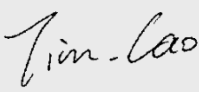
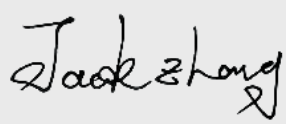


Test report No:
2210511R-RF-US-P06V01

FCC TEST REPORT

Product Name	Tele-matic Control Unit
Model and /or type reference	SRTL-NA
FCC ID	2A673-SRTL-TCU
IC	30545-SRTLTCU
Applicant's name / address	SiRun (Wuxi) Technology Co., Ltd. 2501, Swan Tower, Wuxi Software Park, Xinwu District, Wuxi City, Jiangsu Province, China
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KDB 558074 D01v05r02 RSS-Gen Issue 5 / RSS-247 Issue 2
Verdict Summary	IN COMPLIANCE
Documented By (name / position & signature)	Tim Cao/Project Manager 
Approved by (name / position & signature)	Jack Zhang/ Manager 
Date of issue	2023-05-12
Report Version	V1.0
Report template No	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

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

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

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

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

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Jan. 18, 2022
Date (start test)	Apr. 11, 2022
Date (finish test)	Apr. 28, 2022

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

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

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

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

POSSIBLE TEST CASE VERDICTS

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

ABBREVIATIONS

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

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

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2210511R-RF-US-P06V01	V1.0	Initial issue of report.	2023-05-12

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with FCC 15.247.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Informaion;
 - Chapter 1.3 Channel List;
 - Chapter 1.4 802.11ax RU configurations;
 - Chapter 1.5 Data Rate;

USED EQUIPMENT

RF conducted test / TR8(Chamber details)

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

Radiated Emission(30MHz-1GHz) / AC3(Chamber details)

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2021.10.30	2022.10.29
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2020.12.27	2021.12.26
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2021.12.03	2022.12.02
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2021.07.09	2022.07.08
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2022.03.21	2023.03.20
DEKRA test software	N/A	N/A	N/A	N/A	N/A

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

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MAX Signal Analyzer	Agilent	N9020B	MY59050482	2021.11.18	2022.11.17
Pre-Amplifier	SKET	LNPA_0118G-45	SK2021090101	2021.12.13	2022.12.12
Preamplifier	CHENGYI	EMC184045S E	980263	2021.05.22	2022.05.21
DRG Horn	ETS-Lindgren	3117	00123988	2021.10.22	2022.10.21
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2021.07.09	2022.07.08
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2022.03.21	2023.03.20
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2022.03.21	2023.03.20
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2022.03.21	2023.03.20
DEKRA test software	N/A	N/A	N/A	N/A	N/A

UNCERTAINTY

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

Test item	Uncertainty
AC Power Line Conducted Emission	± 2.92 dB
Peak Power Output	± 1.13 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 4.60 dB 200MHz~1GHz: 4.10 dB Vertical: 30MHz~200MHz: 4.80 dB 200MHz~1GHz: 4.10 dB
Radiated Emission(1GHz~40GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB Horizontal: 18GHz~40GHz: 4.70 dB Vertical: 18GHz~40GHz: 4.60 dB
RF antenna conducted test	± 1.13 dB
Radiated Emission Band Edge	± 5.00 dB
DTS Bandwidth	± 279 Hz
Occupied Bandwidth	± 279 Hz
Power Density	± 1.13 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name..... :	Tele-matic Control Unit
Model No. :	SRTL-NA
Manufacturer..... :	SIRUN Tianlang (Wuxi) Technology Co., Ltd
Manufacturer address	Room 2501, Block D, Cygnus, National Software Park, Xinwu District, Wuxi City, Jiangsu Province

Wireless specification..... :	WIFI
Operating frequency range(s)..... :	2400~2483.5MHz
Type of modulation	DSSS: BPSK,QPSK,CCK OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Number of channel..... :	802.11b/g/n/ax(20MHz): 13 802.11n/ax(40MHz): 9
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
Device category	☐ Fixed point-to-point ☐ Emit multiple directional beams, simultaneously or sequentially ☒ Other cases

Rated power supply..... :	Voltage and Frequency	
	☐	AC: 220 – 240 V, 50/60 Hz
	☐	AC: 100 – 120 V, 50/60 Hz
	☒	DC: 12V/ 24V
	☐	Battery: 3.7V
Mounting position	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held equipment
	☒	Other: vehicle-mounted equipment

1.2 Antenna Information

Antenna model / type number	N/A		
Antenna serial number	N/A		
Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
	☐	3TX + 3RX	
	☐	4TX + 4RX	
	☐	Others:.....	
Antenna technology	☒	SISO	
	☐	MIMO	☐ CDD
	☐		☐ Beam-forming
SISO Antenna Gain	1.5 dBi		

1.3 Data Rate

IEEE 802.11b

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

Table 1 –TX Antenna number = 1

IEEE 802.11g

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

Table 1 – MCS parameters for TX Antenna number = 1

IEEE 802.11n

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

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

Table 1 – MCS parameters for TX Antenna number = 1

1.4 Channel List

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

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412 MHz	2	2417 MHz	3	2422 MHz	4	2427 MHz
5	2432 MHz	6	2437 MHz	7	2442 MHz	8	2447 MHz
9	2452 MHz	10	2457 MHz	11	2462 MHz	-	-
-	-	-	-	-	-	-	-

IEEE 802.11n (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
3	2422 MHz	4	2427 MHz	5	2432 MHz	6	2437 MHz
7	2442 MHz	8	2447 MHz	9	2452 MHz	-	-
-	-	-	-	-	-	-	-

Note: The General Description of the Item, antenna information, 802.11ax RU configurations , Data Rate and Channel List in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

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

Test Mode	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)
	Mode 5: Simultaneous Transmit

2.2 Accessories Information

Accessories Information	Brand/model name	Cable		
		Length used during test [m]	Attached during test	Shielded
LAN cable	LAN Cable	1	☒	☐
LAN cable	LAN Cable	1.8	☒	☐
			☐	☐
			☐	☐
			☐	☐

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

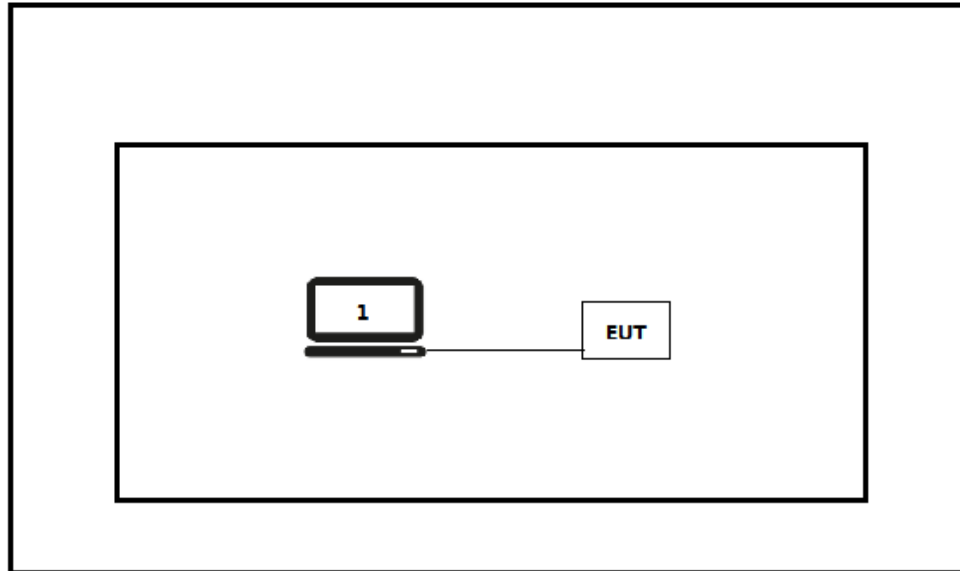
The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x220	Lenovo	Adapter
software	Type / Version	Manufacturer	Supplied by
Putty	N/A	N/A	N/A

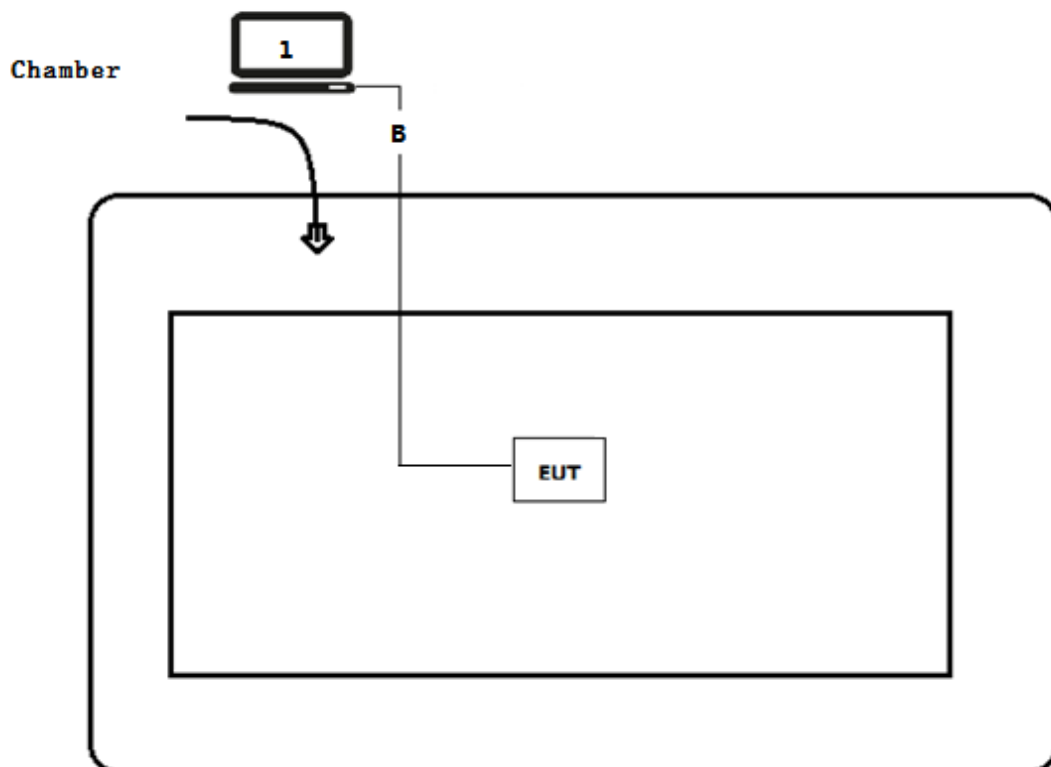
2.4 Test Configuration / Block diagram used for tests

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

Test setup Diagram- Conducted Test



Test setup Diagram- Radiated Emission



2.5 Testing process

1	Setup the EUT as shown in Section 2.4.
2	Execute the test program {Putty} on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

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

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2022	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01V05r02	2019	Guidance for performing compliance measurements on Digital Transmission System (DTS) operating under section 15.247
RSS-Gen Issue 5 Amendment 1	2019	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2	2017	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Overview of results

For FCC

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

For ISED

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

3.3 Test Facility

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

4 TEST RESULTS

4.1 AC Power Line Conducted Emission	VERDICT: N/A
---	---------------------

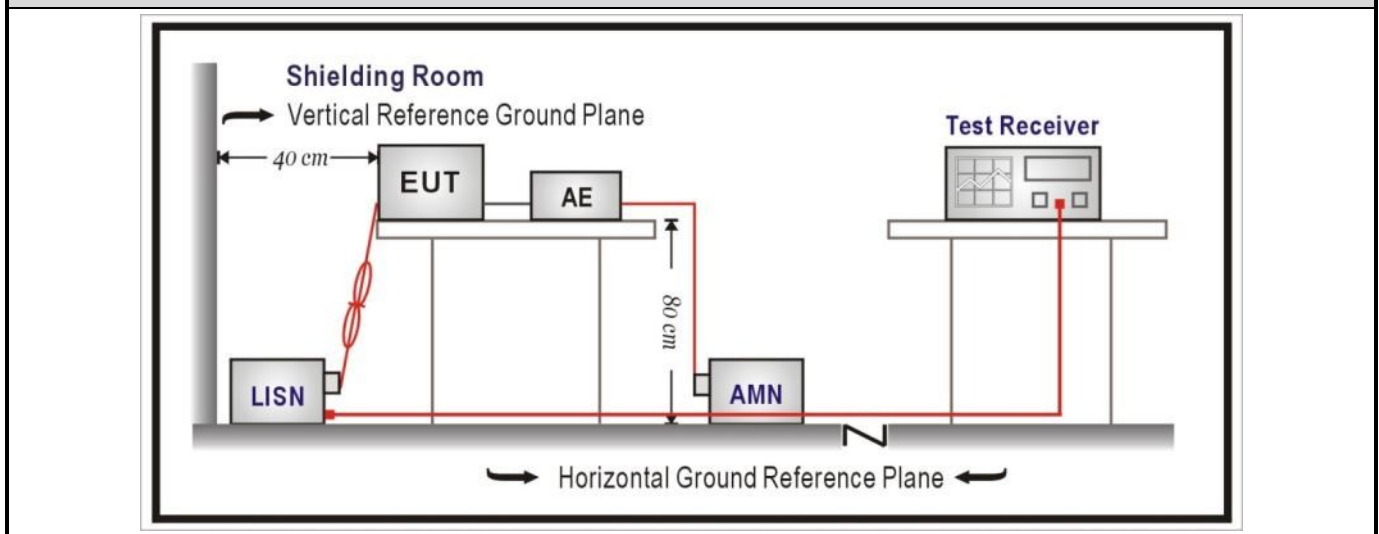
4.1.1 Limit

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

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

²⁾ The limit decreases linearly with the logarithm of the frequency.

4.1.2 Test Setup



4.1.3 Test Procedure

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

4.1.4 Test Data

N/A: The EUT is powered by DC, so this test item is not applicable.

4.2 Emissions in restricted frequency bands**VERDICT: PASS****4.2.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.205; 15.209
-----------------	--

Restricted Bands of operation for FCC

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	Above 38.6
13.36 – 13.41	--	--	--

Restricted Band Emissions Limit

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 2)
216 - 960	200	46	3(Note 2)
Above 960	500	54	3(Note 2)

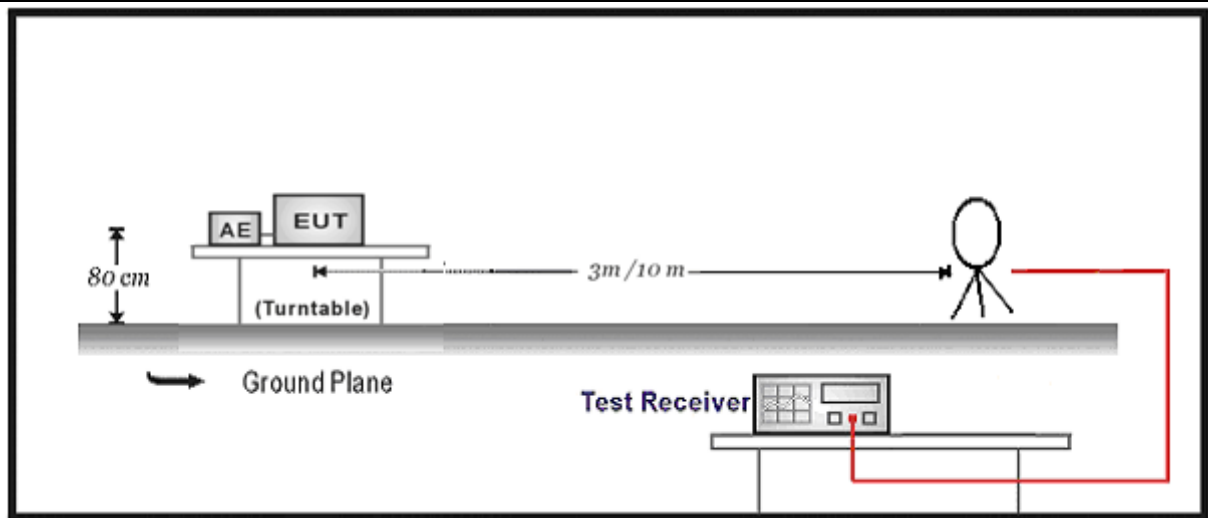
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed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

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated

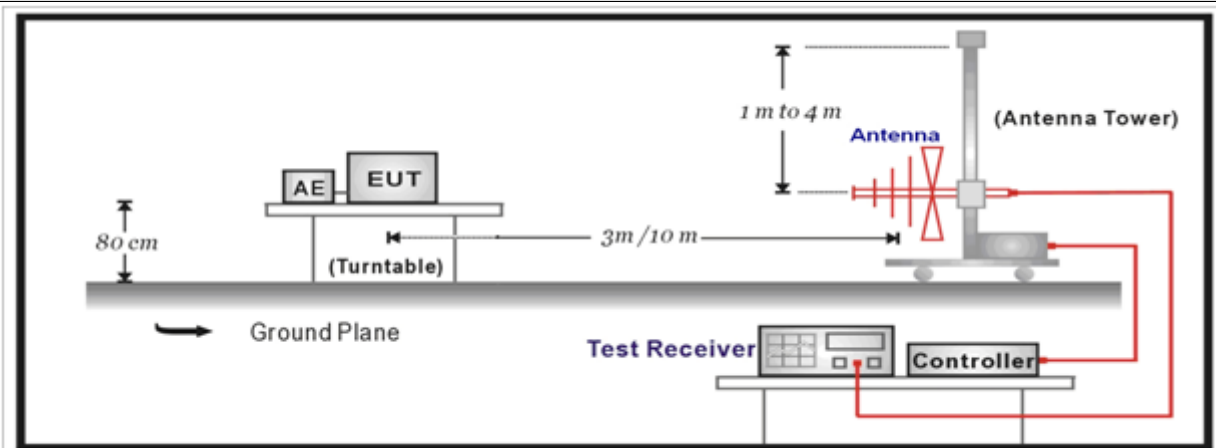
that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

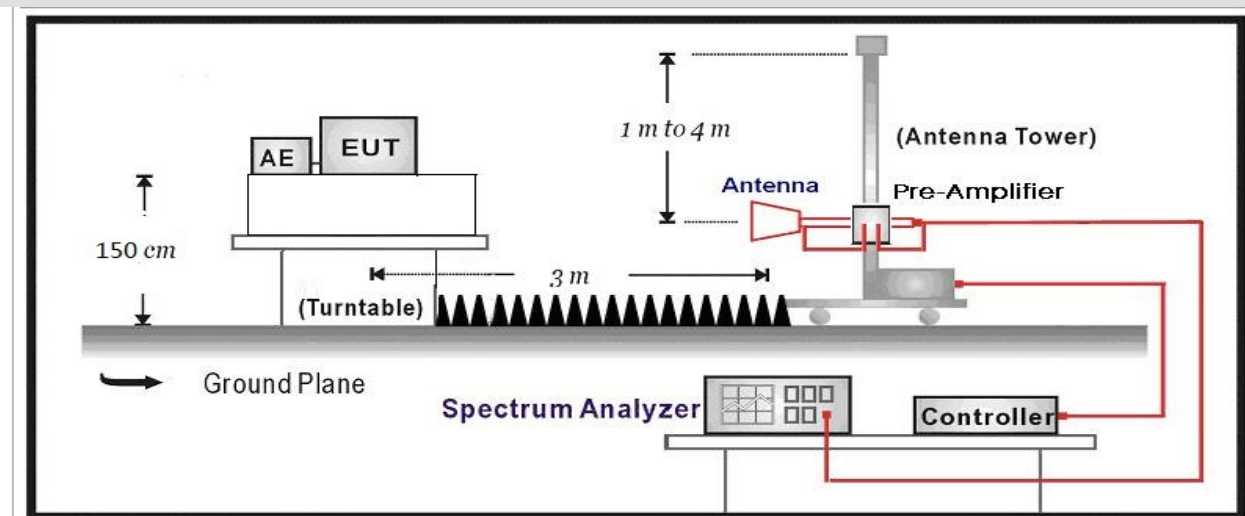
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

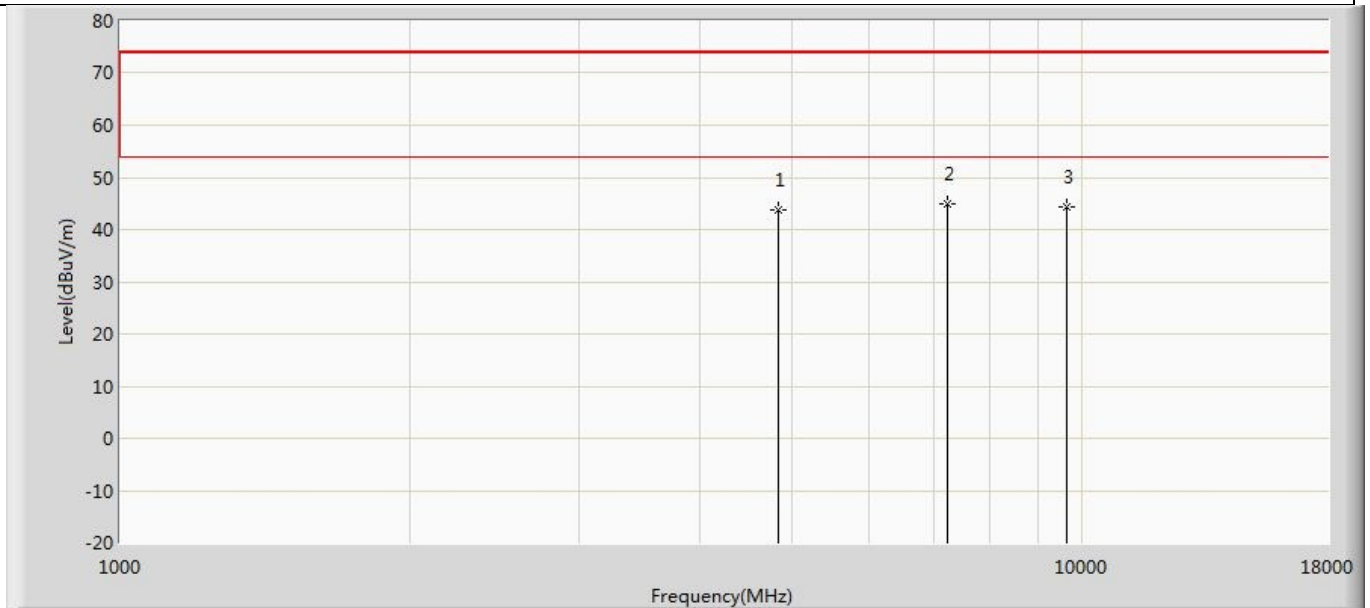


4.2.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	6.3	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10	11.12.2	Antenna-port conducted measurements
	☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
	☐	ANSI C63.10	11.12.2.4	Peak power measurement procedure
	☐	ANSI C63.10	11.12.2.5	Average power measurement procedures
	☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
	☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
	☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

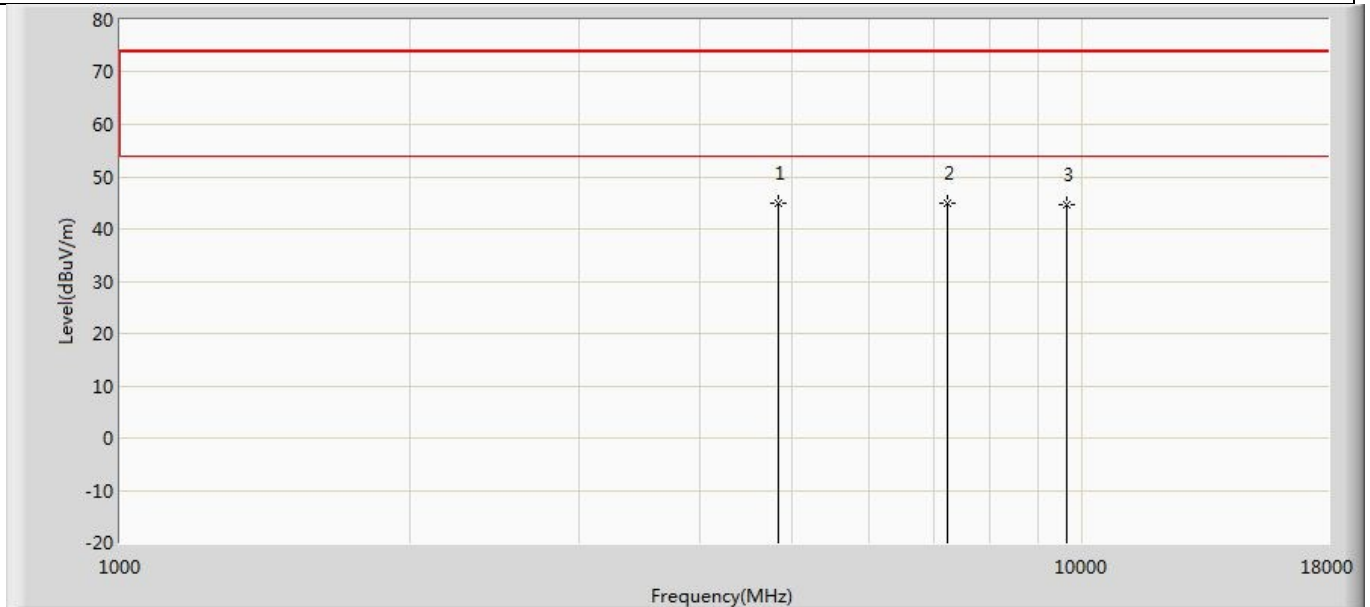
4.2.4 Test Data

Profile: 2210511R	Page No.: 25
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 11b	



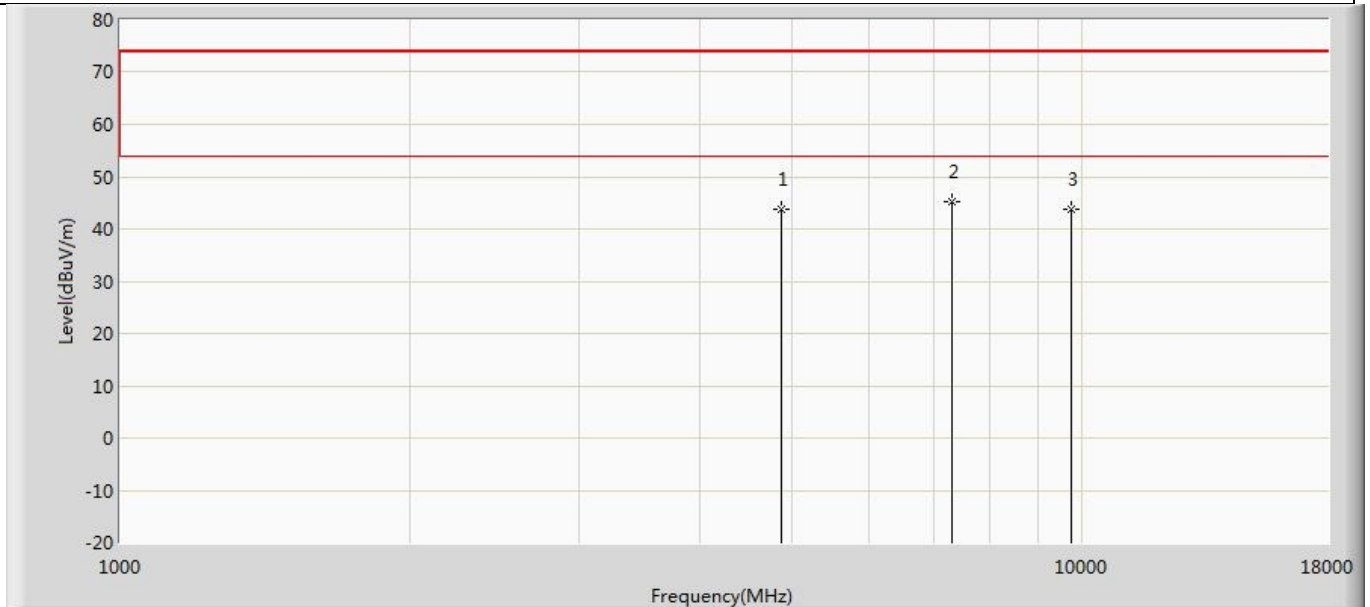
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	43.793	34.470	-30.207	74.000	9.323	PK
2	*	7236.000	44.941	32.959	-29.059	74.000	11.982	PK
3		9648.000	44.252	28.561	-29.748	74.000	15.692	PK

Profile: 2210511R	Page No.: 26
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 11b	



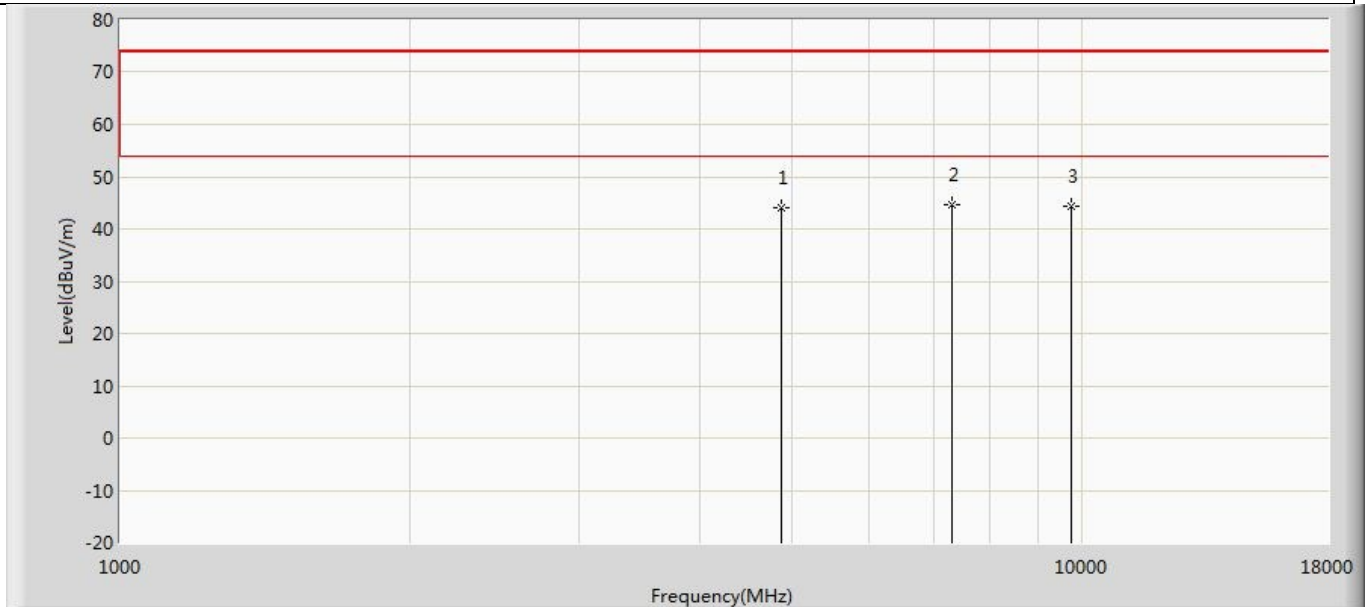
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4824.000	44.848	35.525	-29.152	74.000	9.323	PK
2		7236.000	44.837	32.855	-29.163	74.000	11.982	PK
3		9648.000	44.571	28.880	-29.429	74.000	15.692	PK

Profile: 2210511R	Page No.: 27
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 11b	



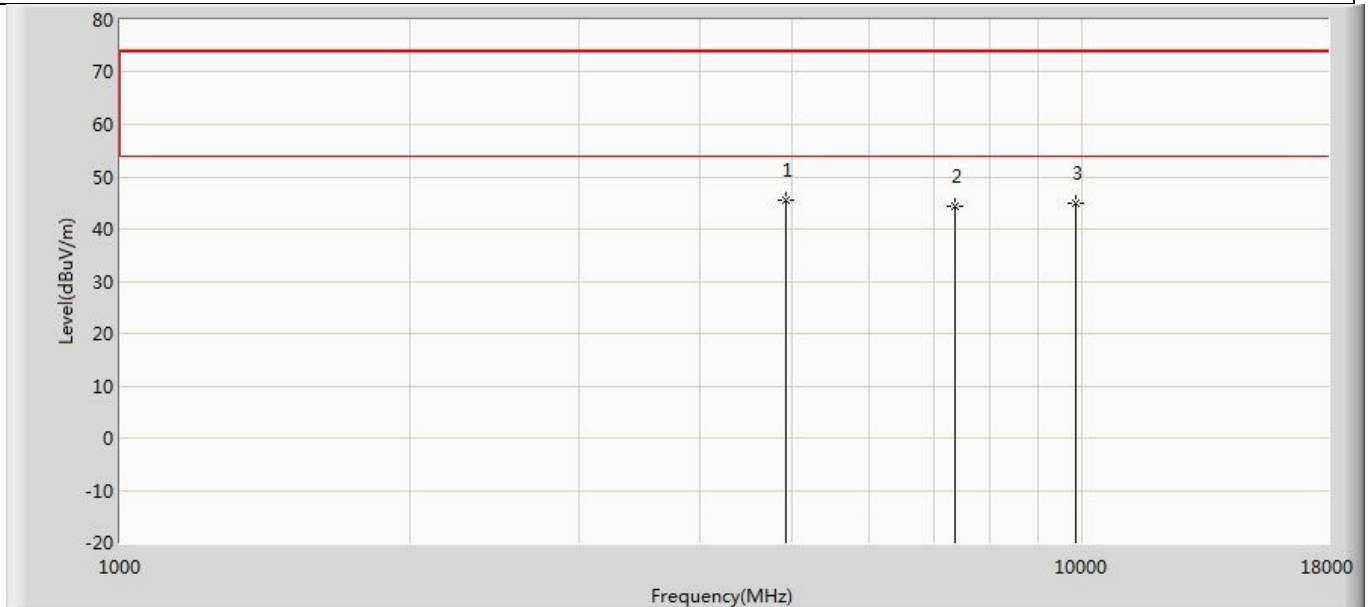
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	43.653	33.977	-30.347	74.000	9.676	PK
2	*	7311.000	45.202	32.576	-28.798	74.000	12.625	PK
3		9748.000	43.648	28.348	-30.352	74.000	15.301	PK

Profile: 2210511R	Page No.: 28
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 11b	



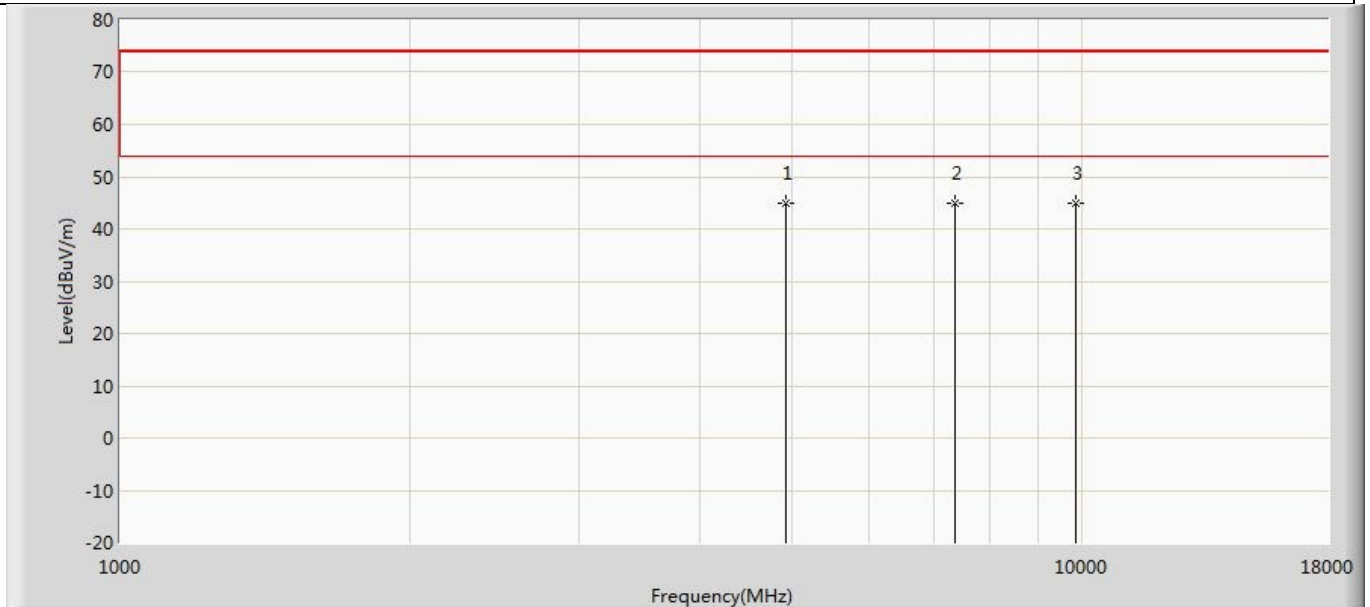
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	44.136	34.460	-29.864	74.000	9.676	PK
2	*	7311.000	44.564	31.938	-29.436	74.000	12.625	PK
3		9748.000	44.210	28.910	-29.790	74.000	15.301	PK

Profile: 2210511R	Page No.: 29
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 11b	



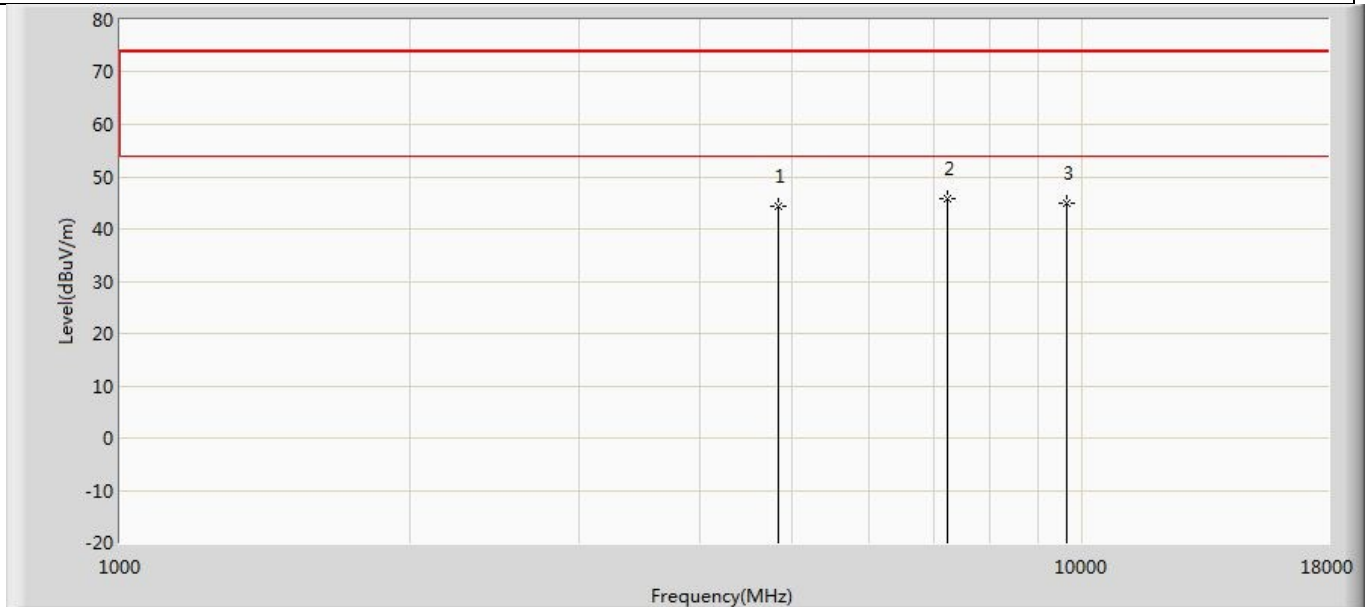
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4924.000	45.541	36.124	-28.459	74.000	9.418	PK
2		7386.000	44.344	32.668	-29.656	74.000	11.677	PK
3		9848.000	44.958	30.160	-29.042	74.000	14.798	PK

Profile: 2210511R	Page No.: 30
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 11b	



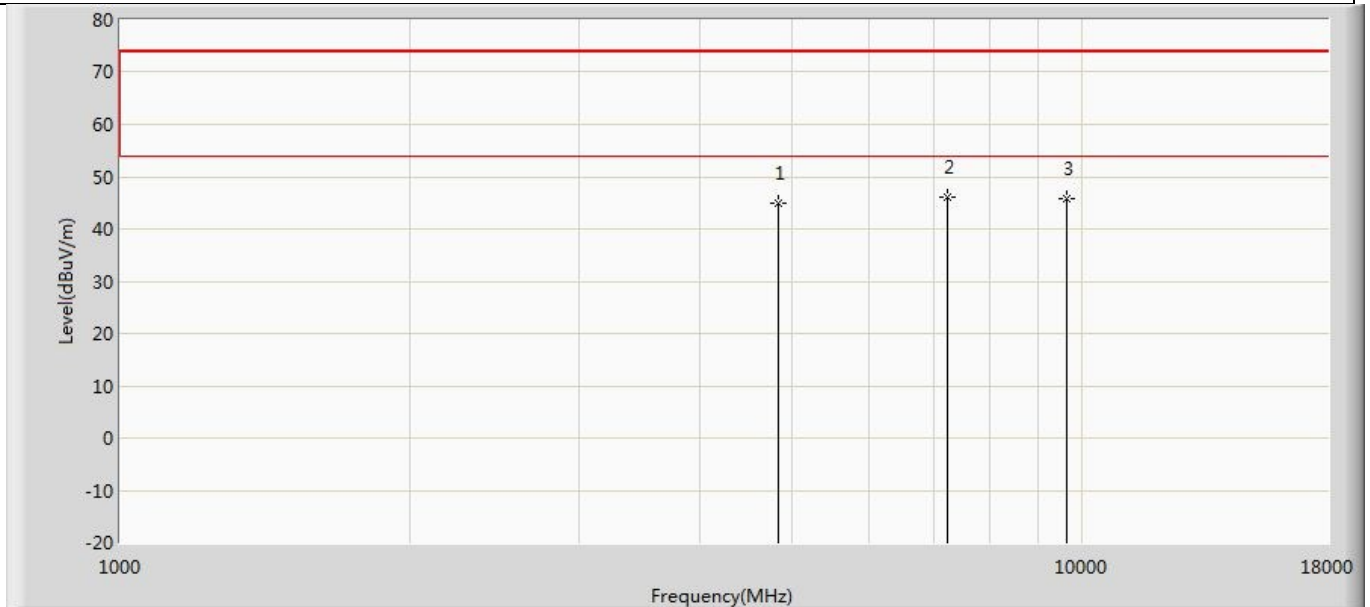
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	44.829	35.412	-29.171	74.000	9.418	PK
2	*	7386.000	45.055	33.379	-28.945	74.000	11.677	PK
3		9848.000	44.824	30.026	-29.176	74.000	14.798	PK

Profile: 2210511R	Page No.: 31
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 11g	



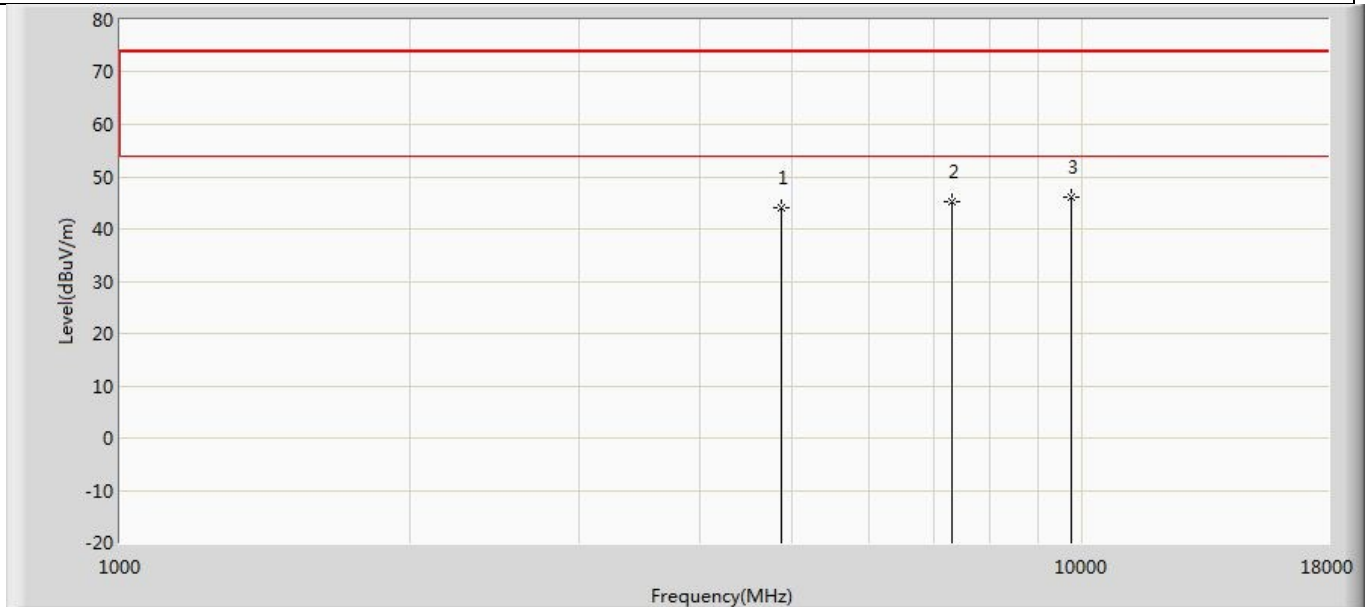
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	44.214	34.891	-29.786	74.000	9.323	PK
2	*	7236.000	45.696	33.714	-28.304	74.000	11.982	PK
3		9648.000	45.022	29.331	-28.978	74.000	15.692	PK

Profile: 2210511R	Page No.: 32
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 11g	



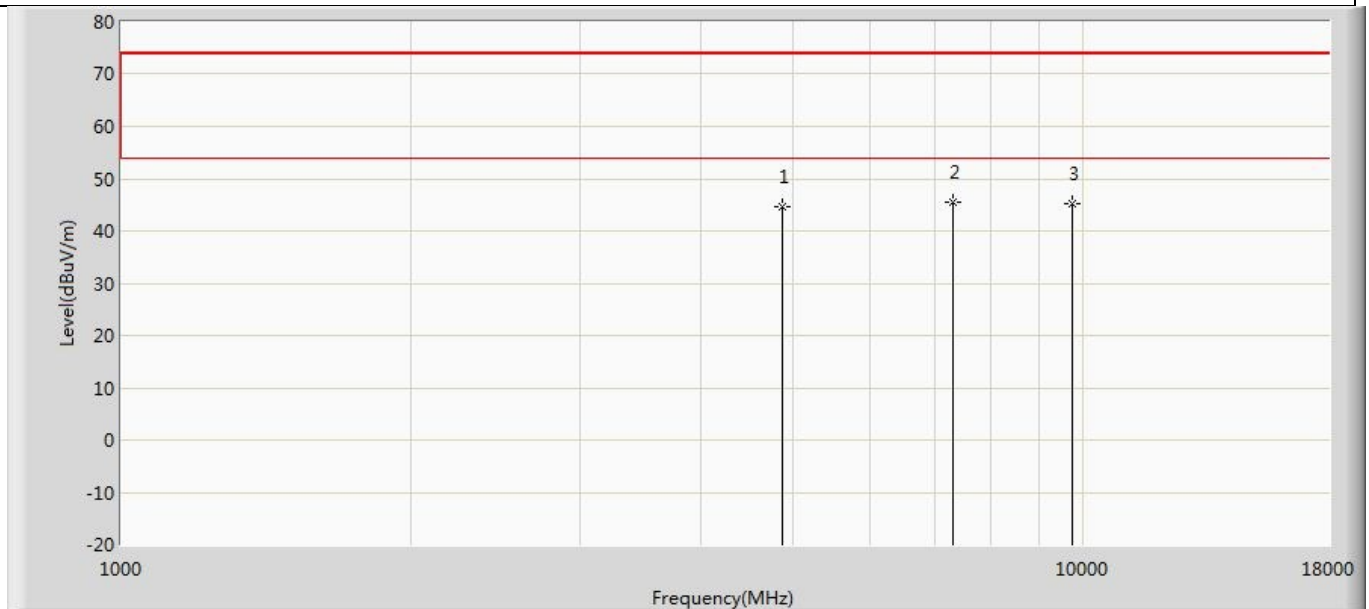
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	45.023	35.700	-28.977	74.000	9.323	PK
2	*	7236.000	46.029	34.047	-27.971	74.000	11.982	PK
3		9648.000	45.794	30.103	-28.206	74.000	15.692	PK

Profile: 2210511R	Page No.: 33
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 11g	



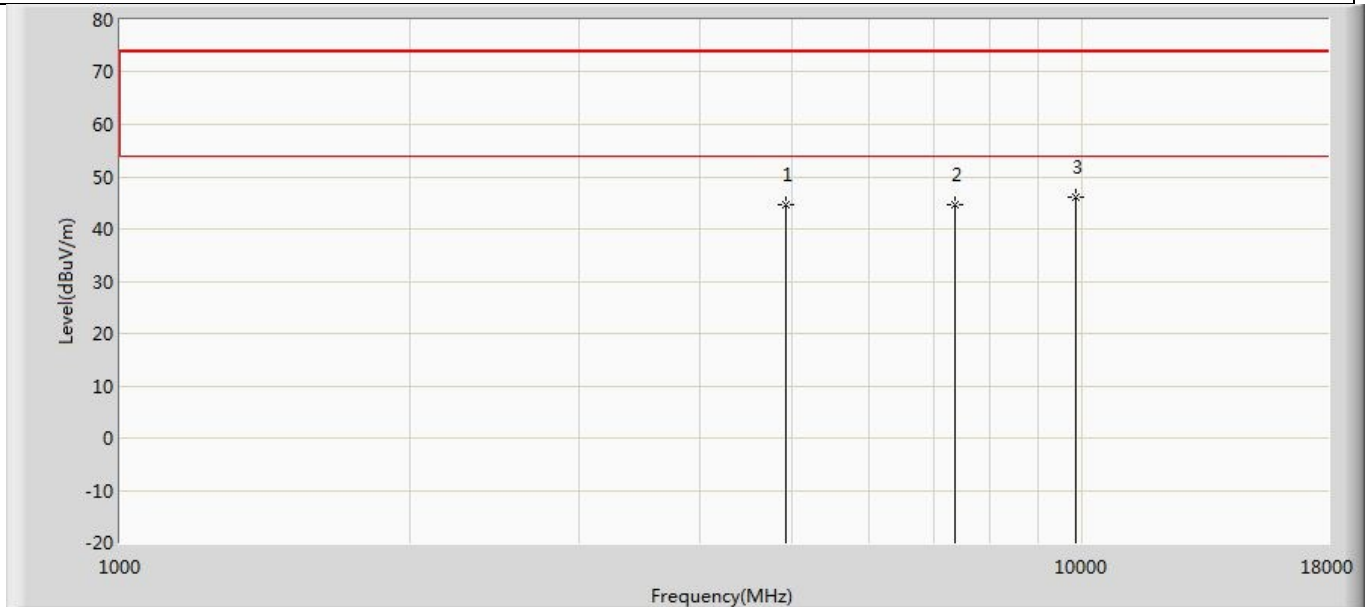
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	44.122	34.446	-29.878	74.000	9.676	PK
2		7311.000	45.307	32.681	-28.693	74.000	12.625	PK
3	*	9748.000	46.093	30.793	-27.907	74.000	15.301	PK

Profile: 2210511R	Page No.: 34
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 11g	



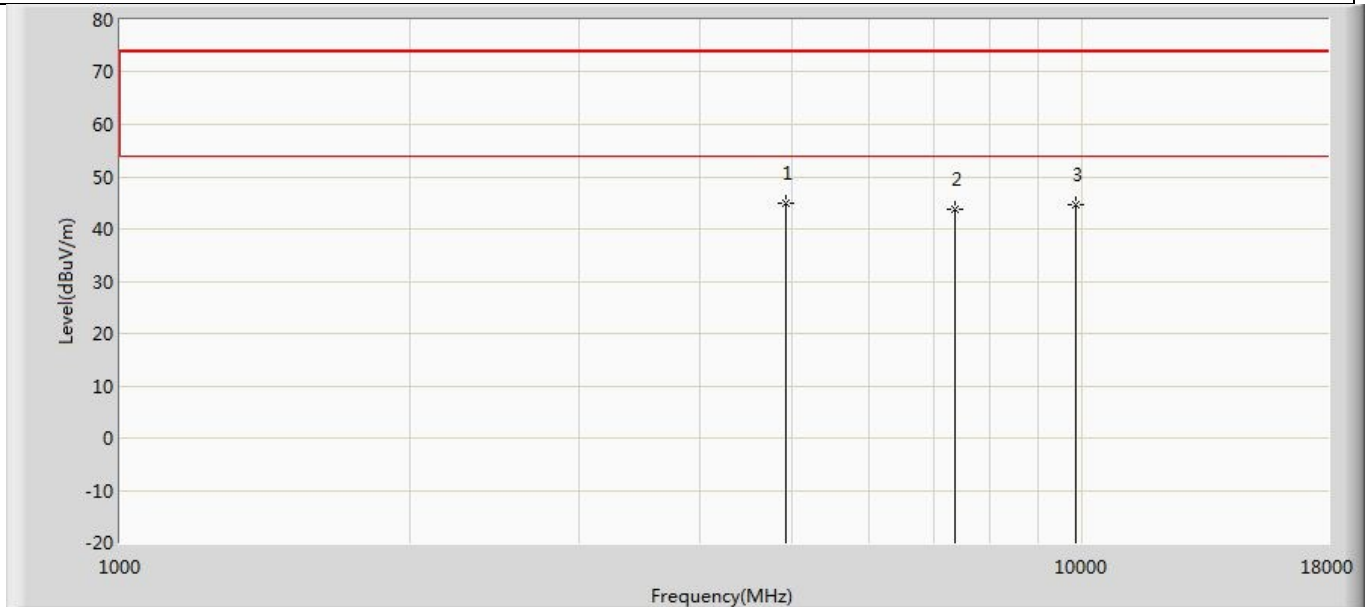
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	44.760	35.084	-29.240	74.000	9.676	PK
2	*	7311.000	45.374	32.748	-28.626	74.000	12.625	PK
3		9748.000	45.268	29.968	-28.732	74.000	15.301	PK

Profile: 2210511R	Page No.: 35
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 11g	



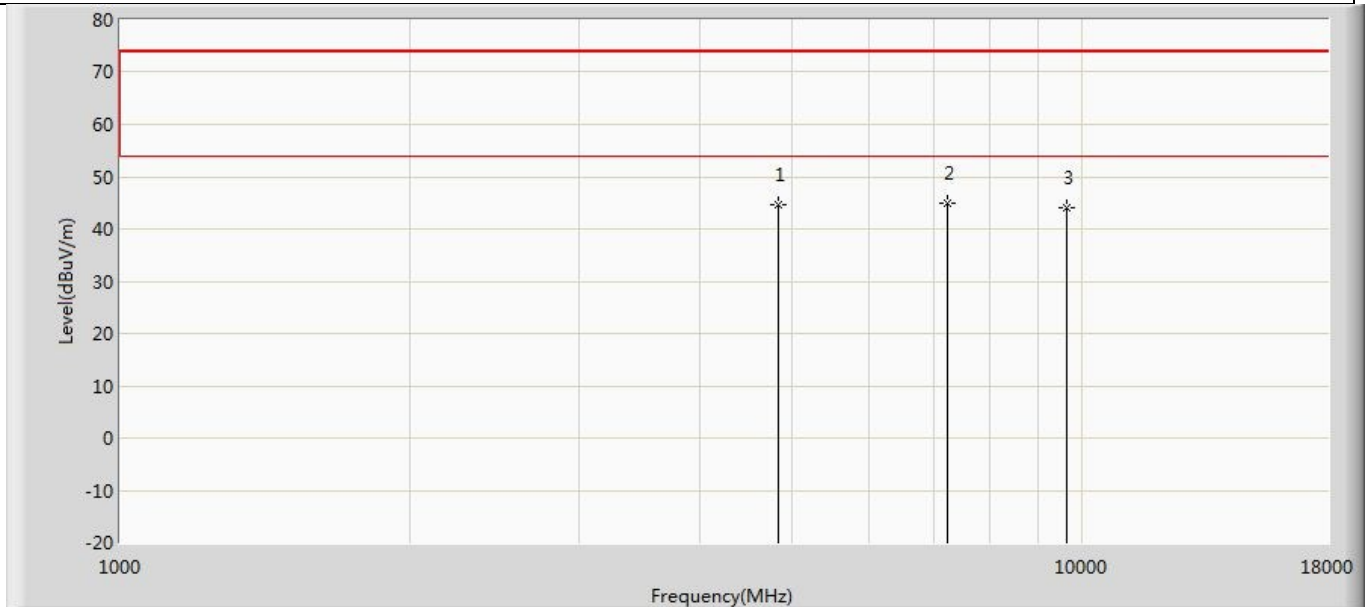
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	44.782	35.365	-29.218	74.000	9.418	PK
2		7386.000	44.534	32.858	-29.466	74.000	11.677	PK
3	*	9848.000	46.072	31.274	-27.928	74.000	14.798	PK

Profile: 2210511R	Page No.: 36
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 11g	



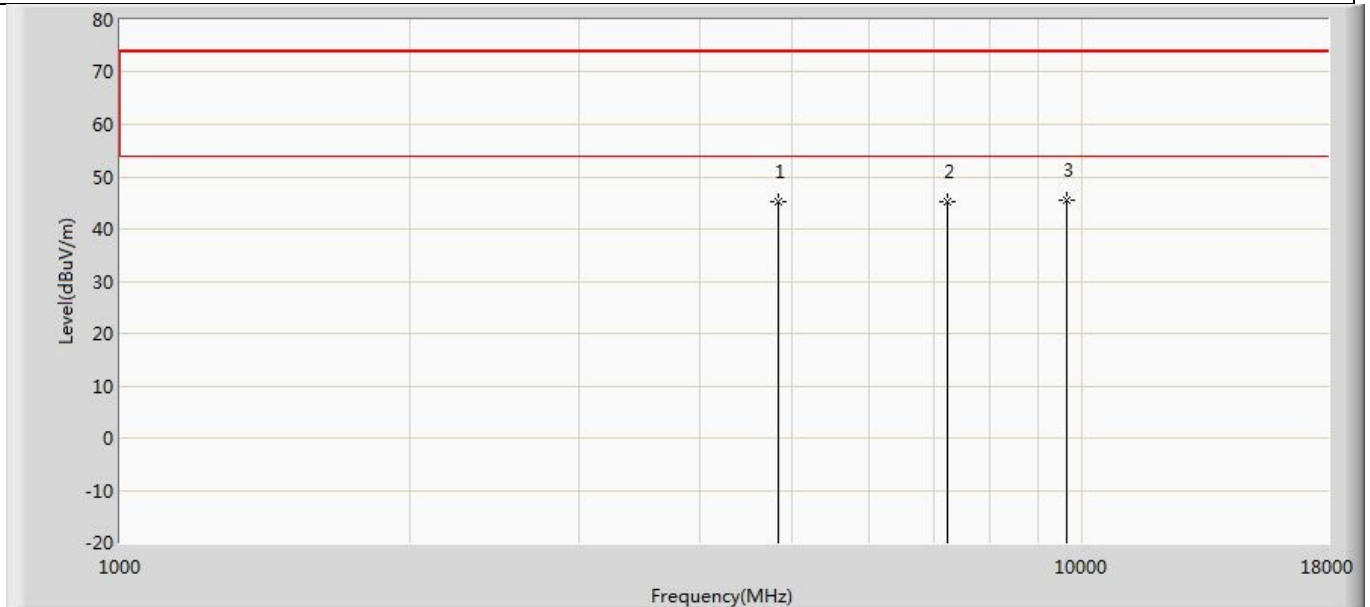
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4924.000	44.973	35.556	-29.027	74.000	9.418	PK
2		7386.000	43.848	32.172	-30.152	74.000	11.677	PK
3		9848.000	44.613	29.815	-29.387	74.000	14.798	PK

Profile: 2210511R	Page No.: 37
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 11n(20MHz)	



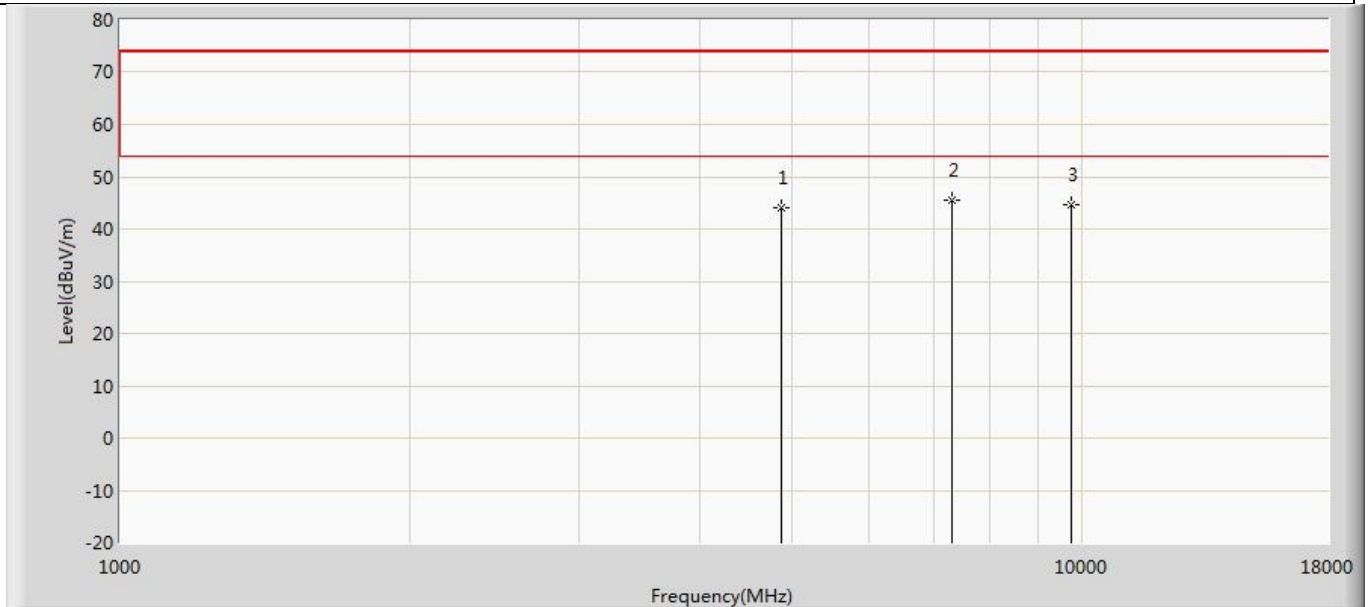
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	44.564	35.241	-29.436	74.000	9.323	PK
2	*	7236.000	44.886	32.904	-29.114	74.000	11.982	PK
3		9648.000	44.174	28.483	-29.826	74.000	15.692	PK

Profile: 2210511R	Page No.: 38
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 11n(20MHz)	



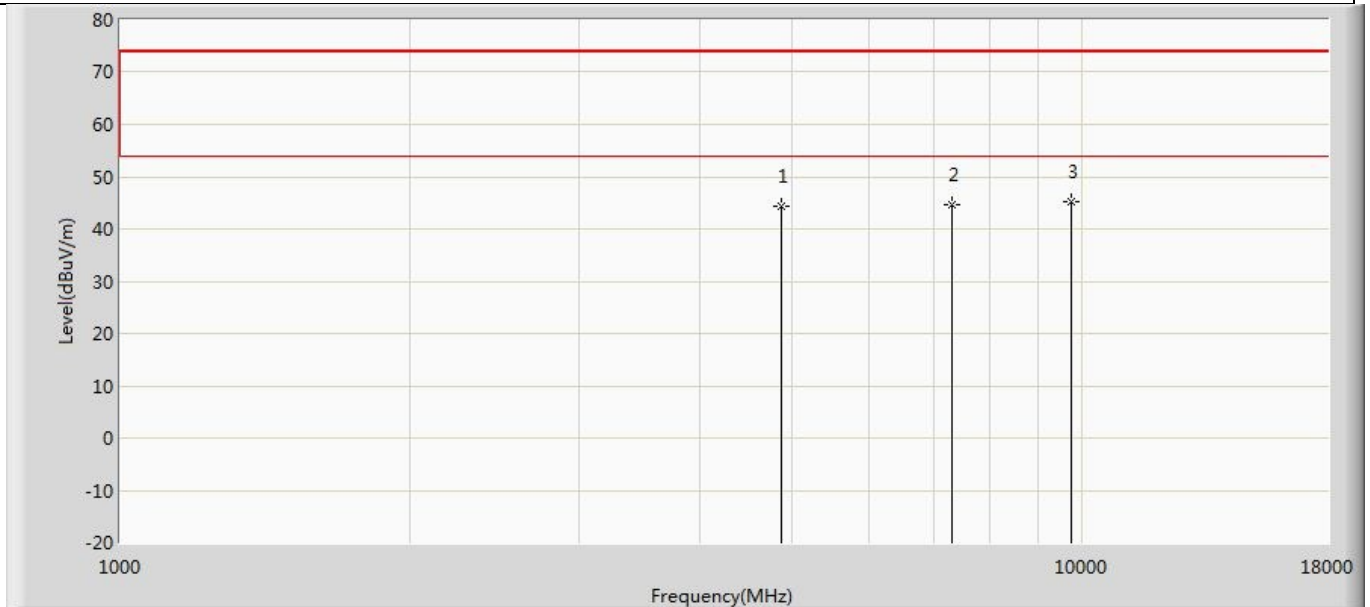
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	45.188	35.865	-28.812	74.000	9.323	PK
2		7236.000	45.251	33.269	-28.749	74.000	11.982	PK
3	*	9648.000	45.382	29.691	-28.618	74.000	15.692	PK

Profile: 2210511R	Page No.: 39
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 11n(20MHz)	



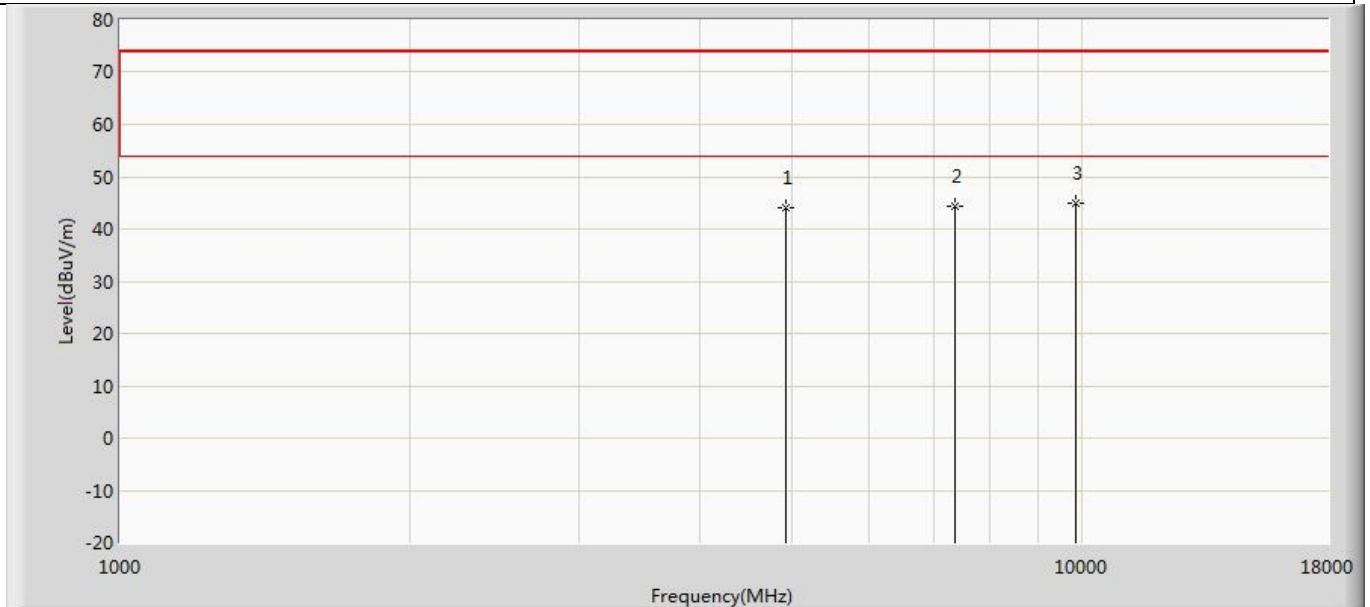
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	44.097	34.421	-29.903	74.000	9.676	PK
2	*	7311.000	45.535	32.909	-28.465	74.000	12.625	PK
3		9748.000	44.708	29.408	-29.292	74.000	15.301	PK

Profile: 2210511R	Page No.: 40
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 11n(20MHz)	



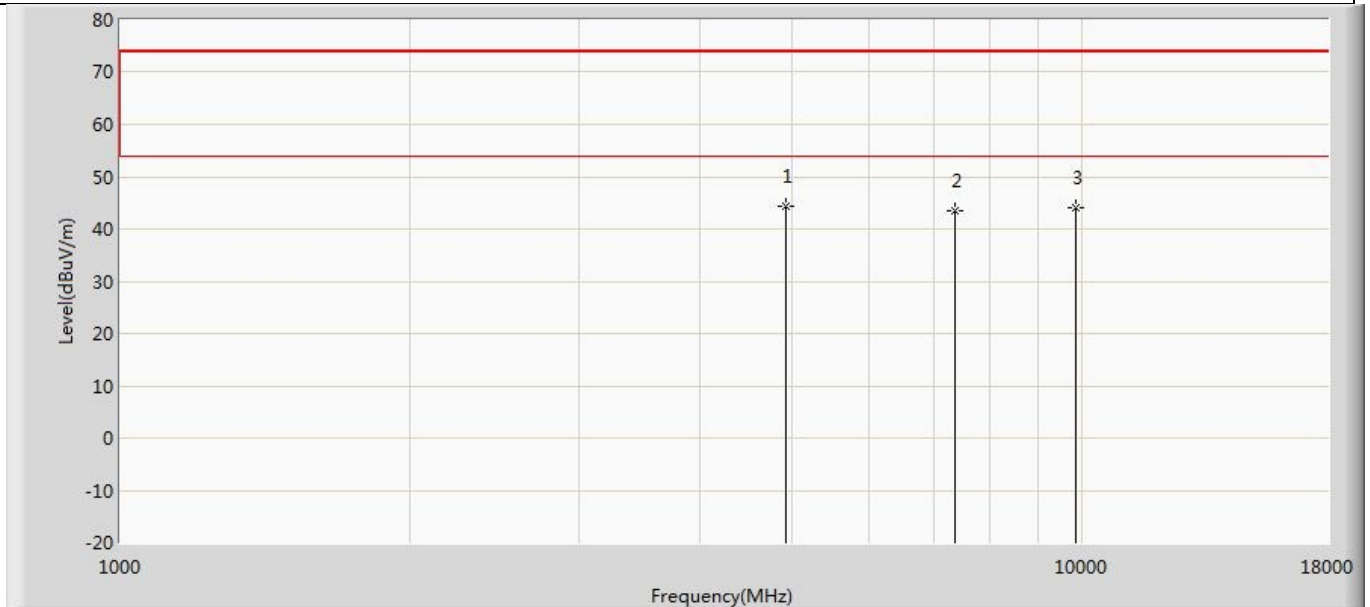
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	44.237	34.561	-29.763	74.000	9.676	PK
2		7311.000	44.739	32.113	-29.261	74.000	12.625	PK
3	*	9748.000	45.089	29.789	-28.911	74.000	15.301	PK

Profile: 2210511R	Page No.: 41
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 11n(20MHz)	



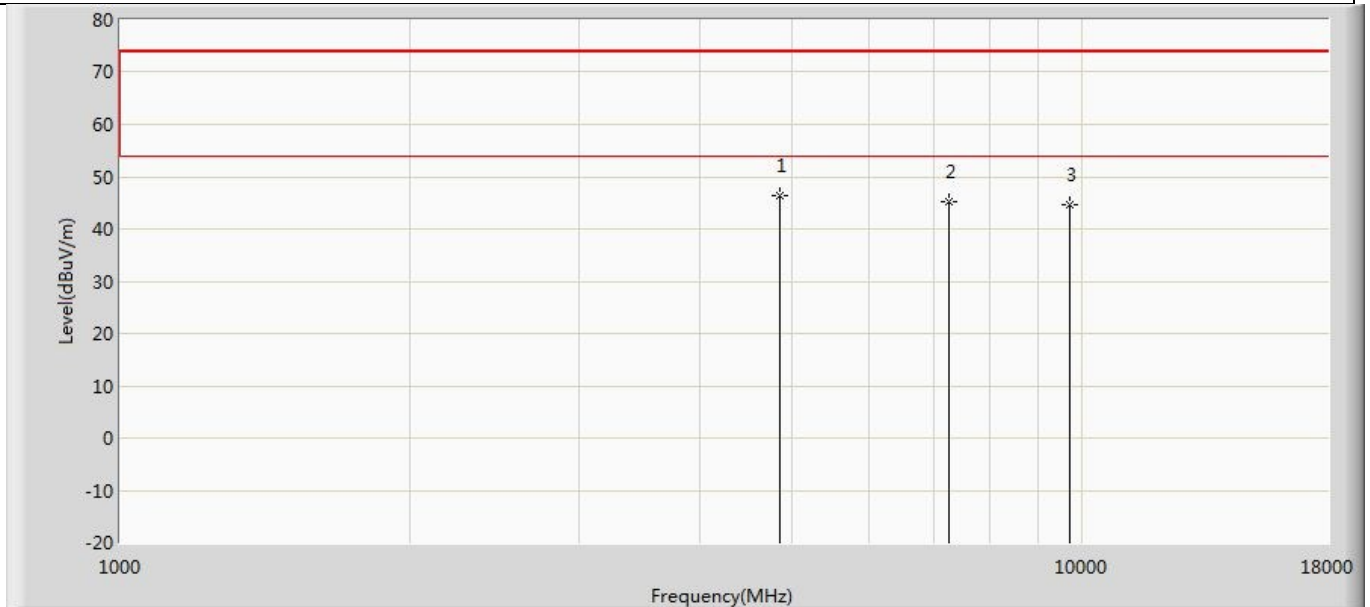
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	44.187	34.770	-29.813	74.000	9.418	PK
2		7386.000	44.254	32.578	-29.746	74.000	11.677	PK
3	*	9848.000	44.994	30.196	-29.006	74.000	14.798	PK

Profile: 2210511R	Page No.: 42
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 11n(20MHz)	



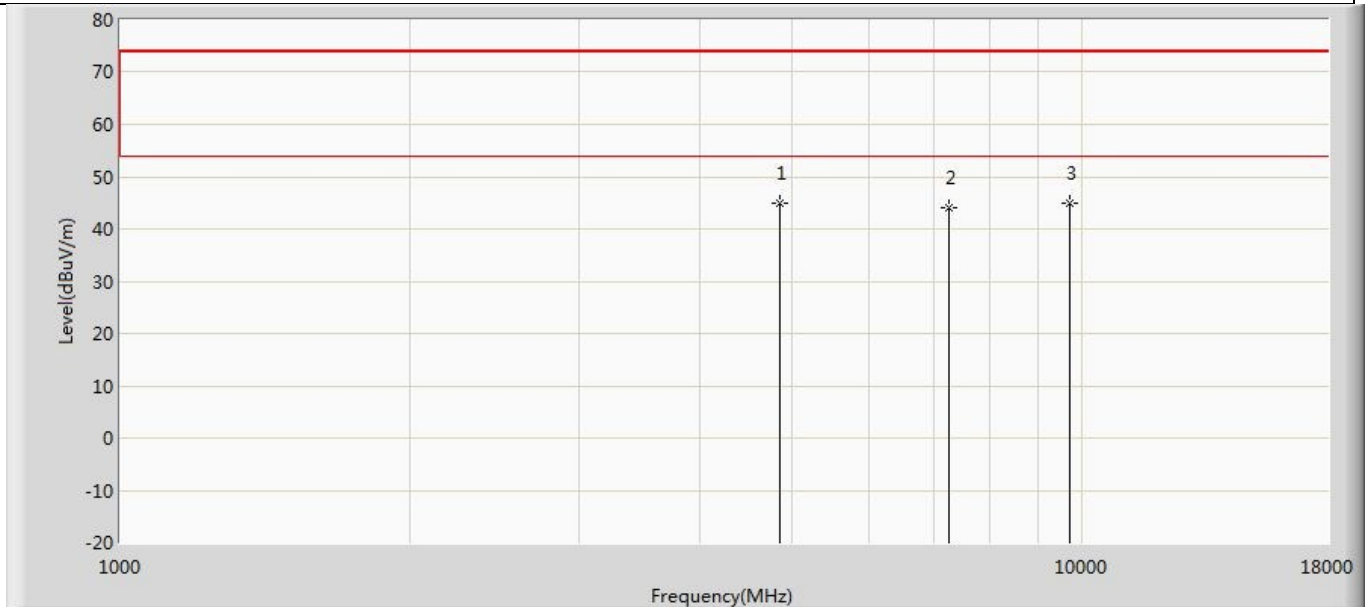
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4924.000	44.317	34.900	-29.683	74.000	9.418	PK
2		7386.000	43.462	31.786	-30.538	74.000	11.677	PK
3		9848.000	43.997	29.199	-30.003	74.000	14.798	PK

Profile: 2210511R	Page No.: 43
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 11n(40MHz)	



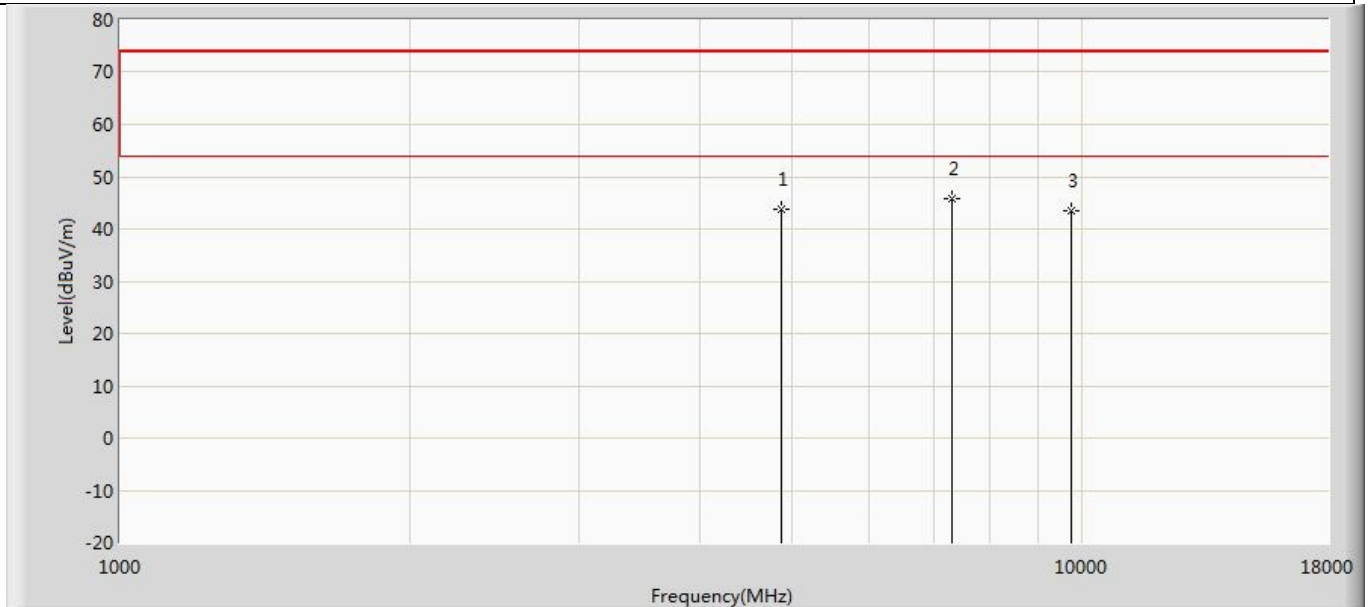
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4844.000	46.237	37.038	-27.763	74.000	9.199	PK
2		7266.000	45.091	32.998	-28.909	74.000	12.093	PK
3		9688.000	44.622	28.856	-29.378	74.000	15.766	PK

Profile: 2210511R	Page No.: 44
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 11n(40MHz)	



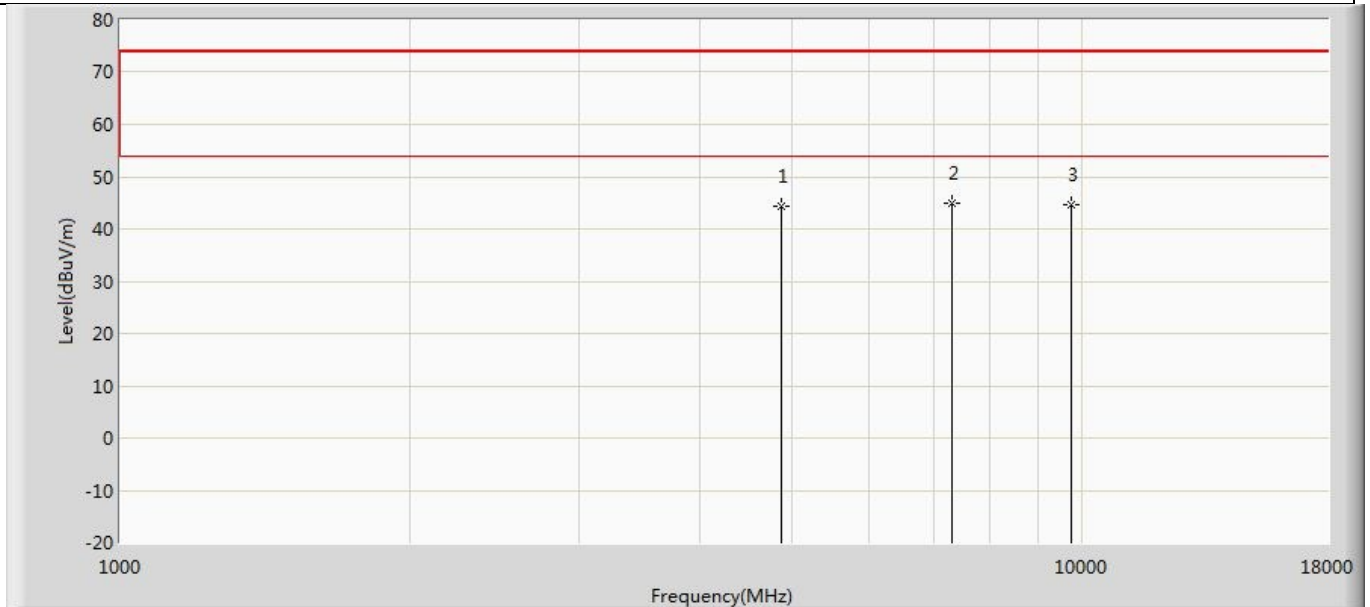
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4844.000	45.010	35.811	-28.990	74.000	9.199	PK
2		7266.000	43.939	31.846	-30.061	74.000	12.093	PK
3		9688.000	44.967	29.201	-29.033	74.000	15.766	PK

Profile: 2210511R	Page No.: 45
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 11n(40MHz)	



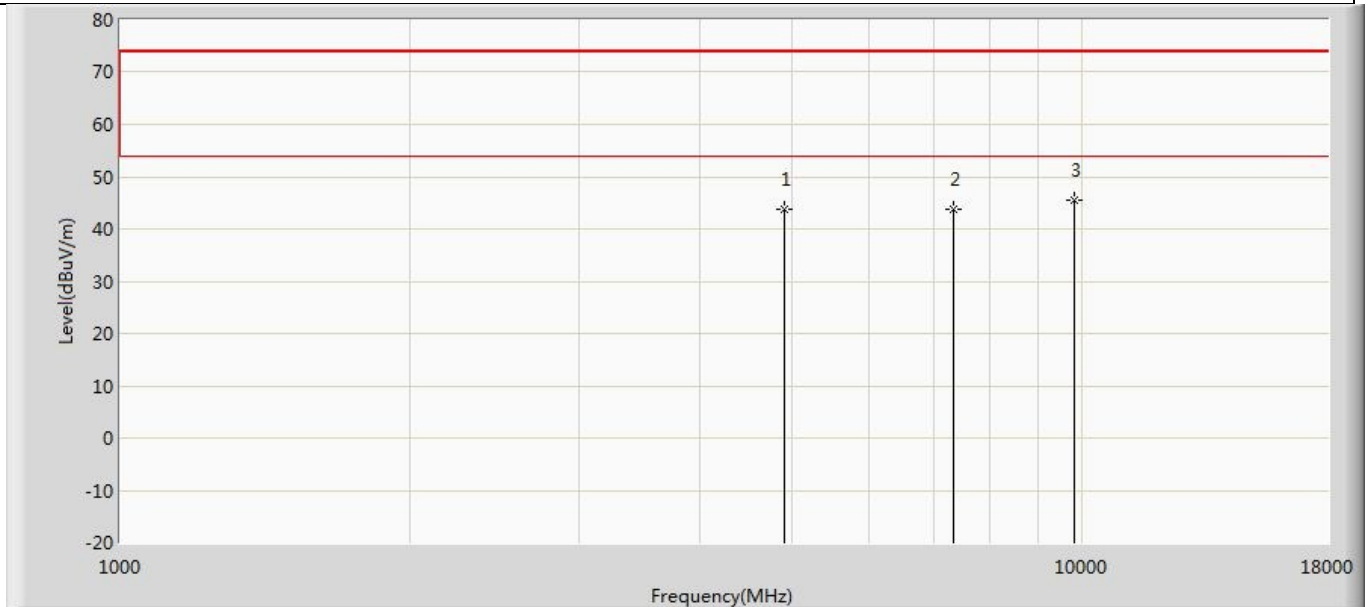
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	43.863	34.187	-30.137	74.000	9.676	PK
2	*	7311.000	45.831	33.205	-28.169	74.000	12.625	PK
3		9748.000	43.368	28.068	-30.632	74.000	15.301	PK

Profile: 2210511R	Page No.: 46
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 11n(40MHz)	



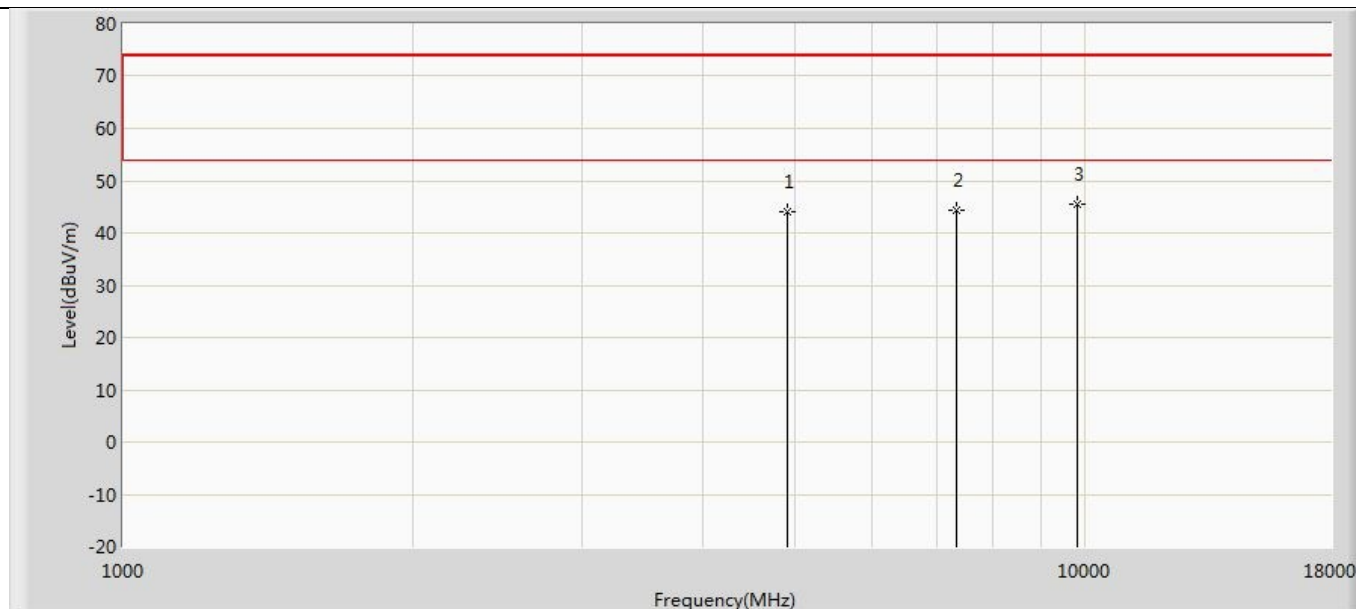
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	44.441	34.765	-29.559	74.000	9.676	PK
2	*	7311.000	44.962	32.336	-29.038	74.000	12.625	PK
3		9748.000	44.742	29.442	-29.258	74.000	15.301	PK

Profile: 2210511R	Page No.: 47
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 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	43.729	34.437	-30.271	74.000	9.292	PK
2		7356.000	43.874	32.055	-30.126	74.000	11.820	PK
3	*	9808.000	45.569	29.998	-28.431	74.000	15.570	PK

Profile: 2210511R	Page No.: 48
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/22 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00123988_(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 11n(40MHz)	



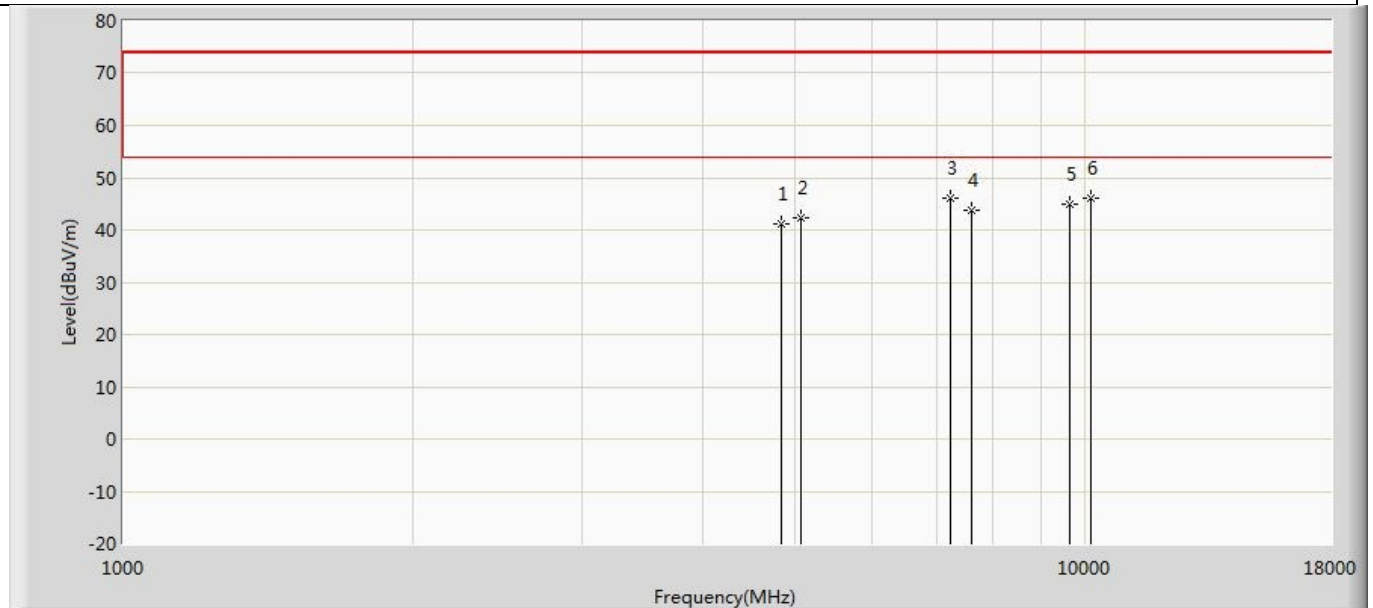
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	44.016	34.724	-29.984	74.000	9.292	PK
2		7356.000	44.231	32.412	-29.769	74.000	11.820	PK
3	*	9808.000	45.546	29.975	-28.454	74.000	15.570	PK

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.

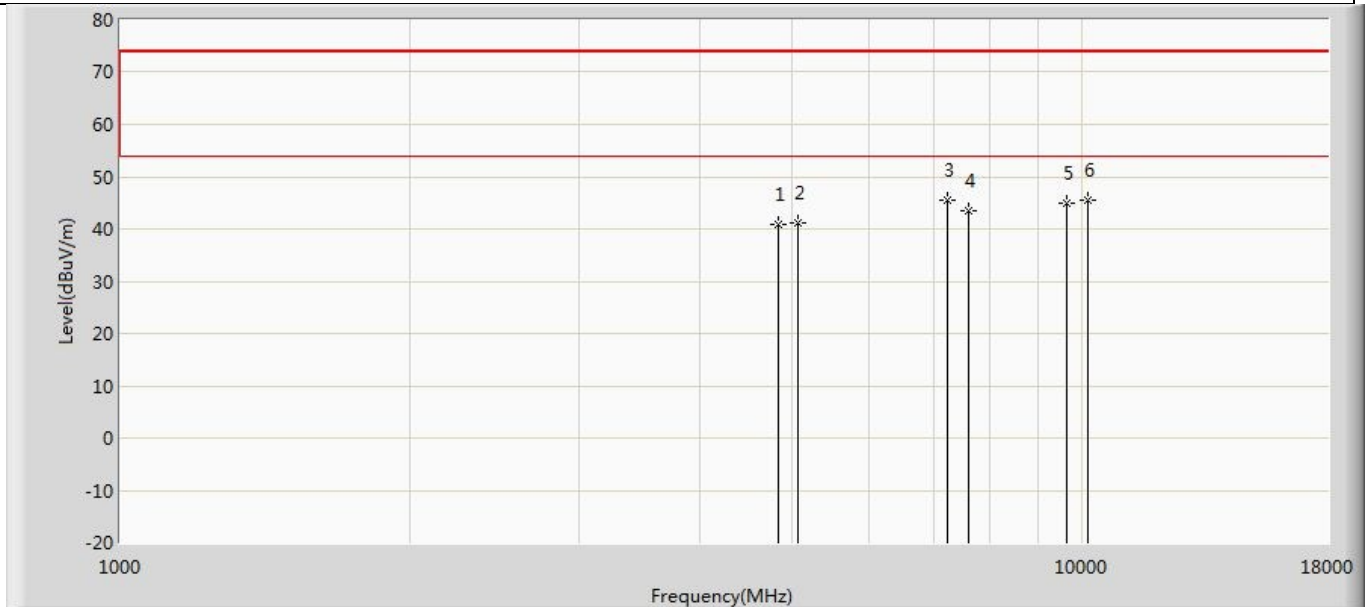
The worst case of Simultaneous transmission at 1~18 GHz:

Profile: 2210511R	Page No.: 129
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/28 - 12:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 5: Simultaneous Transmit at BLE 2412MHz, 802.11b 2412MHz and LTE band 7 2535MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	41.173	35.914	-32.827	74.000	5.258	PK
2		5070.000	42.418	36.874	-31.582	74.000	5.545	PK
3		7236.000	46.078	36.643	-27.922	74.000	9.435	PK
4		7605.000	43.707	34.318	-30.293	74.000	9.389	PK
5		9648.000	44.812	34.954	-29.188	74.000	9.859	PK
6	*	10140.000	46.101	35.168	-27.899	74.000	10.932	PK

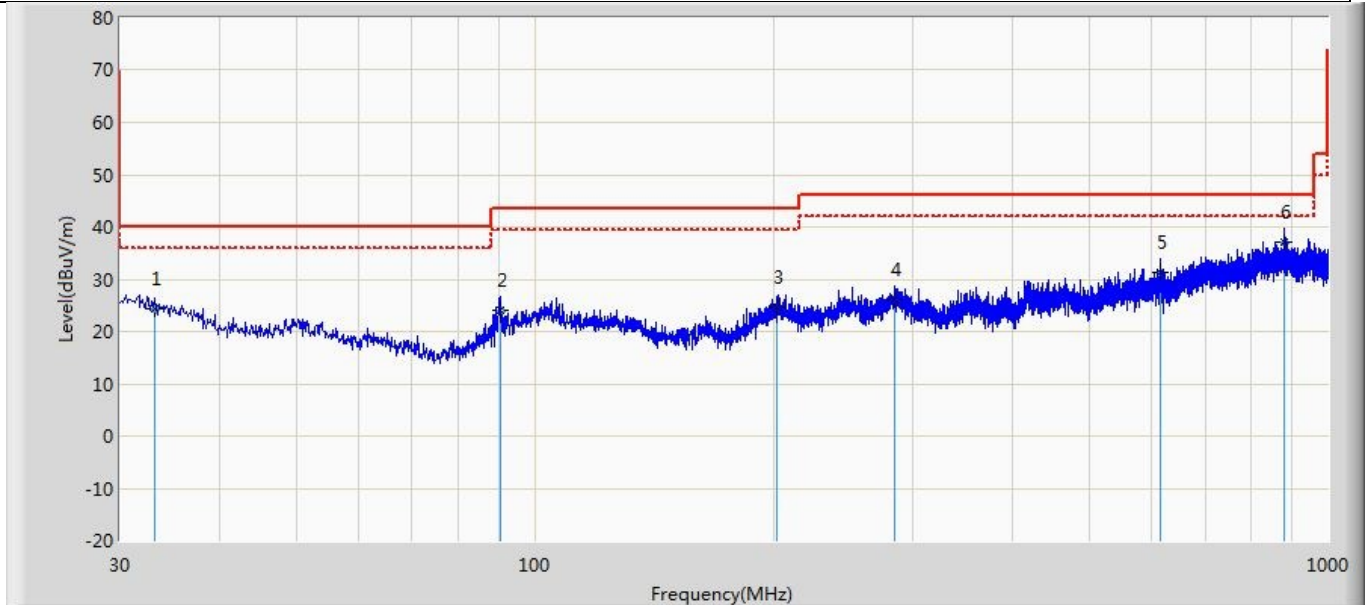
Profile: 2210511R	Page No.: 130
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/04/28 - 12:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 5: Simultaneous Transmit at BLE 2412MHz, 802.11b 2412MHz and LTE band 7 2535MHz	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	40.901	35.642	-33.099	74.000	5.258	PK
2		5070.000	41.202	35.658	-32.798	74.000	5.545	PK
3	*	7236.000	45.585	36.150	-28.415	74.000	9.435	PK
4		7605.000	43.424	34.035	-30.576	74.000	9.389	PK
5		9648.000	44.797	34.939	-29.203	74.000	9.859	PK
6		10140.000	45.549	34.616	-28.451	74.000	10.932	PK

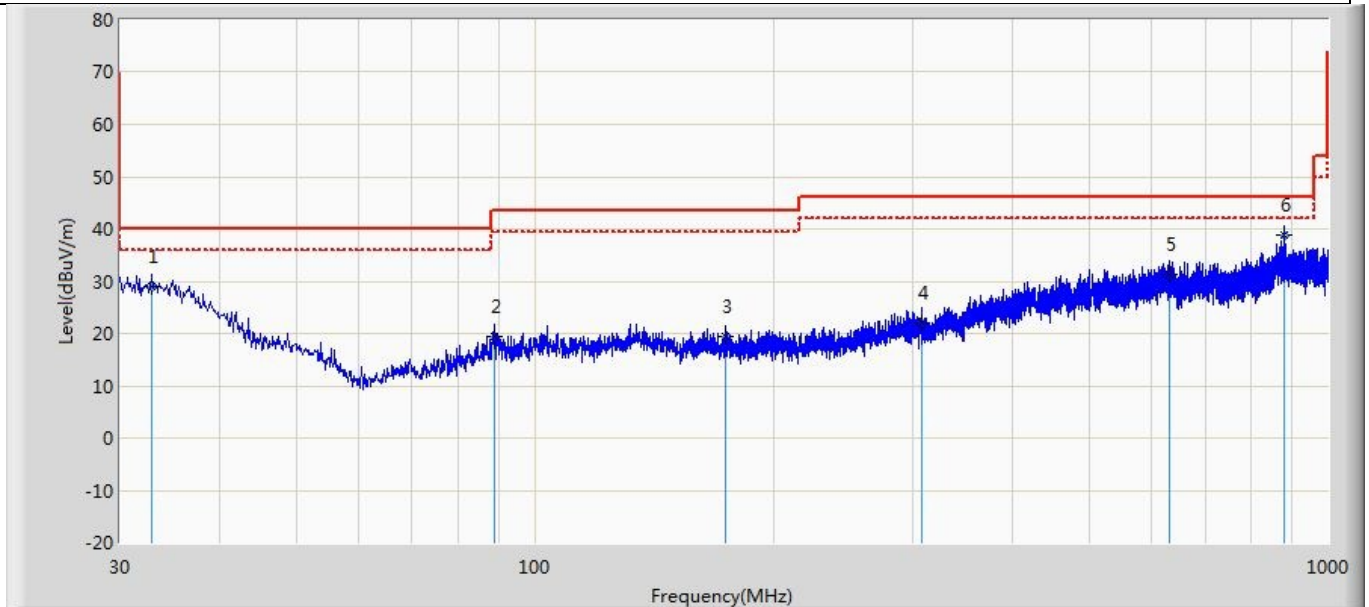
The worst case of Radiated Emission below 1GHz:

Profile: 2210511R	Page No.: 43
Engineer: Carlos. Shen	
Site: AC2	Time: 2022/04/28 - 13:29
Limit: FCC_Part15.209_RE(3m)	Margin: 4
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		33.153	24.215	1.186	-15.785	40.000	23.029	QP
2		90.382	24.125	7.088	-19.375	43.500	17.037	QP
3		201.932	24.659	1.232	-18.841	43.500	23.427	QP
4		284.140	26.215	1.115	-19.785	46.000	25.100	QP
5		616.001	31.269	3.333	-14.731	46.000	27.936	QP
6	*	879.963	37.154	3.824	-8.846	46.000	33.330	QP

Profile: 2210511R	Page No.: 44
Engineer: Carlos. Shen	
Site: AC2	Time: 2022/04/28 - 13:32
Limit: FCC_Part15.209_RE(3m)	Margin: 4
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		32.910	28.951	1.912	-11.049	40.000	27.039	QP
2		89.049	19.518	5.850	-23.982	43.500	13.668	QP
3		173.681	19.511	2.412	-23.989	43.500	17.099	QP
4		308.026	21.954	0.931	-24.046	46.000	21.023	QP
5		630.309	31.251	1.106	-14.749	46.000	30.145	QP
6	*	879.963	38.754	6.323	-7.246	46.000	32.431	QP

Note:

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

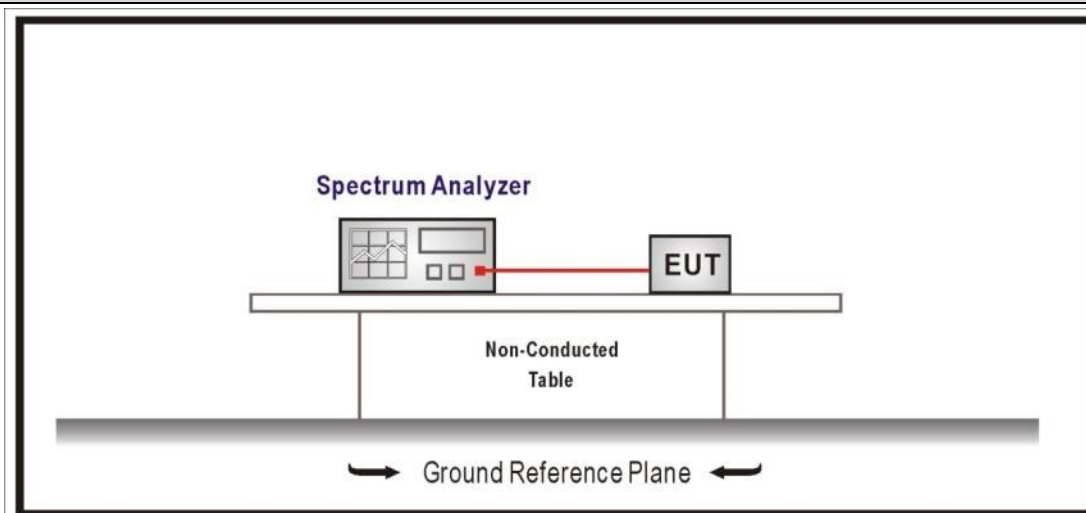
4.3 Emissions in non-restricted frequency band**VERDICT: PASS****4.3.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)
-----------------	---

RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

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

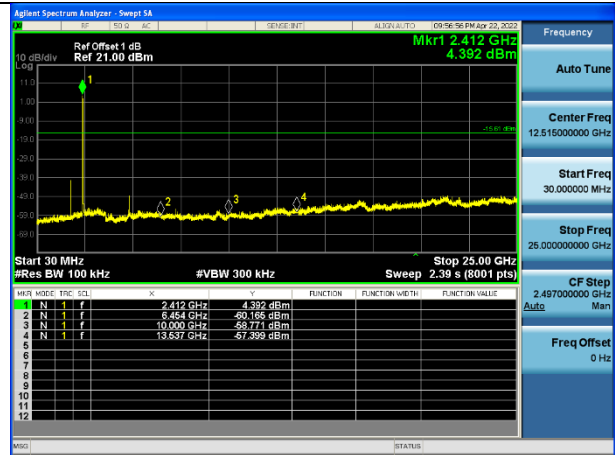
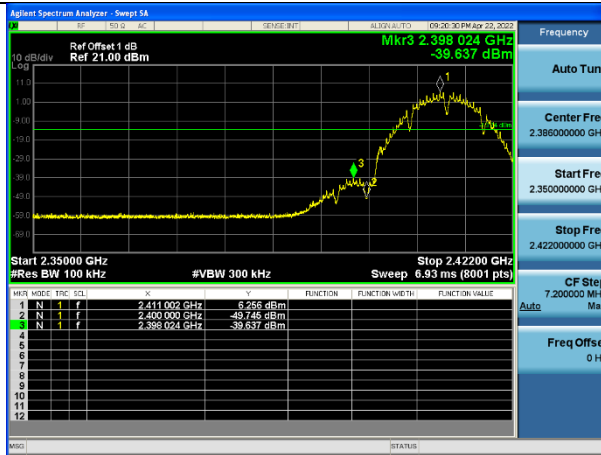
Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

4.3.2 Test Setup**4.3.3 Test Procedure**

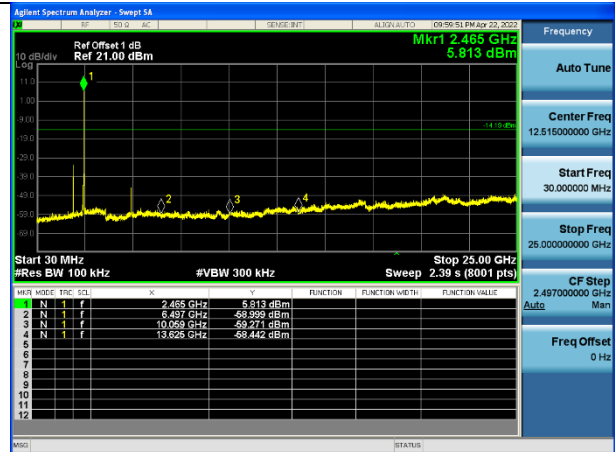
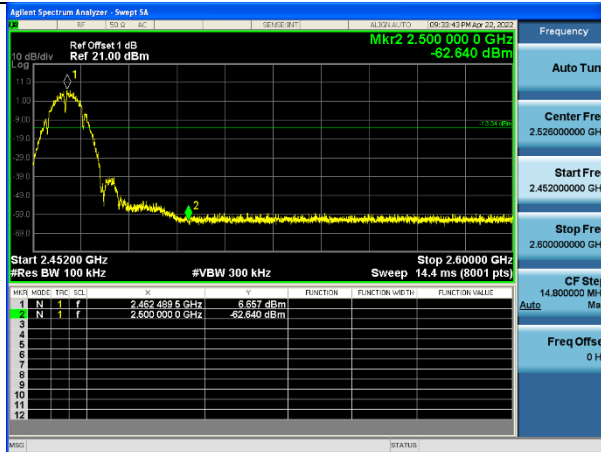
References Rule		Chapter	Description
☒	ANSI C63.10	11.11	Emissions in non-restricted frequency bands
☒	ANSI C63.10	11.11.1	General
☒	ANSI C63.10	11.11.2	Reference level measurement
☒	ANSI C63.10	11.11.3	Emission level measurement

4.3.4 Test Data

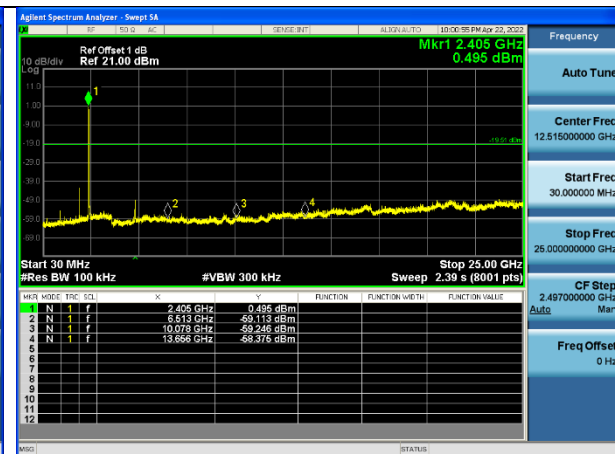
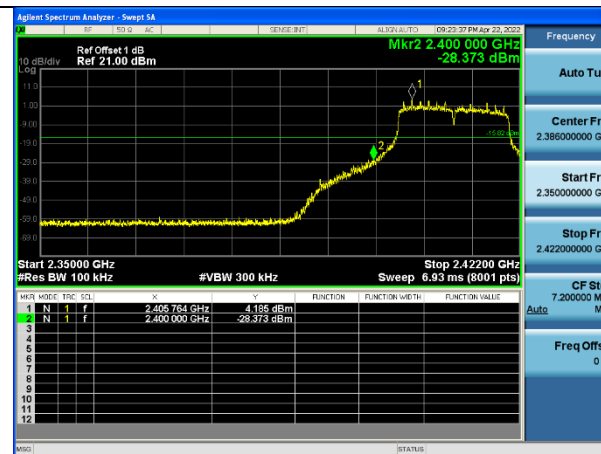
Mode 1 CH01(2412MHz)



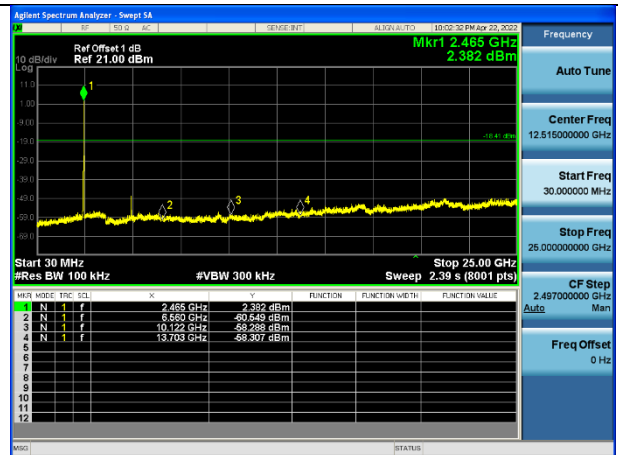
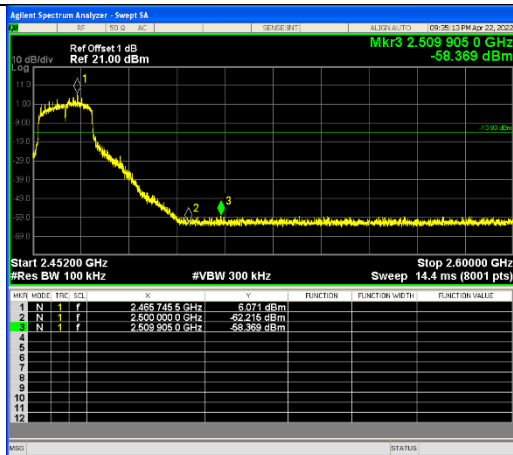
Mode 1 CH11 (2462MHz)



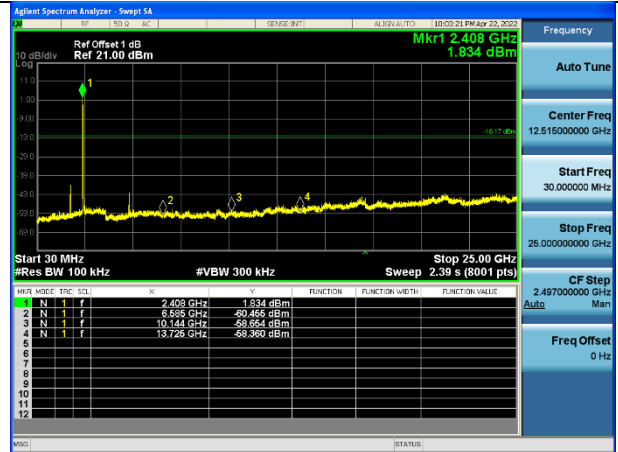
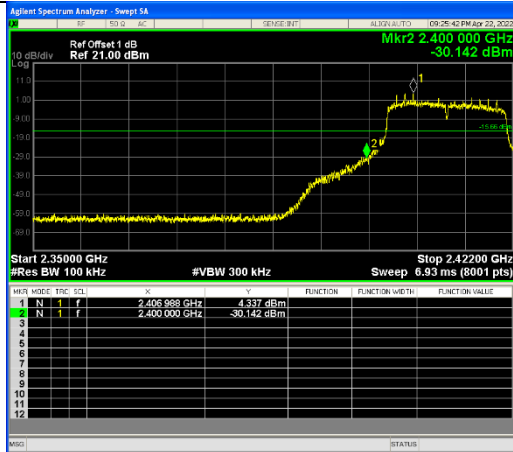
Mode 2 CH01(2412MHz)



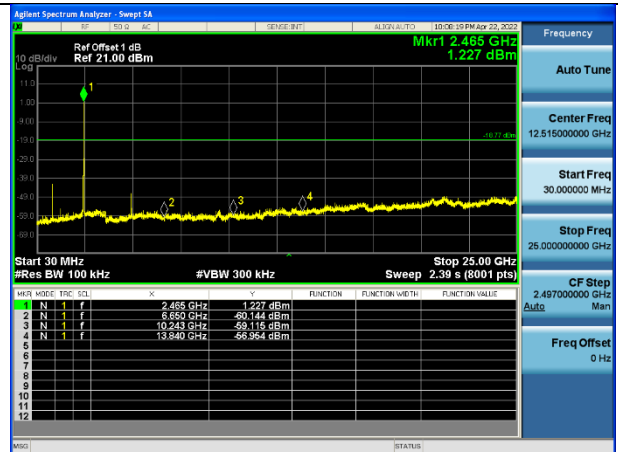
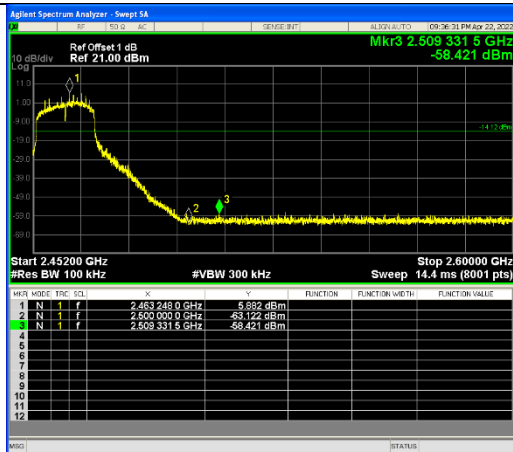
Mode 2 CH11 (2462MHz)



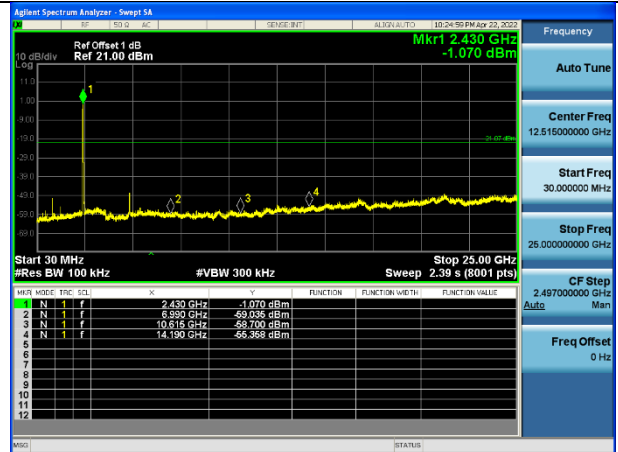
Mode 3 CH01(2412MHz)



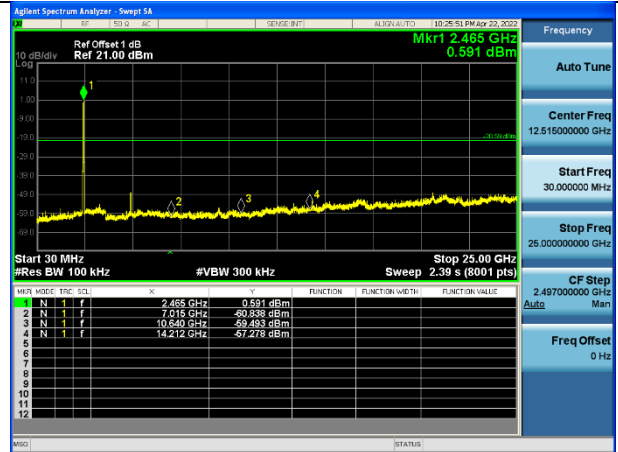
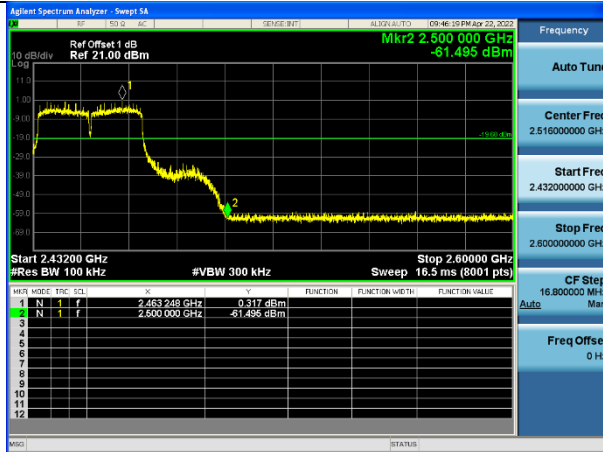
Mode 3 CH11(2462MHz)



Mode 4 CH03(2422MHz)

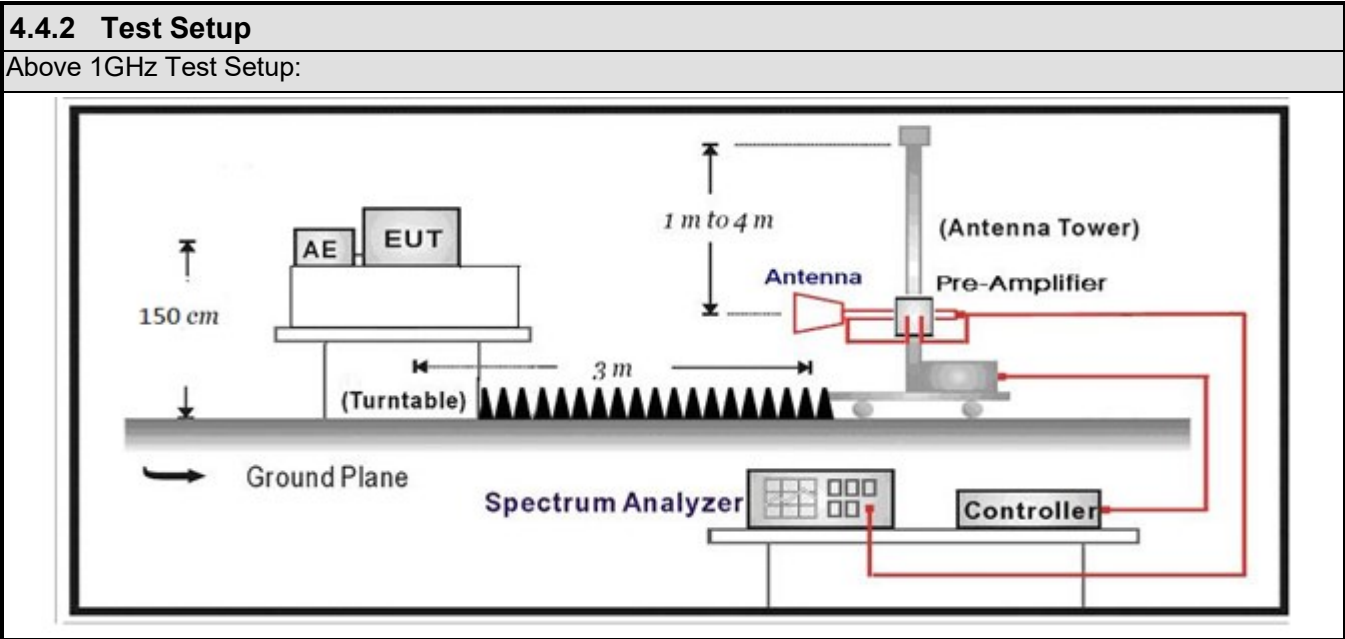


Mode 4 CH09(2452MHz)



4.4 Radiated Emission Band Edge	VERDICT: PASS
---------------------------------	---------------

4.4.1 Limit				
Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.205, 15.209		
Frequency bands (MHz)	Detector	Limit (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				



4.4.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		6.10	Band-edge testing
	☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements
	☐	ANSI C63.10	6.10.6	Marker-delta method
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	6.3	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

4.4.4 Test Data

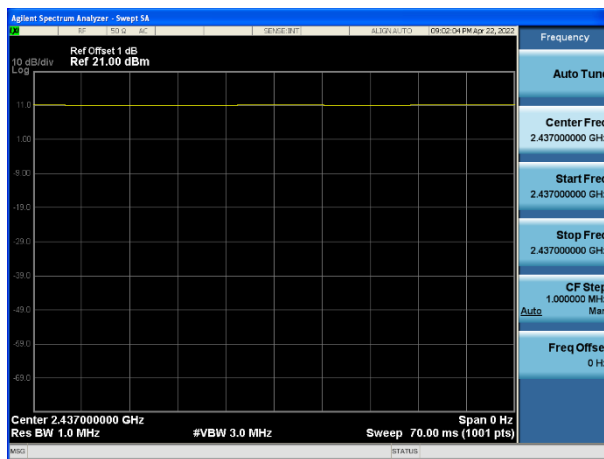
Test Mode	Tx On (ms)	Tx On + Tx Off (ms)	Duty Cycle	VBW (kHz)	Detector
1	--	--	100%	300	RMS
2	2.045	2.190	93.38%	0.50	Peak
3	1.905	2.005	95.01%	0.55	Peak
4	0.915	1.045	87.56%	1.10	Peak

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

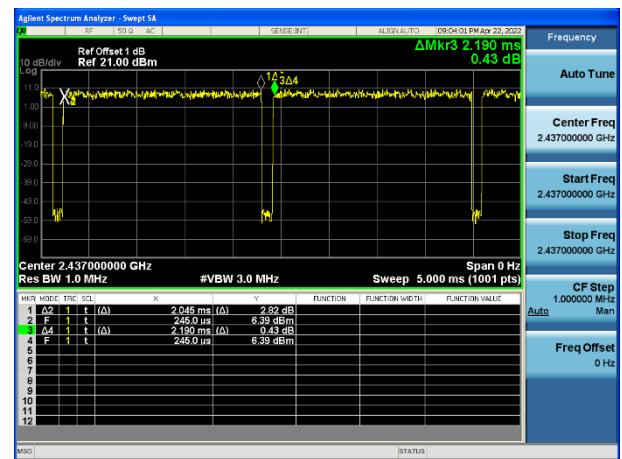
Note 2: For duty cycle > 98%, according to ANSI C63.10:2013, when test for Radiated Emission Band Edge and Radiated Emission, for average value test, set: $VBW \geq 3RBW$ ($RBW=100kHz$) will be used.

Note 3: For duty cycle < 98%, according to ANSI C63.10:2013, when test for Radiated Emission Band Edge and Radiated Emission, for average value test, set: $VBW \geq 1/T$ will be used.

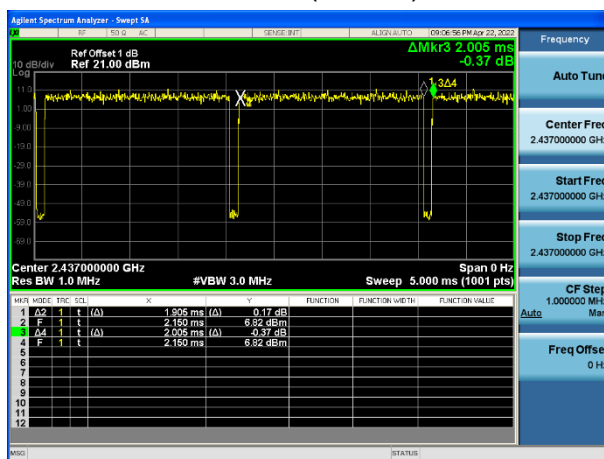
802.11b



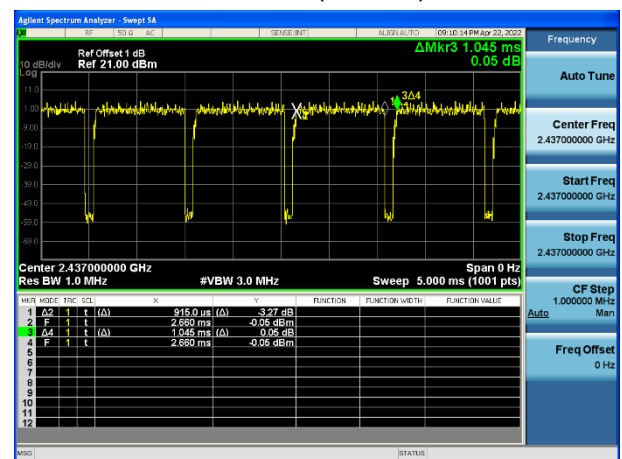
802.11g



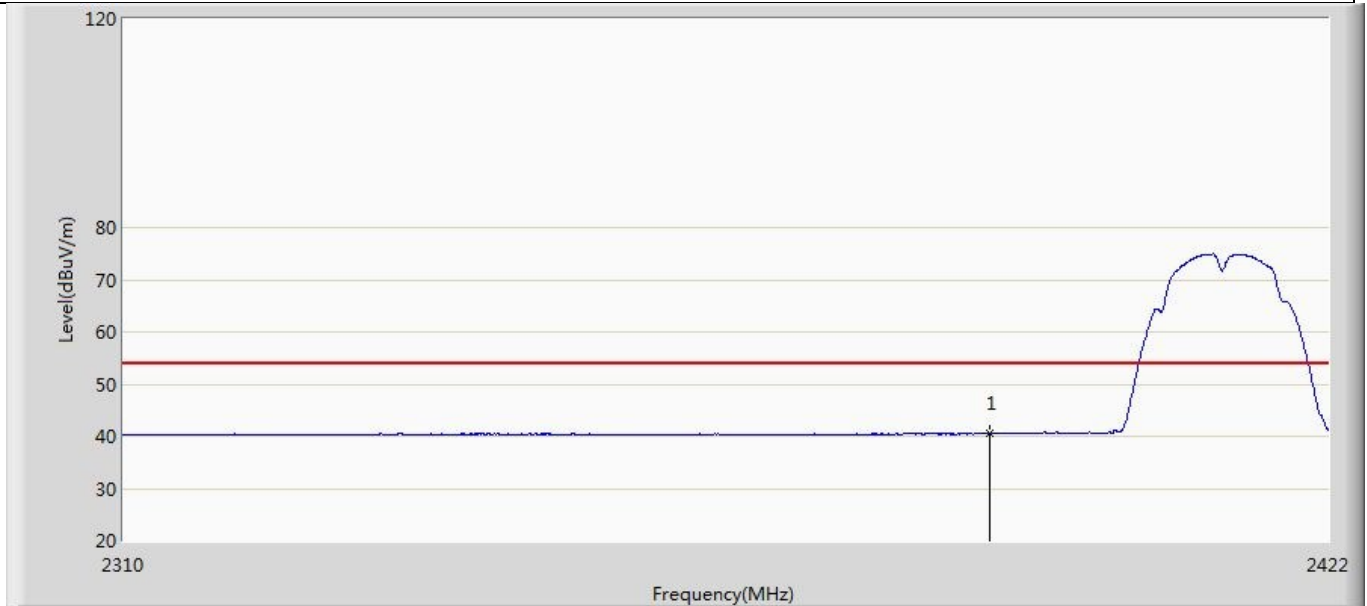
802.11n(20MHz)



802.11n(40MHz)

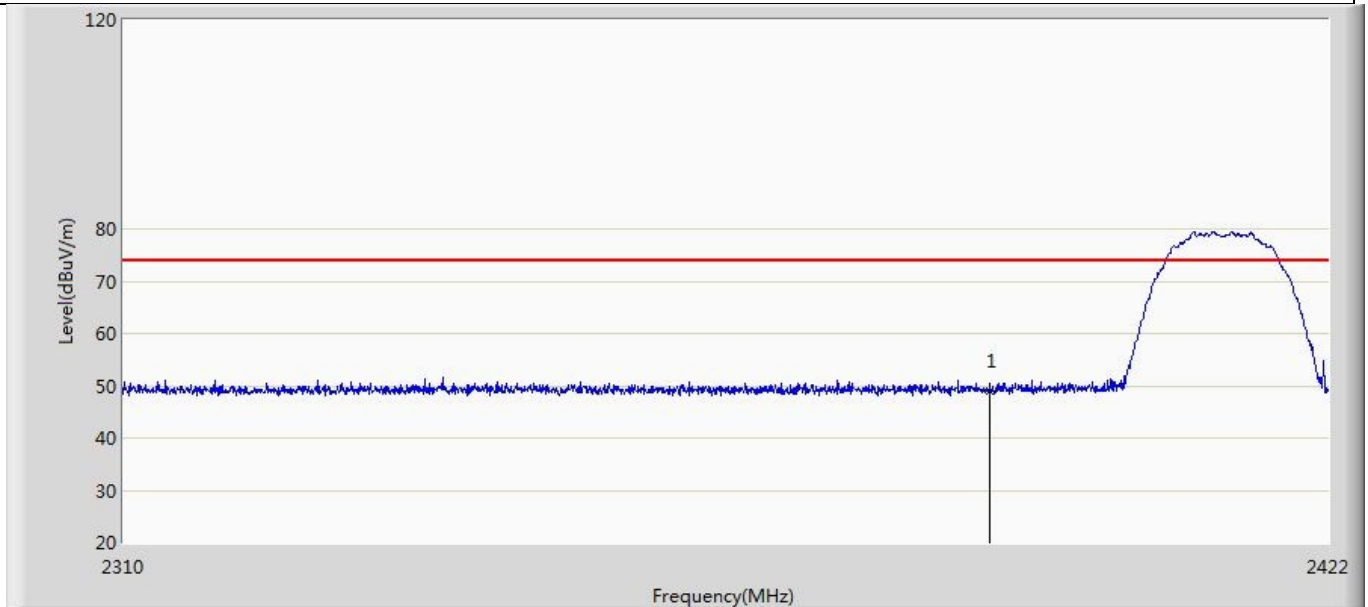


Profile: 2210511R	Page No.: 1
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 00:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



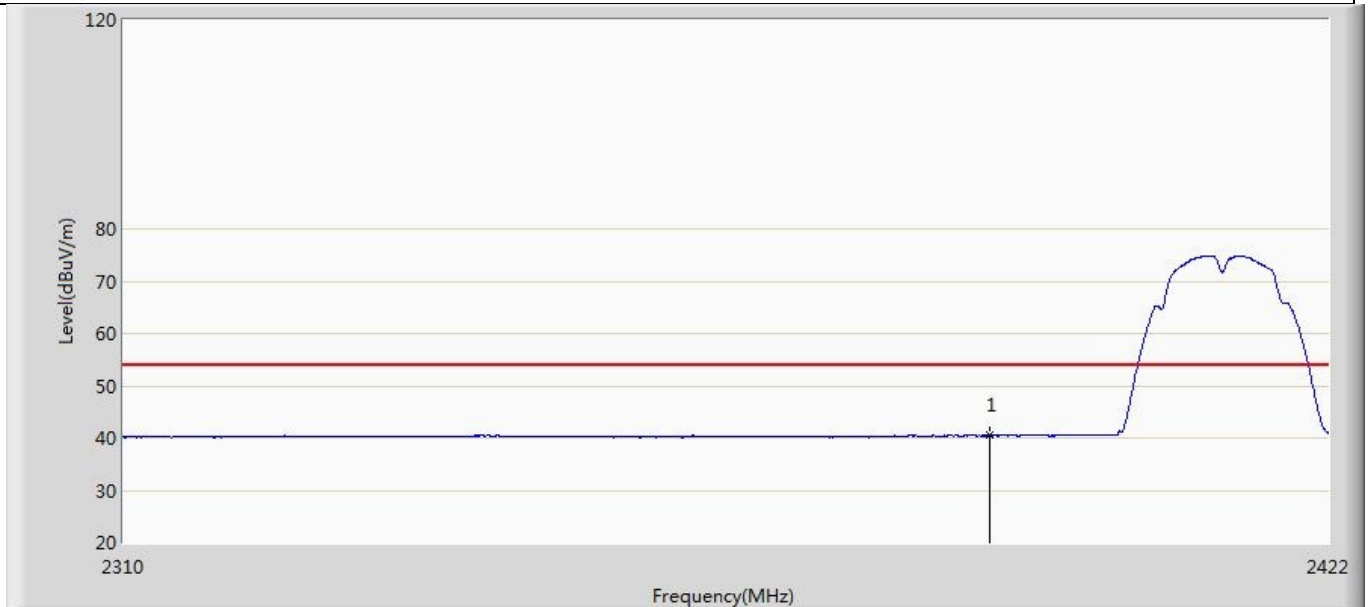
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.618	4.520	-13.382	54.000	36.098	AV

Profile: 2210511R	Page No.: 2
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



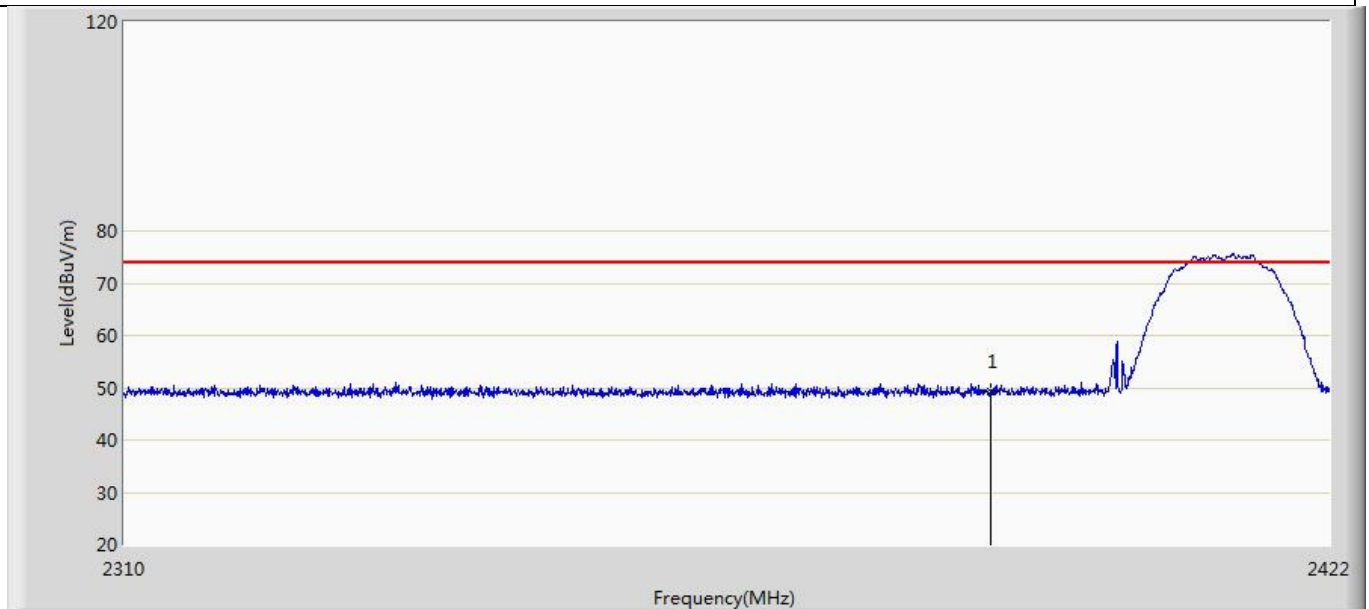
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.956	12.858	-25.044	74.000	36.098	PK

Profile: 2210511R	Page No.: 3
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



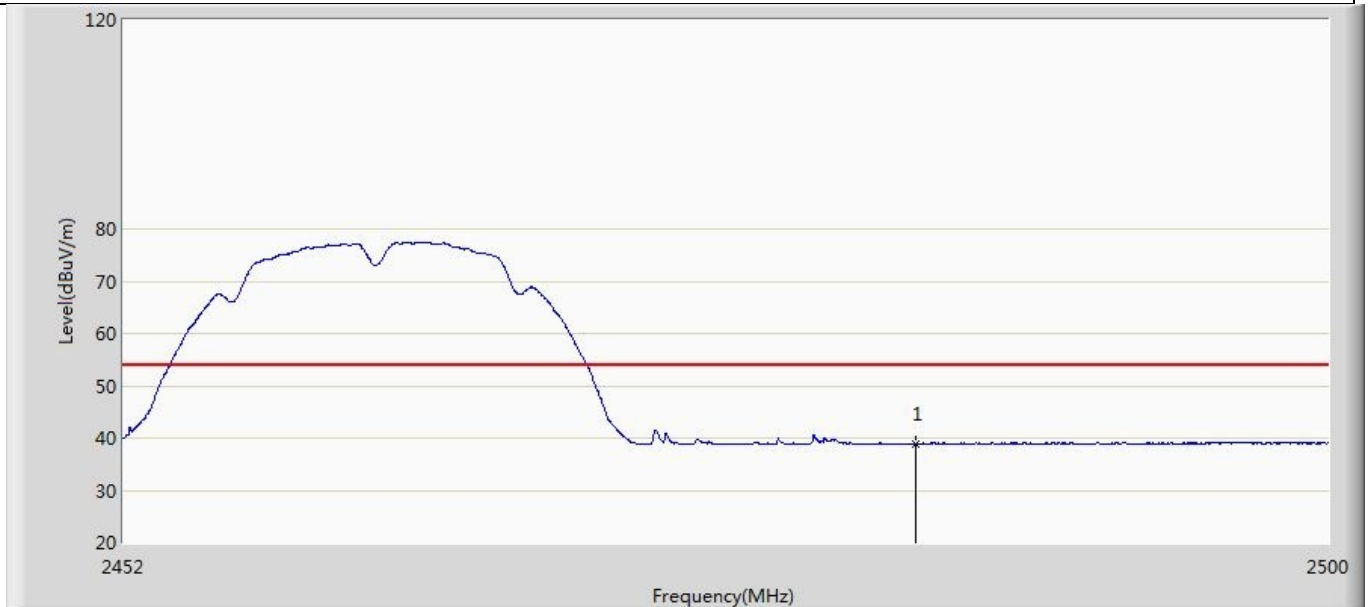
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.489	4.391	-13.511	54.000	36.098	AV

Profile: 2210511R	Page No.: 4
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



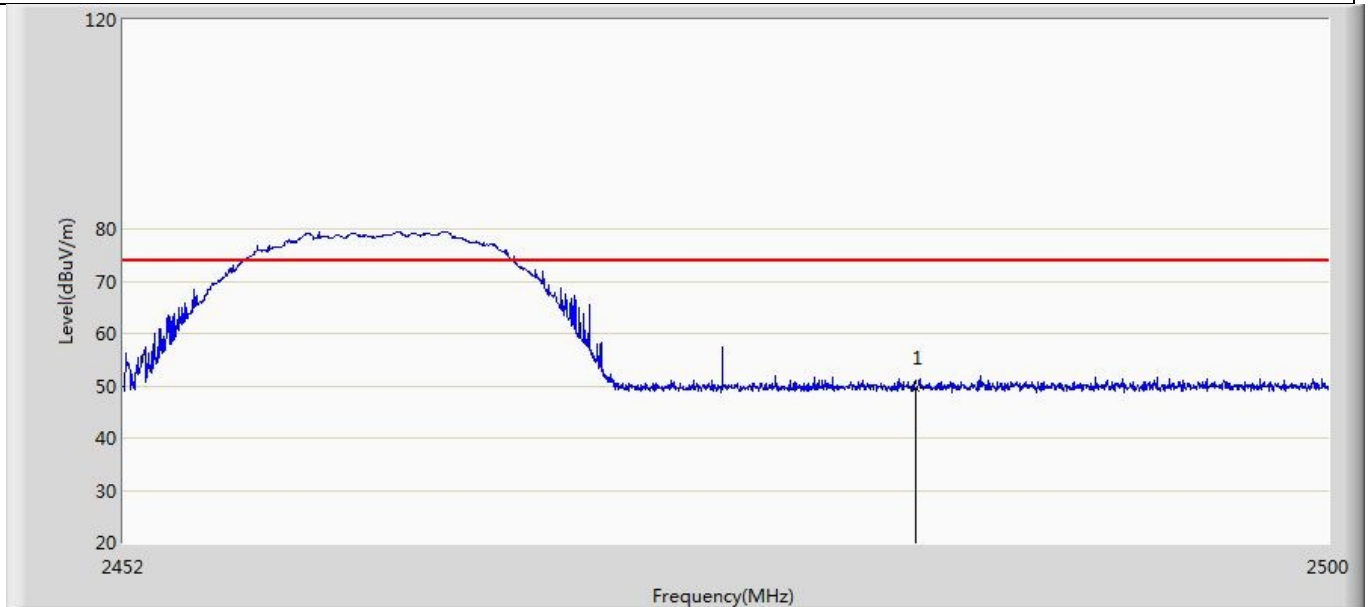
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	49.279	13.181	-24.721	74.000	36.098	PK

Profile: 2210511R	Page No.: 5
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



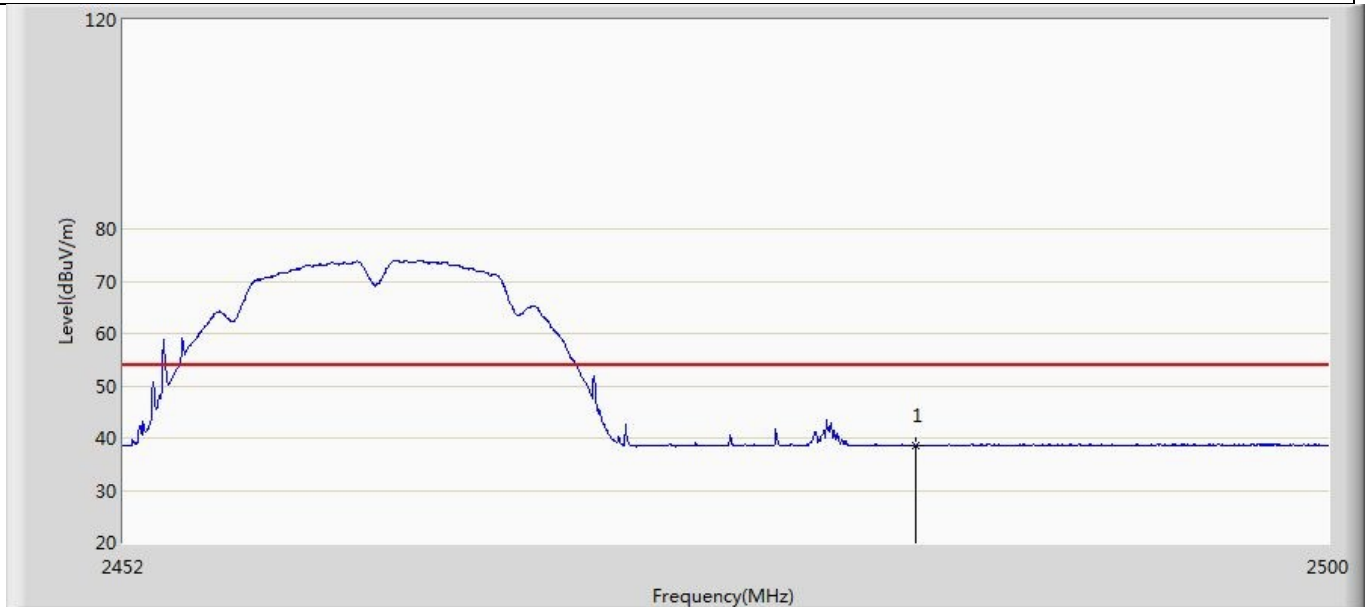
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.945	2.724	-15.055	54.000	36.220	AV

Profile: 2210511R	Page No.: 6
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



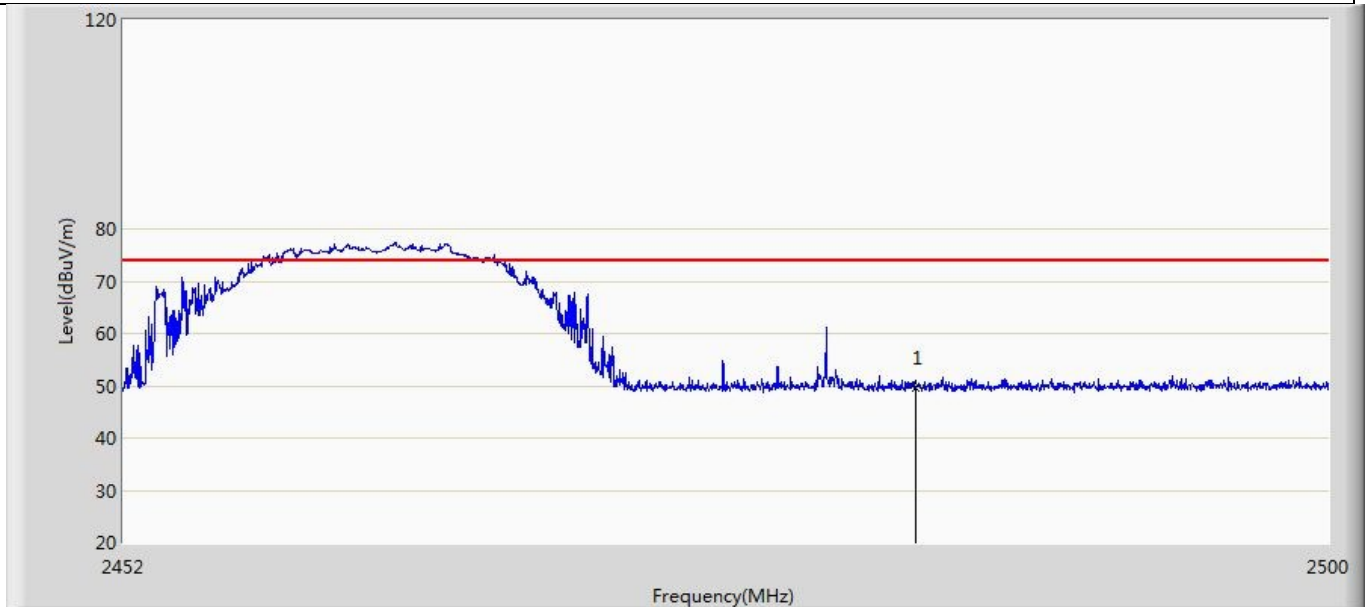
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	49.431	13.210	-24.569	74.000	36.220	PK

Profile: 2210511R	Page No.: 7
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



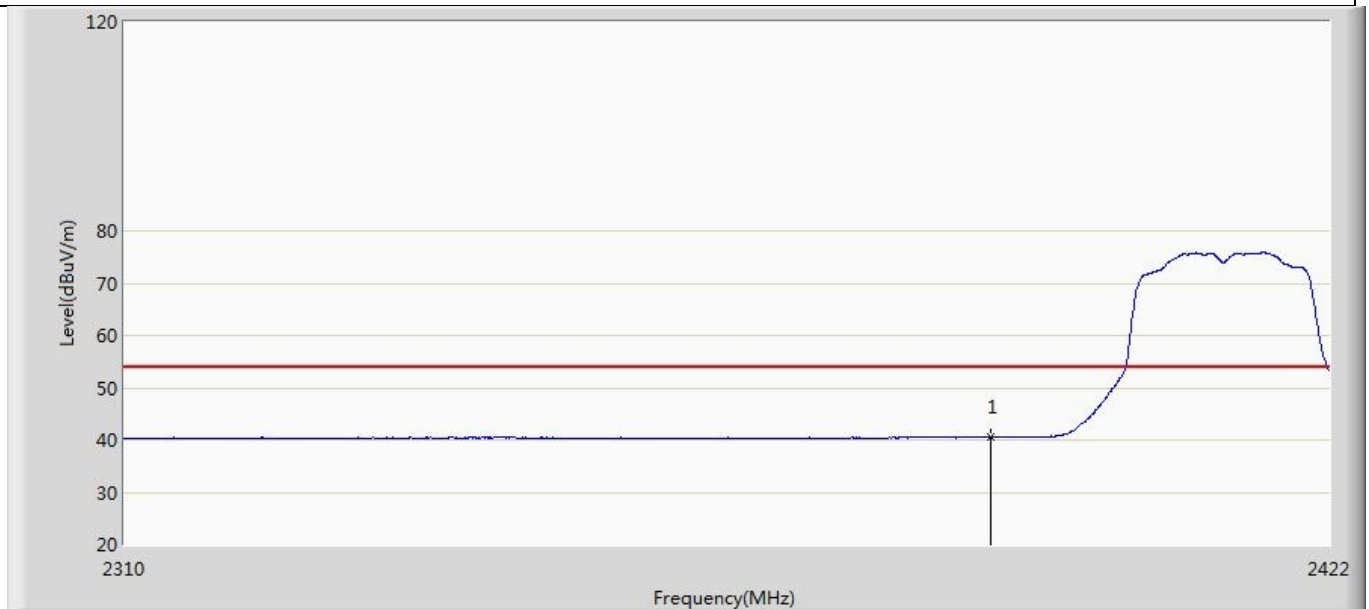
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.613	2.392	-15.387	54.000	36.220	AV

Profile: 2210511R	Page No.: 8
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



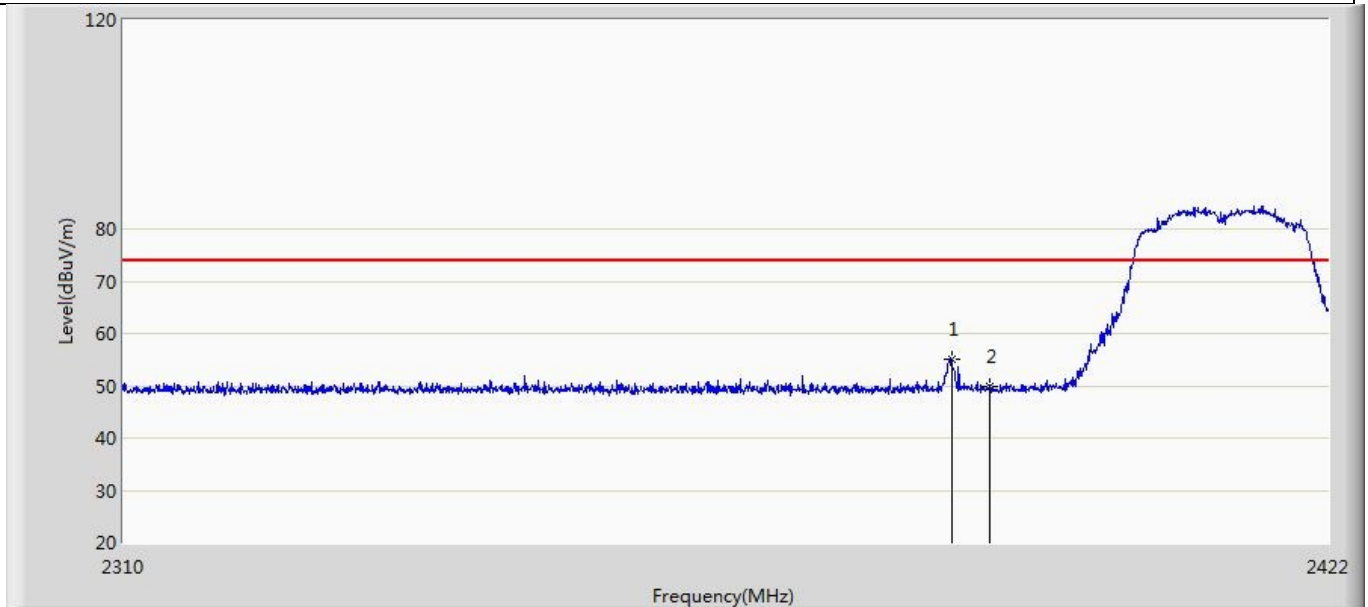
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	49.653	13.432	-24.347	74.000	36.220	PK

Profile: 2210511R	Page No.: 9
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



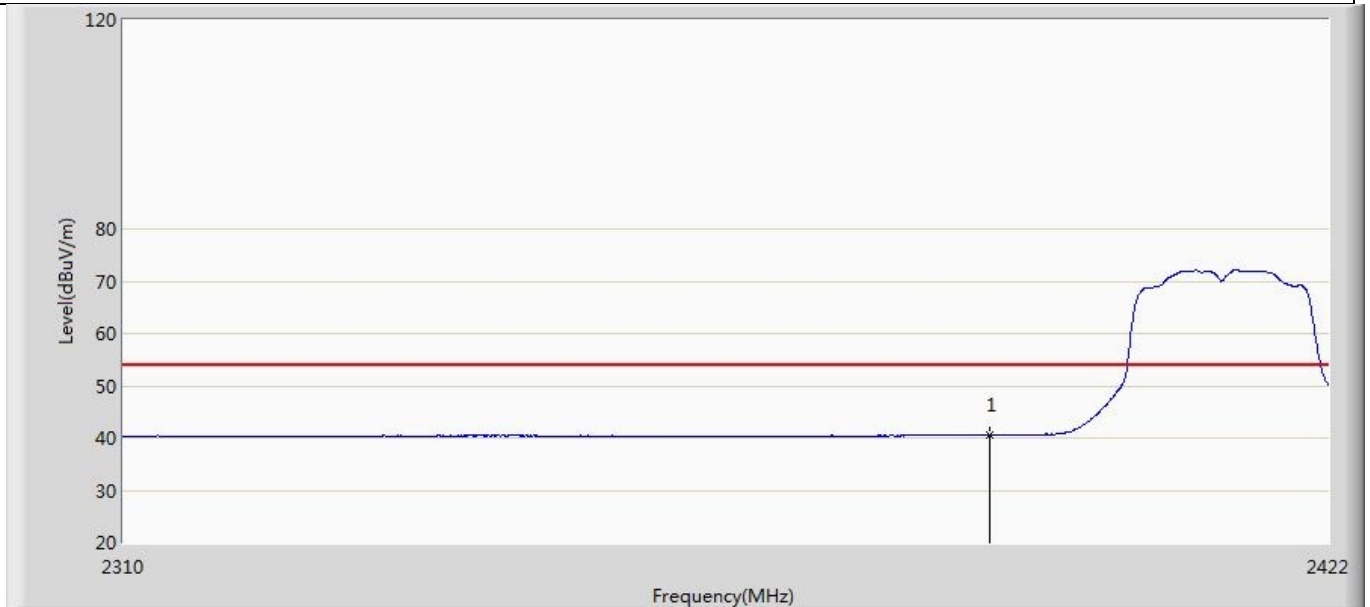
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.515	4.417	-13.485	54.000	36.098	AV

Profile: 2210511R	Page No.: 10
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 19:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



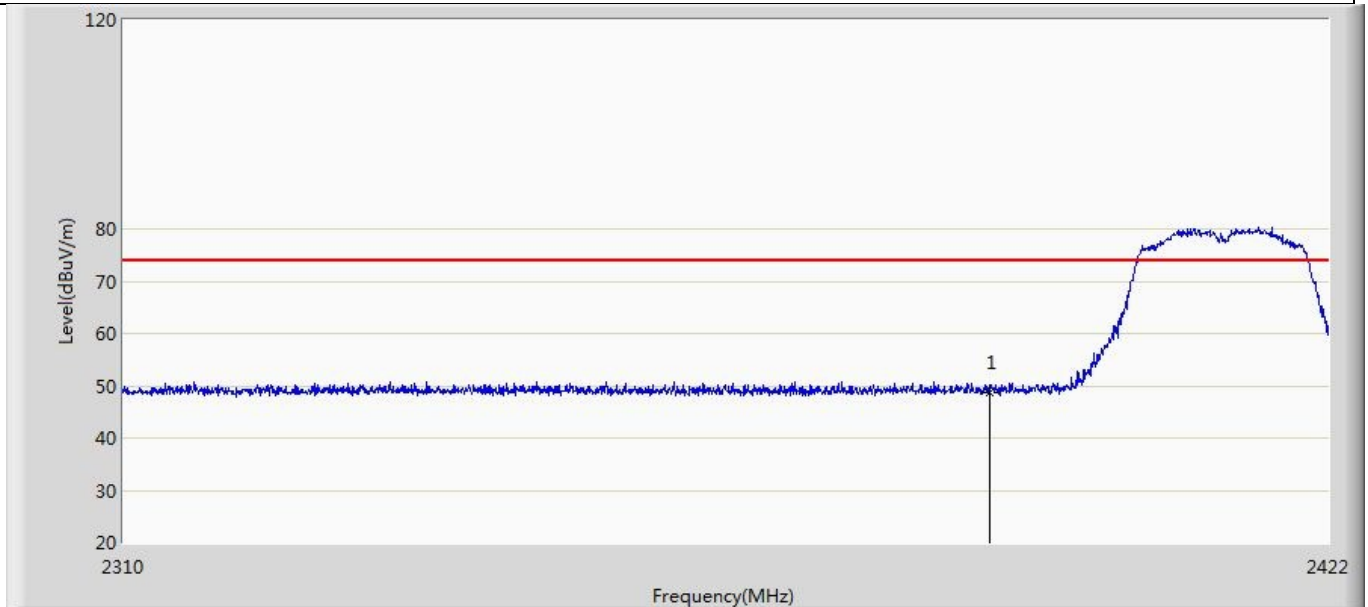
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2386.496	54.983	18.916	-19.017	74.000	36.067	PK
2		2390.000	49.866	13.768	-24.134	74.000	36.098	PK

Profile: 2210511R	Page No.: 11
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



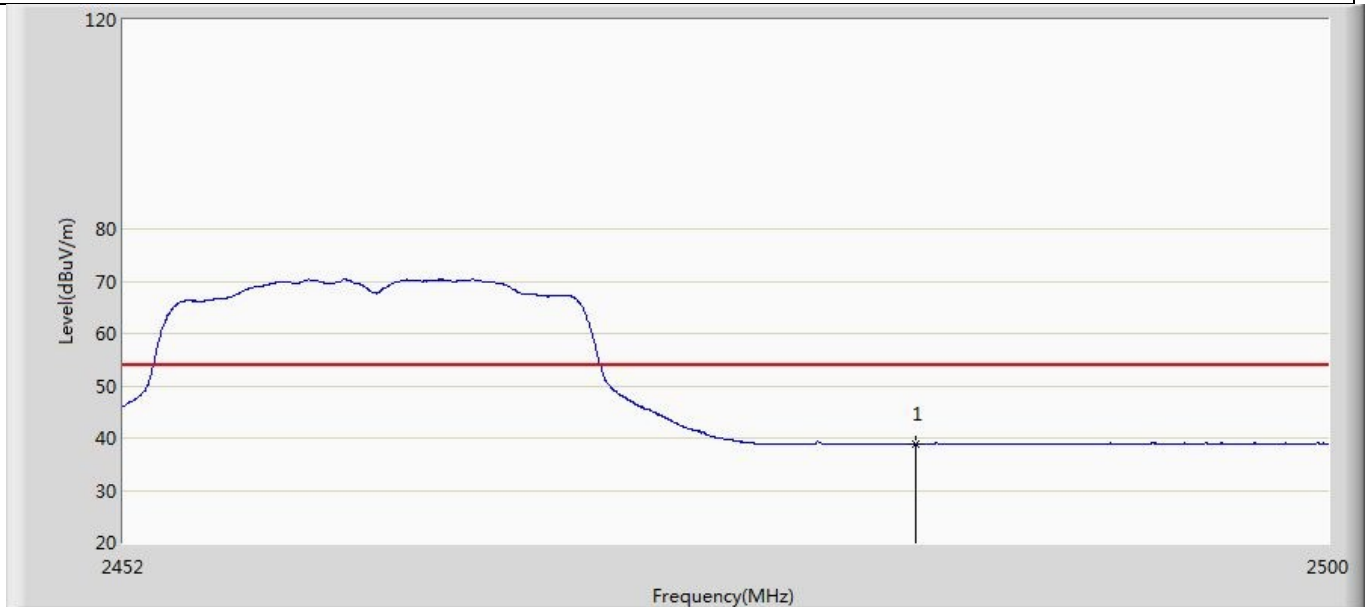
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.527	4.429	-13.473	54.000	36.098	AV

Profile: 2210511R	Page No.: 12
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



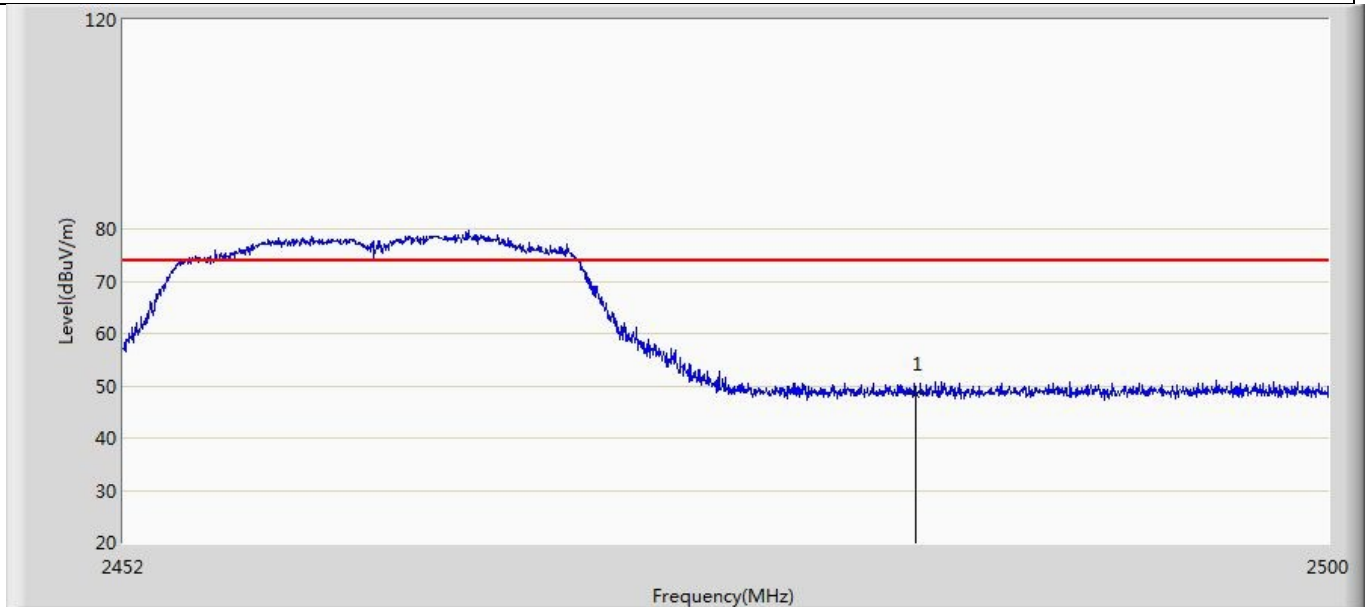
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.678	12.580	-25.322	74.000	36.098	PK

Profile: 2210511R	Page No.: 13
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



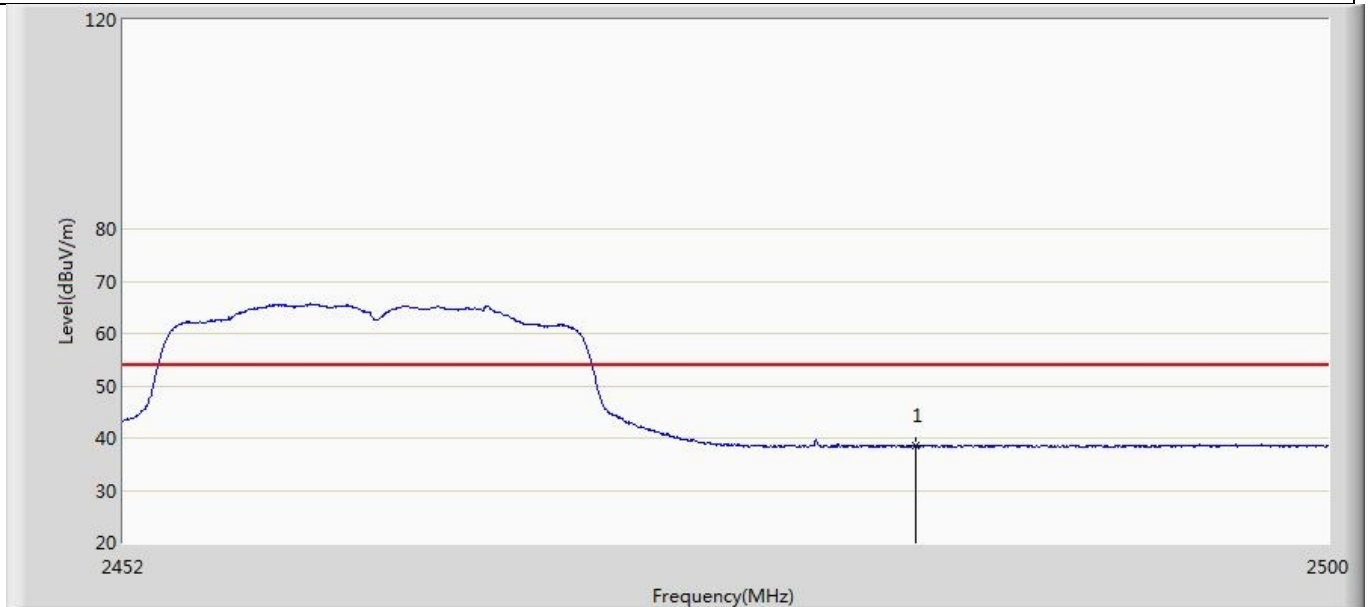
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.815	2.594	-15.185	54.000	36.220	AV

Profile: 2210511R	Page No.: 14
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



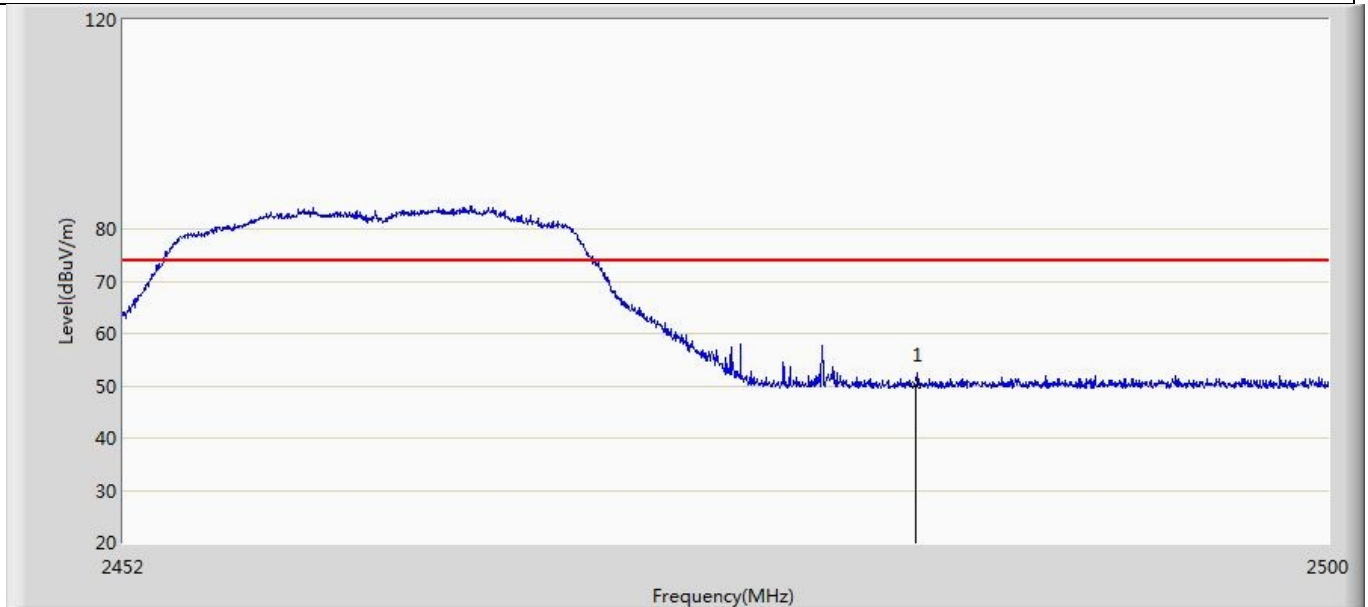
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	48.374	12.153	-25.626	74.000	36.220	PK

Profile: 2210511R	Page No.: 15
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



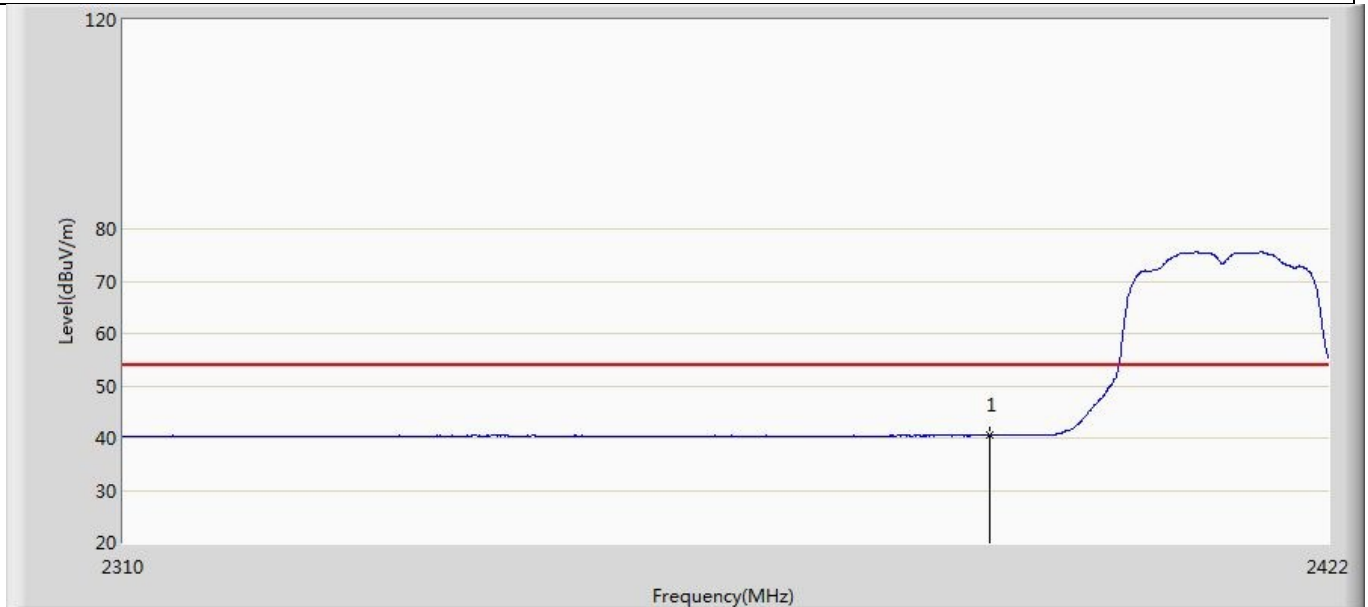
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.410	2.189	-15.590	54.000	36.220	AV

Profile: 2210511R	Page No.: 16
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



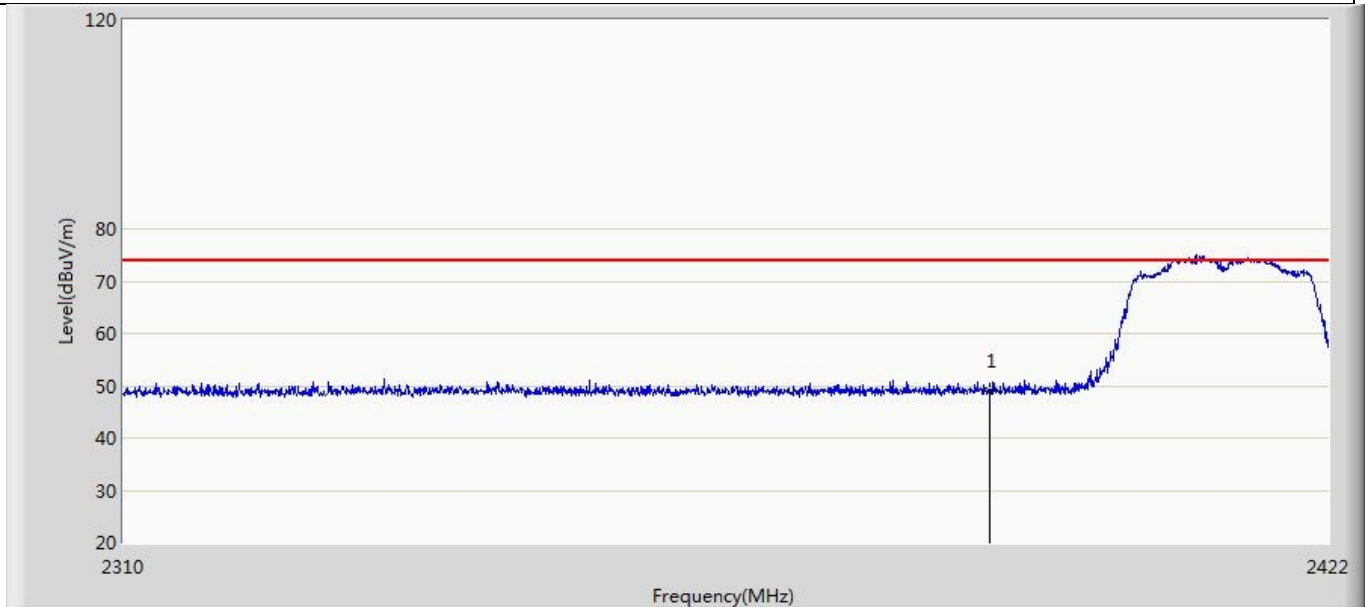
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	50.196	13.975	-23.804	74.000	36.220	PK

Profile: 2210511R	Page No.: 17
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



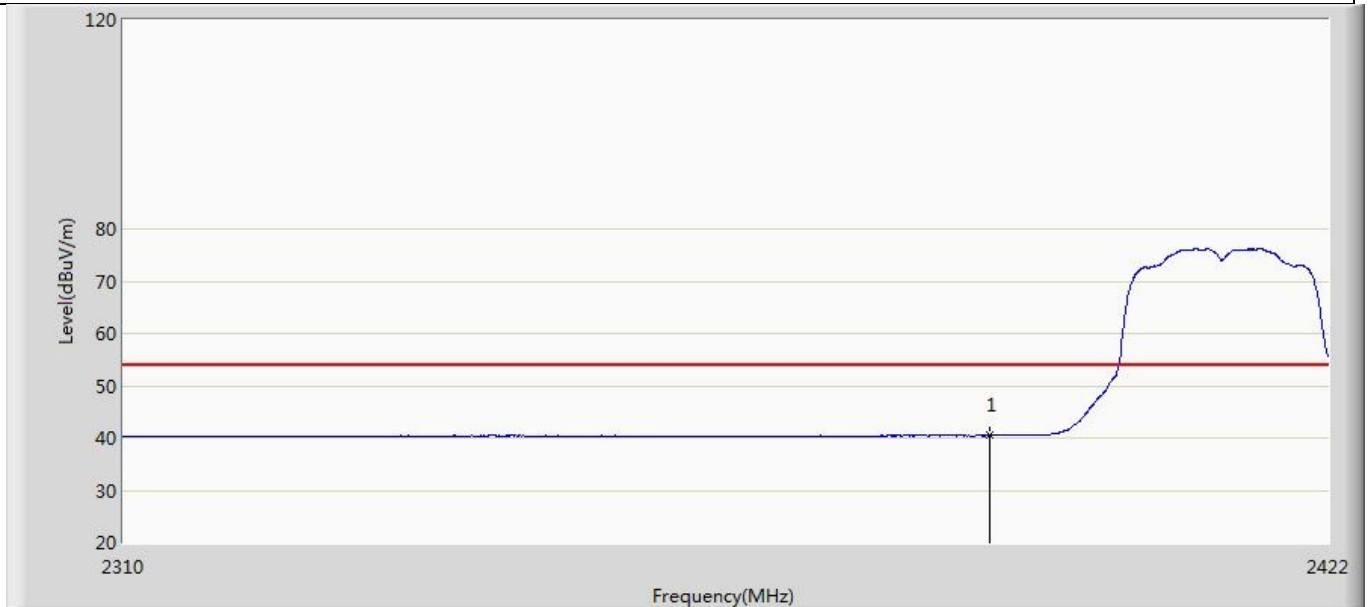
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.598	4.500	-13.402	54.000	36.098	AV

Profile: 2210511R	Page No.: 18
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



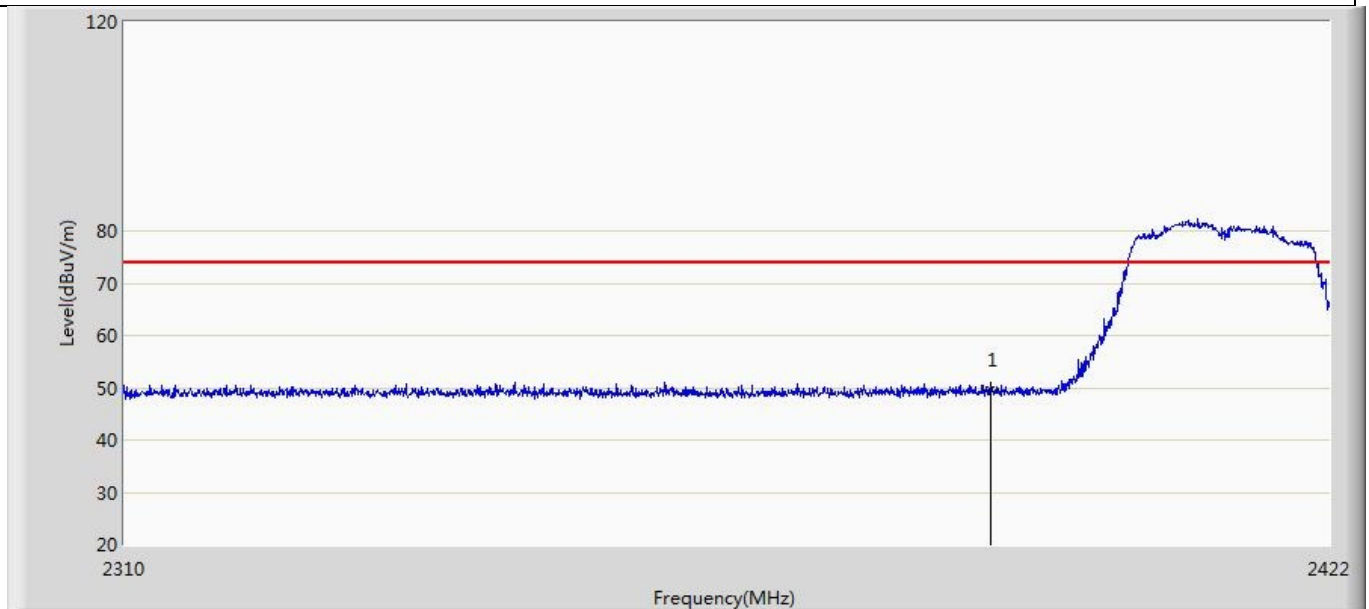
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	49.017	12.919	-24.983	74.000	36.098	PK

Profile: 2210511R	Page No.: 19
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



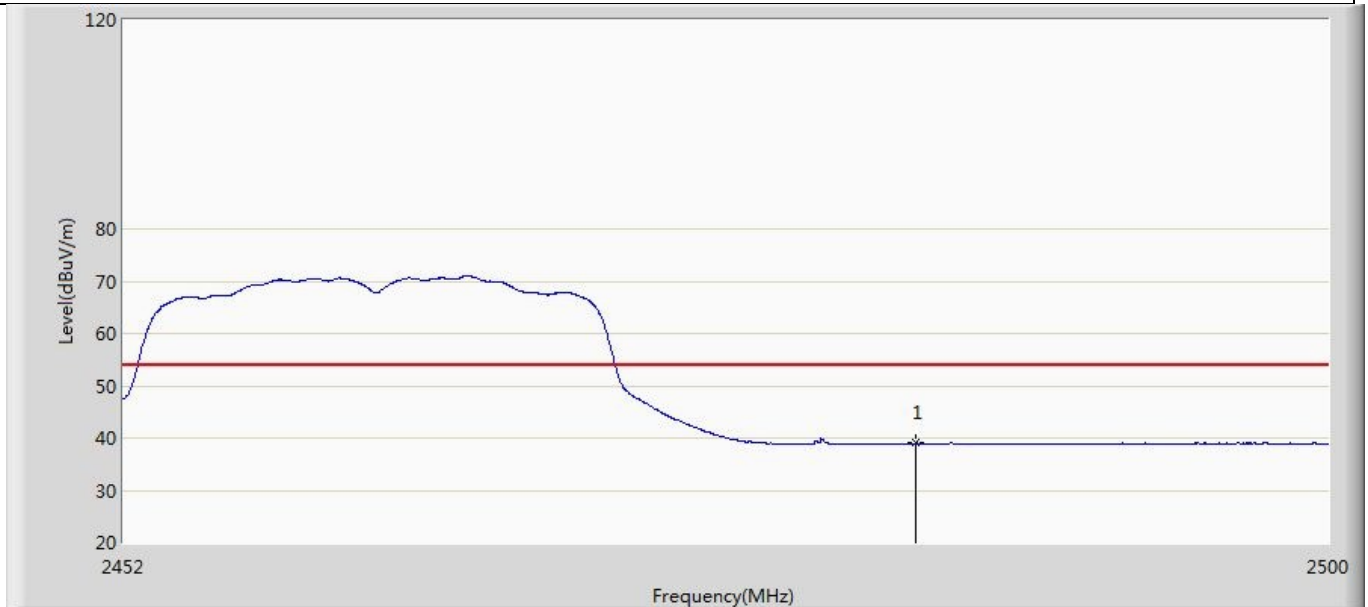
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.501	4.403	-13.499	54.000	36.098	AV

Profile: 2210511R	Page No.: 20
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



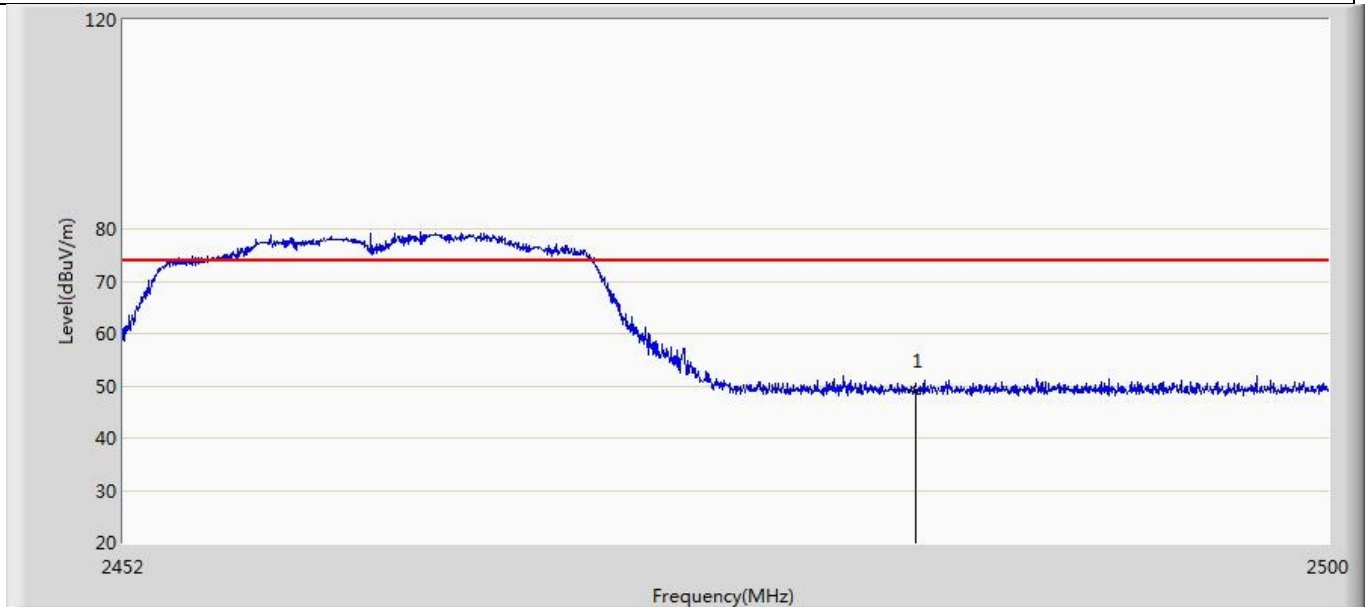
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	49.565	13.467	-24.435	74.000	36.098	PK

Profile: 2210511R	Page No.: 21
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



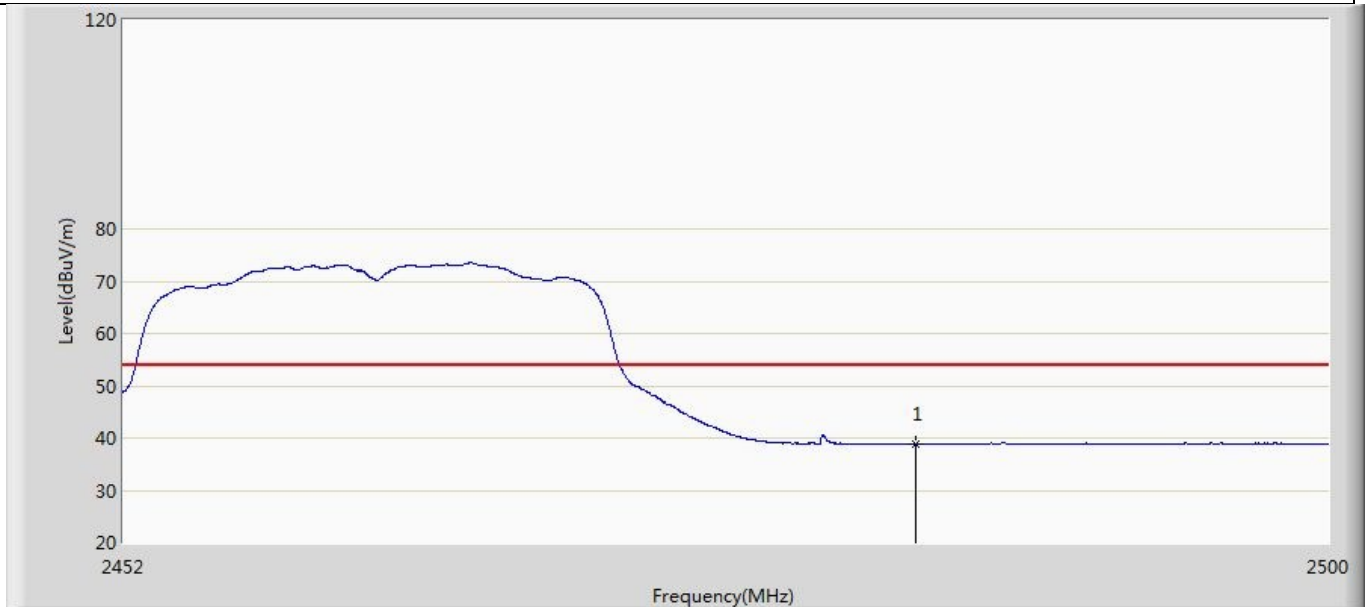
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.998	2.777	-15.002	54.000	36.220	AV

Profile: 2210511R	Page No.: 22
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



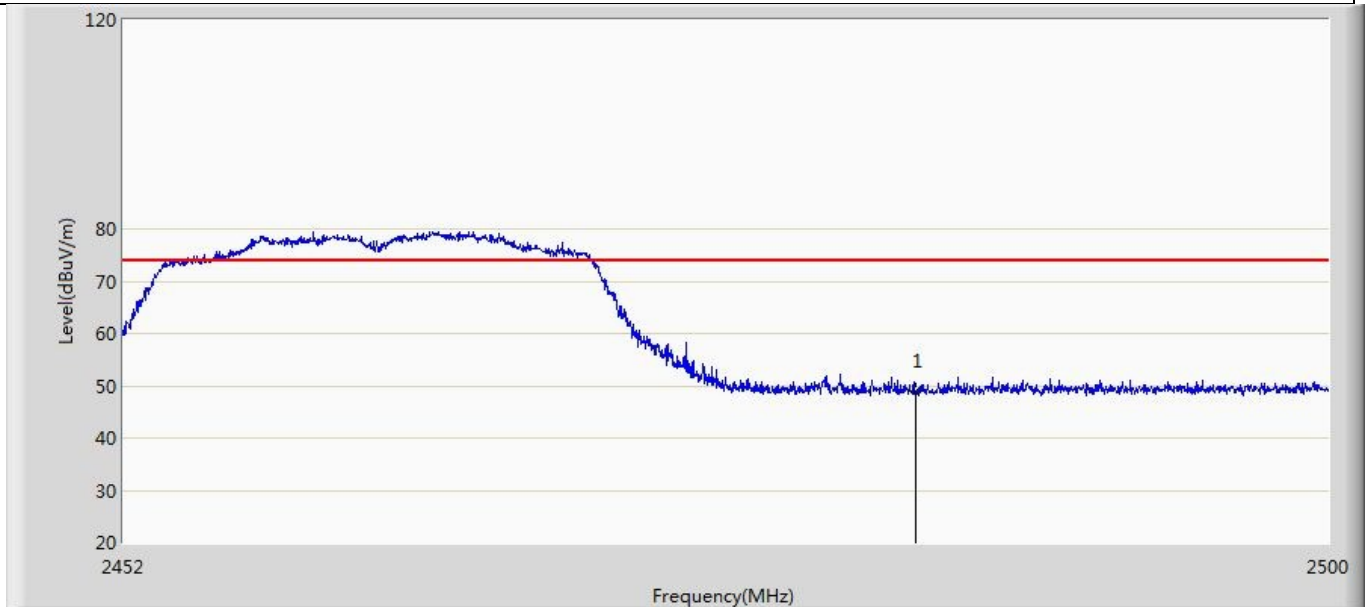
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	48.979	12.758	-25.021	74.000	36.220	PK

Profile: 2210511R	Page No.: 23
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



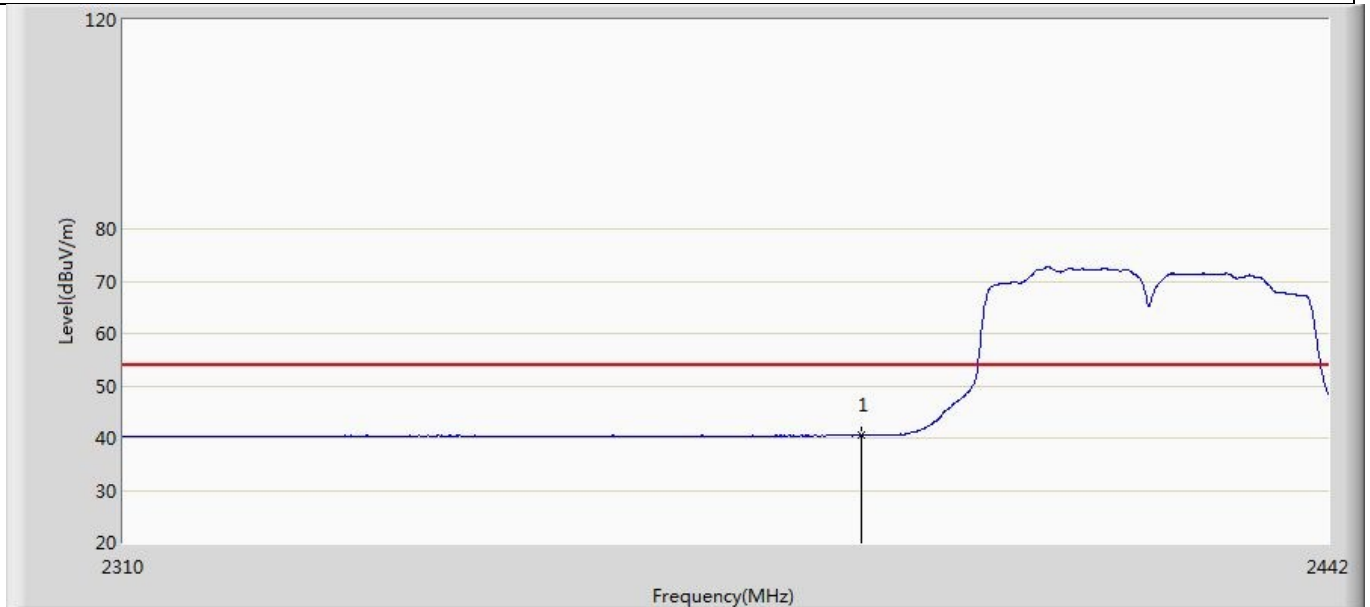
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	38.884	2.663	-15.116	54.000	36.220	AV

Profile: 2210511R	Page No.: 24
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



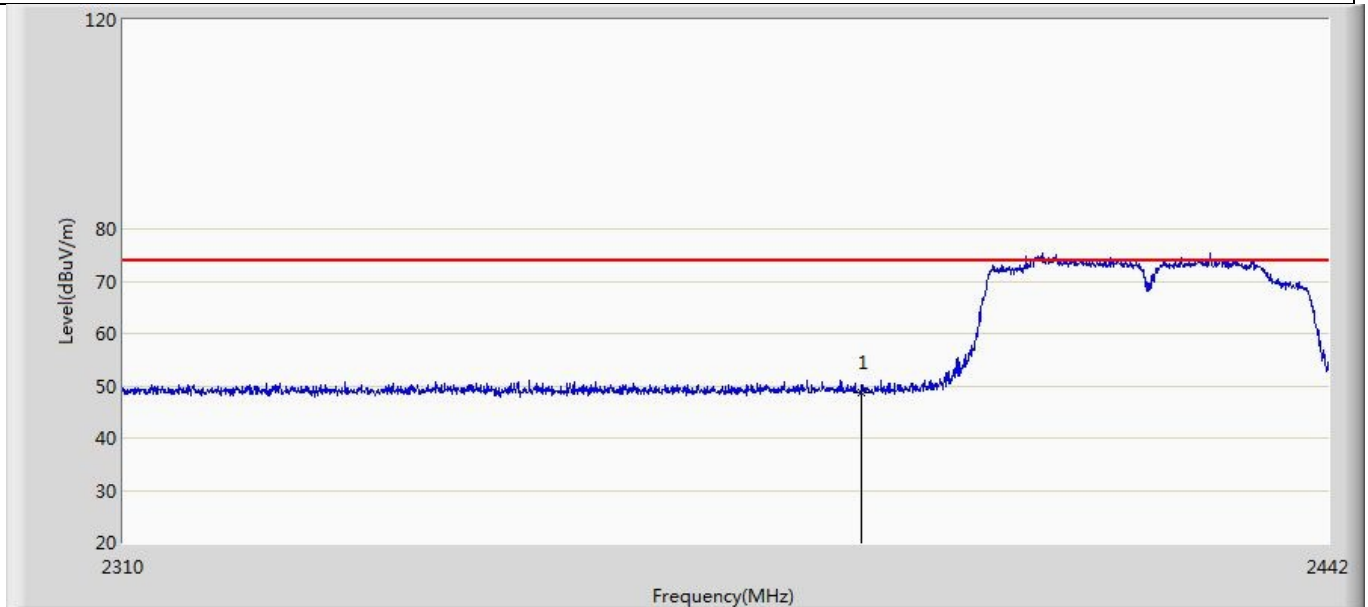
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	48.933	12.712	-25.067	74.000	36.220	PK

Profile: 2210511R	Page No.: 25
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 22:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



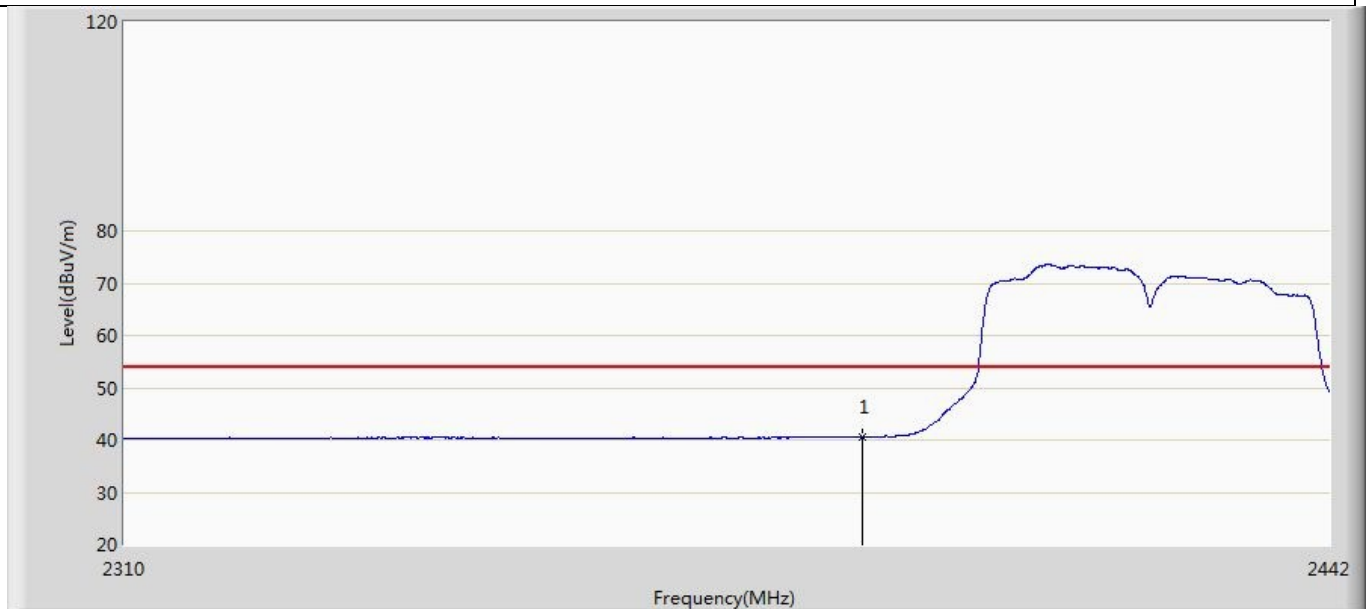
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.481	4.383	-13.519	54.000	36.098	AV

Profile: 2210511R	Page No.: 26
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 23:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



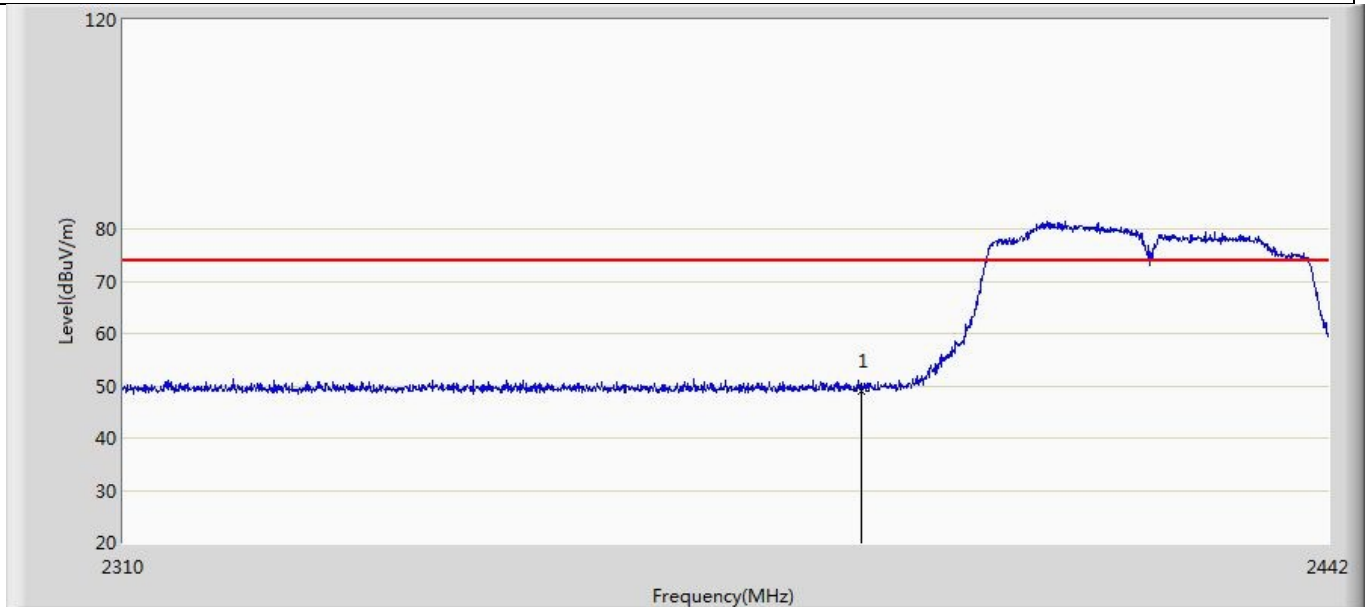
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	48.558	12.460	-25.442	74.000	36.098	PK

Profile: 2210511R	Page No.: 27
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 23:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



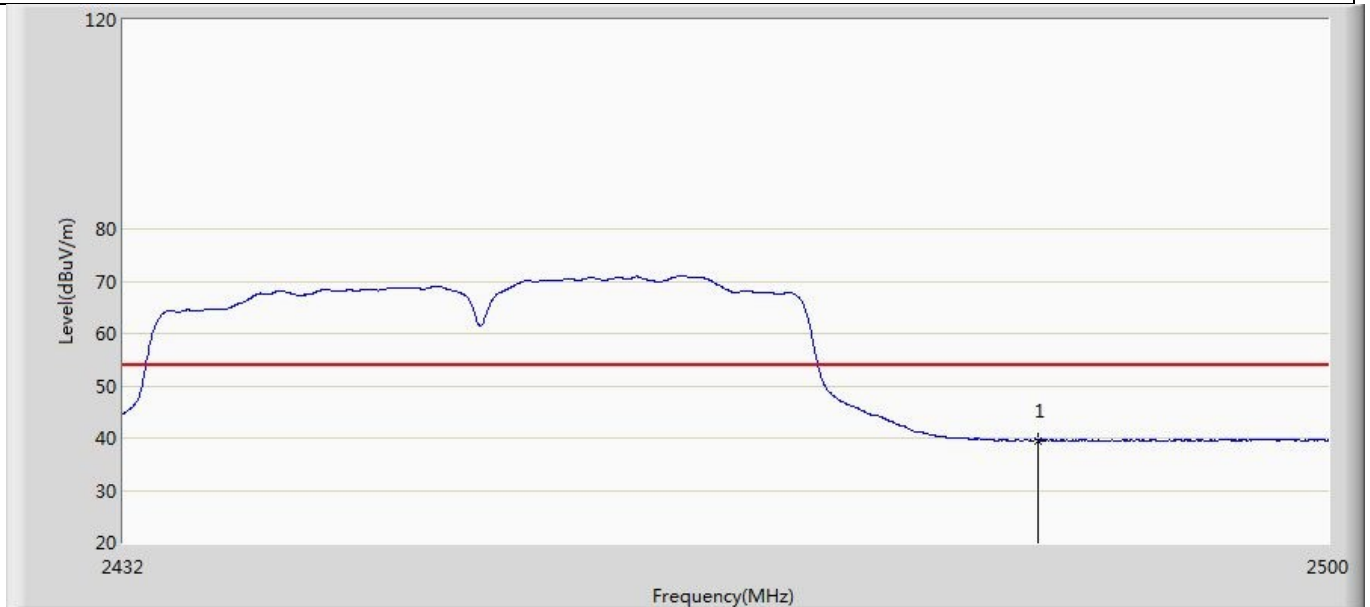
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	40.596	4.498	-13.404	54.000	36.098	AV

Profile: 2210511R	Page No.: 28
Engineer: Carlos. Shen	
Site: AC5	Time: 2020/04/27 - 23:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



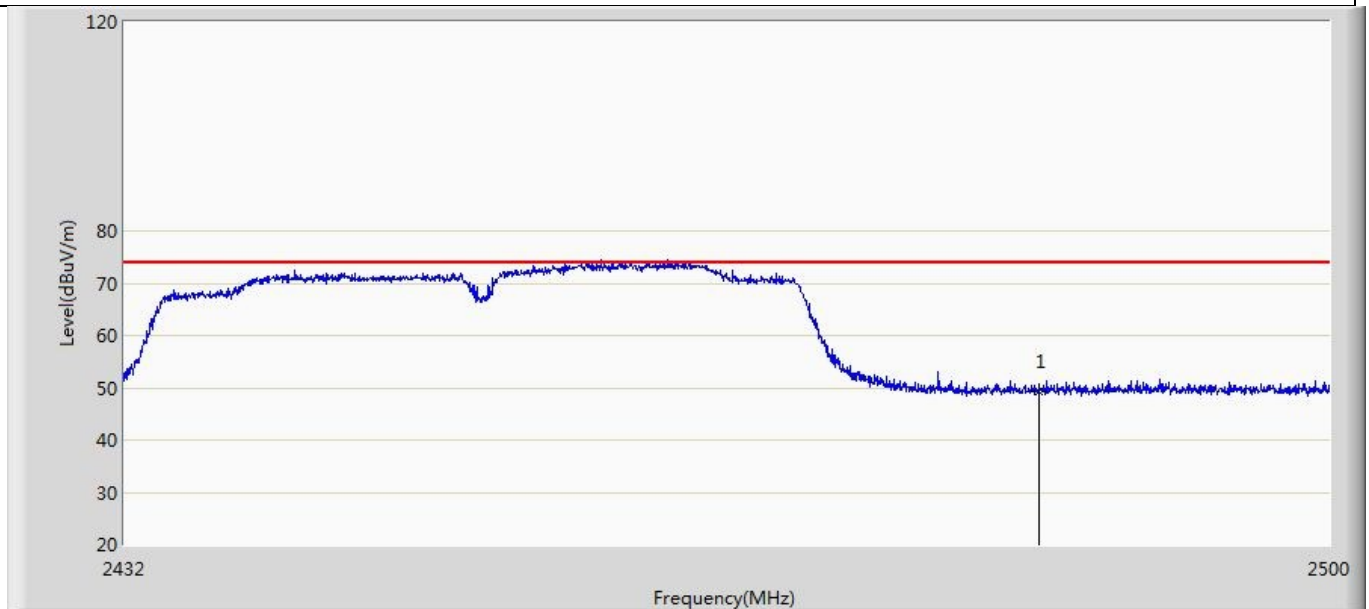
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2390.000	49.000	12.902	-25.000	74.000	36.098	PK

Profile: 2210511R	Page No.: 29
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/01/24 - 20:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



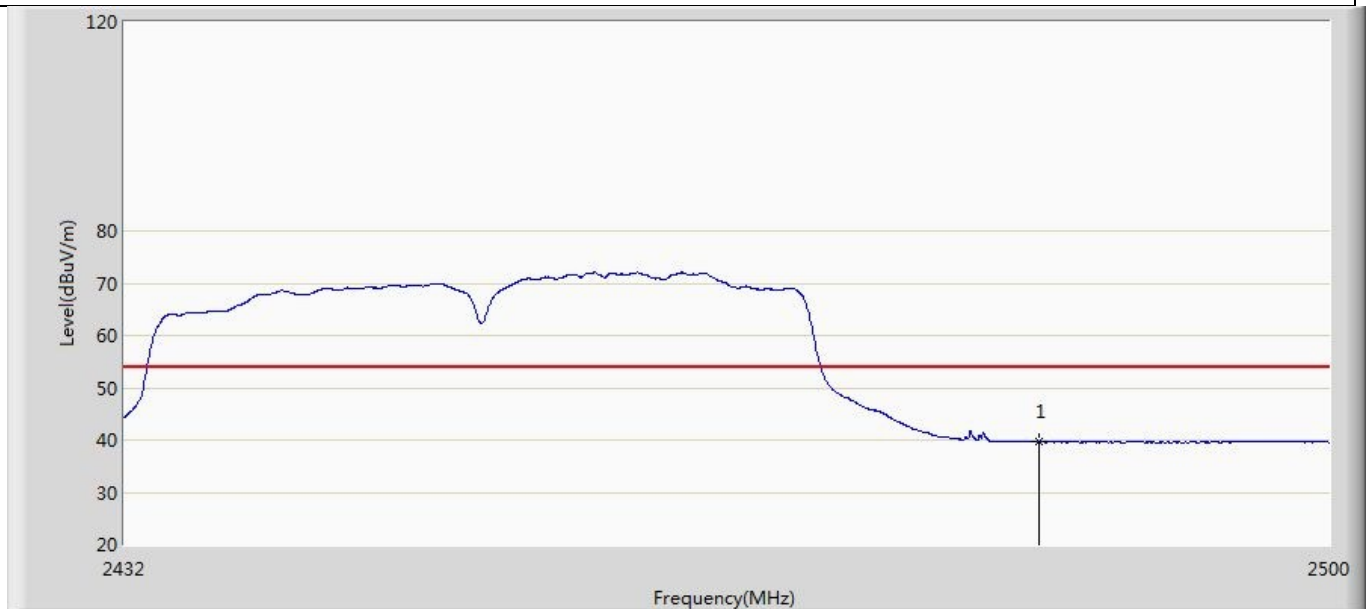
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	39.527	3.306	-14.473	54.000	36.220	AV

Profile: 2210511R	Page No.: 30
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/01/24 - 20:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



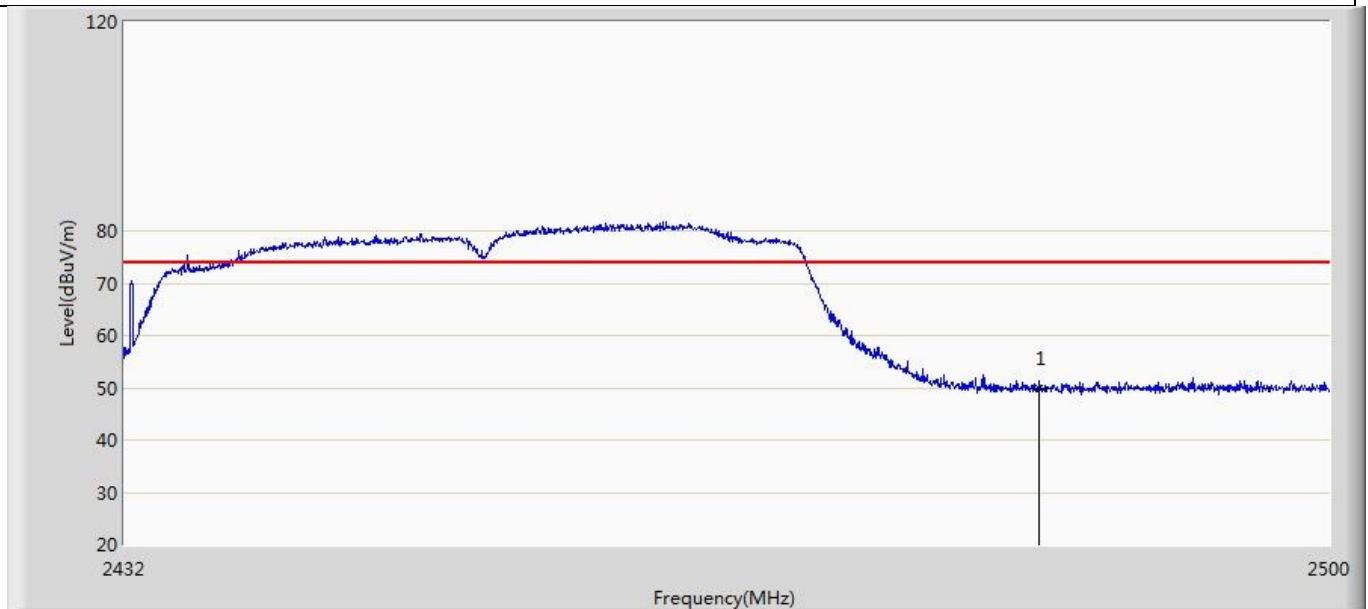
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	49.306	13.085	-24.694	74.000	36.220	PK

Profile: 2210511R	Page No.: 31
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/01/24 - 20:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	39.587	3.366	-14.413	54.000	36.220	AV

Profile: 2210511R	Page No.: 32
Engineer: Carlos. Shen	
Site: AC5	Time: 2022/01/24 - 20:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
Profile: Tele-matic Control Unit	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	49.751	13.530	-24.249	74.000	36.220	PK

Note:

1. We have evaluated SISO and MIMO mode, shown in the report is the worst data.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

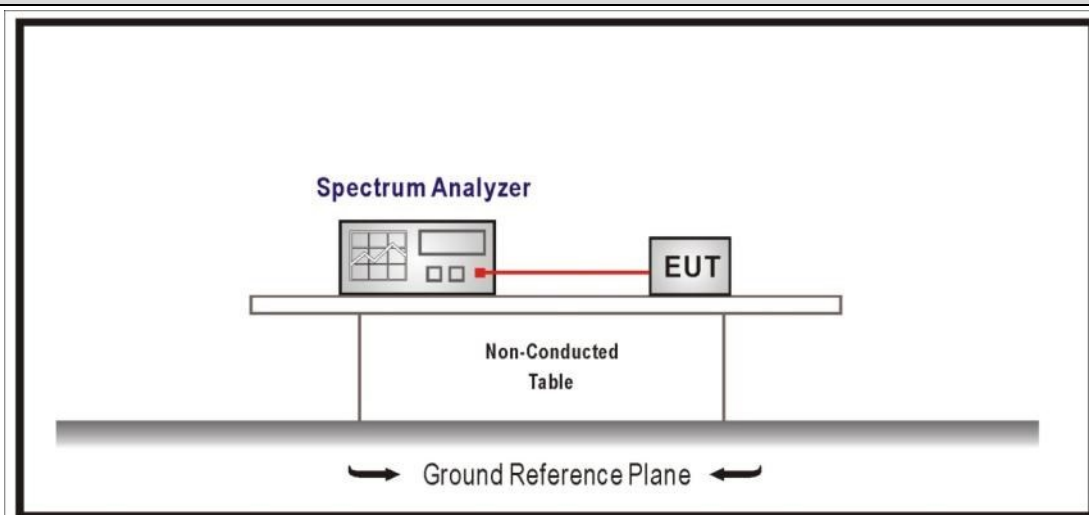
4.5 DTS Bandwidth**VERDICT: PASS****4.5.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
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Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

Standard	ANSI C63.10 Paragraph 6.7
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The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs. The occupied bandwidth should be within the required frequency range.

4.5.2 Test Setup**4.5.3 Test Procedure**

	Reference Rule	Chapter	Description
☒	ANSI C63.10	11.8	DTS bandwidth
	☐ ANSI C63.10	11.8.1	Option 1
	☒ ANSI C63.10	11.8.2	Option 2
☒	ANSI C63.10	6.9	Occupied bandwidth
	☐ ANSI C63.10	6.9.2	relative measurement procedure
	☒ ANSI C63.10	6.9.3	power bandwidth (99%) measurement procedure

4.5.4 Test Data

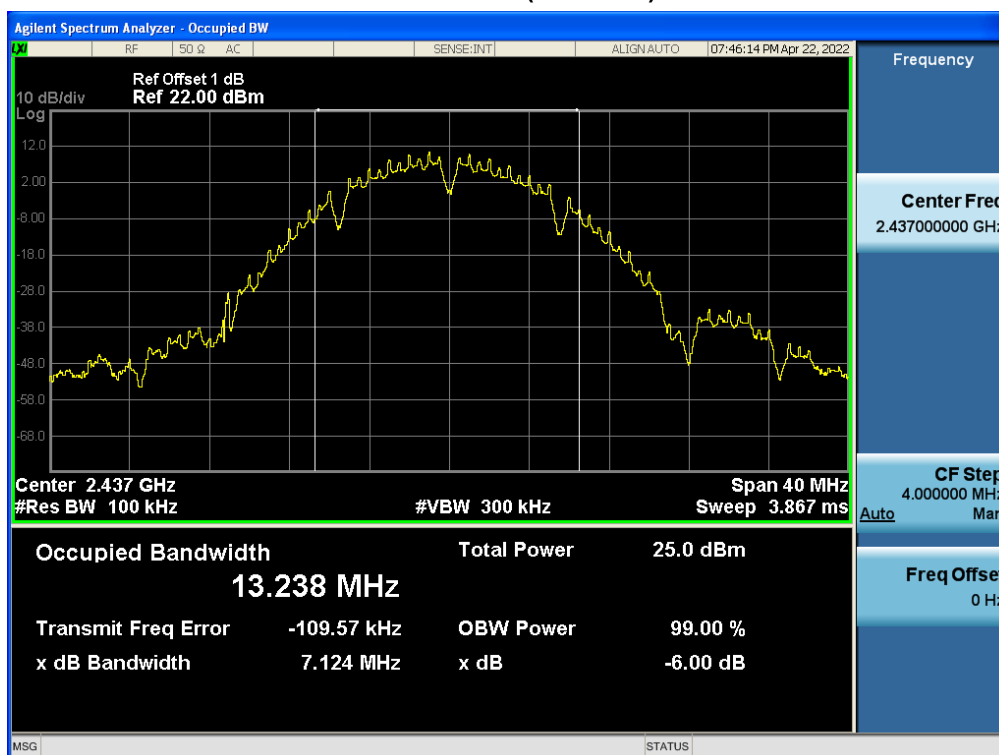
Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	1	2412	8.12	≥500	Pass
	6	2437	7.12	≥500	Pass
	11	2462	7.13	≥500	Pass
2	1	2412	15.73	≥500	Pass
	6	2437	15.12	≥500	Pass
	11	2462	13.90	≥500	Pass
3	1	2412	15.98	≥500	Pass
	6	2437	15.04	≥500	Pass
	11	2462	15.09	≥500	Pass
4	3	2422	35.09	≥500	Pass
	6	2437	30.12	≥500	Pass
	9	2452	35.21	≥500	Pass

Note 1: We have evaluated all antenna combinations and the report shows the worst case.

Note 2: The worst case of Occupied Bandwidth as below in below:

6dB Occupied Bandwidth

Mode 1 CH6 (2437MHz)



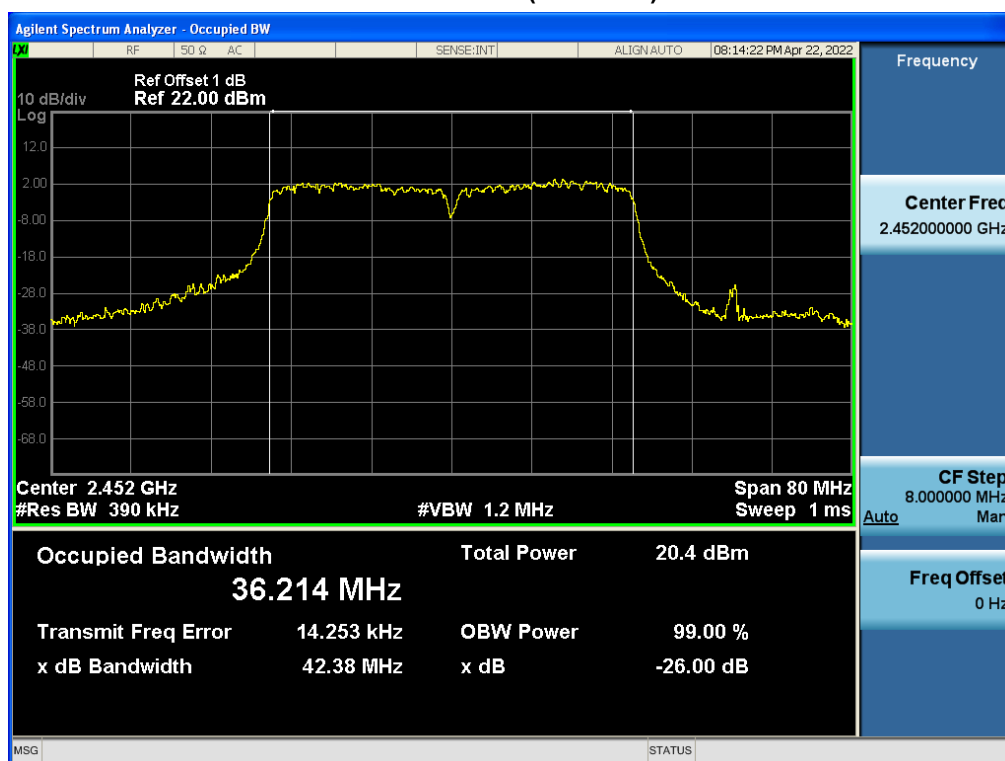
Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	1	2412	13.97	≥500	Pass
	6	2437	13.23	≥500	Pass
	11	2462	13.52	≥500	Pass
2	1	2412	16.40	≥500	Pass
	6	2437	16.14	≥500	Pass
	11	2462	16.29	≥500	Pass
3	1	2412	17.53	≥500	Pass
	6	2437	17.24	≥500	Pass
	11	2462	17.36	≥500	Pass
4	3	2422	36.01	≥500	Pass
	6	2437	35.28	≥500	Pass
	9	2452	36.21	≥500	Pass

Note 1: We have evaluated all antenna combinations and the report shows the worst case.

Note 2: The worst case of Occupied Bandwidth as below in below:

99% Occupied Bandwidth

Mode 4 CH9 (2452MHz)

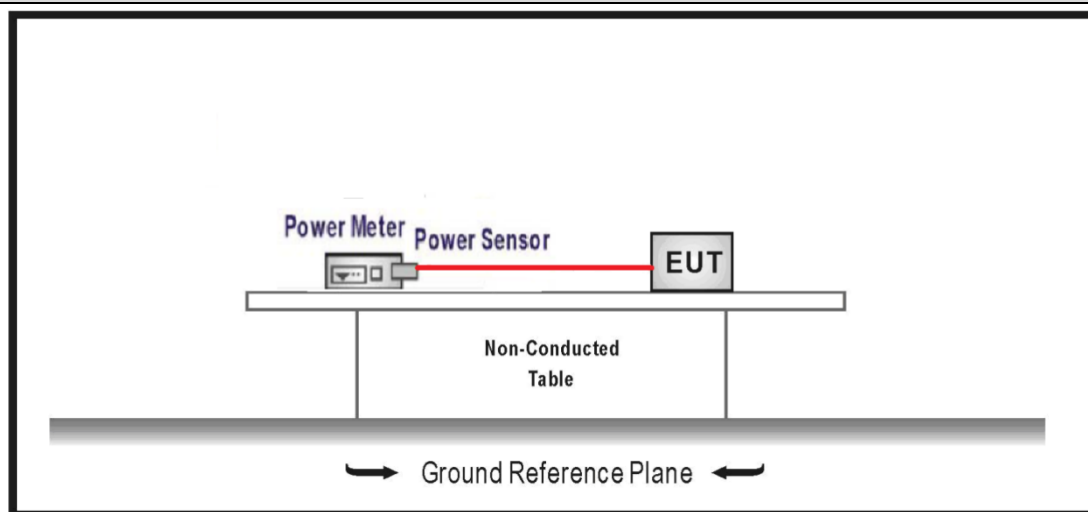


4.6 Fundamental emission output power**VERDICT: PASS****4.6.1 Limit**

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

Note 1 : GTX directional gain of transmitting antennas.

Note 2 : Pout is maximum peak conducted output power .

4.6.2 Test Setup

4.6.3 Test Procedure

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

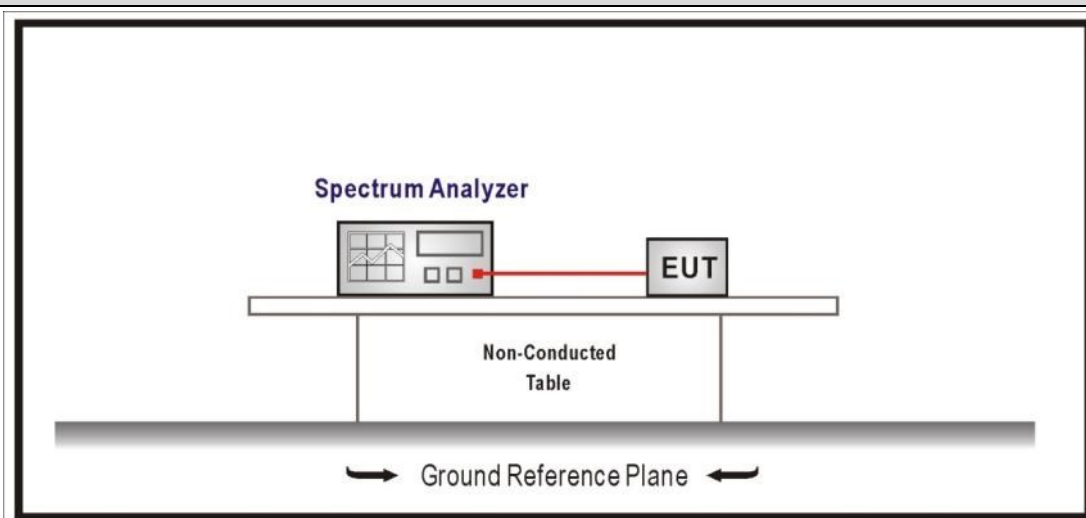
4.6.4 Test Data

Mode	CH.	Test Freq. (MHz)	Output power (dBm)	Limit (dBm)	Result
1	1	2412	17.25	≤ 30	Pass
	6	2437	17.43	≤ 30	Pass
	11	2462	17.19	≤ 30	Pass
2	1	2412	17.06	≤ 30	Pass
	6	2437	17.09	≤ 30	Pass
	11	2462	17.05	≤ 30	Pass
3	1	2412	16.86	≤ 30	Pass
	6	2437	16.89	≤ 30	Pass
	11	2462	16.85	≤ 30	Pass
4	3	2422	16.89	≤ 30	Pass
	6	2437	16.83	≤ 30	Pass
	9	2452	16.89	≤ 30	Pass

Note: Please refer to section 1.2 for antenna gain

4.7 Power Density**VERDICT: PASS****4.7.1 Limit:****Standard**

FCC Part 15 Subpart C Paragraph 15.247 (e)

Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$ **4.7.2 Test Setup****4.7.3 Test Procedure**

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

4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	1	2412	-10.197	≤8	Pass
	6	2437	-10.273	≤8	Pass
	11	2462	-10.442	≤8	Pass
2	1	2412	-13.394	≤8	Pass
	6	2437	-12.923	≤8	Pass
	11	2462	-13.658	≤8	Pass
3	1	2412	-13.592	≤8	Pass
	6	2437	-12.998	≤8	Pass
	11	2462	-13.149	≤8	Pass
4	3	2422	-14.707	≤8	Pass
	6	2437	-14.859	≤8	Pass
	9	2452	-15.211	≤8	Pass

Remark 1: We have evaluated the SISO and MIMO modes, and the report shows the worst data.

Remark 2: The worst case of PSD as below:

Mode 1 / CH1 / 2412MHz



4.8 Antenna Requirement**VERDICT: PASS****4.8.1 Limit:****Standard**

FCC Part 15 Subpart C Paragraph 15.203

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

4.8.2 Antenna Connector Construction:

The use of a permanently attached antenna



The antenna use of a unique coupling to the intentional radiator



The use of a nonstandard antenna jack or electrical connector

Please refer to the attached document "Internal Photograph" to show the antenna connector.

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

_____ The End _____