MEASUREMENT REPORT

FCC PART 15.407 WLAN 802.11a/n

FCC ID:	RYK-WUBR508N
Applicant:	SparkLAN Communications, Inc.
Application Type:	Class II Permissive Change
Product:	802.11abgn, USB module
Model No.:	WUBR-508N
Brand Name:	SparkLAN
FCC Classification:	Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s):	Part15 Subpart E (Section 15.407)
Test Procedure(s):	ANSI C63.10-2013
Test Date:	June 06 ~ 29, 2020

Reviewed By: (Jame Yuan)

Approved By: (Robin Wu)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
2005RSU029-U2	Rev. 01	Initial Report	07-30-2020	Valid

Note: This module was used in portable host and changed the antenna, so we only evaluated the output power, radiated spurious emissions and radiated restricted band edge items.

CONTENTS

Description Page

General Information

Applicant:	SparkLAN Communications, Inc.
Applicant Address:	8F., No.257, Sec. 2, Tiding Blvd., Neihu District, Taipei, Taiwan
Manufacturer:	SparkLAN Communications, Inc.
Manufacturer Address:	8F., No.257, Sec. 2, Tiding Blvd., Neihu District, Taipei, Taiwan
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- **MRT facility is an FCC registered (MRT Designation No. CN1166) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.**
- **MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.**
- **MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.**

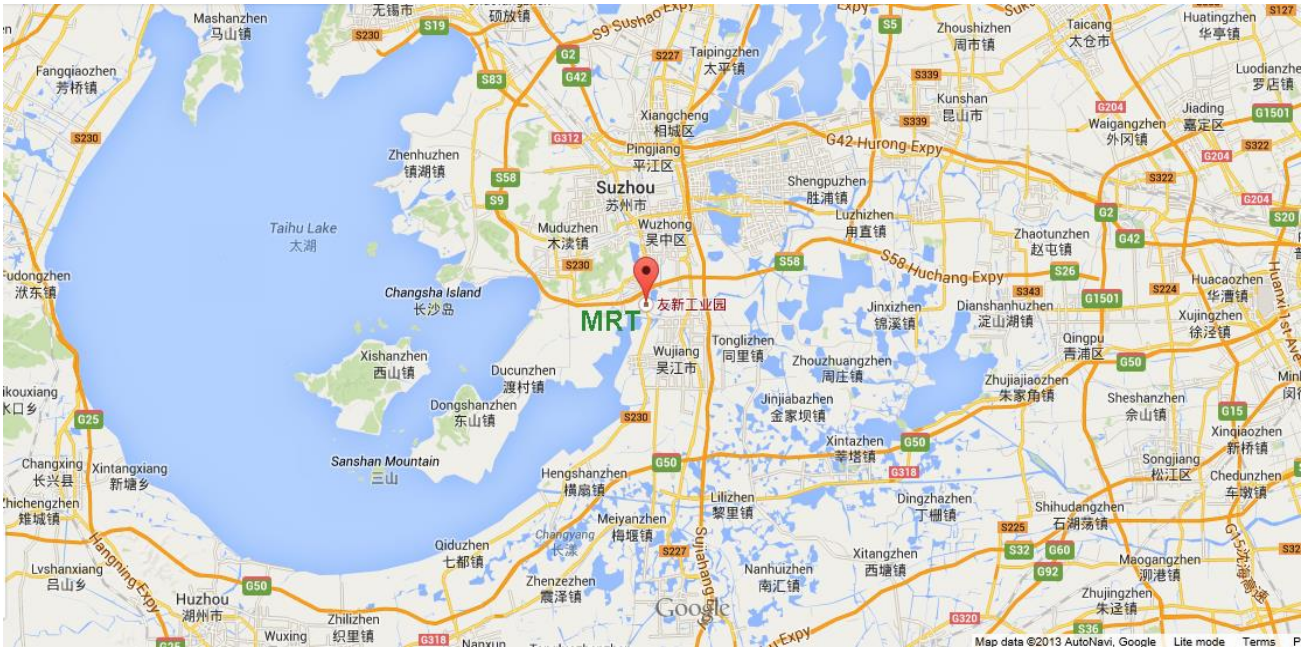
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada and Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The measurement facility compliant with the test site requirements specified in ANSI C63.4-2014.



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	802.11abgn, USB module
Model No.:	WUBR-508N
Brand Name:	SparkLAN
Wi-Fi Specification:	802.11a/b/g/n

2.2. Product Specification Subjective to this Report

Frequency Range:	For 802.11a/n-HT20: 5180~5240MHz, 5260~5320MHz, 5500~5720MHz, 5745~5825MHz For 802.11n-HT40: 5190~5230MHz, 5270~5310MHz, 5510~5710MHz, 5755~5795MHz
Type of Modulation:	802.11a/n: OFDM
Data Rate:	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps
Antenna Type:	PCB Antenna
Antenna Gain:	5.57dBi for Ant 1 4.55dBi for Ant 2

Note: For other features of this EUT, test report will be issued separately.

2.3. Description of Host

Host Name:	X-ray Flat Panel Detectors
Host Model:	CareView 750Cw
Derived Host Model:	CareView 1500Cw, CareView 1500Cwe, CareView 1500P, CareView 1800Cw, CareView 1800Cwe
Brand Name:	CareRay
Host Manufacturer:	CareRay Digital Medical Technology Co., Ltd.
Manufacturer Address:	A2-201/B3-501, Biobay, 218 Xinghu Street, Suzhou Industrial Park, Suzhou 215123, P. R. China
Contain one Module	
Module 1#:	FCC ID: RYK-WUBR508N

Note: Host models difference are only for size of exterior, others are identical.

2.4. Working Frequencies for this Report

802.11a/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz	100	5500 MHz
104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz
128	5640 MHz	132	5660 MHz	136	5680 MHz
140	5700 MHz	144	5720 MHz	149	5745 MHz
153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	--	--	--	--

802.11n-HT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz
62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz
142	5710 MHz	151	5755 MHz	159	5795 MHz

2.5. Test Mode

Test Mode	Mode 1: Transmit by 802.11a (6Mbps)
	Mode 2: Transmit by 802.11n-HT20 (MCS8)
	Mode 3: Transmit by 802.11n-HT40 (MCS8)

Note: The data rate was selected refer to the original module reports.

2.6. Description of Test Software

The test utility software used during testing was directive commands provided by manufacture.

2.7. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.8. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in ANSI C63.10-2013 were used in the measurement.

3.2. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An80cm high PVC support structure is placed on top of the turntable.
For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.
Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was

varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 antenna of the device is **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

5. TEST EQUIPMENT CALIBRATION DATE

Radiated Emission - AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2021/01/18
PXA Signal Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2020/09/03
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2020/11/13
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2021/04/03
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2020/10/13
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06597	1 year	2020/12/17
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2020/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
Thermohygrometer	Testo	608-H1	MRTSUE06403	1 year	2020/08/08
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2021/04/30

Radiated Emission - AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Keysight	N9038A	MRTSUE06125	1 year	2020/08/01
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2020/11/13
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2020/10/13
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2020/10/27
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06597	1 year	2020/12/17
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2020/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2021/06/11
Temperature/Humidity Meter	Minggao	ETH529	MRTSUE06170	1 year	2020/12/15
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2021/04/30

Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2020/11/18
Thermohygrometer	Testo	608-H1	MRTSUE06401	1 year	2020/08/08

Software	**Version**	**Function**
EMI Software	V3	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Radiated Emission Measurement	
The maximum measurement uncertainty is evaluated as:	
Horizontal:	30MHz~300MHz: 5.04dB
	300MHz~1GHz: 4.95dB
	1GHz~18GHz: 6.40dB
Vertical:	30MHz~300MHz: 5.24dB
	300MHz~1GHz: 6.03dB
	1GHz~18GHz: 6.40dB

7. TEST RESULT

7.1. Summary

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)(1)(iv), (2), (3)	Maximum Conducted Output Power	U-NII-1: ≤ 250mW U-NII-2: ≤ 250mW or 11 + 10log10 B U-NII-3: ≤ 1W	Conducted	Pass	Section 7.2
15.407(b)(1), (2), (3), (4)(i)	Undesirable Emissions	≤ -27dBm/MHz EIRP Detail see section 7.9	Radiated	Pass	Section 7.3 & 7.4
15.205, 15.209 15.407(b)(5), (6), (7)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209			

Notes:

1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.
2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

7.2. Output Power Measurement

7.2.1.Test Limit

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

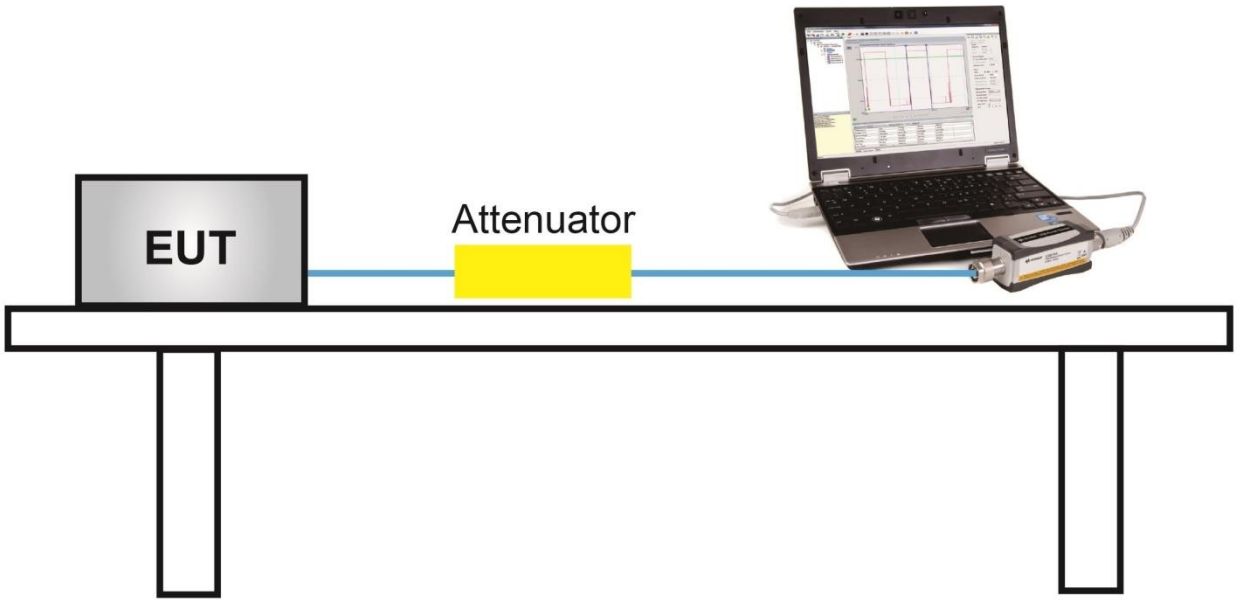
7.2.2.Test Procedure Used

ANSI C63.10-2013 Section 12.3.3.2 Method PM-G

7.2.3.Test Setting

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

7.2.4.Test Setup



7.2.5.Test Result

Product	802.11abgn, USB module	Temperature	27°C
Test Engineer	Hunk Li	Relative Humidity	47%
Test Site	TR3	Test Date	2020/06/06

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
11a	6Mbps	36	5180	9.86	--	--	≤ 23.98	Pass
11a	6Mbps	44	5220	10.28	--	--	≤ 23.98	Pass
11a	6Mbps	48	5240	10.53	--	--	≤ 23.98	Pass
11a	6Mbps	52	5260	--	17.06	--	≤ 23.98	Pass
11a	6Mbps	66	5280	--	17.15	--	≤ 23.98	Pass
11a	6Mbps	64	5320	--	16.18	--	≤ 23.98	Pass
11a	6Mbps	100	5500	--	13.50	--	≤ 23.98	Pass
11a	6Mbps	116	5580	--	13.56	--	≤ 23.98	Pass
11a	6Mbps	140	5700	--	10.48	--	≤ 23.98	Pass
11a	6Mbps	149	5745	16.84	--	--	≤ 30.00	Pass
11a	6Mbps	157	5785	16.75	--	--	≤ 30.00	Pass
11a	6Mbps	165	5825	16.35	--	--	≤ 30.00	Pass
11n-HT20	MCS8	36	5180	6.77	8.74	10.88	≤ 23.98	Pass
11n-HT20	MCS8	44	5220	7.23	9.28	11.39	≤ 23.98	Pass
11n-HT20	MCS8	48	5240	6.68	9.55	11.36	≤ 23.98	Pass
11n-HT20	MCS8	52	5260	15.62	17.16	19.47	≤ 23.98	Pass
11n-HT20	MCS8	56	5280	14.86	16.84	18.97	≤ 23.98	Pass
11n-HT20	MCS8	64	5320	12.34	14.78	16.74	≤ 23.98	Pass
11n-HT20	MCS8	100	5500	15.06	16.45	18.82	≤ 23.98	Pass
11n-HT20	MCS8	116	5580	15.47	16.25	18.89	≤ 23.98	Pass
11n-HT20	MCS8	140	5700	14.29	15.99	18.23	≤ 23.98	Pass
11n-HT20	MCS8	149	5745	12.71	14.42	16.66	≤ 30.00	Pass
11n-HT20	MCS8	157	5785	12.51	14.12	16.40	≤ 30.00	Pass
11n-HT20	MCS8	165	5825	12.00	13.78	15.99	≤ 30.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
11n-HT40	MCS8	38	5190	9.56	11.99	13.95	≤ 23.98	Pass
11n-HT40	MCS8	46	5230	9.14	11.72	13.63	≤ 23.98	Pass
11n-HT40	MCS8	54	5270	12.88	15.22	17.22	≤ 23.98	Pass
11n-HT40	MCS8	62	5310	11.55	14.15	16.05	≤ 23.98	Pass
11n-HT40	MCS8	102	5510	14.11	15.38	17.80	≤ 23.98	Pass
11n-HT40	MCS8	110	5550	14.47	15.23	17.88	≤ 23.98	Pass
11n-HT40	MCS8	134	5670	12.79	13.17	15.99	≤ 23.98	Pass
11n-HT40	MCS8	151	5755	16.31	18.36	20.47	≤ 30.00	Pass
11n-HT40	MCS8	159	5795	16.36	17.35	19.89	≤ 30.00	Pass

Note: Total Average Power (dBm) = $10*\log \{10^{(\text{Ant 1 Average Power }/10)} + 10^{(\text{Ant 2 Average Power }/10)}\}$ (dBm)

7.3. Radiated Spurious Emission Measurement

7.3.1.Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15.209 Limit		
Frequency (MHz)	Field Strength (μV/m)	Measured Distance (m)
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.3.2.Test Procedure Used

ANSI C63.10-2013 Section 6.3 (General Requirements)

ANSI C63.10-2013 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10-2013 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10-2013 Section 6.6 (Standard test method above 1GHz)

7.3.3.Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

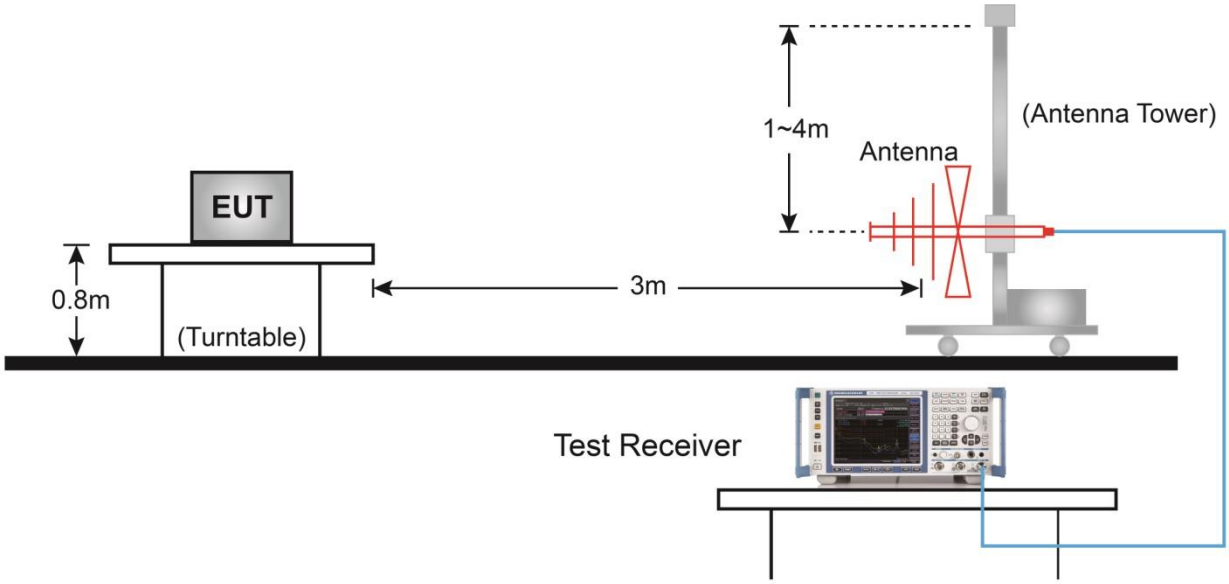
Average Measurements above 1GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10Hz

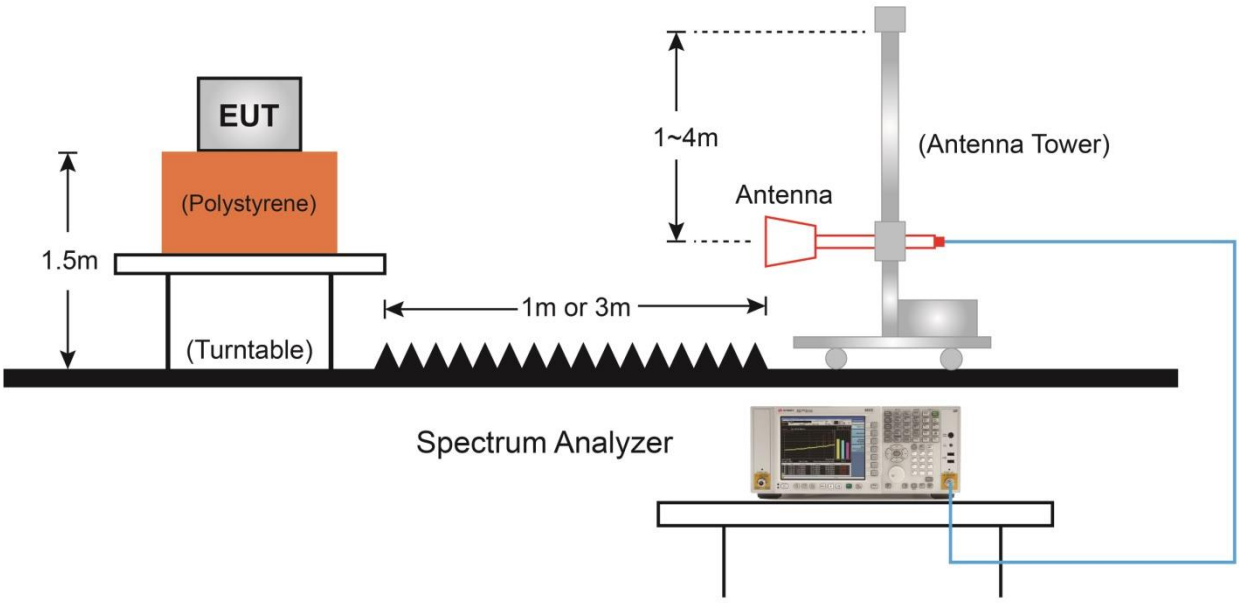
   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

7.3.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



7.3.5.Test Result

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 1	Test Channel	36
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7519.5	36.1	10.9	47.0	74.0	-27.0	Peak	Horizontal
	8259.0	36.8	11.5	48.3	74.0	-25.7	Peak	Horizontal
*	8820.0	36.7	13.2	49.9	68.2	-18.3	Peak	Horizontal
*	10341.5	35.8	15.8	51.6	68.2	-16.6	Peak	Horizontal
	7579.0	36.7	10.7	47.4	74.0	-26.6	Peak	Vertical
	8446.0	37.0	11.6	48.6	74.0	-25.4	Peak	Vertical
*	9602.0	36.7	14.4	51.2	68.2	-17.0	Peak	Vertical
*	10358.5	38.8	16.2	55.0	68.2	-13.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 1	Test Channel	44
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8352.5	36.0	11.2	47.2	74.0	-26.8	Peak	Horizontal
	9126.0	34.8	13.6	48.3	74.0	-25.7	Peak	Horizontal
*	9296.0	35.1	14.2	49.3	68.2	-18.9	Peak	Horizontal
*	9857.0	35.4	15.4	50.7	68.2	-17.5	Peak	Horizontal
	8191.0	36.5	11.4	47.9	74.0	-26.1	Peak	Vertical
	9109.0	34.8	13.6	48.4	74.0	-25.6	Peak	Vertical
*	9253.5	34.4	14.4	48.7	68.2	-19.5	Peak	Vertical
*	10401.0	39.0	16.0	55.1	68.2	-13.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 1	Test Channel	48
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7570.5	35.5	10.8	46.3	74.0	-27.7	Peak	Horizontal
	8106.0	36.9	11.7	48.6	74.0	-25.4	Peak	Horizontal
*	8692.5	36.3	13.1	49.4	68.2	-18.8	Peak	Horizontal
*	10120.5	34.1	15.6	49.7	68.2	-18.5	Peak	Horizontal
	7400.5	35.8	10.7	46.5	74.0	-27.5	Peak	Vertical
	8429.0	34.6	11.4	46.1	74.0	-27.9	Peak	Vertical
*	9721.0	35.8	15.1	50.9	68.2	-17.3	Peak	Vertical
*	10486.0	38.7	16.5	55.1	68.2	-13.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 2	Test Channel	52
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7468.5	36.5	10.9	47.4	74.0	-26.6	Peak	Horizontal
	8497.0	35.7	11.6	47.3	74.0	-26.7	Peak	Horizontal
*	8769.0	34.5	12.9	47.4	68.2	-20.8	Peak	Horizontal
*	9993.0	33.7	15.1	48.8	68.2	-19.4	Peak	Horizontal
	8165.5	36.3	11.5	47.8	74.0	-26.2	Peak	Vertical
	9049.5	35.2	13.3	48.5	74.0	-25.5	Peak	Vertical
*	9245.0	34.7	14.2	48.9	68.2	-19.3	Peak	Vertical
*	10520.0	44.0	16.3	60.3	68.2	-7.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 2	Test Channel	56
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8395.0	36.8	11.3	48.1	74.0	-25.9	Peak	Horizontal
	9117.5	33.7	13.6	47.3	74.0	-26.7	Peak	Horizontal
*	9296.0	34.3	14.2	48.4	68.2	-19.8	Peak	Horizontal
*	9925.0	34.9	15.1	50.0	68.2	-18.2	Peak	Horizontal
	7570.5	35.1	10.8	45.9	74.0	-28.1	Peak	Vertical
	8276.0	35.8	11.2	47.0	74.0	-27.0	Peak	Vertical
*	9797.5	35.1	15.2	50.3	68.2	-17.9	Peak	Vertical
*	10562.5	42.1	16.3	58.4	68.2	-9.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 2	Test Channel	64
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7536.5	34.9	10.8	45.7	74.0	-28.3	Peak	Horizontal
	8242.0	35.5	11.2	46.7	74.0	-27.3	Peak	Horizontal
*	8709.5	36.4	12.9	49.2	68.2	-19.0	Peak	Horizontal
*	9823.0	36.2	15.3	51.5	68.2	-16.7	Peak	Horizontal
	8352.5	35.7	11.2	46.9	74.0	-27.1	Peak	Vertical
	10639.0	43.3	16.2	59.5	74.0	-14.5	Peak	Vertical
	10639.3	35.0	16.2	51.1	54.0	-2.9	Average	Vertical
*	12823.5	34.7	15.0	49.6	68.2	-18.6	Peak	Vertical
*	13614.0	33.8	16.6	50.4	68.2	-17.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 2	Test Channel	100
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7341.0	37.4	10.9	48.3	74.0	-25.7	Peak	Horizontal
	8395.0	37.0	11.3	48.3	74.0	-25.7	Peak	Horizontal
*	8641.5	36.3	12.5	48.7	68.2	-19.5	Peak	Horizontal
*	10129.0	34.8	15.8	50.6	68.2	-17.6	Peak	Horizontal
	8242.0	36.5	11.2	47.7	74.0	-26.3	Peak	Vertical
	10996.0	38.9	16.6	55.5	74.0	-18.5	Peak	Vertical
	10996.2	28.4	16.6	45.0	54.0	-9.0	Average	Vertical
*	13027.5	34.1	15.6	49.7	68.2	-18.5	Peak	Vertical
*	13843.5	34.2	17.0	51.2	68.2	-17.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 2	Test Channel	116
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7536.5	36.1	10.8	46.9	74.0	-27.1	Peak	Horizontal
	8352.5	35.1	11.2	46.4	74.0	-27.6	Peak	Horizontal
*	9270.5	36.5	14.4	50.9	68.2	-17.3	Peak	Horizontal
*	10579.5	35.5	16.2	51.7	68.2	-16.5	Peak	Horizontal
	7460.0	36.2	11.0	47.2	74.0	-26.8	Peak	Vertical
	8174.0	37.6	11.4	49.0	74.0	-25.0	Peak	Vertical
*	9262.0	34.3	14.5	48.8	68.2	-19.4	Peak	Vertical
*	10571.0	35.9	16.2	52.1	68.2	-16.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 2	Test Channel	140
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7400.5	34.5	10.7	45.2	74.0	-28.8	Peak	Horizontal
	8089.0	36.2	11.8	48.0	74.0	-26.0	Peak	Horizontal
*	9253.5	34.5	14.4	48.8	68.2	-19.4	Peak	Horizontal
*	9755.0	35.6	15.3	50.9	68.2	-17.3	Peak	Horizontal
	7545.0	36.4	10.8	47.2	74.0	-26.8	Peak	Vertical
	8165.5	36.6	11.5	48.1	74.0	-25.9	Peak	Vertical
*	9253.5	34.7	14.4	49.1	68.2	-19.1	Peak	Vertical
*	10460.5	35.4	15.9	51.4	68.2	-16.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 1	Test Channel	149
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7655.5	39.9	10.4	50.3	74.0	-23.7	Peak	Horizontal
	8106.0	37.0	11.7	48.7	74.0	-25.3	Peak	Horizontal
*	8641.5	36.7	12.5	49.2	68.2	-19.0	Peak	Horizontal
*	10171.5	34.1	15.5	49.6	68.2	-18.6	Peak	Horizontal
	8327.0	36.5	10.9	47.4	74.0	-26.6	Peak	Vertical
	11489.0	38.0	16.3	54.3	74.0	-19.7	Peak	Vertical
	11487.6	27.5	16.3	43.7	54.0	-10.3	Average	Vertical
*	12908.5	34.3	15.4	49.7	68.2	-18.5	Peak	Vertical
*	13945.5	34.9	17.2	52.1	68.2	-16.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 1	Test Channel	157
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7715.0	39.2	10.5	49.7	74.0	-24.3	Peak	Horizontal
	8276.0	36.2	11.2	47.5	74.0	-26.5	Peak	Horizontal
*	8692.5	35.2	13.1	48.2	68.2	-20.0	Peak	Horizontal
*	10171.5	35.4	15.5	50.9	68.2	-17.3	Peak	Horizontal
	8276.0	35.7	11.2	46.9	74.0	-27.1	Peak	Vertical
	11565.5	41.5	15.6	57.1	74.0	-16.9	Peak	Vertical
	11566.2	31.3	15.6	46.9	54.0	-7.1	Average	Vertical
*	12934.0	37.5	15.4	52.9	68.2	-15.3	Peak	Vertical
*	13767.0	36.6	16.7	53.3	68.2	-14.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11a, Ant 1	Test Channel	165
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7604.5	37.5	10.8	48.2	74.0	-25.8	Peak	Horizontal
	8106.0	37.8	11.7	49.6	74.0	-24.4	Peak	Horizontal
*	8760.5	35.8	12.9	48.7	68.2	-19.5	Peak	Horizontal
*	10180.0	35.0	15.9	50.9	68.2	-17.3	Peak	Horizontal
	8165.5	36.3	11.5	47.8	74.0	-26.2	Peak	Vertical
	11659.0	39.9	15.3	55.2	74.0	-18.8	Peak	Vertical
	11651.1	27.5	15.3	42.8	54.0	-11.2	Average	Vertical
*	12857.5	37.5	15.6	53.1	68.2	-15.1	Peak	Vertical
*	13928.5	37.2	16.9	54.1	68.2	-14.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	36
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7689.5	37.2	10.8	48.1	74.0	-25.9	Peak	Horizontal
	8165.5	36.9	11.5	48.4	74.0	-25.6	Peak	Horizontal
*	8769.0	36.4	12.9	49.3	68.2	-18.9	Peak	Horizontal
*	10120.5	35.5	15.6	51.0	68.2	-17.2	Peak	Horizontal
	7468.5	35.8	10.9	46.7	74.0	-27.3	Peak	Vertical
	8395.0	35.8	11.3	47.1	74.0	-26.9	Peak	Vertical
*	9279.0	36.4	14.3	50.7	68.2	-17.5	Peak	Vertical
*	10545.5	36.9	16.5	53.3	68.2	-14.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	44
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8165.5	36.0	11.5	47.5	74.0	-26.5	Peak	Horizontal
	9160.0	37.7	14.0	51.7	74.0	-22.3	Peak	Horizontal
*	9296.0	34.9	14.2	49.1	68.2	-19.1	Peak	Horizontal
*	10341.5	36.6	15.8	52.4	68.2	-15.8	Peak	Horizontal
	7460.0	36.6	11.0	47.5	74.0	-26.5	Peak	Vertical
	8148.5	37.4	11.3	48.7	74.0	-25.3	Peak	Vertical
*	9279.0	36.6	14.3	50.9	68.2	-17.3	Peak	Vertical
*	10401.0	36.8	16.0	52.8	68.2	-15.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	48
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7417.5	37.3	10.8	48.1	74.0	-25.9	Peak	Horizontal
	8216.5	37.4	11.4	48.8	74.0	-25.2	Peak	Horizontal
*	9219.5	35.7	14.1	49.8	68.2	-18.4	Peak	Horizontal
*	10231.0	36.3	15.7	52.0	68.2	-16.2	Peak	Horizontal
	7400.5	36.2	10.7	46.9	74.0	-27.1	Peak	Vertical
	8174.0	37.7	11.4	49.2	74.0	-24.8	Peak	Vertical
*	9279.0	36.5	14.3	50.8	68.2	-17.4	Peak	Vertical
*	10171.5	35.8	15.5	51.4	68.2	-16.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	52
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7536.5	36.1	10.8	47.0	74.0	-27.0	Peak	Horizontal
	8233.5	37.9	11.3	49.2	74.0	-24.8	Peak	Horizontal
*	9279.0	35.7	14.3	50.0	68.2	-18.2	Peak	Horizontal
*	10435.0	37.1	16.4	53.4	68.2	-14.8	Peak	Horizontal
	7485.5	36.7	10.8	47.4	74.0	-26.6	Peak	Vertical
	8480.0	36.9	11.5	48.4	74.0	-25.6	Peak	Vertical
*	9270.5	35.4	14.4	49.8	68.2	-18.4	Peak	Vertical
*	10520.0	44.7	16.3	61.0	68.2	-7.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	56
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8191.0	38.3	11.4	49.8	74.0	-24.2	Peak	Horizontal
	9194.0	37.6	14.3	51.8	74.0	-22.2	Peak	Horizontal
*	9270.5	36.1	14.4	50.5	68.2	-17.7	Peak	Horizontal
*	9772.0	36.6	15.2	51.8	68.2	-16.4	Peak	Horizontal
	7570.5	37.6	10.8	48.4	74.0	-25.6	Peak	Vertical
	8420.5	37.9	11.4	49.2	74.0	-24.8	Peak	Vertical
*	9262.0	34.9	14.5	49.4	68.2	-18.8	Peak	Vertical
*	10562.5	44.6	16.3	60.9	68.2	-7.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	64
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7664.0	38.4	10.5	48.9	74.0	-25.1	Peak	Horizontal
	8131.5	36.4	11.4	47.8	74.0	-26.2	Peak	Horizontal
*	8658.5	36.1	12.8	48.9	68.2	-19.3	Peak	Horizontal
*	9814.5	35.0	15.3	50.2	68.2	-18.0	Peak	Horizontal
	8174.0	37.4	11.4	48.8	74.0	-25.2	Peak	Vertical
	10639.4	31.9	16.2	48.0	54.0	-6.0	AV	Vertical
*	12908.5	36.6	15.4	52.0	68.2	-16.2	Peak	Vertical
*	13639.5	37.7	16.4	54.2	68.2	-14.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	100
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7689.5	37.5	10.8	48.3	74.0	-25.7	Peak	Horizontal
	8480.0	37.4	11.5	48.9	74.0	-25.1	Peak	Horizontal
*	9253.5	36.4	14.4	50.8	68.2	-17.4	Peak	Horizontal
*	10528.5	35.9	16.4	52.3	68.2	-15.9	Peak	Horizontal
	8225.0	37.2	11.4	48.6	74.0	-25.4	Peak	Vertical
	10996.0	41.9	16.6	58.5	74.0	-15.5	Peak	Vertical
	10999.0	31.5	16.6	48.1	54.0	-5.9	Average	Vertical
*	13121.0	37.3	15.6	52.8	68.2	-15.4	Peak	Vertical
*	14200.5	37.5	17.7	55.2	68.2	-13.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	116
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7502.5	37.2	10.8	48.0	74.0	-26.0	Peak	Horizontal
	8284.5	37.3	11.2	48.5	74.0	-25.5	Peak	Horizontal
*	8803.0	37.5	13.0	50.5	68.2	-17.7	Peak	Horizontal
*	9831.5	36.4	15.4	51.8	68.2	-16.4	Peak	Horizontal
	8148.5	37.6	11.3	48.9	74.0	-25.1	Peak	Vertical
	11157.5	43.7	15.8	59.5	74.0	-14.5	Peak	Vertical
	11161.4	32.2	15.8	48.0	54.0	-6.0	Average	Vertical
*	12866.0	36.5	15.6	52.1	68.2	-16.1	Peak	Vertical
*	13826.5	37.6	16.8	54.4	68.2	-13.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	140
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8165.5	37.5	11.5	49.0	74.0	-25.0	Peak	Horizontal
	11395.5	38.6	15.8	54.5	74.0	-19.5	Peak	Horizontal
	11400.2	25.0	15.9	40.8	54.0	-13.2	Average	Horizontal
*	12959.5	36.6	15.6	52.2	68.2	-16.0	Peak	Horizontal
*	13665.0	38.3	16.6	54.9	68.2	-13.3	Peak	Horizontal
	8276.0	36.2	11.2	47.4	74.0	-26.6	Peak	Vertical
	11404.0	44.5	15.9	60.4	74.0	-13.6	Peak	Vertical
	11399.2	35.6	15.9	51.4	54.0	-2.6	Average	Vertical
*	12866.0	36.5	15.6	52.1	68.2	-16.1	Peak	Vertical
*	13877.5	37.8	16.8	54.6	68.2	-13.6	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/27
Test Mode	802.11n-HT20, Ant 1 + 2	Test Channel	149
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7664.0	39.4	10.5	49.9	74.0	-24.1	Peak	Horizontal
	8378.0	38.8	11.0	49.8	74.0	-24.2	Peak	Horizontal
*	8735.0	36.3	12.7	49.0	68.2	-19.2	Peak	Horizontal
*	9823.0	37.7	15.3	53.0	68.2	-15.2	Peak	Horizontal
	8276.0	35.7	11.2	46.9	74.0	-27.1	Peak	Vertical
	11497.5	44.2	16.2	60.4	74.0	-13.6	Peak	Vertical
	11489.1	34.5	16.3	50.8	54.0	-3.2	Average	Vertical
*	13044.5	36.1	15.6	51.7	68.2	-16.5	Peak	Vertical
*	14192.0	37.4	17.7	55.1	68.2	-13.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	38
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7485.5	38.4	10.8	49.2	74.0	-24.8	Peak	Horizontal
	8174.0	38.4	11.4	49.9	74.0	-24.1	Peak	Horizontal
*	8820.0	37.7	13.2	50.9	68.2	-17.3	Peak	Horizontal
*	9551.0	36.2	14.4	50.6	68.2	-17.6	Peak	Horizontal
	7468.5	37.2	10.9	48.1	74.0	-25.9	Peak	Vertical
	8157.0	37.8	11.4	49.2	74.0	-24.8	Peak	Vertical
*	8803.0	37.0	13.0	50.0	68.2	-18.2	Peak	Vertical
*	10392.5	38.8	16.0	54.8	68.2	-13.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	46
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7570.5	37.1	10.8	47.9	74.0	-26.1	Peak	Horizontal
	8352.5	36.9	11.2	48.1	74.0	-25.9	Peak	Horizontal
*	8854.0	37.4	12.8	50.2	68.2	-18.0	Peak	Horizontal
*	9857.0	36.7	15.4	52.0	68.2	-16.2	Peak	Horizontal
	7485.5	37.3	10.8	48.1	74.0	-25.9	Peak	Vertical
	8038.0	37.8	11.6	49.5	74.0	-24.5	Peak	Vertical
*	8777.5	37.7	12.8	50.5	68.2	-17.7	Peak	Vertical
*	10035.5	37.4	15.4	52.8	68.2	-15.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	54
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7298.5	37.9	10.6	48.5	74.0	-25.5	Peak	Horizontal
	8106.0	37.5	11.7	49.2	74.0	-24.8	Peak	Horizontal
*	8718.0	36.9	12.8	49.7	68.2	-18.5	Peak	Horizontal
*	9738.0	36.2	15.2	51.4	68.2	-16.8	Peak	Horizontal
	7494.0	37.5	10.8	48.3	74.0	-25.7	Peak	Vertical
	8369.5	38.8	11.1	50.0	74.0	-24.0	Peak	Vertical
*	8709.5	36.8	12.9	49.7	68.2	-18.5	Peak	Vertical
*	10545.5	42.9	16.5	59.3	68.2	-8.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	62
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7579.0	36.6	10.7	47.3	74.0	-26.7	Peak	Horizontal
	8293.0	38.4	11.1	49.6	74.0	-24.4	Peak	Horizontal
*	8879.5	36.9	12.8	49.7	68.2	-18.5	Peak	Horizontal
*	9780.5	35.9	15.2	51.1	68.2	-17.1	Peak	Horizontal
	8310.0	37.1	11.2	48.3	74.0	-25.7	Peak	Vertical
	10613.5	39.3	16.1	55.4	74.0	-18.6	Peak	Vertical
	10622.0	28.9	16.2	45.1	54.0	-8.9	Average	Vertical
*	13044.5	37.1	15.6	52.7	68.2	-15.5	Peak	Vertical
*	13614.0	38.4	16.6	55.1	68.2	-13.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	102
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7604.5	36.0	10.8	46.7	74.0	-27.3	Peak	Horizontal
	8250.5	38.6	11.4	50.0	74.0	-24.0	Peak	Horizontal
*	8794.5	37.6	12.9	50.4	68.2	-17.8	Peak	Horizontal
*	10129.0	36.3	15.8	52.1	68.2	-16.1	Peak	Horizontal
	8191.0	37.3	11.4	48.7	74.0	-25.3	Peak	Vertical
	10996.0	40.4	16.6	57.0	74.0	-17.0	Peak	Vertical
	11001.2	28.2	16.5	44.7	54.0	-9.3	Average	Vertical
*	13172.0	37.2	15.5	52.6	68.2	-15.6	Peak	Vertical
*	14056.0	37.6	17.5	55.2	68.2	-13.0	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	110
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7536.5	37.6	10.8	48.4	74.0	-25.6	Peak	Horizontal
	8216.5	38.2	11.4	49.6	74.0	-24.4	Peak	Horizontal
*	8769.0	35.9	12.9	48.8	68.2	-19.4	Peak	Horizontal
*	10477.5	36.9	16.4	53.2	68.2	-15.0	Peak	Horizontal
	8250.5	37.2	11.4	48.5	74.0	-25.5	Peak	Vertical
	11106.5	41.4	16.0	57.4	74.0	-16.6	Peak	Vertical
	11120.5	25.6	15.9	41.5	54.0	-12.5	Average	Vertical
*	12866.0	37.0	15.6	52.6	68.2	-15.6	Peak	Vertical
*	13928.5	38.2	16.9	55.1	68.2	-13.1	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	134
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7562.0	41.7	10.8	52.5	74.0	-21.5	Peak	Horizontal
	8089.0	37.1	11.8	48.9	74.0	-25.1	Peak	Horizontal
*	8922.0	36.6	13.0	49.7	68.2	-18.5	Peak	Horizontal
*	9593.5	35.3	14.7	50.0	68.2	-18.2	Peak	Horizontal
	8097.5	36.8	11.9	48.7	74.0	-25.3	Peak	Vertical
	11344.5	41.7	16.0	57.7	74.0	-16.3	Peak	Vertical
	11346.5	26.2	16.1	42.2	54.0	-11.8	Average	Vertical
*	13027.5	37.3	15.6	52.9	68.2	-15.3	Peak	Vertical
*	13750.0	37.4	16.6	53.9	68.2	-14.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	151
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	8386.5	37.2	11.1	48.2	74.0	-25.8	Peak	Horizontal
	11523.0	40.5	15.9	56.4	74.0	-17.6	Peak	Horizontal
	11532.2	29.7	15.9	45.5	54.0	-8.5	Average	Horizontal
*	12959.5	38.0	15.6	53.6	68.2	-14.6	Peak	Horizontal
*	14056.0	36.9	17.5	54.5	68.2	-13.7	Peak	Horizontal
	8352.5	37.8	11.2	49.0	74.0	-25.0	Peak	Vertical
	11506.0	46.0	16.0	62.0	74.0	-12.0	Peak	Vertical
	11514.5	34.8	15.9	50.6	54.0	-3.4	Average	Vertical
*	13010.5	36.6	15.6	52.2	68.2	-16.0	Peak	Vertical
*	14217.5	37.5	17.9	55.3	68.2	-12.9	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	802.11abgn, USB module	Temperature	25℃
Test Engineer	Buter Shi	Relative Humidity	56%
Test Site	AC1	Test Date	2020/06/29
Test Mode	802.11n-HT40, Ant 1 + 2	Test Channel	159
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	7723.5	39.8	10.5	50.3	74.0	-23.7	Peak	Horizontal
	8174.0	37.6	11.4	49.1	74.0	-24.9	Peak	Horizontal
*	8709.5	36.3	12.9	49.2	68.2	-19.0	Peak	Horizontal
*	9814.5	35.3	15.3	50.6	68.2	-17.6	Peak	Horizontal
	8182.5	37.2	11.4	48.6	74.0	-25.4	Peak	Vertical
	11591.0	44.0	15.6	59.6	74.0	-14.4	Peak	Vertical
	11561.2	32.6	15.6	48.2	54.0	-5.8	Average	Vertical
*	12883.0	36.9	15.4	52.3	68.2	-15.9	Peak	Vertical
*	14209.0	38.3	17.7	56.0	68.2	-12.2	Peak	Vertical

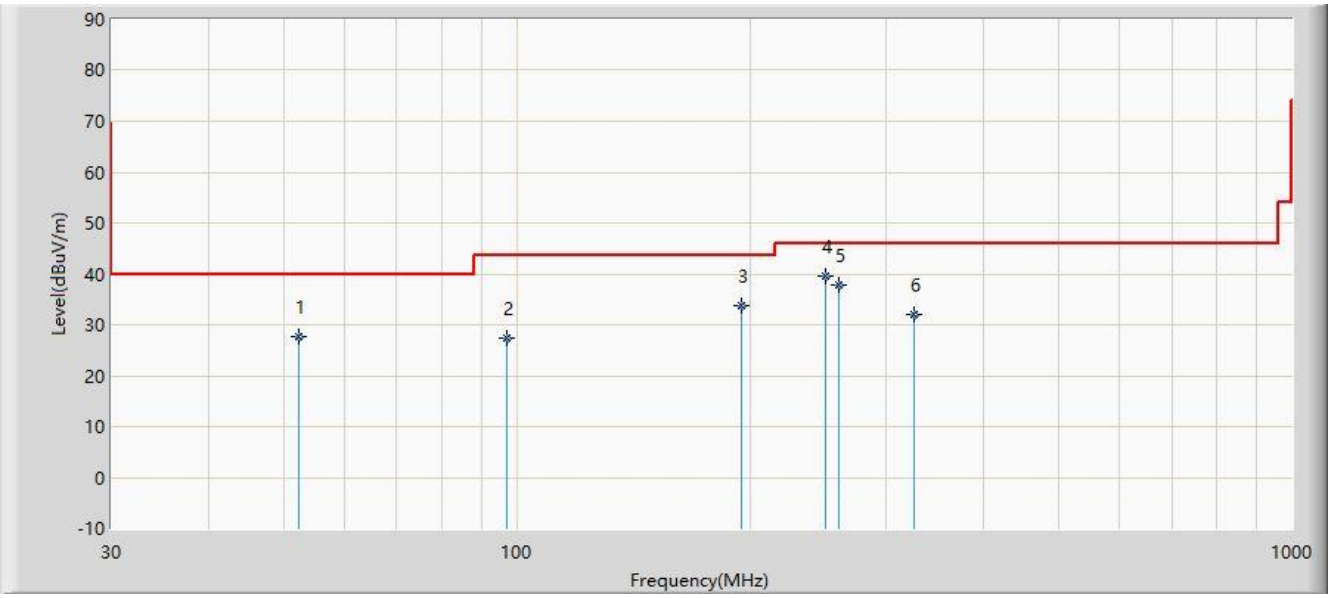
Note 1: “*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Worst Case of Radiated Emission below 1GHz:

Site: AC1	Time: 2020/06/29 - 04:40
Limit: FCC_Part15.209_RSE(3m)	Engineer: Buter Shi
Probe: AC1_VULB 9168 _30-1000MHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz	



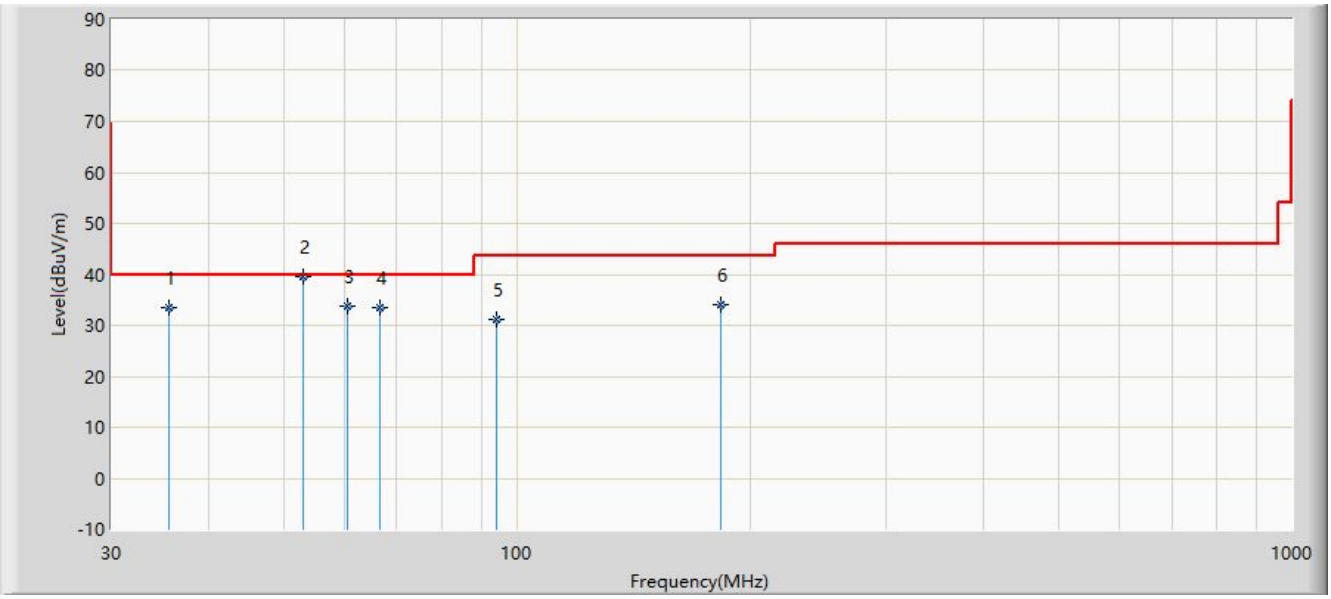
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			52.310	27.550	13.055	-12.450	40.000	14.495	QP
2			96.930	27.306	18.150	-16.194	43.500	9.156	QP
3			195.385	33.795	22.450	-9.705	43.500	11.345	QP
4		*	250.015	39.606	26.600	-6.394	46.000	13.006	QP
5			259.890	37.964	24.650	-8.036	46.000	13.314	QP
6			325.850	31.956	16.254	-14.044	46.000	15.702	QP

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 40GHz), therefore no data appear in the report.

Site: AC1	Time: 2020/06/29 - 04:45
Limit: FCC_Part15.209_RSE(3m)	Engineer: Buter Shi
Probe: AC1_VULB 9168 _30-1000MHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			35.636	33.508	20.100	-6.492	40.000	13.408	QP
2		*	52.980	39.642	25.200	-0.358	40.000	14.442	QP
3			60.546	33.881	20.036	-6.119	40.000	13.845	QP
4			66.607	33.508	20.500	-6.492	40.000	13.008	QP
5			94.020	31.211	22.458	-12.289	43.500	8.753	QP
6			183.745	34.028	21.560	-9.472	43.500	12.468	QP

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 40GHz), therefore no data appear in the report.

7.4. Radiated Restricted Band Edge Measurement

7.4.1.Test Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1] 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
8.41425 - 8.41475	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	([2])
13.36 - 13.41	--	--	--

For 15.407(b) Requirement:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17

dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

Refer to KDB 789033 D02v02r01 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15.209 Limit		
Frequency (MHz)	Field Strength (μV/m)	Measured Distance (m)
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.4.2.Test Procedure Used

ANSI C63.10-2013 Section 6.3 (General Requirements)

ANSI C63.10-2013 Section 6.6 (Standard test method above 1GHz)

7.4.3.Test Setting

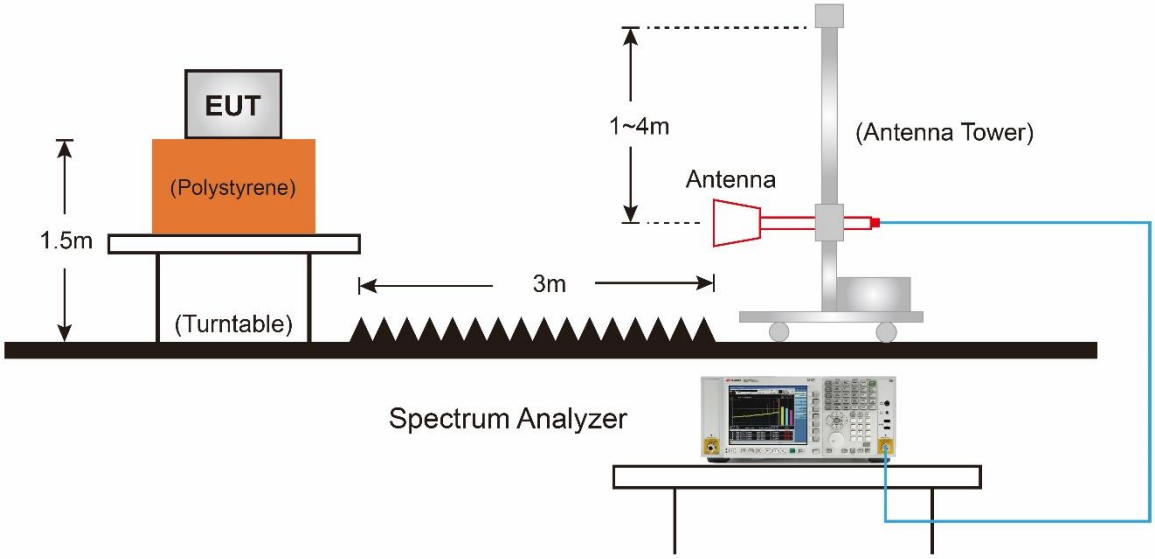
Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

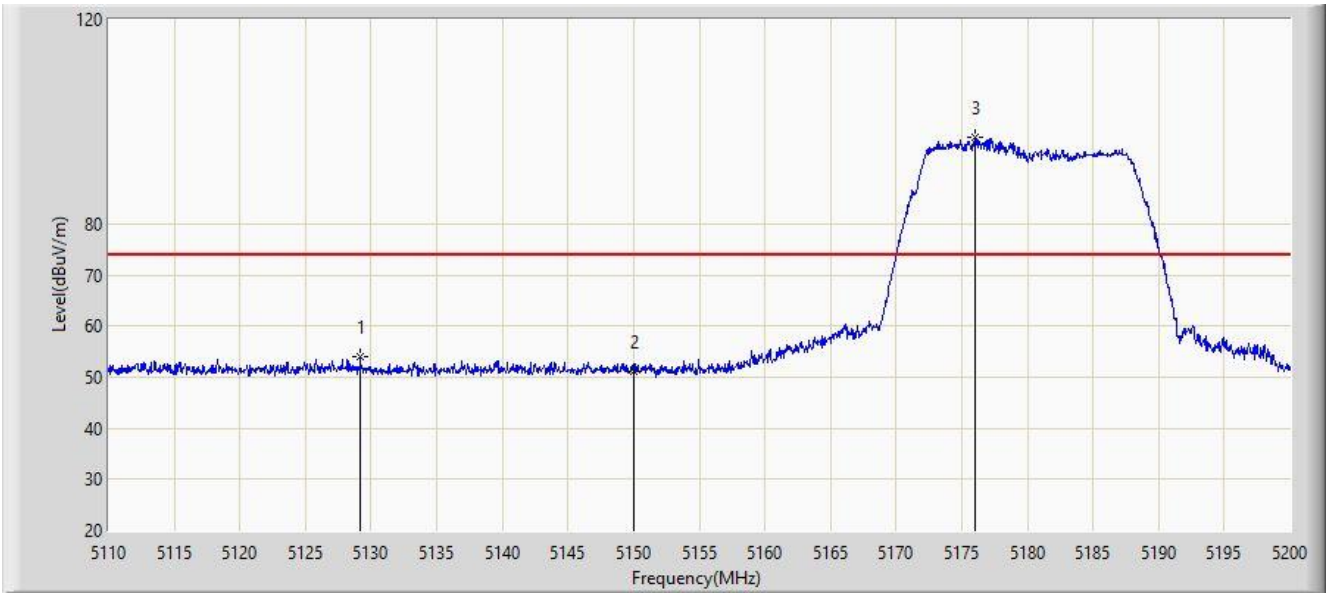
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10Hz
4. If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Trace was allowed to stabilize

7.4.4.Test Setup



7.4.5.Test Result

Site: AC2	Time: 2020/06/21 - 12:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5180MHz, Ant 1	

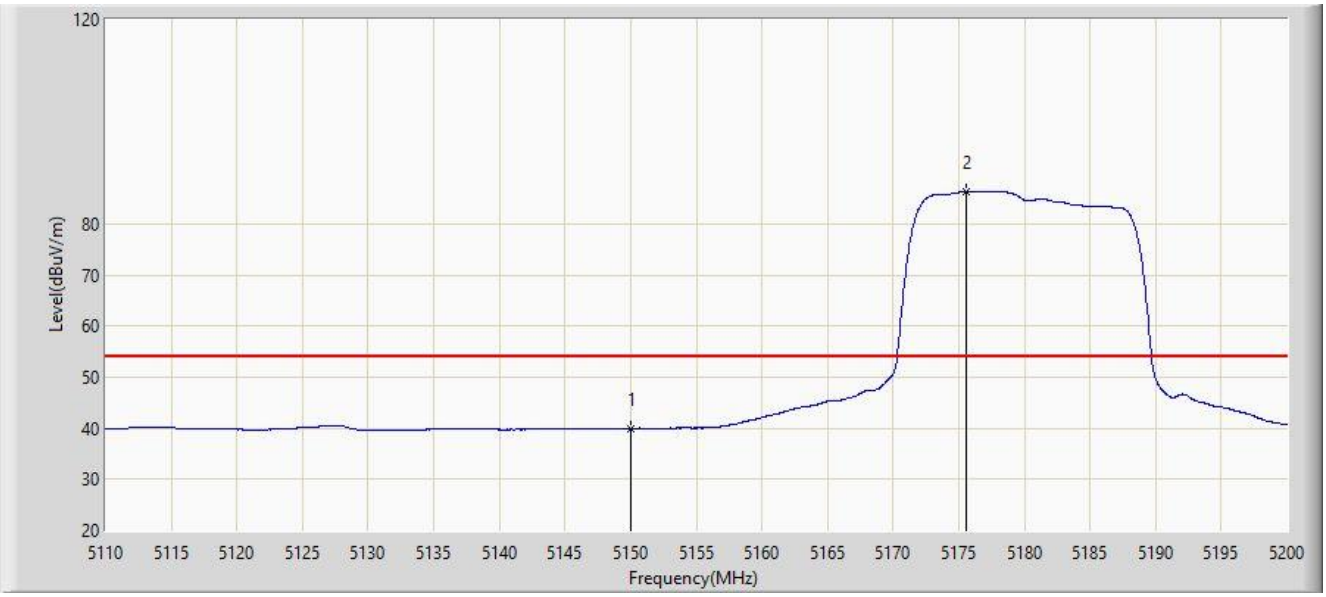


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5129.170	53.927	53.698	-20.073	74.000	0.229	PK
2		5150.000	51.215	50.813	-22.785	74.000	0.402	PK
3	*	5175.970	96.922	96.524	N/A	N/A	0.399	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 12:39
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5180MHz, Ant 1	

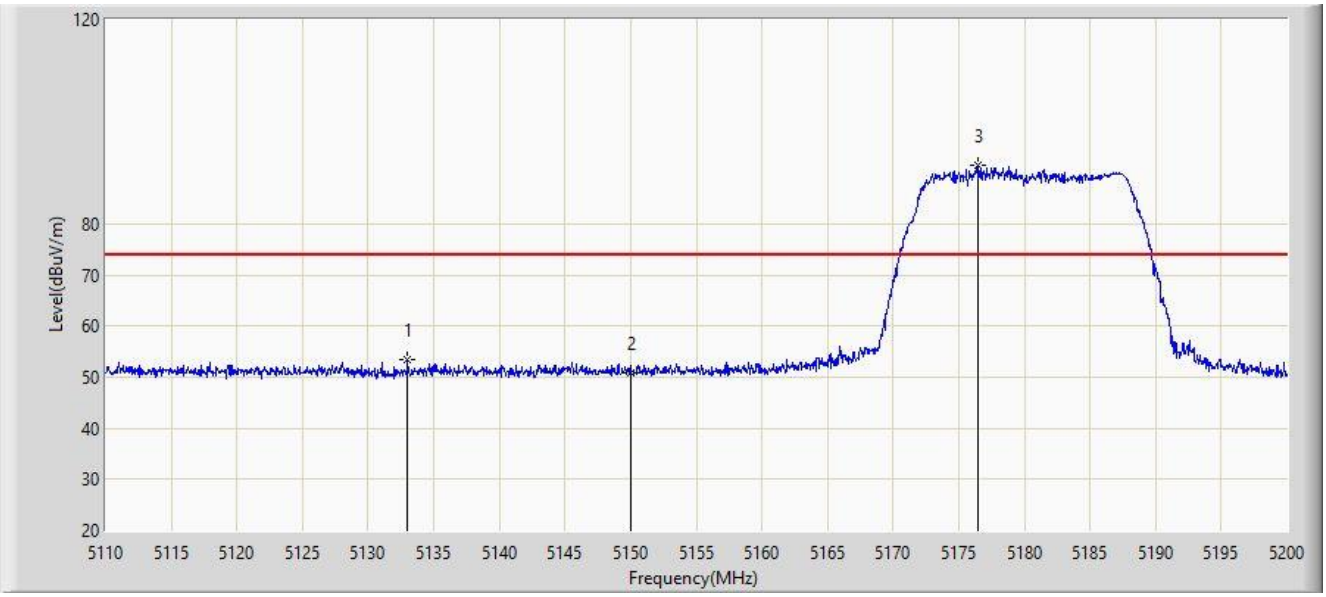


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	39.978	39.576	-14.022	54.000	0.402	AV
2	*	5175.565	86.307	85.904	N/A	N/A	0.402	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 12:44
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5180MHz, Ant 1	

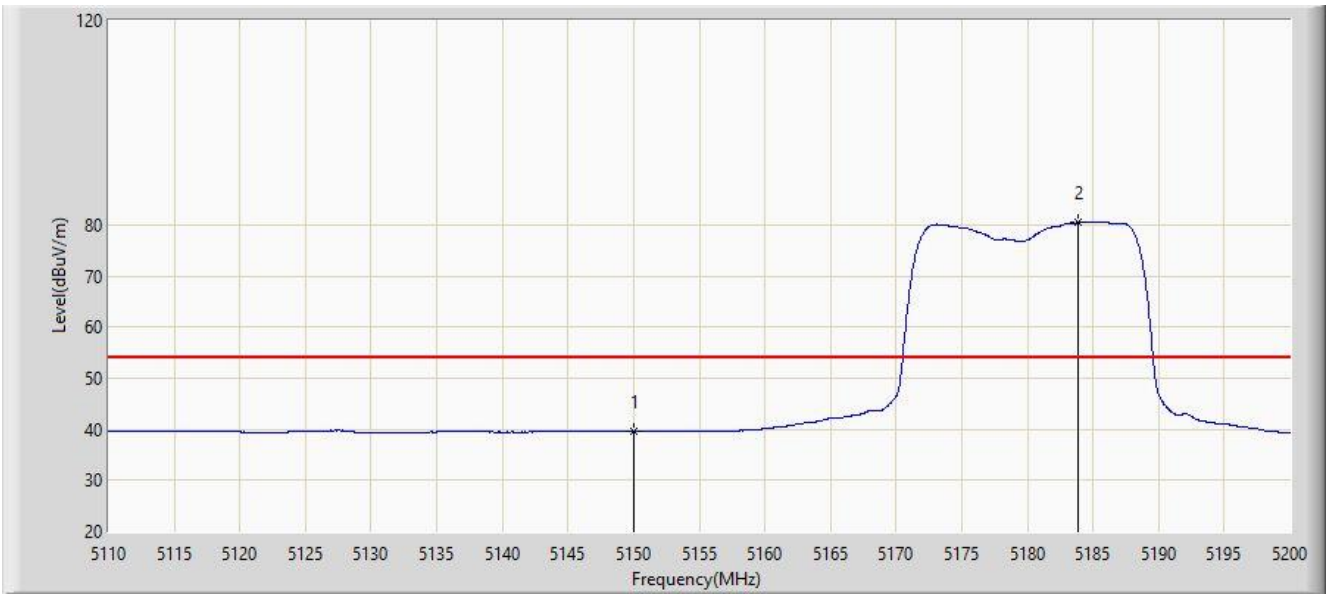


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5132.995	53.392	53.149	-20.608	74.000	0.243	PK
2		5150.000	50.918	50.516	-23.082	74.000	0.402	PK
3	*	5176.510	91.394	91.002	N/A	N/A	0.392	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 12:45
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5180MHz, Ant 1	

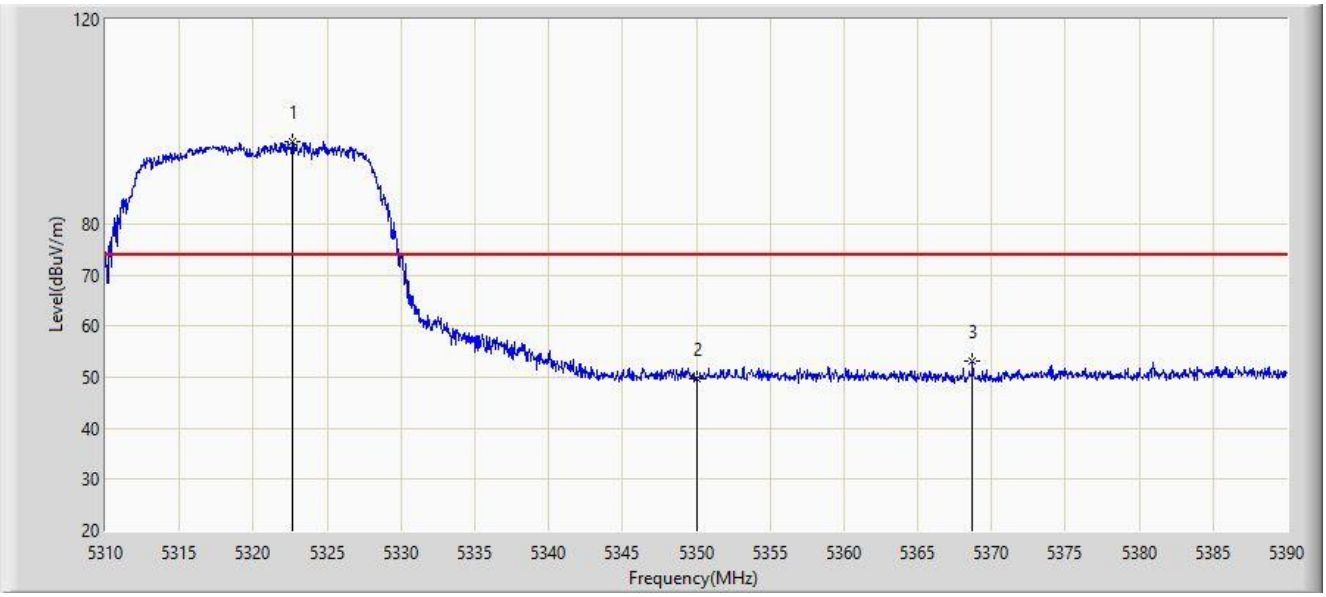


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	39.570	39.168	-14.430	54.000	0.402	AV
2	*	5183.845	80.408	80.090	N/A	N/A	0.319	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 12:52
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5320MHz, Ant 2	

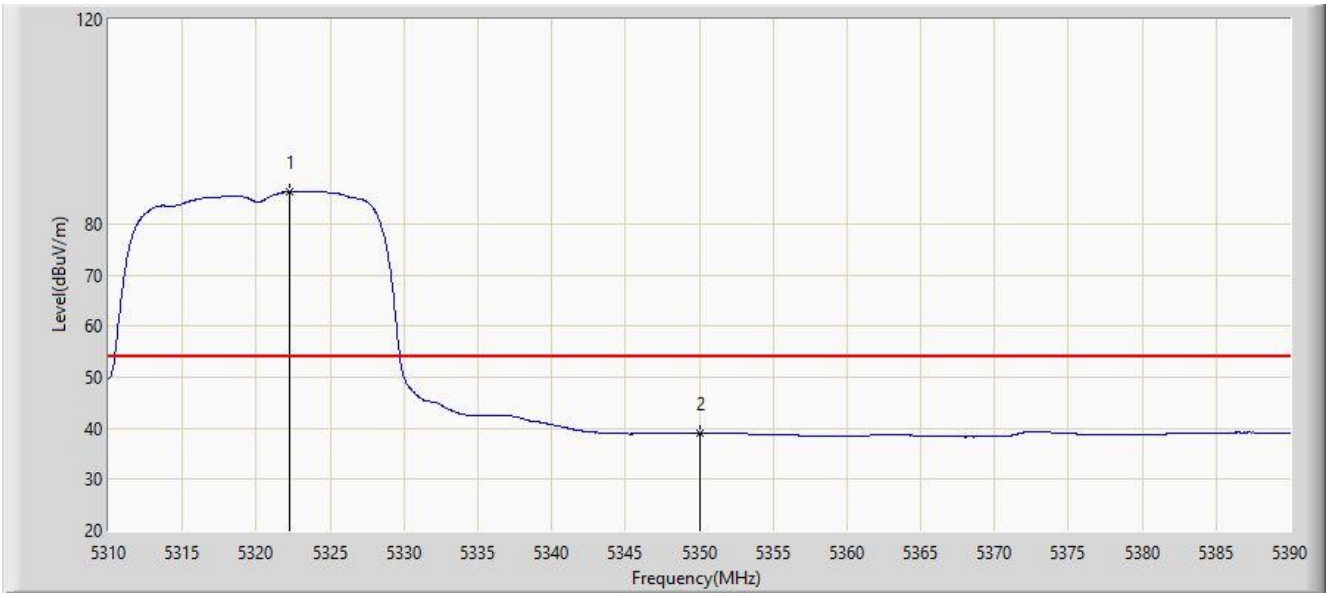


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5322.680	95.956	96.102	N/A	N/A	-0.146	PK
2		5350.000	49.568	49.487	-24.432	74.000	0.081	PK
3		5368.680	53.056	53.027	-20.944	74.000	0.029	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 12:54
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5320MHz, Ant 2	

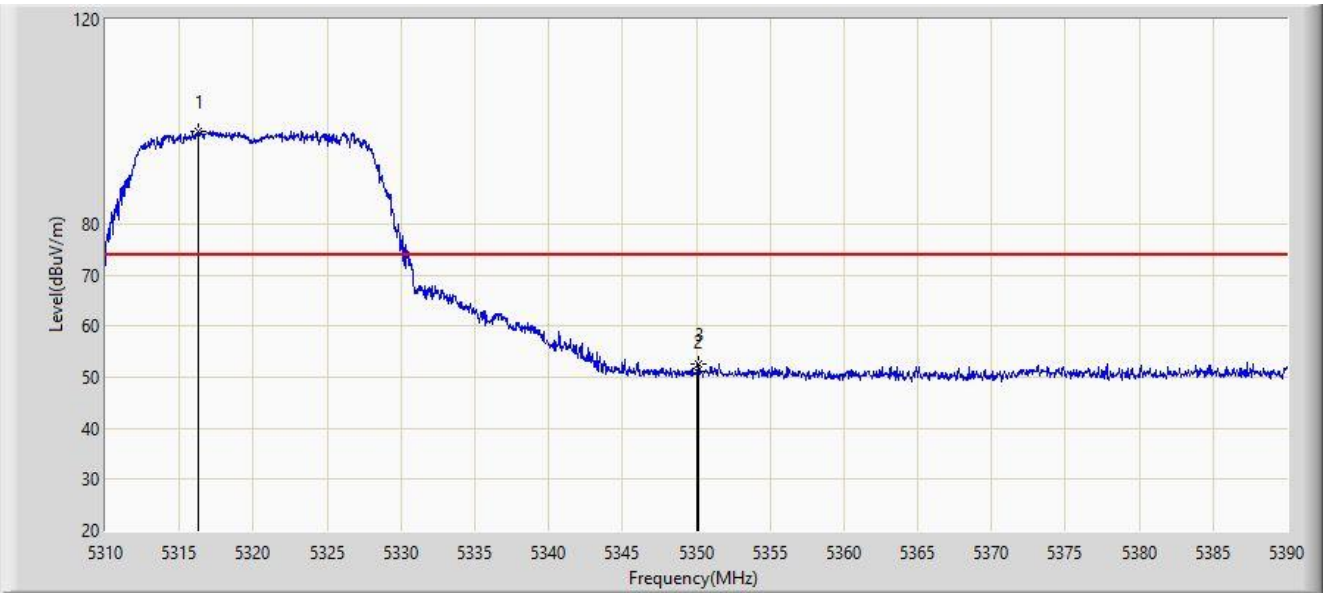


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5322.240	86.307	86.445	N/A	N/A	-0.139	AV
2		5350.000	38.930	38.849	-15.070	54.000	0.081	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 12:57
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5320MHz, Ant 2	

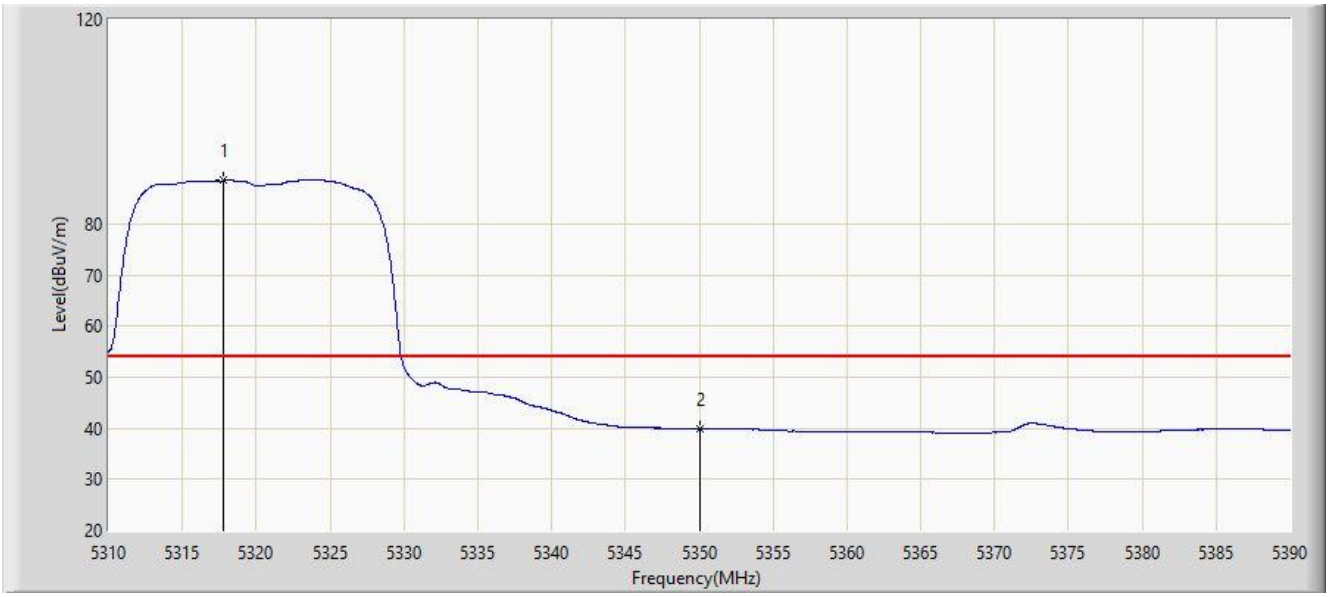


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5316.280	98.187	98.204	N/A	N/A	-0.017	PK
2		5350.000	51.260	51.179	-22.740	74.000	0.081	PK
3		5350.160	52.583	52.501	-21.417	74.000	0.082	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5320MHz, Ant 2	

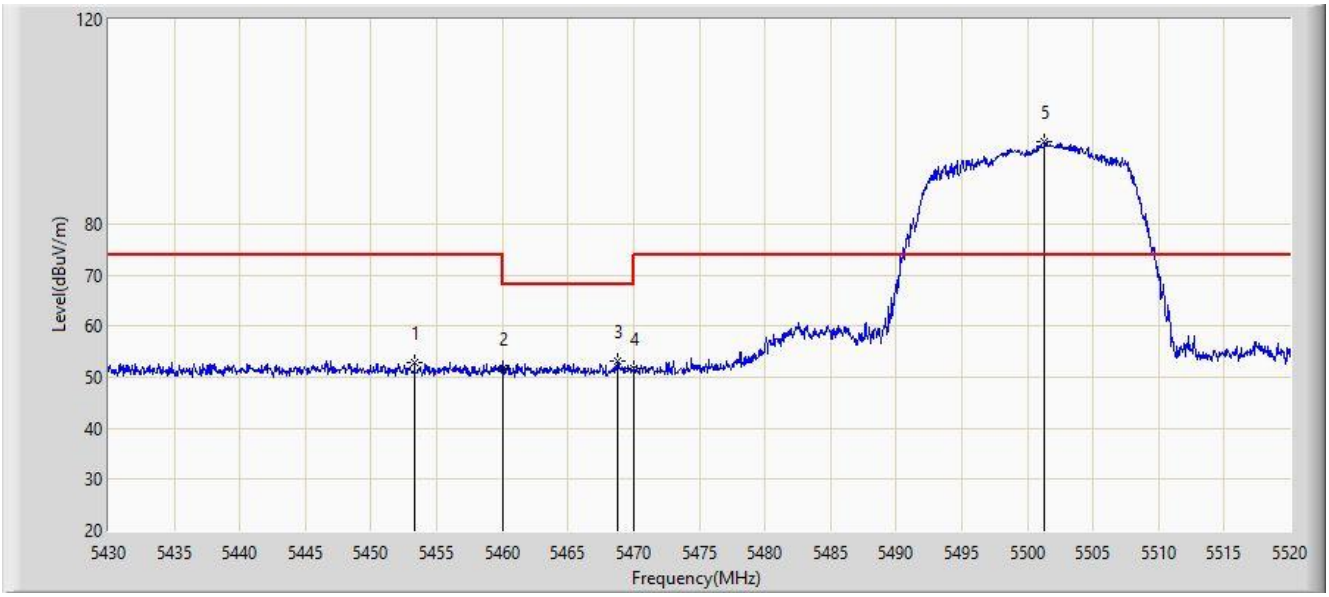


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5317.800	88.482	88.540	N/A	N/A	-0.058	AV
2		5350.000	39.841	39.760	-14.159	54.000	0.081	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5500MHz, Ant 2	

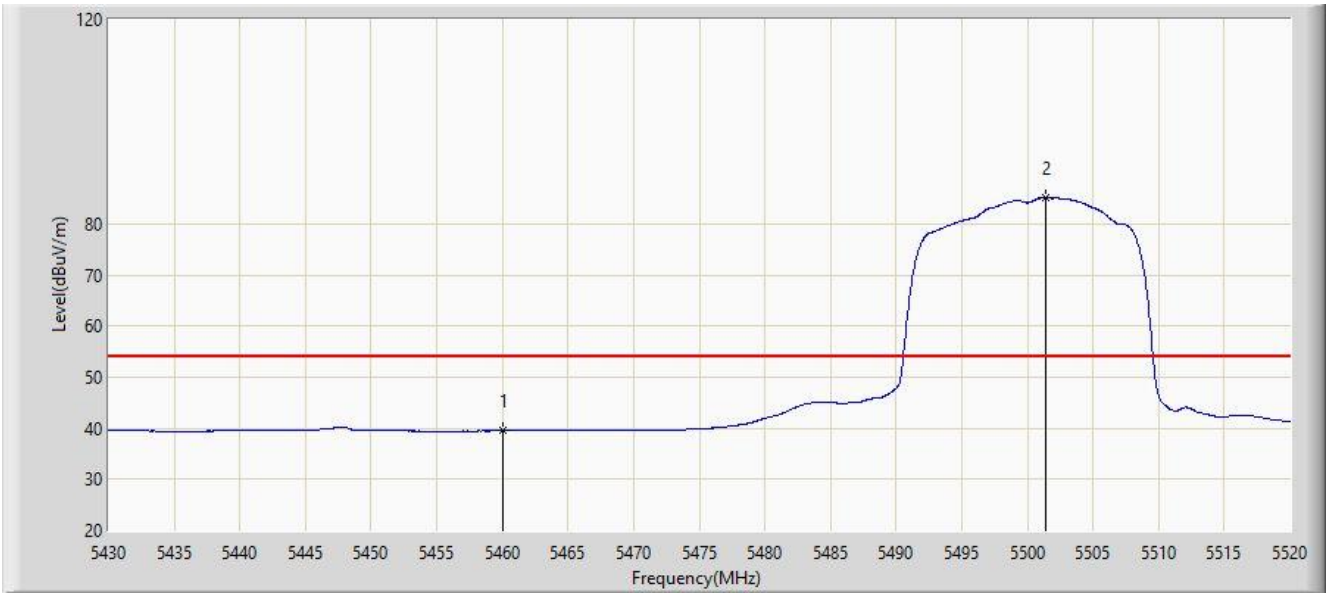


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5453.310	52.907	52.605	-21.093	74.000	0.302	PK
2		5460.000	51.750	51.471	-22.250	74.000	0.279	PK
3		5468.745	53.123	52.863	-15.077	68.200	0.260	PK
4		5470.000	51.788	51.531	-16.412	68.200	0.257	PK
5	*	5501.325	96.087	95.837	N/A	N/A	0.250	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:12
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5500MHz, Ant 2	

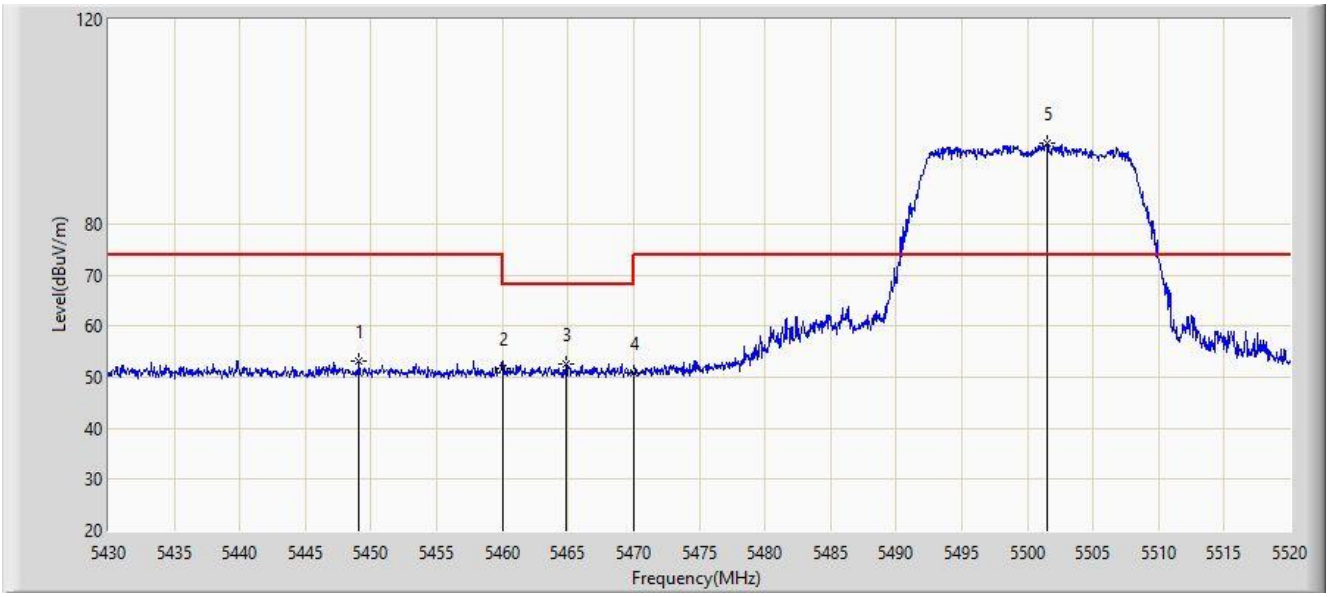


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	39.460	39.181	-14.540	54.000	0.279	AV
2	*	5501.370	85.065	84.815	N/A	N/A	0.250	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5500MHz, Ant 2	

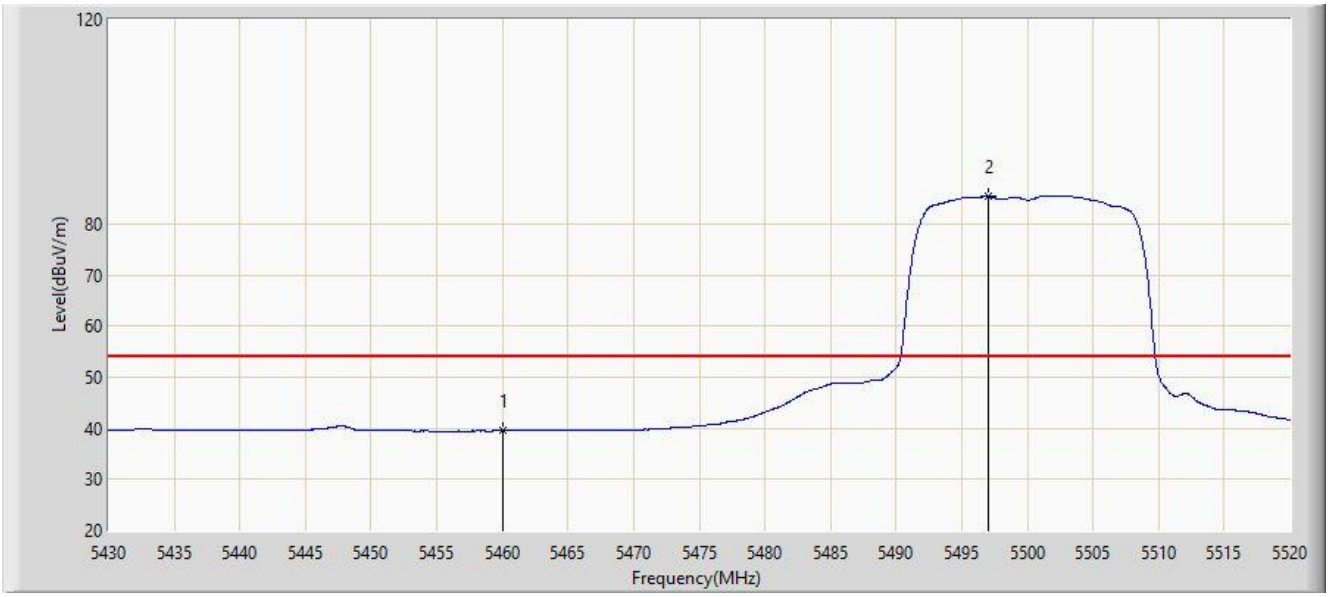


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5449.080	53.106	52.752	-20.894	74.000	0.355	PK
2		5460.000	51.781	51.502	-22.219	74.000	0.279	PK
3		5464.830	52.577	52.309	-15.623	68.200	0.268	PK
4		5470.000	50.947	50.690	-17.253	68.200	0.257	PK
5	*	5501.460	95.742	95.492	N/A	N/A	0.251	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5500MHz, Ant 2	

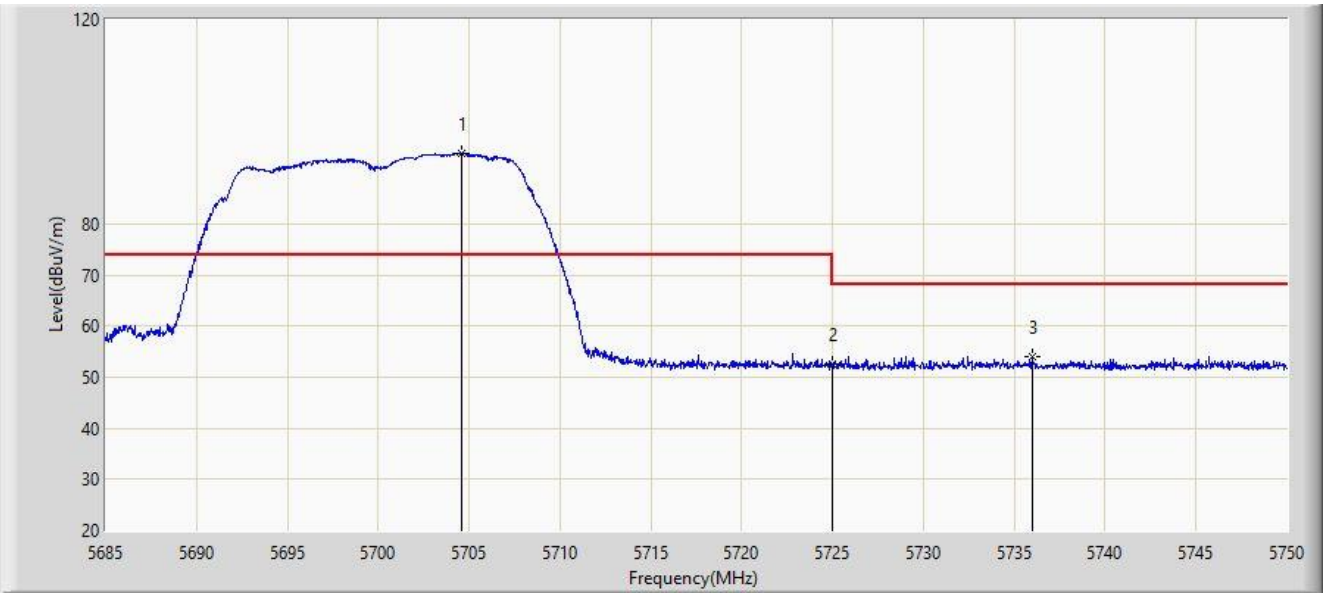


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	39.508	39.229	-14.492	54.000	0.279	AV
2	*	5497.005	85.374	85.112	N/A	N/A	0.261	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5700MHz, Ant 2	

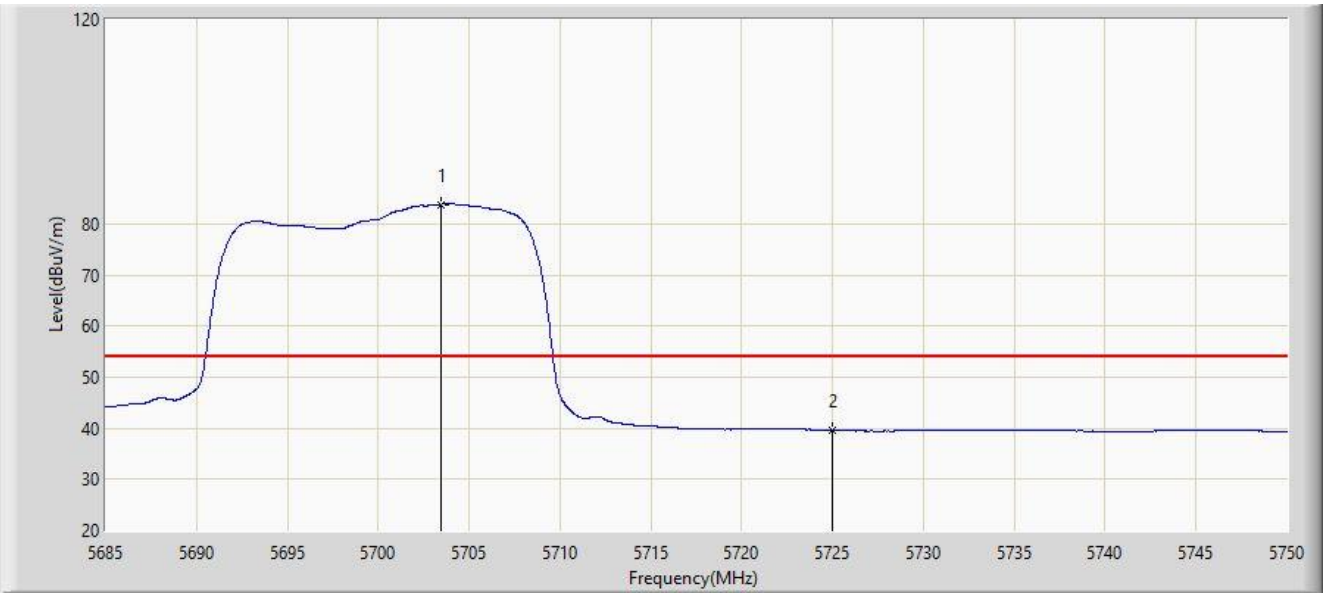


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5704.565	93.840	92.444	N/A	N/A	1.397	PK
2		5725.000	52.660	51.227	-15.540	68.200	1.433	PK
3		5735.960	54.084	52.705	-14.116	68.200	1.379	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5700MHz, Ant 2	

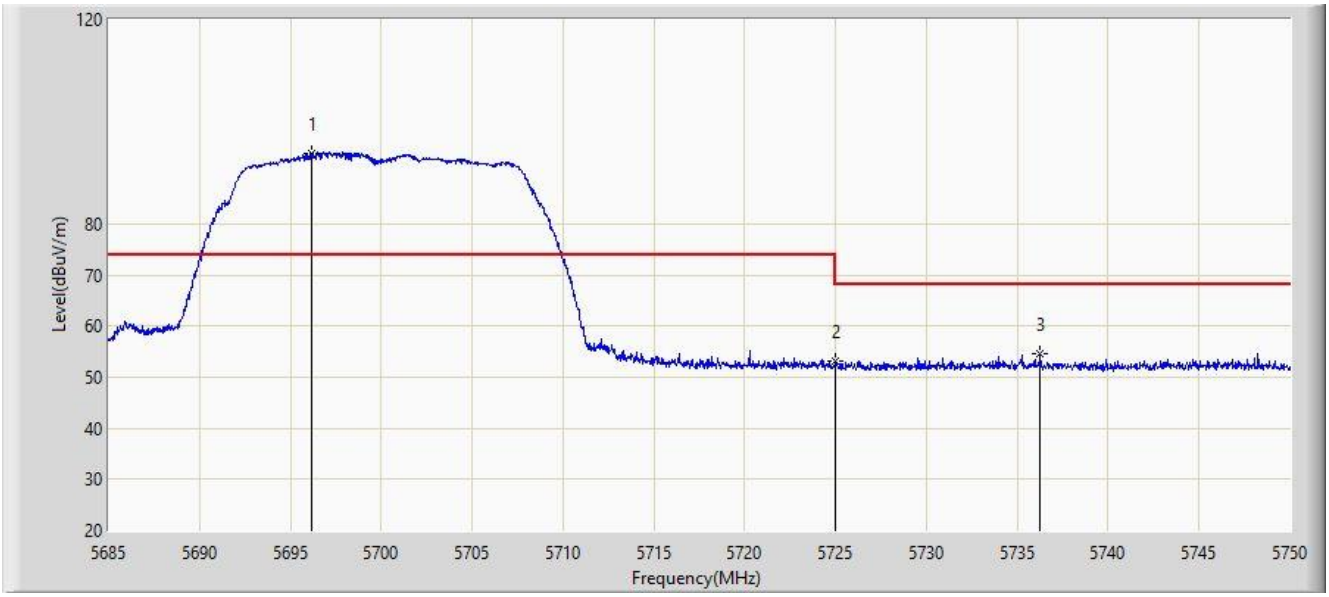


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5703.460	83.821	82.457	N/A	N/A	1.364	AV
2		5725.000	39.607	38.174	-14.393	54.000	1.433	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5700MHz, Ant 2	

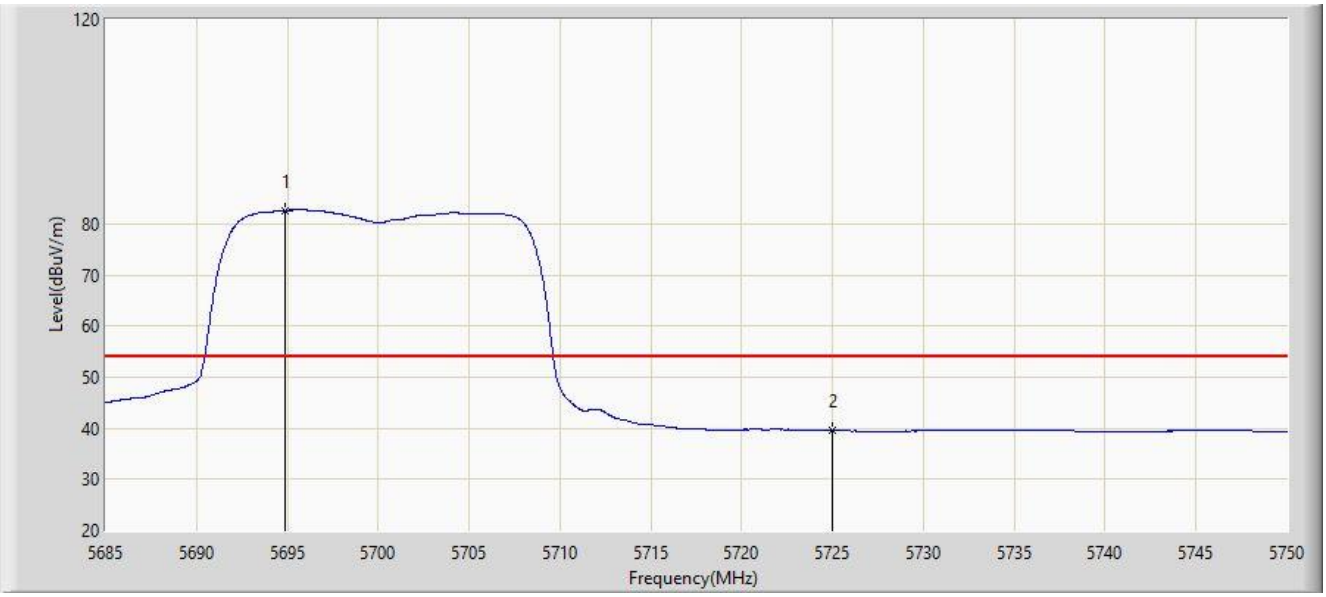


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5696.147	93.801	92.649	N/A	N/A	1.152	PK
2		5725.000	53.016	51.583	-15.184	68.200	1.433	PK
3		5736.252	54.548	53.170	-13.652	68.200	1.378	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5700MHz, Ant 2	

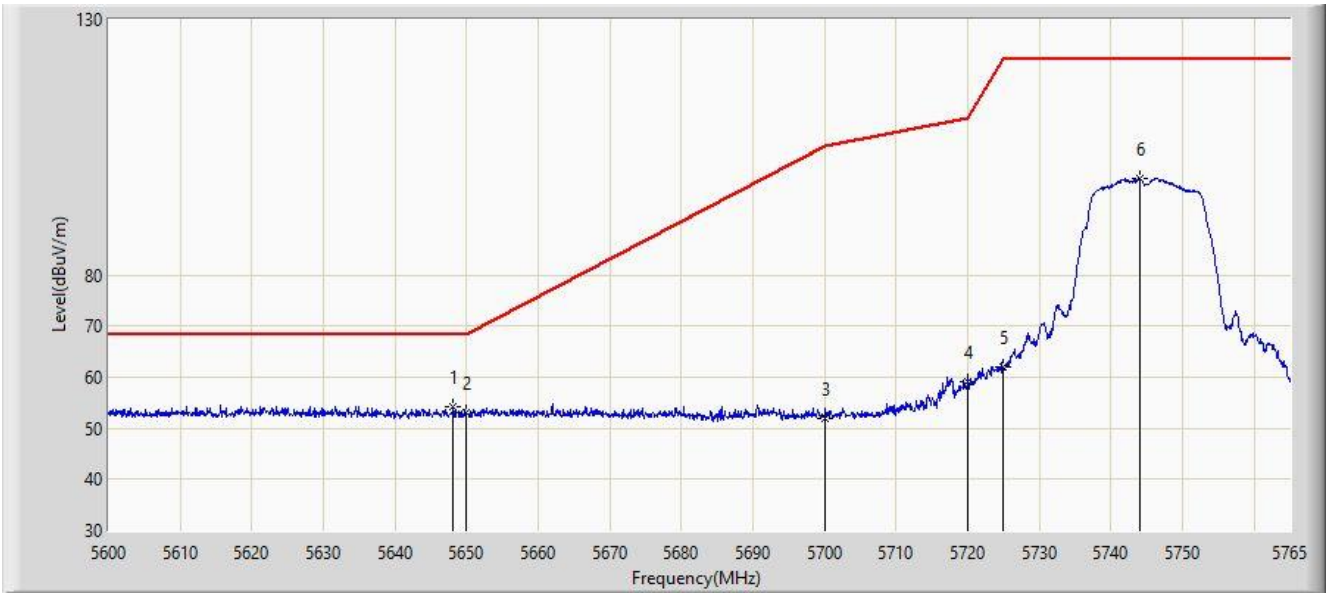


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5694.913	82.586	81.470	N/A	N/A	1.117	AV
2		5725.000	39.548	38.115	-14.452	54.000	1.433	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:33
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5745MHz, Ant 1	

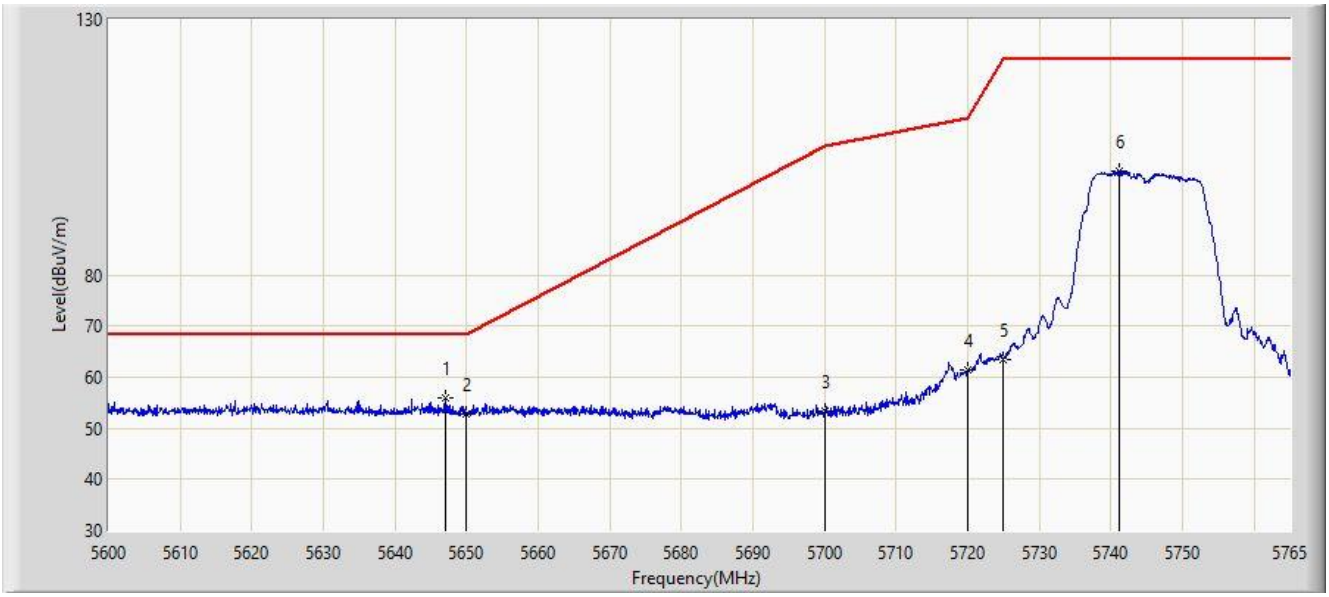


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5648.180	54.235	52.900	-13.965	68.200	1.335	PK
2		5650.000	52.993	51.620	-15.207	68.200	1.373	PK
3		5700.000	51.970	50.706	-53.230	105.200	1.264	PK
4		5720.000	59.142	57.680	-51.658	110.800	1.462	PK
5		5725.000	61.982	60.549	-60.218	122.200	1.433	PK
6		5743.962	98.802	97.402	N/A	N/A	1.400	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:37
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5745MHz, Ant 1	

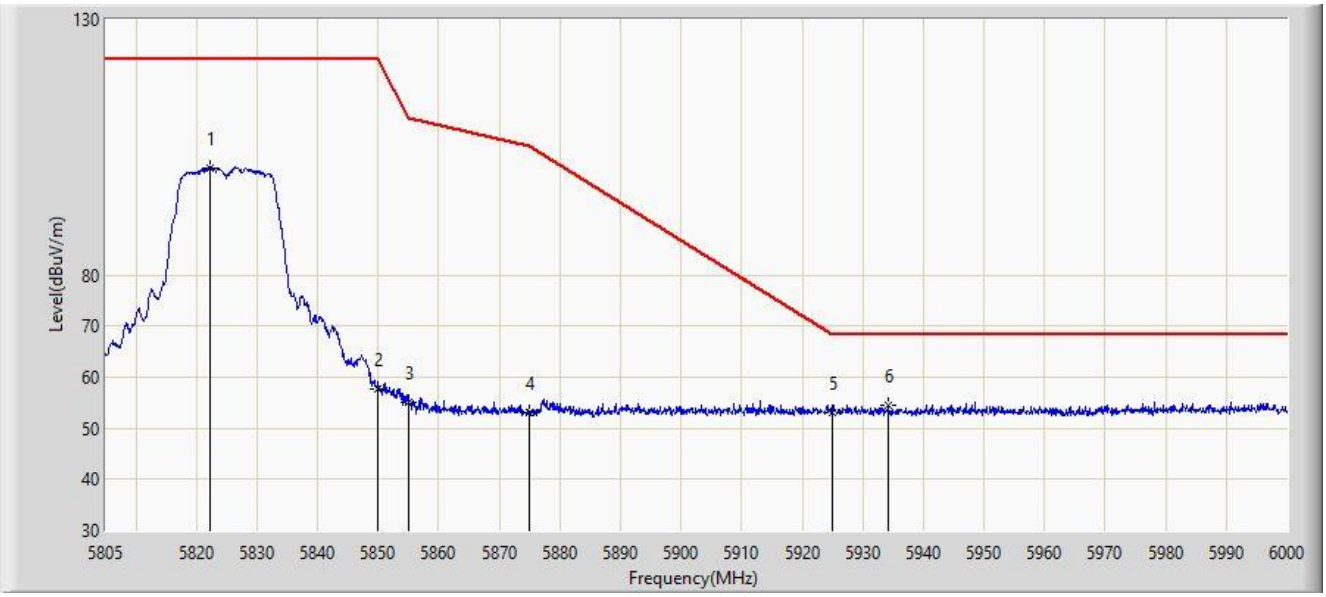


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5647.025	55.897	54.586	-12.303	68.200	1.310	PK
2		5650.000	52.768	51.395	-15.432	68.200	1.373	PK
3		5700.000	53.323	52.059	-51.877	105.200	1.264	PK
4		5720.000	61.512	60.050	-49.288	110.800	1.462	PK
5		5725.000	63.320	61.887	-58.880	122.200	1.433	PK
6		5741.240	100.384	99.024	N/A	N/A	1.359	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:39
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5825MHz, Ant 1	

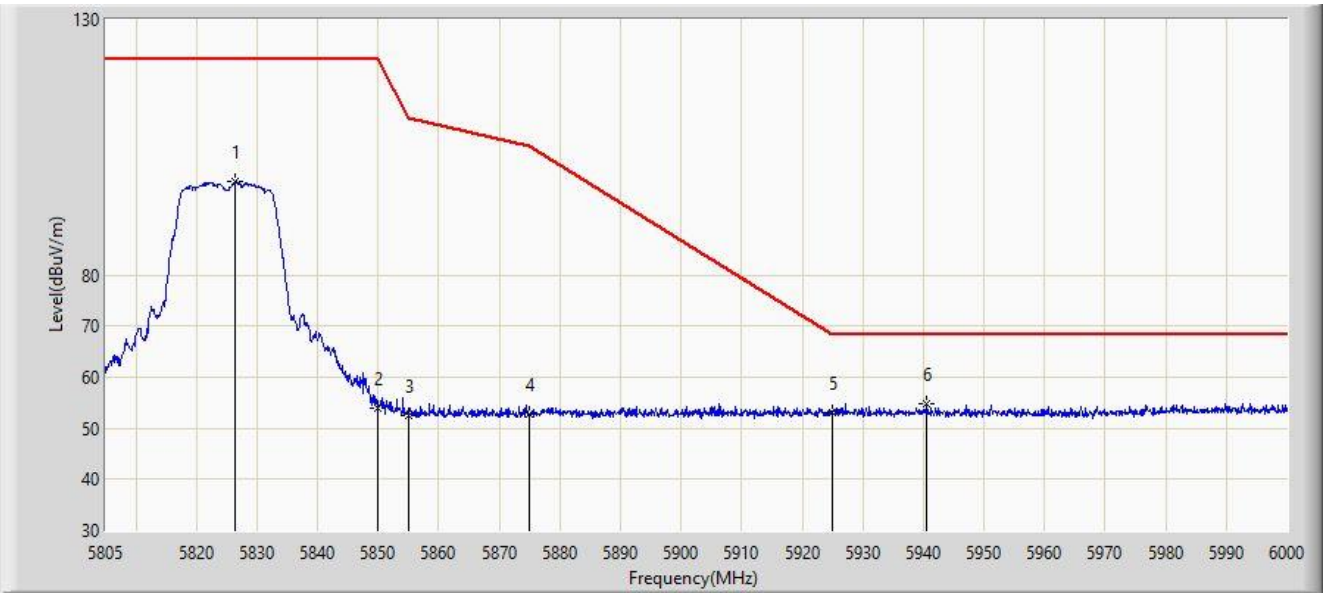


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5822.160	100.973	99.370	N/A	N/A	1.603	PK
2		5850.000	57.769	55.976	-64.431	122.200	1.792	PK
3		5855.000	55.093	53.291	-55.707	110.800	1.802	PK
4		5875.000	53.150	51.279	-52.050	105.200	1.872	PK
5		5925.000	53.077	51.008	-15.123	68.200	2.069	PK
6	*	5934.285	54.624	52.581	-13.576	68.200	2.043	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:44
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at channel 5825MHz, Ant 1	

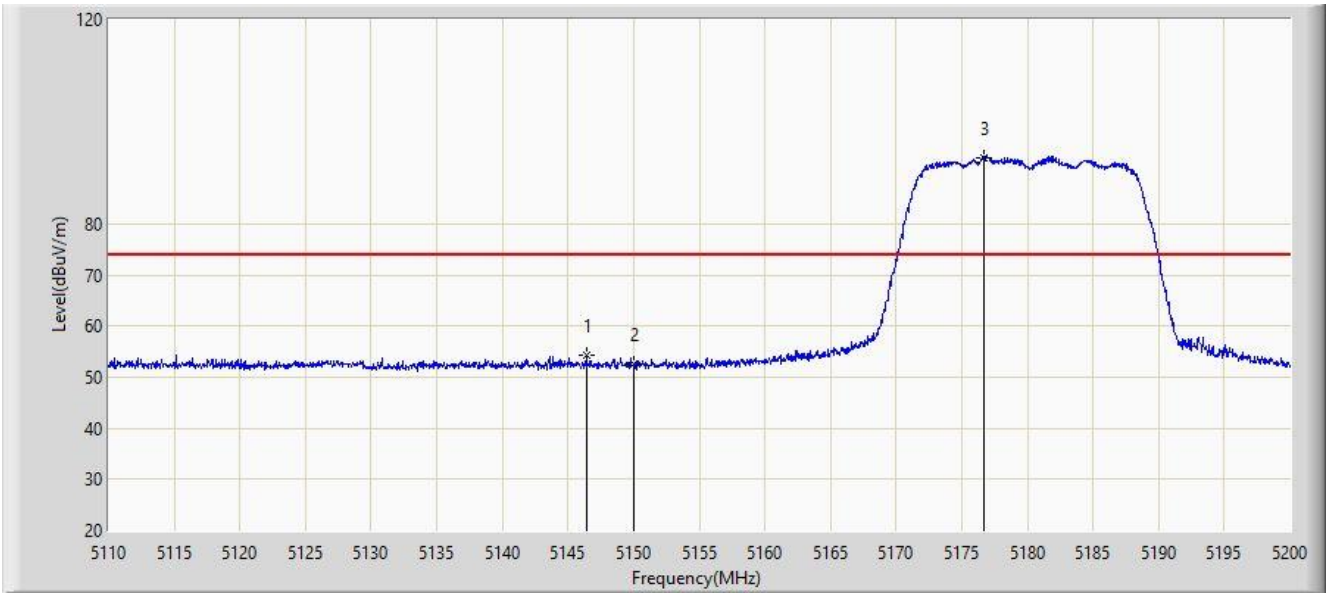


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5826.450	98.179	96.613	N/A	N/A	1.565	PK
2		5850.000	54.063	52.270	-68.137	122.200	1.792	PK
3		5855.000	52.372	50.570	-58.428	110.800	1.802	PK
4		5875.000	52.816	50.945	-52.384	105.200	1.872	PK
5		5925.000	52.957	50.888	-15.243	68.200	2.069	PK
6	*	5940.623	54.666	52.645	-13.534	68.200	2.021	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:48
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz, Ant 1 + 2	

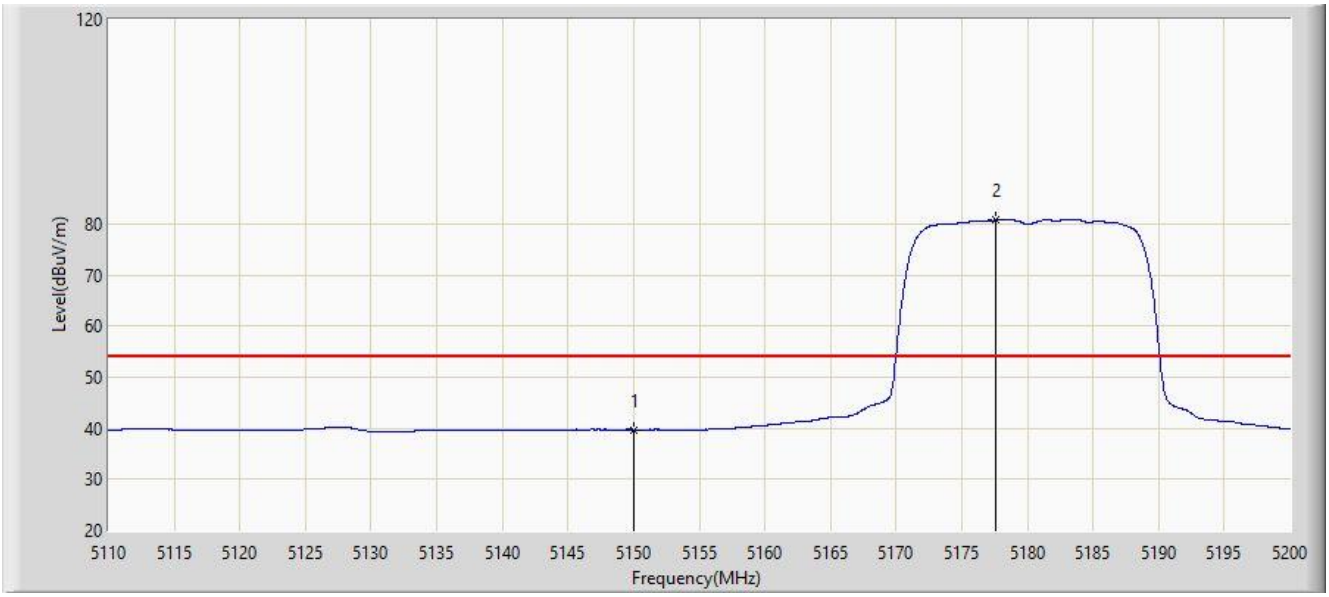


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5146.405	54.182	53.811	-19.818	74.000	0.372	PK
2		5150.000	52.493	52.091	-21.507	74.000	0.402	PK
3	*	5176.645	92.898	92.508	N/A	N/A	0.390	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:53
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz, Ant 1 + 2	

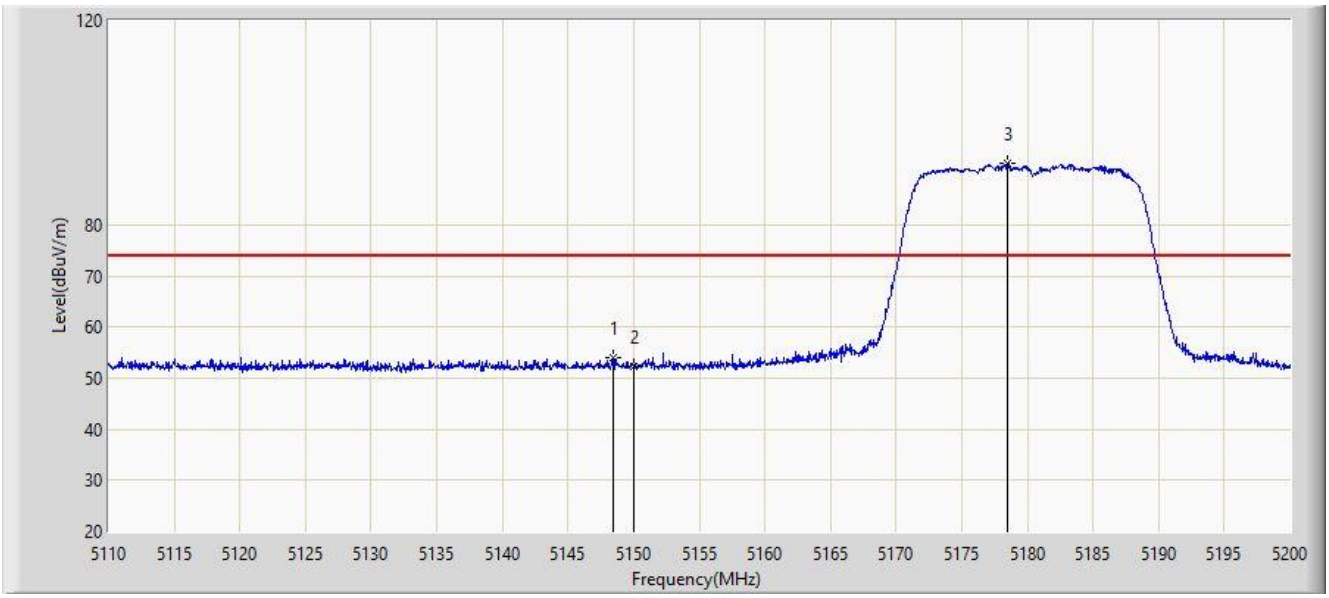


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	39.709	39.307	-14.291	54.000	0.402	AV
2	*	5177.590	80.715	80.335	N/A	N/A	0.380	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:55
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz, Ant 1 + 2	

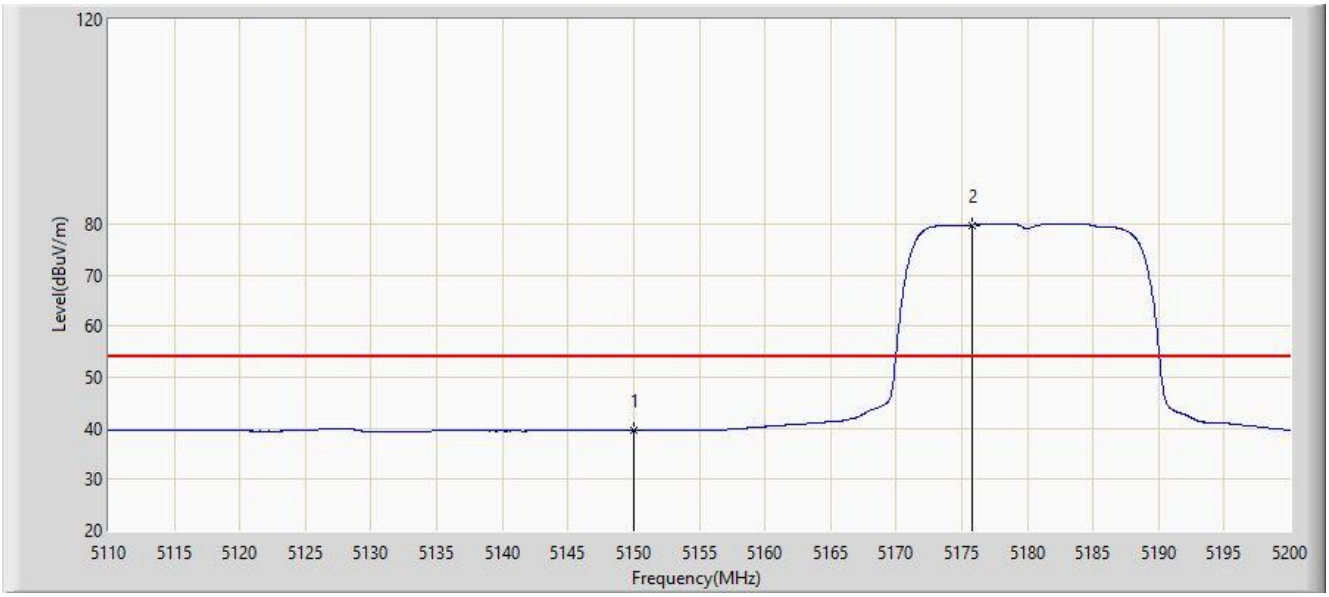


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5148.430	53.973	53.584	-20.027	74.000	0.388	PK
2		5150.000	52.304	51.902	-21.696	74.000	0.402	PK
3	*	5178.445	91.946	91.576	N/A	N/A	0.369	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 13:57
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5180MHz, Ant 1 + 2	

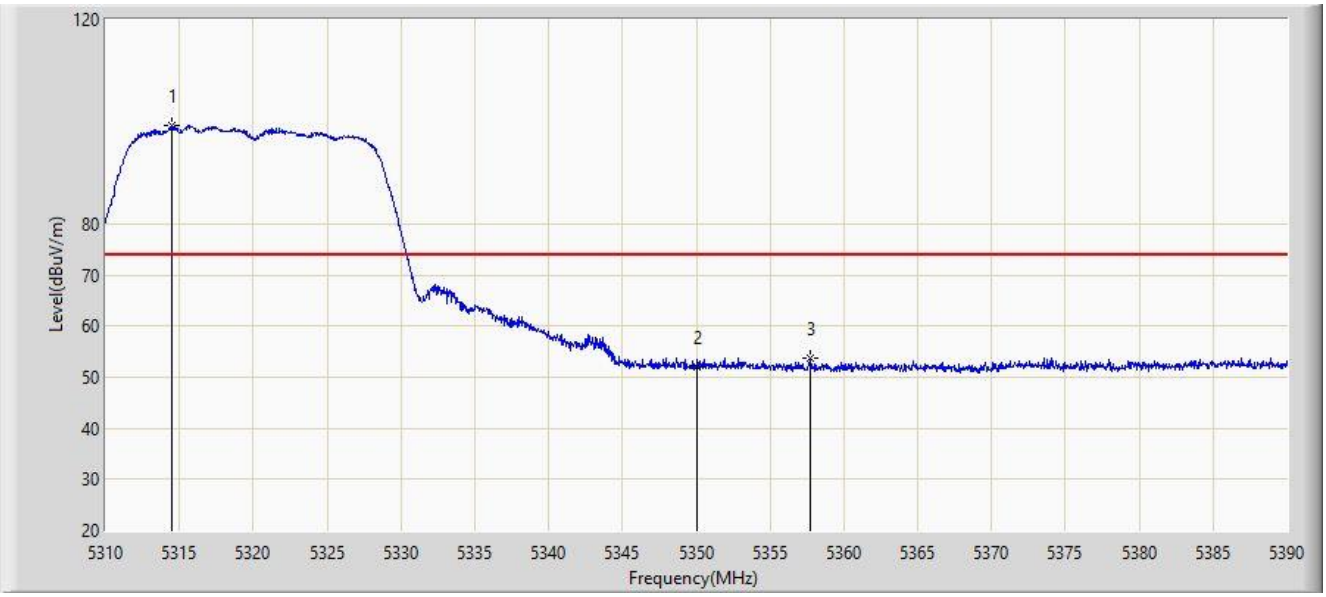


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	39.606	39.204	-14.394	54.000	0.402	AV
2	*	5175.835	79.790	79.390	N/A	N/A	0.400	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz, Ant 1 + 2	

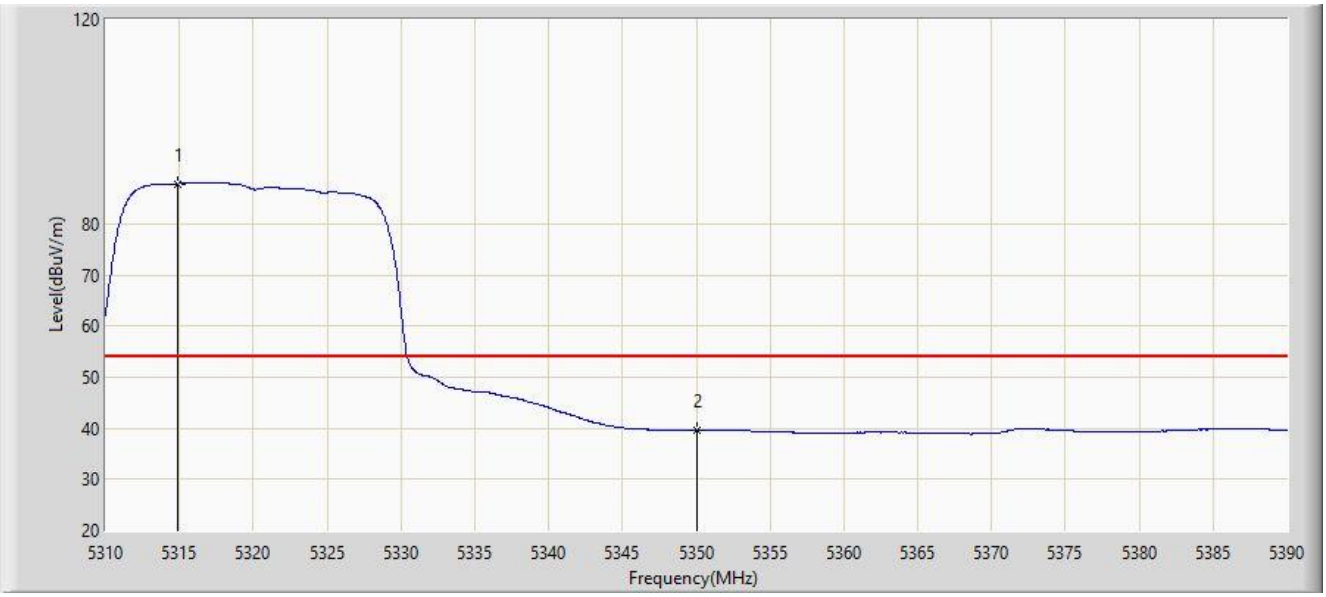


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5314.440	99.136	99.103	N/A	N/A	0.033	PK
2		5350.000	51.927	51.846	-22.073	74.000	0.081	PK
3		5357.720	53.681	53.603	-20.319	74.000	0.077	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:07
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz, Ant 1 + 2	

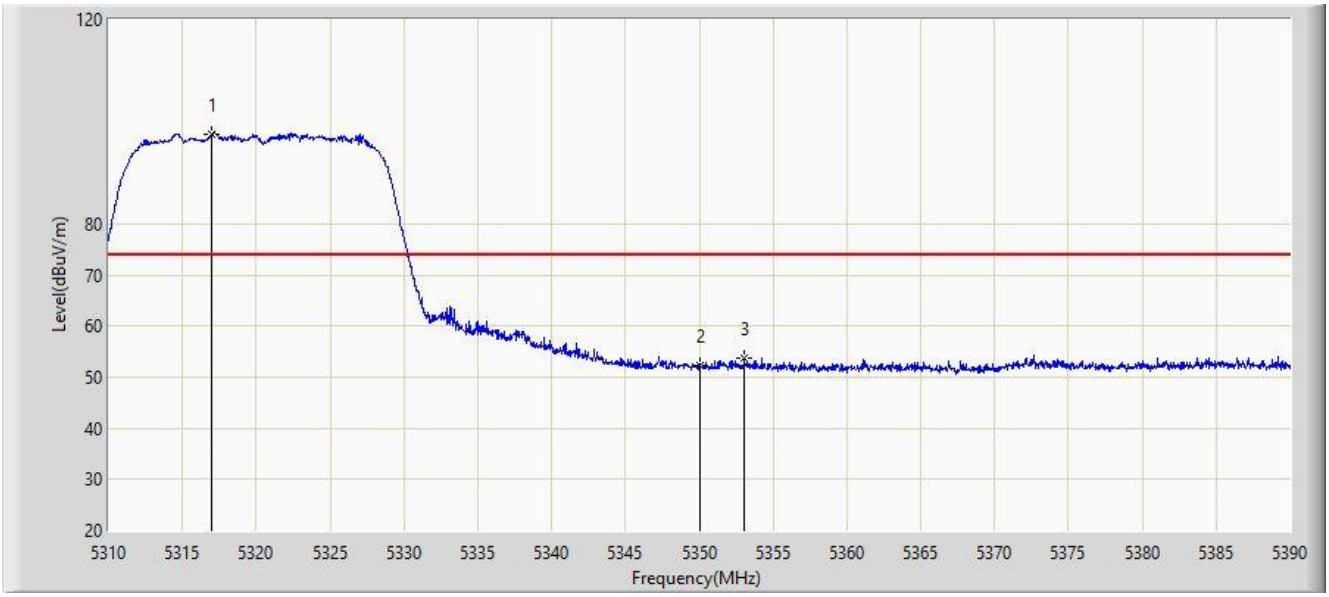


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5314.920	87.867	87.847	N/A	N/A	0.020	AV
2		5350.000	39.622	39.541	-14.378	54.000	0.081	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz, Ant 1 + 2	

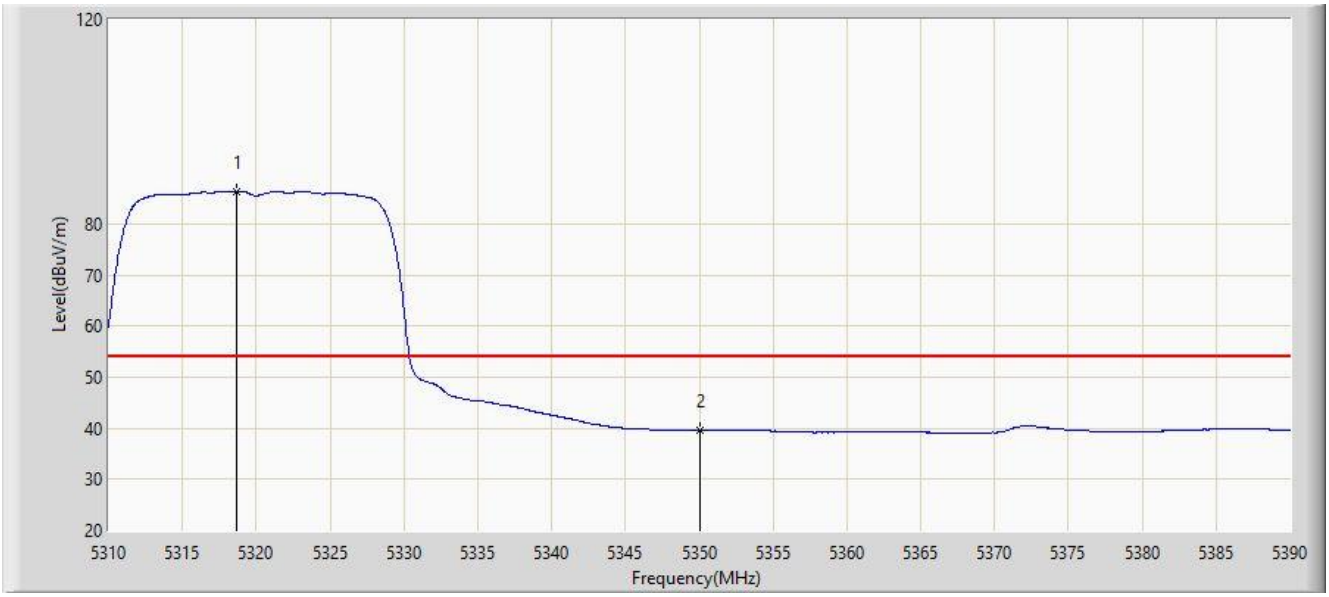


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5316.960	97.500	97.535	N/A	N/A	-0.035	PK
2		5350.000	52.213	52.132	-21.787	74.000	0.081	PK
3		5353.040	53.576	53.484	-20.424	74.000	0.091	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5320MHz, Ant 1 + 2	

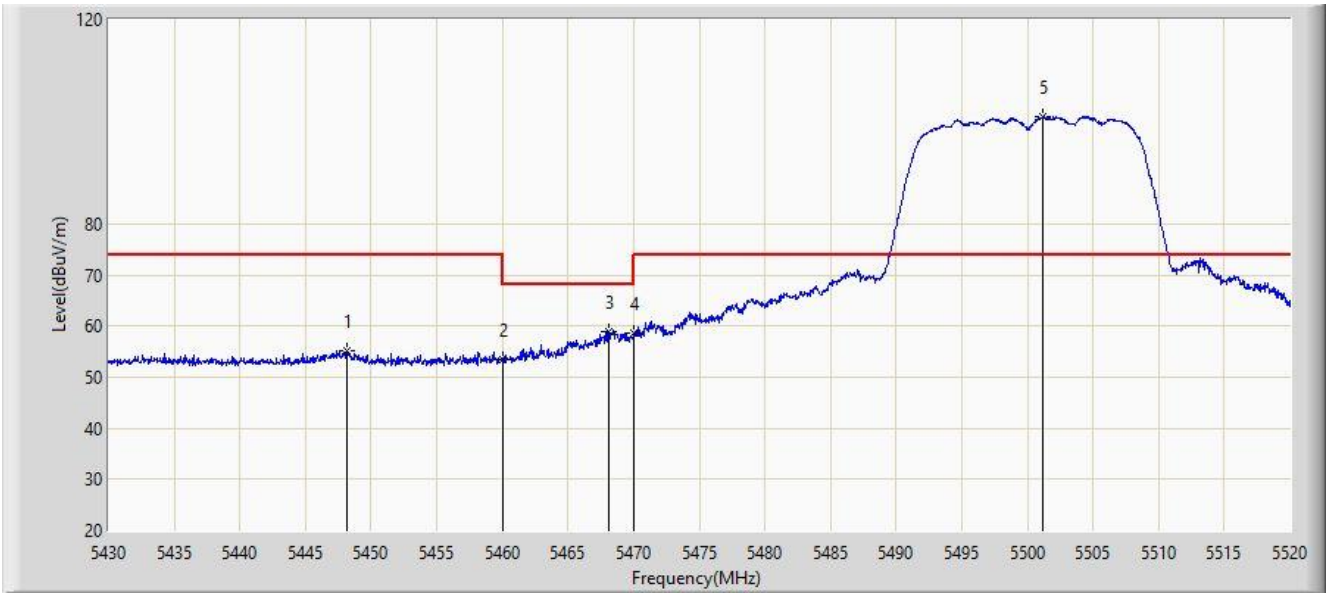


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5318.640	86.308	86.383	N/A	N/A	-0.075	AV
2		5350.000	39.630	39.549	-14.370	54.000	0.081	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:13
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5500MHz, Ant 1 + 2	

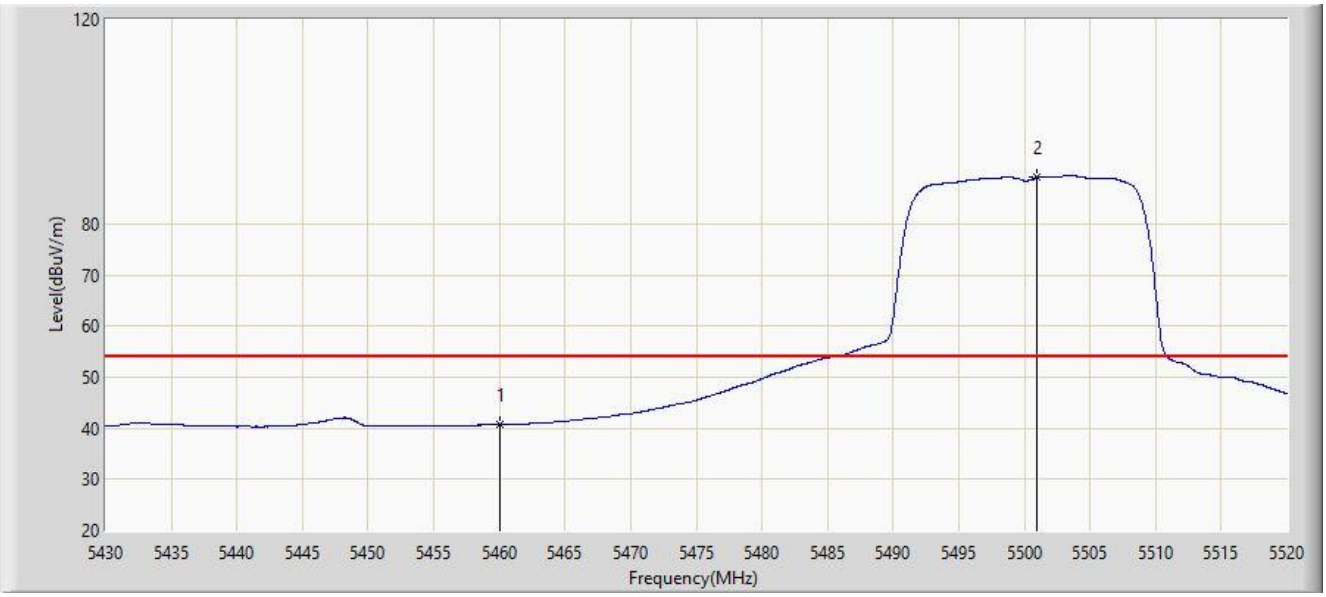


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5448.135	55.198	54.832	-18.802	74.000	0.366	PK
2		5460.000	53.480	53.201	-20.520	74.000	0.279	PK
3		5468.115	59.029	58.768	-9.171	68.200	0.261	PK
4		5470.000	58.533	58.276	-9.667	68.200	0.257	PK
5	*	5501.145	101.009	100.758	N/A	N/A	0.250	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5500MHz, Ant 1 + 2	

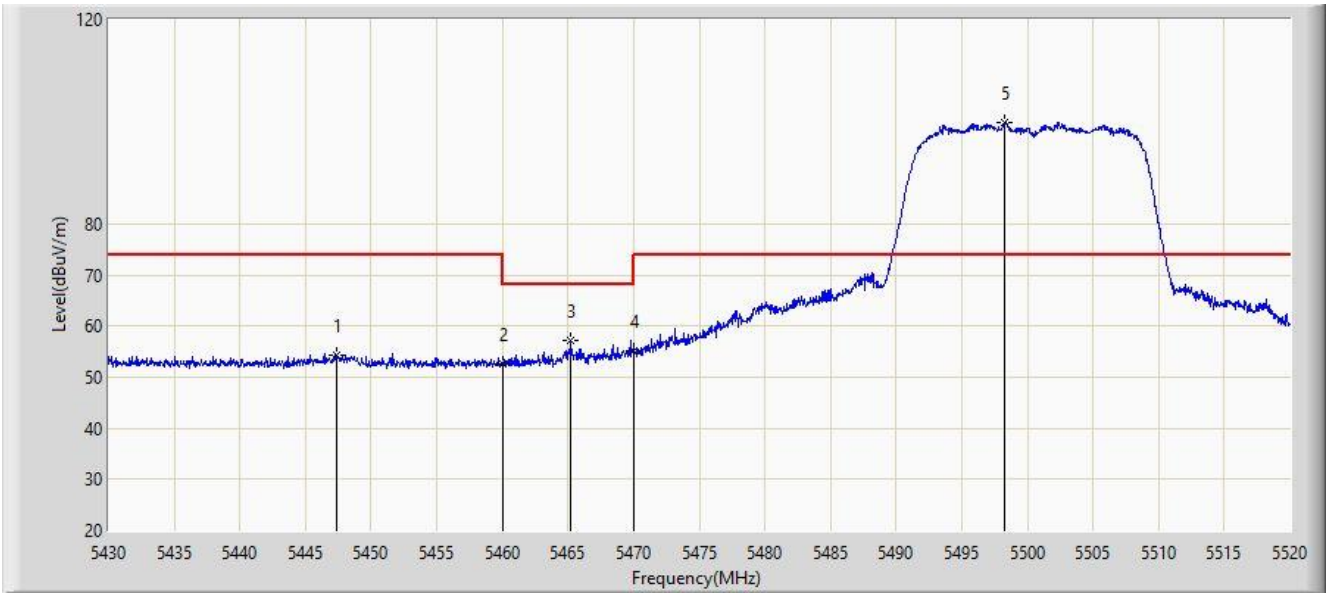


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	40.690	40.411	-13.310	54.000	0.279	AV
2	*	5500.965	89.110	88.859	N/A	N/A	0.251	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5500MHz, Ant 1 + 2	

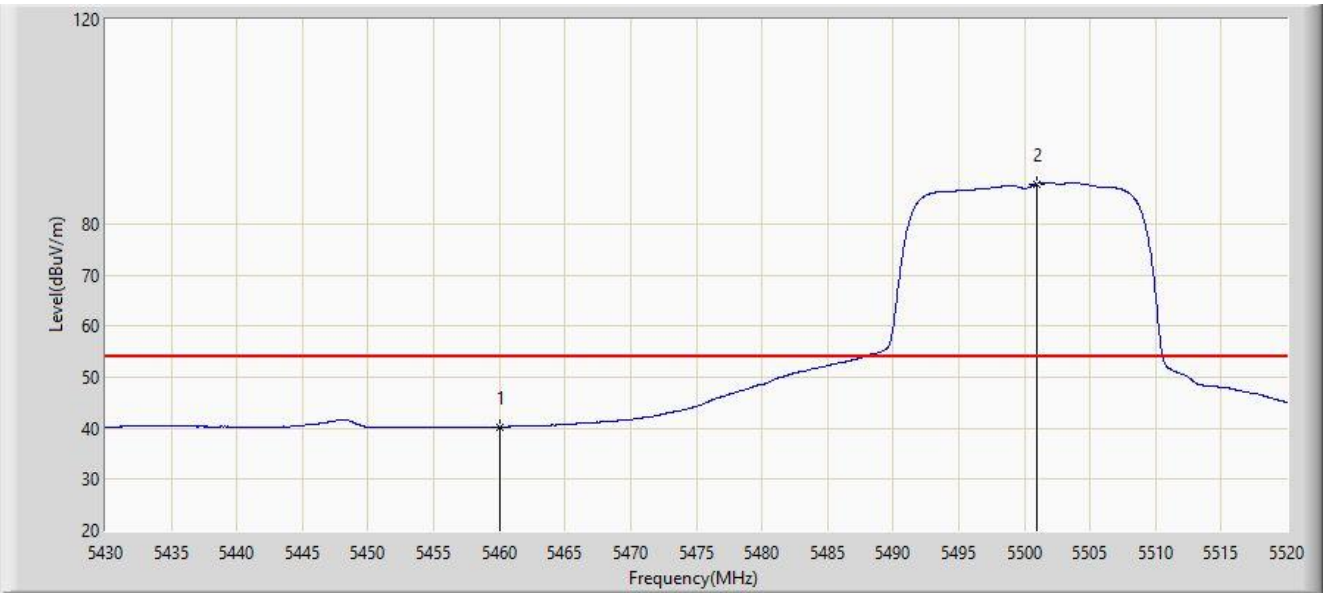


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5447.415	54.331	53.956	-19.669	74.000	0.375	PK
2		5460.000	52.698	52.419	-21.302	74.000	0.279	PK
3		5465.235	57.098	56.831	-11.102	68.200	0.267	PK
4		5470.000	55.174	54.917	-13.026	68.200	0.257	PK
5	*	5498.265	99.687	99.429	N/A	N/A	0.258	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5500MHz, Ant 1 + 2	

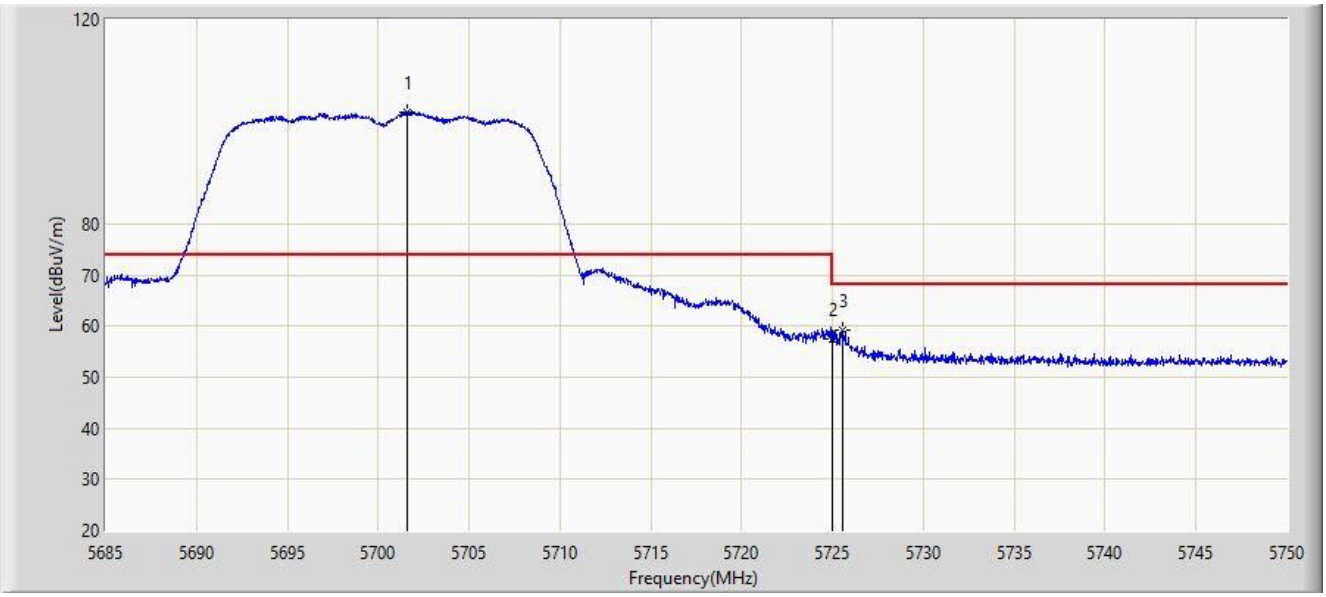


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	40.270	39.991	-13.730	54.000	0.279	AV
2	*	5500.965	87.859	87.608	N/A	N/A	0.251	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5700MHz, Ant 1 + 2	

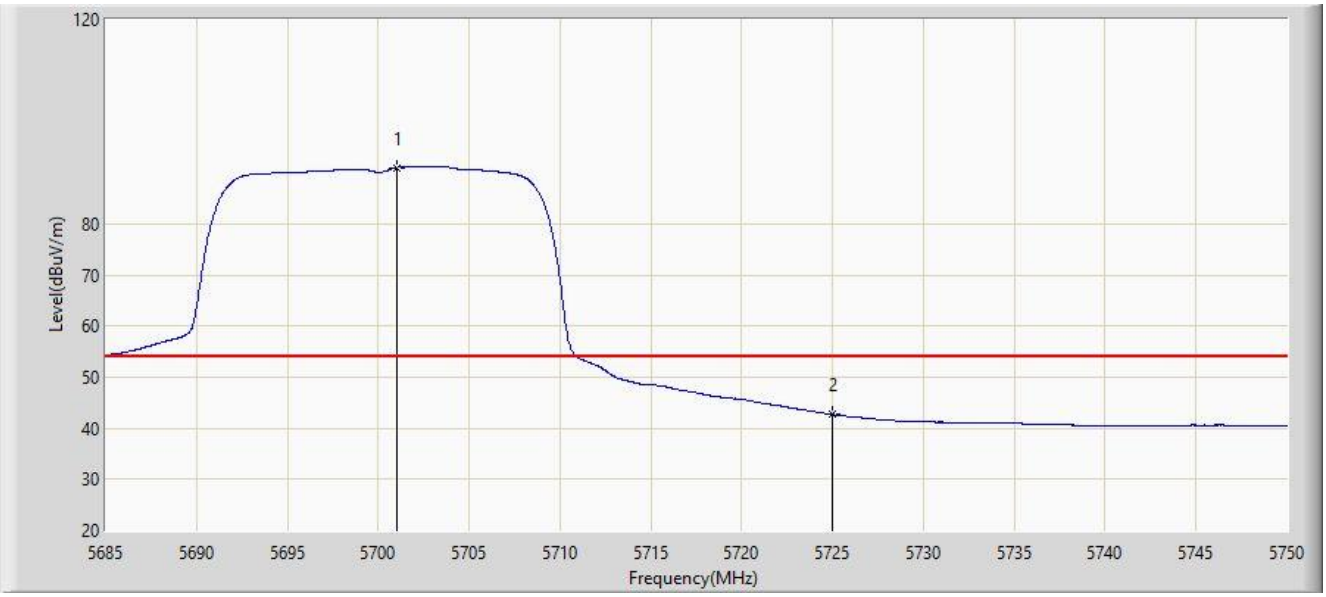


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5701.607	101.965	100.655	N/A	N/A	1.310	PK
2		5725.000	57.550	56.117	-10.650	68.200	1.433	PK
3		5725.527	59.152	57.725	-9.048	68.200	1.427	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5700MHz, Ant 1 + 2	

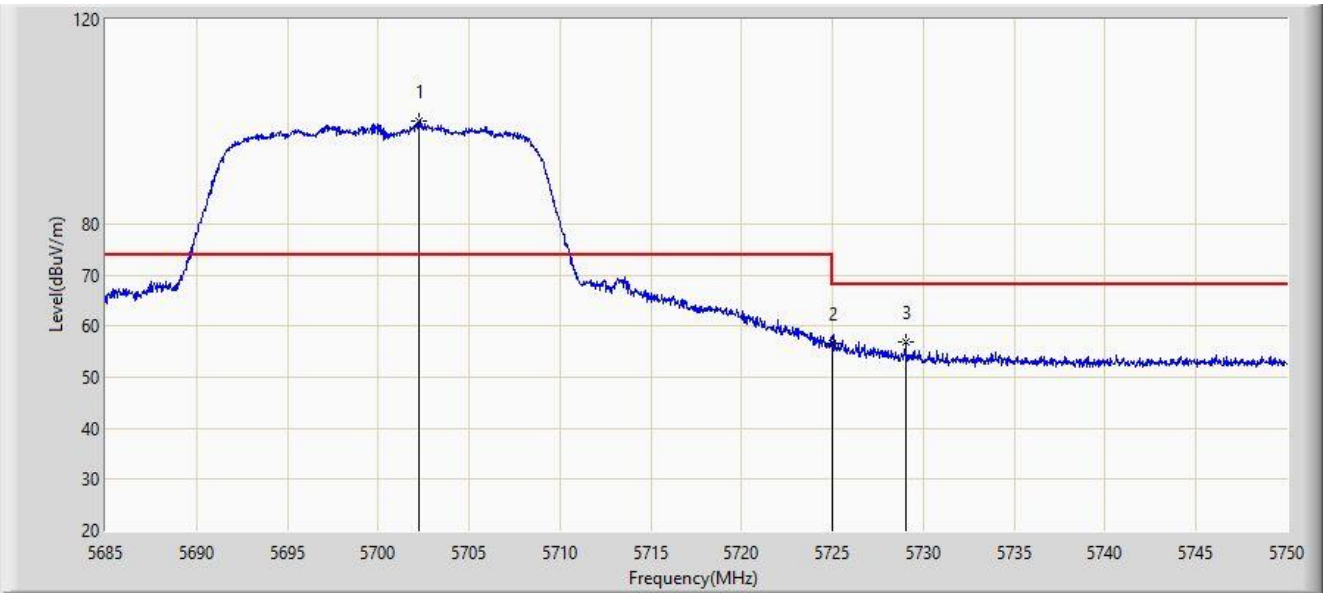


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5700.990	90.983	89.691	N/A	N/A	1.292	AV
2		5725.000	42.667	41.234	-11.333	54.000	1.433	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5700MHz, Ant 1 + 2	

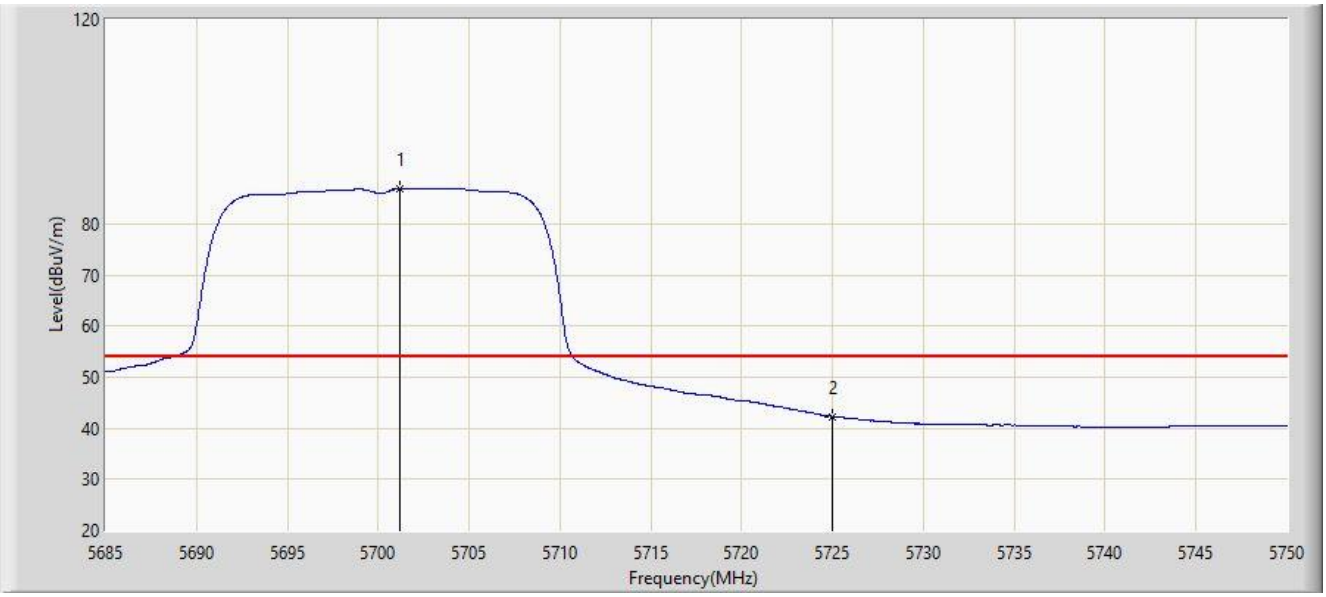


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5702.257	100.177	98.848	N/A	N/A	1.329	PK
2		5725.000	56.496	55.063	-11.704	68.200	1.433	PK
3		5729.005	56.912	55.503	-11.288	68.200	1.409	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5700MHz, Ant 1 + 2	

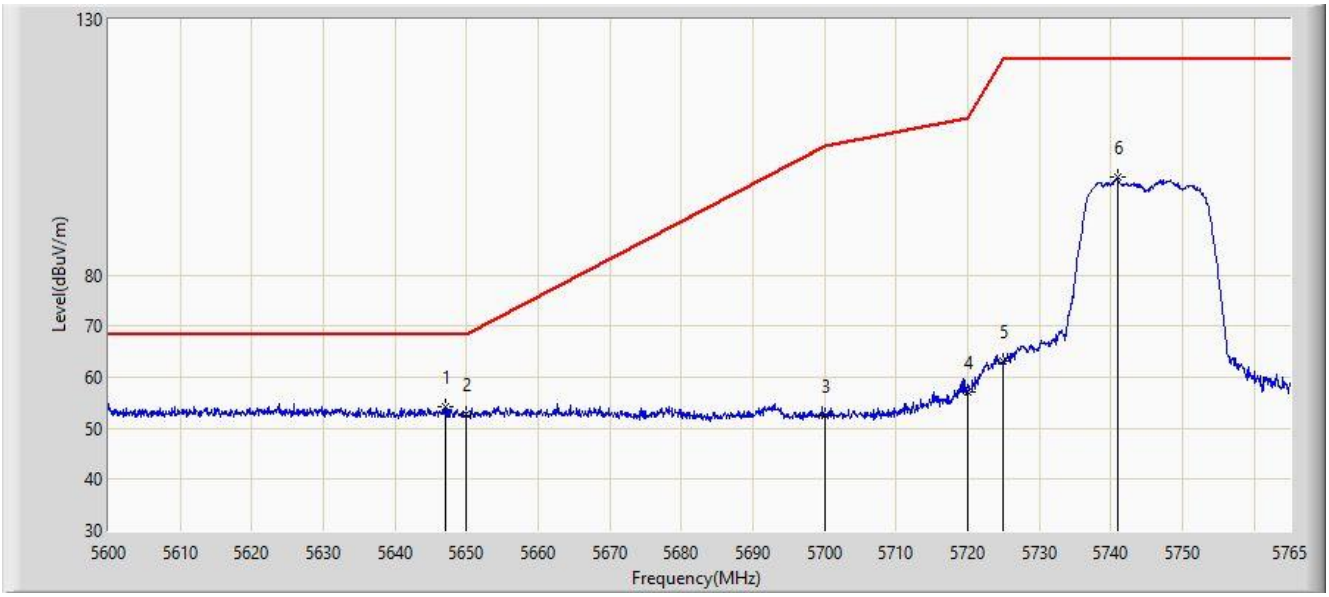


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5701.217	86.927	85.628	N/A	N/A	1.299	AV
2		5725.000	42.299	40.866	-11.701	54.000	1.433	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:37
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5745MHz, Ant 1 + 2	

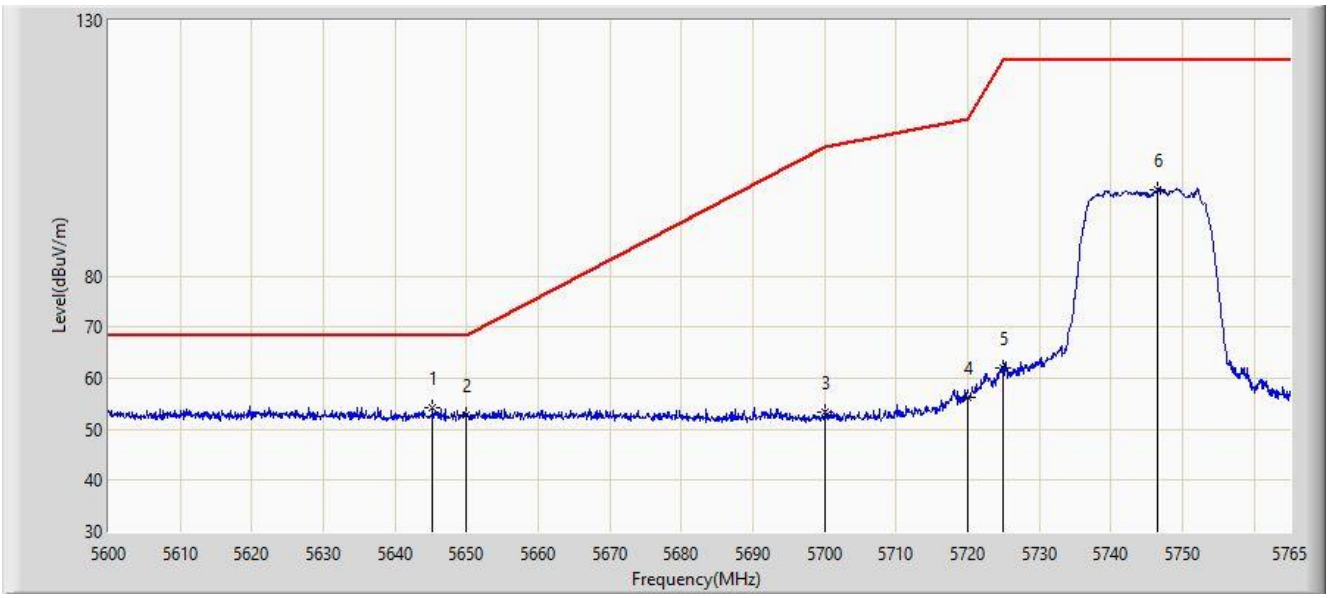


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5647.107	54.178	52.866	-14.022	68.200	1.313	PK
2		5650.000	52.700	51.327	-15.500	68.200	1.373	PK
3		5700.000	52.620	51.356	-52.580	105.200	1.264	PK
4		5720.000	57.075	55.613	-53.725	110.800	1.462	PK
5		5725.000	63.169	61.736	-59.031	122.200	1.433	PK
6		5740.910	99.177	97.818	N/A	N/A	1.358	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:41
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5745MHz, Ant 1 + 2	

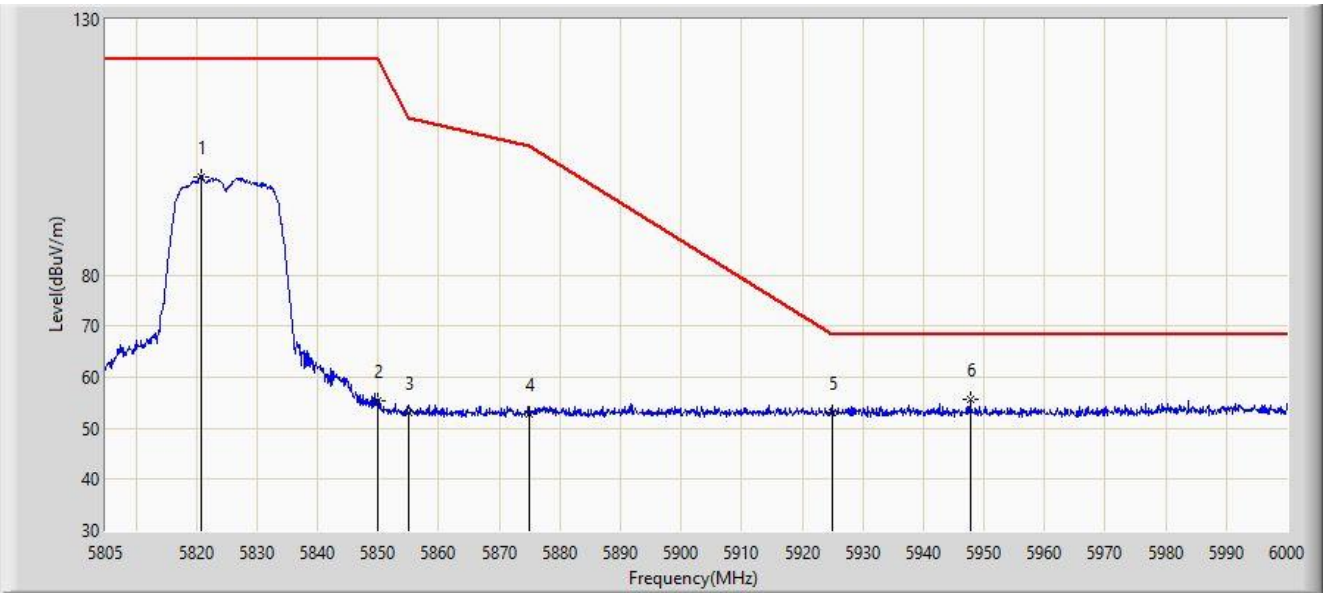


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5645.292	54.172	52.898	-14.028	68.200	1.274	PK
2		5650.000	52.712	51.339	-15.488	68.200	1.373	PK
3		5700.000	53.233	51.969	-51.967	105.200	1.264	PK
4		5720.000	56.188	54.726	-54.612	110.800	1.462	PK
5		5725.000	61.899	60.466	-60.301	122.200	1.433	PK
6		5746.437	96.995	95.536	N/A	N/A	1.458	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:44
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5825MHz, Ant 1 + 2	

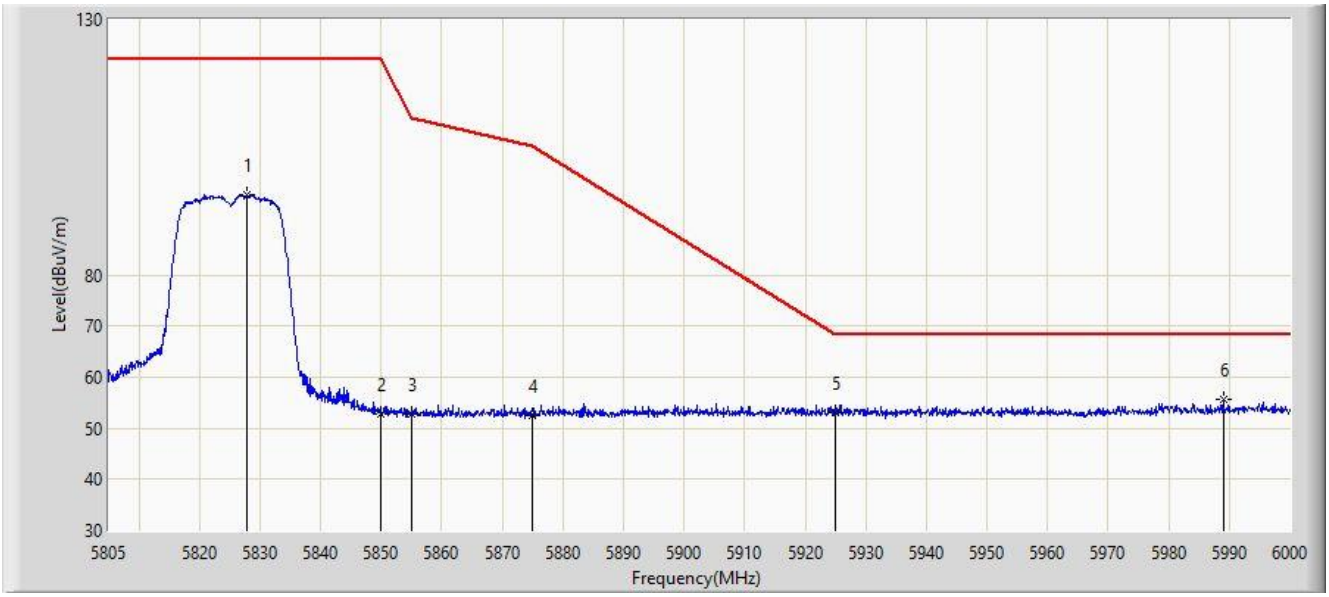


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5820.697	99.258	97.643	N/A	N/A	1.615	PK
2		5850.000	55.420	53.627	-66.780	122.200	1.792	PK
3		5855.000	52.984	51.182	-57.816	110.800	1.802	PK
4		5875.000	52.699	50.828	-52.501	105.200	1.872	PK
5		5925.000	53.032	50.963	-15.168	68.200	2.069	PK
6	*	5947.740	55.594	53.547	-12.606	68.200	2.047	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:47
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 5825MHz, Ant 1 + 2	

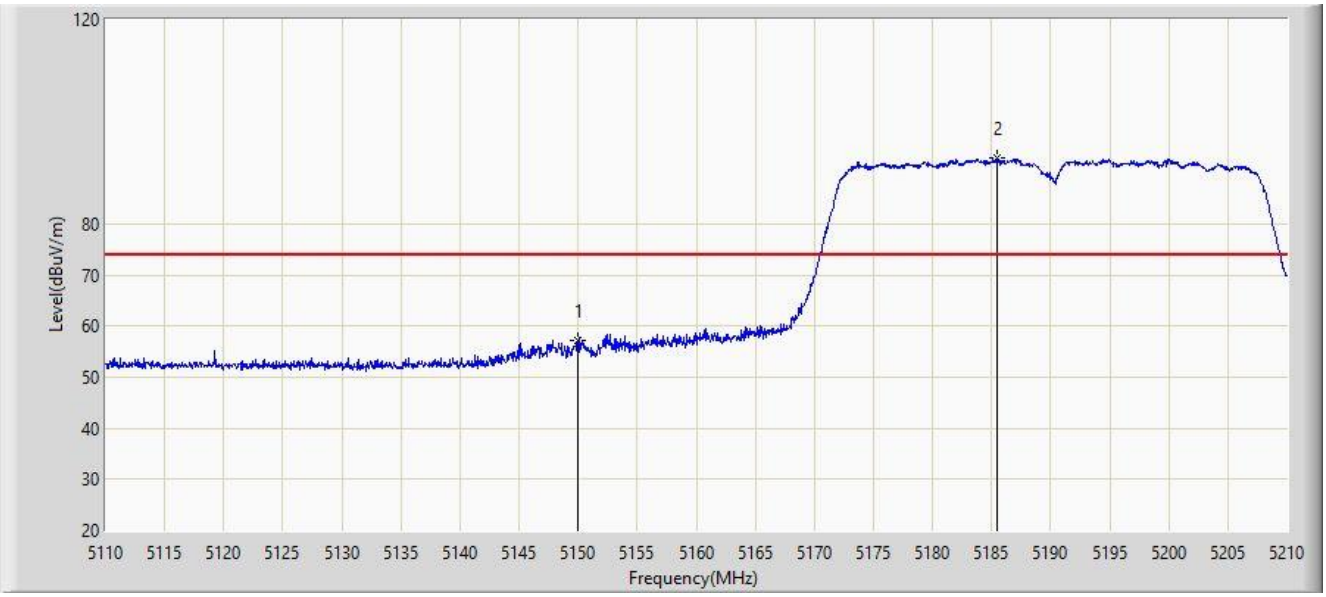


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5827.717	95.697	94.142	N/A	N/A	1.555	PK
2		5850.000	52.802	51.009	-69.398	122.200	1.792	PK
3		5855.000	52.909	51.107	-57.891	110.800	1.802	PK
4		5875.000	52.439	50.568	-52.761	105.200	1.872	PK
5		5925.000	52.943	50.874	-15.257	68.200	2.069	PK
6	*	5988.982	55.677	53.323	-12.523	68.200	2.353	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:50
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz, Ant 1 + 2	

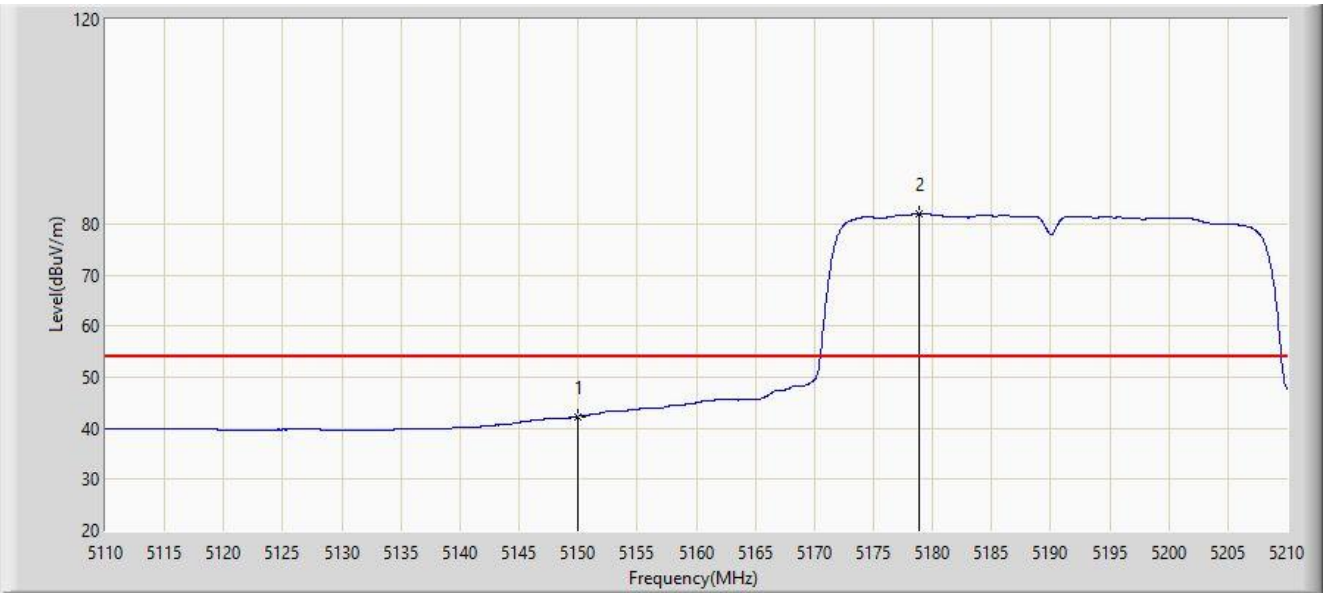


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	57.148	56.746	-16.852	74.000	0.402	PK
2	*	5185.500	92.876	92.564	N/A	N/A	0.312	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 14:54
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz, Ant 1 + 2	

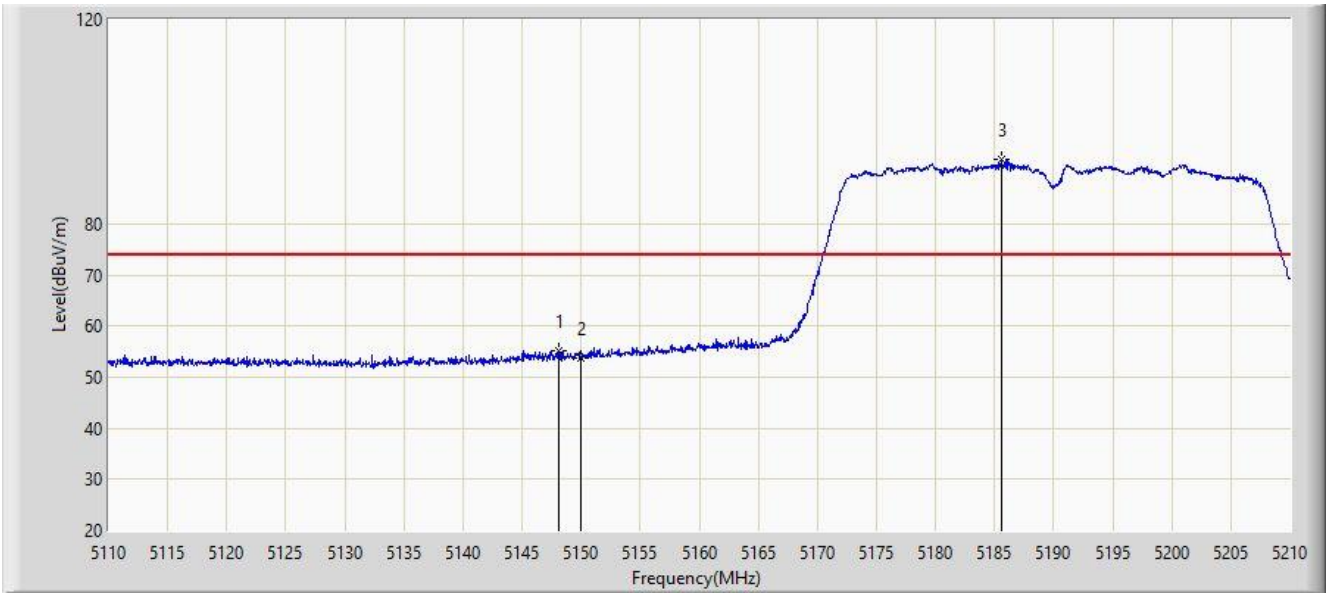


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	42.300	41.898	-11.700	54.000	0.402	AV
2	*	5178.850	81.958	81.593	N/A	N/A	0.366	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:01
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz, Ant 1 + 2	

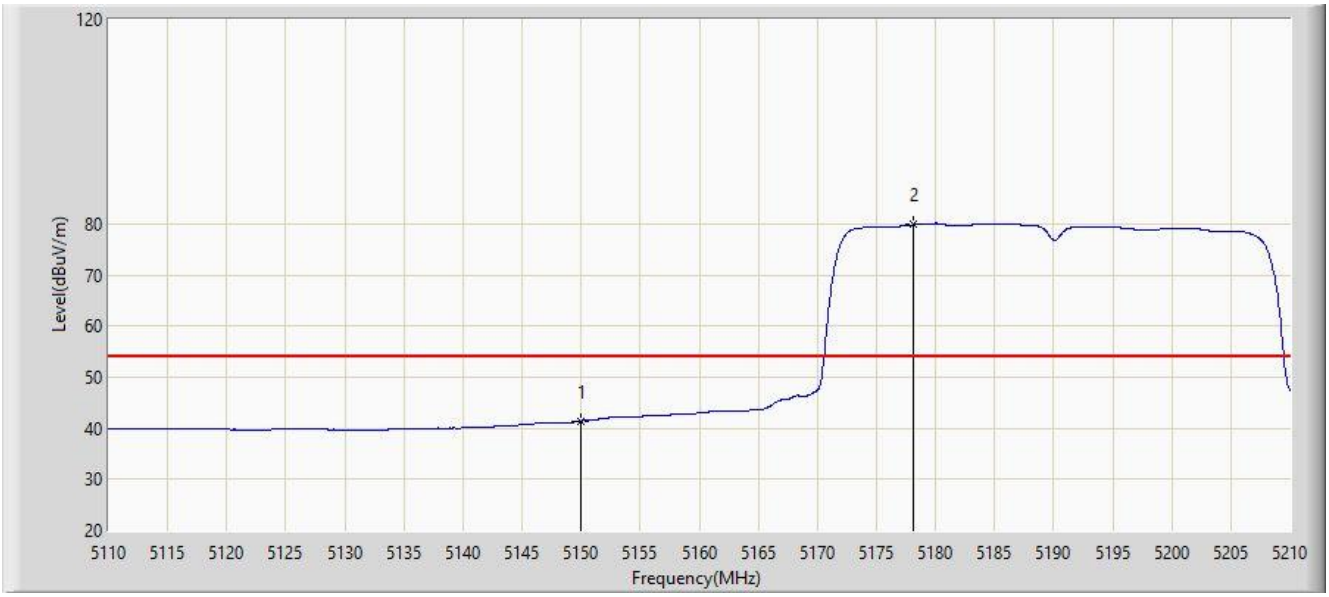


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5148.050	55.211	54.825	-18.789	74.000	0.385	PK
2		5150.000	53.805	53.403	-20.195	74.000	0.402	PK
3	*	5185.650	92.599	92.288	N/A	N/A	0.312	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:06
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5190MHz, Ant 1 + 2	

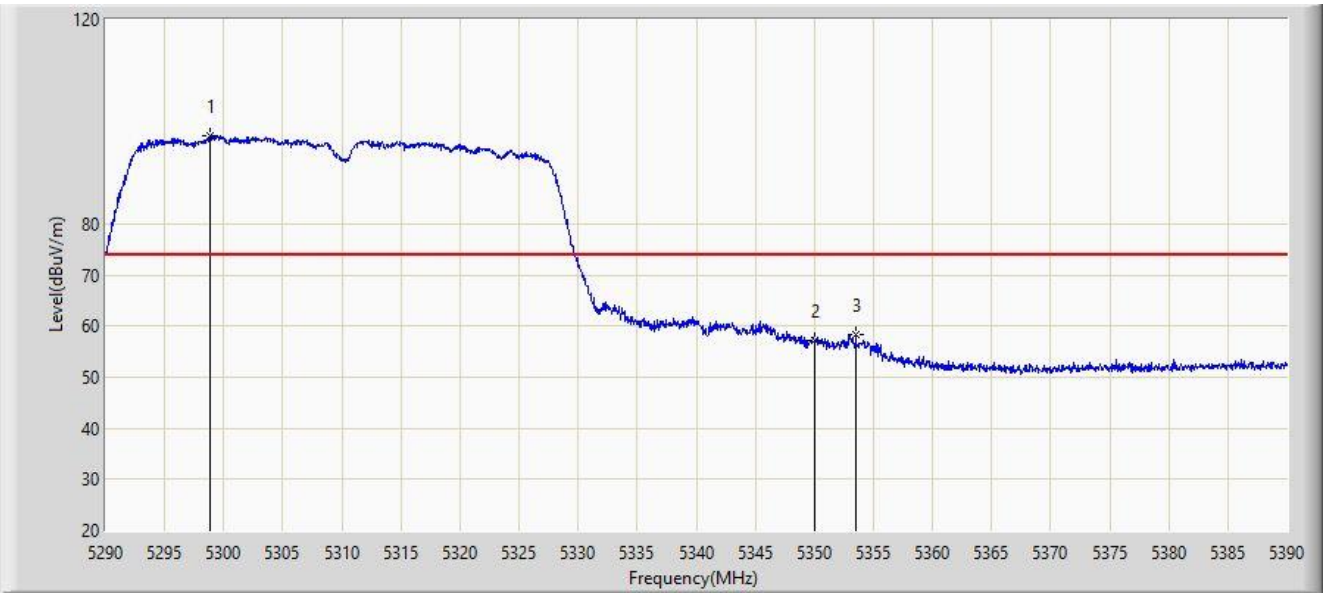


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5150.000	41.420	41.018	-12.580	54.000	0.402	AV
2	*	5178.100	79.799	79.425	N/A	N/A	0.373	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz, Ant 1 + 2	

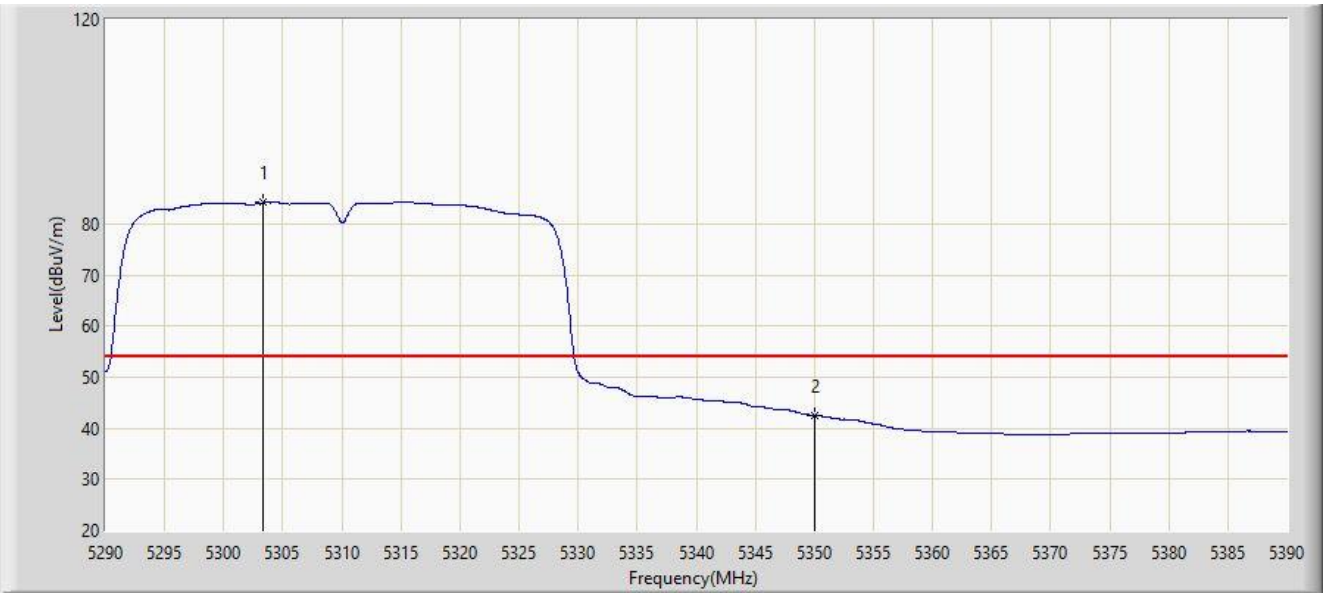


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5298.850	97.227	96.895	N/A	N/A	0.332	PK
2		5350.000	57.211	57.130	-16.789	74.000	0.081	PK
3		5353.500	58.365	58.275	-15.635	74.000	0.091	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:12
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz, Ant 1 + 2	

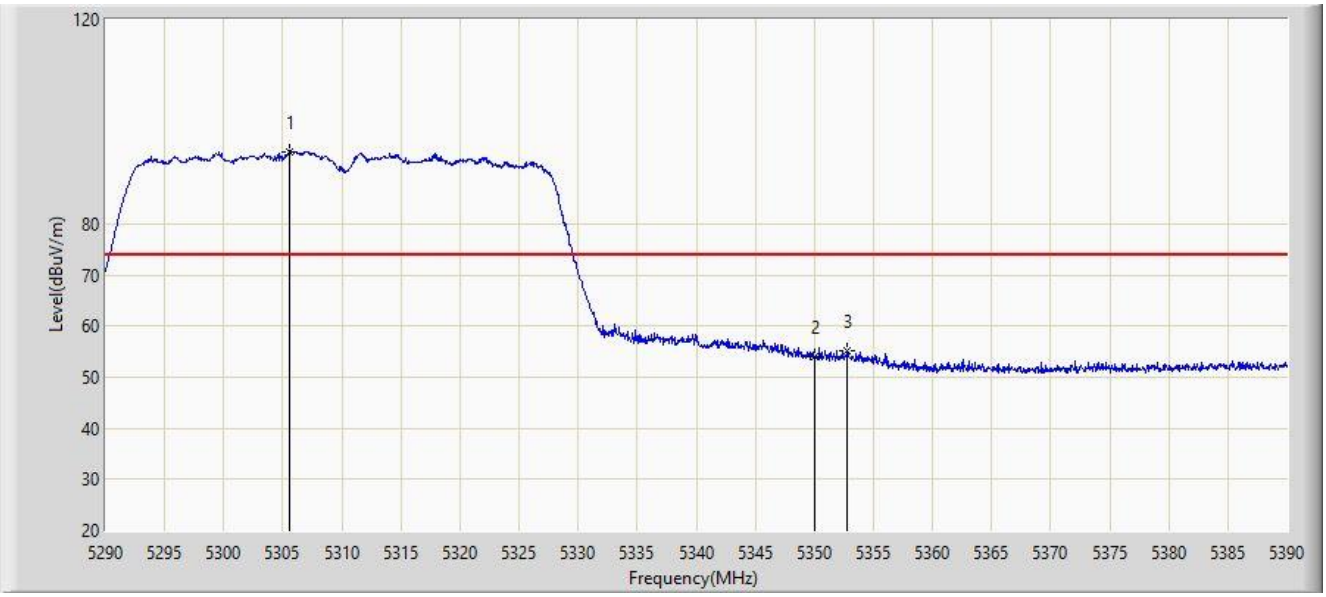


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5303.350	84.145	83.853	N/A	N/A	0.292	AV
2		5350.000	42.495	42.414	-11.505	54.000	0.081	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:14
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz, Ant 1 + 2	

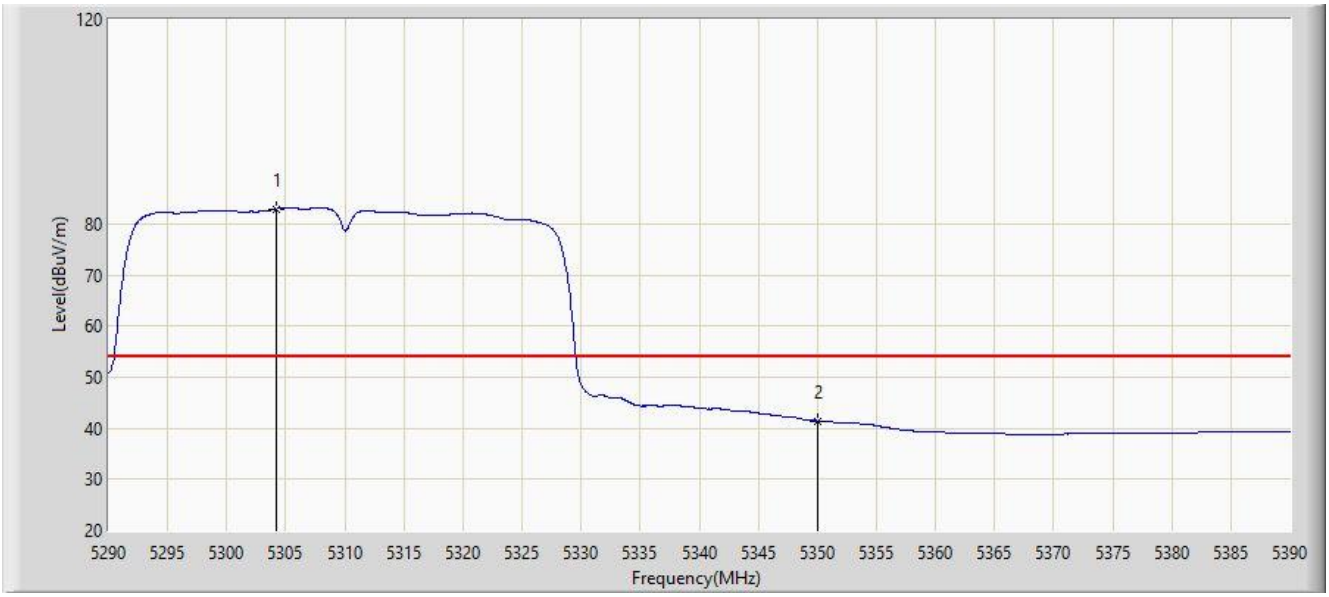


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5305.550	94.116	93.869	N/A	N/A	0.247	PK
2		5350.000	54.083	54.002	-19.917	74.000	0.081	PK
3		5352.800	55.074	54.982	-18.926	74.000	0.092	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5310MHz, Ant 1 + 2	

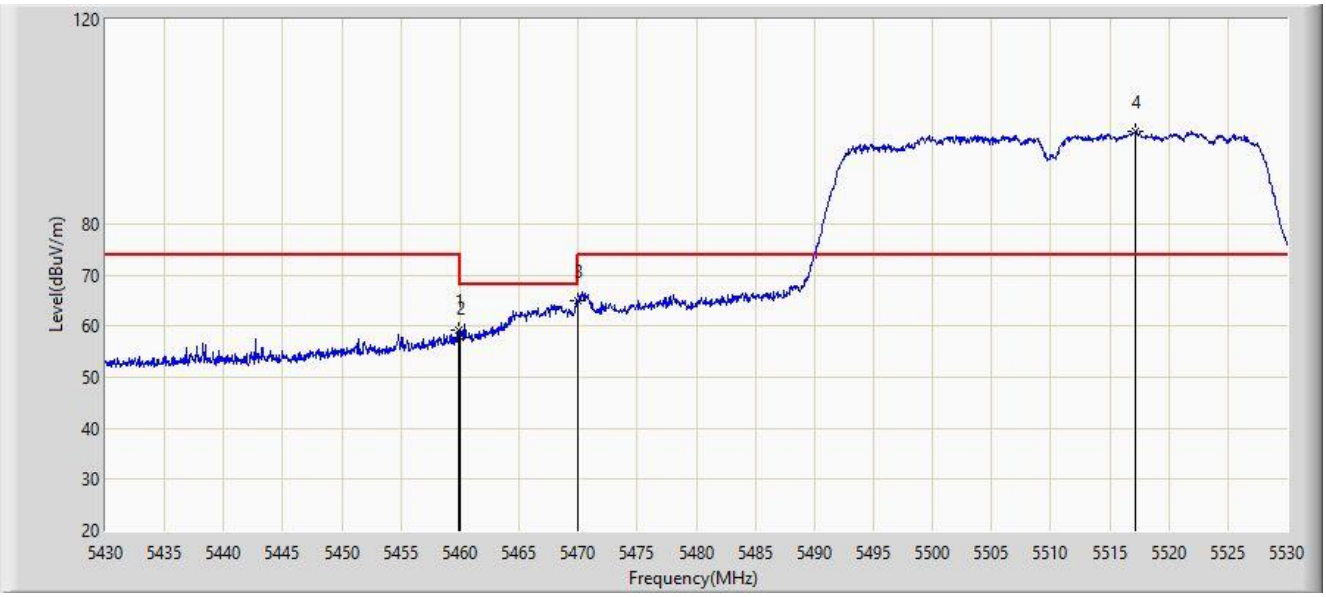


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5304.150	82.912	82.636	N/A	N/A	0.276	AV
2		5350.000	41.401	41.320	-12.599	54.000	0.081	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5510MHz, Ant 1 + 2	

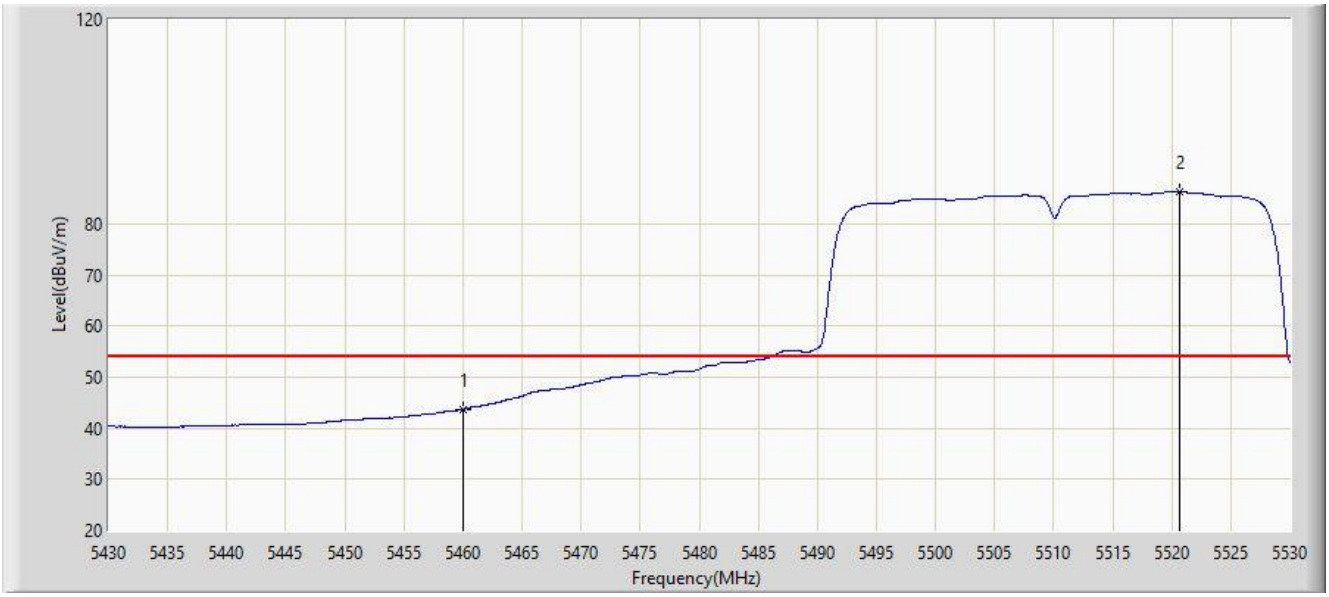


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5459.850	59.335	59.056	-14.665	74.000	0.279	PK
2		5460.000	57.820	57.541	-16.180	74.000	0.279	PK
3		5470.000	64.882	64.625	-3.318	68.200	0.257	PK
4	*	5517.200	98.181	97.555	N/A	N/A	0.626	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5510MHz, Ant 1 + 2	

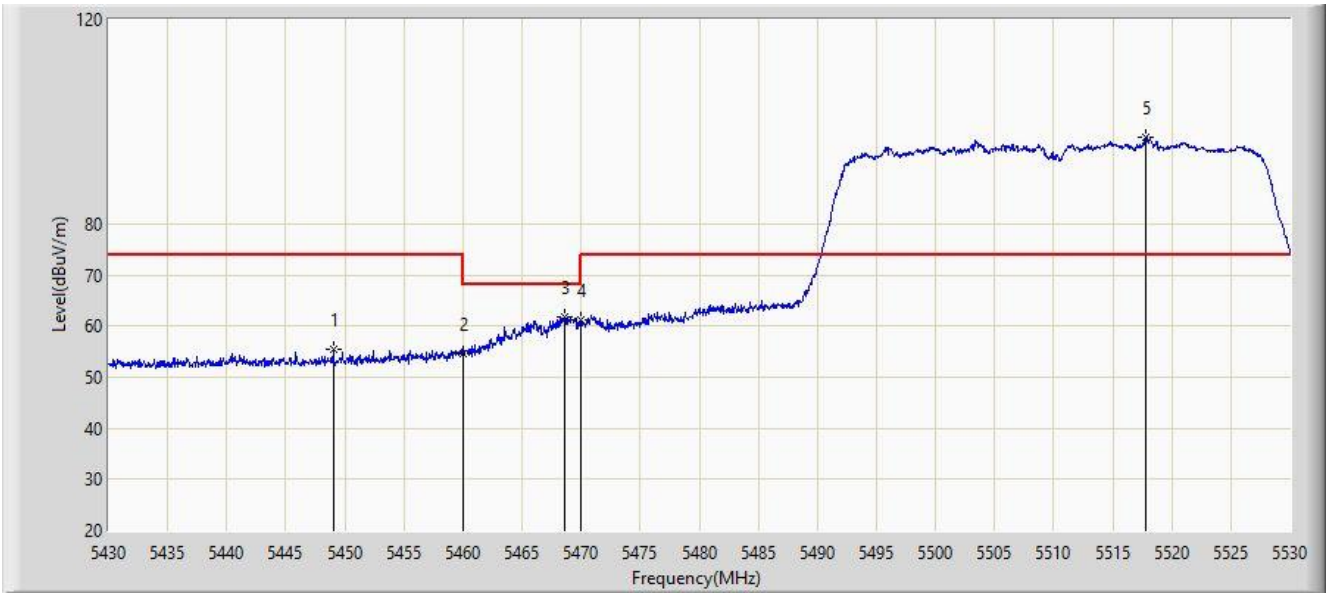


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	43.678	43.399	-10.322	54.000	0.279	AV
2	*	5520.600	86.319	85.587	N/A	N/A	0.731	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5510MHz, Ant 1 + 2	

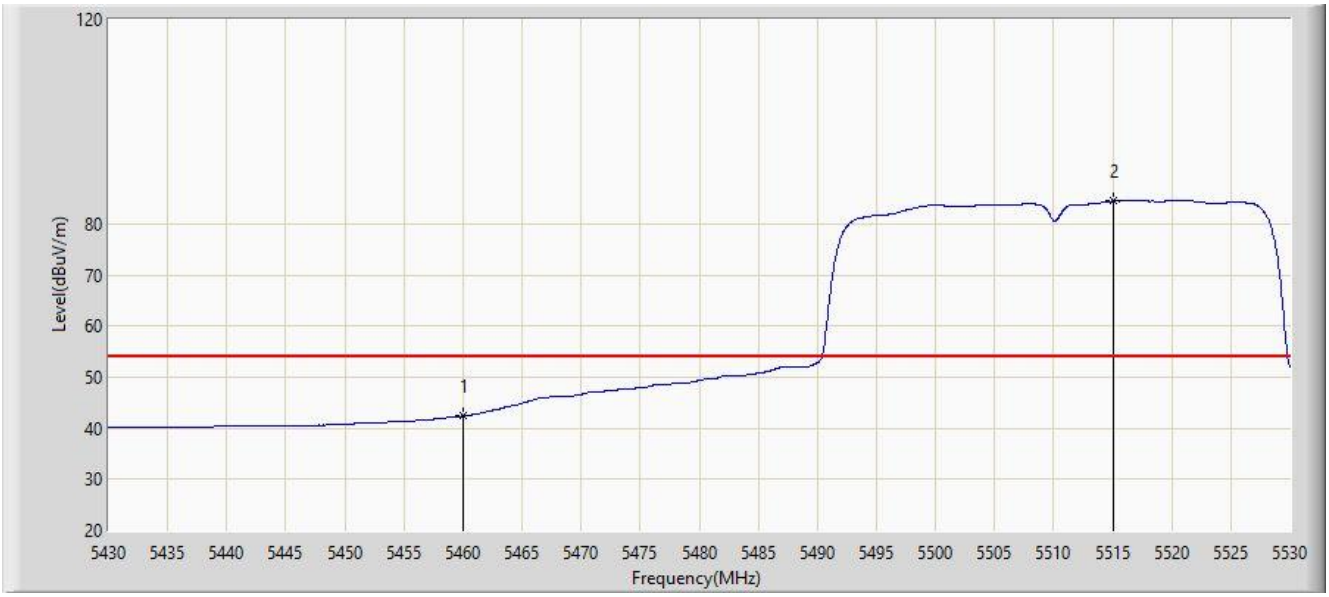


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5449.000	55.323	54.968	-18.677	74.000	0.356	PK
2		5460.000	54.520	54.241	-19.480	74.000	0.279	PK
3		5468.650	61.707	61.447	-6.493	68.200	0.260	PK
4		5470.000	61.178	60.921	-7.022	68.200	0.257	PK
5	*	5517.800	97.066	96.421	N/A	N/A	0.644	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5510MHz, Ant 1 + 2	

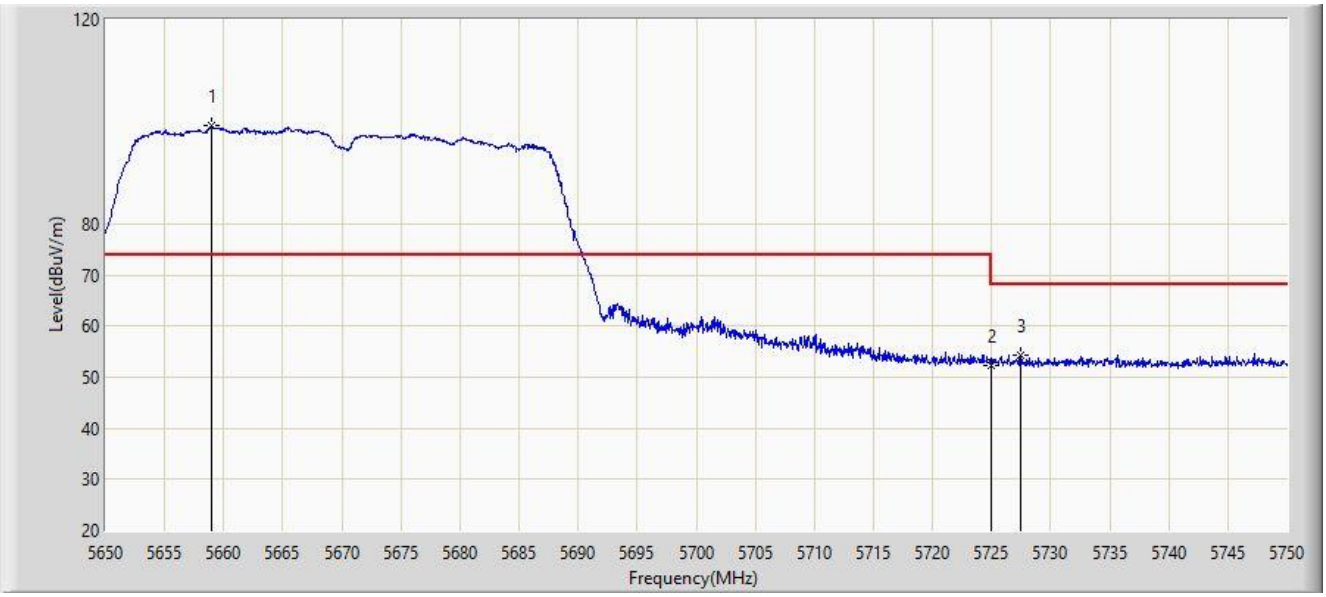


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5460.000	42.377	42.098	-11.623	54.000	0.279	AV
2	*	5515.000	84.451	83.893	N/A	N/A	0.558	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:31
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5670MHz, Ant 1 + 2	

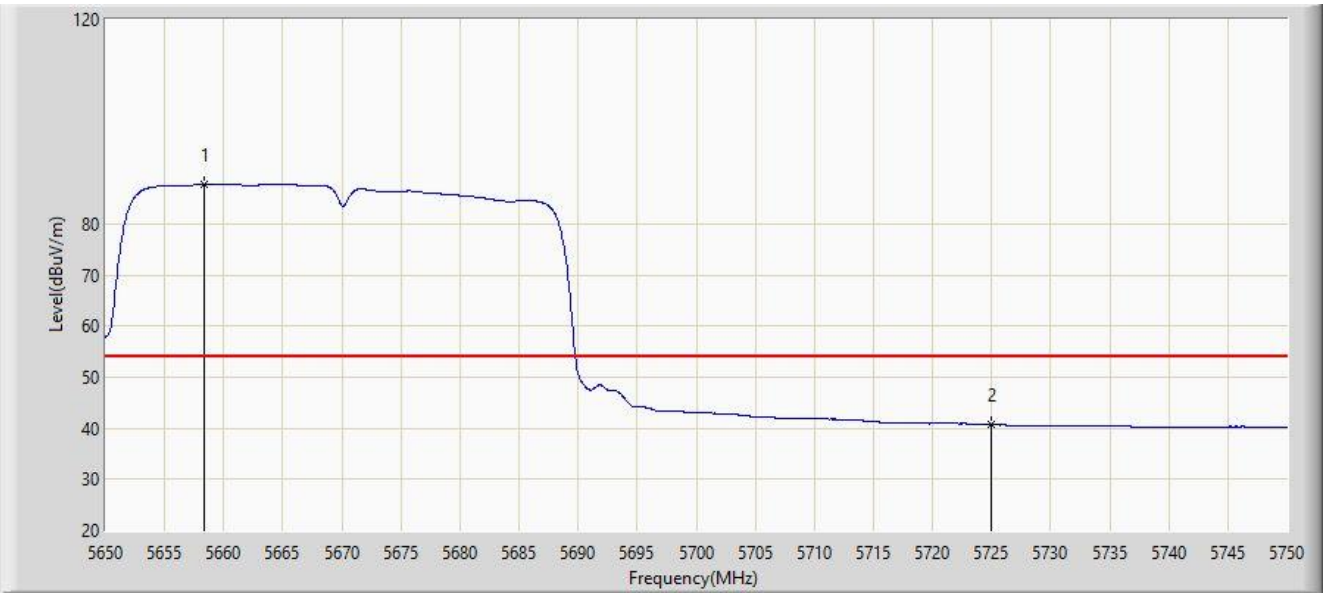


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5659.000	99.149	97.752	N/A	N/A	1.397	PK
2		5725.000	52.222	50.789	-15.978	68.200	1.433	PK
3		5727.450	54.290	52.875	-13.910	68.200	1.415	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5670MHz, Ant 1 + 2	

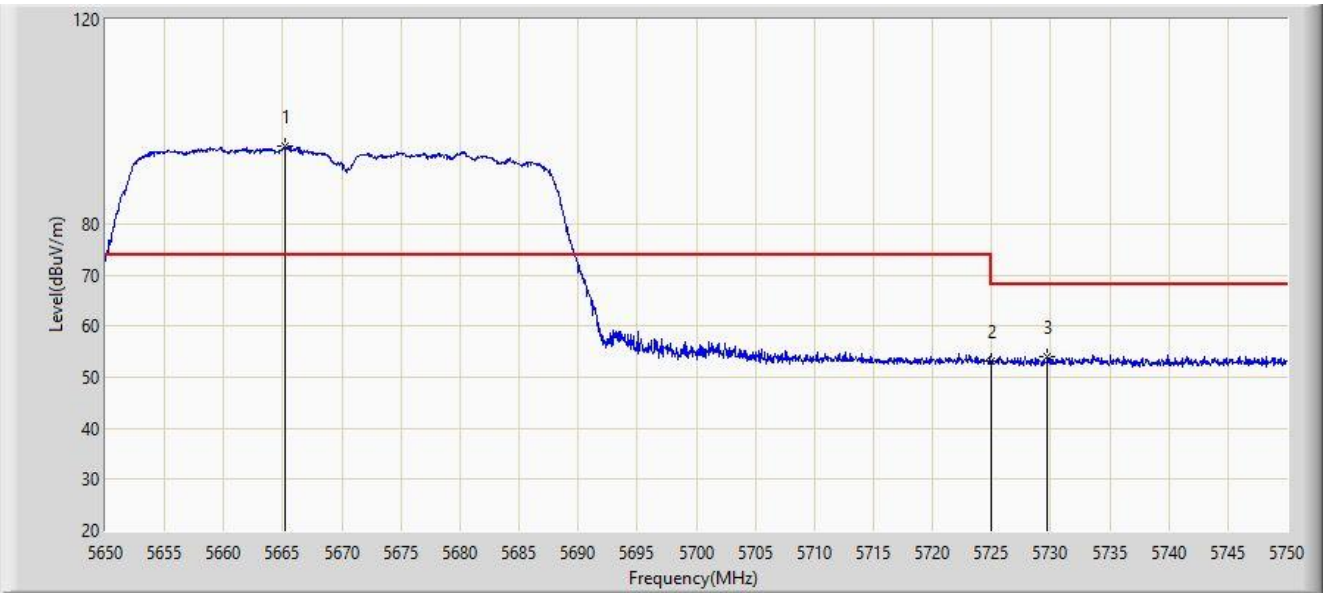


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5658.400	87.858	86.456	N/A	N/A	1.402	AV
2		5725.000	40.726	39.293	-13.274	54.000	1.433	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:36
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5670MHz, Ant 1 + 2	

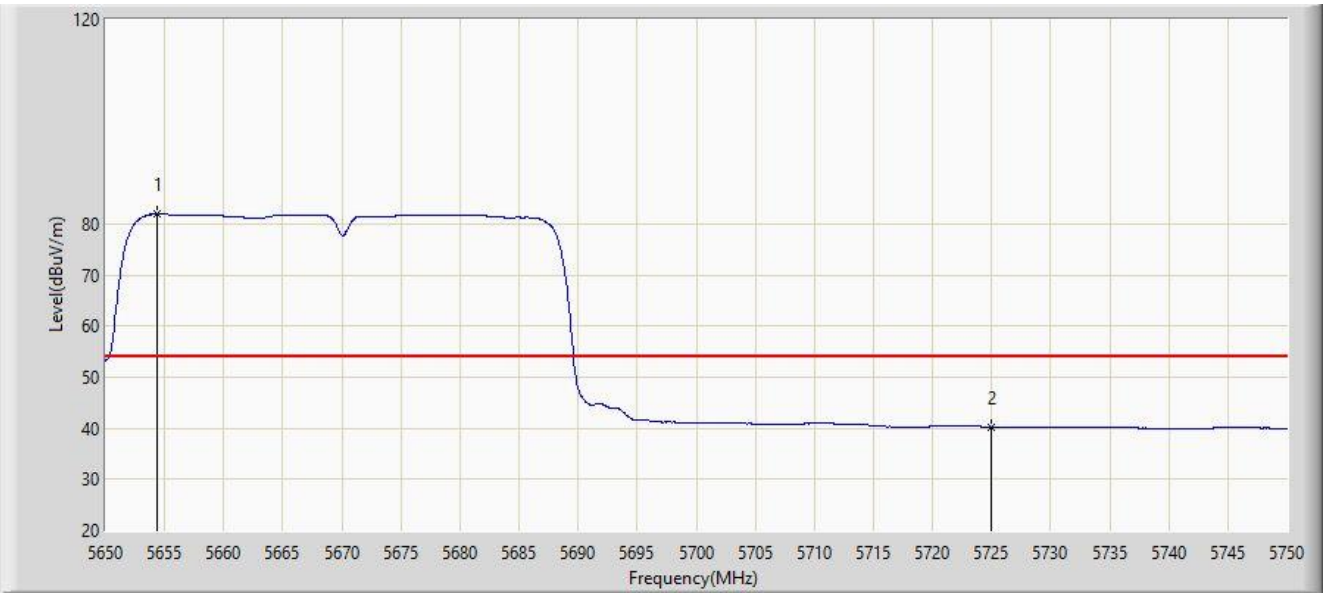


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5665.200	95.228	93.887	N/A	N/A	1.341	PK
2		5725.000	53.109	51.676	-15.091	68.200	1.433	PK
3		5729.750	54.142	52.737	-14.058	68.200	1.405	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:39
Limit: FCC_Part15.209_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5670MHz, Ant 1 + 2	

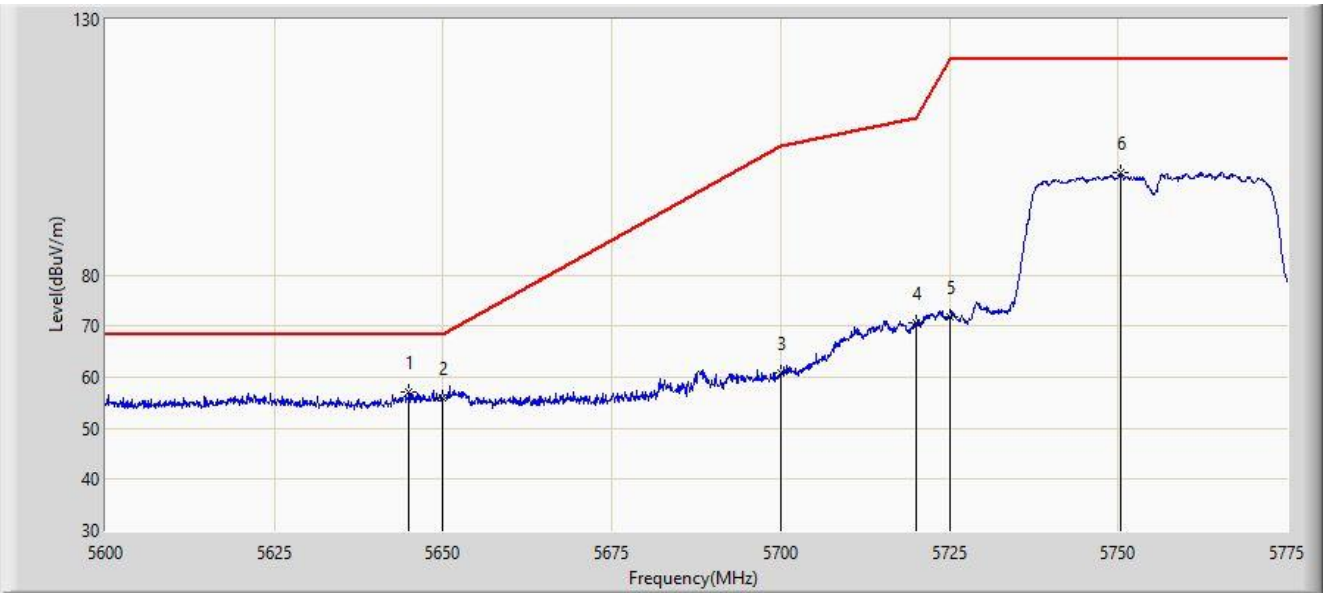


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5654.350	81.964	80.562	N/A	N/A	1.401	AV
2		5725.000	40.290	38.857	-13.710	54.000	1.433	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:44
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5755MHz, Ant 1 + 2	

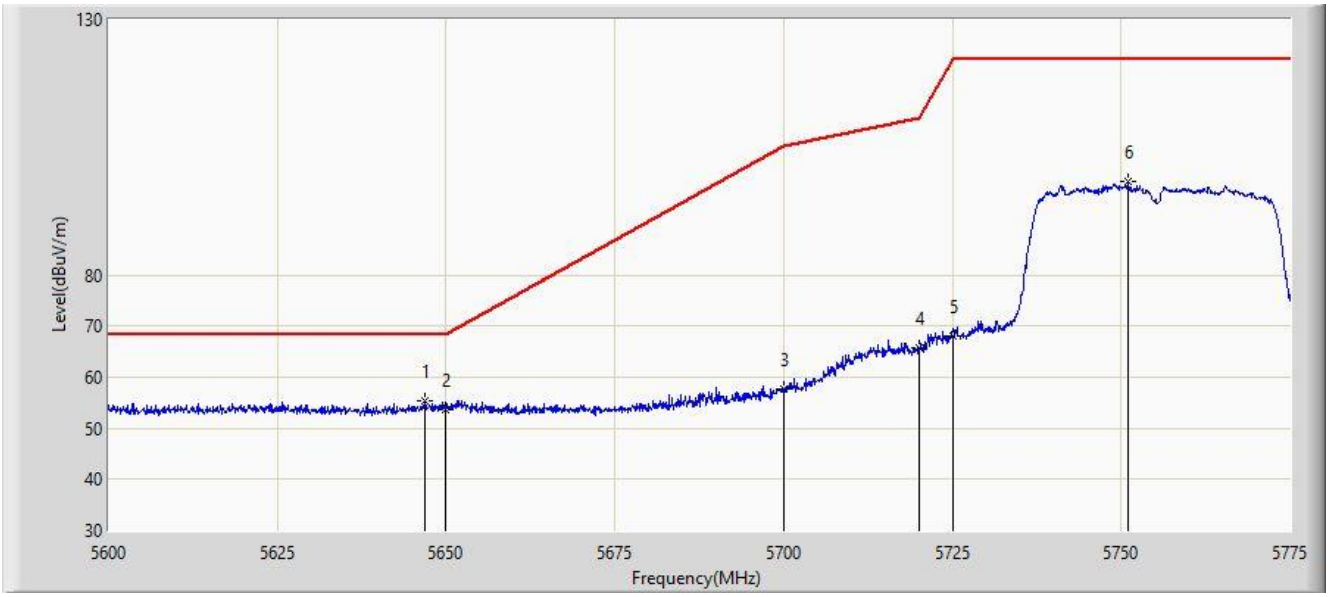


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5644.975	57.187	55.920	-11.013	68.200	1.267	PK
2		5650.000	56.041	54.668	-12.159	68.200	1.373	PK
3		5700.000	60.733	59.469	-44.467	105.200	1.264	PK
4		5720.000	70.604	69.142	-40.196	110.800	1.462	PK
5		5725.000	71.768	70.335	-50.432	122.200	1.433	PK
6		5750.325	99.907	98.357	N/A	N/A	1.550	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:47
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5755MHz, Ant 1 + 2	

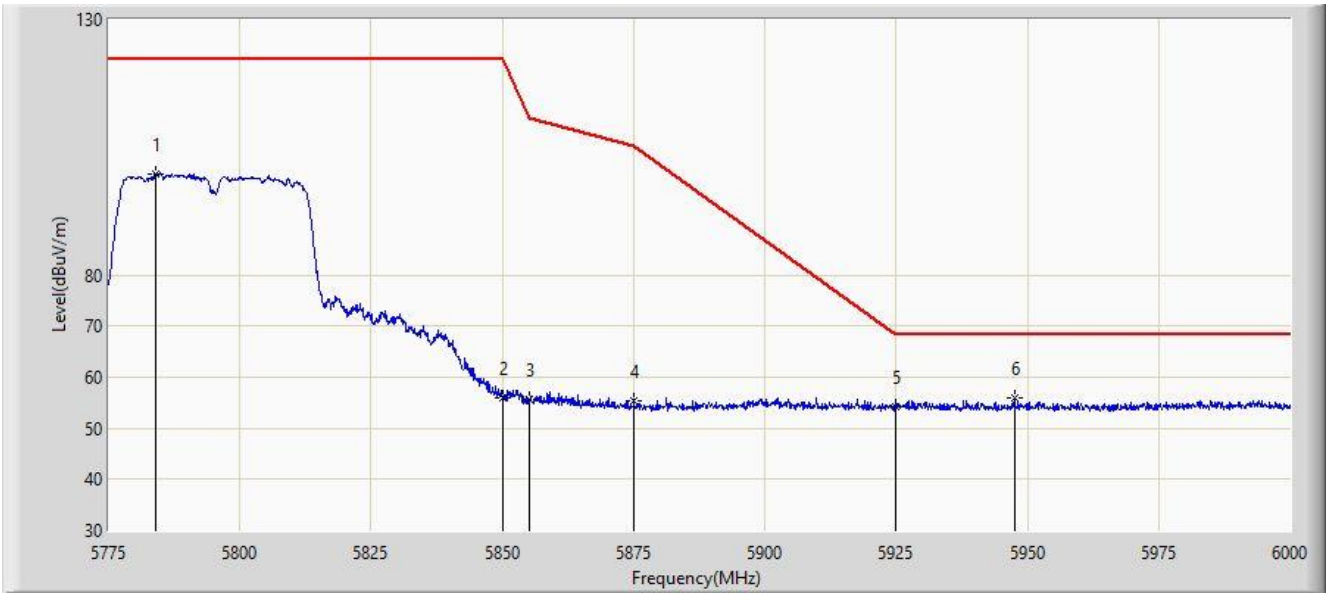


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	5646.900	55.263	53.955	-12.937	68.200	1.308	PK
2		5650.000	53.768	52.395	-14.432	68.200	1.373	PK
3		5700.000	57.566	56.302	-47.634	105.200	1.264	PK
4		5720.000	65.853	64.391	-44.947	110.800	1.462	PK
5		5725.000	68.132	66.699	-54.068	122.200	1.433	PK
6		5751.112	98.199	96.630	N/A	N/A	1.569	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:50
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5795MHz, Ant 1 + 2	

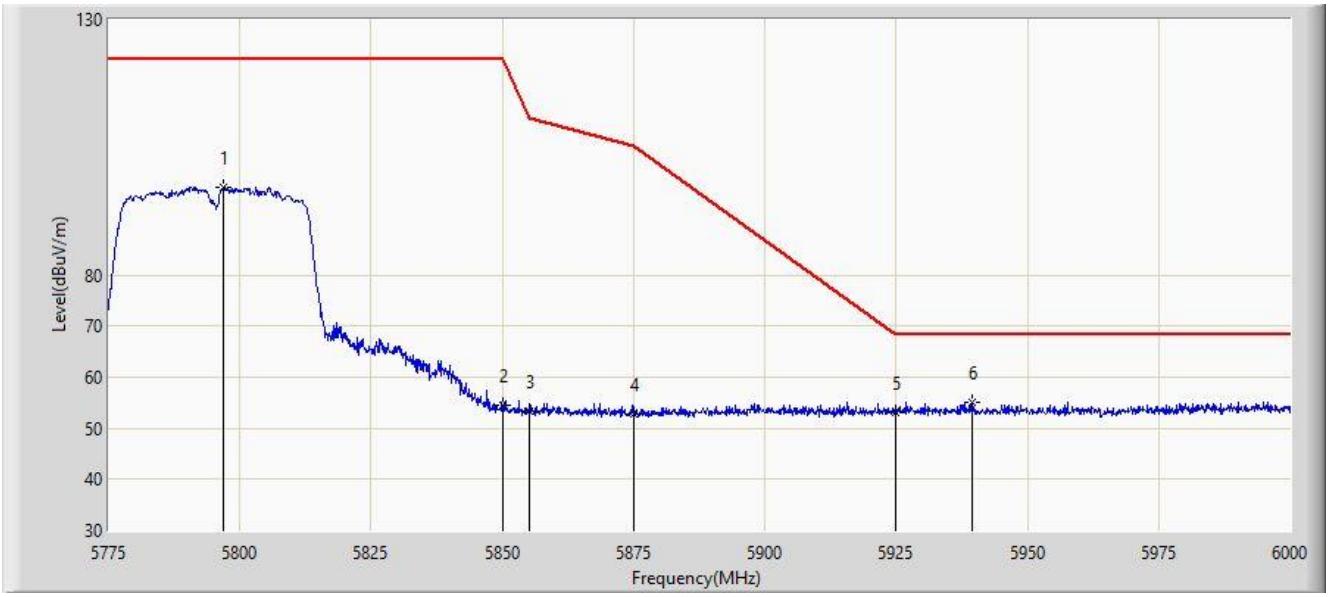


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5783.888	99.753	98.036	N/A	N/A	1.716	PK
2		5850.000	56.042	54.249	-66.158	122.200	1.792	PK
3		5855.000	55.687	53.885	-55.113	110.800	1.802	PK
4		5875.000	55.472	53.601	-49.728	105.200	1.872	PK
5		5925.000	54.196	52.127	-14.004	68.200	2.069	PK
6	*	5947.575	55.906	53.859	-12.294	68.200	2.047	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Site: AC2	Time: 2020/06/21 - 15:57
Limit: FCC_Part15.407_RE(3m)	Engineer: Edgar Ma
Probe: AC2_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: 802.11abgn, USB module	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at channel 5795MHz, Ant 1 + 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		5796.937	97.260	95.636	N/A	N/A	1.623	PK
2		5850.000	54.510	52.717	-67.690	122.200	1.792	PK
3		5855.000	53.474	51.672	-57.326	110.800	1.802	PK
4		5875.000	52.771	50.900	-52.429	105.200	1.872	PK
5		5925.000	53.105	51.036	-15.095	68.200	2.069	PK
6	*	5939.587	55.170	53.154	-13.030	68.200	2.016	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

8. CONCLUSION

The data collected relate only the item(s) tested and show that the device is in compliance with Part 15E of the FCC rules.

The End

Appendix A - Test Setup Photograph

Refer to “2005RSU029-UT” file.

Appendix B - EUT Photograph

Refer to “2005RSU029-UE” file.