



Test Report

FCC Part15 Subpart C & RSS-247 Issue 2

Product Name : END1CTLA
Model No. : END1CTLA
FCC ID : QISEND1CTLA
IC : 6369A-END1CTLA

Applicant : Huawei Technologies Co., Ltd
Address : Administration Building, Headquarters of Huawei
Technologies Co., Ltd., Bantian,
Longgang District, Shenzhen, 518129, P.R.C

Date of Receipt : Jan. 23, 2018
Test Date : Jan. 24, 2018~ Jan. 30, 2018
Issued Date : Feb. 24, 2018
Report No. : 1812140R-RF-US-P06V01
Report Version : V2.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, A2LA or any agency of the government.

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Test Report Certification

Issued Date : Feb. 24, 2018
Report No. : 1812140R-RF-US-P06V01



Product Name : END1CTLA
Applicant : Huawei Technologies Co., Ltd
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Manufacturer : HUAWEI TECHNOLOGIES CO., LTD
Address : No. 2 City Avenue, Songshan Lake Sci. & Tech. Industry Park, 523808 Dongguan, People's Republic of China
Model No. : END1CTLA
FCC ID : QISEND1CTLA
IC : 6369A-END1CTLA
EUT Voltage : DC 12V
Test Voltage : DC 12V
Brand Name : HUAWEI
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C
ANSI C63.10:2013;
KDB 558074 D01v04
KDB 662911 D01 Multiple Transmitter Output v02r01
RSS-Gen Issue 4 / RSS-247 Issue 2
Test Result : Complied
Performed Location : DEKRA Testing and Certification (Suzhou) Co., Ltd.
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FCC Designation Number: CN1199; ISED Lab Code: 4075B

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Approved By :

Harry Zhao

(Engineering Manager: Harry Zhao)

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1812140R-RF-US-P06V01	V1.0	Initial Issued Report	Feb. 03, 2018
1812140R-RF-US-P06V01	V2.0	1) Change the product name and model number. 2) Page 11, add cable information.	Feb. 13, 2018
1812140R-RF-US-P06V01	V2.1	Added Simultaneous transmission mode of (WIFI+LTE) use a final product.	Feb. 24, 2018

1. General Information

1.1. EUT Description

Product Name	END1CTLA
Brand Name	HUAWEI
Model No.	END1CTLA
EUT Voltage	DC 12V
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11
Type of Modulation	802.11b: DSSS-DBPSK, DQPSK, CCK 802.11g/n: OFDM-BPSK, QPSK, 16QAM, 64QAM,
Data Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 72.2 Mbps
Channel Control	Auto

1.2. Host Description

Product Name	Solar Inverter
Model No.	SUN2000-3.8KTL-USL0, SUN2000-5KTL-USL0, SUN2000-7.6KTL-USL0, SUN2000-9KTL-USL0, SUN2000-10KTL-USL0, SUN2000-11.4KTL-USL0
Brand Name	HUAWEI

Note1:

Model	Difference
SUN2000-3.8KTL-USL0	The same hardware, different sensors: 3.8K: 25A Hall current sensor 7.6K/5K: 50A Hall current sensor
SUN2000-5KTL-USL0	
SUN2000-7.6KTL-USL0	
SUN2000-9KTL-USL0	The same hardware, different power: 9K / 10K / 11.4K three models are a total structure and a total of PCBA veneer. The hardware device parameters are the same through software calibration distinction.
SUN2000-10KTL-USL0	
SUN2000-11.4KTL-USL0	

2: We had evaluated all the six models and only show the worst data which was tested by SUN2000-7.6KTL-USL0 and SUN2000-11.4KTL-USL0.

3: The LTE module which can simultaneous transmitting with WIFI module is ME909u-523, and the FCC ID: QISME909U-523; IC: 6369A-ME909U523.

1.2. Working Frequency of Each Channel:

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

1.3. Antenna information

Model No.	N/A					
Antenna manufacturer	N/A					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	CDD		
			☐	Sectorized		
			☐	Beam-forming		
Antenna Type	☒	External	☒	Dipole		
			☐	Sectorized		
	☒	Internal	☐	PIFA		
			☒	PCB		
			☐	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
Antenna #1 (Internal Antenna)	1dBi					
Antenna #2 (External Antenna)	4.5dBi					

Note: The EUT has with two antennas, one is external dipole antenna, another is internal PCB antenna. It can transmit at both antennas individually, but not simultaneously.

1.4. Mode of Operation

Test Modes List
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g
Mode 3: Transmit by 802.11n(20MHz)
Mode 4: Simultaneous transmission by WIFI+LTE

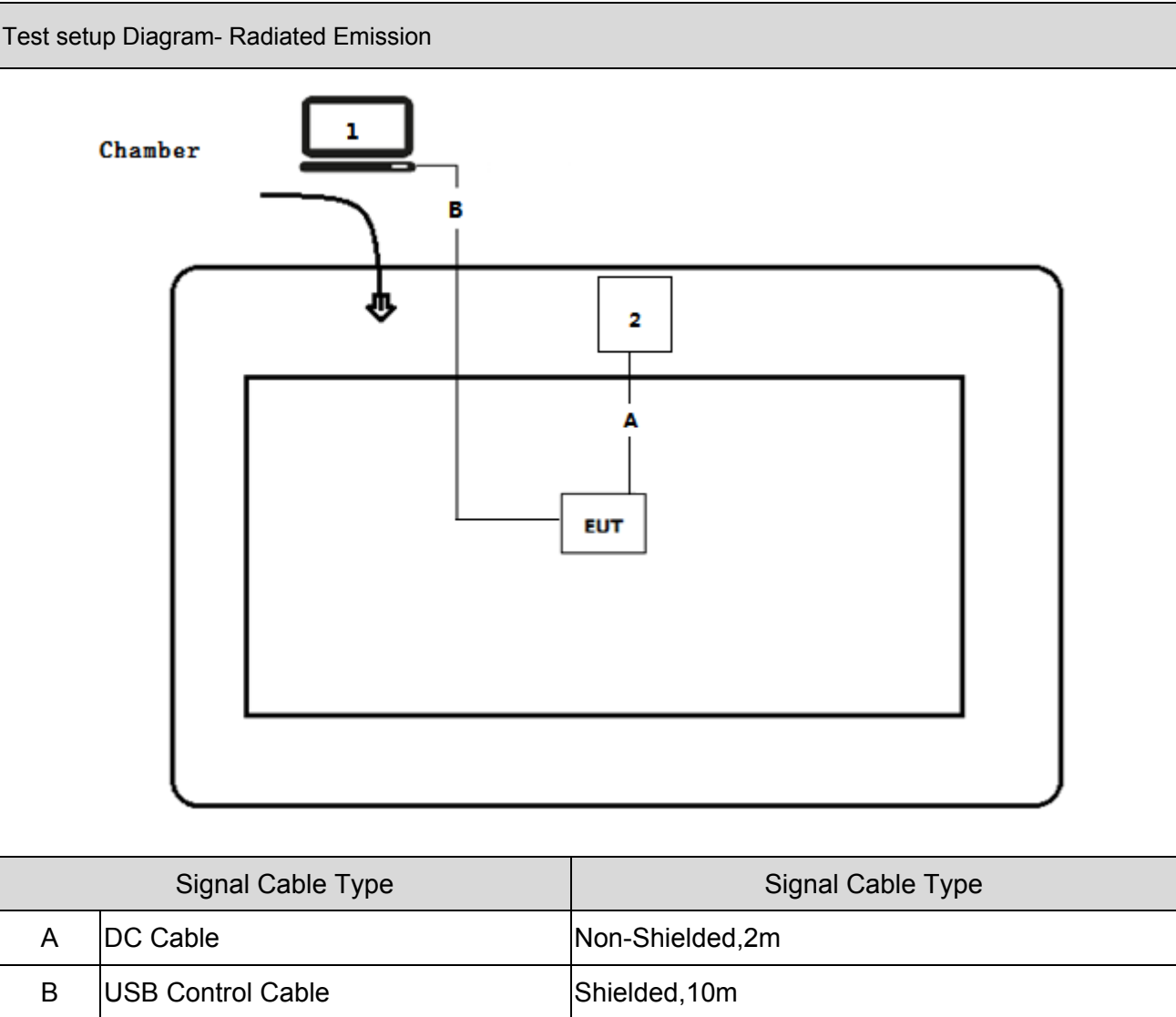
Note: The final product will use a LTE chip together with this WIFI module, so about RE & CE, we used a host and also take mode 4 into account.

1.5. Tested System Details

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

No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded
2	DC Power Supply	IDRC	CD-035-020PR	977272	N/A

1.6. Configuration of Tested System



1.7. EUT Exercise Software

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

2. Technical Test

2.2. Summary of Test Result for WIFI module

For FCC rule:

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

For ISED rule:

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	RSS-Gen Issue 4 Section 8.8	RSS-Gen	N/A
Emissions in restricted frequency bands	RSS-Gen Issue 4 Section 8.9	RSS-Gen	PASS
Emissions in non-restricted frequency bands	RSS-247 Issue 2 Section A5.5	□ 20dBc	PASS
Radiated Emission Band Edge	RSS-247 Issue 2 Section A5.5	RSS-247	PASS
Occupied Bandwidth	RSS-Gen Issue 4 Section 6.6 RSS-247 Issue 2 Section A5.2(1)	□ 500kHz	PASS
Fundamental emission output power	RSS-247 Issue 2 Section A5.4(4)	□ 30dBm	PASS
Power Spectral Density	RSS-247 Issue 2 Section A5.2(2)	□ 8dBm/3kHz	PASS
Antenna Requirement	RSS-Gen Issue 4 Section 8.3	RSS-Gen Issue 4	PASS

2.3. Summary of Test Result for Host

For FCC rule:

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: Section 15.207	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: Section 15.209	FCC 15.209	PASS

For ISSED rule:

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	RSS-Gen Issue 4 Section 8.8	RSS-Gen	PASS
Emissions in restricted frequency bands	RSS-Gen Issue 4 Section 8.9	RSS-Gen	PASS

2.4. Test Frequency configuration:

Modulation Mode	Channel	Frequency	Channel	Frequency	Channel	Frequency
802.11b	01	2412 MHz	06	2437MHz	11	2462MHz
802.11g	01	2412 MHz	06	2437MHz	11	2462MHz
802.11n(20MHz)	01	2412 MHz	06	2437MHz	11	2462MHz

2.5. Power setting parameter

Test Software	Signaling software		
Modulation Mode	Test Frequency	Ant 1	Ant 2
802.11b	2412	16	16
	2437	16	16
	2462	16	16
802.11g	2412	15	12
	2437	16	16
	2462	13	12
802.11n(20MHz)	2412	14	11
	2437	16	16
	2462	12	11

2.6. Power vs Data Rate

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)			
		802.11b	802.11g	20MHz Bandwidth	
				800ns GI	400ns GI
0	1	1	6	6.5	7.2
1	1	2	9	13.0	14.4
2	1	5.5	12	19.5	21.7
3	1	11	18	26.0	28.9
4	1	---	24	39.0	43.3
5	1	---	36	52.0	57.8
6	1	---	48	58.5	65.0
7	1	---	54	65.0	72.2

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

2.7. Test Environment

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

2.8. Measurement Uncertainty

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

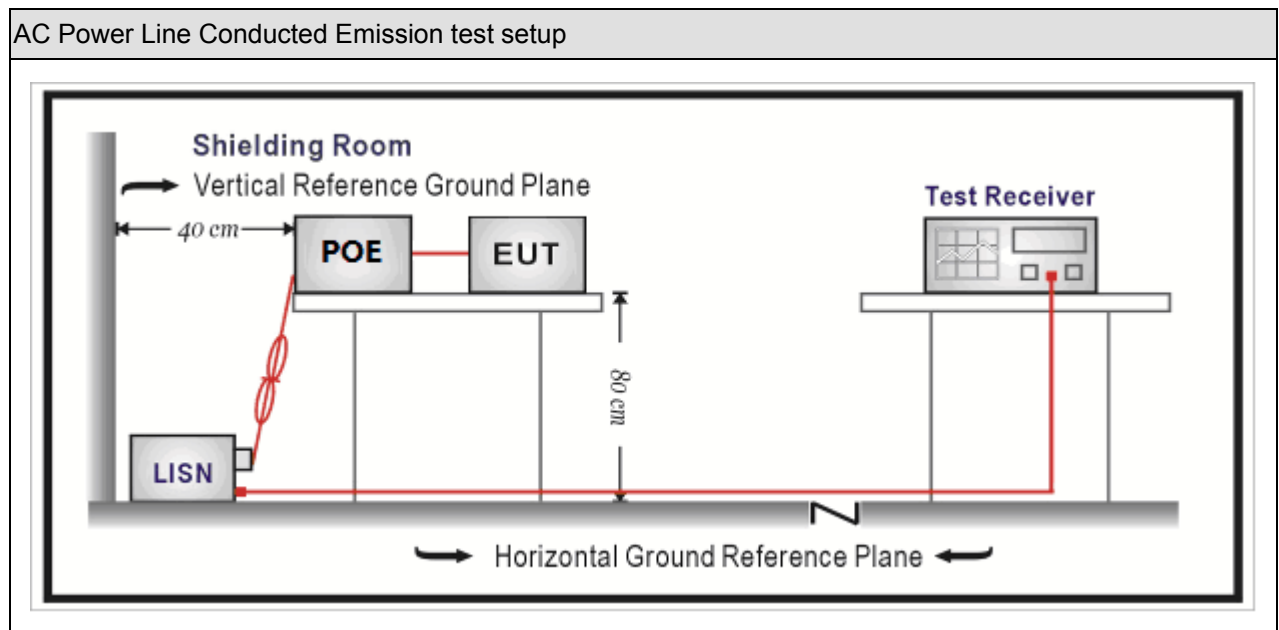
3. AC Power Line Conducted Emission

3.2. Test Equipment

AC Power Line Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2017.03.29	2018.03.28
Two-Line V-Network	R&S	ENV216	100043	2017.03.29	2018.03.28
Two-Line V-Network	R&S	ENV216	100044	2017.09.17	2018.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2017.03.02	2018.03.01
50ohm Termination	SHX	TF2	07081401	2017.09.17	2018.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR1-TH	2018.01.04	2019.01.03

Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.3. Test Setup



3.4. Limit

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

3.5. Test Procedure

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

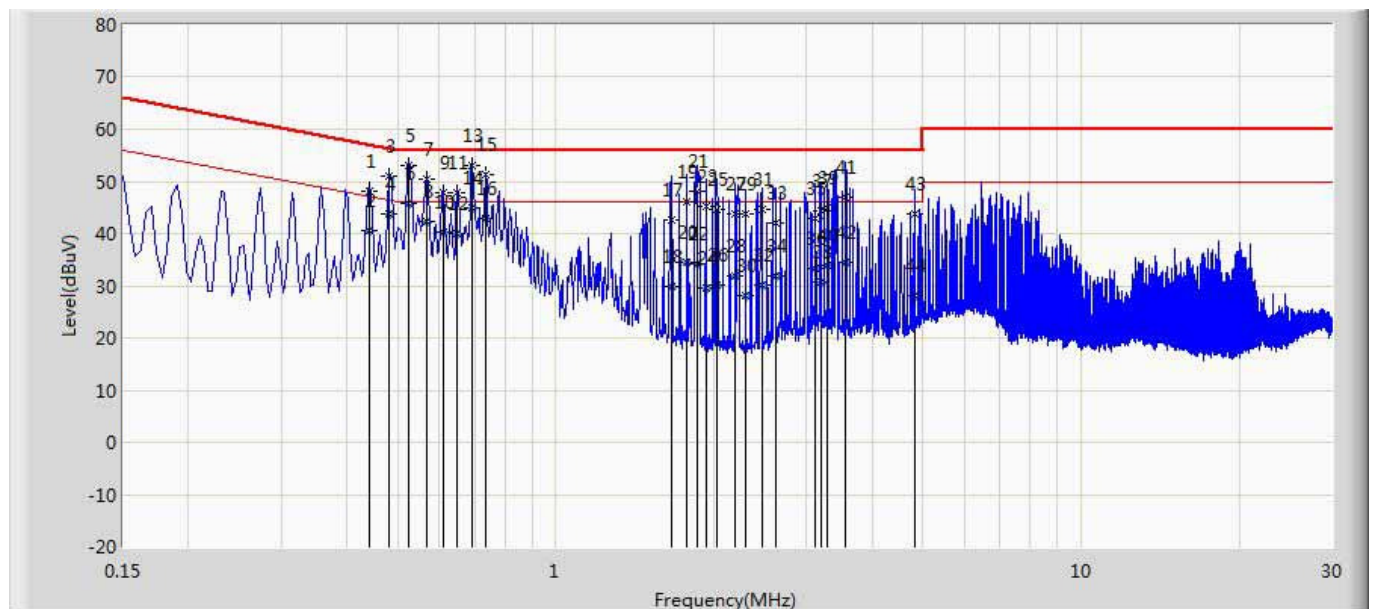
3.6. Test Result

For WIFI module (END1CTLA):

The WIFI module is powered by DC, so this item is not application.

For Host (Solar Inverter):

Engineer: Bob Yu	
Site: AC1	Time: 2018/02/08
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: NSLK 8129(0.009-30MHz)	Polarity: Line1
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-7.6KTL-USL0	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.442	48.195	28.035	-8.829	57.024	0.033	20.127	0.000	QP
2		0.442	40.529	20.369	-6.495	47.024	0.033	20.127	0.000	AV
3		0.482	50.981	30.817	-5.324	56.305	0.034	20.130	0.000	QP
4		0.482	43.862	23.698	-2.443	46.305	0.034	20.130	0.000	AV
5		0.526	52.910	32.767	-3.090	56.000	0.034	20.108	0.000	QP
6	*	0.526	45.680	25.537	-0.320	46.000	0.034	20.108	0.000	AV
7		0.566	50.307	30.130	-5.693	56.000	0.035	20.142	0.000	QP
8		0.566	42.372	22.195	-3.628	46.000	0.035	20.142	0.000	AV
9		0.610	47.780	27.549	-8.220	56.000	0.036	20.195	0.000	QP
10		0.610	40.180	19.949	-5.820	46.000	0.036	20.195	0.000	AV
11		0.650	47.874	27.751	-8.126	56.000	0.036	20.087	0.000	QP

12		0.650	39.959	19.836	-6.041	46.000	0.036	20.087	0.000	AV
13		0.694	53.005	32.805	-2.995	56.000	0.037	20.163	0.000	QP
14		0.694	45.012	24.812	-0.988	46.000	0.037	20.163	0.000	AV
15		0.734	51.327	31.158	-4.673	56.000	0.038	20.131	0.000	QP
16		0.734	42.830	22.661	-3.170	46.000	0.038	20.131	0.000	AV
17		1.658	42.537	22.332	-13.463	56.000	0.053	20.152	0.000	QP
18		1.658	29.887	9.682	-16.113	46.000	0.053	20.152	0.000	AV
19		1.778	46.125	25.985	-9.875	56.000	0.054	20.086	0.000	QP
20		1.778	34.602	14.462	-11.398	46.000	0.054	20.086	0.000	AV
21		1.854	48.114	27.840	-7.886	56.000	0.056	20.218	0.000	QP
22		1.854	34.326	14.052	-11.674	46.000	0.056	20.218	0.000	AV
23		1.930	45.186	24.996	-10.814	56.000	0.057	20.133	0.000	QP
24		1.930	29.577	9.388	-16.423	46.000	0.057	20.133	0.000	AV
25		2.026	44.504	24.339	-11.496	56.000	0.058	20.107	0.000	QP
26		2.026	30.250	10.085	-15.750	46.000	0.058	20.107	0.000	AV
27		2.198	43.825	23.446	-12.175	56.000	0.061	20.318	0.000	QP
28		2.198	31.766	11.387	-14.234	46.000	0.061	20.318	0.000	AV
29		2.294	43.766	23.546	-12.234	56.000	0.062	20.157	0.000	QP
30		2.294	28.051	7.832	-17.949	46.000	0.062	20.157	0.000	AV
31		2.466	44.671	24.407	-11.329	56.000	0.064	20.200	0.000	QP
32		2.466	30.246	9.981	-15.754	46.000	0.064	20.200	0.000	AV
33		2.614	42.072	21.863	-13.928	56.000	0.066	20.143	0.000	QP
34		2.614	31.870	11.661	-14.130	46.000	0.066	20.143	0.000	AV
35		3.122	42.945	22.668	-13.055	56.000	0.072	20.205	0.000	QP
36		3.122	33.195	12.918	-12.805	46.000	0.072	20.205	0.000	AV
37		3.194	44.408	24.195	-11.592	56.000	0.073	20.139	0.000	QP
38		3.194	30.804	10.592	-15.196	46.000	0.073	20.139	0.000	AV
39		3.294	44.940	24.652	-11.060	56.000	0.075	20.213	0.000	QP
40		3.294	33.819	13.531	-12.181	46.000	0.075	20.213	0.000	AV
41		3.566	46.830	26.538	-9.170	56.000	0.078	20.214	0.000	QP
42		3.566	34.427	14.135	-11.573	46.000	0.078	20.214	0.000	AV
43		4.834	43.761	23.480	-12.239	56.000	0.094	20.188	0.000	QP
44		4.834	28.018	7.736	-17.982	46.000	0.094	20.188	0.000	AV

Note:

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

Engineer: Bob Yu

Site: AC1

Time: 2018/02/08

Limit: FCC_Part15.207_CE_AC Power

Margin: 0

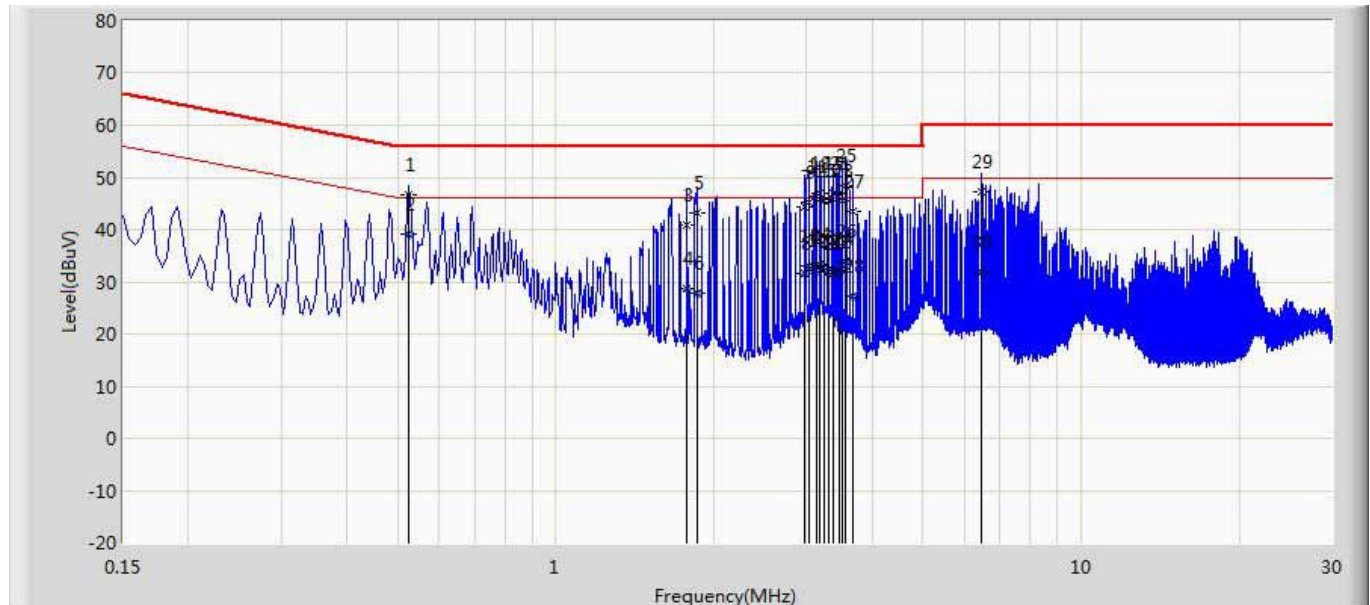
Probe: NSLK 8129(0.009-30MHz)

Polarity: Line2

EUT: Solar Inverter

Power: DC 400V

Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-7.6KTL-USL0



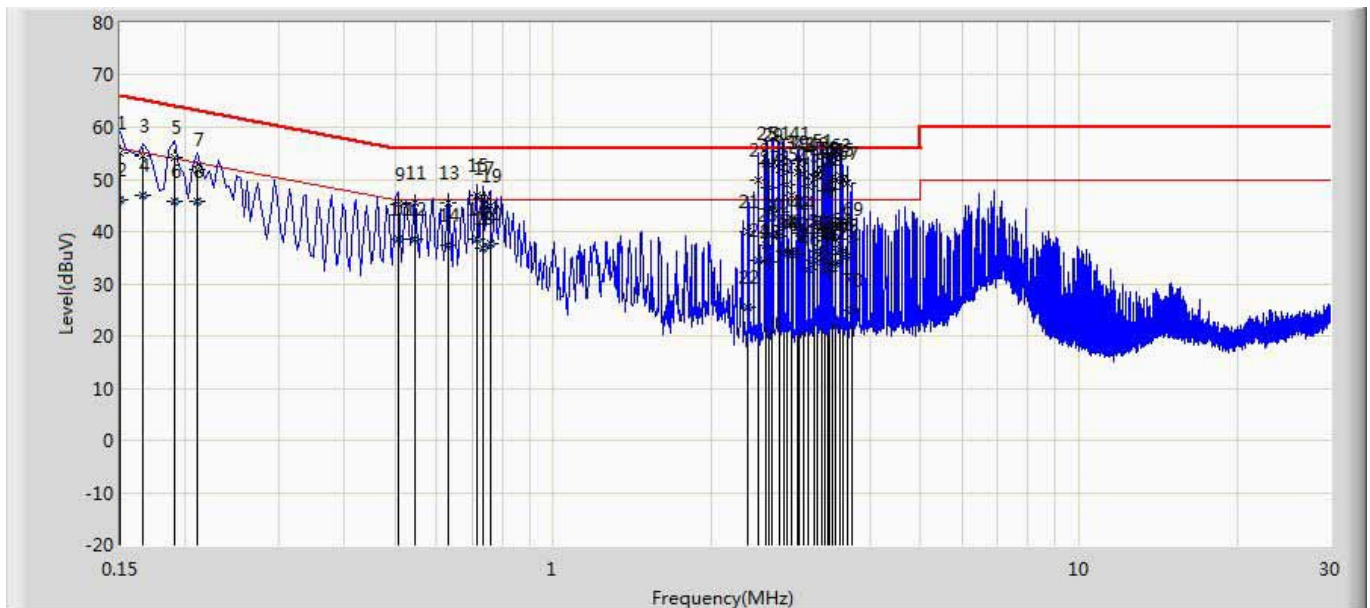
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.526	46.538	26.395	-9.462	56.000	0.035	20.108	0.000	QP
2	*	0.526	39.249	19.105	-6.751	46.000	0.035	20.108	0.000	AV
3		1.778	40.918	20.776	-15.082	56.000	0.056	20.086	0.000	QP
4		1.778	28.682	8.541	-17.318	46.000	0.056	20.086	0.000	AV
5		1.854	43.104	22.828	-12.896	56.000	0.058	20.218	0.000	QP
6		1.854	27.780	7.504	-18.220	46.000	0.058	20.218	0.000	AV
7		2.982	44.329	24.108	-11.671	56.000	0.074	20.148	0.000	QP
8		2.982	31.670	11.449	-14.330	46.000	0.074	20.148	0.000	AV
9		3.030	45.077	24.854	-10.923	56.000	0.075	20.148	0.000	QP
10		3.030	33.035	12.813	-12.965	46.000	0.075	20.148	0.000	AV
11		3.126	46.448	26.171	-9.552	56.000	0.076	20.200	0.000	QP
12		3.126	32.316	12.040	-13.684	46.000	0.076	20.200	0.000	AV
13		3.174	46.963	26.771	-9.037	56.000	0.077	20.116	0.000	QP
14		3.174	33.340	13.147	-12.660	46.000	0.077	20.116	0.000	AV
15		3.242	45.477	25.213	-10.523	56.000	0.078	20.186	0.000	QP
16		3.242	32.699	12.435	-13.301	46.000	0.078	20.186	0.000	AV

17		3.298	45.588	25.311	-10.412	56.000	0.079	20.198	0.000	QP
18		3.298	31.742	11.465	-14.258	46.000	0.079	20.198	0.000	AV
19		3.370	46.991	26.687	-9.009	56.000	0.080	20.224	0.000	QP
20		3.370	31.613	11.309	-14.387	46.000	0.080	20.224	0.000	AV
21		3.466	47.070	26.787	-8.930	56.000	0.081	20.202	0.000	QP
22		3.466	31.833	11.550	-14.167	46.000	0.081	20.202	0.000	AV
23		3.510	45.594	25.283	-10.406	56.000	0.082	20.229	0.000	QP
24		3.510	32.319	12.008	-13.681	46.000	0.082	20.229	0.000	AV
25		3.562	48.345	28.028	-7.655	56.000	0.082	20.235	0.000	QP
26		3.562	34.038	13.720	-11.962	46.000	0.082	20.235	0.000	AV
27		3.682	43.348	23.037	-12.652	56.000	0.084	20.227	0.000	QP
28		3.682	27.372	7.061	-18.628	46.000	0.084	20.227	0.000	AV
29		6.470	47.253	26.840	-12.747	60.000	0.129	20.284	0.000	QP
30		6.470	31.869	11.456	-18.131	50.000	0.129	20.284	0.000	AV

Note:

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

Engineer: Bob Yu	
Site: AC1	Time: 2018/02/08
Limit: FCC_Part15.207_CE_AC Power	Margin: 0
Probe: NSLK 8129(0.009-30MHz)	Polarity: Line1
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-11.4KTL-USL0	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	55.120	34.959	-10.880	66.000	0.033	20.128	0.000	QP
2		0.150	46.186	26.025	-9.814	56.000	0.033	20.128	0.000	AV
3		0.166	54.384	34.247	-10.775	65.158	0.032	20.104	0.000	QP
4		0.166	46.834	26.698	-8.324	55.158	0.032	20.104	0.000	AV
5		0.190	54.079	33.913	-9.958	64.037	0.031	20.135	0.000	QP
6		0.190	45.867	25.701	-8.170	54.037	0.031	20.135	0.000	AV
7		0.210	51.803	31.538	-11.402	63.205	0.031	20.234	0.000	QP
8		0.210	45.723	25.459	-7.482	53.205	0.031	20.234	0.000	AV
9		0.506	45.113	25.076	-10.887	56.000	0.034	20.003	0.000	QP
10		0.506	38.487	18.451	-7.513	46.000	0.034	20.003	0.000	AV
11		0.546	45.395	25.186	-10.605	56.000	0.035	20.174	0.000	QP
12		0.546	38.612	18.403	-7.388	46.000	0.035	20.174	0.000	AV
13		0.630	45.408	25.200	-10.592	56.000	0.036	20.173	0.000	QP
14		0.630	37.254	17.046	-8.746	46.000	0.036	20.173	0.000	AV
15		0.714	46.921	26.733	-9.079	56.000	0.038	20.150	0.000	QP
16		0.714	38.490	18.303	-7.510	46.000	0.038	20.150	0.000	AV
17		0.734	46.461	26.292	-9.539	56.000	0.038	20.131	0.000	QP

18		0.734	36.704	16.535	-9.296	46.000	0.038	20.131	0.000	AV
19		0.758	44.989	24.784	-11.011	56.000	0.038	20.167	0.000	QP
20		0.758	37.643	17.438	-8.357	46.000	0.038	20.167	0.000	AV
21		2.350	39.908	19.598	-16.092	56.000	0.062	20.248	0.000	QP
22		2.350	25.375	5.065	-20.625	46.000	0.062	20.248	0.000	AV
23		2.462	49.725	29.467	-6.275	56.000	0.064	20.195	0.000	QP
24		2.462	34.627	14.368	-11.373	46.000	0.064	20.195	0.000	AV
25	*	2.538	53.187	33.015	-2.813	56.000	0.065	20.107	0.000	QP
26		2.538	37.528	17.356	-8.472	46.000	0.065	20.107	0.000	AV
27		2.578	48.525	28.290	-7.475	56.000	0.065	20.171	0.000	QP
28		2.578	34.301	14.065	-11.699	46.000	0.065	20.171	0.000	AV
29		2.610	52.875	32.666	-3.125	56.000	0.066	20.143	0.000	QP
30		2.610	39.309	19.100	-6.691	46.000	0.066	20.143	0.000	AV
31		2.686	52.961	32.672	-3.039	56.000	0.067	20.222	0.000	QP
32		2.686	39.050	18.760	-6.950	46.000	0.067	20.222	0.000	AV
33		2.738	51.289	31.044	-4.711	56.000	0.067	20.179	0.000	QP
34		2.738	36.330	16.084	-9.670	46.000	0.067	20.179	0.000	AV
35		2.790	48.881	28.549	-7.119	56.000	0.068	20.264	0.000	QP
36		2.790	35.512	15.179	-10.488	46.000	0.068	20.264	0.000	AV
37		2.846	46.838	26.740	-9.162	56.000	0.069	20.029	0.000	QP
38		2.846	36.181	16.084	-9.819	46.000	0.069	20.029	0.000	AV
39		2.906	51.292	31.032	-4.708	56.000	0.070	20.190	0.000	QP
40		2.906	35.745	15.486	-10.255	46.000	0.070	20.190	0.000	AV
41		2.930	53.062	32.758	-2.938	56.000	0.070	20.235	0.000	QP
42		2.930	39.819	19.514	-6.181	46.000	0.070	20.235	0.000	AV
43		3.002	51.038	30.844	-4.962	56.000	0.071	20.123	0.000	QP
44		3.002	39.703	19.509	-6.297	46.000	0.071	20.123	0.000	AV
45		3.058	48.763	28.539	-7.237	56.000	0.072	20.152	0.000	QP
46		3.058	32.613	12.389	-13.387	46.000	0.072	20.152	0.000	AV
47		3.126	50.127	29.854	-5.873	56.000	0.072	20.200	0.000	QP
48		3.126	34.558	14.286	-11.442	46.000	0.072	20.200	0.000	AV
49		3.174	50.922	30.733	-5.078	56.000	0.073	20.116	0.000	QP
50		3.174	36.337	16.148	-9.663	46.000	0.073	20.116	0.000	AV
51		3.250	51.590	31.331	-4.410	56.000	0.074	20.185	0.000	QP
52		3.250	36.025	15.765	-9.975	46.000	0.074	20.185	0.000	AV
53		3.290	47.808	27.505	-8.192	56.000	0.074	20.229	0.000	QP
54		3.290	33.527	13.224	-12.473	46.000	0.074	20.229	0.000	AV

55		3.322	50.133	29.891	-5.867	56.000	0.075	20.167	0.000	QP
56		3.322	35.728	15.486	-10.272	46.000	0.075	20.167	0.000	AV
57		3.350	48.228	27.908	-7.772	56.000	0.075	20.246	0.000	QP
58		3.350	32.375	12.054	-13.625	46.000	0.075	20.246	0.000	AV
59		3.390	48.025	27.736	-7.975	56.000	0.076	20.213	0.000	QP
60		3.390	33.826	13.537	-12.174	46.000	0.076	20.213	0.000	AV
61		3.446	49.807	29.504	-6.193	56.000	0.076	20.226	0.000	QP
62		3.446	33.927	13.625	-12.073	46.000	0.076	20.226	0.000	AV
63		3.514	50.740	30.432	-5.260	56.000	0.077	20.231	0.000	QP
64		3.514	36.411	16.103	-9.589	46.000	0.077	20.231	0.000	AV
65		3.562	49.770	29.457	-6.230	56.000	0.078	20.235	0.000	QP
66		3.562	35.685	15.372	-10.315	46.000	0.078	20.235	0.000	AV
67		3.618	49.318	29.115	-6.682	56.000	0.078	20.125	0.000	QP
68		3.618	35.359	15.156	-10.641	46.000	0.078	20.125	0.000	AV
69		3.698	38.625	18.289	-17.375	56.000	0.080	20.256	0.000	QP
70		3.698	24.962	4.625	-21.038	46.000	0.080	20.256	0.000	AV

Note:

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

Engineer: Bob Yu

Site: AC1

Time: 2018/02/08

Limit: FCC_Part15.207_CE_AC Power

Margin: 0

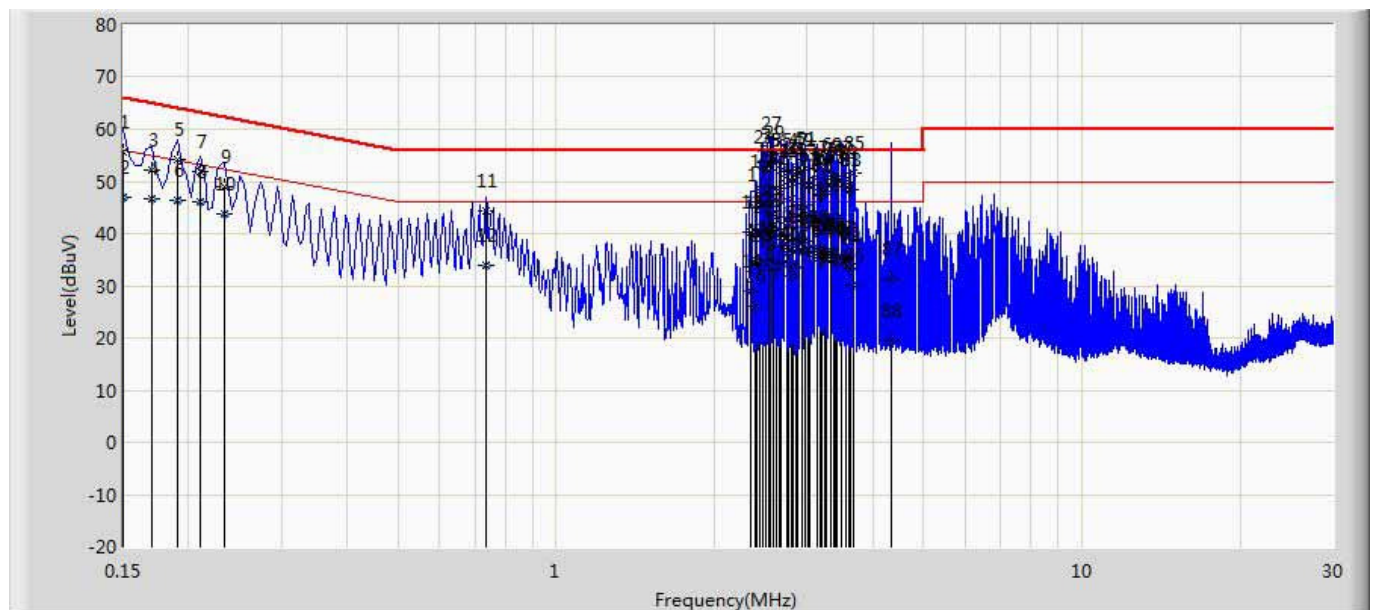
Probe: NSLK 8129(0.009-30MHz)

Polarity: Line2

EUT: Solar Inverter

Power: DC 400V

Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-11.4KTL-USL0



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	55.765	35.603	-10.235	66.000	0.034	20.128	0.000	QP
2		0.150	46.942	26.780	-9.058	56.000	0.034	20.128	0.000	AV
3		0.170	52.136	32.005	-12.824	64.960	0.033	20.099	0.000	QP
4		0.170	46.594	26.463	-8.367	54.960	0.033	20.099	0.000	AV
5		0.190	54.291	34.124	-9.746	64.037	0.032	20.135	0.000	QP
6		0.190	46.259	26.092	-7.778	54.037	0.032	20.135	0.000	AV
7		0.210	51.987	31.722	-11.218	63.205	0.032	20.234	0.000	QP
8		0.210	46.212	25.947	-6.993	53.205	0.032	20.234	0.000	AV
9		0.234	48.967	28.741	-13.340	62.307	0.032	20.194	0.000	QP
10		0.234	43.677	23.451	-8.629	52.307	0.032	20.194	0.000	AV
11		0.734	44.444	24.273	-11.556	56.000	0.039	20.131	0.000	QP
12		0.734	33.877	13.706	-12.123	46.000	0.039	20.131	0.000	AV
13		2.350	40.406	20.093	-15.594	56.000	0.065	20.248	0.000	QP
14		2.350	28.954	8.641	-17.046	46.000	0.065	20.248	0.000	AV
15		2.382	40.355	20.104	-15.645	56.000	0.065	20.186	0.000	QP
16		2.382	25.978	5.727	-20.022	46.000	0.065	20.186	0.000	AV
17		2.410	45.389	25.117	-10.611	56.000	0.066	20.206	0.000	QP

18		2.410	34.916	14.644	-11.084	46.000	0.066	20.206	0.000	AV
19		2.438	48.222	27.965	-7.778	56.000	0.066	20.191	0.000	QP
20		2.438	33.857	13.600	-12.143	46.000	0.066	20.191	0.000	AV
21		2.466	52.756	32.488	-3.244	56.000	0.067	20.200	0.000	QP
22		2.466	39.543	19.276	-6.457	46.000	0.067	20.200	0.000	AV
23		2.498	49.106	28.872	-6.894	56.000	0.067	20.167	0.000	QP
24		2.498	35.084	14.850	-10.916	46.000	0.067	20.167	0.000	AV
25		2.534	52.198	32.019	-3.802	56.000	0.068	20.112	0.000	QP
26		2.534	37.365	17.186	-8.635	46.000	0.068	20.112	0.000	AV
27	*	2.562	55.232	34.995	-0.768	56.000	0.068	20.170	0.000	QP
28		2.562	40.564	20.326	-5.436	46.000	0.068	20.170	0.000	AV
29		2.590	53.741	33.519	-2.259	56.000	0.068	20.154	0.000	QP
30		2.590	40.763	20.541	-5.237	46.000	0.068	20.154	0.000	AV
31		2.622	48.627	28.415	-7.373	56.000	0.069	20.143	0.000	QP
32		2.622	32.904	12.692	-13.096	46.000	0.069	20.143	0.000	AV
33		2.650	48.733	28.558	-7.267	56.000	0.069	20.106	0.000	QP
34		2.650	34.366	14.191	-11.634	46.000	0.069	20.106	0.000	AV
35		2.682	52.115	31.841	-3.885	56.000	0.070	20.204	0.000	QP
36		2.682	38.311	18.037	-7.689	46.000	0.070	20.204	0.000	AV
37		2.738	50.898	30.648	-5.102	56.000	0.071	20.179	0.000	QP
38		2.738	36.202	15.952	-9.798	46.000	0.071	20.179	0.000	AV
39		2.766	50.267	29.858	-5.733	56.000	0.071	20.338	0.000	QP
40		2.766	34.340	13.931	-11.660	46.000	0.071	20.338	0.000	AV
41		2.794	46.805	26.512	-9.195	56.000	0.071	20.222	0.000	QP
42		2.794	32.017	11.725	-13.983	46.000	0.071	20.222	0.000	AV
43		2.826	49.455	29.365	-6.545	56.000	0.072	20.018	0.000	QP
44		2.826	37.074	16.984	-8.926	46.000	0.072	20.018	0.000	AV
45		2.854	50.001	29.860	-5.999	56.000	0.072	20.069	0.000	QP
46		2.854	33.724	13.583	-12.276	46.000	0.072	20.069	0.000	AV
47		2.882	52.298	32.072	-3.702	56.000	0.073	20.154	0.000	QP
48		2.882	38.609	18.382	-7.391	46.000	0.073	20.154	0.000	AV
49		2.930	52.197	31.889	-3.803	56.000	0.073	20.235	0.000	QP
50		2.930	36.659	16.351	-9.341	46.000	0.073	20.235	0.000	AV
51		2.978	52.371	32.124	-3.629	56.000	0.074	20.173	0.000	QP
52		2.978	38.625	18.378	-7.375	46.000	0.074	20.173	0.000	AV
53		3.006	49.242	29.046	-6.758	56.000	0.074	20.123	0.000	QP
54		3.006	36.975	16.779	-9.025	46.000	0.074	20.123	0.000	AV

55		3.034	49.381	29.150	-6.619	56.000	0.075	20.155	0.000	QP
56		3.034	35.892	15.662	-10.108	46.000	0.075	20.155	0.000	AV
57		3.126	50.698	30.422	-5.302	56.000	0.076	20.200	0.000	QP
58		3.126	37.313	17.037	-8.687	46.000	0.076	20.200	0.000	AV
59		3.170	48.357	28.169	-7.643	56.000	0.077	20.111	0.000	QP
60		3.170	36.459	16.271	-9.541	46.000	0.077	20.111	0.000	AV
61		3.182	47.371	27.169	-8.629	56.000	0.077	20.125	0.000	QP
62		3.182	35.238	15.036	-10.762	46.000	0.077	20.125	0.000	AV
63		3.206	47.599	27.364	-8.401	56.000	0.077	20.158	0.000	QP
64		3.206	34.927	14.692	-11.073	46.000	0.077	20.158	0.000	AV
65		3.242	48.877	28.613	-7.123	56.000	0.078	20.186	0.000	QP
66		3.242	36.037	15.773	-9.963	46.000	0.078	20.186	0.000	AV
67		3.266	48.692	28.403	-7.308	56.000	0.078	20.211	0.000	QP
68		3.266	36.005	15.717	-9.995	46.000	0.078	20.211	0.000	AV
69		3.318	51.357	31.127	-4.643	56.000	0.079	20.151	0.000	QP
70		3.318	36.923	16.692	-9.077	46.000	0.079	20.151	0.000	AV
71		3.366	50.356	30.048	-5.644	56.000	0.080	20.228	0.000	QP
72		3.366	35.848	15.539	-10.152	46.000	0.080	20.228	0.000	AV
73		3.390	48.989	28.695	-7.011	56.000	0.080	20.213	0.000	QP
74		3.390	35.379	15.086	-10.621	46.000	0.080	20.213	0.000	AV
75		3.418	49.646	29.340	-6.354	56.000	0.080	20.226	0.000	QP
76		3.418	34.604	14.299	-11.396	46.000	0.080	20.226	0.000	AV
77		3.494	50.655	30.352	-5.345	56.000	0.081	20.221	0.000	QP
78		3.494	35.360	15.058	-10.640	46.000	0.081	20.221	0.000	AV
79		3.566	49.875	29.578	-6.125	56.000	0.083	20.214	0.000	QP
80		3.566	35.489	15.192	-10.511	46.000	0.083	20.214	0.000	AV
81		3.594	48.545	28.337	-7.455	56.000	0.083	20.124	0.000	QP
82		3.594	34.125	13.918	-11.875	46.000	0.083	20.124	0.000	AV
83		3.622	48.519	28.307	-7.481	56.000	0.083	20.130	0.000	QP
84		3.622	33.444	13.231	-12.556	46.000	0.083	20.130	0.000	AV
85		3.686	51.519	31.201	-4.481	56.000	0.084	20.234	0.000	QP
86		3.686	30.185	9.867	-15.815	46.000	0.084	20.234	0.000	AV
87		4.330	31.299	10.979	-24.701	56.000	0.093	20.227	0.000	QP
88		4.330	19.451	-0.869	-26.549	46.000	0.093	20.227	0.000	AV

Note:

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

4. Emissions in restricted frequency bands

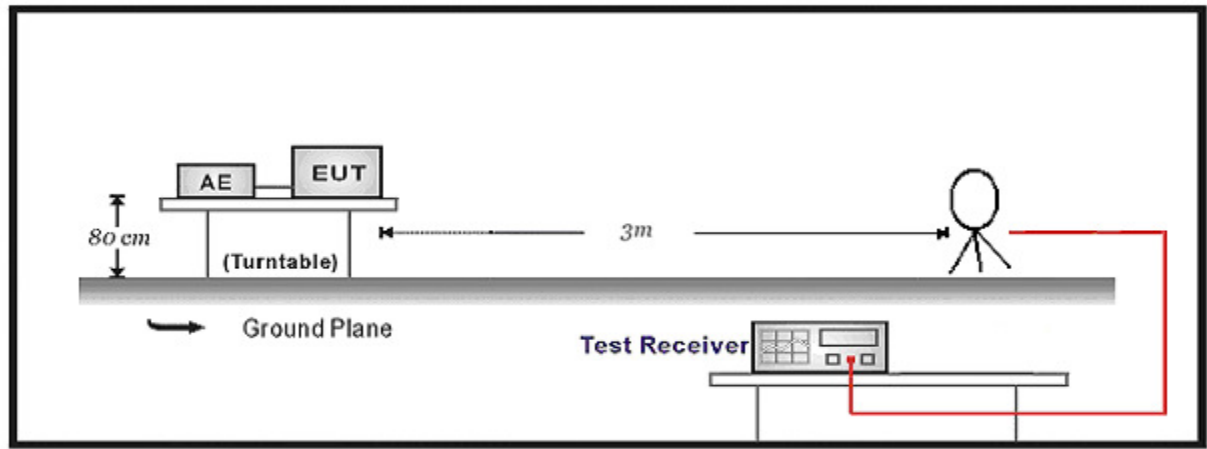
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2017.03.29	2018.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2017.11.16	2018.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2017.10.16	2018.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2017.03.02	2018.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

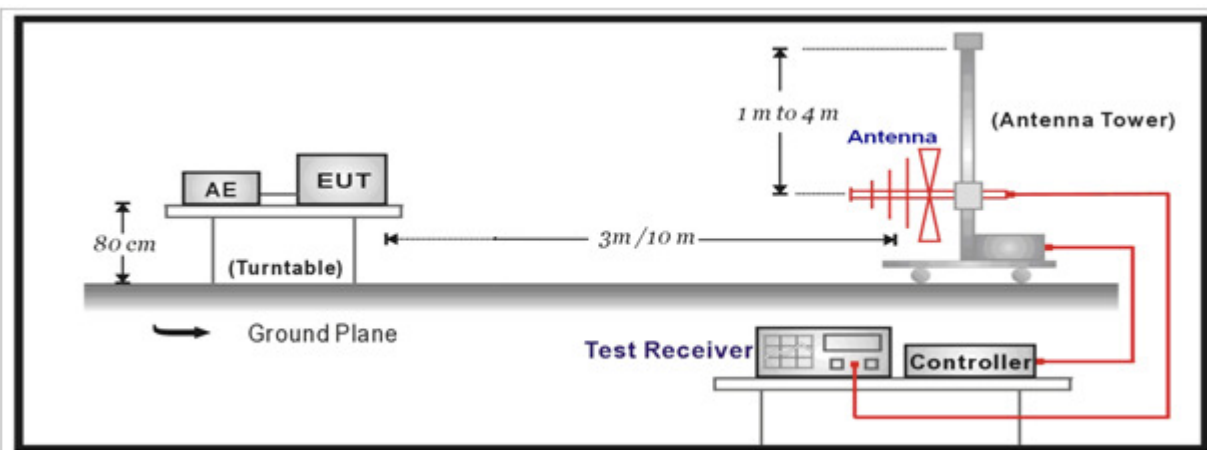
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2017.05.06	2018.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2017.01.22	2018.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.11.25	2018.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2017.03.02	2018.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2017.06.10	2018.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

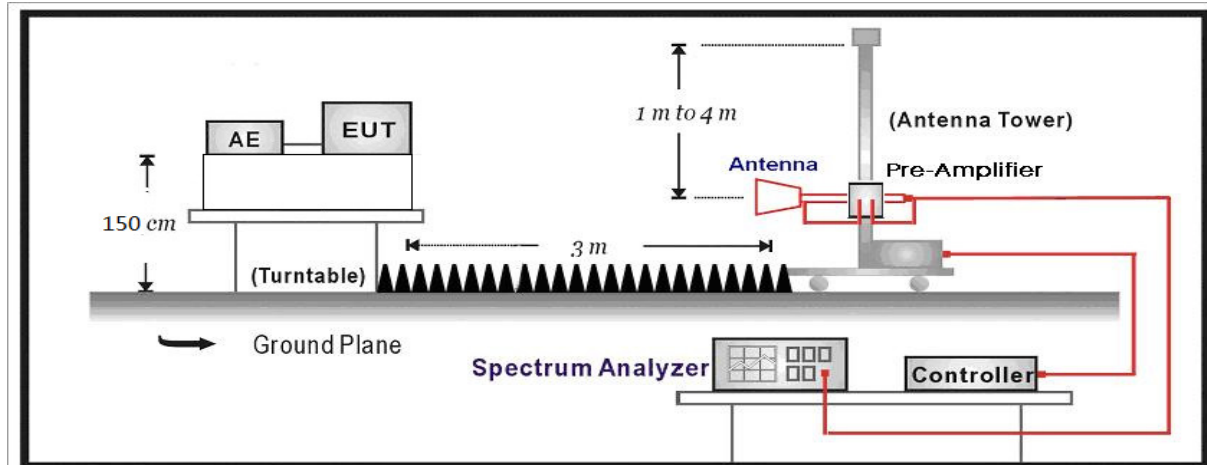
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

For FCC

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

For ISED:

Restricted Bands of operation

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

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

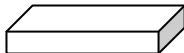
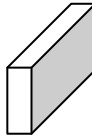
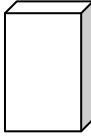
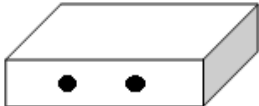
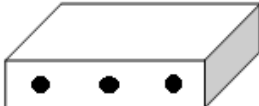
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed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

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

4.4. Test Procedure

Test Method						
	References Rule		Chapter	Description		
☐	ANSI C63.10		11.11	Emissions in non-restricted frequency bands		
	☐	ANSI C63.10	11.11.2	Reference level measurement		
	☐	ANSI C63.10	11.11.3	Emission level measurement		
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands		
	☒	ANSI C63.10	11.12.1	Radiated emission measurements		
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test		
		☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz	
		☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz	
		☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz	
	☐	ANSI C63.10		11.12.2	Antenna-port conducted measurements	
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure	
		☐	ANSI C63.10	11.12.2.4	Peak power measurement procedure	
		☐	ANSI C63.10	11.12.2.5	Average power measurement procedures	
			☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

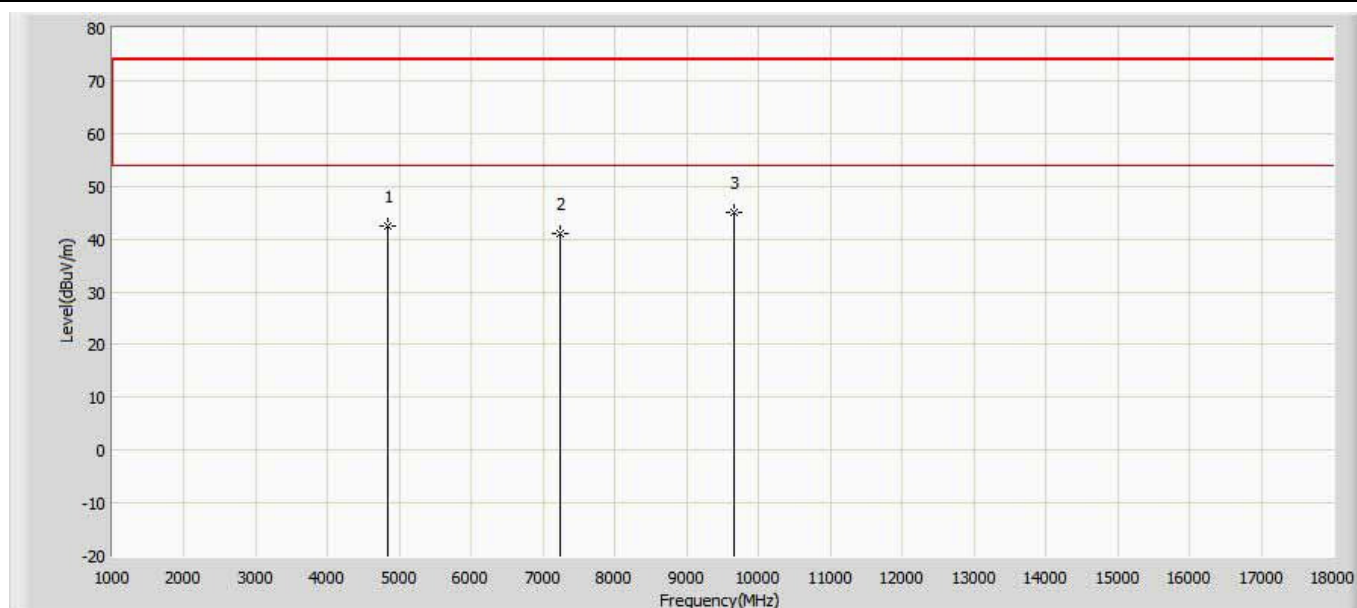
4.5. EUT test Axis definition

Item	Emissions in restricted frequency bands			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~3			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☒	Worst Axis ☐	Worst Axis ☐
	☐	Conducted		
	☐	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

4.6. Test Result

For WIFI module (END1CTLA):

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4825.000	42.472	43.295	-31.528	74.000	-0.823	PK
2		7236.000	41.133	36.858	-32.867	74.000	4.275	PK
3	*	9648.000	45.119	35.709	-28.881	74.000	9.410	PK

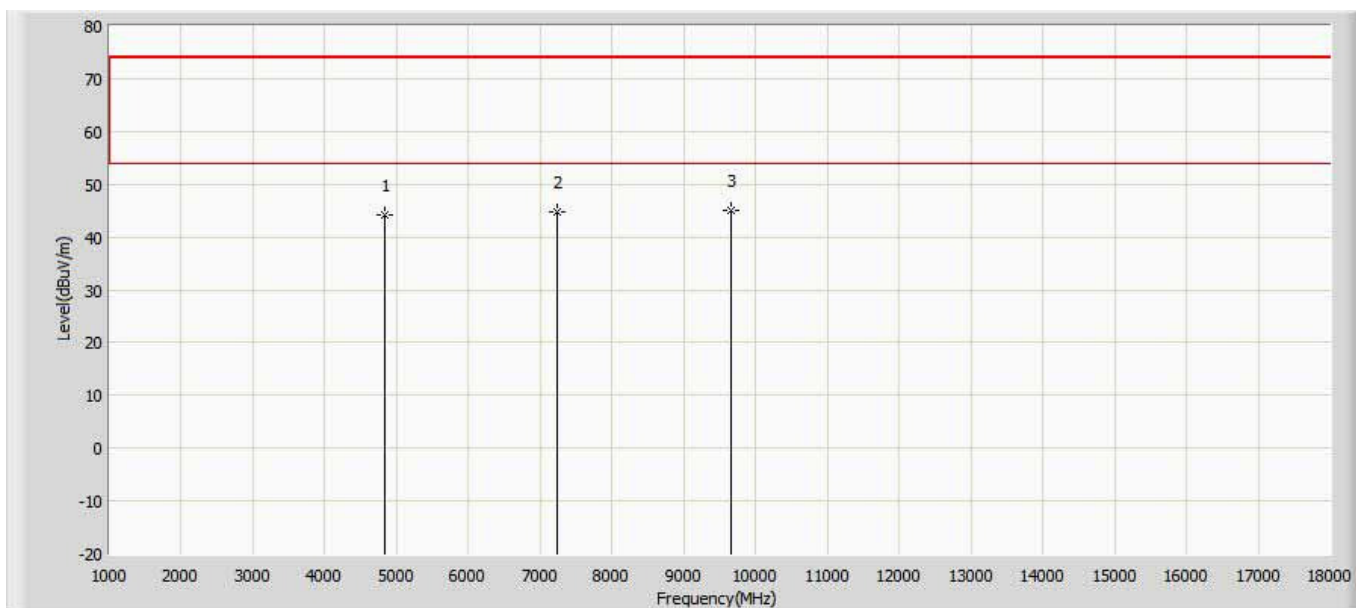
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4825.000	44.130	44.953	-29.870	74.000	-0.823	PK
2		7230.500	44.810	40.384	-29.190	74.000	4.426	PK
3	*	9648.000	45.142	35.732	-28.858	74.000	9.410	PK

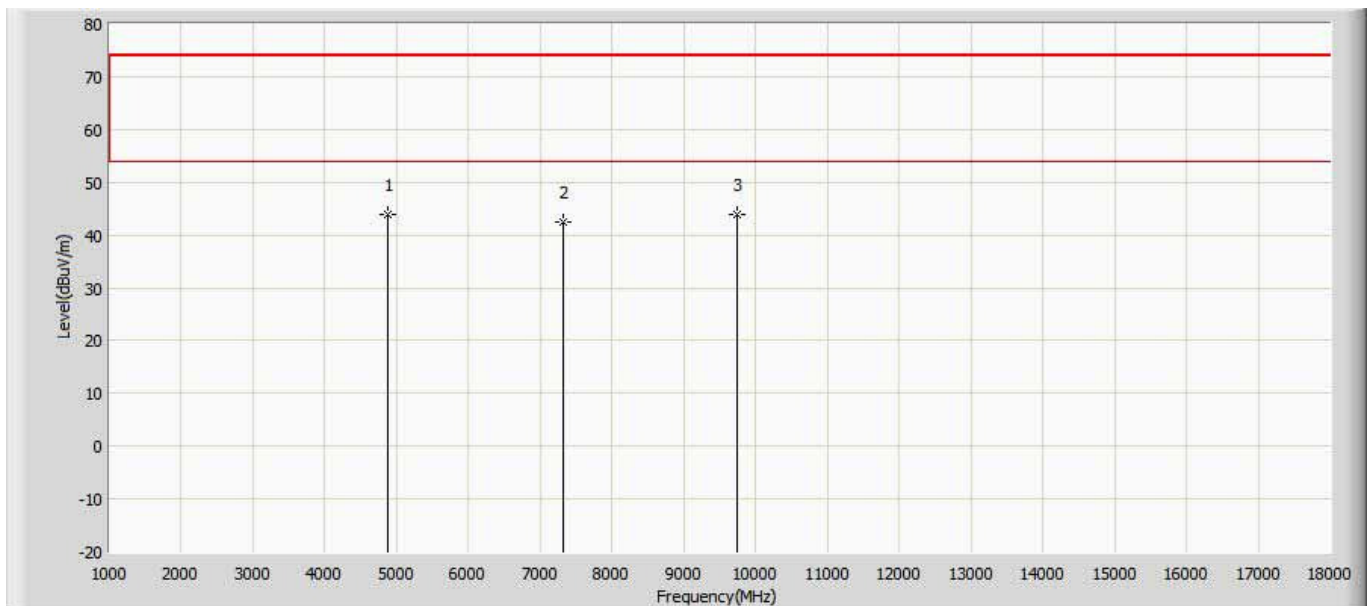
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	4876.000	43.880	44.400	-30.120	74.000	-0.520	PK
2		7311.000	42.409	37.983	-31.591	74.000	4.426	PK
3		9748.000	43.876	34.681	-30.124	74.000	9.195	PK

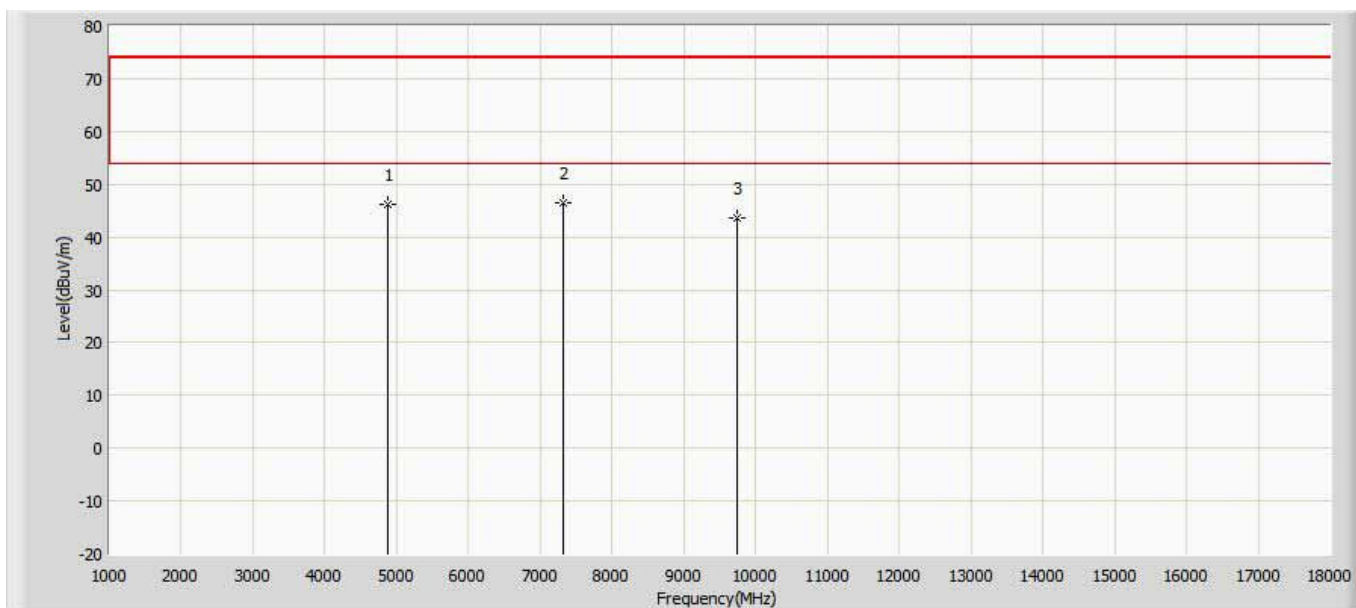
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	46.162	46.682	-27.838	74.000	-0.520	PK
2	*	7315.500	46.478	41.940	-27.522	74.000	4.538	PK
3		9748.000	43.632	34.437	-30.368	74.000	9.195	PK

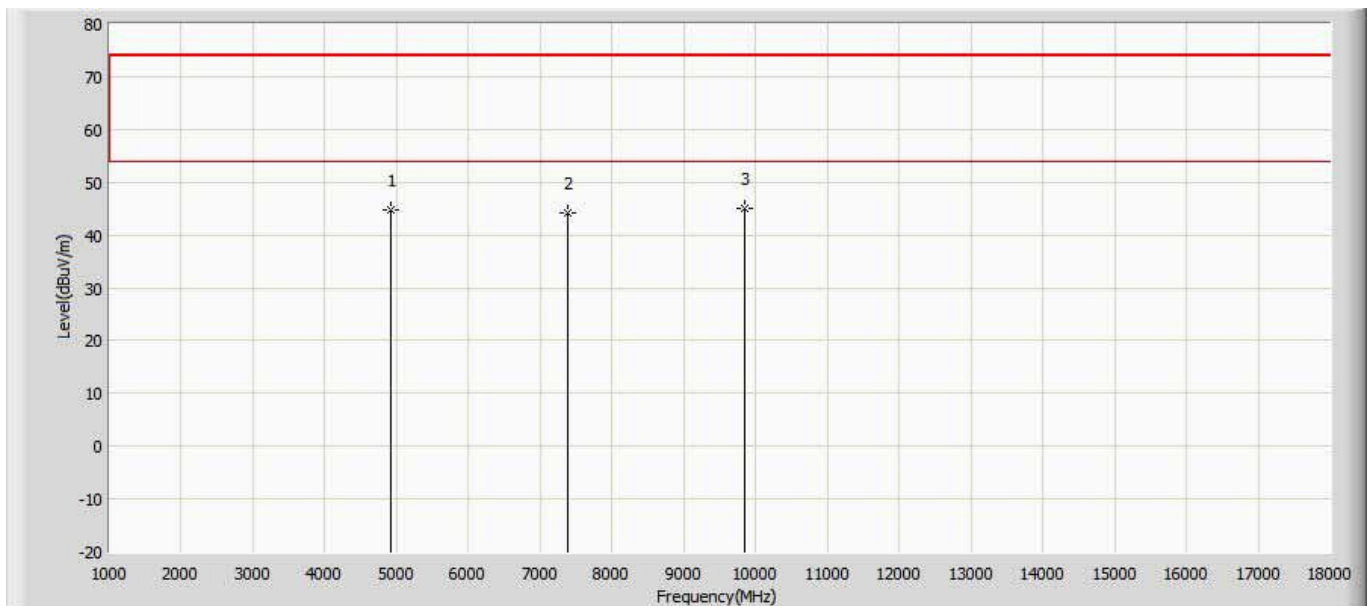
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4927.000	44.623	44.699	-29.377	74.000	-0.076	PK
2		7383.500	44.268	39.631	-29.732	74.000	4.637	PK
3	*	9848.000	45.044	34.641	-28.956	74.000	10.403	PK

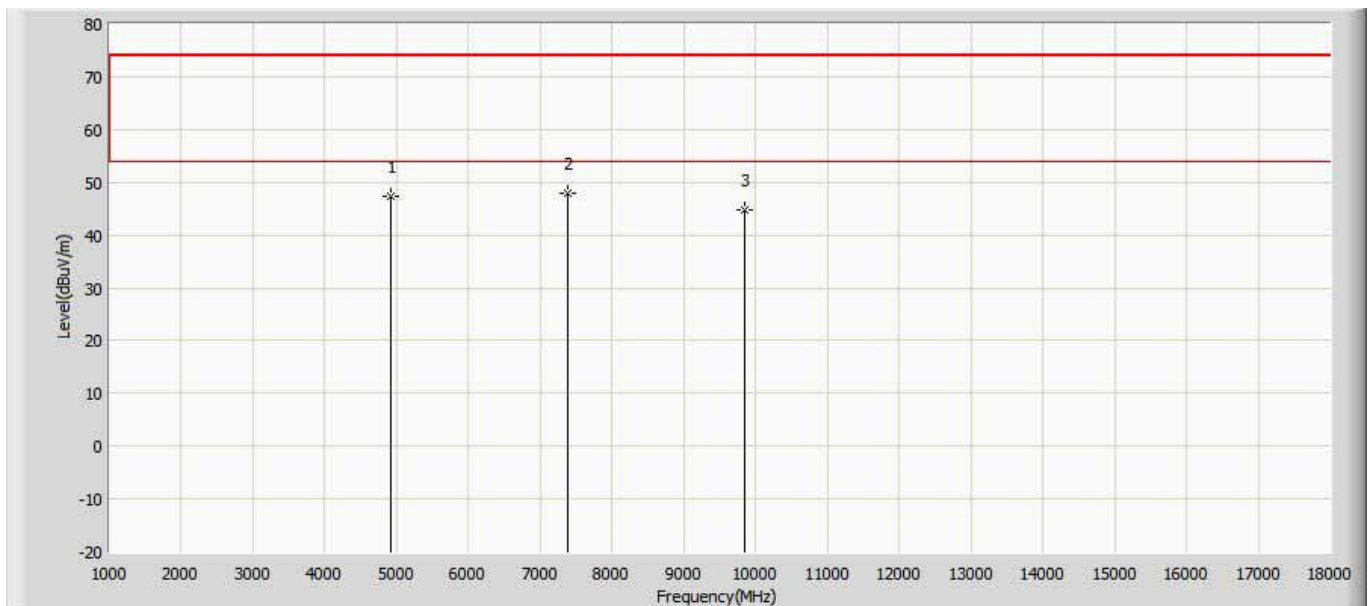
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4927.000	47.401	47.477	-26.599	74.000	-0.076	PK
2	*	7383.500	48.010	43.373	-25.990	74.000	4.637	PK
3		9848.000	44.844	34.441	-29.156	74.000	10.403	PK

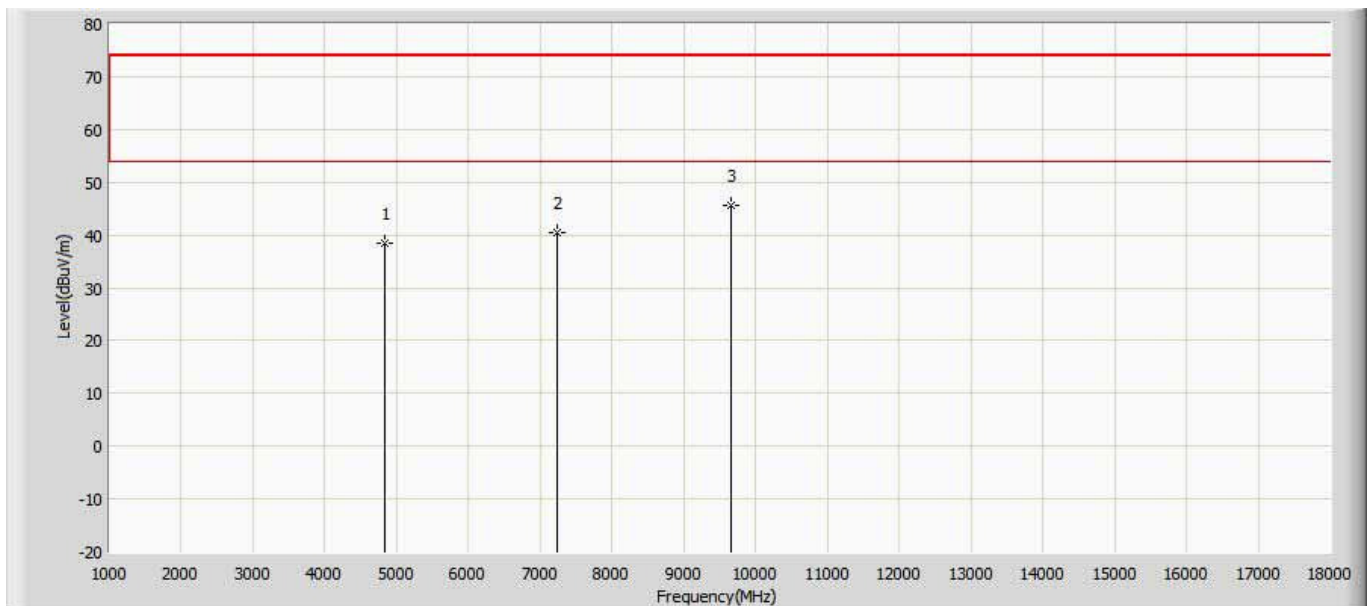
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4833.500	38.566	39.287	-35.434	74.000	-0.721	PK
2		7236.000	40.543	36.268	-33.457	74.000	4.275	PK
3	*	9648.000	45.490	36.080	-28.510	74.000	9.410	PK

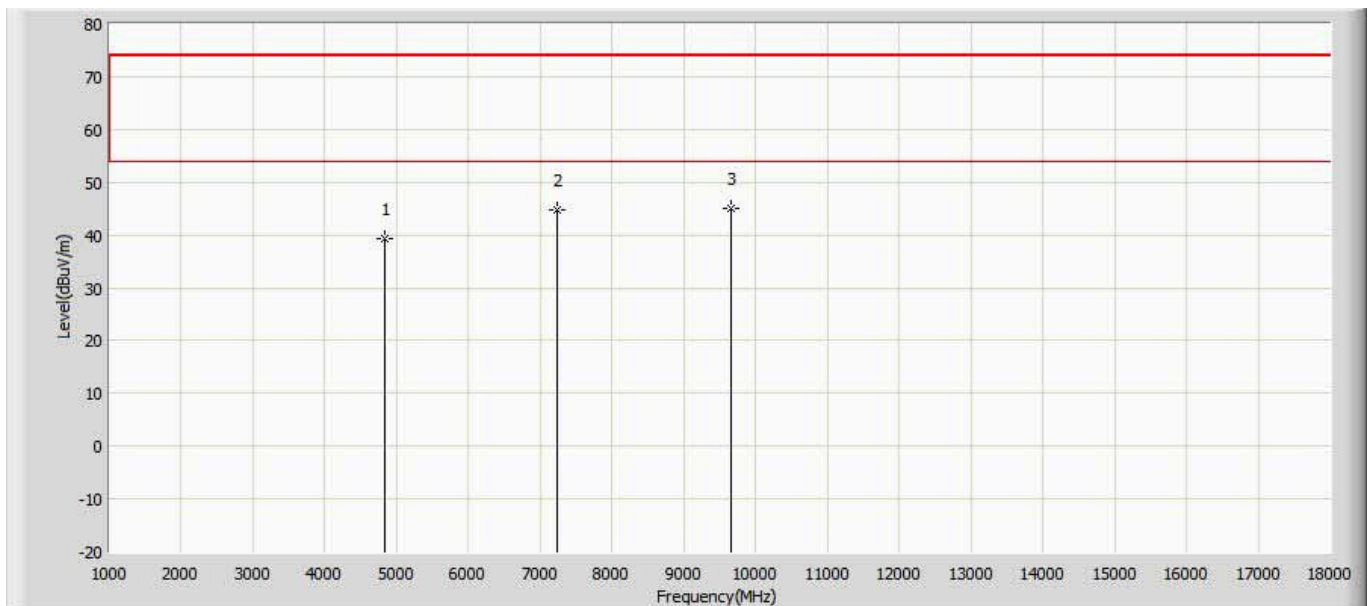
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4833.500	39.264	39.985	-34.736	74.000	-0.721	PK
2		7239.000	44.631	40.438	-29.369	74.000	4.193	PK
3	*	9648.000	45.083	35.673	-28.917	74.000	9.410	PK

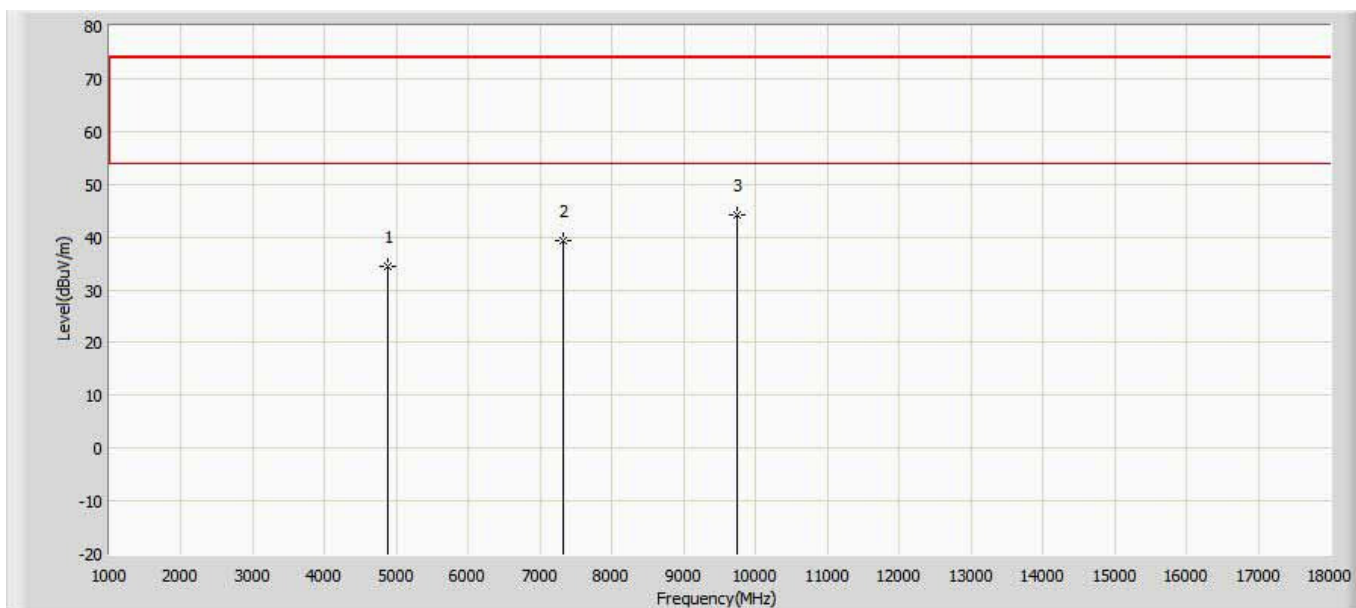
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	34.400	34.894	-39.600	74.000	-0.494	PK
2		7311.000	39.391	34.965	-34.609	74.000	4.426	PK
3	*	9748.000	44.285	35.090	-29.715	74.000	9.195	PK

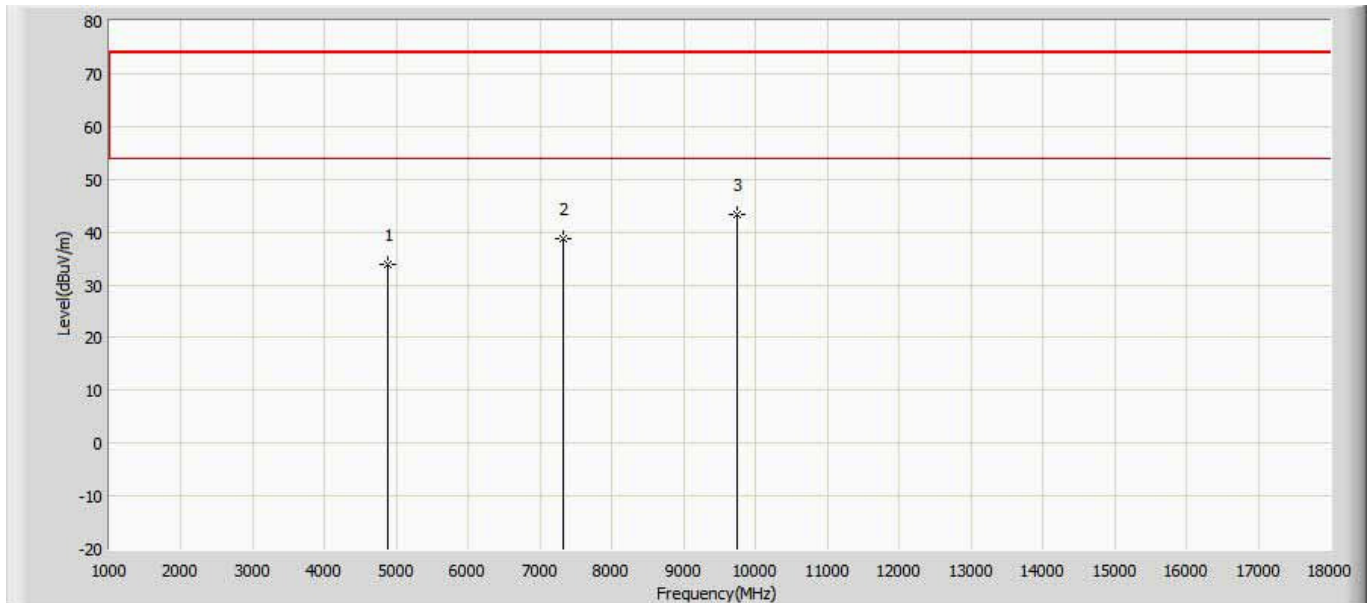
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.755	34.249	-40.245	74.000	-0.494	PK
2		7311.000	38.763	34.337	-35.237	74.000	4.426	PK
3	*	9748.000	43.203	34.008	-30.797	74.000	9.195	PK

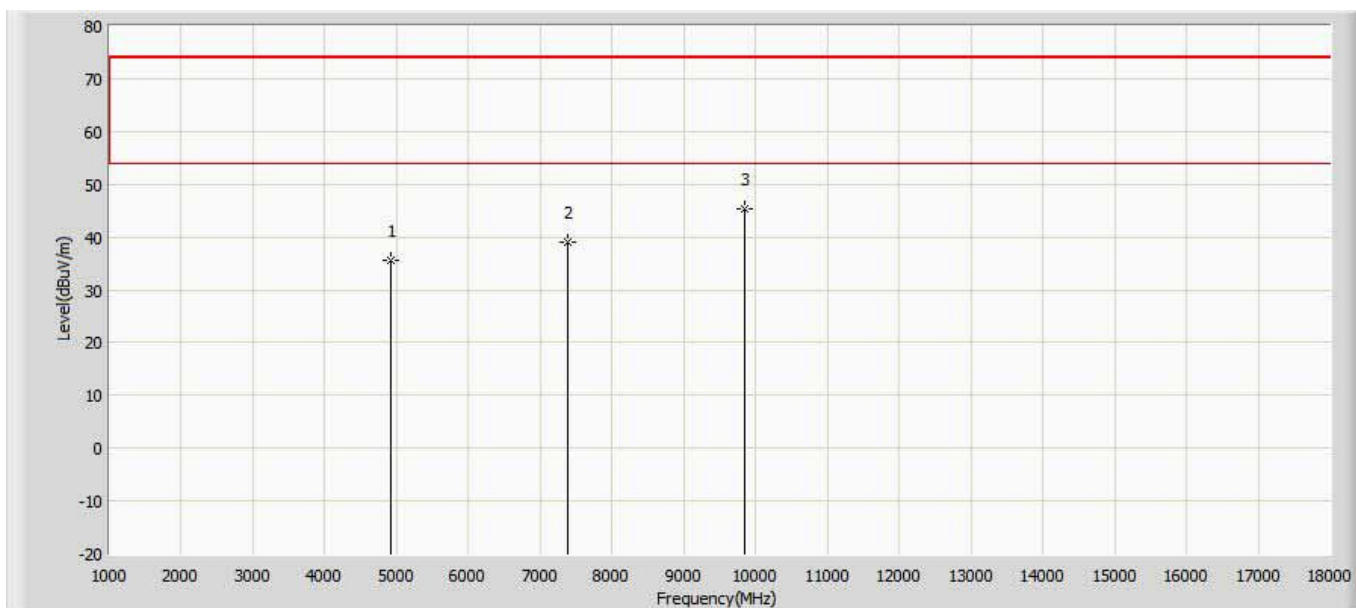
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	35.578	35.669	-38.422	74.000	-0.091	PK
2		7386.000	38.999	34.298	-35.001	74.000	4.701	PK
3	*	9848.000	45.221	34.818	-28.779	74.000	10.403	PK

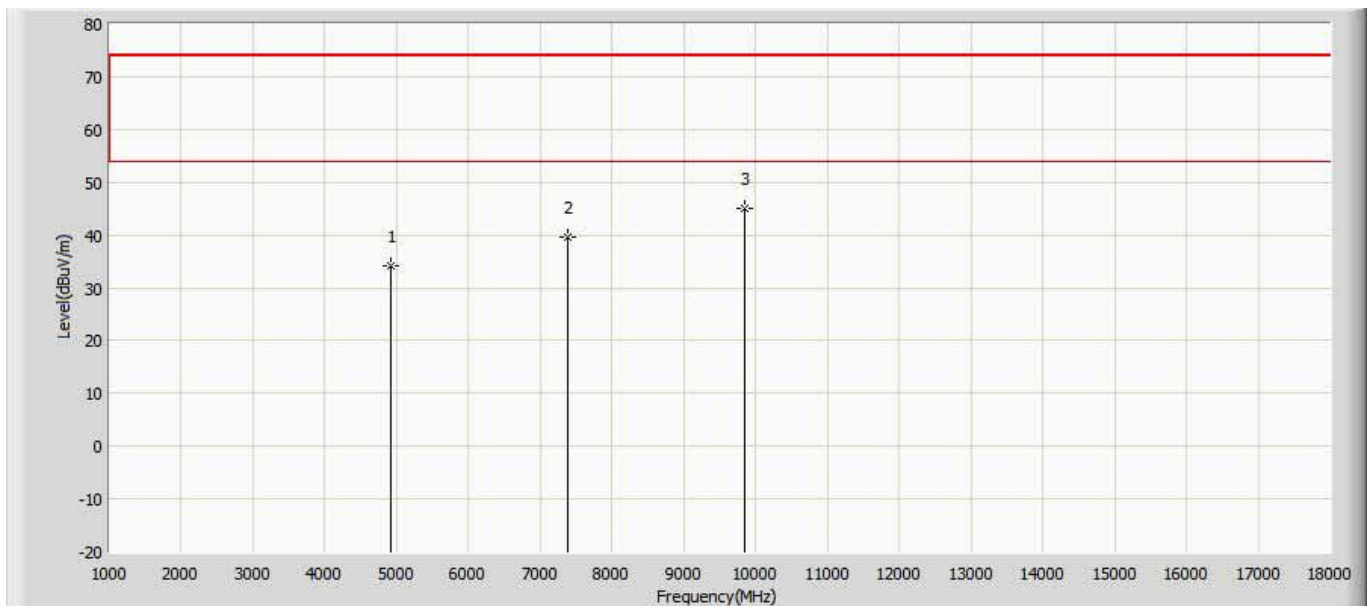
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	34.075	34.166	-39.925	74.000	-0.091	PK
2		7386.000	39.612	34.911	-34.388	74.000	4.701	PK
3	*	9848.000	44.907	34.504	-29.093	74.000	10.403	PK

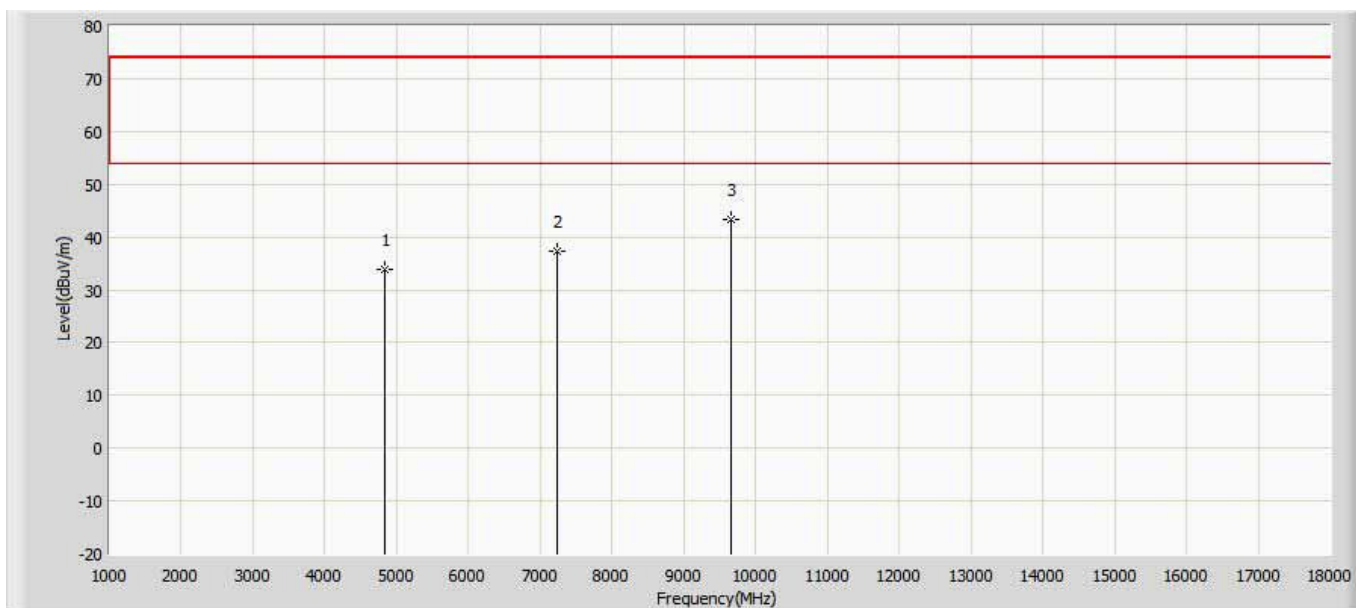
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	33.729	34.537	-40.271	74.000	-0.808	PK
2		7236.000	37.233	32.958	-36.767	74.000	4.275	PK
3	*	9648.000	43.197	33.787	-30.803	74.000	9.410	PK

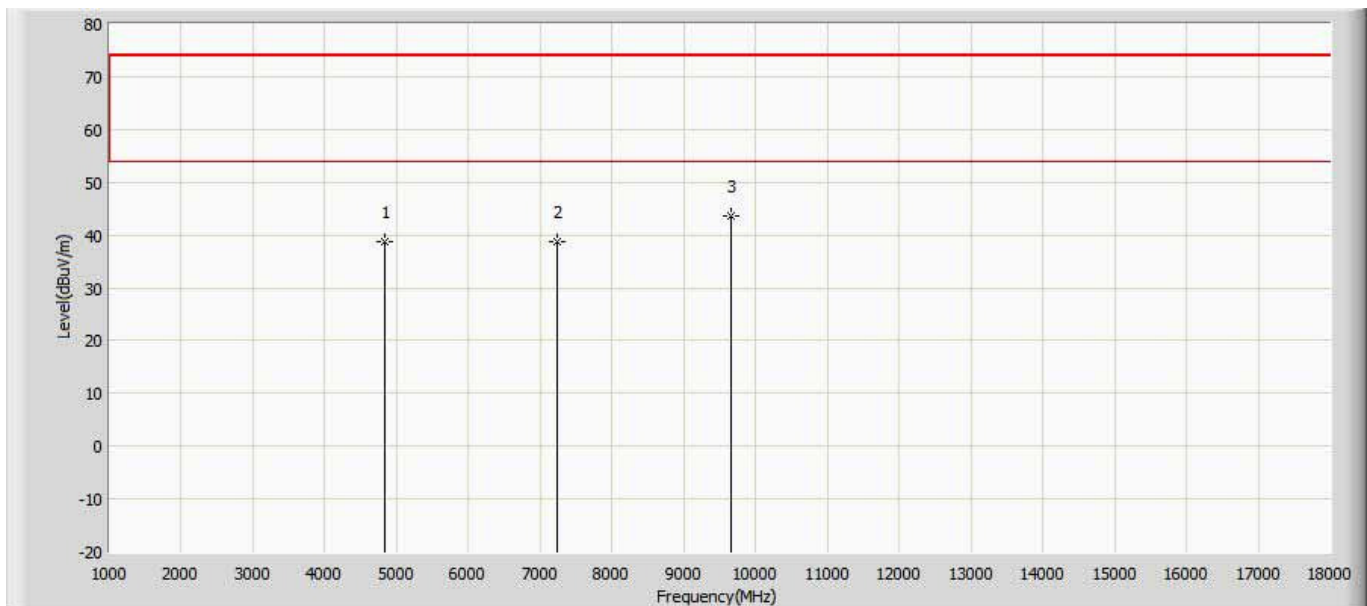
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	38.638	39.446	-35.362	74.000	-0.808	PK
2		7236.000	38.683	34.408	-35.317	74.000	4.275	PK
3	*	9648.000	43.577	34.167	-30.423	74.000	9.410	PK

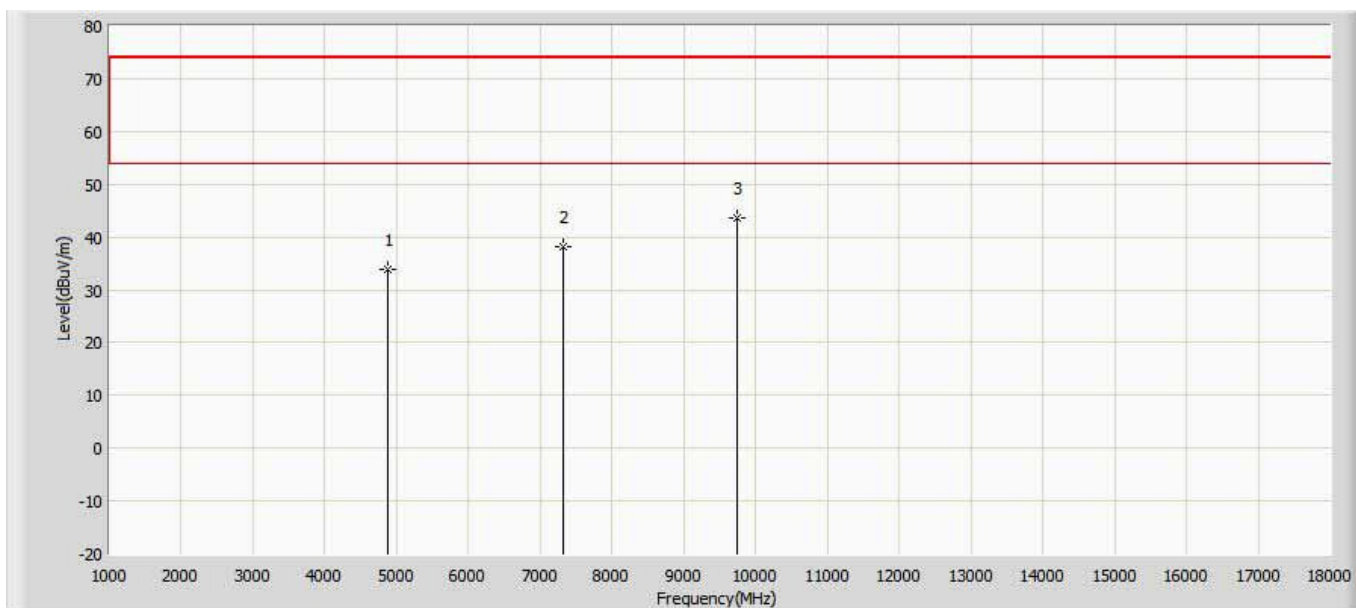
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.906	34.400	-40.094	74.000	-0.494	PK
2		7311.000	38.215	33.789	-35.785	74.000	4.426	PK
3	*	9748.000	43.672	34.477	-30.328	74.000	9.195	PK

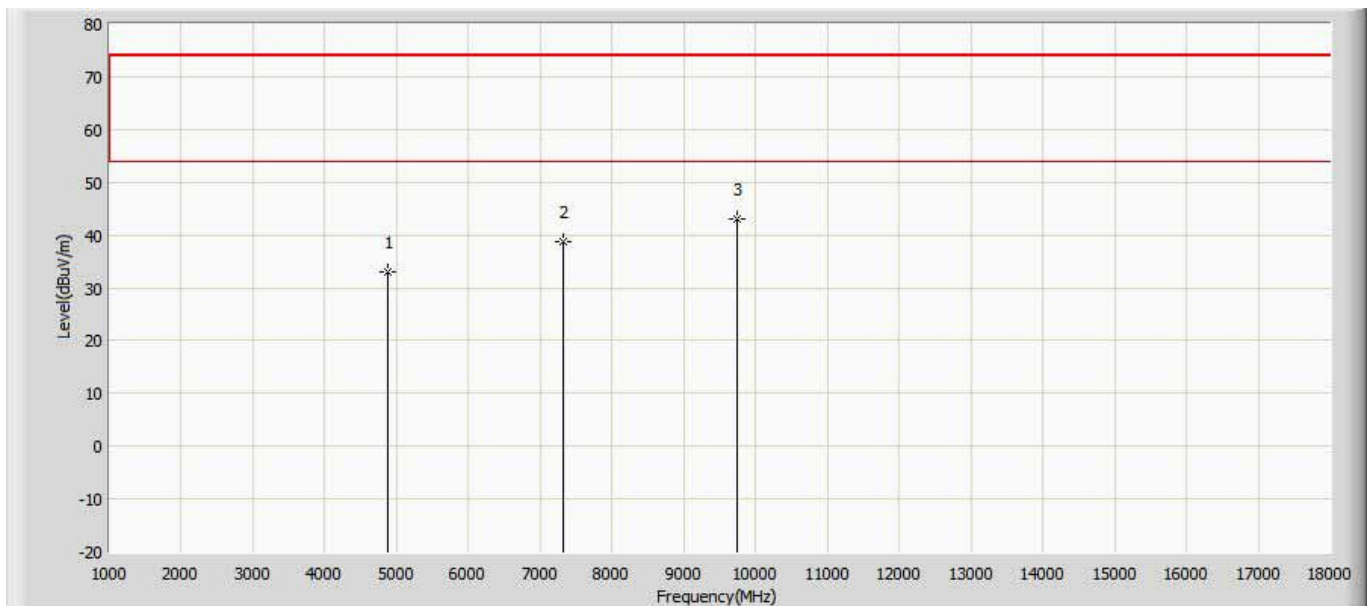
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	32.973	33.467	-41.027	74.000	-0.494	PK
2		7311.000	38.880	34.454	-35.120	74.000	4.426	PK
3	*	9748.000	42.903	33.708	-31.097	74.000	9.195	PK

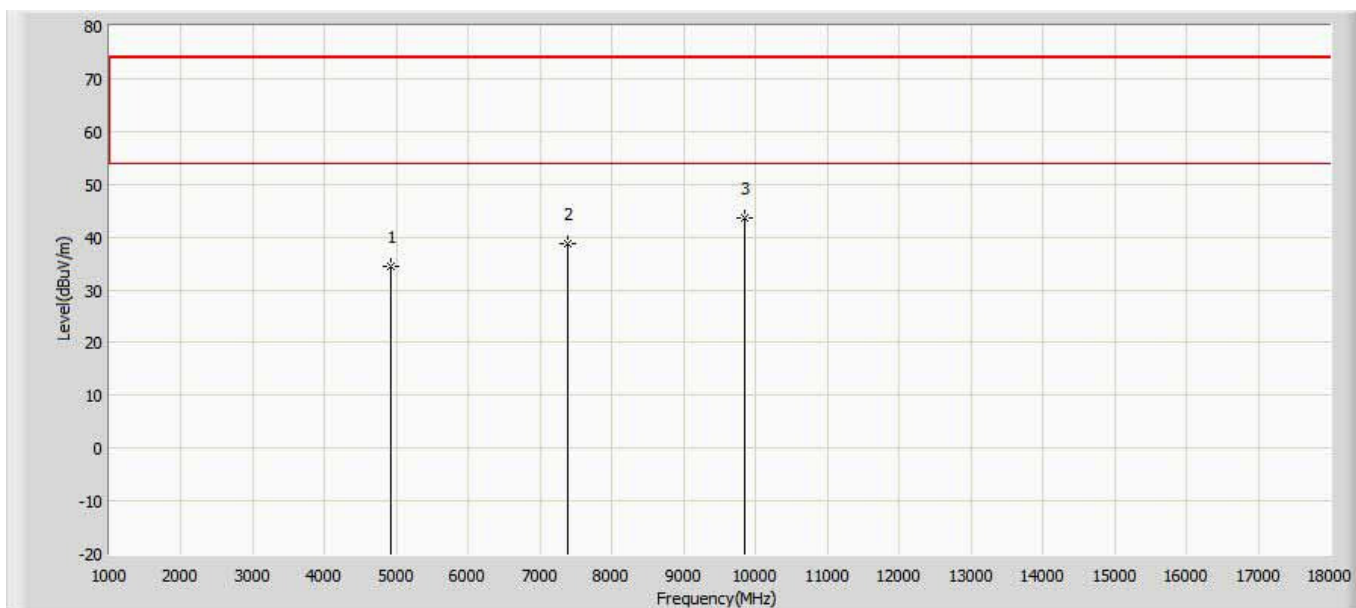
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	34.416	34.507	-39.584	74.000	-0.091	PK
2		7386.000	38.869	34.168	-35.131	74.000	4.701	PK
3	*	9848.000	43.631	33.228	-30.369	74.000	10.403	PK

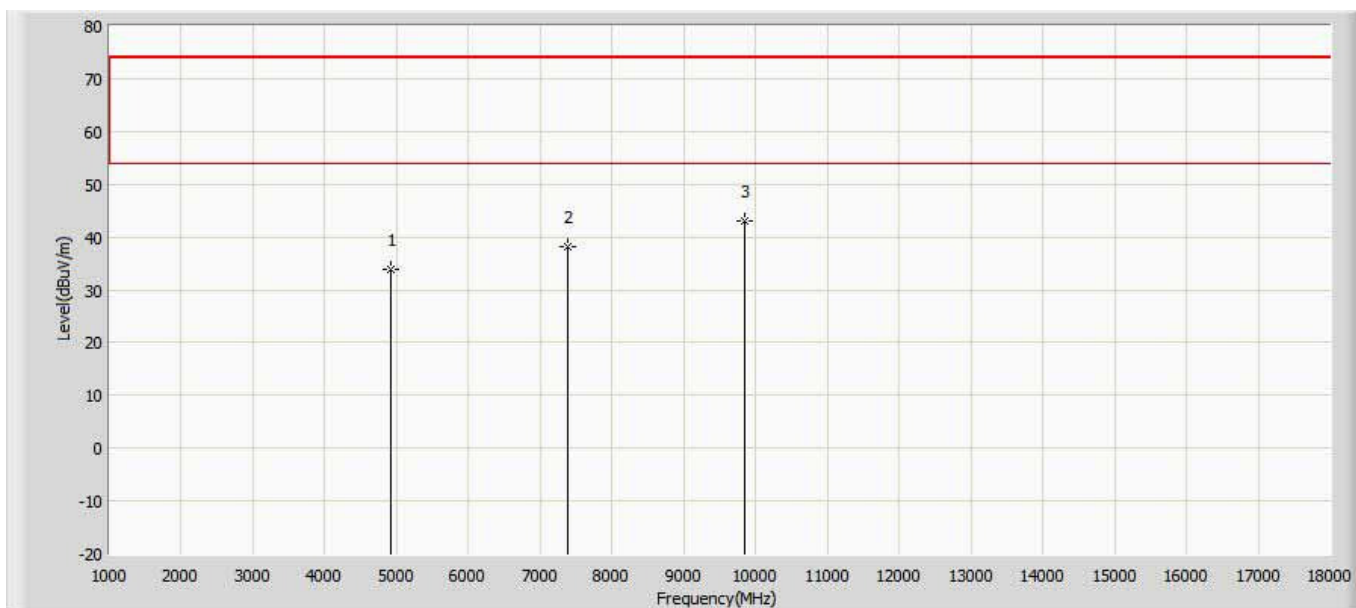
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	33.846	33.937	-40.154	74.000	-0.091	PK
2		7386.000	38.077	33.376	-35.923	74.000	4.701	PK
3	*	9848.000	43.152	32.749	-30.848	74.000	10.403	PK

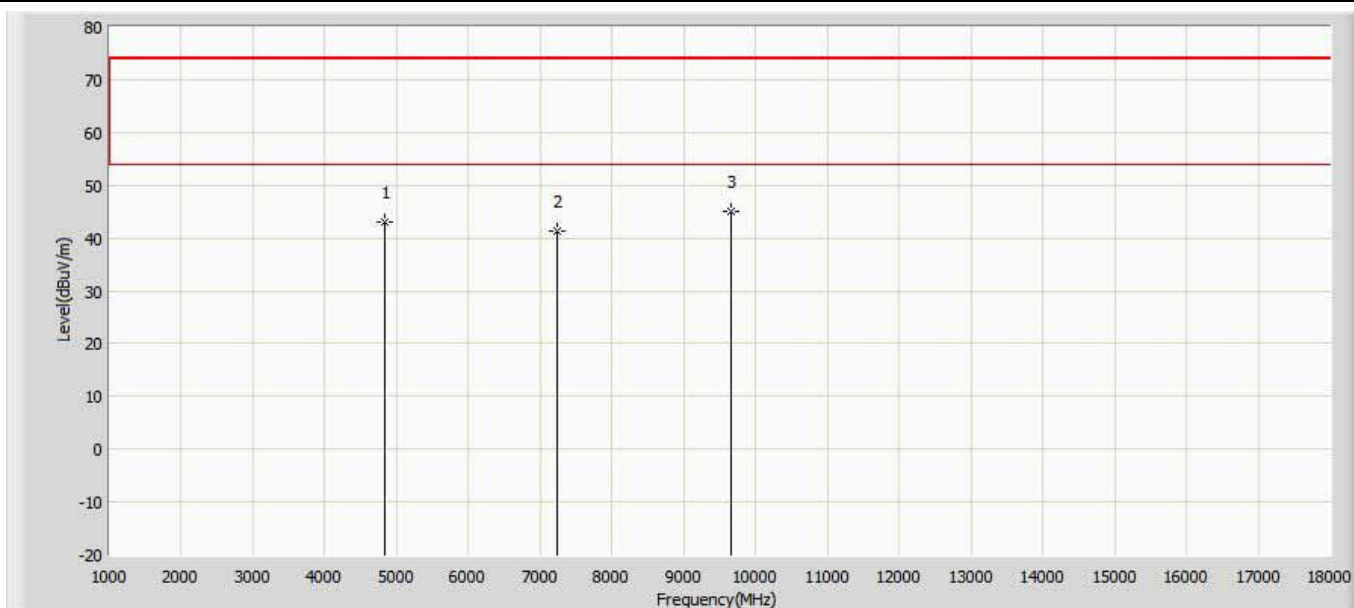
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4825.000	43.064	43.887	-30.936	74.000	-0.823	PK
2		7236.000	41.188	36.913	-32.812	74.000	4.275	PK
3	*	9648.000	45.098	35.688	-28.902	74.000	9.410	PK

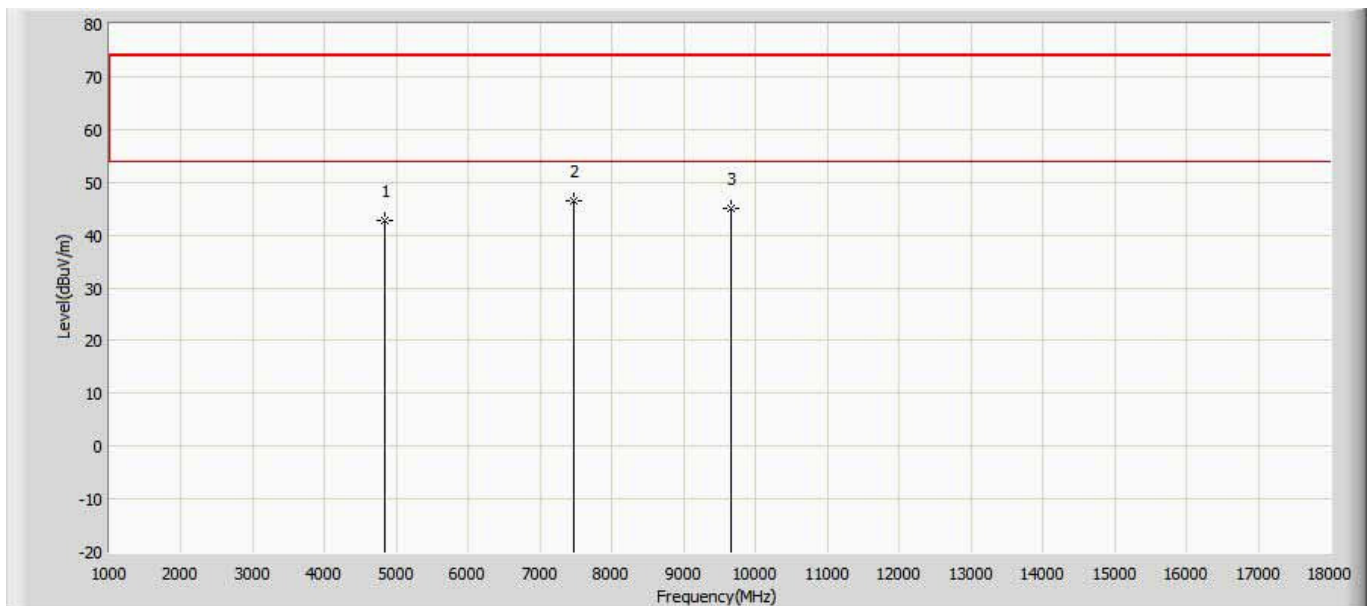
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4825.000	42.791	43.614	-31.209	74.000	-0.823	PK
2	*	7468.500	46.597	42.124	-27.403	74.000	4.473	PK
3		9648.000	45.137	35.727	-28.863	74.000	9.410	PK

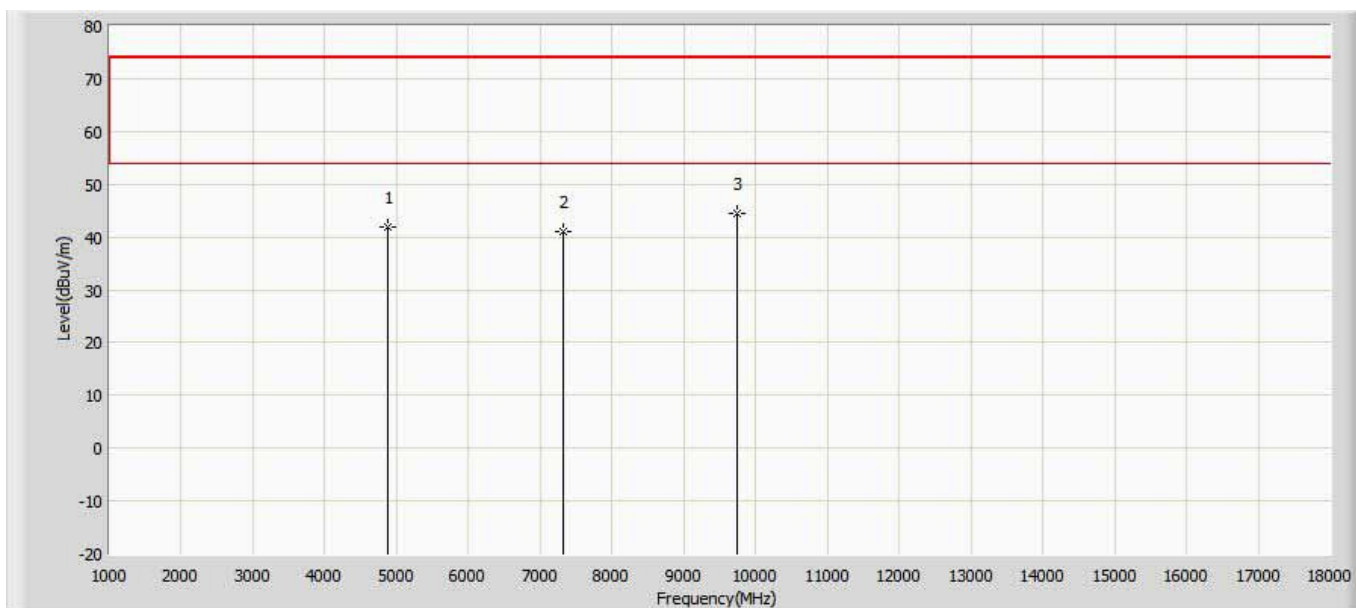
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	41.972	42.492	-32.028	74.000	-0.520	PK
2		7311.000	40.895	36.469	-33.105	74.000	4.426	PK
3	*	9748.000	44.572	35.377	-29.428	74.000	9.195	PK

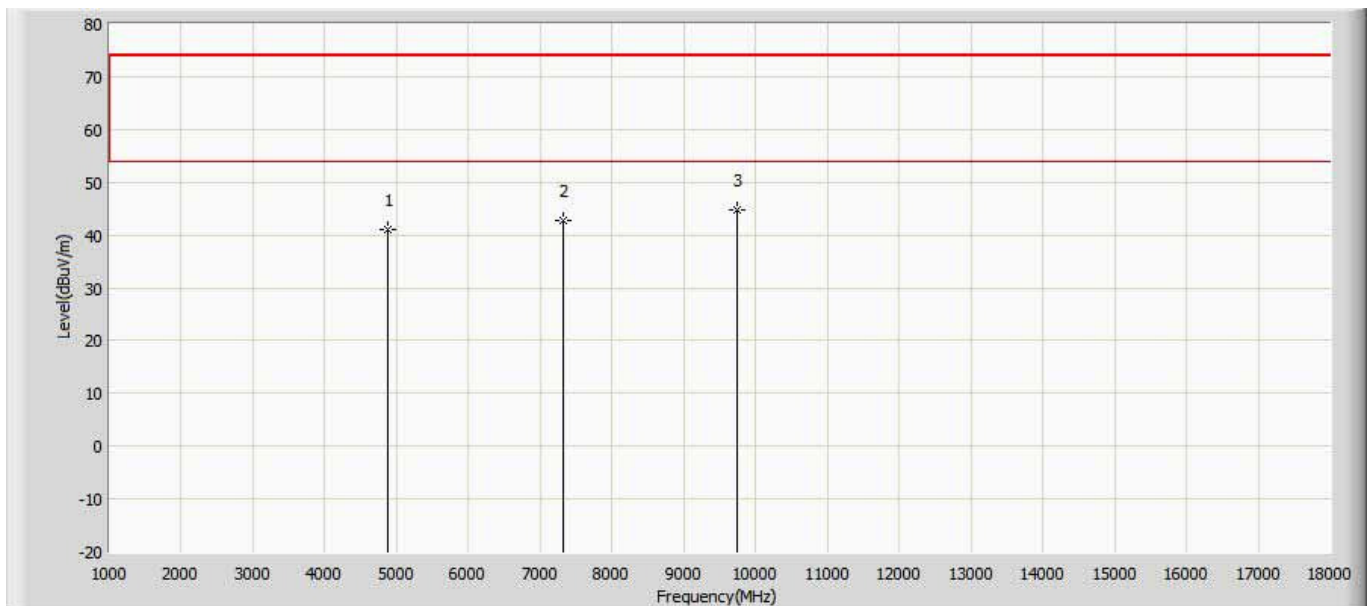
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	41.115	41.635	-32.885	74.000	-0.520	PK
2		7311.000	42.773	38.347	-31.227	74.000	4.426	PK
3	*	9748.000	44.844	35.649	-29.156	74.000	9.195	PK

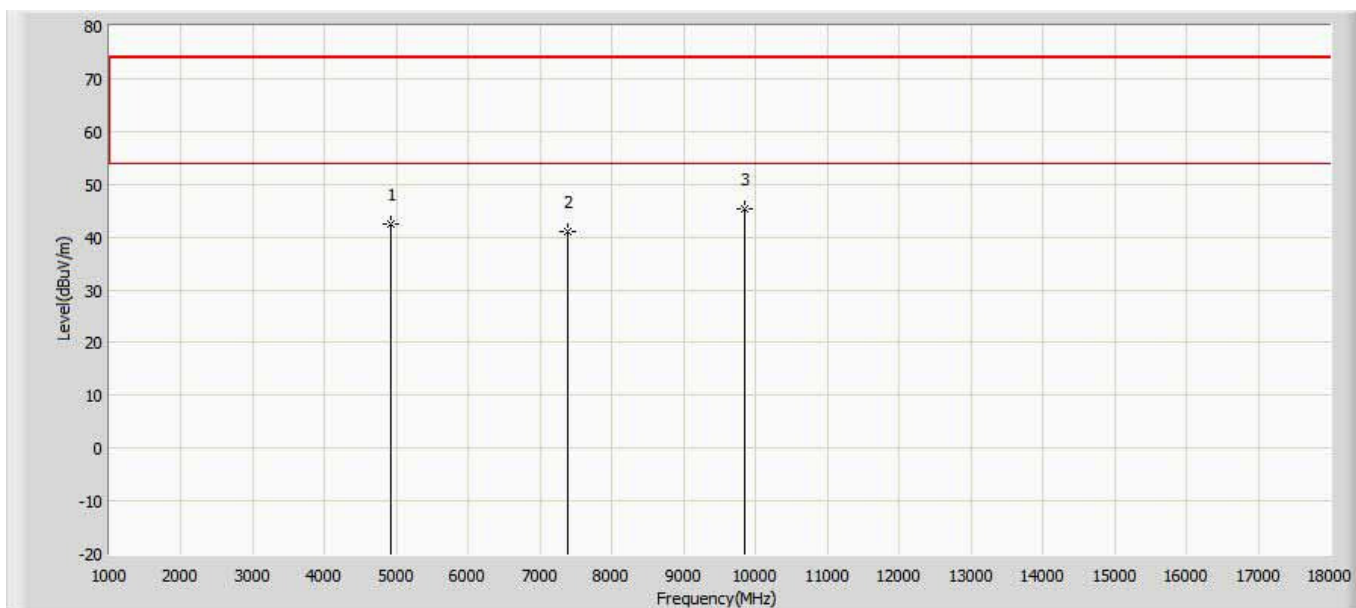
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4927.000	42.438	42.514	-31.562	74.000	-0.076	PK
2		7386.000	41.031	36.330	-32.969	74.000	4.701	PK
3	*	9848.000	45.211	34.808	-28.789	74.000	10.403	PK

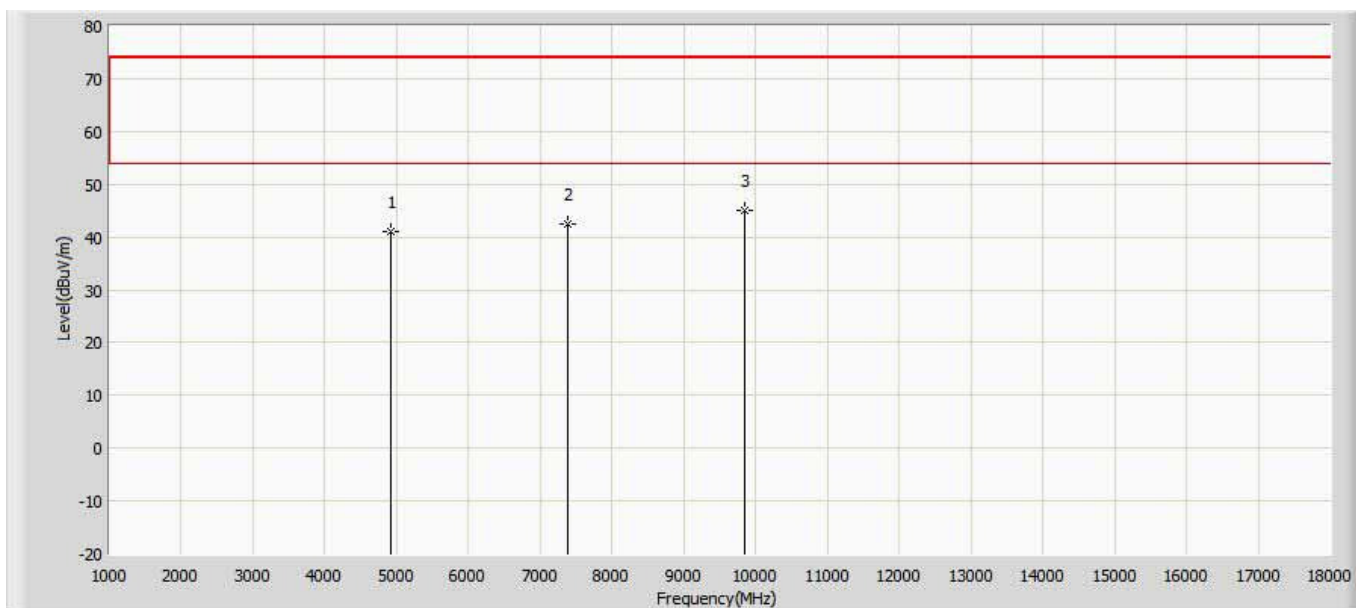
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4927.000	40.924	41.000	-33.076	74.000	-0.076	PK
2		7386.000	42.497	37.796	-31.503	74.000	4.701	PK
3	*	9848.000	45.010	34.607	-28.990	74.000	10.403	PK

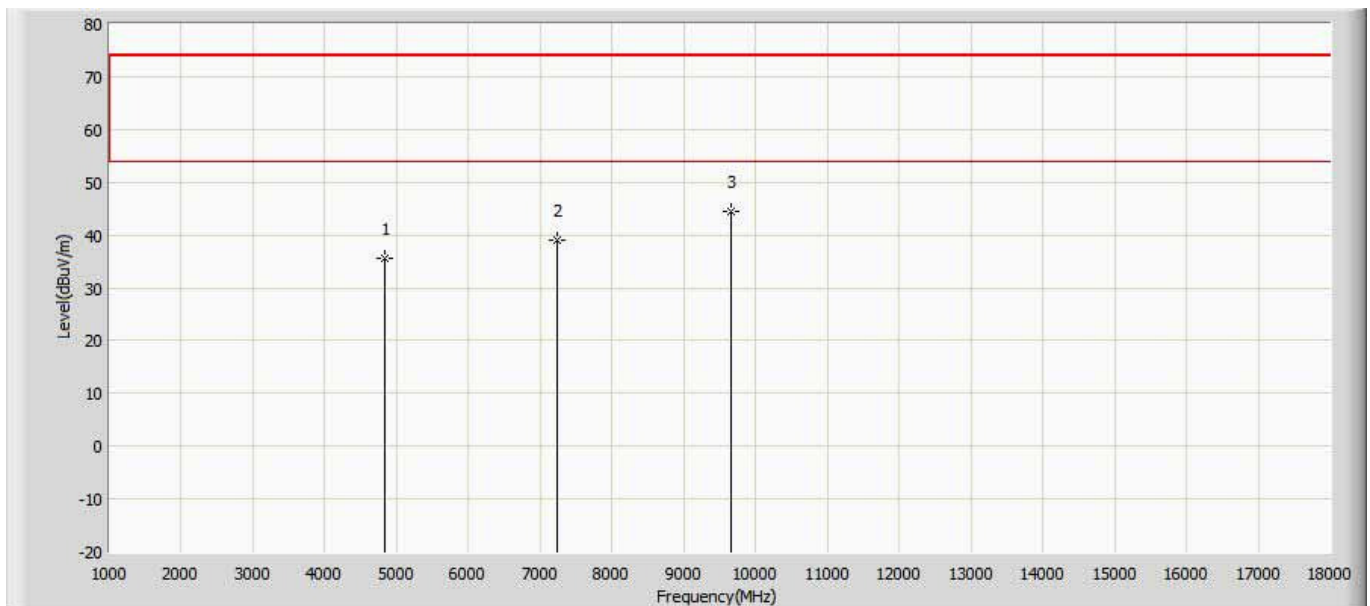
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	35.565	36.373	-38.435	74.000	-0.808	PK
2		7236.000	38.984	34.709	-35.016	74.000	4.275	PK
3	*	9648.000	44.486	35.076	-29.514	74.000	9.410	PK

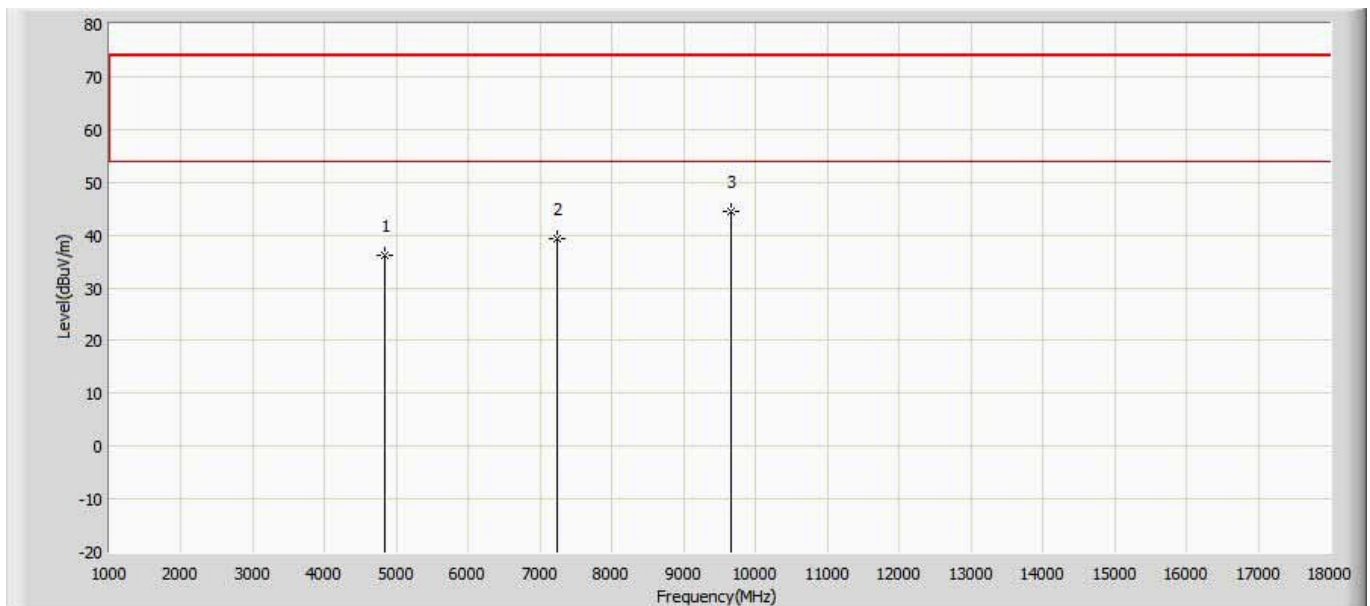
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	36.020	36.828	-37.980	74.000	-0.808	PK
2		7236.000	39.283	35.008	-34.717	74.000	4.275	PK
3	*	9648.000	44.471	35.061	-29.529	74.000	9.410	PK

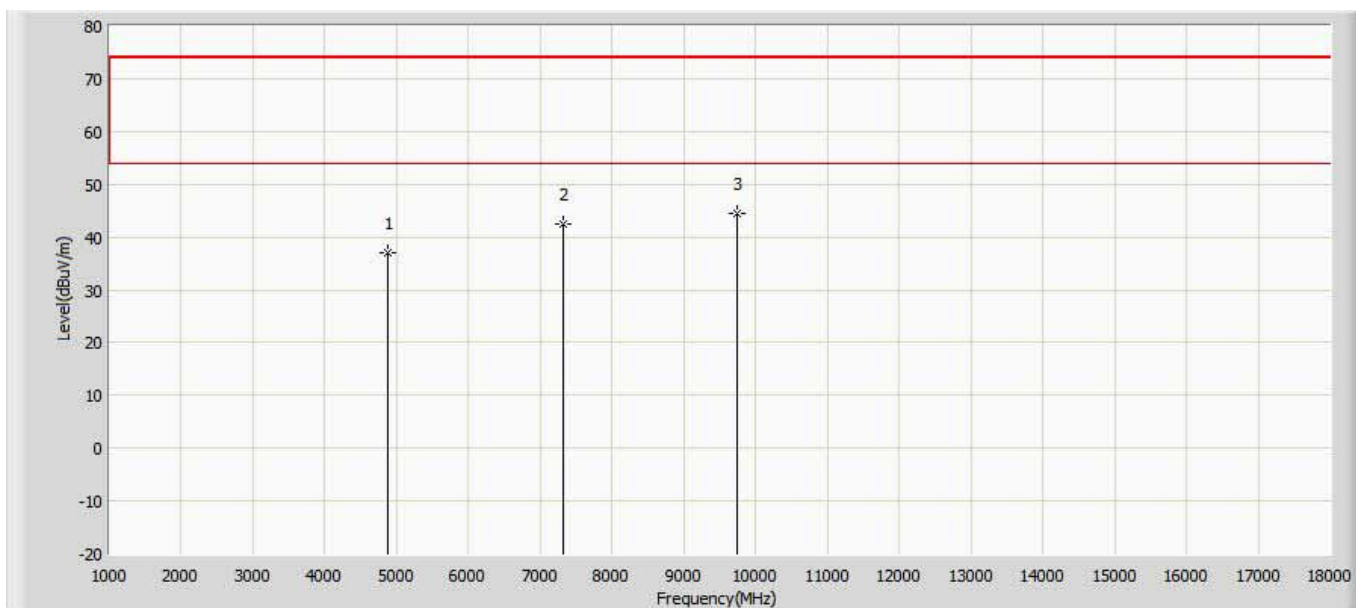
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	37.030	37.524	-36.970	74.000	-0.494	PK
2		7311.000	42.476	38.050	-31.524	74.000	4.426	PK
3	*	9748.000	44.480	35.285	-29.520	74.000	9.195	PK

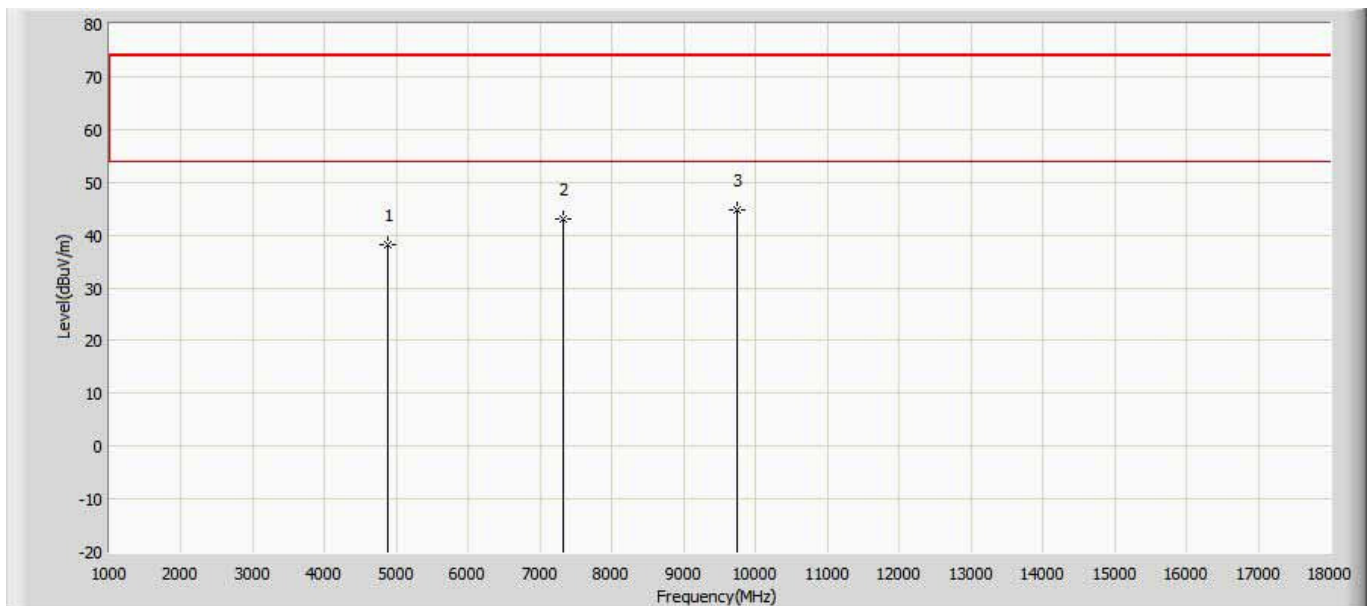
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	38.217	38.711	-35.783	74.000	-0.494	PK
2		7311.000	43.113	38.687	-30.887	74.000	4.426	PK
3	*	9748.000	44.867	35.672	-29.133	74.000	9.195	PK

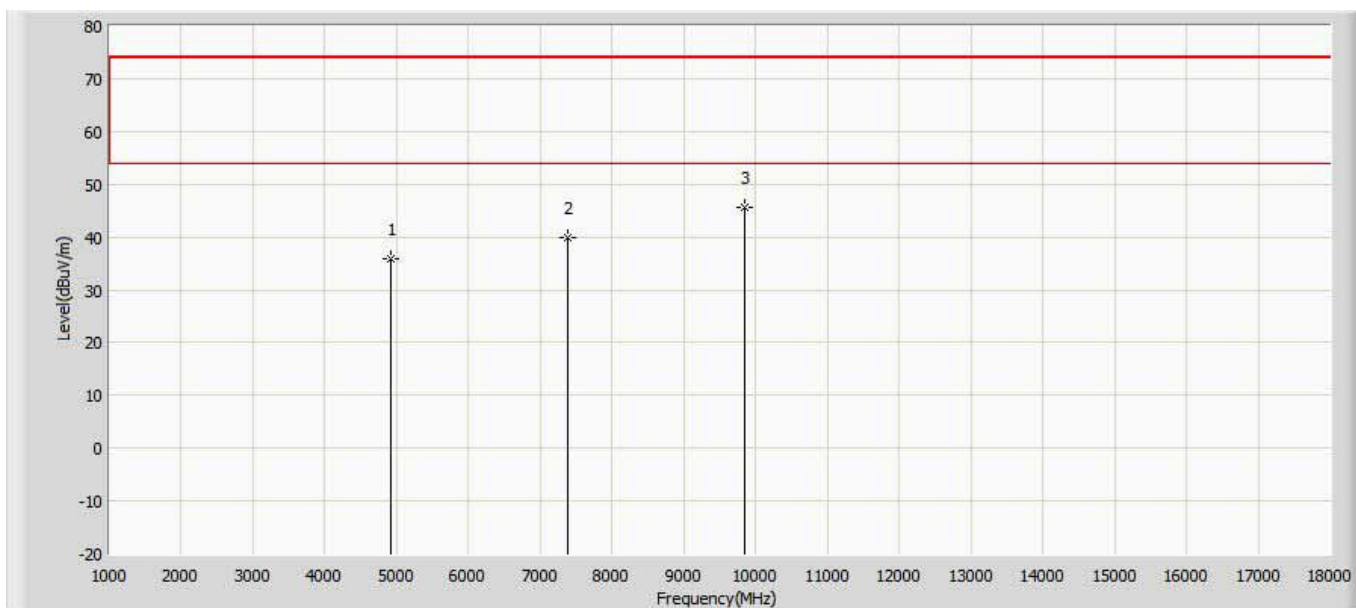
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	35.789	35.880	-38.211	74.000	-0.091	PK
2		7386.000	40.004	35.303	-33.996	74.000	4.701	PK
3	*	9848.000	45.553	35.150	-28.447	74.000	10.403	PK

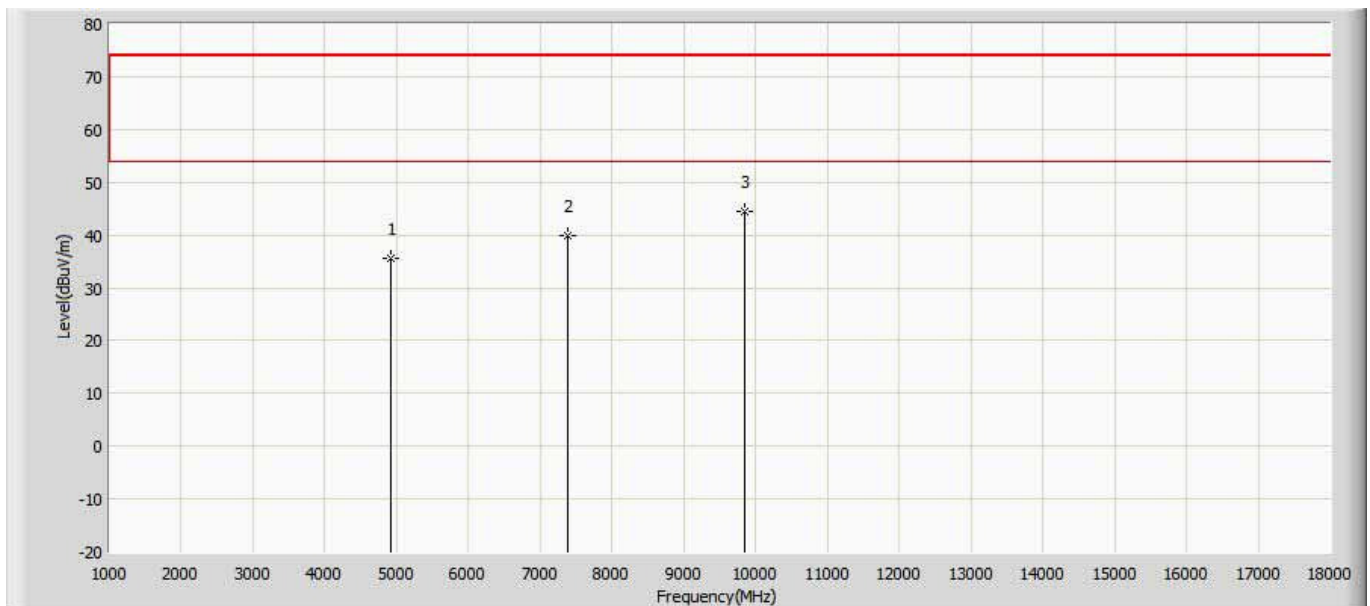
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	35.605	35.696	-38.395	74.000	-0.091	PK
2		7386.000	39.949	35.248	-34.051	74.000	4.701	PK
3	*	9848.000	44.469	34.066	-29.531	74.000	10.403	PK

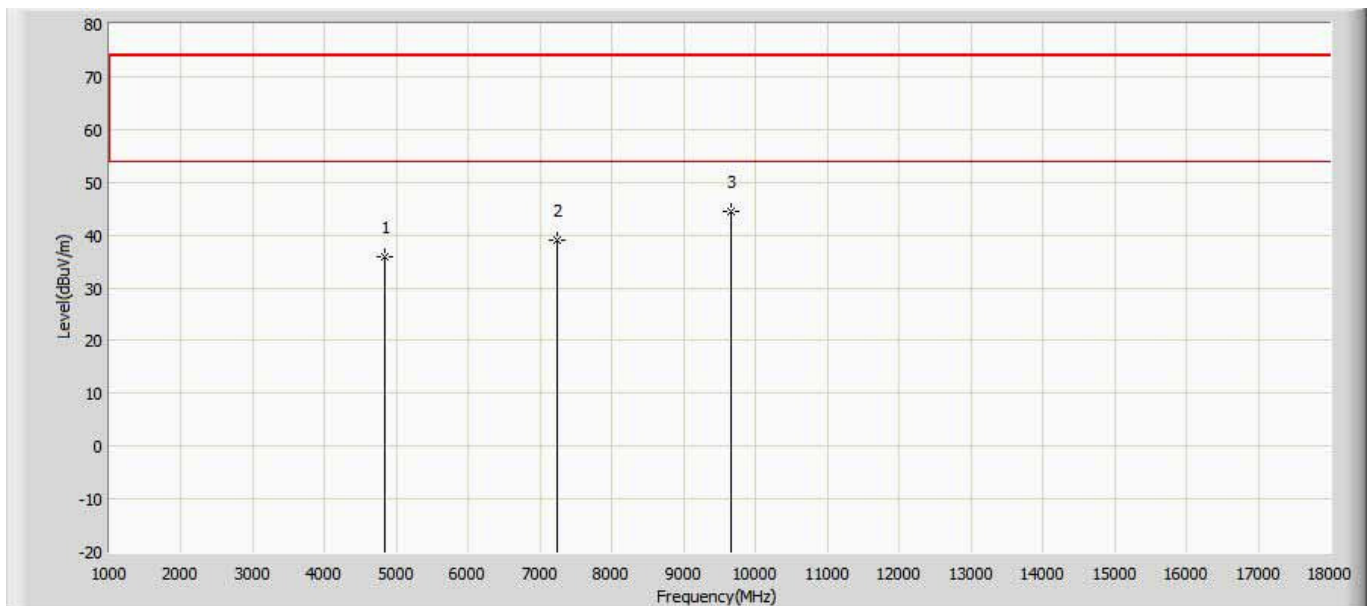
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	35.779	36.587	-38.221	74.000	-0.808	PK
2		7236.000	38.917	34.642	-35.083	74.000	4.275	PK
3	*	9648.000	44.391	34.981	-29.609	74.000	9.410	PK

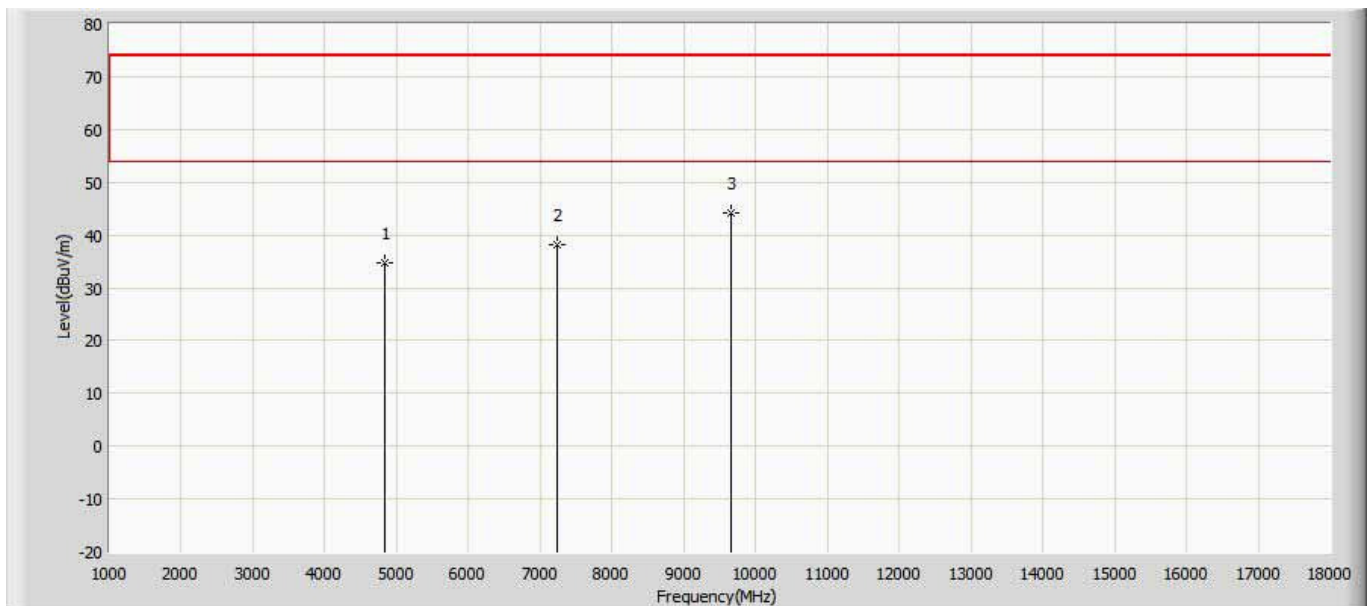
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	34.662	35.470	-39.338	74.000	-0.808	PK
2		7236.000	38.137	33.862	-35.863	74.000	4.275	PK
3	*	9648.000	44.104	34.694	-29.896	74.000	9.410	PK

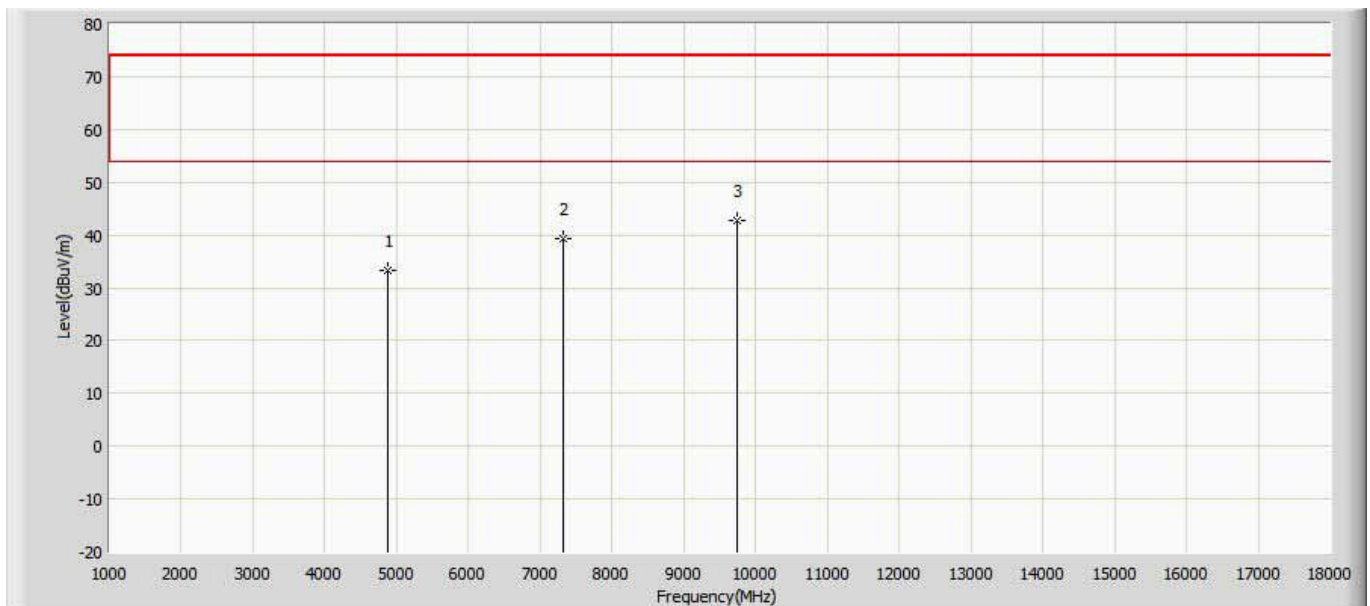
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.283	33.777	-40.717	74.000	-0.494	PK
2		7311.000	39.255	34.829	-34.745	74.000	4.426	PK
3	*	9748.000	42.717	33.522	-31.283	74.000	9.195	PK

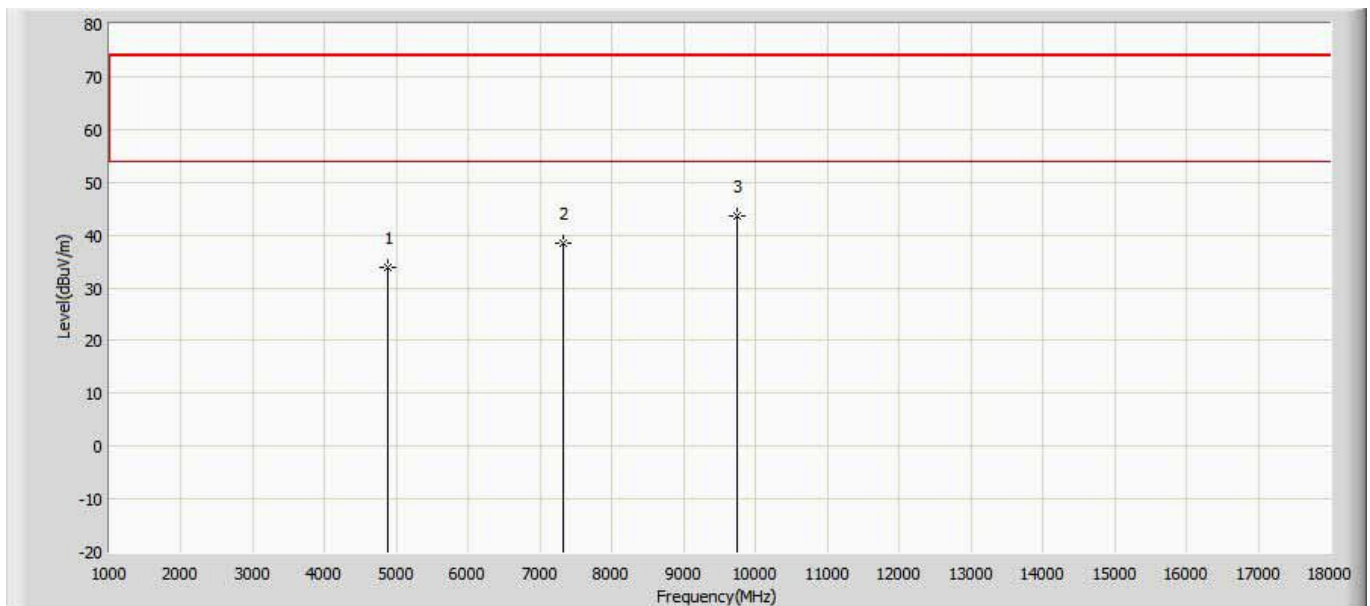
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	33.820	34.314	-40.180	74.000	-0.494	PK
2		7311.000	38.373	33.947	-35.627	74.000	4.426	PK
3	*	9748.000	43.672	34.477	-30.328	74.000	9.195	PK

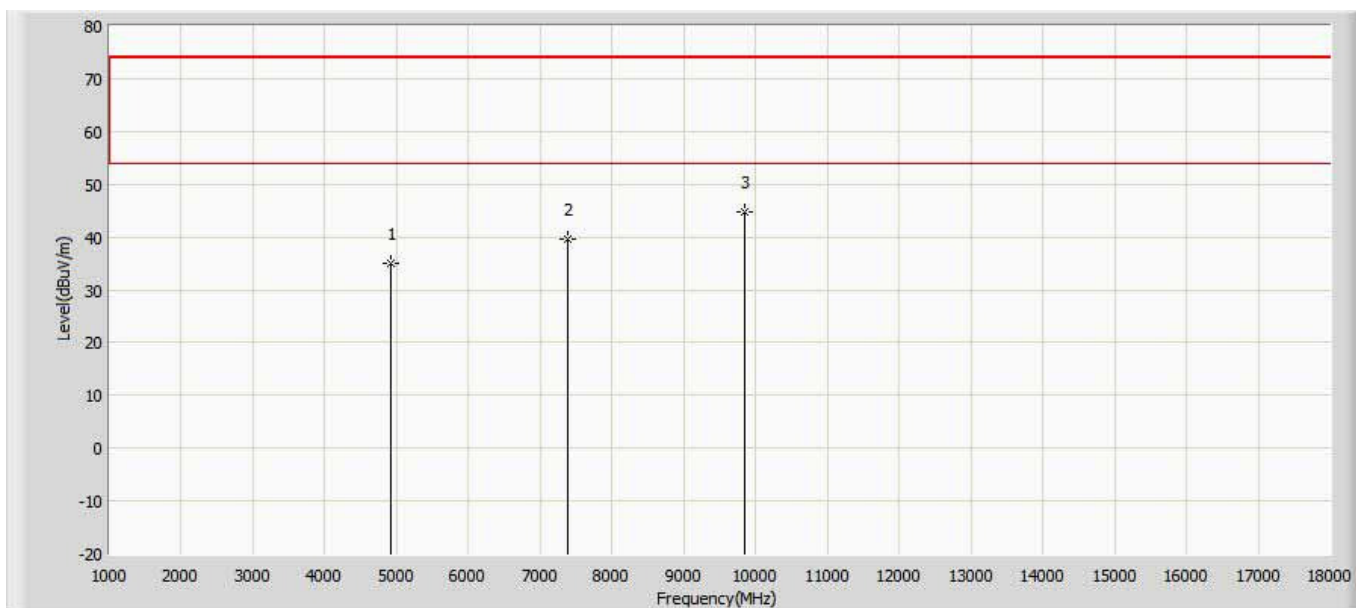
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	34.916	35.007	-39.084	74.000	-0.091	PK
2		7386.000	39.585	34.884	-34.415	74.000	4.701	PK
3	*	9848.000	44.852	34.449	-29.148	74.000	10.403	PK

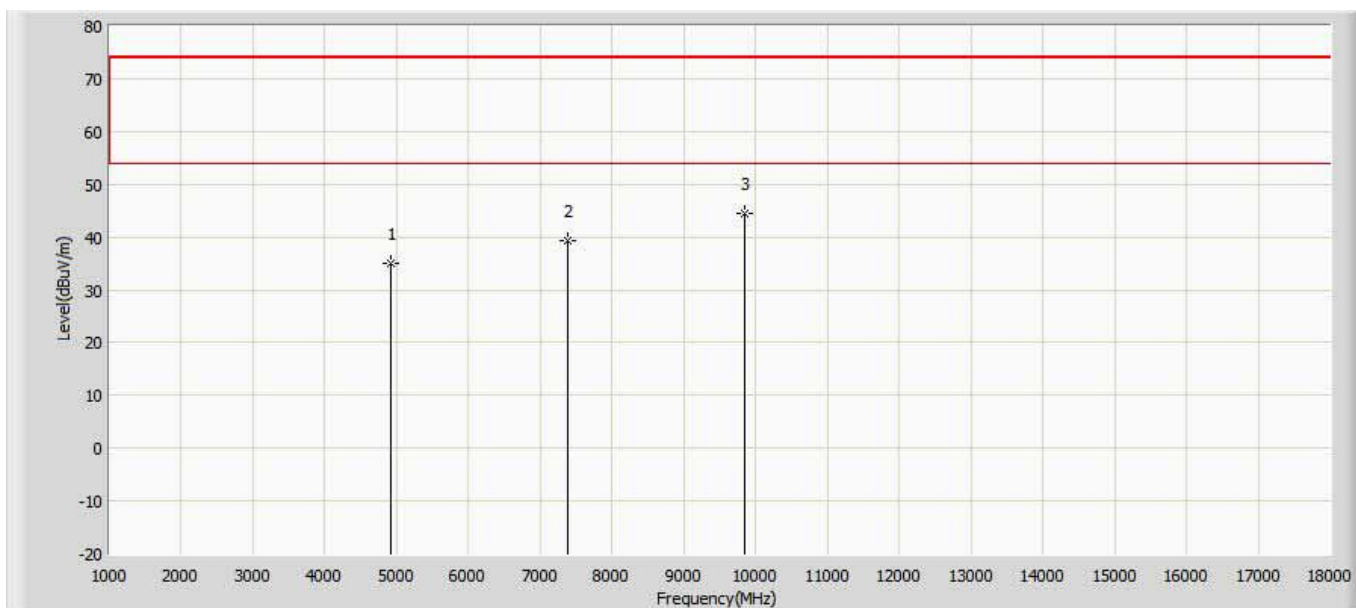
Note: 1. Measure Level = Reading Level + Factor.

Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

Engineer: Slark	
Site: AC5	Time: 2018/01/29 - 15:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	35.015	35.106	-38.985	74.000	-0.091	PK
2		7386.000	39.269	34.568	-34.731	74.000	4.701	PK
3	*	9848.000	44.370	33.967	-29.630	74.000	10.403	PK

Note: 1. Measure Level = Reading Level + Factor.

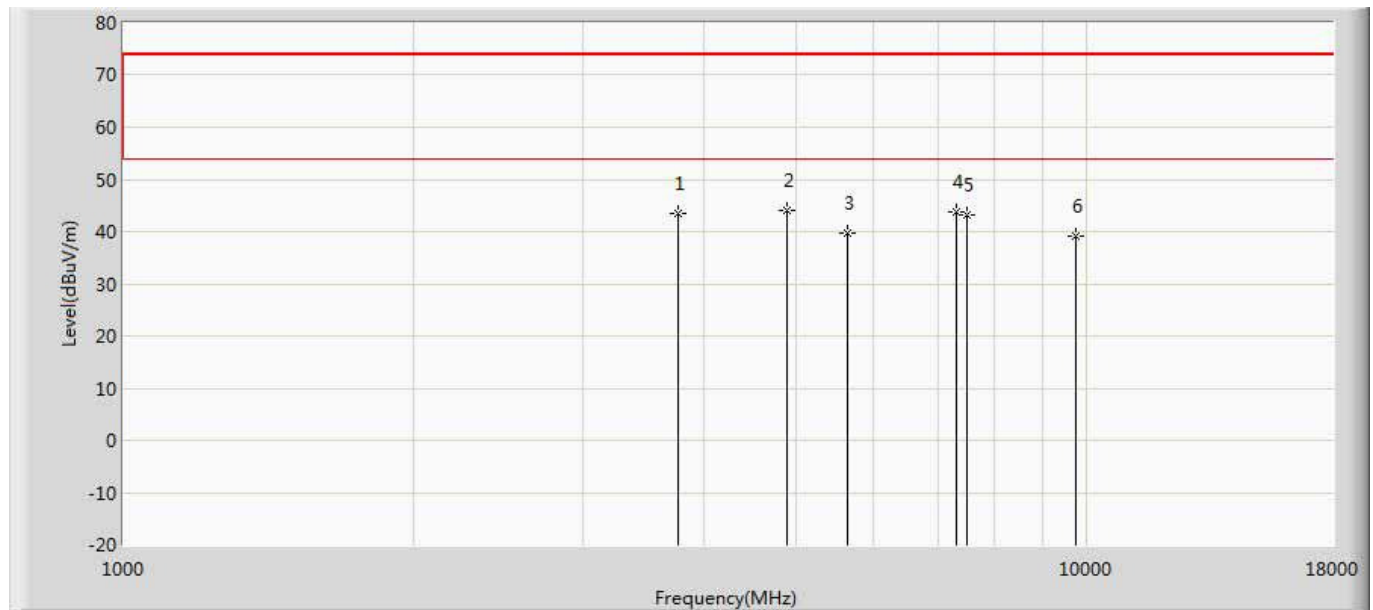
Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 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.

Note: 4. The RBW set up, see Clause 6.6.

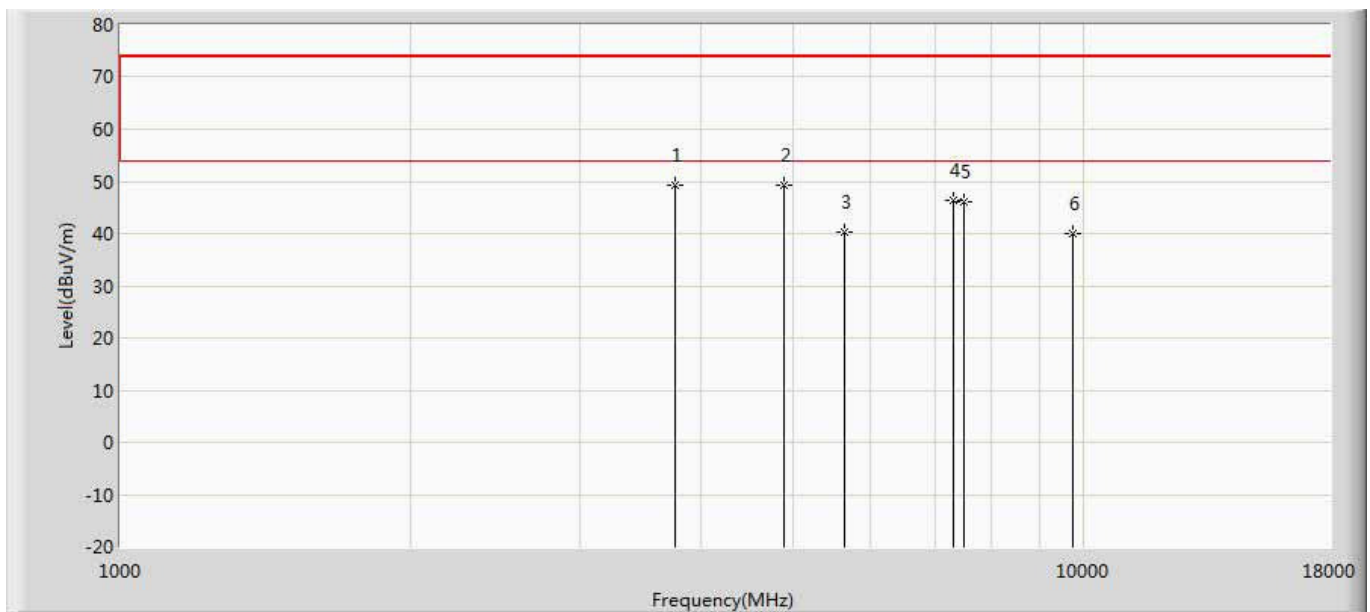
For Host (Solar Inverter):

Engineer: Tommie	
Site: AC5	Time: 2018/02/24 - 16:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-7.6KTL-USL0	



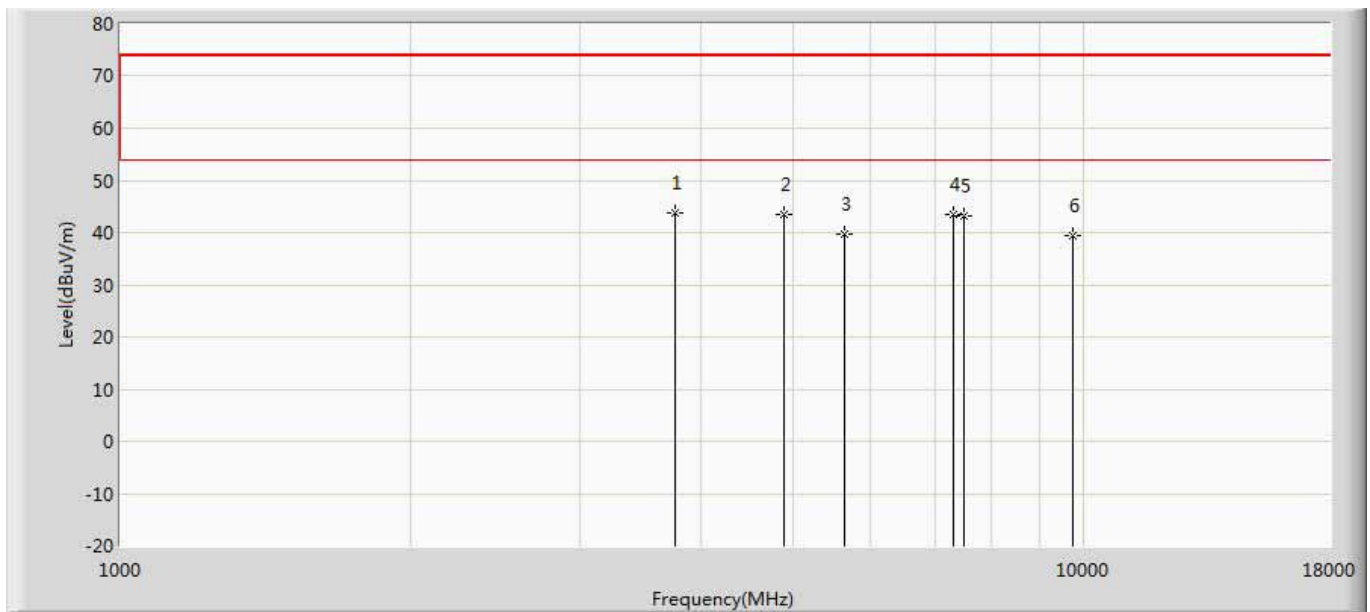
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		3761.000	43.510	45.350	-30.490	74.000	-1.839	PK
2	*	4876.000	44.200	44.610	-29.800	74.000	-0.410	PK
3		5640.000	39.568	37.860	-34.432	74.000	1.708	PK
4		7315.500	43.811	39.918	-30.189	74.000	3.893	PK
5		7522.000	43.198	40.170	-30.802	74.000	3.028	PK
6		9748.000	39.143	34.142	-34.857	74.000	5.002	PK

Engineer: Tommie	
Site: AC5	Time: 2018/02/24 - 16:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-7.6KTL-USL0	



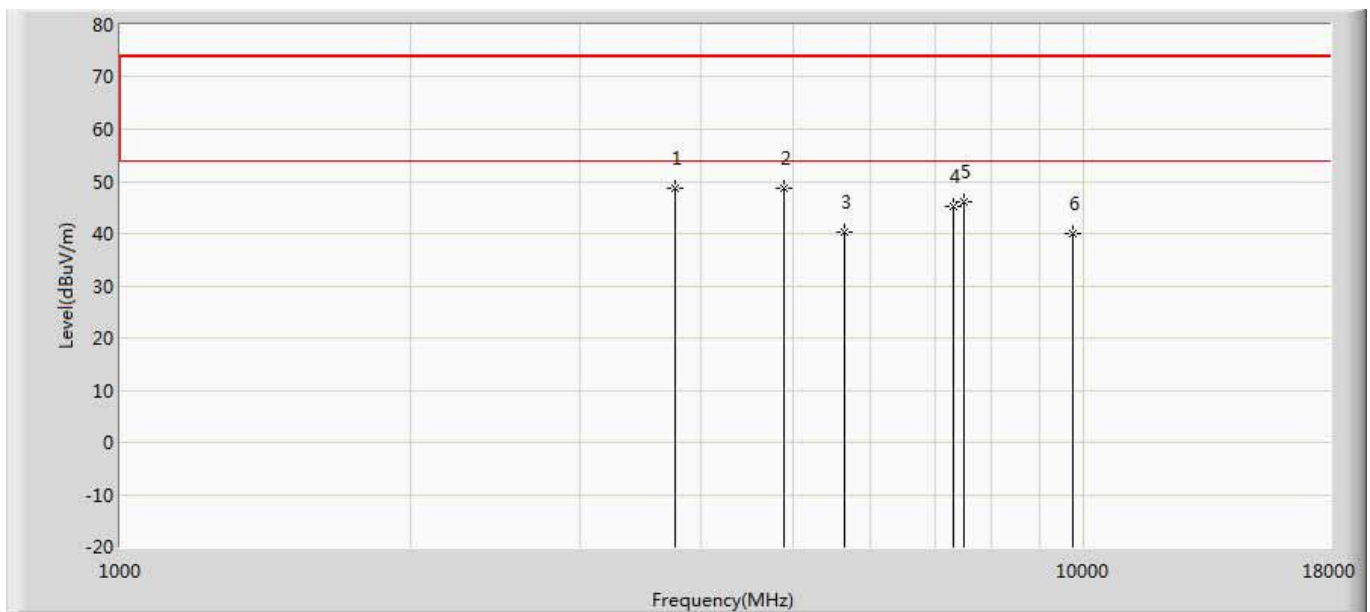
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		3761.000	49.390	51.230	-24.610	74.000	-1.839	PK
2	*	4876.000	49.420	49.830	-24.580	74.000	-0.410	PK
3		5641.500	40.254	38.546	-33.746	74.000	1.708	PK
4		7315.500	46.423	42.530	-27.577	74.000	3.893	PK
5		7522.000	46.148	43.120	-27.852	74.000	3.028	PK
6		9748.000	39.918	34.917	-34.082	74.000	5.002	PK

Engineer: Tommie	
Site: AC5	Time: 2018/02/24 - 16:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-11.4KTL-USL0	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	3761.000	43.630	45.470	-30.370	74.000	-1.839	PK
2		4876.000	43.440	43.850	-30.560	74.000	-0.410	PK
3		5640.000	39.618	37.910	-34.382	74.000	1.708	PK
4		7315.500	43.623	39.730	-30.377	74.000	3.893	PK
5		7522.000	43.298	40.270	-30.702	74.000	3.028	PK
6		9748.000	39.511	34.510	-34.489	74.000	5.002	PK

Engineer: Tommie	
Site: AC5	Time: 2018/02/24 - 16:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-11.4KTL-USL0	

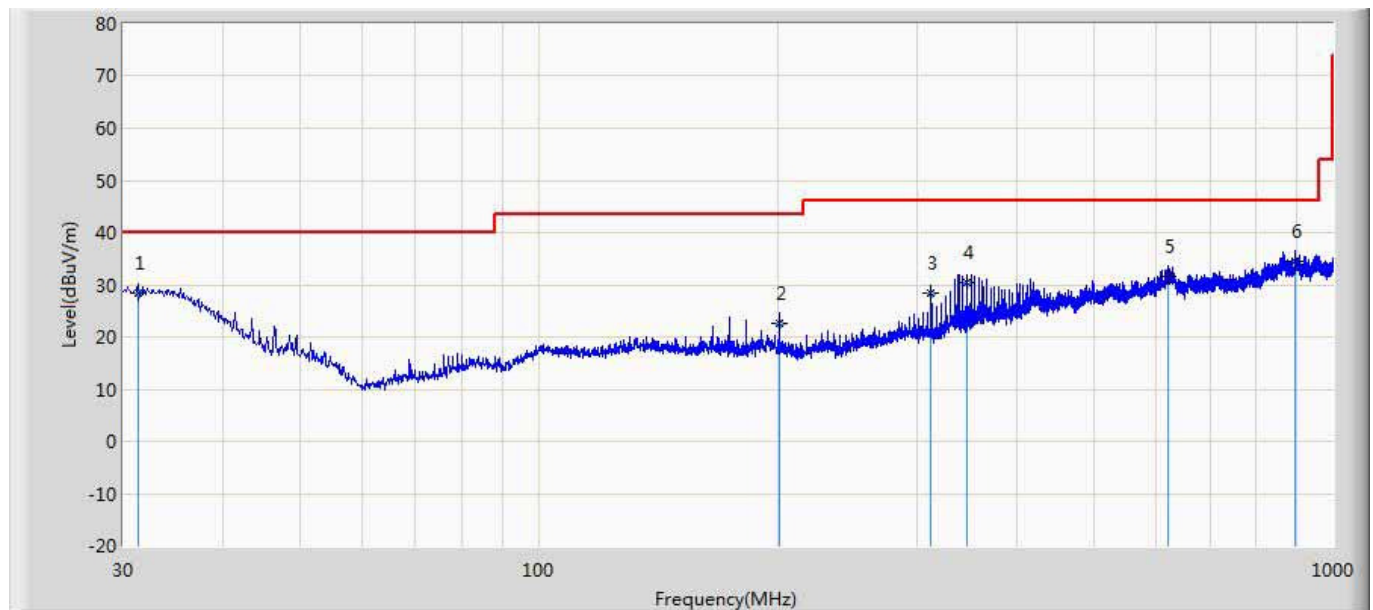


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	3761.000	48.780	50.620	-25.220	74.000	-1.839	PK
2		4876.000	48.700	49.110	-25.300	74.000	-0.410	PK
3		5641.500	40.428	38.720	-33.572	74.000	1.708	PK
4		7315.500	45.153	41.260	-28.847	74.000	3.893	PK
5		7522.000	45.978	42.950	-28.022	74.000	3.028	PK
6		9748.000	39.871	34.870	-34.129	74.000	5.002	PK

The worst case of Radiated Emission below 1GHz:

For WIFI module (END1CTLA):

Engineer: Slark	
Site: AC2	Time: 2018/01/28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at channel 2412MHz by 802.11b with Internal PCB Antenna	



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		31.334	28.285	0.800	-11.715	40.000	20.851	6.634	0.000	100	50	QP
2		201.084	22.675	4.800	-20.825	43.500	10.529	7.346	0.000	200	66	QP
3		312.027	28.338	7.300	-17.662	46.000	13.377	7.660	0.000	200	165	QP
4		346.099	30.443	8.300	-15.557	46.000	14.371	7.772	0.000	100	130	QP
5		620.972	31.735	0.900	-14.265	46.000	22.276	8.559	0.000	100	171	QP
6	*	896.570	34.413	1.800	-11.587	46.000	23.371	9.242	0.000	100	30	QP

Note:

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

Engineer: Slark

Site: AC2

Time: 2018/01/28

Limit: FCC_Part15.209_RE(3m)

Margin: 0

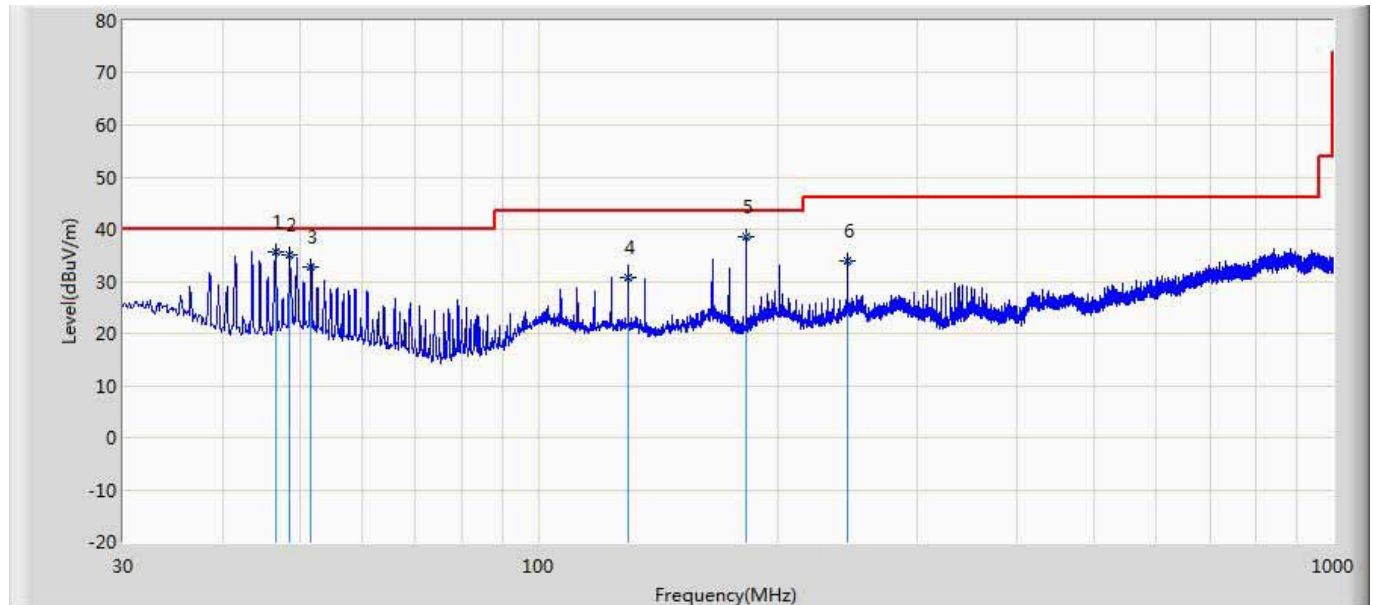
Probe: AC2_3M(30-1000M)

Polarity: Vertical

EUT: END1CTLA

Power: DC 12V

Note: Mode 1: Transmit at channel 2412MHz by 802.11b with Internal PCB Antenna



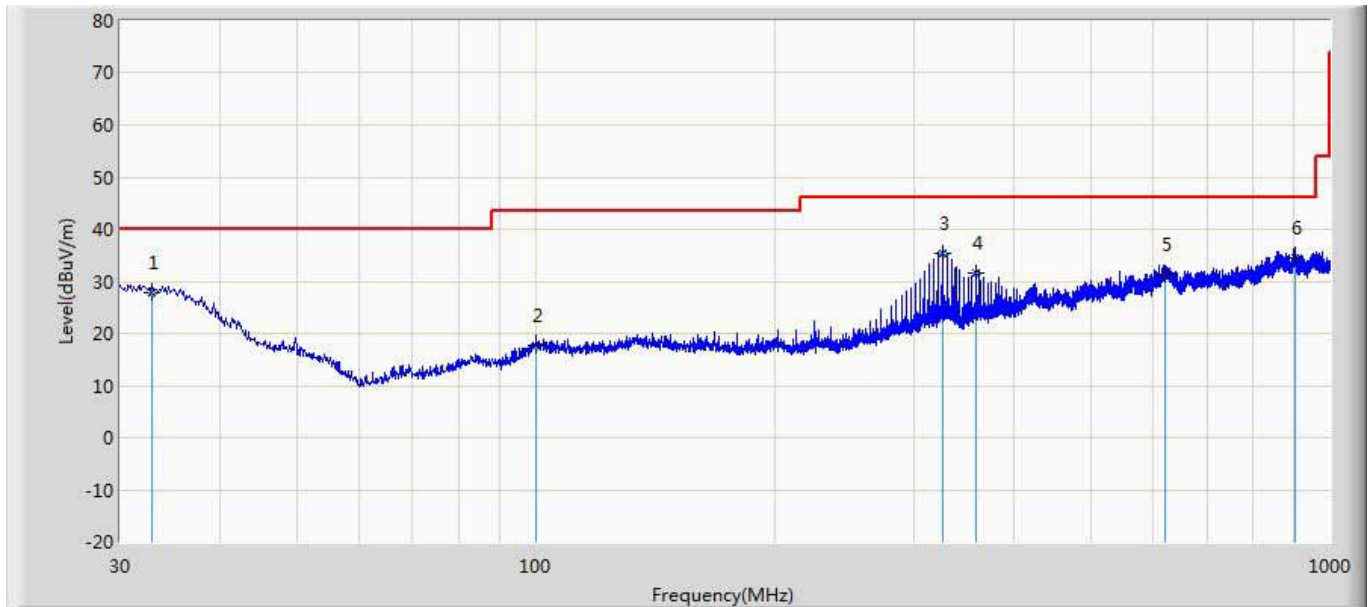
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	46.676	35.586	17.100	-4.414	40.000	11.905	6.580	0.000	100	208	QP
2		48.670	34.934	15.700	-5.066	40.000	12.670	6.564	0.000	200	180	QP
3		51.704	32.845	13.900	-7.155	40.000	12.372	6.573	0.000	100	222	QP
4		129.667	30.589	10.100	-12.911	43.500	13.428	7.061	0.000	100	79	QP
5		182.411	38.537	19.200	-4.963	43.500	12.032	7.304	0.000	200	106	QP
6		244.490	33.854	10.000	-12.146	46.000	16.310	7.544	0.000	200	155	QP

Note:

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

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

Engineer: Slark	
Site: AC2	Time: 2018/01/28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at channel 2412MHz by 802.11b with External Dipole Antenna	



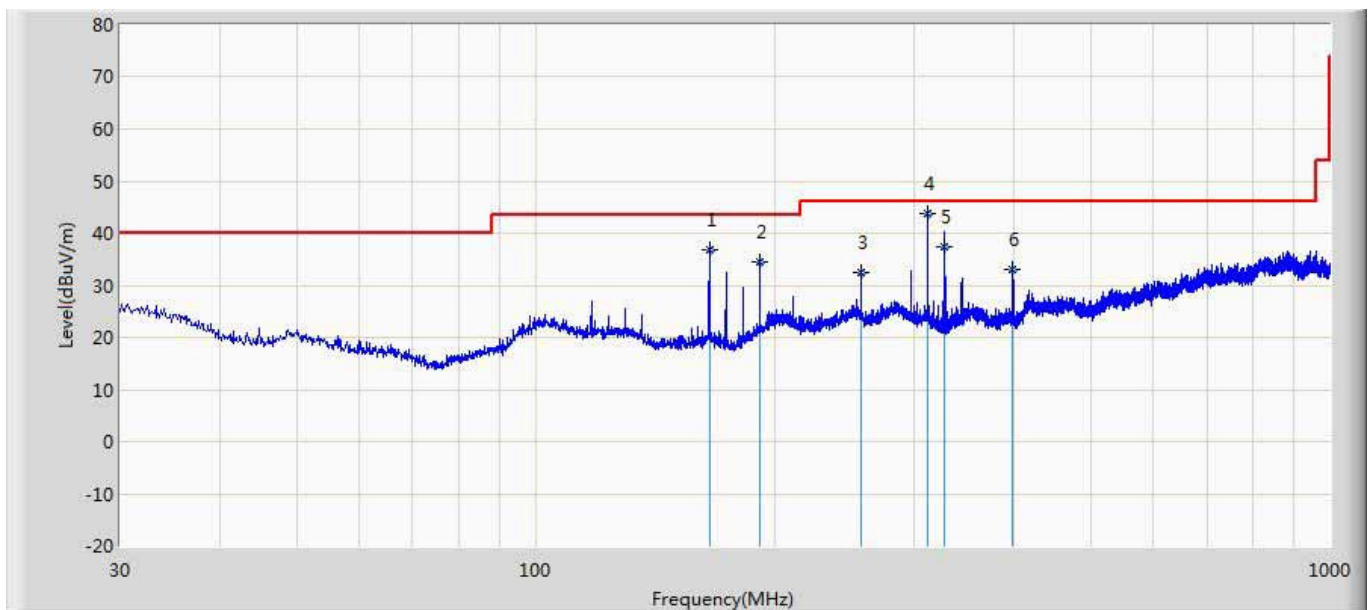
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		32.910	27.769	0.400	-12.231	40.000	20.719	6.650	0.000	100	20	QP
2		100.204	17.724	0.500	-25.776	43.500	10.351	6.873	0.000	100	62	QP
3	*	325.608	35.418	13.500	-10.582	46.000	14.213	7.705	0.000	200	140	QP
4		358.345	31.526	7.300	-14.474	46.000	16.414	7.812	0.000	200	210	QP
5		619.032	31.387	0.700	-14.613	46.000	22.133	8.555	0.000	100	130	QP
6		904.576	34.471	1.200	-11.529	46.000	24.011	9.259	0.000	100	80	QP

Note:

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

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

Engineer: Slark	
Site: AC2	Time: 2018/01/28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at channel 2412MHz by 802.11b with External Dipole Antenna	



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		165.436	36.748	17.100	-6.752	43.500	12.385	7.263	0.000	200	58	QP
2		191.505	34.509	13.000	-8.991	43.500	14.186	7.323	0.000	300	77	QP
3		256.737	32.396	8.300	-13.604	46.000	16.519	7.577	0.000	200	159	QP
4	*	312.027	43.647	19.600	-2.353	46.000	16.387	7.660	0.000	100	110	QP
5		327.547	37.515	15.200	-8.485	46.000	14.604	7.711	0.000	200	306	QP
6		398.236	32.994	9.200	-13.006	46.000	15.851	7.942	0.000	200	194	QP

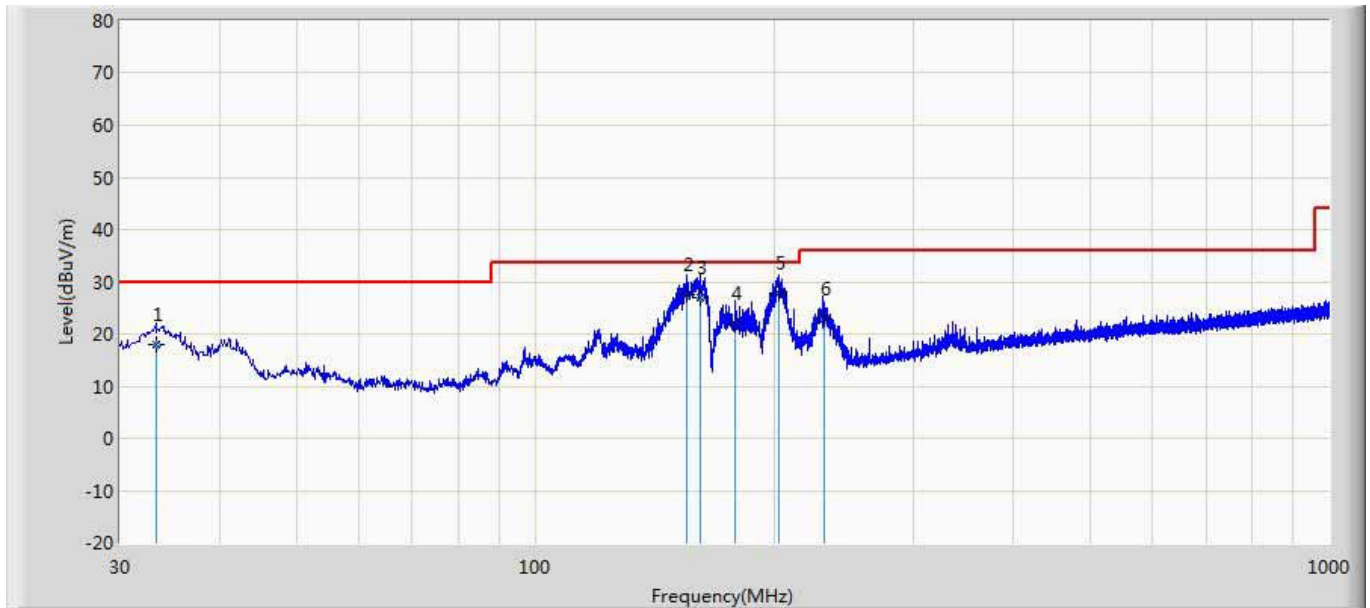
Note:

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

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

For Host (Solar Inverter):

Engineer: Bob Yu	
Site: AC1	Time: 2018/02/07
Limit: FCC_Part15.209_RE(10m)	Margin: 0
Probe: CBL6112B_2931(30-1000MHz)	Polarity: Horizontal
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-7.6KTL-USL0	



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		33.312	17.930	24.125	-12.070	30.000	15.039	1.015	22.249	200	277	QP
2		155.326	27.618	36.986	-5.882	33.500	10.514	2.377	22.259	200	103	QP
3		161.415	26.978	36.856	-6.522	33.500	9.943	2.425	22.247	200	67	QP
4		178.785	21.921	32.144	-11.579	33.500	9.424	2.568	22.216	200	96	QP
5	*	202.625	27.751	37.814	-5.749	33.500	9.400	2.759	22.222	300	61	QP
6		230.956	22.865	31.624	-13.135	36.000	10.476	2.973	22.208	200	104	QP

Note:

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

Engineer: Bob Yu

Site: AC1

Time: 2018/02/07

Limit: FCC_Part15.209_RE(10m)

Margin: 0

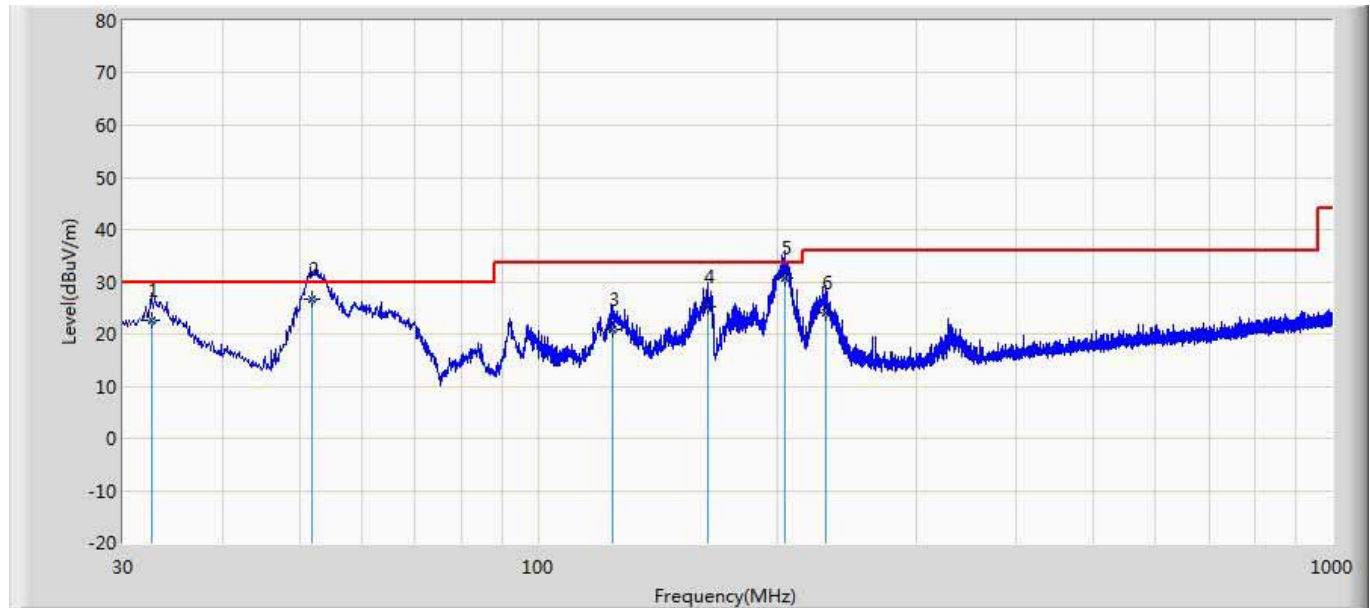
Probe: CBL6112B_2933(30-1000MHz)

Polarity: Vertical

EUT: Solar Inverter

Power: DC 400V

Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-7.6KTL-USL0



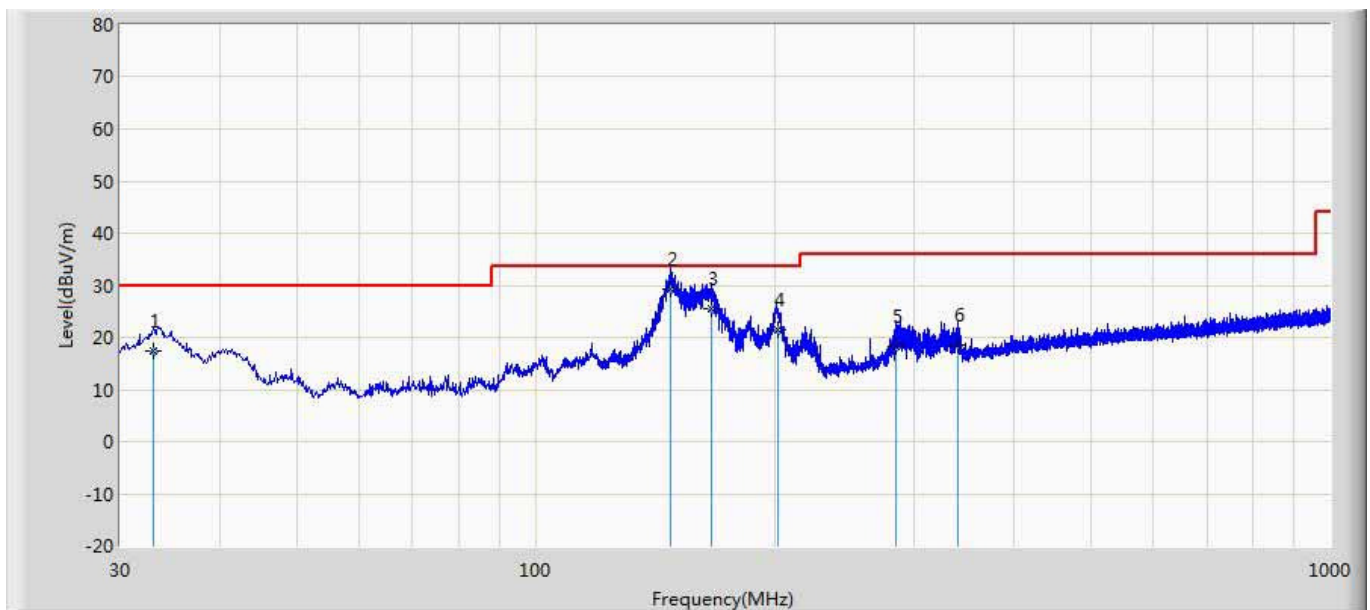
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		32.652	22.586	29.685	-7.414	30.000	15.110	1.124	23.334	100	154	QP
2		51.894	26.645	41.500	-3.355	30.000	7.048	1.447	23.351	100	360	QP
3		123.952	20.957	29.786	-12.543	33.500	12.226	2.327	23.382	200	144	QP
4		163.635	25.102	35.812	-8.398	33.500	9.937	2.722	23.369	100	68	QP
5	*	204.424	30.724	41.500	-2.776	33.500	9.463	3.082	23.322	100	143	QP
6		230.325	24.040	33.685	-11.960	36.000	10.422	3.302	23.369	200	36	QP

Note:

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

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

Engineer: Bob Yu	
Site: AC1	Time: 2018/02/08
Limit: FCC_Part15.209_RE(10m)	Margin: 0
Probe: CBL6112B_2931(30-1000MHz)	Polarity: Horizontal
EUT: Solar Inverter	Power: DC 400V
Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-11.4KTL-USL0	



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		33.023	17.498	23.625	-12.502	30.000	15.105	1.010	22.242	200	108	QP
2	*	148.207	29.163	38.100	-4.337	33.500	11.046	2.306	22.289	400	81	QP
3		166.780	25.525	35.635	-7.975	33.500	9.729	2.468	22.307	200	141	QP
4		201.635	21.448	31.526	-12.052	33.500	9.362	2.750	22.190	200	143	QP
5		284.635	18.404	24.635	-17.596	36.000	12.516	3.358	22.105	200	124	QP
6		340.325	18.533	22.635	-17.467	36.000	14.148	3.728	21.977	200	148	QP

Note:

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

Engineer: Bob Yu

Site: AC1

Time: 2018/02/08

Limit: FCC_Part15.209_RE(10m)

Margin: 0

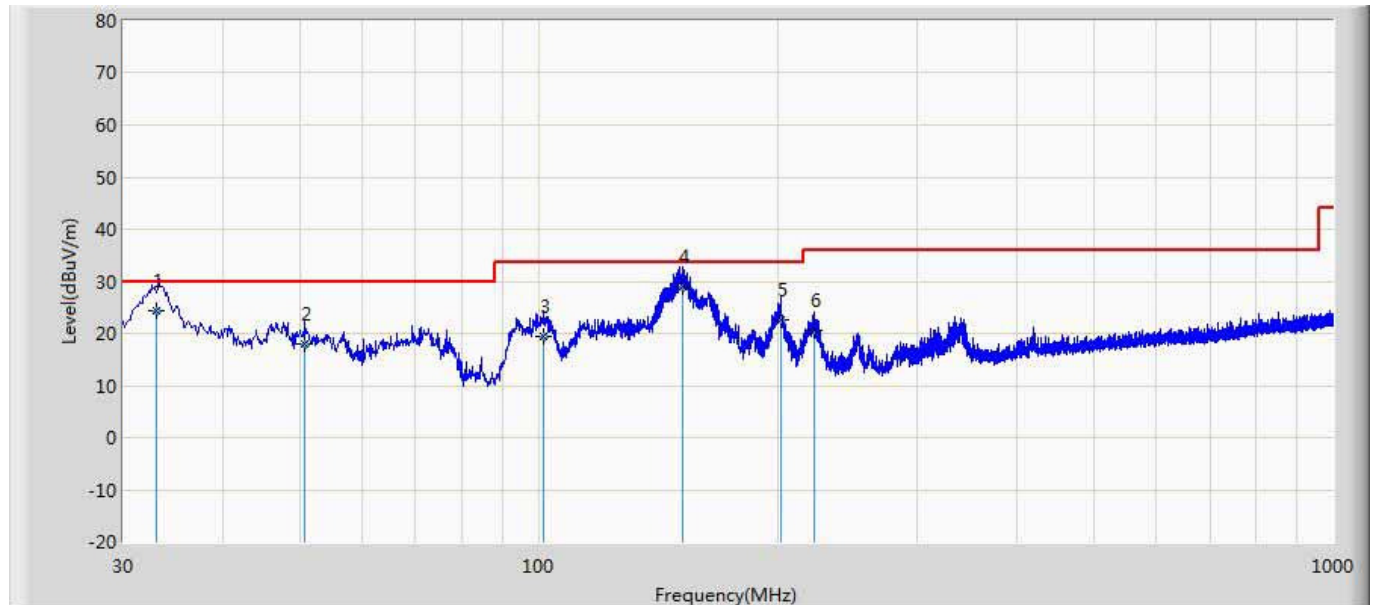
Probe: CBL6112B_2933(30-1000MHz)

Polarity: Vertical

EUT: Solar Inverter

Power: DC 400V

Note: Mode 4: Simultaneous transmit by WIFI and LTE SUN2000-11.4KTL-USL0



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		33.099	24.283	31.500	-5.717	30.000	14.994	1.133	23.344	100	156	QP
2		50.845	17.852	32.635	-12.148	30.000	7.132	1.428	23.344	200	98	QP
3		101.523	19.330	30.325	-14.170	33.500	10.313	2.085	23.393	200	145	QP
4	*	151.820	28.946	38.900	-4.554	33.500	10.800	2.610	23.365	100	360	QP
5		201.963	22.528	33.452	-10.972	33.500	9.373	3.063	23.360	200	163	QP
6		222.002	20.673	30.625	-15.327	36.000	10.114	3.238	23.304	100	156	QP

Note:

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

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

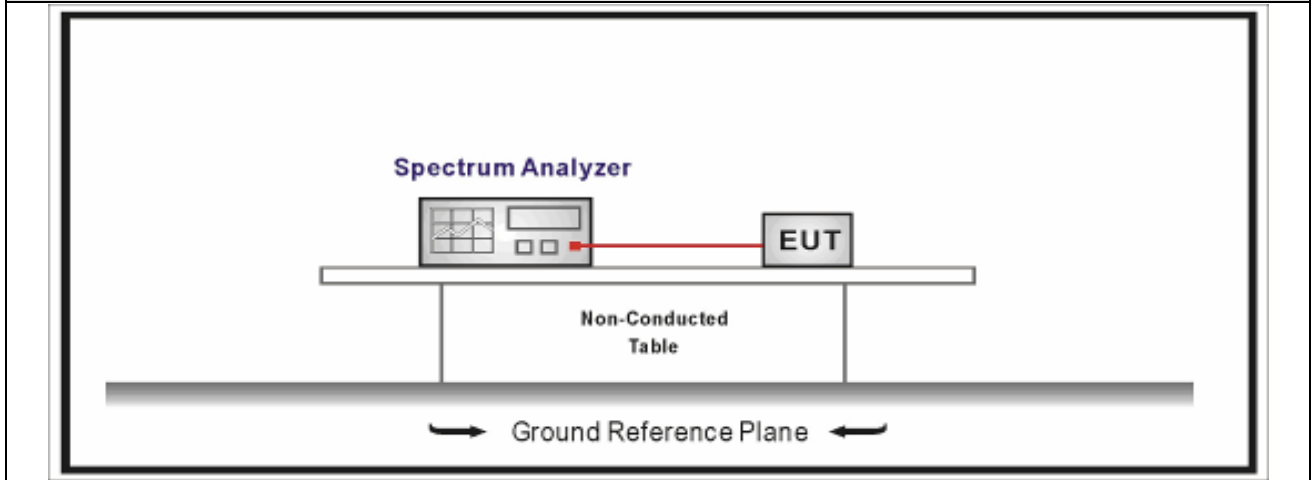
5. Emissions in non-restricted frequency bands

5.1. Test Equipment

Emissions in non-restricted frequency bands / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup

Emissions in non-restricted frequency bands



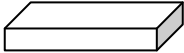
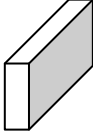
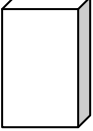
5.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc). Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).	

5.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	☒	ANSI C63.10	11.11.2	Reference level measurement
	☒	ANSI C63.10	11.11.3	Emission level measurement
☐	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☐	ANSI C63.10	11.12.1	Radiated emission measurements
	☐	ANSI C63.10	11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☐	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	☐	ANSI C63.10	11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10	11.12.2.3 Quasi-peak measurement procedure
		☐	ANSI C63.10	11.12.2.4 Peak power measurement procedure
		☐	ANSI C63.10	11.12.2.5 Average power measurement procedures
		☐	ANSI C63.10	11.12.2.5.1 Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2 Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☐	ANSI C63.10	11.12.2.5.3 Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

5.5. EUT test Axis definition

Item	Emissions in non-restricted frequency bands			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1 ~ Mode 3			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☐	Chain 1		
				
	☒	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

5.6. Test Result

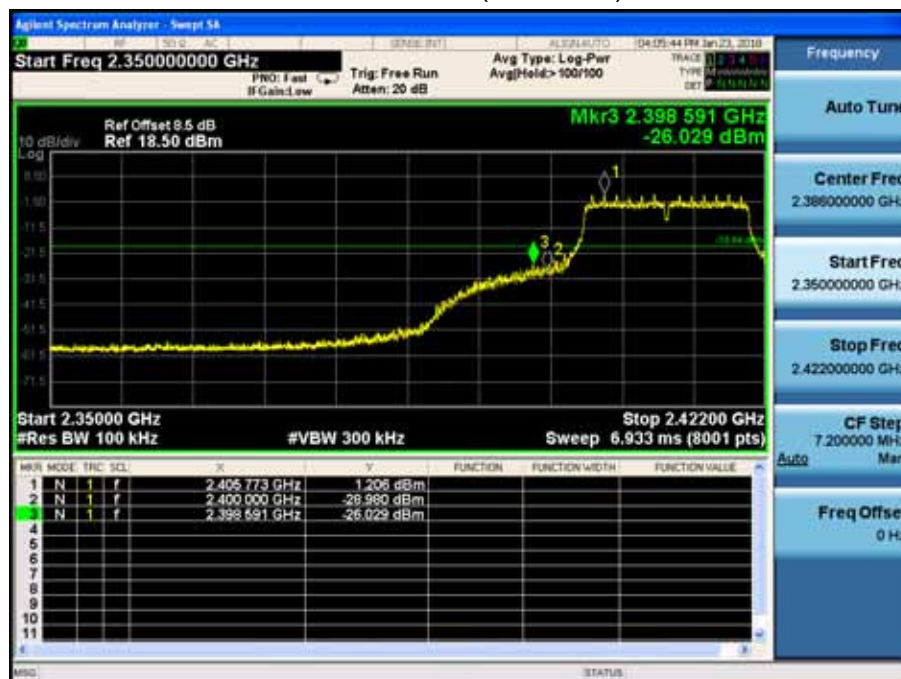
Product Name	:	END1CTLA	Power	:	DC 12V
Test Mode	:	Mode1~3	Test Site	:	TR8
Test Date	:	2017.01.23	Test Engineer	:	Slark

Internal PCB Antenna:

Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	01	2412	8.259	2400	-19.824	28.083	>20	Pass
1	11	2462	8.009	2500	-49.927	57.936	>20	Pass
2	01	2412	1.206	2400	-26.029	27.235	>20	Pass
2	11	2462	0.547	2500	-52.646	53.193	>20	Pass
3	01	2412	0.339	2400	-28.695	29.034	>20	Pass
3	11	2462	-0.695	2500	-56.478	55.783	>20	Pass

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

Mode 2 CH01(2412MHz)



External Dipole Antenna:

Mode	Channel	Test Frequency (MHz)	Maximum In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	01	2412	7.959	2400	-22.664	30.623	>20	Pass
1	11	2462	6.620	2500	-54.465	61.085	>20	Pass
2	01	2412	1.133	2400	-29.582	30.715	>20	Pass
2	11	2462	-0.163	2500	-54.931	54.768	>20	Pass
3	01	2412	0.754	2400	-31.873	32.627	>20	Pass
3	11	2462	-0.707	2500	-55.741	55.034	>20	Pass

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

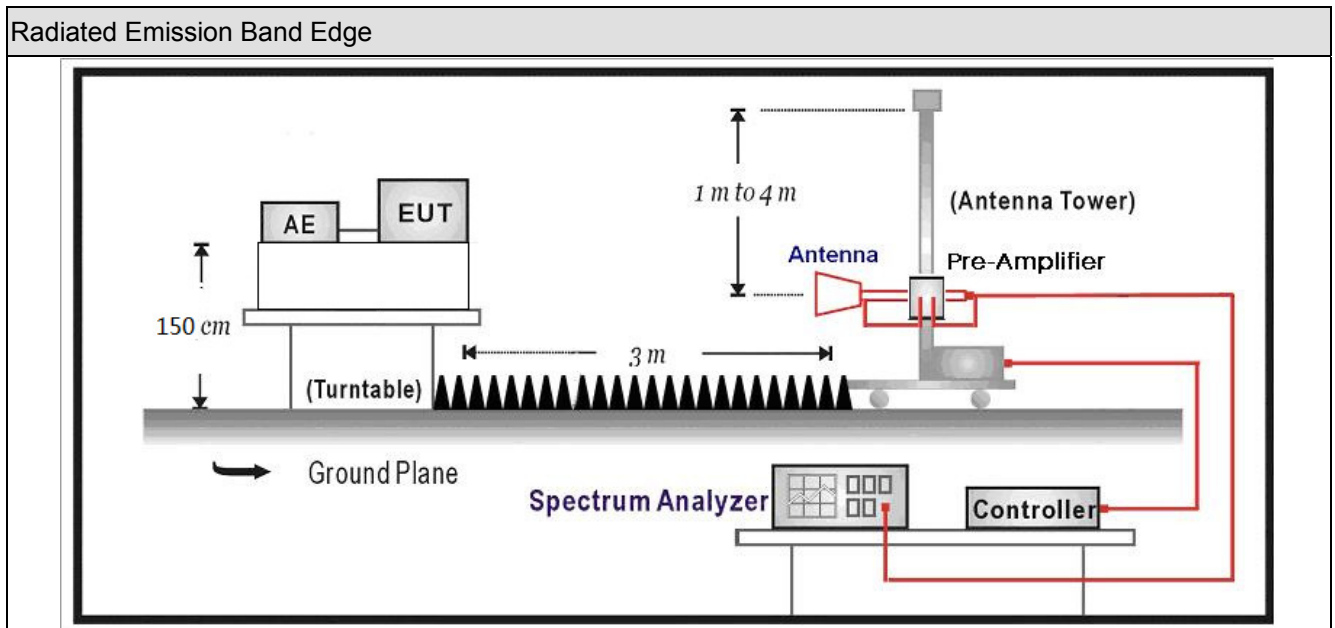
Mode 3 CH01(2412MHz)

6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission Band Edge / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2017.05.06	2018.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2017.01.22	2019.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2017.11.25	2018.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.03.02	2018.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2017.03.02	2018.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2017.06.10	2018.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2018.01.04	2019.01.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup



6.3. Limit

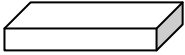
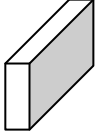
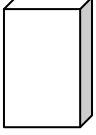
Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

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

6.4. Test Procedure

Radiated Emission Band Edge					
	References Rule		Chapter	Description	
☒	ANSI C63.10		6.10	Band-edge testing	
	☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements	
	☐	ANSI C63.10	6.10.6	Marker-delta method	
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands	
	☒	ANSI C63.10	11.12.1	Radiated emission measurements	
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test	
☐	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz	
☐	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz	
☒	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz	
	☐	ANSI C63.10		11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		☐	ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☐	ANSI C63.10	11.12.2.5	Average power measurement procedures
		☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☐	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

6.5. EUT test definition

Item	Radiated Emission Band Edge			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~3			
Test method	☒	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☒	Worst Axis ☐	Worst Axis ☐
	☐	Conducted		
	☐	Chain 1		
				
	☐	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

6.6. Duty Cycle

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11b	4.52	4.42	220Hz	8.94	50.56%
802.11g	2.06	3.48	510Hz	5.54	37.18%
802.11n(20MHz)	1.93	3.19	560Hz	5.12	37.70%



6.7. Test Result

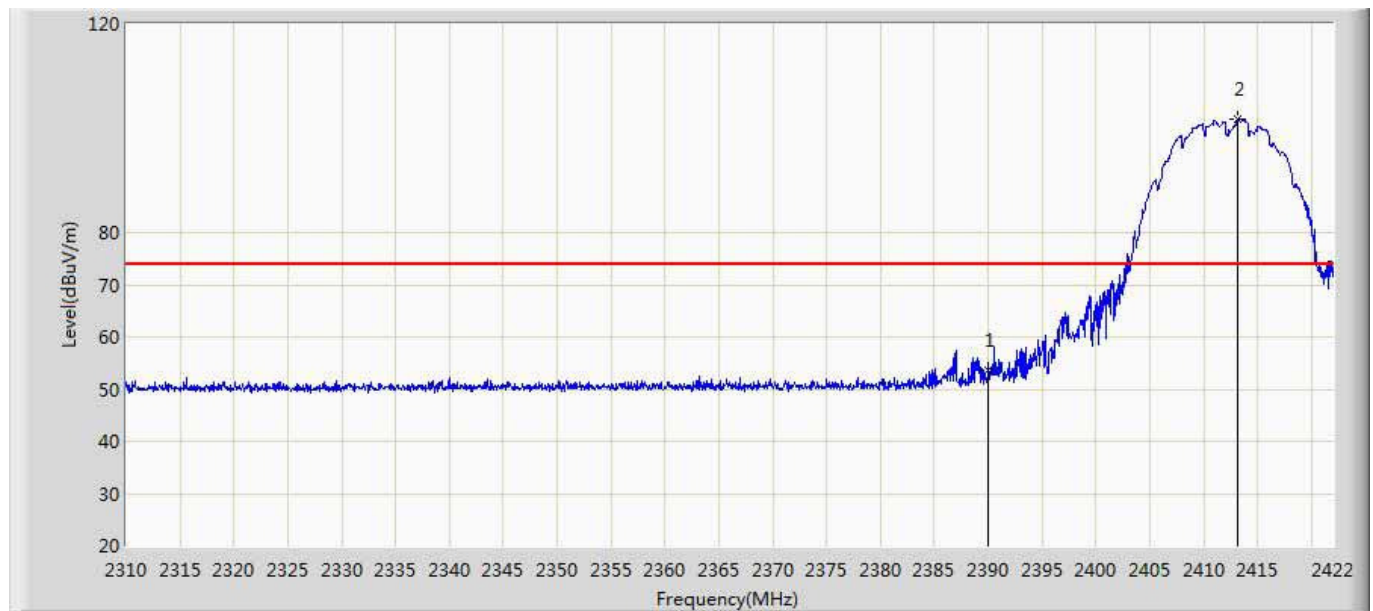
Ant1 :

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with Internal PCB Antenna	



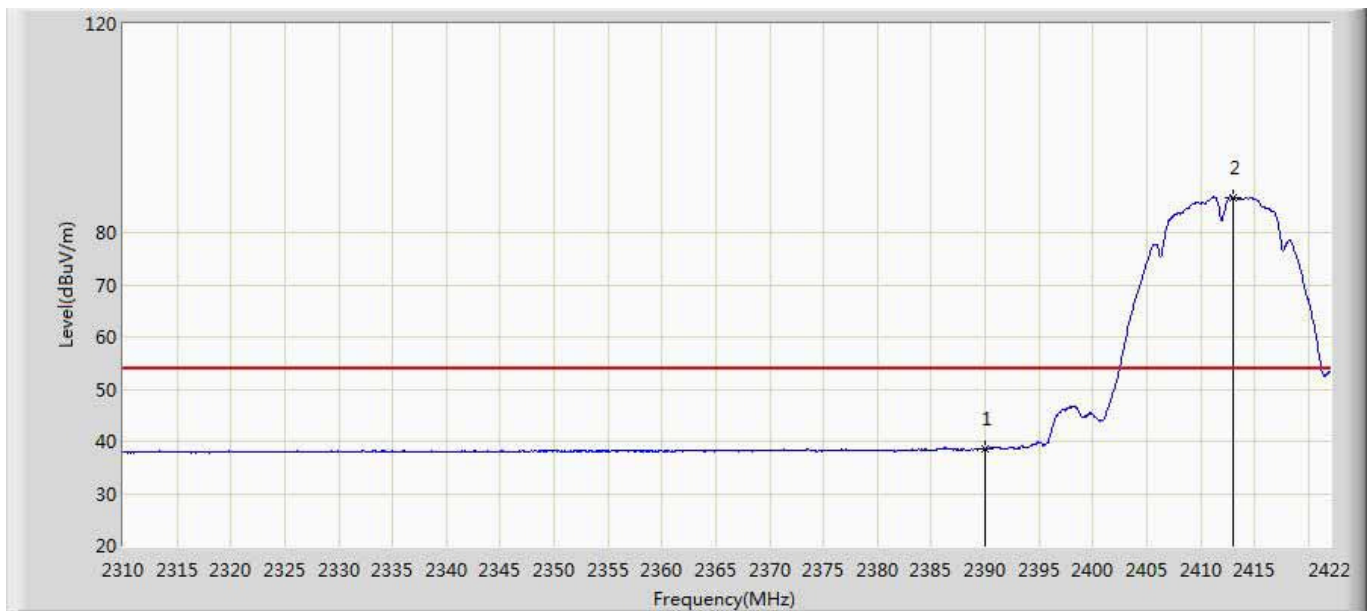
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.392	6.710	-11.608	54.000	35.682	AV
2	*	2412.704	98.112	62.368	N/A	N/A	35.744	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 11:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with Internal PCB Antenna	



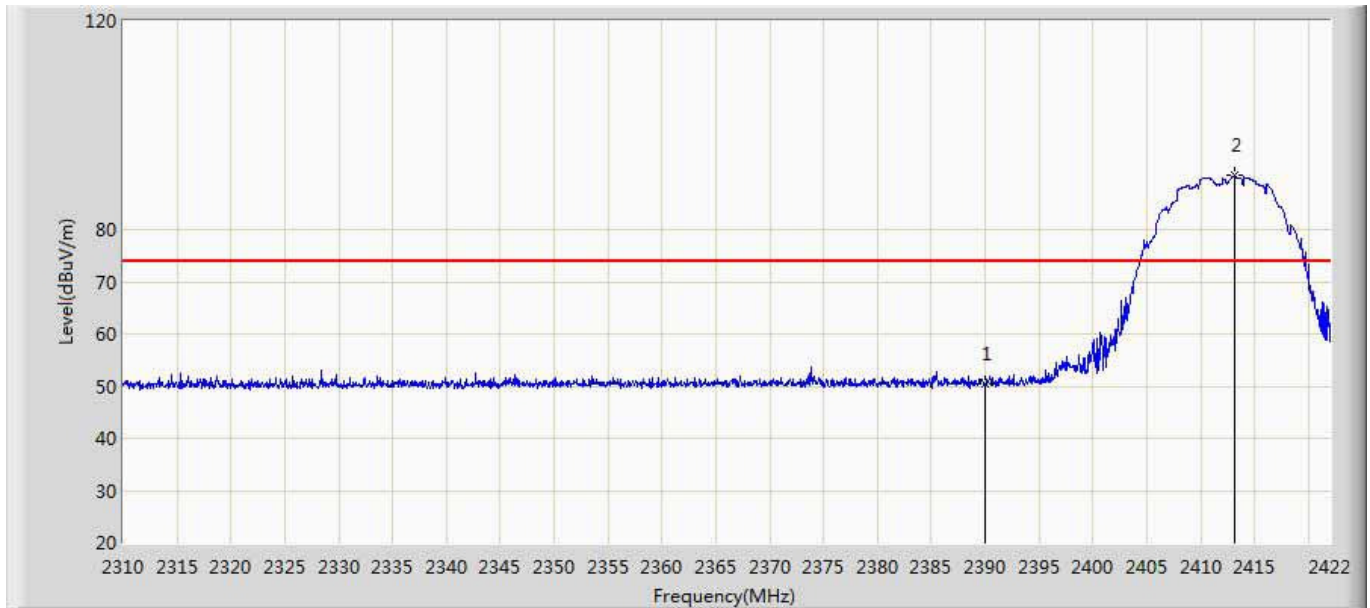
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.722	18.040	-20.278	74.000	35.682	PK
2	*	2413.152	101.699	65.953	N/A	N/A	35.747	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 11:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with Internal PCB Antenna	



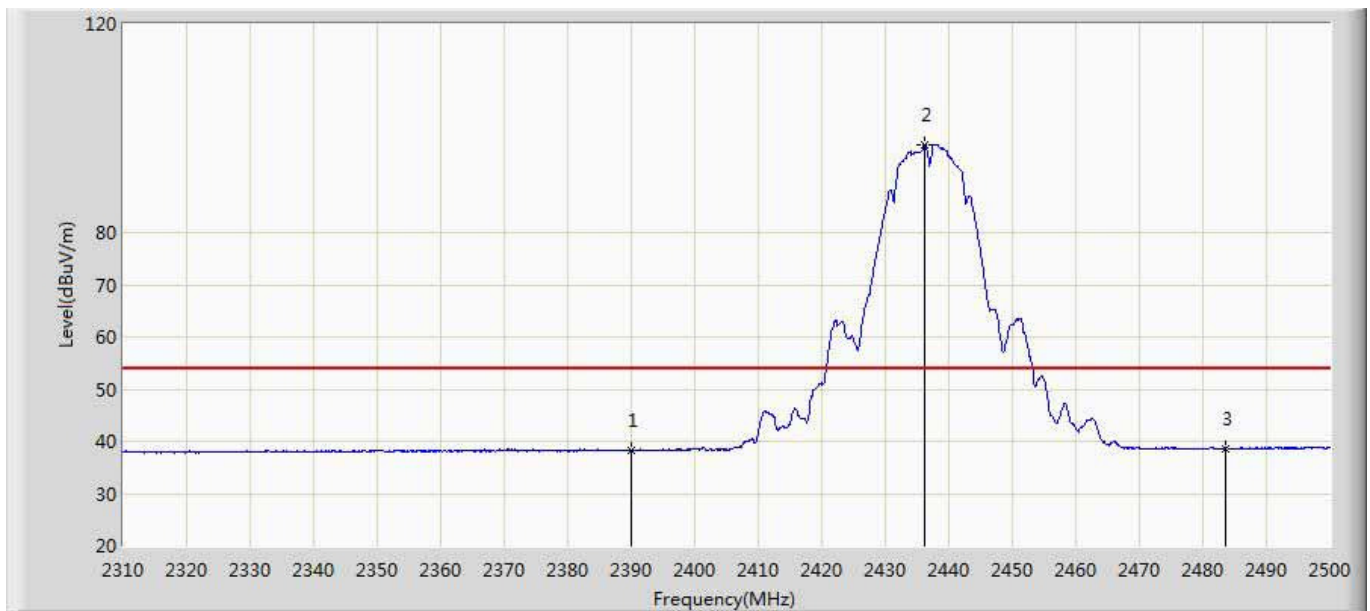
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.487	2.805	-15.513	54.000	35.682	AV
2	*	2412.984	86.737	50.991	N/A	N/A	35.745	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 11:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with Internal PCB Antenna	



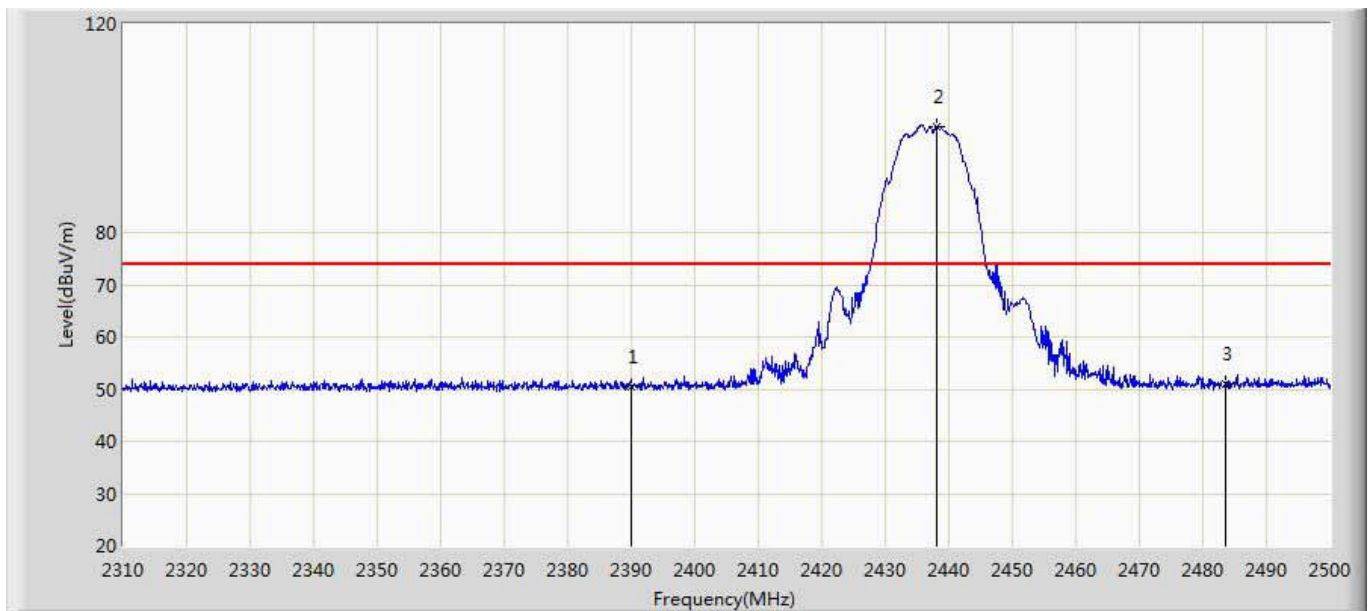
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.383	14.701	-23.617	74.000	35.682	PK
2	*	2413.152	90.346	54.600	N/A	N/A	35.747	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 11:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.319	2.637	-15.681	54.000	35.682	AV
2	*	2436.255	96.910	61.104	N/A	N/A	35.807	AV
3		2483.500	38.585	2.693	-15.415	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.480	14.798	-23.520	74.000	35.682	PK
2	*	2438.155	100.289	64.483	N/A	N/A	35.806	PK
3		2483.500	50.901	15.009	-23.099	74.000	35.891	PK

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 12:02

Limit: FCC_Part15.209_RE(3m)

Margin: 0

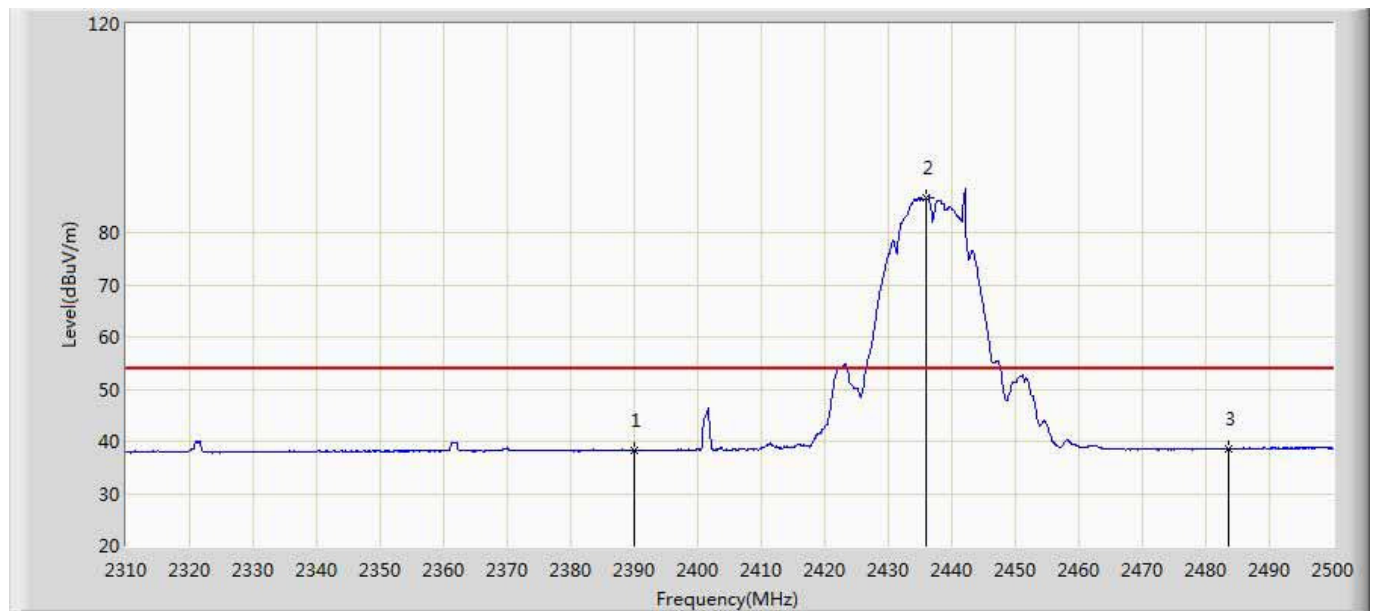
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Vertical

EUT: END1CTLA

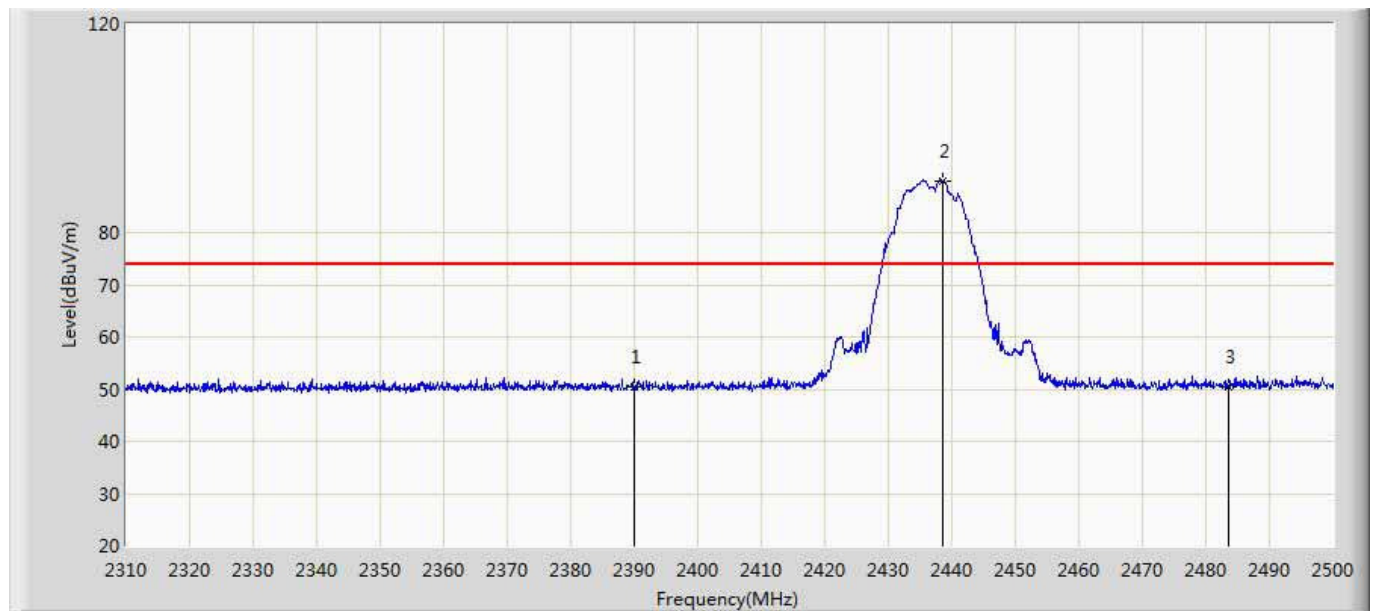
Power: DC 12V

Note: Mode 1: Transmit at 2437MHz by 802.11b with Internal PCB Antenna



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.344	2.662	-15.656	54.000	35.682	AV
2	*	2436.065	86.762	50.956	N/A	N/A	35.806	AV
3		2483.500	38.577	2.685	-15.423	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2437MHz by 802.11b with Internal PCB Antenna	



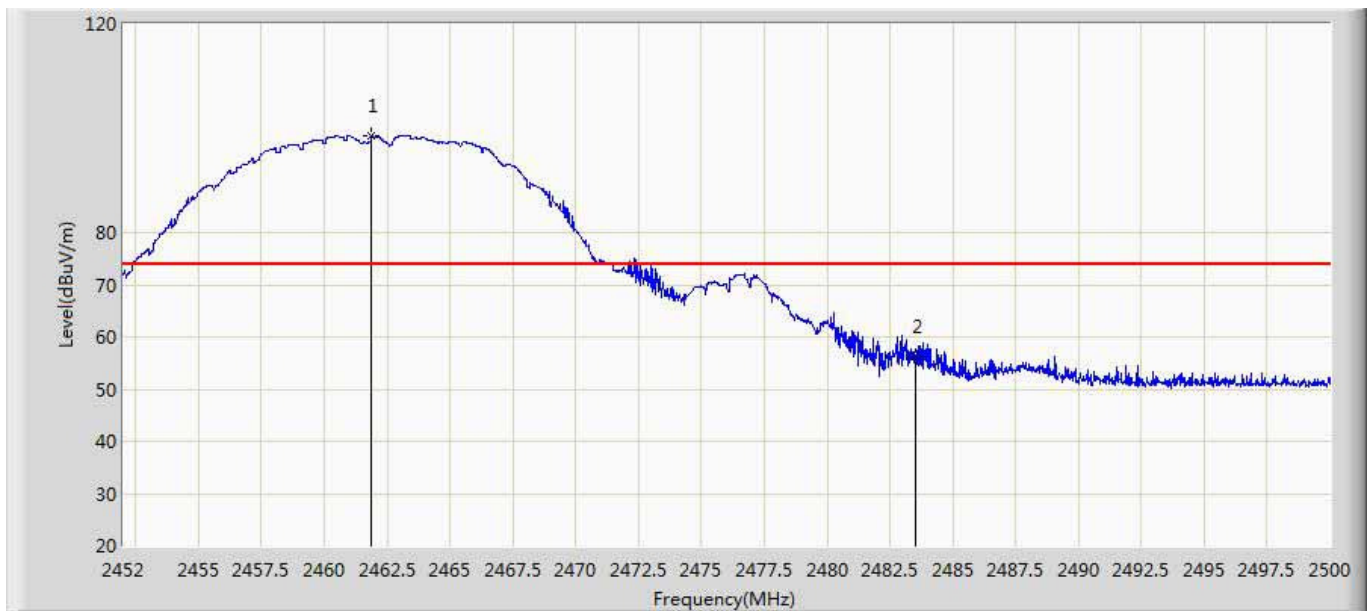
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.303	14.621	-23.697	74.000	35.682	PK
2	*	2438.630	89.846	54.040	N/A	N/A	35.806	PK
3		2483.500	50.339	14.447	-23.661	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2462MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	96.360	60.485	N/A	N/A	35.875	AV
2		2483.500	49.014	13.122	-4.986	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.888	98.477	62.599	N/A	N/A	35.878	PK
2		2483.500	56.207	20.315	-17.793	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	87.063	51.188	N/A	N/A	35.875	AV
2		2483.500	41.213	5.321	-12.787	54.000	35.891	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 12:10

Limit: FCC_Part15.209_RE(3m)

Margin: 0

Probe: Horn_3117_00167055(1-18GHz)

Polarity: Vertical

EUT: END1CTLA

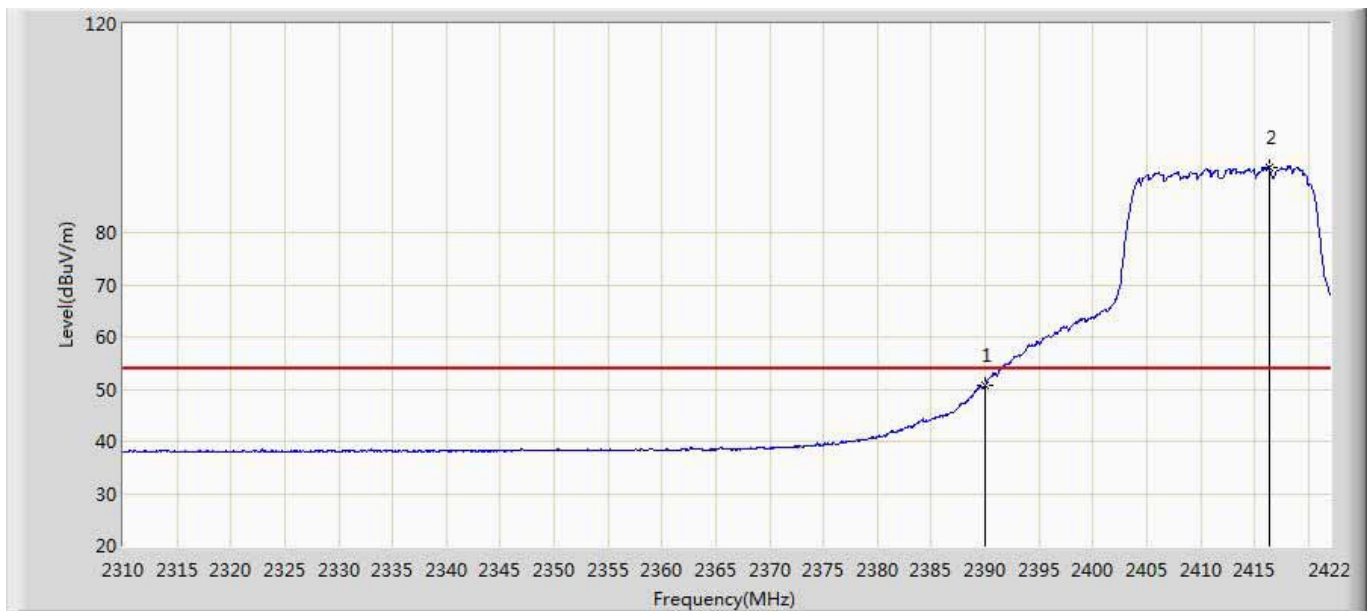
Power: DC 12V

Note: Mode 1: Transmit at 2462MHz by 802.11b with Internal PCB Antenna



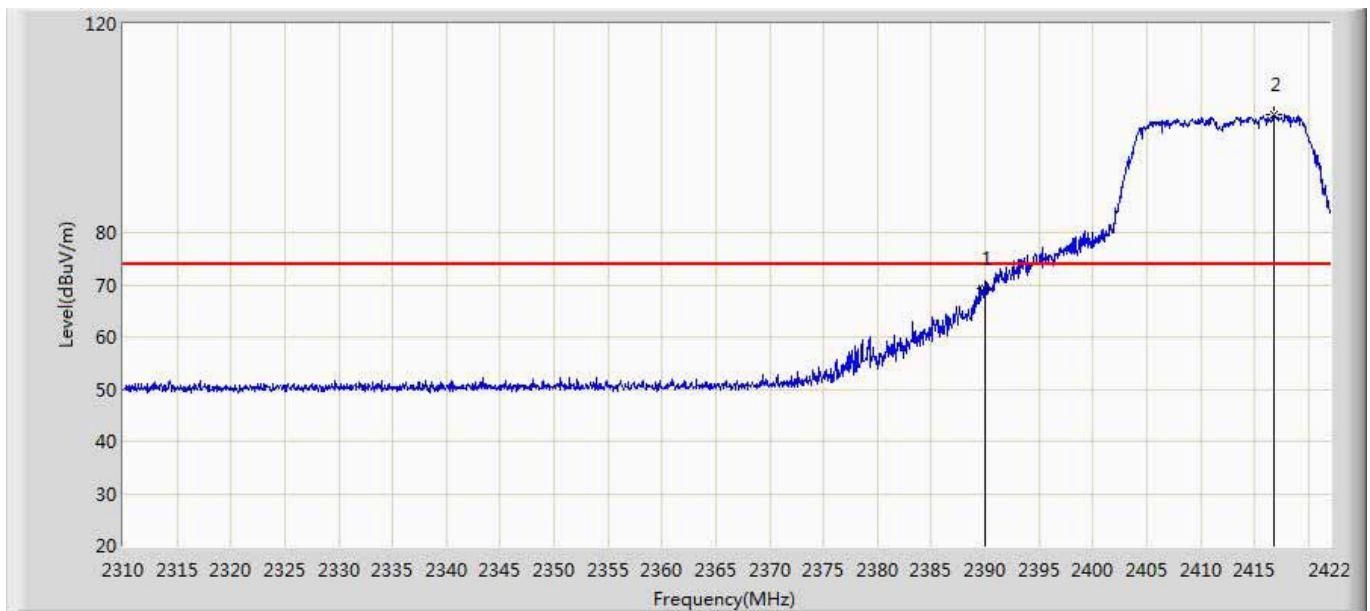
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.904	90.361	54.488	N/A	N/A	35.874	PK
2		2483.500	51.897	16.005	-22.103	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with Internal PCB Antenna	



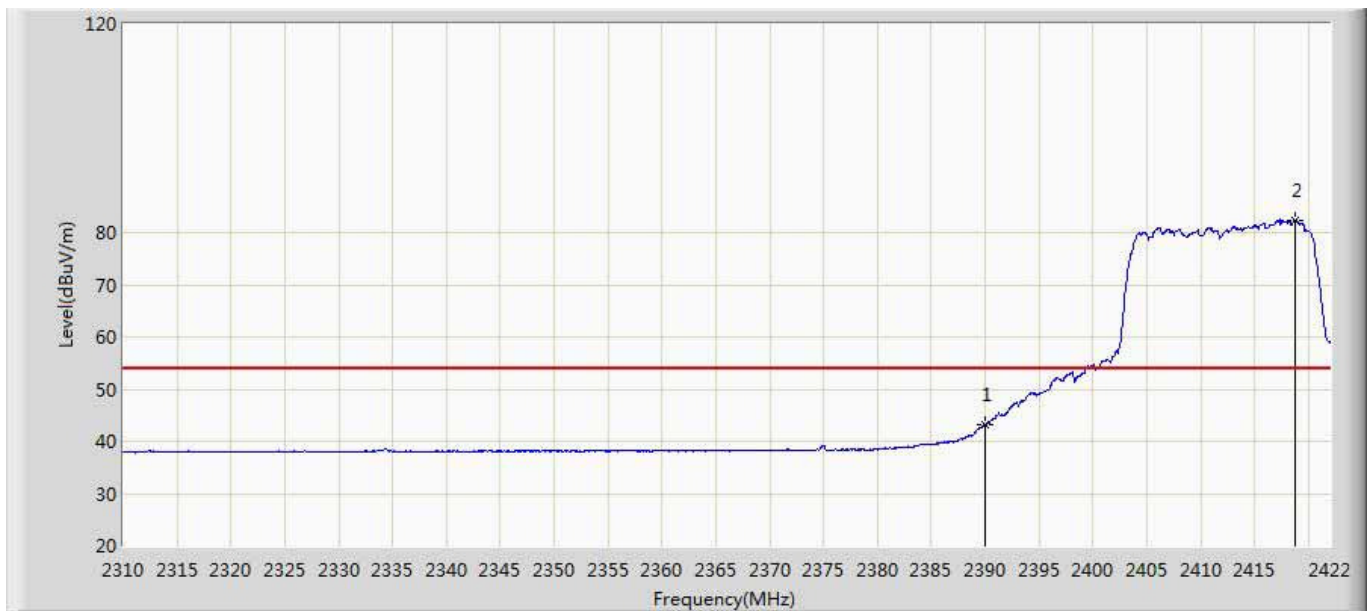
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.805	15.123	-3.195	54.000	35.682	AV
2	*	2416.344	92.524	56.764	N/A	N/A	35.760	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with Internal PCB Antenna	



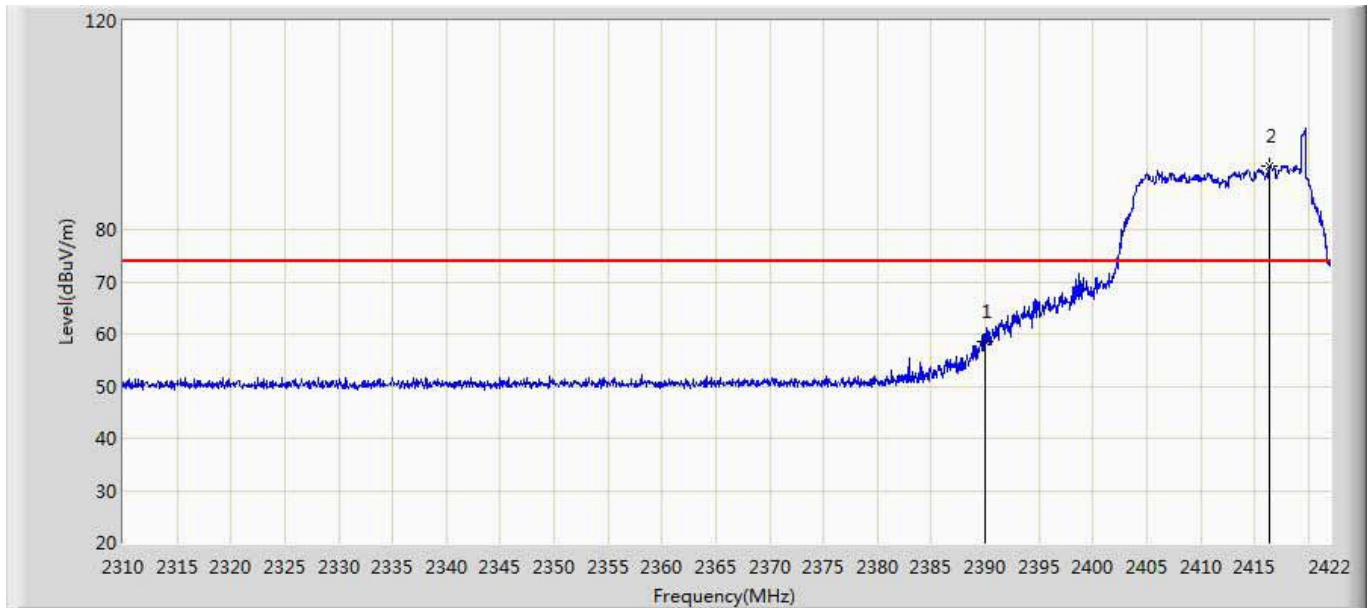
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	69.197	33.515	-4.803	74.000	35.682	PK
2	*	2416.848	102.567	66.805	N/A	N/A	35.762	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.150	7.468	-10.850	54.000	35.682	AV
2	*	2418.808	82.391	46.621	N/A	N/A	35.770	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:22
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	58.496	22.814	-15.504	74.000	35.682	PK
2	*	2416.456	92.060	56.300	N/A	N/A	35.760	PK

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 12:24

Limit: FCC_Part15.209_RE(3m)

Margin: 0

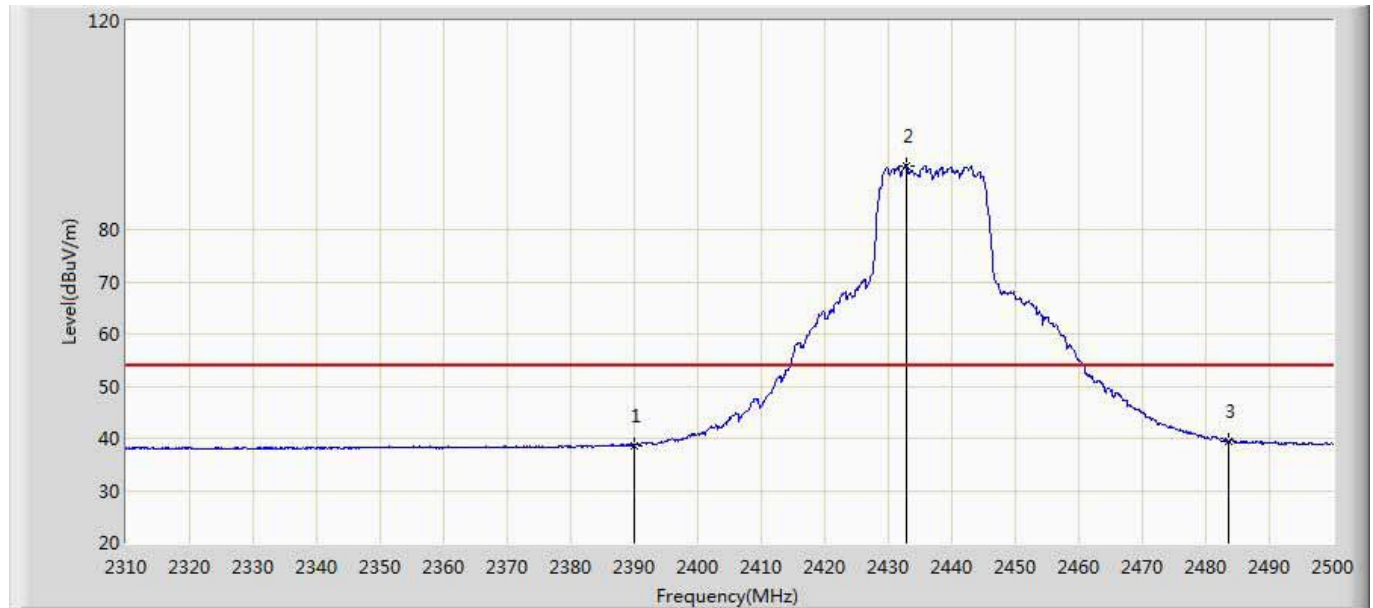
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Horizontal

EUT: END1CTLA

Power: DC 12V

Note: Mode 2:Transmit at 2437MHz by 802.11g with Internal PCB Antenna



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.675	2.993	-15.325	54.000	35.682	AV
2	*	2432.740	92.260	56.453	N/A	N/A	35.808	AV
3		2483.500	39.414	3.522	-14.586	54.000	35.891	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 12:27

Limit: FCC_Part15.209_RE(3m)

Margin: 0

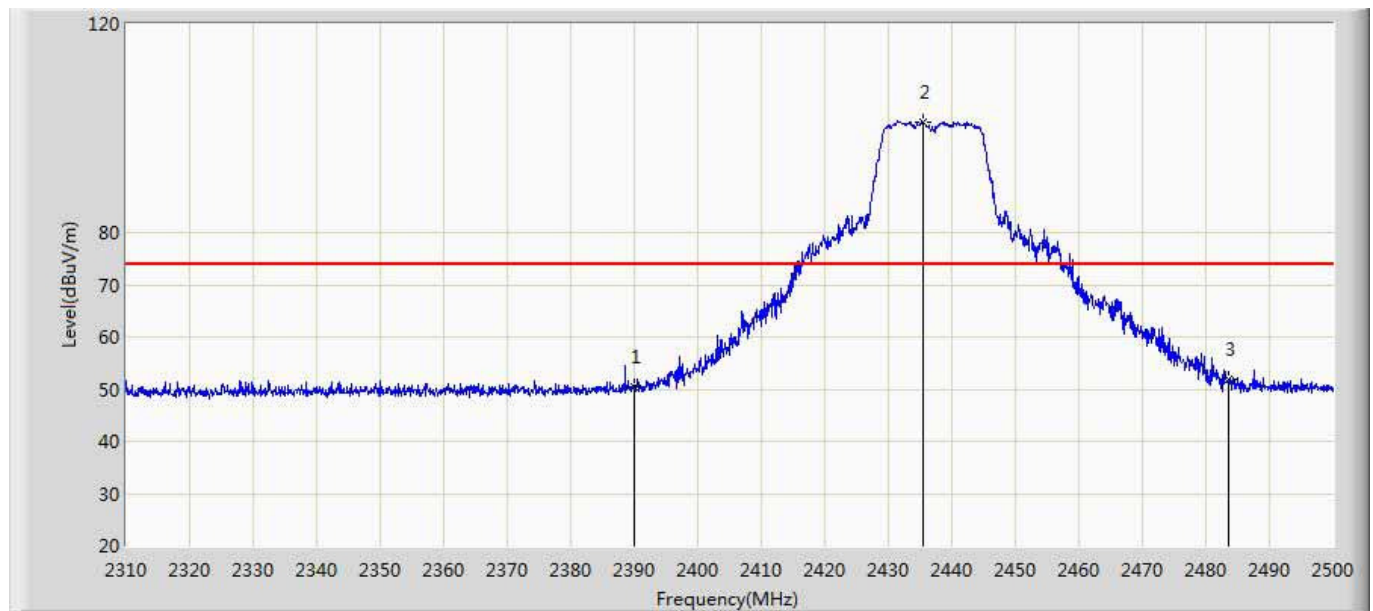
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Horizontal

EUT: END1CTLA

Power: DC 12V

Note: Mode 2:Transmit at 2437MHz by 802.11g with Internal PCB Antenna



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.568	14.886	-23.432	74.000	35.682	PK
2	*	2435.495	101.238	65.432	N/A	N/A	35.807	PK
3		2483.500	51.897	16.005	-22.103	74.000	35.891	PK

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 12:28

Limit: FCC_Part15.209_RE(3m)

Margin: 0

Probe: Horn_3117_00167055(1-18GHz)

Polarity: Vertical

EUT: END1CTLA

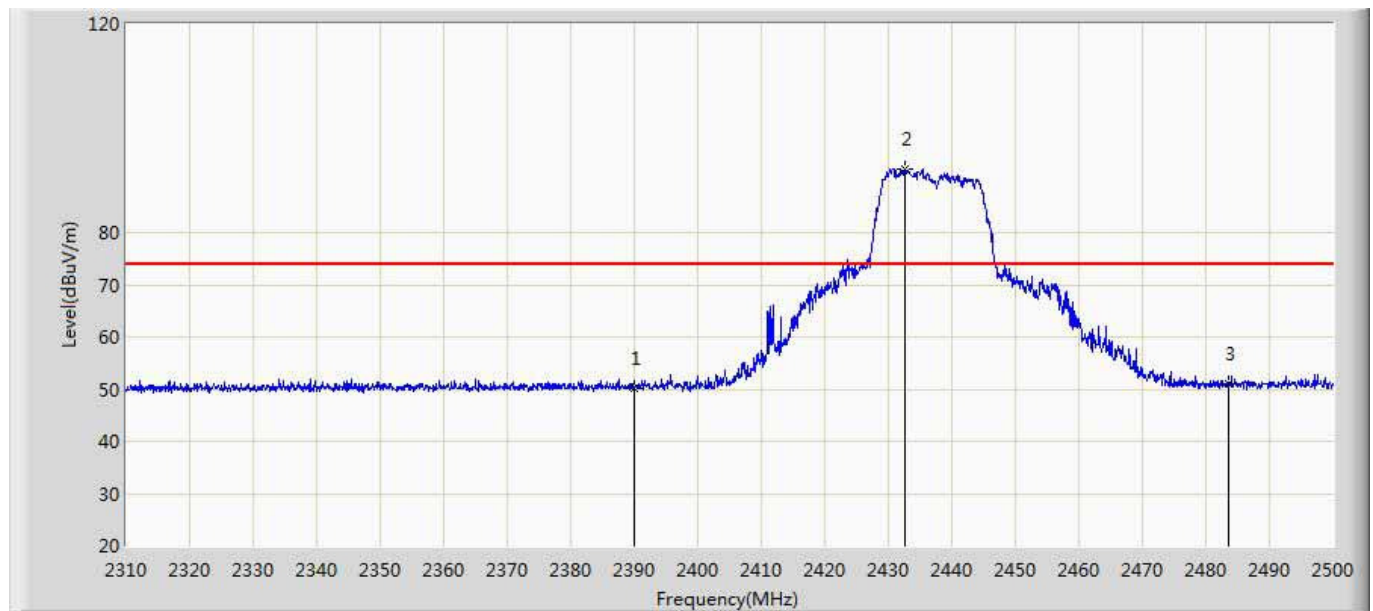
Power: DC 12V

Note: Mode 2:Transmit at 2437MHz by 802.11g with Internal PCB Antenna



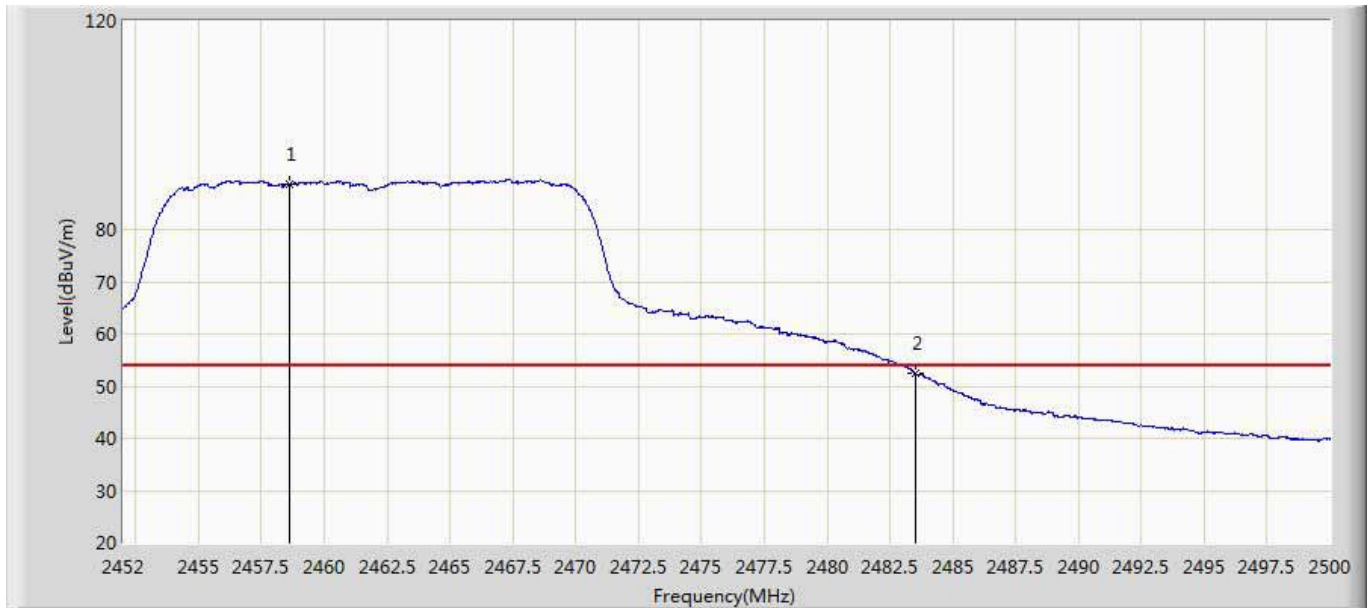
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.345	2.663	-15.655	54.000	35.682	AV
2	*	2433.405	82.047	46.240	N/A	N/A	35.807	AV
3		2483.500	38.635	2.743	-15.365	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with Internal PCB Antenna	



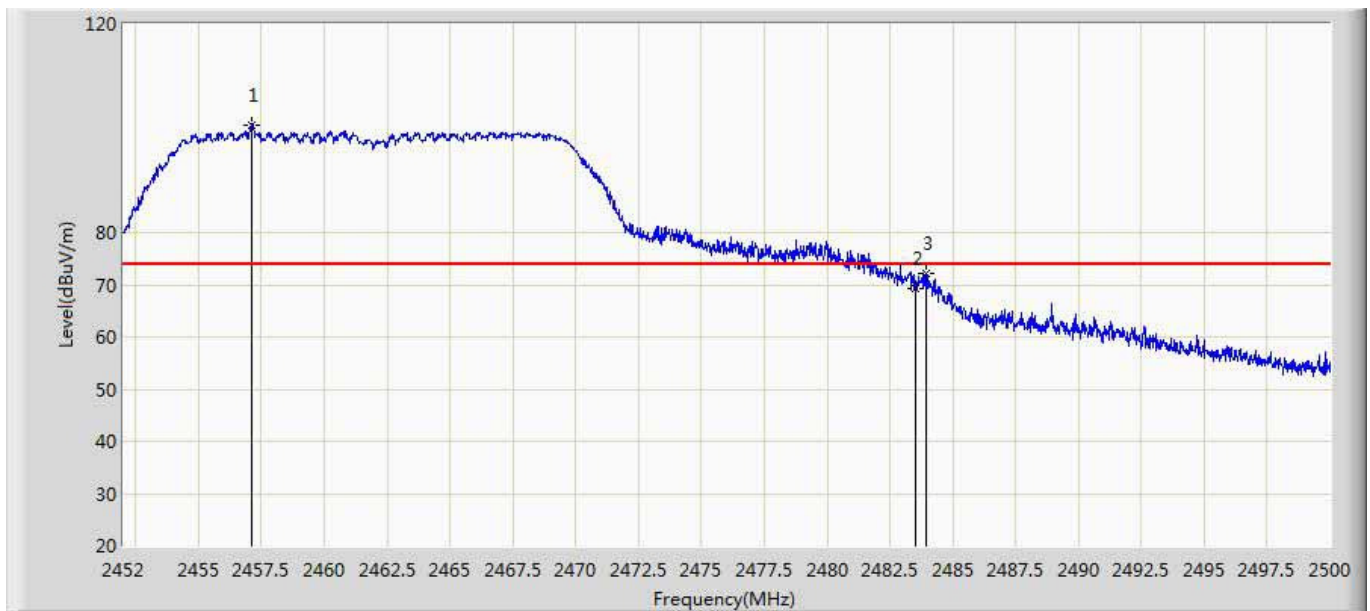
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.132	14.450	-23.868	74.000	35.682	PK
2	*	2432.645	92.226	56.419	N/A	N/A	35.807	PK
3		2483.500	51.131	15.239	-22.869	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with Internal PCB Antenna	



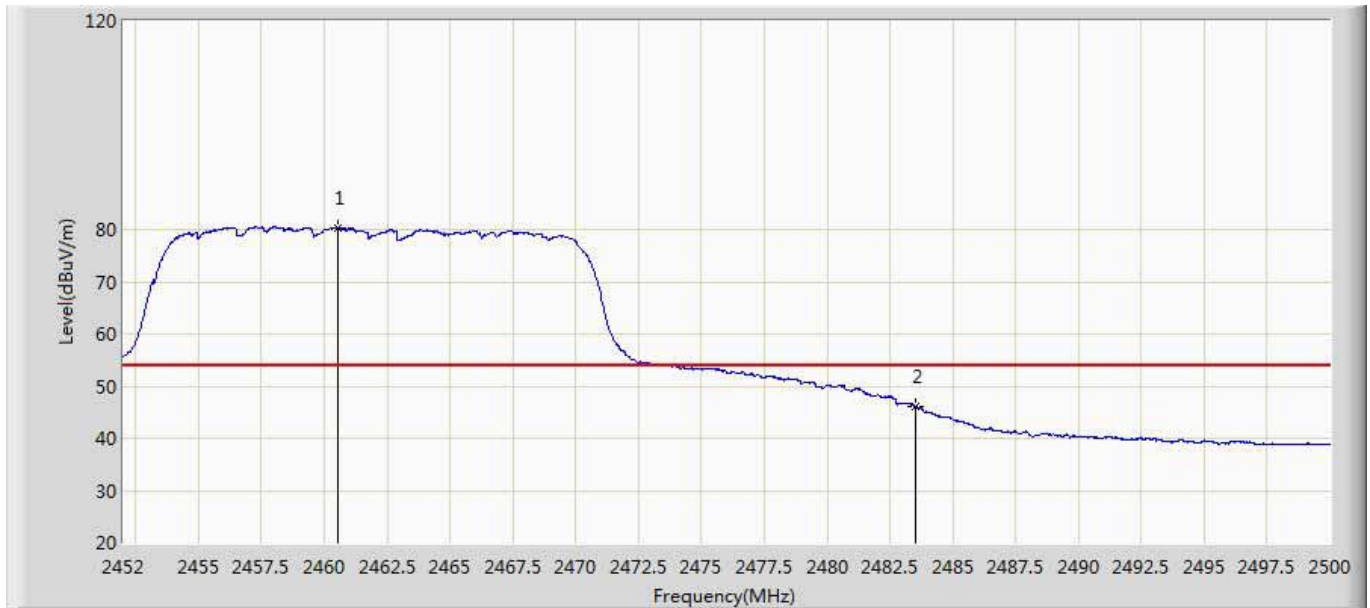
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.600	88.792	52.929	N/A	N/A	35.863	AV
2		2483.500	52.466	16.574	-1.534	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with Internal PCB Antenna	



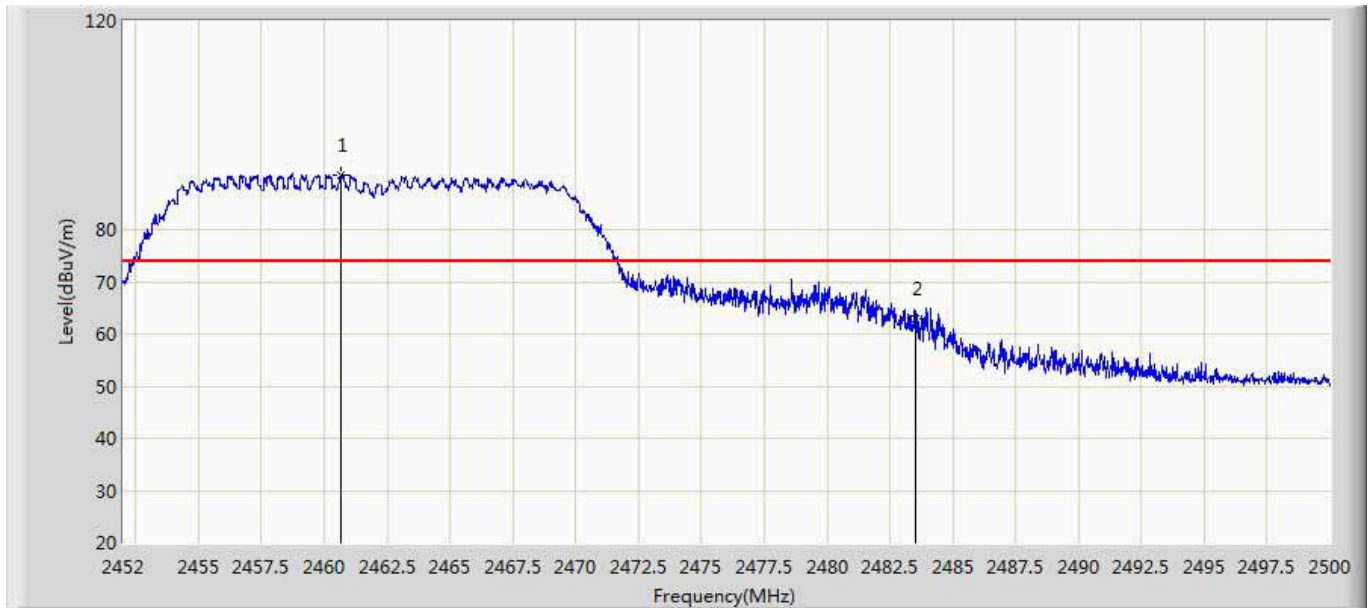
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.088	100.634	64.777	N/A	N/A	35.857	PK
2		2483.500	69.179	33.287	-4.821	74.000	35.891	PK
3		2483.920	72.076	36.181	-1.924	74.000	35.895	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with Internal PCB Antenna	



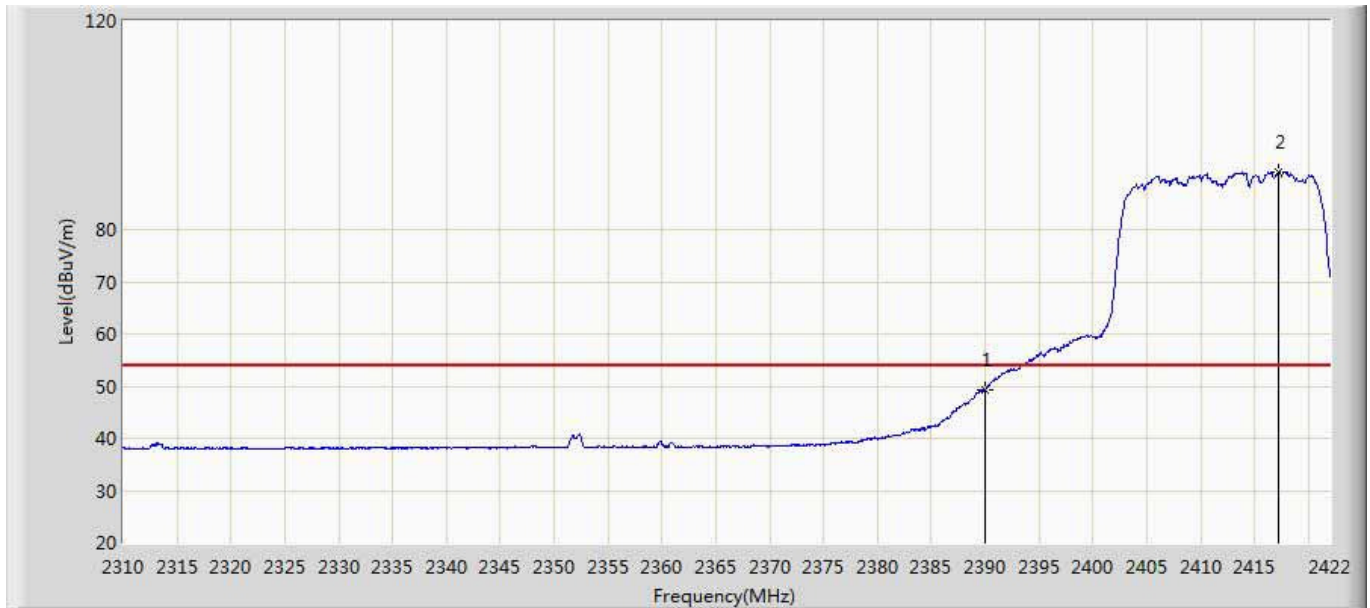
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.568	80.407	44.535	N/A	N/A	35.872	AV
2		2483.500	46.121	10.229	-7.879	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with Internal PCB Antenna	



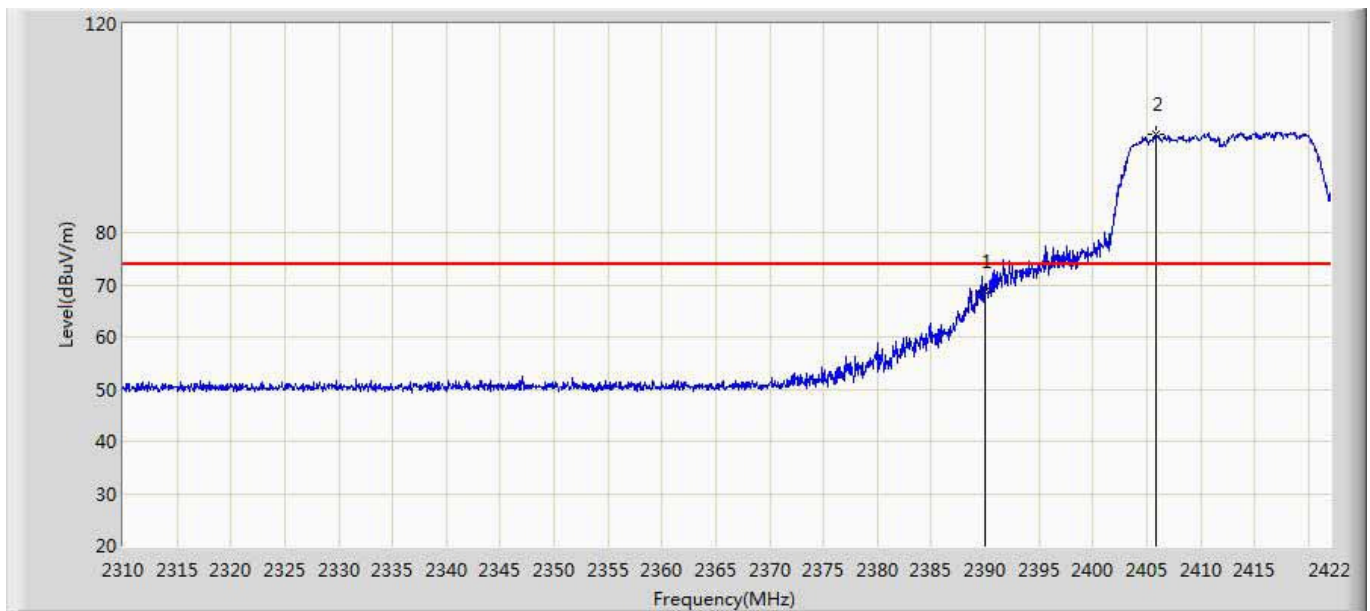
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.640	90.441	54.569	N/A	N/A	35.872	PK
2		2483.500	62.847	26.955	-11.153	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	49.378	13.696	-4.622	54.000	35.682	AV
2	*	2417.240	90.986	55.223	N/A	N/A	35.764	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	68.661	32.979	-5.339	74.000	35.682	PK
2	*	2405.816	98.787	63.064	N/A	N/A	35.723	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with Internal PCB Antenna	



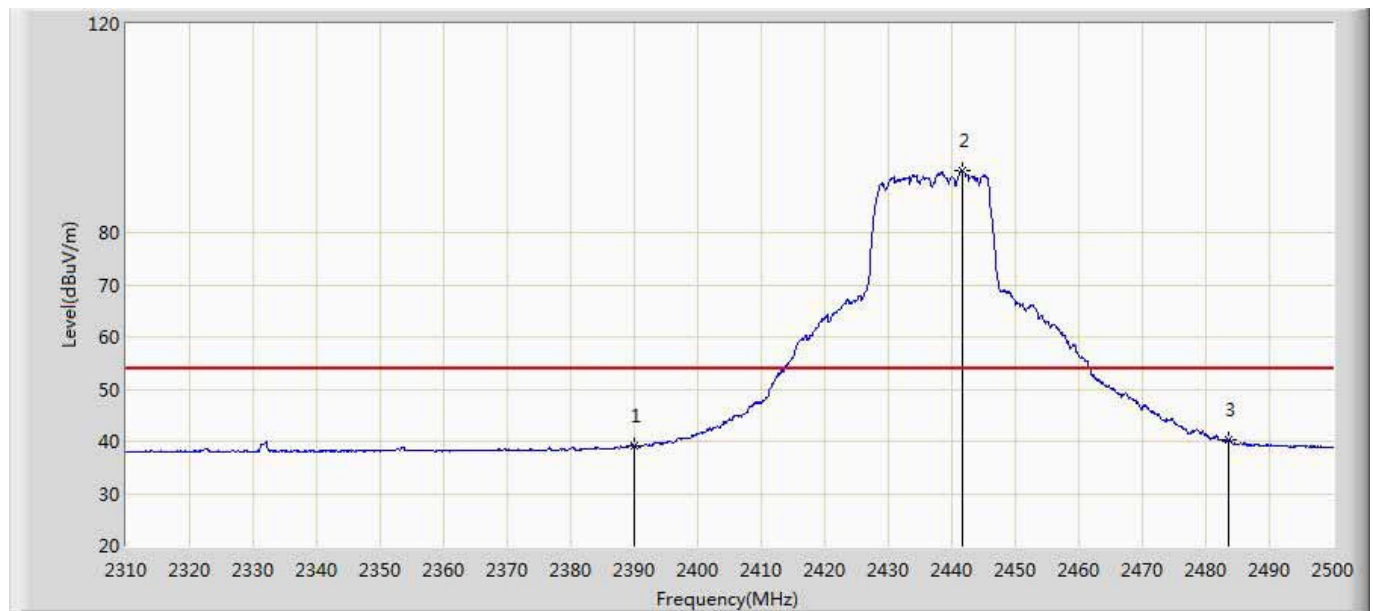
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	43.160	7.478	-10.840	54.000	35.682	AV
2	*	2418.696	81.031	45.261	N/A	N/A	35.770	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	57.110	21.428	-16.890	74.000	35.682	PK
2	*	2417.520	91.219	55.454	N/A	N/A	35.765	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.992	3.310	-15.008	54.000	35.682	AV
2	*	2441.575	91.998	56.193	N/A	N/A	35.805	AV
3		2483.500	40.171	4.279	-13.829	54.000	35.891	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 12:51

Limit: FCC_Part15.209_RE(3m)

Margin: 0

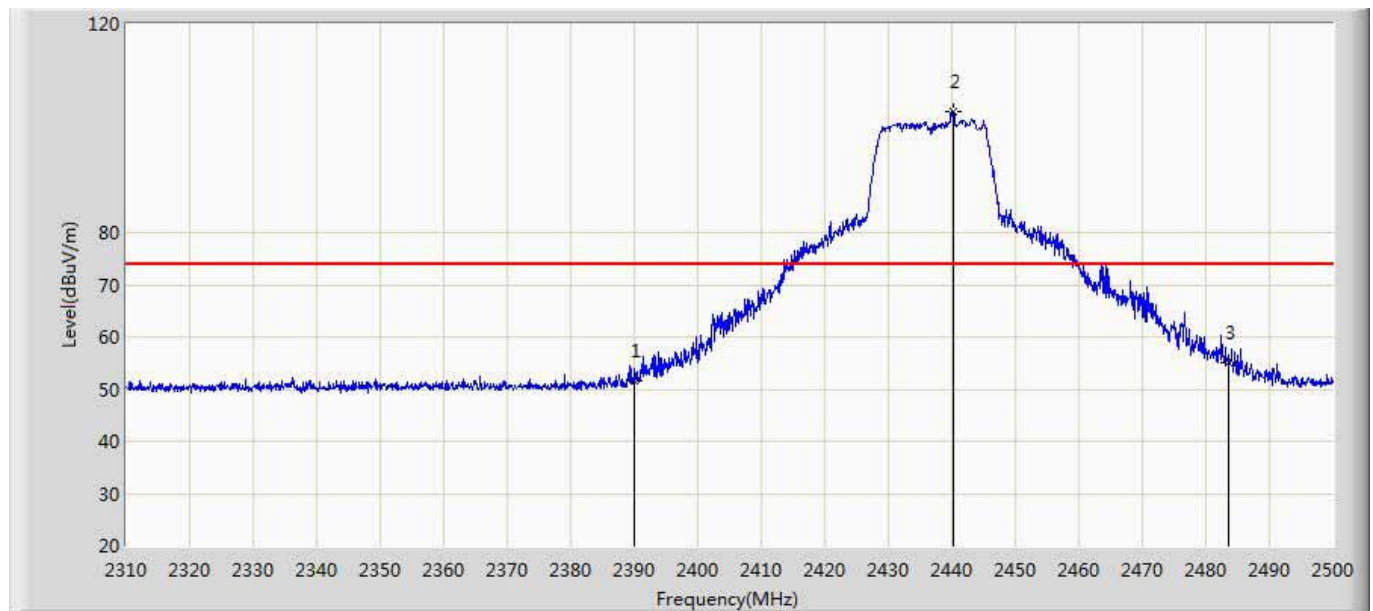
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Horizontal

EUT: END1CTLA

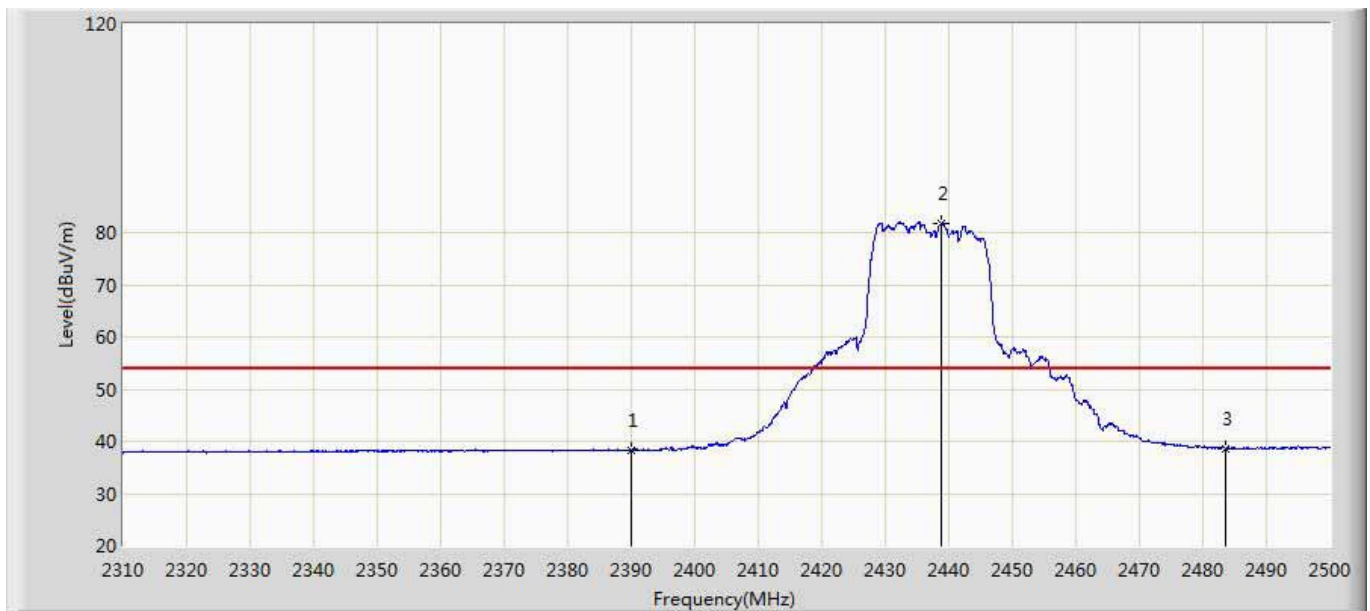
Power: DC 12V

Note: Mode 3:Transmit at 2437MHz by 802.11n20 with Internal PCB Antenna



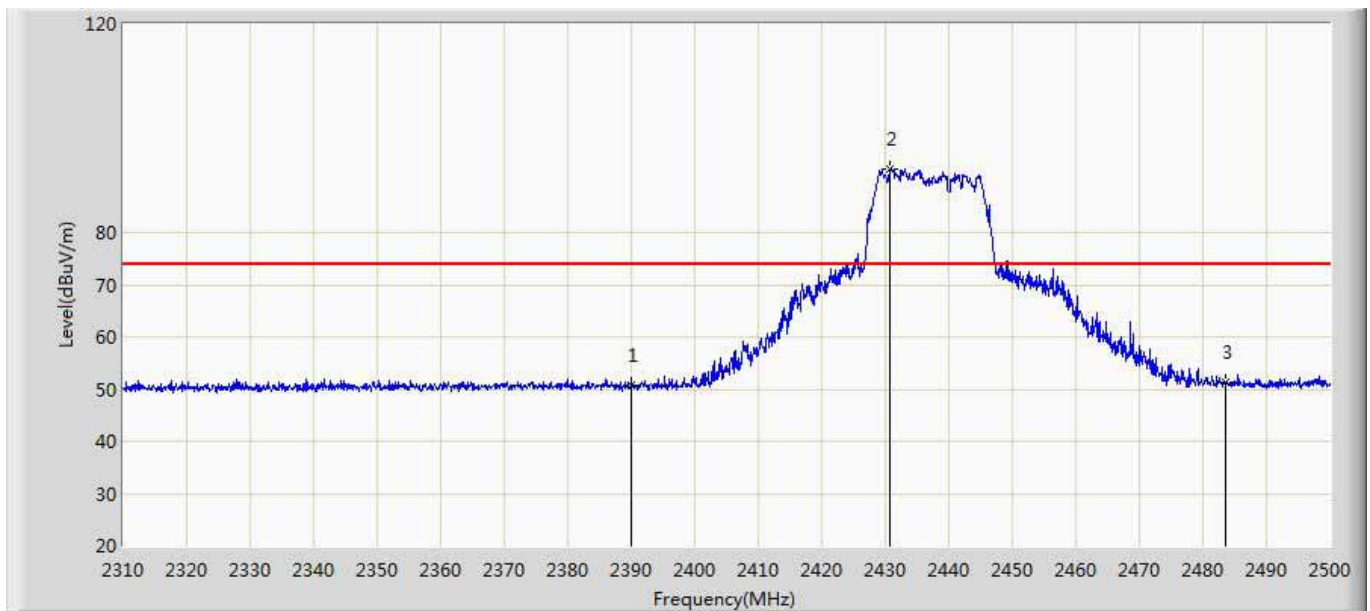
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.472	15.790	-22.528	74.000	35.682	PK
2	*	2440.245	103.128	67.323	N/A	N/A	35.805	PK
3		2483.500	55.155	19.263	-18.845	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:52
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with Internal PCB Antenna	



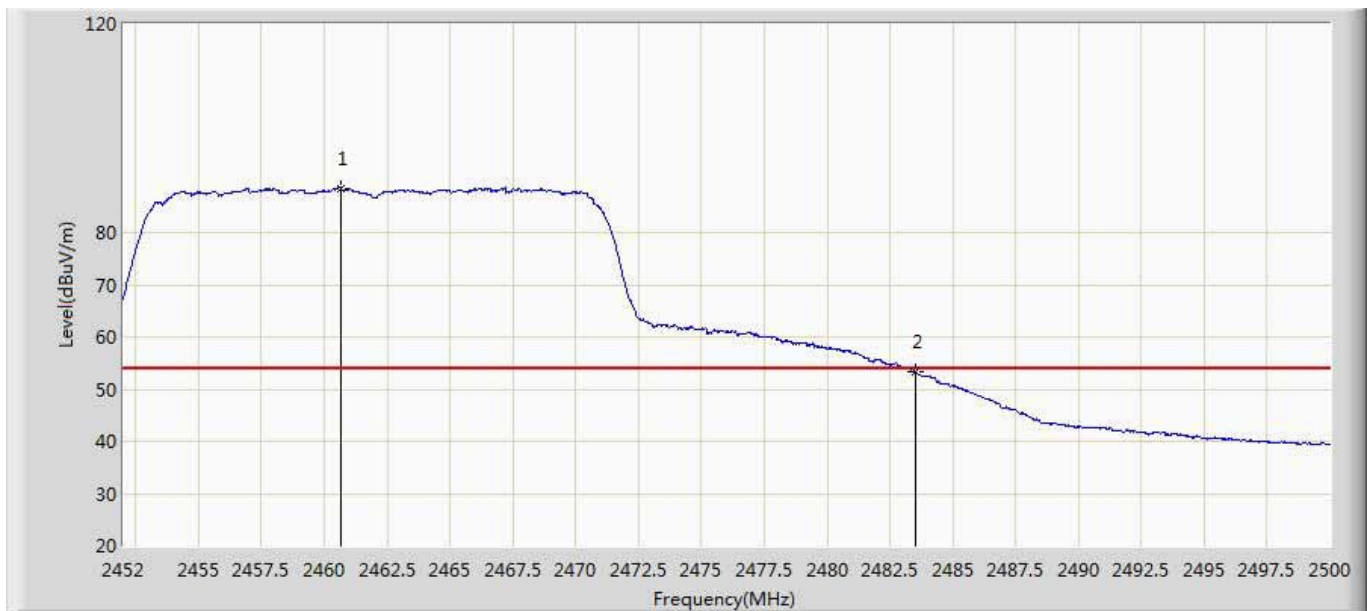
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.381	2.699	-15.619	54.000	35.682	AV
2	*	2438.820	81.683	45.877	N/A	N/A	35.806	AV
3		2483.500	38.625	2.733	-15.375	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with Internal PCB Antenna	



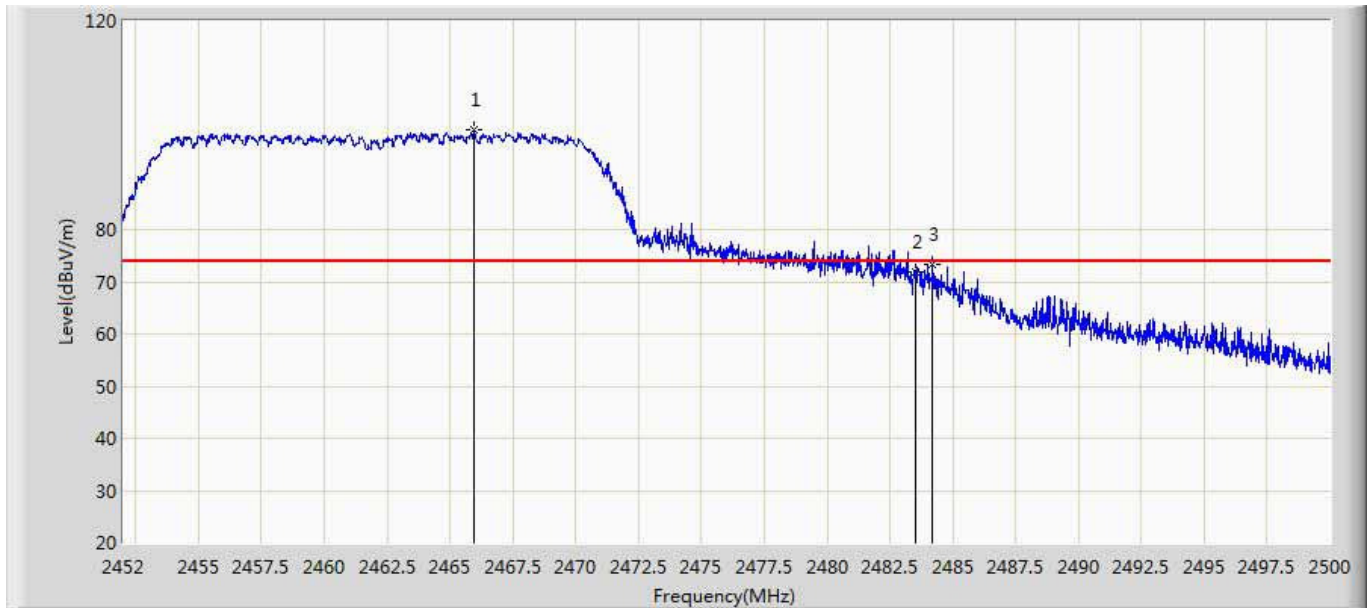
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.621	14.939	-23.379	74.000	35.682	PK
2	*	2430.650	92.276	56.468	N/A	N/A	35.808	PK
3		2483.500	51.191	15.299	-22.809	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with Internal PCB Antenna	



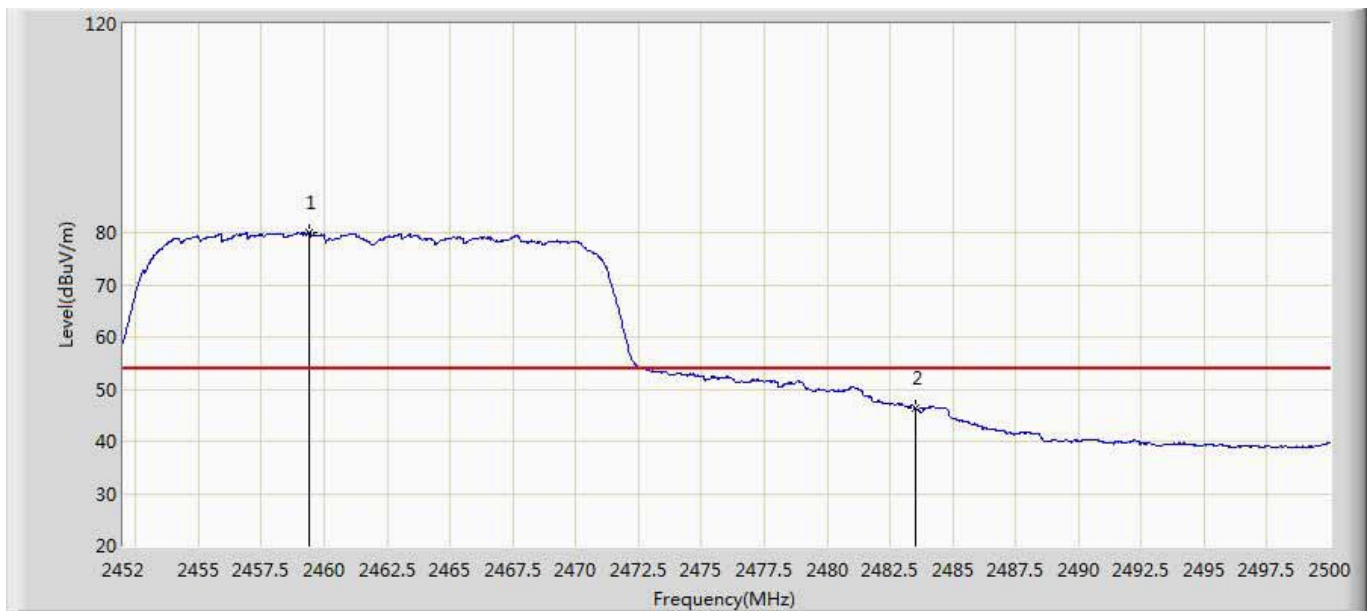
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.688	88.492	52.619	N/A	N/A	35.872	AV
2		2483.500	53.209	17.317	-0.791	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 12:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.968	99.206	63.332	N/A	N/A	35.874	PK
2		2483.500	71.894	36.002	-2.106	74.000	35.891	PK
3		2484.184	73.287	37.390	-0.713	74.000	35.896	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 13:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with Internal PCB Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2459.392	80.116	44.249	N/A	N/A	35.867	AV
2		2483.500	46.413	10.521	-7.587	54.000	35.891	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 13:01

Limit: FCC_Part15.209_RE(3m)

Margin: 0

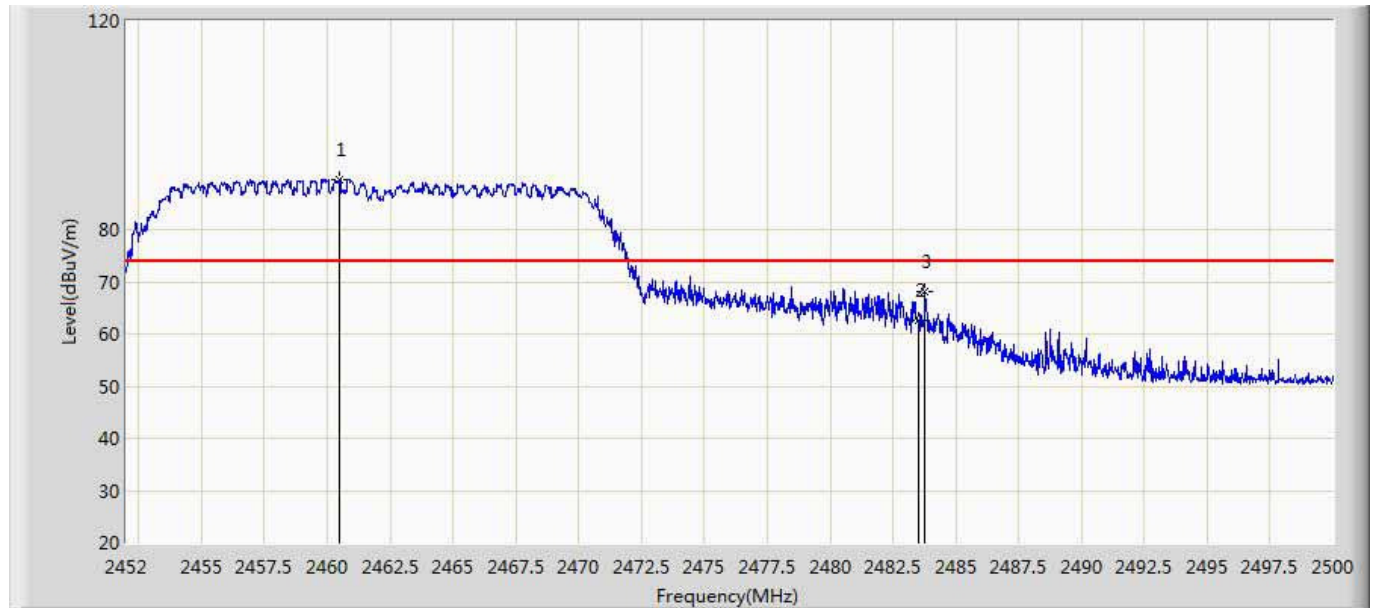
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Vertical

EUT: END1CTLA

Power: DC 12V

Note: Mode 3:Transmit at 2462MHz by 802.11n20 with Internal PCB Antenna



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.496	89.484	53.612	N/A	N/A	35.871	PK
2		2483.500	62.520	26.628	-11.480	74.000	35.891	PK
3		2483.776	68.207	32.313	-5.793	74.000	35.894	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2412MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2386.160	44.593	8.920	-9.407	54.000	35.673	AV
2		2390.000	42.001	6.319	-11.999	54.000	35.682	AV
3	*	2409.344	101.213	65.480	N/A	N/A	35.733	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 09:23

Limit: FCC_Part15.209_RE(3m)

Margin: 0

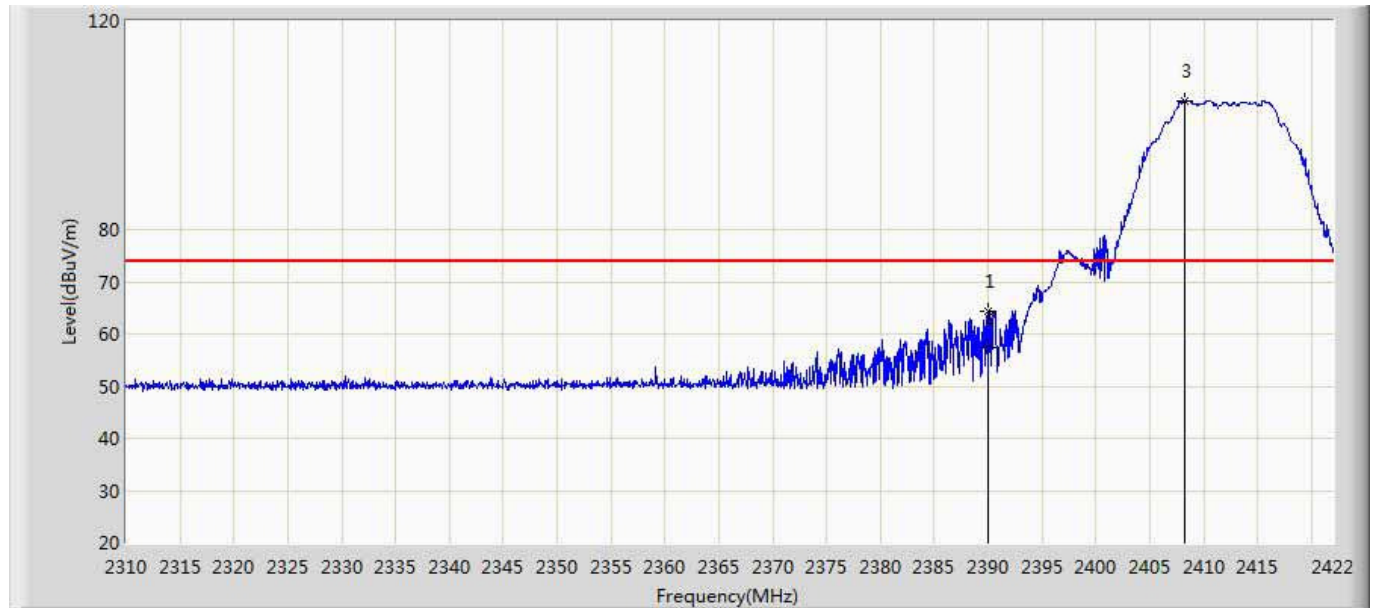
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Horizontal

EUT: END1CTLA

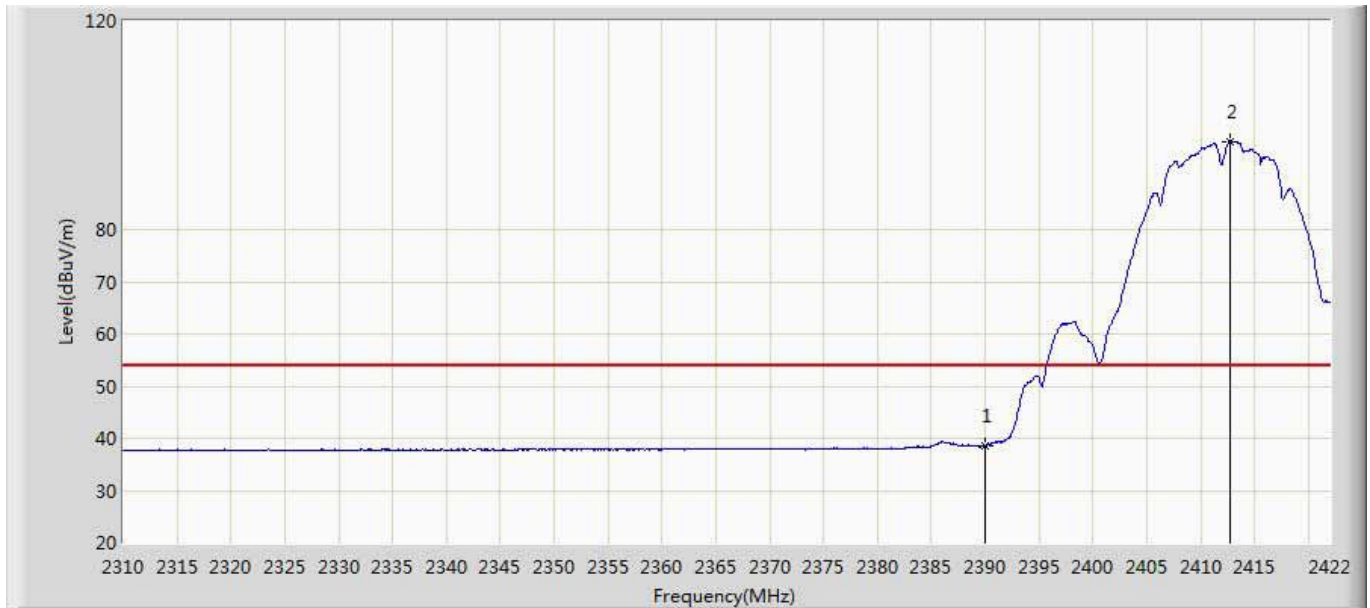
Power: DC 12V

Note: Mode 1:Transmit at 2412MHz by 802.11b with External Dipole Antenna



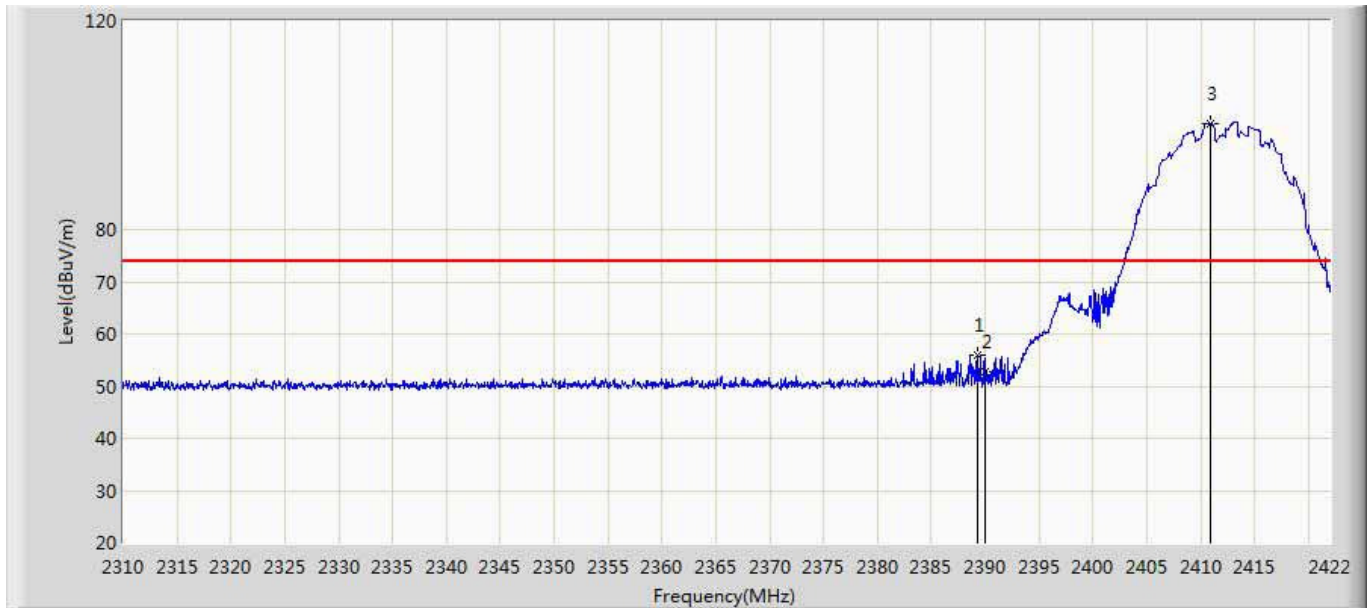
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.968	64.249	28.567	-9.751	74.000	35.682	PK
2		2390.000	57.453	21.771	-16.547	74.000	35.682	PK
3	*	2408.224	104.748	69.018	N/A	N/A	35.730	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2412MHz by 802.11b with External Dipole Antenna	



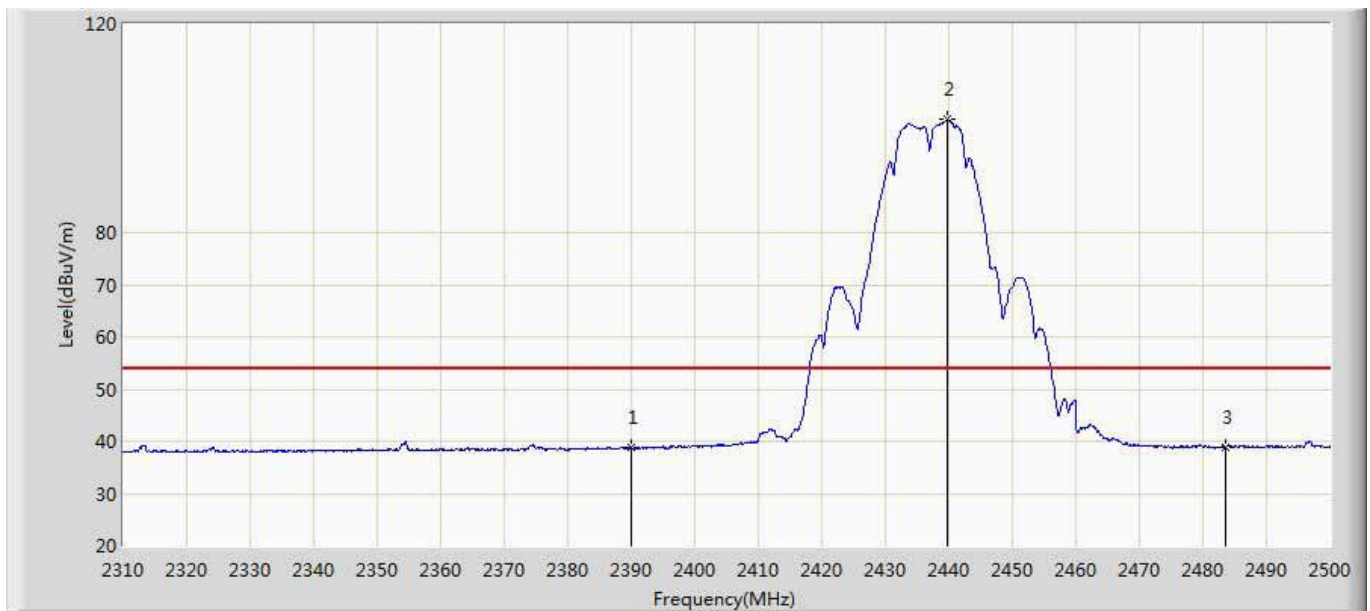
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.602	2.920	-15.398	54.000	35.682	AV
2	*	2412.704	96.934	61.190	N/A	N/A	35.744	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2412MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.352	55.897	20.217	-18.103	74.000	35.680	PK
2		2390.000	52.736	17.054	-21.264	74.000	35.682	PK
3	*	2410.912	100.290	64.553	N/A	N/A	35.737	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.739	3.057	-15.261	54.000	35.682	AV
2	*	2439.865	101.640	65.835	N/A	N/A	35.805	AV
3		2483.500	38.899	3.007	-15.101	54.000	35.891	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 09:35

Limit: FCC_Part15.209_RE(3m)

Margin: 0

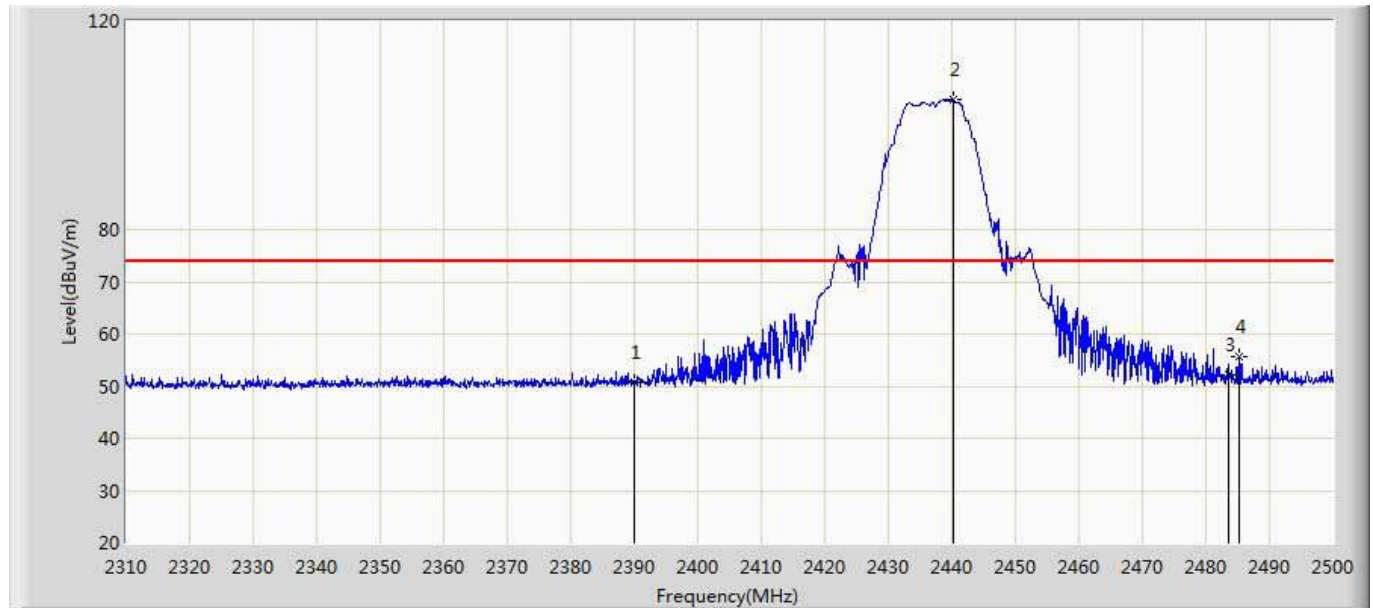
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Horizontal

EUT: END1CTLA

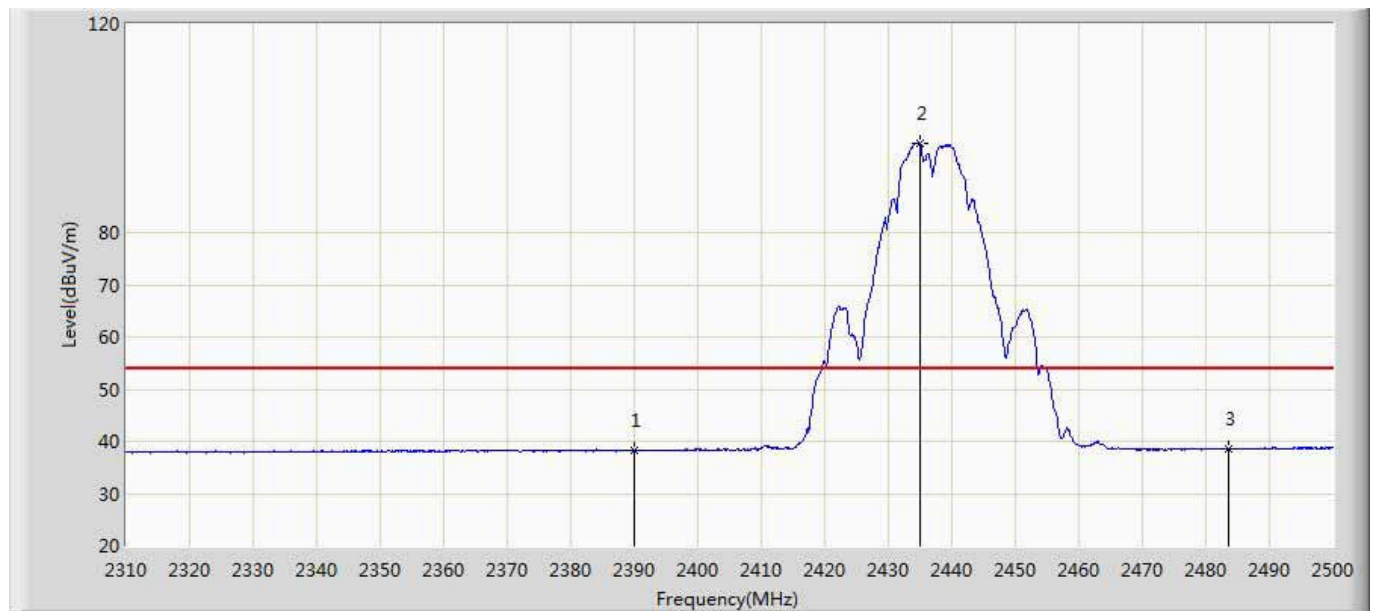
Power: DC 12V

Note: Mode 1: Transmit at 2437MHz by 802.11b with External Dipole Antenna



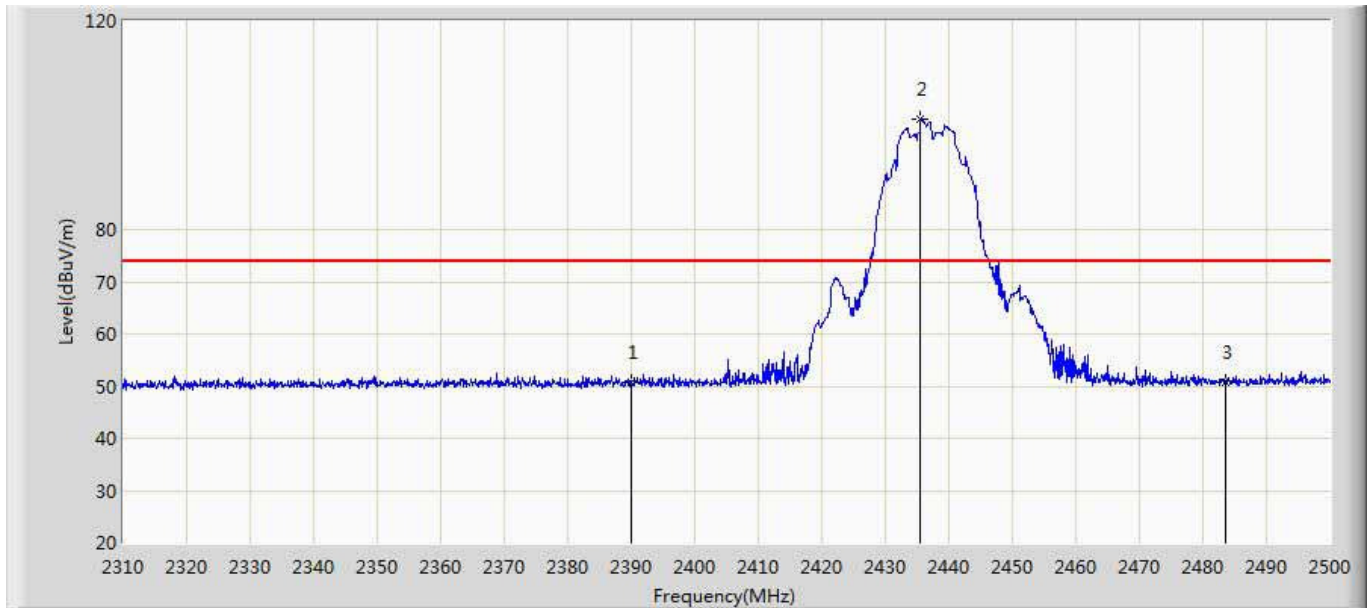
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.592	14.910	-23.408	74.000	35.682	PK
2	*	2440.245	104.955	69.150	N/A	N/A	35.805	PK
3		2483.500	52.089	16.197	-21.911	74.000	35.891	PK
4		2485.180	55.638	19.734	-18.362	74.000	35.904	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2437MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.254	2.572	-15.746	54.000	35.682	AV
2	*	2435.115	97.174	61.367	N/A	N/A	35.806	AV
3		2483.500	38.490	2.598	-15.510	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2437MHz by 802.11b with External Dipole Antenna	



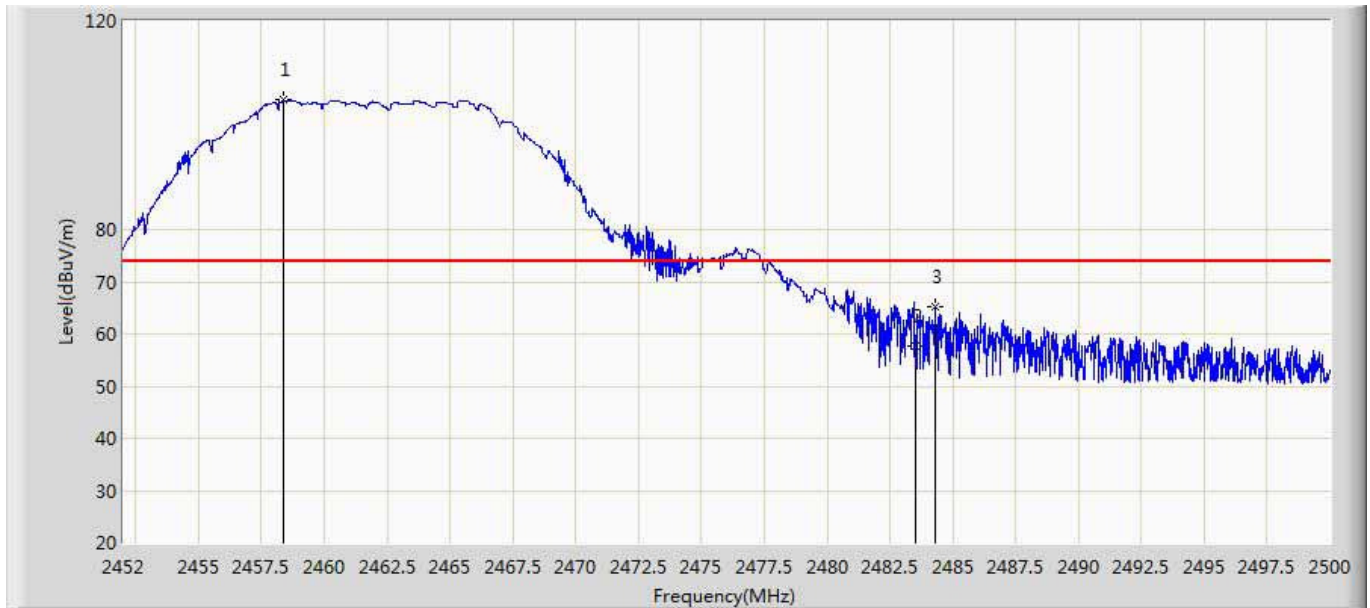
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.611	14.929	-23.389	74.000	35.682	PK
2	*	2435.495	101.263	65.457	N/A	N/A	35.807	PK
3		2483.500	50.711	14.819	-23.289	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2462MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.200	101.214	65.339	N/A	N/A	35.875	AV
2		2483.500	48.175	12.283	-5.825	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 1: Transmit at 2462MHz by 802.11b with External Dipole Antenna	



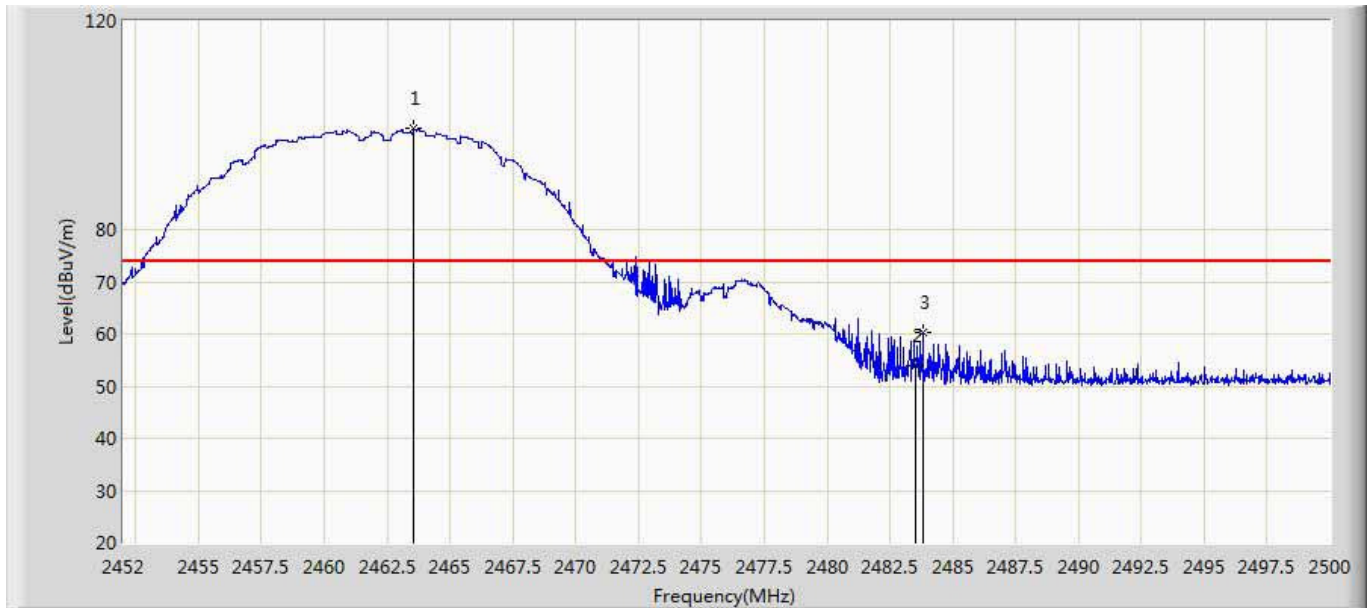
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2458.360	105.052	69.190	N/A	N/A	35.863	PK
2		2483.500	57.705	21.813	-16.295	74.000	35.891	PK
3		2484.304	65.230	29.333	-8.770	74.000	35.897	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with External Dipole Antenna	



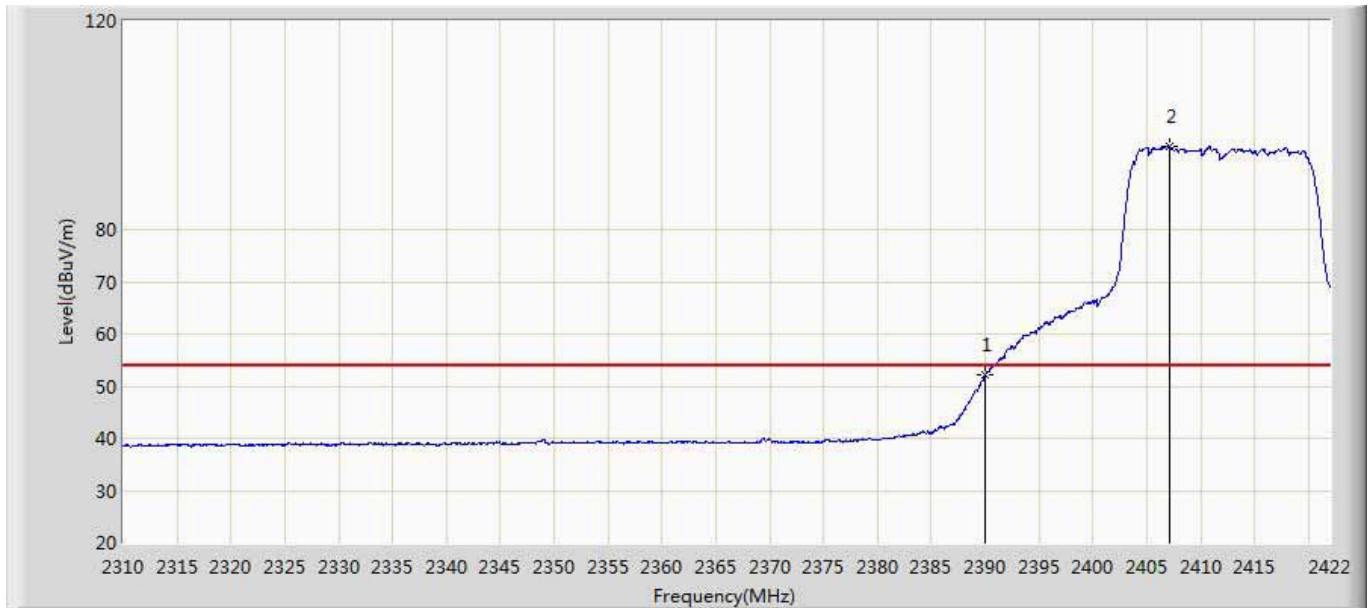
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.216	95.769	59.894	N/A	N/A	35.875	AV
2		2483.500	41.981	6.089	-12.019	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 1:Transmit at 2462MHz by 802.11b with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.544	99.386	63.509	N/A	N/A	35.877	PK
2		2483.500	53.931	18.039	-20.069	74.000	35.891	PK
3		2483.824	60.357	24.463	-13.643	74.000	35.894	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.046	16.364	-1.954	54.000	35.682	AV
2	*	2407.104	95.943	60.216	N/A	N/A	35.726	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 09:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	72.039	36.357	-1.961	74.000	35.682	PK
2	*	2406.712	105.927	70.201	N/A	N/A	35.726	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2412MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.313	9.631	-8.687	54.000	35.682	AV
2	*	2417.688	89.477	53.712	N/A	N/A	35.765	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 10:04

Limit: FCC_Part15.209_RE(3m)

Margin: 0

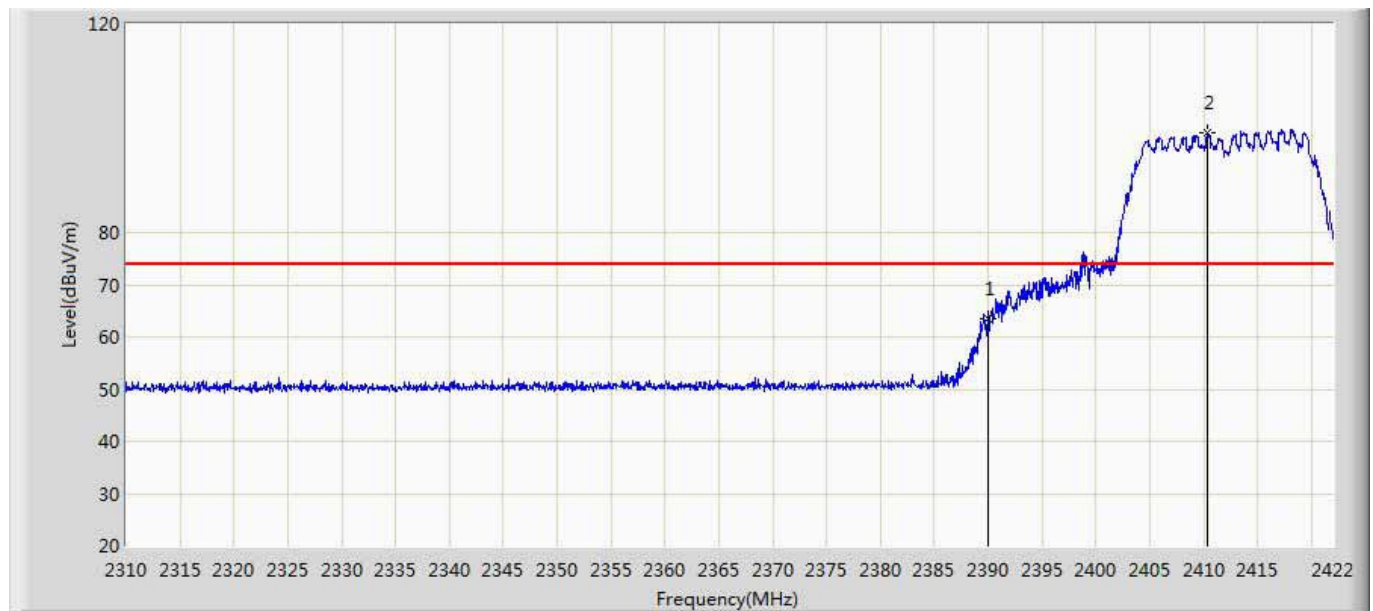
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Vertical

EUT: END1CTLA

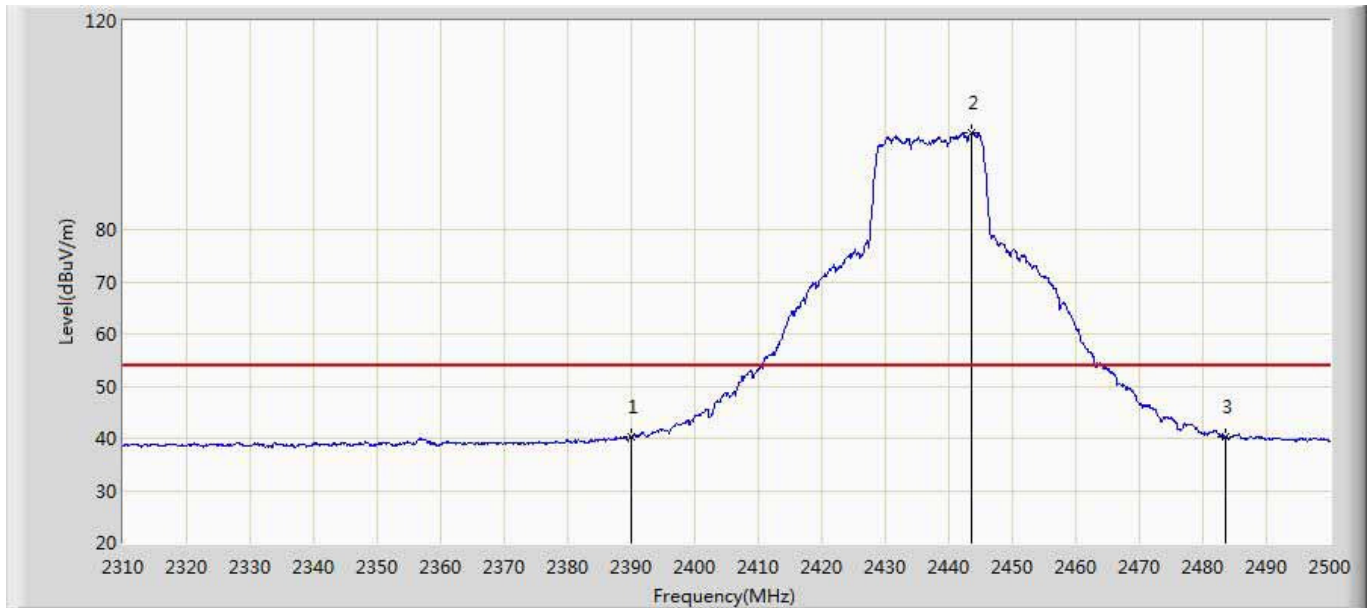
Power: DC 12V

Note: Mode 2: Transmit at 2412MHz by 802.11g with External Dipole Antenna



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	63.568	27.886	-10.432	74.000	35.682	PK
2	*	2410.408	99.048	63.312	N/A	N/A	35.735	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.208	4.526	-13.792	54.000	35.682	AV
2	*	2443.475	98.484	62.680	N/A	N/A	35.804	AV
3		2483.500	40.282	4.390	-13.718	54.000	35.891	AV

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 10:07

Limit: FCC_Part15.209_RE(3m)

Margin: 0

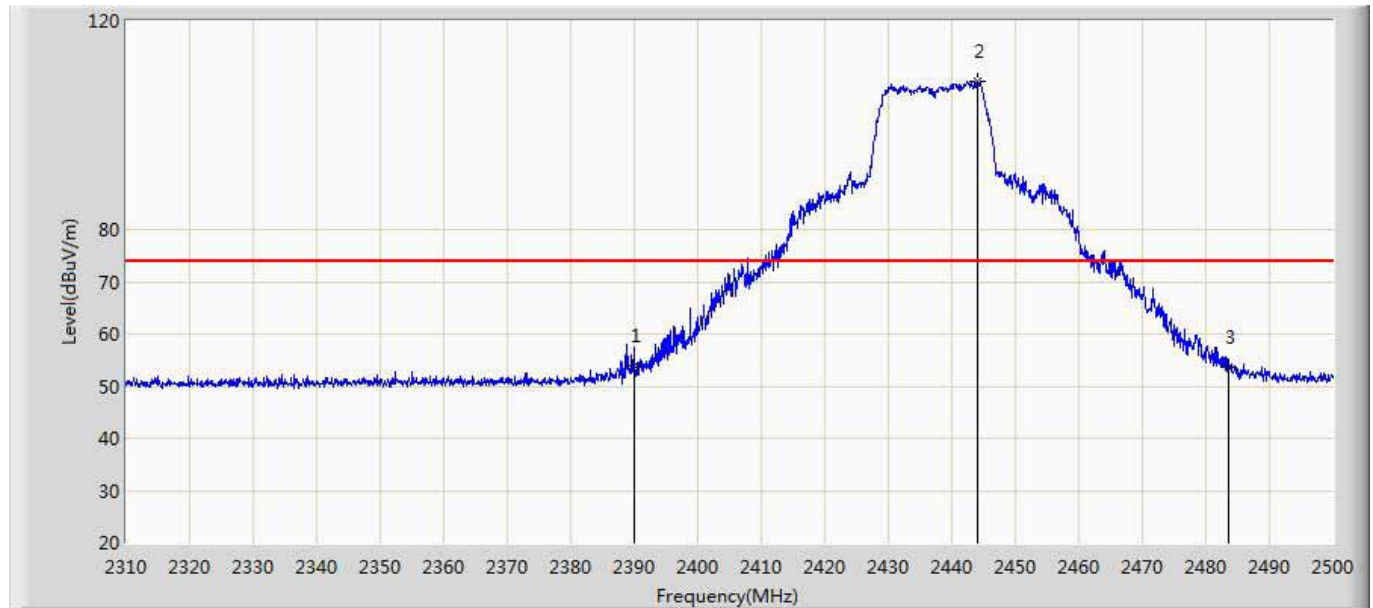
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Horizontal

EUT: END1CTLA

Power: DC 12V

Note: Mode 2:Transmit at 2437MHz by 802.11g with External Dipole Antenna



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.812	18.130	-20.188	74.000	35.682	PK
2	*	2444.140	108.364	72.560	N/A	N/A	35.804	PK
3		2483.500	53.756	17.864	-20.244	74.000	35.891	PK

Engineer: Slark

Site: AC5

Time: 2018/01/27 - 10:09

Limit: FCC_Part15.209_RE(3m)

Margin: 0

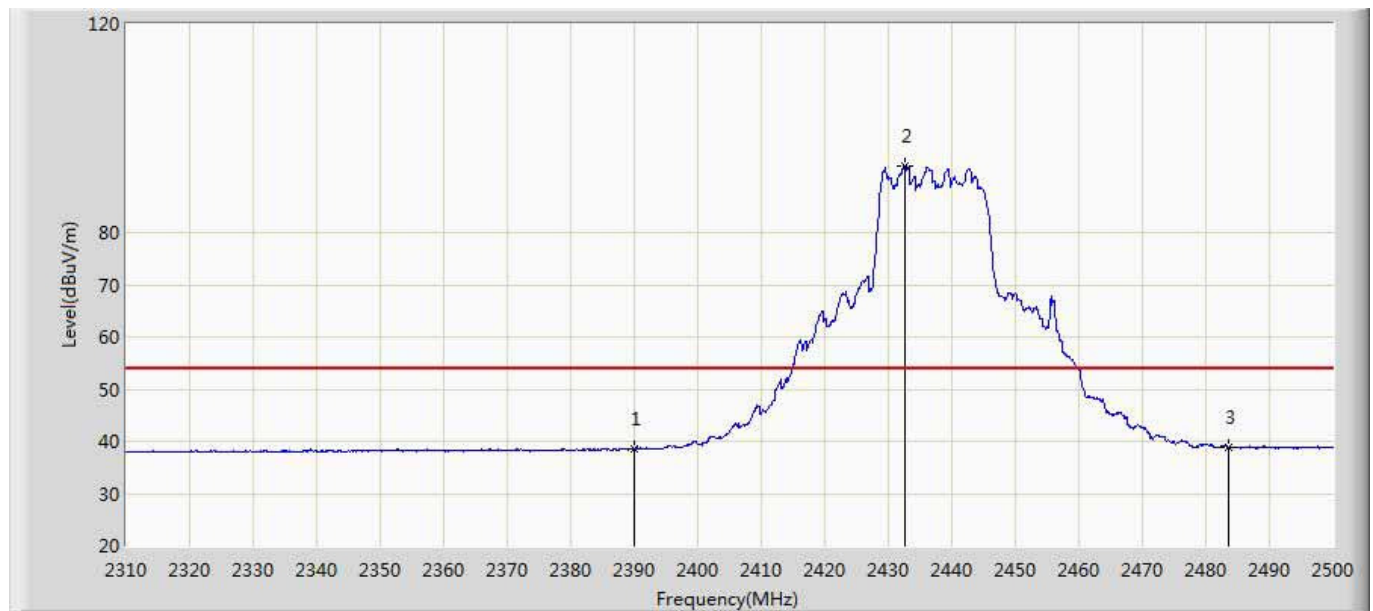
Probe: Horn_3117_00167055(1-18GHz)

Polarity: Vertical

EUT: END1CTLA

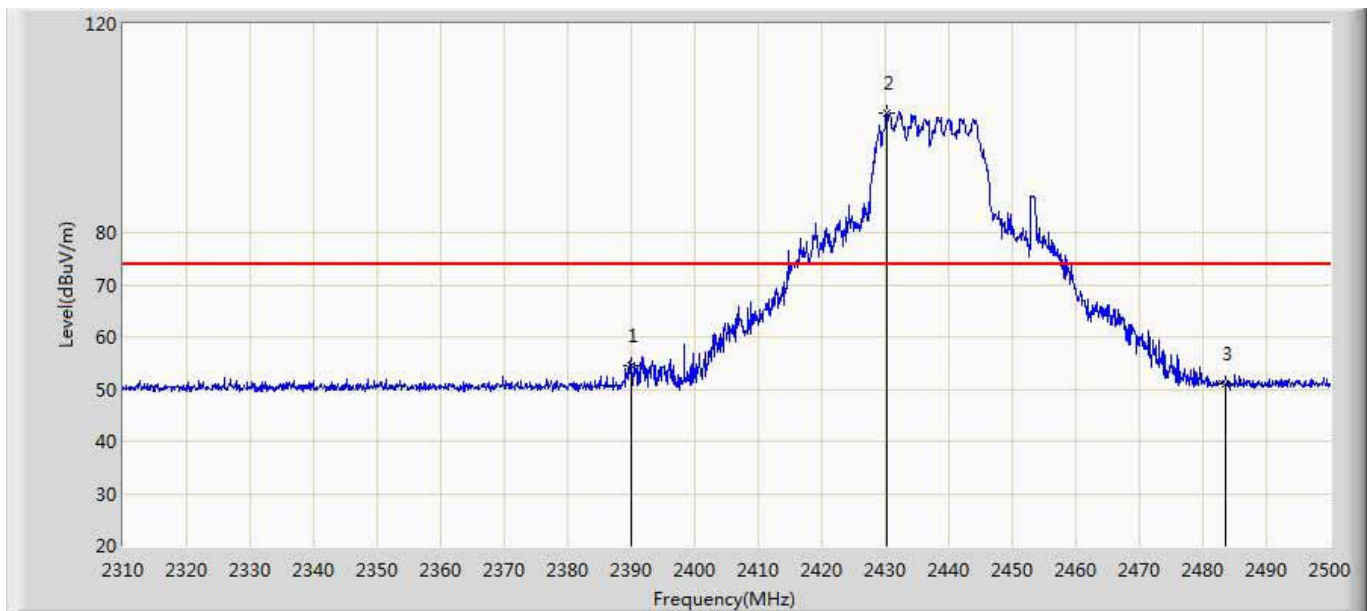
Power: DC 12V

Note: Mode 2:Transmit at 2437MHz by 802.11g with External Dipole Antenna



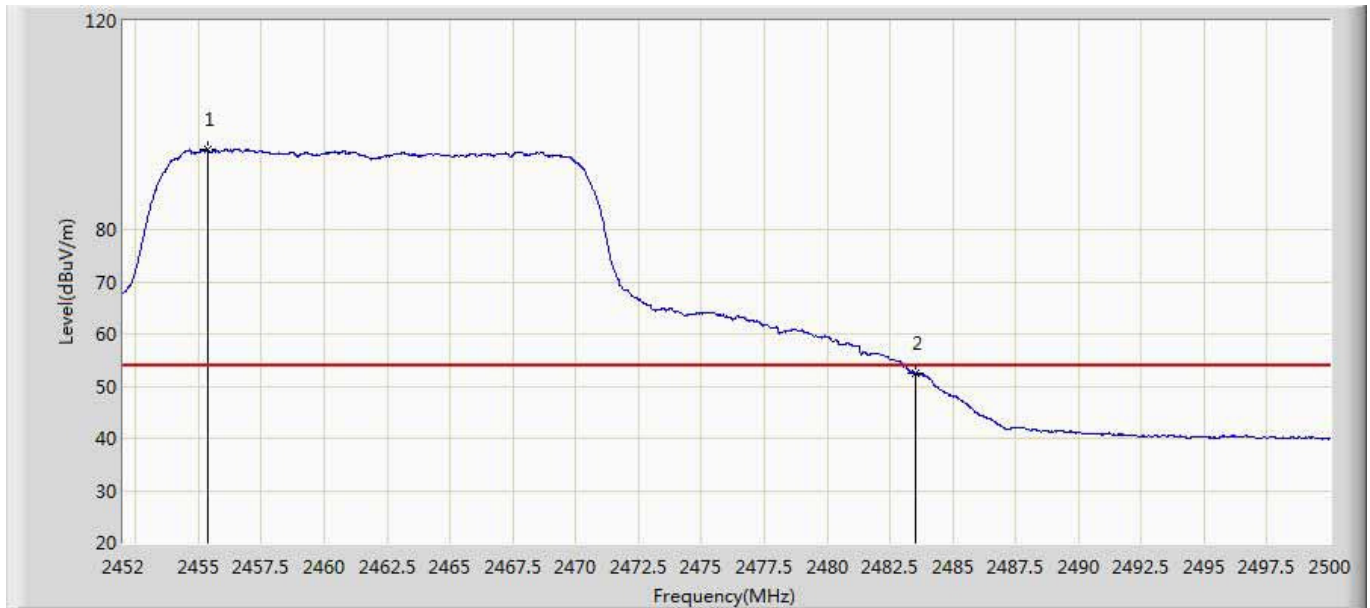
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.543	2.861	-15.457	54.000	35.682	AV
2	*	2432.550	92.839	57.032	N/A	N/A	35.807	AV
3		2483.500	38.785	2.893	-15.215	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2437MHz by 802.11g with External Dipole Antenna	



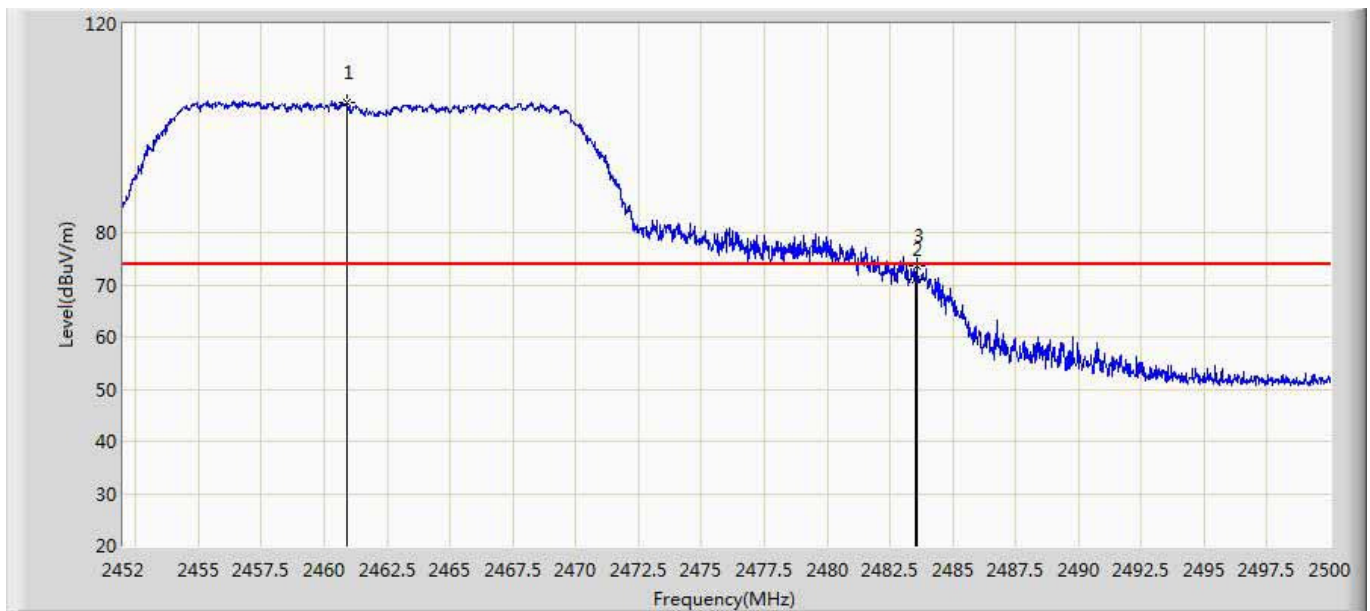
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.446	18.764	-19.554	74.000	35.682	PK
2	*	2430.175	102.955	67.147	N/A	N/A	35.808	PK
3		2483.500	50.987	15.095	-23.013	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with External Dipole Antenna	



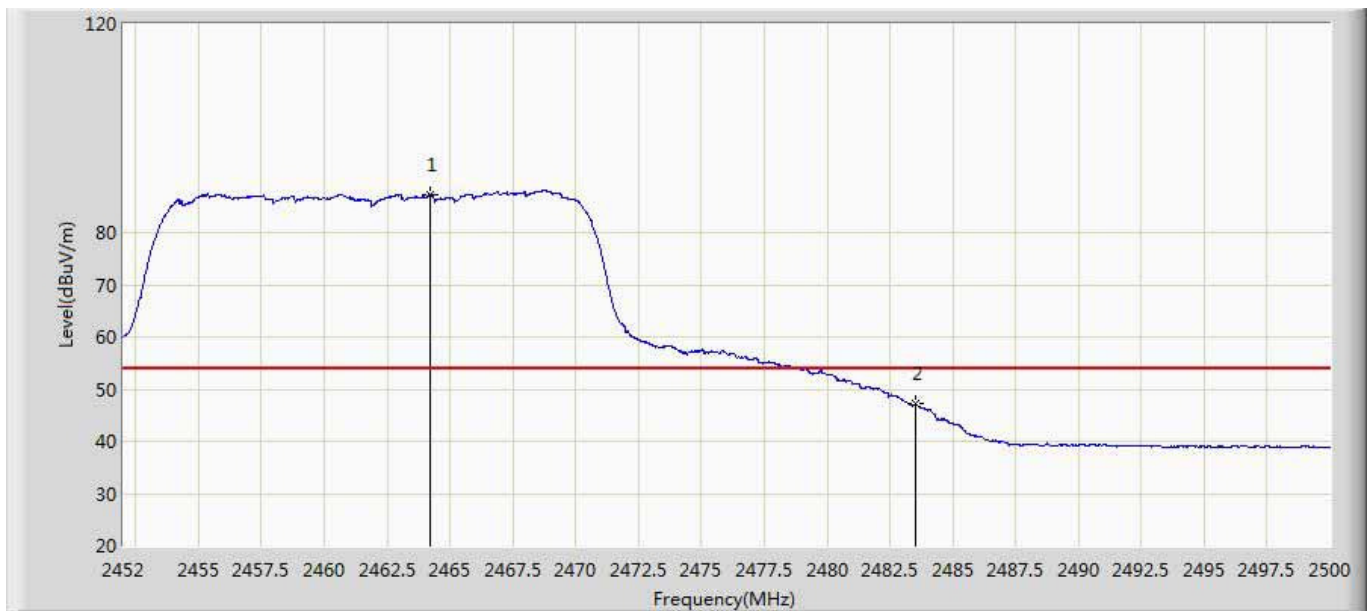
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.360	95.391	59.542	N/A	N/A	35.849	AV
2		2483.500	52.569	16.677	-1.431	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with External Dipole Antenna	



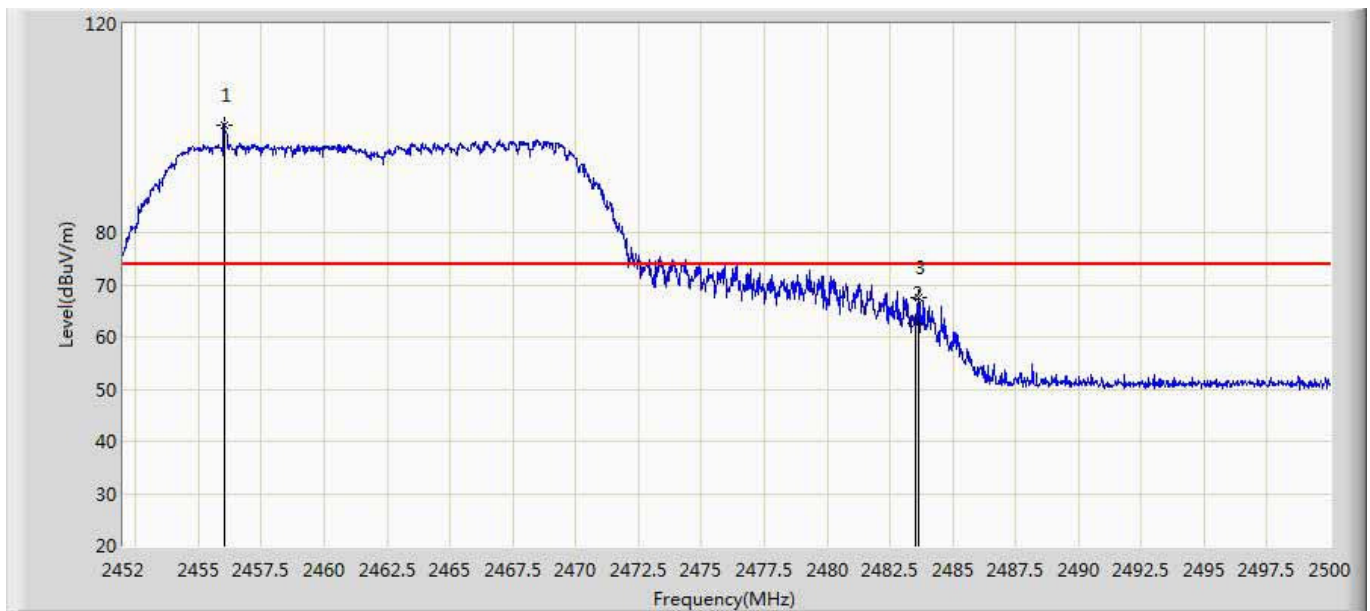
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.880	105.034	69.161	N/A	N/A	35.874	PK
2		2483.500	71.090	35.198	-2.910	74.000	35.891	PK
3		2483.584	73.572	37.680	-0.428	74.000	35.892	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with External Dipole Antenna	



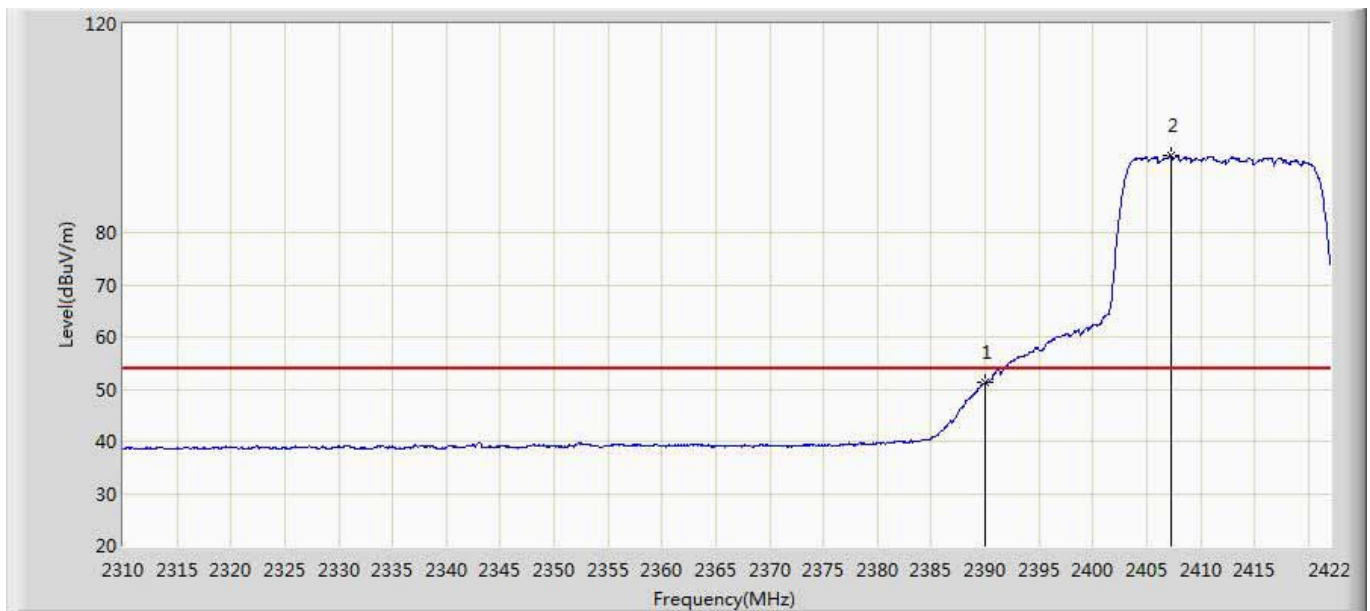
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.240	87.255	51.379	N/A	N/A	35.876	AV
2		2483.500	47.115	11.223	-6.885	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 2:Transmit at 2462MHz by 802.11g with External Dipole Antenna	



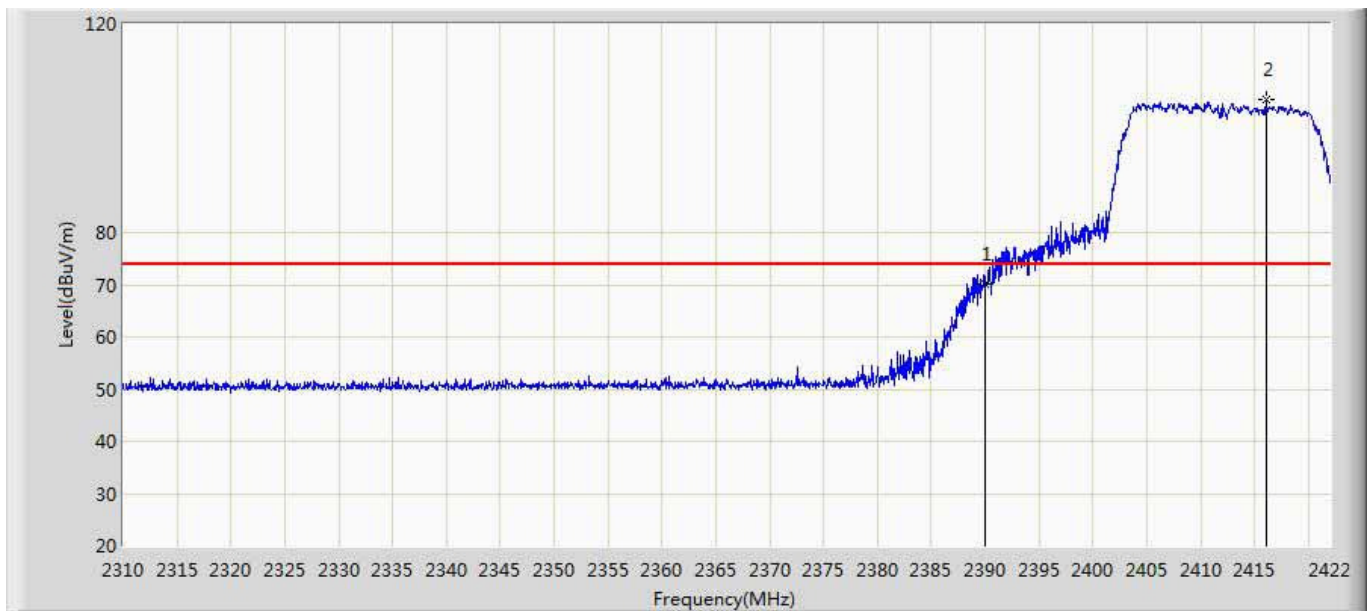
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.032	100.613	64.761	N/A	N/A	35.852	PK
2		2483.500	62.477	26.585	-11.523	74.000	35.891	PK
3		2483.656	67.442	31.549	-6.558	74.000	35.892	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.195	15.513	-2.805	54.000	35.682	AV
2	*	2407.216	94.810	59.083	N/A	N/A	35.727	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	70.073	34.391	-3.927	74.000	35.682	PK
2	*	2416.064	105.488	69.730	N/A	N/A	35.758	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with External Dipole Antenna	



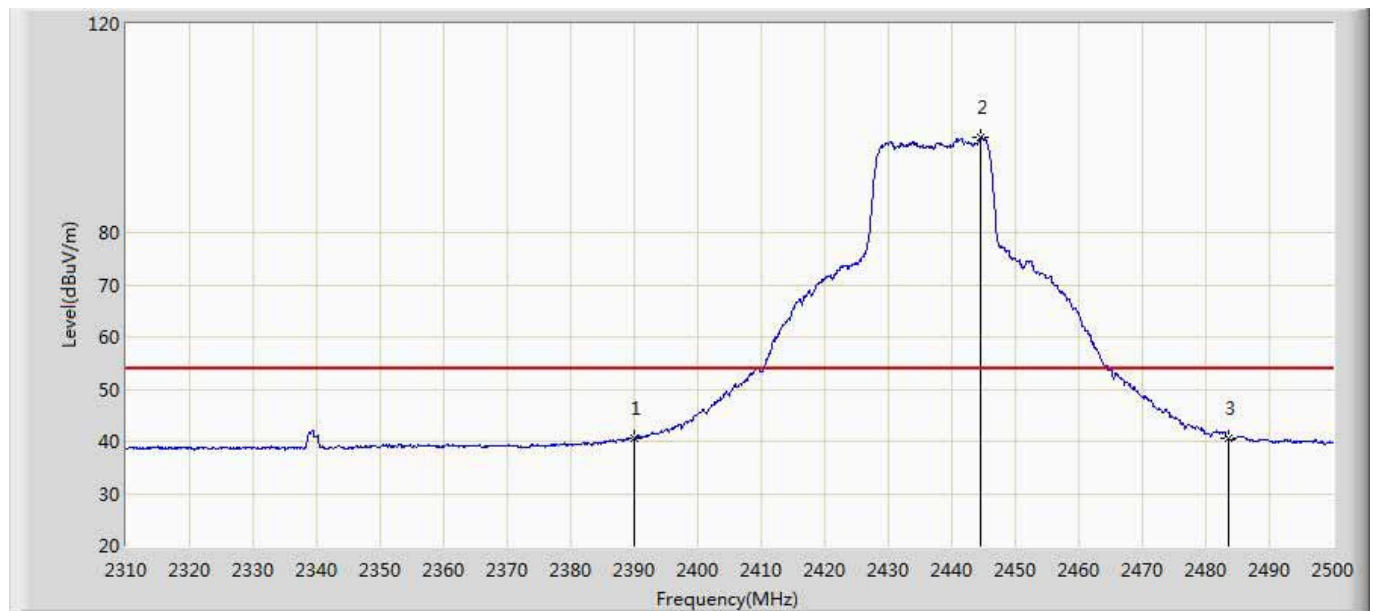
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	44.744	9.062	-9.256	54.000	35.682	AV
2	*	2410.464	87.269	51.533	N/A	N/A	35.735	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2412MHz by 802.11n20 with External Dipole Antenna	



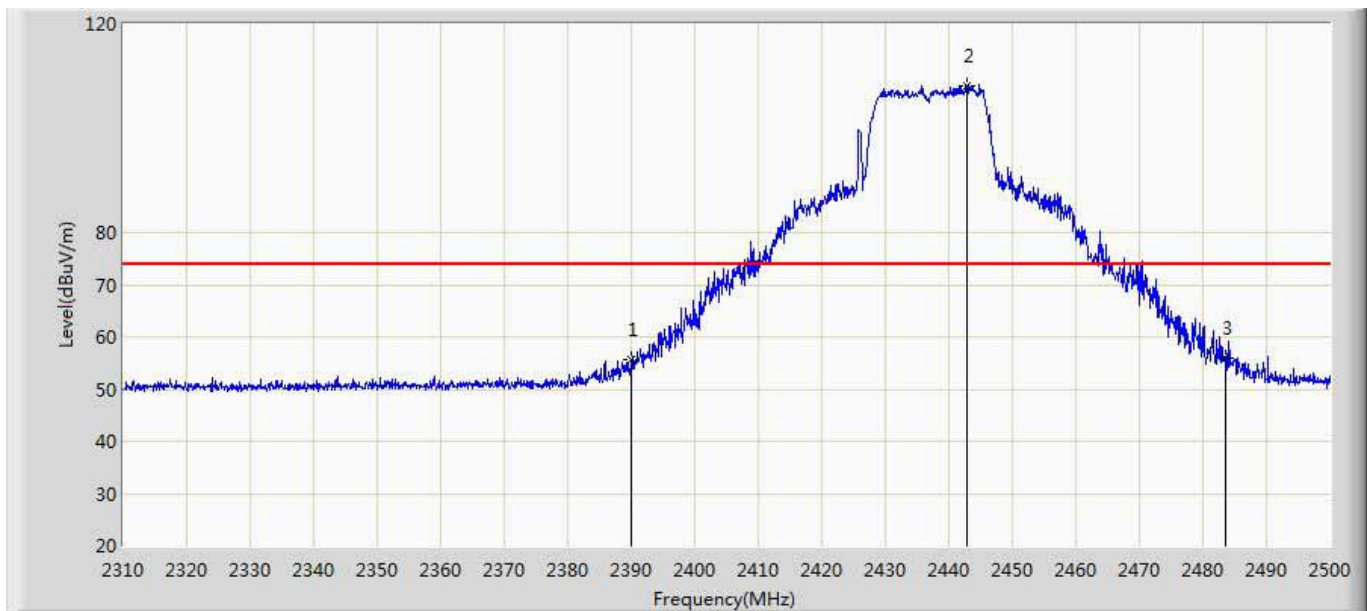
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.632	65.755	30.074	-8.245	74.000	35.681	PK
2		2390.000	59.710	24.028	-14.290	74.000	35.682	PK
3	*	2416.680	97.892	62.131	N/A	N/A	35.761	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with External Dipole Antenna	



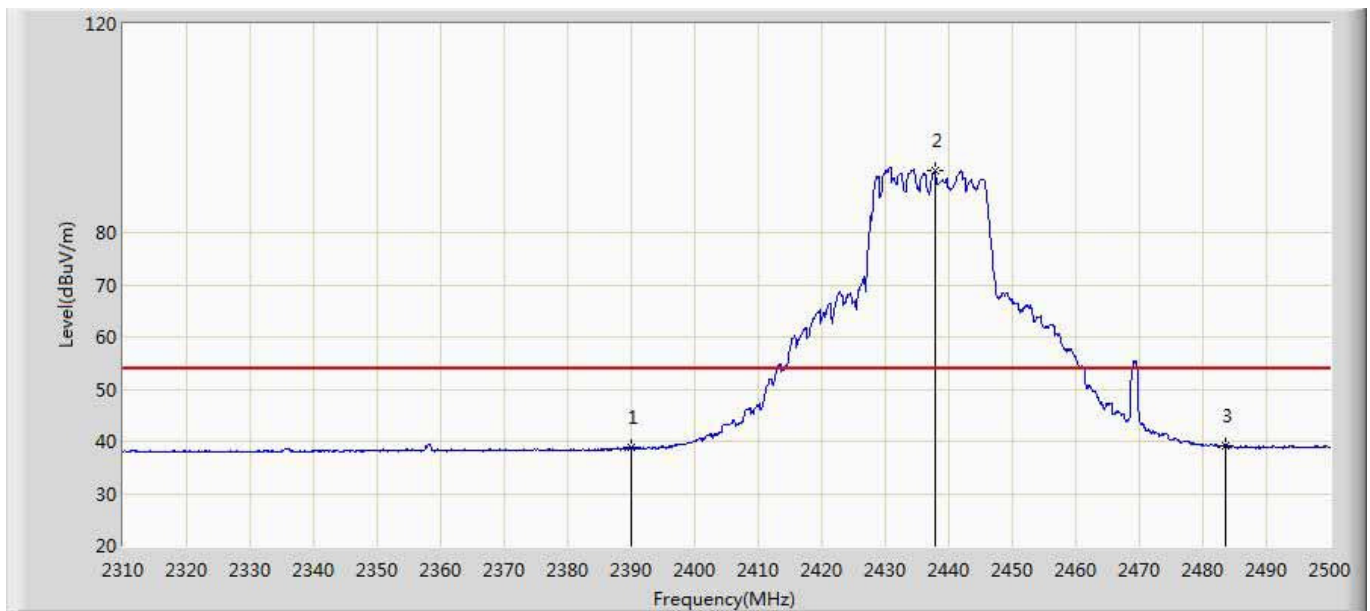
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	40.555	4.873	-13.445	54.000	35.682	AV
2	*	2444.615	98.267	62.463	N/A	N/A	35.805	AV
3		2483.500	40.625	4.733	-13.375	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with External Dipole Antenna	



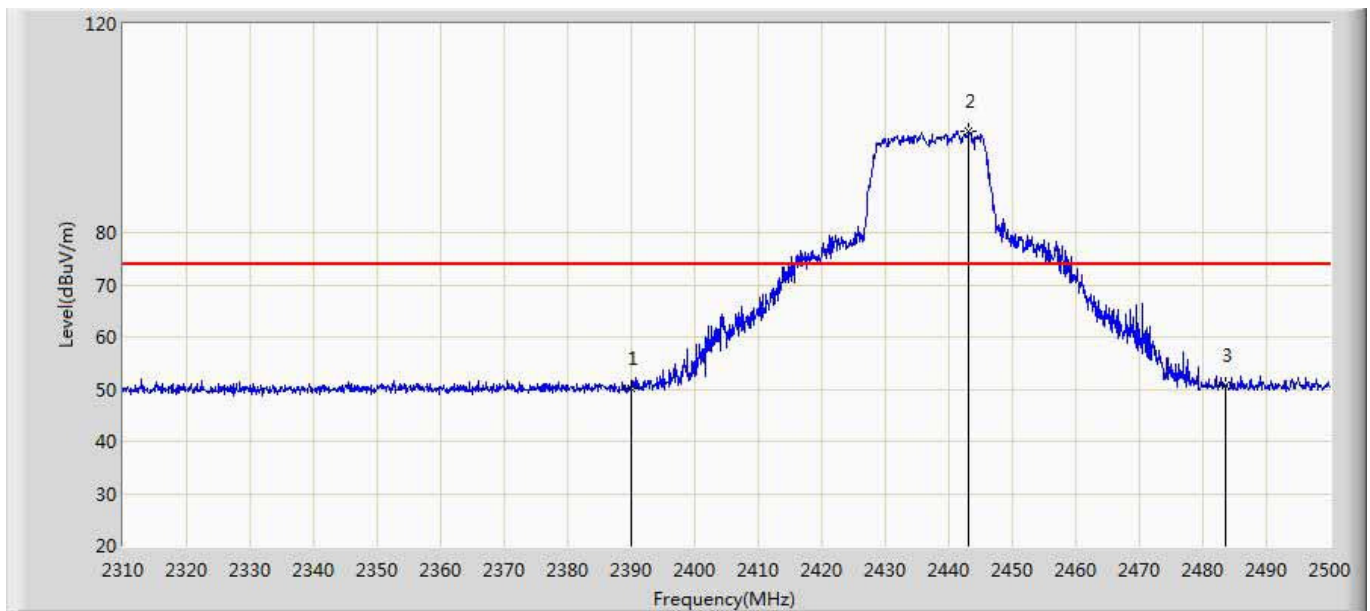
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	55.658	19.976	-18.342	74.000	35.682	PK
2	*	2442.905	108.114	72.309	N/A	N/A	35.805	PK
3		2483.500	55.840	19.948	-18.160	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with External Dipole Antenna	



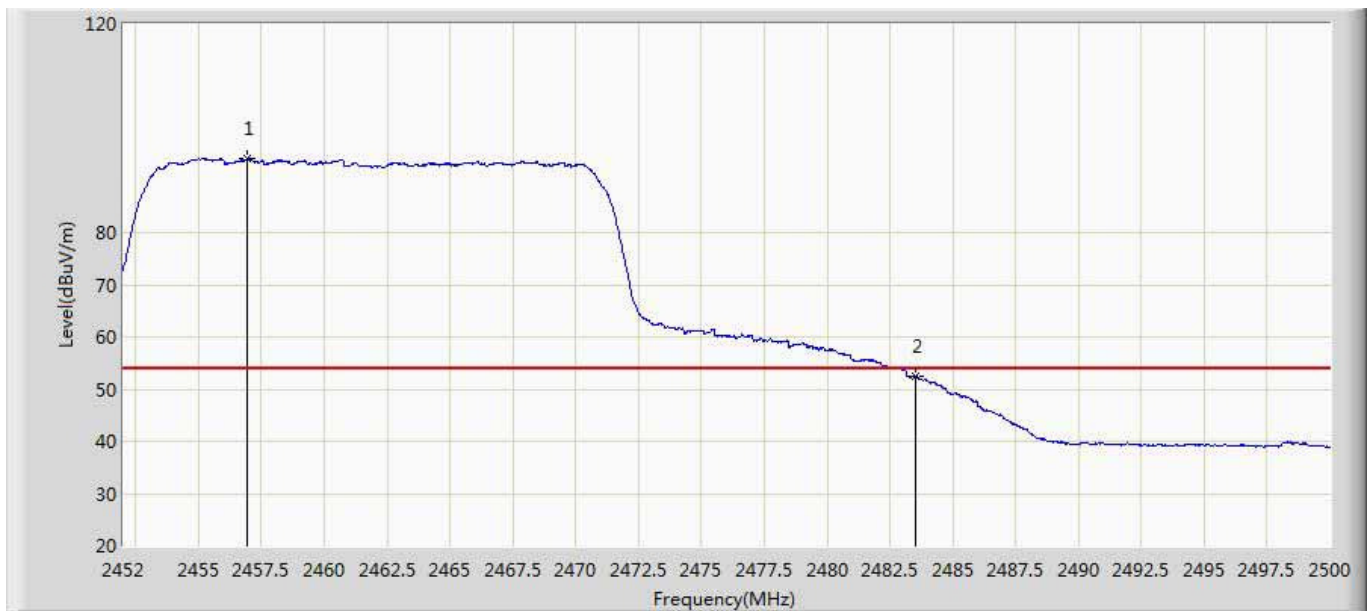
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	38.793	3.111	-15.207	54.000	35.682	AV
2	*	2437.870	91.929	56.123	N/A	N/A	35.806	AV
3		2483.500	39.256	3.364	-14.744	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2437MHz by 802.11n20 with External Dipole Antenna	



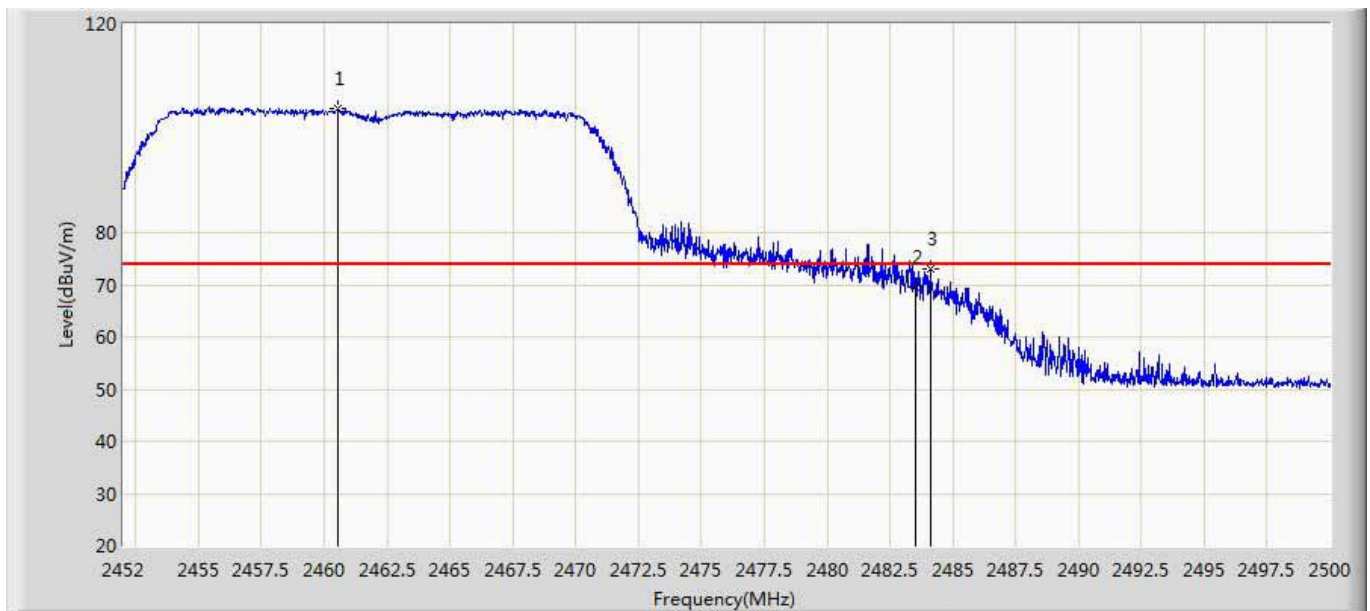
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.261	14.579	-23.739	74.000	35.682	PK
2	*	2443.095	99.390	63.586	N/A	N/A	35.805	PK
3		2483.500	50.720	14.828	-23.280	74.000	35.891	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with External Dipole Antenna	



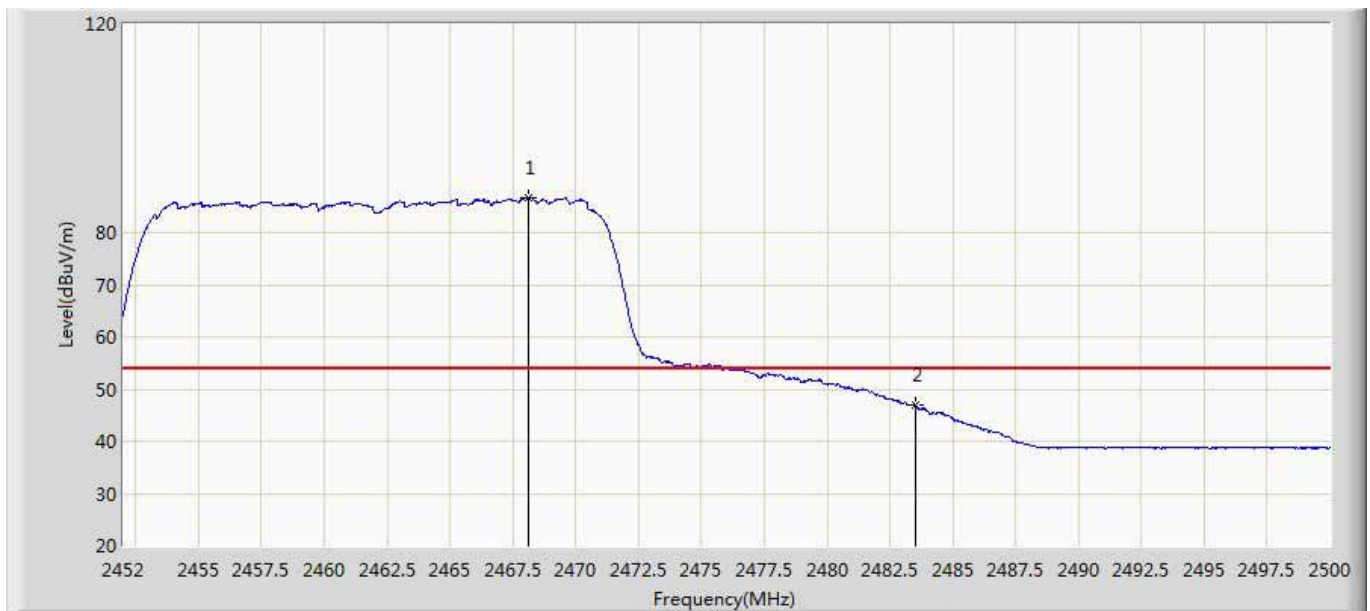
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.944	94.224	58.368	N/A	N/A	35.856	AV
2		2483.500	52.372	16.480	-1.628	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with External Dipole Antenna	



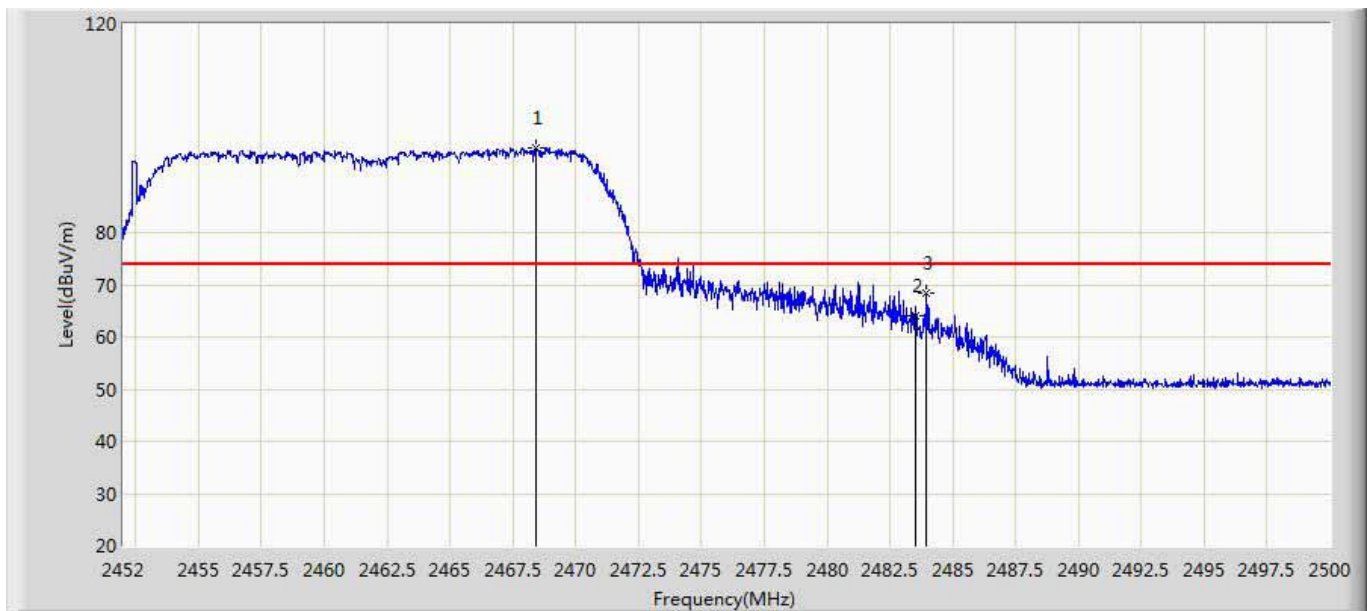
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.544	103.718	67.846	N/A	N/A	35.872	PK
2		2483.500	69.552	33.660	-4.448	74.000	35.891	PK
3		2484.112	73.110	37.214	-0.890	74.000	35.896	PK

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with External Dipole Antenna	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.104	86.617	50.746	N/A	N/A	35.872	AV
2		2483.500	46.883	10.991	-7.117	54.000	35.891	AV

Engineer: Slark	
Site: AC5	Time: 2018/01/27 - 10:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: END1CTLA	Power: DC 12V
Note: Mode 3:Transmit at 2462MHz by 802.11n20 with External Dipole Antenna	



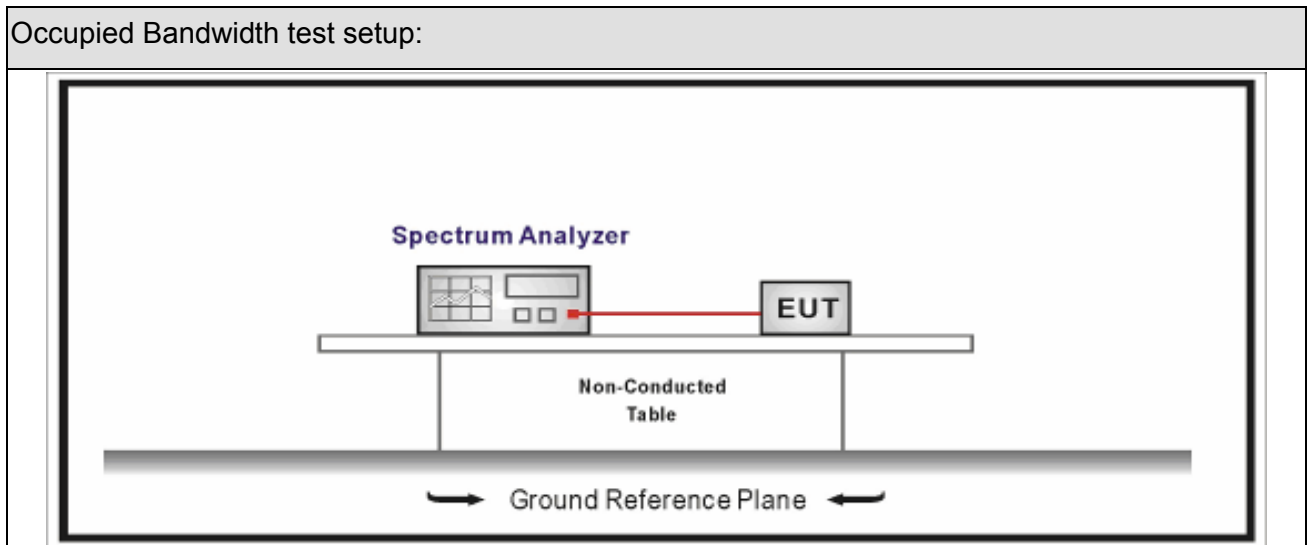
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.416	96.313	60.442	N/A	N/A	35.871	PK
2		2483.500	64.134	28.242	-9.866	74.000	35.891	PK
3		2483.968	68.308	32.413	-5.692	74.000	35.895	PK

7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup



7.3. Limit

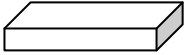
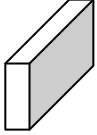
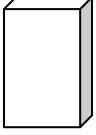
Occupied Bandwidth

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

7.4. Test Procedure

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

7.5. EUT test definition

Item	Occupied Bandwidth			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~3			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☐	Chain 1		
				
	☒	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

7.6. Test Result

Product Name	: END1CTLA	Power	: DC 12V
Test Mode	: Mode1~3	Test Site	: TR8
Test Date	: 2017.01.23	Test Engineer	: Slark

Ant1 :

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)		6dB Occupied Bandwidth (MHz)		Limit (kHz)	Result
			Ant 1	Ant 2	Ant 1	Ant 2		
1	01	2412	13.961	14.265	10.11	10.11	>500	Pass
1	06	2437	14.638	14.021	10.10	10.12	>500	Pass
1	11	2462	14.791	13.824	10.10	10.11	>500	Pass
2	01	2412	16.523	16.500	16.50	16.36	>500	Pass
2	06	2437	17.838	17.442	16.36	16.39	>500	Pass
2	11	2462	16.725	16.760	16.35	16.34	>500	Pass
3	01	2412	17.706	17.712	17.62	17.61	>500	Pass
3	06	2437	18.754	17.971	17.59	17.58	>500	Pass
3	11	2462	17.696	17.687	17.62	17.62	>500	Pass

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

Mode 1 CH06 (2437MHz) Ant 1



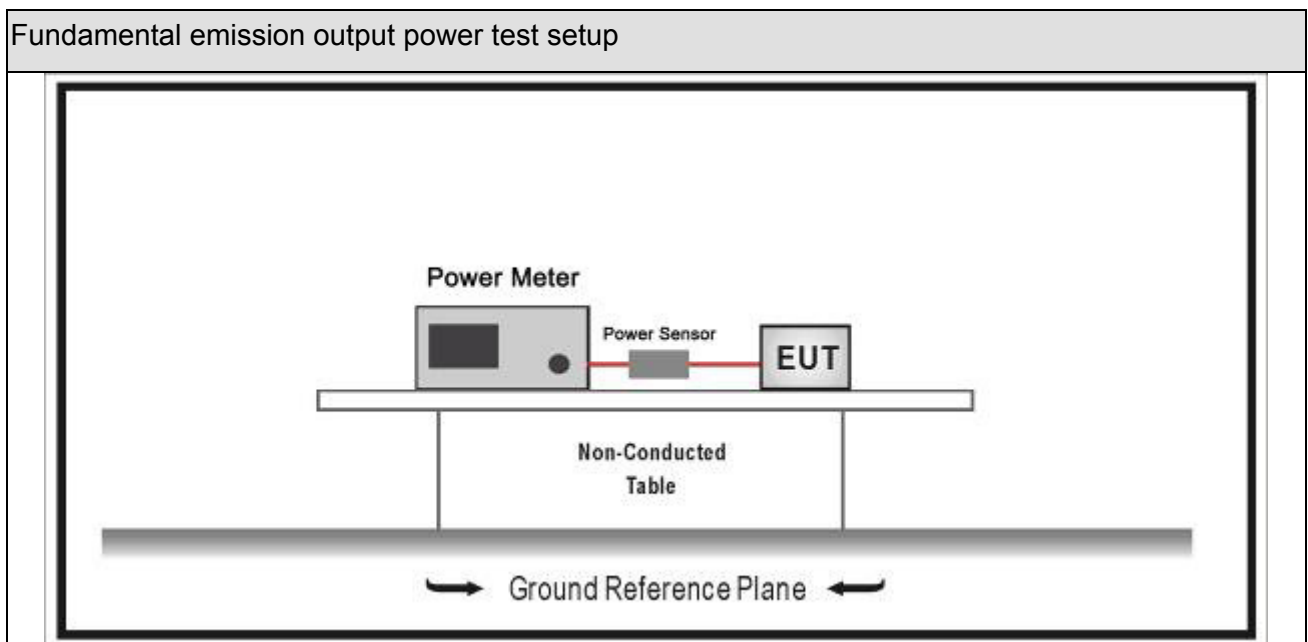
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.02.03
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2017.10.14	2018.10.13
Power Sensor	Anritsu	MA2411B	0846014	2017.10.14	2018.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2017.04.10	2018.04.09

Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



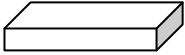
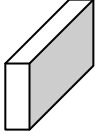
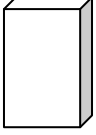
8.3. Limit

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

8.4. Test Procedure

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

8.5. EUT test definition

Item	Fundamental emission output power			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~3			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☐	Chain 1		
				
	☒	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

8.6. Test Result

Product Name	:	END1CTLA	Power	:	DC 12V
Test Mode	:	Mode1~3	Test Site	:	TR8
Test Date	:	2017.01.23	Test Engineer	:	Slark

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)		Limit (dBm)	Result
			Ant 1	Ant 2		
1	01	2412	19.94	19.04	30	Pass
1	06	2437	19.73	18.91	30	Pass
1	11	2462	19.55	18.38	30	Pass
2	01	2412	20.49	20.07	30	Pass
2	06	2437	21.90	22.43	30	Pass
2	11	2462	19.54	19.23	30	Pass
3	01	2412	20.28	19.35	30	Pass
3	06	2437	22.01	22.57	30	Pass
3	11	2462	19.16	19.05	30	Pass

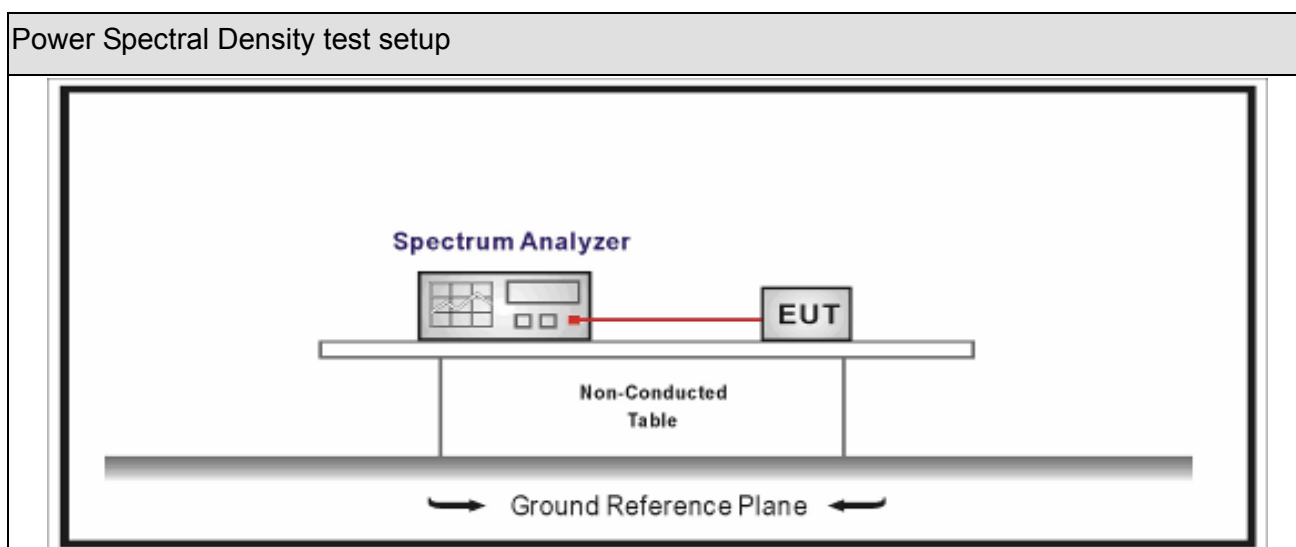
Mode	Channel	Test Frequency (MHz)	Avg. Power Output (dBm)		Limit (dBm)	Result
			Ant 1	Ant 2		
1	01	2412	16.54	16.97	30	Pass
1	06	2437	16.37	16.82	30	Pass
1	11	2462	16.18	16.66	30	Pass
2	01	2412	15.46	13.68	30	Pass
2	06	2437	16.39	16.91	30	Pass
2	11	2462	13.54	13.15	30	Pass
3	01	2412	14.54	12.78	30	Pass
3	06	2437	16.51	16.96	30	Pass
3	11	2462	12.74	12.01	30	Pass

9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2017.04.09	2018.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



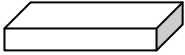
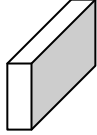
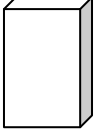
9.3. Limit

Power Spectral Density Limit
Power Spectral Density $\leq$ 8dBm/3kHz

9.4. Test Procedure

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

9.5. EUT test definition

Item	Power Spectral Density Test Method			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~3			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☐	Chain 1		
				
	☒	Chain 1	Chain 2	
				
	☐	Chain 1	Chain 2	Chain 3
				

9.6. Test Result

Product Name	:	END1CTLA	Power	:	DC 12V
Test Mode	:	Mode1~3	Test Site	:	TR8
Test Date	:	2017.01.23	Test Engineer	:	Slark

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)		Limit (dBm/3kHz)	Result
			Ant 1	Ant 2		
1	01	2412	-6.048	-6.549	8.0	Pass
1	06	2437	-7.242	-6.822	8.0	Pass
1	11	2462	-6.500	-8.454	8.0	Pass
2	01	2412	-13.553	-16.673	8.0	Pass
2	06	2437	-9.995	-9.448	8.0	Pass
2	11	2462	-14.347	-15.542	8.0	Pass
3	01	2412	-15.034	-14.994	8.0	Pass
3	06	2437	-10.158	-7.596	8.0	Pass
3	11	2462	-15.540	-15.404	8.0	Pass

Mode 1 CH01(2412MHz) Ant 1



10. Antenna Requirement

10.1. Limit

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

10.2. Antenna Connector Construction

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

_____ The End _____