

FCC ID: Z3K-VRM
Report No.: T201222W02-RP4

IC: 9930A-VRM

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Rev.: 01

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART E

INDUSTRY CANADA RSS-247

Test Standard	FCC Part 15.407+ RSS-247 issue 2 and RSS-GEN issue 5
Product name	MODULE VIEDO ROUTER
Brand Name	STELLANTIS
Model No.	68494731, 68379840, 68449335
Test Result	Pass
Statements of Conformity	Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by:



Kevin Tsai
Deputy Manager

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	March 26, 2021	Initial Issue	ALL	Doris Chu
01	April 13, 2021	See the following Note Rev. (01)	P.4, P.5, P.10, P.45-46	Doris Chu

Rev. (01)

- 1.Added remark No.4 in page 4.
- 2.Removed remark No.2 in page 5 & 10.
- 3.Revised test data in page 45 & 46.

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	JET OPTOELECTRONICS CO., LTD. 3F., No.300, Yangguang St., Neihu Dist., Taipei City 11491, Taiwan			
Manufacturer	JET OPTOELECTRONICS CO., LTD. 3F., No.300, Yangguang St., Neihu Dist., Taipei City 11491, Taiwan			
Equipment	MODULE VIEDO ROUTER			
Model No.	68494731, 68379840, 68449335			
Model Discrepancy	Model Number	Stand Position	Blue-Ray	Earphone
	68494731	Type 1	O	O
	68379840	Type 2	X	X
	68449335	Type 3	X	X
Trade Name	STELLANTIS			
Received Date	December 22, 2020			
Date of Test	January 5 ~ 20, 2021			
Power Supply	Power from Power Supply: DC 12V			
HW Version	20200629 D01			
SW Version	90650			
EUT Serial #	J200730F000041			

Remark:

- For more details, please refer to the User's manual of the EUT.
- Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
- Disclaimer: The variant model numbers / trademarks are assessed as identical in hardware and software to each other, hence all variants are fully covered by the test results in this test report without further verification test.
- The EUT (model: 68494731) had been tested under operating condition.

1.2 EUT CHANNEL INFORMATION

Frequency Range	<table border="1"> <tr> <td colspan="2">UNII-1</td></tr> <tr> <td>IEEE 802.11a</td><td>5180 ~ 5240 MHz</td></tr> <tr> <td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240 MHz</td></tr> <tr> <td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230 MHz</td></tr> <tr> <td>IEEE 802.11ac VHT 80 MHz</td><td>5210 MHz</td></tr> <tr> <td colspan="2">UNII-3</td></tr> <tr> <td>IEEE 802.11a</td><td>5745 ~ 5825 MHz</td></tr> <tr> <td>IEEE 802.11n HT 20 MHz</td><td>5745 ~ 5825 MHz</td></tr> <tr> <td>IEEE 802.11n HT 40 MHz</td><td>5755 ~ 5795 MHz</td></tr> <tr> <td>IEEE 802.11ac VHT 80 MHz</td><td>5775 MHz</td></tr> </table>	UNII-1		IEEE 802.11a	5180 ~ 5240 MHz	IEEE 802.11n HT 20 MHz	5180 ~ 5240 MHz	IEEE 802.11n HT 40 MHz	5190 ~ 5230 MHz	IEEE 802.11ac VHT 80 MHz	5210 MHz	UNII-3		IEEE 802.11a	5745 ~ 5825 MHz	IEEE 802.11n HT 20 MHz	5745 ~ 5825 MHz	IEEE 802.11n HT 40 MHz	5755 ~ 5795 MHz	IEEE 802.11ac VHT 80 MHz	5775 MHz
UNII-1																					
IEEE 802.11a	5180 ~ 5240 MHz																				
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IEEE 802.11ac VHT 80 MHz	5210 MHz																				
UNII-3																					
IEEE 802.11a	5745 ~ 5825 MHz																				
IEEE 802.11n HT 20 MHz	5745 ~ 5825 MHz																				
IEEE 802.11n HT 40 MHz	5755 ~ 5795 MHz																				
IEEE 802.11ac VHT 80 MHz	5775 MHz																				
Modulation Type	1. IEEE 802.11a mode: OFDM 2. IEEE 802.11n HT 20 MHz mode: OFDM 3. IEEE 802.11n HT 40 MHz mode: OFDM 4. IEEE 802.11ac VHT 80 MHz mode: OFDM																				

Remark:

1. Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels.

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Number of frequencies to be tested		
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	☒ Ceramic ☐ PCB ☐ Dipole ☐ Coils
Antenna Gain	Chain 0: Gain :2.6 dBi Chain 1: Gain :2.6 dBi
Antenna Connector	N/A

Remark:

1.The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203.

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

Remark:

1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

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1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at
No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan. (R.O.C.)
CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	-	Not applicable, because EUT doesn't connect to AC Main Source direct.
Radiation	Ray Li	-
RF Conducted	Rick Lee	-

Remark: The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

1.6 INSTRUMENT CALIBRATION

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal Due
Bilog Antenna	Sunol Sciences	JB3	A030105	07/24/2020	07/23/2021
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/25/2020	02/24/2021
Coaxial Cable	EMCI	EMC105	190914+327109/4	09/19/2020	09/18/2021
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/15/2020	01/14/2021
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	09/30/2020	09/29/2021
High Pass Filters	MICRO TRONICS	HPM13195	003	02/25/2020	02/24/2021
Horn Antenna	ETS LINDGREN	3116	00026370	12/11/2020	12/10/2021
Loop Ant	COM-POWER	AL-130	121051	03/27/2020	03/26/2021
Pre-Amplifier	EMEC	EM330	060609	02/25/2020	02/24/2021
Pre-Amplifier	HP	8449B	3008A00965	02/25/2020	02/24/2021
Pre-Amplifier	MITEQ	AMF-6F-18004000-37-8P	985646	09/02/2020	09/01/2021
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	07/24/2020	07/23/2021
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				



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RF Conducted Test Site					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Coaxial Cable	Woken	WC12	CC003	06/29/2020	06/28/2021
Signal Analyzer	R&S	FSV 40	101073	09/17/2020	09/16/2021
EXA Signal Analyzer	KEYSIGHT	N9010B	MY55460167	09/07/2020	09/06/2021
Power Meter	Anritsu	ML2487A	6K00003260	05/21/2020	05/20/2021
Power Seneor	Anritsu	MA2490A	032910	05/21/2020	05/20/2021
Software	N/A				

Remark:

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment					
No.	Equipment	Brand	Model	Series No.	FCC ID
	N/A				

Support Equipment					
No.	Equipment	Brand	Model	Series No.	FCC ID
1	DC Power Source	Agilent	E3640A	N/A	N/A
2	NB(J)	TOSHIBA	PT345T-00L002	N/A	PD97260H

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 789033 D02, RSS-247 Issue 2 and RSS-GEN Issue 5.

2. TEST SUMMARY

FCC Standard Sec.	IC Standard Sec.	Chapter	Test Item	Result
15.203	-	1.3	Antenna Requirement	Pass
15.207	RSS-Gen(8.8)	4.1	AC Conducted Emission	N/A
15.403(i)	-	4.2	26dB Bandwidth	Pass
15.407(e)	RSS-247(6.2.4)	4.2	6dB Bandwidth	Pass
15.403(i)	RSS-Gen (6.7)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	RSS-247(6.2.1.1) RSS-247(6.2.2.1) RSS-247(6.2.3.1) RSS-247(6.2.4.1)	4.3	Output Power Measurement	Pass
15.407(a)	RSS-247(6.2.1.1) RSS-247(6.2.2.1) RSS-247(6.2.3.1) RSS-247(6.2.4.1)	4.4	Power Spectral Density	Pass
15.407(b)	RSS-247(6.2.1.2) RSS-247(6.2.2.2) RSS-247(6.2.3.2) RSS-247(6.2.4.2)	4.5	Radiation Band Edge	Pass
15.407(b)	RSS-247(6.2.1.2) RSS-247(6.2.2.2) RSS-247(6.2.3.2) RSS-247(6.2.4.2)	4.5	Radiation Spurious Emission	Pass
15.407(g)	RSS-Gen(6.11)	4.6	Frequency Stability	Pass
15.407(h)	-	4.7	Dynamic Frequency Selection	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE EUT CHANNEL NUMBER OF OPERATING CONDITION

Operation mode	1. IEEE 802.11a mode: 6Mbps 2. IEEE 802.11n HT 20 MHz mode: MCS8 3. IEEE 802.11n HT 40 MHz mode: MCS8 4 IEEE 802.11ac VHT 80 MHz mode: MCS8																														
Operating Frequency	<table><tr><th></th><th>Mode</th><th>Frequency Range (MHz)</th><th>Number of Channels</th></tr><tr><td rowspan="4">U-NII-1</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>4 Channels</td></tr><tr><td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240</td><td>4 Channels</td></tr><tr><td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230</td><td>2 Channels</td></tr><tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5210</td><td>1 Channels</td></tr><tr><td rowspan="4">U-NII-3</td><td>IEEE 802.11a</td><td>5745 ~ 5825</td><td>5 Channels</td></tr><tr><td>IEEE 802.11n HT 20 MHz</td><td>5745 ~ 5825</td><td>5 Channels</td></tr><tr><td>IEEE 802.11n HT 40 MHz</td><td>5755 ~ 5795</td><td>2 Channels</td></tr><tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5775</td><td>1 Channels</td></tr></table>		Mode	Frequency Range (MHz)	Number of Channels	U-NII-1	IEEE 802.11a	5180 ~ 5240	4 Channels	IEEE 802.11n HT 20 MHz	5180 ~ 5240	4 Channels	IEEE 802.11n HT 40 MHz	5190 ~ 5230	2 Channels	IEEE 802.11ac VHT 80 MHz	5210	1 Channels	U-NII-3	IEEE 802.11a	5745 ~ 5825	5 Channels	IEEE 802.11n HT 20 MHz	5745 ~ 5825	5 Channels	IEEE 802.11n HT 40 MHz	5755 ~ 5795	2 Channels	IEEE 802.11ac VHT 80 MHz	5775	1 Channels
	Mode	Frequency Range (MHz)	Number of Channels																												
U-NII-1	IEEE 802.11a	5180 ~ 5240	4 Channels																												
	IEEE 802.11n HT 20 MHz	5180 ~ 5240	4 Channels																												
	IEEE 802.11n HT 40 MHz	5190 ~ 5230	2 Channels																												
	IEEE 802.11ac VHT 80 MHz	5210	1 Channels																												
U-NII-3	IEEE 802.11a	5745 ~ 5825	5 Channels																												
	IEEE 802.11n HT 20 MHz	5745 ~ 5825	5 Channels																												
	IEEE 802.11n HT 40 MHz	5755 ~ 5795	2 Channels																												
	IEEE 802.11ac VHT 80 MHz	5775	1 Channels																												

Remark:

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.

3.2 THE WORST MODE OF MEASUREMENT

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by Power supply
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☒ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☐ Placed in fixed position at Z-Plane (H-Plane)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Power supply
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report

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3.3 EUT DUTY CYCLE

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 5, 2021

Temperature: 19.4°C

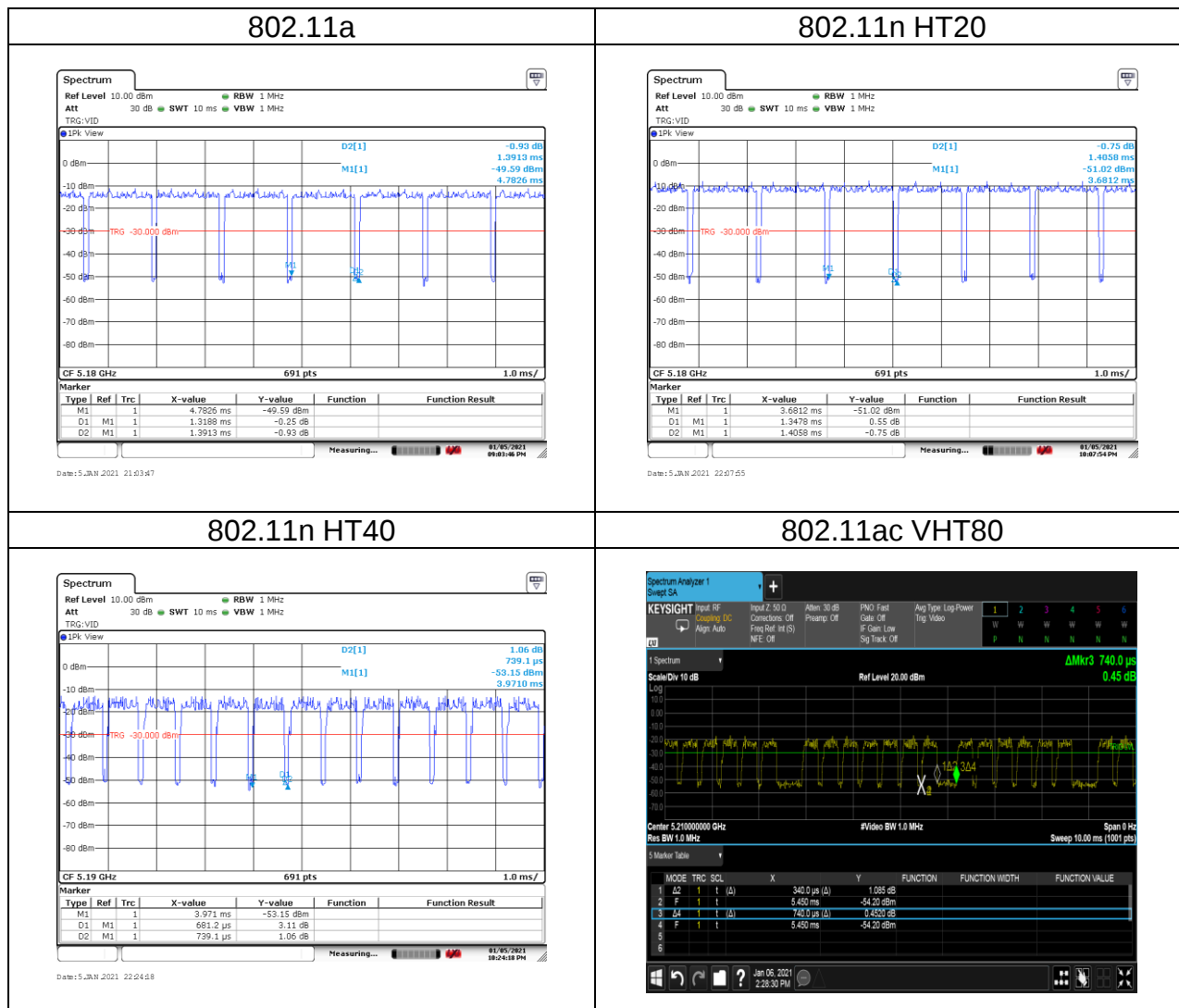
Humidity: 44% RH

Tested by: Rick Lee

Test date: January 6, 2021

Duty Cycle				
Configuration	Duty Cycle (%)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11a	94.79	0.23	0.76	1.00
802.11n HT20	95.87	0.18	0.74	1.00
802.11n HT40	92.17	0.35	1.47	2.00
802.11ac VHT80	45.95	3.38	2.94	3.00

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4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

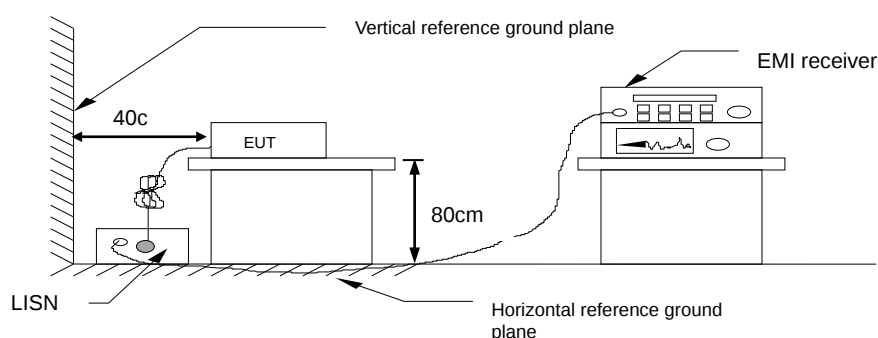
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-Peak and Average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup



4.1.4 Test Result

Not applicable, because EUT doesn't connect to AC Main Source direct.

4.2 26dB BANDWIDTH, 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

4.2.1 Test Limit

26 dB Bandwidth : For reporting purposes only.

6 dB Bandwidth : Least 500kHz.

Occupied Bandwidth(99%) : For reporting purposes only.

4.2.2 Test Procedure

26dB

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW: approximately 1% of the emission bandwidth.
3. Set the VBW>RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26dB down from the peak of the emission. Compare this with the RBW setting of the analyser. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

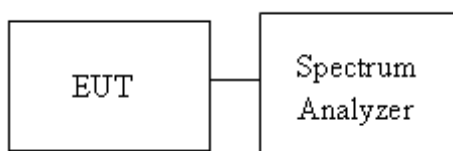
6dB

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

99%

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set center frequency to the nominal EUT channel center frequency.
3. Set span = 1.5 times to 5.0 times the OBW.
4. Set RBW = 1 % to 5% of the OBW.
5. Set VBW $\geq 3 \times$ RBW

4.2.3 Test Setup



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4.2.4 Test Result

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 7, 2021

UNII-1 5150-5250 MHz					
Test mode: IEEE 802.11a mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 26dB BW (MHz)	Chain 1 26dB BW (MHz)
Low	5180	16.5702	16.3531	20.2899	19.8551
Mid	5220	16.5702	16.3531	20.3623	19.7826
High	5240	16.5702	16.4255	20.2899	19.7826
Test mode: IEEE 802.11n HT20 mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 26dB BW (MHz)	Chain 1 26dB BW (MHz)
Low	5180	17.6556	17.6556	20.5072	20.1449
Mid	5220	17.5832	17.6556	20.4348	20.0725
High	5240	17.5832	17.5832	20.5072	20.0725
Test mode: IEEE 802.11n HT40 mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 26dB BW (MHz)	Chain 1 26dB BW (MHz)
Low	5190	36.5847	36.2373	41.7390	41.6230
High	5230	36.4689	36.2373	41.9710	41.6230
Test mode: IEEE 802.11ac VHT80 mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 26dB BW (MHz)	Chain 1 26dB BW (MHz)
Mid	5210	76.8741	76.6425	82.0870	81.1590

UNII-3					
Test mode: IEEE 802.11a mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)
Low	5745	16.5702	16.3531	15.1304	15.1304
Mid	5785	16.5702	16.4255	15.1304	15.3478
High	5825	16.5702	16.4255	15.0870	15.3478
Test mode: IEEE 802.11n HT20 mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)
Low	5745	17.6556	17.5832	15.1304	15.4348
Mid	5785	17.6556	17.6556	15.1304	15.6957
High	5825	17.6556	17.6556	15.1304	15.0870
Test mode: IEEE 802.11n HT40 mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)
Low	5755	36.5847	36.2373	35.2460	35.2460
High	5795	36.5847	36.2373	35.1300	35.2460
Test mode: IEEE 802.11ac VHT80 mode					
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)
Mid	5775	77.1056	76.1795	76.5220	76.5220

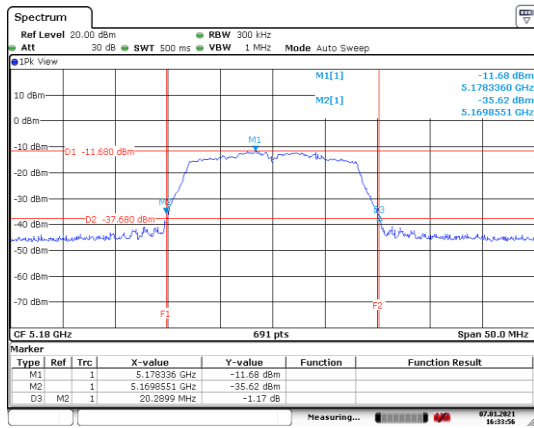
Report No.: T201222W02-RP4

Test Data

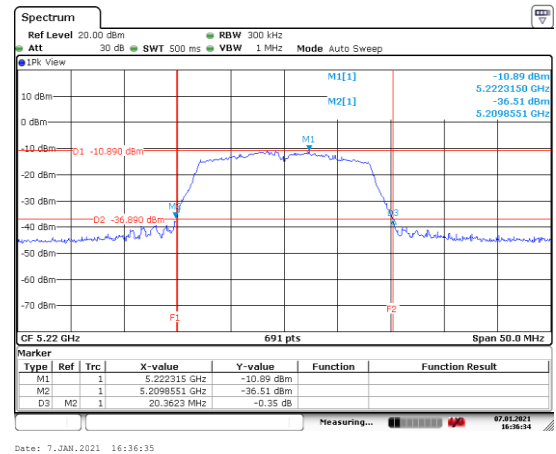
26dB BANDWIDTH

UNII-1 IEEE 802.11a mode- chain 0

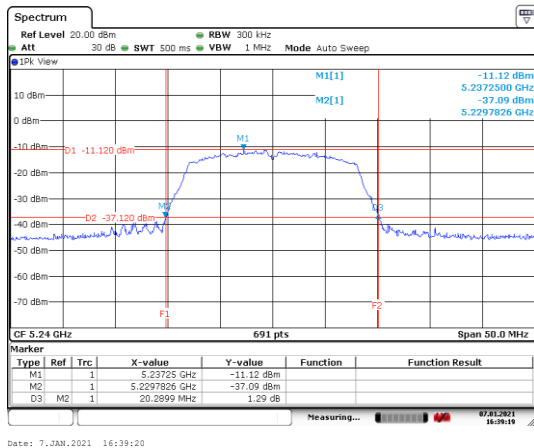
Low CH



Mid CH



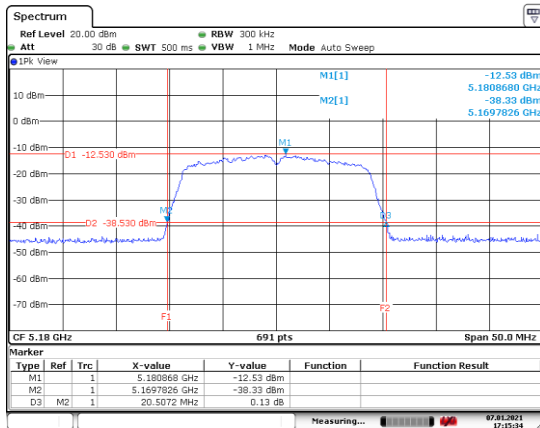
High CH



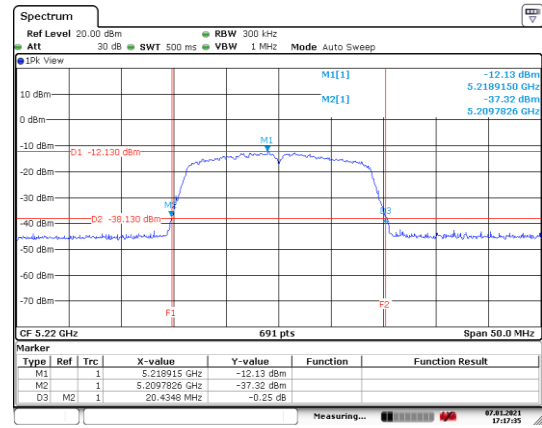
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11n HT20 mode- chain 0

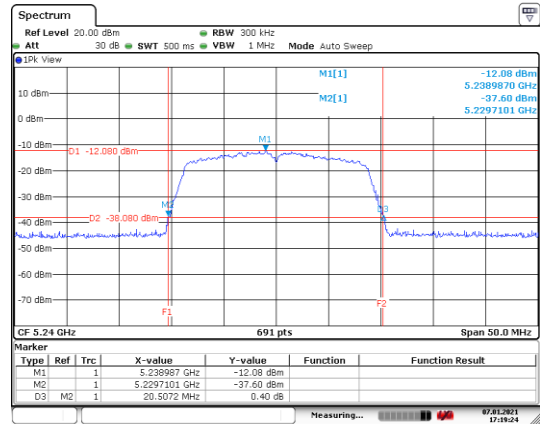
Low CH



Mid CH



High CH

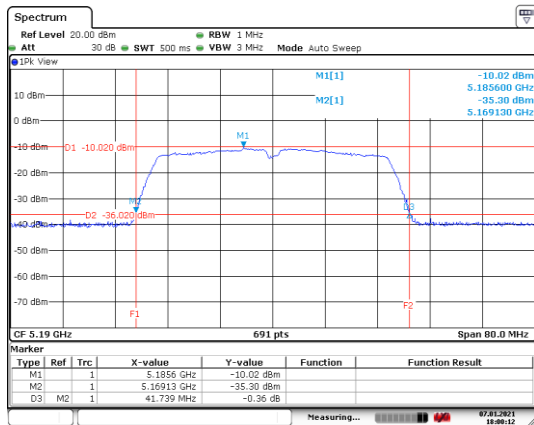




Report No.: T201222W02-RP4

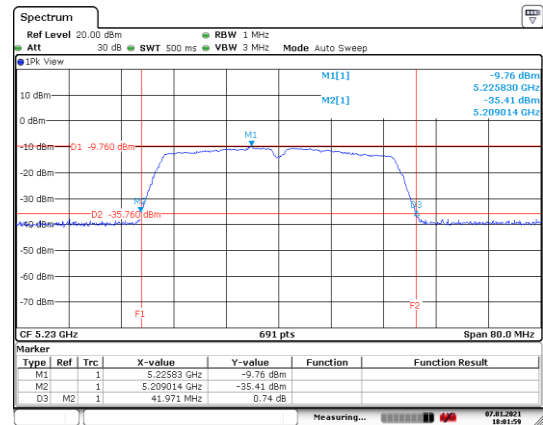
UNII-1 IEEE 802.11n HT40 mode- chain 0

Low CH



Date: 7.JAN.2021 18:00:13

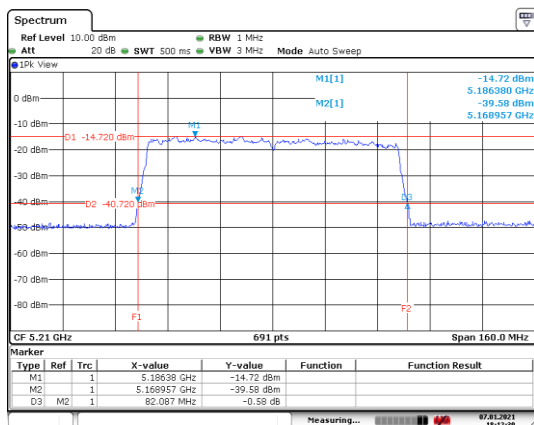
High CH



Date: 7.JAN.2021 18:02:00

UNII-1 IEEE 802.11ac VHT80 mode- chain 0

Mid CH

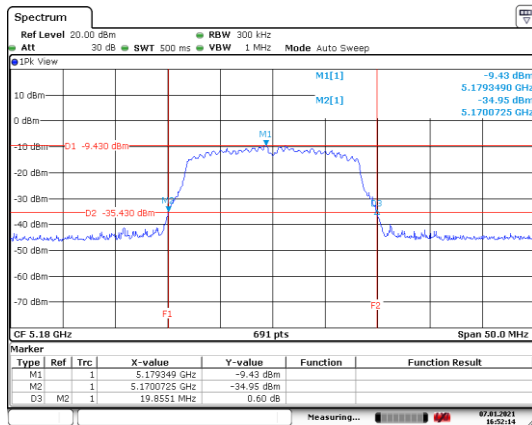


Date: 7.JAN.2021 18:12:31

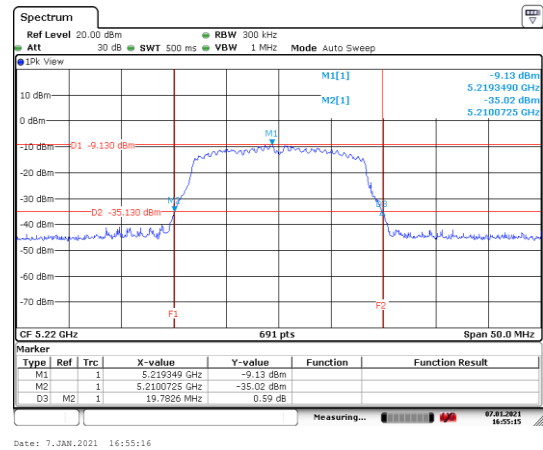
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11a mode- chain 1

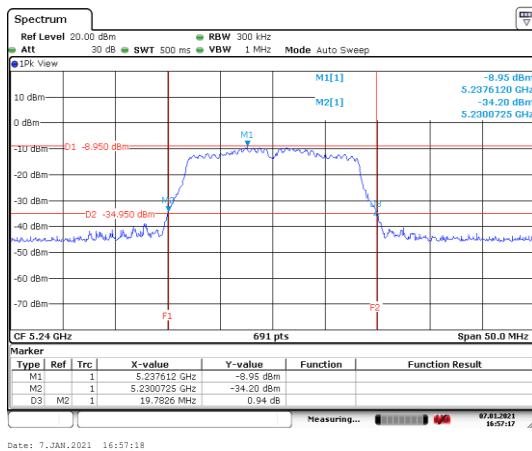
Low CH



Mid CH

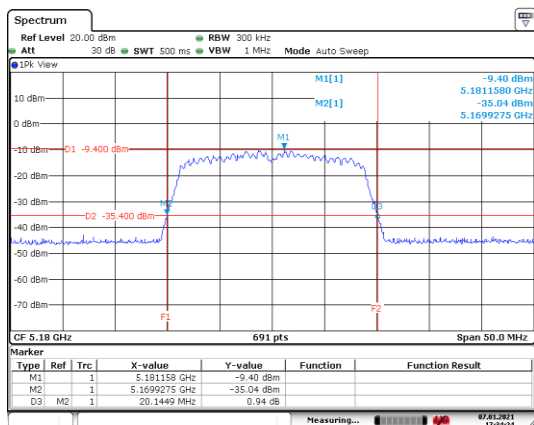


High CH

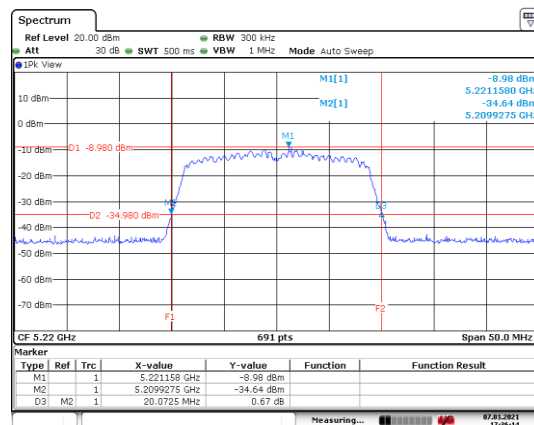


UNII-1 IEEE 802.11n HT20 mode- chain 1

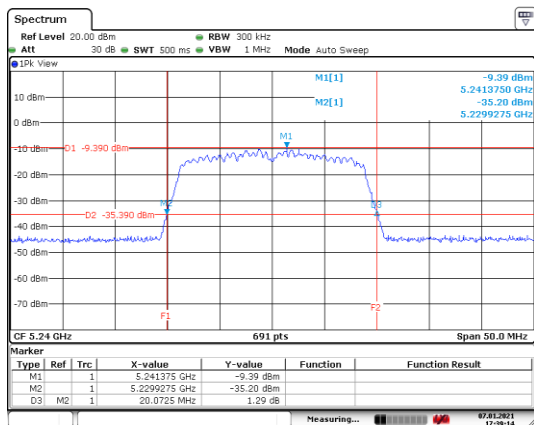
Low CH



Mid CH



High CH

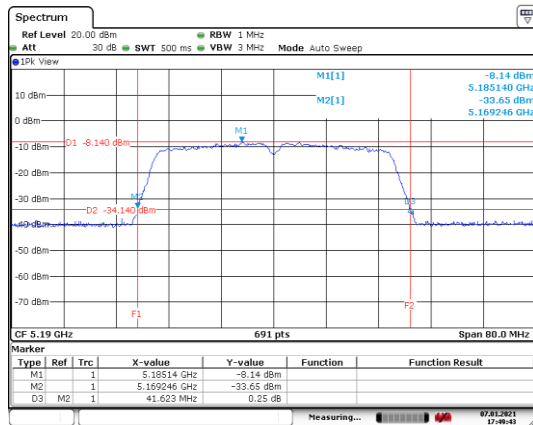




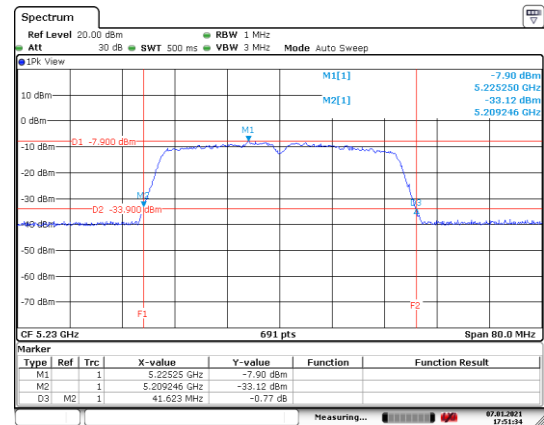
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11n HT40 mode- chain 1

Low CH

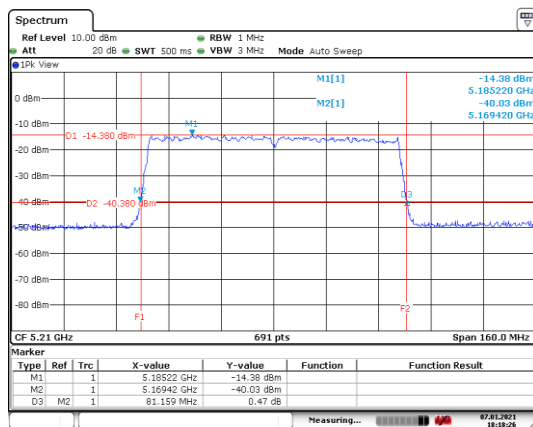


High CH



UNII-1 IEEE 802.11ac VHT80 mode- chain 1

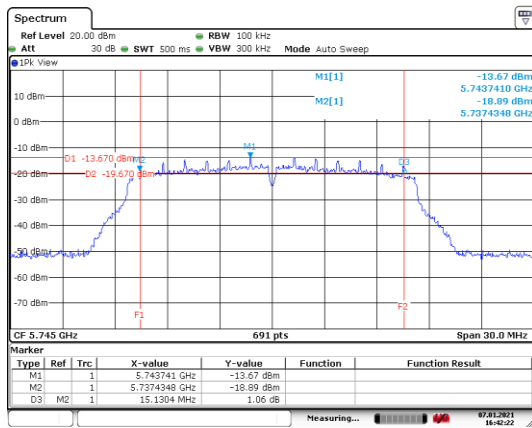
Mid CH



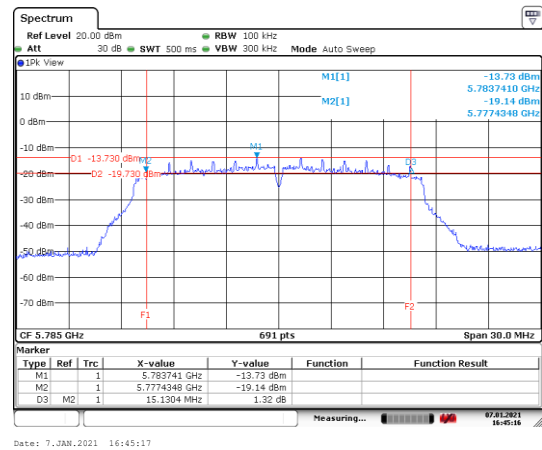
6dB BANDWIDTH

UNII-3 IEEE 802.11n a mode- chain 0

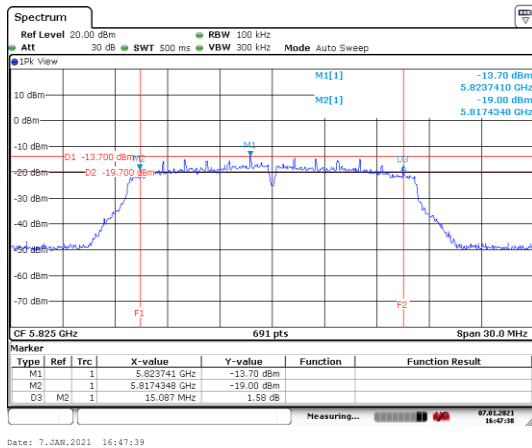
Low CH



Mid CH



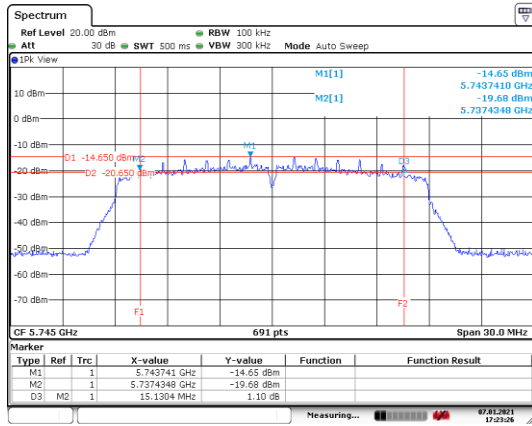
High CH



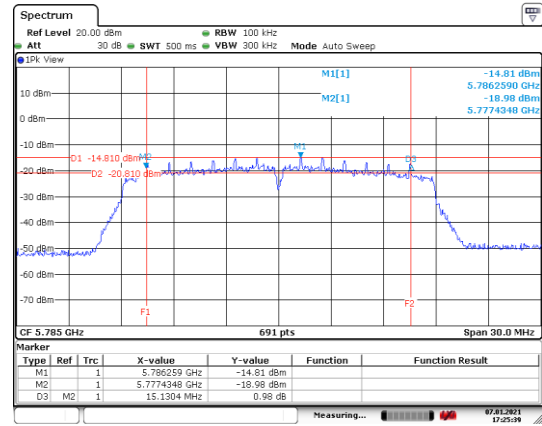
Report No.: T201222W02-RP4

UNII-3 IEEE 802.11n HT20 mode- chain 0

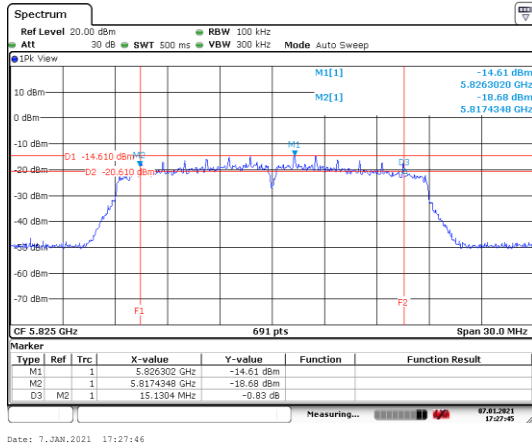
Low CH



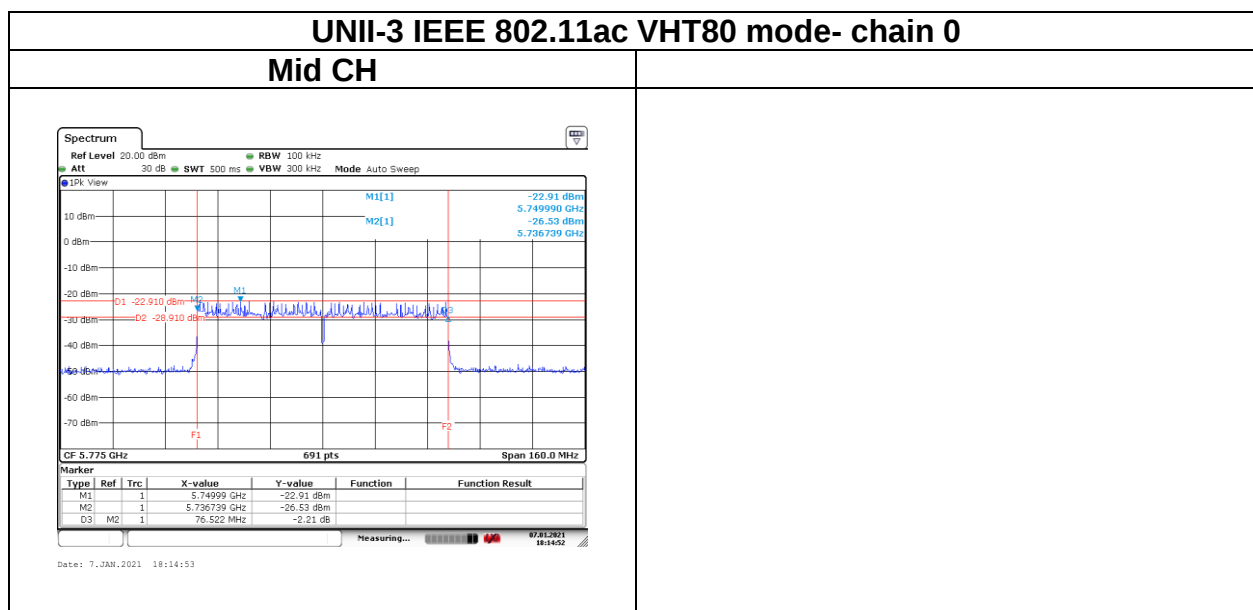
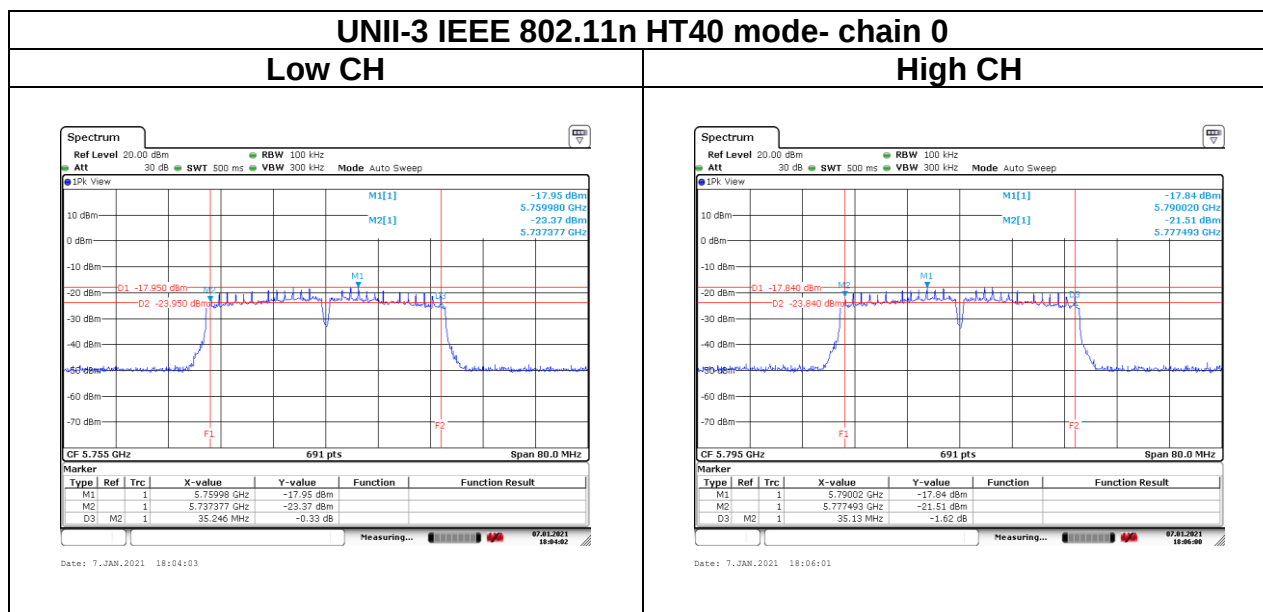
Mid CH

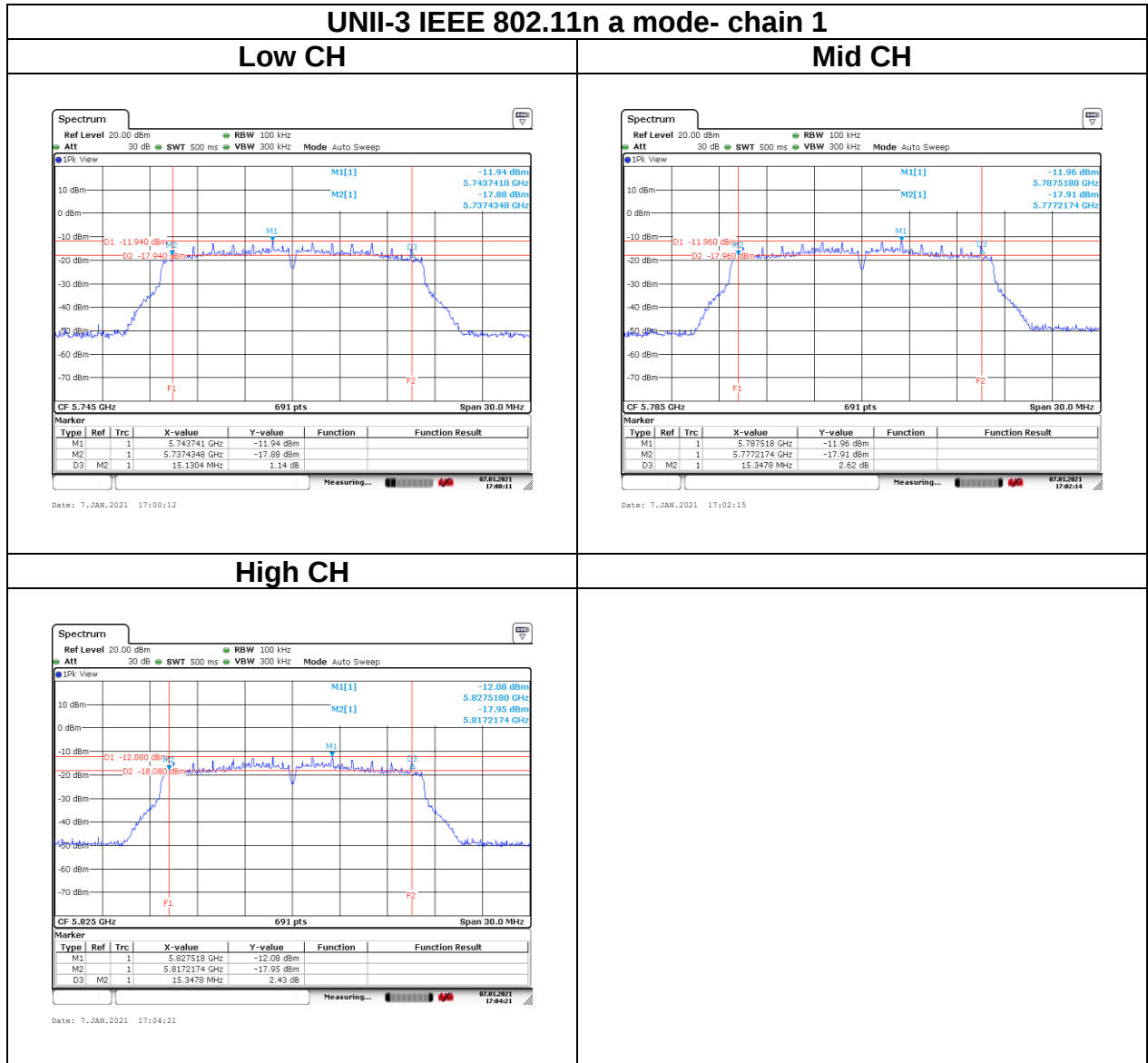


High CH



Report No.: T201222W02-RP4

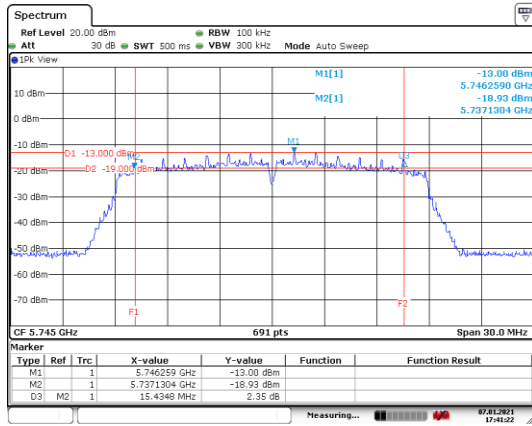




Report No.: T201222W02-RP4

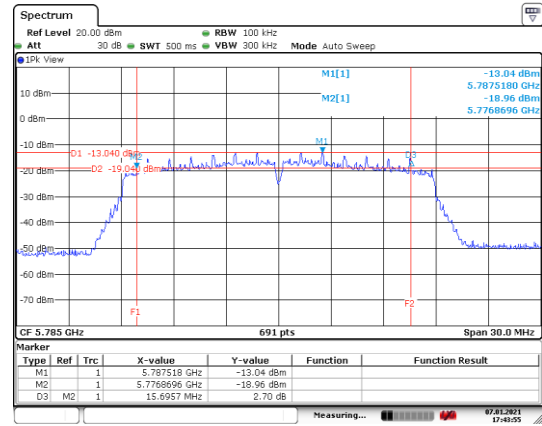
UNII-3 IEEE 802.11n HT20 mode- chain 1

Low CH



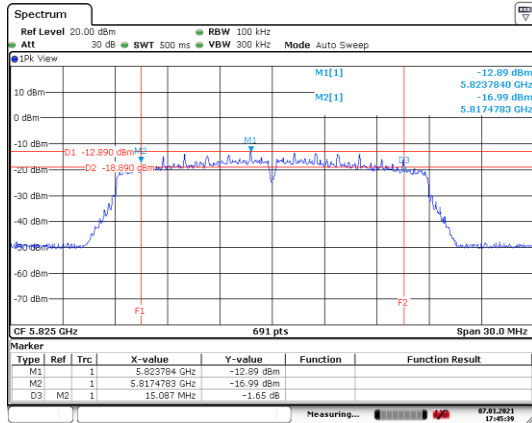
Date: 7.JAN.2021 17:41:22

Mid CH



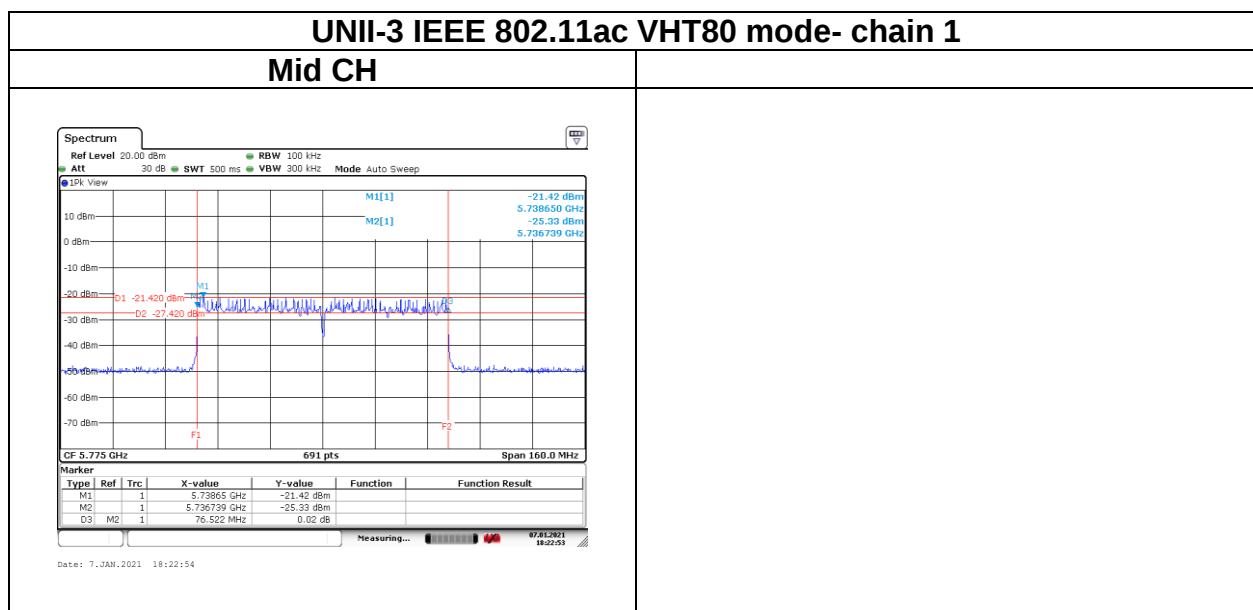
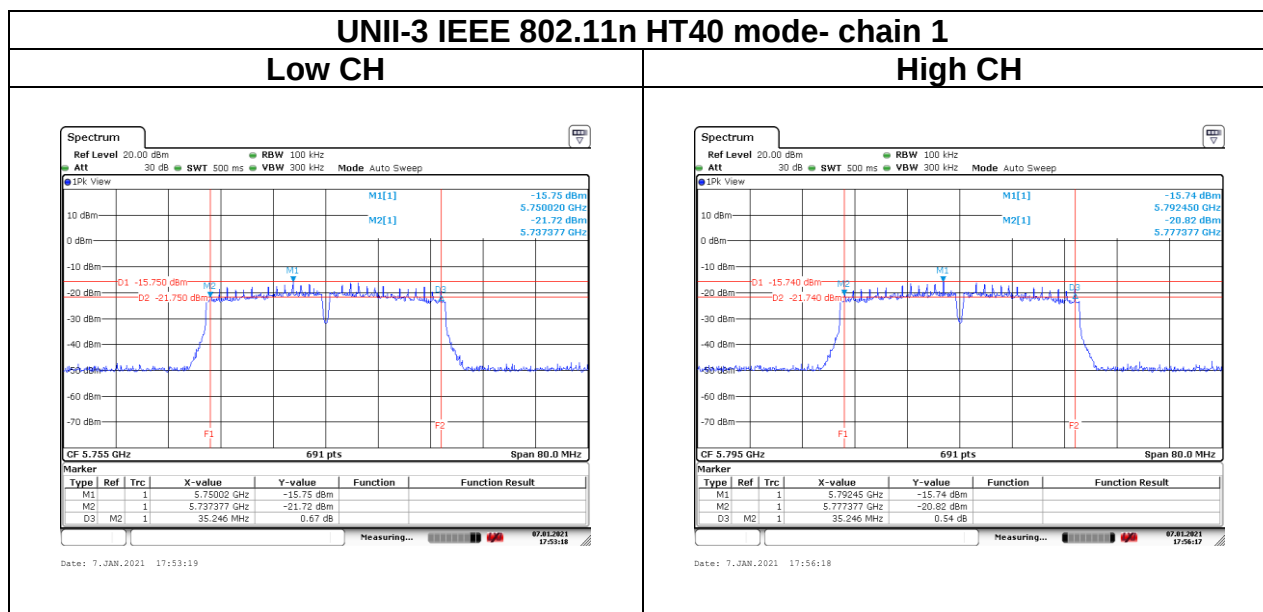
Date: 7.JAN.2021 17:43:55

High CH



Date: 7.JAN.2021 17:45:39

Report No.: T201222W02-RP4





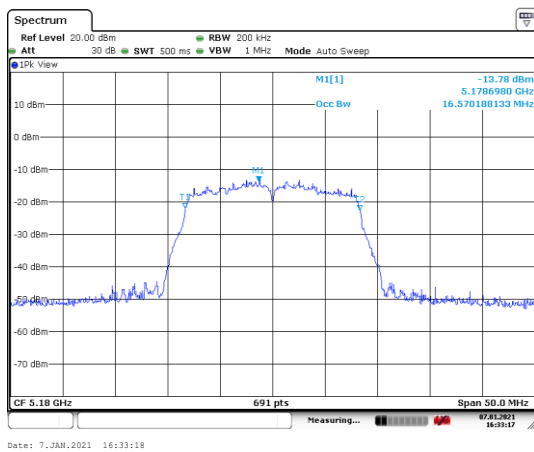
Report No.: T201222W02-RP4

Test Data

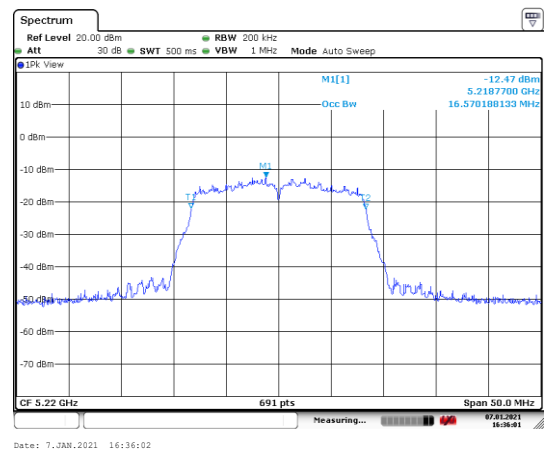
BANDWIDTH 99%

UNII-1 IEEE 802.11a mode- chain 0

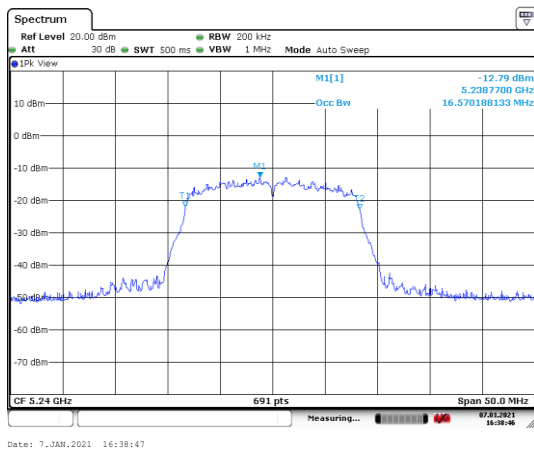
Low CH



Mid CH



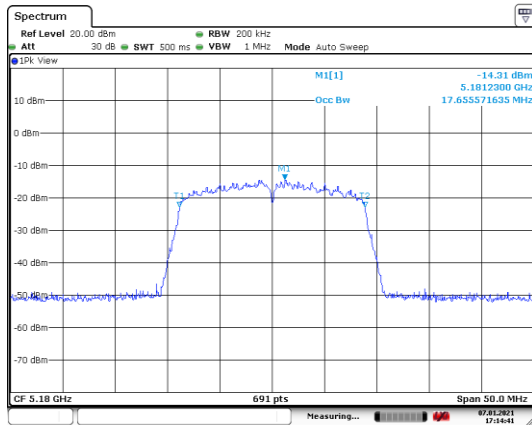
High CH



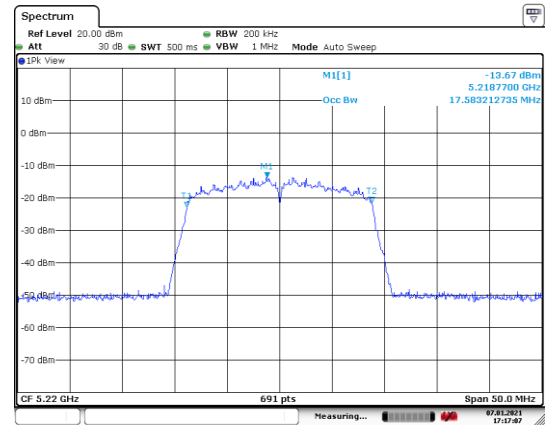


UNII-1 IEEE 802.11n HT20 mode- chain 0

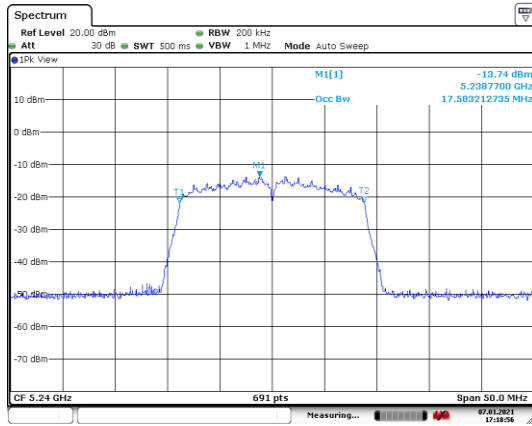
Low CH



Mid CH



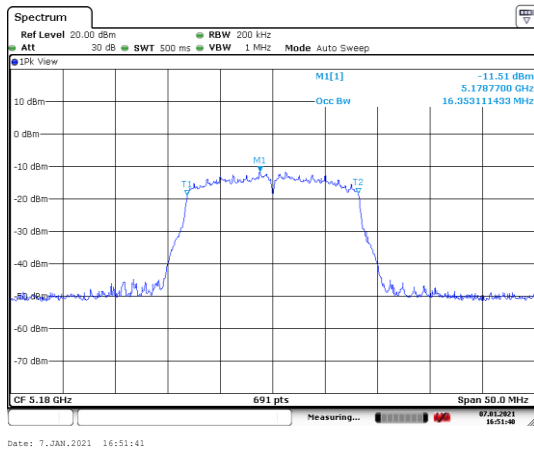
High CH



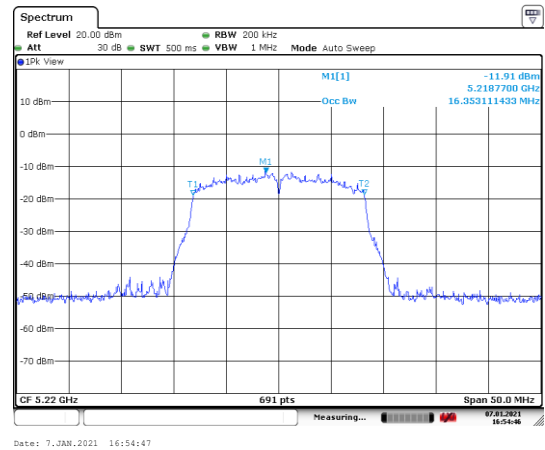


UNII-1 IEEE 802.11a mode- chain 1

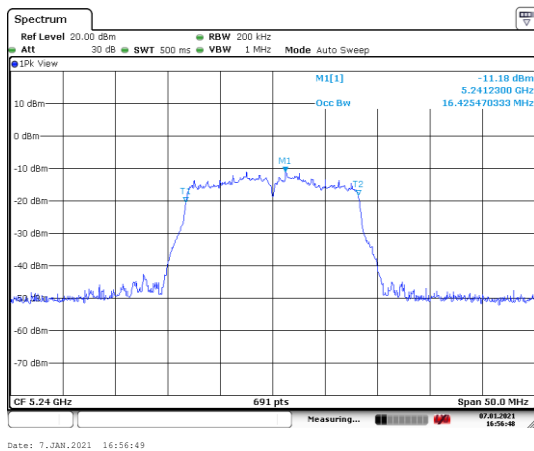
Low CH



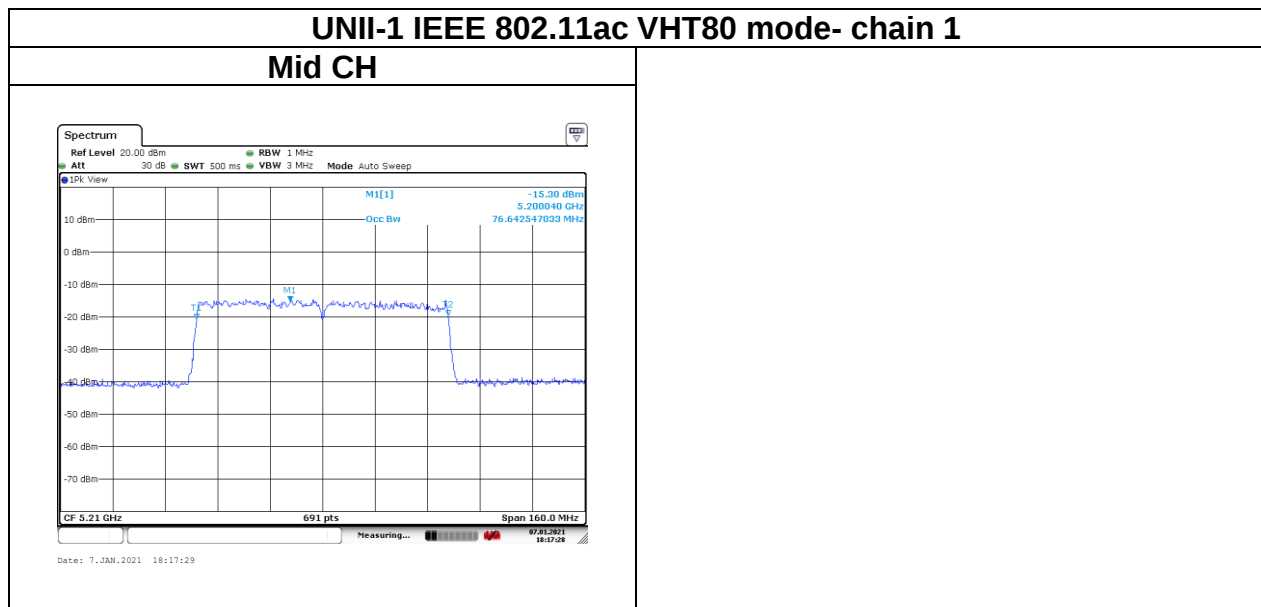
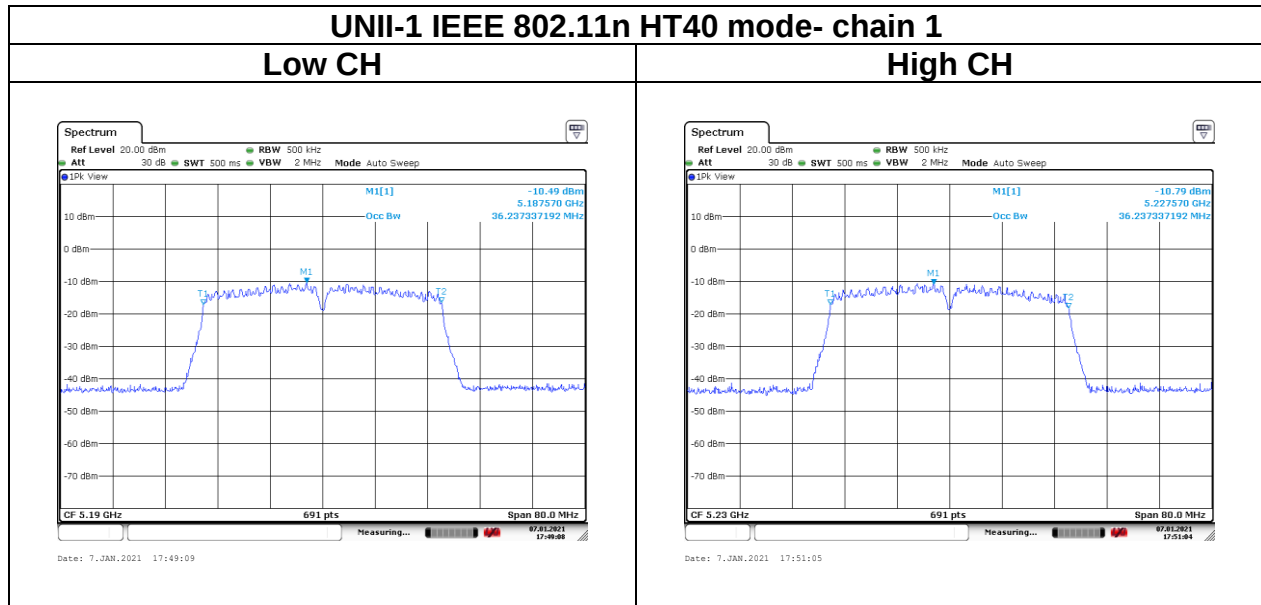
Mid CH

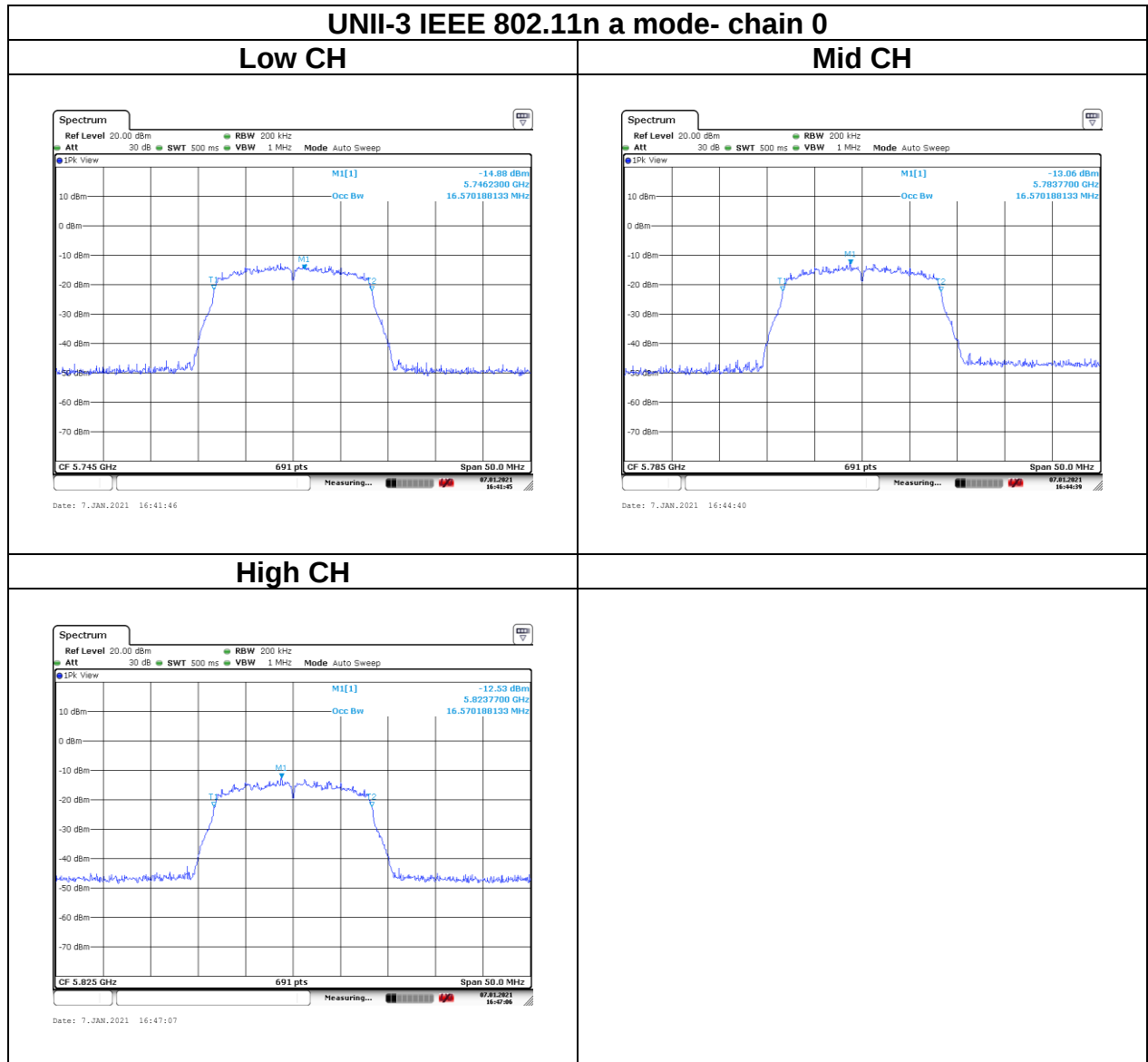


High CH



Report No.: T201222W02-RP4

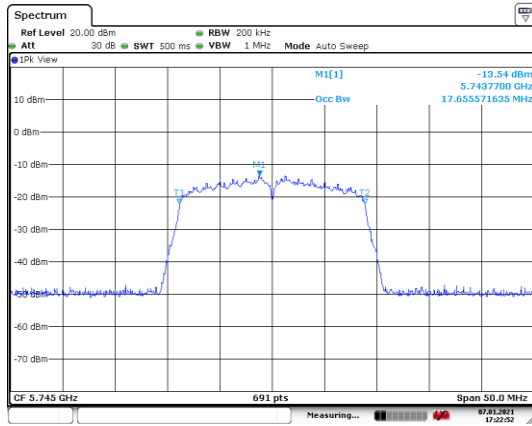




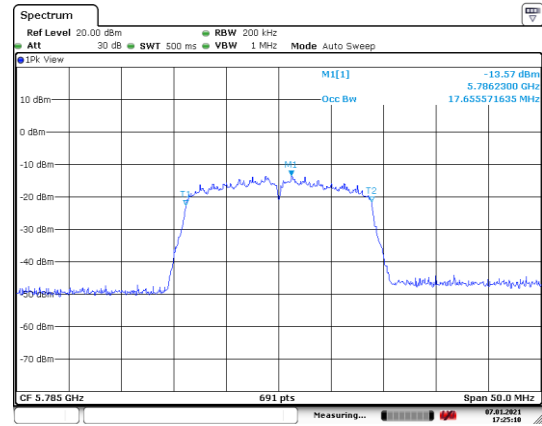
Report No.: T201222W02-RP4

UNII-3 IEEE 802.11n HT20 mode- chain 0

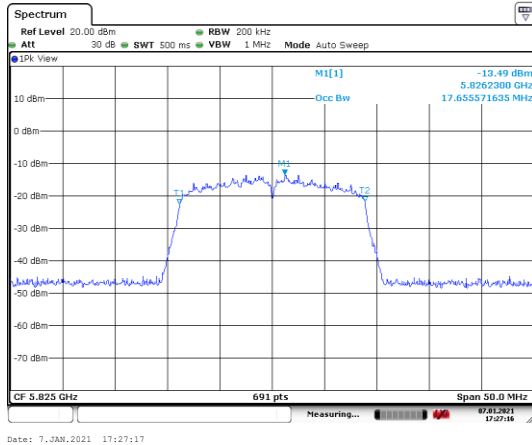
Low CH



Mid CH



High CH

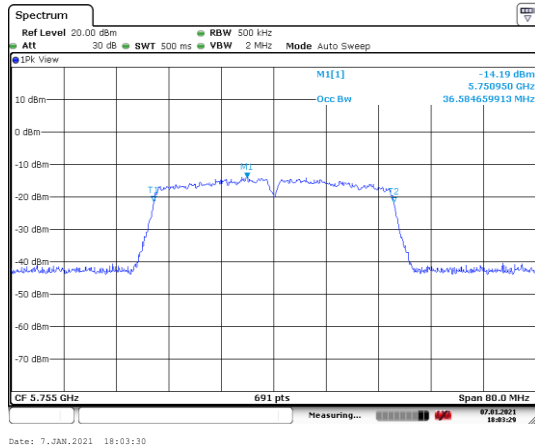




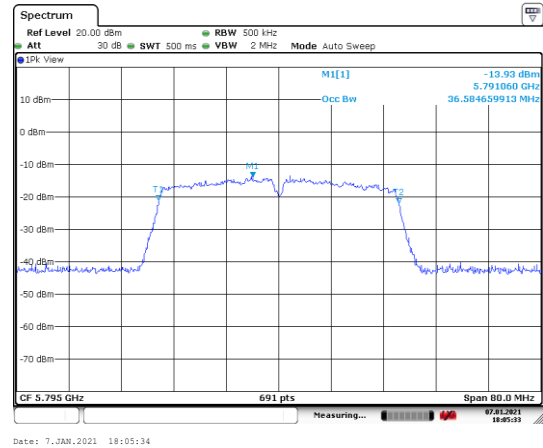
Report No.: T201222W02-RP4

UNII-3 IEEE 802.11n HT40 mode- chain 0

Low CH

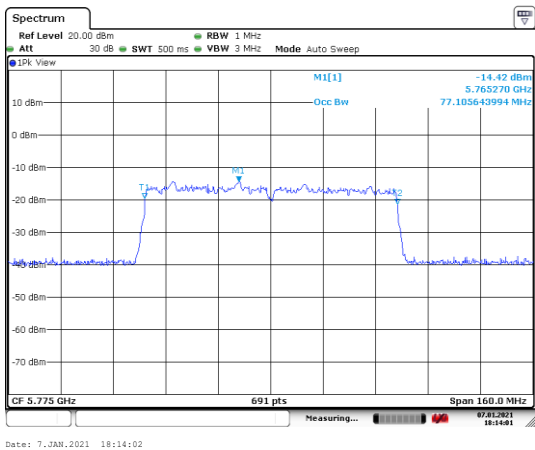


High CH



UNII-3 IEEE 802.11ac VHT80 mode- chain 0

Mid CH

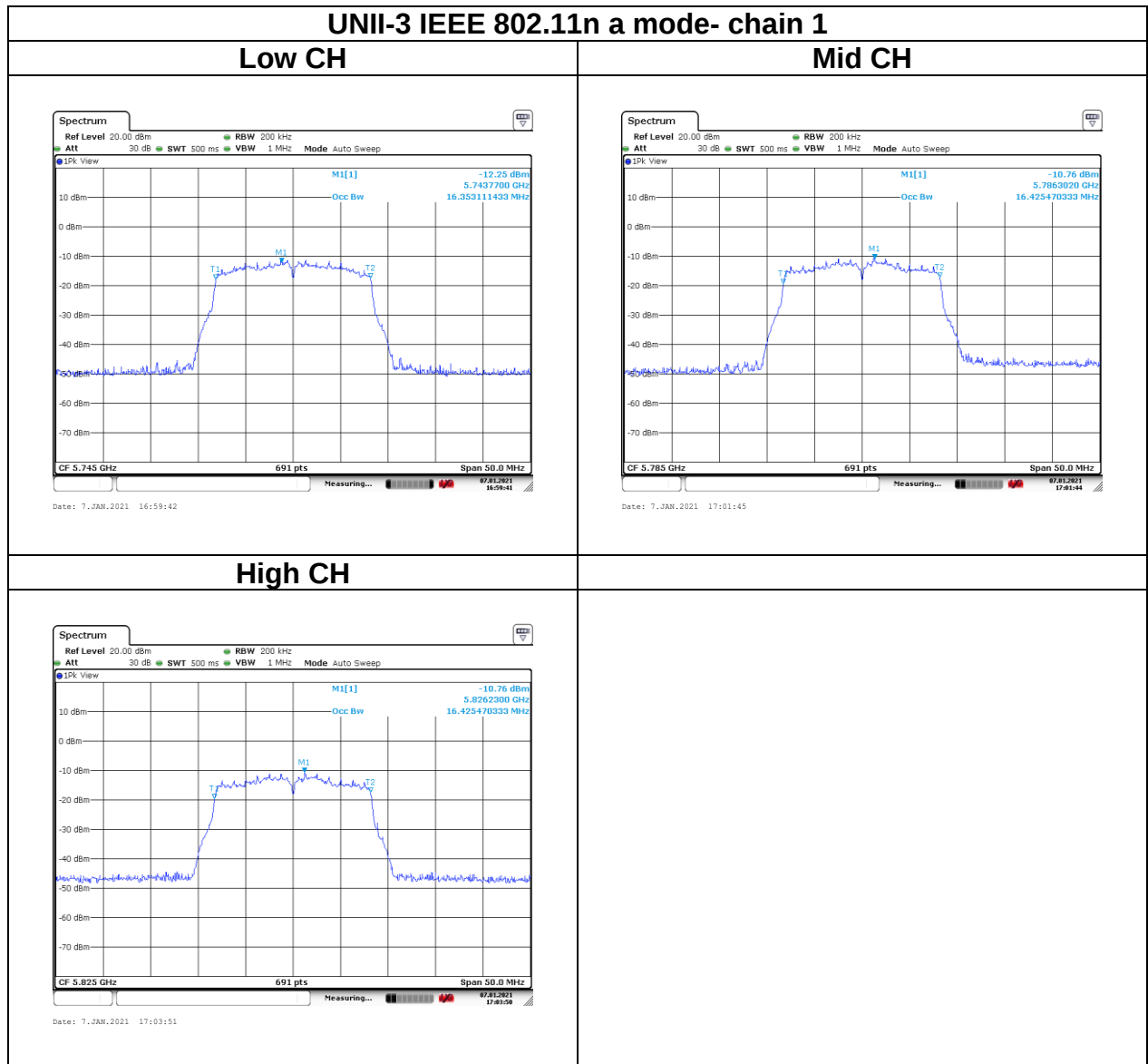




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Rev.: 01

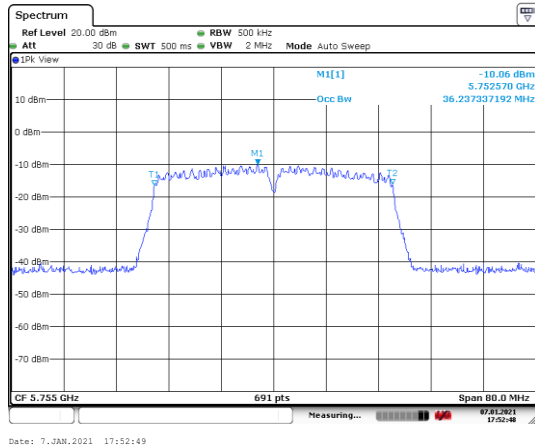




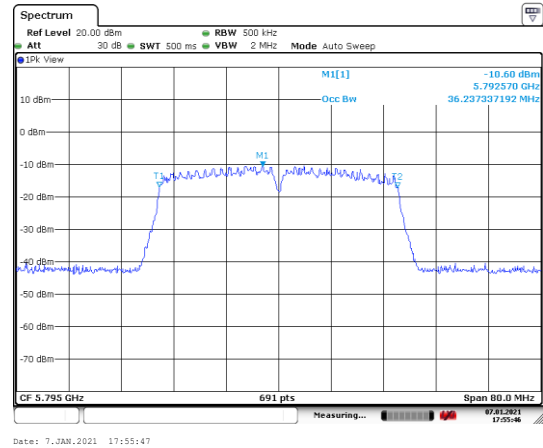
Report No.: T201222W02-RP4

UNII-3 IEEE 802.11n HT40 mode- chain 1

Low CH

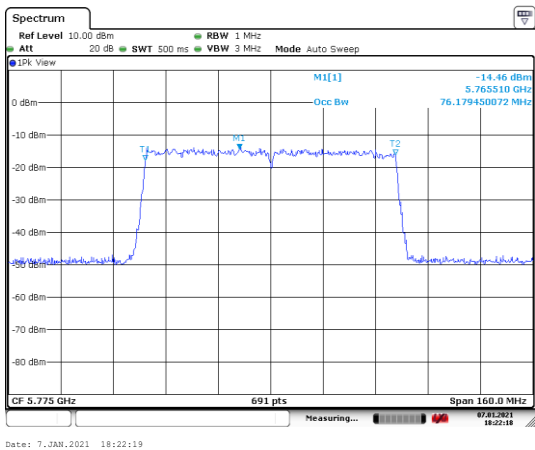


High CH



UNII-3 IEEE 802.11ac VHT80 mode- chain 1

Mid CH



4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3), and RSS-247 section 6.2.1.1, section 6.2.2.1, section 6.2.3.1 and section 6.2.4.1

FCC:

UNII-1 :

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(24 dBm), whichever power is less. B is the 99% emission bandwidth in megahertz, provided the maximum antenna gain does not exceed 6 dBi. In addition, 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.

IC:

UNII-1 :

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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.

UNII-1 Limit	☒ Antenna not exceed 6 dBi : 24dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 24 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi : 30dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)]

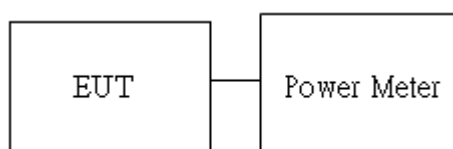
4.3.2 Test Procedure

Test method Refer as KDB 789033 D02, Section E.3.b for BW 20MHz and 40MHz, E.2.b for BW 80MHz.

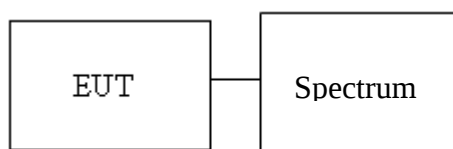
1. The EUT RF output connected to the power meter or spectrum by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Average output power. in the test report.

4.3.3 Test Setup

For BW 20MHz and 40MHz



For BW 80MHz



Report No.: T201222W02-RP4

4.3.4 Test Result

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 12, 2021

Conducted output power :

UNII-1																			
Config	CH	Freq. (MHz)	Power Setting		AV Power (dBm)		AV Total Power (dBm)	ERP AV Total Power (dBm)	AV Total Power (W)	ERP AV Total Power (W)	Ant. Gain (dBi)	Limit (dBm)	ERP Limit (dBm)						
			chain 0	chain 1	chain 0	chain 1													
IEEE 802.11a Data rate: 6Mbps	36	5180	7	7	6.36	7.49	9.97	12.57	0.0099	0.0181	2.6	24	23						
	44	5220	7	7	5.79	8.07	10.09	12.69	0.0102	0.0186									
	48	5240	7	7	5.55	7.72	9.78	12.38	0.0095	0.0173									
IEEE 802.11n HT20 Data rate: MCS0	36	5180	7	7	5.34	7.24	9.41	12.01	0.0087	0.0159				2.6	24	23			
	44	5220	7	7	5.66	7.41	9.64	12.24	0.0092	0.0167									
	48	5240	7	7	5.87	7.61	9.84	12.44	0.0096	0.0175									
IEEE 802.11n HT40 Data rate: MCS0	38	5190	8	8	5.57	7.05	9.39	11.99	0.0087	0.0158							2.6	24	23
	46	5230	8	8	5.70	7.28	9.58	12.18	0.0091	0.0165									
IEEE 802.11ac VHT80 Data rate: MCS0	42	5210	8	8	8.93	9.39	12.17	14.77	0.0165	0.0300									

Report No.: T201222W02-RP4

UNII-3												
Config	CH	Freq. (MHz)	Power Setting		AV Power (dBm)		AV Total Power (dBm)	ERP AV Total Power (dBm)	AV Total Power (W)	ERP AV Total Power (W)	Ant. Gain (dBi)	Limit (dBm)
			chain 0	chain 1	chain 0	chain 1						
IEEE 802.11a Data rate: 6Mbps	149	5745	8	8	8.07	9.61	11.92	14.52	0.0156	0.0283	2.6	30
	157	5785	8	8	7.92	9.84	12.00	14.60	0.0158	0.0288		
	165	5825	8	8	7.55	9.76	11.81	14.41	0.0152	0.0276		
IEEE 802.11n HT20 Data rate: MCS0	149	5745	8	8	7.05	8.39	10.78	13.38	0.0120	0.0218		
	157	5785	8	8	6.61	8.43	10.63	13.23	0.0116	0.0210		
	165	5825	8	8	6.54	8.23	10.48	13.08	0.0112	0.0203		
IEEE 802.11n HT40 Data rate: MCS0	151	5755	8	8	5.49	7.06	9.36	11.96	0.0086	0.0157		
	159	5795	8	8	4.59	7.26	9.14	11.74	0.0082	0.0149		
IEEE 802.11ac VHT80 Data rate: MCS0	155	5775	8	8	7.94	9.82	11.99	14.59	0.0158	0.0288		

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3)

According to RSS-247 section 6.2.1.1, section 6.2.2.1, section 6.2.3.1 and section 6.2.4.1

UNII-1:

FCC: The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

IC: The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz 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.

UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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.

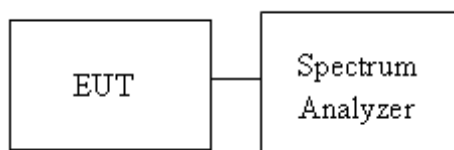
UNII-1 Limit	☒ Antenna not exceed 6 dBi : 11 dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi : 30 dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)]

4.4.2 Test Procedure

Test method Refer as KDB 789033 D02

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c, SA set RBW = 1MHz, VBW = 3MHz and Detector = RMS, to measurement Power Density.
4. UNII-3, SA set RBW = 500kHz, VBW = 2MHz and Detector = RMS, to measurement Power Density
5. The path loss and Duty Factor were compensated to the results for each measurement by SA.
6. Mark the maximum level.
7. Measure and record the result of power spectral density. in the test report.

4.4.3 Test Setup



Report No.: T201222W02-RP4

4.4.4 Test Result

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 12, 2021

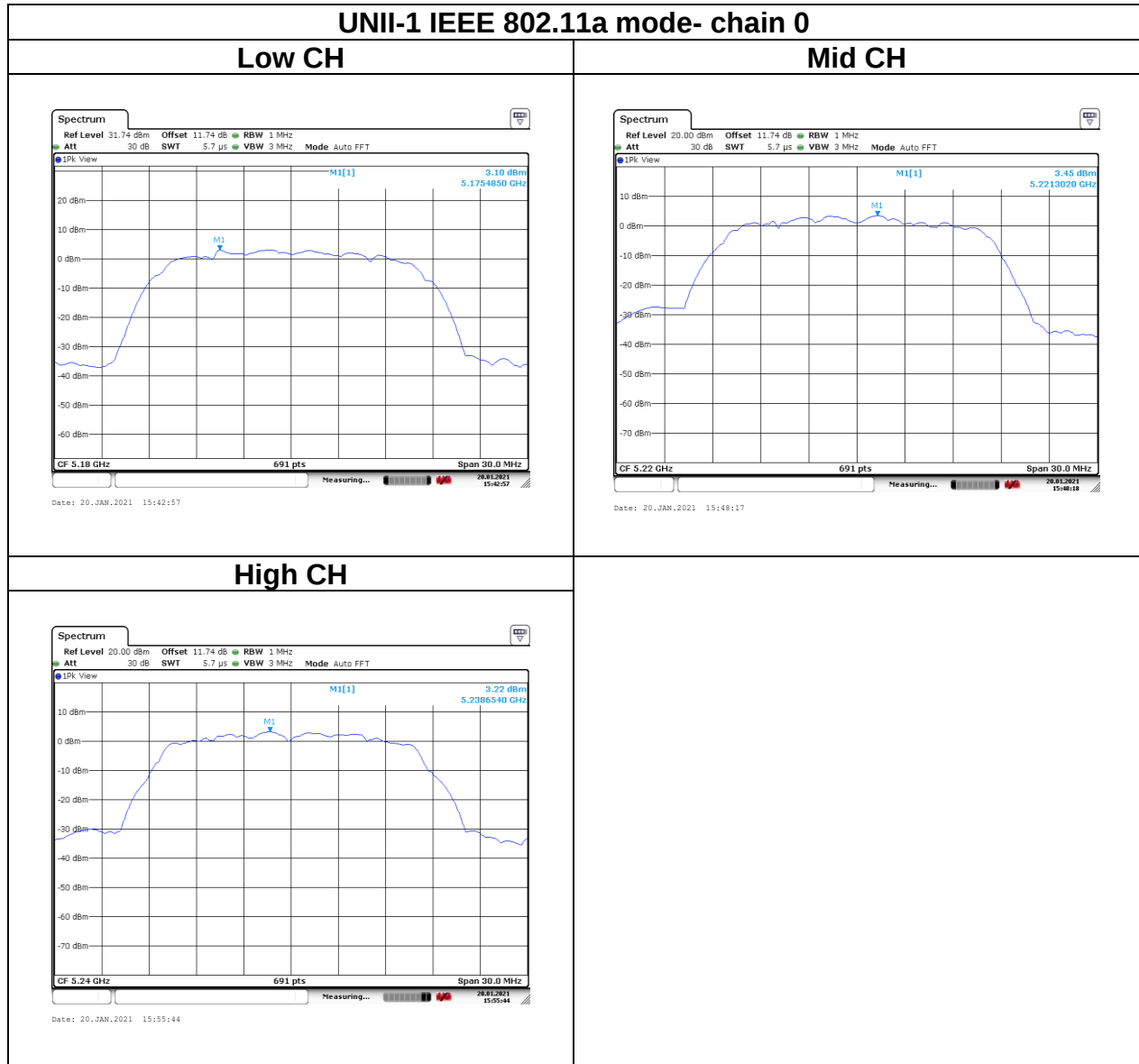
UNII-1 5150-5250 MHz							
Test mode: IEEE 802.11a mode							
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	EIRP Total PPSD (dBm)	FCC Limit (dBm)	IC Limit (dBm)
Low	5180	3.10	4.66	6.96	9.56	11	10
Mid	5220	3.45	4.58	7.06	9.66		
High	5240	3.22	4.71	7.04	9.64		
Test mode: IEEE 802.11n HT20 mode							
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	EIRP Total PPSD (dBm)	FCC Limit (dBm)	IC Limit (dBm)
Low	5180	3.43	4.74	7.14	9.74	11	10
Mid	5220	3.71	4.60	7.19	9.79		
High	5240	3.64	4.53	7.12	9.72		
Test mode: IEEE 802.11n HT40 mode							
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	EIRP Total PPSD (dBm)	FCC Limit (dBm)	IC Limit (dBm)
Low	5190	0.78	3.19	5.16	7.76	11	10
High	5230	0.64	2.68	4.79	7.39		
Test mode: IEEE 802.11ac VHT80 mode							
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	EIRP Total PPSD (dBm)	FCC Limit (dBm)	IC Limit (dBm)
Low	5210	-3.42	-3.44	-0.42	2.18	11	10

UNII-3 5725-5825 MHz					
Test mode: IEEE 802.11a mode					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	5745	2.73	4.83	6.92	30
Mid	5785	2.81	5.15	7.15	
High	5825	2.85	4.53	6.78	
Test mode: IEEE 802.11n HT20 mode					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	5745	1.39	4.30	6.09	30
Mid	5785	0.90	4.57	6.12	
High	5825	1.10	4.77	6.32	
Test mode: IEEE 802.11n HT40 mode					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	5755	-2.22	0.78	2.54	30
High	5795	-3.02	1.05	2.49	
Test mode: IEEE 802.11ac VHT80 mode					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Mid	5775	-7.99	-5.55	-3.59	30



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Test Data

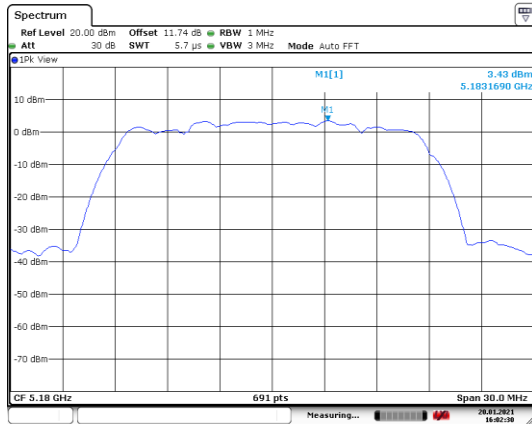




Report No.: T201222W02-RP4

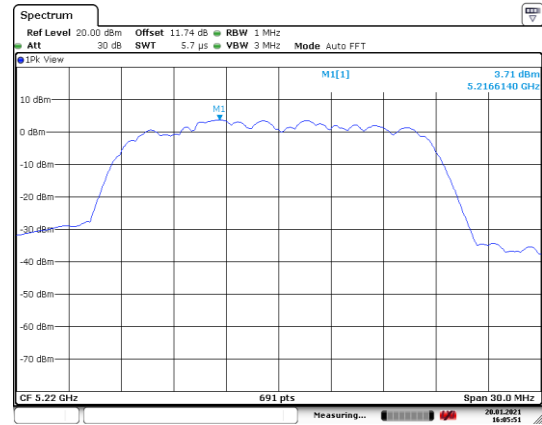
UNII-1 IEEE 802.11n HT20 mode- chain 0

Low CH



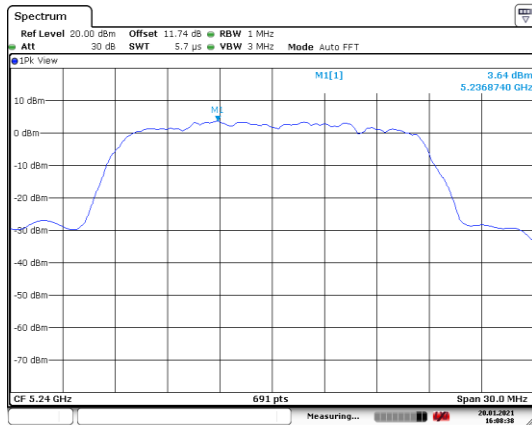
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Mid CH



Date: 20.JAN.2021 16:05:51

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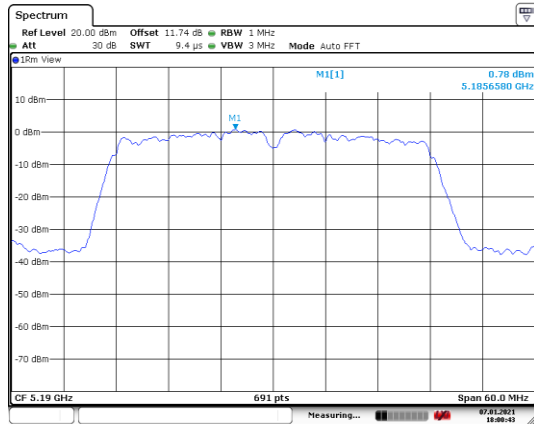
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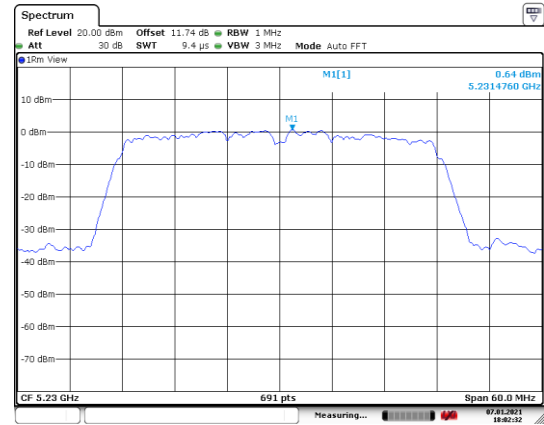
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11n HT40 mode- chain 0

Low CH

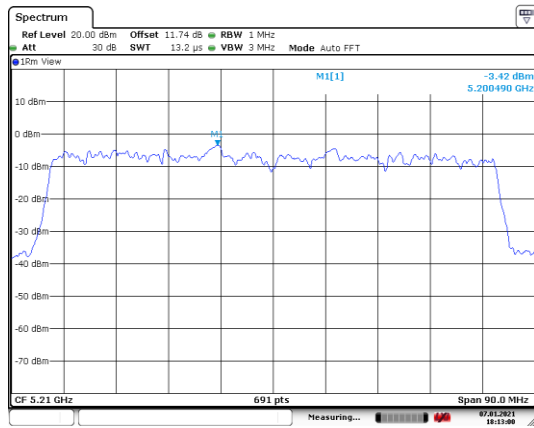


High CH



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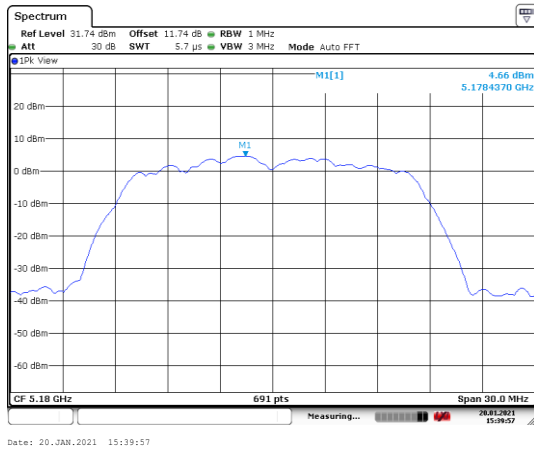
Low CH



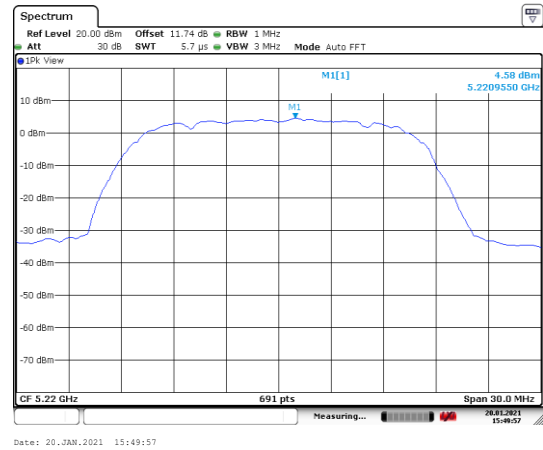
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11a mode- chain 1

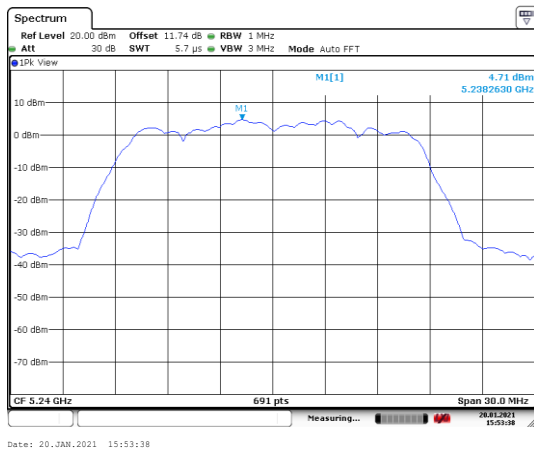
Low CH



Mid CH



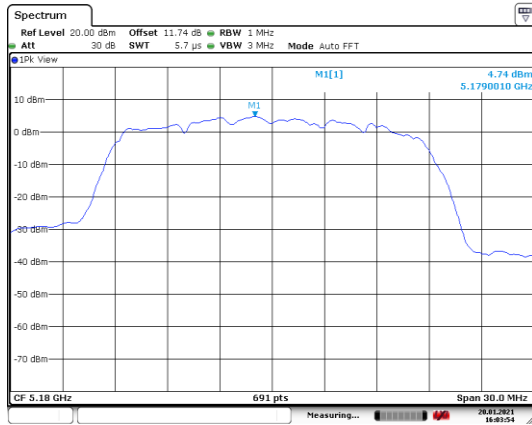
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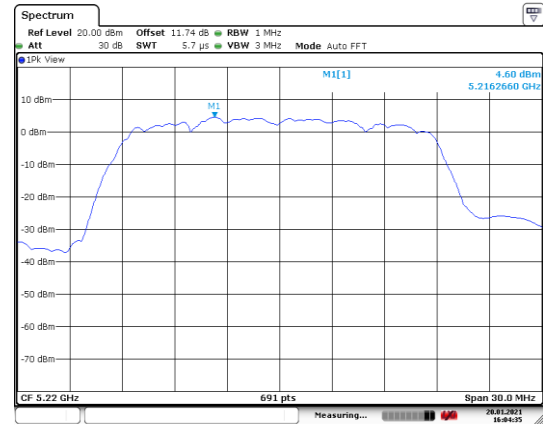
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11n HT20 mode- chain 1

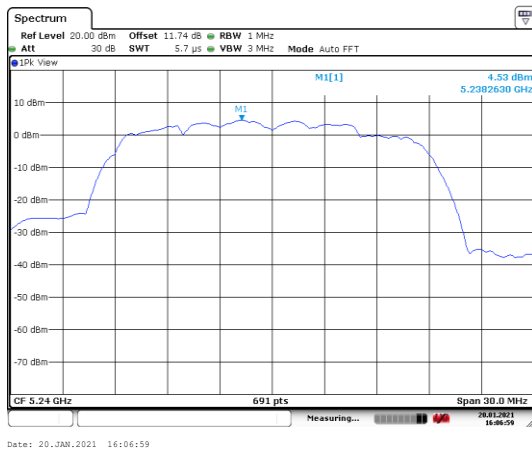
Low CH



Mid CH



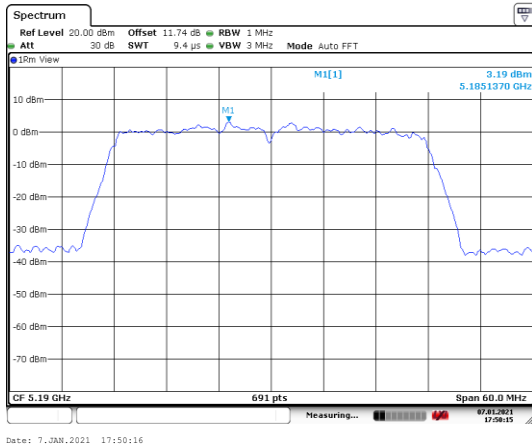
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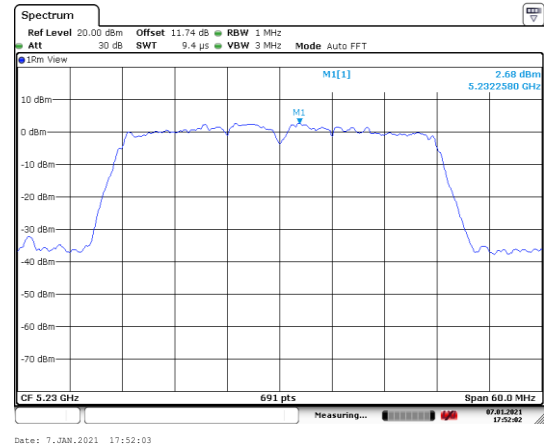
Report No.: T201222W02-RP4

UNII-1 IEEE 802.11n HT40 mode- chain 1

Low CH

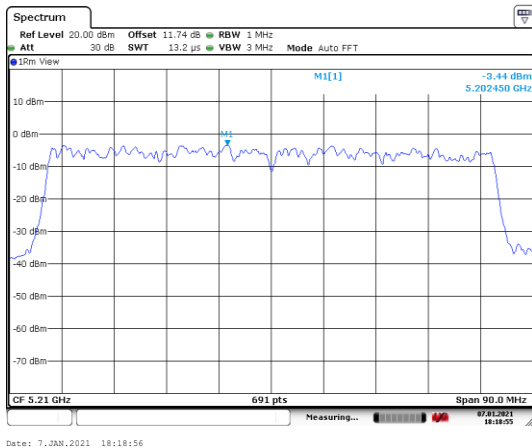


High CH



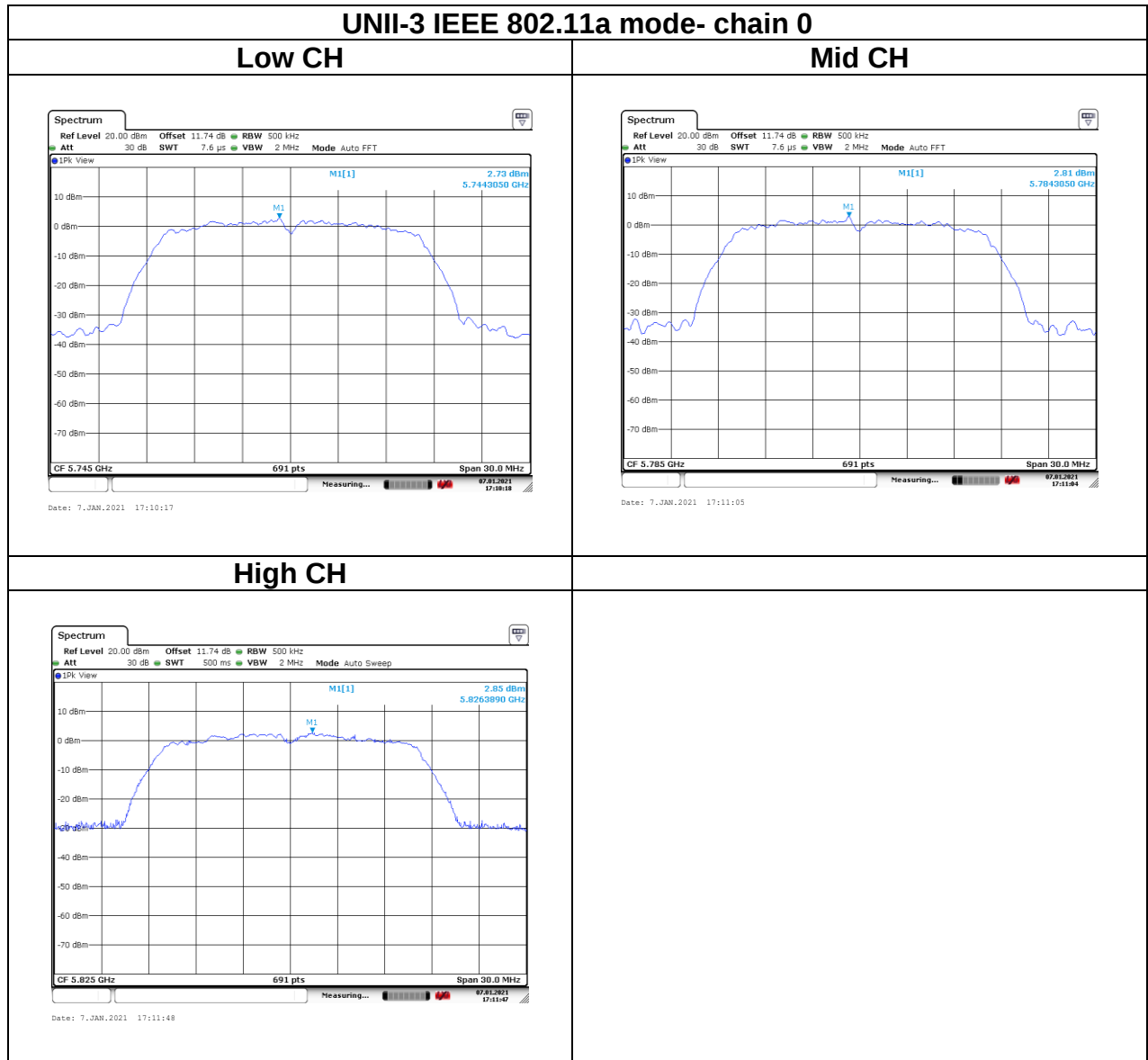
UNII-1 IEEE 802.11ac VHT80 mode- chain 1

Low CH

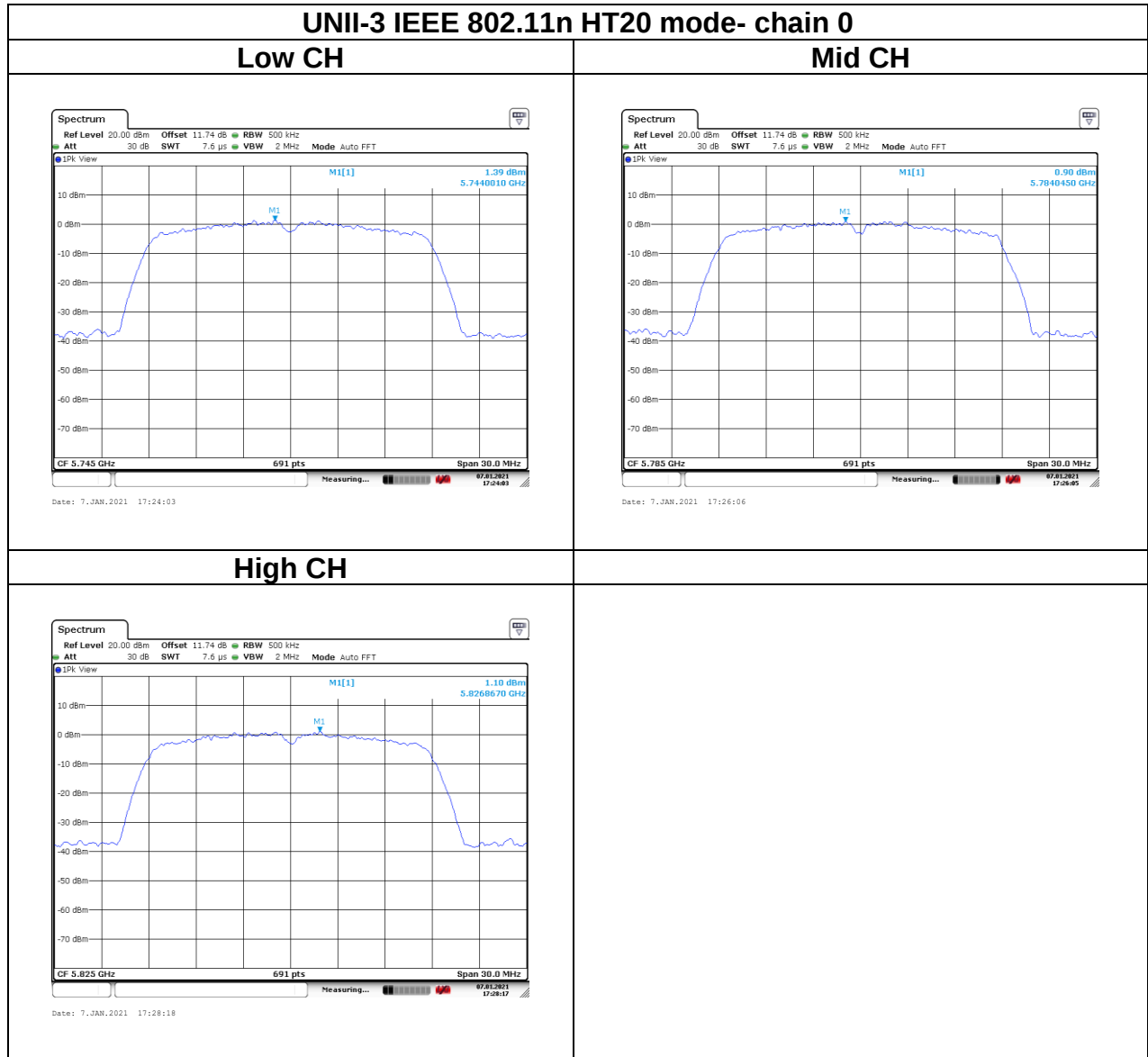


Report No.: T201222W02-RP4

Test Data



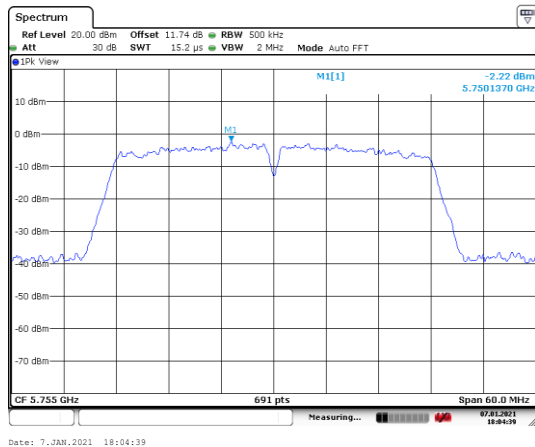
Report No.: T201222W02-RP4



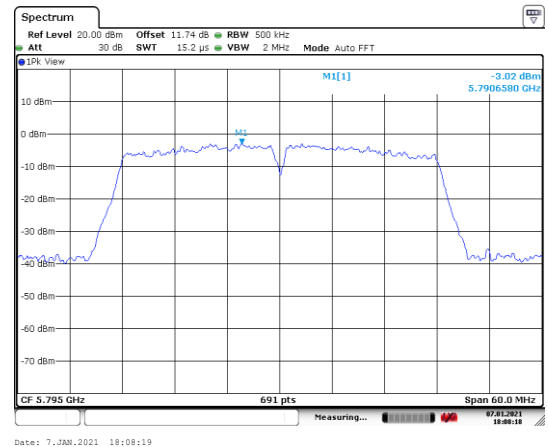
Report No.: T201222W02-RP4

UNII-3 IEEE 802.11n HT40 mode- chain 0

Low CH

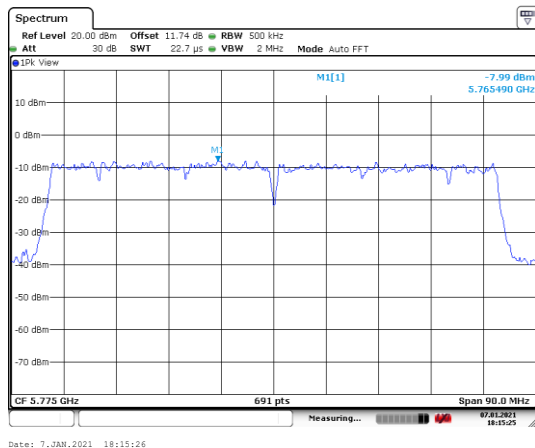


High CH



UNII-3 IEEE 802.11ac VHT80 mode- chain 0

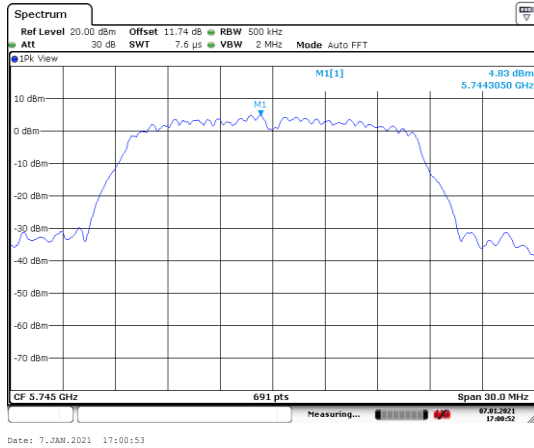
Low CH



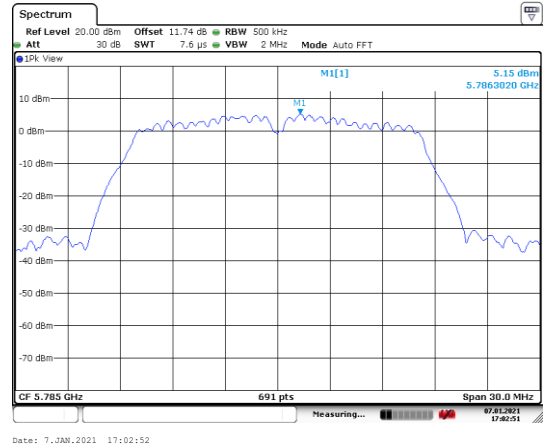
Report No.: T201222W02-RP4

UNII-3 IEEE 802.11a mode- chain 1

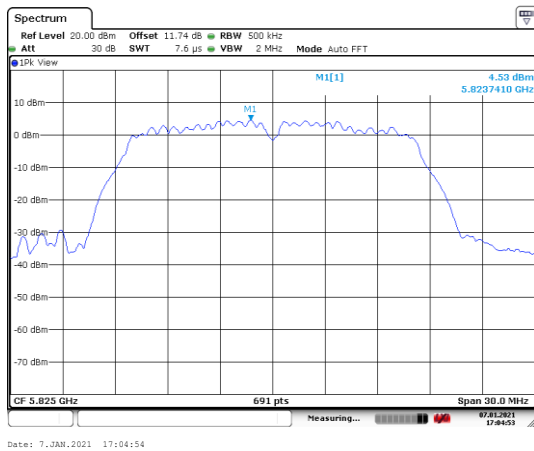
Low CH



Mid CH



High CH

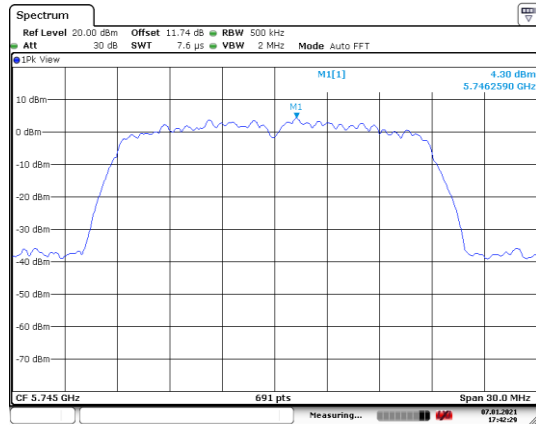




Report No.: T201222W02-RP4

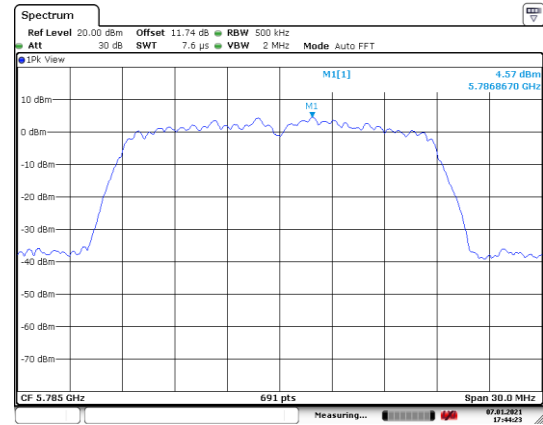
UNII-3 IEEE 802.11n HT20 mode- chain 1

Low CH



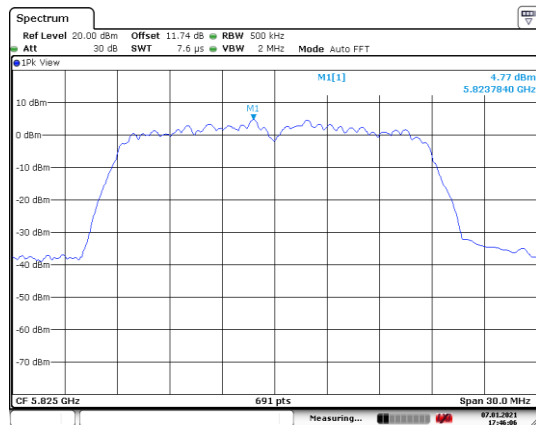
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Mid CH

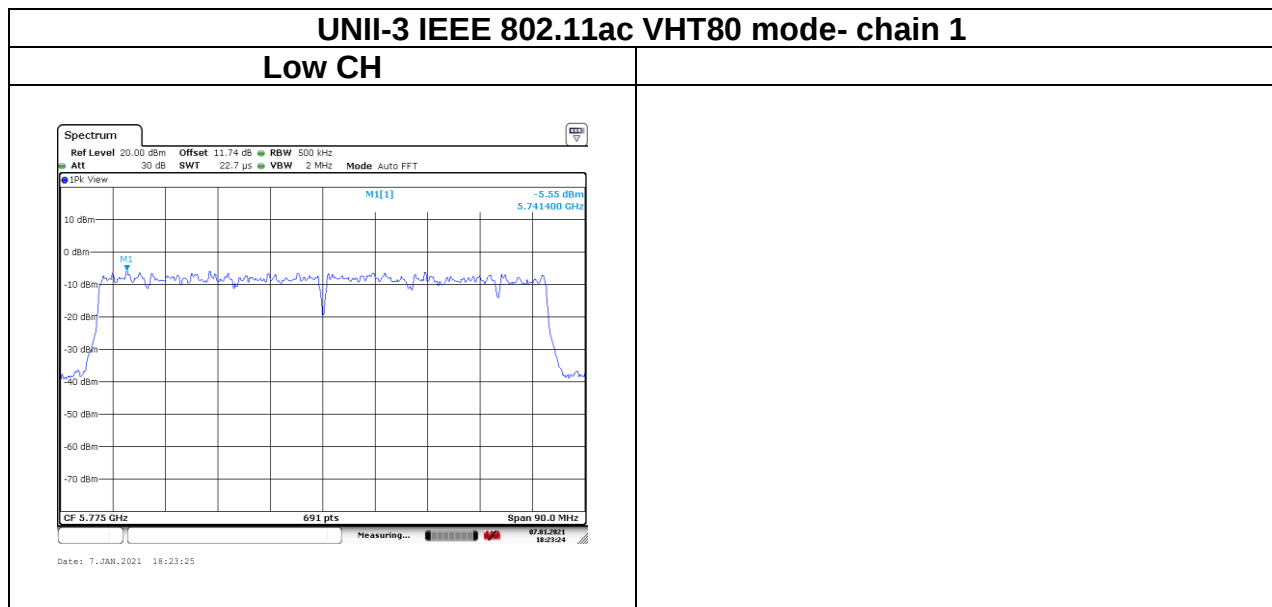
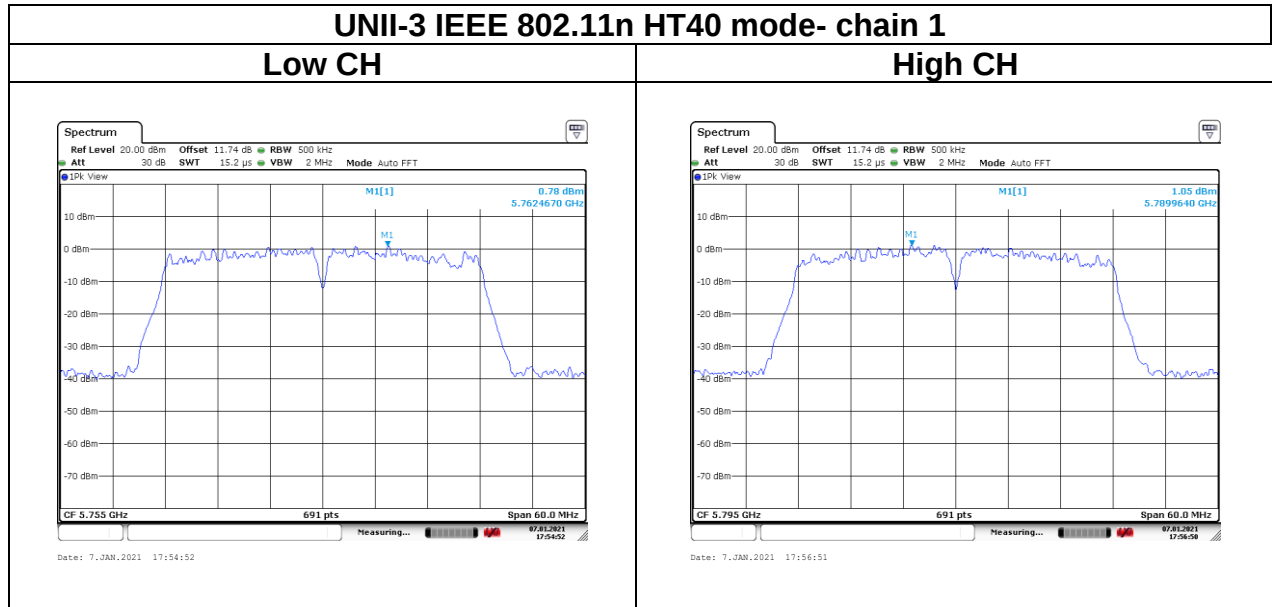


Date: 7.JAN.2021 17:44:23

High CH



Date: 7.JAN.2021 17:46:07



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4.5 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.407, §15.209 and §15.205,
According to RSS-247 section 6.2.1.2 and section 6.2.4.2

Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

Above 30 MHz

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

RSS-Gen Table 3 and Table 5 – General Field Strength Limits for Transmitters and Receivers at Frequencies Above 30 MHz ^(Note)

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

Note: Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with Section 6.6.

RSS-Gen Table 6: General Field Strength Limits for Transmitters at Frequencies Below 30 MHz (Transmit)

Frequency	Magnetic field strength (H-Field) ($\mu\text{A/m}$)	Measurement Distance (m)
9-490 kHz ^{Note}	6.37/F (F in kHz)	300
490-1,705 kHz	63.7/F (F in kHz)	30
1.705-30 MHz	0.08	30

Note: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector..

UNII-1 :

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. Otherwise, the transmission is considered as intentional and the devices shall implement dynamic frequency selection (DFS) and transmitter power control (TPC) as per the requirements for the band 5250-5350 MHz

UNII-2a and 2c :

For devices with operating frequencies in the band 5250-5350 MHz but having a channel bandwidth that overlaps the band 5150-5250 MHz, the devices' unwanted emission shall not exceed -27 dBm/MHz e.i.r.p. outside the band 5150-5350 MHz and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device shall be labelled "for indoor use only." Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

UNII-3:

For the band 5725-5850 MHz, emissions at frequencies from the band edges to 10 MHz above or below the band edges shall not exceed -17 dBm/MHz e.i.r.p.

For emissions at frequencies more than 10 MHz above or below the band edges, the emissions power shall not exceed -27 dBm/MHz

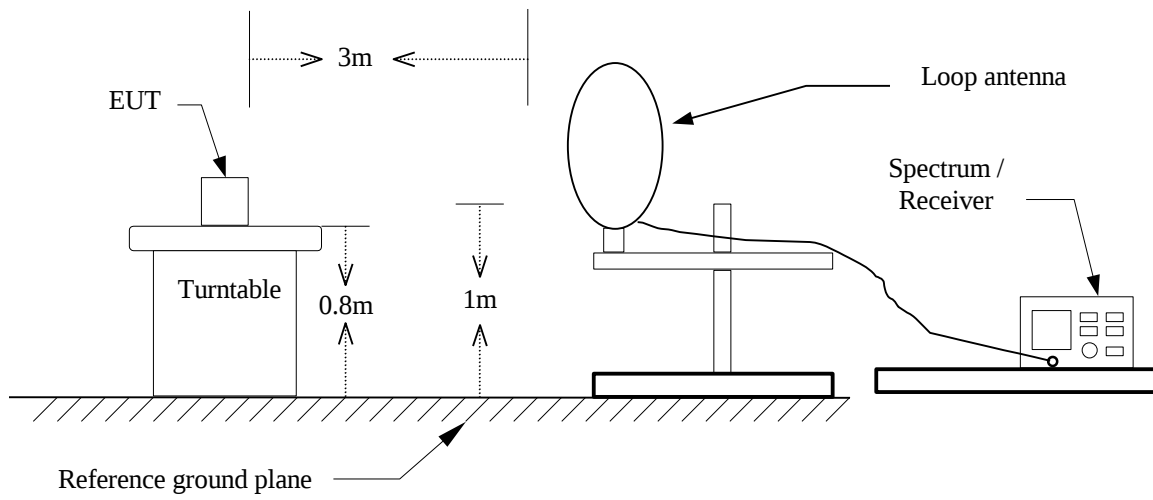
4.5.2 Test Procedure

Test method Refer as KDB 789033 D02.

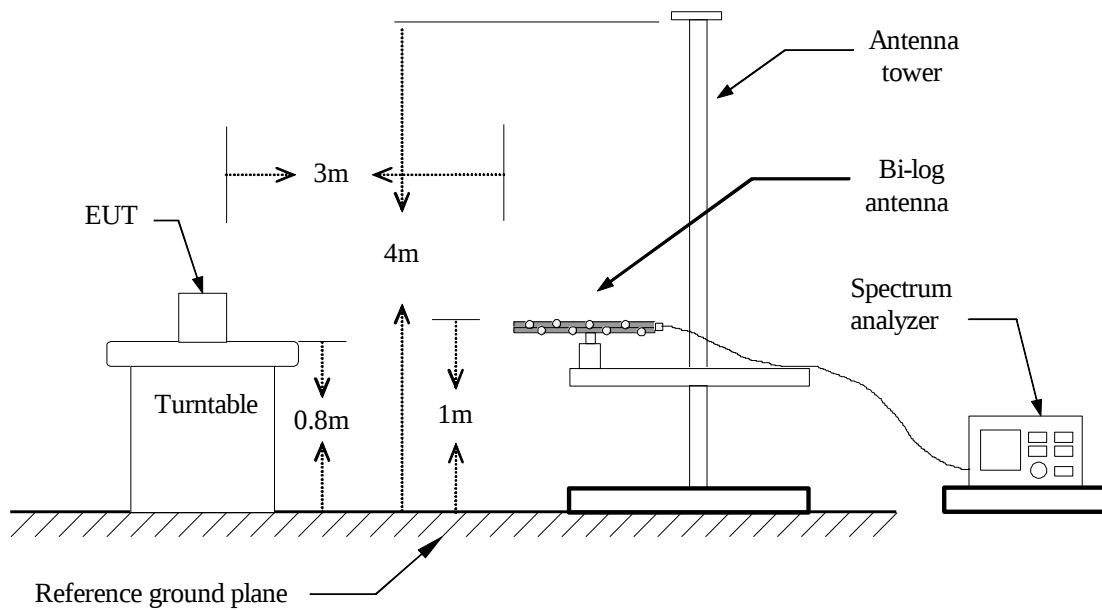
1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.
4. No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)
5. The SA setting following :
 - (1) Below 1G : RBW = 100kHz, VBW $\geq 3 \times$ RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
 - (2) Above 1G :
 - (2.1) For Peak measurement : RBW = 1MHz, VBW ≥ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
 - (2.2) For Average measurement : RBW = 1MHz, VBW
 - 'If Duty Cycle $\geq 98\%$, VBW=10Hz.
 - 'If Duty Cycle $< 98\%$, VBW=1/T.

4.5.3 Test Setup

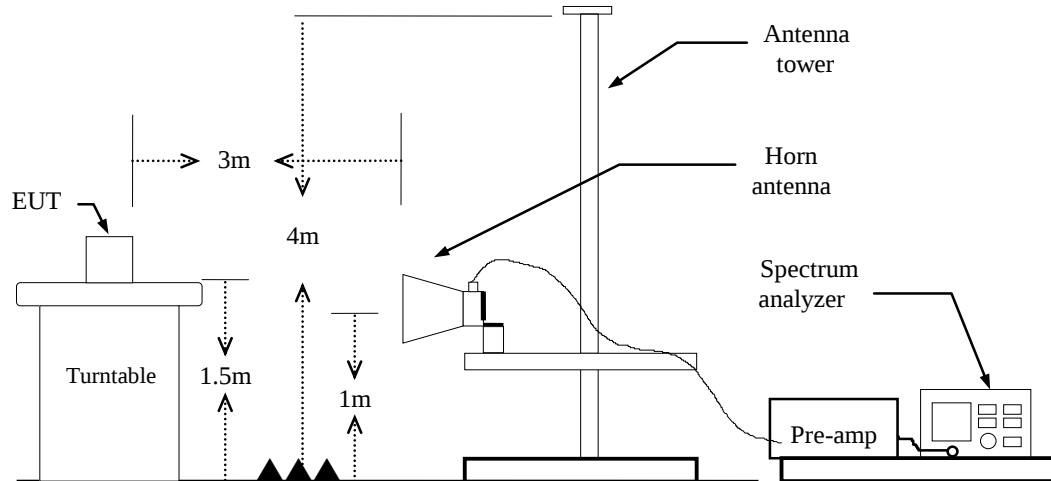
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz



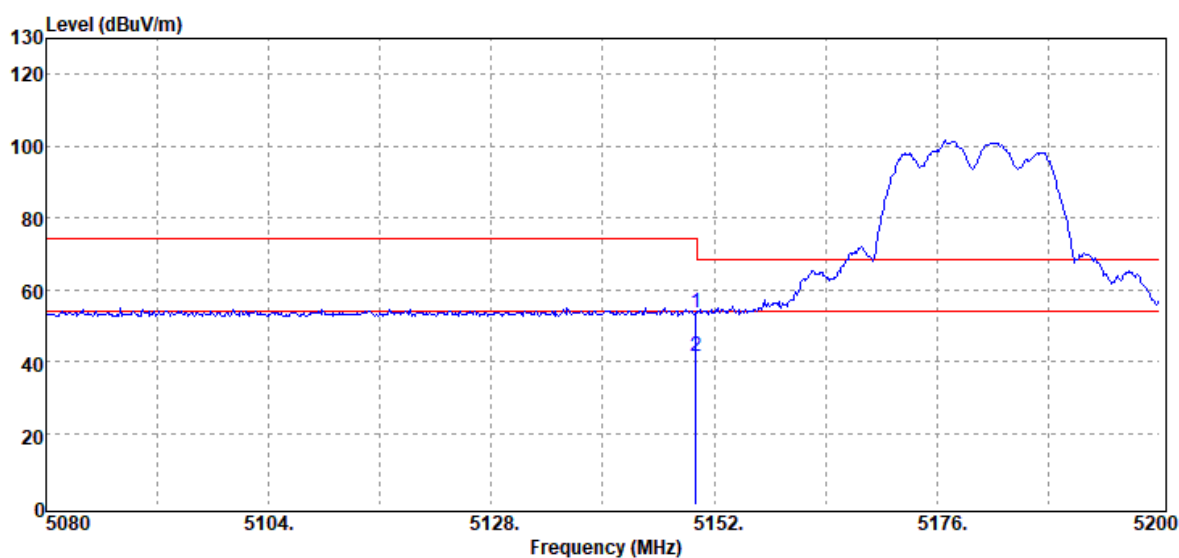
Report No.: T201222W02-RP4

4.5.4 Test Result

Band Edge Test Data

Test Data for UNII-1

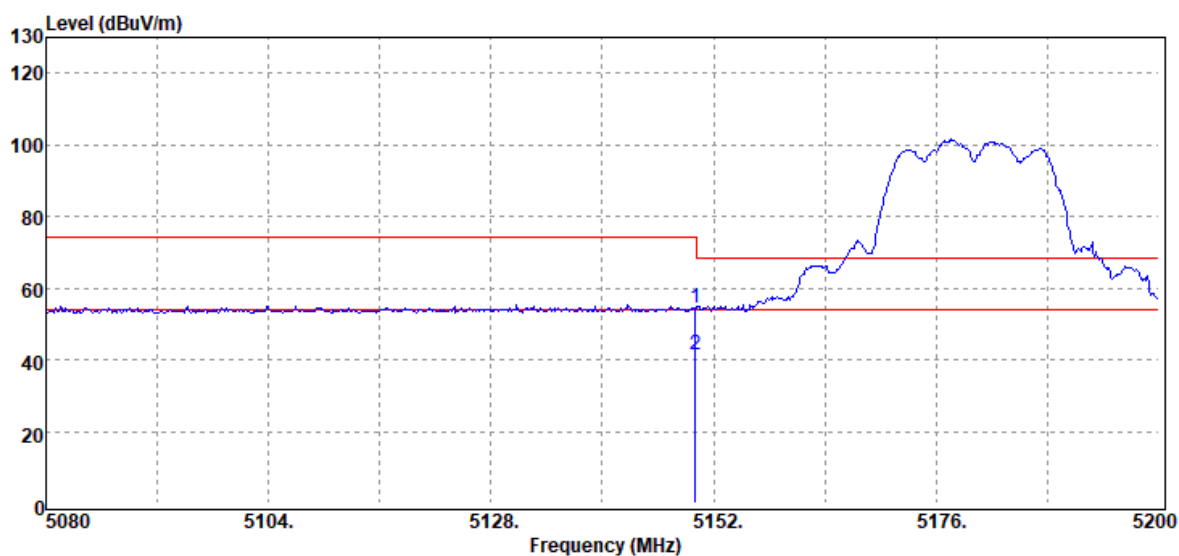
Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5150.00	Peak	45.90	7.60	53.50	74.00	-20.50
5150.00	Average	33.69	7.60	41.29	54.00	-12.71

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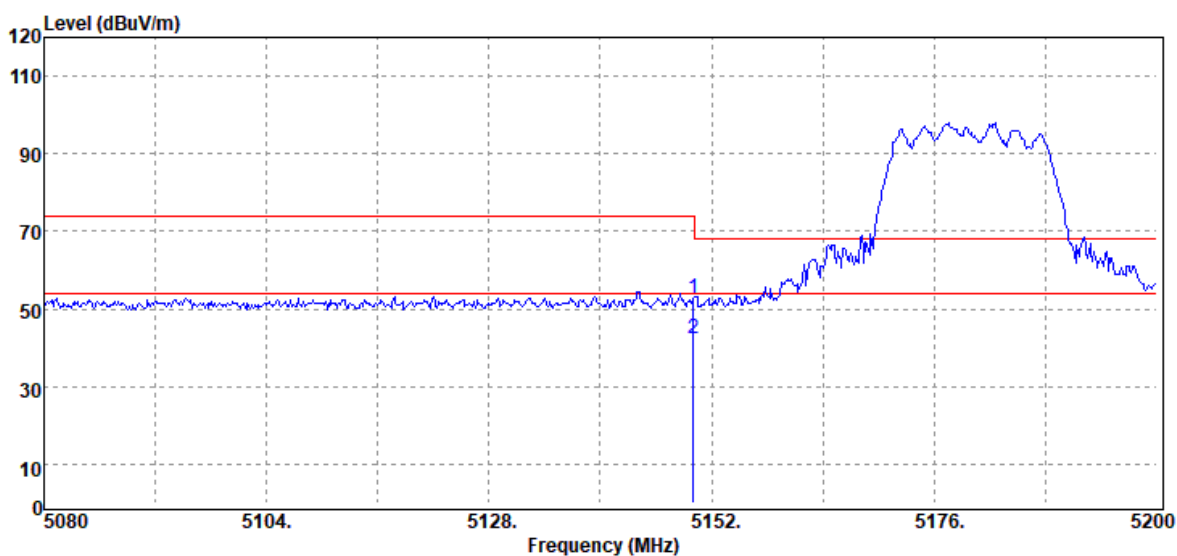
Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit @3m dB μ V/m	Margin dB
5150.00	Peak	46.61	7.60	54.21	74.00	-19.79
5150.00	Average	33.85	7.60	41.45	54.00	-12.55

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Test Mode	IEEE 802.11n 20 MHz / 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		

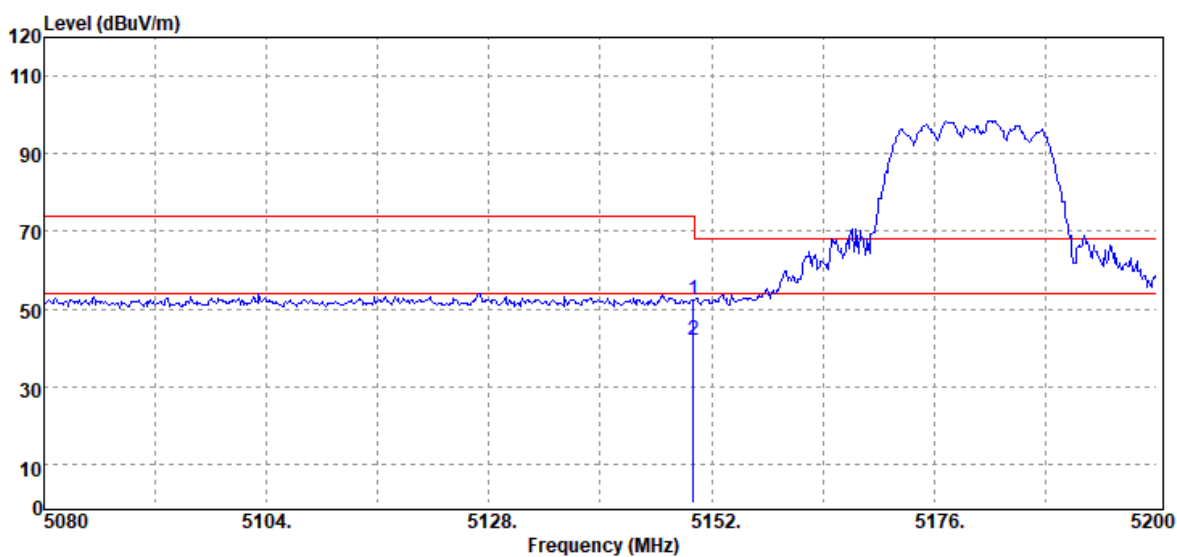


Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5150.00	Peak	45.11	7.60	52.71	74.00	-21.29
5150.00	Average	34.58	7.60	42.18	54.00	-11.82



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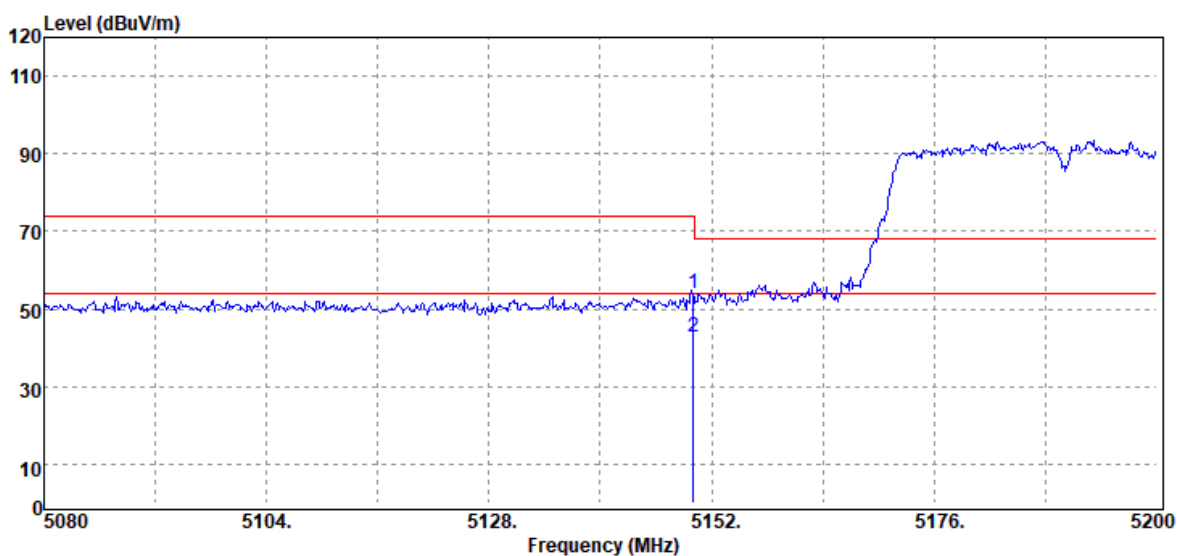
Test Mode	IEEE 802.11n 20 MHz / 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit @3m dB μ V/m	Margin dB
5150.00	Peak	44.62	7.60	52.22	74.00	-21.78
5150.00	Average	34.48	7.60	42.08	54.00	-11.92

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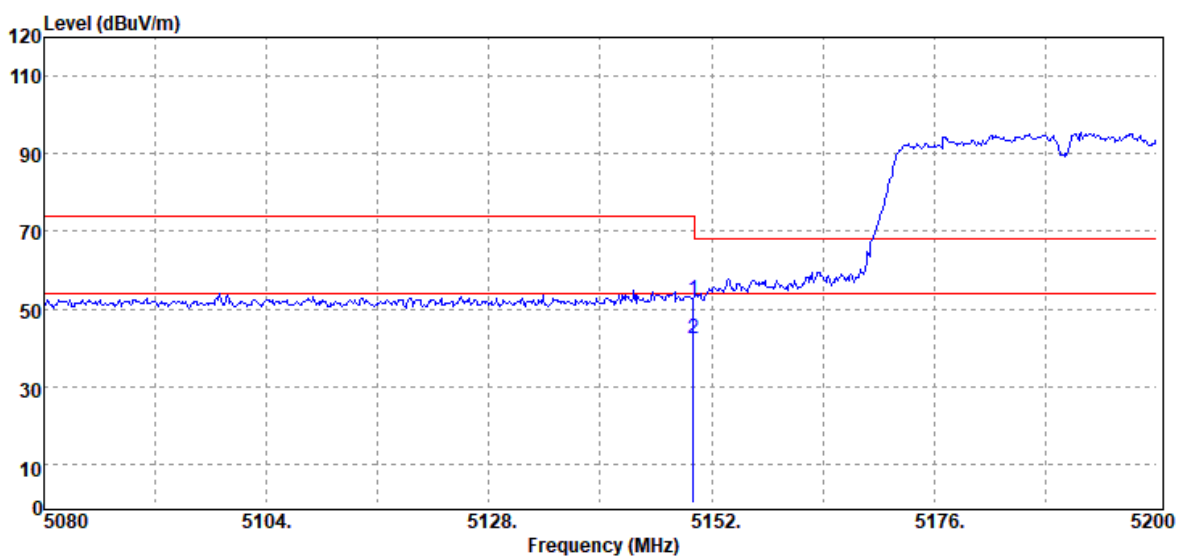
Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5150.00	Peak	46.29	7.60	53.89	74.00	-20.11
5150.00	Average	34.97	7.60	42.57	54.00	-11.43

Report No.: T201222W02-RP4

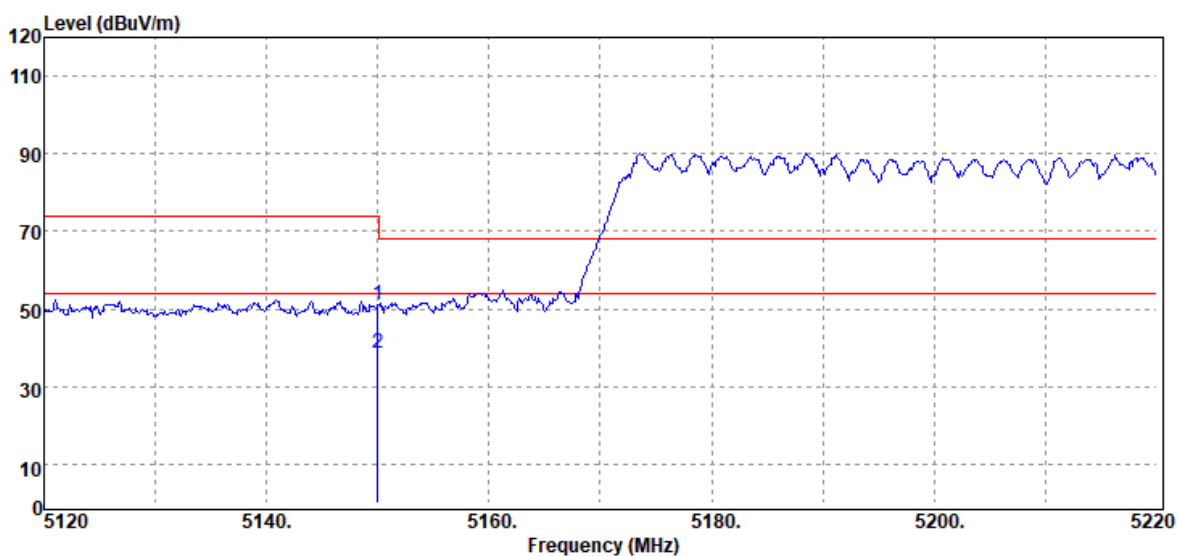
Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5150.00	Peak	44.52	7.60	52.12	74.00	-21.88
5150.00	Average	34.95	7.60	42.55	54.00	-11.45

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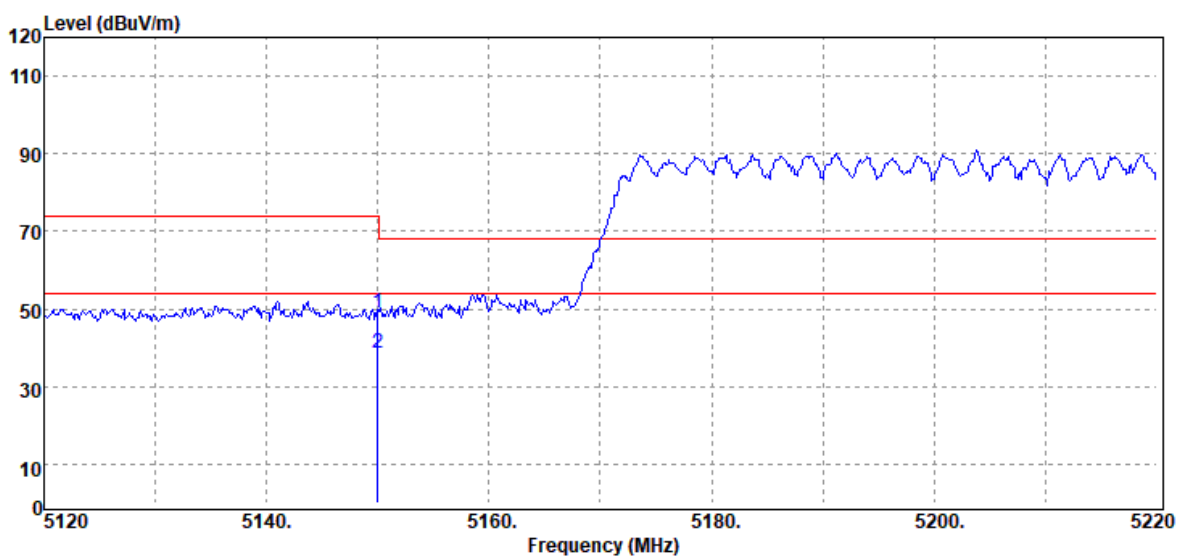
Test Mode	I EEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5150.00	Peak	43.34	7.60	50.94	74.00	-23.06
5150.00	Average	30.91	7.60	38.51	54.00	-15.49

Report No.: T201222W02-RP4

Test Mode	I EEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		

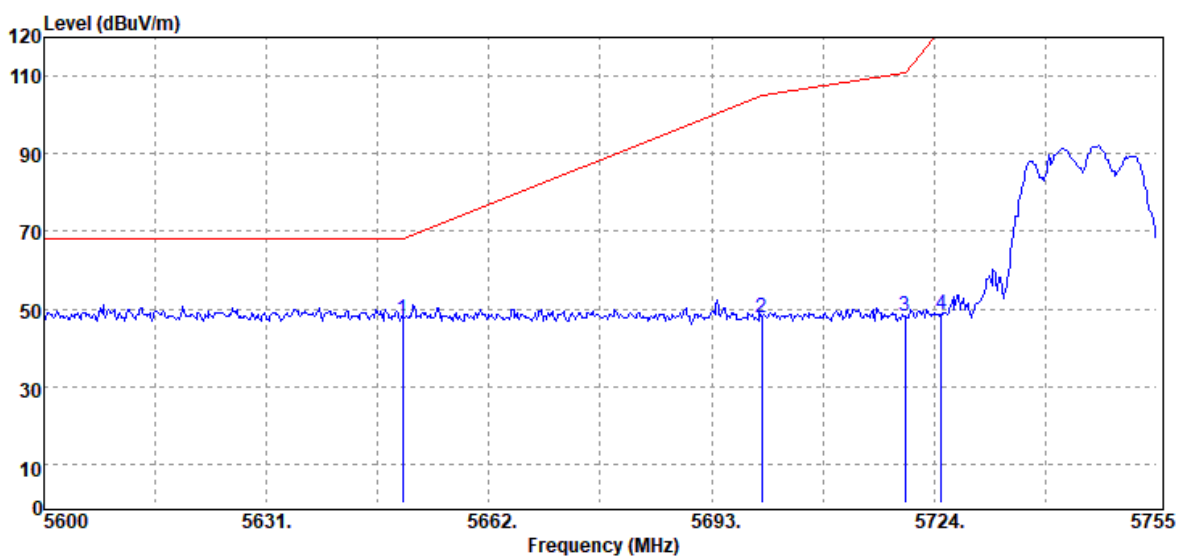


Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5150.00	Peak	41.51	7.60	49.11	74.00	-24.89
5150.00	Average	31.15	7.60	38.75	54.00	-15.25

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Test Data for UNII-3

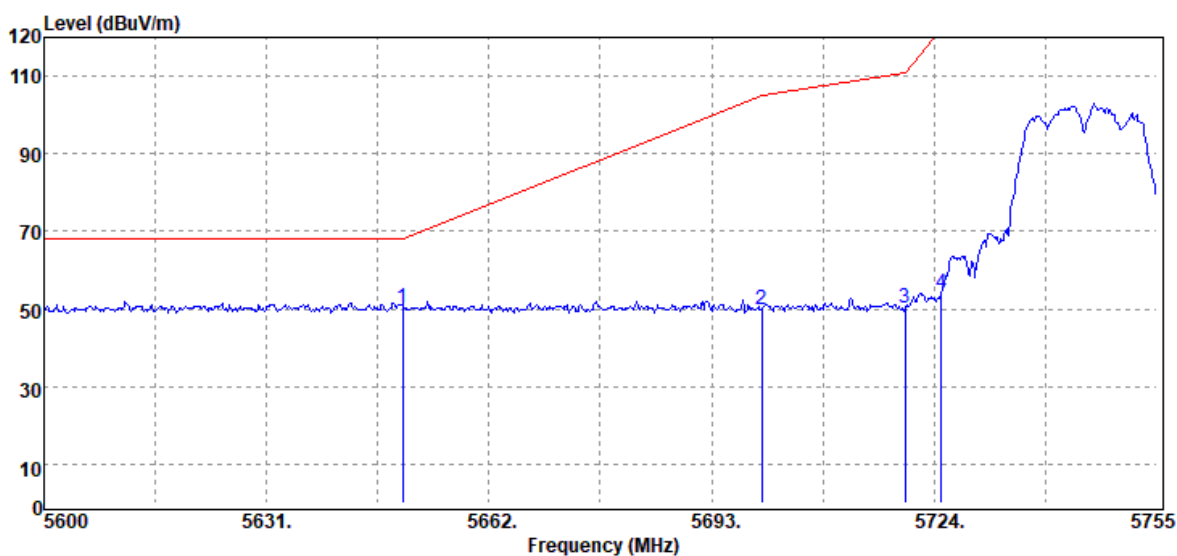
Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	38.46	8.93	47.39	68.20	-20.81
5700.00	Peak	38.55	9.08	47.63	105.20	-57.57
5720.00	Peak	38.84	9.20	48.04	110.80	-62.76
5725.00	Peak	39.16	9.22	48.38	122.20	-73.82

Report No.: T201222W02-RP4

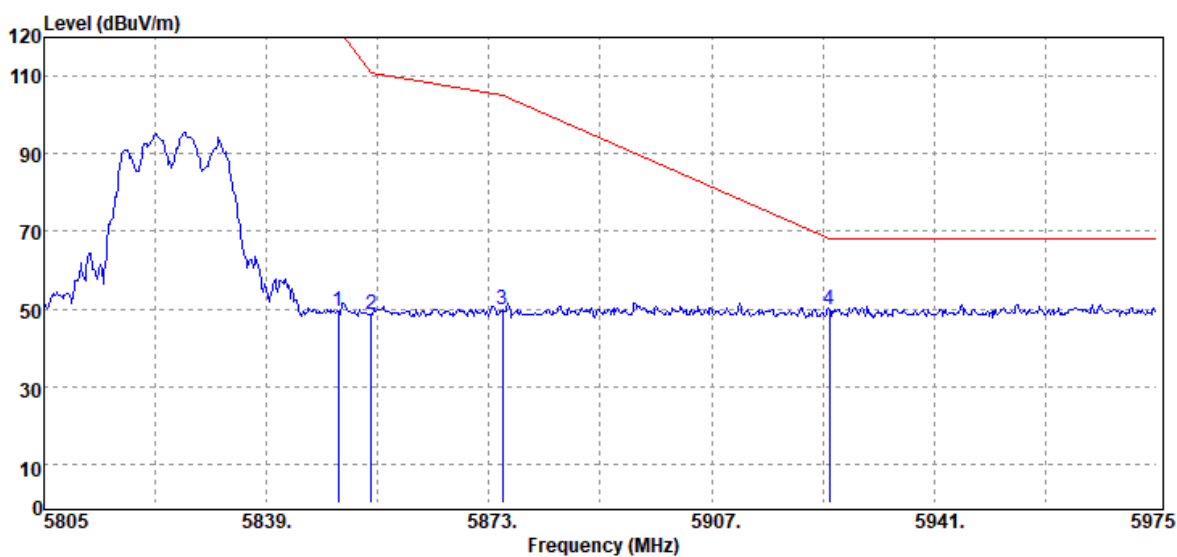
Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	41.20	8.93	50.13	68.20	-18.07
5700.00	Peak	40.81	9.08	49.89	105.20	-55.31
5720.00	Peak	41.14	9.20	50.34	110.80	-60.46
5725.00	Peak	44.61	9.22	53.83	122.20	-68.37

Report No.: T201222W02-RP4

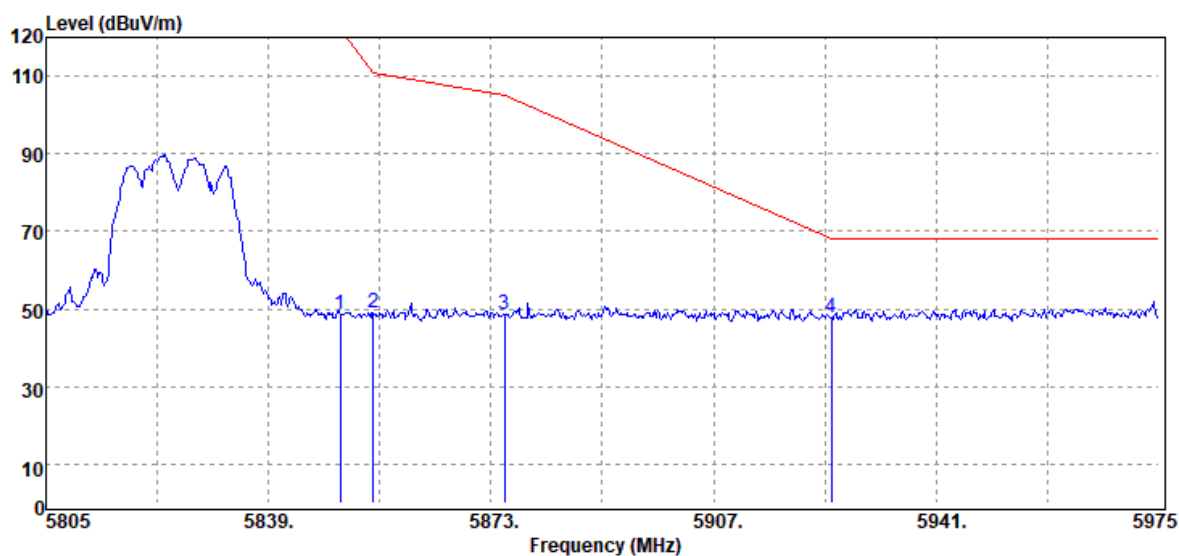
Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	39.88	9.60	49.48	122.20	-72.72
5855.00	Peak	39.15	9.61	48.76	110.80	-62.04
5875.00	Peak	40.21	9.63	49.84	105.20	-55.36
5925.00	Peak	40.03	9.69	49.72	68.20	-18.48

Report No.: T201222W02-RP4

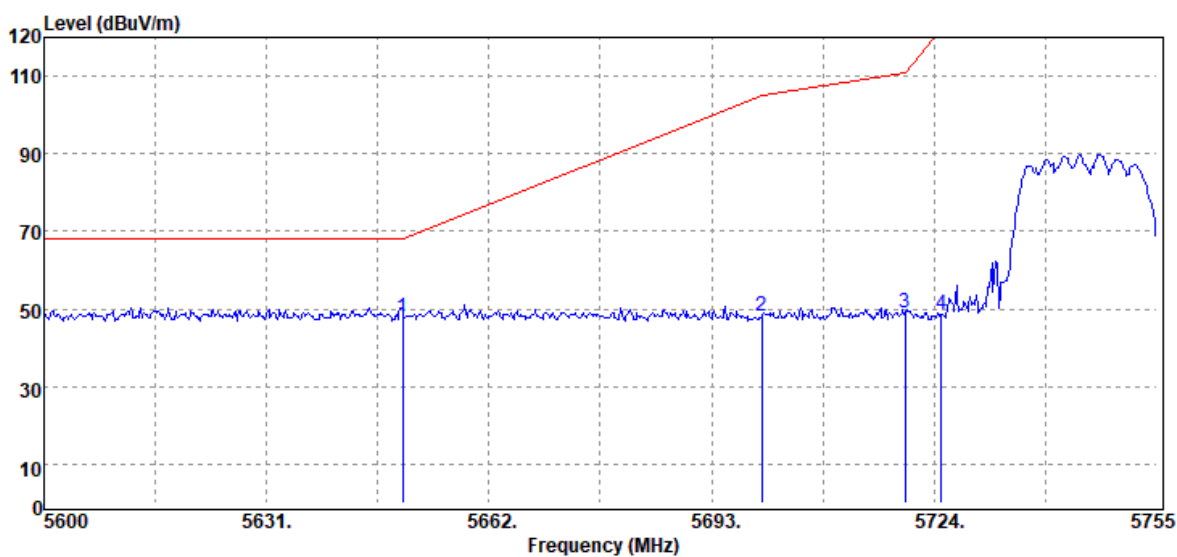
Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	38.87	9.60	48.47	122.20	-73.73
5855.00	Peak	39.20	9.61	48.81	110.80	-61.99
5875.00	Peak	39.10	9.63	48.73	105.20	-56.47
5925.00	Peak	37.87	9.69	47.56	68.20	-20.64

Report No.: T201222W02-RP4

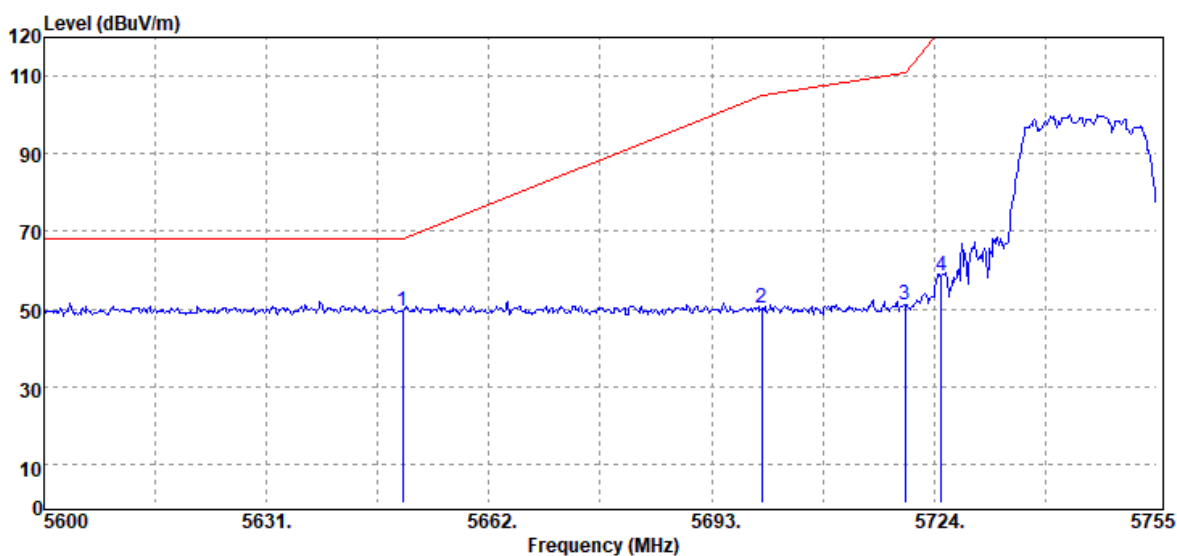
Test Mode	IEEE 802.11n 20 MHz / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	38.82	8.93	47.75	68.20	-20.45
5700.00	Peak	39.06	9.08	48.14	105.20	-57.06
5720.00	Peak	39.85	9.20	49.05	110.80	-61.75
5725.00	Peak	39.21	9.22	48.43	122.20	-73.77

Report No.: T201222W02-RP4

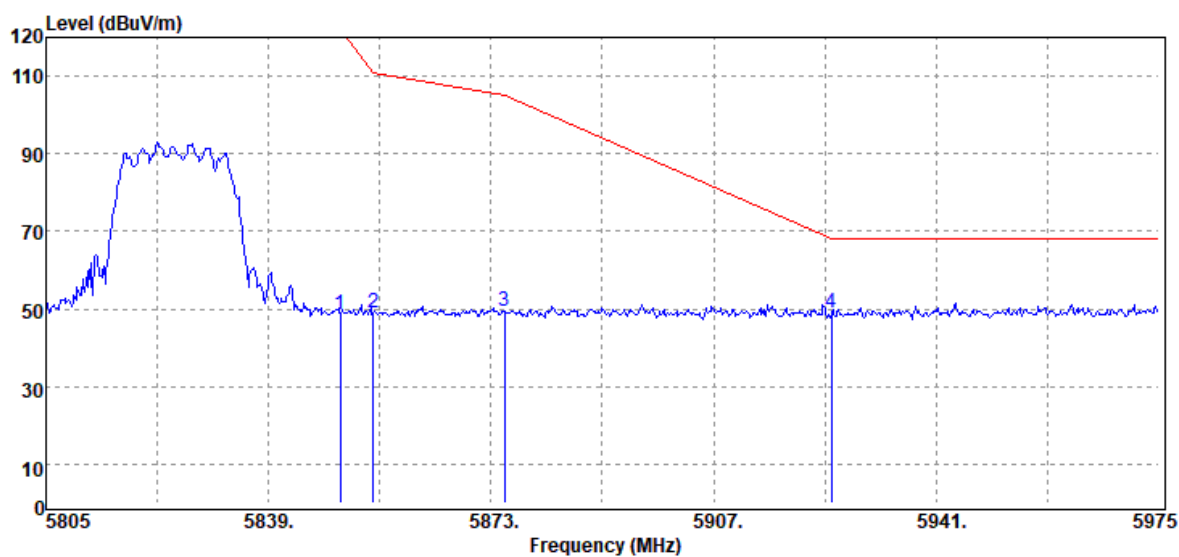
Test Mode	IEEE 802.11n 20 MHz / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	40.56	8.93	49.49	68.20	-18.71
5700.00	Peak	41.08	9.08	50.16	105.20	-55.04
5720.00	Peak	41.80	9.20	51.00	110.80	-59.80
5725.00	Peak	49.53	9.22	58.75	122.20	-63.45

Report No.: T201222W02-RP4

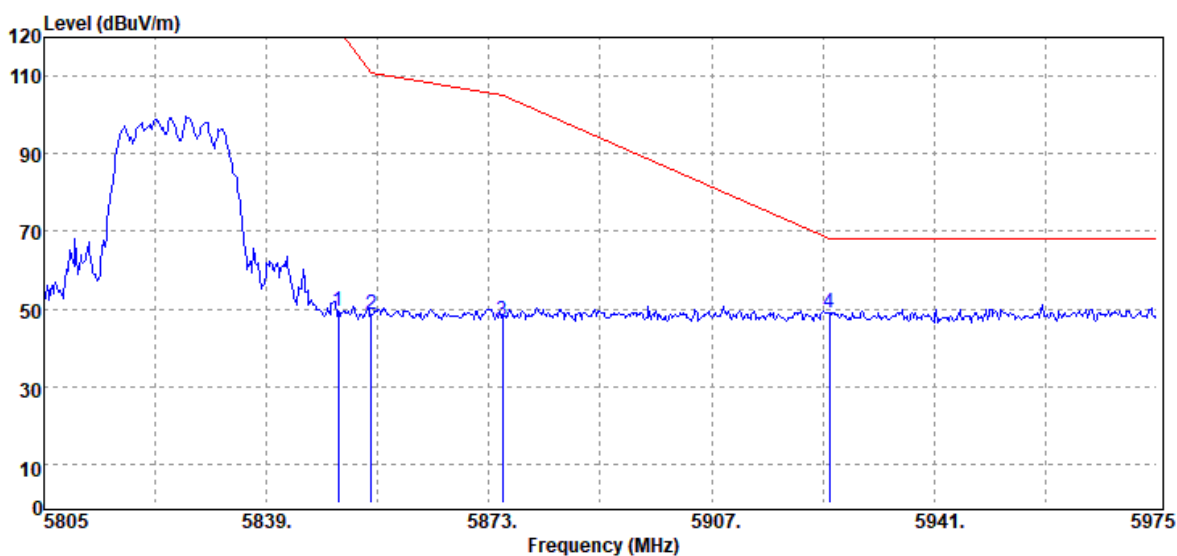
Test Mode	IEEE 802.11n 20 MHz / 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	39.17	9.60	48.77	122.20	-73.43
5855.00	Peak	39.36	9.61	48.97	110.80	-61.83
5875.00	Peak	39.64	9.63	49.27	105.20	-55.93
5925.00	Peak	39.15	9.69	48.84	68.20	-19.36

Report No.: T201222W02-RP4

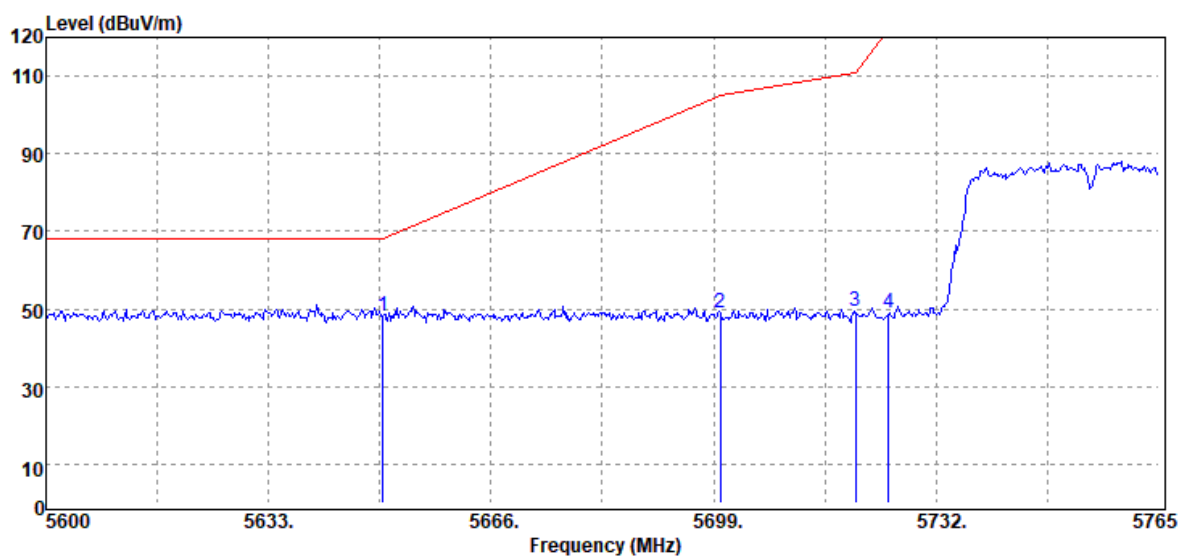
Test Mode	IEEE 802.11n 20 MHz / 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	39.89	9.60	49.49	122.20	-72.71
5855.00	Peak	38.81	9.61	48.42	110.80	-62.38
5875.00	Peak	37.47	9.63	47.10	105.20	-58.10
5925.00	Peak	39.33	9.69	49.02	68.20	-19.18

Report No.: T201222W02-RP4

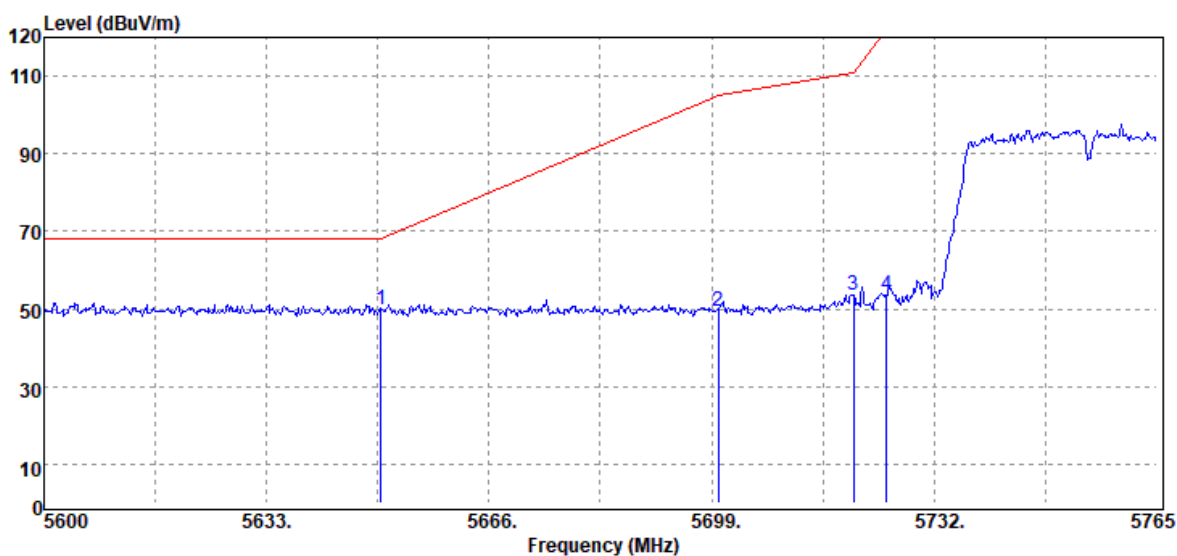
Test Mode	IEEE 802.11n 40 MHz/ 5755 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	39.42	8.93	48.35	68.20	-19.85
5700.00	Peak	39.89	9.08	48.97	105.20	-56.23
5720.00	Peak	40.01	9.20	49.21	110.80	-61.59
5725.00	Peak	39.91	9.22	49.13	122.20	-73.07

Report No.: T201222W02-RP4

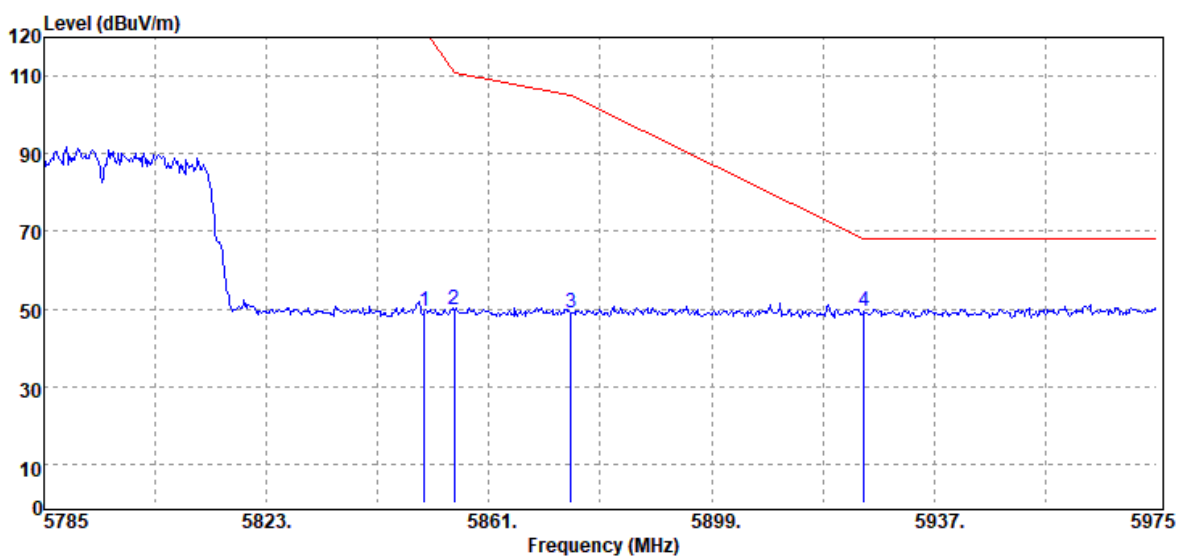
Test Mode	IEEE 802.11n 40 MHz/ 5755 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	40.93	8.93	49.86	68.20	-18.34
5700.00	Peak	40.35	9.08	49.43	105.20	-55.77
5720.00	Peak	44.16	9.20	53.36	110.80	-57.44
5725.00	Peak	44.19	9.22	53.41	122.20	-68.79

Report No.: T201222W02-RP4

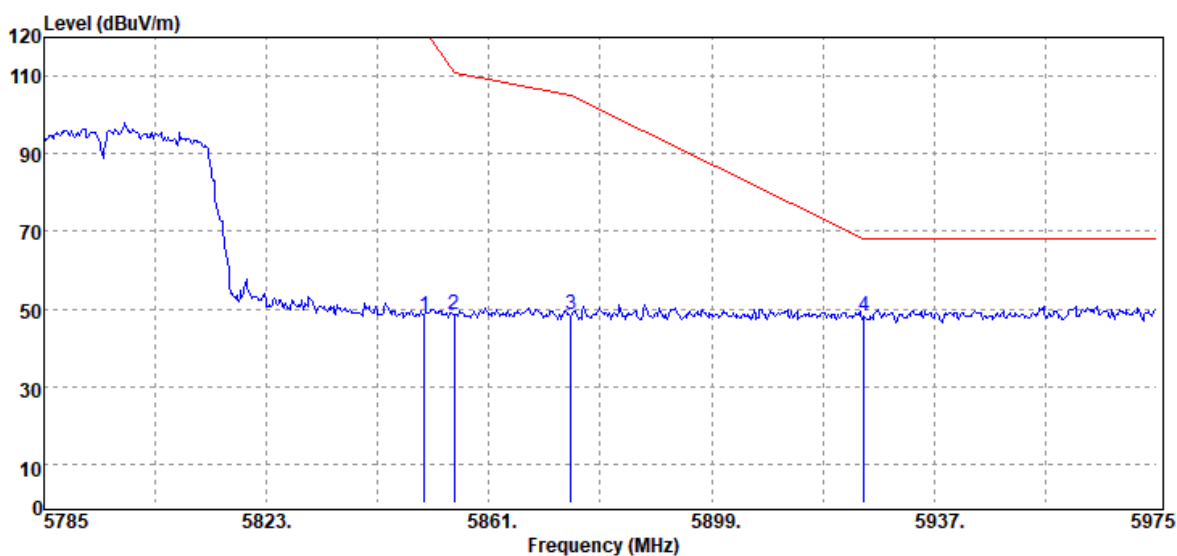
Test Mode	IEEE 802.11n 40 MHz/ 5795 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	39.83	9.60	49.43	122.20	-72.77
5855.00	Peak	40.29	9.61	49.90	110.80	-60.90
5875.00	Peak	39.33	9.63	48.96	105.20	-56.24
5925.00	Peak	39.56	9.69	49.25	68.20	-18.95

Report No.: T201222W02-RP4

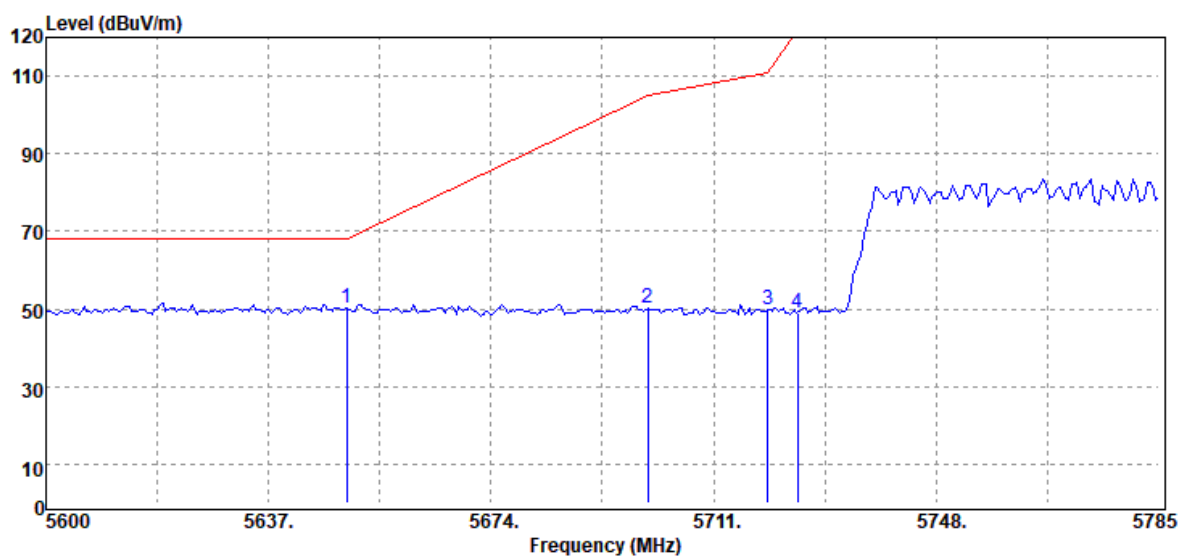
Test Mode	IEEE 802.11n 40 MHz/ 5795 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	38.60	9.60	48.20	122.20	-74.00
5855.00	Peak	39.12	9.61	48.73	110.80	-62.07
5875.00	Peak	39.00	9.63	48.63	105.20	-56.57
5925.00	Peak	38.47	9.69	48.16	68.20	-20.04

Report No.: T201222W02-RP4

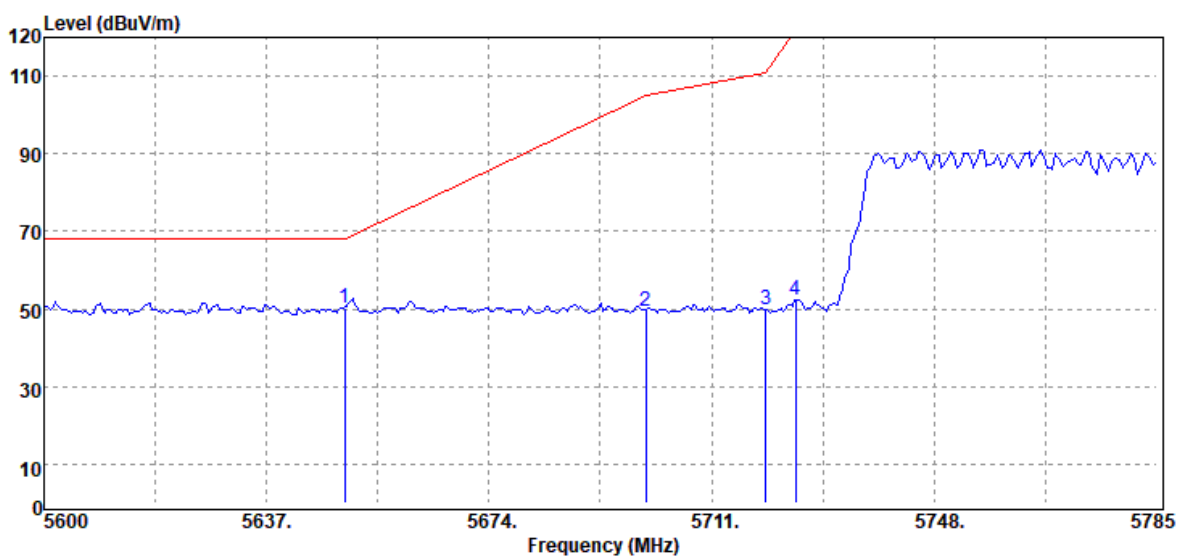
Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	41.18	8.93	50.11	68.20	-18.09
5700.00	Peak	41.01	9.08	50.09	105.20	-55.11
5720.00	Peak	40.72	9.20	49.92	110.80	-60.88
5725.00	Peak	39.79	9.22	49.01	122.20	-73.19

Report No.: T201222W02-RP4

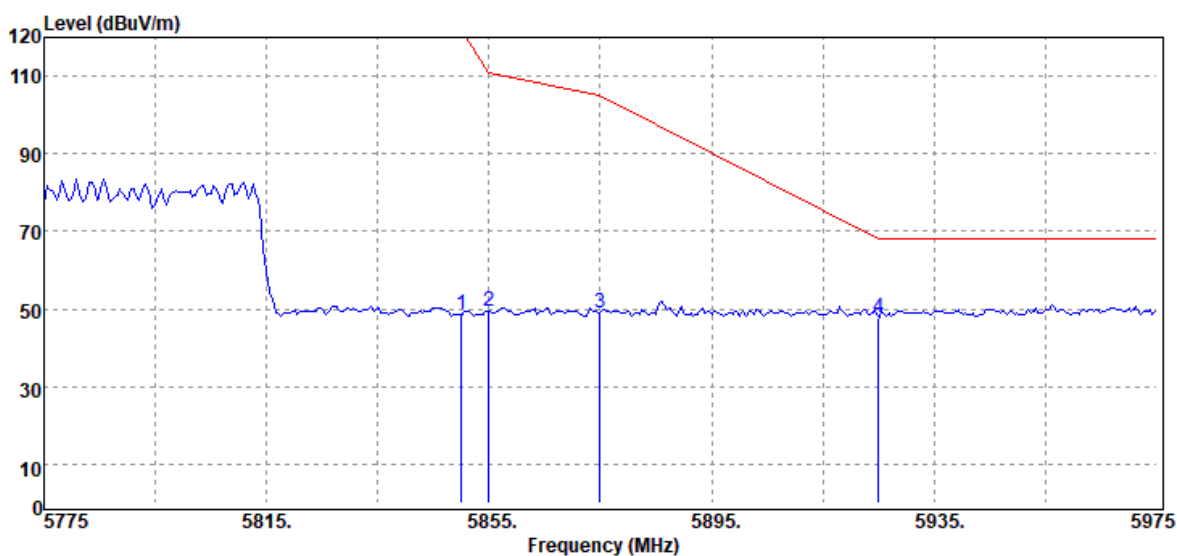
Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5650.00	Peak	41.22	8.93	50.15	68.20	-18.05
5700.00	Peak	40.52	9.08	49.60	105.20	-55.60
5720.00	Peak	40.70	9.20	49.90	110.80	-60.90
5725.00	Peak	43.11	9.22	52.33	122.20	-69.87

Report No.: T201222W02-RP4

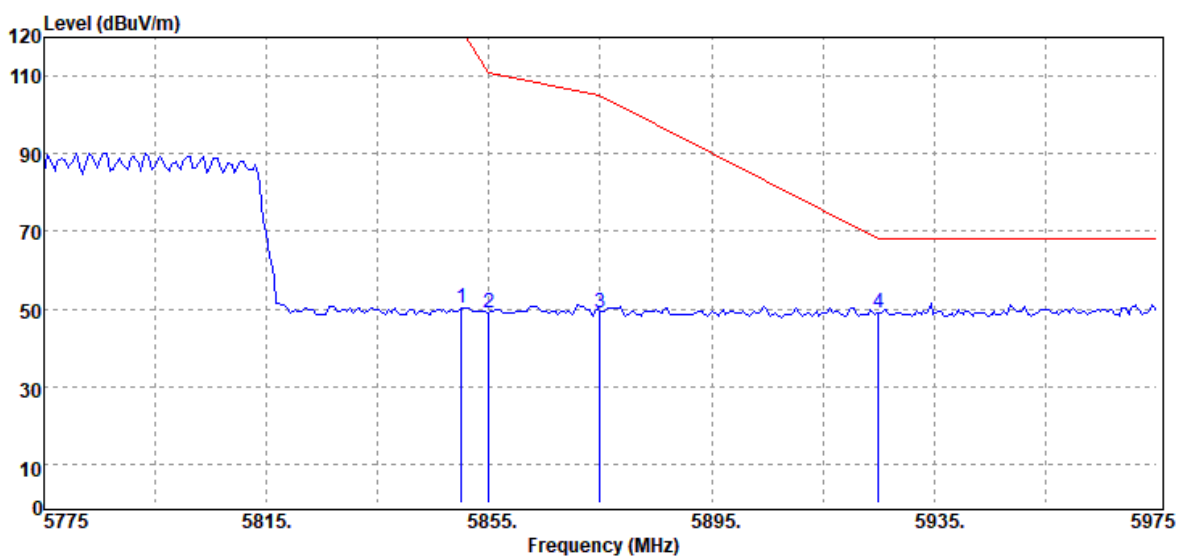
Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	38.98	9.60	48.58	122.20	-73.62
5855.00	Peak	39.70	9.61	49.31	110.80	-61.49
5875.00	Peak	39.23	9.63	48.86	105.20	-56.34
5925.00	Peak	38.09	9.69	47.78	68.20	-20.42

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Band Edge	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		

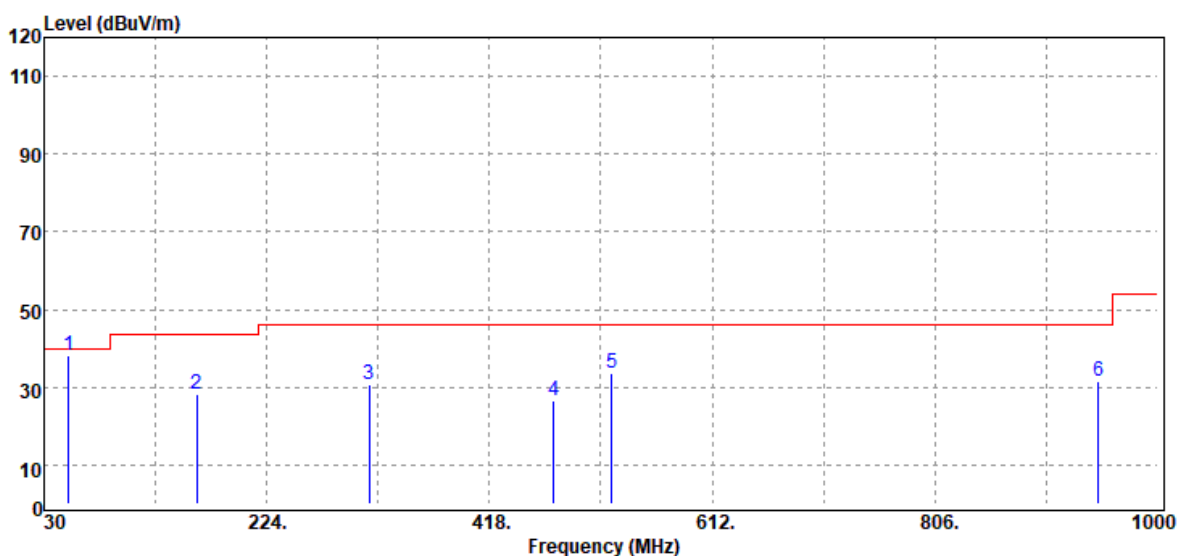


Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5850.00	Peak	40.53	9.60	50.13	122.20	-72.07
5855.00	Peak	39.46	9.61	49.07	110.80	-61.73
5875.00	Peak	39.51	9.63	49.14	105.20	-56.06
5925.00	Peak	39.39	9.69	49.08	68.20	-19.12

Report No.: T201222W02-RP4

Below 1G Test Data

Test Mode	Mode 1	Temp/Hum	21.5(°C)/ 63%RH
Test Item	30MHz-1GHz	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		

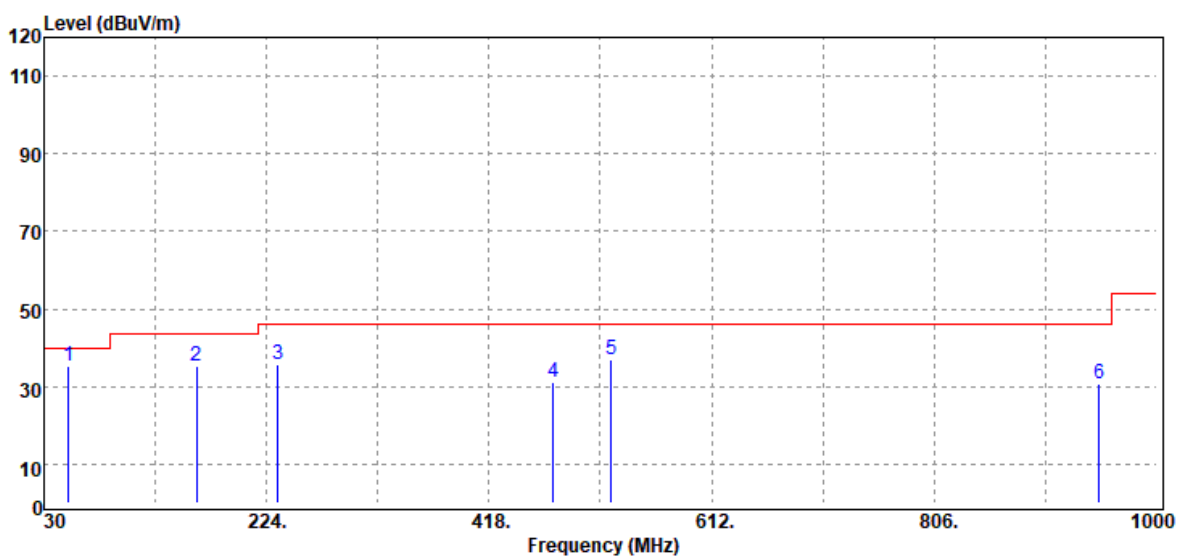


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
51.34	Peak	53.85	-15.68	38.17	40.00	-1.83
162.89	Peak	38.64	-10.42	28.22	43.50	-15.28
313.24	Peak	38.93	-8.05	30.88	46.00	-15.12
474.26	Peak	30.26	-3.51	26.75	46.00	-19.25
524.70	Peak	36.59	-3.04	33.55	46.00	-12.45
948.59	Peak	27.19	4.34	31.53	46.00	-14.47

Note: 1. No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)
2. For below 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	Mode 1	Temp/Hum	21.5(°C)/ 63%RH
Test Item	30MHz-1GHz	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
51.34	Peak	51.02	-15.68	35.34	40.00	-4.66
162.89	Peak	45.64	-10.42	35.22	43.50	-8.28
233.70	Peak	46.60	-11.04	35.56	46.00	-10.44
474.26	Peak	34.59	-3.51	31.08	46.00	-14.92
524.70	Peak	40.15	-3.04	37.11	46.00	-8.89
949.56	Peak	26.15	4.44	30.59	46.00	-15.41

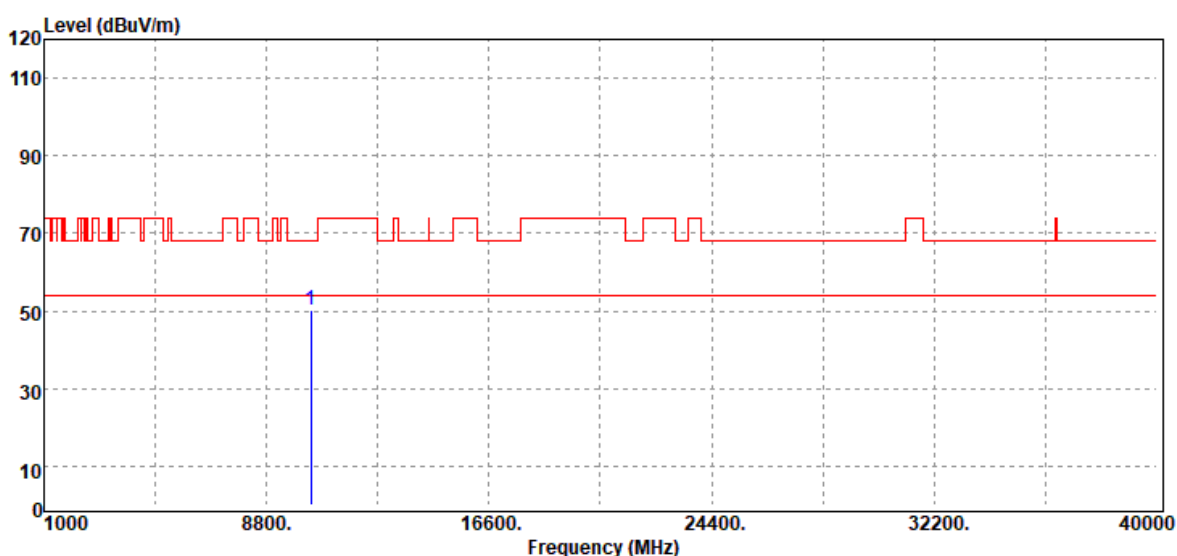
Note: 1. No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)
2. For below 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Above 1G

Test Data for UNII-1

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



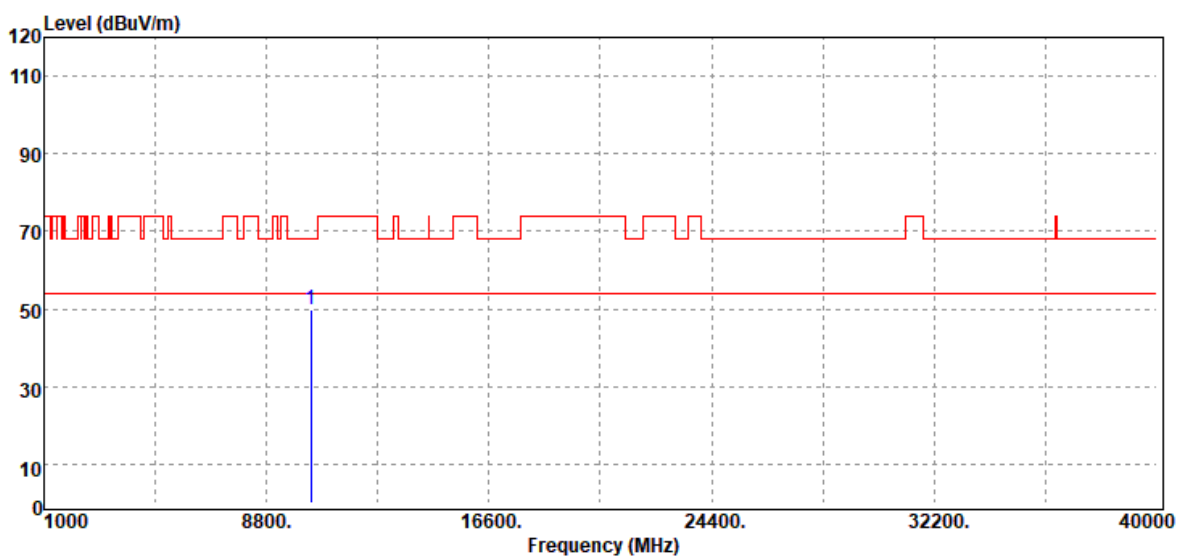
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10360.00	Peak	31.93	18.15	50.08	68.20	-18.12
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



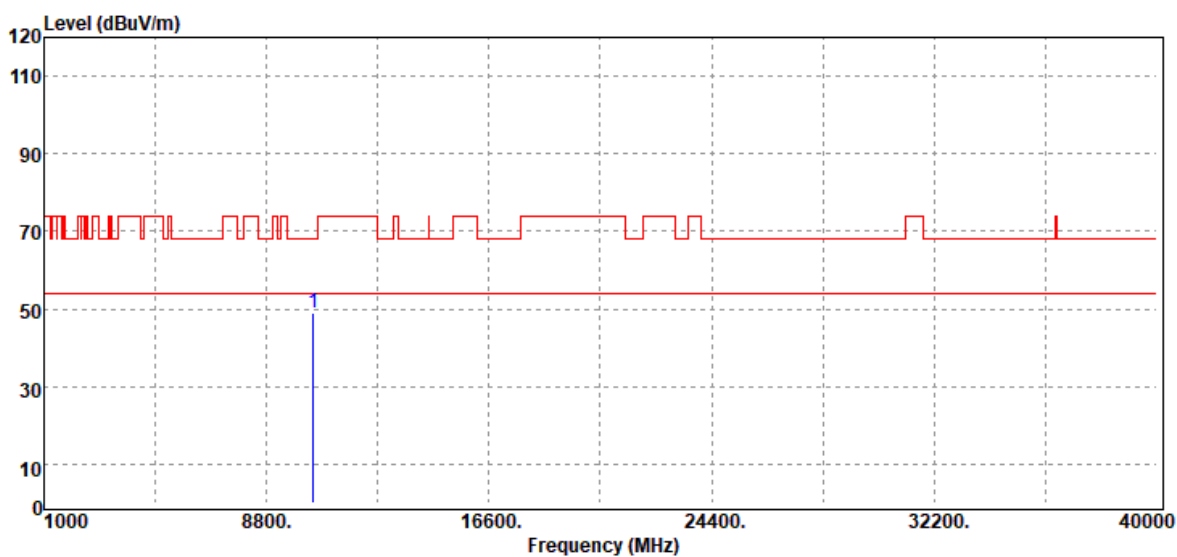
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10360.00	Peak	31.57	18.15	49.72	68.20	-18.48
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5220 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonics	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



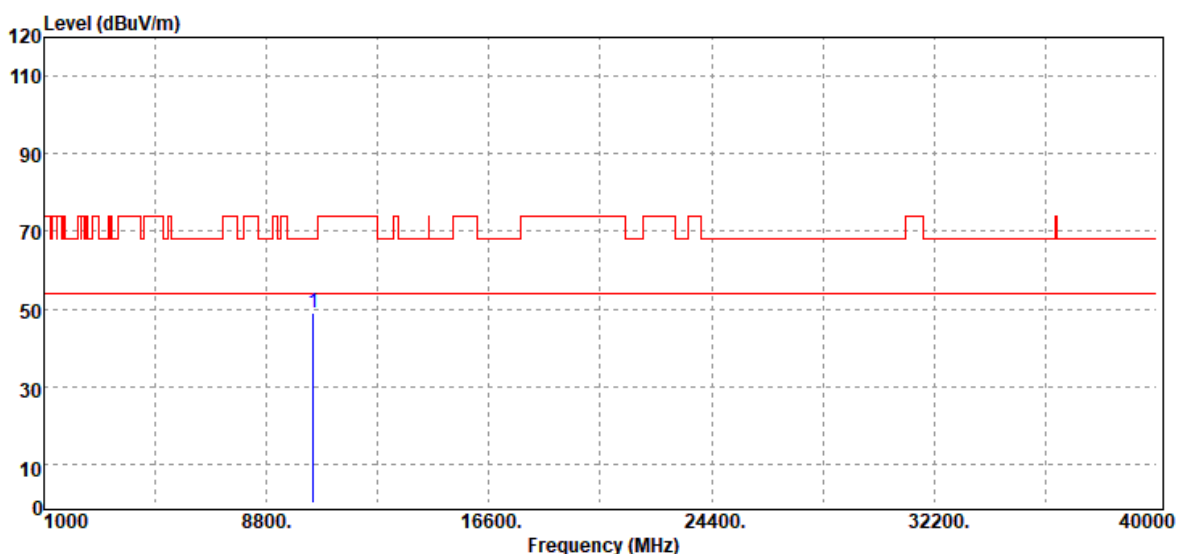
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10440.00	Peak	30.69	18.28	48.97	68.20	-19.23
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5220 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10440.00	Peak	30.69	18.28	48.97	68.20	-19.23
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



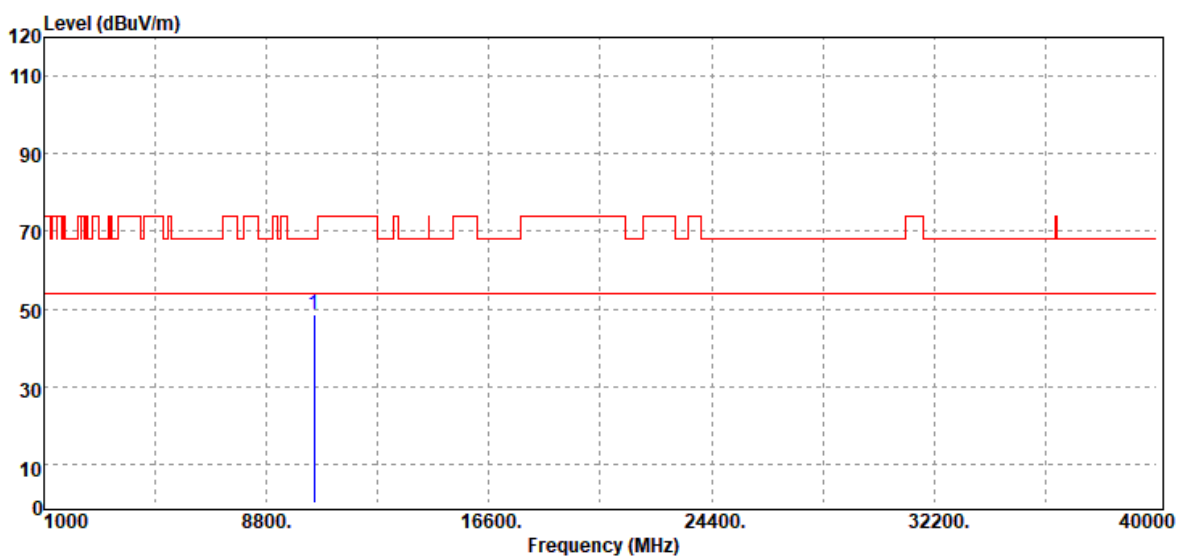
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10480.00	Peak	30.64	18.32	48.96	68.20	-19.24
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



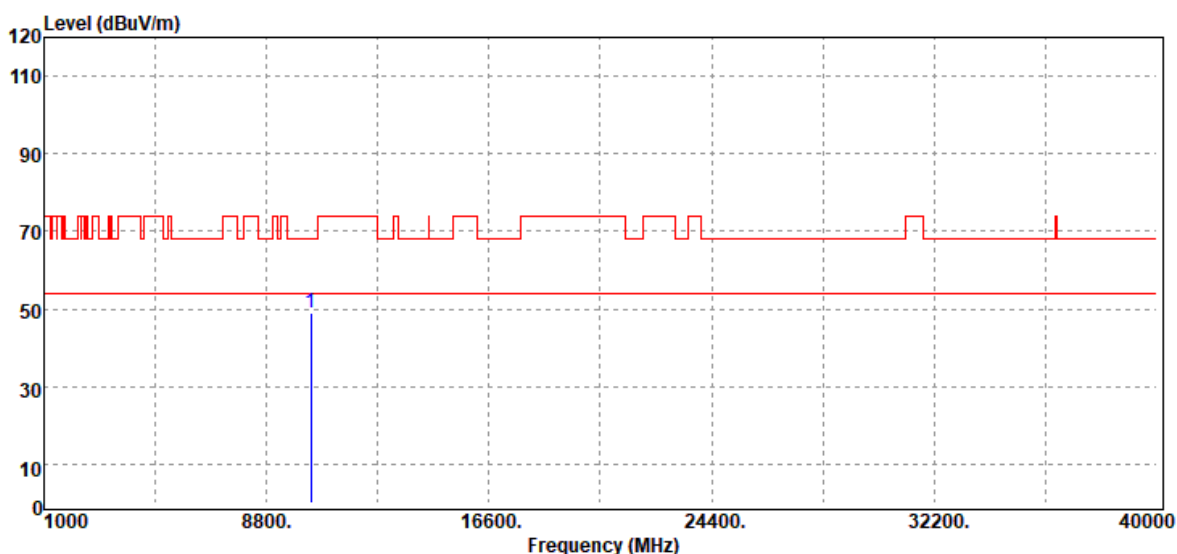
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10480.00	Peak	30.25	18.32	48.57	68.20	-19.63
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5180MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



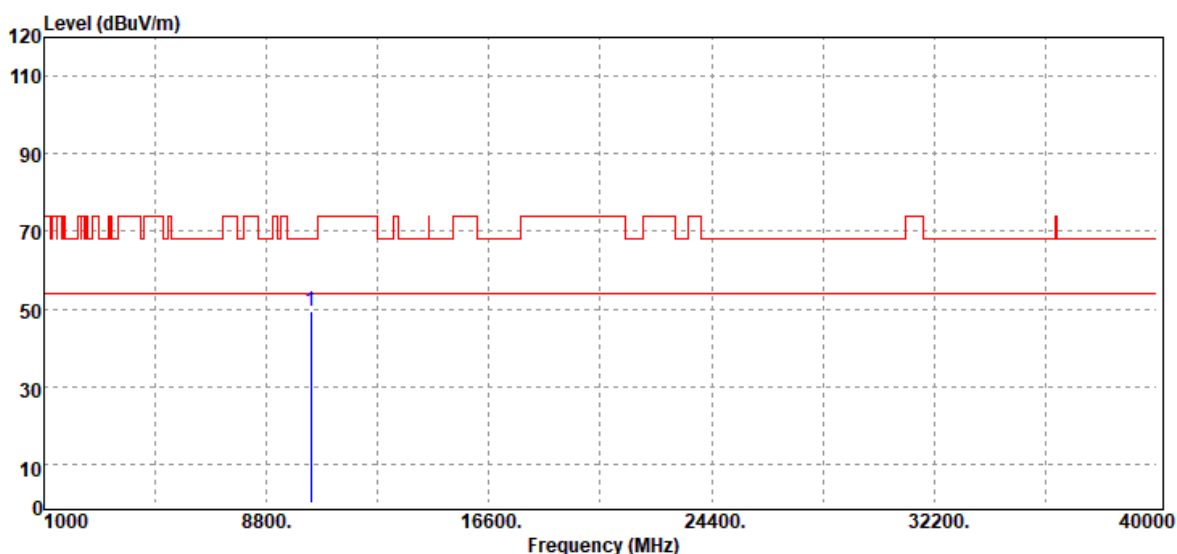
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBuV	Factor dB	Actual FS dBuV/m	Limit @3m dBuV/m	Margin dB
10360.00	Peak	30.99	18.15	49.14	68.20	-19.06
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz/ 5180MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



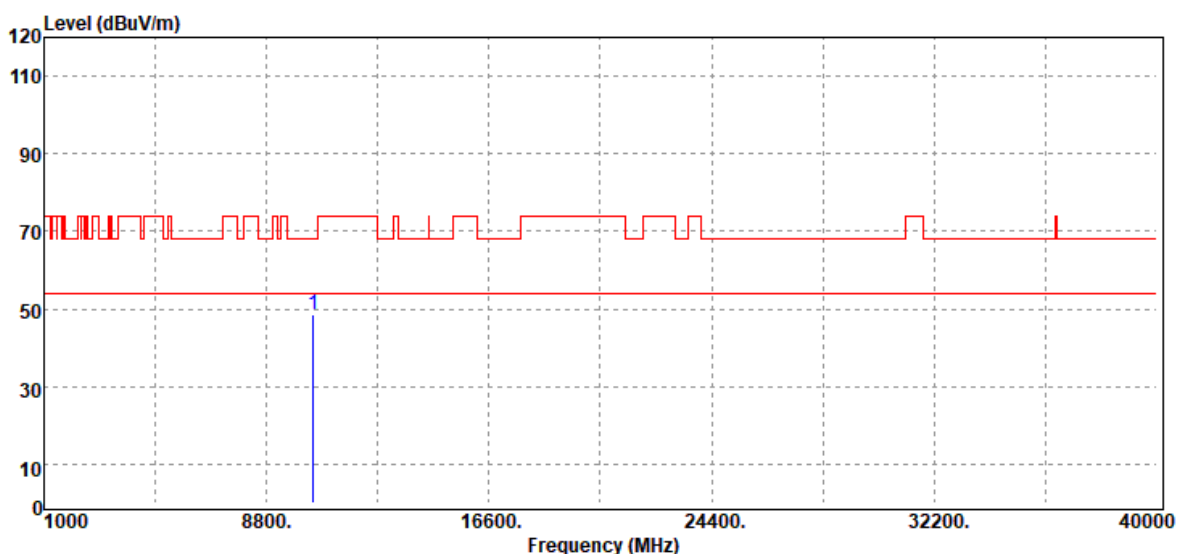
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10360.00	Peak	31.06	18.15	49.21	68.20	-18.99
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5220MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



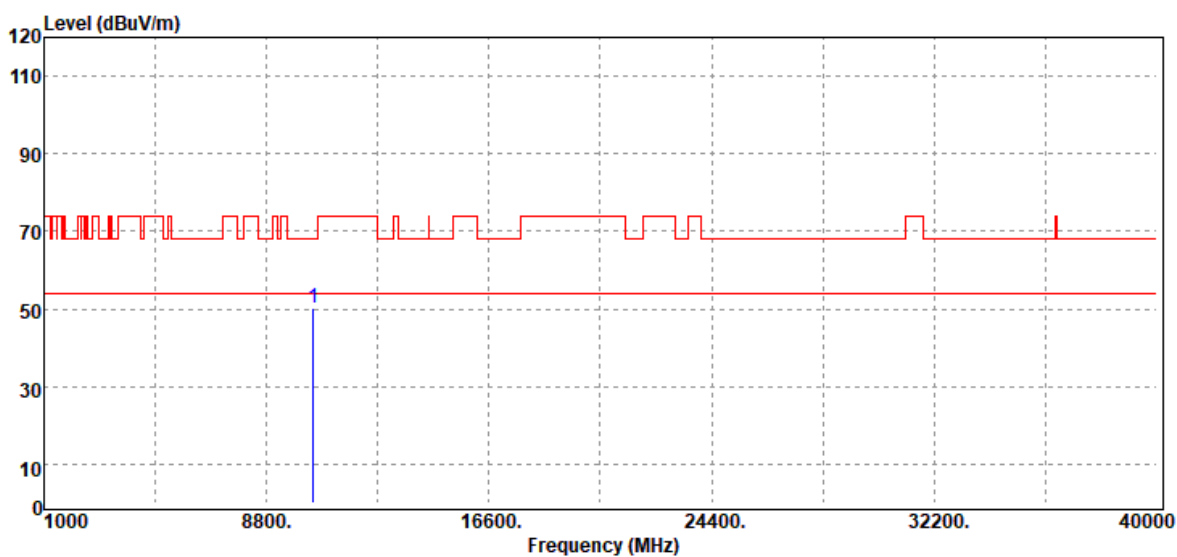
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10440.00	Peak	30.39	18.28	48.67	68.20	-19.53
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5220MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



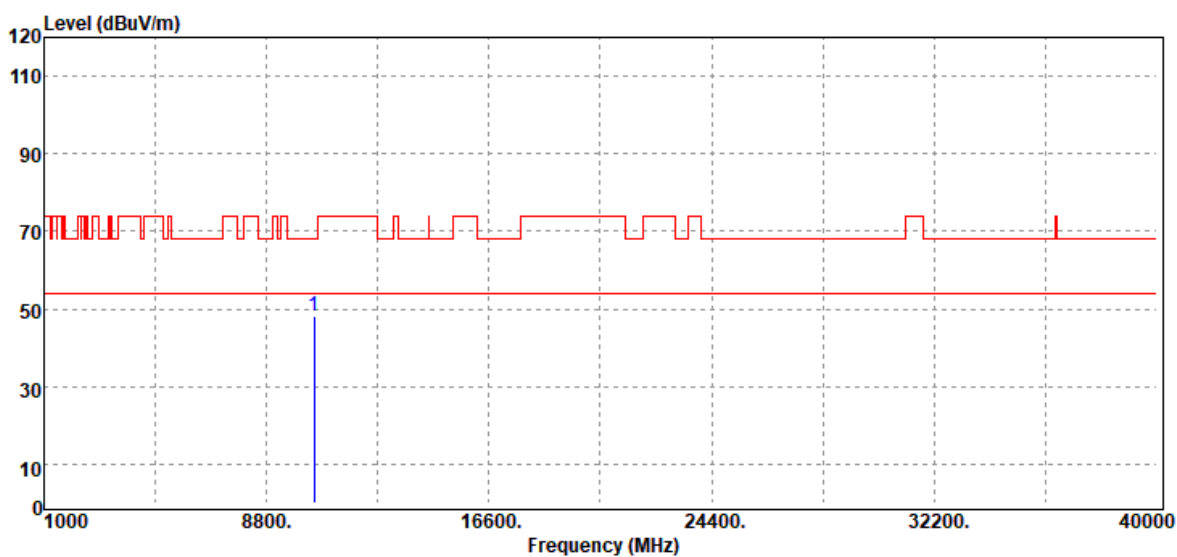
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10440.00	Peak	32.04	18.28	50.32	68.20	-17.88
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5240MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



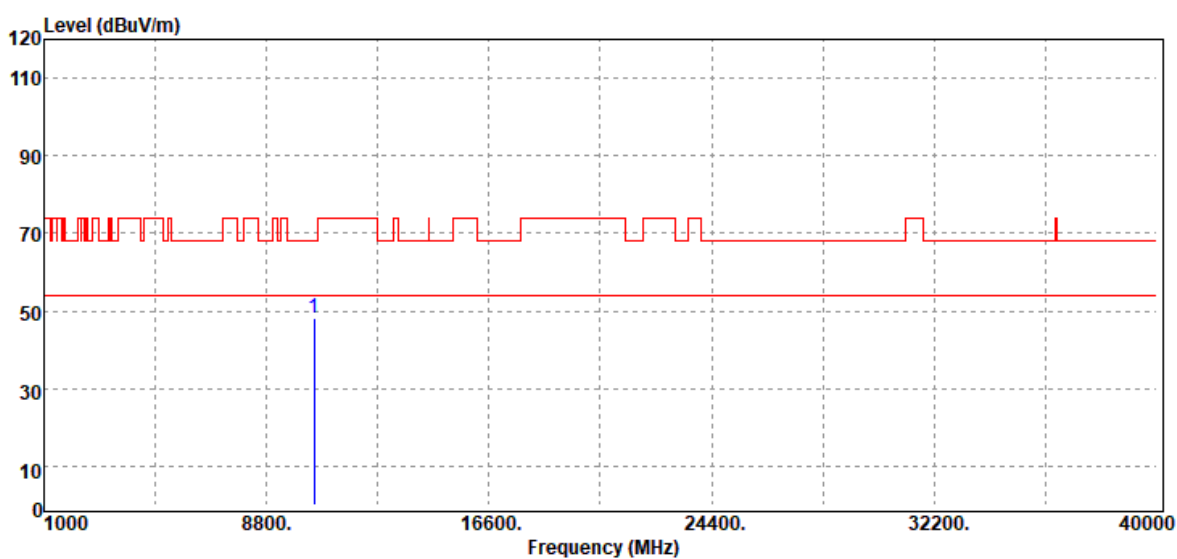
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10480.00	Peak	29.87	18.32	48.19	68.20	-20.01
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5240MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



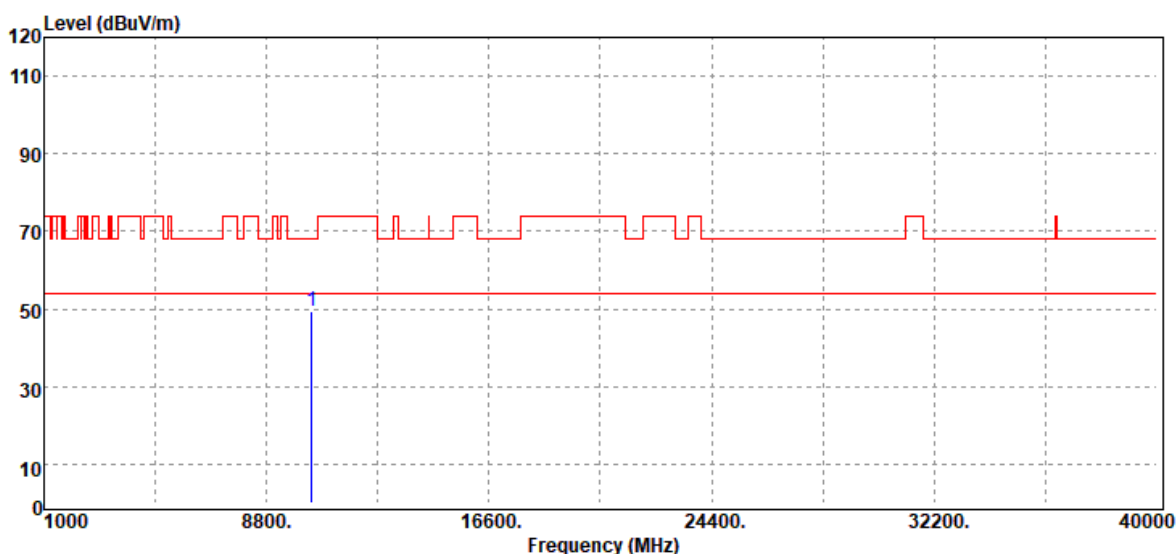
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10480.00	Peak	29.92	18.32	48.24	68.20	-19.96
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



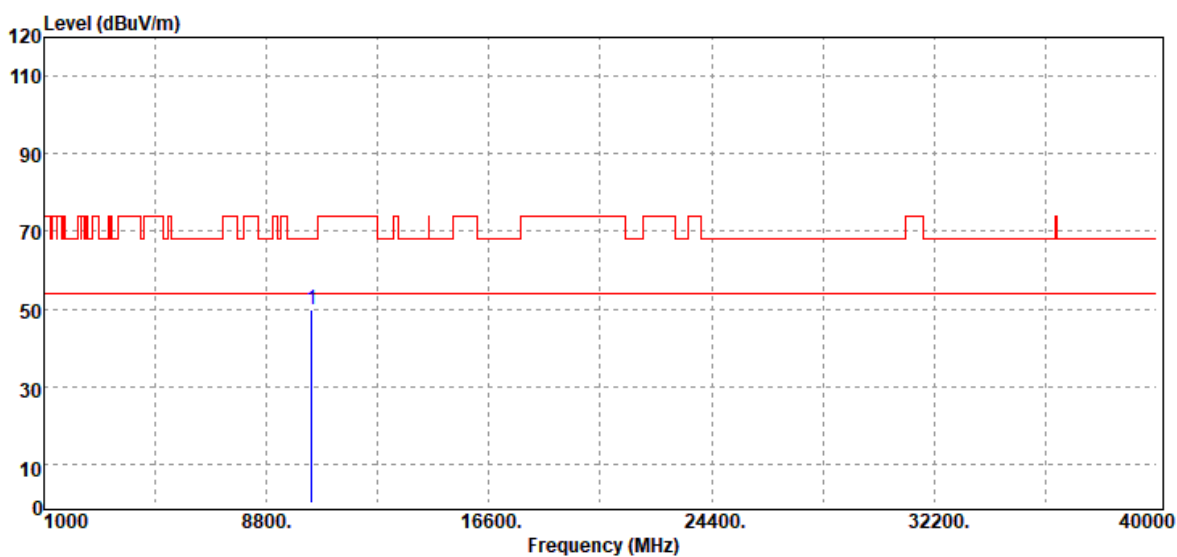
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10380.00	Peak	31.20	18.22	49.42	68.20	-18.78
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10380.00	Peak	31.58	18.22	49.80	68.20	-18.40
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz / 5230MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBuV	Factor dB	Actual FS dBuV/m	Limit @3m dBuV/m	Margin dB
10460.00	Peak	30.61	18.29	48.90	68.20	-19.30
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz / 5230MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10460.00	Peak	30.02	18.29	48.31	68.20	-19.89
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10420.00	Peak	31.37	18.29	49.66	68.20	-18.54
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10420.00	Peak	31.16	18.29	49.45	68.20	-18.75
N/A						

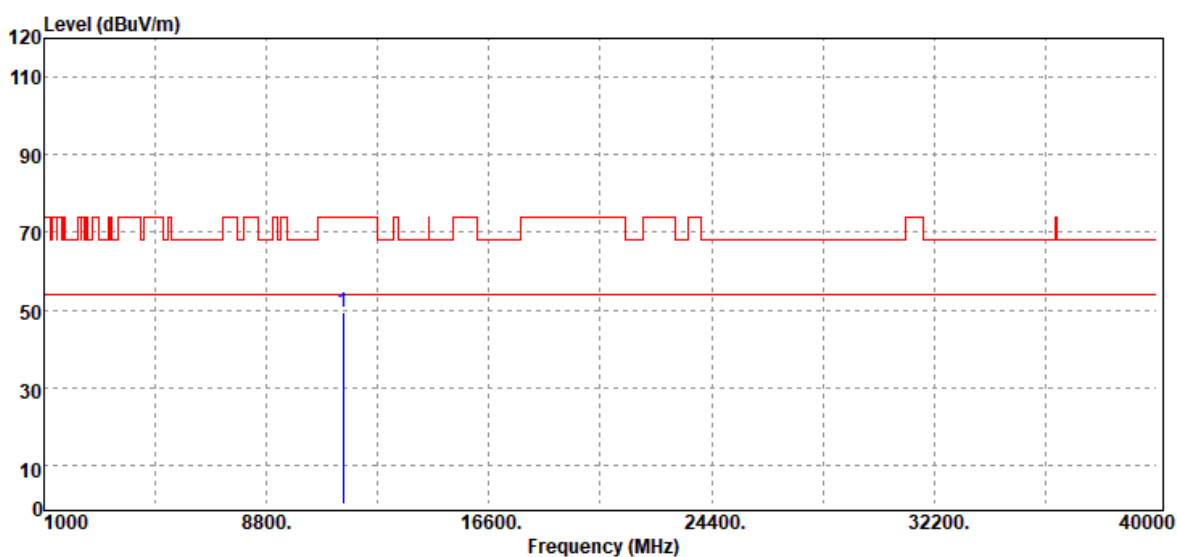
Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Data for UNII-3

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



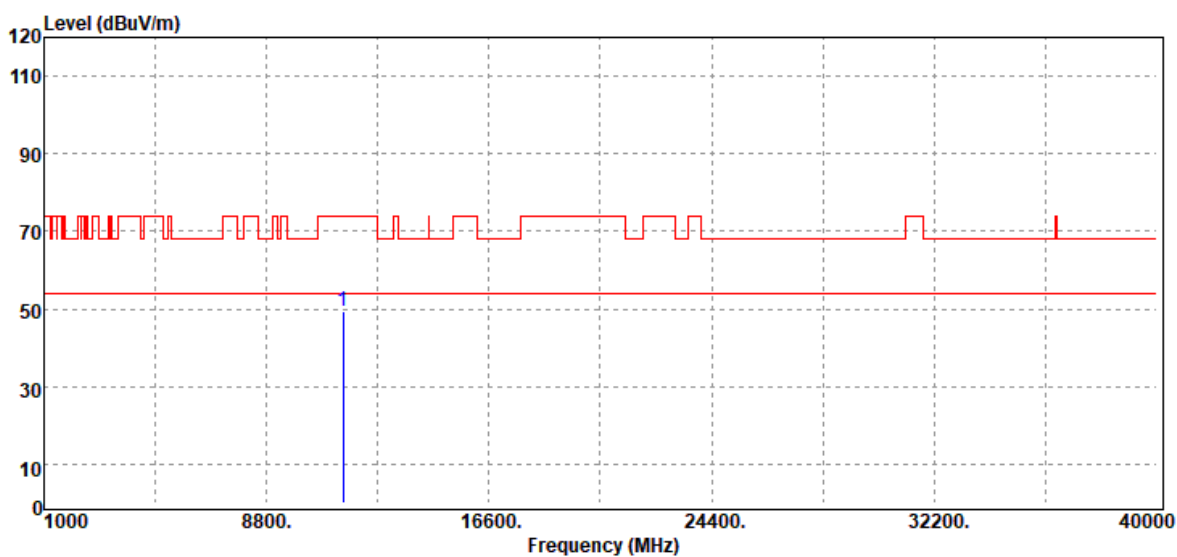
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11490.00	Peak	30.31	19.14	49.45	74.00	-24.55
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



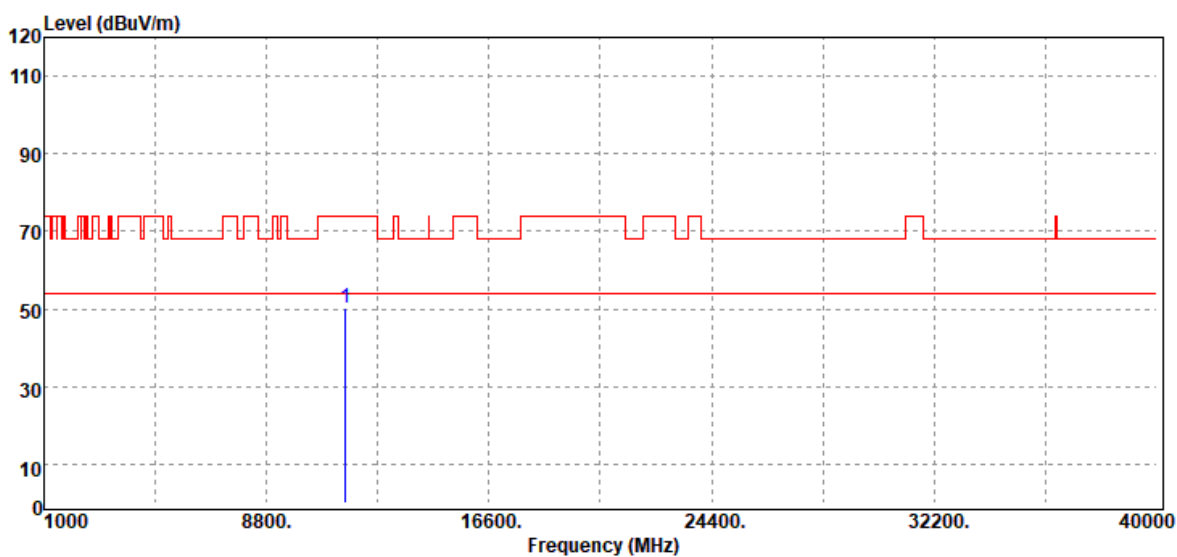
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11490.00	Peak	30.31	19.14	49.45	74.00	-24.55
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5785 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



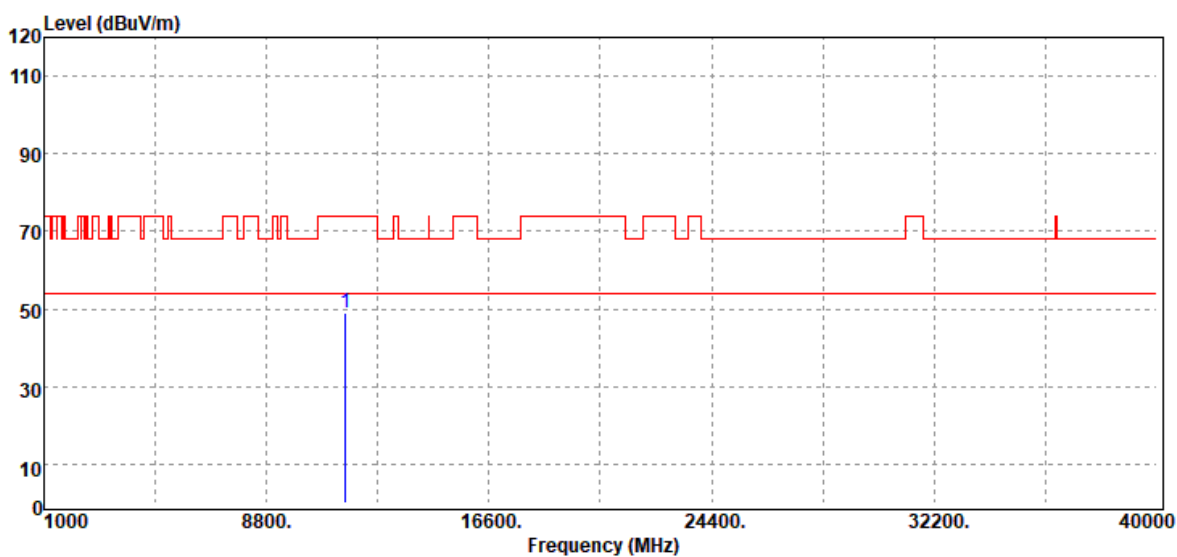
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11570.00	Peak	31.27	19.14	50.41	74.00	-23.59
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5785 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



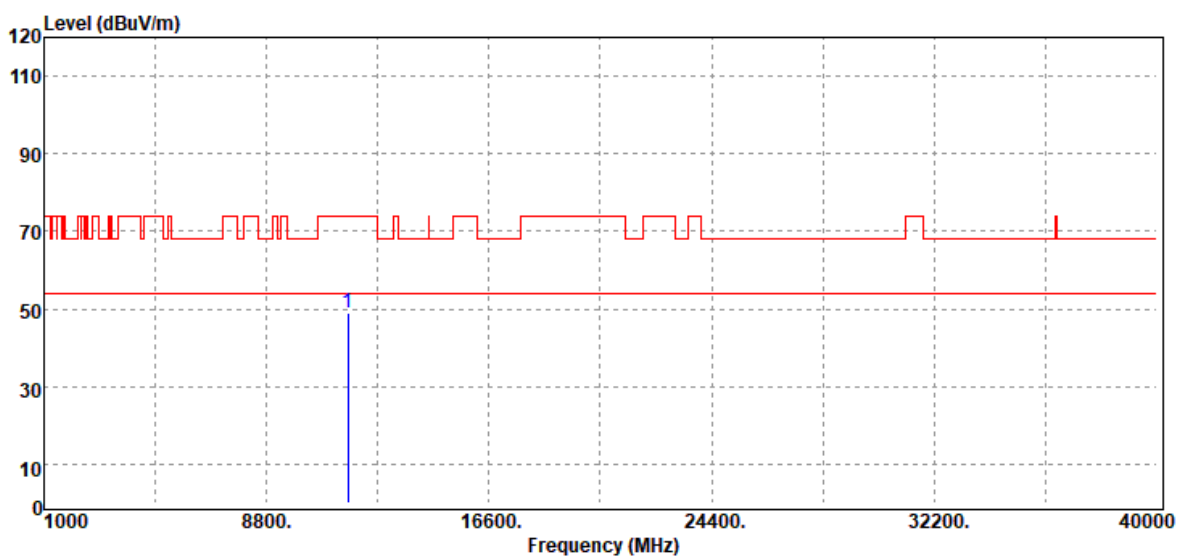
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11570.00	Peak	29.92	19.14	49.06	74.00	-24.94
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



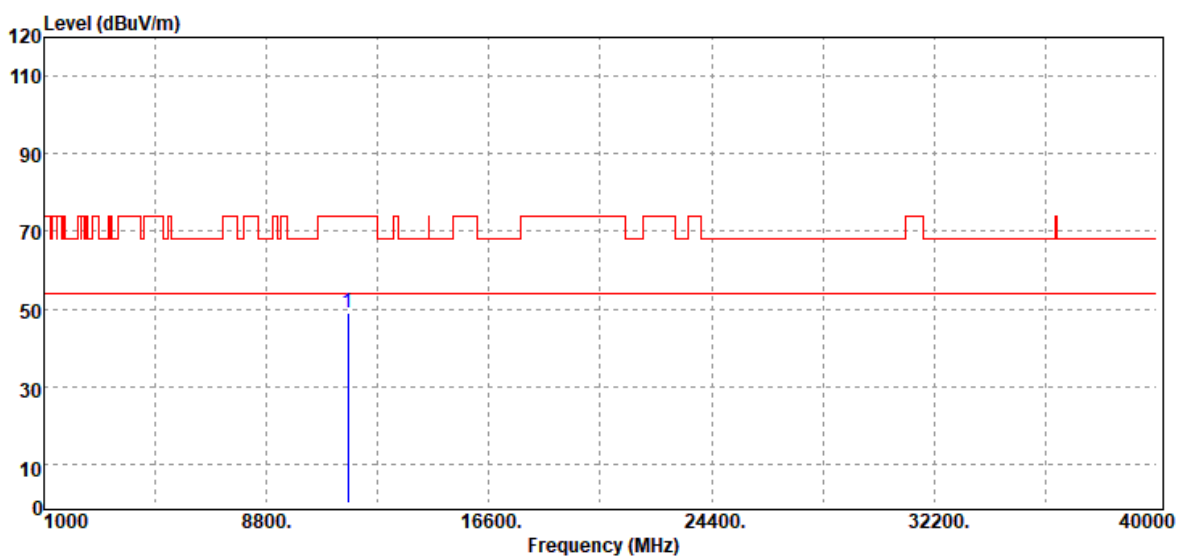
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.00	Peak	30.03	19.12	49.15	74.00	-24.85
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



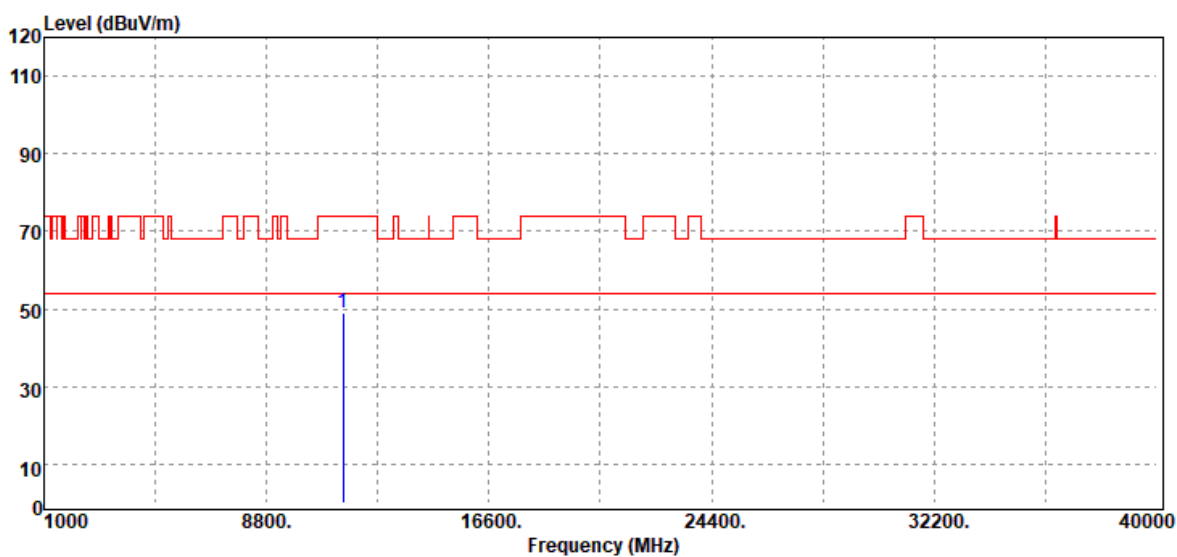
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.00	Peak	29.76	19.12	48.88	74.00	-25.12
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



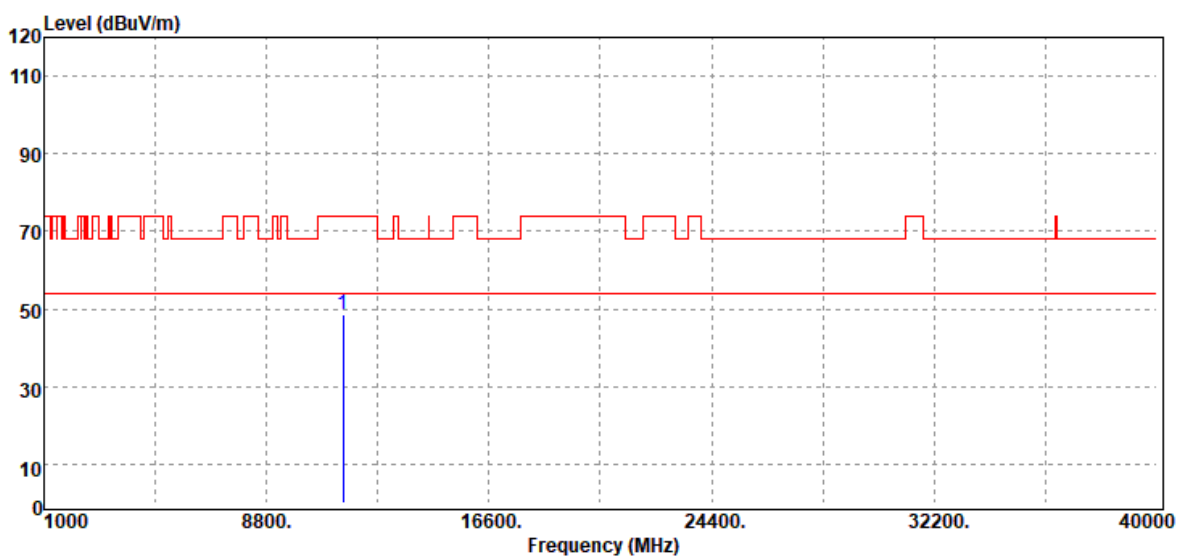
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11490.00	Peak	29.75	19.14	48.89	74.00	-25.11
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz / 5745 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



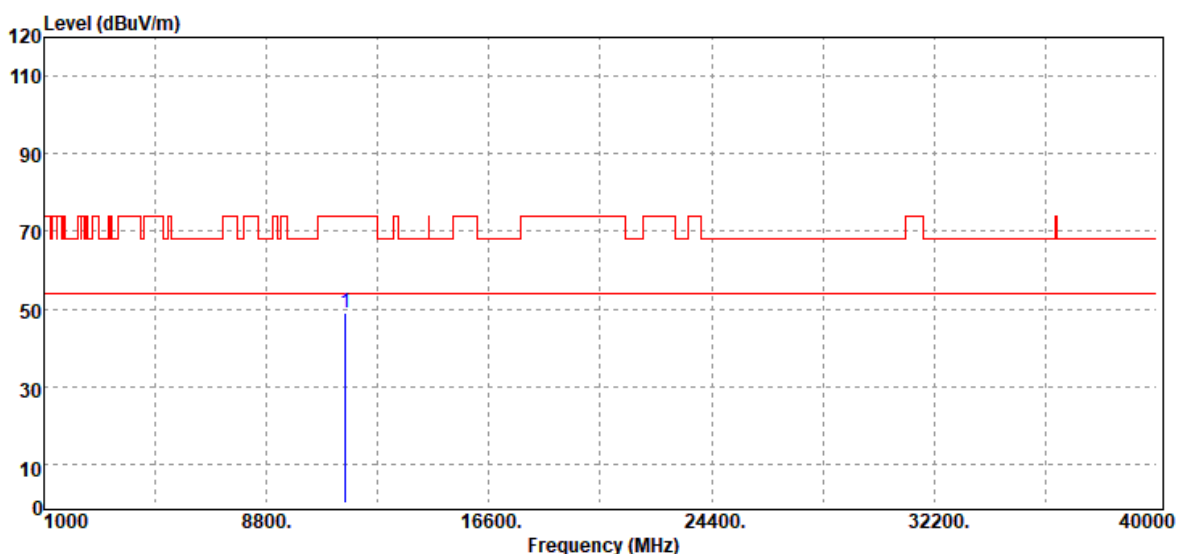
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11490.00	Peak	29.25	19.14	48.39	74.00	-25.61
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz/ 5785 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



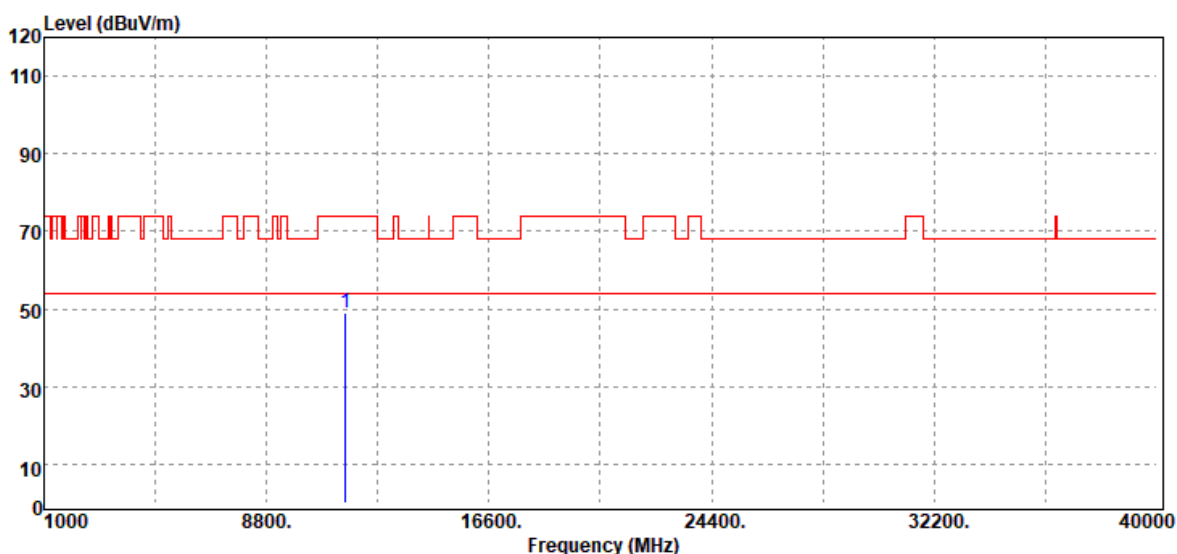
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11570.00	Peak	29.69	19.14	48.83	74.00	-25.17
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz/ 5785 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



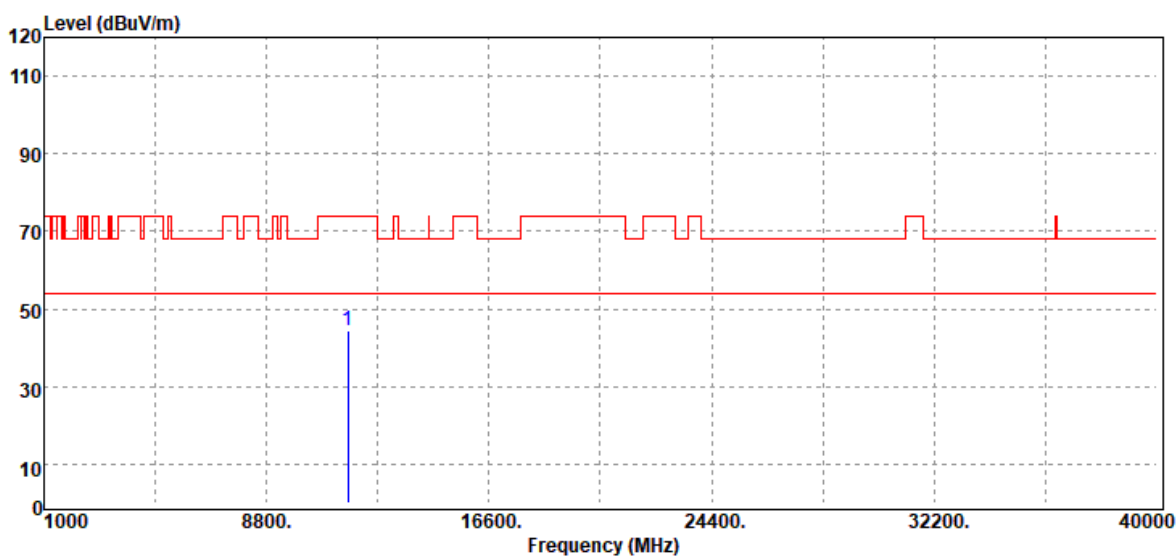
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11570.00	Peak	29.78	19.14	48.92	74.00	-25.08
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz/ 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.00	Peak	25.34	19.12	44.46	74.00	-29.54
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 20 MHz/ 5825 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.00	Peak	25.79	19.12	44.91	74.00	-29.09
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz/ 5755 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11510.00	Peak	29.64	19.15	48.79	74.00	-25.21
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz/ 5755 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11510.00	Peak	30.53	19.15	49.68	74.00	-24.32
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz/ 5795 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBuV	Factor dB	Actual FS dBuV/m	Limit @3m dBuV/m	Margin dB
11590.00	Peak	30.65	19.12	49.77	74.00	-24.23
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11n 40 MHz/ 5795 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



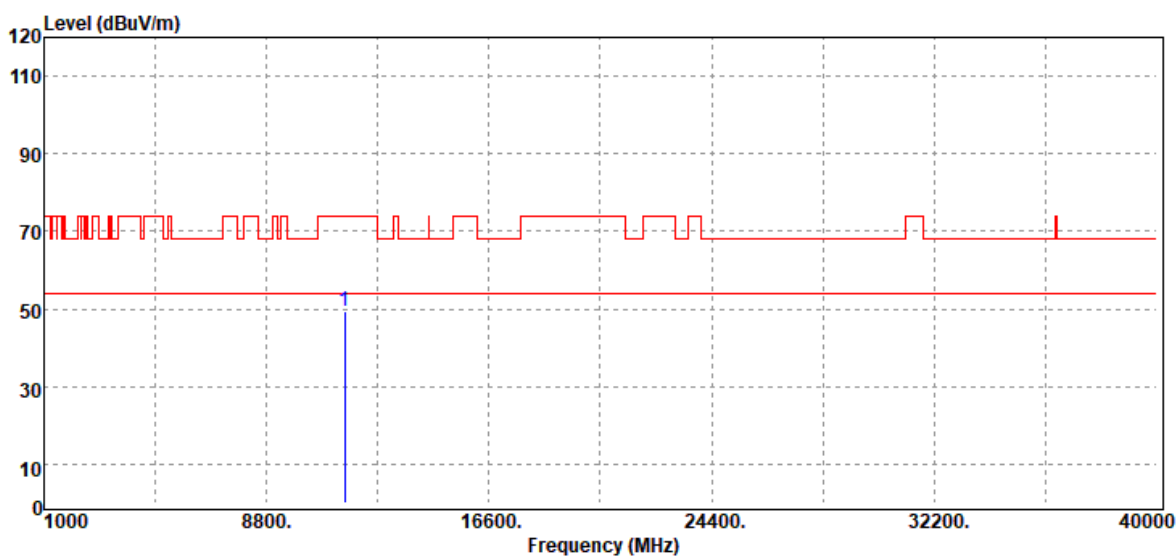
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11590.00	Peak	30.31	19.12	49.43	74.00	-24.57
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11ac VHT80/ 5775 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



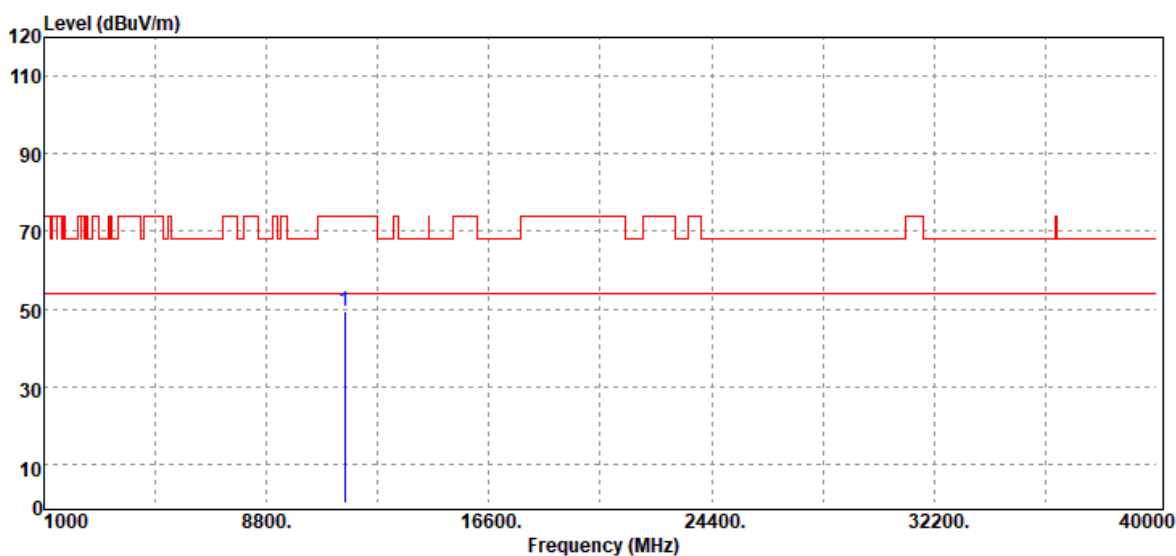
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11550.00	Peak	30.29	19.16	49.45	74.00	-24.55
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Report No.: T201222W02-RP4

Test Mode	IEEE 802.11ac VHT80/ 5775 MHz	Temp/Hum	19.5(°C)/ 62%RH
Test Item	Harmonic	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11550.00	Peak	30.40	19.16	49.56	74.00	-24.44
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

- End of Test Report -