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

Test report No:
20A0396R-RF-US-P06V02

FCC & ISED TEST REPORT

Product Name	Dual mode Full Color A19
Trademark	GE
Model and /or type reference	CLEDA199CD1
FCC ID	PUU-A19-DMFCII
IC	10798A-DMFCA19II
Applicant´s name / address	Savant Technologies LLC, dba GE Lighting, a Savant Company 1975 Noble Road, Cleveland, Ohio, United States, 44112
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10: 2013 KDB558074 D01v05r02 RSS-Gen Issue 5 / RSS-247 Issue 2
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Kitty Li/Project Assistant
Reviewed by (name / position & signature)	Frank He/ Technical Supervisor
Approved by (name / position & signature)	Jack Zhang/ Supervisor
Date of issue	2020-12-02
Report template No	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

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

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

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

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

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Oct. 16, 2020
Date (start test)	Oct. 17, 2020
Date (finish test)	Dec. 02, 2020

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
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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
20A0396R-RF-US-P06V02	V1.0	Initial issue of report.	2020-11-10
20A0396R-RF-US-P06V02	V1.1	P51-52, added simultaneous transmission test data in emissions in restricted frequency bands test item.	2020-12-02

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247, RSS-Gen Issue 5 and RSS-247 Issue 2.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
   - Chapter 1.1 General Description of the Item(s);
   - Chapter 1.2 Antenna Informaion;
   - Chapter 1.3 Data Rate;
   - Chapter 1.4 Channel List.

USED EQUIPMENT

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100906	2020.04.20	2021.04.19
Two-Line V-Network	R&S	ENV216	101190	2019.12.28	2020.12.27
Two-Line V-Network	R&S	ENV216	101044	2019.12.28	2020.12.27
Current Probe	R&S	EZ-17	100678	2020.03.12	2021.04.11
50ohm Termination	SHX	TF2	07081402	2020.09.23	2021.09.22
50ohm Termination	SHX	TF2	07081403	2020.09.23	2021.09.22
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2020.08.13	2021.08.12
Coaxial Cable	Suhner	RG 223	TR1-C1	2020.08.13	2021.08.12
Coaxial Cable	Suhner	RG 223	TR1-C2	2020.08.13	2021.08.12
DEKRA test software	N/A	N/A	N/A	N/A	N/A

RF conducted test / TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2020.08.15	2021.08.14
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2020.04.17	2021.04.16
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2020.08.15	2021.08.14
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2020.08.13	2021.08.12
DEKRA test software	N/A	N/A	N/A	N/A	N/A

Radiated Emission(30MHz-1GHz) / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2020.03.03	2021.03.02
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2020.08.19	2021.08.18
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2020.08.13	2021.08.12
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2020.04.05	2021.04.04
DEKRA test software	N/A	N/A	N/A	N/A	N/A

Radiated Emission / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Receiver	Agilent	N9038A	MY51210196	2020.05.08	2021.05.07
DRG Horn	ETS-Lindgren	3117	00123988	2020.05.06	2021.05.05
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170D	750	2020.05.06	2021.05.05
Pre-Amplifier	Schwarzbeck	BBV 9721	9721-024	2020.01.22	2021.01.21
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2020.08.13	2021.08.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2020.04.05	2021.04.04
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~26.5GHz)	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.....:	Dual mode Full Color A19
Model No.....:	CLEDA199CD1
Trademark.....:	GE
FCC ID.....:	PUU-A19-DMFCII
IC .....:	10798A-DMFCA19II
Manufacturer.....:	Savant Technologies LLC, dba GE Lighting, a Savant Company
Manufacturer address.....:	1975 Noble Road, Cleveland, Ohio, United States, 44112
Hardware version.....:	V2.0
Software version.....:	V2.0

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

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

1.2 Antenna Information

Antenna model / type number.....:	N/A			
Antenna serial number.....:	N/A			
Antenna Delivery .....:	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others:·····		
Antenna technology.....:	☒	SISO		
	☐	MIMO	☐	Basic
			☐	CDD
			☐	Sectorized
			☐	Beam-forming
Antenna Type .....:	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	PIFA
			☒	PCB
			☐	Metal Antenna
Antenna Gain.....:	-0.55 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
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz	-	-

IEEE 802.11n(40MHz)

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

Note: The General Description of the Item(s), antenna information, 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)

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

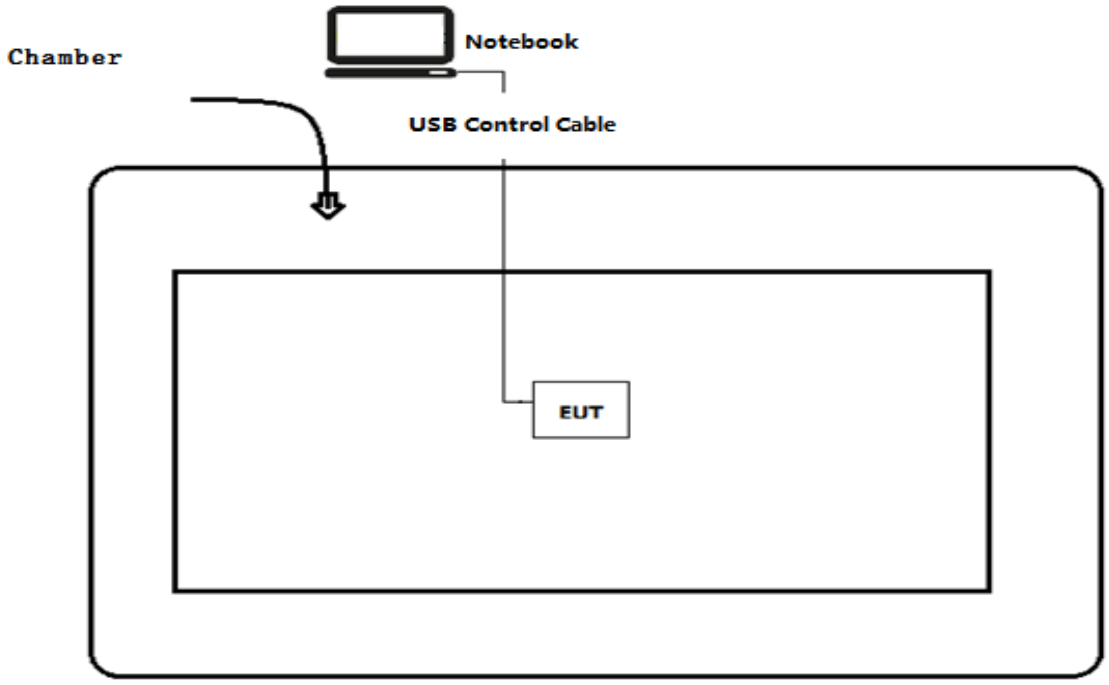
The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
Notebook	Think pad x220	Lenovo	Adapter
Software	Type / Version	Manufacturer	Supplied by
Ameba series mptool	1v15	N/A	N/A

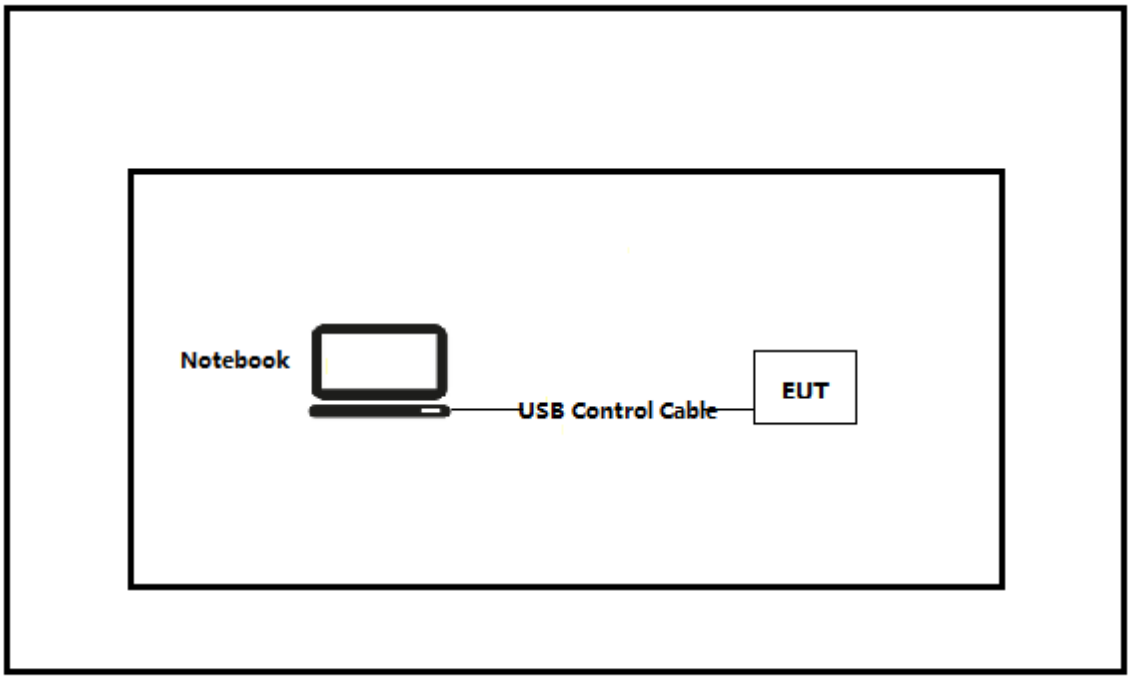
2.3 Test Configuration / Block diagram used for tests

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

Test setup Diagram- Radiated Test



Test setup Diagram- Conducted test



2.4 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Execute test software.
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	2020	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	PASS	---
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 Section 8.8	PASS	---
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9	PASS	---
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section A5.5	PASS	---
Radiated Emission Band Edge	RSS-247 Issue 2 Section A5.5	PASS	---
Occupied Bandwidth	RSS-Gen Issue 5 Section 6.6 RSS-247 Issue 2 Section A5.2(1)	PASS	---
Fundamental emission output power	RSS-247 Issue 2 Section A5.4(4)	PASS	---
Power Spectral Density	RSS-247 Issue 2 Section A5.2(2)	PASS	---
Antenna Requirement	RSS-Gen Issue 5 Section 8.3	PASS	---

3.3 Test Facility

USA	**:**	**FCC Designation Number: CN1199**
Canada	**:**	**CAB identifier Number: CN0040**

4 TEST RESULTS

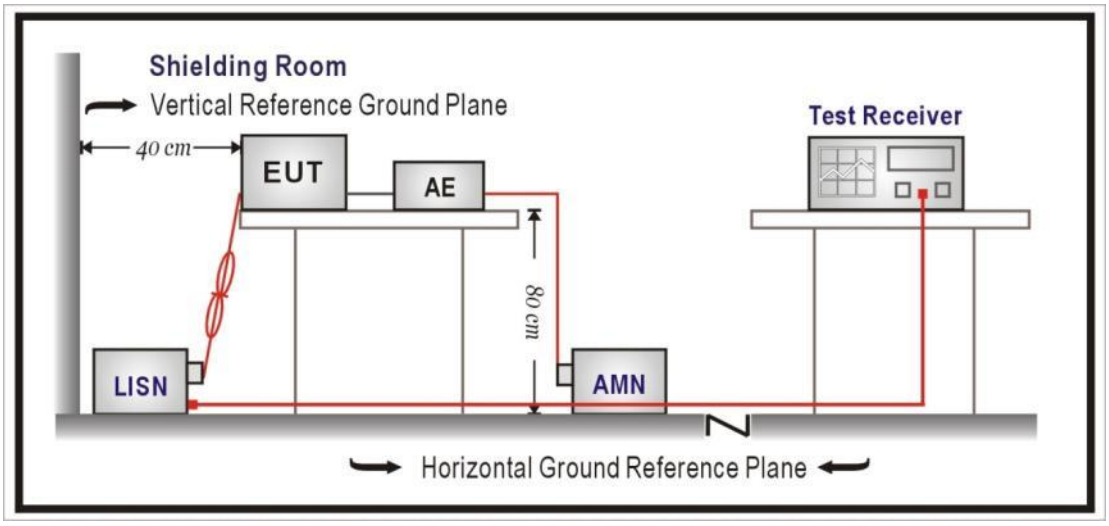
4.1 AC Power Line Conducted Emission	VERDICT: PASS

4.1.1 Limit

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

[1)] At the transition frequency, the lower limit applies.
[2)] The limit decreases linearly with the logarithm of the frequency.

4.1.2 Test Setup

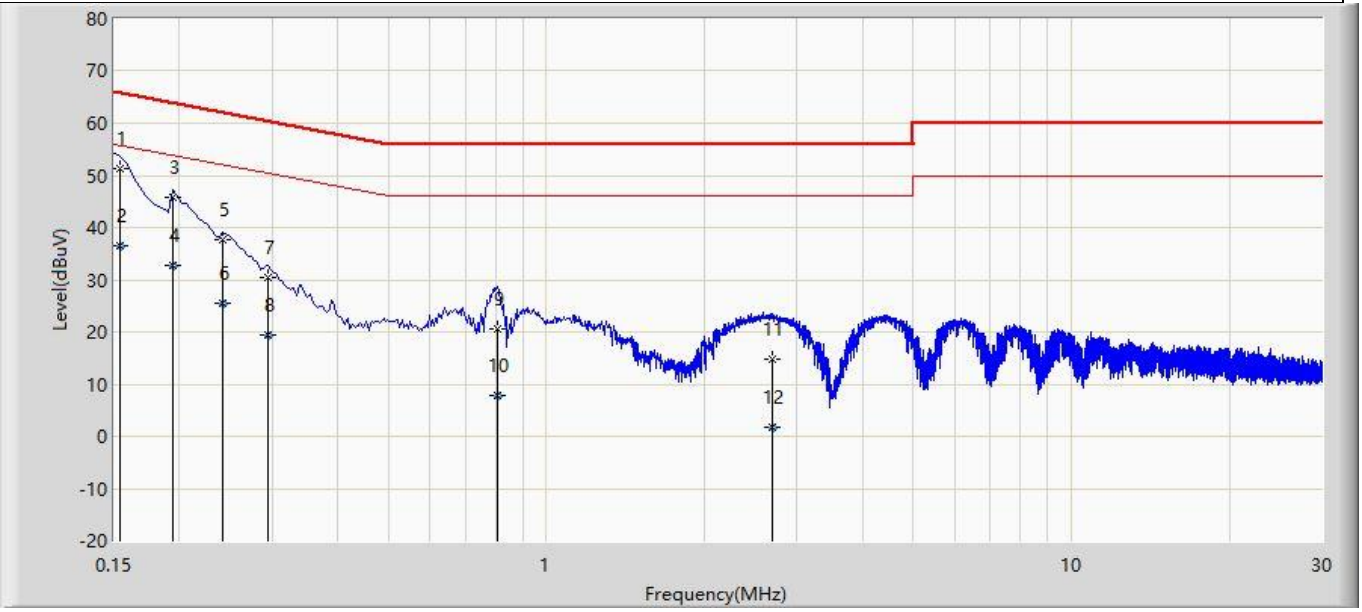


4.1.3 Test Procedure

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

4.1.4 Test Data

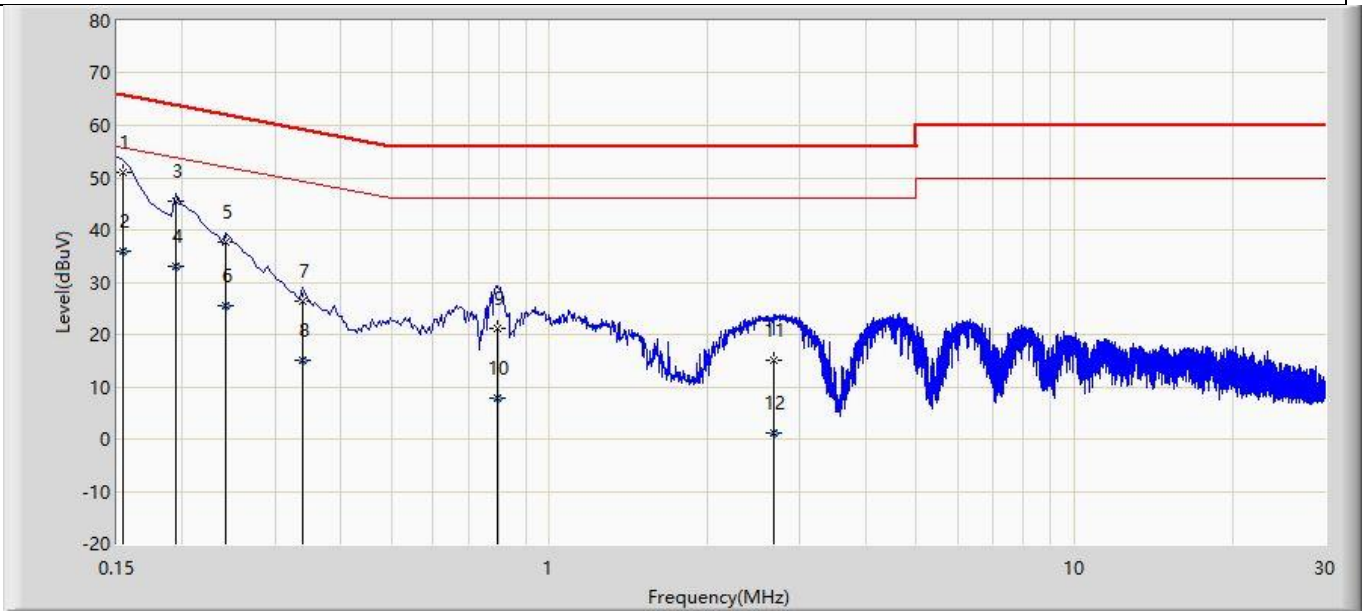
Profile: 20A0396R	Page No.: 1
Engineer: Adele	
Site: TR1	Time: 2020/10/21
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Line
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.154	51.388	41.722	-14.393	65.781	9.642	0.025	0.000	QP
2		0.154	36.428	26.761	-19.353	55.781	9.642	0.025	0.000	AV
3		0.194	45.728	36.052	-18.135	63.864	9.648	0.028	0.000	QP
4		0.194	32.882	23.207	-20.981	53.864	9.648	0.028	0.000	AV
5		0.242	37.659	27.981	-24.369	62.027	9.648	0.029	0.000	QP
6		0.242	25.364	15.687	-26.663	52.027	9.648	0.029	0.000	AV
7		0.294	30.375	20.695	-30.035	60.411	9.646	0.034	0.000	QP
8		0.294	19.355	9.675	-31.056	50.411	9.646	0.034	0.000	AV
9		0.806	20.707	11.014	-35.293	56.000	9.640	0.053	0.000	QP
10		0.806	7.705	-1.989	-38.295	46.000	9.640	0.053	0.000	AV
11		2.694	14.917	5.163	-41.083	56.000	9.652	0.102	0.000	QP
12		2.694	1.701	-8.053	-44.299	46.000	9.652	0.102	0.000	AV

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

Profile: 20A0396R	Page No.: 2
Engineer: Adele	
Site: TR1	Time: 2020/10/21
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Neutral
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.154	51.111	41.456	-14.671	65.781	9.629	0.025	0.000	QP
2		0.154	35.900	26.246	-19.881	55.781	9.629	0.025	0.000	AV
3		0.194	45.634	35.984	-18.230	63.864	9.622	0.028	0.000	QP
4		0.194	32.931	23.281	-20.933	53.864	9.622	0.028	0.000	AV
5		0.242	37.590	27.941	-24.437	62.027	9.620	0.029	0.000	QP
6		0.242	25.546	15.897	-26.481	52.027	9.620	0.029	0.000	AV
7		0.338	26.472	16.817	-32.780	59.252	9.620	0.035	0.000	QP
8		0.338	15.128	5.472	-34.125	49.252	9.620	0.035	0.000	AV
9		0.798	21.292	11.617	-34.708	56.000	9.623	0.052	0.000	QP
10		0.798	7.779	-1.896	-38.221	46.000	9.623	0.052	0.000	AV
11		2.682	14.934	5.192	-41.066	56.000	9.641	0.102	0.000	QP
12		2.682	1.194	-8.549	-44.806	46.000	9.641	0.102	0.000	AV

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

4.2 Emissions in restricted frequency bands — VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.205; 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 Bands of operation for ISED

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

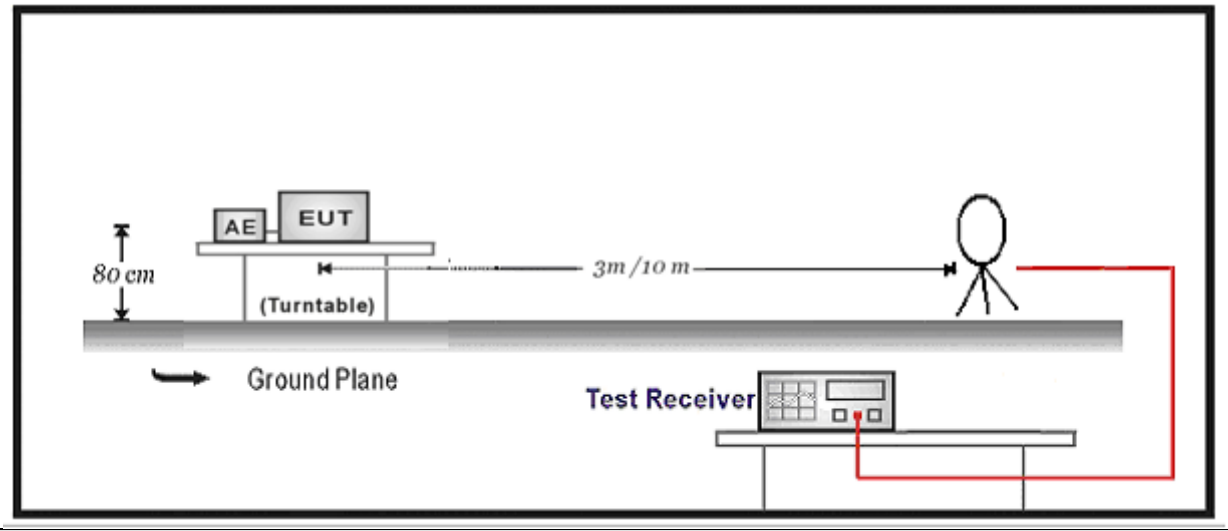
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 2)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

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

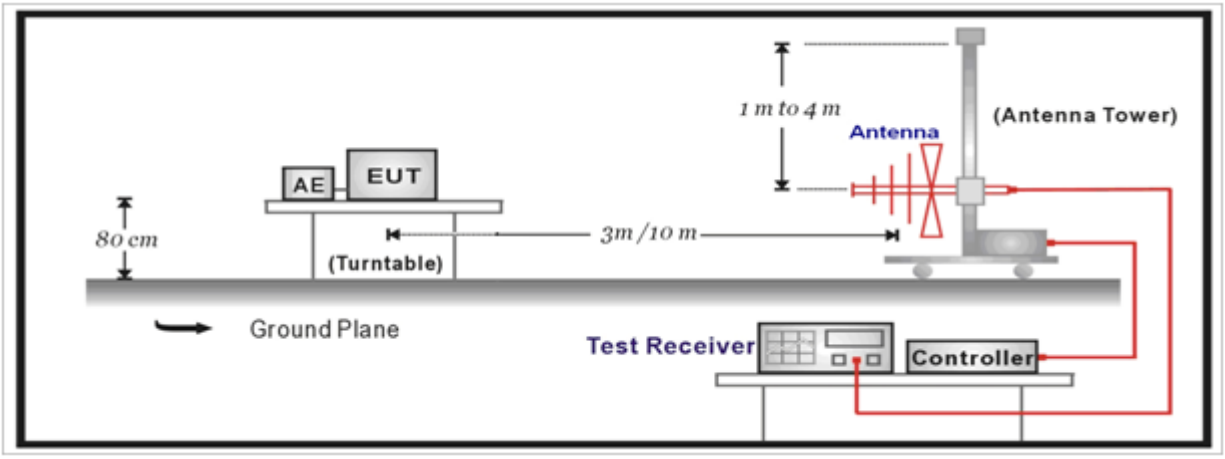
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

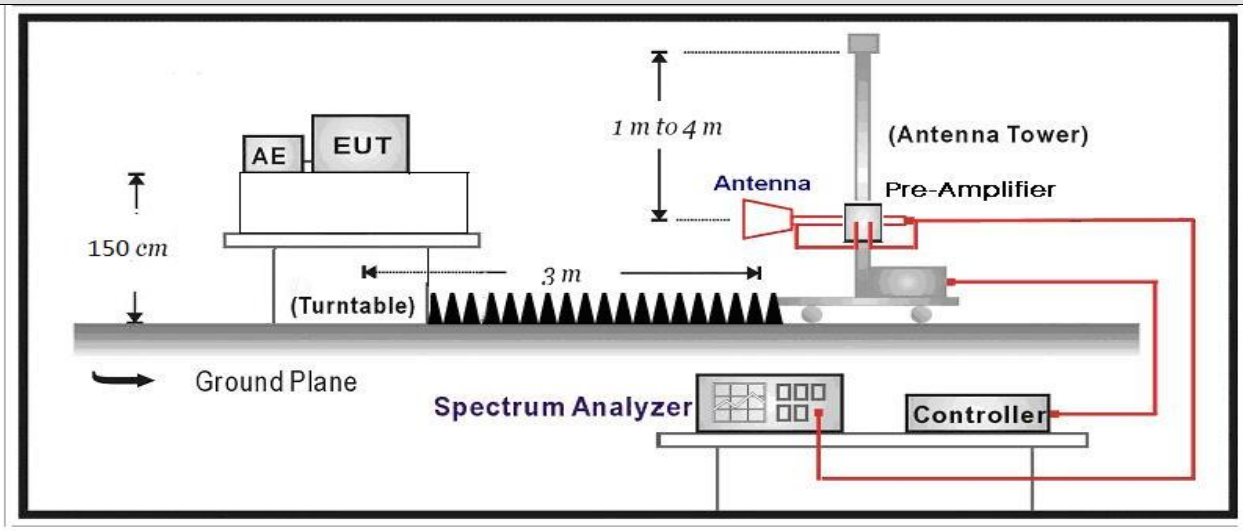
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:

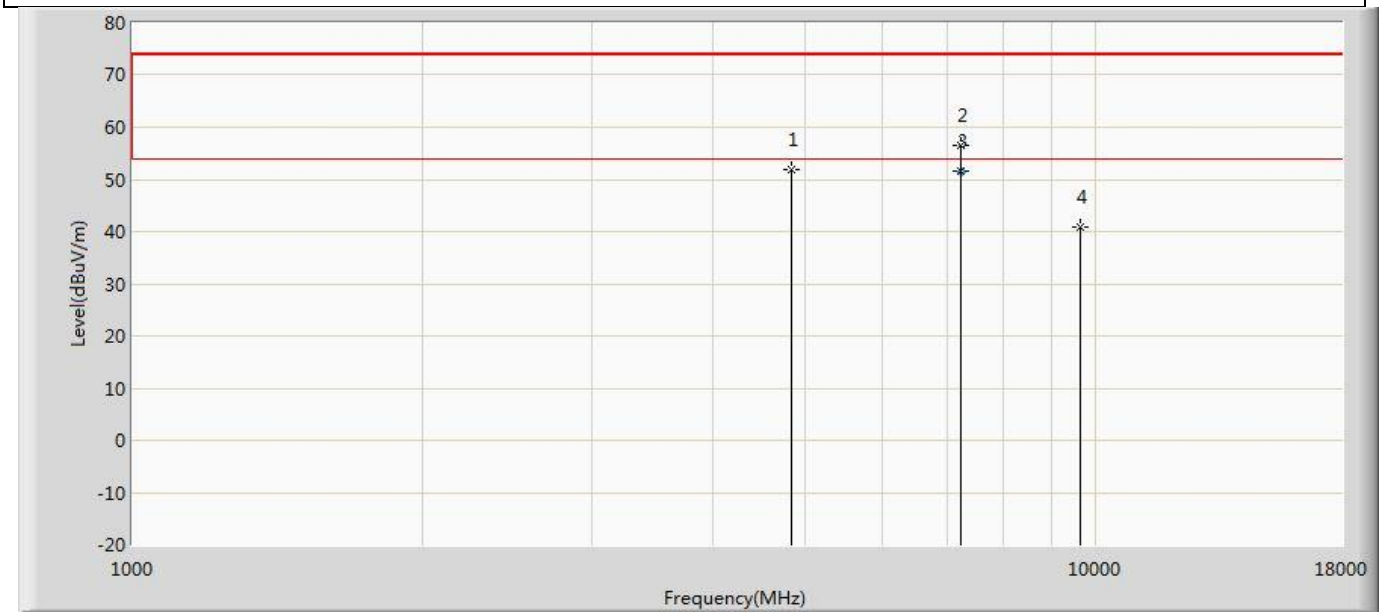


4.2.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	11.12	Emissions in restricted frequency bands
	☒ ANSI C63.10	11.12.1	Radiated emission measurements
	☒ ANSI C63.10	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

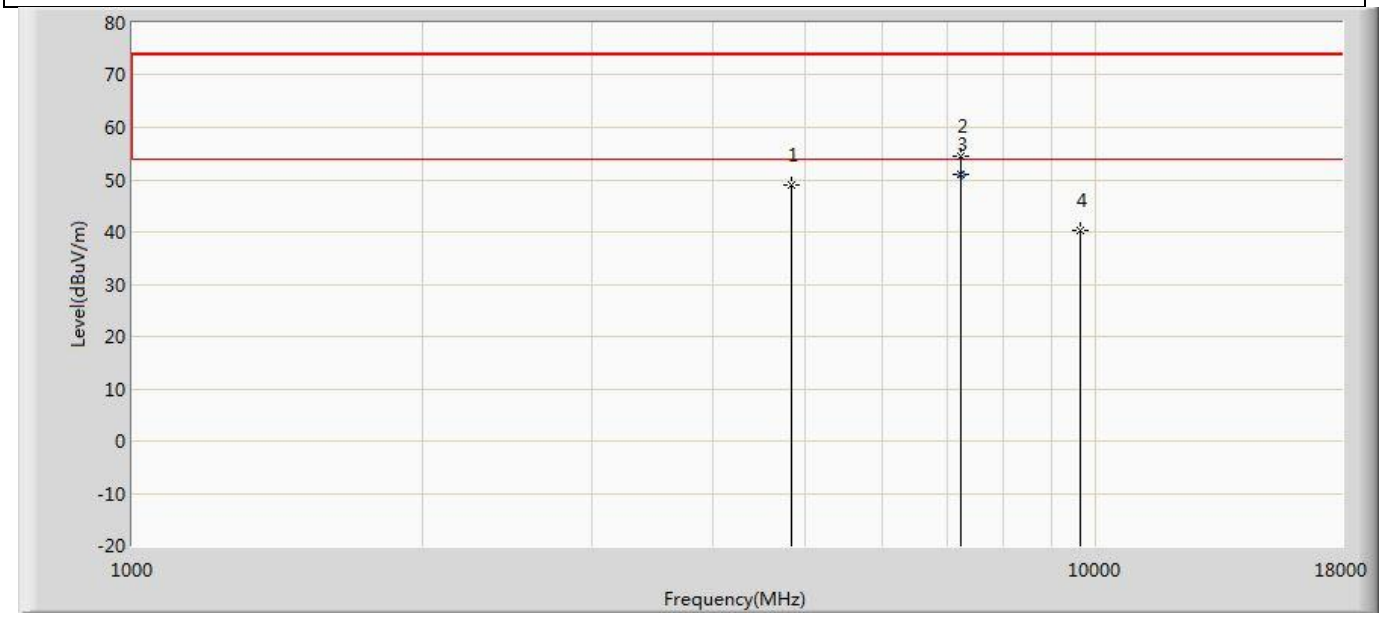
4.2.4 Test Data

Profile: 20A0396R	Page No.: 25
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



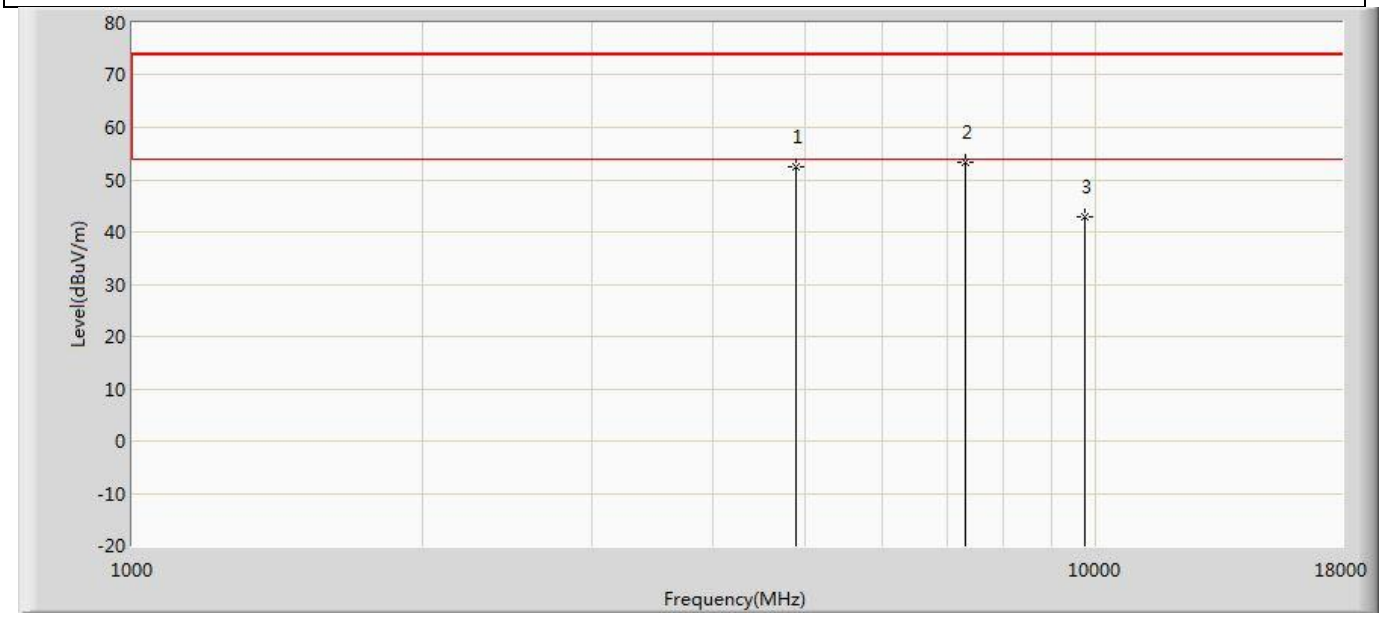
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4825.000	51.857	57.738	-22.143	74.000	-5.880	PK
2		7239.000	56.475	59.446	-17.525	74.000	-2.971	PK
3	*	7239.000	51.700	54.671	-2.300	54.000	-2.971	AV
4		9648.000	40.996	42.491	-33.004	74.000	-1.495	PK

Profile: 20A0396R	Page No.: 26
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



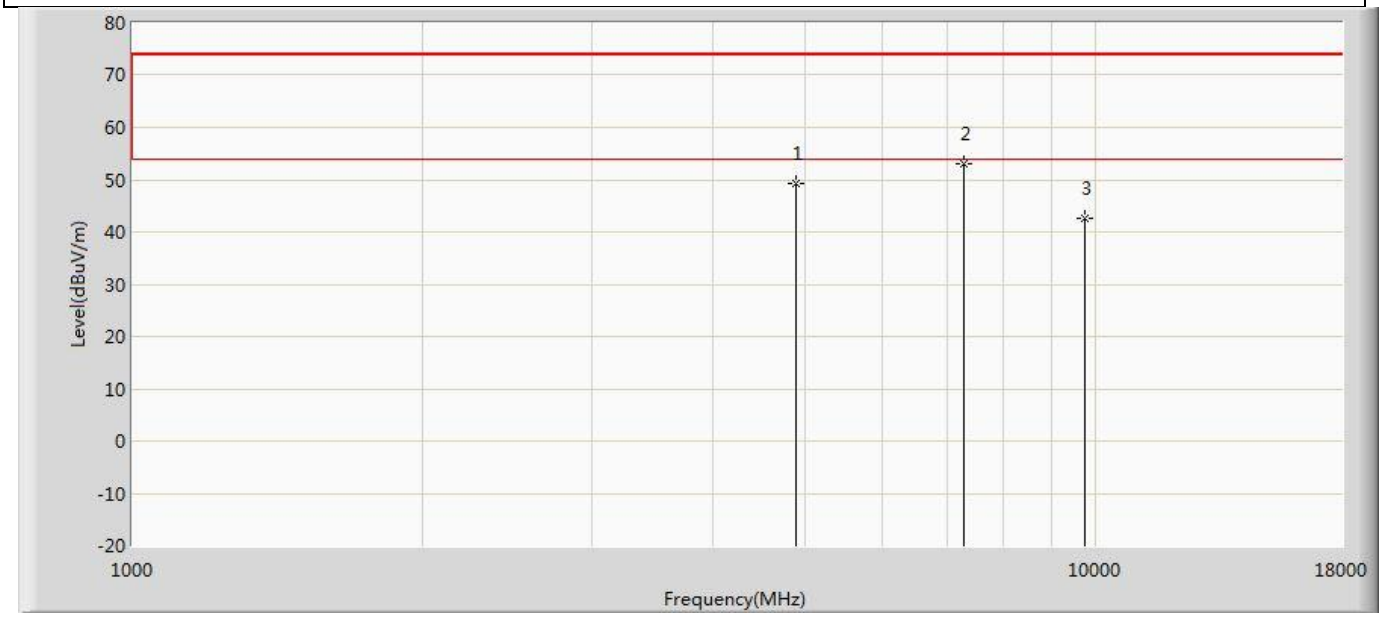
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4825.000	49.023	54.904	-24.977	74.000	-5.880	PK
2		7239.000	54.584	57.555	-19.416	74.000	-2.971	PK
3	*	7239.000	51.158	54.129	-2.842	54.000	-2.971	AV
4		9648.000	40.341	41.836	-33.659	74.000	-1.495	PK

Profile: 20A0396R	Page No.: 27
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11b	



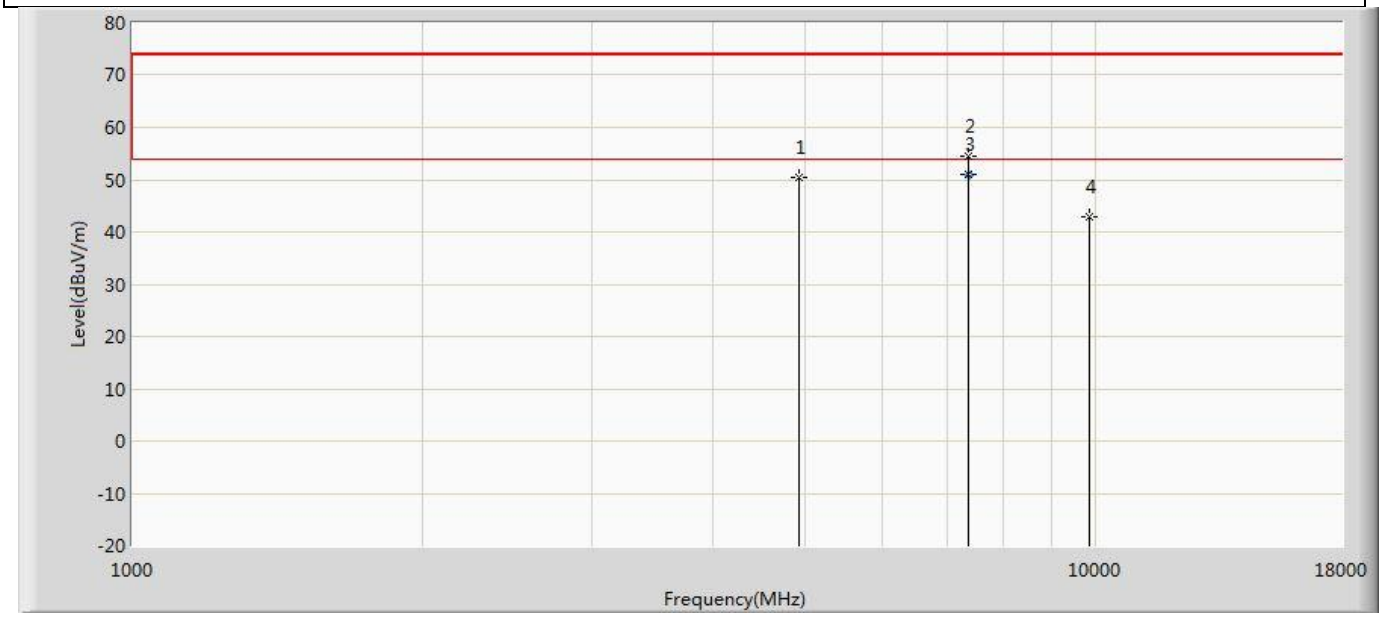
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	52.556	58.415	-21.444	74.000	-5.859	PK
2	*	7315.500	53.388	56.447	-20.612	74.000	-3.059	PK
3		9748.000	42.831	43.925	-31.169	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 28
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11b	



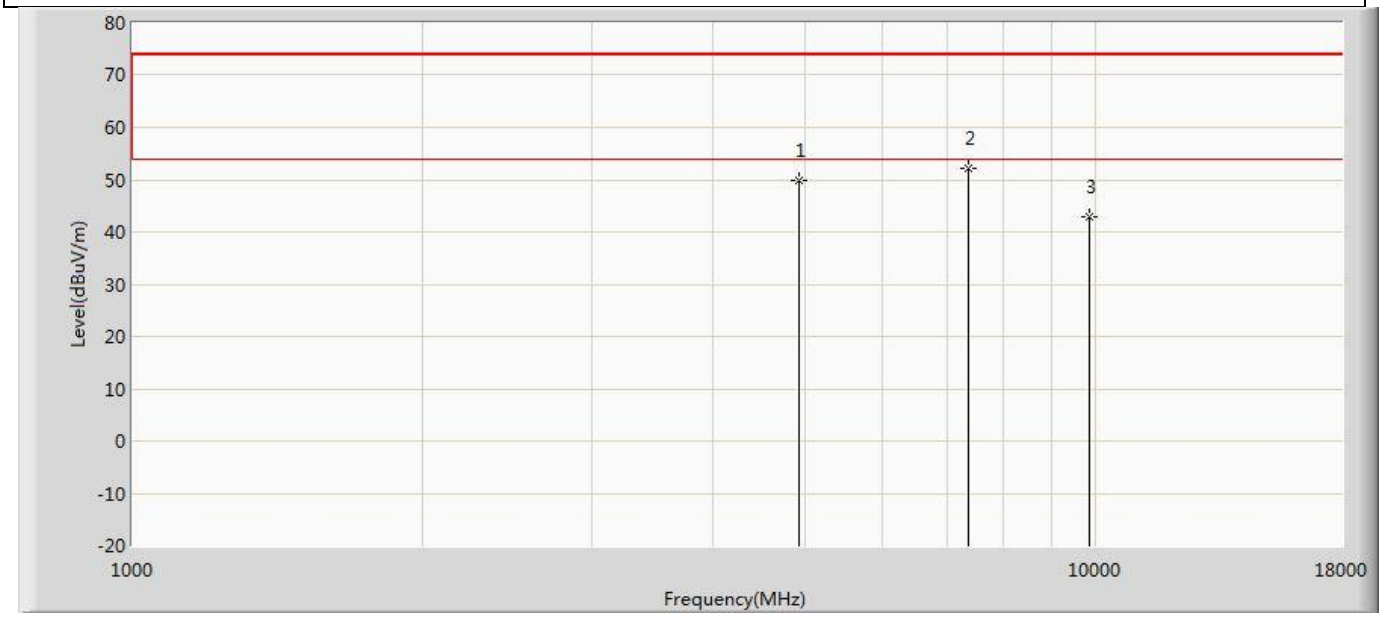
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	49.194	55.053	-24.806	74.000	-5.859	PK
2	*	7307.000	52.957	56.005	-21.043	74.000	-3.048	PK
3		9748.000	42.665	43.759	-31.335	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 29
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



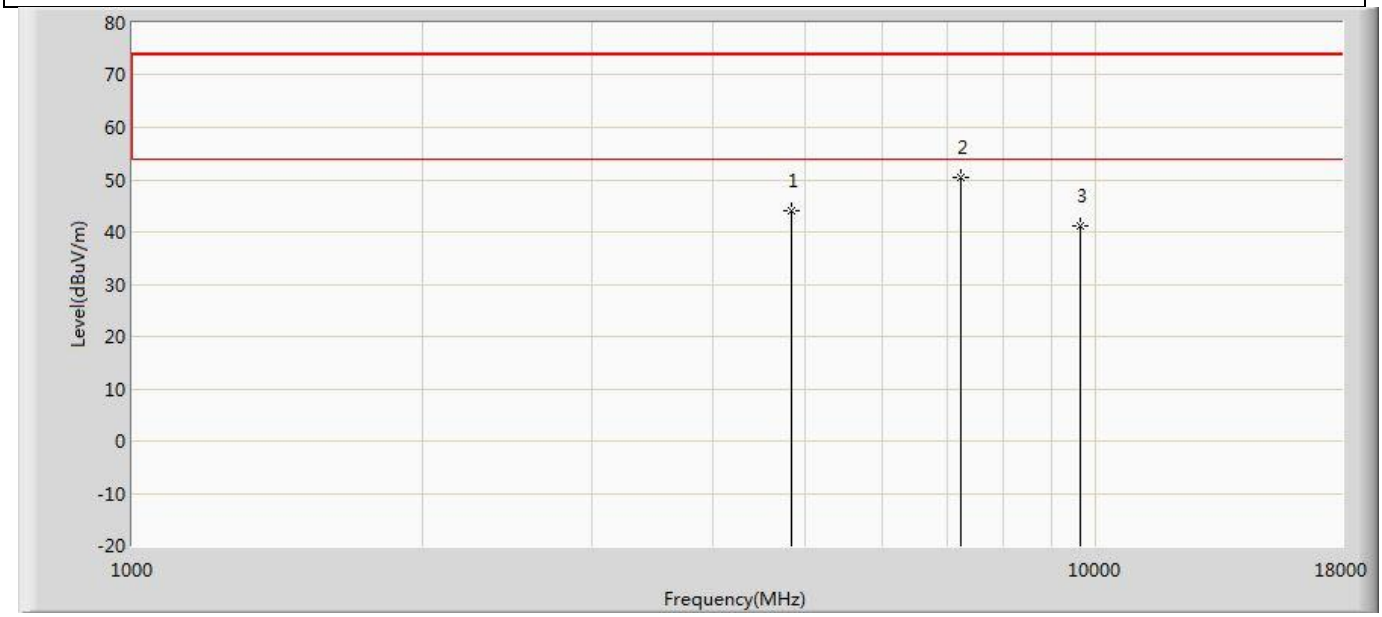
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4927.000	50.373	56.309	-23.627	74.000	-5.937	PK
2		7383.500	54.382	57.451	-19.618	74.000	-3.068	PK
3	*	7383.500	51.045	54.114	-2.955	54.000	-3.068	AV
4		9848.000	43.010	43.694	-30.990	74.000	-0.684	PK

Profile: 20A0396R	Page No.: 30
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



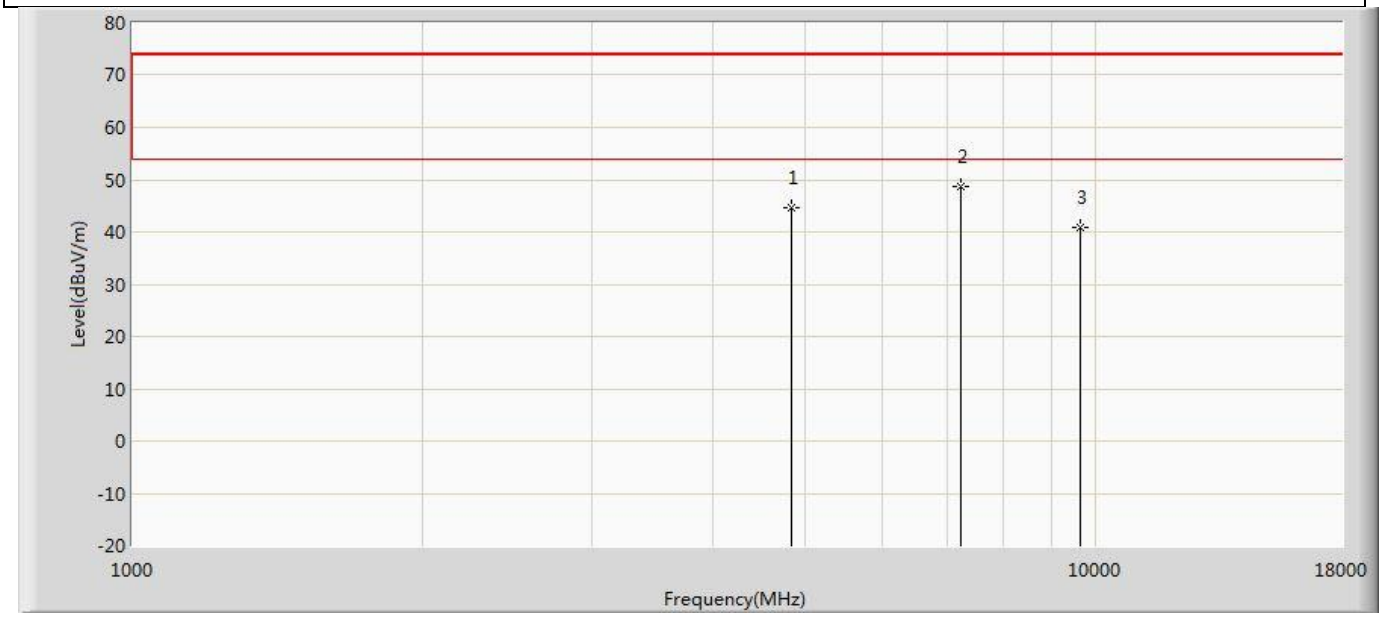
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4927.000	49.971	55.907	-24.029	74.000	-5.937	PK
2	*	7383.500	52.197	55.266	-21.803	74.000	-3.068	PK
3		9848.000	42.756	43.440	-31.244	74.000	-0.684	PK

Profile: 20A0396R	Page No.: 31
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



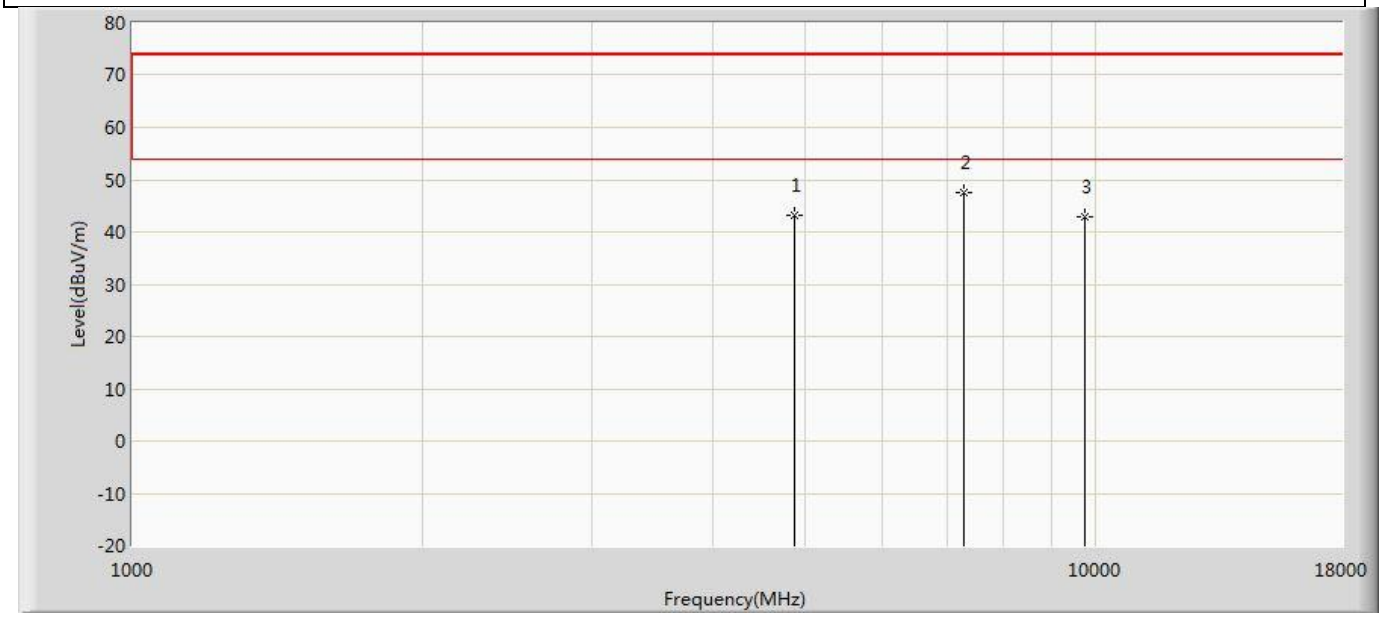
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	44.164	50.060	-29.836	74.000	-5.896	PK
2	*	7230.500	50.403	53.332	-23.597	74.000	-2.930	PK
3		9648.000	41.101	42.596	-32.899	74.000	-1.495	PK

Profile: 20A0396R	Page No.: 32
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



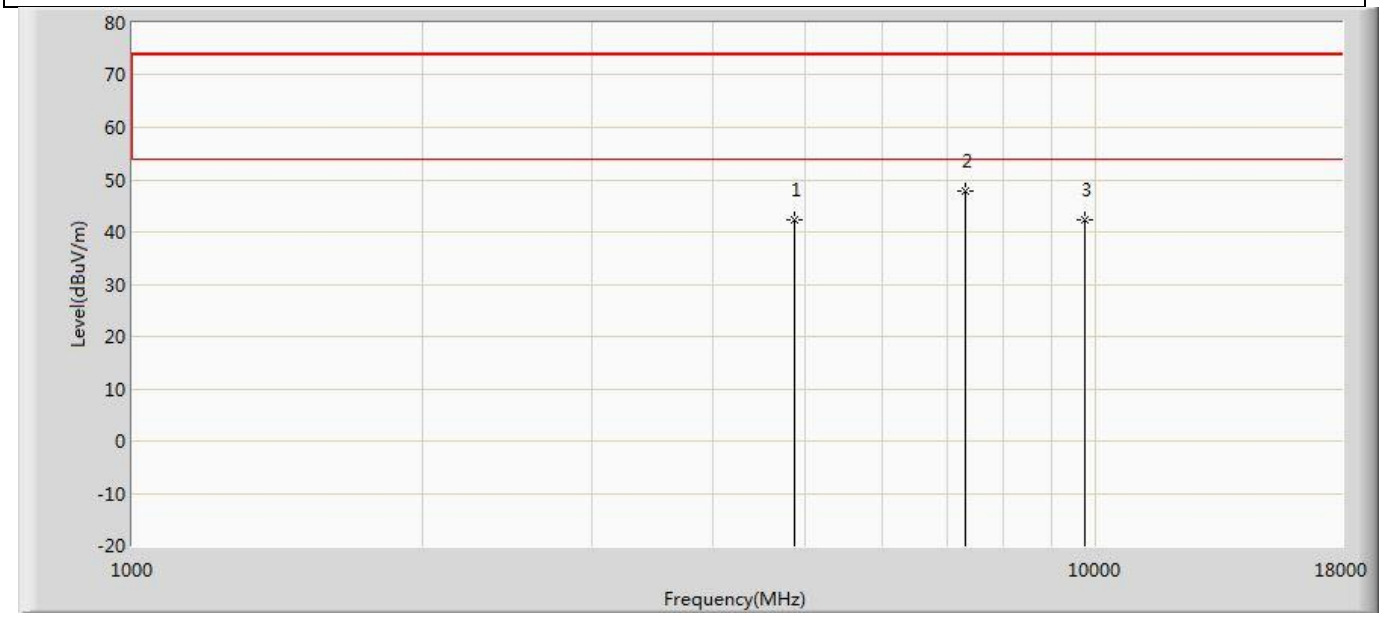
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	44.598	50.494	-29.402	74.000	-5.896	PK
2	*	7230.500	48.636	51.565	-25.364	74.000	-2.930	PK
3		9648.000	40.939	42.434	-33.061	74.000	-1.495	PK

Profile: 20A0396R	Page No.: 33
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11g	



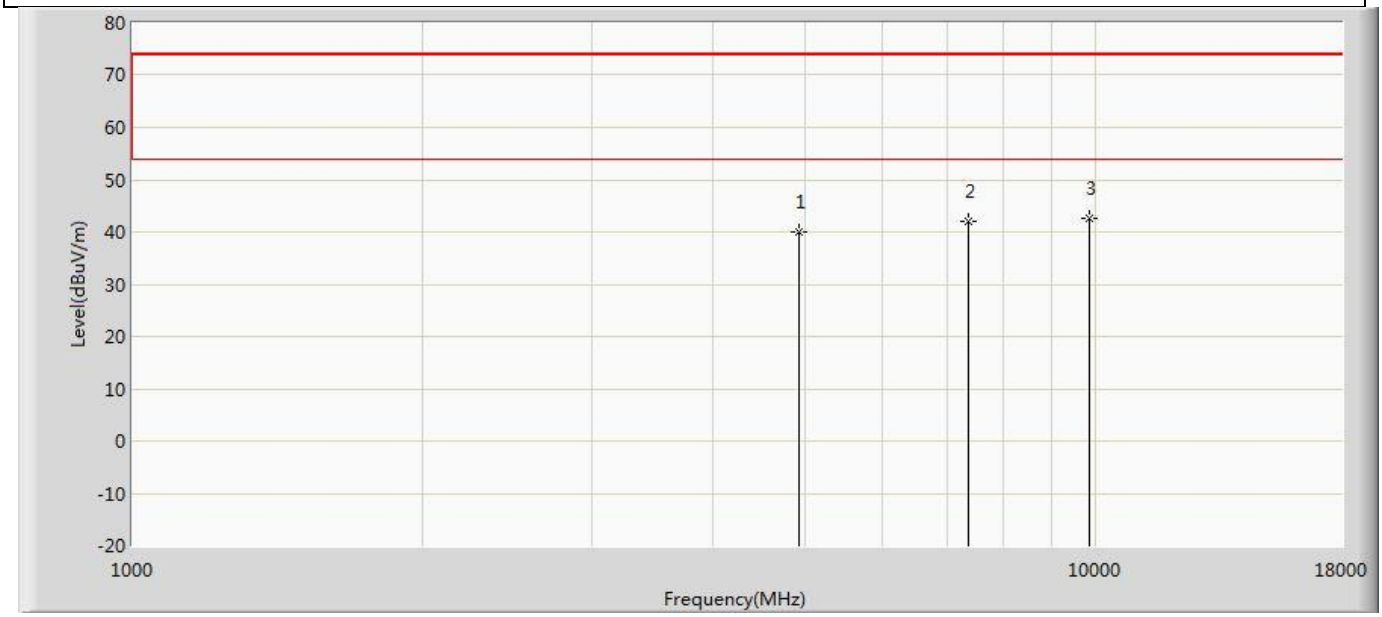
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	43.092	48.971	-30.908	74.000	-5.879	PK
2	*	7307.000	47.418	50.466	-26.582	74.000	-3.048	PK
3		9748.000	42.873	43.967	-31.127	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 34
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11g	



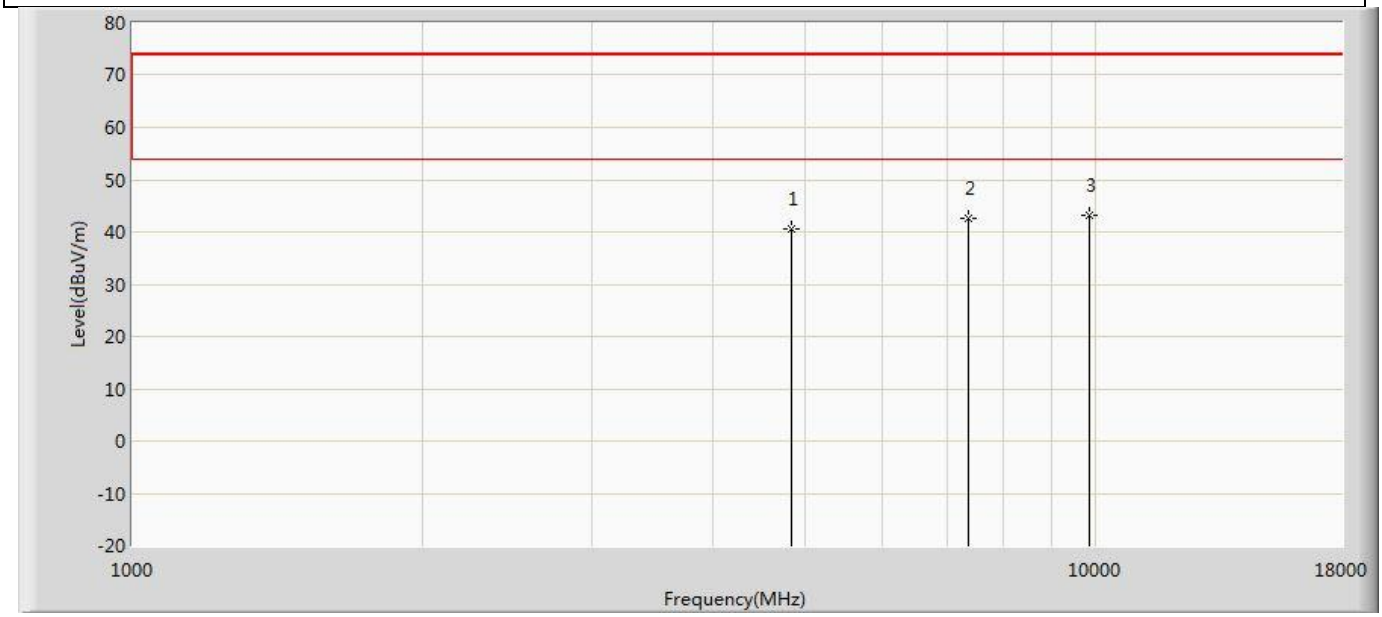
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	42.191	48.070	-31.809	74.000	-5.879	PK
2	*	7315.500	47.685	50.744	-26.315	74.000	-3.059	PK
3		9748.000	42.254	43.348	-31.746	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 35
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



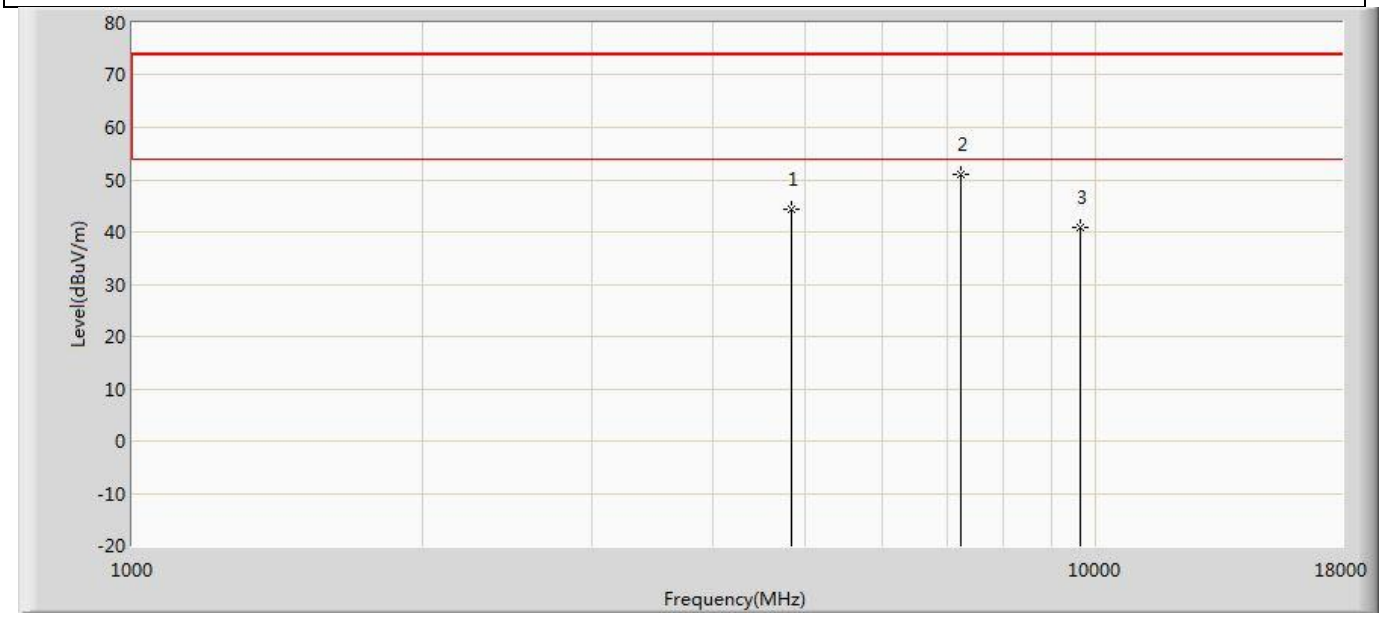
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	39.914	45.841	-34.086	74.000	-5.927	PK
2		7386.000	41.997	45.032	-32.003	74.000	-3.035	PK
3	*	9848.000	42.466	43.150	-31.534	74.000	-0.684	PK

Profile: 20A0396R	Page No.: 36
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



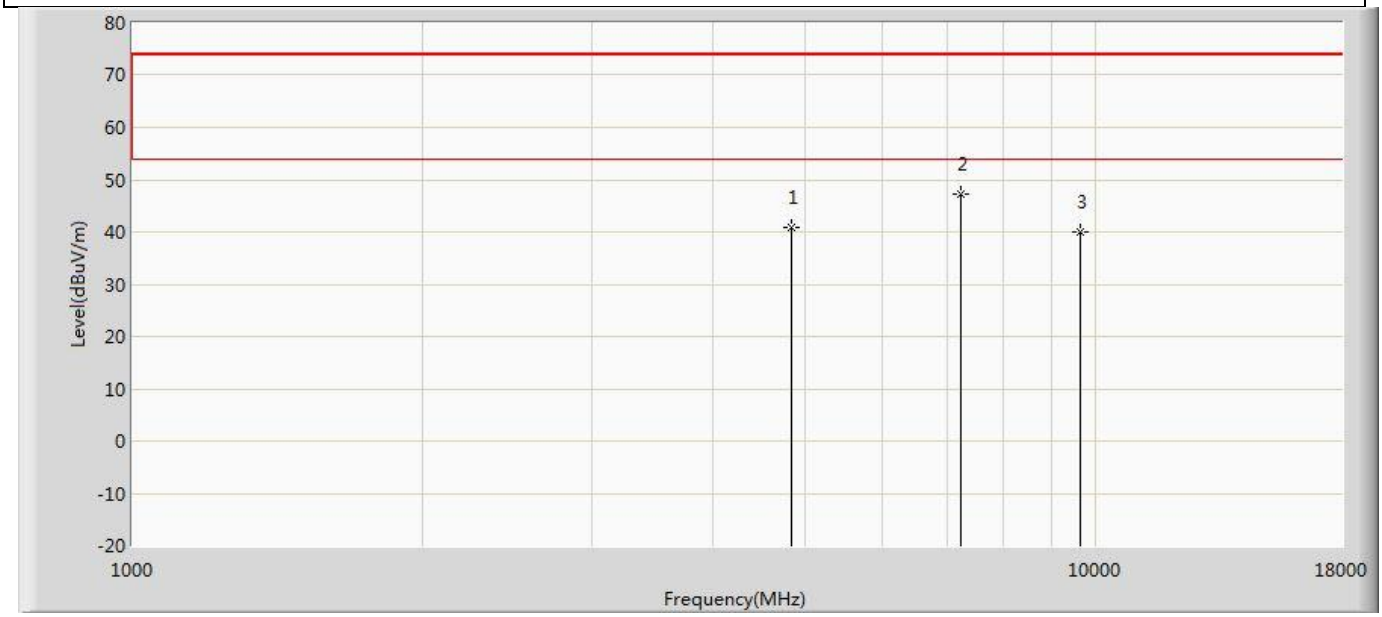
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	40.552	46.448	-33.448	74.000	-5.896	PK
2		7386.000	42.703	45.738	-31.297	74.000	-3.035	PK
3	*	9848.000	43.302	43.986	-30.698	74.000	-0.684	PK

Profile: 20A0396R	Page No.: 37
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



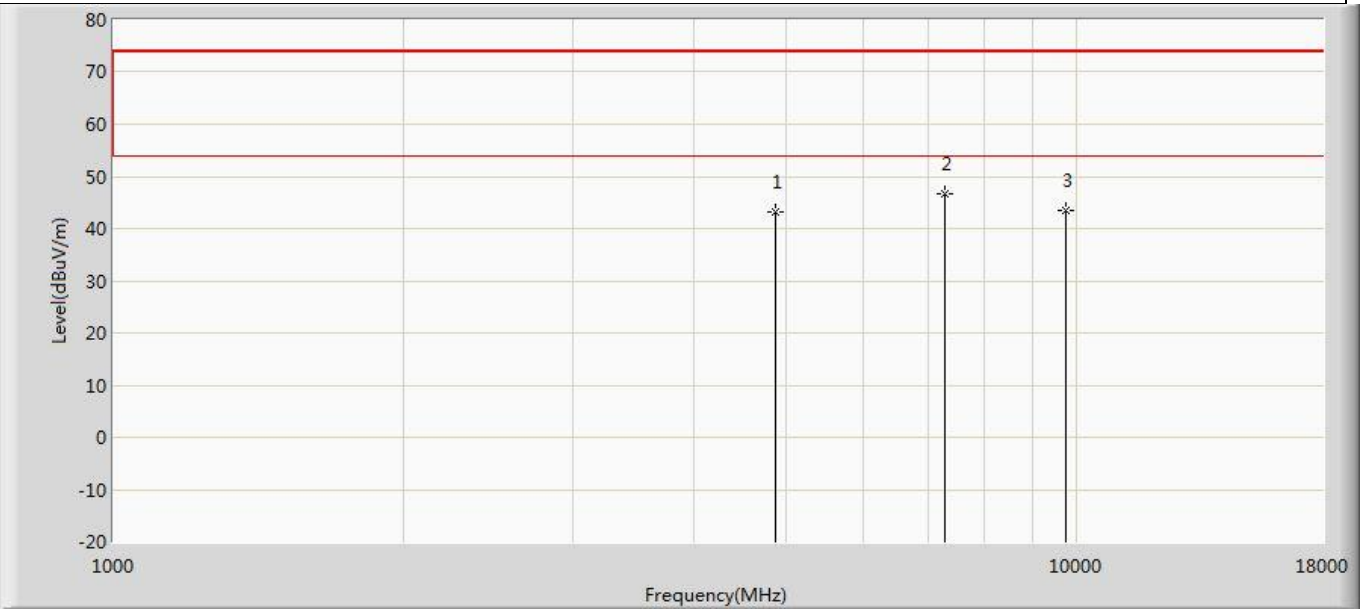
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	44.299	50.195	-29.701	74.000	-5.896	PK
2	*	7230.500	51.069	53.998	-22.931	74.000	-2.930	PK
3		9648.000	40.934	42.429	-33.066	74.000	-1.495	PK

Profile: 20A0396R	Page No.: 38
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



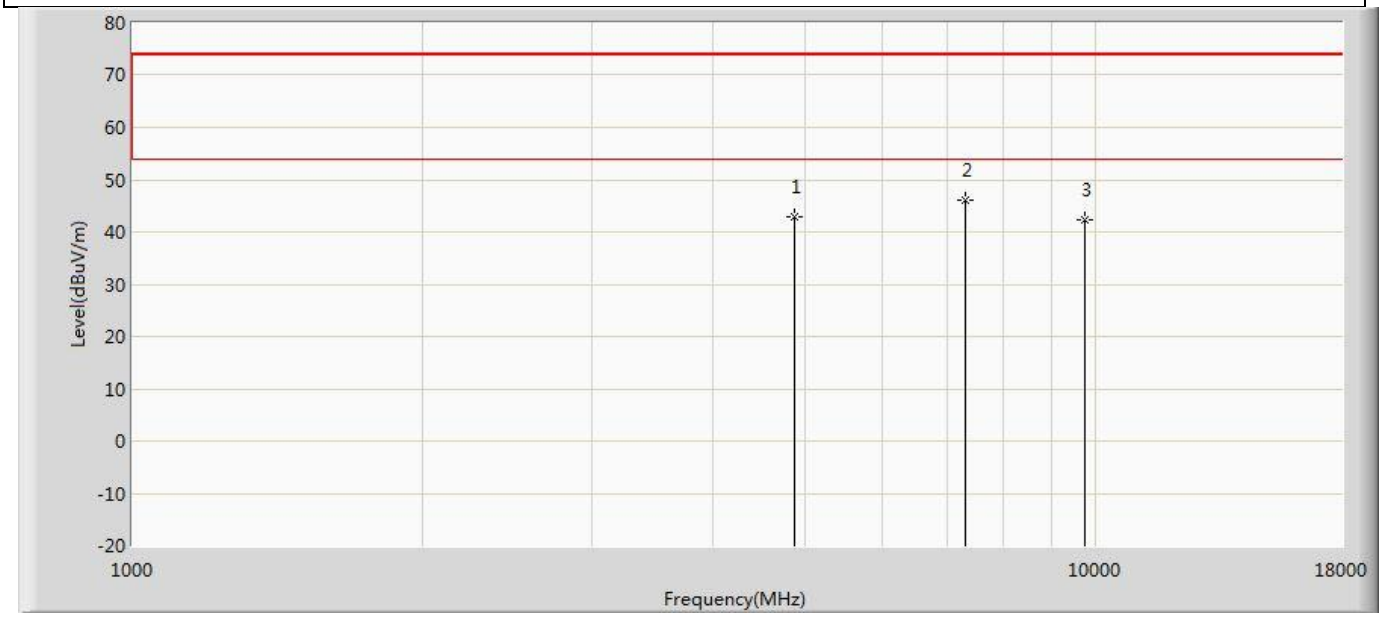
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	40.786	46.682	-33.214	74.000	-5.896	PK
2	*	7230.500	47.147	50.076	-26.853	74.000	-2.930	PK
3		9648.000	39.965	41.460	-34.035	74.000	-1.495	PK

Profile: 20A0396R	Page No.: 40
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11n(20MHz)	



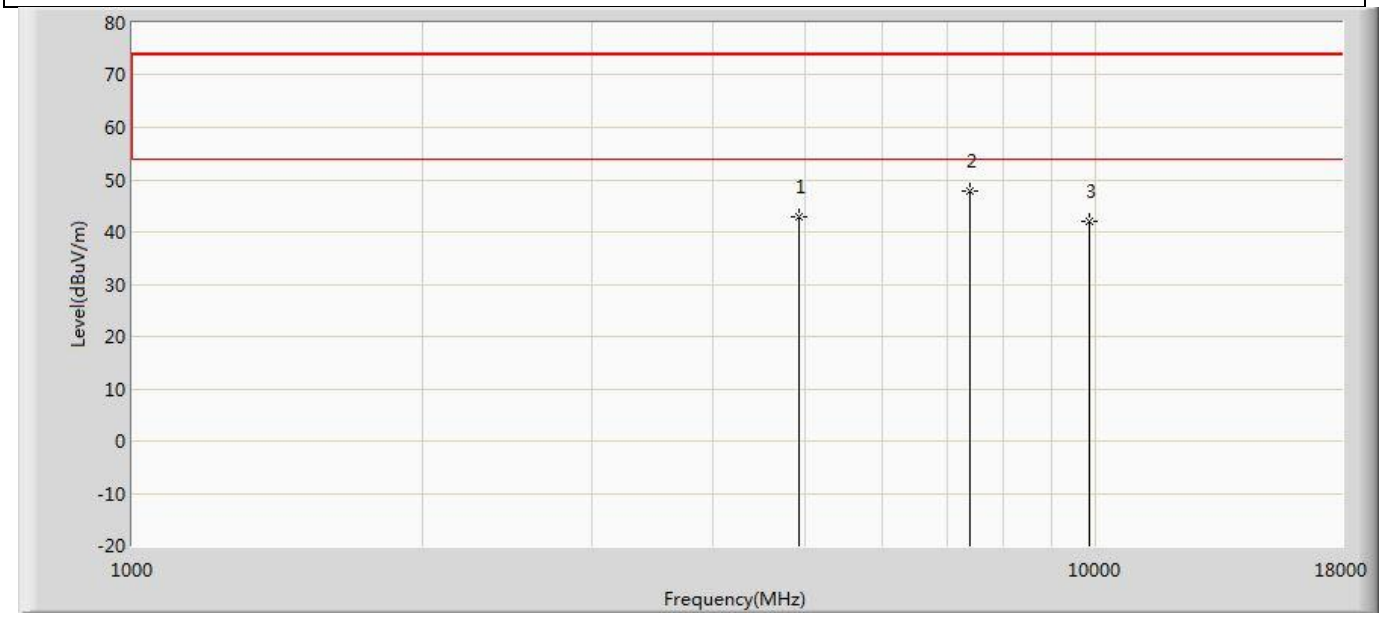
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	43.103	48.982	-30.897	74.000	-5.879	PK
2	*	7307.000	46.803	49.851	-27.197	74.000	-3.048	PK
3		9748.000	43.407	44.501	-30.593	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 41
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11n(20MHz)	



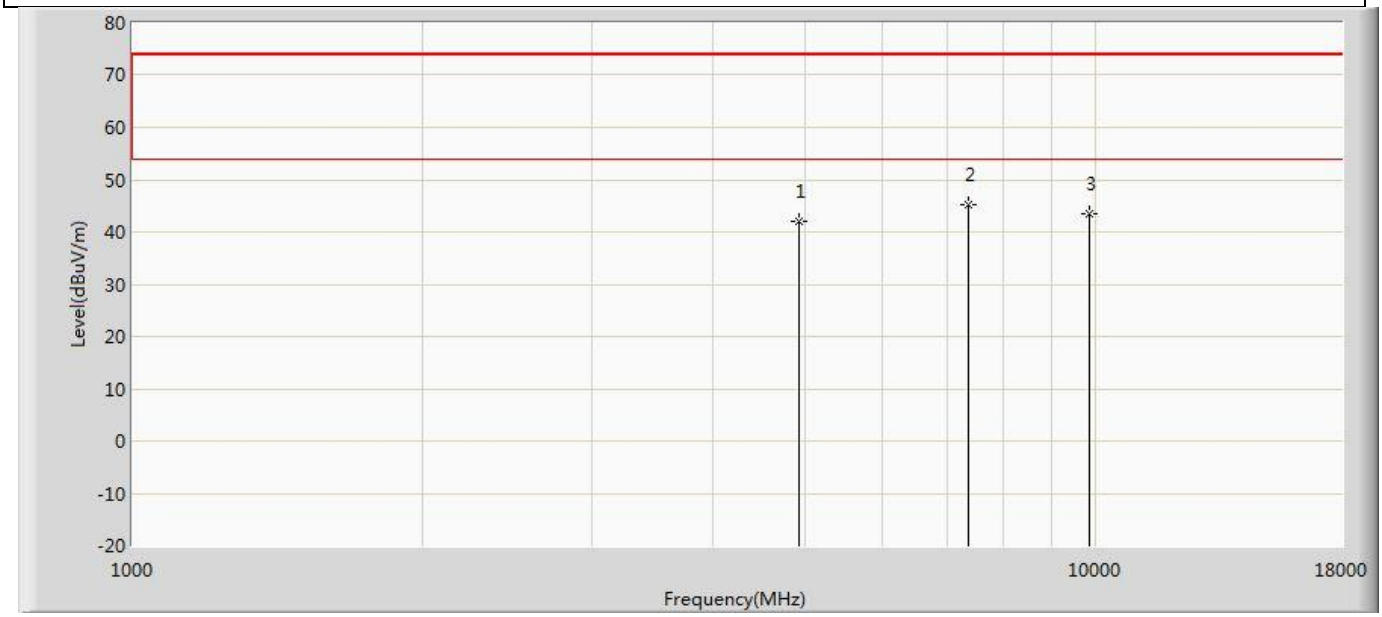
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	42.961	48.840	-31.039	74.000	-5.879	PK
2	*	7315.500	46.147	49.206	-27.853	74.000	-3.059	PK
3		9748.000	42.463	43.557	-31.537	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 42
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



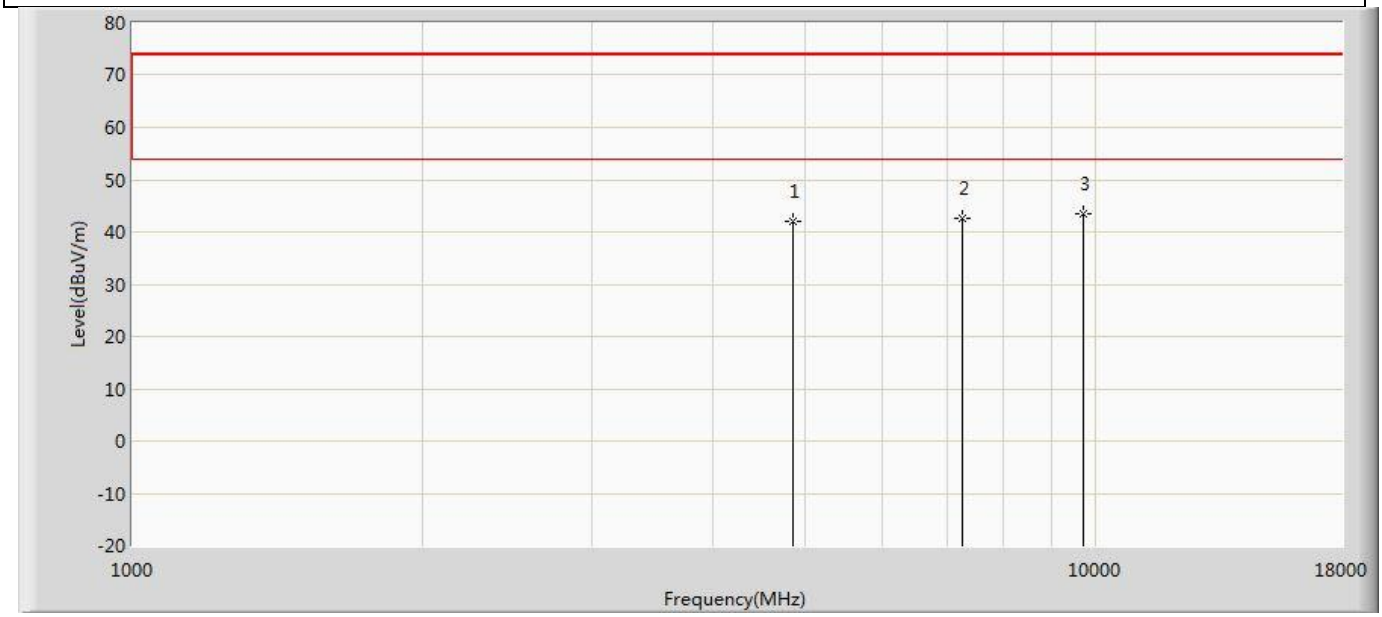
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	42.901	48.828	-31.099	74.000	-5.927	PK
2	*	7392.000	47.932	50.884	-26.068	74.000	-2.951	PK
3		9848.000	42.068	42.752	-31.932	74.000	-0.684	PK

Profile: 20A0396R	Page No.: 43
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 23:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



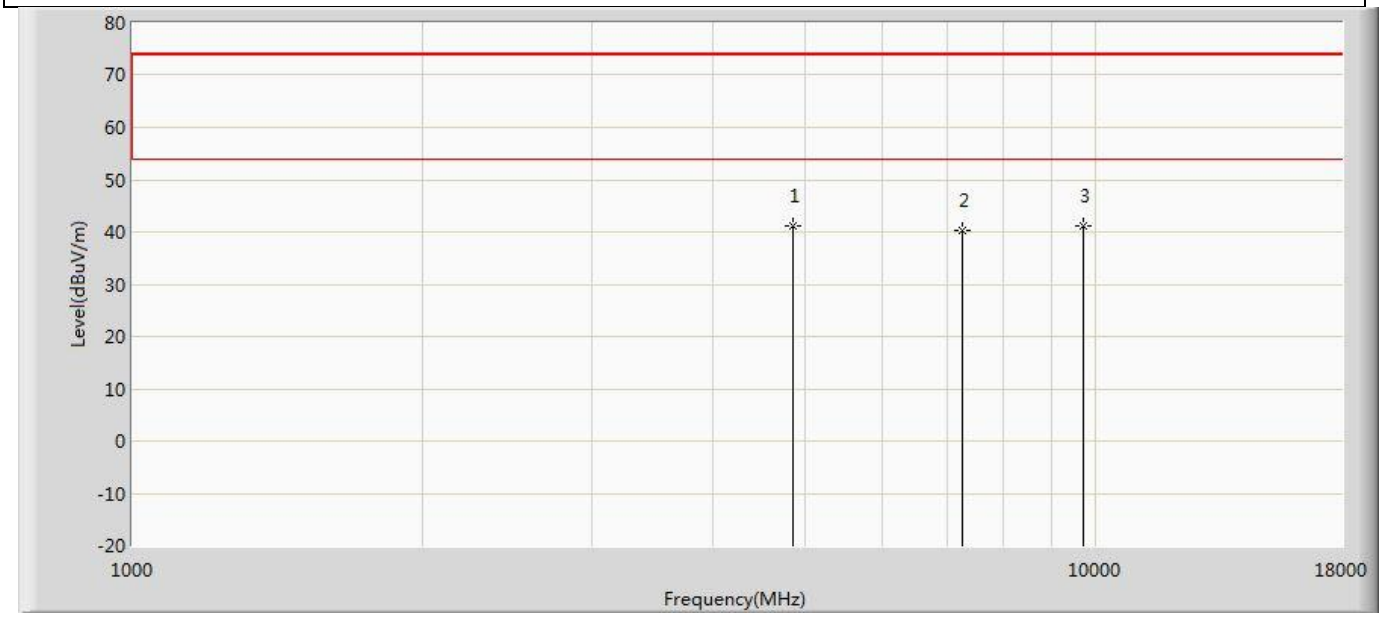
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.951	47.878	-32.049	74.000	-5.927	PK
2	*	7383.500	45.120	48.189	-28.880	74.000	-3.068	PK
3		9848.000	43.478	44.162	-30.522	74.000	-0.684	PK

Profile: 20A0396R	Page No.: 56
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 11:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



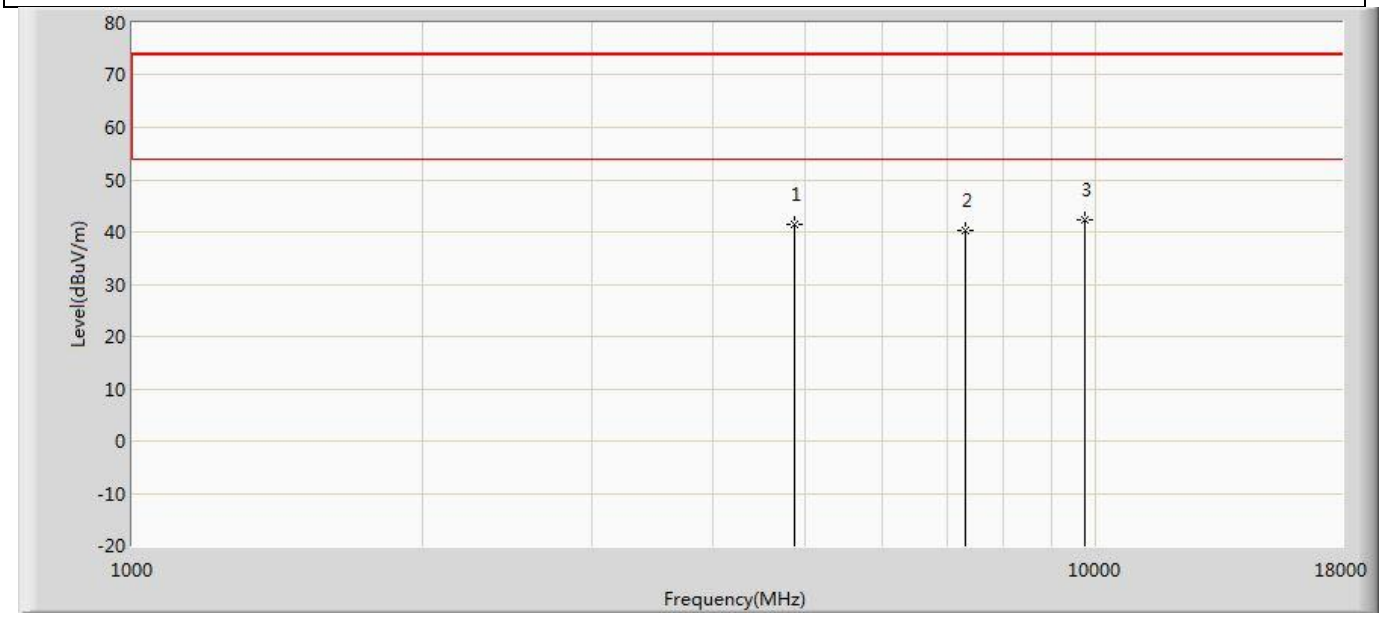
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	42.053	47.955	-31.947	74.000	-5.903	PK
2		7266.000	42.747	45.727	-31.253	74.000	-2.980	PK
3	*	9688.000	43.393	44.303	-30.607	74.000	-0.910	PK

Profile: 20A0396R	Page No.: 57
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 11:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



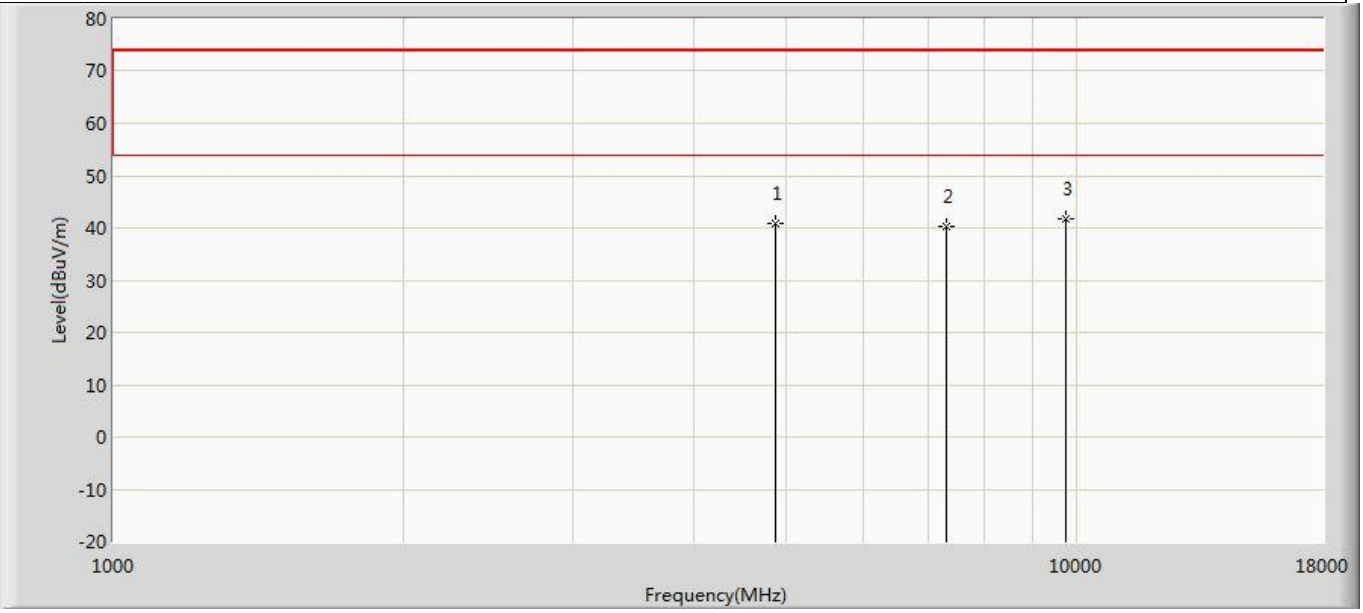
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4844.000	41.255	47.157	-32.745	74.000	-5.903	PK
2		7266.000	40.433	43.413	-33.567	74.000	-2.980	PK
3		9688.000	41.098	42.008	-32.902	74.000	-0.910	PK

Profile: 20A0396R	Page No.: 58
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 11:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11n(40MHz)	



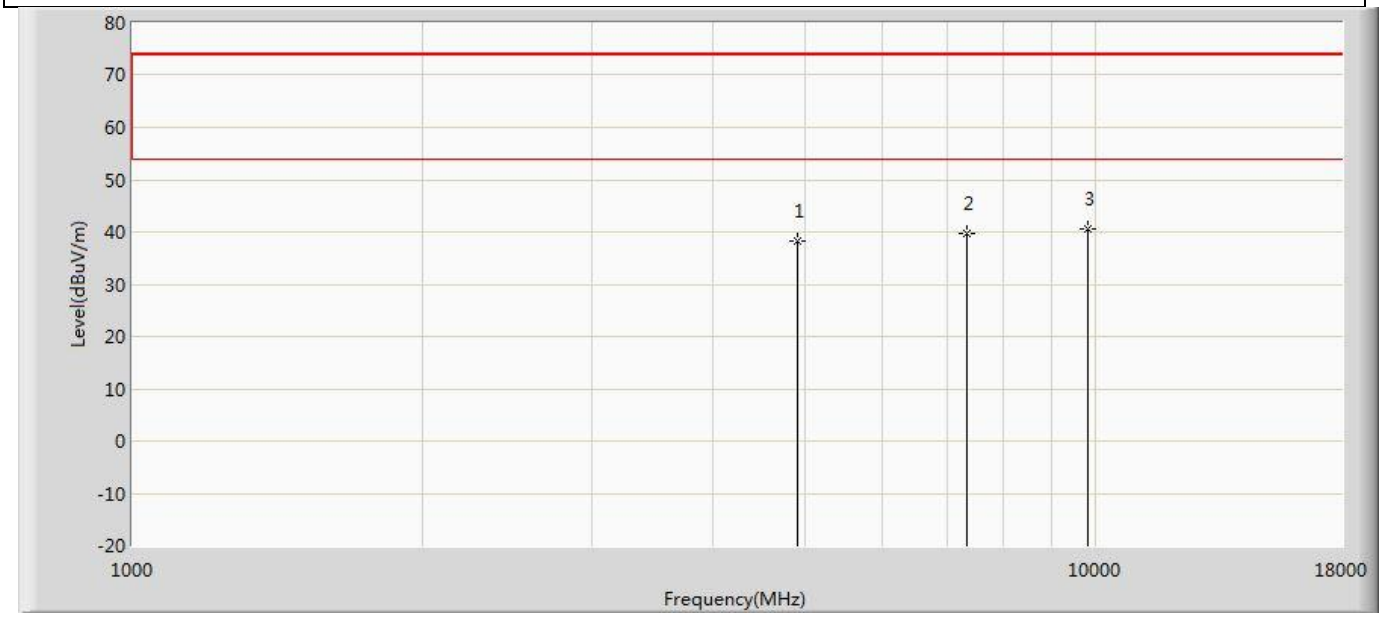
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.502	47.381	-32.498	74.000	-5.879	PK
2		7311.000	40.345	43.398	-33.655	74.000	-3.054	PK
3	*	9748.000	42.333	43.427	-31.667	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 59
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 11:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11n(40MHz)	



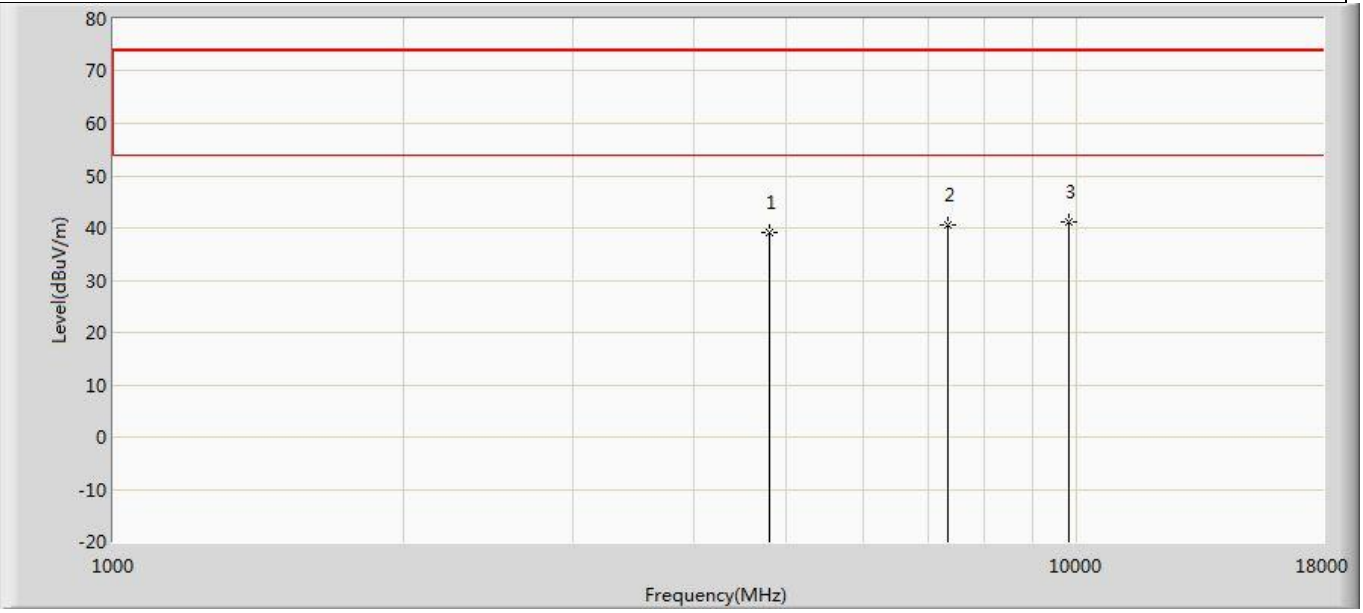
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.838	46.717	-33.162	74.000	-5.879	PK
2		7311.000	40.198	43.251	-33.802	74.000	-3.054	PK
3	*	9748.000	41.867	42.961	-32.133	74.000	-1.095	PK

Profile: 20A0396R	Page No.: 60
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 11:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	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		4904.000	38.286	44.181	-35.714	74.000	-5.896	PK
2		7356.000	39.748	42.701	-34.252	74.000	-2.953	PK
3	*	9808.000	40.549	41.456	-33.451	74.000	-0.907	PK

Profile: 20A0396R	Page No.: 61
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 11:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	

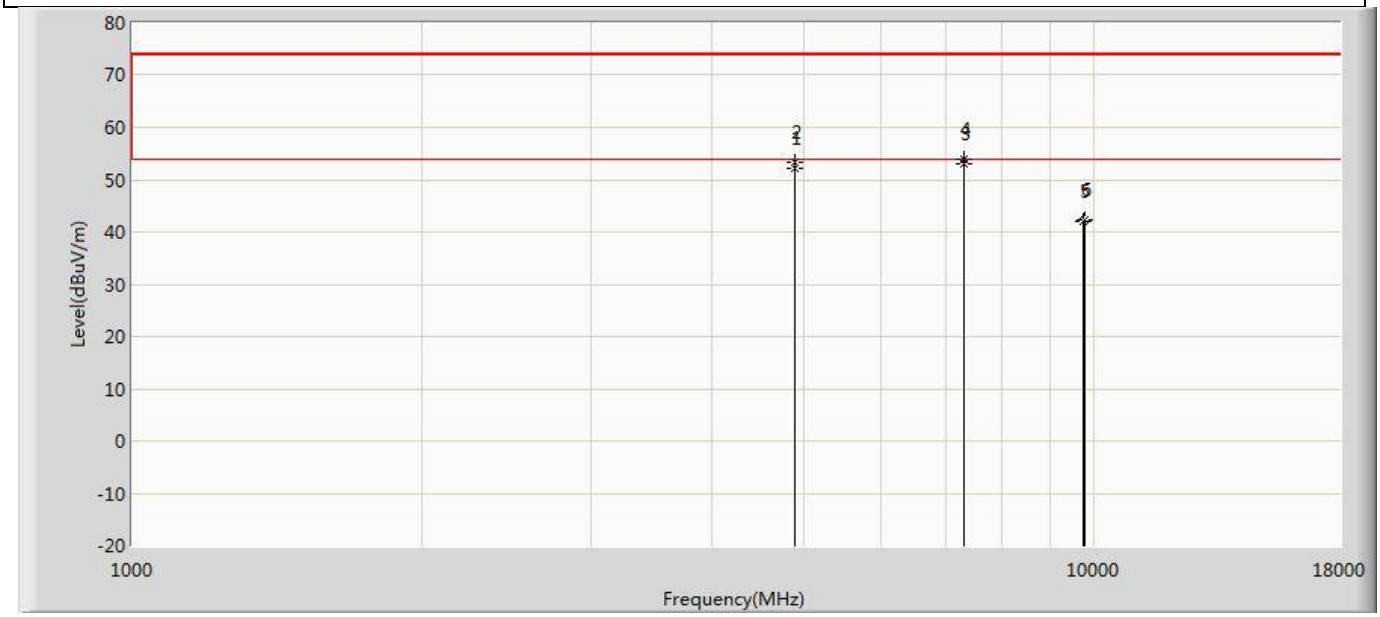


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4804.000	39.248	45.329	-34.752	74.000	-6.081	PK
2		7356.000	40.593	43.546	-33.407	74.000	-2.953	PK
3	*	9808.000	41.184	42.091	-32.816	74.000	-0.907	PK

Note:
1. Measured Level = Reading Level + Factor.
2. The test frequency range 9kHz~30MHz, the worst case is 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.

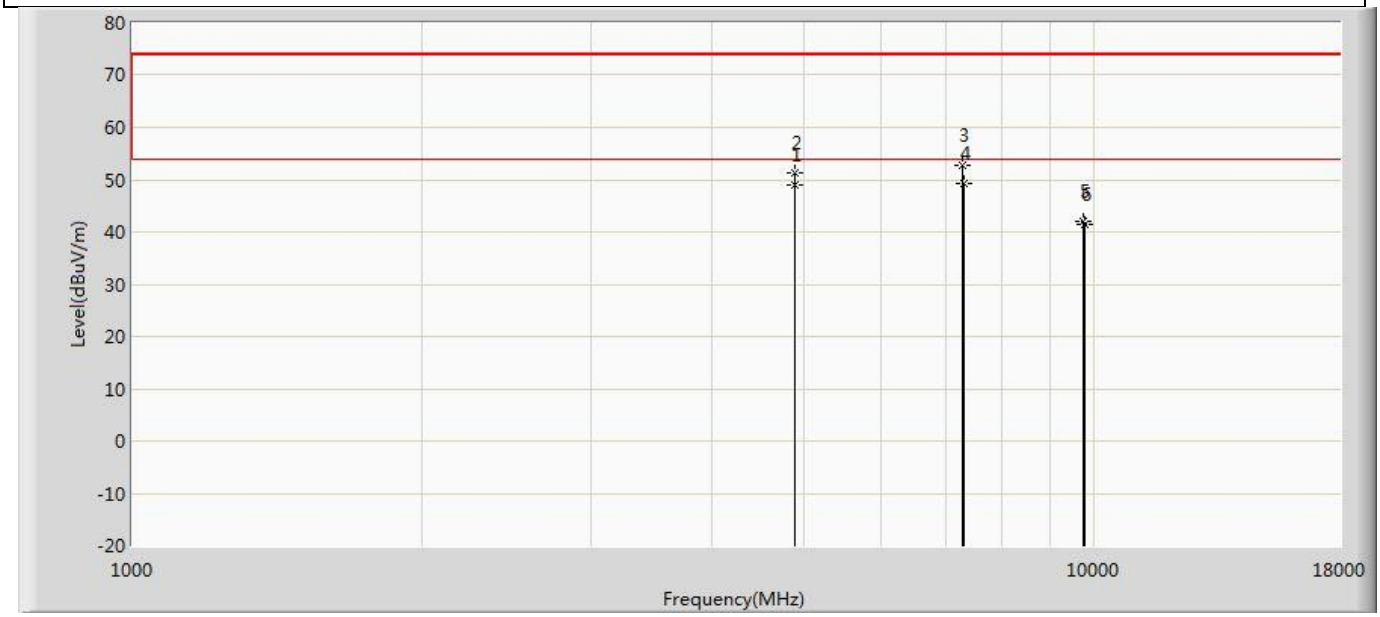
The worst case of simultaneous transmission:

Profile: 20A0396R	Page No.: 3
Engineer: YULIU	
Site: AC5	Time: 2020/12/01 - 18:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Simultaneous transmission with WIFI + BT	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	52.248	58.107	-21.752	74.000	-5.859	PK
2		4884.500	53.370	59.258	-20.630	74.000	-5.888	PK
3		7315.500	53.055	56.114	-20.945	74.000	-3.059	PK
4	*	7324.000	53.916	56.985	-20.084	74.000	-3.069	PK
5		9748.000	42.135	43.229	-31.865	74.000	-1.095	PK
6		9768.000	42.337	43.102	-31.663	74.000	-0.765	PK

Profile: 20A0396R	Page No.: 4
Engineer: YULIU	
Site: AC5	Time: 2020/12/01 - 18:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Simultaneous transmission with WIFI + BT	

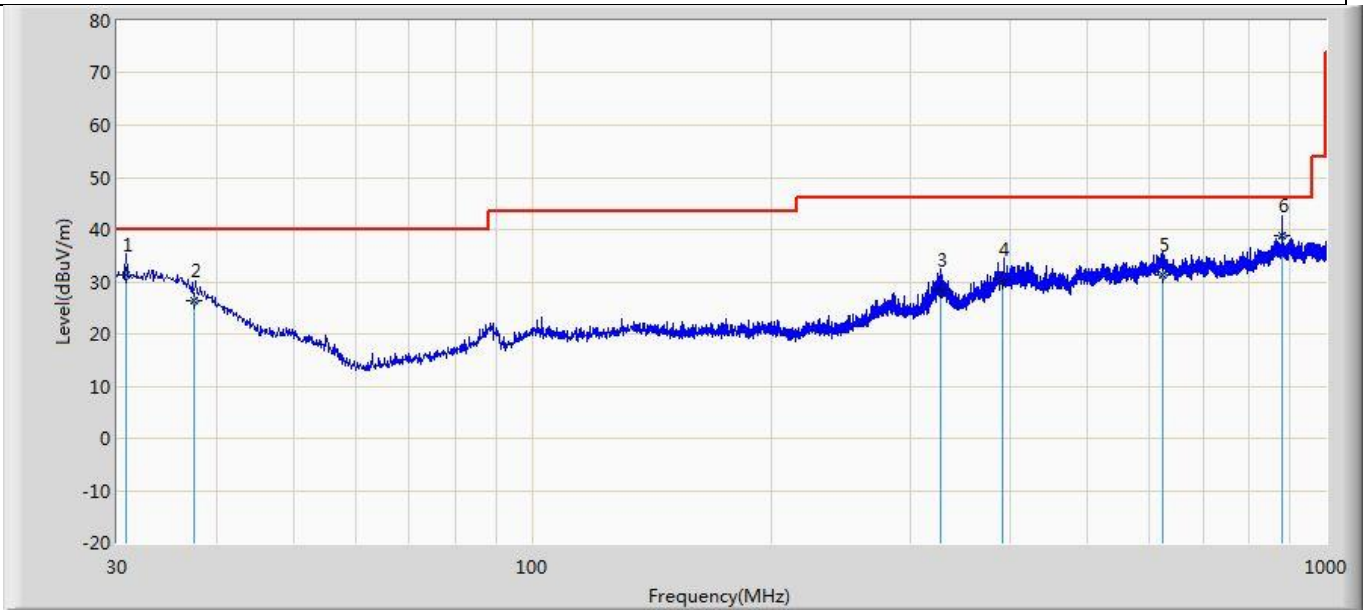


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	49.119	54.978	-24.881	74.000	-5.859	PK
2		4884.500	51.231	57.119	-22.769	74.000	-5.888	PK
3	*	7307.000	52.897	55.945	-21.103	74.000	-3.048	PK
4		7324.000	49.132	52.201	-24.868	74.000	-3.069	PK
5		9748.000	41.904	42.998	-32.096	74.000	-1.095	PK
6		9768.000	41.438	42.203	-32.562	74.000	-0.765	PK

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

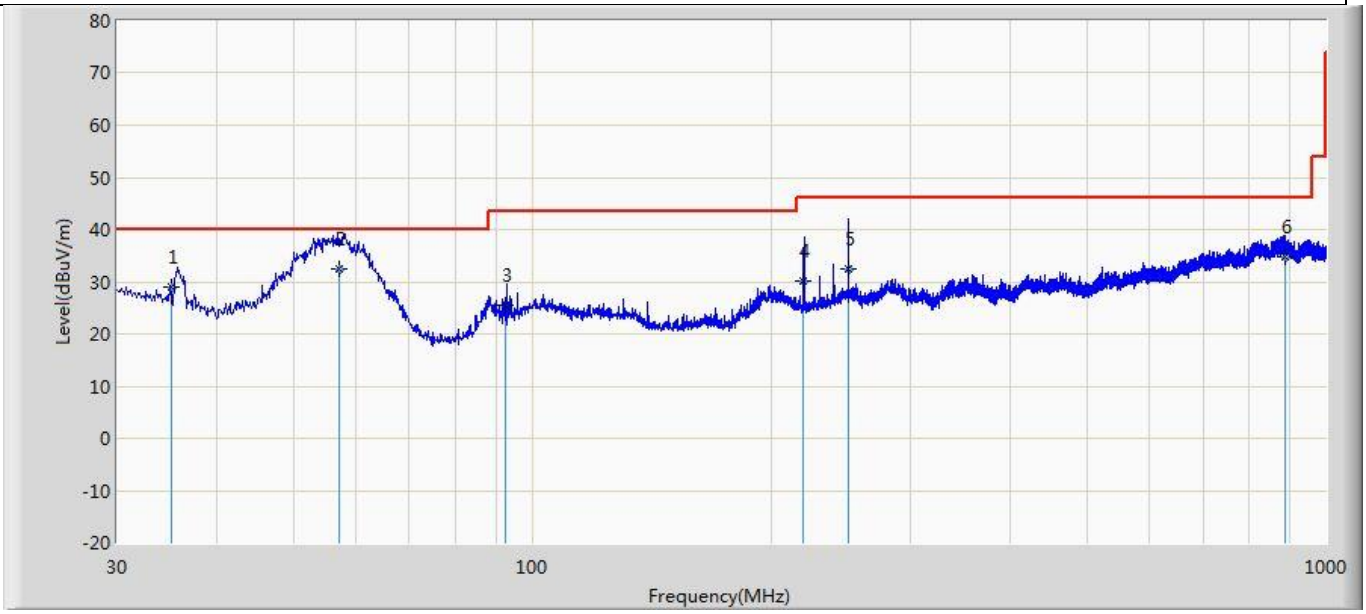
The worst case of Radiated Emission below 1GHz:

Profile: 20A0396R	Page No.: 1
Engineer: Donald	
Site: AC2	Time: 2020/10/22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		30.846	31.259	4.015	-8.741	40.000	20.935	6.309	0.000	100	114	QP
2		37.460	26.428	1.789	-13.572	40.000	18.282	6.357	0.000	100	348	QP
3		327.156	28.317	6.144	-17.683	46.000	14.563	7.610	0.000	100	33	QP
4		392.042	30.438	5.799	-15.562	46.000	16.839	7.800	0.000	100	125	QP
5		622.015	31.441	0.789	-14.559	46.000	22.239	8.413	0.000	100	157	QP
6	*	879.648	38.844	6.456	-7.156	46.000	23.398	8.990	0.000	100	32	QP

Profile: 20A0396R	Page No.: 2
Engineer: Donald	
Site: AC2	Time: 2020/10/22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1	

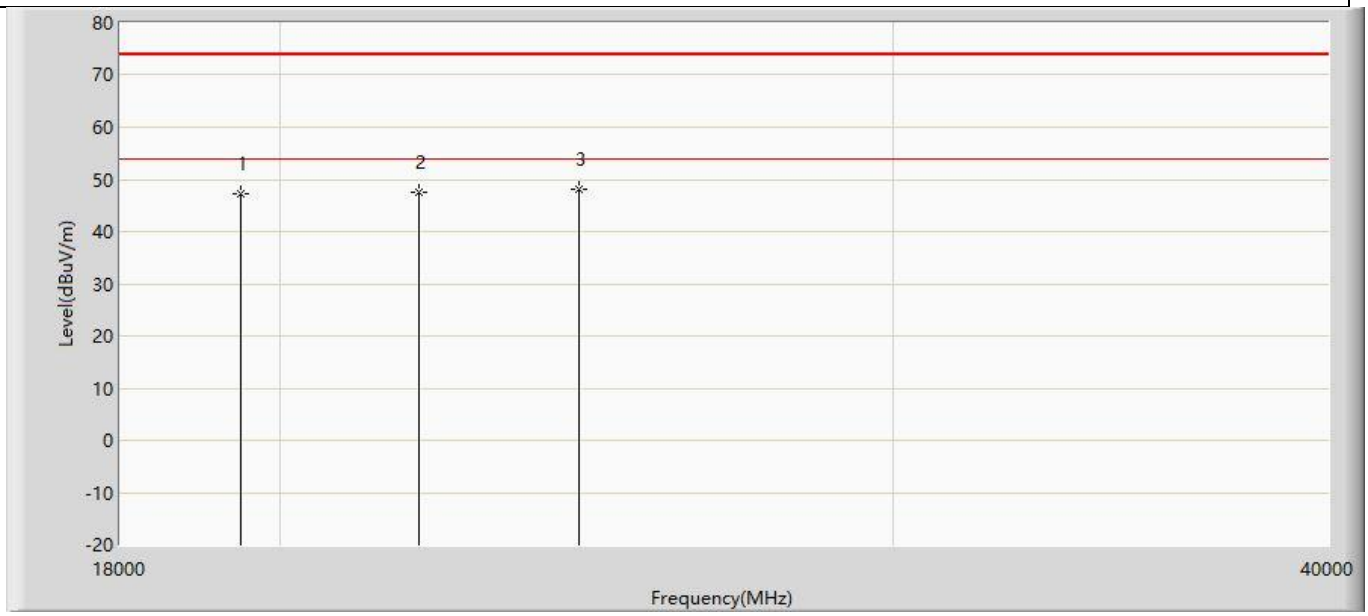


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		35.158	28.977	6.548	-11.023	40.000	16.086	6.343	0.000	100	311	QP
2	*	57.035	32.552	15.700	-7.448	40.000	10.353	6.499	0.000	100	187	QP
3		92.646	25.396	7.041	-18.104	43.500	11.655	6.700	0.000	100	144	QP
4		219.460	30.037	8.145	-15.963	46.000	14.649	7.243	0.000	100	116	QP
5		250.011	32.585	8.145	-13.415	46.000	17.090	7.350	0.000	100	16	QP
6		888.186	34.847	1.790	-11.153	46.000	24.047	9.010	0.000	100	169	QP

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

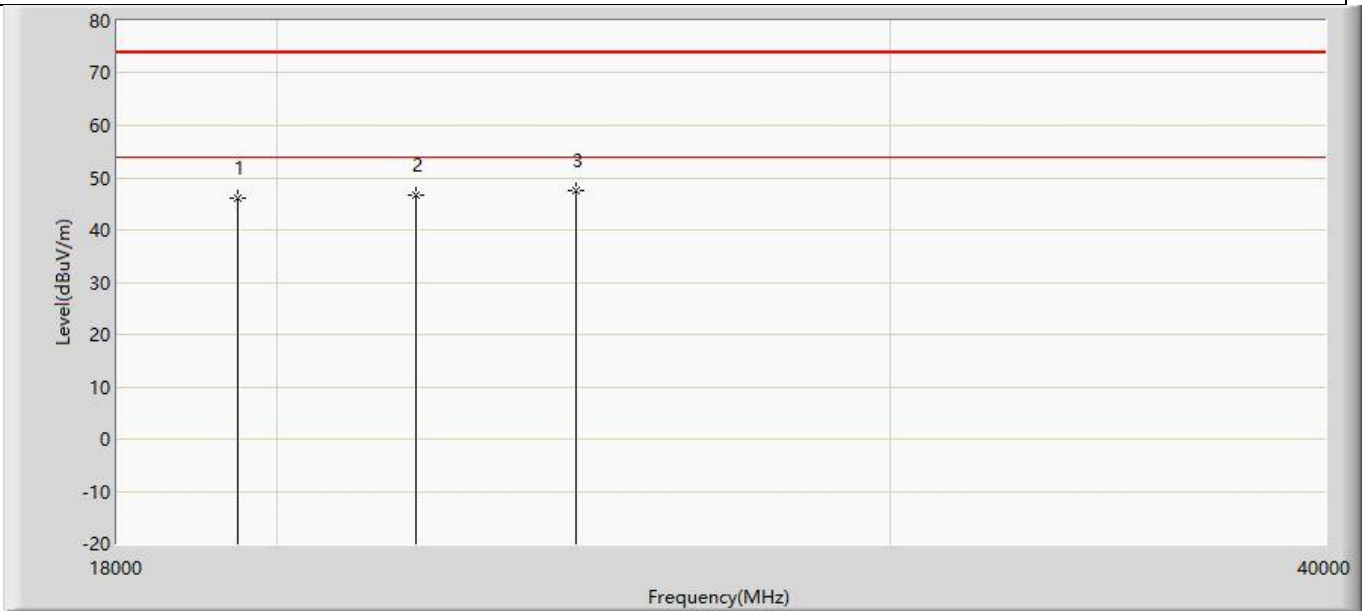
The worst case of Radiated Emission Above 18GHz:

Profile: 20A0396R	Page No.: 9
Engineer: Lynee	
Site: AC5	Time: 2020/11/10 - 16:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	47.137	52.921	-26.863	74.000	-5.784	PK
2		21933.000	47.635	51.333	-26.365	74.000	-3.697	PK
3	*	24370.000	48.185	50.349	-25.815	74.000	-2.164	PK

Profile: 20A0396R	Page No.: 10
Engineer: Lynee	
Site: AC5	Time: 2020/11/10 - 16:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9170_294(18-40GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		19496.000	46.227	52.011	-27.773	74.000	-5.784	PK
2		21933.000	46.706	50.404	-27.294	74.000	-3.697	PK
3	*	24370.000	47.525	49.689	-26.475	74.000	-2.164	PK

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

4.3 Emissions in non-restricted frequency band	VERDICT: PASS

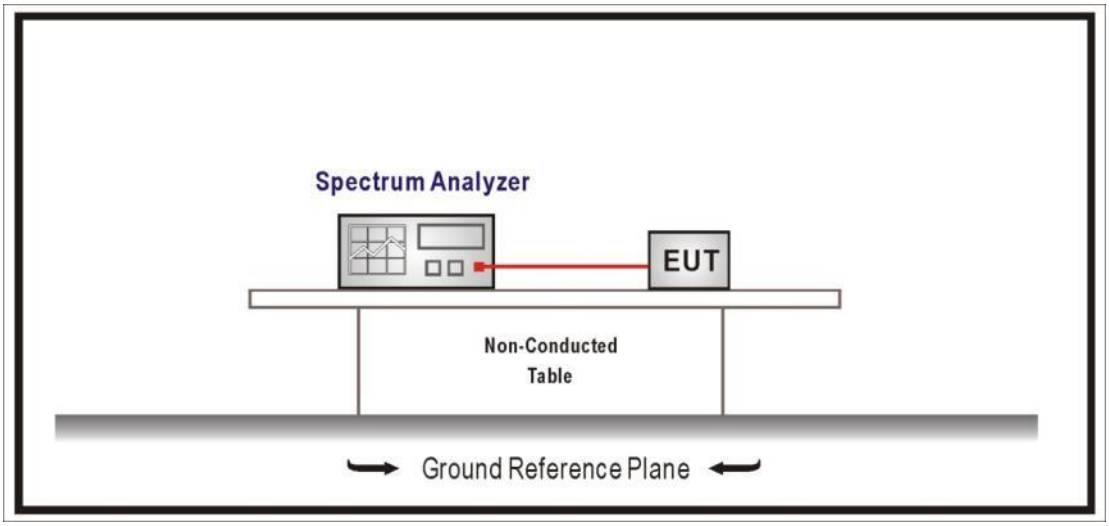
4.3.1 Limit

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

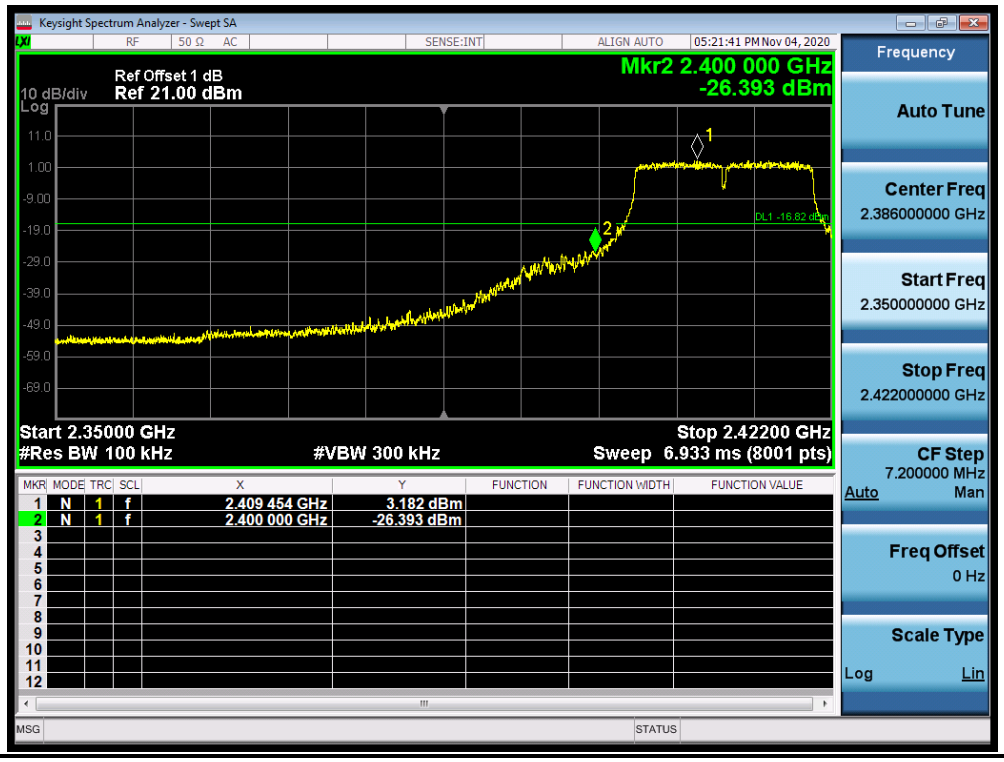
References Rule			Chapter	Description
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10	11.11.1	General
	☒	ANSI C63.10	11.11.2	Reference level measurement
	☒	ANSI C63.10	11.11.3	Emission level measurement

4.3.4 Test Data

Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	1	2412	10.228	2400.000	-26.884	37.112	⩾20	Pass
	11	2462	10.536	2540.116	-52.810	63.346	⩾20	Pass
2	1	2412	3.182	2400.000	-26.393	29.575	⩾20	Pass
	11	2462	2.730	2500.000	-50.823	53.553	⩾20	Pass
3	1	2412	1.764	2400.000	-29.574	31.338	⩾20	Pass
	11	2462	2.166	2500.000	-51.385	53.551	⩾20	Pass
4	3	2422	-1.442	2393.447	-32.972	31.53	⩾20	Pass
	9	2452	-1.288	2500.000	-45.535	44.247	⩾20	Pass

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

Mode 2 CH01(2412MHz)



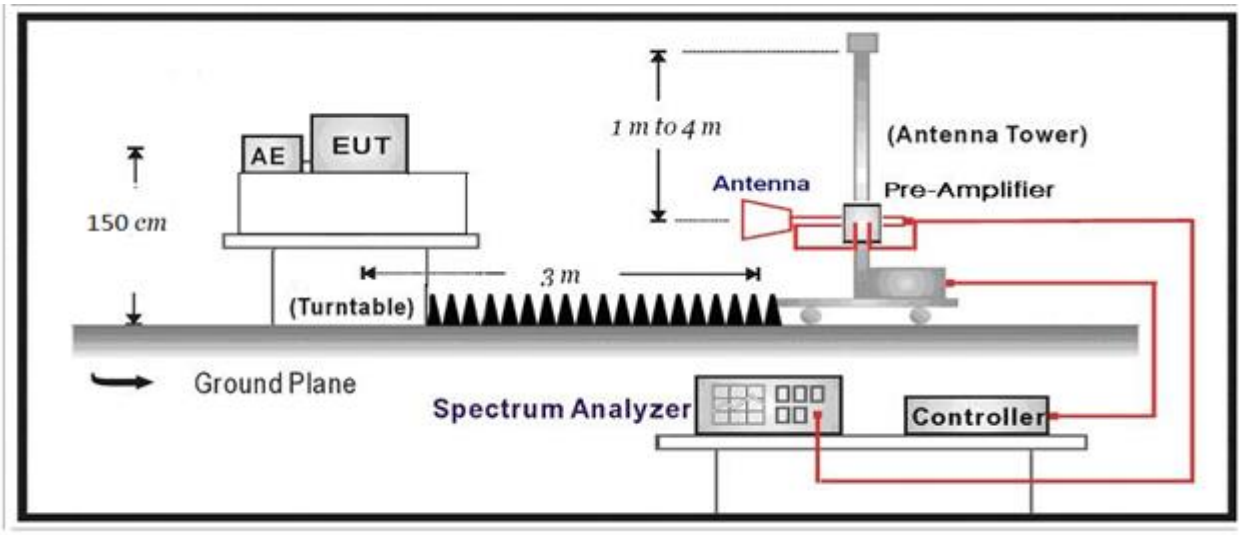
4.4 Radiated Emission Band Edge	VERDICT: PASS

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 2483.5-2500	PK	74	1	3
	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				

4.4.2 Test Setup

Above 1GHz Test Setup:



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

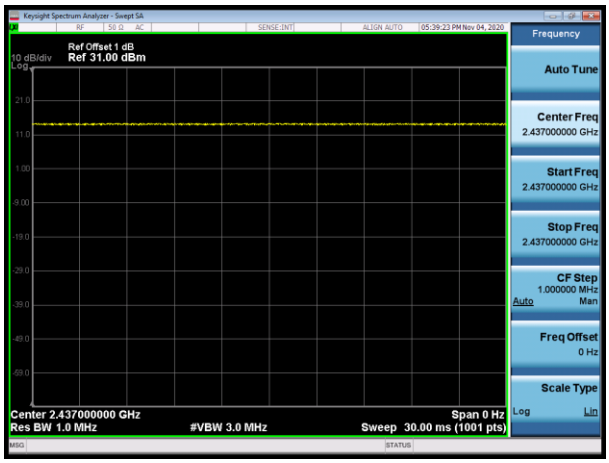
4.4.4 Test Data

Test Mode	Tx On (ms)	VBW (Hz)	Tx On + Tx Off (ms)	Duty Cycle
1	--	10	--	100%
2	--	10	--	100%
3	--	10	--	100%
4	--	10	--	100%

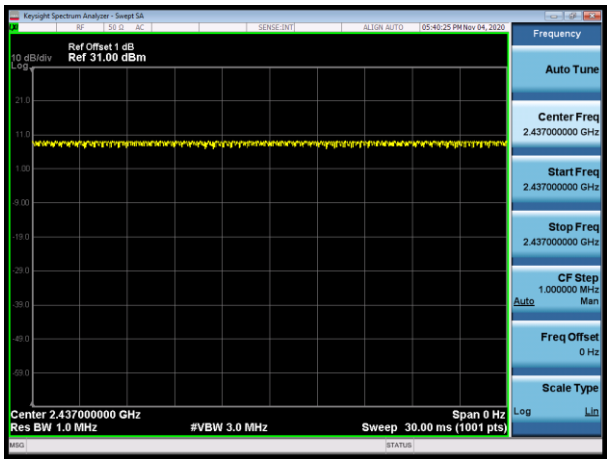
Note 1: T means the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

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

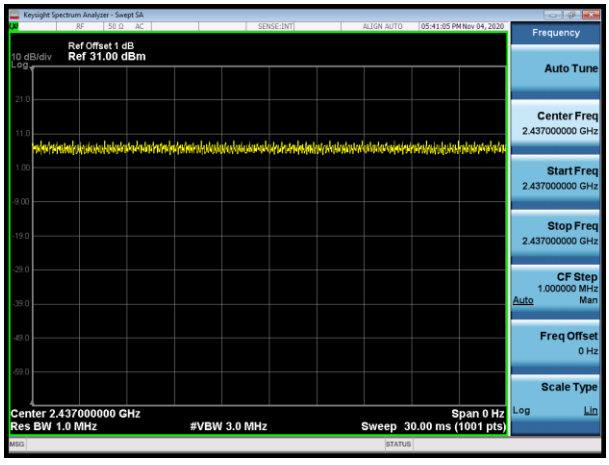
802.11b



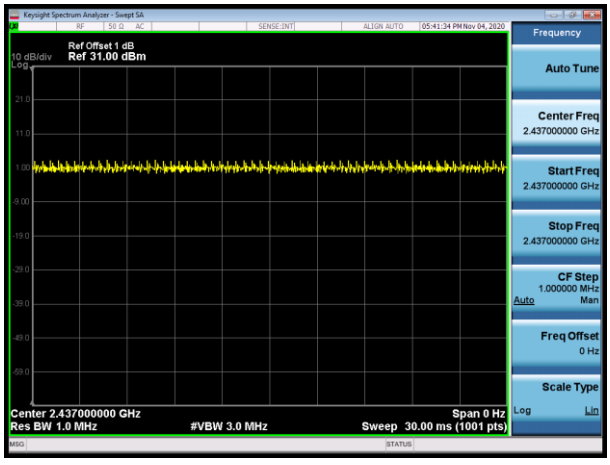
802.11g



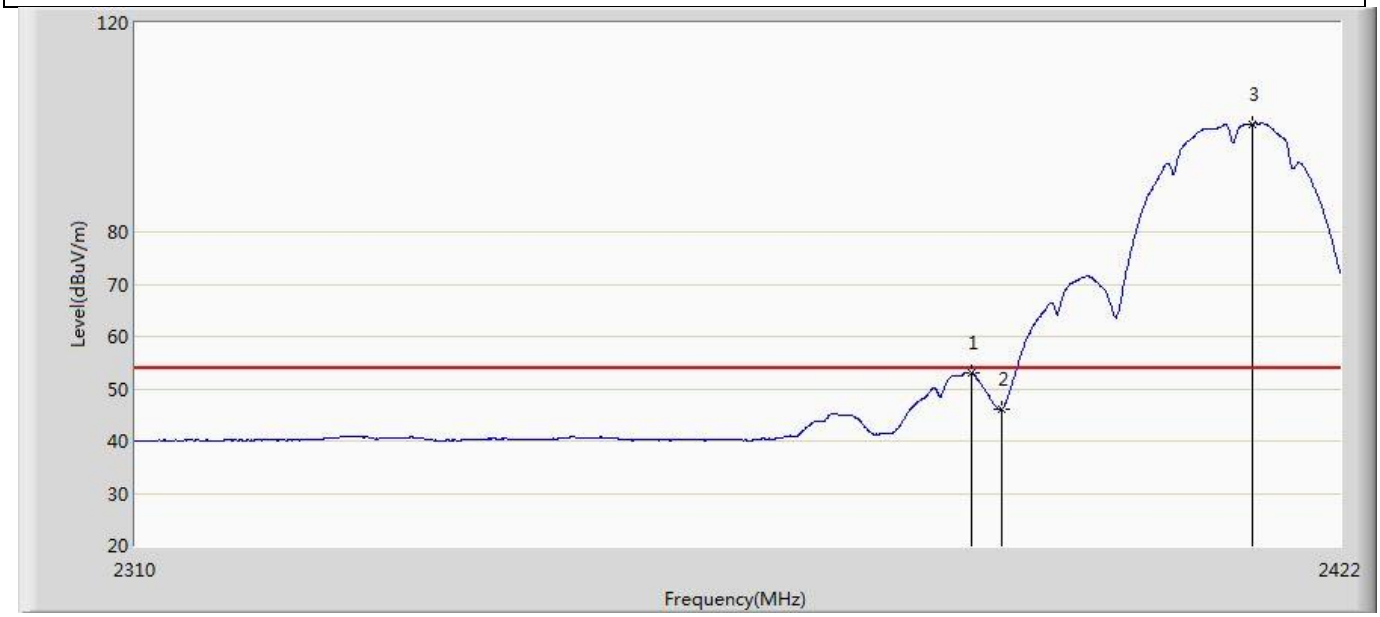
802.11n(20MHz)



802.11n(40MHz)

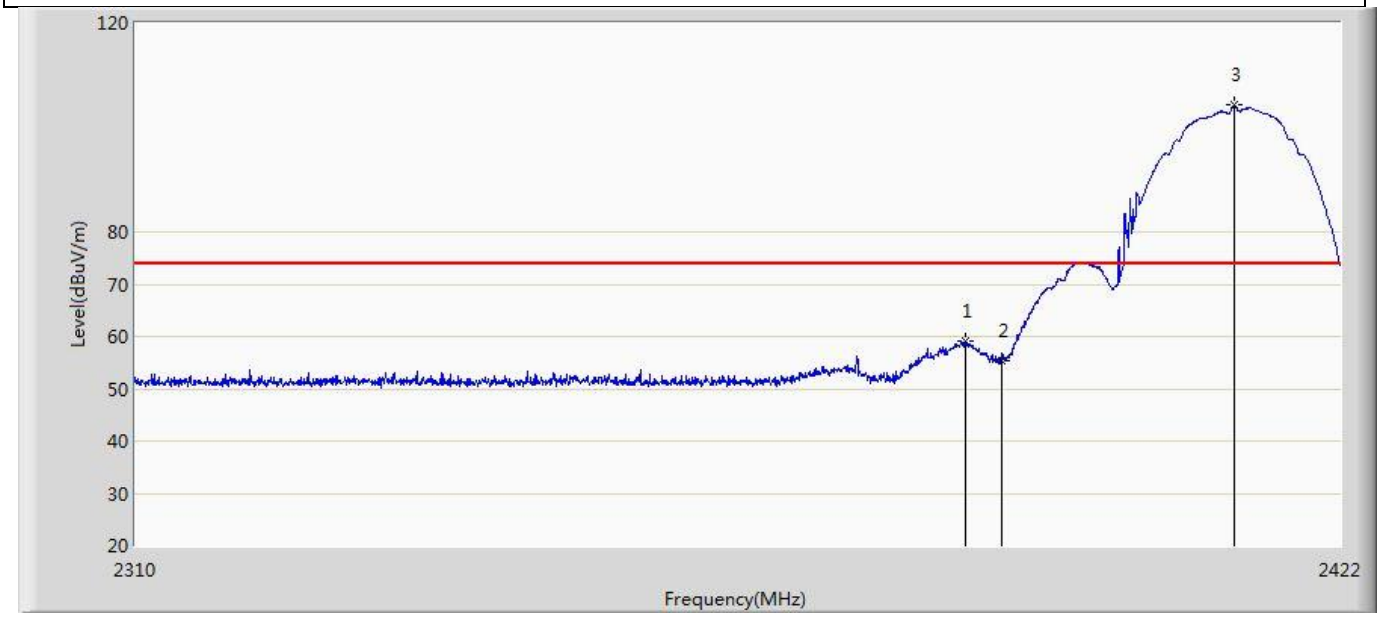


Profile: 20A0396R	Page No.: 1
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 19:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



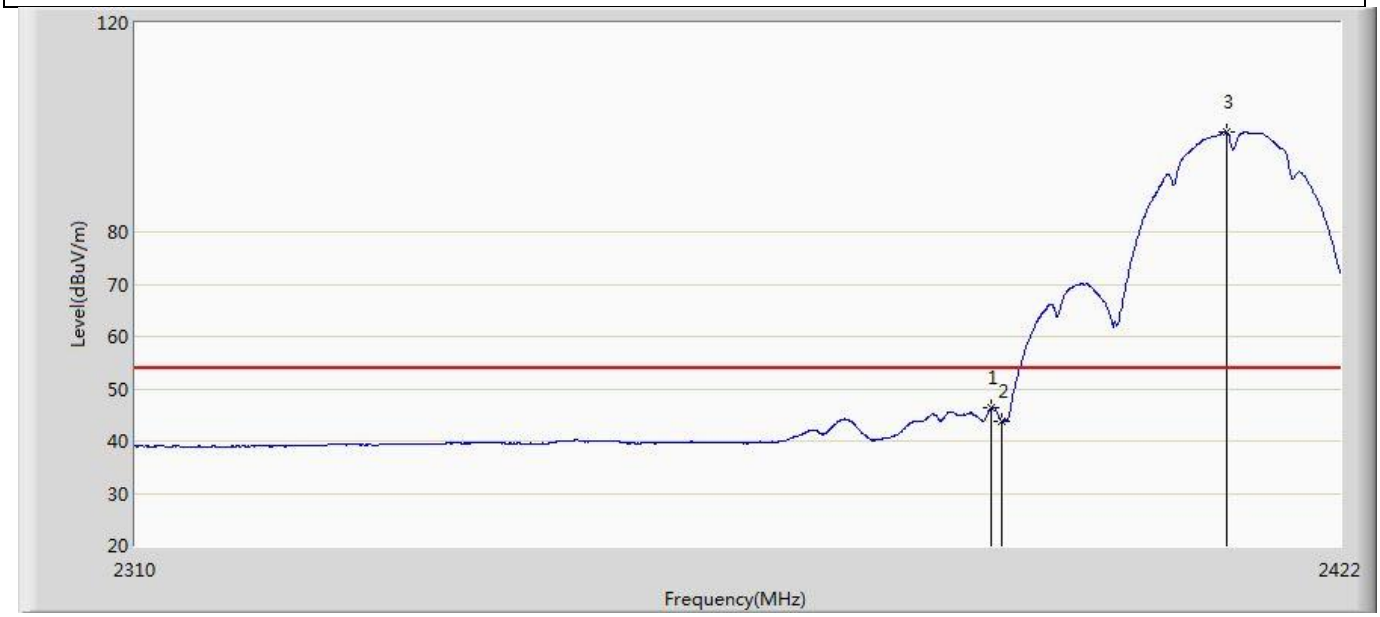
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.224	53.114	17.658	-0.886	54.000	35.456	AV
2		2390.000	46.143	10.686	-7.857	54.000	35.458	AV
3	*	2413.712	100.631	65.144	46.631	54.000	35.487	AV

Profile: 20A0396R	Page No.: 2
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 19:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



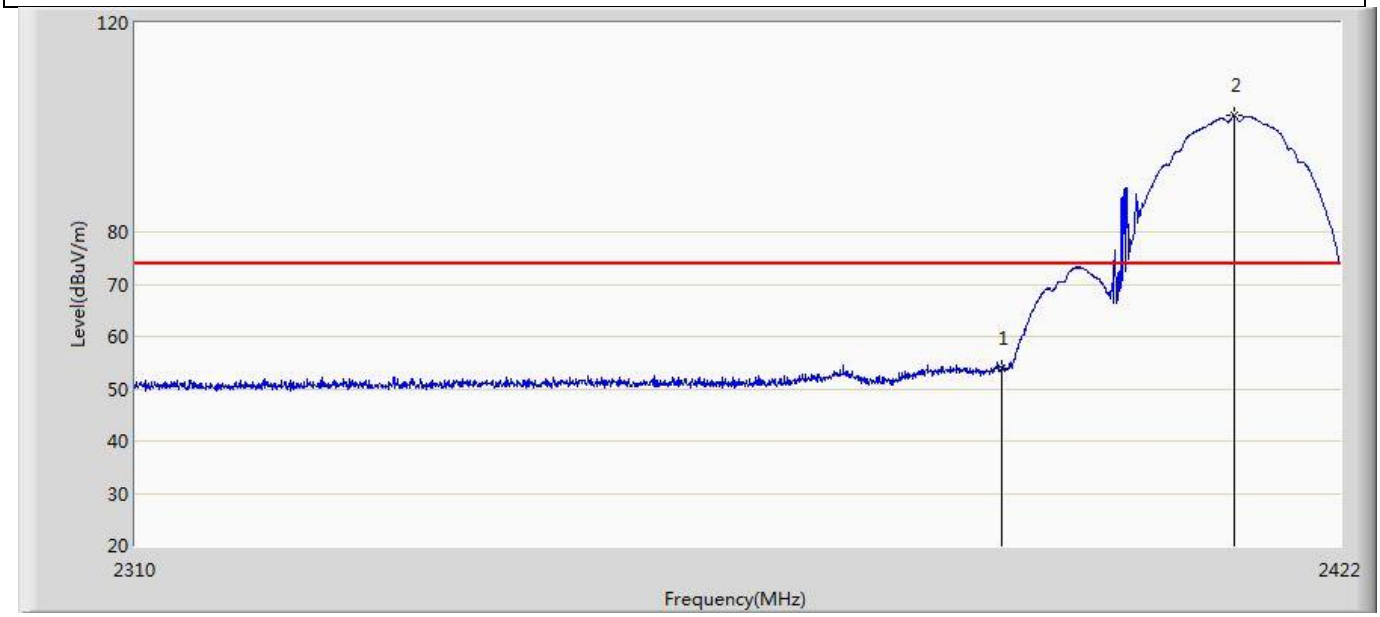
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2386.664	59.171	23.716	-14.829	74.000	35.455	PK
2		2390.000	55.372	19.915	-18.628	74.000	35.458	PK
3	*	2411.920	104.333	68.850	30.333	74.000	35.483	PK

Profile: 20A0396R	Page No.: 3
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 19:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



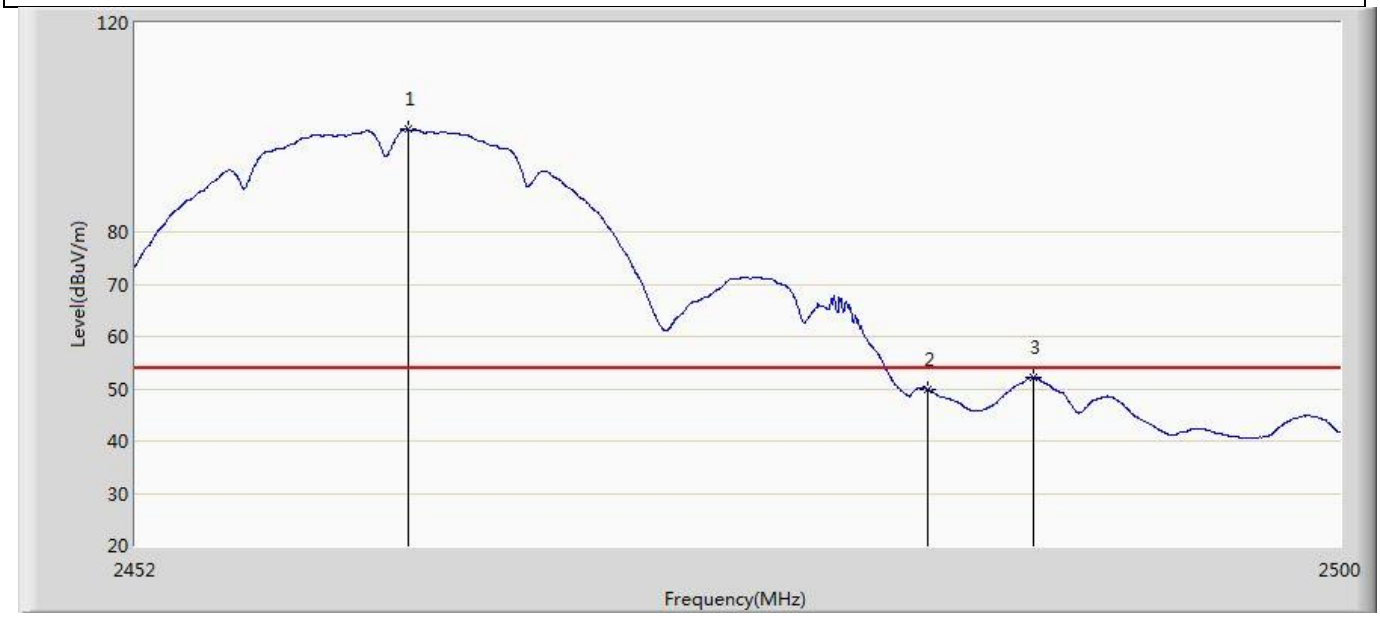
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.016	46.355	10.898	-7.645	54.000	35.457	AV
2		2390.000	43.857	8.400	-10.143	54.000	35.458	AV
3	*	2411.192	99.148	63.667	45.148	54.000	35.481	AV

Profile: 20A0396R	Page No.: 4
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 19:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11b	



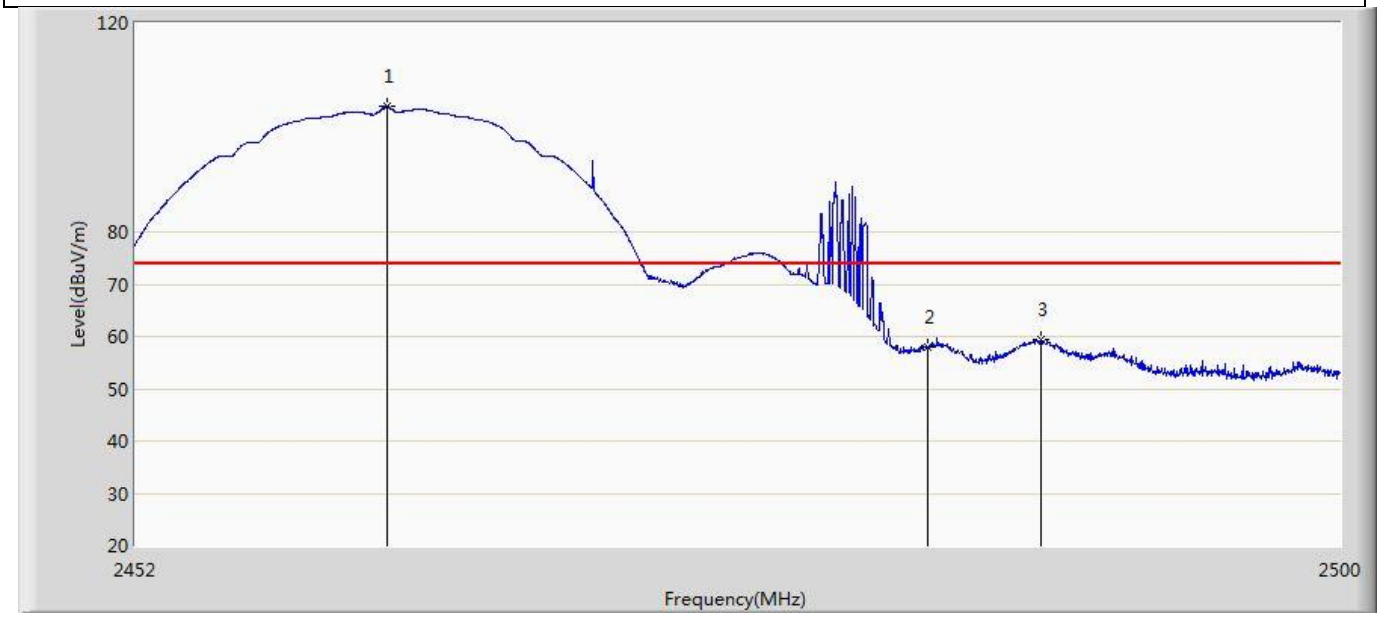
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.913	18.456	-20.087	74.000	35.458	PK
2	*	2411.920	102.255	66.772	28.255	74.000	35.483	PK

Profile: 20A0396R	Page No.: 5
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



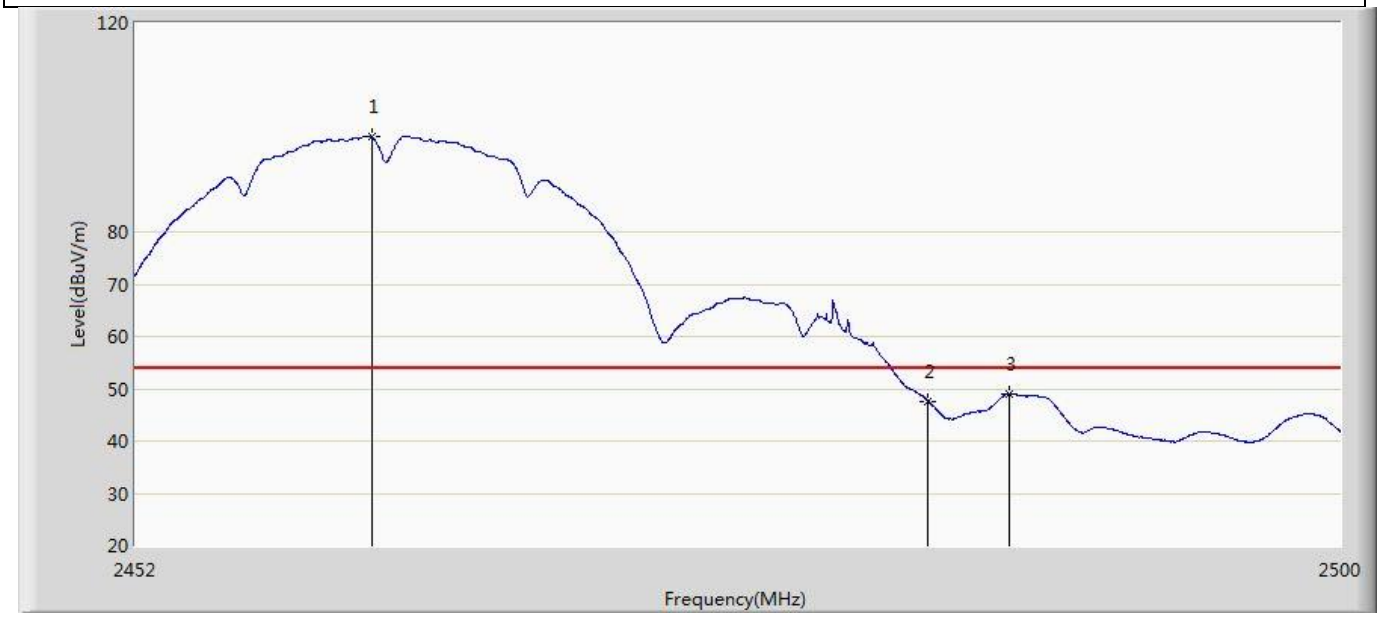
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.776	99.629	64.092	45.629	54.000	35.537	AV
2		2483.500	49.861	14.343	-4.139	54.000	35.517	AV
3		2487.712	52.194	16.652	-1.806	54.000	35.542	AV

Profile: 20A0396R	Page No.: 6
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



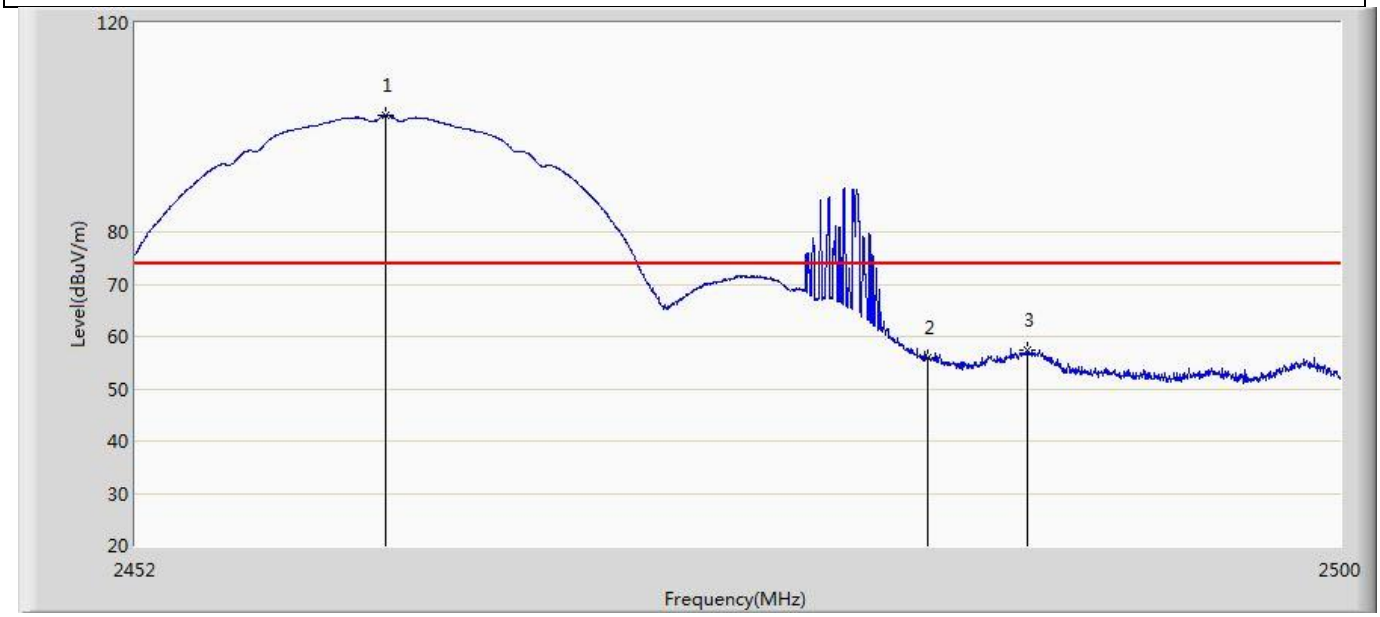
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.960	104.035	68.496	30.035	74.000	35.539	PK
2		2483.500	57.899	22.381	-16.101	74.000	35.517	PK
3		2487.976	59.340	23.797	-14.660	74.000	35.543	PK

Profile: 20A0396R	Page No.: 7
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



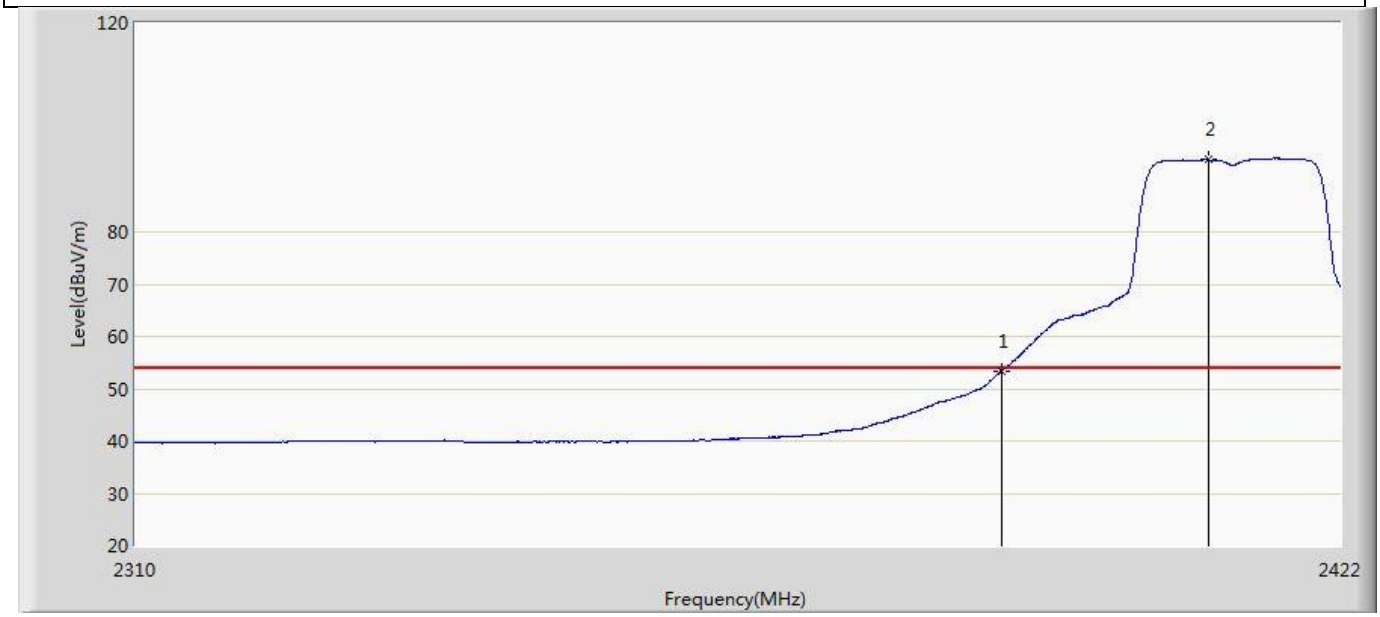
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	98.125	62.588	44.125	54.000	35.537	AV
2		2483.500	47.657	12.139	-6.343	54.000	35.517	AV
3		2486.752	49.047	13.511	-4.953	54.000	35.536	AV

Profile: 20A0396R	Page No.: 8
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11b	



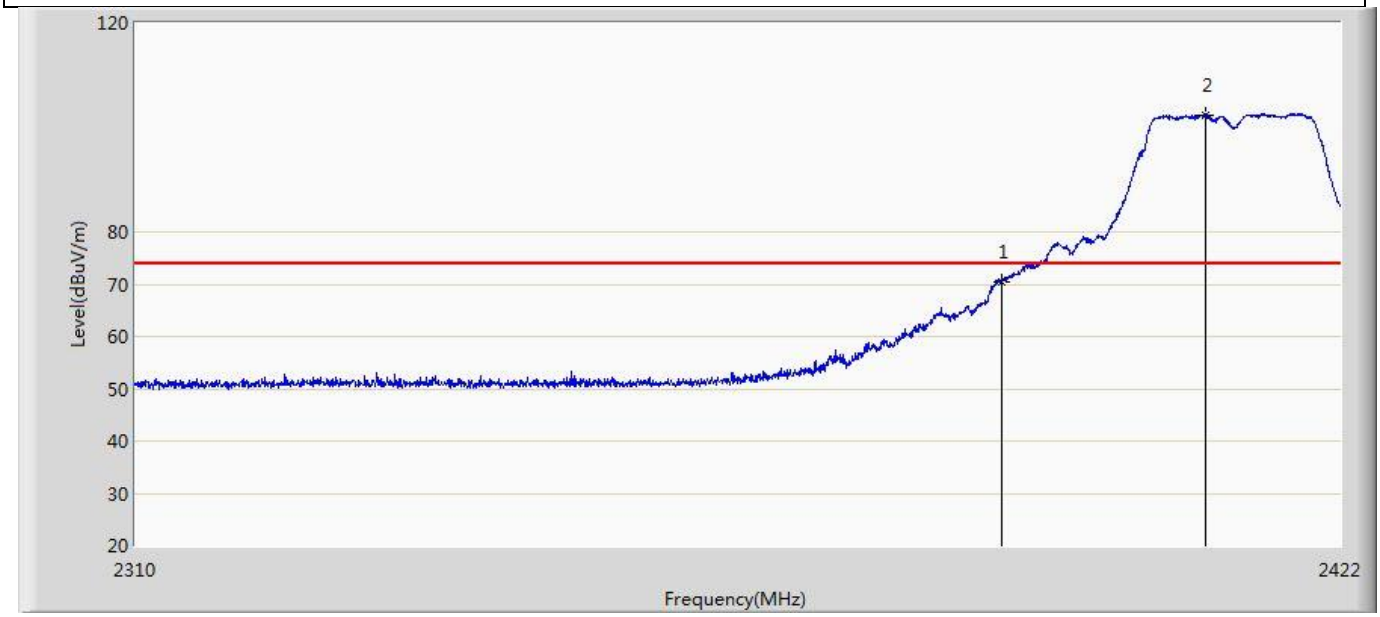
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.888	102.361	66.822	28.361	74.000	35.539	PK
2		2483.500	55.839	20.321	-18.161	74.000	35.517	PK
3		2487.472	57.489	21.949	-16.511	74.000	35.540	PK

Profile: 20A0396R	Page No.: 9
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



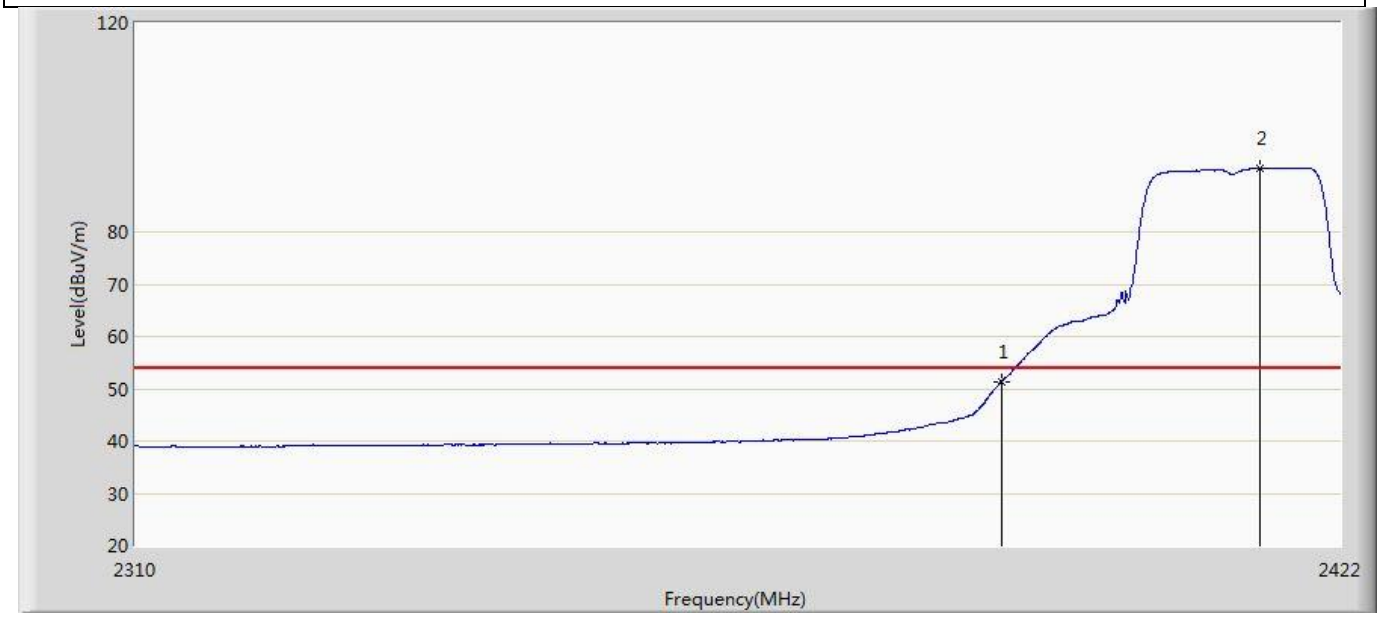
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.412	17.955	-0.588	54.000	35.458	AV
2	*	2409.568	93.789	58.310	39.789	54.000	35.479	AV

Profile: 20A0396R	Page No.: 10
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



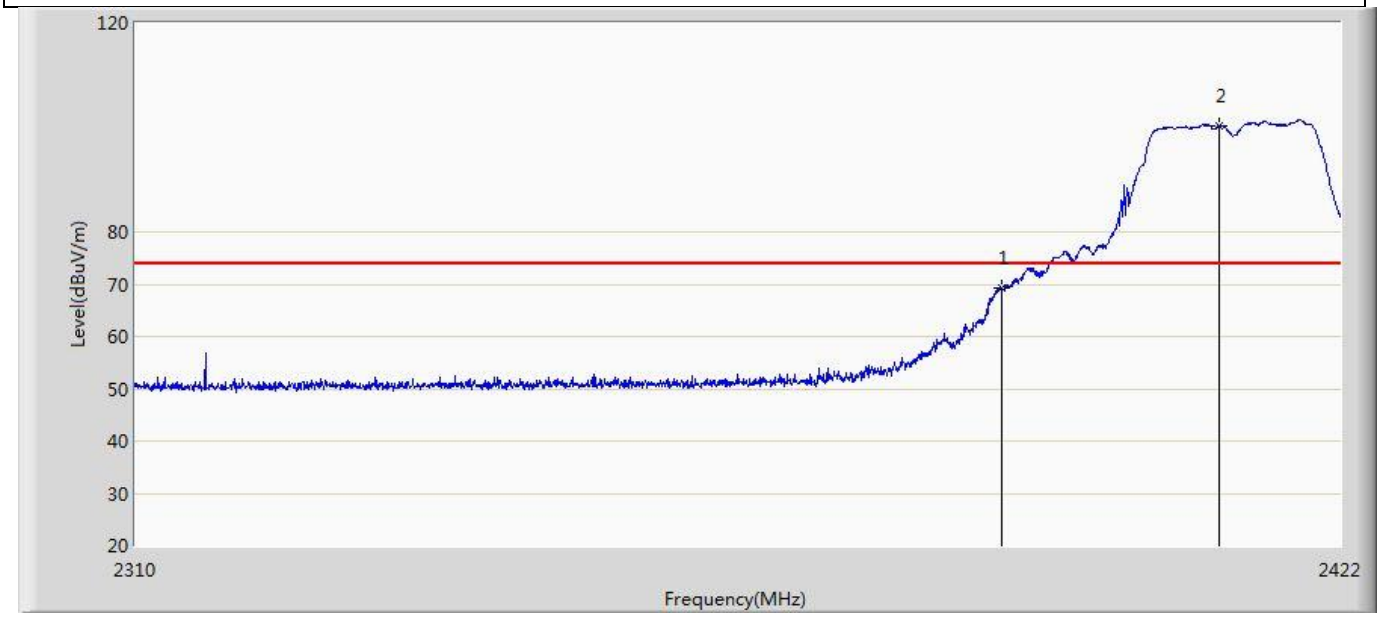
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	70.570	35.113	-3.430	74.000	35.458	PK
2	*	2409.176	102.461	66.983	28.461	74.000	35.478	PK

Profile: 20A0396R	Page No.: 11
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



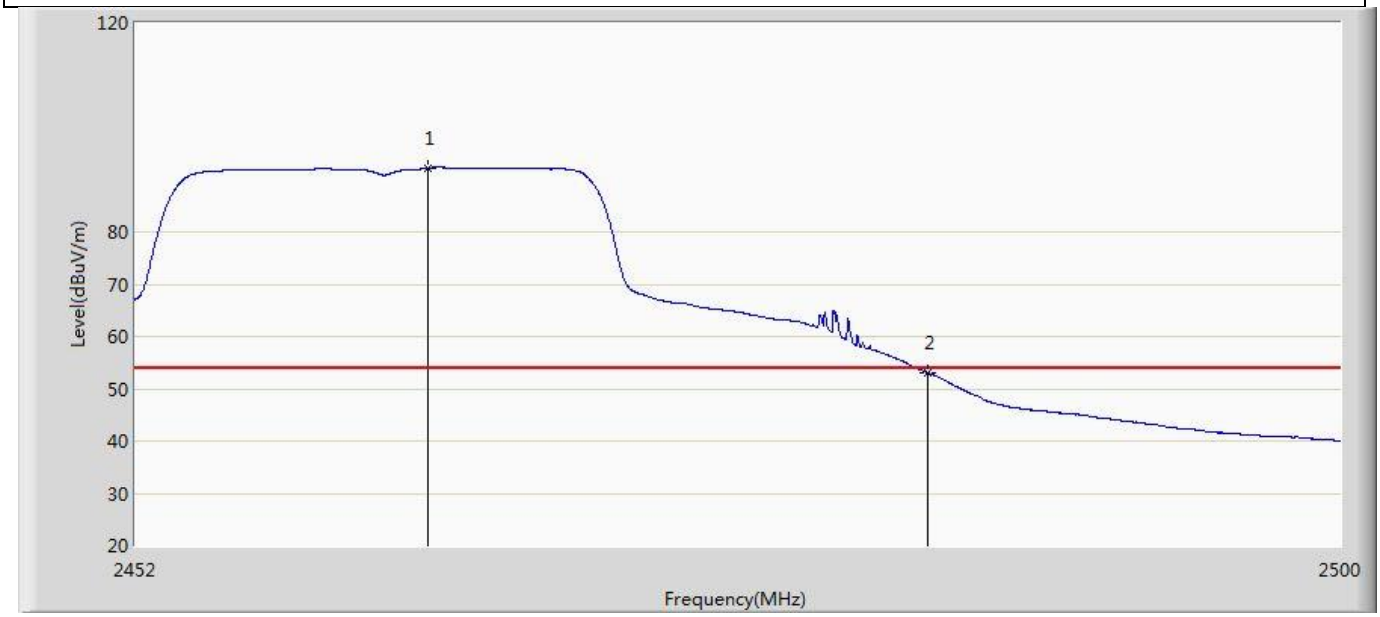
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.387	15.930	-2.613	54.000	35.458	AV
2	*	2414.440	92.217	56.728	38.217	54.000	35.489	AV

Profile: 20A0396R	Page No.: 12
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11g	



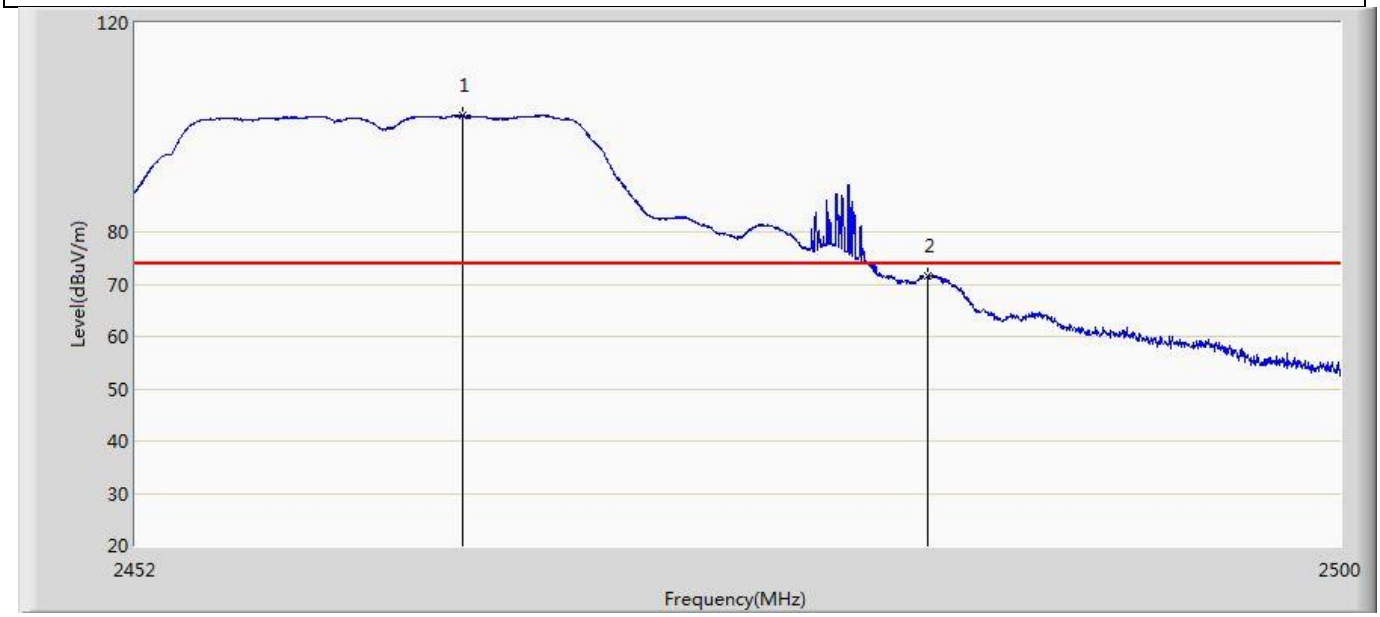
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.193	33.736	-4.807	74.000	35.458	PK
2	*	2410.520	100.301	64.821	26.301	74.000	35.479	PK

Profile: 20A0396R	Page No.: 13
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



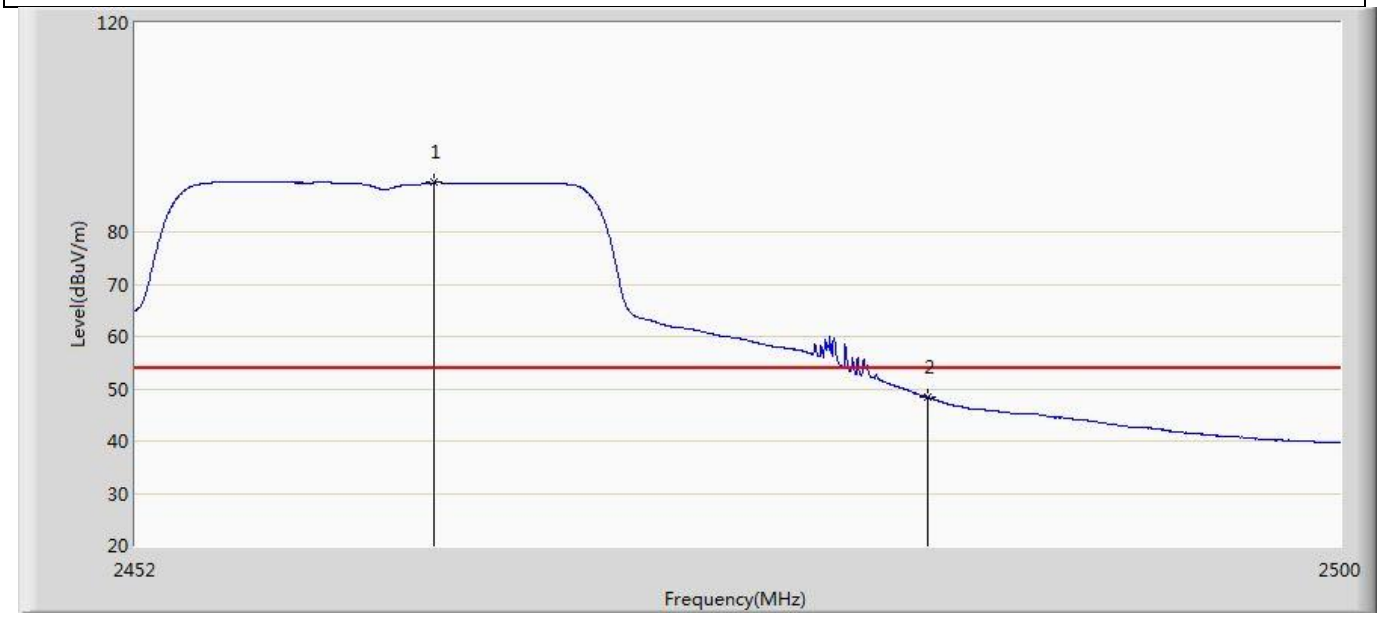
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.592	92.215	56.680	38.215	54.000	35.535	AV
2		2483.500	53.020	17.502	-0.980	54.000	35.517	AV

Profile: 20A0396R	Page No.: 14
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



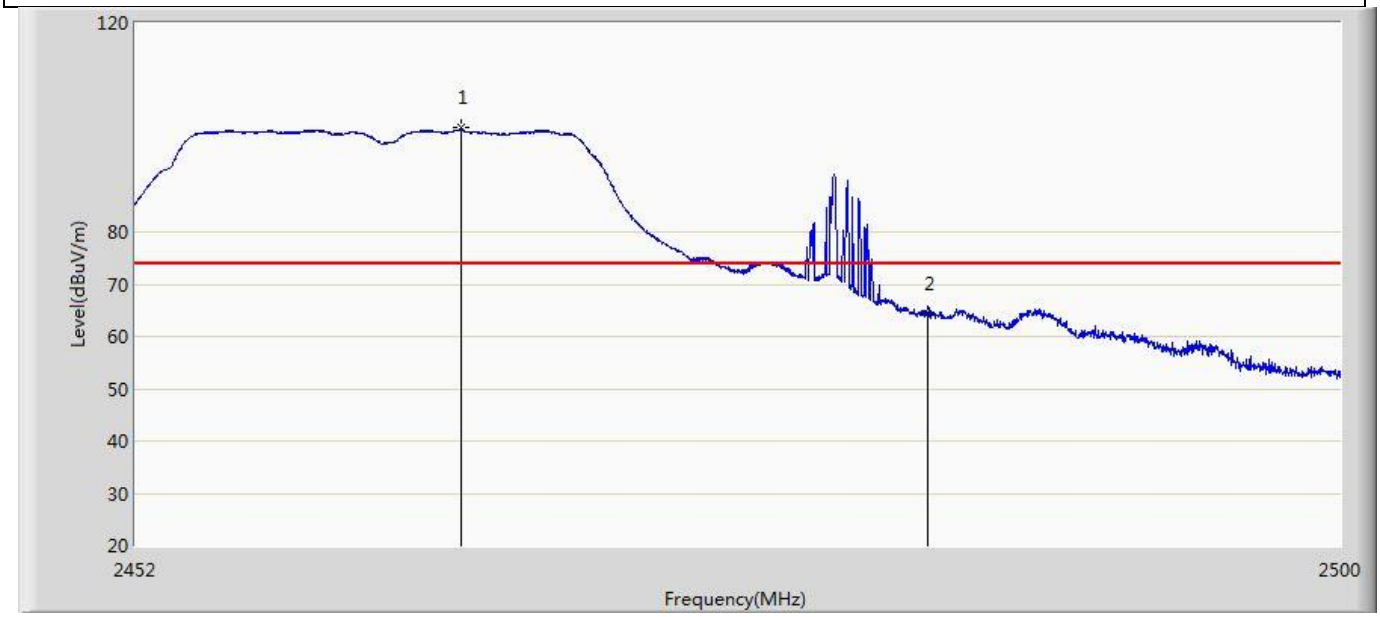
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.960	102.265	66.734	28.265	74.000	35.531	PK
2		2483.500	71.492	35.974	-2.508	74.000	35.517	PK

Profile: 20A0396R	Page No.: 15
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



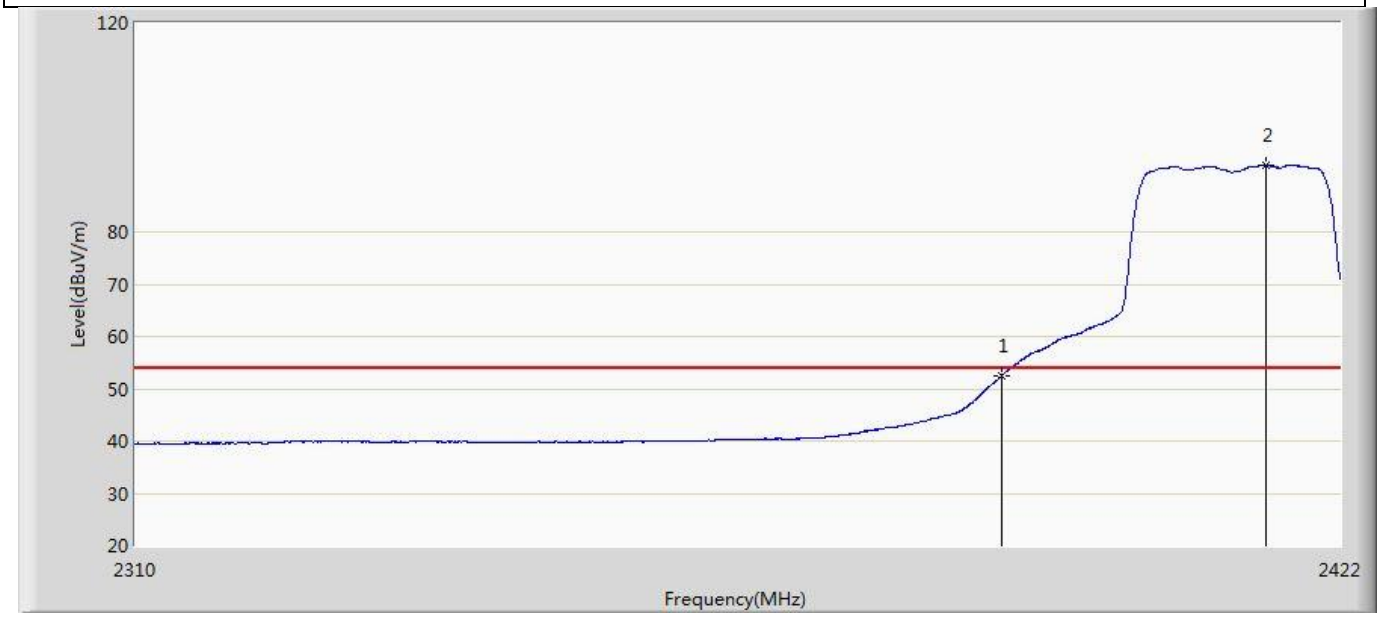
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.808	89.422	53.888	35.422	54.000	35.534	AV
2		2483.500	48.340	12.822	-5.660	54.000	35.517	AV

Profile: 20A0396R	Page No.: 16
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11g	



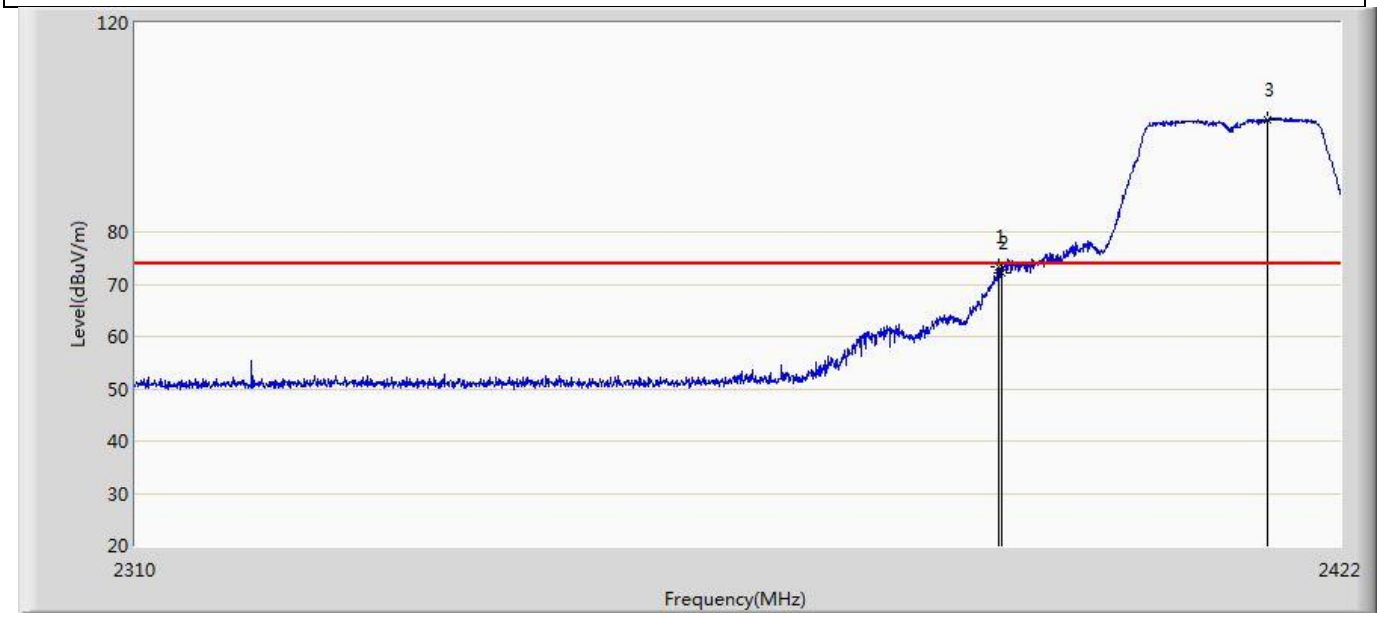
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.912	100.049	64.518	26.049	74.000	35.531	PK
2		2483.500	64.391	28.873	-9.609	74.000	35.517	PK

Profile: 20A0396R	Page No.: 17
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



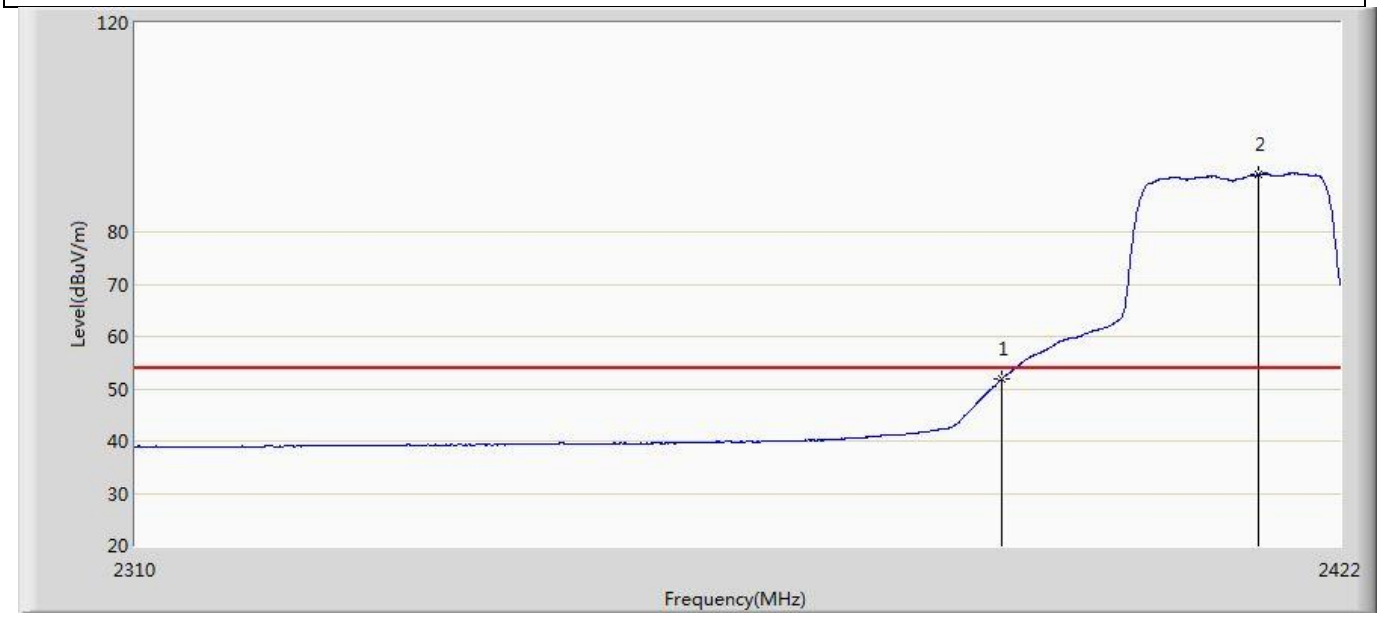
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.467	17.010	-1.533	54.000	35.458	AV
2	*	2414.944	92.863	57.373	38.863	54.000	35.490	AV

Profile: 20A0396R	Page No.: 18
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



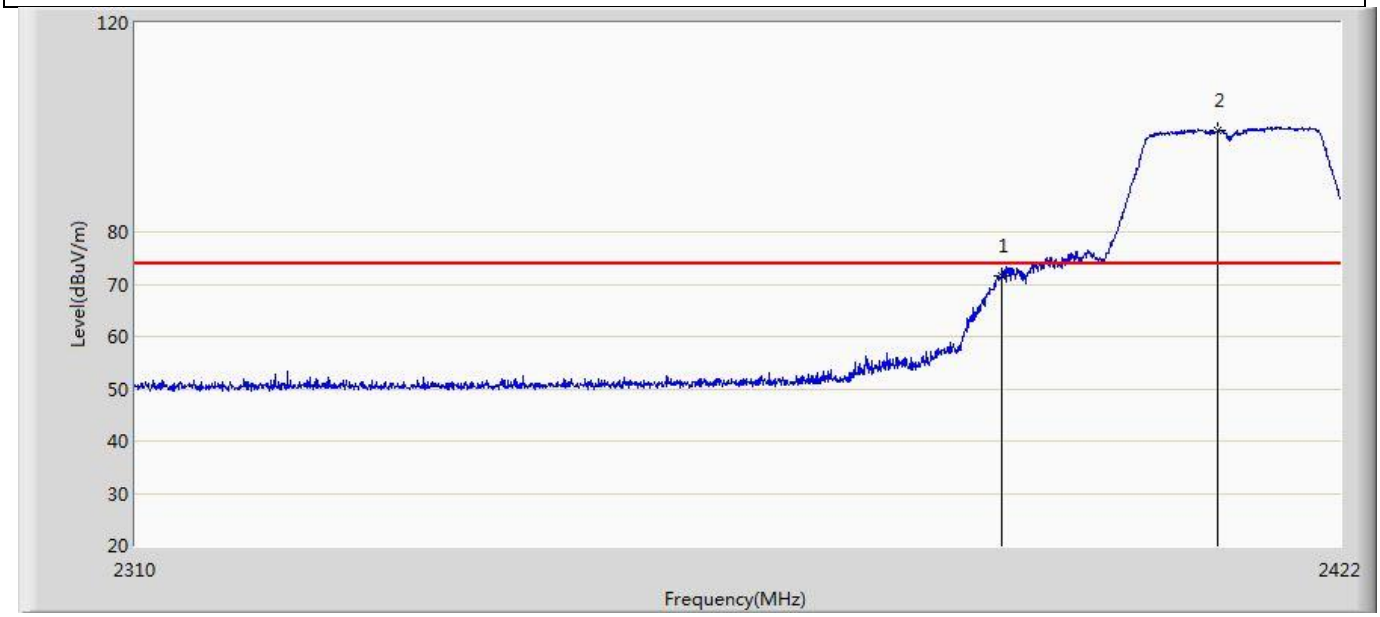
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.800	73.215	37.758	-0.785	74.000	35.458	PK
2		2390.000	72.291	36.834	-1.709	74.000	35.458	PK
3	*	2415.112	101.557	66.066	27.557	74.000	35.490	PK

Profile: 20A0396R	Page No.: 19
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



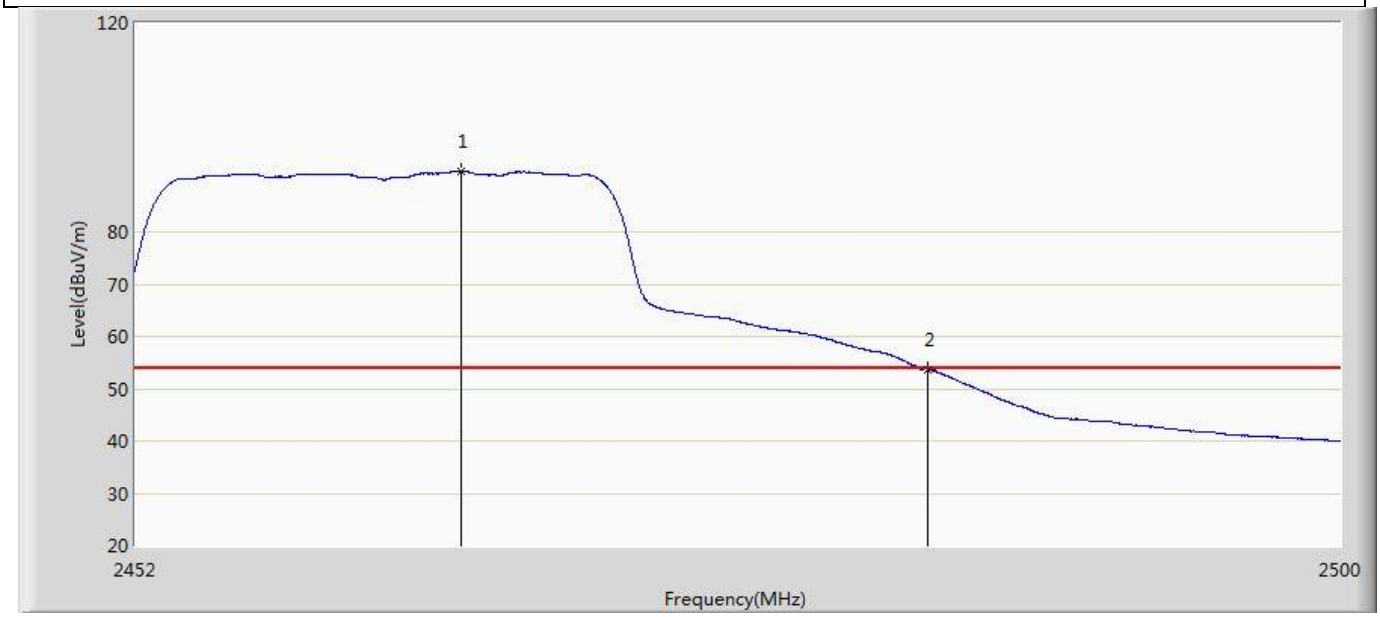
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.775	16.318	-2.225	54.000	35.458	AV
2	*	2414.216	90.986	55.498	36.986	54.000	35.489	AV

Profile: 20A0396R	Page No.: 20
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11n(20MHz)	



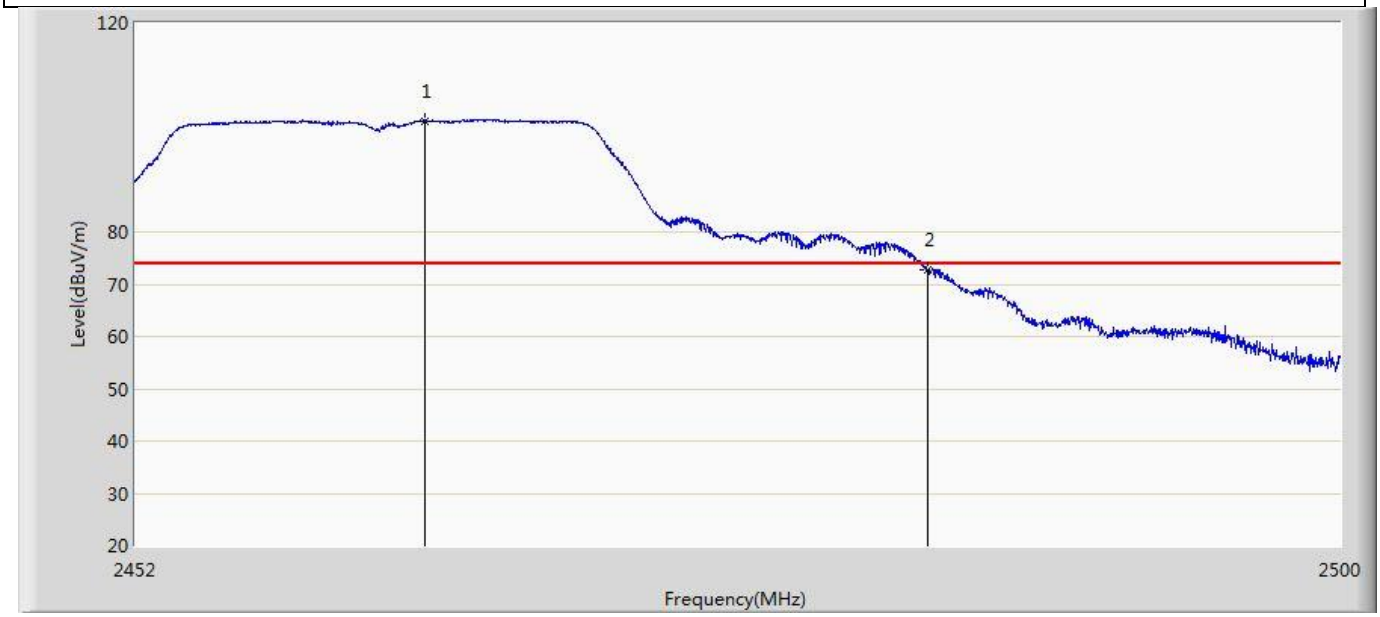
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	71.624	36.167	-2.376	74.000	35.458	PK
2	*	2410.408	99.370	63.890	25.370	74.000	35.479	PK

Profile: 20A0396R	Page No.: 21
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



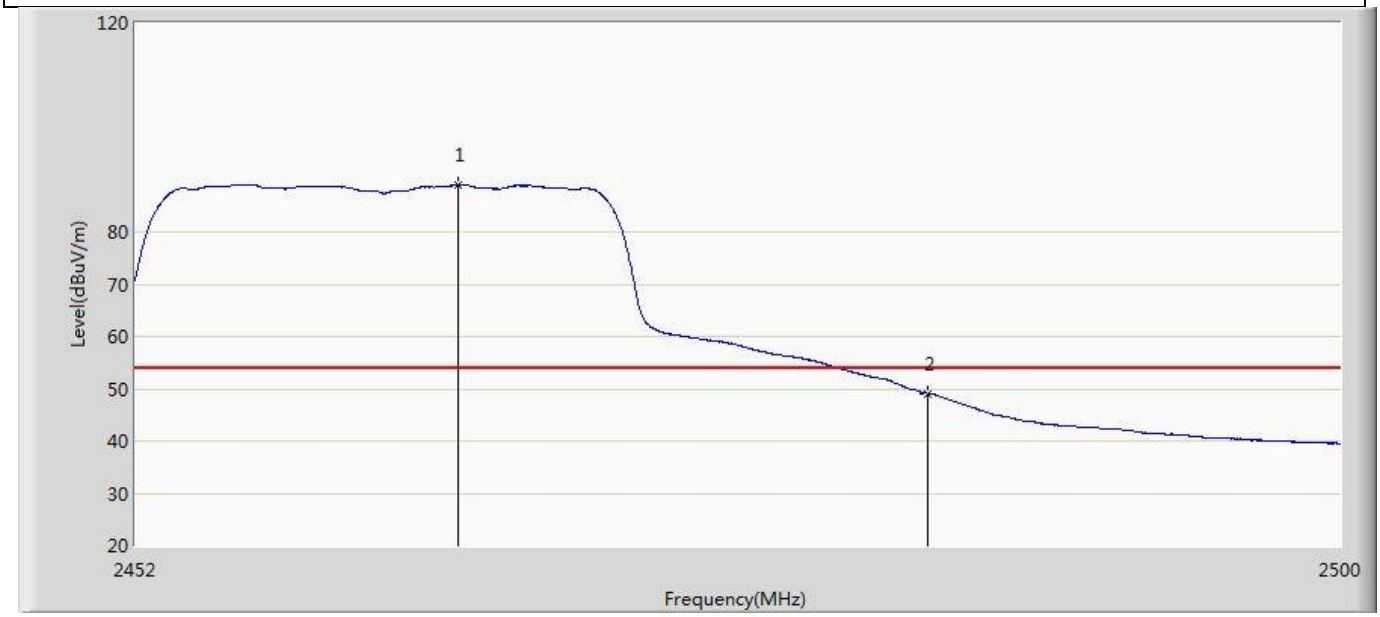
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.888	91.589	56.058	37.589	54.000	35.531	AV
2		2483.500	53.687	18.169	-0.313	54.000	35.517	AV

Profile: 20A0396R	Page No.: 22
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



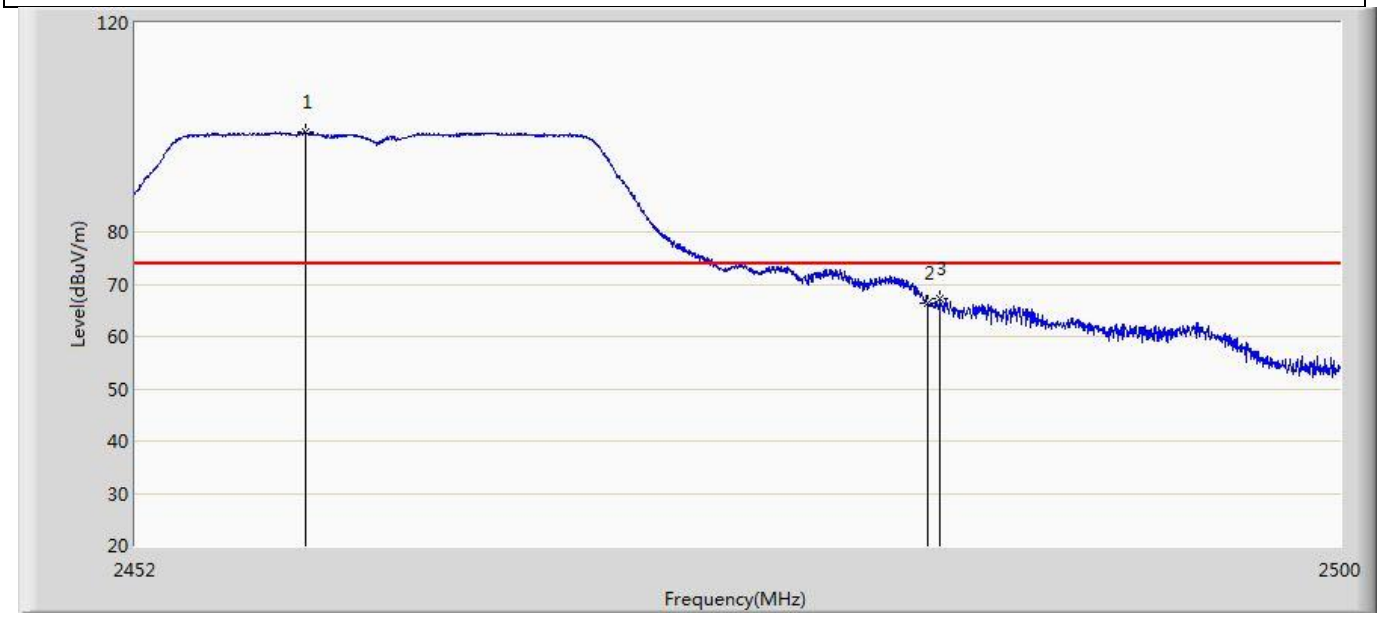
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.448	101.275	65.740	27.275	74.000	35.535	PK
2		2483.500	72.707	37.189	-1.293	74.000	35.517	PK

Profile: 20A0396R	Page No.: 23
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



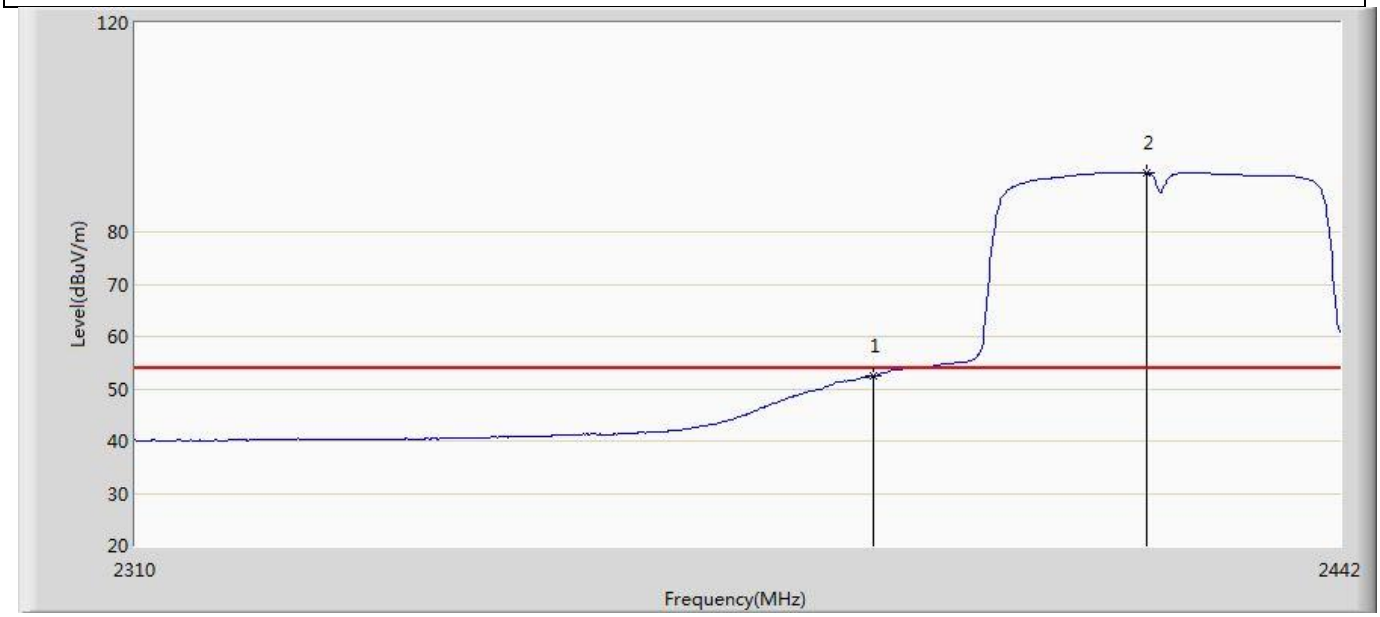
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.792	88.940	53.408	34.940	54.000	35.532	AV
2		2483.500	49.090	13.572	-4.910	54.000	35.517	AV

Profile: 20A0396R	Page No.: 24
Engineer: YULIU	
Site: AC5	Time: 2020/10/29 - 20:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11n(20MHz)	



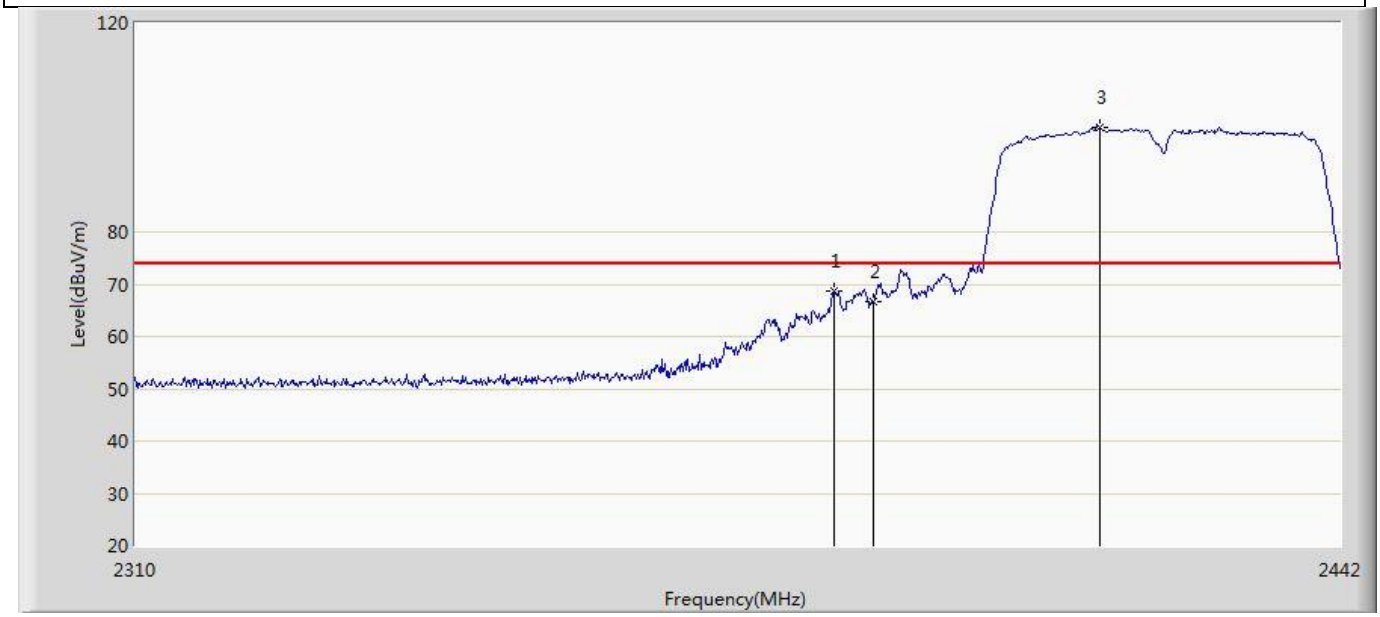
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.768	99.070	63.540	25.070	74.000	35.530	PK
2		2483.500	66.311	30.793	-7.689	74.000	35.517	PK
3		2483.968	67.145	31.625	-6.855	74.000	35.520	PK

Profile: 20A0396R	Page No.: 25
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



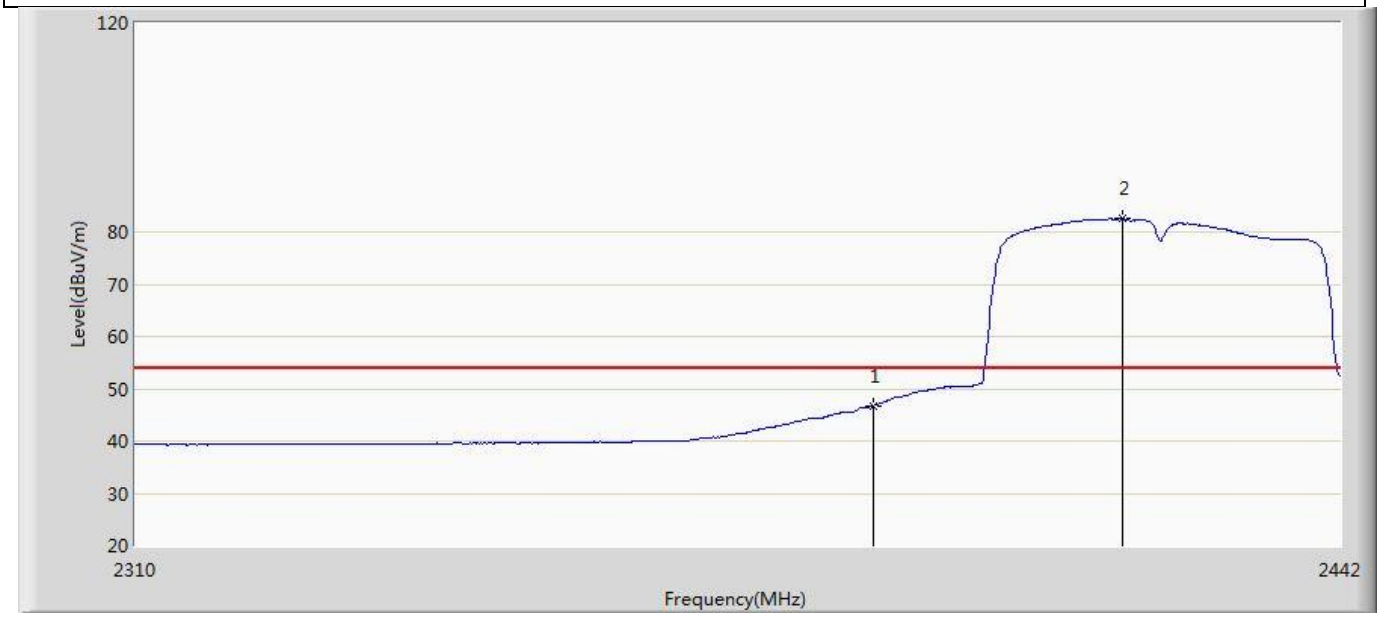
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.515	17.058	-1.485	54.000	35.458	AV
2	*	2420.352	91.323	55.819	37.323	54.000	35.504	AV

Profile: 20A0396R	Page No.: 26
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



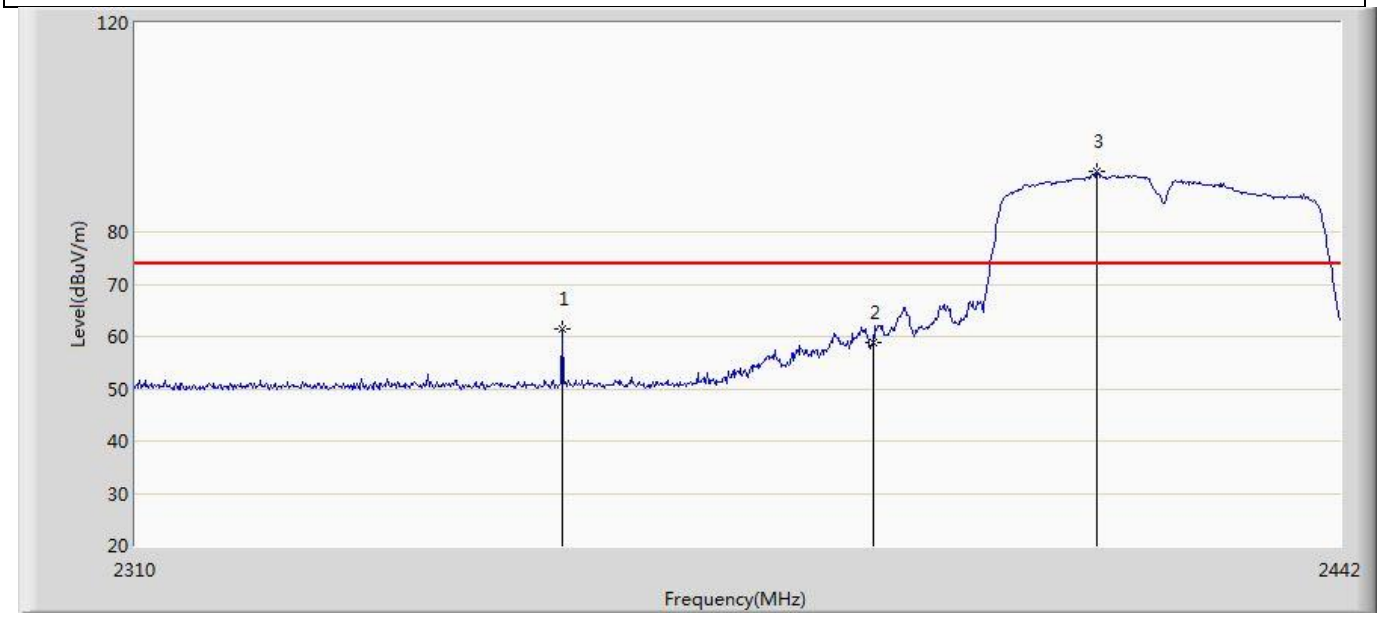
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2385.768	68.776	33.321	-5.224	74.000	35.455	PK
2		2390.000	66.696	31.239	-7.304	74.000	35.458	PK
3	*	2415.072	99.972	64.481	25.972	74.000	35.490	PK

Profile: 20A0396R	Page No.: 27
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



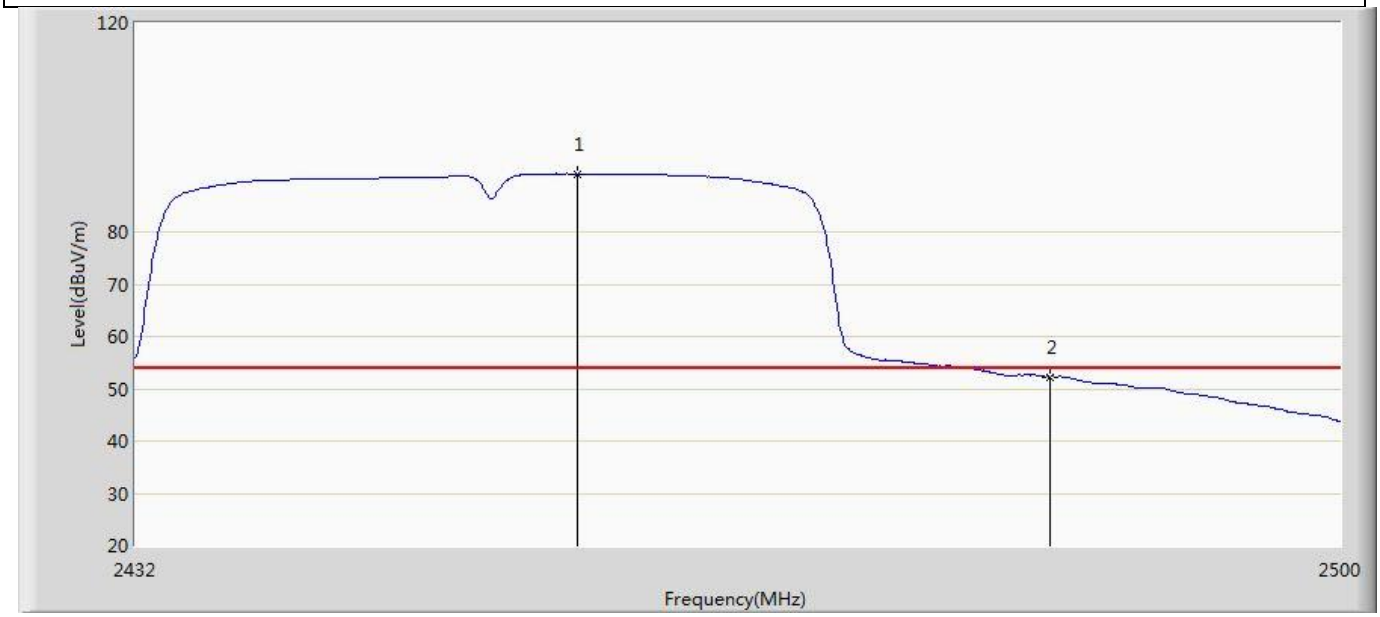
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	46.775	11.318	-7.225	54.000	35.458	AV
2	*	2417.712	82.474	46.977	28.474	54.000	35.497	AV

Profile: 20A0396R	Page No.: 28
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11n(40MHz)	



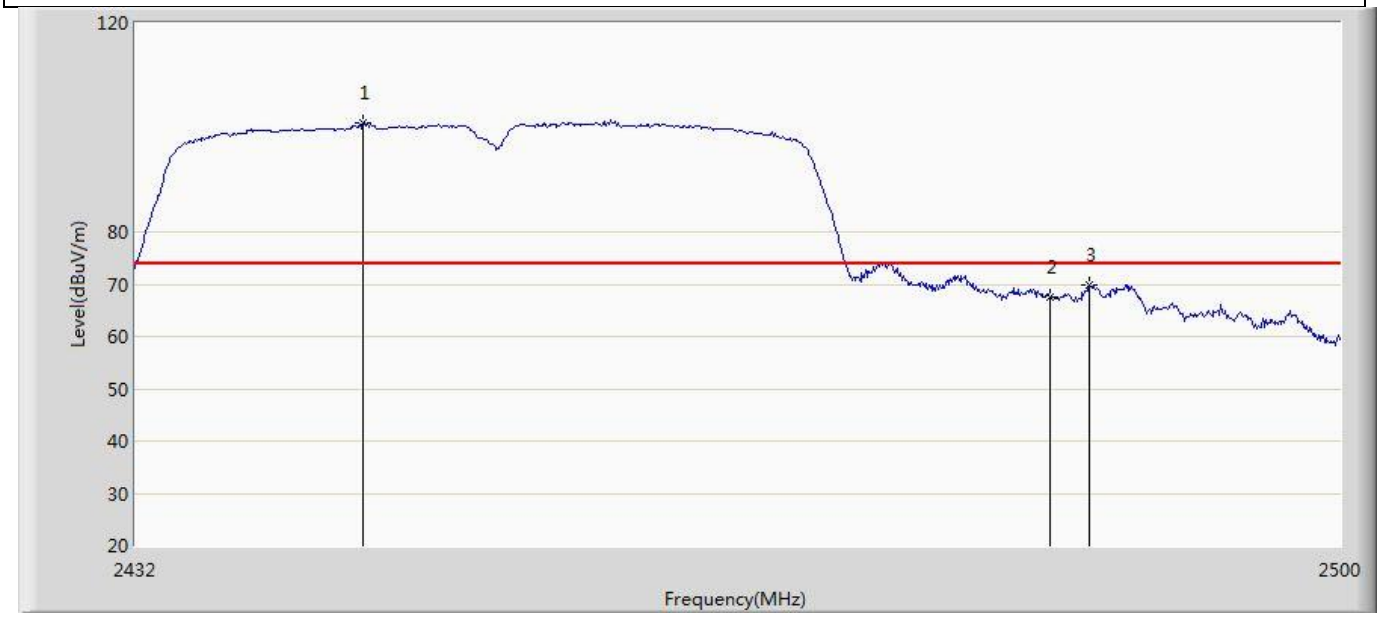
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2355.936	61.534	26.094	-12.466	74.000	35.440	PK
2		2390.000	58.895	23.438	-15.105	74.000	35.458	PK
3	*	2414.808	91.487	55.997	17.487	74.000	35.490	PK

Profile: 20A0396R	Page No.: 29
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



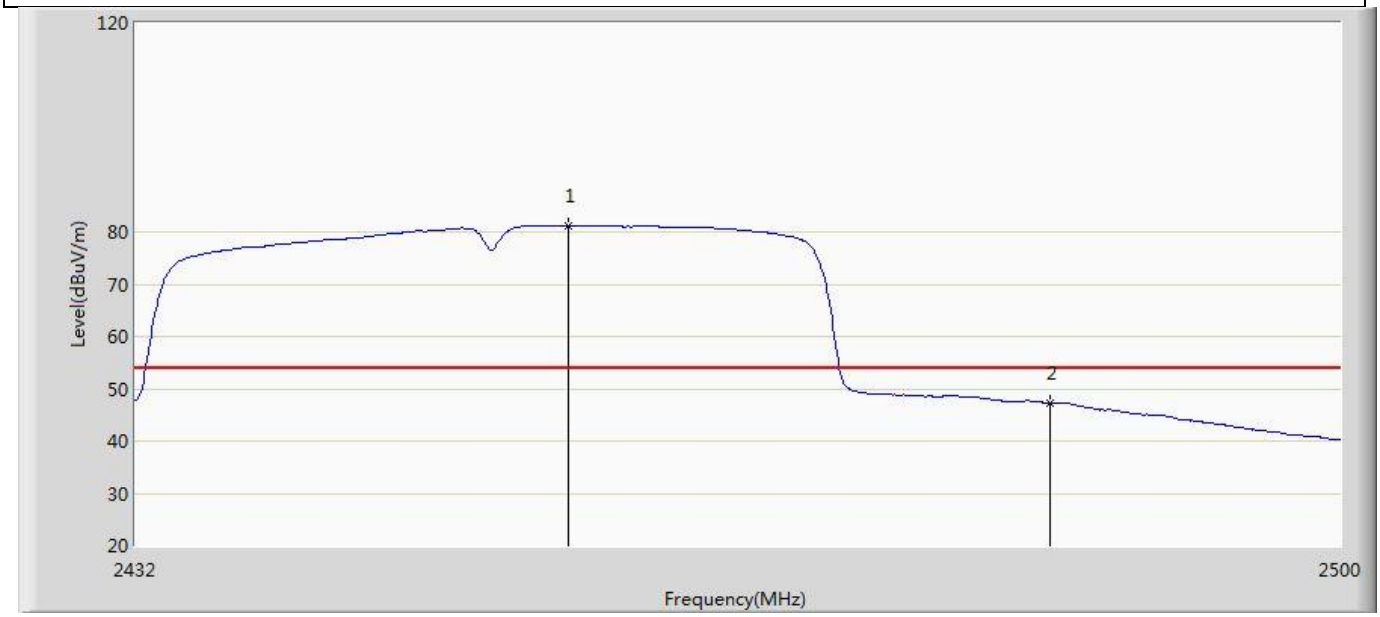
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.752	91.153	55.628	37.153	54.000	35.525	AV
2		2483.500	52.278	16.760	-1.722	54.000	35.517	AV

Profile: 20A0396R	Page No.: 30
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



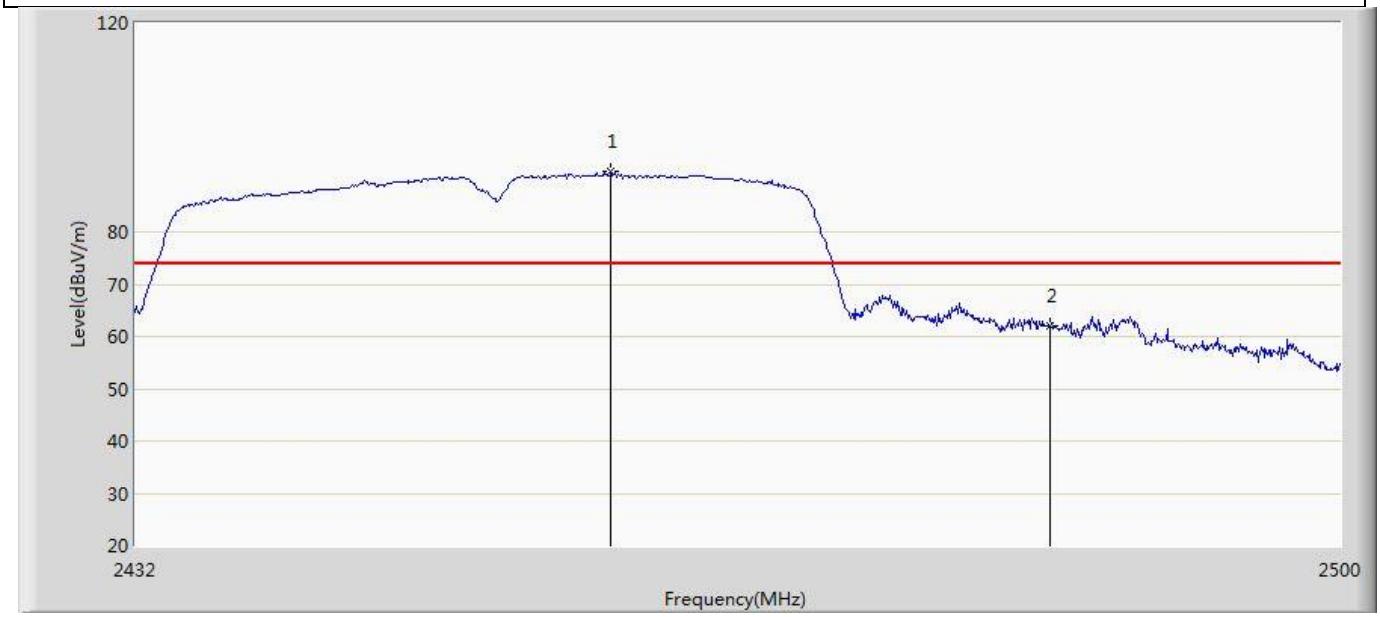
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2444.716	100.921	65.429	26.921	74.000	35.492	PK
2		2483.500	67.589	32.071	-6.411	74.000	35.517	PK
3		2485.720	69.767	34.237	-4.233	74.000	35.531	PK

Profile: 20A0396R	Page No.: 31
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	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	*	2456.208	81.150	45.627	27.150	54.000	35.523	AV
2		2483.500	47.189	11.671	-6.811	54.000	35.517	AV

Profile: 20A0396R	Page No.: 32
Engineer: YULIU	
Site: AC5	Time: 2020/11/05 - 10:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Dual mode Full Color A19	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11n(40MHz)	



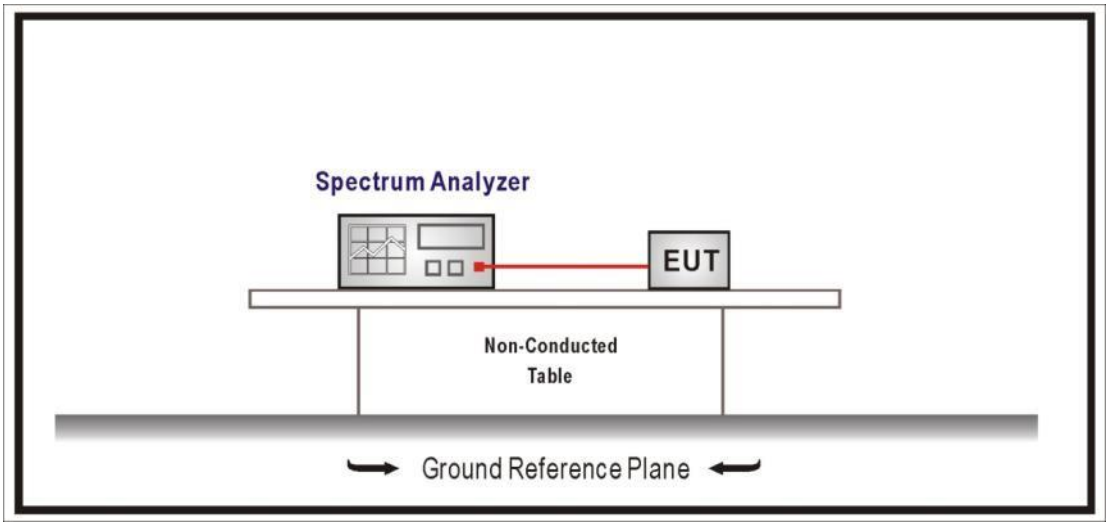
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.656	91.648	56.118	17.648	74.000	35.530	PK
2		2483.500	62.156	26.638	-11.844	74.000	35.517	PK

Note:
1. " * ", means this data is the worst emission level.
2. 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)
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz	
Standard	ANSI C63.10 Paragraph 6.7
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 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

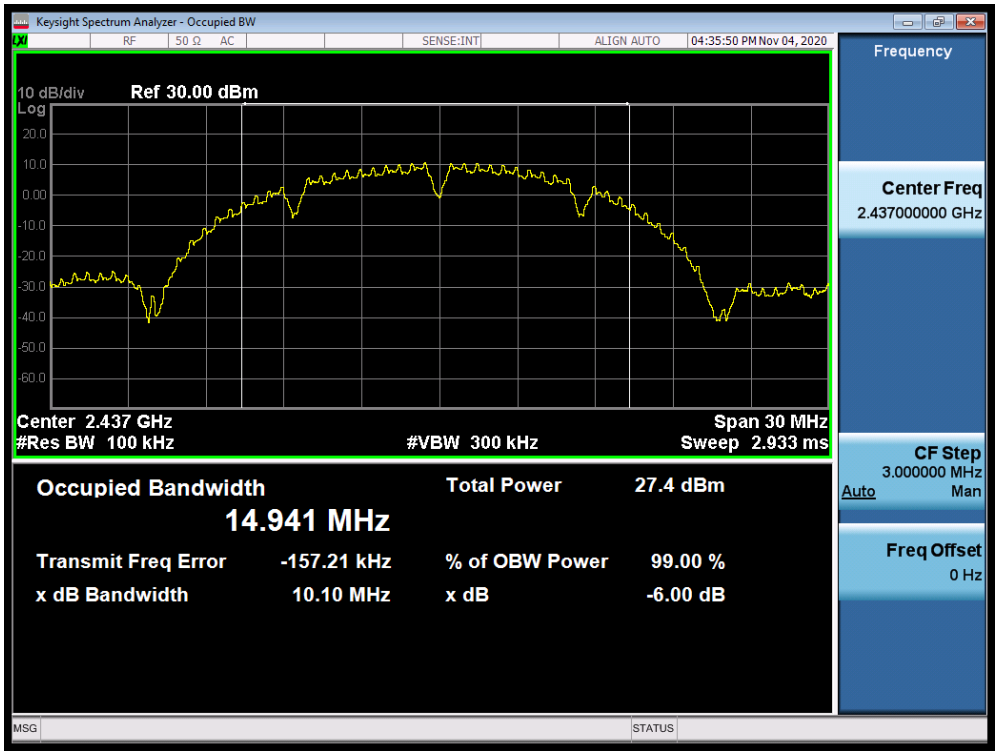
4.5.4 Test Data

Mode	CH.	Test Freq. (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	1	2412	10.11	≥500	Pass
	6	2437	10.10	≥500	Pass
	11	2462	10.10	≥500	Pass
2	1	2412	16.57	≥500	Pass
	6	2437	16.57	≥500	Pass
	11	2462	16.54	≥500	Pass
3	1	2412	17.76	≥500	Pass
	6	2437	17.78	≥500	Pass
	11	2462	17.75	≥500	Pass
4	3	2422	36.39	≥500	Pass
	6	2437	36.40	≥500	Pass
	9	2452	36.39	≥500	Pass

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

6dB Occupied Bandwidth

Mode 1 CH06 (2437MHz)

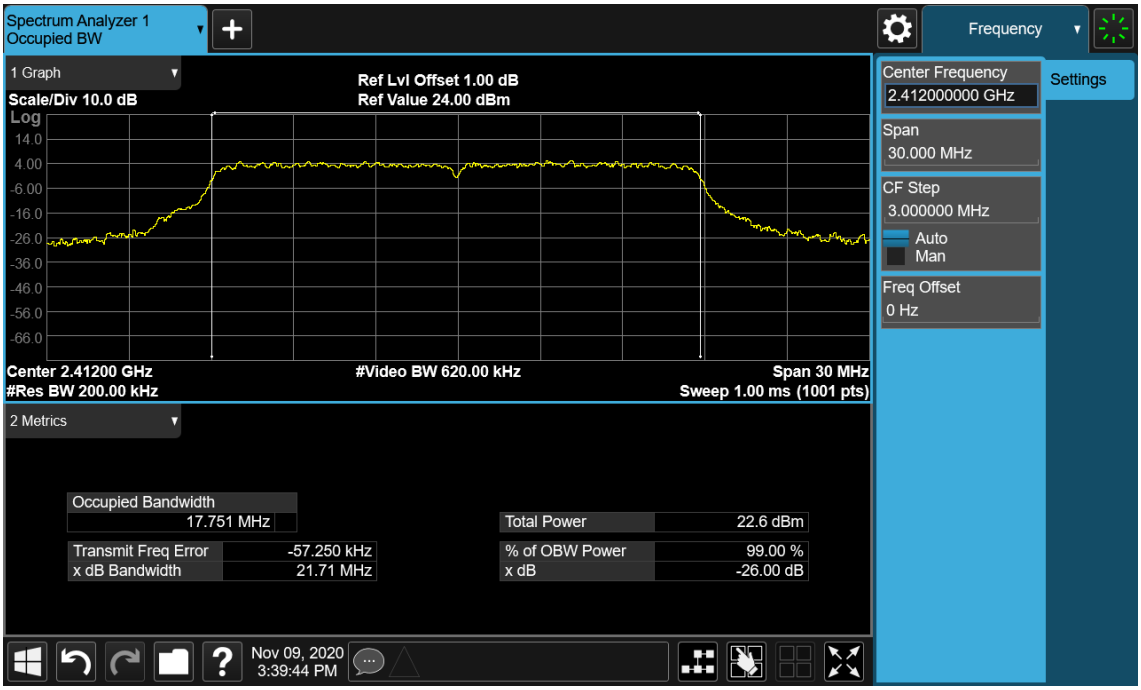


Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
1	1	2412	14.957	Within frequency range	Pass
	6	2437	15.019	Within frequency range	Pass
	11	2462	15.056	Within frequency range	Pass
2	1	2412	16.653	Within frequency range	Pass
	6	2437	16.654	Within frequency range	Pass
	11	2462	16.650	Within frequency range	Pass
3	1	2412	17.751	Within frequency range	Pass
	6	2437	17.765	Within frequency range	Pass
	11	2462	17.788	Within frequency range	Pass
4	3	2422	35.641	Within frequency range	Pass
	6	2437	35.651	Within frequency range	Pass
	9	2452	35.649	Within frequency range	Pass

Note : The worst case of 99% Occupied Bandwidth as below in next page:

99% Occupied Bandwidth

Mode 3 CH01 (2412MHz)



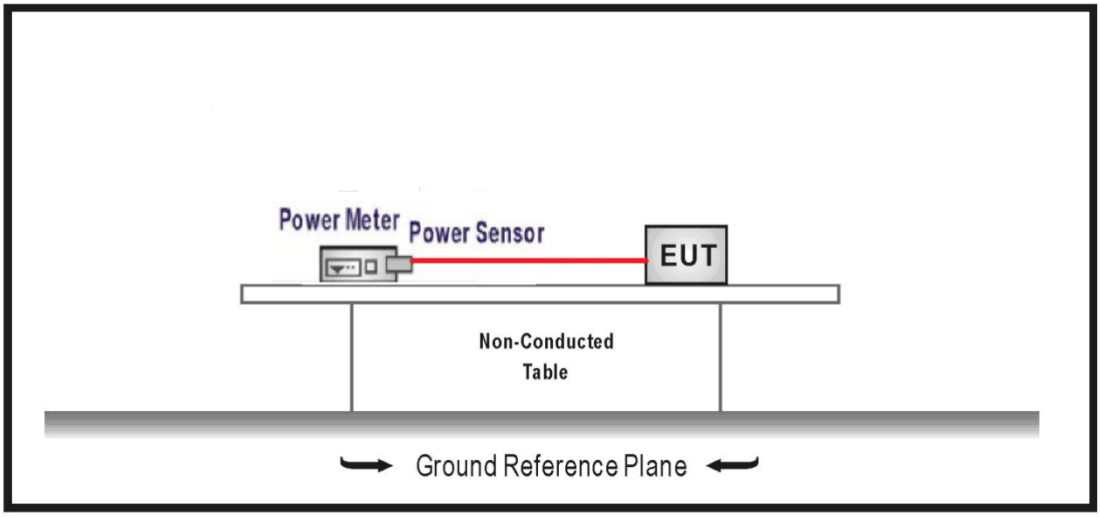
4.6 Fundamental emission output power — VERDICT: PASS

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 ⩾ DTS bandwidth
		☐	ANSI C63.10				11.9.1.2	Integrated band power method
		☐	ANSI C63.10				11.9.1.3	PKPM1 Peak power meter method
	☒	ANSI C63.10					11.9.2	Maximum conducted (average) output power
		☒	ANSI C63.10				11.9.2.2	Measurement using a spectrum analyzer (SA)
			☒	ANSI C63.10			11.9.2.2.2	Method AVGSA-1(Duty cycle⩾98%)
			☐	ANSI C63.10			11.9.2.2.3	Method AVGSA-1A(Duty cycle⩾98%)
			☒	ANSI C63.10			11.9.2.2.4	Method AVGSA-2(Duty cycle⩽98%)
			☐	ANSI C63.10			11.9.2.2.5	Method AVGSA-2A(Duty cycle⩽98%)
			☐	ANSI C63.10			11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10			11.9.2.2.5	Method AVGSA-3A
		☒	ANSI C63.10				11.9.2.3	Measurement using a power meter (PM)
			☒	ANSI C63.10			11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10			11.9.2.3.2	Method AVGPM-G

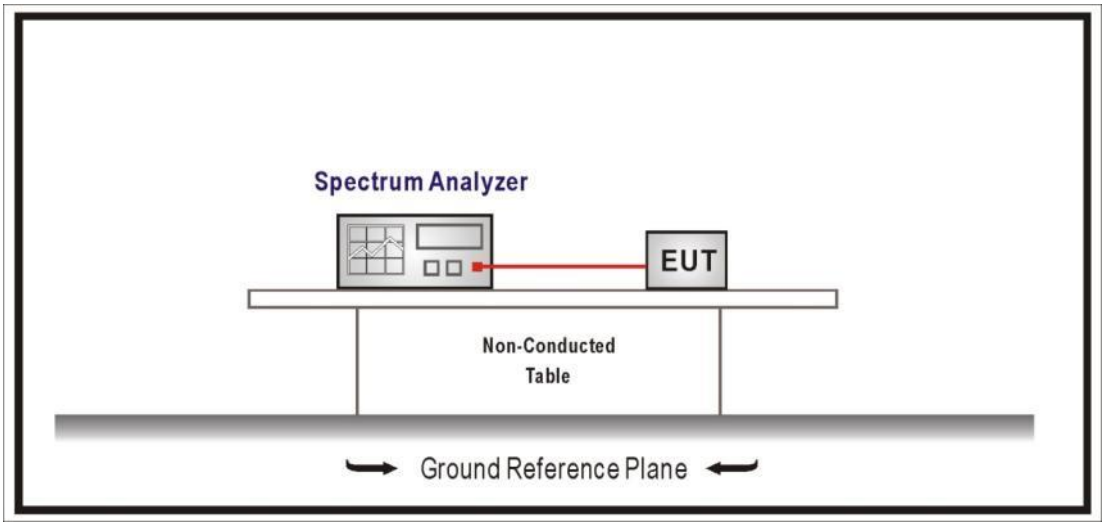
4.6.4 Test Data

Mode	Channel	Test Frequency (MHz)	Conducted Power (dBm)	EIRP (dBm)	Conducted Power Limit (dBm)	EIRP Limit (dBm)	Result
1	1	2412	23.01	22.46	⩽30	⩽36	Pass
	6	2437	22.92	22.37	⩽30	⩽36	Pass
	11	2462	23.08	22.53	⩽30	⩽36	Pass
2	1	2412	24.48	23.93	⩽30	⩽36	Pass
	6	2437	24.63	24.08	⩽30	⩽36	Pass
	11	2462	23.86	23.31	⩽30	⩽36	Pass
3	1	2412	24.04	23.49	⩽30	⩽36	Pass
	6	2437	23.74	23.19	⩽30	⩽36	Pass
	11	2462	23.84	23.29	⩽30	⩽36	Pass
4	3	2422	21.42	20.87	⩽30	⩽36	Pass
	6	2437	21.58	21.03	⩽30	⩽36	Pass
	9	2452	21.71	21.16	⩽30	⩽36	Pass

4.7 Power Density	VERDICT: PASS

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

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≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥98%)
	☒	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

4.7.4 Test Data

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	1	2412	-9.83	≤8	Pass
	6	2437	-9.976	≤8	Pass
	11	2462	-9.466	≤8	Pass
2	1	2412	-11.304	≤8	Pass
	6	2437	-11.412	≤8	Pass
	11	2462	-11.561	≤8	Pass
3	1	2412	-12.137	≤8	Pass
	6	2437	-12.04	≤8	Pass
	11	2462	-11.827	≤8	Pass
4	3	2422	-13.931	≤8	Pass
	6	2437	-12.113	≤8	Pass
	9	2452	-14.002	≤8	Pass

Remark 1: The worst case of PSD as below:

Mode 1 / CH11 / 2462MHz

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.	

5 TEST SETUP PHOTO AND EUT PHOTO

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

The End