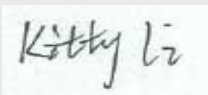
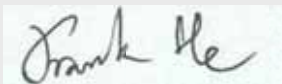
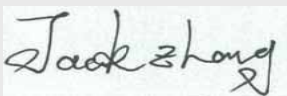




Test report No:
1962139R-RF-US-P06V01

TEST REPORT

FCC Rules&Regulations 47 CFR Chapter I - Part 15

Product Name	Barcode Scanner
Trademark	Honeywell
Model and /or type reference	8680i
FCC ID	HD5-8680B
Applicant's name / address	HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions 9680 OLD BAILES RD FORT MILL SC 29707-7539
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KDB558074 D01v05r02
Verdict Summary	IN COMPLIANCE
Documented By	Kitty Li /Project Assistant 
Tested by (name / position & signature)	Frank He/ Technical Supervisor 
Approved by (name / position & signature)	Jack Zhang/ Supervisor 
Date of issue	2019-7-8
Report template No	1962139R-RF-US-P06V01

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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

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
1962139R-RF-US-P06V01		Initial issue of report.	2019-7-8

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 test results presented in this report relate only to the object tested..
4. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing laboratory.
5. 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, unless the specification, standard or customer have special requirements.
6. This report is not used for social proof in China (or Mainland China) market.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2019.03.04	2020.03.04
Two-Line V-Network	R&S	ENV216	101190	2019.06.09	2020.06.09
Two-Line V-Network	R&S	ENV216	101044	2019.06.15	2020.06.15
Current Probe	R&S	EZ-17	100678	2019.03.07	2020.03.07
50ohm Termination	SHX	TF2	07081402	2018.09.08	2019.09.08
50ohm Termination	SHX	TF2	07081403	2018.09.08	2019.09.08
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2019.01.09	2020.01.09
Coaxial Cable	Suhner	RG 223	TR1-C1	2018.09.11	2019.09.11
Coaxial Cable	Suhner	RG 223	TR1-C2	2018.09.11	2019.09.11
Dekra test software					

RF conducted test / TR8(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2018.10.14	2019.10.13
Power Sensor	Anritsu	MA2411B	0846014	2018.10.14	2019.10.13
Dekra test software					

Radiated Emission(30MHz-1GHz) / AC2(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2019.03.04	2020.03.04
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2019.06.09	2020.06.09
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2019.01.09	2020.01.09
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2019.02.28	2020.02.28
Dekra test software					

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

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2019.01.04	2020.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2019.05.06	2020.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2019.05.06	2020.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2019.01.22	2020.01.21
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2019.01.04	2020.01.03
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2019.03.02	2020.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2019.03.02	2020.03.01
Dekra test software					

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	$\pm 2.02\text{dB}$
Peak Power Output	$\pm 1.27\text{ dB}$
Radiated Emission(30MHz~1GHz)	$\pm 3.80\text{ dB}$
Radiated Emission(1GHz~26.5GHz)	$\pm 3.90\text{ dB}$
RF antenna conducted test	$\pm 1.27\text{dB}$
Radiated Emission Band Edge	$\pm 3.9\text{ dB}$
DTS Bandwidth	$\pm 1\text{kHz}$
Occupied Bandwidth	$\pm 1\text{kHz}$
Power Density	$\pm 1.27\text{dB}$

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Model / Type number.....:	8680i
Trademark	Honeywell
Manufacturer.....:	HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions 2、Metro(Suzhou)Technologies Co.,Ltd
Manufacturer Address	1、 9680 OLD BAILES RD FORT MILL SC 29707-7539 2、 No.221 Xinghai street China-Singapore Suzhou Industrial Park

Wireless specifiction	WIFI
Operating frequency range(s).....:	2400~2483.5MHz
Type of modulation	DSSS: BPSK,QPSK,CCK OFDM: BPSK, QPSK, 16QAM, 64QAM
Number of channel	802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Device category	☐ Fixed point-to-point ☐ Emit multiple directional beams, simultaneously or sequentially ☒ Other cases

Rated power supply	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☐	AC: 100 – 240 V, 50/60 Hz
	☐	DC: 12 V, 24 V, 12 / 24 V
	☒	Battery: DC 3.8V
Mounting position.....:	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☒	Hand-held equipment
	☐	Other:

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	☐ Basic
			☐ CDD
			☐ Sectorized
			☐ Beam-forming
Antenna Type	☐	External	☐ Dipole
			☐ Sectorized
	☒	Internal	☒ PIFA
			☐ PCB
			☐ Others.....
Antenna Gain	4.3dBi		
Directional Gain	For Power: N/A		
	For PSD: N/A		

1.3 Test date

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jun. 20, 2019
Date (start test)	Jun. 20, 2019
Date (finish test)	Jul. 08, 2019

1.4 Data Rate

IEEE 802.11b

Modulation	Data Rate(Mb/s)
DSSS	1
DSSS	2
CCK	5.5
CCK	11

Table 1 –TX Antenna number = 1

IEEE 802.11g

Modulation	R	Data Rate(Mb/s)
BPSK	1/2	6
BPSK	3/4	9
QPSK	1/2	12
QPSK	3/4	18
16-QAM	1/2	24
16-QAM	3/4	36
64-QAM	2/3	48
64-QAM	3/4	54

Table 1 – MCS parameters for TX Antenna number = 1

IEEE 802.11n

Spatial streames	MCS Index	Modulation	R	Data Rate(Mb/s)			
				800ns GI		400ns GI	
				20MHz	40MHz	20MHz	40MHz
1	0	BPSK	1/2	6.5	13.5	7.2	15.0
1	1	QPSK	1/2	13.0	27.0	14.4	30.0
1	2	QPSK	3/4	19.5	40.5	21.7	45.0
1	3	16-QAM	1/2	26.0	54.0	28.9	60.0
1	4	16-QAM	3/4	39.0	81.0	43.3	90.0
1	5	64-QAM	2/3	52.0	108.0	57.8	120.0
1	6	64-QAM	3/4	58.5	121.5	65.0	135.0
1	7	64-QAM	5/6	65.0	135.0	72.2	150.0

Note 1: Support of 400ns GI is optional on transmit and receive.

Table 1 – MCS parameters for TX Antenna number = 1

1.5 Channel List

IEEE 802.11b/g & IEEE 802.11n(20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz	-	-

IEEE 802.11n(40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
003	2422 MHz	004	2427 MHz	005	2432 MHz	006	2437 MHz
007	2442 MHz	008	2447 MHz	009	2452 MHz	-	-

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	Mode 1: Transmit by 802.11b
	Mode 2: Transmit by 802.11g
	Mode 3: Transmit by 802.11n(20MHz)
	Mode 4: Transmit by 802.11n(40MHz)

2.2 Support / Auxiliary equipment / unit / Test software for the EUT

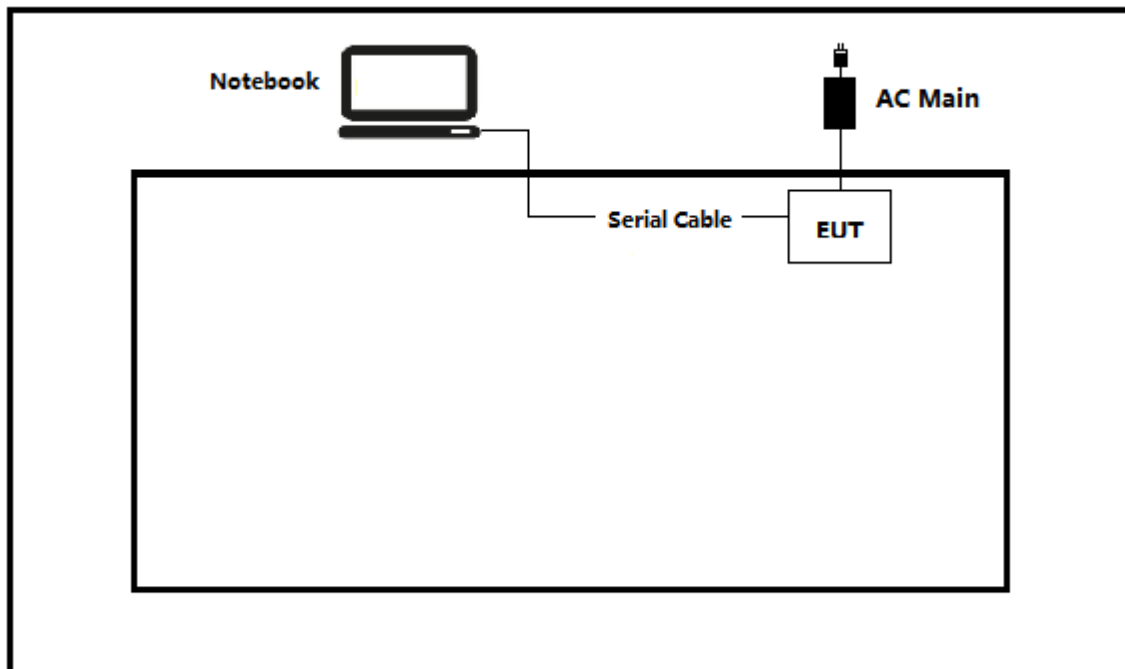
The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x220	Lenovo	Adapter
unit / software	Type / Version	Manufacturer	Supplied by
software	Type / Version	Manufacturer	Supplied by
<u>Supplemental information:</u>			

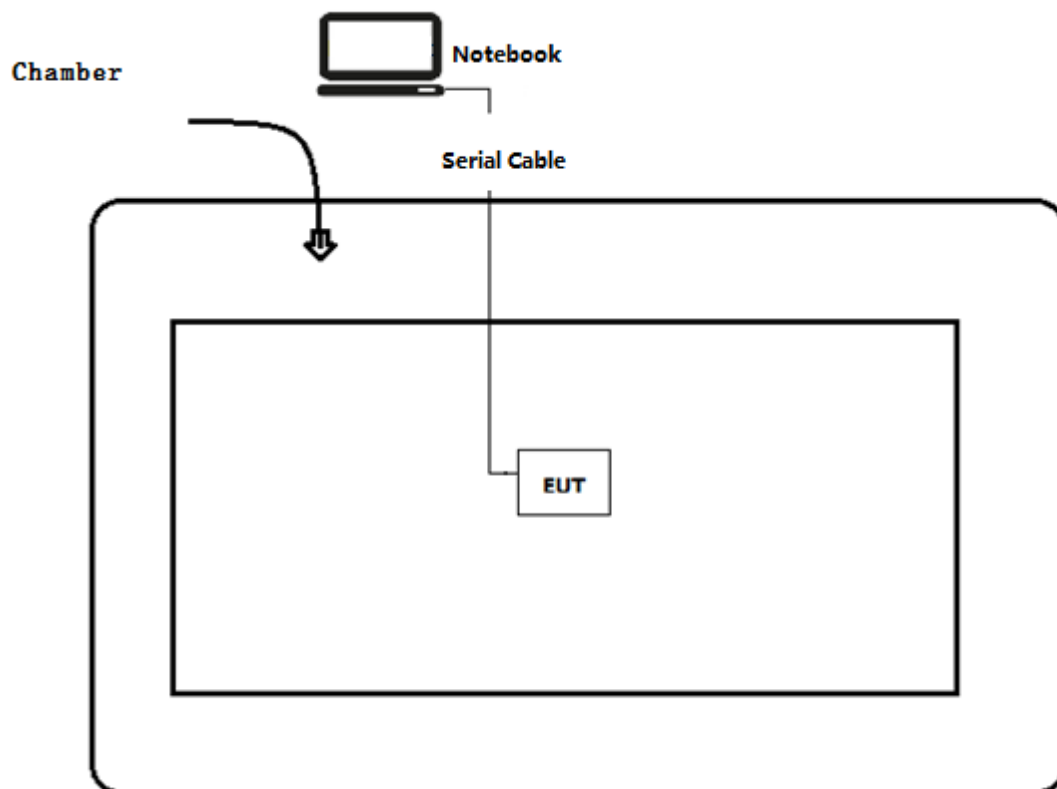
2.3 Test Configuration / Block diagram used for tests

The following test setup / configuration / block diagram has been used during the tests:

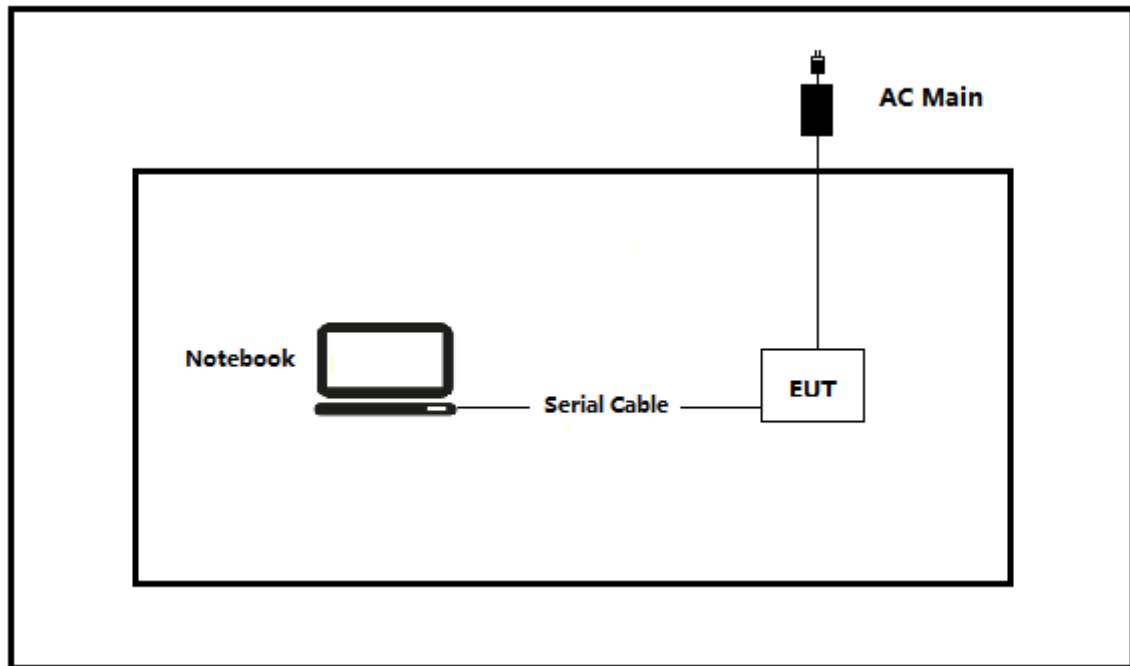
Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Conducted test



2.4 Testing process

1	Setup the EUT as shown in Section 2.4.
2	Input the commands.
3	Configure the test mode, the test channel, and the data rate.
4	Start the continuous Transmitter.
5	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 D01V05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247

3.2 Overview of results

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	N/A	
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	---
<u>Supplementary information:</u>			

3.3 Test Facility

USA	:	FCC Designation Number: CN1199
Canada	:	CAB identifier Number: 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	

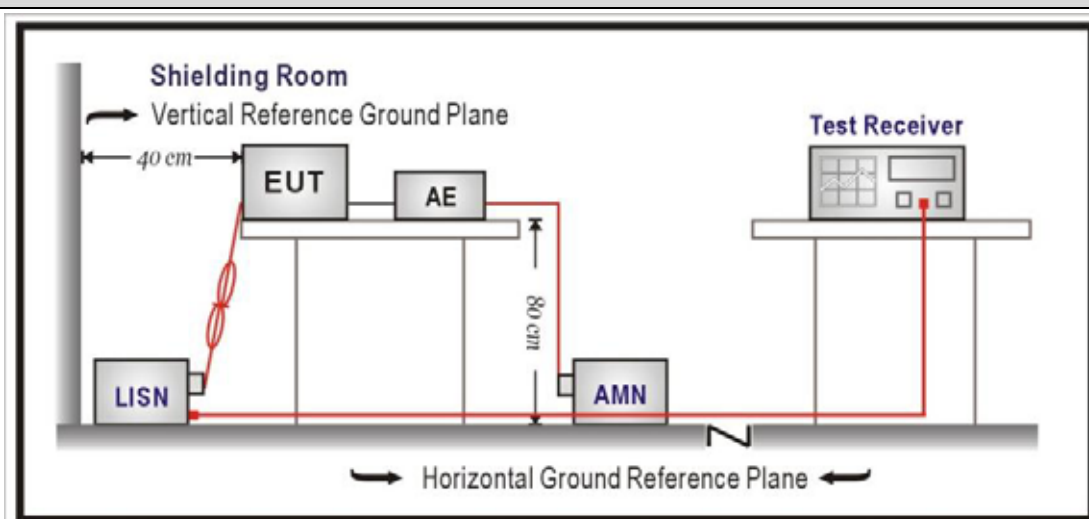
¹⁾ At the transition frequency, the lower limit applies.

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

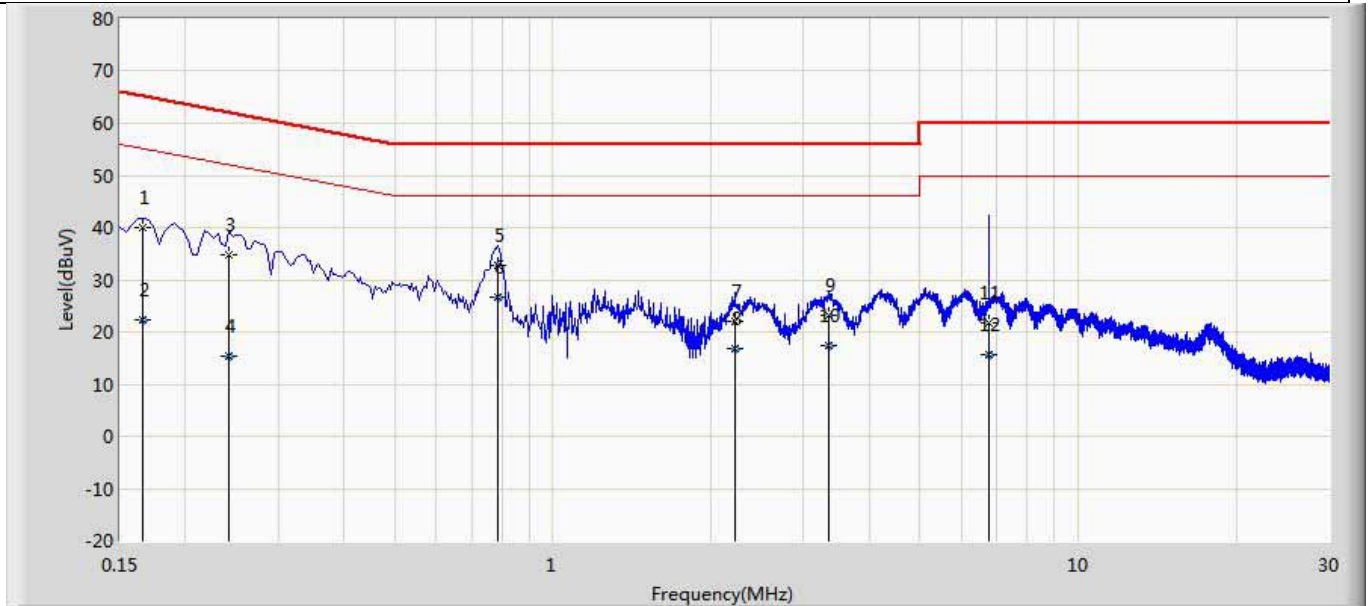


4.1.3 Test Procedure

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

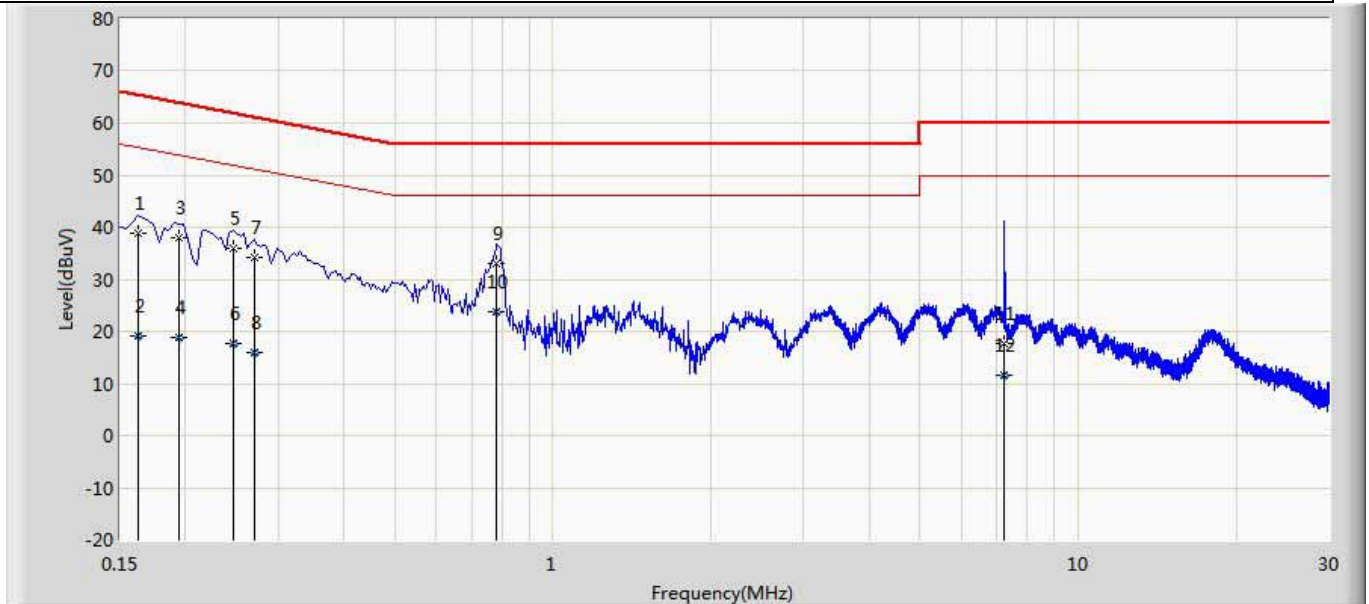
4.1.4 Test Data

Site: TR1	Time: 2019/06/25
Limit: FCC_Part15.207_CE	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.166	39.891	30.257	-25.268	65.158	9.607	0.027	0.000	QP
2		0.166	22.186	12.553	-32.972	55.158	9.607	0.027	0.000	AV
3		0.242	34.827	25.196	-27.201	62.027	9.600	0.030	0.000	QP
4		0.242	15.337	5.706	-36.691	52.027	9.600	0.030	0.000	AV
5		0.786	32.728	23.072	-23.272	56.000	9.603	0.052	0.000	QP
6	*	0.786	26.739	17.084	-19.261	46.000	9.603	0.052	0.000	AV
7		2.218	22.066	12.360	-33.934	56.000	9.614	0.093	0.000	QP
8		2.218	16.759	7.053	-29.241	46.000	9.614	0.093	0.000	AV
9		3.358	23.271	13.523	-32.729	56.000	9.633	0.115	0.000	QP
10		3.358	17.441	7.693	-28.559	46.000	9.633	0.115	0.000	AV
11		6.770	21.862	12.001	-38.138	60.000	9.695	0.165	0.000	QP
12		6.770	15.721	5.861	-34.279	50.000	9.695	0.165	0.000	AV

Site: TR1	Time: 2019/06/25
Limit: FCC_Part15.207_CE	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.162	38.860	29.241	-26.501	65.361	9.593	0.026	0.000	QP
2		0.162	19.223	9.604	-36.137	55.361	9.593	0.026	0.000	AV
3		0.194	38.004	28.377	-25.860	63.864	9.598	0.028	0.000	QP
4		0.194	18.951	9.325	-34.912	53.864	9.598	0.028	0.000	AV
5		0.246	36.078	26.449	-25.813	61.891	9.598	0.031	0.000	QP
6		0.246	17.681	8.053	-34.210	51.891	9.598	0.031	0.000	AV
7		0.270	34.127	24.496	-26.991	61.118	9.597	0.033	0.000	QP
8		0.270	15.908	6.277	-35.210	51.118	9.597	0.033	0.000	AV
9		0.782	33.040	23.397	-22.960	56.000	9.590	0.052	0.000	QP
10	*	0.782	23.674	14.032	-22.326	46.000	9.590	0.052	0.000	AV
11		7.246	17.825	7.947	-42.175	60.000	9.707	0.171	0.000	QP
12		7.246	11.605	1.727	-38.395	50.000	9.707	0.171	0.000	AV

Remark	1. " * ", means this data is the worst emission level. 2. 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 15.207	
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			

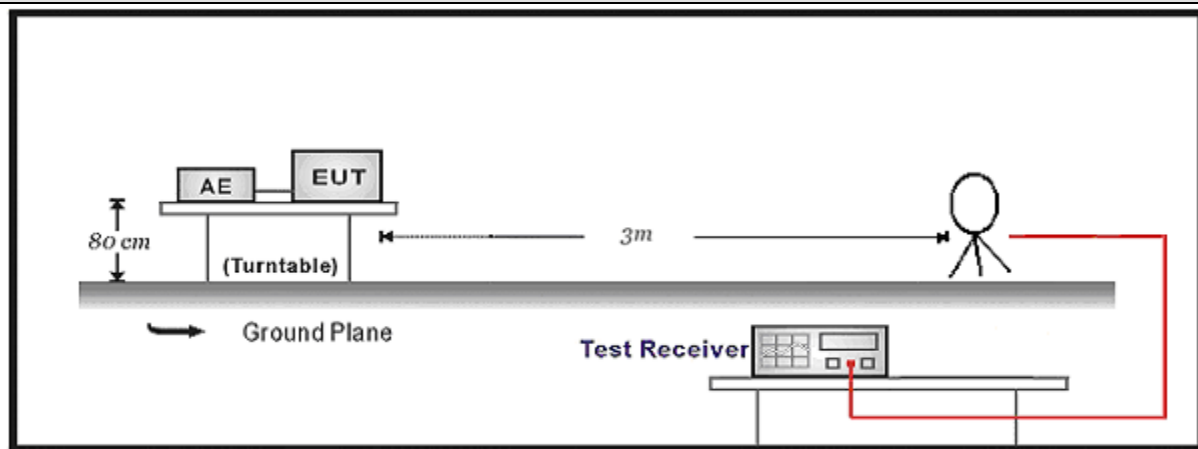
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5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

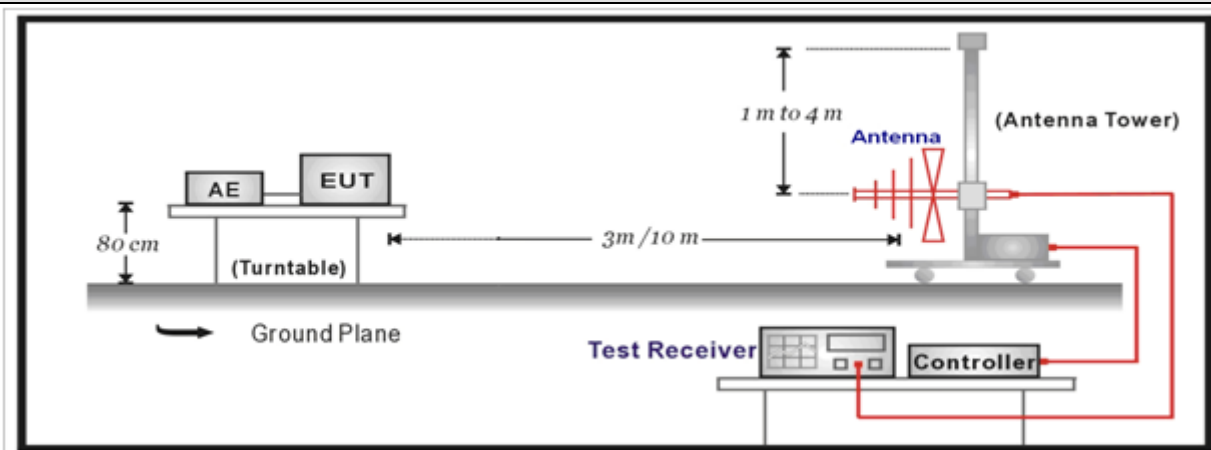
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated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

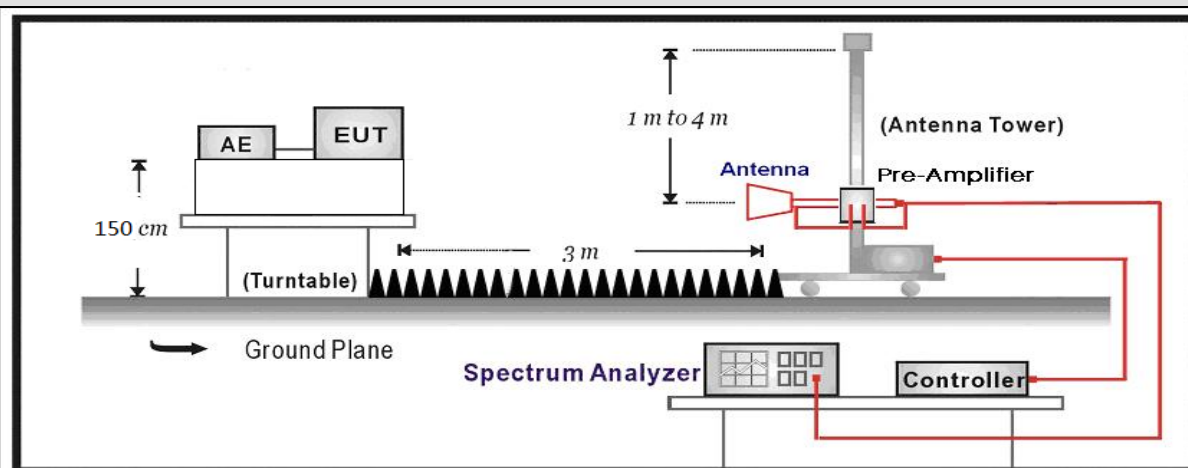
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



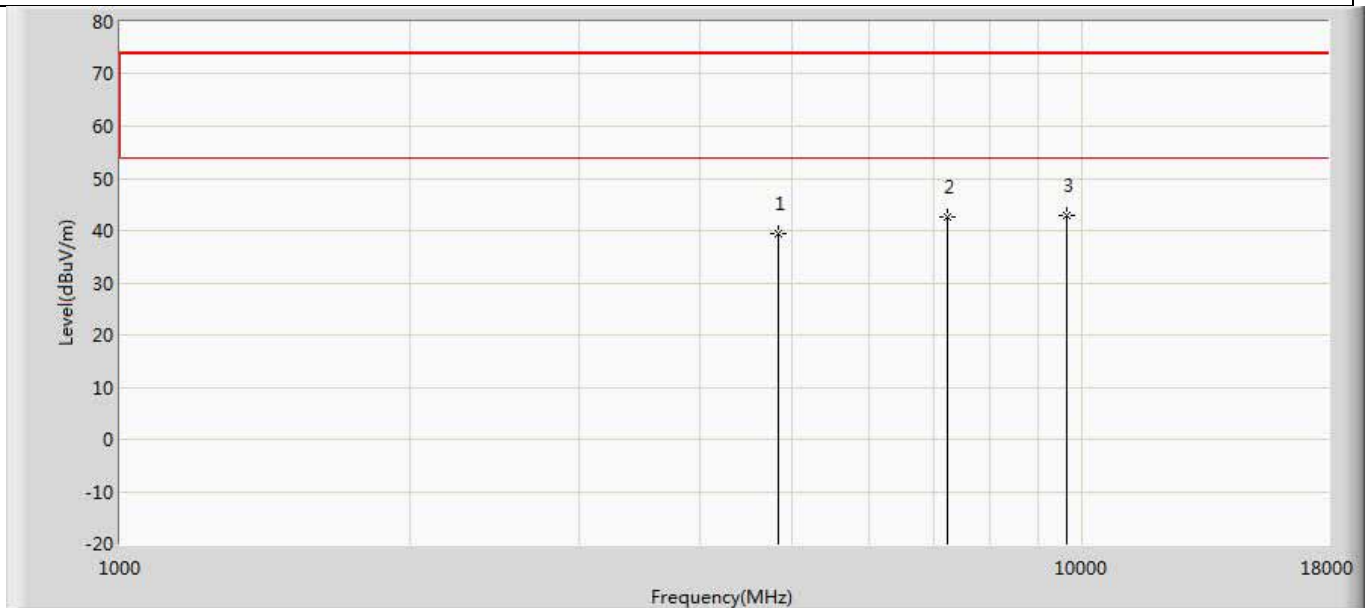
Above 1GHz Test Setup:



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
	☐	ANSI C63.10	11.12.2	Antenna-port conducted measurements
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
	☐	ANSI C63.10	11.12.2.4	Peak power measurement procedure
	☐	ANSI C63.10	11.12.2.5	Average power measurement procedures
	☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
	☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
	☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

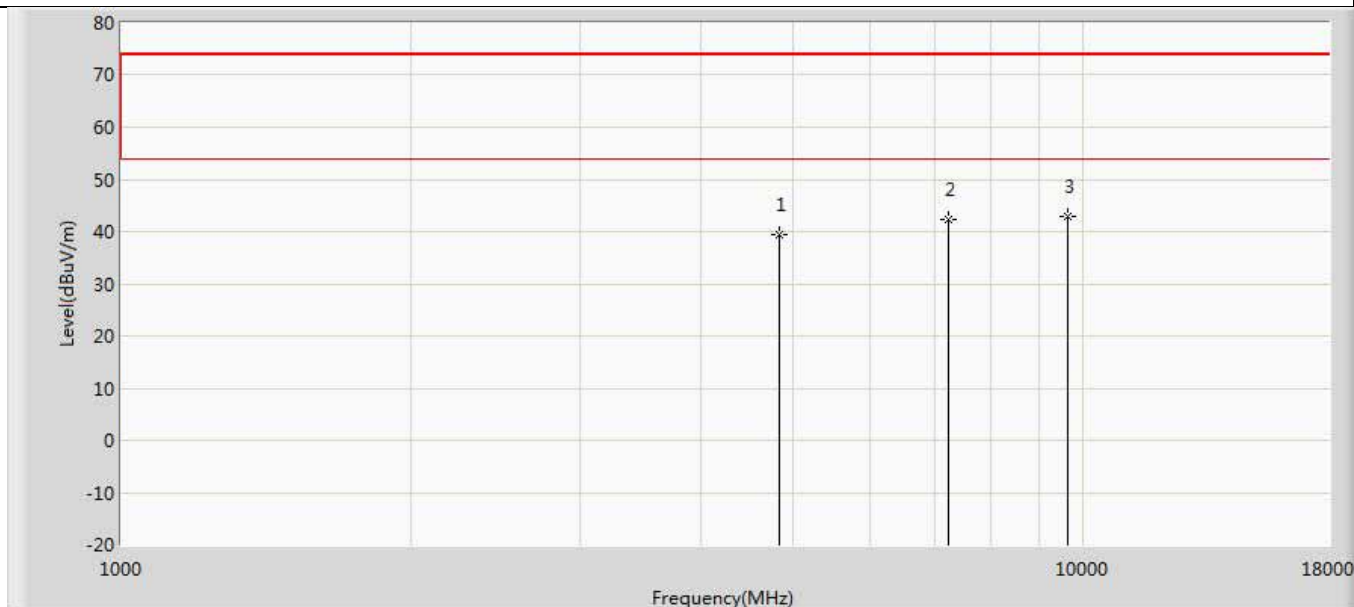
4.2.4 Test Data

Profile: 1962139R	Page No.: 25
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



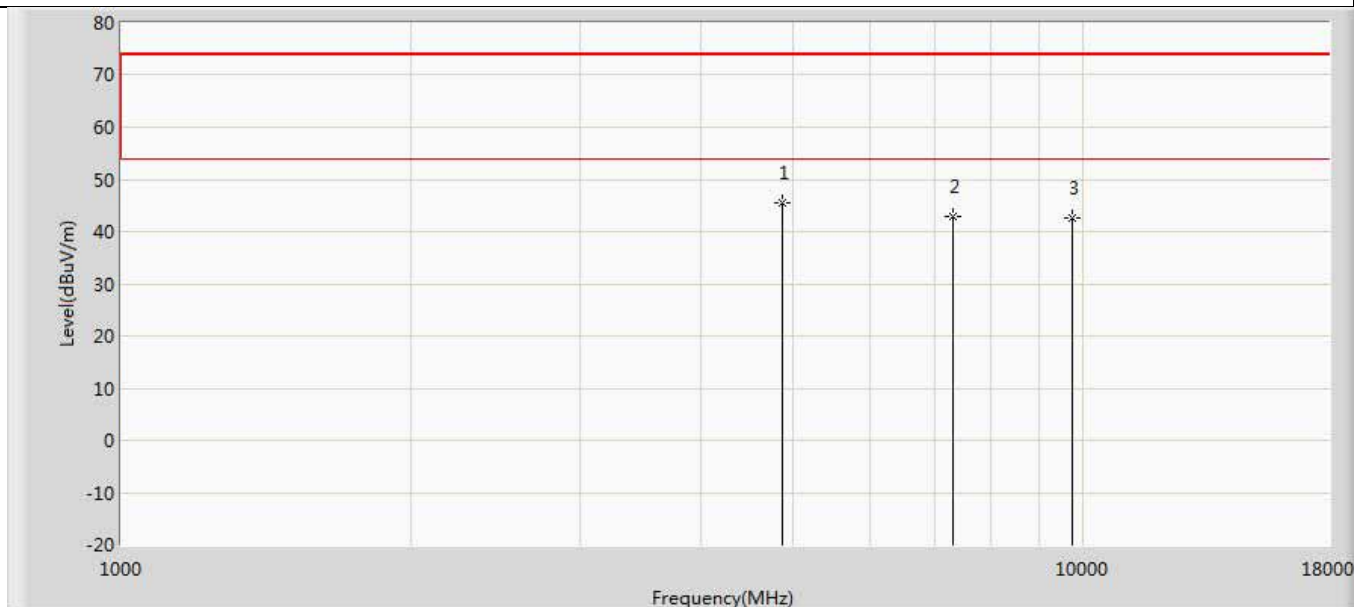
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	39.326	34.570	-34.674	74.000	4.756	PK
2		7236.000	42.476	34.305	-31.524	74.000	8.171	PK
3	*	9648.000	42.929	32.669	-31.071	74.000	10.260	PK

Profile: 1962139R	Page No.: 26
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



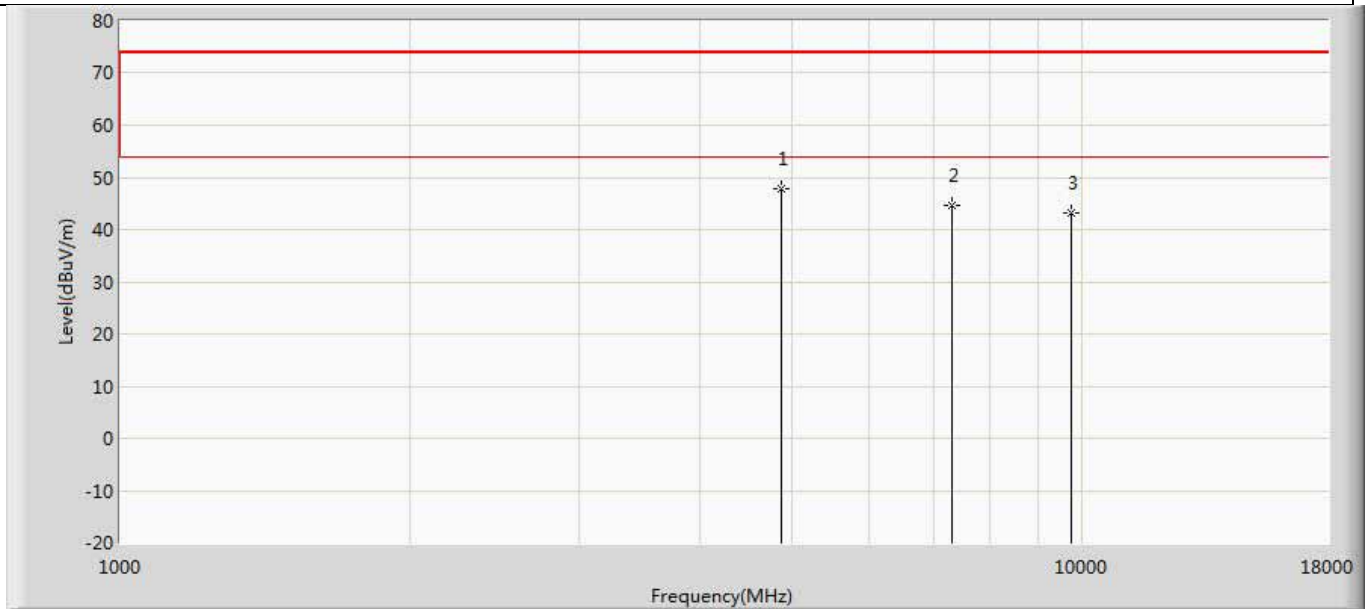
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	39.357	34.601	-34.643	74.000	4.756	PK
2		7236.000	42.391	34.220	-31.609	74.000	8.171	PK
3	*	9648.000	42.901	32.641	-31.099	74.000	10.260	PK

Profile: 1962139R	Page No.: 27
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11b	



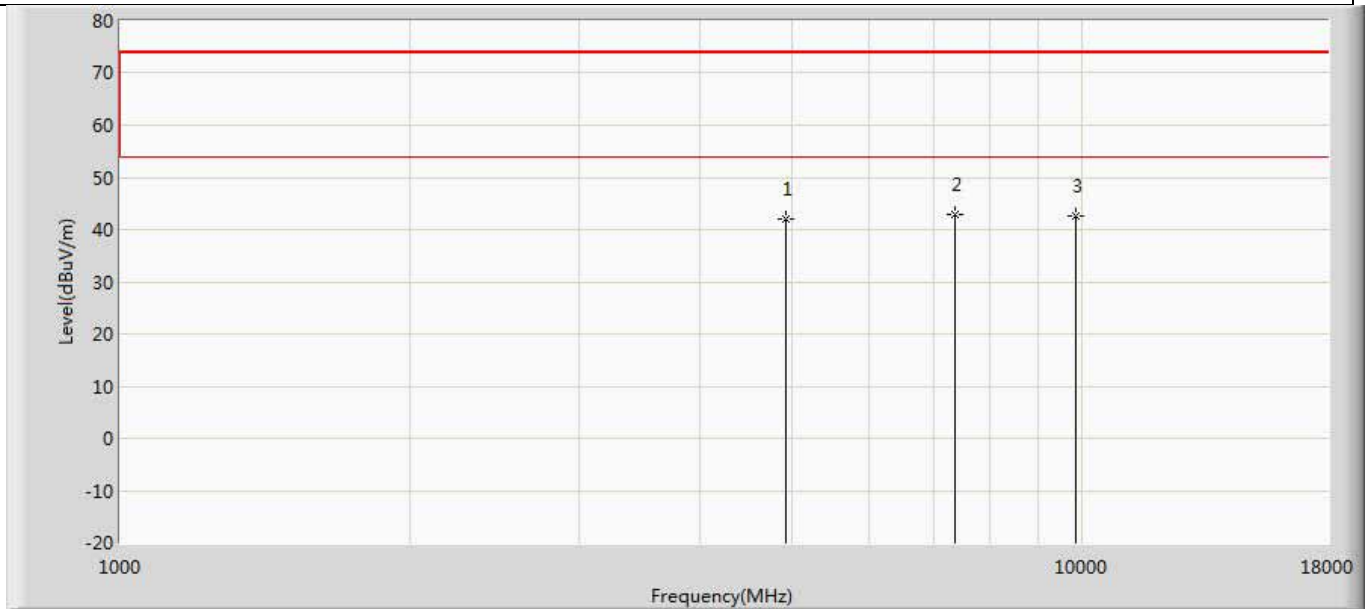
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4874.000	45.518	40.637	-28.482	74.000	4.881	PK
2		7311.000	43.022	34.766	-30.978	74.000	8.256	PK
3		9748.000	42.698	32.221	-31.302	74.000	10.477	PK

Profile: 1962139R	Page No.: 28
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11b	



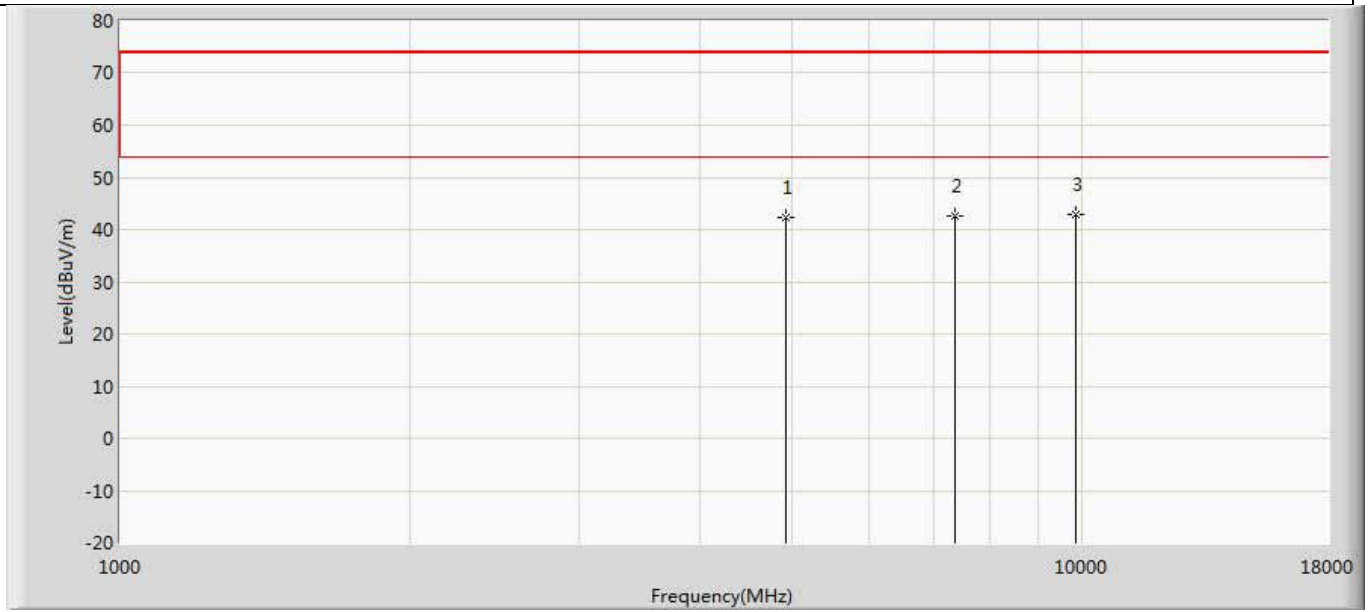
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4874.000	47.894	43.013	-26.106	74.000	4.881	PK
2		7311.000	44.574	36.318	-29.426	74.000	8.256	PK
3		9748.000	43.196	32.719	-30.804	74.000	10.477	PK

Profile: 1962139R	Page No.: 29
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



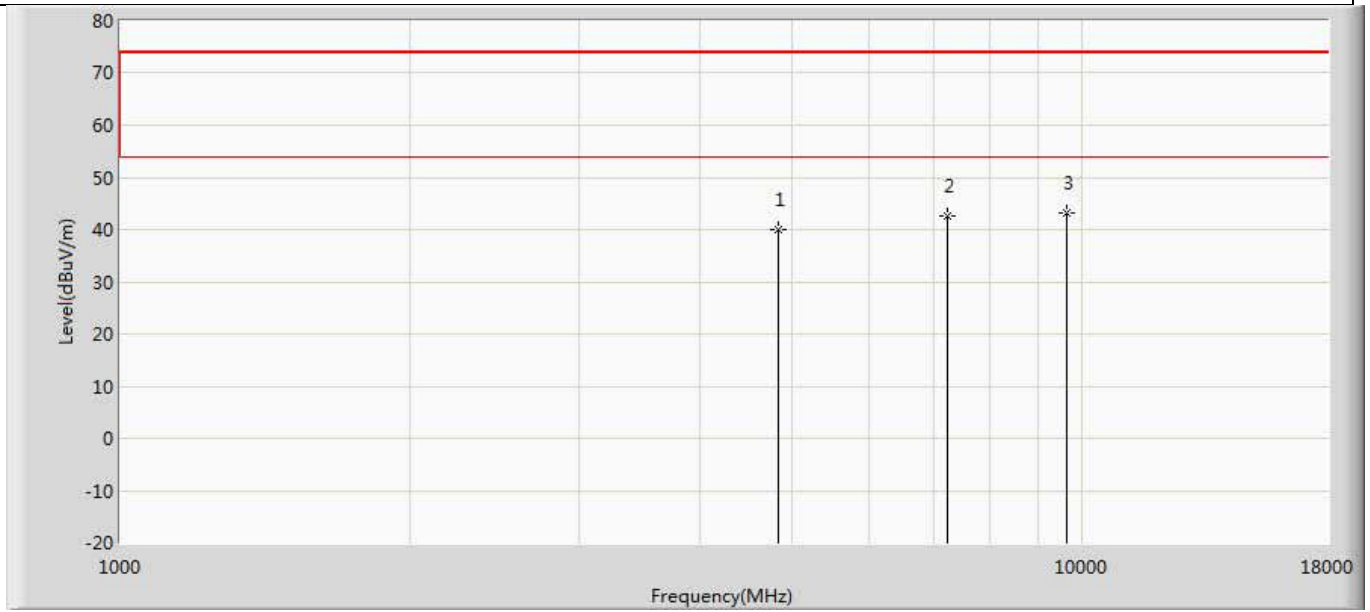
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.939	37.092	-32.061	74.000	4.846	PK
2	*	7386.000	42.841	34.516	-31.159	74.000	8.325	PK
3		9848.000	42.685	31.826	-31.315	74.000	10.859	PK

Profile: 1962139R	Page No.: 30
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



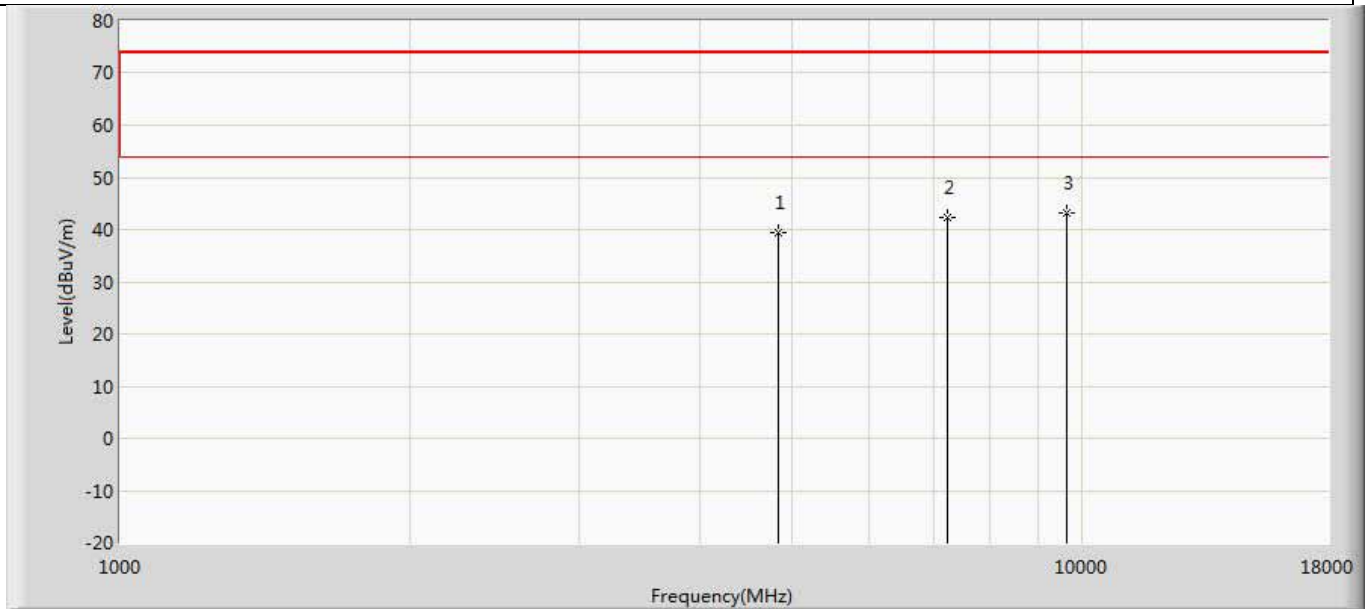
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	42.309	37.462	-31.691	74.000	4.846	PK
2		7386.000	42.649	34.324	-31.351	74.000	8.325	PK
3	*	9848.000	43.021	32.162	-30.979	74.000	10.859	PK

Profile: 1962139R	Page No.: 31
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



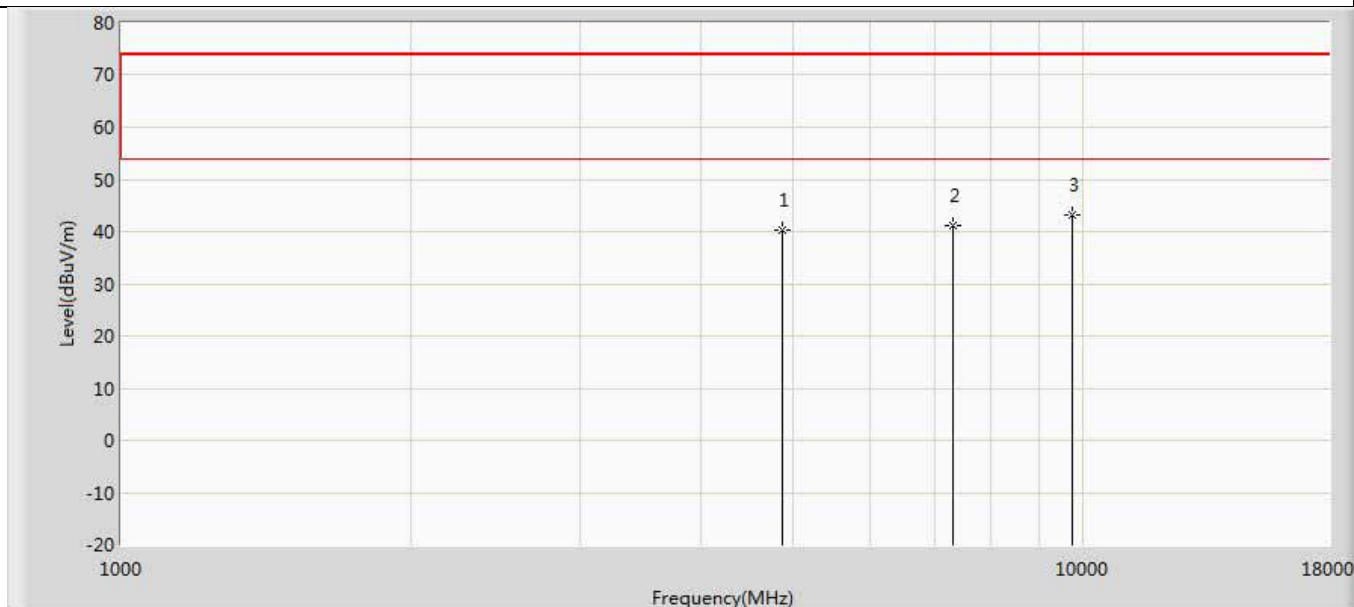
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	39.938	35.182	-34.062	74.000	4.756	PK
2		7236.000	42.680	34.509	-31.320	74.000	8.171	PK
3	*	9648.000	43.070	32.810	-30.930	74.000	10.260	PK

Profile: 1962139R	Page No.: 32
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



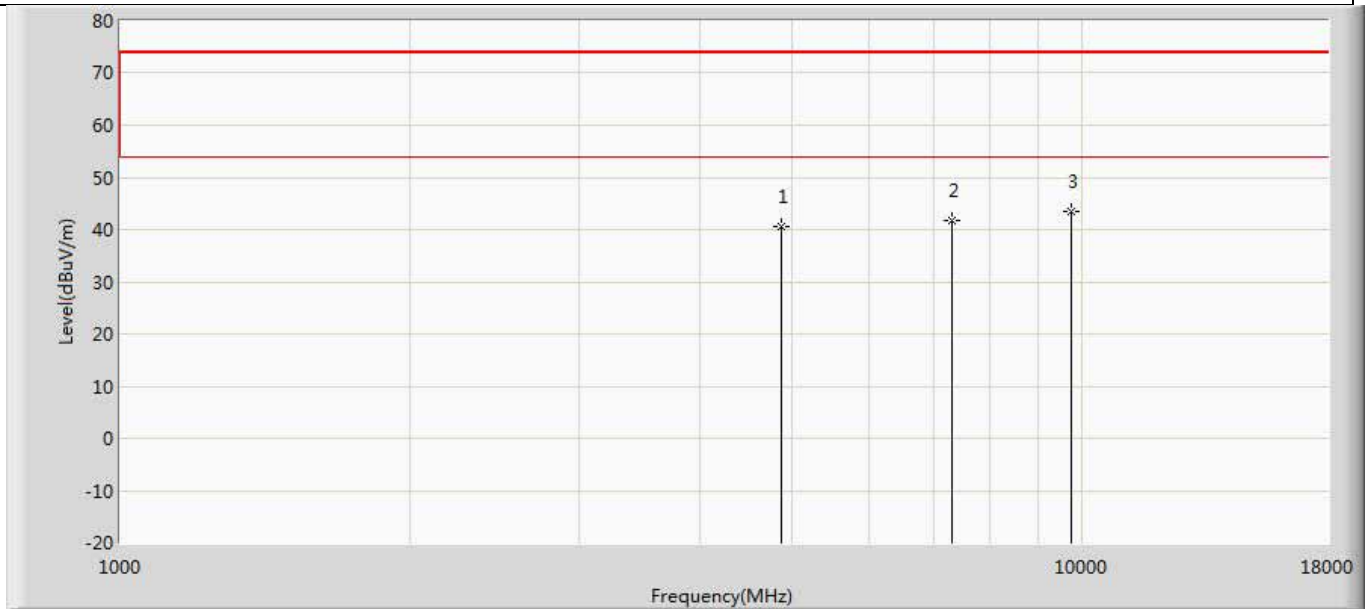
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	39.378	34.622	-34.622	74.000	4.756	PK
2		7236.000	42.232	34.061	-31.768	74.000	8.171	PK
3	*	9648.000	43.236	32.976	-30.764	74.000	10.260	PK

Profile: 1962139R	Page No.: 33
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11g	



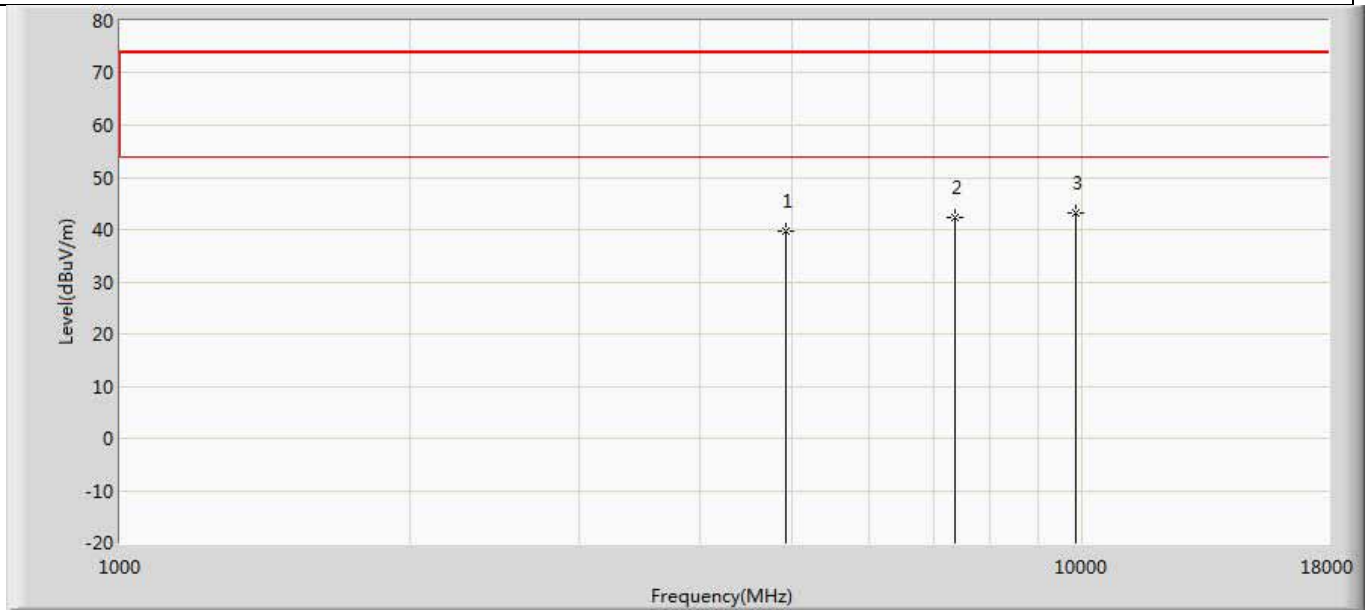
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.410	35.529	-33.590	74.000	4.881	PK
2		7311.000	41.294	33.038	-32.706	74.000	8.256	PK
3	*	9748.000	43.261	32.784	-30.739	74.000	10.477	PK

Profile: 1962139R	Page No.: 34
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11g	



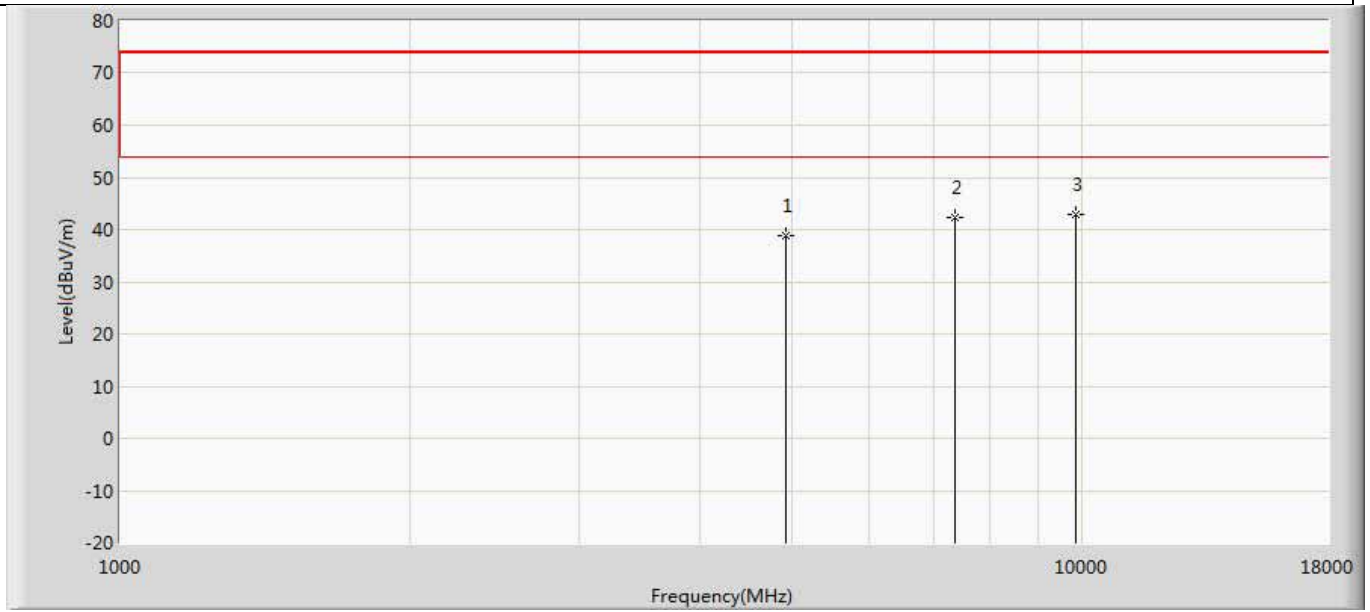
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.499	35.618	-33.501	74.000	4.881	PK
2		7311.000	41.763	33.507	-32.237	74.000	8.256	PK
3	*	9748.000	43.500	33.023	-30.500	74.000	10.477	PK

Profile: 1962139R	Page No.: 35
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



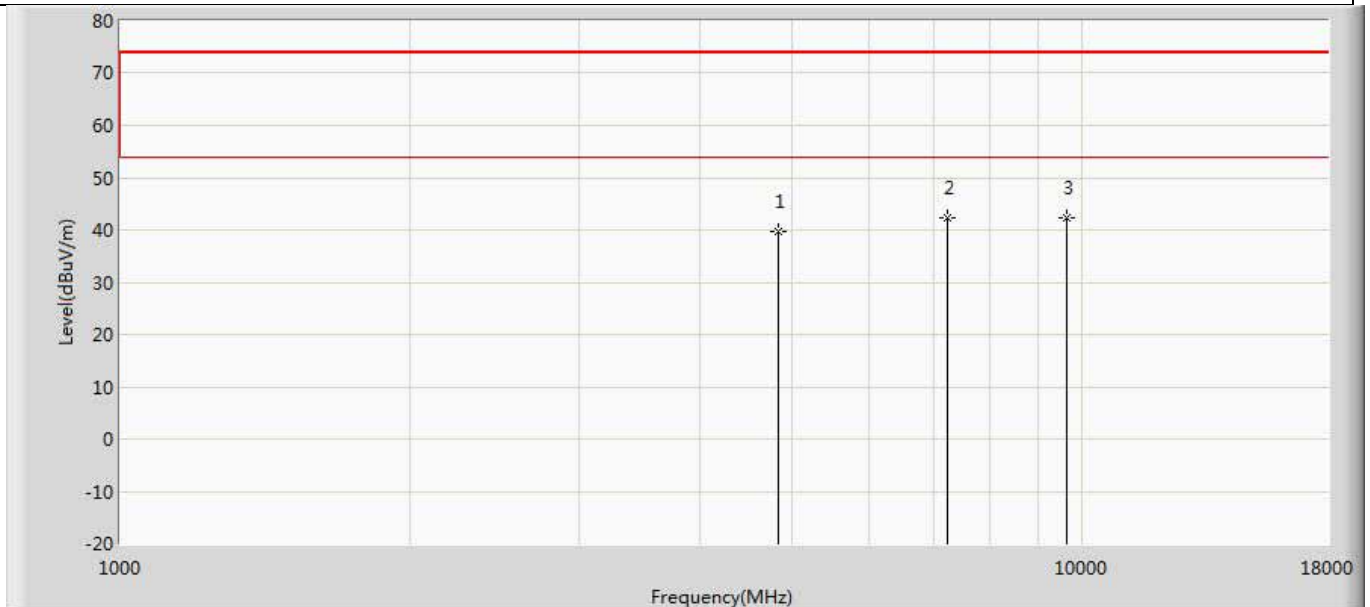
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	39.809	34.962	-34.191	74.000	4.846	PK
2		7386.000	42.217	33.892	-31.783	74.000	8.325	PK
3	*	9848.000	43.181	32.322	-30.819	74.000	10.859	PK

Profile: 1962139R	Page No.: 36
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



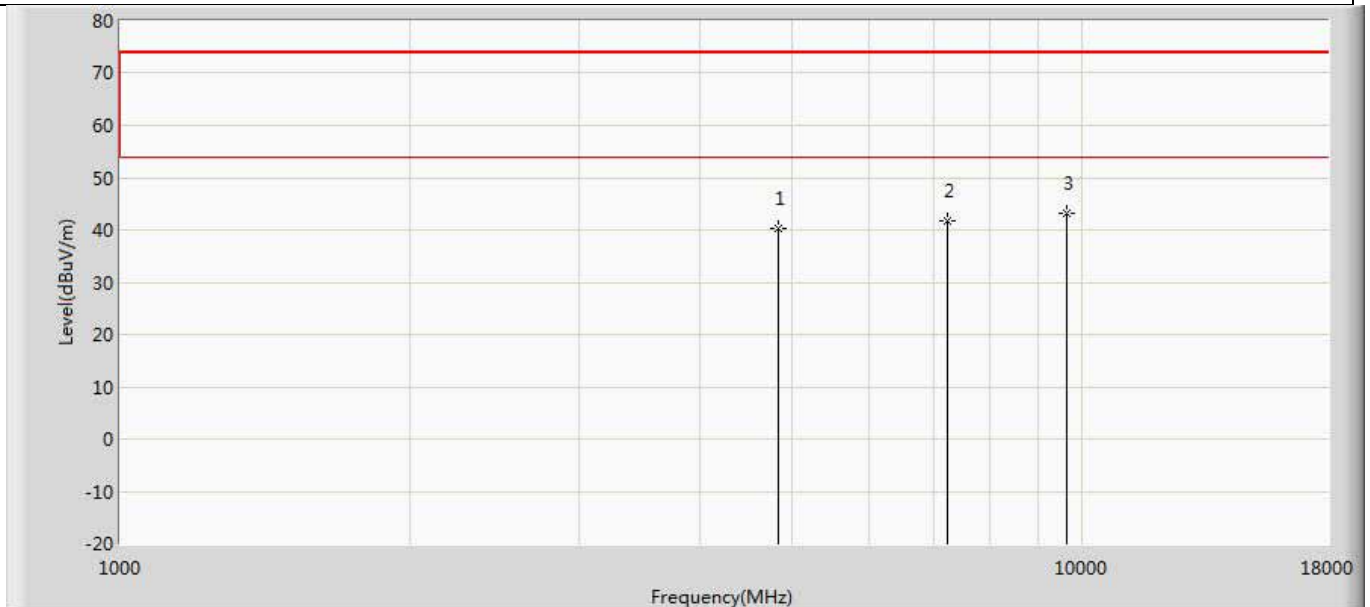
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	38.805	33.958	-35.195	74.000	4.846	PK
2		7386.000	42.410	34.085	-31.590	74.000	8.325	PK
3	*	9848.000	43.023	32.164	-30.977	74.000	10.859	PK

Profile: 1962139R	Page No.: 37
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n (20MHz)	



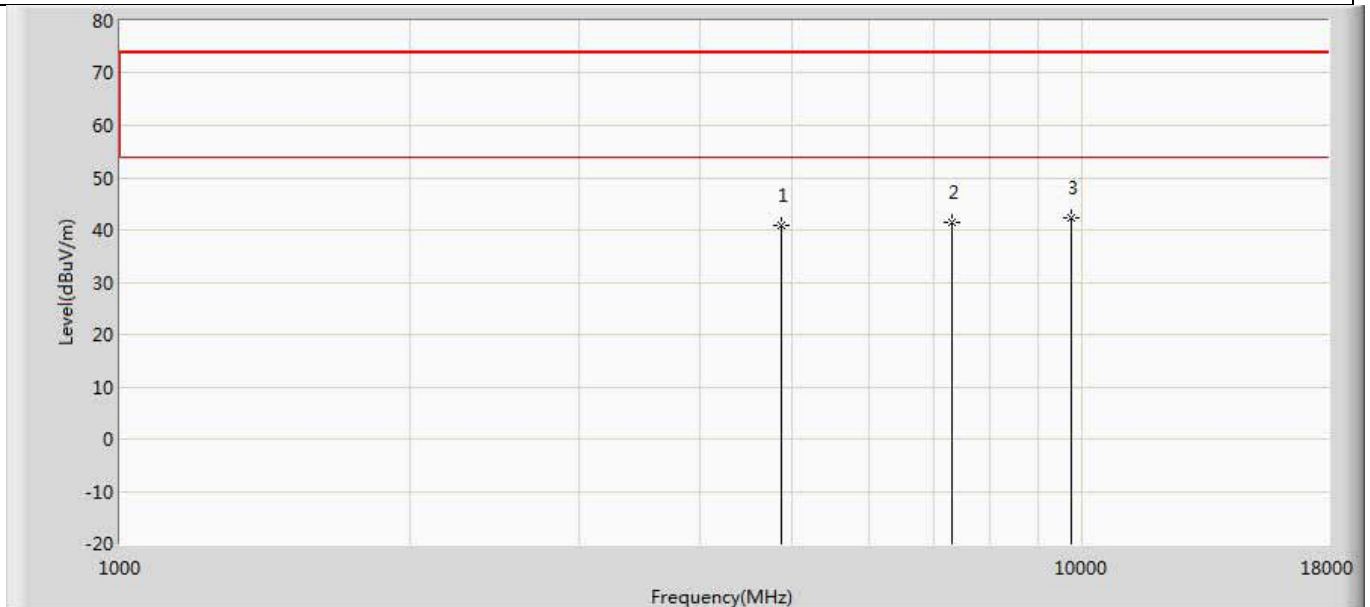
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	39.836	35.080	-34.164	74.000	4.756	PK
2	*	7236.000	42.410	34.239	-31.590	74.000	8.171	PK
3		9648.000	42.362	32.102	-31.638	74.000	10.260	PK

Profile: 1962139R	Page No.: 38
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n (20MHz)	



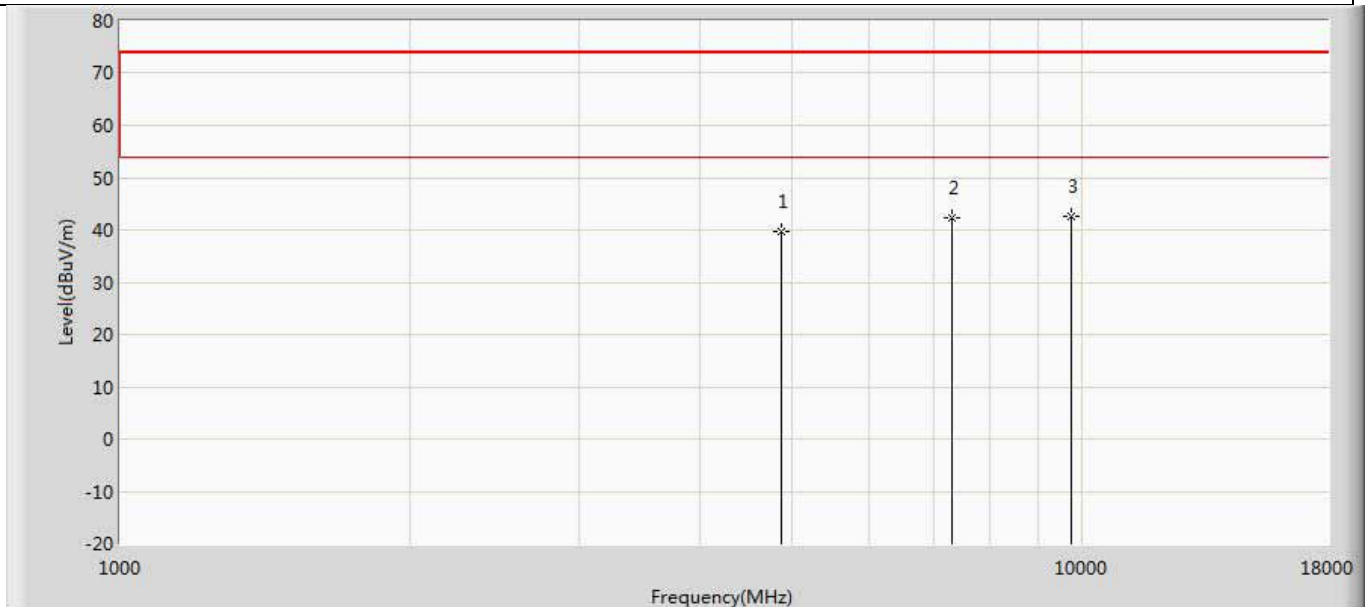
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	40.225	35.469	-33.775	74.000	4.756	PK
2		7236.000	41.857	33.686	-32.143	74.000	8.171	PK
3	*	9648.000	43.220	32.960	-30.780	74.000	10.260	PK

Profile: 1962139R	Page No.: 39
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11n (20MHz)	



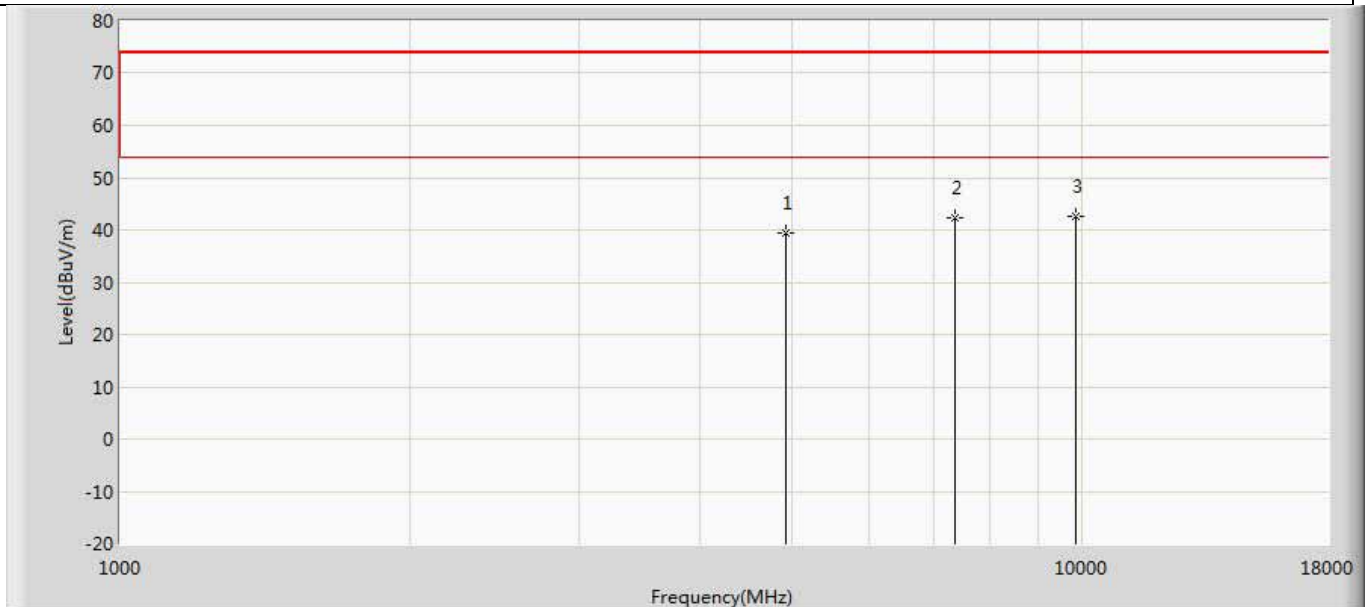
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.806	35.925	-33.194	74.000	4.881	PK
2		7311.000	41.358	33.102	-32.642	74.000	8.256	PK
3	*	9748.000	42.334	31.857	-31.666	74.000	10.477	PK

Profile: 1962139R	Page No.: 40
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11n (20MHz)	



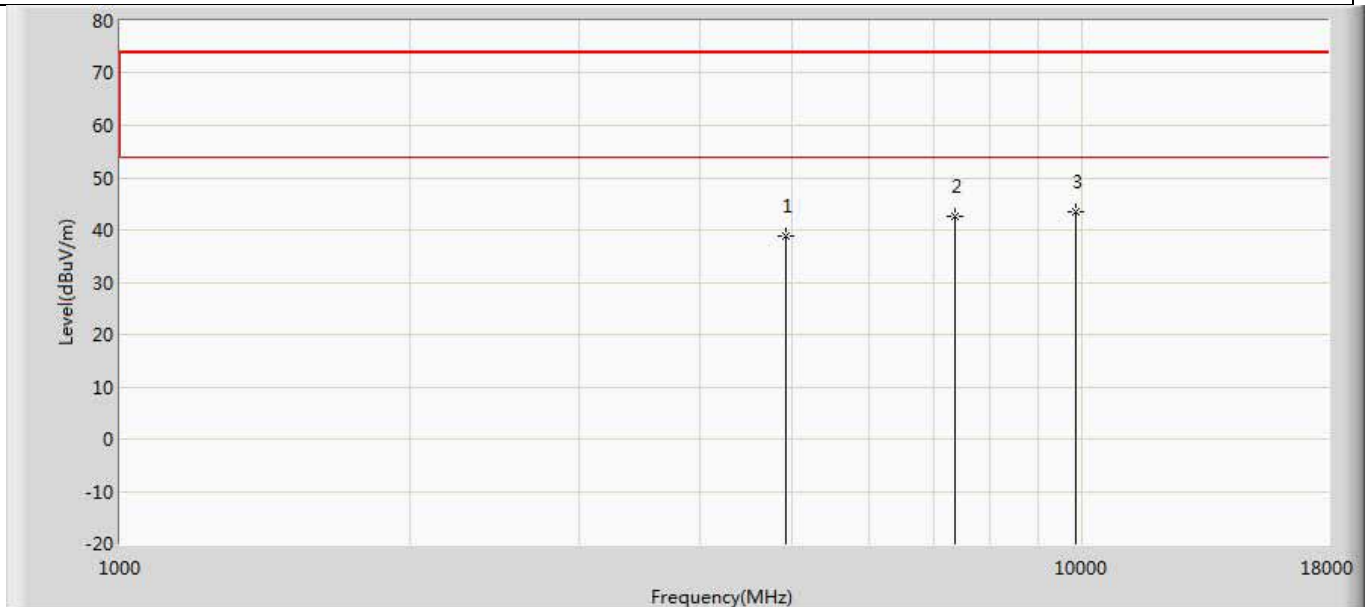
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	39.686	34.805	-34.314	74.000	4.881	PK
2		7311.000	42.358	34.102	-31.642	74.000	8.256	PK
3	*	9748.000	42.506	32.029	-31.494	74.000	10.477	PK

Profile: 1962139R	Page No.: 41
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n (20MHz)	



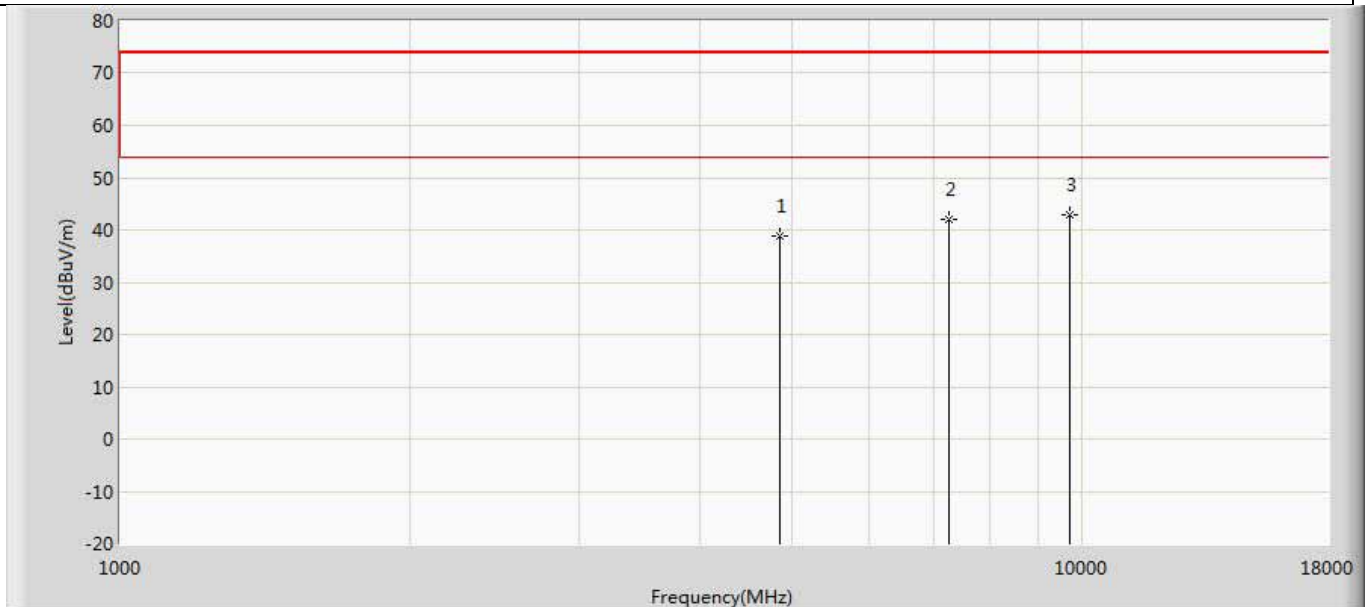
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	39.467	34.620	-34.533	74.000	4.846	PK
2		7386.000	42.403	34.078	-31.597	74.000	8.325	PK
3	*	9848.000	42.717	31.858	-31.283	74.000	10.859	PK

Profile: 1962139R	Page No.: 42
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n (20MHz)	



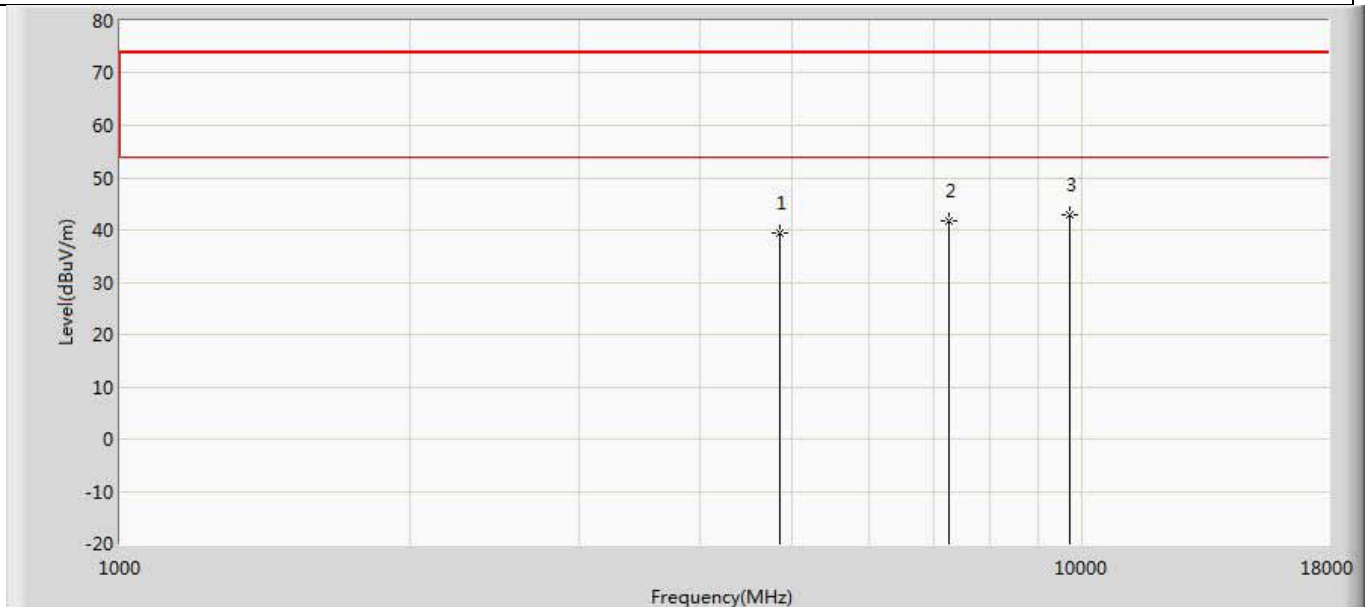
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	38.804	33.957	-35.196	74.000	4.846	PK
2		7386.000	42.645	34.320	-31.355	74.000	8.325	PK
3	*	9848.000	43.475	32.616	-30.525	74.000	10.859	PK

Profile: 1962139R	Page No.: 43
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n (40MHz)	



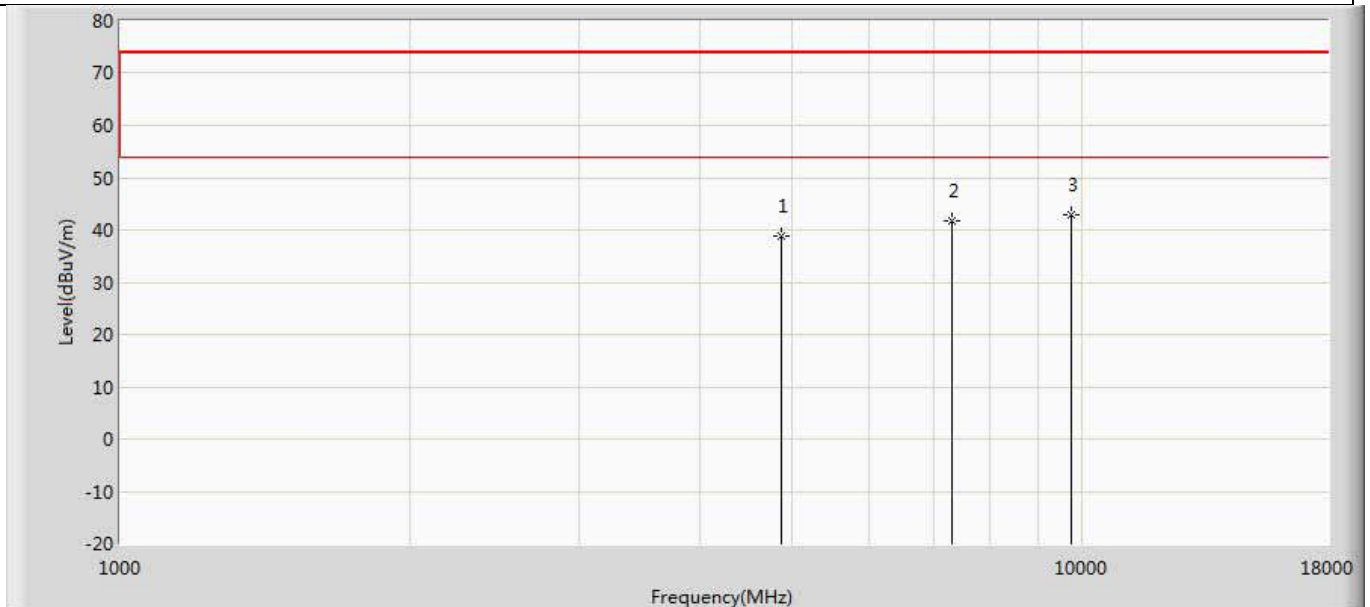
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	38.984	34.317	-35.016	74.000	4.666	PK
2		7266.000	42.102	33.950	-31.898	74.000	8.152	PK
3	*	9688.000	43.001	32.106	-30.999	74.000	10.894	PK

Profile: 1962139R	Page No.: 44
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n (40MHz)	



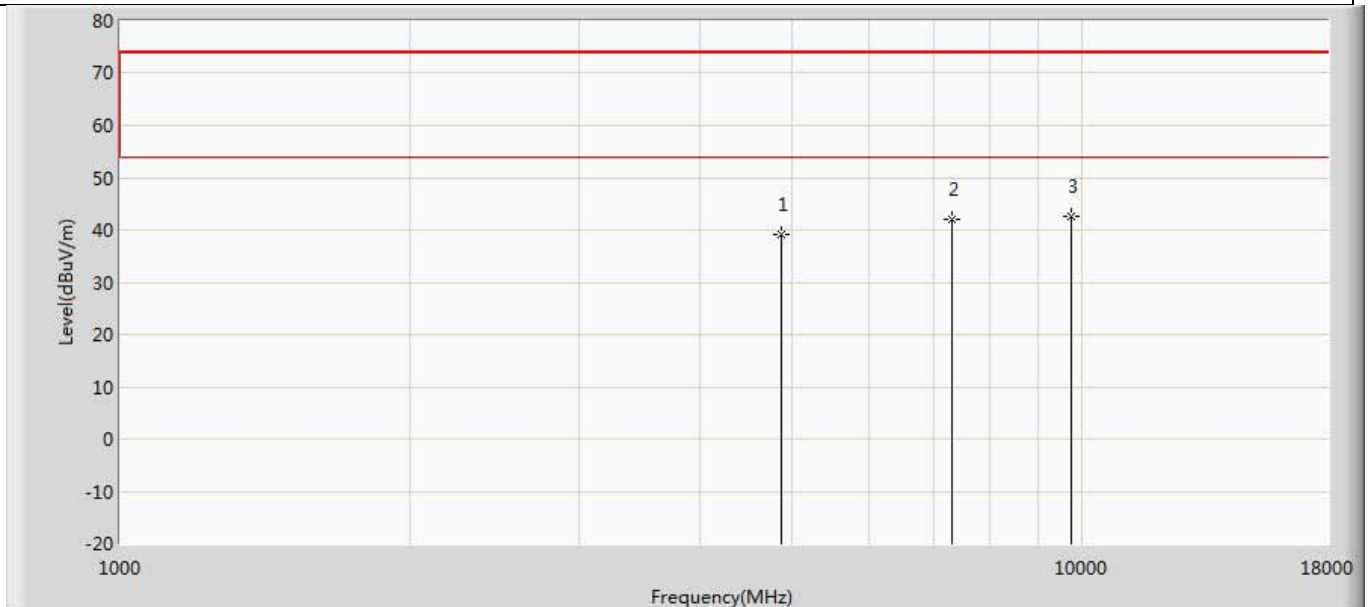
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	39.533	34.866	-34.467	74.000	4.666	PK
2		7266.000	41.673	33.521	-32.327	74.000	8.152	PK
3	*	9688.000	43.040	32.145	-30.960	74.000	10.894	PK

Profile: 1962139R	Page No.: 45
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11n (40MHz)	



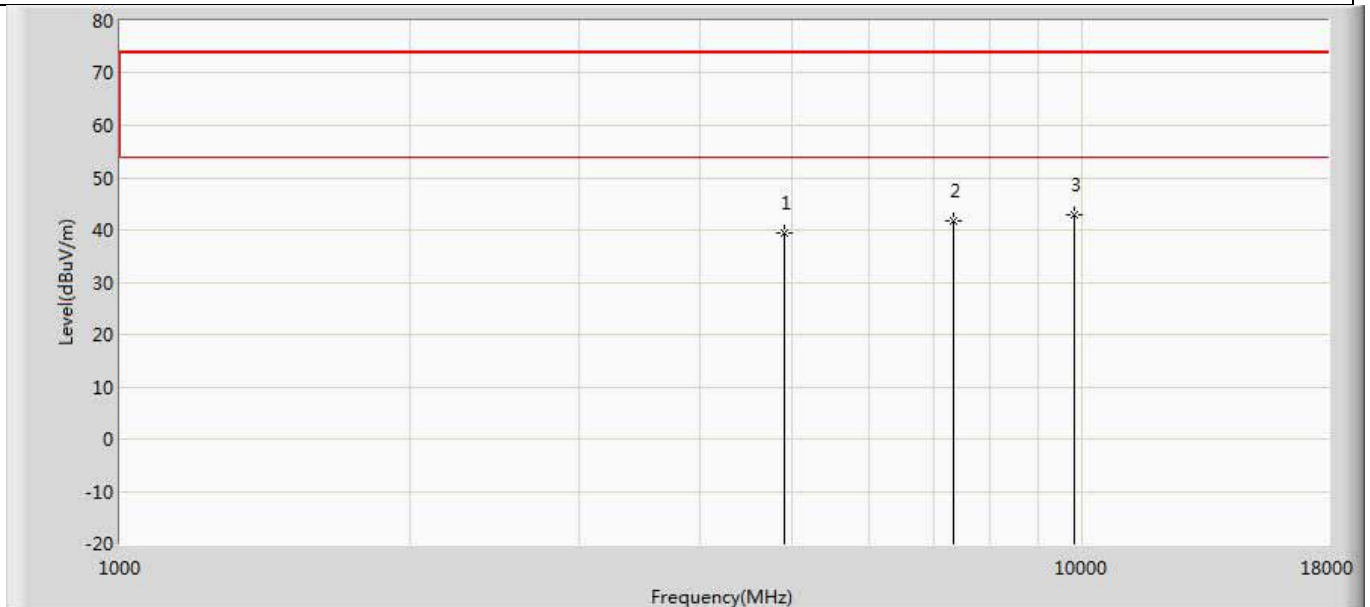
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	38.918	34.037	-35.082	74.000	4.881	PK
2		7311.000	41.755	33.499	-32.245	74.000	8.256	PK
3	*	9748.000	42.937	32.460	-31.063	74.000	10.477	PK

Profile: 1962139R	Page No.: 46
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11n (40MHz)	



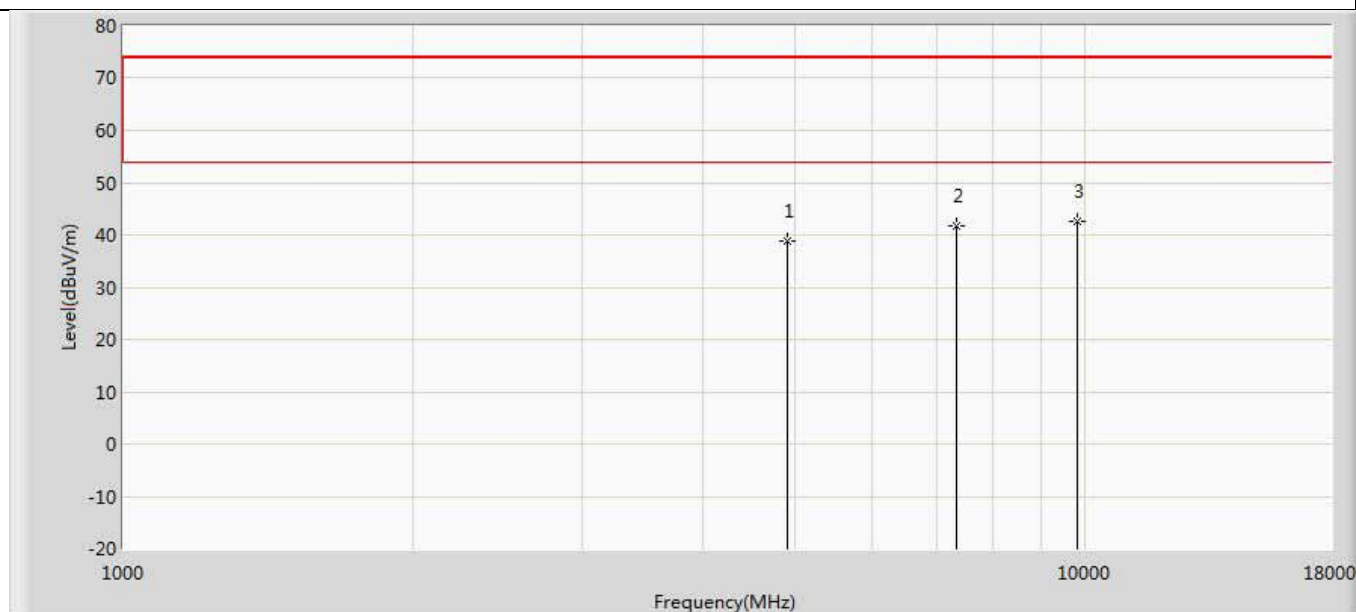
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	39.263	34.382	-34.737	74.000	4.881	PK
2		7311.000	41.921	33.665	-32.079	74.000	8.256	PK
3	*	9748.000	42.614	32.137	-31.386	74.000	10.477	PK

Profile: 1962139R	Page No.: 47
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n (40MHz)	



N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	39.468	34.588	-34.532	74.000	4.880	PK
2		7356.000	41.629	33.193	-32.371	74.000	8.436	PK
3	*	9808.000	42.775	32.215	-31.225	74.000	10.560	PK

Profile: 1962139R	Page No.: 48
Engineer: Tongben	
Site: AC5	Time: 2019/07/01 - 21:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n (40MHz)	

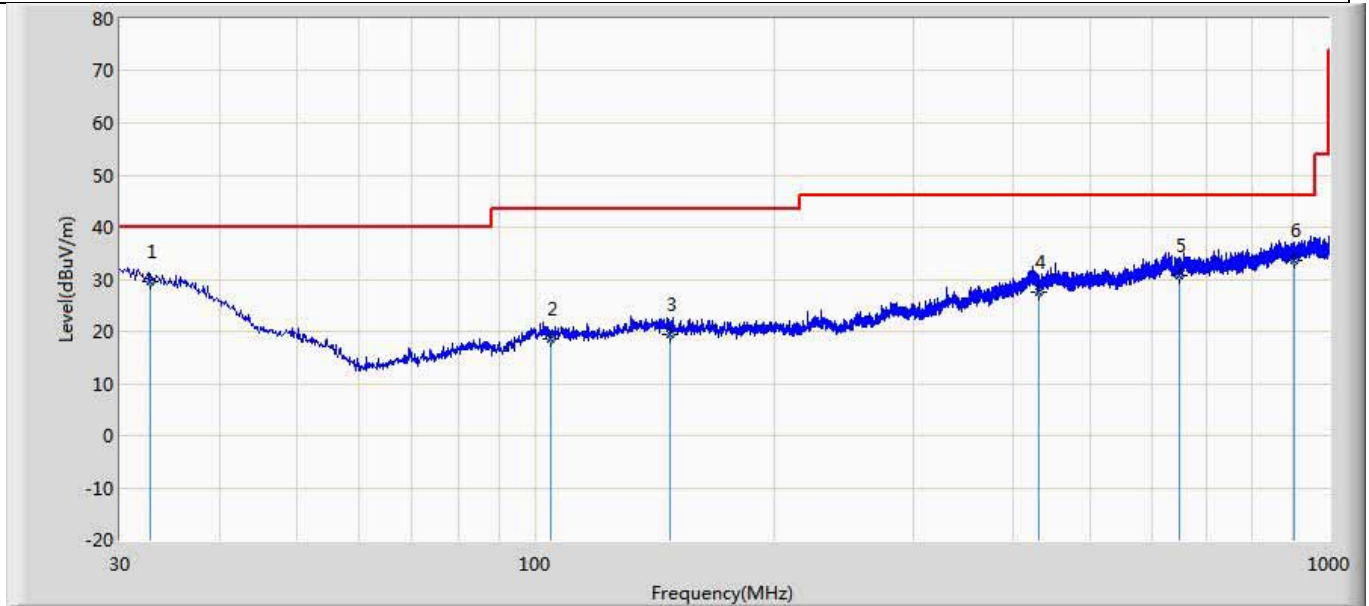


N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	38.900	34.020	-35.100	74.000	4.880	PK
2		7356.000	41.820	33.384	-32.180	74.000	8.436	PK
3	*	9808.000	42.710	32.150	-31.290	74.000	10.560	PK

Remark	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, 18GHz~25GHz, both of the 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. 5. The complete raw data please refer to Appendix RSE, Shown in the report is the worst data.
--------	--

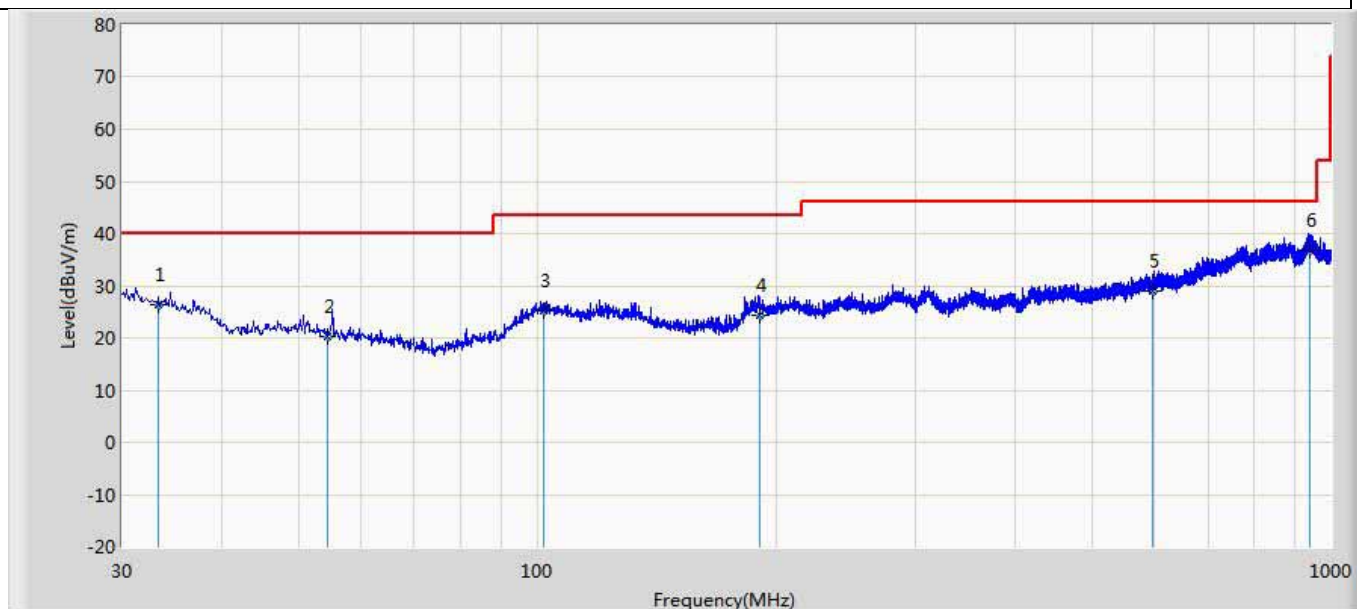
The worst case of Radiated Emission below 1GHz:

Engineer: Pawn	
Site: AC3	Time: 2019/06/25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Type
1	*	32.789	29.573	3.100	-10.427	40.000	19.968	6.470	QP
2		104.811	18.499	2.300	-25.001	43.500	9.299	6.871	QP
3		148.098	19.406	2.000	-24.094	43.500	10.239	7.071	QP
4		430.367	27.509	0.800	-18.491	46.000	18.646	7.986	QP
5		648.981	30.733	2.000	-15.267	46.000	20.094	8.544	QP
6		904.576	33.737	1.600	-12.263	46.000	22.968	9.105	QP

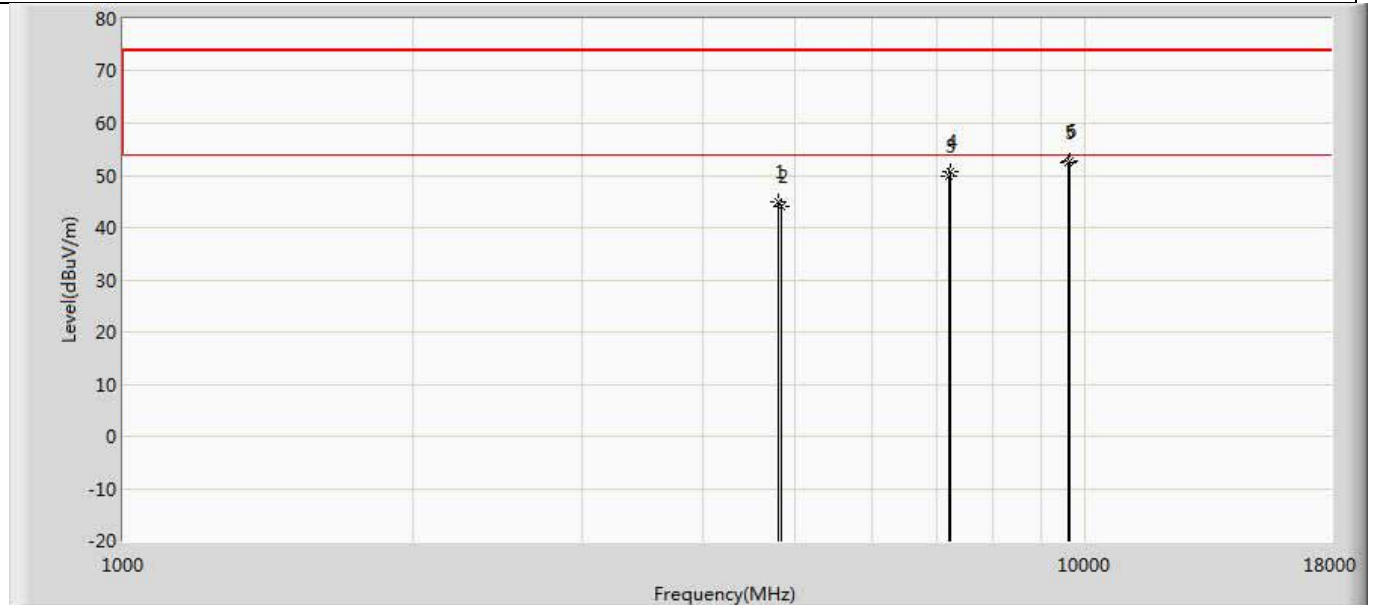
Engineer: Pawn	
Site: AC3	Time: 2019/06/25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC3_3m (30-1000MHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Type
1		33.395	26.325	3.300	-13.675	40.000	16.533	6.475	QP
2		54.493	20.200	3.100	-19.800	40.000	10.430	6.620	QP
3		101.780	25.170	3.000	-18.330	43.500	15.236	6.866	QP
4		190.656	24.264	3.000	-19.236	43.500	14.014	7.249	QP
5		596.480	28.901	1.800	-17.099	46.000	18.678	8.420	QP
6	*	939.739	36.778	2.500	-9.222	46.000	25.039	9.182	QP

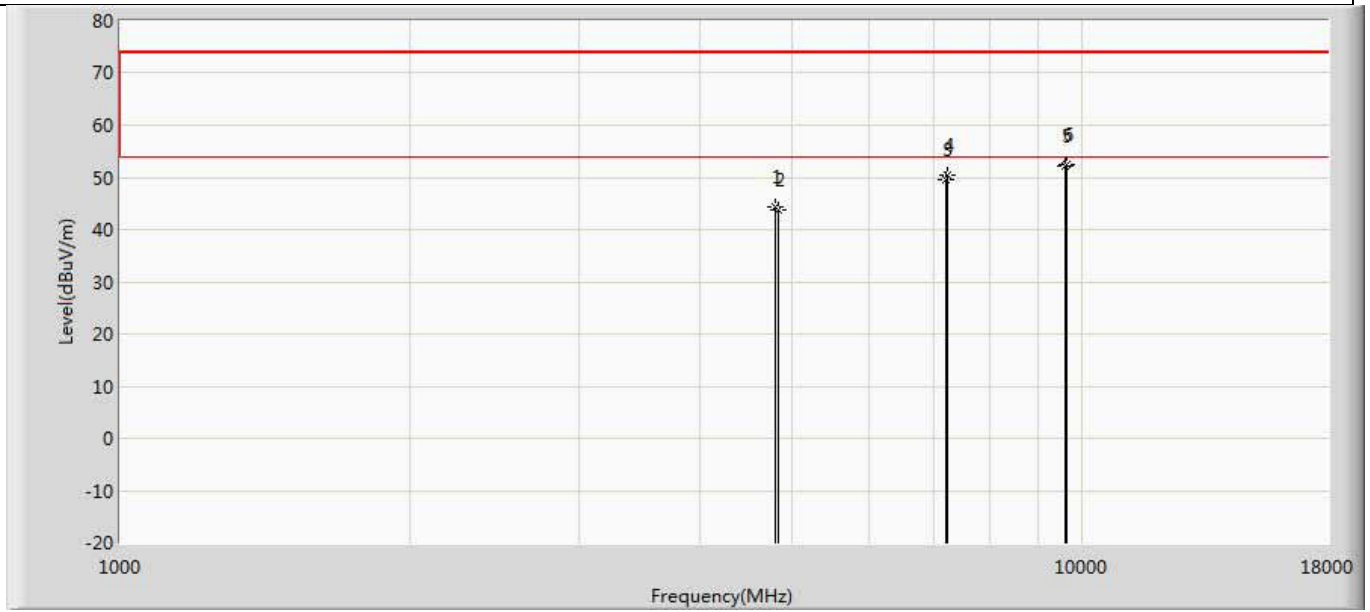
The worst case of Simultaneous Radiated Emission:

Profile: 1962139R	Page No.: 333
Engineer: Pawn	
Site: AC5	Time: 2019/07/03 - 10:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT:Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 7:Transmit at 2402MHz by DH5 & 2412MHz by 802.11B	



N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	44.854	40.337	-29.146	74.000	4.517	PK
2		4824.000	44.134	39.652	-29.866	74.000	4.482	PK
3		7206.000	49.946	42.399	-24.054	74.000	7.547	PK
4		7236.000	50.707	43.017	-23.293	74.000	7.689	PK
5		9608.000	52.450	43.268	-21.550	74.000	9.182	PK
6	*	9648.000	52.685	43.125	-21.315	74.000	9.560	PK

Profile: 1962139R	Page No.: 334
Engineer: Pawn	
Site: AC5	Time: 2019/07/03 - 10:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT:Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 7:Transmit at 2402MHz by DH5 & 2412MHz by 802.11B	



N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	44.387	39.870	-29.613	74.000	4.517	PK
2		4824.000	43.736	39.254	-30.264	74.000	4.482	PK
3		7206.000	49.504	41.957	-24.496	74.000	7.547	PK
4		7236.000	50.378	42.688	-23.622	74.000	7.689	PK
5		9608.000	52.296	43.114	-21.704	74.000	9.182	PK
6	*	9648.000	52.457	42.897	-21.543	74.000	9.560	PK

4.3 Emissions in non-restricted frequency band

VERDICT: PASS

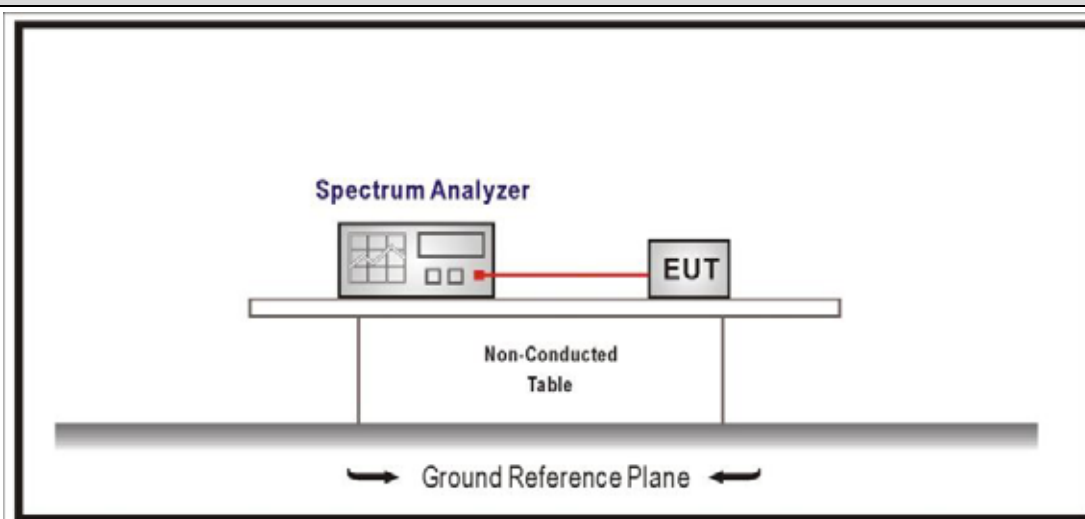
4.3.1 Limit

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	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	1	2412	14.136	2398.51	-24.48	38.616	≥ 20	Pass
	11	2462	12.063	2500	-45.905	57.968	≥ 20	Pass
2	1	2412	7.601	2400	-25.708	33.309	≥ 20	Pass
	11	2462	7.442	2500	-45.740	53.182	≥ 20	Pass
3	1	2412	6.725	2400	-27.204	33.929	≥ 20	Pass
	11	2462	7.916	2500	-46.594	54.510	≥ 20	Pass
4	3	2422	5.237	2400	-29.702	34.939	≥ 20	Pass
	09	2452	3.236	2500	-45.862	49.098	≥ 20	Pass

Note: The worst case of emissions in non-restricted frequency bands as below:

Mode 2 CH01(2412MHz)



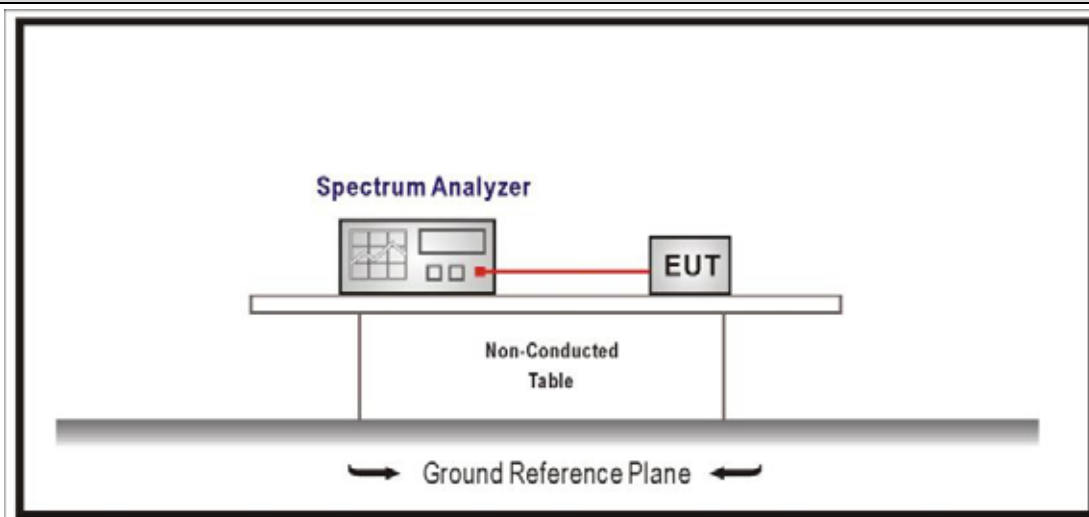
4.4 Duty cycle

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

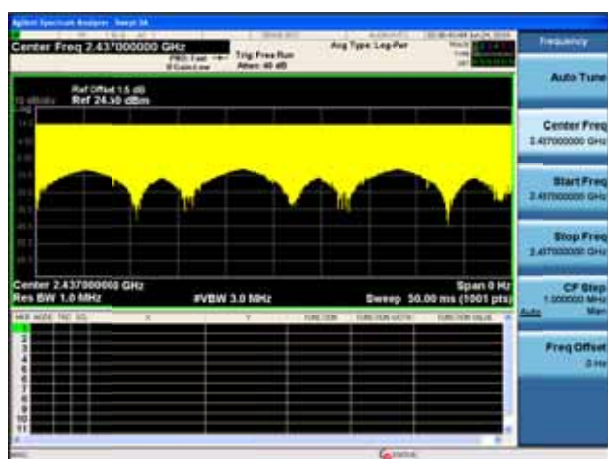
4.4.4 Test Data

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
1	N/A	N/A	10Hz	N/A	100%
2	19.980	0.180	10Hz	20.160	99%
3	16.700	0.120	10Hz	16.820	99%
4	8.026	0.202	10Hz	8.228	98%

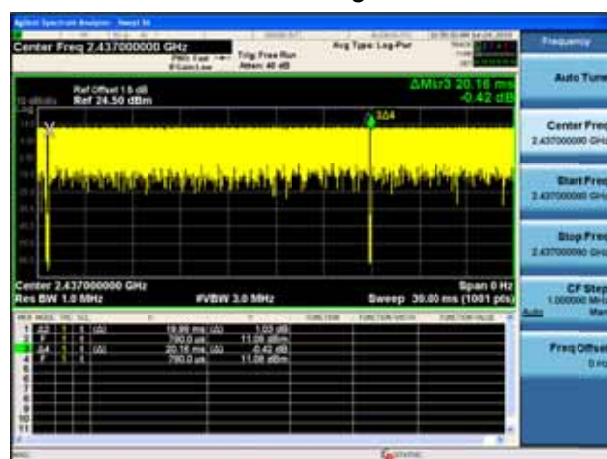
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

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

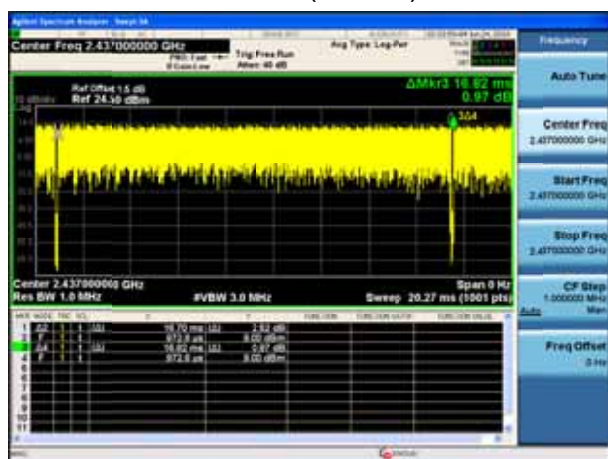
802.11b



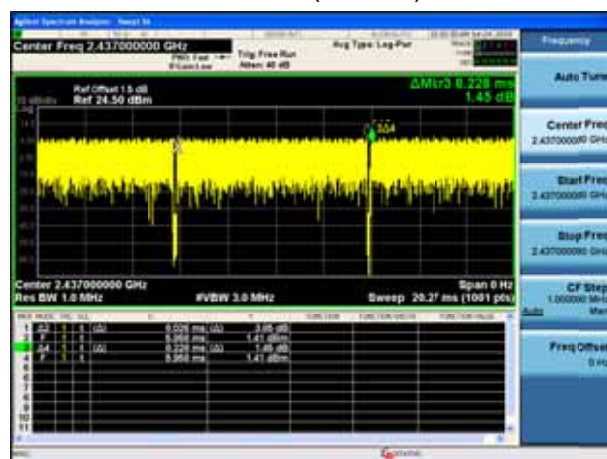
802.11g



802.11n(20MHz)



802.11n(40MHz)



4.5 Radiated Emission Band Edge

VERDICT: PASS

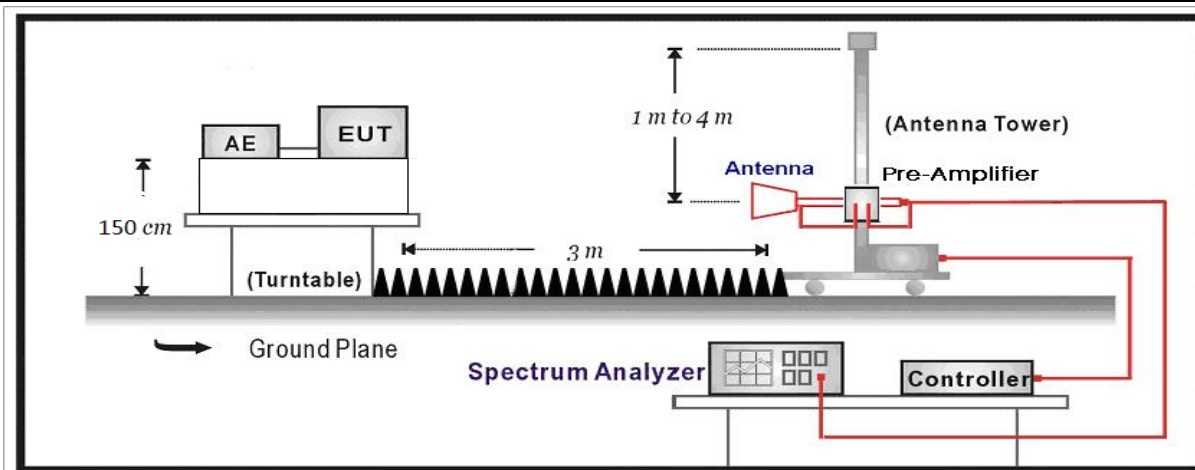
4.5.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

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

4.5.2 Test Setup

Above 1GHz Test Setup:

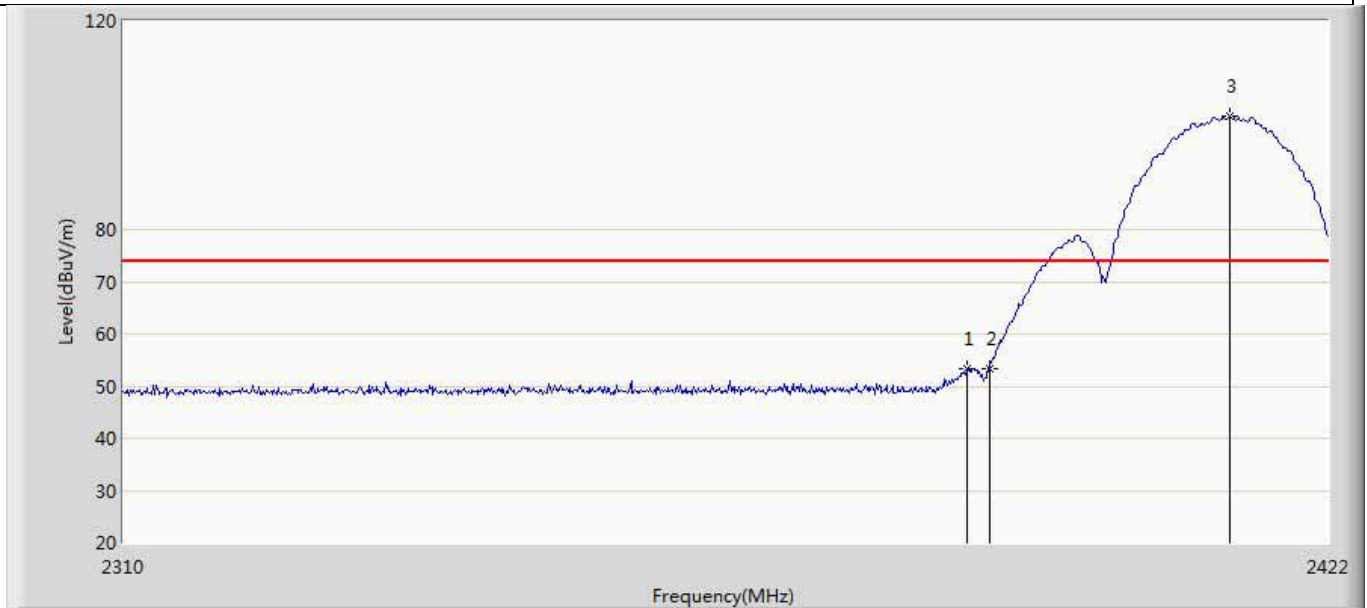


4.5.3 Test Procedure

	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	
	☐	ANSI C63.10	11.12.2	Antenna-port conducted measurements	
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		☐	ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10	11.12.2.5	Average power measurement procedures
		☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

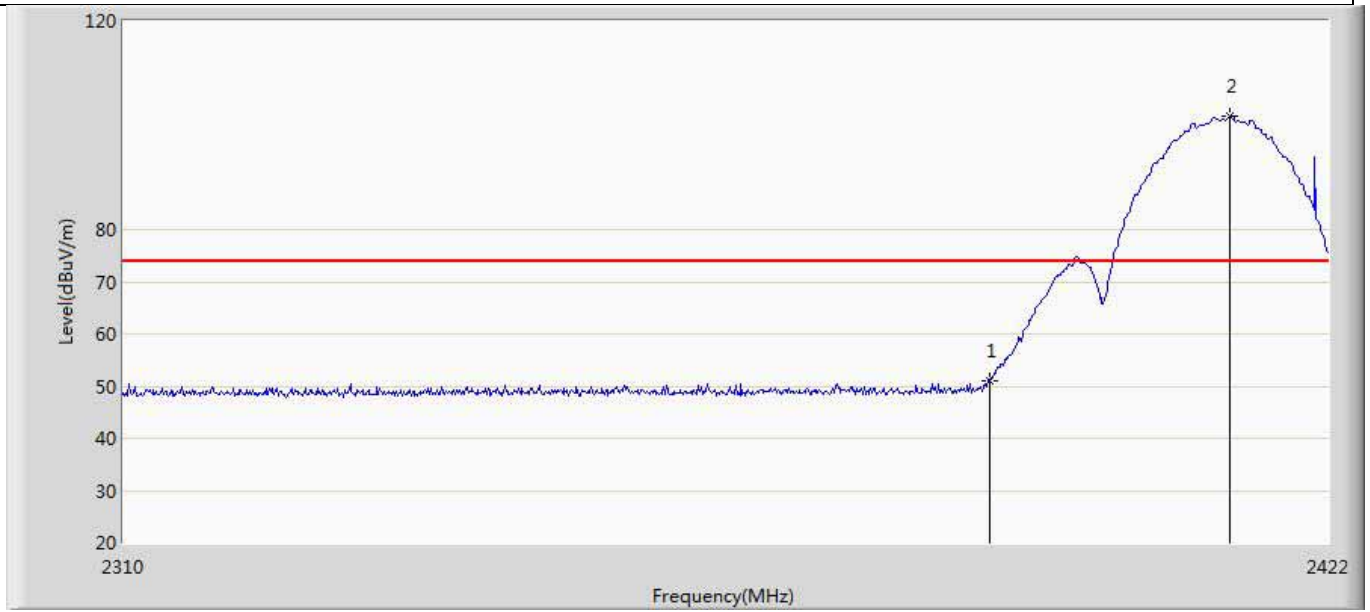
4.5.4 Test Data

Profile: 1962139R	Page No.: 1
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 19:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11b	



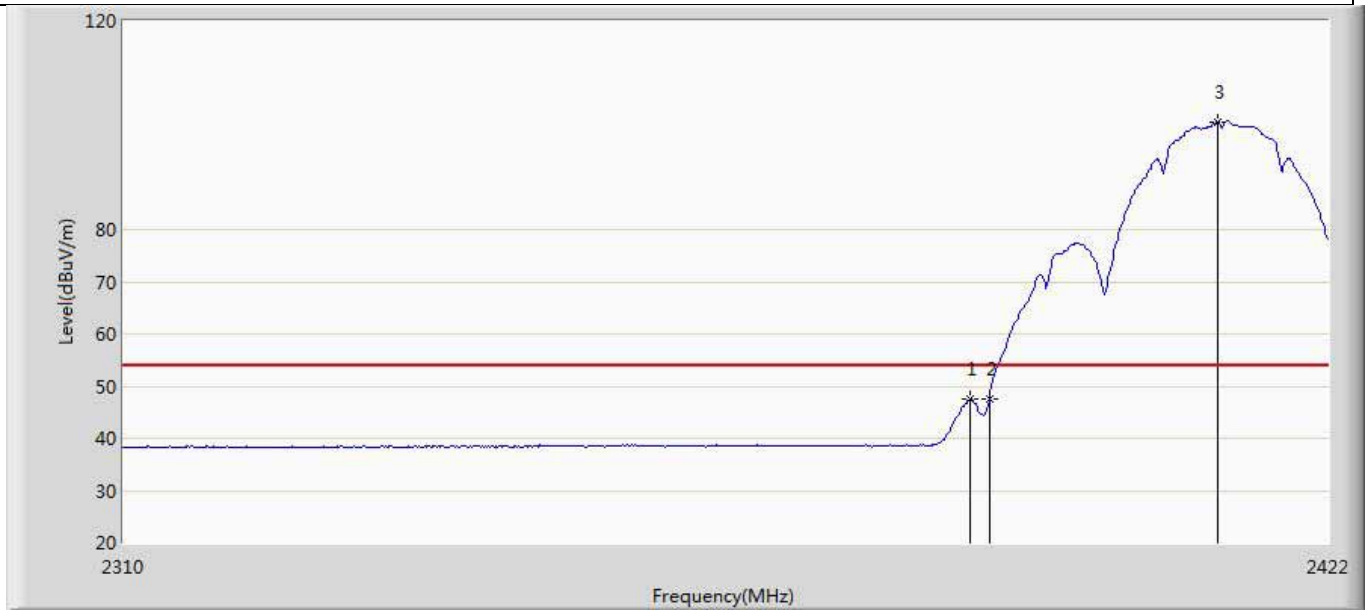
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.952	53.443	17.766	-20.557	74.000	35.678	PK
2		2390.000	53.433	17.751	-20.567	74.000	35.682	PK
3	*	2412.704	101.799	66.055	27.799	74.000	35.744	PK

Profile: 1962139R	Page No.: 2
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11b	



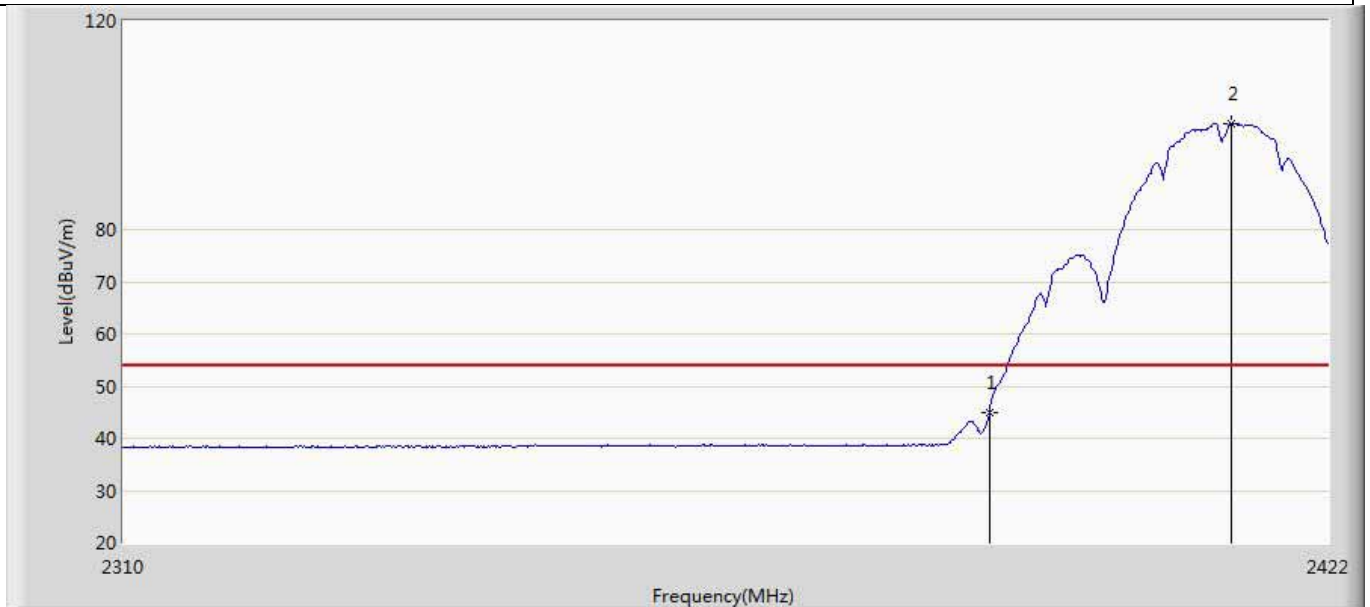
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.948	15.266	-23.052	74.000	35.682	PK
2	*	2412.704	101.640	65.896	27.640	74.000	35.744	PK

Profile: 1962139R	Page No.: 3
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11b	



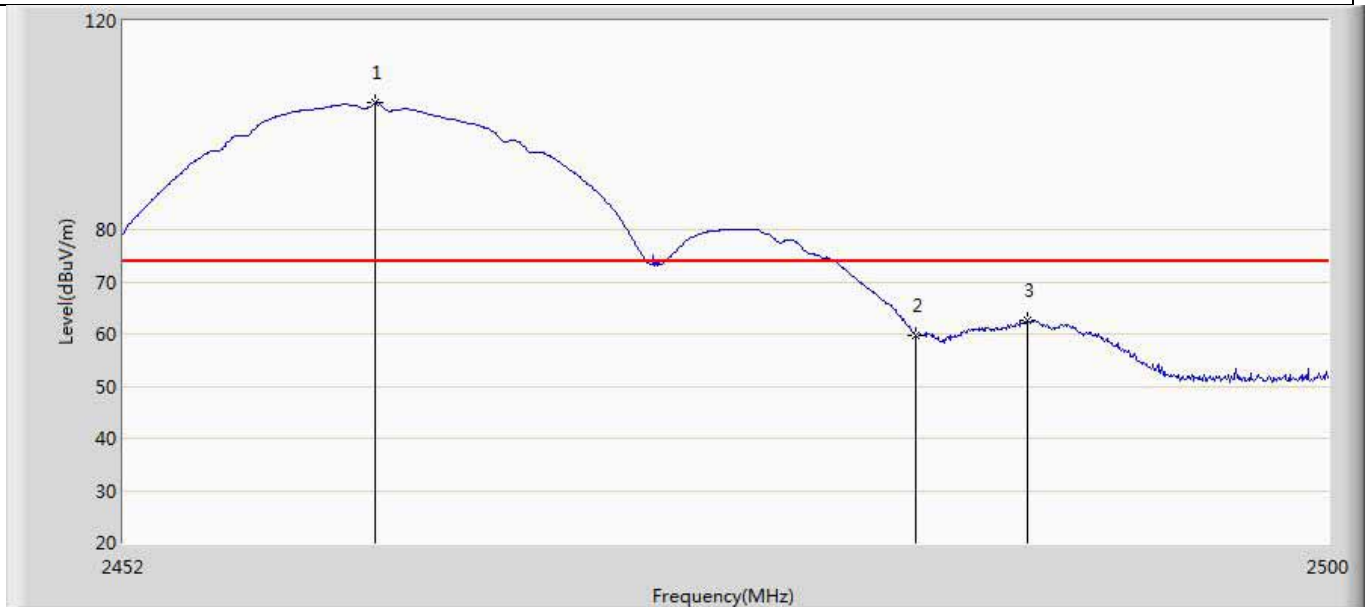
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.176	47.517	11.839	-6.483	54.000	35.678	AV
2		2390.000	47.671	11.989	-6.329	54.000	35.682	AV
3	*	2411.472	100.675	64.936	46.675	54.000	35.740	AV

Profile: 1962139R	Page No.: 4
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2412MHz by 802.11b	



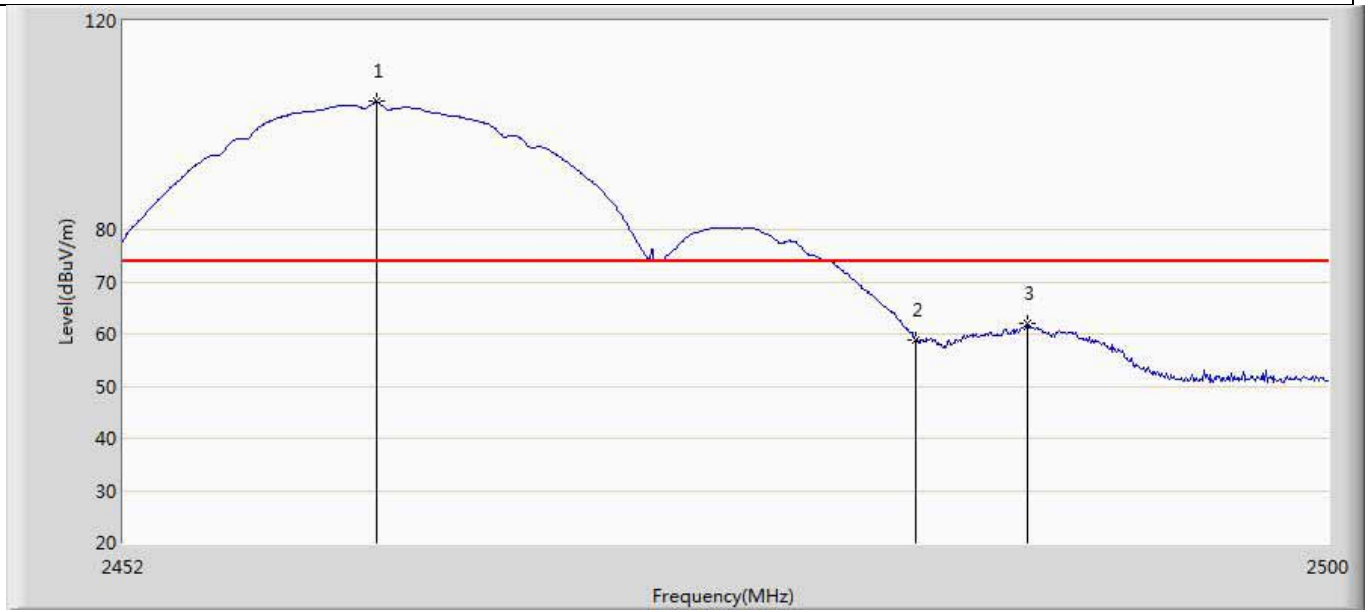
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.033	9.351	-8.967	54.000	35.682	AV
2	*	2412.816	100.321	64.576	46.321	54.000	35.745	AV

Profile: 1962139R	Page No.: 5
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11b	



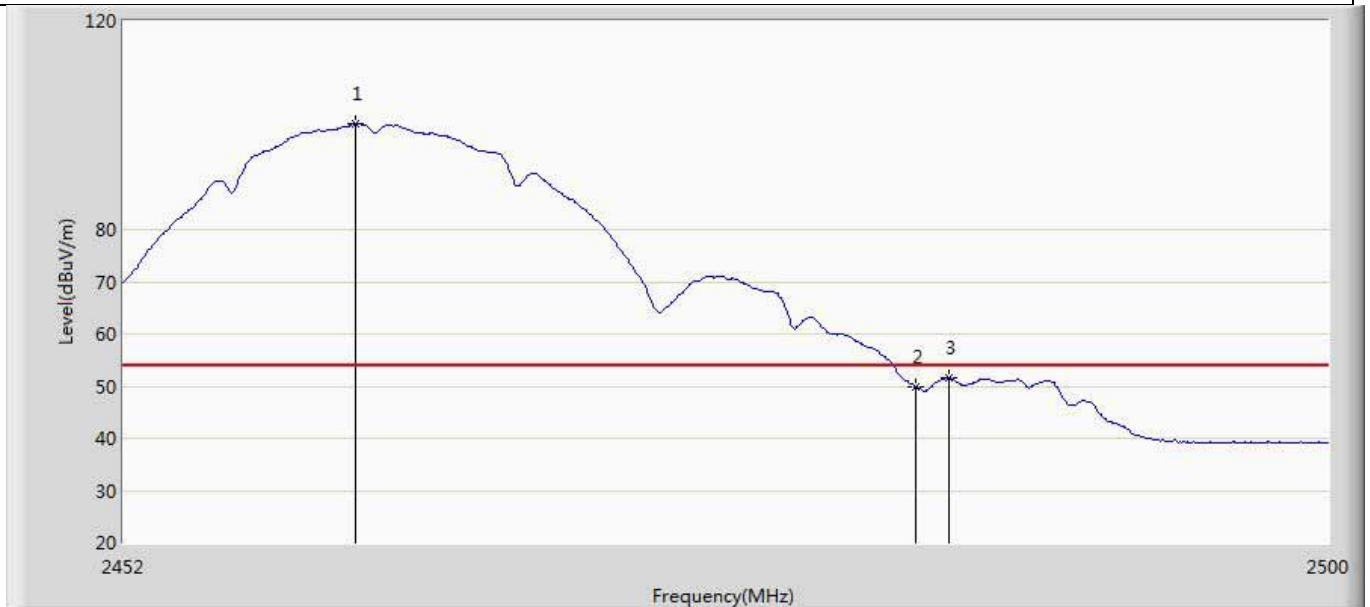
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.984	104.334	68.456	30.334	74.000	35.878	PK
2		2483.500	59.835	23.943	-14.165	74.000	35.891	PK
3		2487.952	62.547	26.623	-11.453	74.000	35.924	PK

Profile: 1962139R	Page No.: 6
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11b	



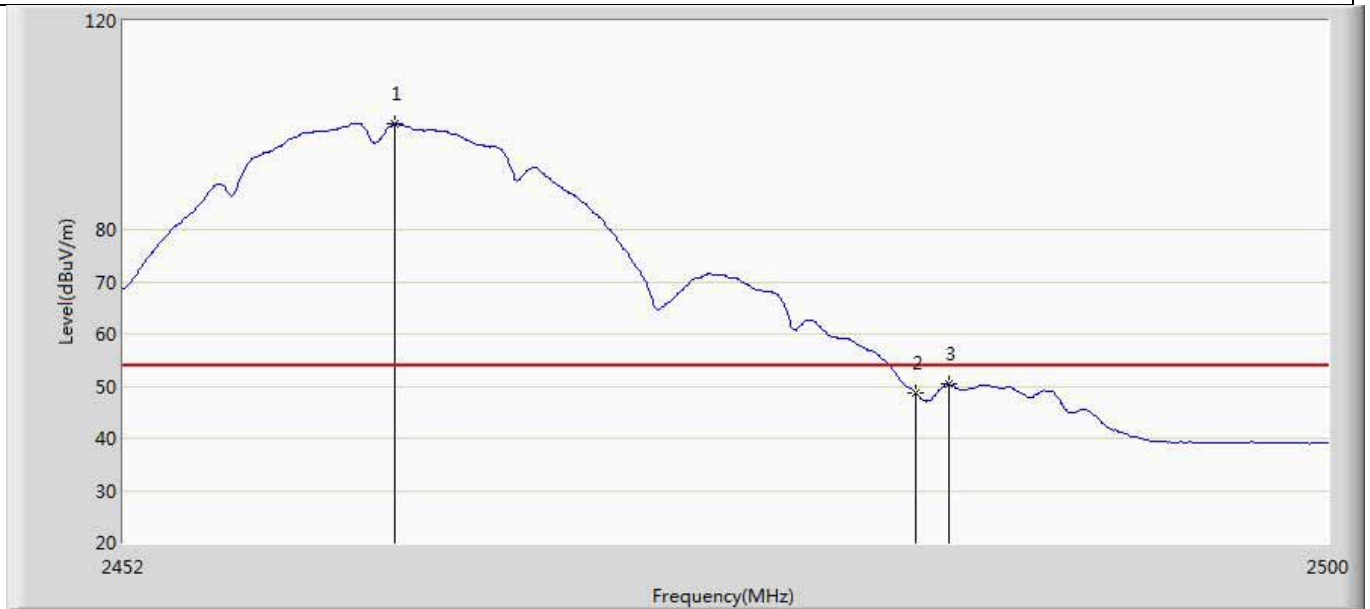
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.032	104.536	68.658	30.536	74.000	35.878	PK
2		2483.500	58.856	22.964	-15.144	74.000	35.891	PK
3		2487.952	61.952	26.028	-12.048	74.000	35.924	PK

Profile: 1962139R	Page No.: 7
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11b	



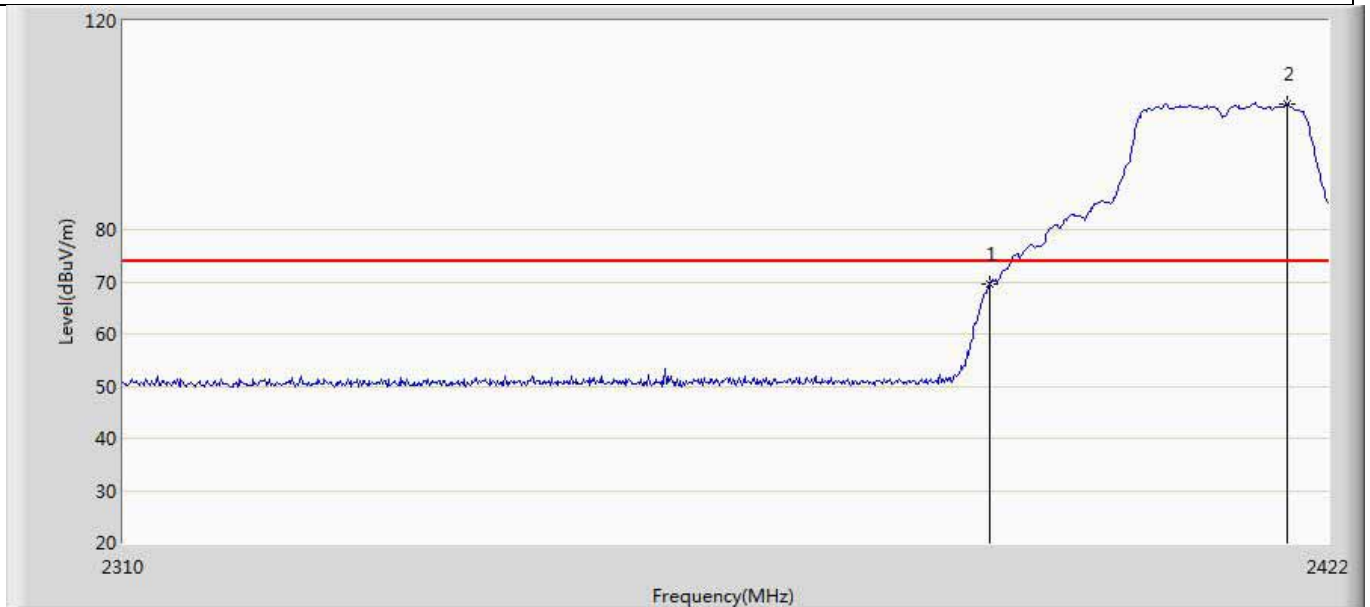
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	100.304	64.429	46.304	54.000	35.875	AV
2		2483.500	49.786	13.894	-4.214	54.000	35.891	AV
3		2484.784	51.596	15.695	-2.404	54.000	35.901	AV

Profile: 1962139R	Page No.: 8
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode1:Transmit at 2462MHz by 802.11b	



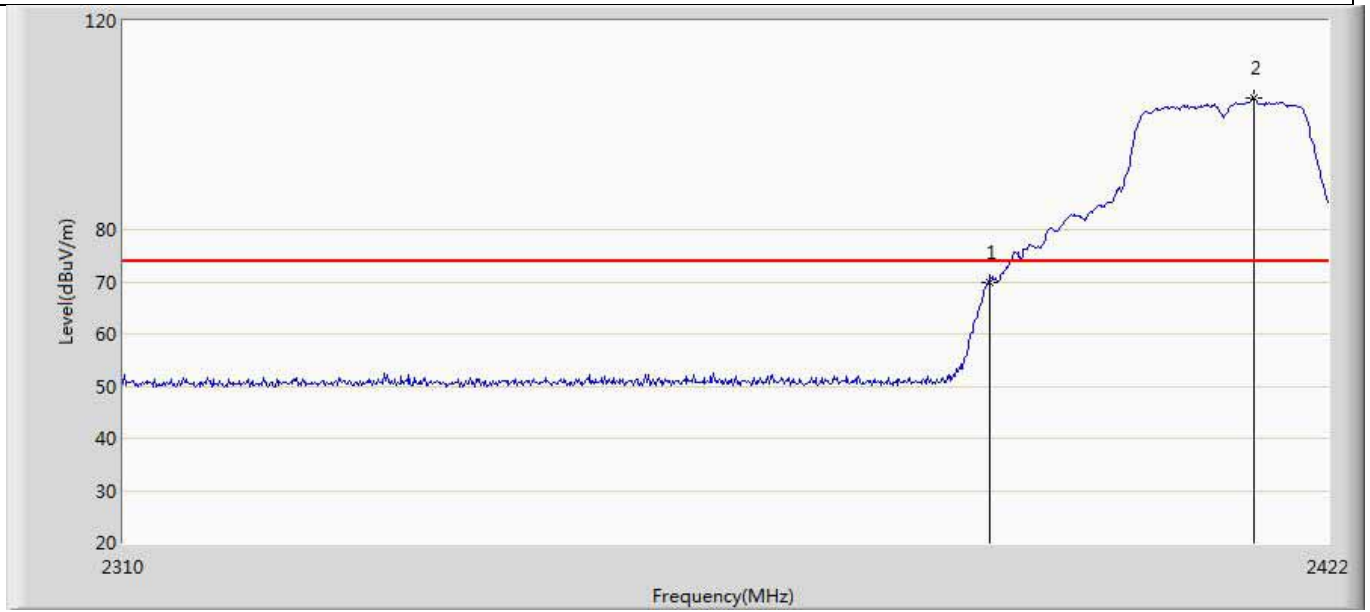
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.752	100.284	64.407	46.284	54.000	35.877	AV
2		2483.500	48.579	12.687	-5.421	54.000	35.891	AV
3		2484.784	50.378	14.477	-3.622	54.000	35.901	AV

Profile: 1962139R	Page No.: 9
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11g	



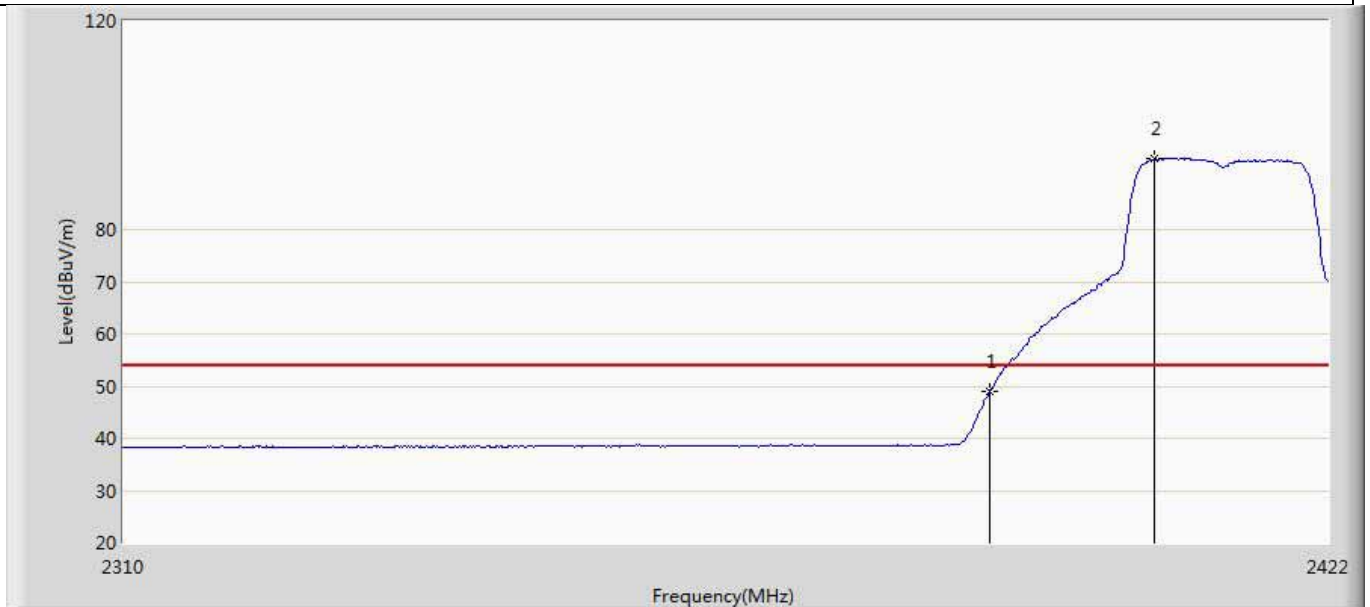
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.458	33.776	-4.542	74.000	35.682	PK
2	*	2418.192	104.042	68.275	30.042	74.000	35.768	PK

Profile: 1962139R	Page No.: 10
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11g	



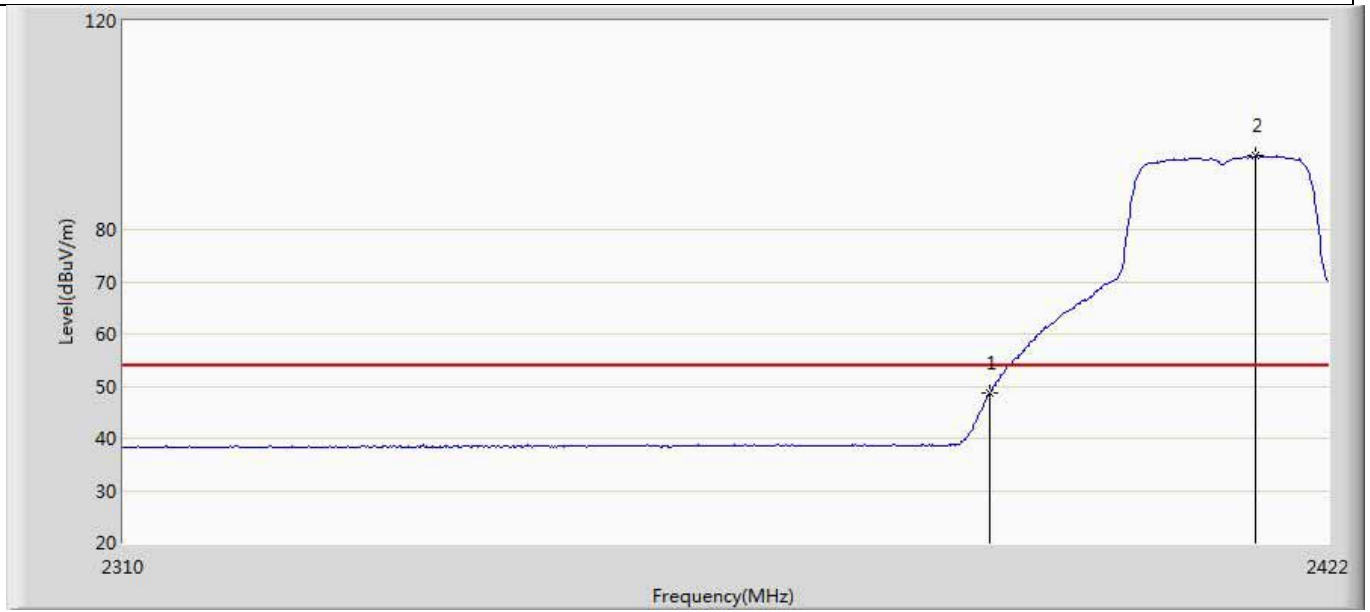
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.776	34.094	-4.224	74.000	35.682	PK
2	*	2414.944	105.165	69.411	31.165	74.000	35.754	PK

Profile: 1962139R	Page No.: 11
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11g	



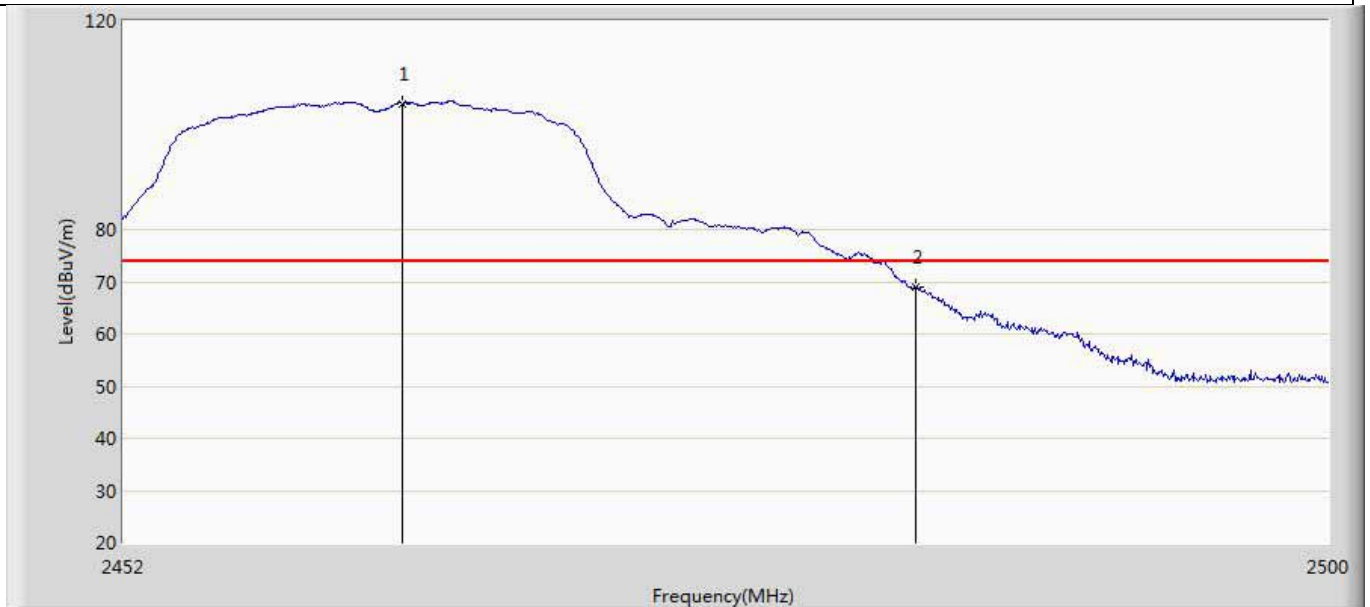
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.882	13.200	-5.118	54.000	35.682	AV
2	*	2405.536	93.532	57.810	39.532	54.000	35.723	AV

Profile: 1962139R	Page No.: 12
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2412MHz by 802.11g	



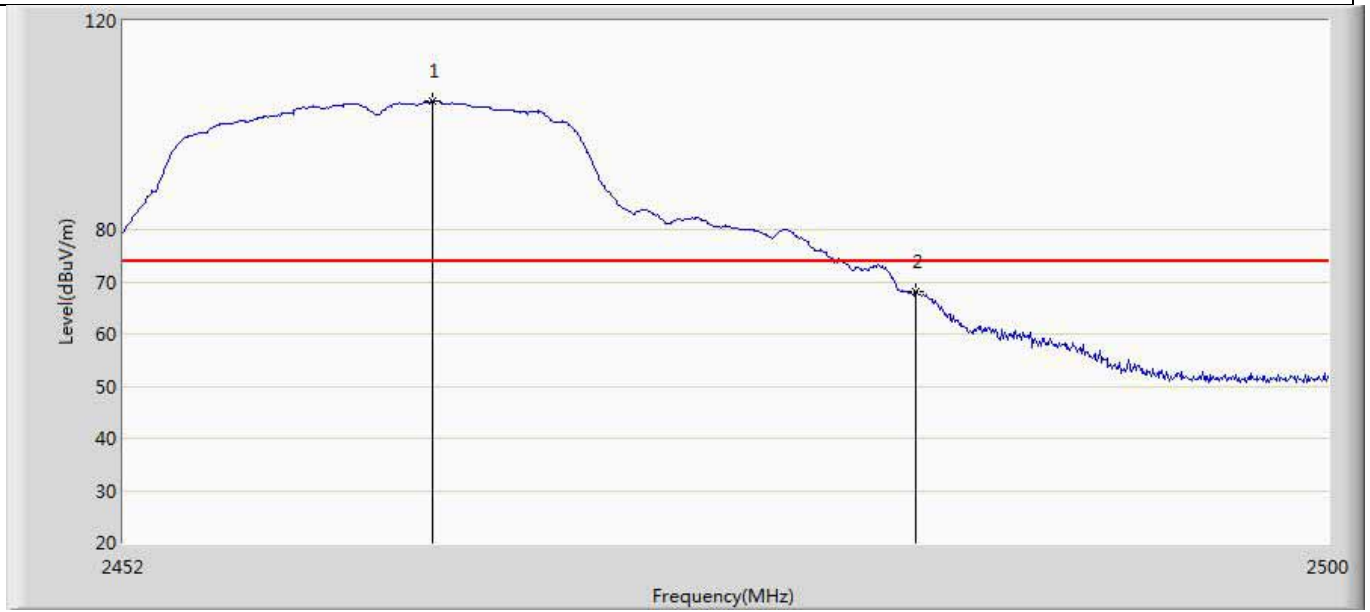
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	48.602	12.920	-5.398	54.000	35.682	AV
2	*	2415.056	94.139	58.385	40.139	54.000	35.754	AV

Profile: 1962139R	Page No.: 13
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11g	



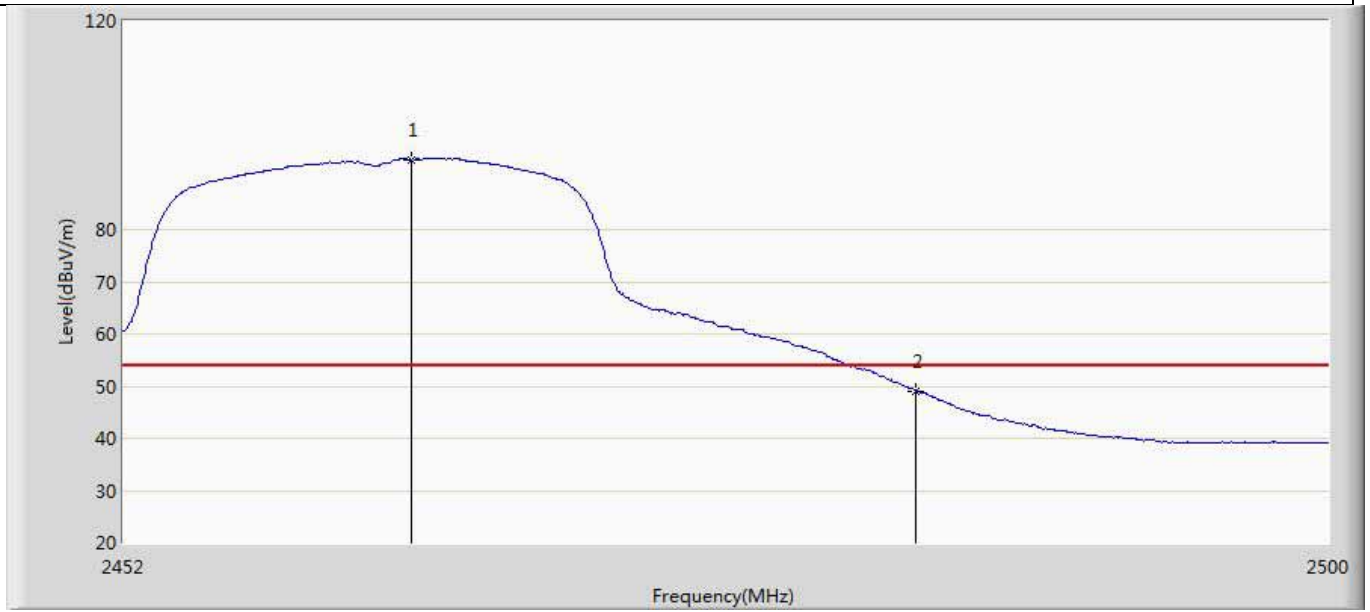
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.040	104.165	68.288	30.165	74.000	35.877	PK
2		2483.500	68.907	33.015	-5.093	74.000	35.891	PK

Profile: 1962139R	Page No.: 14
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11g	



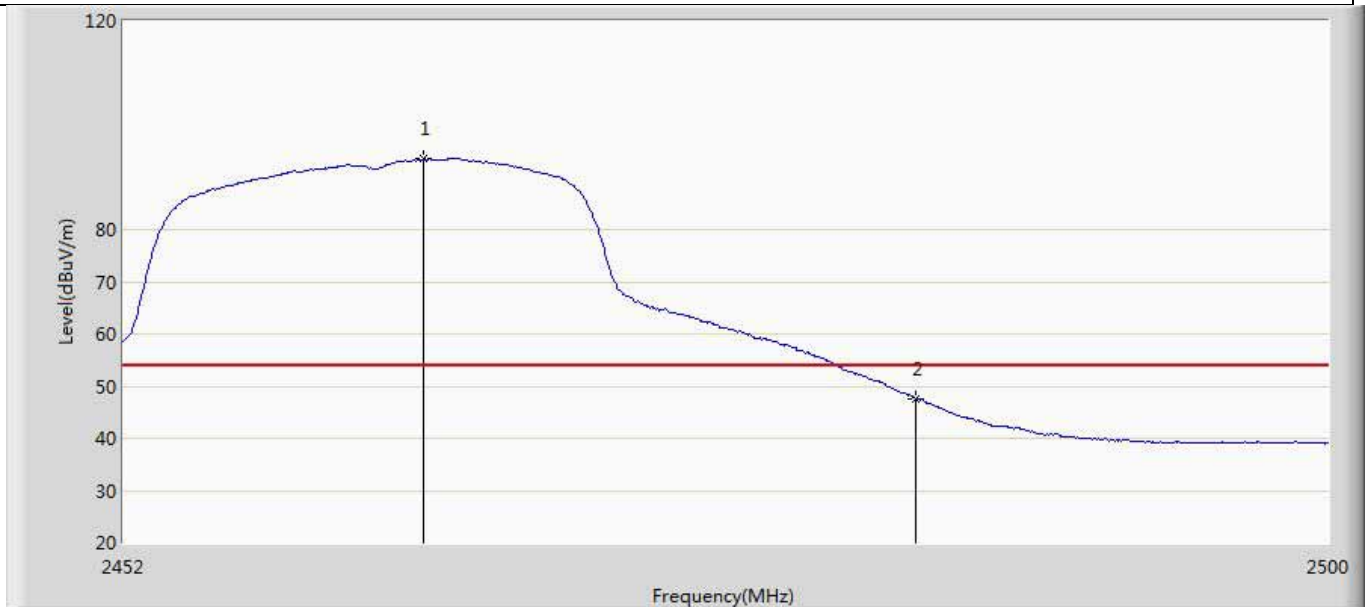
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.240	104.632	68.756	30.632	74.000	35.876	PK
2		2483.500	68.042	32.150	-5.958	74.000	35.891	PK

Profile: 1962139R	Page No.: 15
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11g	



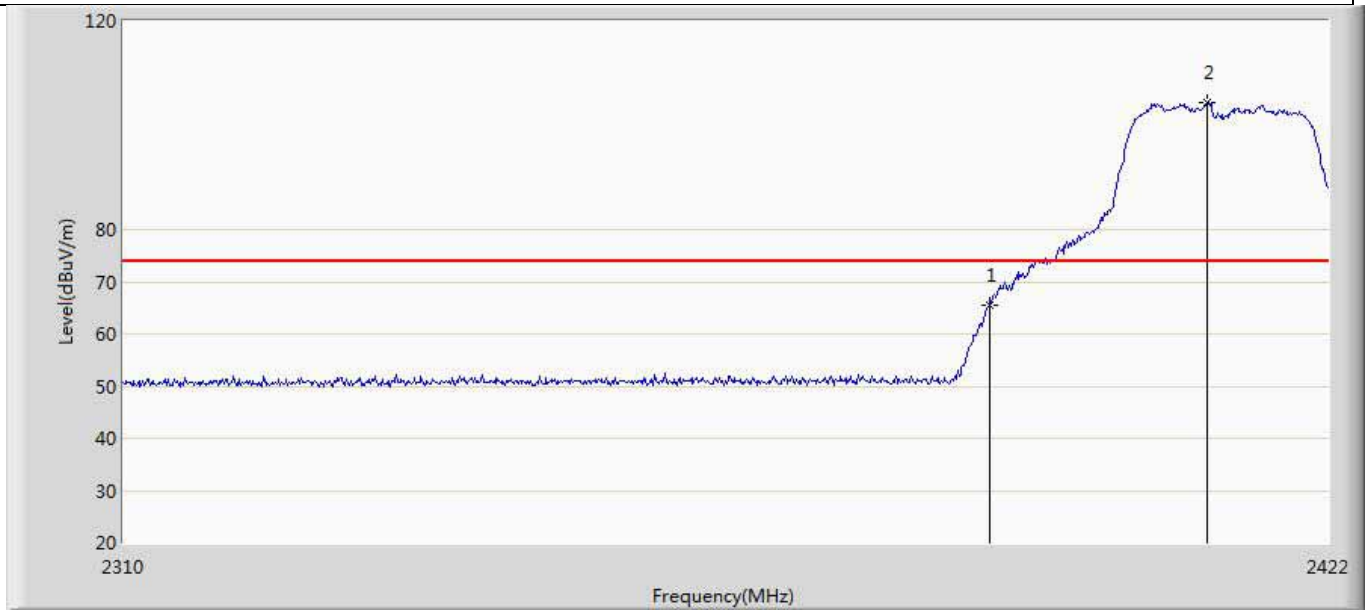
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.376	93.405	57.528	39.405	54.000	35.877	AV
2		2483.500	49.116	13.224	-4.884	54.000	35.891	AV

Profile: 1962139R	Page No.: 16
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode2:Transmit at 2462MHz by 802.11g	



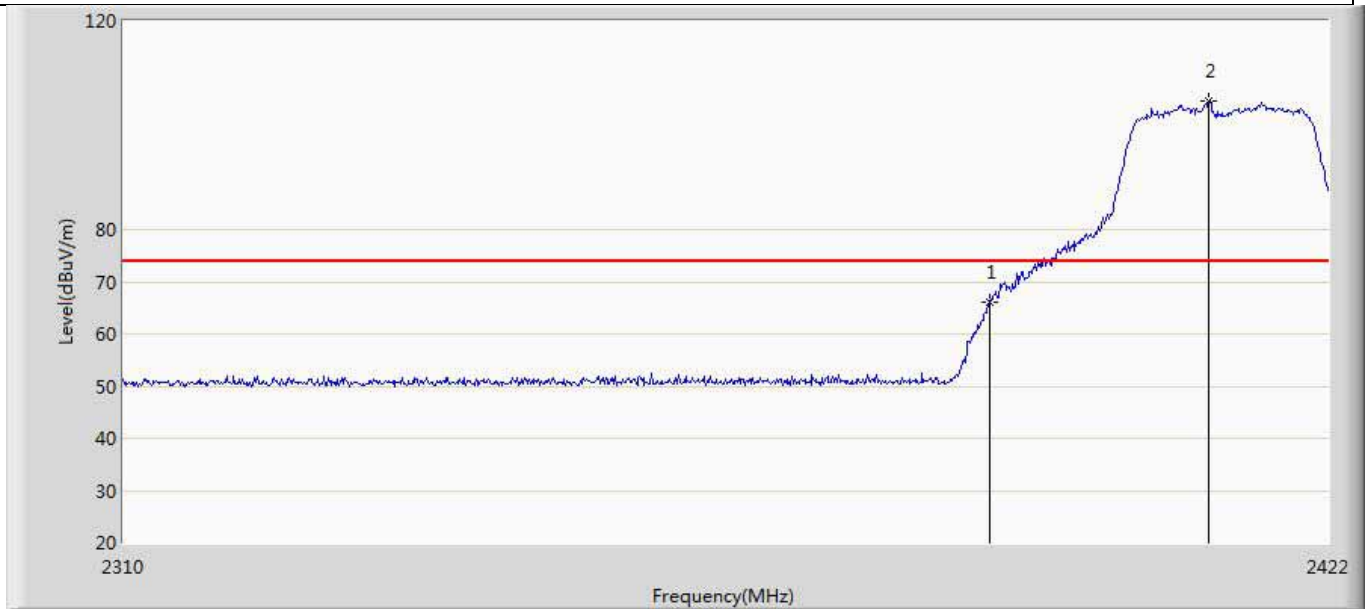
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.856	93.490	57.614	39.490	54.000	35.876	AV
2		2483.500	47.568	11.676	-6.432	54.000	35.891	AV

Profile: 1962139R	Page No.: 17
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11n(20MHz)	



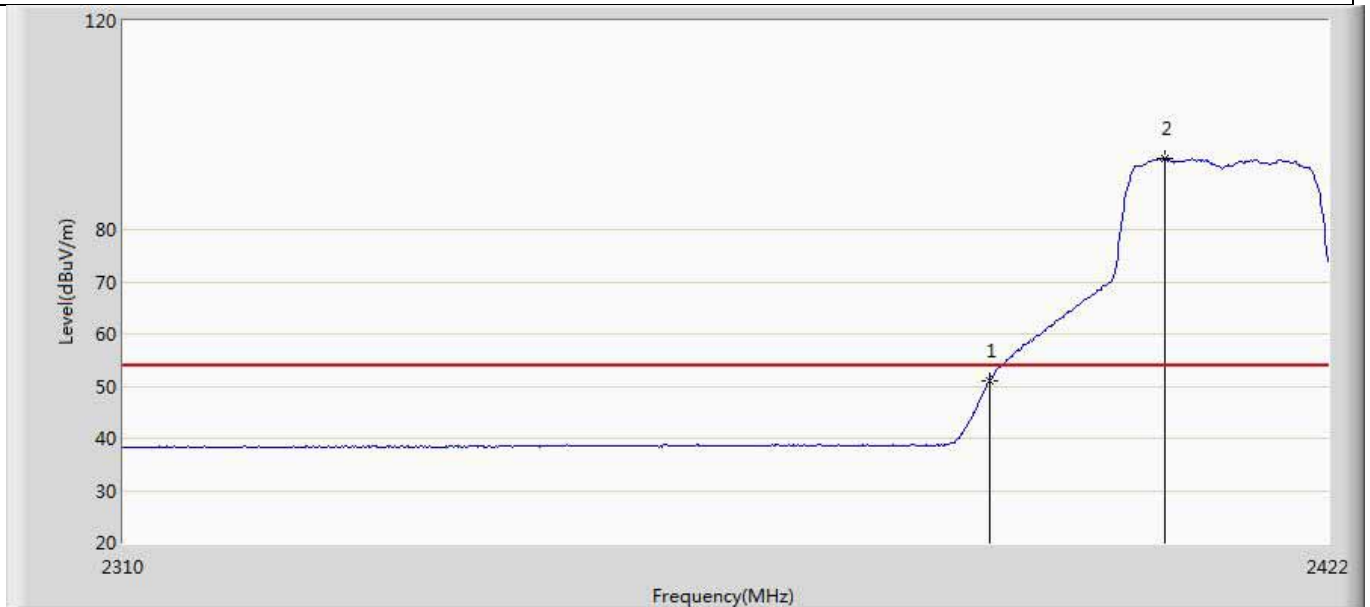
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	65.600	29.918	-8.400	74.000	35.682	PK
2	*	2410.464	104.321	68.585	30.321	74.000	35.735	PK

Profile: 1962139R	Page No.: 18
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11n(20MHz)	



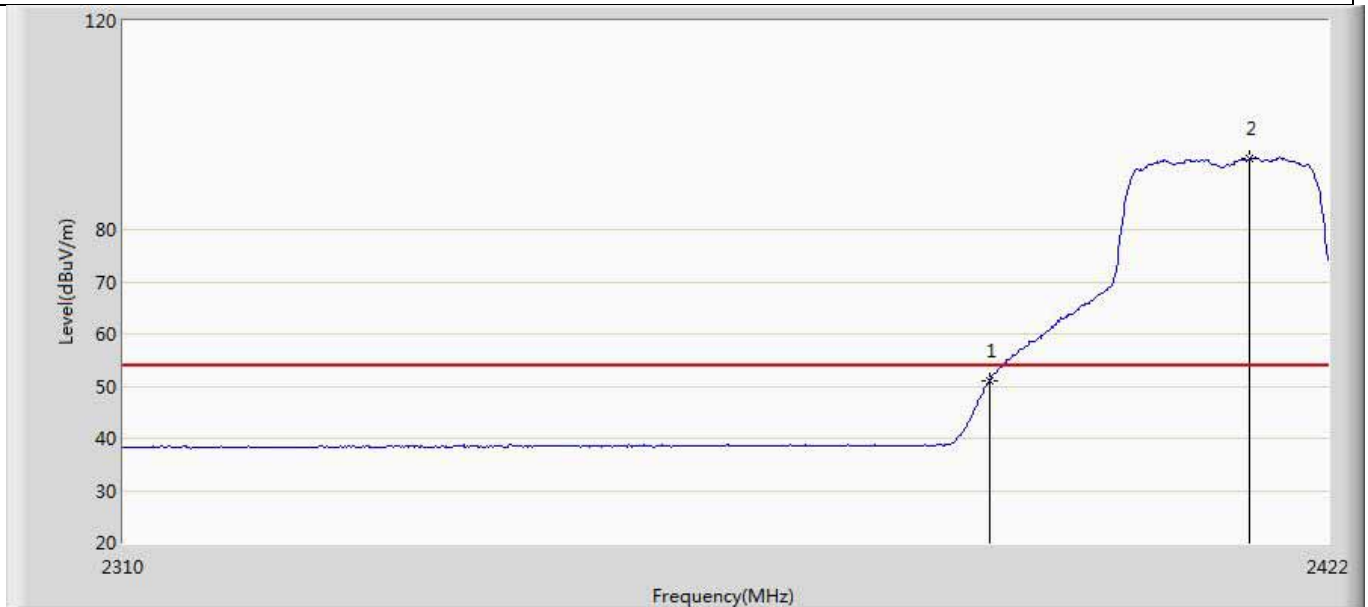
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	66.147	30.465	-7.853	74.000	35.682	PK
2	*	2410.688	104.586	68.850	30.586	74.000	35.737	PK

Profile: 1962139R	Page No.: 19
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 20:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11n(20MHz)	



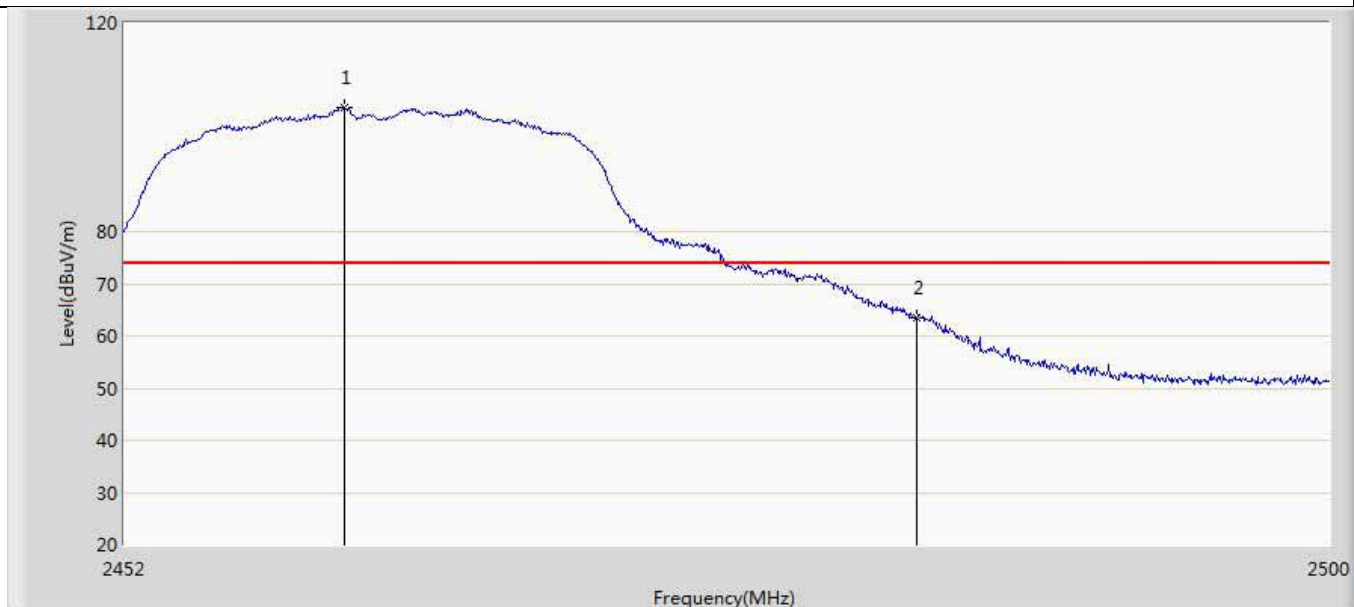
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.065	15.383	-2.935	54.000	35.682	AV
2	*	2406.544	93.766	58.041	39.766	54.000	35.725	AV

Profile: 1962139R	Page No.: 20
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2412MHz by 802.11n(20MHz)	



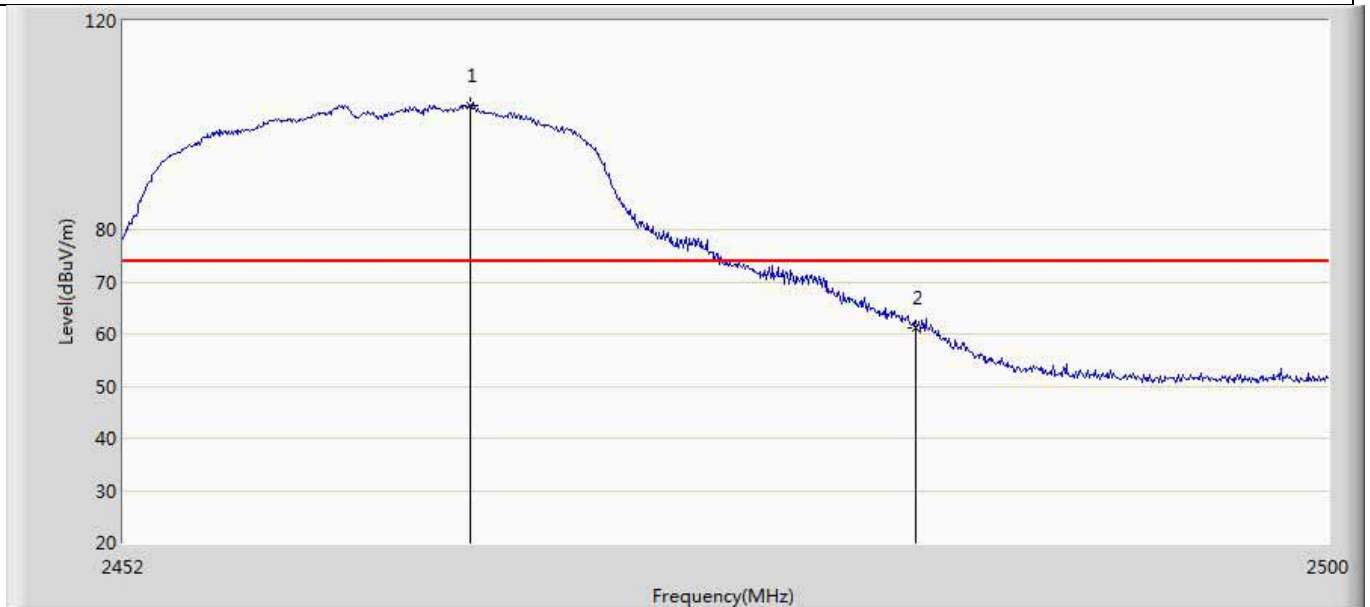
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.044	15.362	-2.956	54.000	35.682	AV
2	*	2414.608	93.610	57.858	39.610	54.000	35.752	AV

Profile: 1962139R	Page No.: 21
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11n(20MHz)	



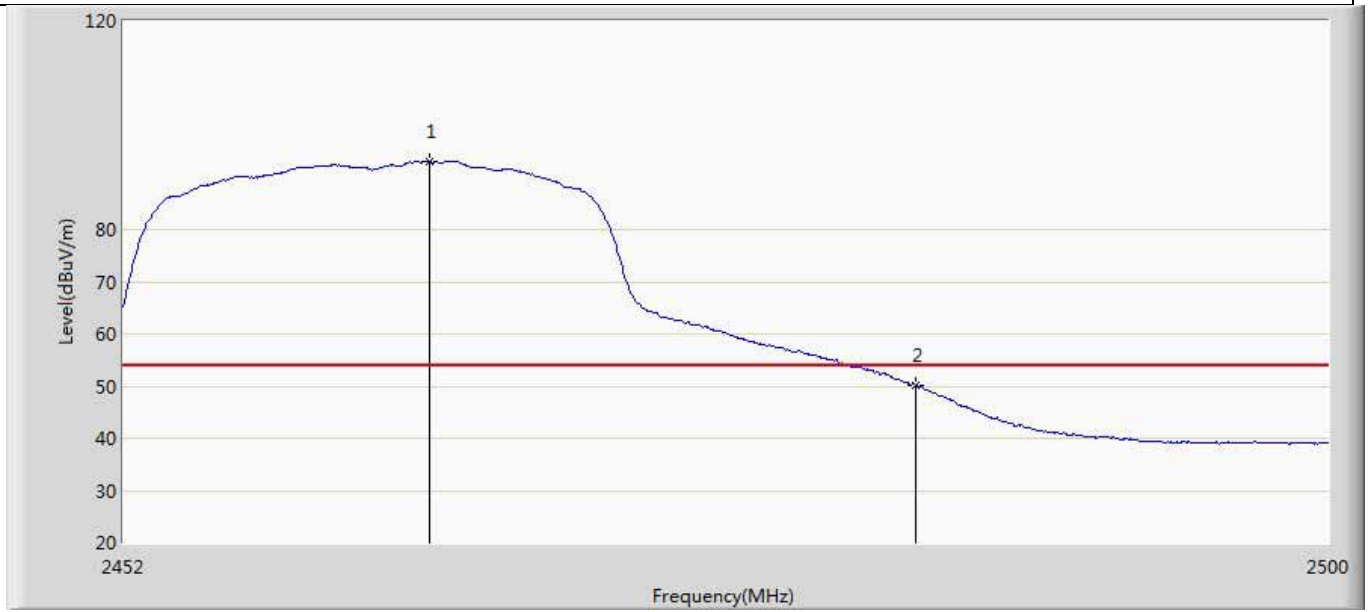
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.688	103.813	67.940	29.813	74.000	35.872	PK
2		2483.500	63.473	27.581	-10.527	74.000	35.891	PK

Profile: 1962139R	Page No.: 22
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11n(20MHz)	



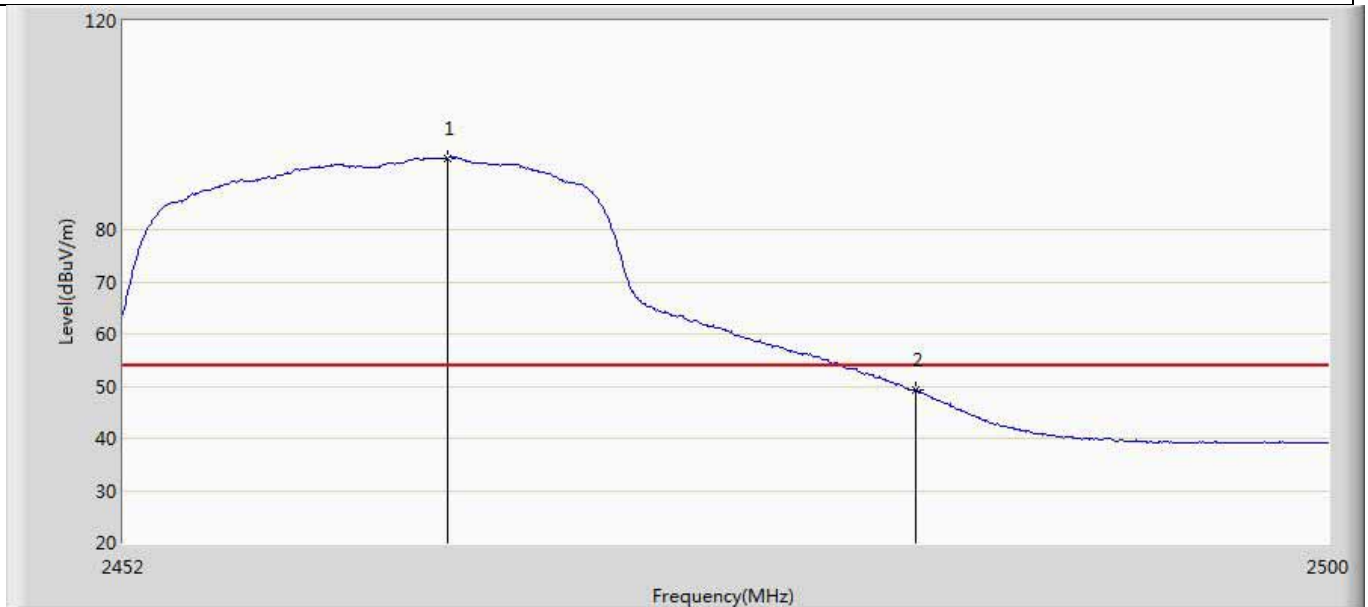
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.728	103.772	67.898	29.772	74.000	35.874	PK
2		2483.500	61.220	25.328	-12.780	74.000	35.891	PK

Profile: 1962139R	Page No.: 23
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11n(20MHz)	



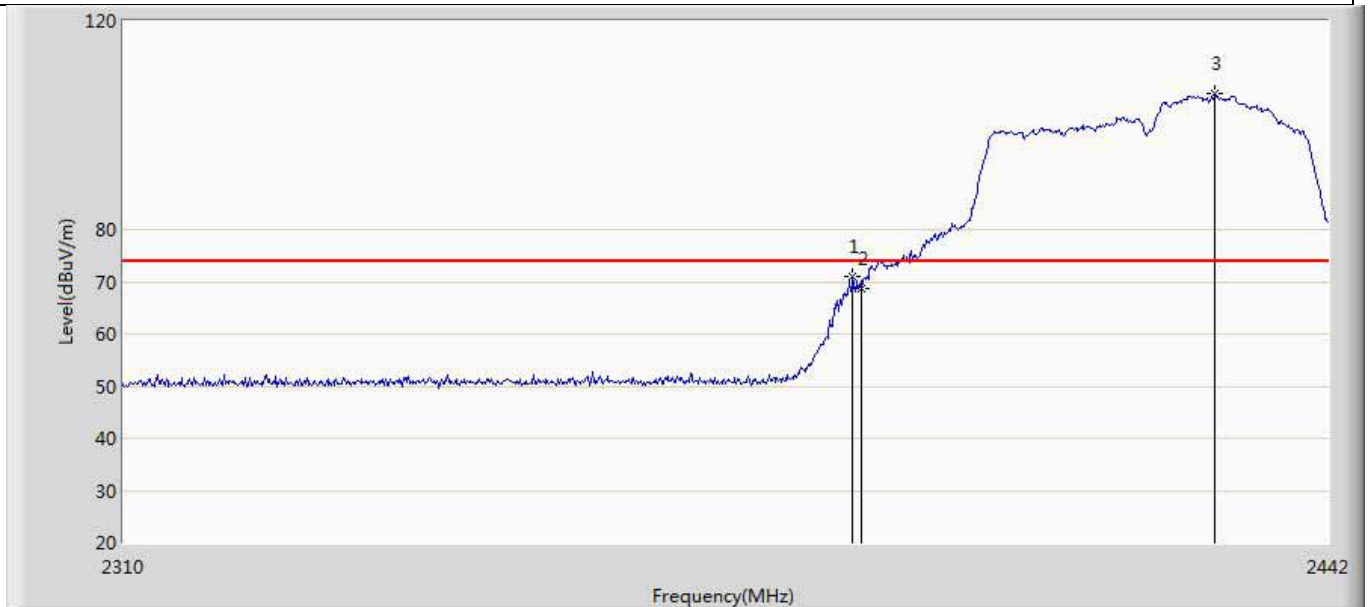
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.144	92.936	57.060	38.936	54.000	35.876	AV
2		2483.500	50.193	14.301	-3.807	54.000	35.891	AV

Profile: 1962139R	Page No.: 24
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode3:Transmit at 2462MHz by 802.11n(20MHz)	



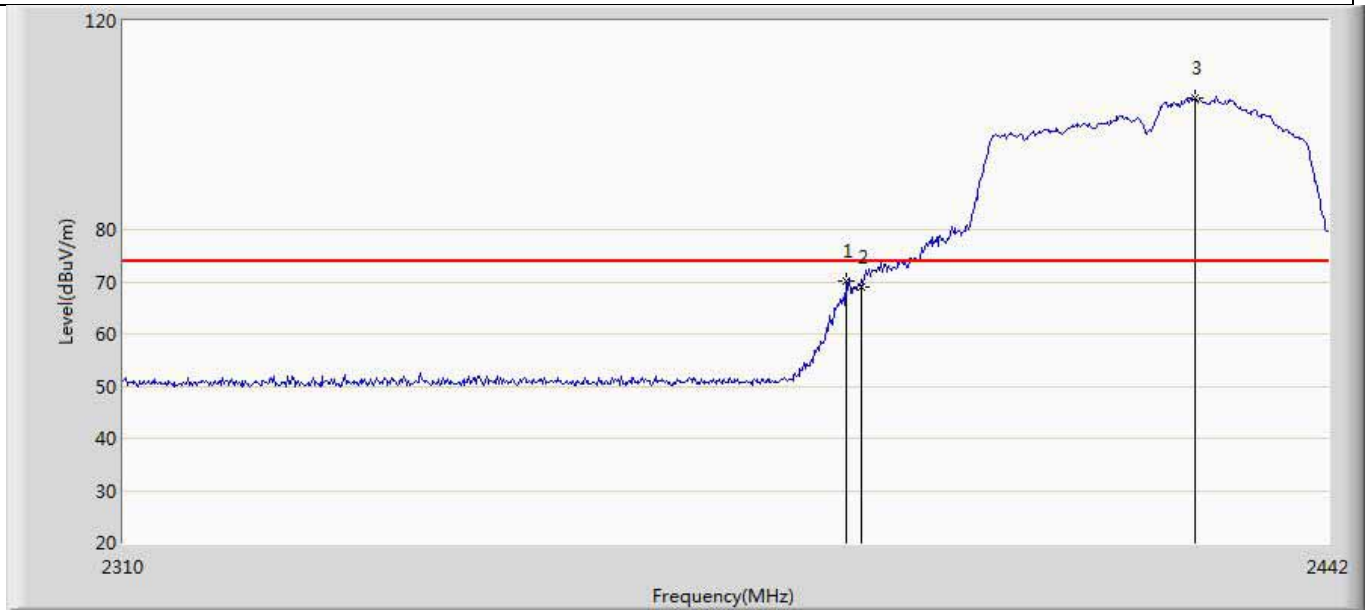
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.816	93.764	57.889	39.764	54.000	35.875	AV
2		2483.500	49.155	13.263	-4.845	54.000	35.891	AV

Profile: 1962139R	Page No.: 25
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11n(40MHz)	



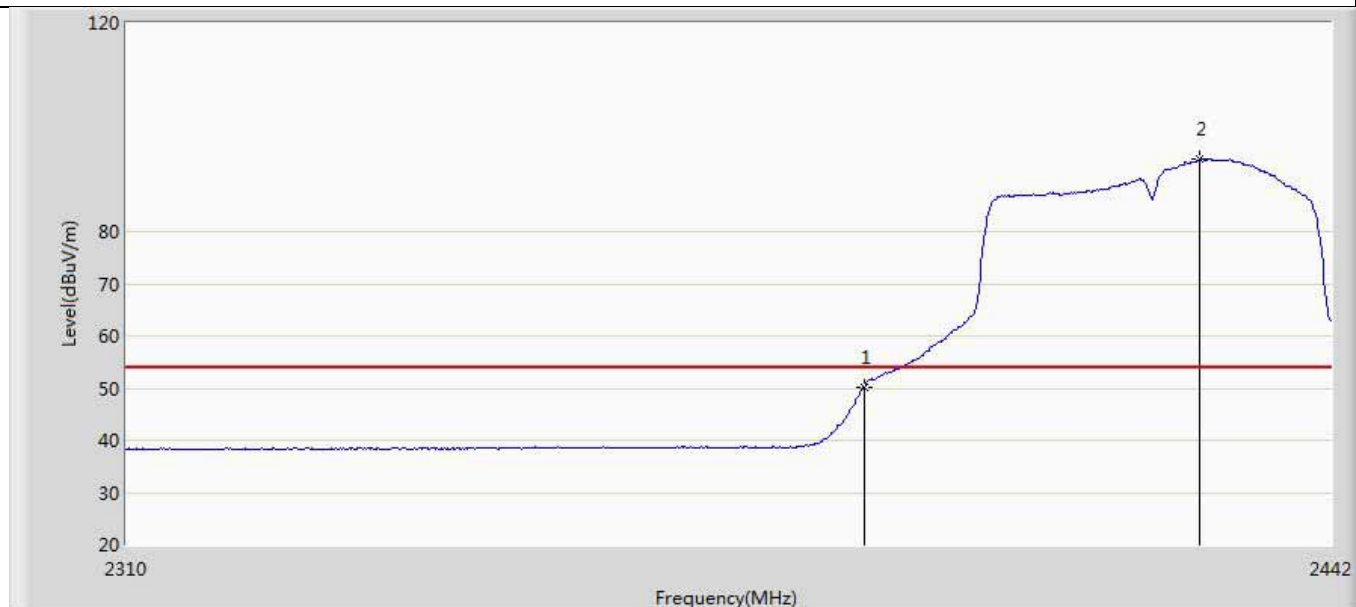
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.068	70.978	35.298	-3.022	74.000	35.680	PK
2		2390.000	68.824	33.142	-5.176	74.000	35.682	PK
3	*	2429.328	106.229	70.421	32.229	74.000	35.809	PK

Profile: 1962139R	Page No.: 26
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11n(40MHz)	



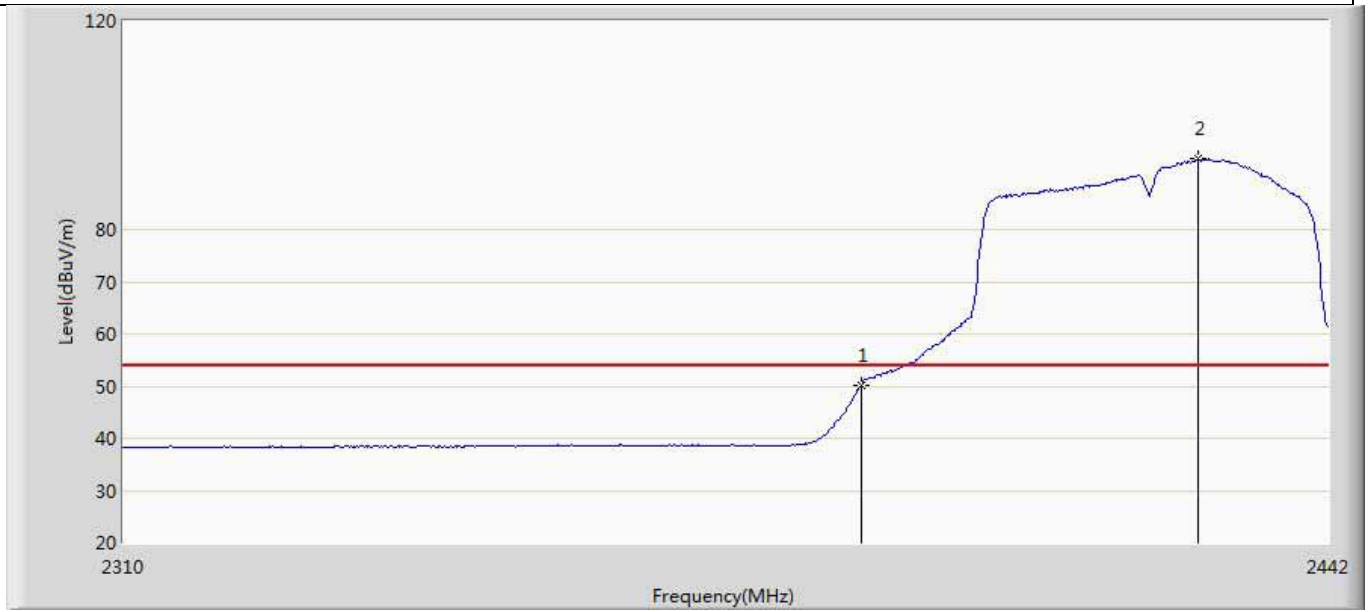
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2388.276	70.052	34.374	-3.948	74.000	35.678	PK
2		2390.000	68.882	33.200	-5.118	74.000	35.682	PK
3	*	2427.084	105.360	69.555	31.360	74.000	35.805	PK

Profile: 1962139R	Page No.: 27
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11n(40MHz)	



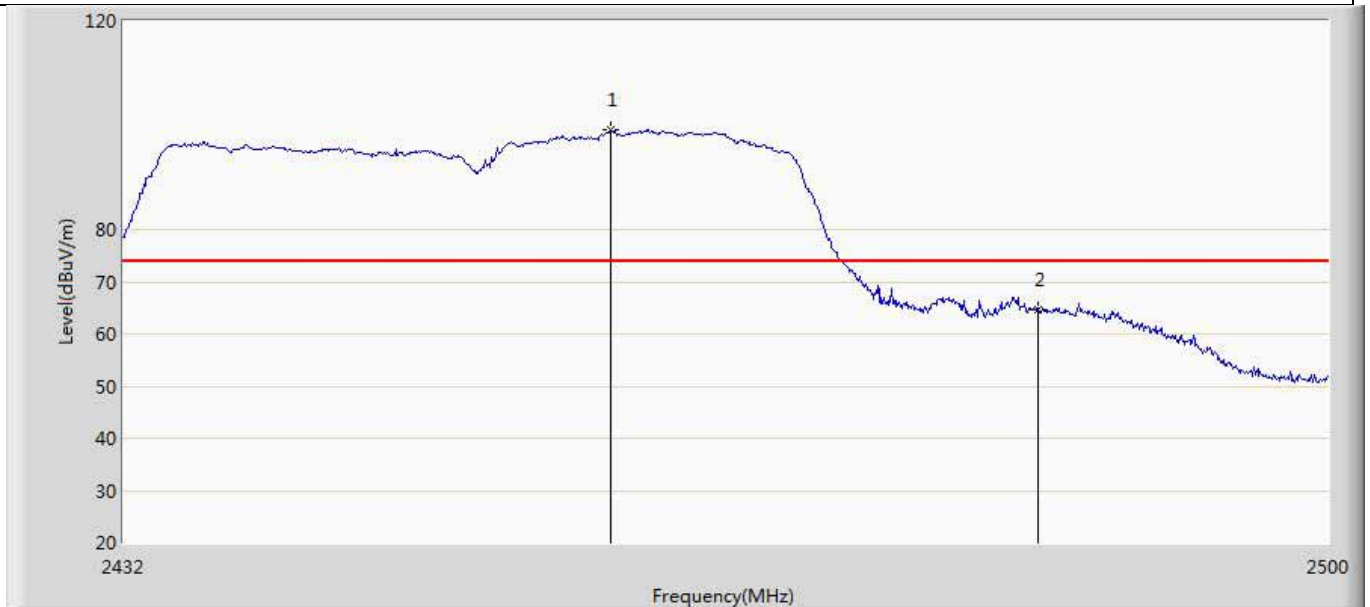
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.204	14.522	-3.796	54.000	35.682	AV
2	*	2427.216	93.798	57.993	39.798	54.000	35.805	AV

Profile: 1962139R	Page No.: 28
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2422MHz by 802.11n(40MHz)	



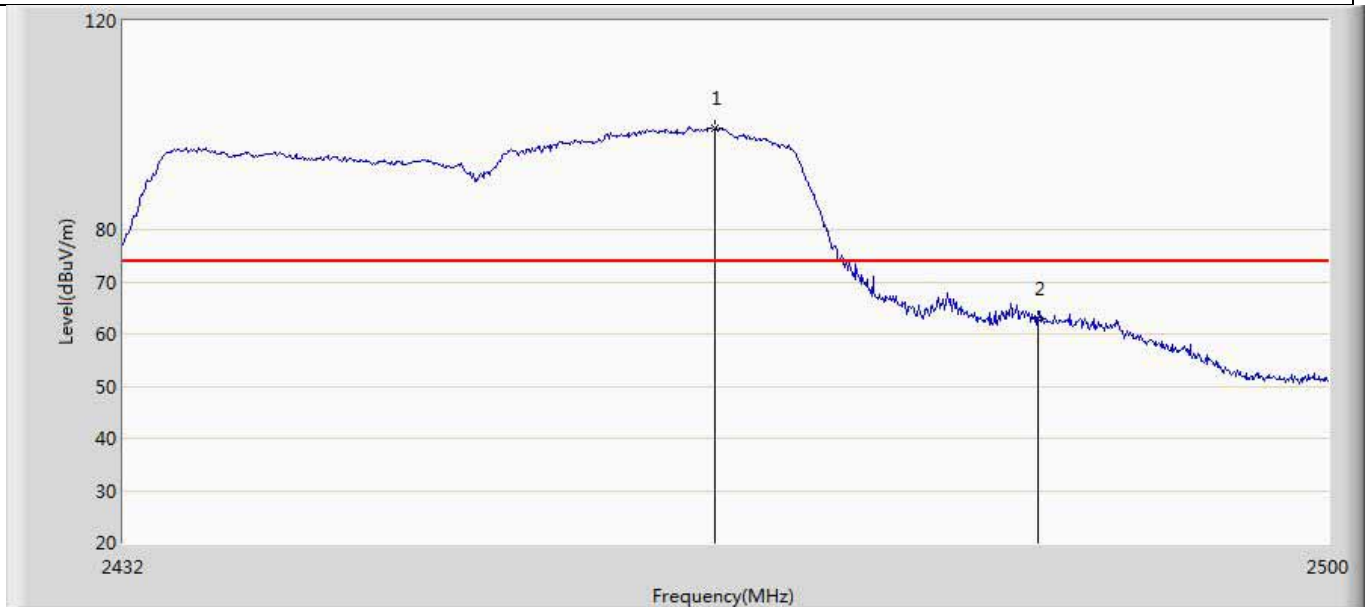
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.227	14.545	-3.773	54.000	35.682	AV
2	*	2427.480	93.521	57.715	39.521	54.000	35.806	AV

Profile: 1962139R	Page No.: 29
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11n(40MHz)	



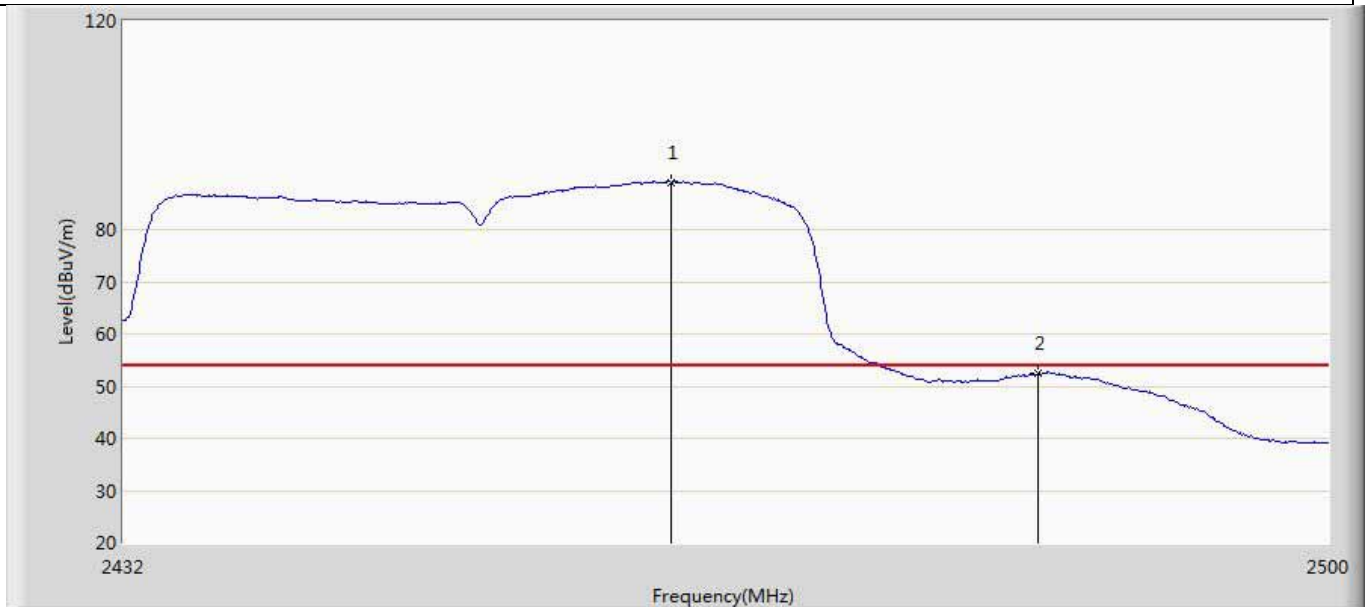
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2459.268	99.048	63.182	25.048	74.000	35.867	PK
2		2483.500	64.654	28.762	-9.346	74.000	35.891	PK

Profile: 1962139R	Page No.: 30
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11n(40MHz)	



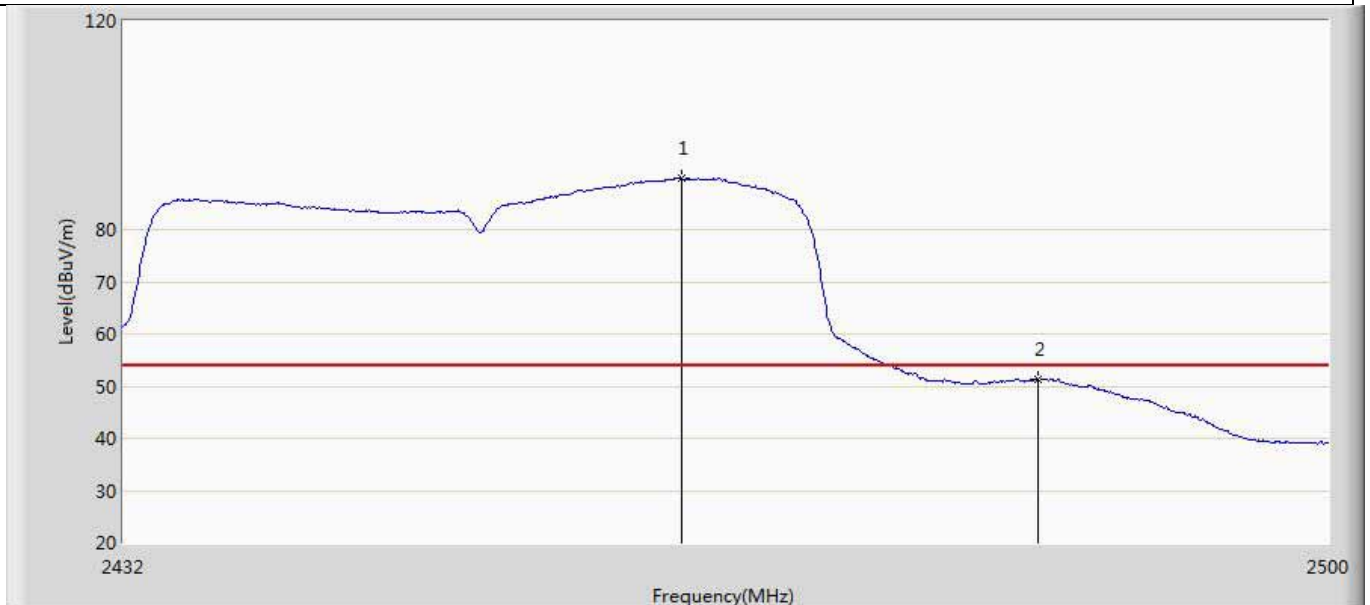
N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.184	99.401	63.526	25.401	74.000	35.875	PK
2		2483.500	63.015	27.123	-10.985	74.000	35.891	PK

Profile: 1962139R	Page No.: 31
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11n(40MHz)	



N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.736	89.060	53.183	35.060	54.000	35.878	AV
2		2483.500	52.408	16.516	-1.592	54.000	35.891	AV

Profile: 1962139R	Page No.: 32
Engineer: Pawn	
Site: AC5	Time: 2019/06/24 - 21:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode4:Transmit at 2452MHz by 802.11n(40MHz)	



N o	Ma rk	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.280	89.724	53.847	35.724	54.000	35.877	AV
2		2483.500	51.290	15.398	-2.710	54.000	35.891	AV

Remark	1. " * ", means this data is the worst emission level. 2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp). 3. The complete raw data please refer to Appendix RSE, Shown in the report is the worst data.
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4.6 DTS Bandwidth

VERDICT: PASS

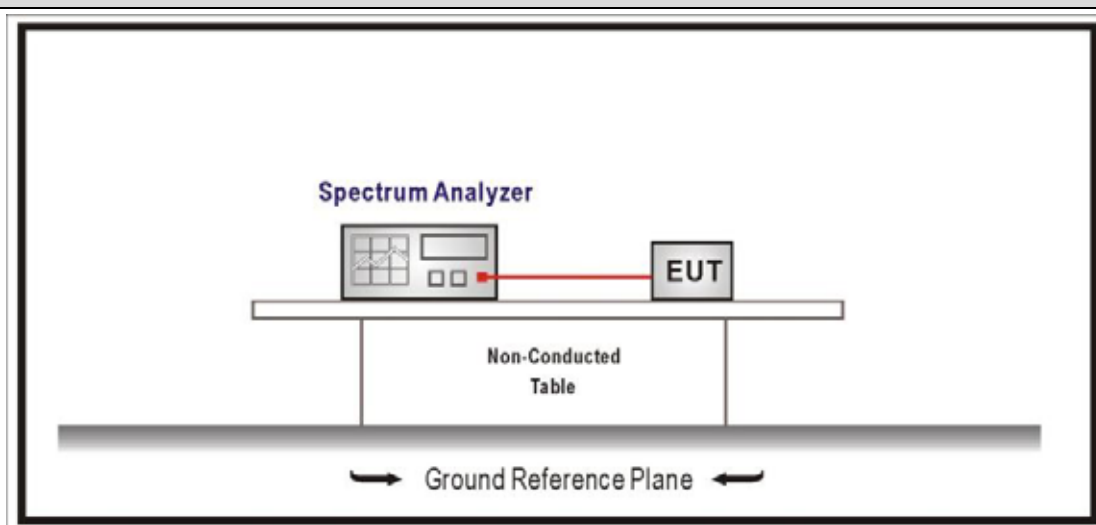
4.6.1 Limit

Standard

FCC Part 15 Subpart C Paragraph 15.247 (a)(2)

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

4.6.2 Test Setup



4.6.3 Test Procedure

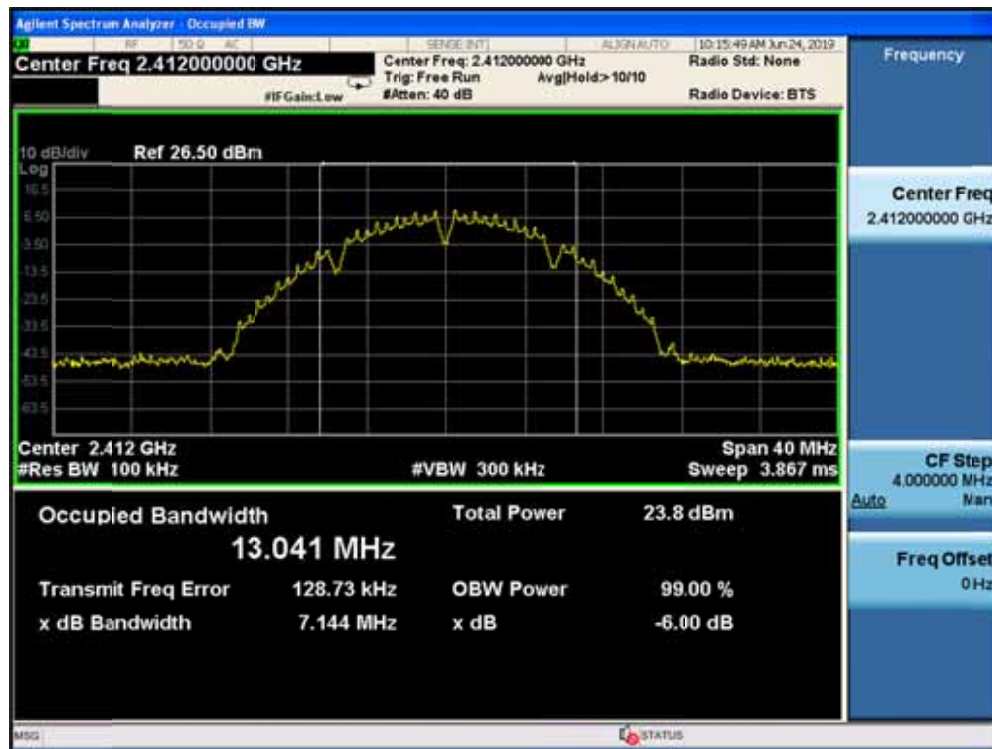
	Reference Rule	Chapter	Description
☒	ANSI C63.10	11.8	DTS bandwidth
☐	ANSI C63.10	11.8.1	Option 1
☒	ANSI C63.10	11.8.2	Option 2

4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	1	2412	13.041	7.144	≥ 500	Pass
	6	2437	13.596	8.138	≥ 500	Pass
	11	2462	12.954	7.152	≥ 500	Pass
2	1	2412	16.270	13.44	≥ 500	Pass
	6	2437	16.552	16.05	≥ 500	Pass
	11	2462	16.317	14.75	≥ 500	Pass
3	1	2412	17.432	15.46	≥ 500	Pass
	6	2437	17.561	16.11	≥ 500	Pass
	11	2462	17.356	14.71	≥ 500	Pass
4	3	2422	35.419	28.41	≥ 500	Pass
	6	2437	36.304	34.88	≥ 500	Pass
	9	2452	35.738	32.99	≥ 500	Pass

Note : The worst case of Occupied Bandwidth as below in next page:

Mode 1 CH01 (2412MHz)



4.7 Fundamental emission output power

VERDICT: PASS

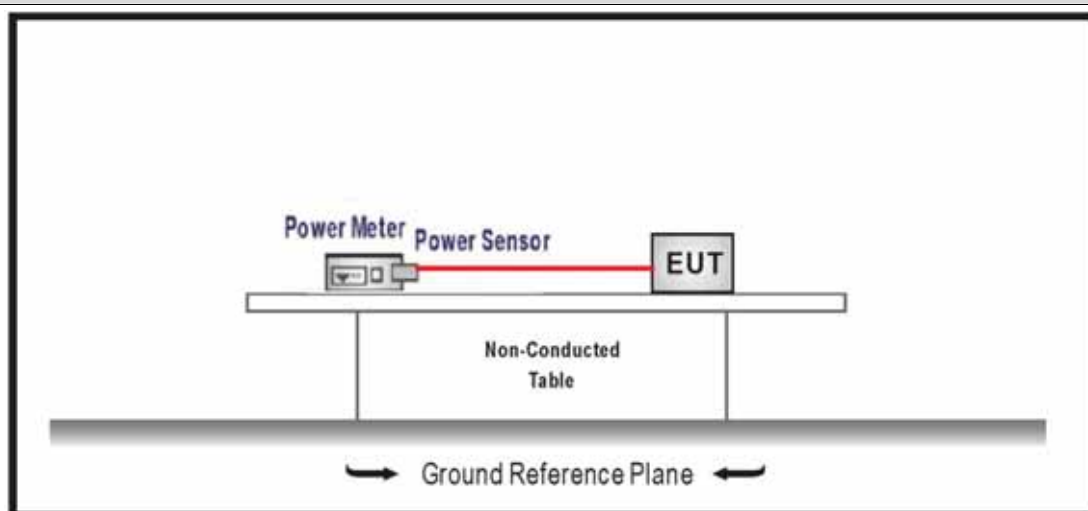
4.7.1 Limit

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 $\geq$ 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 $\geq$ 98%)
		☐ ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle $\geq$ 98%)
		☐ ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle $\leq$ 98%)
		☐ ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle $\leq$ 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
1	1	2412	24.83	30.00	Pass
	6	2437	25.55	30.00	Pass
	11	2462	23.26	30.00	Pass
2	1	2412	25.59	30.00	Pass
	6	2437	26.42	30.00	Pass
	11	2462	24.29	30.00	Pass
3	1	2412	25.78	30.00	Pass
	6	2437	26.65	30.00	Pass
	11	2462	24.41	30.00	Pass
4	3	2422	25.03	30.00	Pass
	6	2437	23.77	30.00	Pass
	9	2452	22.52	30.00	Pass

4.8 Power Density

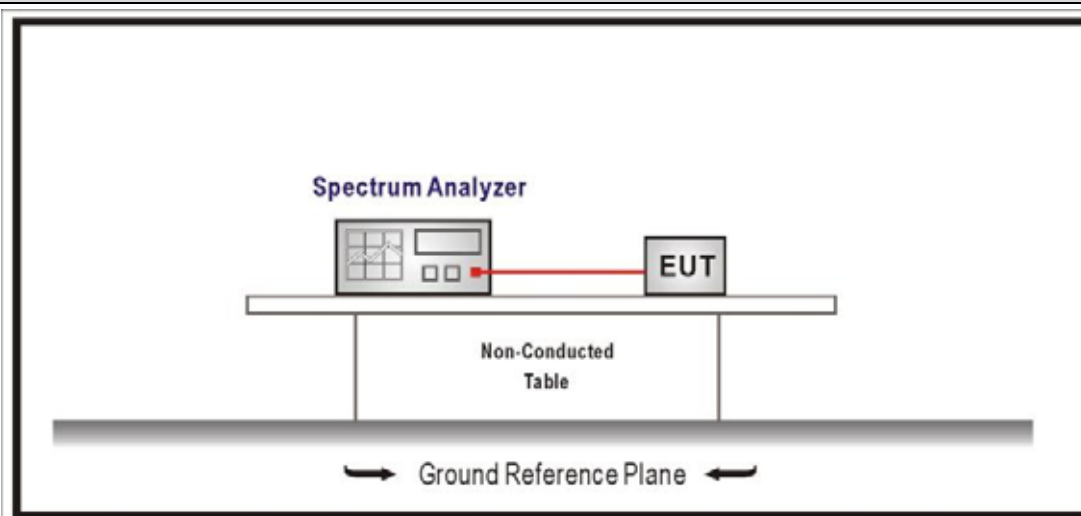
VERDICT: PASS

4.8.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
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Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

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 $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☐	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)	Antenna Gain (dBi)	Limit (dBm/3kHz)	Result
1	1	2412	-5.986	4.3	≤ 8	Pass
	6	2437	-5.938	4.3	≤ 8	Pass
	11	2462	-7.934	4.3	≤ 8	Pass
2	1	2412	-9.327	4.3	≤ 8	Pass
	6	2437	-7.916	4.3	≤ 8	Pass
	11	2462	-9.095	4.3	≤ 8	Pass
3	1	2412	-8.742	4.3	≤ 8	Pass
	6	2437	-7.832	4.3	≤ 8	Pass
	11	2462	-8.547	4.3	≤ 8	Pass
4	3	2422	-12.240	4.3	≤ 8	Pass
	6	2437	-12.399	4.3	≤ 8	Pass
	9	2452	-12.472	4.3	≤ 8	Pass

Remark: The worst data as below:

Mode 1 CH06(2437MHz)



4.9 Antenna Requirement	VERDICT: PASS
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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.	



4.10 Test setup photo and EUT Photo	VERDICT: PASS
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Remark: The test setup photo and EUT Photo please see appendix.

_____ The End _____