Test Report

FCC Part15 Subpart C

Product Name	:	Sol
Model No.	:	CBYGEF001
FCC ID	:	PUU-CBYGEF001

Applicant	:	GE Lighting
Address	:	1975 Noble Road, Cleveland, Ohio, 44077, United States

Date of Receipt	:	Jun. 08th, 2017
Test Date	:	Jun. 09th, 2017~Jun. 25th, 2017
Issued Date	:	July. 12th, 2017
Report No.	:	1762020R-RF- US-P06V02
Report Version	:	V1.0

Test Report Certification

Issued Date : July. 12th, 2017
Report No. : 1762020R-RF-US-P06V02

Product Name	:	Sol
Applicant	:	GE Lighting
Address	:	1975 Noble Road, Cleveland, Ohio, 44077, United States
Manufacturer	:	GE Lighting
Address	:	1975 Noble Road, Cleveland, Ohio, 44077, United States
Model No.	:	CBYGEF001
FCC ID	:	PUU-CBYGEF001
EUT Voltage	:	DC 12V,2.5A
Test Voltage		AC 120V/60Hz
Brand Name	:	GE Lighting
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4:2014; ANSI C63.10:2013; KDB 558074 D01v03r05 KDB 662911 D01 Multiple Transmitter Output v02r01 KDB 662911 D02 MIMO with Cross-Polarized Antennas v01
Test Result	:	Complied
Performed Location	:	DEKRA Testing and Certification (Suzhou) Co., Ltd. No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Registration Number: 800392; IC Lab Code: 4075B

Documented By : Kitty Li

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Reviewed By : Jack Zhang

(Senior Engineer: Jack Zhang)

Approved By : Harry Zhao

(Engineering Manager: Harry Zhao)

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1762020R-RF-US-P06V02	V1.0	Initial Issued Report	July. 12th, 2017

1. General Information

1.1. EUT Description

Product Name	Sol
Brand Name	GE Lighting
Model No.	CBYGEF001
EUT Voltage	DC 12V,2.5A
Test Voltage	AC 120V/60Hz
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Type of Modulation	802.11b: DSSS
	802.11g: OFDM
Data Rate	802.11g: 6/9/12/18/24/36/48/54 Mbps
	802.11b: 1/2/5.5/11 Mbps
	802.11n: up to 300 Mbps
Channel Control	Auto

1.2. Channel List:

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

1.3. Test Channel:

802.11b/g/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	06	2437MHz	11	2462 MHz	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	06	2437 MHz	09	2452 MHz	N/A	N/A

1.4. Antenna information

Antenna manufacturer	N/A					
Antenna Delivery	☒	1*TX+1*RX	☐	2*TX+2*RX	☐	3*TX+3*RX
Antenna technology	☒	SISO				
	☐	MIMO	☐	Basic		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☐	Spatial Multiplexing		
			☐	CDD		
			☐	Beam-forming		
Antenna Type	☐	External	☐	Dipole		
			☐	Panel		
	☒	Internal	☐	PIFA		
			☒	PCB		
			☐	Ceramic Chip Antenna		
			☐	Metal plate type F antenna		
			☐	Cross-polarize Antenna		
Antenna Gain #1	2dBi					
Antenna Gain #2	2dBi					

1.5. Mode of Operation

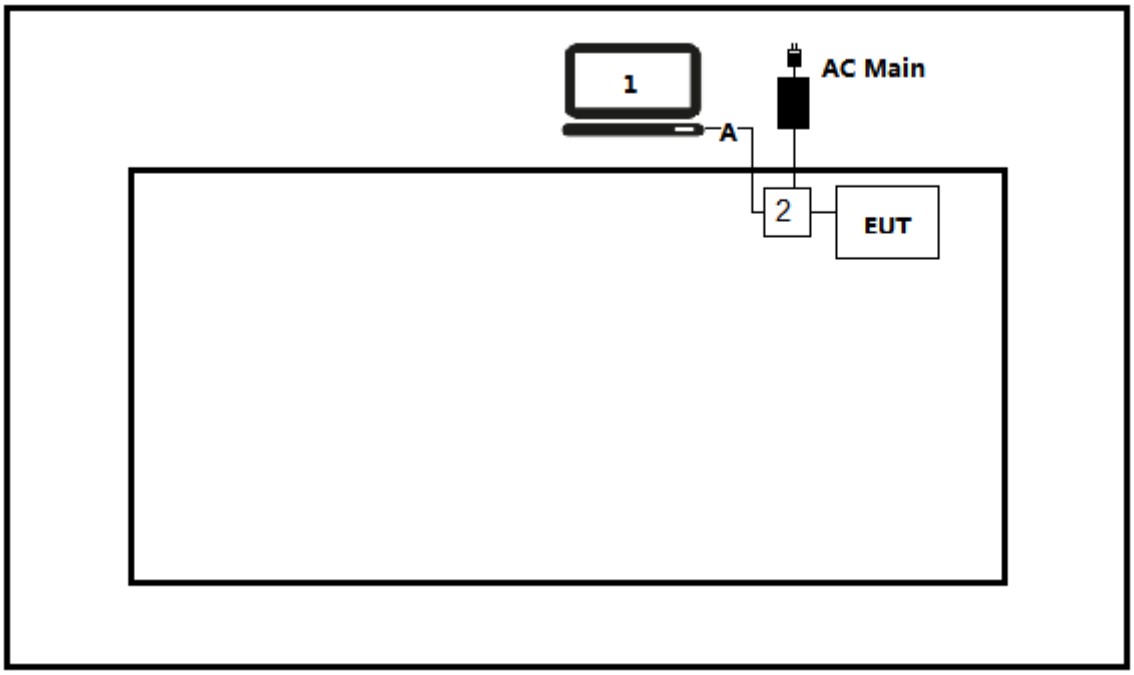
Test Modes List
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g
Mode 3: Transmit by 802.11n(20MHz)
Mode 4: Transmit by 802.11n(40MHz)

1.6. Tested System Details

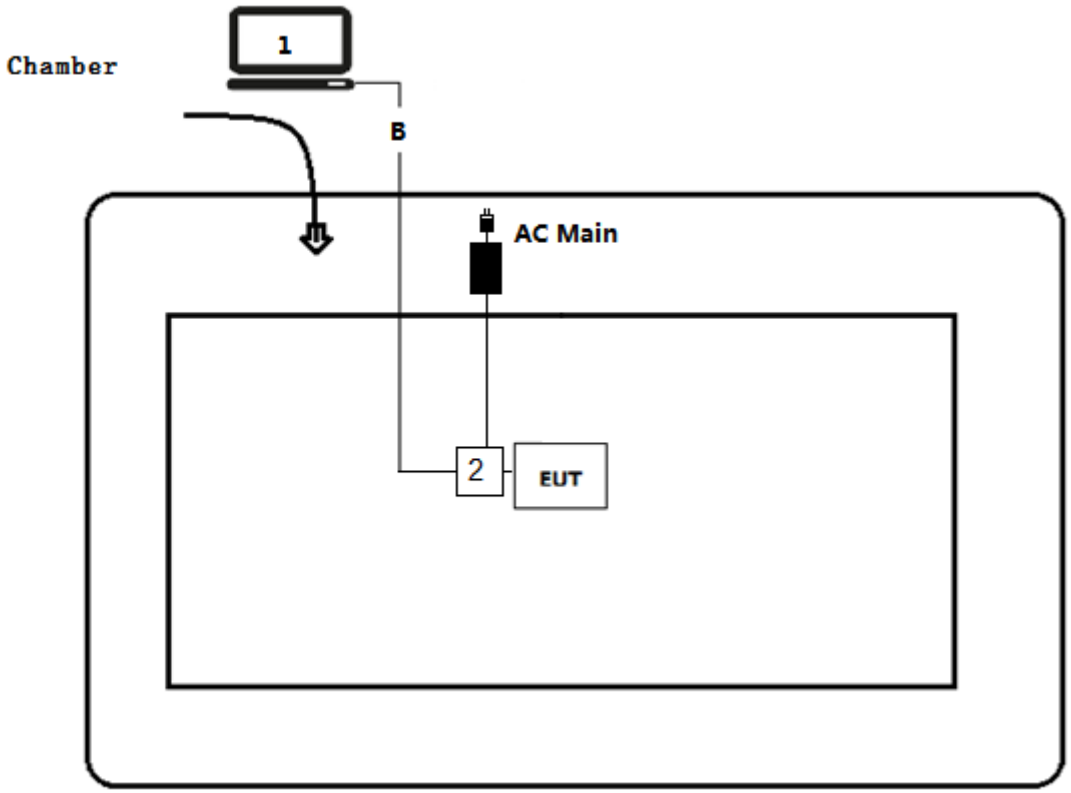
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded
A	LAN cable	N/A	N/A	N/A	Non-shielded,1.5m
B	LAN cable	N/A	N/A	N/A	Non-shielded,10m

1.7. Configuration of Tested System

Test setup Diagram- AC Line Conducted Emission Test


Test setup Diagram- Radiated Emission



A	LAN Cable	Non-shielded, 1.5m
B	LAN Cable	Non-shielded, 15m

2. Technical Test

2.1. Summary of Test Result

Performed Test Item	Normative References	Worst case mode	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.207	Mode 1	FCC 15.207	PASS
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209	Mode 1	FCC 15.209	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(d)	Mode 1	≥30dBc	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d)	Mode 1	FCC 15.209	PASS
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(2)	Mode 1	≥500kHz	PASS
Fundamental emission output power	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(3)	Mode 1	≤30dBm	PASS
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(e)	Mode 1	≤8dBm/3kHz	PASS
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.203	N/A	FCC 15.203	PASS

2.2. Power setting parameter

Test Software	QATOOL			
Modulation Mode	Test Frequency	Ant 1	Ant 2	Ant 1+2
802.11b	2412	10	-	-
	2437	10	-	-
	2462	10	-	-
802.11g	2412	0D	-	-
	2437	0D	-	-
	2462	0D	-	-
802.11n(20MHz)	2412	0D	-	-
	2437	0D	-	-
	2462	0D	-	-
802.11n(40MHz)	2422	0D	-	-
	2437	0D	-	-
	2452	0D	-	-

2.3. Power vs Data Rate

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)						
		802.11b	802.11g		20MHz Bandwidth		40MHz Bandwidth	
					800ns GI	400ns GI	800ns GI	400ns GI
0	1	1	6	---	6.5	7.2	13.5	15.0
1	1	2	9	---	13.0	14.4	27.0	30.0
2	1	5.5	12	---	19.5	21.7	40.5	45.0
3	1	11	18	---	26.0	28.9	54.0	60.0
4	1	---	24	---	39.0	43.3	81.0	90.0
5	1	---	36	---	52.0	57.8	108.0	120.0
6	1	---	48	---	58.5	65.0	121.5	135.0
7	1	---	54	---	65.0	72.2	135.0	150.0
8	2	---	---	---	13.0	14.4	27.0	30.0
9	2	---	---	---	26.0	28.9	54.0	60.0
10	2	---	---	---	39.0	43.3	81.0	90.0
11	2	---	---	---	52.0	57.8	108.0	120.0
12	2	---	---	---	78.0	86.7	162.0	180.0
13	2	---	---	---	104.0	115.6	216.0	240.0
14	2	---	---	---	117.0	130.0	243.0	270.0
15	2	---	---	---	130.0	144.0	270.0	300.0

Note 1 : The blue form is the maximum power data rate

Note 2 : The EUT has two spatial Streams

2.4. 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

2.5. Measurement Uncertainty

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

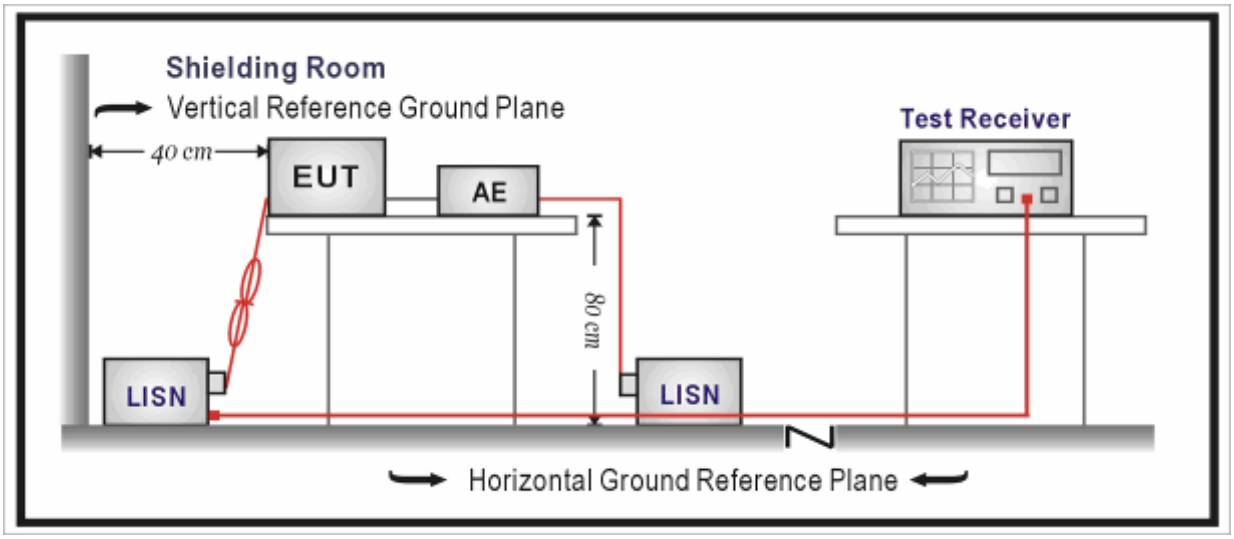
3. AC Power Line Conducted Emission

3.1. Test Equipment

AC Power Line Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100906	2017.03.05	2018.03.04
Two-Line V-Network	R&S	ENV 216	101189	2016.07.16	2017.07.15
Two-Line V-Network	R&S	ENV 216	101044	2016.09.16	2017.09.15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2016.09.16	2017.09.15
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

3.2. Test Setup

AC Power Line Conducted Emission test setup



3.3. Limit

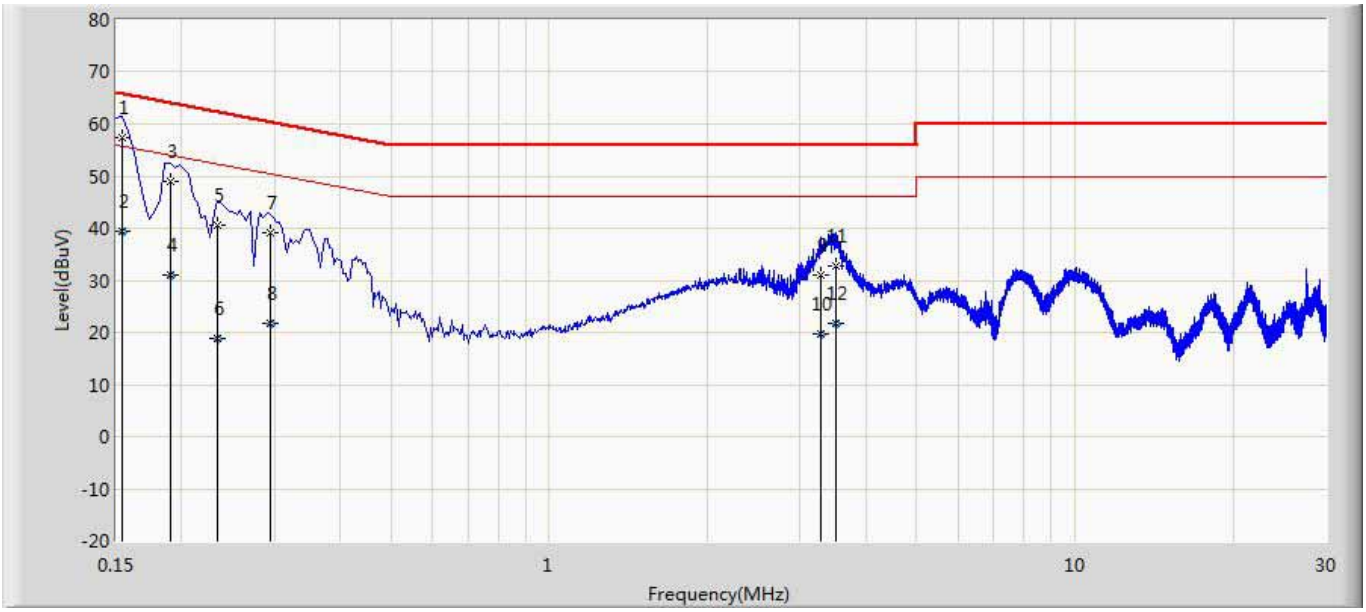
Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dB μ V)	Average(dB μ V)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5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

3.4. Test Procedure

Test Method			
	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
☒	ANSI C63.4-2014	7	AC power-line conducted emission measurements

3.5. Test Result

Engineer: Nero	
Site: TR1	Time: 2017/06/19
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1	



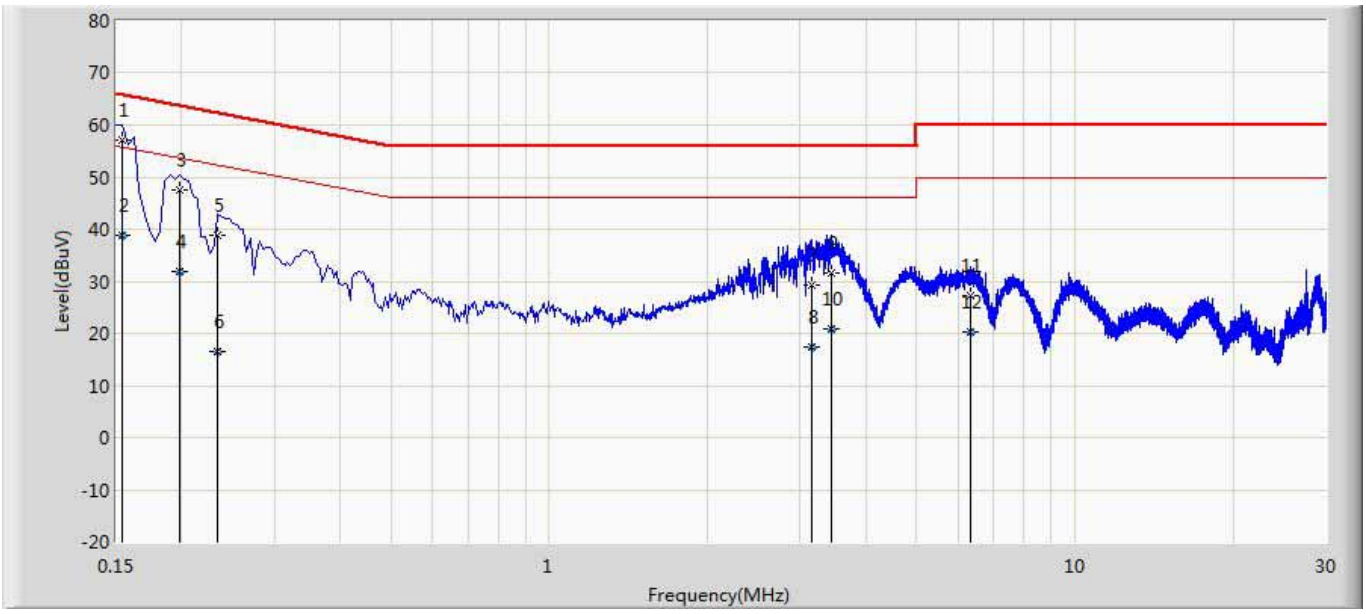
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.154	57.376	47.742	-8.405	65.781	9.609	0.025	0.000	QP
2		0.154	39.461	29.826	-16.321	55.781	9.609	0.025	0.000	AV
3		0.190	48.917	39.287	-15.119	64.037	9.602	0.028	0.000	QP
4		0.190	31.090	21.460	-22.947	54.037	9.602	0.028	0.000	AV
5		0.234	40.440	30.810	-21.867	62.307	9.600	0.030	0.000	QP
6		0.234	18.931	9.301	-33.376	52.307	9.600	0.030	0.000	AV
7		0.294	39.220	29.586	-21.191	60.411	9.600	0.034	0.000	QP
8		0.294	21.773	12.139	-28.638	50.411	9.600	0.034	0.000	AV
9		3.290	30.934	21.189	-25.066	56.000	9.631	0.114	0.000	QP
10		3.290	19.705	9.960	-26.295	46.000	9.631	0.114	0.000	AV
11		3.502	32.725	22.971	-23.275	56.000	9.635	0.118	0.000	QP
12		3.502	21.703	11.950	-24.297	46.000	9.635	0.118	0.000	AV

Note:

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

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

Engineer: Nero	
Site: TR1	Time: 2017/06/19
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	*	0.154	57.087	47.469	-8.706	65.793	9.593	0.025	0.000	QP
2		0.154	38.944	29.326	-16.849	55.793	9.593	0.025	0.000	AV
3		0.198	47.397	37.770	-16.297	63.694	9.598	0.029	0.000	QP
4		0.198	31.939	22.313	-21.755	53.694	9.598	0.029	0.000	AV
5		0.234	38.785	29.156	-23.522	62.307	9.598	0.030	0.000	QP
6		0.234	16.565	6.937	-35.742	52.307	9.598	0.030	0.000	AV
7		3.150	29.179	19.442	-26.821	56.000	9.625	0.112	0.000	QP
8		3.150	17.450	7.713	-28.550	46.000	9.625	0.112	0.000	AV
9		3.434	31.531	21.785	-24.469	56.000	9.629	0.117	0.000	QP
10		3.434	20.944	11.198	-25.056	46.000	9.629	0.117	0.000	AV
11		6.334	27.182	17.339	-32.818	60.000	9.683	0.160	0.000	QP
12		6.334	20.253	10.410	-29.747	50.000	9.683	0.160	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

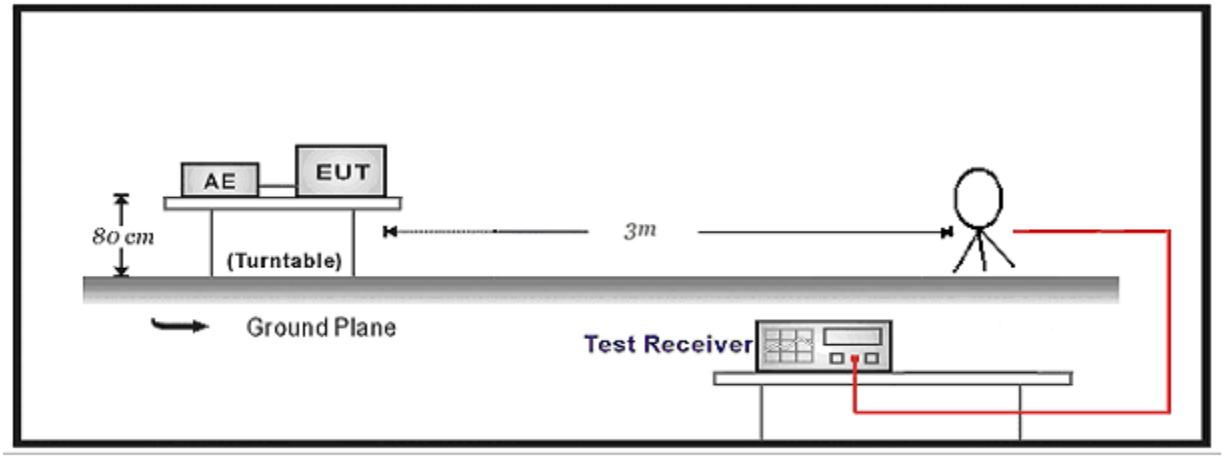
4.1. Test Equipment

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	2016.11.16	2017.11.15
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2016.10.16	2017.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2017.03.02	2018.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

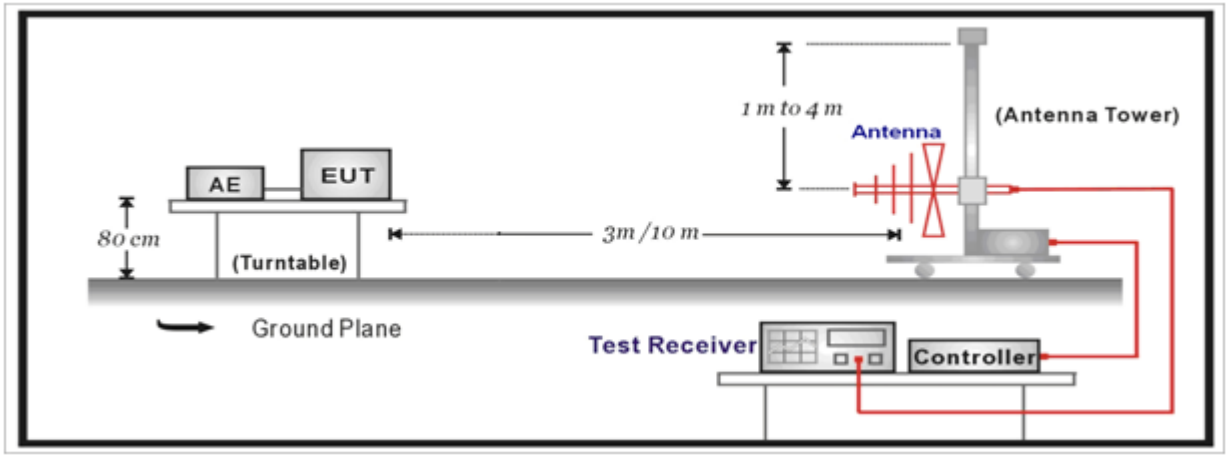
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2017.01.03	2018.01.02
Preamplifier	Miteq	NSP1800-25	1364185	2017.05.06	2018.05.05
Preamplifier	DEKRA Testing and Certification (Suzhou) Co., Ltd.	Sol-040G	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	2016.11.25	2017.11.24
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	2017.01.04	2018.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

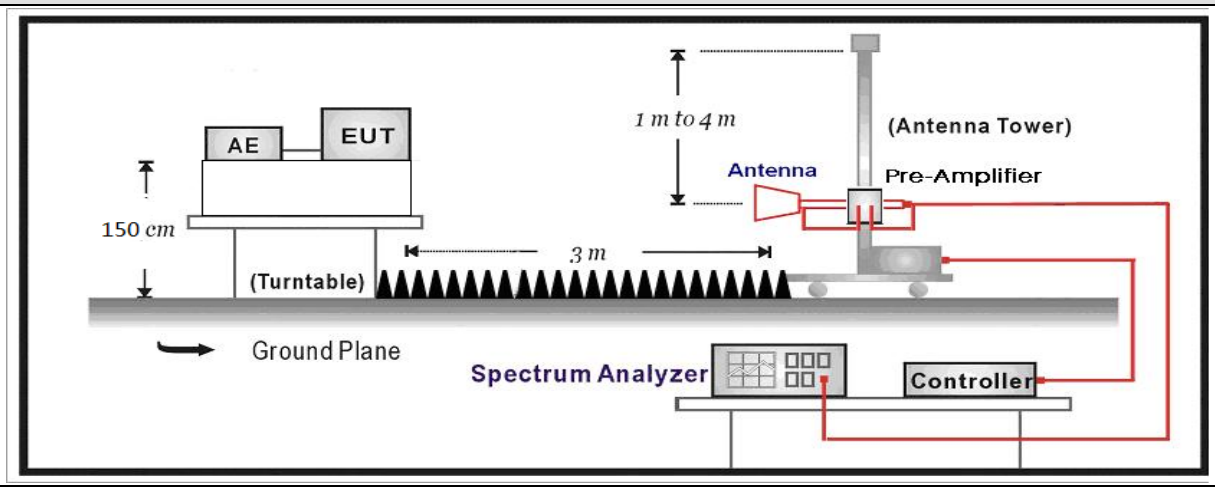
Below 30MHz Test Setup:



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 IC:

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

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)

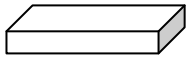
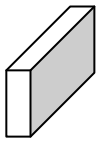
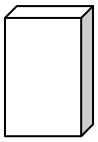
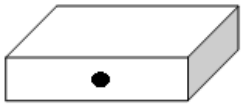
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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		11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10		11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10		11.12.2.5	Average power measurement procedures
			☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			☒	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

4.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Emissions in restricted frequency bands</td></tr>
<tr><td rowspan="2">Device Category</td><td>☒</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☐</td><td colspan="3">Mobile position use</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="11">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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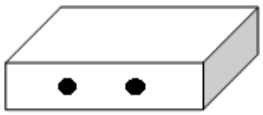
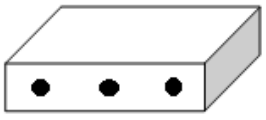
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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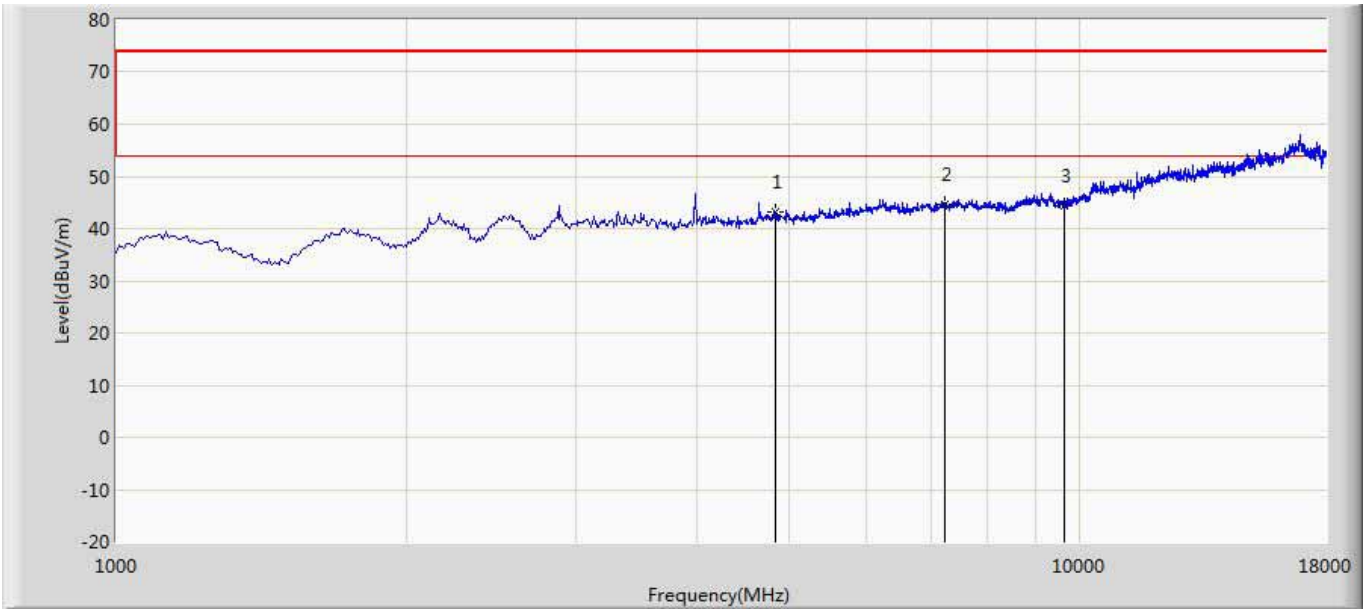
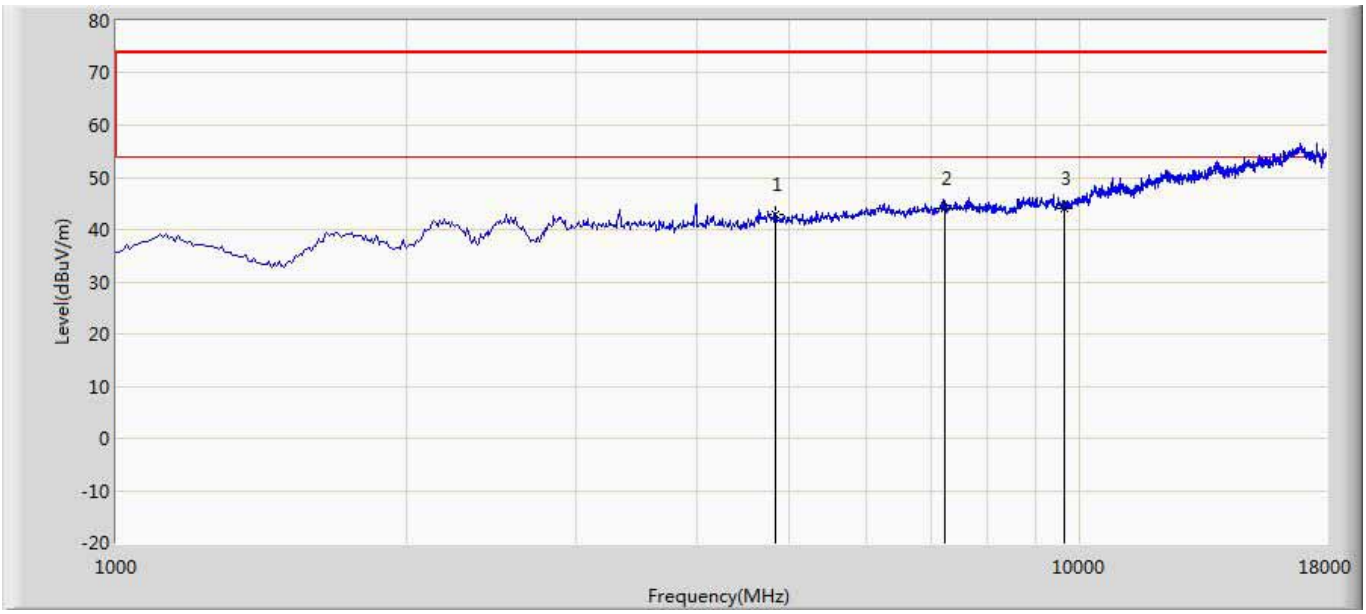
4.6. Test Result

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11B	



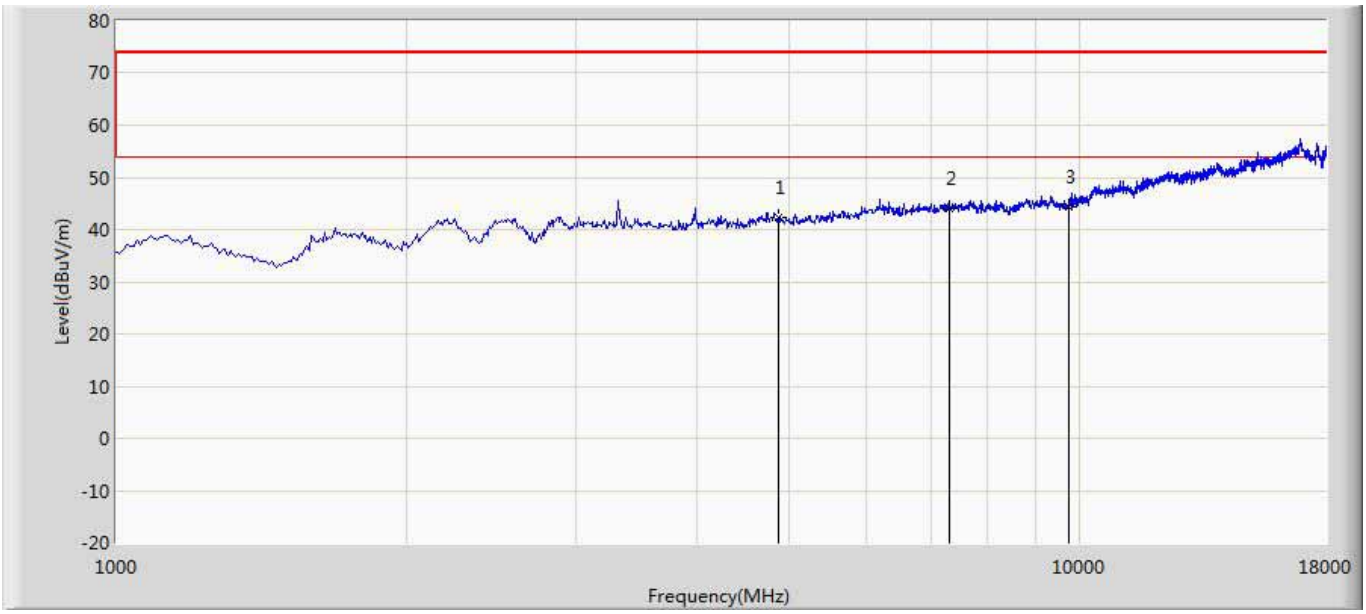
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	43.143	38.655	-30.857	74.000	4.488	PK
2	*	7236.000	44.598	36.939	-29.402	74.000	7.659	PK
3		9648.000	44.365	34.813	-29.635	74.000	9.553	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11B	



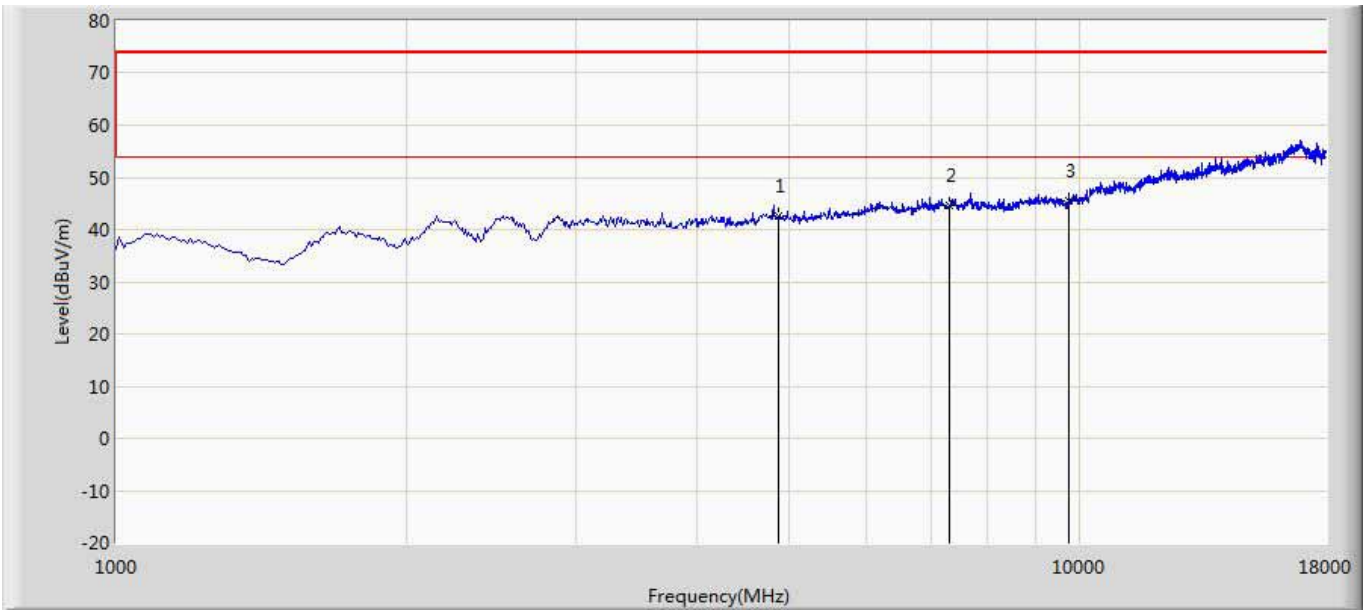
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	42.933	38.445	-31.067	74.000	4.488	PK
2		7236.000	43.975	36.316	-30.025	74.000	7.659	PK
3	*	9648.000	44.055	34.503	-29.945	74.000	9.553	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11B	



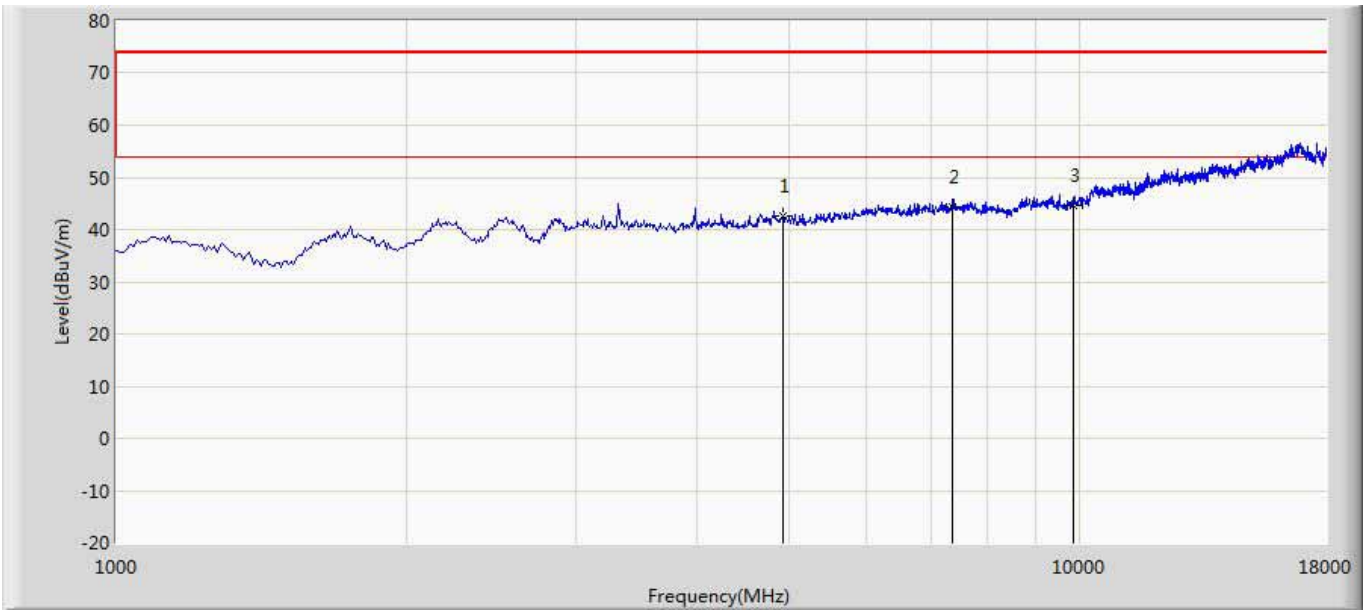
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	42.421	37.794	-31.579	74.000	4.627	PK
2		7311.000	44.191	36.446	-29.809	74.000	7.745	PK
3	*	9748.000	44.377	34.506	-29.623	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11B	



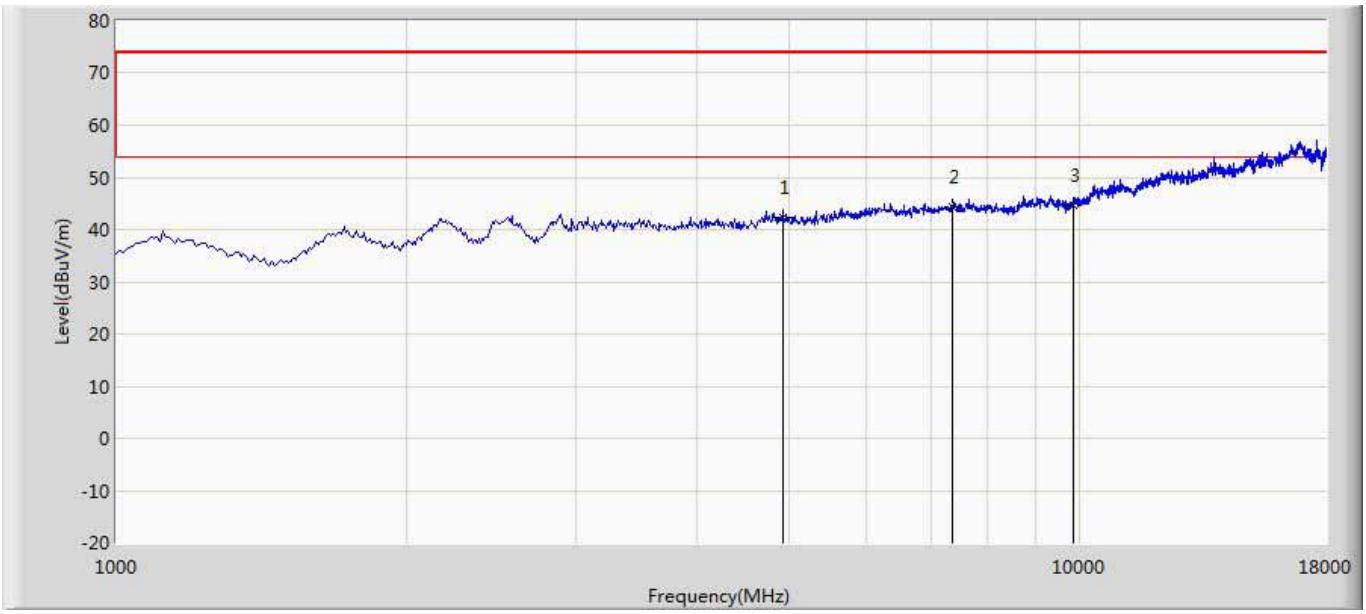
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	42.663	38.036	-31.337	74.000	4.627	PK
2		7311.000	44.497	36.752	-29.503	74.000	7.745	PK
3	*	9748.000	45.525	35.654	-28.475	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11B	



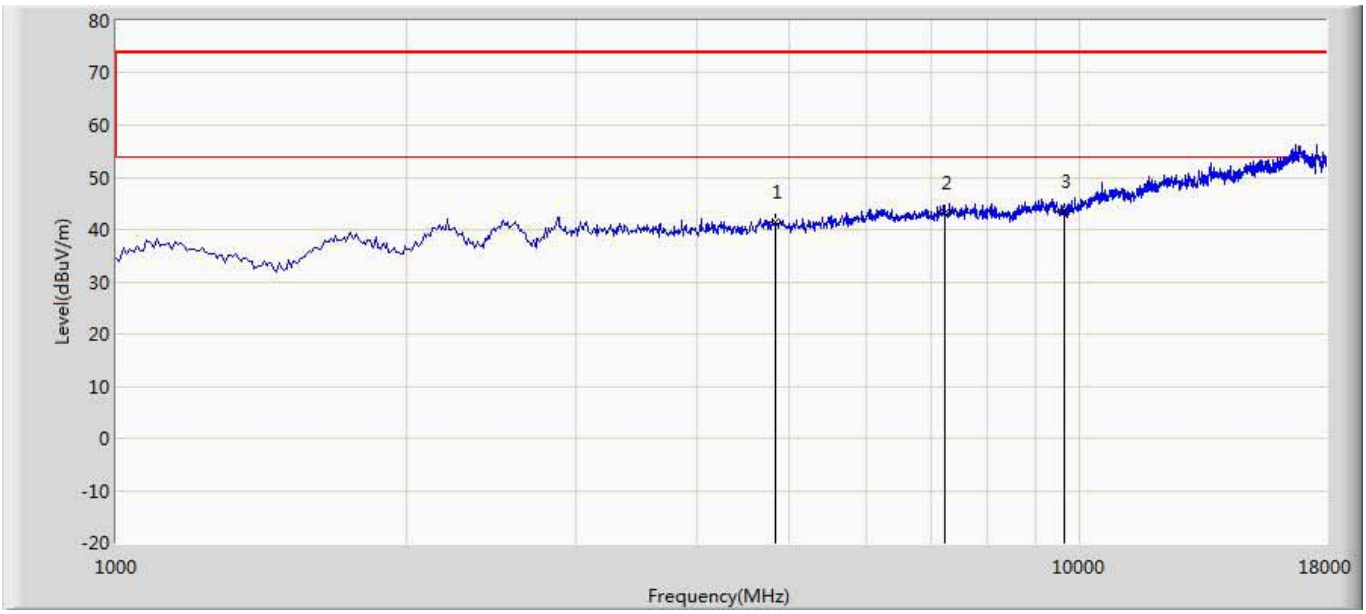
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	42.505	37.876	-31.495	74.000	4.629	PK
2		7386.000	44.348	36.484	-29.652	74.000	7.864	PK
3	*	9848.000	44.765	34.444	-29.235	74.000	10.321	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11B	



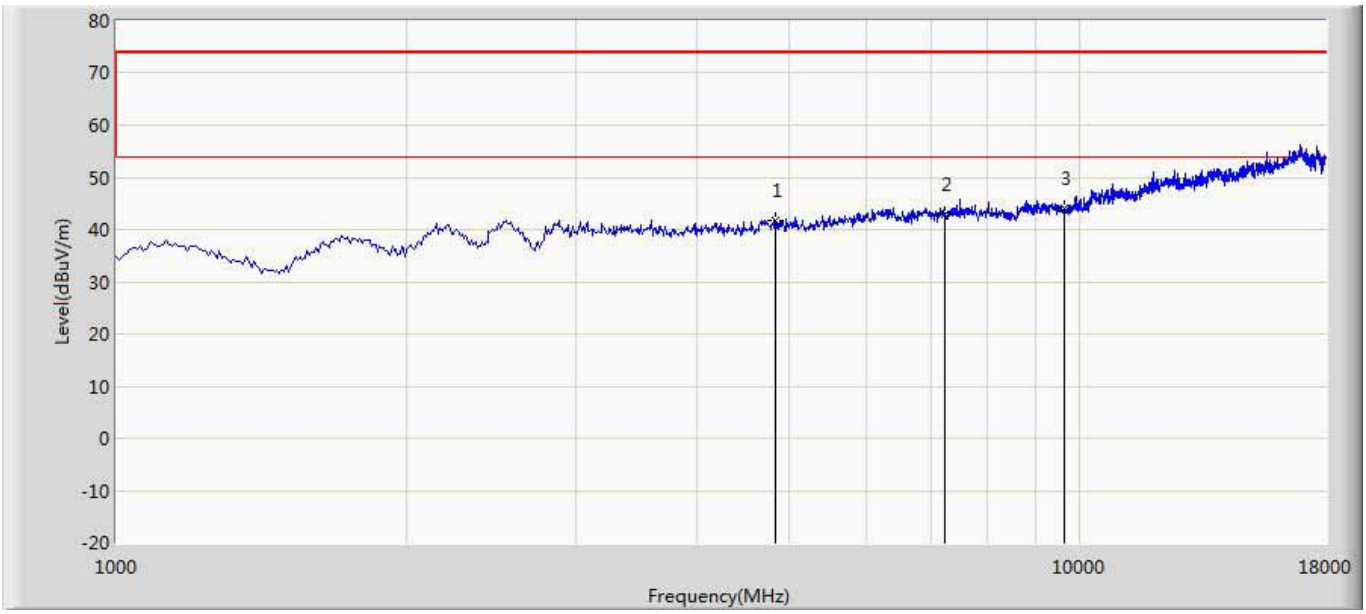
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	42.236	37.607	-31.764	74.000	4.629	PK
2		7386.000	44.282	36.418	-29.718	74.000	7.864	PK
3	*	9848.000	44.577	34.256	-29.423	74.000	10.321	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11G	



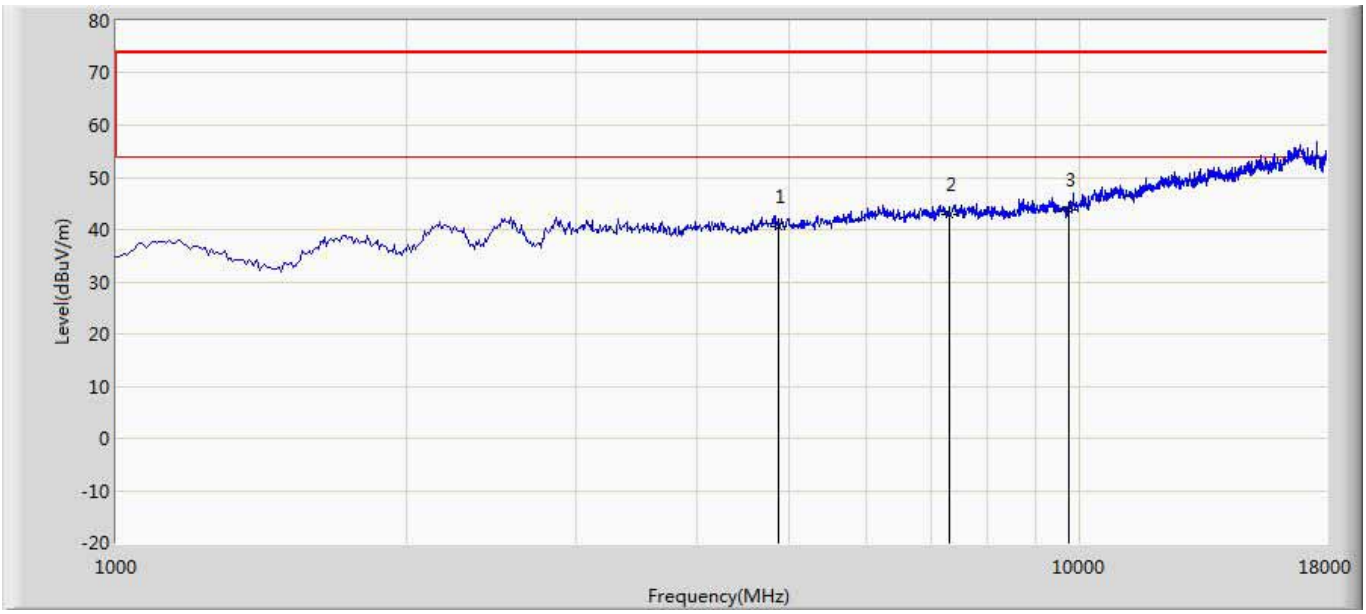
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	41.354	36.866	-32.646	74.000	4.488	PK
2		7236.000	43.300	35.641	-30.700	74.000	7.659	PK
3	*	9648.000	43.424	33.872	-30.576	74.000	9.553	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11G	



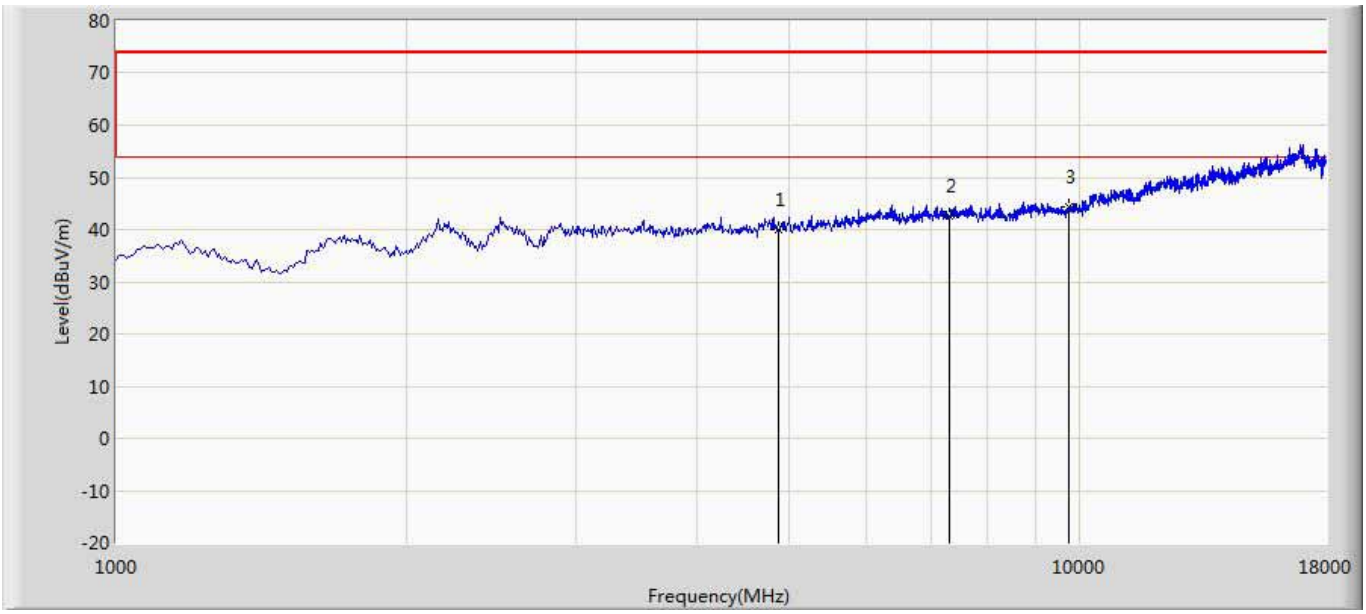
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	41.645	37.157	-32.355	74.000	4.488	PK
2		7236.000	42.960	35.301	-31.040	74.000	7.659	PK
3	*	9648.000	43.961	34.409	-30.039	74.000	9.553	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11G	



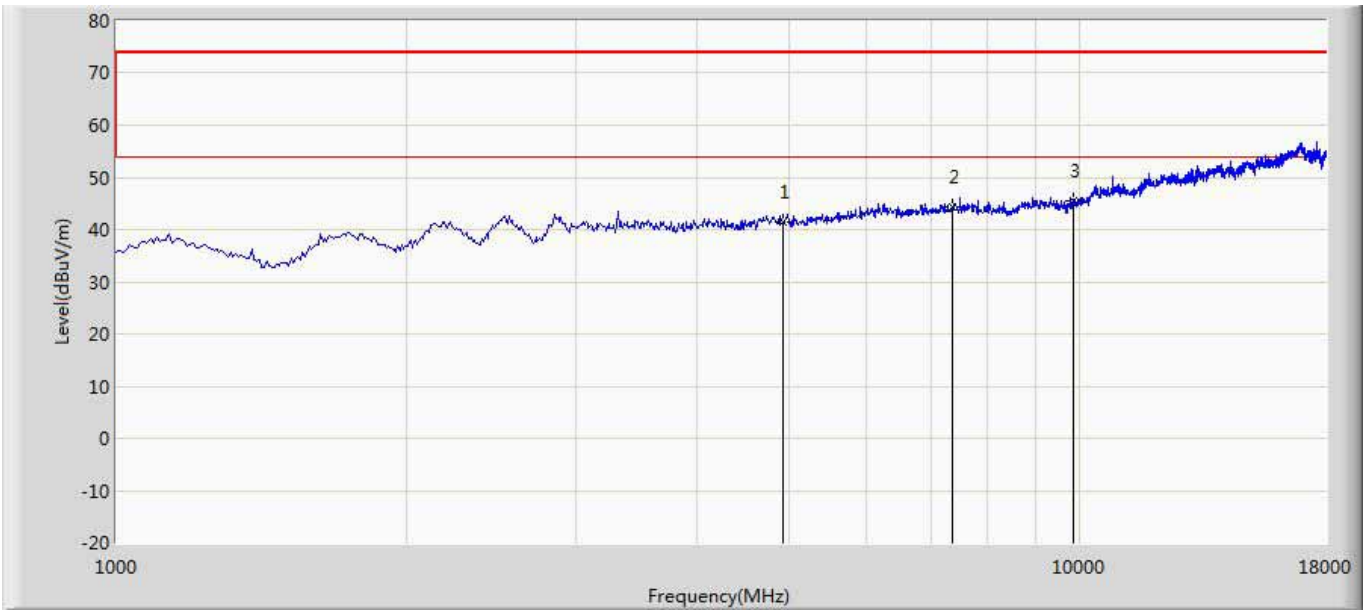
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.438	35.811	-33.562	74.000	4.627	PK
2		7311.000	42.977	35.232	-31.023	74.000	7.745	PK
3	*	9748.000	43.767	33.896	-30.233	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11G	



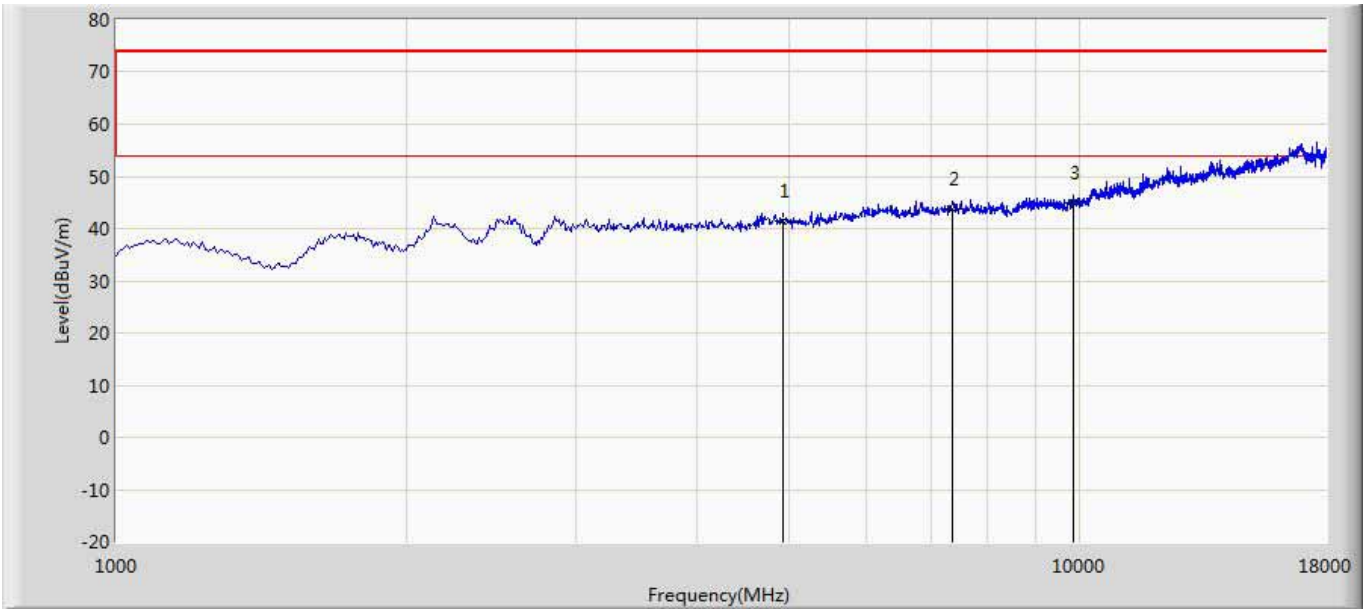
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.009	35.382	-33.991	74.000	4.627	PK
2		7311.000	42.667	34.922	-31.333	74.000	7.745	PK
3	*	9748.000	44.268	34.397	-29.732	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11G	



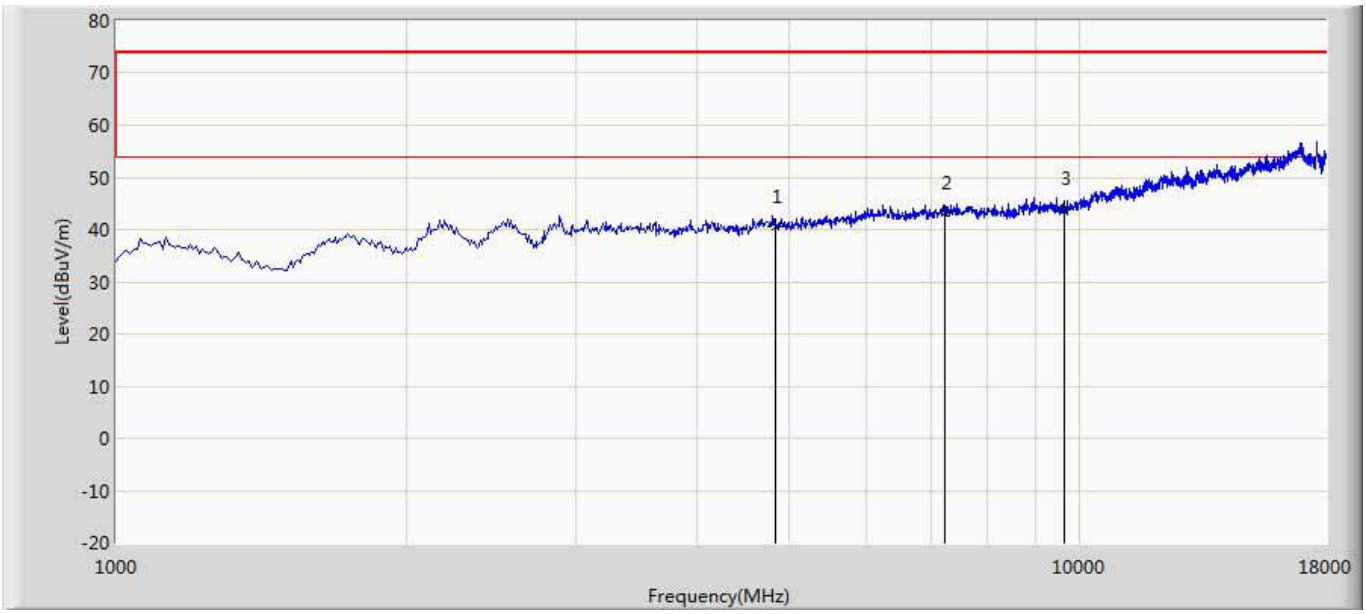
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.371	36.742	-32.629	74.000	4.629	PK
2		7386.000	44.222	36.358	-29.778	74.000	7.864	PK
3	*	9848.000	45.548	35.227	-28.452	74.000	10.321	PK

Site: AC5	Time: 2017/06/17 - 17:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11G	



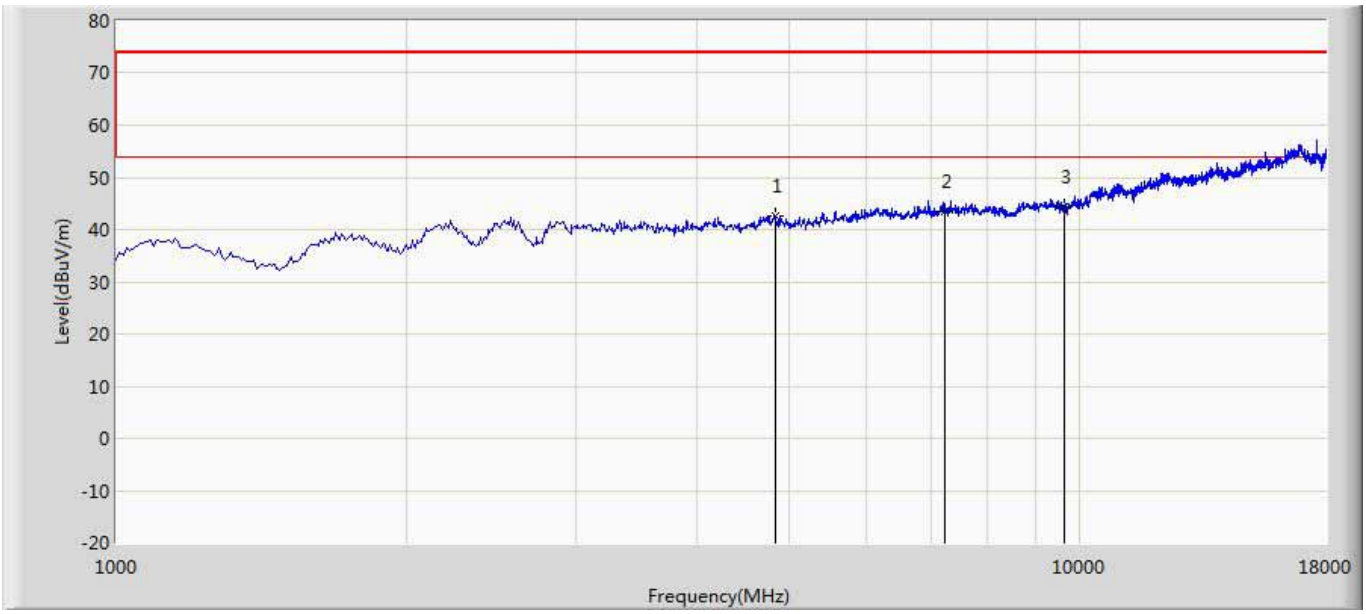
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.570	36.941	-32.430	74.000	4.629	PK
2		7386.000	43.745	35.881	-30.255	74.000	7.864	PK
3	*	9848.000	44.806	34.485	-29.194	74.000	10.321	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:19
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11N20	



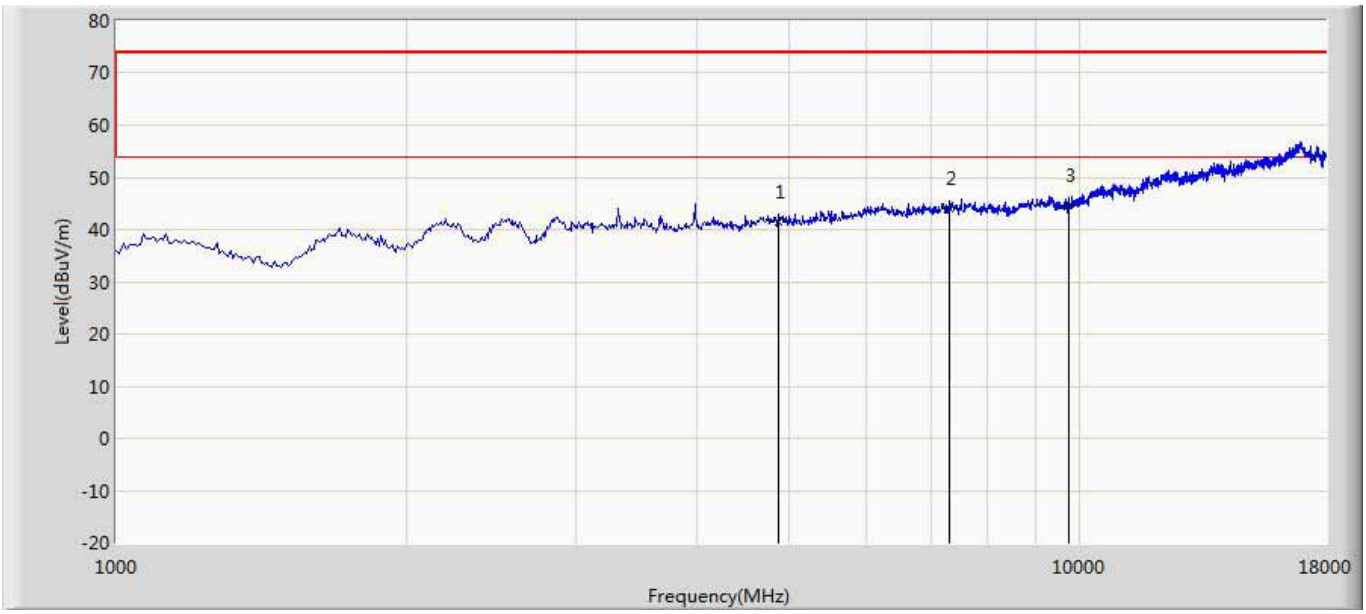
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	40.567	36.079	-33.433	74.000	4.488	PK
2		7236.000	43.300	35.641	-30.700	74.000	7.659	PK
3	*	9648.000	44.050	34.498	-29.950	74.000	9.553	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11N20	



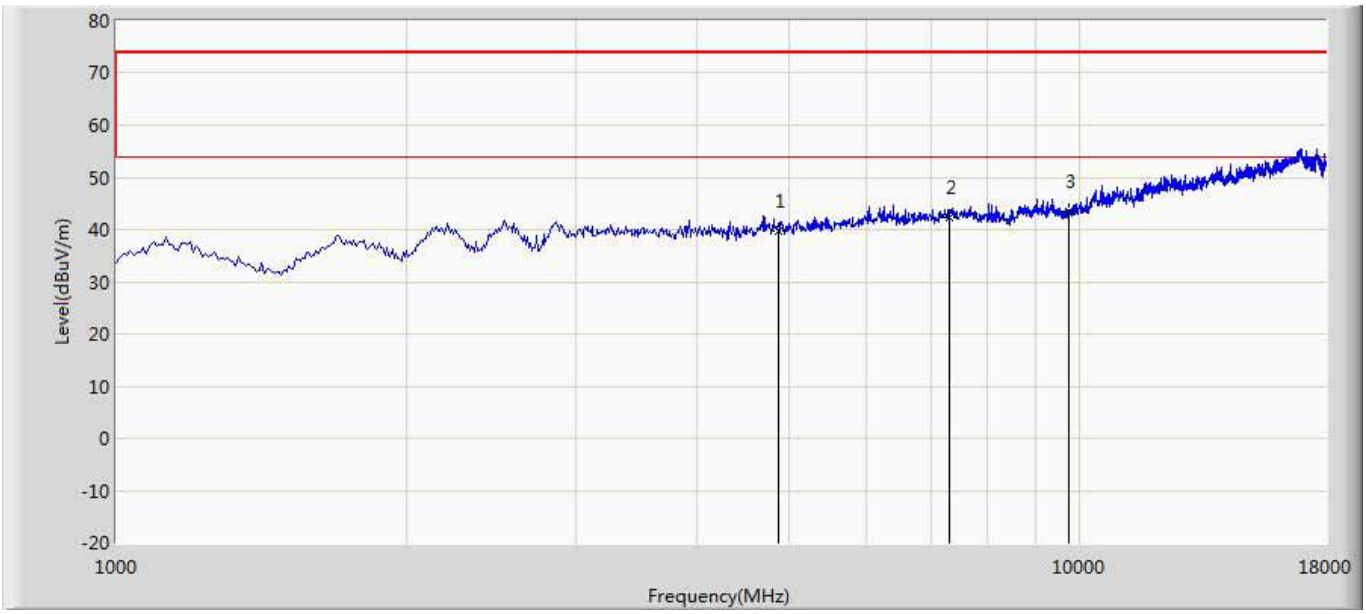
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4824.000	42.572	38.084	-31.428	74.000	4.488	PK
2		7236.000	43.536	35.877	-30.464	74.000	7.659	PK
3	*	9648.000	44.237	34.685	-29.763	74.000	9.553	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11N20	



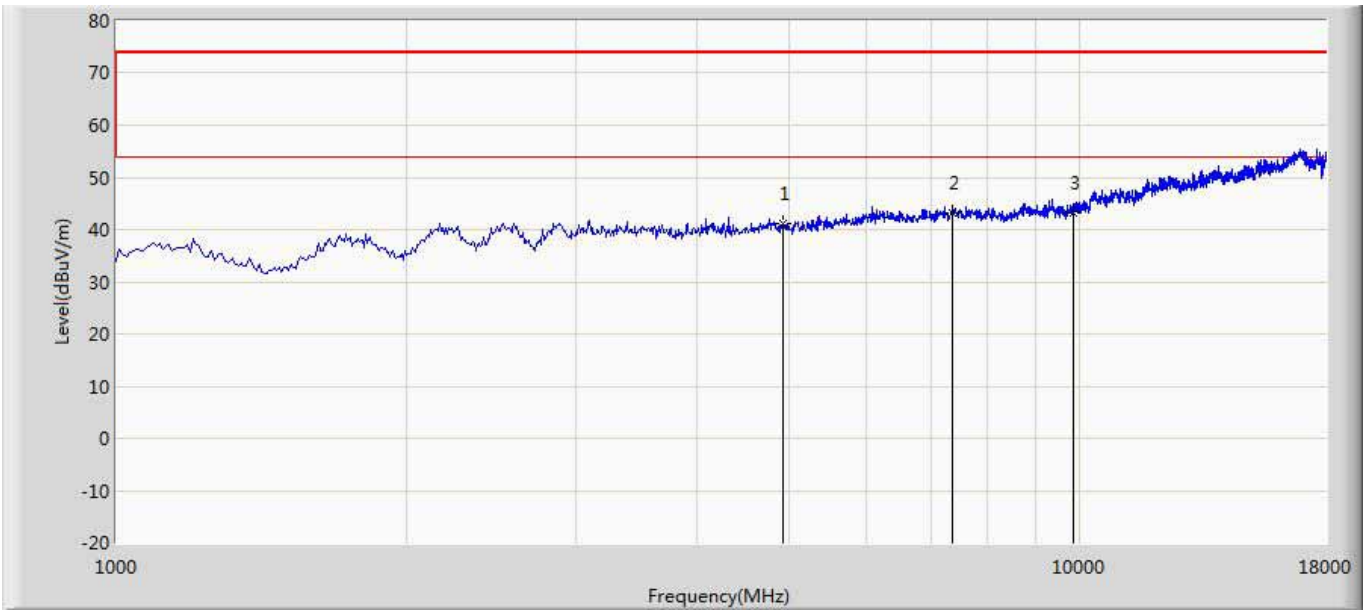
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.572	36.945	-32.428	74.000	4.627	PK
2		7311.000	44.117	36.372	-29.883	74.000	7.745	PK
3	*	9748.000	44.771	34.900	-29.229	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:24
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11N20	



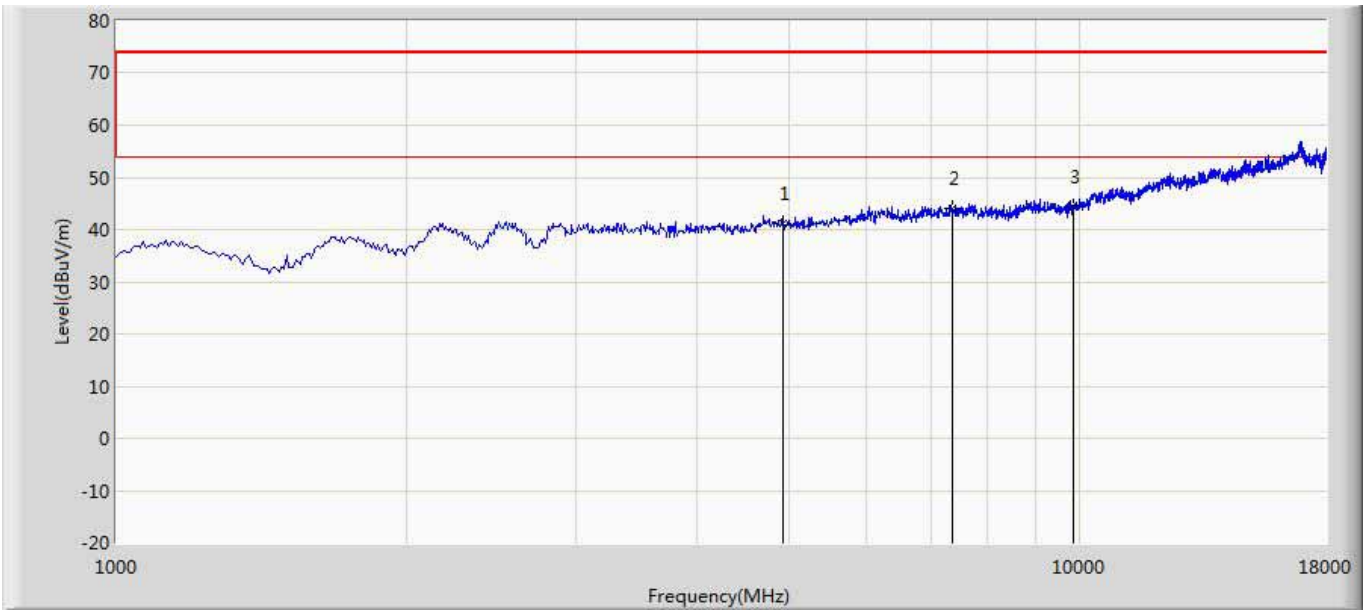
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	39.808	35.181	-34.192	74.000	4.627	PK
2		7311.000	42.416	34.671	-31.584	74.000	7.745	PK
3	*	9748.000	43.382	33.511	-30.618	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11N20	



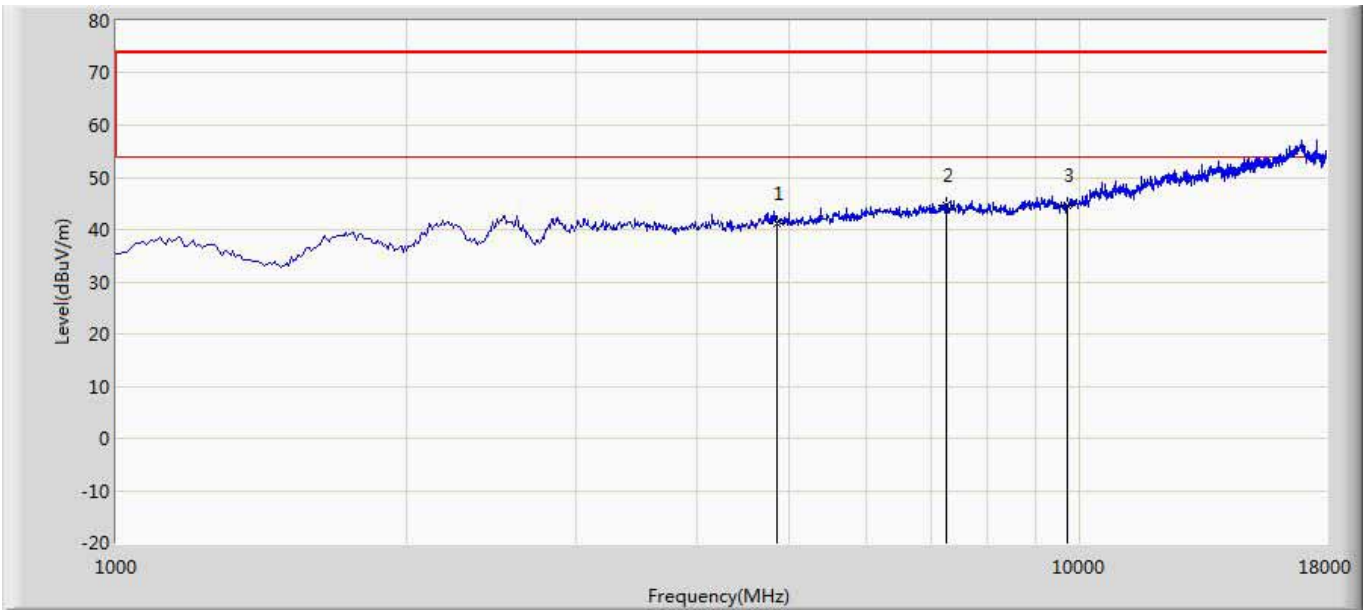
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.072	36.443	-32.928	74.000	4.629	PK
2		7386.000	43.083	35.219	-30.917	74.000	7.864	PK
3	*	9848.000	43.092	32.771	-30.908	74.000	10.321	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11N20	



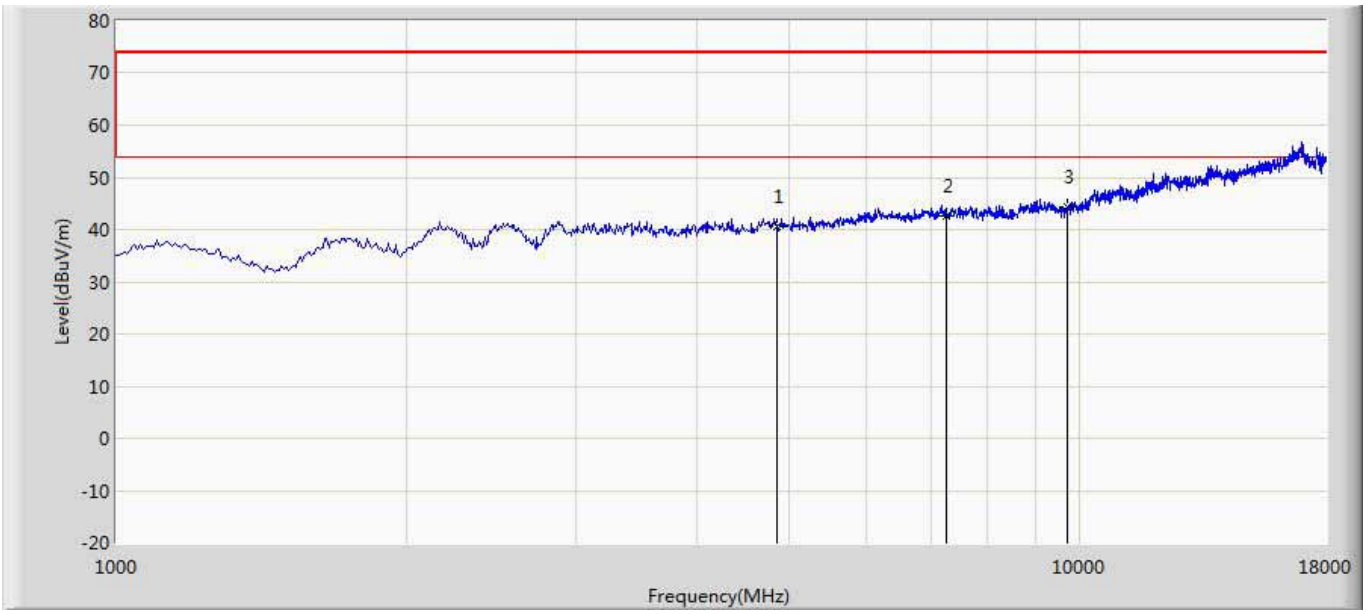
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4924.000	41.294	36.665	-32.706	74.000	4.629	PK
2		7386.000	44.044	36.180	-29.956	74.000	7.864	PK
3	*	9848.000	44.286	33.965	-29.714	74.000	10.321	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11N40	



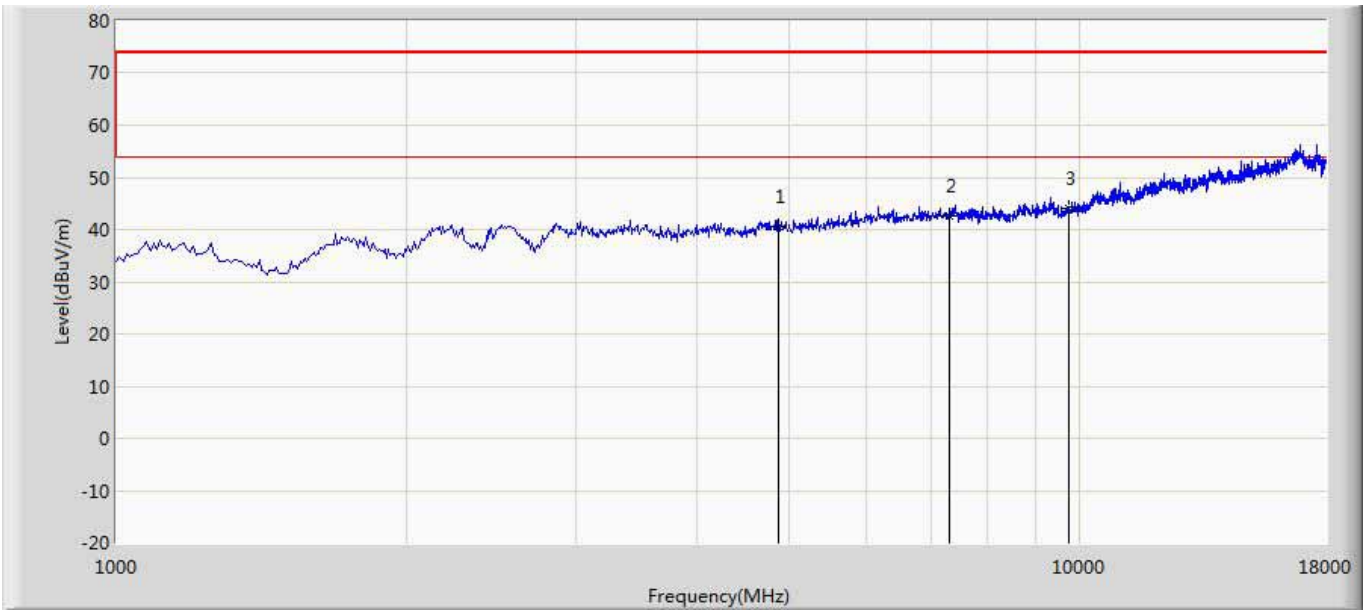
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	41.052	36.574	-32.948	74.000	4.477	PK
2	*	7266.000	44.716	37.037	-29.284	74.000	7.679	PK
3		9688.000	44.508	34.358	-29.492	74.000	10.149	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11N40	



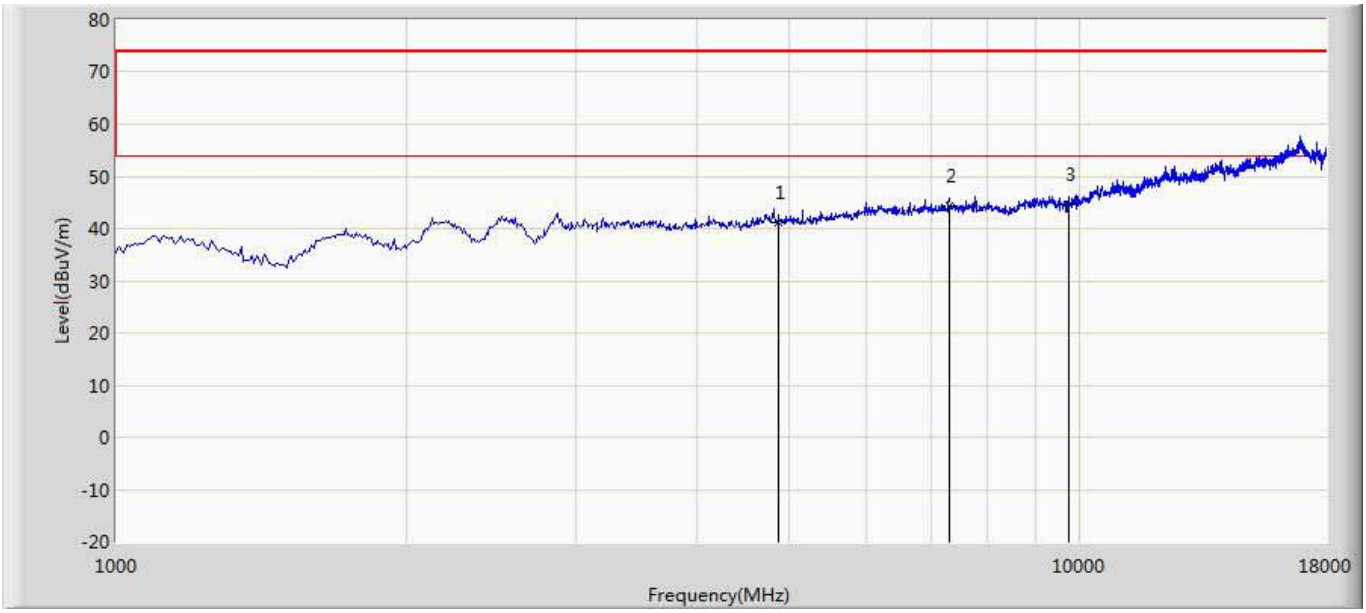
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4844.000	40.606	36.128	-33.394	74.000	4.477	PK
2		7266.000	42.745	35.066	-31.255	74.000	7.679	PK
3	*	9688.000	44.271	34.121	-29.729	74.000	10.149	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11N40	



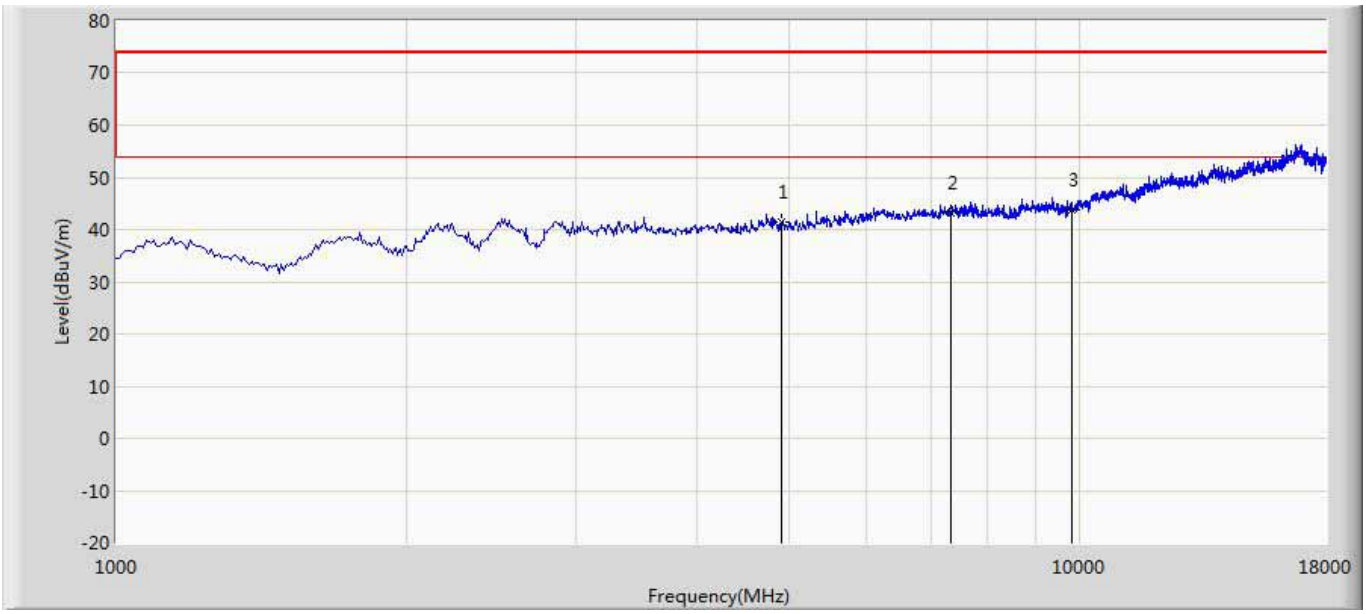
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	40.541	35.914	-33.459	74.000	4.627	PK
2		7311.000	42.566	34.821	-31.434	74.000	7.745	PK
3	*	9748.000	43.976	34.105	-30.024	74.000	9.871	PK

Site: AC5	Time: 2017/06/17 - 17:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11N40	



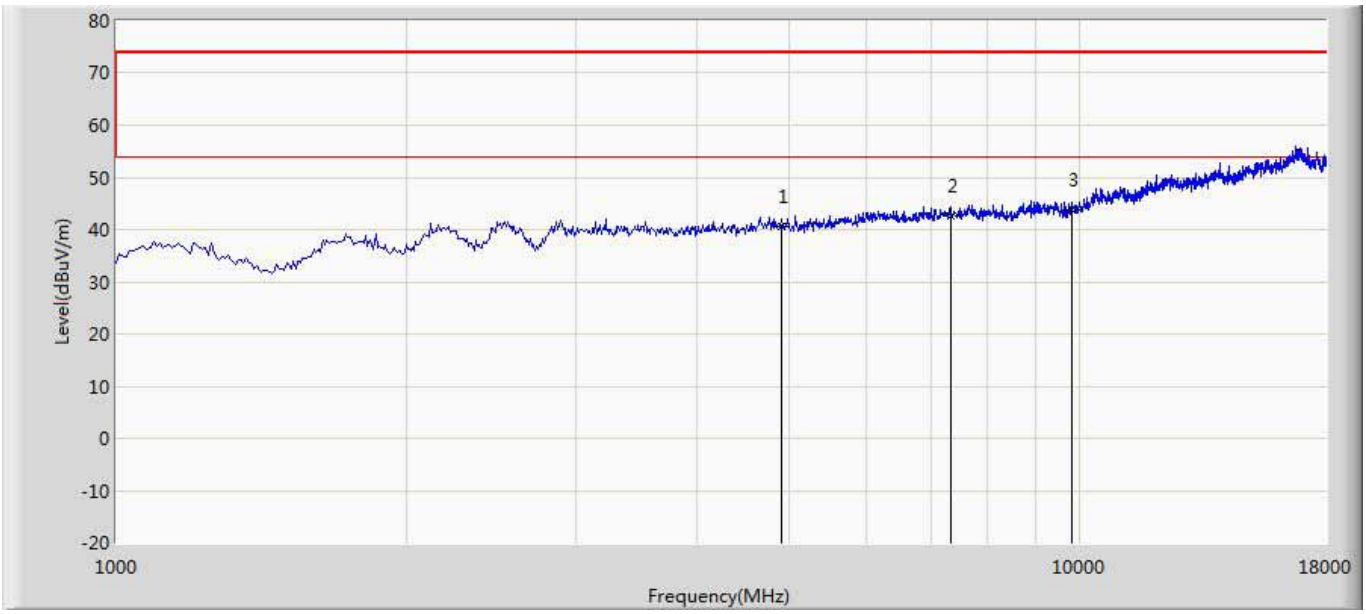
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4874.000	41.293	36.666	-32.707	74.000	4.627	PK
2		7311.000	44.362	36.617	-29.638	74.000	7.745	PK
3	*	9748.000	44.610	34.739	-29.390	74.000	9.871	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11N40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	41.309	36.741	-32.691	74.000	4.569	PK
2		7356.000	43.098	35.335	-30.902	74.000	7.763	PK
3	*	9808.000	43.885	33.752	-30.115	74.000	10.133	PK

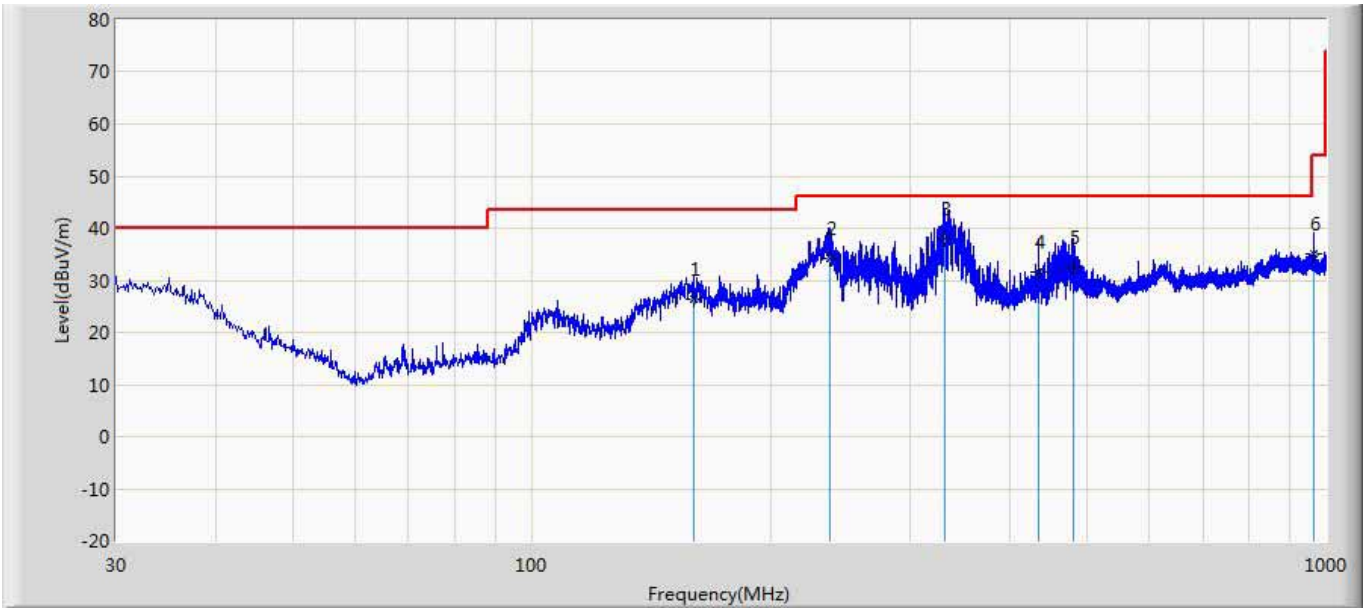
Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 17:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11N40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4904.000	40.536	35.968	-33.464	74.000	4.569	PK
2		7356.000	42.568	34.805	-31.432	74.000	7.763	PK
3	*	9808.000	43.859	33.726	-30.141	74.000	10.133	PK

The worst case of Radiated Emission below 1GHz:

Engineer: Glory	
Site: AC2	Time: 2017/06/15
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1	

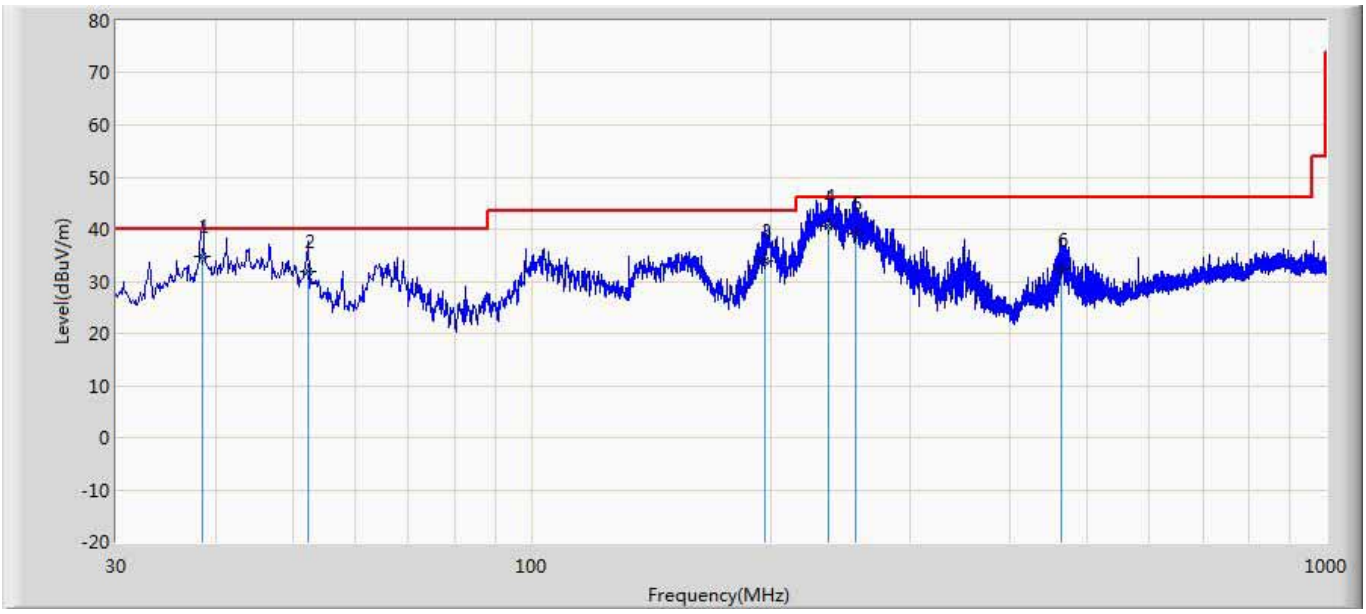


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		160.013	26.402	9.127	-17.098	43.500	10.025	7.250	0.000	100	264	QP
2		237.843	34.239	16.588	-11.761	46.000	10.138	7.513	0.000	200	360	QP
3	*	330.859	37.927	15.000	-8.073	46.000	15.205	7.722	0.000	100	181	QP
4		434.853	31.505	5.243	-14.495	46.000	18.281	7.981	0.000	100	201	QP
5		481.754	32.322	5.127	-13.678	46.000	19.172	8.023	0.000	200	310	QP
6		966.753	34.953	2.453	-19.047	54.000	23.116	9.383	0.000	100	130	QP

Note:

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

Engineer: Glory	
Site: AC2	Time: 2017/06/15
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	38.576	34.908	14.700	-5.092	40.000	13.615	6.593	0.000	100	255	QP
2		52.321	31.896	13.213	-8.104	40.000	12.099	6.584	0.000	200	295	QP
3		196.983	34.044	11.213	-9.456	43.500	15.497	7.334	0.000	100	360	QP
4		236.434	40.443	17.400	-5.557	46.000	15.536	7.507	0.000	100	188	QP
5		255.626	39.031	14.653	-6.969	46.000	16.803	7.576	0.000	200	135	QP
6		464.127	32.103	5.426	-13.897	46.000	18.670	8.008	0.000	100	359	QP

Note:

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

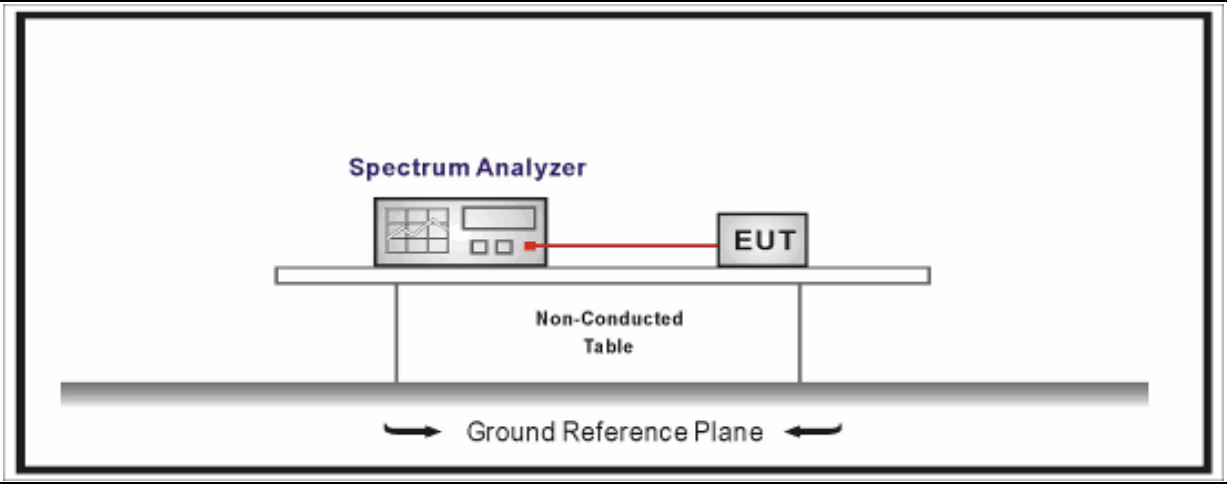
5. Emissions in non-restricted frequency bands

5.1. Test Equipment

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 Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

5.2. Test Setup

Occupied Bandwidth test setup:



5.3. Limit

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

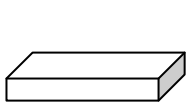
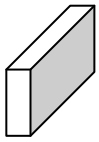
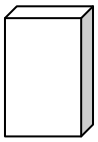
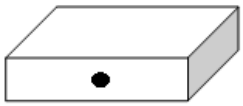
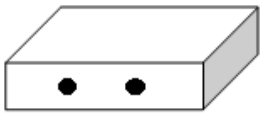
Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

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

5.4. Test Procedure

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

5.5. EUT test Axis definition

<table>
<tr><td>Item</td><td colspan="4">Emissions in non-restricted frequency bands</td></tr>
<tr><td rowspan="2">Device Category</td><td>☒</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☐</td><td colspan="3">Mobile position use</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1 ~ Mode 4</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 0</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td colspan="2">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 0</td><td>Chain 1</td><td>Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

5.6. Test Result

Product Name	:	Sol	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1-4	Test Site	:	AC-5
Test Date	:	2017.06.20			

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	01	2412	2.242	2400	-46.651	48.893	>30	Pass
1	11	2462	3.105	2500	-59.787	62.892	>30	Pass
2	01	2412	-2.547	2413.28	-51.286	48.739	>30	Pass
2	11	2462	-1.423	2463.27	-59.724	58.301	>30	Pass
3	01	2412	-2.786	2413.27	-52.352	49.566	>30	Pass
3	11	2462	-1.478	2463.25	-59.358	57.880	>30	Pass
4	03	2422	-6.245	2400	-54.627	48.382	>30	Pass
4	09	2452	-5.877	2449.49	-59.606	53.729	>30	Pass

Note 1: We have evaluated each antennas, shown in the report is the worst data.

Note 2:The worst data of Emissions in non-restricted frequency bands as below:

3: As the radiated emission was performed, so conducted emission was only tested for the nearest emission of fundamental frequency.

4: In-Band PSD[a] data is tested by Mid channel.

Mode 4 CH03 (2422MHz)

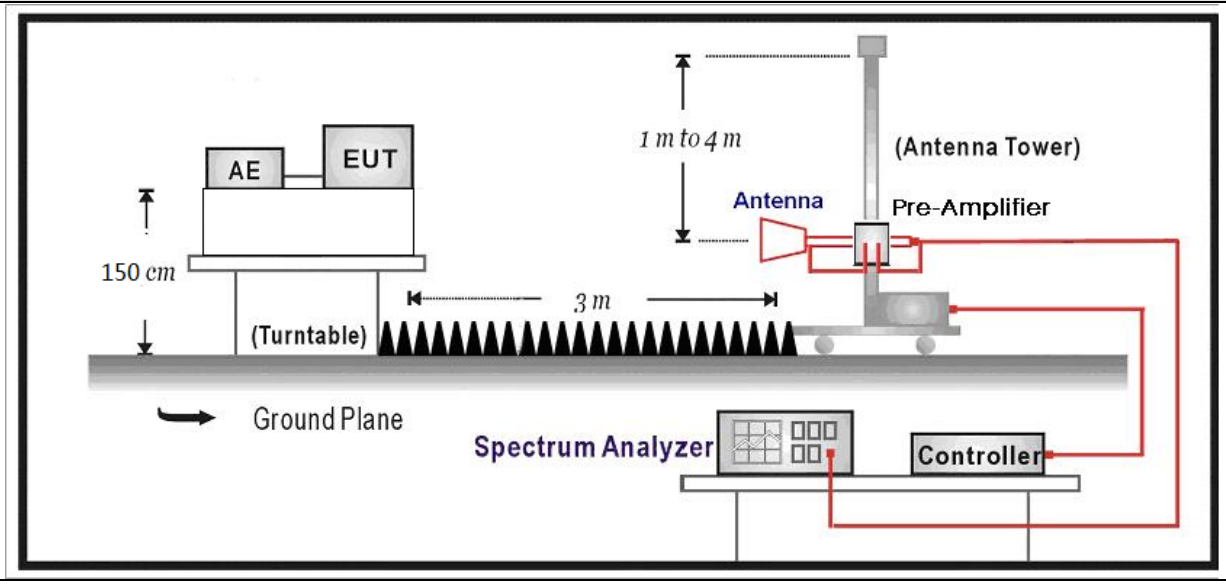
6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Receiver	Agilent	N9038A	MY51210196	2016.07.16	2017.07.15
Pre-Amplifier	Miteq	NSP1800-25	1364185	2017.05.03	2018.05.02
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2016.07.12	2017.07.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.09.18	2017.09.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2017.02.28	2018.02.27
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2017.02.28	2018.02.27
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2017.01.05	2018.01.04
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup

Above 1GHz Test Setup:



6.3. Limit

Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				

6.4. Test Procedure

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

6.5. EUT test definition

<table>
<tr><td>Item</td><td colspan="4">Emissions in non-restricted frequency bands</td></tr>
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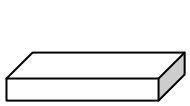
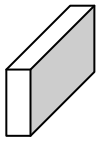
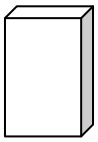
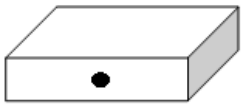
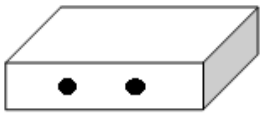
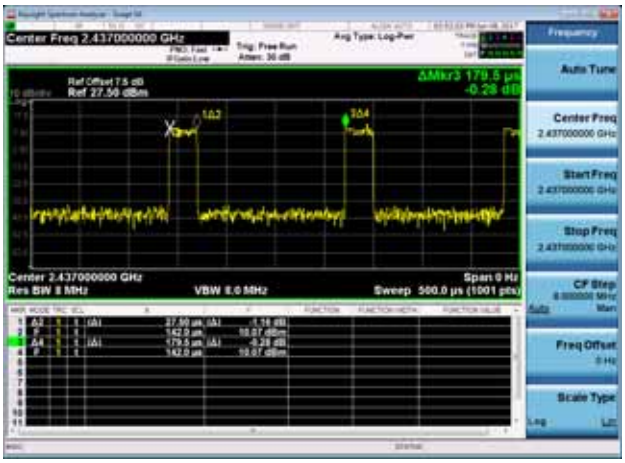
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="12">Test method</td><td>☒</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☒</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☐</td><td colspan="3">Conducted</td></tr>
<tr><td>☐</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

6.6. Duty Cycle

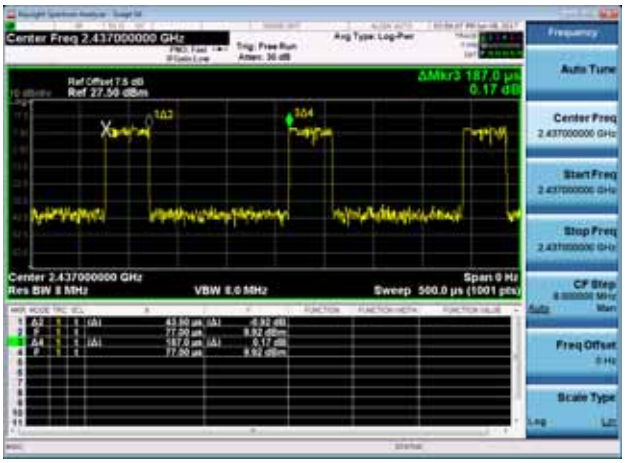
Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
802.11b	0.223	0.137	4.7KHz	0.36	61.94%
802.11g	0.028	0.152	36KHz	0.18	15.56%
802.11n(20MHz)	0.044	0.143	24KHz	0.187	23.53%
802.11n(40MHz)	0.039	0.134	27KHz	0.173	22.54%

802.11b

802.11g



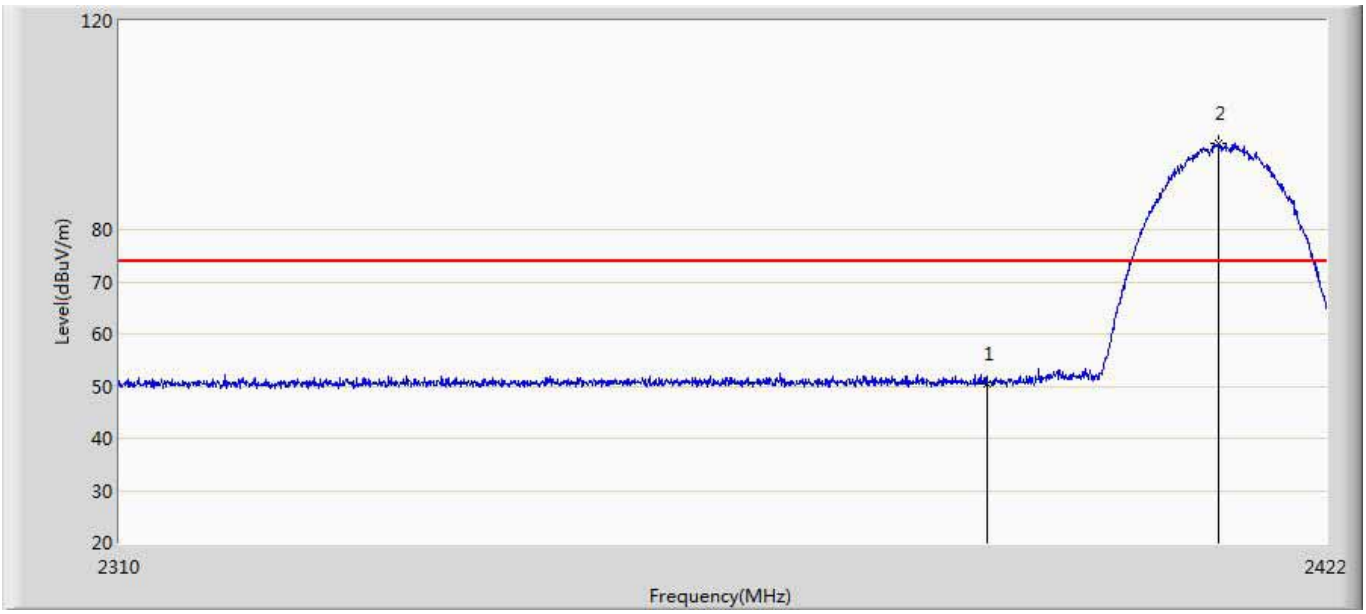
802.11n(20MHz)



802.11n(40MHz)

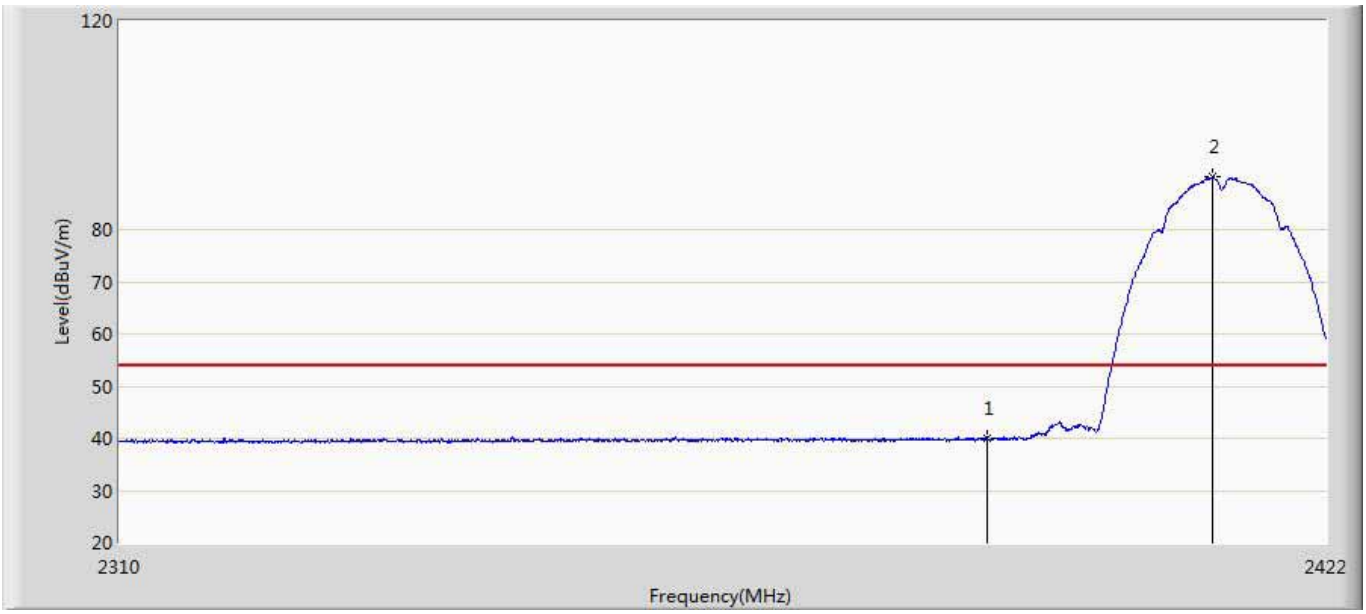
6.7. Test Result

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 15:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11B	



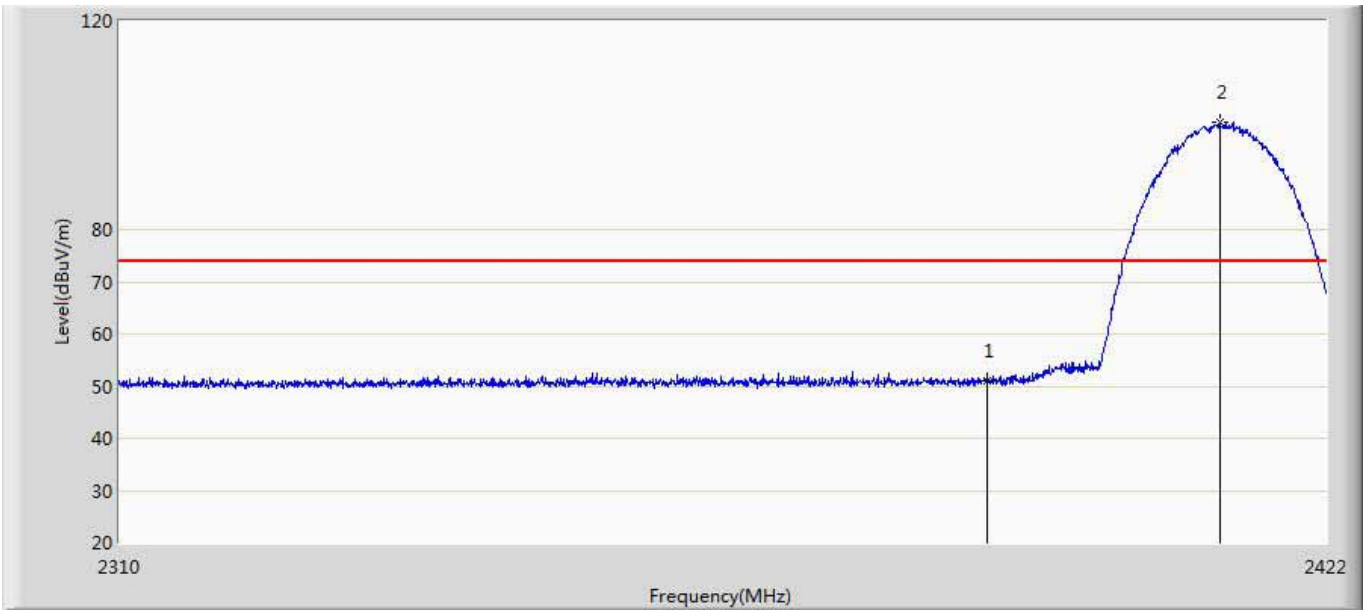
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.315	14.633	-23.685	74.000	35.682	PK
2	*	2411.752	96.475	60.735	22.475	74.000	35.740	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11B	



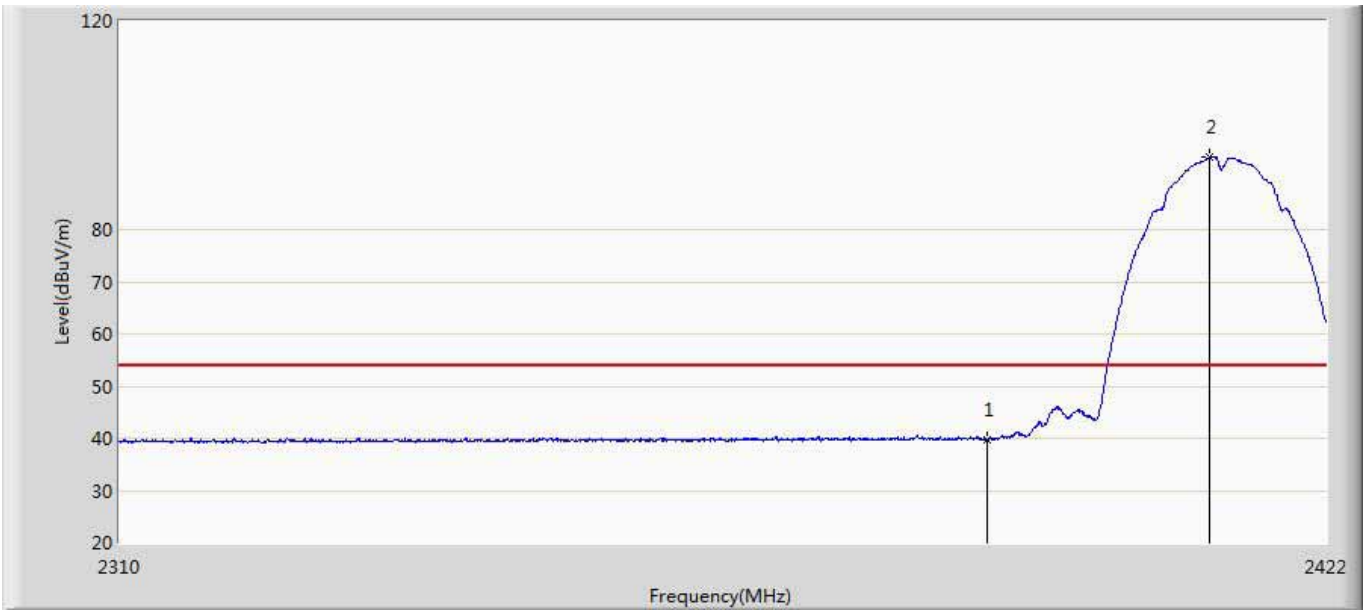
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.974	4.292	-14.026	54.000	35.682	AV
2	*	2411.248	90.062	54.324	36.062	54.000	35.738	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11B	



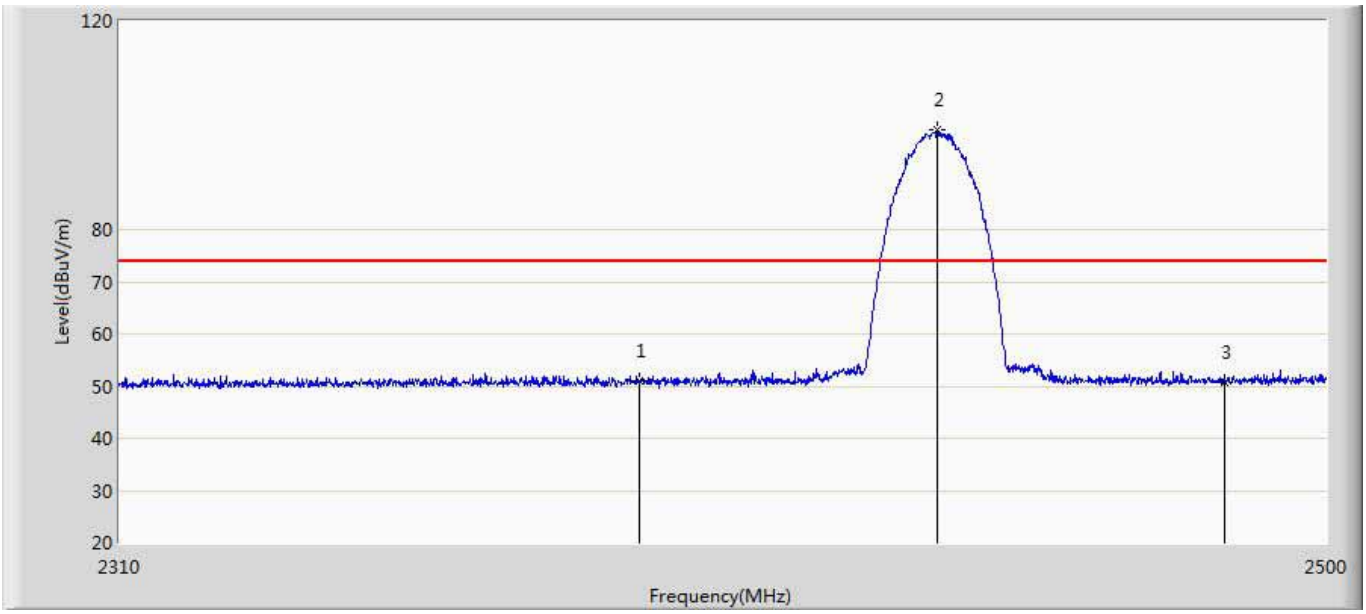
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.095	15.413	-22.905	74.000	35.682	PK
2	*	2411.920	100.461	64.720	26.461	74.000	35.741	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2412MHz by 802.11B	



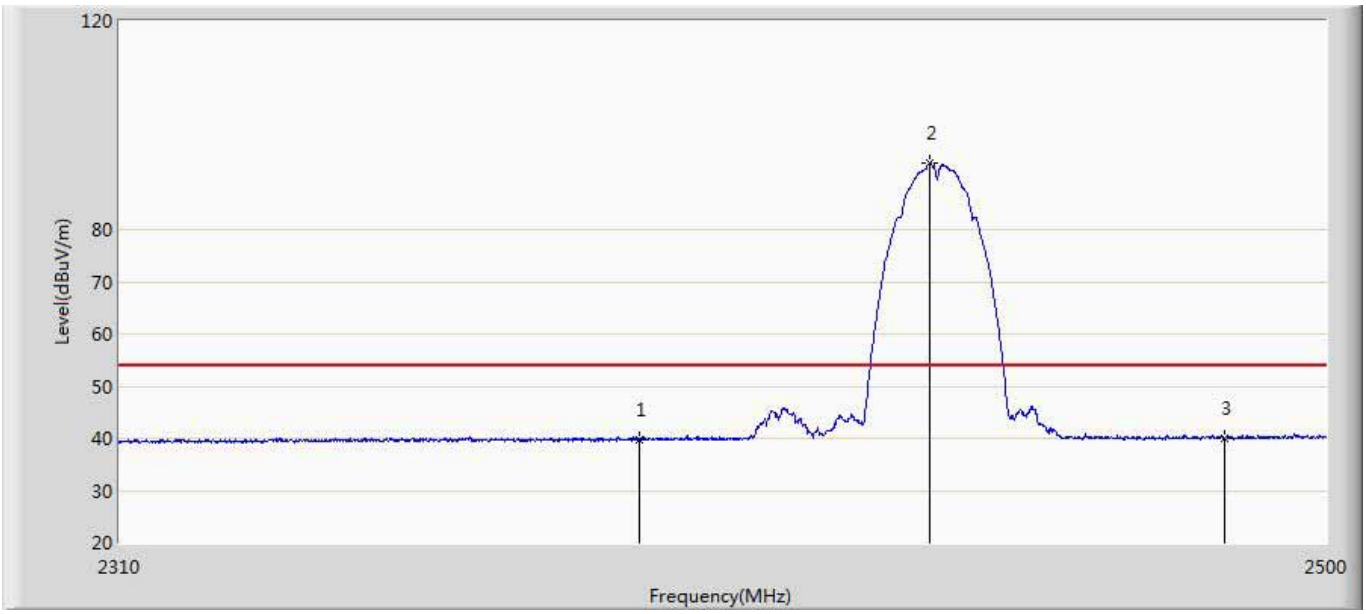
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.743	4.061	-14.257	54.000	35.682	AV
2	*	2411.024	93.905	58.168	39.905	54.000	35.737	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11B	



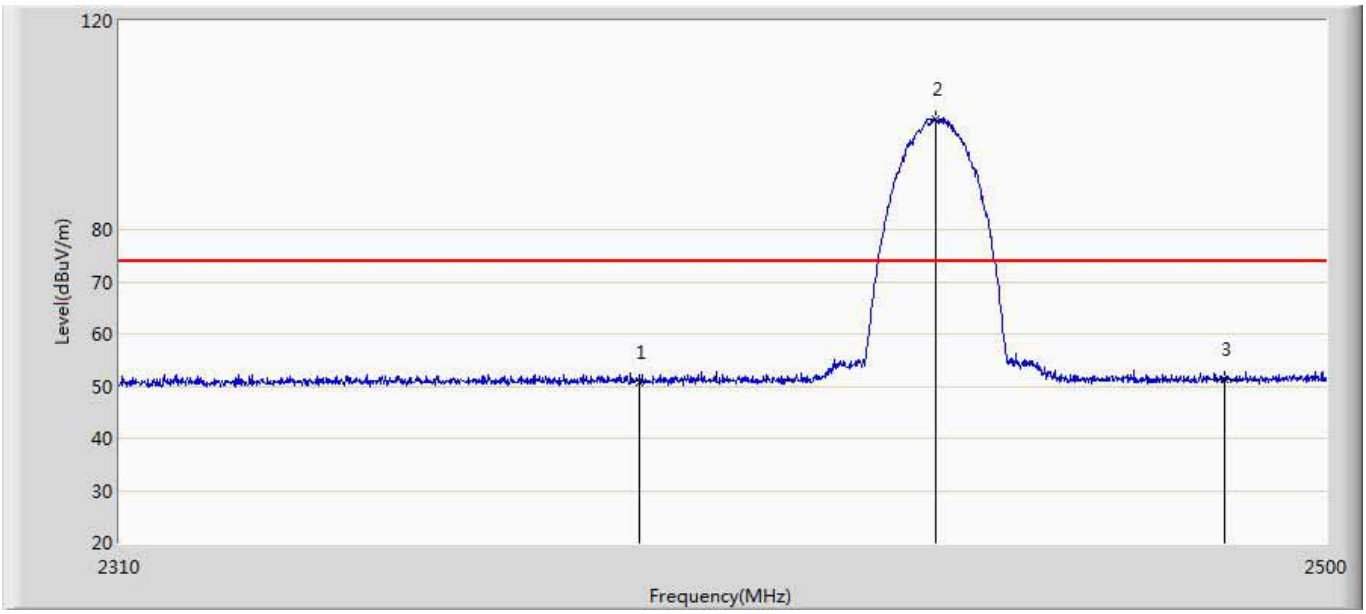
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.878	15.196	-23.122	74.000	35.682	PK
2	*	2437.110	99.046	63.240	25.046	74.000	35.806	PK
3		2483.500	50.861	14.969	-23.139	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11B	



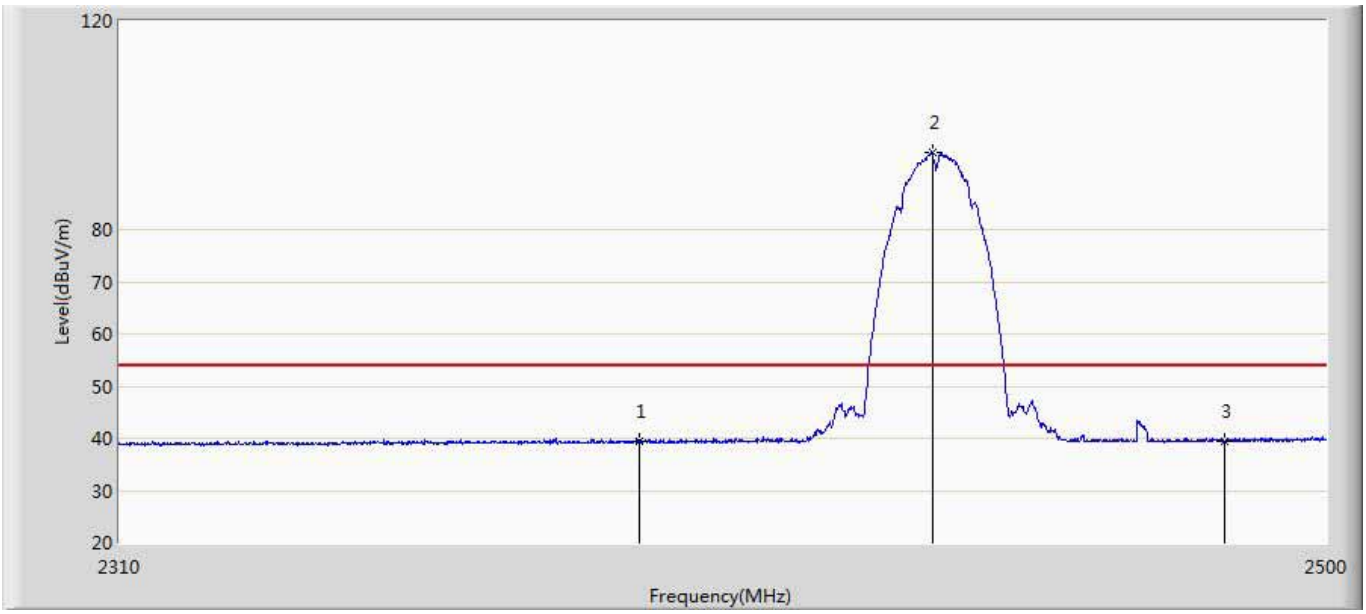
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.708	4.026	-14.292	54.000	35.682	AV
2	*	2436.065	92.638	56.832	38.638	54.000	35.806	AV
3		2483.500	40.037	4.145	-13.963	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11B	



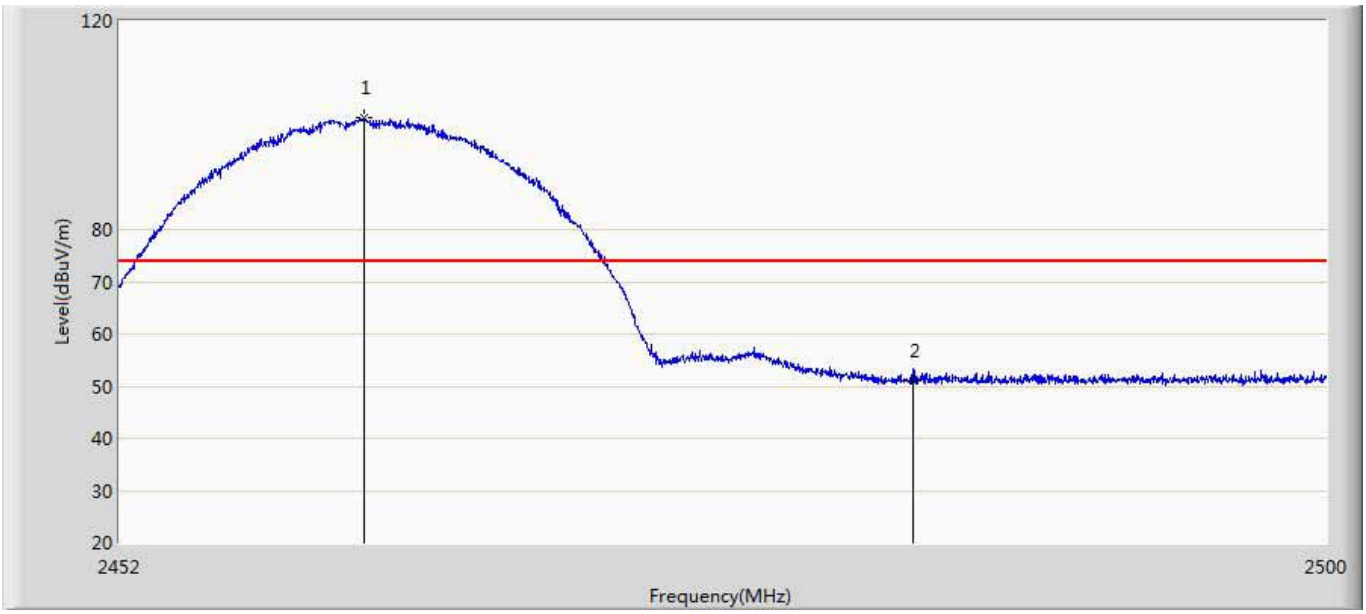
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.754	15.072	-23.246	74.000	35.682	PK
2	*	2437.015	101.294	65.488	27.294	74.000	35.806	PK
3		2483.500	51.325	15.433	-22.675	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2437MHz by 802.11B	



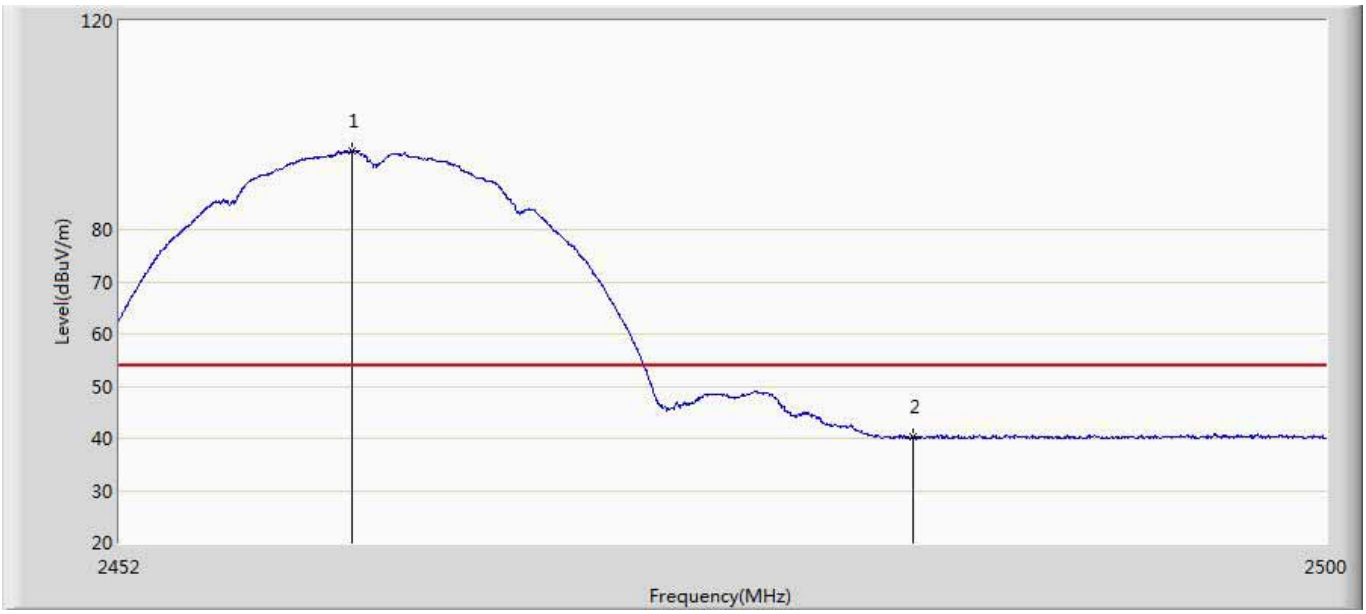
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.336	3.654	-14.664	54.000	35.682	AV
2	*	2436.350	94.693	58.887	40.693	54.000	35.806	AV
3		2483.500	39.440	3.548	-14.560	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:35
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11B	



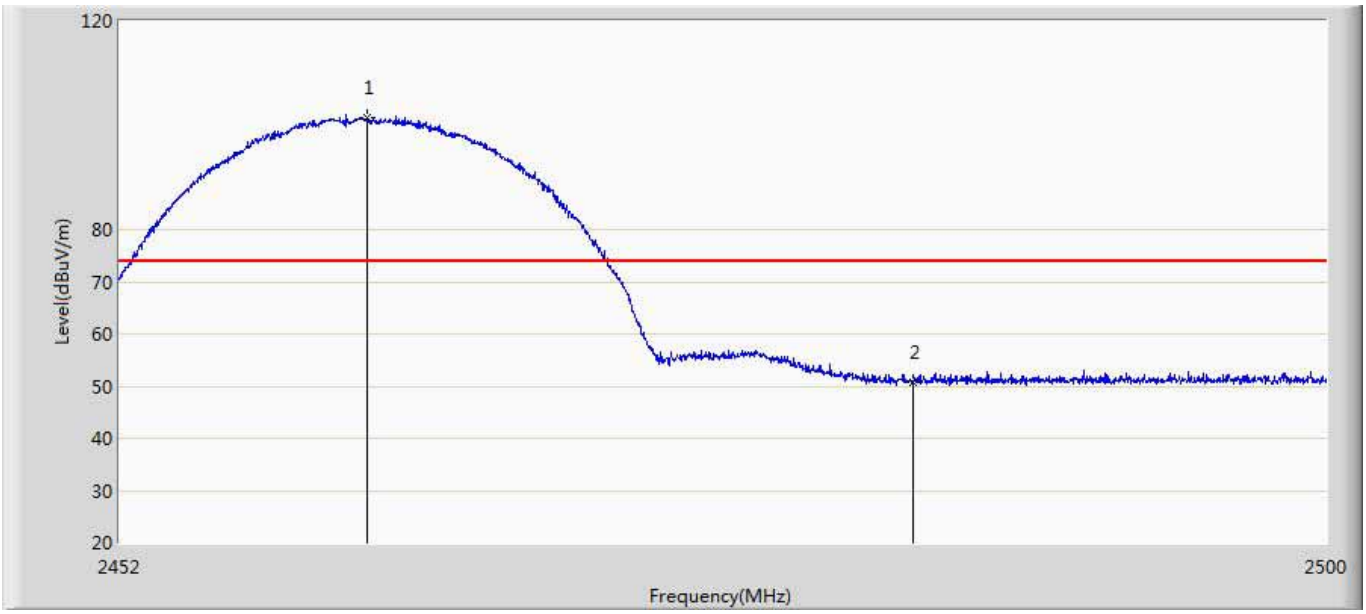
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.648	101.316	65.439	27.316	74.000	35.877	PK
2		2483.500	50.947	15.055	-23.053	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11B	



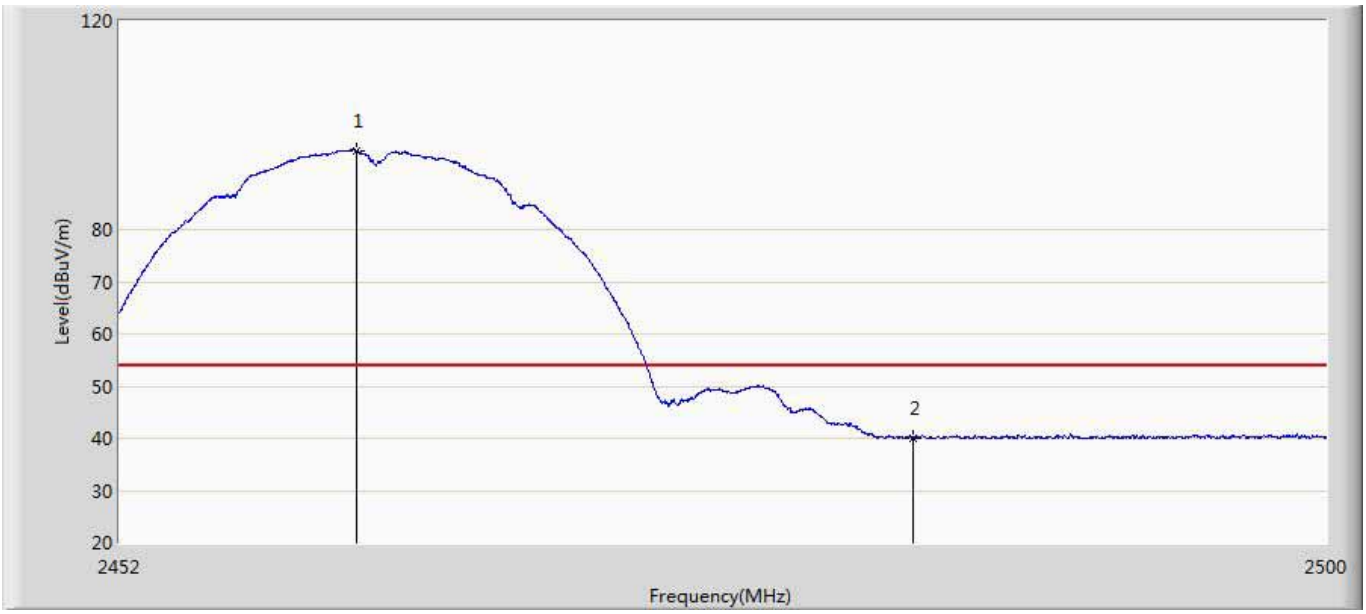
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.192	95.023	59.148	41.023	54.000	35.875	AV
2		2483.500	40.227	4.335	-13.773	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11B	



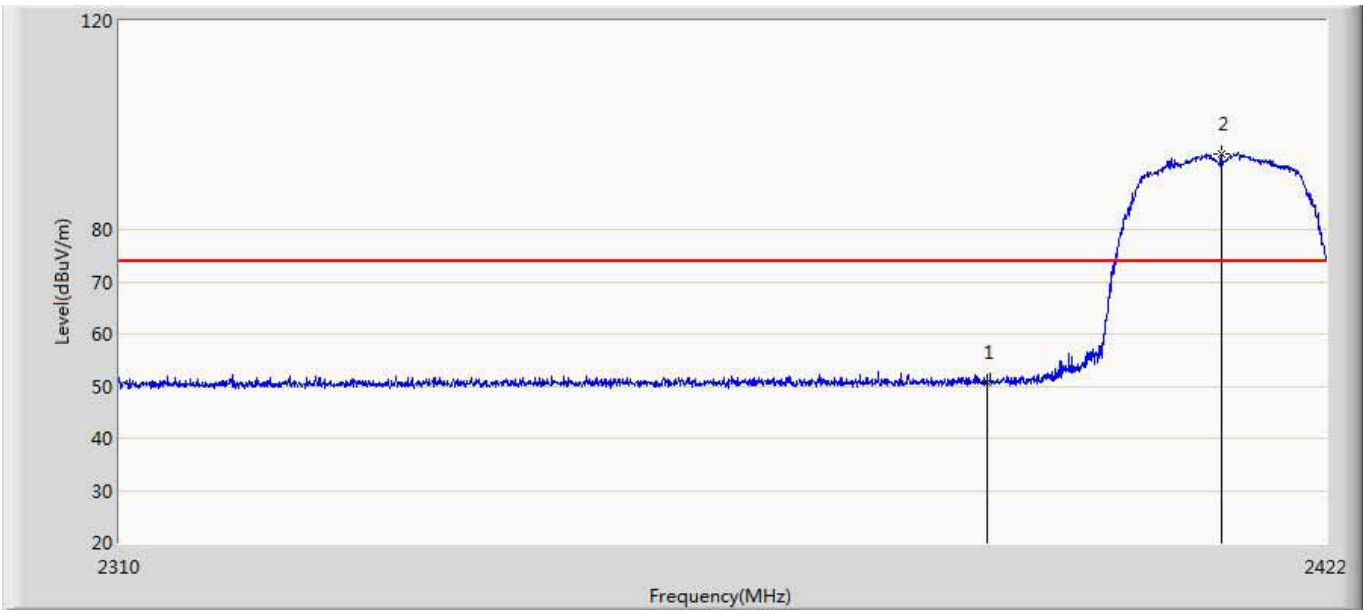
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.792	101.545	65.668	27.545	74.000	35.878	PK
2		2483.500	50.771	14.879	-23.229	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 1:Transmit at 2462MHz by 802.11B	



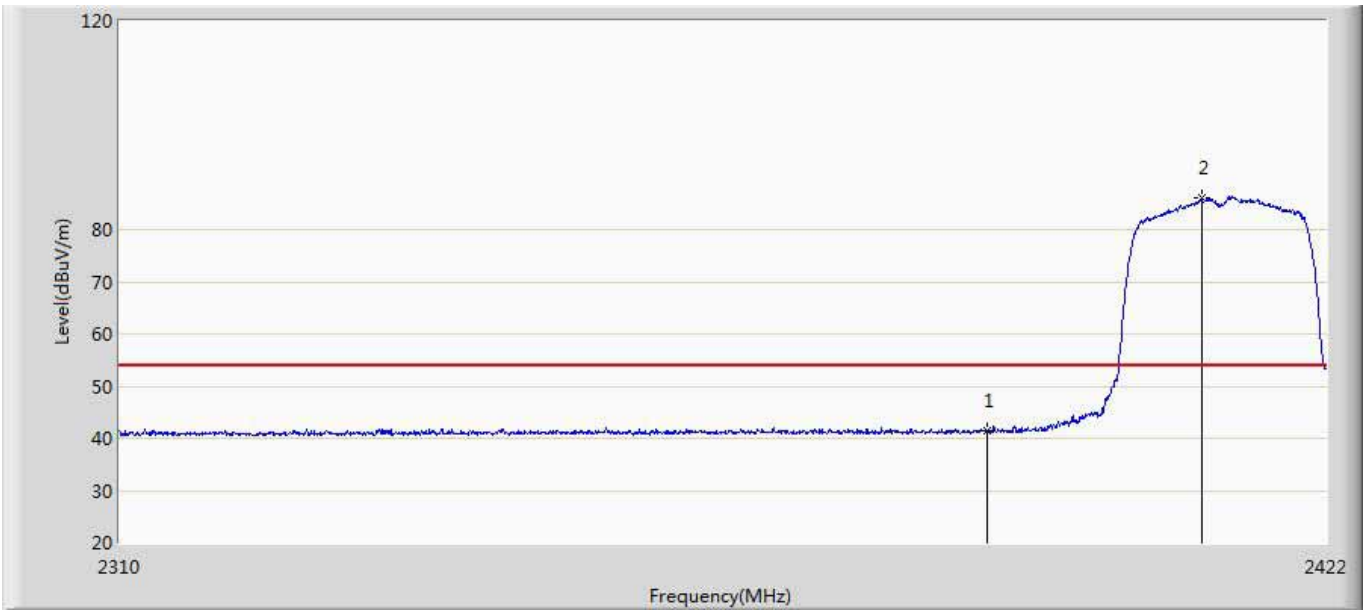
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	95.212	59.337	41.212	54.000	35.875	AV
2		2483.500	40.053	4.161	-13.947	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11G	



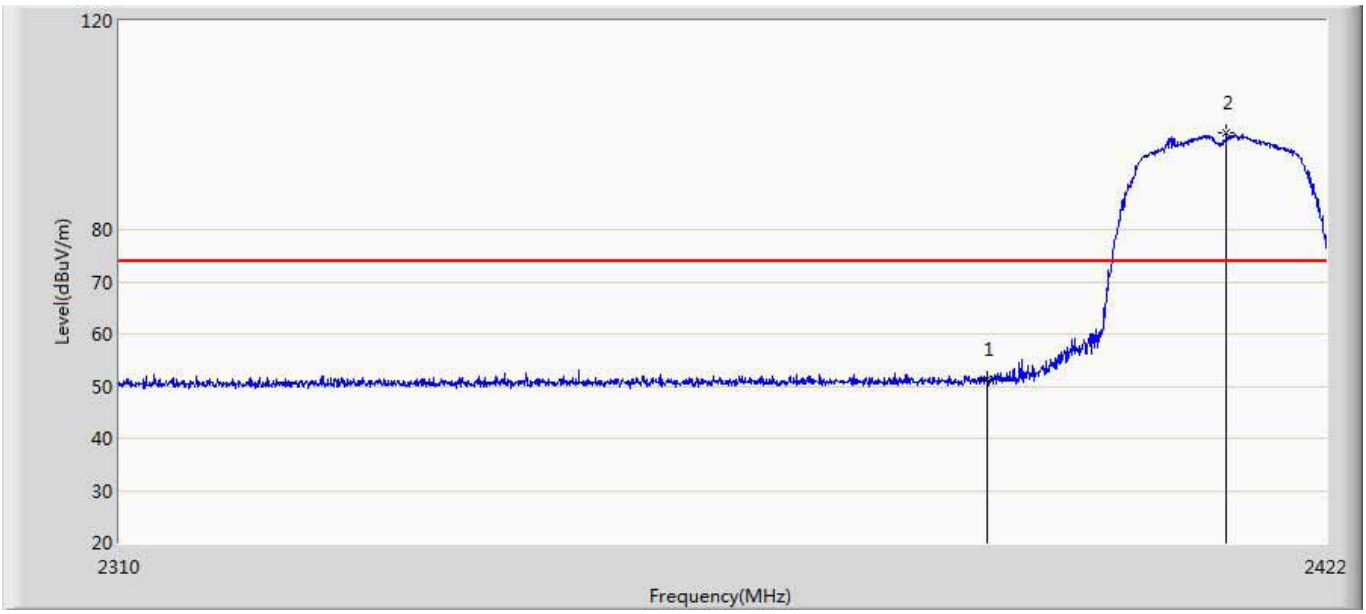
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.843	15.161	-23.157	74.000	35.682	PK
2	*	2412.088	94.394	58.652	20.394	74.000	35.741	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11G	



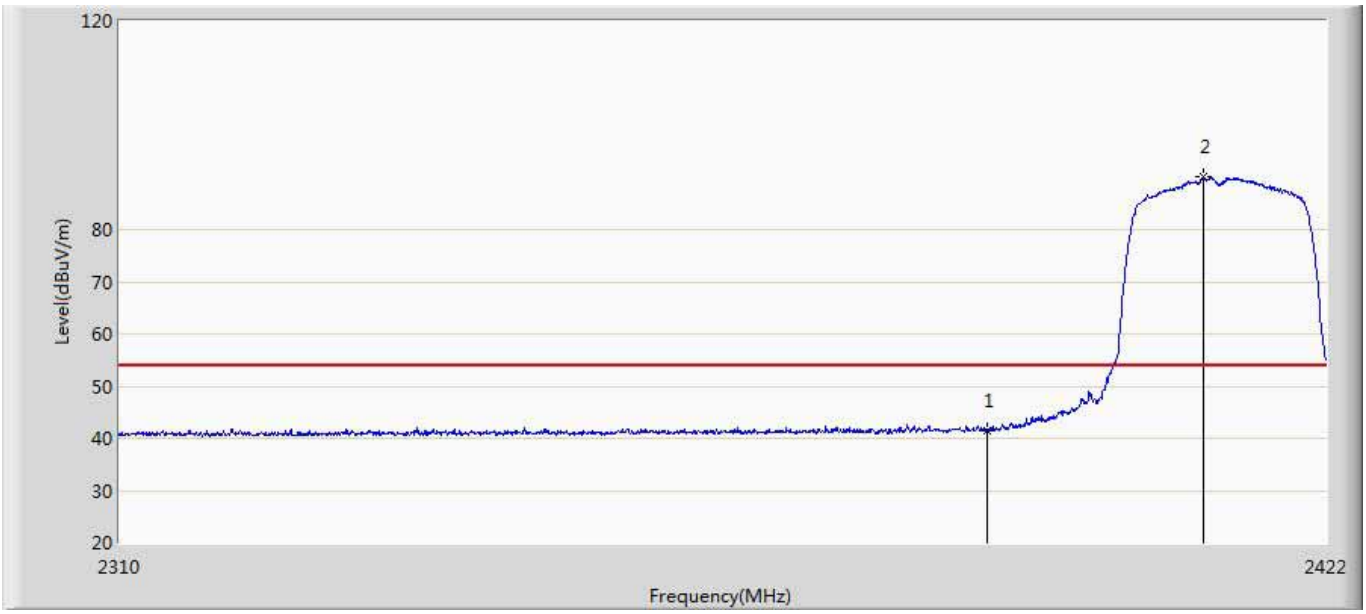
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.487	5.805	-12.513	54.000	35.682	AV
2	*	2410.240	86.052	50.317	32.052	54.000	35.735	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 16:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11G	



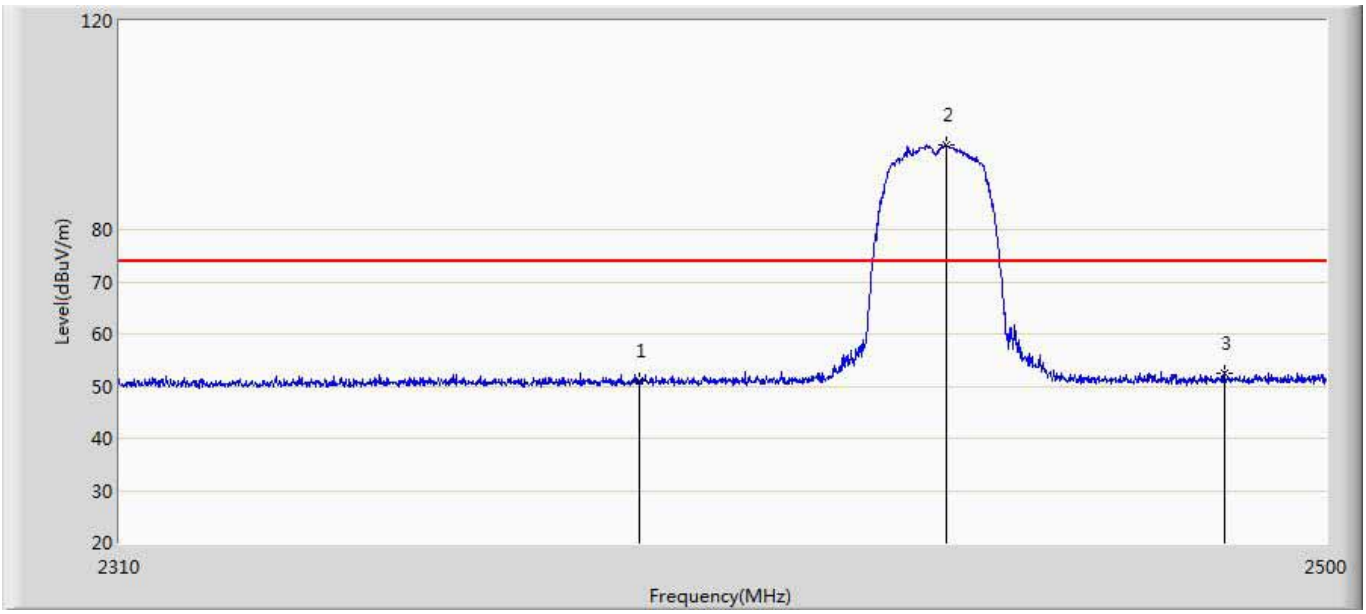
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.338	15.656	-22.662	74.000	35.682	PK
2	*	2412.592	98.496	62.752	24.496	74.000	35.744	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 17:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2412MHz by 802.11G	



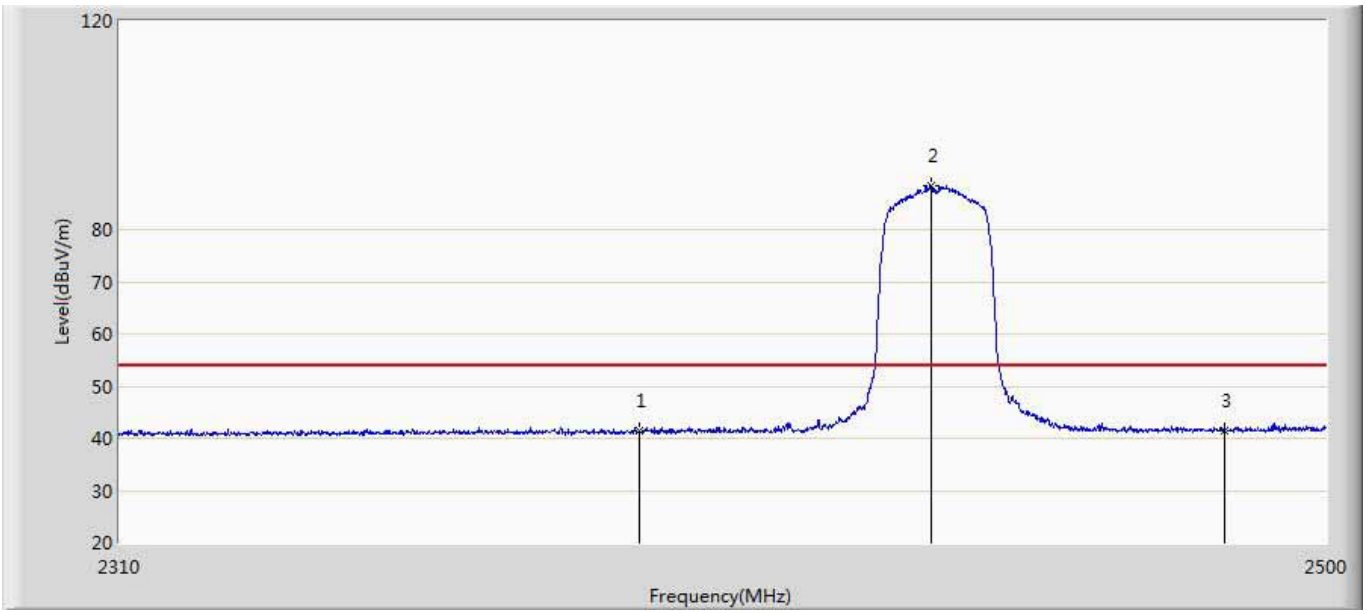
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.456	5.774	-12.544	54.000	35.682	AV
2	*	2410.352	90.048	54.313	36.048	54.000	35.735	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 17:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11G	



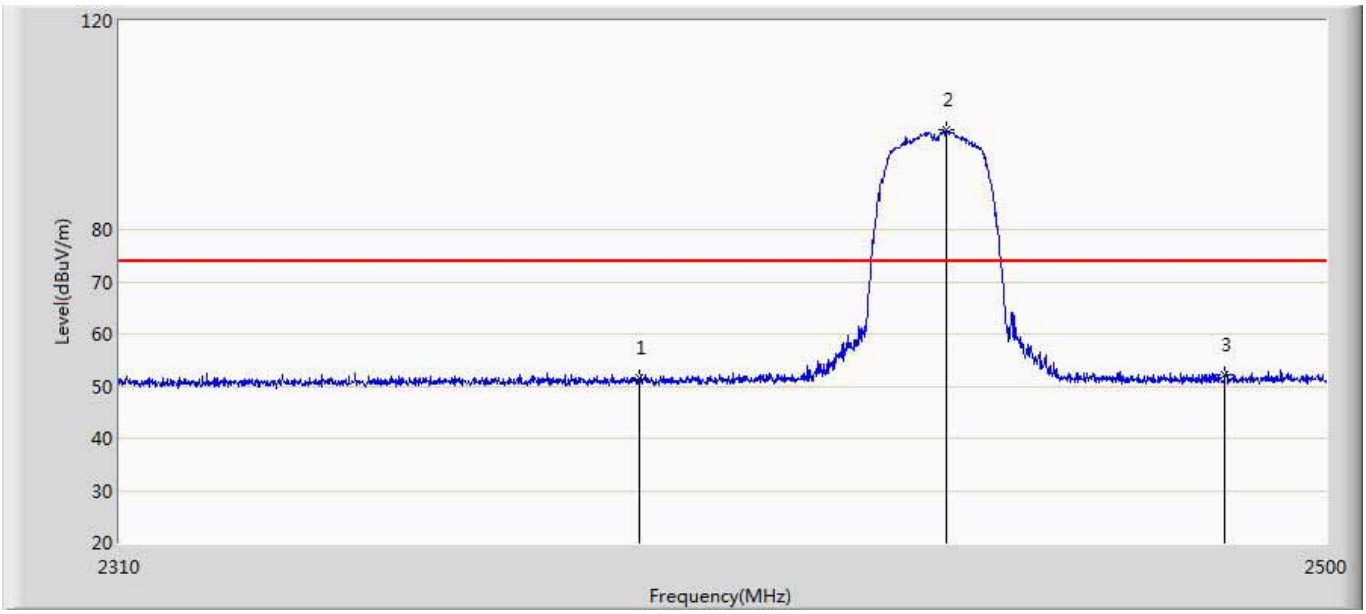
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.890	15.208	-23.110	74.000	35.682	PK
2	*	2438.725	96.249	60.443	22.249	74.000	35.806	PK
3		2483.500	52.342	16.450	-21.658	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 17:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11G	



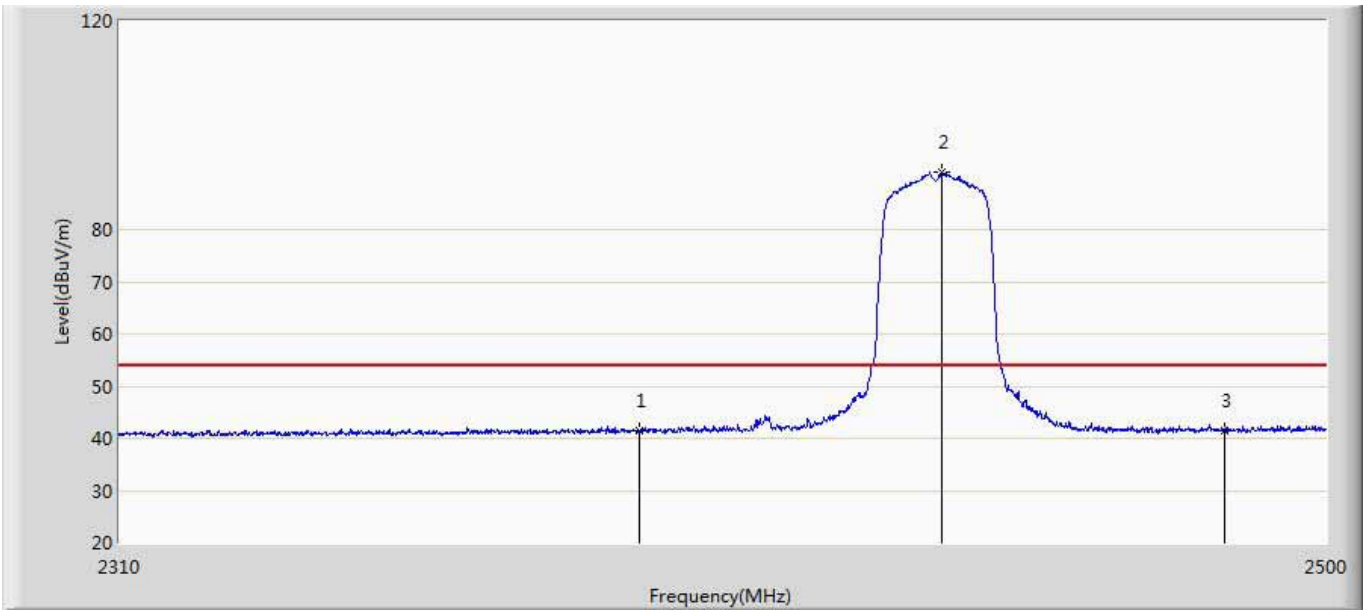
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.565	5.883	-12.435	54.000	35.682	AV
2	*	2436.160	88.536	52.730	34.536	54.000	35.807	AV
3		2483.500	41.565	5.673	-12.435	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 17:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11G	



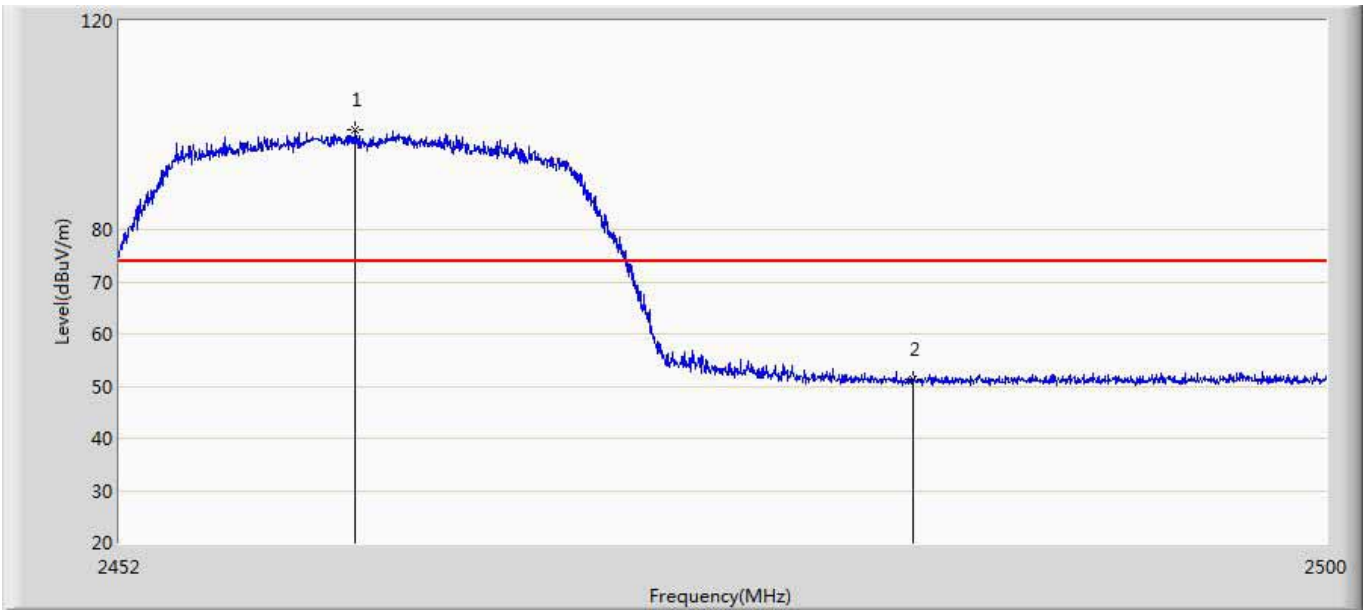
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.584	15.902	-22.416	74.000	35.682	PK
2	*	2438.725	99.089	63.283	25.089	74.000	35.806	PK
3		2483.500	52.087	16.195	-21.913	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/08 - 17:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2437MHz by 802.11G	



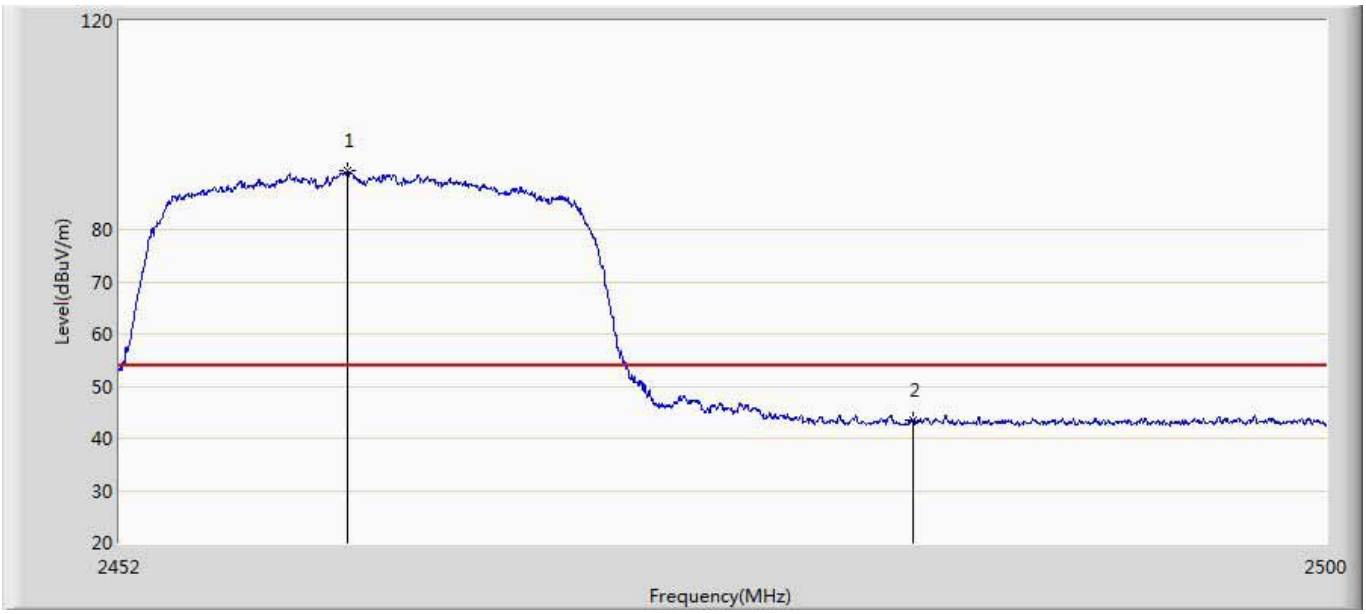
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.522	5.840	-12.478	54.000	35.682	AV
2	*	2437.965	91.144	55.338	37.144	54.000	35.806	AV
3		2483.500	41.536	5.644	-12.464	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11G	



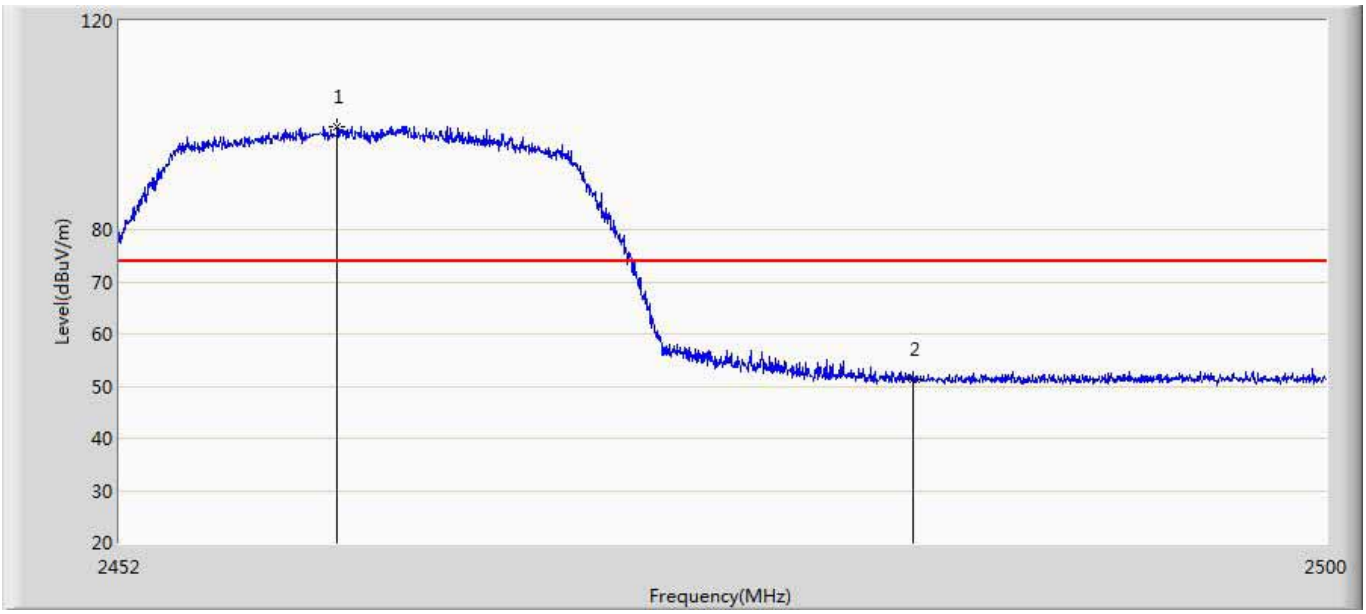
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	99.218	63.343	25.218	74.000	35.875	PK
2		2483.500	51.301	15.409	-22.699	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:40
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11G	



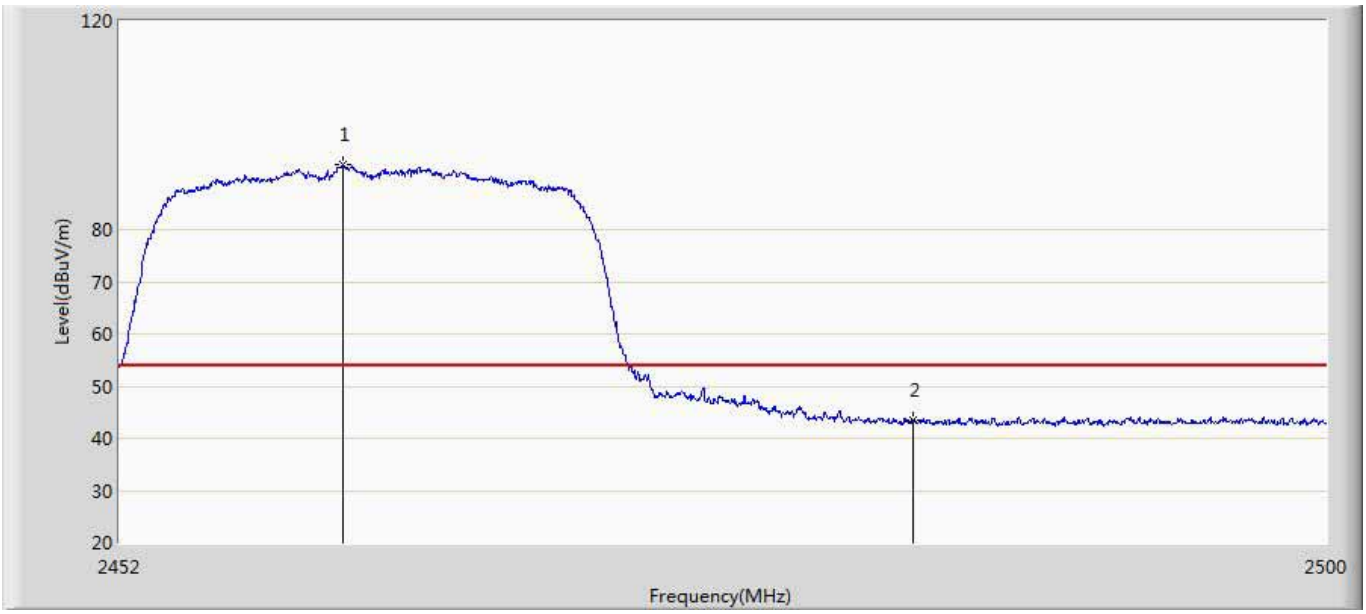
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.000	91.303	55.429	37.303	54.000	35.874	AV
2		2483.500	43.372	7.480	-10.628	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11G	



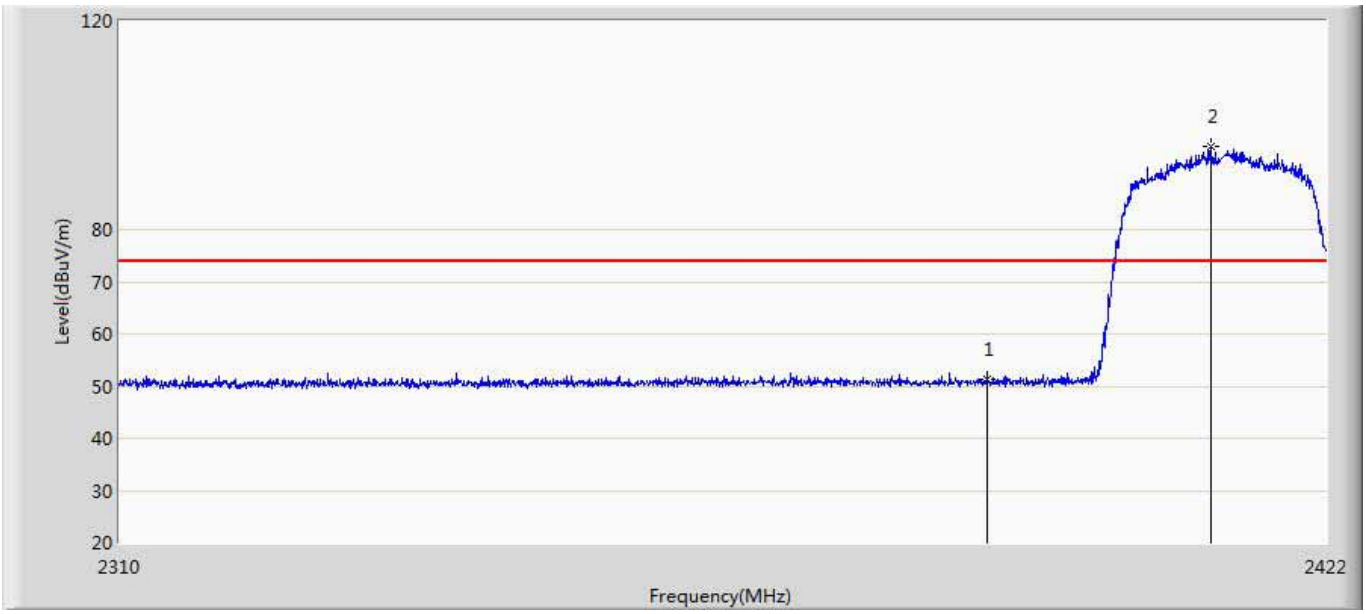
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.592	99.764	63.892	25.764	74.000	35.872	PK
2		2483.500	51.425	15.533	-22.575	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 2:Transmit at 2462MHz by 802.11G	



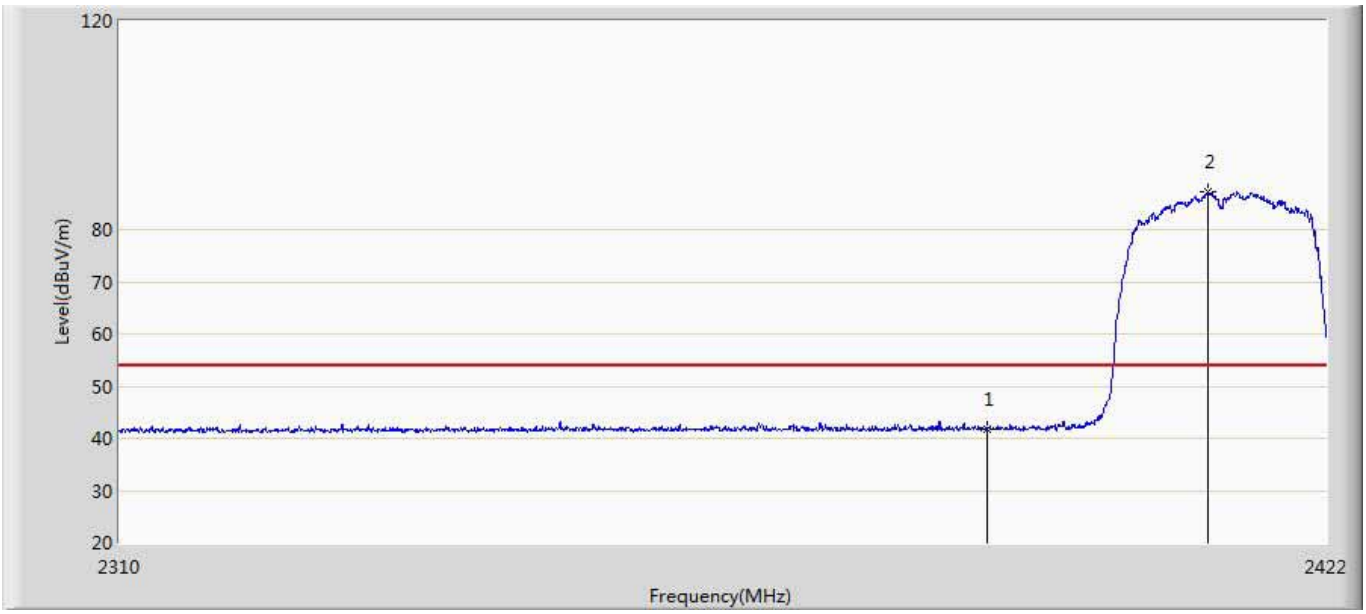
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.808	92.323	56.450	38.323	54.000	35.873	AV
2		2483.500	43.357	7.465	-10.643	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11N20	



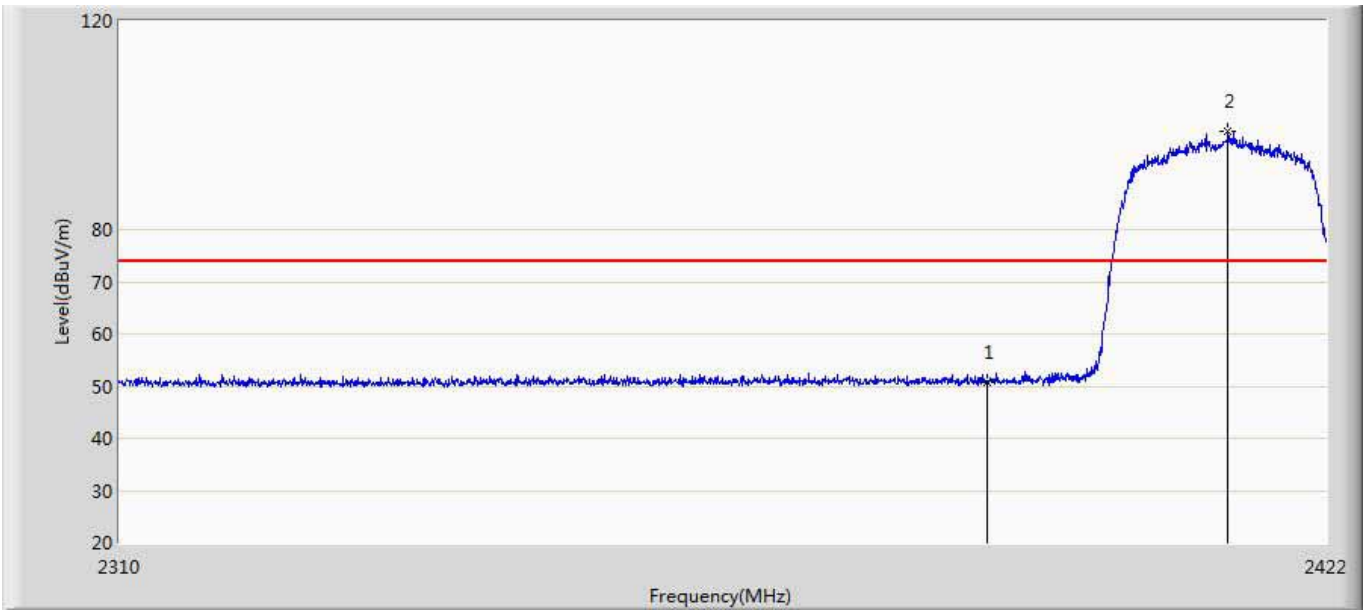
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.167	15.485	-22.833	74.000	35.682	PK
2	*	2411.080	96.044	60.306	22.044	74.000	35.737	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11N20	



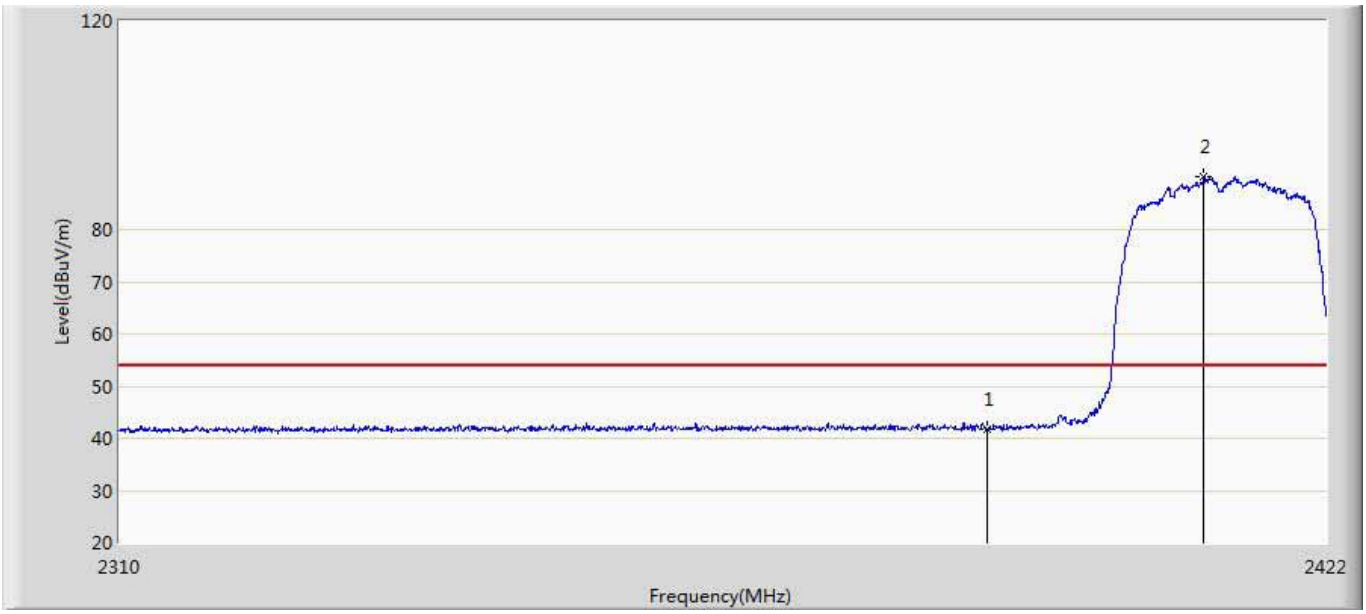
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.759	6.077	-12.241	54.000	35.682	AV
2	*	2410.800	87.272	51.535	33.272	54.000	35.737	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 14:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11N20	



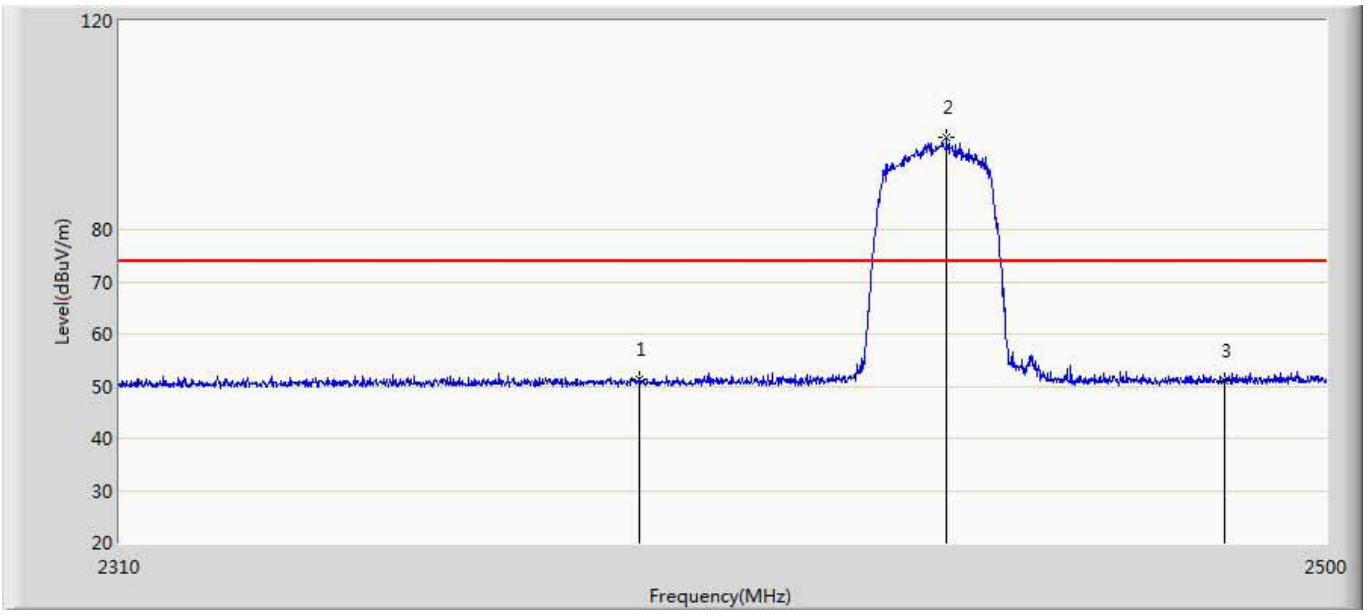
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.764	15.082	-23.236	74.000	35.682	PK
2	*	2412.704	98.841	63.097	24.841	74.000	35.744	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2412MHz by 802.11N20	



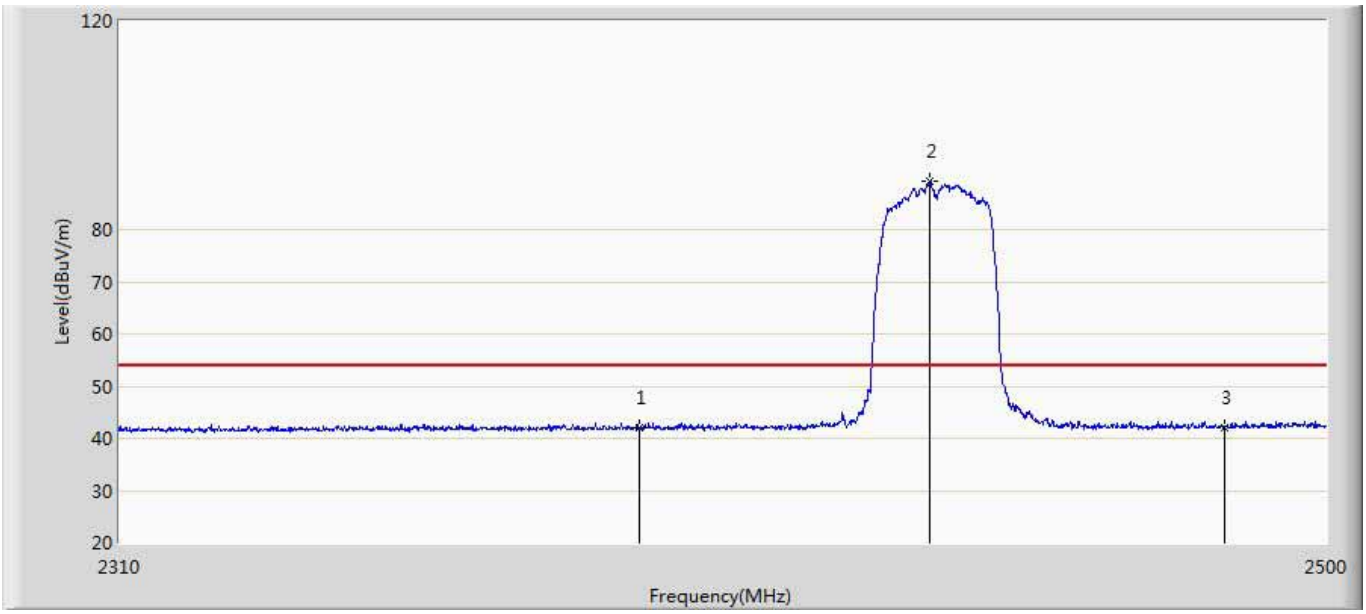
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.682	6.000	-12.318	54.000	35.682	AV
2	*	2410.408	90.072	54.336	36.072	54.000	35.735	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11N20	



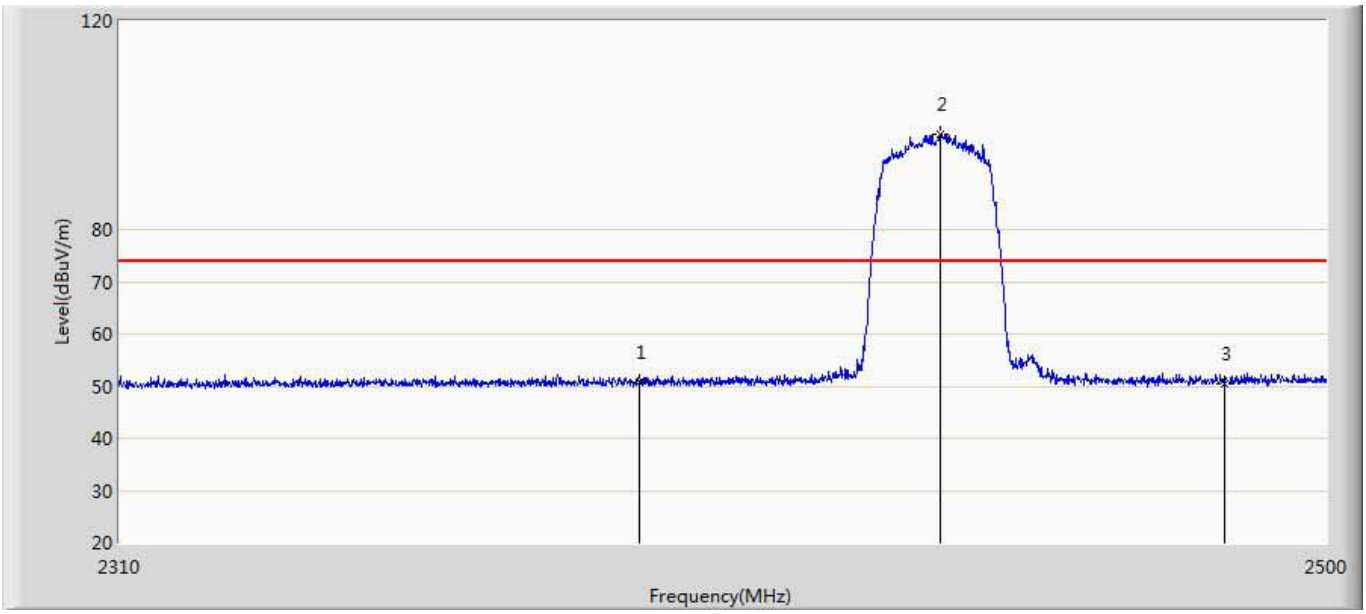
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.403	15.721	-22.597	74.000	35.682	PK
2	*	2438.630	97.787	61.981	23.787	74.000	35.806	PK
3		2483.500	50.937	15.045	-23.063	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11N20	



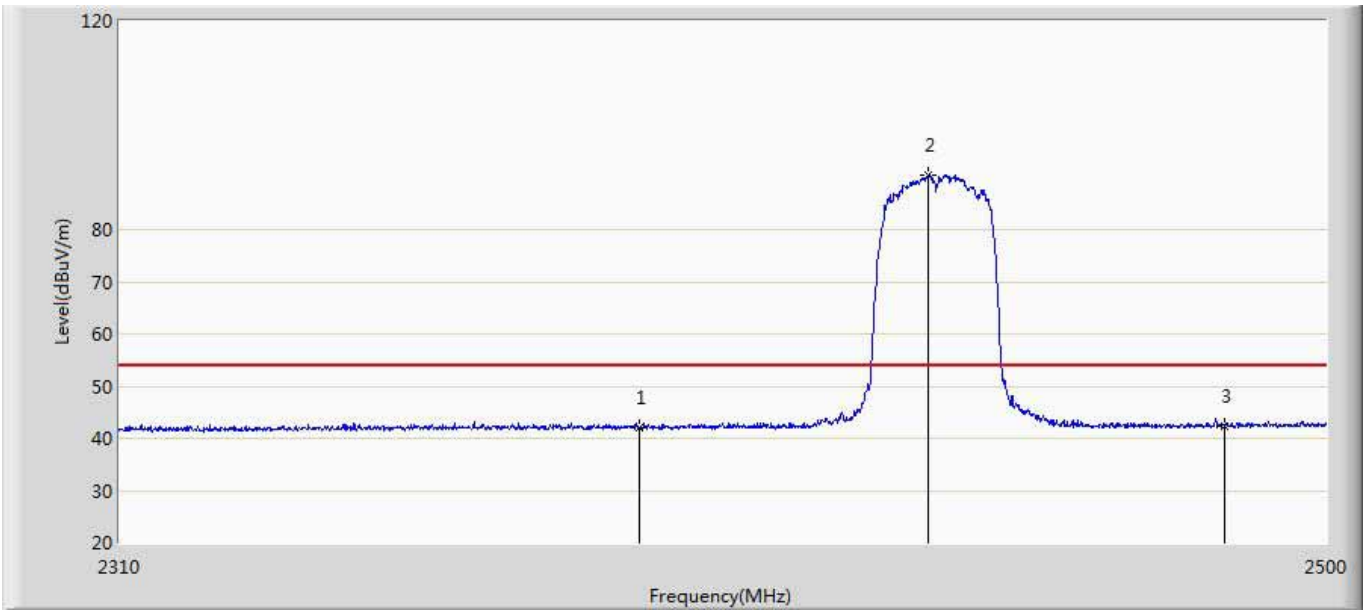
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.959	6.277	-12.041	54.000	35.682	AV
2	*	2436.065	89.155	53.349	35.155	54.000	35.806	AV
3		2483.500	42.071	6.179	-11.929	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11N20	



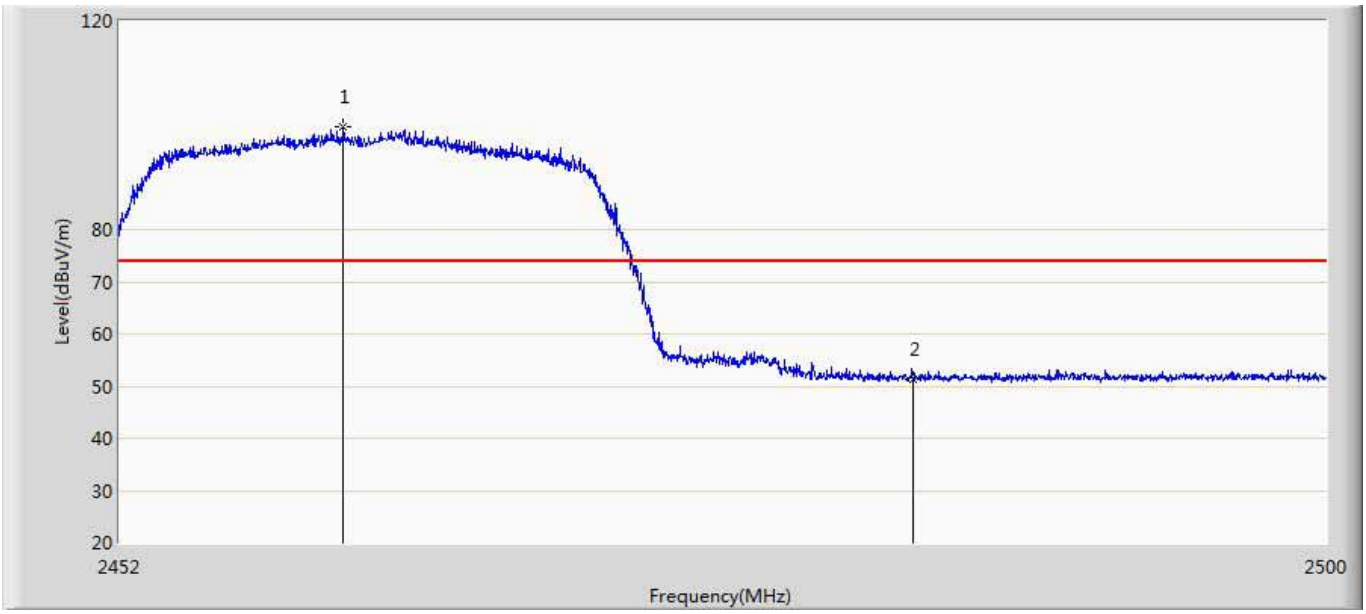
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.732	15.050	-23.268	74.000	35.682	PK
2	*	2437.585	98.159	62.353	24.159	74.000	35.806	PK
3		2483.500	50.431	14.539	-23.569	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2437MHz by 802.11N20	



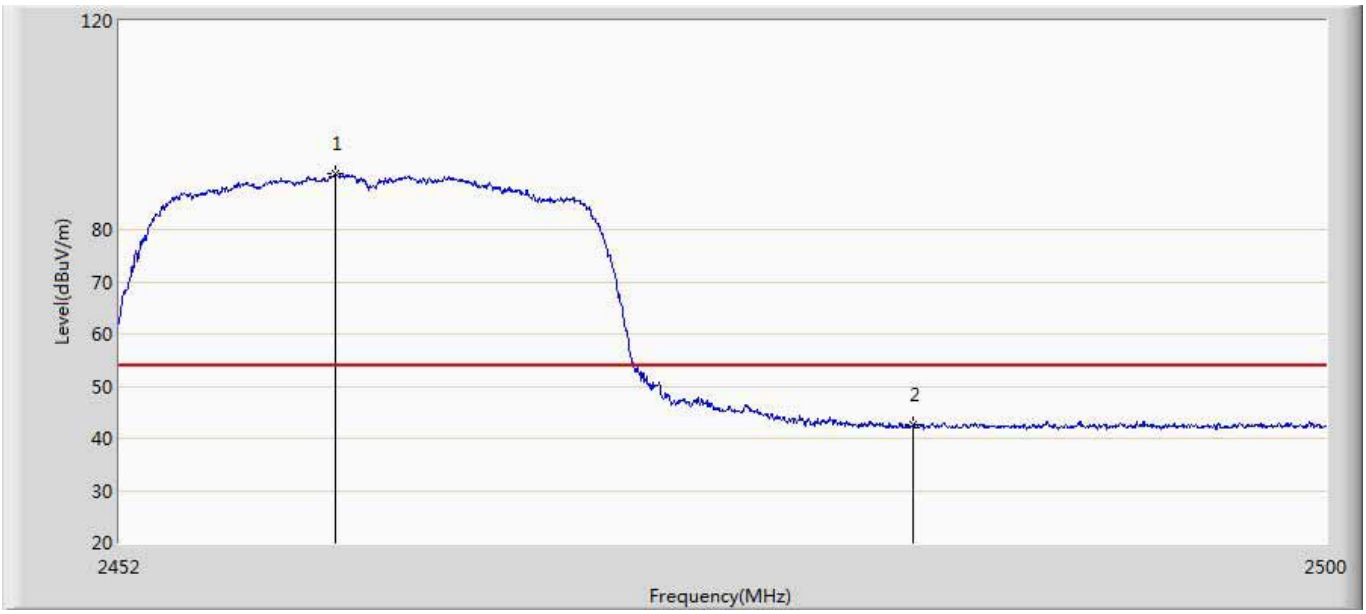
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.943	6.261	-12.057	54.000	35.682	AV
2	*	2435.780	90.509	54.703	36.509	54.000	35.806	AV
3		2483.500	42.298	6.406	-11.702	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11N20	



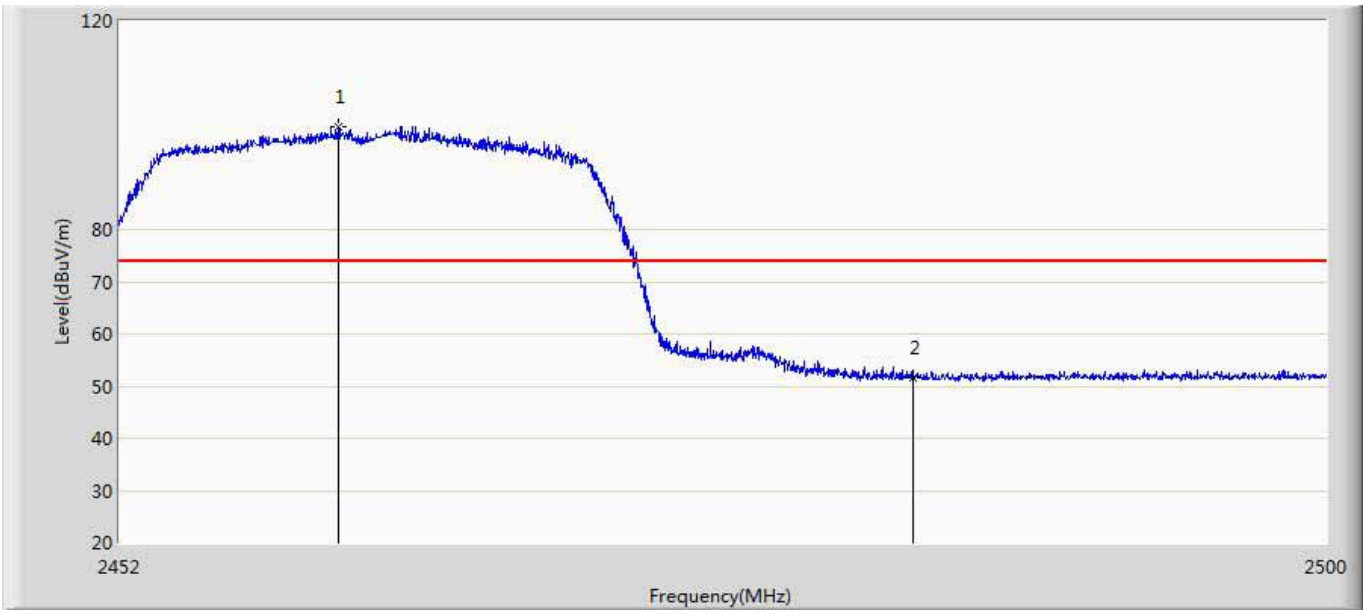
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.856	99.746	63.873	25.746	74.000	35.874	PK
2		2483.500	51.276	15.384	-22.724	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11N20	



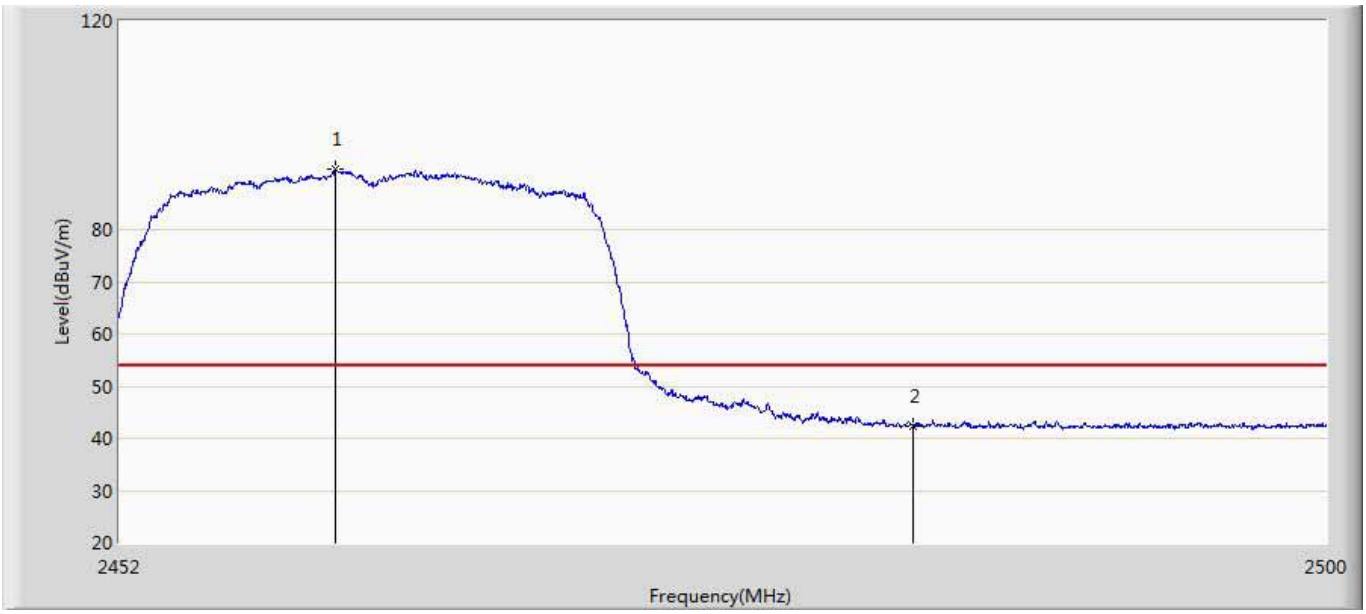
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.544	90.753	54.881	36.753	54.000	35.872	AV
2		2483.500	42.528	6.636	-11.472	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11N20	



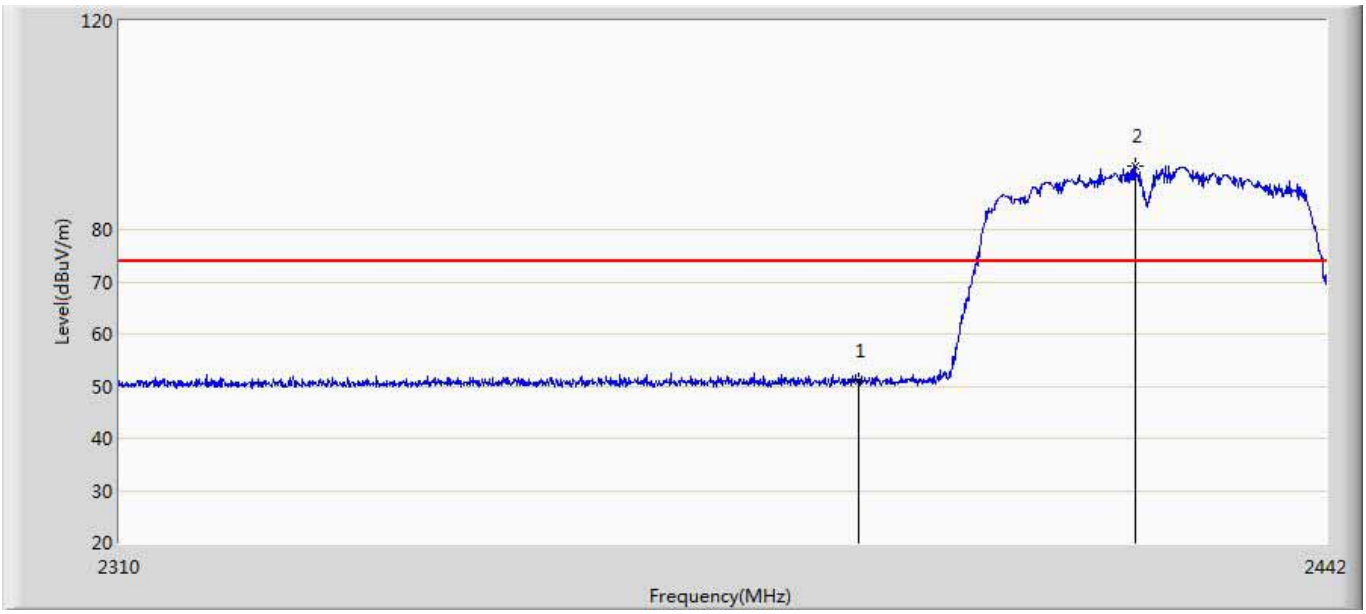
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.664	99.671	63.799	25.671	74.000	35.872	PK
2		2483.500	51.564	15.672	-22.436	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 3:Transmit at 2462MHz by 802.11N20	



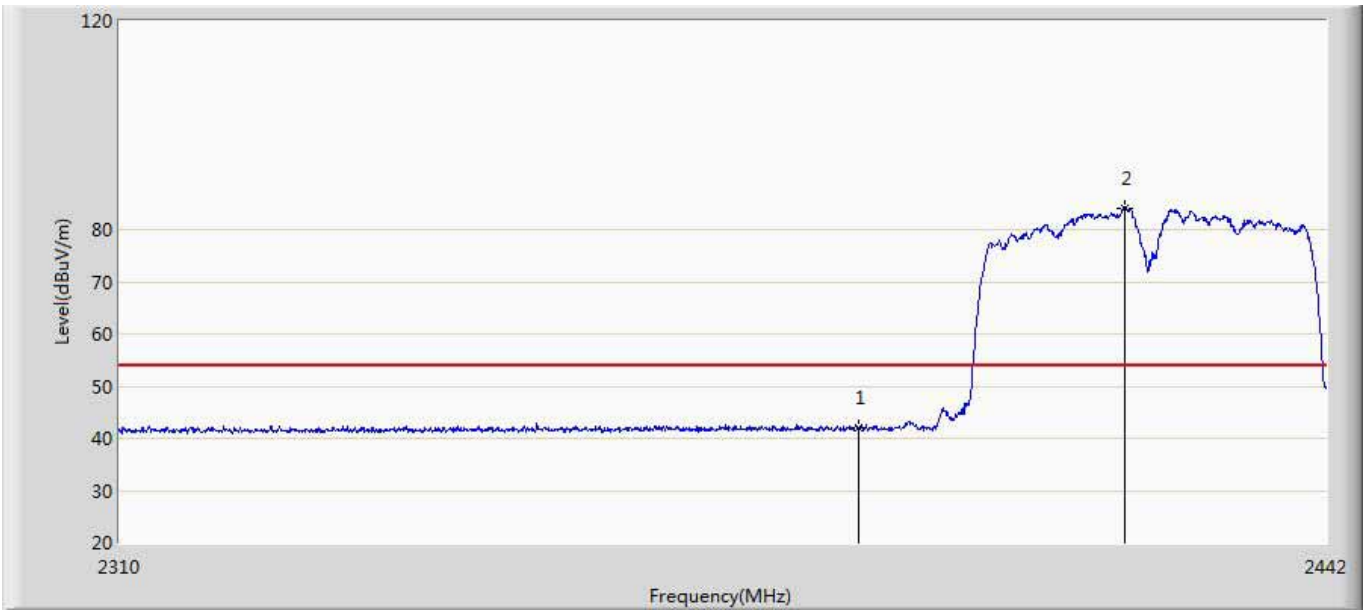
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2460.544	91.540	55.668	37.540	54.000	35.872	AV
2		2483.500	42.434	6.542	-11.566	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11N40	



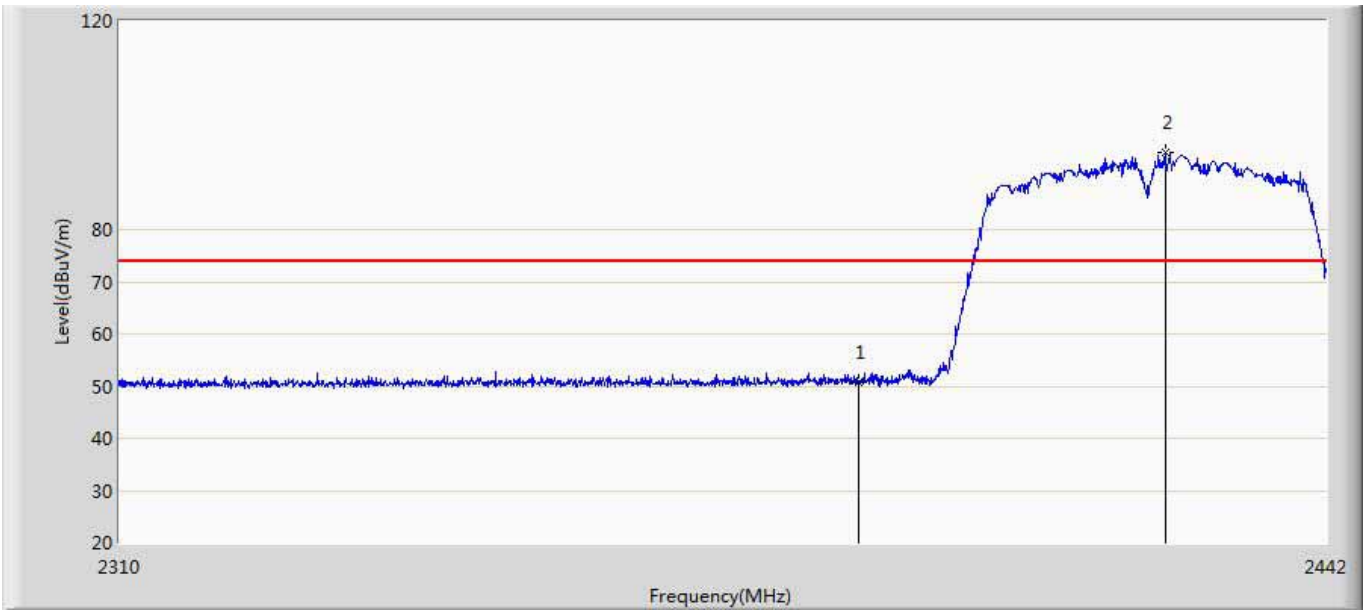
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	51.090	15.408	-22.910	74.000	35.682	PK
2	*	2420.682	92.249	56.471	18.249	74.000	35.778	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11N40	



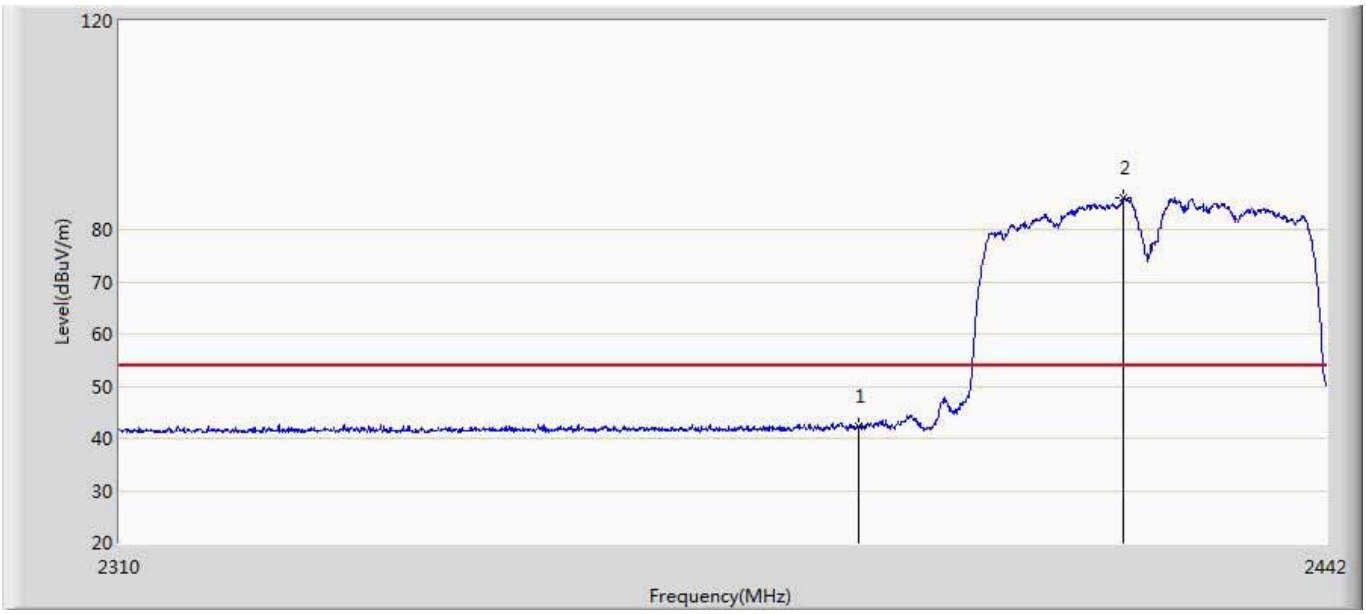
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.951	6.269	-12.049	54.000	35.682	AV
2	*	2419.494	84.177	48.404	30.177	54.000	35.772	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11N40	



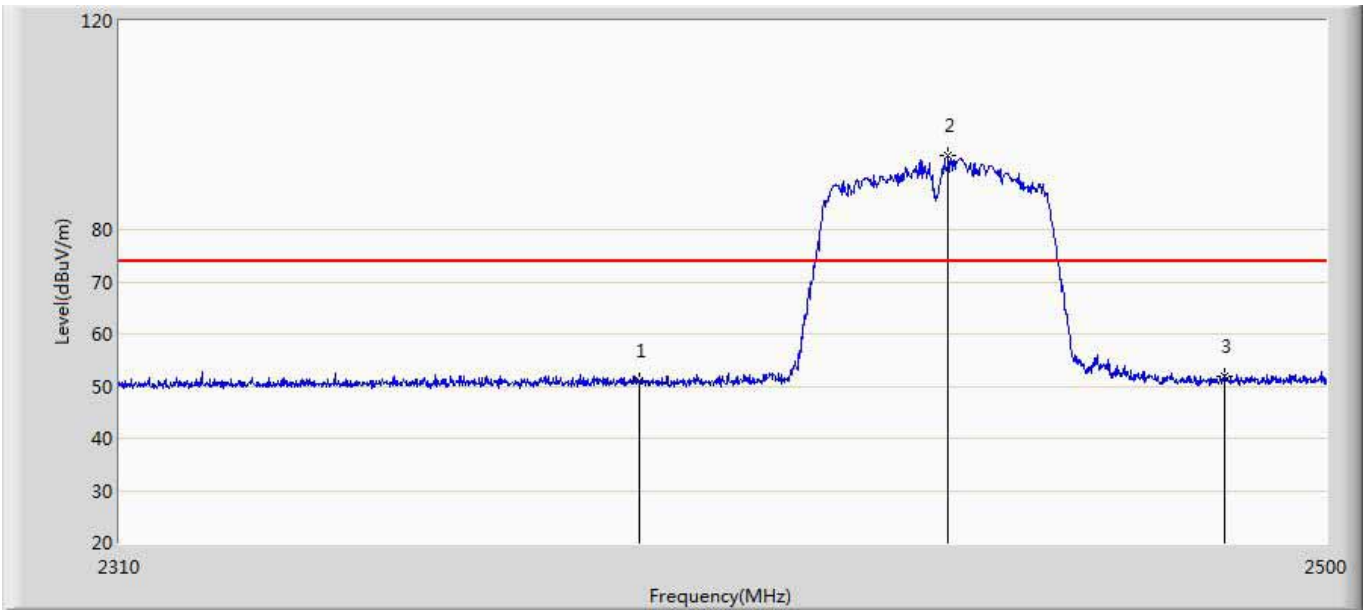
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.770	15.088	-23.230	74.000	35.682	PK
2	*	2423.982	94.777	58.985	20.777	74.000	35.792	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2422MHz by 802.11N40	



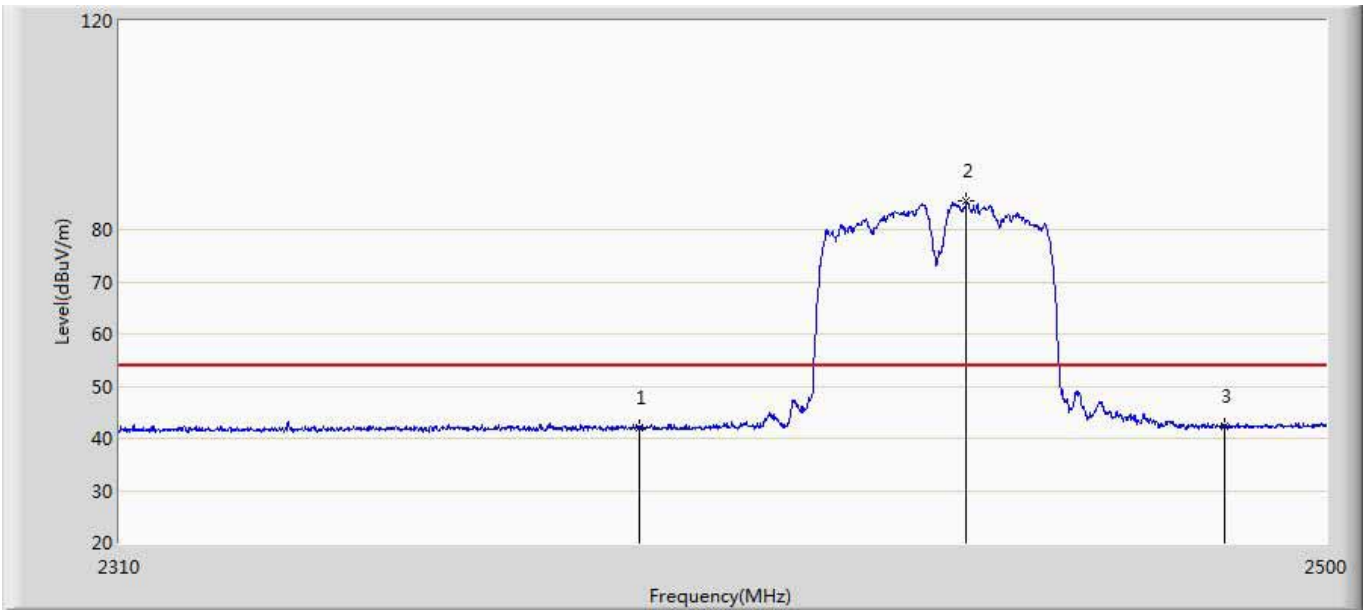
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.281	6.599	-11.719	54.000	35.682	AV
2	*	2419.362	86.003	50.231	32.003	54.000	35.772	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 15:58
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11N40	



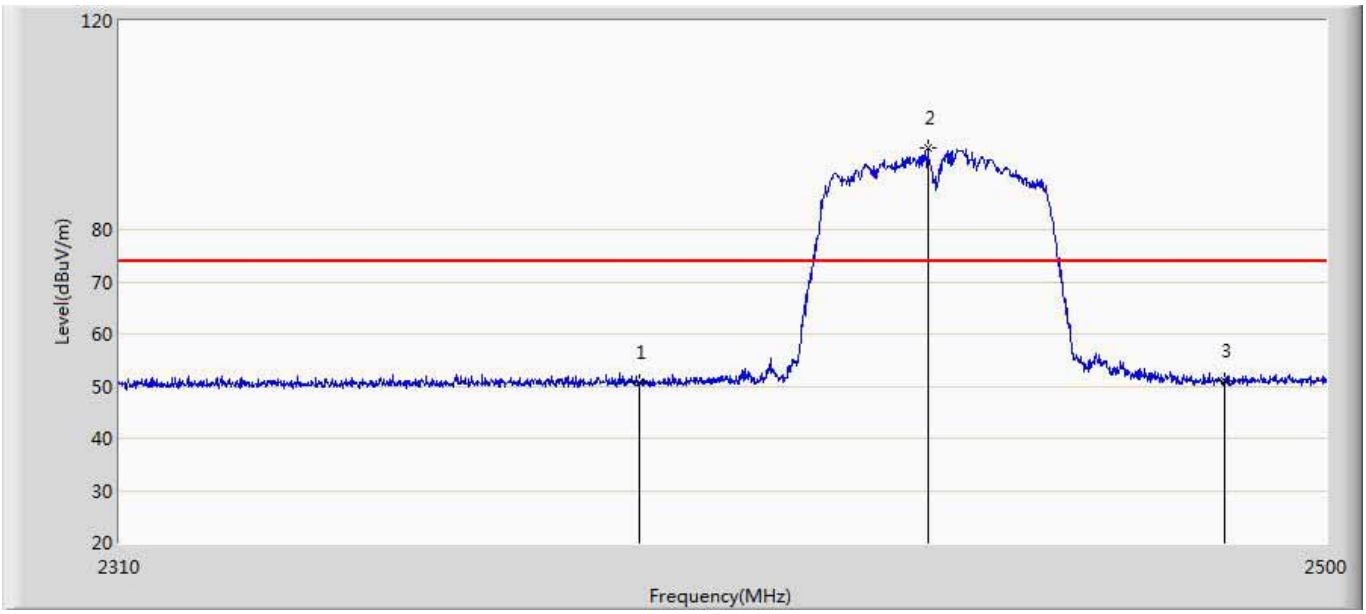
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.982	15.300	-23.018	74.000	35.682	PK
2	*	2438.915	94.206	58.400	20.206	74.000	35.806	PK
3		2483.500	51.753	15.861	-22.247	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11N40	



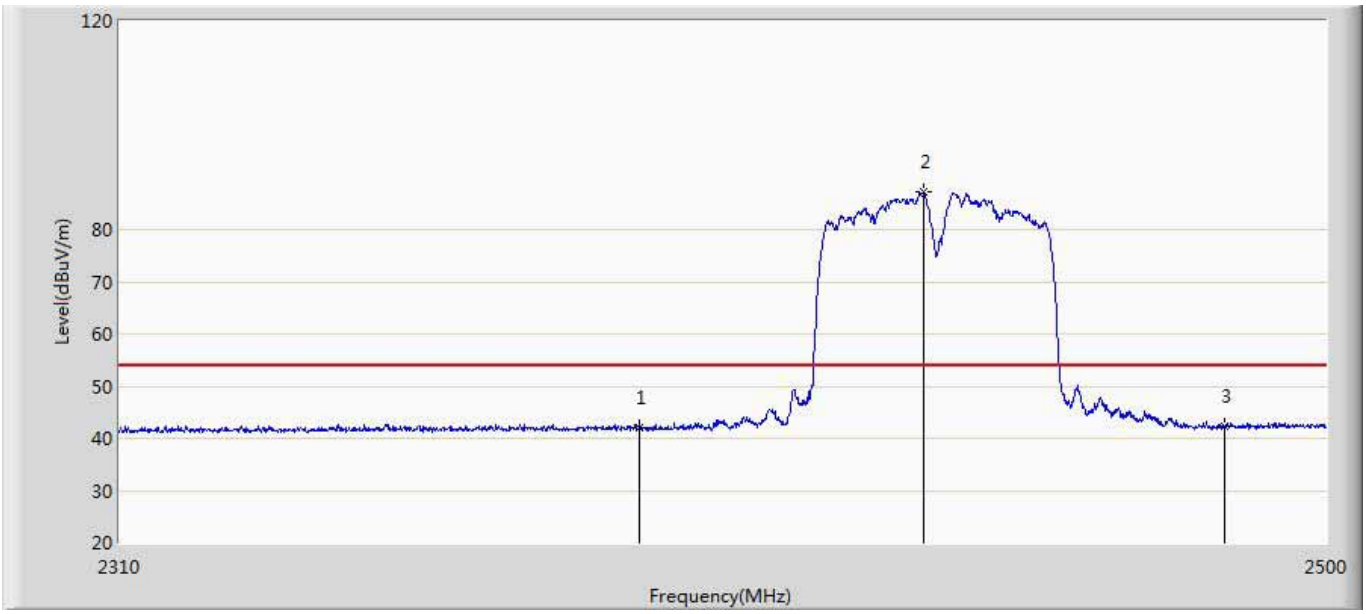
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.069	6.387	-11.931	54.000	35.682	AV
2	*	2441.860	85.382	49.577	31.382	54.000	35.804	AV
3		2483.500	42.324	6.432	-11.676	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11N40	



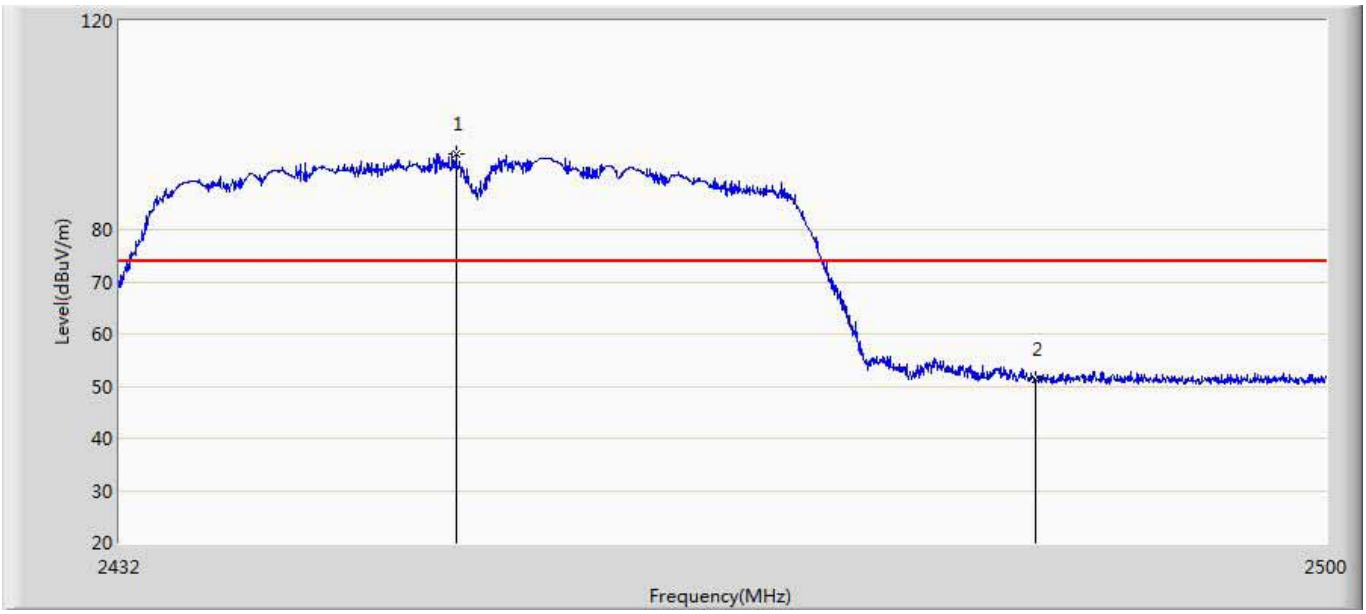
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.818	15.136	-23.182	74.000	35.682	PK
2	*	2435.685	95.638	59.832	21.638	74.000	35.806	PK
3		2483.500	50.949	15.057	-23.051	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2437MHz by 802.11N40	



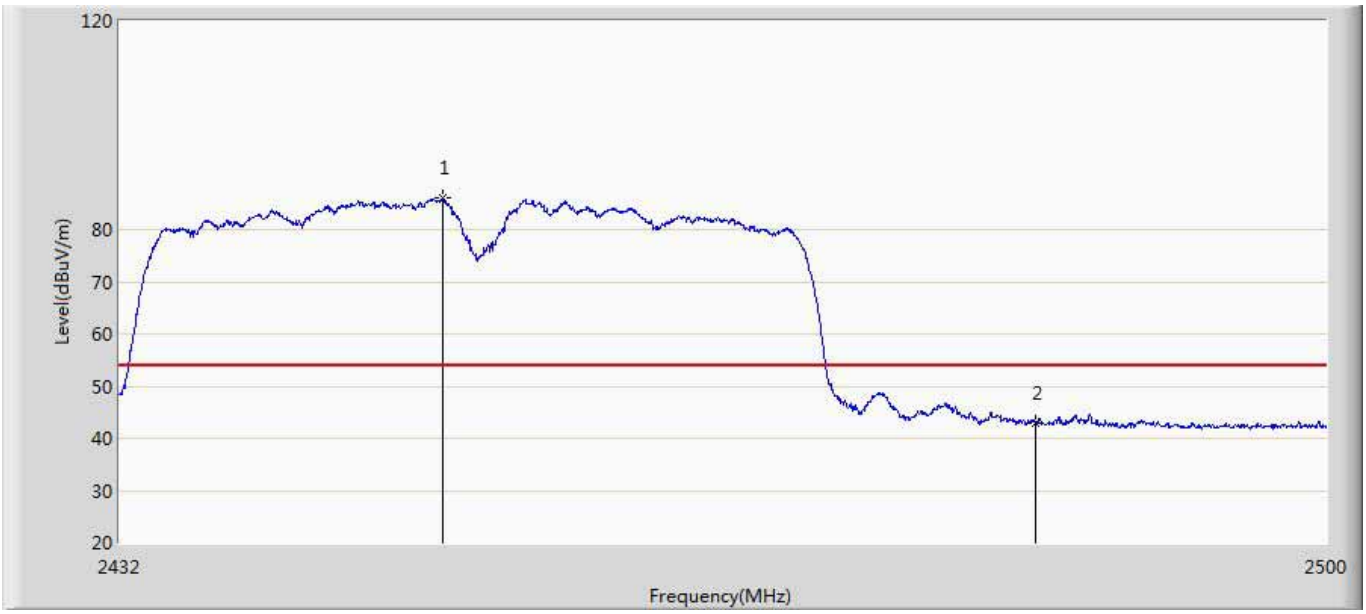
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	42.062	6.380	-11.938	54.000	35.682	AV
2	*	2435.020	87.379	51.572	33.379	54.000	35.806	AV
3		2483.500	42.228	6.336	-11.772	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11N40	



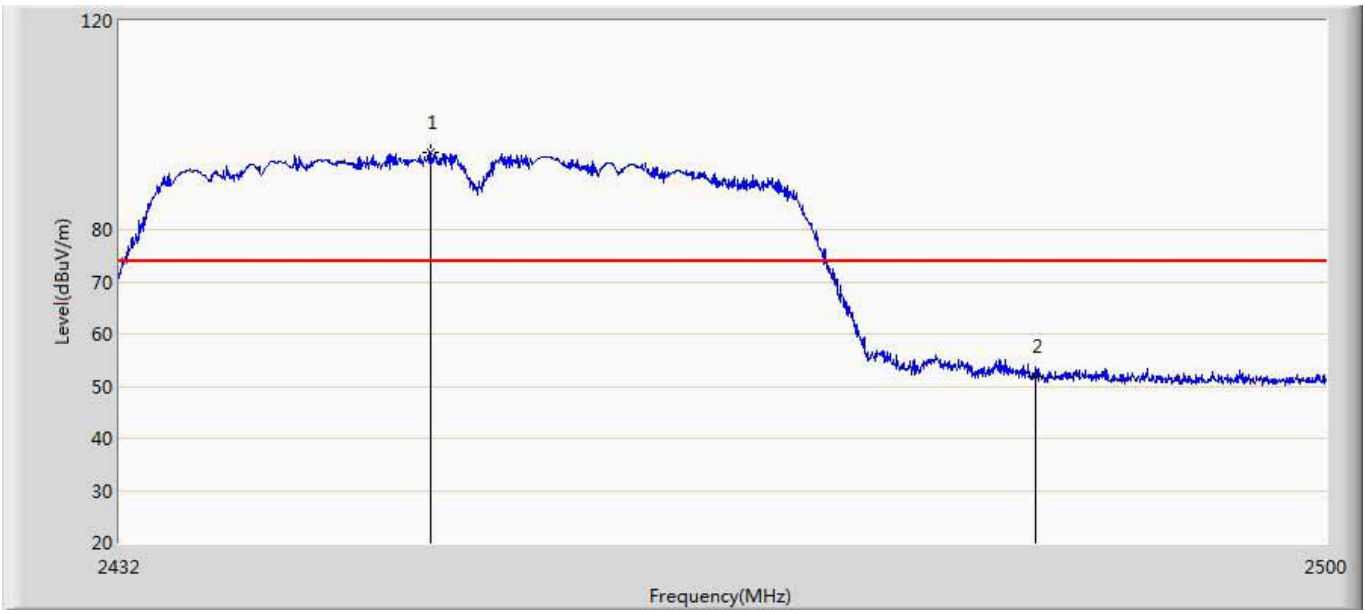
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2450.802	94.619	58.790	20.619	74.000	35.829	PK
2		2483.500	51.297	15.405	-22.703	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11N40	



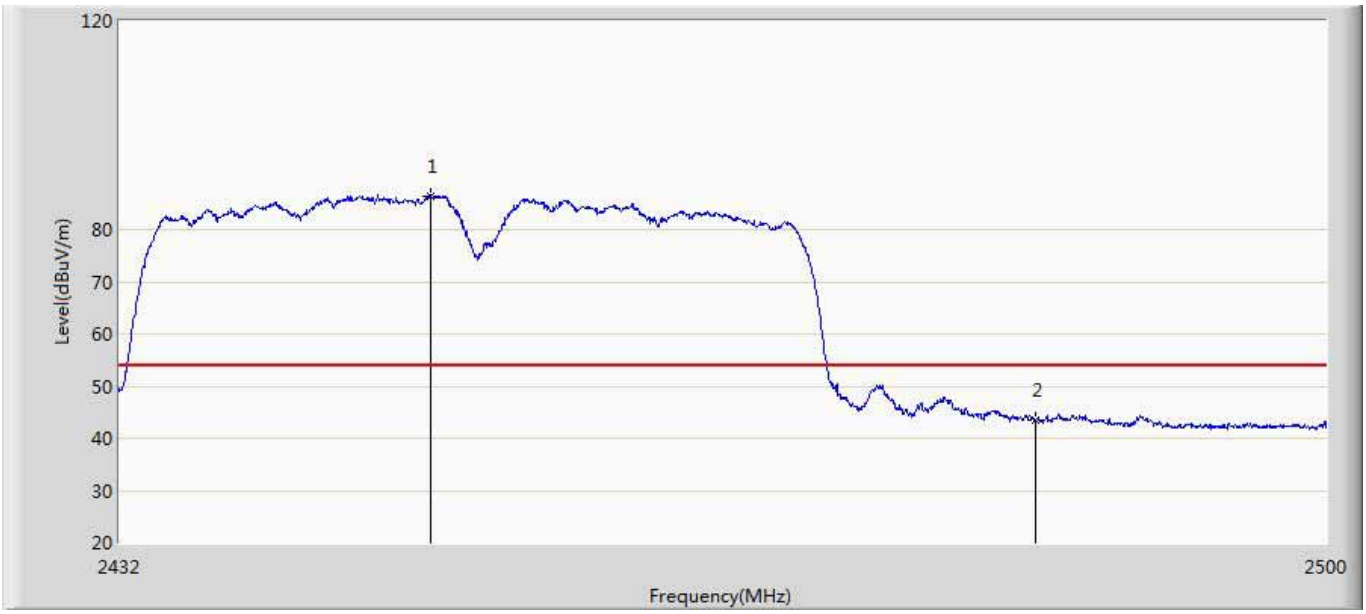
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2450.054	86.026	50.200	32.026	54.000	35.826	AV
2		2483.500	42.775	6.883	-11.225	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11N40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.340	94.706	58.883	20.706	74.000	35.823	PK
2		2483.500	51.823	15.931	-22.177	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2017/06/17 - 16:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: Sol	Power: AC 120V/60Hz
Note: Mode 4:Transmit at 2452MHz by 802.11N40	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2449.374	86.459	50.636	32.459	54.000	35.823	AV
2		2483.500	43.458	7.566	-10.542	54.000	35.891	AV

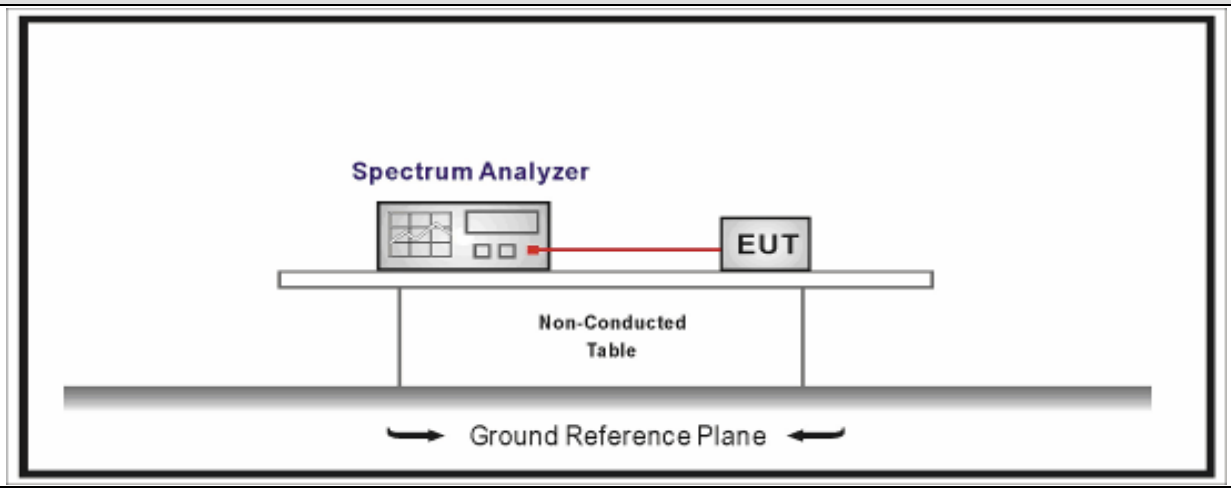
7. Occupied Bandwidth

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 Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup

Occupied Bandwidth test setup:



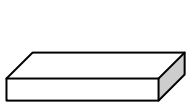
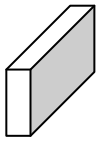
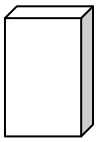
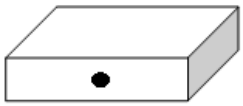
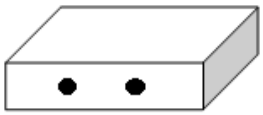
7.3. Limit

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

7.4. Test Procedure

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

7.5. EUT test definition

<table>
<tr><td>Item</td><td colspan="4">Occupied Bandwidth</td></tr>
<tr><td rowspan="2">Device Category</td><td>☒</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☐</td><td colspan="3">Mobile position use</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

7.6. Test Result

Product Name	:	Sol	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1-4	Test Site	:	AC-5
Test Date	:	2017.06.31			

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
			Ant1	Ant1		
1	01	2412	14.095	9.102	>500	Pass
1	06	2437	14.035	9.082	>500	Pass
1	11	2462	14.148	9.086	>500	Pass
2	01	2412	16.258	15.14	>500	Pass
2	06	2437	16.279	15.13	>500	Pass
2	11	2462	16.246	15.14	>500	Pass
3	01	2412	17.469	15.14	>500	Pass
3	06	2437	17.525	15.14	>500	Pass
3	11	2462	17.448	15.13	>500	Pass
4	03	2422	35.641	35.15	>500	Pass
4	06	2437	35.606	35.14	>500	Pass
4	09	2452	35.619	35.14	>500	Pass

Note 1: We have evaluated all antennas ,shown in the report is the worst data.

Note 2:The worst data of Occupied Bandwidth as below:

Mode 1 CH06 (2437MHz) Ant1

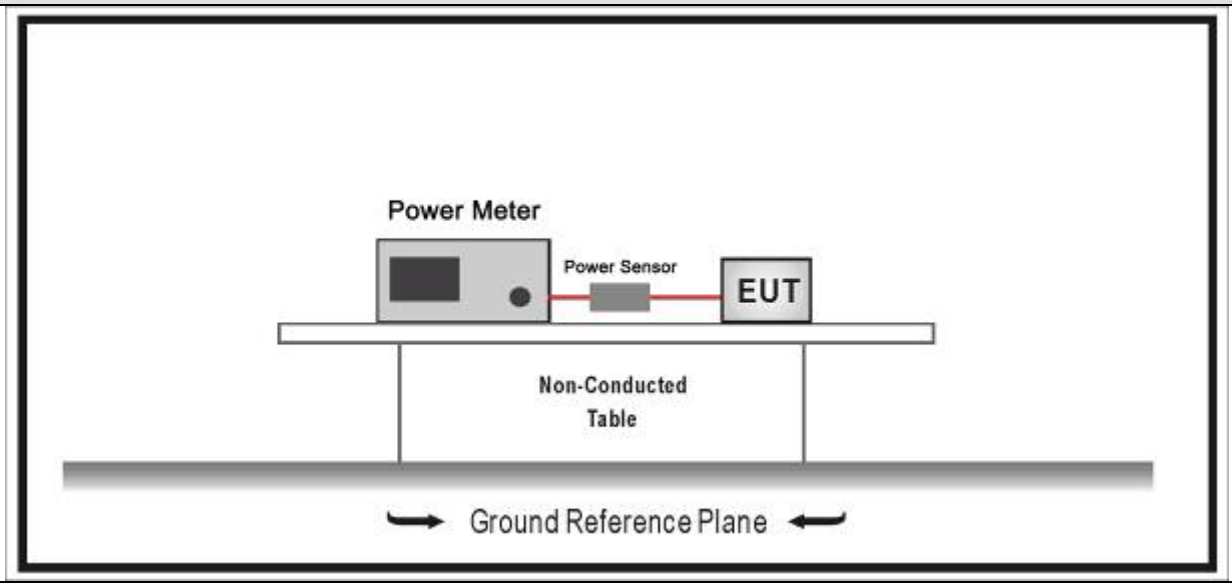
8. Fundamental emission output power

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	2017.01.03	2018.01.02
Spectrum Analyzer	Agilent	N9010A	MY48030494	2017.02.04	2018.02.03
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2016.10.14	2017.10.13
Power Sensor	Anritsu	MA2411B	0846014	2016.10.14	2017.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup

Fundamental emission output power test setup



8.3. Limit

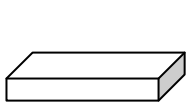
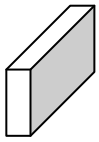
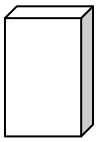
Fundamental emission output power Limit			
☒	G_{TX} ＜6dBi		P_{out}≤30dBm
☒	G_{TX} ＞6dBi		
	☒	Non-Fix point-point	P_{out}≤30-(G_{TX} -6)
	☐	Fix point-point	P_{out}≤30-[(G_{TX}-6)]/3
	☐	emits multiple directional beams but does not do emit multiple directional beams simultaneously	P_{out}≤30-[(G_{TX}-6)]/3
	☐	operates simultaneously on multiple directional beams using the same or different frequency channels	P_{out}≤30-[(G_{TX}-6)]/3+8dB
	☐	single directional beam	P_{out}≤30-[(G_{TX}-6)]/3
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

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology with NANT transmit antennas
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☒	KDB 662911		F2)c)	Cross-polarized antennas
	☒	KDB 662911	F2)c) (i)	Cross-polarized antennas with NANT = 2.
	☐	KDB 662911	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)d)	Sectorized antenna systems.
	☐	KDB 662911	F2)d) (i)	transmit signals are correlated
	☐	KDB 662911	F2)d) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)e)	Spatial Multiplexing
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☐	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☐	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with more than one spatial stream

8.5. EUT test definition

<table>
<tr><td>Item</td><td colspan="4">Fundamental emission output power</td></tr>
<tr><td rowspan="2">Device Category</td><td>☒</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☐</td><td colspan="3">Mobile position use</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="12">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
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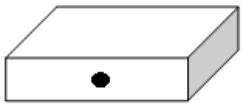
<tr><td></td><td colspan="3">  </td></tr>
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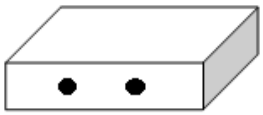
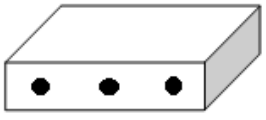
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

8.6. Test Result

Product Name	:	Sol	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1-4	Test Site	:	AC-5
Test Date	:	2017.06.31			

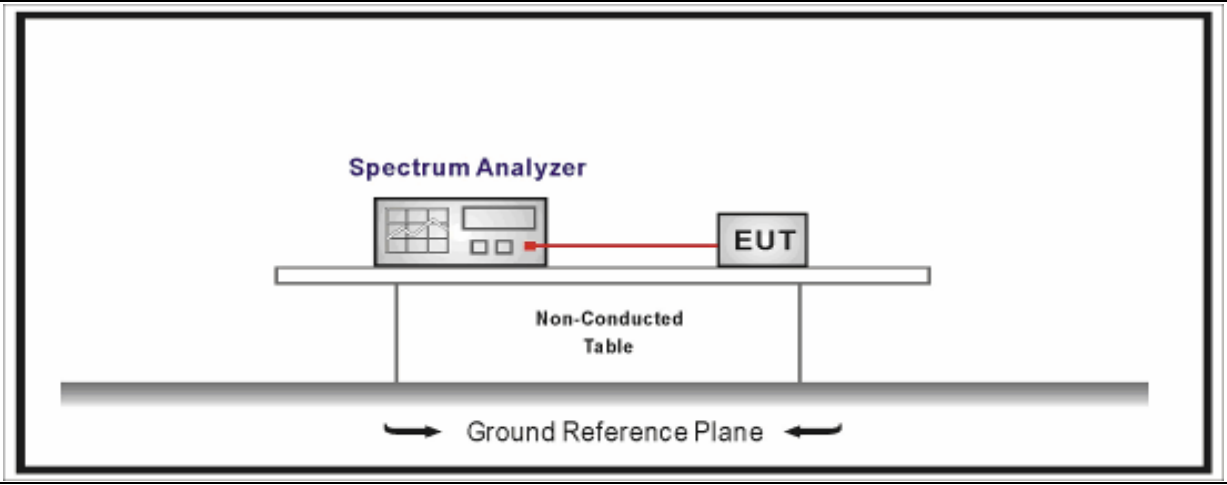
Mode	Channel	Test Frequency (MHz)	Average Power Output (dBm)	Total Average (dBm)	Antenna Gain (dBi)	Limit (dBm)	Result
			Ant1				
1	01	2412	12.25	12.25	2	24	Pass
1	06	2437	12.58	12.58	2	24	Pass
1	11	2462	13.53	13.53	2	24	Pass
2	01	2412	15.75	15.75	2	24	Pass
2	06	2437	15.84	15.84	2	24	Pass
2	11	2462	17.02	17.02	2	24	Pass
3	01	2412	15.78	15.78	2	24	Pass
3	06	2437	16.14	16.14	2	24	Pass
3	11	2462	17.16	17.16	2	24	Pass
4	03	2422	14.96	14.96	2	24	Pass
4	06	2437	15.28	15.28	2	24	Pass
4	09	2452	15.39	15.39	2	24	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 Anlyzer	Keysight	N9020A	MY56060147	2017.04.09	2018.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2017.04.10	2018.04.09
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup

Power Spectral Density test setup


9.3. Limit

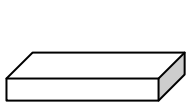
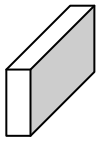
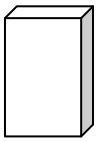
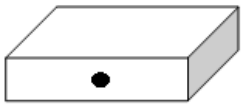
Power Spectral Density Limit
Power Spectral Density≤8dBm/3kHz

9.4. Test Procedure

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

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology with NANT transmit antennas
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☒	KDB 662911		F2)c)	Cross-polarized antennas
	☒	KDB 662911	F2)c) (i)	Cross-polarized antennas with NANT = 2.
	☐	KDB 662911	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)d)	Sectorized antenna systems.
	☐	KDB 662911	F2)d) (i)	transmit signals are correlated
	☐	KDB 662911	F2)d) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)e)	Spatial Multiplexing
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☐	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☐	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with more than one spatial stream

9.5. EUT test definition

<table>
<tr><td>Item</td><td colspan="4">Power Spectral Density Test Method</td></tr>
<tr><td rowspan="2">Device Category</td><td>☒</td><td colspan="3">Fixed position use</td></tr>
<tr><td>☐</td><td colspan="3">Mobile position use</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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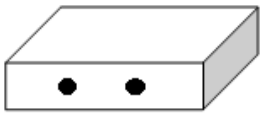
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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9.6. Test Result

Product Name	:	Sol	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1-4	Test Site	:	TR-8
Test Date	:	2017.06.31			

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
			Ant1			
1	01	2412	-14.761	-14.761	2.0	Pass
1	06	2437	-14.607	-14.607	2.0	Pass
1	11	2462	-14.124	-14.124	2.0	Pass
2	01	2412	-18.865	-18.865	2.0	Pass
2	06	2437	-19.186	-19.186	2.0	Pass
2	11	2462	-16.911	-16.911	2.0	Pass
3	01	2412	-18.837	-18.837	2.0	Pass
3	06	2437	-18.123	-18.123	2.0	Pass
3	11	2462	-17.052	-17.052	2.0	Pass
4	03	2422	-20.900	-20.900	2.0	Pass
4	06	2437	-20.482	-20.482	2.0	Pass
4	09	2452	-19.145	-19.145	2.0	Pass

Mode 1 CH11(2462MHz) Ant1

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