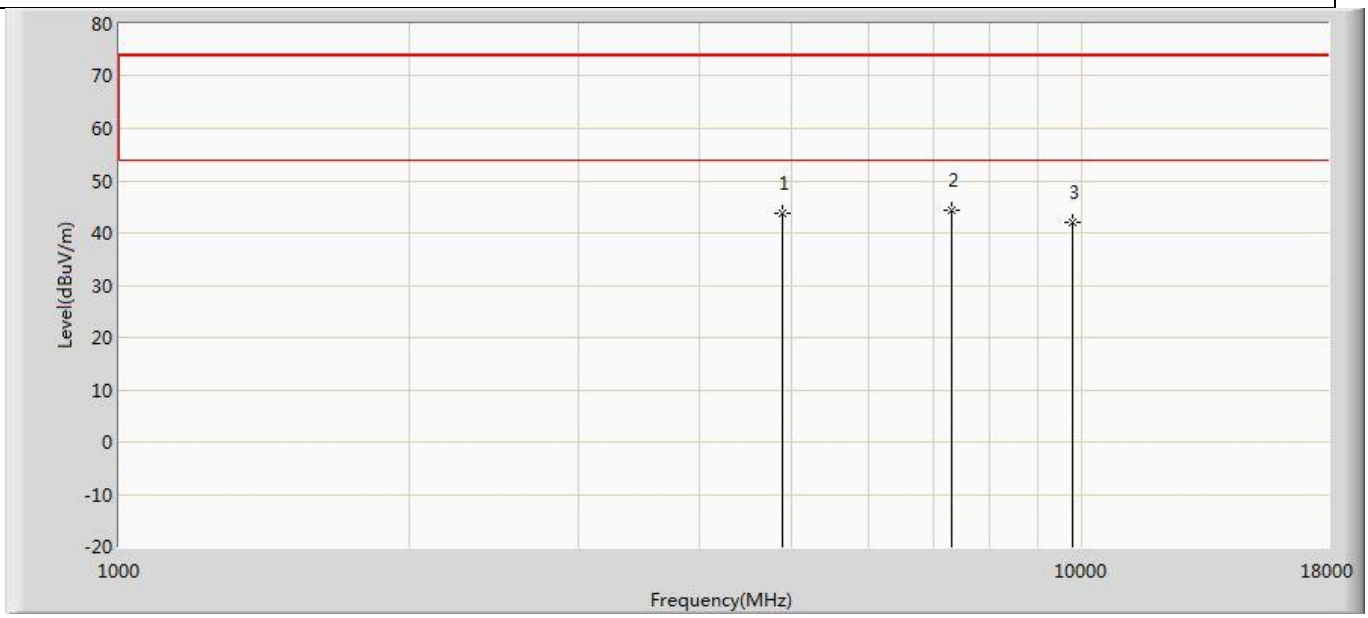
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4808.000	43.692	46.385	-30.308	74.000	-2.693	PK
2	*	7205.000	44.144	42.371	-29.856	74.000	1.773	PK
3		9608.000	41.515	38.574	-32.485	74.000	2.942	PK

Profile: 2250730R	Page No.: 27
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2441MHz by 2DH5	



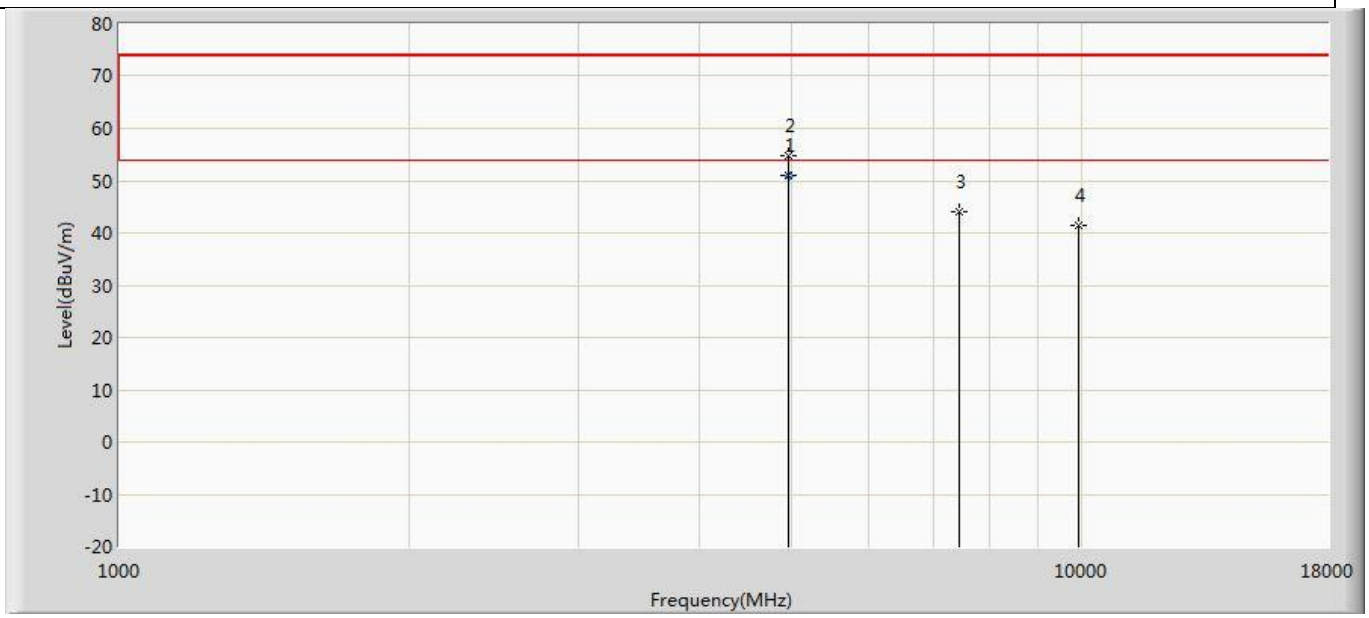
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4882.000	51.023	53.462	-2.977	54.000	-2.438	AV
2		4884.500	54.814	57.269	-19.186	74.000	-2.455	PK
3		7323.000	41.059	39.381	-32.941	74.000	1.678	PK
4		9764.000	42.403	38.943	-31.597	74.000	3.460	PK

Profile: 2250730R	Page No.: 28
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2441MHz by 2DH5	



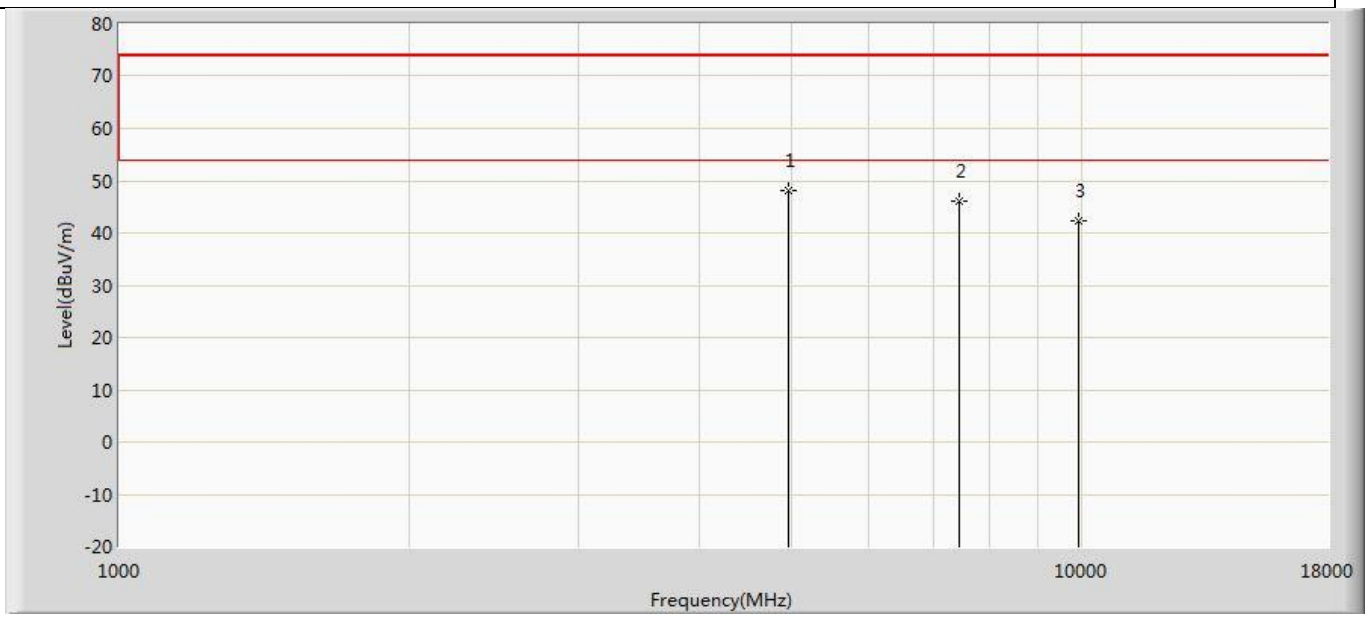
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4884.500	43.801	46.256	-30.199	74.000	-2.455	PK
2	*	7323.000	44.362	42.684	-29.638	74.000	1.678	PK
3		9764.000	41.963	38.503	-32.037	74.000	3.460	PK

Profile: 2250730R	Page No.: 29
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



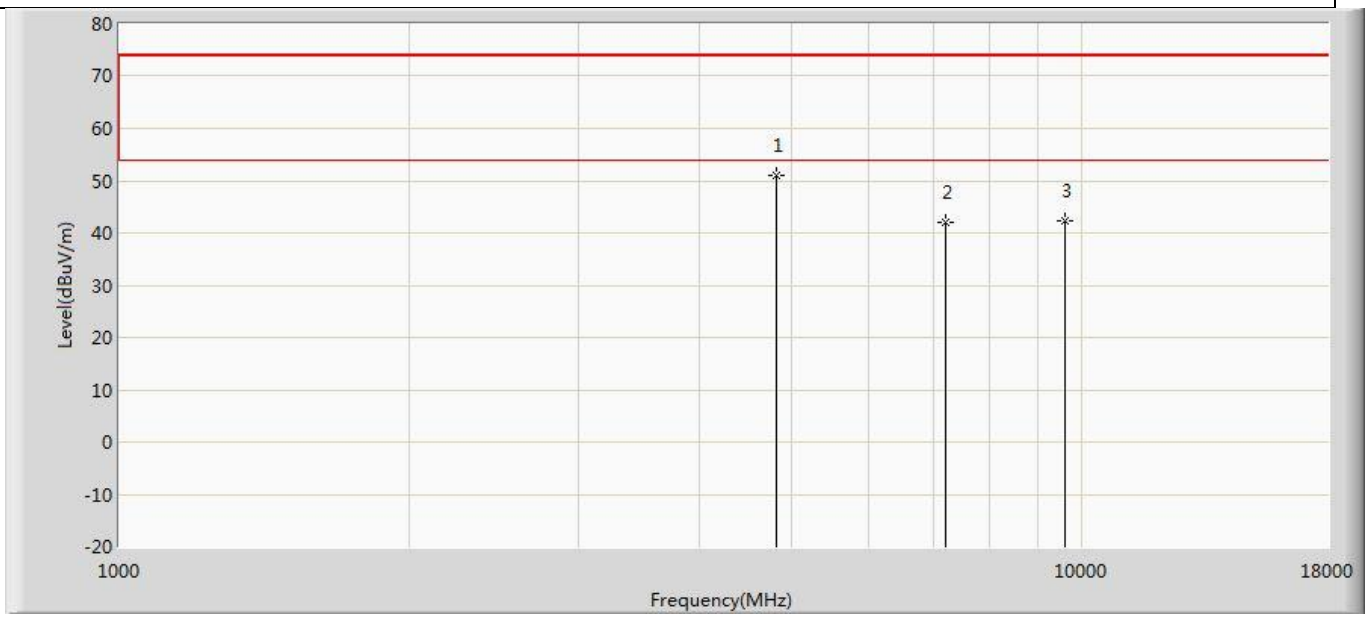
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4960.000	51.093	53.906	-2.907	54.000	-2.813	AV
2		4961.000	54.880	57.703	-19.120	74.000	-2.823	PK
3		7443.000	43.931	42.334	-30.069	74.000	1.597	PK
4		9920.000	41.551	38.407	-32.449	74.000	3.145	PK

Profile: 2250730R	Page No.: 30
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



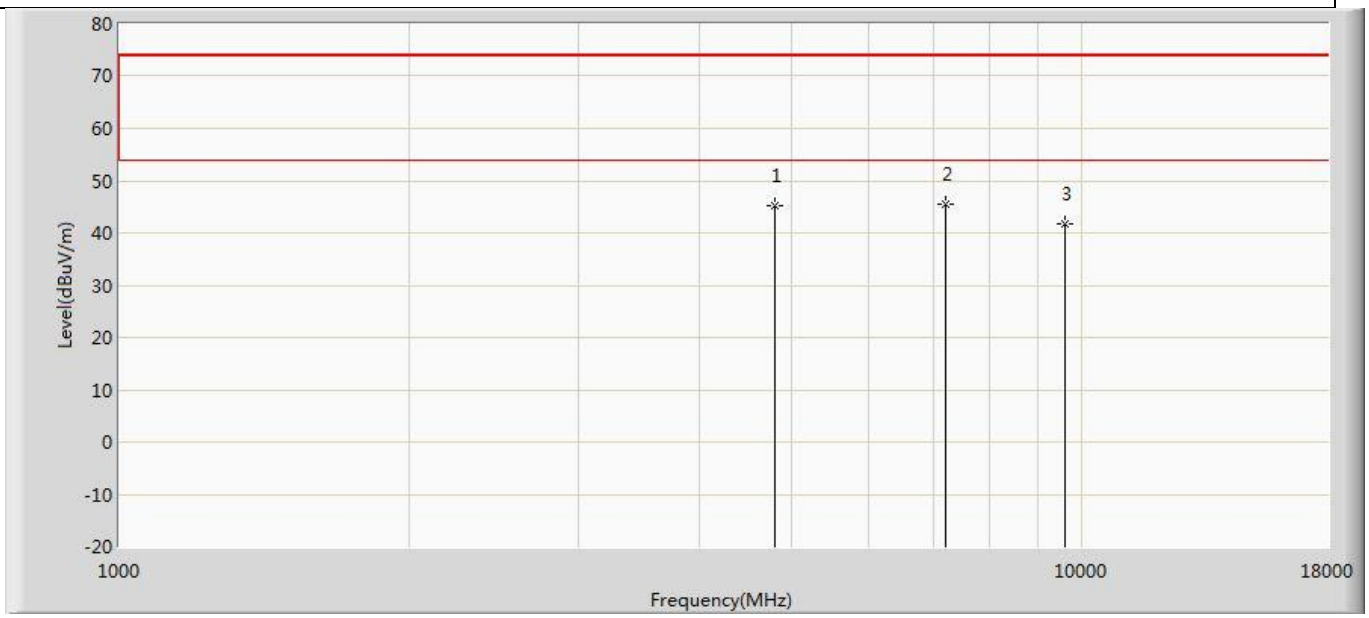
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4961.000	48.109	50.932	-25.891	74.000	-2.823	PK
2		7443.000	46.168	44.571	-27.832	74.000	1.597	PK
3		9920.000	42.449	39.305	-31.551	74.000	3.145	PK

Profile: 2250730R	Page No.: 31
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



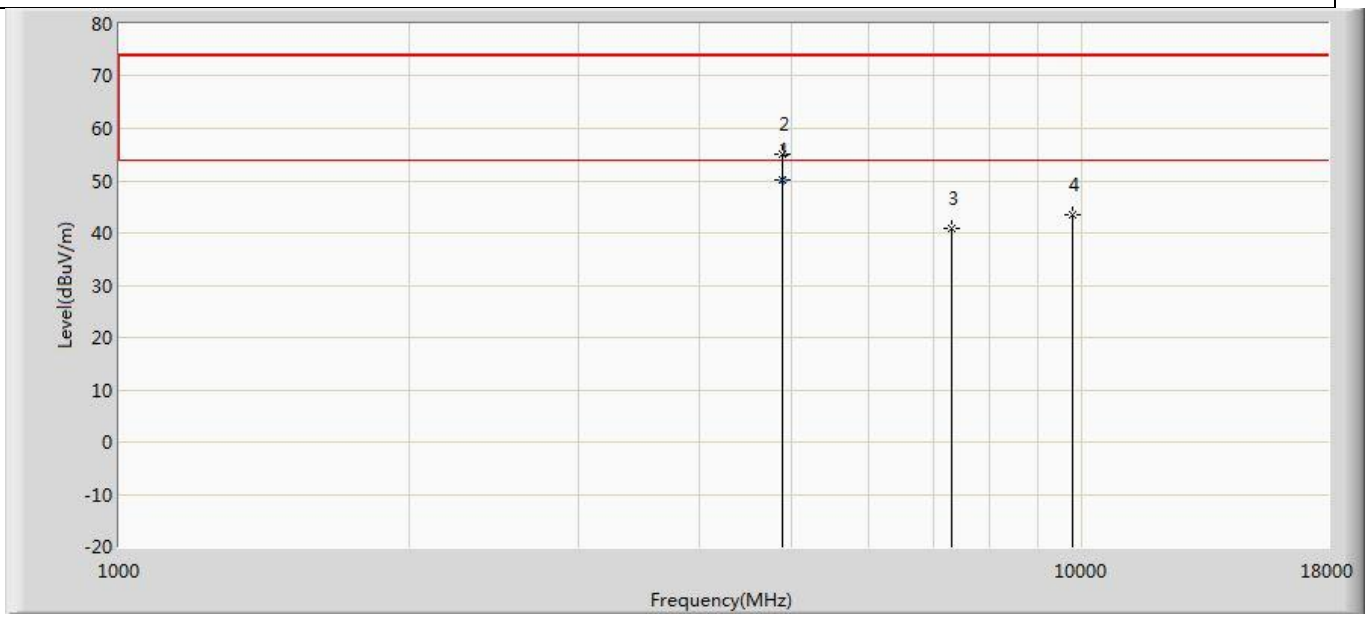
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4808.000	51.007	53.700	-22.993	74.000	-2.693	PK
2		7206.000	41.980	40.196	-32.020	74.000	1.785	PK
3		9608.000	42.215	39.274	-31.785	74.000	2.942	PK

Profile: 2250730R	Page No.: 32
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



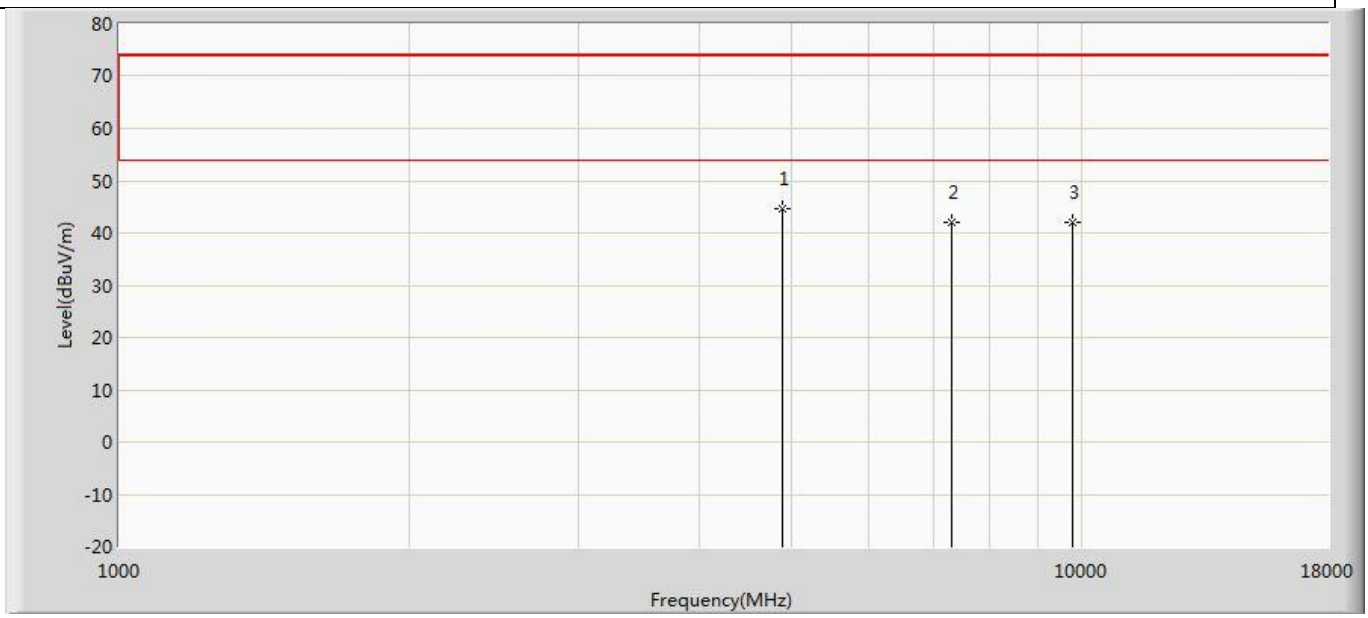
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	45.142	47.835	-28.858	74.000	-2.692	PK
2	*	7205.000	45.507	43.734	-28.493	74.000	1.773	PK
3		9608.000	41.813	38.872	-32.187	74.000	2.942	PK

Profile: 2250730R	Page No.: 33
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2441MHz by 3DH5	



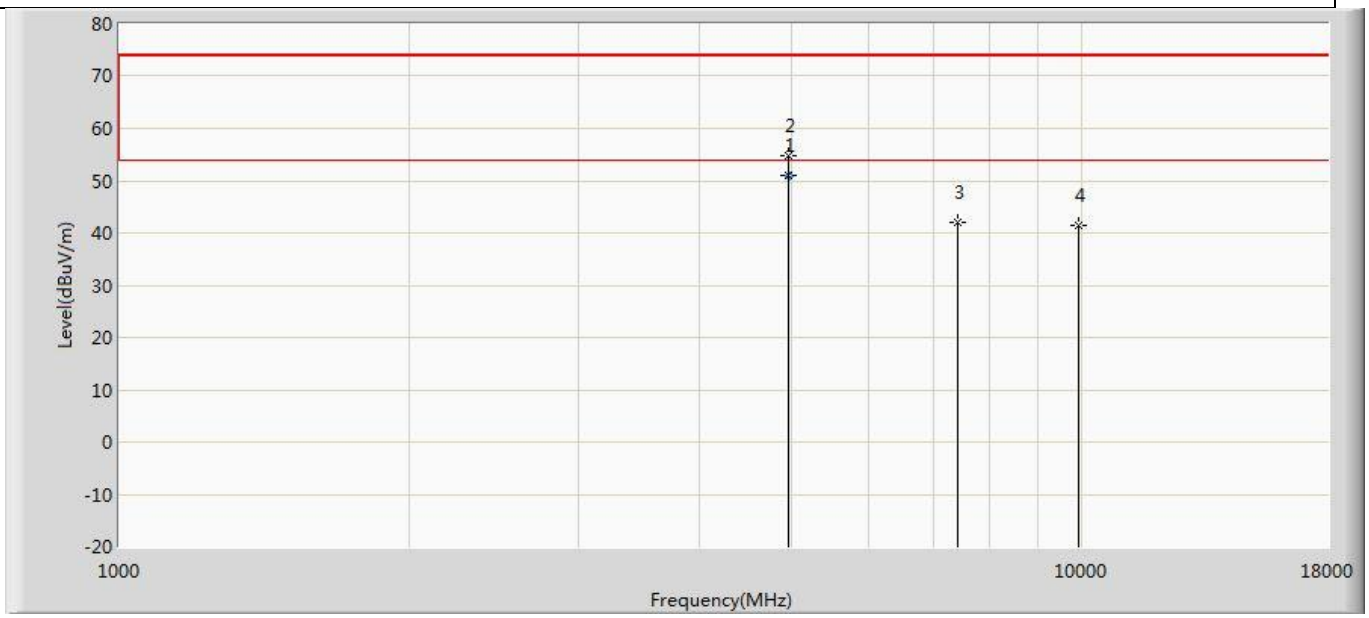
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4881.990	50.192	52.631	-3.808	54.000	-2.439	AV
2		4884.500	55.183	57.638	-18.817	74.000	-2.455	PK
3		7323.000	40.778	39.100	-33.222	74.000	1.678	PK
4		9764.000	43.395	39.935	-30.605	74.000	3.460	PK

Profile: 2250730R	Page No.: 34
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2441MHz by 3DH5	



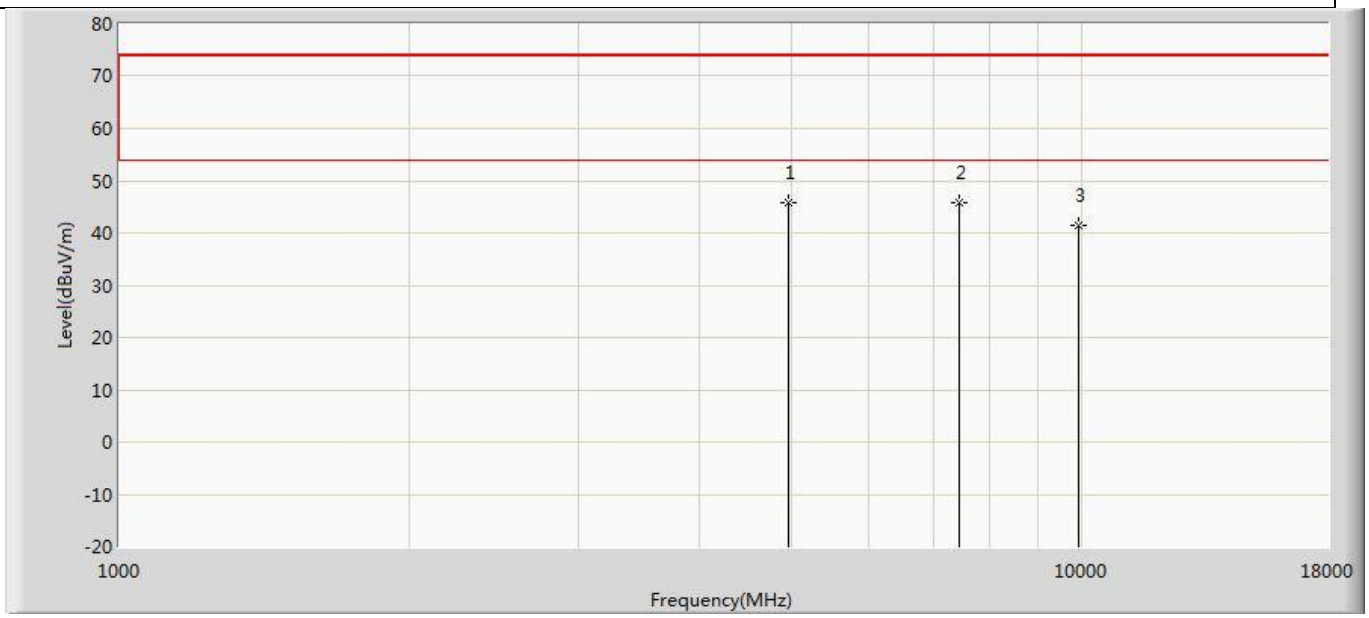
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4884.000	44.698	47.150	-29.302	74.000	-2.452	PK
2		7323.000	41.978	40.300	-32.022	74.000	1.678	PK
3		9764.000	42.080	38.620	-31.920	74.000	3.460	PK

Profile: 2250730R	Page No.: 35
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4960.000	51.049	53.862	-2.951	54.000	-2.813	AV
2		4961.000	54.769	57.592	-19.231	74.000	-2.823	PK
3		7440.000	42.036	40.394	-31.964	74.000	1.642	PK
4		9920.000	41.420	38.276	-32.580	74.000	3.145	PK

Profile: 2250730R	Page No.: 36
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2480MHz by 3DH5	

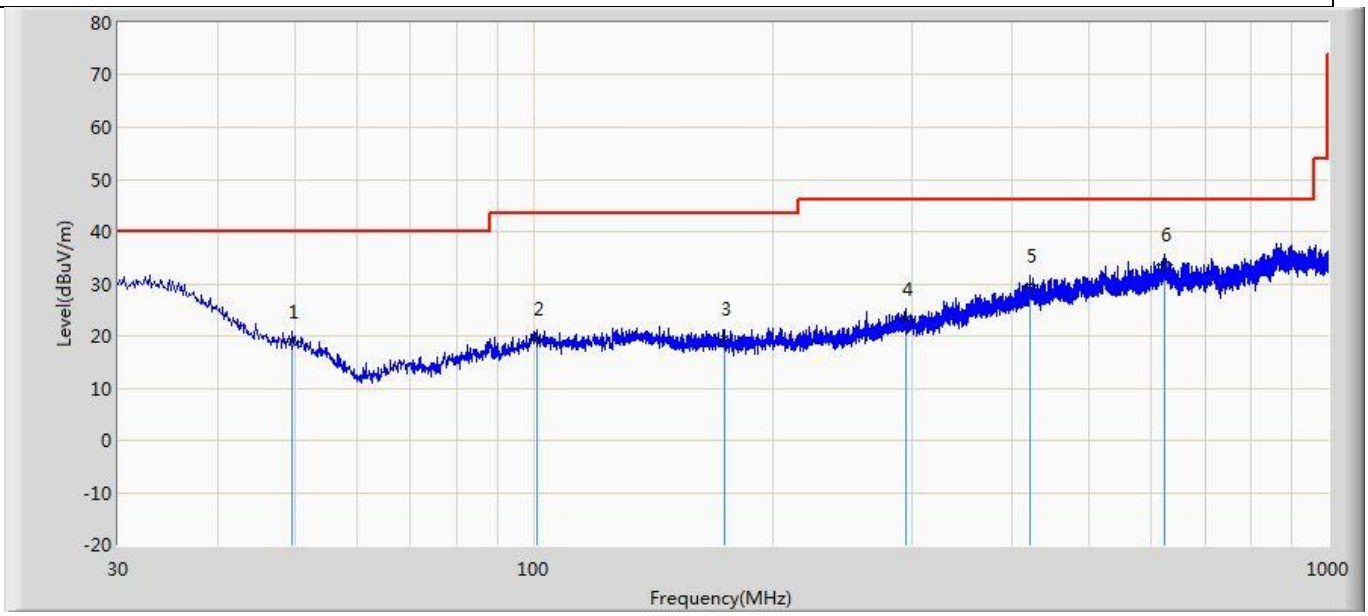


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	45.709	48.532	-28.291	74.000	-2.823	PK
2	*	7443.000	45.893	44.296	-28.107	74.000	1.597	PK
3		9920.000	41.431	38.287	-32.569	74.000	3.145	PK

Note:
1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~26GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.
3. 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.
4. As the radiated emission was performed, so conducted emission was not tested.

The worst case of Radiated Emission below 1GHz:

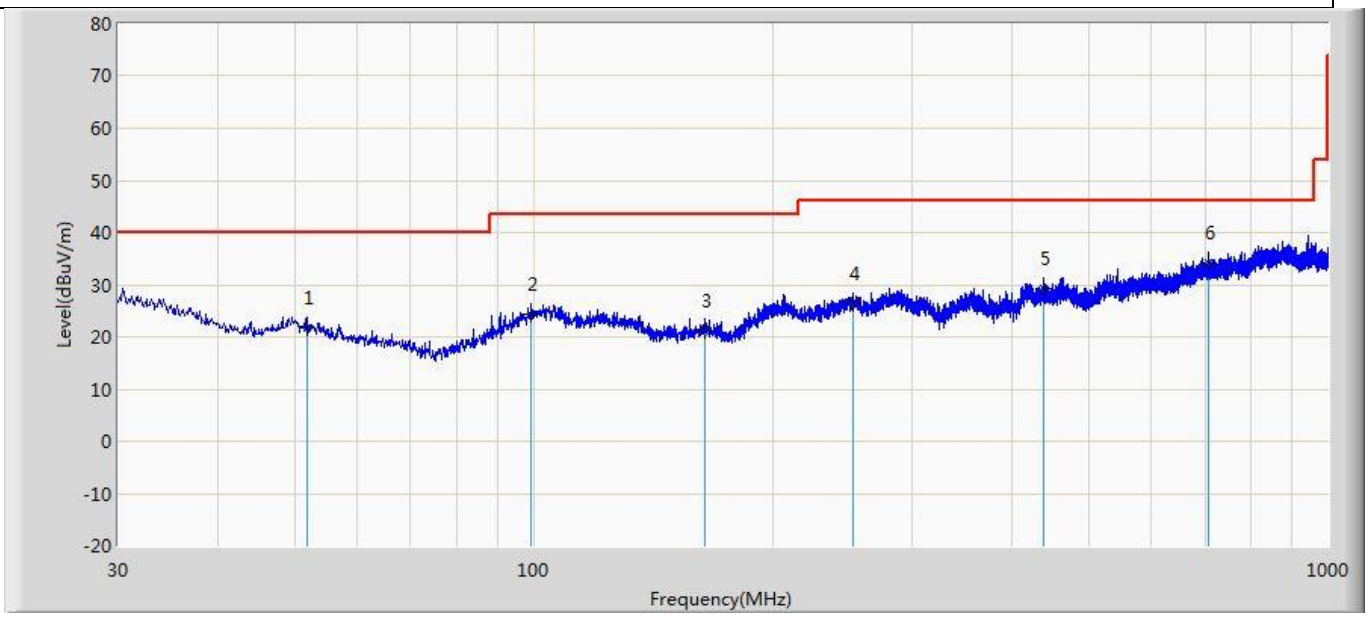
Profile: 2250730R	Page No.: 21
Engineer: Pengchengyang	
Site: AC3	Time: 2022/05/26 - 22:00
Limit: FCC_Part15.209_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		49.764	18.900	3.040	-21.100	40.000	15.861	QP
2		100.810	19.280	2.140	-24.220	43.500	17.140	QP
3		173.803	19.352	2.205	-24.148	43.500	17.147	QP
4		294.568	23.070	2.551	-22.930	46.000	20.519	QP
5		420.910	29.650	2.487	-16.350	46.000	27.163	QP
6	*	623.395	33.708	3.003	-12.292	46.000	30.706	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)

Profile: 2250730R	Page No.: 22
Engineer: Pengchengyang	
Site: AC3	Time: 2022/05/26 - 22:01
Limit: FCC_Part15.209_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		51.825	21.630	2.814	-18.370	40.000	18.815	QP
2		99.476	24.459	2.752	-19.041	43.500	21.707	QP
3		164.466	21.100	1.666	-22.400	43.500	19.434	QP
4		252.009	26.307	1.829	-19.693	46.000	24.478	QP
5		439.098	29.344	3.162	-16.656	46.000	26.182	QP
6	*	706.575	34.097	3.807	-11.903	46.000	30.290	QP

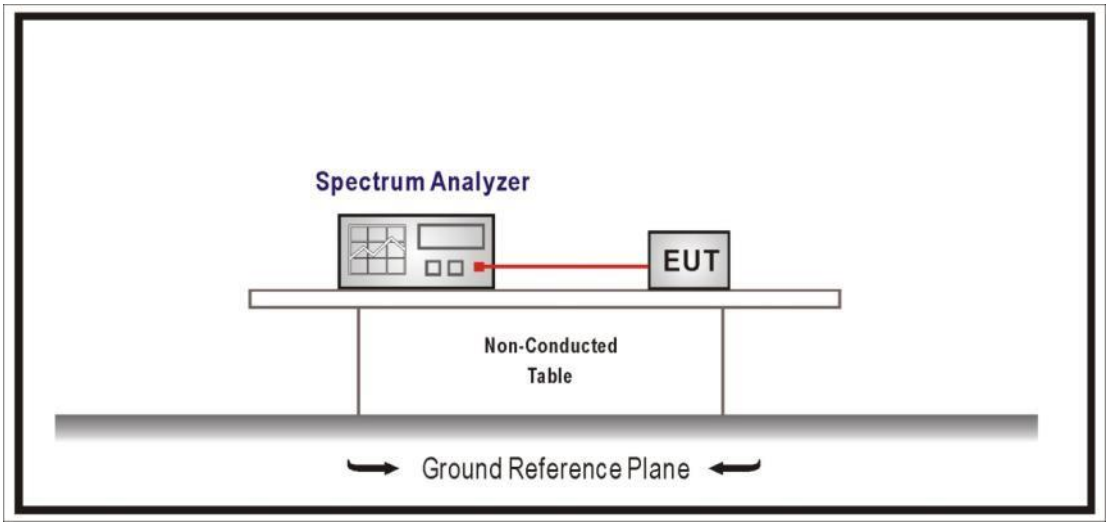
Note:
1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp)

4.3 20dB Bandwidth	VERDICT: PASS

4.3.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)
☒	For frequency hopping systems operating in 2400-2483.5 MHz band, within frequency range.
☐	For frequency hopping systems operating in 902-928 MHz band, the maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
☐	For frequency hopping systems operating in 5725-5850 MHz band, the maximum 20 dB bandwidth of the hopping channel is 1 MHz.

4.3.2 Test Setup



4.3.3 Test Procedure

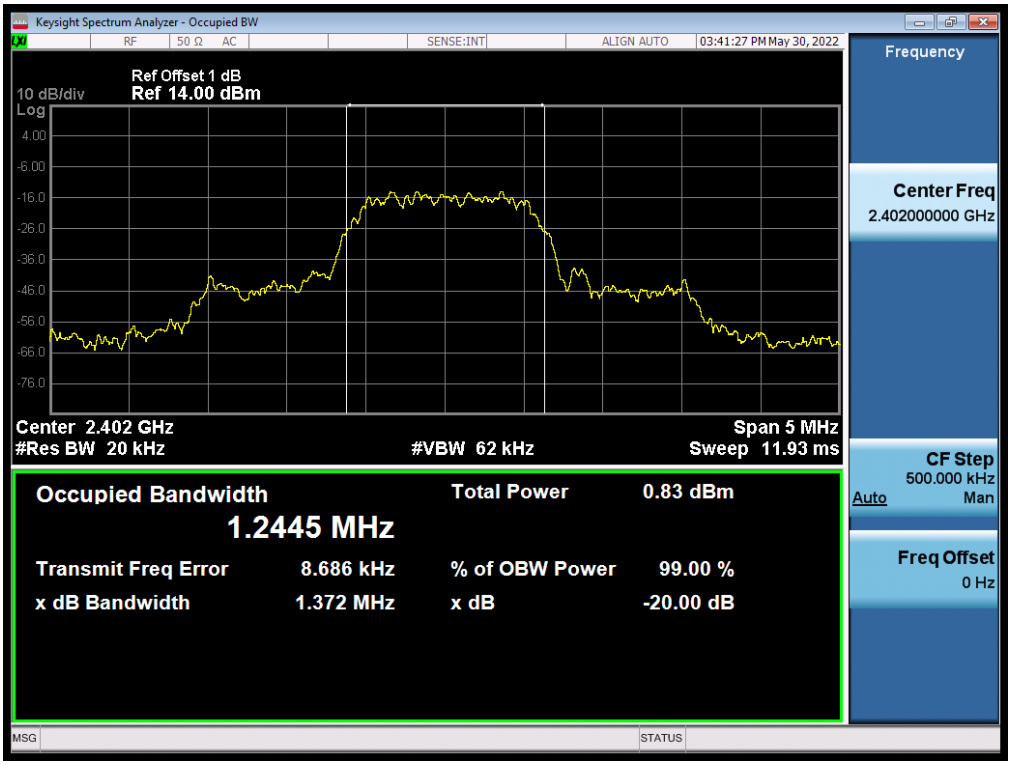
References Rule			Chapter	Description
☒	ANSI C63.10		6.9	Occupied bandwidth tests
	☒	ANSI C63.10	6.9.2	Occupied bandwidth—relative measurement procedure

4.3.4 Test Data

Mode	Channel	Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
1	00	2402	924.0	866.40
	39	2441	922.9	863.26
	79	2480	924.1	869.00
2	00	2402	1372	1244.5
	39	2441	1366	1239.4
	79	2480	1372	1234.6
3	00	2402	1357	1236.2
	39	2441	1360	1233.3
	79	2480	1356	1226.5

Note 1: The worst data plot as below:

Mode2/CH00/2402MHz

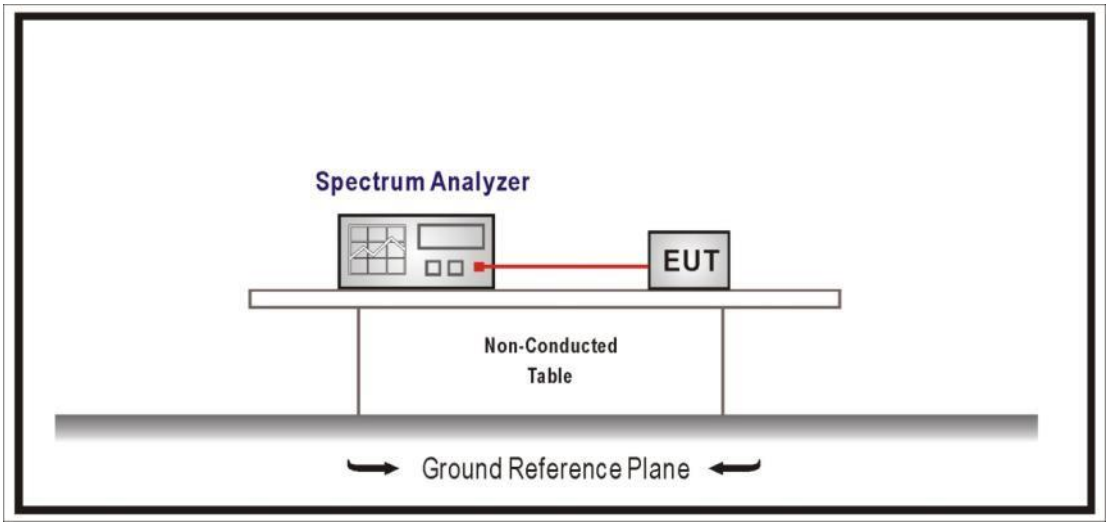


4.4 CarrierFrequencySeparation	VERDICT: PASS

4.4.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)
☐	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel.
☐	The 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4
☐	The 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4
☐	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz.

4.4.2 Test Setup



4.4.3 Test Procedure

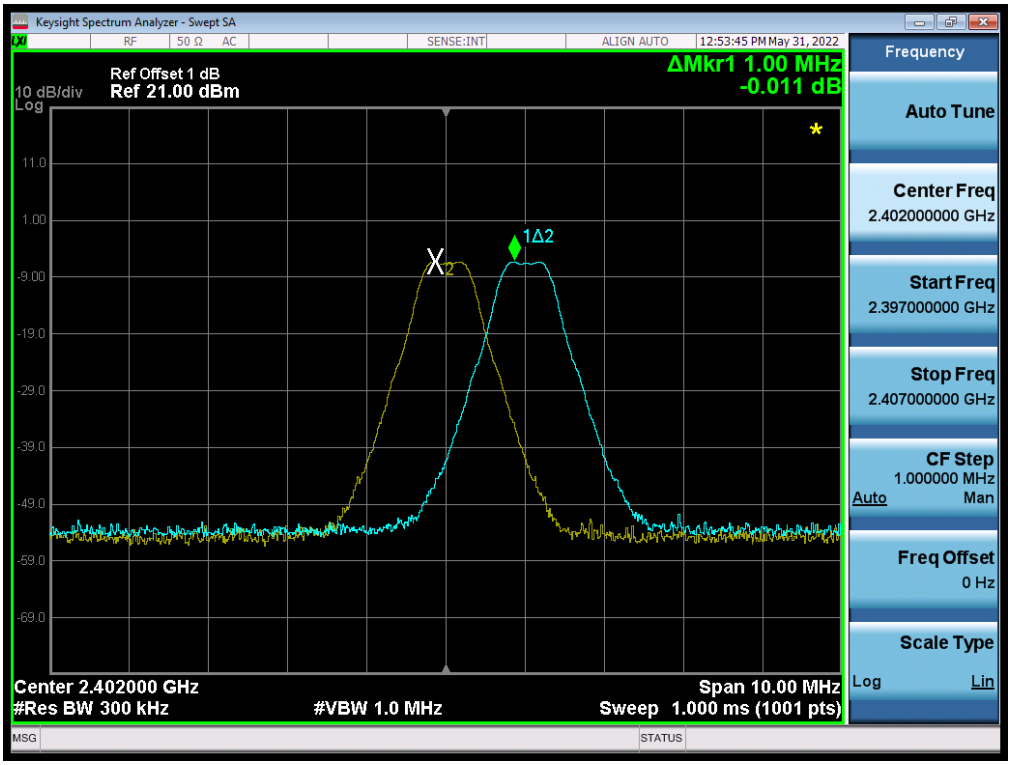
References Rule			Chapter	Description
☒	ANSI C63.10		7.8	Evaluation of frequency-hopping device parameters
	☒	ANSI C63.10	7.8.2	Carrier frequency separation

4.4.4 Test Data

Mode	Channel	Frequency (MHz)	Carrier Frequency Separation (kHz)	Limit (kHz)	Result
1	00	2402	1000	923.3	Pass
	39	2441	1000	924.4	Pass
	78	2480	1000	924.1	Pass
2	00	2402	1000	882.0	Pass
	39	2441	1000	882.0	Pass
	78	2480	1000	882.0	Pass
3	00	2402	1000	870.7	Pass
	39	2441	1000	871.3	Pass
	78	2480	1000	869.3	Pass

Note 1: The worst data plot as below:

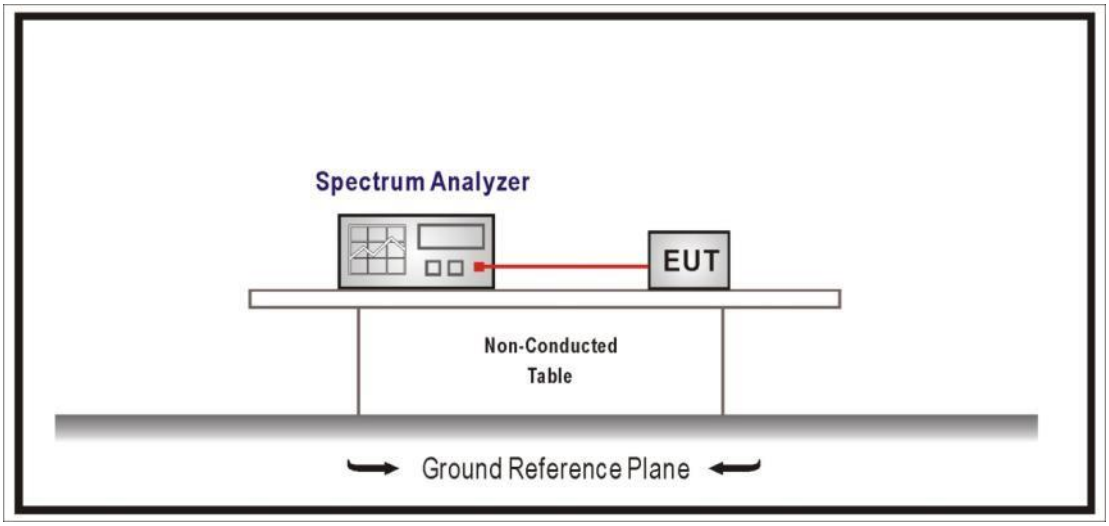
Mode1/CH00/2402MHz



4.5 Number of hopping Frequencies	VERDICT: PASS

4.5.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247(a)
☒	For frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies.
☐	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is less than 250 kHz, shall use at least 50 hopping frequencies.
☐	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is higher than 250 kHz, shall use at least 25 hopping frequencies.
☐	For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

4.5.2 Test Setup



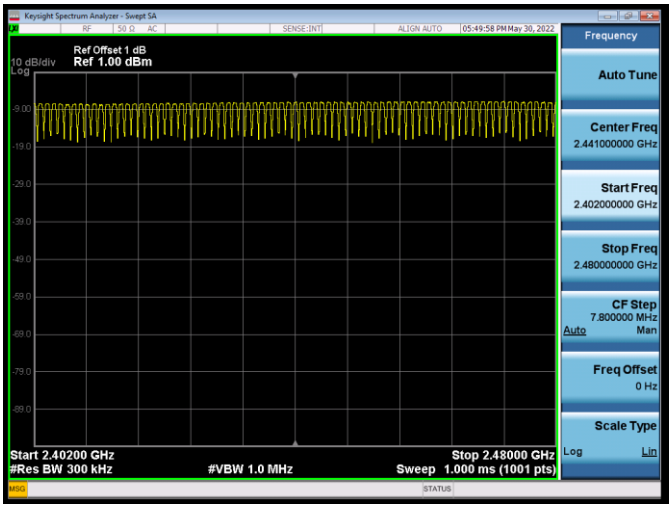
4.5.3 Test Procedure

References Rule			Chapter	Description
☒	ANSI C63.10		7.8.	Evaluation of frequency-hopping device parameters
	☒	ANSI C63.10	7.8.3	Number of Hopping Frequencies

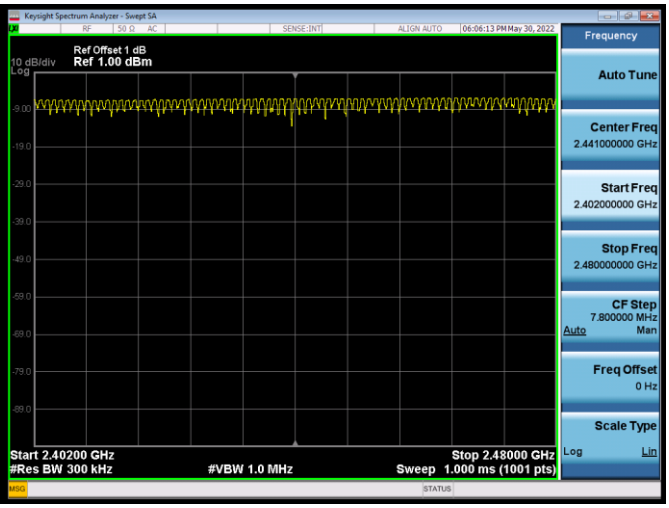
4.5.4 Test Data

Mode	Number of Hopping Frequencies	Limit	Result
1	79	>15	Pass
2	79	>15	Pass
3	79	>15	Pass

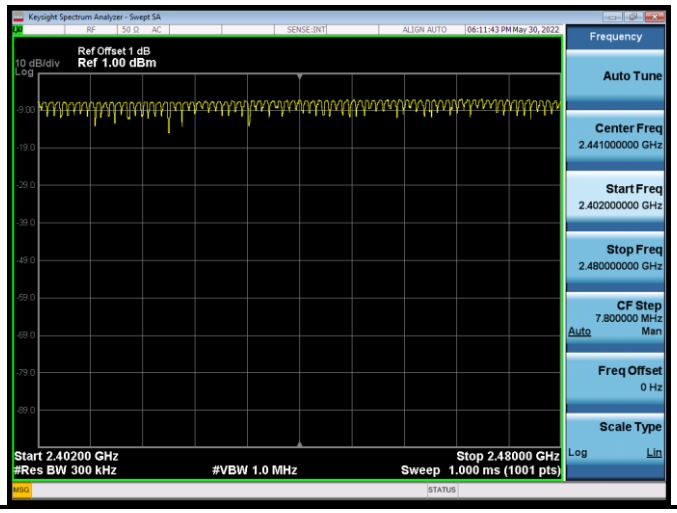
Mode 1



Mode2



Mode 3

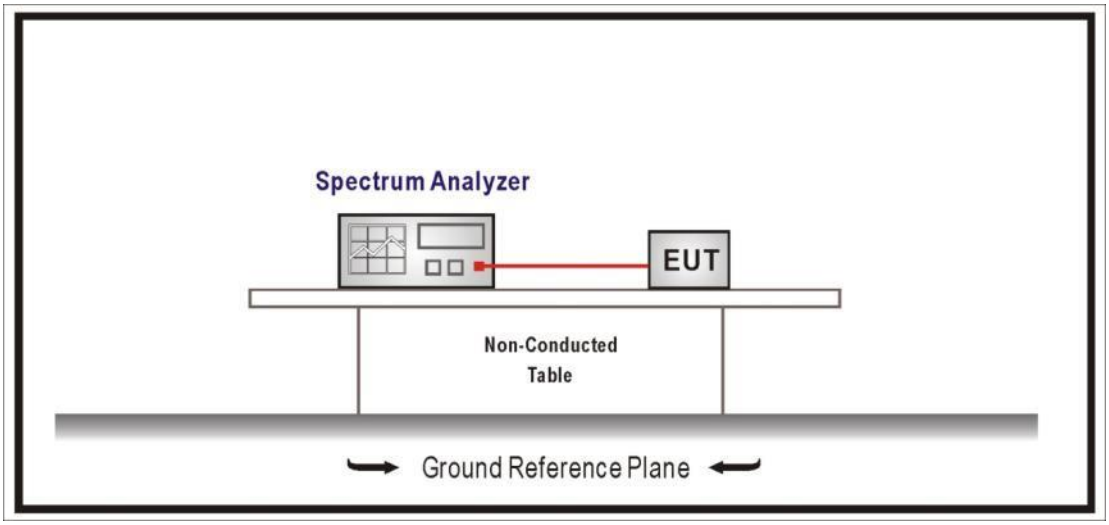


4.6 Time of Occupancy(Dwell Time)	VERDICT: PASS

4.6.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)
☒	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
☐	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period
☐	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.
☐	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

4.6.2 Test Setup



4.6.3 Test Procedure

References Rule			Chapter	Description
☒	ANSI C63.10		7.8	Evaluation of frequency-hopping device parameters
	☒	ANSI C63.10	7.8.4	Time of occupancy (dwell time)

4.6.4 Test Data

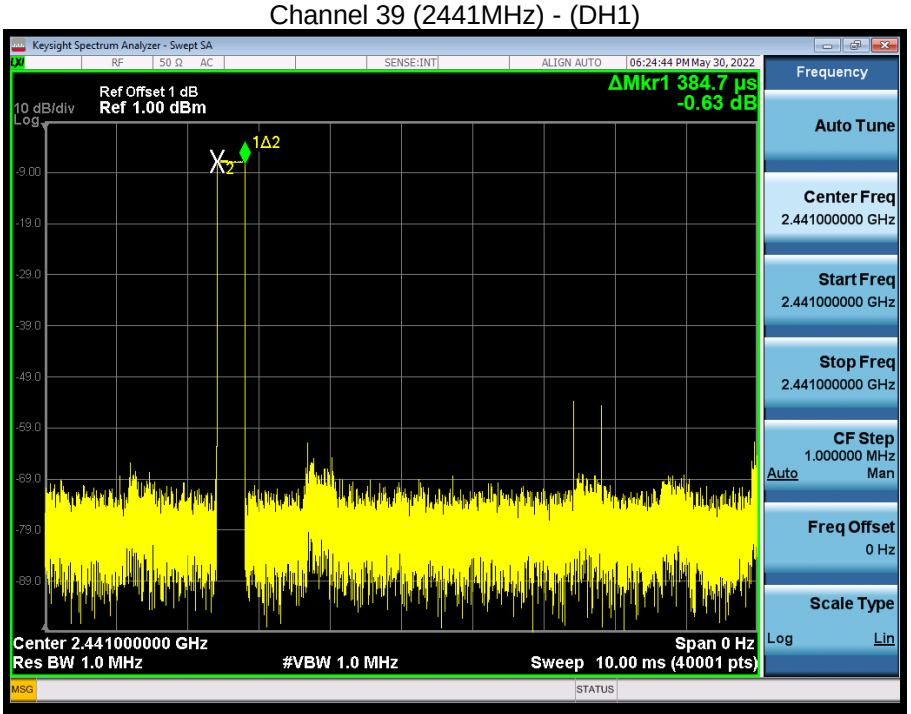
Mode	Channel	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
1	39	2441	123.104	< 400	Pass

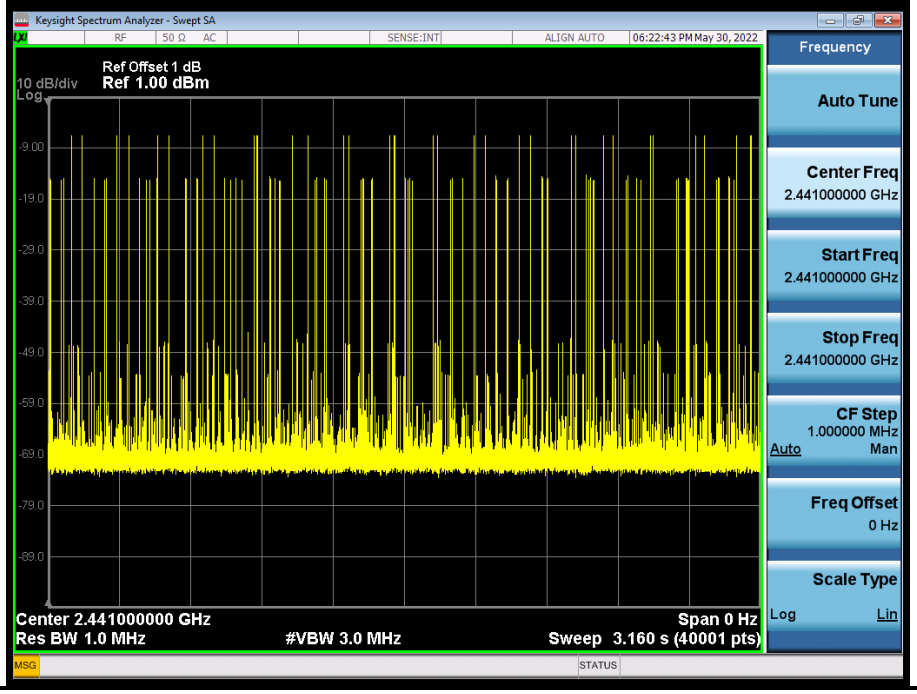
Note1: Test Time Period: 0.4*79=31.6sec

Note2: Time of Occupancy=0.3847*32*31.6/3.16=123.104ms

Note3: We have evaluated different packet type, shown in the report is the worst data.

Channel 39 (2441MHz) - (DH1)





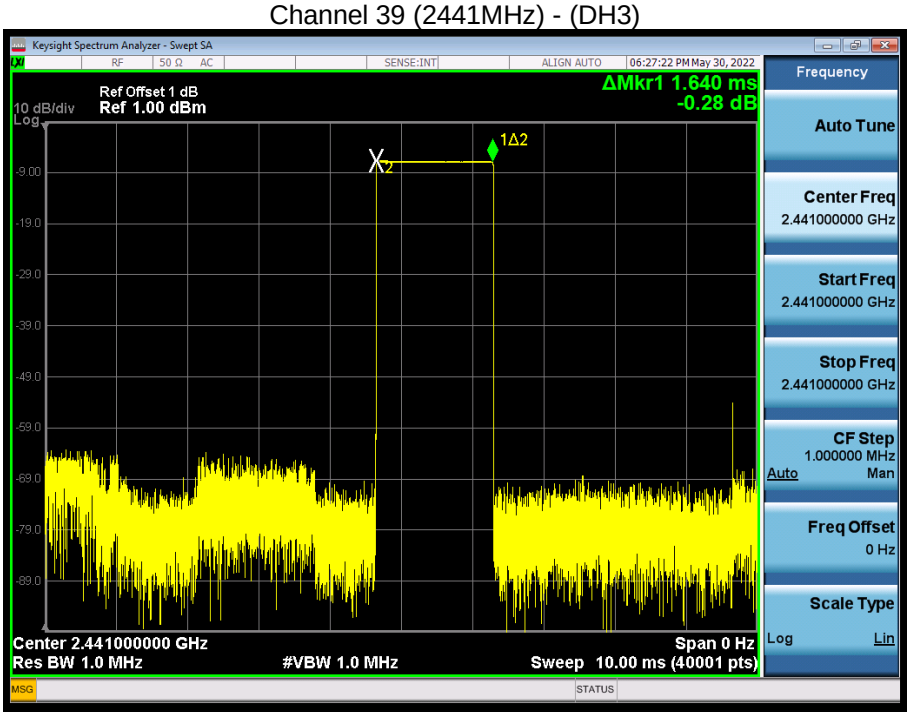
Mode	Channel	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
1	39	2441	229.60	< 400	Pass

Note1: Test Time Period: 0.4*79=31.6sec

Note2: Time of Occupancy=1.64*14*31.6/3.16=229.60ms

Note3: We have evaluated different packet type, shown in the report is the worst data.

Channel 39 (2441MHz) - (DH3)



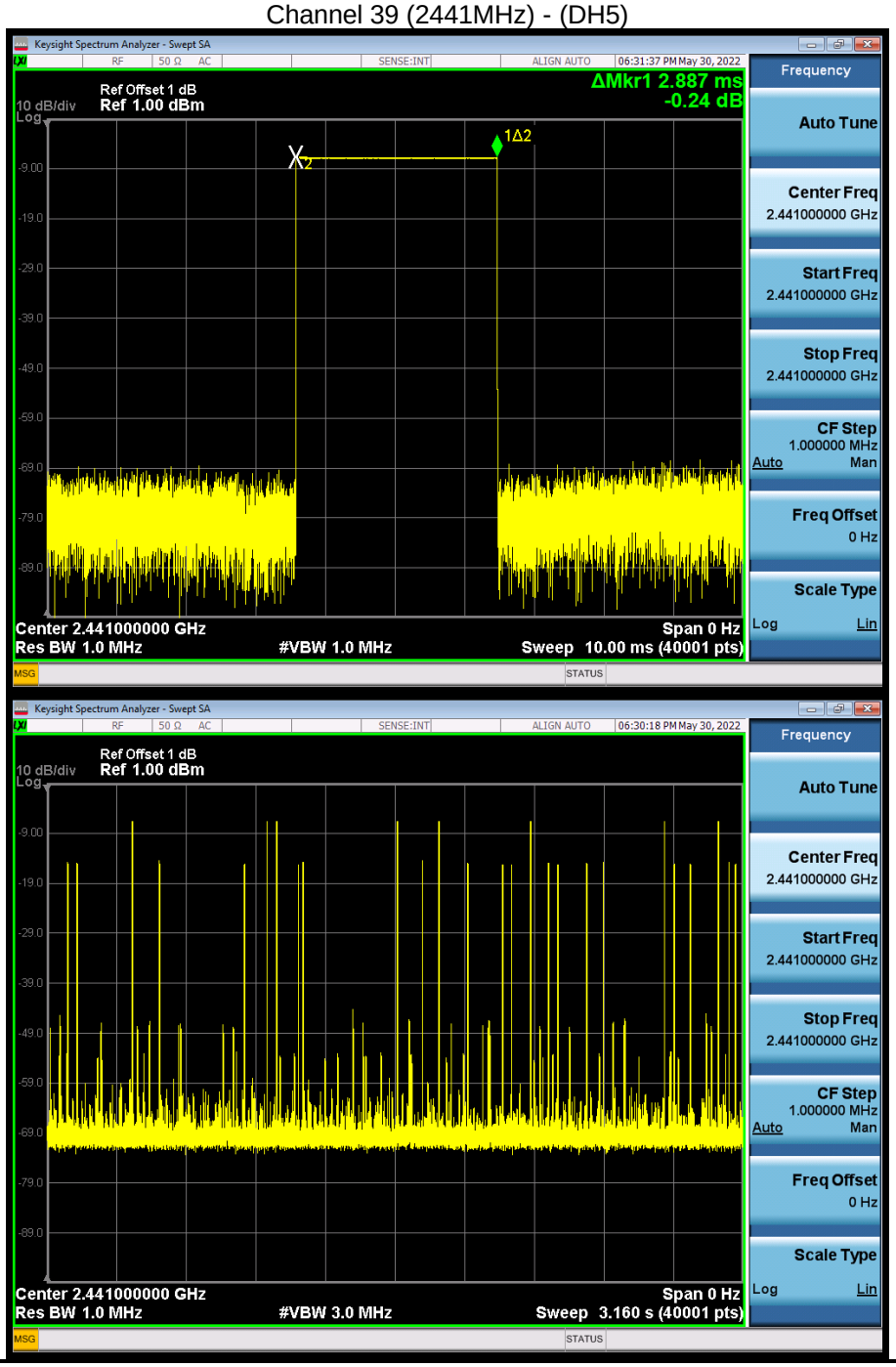
Mode	Channel	Frequency (MHz)	Time of Occupancy (ms)	Limit (ms)	Result
1	39	2441	230.96	< 400	Pass

Note1: Test Time Period: 0.4*79=31.6sec

Note2: Time of Occupancy=2.887*8*31.6/3.16=230.96ms

Note3: We have evaluated different packet type, shown in the report is the worst data.

Channel 39 (2441MHz) - (DH5)

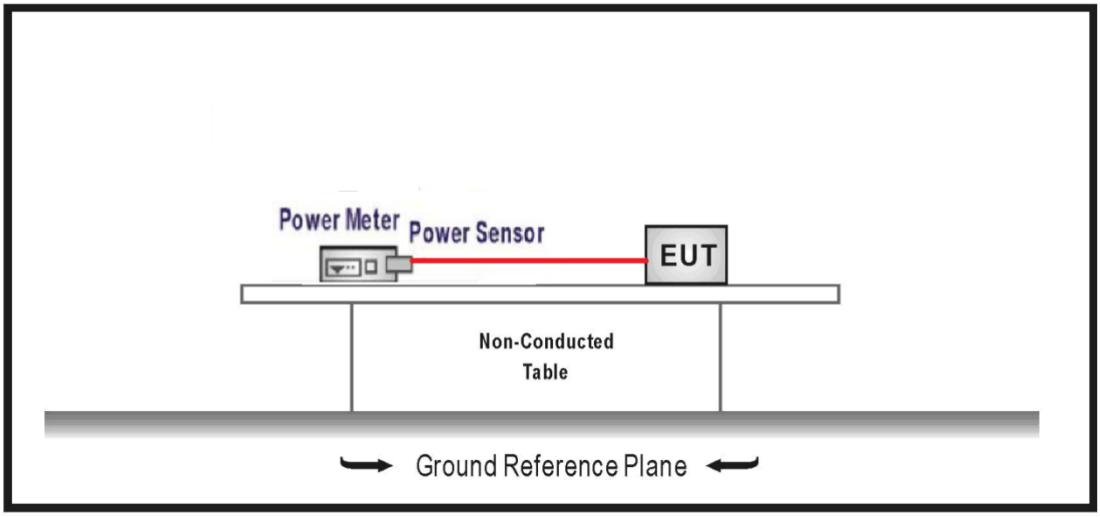


Note: The packet time of AFH mode is same as normal mode, due to the packet time of AFH mode multiply with lesser factor is dwell time of 0.4X20=8S, the dwell time of AFH mode comply with the limit.

4.7 Peak Output Power	VERDICT: PASS

4.7.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(1)
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.
☐	For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels

4.7.2 Test Setup



4.7.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		7.8	Evaluation of frequency-hopping device parameters
	☒	ANSI C63.10	7.8.5	Output power test procedure for frequency-hopping spread-spectrum (FHSS) devices

4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Conducted Power (dBm)	Conducted Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Result
Mode 1	00	2402	-9.624	≤30	-6.724	≤36	Pass
	39	2441	-8.972	≤30	-6.072	≤36	Pass
	78	2480	-9.132	≤30	-6.232	≤36	Pass
Mode 2	00	2402	-8.241	≤21	-5.341	≤36	Pass
	39	2441	-8.369	≤21	-5.469	≤36	Pass
	78	2480	-8.571	≤21	-5.671	≤36	Pass
Mode 3	00	2402	-8.036	≤21	-5.136	≤36	Pass
	39	2441	-8.213	≤21	-5.313	≤36	Pass
	78	2480	-8.189	≤21	-5.289	≤36	Pass

4.8 Emissions in non-restricted frequency band	VERDICT: PASS

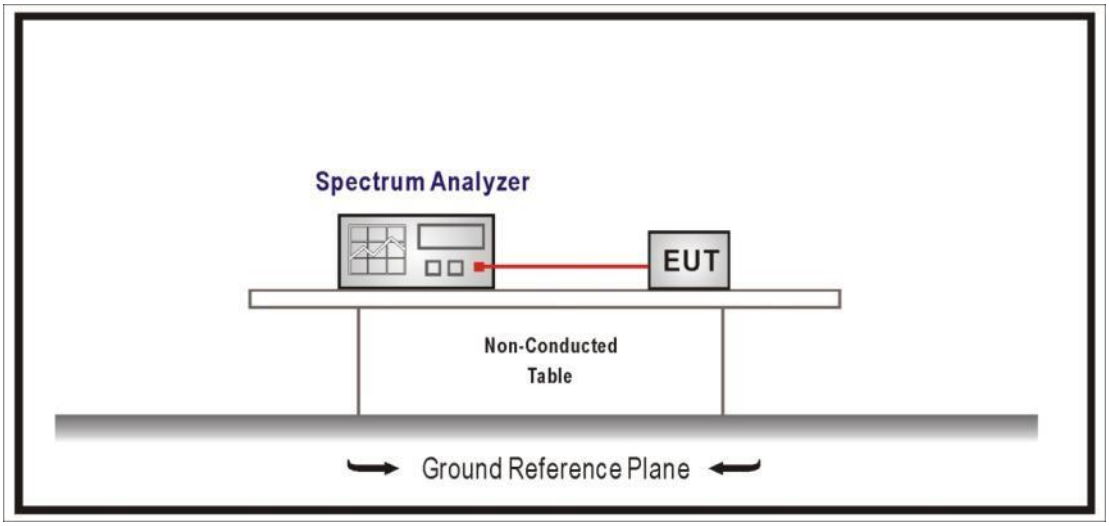
4.8.1 Limit

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).

4.8.2 Test Setup

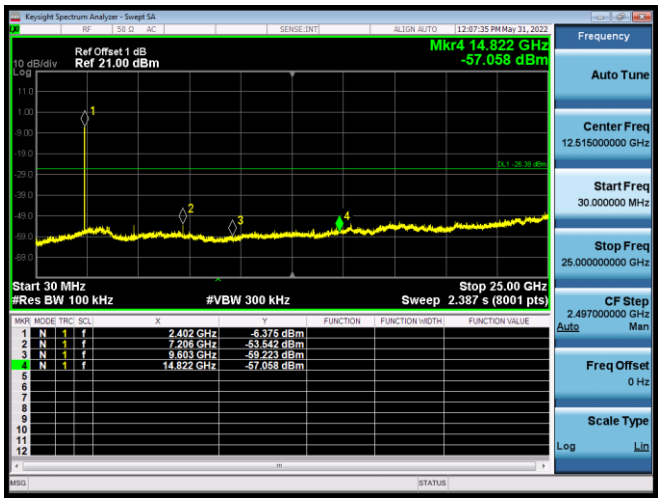


4.8.3 Test Procedure

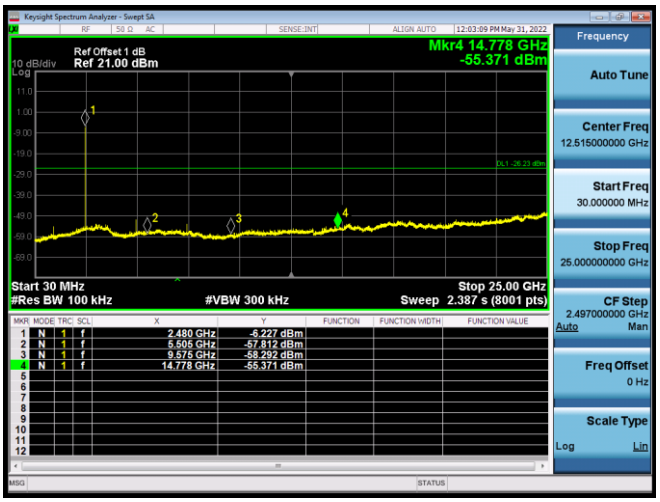
References Rule			Chapter	Description
☒	ANSI C63.10		7.8	Evaluation of frequency-hopping device parameters
	☒	ANSI C63.10	7.8.6	Band-edge measurements for RF conducted emissions

4.8.4 Test Data

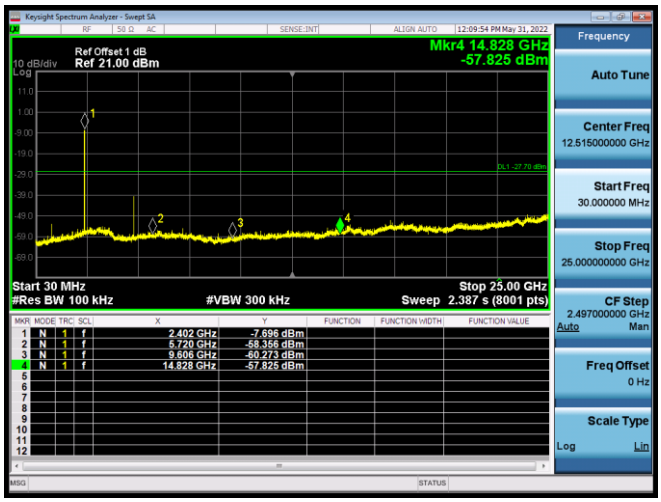
Mode 1 CH00(2402MHz)



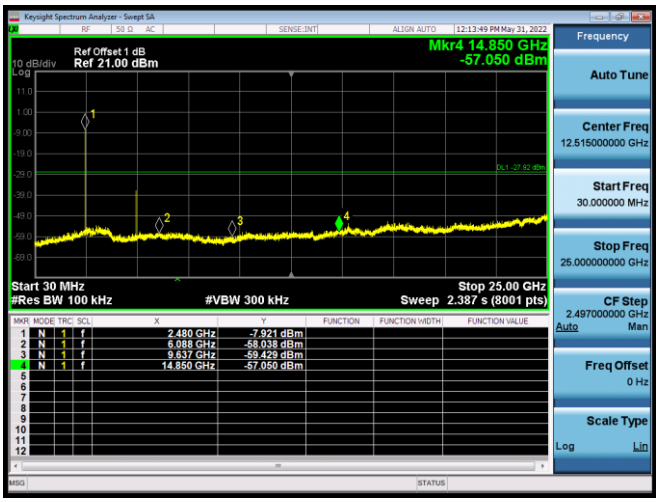
Mode 1 CH78(2480MHz)



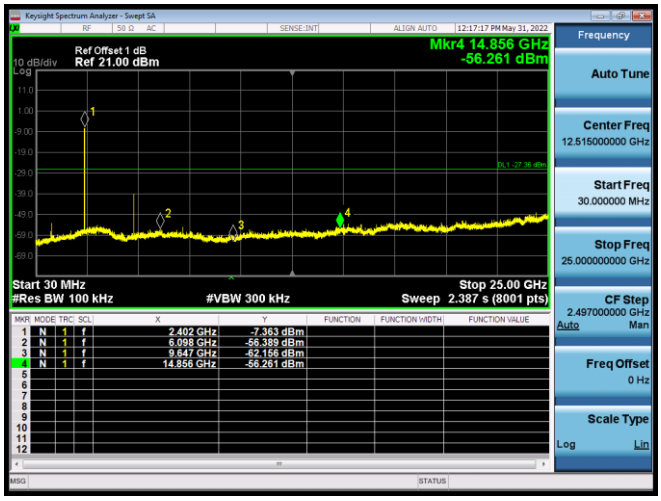
Mode 2 CH00(2402MHz)



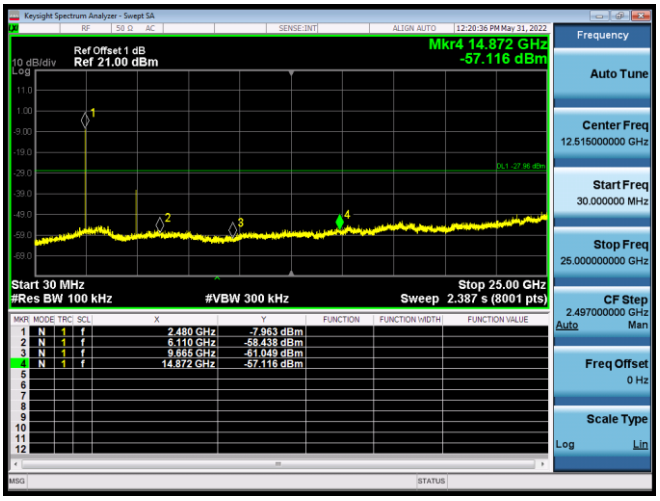
Mode 2 CH78(2480MHz)



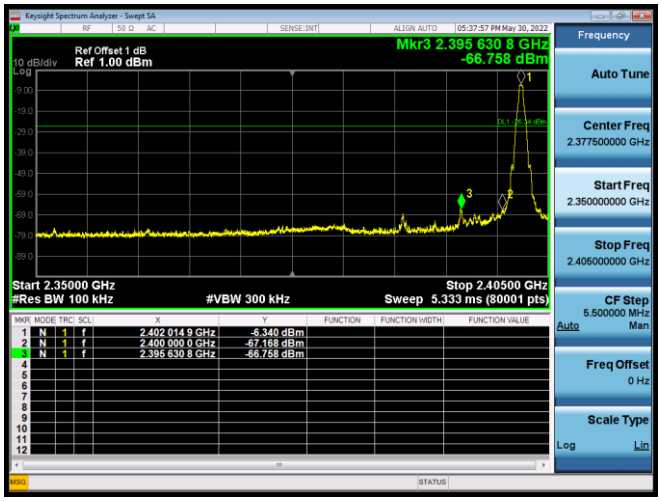
Mode 3 CH00(2402MHz)



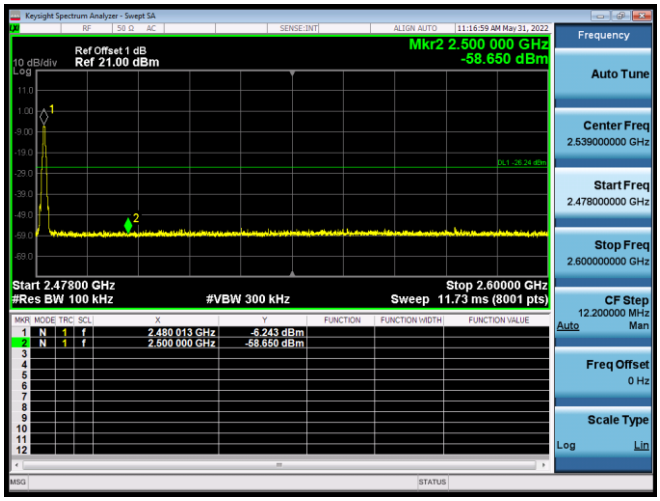
Mode 3 CH78(2480MHz)



Mode 1

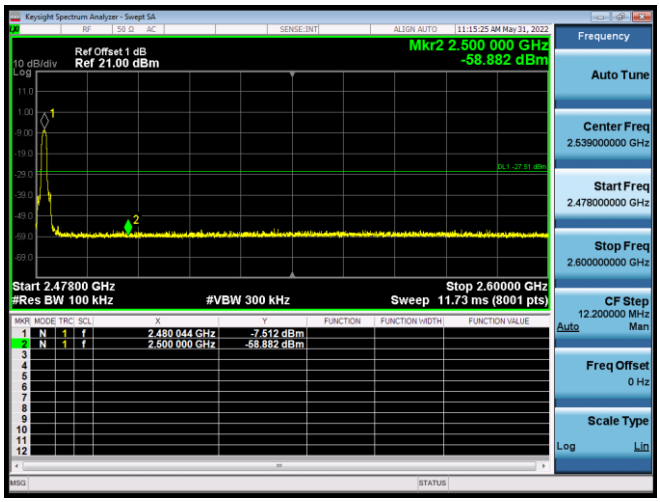


Mode 1



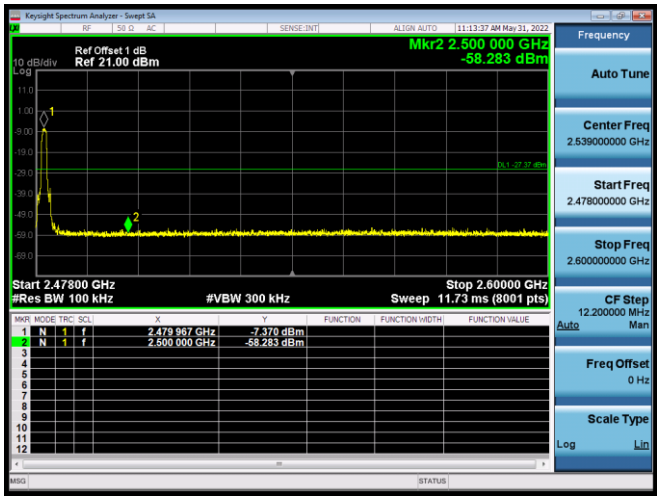
Mode 2

Mode 2

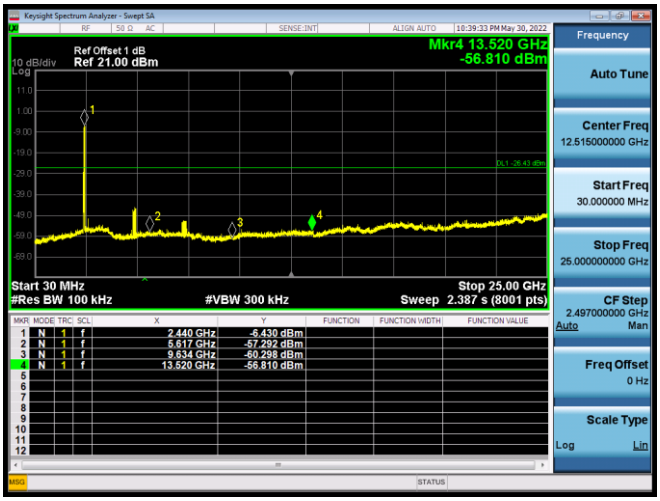


Mode 3

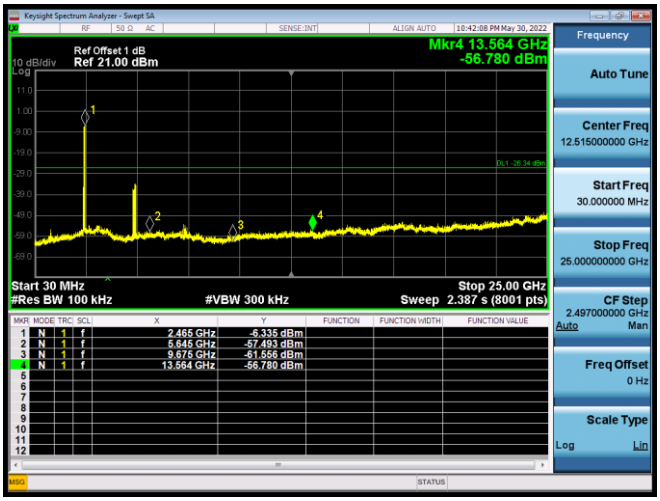
Mode 3



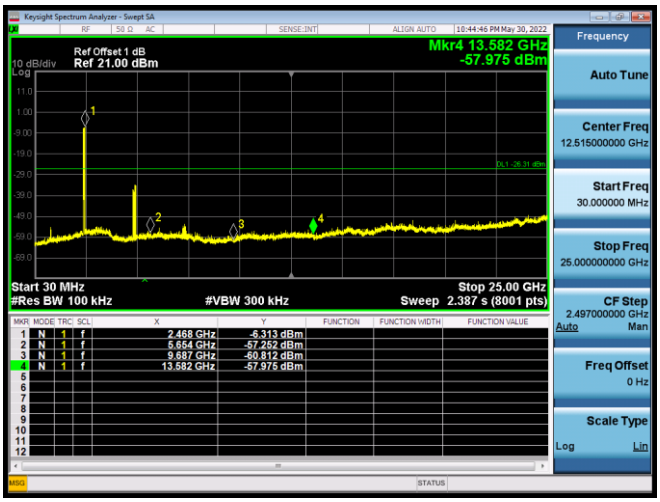
Mode 4



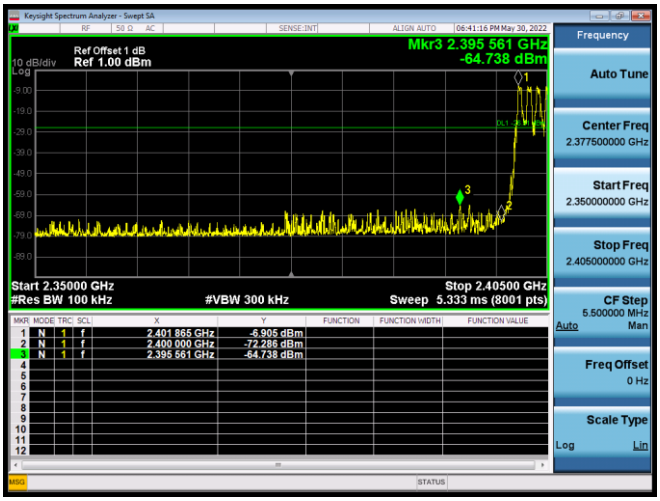
Mode 5



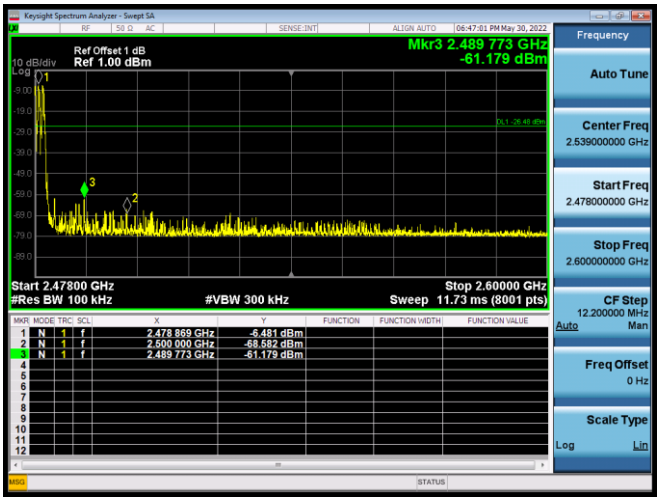
Mode 6



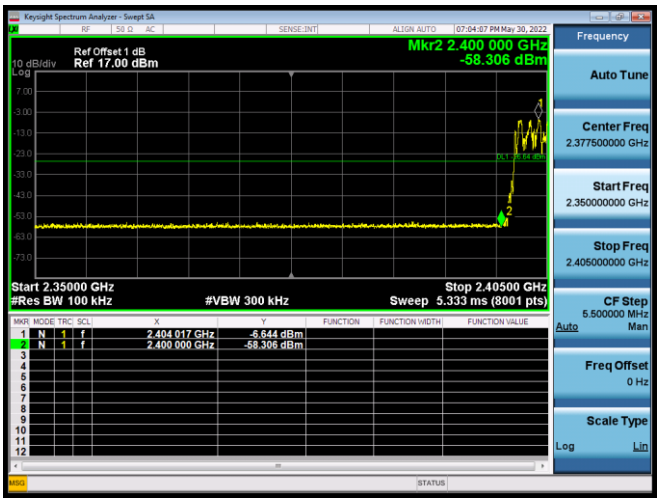
Mode 4



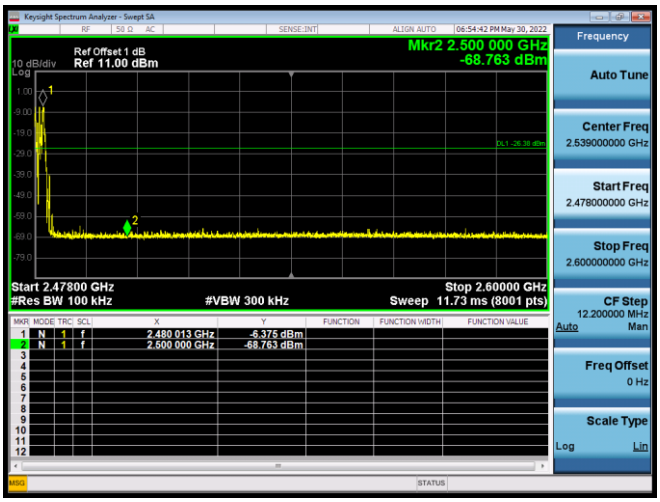
Mode 4



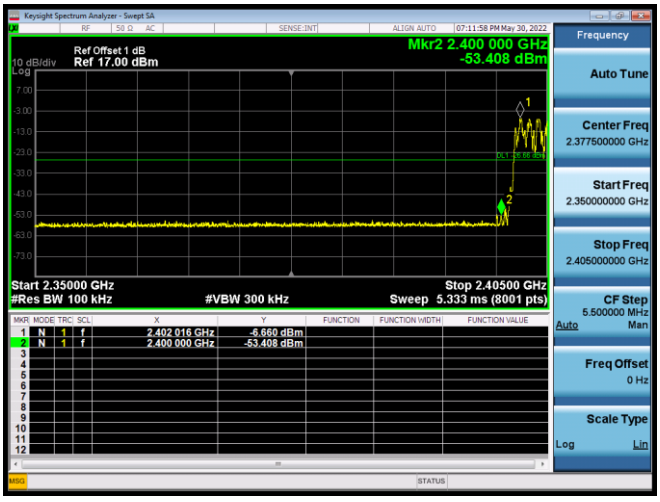
Mode 5



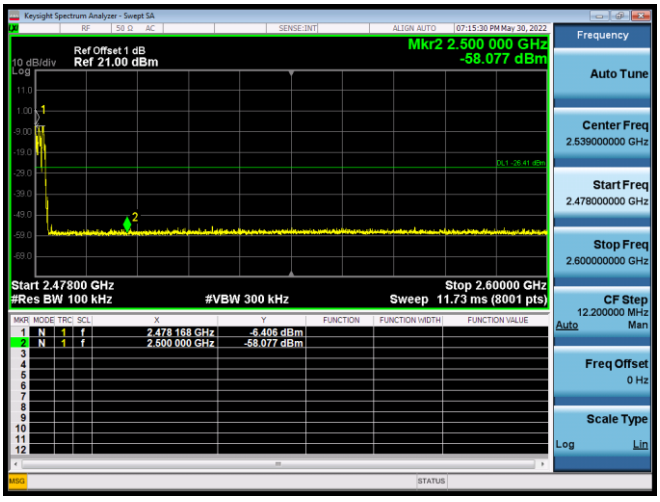
Mode 5



Mode 6



Mode 6

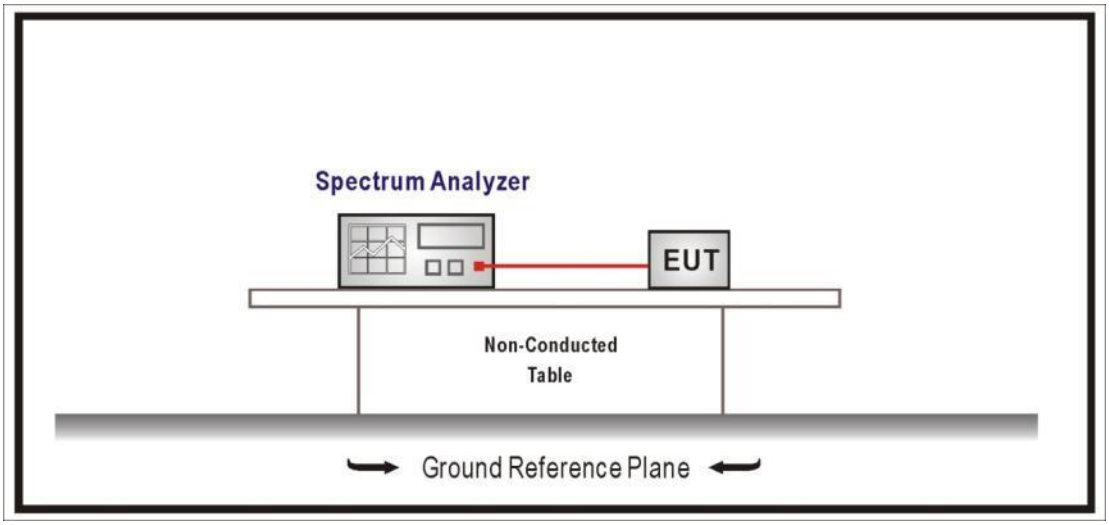


4.9 Duty cycle	VERDICT: PASS

4.9.1 Limit

N/A

4.9.2 Test Setup



4.9.3 Test Procedure

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

4.9.4 Test Data

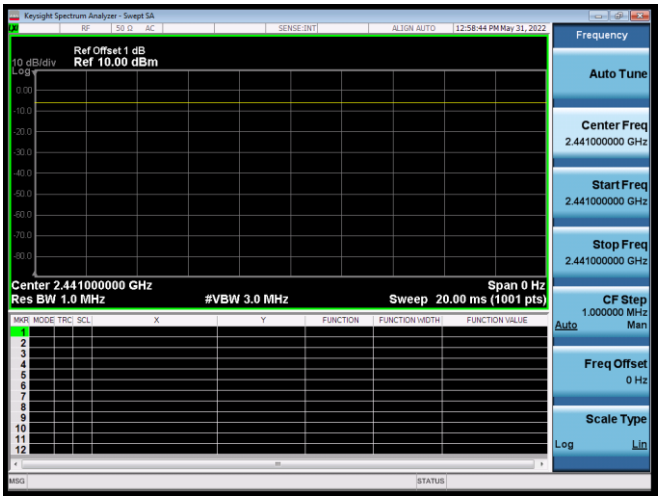
Test Mode	Tx On (ms)	Tx Off (ms)	VBW (MHz)	Tx On + Tx Off (ms)	Duty Cycle (%)
Mode 1	N/A	N/A	3	N/A	100
Mode 2	N/A	N/A	3	N/A	100
Mode 3	N/A	N/A	3	N/A	100

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.

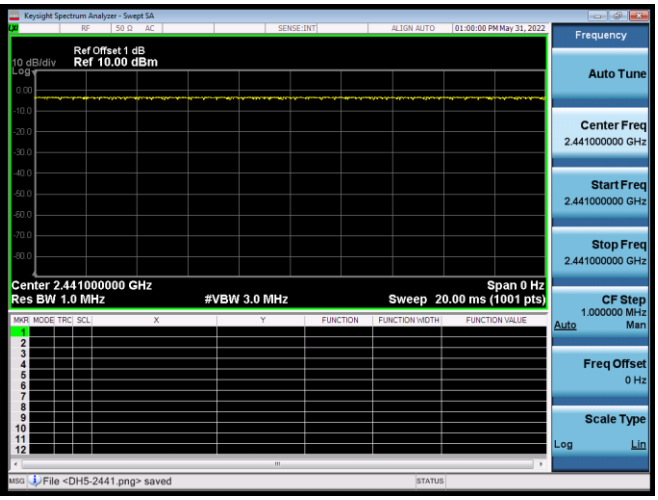
Note 2: According to KDB 558074, when test for Radiated Emission Band Edge and Radiated Emission, for average detector set: VBW ⩾ 1/T will be used.[1]

Note 3: When dutycycle ⩾ 98%, for average detector set: VBW ⩾ 3MHz will be used.

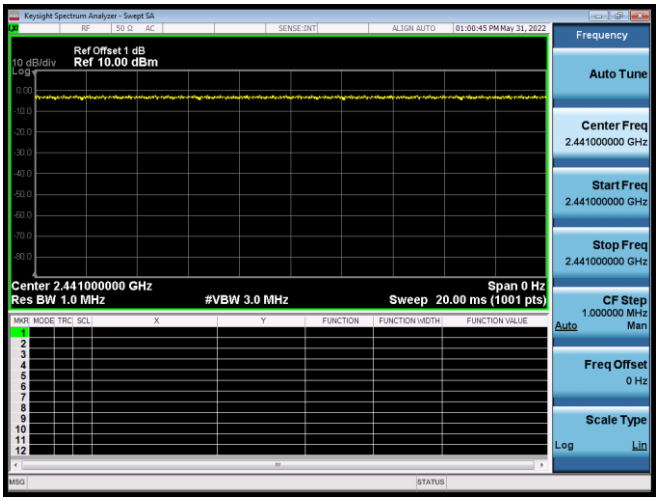
Mode 1 CH39 2441MHz



Mode 2 CH39 2441MHz



Mode 3 CH39 2441MHz



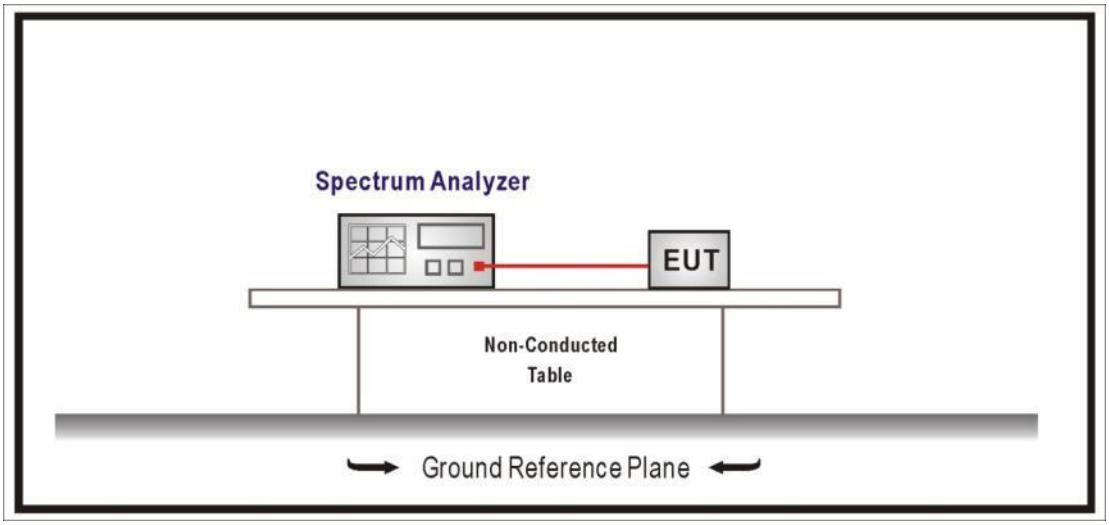
1

4.10 Band Edge	VERDICT: PASS

4.10.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) ,15.209			
Frequency bands (MHz)	Detector	Limit (dB μ V/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.				

4.10.2 Test Setup



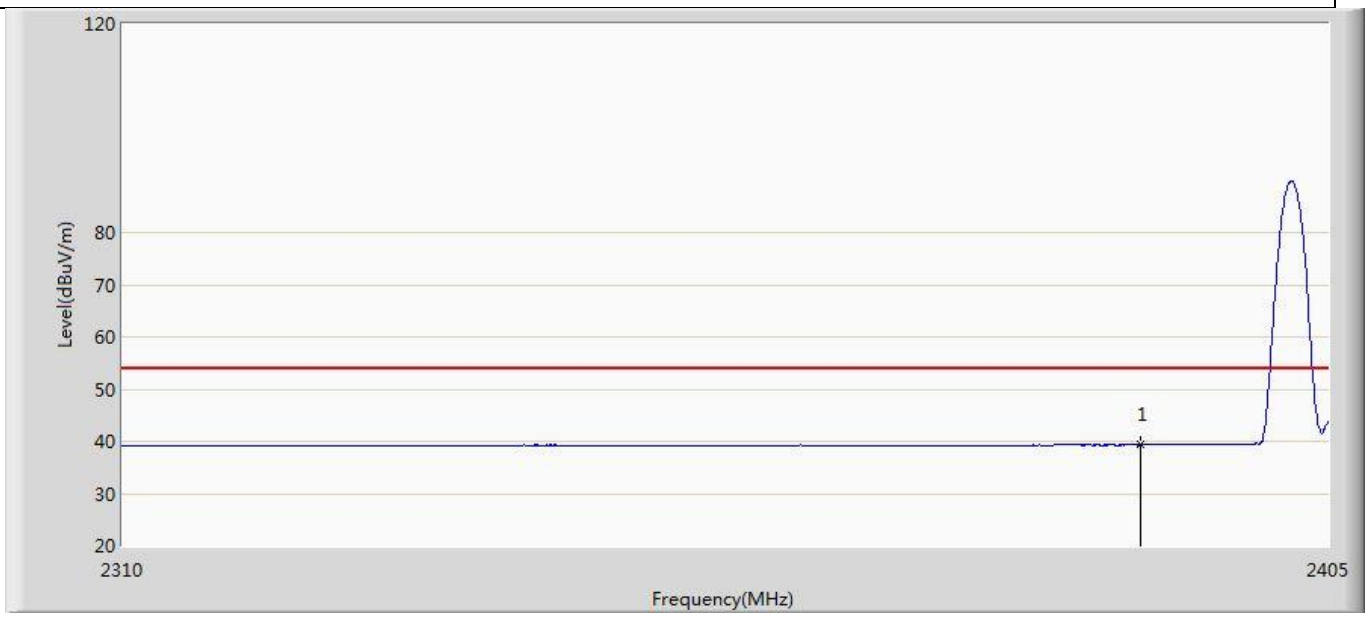
4.10.3 Test Procedure

Test Method

	References Rule		Chapter	Description
☐	DA 00-705		N/A	duty cycle correction factor
☒	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		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

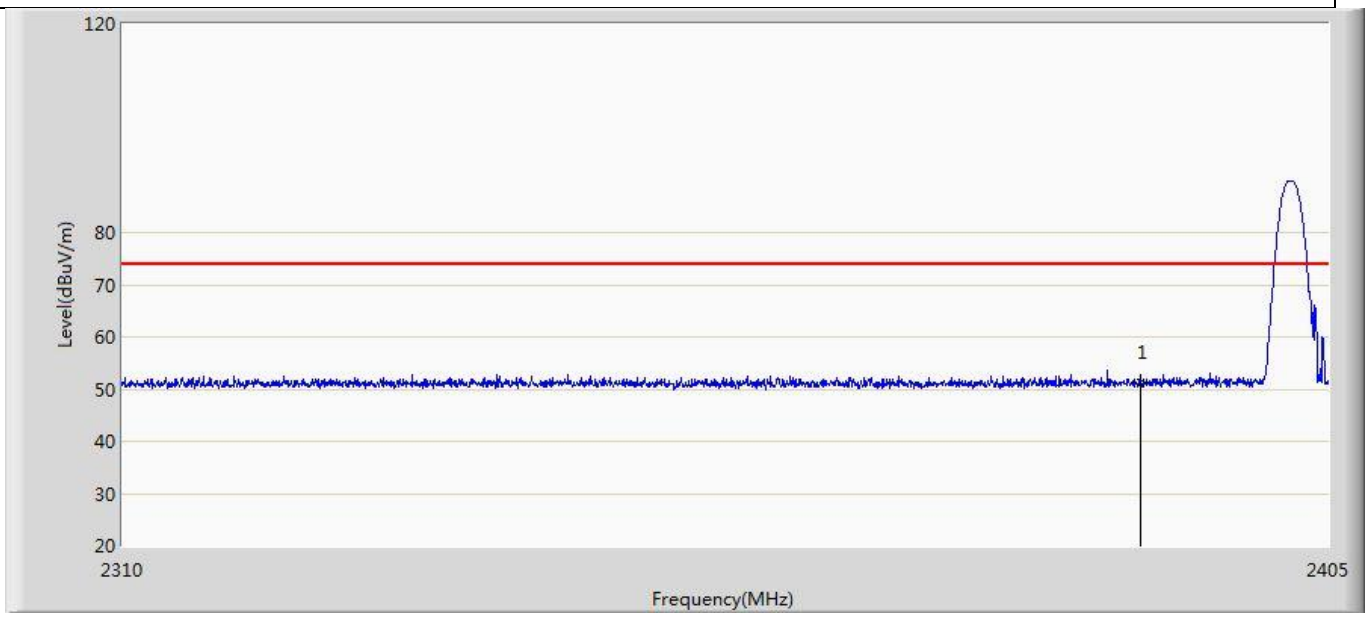
4.10.4 Test Data

Profile: 2250730R	Page No.: 1
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 00:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2402MHz by DH5	



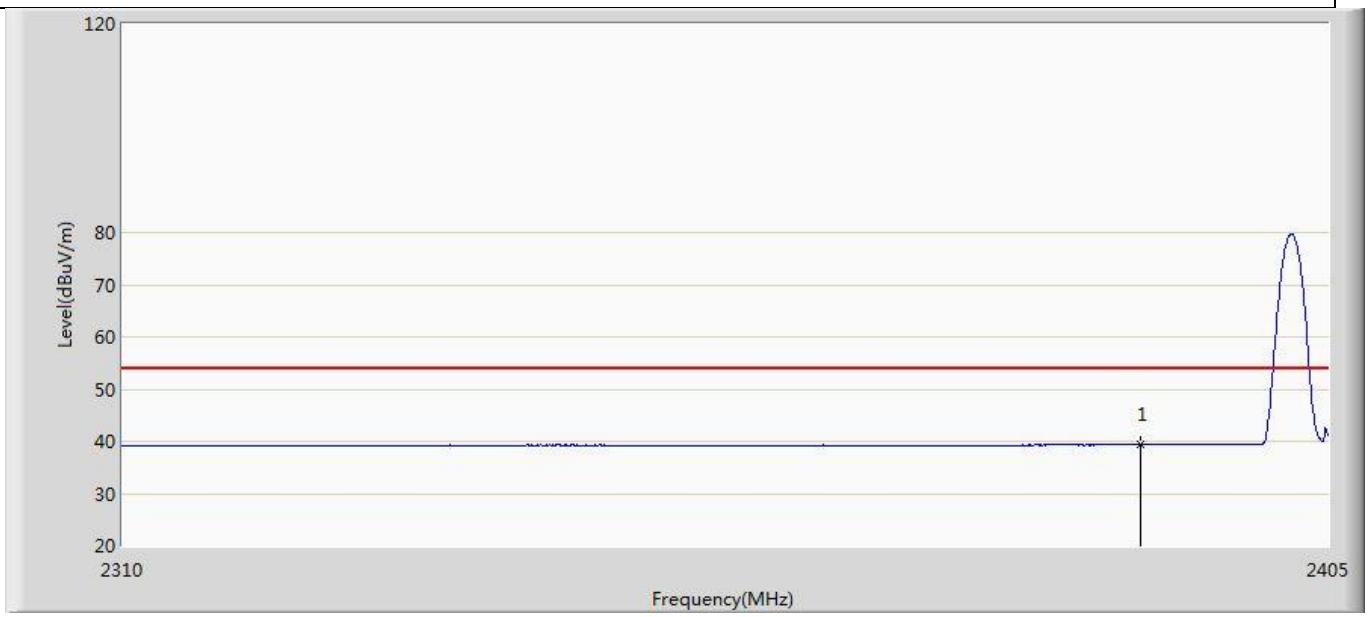
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	39.333	3.235	-14.667	54.000	36.098	AV

Profile: 2250730R	Page No.: 2
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2402MHz by DH5	



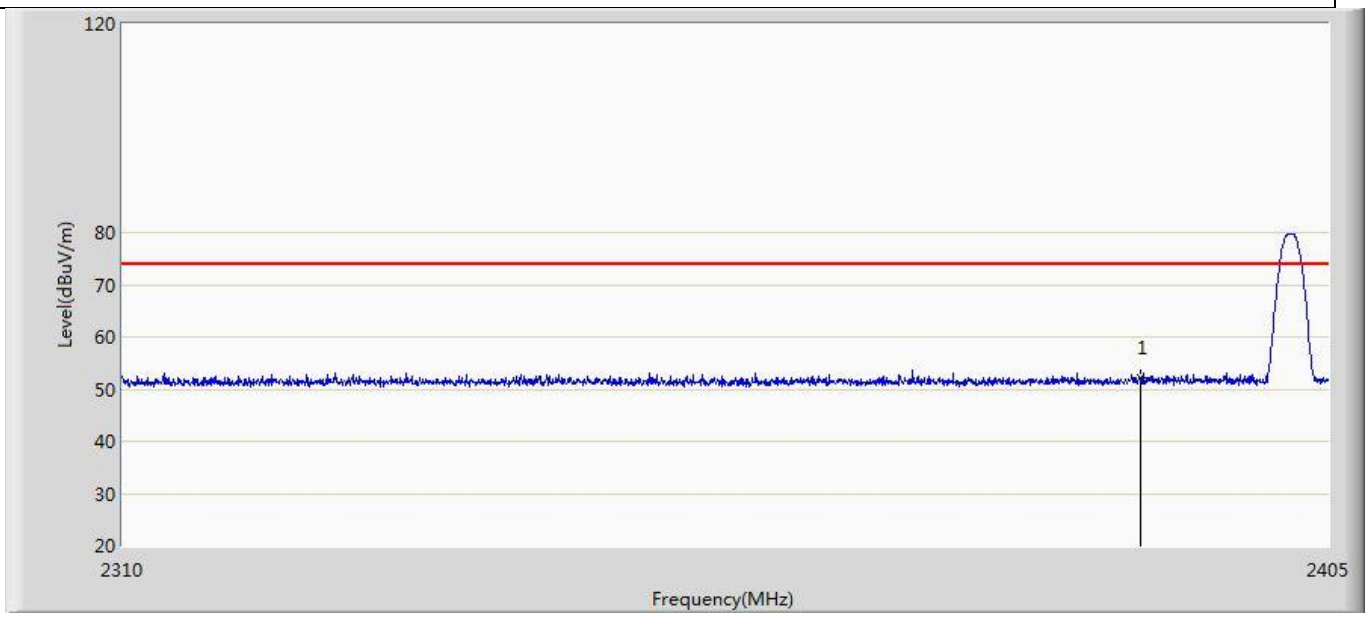
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	51.361	15.263	-22.639	74.000	36.098	PK

Profile: 2250730R	Page No.: 3
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2402MHz by DH5	



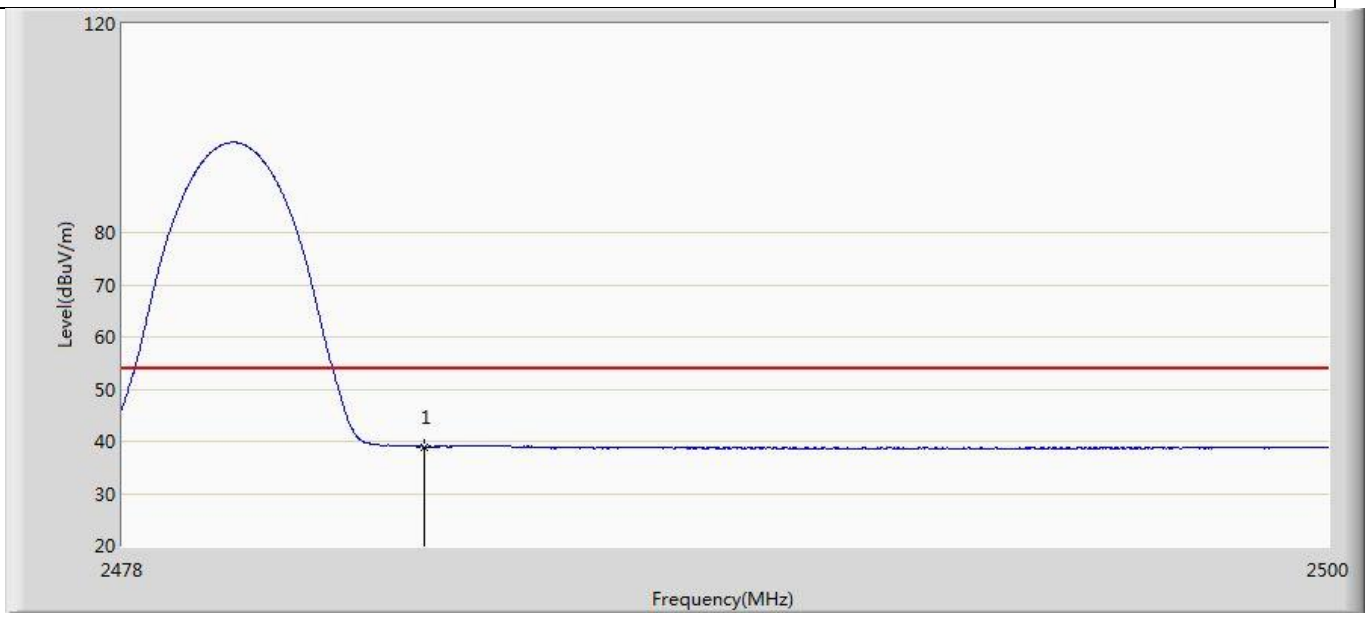
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	39.346	3.248	-14.654	54.000	36.098	AV

Profile: 2250730R	Page No.: 4
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2402MHz by DH5	



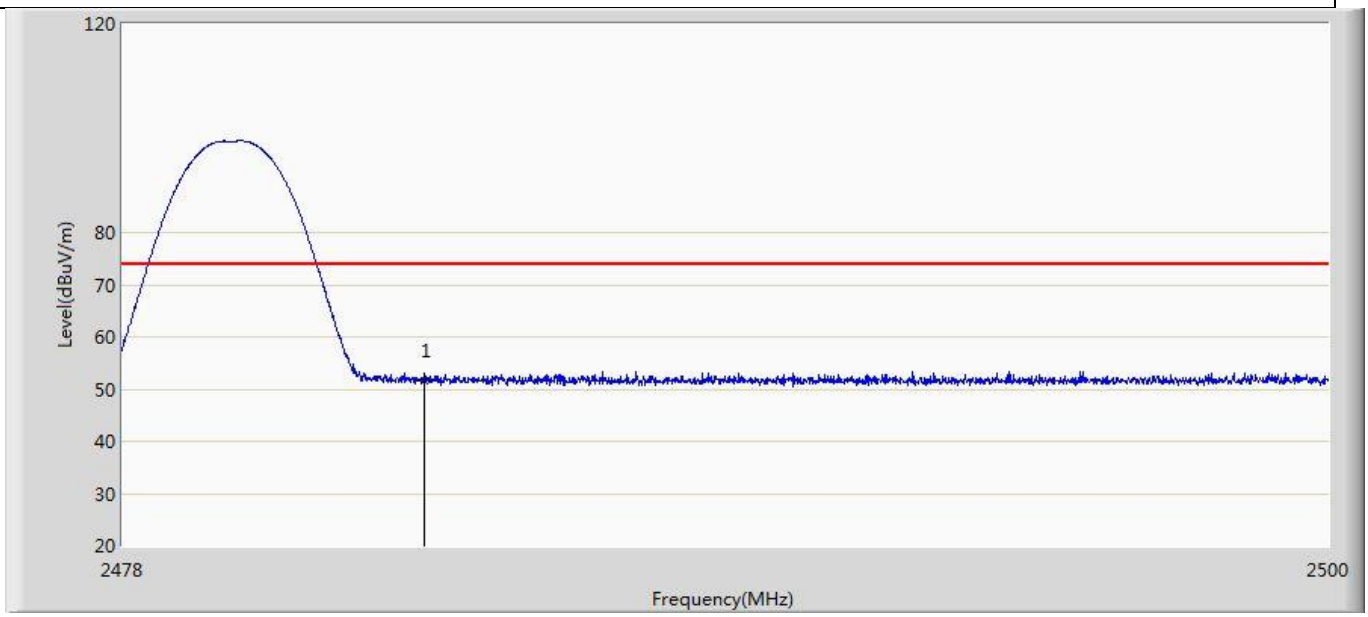
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	52.038	15.940	-21.962	74.000	36.098	PK

Profile: 2250730R	Page No.: 5
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2480MHz by DH5	



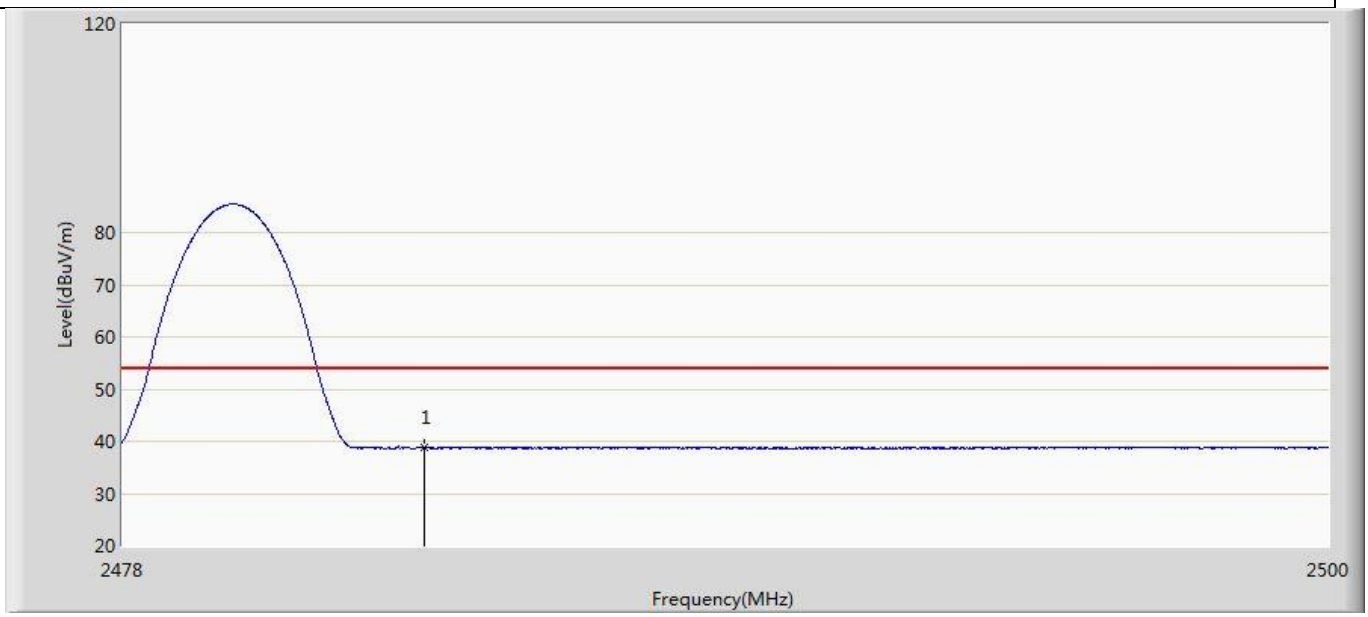
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.984	2.763	-15.016	54.000	36.220	AV

Profile: 2250730R	Page No.: 6
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2480MHz by DH5	



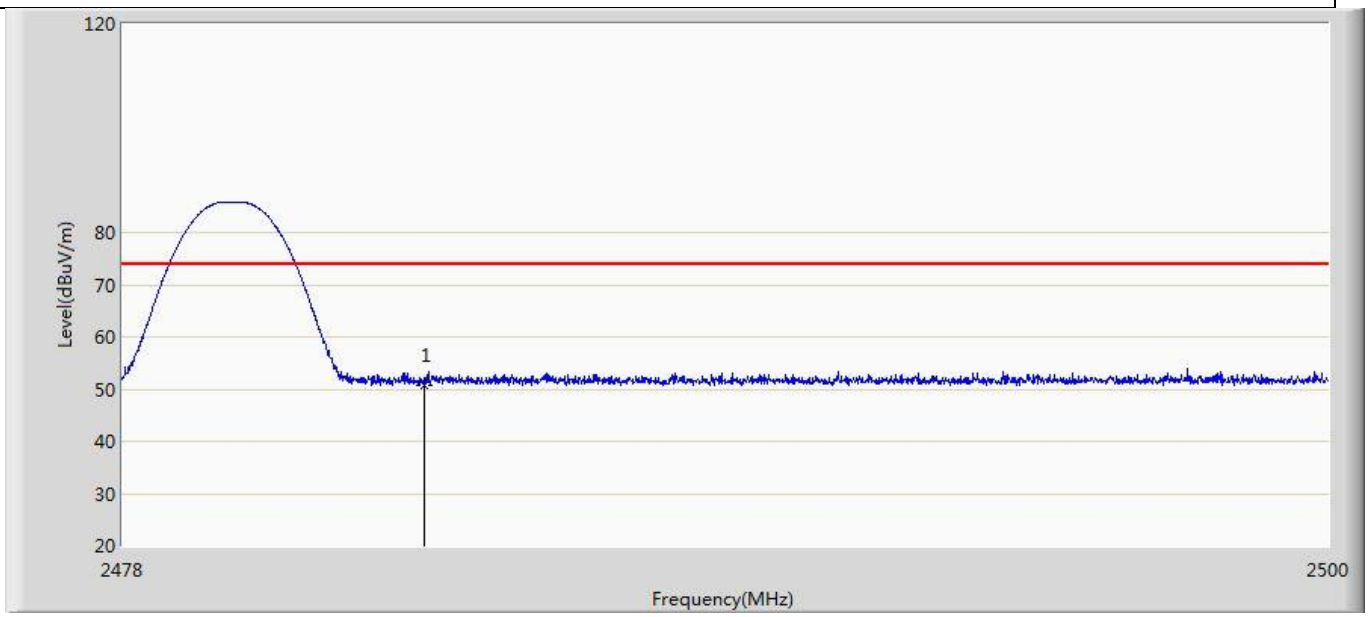
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	51.522	15.301	-22.478	74.000	36.220	PK

Profile: 2250730R	Page No.: 7
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2480MHz by DH5	



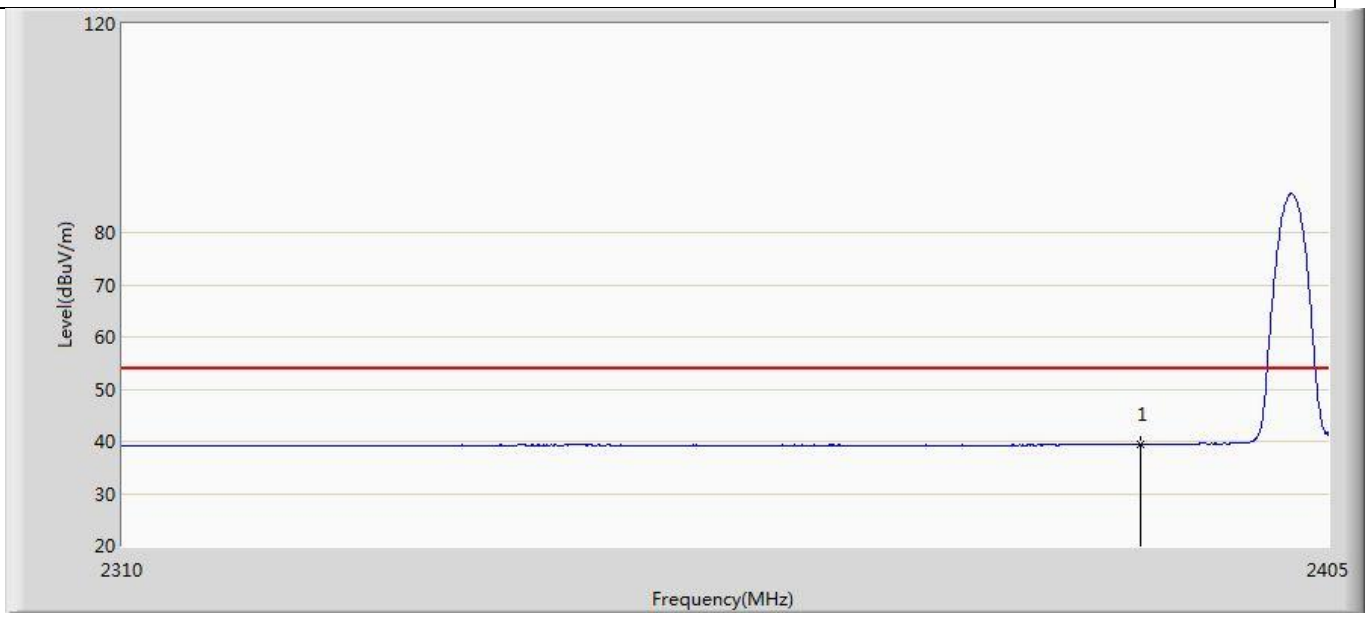
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.803	2.582	-15.197	54.000	36.220	AV

Profile: 2250730R	Page No.: 8
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 1:Transmit at 2480MHz by DH5	



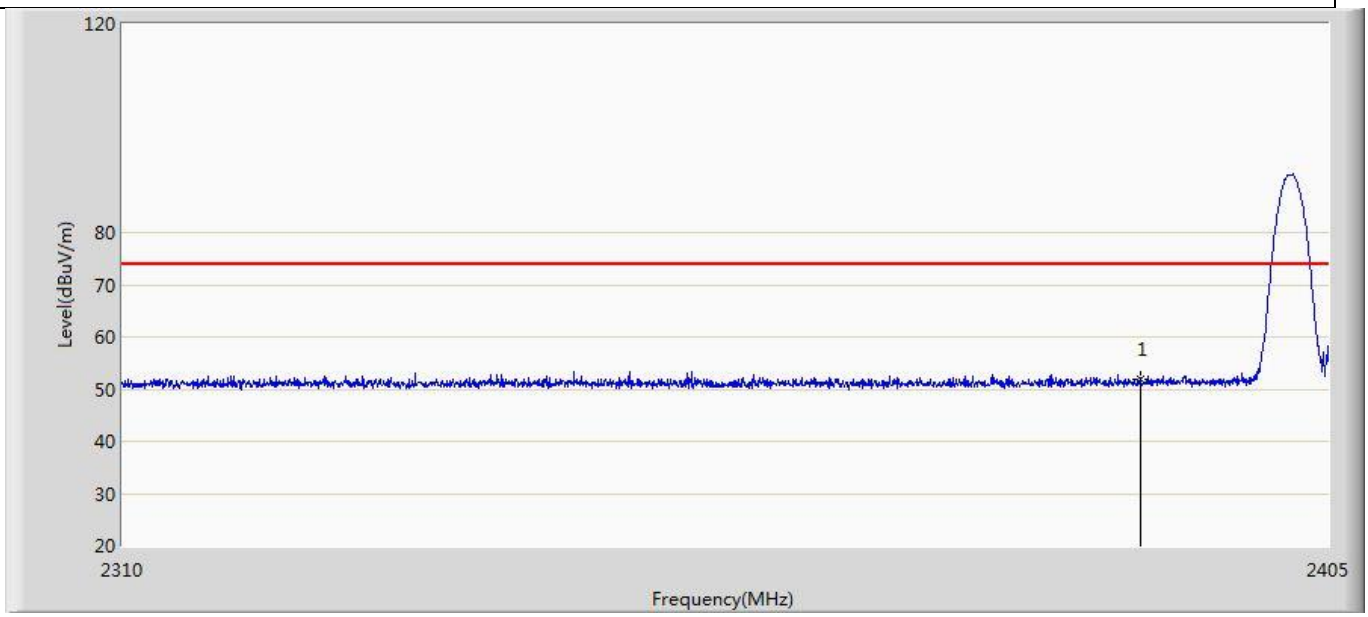
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	50.731	14.510	-23.269	74.000	36.220	PK

Profile: 2250730R	Page No.: 9
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



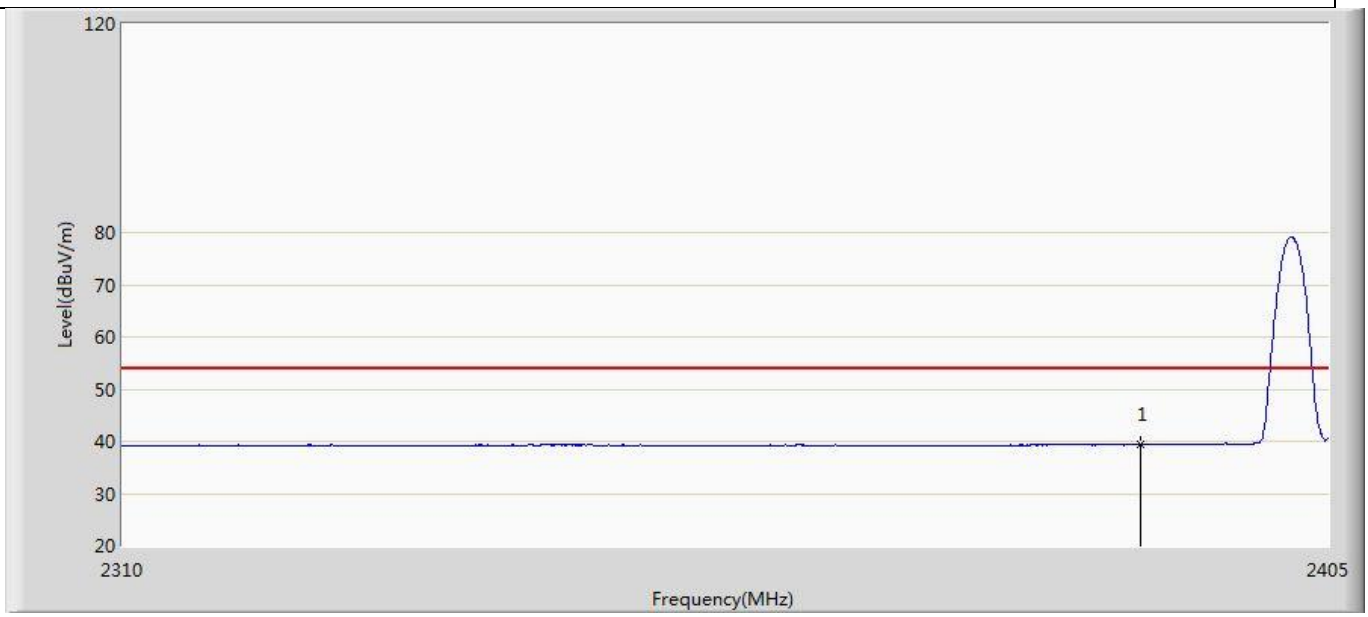
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	39.321	3.223	-14.679	54.000	36.098	AV

Profile: 2250730R	Page No.: 10
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 19:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



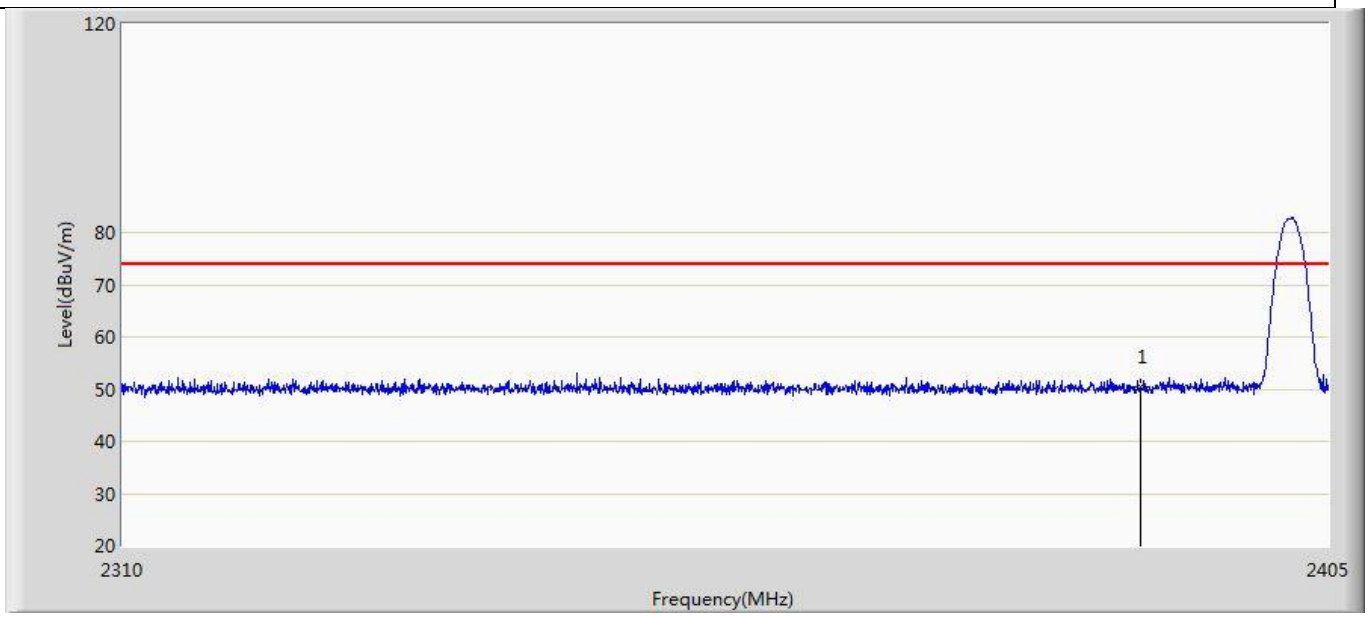
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	52.025	15.927	-21.975	74.000	36.098	PK

Profile: 2250730R	Page No.: 11
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



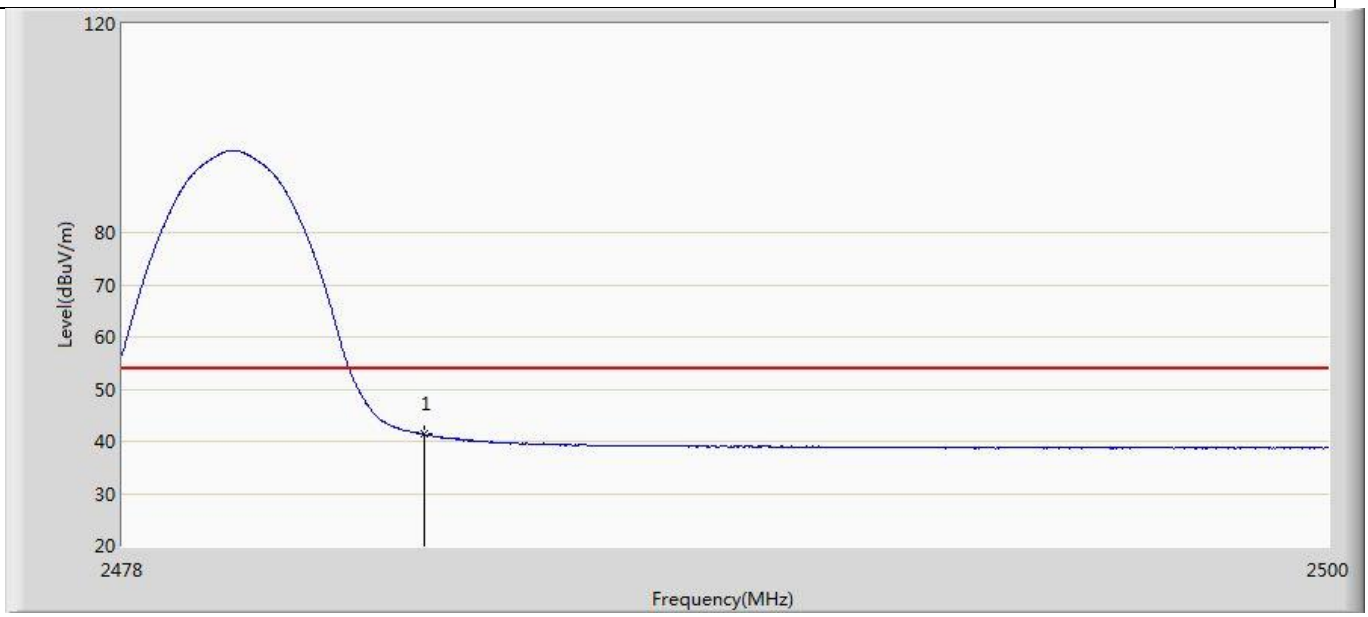
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	39.374	3.276	-14.626	54.000	36.098	AV

Profile: 2250730R	Page No.: 12
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2402MHz by 2DH5	



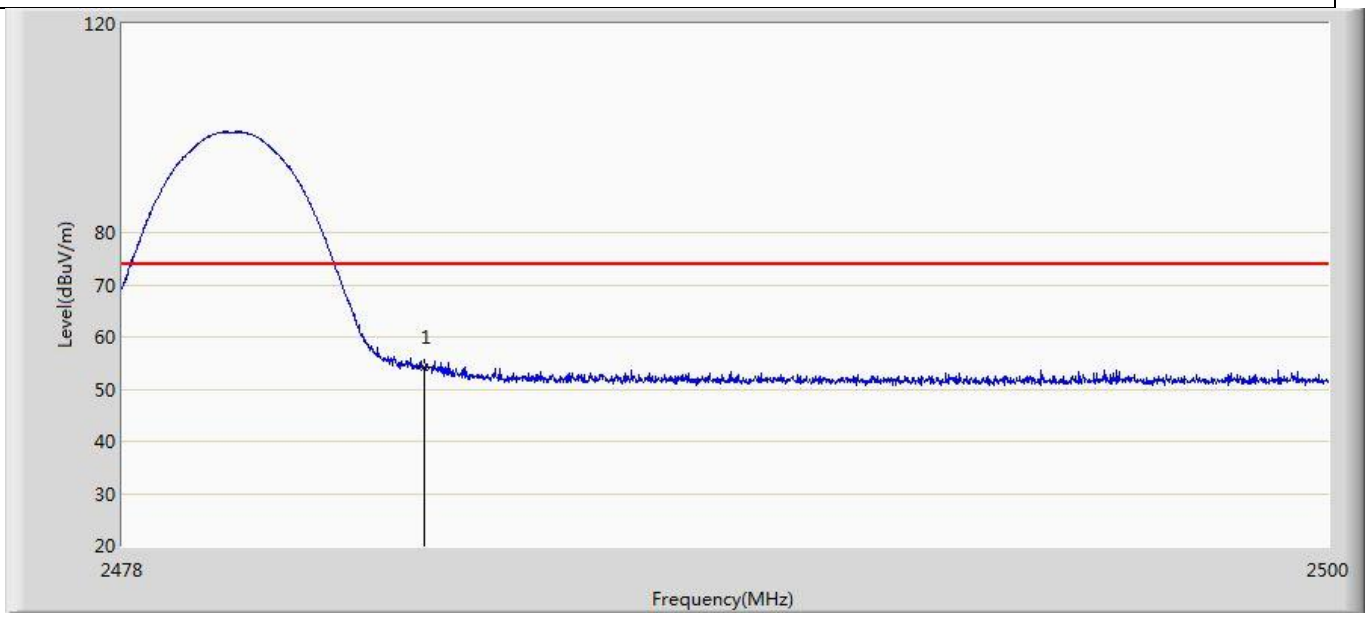
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	50.325	14.227	-23.675	74.000	36.098	PK

Profile: 2250730R	Page No.: 13
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



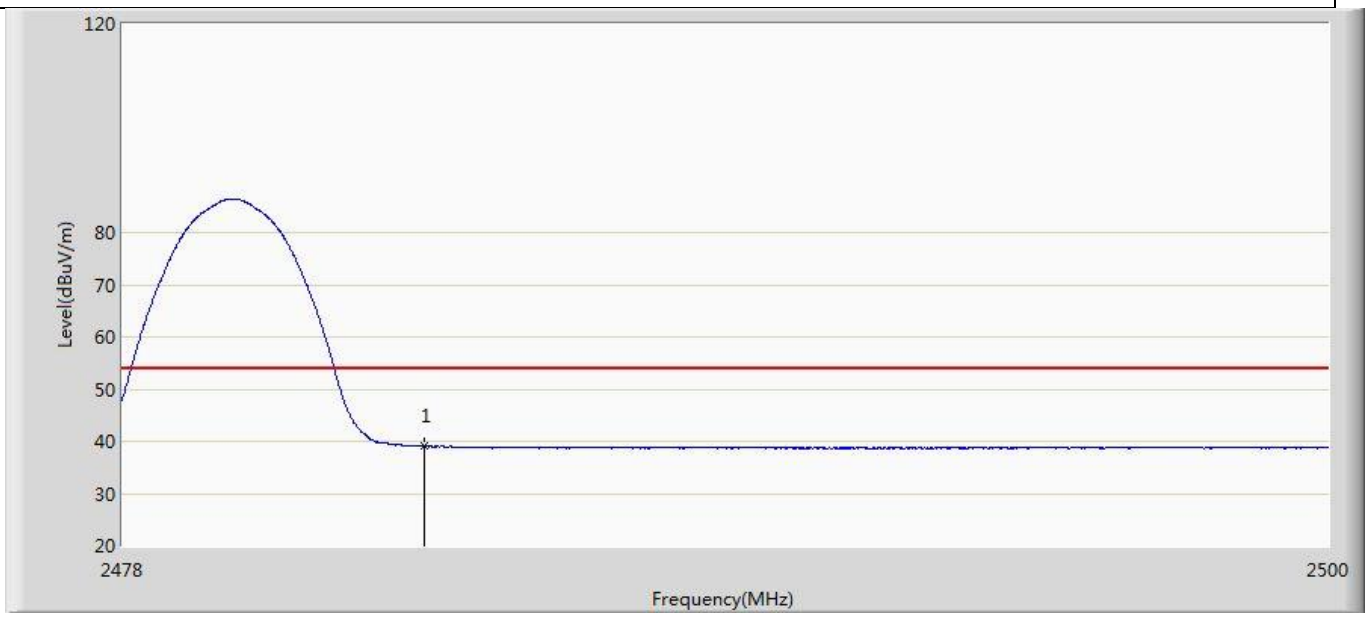
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	41.353	5.132	-12.647	54.000	36.220	AV

Profile: 2250730R	Page No.: 14
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



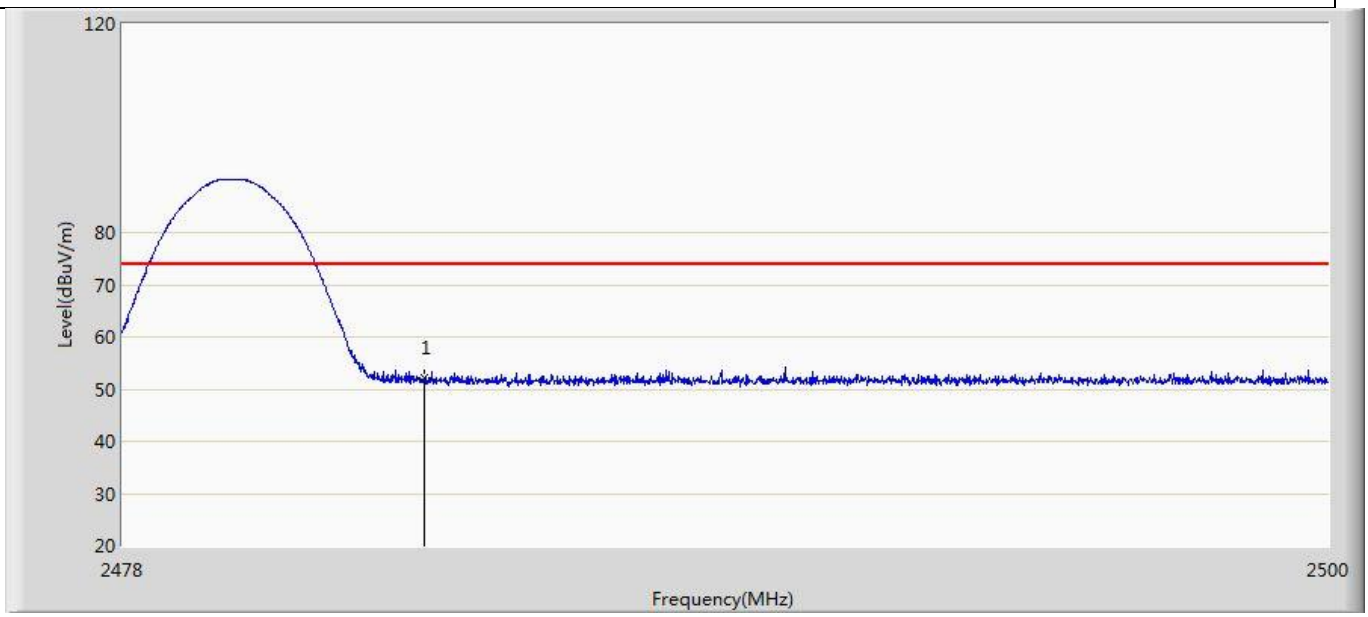
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	54.083	17.862	-19.917	74.000	36.220	PK

Profile: 2250730R	Page No.: 15
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



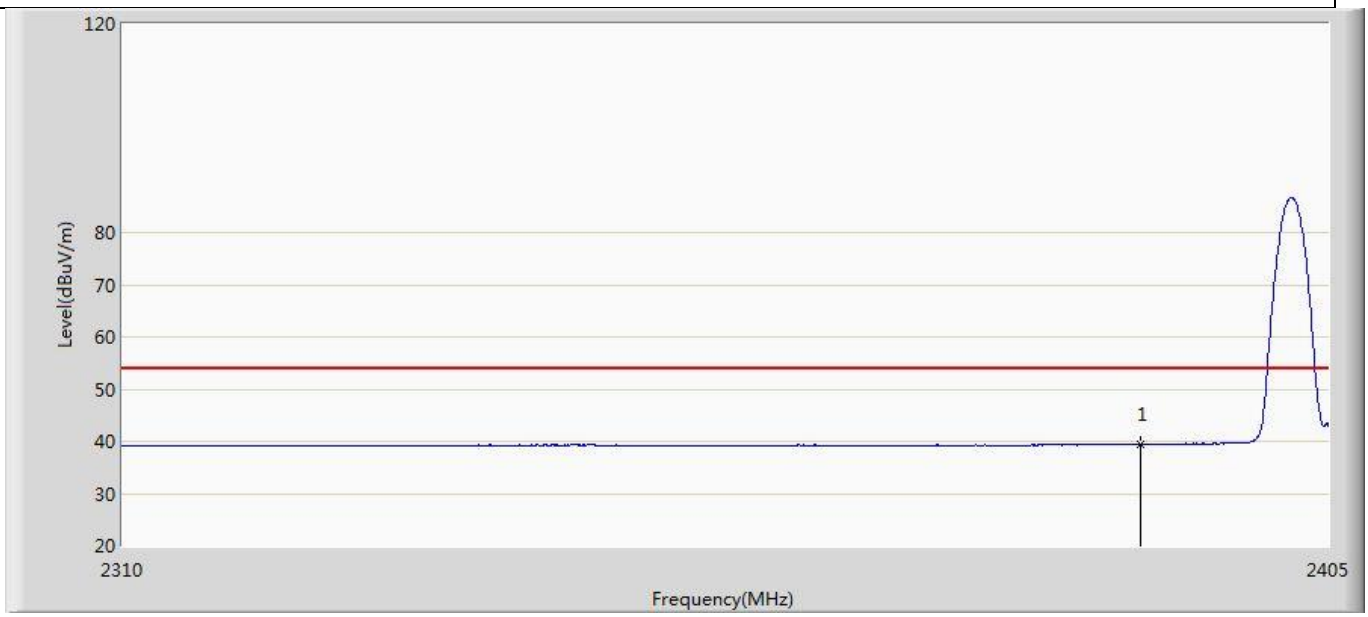
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.996	2.775	-15.004	54.000	36.220	AV

Profile: 2250730R	Page No.: 16
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 2:Transmit at 2480MHz by 2DH5	



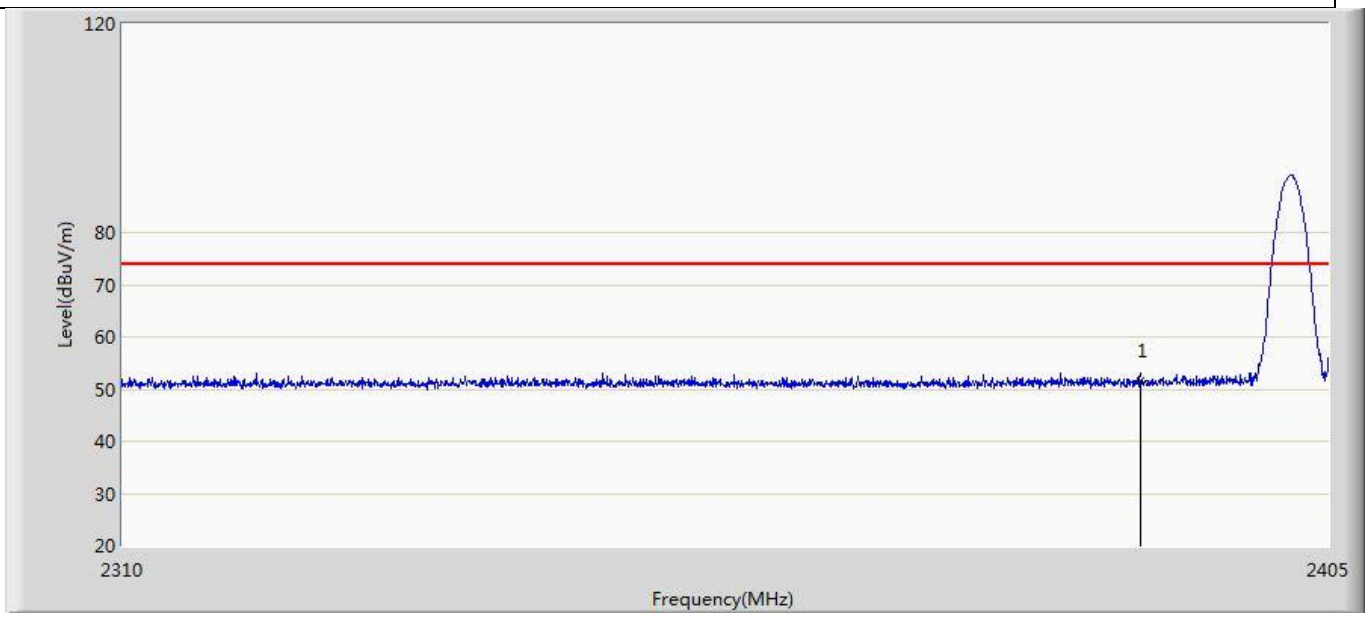
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	52.136	15.915	-21.864	74.000	36.220	PK

Profile: 2250730R	Page No.: 17
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



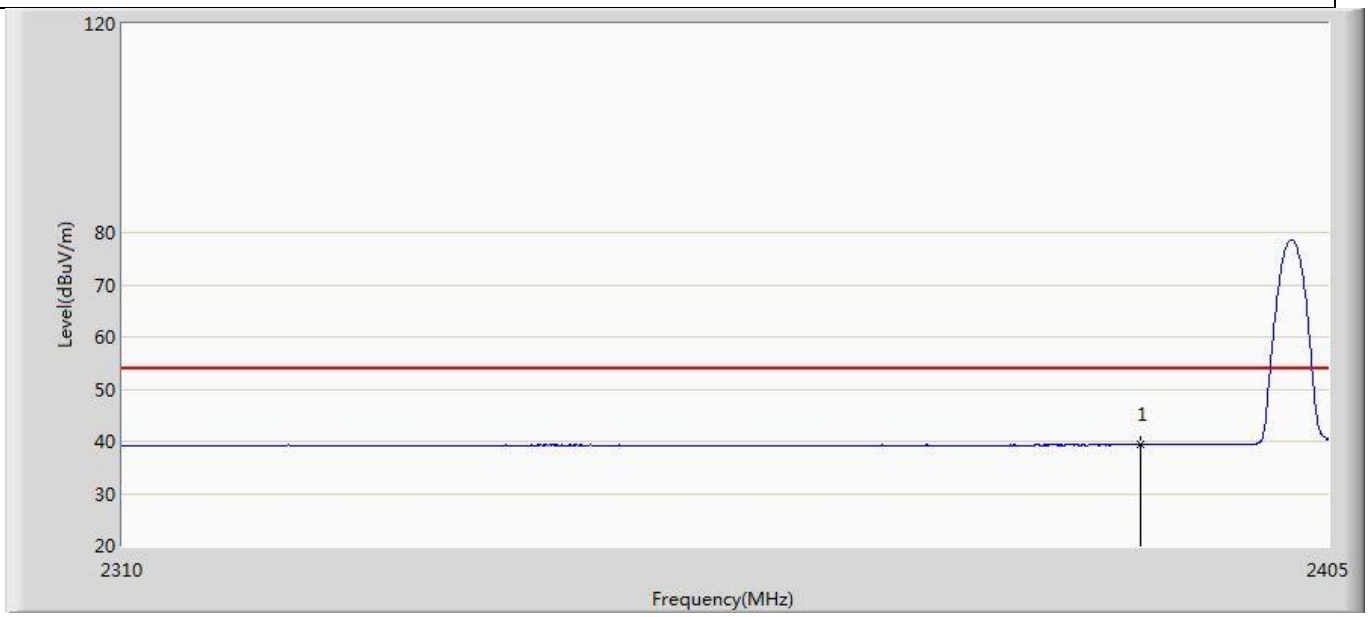
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	39.356	3.258	-14.644	54.000	36.098	AV

Profile: 2250730R	Page No.: 18
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



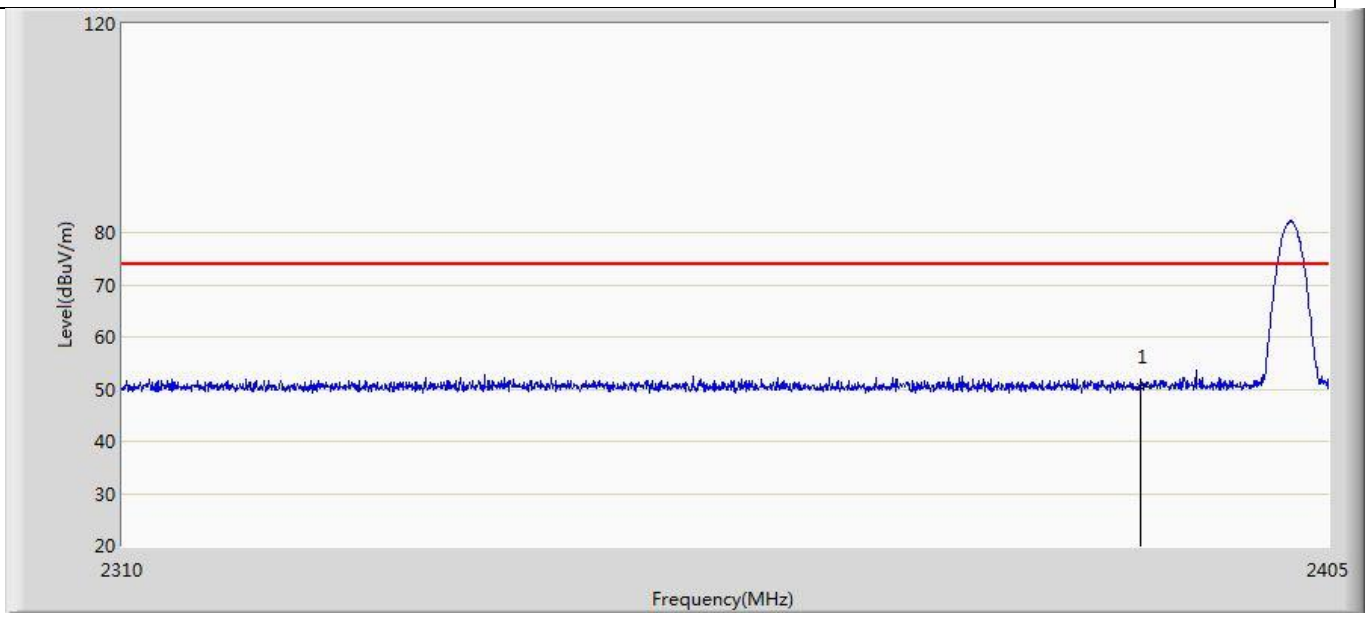
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	51.525	15.427	-22.475	74.000	36.098	PK

Profile: 2250730R	Page No.: 19
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



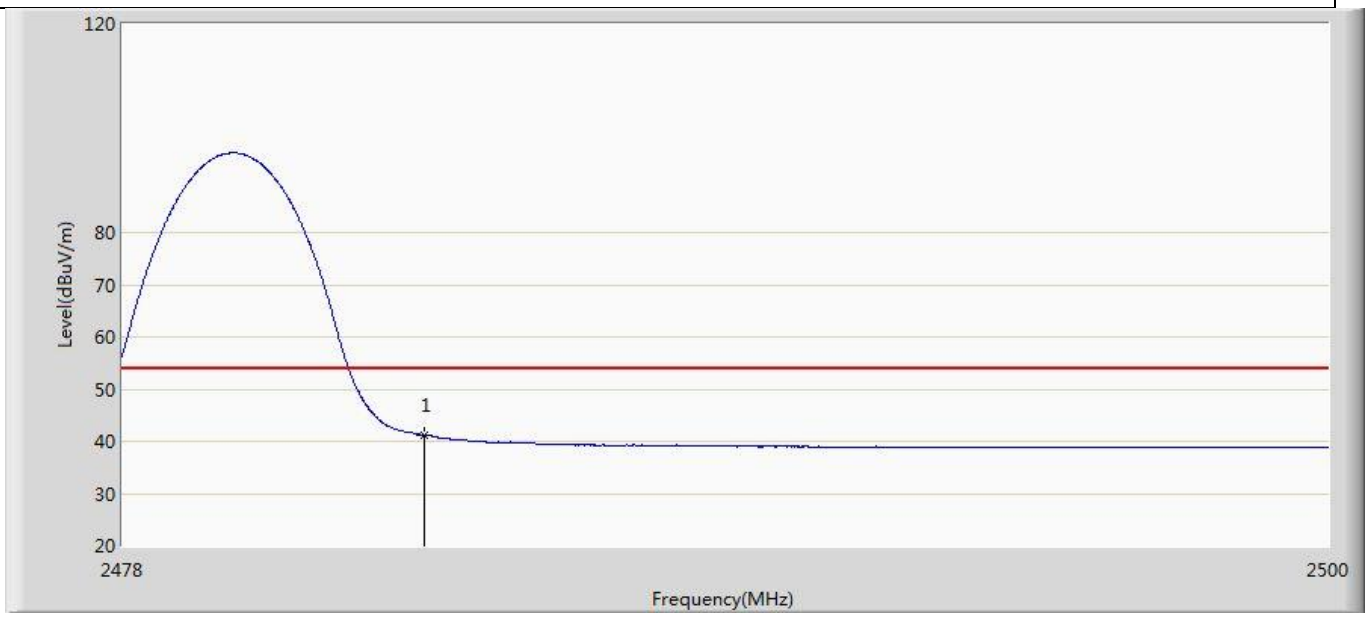
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	39.327	3.229	-14.673	54.000	36.098	AV

Profile: 2250730R	Page No.: 20
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2402MHz by 3DH5	



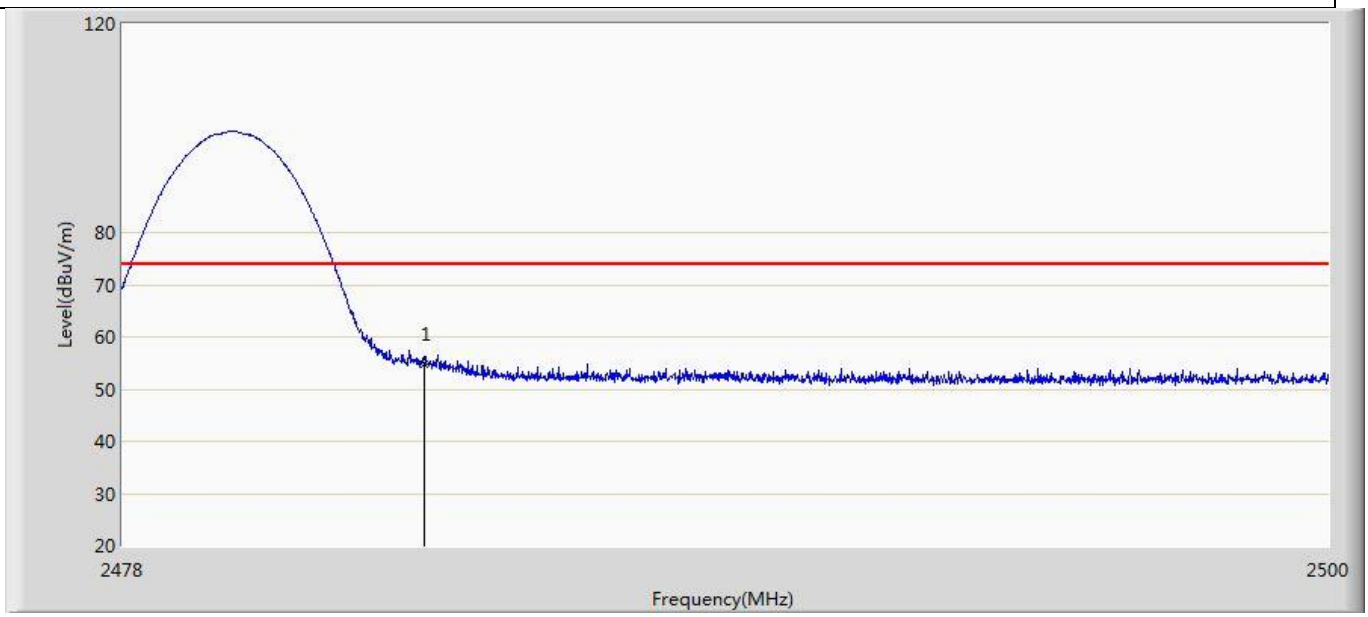
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	50.548	14.450	-23.452	74.000	36.098	PK

Profile: 2250730R	Page No.: 21
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



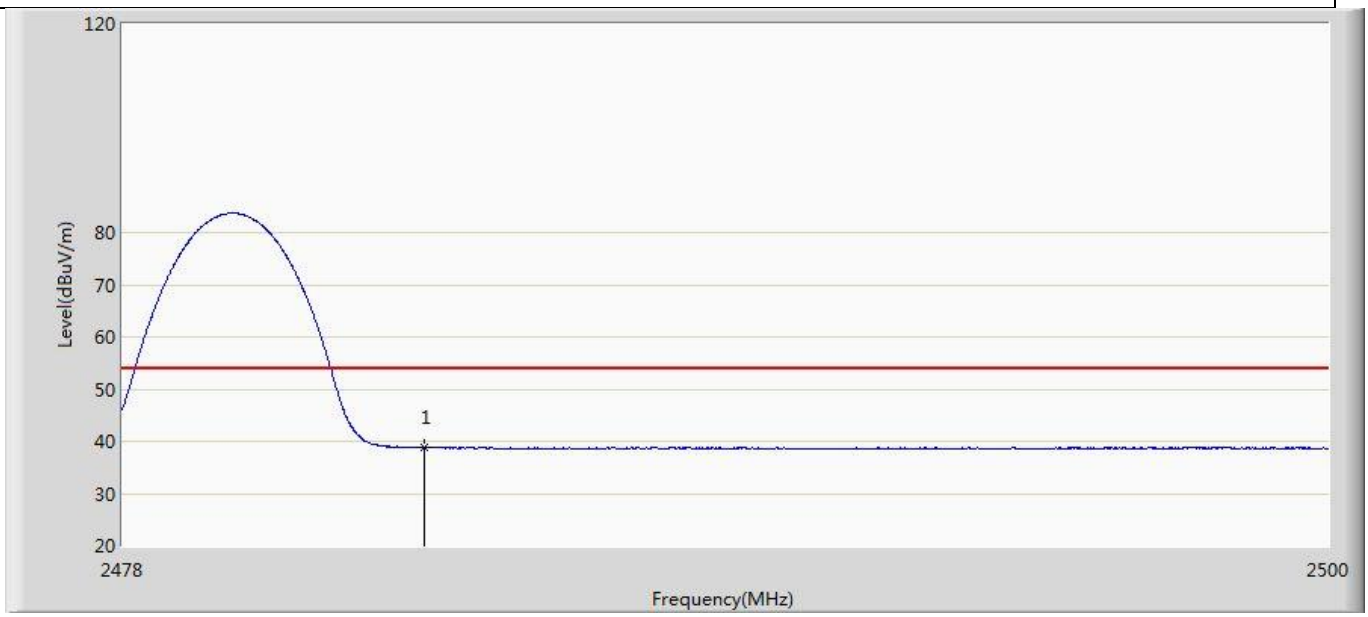
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	41.174	4.953	-12.826	54.000	36.220	AV

Profile: 2250730R	Page No.: 22
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



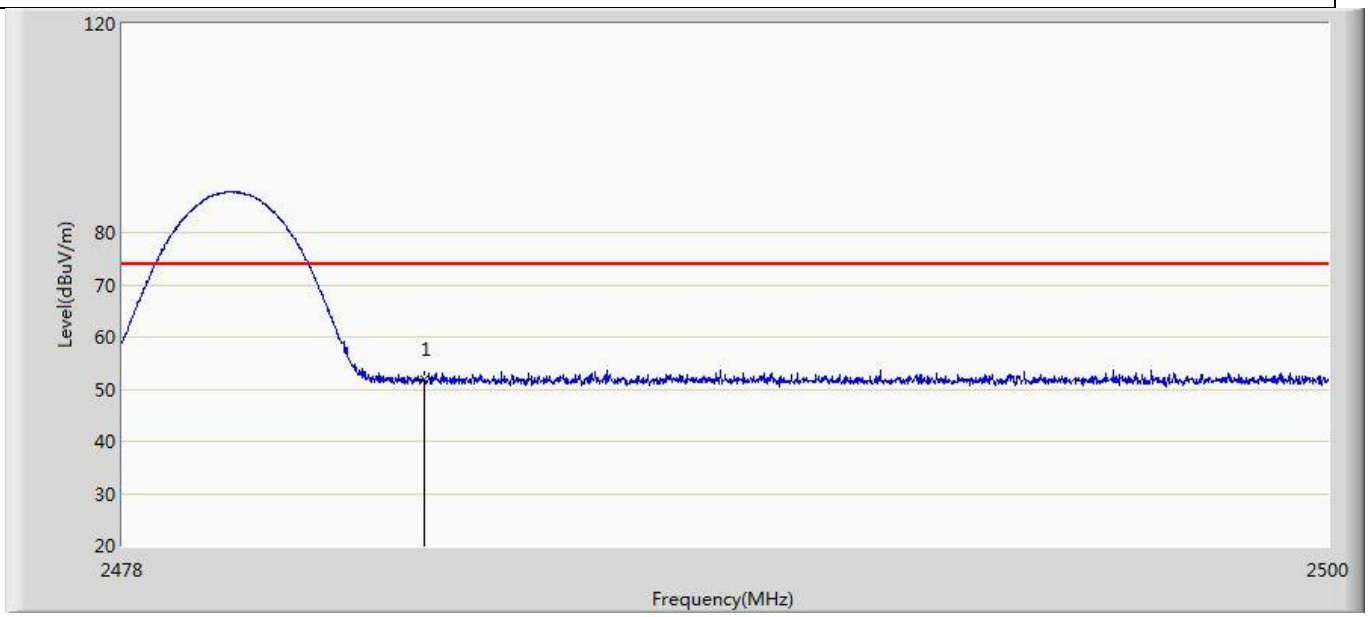
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	54.651	18.430	-19.349	74.000	36.220	PK

Profile: 2250730R	Page No.: 23
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.801	2.580	-15.199	54.000	36.220	AV

Profile: 2250730R	Page No.: 24
Engineer: Pengchengyang	
Site: AC5	Time: 2022/06/09 - 22:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: Battery: 3.7 V
Note: Mode 3:Transmit at 2480MHz by 3DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	51.823	15.602	-22.177	74.000	36.220	PK

4.11 Antenna Requirement	VERDICT: PASS

4.11.1 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.	

4.11.2 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