

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

Test Standard	FCC Part 15.247
Product name	SYSTEM TABLET CONTROLLER
Brand Name	OLYMPUS
Model No.	SC-1
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	July 14, 2020	Initial Issue	ALL	Allison Chen
01	July 27, 2020	See the following note Rev.(01)	P.A-1	Allison Chen

Rev.(01)

1. Modify test setup photo for above 1GHz.



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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	ADLINK TECHNOLOGY INC. 9F, No.166, Jian Yi Rd., Zhonghe Dist., New Taipei City, 235 Taiwan
Manufacturer	ADLINK TECHNOLOGY INC. 9F, No.166, Jian Yi Rd., Zhonghe Dist., New Taipei City, 235 Taiwan
Equipment	SYSTEM TABLET CONTROLLER
Model Name	SC-1
Model Discrepancy	N/A
Trade Name	OLYMPUS
Received Date	February 5, 2020
Date of Test	February 17 ~ March 26, 2020
Power Supply	1. EUT Power from Adapter. FSP GROUP INC. / FSP065M-DBA I/P: 100-240Vac, 2.0-1.0A, 50-60Hz O/P: 19.0Vdc, 3.43A Max 2. Power from Rechargeable Lithium Polymer Battery. Rating: 11.1Vdc, 2300mAh
HW Version	A2
SW Version	7.2

1.2 EUT CHANNEL INFORMATION

Frequency Range	802.11b/g/n HT 20: 2412MHz ~ 2462MHz 802.11n HT40: 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 HT40 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 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 Specification	PCB Antenna
Antenna Gain	1. IEEE 802.11 b / g mode: Chain 0: 1.57 dBi Chain 1: 1.75 dBi 2. IEEE 802.11 n20 / n40 mode: Chain 0: 1.57 dBi Chain 1: 1.75 dBi Power Directional Gain: 1.66 dBi
Antenna connector	IPEX

Notes:

1. Power Directional Gain = $10 \cdot \text{LOG}(((10^{(\text{Ant1}/10)} + 10^{(\text{Ant2}/10)})/2))$



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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.

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.)

Test site	Test Engineer	Remark
AC Conduction Room	Dally Hong	-
Radiation	Jerry Chang	-
RF Conducted	Dally Hong	-

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	CC001	06/28/2019	06/27/2020
Coaxial Cable	Woken	WC12	CC003	06/28/2019	06/27/2020
Signal Analyzer	R&S	FSV 40	101073	09/25/2019	09/24/2020
Power Meter	Anritsu	ML2495A	1149001	N.C.R	N.C.R
Power Seneor	Anritsu	MA2491A	030982	N.C.R	N.C.R
Software	N/A				

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/25/2020	02/24/2021
Bilog Antenna	Sunol Sciences	JB3	A030105	07/26/2019	07/25/2020
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/25/2020	02/24/2021
Coaxial Cable	EMCI	EMC105	190914+25111	09/20/2019	09/19/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/15/2020	01/14/2021
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	10/04/2019	10/03/2020
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	05/29/2019	05/28/2020
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.



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Conducted Emission Room # B					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
CABLE	EMCI	CFD300-NL	CERF	06/27/2019	06/26/2020
EMI Test Receiver	R&S	ESCI	100064	07/26/2019	07/25/2020
LISN	SCHAFFNER	NNB 41	03/10013	02/13/2020	02/12/2021
Software	EZ-EMC(CCS-3A1-CE)				

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
	N/A				

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, KDB 662911 D01, KDB 558074 D01.



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2. TEST SUMMERY

FCC Standard Section	Report Section	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207(a)	4.1	AC Conducted Emission	Pass
15.247(a)(2)	4.2	6 dB Bandwidth	Pass
-	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)	4.3	Output Power Measurement	Pass
15.247(e)	4.4	Power Spectral Density	Pass
15.247(d)	4.5	Conducted Band Edge	Pass
15.247(d)	4.5	Conducted Spurious Emission	Pass
15.247(d)	4.6	Radiation Band Edge	Pass
15.247(d)	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 :1T1R IEEE 802.11g mode : 1T1R 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 Adapter
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)

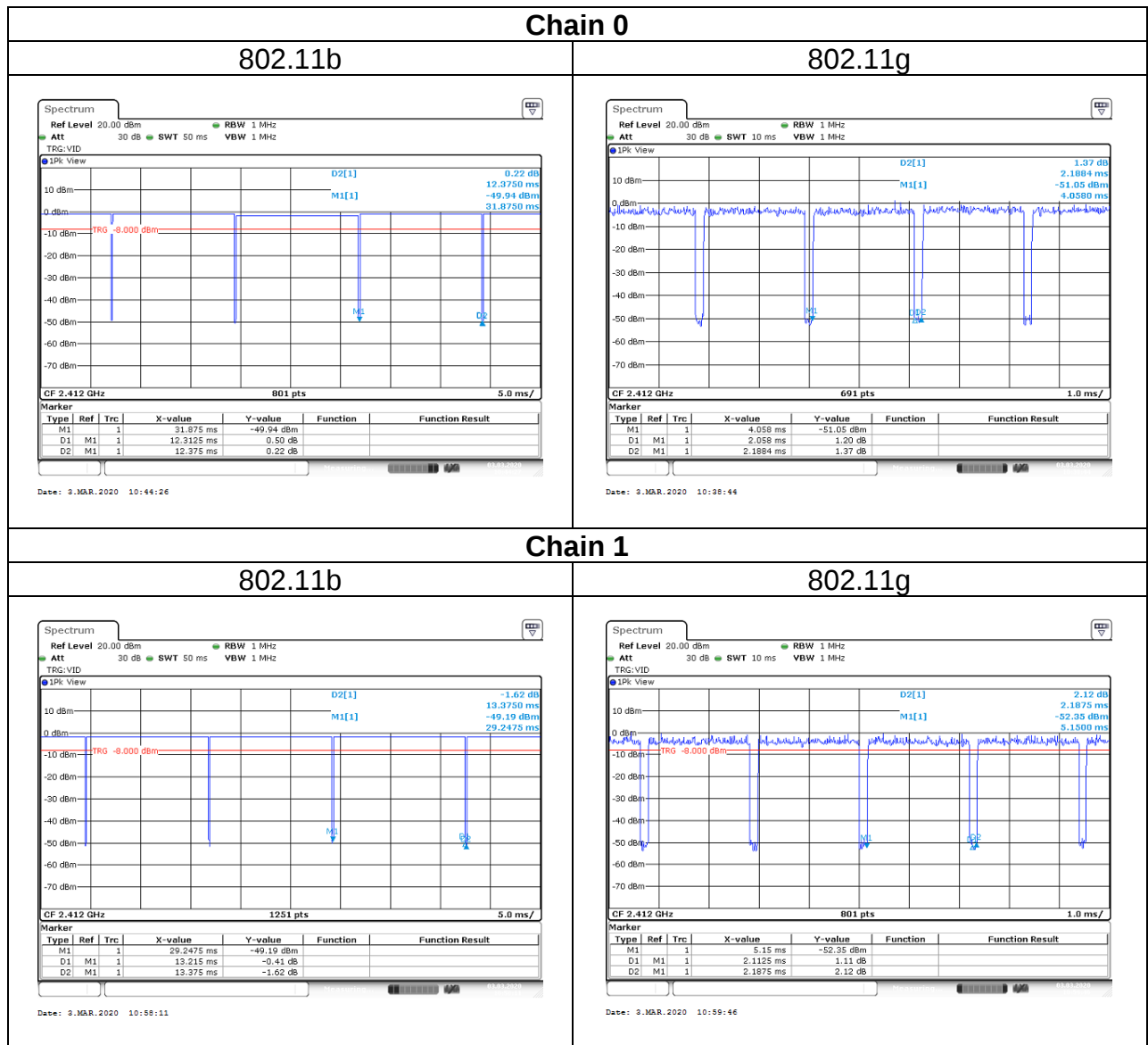
Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

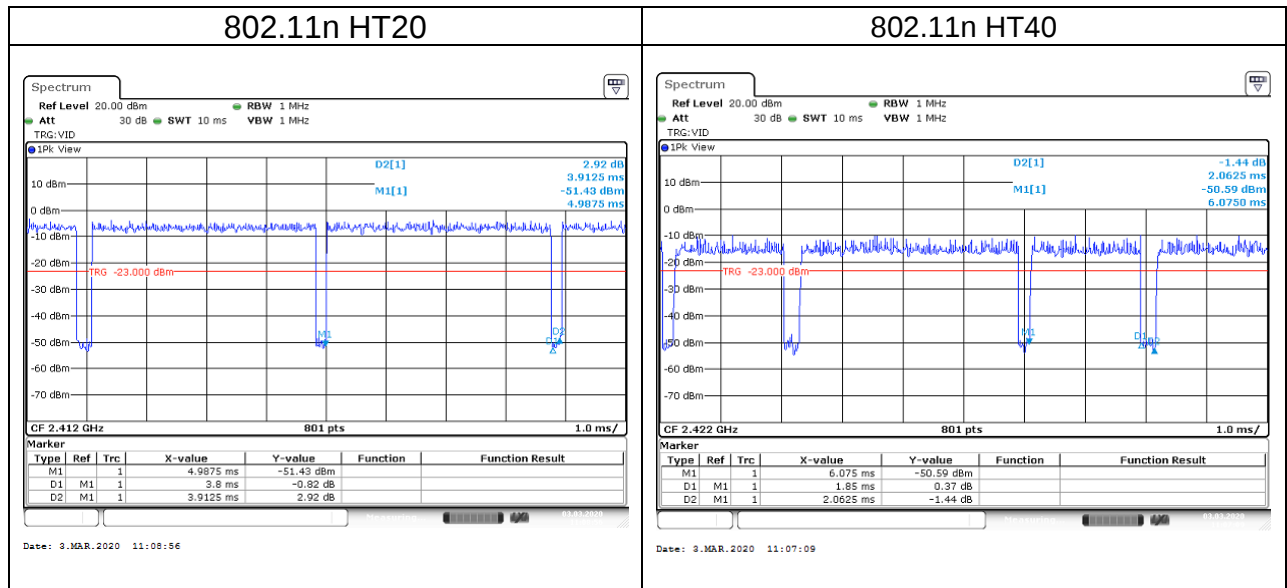
1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(Y-Plane) were recorded in this report

3.3 EUT DUTY CYCLE

Duty Cycle				
Configuration	Duty Cycle (%)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
Chain 0				
802.11b	99.49%	0.02	N/A	0.01
802.11g	94.04%	0.27	0.49	1.00
Chain 1				
802.11b	98.80%	0.05	N/A	0.01
802.11g	96.57%	0.15	0.47	1.00



Duty Cycle				
Configuration	Duty Cycle (%)	Duty Factor (dB) $=10 \cdot \log(1/\text{Duty Cycle})$	1/T (kHz)	VBW setting (kHz)
802.11n HT20	97.12%	0.13	0.26	1.00
802.11n HT40	89.68%	0.47	0.54	1.00



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a)(2),

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

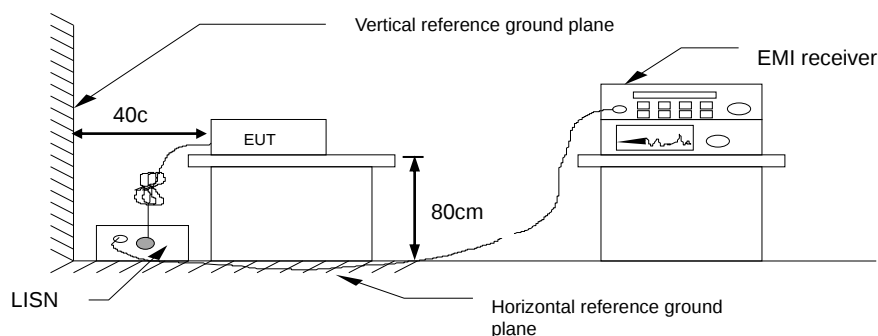
* Decreases with the logarithm of the frequency.

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



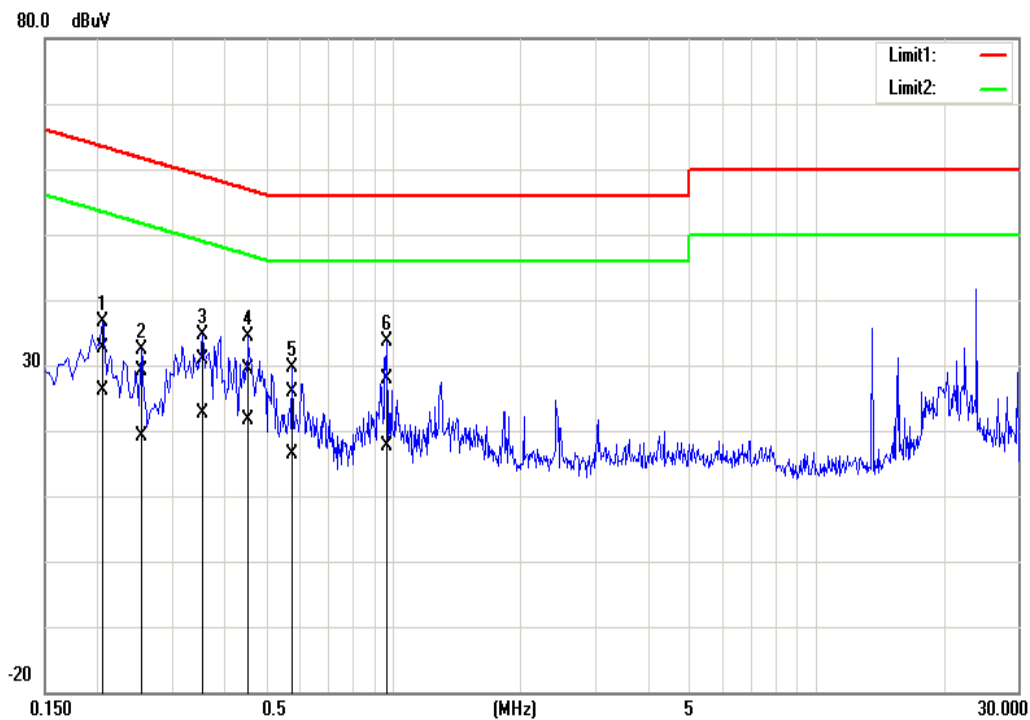
4.1.4 Test Result

Pass.

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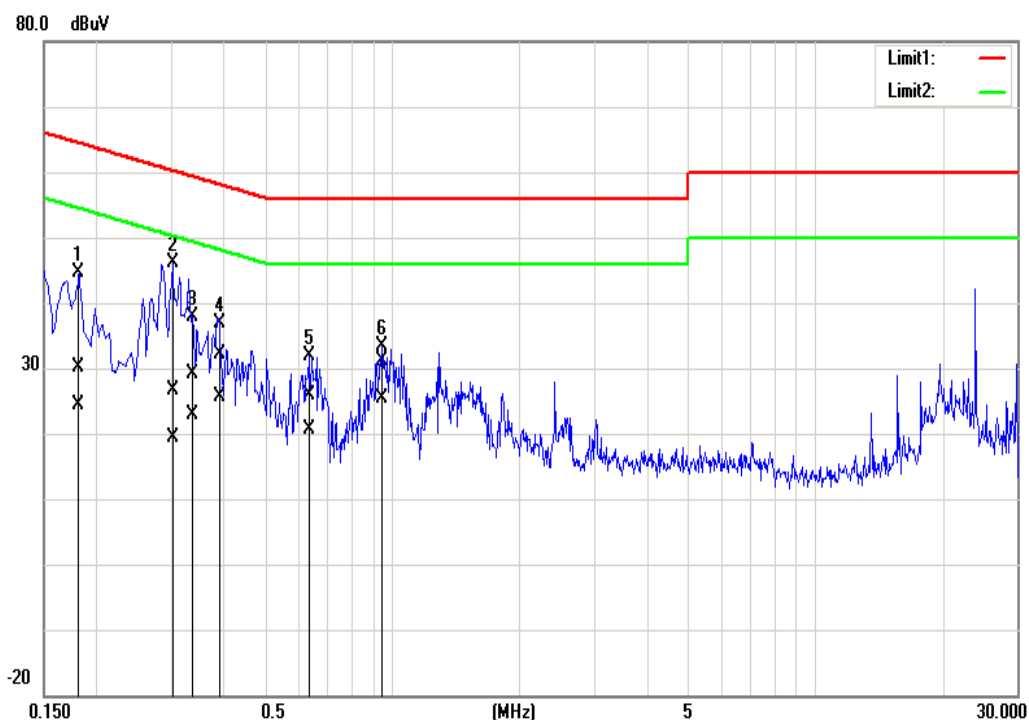
Test Data

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Line	Test Date	February 17, 2020
Test Voltage:	120Vac, 60Hz	Test Engineer	Dally Hong



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (d uV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.2060	22.32	16.00	10.21	32.53	26.21	63.37	53.37	-30.84	-27.16	Pass
0.2540	18.86	8.80	10.21	29.07	19.01	61.63	51.63	-32.56	-32.62	Pass
0.3540	20.75	12.53	10.22	30.97	22.75	58.87	48.87	-27.90	-26.12	Pass
0.4540	19.16	11.31	10.22	29.38	21.53	56.80	46.80	-27.42	-25.27	Pass
0.5780	15.64	6.15	10.22	25.86	16.37	56.00	46.00	-30.14	-29.63	Pass
0.9660	17.52	7.35	10.24	27.76	17.59	56.00	46.00	-28.24	-28.41	Pass

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Neutral	Test Date	February 17, 2020
Test Voltage:	120Vac, 60Hz	Test Engineer	Dally Hong



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1820	19.85	14.09	10.19	30.04	24.28	64.39	54.39	-34.35	-30.11	Pass
0.3020	16.33	9.31	10.19	26.52	19.50	60.19	50.19	-33.67	-30.69	Pass
0.3380	18.99	12.61	10.19	29.18	22.80	59.25	49.25	-30.07	-26.45	Pass
0.3914	22.05	15.44	10.19	32.24	25.63	58.03	48.03	-25.79	-22.40	Pass
0.6340	15.77	10.37	10.19	25.96	20.56	56.00	46.00	-30.04	-25.44	Pass
0.9460	20.92	15.29	10.21	31.13	25.50	56.00	46.00	-24.87	-20.50	Pass

4.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH (99%)

4.2.1 Test Limit

According to §15.247(a)(2),

6 dB Bandwidth :

Limit	Shall be at least 500kHz
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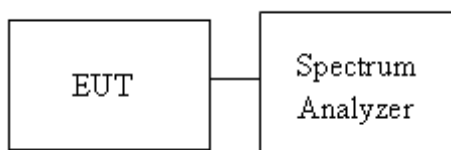
Occupied Bandwidth(99%) : For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 558074 D01 and ANSI C63.10: 2013 clause 6.9.2,

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.

4.2.3 Test Setup



4.2.4 Test Result

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	13.0246	13.0680	8.0435	8.0435	≥500
Mid	2437	13.0680	13.1114	8.0435	8.0435	
High	2462	13.0680	13.1548	8.0435	8.0435	

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	16.2373	16.2807	15.1304	15.1739	≥500
Mid	2437	16.2373	16.2807	15.3043	15.087	
High	2462	16.2807	16.2807	15.3478	15.1739	

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	17.3227	17.3661	15.4348	15.3043	≥500
Mid	2437	17.3661	17.3661	15.1304	15.0435	
High	2462	17.4095	17.3661	15.3478	15.3478	

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	36.0057	35.8900	35.014	35.13	≥500
Mid	2437	36.0057	36.0057	35.014	33.739	
High	2452	35.8900	36.0057	35.13	35.014	



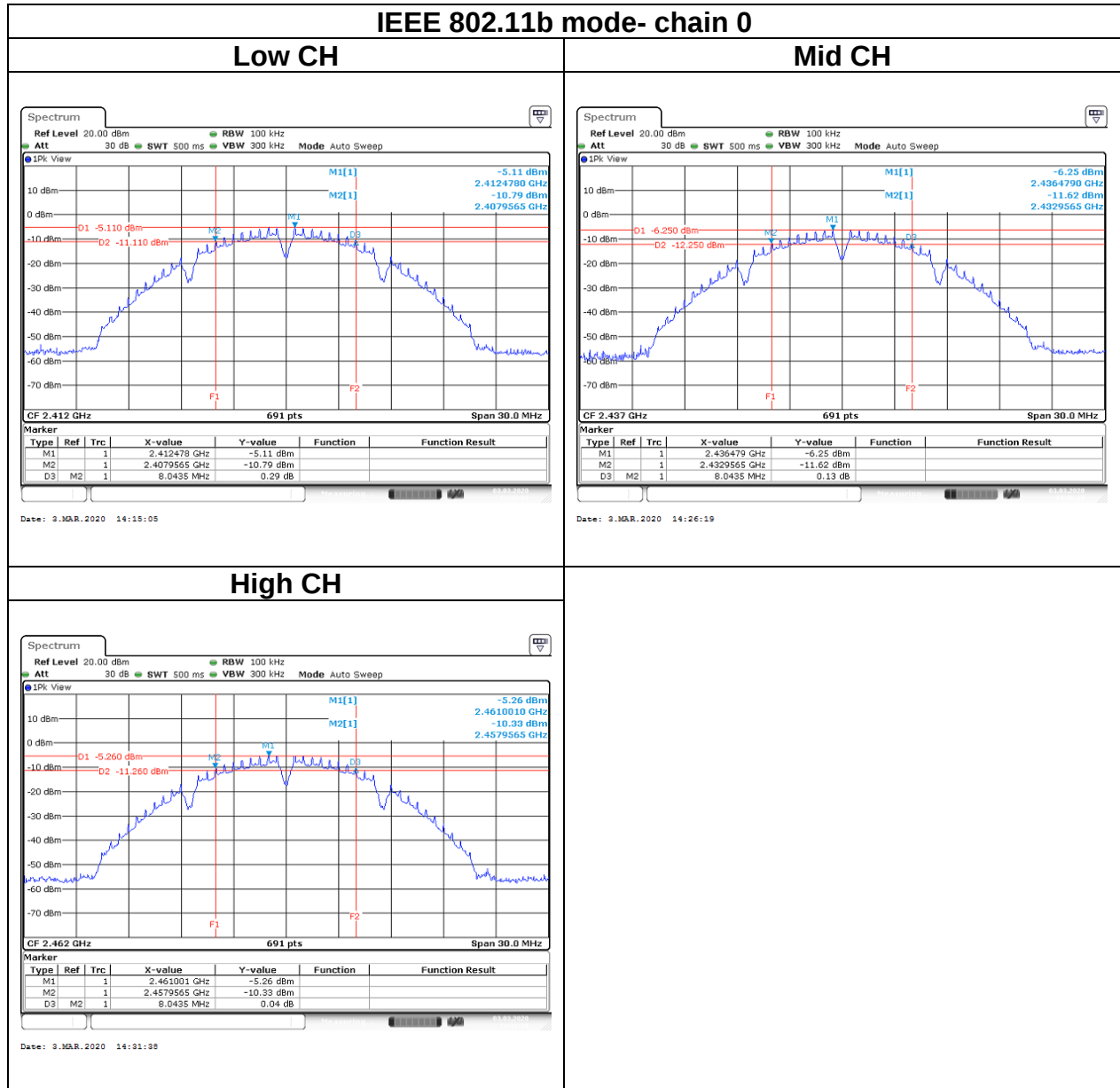
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Test Data

6dB BANDWIDTH





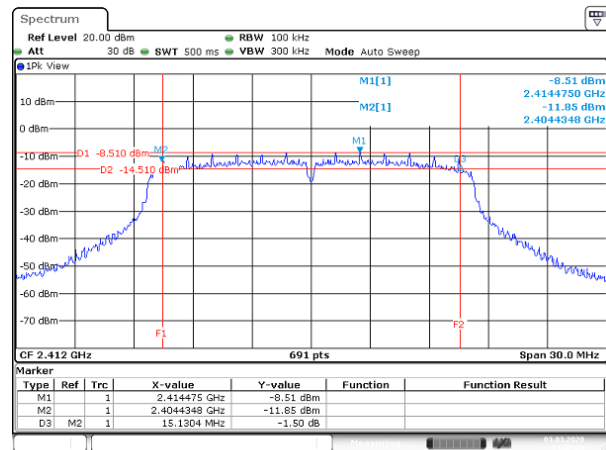
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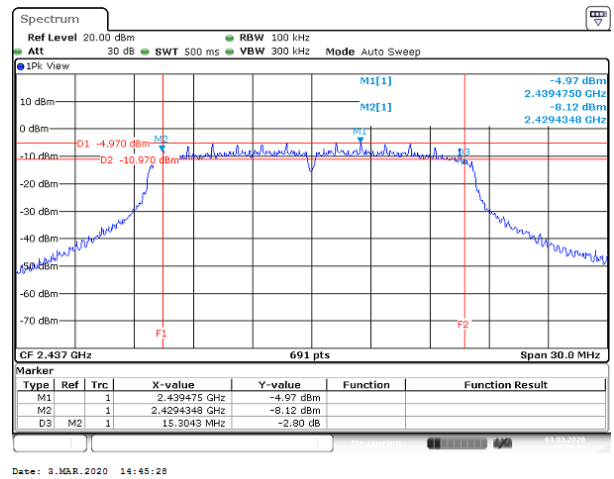
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IEEE 802.11g mode- chain 0

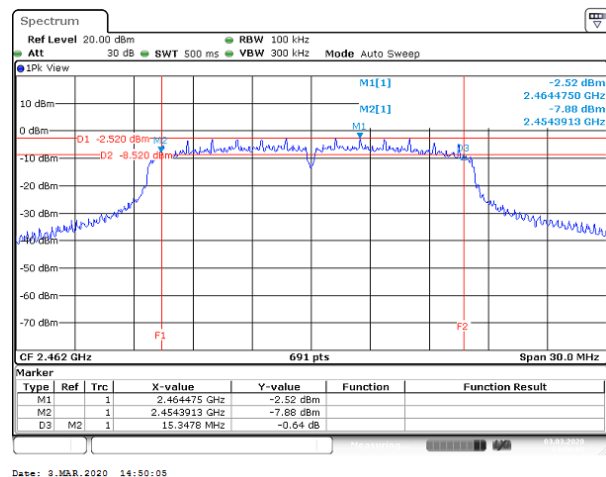
Low CH



Mid CH



High CH

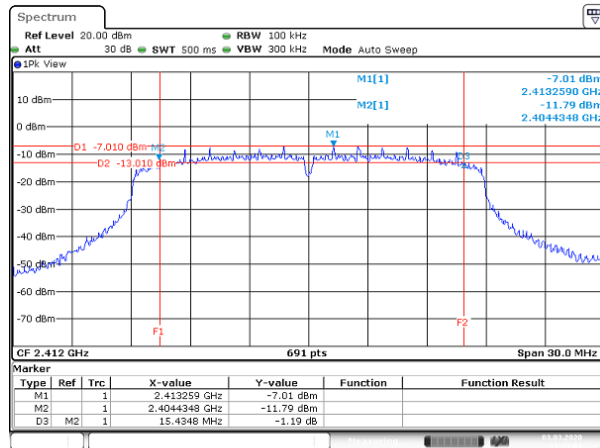




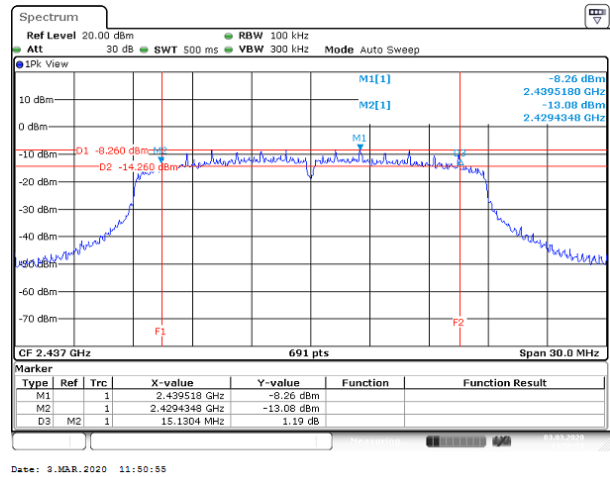
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IEEE 802.11n HT20 mode- chain 0

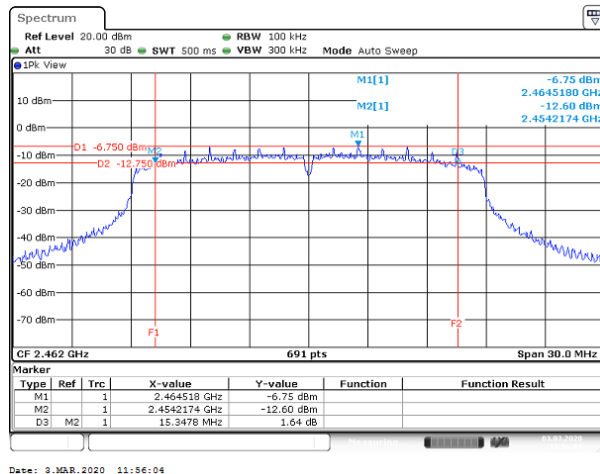
Low CH



Mid CH



High CH

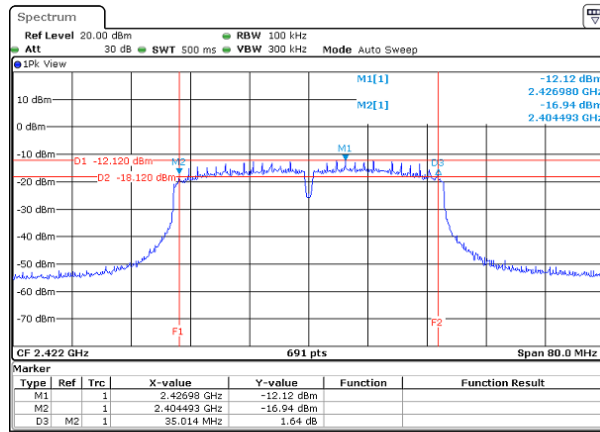




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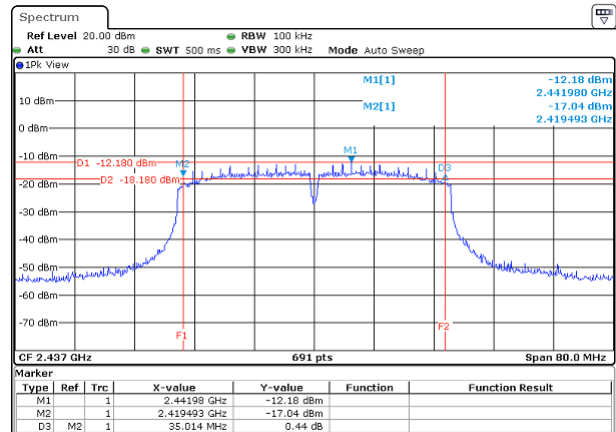
IEEE 802.11n HT40 mode- chain 0

Low CH



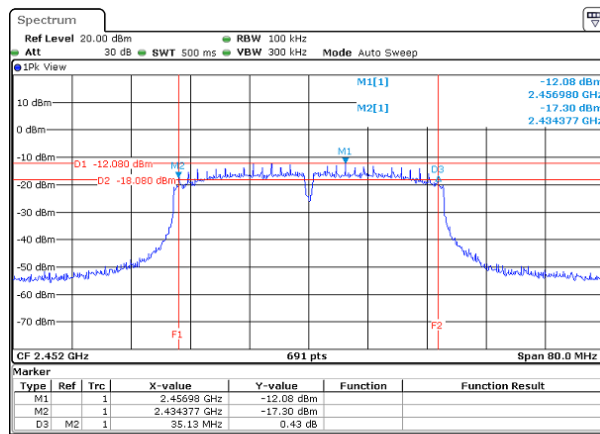
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Mid CH



Date: 3.MAR.2020 14:01:10

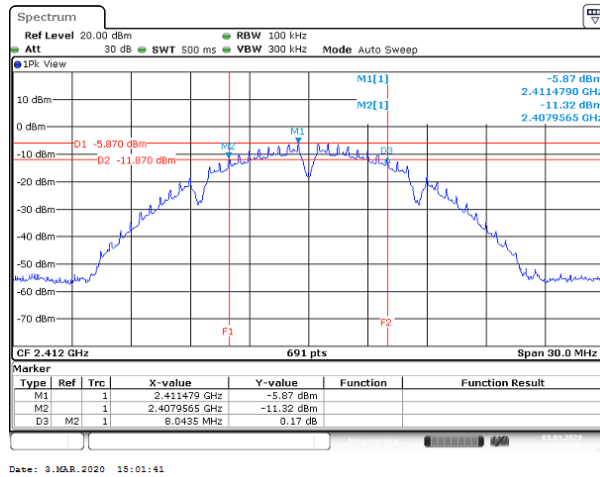
High CH



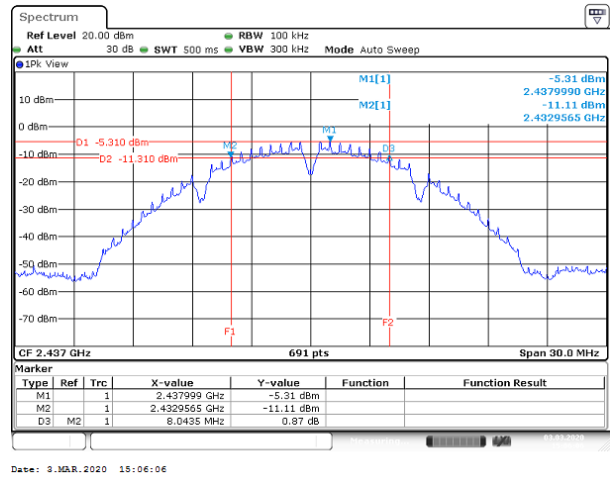
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IEEE 802.11b mode- chain 1

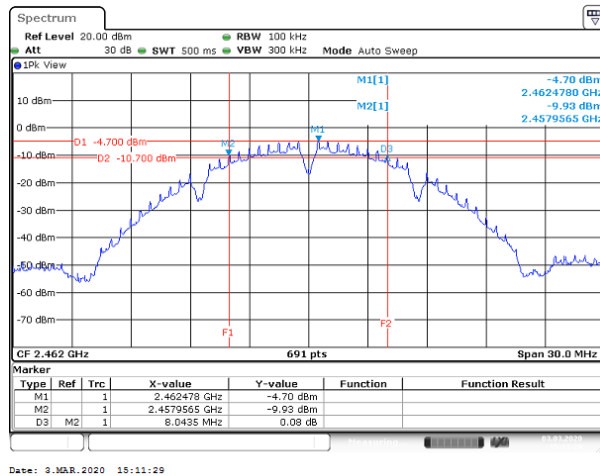
Low CH



Mid CH



High CH

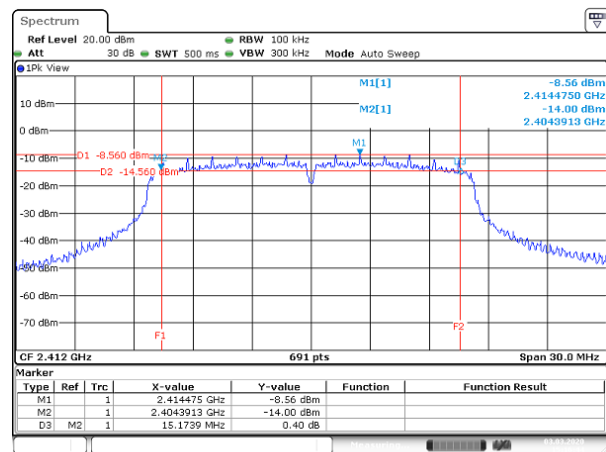




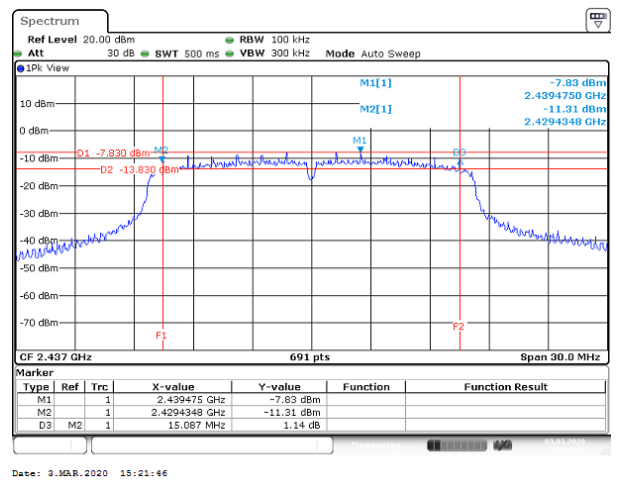
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IEEE 802.11g mode- chain 1

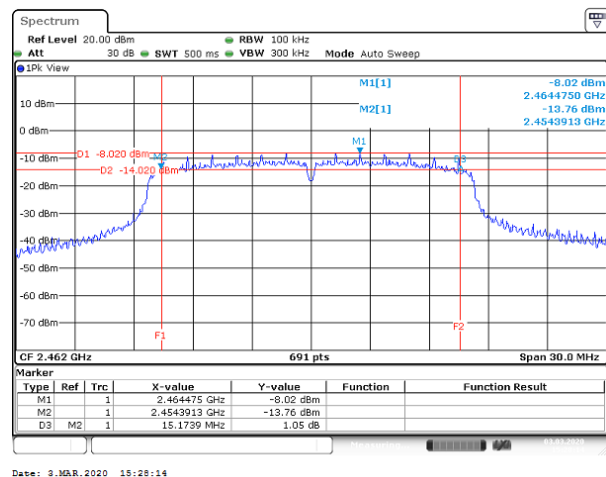
Low CH



Mid CH



High CH

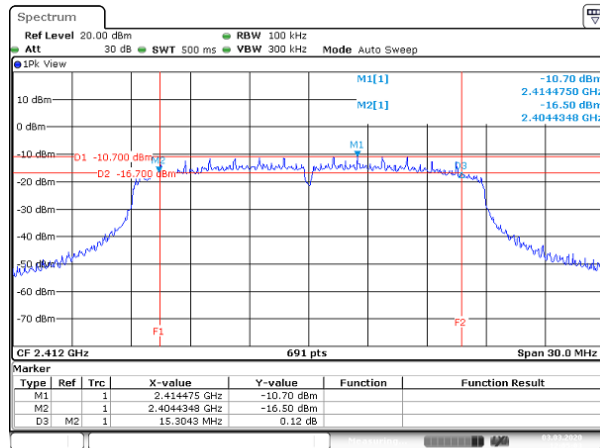




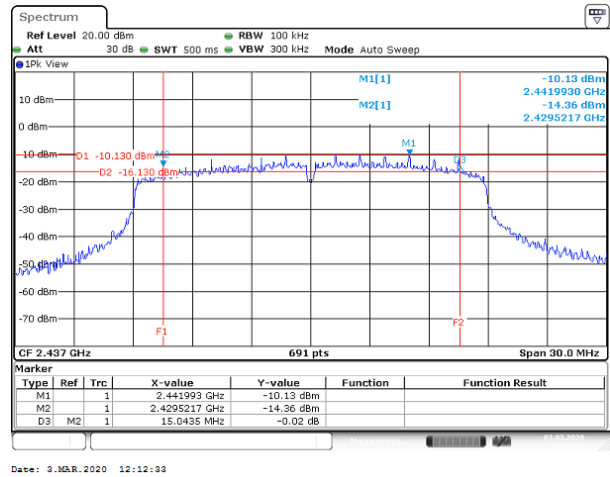
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IEEE 802.11n HT20 mode- chain 1

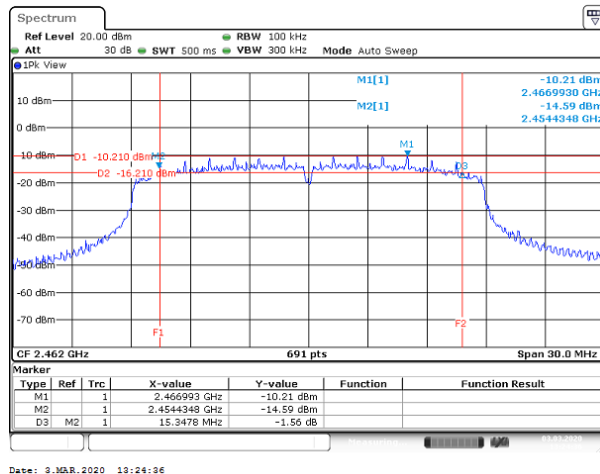
Low CH



Mid CH



High CH

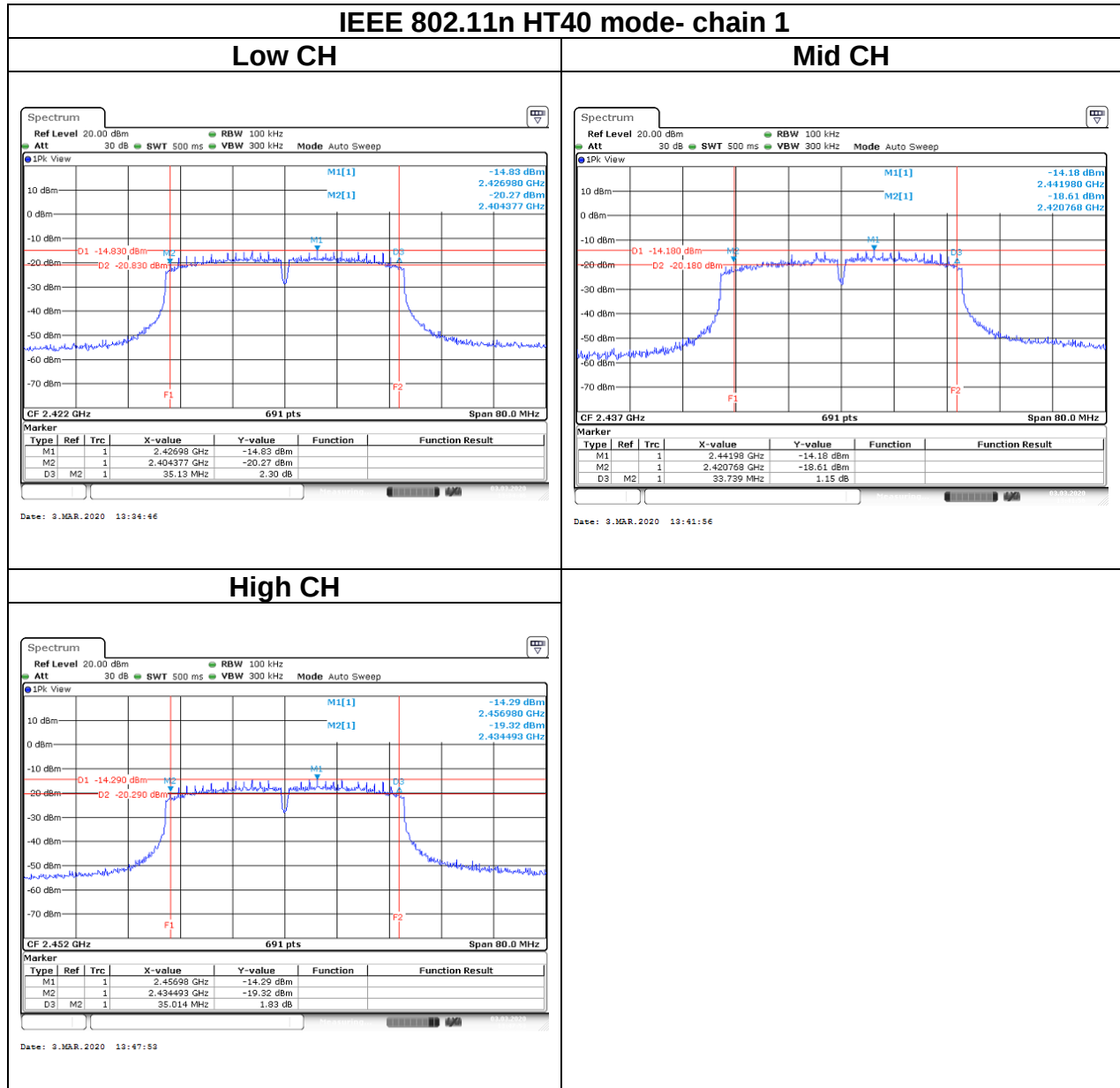




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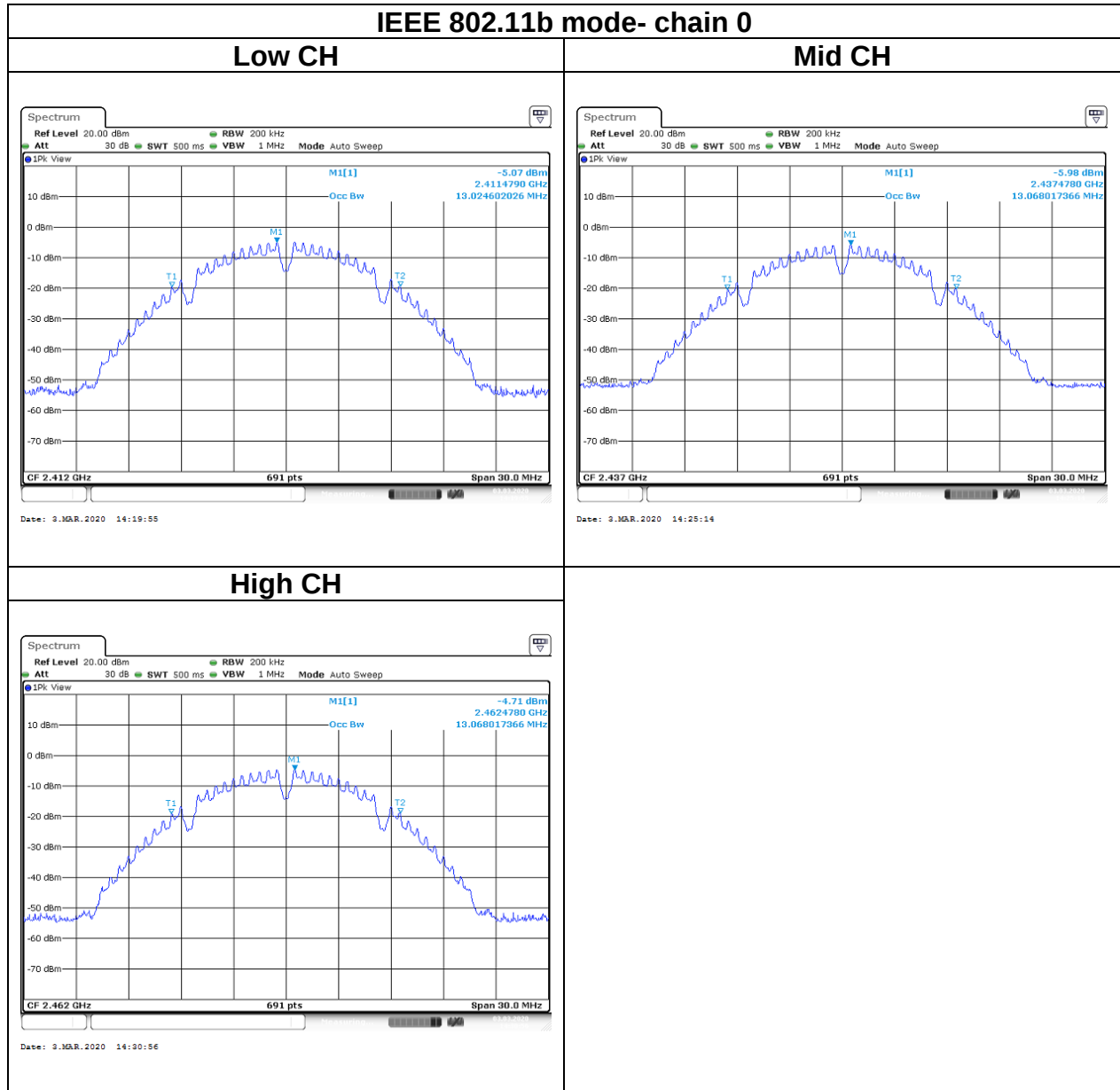
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Test Data

BANDWIDTH 99%

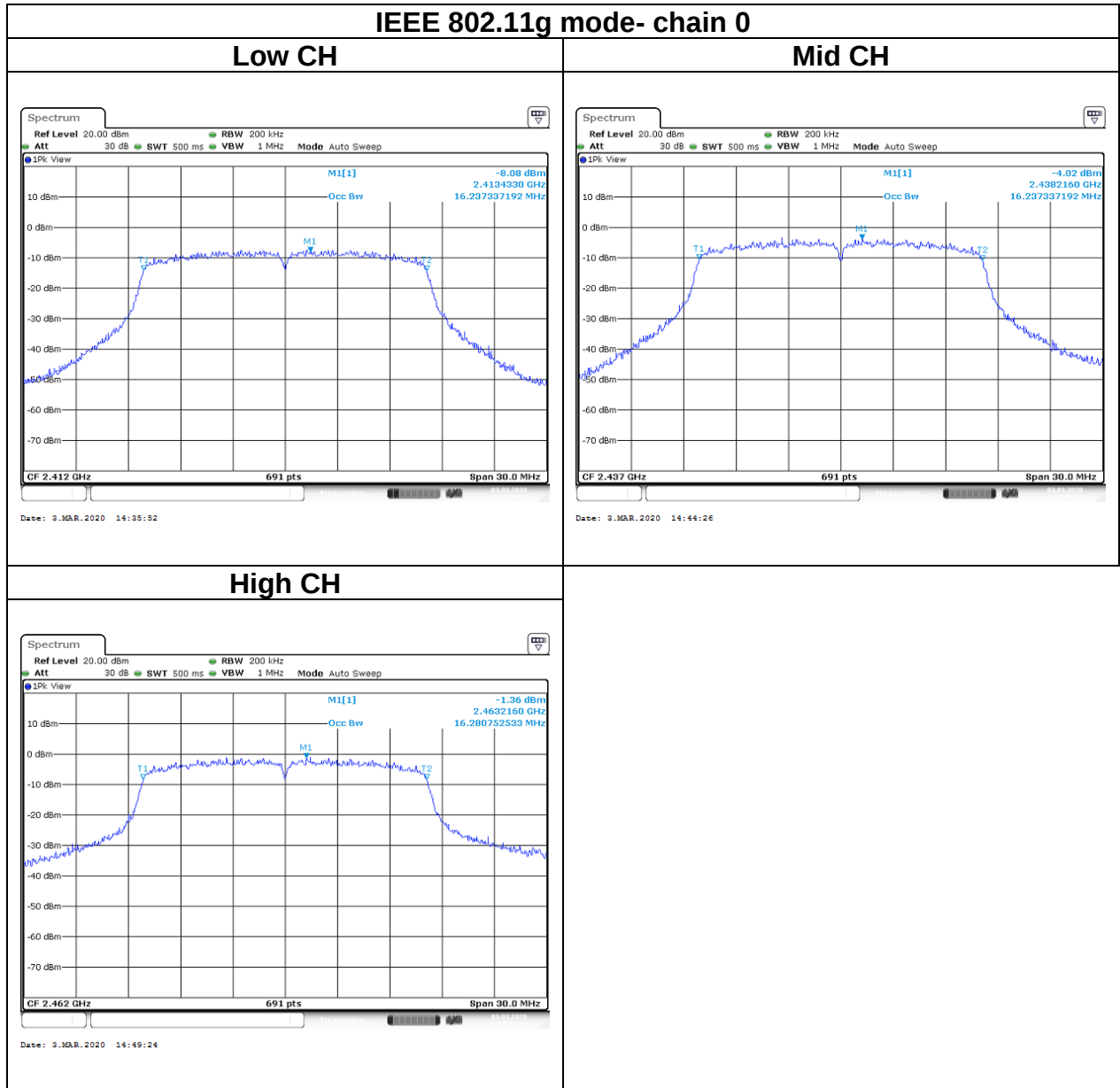




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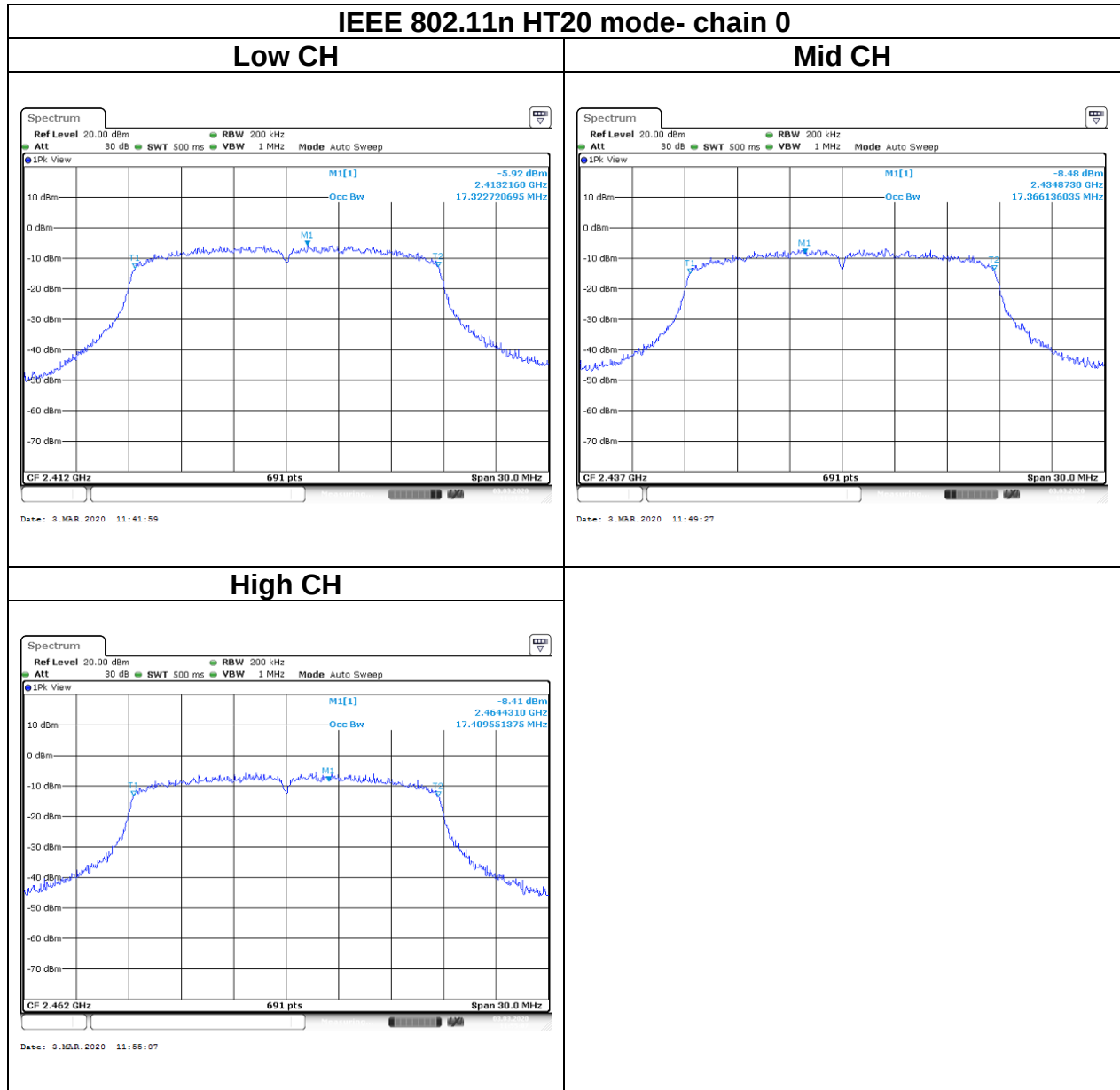




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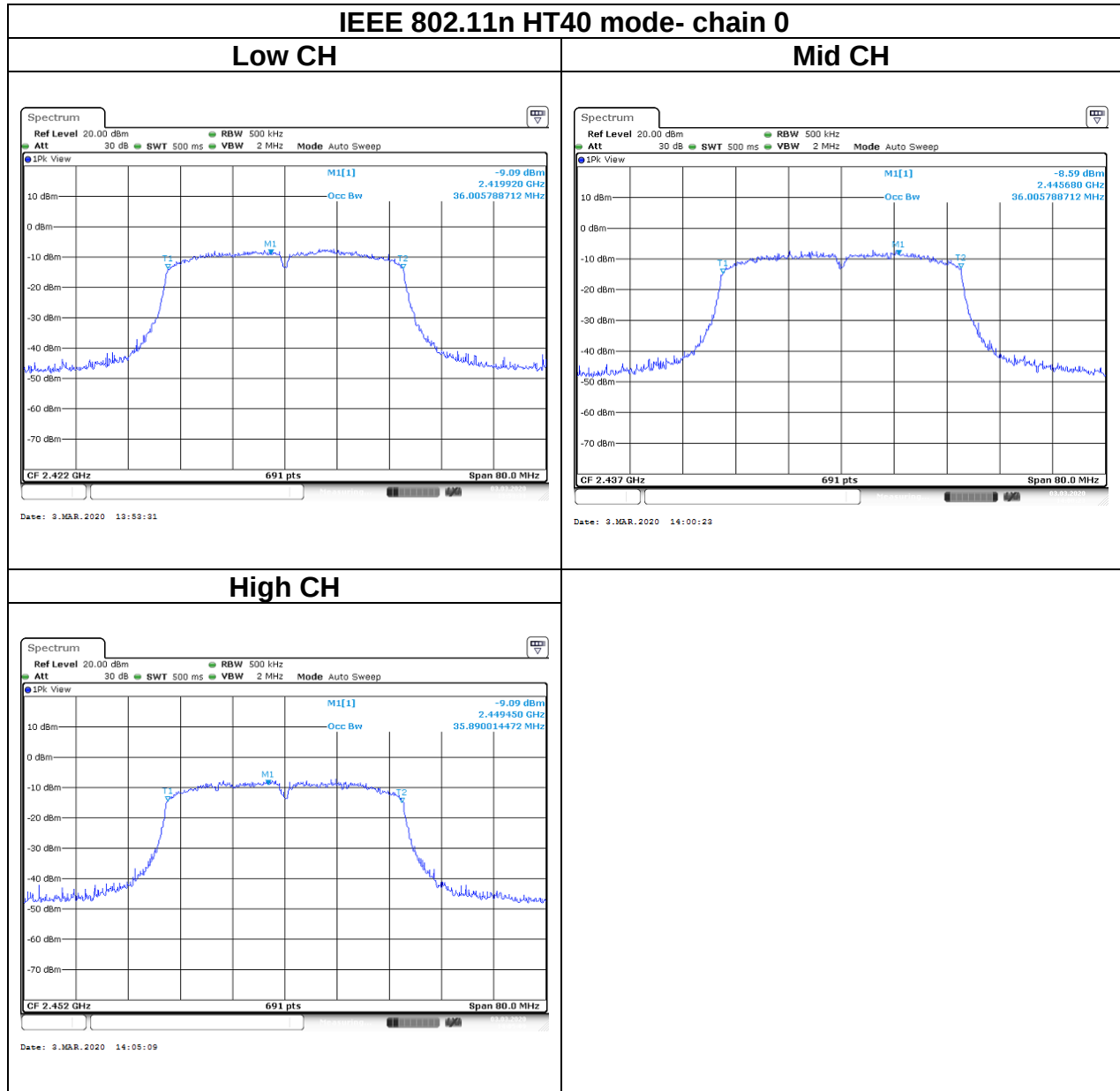




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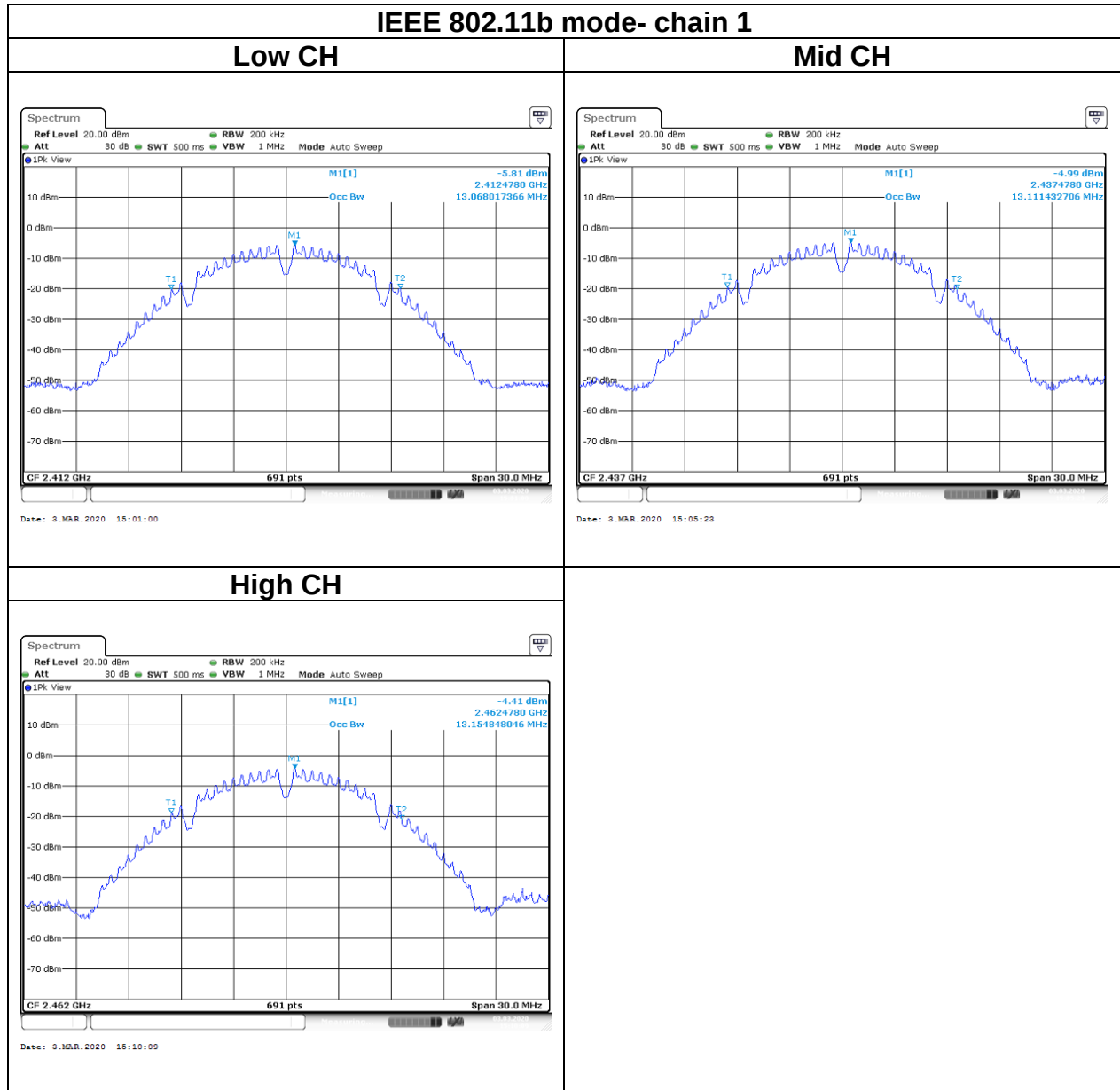




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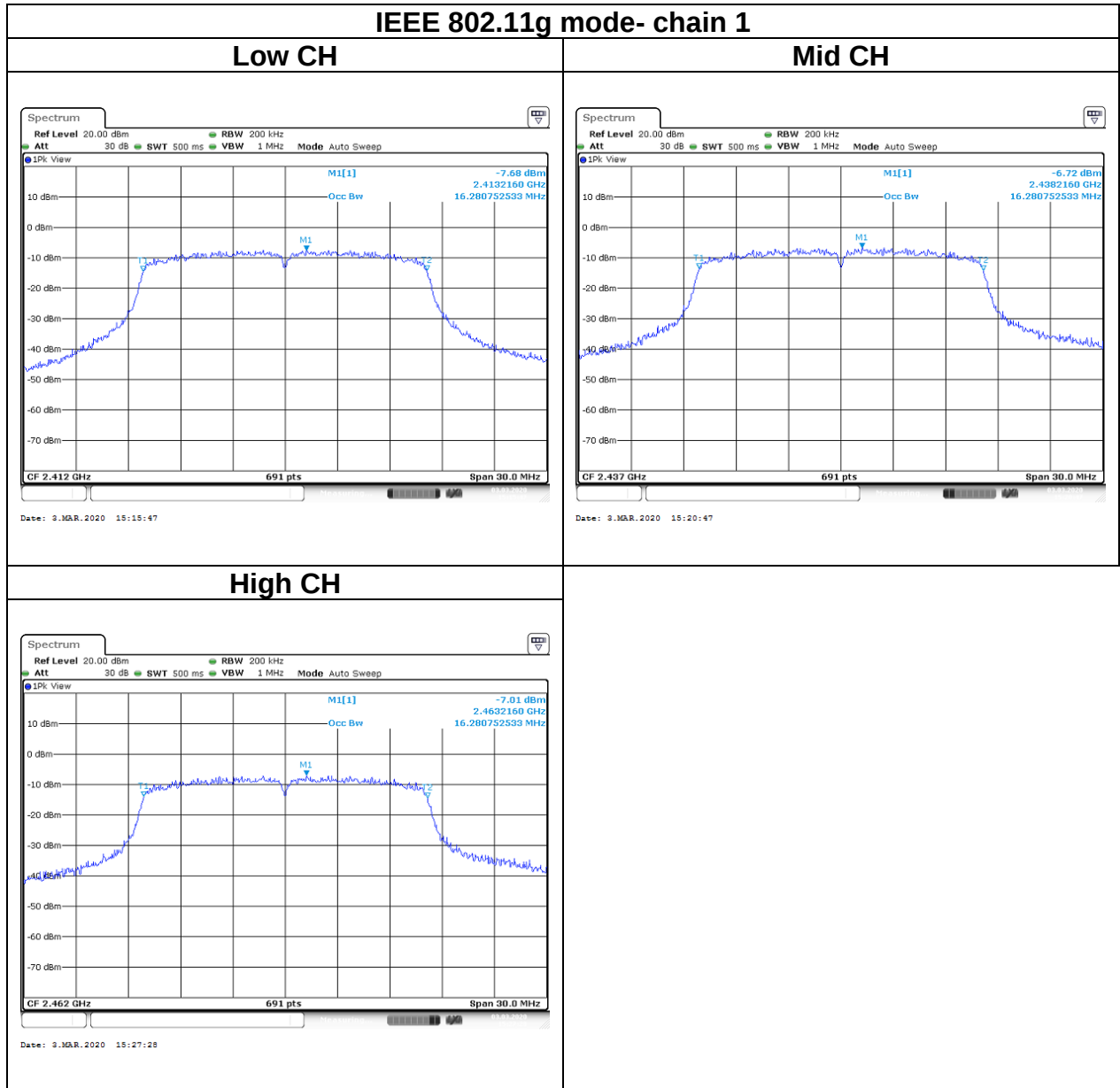




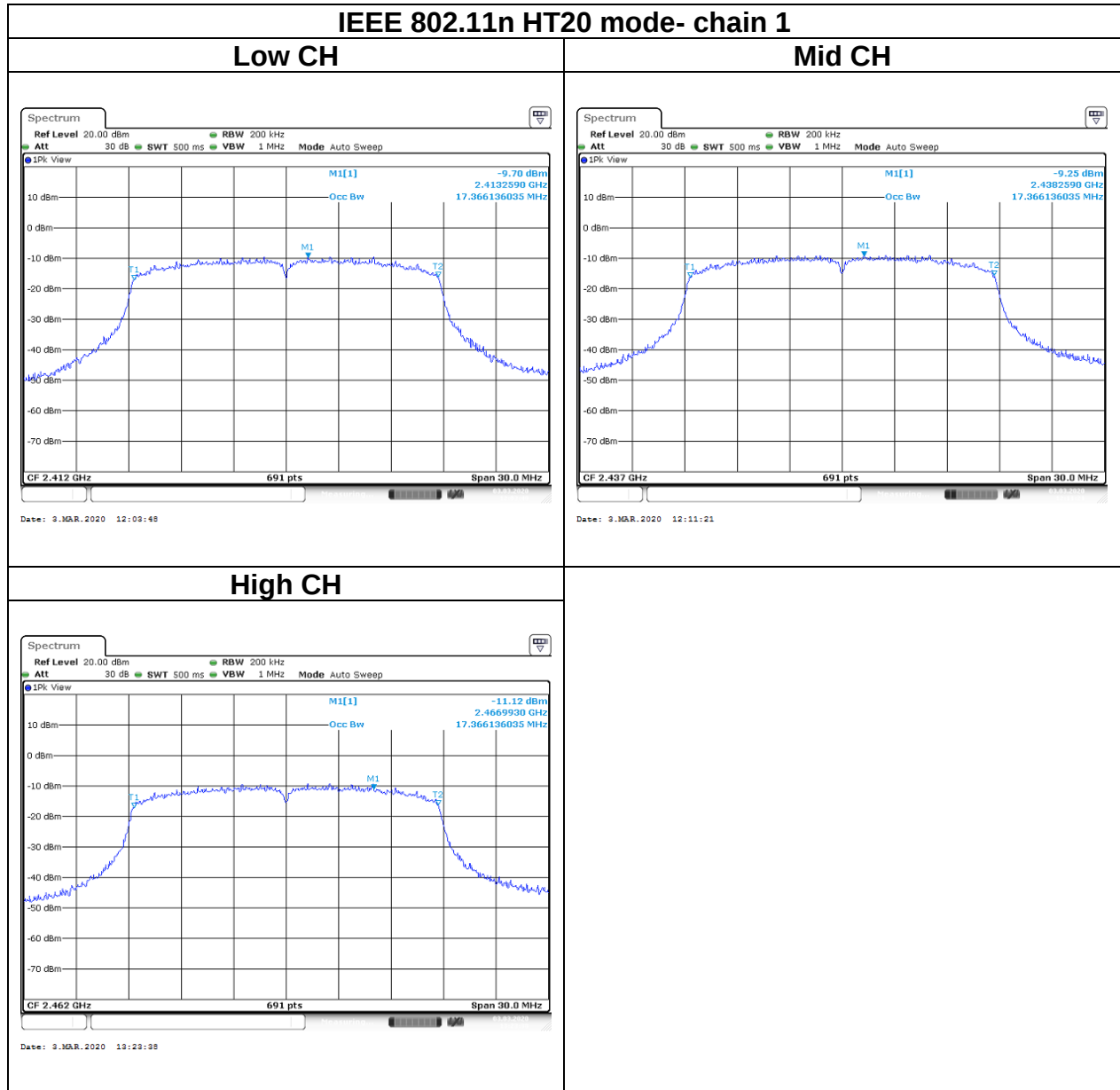
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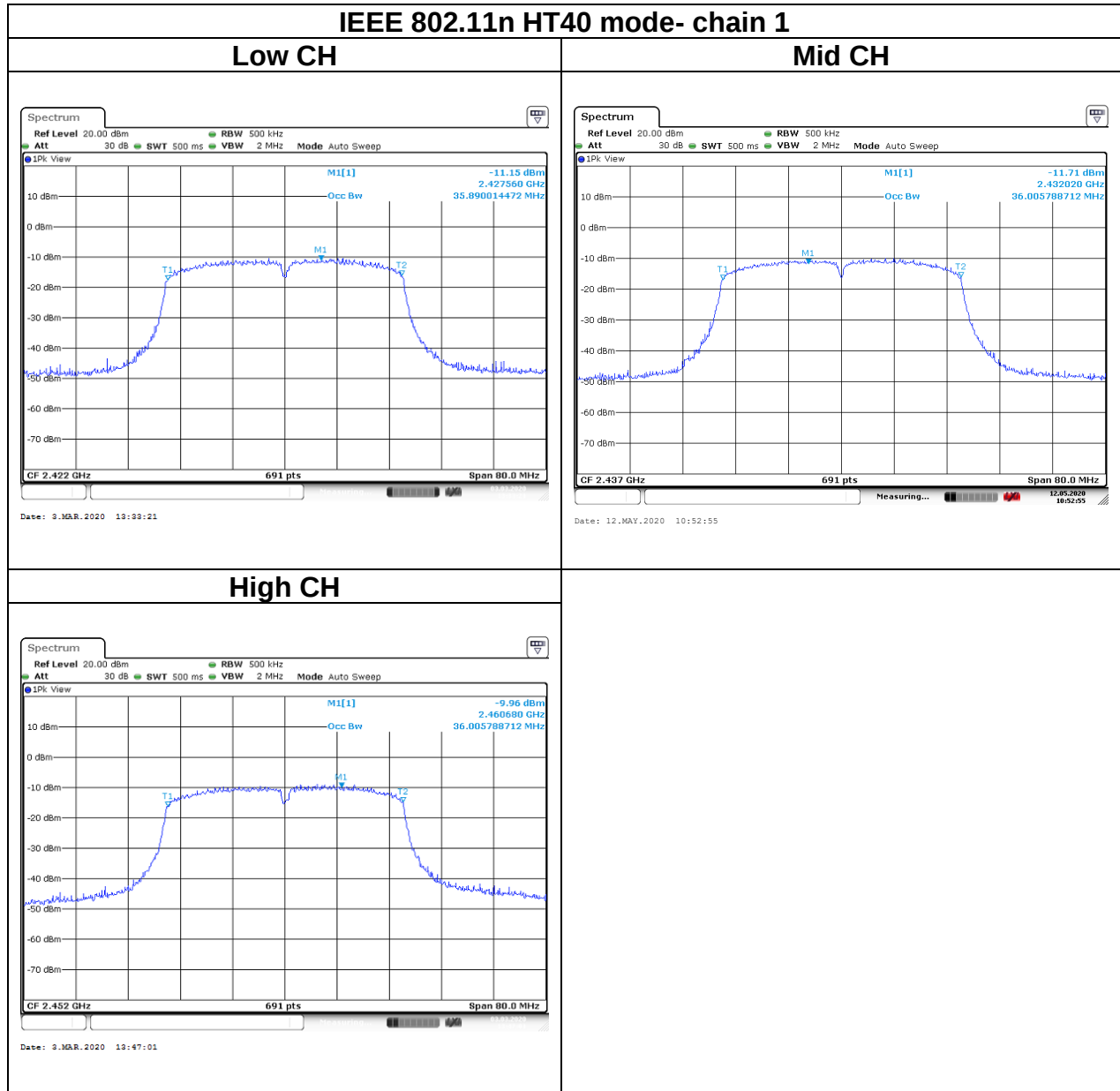


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4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.247(b),

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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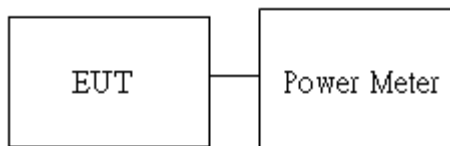
Average output power : For reporting purposes only.

4.3.2 Test Procedure

Test method Refer as KDB 558074 D01, Section 9.1.2.

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.

4.3.3 Test Setup



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4.3.4 Test Result

Peak output power :

Chain 0:

Wifi 2.4G							
Config	CH	Freq. (MHz)	power set	PK Power (dBm)	PK Total Power (W)	DG (dBi)	Limit (dBm)
IEEE 802.11b Data rate: 1Mbps	Low	2412	16.0	20.23	0.1054	1.57	30
	Mid	2437	17.5	20.46	0.1112		
	High	2462	16.0	20.41	0.1099		
IEEE 802.11g Data rate: 6Mbps	Low	2412	16.5	24.23	0.2649		
	Mid	2437	18.0	24.51	0.2825		
	High	2462	16.5	24.24	0.2655		

Chain 1:

Wifi 2.4G							
Config	CH	Freq. (MHz)	power set	PK Power (dBm)	PK Total Power (W)	DG (dBi)	Limit (dBm)
IEEE 802.11b Data rate: 1Mbps	Low	2412	17.0	20.16	0.1038	1.75	30
	Mid	2437	16.5	20.10	0.1023		
	High	2462	17.5	20.26	0.1062		
IEEE 802.11g Data rate: 6Mbps	Low	2412	18.0	23.99	0.2506		
	Mid	2437	17.0	23.42	0.2198		
	High	2462	18.0	23.69	0.2339		



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Wifi 2.4G										
Config	CH	Freq. (MHz)	power set		PK Power (dBm)		PK Total Power (dBm)	PK Total Power (W)	DG (dBi)	Limit (dBm)
			Chain 0	Chain 1	Chain 0	Chain 1				
IEEE 802.11n HT20 Data rate: MCS8	Low	2412	14.0	14.0	21.49	20.96	24.24	0.2655	1.66	30
	Mid	2437	14.0	14.0	20.53	21.37	23.98	0.2500		
	High	2462	14.0	14.0	20.53	20.78	23.67	0.2328		
IEEE 802.11n HT40 Data rate: MCS8	Low	2422	12.0	12.0	19.37	19.35	22.37	0.1726		
	Mid	2437	12.5	12.5	18.76	20.38	22.66	0.1845		
	High	2452	12.5	12.5	19.68	20.07	22.89	0.1945		



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Average output power :

Chain 0:

Wifi 2.4G				
Config	CH	Freq. (MHz)	Power Setting	AV Power (dBm)
IEEE 802.11b Data rate: 1Mbps	Low	2412	16.0	17.67
	Mid	2437	17.5	17.99
	High	2462	16.0	17.93
IEEE 802.11g Data rate: 6Mbps	Low	2412	16.5	17.95
	Mid	2437	18.0	18.17
	High	2462	16.5	17.99

Chain 1:

Wifi 2.4G				
Config	CH	Freq. (MHz)	Power Setting	AV Power (dBm)
IEEE 802.11b Data rate: 1Mbps	Low	2412	17.0	17.67
	Mid	2437	16.5	17.55
	High	2462	17.5	17.92
IEEE 802.11g Data rate: 6Mbps	Low	2412	18.0	18.08
	Mid	2437	17.0	17.71
	High	2462	18.0	17.88

Wifi 2.4G						
Config	CH	Freq. (MHz)	Power Setting	AV Power		AV Total Power (dBm)
				Chain 0	Chain 1	
IEEE 802.11n HT20 Data rate: MCS8	Low	2412	14.0	14.67	14.18	17.44
	Mid	2437	14.0	13.78	14.63	17.24
	High	2462	14.0	14.86	14.19	17.55
IEEE 802.11n HT40 Data rate: MCS8	Low	2422	12.0	12.06	12.33	15.21
	Mid	2437	12.5	11.76	13.20	15.55
	High	2452	12.5	12.32	12.89	15.62

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.247(e),

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.

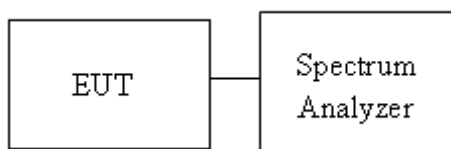
Limit	☒ Antenna not exceed 6 dBi : 8dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 8 – (DG – 6)] ☐ Point-to-point operation :
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4.4.2 Test Procedure

Test method Refer as KDB 558074 D01, Section 10.2

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.

4.4.3 Test Setup



4.4.4 Test Result

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	-9.68	-9.64	-	8
Mid	2437	-9.49	-9.64	-	
High	2462	-7.36	-9.23		

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	-6.94	-12.46	-	8
Mid	2437	-9.00	-9.83	-	
High	2462	-6.70	-11.50		

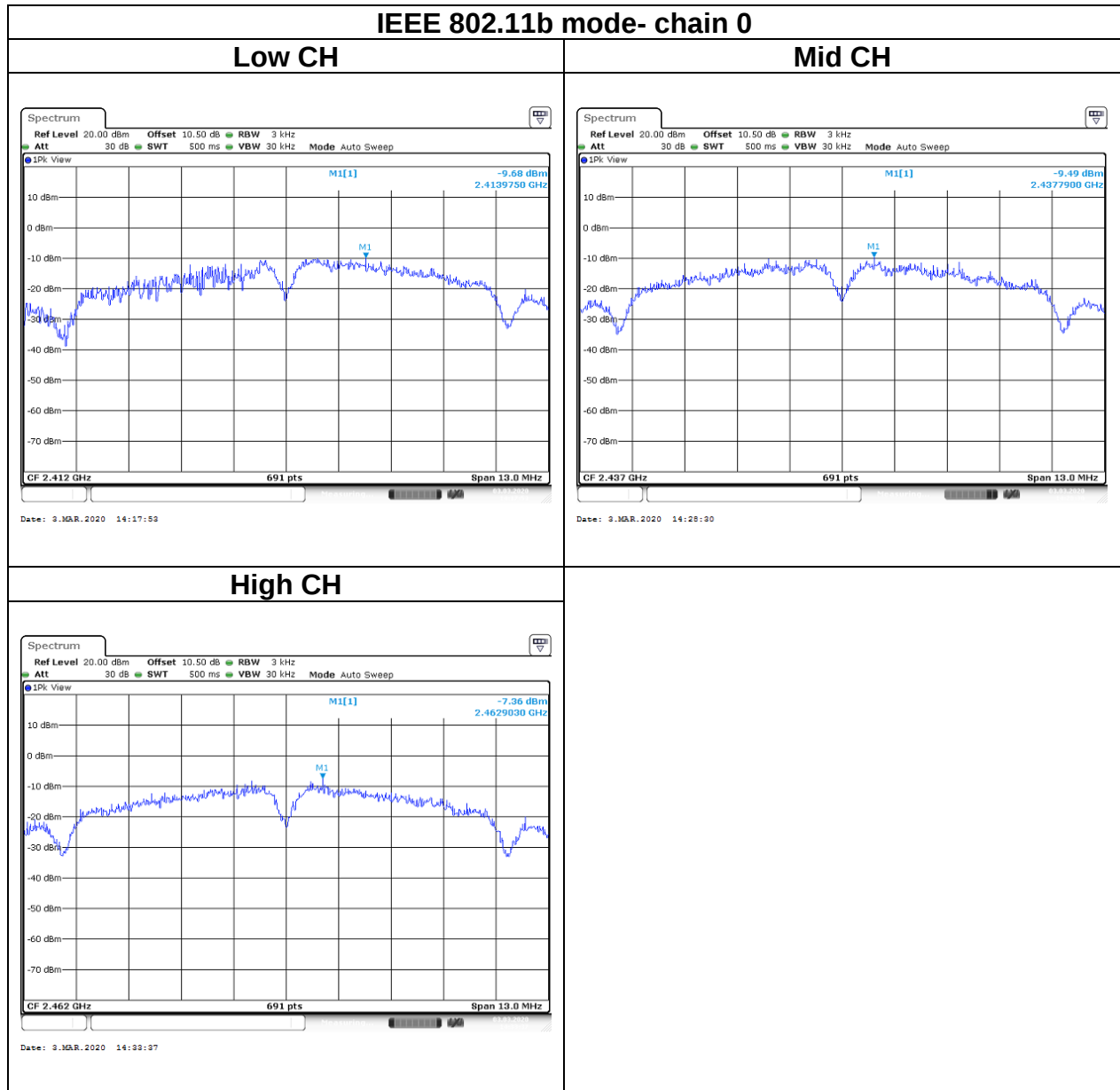
Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)
Low	2412	-11.08	-15.12	-9.64	8
Mid	2437	-10.96	-14.33	-9.32	
High	2462	-10.55	-13.44	-8.75	

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	2412	-14.68	-17.21	-12.75	8
Mid	2437	-15.10	-16.38	-12.68	
High	2462	-14.37	-16.07	-12.13	



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Test Data

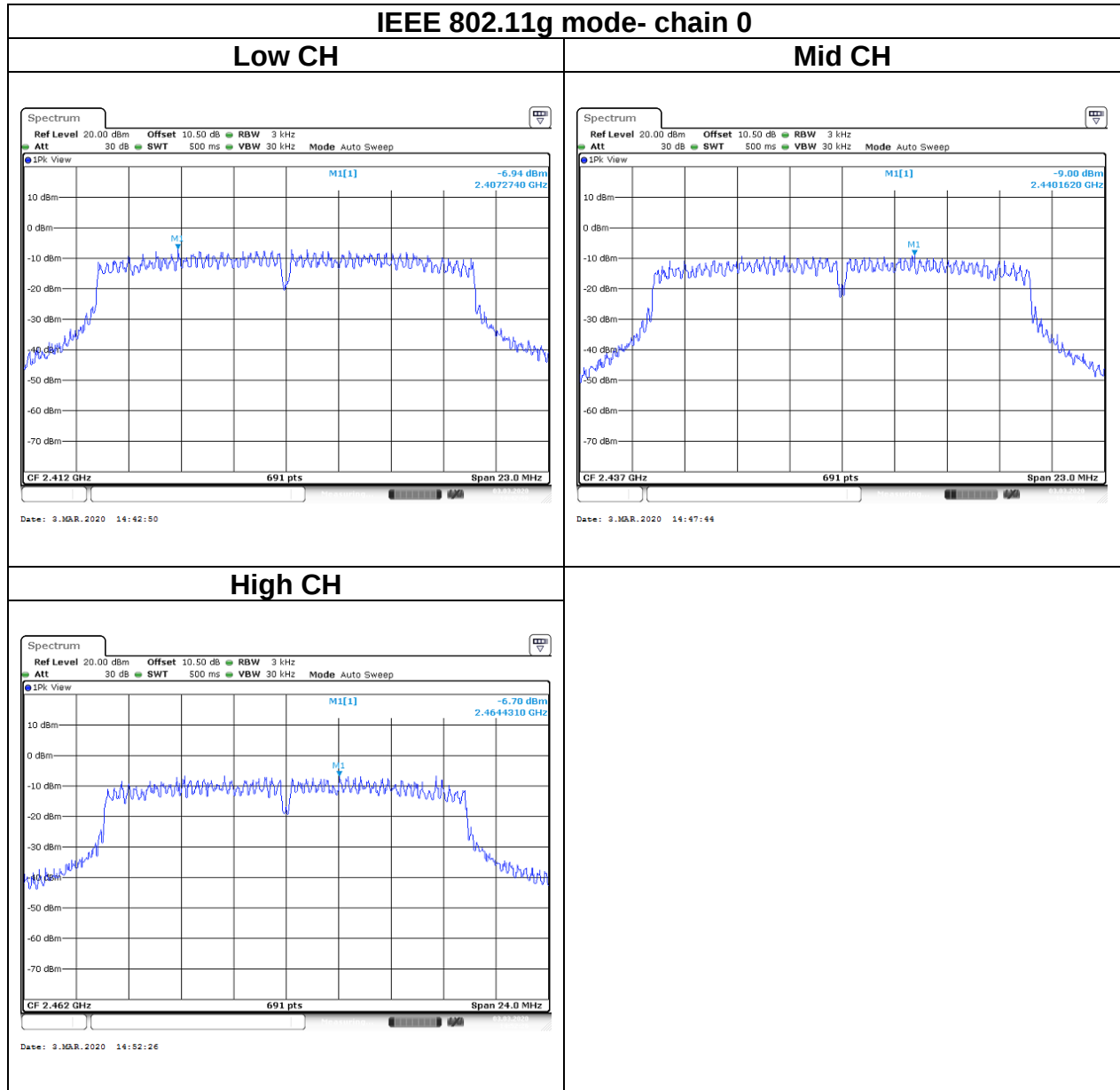




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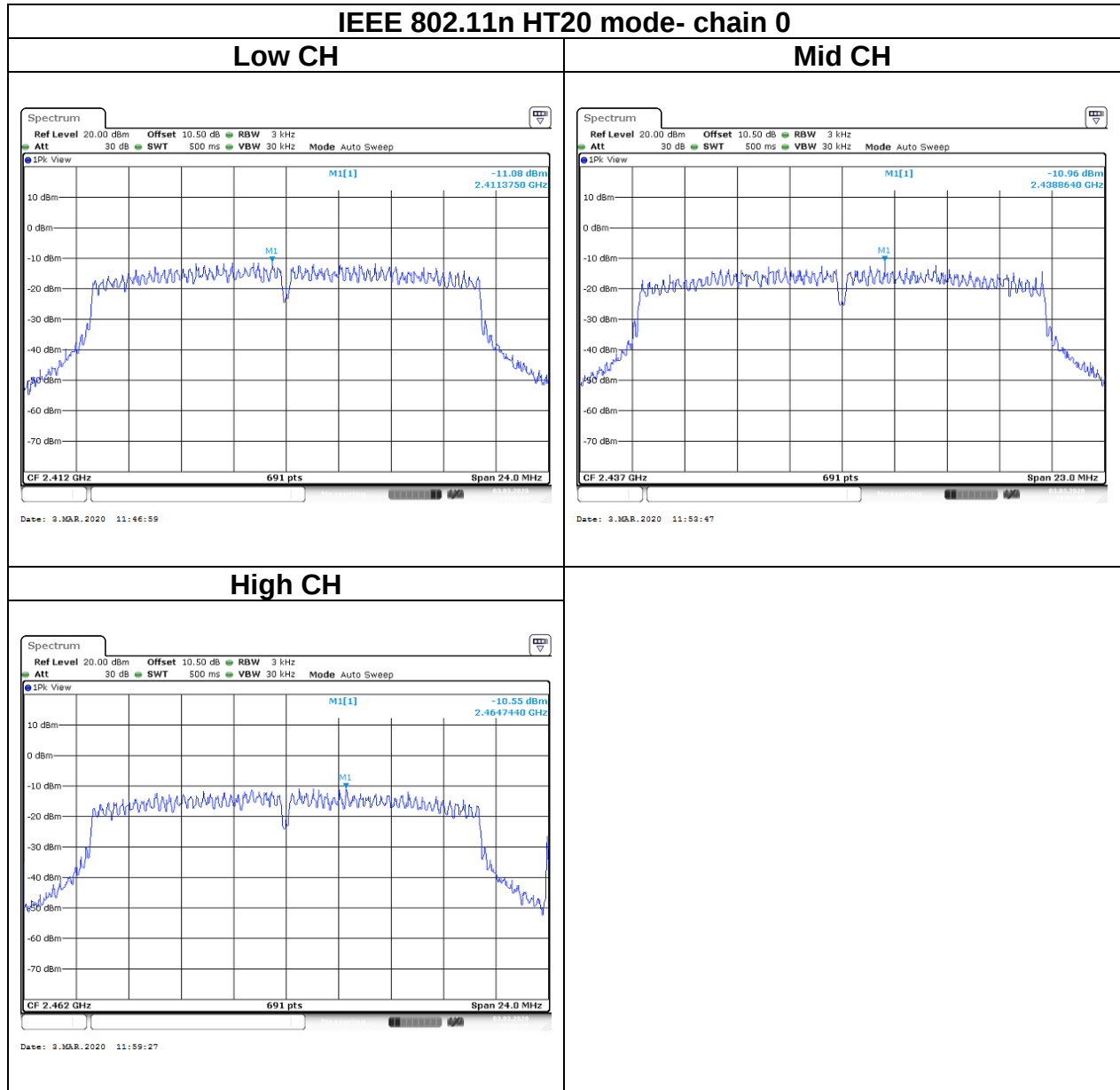
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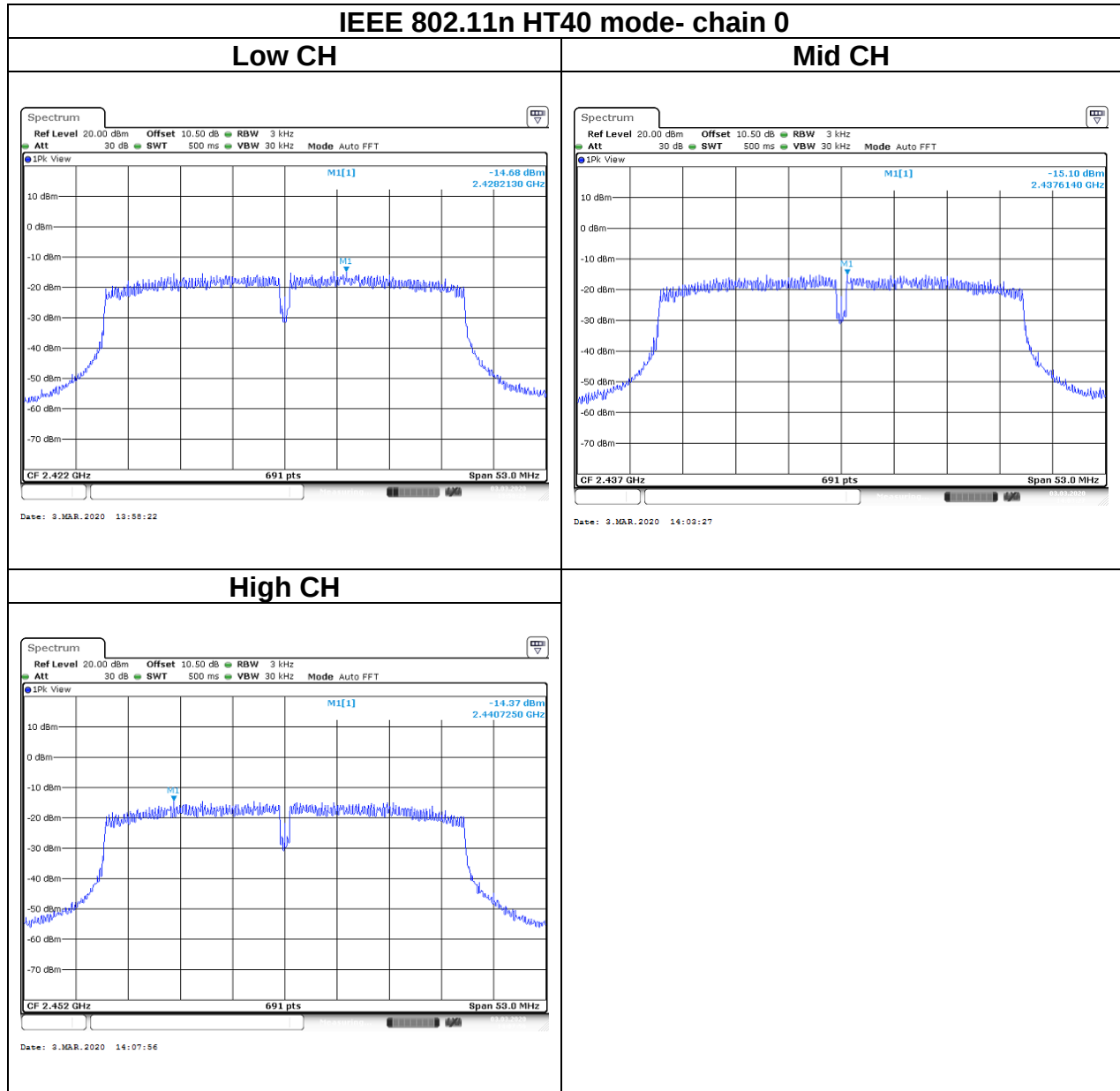




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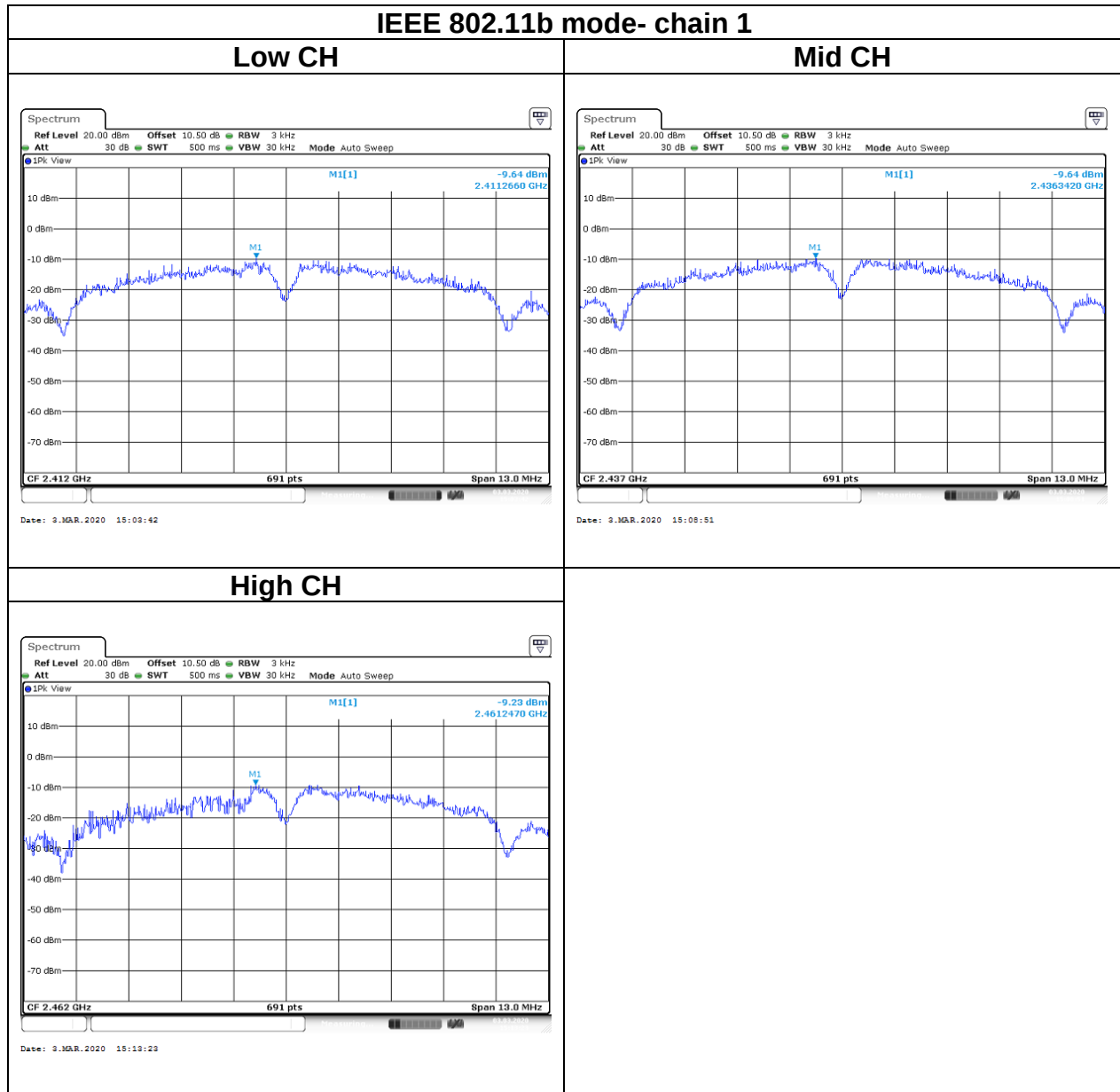




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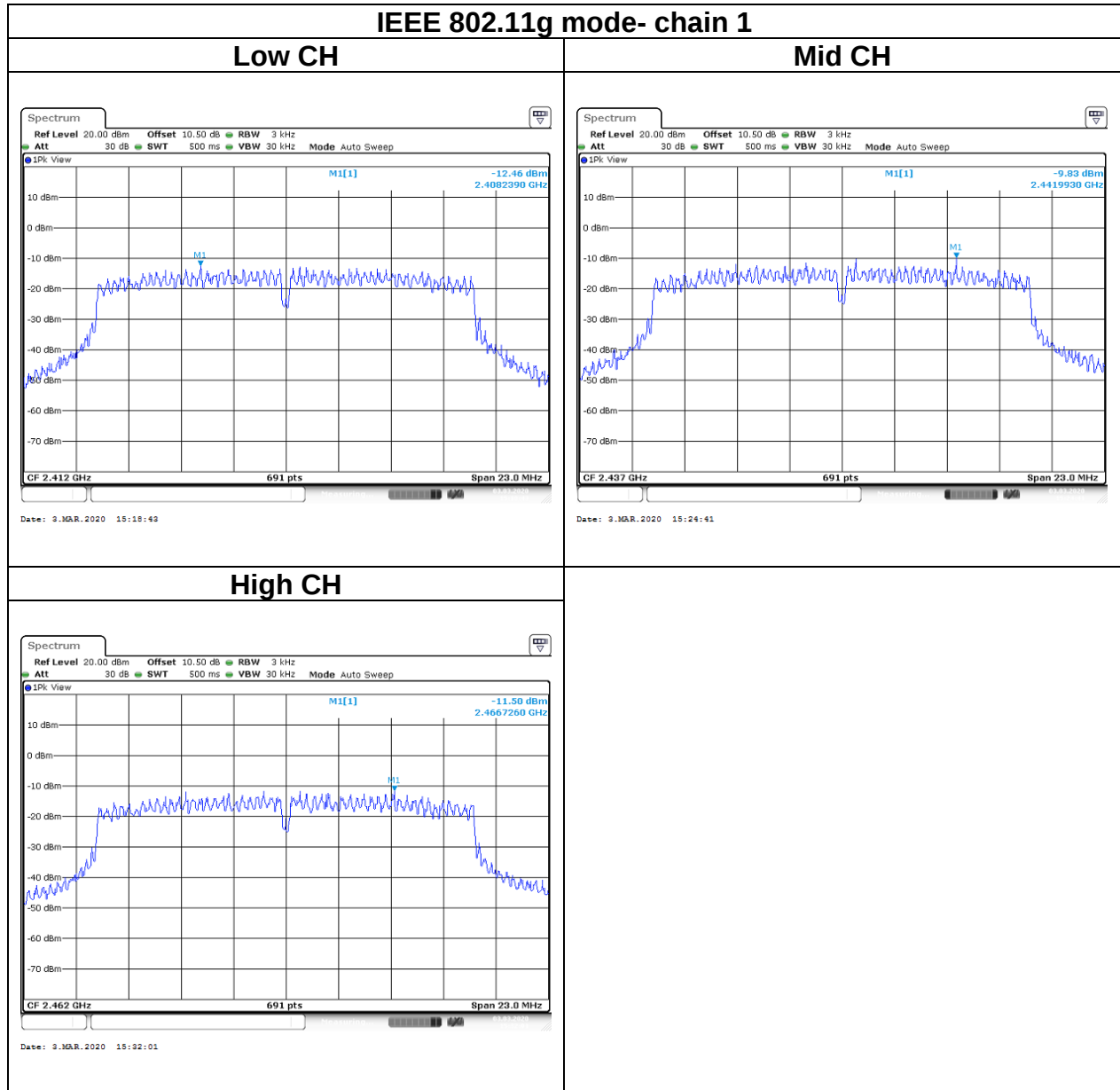
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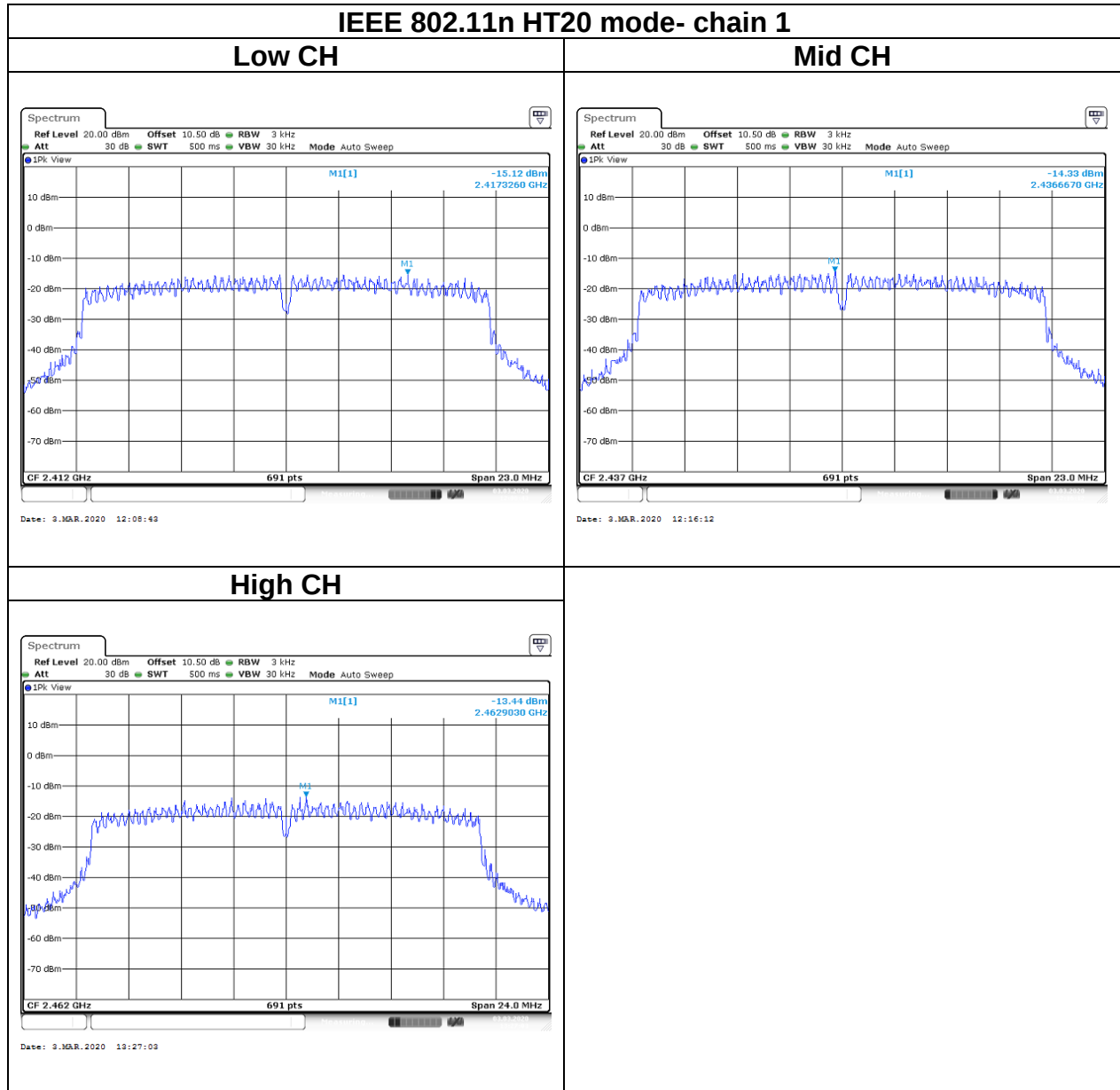


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