

FCC Test Report

Product Name : Vehicle Gateway
Trade Name : Samsara
Model No. : VG54-NA, VG54-NAE
FCC ID : 2AIHD0054

Applicant : SAMSARA NETWORKS INC

Address : 1900 Alameda Street, San Francisco, CA 94103

Date of Receipt : Jul. 02, 2020
Issued Date : Sep. 07, 2020
Report No. : 2070056R-E3032110123
Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

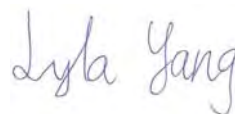
Issued Date : Sep. 07, 2020

Report No. : 2070056R-E3032110123



Product Name : Vehicle Gateway
Applicant : SAMSARA NETWORKS INC
Address : 1900 Alameda Street, San Francisco, CA 94103
Manufacturer : SAMSARA NETWORKS INC
Address : Wistron Neweb Corporation
Model No. : 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308,
Taiwan, R.O.C
Trade Name : Samsara
FCC ID : 2AIHD0054
EUT Voltage : DC 12/24/48V
Testing Voltage : DC 12V
Applicable Standard : FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2019
ANSI C63.10: 2013
Laboratory Name : Hsin Chu Laboratory
Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu
County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result : Complied

Documented By :



(Lyla Yang / Engineering Adm. Specialist)

Tested By :



(Elwin Lin / Engineer)

Approved By :



(Louis Hsu / Deputy Manager)

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Sep. 07, 2020

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1. General Information

1.1. EUT Description

Product Name	Vehicle Gateway	
Trade Name	Samsara	
Model No.	VG54-NA, VG54-NAE	
Frequency Range/ Channel Number	IEEE 802.11a/n (20MHz)	5180~5240MHz / 4 Channels 5745~5825MHz / 5 Channels
	IEEE 802.11n (40MHz)	5190~5230MHz / 2 Channels 5755~5795MHz / 2 Channels
Type of Modulation	IEEE 802.11a/n	Orthogonal Frequency Division Multiplexing
Data Speed	IEEE 802.11a	6, 9, 18, 24, 36, 48, 54Mbps
	IEEE 802.11n	Support a subset of the combination of GI, MCS 0~MCS 7 and bandwidth defined in 802.11n
HW Version	1.0	
SW Version	10	

Antenna Information				
No.	Brand	Model No.	Antenna Type	Antenna Gain
0	WNC	JVS1	PIFA Antenna	BT5.0: 2.7dBi WiFi 2.4G: 2.7dBi WiFi 5G Band 1: 3.28dBi WiFi 5G Band 4: 3.9dBi

ANT-TX / RX & Bandwidth

ANT-TX / RX	TX		
Mode/ Channel Bandwidth	20MHz	40MHz	80MHz
IEEE802.11a	✓		
IEEE802.11n	✓	✓	

IEEE 802.11n

MCS Index	Modulation	R	N _{BPSCS}	N _{CBPS}		N _{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI	
								20MHz	40MHz	20MHz	40MHz
0	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.2	15.0
1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.4	30.0
2	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.7	45.0
3	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.9	60.0
4	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.3	90.0
5	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.8	120.0
6	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.0	135.0
7	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.2	150.0

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

Table 1 – MCS parameters for TX Antenna number = 1

Symbol	Explanation
R	Code rate
N _{BPSCS}	Number of coded bits per single carrier
N _{CBPS}	Number of coded bits per symbol
N _{DBPS}	Number of data bits per symbol
GI	guard interval

IEEE 802.11a & IEEE 802.11n (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz						

IEEE 802.11n (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz	159	5795 MHz

Note:

1. This device is a Vehicle Gateway including 2.4GHz b/g/n, 5GHz a/n and BT 5.0 transmitting functions.
2. The difference of each model is shown as below:

Model Number	Difference
VG54-NA	With internal GPS Antenna
VG54-NAE	With external GPS Antenna
3. Regards to the frequency band operation; the lowest, middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. The spurious emission was measured in three position (X, Y & Z axis), and the worst case (Z axis) was recorded in the report.
5. This device contains a certified WWAN module (FCC ID: NKRM18QF).
6. The EUT description is from the customer declaration.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

Test Mode		Mode 1: Transmit Mode	
Test Items	Modulation	Channel	Result
Conducted Emission	11n(40MHz)	--	--
26dB & 99% & DTS Bandwidth Maximum conducted output power	a	36/44/48/149/157/165	Complies
	11n(20MHz)	36/44/48/149/157/165	Complies
	11n(40MHz)	38/46/151/159	Complies
Maximum conducted output power	a	36/44/48/149/157/165	Complies
	11n(20MHz)	36/44/48/149/157/165	Complies
	11n(40MHz)	38/46/151/159	Complies
Maximum power spectral density	a	36/44/48/149/157/165	Complies
	11n(20MHz)	36/44/48/149/157/165	Complies
	11n(40MHz)	38/46/151/159	Complies
Radiated Emission	a	36/44/48/149/157/165	Complies
	11n(20MHz)	36/44/48/149/157/165	Complies
	11n(40MHz)	38/46/151/159	Complies
Band Edge	a	36/44/48/149/157/165	Complies
	11n(20MHz)	36/44/48/149/157/165	Complies
	11n(40MHz)	38/46/151/159	Complies

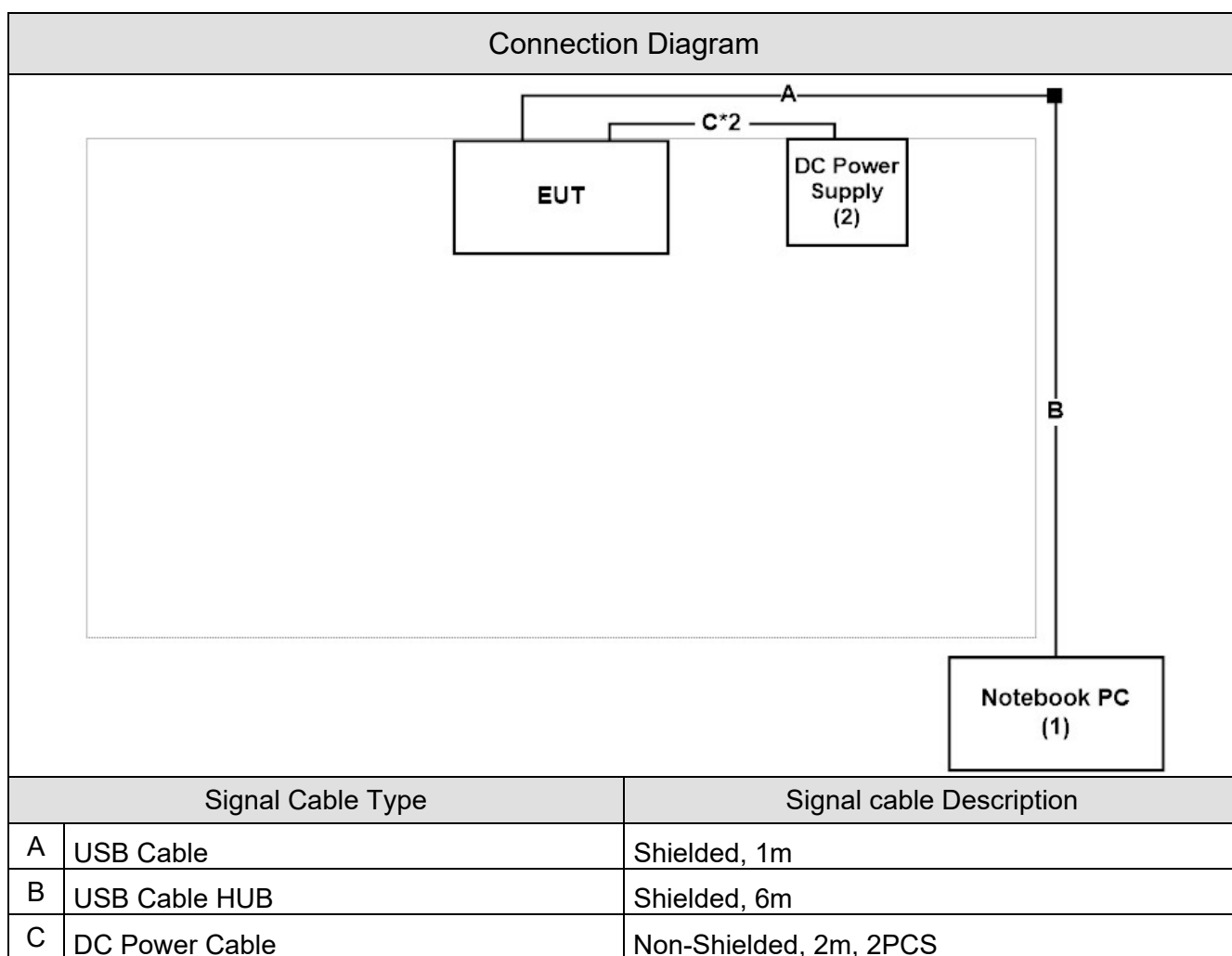
Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

1.3. Tested System Details

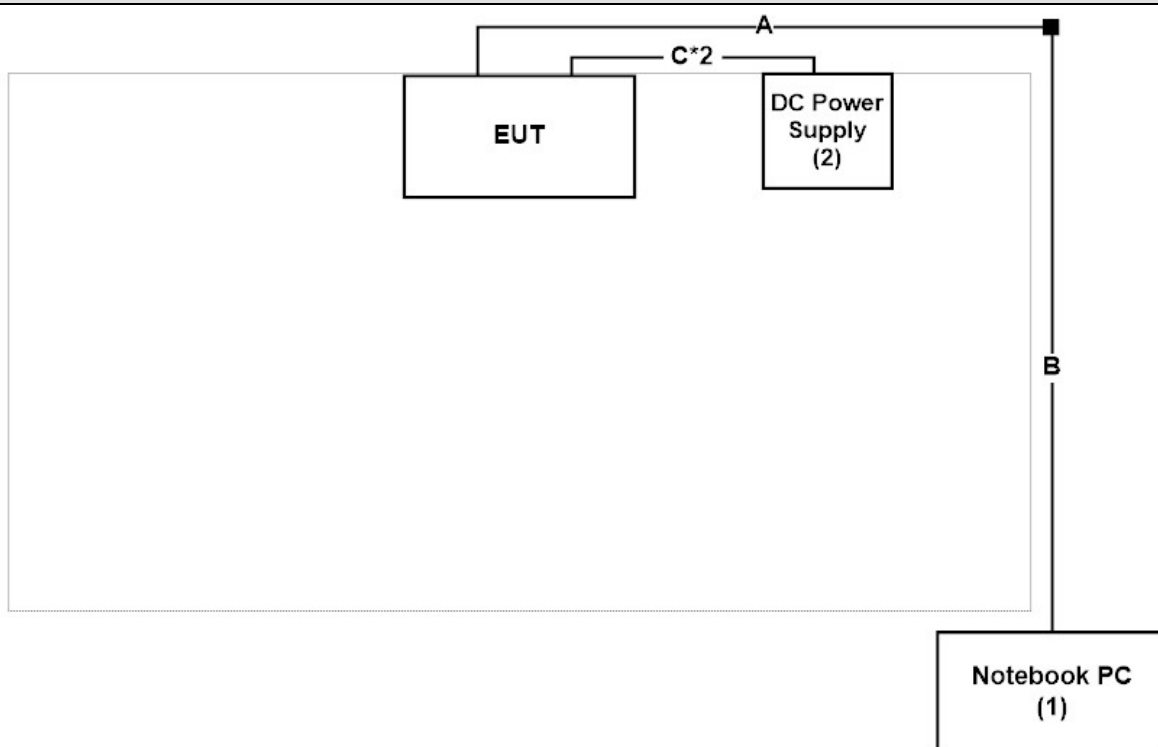
The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Notebook PC	Lenove	80SJ	MP16Z7TB	DoC	Non-Shielded, 1.8m
2 DC Power Supply	Topward	6303D	809497	DoC	--

1.4. Configuration of tested System



Connection Diagram



1.5. EUT Exercise Software

1	Set the EUT as shown in Section 1.4.
2	Execute QPST software on the laptop.
3	Configure test mode, test channel and data rate.
4	Let the EUT start sending or receiving continuously.
5	Verify that the device is working properly.

1.6. Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required	Test Site
Temperature (°C)	FCC PART 15E 15.407 Conducted Emission	15 - 35	--
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15E 15.407 26dB & 99% & DTS Bandwidth	15 - 35	3
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15E 15.407 Maximum conducted output power	15 - 35	3
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15E 15.407 Maximum power spectral density	15 - 35	3
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15E 15.407 Radiated Emission	15 - 35	2
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15E 15.407 Band Edge	15 - 35	2
Humidity (%RH)		25 - 75	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	:	FCC Registration Number: TW3024
Canada	:	IC Registration Number: 22397-1 / 22397-2 / 22397-3

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: <http://www.dekra.com.tw>

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C. 2. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 3. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-592-8858 2. +886-3-582-8001 3. +886-3-582-8001
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Email address	info.tw@dekra.com
Website	http://www.dekra.com.tw

1.8. List of Test Equipment

Occupied Bandwidth / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29

Maximum conducted output power / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2019/12/02	2020/12/01
Pulse Power Sensor	Anritsu	MA2411B	1531043	2019/12/02	2020/12/01
Pulse Power Sensor	Anritsu	MA2411B	1531044	2019/12/02	2020/12/01
Power Meter	Keysight	8990B	MY51000248	2020/05/20	2021/05/19
Power Sensor	Keysight	N1923A	MY57240005	2020/05/20	2021/05/19

Maximum power spectral density / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29

Radiated Emission / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2019/10/21	2020/10/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Signal Analyzer	R&S	FSV40	101435	2020/06/24	2021/06/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2020/02/21	2021/02/20
Bilog Antenna	Teseq	CBL6112D	23191	2020/06/12	2021/06/11
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2020/06/04	2021/06/03
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2019/10/25	2020/10/24
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Horn Antenna	Schwarzbeck	BBHA 9170	203	2020/03/09	2021/03/08
Pre-Amplifier	DEKRA	AP-025C	12183122	2019/09/24	2020/09/23
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Band Reject Filter	Micro-Tronics	BRM50716	G089	2020/03/18	2021/03/17
Band Reject Filter	Micro-Tronics	BRM50716	G068	2020/03/09	2021/03/08
Coaxial Cable(16m)	Huber+Suhner	SF104	CB2-H	2019/07/25	2020/07/24
EMI system	DEKRA	Version 1.0	CB2-H	NA	NA

Band Edge / CB2-H

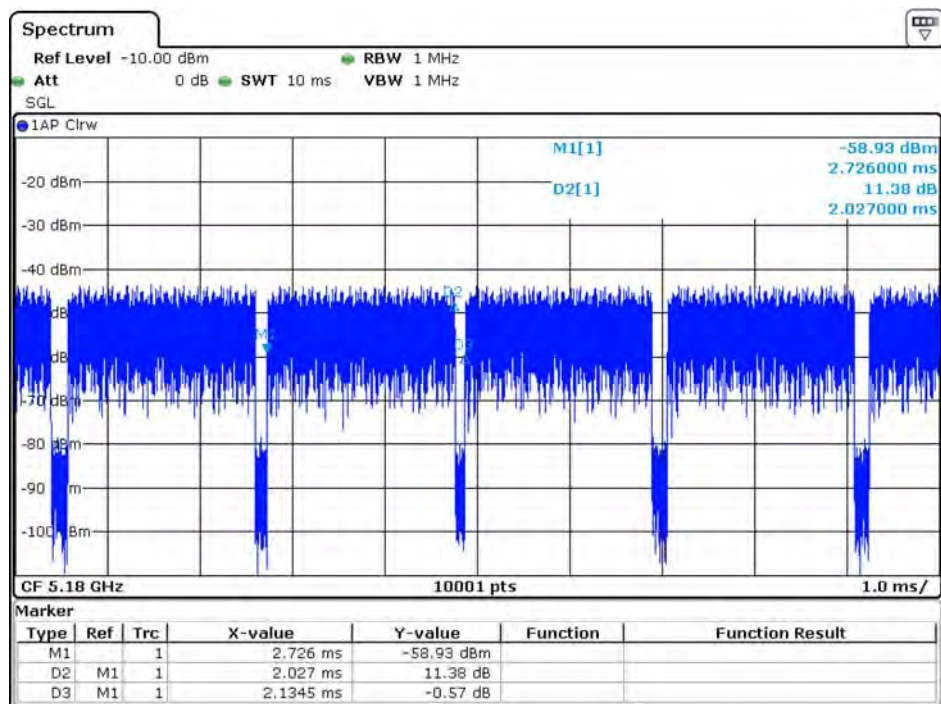
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2019/10/21	2020/10/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Signal Analyzer	R&S	FSV40	101435	2020/06/24	2021/06/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2020/02/21	2021/02/20
Bilog Antenna	Teseq	CBL6112D	23191	2020/06/12	2021/06/11
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2020/06/04	2021/06/03
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2019/10/25	2020/10/24
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Horn Antenna	Schwarzbeck	BBHA 9170	203	2020/03/09	2021/03/08
Pre-Amplifier	DEKRA	AP-025C	12183122	2019/09/24	2020/09/23
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Band Reject Filter	Micro-Tronics	BRM50716	G089	2020/03/18	2021/03/17
Band Reject Filter	Micro-Tronics	BRM50716	G068	2020/03/09	2021/03/08
Coaxial Cable(16m)	Huber+Suhner	SF104	CB2-H	2019/07/25	2020/07/24
EMI system	DEKRA	Version 1.0	CB2-H	NA	NA

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

1.9. Duty Cycle

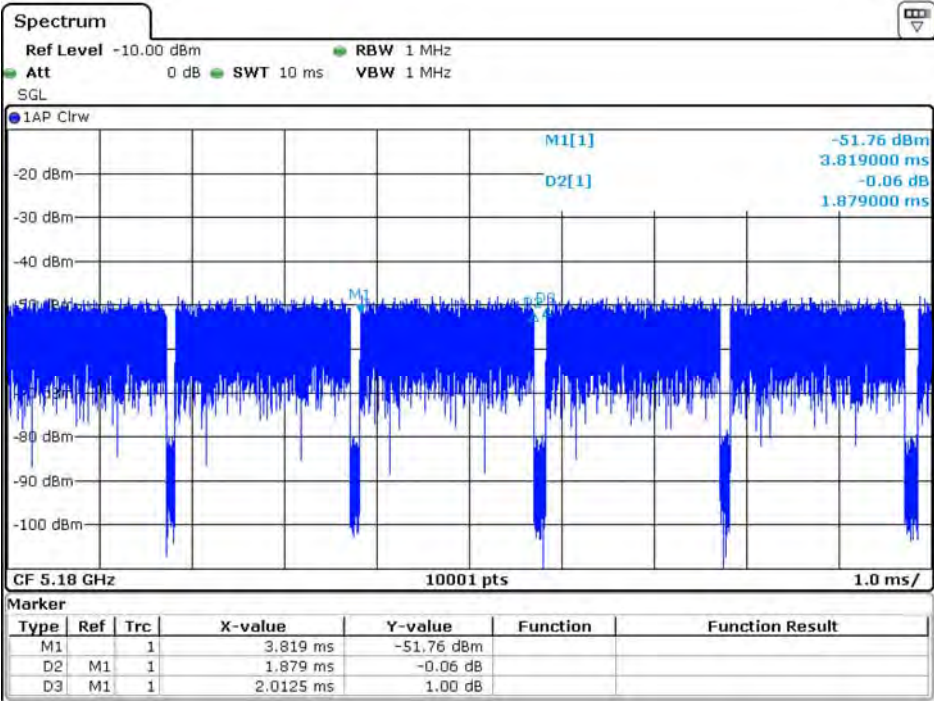
Mode	On Time(ms)	On+Off Time(ms)	Duty Cycle(%)	Duty Factor(dB) linear voltage	Duty Factor(dB) Power	1/T Minimum VBW (kHz)
11a	2.027	2.135	94.96%	0.448848	0.22	0.493
HT20	1.879	2.013	93.37%	0.596182	0.30	0.532
HT40	0.920	1.033	89.01%	1.010972	0.51	1.088

802.11a



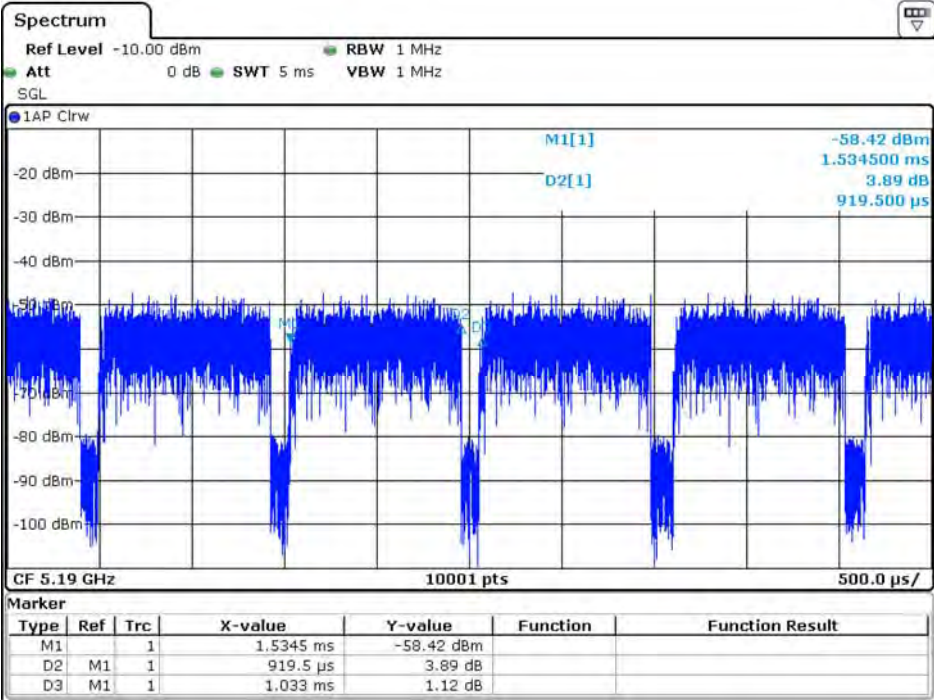
Date: 8.JUL.2020 19:00:13

802.11n(20M)



Date: 8 JUL 2020 19:01:48

802.11n(40M)



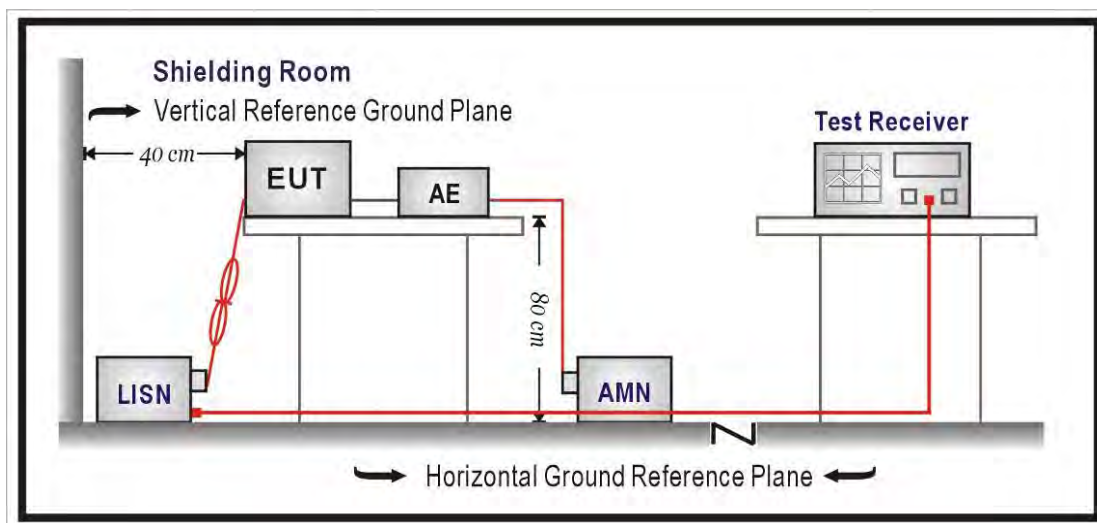
Date: 8 JUL 2020 19:03:41

1.10. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26 dB
26dB & 99% & DTS Bandwidth	± 50 Hz
Maximum conducted output power	± 1.27 dB
Maximum power spectral density	± 1.27 dB
Radiated Emission	30MHz~1GHz as ± 3.43 dB 1GHz~26.5GHz as ± 3.65 dB
Band Edge	± 3.65 dB

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remark: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

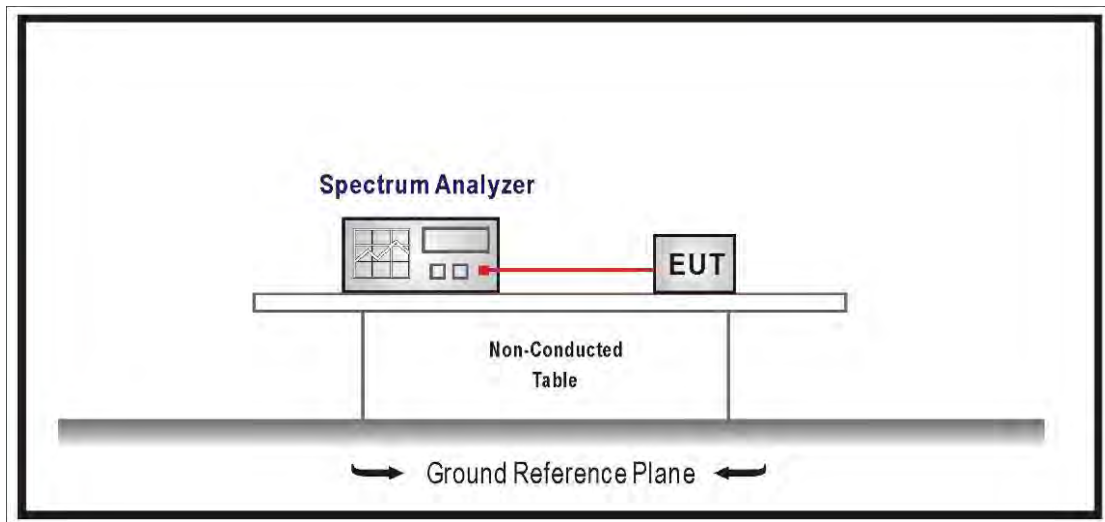
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.4. Test Result

Owing to the DC operation of EUT, this test item is not performed.

3. 26dB & 99% & DTS Bandwidth

3.1. Test Setup



3.2. Limits

99% & 26dB Bandwidth : No Required

6dB Bandwidth $\geq$ 500KHz

3.3. Test Procedure

99% & 26dB Bandwidth :

The EUT was tested according to U-NII test procedure of KDB 789033 D02 v02r01

Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

DTS Bandwidth :

Set RBW = 100KHz, VBW $\geq$ 3xRBW, Sweep time=Auto, Set Peak detector.

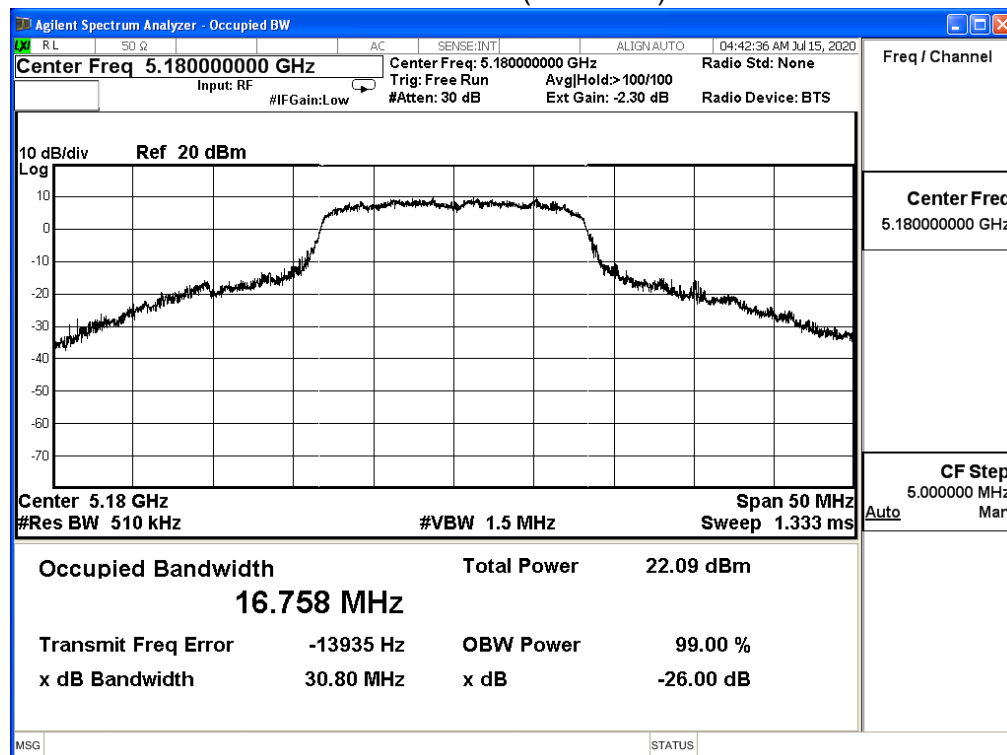
3.4. Test Result

Product	Vehicle Gateway		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

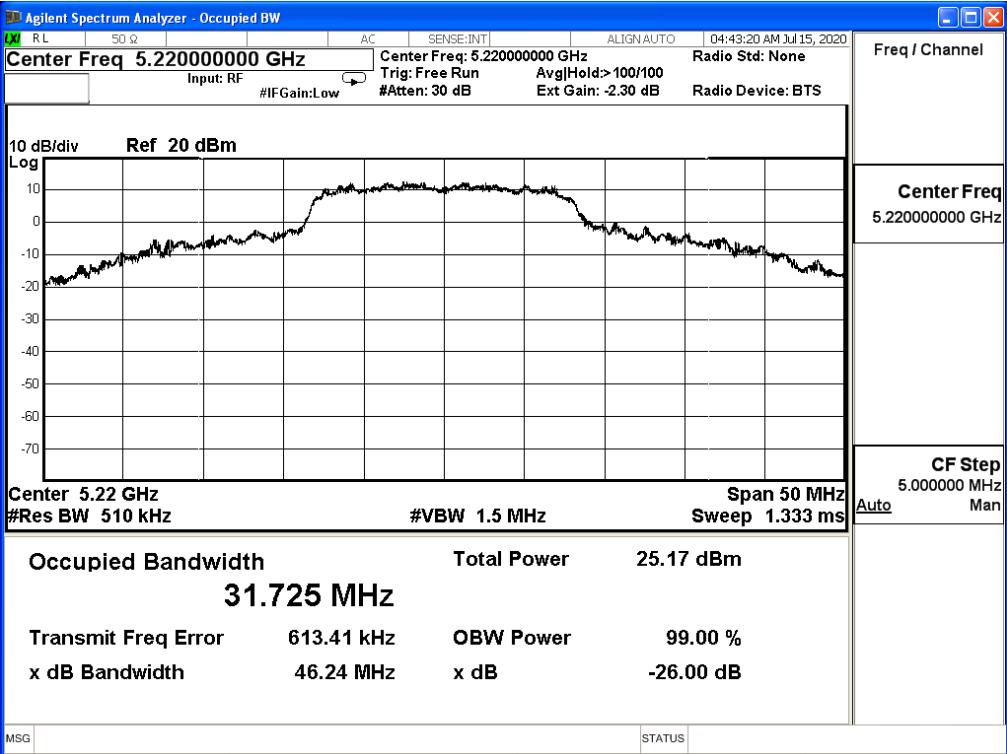
IEEE 802.11a (ANT 0)

Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)	Result
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)		
36	5180	16.758	30.800	--	Pass
44	5220	31.725	46.240	--	Pass
48	5240	17.661	33.930	--	Pass
149	5745	35.295	N/A	--	Pass
157	5785	35.056		--	Pass
165	5825	35.175		--	Pass

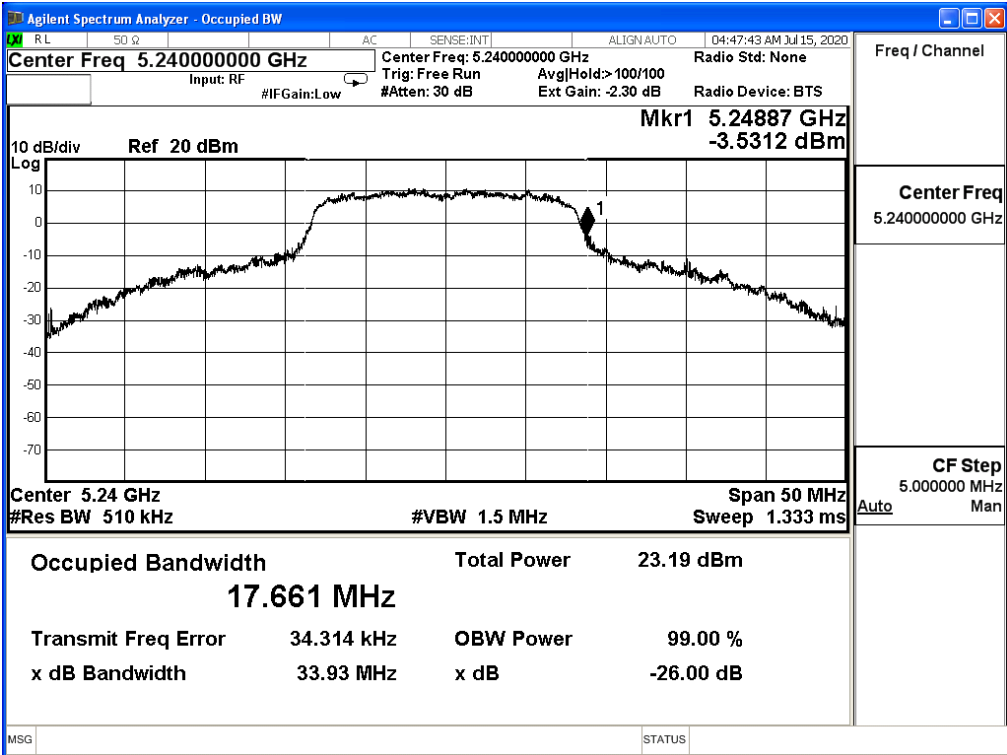
Channel 36 (5180MHz)



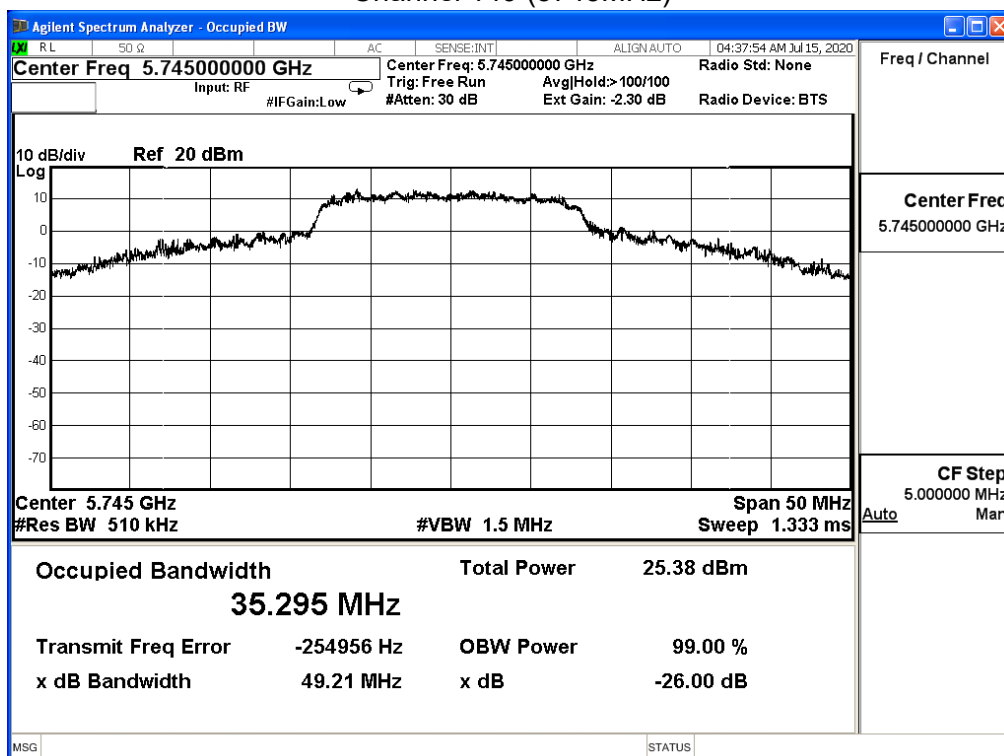
Channel 44 (5220MHz)



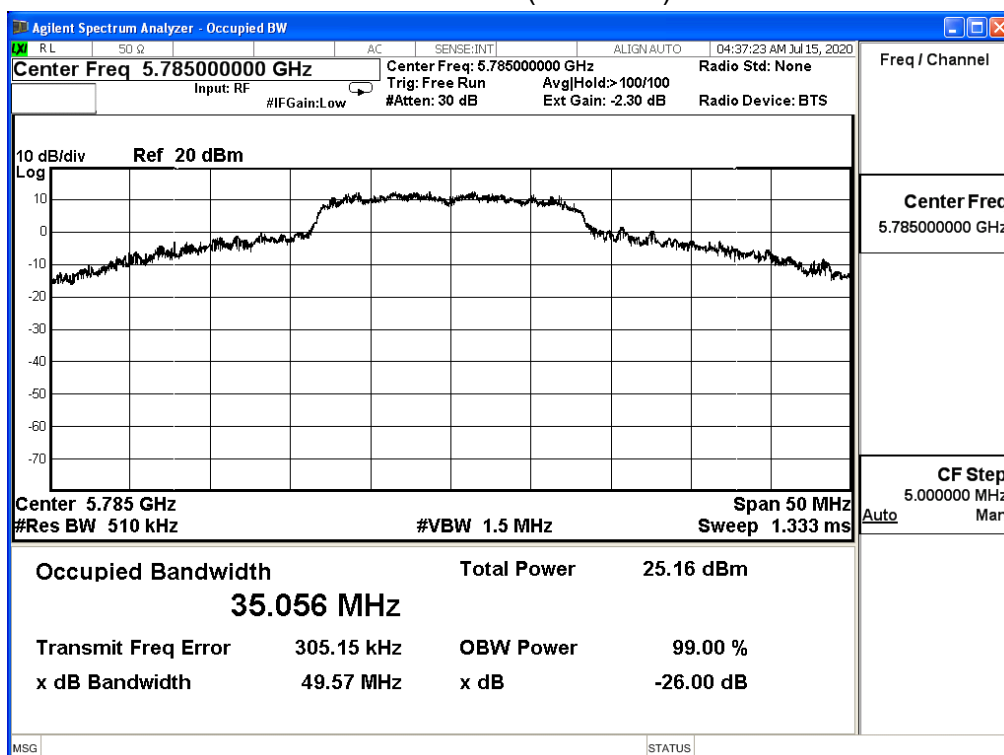
Channel 48 (5240MHz)



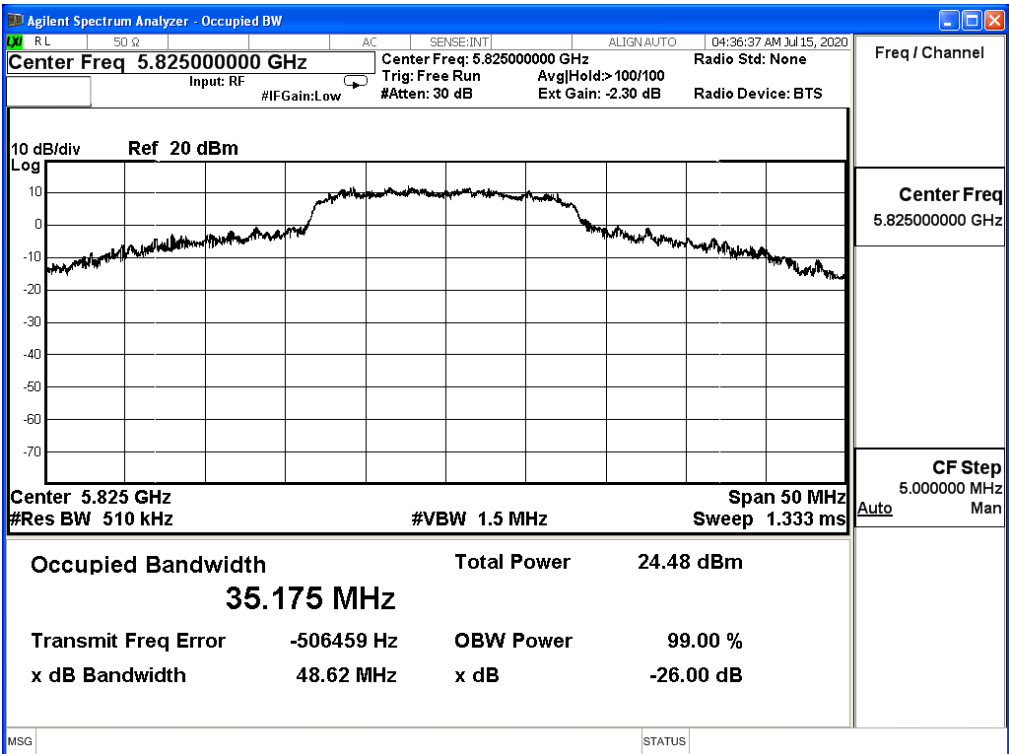
Channel 149 (5745MHz)



Channel 157 (5785MHz)



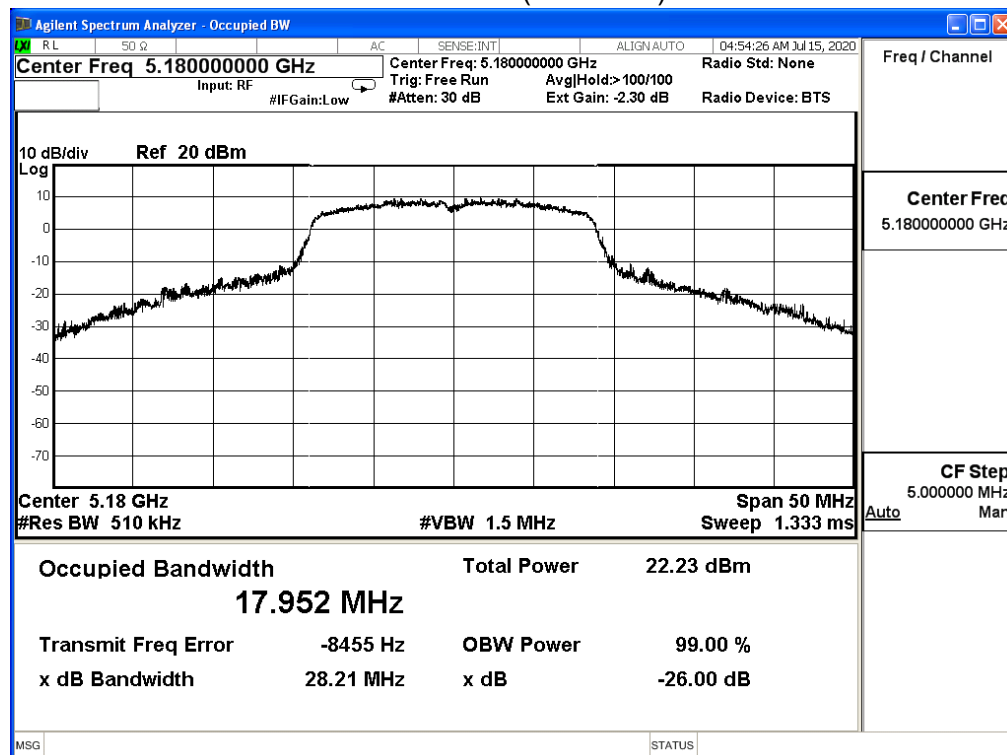
Channel 165 (5825MHz)



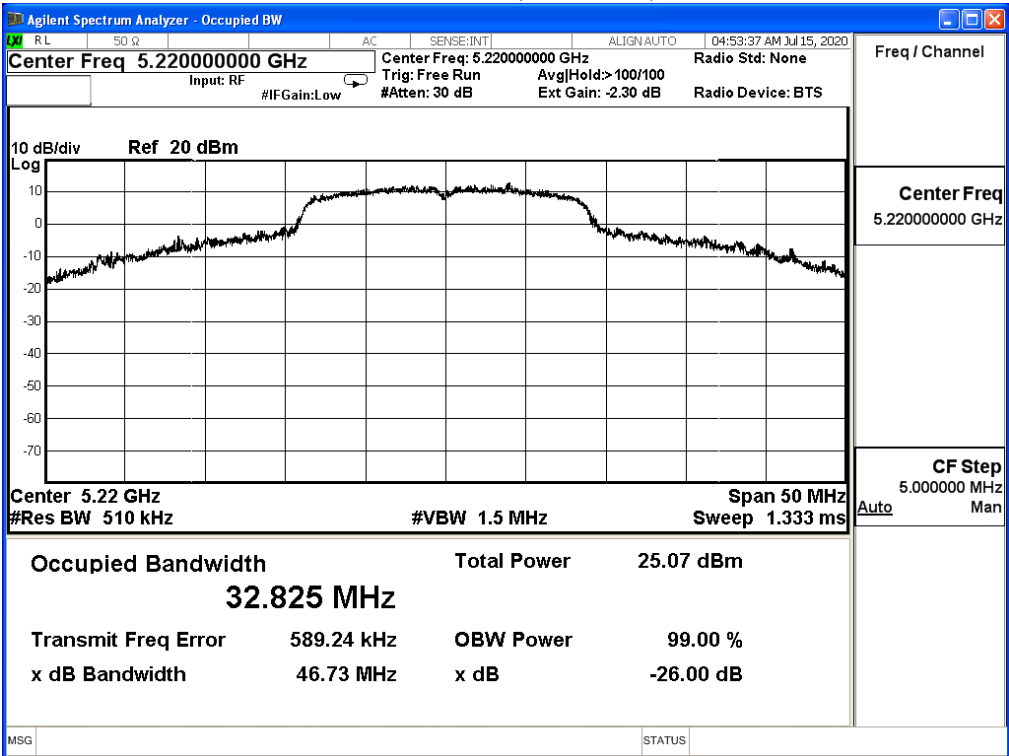
Product	Vehicle Gateway		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11n_20M(ANT 0)					
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)	Result
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)		
36	5180	17.952	28.210	--	Pass
44	5220	32.825	46.730	--	Pass
48	5240	18.503	35.030	--	Pass
149	5745	38.664	N/A	--	Pass
157	5785	34.759		--	Pass
165	5825	32.621		--	Pass

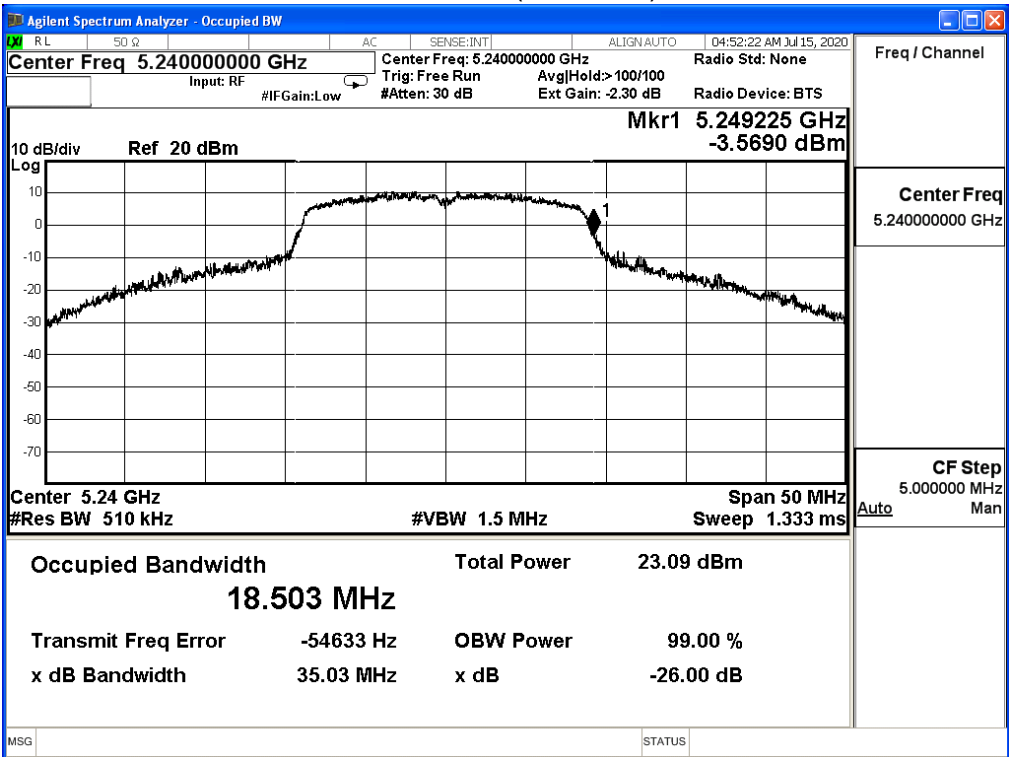
Channel 36 (5180MHz)



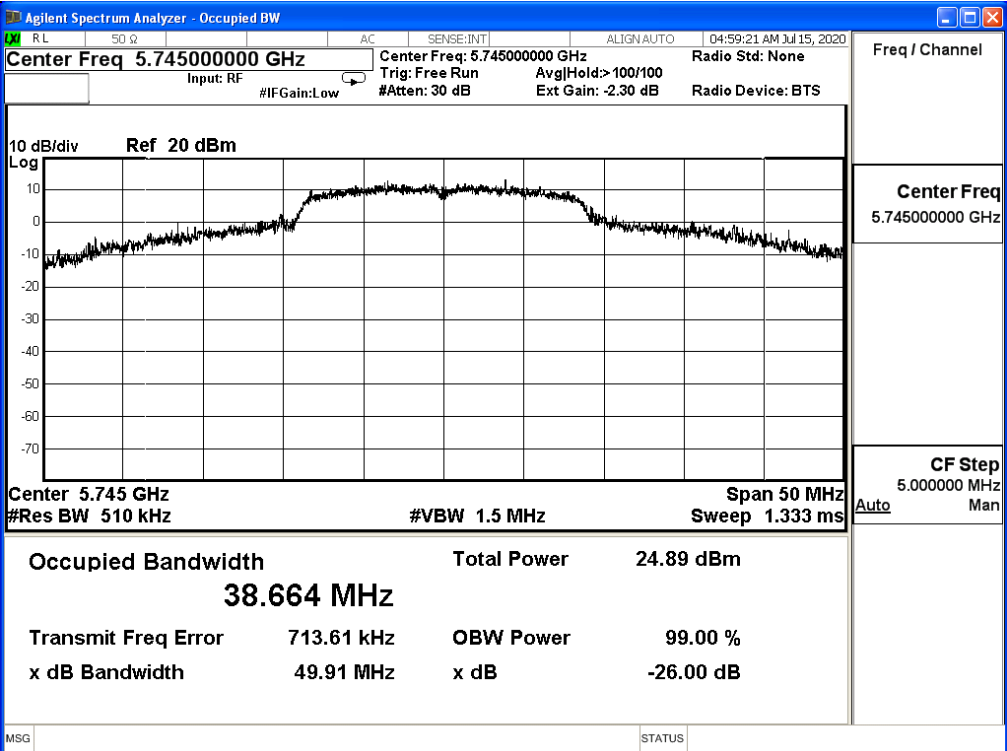
Channel 44 (5220MHz)



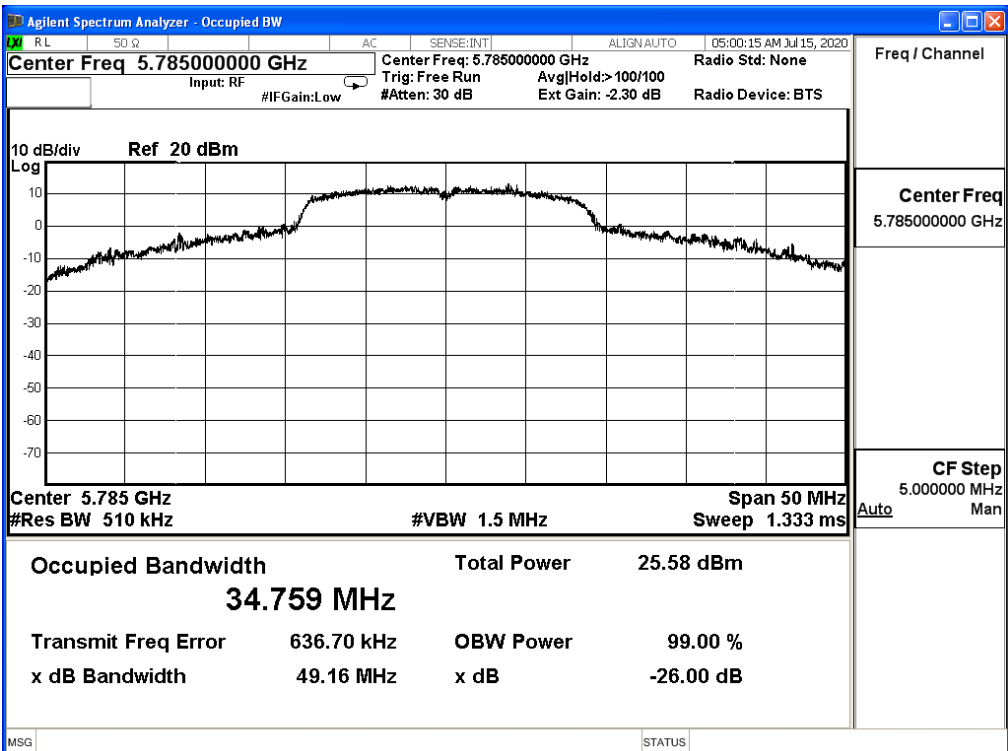
Channel 48 (5240MHz)



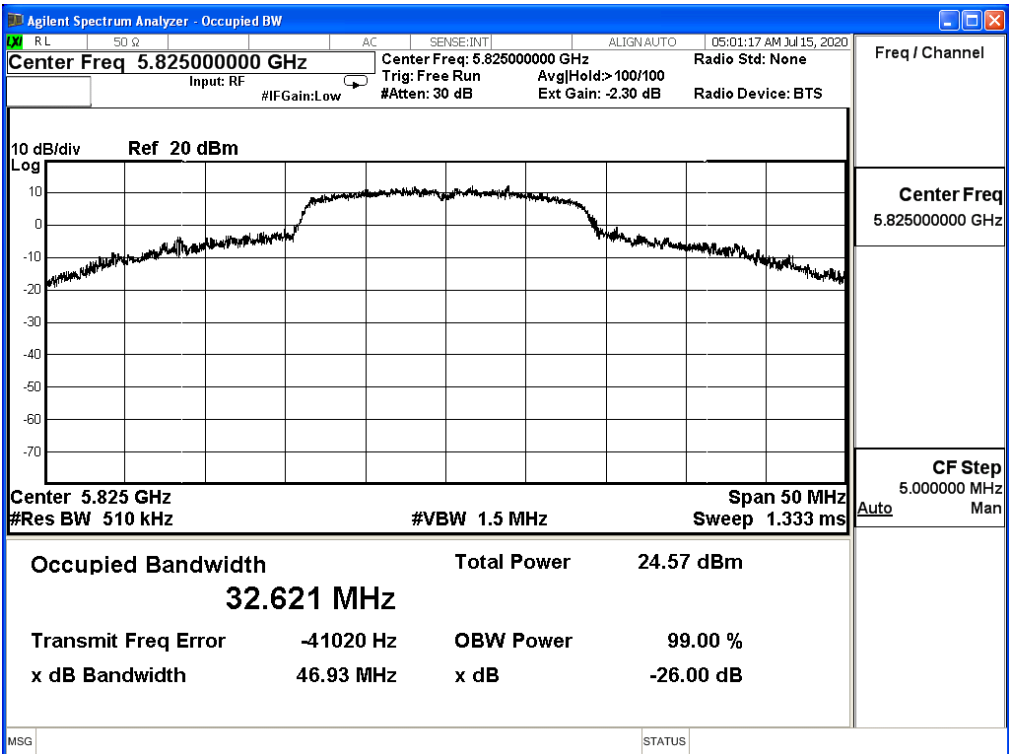
Channel 149 (5745MHz)



Channel 157 (5785MHz)



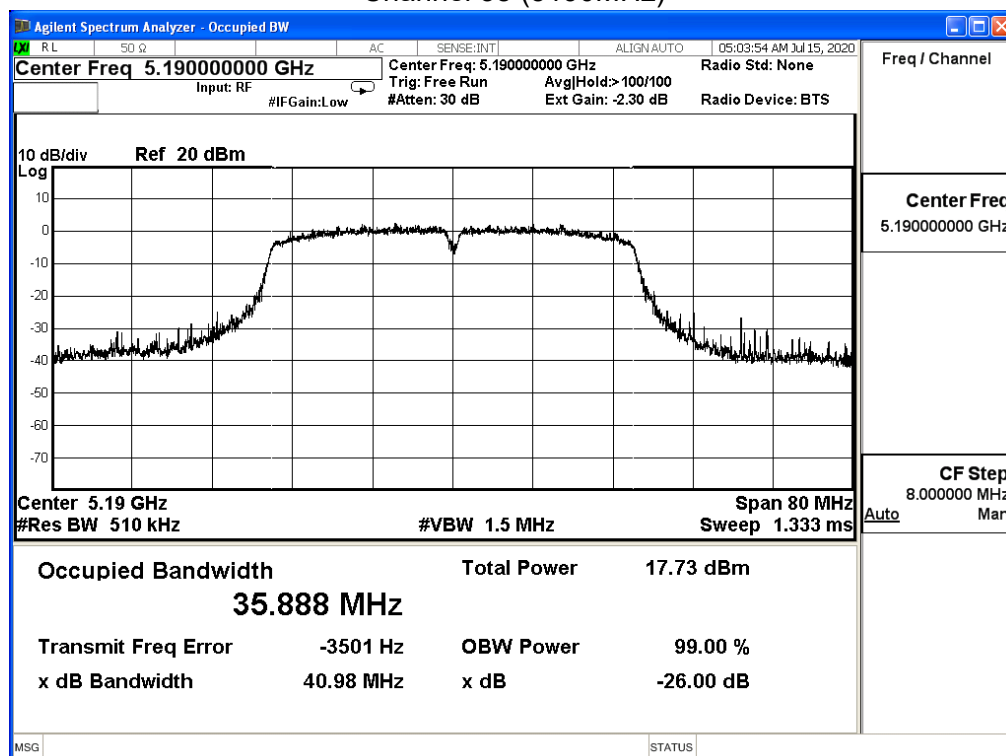
Channel 165 (5825MHz)



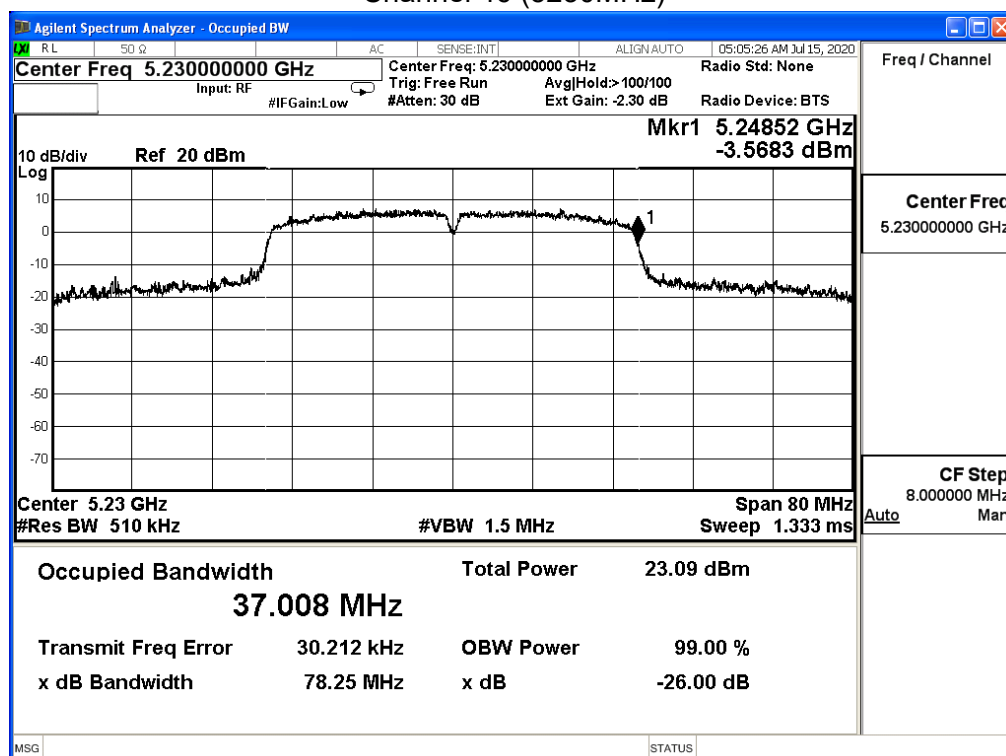
Product	Vehicle Gateway		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11n_40M(ANT 0)					
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)	Result
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)		
38	5190	35.888	40.980	--	Pass
46	5230	37.008	78.250	--	Pass
151	5755	69.298	N/A	--	Pass
159	5795	68.467		--	Pass

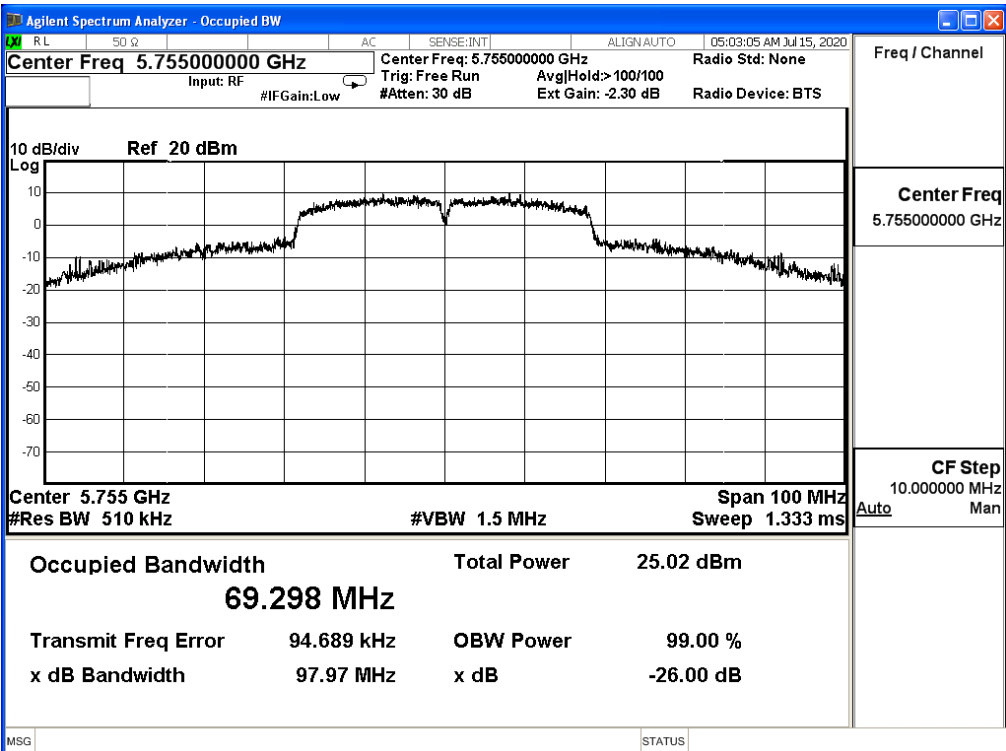
Channel 38 (5190MHz)



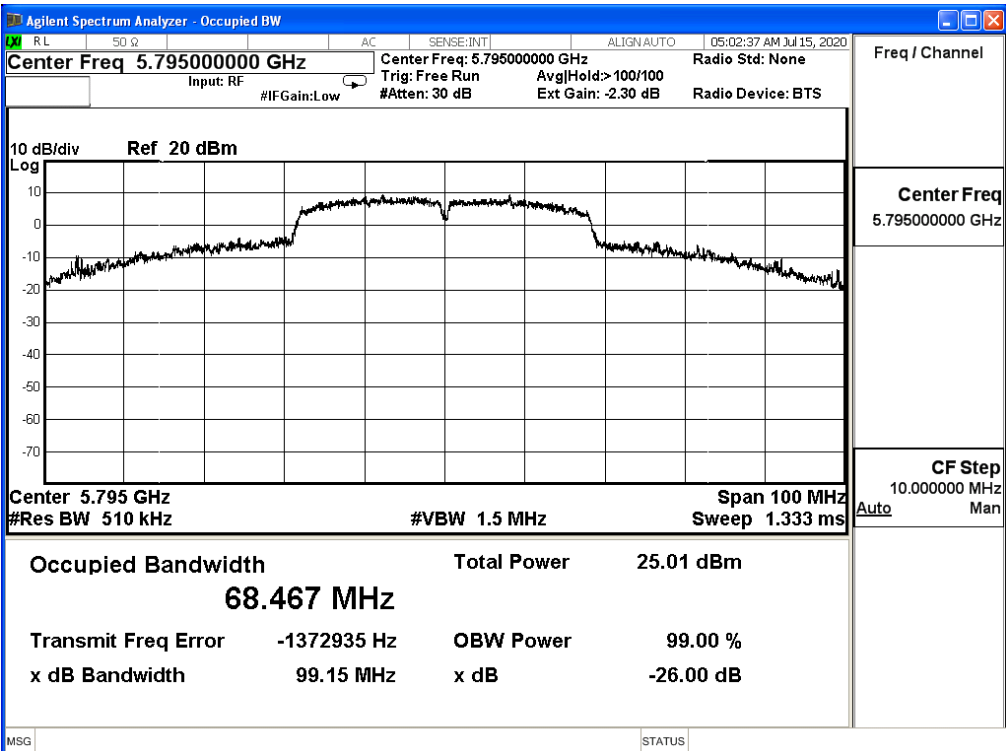
Channel 46 (5230MHz)



Channel 151 (5755MHz)



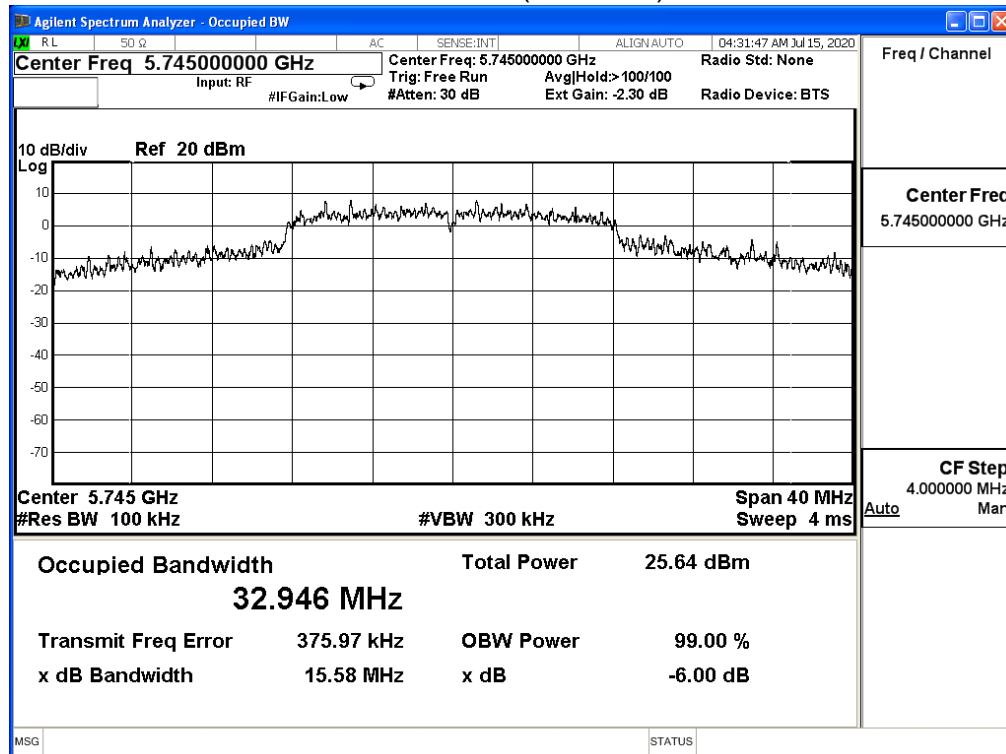
Channel 159 (5795MHz)



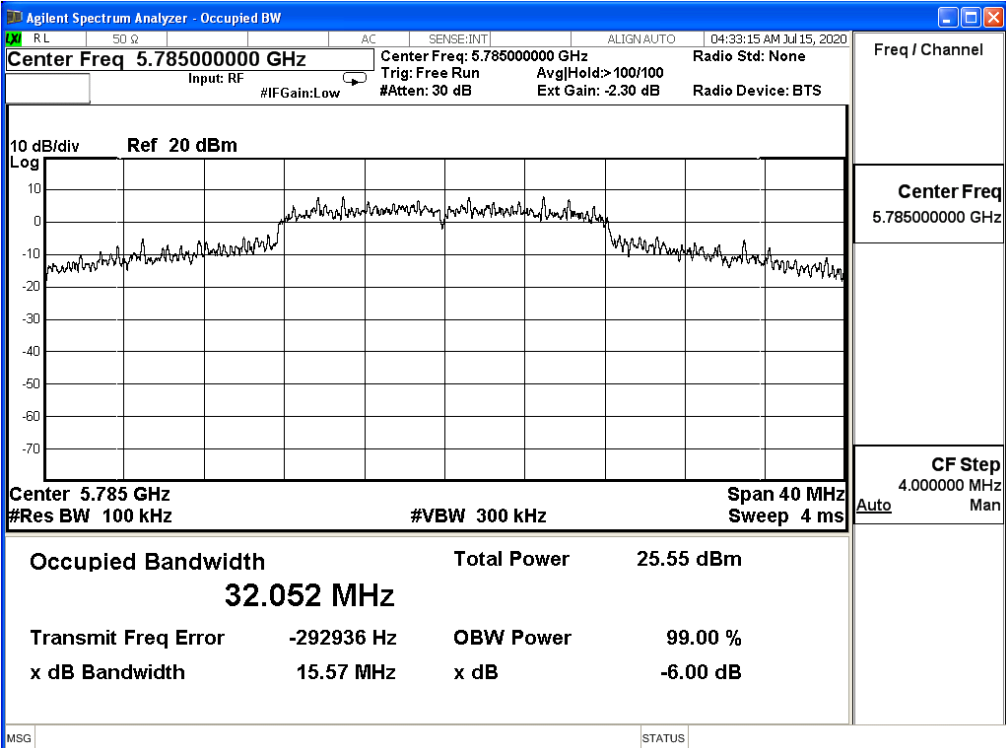
Product	Vehicle Gateway		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11a (ANT 0)				
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)	Result
149	5745	15.580	≥ 0.500	Pass
157	5785	15.570	≥ 0.500	Pass
165	5825	15.290	≥ 0.500	Pass

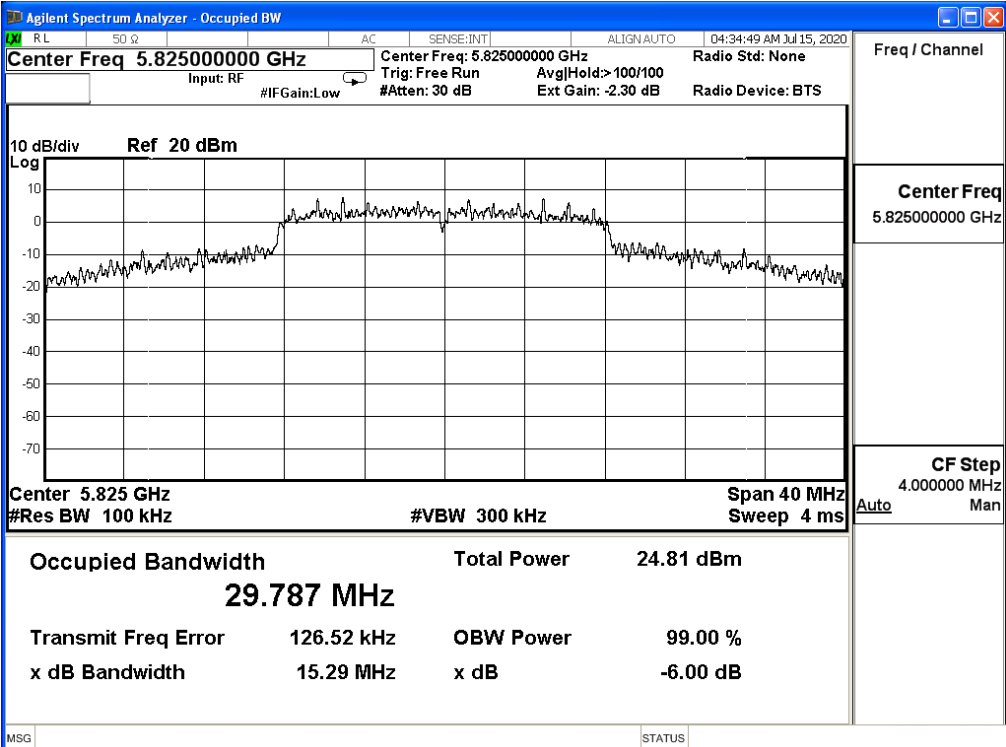
Channel 36 (5180MHz)



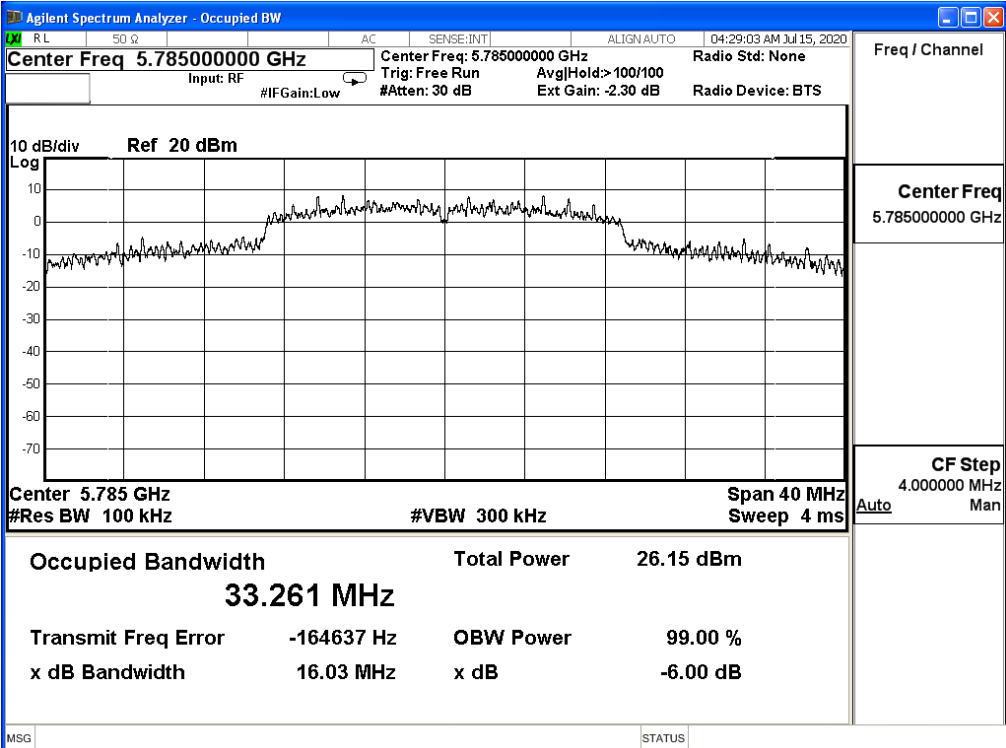
Channel 157 (5785MHz)



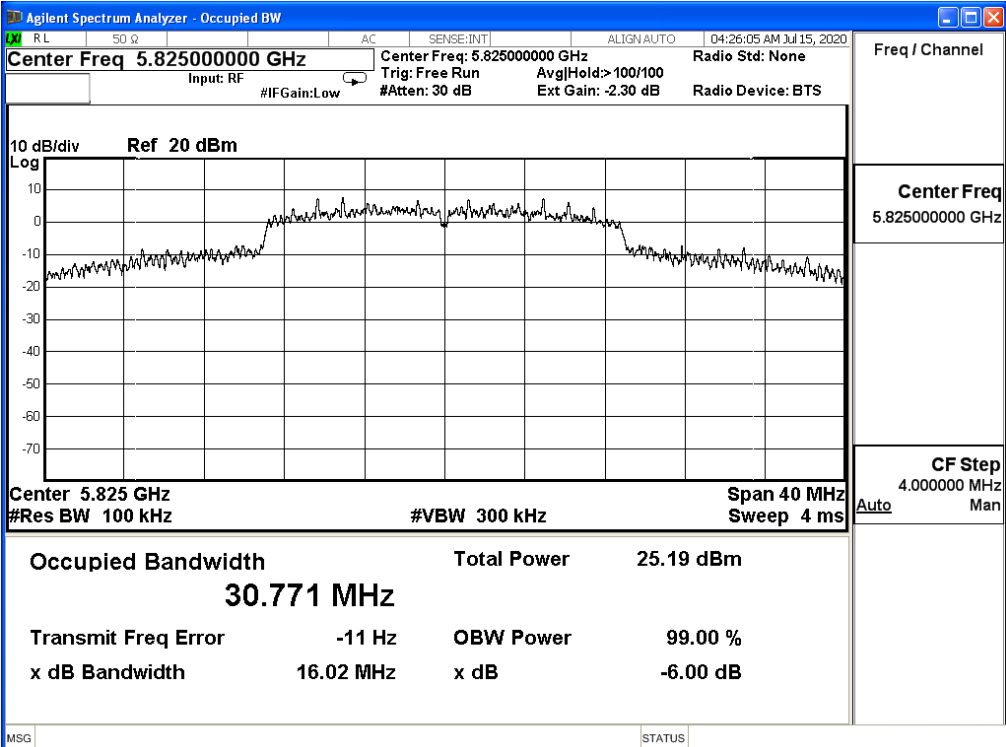
Channel 165 (5825MHz)



Channel 157 (5785MHz)



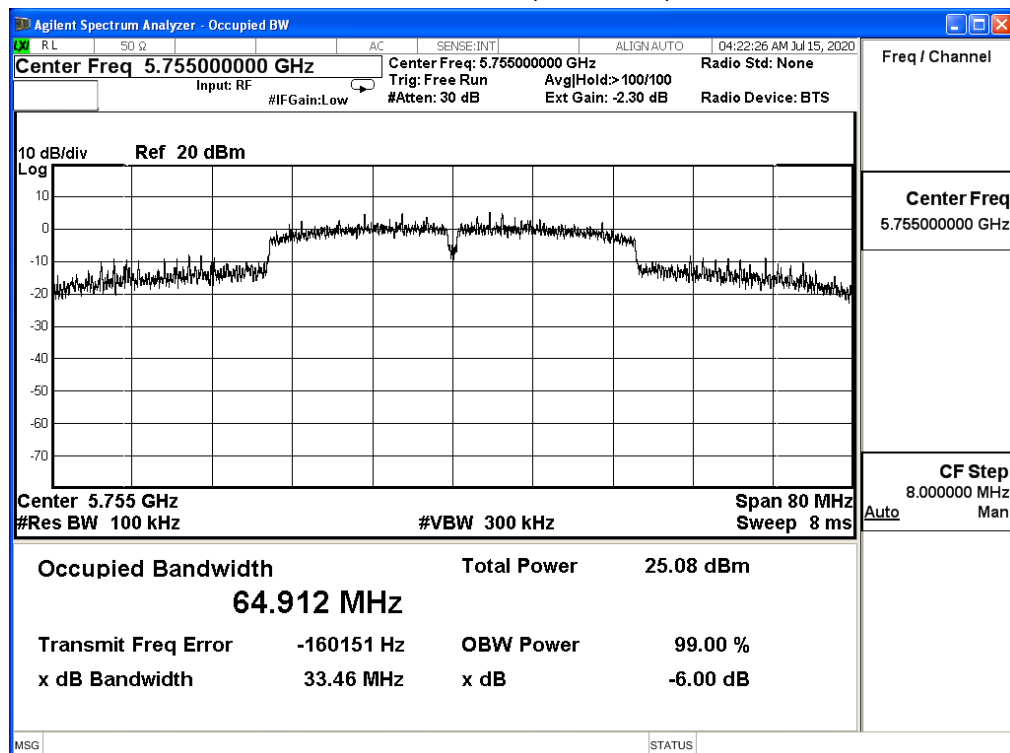
Channel 165 (5825MHz)



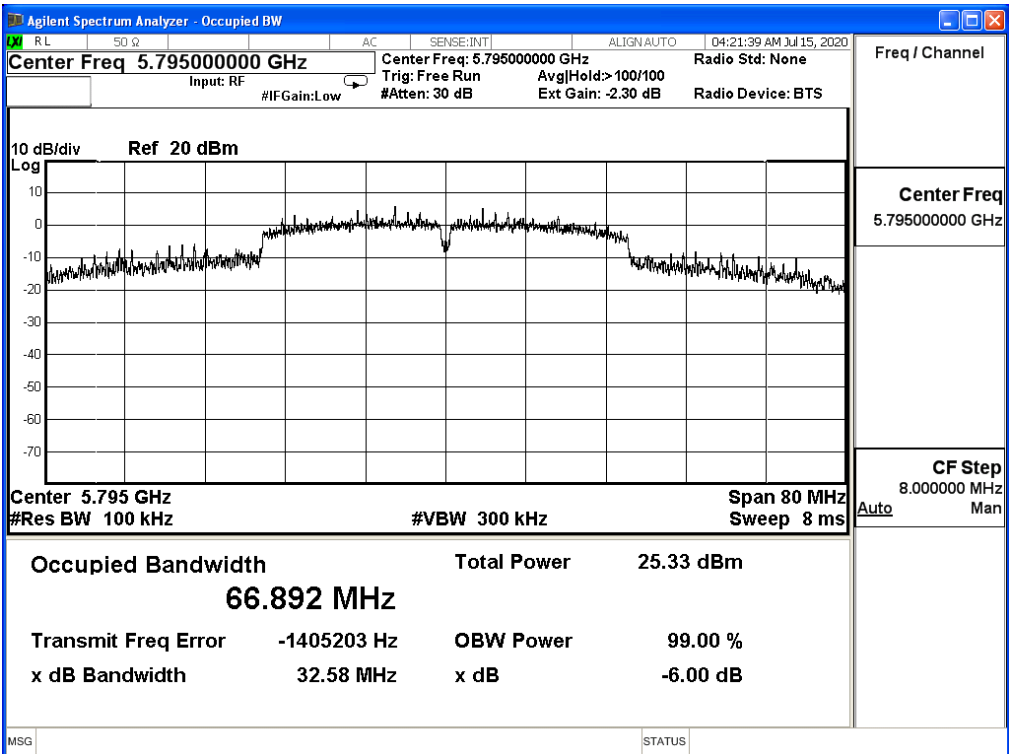
Product	Vehicle Gateway		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11n_40M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)	Result
151	5755	33.460	≥ 0.500	Pass
159	5795	32.580	≥ 0.500	Pass

Channel 151 (5755MHz)

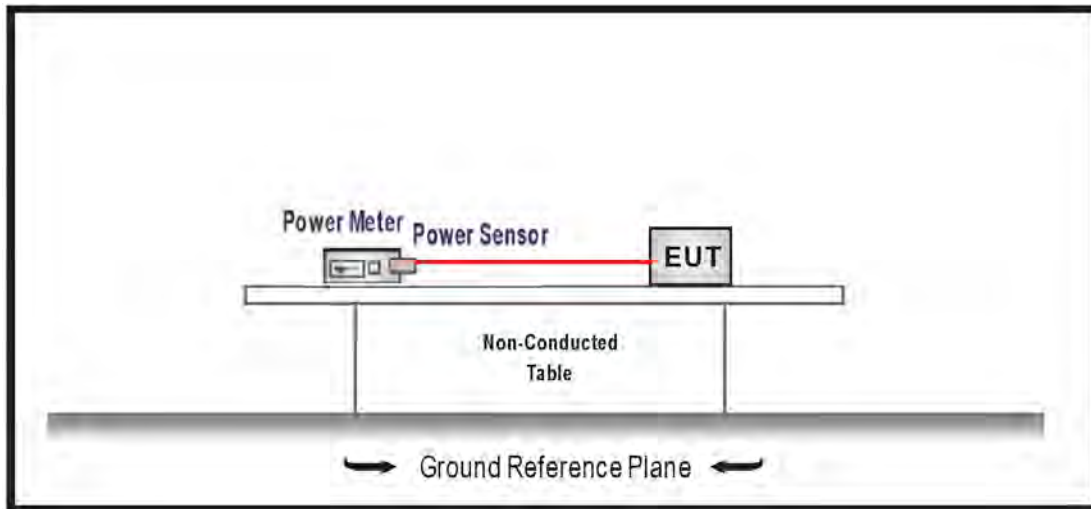


Channel 159 (5795MHz)



4. Maximum conducted output power

4.1. Test Setup



4.2. Limits

1. For the band 5.15-5.25 GHz, the Maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. 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. The maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
3. For the band 5.25-5.35 GHz, the Maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725-5.850 GHz, the Maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of KDB 789033 D02 v02r01 for compliance to FCC 47CFR Subpart E requirements. The Method Measurement using a Power Meter (PM) of the Maximum conducted output power was used.

4.4. Test Result

Product	Vehicle Gateway		
Test Item	Maximum conducted output power		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11a (ANT 0)

Channel No.	Frequency (MHz)	Measure Value (dBm)	Limit (dBm)
36	5180	16.910	≤30.000
44	5220	17.640	≤30.000
48	5240	17.380	≤30.000
149	5745	19.920	≤30.000
157	5785	19.850	≤30.000
165	5825	19.770	≤30.000

The worst emission of data rate is 6 Mbps.

Channel No	Frequency (MHz)	Data Rate								Limit
		6	9	12	18	24	36	48	54	
36	5180	16.910	--	--	--	--	--	--	--	≤30.000
44	5220	17.640	--	--	--	--	--	--	--	≤30.000
48	5240	17.380	--	--	--	--	--	--	--	≤30.000
149	5745	19.920	--	--	--	--	--	--	--	≤30.000
157	5785	19.850	19.720	19.580	19.440	19.300	19.160	19.010	18.880	≤30.000
165	5825	19.770	--	--	--	--	--	--	--	≤30.000

Product	Vehicle Gateway		
Test Item	Maximum conducted output power		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11n(20MHz)(ANT 0)

Channel No.	Frequency (MHz)	Measure Value (dBm)	Limit (dBm)
36	5180	16.840	≤30.000
44	5220	17.580	≤30.000
48	5240	17.250	≤30.000
149	5745	19.860	≤30.000
157	5785	19.810	≤30.000
165	5825	19.740	≤30.000

The worst emission of data rate is MCS0

Channel No	Frequency (MHz)	MCS Index								Limit
		0	1	2	3	4	5	6	7	
36	5180	16.840	--	--	--	--	--	--	--	≤30.000
44	5220	17.580	--	--	--	--	--	--	--	≤30.000
48	5240	17.250	--	--	--	--	--	--	--	≤30.000
149	5745	19.860	--	--	--	--	--	--	--	≤30.000
157	5785	19.810	19.670	19.520	19.370	19.230	19.100	18.970	18.830	≤30.000
165	5825	19.740	--	--	--	--	--	--	--	≤30.000

Product	Vehicle Gateway		
Test Item	Maximum conducted output power		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Temperature(°C)	24	Humidity (%RH)	60

IEEE 802.11n(40MHz)(ANT 0)

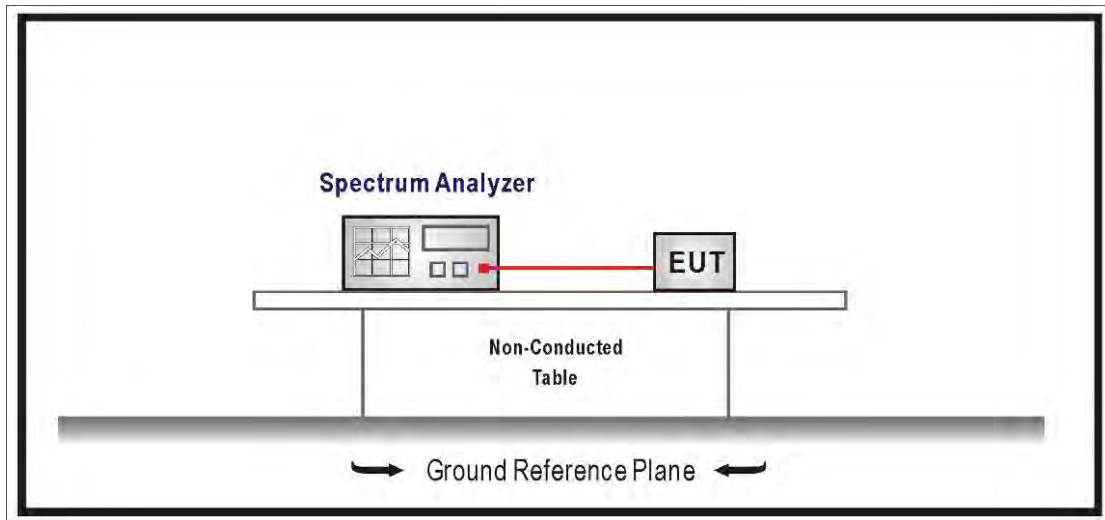
Channel No.	Frequency (MHz)	Measure Value (dBm)	Limit (dBm)
38	5190	12.730	≤30.000
46	5230	17.710	≤30.000
151	5755	20.030	≤30.000
159	5795	19.880	≤30.000

The worst emission of data rate is MCS0

Channel No	Frequency (MHz)	MCS Index								Limit
		0	1	2	3	4	5	6	7	
38	5190	12.730	--	--	--	--	--	--	--	≤30.000
46	5230	17.710	17.570	17.430	17.280	17.130	17.000	16.850	16.700	≤30.000
151	5755	20.030	19.890	19.760	19.610	19.480	19.350	19.200	19.060	≤30.000
159	5795	19.880	--	--	--	--	--	--	--	≤30.000

5. Maximum power spectral density

5.1. Test Setup



5.2. Limits

1. For the band 5.15-5.25 GHz, the Maximum power spectral density shall not exceed 17 dBm in any 1MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi
3. For the band 5.25-5.35 GHz, the Maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725-5.850 GHz, the Maximum power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

5.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of KDB 789033 D02 v02r01 for compliance to FCC 47CFR Subpart E requirements.

For Band1 : Set RBW=1MHz, VBW=3MHz with RMS detector. The PPSD is the highest level found across the emission in any 1-MHz band after 100 sweeps of averaging.

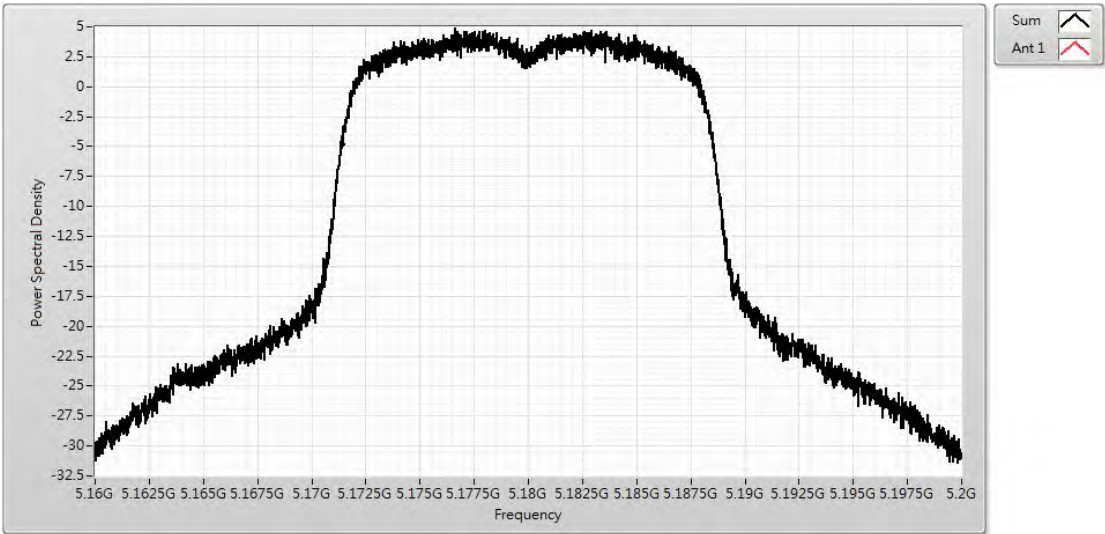
For Band4 : Set RBW=500KHz, VBW=1.5MHz with RMS detector. The PPSD is the highest level found across the emission in any 500KHz band after 100 sweeps of averaging.

5.4. Test Result

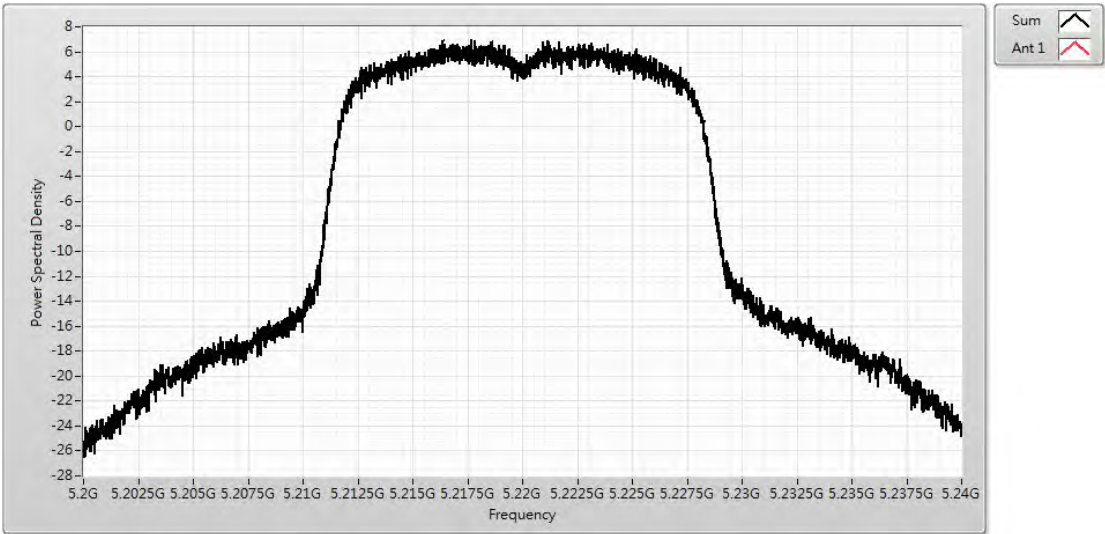
Product	Vehicle Gateway		
Test Item	Maximum power spectral density		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Test Temperature	24	Humidity (%RH)	60

IEEE 802.11a (ANT0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
36	5180	4.900	≤ 17.000	Pass
44	5220	6.950	≤ 17.000	Pass
48	5240	6.110	≤ 17.000	Pass
149	5745	4.630	≤ 30.000	Pass
157	5785	3.970	≤ 30.000	Pass
165	5825	3.400	≤ 30.000	Pass

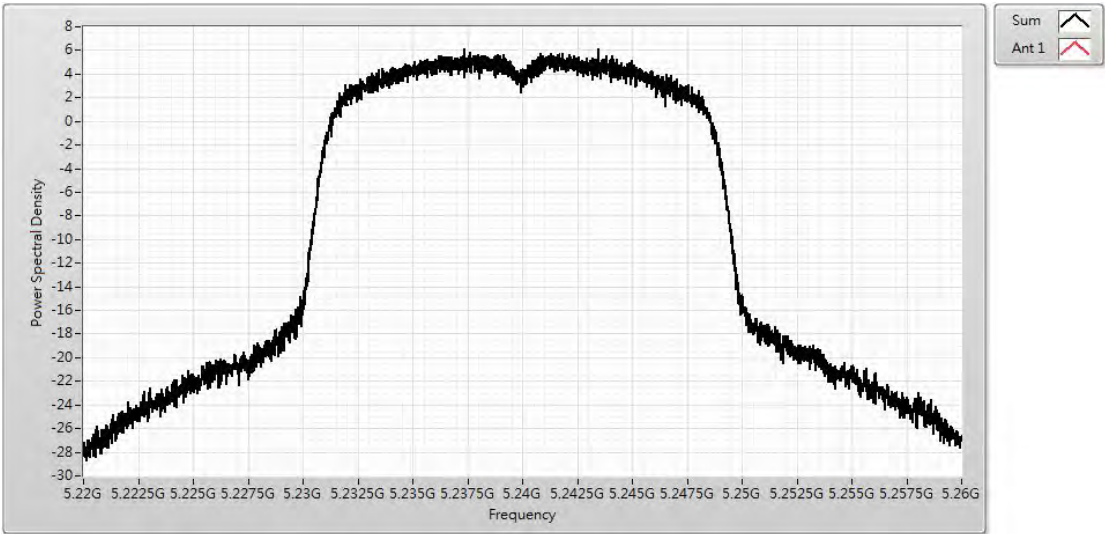
Channel 36 (5180MHz)



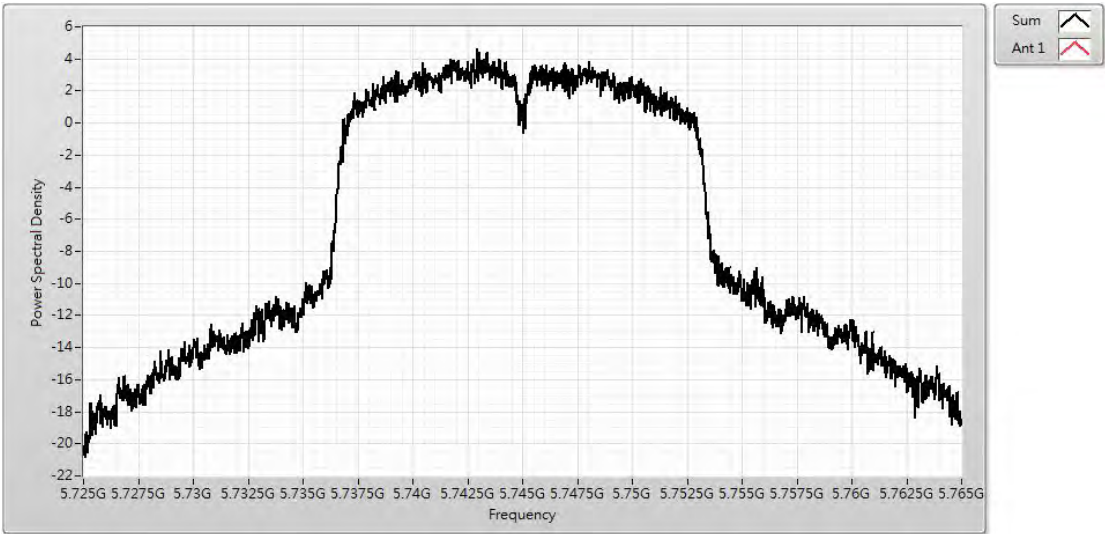
Channel 44 (5220MHz)



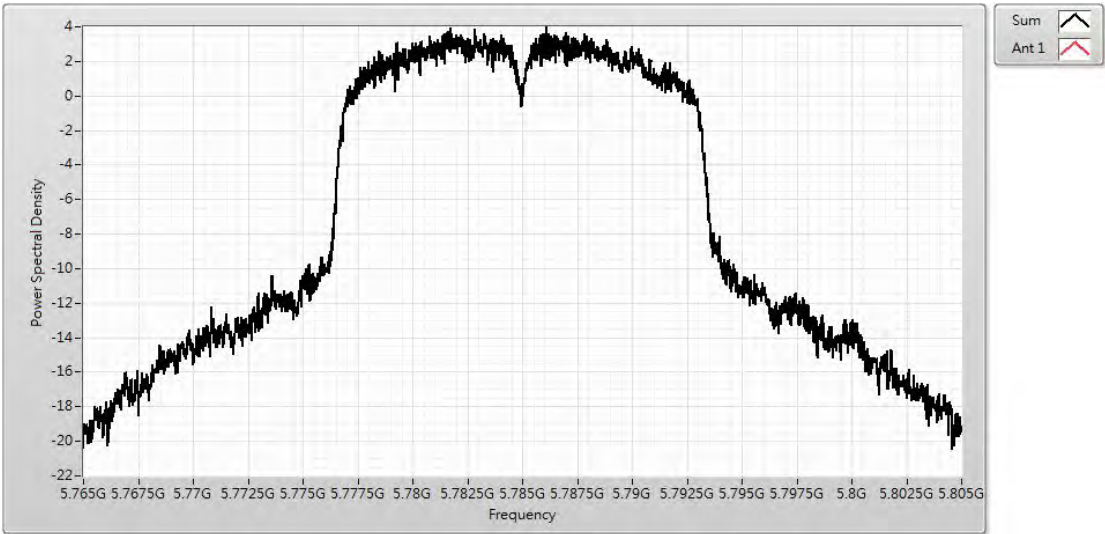
Channel 48 (5240MHz)



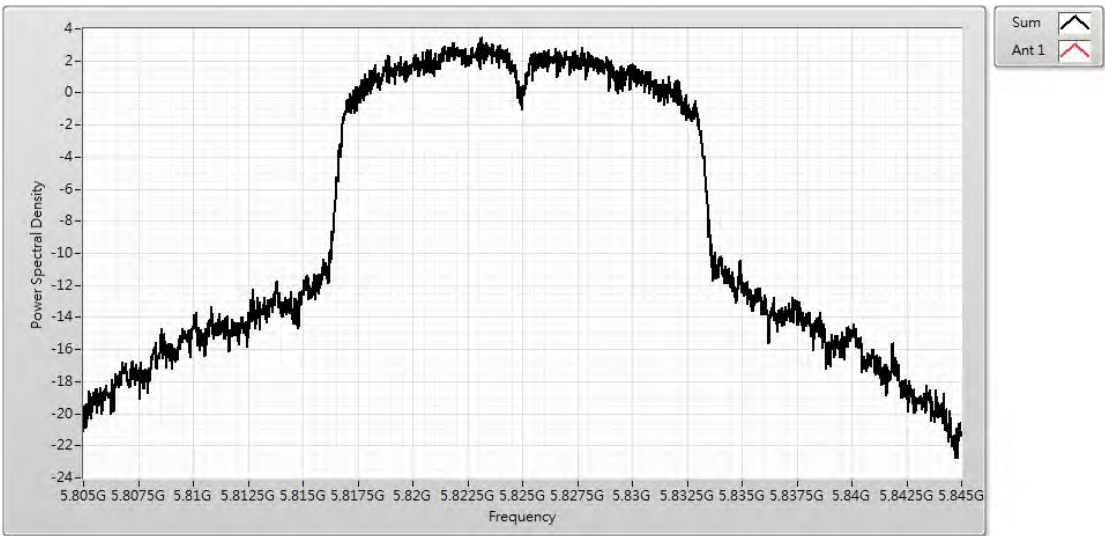
Channel 149 (5745MHz)



Channel 157 (5785MHz)



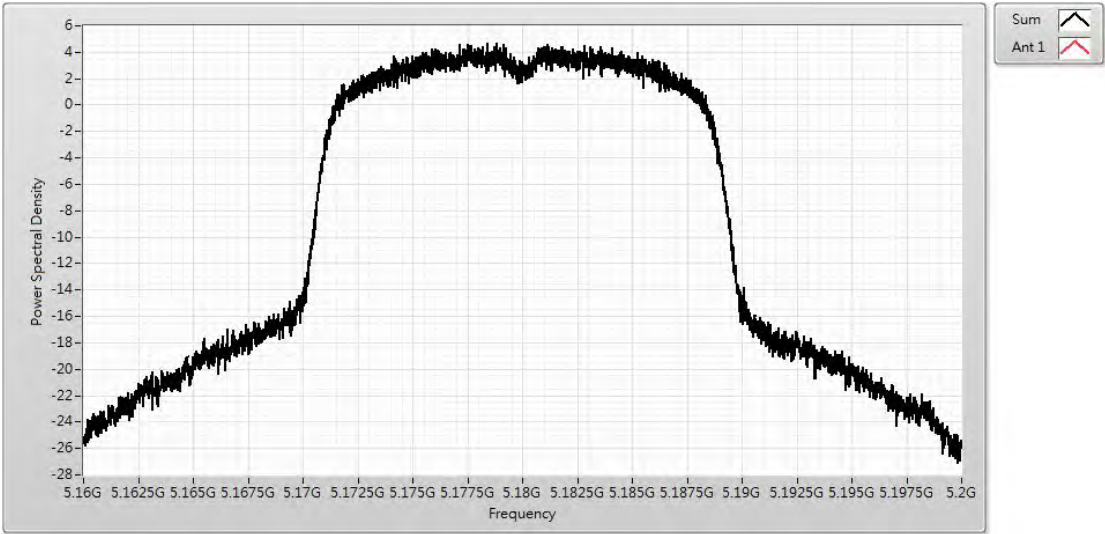
Channel 165 (5825MHz)



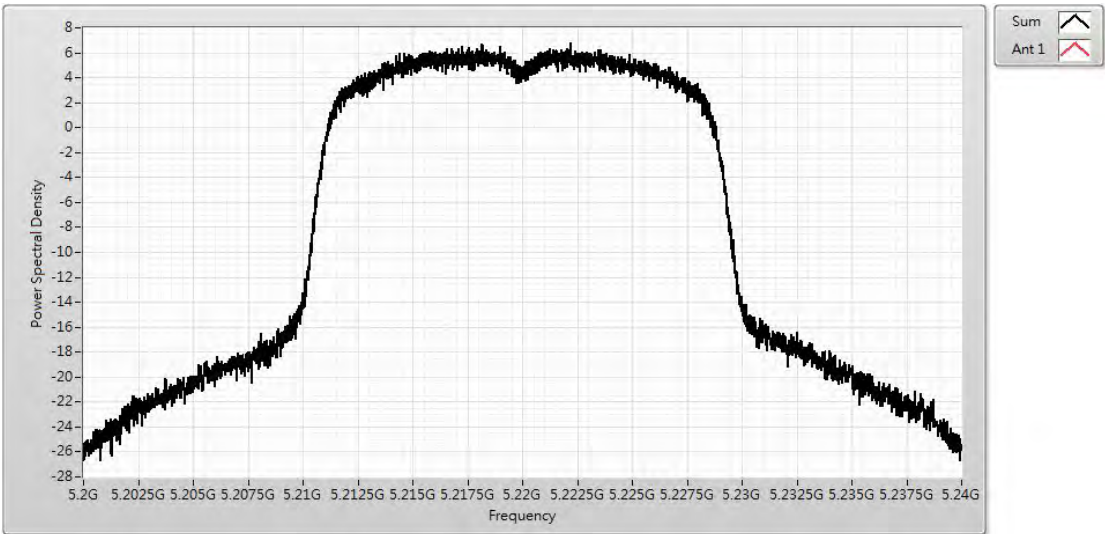
Product	Vehicle Gateway		
Test Item	Maximum power spectral density		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Test Temperature	24	Humidity (%RH)	60

IEEE 802.11n(20MHz)(ANT0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
36	5180	4.730	≤ 17.000	Pass
44	5220	6.810	≤ 17.000	Pass
48	5240	5.870	≤ 17.000	Pass
149	5745	4.320	≤ 30.000	Pass
157	5785	3.590	≤ 30.000	Pass
165	5825	2.850	≤ 30.000	Pass

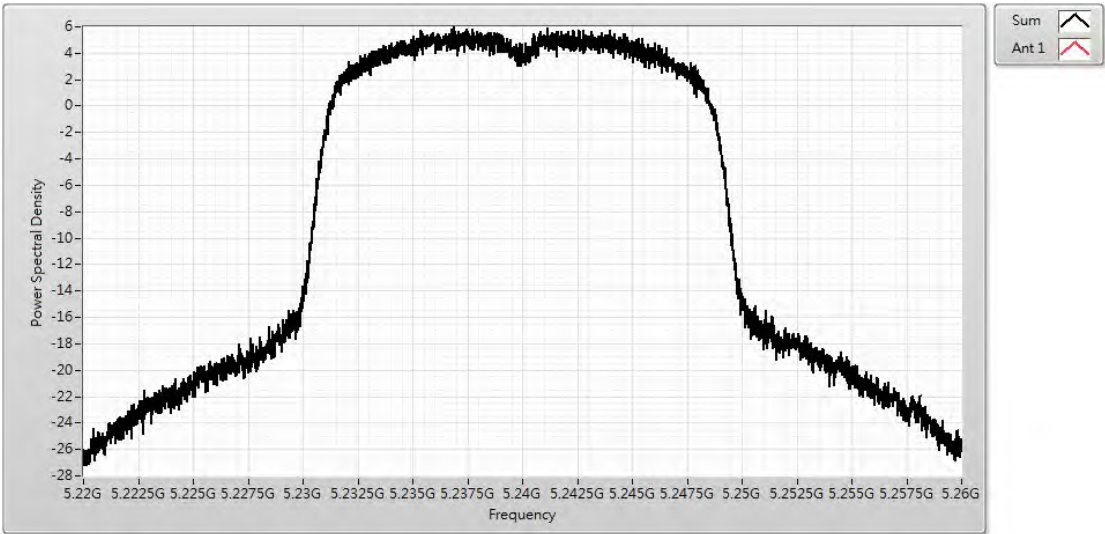
Channel 36 (5180MHz)



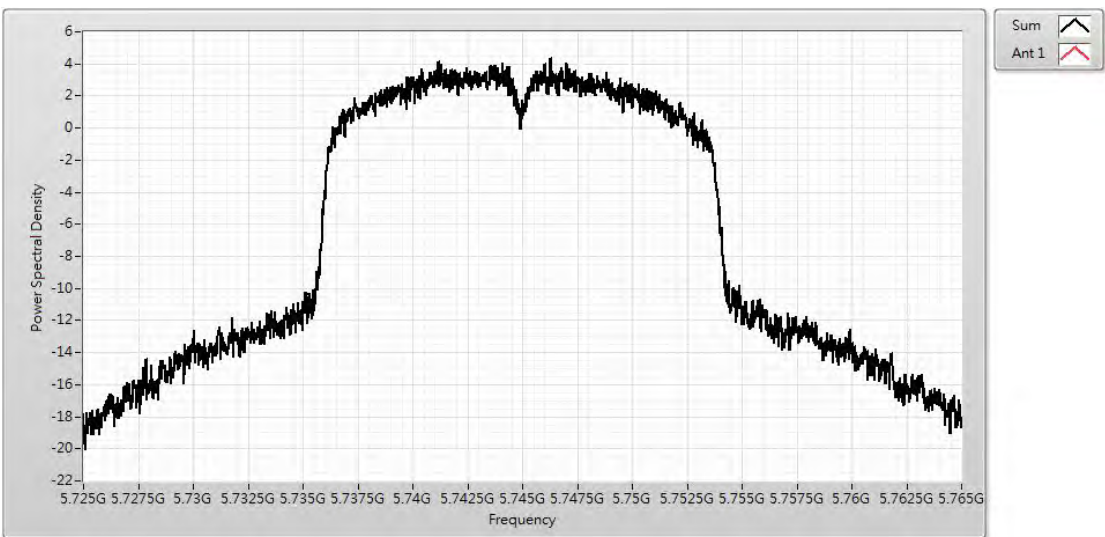
Channel 44 (5220MHz)



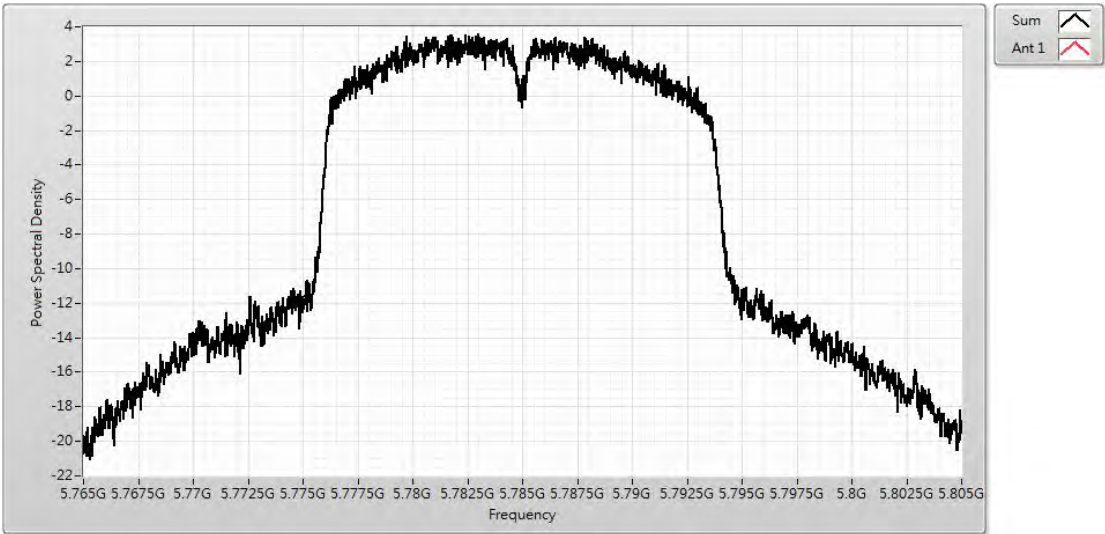
Channel 48 (5240MHz)



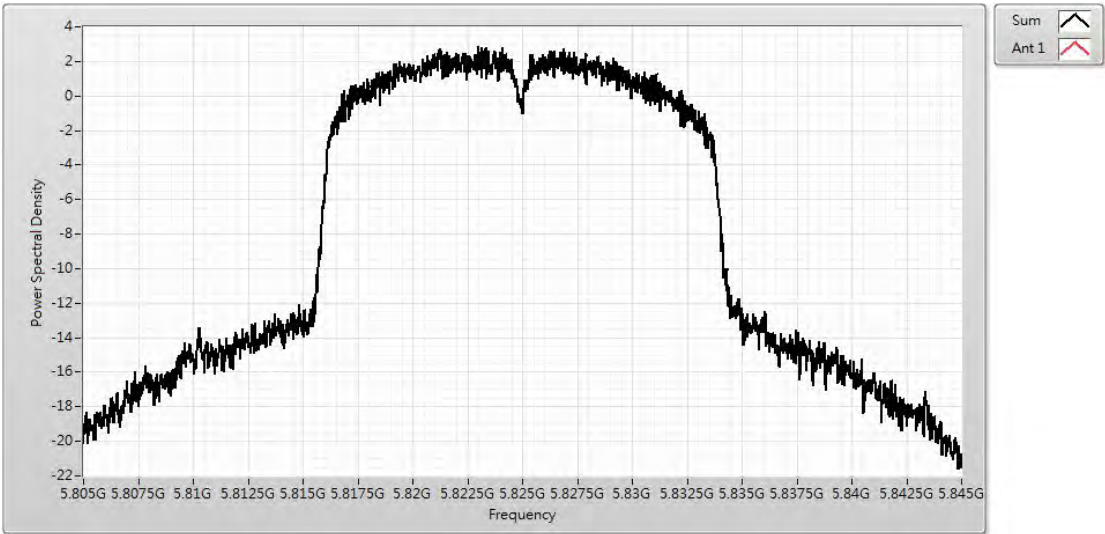
Channel 149 (5745MHz)



Channel 157 (5785MHz)



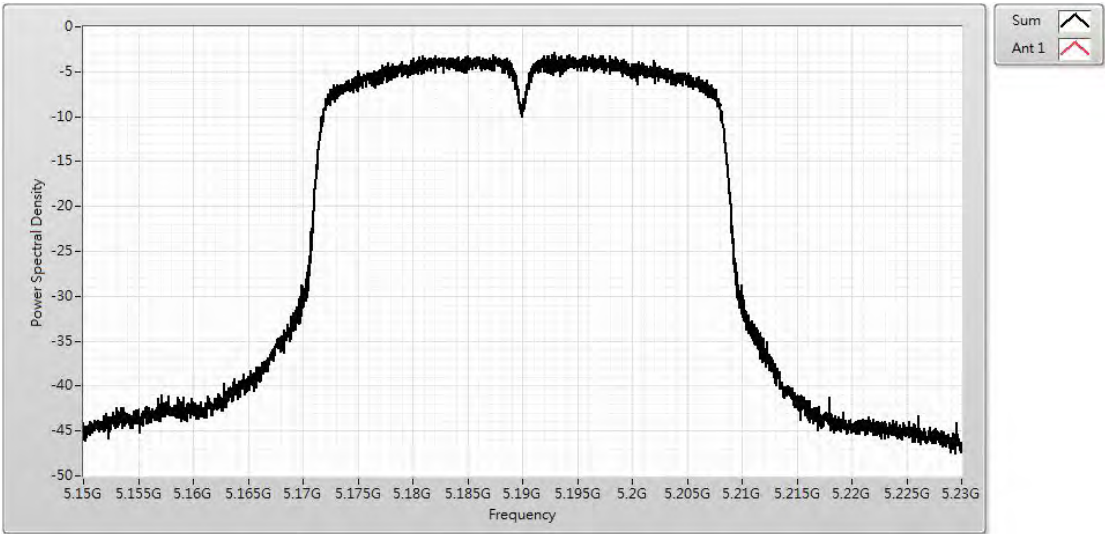
Channel165 (5825MHz)



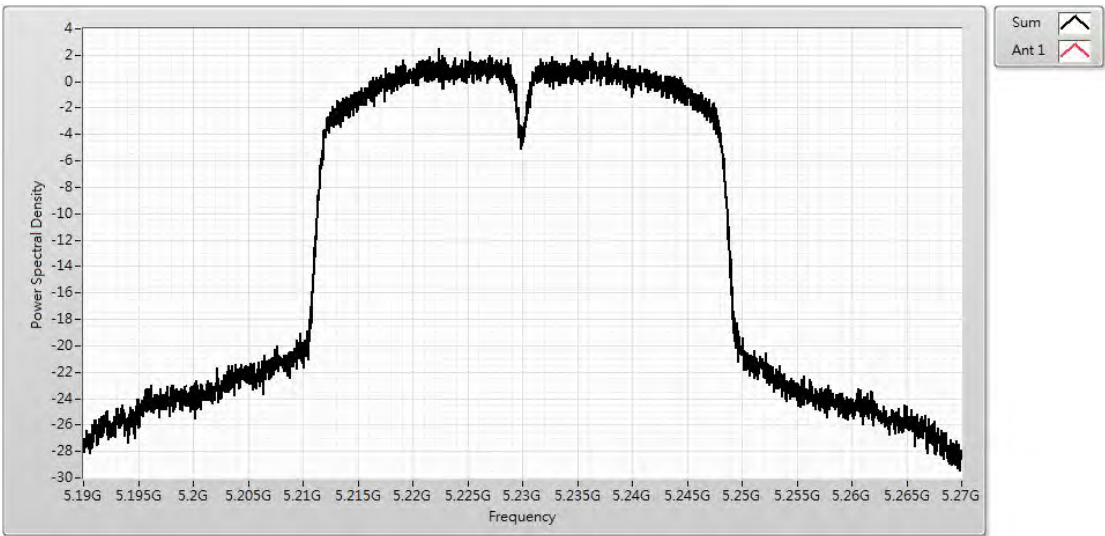
Product	Vehicle Gateway		
Test Item	Maximum power spectral density		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2020/07/15	Test Site	SR12-H
Test Temperature	24	Humidity (%RH)	60

IEEE 802.11n(40MHz)(ANT0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
38	5190	-2.890	≤ 17.000	Pass
46	5230	2.520	≤ 17.000	Pass
151	5755	0.800	≤ 30.000	Pass
159	5795	0.630	≤ 30.000	Pass

Channel 38 (5190MHz)



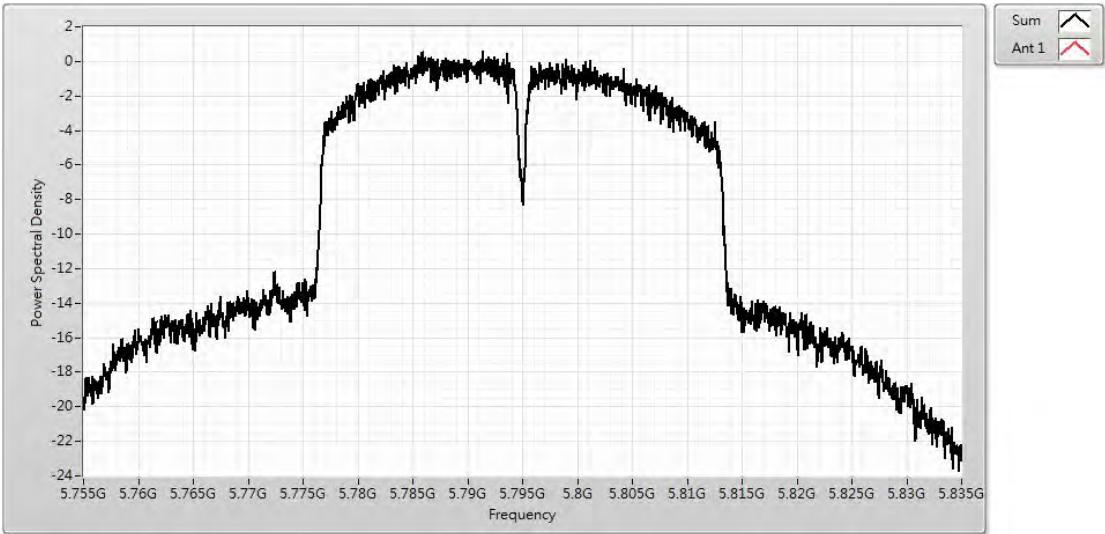
Channel 46 (5230MHz)



Channel 151 (5755MHz)



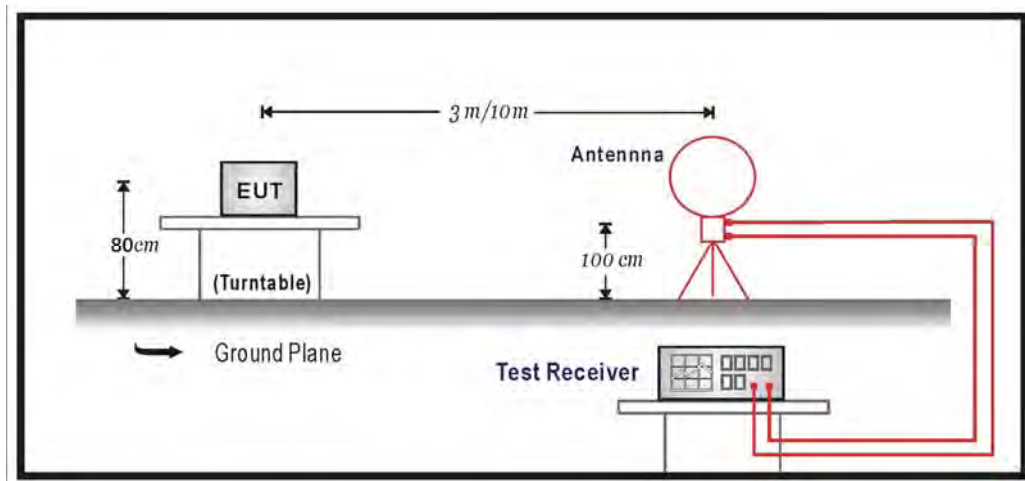
Channel 159 (5795MHz)



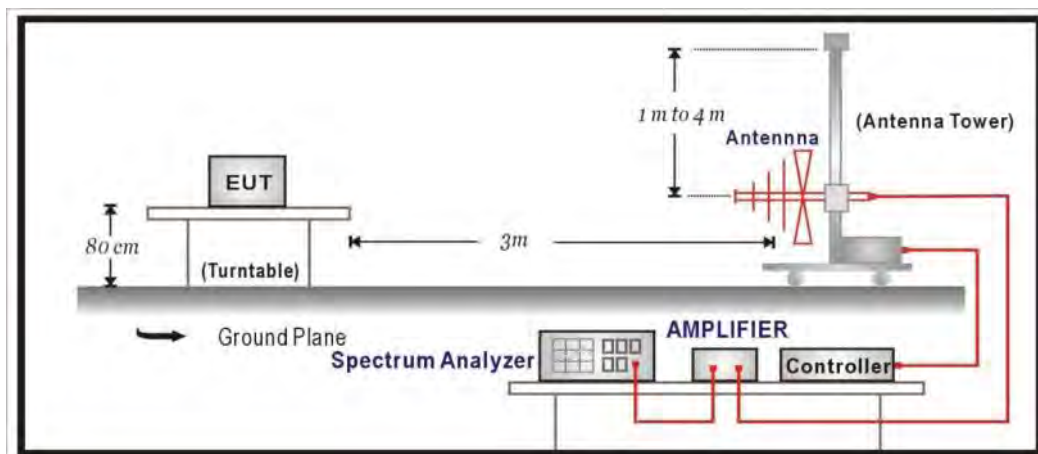
6. Radiated Emission

6.1. Test Setup

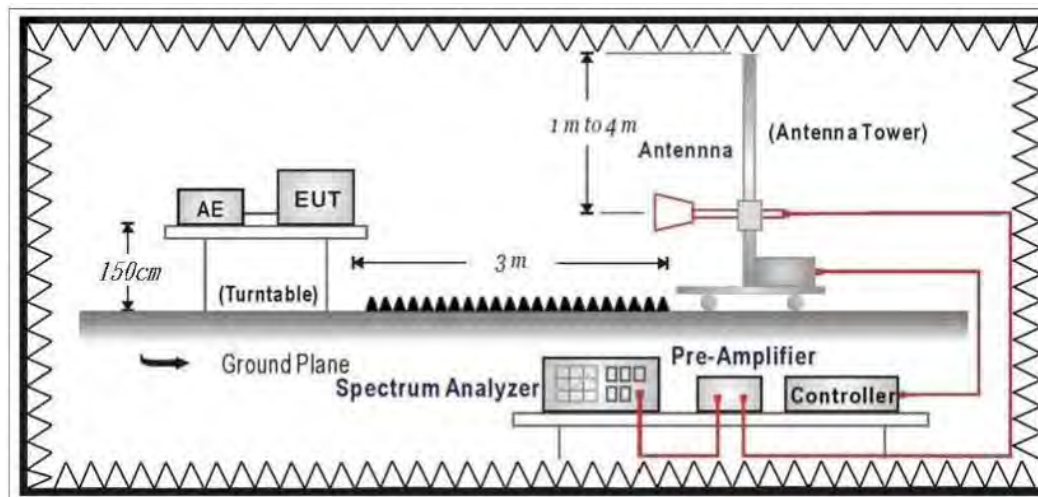
Under 30MHz Test Setup:



Under 1GHz Test Setup:



Above 1GHz Test Setup:



6.2. Limits

➤ General Radiated Emission Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section. Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Remark:

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➤ Unwanted Emission out of the restricted bands Limits

FCC Part 15 Subpart C Paragraph 15.407(b) Limits		
Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (dBuV/m@3m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
5725 - 5850	-27 (Note1)	68.3
	-17 (Note2)	78.3

Remark:

1. For frequencies more than 10 MHz above or below the band edges.
2. For frequency range from the band edges to 10 MHz above or below the band edges.

$$3. \quad uV/m = \frac{1000000\sqrt{30 \times EIRP}}{3}, \text{ RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)}$$

6.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

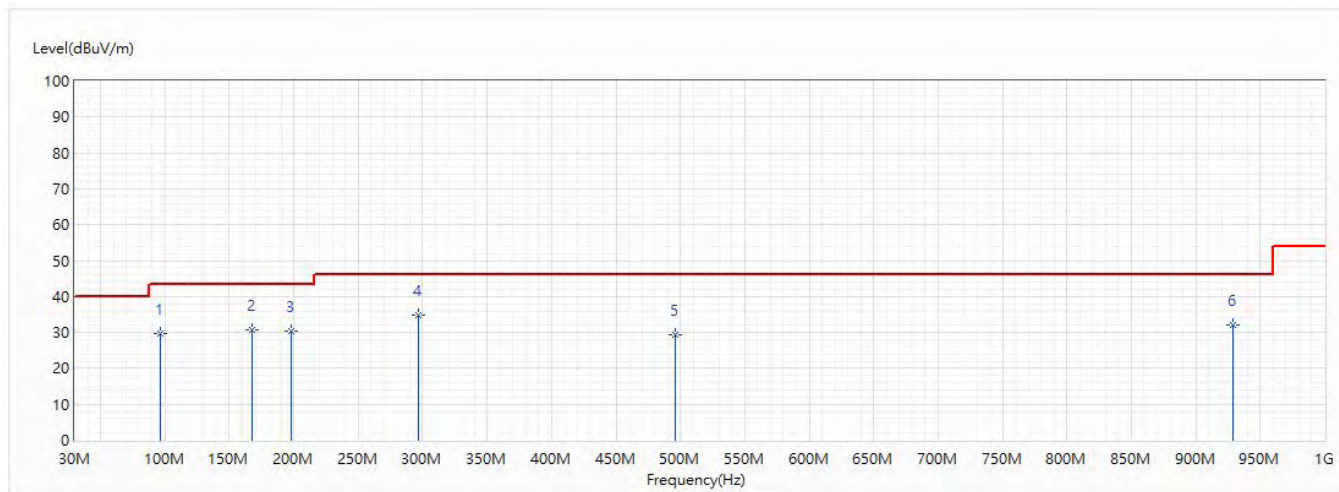
The bandwidth below 1GHz setting on the field strength meter is 120 KHz, above 1GHz are 1 MHz.

The frequency range from 30MHz to 10th harmonics is checked.

6.4. Test Result

30MHz-1GHz Spurious

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch44_5.22G	Humidity (%RH)	54.0

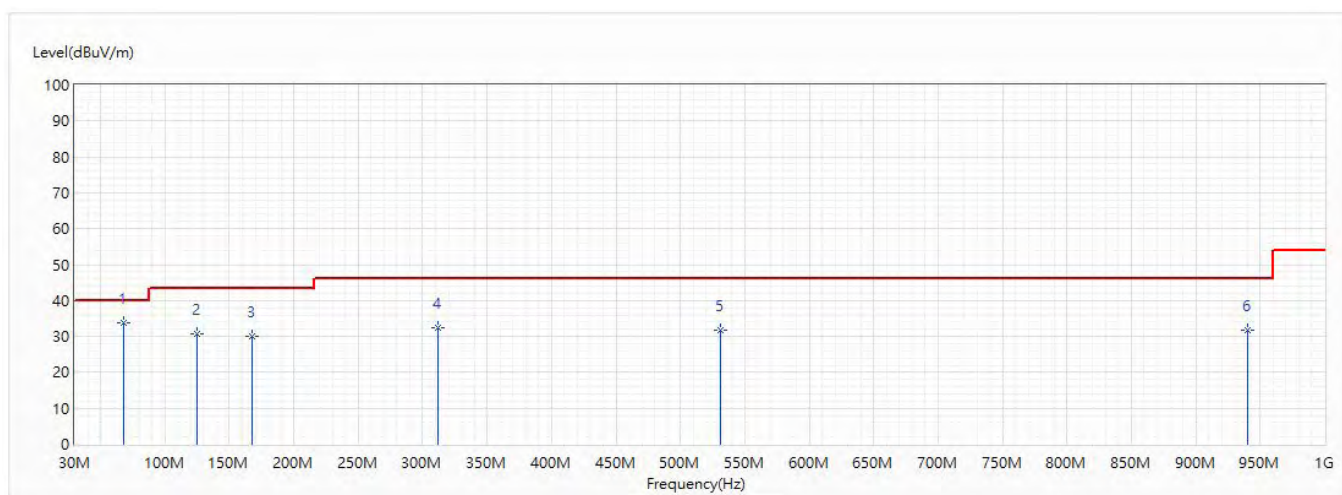


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	96.324	29.80	43.50	-13.70	34.36	-4.56	QP
2	167.983	30.75	43.50	-12.75	34.79	-4.04	QP
3	197.931	30.46	43.50	-13.04	34.70	-4.24	QP
* 4	296.629	34.68	46.00	-11.32	35.17	-0.49	QP
5	495.6	29.40	46.00	-16.60	24.80	4.60	QP
6	928.948	32.12	46.00	-13.88	22.11	10.01	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch44_5.22G	Humidity (%RH)	54.0

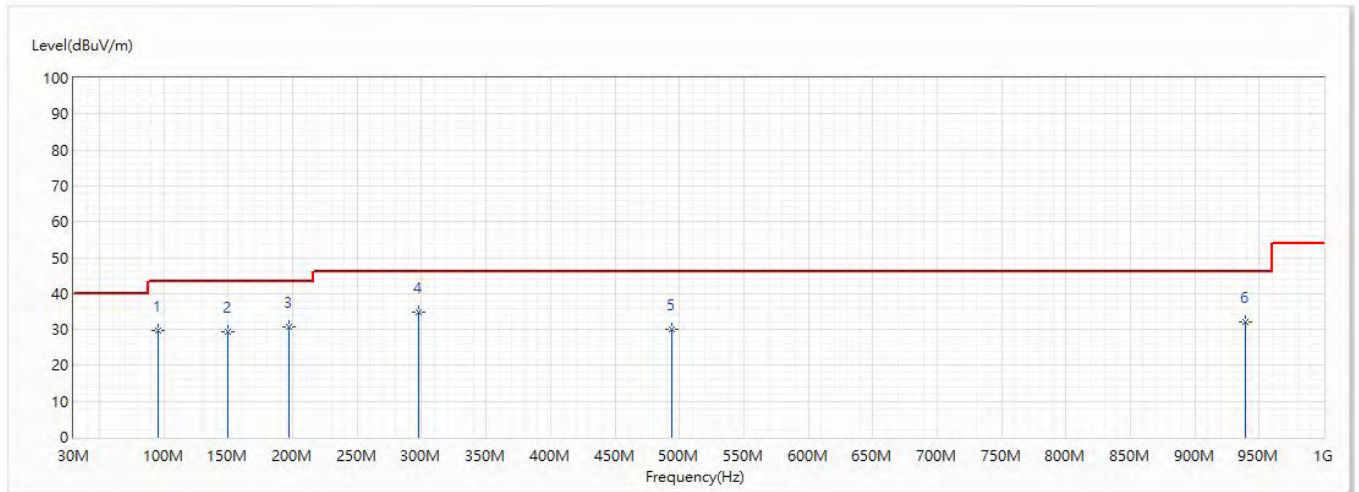


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	67.588	33.88	40.00	-6.12	42.04	-8.16	QP
2	124.939	30.79	43.50	-12.71	32.69	-1.90	QP
3	167.983	29.94	43.50	-13.56	33.98	-4.04	QP
4	312.028	32.42	46.00	-13.58	32.45	-0.03	QP
5	531.005	31.78	46.00	-14.22	26.70	5.08	QP
6	939.739	31.81	46.00	-14.19	21.62	10.19	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch44_5.22G	Humidity (%RH)	54.0

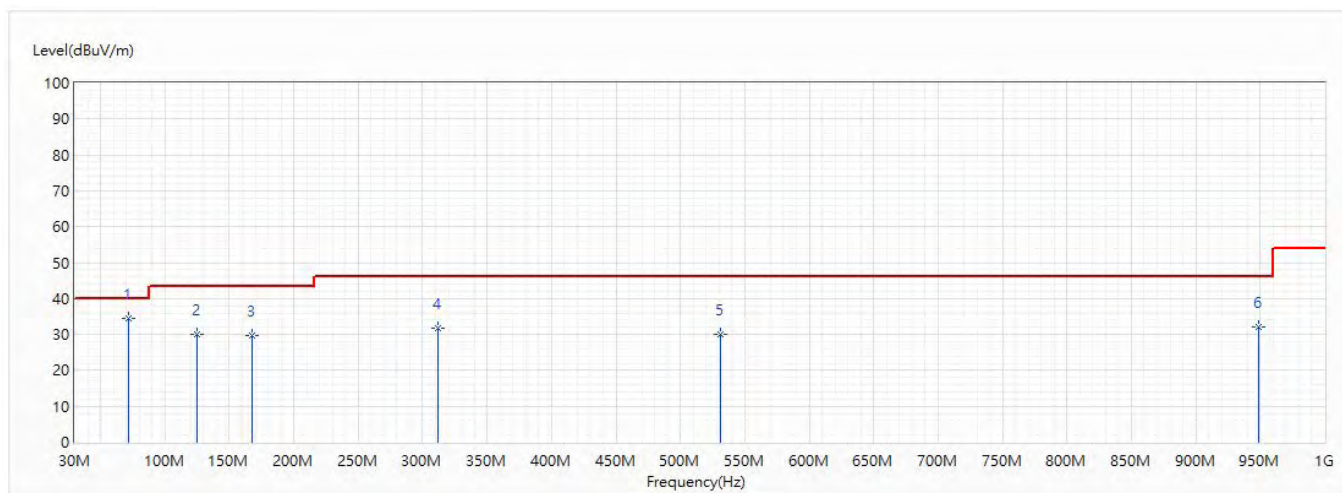


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	95.475	29.85	43.50	-13.65	34.60	-4.75	QP
2	149.431	29.41	43.50	-14.09	32.25	-2.84	QP
3	196.961	30.74	43.50	-12.76	35.01	-4.27	QP
* 4	297.356	34.90	46.00	-11.10	35.37	-0.47	QP
5	494.266	30.16	46.00	-15.84	25.59	4.57	QP
6	939.133	32.09	46.00	-13.91	21.91	10.18	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch44_5.22G	Humidity (%RH)	54.0

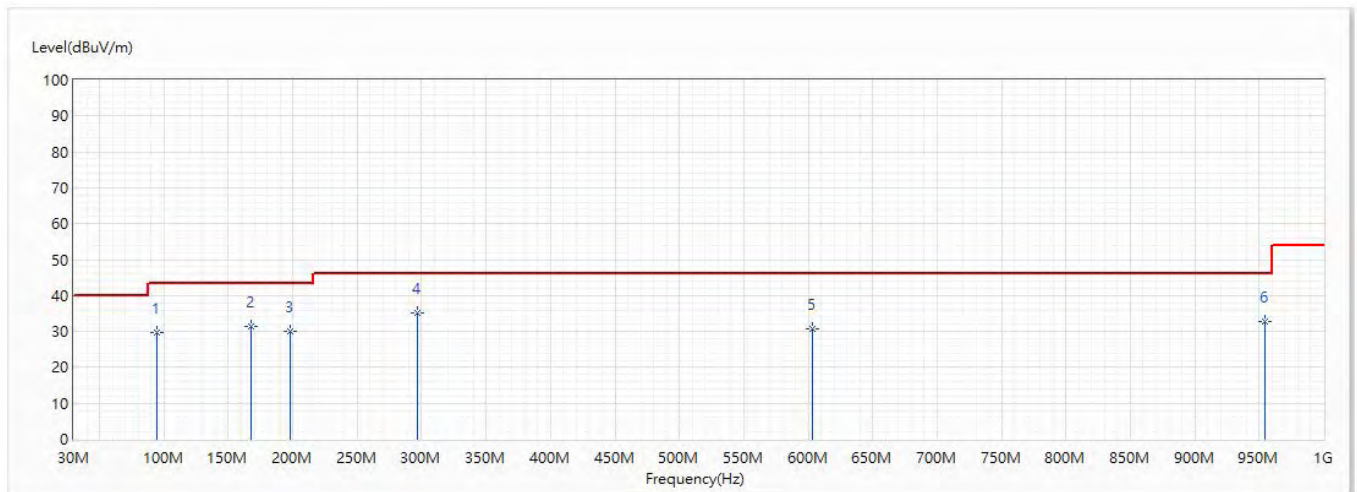


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	71.589	34.61	40.00	-5.39	42.60	-7.99	QP
2	124.939	30.16	43.50	-13.34	32.06	-1.90	QP
3	167.983	29.78	43.50	-13.72	33.82	-4.04	QP
4	312.028	31.88	46.00	-14.12	31.91	-0.03	QP
5	531.369	30.08	46.00	-15.92	25.00	5.08	QP
6	948.833	32.11	46.00	-13.89	21.78	10.33	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	54.0

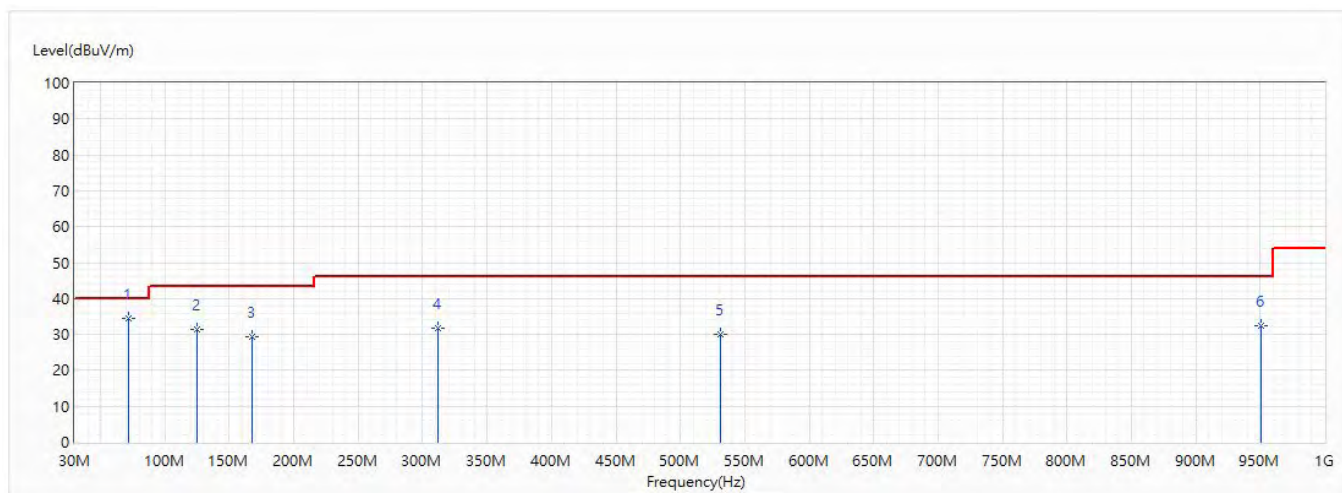


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	94.869	29.67	43.50	-13.83	34.55	-4.88	QP
2	167.983	31.36	43.50	-12.14	35.40	-4.04	QP
3	198.295	30.15	43.50	-13.35	34.38	-4.23	QP
* 4	296.75	35.10	46.00	-10.90	35.59	-0.49	QP
5	603.028	30.71	46.00	-15.29	24.69	6.02	QP
6	954.774	32.68	46.00	-13.32	22.26	10.42	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	54.0

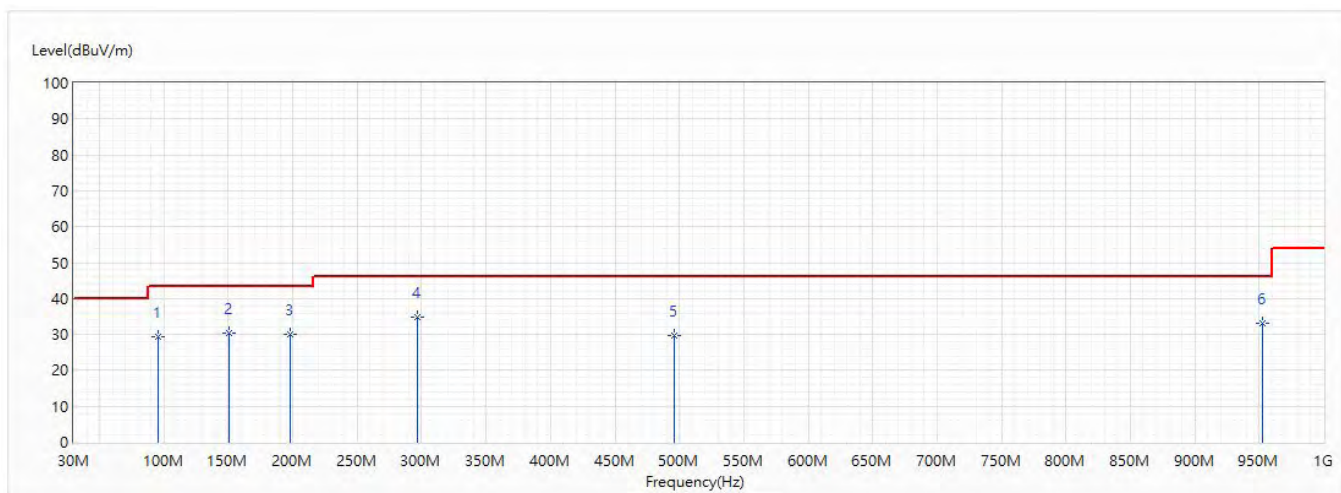


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	71.589	34.60	40.00	-5.40	42.59	-7.99	QP
2	124.939	31.31	43.50	-12.19	33.21	-1.90	QP
3	167.983	29.28	43.50	-14.22	33.32	-4.04	QP
4	312.028	31.66	46.00	-14.34	31.69	-0.03	QP
5	531.126	30.13	46.00	-15.87	25.05	5.08	QP
6	950.894	32.38	46.00	-13.62	22.03	10.35	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch157_5.785G	Humidity (%RH)	54.0

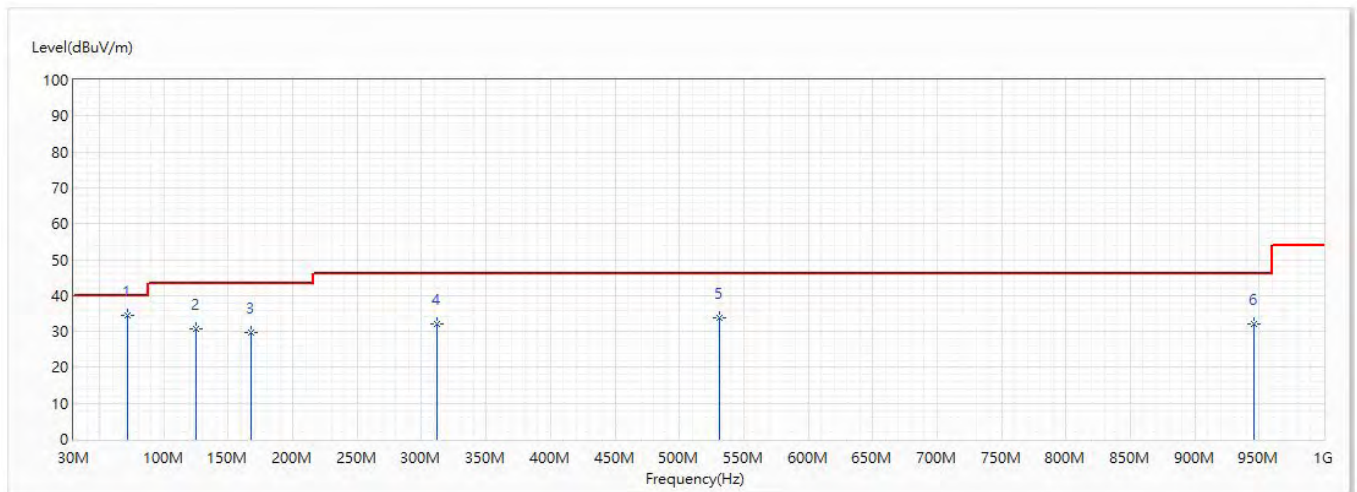


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	95.233	29.37	43.50	-14.13	34.17	-4.80	QP
2	150.765	30.36	43.50	-13.14	33.29	-2.93	QP
3	198.295	30.12	43.50	-13.38	34.35	-4.23	QP
* 4	296.75	34.83	46.00	-11.17	35.32	-0.49	QP
5	495.6	29.53	46.00	-16.47	24.93	4.60	QP
6	952.591	32.95	46.00	-13.05	22.56	10.39	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch157_5.785G	Humidity (%RH)	54.0

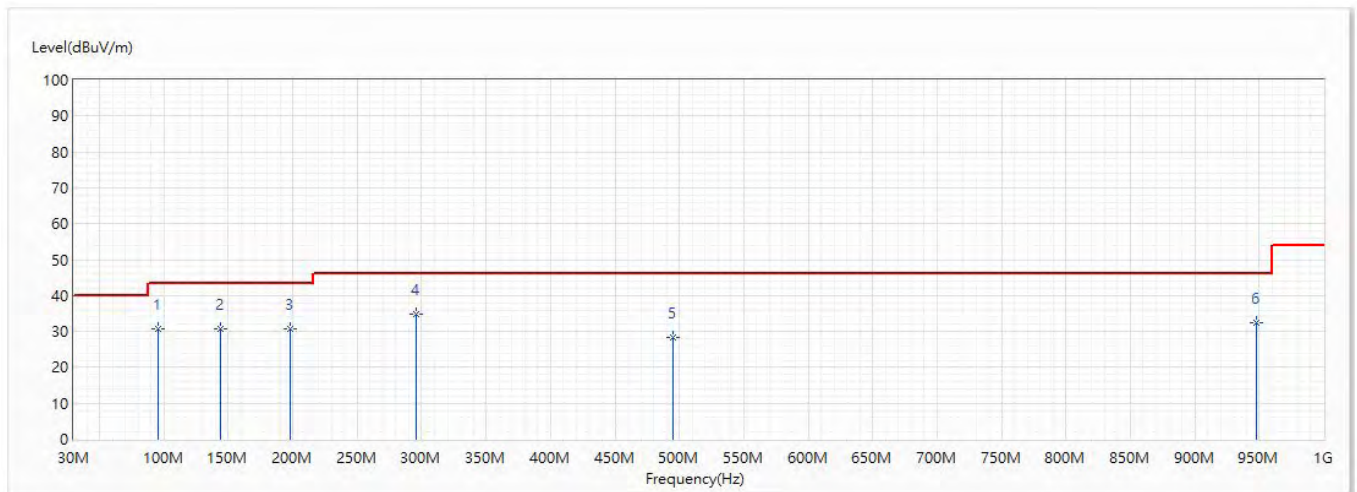


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	71.589	34.42	40.00	-5.58	42.41	-7.99	QP
2	124.939	30.86	43.50	-12.64	32.76	-1.90	QP
3	167.983	29.77	43.50	-13.73	33.81	-4.04	QP
4	312.028	32.25	46.00	-13.75	32.28	-0.03	QP
5	530.884	33.65	46.00	-12.35	28.57	5.08	QP
6	946.044	32.20	46.00	-13.80	21.92	10.28	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch157_5.785G	Humidity (%RH)	54.0

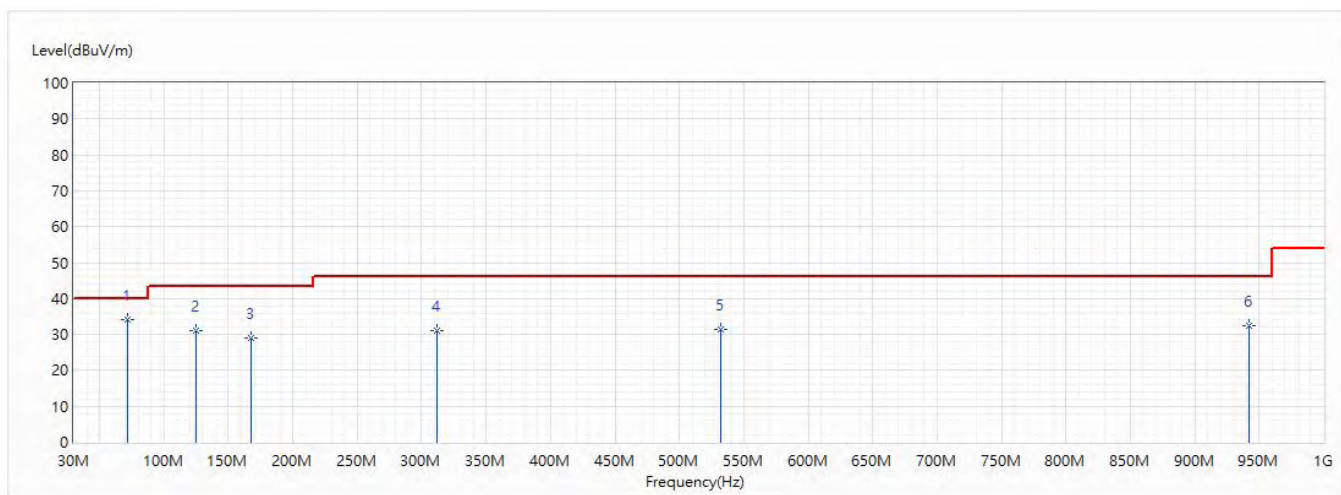


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	95.475	30.65	43.50	-12.85	35.40	-4.75	QP
2	143.611	30.57	43.50	-12.93	33.06	-2.49	QP
3	197.81	30.55	43.50	-12.95	34.81	-4.26	QP
* 4	295.416	34.96	46.00	-11.04	35.47	-0.51	QP
5	494.751	28.42	46.00	-17.58	23.84	4.58	QP
6	947.863	32.36	46.00	-13.64	22.05	10.31	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch157_5.785G	Humidity (%RH)	54.0

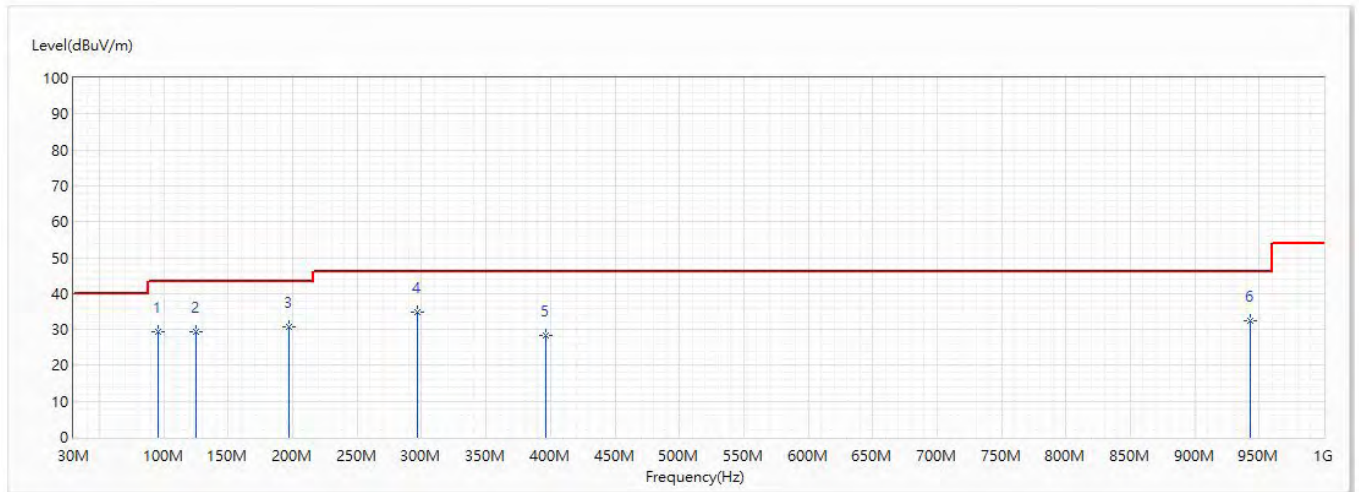


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	71.589	34.19	40.00	-5.81	42.18	-7.99	QP
2	124.939	31.14	43.50	-12.36	33.04	-1.90	QP
3	167.983	29.17	43.50	-14.33	33.21	-4.04	QP
4	312.028	31.16	46.00	-14.84	31.19	-0.03	QP
5	532.46	31.29	46.00	-14.71	26.19	5.10	QP
6	941.679	32.56	46.00	-13.44	22.35	10.21	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch151_5.755G	Humidity (%RH)	54.0

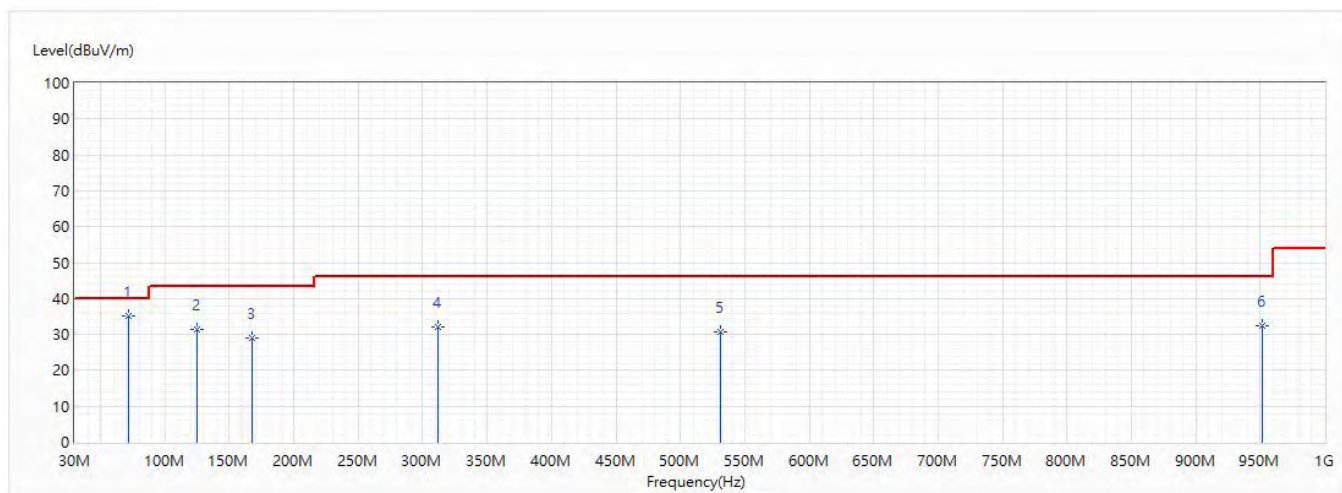


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	95.111	29.49	43.50	-14.01	34.32	-4.83	QP
2	124.939	29.52	43.50	-13.98	31.42	-1.90	QP
3	197.083	30.66	43.50	-12.84	34.93	-4.27	QP
* 4	296.75	34.79	46.00	-11.21	35.28	-0.49	QP
5	396.66	28.37	46.00	-17.63	25.62	2.75	QP
6	943.013	32.47	46.00	-13.53	22.23	10.24	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch151_5.755G	Humidity (%RH)	54.0



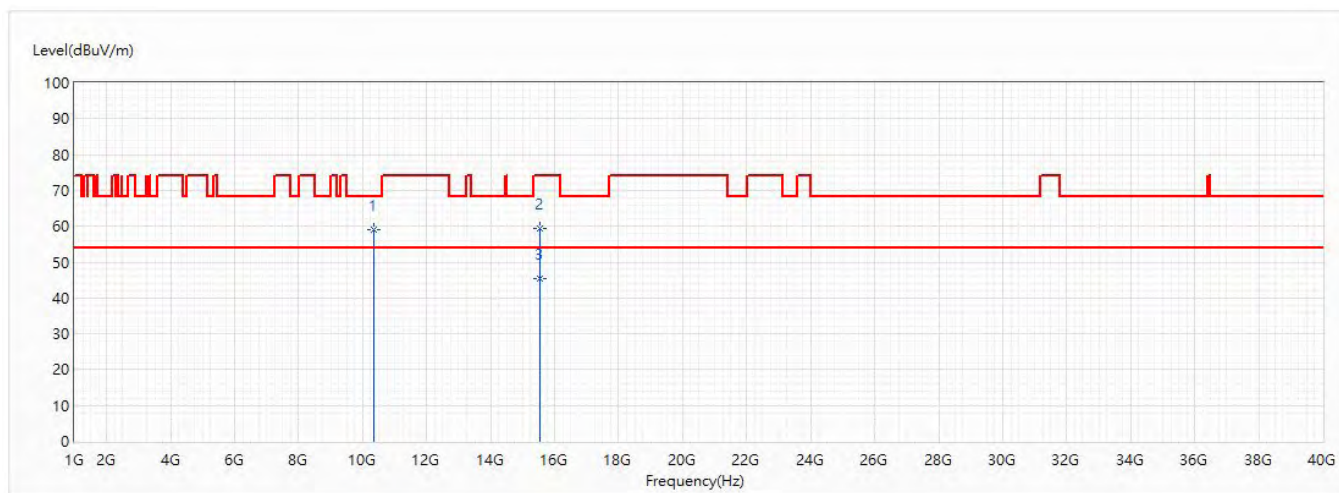
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	71.589	35.05	40.00	-4.95	43.04	-7.99	QP
2	124.939	31.51	43.50	-11.99	33.41	-1.90	QP
3	167.983	29.10	43.50	-14.40	33.14	-4.04	QP
4	312.028	32.00	46.00	-14.00	32.03	-0.03	QP
5	531.126	30.82	46.00	-15.18	25.74	5.08	QP
6	951.5	32.37	46.00	-13.63	22.01	10.36	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Above 1GHz Spurious

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch36_5.18G	Humidity (%RH)	54.0

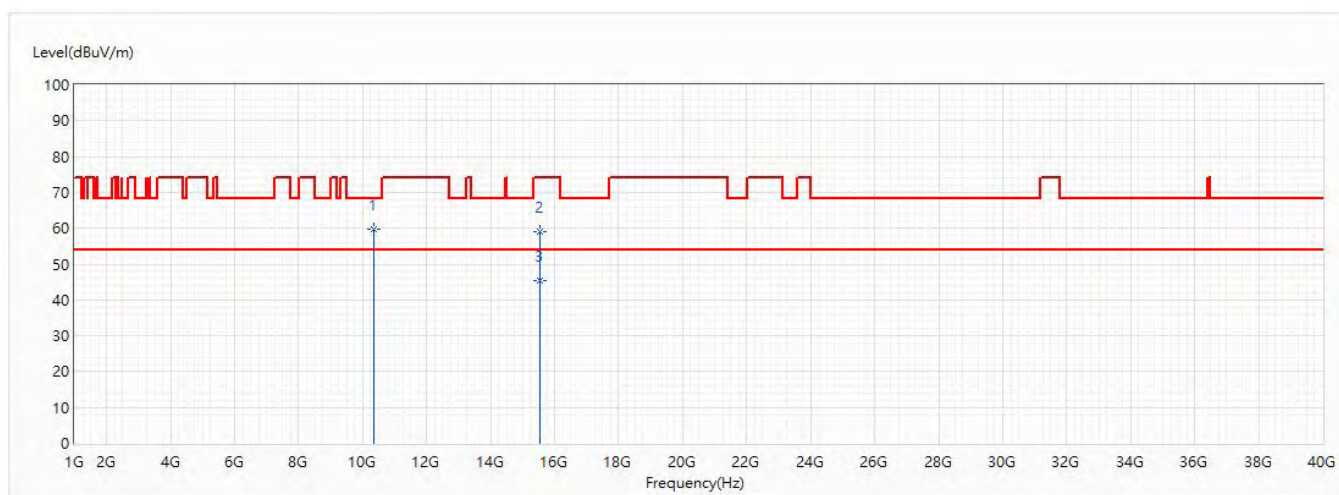


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10360	59.13	68.20	-9.07	56.35	2.78	PK
2	15540	59.34	74.00	-14.66	52.19	7.15	PK
* 3	15540	45.50	54.00	-8.50	38.35	7.15	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch36_5.18G	Humidity (%RH)	54.0

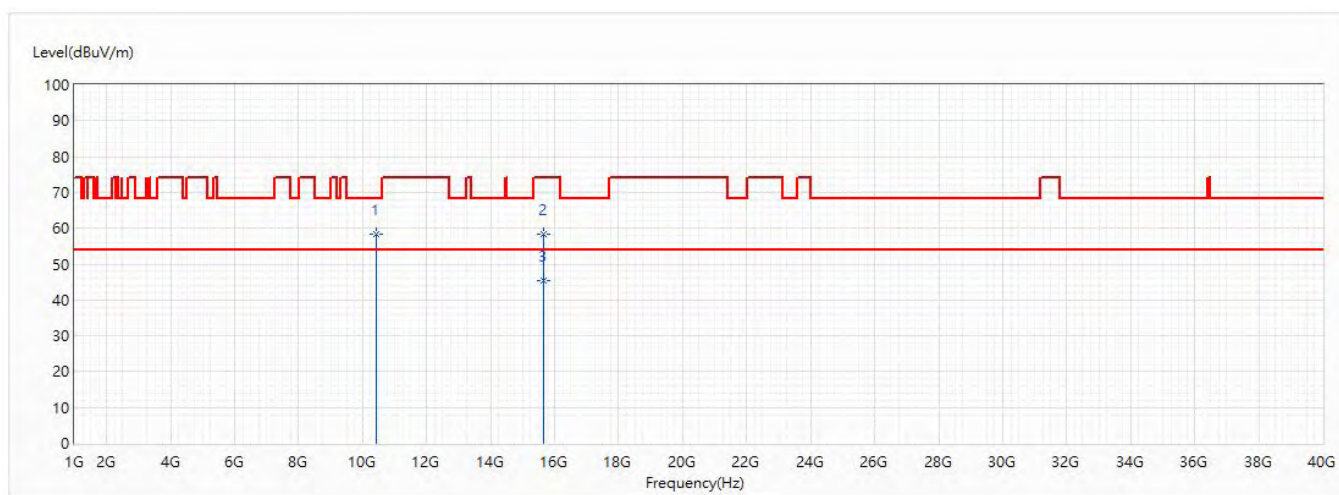


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10360	59.56	68.20	-8.64	56.78	2.78	PK
2	15540	59.13	74.00	-14.87	51.98	7.15	PK
* 3	15540	45.40	54.00	-8.60	38.25	7.15	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch44_5.22G	Humidity (%RH)	54.0

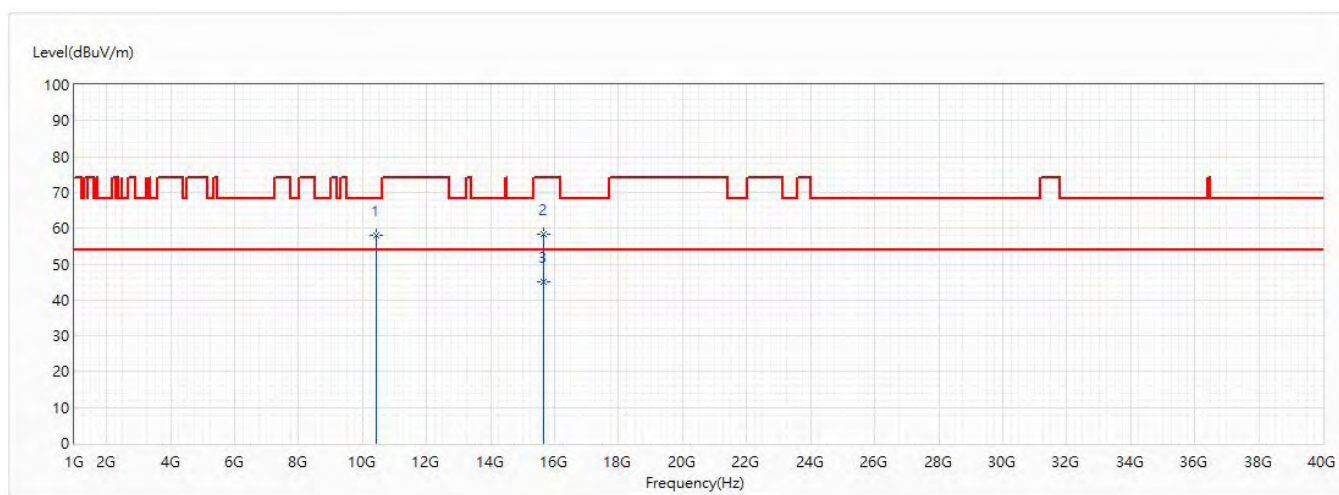


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10440	58.45	68.20	-9.75	55.38	3.07	PK
2	15660	58.45	74.00	-15.55	51.60	6.85	PK
* 3	15660	45.28	54.00	-8.72	38.43	6.85	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch44_5.22G	Humidity (%RH)	54.0

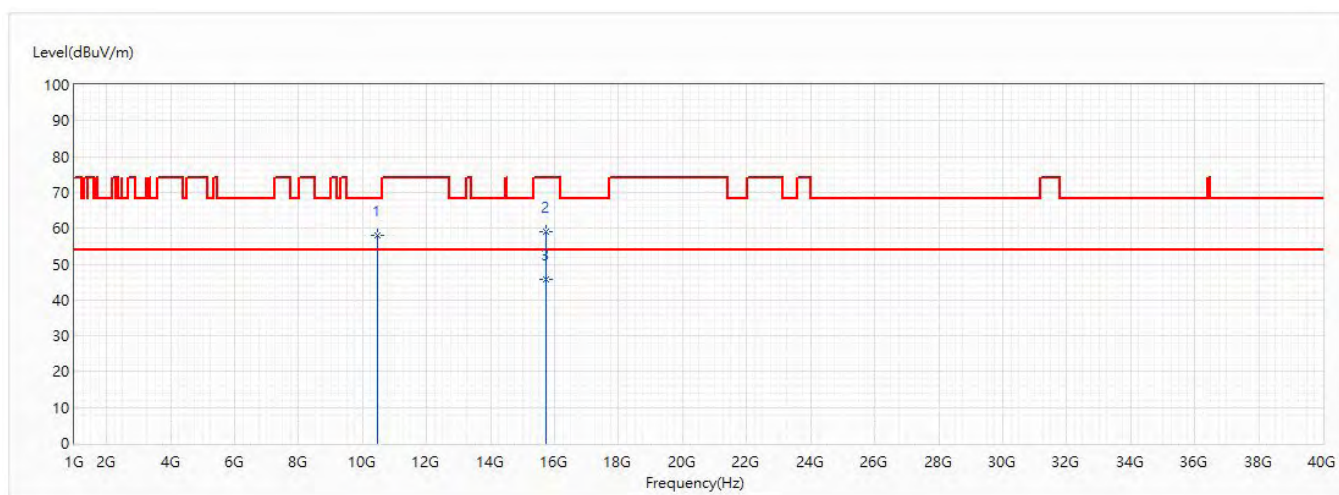


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10440	58.05	68.20	-10.15	54.98	3.07	PK
2	15660	58.51	74.00	-15.49	51.66	6.85	PK
* 3	15660	45.22	54.00	-8.78	38.37	6.85	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch48_5.24G	Humidity (%RH)	54.0

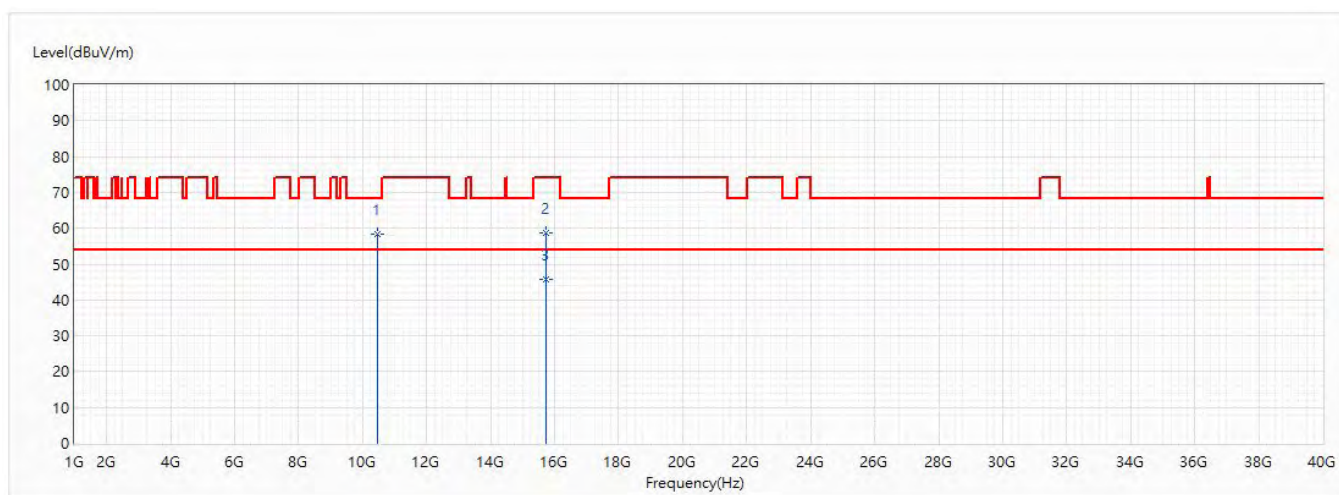


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10480	58.11	68.20	-10.09	54.83	3.28	PK
2	15720	59.10	74.00	-14.90	52.36	6.74	PK
* 3	15720	45.76	54.00	-8.24	39.02	6.74	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11a_Ch48_5.24G	Humidity (%RH)	54.0

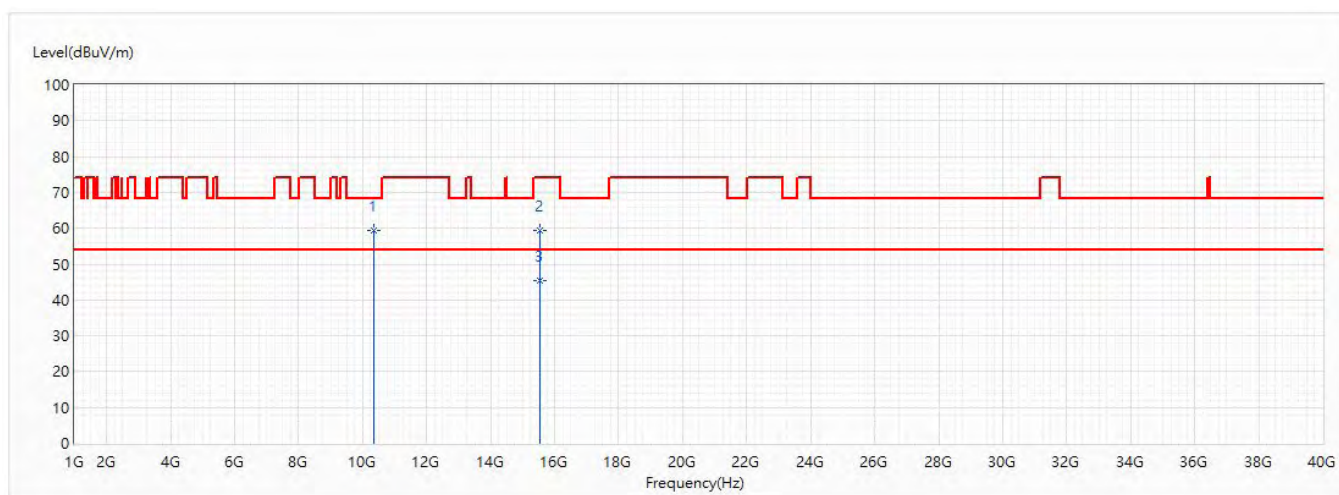


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10480	58.43	68.20	-9.77	55.15	3.28	PK
2	15720	58.80	74.00	-15.20	52.06	6.74	PK
* 3	15720	45.65	54.00	-8.35	38.91	6.74	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch36_5.18G	Humidity (%RH)	54.0

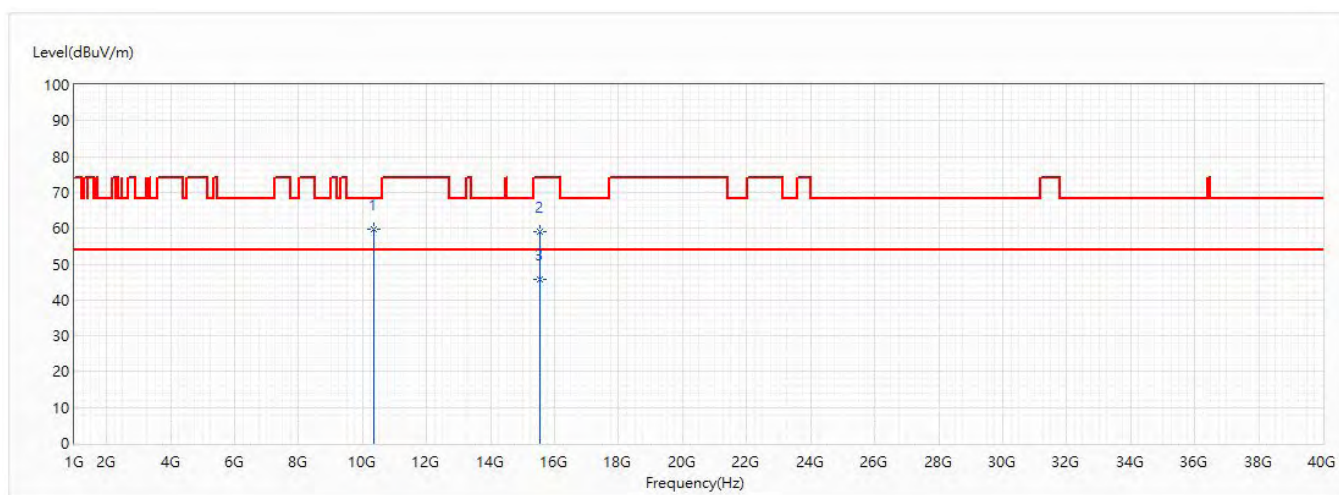


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10360	59.26	68.20	-8.94	56.48	2.78	PK
2	15540	59.40	74.00	-14.60	52.25	7.15	PK
* 3	15540	45.56	54.00	-8.44	38.41	7.15	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch36_5.18G	Humidity (%RH)	54.0

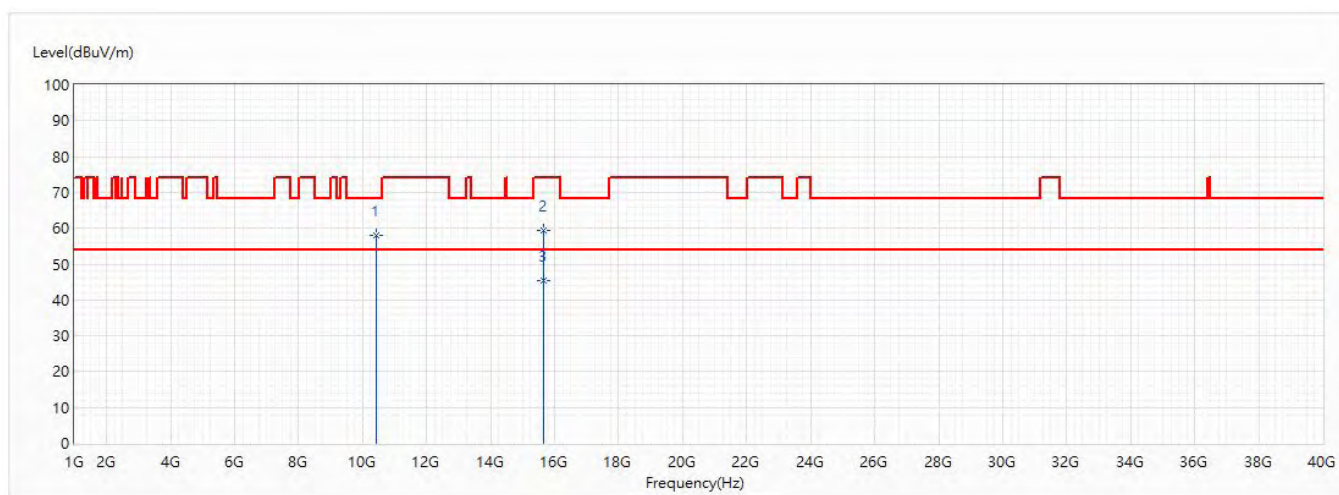


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	10360	59.87	68.20	-8.33	57.09	2.78	PK
2	15540	59.14	74.00	-14.86	51.99	7.15	PK
3	15540	45.57	54.00	-8.43	38.42	7.15	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch44_5.22G	Humidity (%RH)	54.0

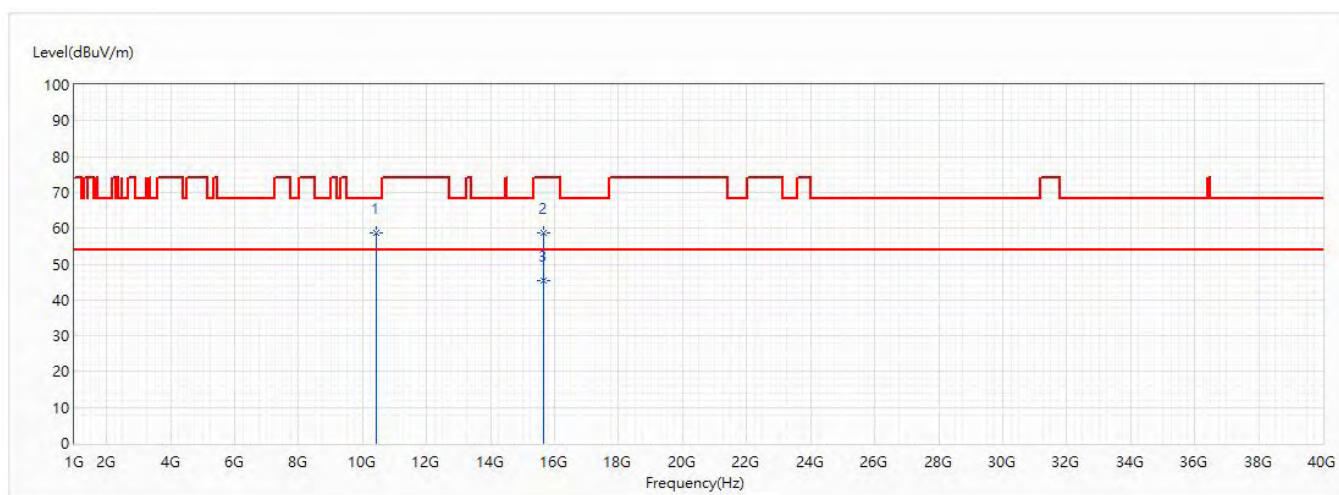


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10440	58.16	68.20	-10.04	55.09	3.07	PK
2	15660	59.30	74.00	-14.70	52.45	6.85	PK
* 3	15660	45.35	54.00	-8.65	38.50	6.85	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch44_5.22G	Humidity (%RH)	54.0

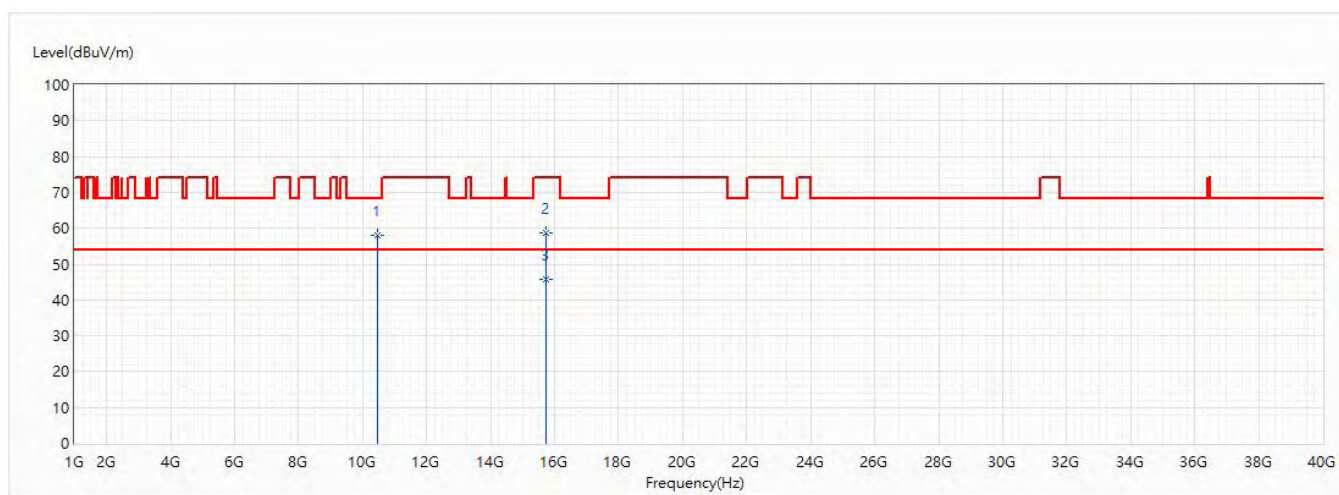


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10440	58.62	68.20	-9.58	55.55	3.07	PK
2	15660	58.71	74.00	-15.29	51.86	6.85	PK
* 3	15660	45.32	54.00	-8.68	38.47	6.85	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch48_5.24G	Humidity (%RH)	54.0

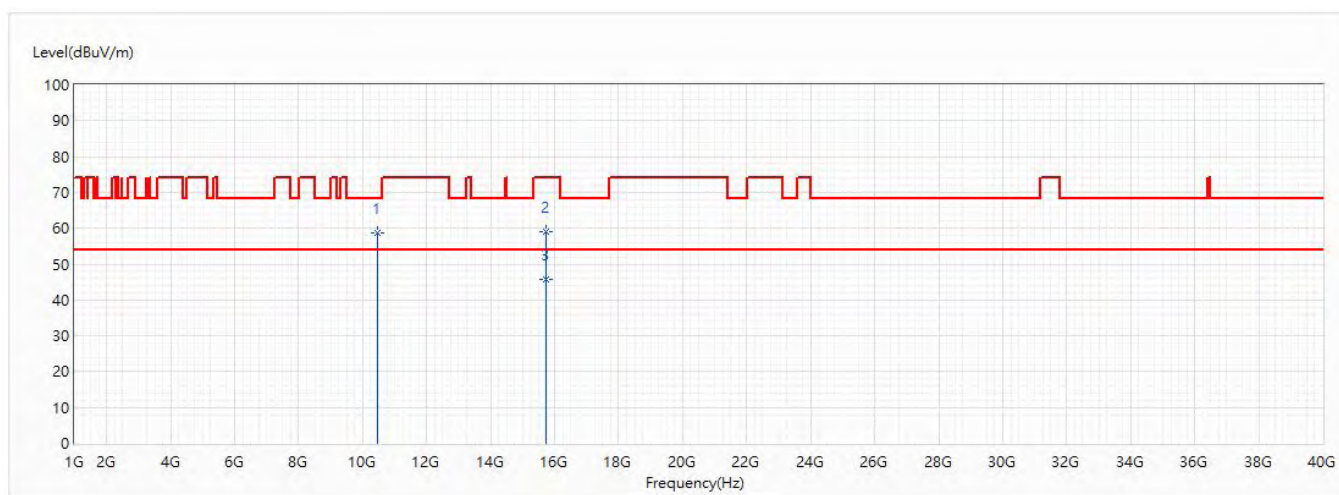


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10480	57.86	68.20	-10.34	54.58	3.28	PK
2	15720	58.78	74.00	-15.22	52.04	6.74	PK
* 3	15720	45.71	54.00	-8.29	38.97	6.74	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_20M_Ch48_5.24G	Humidity (%RH)	54.0

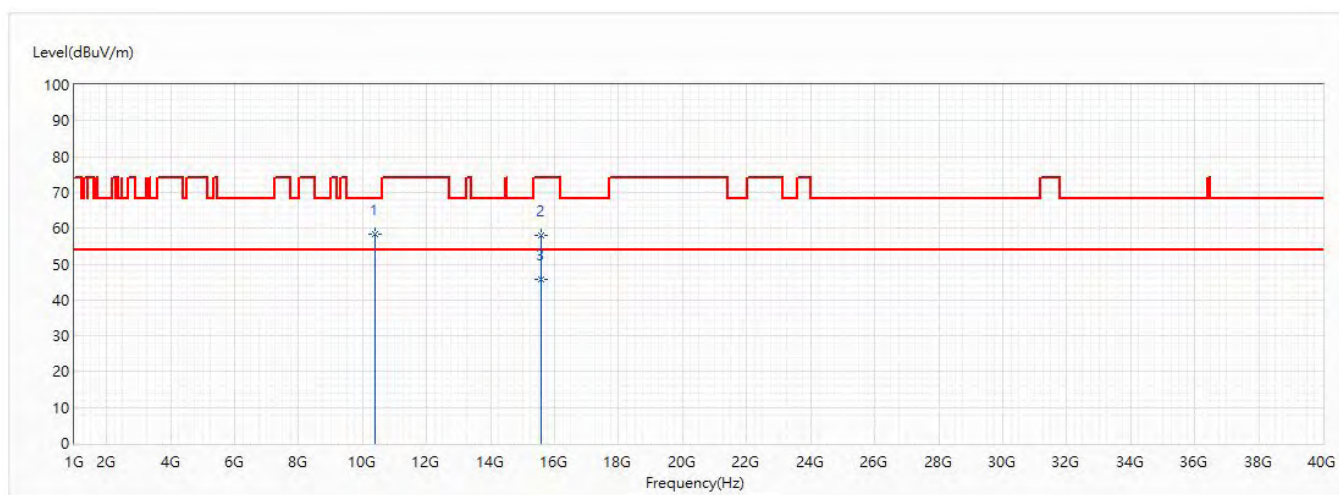


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10480	58.59	68.20	-9.61	55.31	3.28	PK
2	15720	58.96	74.00	-15.04	52.22	6.74	PK
* 3	15720	45.77	54.00	-8.23	39.03	6.74	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	54.0

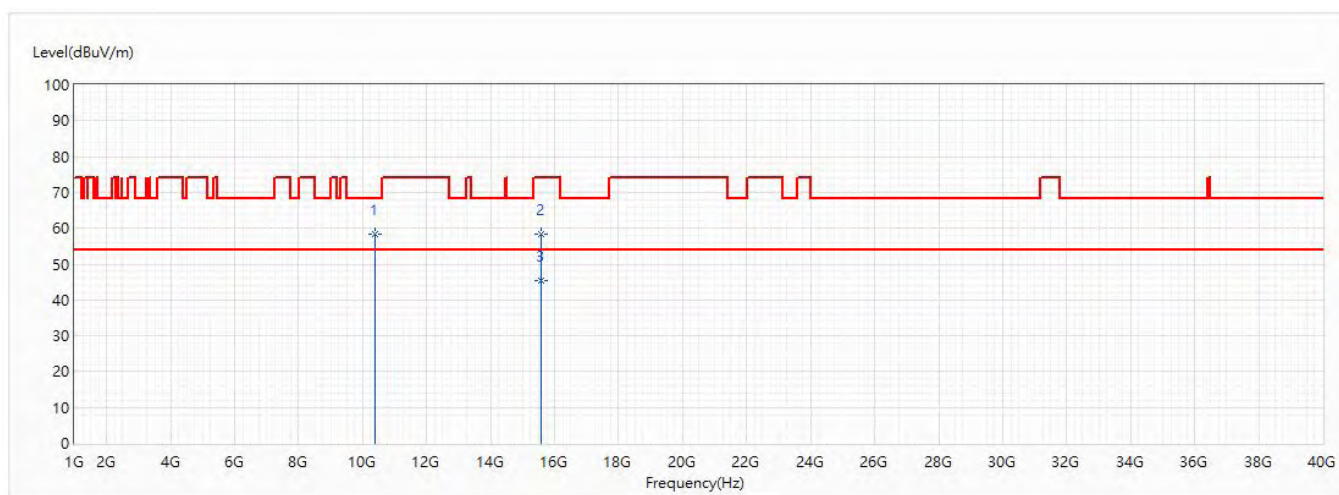


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10380	58.36	68.20	-9.84	55.54	2.82	PK
2	15570	58.05	74.00	-15.95	51.06	6.99	PK
* 3	15570	45.70	54.00	-8.30	38.71	6.99	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	54.0

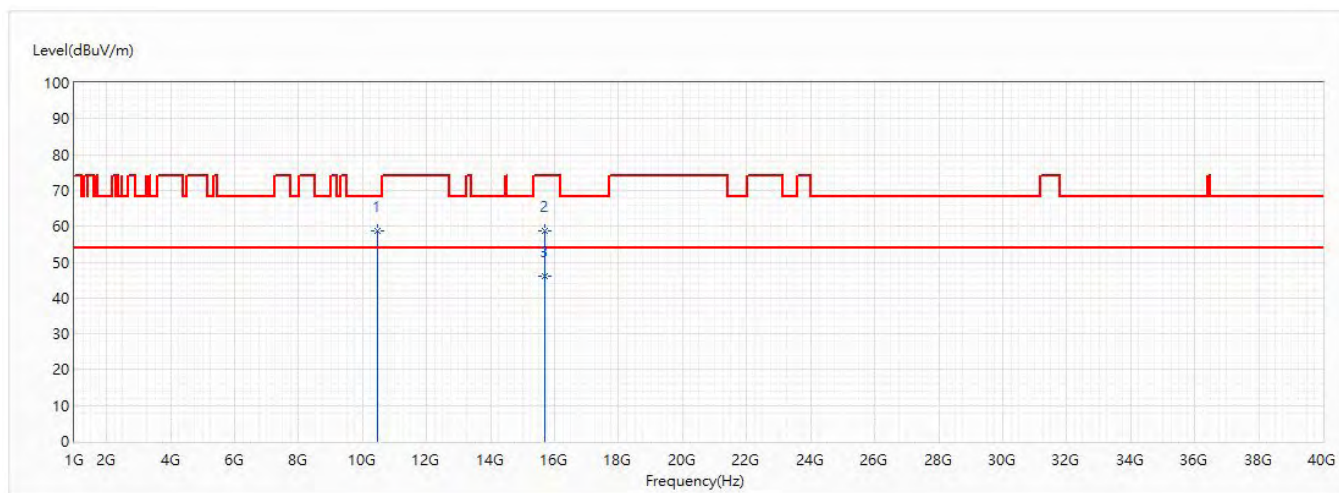


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10380	58.29	68.20	-9.91	55.47	2.82	PK
2	15570	58.33	74.00	-15.67	51.34	6.99	PK
* 3	15570	45.53	54.00	-8.47	38.54	6.99	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch46_5.23G	Humidity (%RH)	54.0

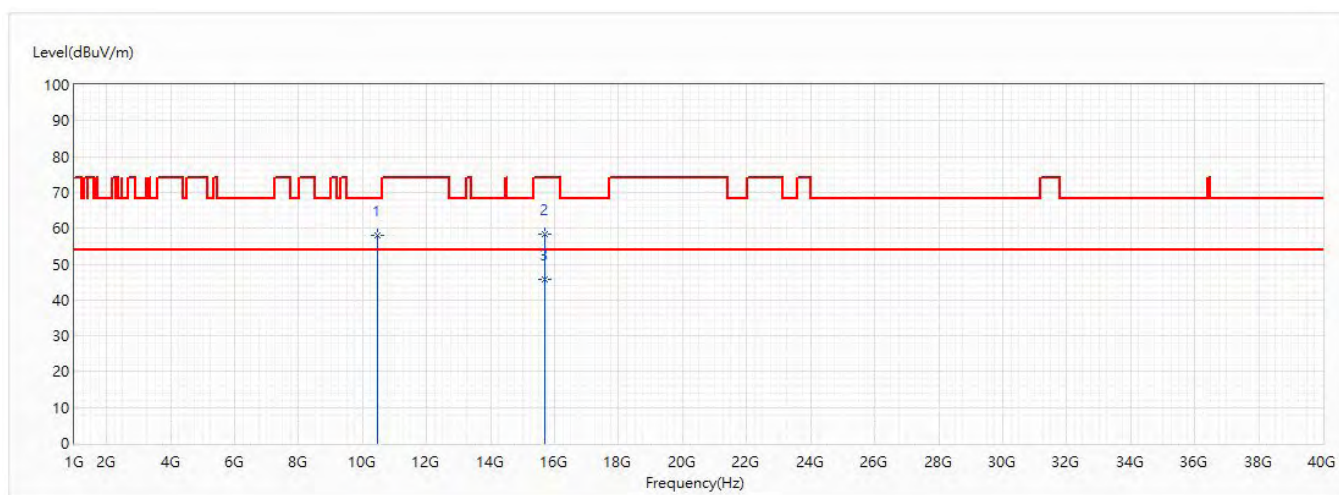


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10460	58.68	68.20	-9.52	55.52	3.16	PK
2	15690	58.84	74.00	-15.16	51.98	6.86	PK
* 3	15690	46.05	54.00	-7.95	39.19	6.86	AV

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/14
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	SISO_802.11n_40M_Ch46_5.23G	Humidity (%RH)	54.0

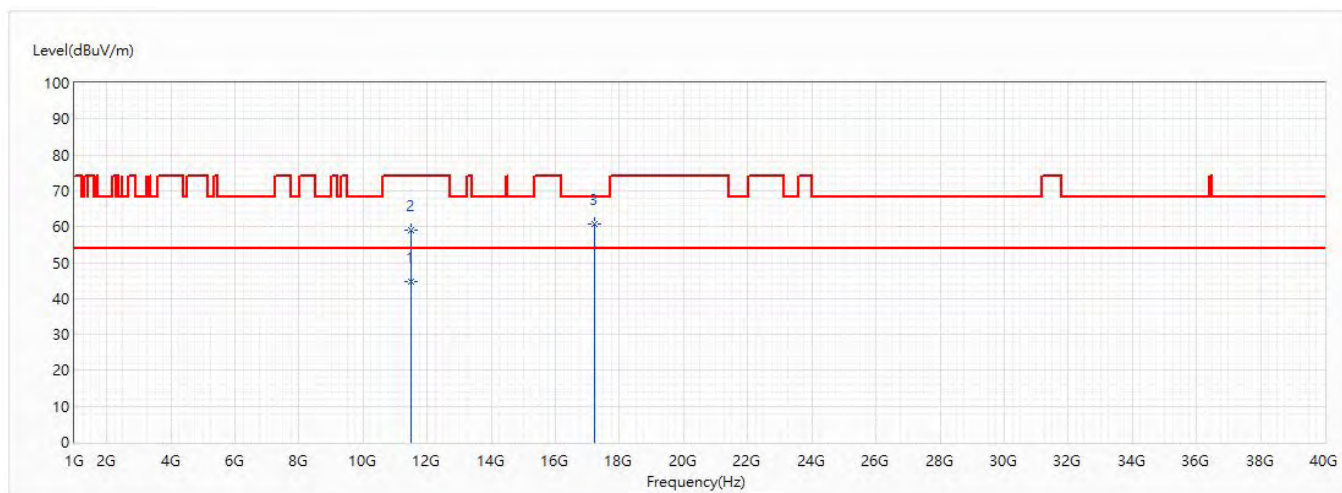


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	10460	58.08	68.20	-10.12	54.92	3.16	PK
2	15690	58.23	74.00	-15.77	51.37	6.86	PK
* 3	15690	45.88	54.00	-8.12	39.02	6.86	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch149_5.745G	Humidity (%RH)	55.0

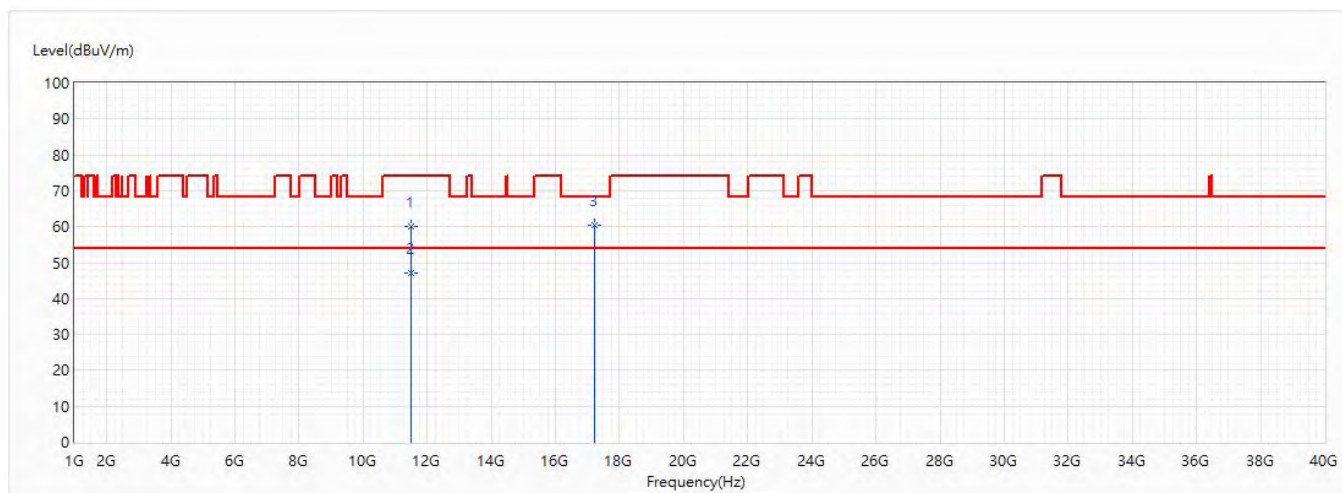


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11490	44.68	54.00	-9.32	39.63	5.05	AV
2	11490	58.89	74.00	-15.11	53.84	5.05	PK
* 3	17235	60.80	68.20	-7.40	52.08	8.72	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch149_5.745G	Humidity (%RH)	55.0

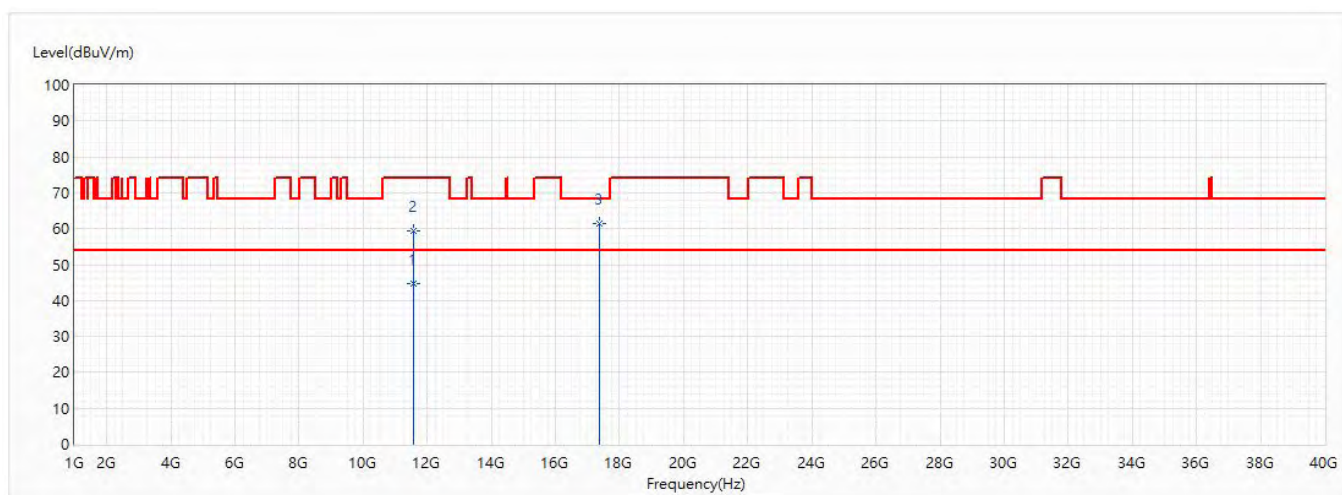


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11490	60.11	74.00	-13.89	55.06	5.05	PK
* 2	11490	47.19	54.00	-6.81	42.14	5.05	AV
3	17235	60.32	68.20	-7.88	51.60	8.72	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch157_5.785G	Humidity (%RH)	55.0

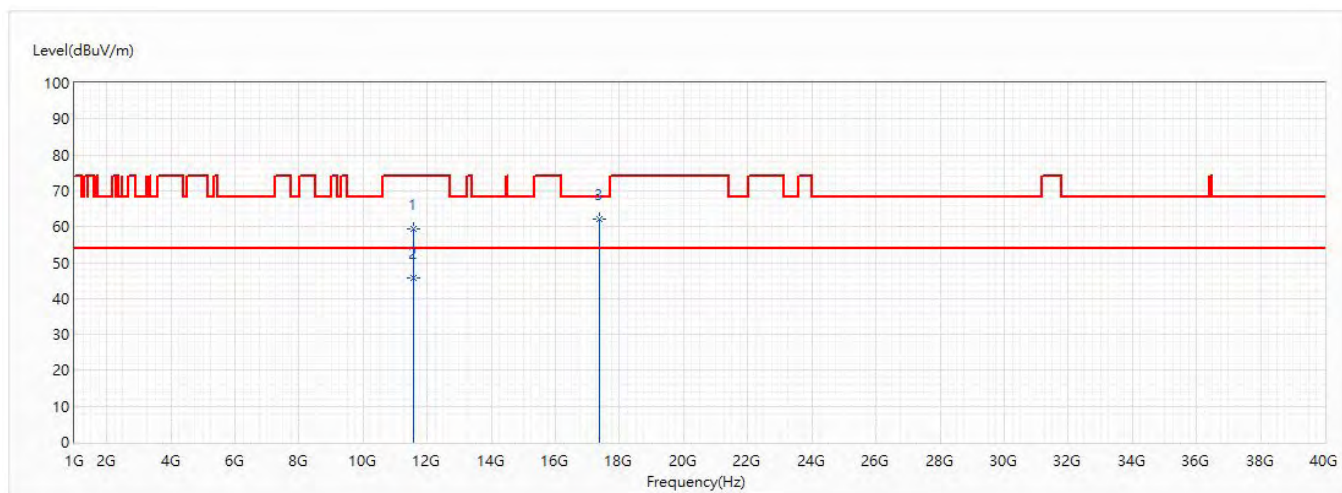


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11570	44.78	54.00	-9.22	39.70	5.08	AV
2	11570	59.27	74.00	-14.73	54.19	5.08	PK
* 3	17355	61.47	68.20	-6.73	52.23	9.24	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch157_5.785G	Humidity (%RH)	55.0

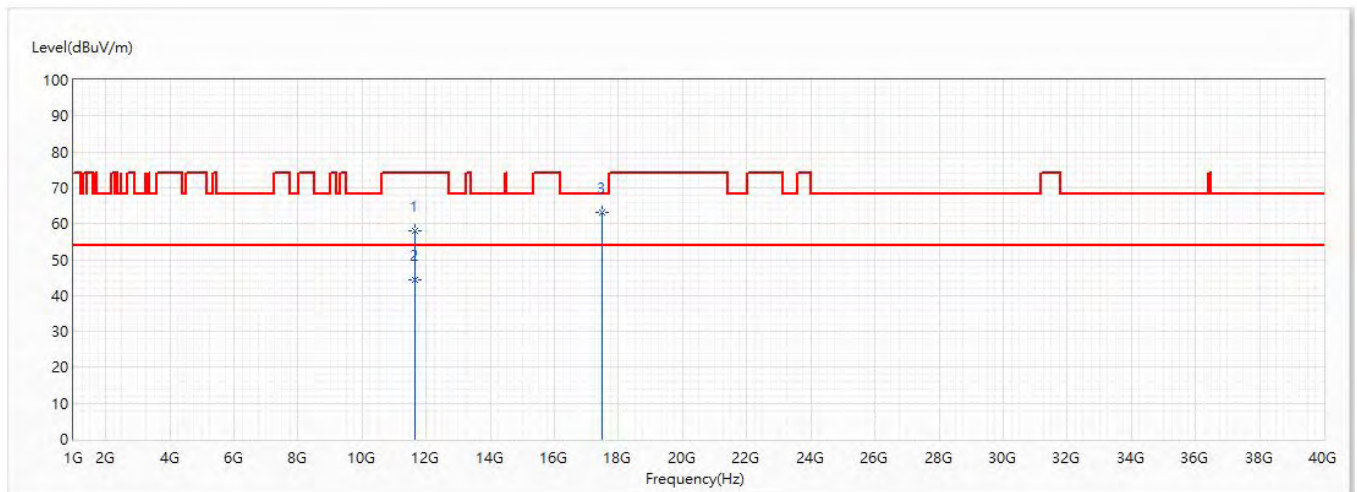


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11570	59.53	74.00	-14.47	54.45	5.08	PK
2	11570	45.65	54.00	-8.35	40.57	5.08	AV
* 3	17355	62.10	68.20	-6.10	52.86	9.24	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch165_5.825G	Humidity (%RH)	55.0

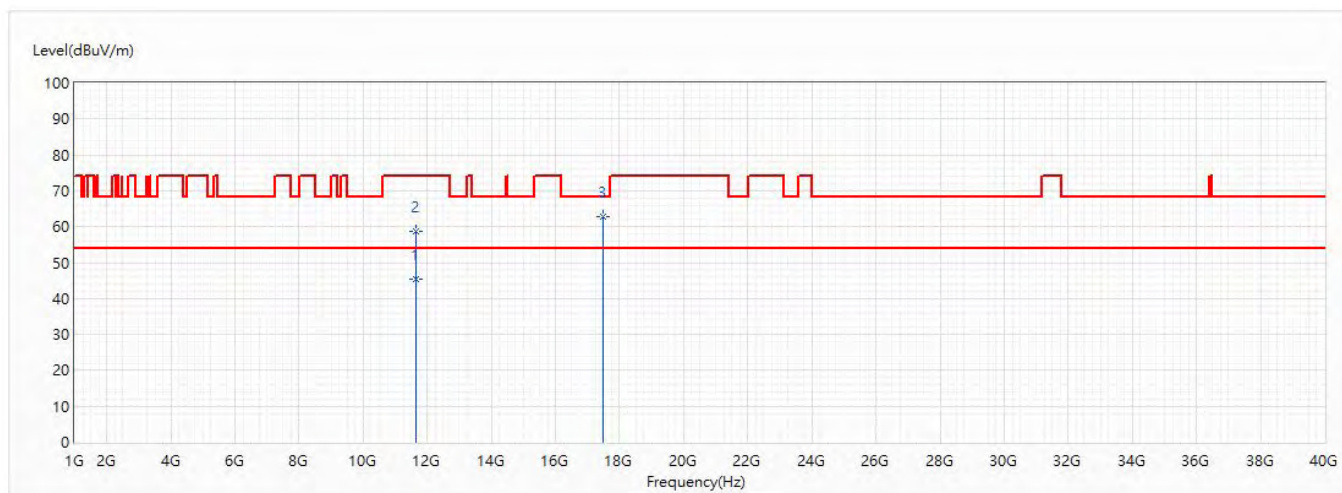


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11650	58.06	74.00	-15.94	52.95	5.11	PK
2	11650	44.22	54.00	-9.78	39.11	5.11	AV
* 3	17475	63.26	68.20	-4.94	53.57	9.69	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch165_5.825G	Humidity (%RH)	55.0

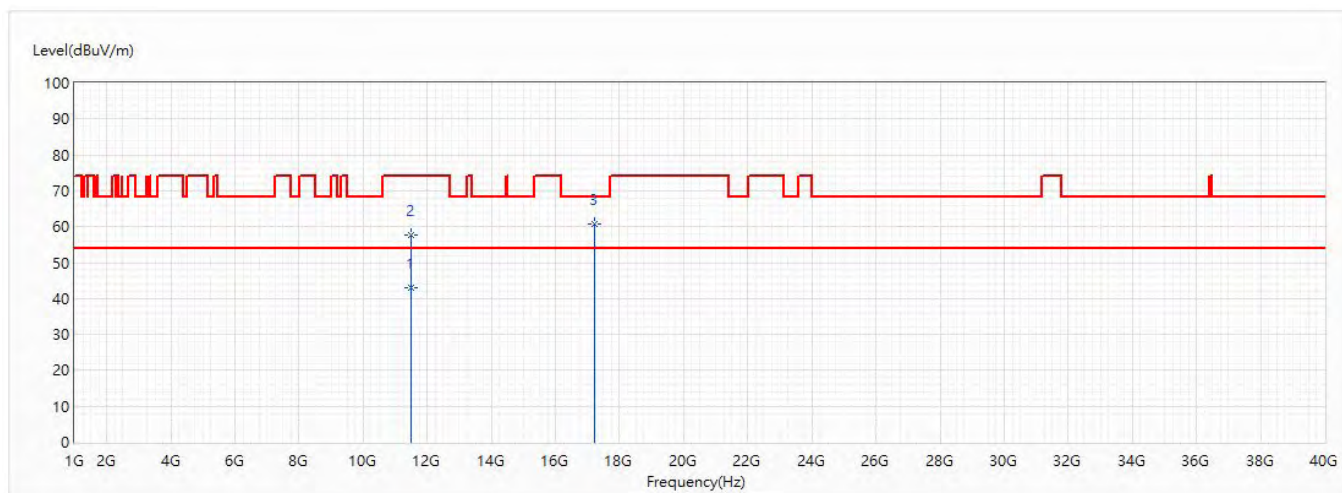


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11650	45.38	54.00	-8.62	40.27	5.11	AV
2	11650	58.74	74.00	-15.26	53.63	5.11	PK
* 3	17475	62.69	68.20	-5.51	53.00	9.69	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch149_5.745G	Humidity (%RH)	55.0

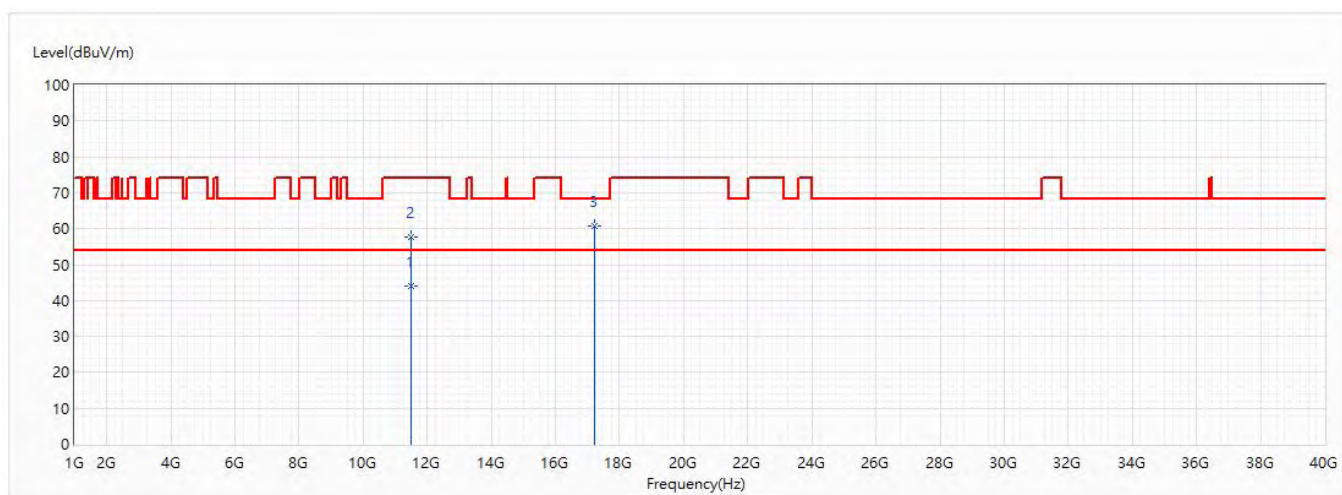


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11490	43.04	54.00	-10.96	37.99	5.05	AV
2	11490	57.84	74.00	-16.16	52.79	5.05	PK
* 3	17235	60.77	68.20	-7.43	52.05	8.72	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch149_5.745G	Humidity (%RH)	55.0

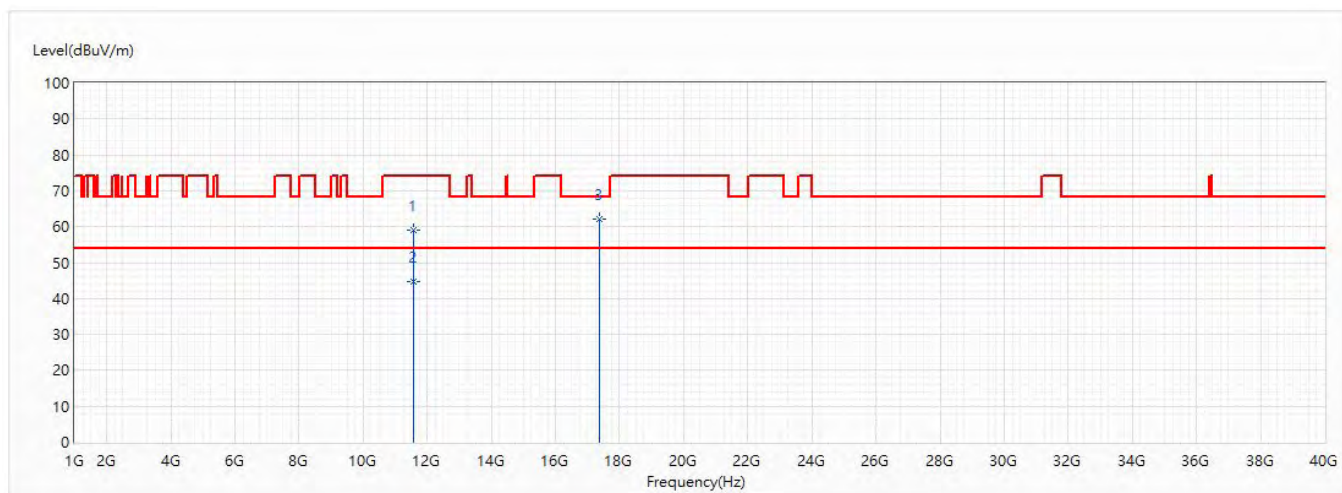


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11490	44.03	54.00	-9.97	38.98	5.05	AV
2	11490	57.83	74.00	-16.17	52.78	5.05	PK
* 3	17235	60.85	68.20	-7.35	52.13	8.72	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch157_5.785G	Humidity (%RH)	55.0

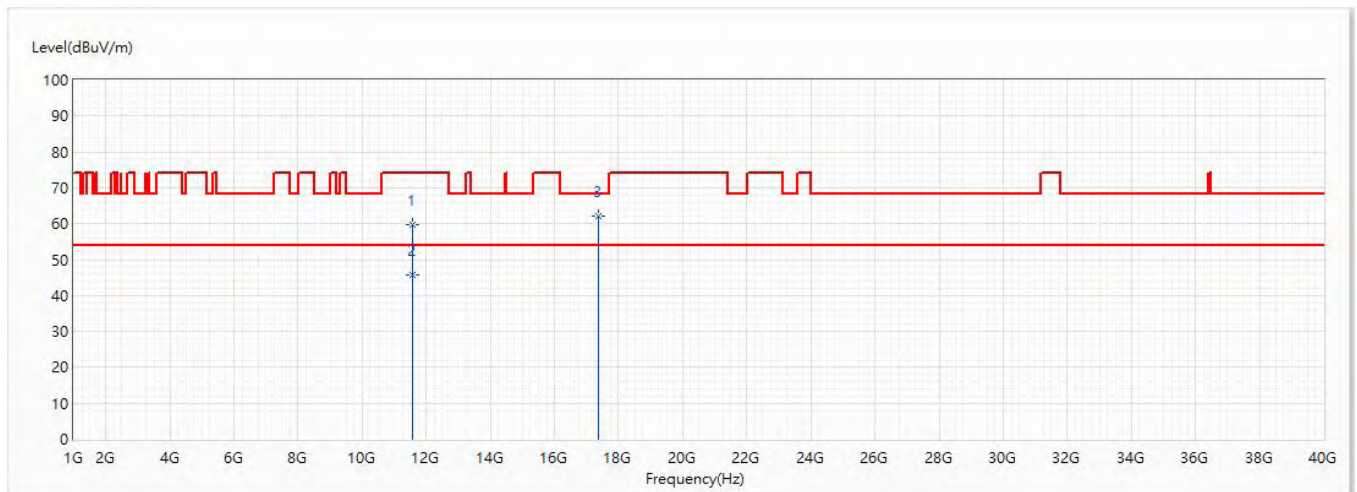


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11570	59.14	74.00	-14.86	54.06	5.08	PK
2	11570	44.79	54.00	-9.21	39.71	5.08	AV
* 3	17355	62.02	68.20	-6.18	52.78	9.24	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch157_5.785G	Humidity (%RH)	55.0

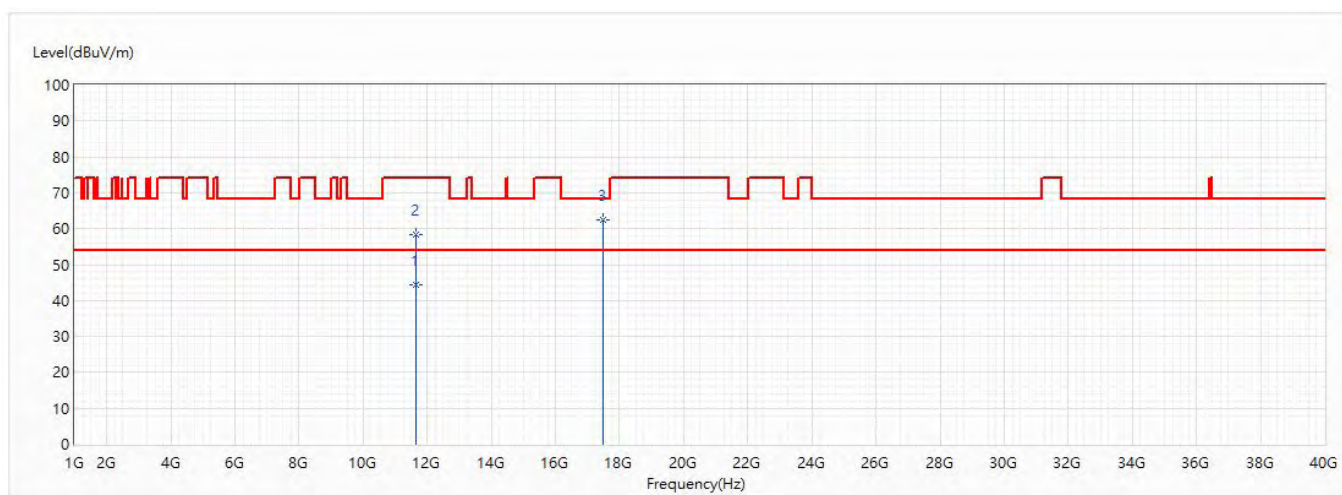


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11570	59.80	74.00	-14.20	54.72	5.08	PK
2	11570	45.71	54.00	-8.29	40.63	5.08	AV
* 3	17355	62.12	68.20	-6.08	52.88	9.24	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch165_5.825G	Humidity (%RH)	55.0

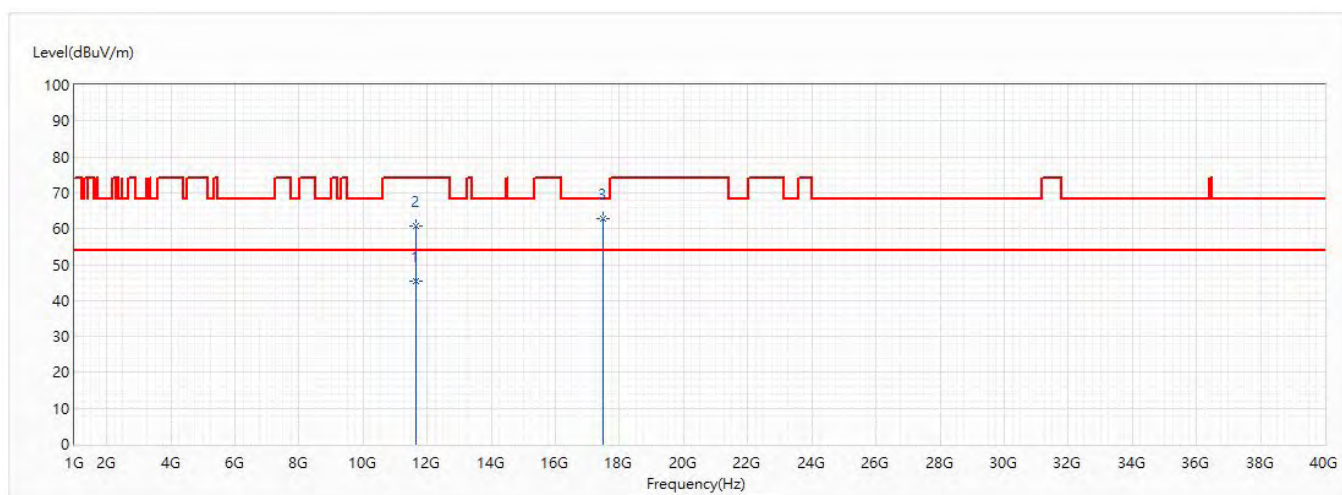


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11650	44.20	54.00	-9.80	39.09	5.11	AV
2	11650	58.53	74.00	-15.47	53.42	5.11	PK
* 3	17475	62.41	68.20	-5.79	52.72	9.69	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch165_5.825G	Humidity (%RH)	55.0

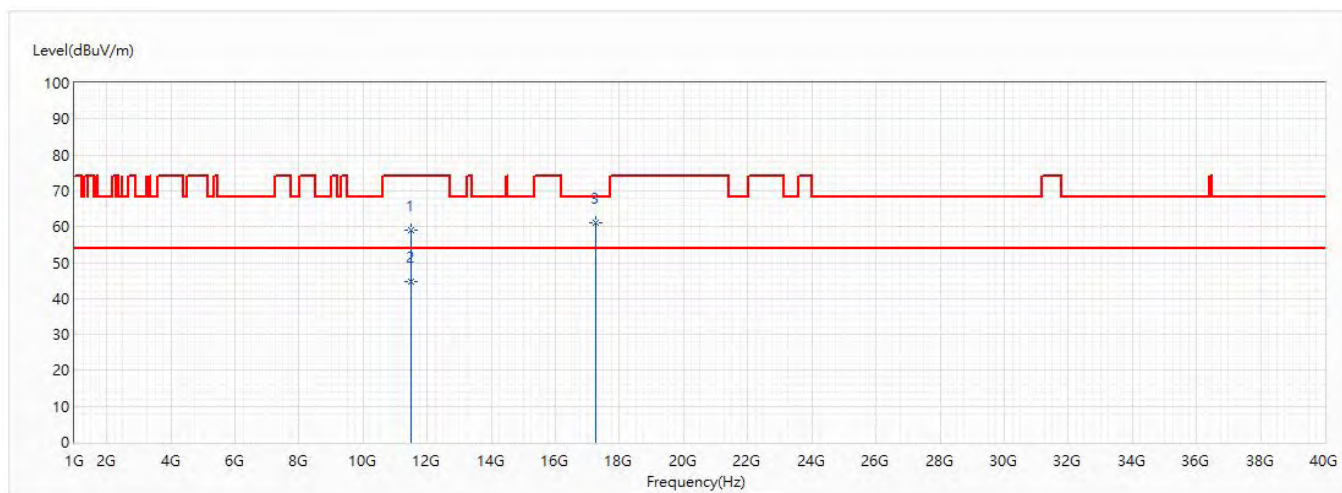


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11650	45.56	54.00	-8.44	40.45	5.11	AV
2	11650	60.63	74.00	-13.37	55.52	5.11	PK
* 3	17475	62.64	68.20	-5.56	52.95	9.69	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch151_5.755G	Humidity (%RH)	55.0

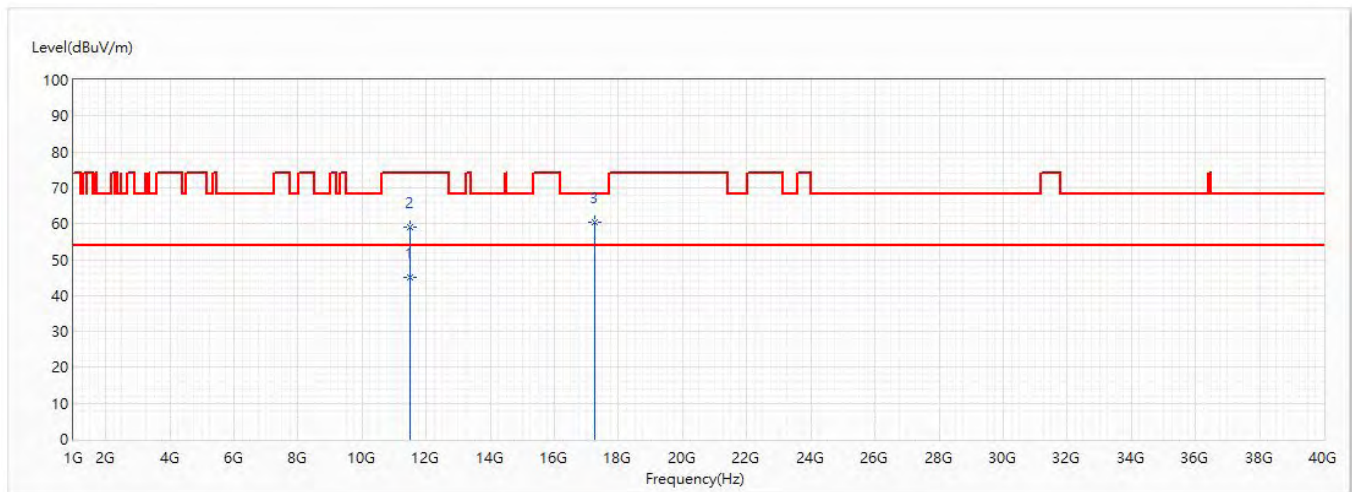


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11510	59.03	74.00	-14.97	53.96	5.07	PK
2	11510	44.83	54.00	-9.17	39.76	5.07	AV
* 3	17265	61.10	68.20	-7.10	52.25	8.85	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch151_5.755G	Humidity (%RH)	55.0

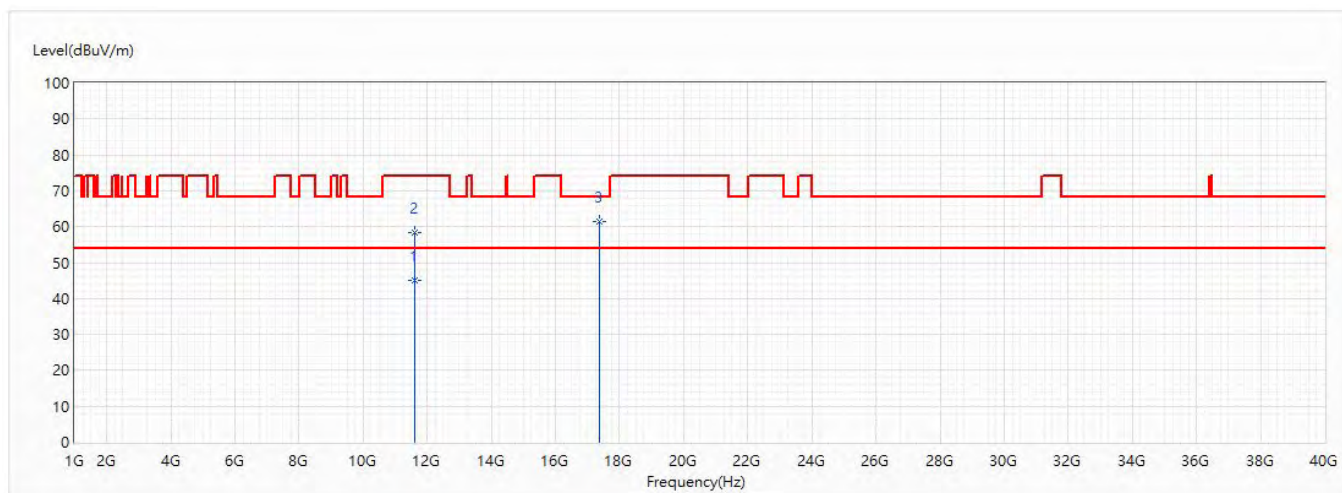


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11510	45.18	54.00	-8.82	40.11	5.07	AV
2	11510	58.94	74.00	-15.06	53.87	5.07	PK
* 3	17265	60.28	68.20	-7.92	51.43	8.85	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch159_5.795G	Humidity (%RH)	55.0

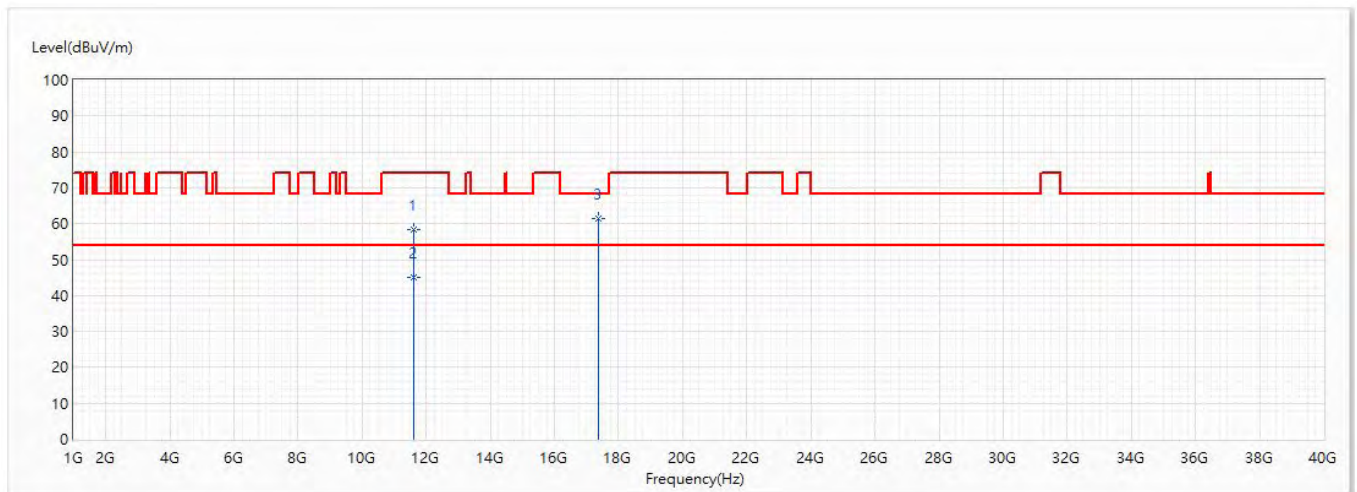


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11590	44.92	54.00	-9.08	39.84	5.08	AV
2	11590	58.48	74.00	-15.52	53.40	5.08	PK
* 3	17385	61.36	68.20	-6.84	52.01	9.35	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/13
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch159_5.795G	Humidity (%RH)	55.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	11590	58.28	74.00	-15.72	53.20	5.08	PK
2	11590	45.07	54.00	-8.93	39.99	5.08	AV
* 3	17385	61.59	68.20	-6.61	52.24	9.35	PK

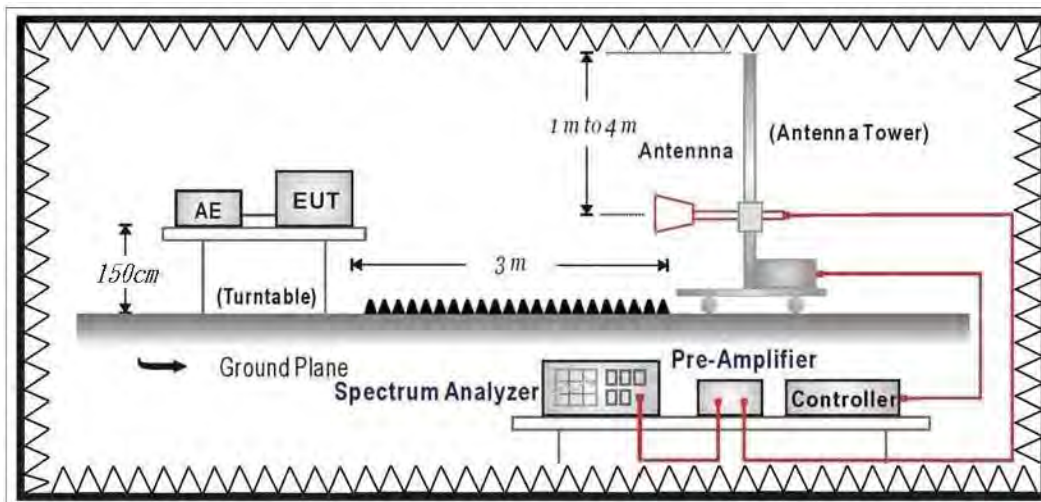
Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 18GHz were not included is because their levels are lower than 20dB from limit.

7. Band Edge

7.1. Test Setup

RF Radiated Measurement:



7.2. Limits

➤ General Radiated Emission Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section. Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	$\mu\text{V/m @3m}$	dBuV/m@3m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Remark:

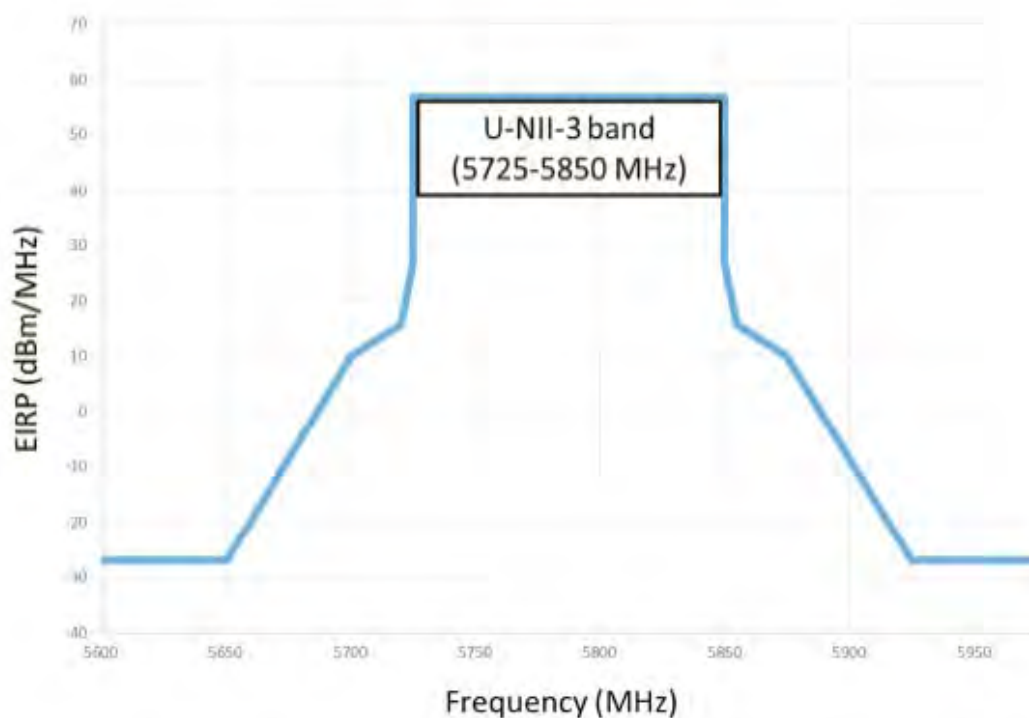
1. $\text{RF Voltage (dBuV)} = 20 \log \text{RF Voltage } (\mu\text{V})$
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➤ **Unwanted Emission out of the restricted bands Limits**

FCC Part 15 Subpart E Paragraph 15.407(b) Limits		
Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (dBuV/m@3m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
5725 - 5850	-27 (Note1)	68.3
	-17 (Note2)	78.3

4. For transmitters operating in the 5.725-5.85 GHz band

- (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.
- (ii) Devices certified before March 2, 2019 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in Section 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in Section 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.



Remark:

1. For frequencies more than 10 MHz above or below the band edges.
2. For frequency range from the band edges to 10 MHz above or below the band edges.

$$3. \quad \mu\text{V/m} = \frac{1000000 \sqrt{30 \times EIRP}}{3}, \quad \text{RF Voltage (dBuV/m)} = 20 \log \text{RF Voltage (}\mu\text{V/m)}$$

7.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

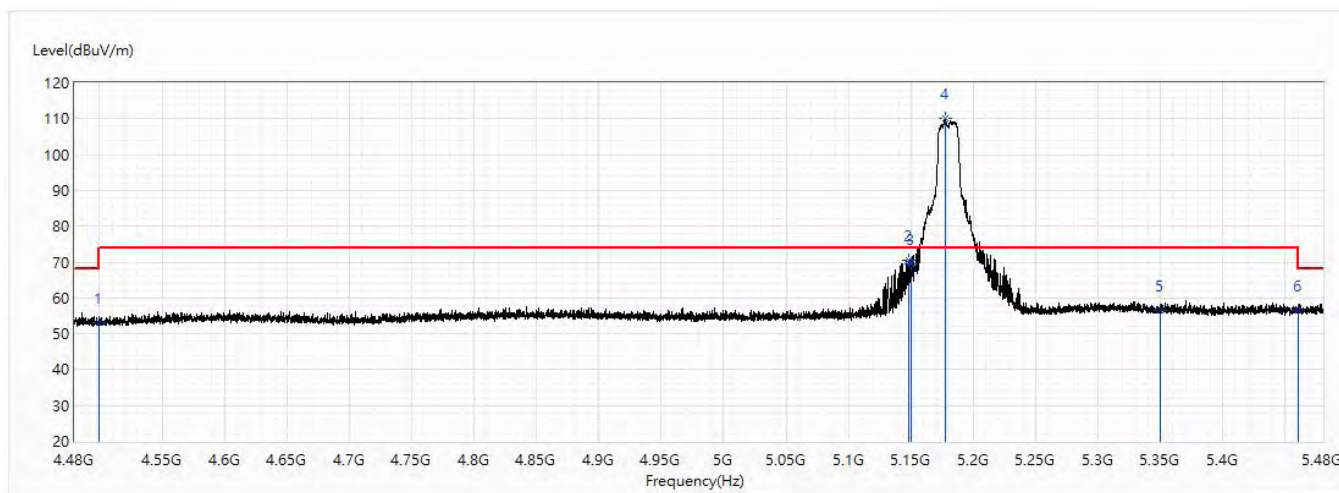
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 KHz, above 1GHz are 1 MHz.

7.4. Test Result

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch36_5.18G	Humidity (%RH)	55.0

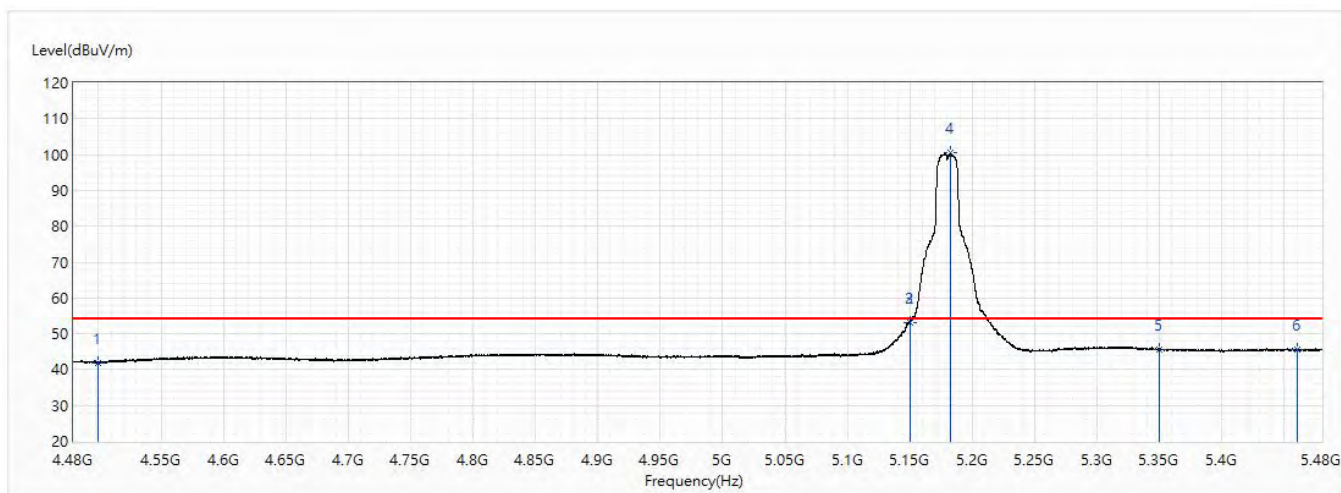


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	52.98	74.00	-21.02	28.96	24.02	PK
2	5148	70.63	74.00	-3.37	45.70	24.93	PK
3	5150	69.57	74.00	-4.43	44.64	24.93	PK
! 4	5177.5	109.99	74.00	35.99	84.96	25.03	PK
5	5350	56.65	74.00	-17.35	31.14	25.51	PK
6	5460	56.54	74.00	-17.46	30.75	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch36_5.18G	Humidity (%RH)	55.0

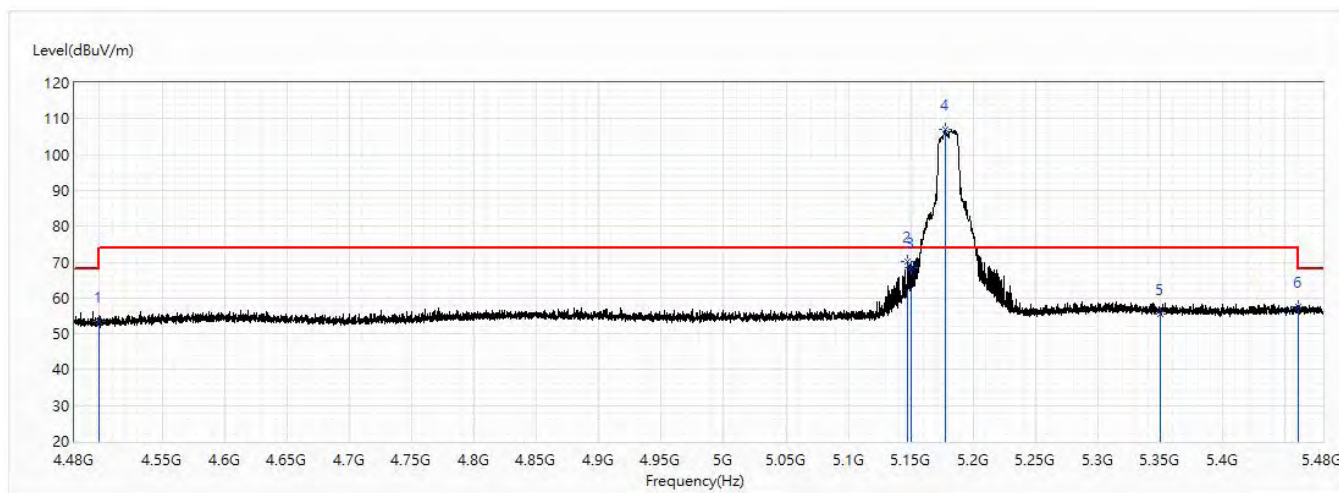


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	41.93	54.00	-12.07	17.91	24.02	AV
2	5149.9	52.94	54.00	-1.06	28.01	24.93	AV
3	5150	53.01	54.00	-0.99	28.08	24.93	AV
! 4	5183	100.40	54.00	46.40	75.36	25.04	AV
5	5350	45.66	54.00	-8.34	20.15	25.51	AV
6	5460	45.64	54.00	-8.36	19.85	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch36_5.18G	Humidity (%RH)	55.0

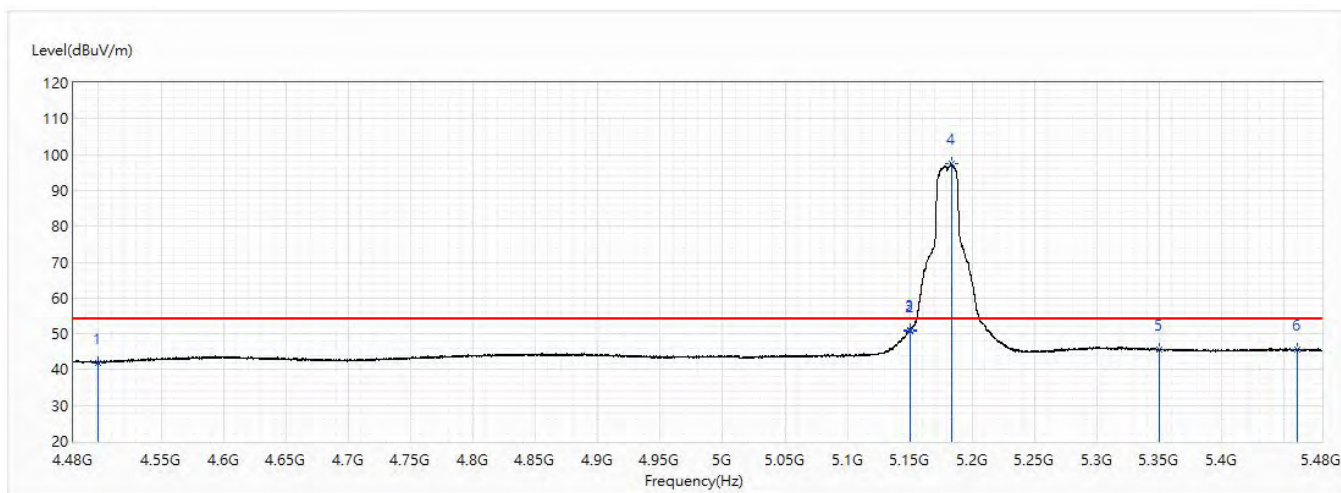


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	53.47	74.00	-20.53	29.45	24.02	PK
2	5147.75	70.07	74.00	-3.93	45.14	24.93	PK
3	5150	68.41	74.00	-5.59	43.48	24.93	PK
! 4	5177.5	107.05	74.00	33.05	82.02	25.03	PK
5	5350	55.38	74.00	-18.62	29.87	25.51	PK
6	5460	57.61	74.00	-16.39	31.82	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch36_5.18G	Humidity (%RH)	55.0

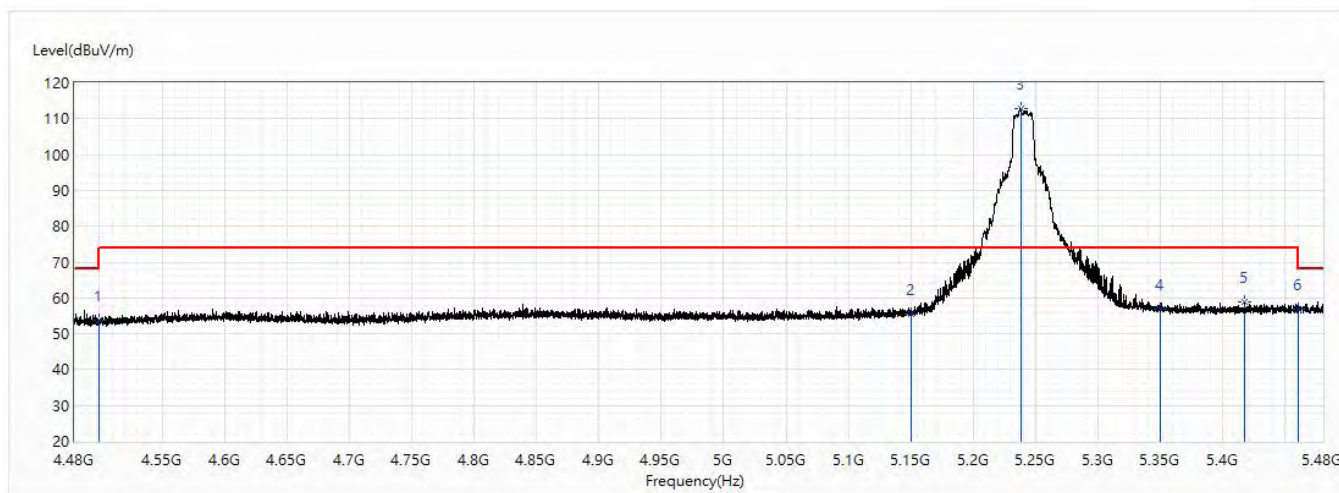


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.00	54.00	-12.00	17.98	24.02	AV
2	5149.9	50.81	54.00	-3.19	25.88	24.93	AV
3	5150	51.14	54.00	-2.86	26.21	24.93	AV
! 4	5183.25	97.51	54.00	43.51	72.47	25.04	AV
5	5350	45.57	54.00	-8.43	20.06	25.51	AV
6	5460	45.68	54.00	-8.32	19.89	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch48_5.24G	Humidity (%RH)	55.0

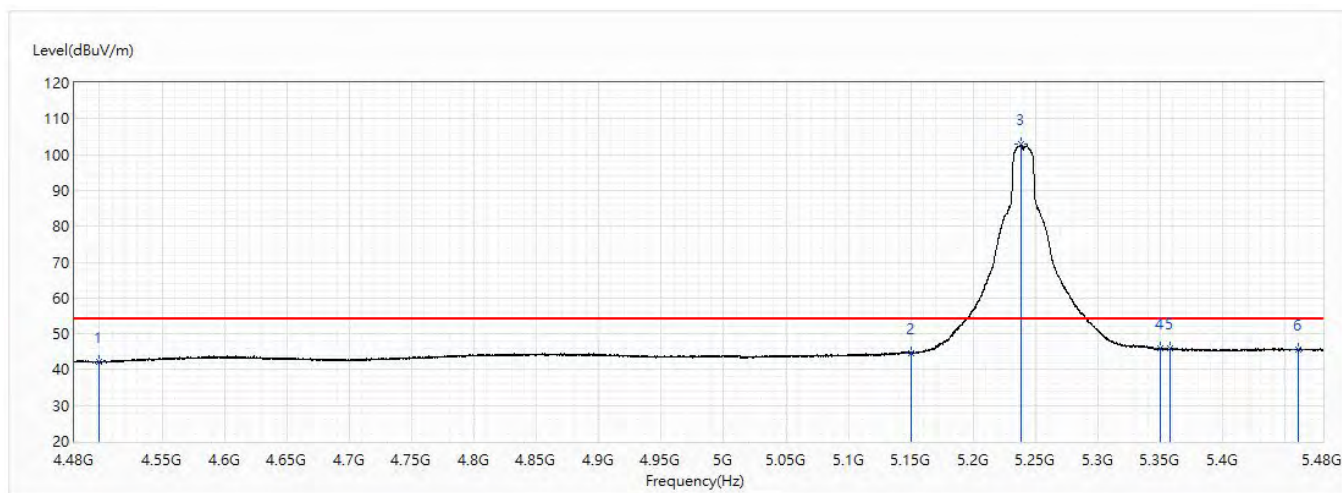


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	53.69	74.00	-20.31	29.67	24.02	PK
2	5150	55.39	74.00	-18.61	30.46	24.93	PK
! 3	5237.875	112.75	74.00	38.75	87.58	25.17	PK
4	5350	56.73	74.00	-17.27	31.22	25.51	PK
5	5417.125	58.87	74.00	-15.13	33.12	25.75	PK
6	5460	56.83	74.00	-17.17	31.04	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch48_5.24G	Humidity (%RH)	55.0

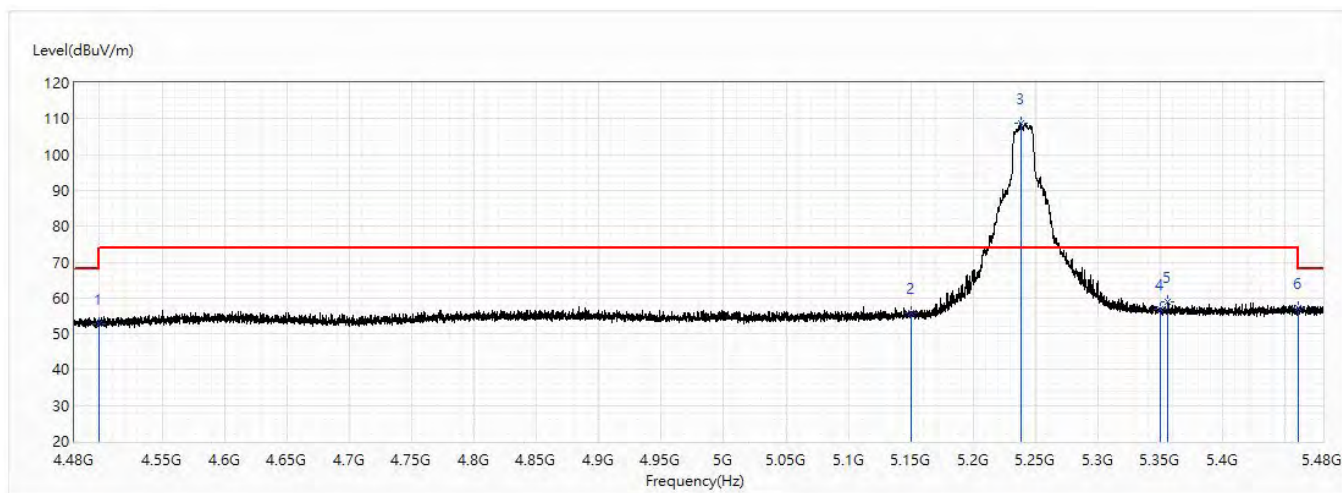


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.04	54.00	-11.96	18.02	24.02	AV
2	5150	44.62	54.00	-9.38	19.69	24.93	AV
! 3	5238.5	102.91	54.00	48.91	77.74	25.17	AV
4	5350	45.85	54.00	-8.15	20.34	25.51	AV
5	5357.625	46.03	54.00	-7.97	20.48	25.55	AV
6	5460	45.62	54.00	-8.38	19.83	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch48_5.24G	Humidity (%RH)	55.0

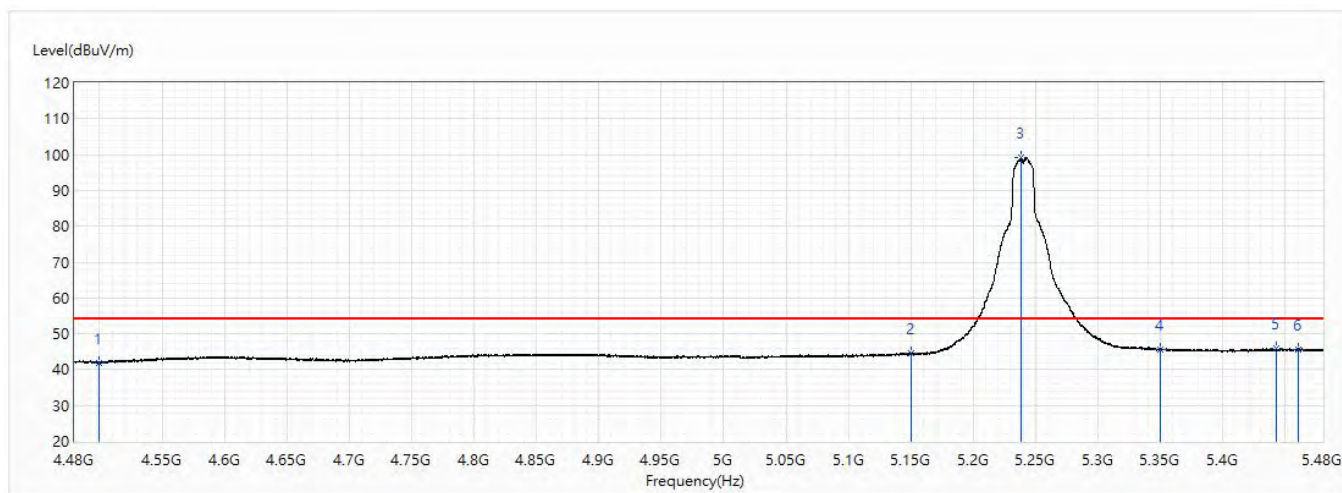


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	52.68	74.00	-21.32	28.66	24.02	PK
2	5150	55.85	74.00	-18.15	30.92	24.93	PK
! 3	5238	108.88	74.00	34.88	83.71	25.17	PK
4	5350	56.88	74.00	-17.12	31.37	25.51	PK
5	5356.125	58.74	74.00	-15.26	33.20	25.54	PK
6	5460	57.28	74.00	-16.72	31.49	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch48_5.24G	Humidity (%RH)	55.0

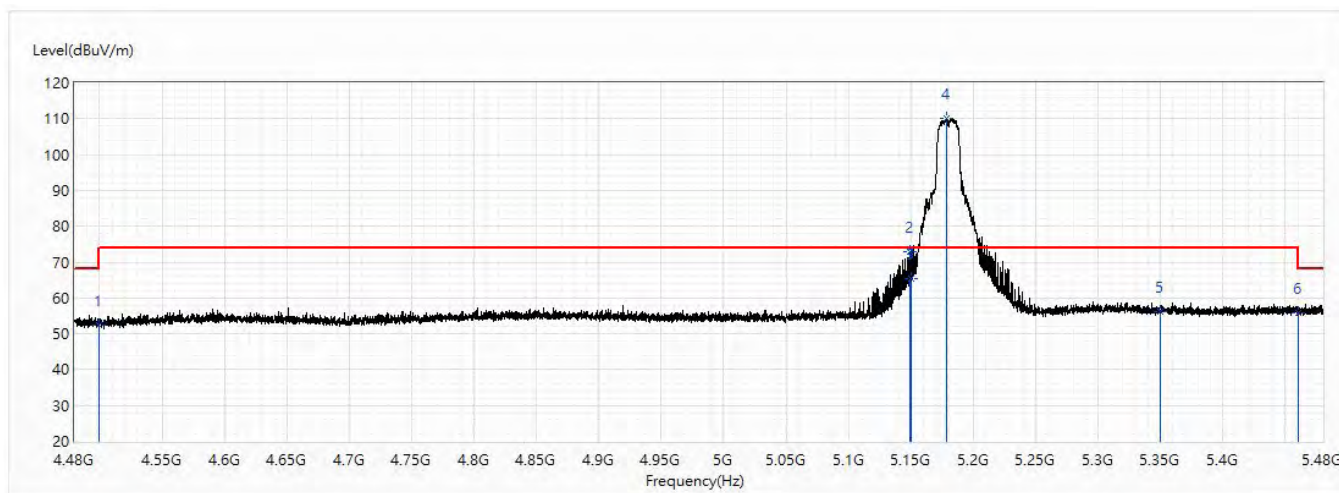


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	41.84	54.00	-12.16	17.82	24.02	AV
2	5150	44.41	54.00	-9.59	19.48	24.93	AV
! 3	5238.625	99.08	54.00	45.08	73.91	25.17	AV
4	5350	45.56	54.00	-8.44	20.05	25.51	AV
5	5442.75	45.85	54.00	-8.15	20.07	25.78	AV
6	5460	45.44	54.00	-8.56	19.65	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch36_5.18G	Humidity (%RH)	55.0

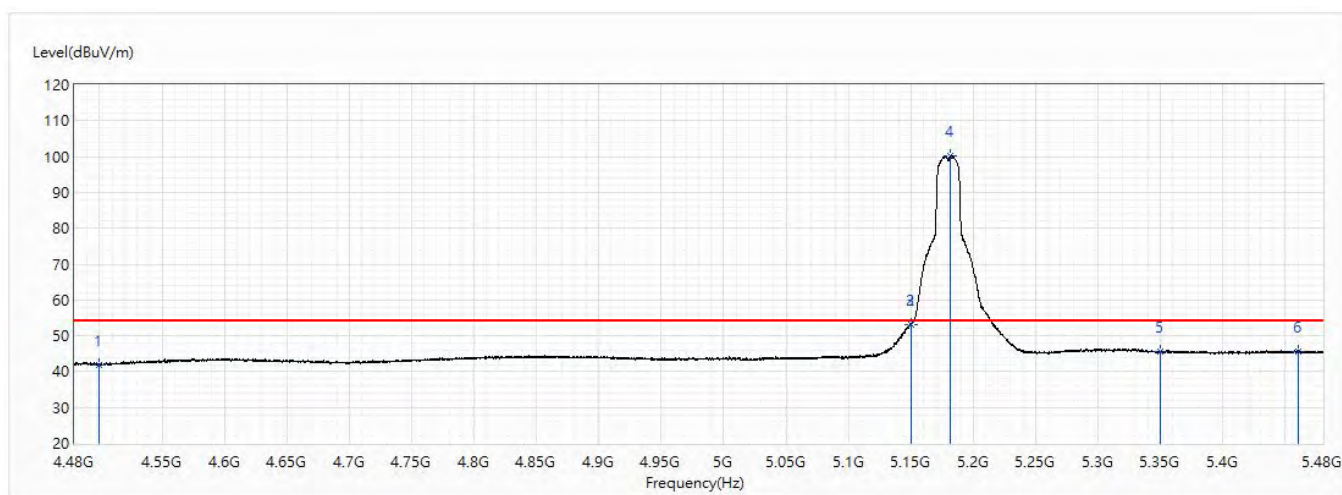


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	52.46	74.00	-21.54	28.44	24.02	PK
2	5149.125	72.92	74.00	-1.08	47.99	24.93	PK
3	5150	65.40	74.00	-8.60	40.47	24.93	PK
! 4	5178.75	110.07	74.00	36.07	85.04	25.03	PK
5	5350	56.14	74.00	-17.86	30.63	25.51	PK
6	5460	55.67	74.00	-18.33	29.88	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch36_5.18G	Humidity (%RH)	55.0

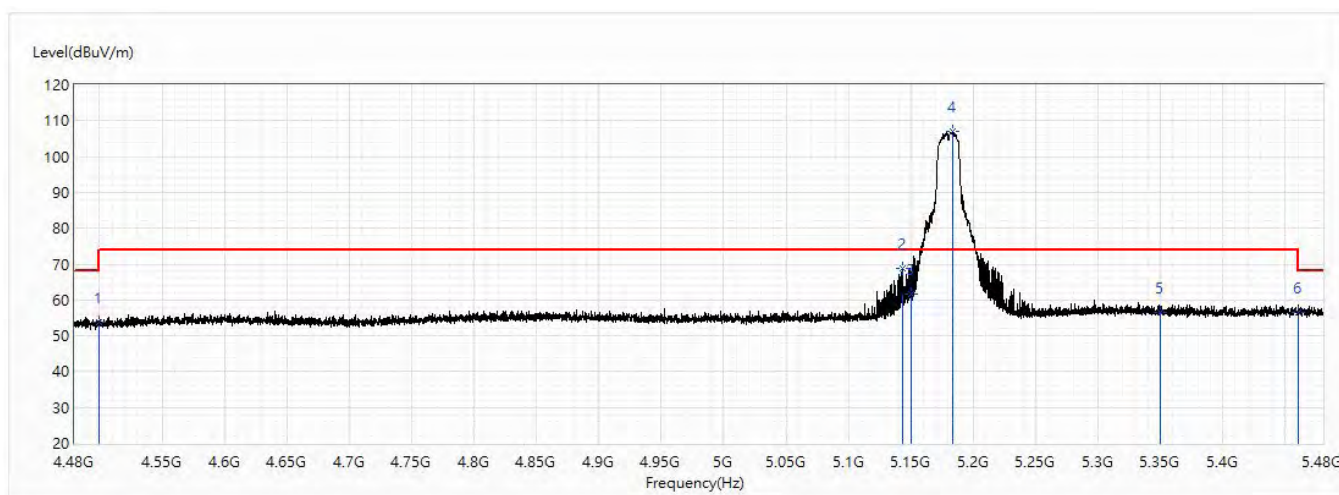


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	41.98	54.00	-12.02	17.96	24.02	AV
2	5149.9	53.16	54.00	-0.84	28.23	24.93	AV
3	5150	53.05	54.00	-0.95	28.12	24.93	AV
! 4	5181.875	100.23	54.00	46.23	75.19	25.04	AV
5	5350	45.72	54.00	-8.28	20.21	25.51	AV
6	5460	45.43	54.00	-8.57	19.64	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch36_5.18G	Humidity (%RH)	55.0

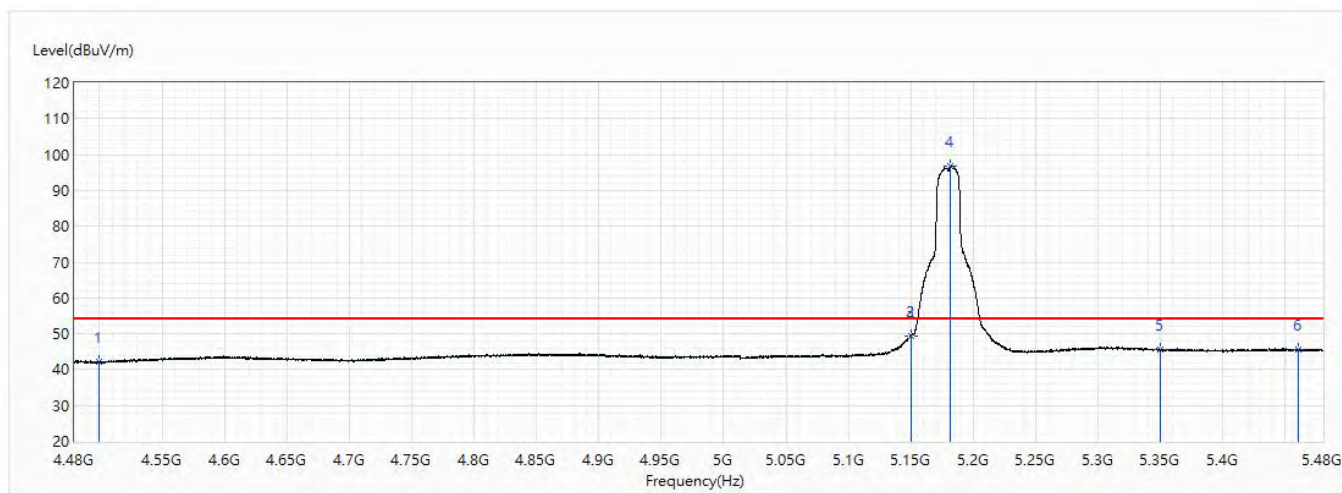


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	53.88	74.00	-20.12	29.86	24.02	PK
2	5143.375	68.83	74.00	-5.17	43.92	24.91	PK
3	5150	61.69	74.00	-12.31	36.76	24.93	PK
! 4	5183.5	107.02	74.00	33.02	81.98	25.04	PK
5	5350	56.60	74.00	-17.40	31.09	25.51	PK
6	5460	56.38	74.00	-17.62	30.59	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch36_5.18G	Humidity (%RH)	55.0

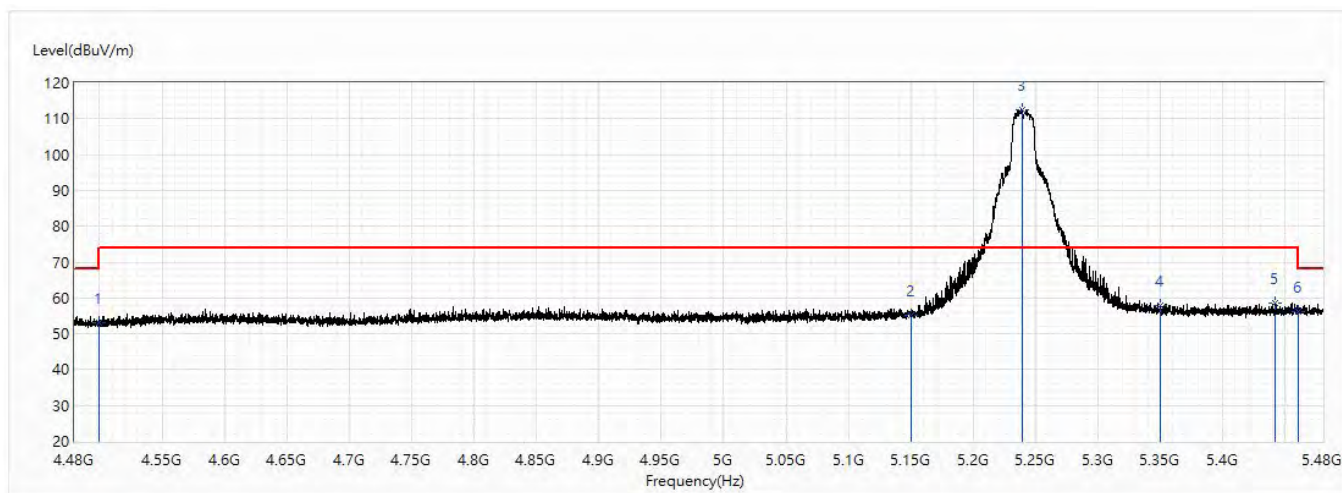


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.24	54.00	-11.76	18.22	24.02	AV
2	5149.9	49.19	54.00	-4.81	24.26	24.93	AV
3	5150	49.19	54.00	-4.81	24.26	24.93	AV
! 4	5182	96.90	54.00	42.90	71.86	25.04	AV
5	5350	45.64	54.00	-8.36	20.13	25.51	AV
6	5460	45.57	54.00	-8.43	19.78	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch48_5.24G	Humidity (%RH)	55.0

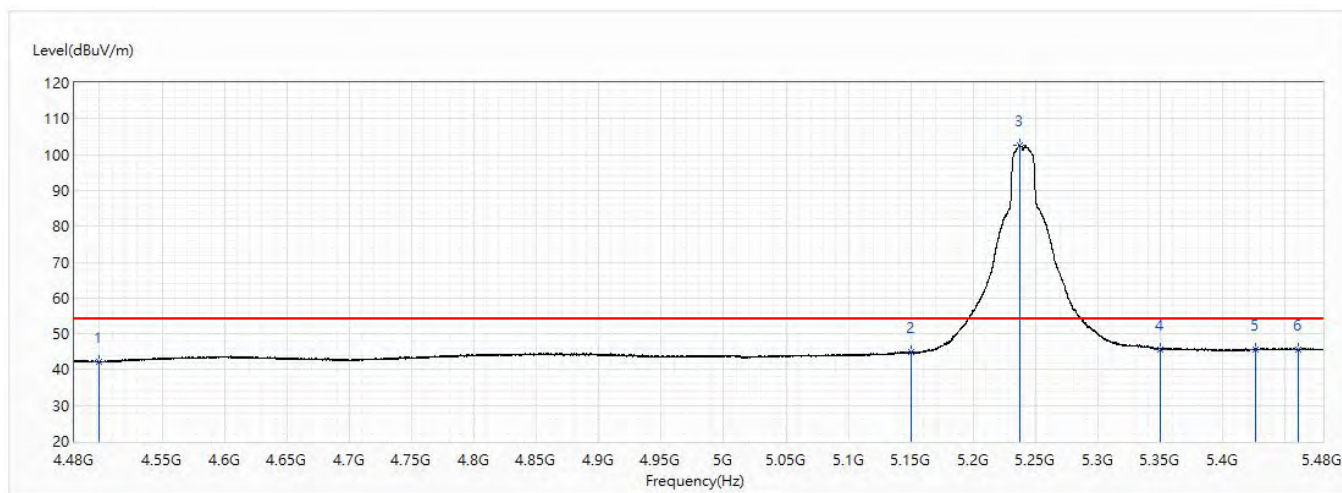


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	53.24	74.00	-20.76	29.22	24.02	PK
2	5150	55.01	74.00	-18.99	30.08	24.93	PK
! 3	5238.875	112.58	74.00	38.58	87.41	25.17	PK
4	5350	58.04	74.00	-15.96	32.53	25.51	PK
5	5441.625	58.56	74.00	-15.44	32.78	25.78	PK
6	5460	56.32	74.00	-17.68	30.53	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch48_5.24G	Humidity (%RH)	55.0

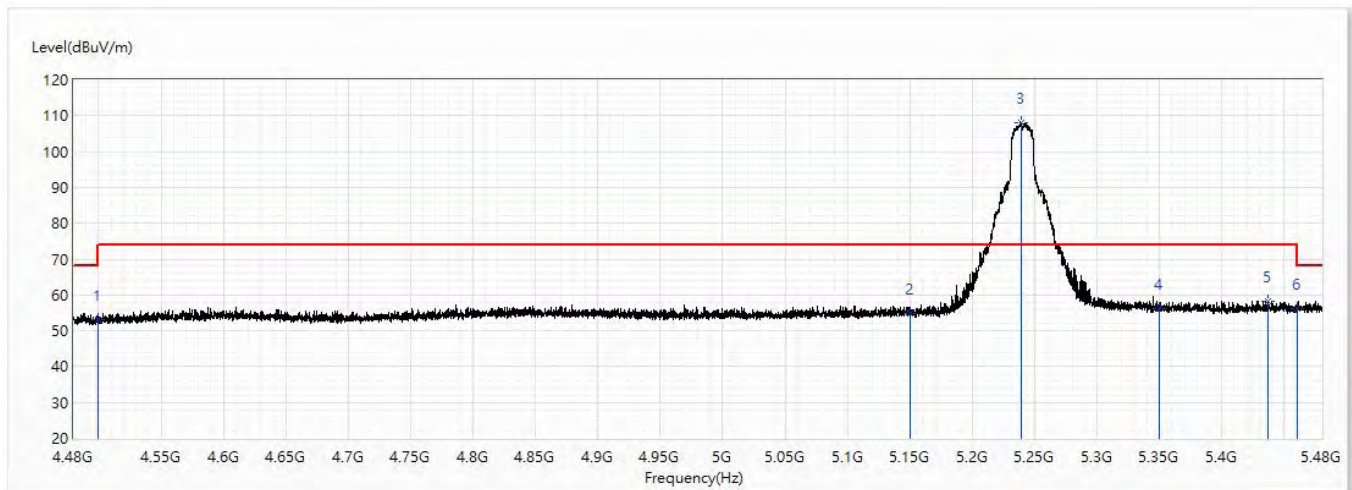


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.05	54.00	-11.95	18.03	24.02	AV
2	5150	44.83	54.00	-9.17	19.90	24.93	AV
! 3	5236.875	102.61	54.00	48.61	77.44	25.17	AV
4	5350	45.70	54.00	-8.30	20.19	25.51	AV
5	5426	45.74	54.00	-8.26	19.97	25.77	AV
6	5460	45.47	54.00	-8.53	19.68	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch48_5.24G	Humidity (%RH)	55.0

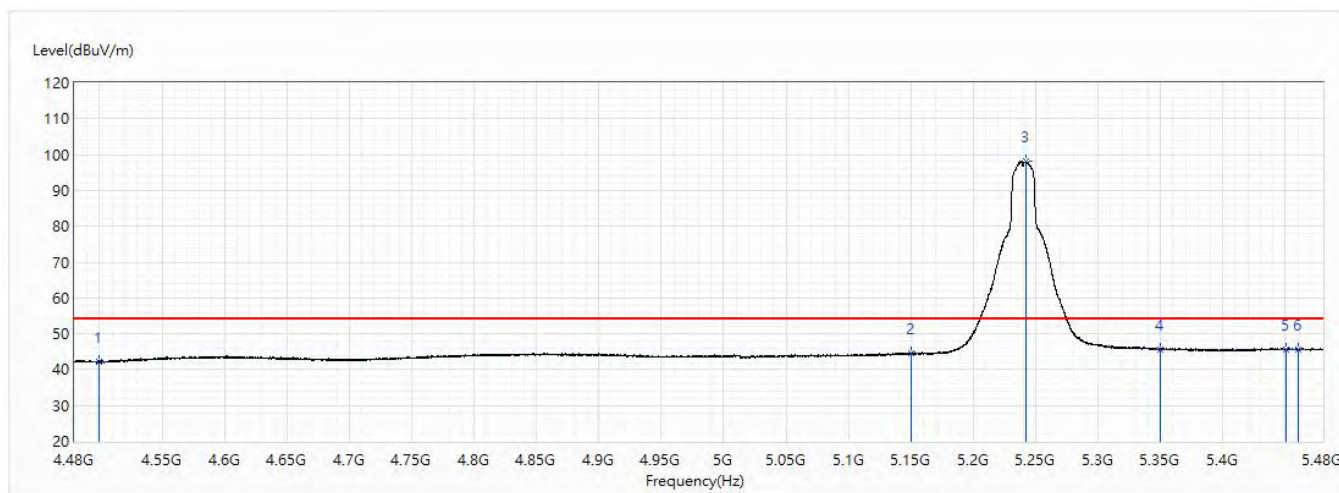


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	53.21	74.00	-20.79	29.19	24.02	PK
2	5150	54.78	74.00	-19.22	29.85	24.93	PK
! 3	5239	108.12	74.00	34.12	82.94	25.18	PK
4	5350	56.14	74.00	-17.86	30.63	25.51	PK
5	5436.75	58.27	74.00	-15.73	32.49	25.78	PK
6	5460	56.31	74.00	-17.69	30.52	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch48_5.24G	Humidity (%RH)	55.0

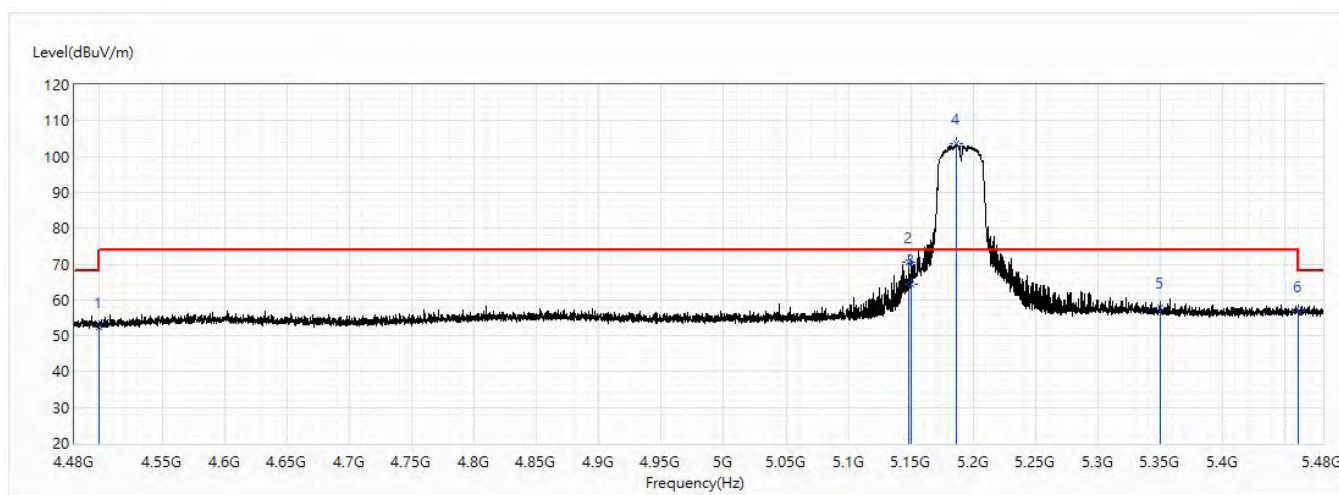


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.12	54.00	-11.88	18.10	24.02	AV
2	5150	44.42	54.00	-9.58	19.49	24.93	AV
! 3	5241.875	98.10	54.00	44.10	72.92	25.18	AV
4	5350	45.65	54.00	-8.35	20.14	25.51	AV
5	5450.5	45.70	54.00	-8.30	19.92	25.78	AV
6	5460	45.71	54.00	-8.29	19.92	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	55.0

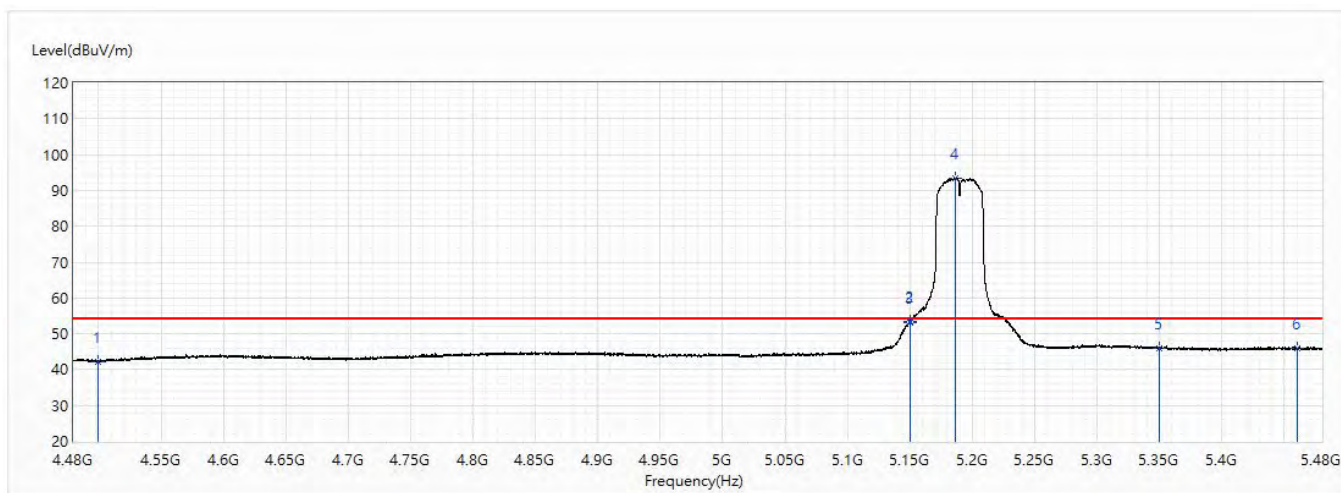


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	52.50	74.00	-21.50	28.48	24.02	PK
2	5148.25	70.55	74.00	-3.45	45.62	24.93	PK
3	5150	64.51	74.00	-9.49	39.58	24.93	PK
! 4	5186.625	103.53	74.00	29.53	78.48	25.05	PK
5	5350	57.93	74.00	-16.07	32.42	25.51	PK
6	5460	56.71	74.00	-17.29	30.92	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	55.0

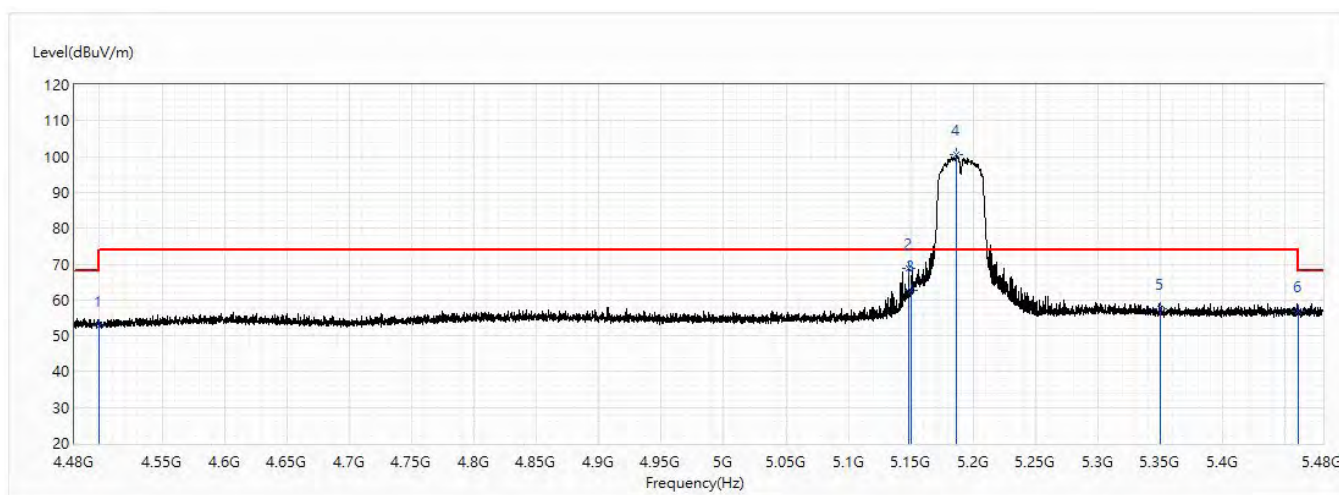


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.29	54.00	-11.71	18.27	24.02	AV
2	5149.9	53.58	54.00	-0.42	28.65	24.93	AV
3	5150	53.20	54.00	-0.80	28.27	24.93	AV
! 4	5186.25	93.41	54.00	39.41	68.36	25.05	AV
5	5350	45.98	54.00	-8.02	20.47	25.51	AV
6	5460	45.96	54.00	-8.04	20.17	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	55.0

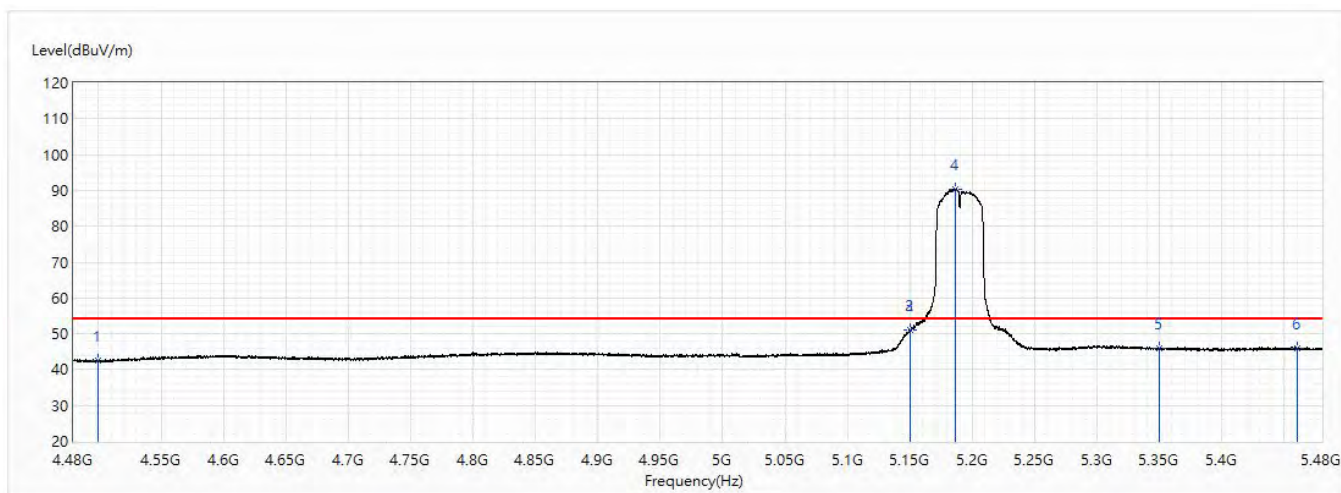


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	52.70	74.00	-21.30	28.68	24.02	PK
2	5148.625	68.88	74.00	-5.12	43.95	24.93	PK
3	5150	62.76	74.00	-11.24	37.83	24.93	PK
! 4	5186.5	100.39	74.00	26.39	75.34	25.05	PK
5	5350	57.51	74.00	-16.49	32.00	25.51	PK
6	5460	56.81	74.00	-17.19	31.02	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch38_5.19G	Humidity (%RH)	55.0

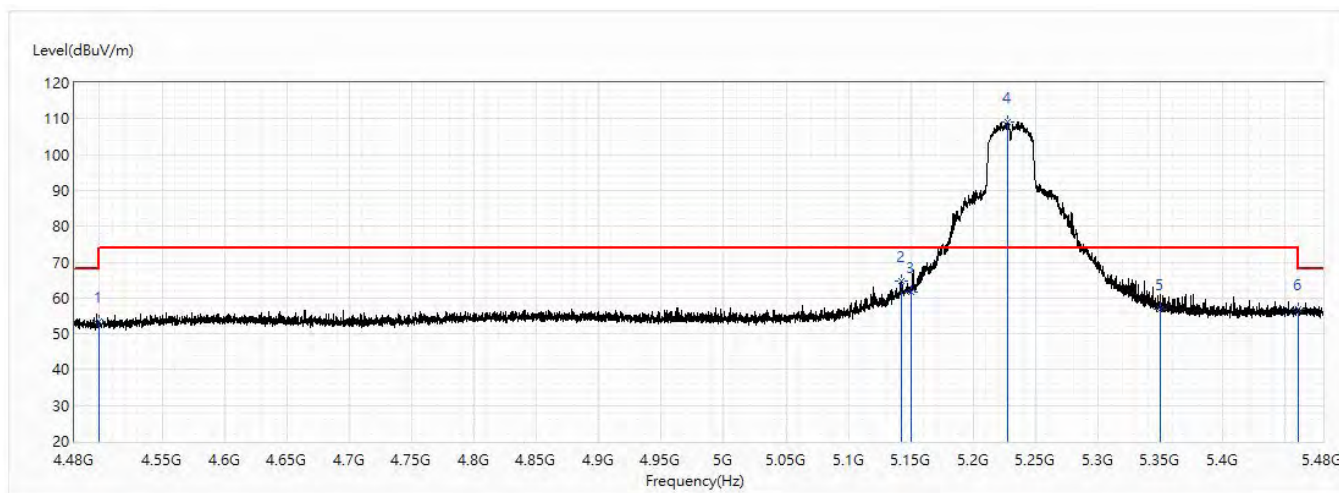


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.39	54.00	-11.61	18.37	24.02	AV
2	5149.9	50.97	54.00	-3.03	26.04	24.93	AV
3	5150	50.96	54.00	-3.04	26.03	24.93	AV
! 4	5186.25	90.35	54.00	36.35	65.30	25.05	AV
5	5350	45.82	54.00	-8.18	20.31	25.51	AV
6	5460	46.07	54.00	-7.93	20.28	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch46_5.23G	Humidity (%RH)	55.0

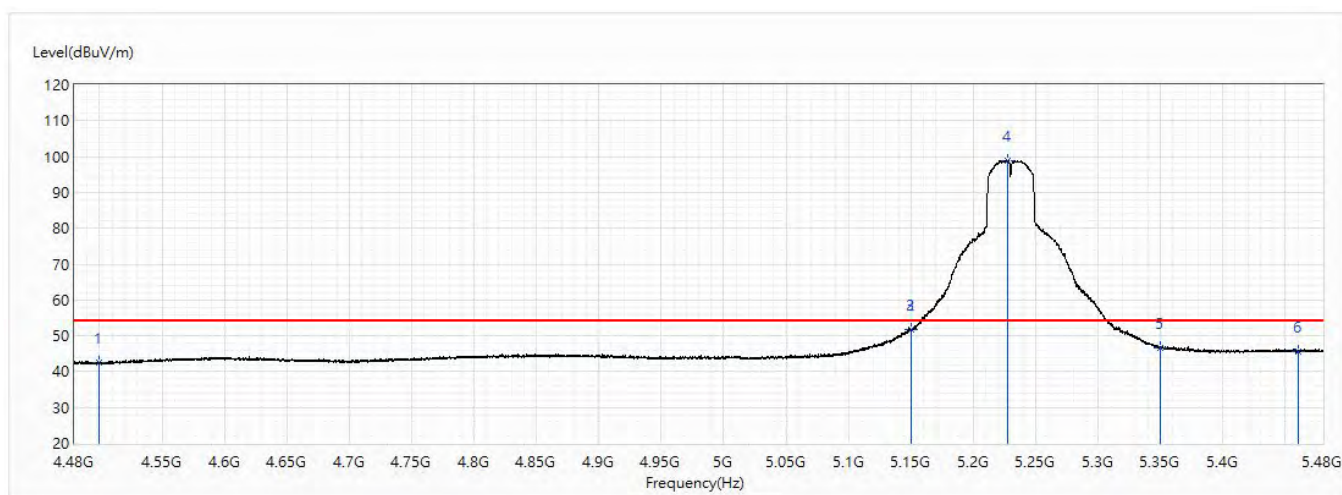


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	53.34	74.00	-20.66	29.32	24.02	PK
2	5142.25	64.84	74.00	-9.16	39.93	24.91	PK
3	5150	61.48	74.00	-12.52	36.55	24.93	PK
! 4	5227.625	109.22	74.00	35.22	84.07	25.15	PK
5	5350	56.76	74.00	-17.24	31.25	25.51	PK
6	5460	56.74	74.00	-17.26	30.95	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch46_5.23G	Humidity (%RH)	55.0

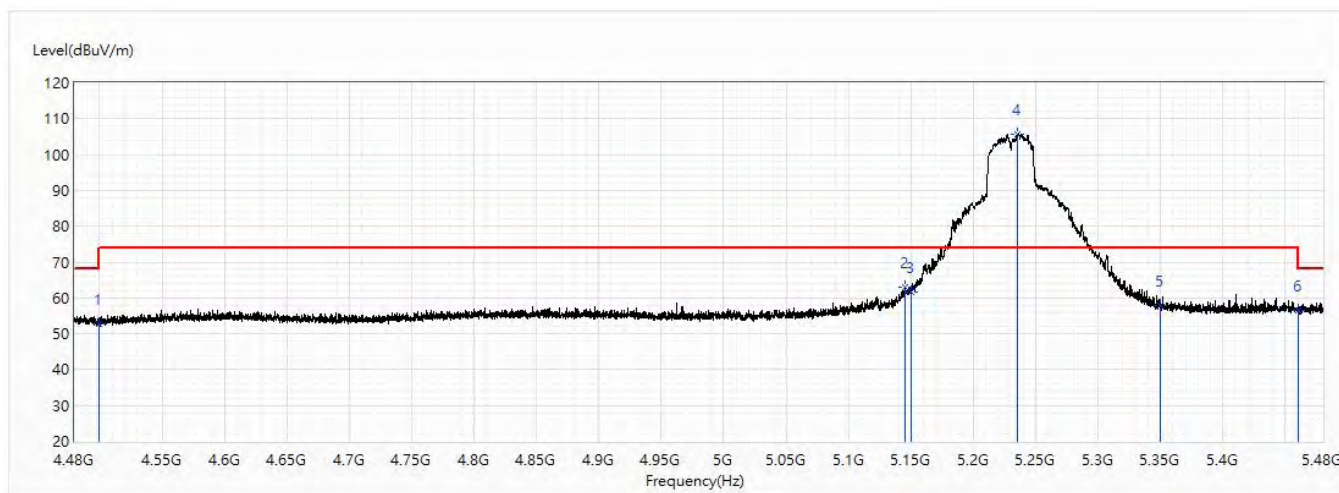


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	42.40	54.00	-11.60	18.38	24.02	AV
2	5149.9	51.60	54.00	-2.40	26.67	24.93	AV
3	5150	51.62	54.00	-2.38	26.69	24.93	AV
! 4	5227.875	98.90	54.00	44.90	73.74	25.16	AV
5	5350	46.65	54.00	-7.35	21.14	25.51	AV
6	5460	45.73	54.00	-8.27	19.94	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch46_5.23G	Humidity (%RH)	55.0

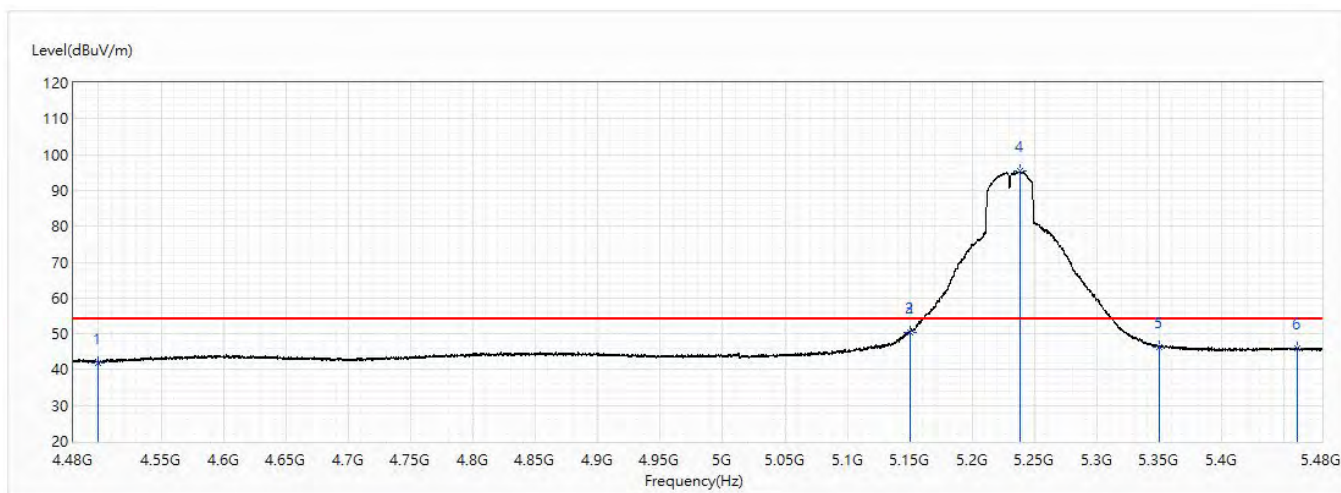


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	52.63	74.00	-21.37	28.61	24.02	PK
2	5145.125	63.10	74.00	-10.90	38.17	24.93	PK
3	5150	61.71	74.00	-12.29	36.78	24.93	PK
! 4	5235.75	105.75	74.00	31.75	80.58	25.17	PK
5	5350	57.82	74.00	-16.18	32.31	25.51	PK
6	5460	56.68	74.00	-17.32	30.89	25.79	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch46_5.23G	Humidity (%RH)	55.0

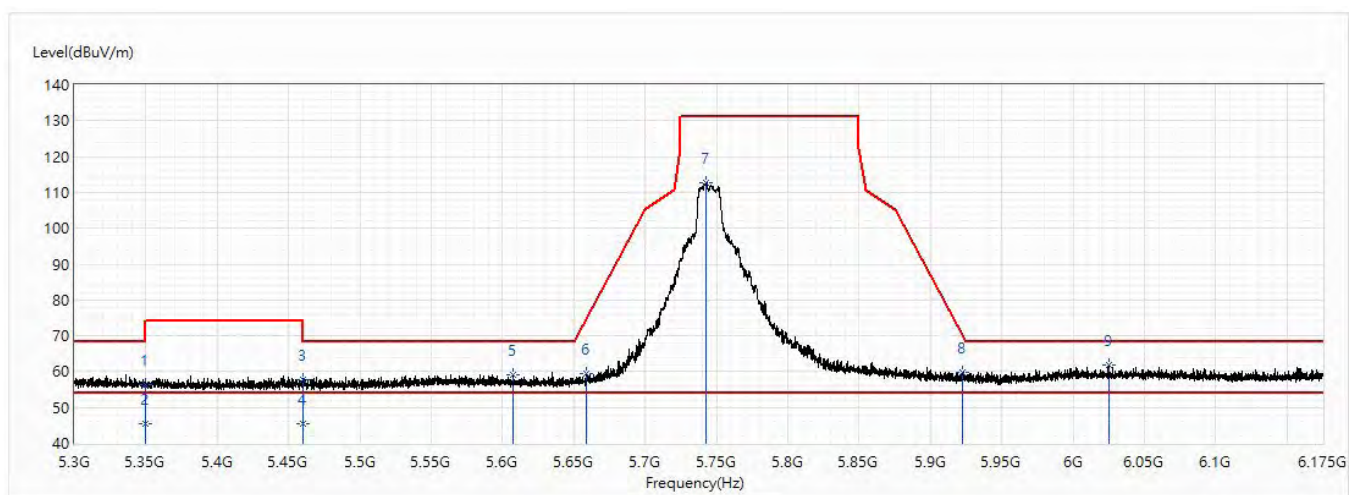


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	4500	41.98	54.00	-12.02	17.96	24.02	AV
2	5149.9	50.25	54.00	-3.75	25.32	24.93	AV
3	5150	50.27	54.00	-3.73	25.34	24.93	AV
! 4	5238	95.47	54.00	41.47	70.30	25.17	AV
5	5350	46.45	54.00	-7.55	20.94	25.51	AV
6	5460	45.88	54.00	-8.12	20.09	25.79	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch149_5.745G	Humidity (%RH)	55.0

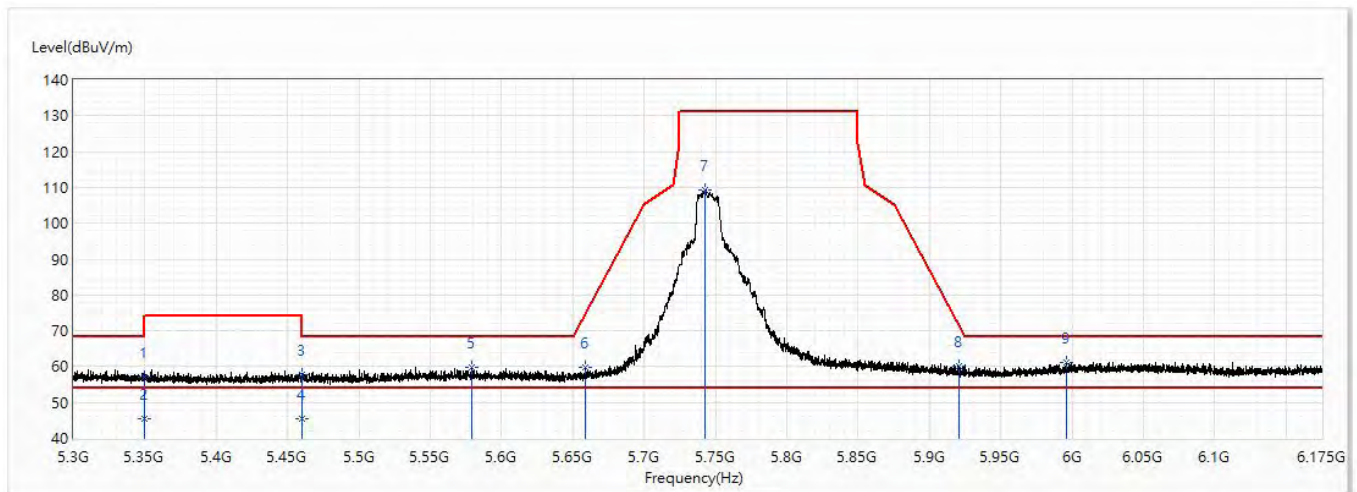


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.42	74.00	-17.58	30.91	25.51	PK
2	5350	45.48	54.00	-8.52	19.97	25.51	AV
3	5460	57.69	74.00	-16.31	31.90	25.79	PK
4	5460	45.41	54.00	-8.59	19.62	25.79	AV
5	5607.563	59.15	68.20	-9.05	32.79	26.36	PK
6	5659.078	59.53	74.94	-15.41	33.10	26.43	PK
7	5742.75	112.72	131.20	-18.48	86.05	26.67	PK
8	5922.016	59.96	70.40	-10.44	32.79	27.17	PK
* 9	6025.594	61.82	68.20	-6.38	34.30	27.52	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch149_5.745G	Humidity (%RH)	55.0

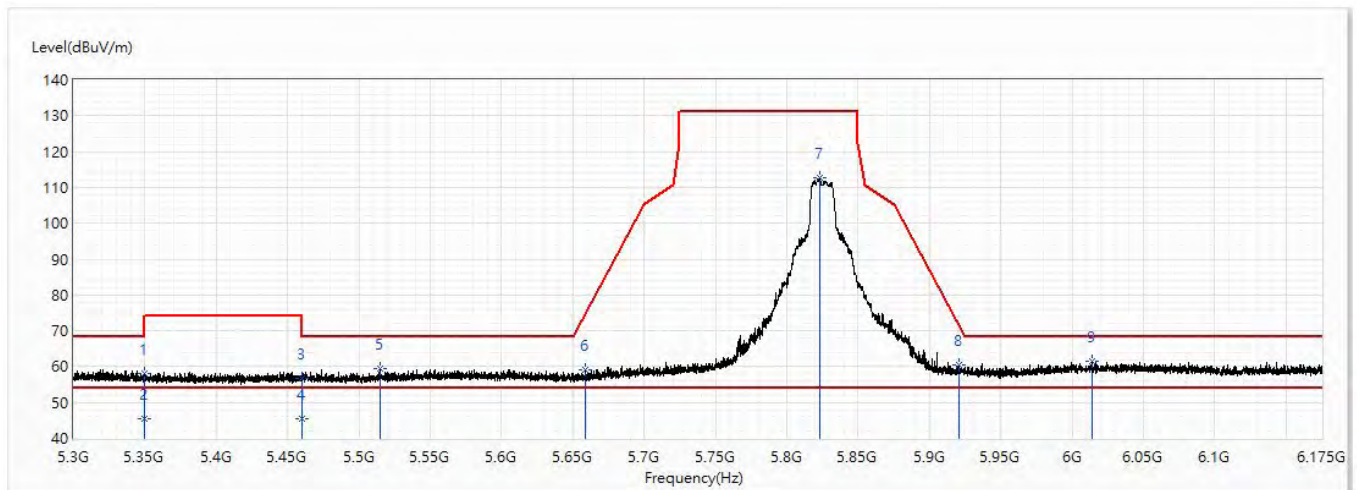


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.98	74.00	-17.02	31.47	25.51	PK
2	5350	45.58	54.00	-8.42	20.07	25.51	AV
3	5460	57.69	74.00	-16.31	31.90	25.79	PK
4	5460	45.48	54.00	-8.52	19.69	25.79	AV
5	5579.125	59.67	68.20	-8.53	33.42	26.25	PK
6	5658.422	59.81	74.46	-14.64	33.38	26.43	PK
7	5742.859	109.44	131.20	-21.76	82.77	26.67	PK
8	5920.594	60.18	71.45	-11.26	33.01	27.17	PK
* 9	5995.844	61.29	68.20	-6.91	33.92	27.37	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch165_5.825G	Humidity (%RH)	55.0

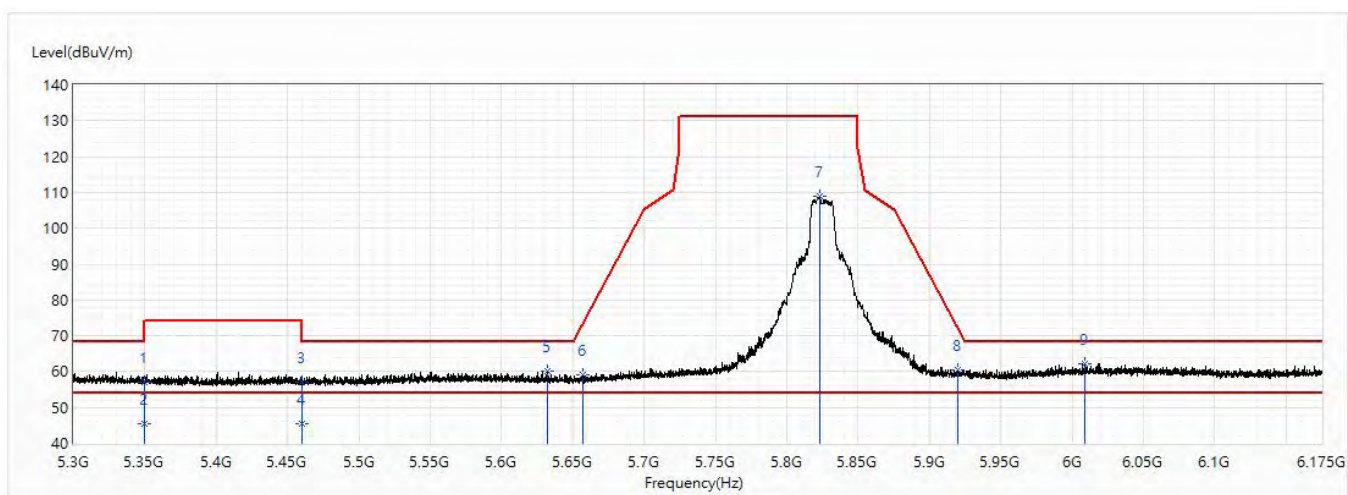


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	57.96	74.00	-16.04	32.45	25.51	PK
2	5350	45.47	54.00	-8.53	19.96	25.51	AV
3	5460	56.87	74.00	-17.13	31.08	25.79	PK
4	5460	45.43	54.00	-8.57	19.64	25.79	AV
5	5515.141	59.34	68.20	-8.86	33.42	25.92	PK
6	5658.75	59.00	74.70	-15.70	32.57	26.43	PK
7	5822.922	112.67	131.20	-18.53	85.70	26.97	PK
8	5920.594	60.59	71.45	-10.85	33.42	27.17	PK
* 9	6013.891	61.39	68.20	-6.81	33.94	27.45	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11a_Ch165_5.825G	Humidity (%RH)	55.0

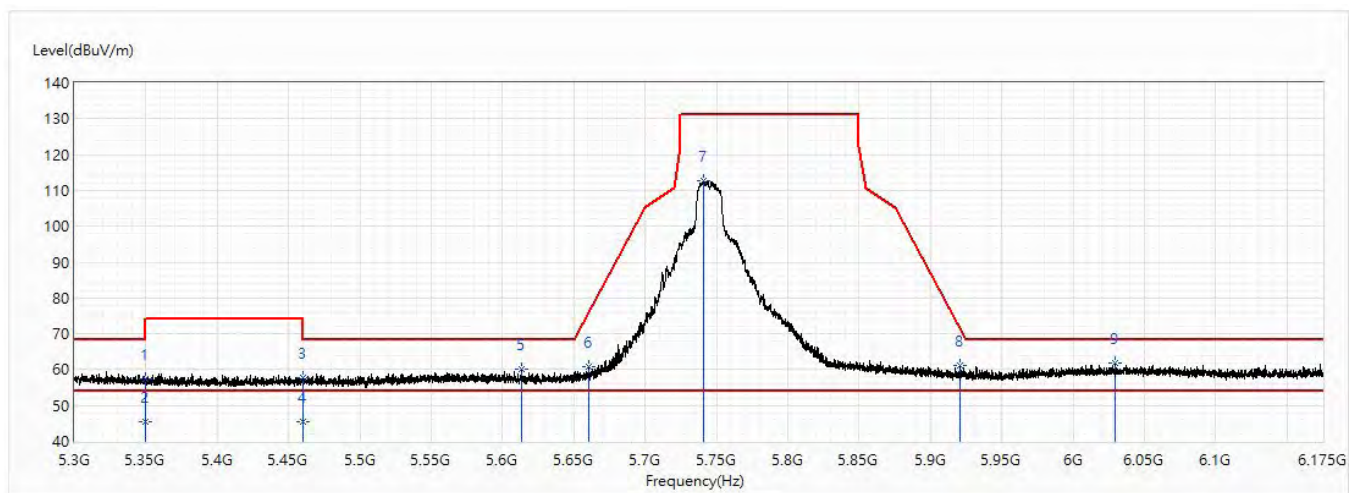


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.91	74.00	-17.09	31.40	25.51	PK
2	5350	45.52	54.00	-8.48	20.01	25.51	AV
3	5460	57.11	74.00	-16.89	31.32	25.79	PK
4	5460	45.47	54.00	-8.53	19.68	25.79	AV
5	5631.844	60.21	68.20	-7.99	33.81	26.40	PK
6	5657	59.02	73.40	-14.38	32.60	26.42	PK
7	5822.922	108.85	131.20	-22.35	81.88	26.97	PK
8	5919.609	60.46	72.17	-11.71	33.29	27.17	PK
* 9	6008.859	62.18	68.20	-6.02	34.76	27.42	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch149_5.745G	Humidity (%RH)	55.0

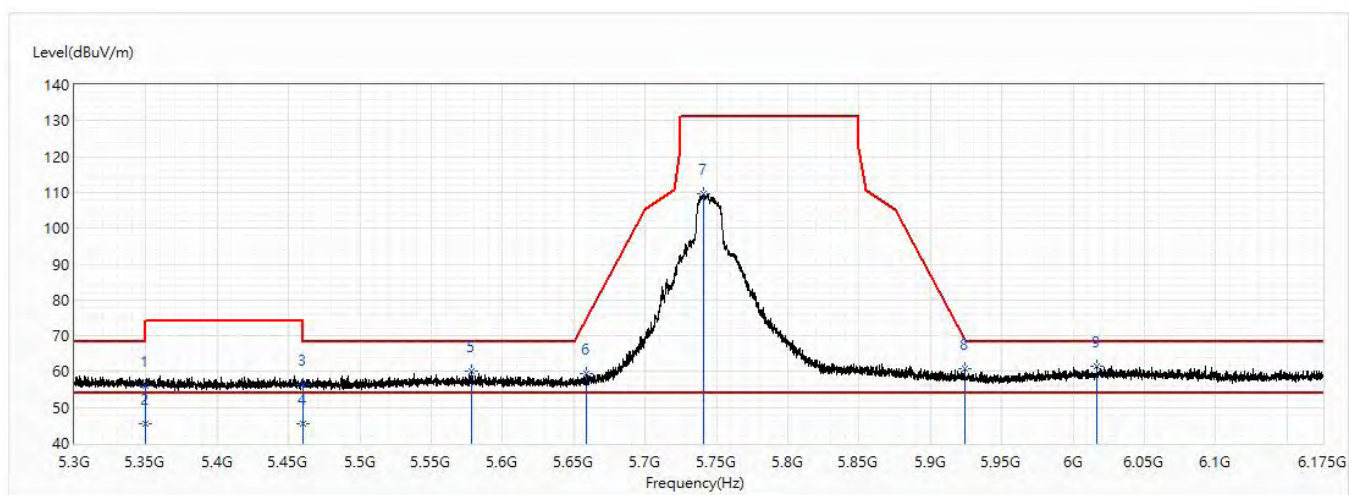


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	57.34	74.00	-16.66	31.83	25.51	PK
2	5350	45.43	54.00	-8.57	19.92	25.51	AV
3	5460	57.66	74.00	-16.34	31.87	25.79	PK
4	5460	45.39	54.00	-8.61	19.60	25.79	AV
5	5613.578	60.10	68.20	-8.10	33.73	26.37	PK
6	5660.281	60.97	75.83	-14.86	34.54	26.43	PK
7	5740.672	112.63	131.20	-18.57	85.98	26.65	PK
8	5920.922	61.31	71.21	-9.89	34.14	27.17	PK
* 9	6029.75	61.93	68.20	-6.27	34.40	27.53	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch149_5.745G	Humidity (%RH)	55.0

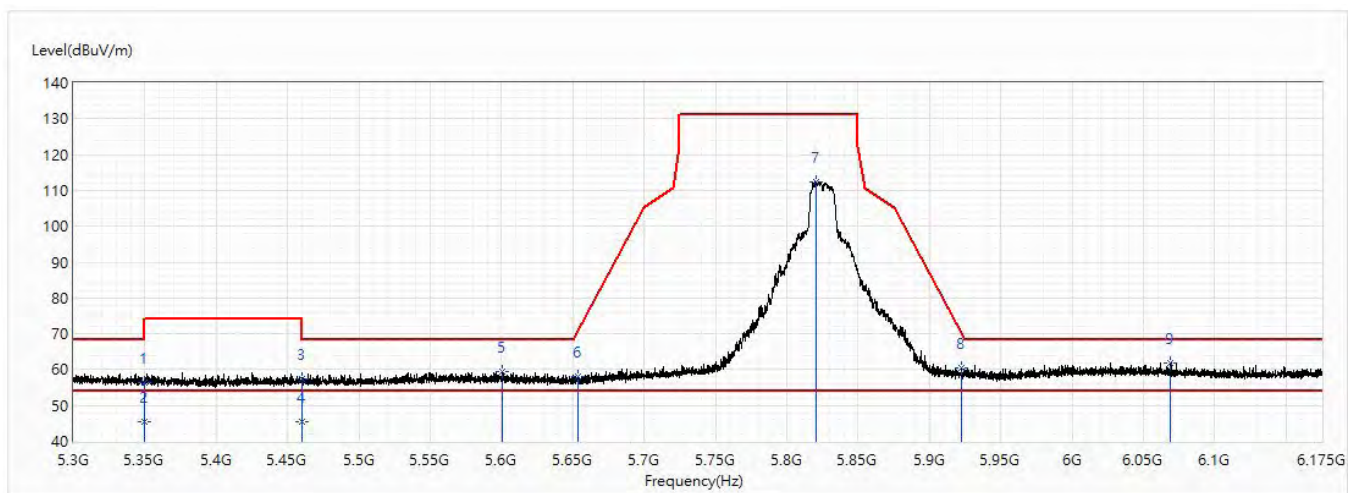


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.03	74.00	-17.97	30.52	25.51	PK
2	5350	45.46	54.00	-8.54	19.95	25.51	AV
3	5460	56.30	74.00	-17.70	30.51	25.79	PK
4	5460	45.47	54.00	-8.53	19.68	25.79	AV
5	5578.578	60.06	68.20	-8.14	33.81	26.25	PK
6	5658.531	59.61	74.54	-14.93	33.18	26.43	PK
7	5740.672	109.47	131.20	-21.73	82.82	26.65	PK
8	5923.766	60.84	69.11	-8.27	33.67	27.17	PK
* 9	6016.406	61.59	68.20	-6.61	34.13	27.46	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch165_5.825G	Humidity (%RH)	55.0

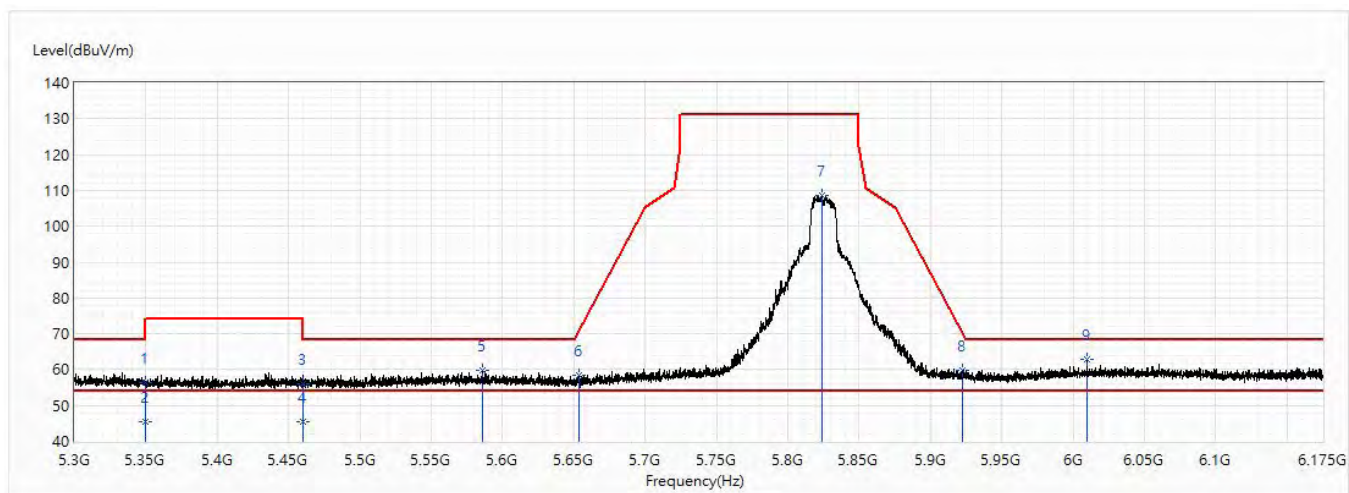


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.43	74.00	-17.57	30.92	25.51	PK
2	5350	45.57	54.00	-8.43	20.06	25.51	AV
3	5460	57.45	74.00	-16.55	31.66	25.79	PK
4	5460	45.52	54.00	-8.48	19.73	25.79	AV
5	5600.453	59.49	68.20	-8.71	33.13	26.36	PK
6	5653.938	58.17	71.13	-12.95	31.75	26.42	PK
7	5820.734	112.46	131.20	-18.74	85.49	26.97	PK
8	5922.125	60.42	70.32	-9.90	33.25	27.17	PK
* 9	6069.234	62.00	68.20	-6.20	34.27	27.73	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_20M_Ch165_5.825G	Humidity (%RH)	55.0

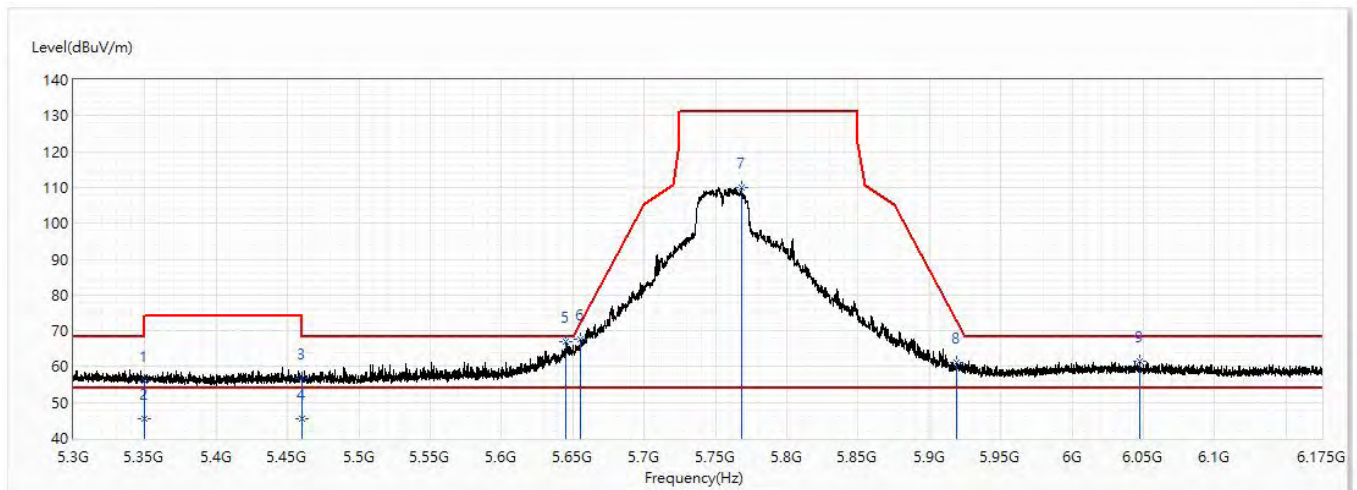


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.25	74.00	-17.75	30.74	25.51	PK
2	5350	45.52	54.00	-8.48	20.01	25.51	AV
3	5460	55.92	74.00	-18.08	30.13	25.79	PK
4	5460	45.51	54.00	-8.49	19.72	25.79	AV
5	5586.016	59.66	68.20	-8.54	33.38	26.28	PK
6	5653.719	58.50	70.96	-12.46	32.08	26.42	PK
7	5823.906	108.53	131.20	-22.67	81.56	26.97	PK
8	5922.563	59.92	70.00	-10.08	32.75	27.17	PK
* 9	6009.516	62.96	68.20	-5.24	35.53	27.43	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch151_5.755G	Humidity (%RH)	55.0

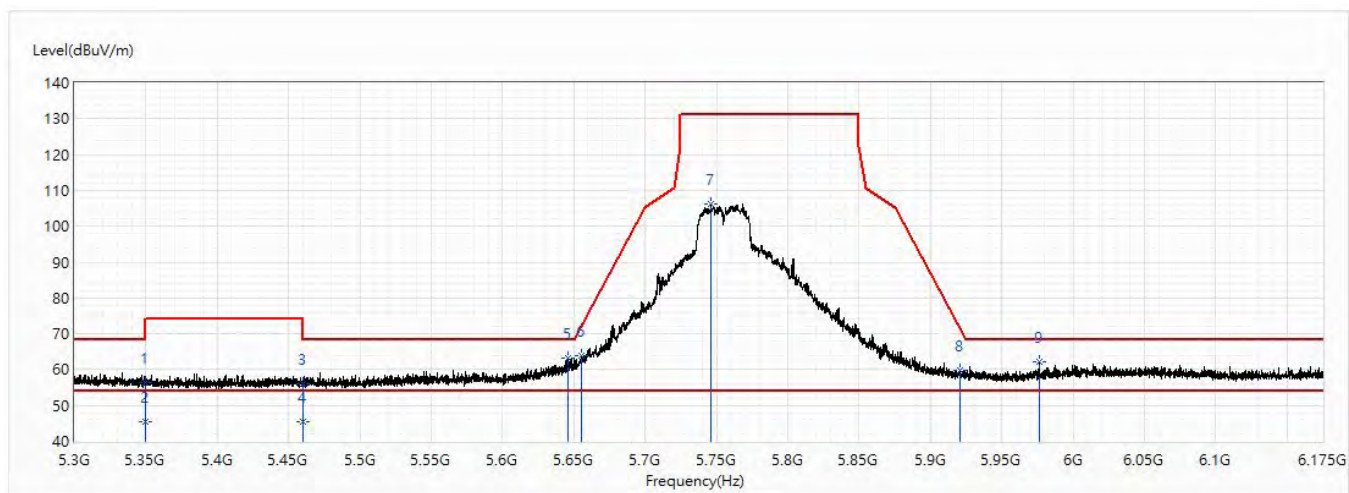


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	55.95	74.00	-18.05	30.44	25.51	PK
2	5350	45.46	54.00	-8.54	19.95	25.51	AV
3	5460	56.68	74.00	-17.32	30.89	25.79	PK
4	5460	45.53	54.00	-8.47	19.74	25.79	AV
* 5	5645.406	66.96	68.20	-1.24	40.55	26.41	PK
6	5655.688	67.73	72.43	-4.70	41.31	26.42	PK
7	5768.125	109.95	131.20	-21.25	83.17	26.78	PK
8	5919.063	61.14	72.58	-11.44	33.98	27.16	PK
9	6047.359	61.53	68.20	-6.67	33.91	27.62	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch151_5.755G	Humidity (%RH)	55.0

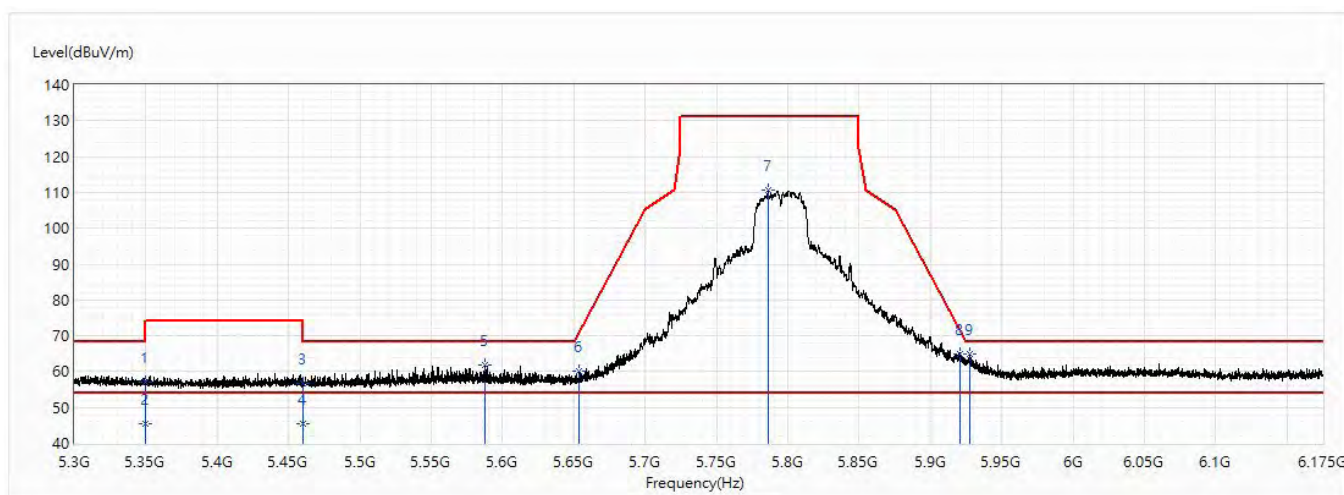


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	56.55	74.00	-17.45	31.04	25.51	PK
2	5350	45.50	54.00	-8.50	19.99	25.51	AV
3	5460	55.95	74.00	-18.05	30.16	25.79	PK
4	5460	45.57	54.00	-8.43	19.78	25.79	AV
* 5	5645.734	63.24	68.20	-4.96	36.83	26.41	PK
6	5655.359	63.95	72.18	-8.23	37.53	26.42	PK
7	5745.922	106.21	131.20	-24.99	79.53	26.68	PK
8	5921.031	59.72	71.13	-11.40	32.55	27.17	PK
9	5976.047	62.29	68.20	-5.91	34.97	27.32	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Horizontal	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch159_5.795G	Humidity (%RH)	55.0

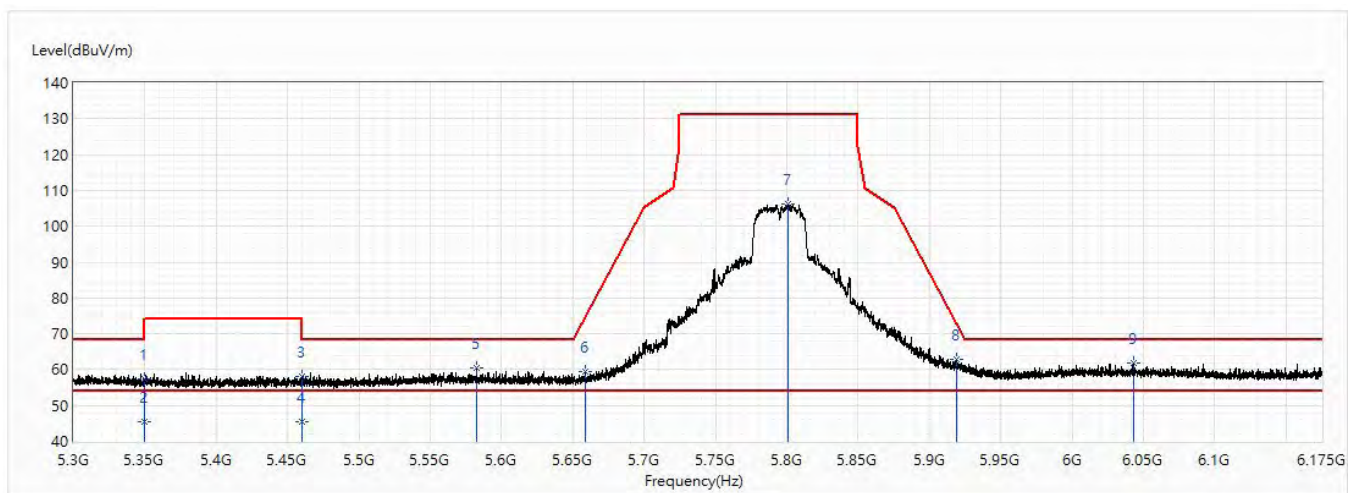


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	57.14	74.00	-16.86	31.63	25.51	PK
2	5350	45.39	54.00	-8.61	19.88	25.51	AV
3	5460	56.76	74.00	-17.24	30.97	25.79	PK
4	5460	45.56	54.00	-8.44	19.77	25.79	AV
5	5587.328	62.01	68.20	-6.19	35.72	26.29	PK
6	5653.828	60.08	71.04	-10.96	33.66	26.42	PK
7	5786.281	110.49	131.20	-20.71	83.62	26.87	PK
8	5920.375	65.06	71.61	-6.54	37.89	27.17	PK
* 9	5927.156	64.95	68.20	-3.25	37.76	27.19	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	VG54-NA	Site	CB2-H
Test Voltage	DC 12V	Test Date	2020/7/11
Test Mode	Mode 1: Transmit Mode	Engineer	Lion
Polarity	Vertical	Temperature (°C)	23.0
Test Condition	SISO_802.11n_40M_Ch159_5.795G	Humidity (%RH)	55.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	5350	57.44	74.00	-16.56	31.93	25.51	PK
2	5350	45.48	54.00	-8.52	19.97	25.51	AV
3	5460	58.04	74.00	-15.96	32.25	25.79	PK
4	5460	45.48	54.00	-8.52	19.69	25.79	AV
5	5582.625	60.37	68.20	-7.83	34.10	26.27	PK
6	5658.75	59.33	74.70	-15.37	32.90	26.43	PK
7	5800.719	106.15	131.20	-25.05	79.22	26.93	PK
8	5919.063	62.74	72.58	-9.84	35.58	27.16	PK
* 9	6043.203	62.01	68.20	-6.19	34.41	27.60	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.