

FCC ID: Z3K-VRM
Report No.: T201222W02-RP3

IC: 9930A-VRM

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Rev.: 01

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

INDUSTRY CANADA RSS-247

Test Standard	FCC Part 15.247 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	Doris Chu

Rev. (01)

1.Added remark No.4 in page 4.

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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 ~ 12, 2021			
Power Supply	Power from Power Supply: DC 12V			
HW Version	20200629 D01			
SW Version	90650			
EUT Serial #	J200730F000041			

Remark:

1. For more details, please refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. 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.
4. The EUT (model: 68494731) had been tested under operating condition.

1.2 EUT CHANNEL INFORMATION

Frequency Range	802.11b/g/n HT 20: 2412MHz ~ 2462MHz 802.11n HT 40: 2422MHz ~ 2452MHz
Modulation Type	1. IEEE 802.11b mode: CCK 2. IEEE 802.11g mode: OFDM 3. IEEE 802.11n HT 20 MHz mode : OFDM 4. IEEE 802.11n HT 40 MHz mode : OFDM
Number of channel	1. IEEE 802.11b mode: 11 Channels 2. IEEE 802.11g mode: 11 Channels 3. IEEE 802.11n HT 20 MHz mode : 11 Channels 4. IEEE 802.11n HT 40 MHz mode : 7 Channels

Remark:

Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 and RSS-GEN Table A1 for test channels

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 :1 dBi Chain 1: Gain :1 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

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 Sensor	Anritsu	MA2490A	032910	05/21/2020	05/20/2021
Software	N/A				

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal Due
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/25/2020	02/24/2021
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
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
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				

Remark: Each piece of equipment is scheduled for calibration once a year.

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 15.247, RSS-247 Issue 2 and RSS-GEN Issue 5.

2. TEST SUMMARY

FCC Standard Section	IC Standard Section	Report Section	Test Item	Result
15.203	-	1.3	Antenna Requirement	Pass
15.207(a)	RSS-GEN 8.8	4.1	AC Conducted Emission	N/A
15.247(a)(2)	RSS-247(5.2)(a)	4.2	6 dB Bandwidth	Pass
-	RSS-GEN 6.7	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)(3)	RSS-247(5.4)(d)	4.3	Output Power Measurement	Pass
15.247(e)	RSS-247(5.2)(b)	4.4	Power Spectral Density	Pass
15.247(d)	RSS-247(5.5)	4.5	Conducted Band Edge	Pass
15.247(d)	RSS-247(5.5)	4.5	Conducted Emission	Pass
15.247(d)	RSS-GEN 8.9, 8.10	4.6	Radiation Band Edge	Pass
15.247(d)	RSS-GEN 8.9, 8.10	4.6	Radiation Spurious Emission	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	IEEE 802.11b mode :1Mbps IEEE 802.11g mode :6Mbps IEEE 802.11n HT20 mode :MCS8 IEEE 802.11n HT40 mode :MCS8
Test Channel Frequencies	IEEE 802.11b mode : 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz IEEE 802.11g mode : 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz IEEE 802.11n HT20 mode : 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz IEEE 802.11n HT40 mode : 1. Lowest Channel : 2422MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2452MHz
Operation Transmitter	IEEE 802.11b mode : 2T2R IEEE 802.11g mode : 2T2R IEEE 802.11n HT20 mode : 2T2R IEEE 802.11n HT40 mode : 2T2R

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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4. EUT DUTY CYCLE

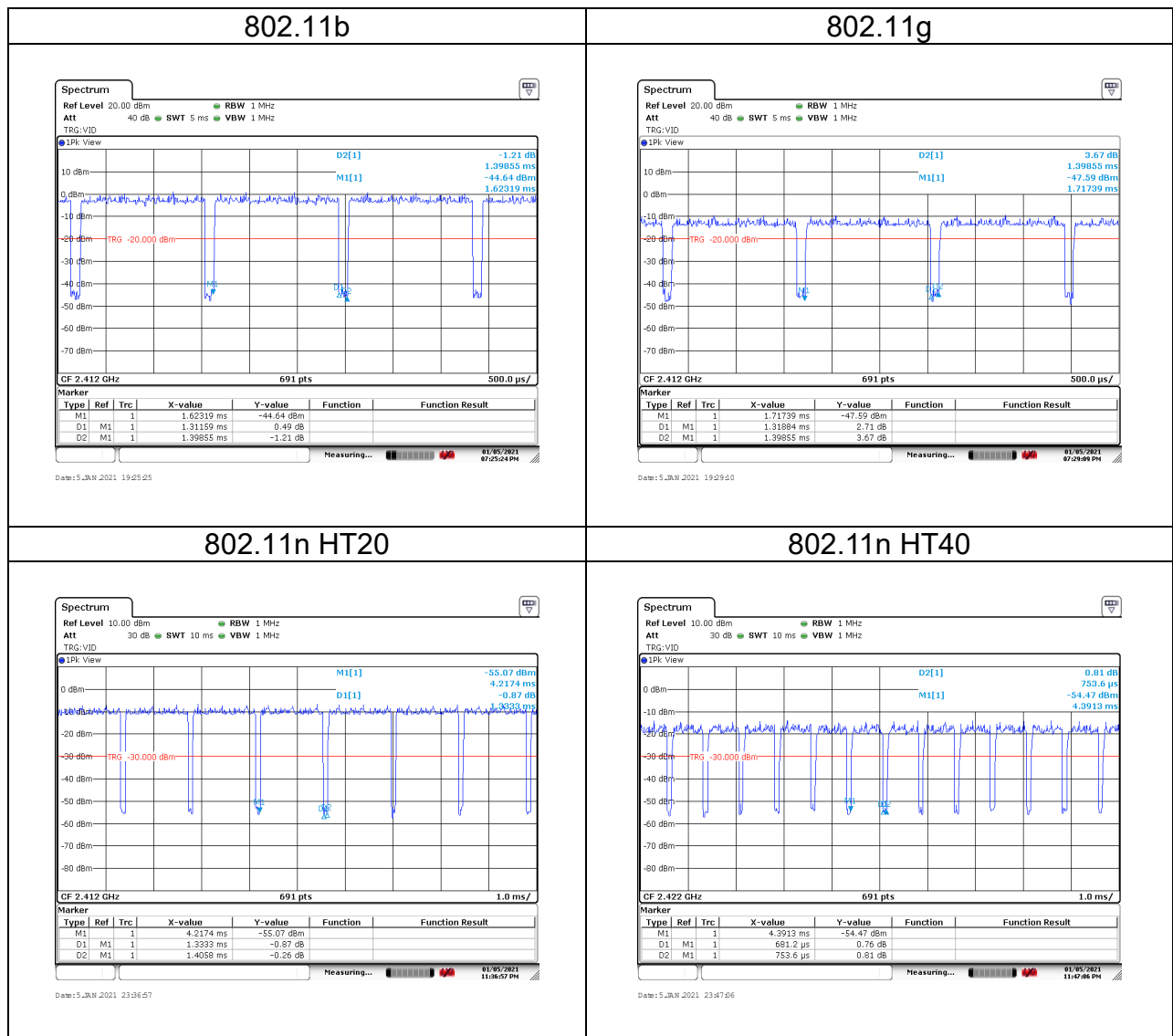
Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 5, 2021

Duty Cycle				
Configuration	Duty Cycle (%)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11b	93.78	0.28	0.76	1.00
802.11g	94.30	0.25	0.76	1.00
802.11n HT20	94.82	0.23	0.75	1.00
802.11n HT40	90.39	0.44	1.47	2.00



5. TEST RESULT

5.1 AC POWER LINE CONDUCTED EMISSION

5.1.1 Test Limit

According to §15.207(a)(2) 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

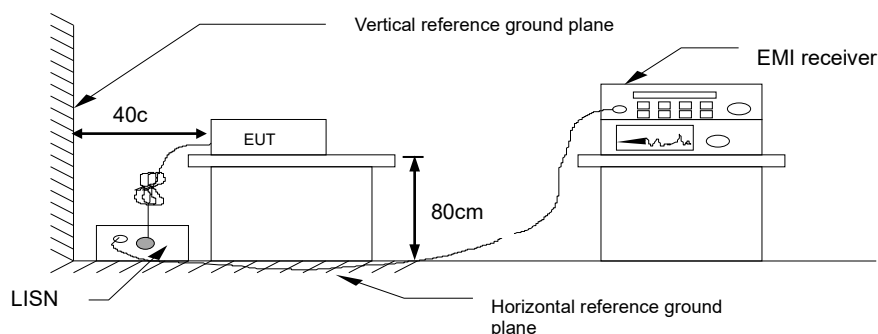
* Decreases with the logarithm of the frequency.

5.1.2 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.

5.1.3 Test Setup



5.1.4 Test Result

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

5.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

5.2.1 Test Limit

According to §15.247(a)(2) and RSS-247 section 5.2(a),

6 dB Bandwidth :

Limit	Shall be at least 500kHz
-------	--------------------------

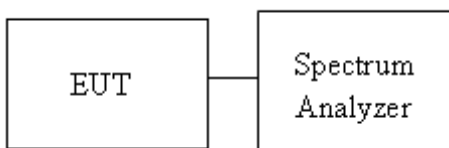
Occupied Bandwidth(99%) : For reporting purposes only.

5.2.2 Test Procedure

Test method Refer as ANSI C63.10: 2013,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 6 dB Bandwidth.
4. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth
5. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

5.2.3 Test Setup



5.2.4 Test Result

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 7, 2021

Test mode: IEEE 802.11b mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	13.5890	13.3285	9.0435	8.5652	≥500
Mid	2437	13.2417	13.4153	8.0870	8.5652	
High	2462	13.1983	13.4153	8.0870	8.5652	

Test mode: IEEE 802.11g mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	16.5412	16.3242	15.0435	15.1304	≥500
Mid	2437	16.5412	16.3242	15.1304	15.1304	
High	2462	16.5412	16.3242	15.1304	15.1304	

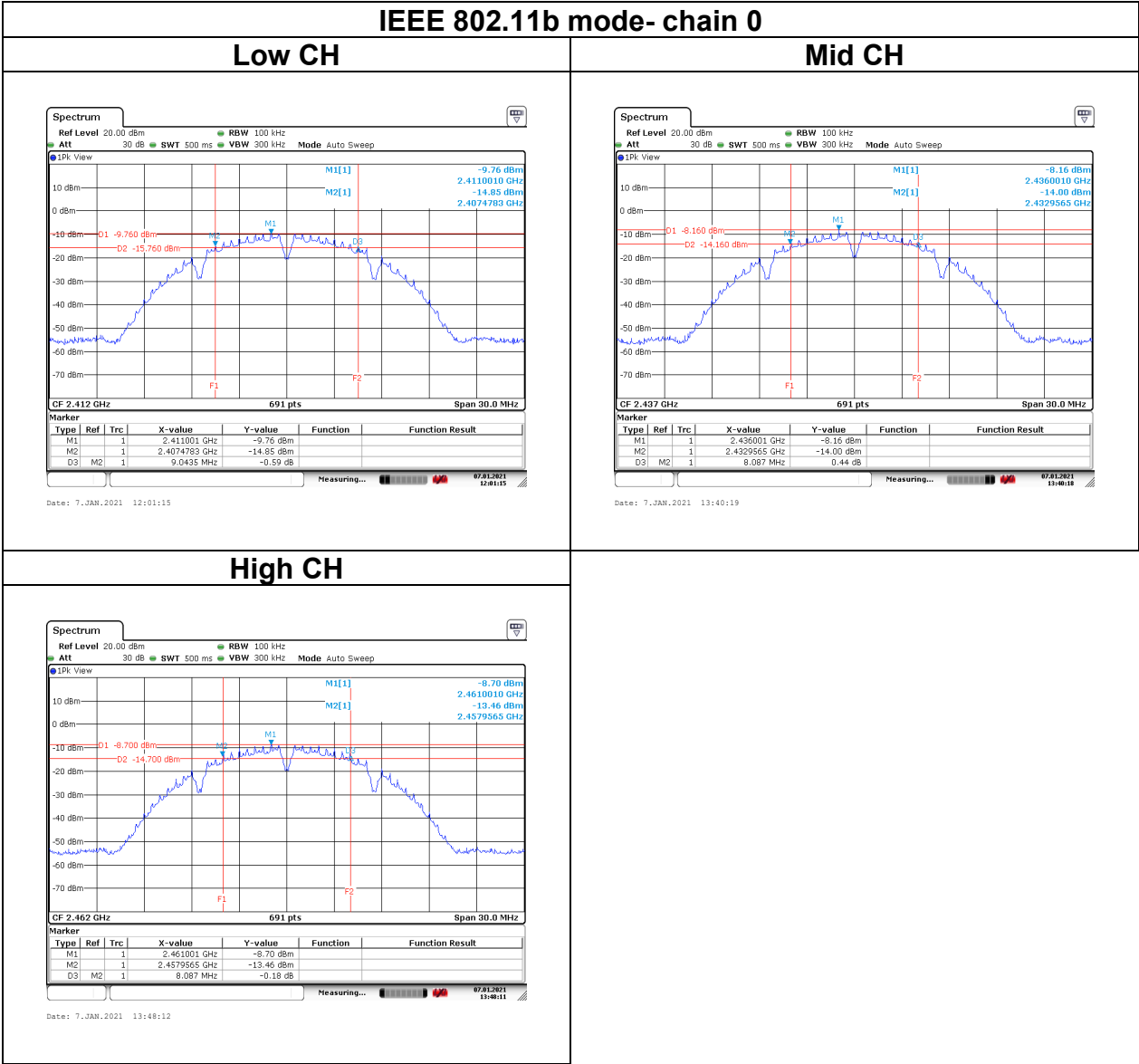
Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	17.5398	17.5398	15.1304	15.1304	≥500
Mid	2437	17.5398	17.5398	15.1304	15.6957	
High	2462	17.5398	17.5398	15.1304	15.1304	

Test mode: IEEE 802.11n HT 40 MHz mode / 2422-2452 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2422	36.2373	36.1216	35.1300	35.1300	>500
Mid	2437	36.2373	36.1216	35.1300	35.2460	
High	2452	36.3531	36.0058	35.2460	35.1300	

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Test Data

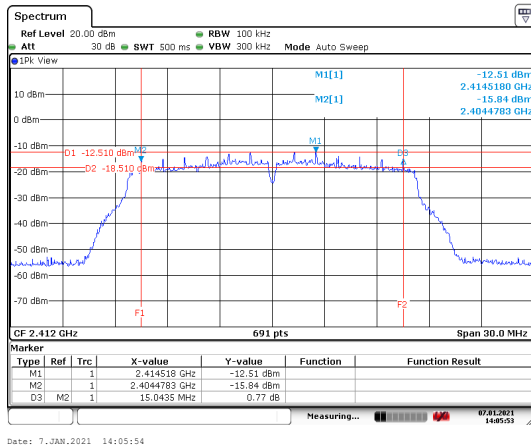
6dB BANDWIDTH



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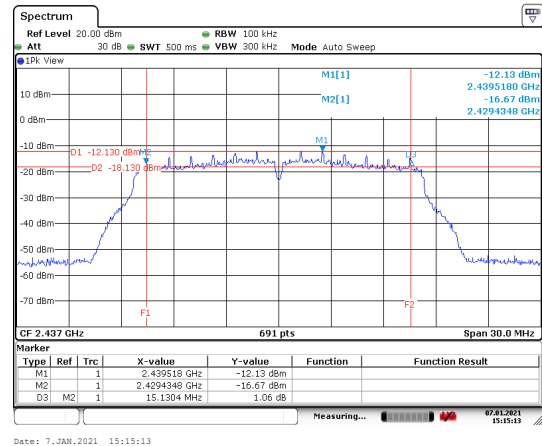
IEEE 802.11g mode- chain 0

Low CH



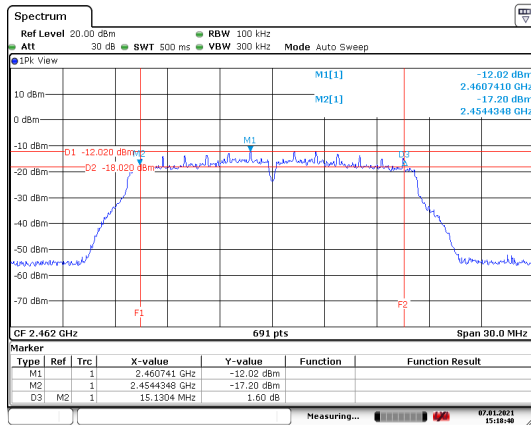
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Mid CH

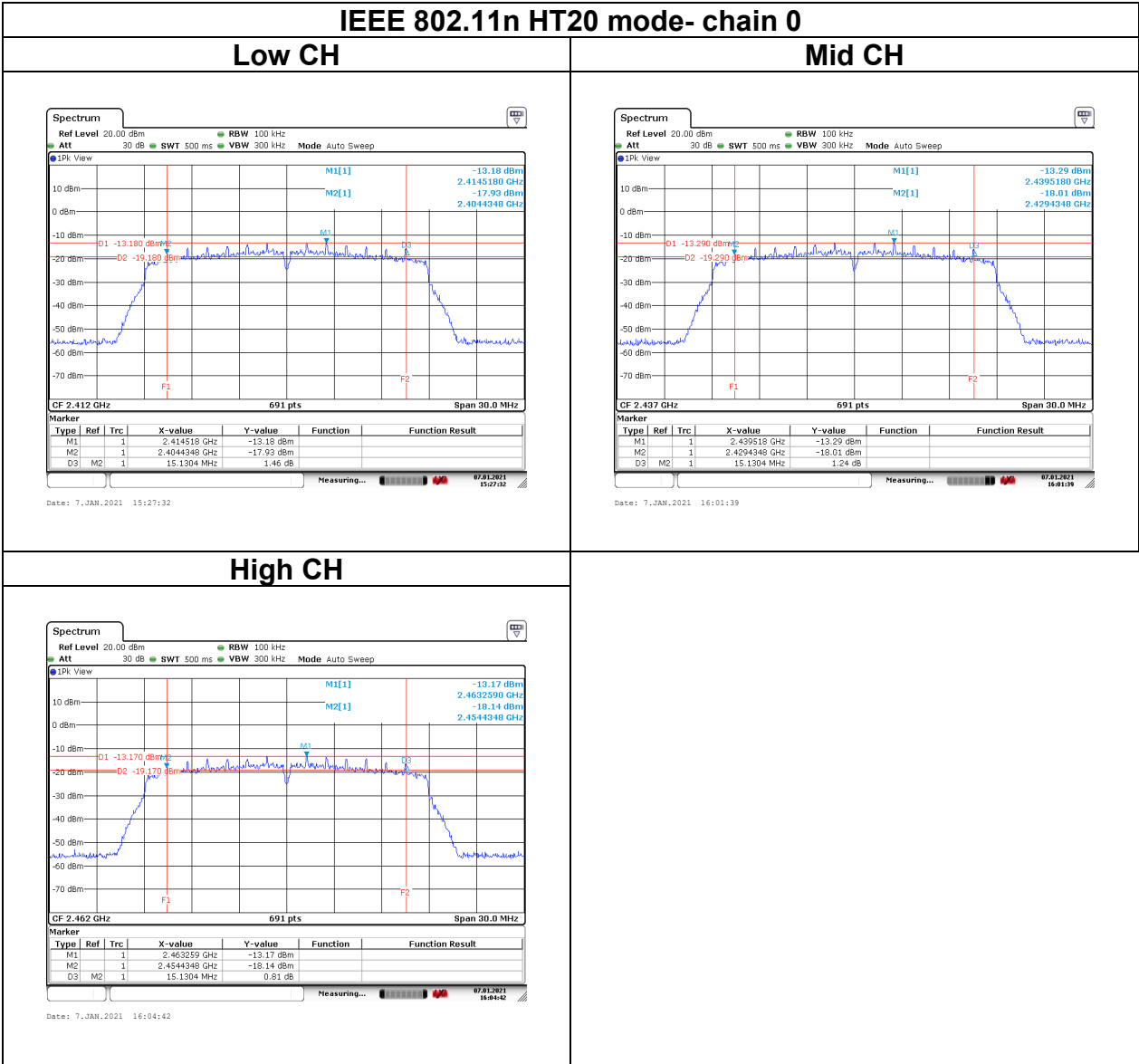


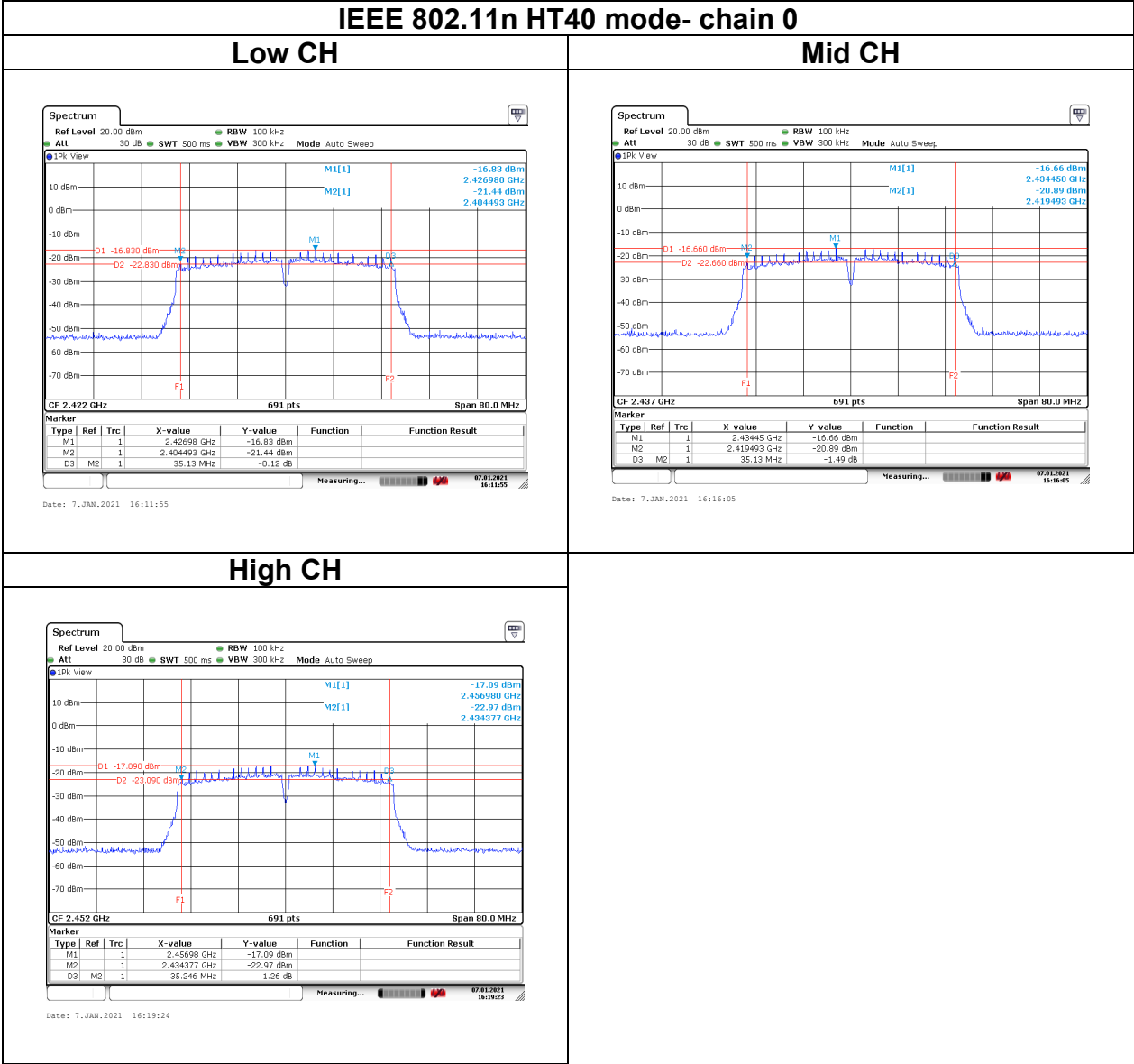
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High CH



Date: 7.JAN.2021 15:18:40

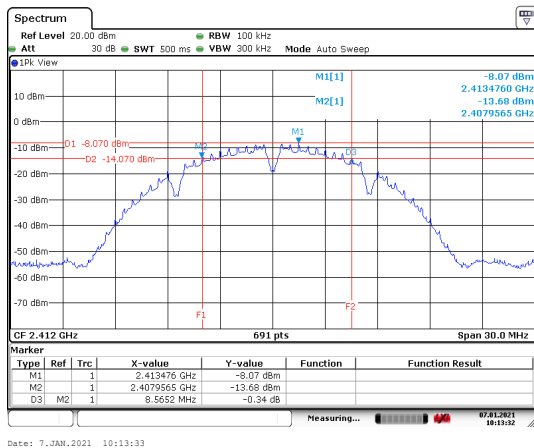




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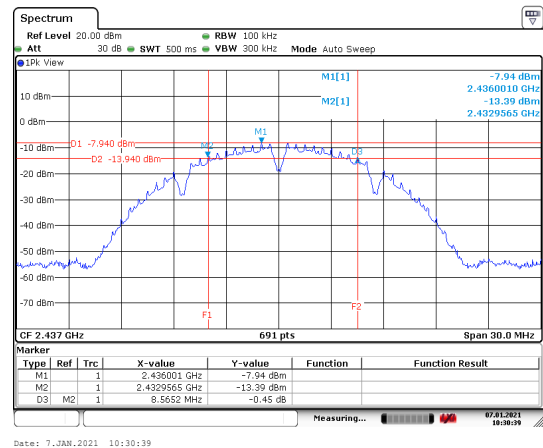
IEEE 802.11b mode- chain 1

Low CH



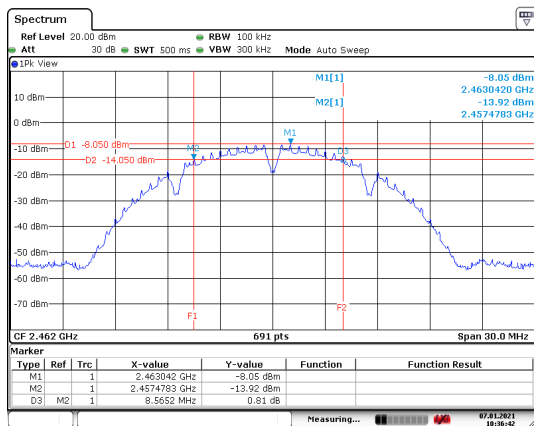
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Mid CH



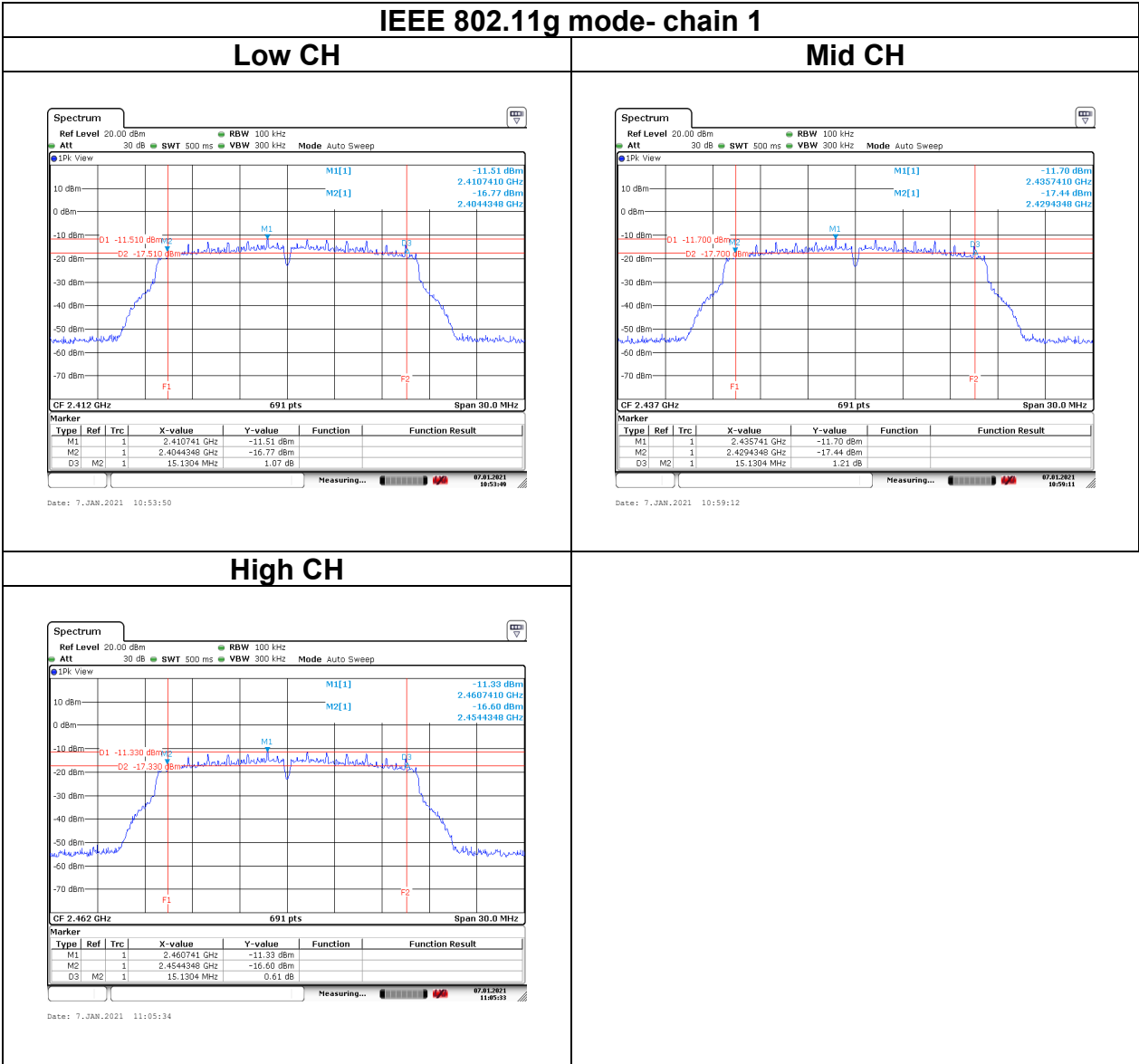
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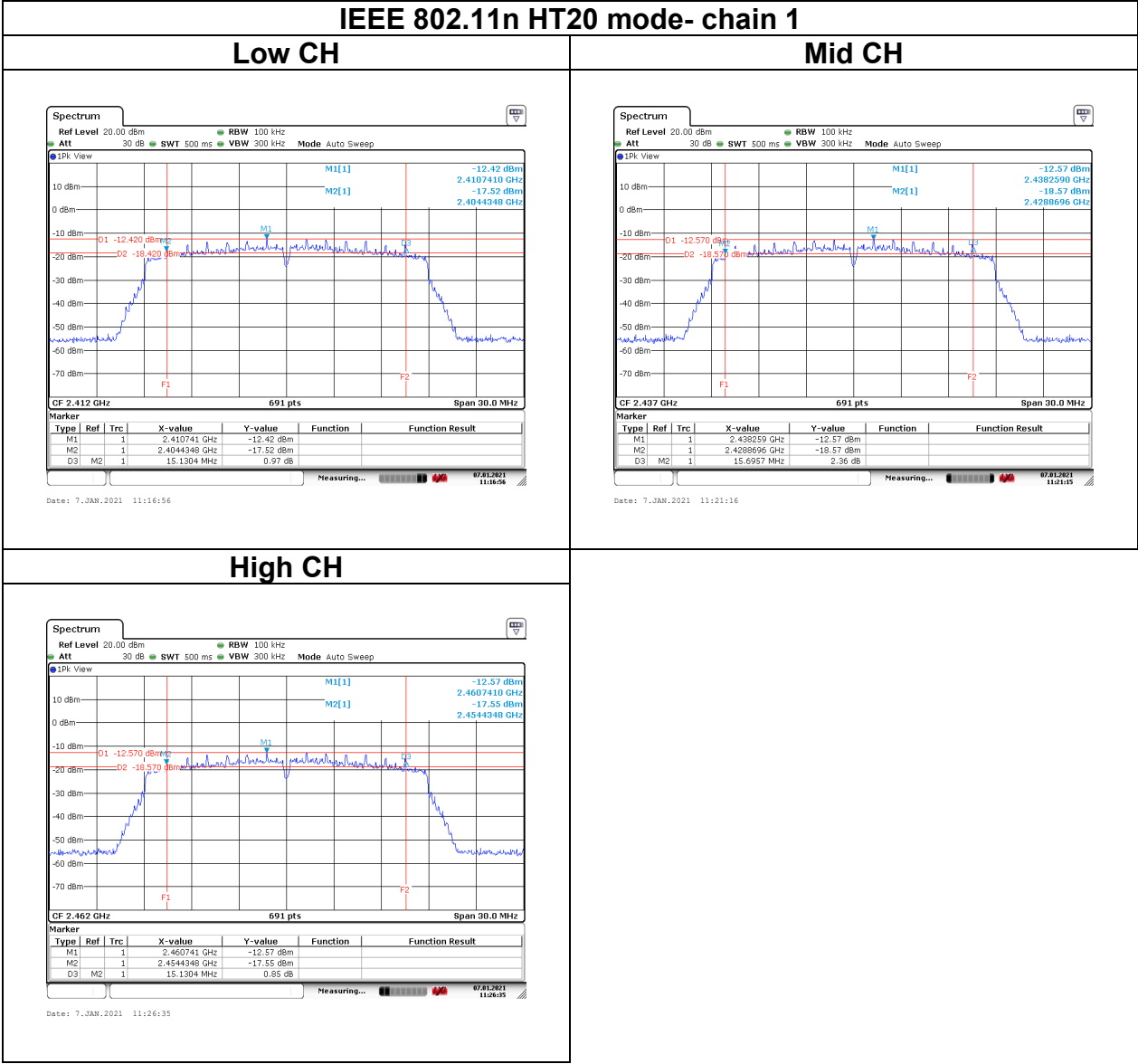
High CH



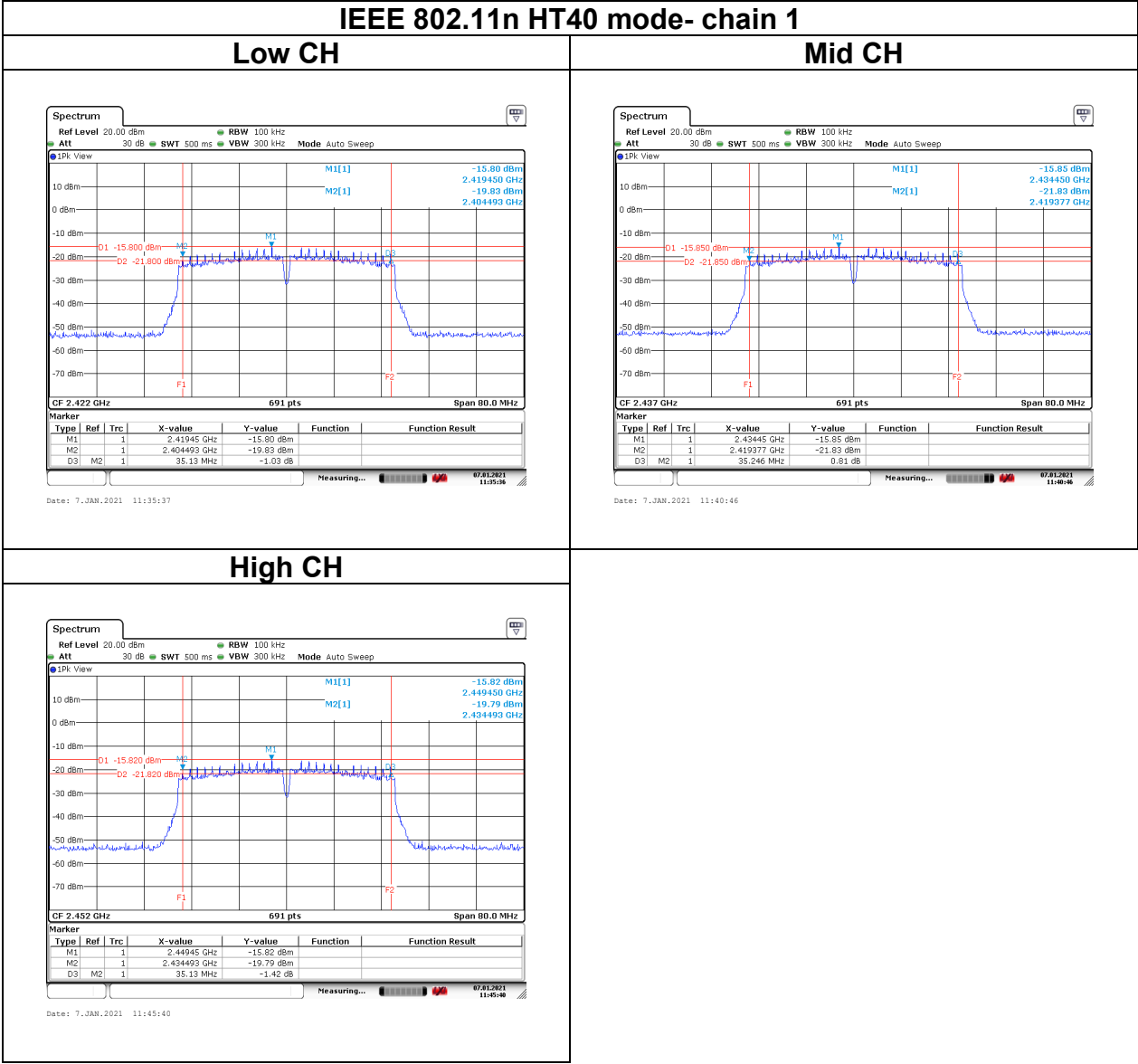
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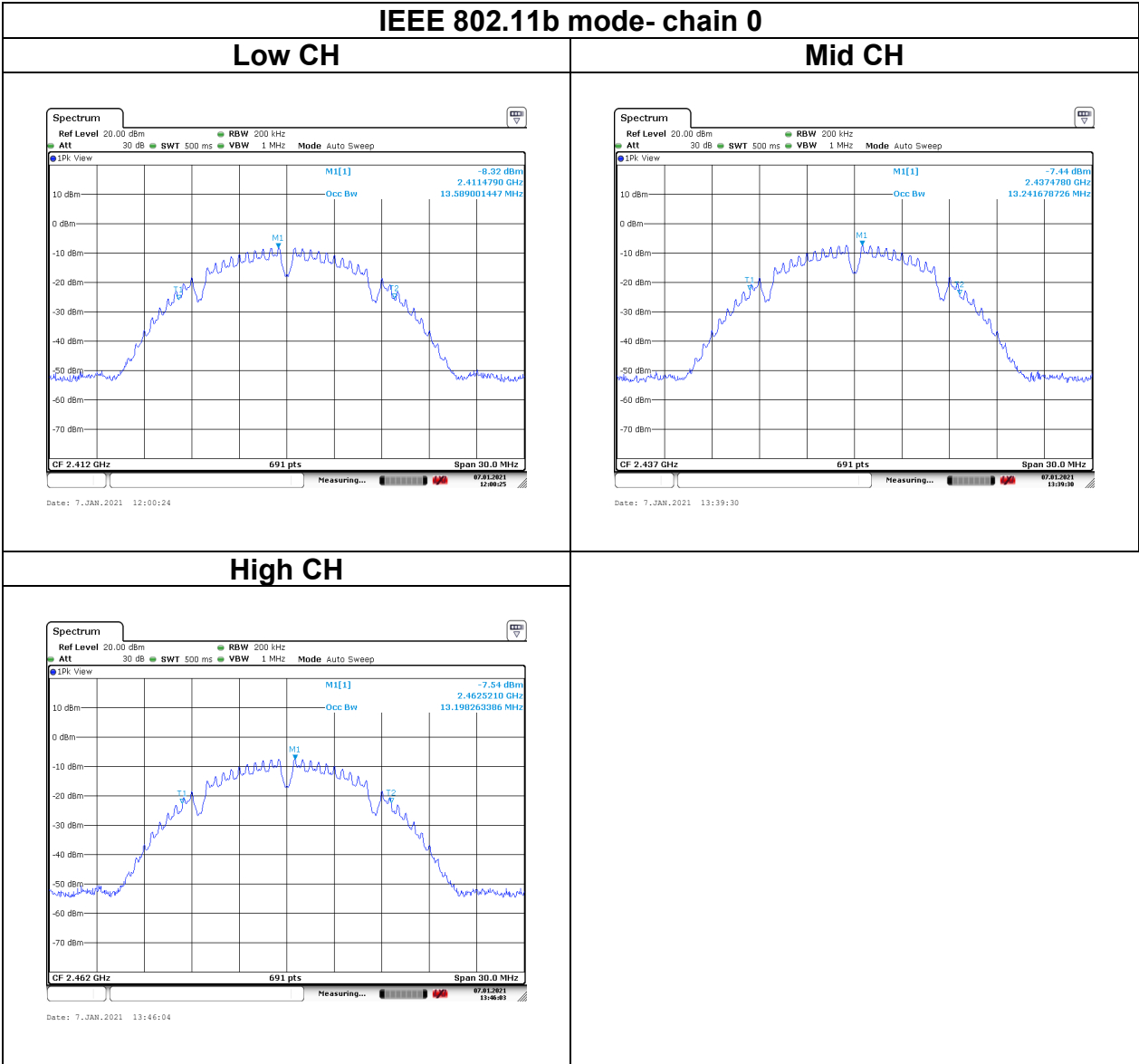


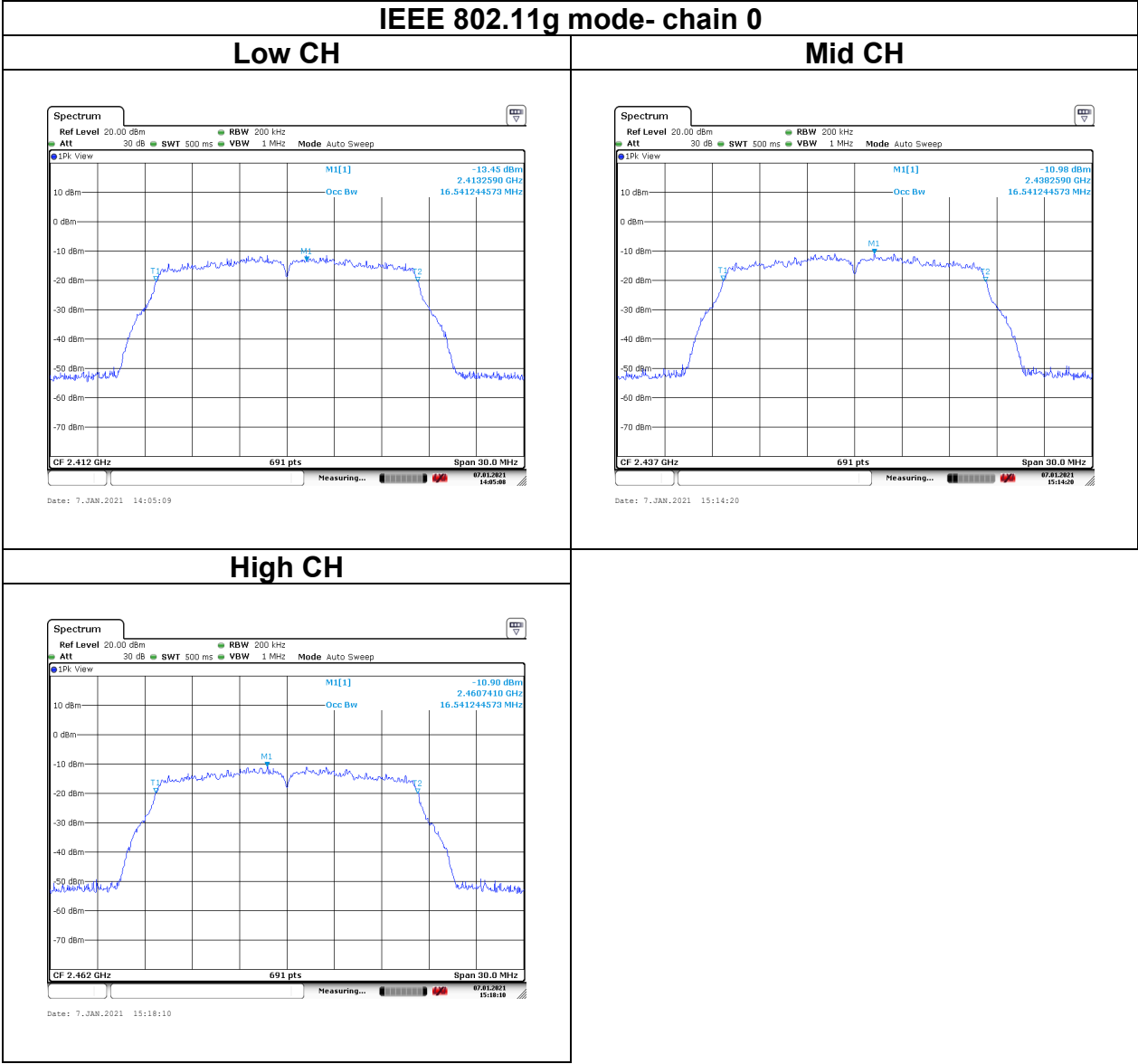


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Test Data
BANDWIDTH 99%

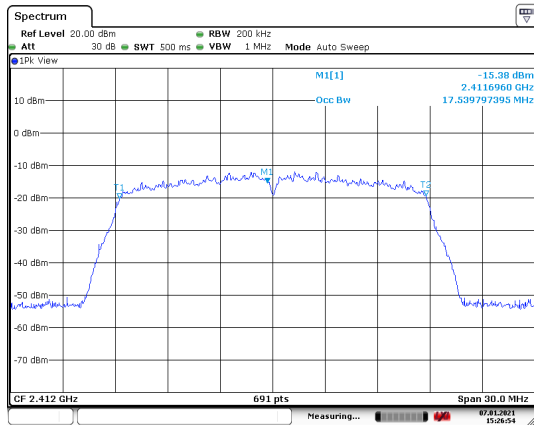




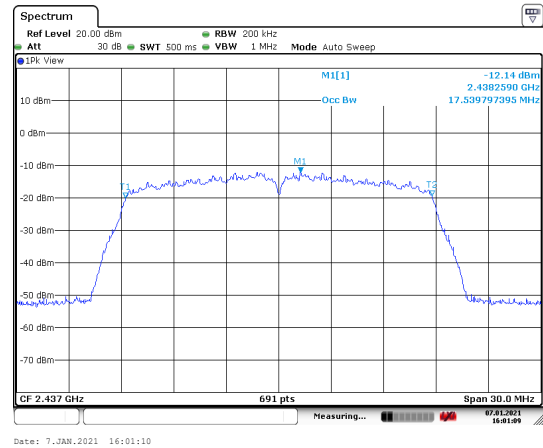
Report No.: T201222W02-RP3

IEEE 802.11n HT20 mode- chain 0

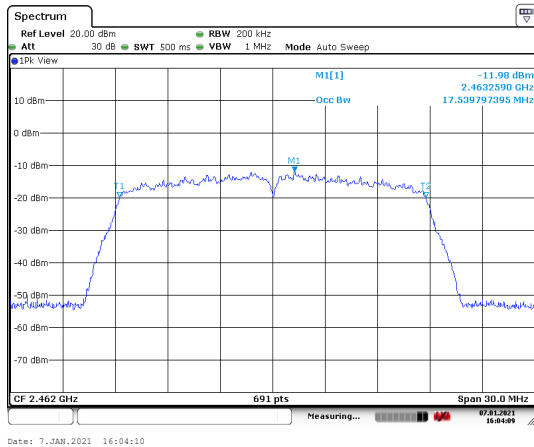
Low CH

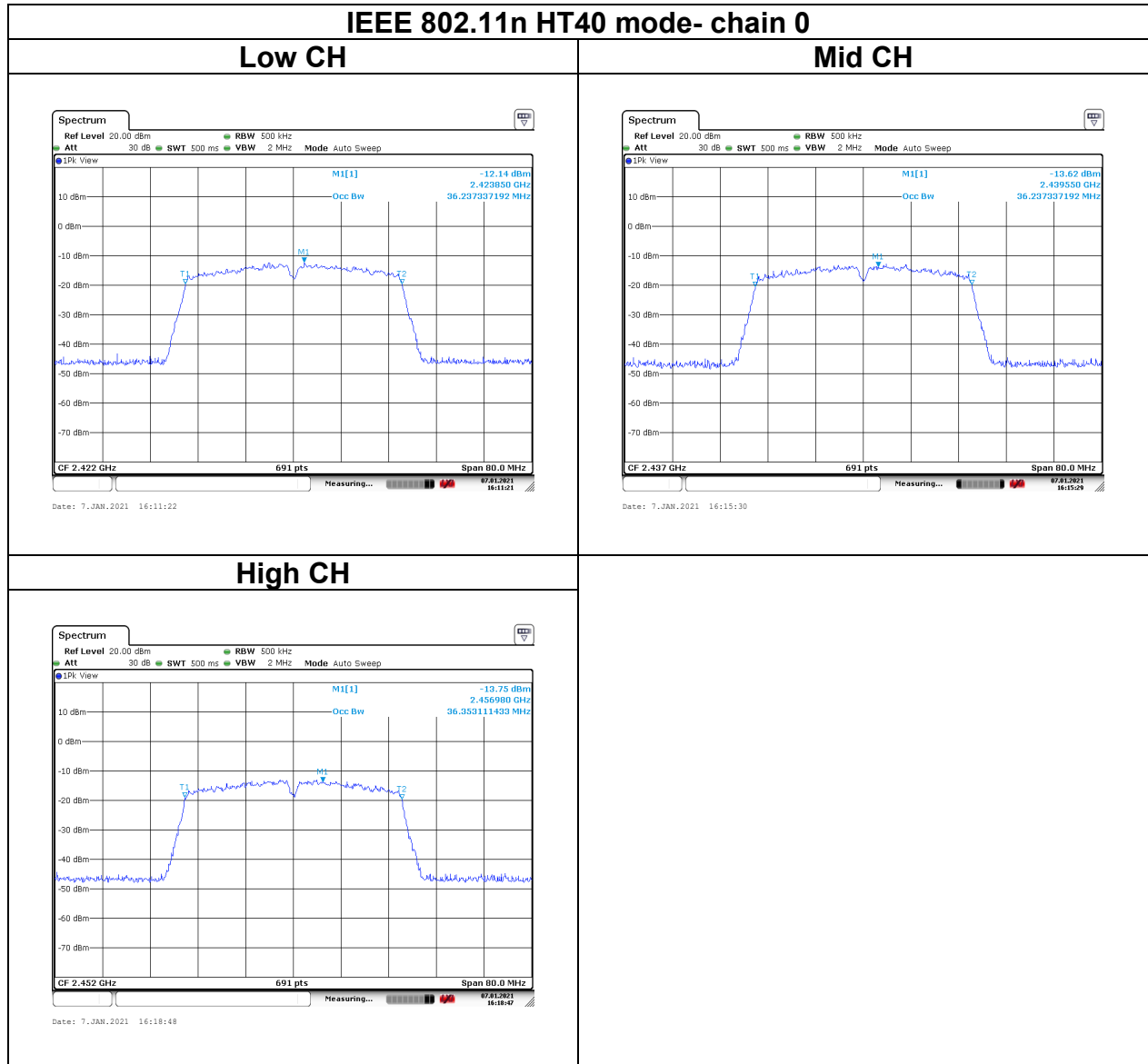


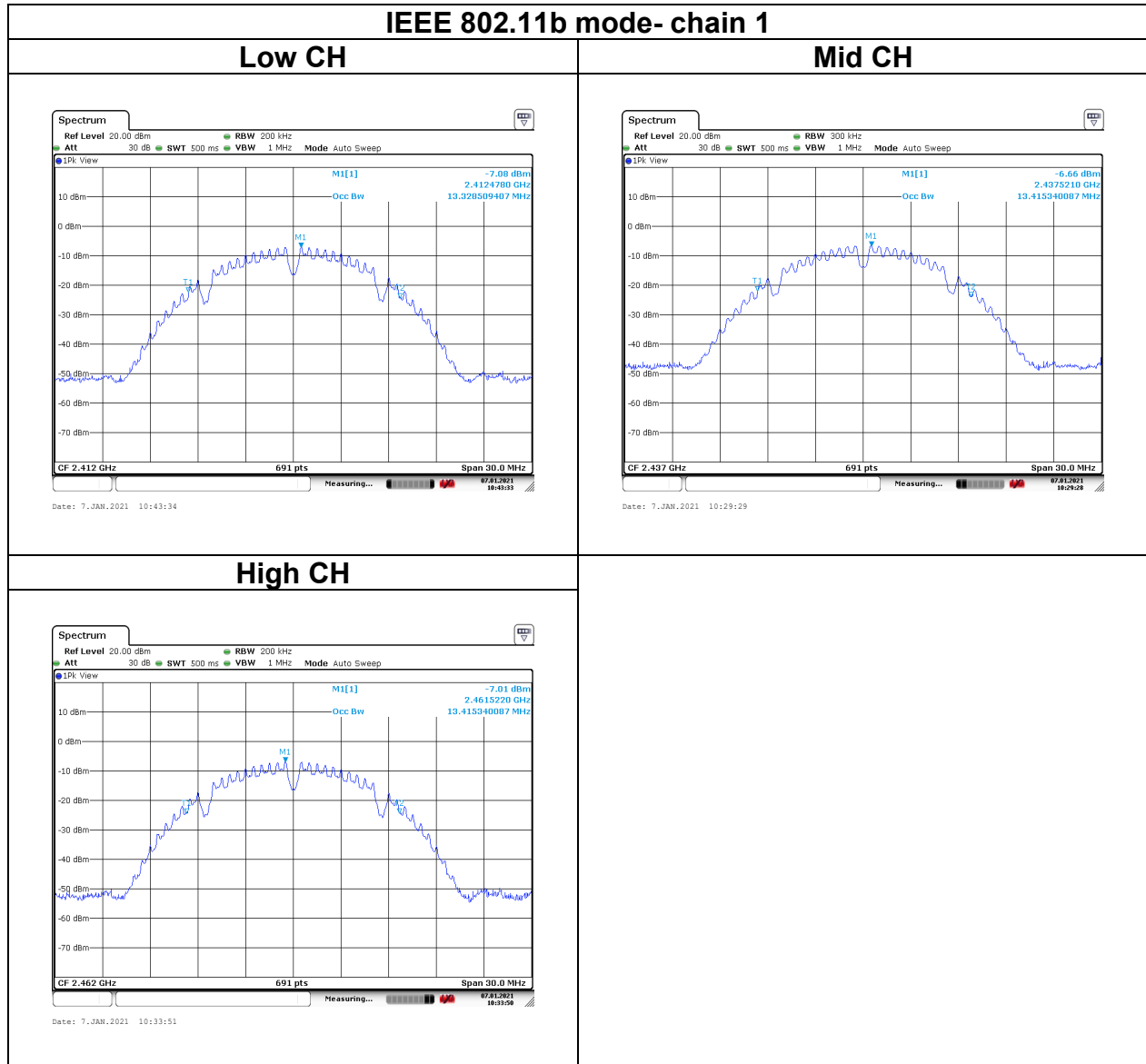
Mid CH



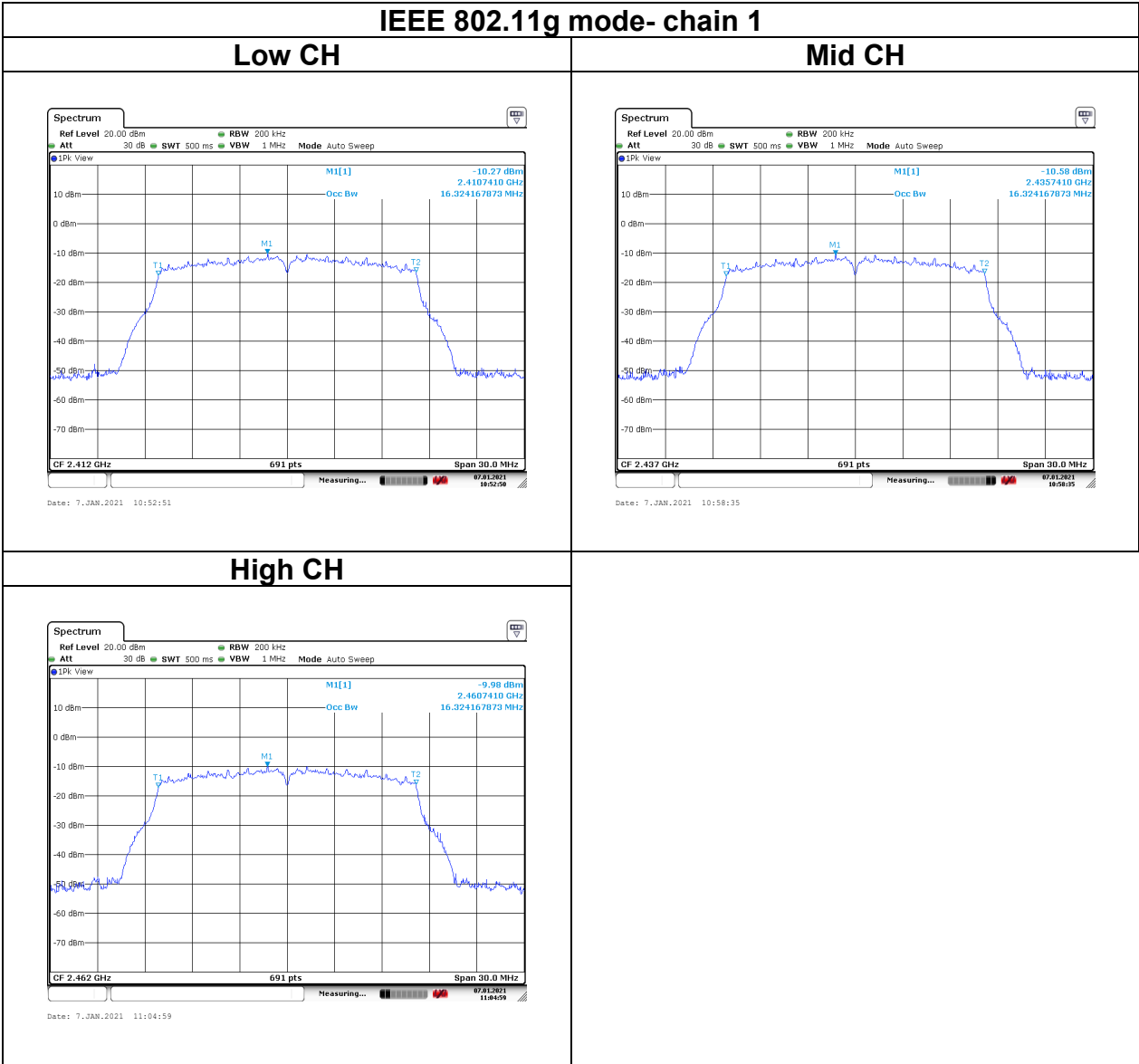
High CH

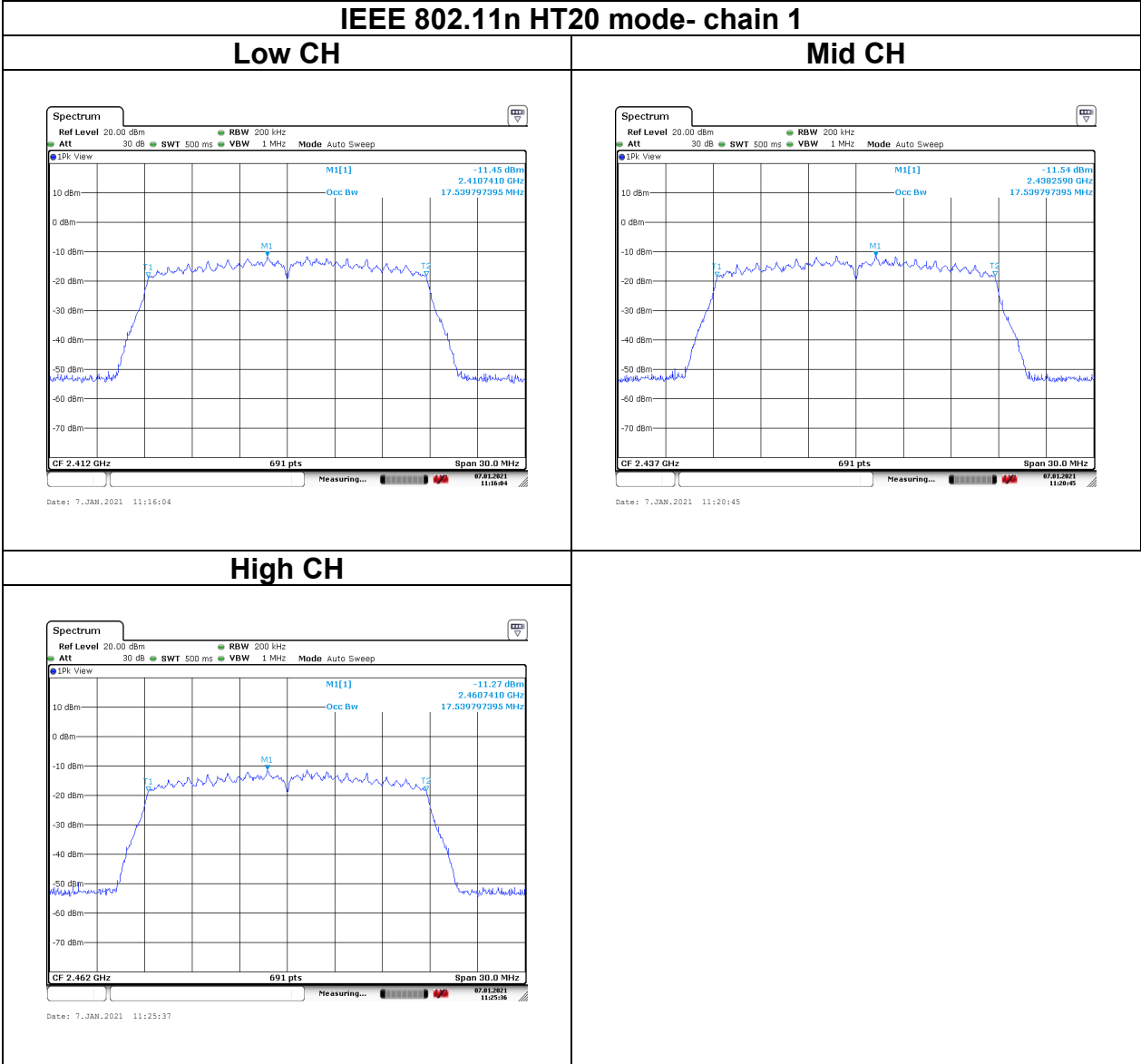




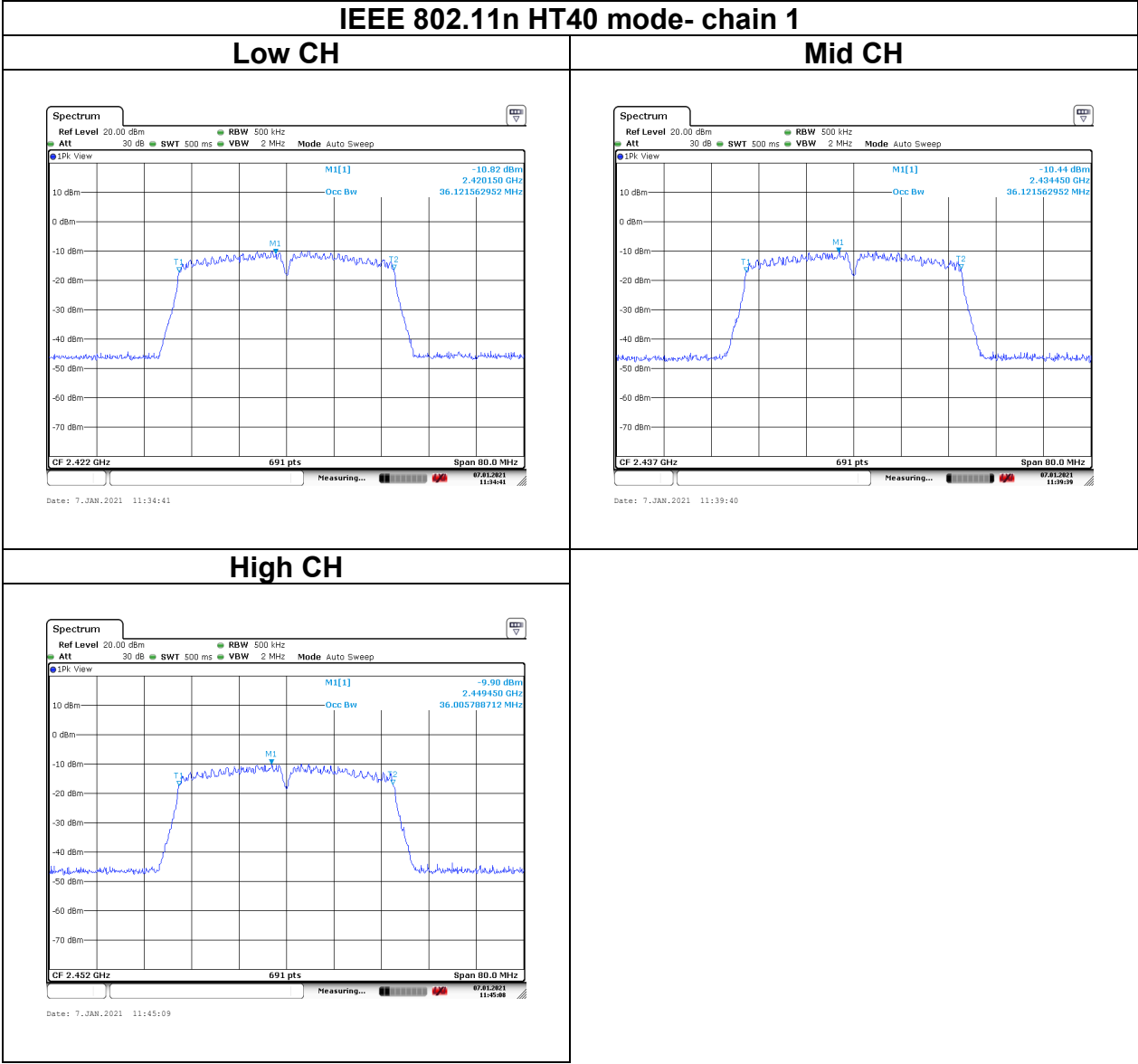


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5.3 OUTPUT POWER MEASUREMENT

5.3.1 Test Limit

According to §15.247(b) and RSS-247 section 5.4(d),

Peak output power :

For systems using digital modulation in the 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt(30 dBm) and the e.i.r.p. shall not exceed 4Watt(36 dBm), base on the use of antennas with directional gain not exceed 6 dBi If transmitting antennas of directional gain greater than 6dBi are used the peak output power the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Limit	☒ Antenna not exceed 6 dBi : 30dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)] ☐ Point-to-point operation :
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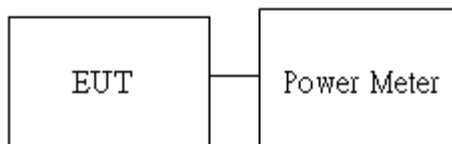
Average output power : For reporting purposes only.

5.3.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. The EUT RF output connected to the power meter 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 Peak output power and Average output power. in the test report.

5.3.3 Test Setup



Report No.: T201222W02-RP3

5.3.4 Test Result

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 12, 2021

Peak output power :

Wifi 2.4G													
Config	CH	Freq. (MHz)	power setting		PK Power (dBm)		PK Total Power (dBm)	PK Total Power (W)	EIRP PK Total Power (dBm)	EIRP PK Total Power (W)	DG (dBi)	Limit (dBm)	EIRP Limit (dBm)
			chain0	chain1	chain0	chain1							
IEEE 802.11b Data rate: 1Mbps	Low	2412	8	8	14.61	15.42	18.04	0.0637	19.04	0.0802	1	30	36
	Mid	2437	8	8	14.37	15.73	18.11	0.0648	19.11	0.0815			
	High	2462	8	8	14.55	15.81	18.24	0.0666	19.24	0.0839			
IEEE 802.11g Data rate: 6Mbps	Low	2412	8	8	20.65	21.45	24.08	0.2558	25.08	0.3220			
	Mid	2437	8	8	20.75	21.47	24.14	0.2591	25.14	0.3262			
	High	2462	8	8	20.75	21.79	24.31	0.2699	25.31	0.3397			
IEEE 802.11n HT20 Data rate: MCS8	Low	2412	8	8	19.66	19.47	22.58	0.1810	23.58	0.2278			
	Mid	2437	8	8	18.36	19.42	21.93	0.1560	22.93	0.1965			
	High	2462	8	8	18.36	19.43	21.94	0.1562	22.94	0.1967			
IEEE 802.11n HT40 Data rate: MCS8	Low	2422	8	8	18.56	18.28	21.43	0.1391	22.43	0.1751			
	Mid	2437	8	8	18.82	18.69	21.77	0.1502	22.77	0.1891			
	High	2452	8	8	18.35	18.5	21.44	0.1392	22.44	0.1752			

Average output power :

Wifi 2.4G					
Config	CH	Freq. (MHz)	AV Power(dBm)		AV Total Power (dBm)
			chain0	chain1	
IEEE 802.11b Data rate: 1Mbps	Low	2412	12.50	13.36	15.96
	Mid	2437	12.54	13.55	16.08
	High	2462	12.53	13.65	16.14
IEEE 802.11g Data rate: 6Mbps	Low	2412	10.44	11.39	13.96
	Mid	2437	10.60	11.54	14.11
	High	2462	10.68	11.48	14.11
IEEE 802.11n HT20 Data rate: MCS8	Low	2412	9.12	9.78	12.47
	Mid	2437	9.14	10.01	12.61
	High	2462	9.15	10.01	12.61
IEEE 802.11n HT40 Data rate: MCS8	Low	2422	7.25	7.60	10.44
	Mid	2437	7.22	8.34	10.82
	High	2452	7.28	8.07	10.70

5.4 POWER SPECTRAL DENSITY

5.4.1 Test Limit

According to §15.247(e) and RSS-247 section 5.2(b),

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

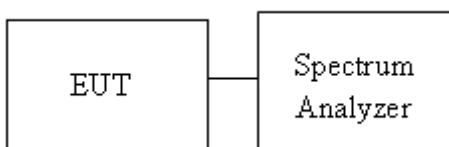
Limit	☒ Antenna not exceed 6 dBi : 8dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 8 – (DG – 6)] ☐ Point-to-point operation :
-------	---

5.4.2 Test Procedure

Test method Refer as ANSI C63.10:2013

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 3kHz, VBW = 30kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss and Duty Factor were compensated to the results for each measurement by SA.
5. Mark the maximum level.
6. Measure and record the result of power spectral density. in the test report.

5.4.3 Test Setup



Report No.: T201222W02-RP3

5.4.4 Test Result

Temperature: 19.4°C

Humidity: 44% RH

Tested by: Rick Lee

Test date: January 7, 2021

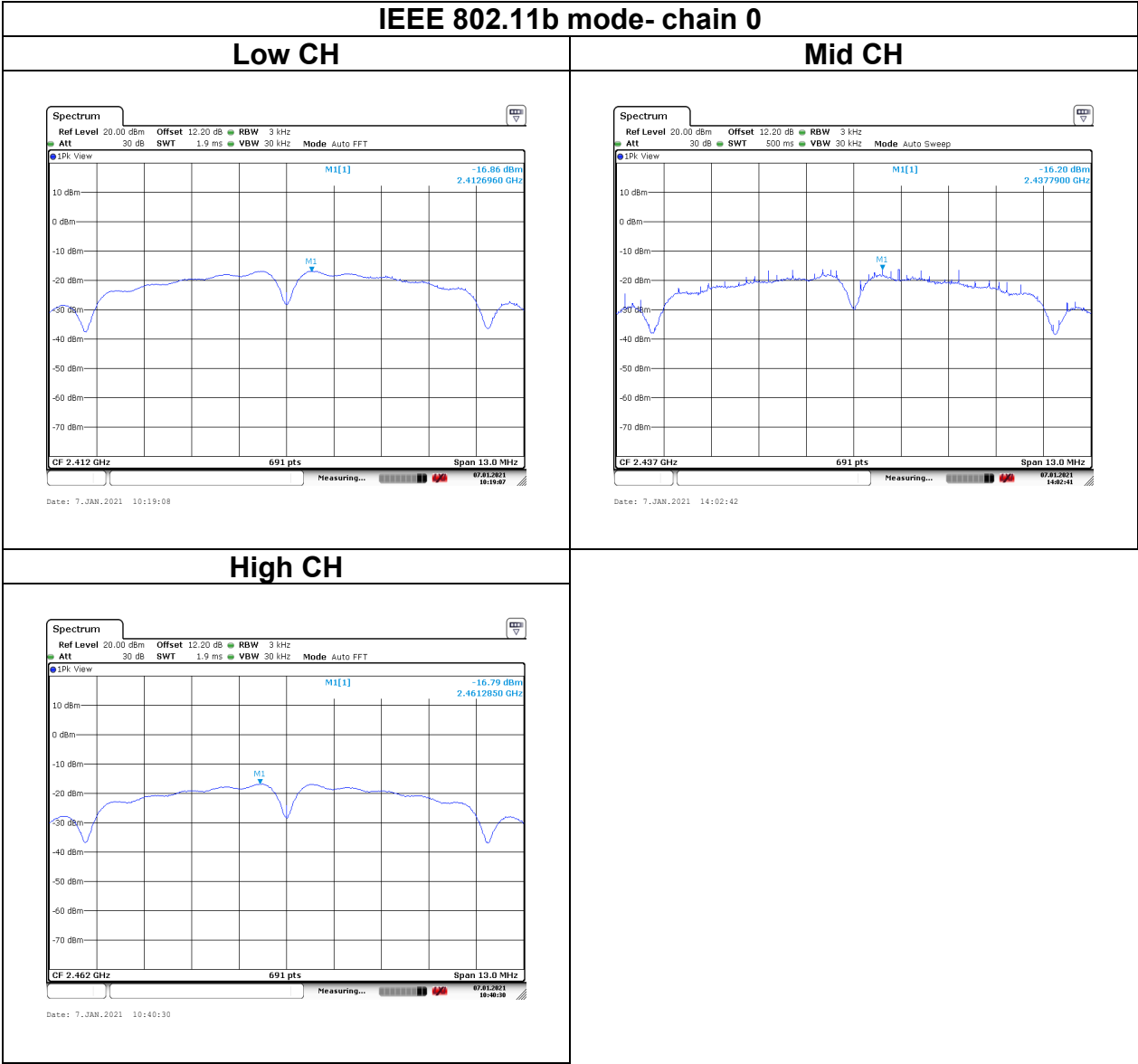
Test mode: IEEE 802.11b mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	2412	-16.86	-14.43	-12.47	8
Mid	2437	-16.20	-14.65	-12.35	
High	2462	-16.79	-14.83	-12.69	

Test mode: IEEE 802.11g mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	2412	-15.58	-14.47	-11.98	8
Mid	2437	-14.47	-14.70	-11.57	
High	2462	-14.19	-13.43	-10.78	

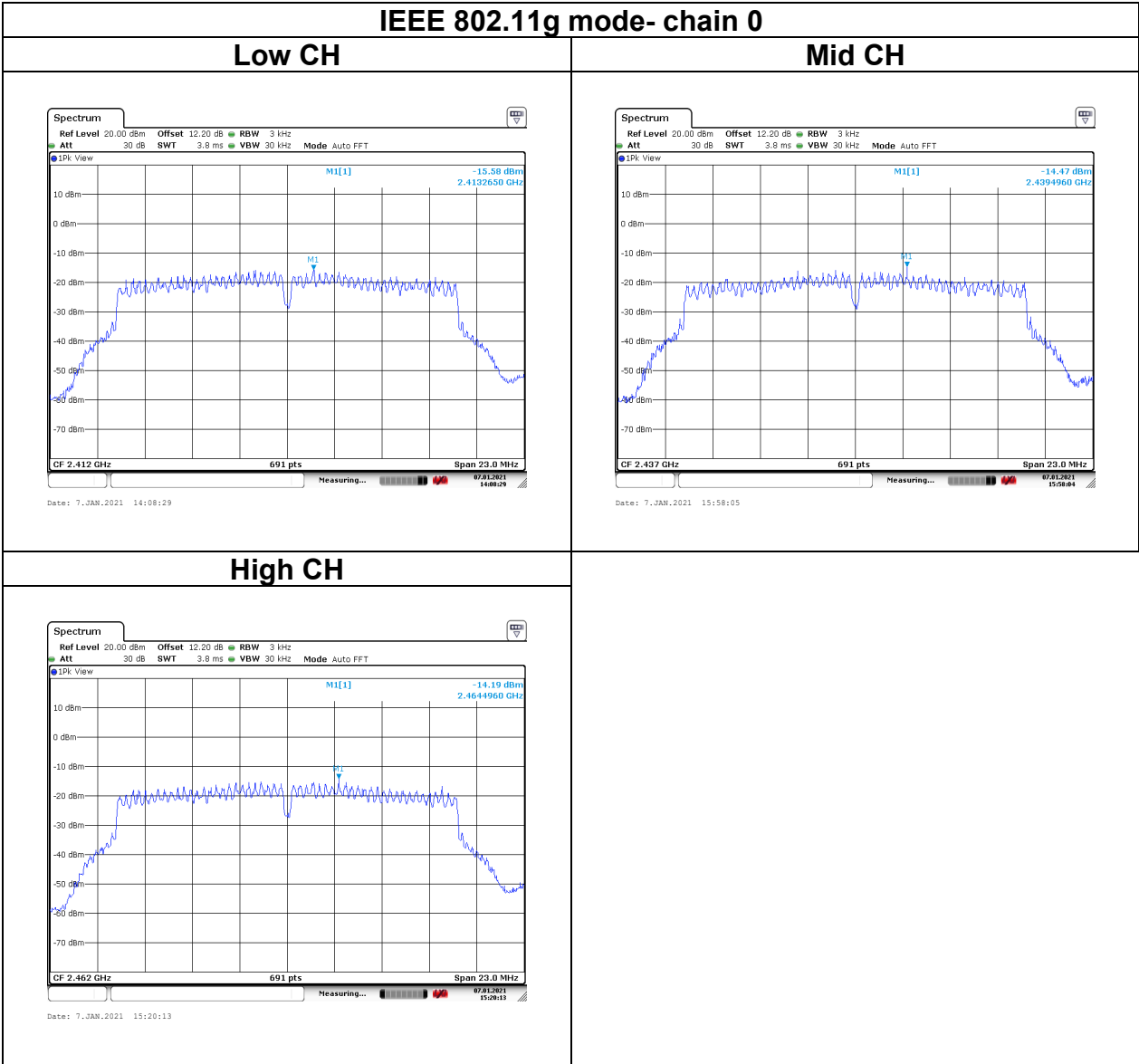
Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	2412	-16.15	-14.78	-12.40	8
Mid	2437	-16.20	-14.46	-12.23	
High	2462	-16.51	-14.80	-12.56	

Test mode: IEEE 802.11n HT 40 MHz mode / 2422-2452 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	2422	-20.03	-17.98	-15.87	8
Mid	2437	-20.44	-18.59	-16.41	
High	2452	-20.15	-18.25	-16.09	

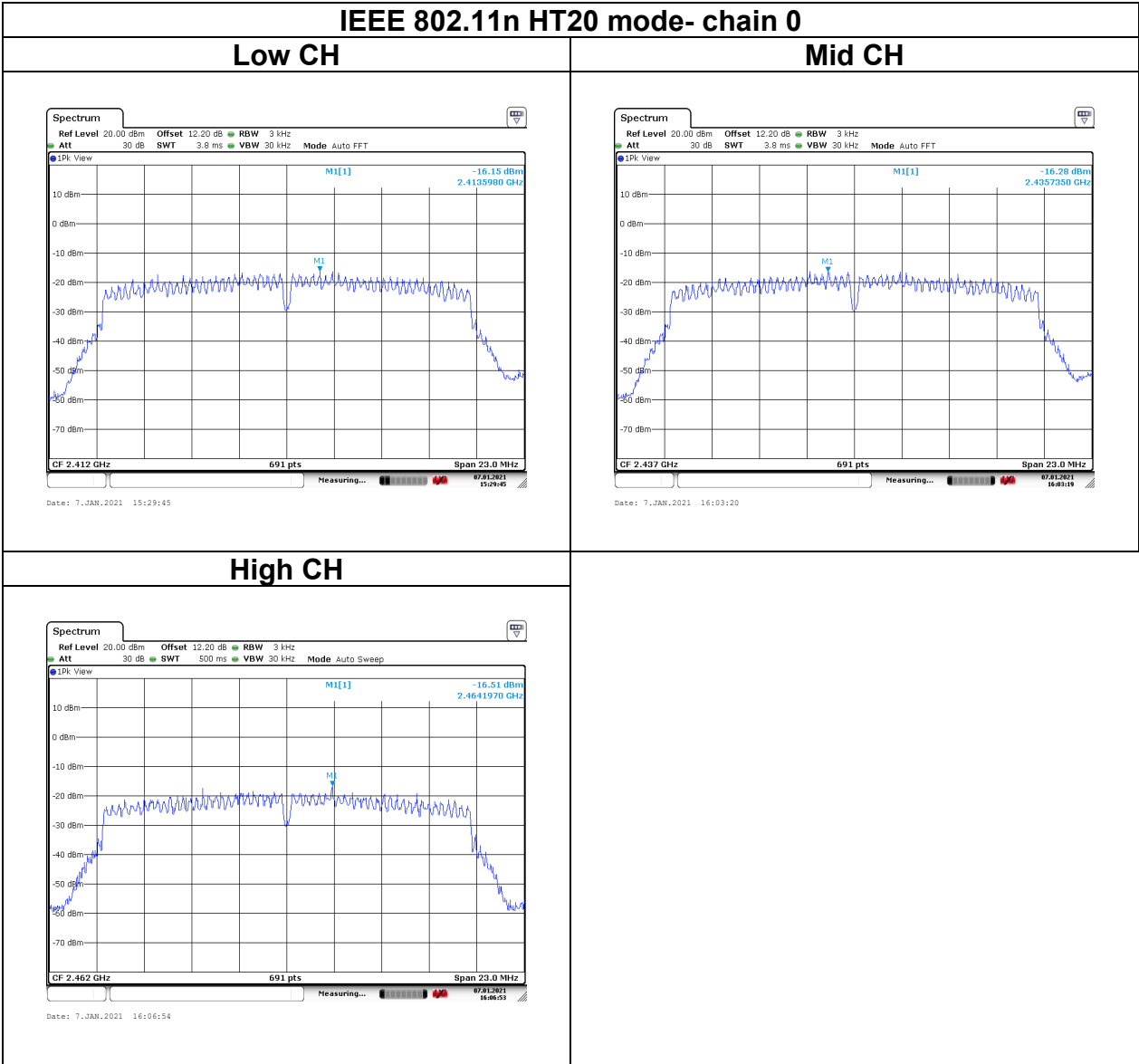
Test Data



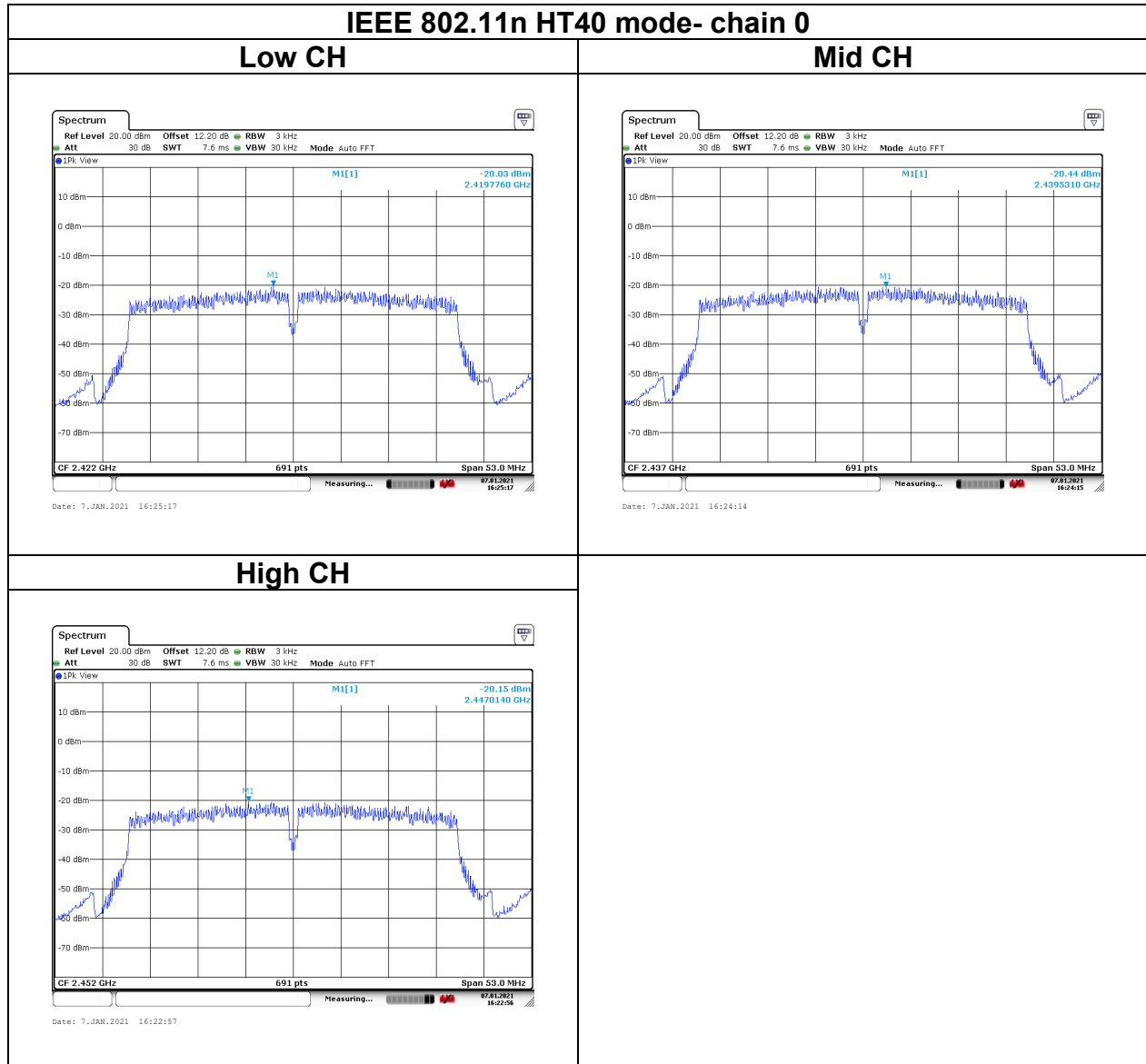
Report No.: T201222W02-RP3

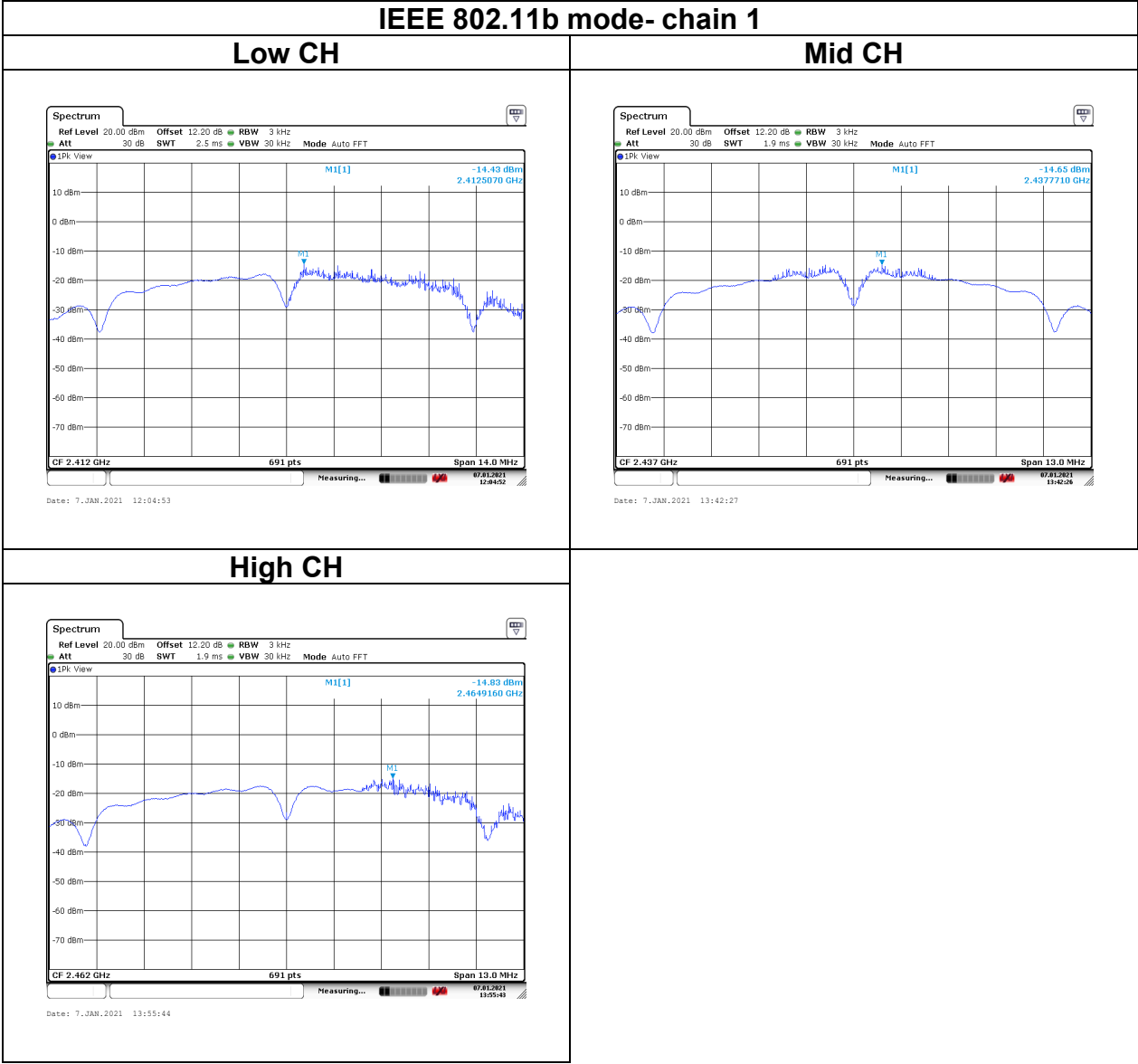


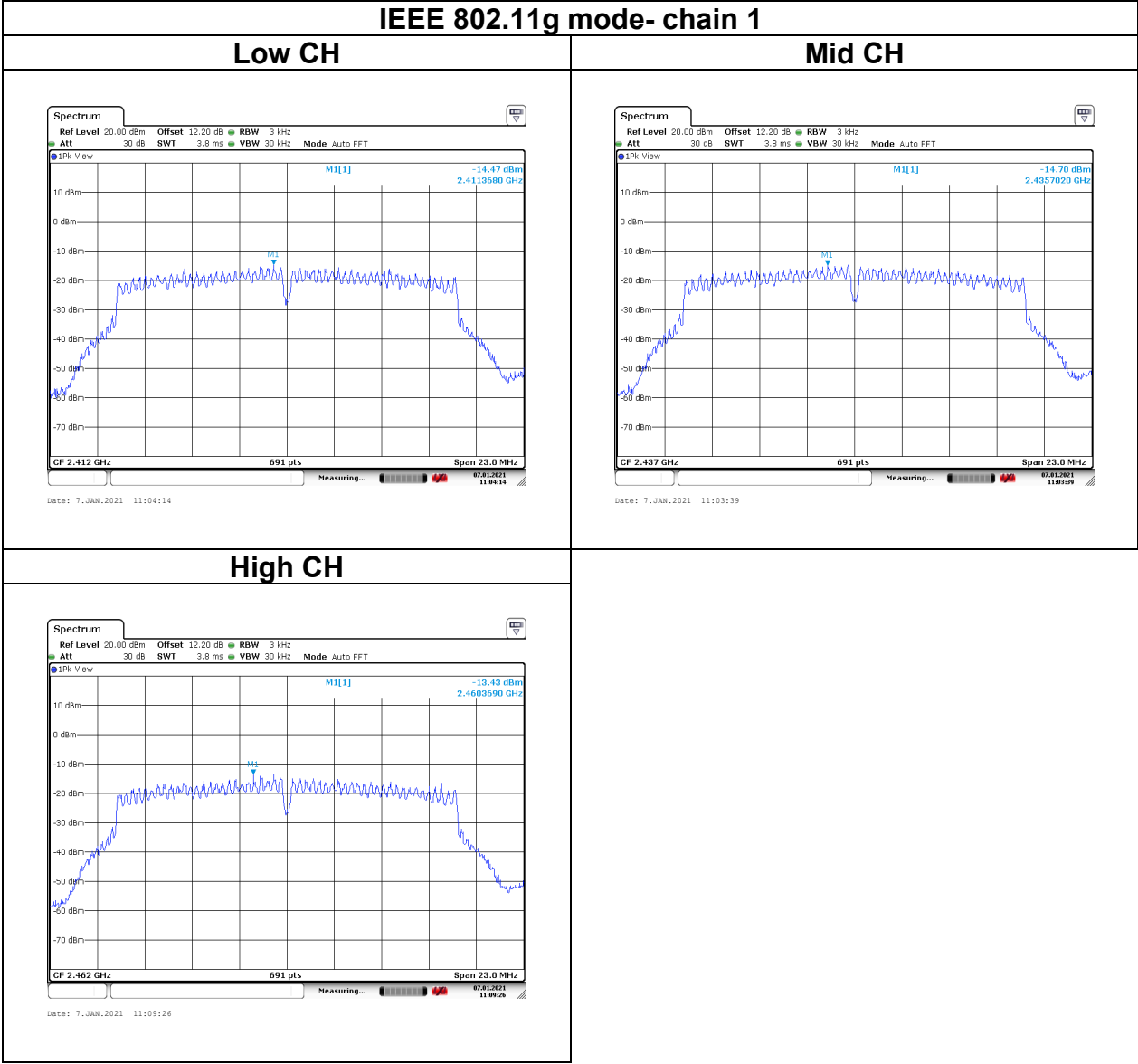
Report No.: T201222W02-RP3



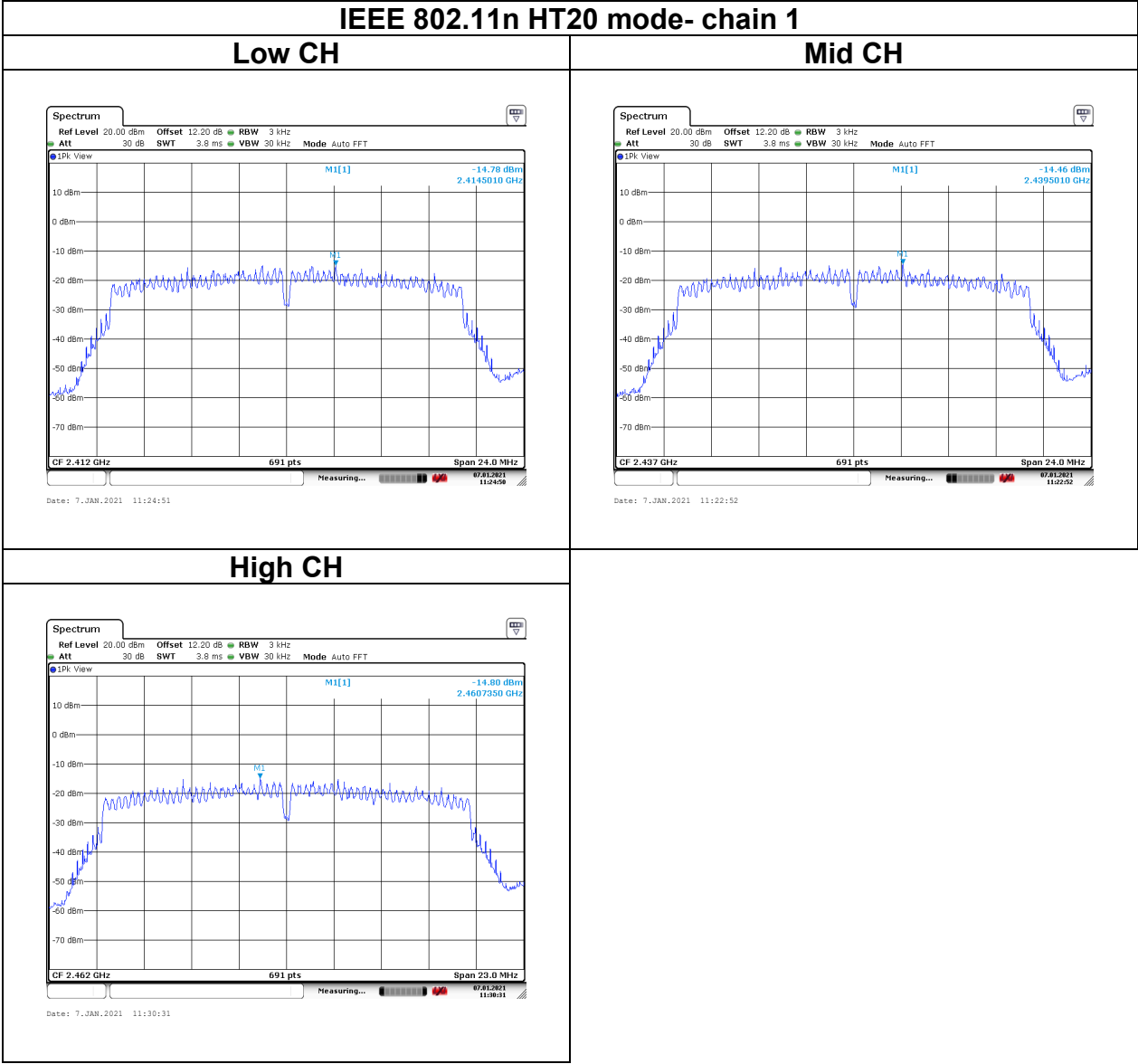
Report No.: T201222W02-RP3



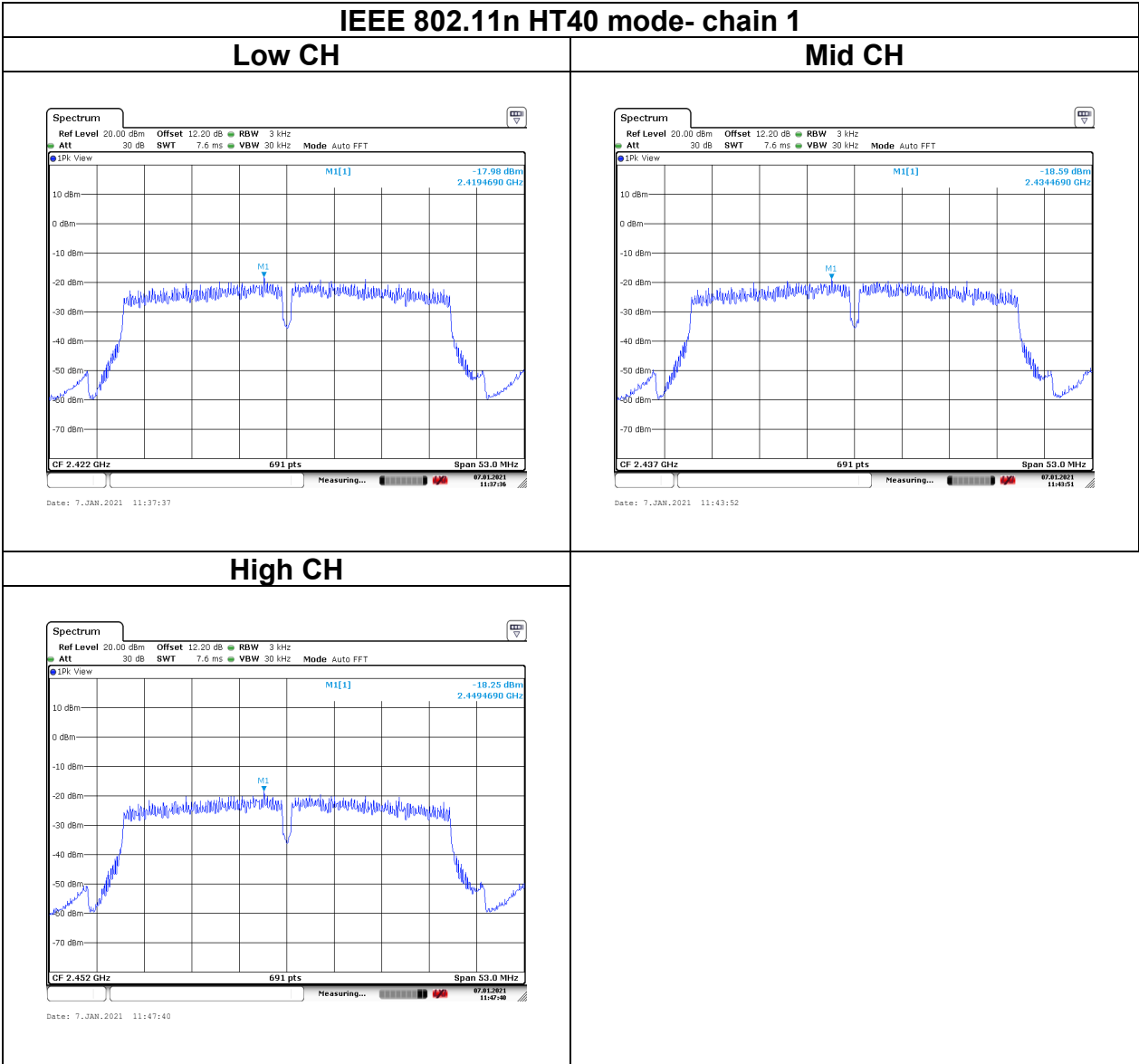




Report No.: T201222W02-RP3



Report No.: T201222W02-RP3



5.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

5.5.1 Test Limit

According to §15.247(d) and RSS-247 section 5.5,

In any 100 kHz bandwidth outside the authorized frequency band,

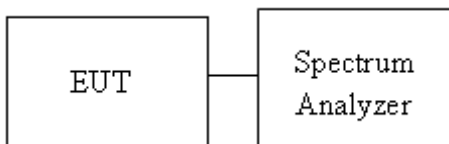
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

5.5.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.5.3 Test Setup



Report No.: T201222W02-RP3

5.5.4 Test Result

Test Data

Temperature: 19.4°C

Humidity: 44% RH

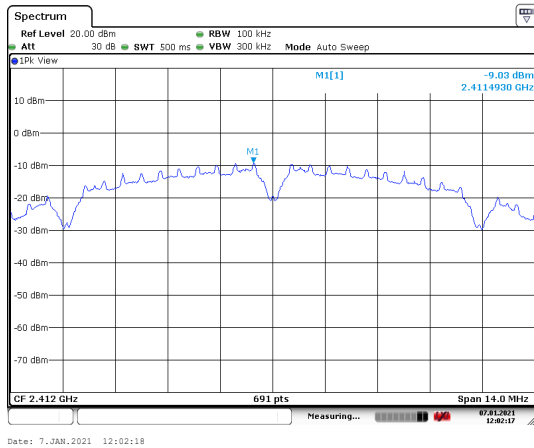
Tested by: Rick Lee

Test date: January 7, 2021

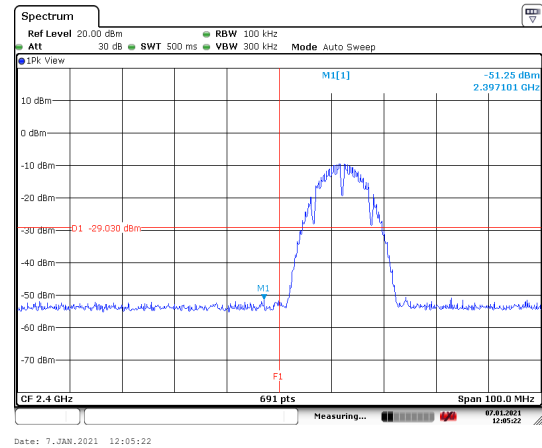
Chain 0:

IEEE 802.11b mode Low CH chain 0

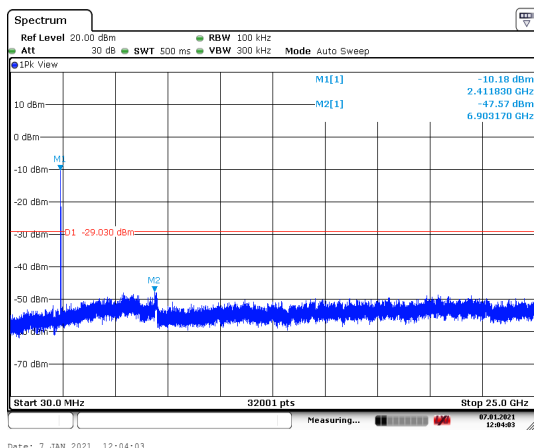
Reference Level of PSD in 100kHz

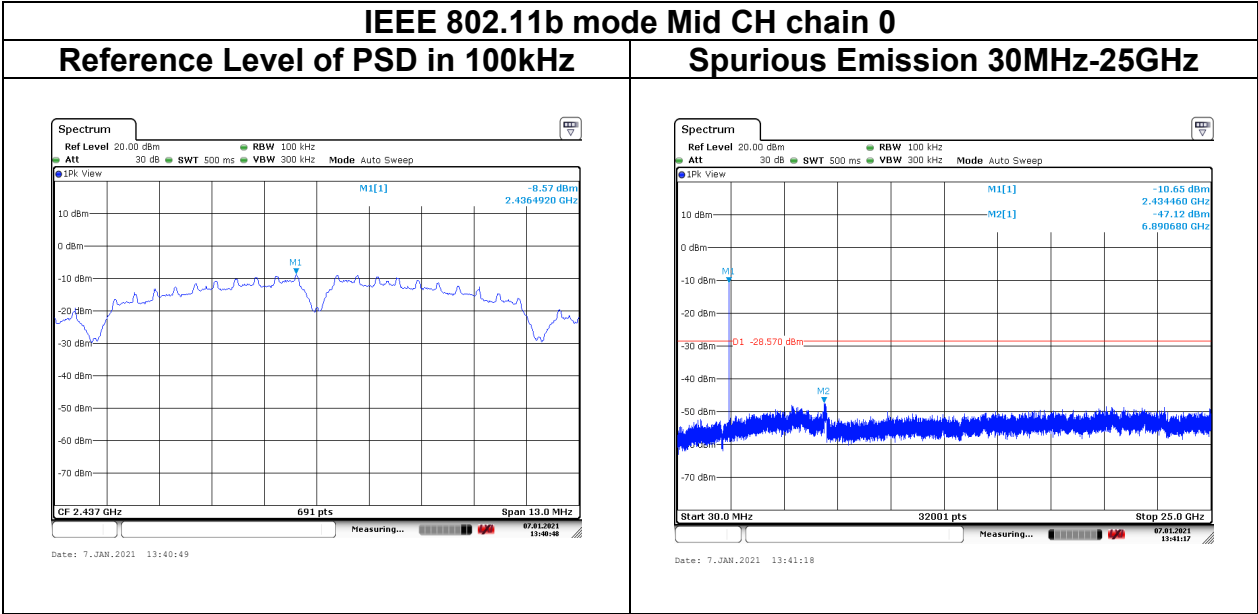


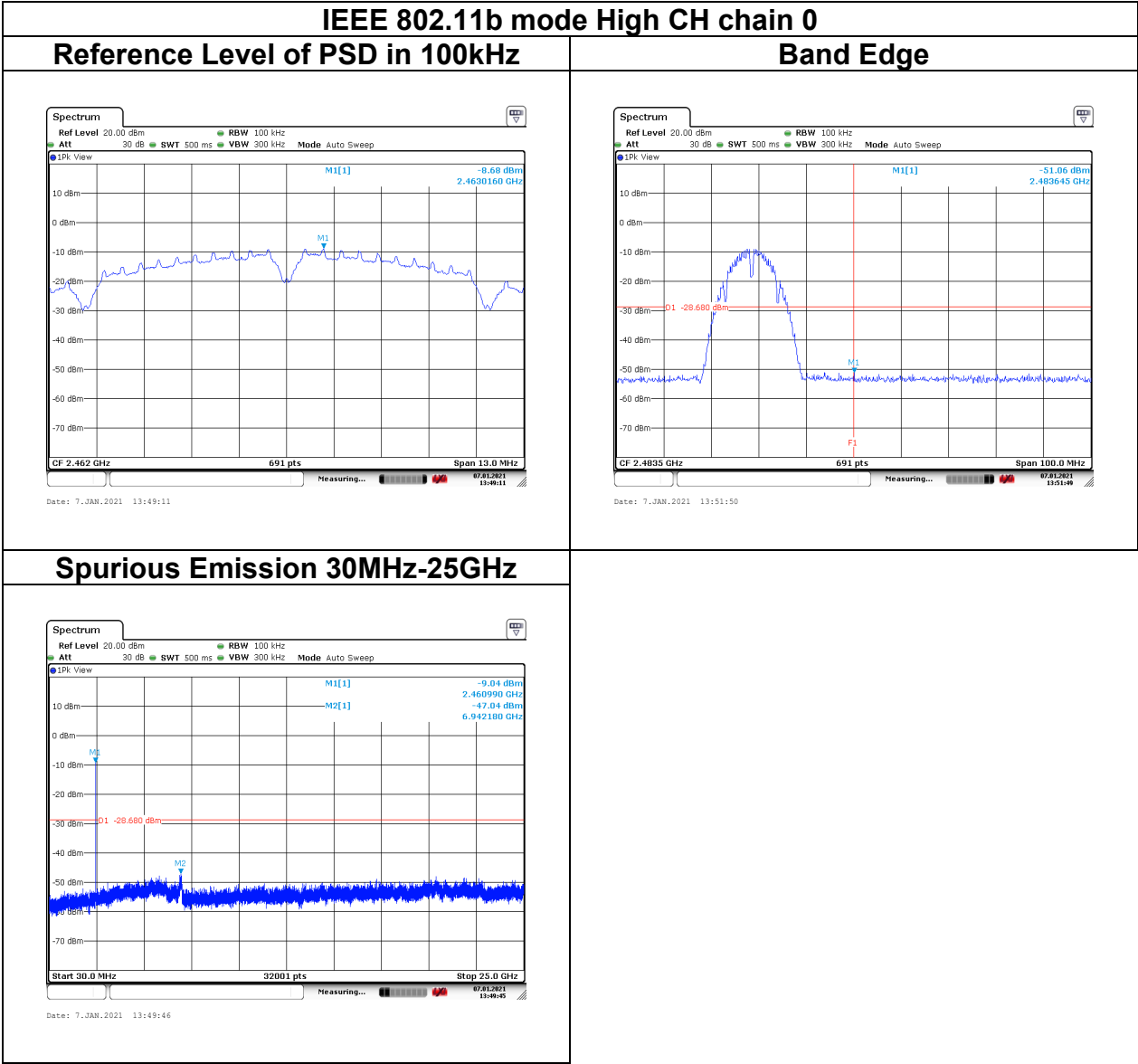
Band Edge

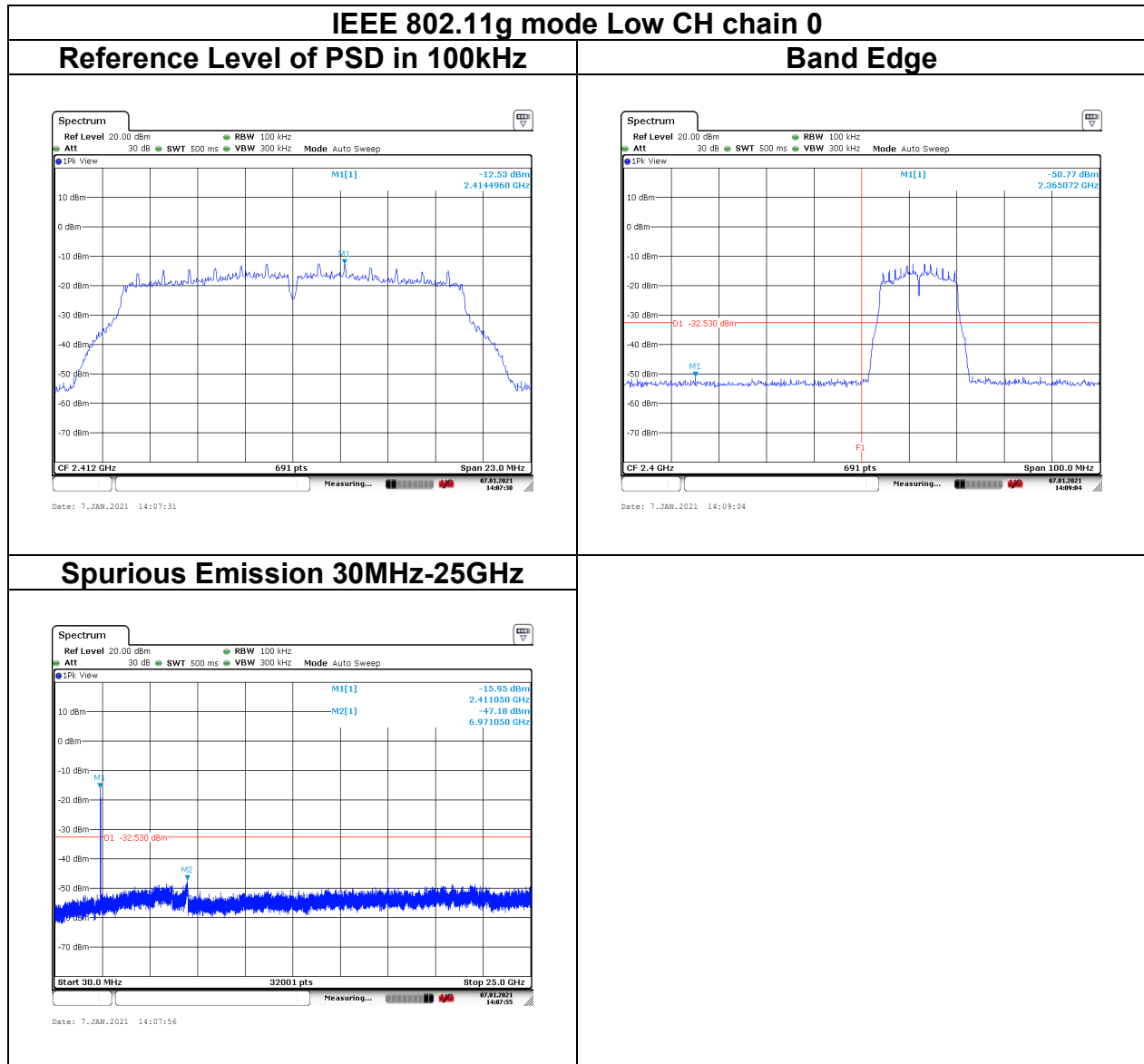


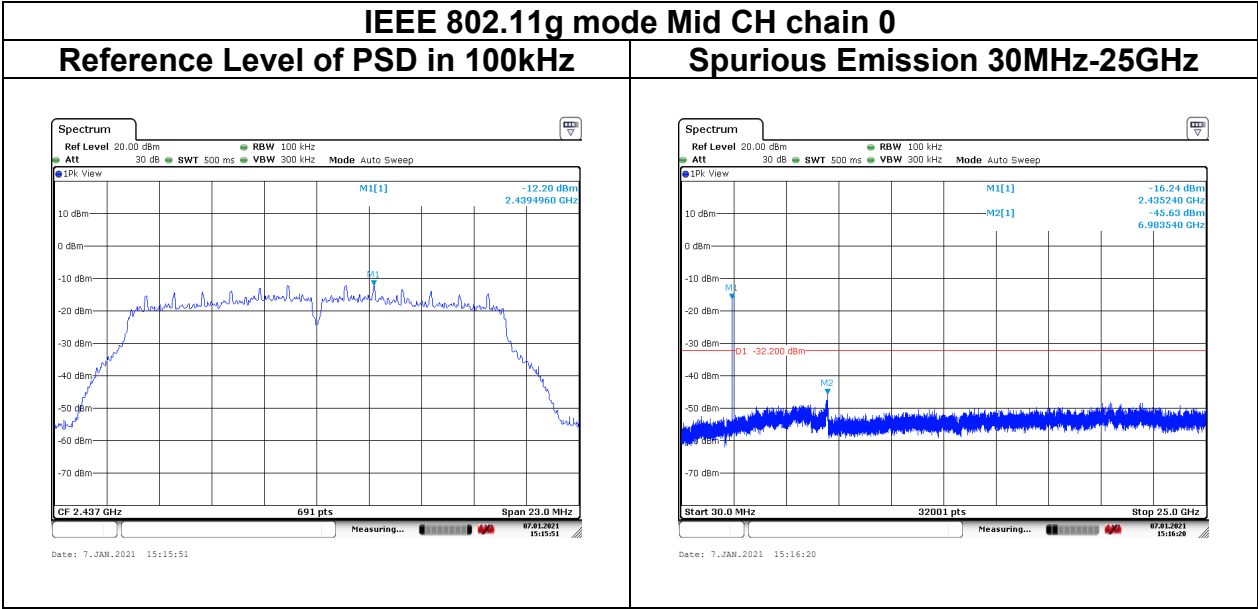
Spurious Emission 30MHz-25GHz

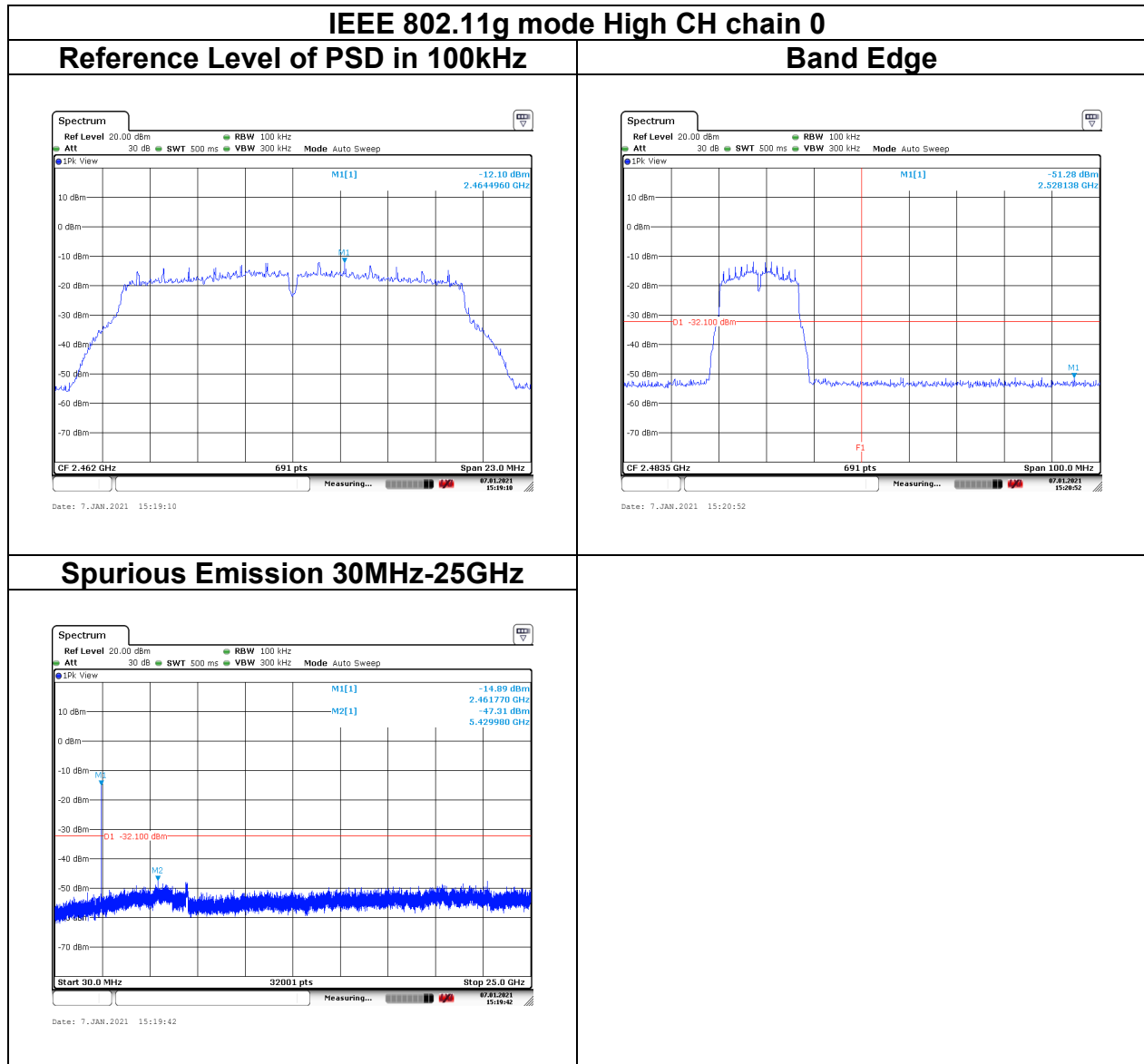


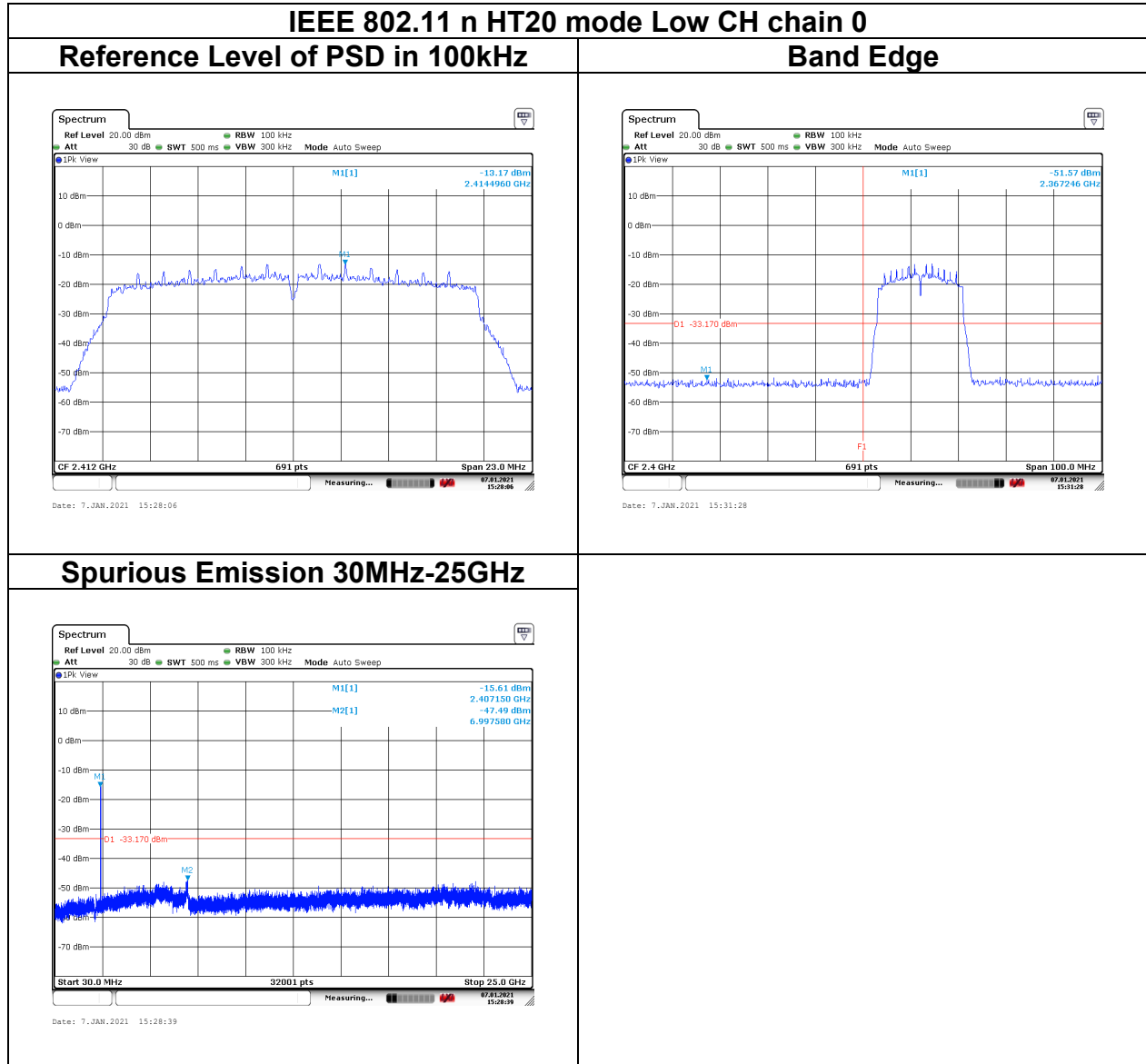


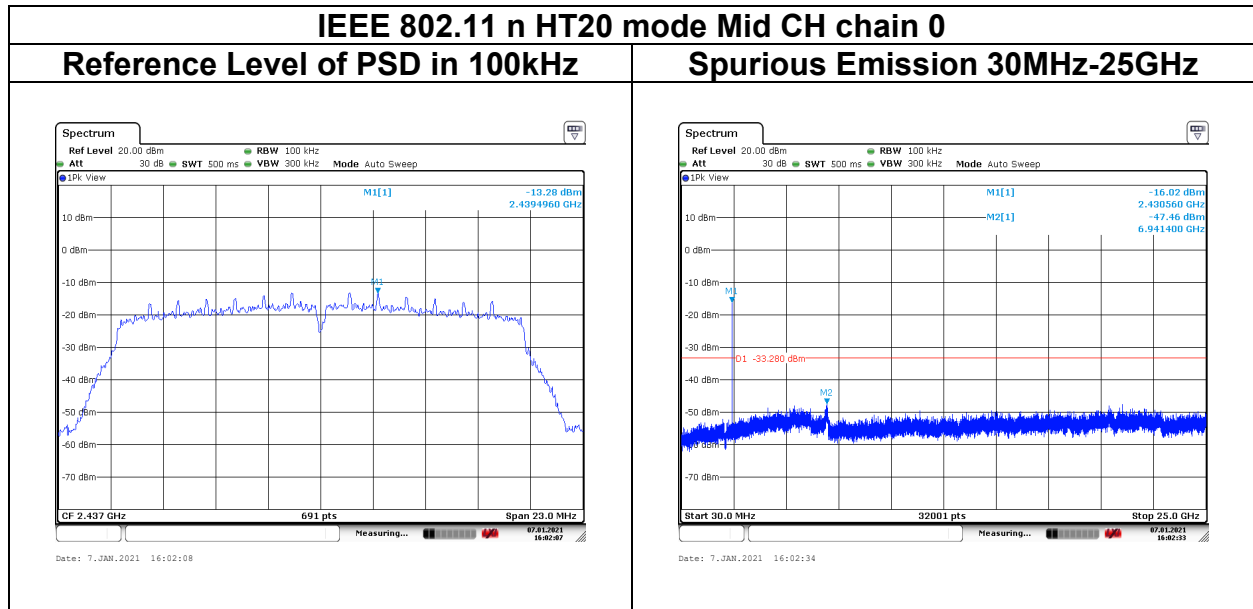


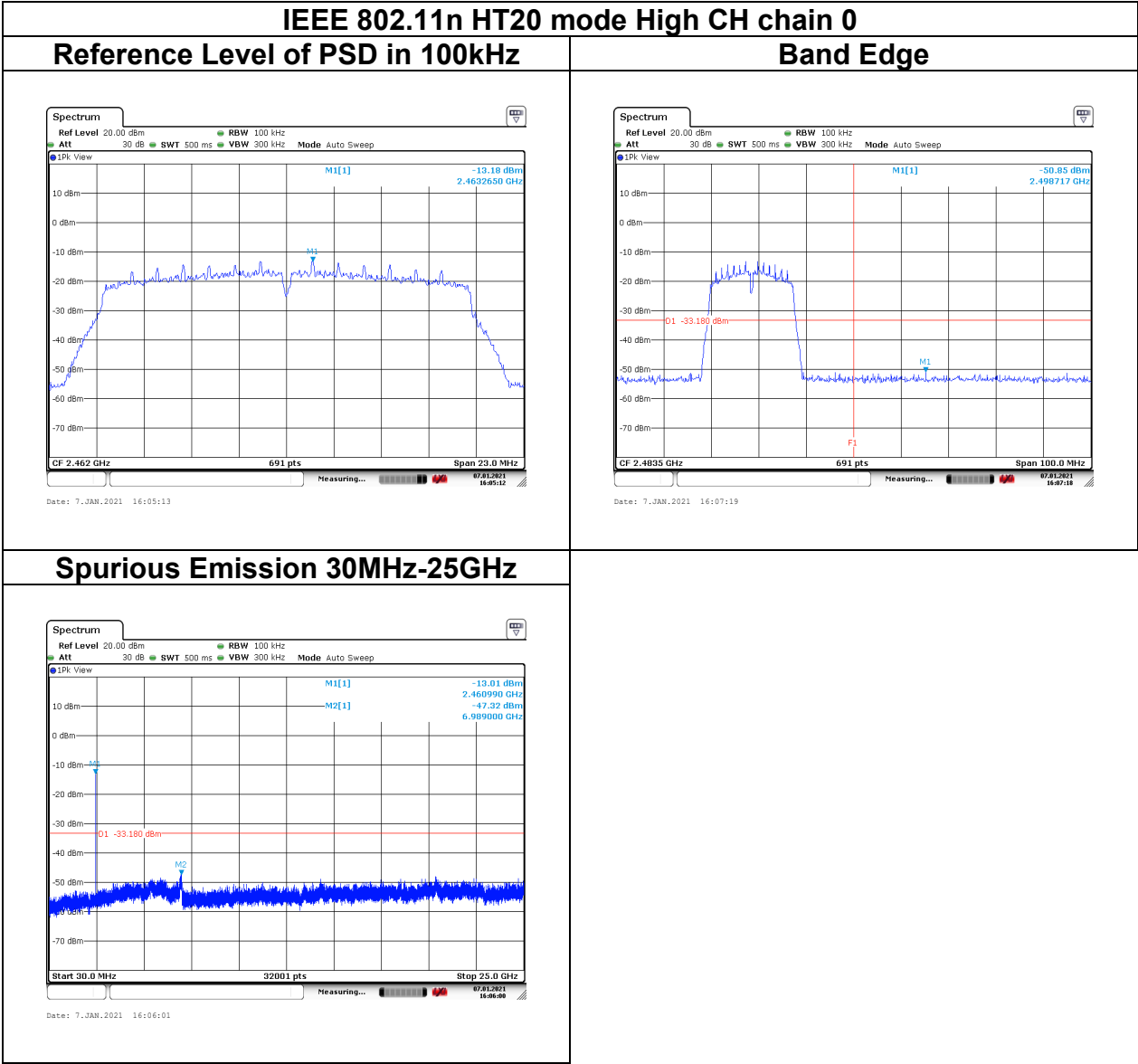












Spurious Emission 30MHz-25GHz

Spectrum

Ref Level 20.00 dBm

Att 30 dB

RBW 100 kHz

SWT 500 ms

VBW 300 kHz

Mode Auto Sweep

1Pk View

M1[1]

-13.01 dBm

2.460990 GHz

M2[1]

-47.32 dBm

6.989000 GHz

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

-70 dBm

Start 30.0 MHz

32001 pts

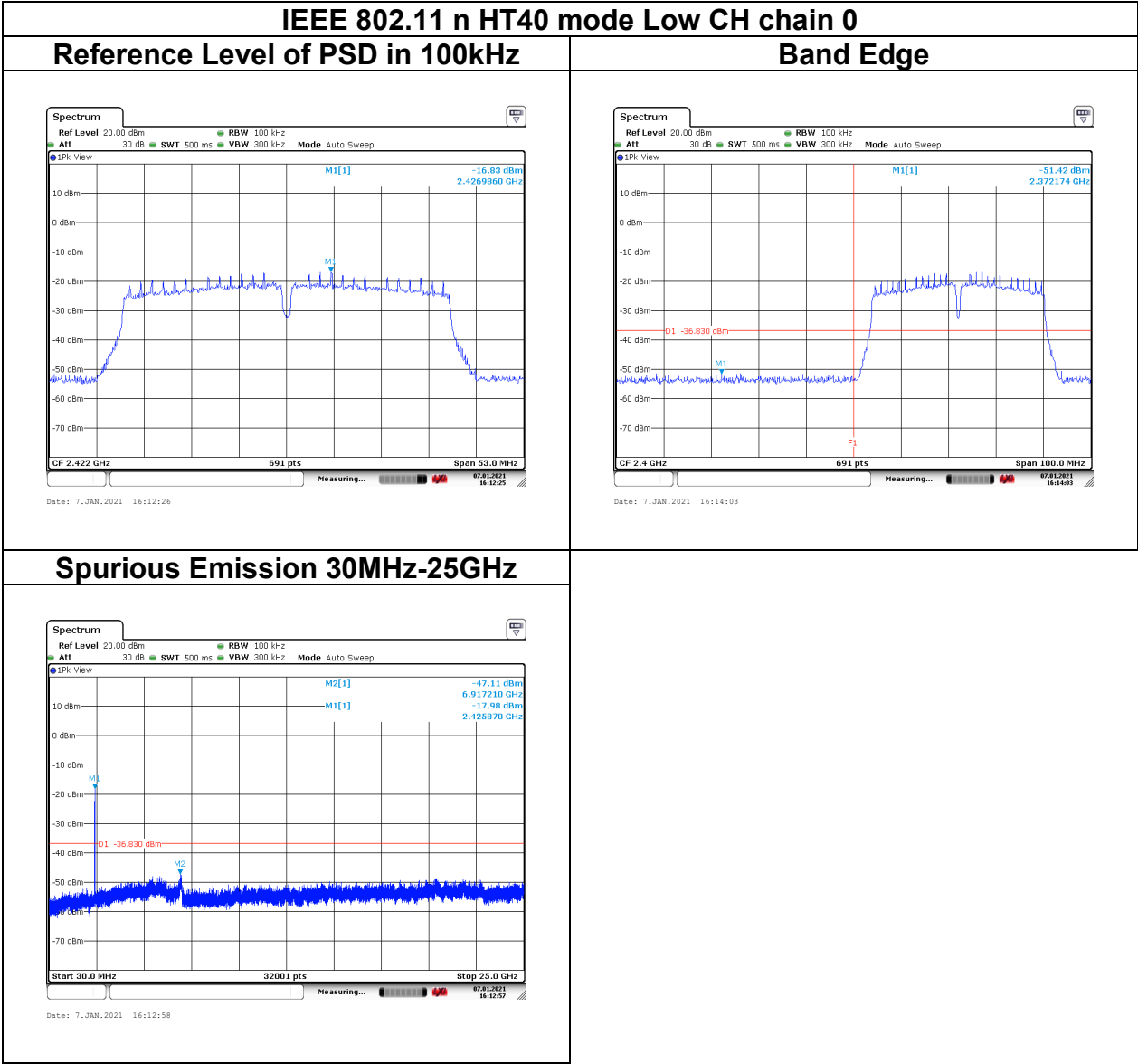
Stop 25.0 GHz

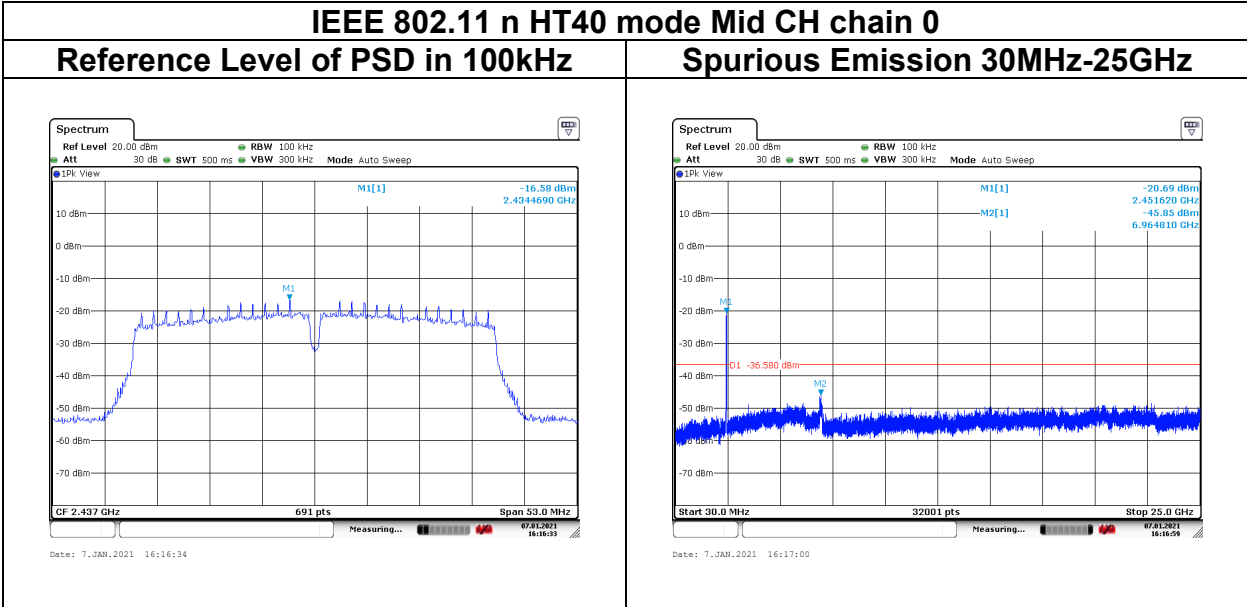
Measuring...

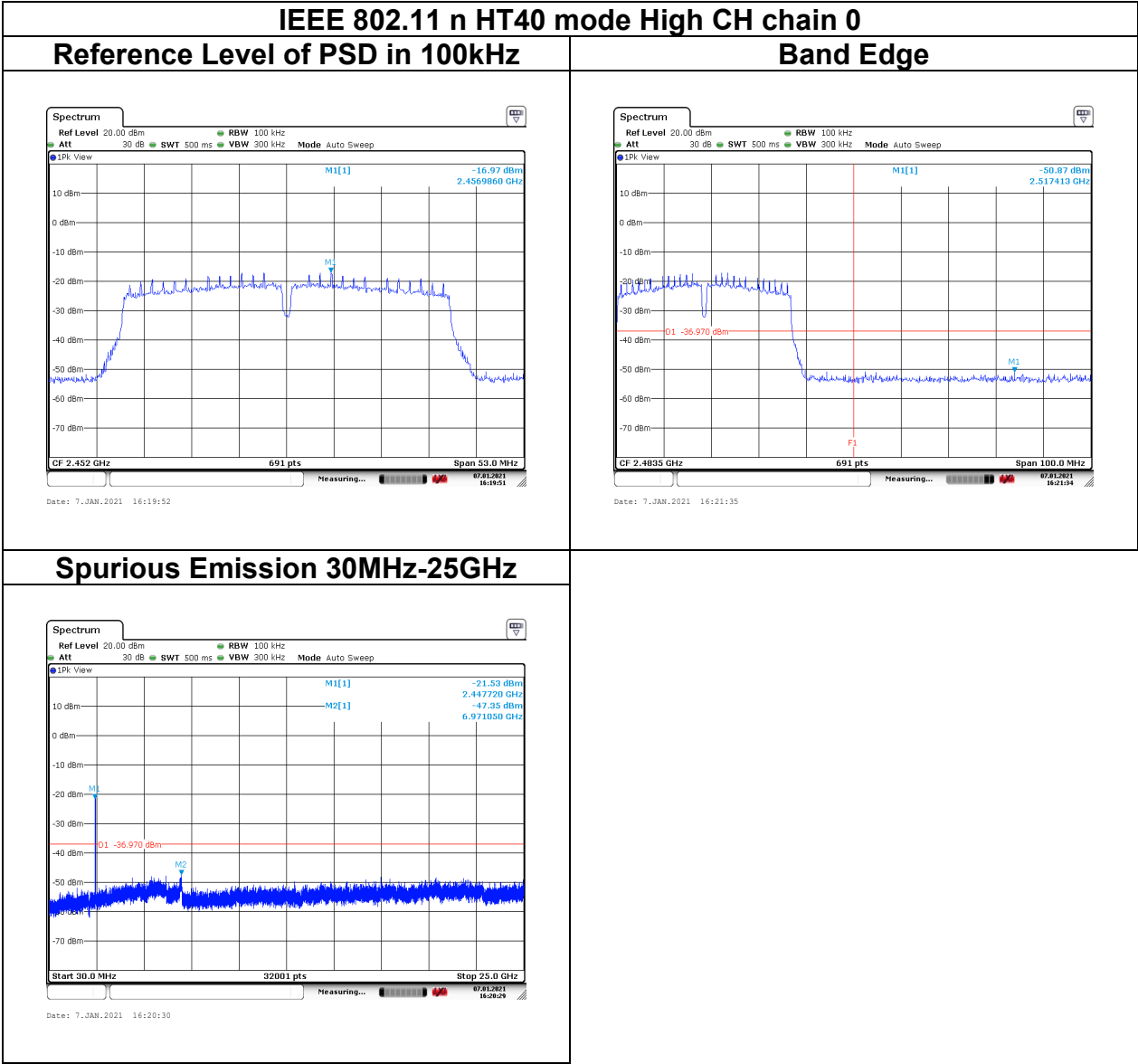
07/31/2021

16:06:01

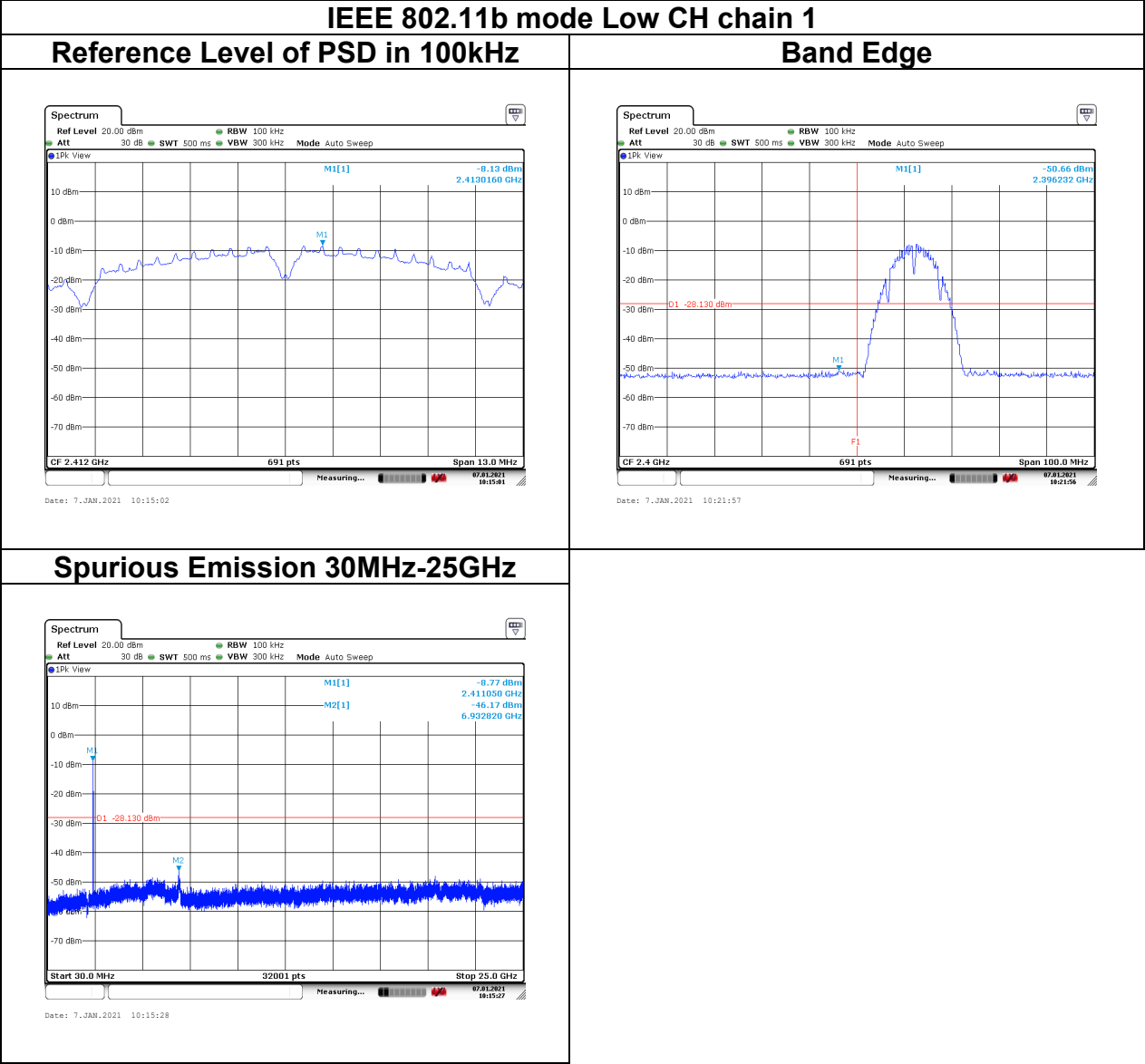
Date: 7.JAN.2021 16:06:01

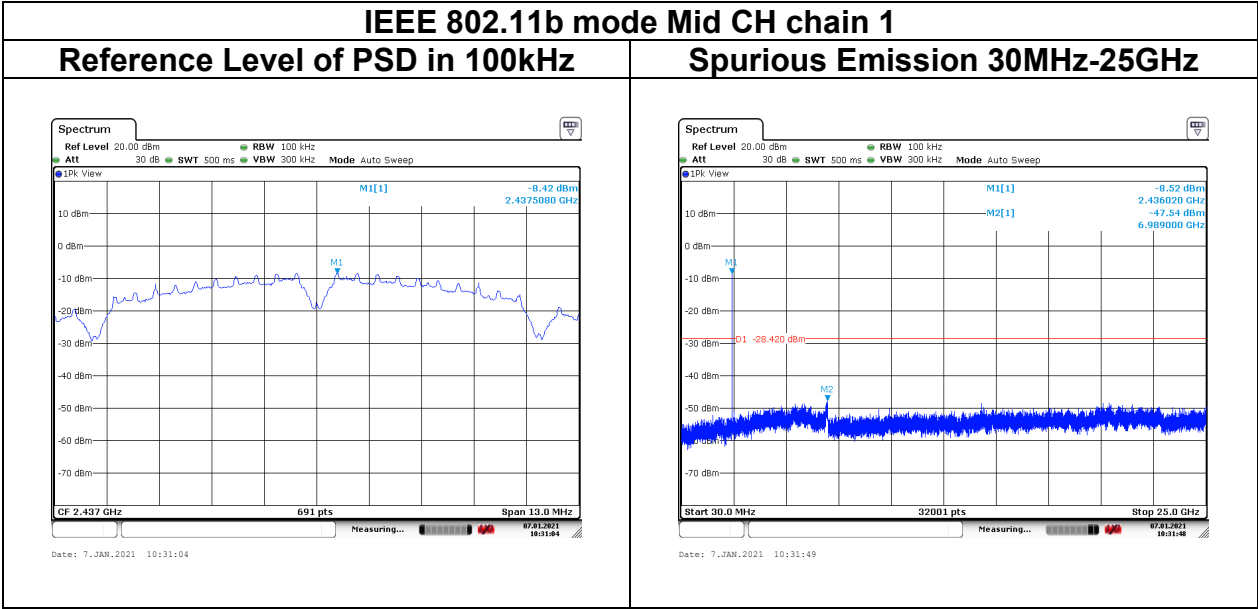


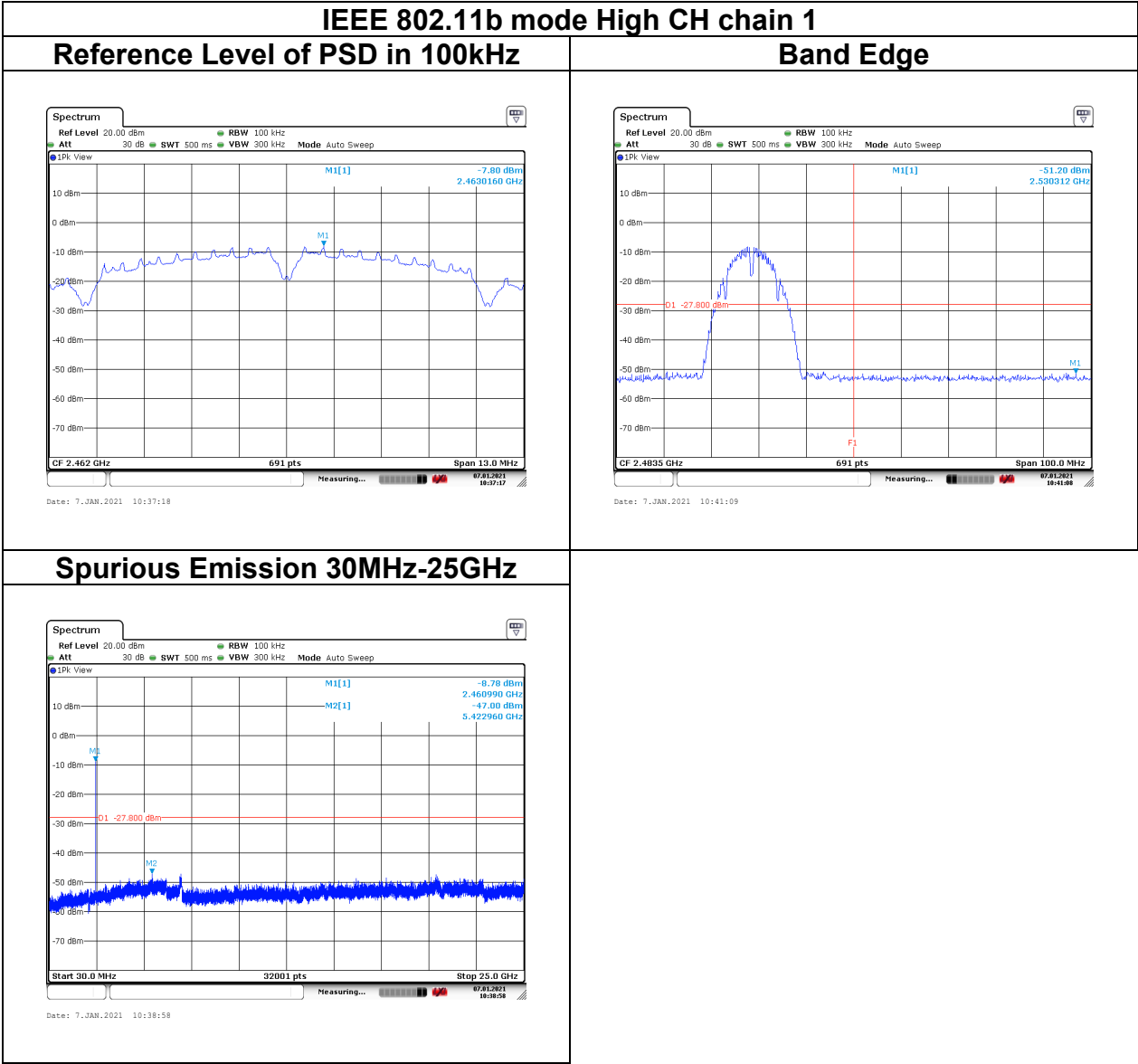


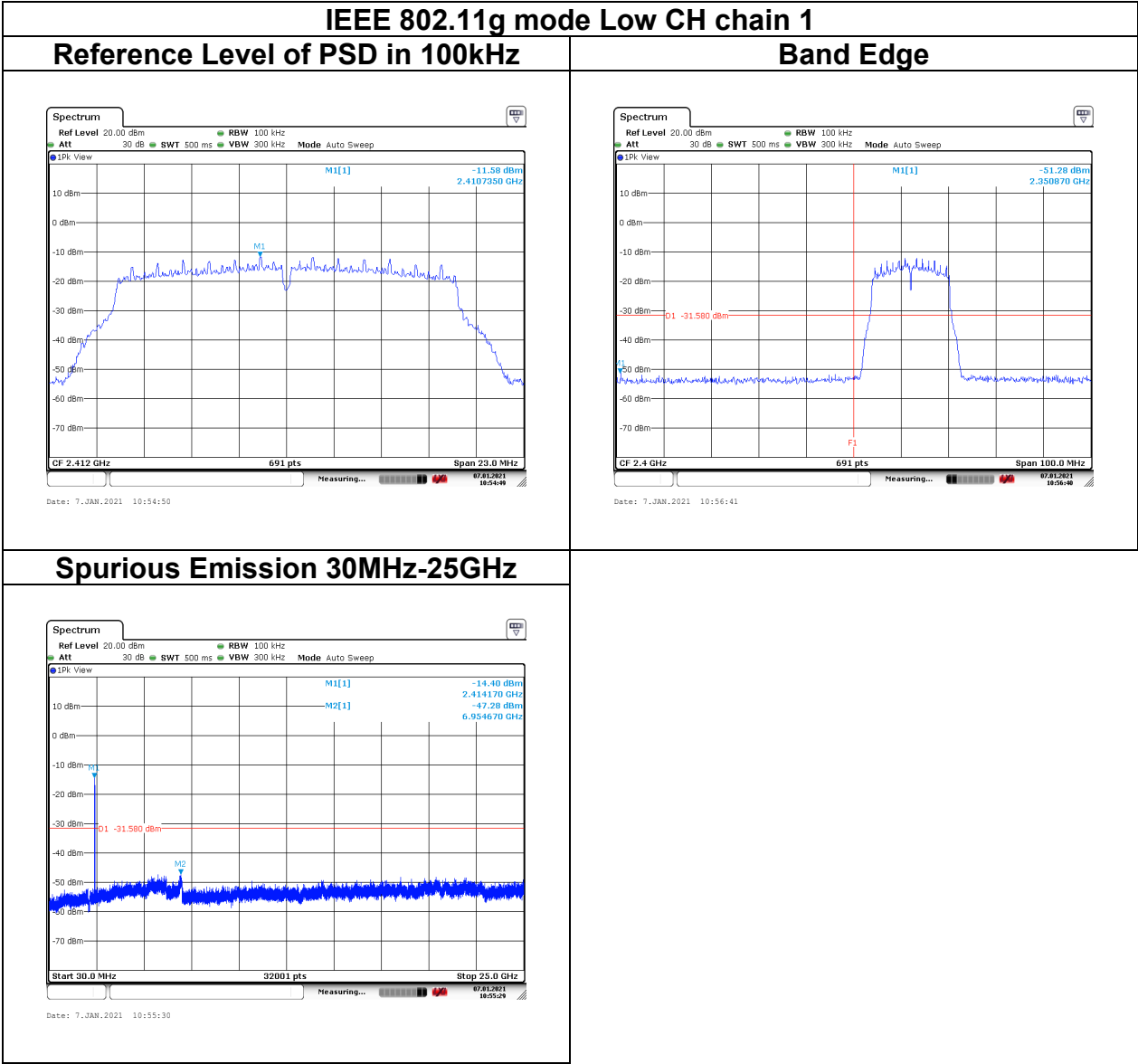


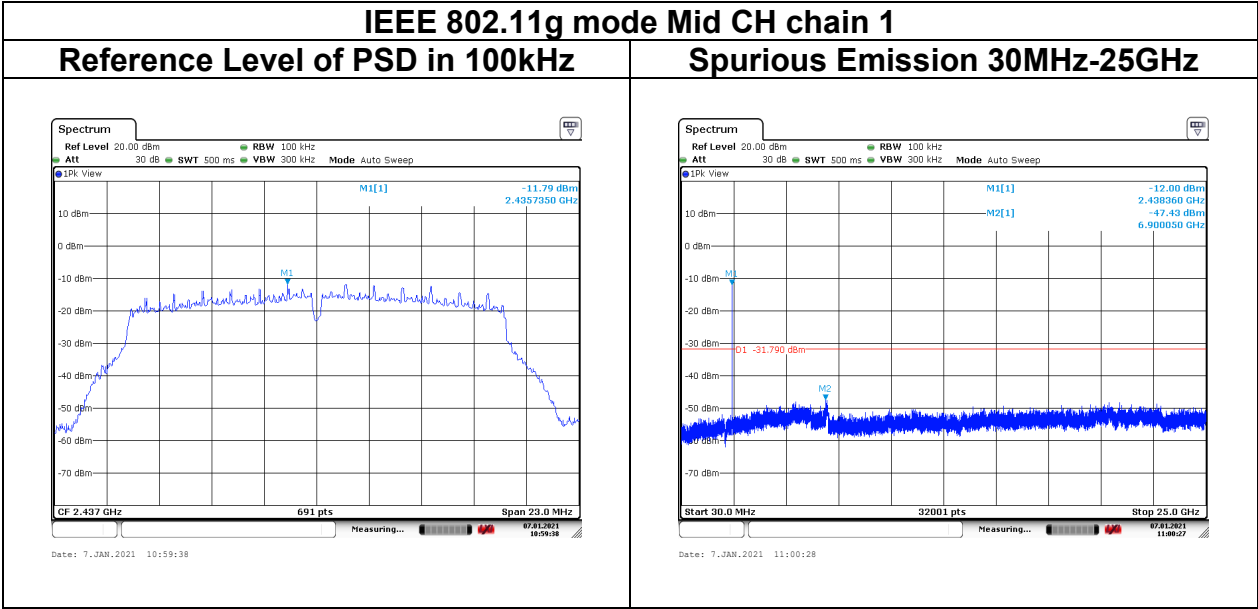
Chain 1:

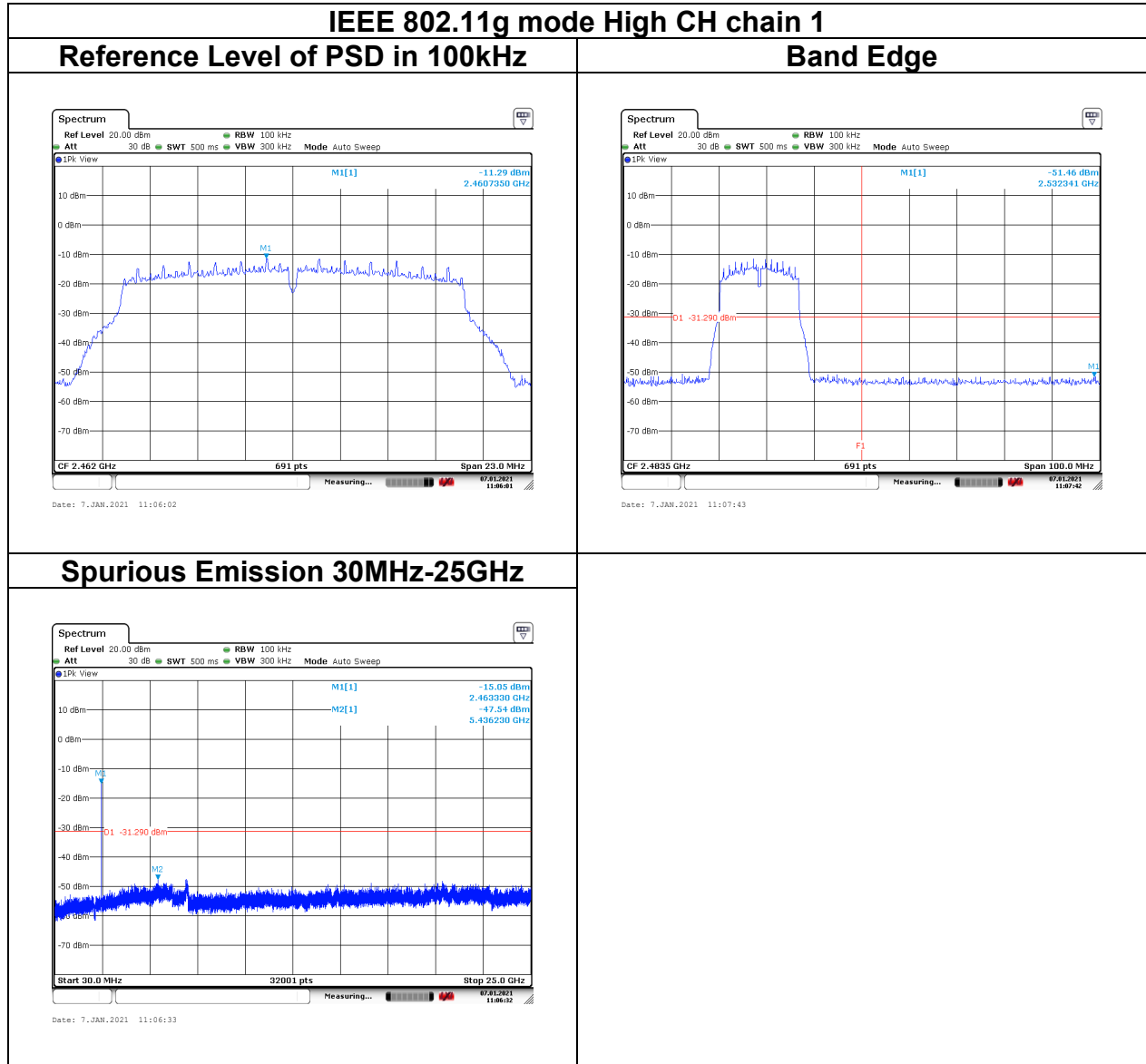


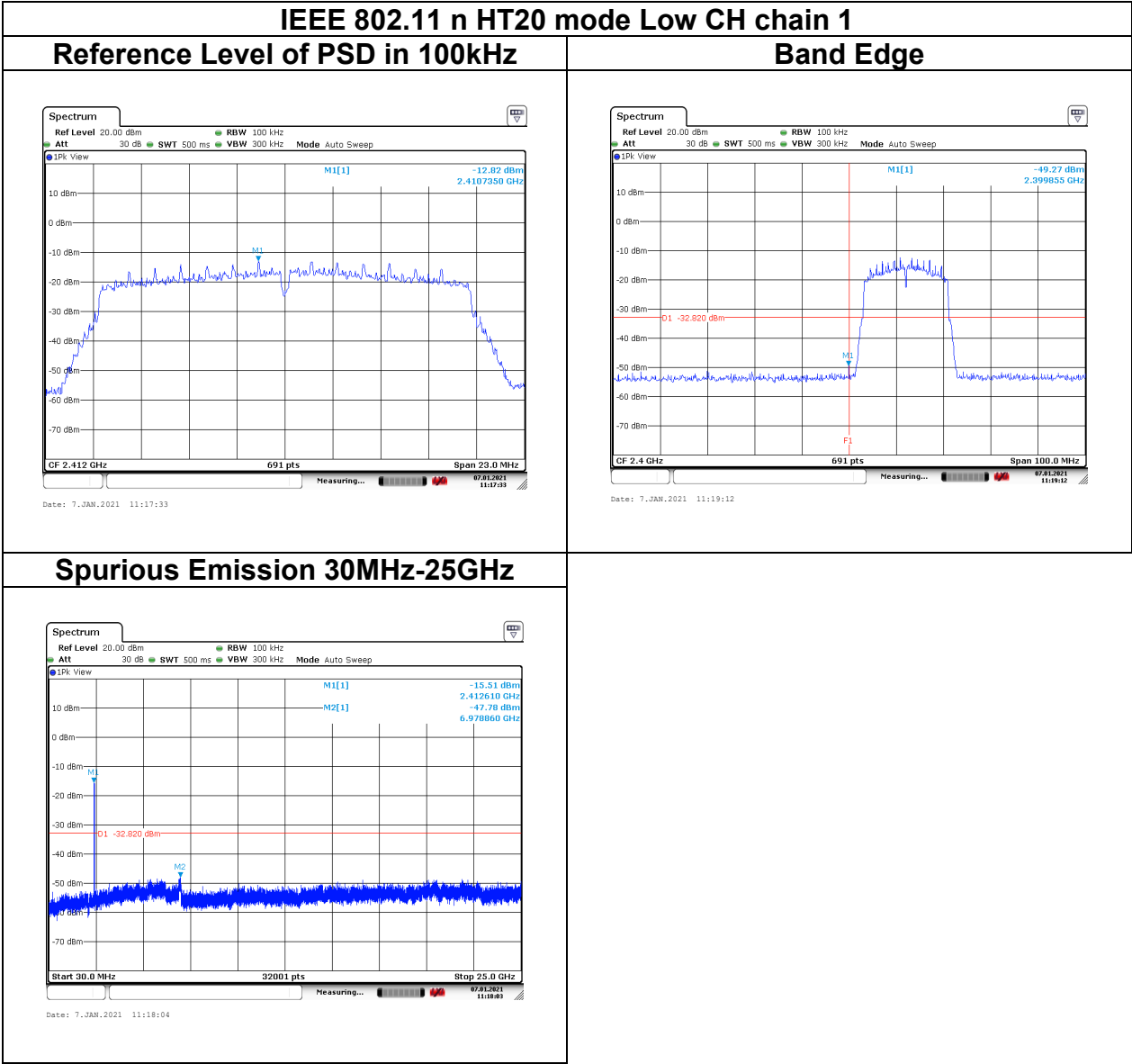


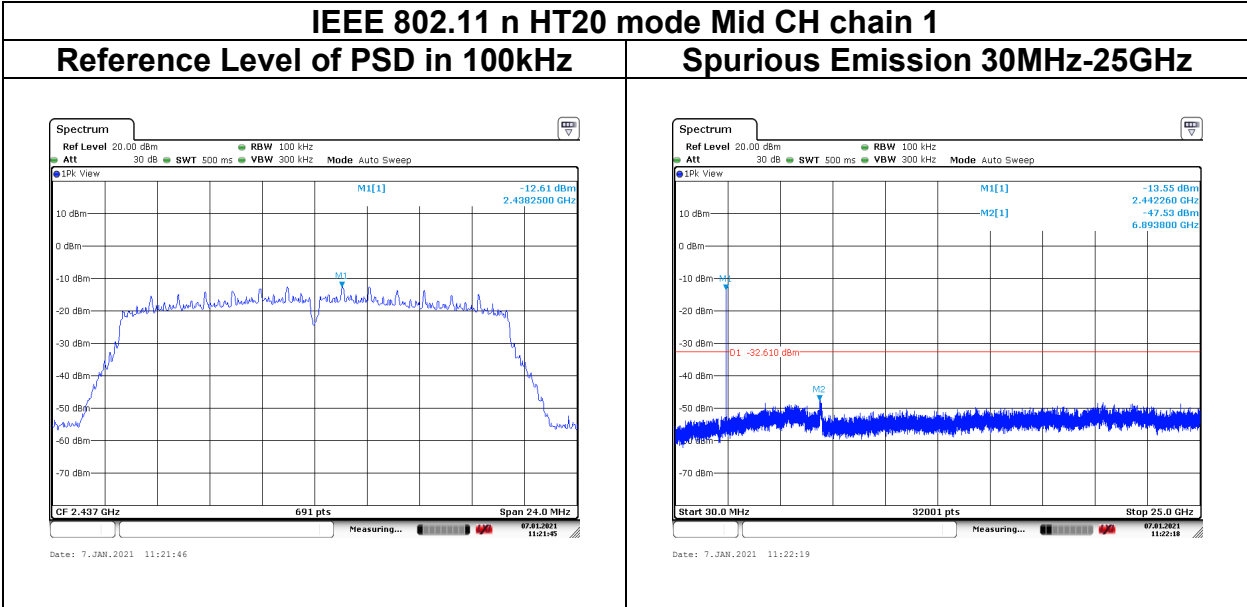


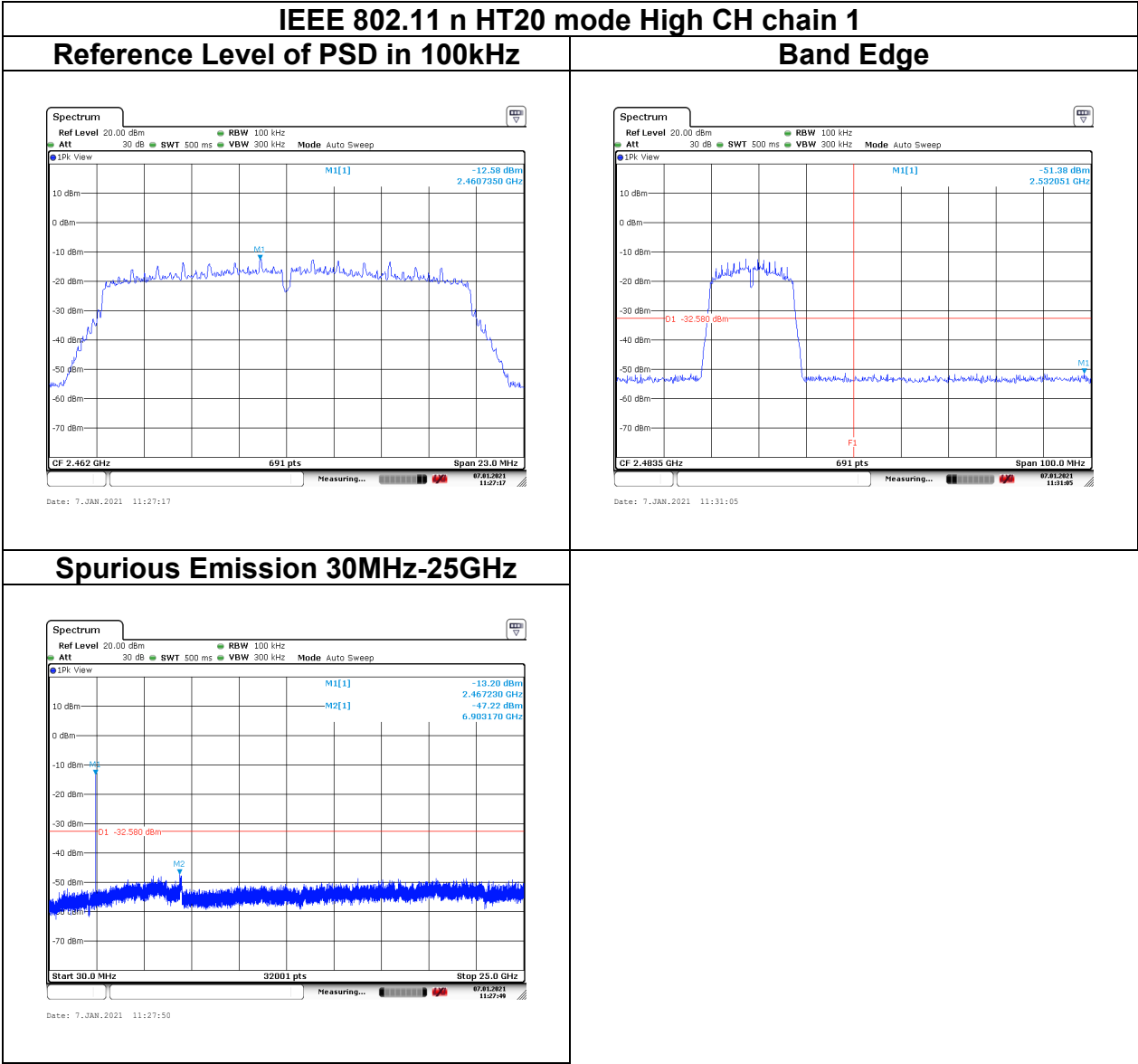


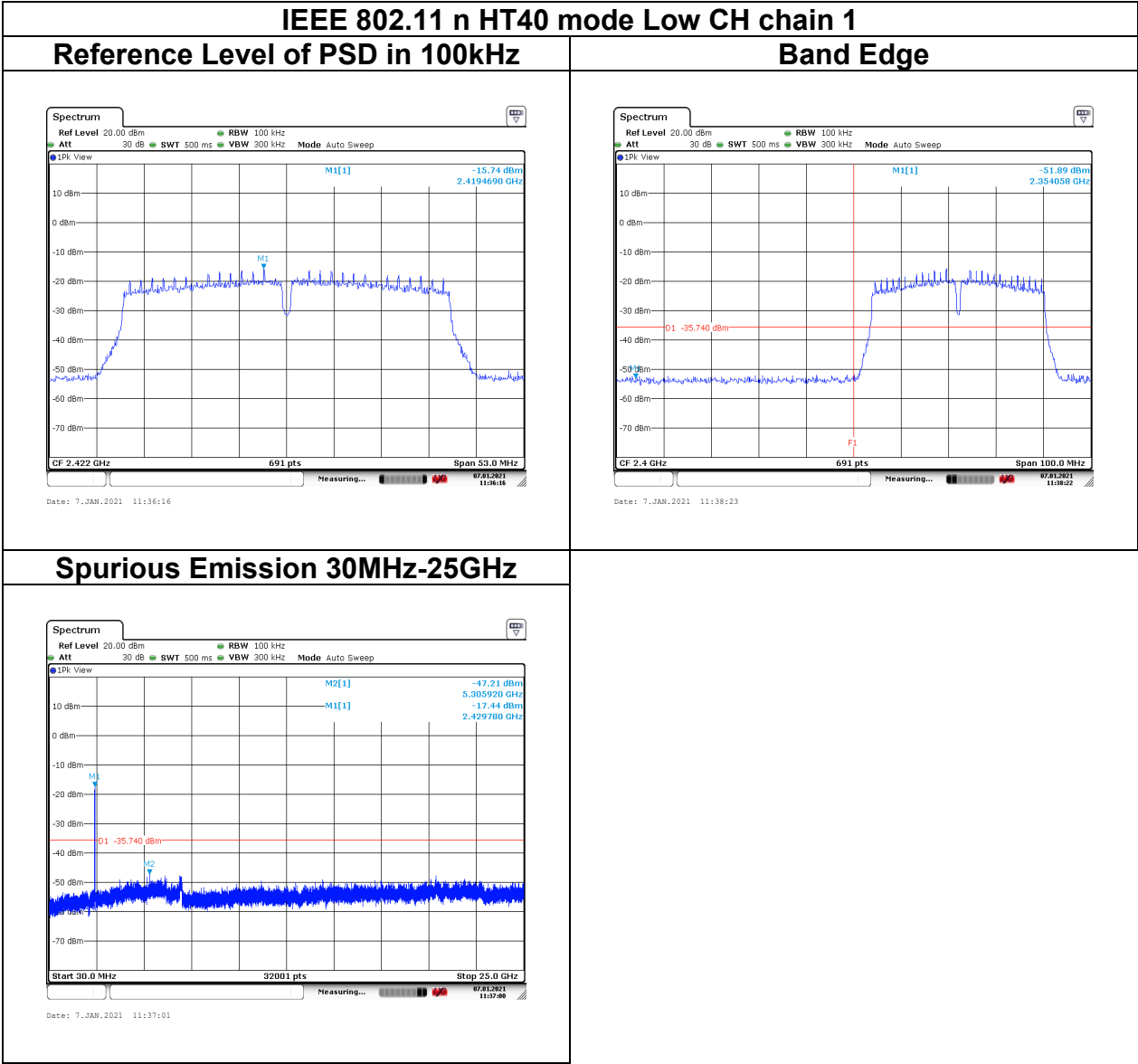


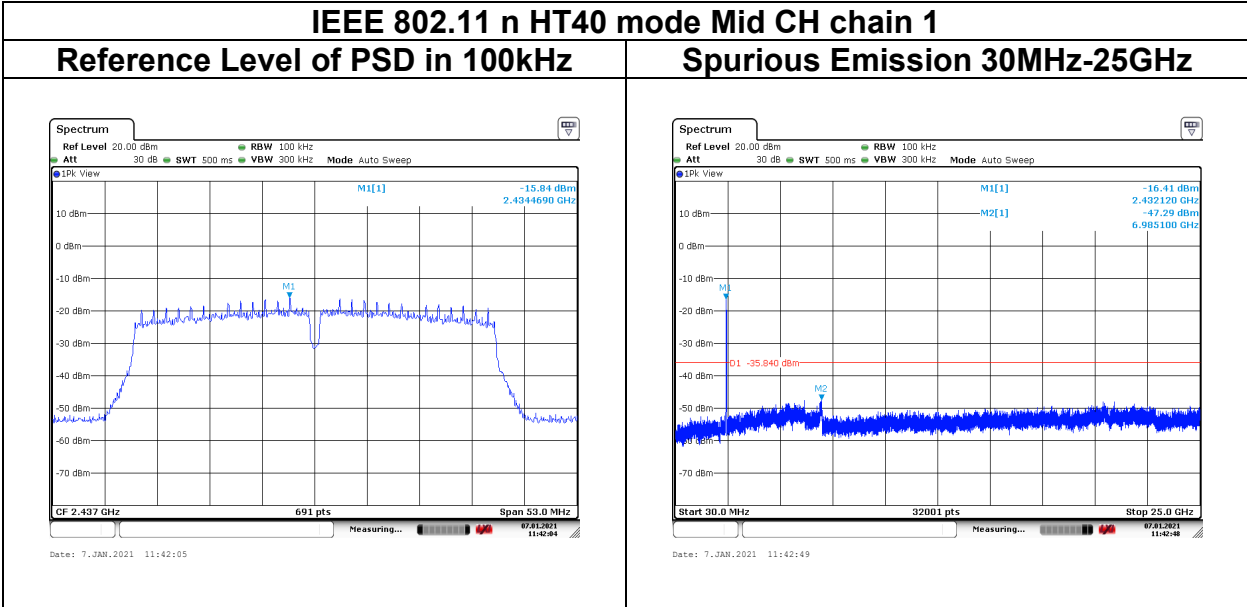


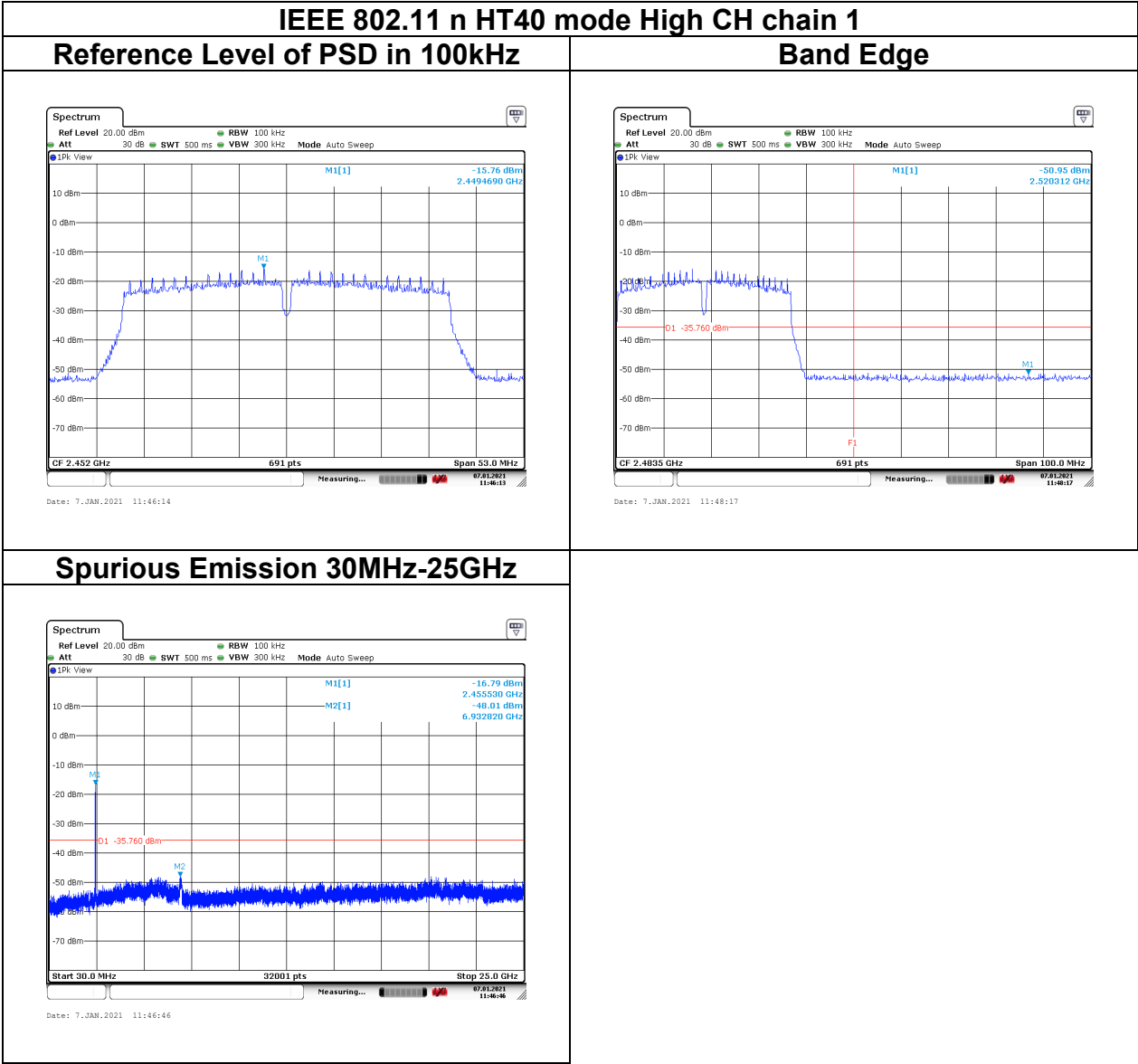












5.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

5.6.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

IC according to RSS-247 section 5.5, RSS-Gen, Section 8.9 and 8.10

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

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	Field Strength (microvolts/m)	Measurement Distance (metres)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

IC according to RSS-247 section 5.5, RSS-Gen, Section 8.9 and 8.10

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.

5.6.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

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.

Note: No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)

Remark:

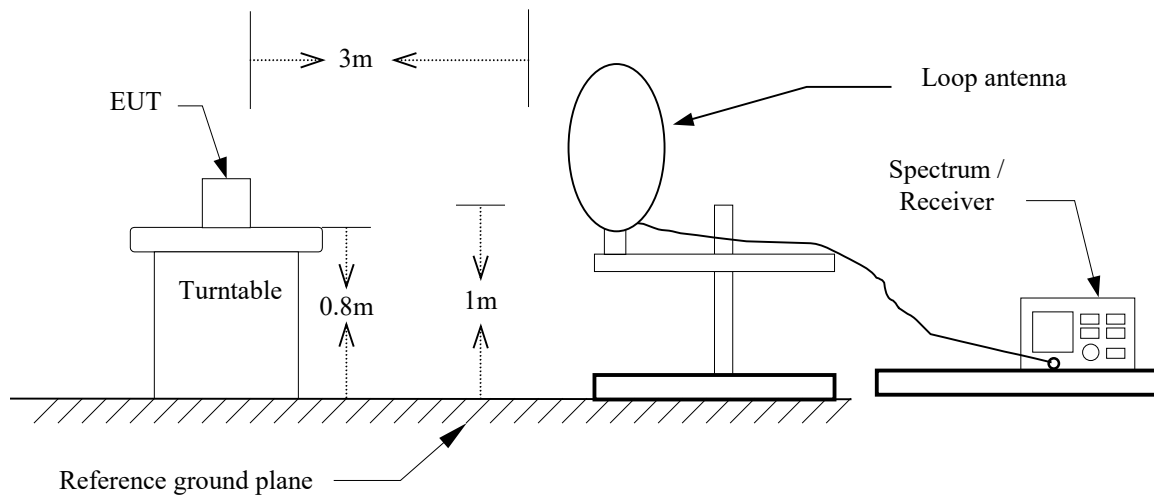
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

4. The SA setting following :

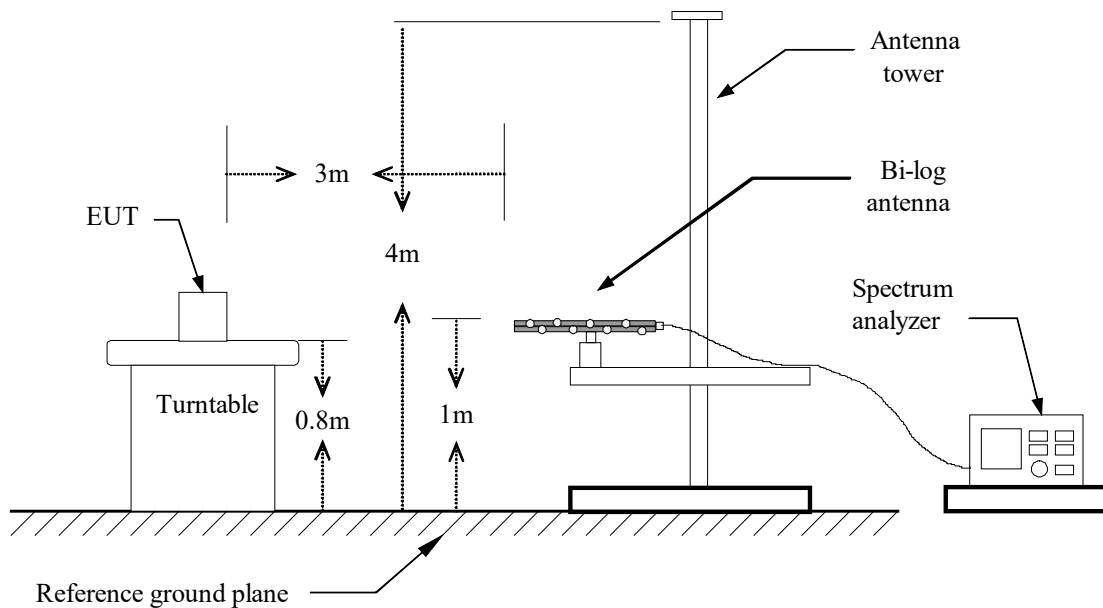
- (1) Below 1G : RBW = 100kHz, VBW $\geq$ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
- (2) Above 1G :
 - (2.1) For Peak measurement : RBW = 1MHz, VBW $\geq$ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
 - (2.2) For Average measurement : RBW = 1MHz, VBW
 - 'If Duty Cycle $\geq$ 98%, VBW=10Hz.
 - 'If Duty Cycle < 98%, VBW=1/T.

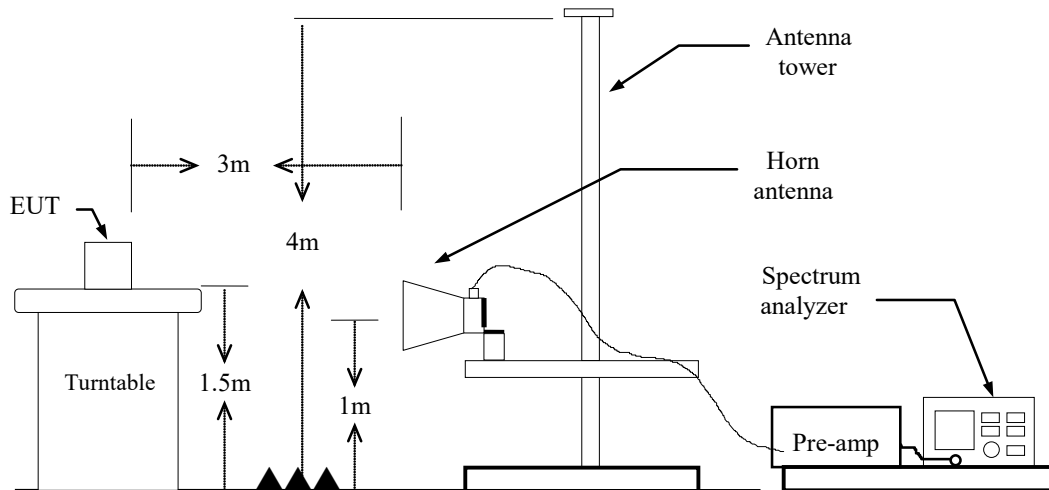
5.6.3 Test Setup

9kHz ~ 30MHz



30MHz ~ 1GHz

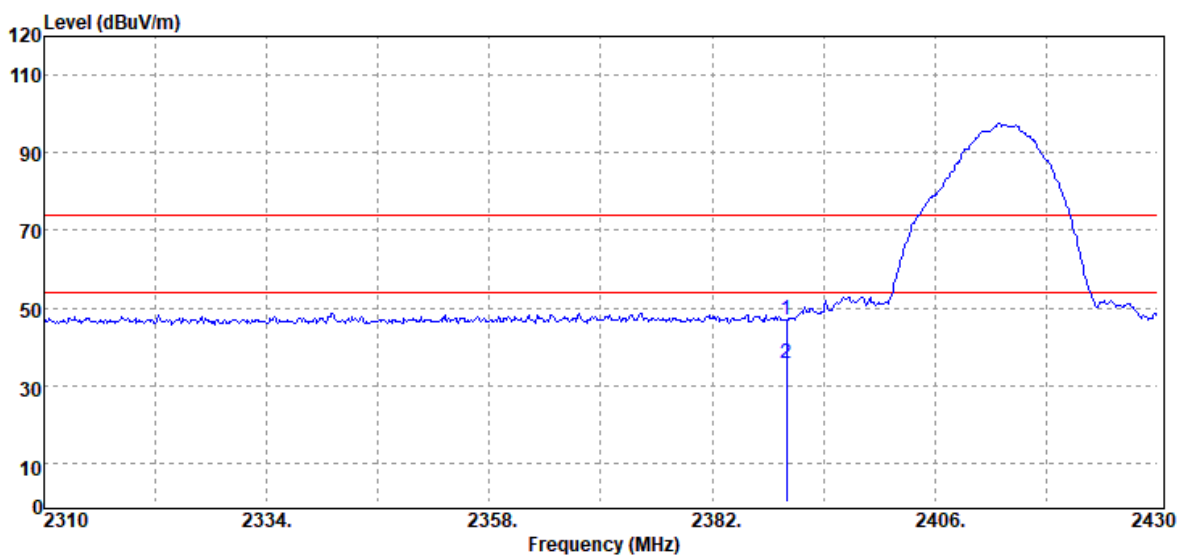


Above 1 GHz

5.6.4 Test Result

Band Edge Test Data

Test Mode	IEEE 802.11b Low CH 2412MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



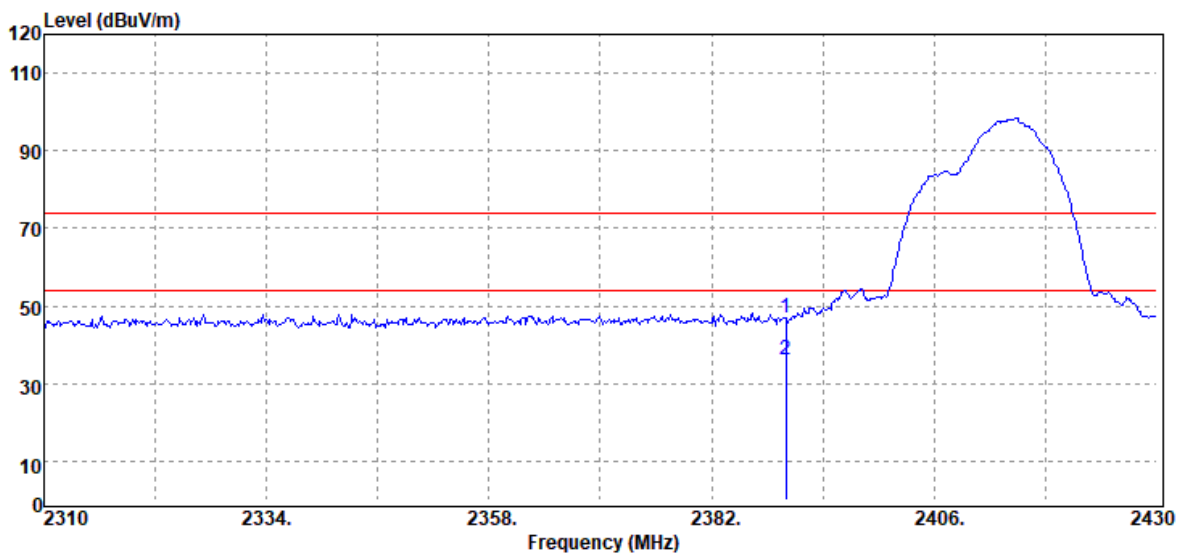
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2390.00	Peak	48.21	-1.14	47.07	74.00	-26.93
2390.00	Average	36.88	-1.14	35.74	54.00	-18.26

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Test Mode	IEEE 802.11b Low CH 2412MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



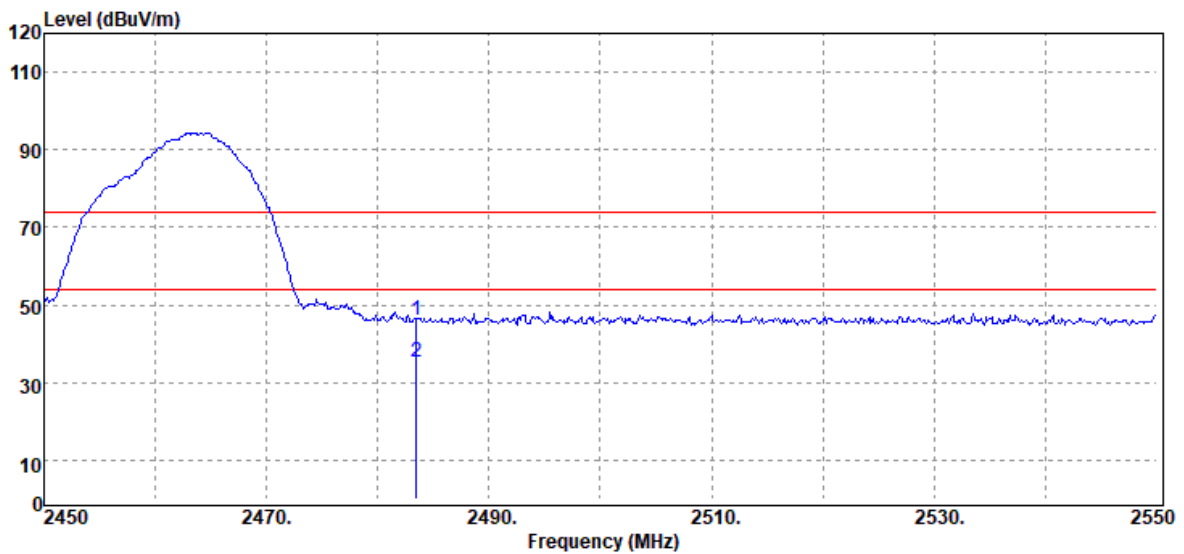
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2390.00	Peak	47.94	-1.14	46.80	74.00	-27.20
2390.00	Average	37.19	-1.14	36.05	54.00	-17.95

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Rev.: 01

Test Mode	IEEE 802.11b High CH 2462MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



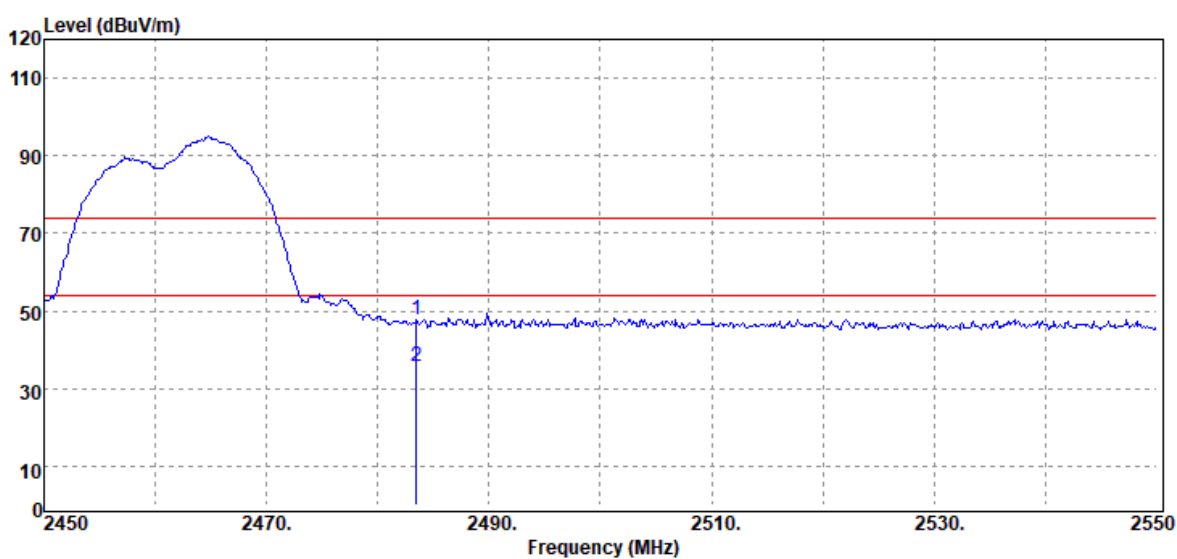
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2483.50	Peak	47.09	-0.80	46.29	74.00	-27.71
2483.50	Average	36.10	-0.80	35.30	54.00	-18.70

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Rev.: 01

Test Mode	IEEE 802.11b High CH 2462MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



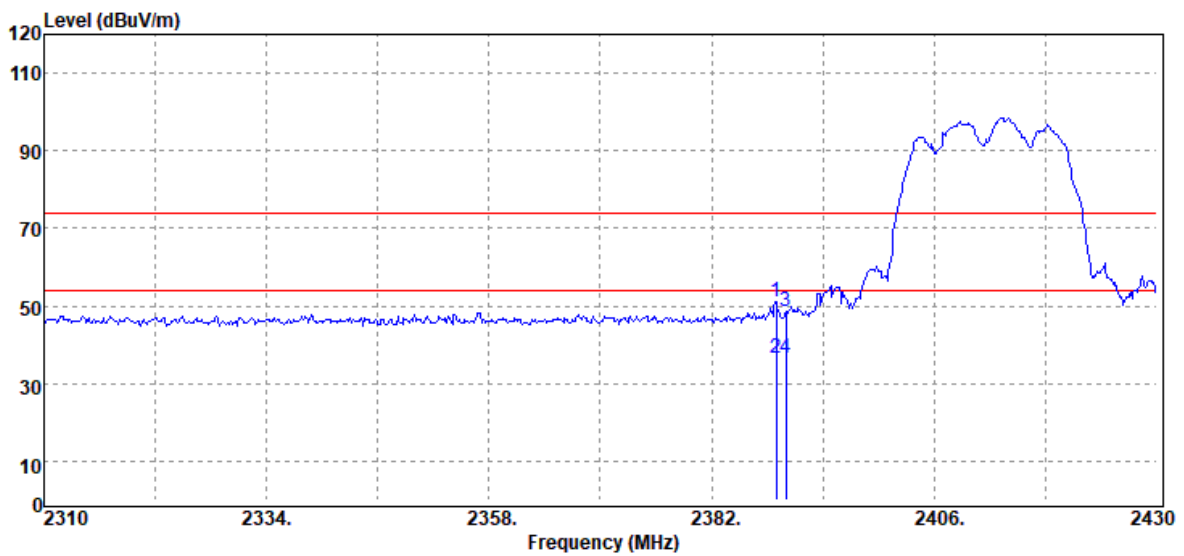
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2483.50	Peak	48.62	-0.80	47.82	74.00	-26.18
2483.50	Average	36.66	-0.80	35.86	54.00	-18.14

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Test Mode	IEEE 802.11g Low CH 2412MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



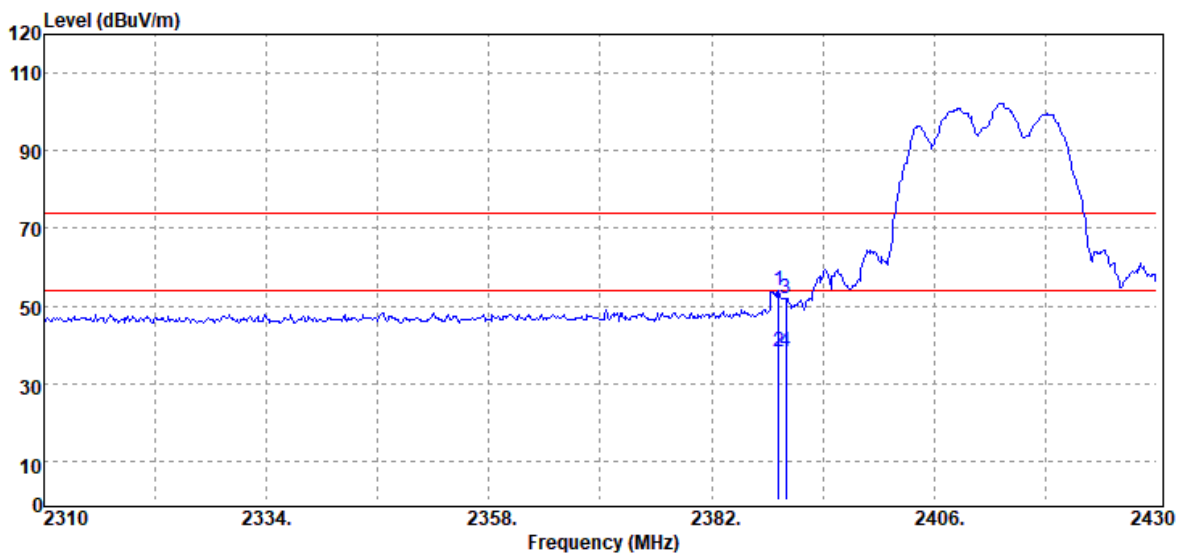
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2388.96	Peak	52.27	-1.15	51.12	74.00	-22.88
2388.96	Average	37.51	-1.15	36.36	54.00	-17.64
2390.00	Peak	49.65	-1.14	48.51	74.00	-25.49
2390.00	Average	37.82	-1.14	36.68	54.00	-17.32

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Test Mode	IEEE 802.11g Low CH 2412MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



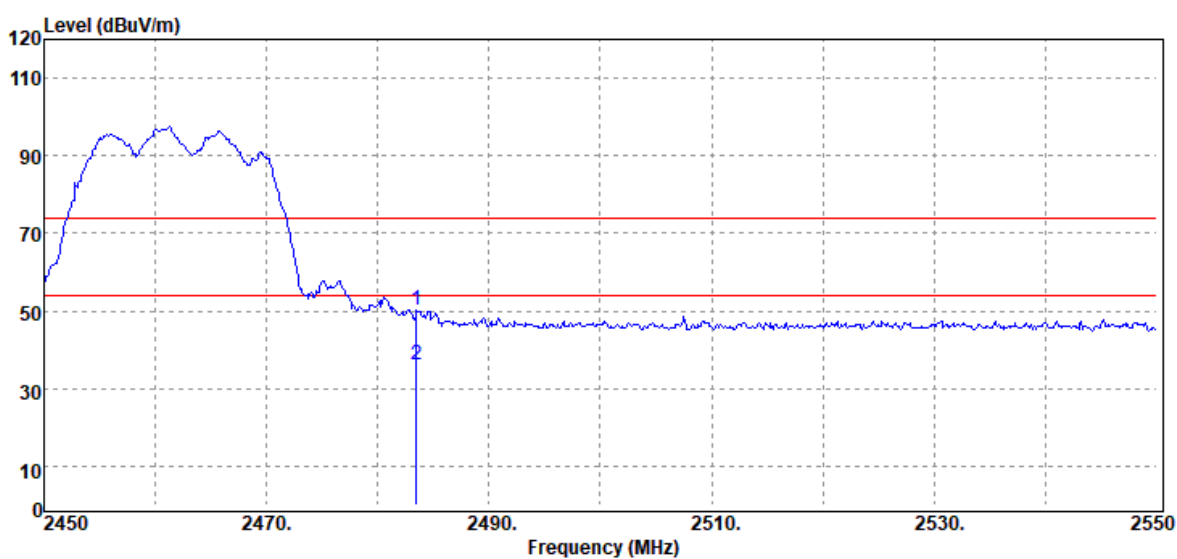
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dB μ V)	Factor (dB)	Actual FS (dB μ V/m)	Limit @3m (dB μ V/m)	Margin (dB)
2389.20	Peak	55.14	-1.15	53.99	74.00	-20.01
2389.20	Average	39.31	-1.15	38.16	54.00	-15.84
2390.00	Peak	52.90	-1.14	51.76	74.00	-22.24
2390.00	Average	39.33	-1.14	38.19	54.00	-15.81

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Test Mode	IEEE 802.11g High CH 2462MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



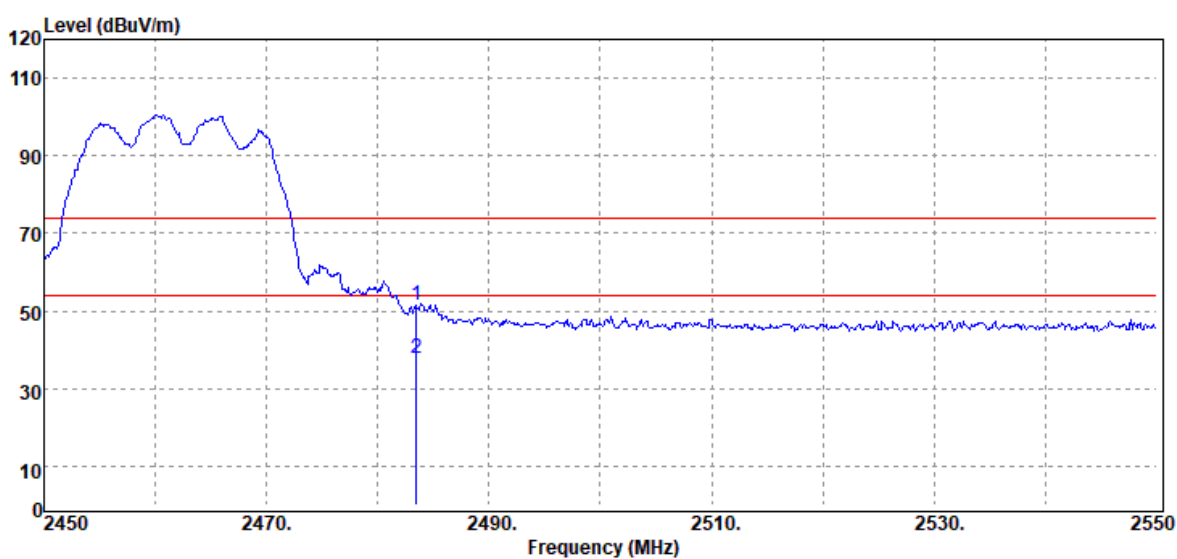
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2483.50	Peak	50.86	-0.80	50.06	74.00	-23.94
2483.50	Average	36.86	-0.80	36.06	54.00	-17.94

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Test Mode	IEEE 802.11g High CH 2462MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



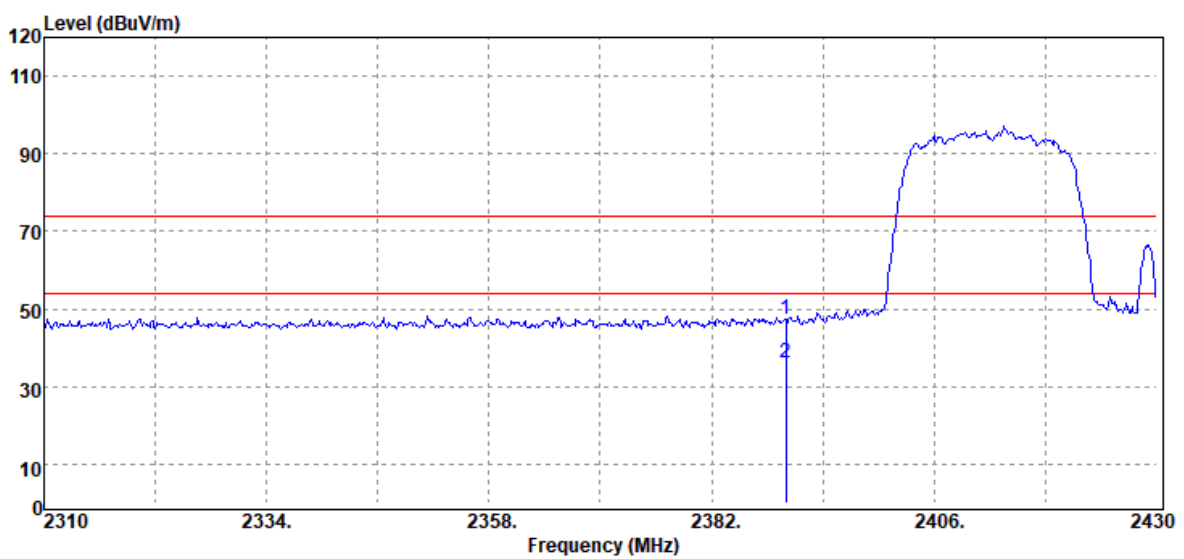
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2483.50	Peak	52.25	-0.80	51.45	74.00	-22.55
2483.50	Average	38.48	-0.80	37.68	54.00	-16.32

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Test Mode	IEEE 802.11n HT20 Low CH 2412MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



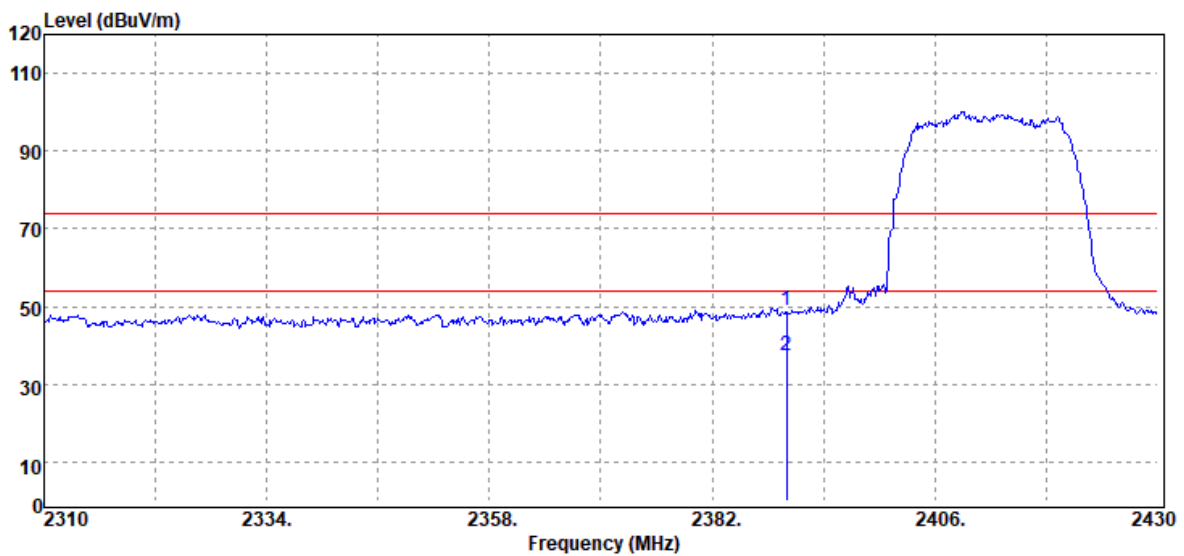
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2390.00	Peak	48.44	-1.14	47.30	74.00	-26.70
2390.00	Average	37.30	-1.14	36.16	54.00	-17.84

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Test Mode	IEEE 802.11 n20 Low CH 2412MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 12, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



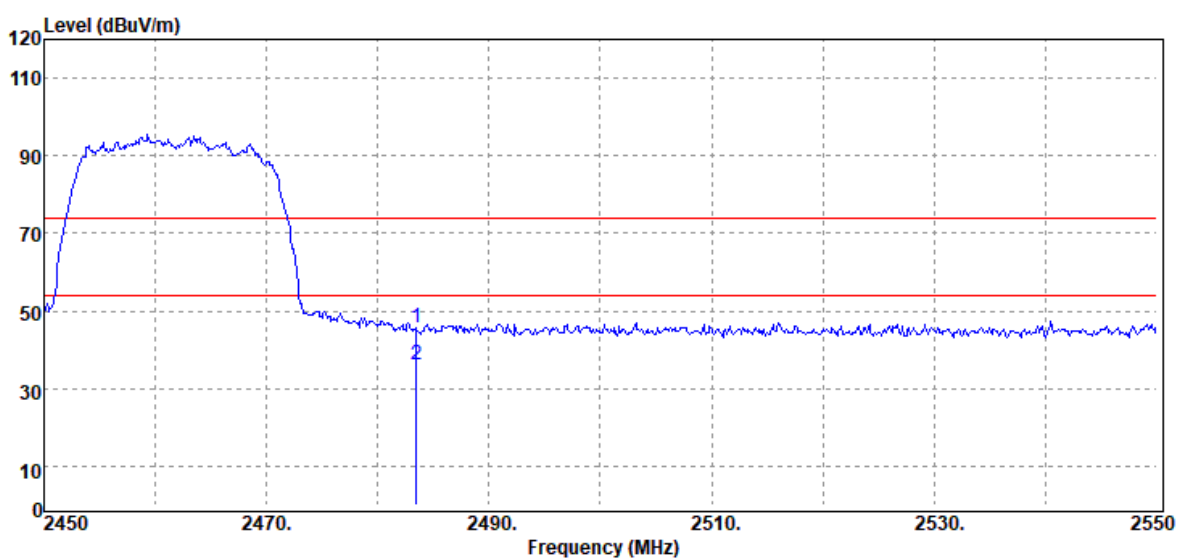
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2390.00	Peak	49.93	-1.14	48.79	74.00	-25.21
2390.00	Average	38.31	-1.14	37.17	54.00	-16.83

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Test Mode	IEEE 802.11n HT20 High CH 2462MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



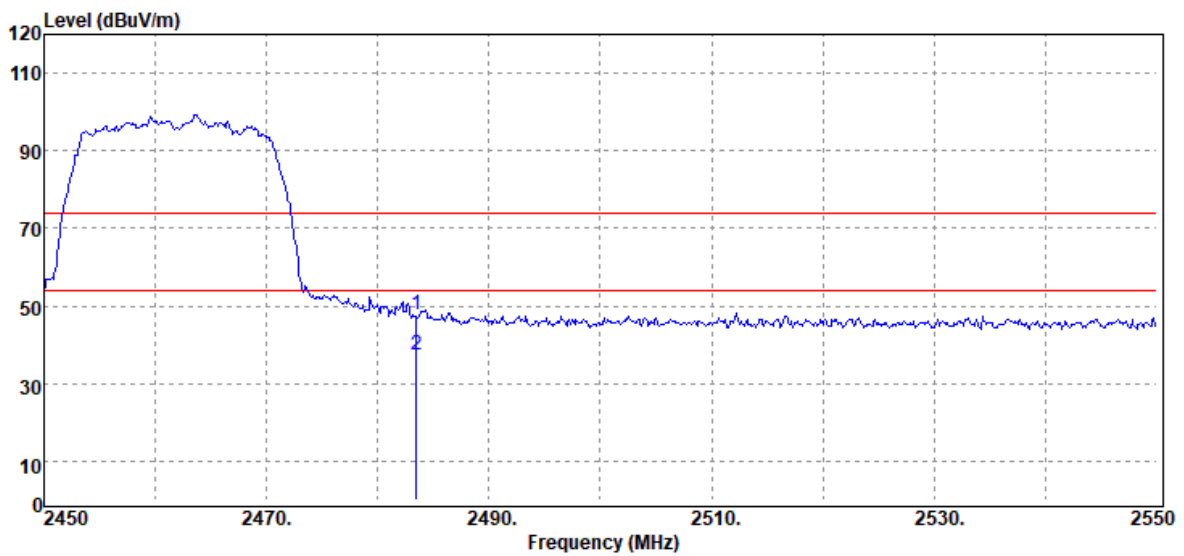
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2483.50	Peak	46.34	-0.80	45.54	74.00	-28.46
2483.50	Average	36.77	-0.80	35.97	54.00	-18.03

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Test Mode	IEEE 802.11n20 High CH 2462MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



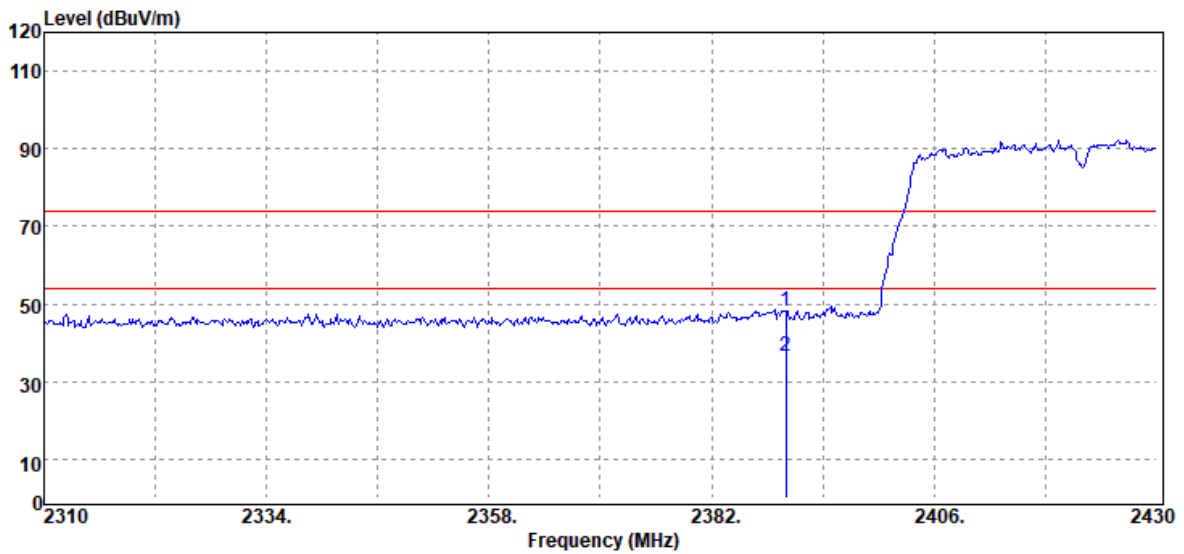
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
2483.50	Peak	48.35	-0.80	47.55	74.00	-26.45
2483.50	Average	38.04	-0.80	37.24	54.00	-16.76

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Test Mode	IEEE 802.11n HT40 Low CH 2422MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



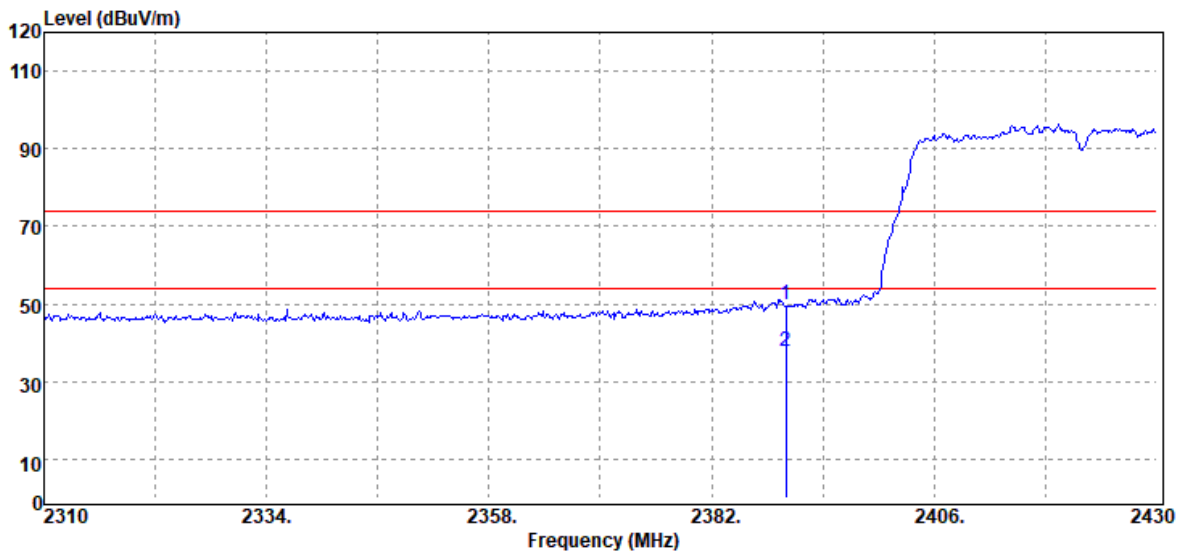
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
2390.00	Peak	49.48	-1.14	48.34	74.00	-25.66
2390.00	Average	37.87	-1.14	36.73	54.00	-17.27

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Test Mode	IEEE 802.11n HT40 Low CH 2422MHz	Temperature:	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



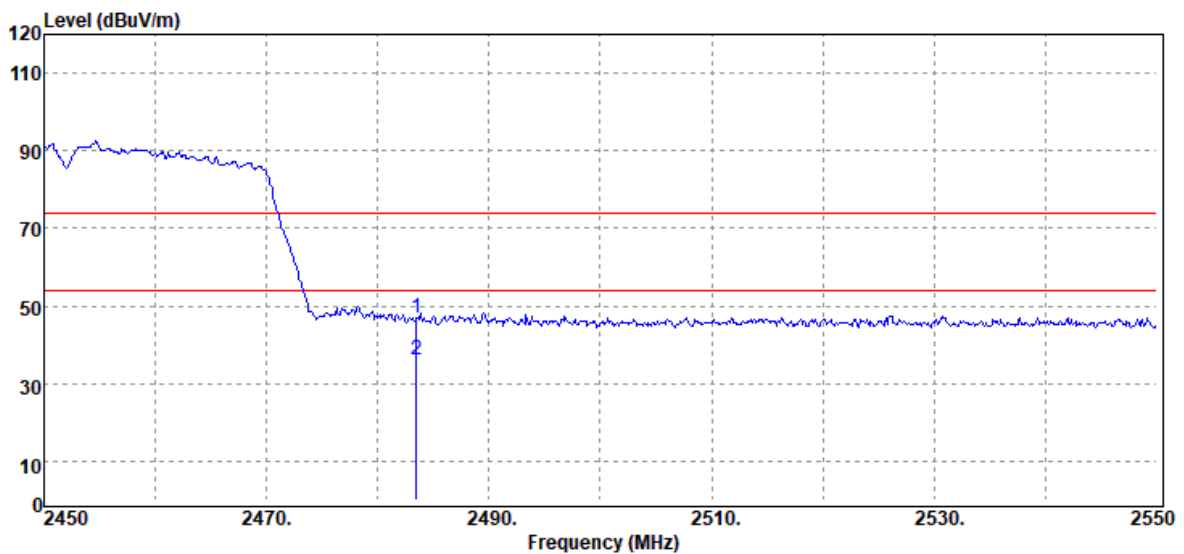
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
2390.00	Peak	50.87	-1.14	49.73	74.00	-24.27
2390.00	Average	38.75	-1.14	37.61	54.00	-16.39

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Test Mode	IEEE 802.11n HT40 High CH 2452MHz	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



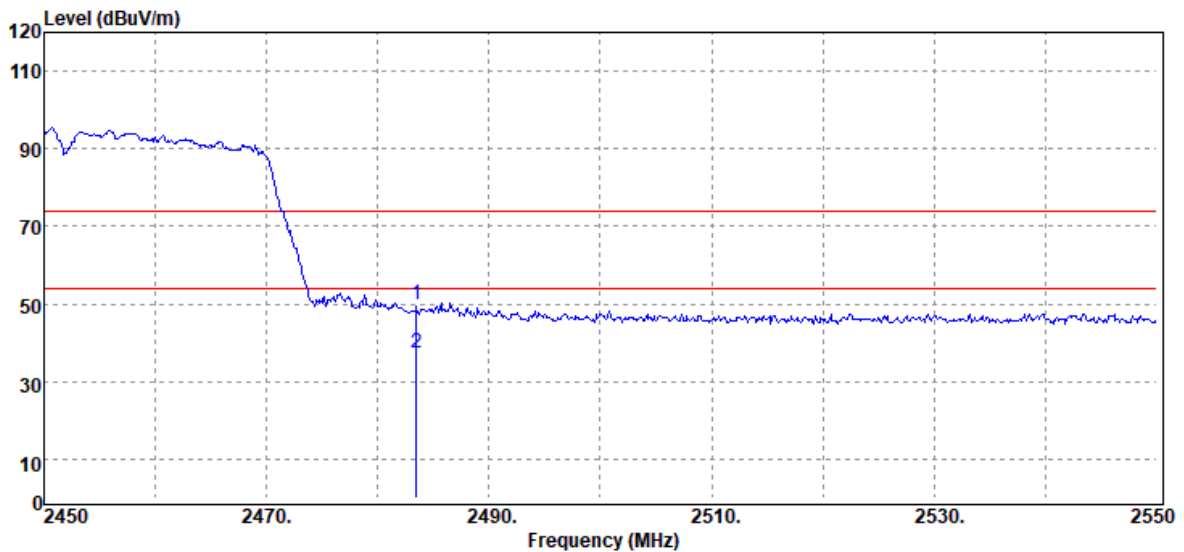
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
2483.50	Peak	47.89	-0.80	47.09	74.00	-26.91
2483.50	Average	37.11	-0.80	36.31	54.00	-17.69

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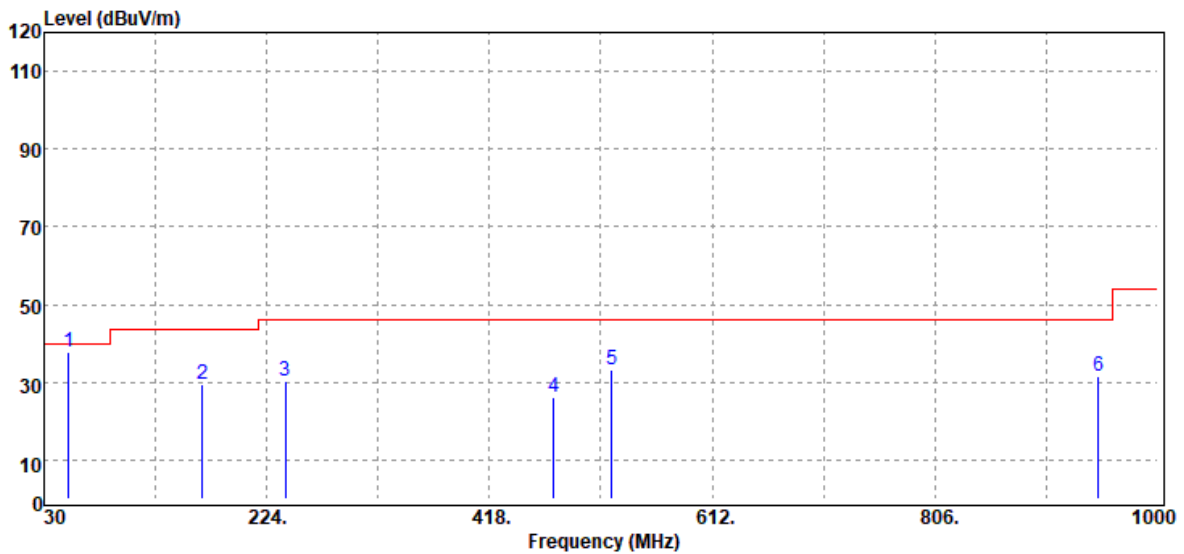
Test Mode	IEEE 802.11n HT40 High CH 2452MHz	Temperature:	21.5(°C)/ 63%RH
Test Item	Band Edge	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
2483.50	Peak	50.52	-0.80	49.72	74.00	-24.28
2483.50	Average	38.15	-0.80	37.35	54.00	-16.65

Below 1G Test Data

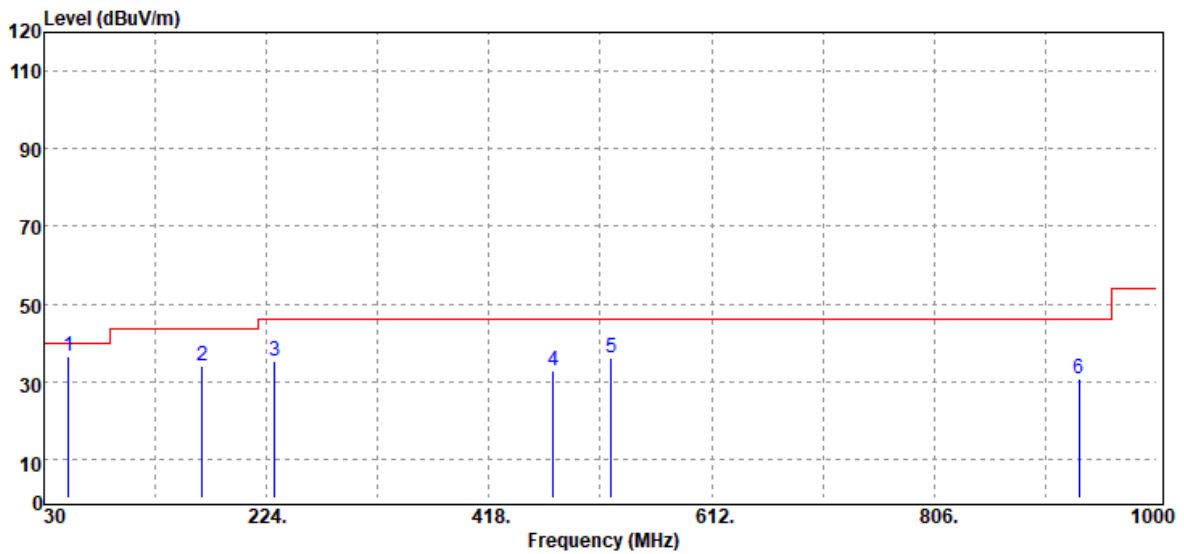
Test Mode	Mode 1	Temp/Hum	21.5(°C)/ 63%RH
Test Item	30MHz-1GHz	Test Date	January 7, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak	Test Voltage	



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	53.63	-15.68	37.95	40.00	-2.05
167.74	Peak	40.07	-10.76	29.31	43.50	-14.19
240.49	Peak	41.03	-10.75	30.28	46.00	-15.72
474.26	Peak	29.77	-3.51	26.26	46.00	-19.74
524.70	Peak	36.30	-3.04	33.26	46.00	-12.74
948.59	Peak	27.11	4.34	31.45	46.00	-14.55

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

Test Mode	Mode 1	Temp/Hum	21.5(°C)/ 63%RH
Test Item	30MHz-1GHz	Test Date	January 7, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak	Test Voltage	

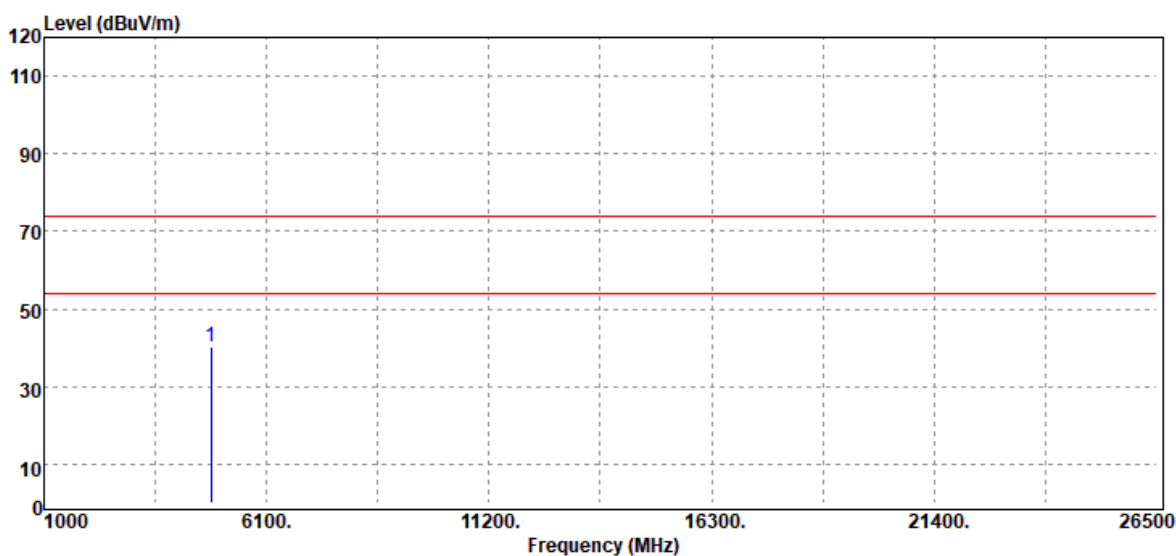


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
51.34	Peak	52.04	-15.68	36.36	40.00	-3.64
167.74	Peak	44.89	-10.76	34.13	43.50	-9.37
230.79	Peak	46.51	-11.20	35.31	46.00	-10.69
474.26	Peak	36.12	-3.51	32.61	46.00	-13.39
524.70	Peak	39.37	-3.04	36.33	46.00	-9.67
932.10	Peak	27.04	3.58	30.62	46.00	-15.38

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4824.00	Peak	34.65	5.65	40.30	74.00	-33.70
N/A						

Remark:

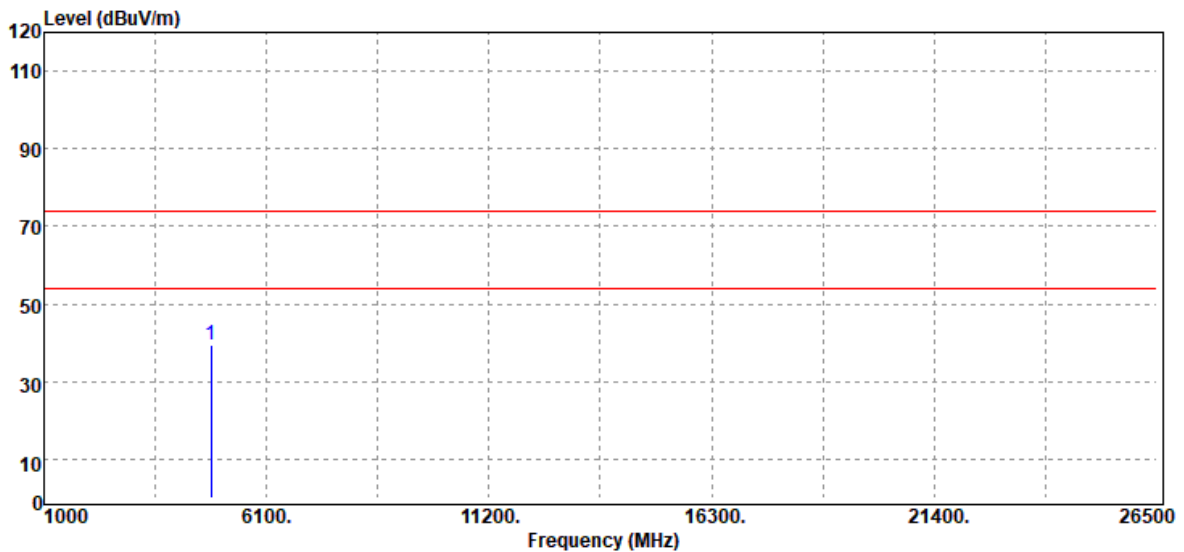
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4824.00	Peak	33.84	5.65	39.49	74.00	-34.51
N/A						

Remark:

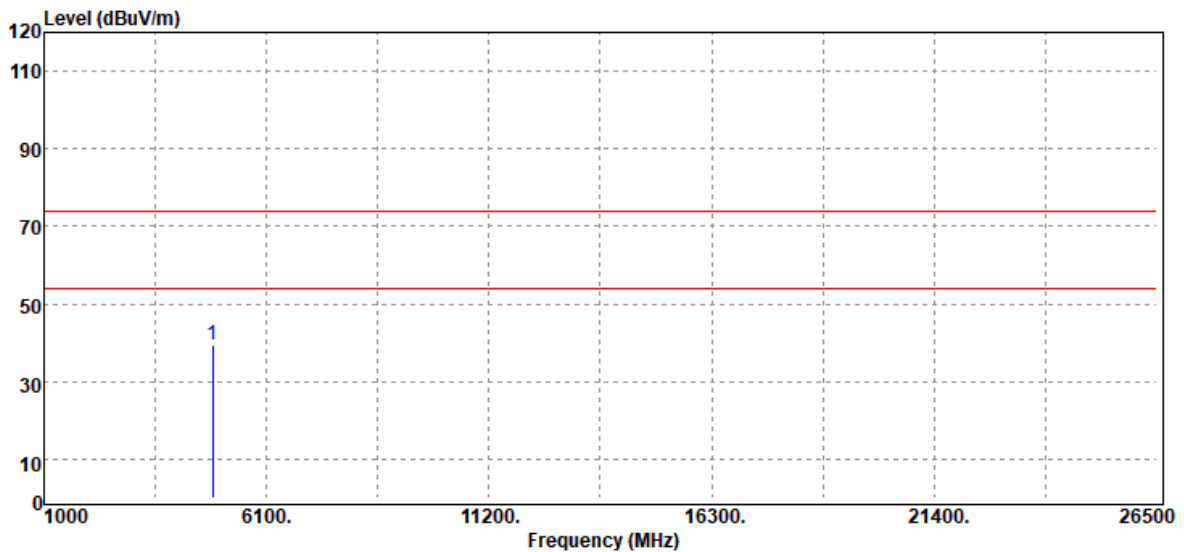
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4874.00	Peak	33.51	5.90	39.41	74.00	-34.59
N/A						

Remark:

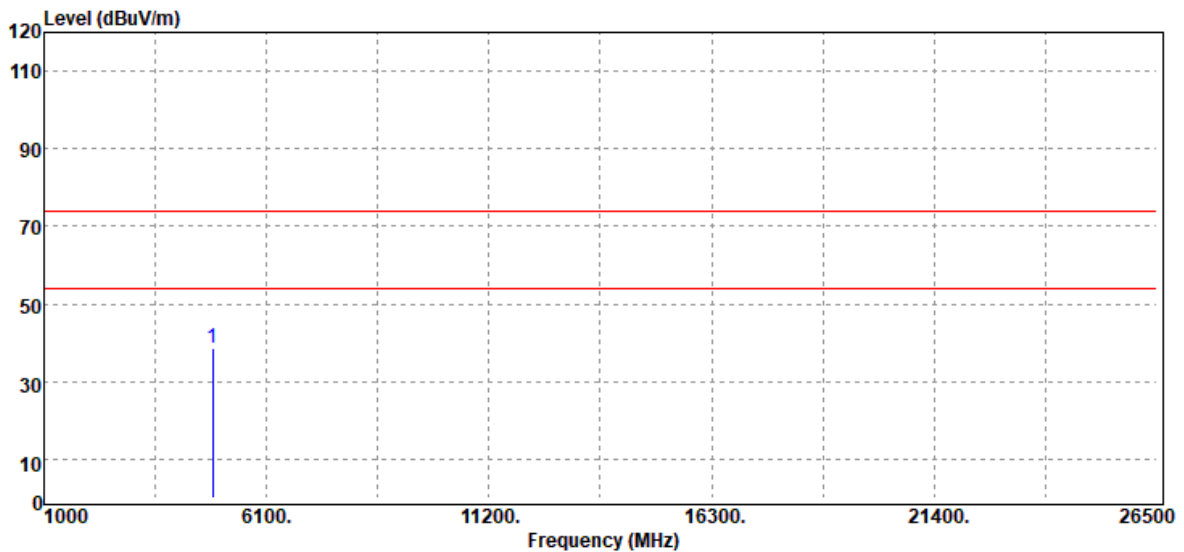
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4874.00	Peak	32.76	5.90	38.66	74.00	-35.34
N/A						

Remark:

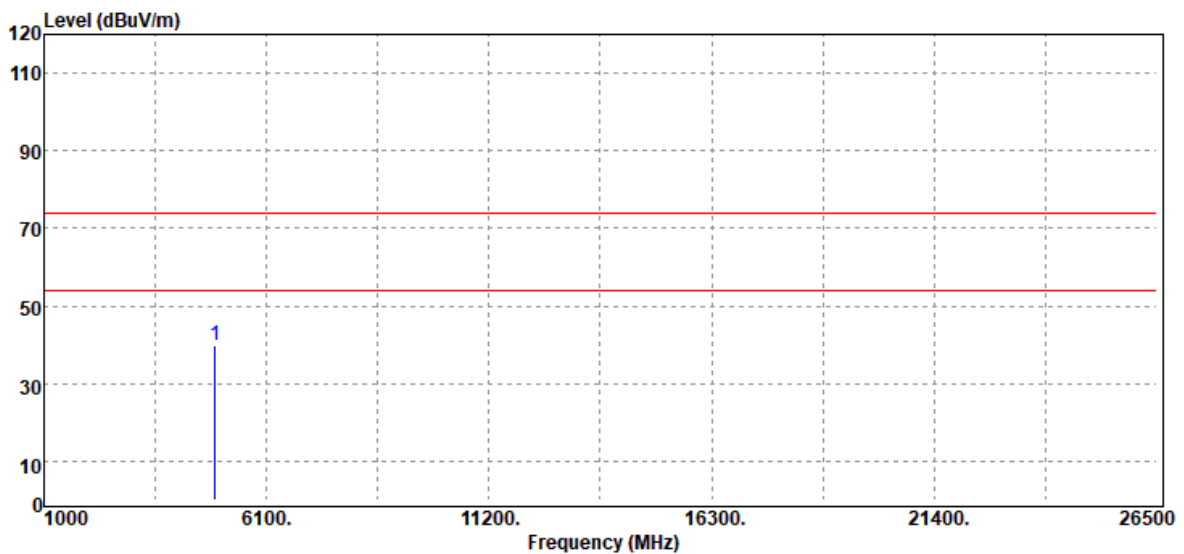
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4924.00	Peak	33.70	6.34	40.04	74.00	-33.96
N/A						

Remark:

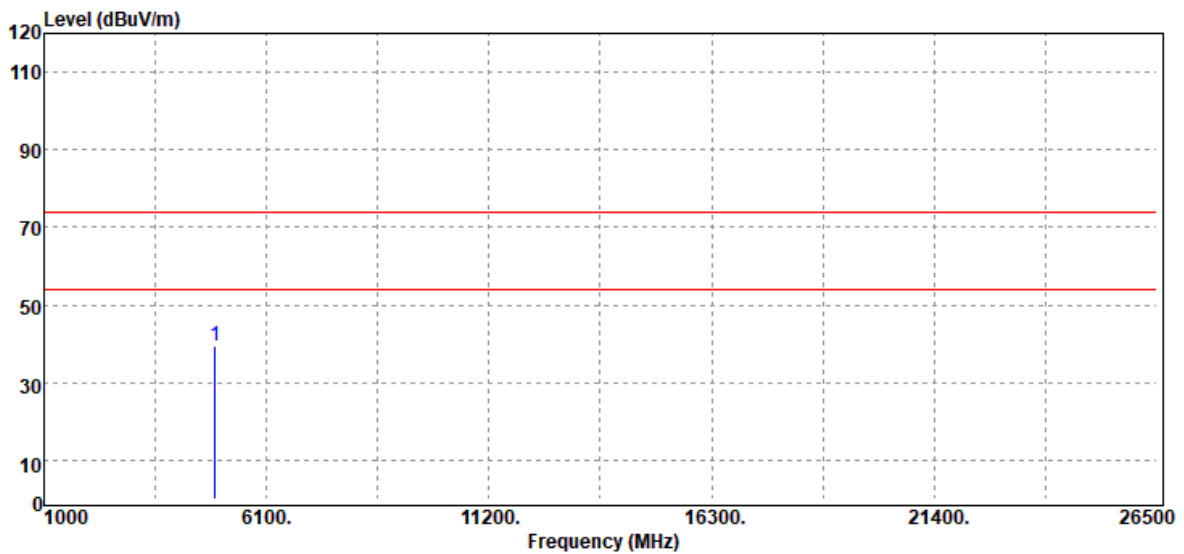
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4924.00	Peak	33.13	6.34	39.47	74.00	-34.53
N/A						

Remark:

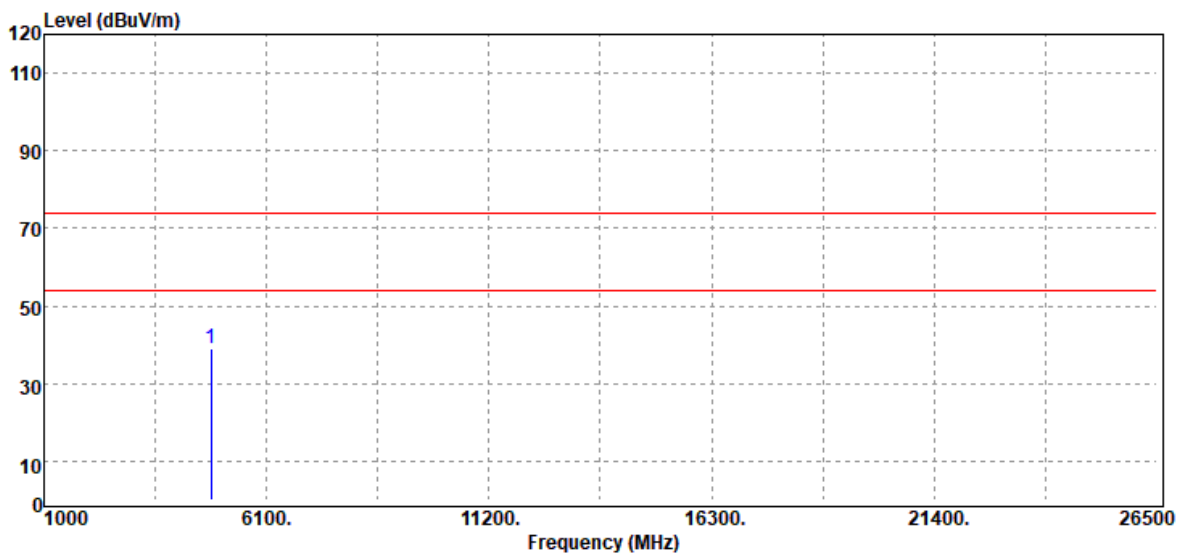
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4824.00	Peak	33.28	5.65	38.93	74.00	-35.07
N/A						

Remark:

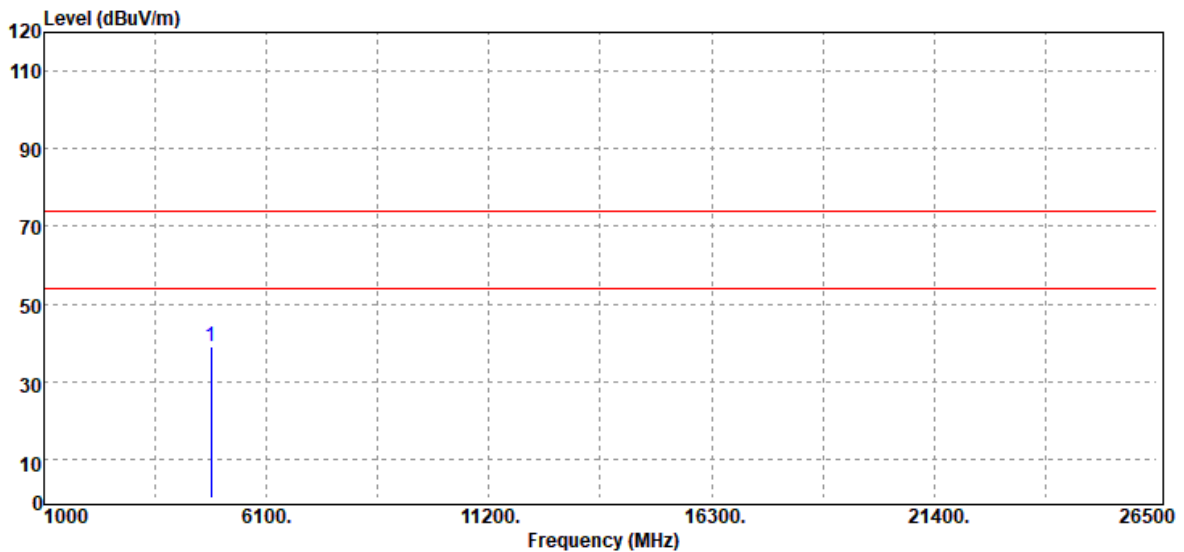
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4824.00	Peak	33.29	5.65	38.94	74.00	-35.06
N/A						

Remark:

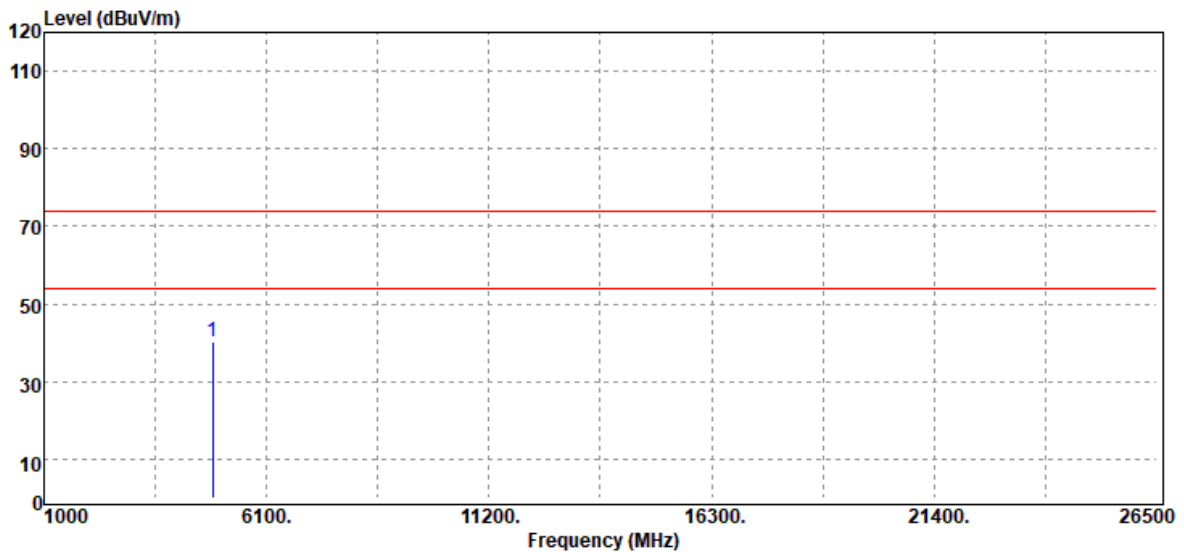
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4874.00	Peak	34.29	5.90	40.19	74.00	-33.81
N/A						

Remark:

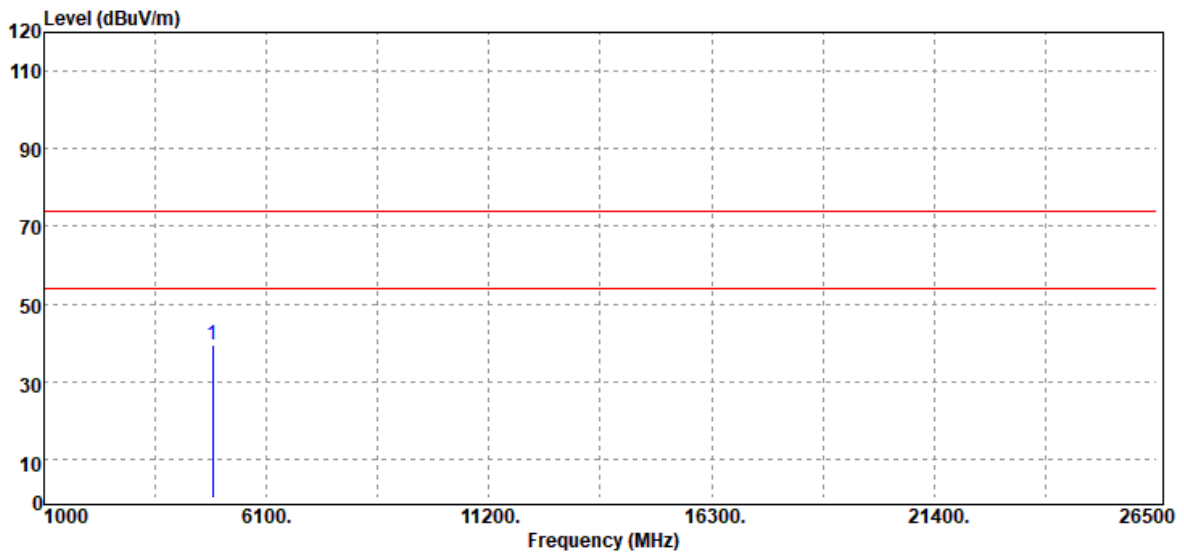
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4874.00	Peak	33.58	5.90	39.48	74.00	-34.52
N/A						

Remark:

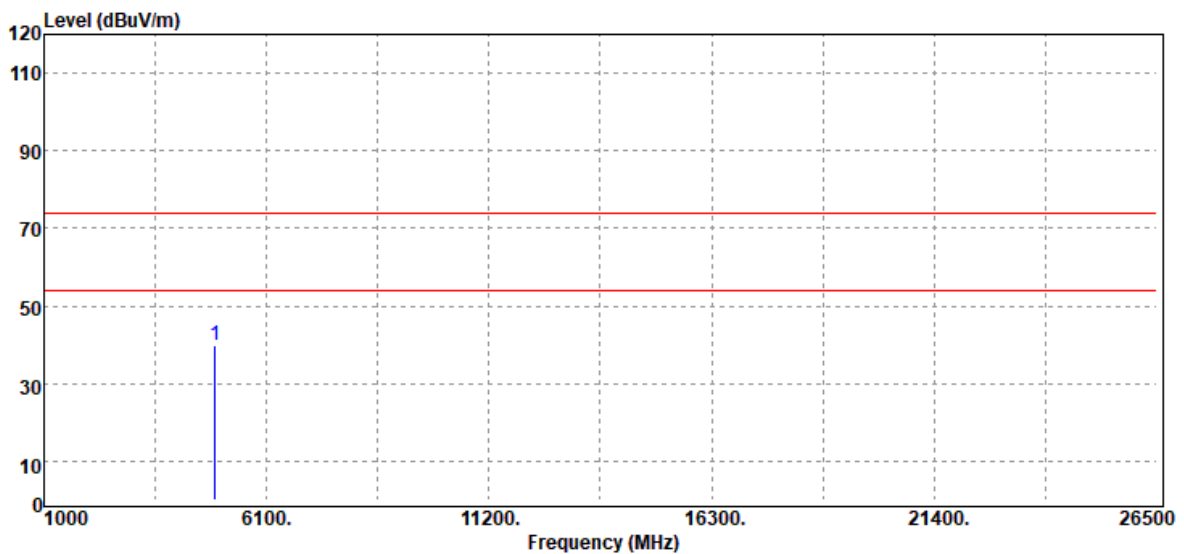
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		

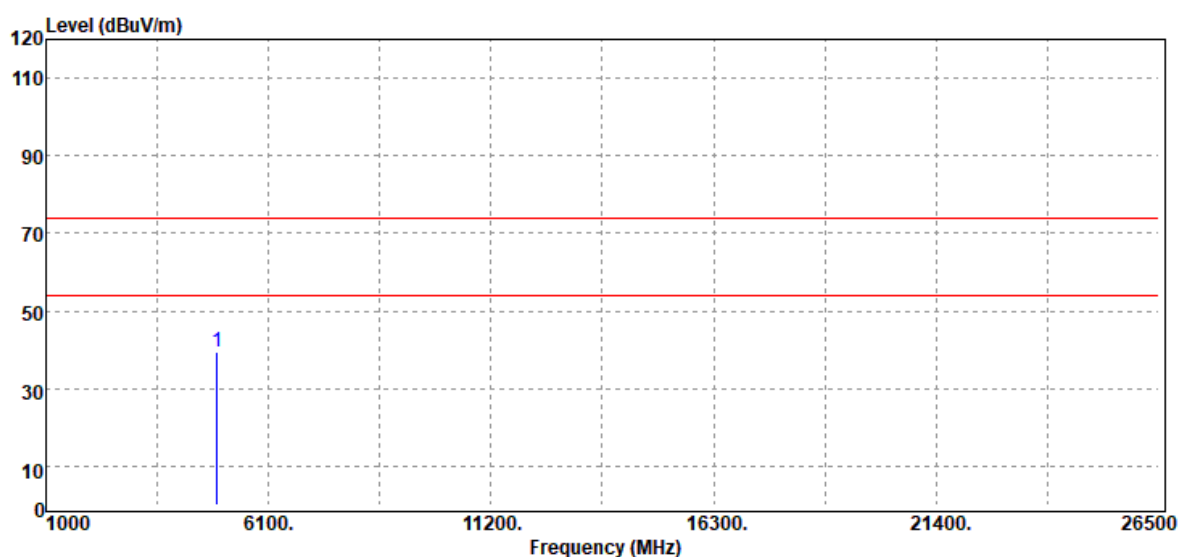


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
4924.00	Peak	33.32	6.34	39.66	74.00	-34.34
N/A						

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

Test Mode	IEEE 802.11g High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4924.00	Peak	33.29	6.34	39.63	74.00	-34.37
N/A						

Remark:

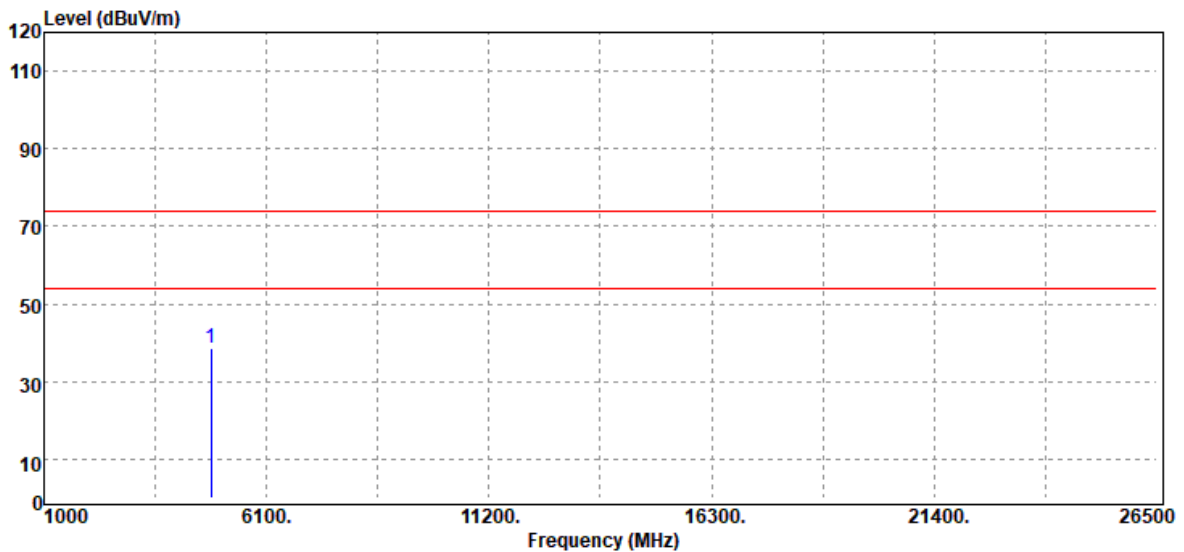
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4824.00	Peak	33.09	5.65	38.74	74.00	-35.26
N/A						

Remark:

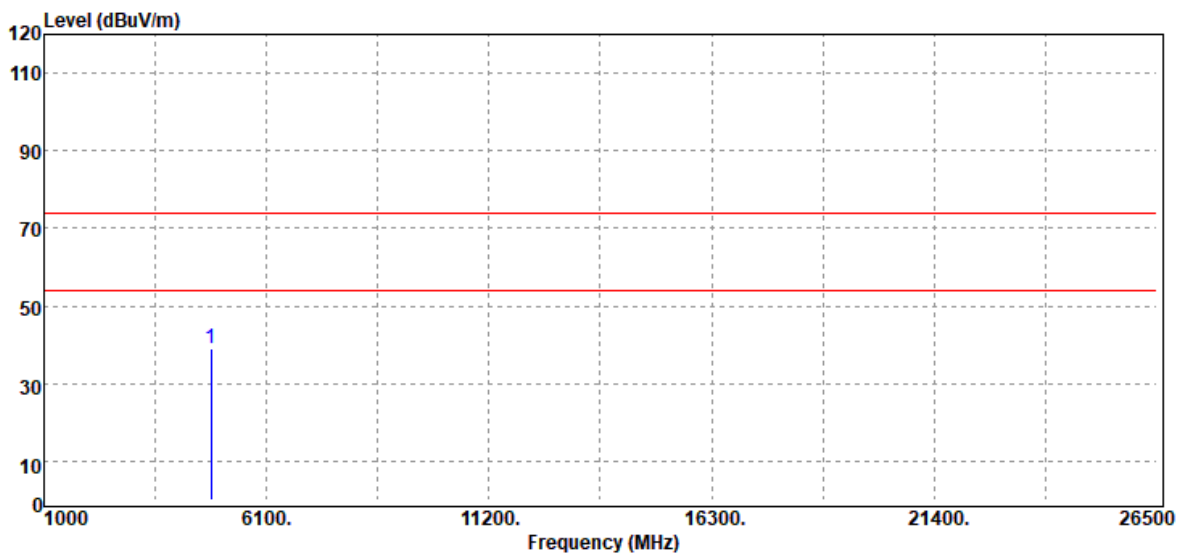
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4824.00	Peak	33.52	5.65	39.17	74.00	-34.83
N/A						

Remark:

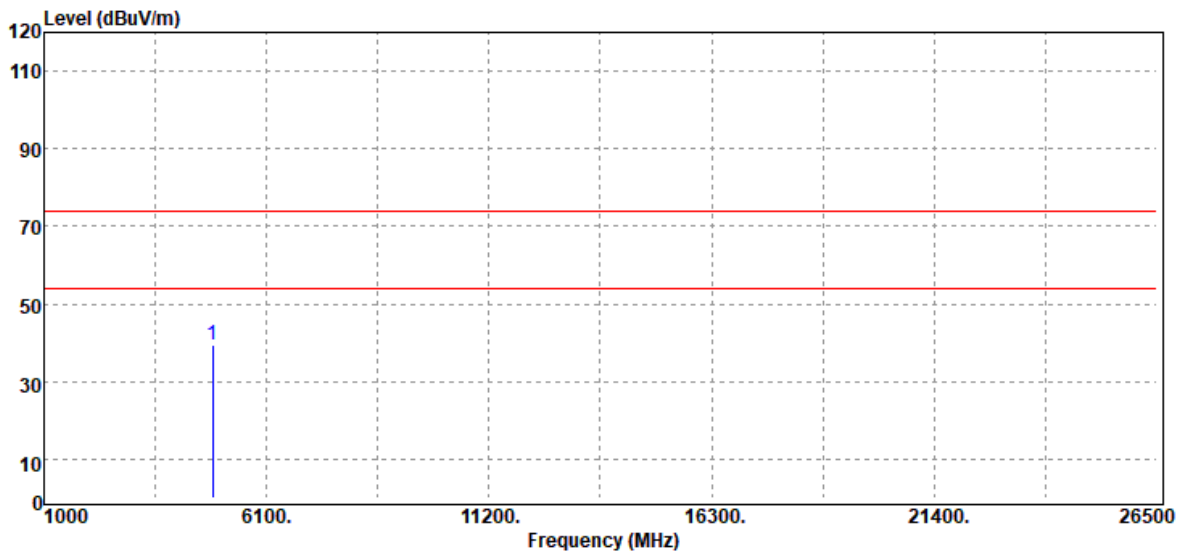
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4874.00	Peak	33.56	5.90	39.46	74.00	-34.54
N/A						

Remark:

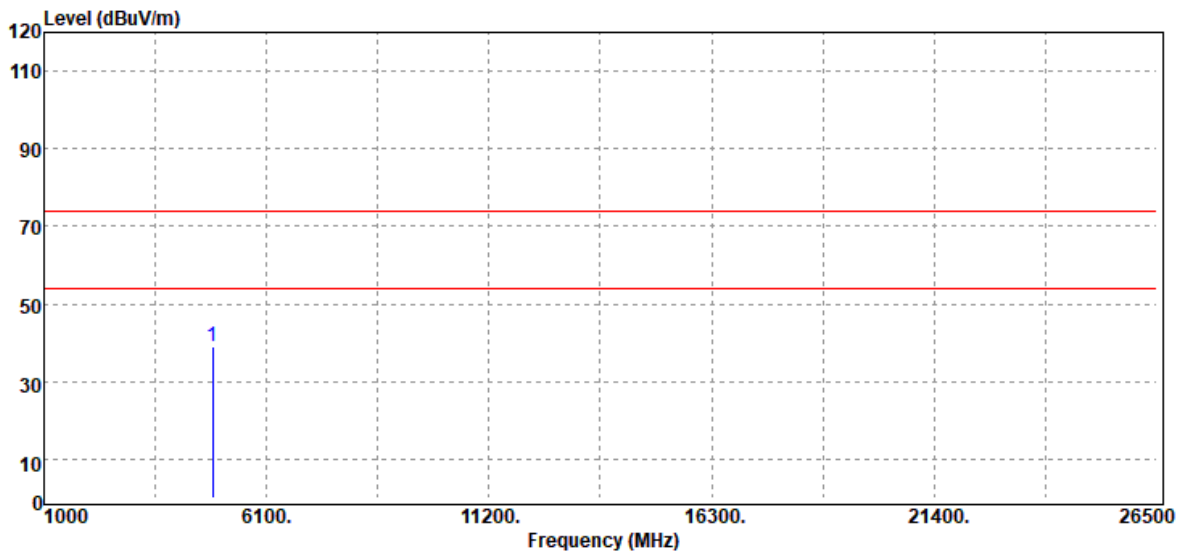
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4874.00	Peak	33.23	5.90	39.13	74.00	-34.87
N/A						

Remark:

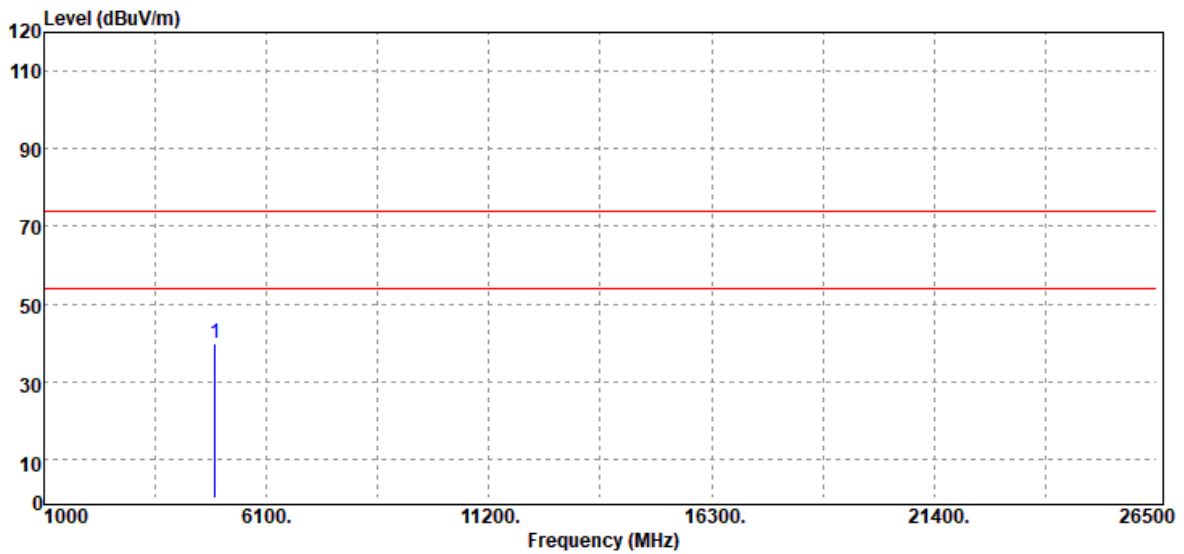
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		

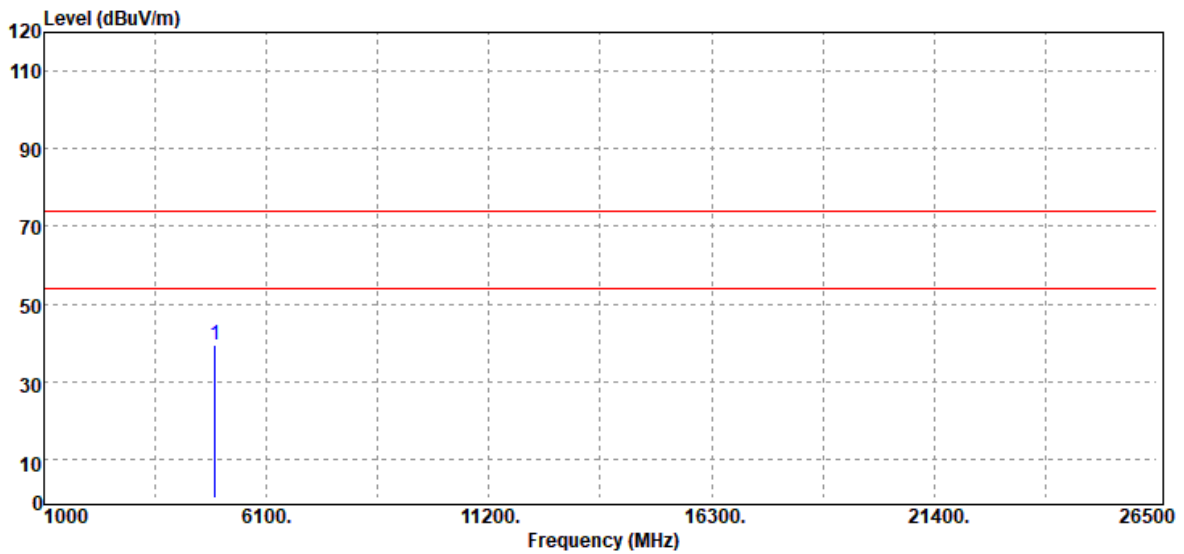


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
4924.00	Peak	33.34	6.34	39.68	74.00	-34.32
N/A						

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

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



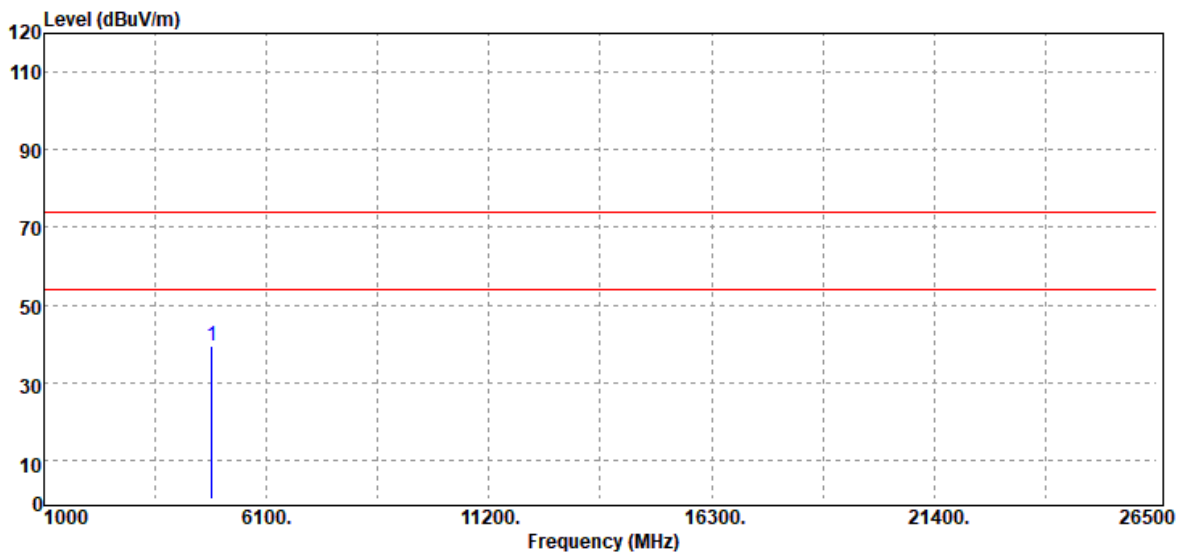
Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBμV)	Factor (dB)	Actual FS (dBμV/m)	Limit @3m (dBμV/m)	Margin (dB)
4924.00	Peak	33.23	6.34	39.57	74.00	-34.43
N/A						

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

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Test Mode	IEEE 802.11n HT40 Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 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)
4844.00	Peak	33.55	5.71	39.26	74.00	-34.74
N/A						

Remark:

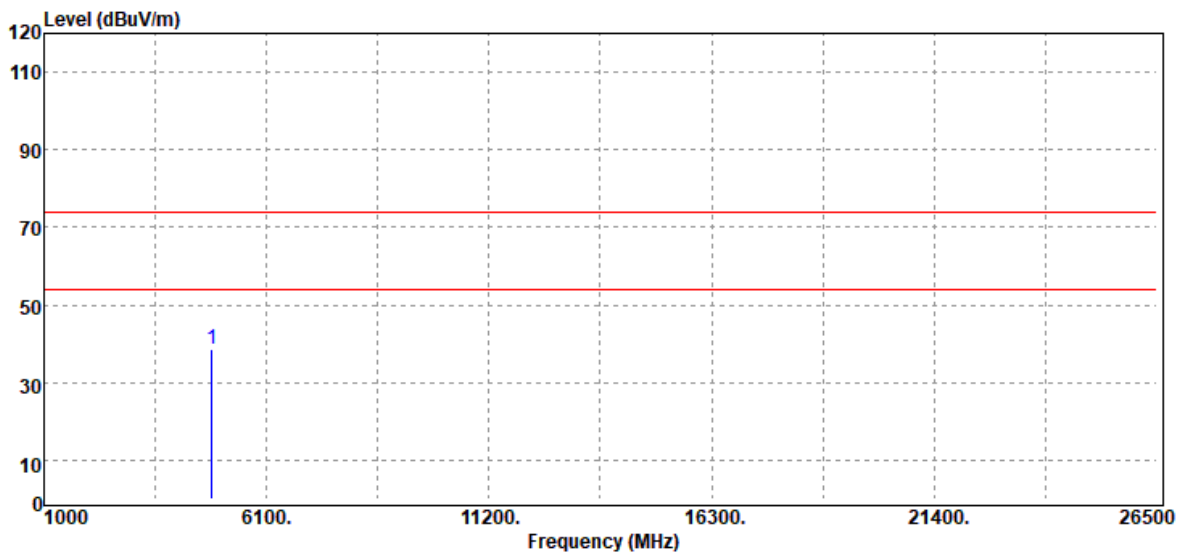
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT40 Low CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	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)
4844.00	Peak	33.07	5.71	38.78	74.00	-35.22
N/A						

Remark:

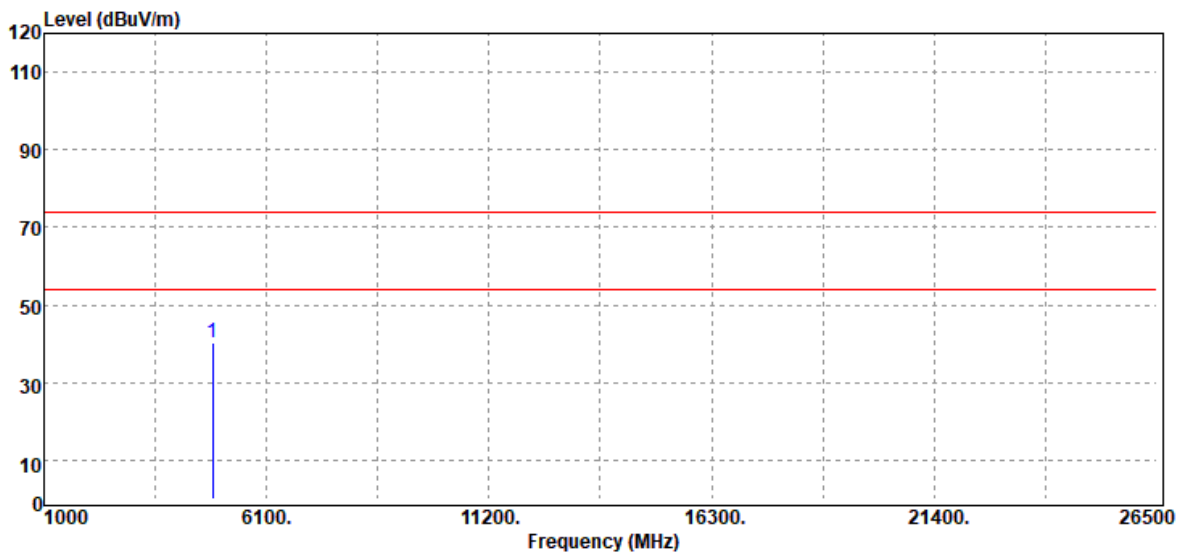
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT40 Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. (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)
4874.00	Peak	34.25	5.90	40.15	74.00	-33.85
N/A						

Remark:

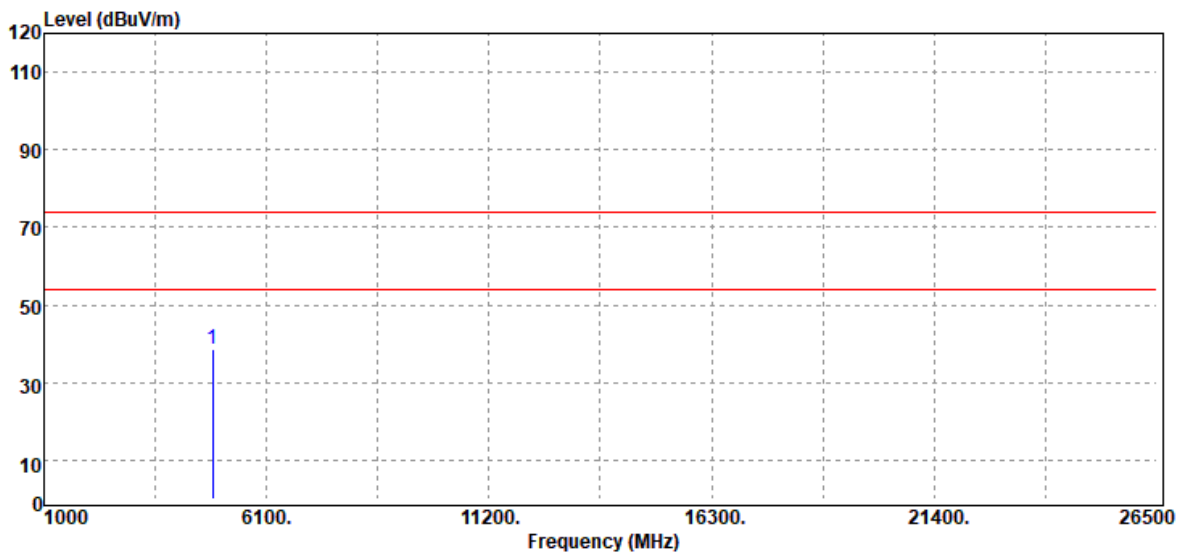
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT40 Mid CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		



Freq. (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)
4874.00	Peak	32.90	5.90	38.80	74.00	-35.20
N/A						

Remark:

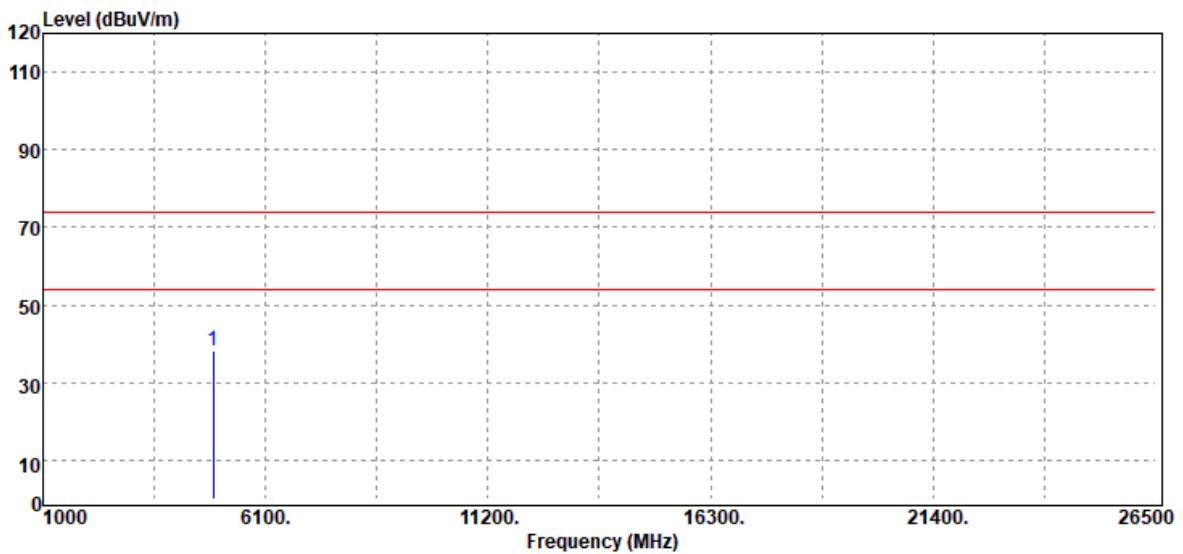
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT40 High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. (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)
4904.00	Peak	32.00	6.14	38.14	74.00	-35.86
N/A						

Remark:

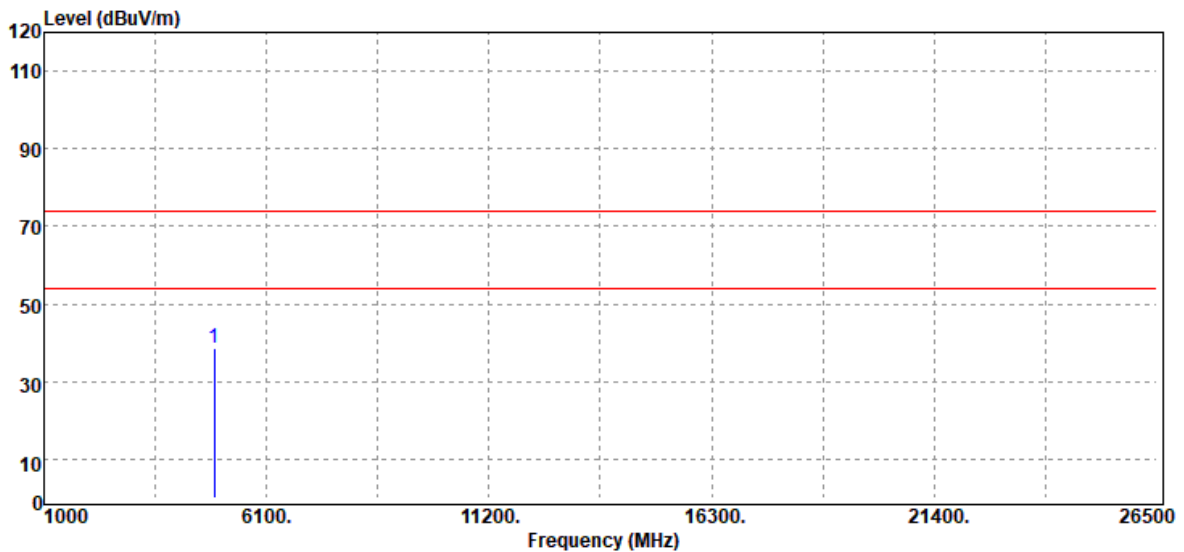
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT40 High CH	Temp/Hum	21.5(°C)/ 63%RH
Test Item	Harmonic	Test Date	January 6, 2021
Polarize	Horizontal	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)
4904.00	Peak	32.46	6.14	38.60	74.00	-35.40
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

- End of Test Report -