Test Report

FCC Part15 Subpart C & RSS-247 Issue 2

Product Name	:	Barcode Scanner
Model No.	:	8680i
FCC ID	:	HD5-8680A

Applicant	:	HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions
Address	:	9680 OLD BAILES RD FORT MILL SC 29707-7539

Date of Receipt	:	Mar. 09, 2018
Test Date	:	Mar. 09, 2018~ Apr. 04, 2018
Issued Date	:	Apr. 08, 2018
Report No.	:	1832060R-RF-US-P06V01
Report Version	:	V1.0

Test Report Certification

Issued Date : Apr. 08, 2018
Report No. : 1832060R-RF-US-P06V01

Product Name	:	Barcode Scanner
Applicant	:	HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions
Address	:	9680 OLD BAILES RD FORT MILL SC 29707-7539
Manufacturer	:	1、 HONEYWELL INTERNATIONAL INC Honeywell Safety and Productivity Solutions 2、Metro(Suzhou)Technologies Co.,Ltd
Address	:	1、9680 OLD BAILES RD FORT MILL SC 29707-7539 2、No.221 Xinghai street China-Singapore Suzhou Industrial Park
Model No.	:	8680i
FCC ID	:	HD5-8680A
EUT Voltage	:	DC 3.8V
Test Voltage	:	AC 120V/60Hz
Brand Name	:	Honeywell
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C ANSI C63.10:2013; KDB 558074 D01v04
Test Result	:	Complied
Performed Location	:	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 FCC Designation Number: CN1199

Documented By : Kitty Li

(Adm. Specialist: Kitty Li)

Reviewed By : Frank he

(Senior Engineer: Frank He)

Approved By : Harry Zhao

(Engineering Manager: Harry Zhao)

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1832060R-RF-US-P06V01	V1.0	Initial Issued Report	Apr. 08, 2018

1. General Information

1.1. EUT Description

Product Name	Barcode Scanner
Brand Name	Honeywell
Model No.	8680i
EUT Voltage	DC 3.8V
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Type of Modulation	802.11b: DSSS-DBPSK, DQPSK, CCK
	802.11g/n/ac: OFDM-BPSK, QPSK, 16QAM, 64QAM
Data Rate	802.11b: 1/2/5.5/11 Mbps
	802.11g: 6/9/12/18/24/36/48/54 Mbps
	802.11n: up to 150 Mbps
Channel Control	Auto

1.2. Working Frequency of Each Channel:

802.11b/g/n (20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A
802.11n (40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

1.3. Antenna information

Model No.	N/A					
Antenna manufacturer	N/A					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	CDD		
			☐	Sectorized		
			☐	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
			☐	Sectorized		
	☒	Internal	☐	PIFA		
			☐	PCB		
			☐	Ceramic Chip Antenna		
			☒	Type F antenna		

Antenna Technology	Ant Gain (dBi)
☒ SISO	4.3

1.4. Mode of Operation

Test Modes List
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)

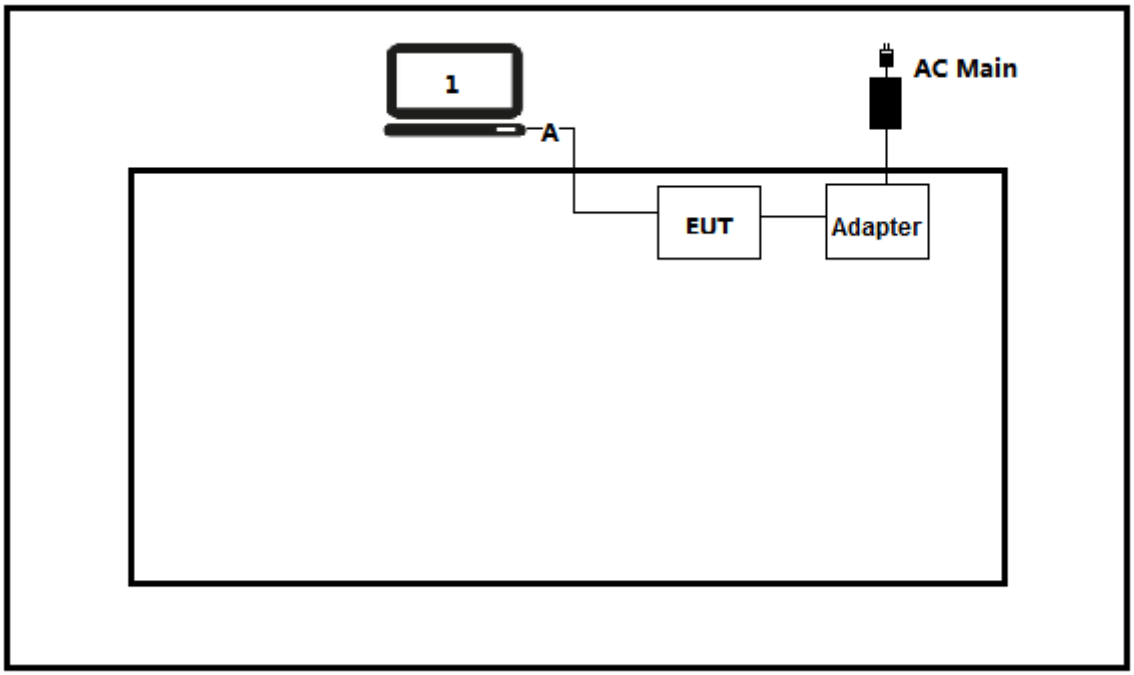
1.5. Tested System Details

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

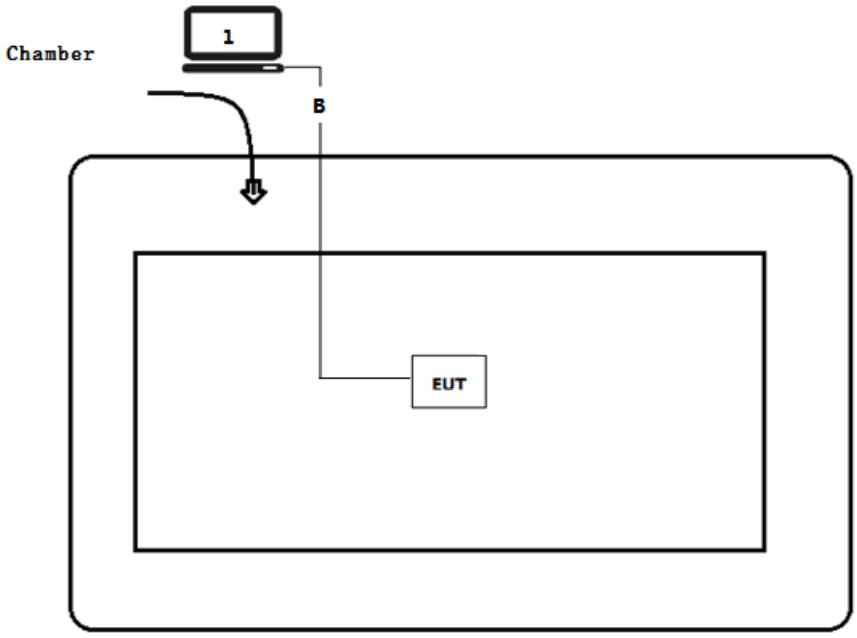
No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded
A	USB cable	N/A	N/A	N/A	Shielded, 0.5m
B	USB cable	N/A	N/A	N/A	Shielded, 10m

1.6. Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test



Test setup Diagram- Radiated Emission



1.7. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Input RF commands, and set the test mode and channel, then press OK to start to continue transmit.

2. Technical Test

2.1. Summary of Test Result

For FCC rule:

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

2.2. Test Frequency configuration:

Modulation Mode	Channel	Frequency	Channel	Frequency	Channel	Frequency
802.11b	01	2412 MHz	06	2437MHz	11	2462MHz
802.11g	01	2412 MHz	06	2437MHz	11	2462MHz
802.11n(20MHz)	01	2412 MHz	06	2437MHz	11	2462MHz
802.11n(40MHz)	03	2422 MHz	06	2437MHz	09	2452MHz

2.3. Power setting parameter

Test Software	QRCT	
Modulation Mode	Test Frequency	Power Setting
802.11b	2412	18
	2437	18
	2457	18
	2462	17
802.11g	2412	16
	2417	18
	2437	18
	2457	18
	2462	14
802.11n(20MHz)	2412	15
	2417	18
	2437	18
	2457	18
	2462	12
802.11n(40MHz)	2422	13
	2427	16
	2437	16
	2447	16
	2452	11

2.4. Power vs Data Rate

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)						
		802.11b	802.11g		20MHz Bandwidth		40MHz Bandwidth	
					800ns GI	400ns GI	800ns GI	400ns GI
0	1	1	6	---	6.5	7.2	13.5	15.0
1	1	2	9	---	13.0	14.4	27.0	30.0
2	1	5.5	12	---	19.5	21.7	40.5	45.0
3	1	11	18	---	26.0	28.9	54.0	60.0
4	1	---	24	---	39.0	43.3	81.0	90.0
5	1	---	36	---	52.0	57.8	108.0	120.0
6	1	---	48	---	58.5	65.0	121.5	135.0
7	1	---	54	---	65.0	72.2	135.0	150.0

Note 1: The EUT supports all data rate above. The blue form is the maximum power data rate

2.5. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

2.6. Measurement Uncertainty

Test Items	Uncertainty
AC Power Line Conducted Emission	±2.02dB
Radiated Emission	Below 1GHz ±3.8 dB
	Above 1GHz ±3.9 dB
RF Antenna Port Conducted Emission	±1.27dB
Radiated Emission Band Edge	±3.9dB
Occupied Bandwidth	±1kHz
Power Spectral Density	±1.27dB

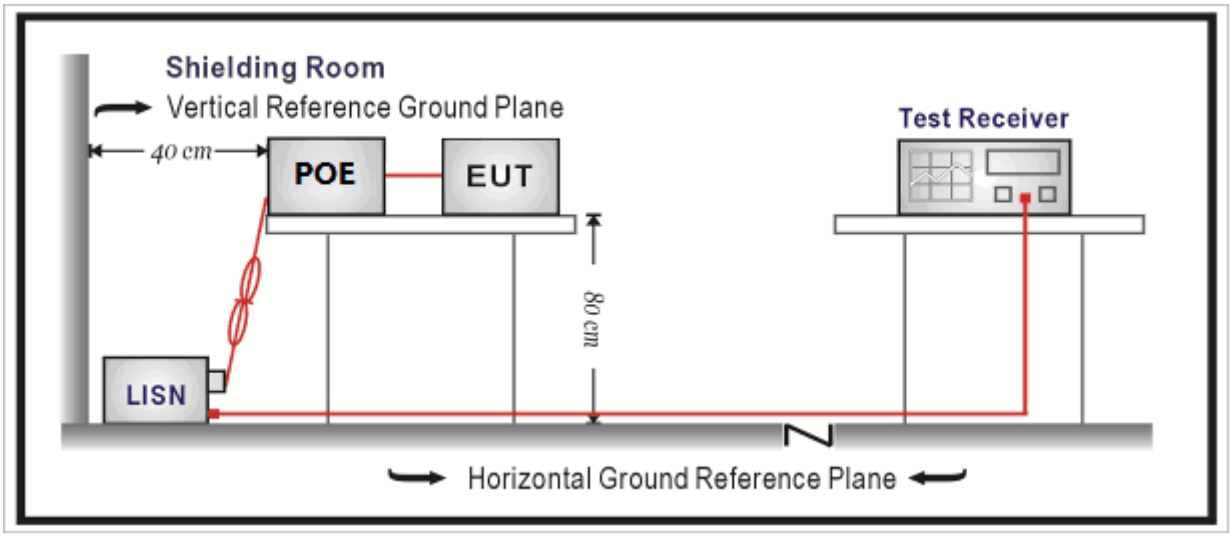
3. AC Power Line Conducted Emission

3.1. Test Equipment

AC Power Line Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2018.03.29	2019.03.28
Two-Line V-Network	R&S	ENV216	100043	2018.03.29	2019.03.28
Two-Line V-Network	R&S	ENV216	100044	2017.09.17	2018.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2018.03.02	2019.03.01
50ohm Termination	SHX	TF2	07081401	2017.09.17	2018.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR1-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

3.2. Test Setup

AC Power Line Conducted Emission test setup



3.3. Limit

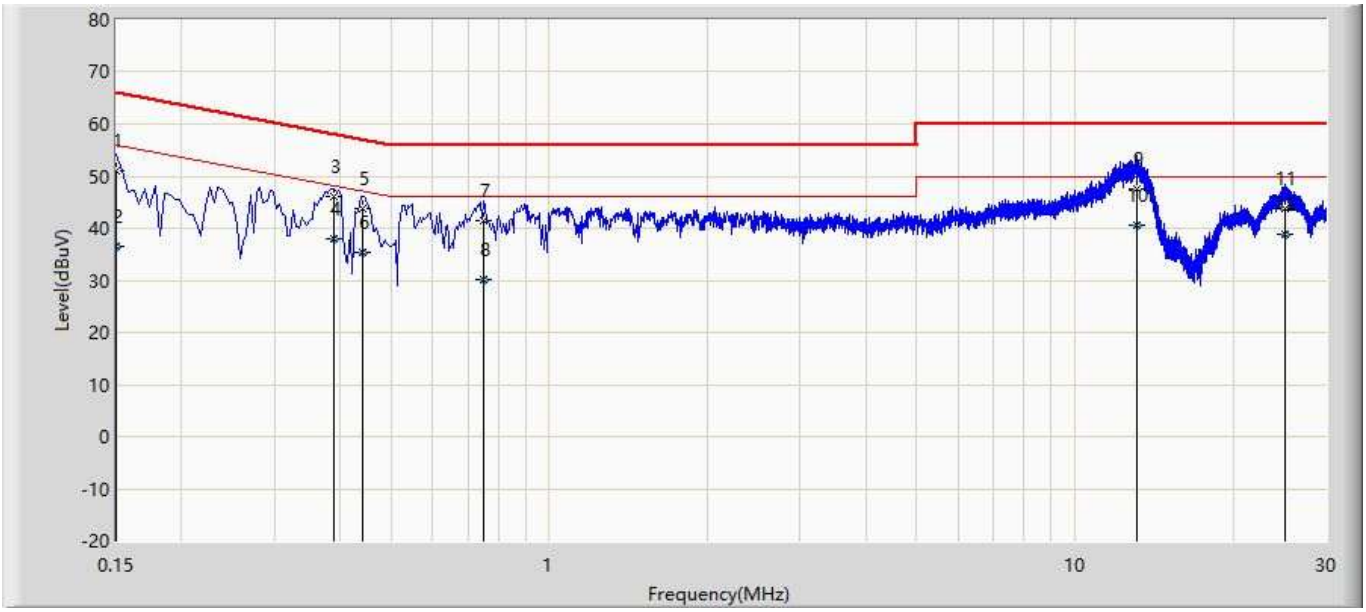
Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dBμV)	Average(dBμV)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

3.4. Test Procedure

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

3.5. Test Result

Engineer: Pawn	
Site: TR1	Time: 2018/03/25
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1: Transmit at 2412MHz by 802.11b	

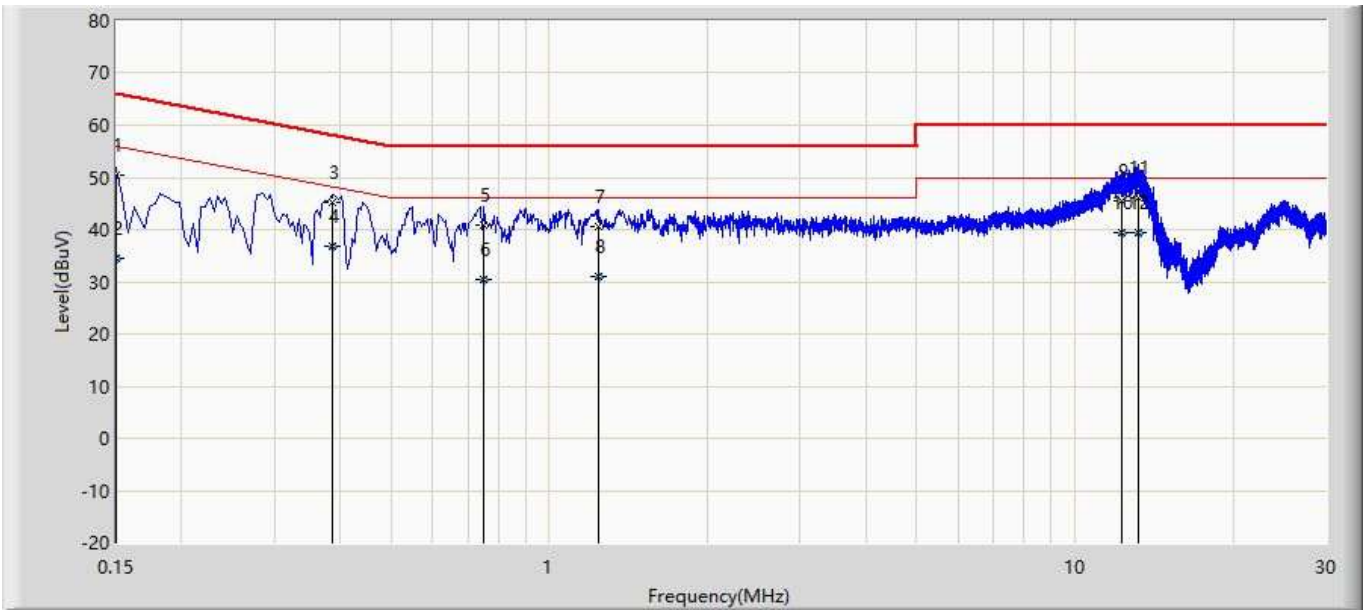


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	51.114	31.614	-14.886	66.000	9.600	9.900	0.000	QP
2		0.150	36.507	17.007	-19.493	56.000	9.600	9.900	0.000	AV
3		0.390	46.000	26.526	-12.064	58.064	9.590	9.884	0.000	QP
4		0.390	38.058	18.584	-10.006	48.064	9.590	9.884	0.000	AV
5		0.442	43.783	24.312	-13.241	57.024	9.590	9.881	0.000	QP
6		0.442	35.317	15.846	-11.707	47.024	9.590	9.881	0.000	AV
7		0.750	41.395	21.904	-14.605	56.000	9.592	9.900	0.000	QP
8		0.750	30.046	10.555	-15.954	46.000	9.592	9.900	0.000	AV
9		13.122	47.510	27.697	-12.490	60.000	9.646	10.167	0.000	QP
10	*	13.122	40.592	20.779	-9.408	50.000	9.646	10.167	0.000	AV
11		25.090	43.686	23.753	-16.314	60.000	9.594	10.339	0.000	QP
12		25.090	38.820	18.887	-11.180	50.000	9.594	10.339	0.000	AV

Note1: " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Pawn	
Site: TR1	Time: 2018/03/25
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1: Transmit at 2412MHz by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	50.568	31.088	-15.432	66.000	9.580	9.900	0.000	QP
2		0.150	34.454	14.974	-21.546	56.000	9.580	9.900	0.000	AV
3		0.386	45.220	25.763	-12.930	58.149	9.577	9.880	0.000	QP
4		0.386	36.726	17.269	-11.423	48.149	9.577	9.880	0.000	AV
5		0.750	40.977	21.473	-15.023	56.000	9.605	9.900	0.000	QP
6		0.750	30.290	10.785	-15.710	46.000	9.605	9.900	0.000	AV
7		1.238	40.703	21.177	-15.297	56.000	9.582	9.944	0.000	QP
8		1.238	31.108	11.583	-14.892	46.000	9.582	9.944	0.000	AV
9		12.242	45.478	25.680	-14.522	60.000	9.644	10.154	0.000	QP
10	*	12.242	39.551	19.753	-10.449	50.000	9.644	10.154	0.000	AV
11		13.194	46.206	26.391	-13.794	60.000	9.646	10.169	0.000	QP
12		13.194	39.279	19.464	-10.721	50.000	9.646	10.169	0.000	AV

Note1: " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4. Emissions in restricted frequency bands

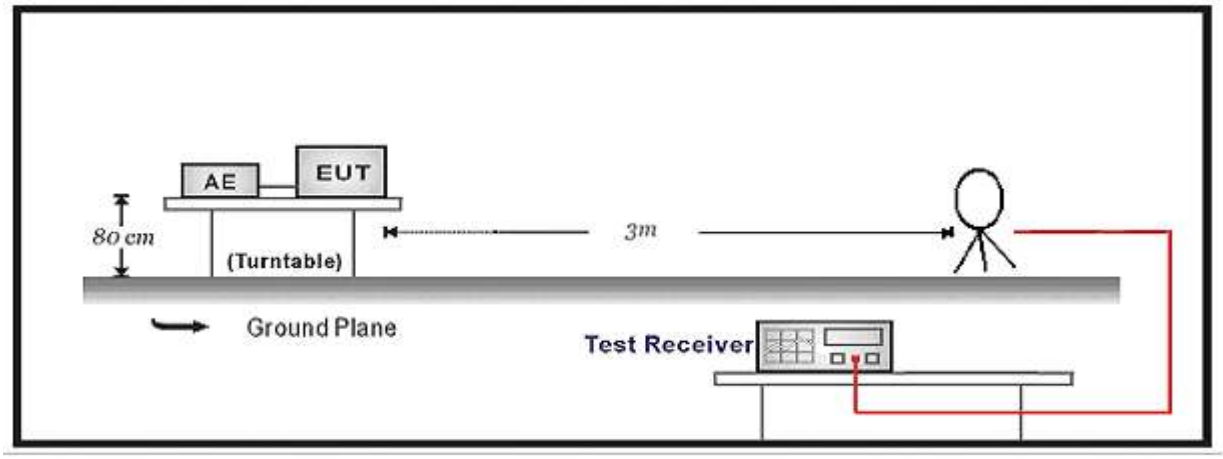
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2018.03.29	2019.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2017.11.16	2018.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2017.10.16	2018.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2018.03.02	2019.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

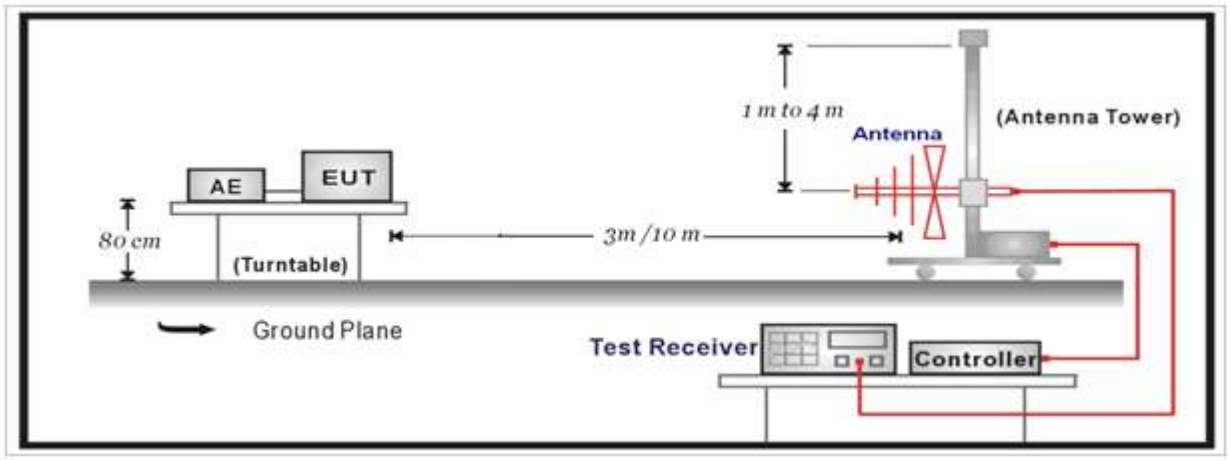
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2017.05.06	2018.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2018.01.22	2019.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.11.25	2018.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2018.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2018.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2018.03.02	2019.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2017.06.10	2018.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

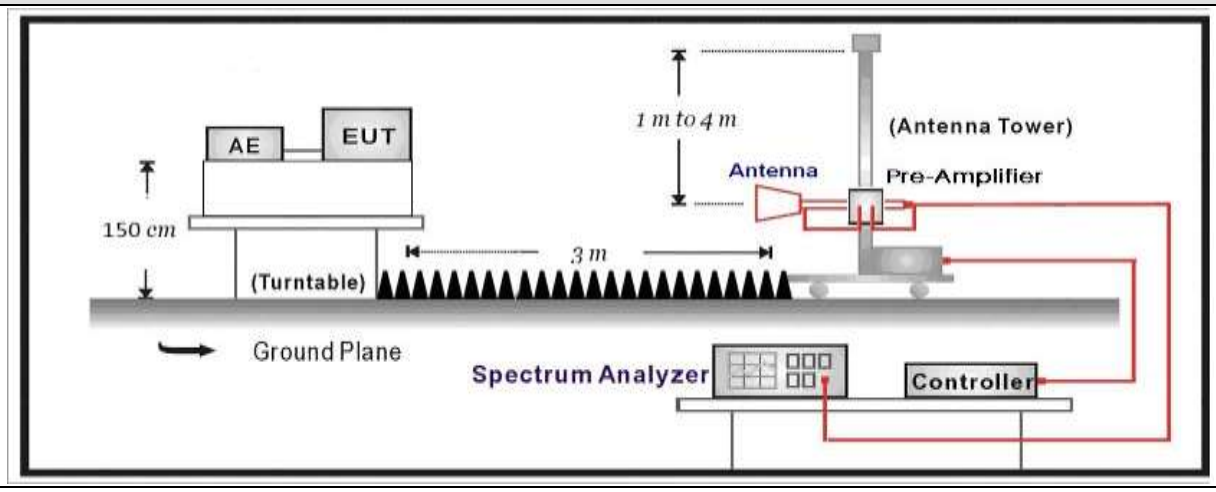
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

For FCC

Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 –16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

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)

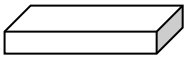
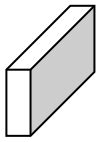
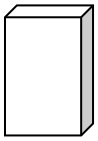
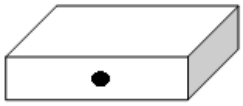
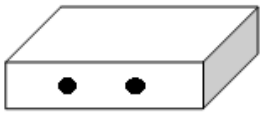
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed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

4.4. Test Procedure

Test Method						
	References Rule				Chapter	Description
☐	ANSI C63.10				11.11	Emissions in non-restricted frequency bands
	☐	ANSI C63.10			11.11.2	Reference level measurement
	☐	ANSI C63.10			11.11.3	Emission level measurement
☒	ANSI C63.10				11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10			11.12.1	Radiated emission measurements
	☒	ANSI C63.10			11.12.2.7	Radiated spurious emission test
		☒	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		☒	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		☒	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10			11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10		11.12.2.3	Quasi-peak measurement procedure
		☐	ANSI C63.10		11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10		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. EUT test Axis definition

<table>
<tr><th>Item</th><th colspan="4">Emissions in restricted frequency bands</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="11">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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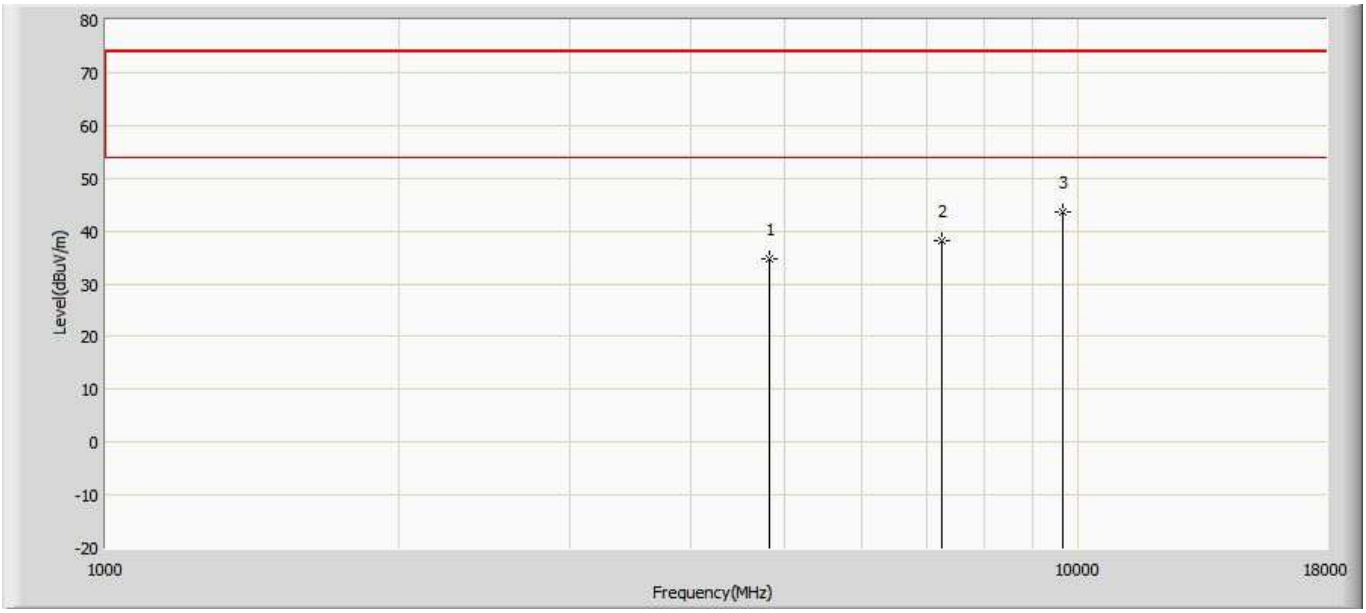
4.6. Test Result

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz 802.11b	

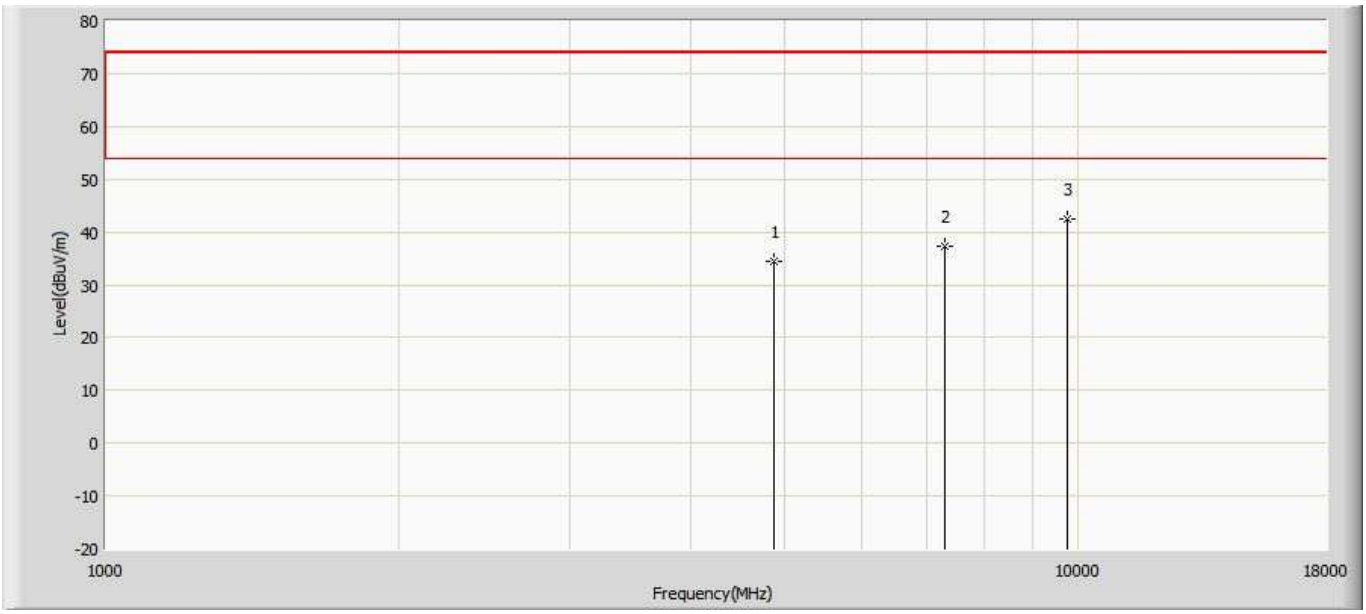


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	34.851	40.659	-39.149	74.000	-5.808	PK
2		7236.000	38.123	38.848	-35.877	74.000	-0.725	PK
3	*	9648.000	43.531	39.121	-30.469	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:23
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 802.11b	

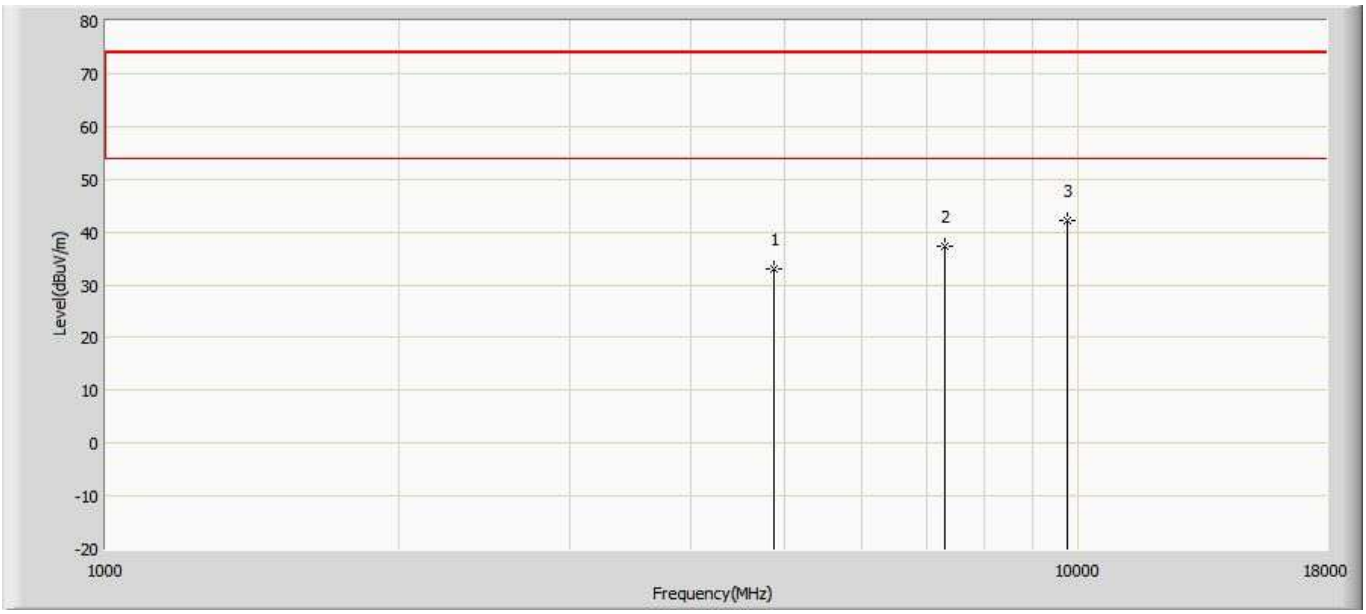
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	33.145	38.953	-40.855	74.000	-5.808	PK
2		7236.000	38.575	39.300	-35.425	74.000	-0.725	PK
3	*	9648.000	42.384	37.974	-31.616	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz 802.11b	



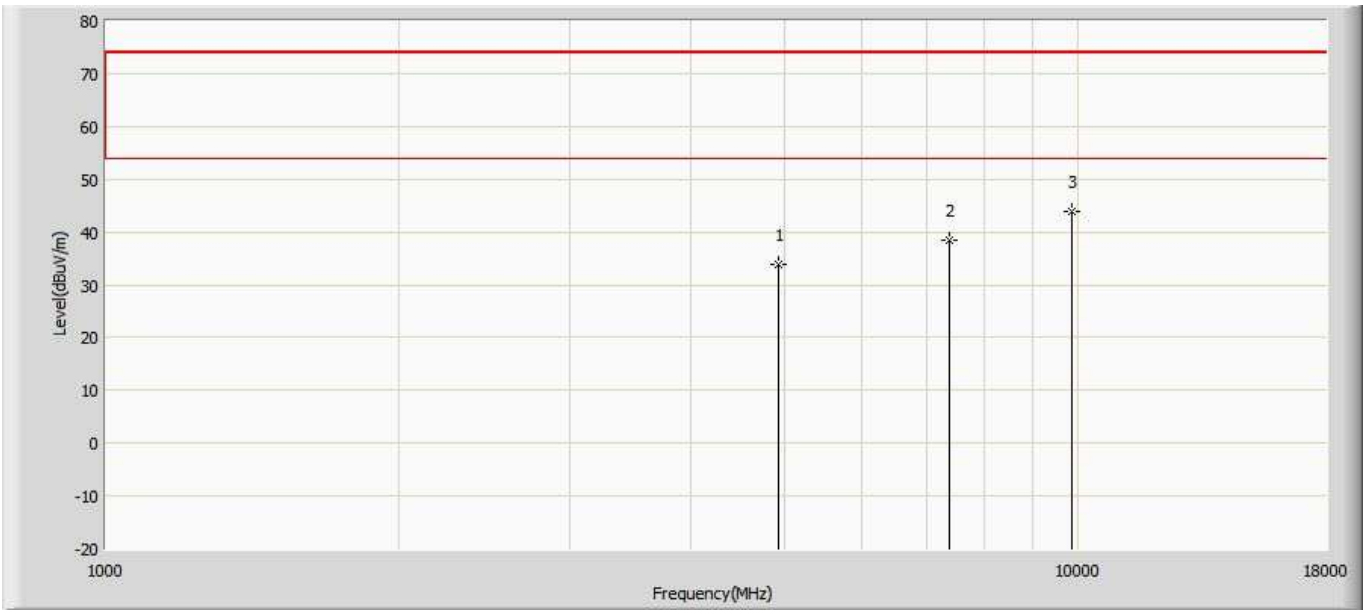
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	34.328	39.822	-39.672	74.000	-5.494	PK
2		7311.000	37.276	37.850	-36.724	74.000	-0.574	PK
3	*	9748.000	42.448	38.253	-31.552	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:23
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 802.11b	



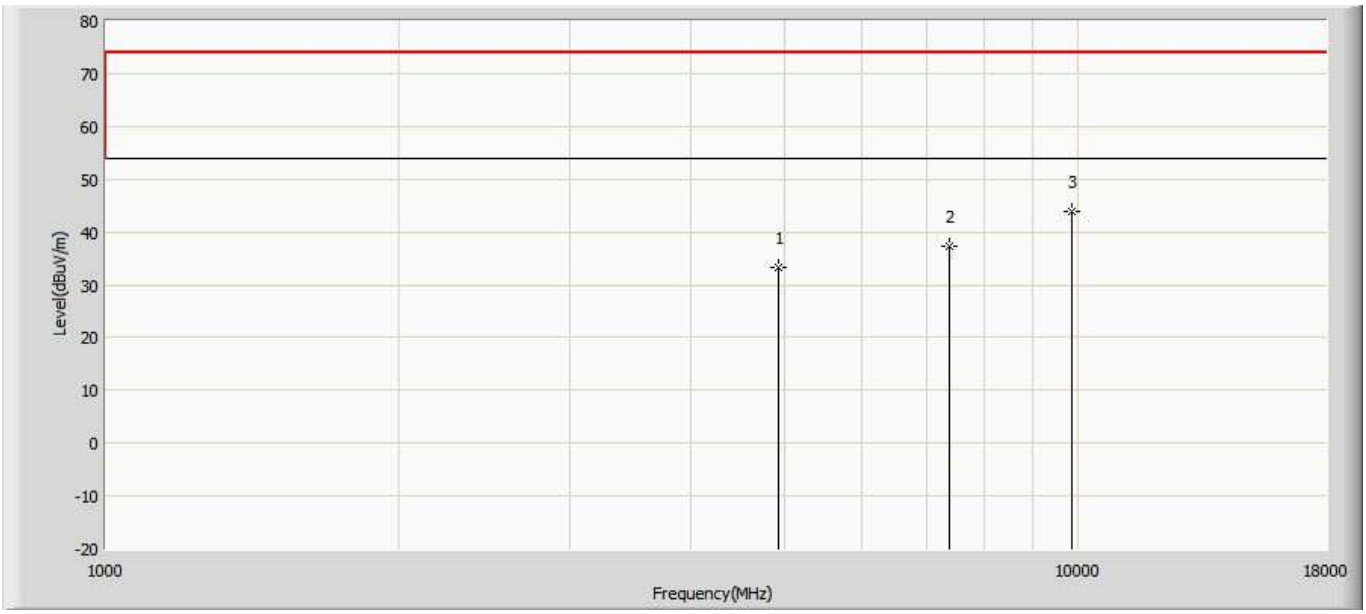
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.079	38.573	-40.921	74.000	-5.494	PK
2		7311.000	37.261	37.835	-36.739	74.000	-0.574	PK
3	*	9748.000	42.180	37.985	-31.820	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz 802.11b	



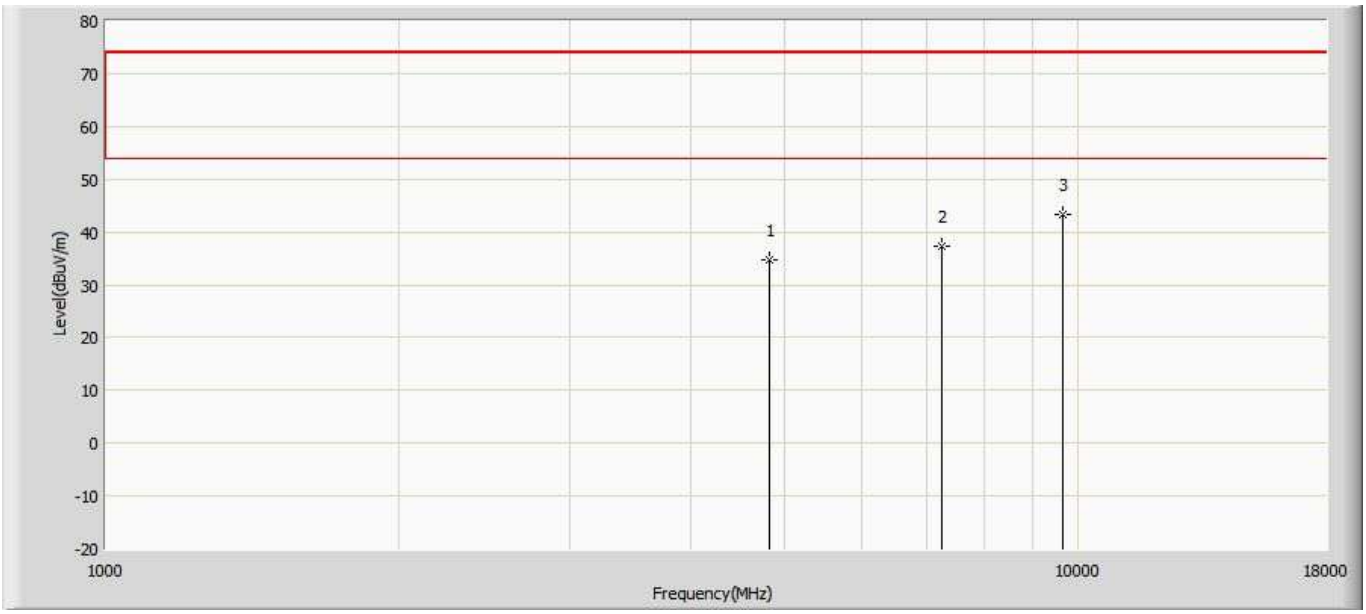
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.797	38.888	-40.203	74.000	-5.091	PK
2		7386.000	38.473	38.772	-35.527	74.000	-0.299	PK
3	*	9848.000	43.894	38.491	-30.106	74.000	5.403	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz 802.11b	



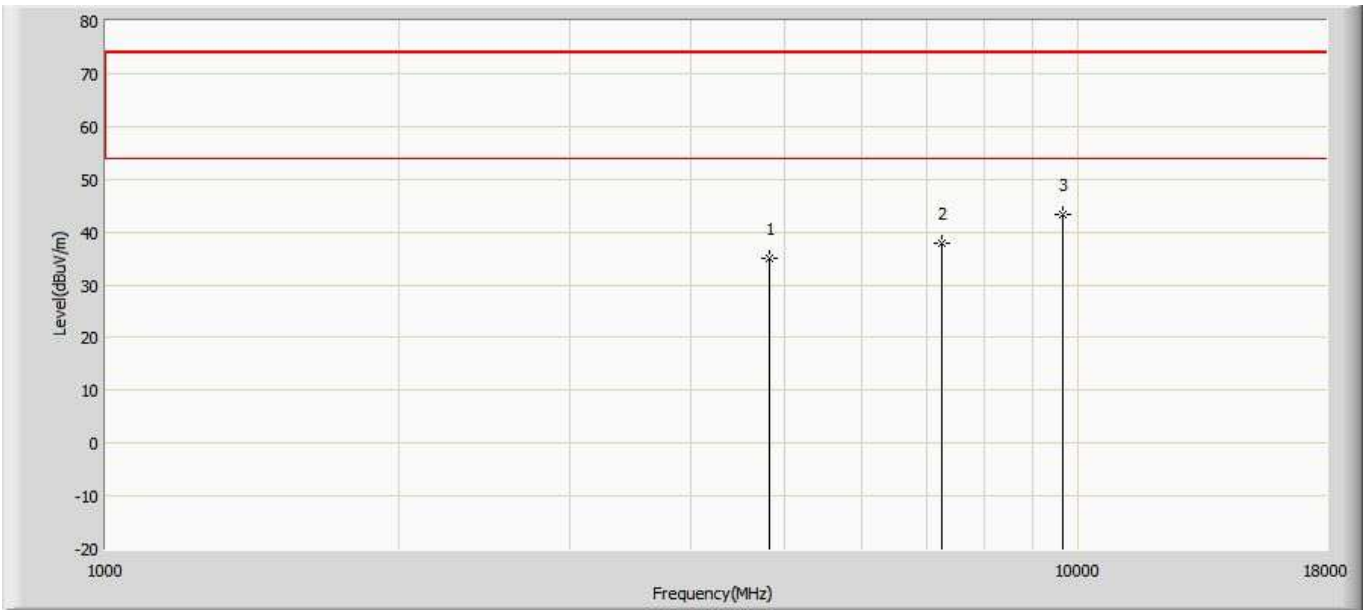
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.394	38.485	-40.606	74.000	-5.091	PK
2		7386.000	37.411	37.710	-36.589	74.000	-0.299	PK
3	*	9848.000	43.972	38.569	-30.028	74.000	5.403	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
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 802.11g	



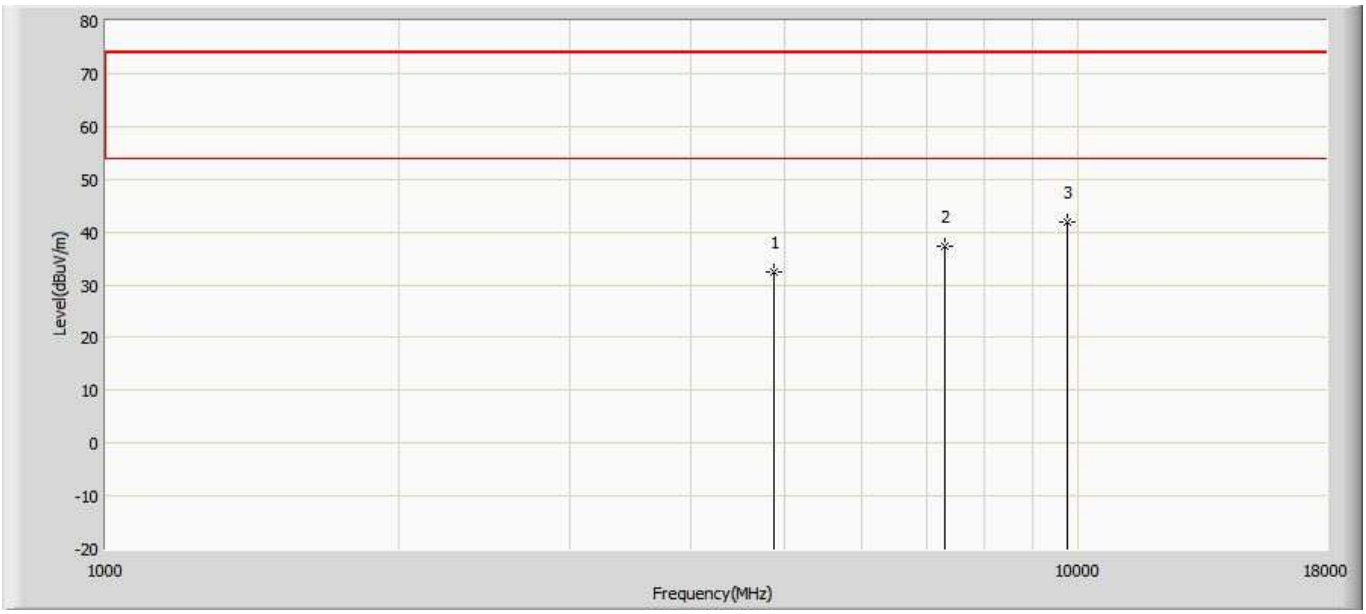
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	34.772	40.580	-39.228	74.000	-5.808	PK
2		7236.000	37.284	38.009	-36.716	74.000	-0.725	PK
3	*	9648.000	43.368	38.958	-30.632	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz 802.11g	



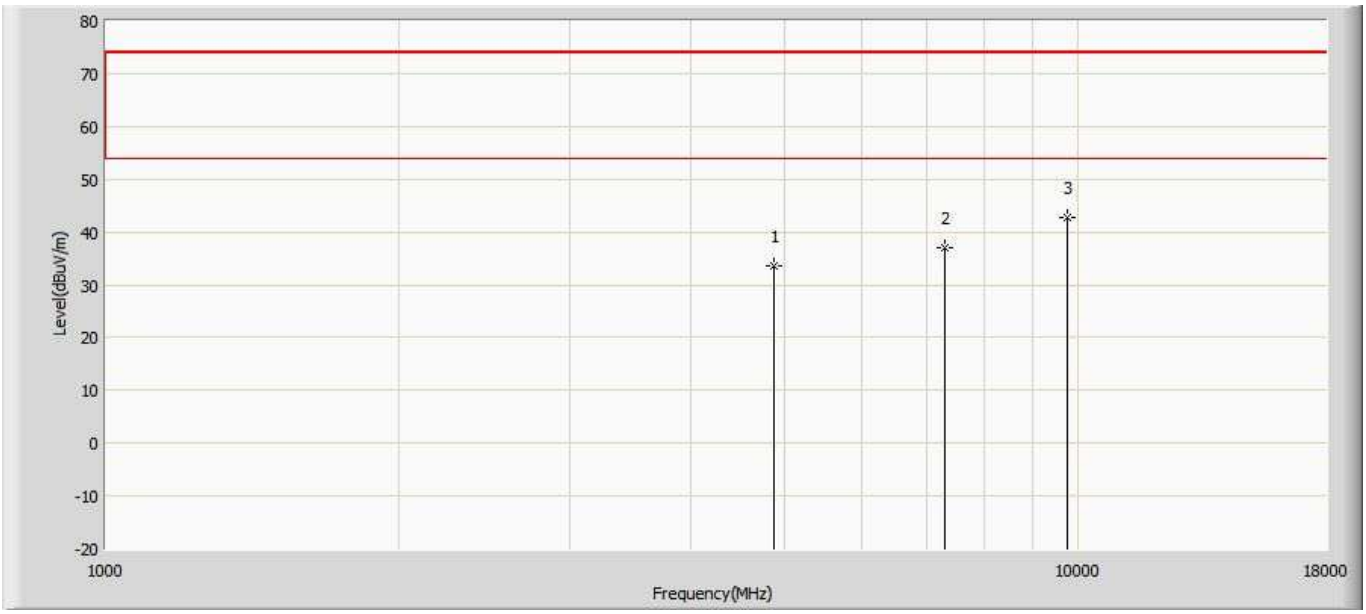
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	35.157	40.965	-38.843	74.000	-5.808	PK
2		7236.000	37.791	38.516	-36.209	74.000	-0.725	PK
3	*	9648.000	43.261	38.851	-30.739	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
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 802.11g	



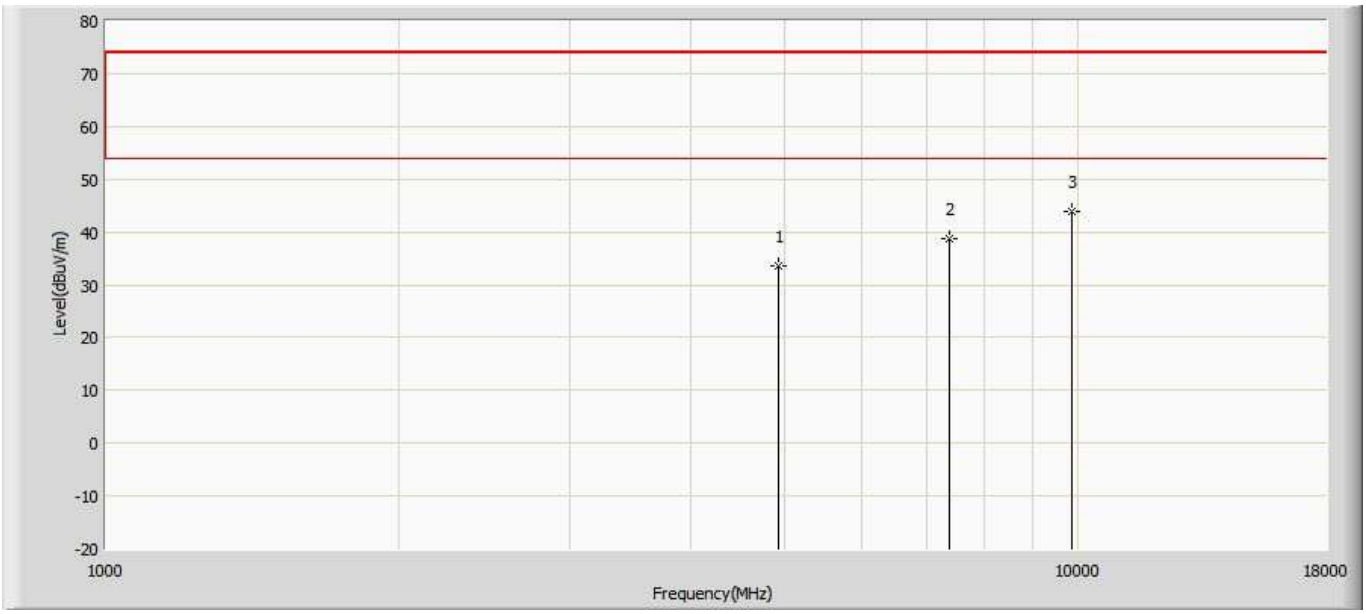
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	32.468	37.962	-41.532	74.000	-5.494	PK
2		7311.000	37.367	37.941	-36.633	74.000	-0.574	PK
3	*	9748.000	41.814	37.619	-32.186	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz 802.11g	



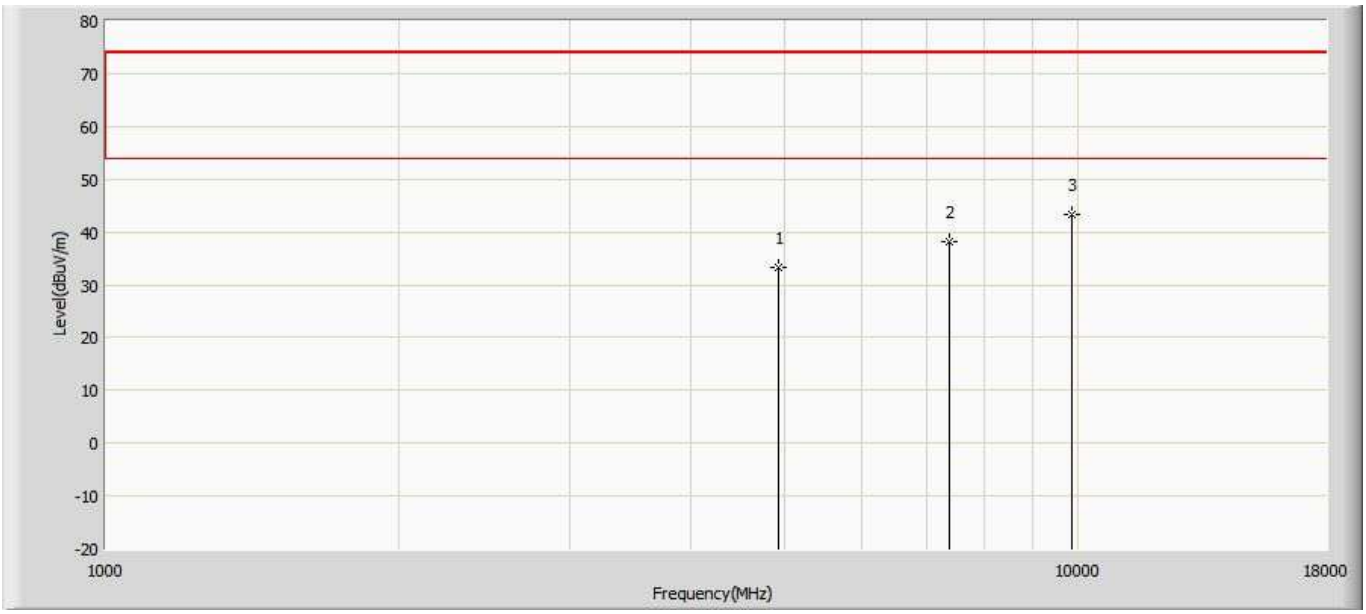
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.479	38.973	-40.521	74.000	-5.494	PK
2		7311.000	37.033	37.607	-36.967	74.000	-0.574	PK
3	*	9748.000	42.859	38.664	-31.141	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
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 802.11g	



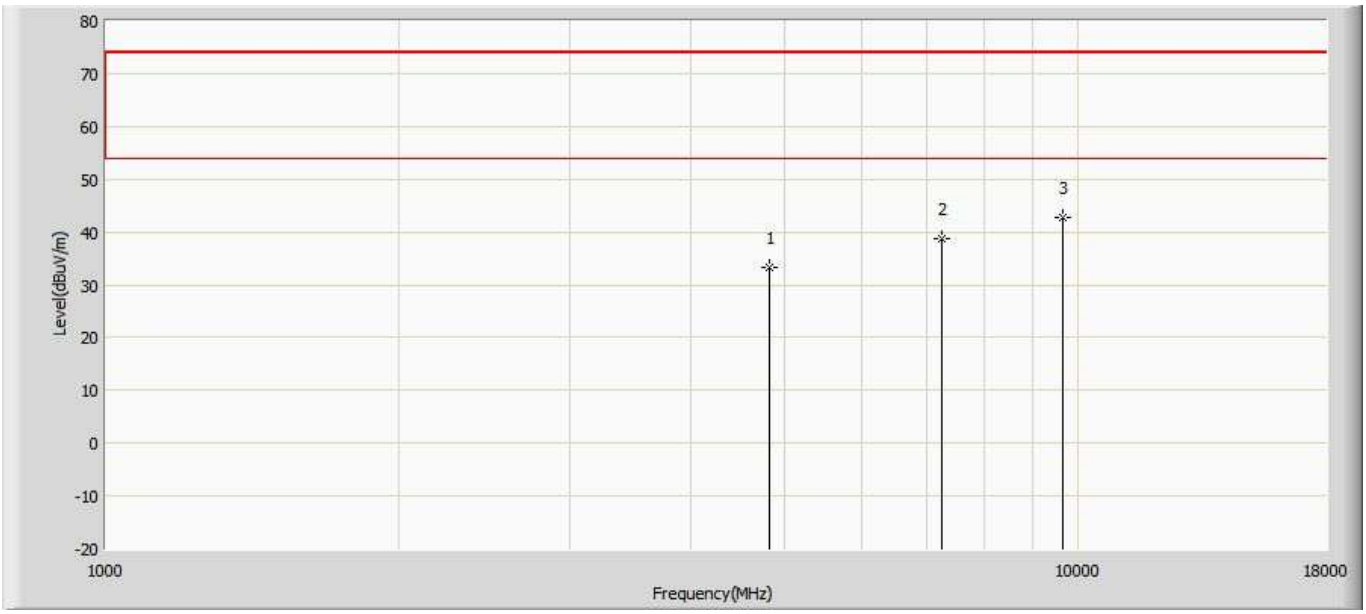
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.498	38.589	-40.502	74.000	-5.091	PK
2		7386.000	38.657	38.956	-35.343	74.000	-0.299	PK
3	*	9848.000	43.907	38.504	-30.093	74.000	5.403	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz 802.11g	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.357	38.448	-40.643	74.000	-5.091	PK
2		7386.000	38.159	38.458	-35.841	74.000	-0.299	PK
3	*	9848.000	43.395	37.992	-30.605	74.000	5.403	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:25
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 802.11n(20MHz)	

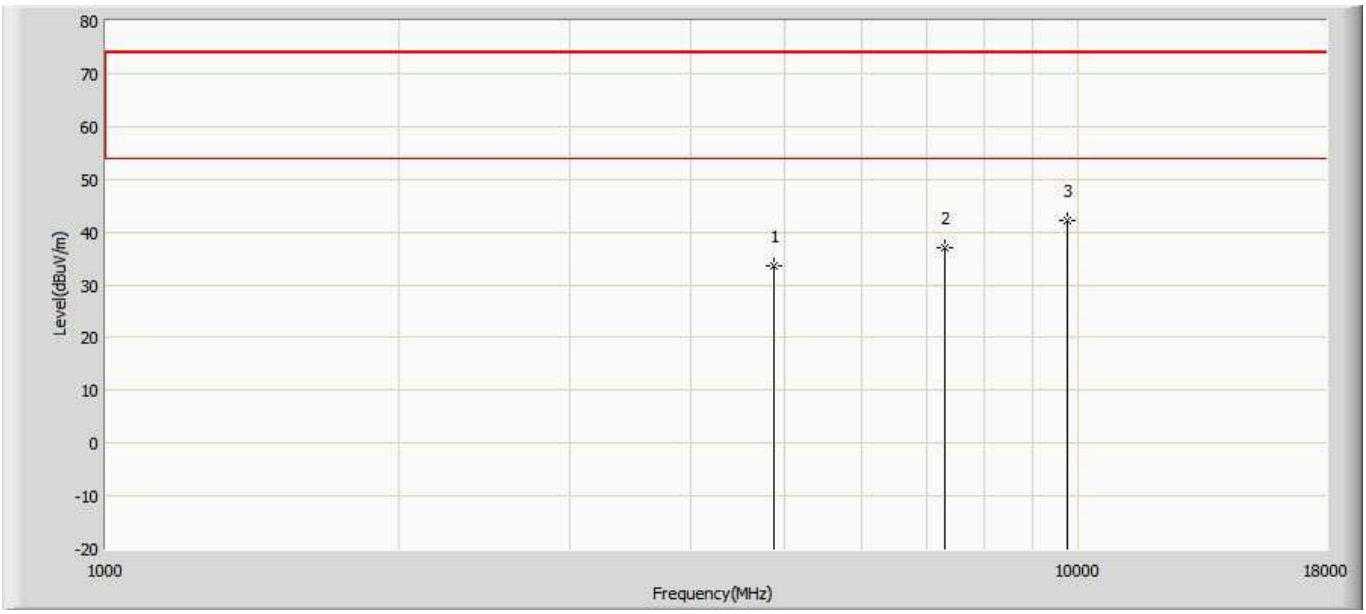


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	33.413	39.221	-40.587	74.000	-5.808	PK
2		7236.000	38.760	39.485	-35.240	74.000	-0.725	PK
3	*	9648.000	42.776	38.366	-31.224	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:25
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 802.11n(20MHz)	

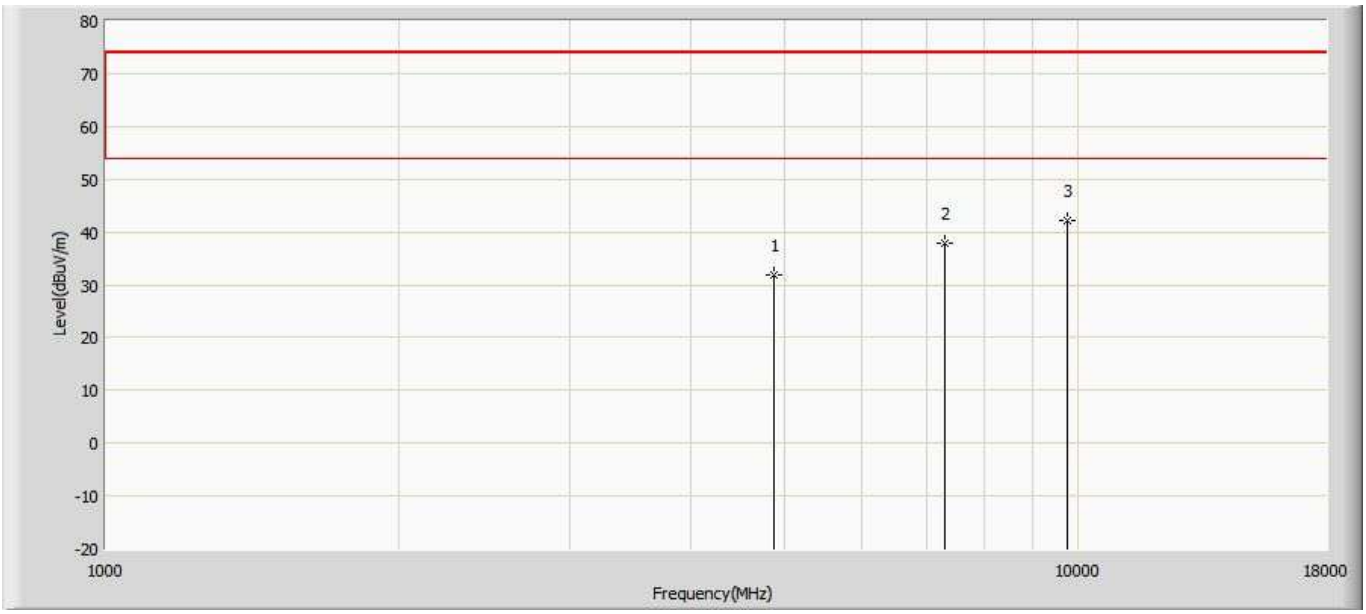
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	34.281	40.089	-39.719	74.000	-5.808	PK
2		7236.000	39.118	39.843	-34.882	74.000	-0.725	PK
3	*	9648.000	42.030	37.620	-31.970	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:25
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 802.11n(20MHz)	



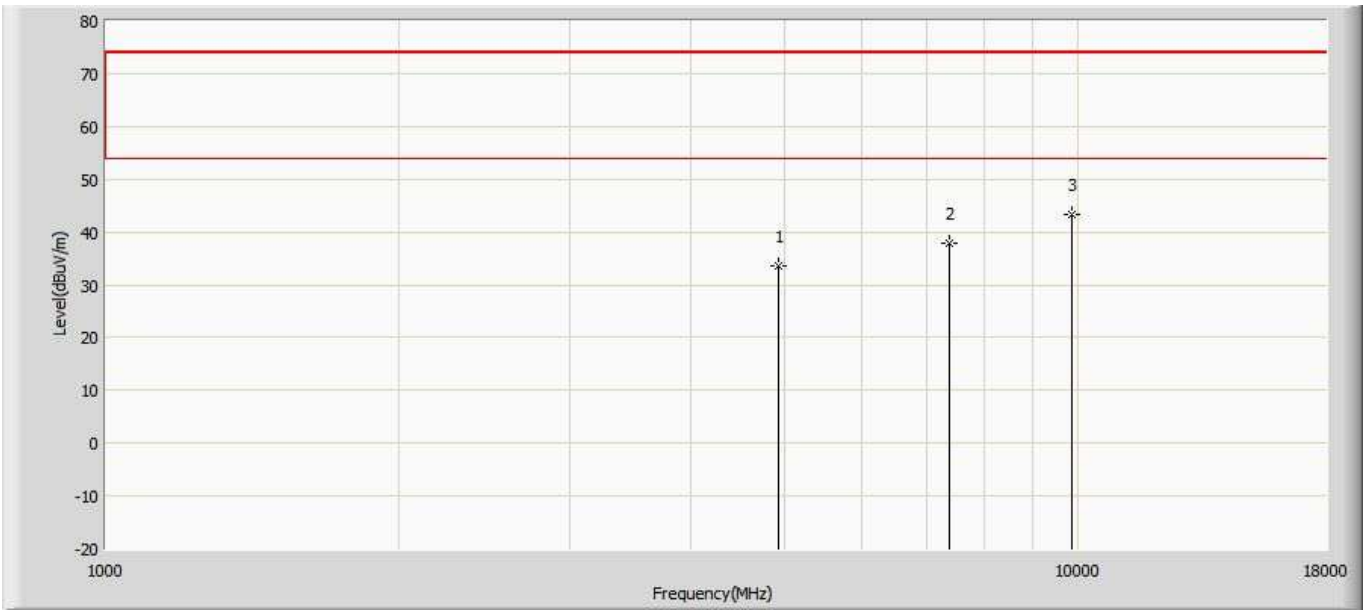
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.449	38.943	-40.551	74.000	-5.494	PK
2		7311.000	37.137	37.711	-36.863	74.000	-0.574	PK
3	*	9748.000	42.133	37.938	-31.867	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:26
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 802.11n(20MHz)	



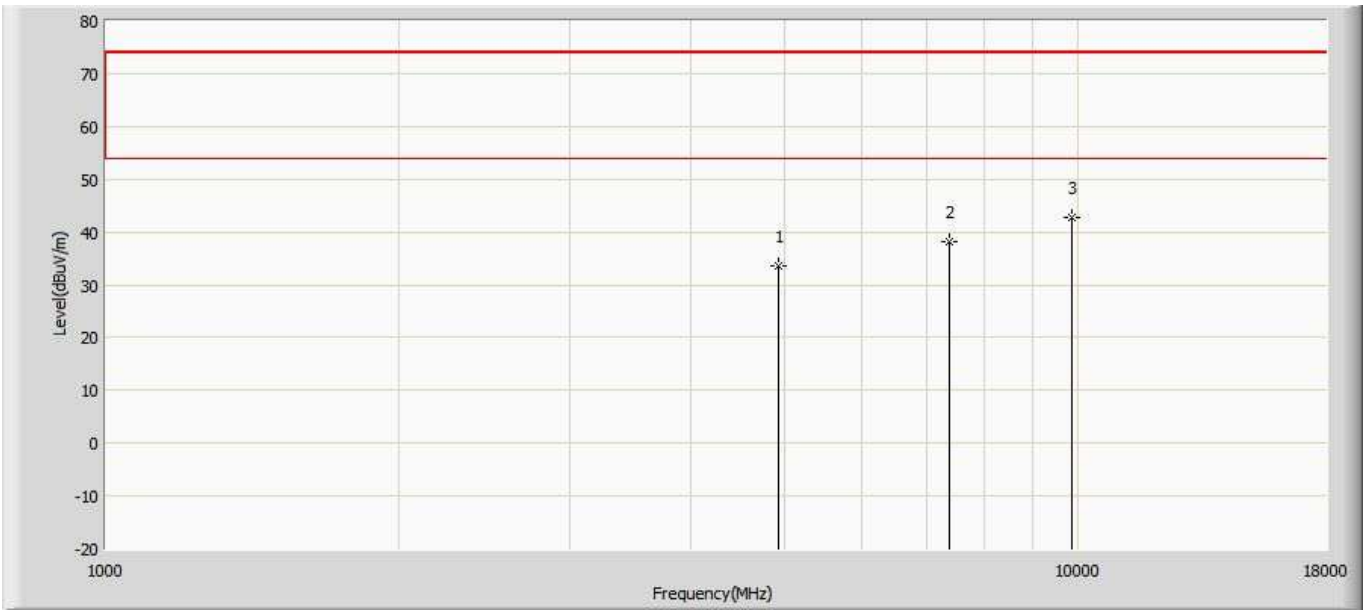
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	31.903	37.397	-42.097	74.000	-5.494	PK
2		7311.000	37.909	38.483	-36.091	74.000	-0.574	PK
3	*	9748.000	42.182	37.987	-31.818	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz 802.11n(20MHz)	



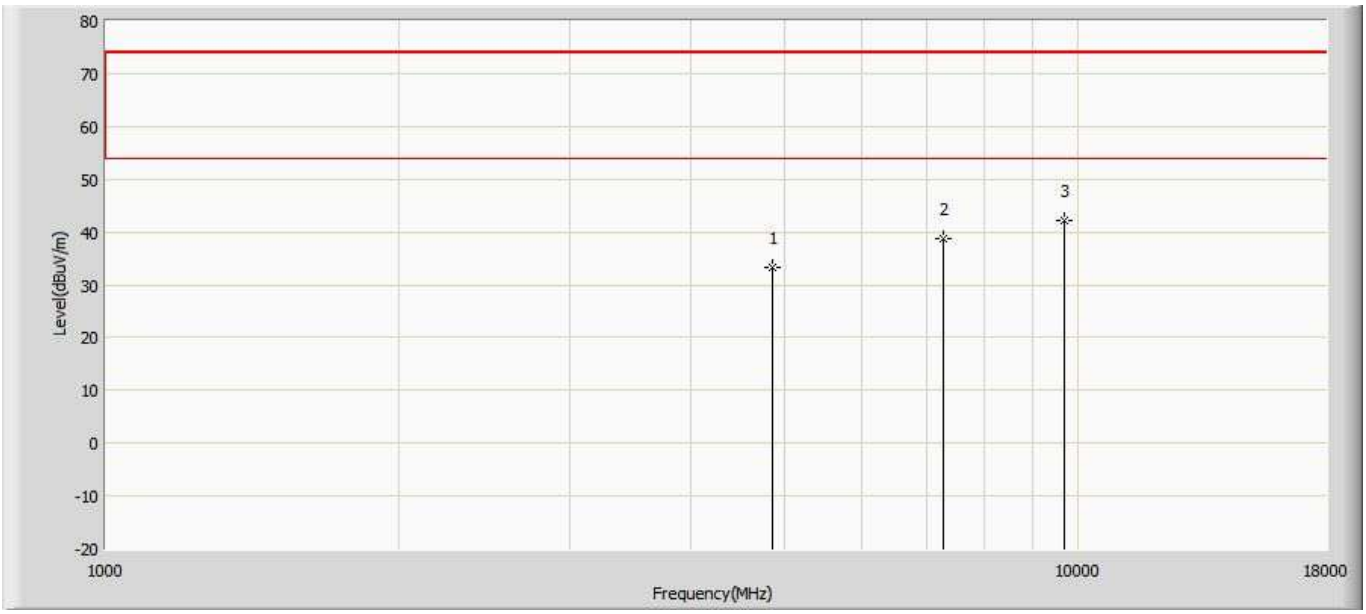
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.507	38.598	-40.493	74.000	-5.091	PK
2		7386.000	37.983	38.282	-36.017	74.000	-0.299	PK
3	*	9848.000	43.344	37.941	-30.656	74.000	5.403	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:26
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 802.11n(20MHz)	



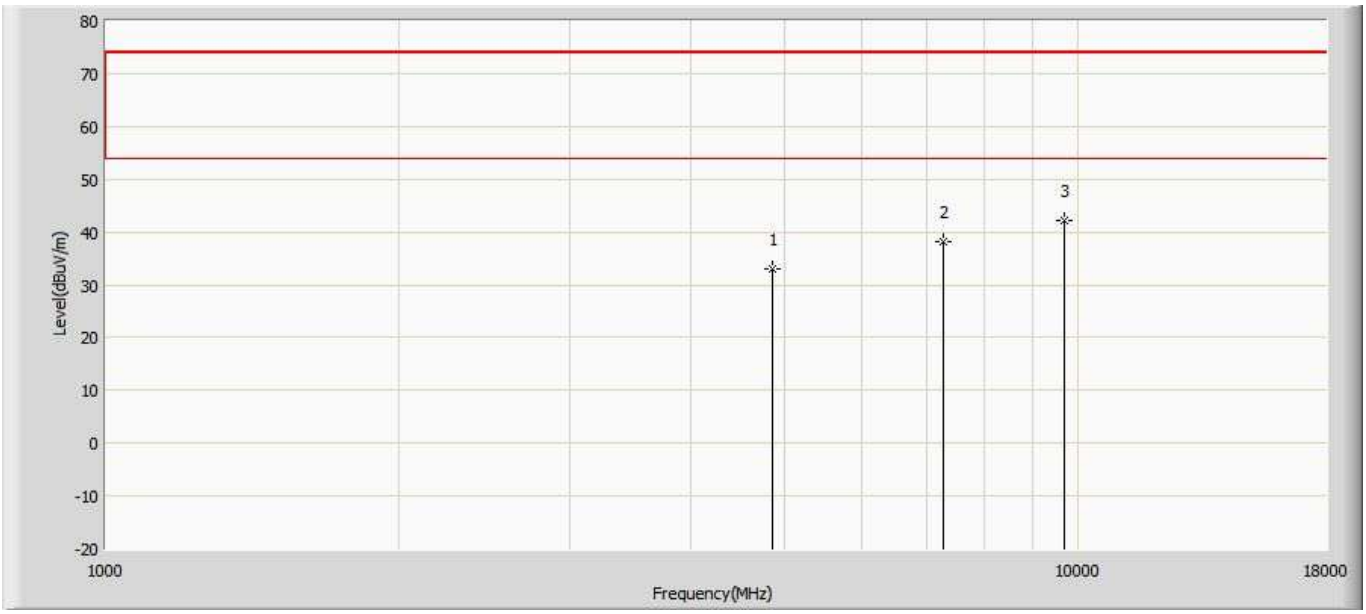
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.532	38.623	-40.468	74.000	-5.091	PK
2		7386.000	38.085	38.384	-35.915	74.000	-0.299	PK
3	*	9848.000	42.867	37.464	-31.133	74.000	5.403	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz 802.11n(40MHz)	



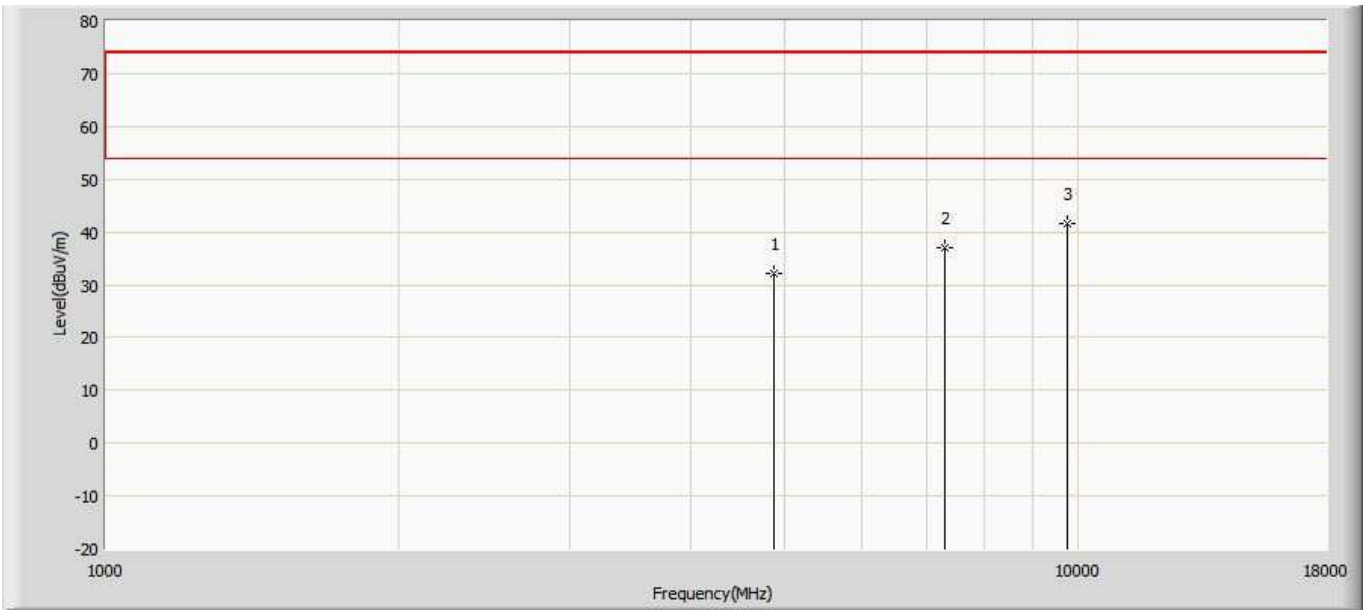
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	33.433	39.015	-40.567	74.000	-5.582	PK
2		7266.000	38.624	39.015	-35.376	74.000	-0.391	PK
3	*	9688.000	42.293	37.776	-31.707	74.000	4.517	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:26
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 802.11n(40MHz)	



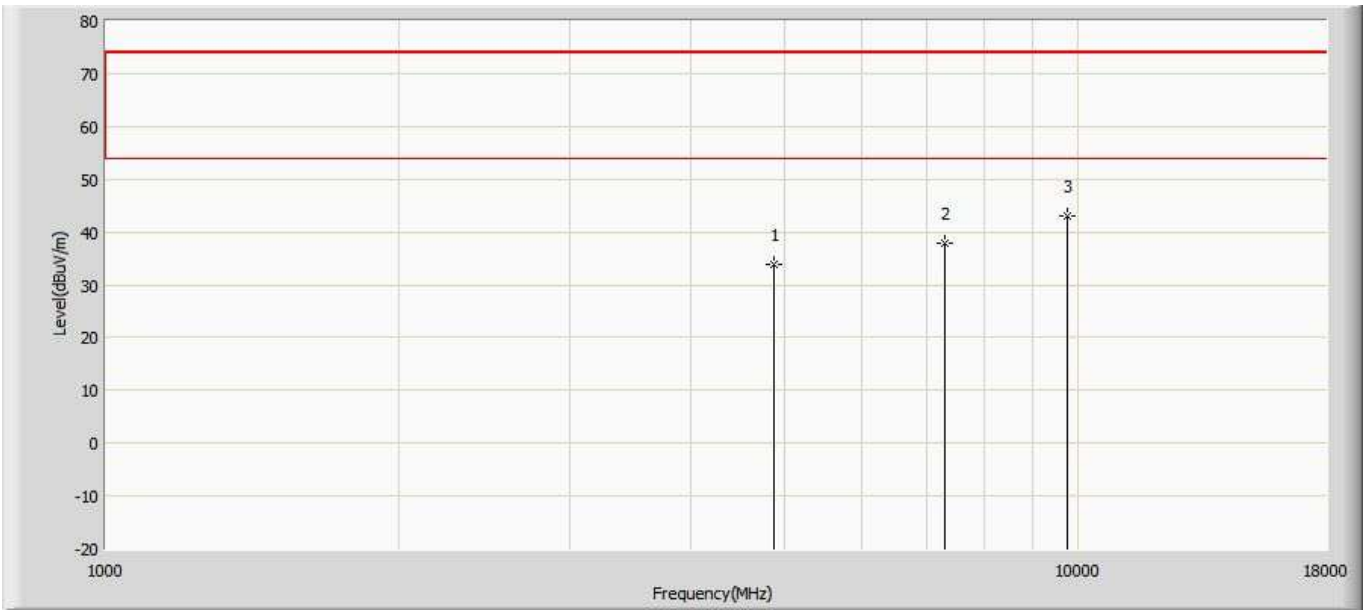
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	33.017	38.599	-40.983	74.000	-5.582	PK
2		7266.000	38.099	38.490	-35.901	74.000	-0.391	PK
3	*	9688.000	42.114	37.597	-31.886	74.000	4.517	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:27
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 802.11n(40MHz)	



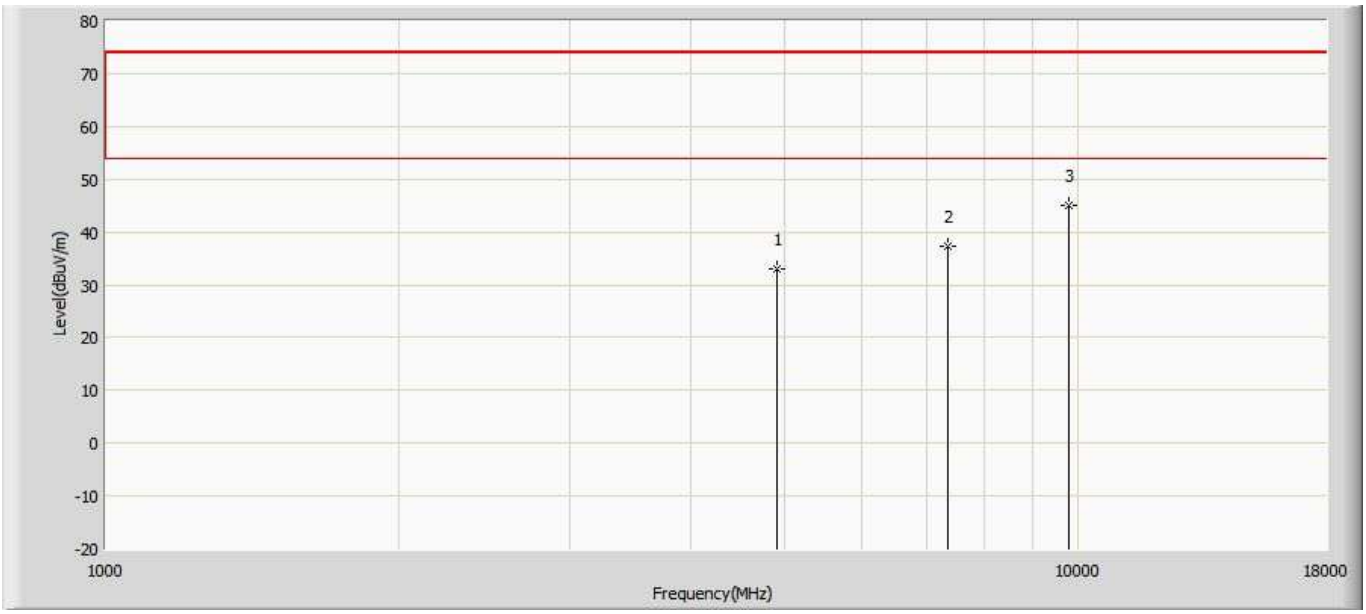
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	32.220	37.714	-41.780	74.000	-5.494	PK
2		7311.000	36.997	37.571	-37.003	74.000	-0.574	PK
3	*	9748.000	41.694	37.499	-32.306	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz 802.11n(40MHz)	



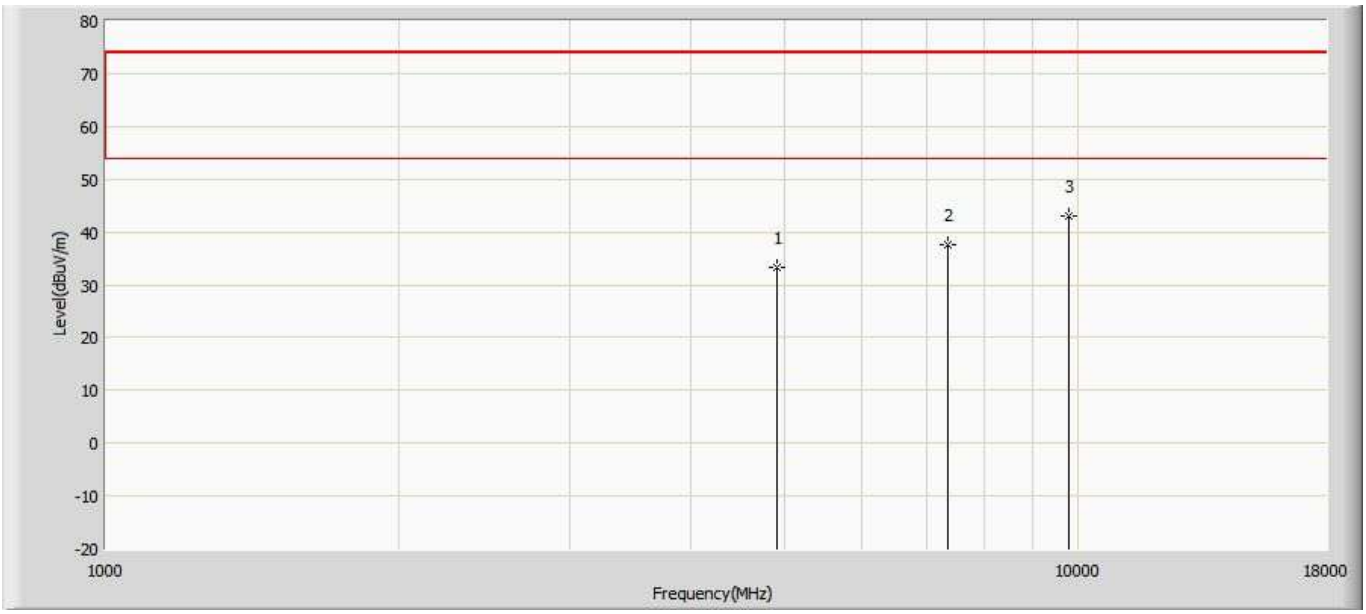
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.989	39.483	-40.011	74.000	-5.494	PK
2		7311.000	37.740	38.314	-36.260	74.000	-0.574	PK
3	*	9748.000	42.925	38.730	-31.075	74.000	4.195	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:27
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 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	33.080	38.405	-40.920	74.000	-5.325	PK
2		7356.000	37.335	37.814	-36.665	74.000	-0.479	PK
3	*	9808.000	45.040	40.211	-28.960	74.000	4.829	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 11:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz 802.11n(40MHz)	



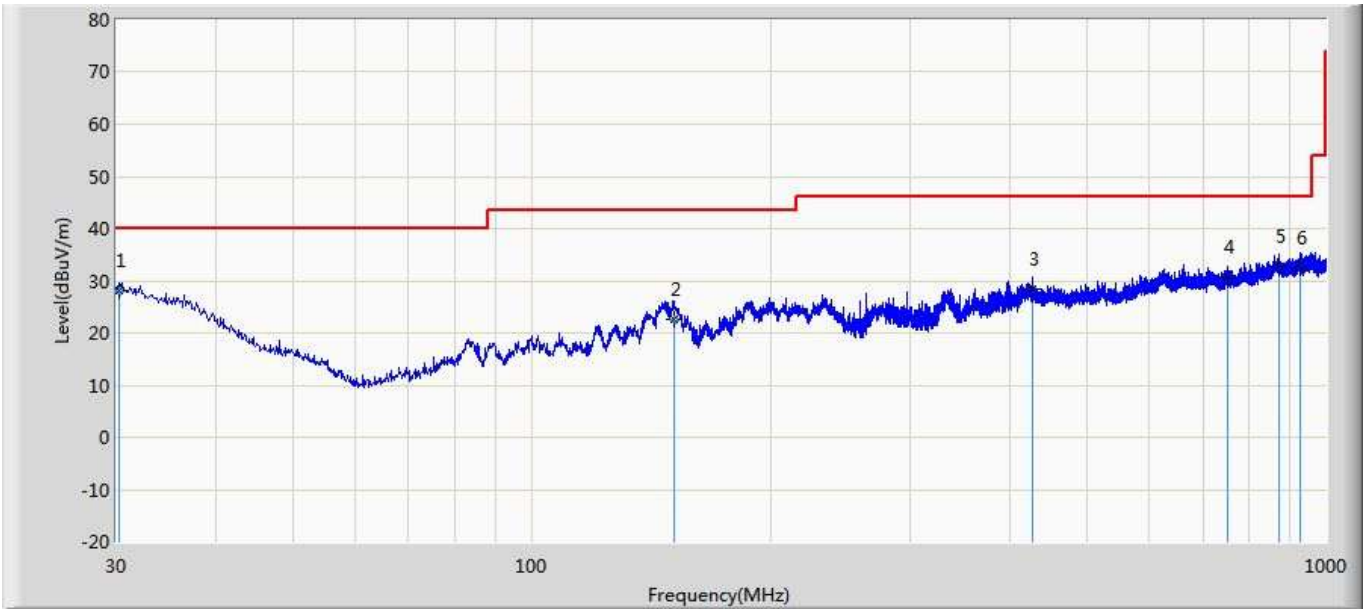
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	33.248	38.573	-40.752	74.000	-5.325	PK
2		7356.000	37.598	38.077	-36.402	74.000	-0.479	PK
3	*	9808.000	43.027	38.198	-30.973	74.000	4.829	PK

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.

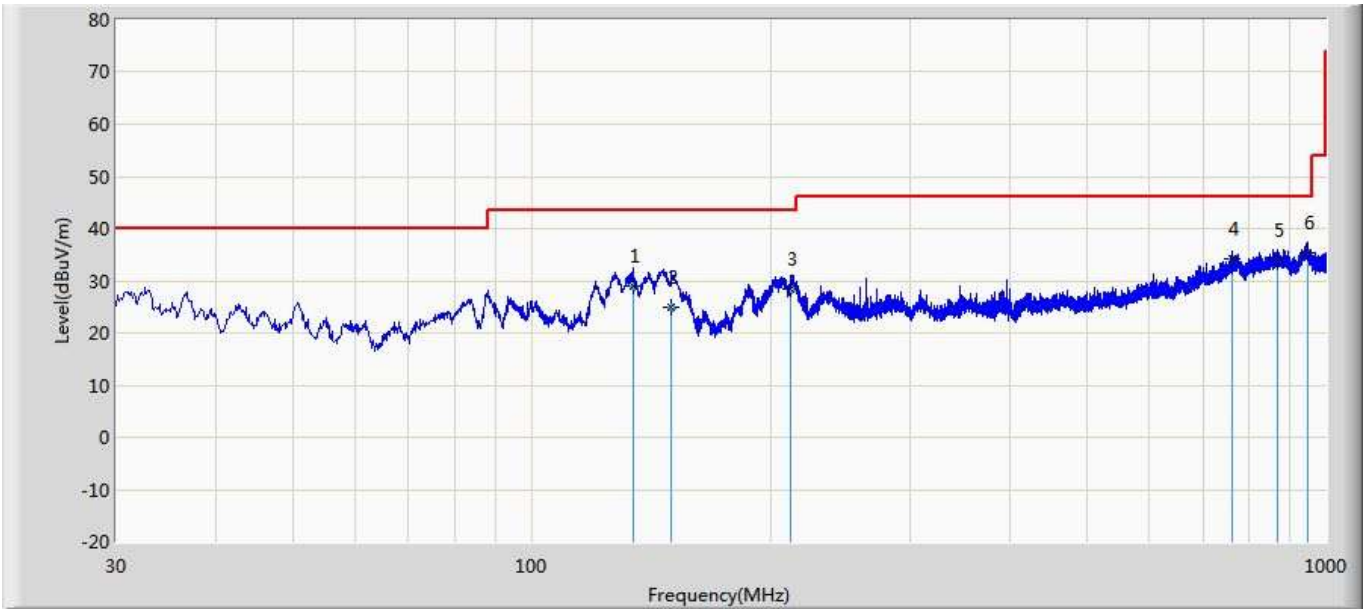
The worst case of Radiated Emission below 1GHz:

Engineer: Pawn	
Site: AC3	Time: 2018/03/14
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: Transmit at 2412MHz by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	30.214	28.148	0.300	-11.852	40.000	21.393	6.455	0.000	100	144	QP
2		151.325	22.465	5.200	-21.035	43.500	10.174	7.091	0.000	100	149	QP
3		427.365	28.368	1.300	-17.632	46.000	19.089	7.979	0.000	100	156	QP
4		752.366	30.827	1.300	-15.173	46.000	20.749	8.779	0.000	100	48	QP
5		871.225	32.894	1.200	-13.106	46.000	22.660	9.034	0.000	100	265	QP
6		929.354	32.533	0.300	-13.467	46.000	23.073	9.160	0.000	100	214	QP

Engineer: Pawn	
Site: AC3	Time: 2018/03/14
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: Transmit at 2412MHz by 802.11b	



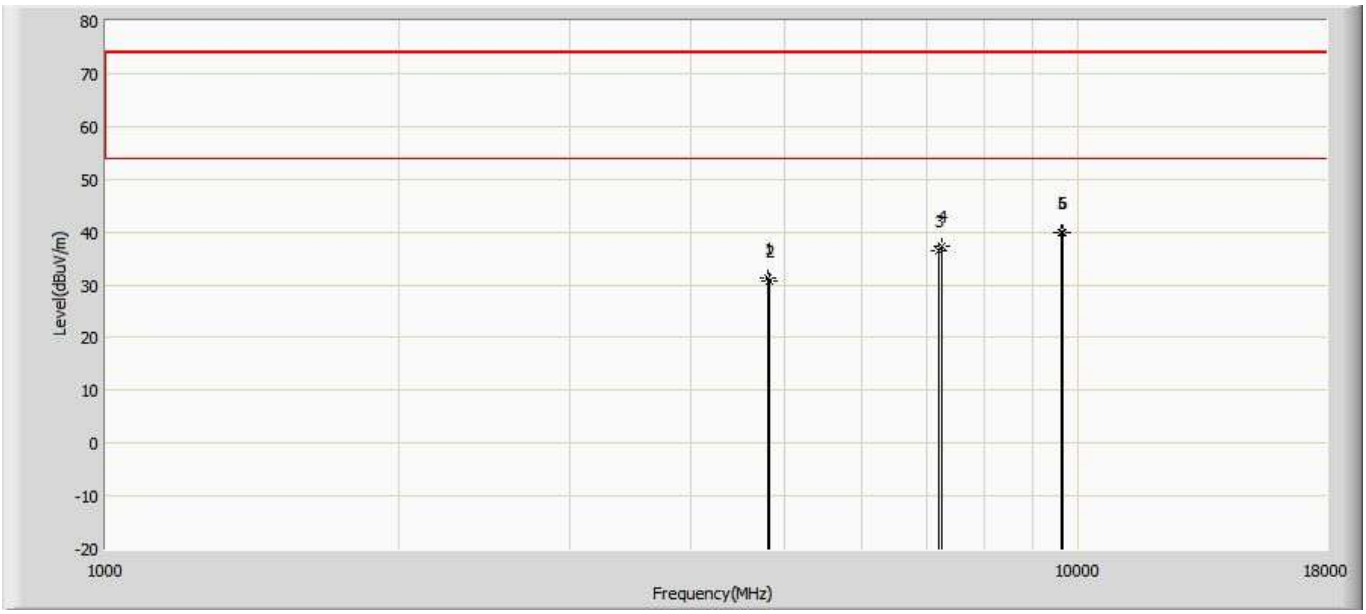
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		134.254	28.937	8.200	-14.563	43.500	13.728	7.009	0.000	100	241	QP
2		150.122	24.974	6.300	-18.526	43.500	11.588	7.086	0.000	100	145	QP
3		211.587	28.427	5.200	-15.073	43.500	15.904	7.323	0.000	100	159	QP
4		761.225	34.260	2.300	-11.740	46.000	23.165	8.795	0.000	100	360	QP
5		867.241	33.986	1.200	-12.014	46.000	23.764	9.022	0.000	100	147	QP
6	*	948.225	35.291	0.300	-10.709	46.000	25.795	9.197	0.000	100	122	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).

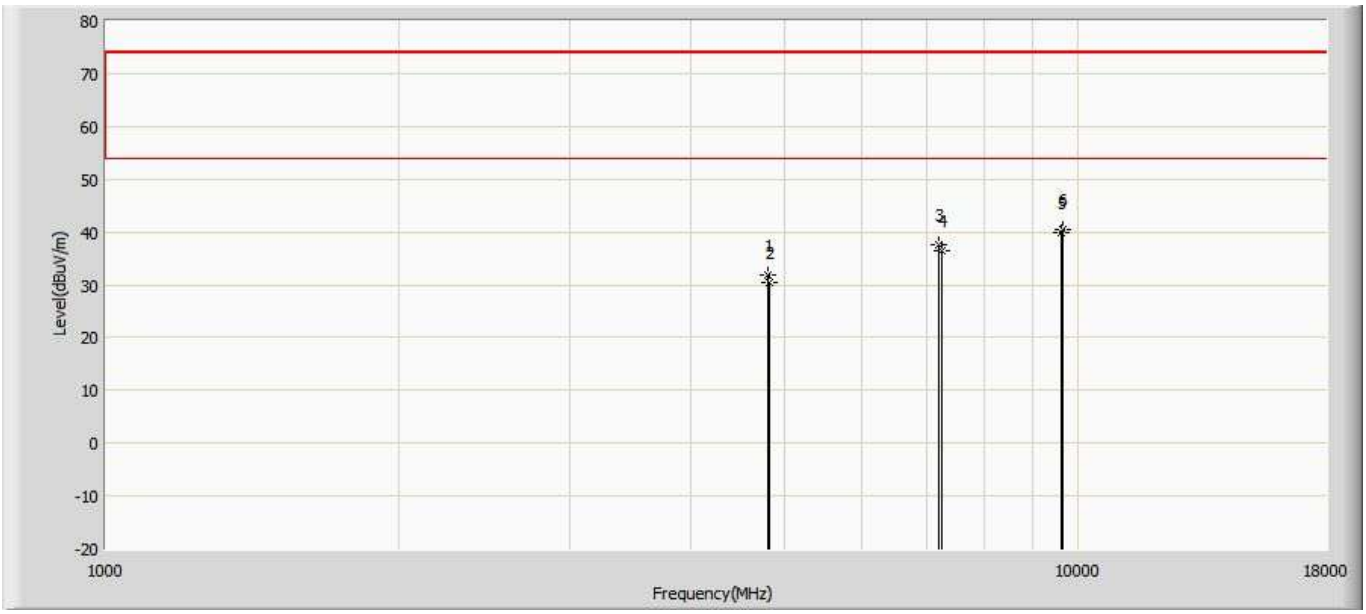
The worst case of Simultaneous Radiated Emission:

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 09:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Transmit at 2412MHz by 802.11b + BDR	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	31.391	37.002	-42.609	74.000	-5.611	PK
2		4824.000	30.622	36.430	-43.378	74.000	-5.808	PK
3		7206.000	36.589	36.877	-37.411	74.000	-0.288	PK
4		7236.000	37.447	38.172	-36.553	74.000	-0.725	PK
5	*	9608.000	39.988	35.857	-34.012	74.000	4.131	PK
6		9648.000	39.814	35.404	-34.186	74.000	4.410	PK

Engineer: Pawn	
Site: AC5	Time: 2018/04/02 - 09:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Transmit at 2412MHz by 802.11b + BDR	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	31.852	37.463	-42.148	74.000	-5.611	PK
2		4824.000	30.379	36.187	-43.621	74.000	-5.808	PK
3		7206.000	37.563	37.851	-36.437	74.000	-0.288	PK
4		7236.000	36.403	37.128	-37.597	74.000	-0.725	PK
5		9608.000	39.753	35.622	-34.247	74.000	4.131	PK
6	*	9648.000	40.471	36.061	-33.529	74.000	4.410	PK

Note:

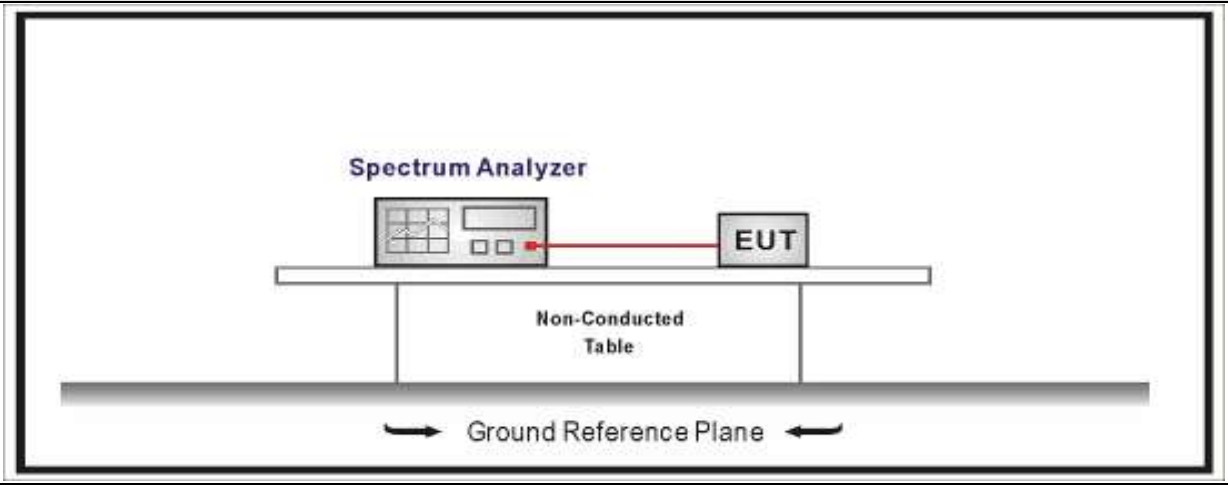
1. Measured Level = Reading Level + Factor.
2. The test frequency range, 9kHz~30MHz, 18GHz~26GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. As the radiated emission was performed, so conducted emission was not tested.

5. Emissions in non-restricted frequency bands

5.1. Test Equipment

Emissions in non-restricted frequency bands / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup

Emissions in non-restricted frequency bands


5.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)

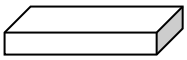
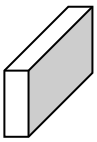
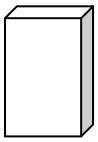
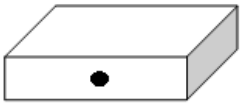
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

5.4. Test Procedure

Test Method						
	References Rule				Chapter	Description
☒	ANSI C63.10				11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10			11.11.2	Reference level measurement
	☒	ANSI C63.10			11.11.3	Emission level measurement
☐	ANSI C63.10				11.12	Emissions in restricted frequency bands
	☐	ANSI C63.10			11.12.1	Radiated emission measurements
	☐	ANSI C63.10			11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10				6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10				6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☐	ANSI C63.10				6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10			11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10		11.12.2.3	Quasi-peak measurement procedure
		☐	ANSI C63.10		11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10		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

5.5. EUT test Axis definition

<table>
<tr><th>Item</th><th colspan="4">Emissions in non-restricted frequency bands</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1 ~ Mode 4</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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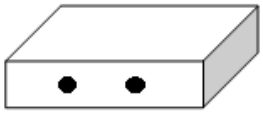
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

5.6. Test Result

Product Name	:	Barcode Scanner	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~4	Test Site	:	TR8
Test Date	:	2018.03.20	Test Engineer	:	Pawn

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	01	2412	6.197	2400	-52.585	58.782	>20	Pass
1	11	2462	5.752	2500	-52.549	58.301	>20	Pass
2	01	2412	2.963	2400	-37.080	40.043	>20	Pass
2	11	2462	1.320	2500	-51.937	53.257	>20	Pass
3	01	2412	2.854	2400	-38.955	41.809	>20	Pass
3	11	2462	0.331	2500	-52.593	52.924	>20	Pass
4	03	2422	-1.384	2400	-43.205	41.821	>20	Pass
4	09	2452	-3.239	2500	-55.436	52.197	>20	Pass

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

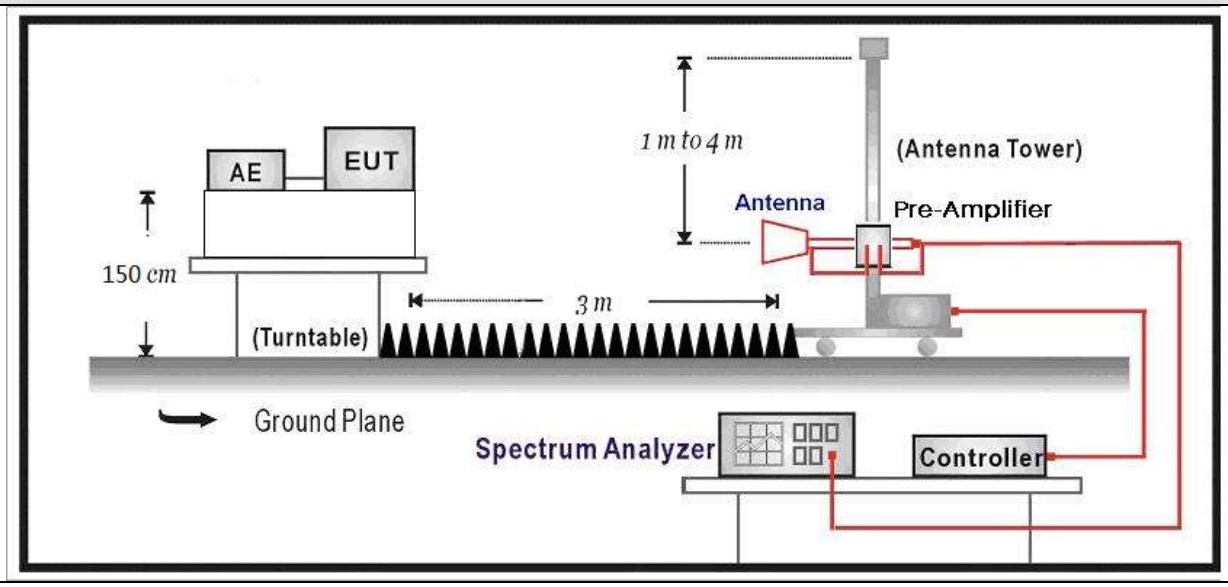
Mode 2 CH01(2412MHz)

6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission Band Edge / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2017.05.06	2018.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2018.01.22	2019.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.11.25	2018.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2018.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2018.03.02	2019.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2018.03.02	2019.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2017.06.10	2018.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup

Radiated Emission Band Edge


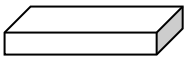
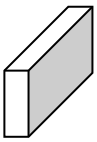
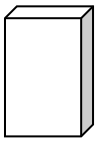
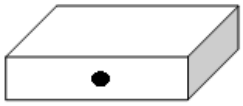
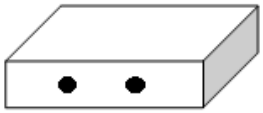
6.3. Limit

Band edge Limit				
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.				

6.4. Test Procedure

Radiated Emission Band Edge									
	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

6.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Radiated Emission Band Edge</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="13">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

6.6. Duty Cycle

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11b	4.272	1.824	360Hz	6.096	70.08%
802.11g	3.072	1.248	360Hz	4.320	71.11%
802.11n(20MHz)	4.752	2.672	360Hz	7.424	64.01%
802.11n(40MHz)	2.272	5.072	510Hz	7.344	30.94%

802.11b

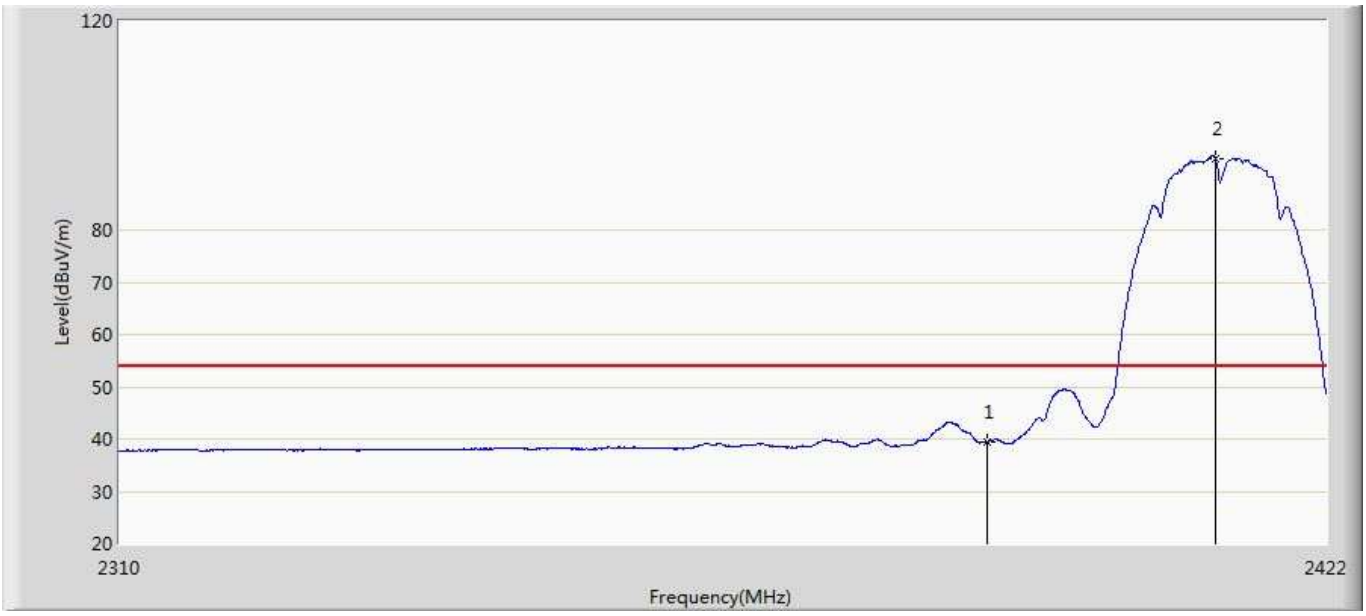
802.11g

802.11n(20MHz)

802.11n(40MHz)

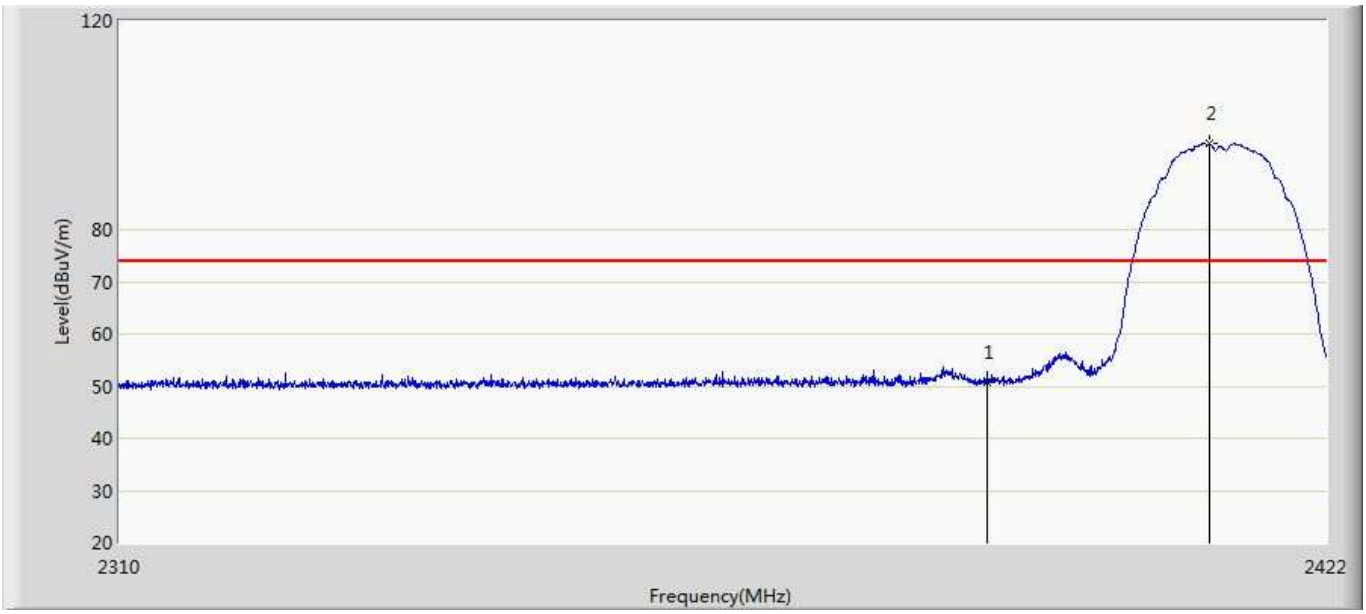
6.7. Test Result

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412 by 802.11b	



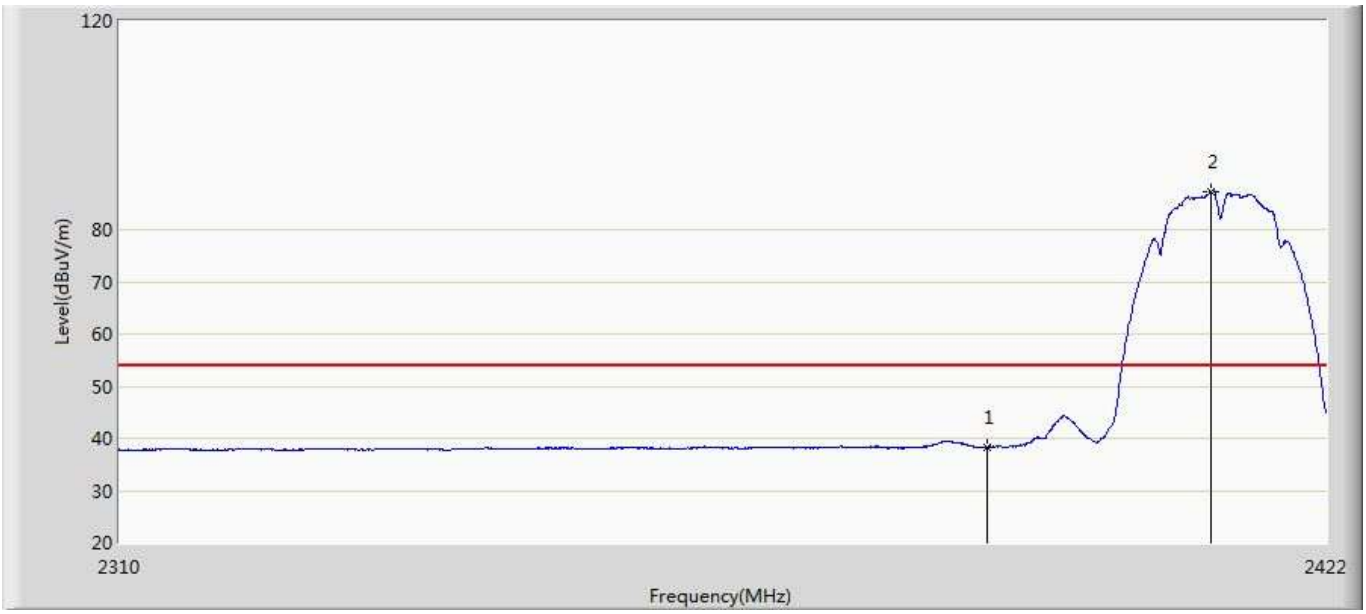
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.426	3.744	-14.574	54.000	35.682	AV
2	*	2411.528	93.575	57.836	39.575	54.000	35.740	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:40
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 2412 by 802.11b	



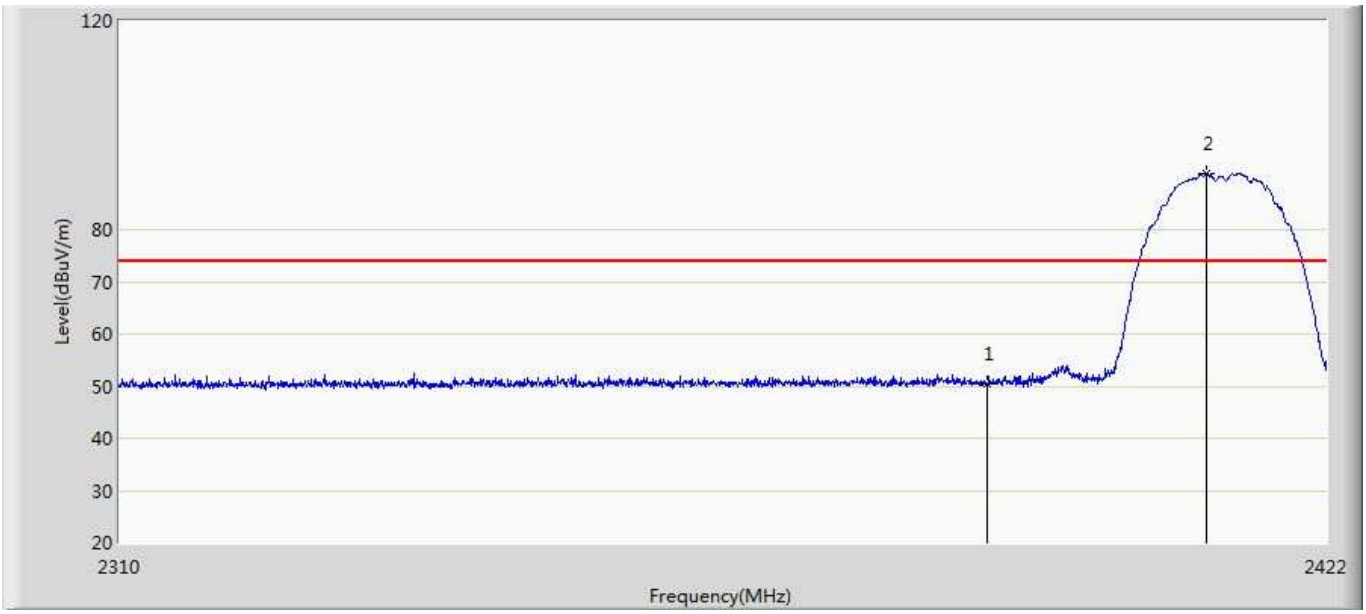
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.614	14.932	-23.386	74.000	35.682	PK
2	*	2411.024	96.501	60.764	22.501	74.000	35.737	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:46
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 2412 by 802.11b	



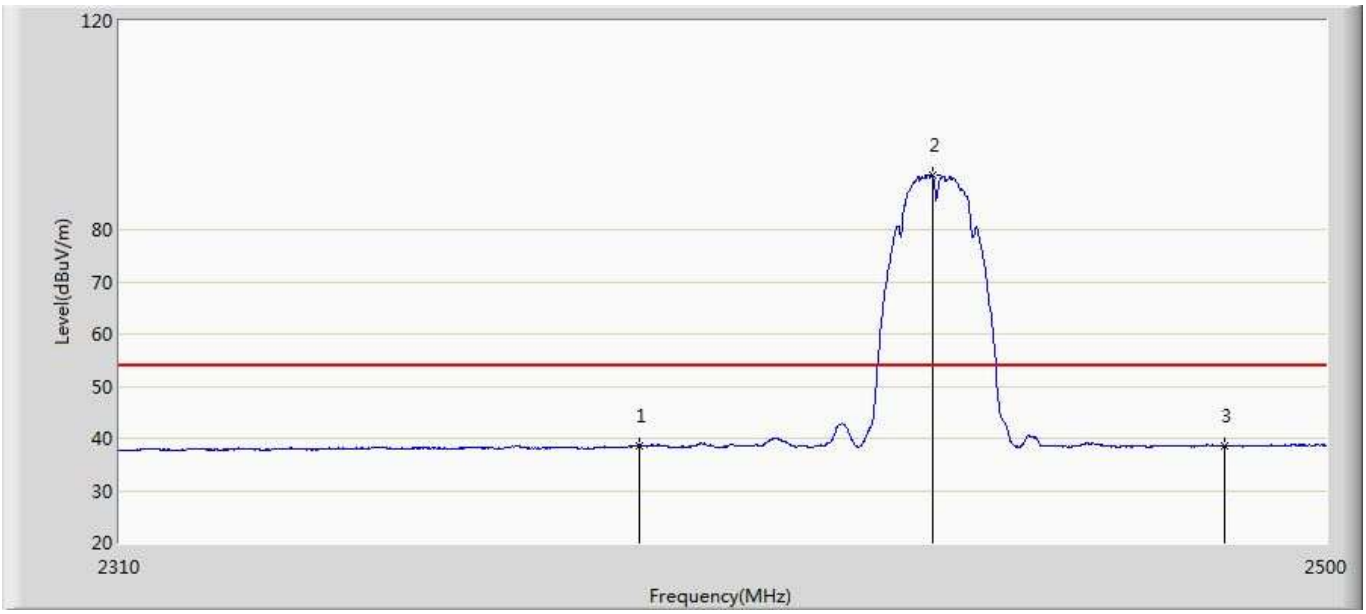
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.344	2.662	-15.656	54.000	35.682	AV
2	*	2411.080	87.251	51.513	33.251	54.000	35.737	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:48
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 2412 by 802.11b	



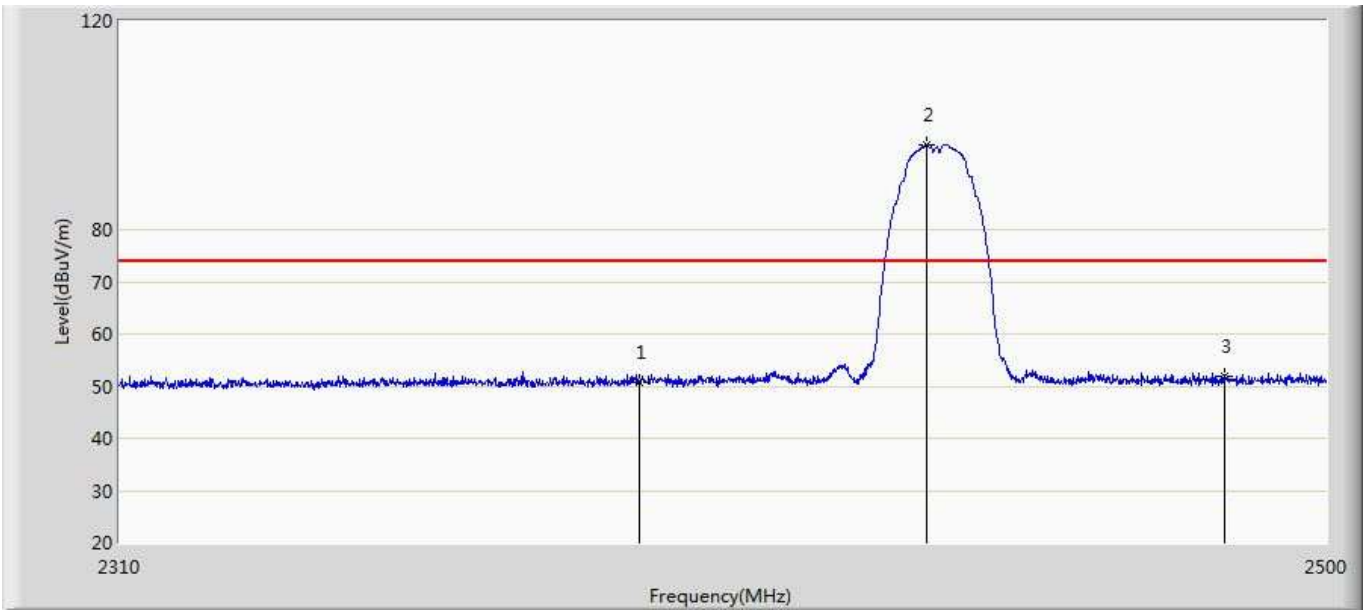
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.396	14.714	-23.604	74.000	35.682	PK
2	*	2410.632	90.684	54.948	16.684	74.000	35.737	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:50
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 2437 by 802.11b	



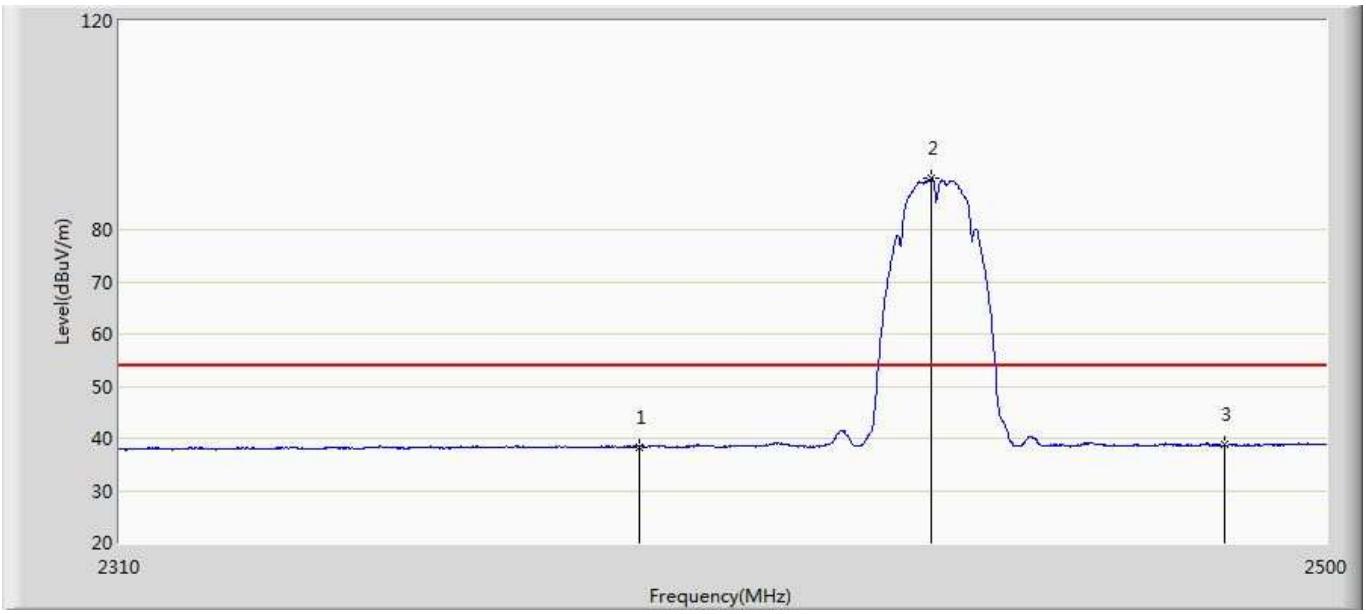
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.542	2.860	-15.458	54.000	35.682	AV
2	*	2436.350	90.375	54.569	36.375	54.000	35.806	AV
3		2483.500	38.502	2.610	-15.498	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:54
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 2437 by 802.11b	



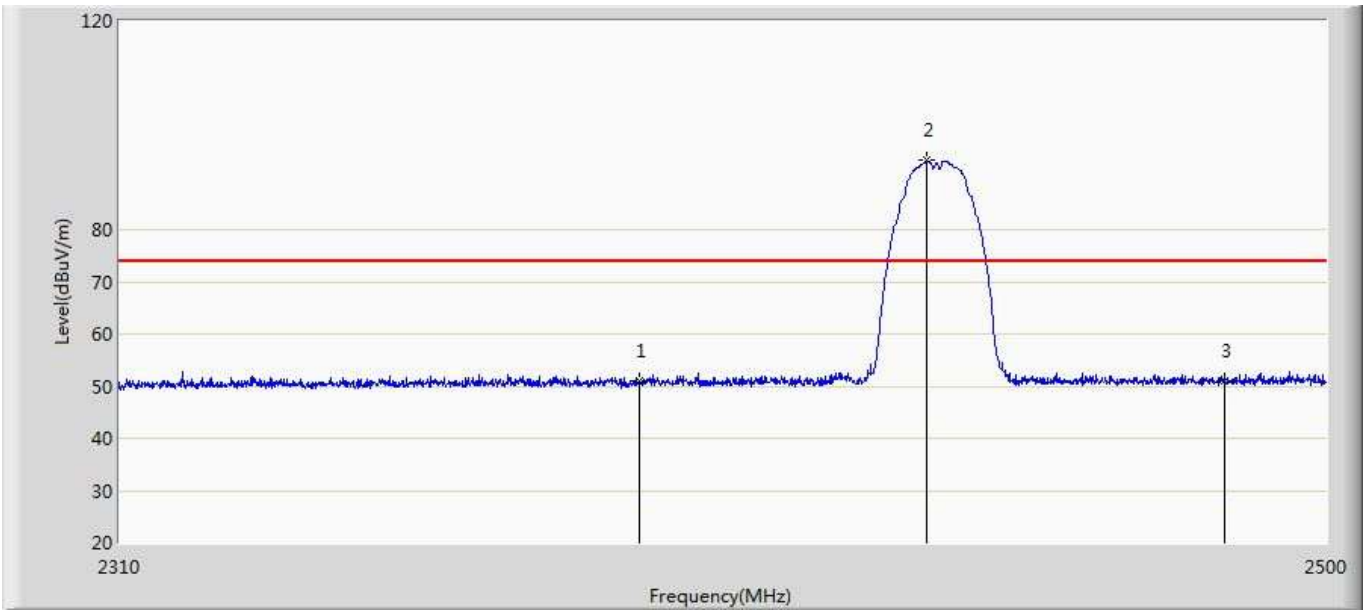
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.774	15.092	-23.226	74.000	35.682	PK
2	*	2435.495	96.295	60.489	22.295	74.000	35.807	PK
3		2483.500	51.765	15.873	-22.235	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:55
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 2437 by 802.11b	



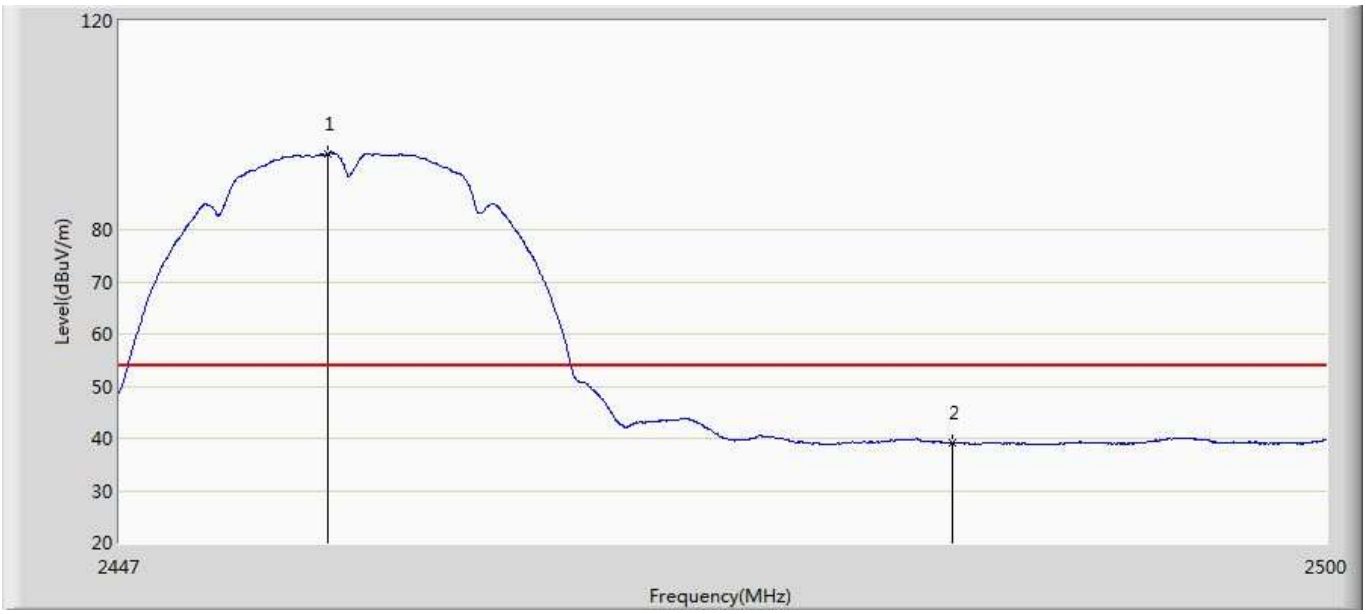
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.383	2.701	-15.617	54.000	35.682	AV
2	*	2436.160	89.834	54.028	35.834	54.000	35.807	AV
3		2483.500	38.704	2.812	-15.296	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 18:59
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 2437 by 802.11b	



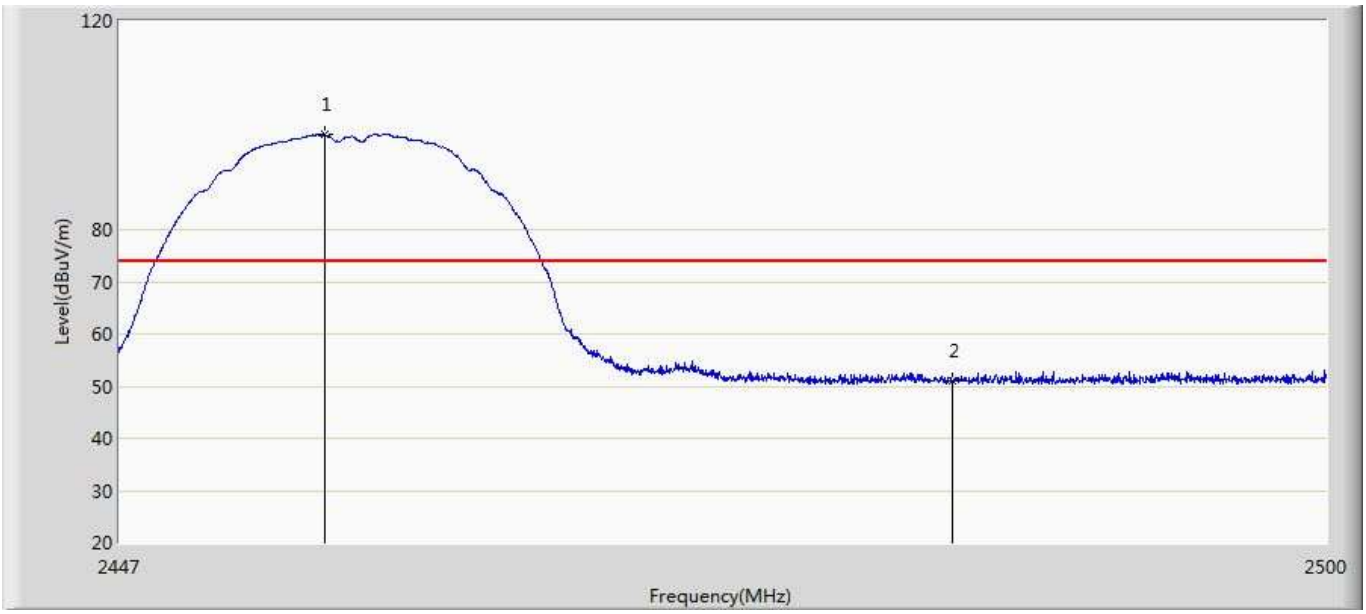
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.072	15.390	-22.928	74.000	35.682	PK
2	*	2435.495	93.229	57.423	19.229	74.000	35.807	PK
3		2483.500	50.935	15.043	-23.065	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:02
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 2457 by 802.11b	



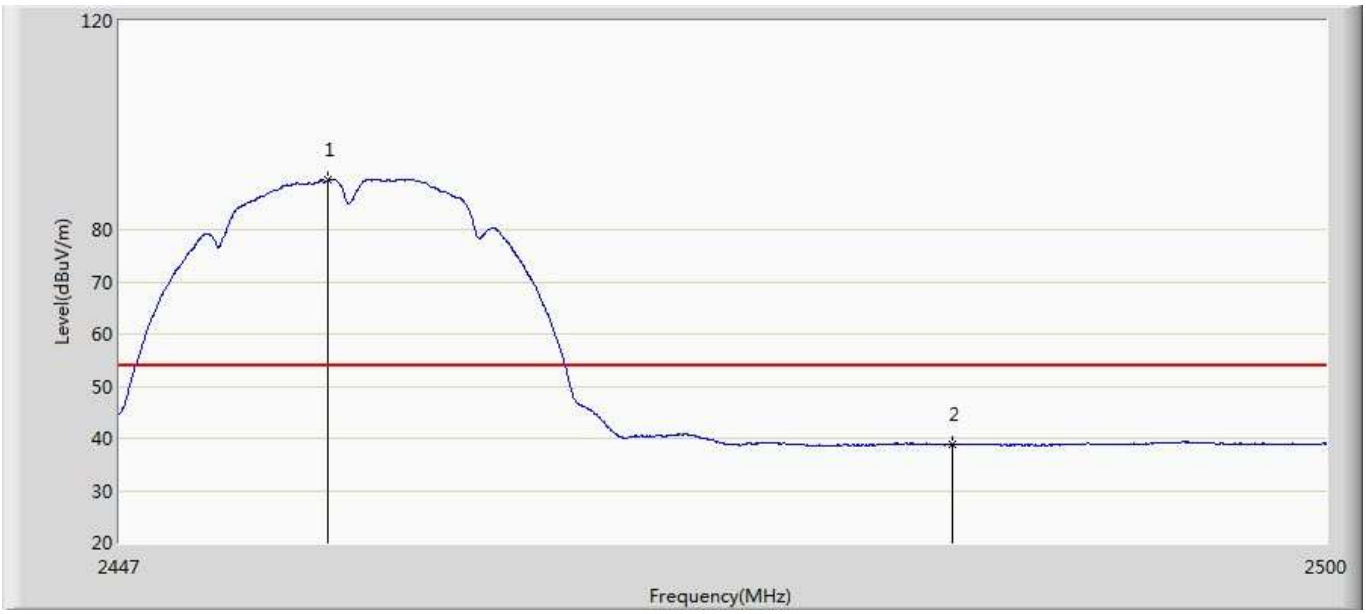
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.090	94.541	58.689	40.541	54.000	35.852	AV
2		2483.500	39.092	3.200	-14.908	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:04
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 2457 by 802.11b	



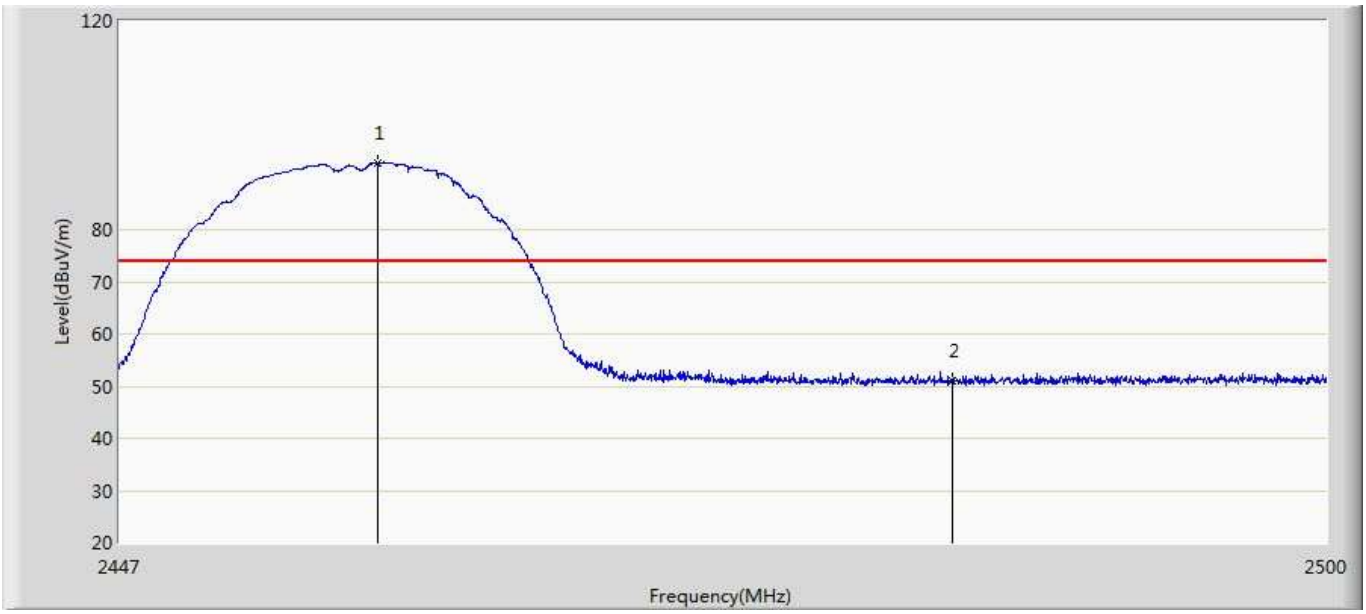
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.930	98.127	62.275	24.127	74.000	35.852	PK
2		2483.500	50.969	15.077	-23.031	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2457 by 802.11b	



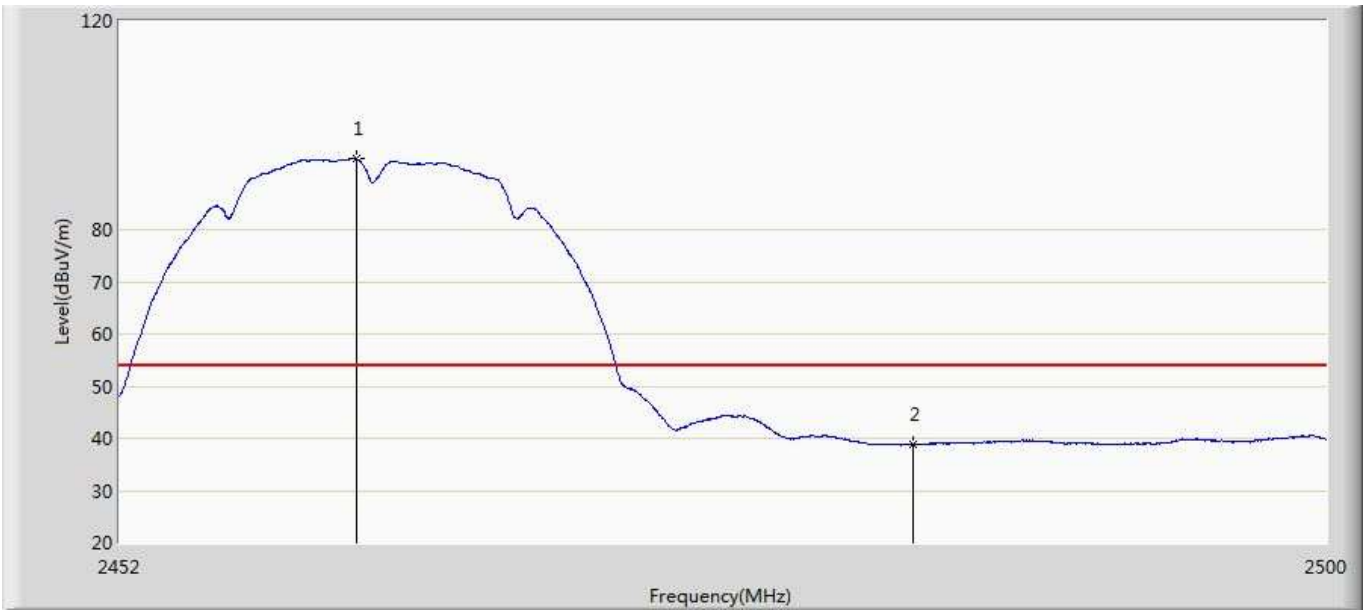
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.090	89.468	53.616	35.468	54.000	35.852	AV
2		2483.500	38.887	2.995	-15.113	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:10
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 2457 by 802.11b	



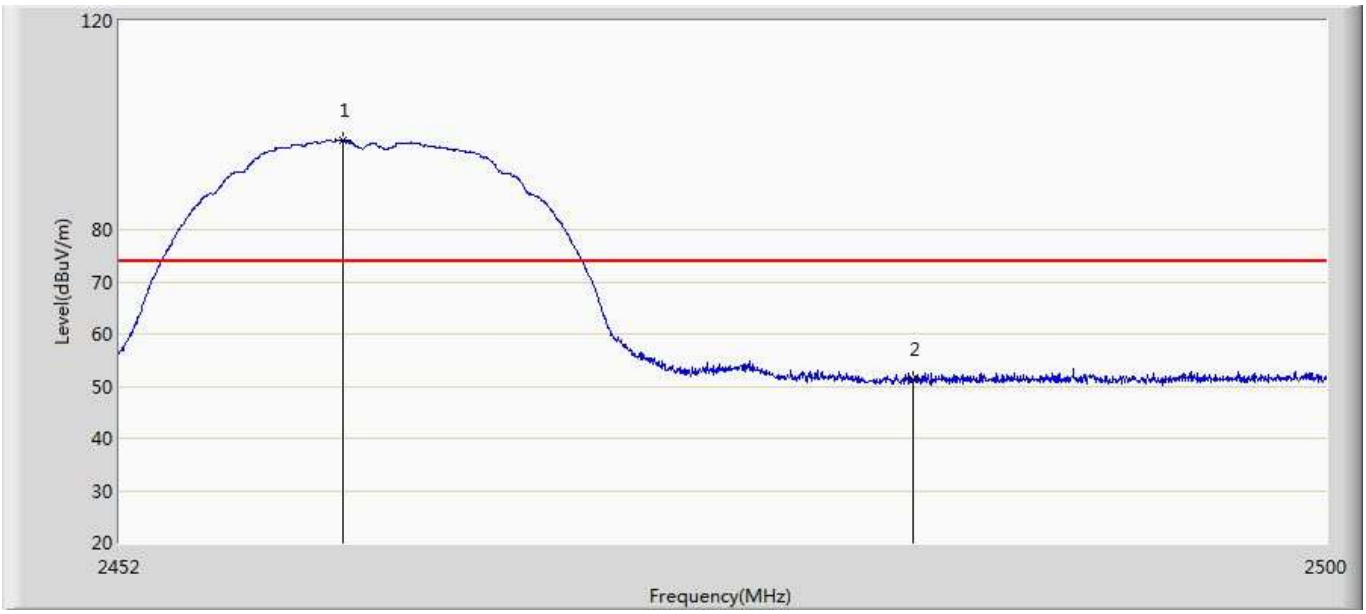
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.236	92.833	56.971	18.833	74.000	35.862	PK
2		2483.500	51.014	15.122	-22.986	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:11
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 2462 by 802.11b	



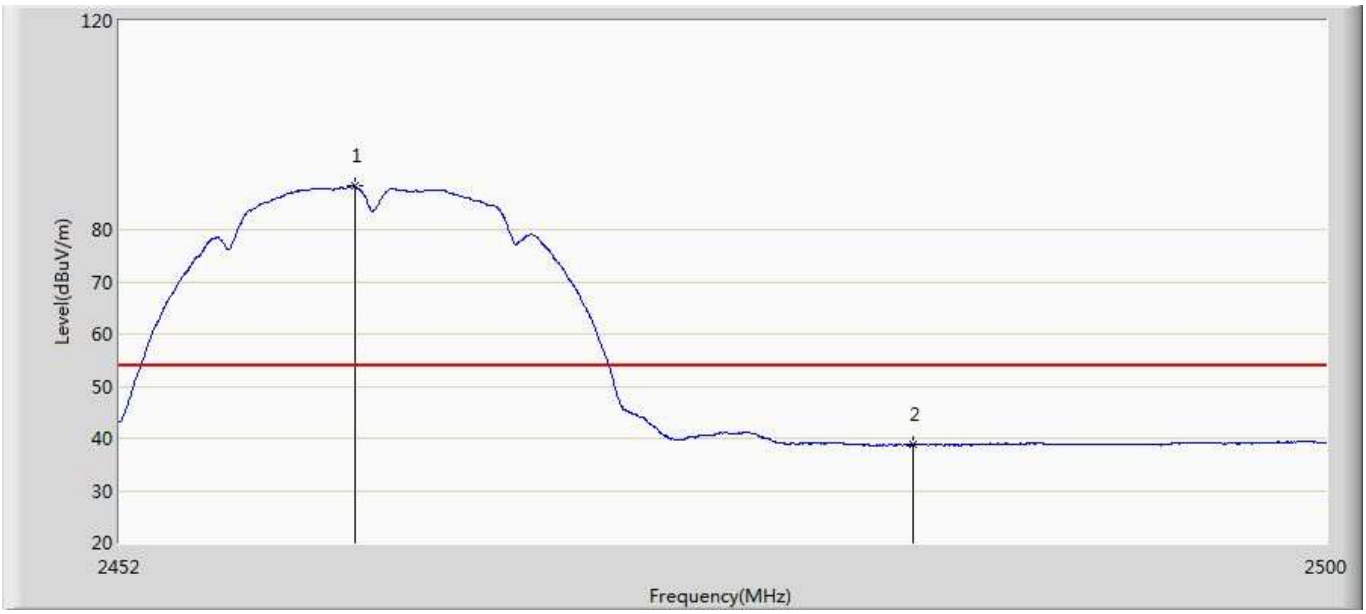
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	93.576	57.701	39.576	54.000	35.875	AV
2		2483.500	38.848	2.956	-15.152	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462 by 802.11b	



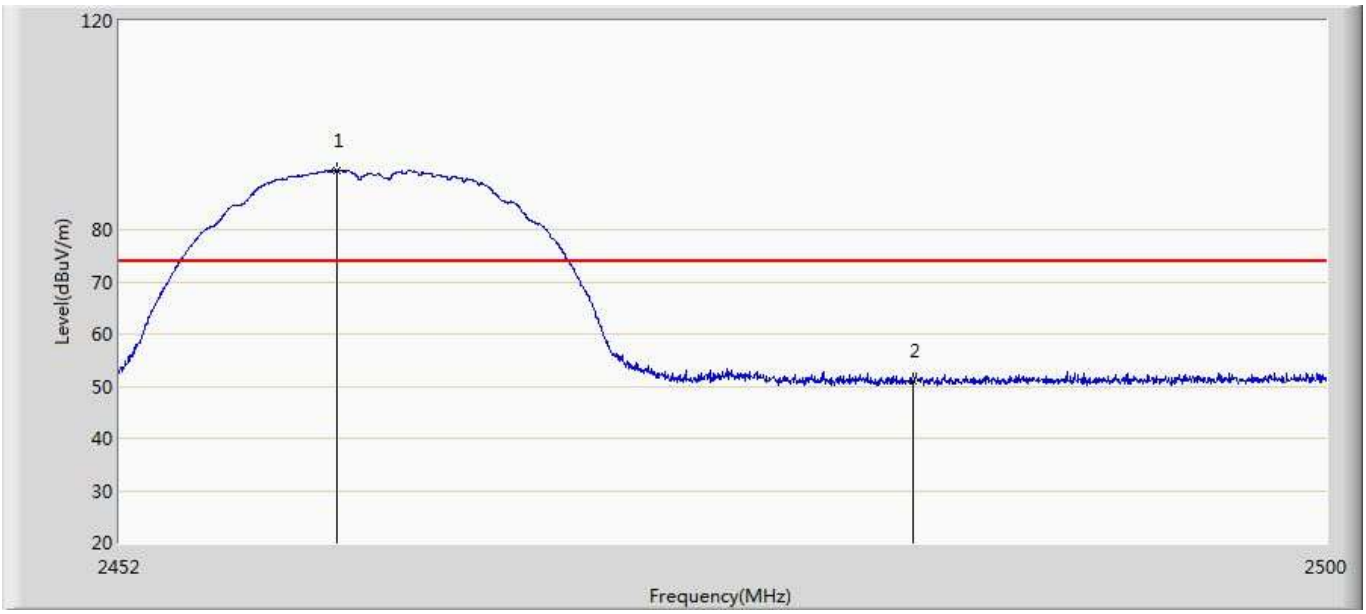
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.832	97.102	61.229	23.102	74.000	35.874	PK
2		2483.500	51.364	15.472	-22.636	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:19
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 2462 by 802.11b	



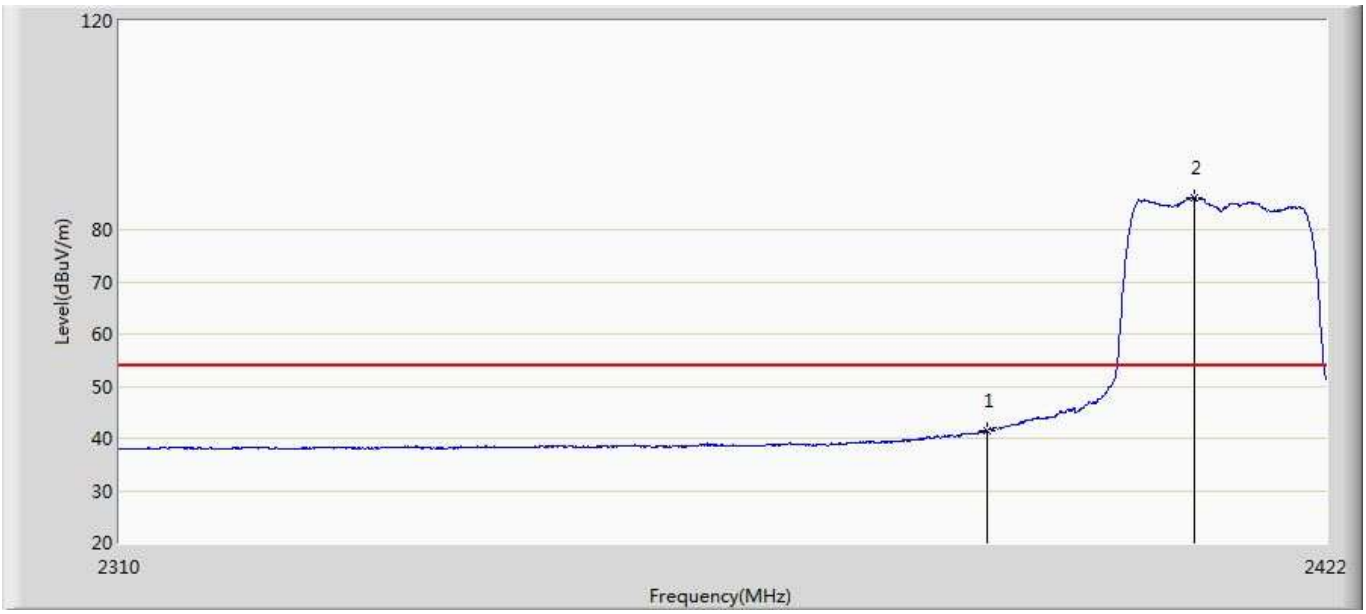
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	88.363	52.488	34.363	54.000	35.875	AV
2		2483.500	38.736	2.844	-15.264	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462 by 802.11b	



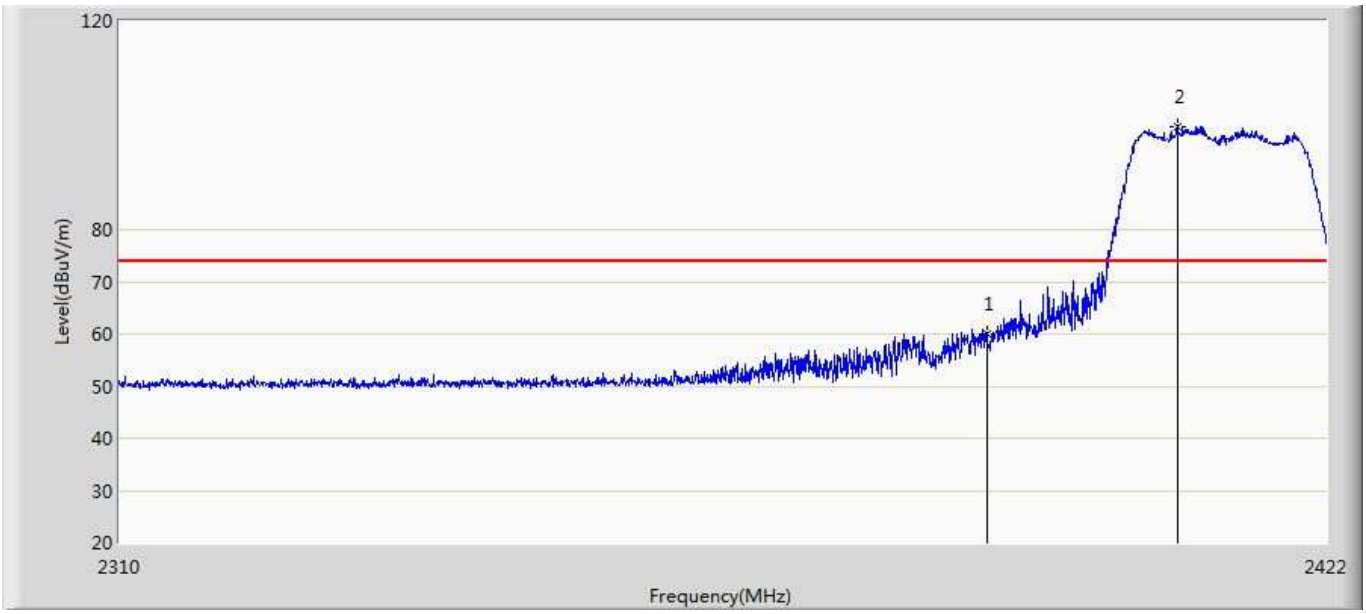
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.616	91.418	55.546	17.418	74.000	35.872	PK
2		2483.500	50.959	15.067	-23.041	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412 by 802.11g	



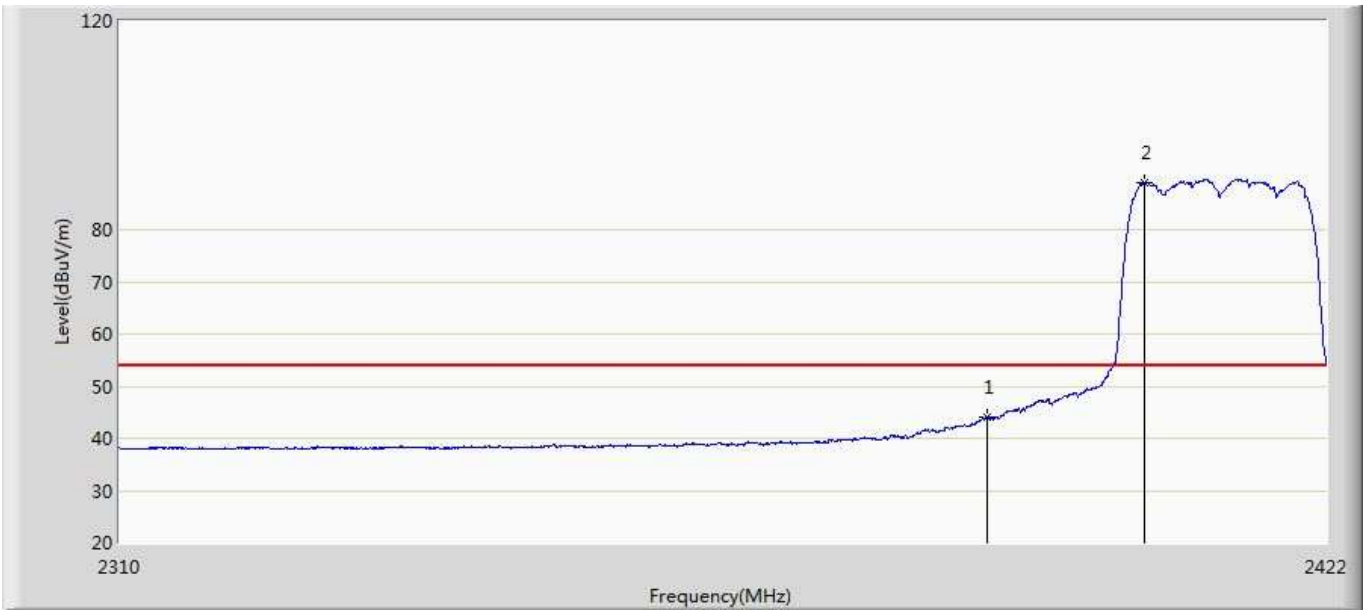
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.397	5.715	-12.603	54.000	35.682	AV
2	*	2409.568	86.089	50.356	32.089	54.000	35.733	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:25
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 2412 by 802.11g	



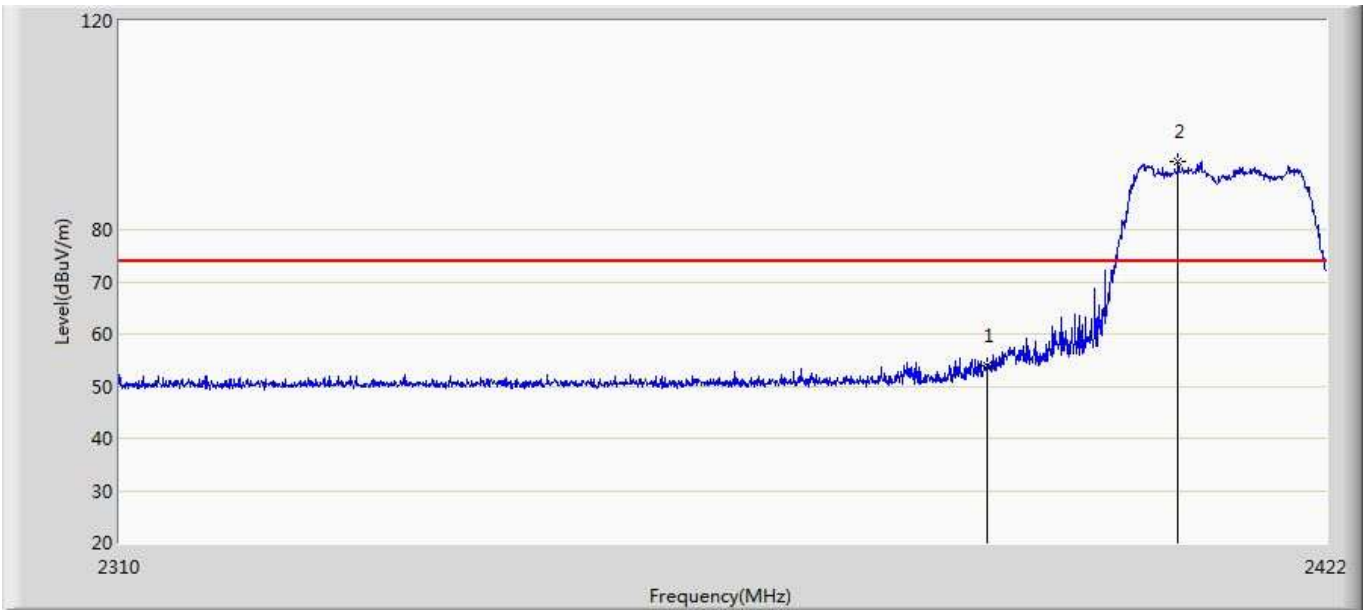
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.894	24.212	-14.106	74.000	35.682	PK
2	*	2407.888	99.736	64.007	25.736	74.000	35.728	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412 by 802.11g	



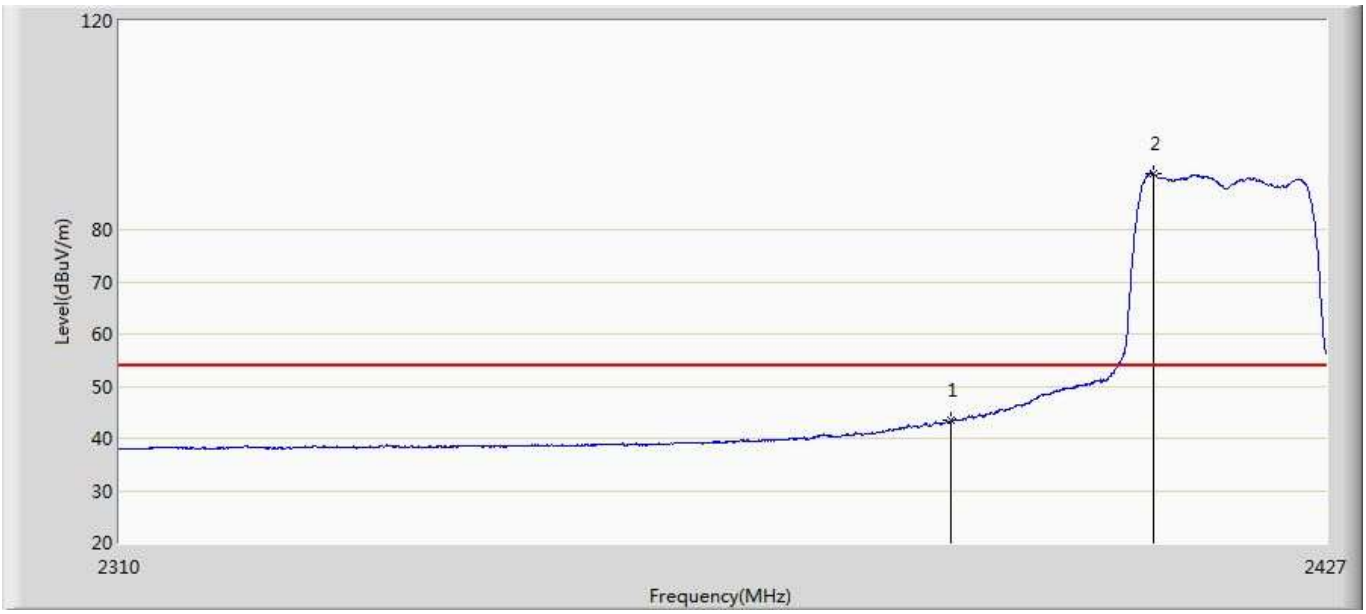
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.119	8.437	-9.881	54.000	35.682	AV
2	*	2404.864	89.112	53.392	35.112	54.000	35.721	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:29
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 2412 by 802.11g	



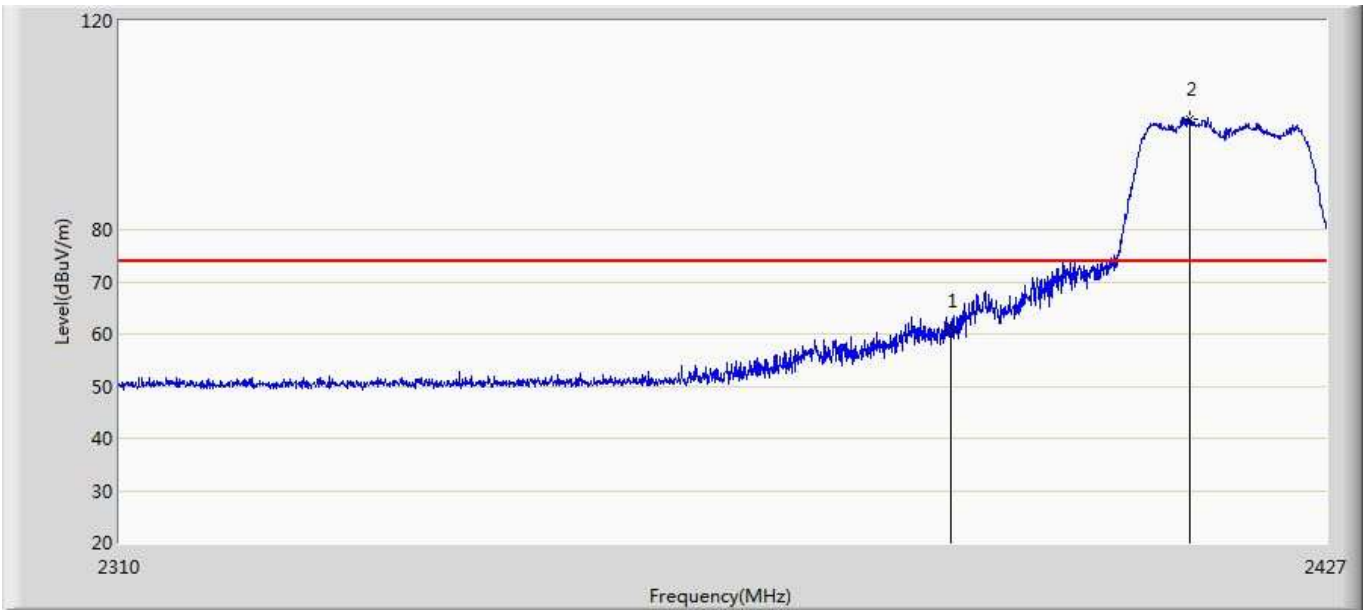
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.045	18.363	-19.955	74.000	35.682	PK
2	*	2408.000	93.038	57.309	19.038	74.000	35.729	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:31
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 2417 by 802.11g	



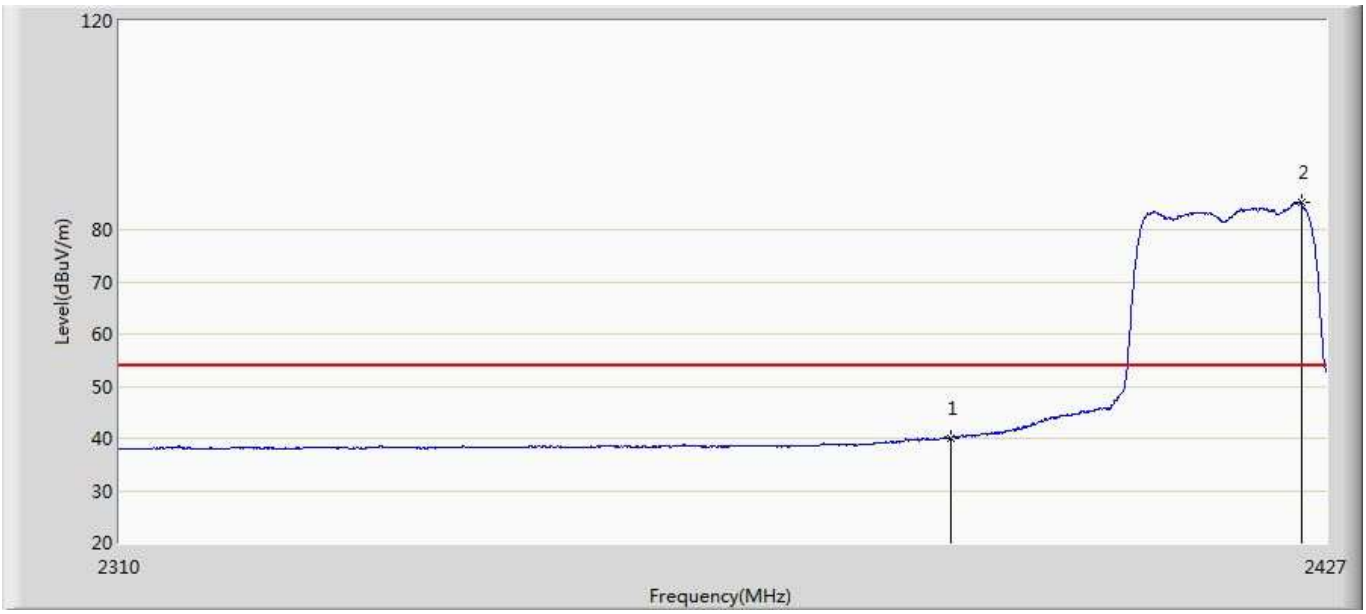
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.384	7.702	-10.616	54.000	35.682	AV
2	*	2409.918	90.669	54.935	36.669	54.000	35.735	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:33
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 2417 by 802.11g	



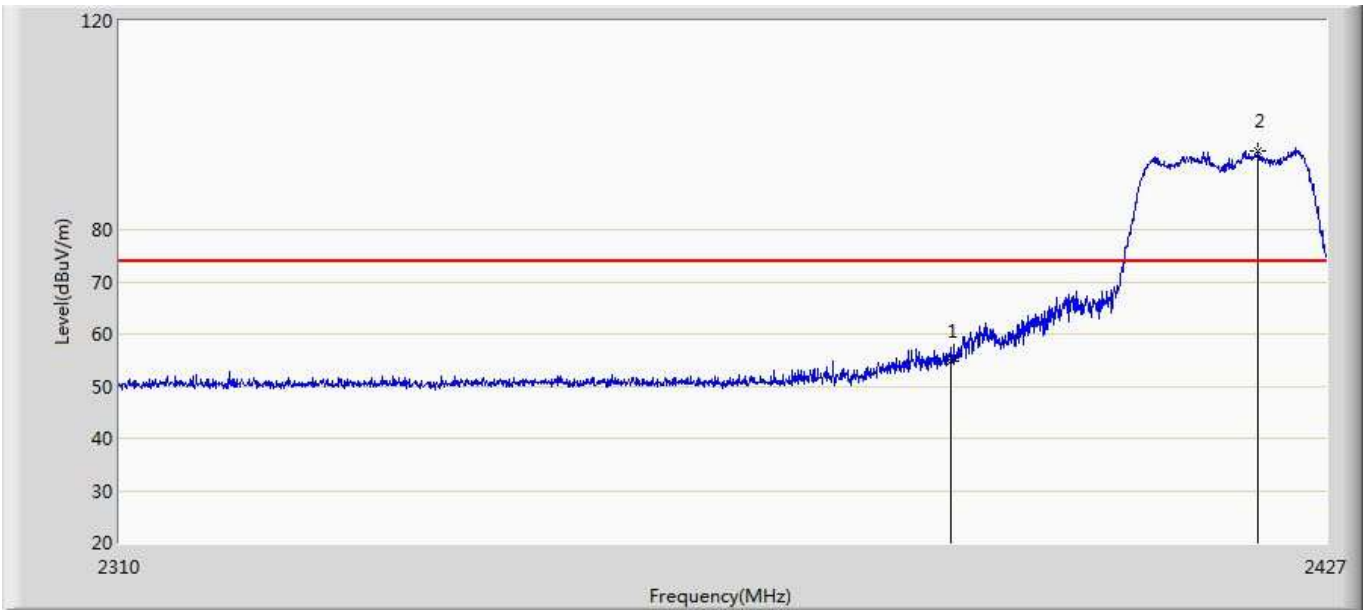
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.619	24.937	-13.381	74.000	35.682	PK
2	*	2413.487	101.125	65.377	27.125	74.000	35.748	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:35
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 2417 by 802.11g	



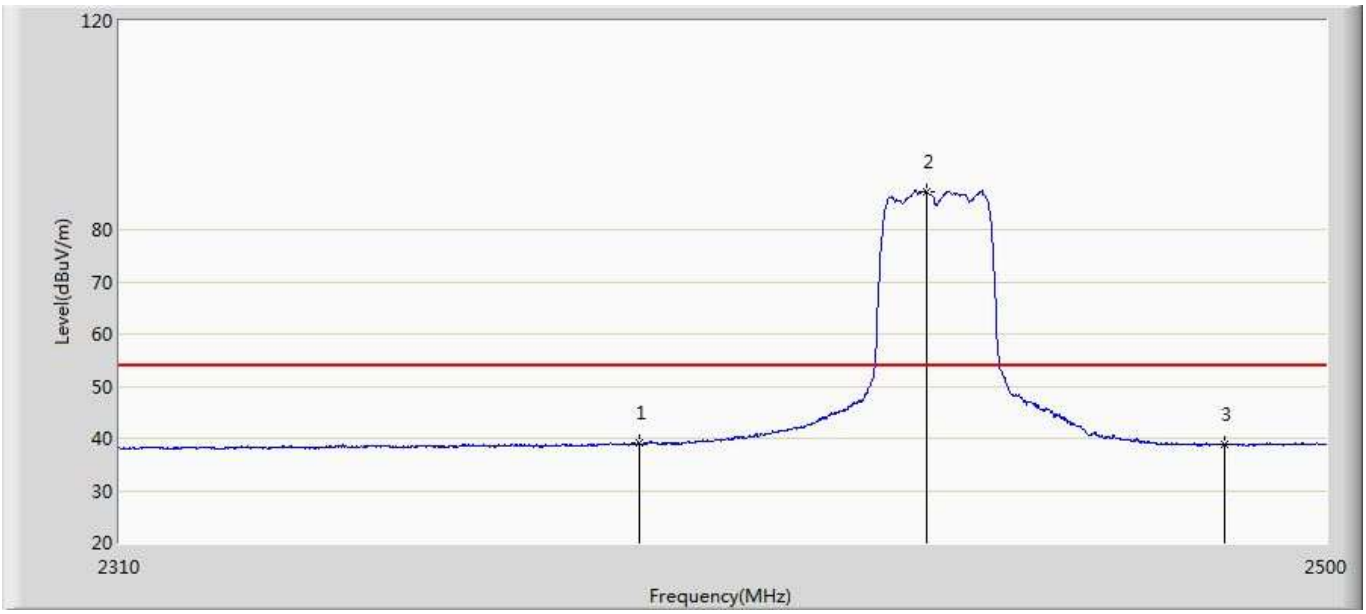
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.016	4.334	-13.984	54.000	35.682	AV
2	*	2424.660	85.202	49.407	31.202	54.000	35.795	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:36
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 2417 by 802.11g	



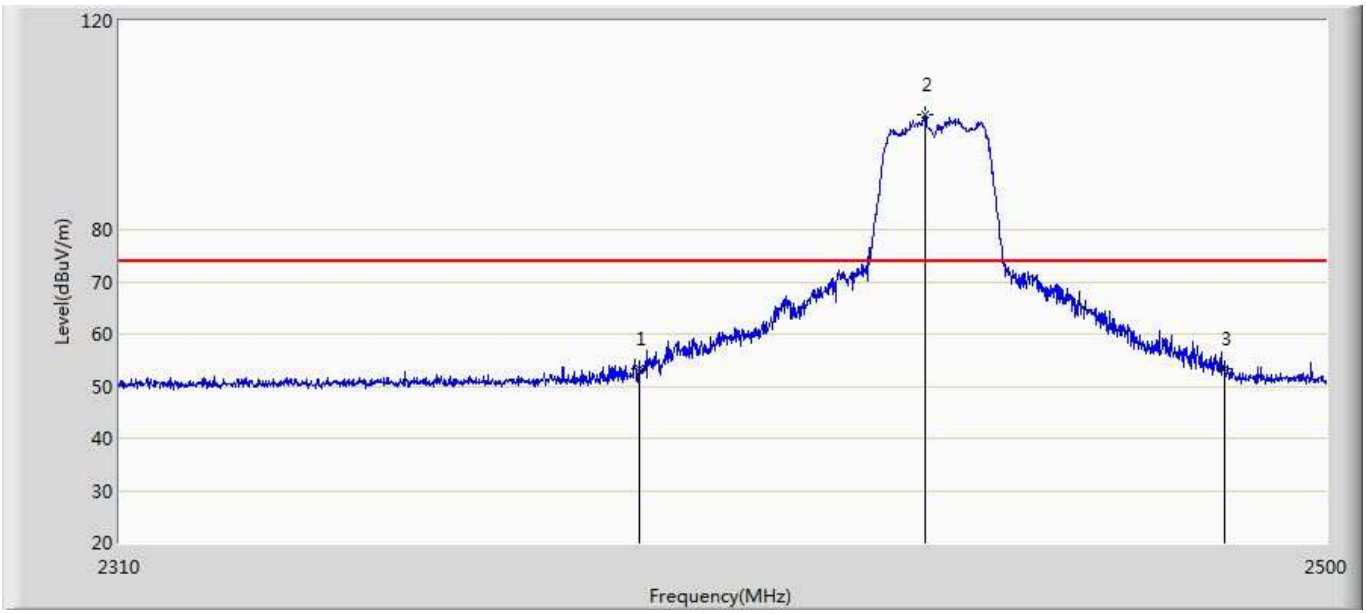
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.812	19.130	-19.188	74.000	35.682	PK
2	*	2420.272	95.052	59.276	21.052	74.000	35.776	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:39
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 2437 by 802.11g	



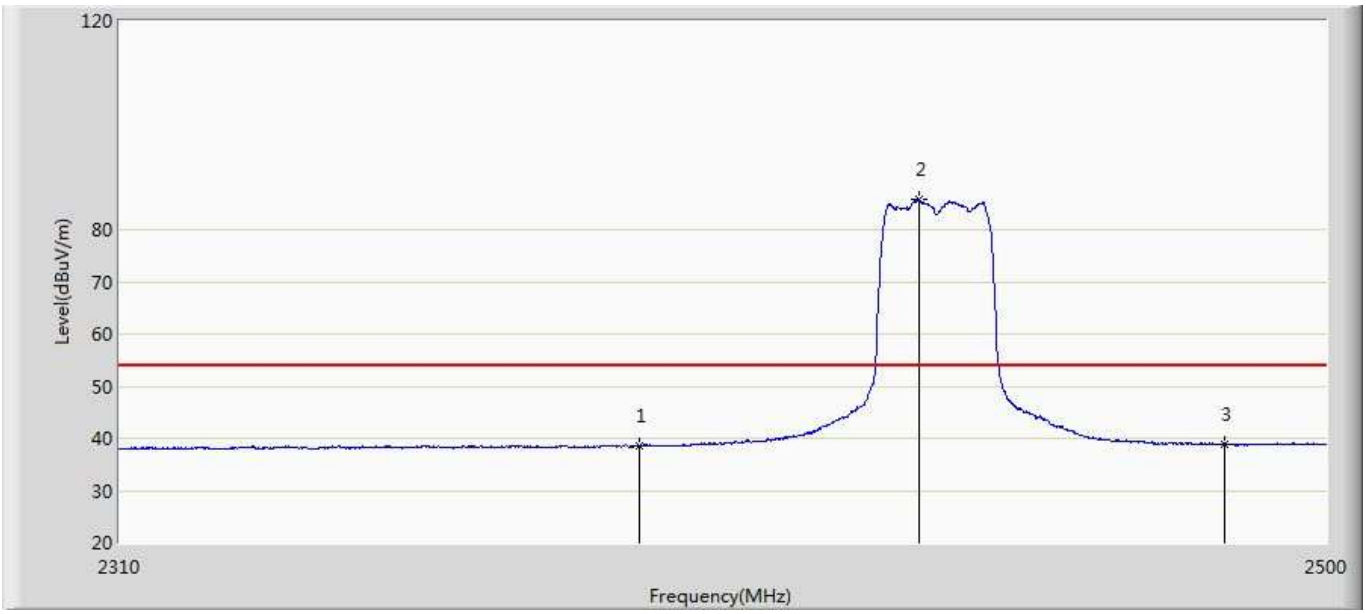
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.195	3.513	-14.805	54.000	35.682	AV
2	*	2435.400	87.244	51.437	33.244	54.000	35.807	AV
3		2483.500	38.929	3.037	-15.071	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437 by 802.11g	



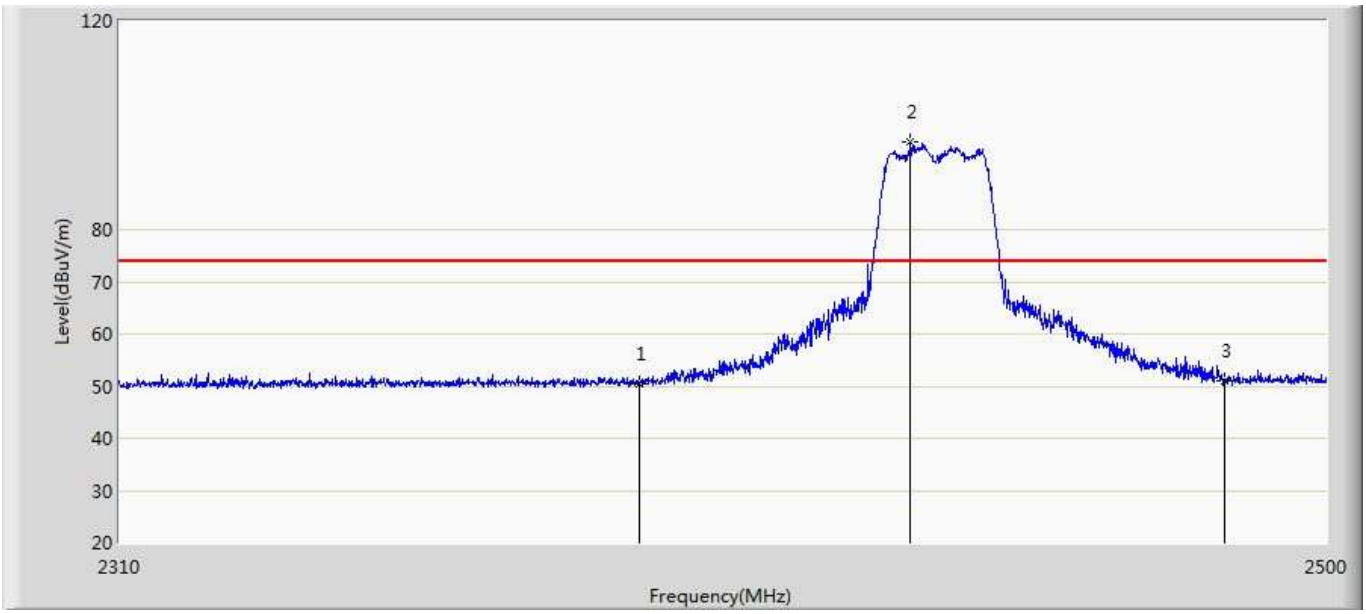
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.471	17.789	-20.529	74.000	35.682	PK
2	*	2435.210	102.164	66.357	28.164	74.000	35.806	PK
3		2483.500	53.256	17.364	-20.744	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:43
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 2437 by 802.11g	



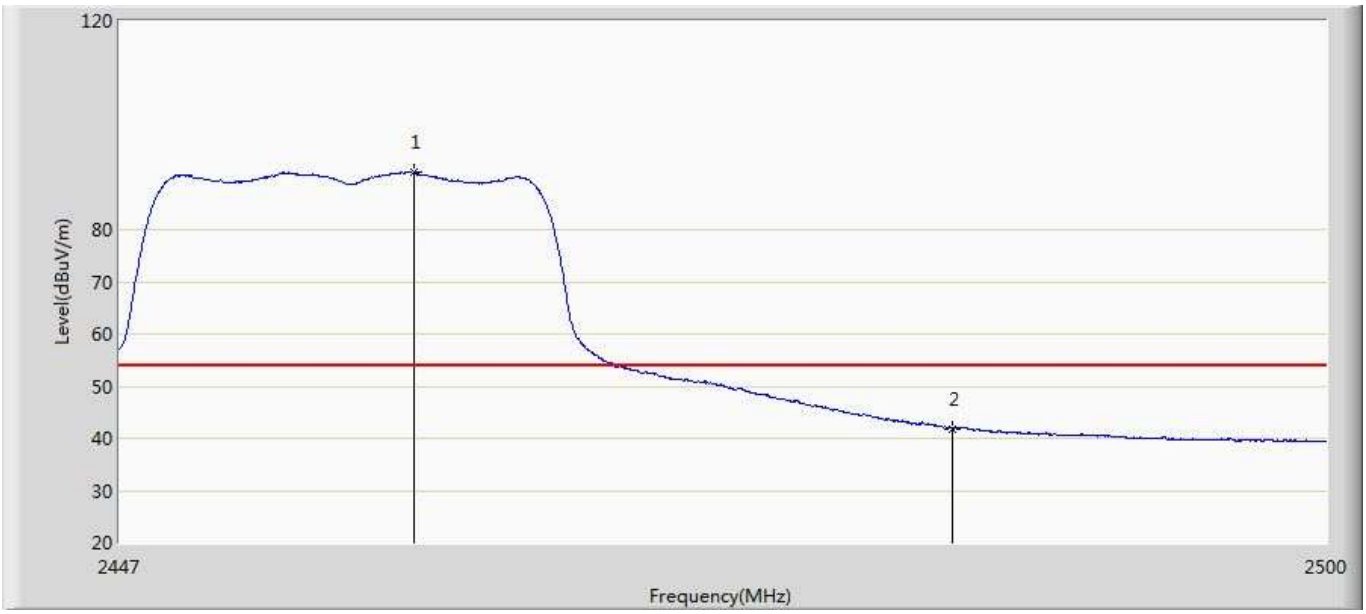
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.420	2.738	-15.580	54.000	35.682	AV
2	*	2434.165	85.910	50.103	31.910	54.000	35.807	AV
3		2483.500	38.929	3.037	-15.071	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437 by 802.11g	



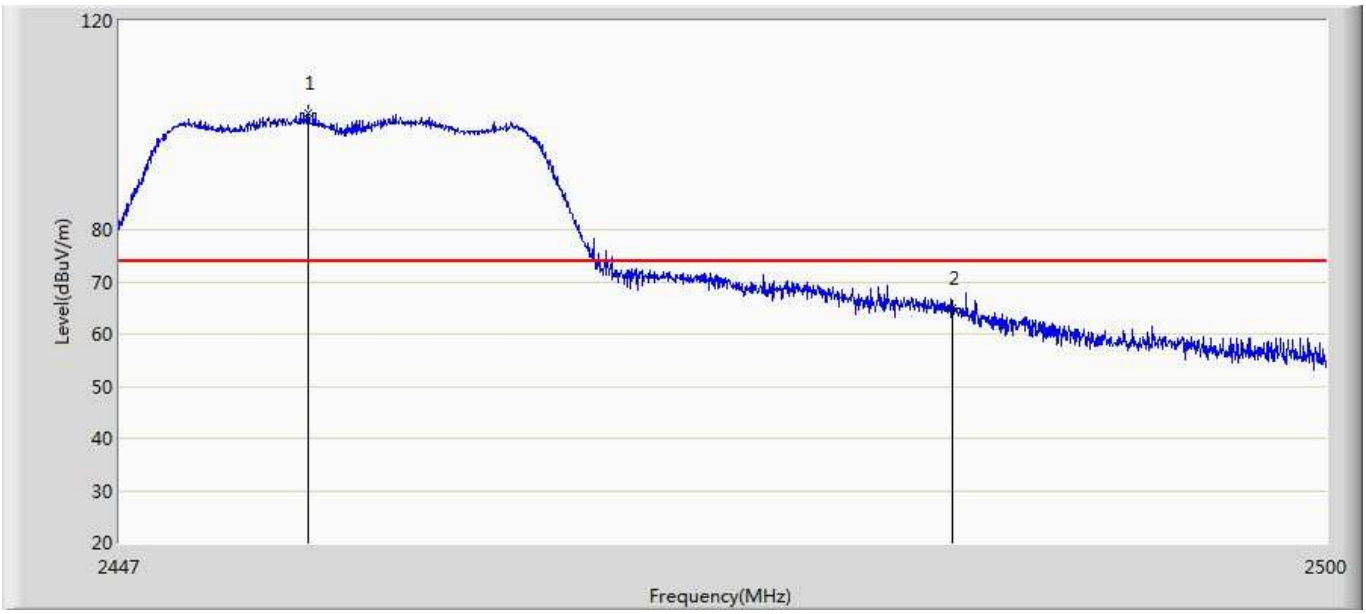
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.488	14.806	-23.512	74.000	35.682	PK
2	*	2432.835	96.871	61.064	22.871	74.000	35.808	PK
3		2483.500	50.873	14.981	-23.127	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2457 by 802.11g	



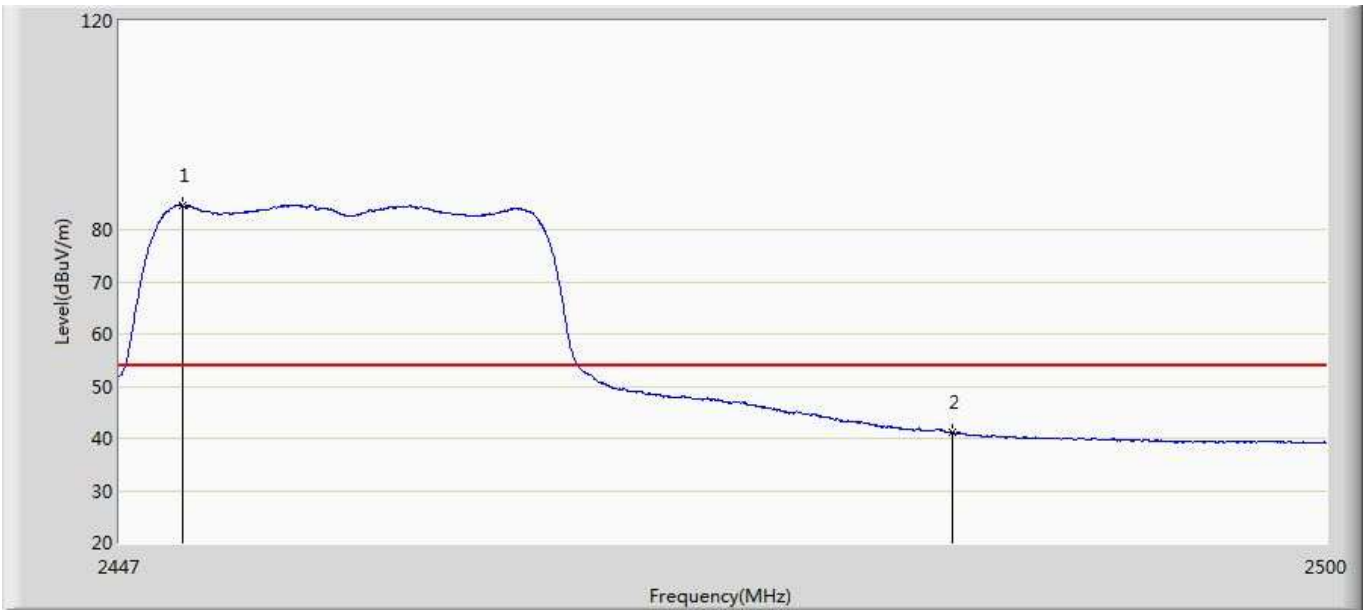
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2459.879	90.971	55.102	36.971	54.000	35.869	AV
2		2483.500	41.855	5.963	-12.145	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:49
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 2457 by 802.11g	



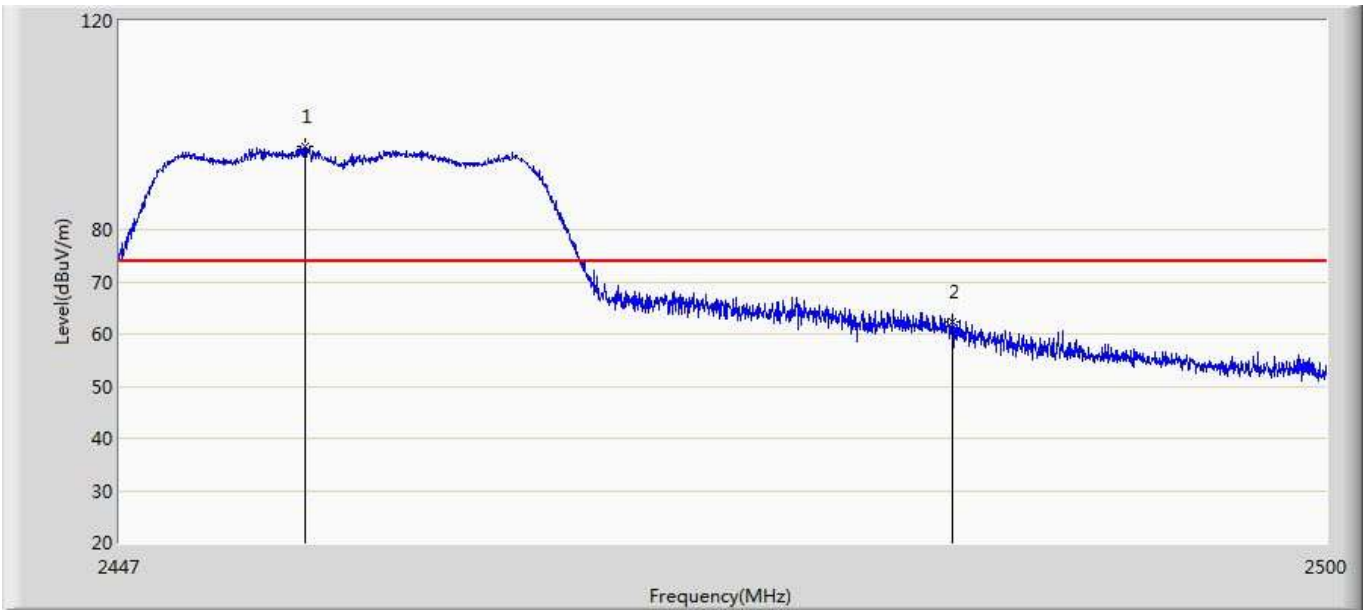
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.215	102.457	66.608	28.457	74.000	35.849	PK
2		2483.500	64.990	29.098	-9.010	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:50
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 2457 by 802.11g	



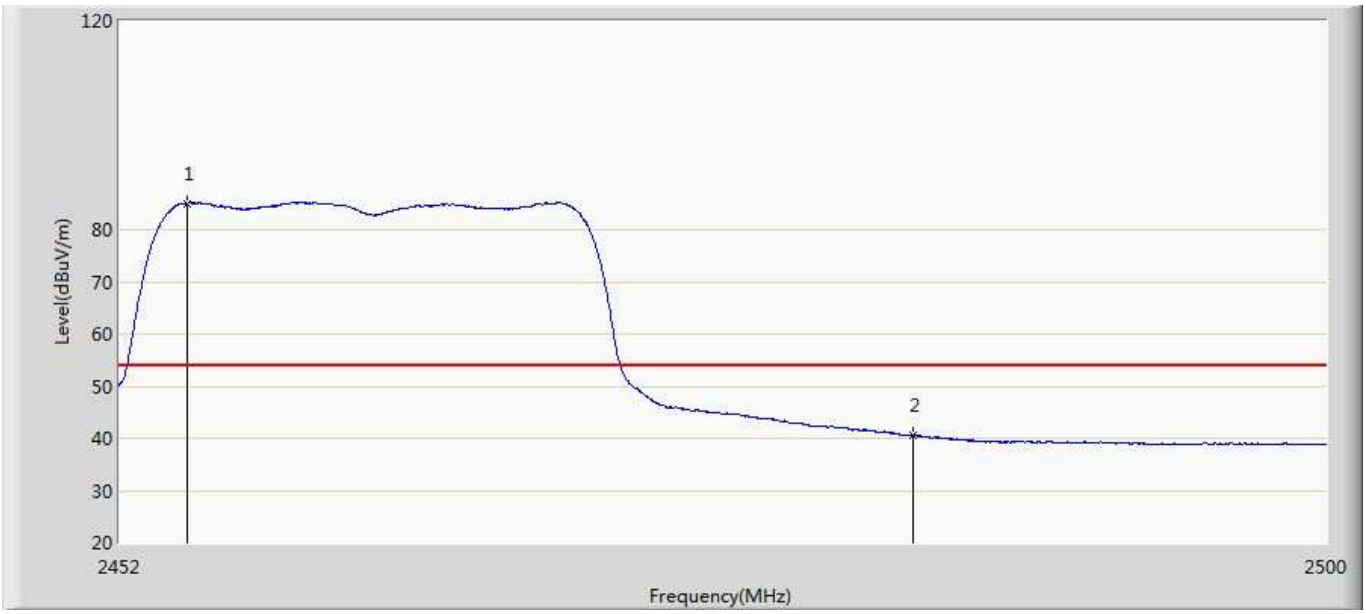
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.756	84.630	48.805	30.630	54.000	35.825	AV
2		2483.500	41.062	5.170	-12.938	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:52
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 2457 by 802.11g	



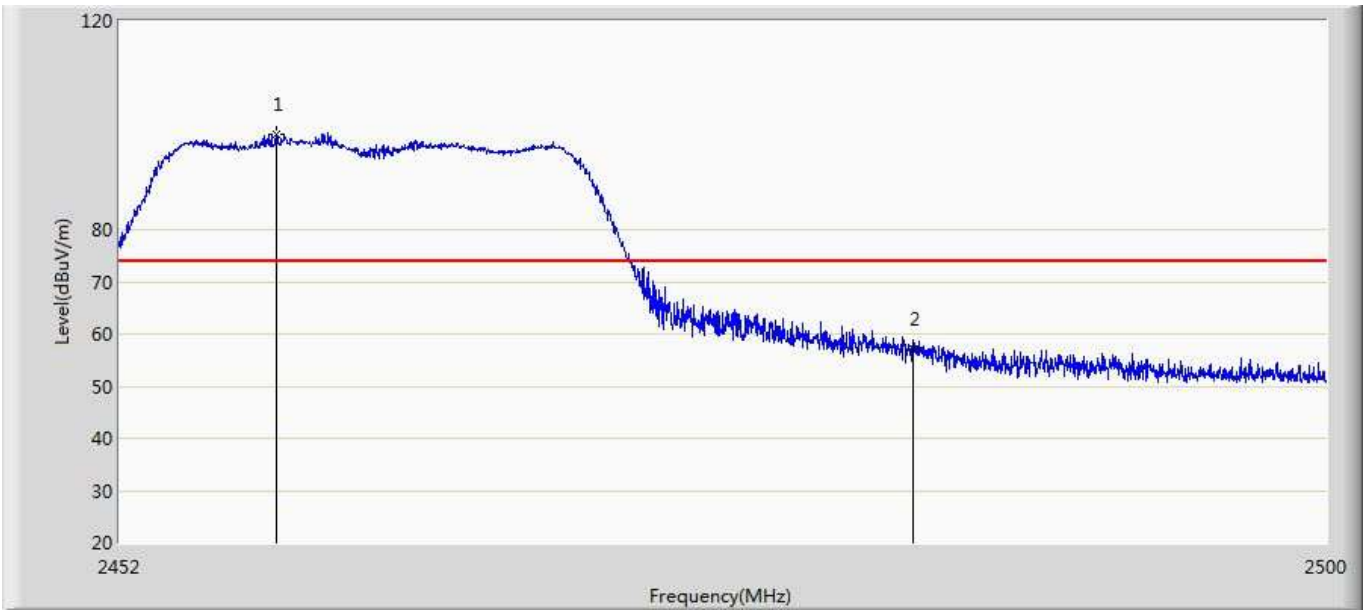
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.109	96.016	60.168	22.016	74.000	35.848	PK
2		2483.500	62.193	26.301	-11.807	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:54
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 2462 by 802.11g	



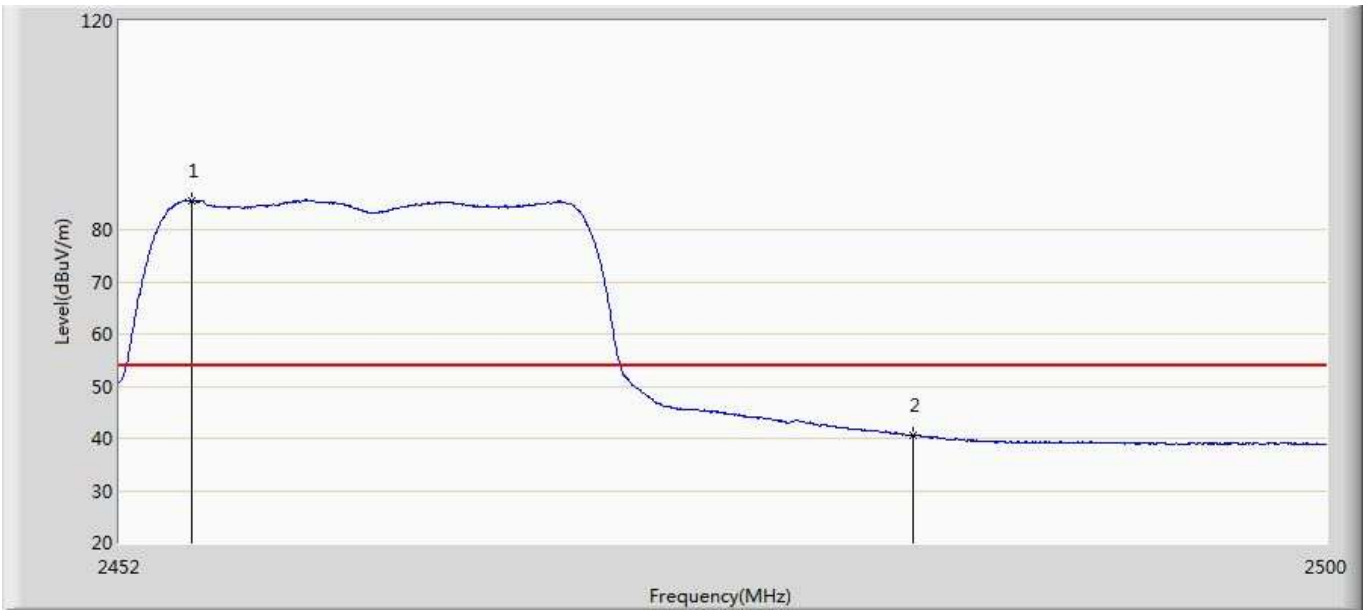
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.688	85.062	49.216	31.062	54.000	35.846	AV
2		2483.500	40.520	4.628	-13.480	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:56
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 2462 by 802.11g	



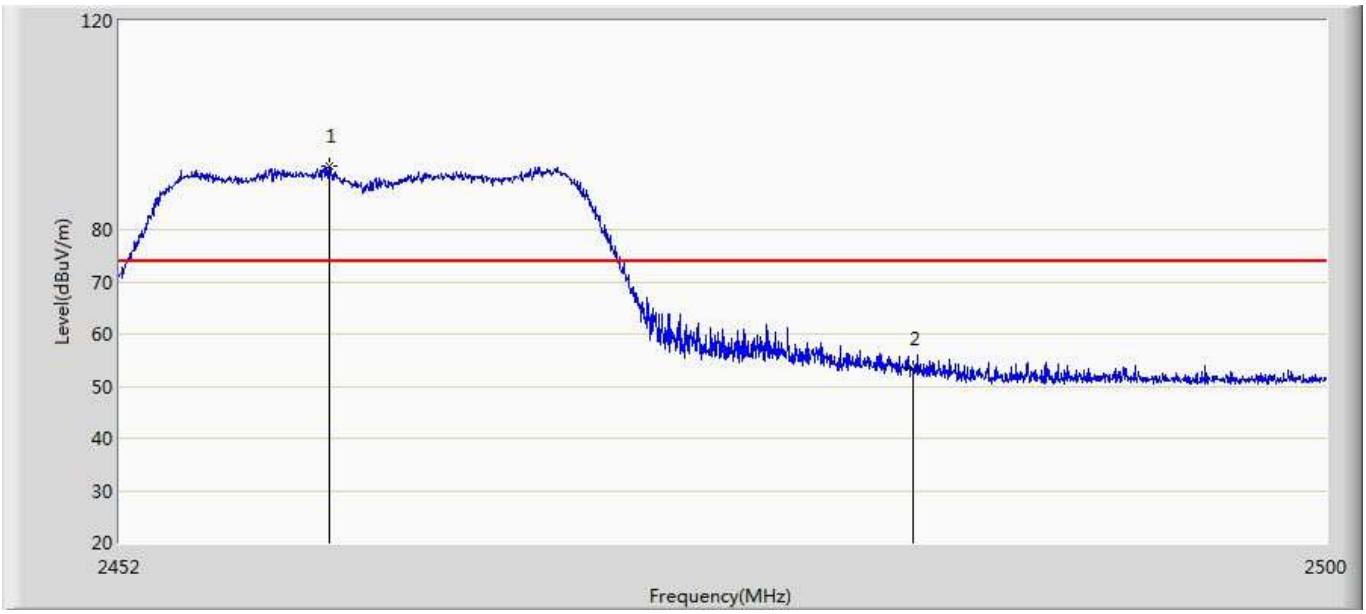
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.192	98.296	62.434	24.296	74.000	35.862	PK
2		2483.500	56.984	21.092	-17.016	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 19:58
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 2462 by 802.11g	



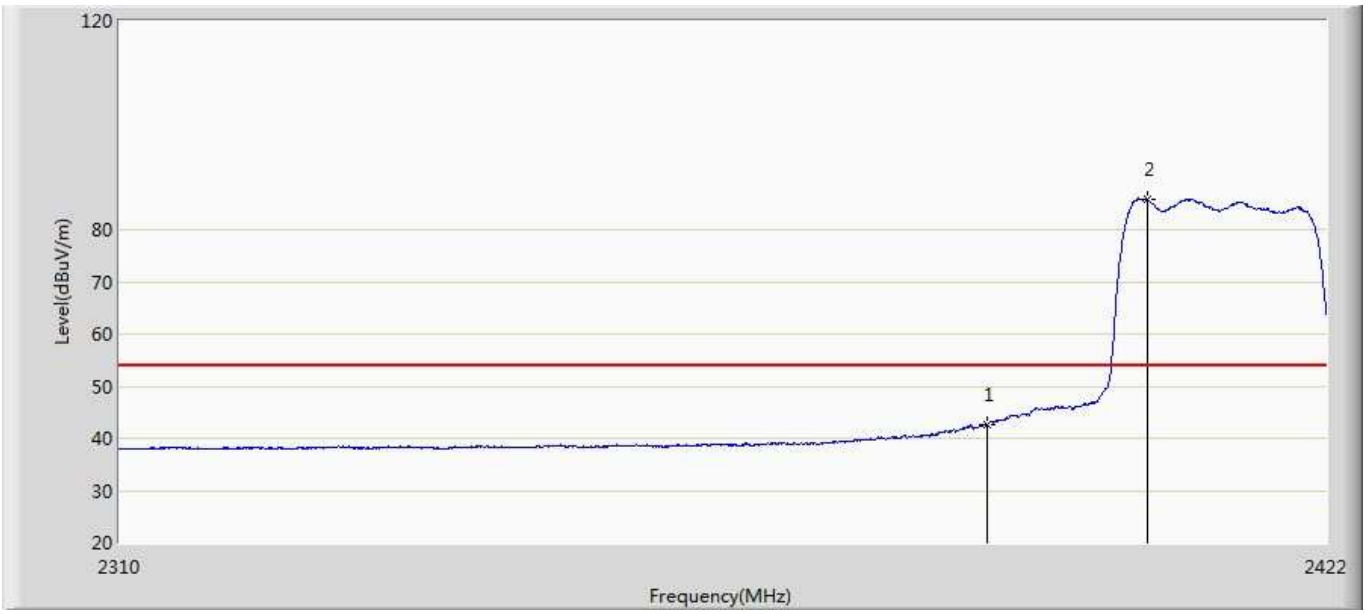
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.880	85.591	49.744	31.591	54.000	35.848	AV
2		2483.500	40.515	4.623	-13.485	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462 by 802.11g	



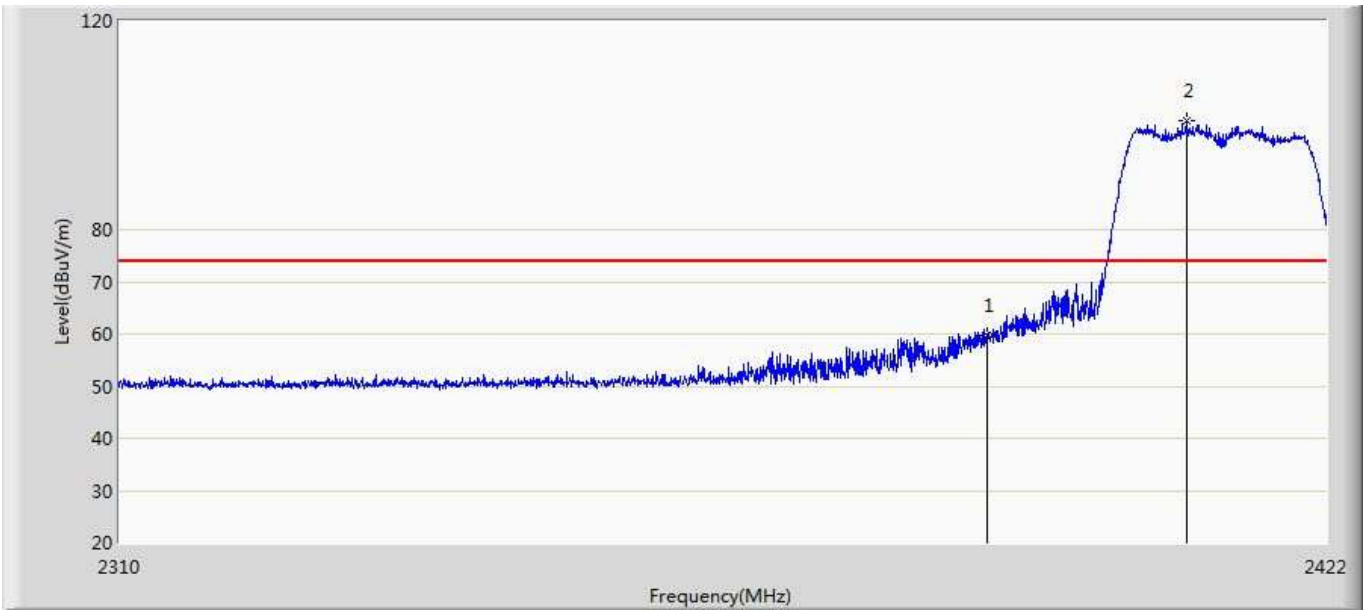
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.304	92.070	56.199	18.070	74.000	35.871	PK
2		2483.500	53.340	17.448	-20.660	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:03
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 2412 by 802.11n20	



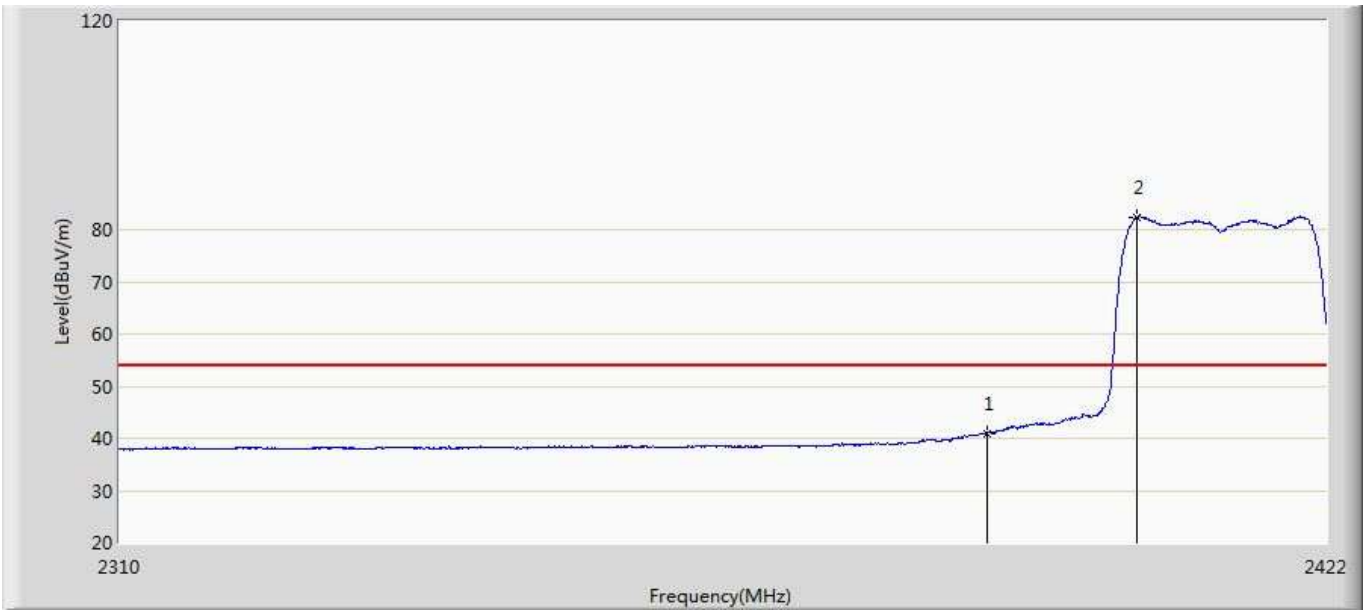
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.669	6.987	-11.331	54.000	35.682	AV
2	*	2405.088	85.766	50.045	31.766	54.000	35.721	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:04
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 2412 by 802.11n20	



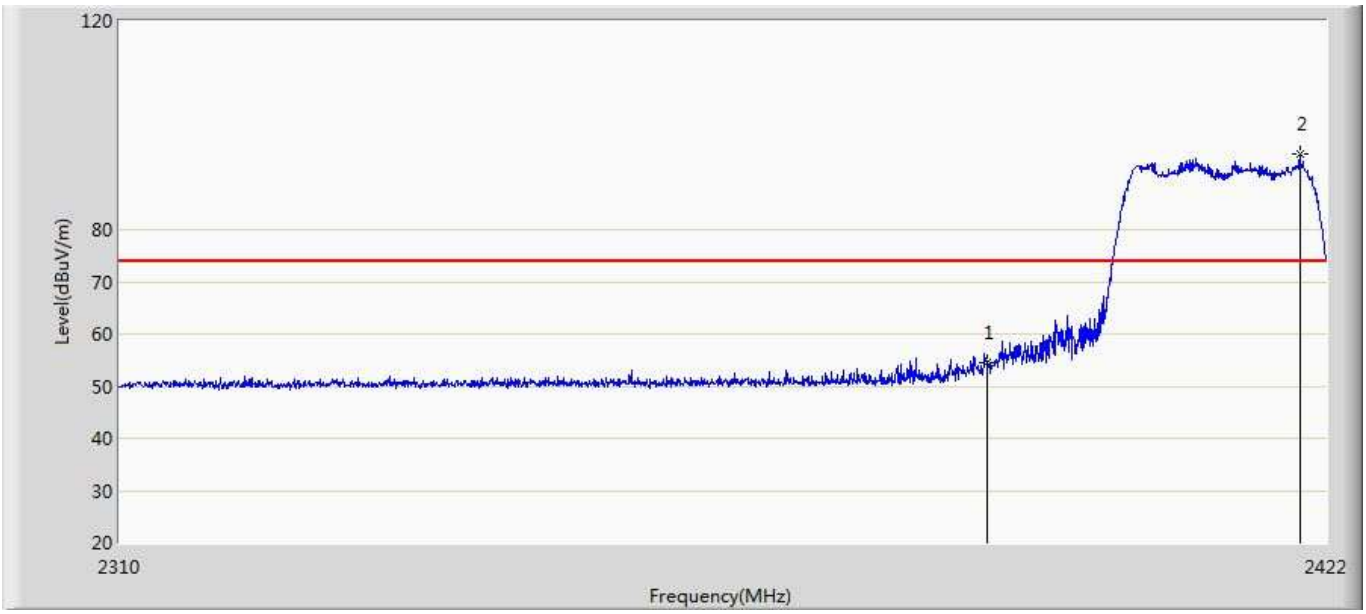
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.793	24.111	-14.207	74.000	35.682	PK
2	*	2408.784	100.821	65.090	26.821	74.000	35.731	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:06
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 2412 by 802.11n20	



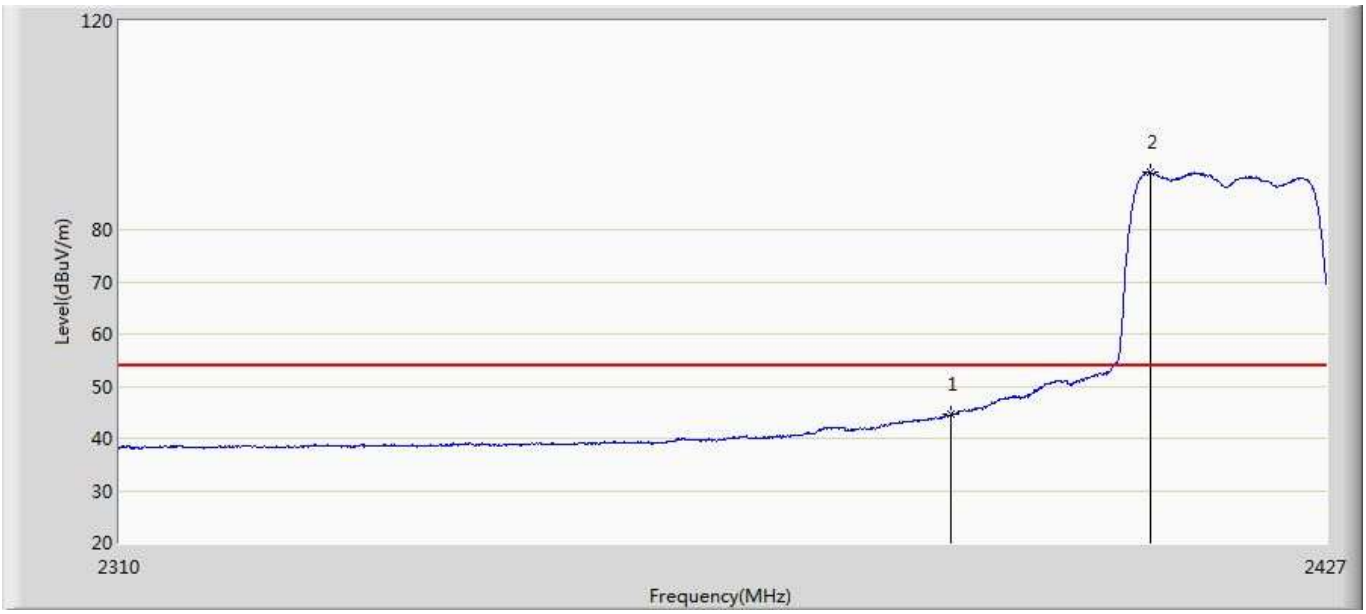
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.984	5.302	-13.016	54.000	35.682	AV
2	*	2404.080	82.389	46.671	28.389	54.000	35.718	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412 by 802.11n20	



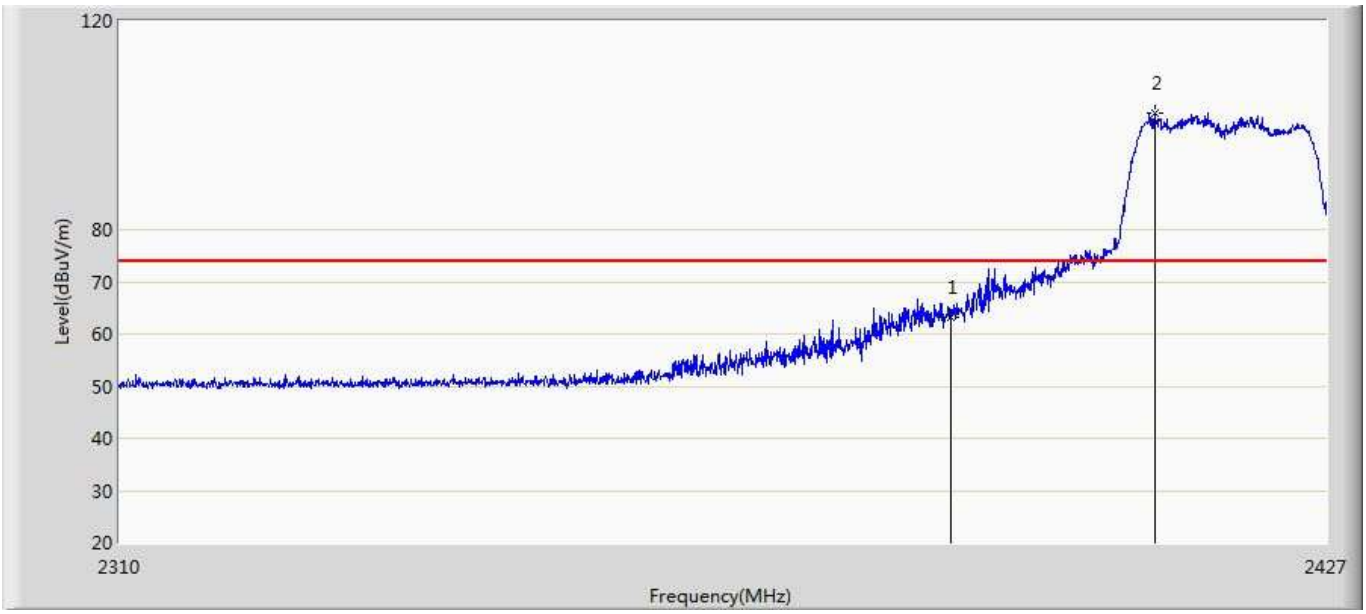
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.506	18.824	-19.494	74.000	35.682	PK
2	*	2419.536	94.395	58.622	20.395	74.000	35.773	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2417 by 802.11n20	



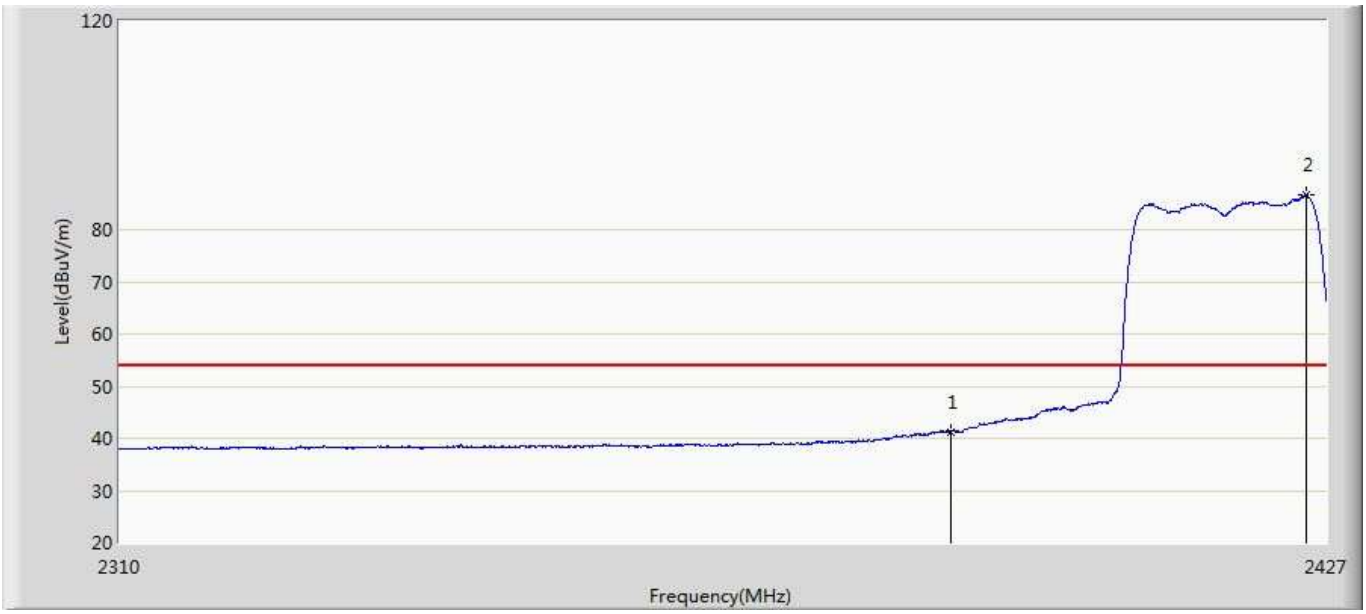
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.620	8.938	-9.380	54.000	35.682	AV
2	*	2409.567	90.965	55.232	36.965	54.000	35.733	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 3:Transmit at 2417 by 802.11n20	



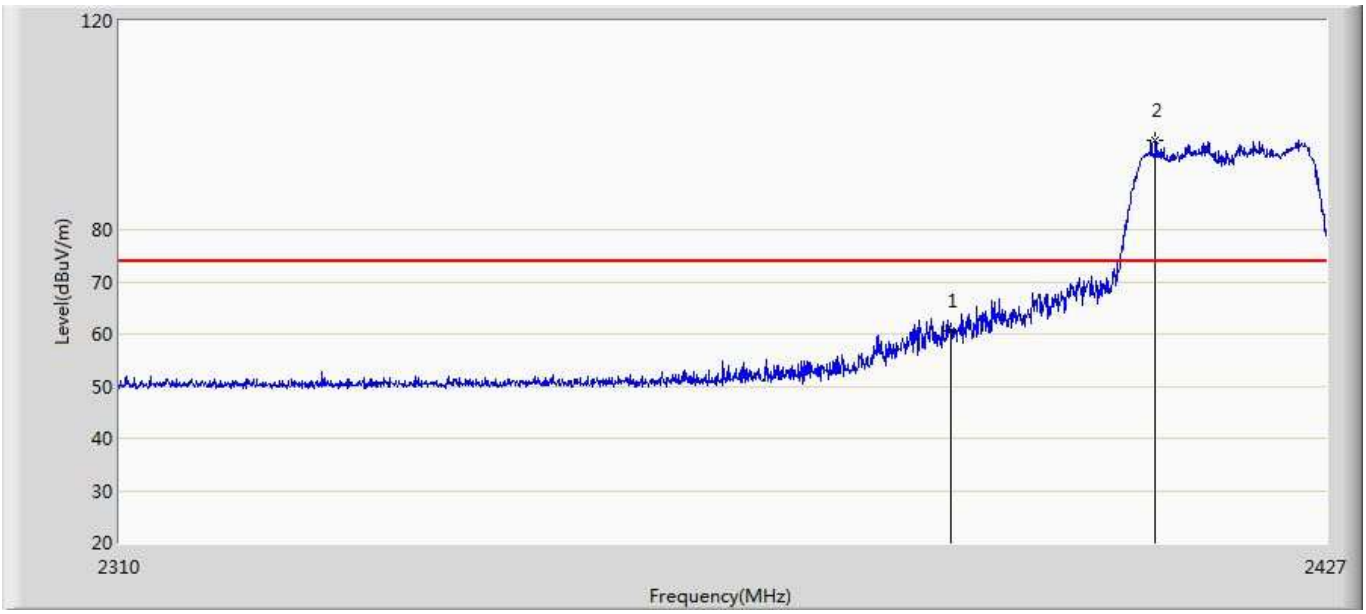
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.222	27.540	-10.778	74.000	35.682	PK
2	*	2410.094	102.320	66.585	28.320	74.000	35.735	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2417 by 802.11n20	



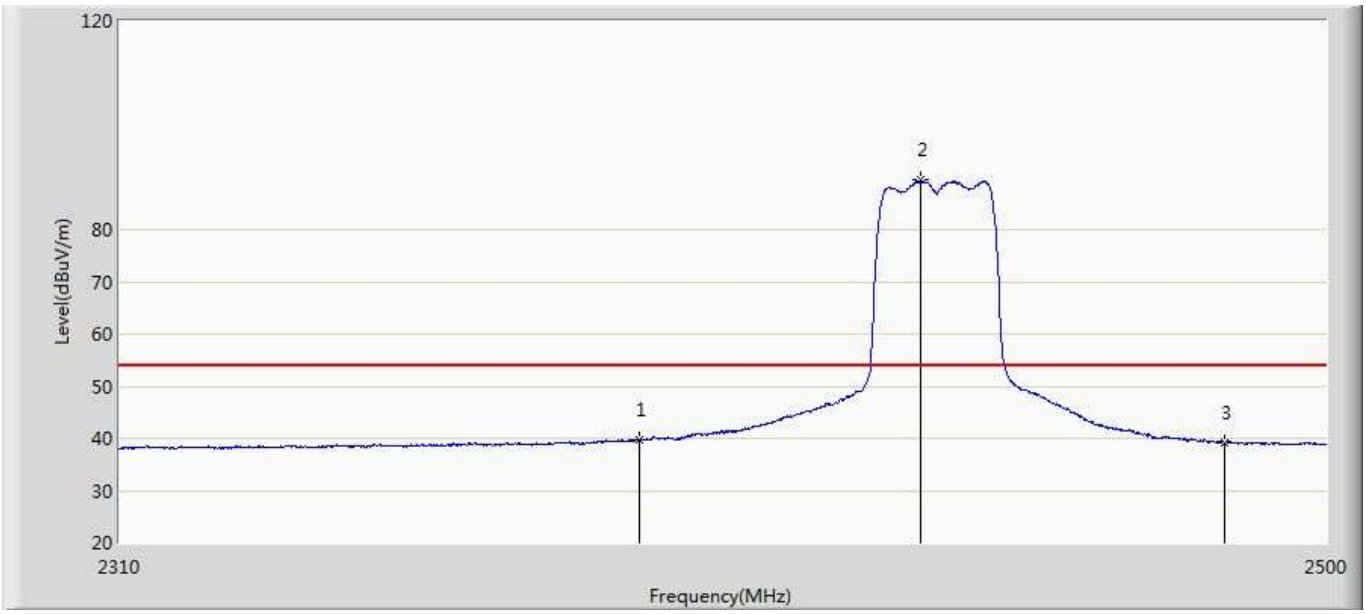
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.279	5.597	-12.721	54.000	35.682	AV
2	*	2425.070	86.588	50.792	32.588	54.000	35.796	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:15
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 2417 by 802.11n20	



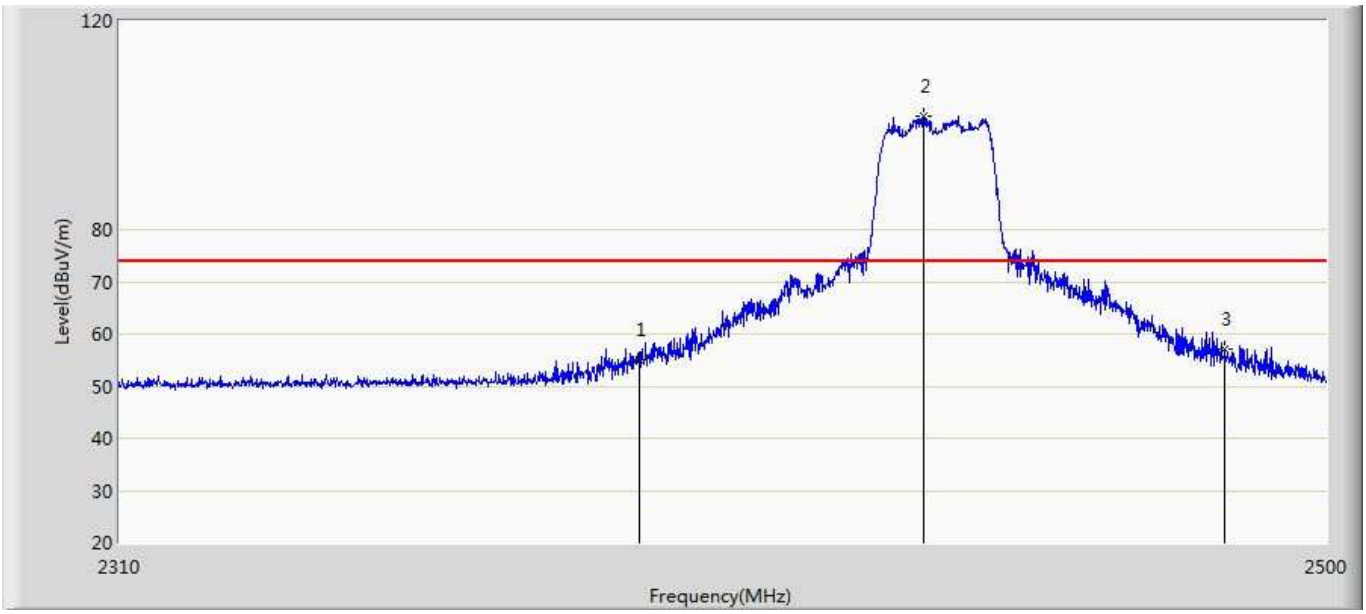
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.463	24.781	-13.537	74.000	35.682	PK
2	*	2410.094	97.121	61.386	23.121	74.000	35.735	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:17
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 2437 by 802.11n20	



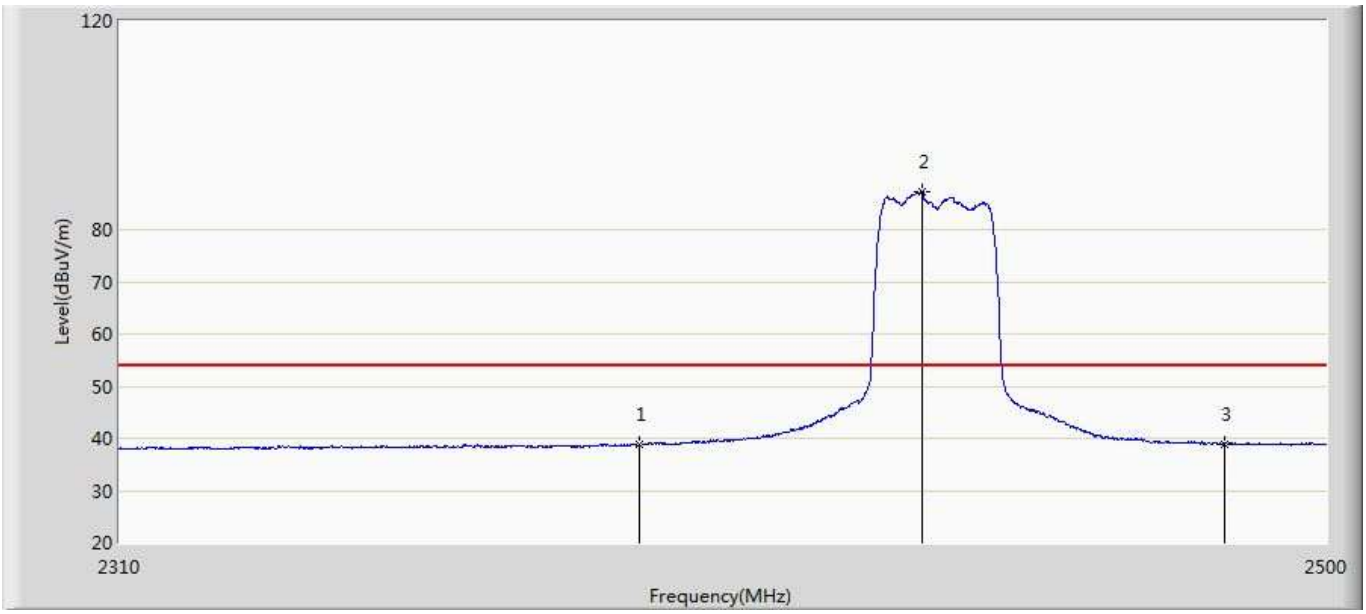
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.771	4.089	-14.229	54.000	35.682	AV
2	*	2434.450	89.436	53.629	35.436	54.000	35.807	AV
3		2483.500	39.205	3.313	-14.795	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 3:Transmit at 2437 by 802.11n20	



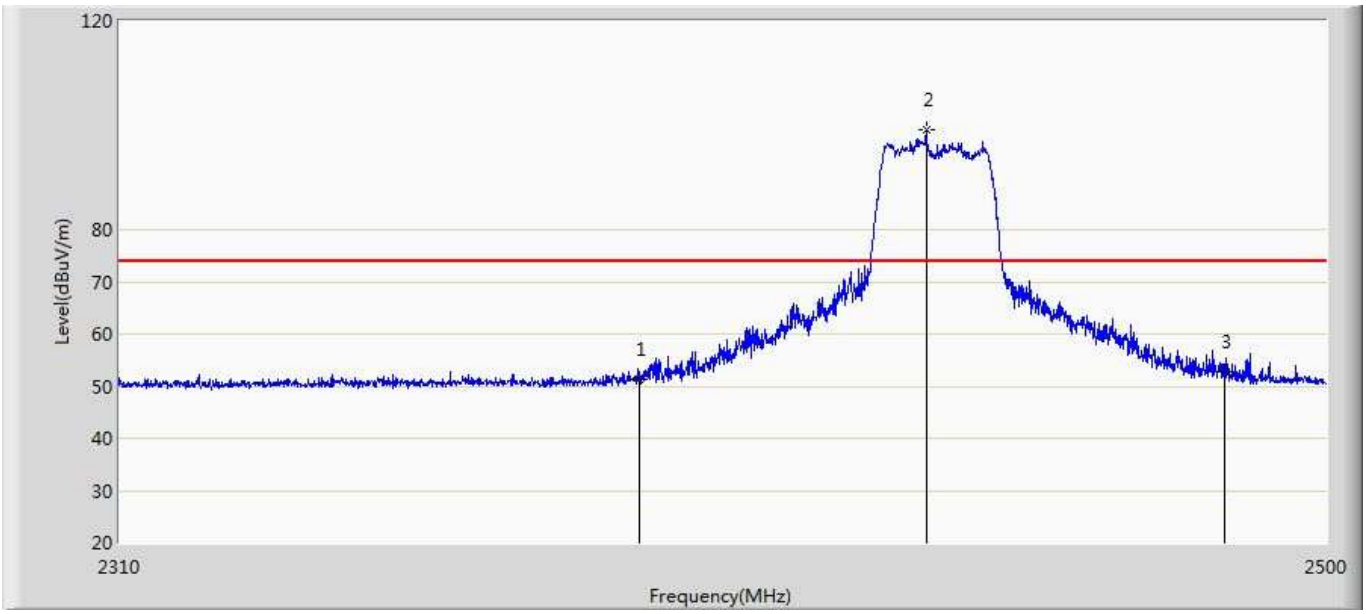
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	55.068	19.386	-18.932	74.000	35.682	PK
2	*	2435.020	101.621	65.814	27.621	74.000	35.806	PK
3		2483.500	57.080	21.188	-16.920	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 3:Transmit at 2437 by 802.11n20	



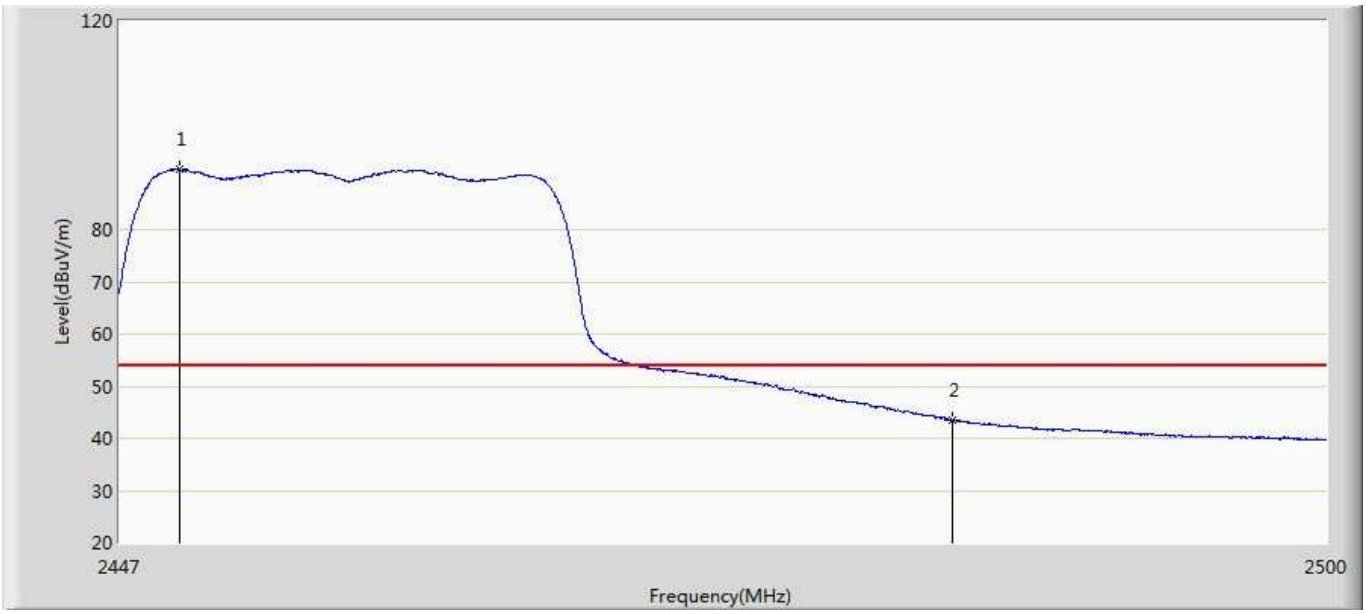
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.704	3.022	-15.296	54.000	35.682	AV
2	*	2434.640	87.351	51.544	33.351	54.000	35.807	AV
3		2483.500	38.928	3.036	-15.072	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:23
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 2437 by 802.11n20	



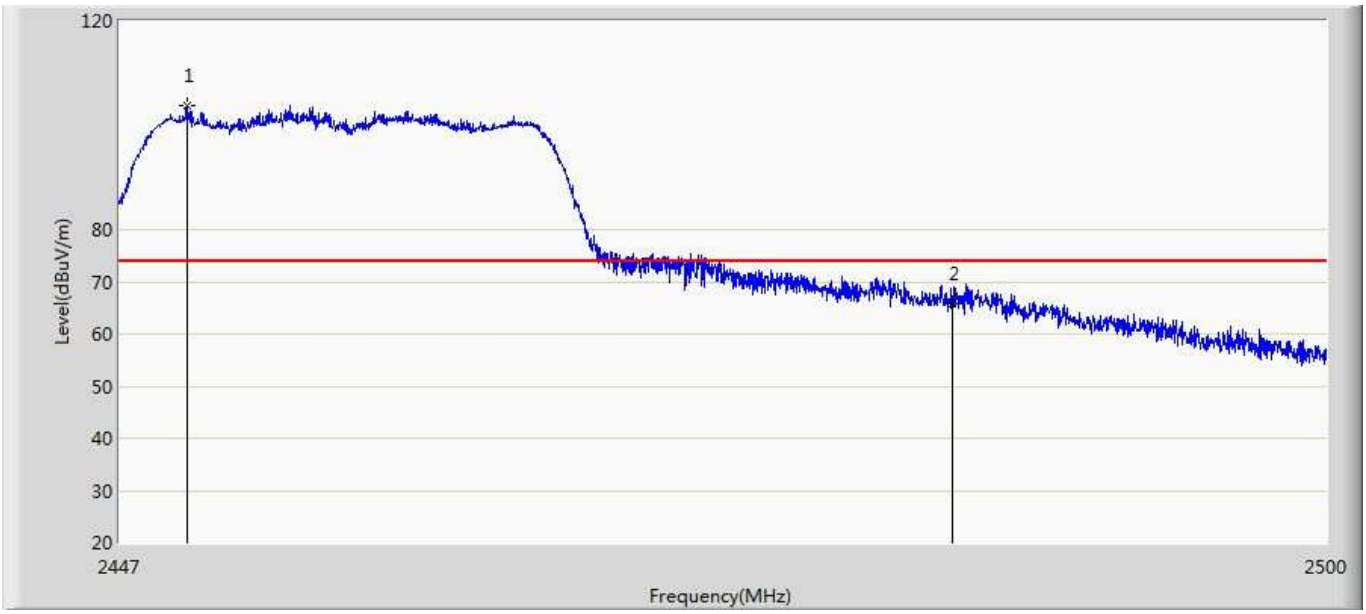
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.294	15.612	-22.706	74.000	35.682	PK
2	*	2435.400	99.194	63.387	25.194	74.000	35.807	PK
3		2483.500	52.863	16.971	-21.137	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2457 by 802.11n20	



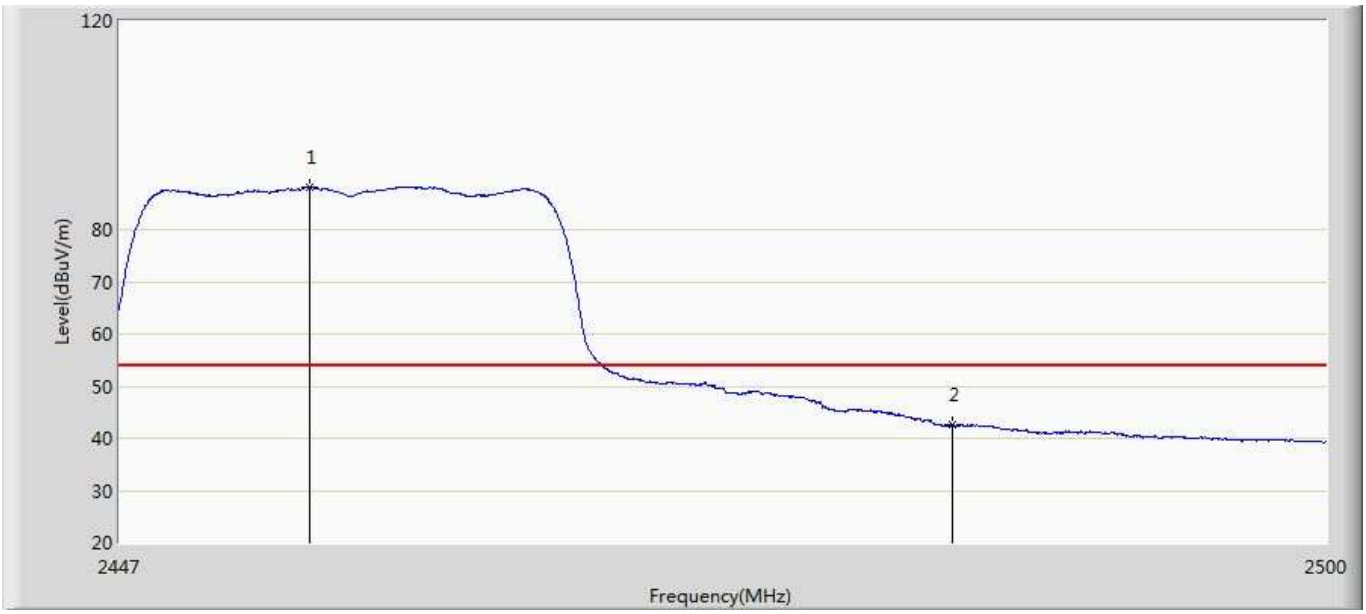
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.597	91.450	55.626	37.450	54.000	35.824	AV
2		2483.500	43.402	7.510	-10.598	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:32
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 2457 by 802.11n20	



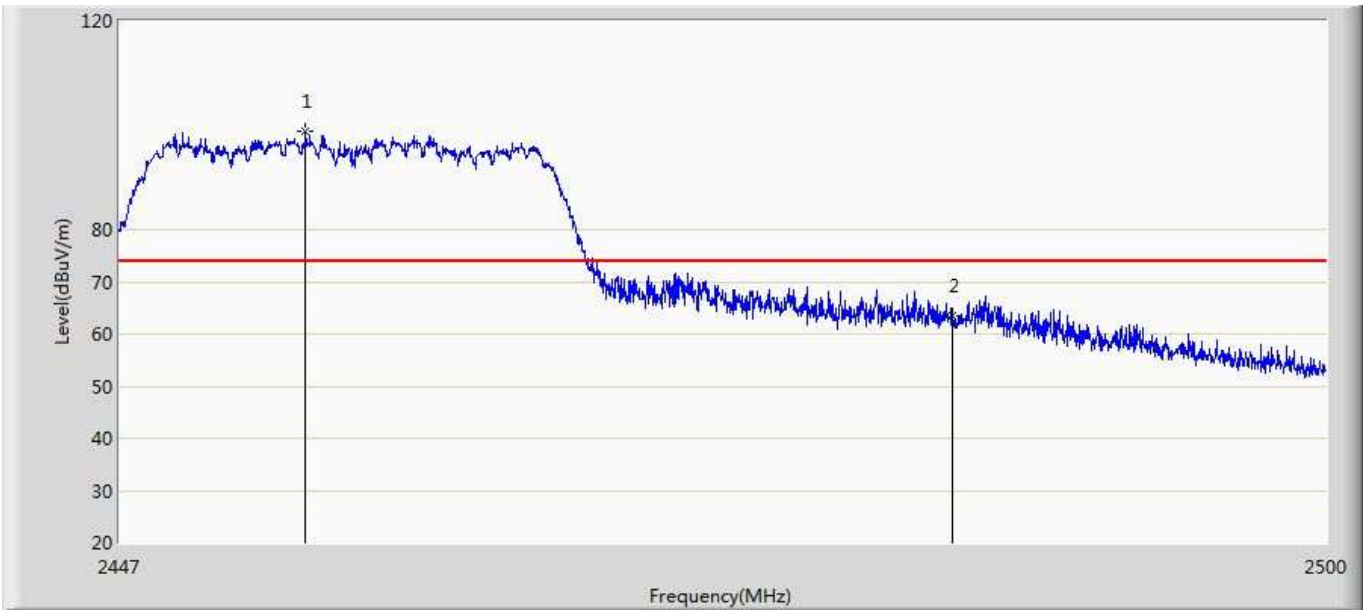
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.968	103.824	67.998	29.824	74.000	35.826	PK
2		2483.500	65.772	29.880	-8.228	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 3:Transmit at 2457 by 802.11n20	



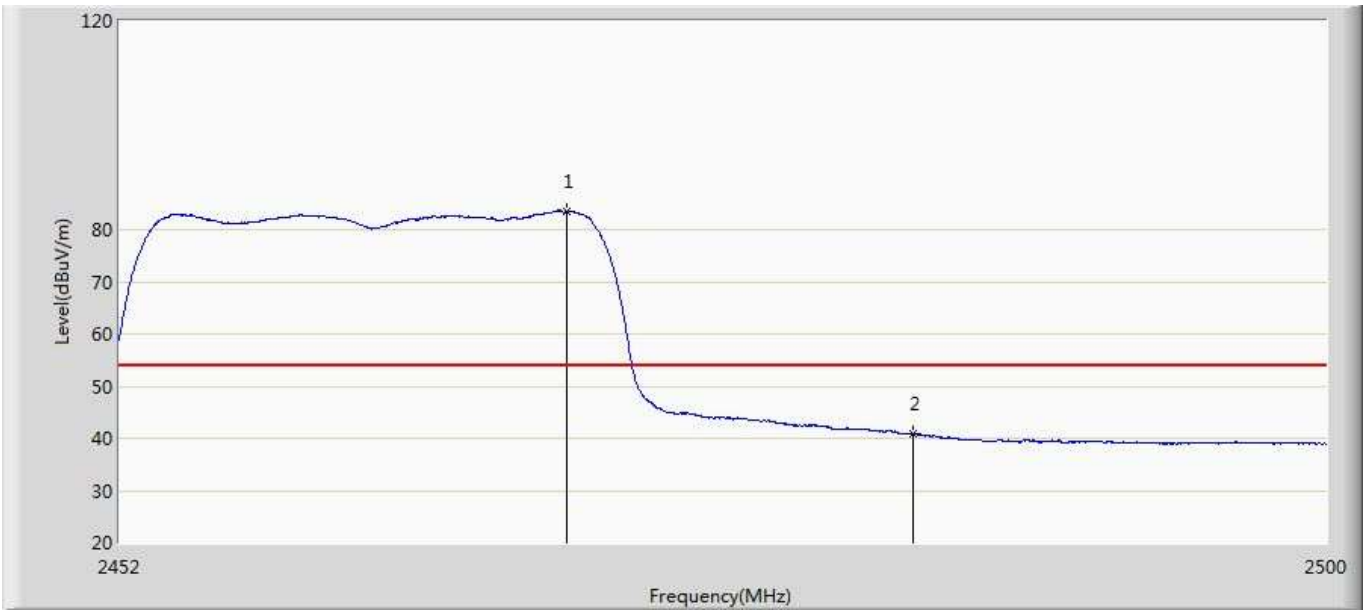
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.268	88.250	52.401	34.250	54.000	35.849	AV
2		2483.500	42.656	6.764	-11.344	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:36
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 2457 by 802.11n20	



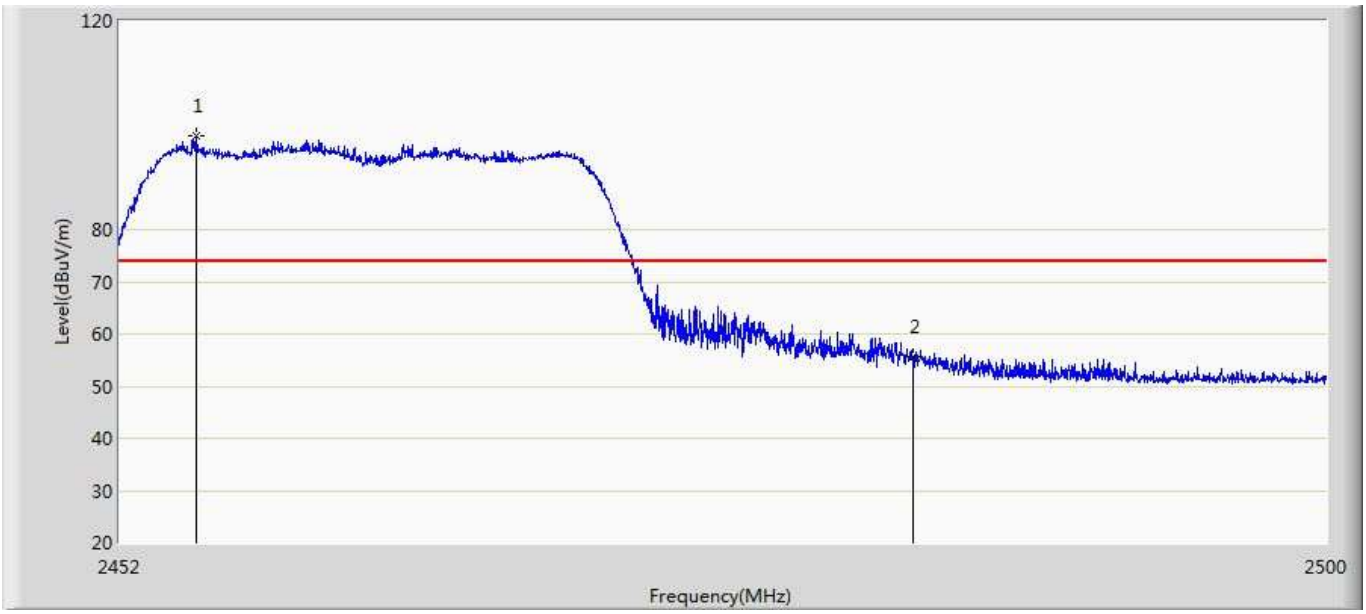
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.109	98.917	63.069	24.917	74.000	35.848	PK
2		2483.500	63.379	27.487	-10.621	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:38
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 2462 by 802.11n20	



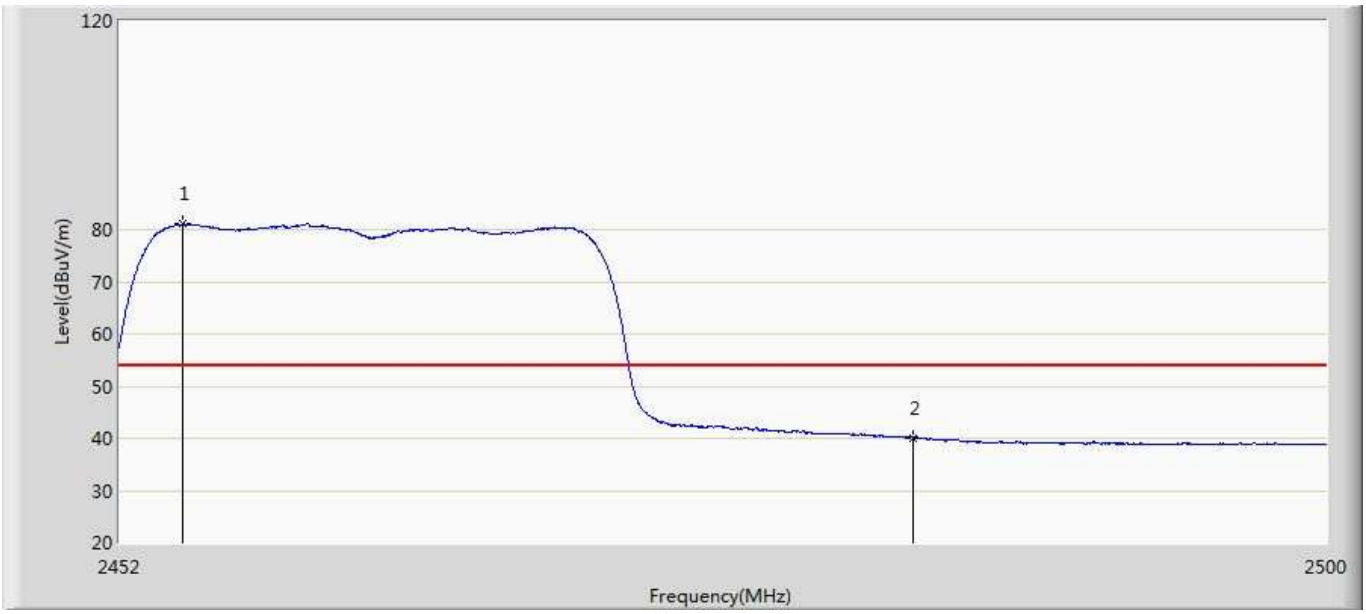
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2469.712	83.513	47.643	29.513	54.000	35.870	AV
2		2483.500	40.756	4.864	-13.244	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:40
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 2462 by 802.11n20	



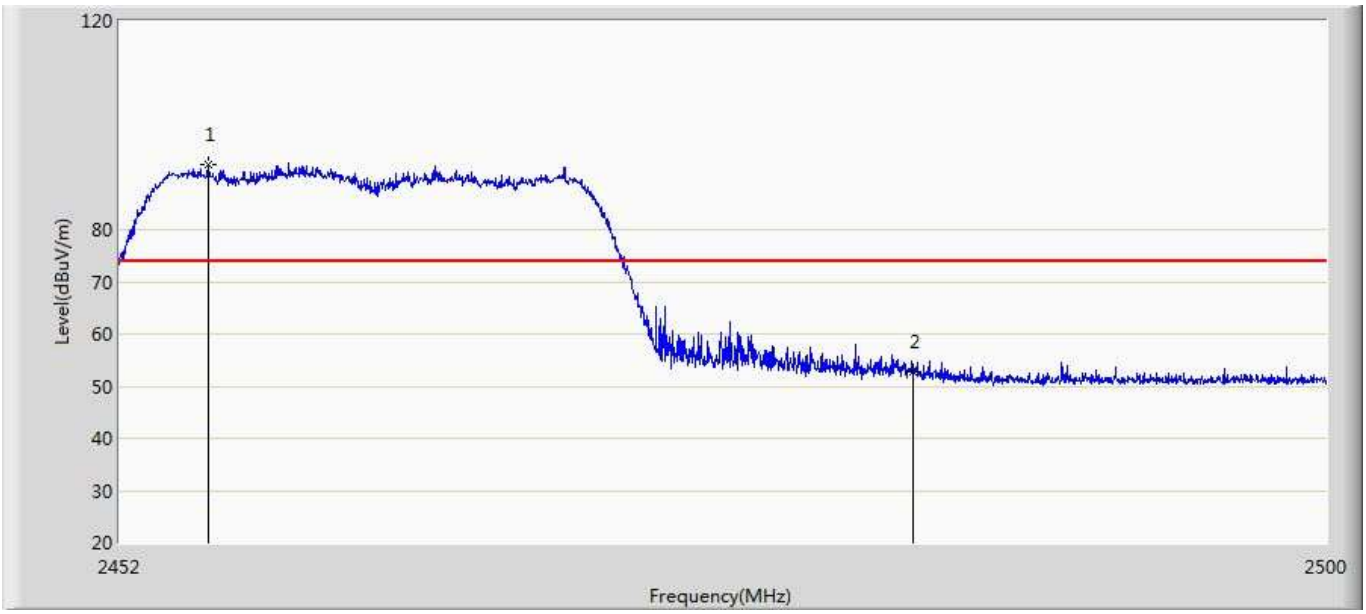
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.024	98.099	62.251	24.099	74.000	35.848	PK
2		2483.500	55.565	19.673	-18.435	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:42
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 2462 by 802.11n20	



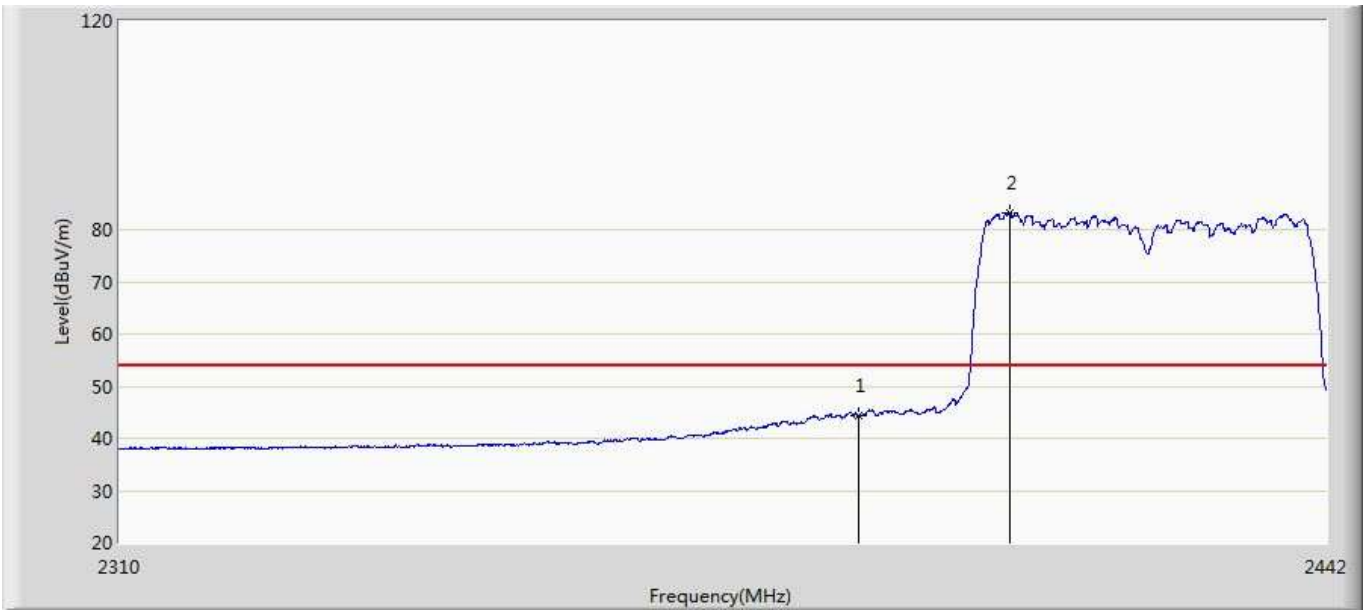
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.520	81.086	45.240	27.086	54.000	35.845	AV
2		2483.500	40.108	4.216	-13.892	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:44
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 2462 by 802.11n20	



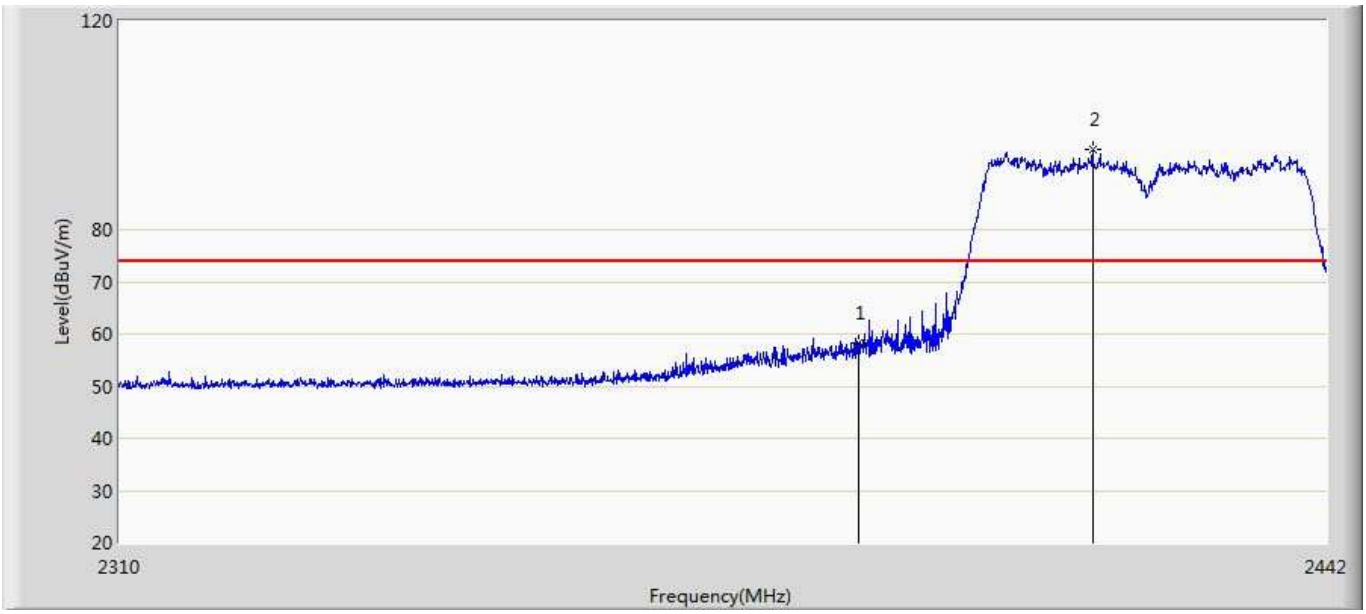
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.504	92.534	56.684	18.534	74.000	35.850	PK
2		2483.500	52.671	16.779	-21.329	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:46
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 2422 by 802.11n40	



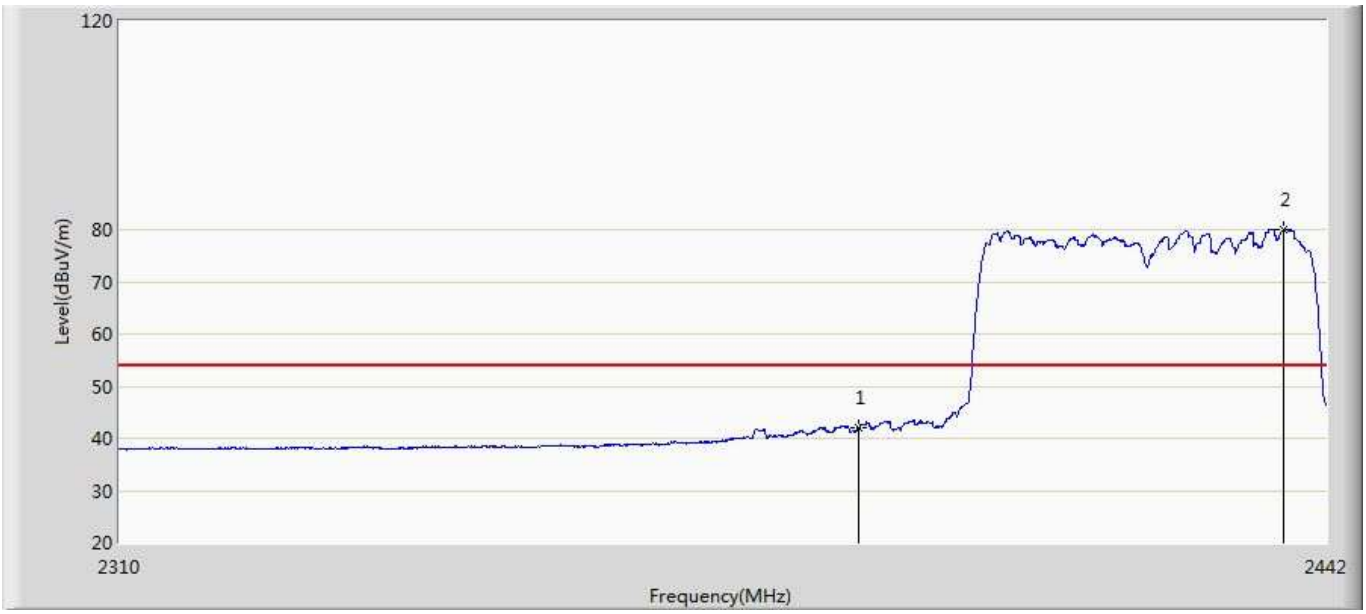
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.421	8.739	-9.579	54.000	35.682	AV
2	*	2406.690	83.315	47.590	29.315	54.000	35.726	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:51
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 4:Transmit at 2422 by 802.11n40	



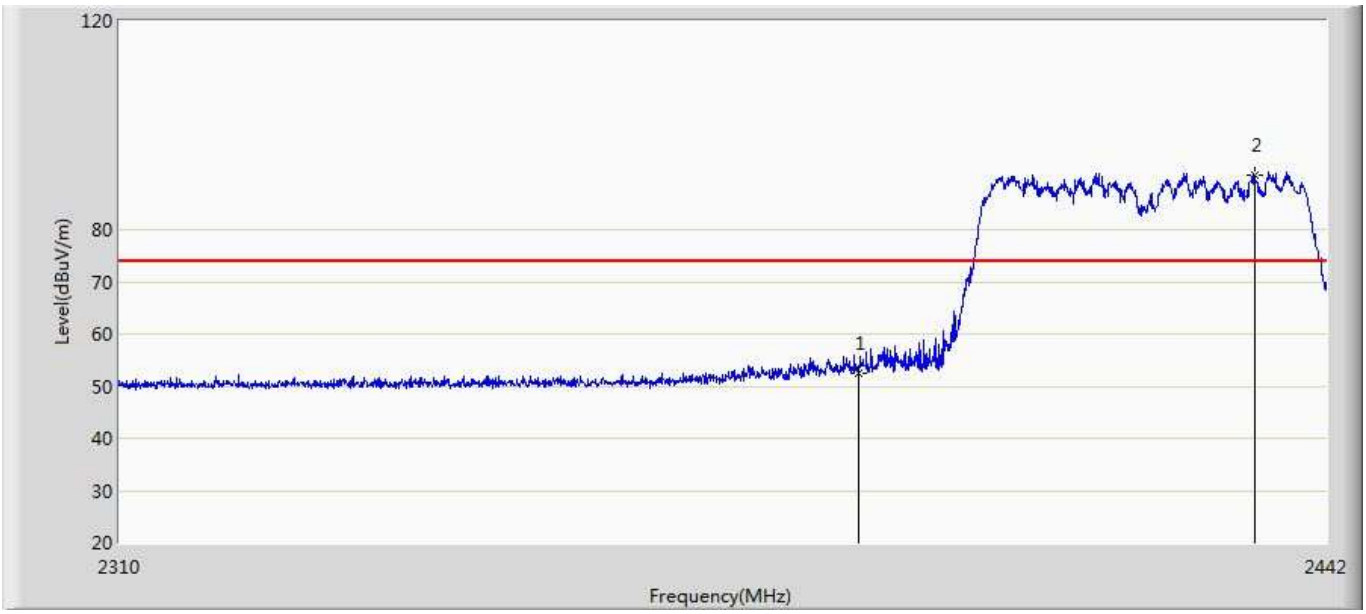
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	58.144	22.462	-15.856	74.000	35.682	PK
2	*	2415.930	95.463	59.705	21.463	74.000	35.758	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:52
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 2422 by 802.11n40	



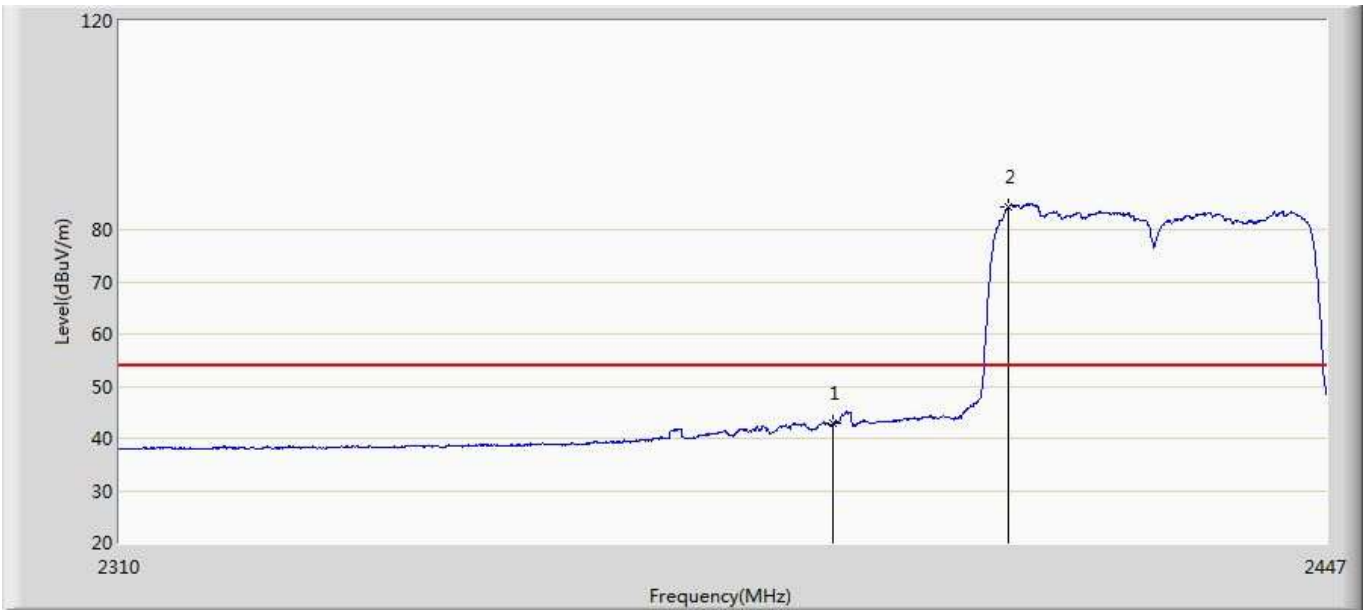
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.946	6.264	-12.054	54.000	35.682	AV
2	*	2437.248	80.037	44.231	26.037	54.000	35.806	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:54
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 2422 by 802.11n40	



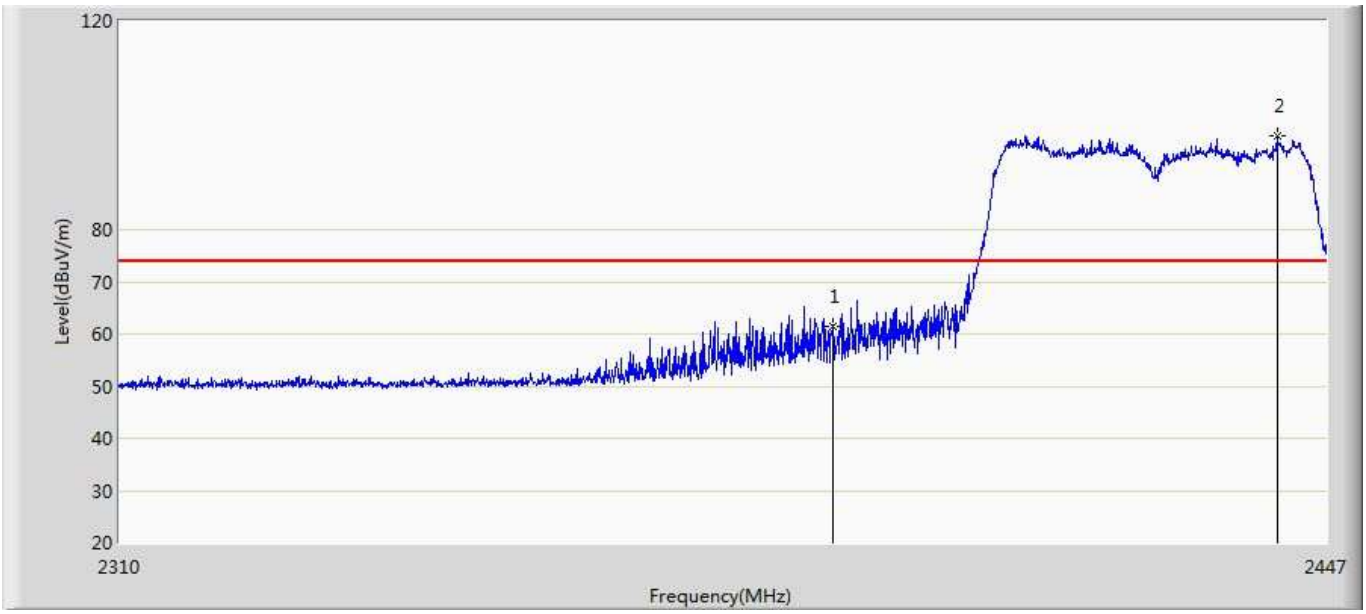
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.396	16.714	-21.604	74.000	35.682	PK
2	*	2433.948	90.390	54.583	16.390	74.000	35.807	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 20:56
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 2427 by 802.11n40	



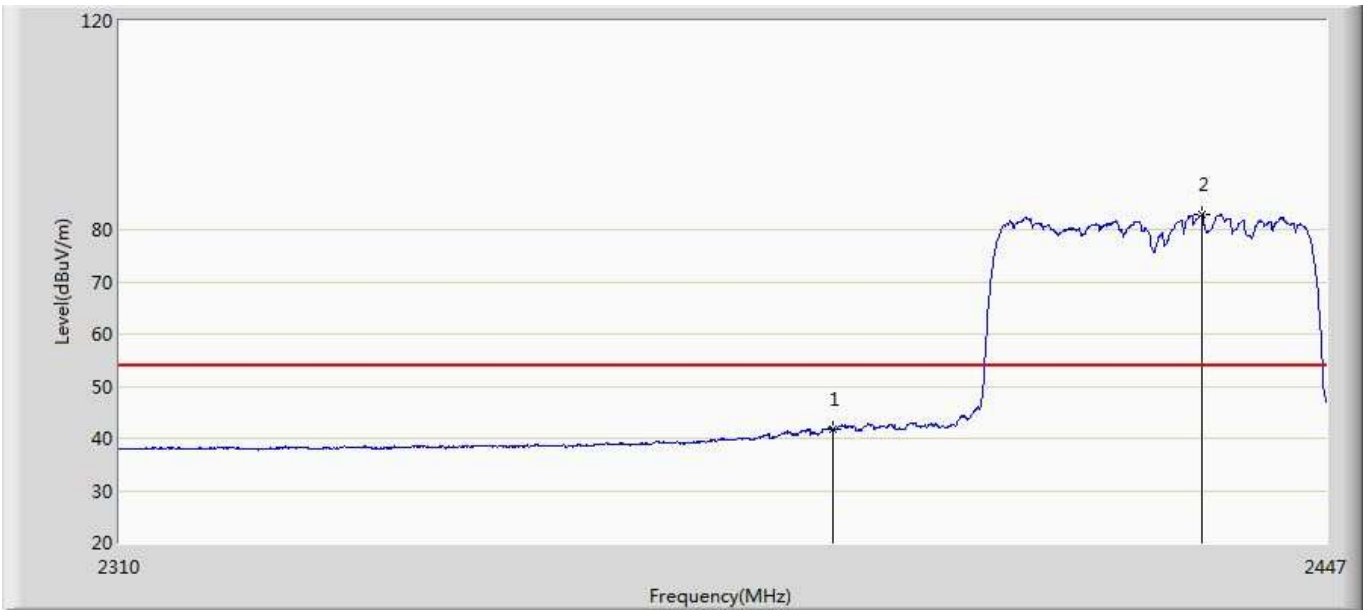
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.910	7.228	-11.090	54.000	35.682	AV
2	*	2410.216	84.443	48.708	30.443	54.000	35.735	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 4:Transmit at 2427 by 802.11n40	



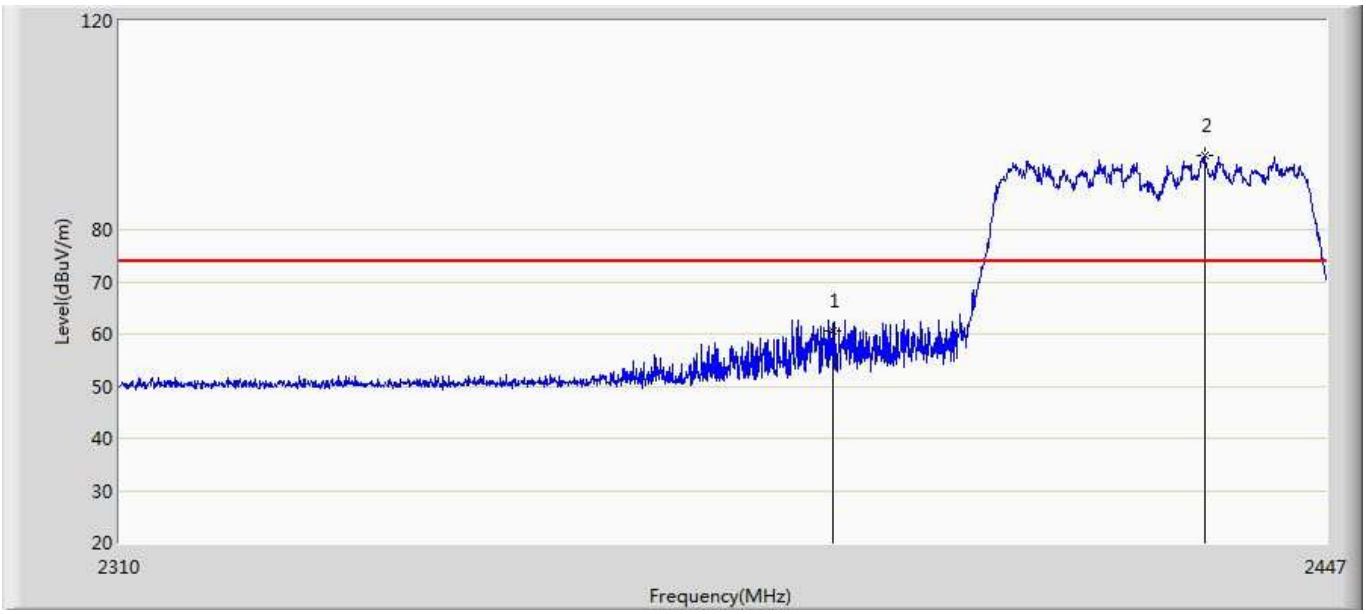
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	61.501	25.819	-12.499	74.000	35.682	PK
2	*	2441.314	97.863	62.058	23.863	74.000	35.805	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 4:Transmit at 2427 by 802.11n40	



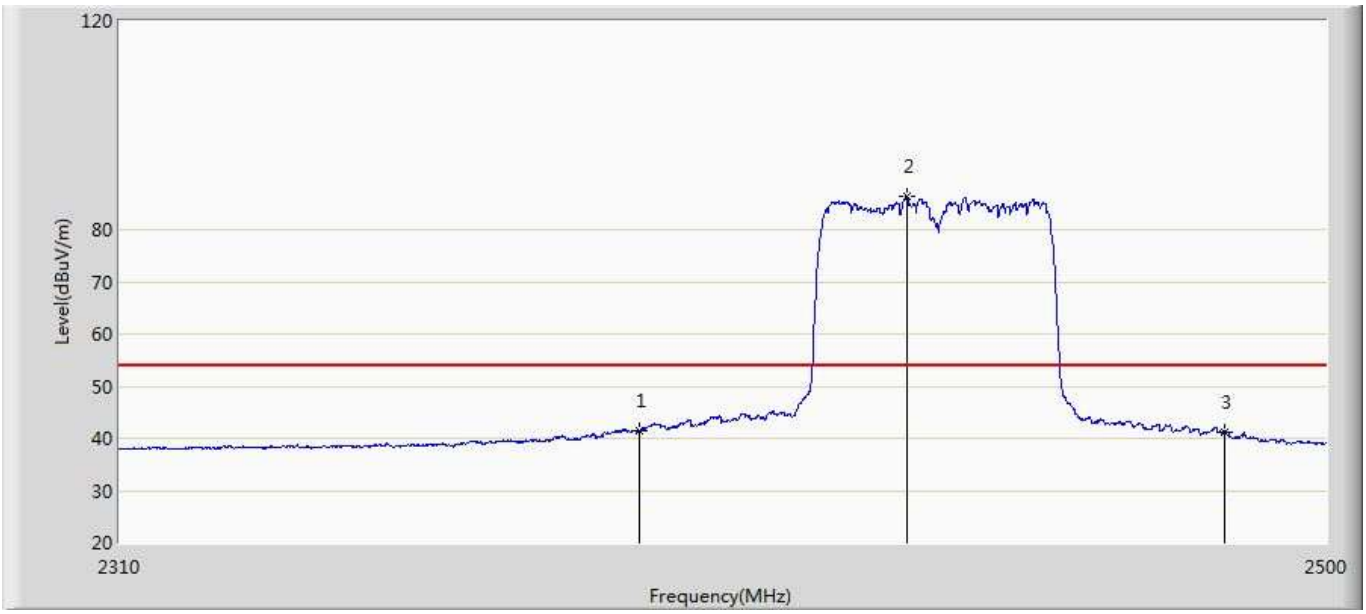
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.734	6.052	-12.266	54.000	35.682	AV
2	*	2432.615	82.912	47.105	28.912	54.000	35.807	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 4:Transmit at 2427 by 802.11n40	



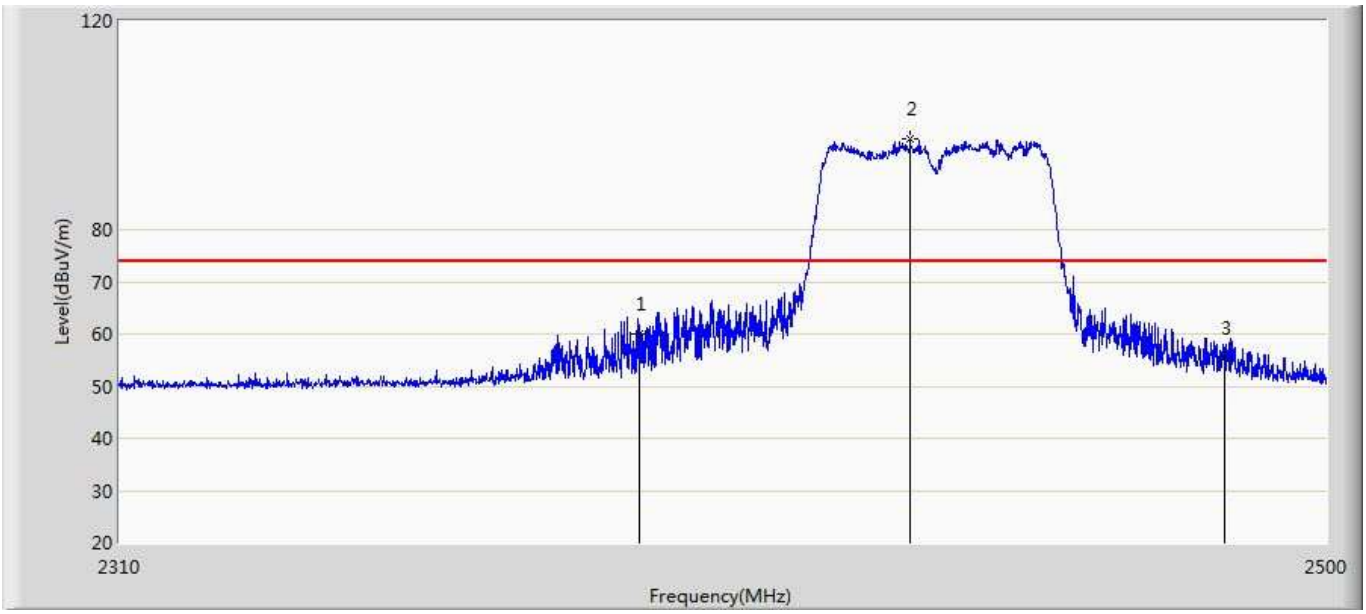
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.437	24.755	-13.563	74.000	35.682	PK
2	*	2432.821	94.187	58.380	20.187	74.000	35.808	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 4:Transmit at 2437 by 802.11n40	



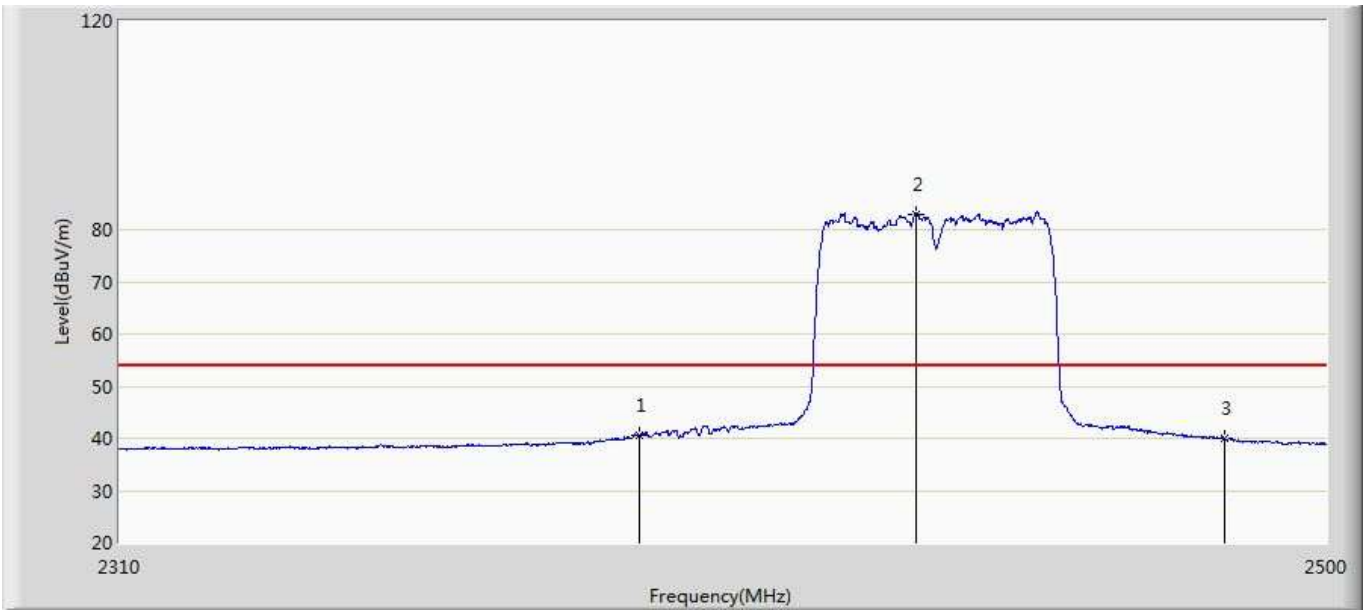
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.545	5.863	-12.455	54.000	35.682	AV
2	*	2432.265	86.313	50.506	32.313	54.000	35.807	AV
3		2483.500	41.180	5.288	-12.820	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:08
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 2437 by 802.11n40	



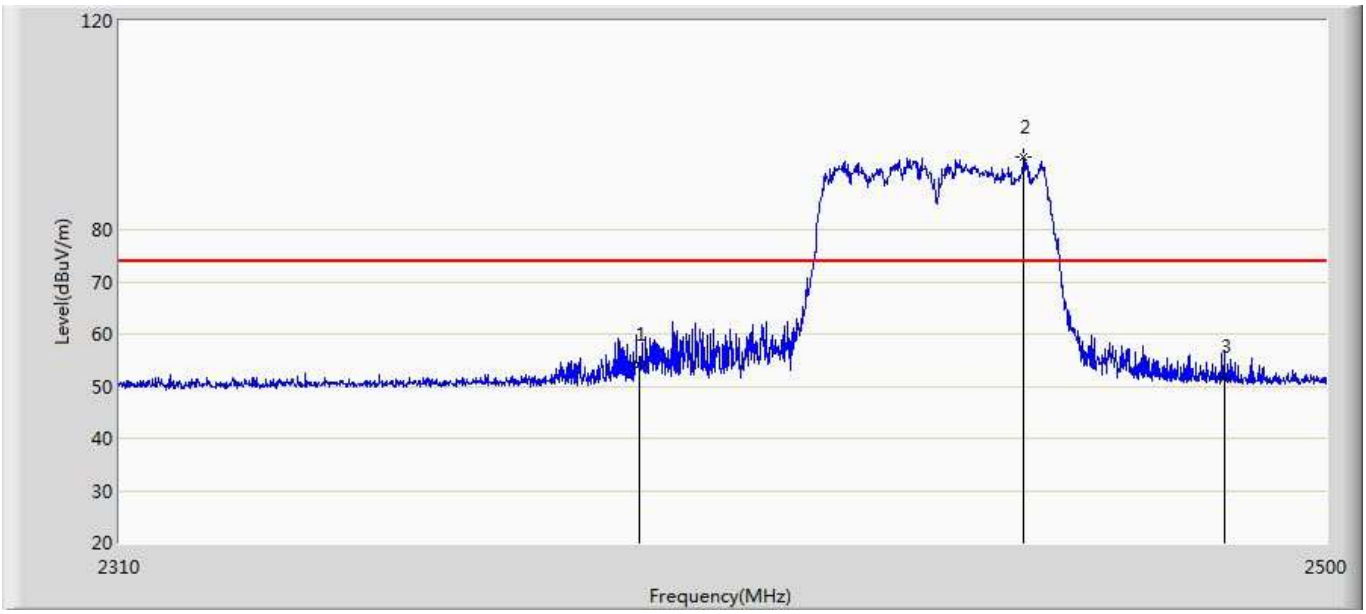
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.014	24.332	-13.986	74.000	35.682	PK
2	*	2432.835	97.462	61.655	23.462	74.000	35.808	PK
3		2483.500	55.223	19.331	-18.777	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:10
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 2437 by 802.11n40	



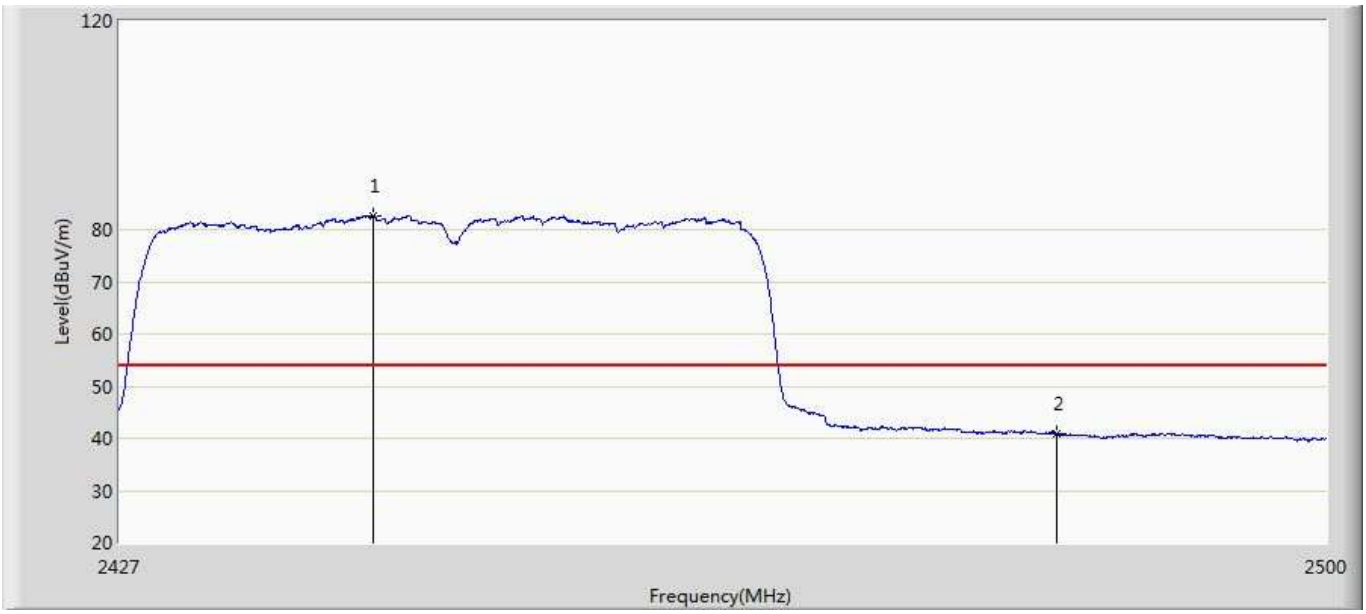
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.516	4.834	-13.484	54.000	35.682	AV
2	*	2433.785	83.029	47.222	29.029	54.000	35.807	AV
3		2483.500	39.999	4.107	-14.001	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:12
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 2437 by 802.11n40	



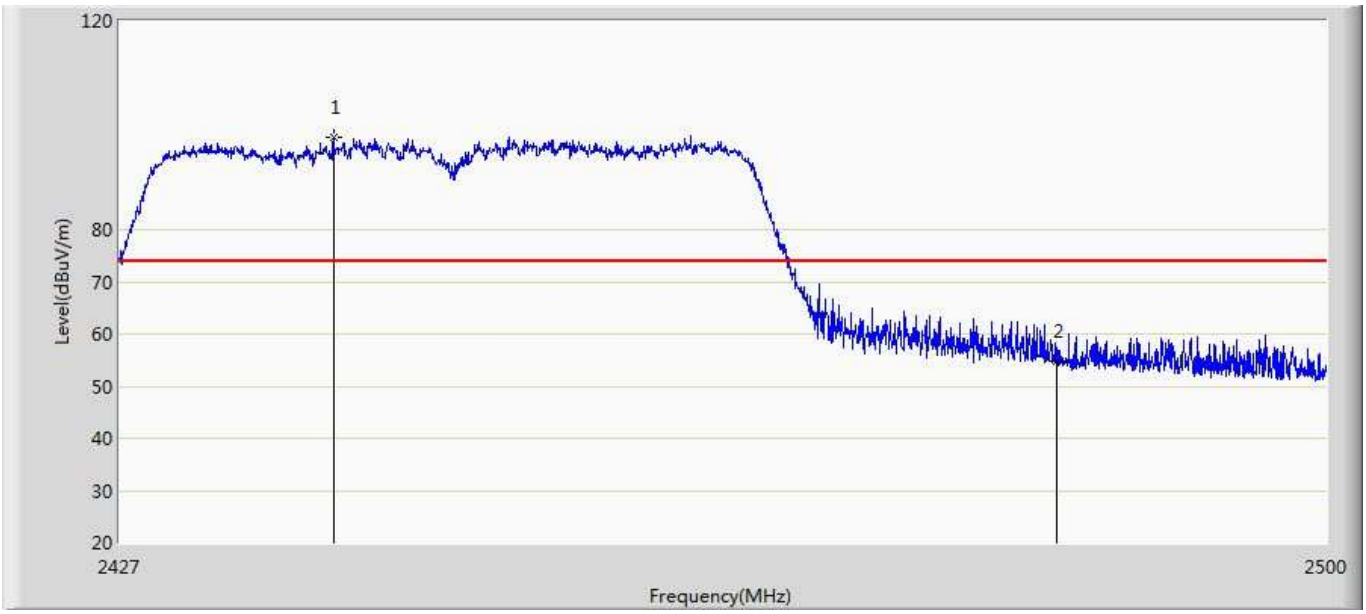
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.325	18.643	-19.675	74.000	35.682	PK
2	*	2451.075	93.859	58.028	19.859	74.000	35.830	PK
3		2483.500	51.782	15.890	-22.218	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 4:Transmit at 2447 by 802.11n40	



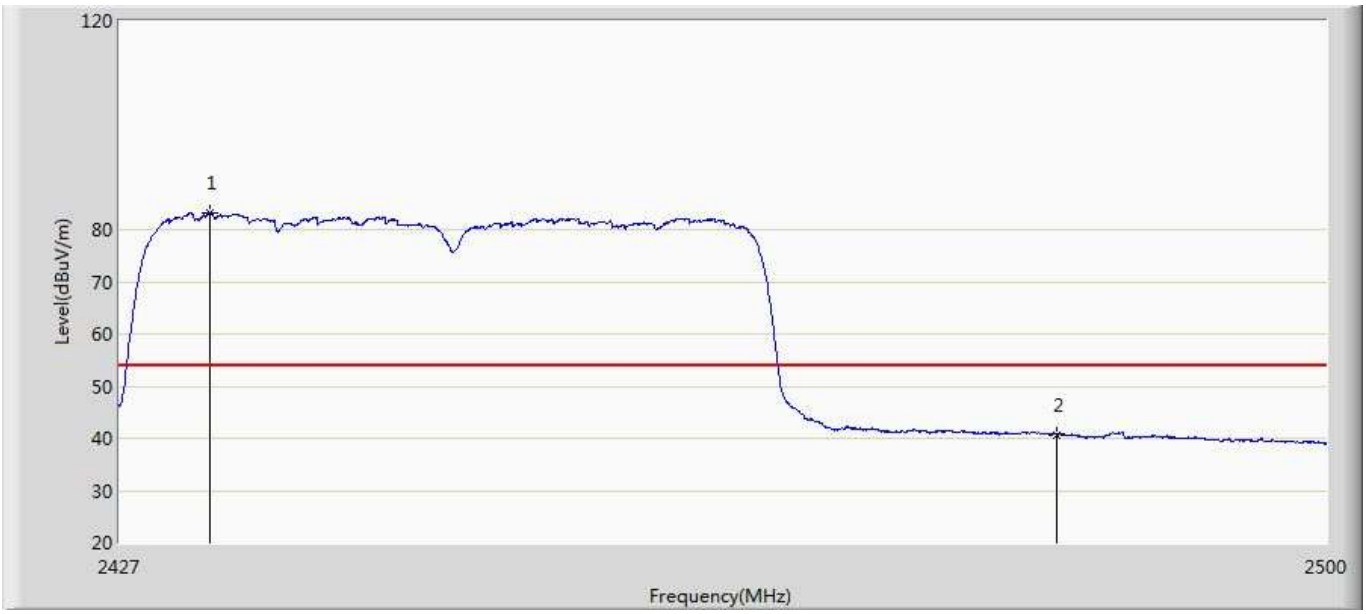
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2442.220	82.710	46.905	28.710	54.000	35.805	AV
2		2483.500	40.934	5.042	-13.066	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:16
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 2447 by 802.11n40	



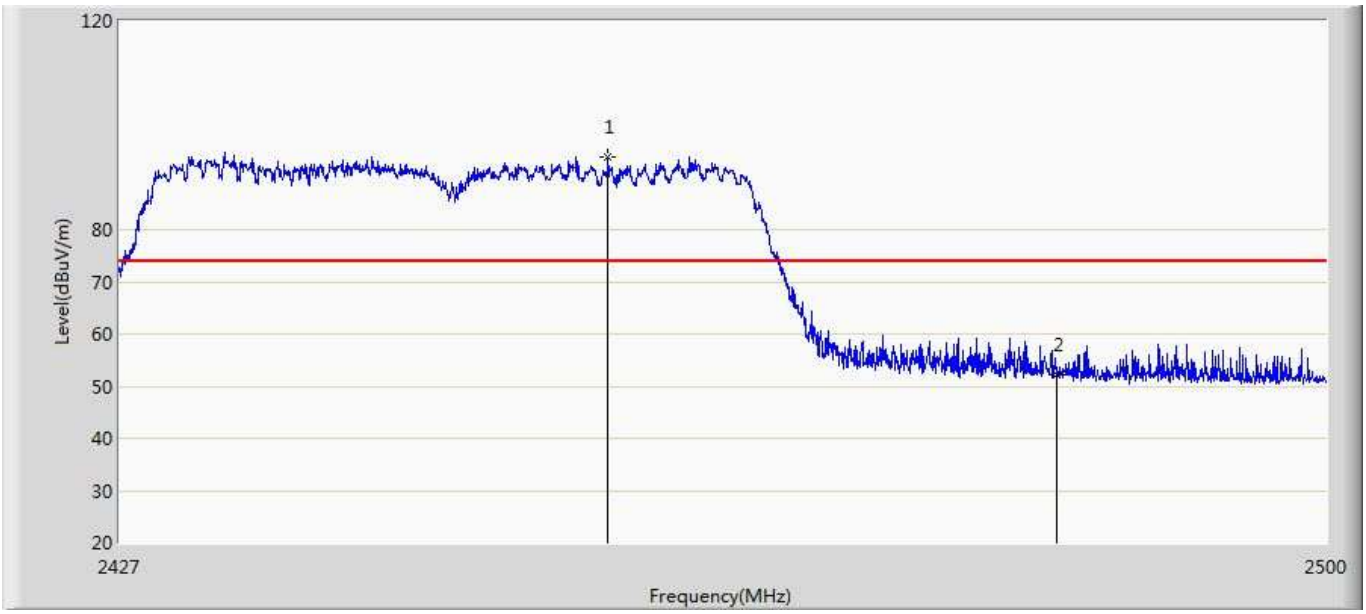
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2439.812	97.798	61.993	23.798	74.000	35.805	PK
2		2483.500	54.663	18.771	-19.337	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 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: Mode 4:Transmit at 2447 by 802.11n40	



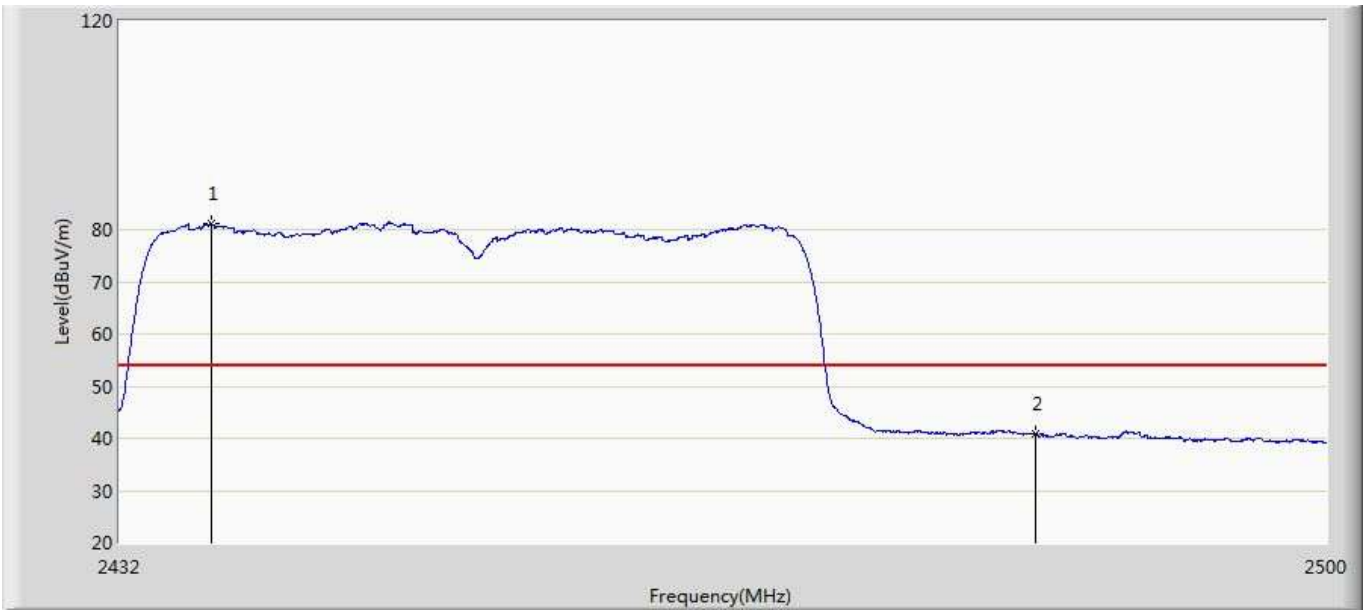
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2432.402	83.256	47.449	29.256	54.000	35.807	AV
2		2483.500	40.713	4.821	-13.287	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:20
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 2447 by 802.11n40	



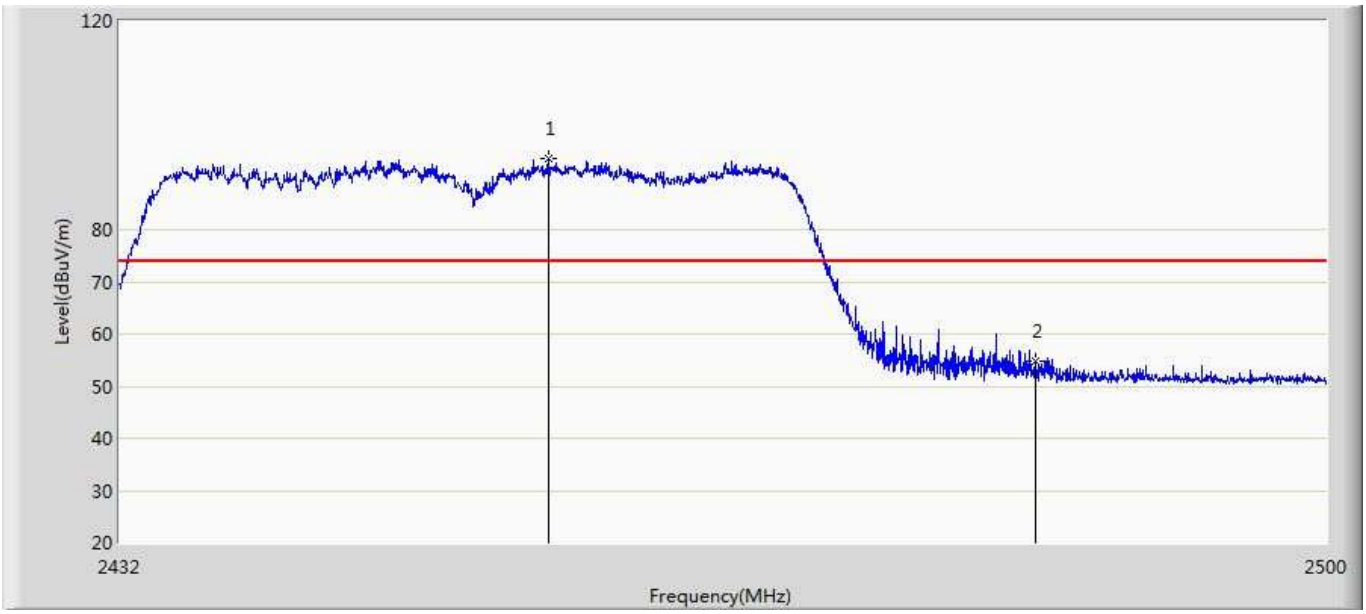
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.310	93.954	58.101	19.954	74.000	35.853	PK
2		2483.500	52.305	16.413	-21.695	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:22
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 2452 by 802.11n40	



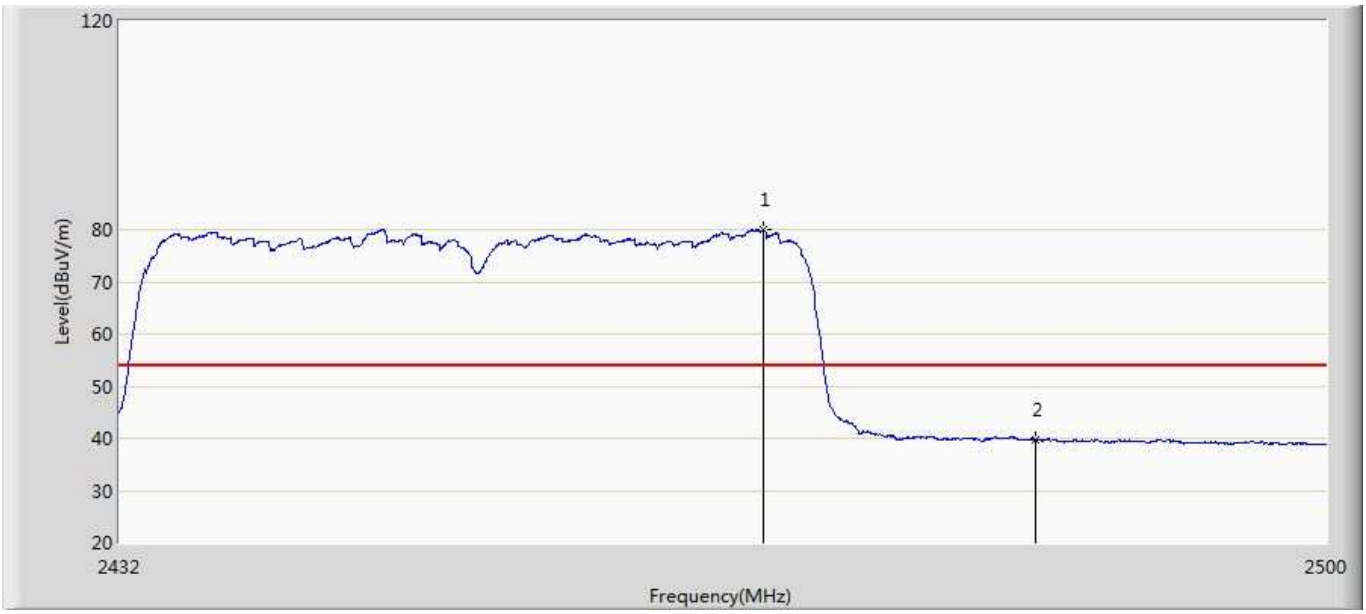
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2437.100	81.167	45.361	27.167	54.000	35.806	AV
2		2483.500	40.805	4.913	-13.195	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:24
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 2452 by 802.11n40	



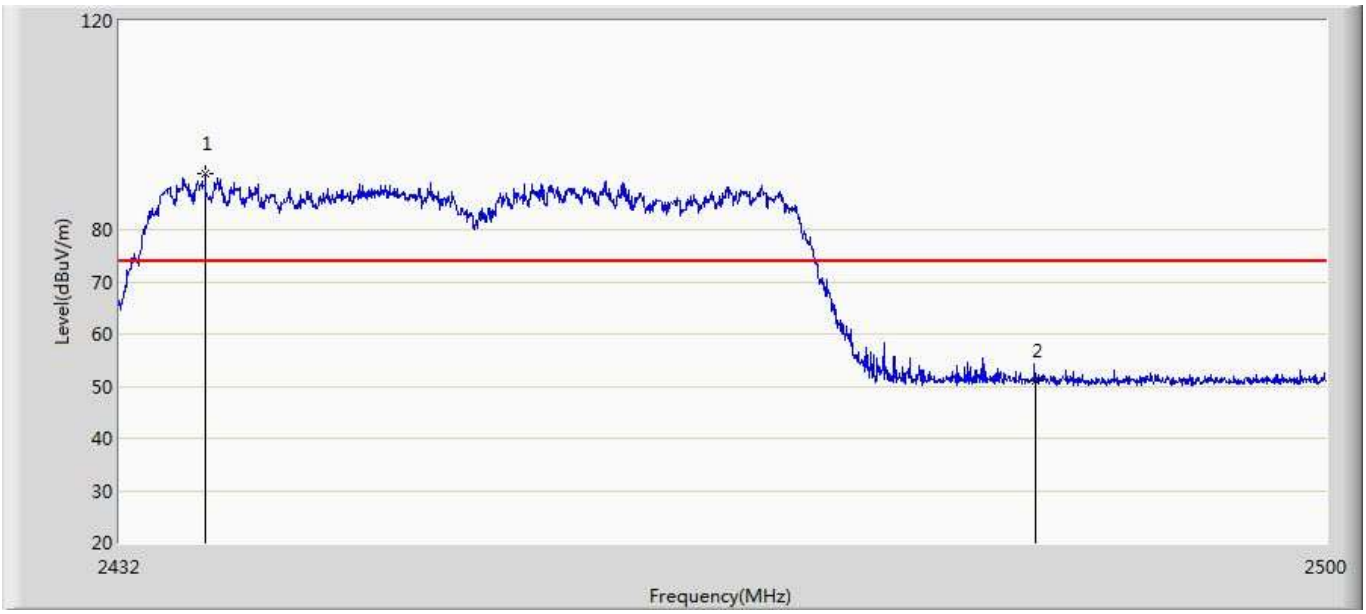
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.970	93.564	57.712	19.564	74.000	35.852	PK
2		2483.500	54.757	18.865	-19.243	74.000	35.891	PK

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:29
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 2452 by 802.11n40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.040	79.886	44.015	25.886	54.000	35.871	AV
2		2483.500	39.704	3.812	-14.296	54.000	35.891	AV

Engineer: Pawn	
Site: AC5	Time: 2018/03/29 - 21:30
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 2452 by 802.11n40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2436.794	90.658	54.852	16.658	74.000	35.806	PK
2		2483.500	51.102	15.210	-22.898	74.000	35.891	PK

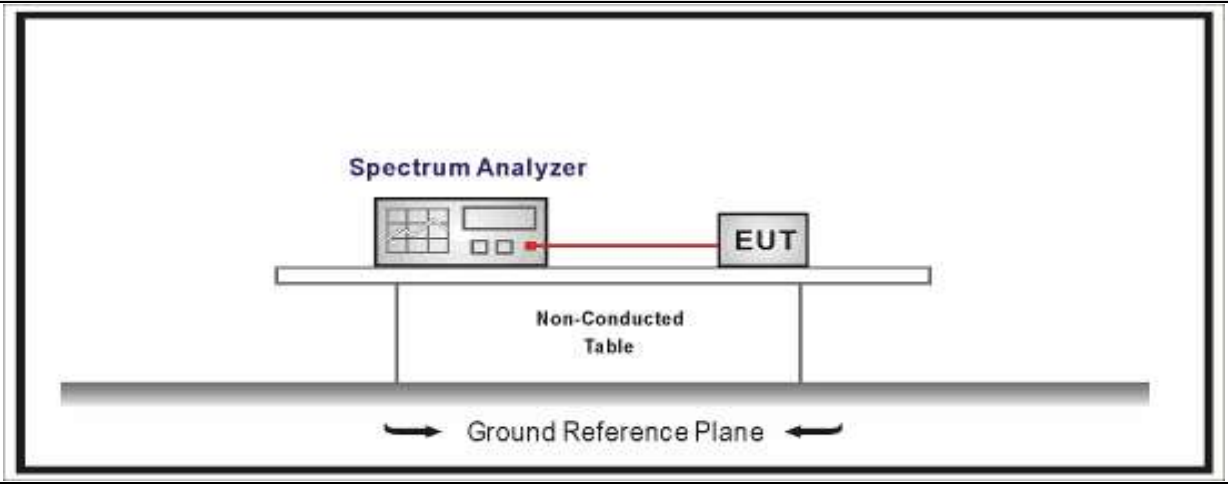
7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup

Occupied Bandwidth test setup:



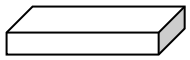
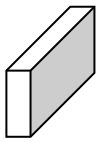
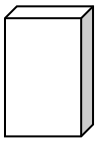
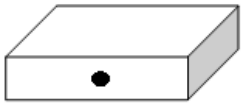
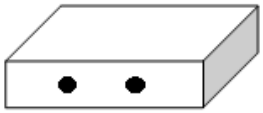
7.3. Limit

Occupied Bandwidth
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

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

7.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Occupied Bandwidth</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="11">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

7.6. Test Result

Product Name	:	Barcode Scanner	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~4	Test Site	:	TR8
Test Date	:	2018.03.20	Test Engineer	:	Pawn

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	01	2412	13.292	10.11	>500	Pass
1	06	2437	13.304	10.08	>500	Pass
1	11	2462	13.326	10.12	>500	Pass
2	01	2412	16.479	16.40	>500	Pass
2	06	2437	16.485	16.40	>500	Pass
2	11	2462	16.473	16.41	>500	Pass
3	01	2412	17.625	17.61	>500	Pass
3	06	2437	17.649	17.63	>500	Pass
3	11	2462	17.609	17.61	>500	Pass
4	03	2422	36.132	35.38	>500	Pass
4	06	2437	36.121	35.58	>500	Pass
4	09	2452	36.153	35.48	>500	Pass

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

Mode 1 CH06 (2437MHz)

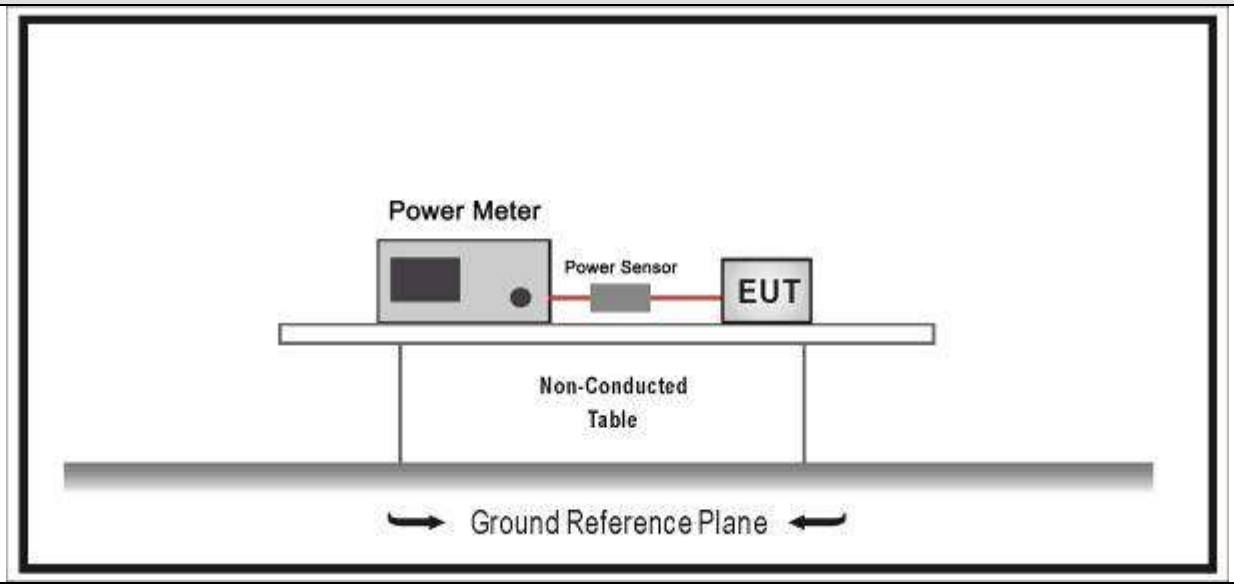
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2017.10.14	2018.10.13
Power Sensor	Anritsu	MA2411B	0846014	2017.10.14	2018.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup

Fundamental emission output power test setup



8.3. Limit

Fundamental emission output power Limit			
☒	G_{TX} ＜6dBi		P_{out}≤30dBm
☒	P_{eirp}≤36dBm		
☐	G_{TX} ＞6dBi		
	☐	Non-Fix point-point	P_{out}≤30-(G_{TX} -6)
	☐	Fix point-point	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	single directional beam	P_{out}≤30-[(G_{TX}-6)]/3+8dB
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .			

8.4. Test Procedure

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

8.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Fundamental emission output power</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
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<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
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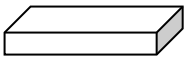
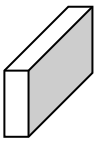
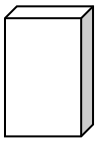
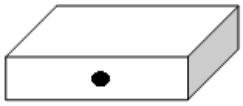
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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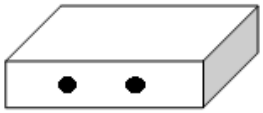
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

8.6. Test Result

Product Name	:	Barcode Scanner	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~4	Test Site	:	TR8
Test Date	:	2018.03.20	Test Engineer	:	Pawn

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)	Antenna Gain (dBi)	Limit (dBm)	Result
1	01	2412	19.65	4.3	30	Pass
1	06	2437	19.94	4.3	30	Pass
1	10	2457	19.37	4.3	30	Pass
1	11	2462	19.26	4.3	30	Pass
2	01	2412	23.49	4.3	30	Pass
2	02	2417	24.37	4.3	30	Pass
2	06	2437	24.95	4.3	30	Pass
2	10	2457	24.56	4.3	30	Pass
2	11	2462	23.72	4.3	30	Pass
3	01	2412	22.28	4.3	30	Pass
3	02	2417	24.12	4.3	30	Pass
3	06	2437	24.95	4.3	30	Pass
3	10	2457	24.35	4.3	30	Pass
3	11	2462	21.54	4.3	30	Pass
4	03	2422	22.54	4.3	30	Pass
4	04	2427	24.33	4.3	30	Pass

4	06	2437	24.93	4.3	30	Pass
4	08	2447	24.18	4.3	30	Pass
4	09	2452	21.22	4.3	30	Pass

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
1	01	2412	19.65	4.3	23.95	36	Pass
1	06	2437	19.94	4.3	24.24	36	Pass
1	10	2457	19.37	4.3	23.67	36	Pass
1	11	2462	19.26	4.3	23.56	36	Pass
2	01	2412	23.49	4.3	27.79	36	Pass
2	02	2417	24.37	4.3	28.67	36	Pass
2	06	2437	24.95	4.3	29.25	36	Pass
2	10	2457	24.56	4.3	28.86	36	Pass
2	11	2462	23.72	4.3	28.02	36	Pass
3	01	2412	22.28	4.3	26.58	36	Pass
3	02	2417	24.12	4.3	28.42	36	Pass
3	06	2437	24.95	4.3	29.25	36	Pass
3	10	2457	24.35	4.3	28.65	36	Pass
3	11	2462	21.54	4.3	25.84	36	Pass
4	03	2422	22.54	4.3	26.84	36	Pass
4	04	2427	24.33	4.3	28.63	36	Pass
4	06	2437	24.93	4.3	29.23	36	Pass
4	08	2447	24.18	4.3	28.48	36	Pass
4	09	2452	21.22	4.3	25.52	36	Pass

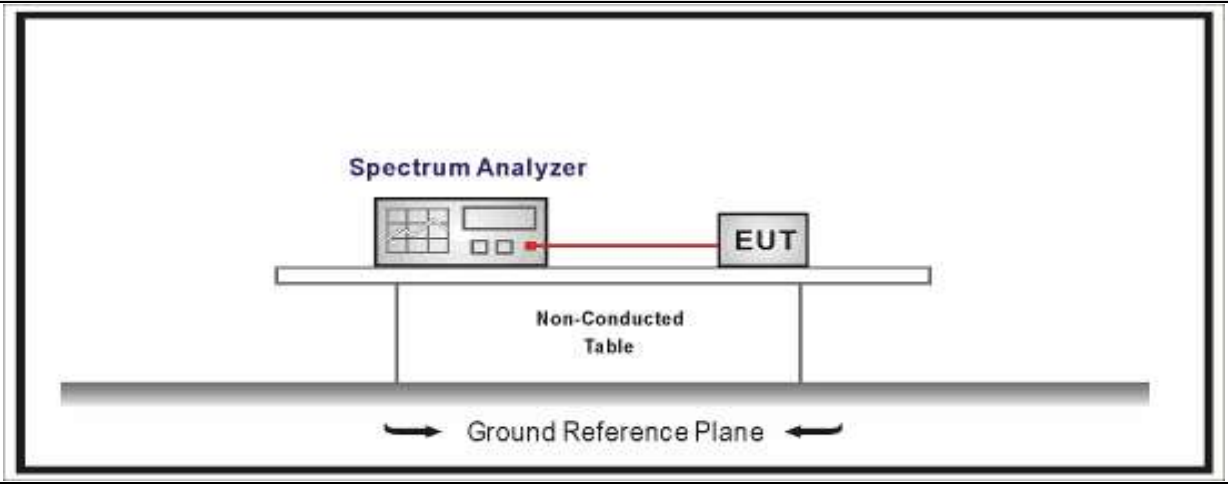
9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup

Power Spectral Density test setup



9.3. Limit

Power Spectral Density Limit
Power Spectral Density≤8dBm/3kHz

9.4. Test Procedure

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

9.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Power Spectral Density Test Method</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
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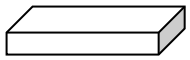
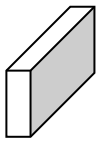
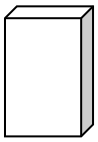
<tr><td>  </td><td>  </td><td>  </td></tr>
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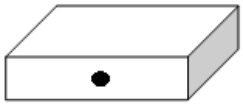
<tr><td></td><td colspan="3">  </td></tr>
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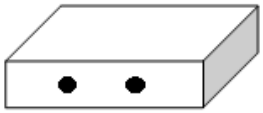
<tr><td></td><td colspan="3">  </td></tr>
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</table>

9.6. Test Result

Product Name	:	Barcode Scanner	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~4	Test Site	:	TR8
Test Date	:	2018.03.20	Test Engineer	:	Pawn

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Antenna Gain (dBi)	Limit (dBm/3kHz)	Result
1	01	2412	-9.377	4.3	8.0	Pass
1	06	2437	-10.390	4.3	8.0	Pass
1	11	2462	-9.463	4.3	8.0	Pass
2	01	2412	-13.649	4.3	8.0	Pass
2	06	2437	-11.414	4.3	8.0	Pass
2	11	2462	-14.938	4.3	8.0	Pass
3	01	2412	-14.044	4.3	8.0	Pass
3	06	2437	-11.138	4.3	8.0	Pass
3	11	2462	-14.108	4.3	8.0	Pass
4	03	2422	-18.455	4.3	8.0	Pass
4	06	2437	-16.130	4.3	8.0	Pass
4	09	2452	-20.560	4.3	8.0	Pass

Mode 1 CH01(2412MHz)

10. Antenna Requirement

10.1. Limit

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

10.2. Antenna Connector Construction

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

The End