

FCC ID: PANCL8821CUV2
Report No.: T190315W01-RP4

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Rev: 01

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART E

Test Standard	FCC Part 15.407
Brand name	WLAN(1T1R) AC and BT 4.2 Combo Dongle
Product name	CC&C
Model No.	CL-8821CU-V2
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.

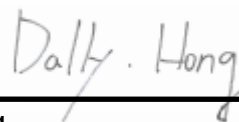
The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by:

Reviewed by:



Kevin Tsai
Deputy Manager



Dally Hong
Engineer

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，不可部分複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 18, 2019	Initial Issue	ALL	May Lin
01	July 24, 2019	See the following Note Rev. (01)	P.7, P.10-11, P.13, P.19, P.178	May Lin

Rev (01):

1. Remove the note.
2. Revised the support and EUT accessories equipment · the worst mode of operating condition · test procedure and test result.
3. Revised the instrument calibration..



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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	CC&C Technologies, Inc. 8F, No. 150, Jian Yi Road, Zhonghe District, New Taipei City, Taiwan 235
Manufacturer	Kunshan CC&C Technologies, Co., Ltd No.9 building,3rd Main Street, Kunshan Free Trade Zone, Jiangsu Province, P.R.China
Equipment	WLAN(1T1R) AC and BT 4.2 Combo Dongle
Model No.	CL-8821CU-V2
Model Discrepancy	N/A
Trade Name	CC&C
Received Date	March 15, 2019
Date of Test	May 11 ~ July 15, 2019
Power Operation	Power form host device.



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Output Power(W)	Band	Mode	Frequency Range (MHz)	Output Power (W)
	U-NII-1	IEEE 802.11a	5180 ~ 5240	0.0391
		IEEE 802.11n HT 20 MHz	5180 ~ 5240	0.0359
		IEEE 802.11n HT 40 MHz	5190 ~ 5230	0.0480
		IEEE 802.11ac VHT 80 MHz	5210	0.0475
	U-NII-2a	IEEE 802.11a	5260 ~ 5320	0.0451
		IEEE 802.11n HT 20 MHz	5260 ~ 5320	0.0431
		IEEE 802.11n HT 40 MHz	5270 ~ 5310	0.0553
		IEEE 802.11ac VHT 80 MHz	5290	0.0488
	U-NII-2c	IEEE 802.11a	5500 ~ 5700	0.0621
		IEEE 802.11n HT 20 MHz	5500 ~ 5700	0.0614
		IEEE 802.11n HT 40 MHz	5510 ~ 5670	0.0701
		IEEE 802.11ac VHT 80 MHz	5530	0.0556
	U-NII-3	IEEE 802.11a	5745 ~ 5825	0.0568
		IEEE 802.11n HT 20 MHz	5745 ~ 5825	0.0813
		IEEE 802.11n HT 40 MHz	5755 ~ 5795	0.0726
		IEEE 802.11ac VHT 80 MHz	5775	0.0551

1.2 EUT CHANNEL INFORMATION

Frequency Range	<table border="1"> <tr><td colspan="2">UNII-1</td></tr> <tr><td>IEEE 802.11a</td><td>5180 ~ 5240 MHz</td></tr> <tr><td>IEEE 802.11n HT 20 MHz</td><td>5180 ~ 5240 MHz</td></tr> <tr><td>IEEE 802.11n HT 40 MHz</td><td>5190 ~ 5230 MHz</td></tr> <tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5210 MHz</td></tr> <tr><td colspan="2">UNII-2a</td></tr> <tr><td>IEEE 802.11a</td><td>5260 ~ 5320 MHz</td></tr> <tr><td>IEEE 802.11n HT 20 MHz</td><td>5260 ~ 5320 MHz</td></tr> <tr><td>IEEE 802.11n HT 40 MHz</td><td>5270 ~ 5310 MHz</td></tr> <tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5290 MHz</td></tr> <tr><td colspan="2">UNII-2c</td></tr> <tr><td>IEEE 802.11a</td><td>5500 ~ 5700 MHz</td></tr> <tr><td>IEEE 802.11n HT 20 MHz</td><td>5500 ~ 5700 MHz</td></tr> <tr><td>IEEE 802.11n HT 40 MHz</td><td>5510 ~ 5670 MHz</td></tr> <tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5530 MHz</td></tr> <tr><td colspan="2">UNII-3</td></tr> <tr><td>IEEE 802.11a</td><td>5745 ~ 5825 MHz</td></tr> <tr><td>IEEE 802.11n HT 20 MHz</td><td>5745 ~ 5825 MHz</td></tr> <tr><td>IEEE 802.11n HT 40 MHz</td><td>5755 ~ 5795 MHz</td></tr> <tr><td>IEEE 802.11ac VHT 80 MHz</td><td>5775 MHz</td></tr> </table>	UNII-1		IEEE 802.11a	5180 ~ 5240 MHz	IEEE 802.11n HT 20 MHz	5180 ~ 5240 MHz	IEEE 802.11n HT 40 MHz	5190 ~ 5230 MHz	IEEE 802.11ac VHT 80 MHz	5210 MHz	UNII-2a		IEEE 802.11a	5260 ~ 5320 MHz	IEEE 802.11n HT 20 MHz	5260 ~ 5320 MHz	IEEE 802.11n HT 40 MHz	5270 ~ 5310 MHz	IEEE 802.11ac VHT 80 MHz	5290 MHz	UNII-2c		IEEE 802.11a	5500 ~ 5700 MHz	IEEE 802.11n HT 20 MHz	5500 ~ 5700 MHz	IEEE 802.11n HT 40 MHz	5510 ~ 5670 MHz	IEEE 802.11ac VHT 80 MHz	5530 MHz	UNII-3		IEEE 802.11a	5745 ~ 5825 MHz	IEEE 802.11n HT 20 MHz	5745 ~ 5825 MHz	IEEE 802.11n HT 40 MHz	5755 ~ 5795 MHz	IEEE 802.11ac VHT 80 MHz	5775 MHz
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Modulation Type	1. IEEE 802.11a mode: OFDM 2. IEEE 802.11n HT 20 MHz mode: OFDM 3. IEEE 802.11n HT 40 MHz mode: OFDM 4. IEEE 802.11ac VHT 80 MHz mode: OFDM																																								

Remark:

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



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1.3 ANTENNA INFORMATION

Antenna Type	☒ PIFA ☐ PCB ☐ Dipole ☐ Coils
Antenna Gain	Gain: 1.78 dBi
Antenna Connector	N/A

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 24891, Taiwan. (R.O.C.)

Test site	Test Engineer	Remark
AC Conduction Room	Dally Hong	-
Radiation	Dally Hong	-
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.



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1.6 INSTRUMENT CALIBRATION

3M 966 Chamber Test Site					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Bilog Antenna	Sunol Sciences	JB3	A030105	07/13/2018	07/12/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	02/26/2019	02/25/2020
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/26/2019	02/25/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/30/2019	01/29/2020
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/20/2018	08/19/2019
High Pass Filters	MICRO TRONICS	HPM13195	003	02/26/2019	02/25/2020
Horn Antenna	ETS LINDGREN	3116	00026370	12/26/2018	12/25/2019
Loop Ant	COM-POWER	AL-130	121051	03/22/2019	03/21/2020
Pre-Amplifier	EMEC	EM330	060609	02/26/2019	02/25/2020
Pre-Amplifier	HP	8449B	3008A00965	02/26/2019	02/25/2020
Pre-Amplifier	MITEQ	AMF-6F-26040 0-40-8P	985646	02/26/2019	02/25/2020
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
Software	e3 6.11-20180413				

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
Power Meter	Anritsu	ML2495A	1149001	02/12/2019	02/11/2020
Power Seneor	Anritsu	MA2491A	030982	02/12/2019	02/11/2020
Signal Analyzer	R&S	FSV 40	101073	09/27/2018	09/26/2019
Software	N/A				

AC line Conduction Test Room					
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	07/24/2018	07/23/2019
LISN	SCHWARZBECK	NSLK 8127	8127-541	01/31/2019	01/30/2020
LISN	SCHAFFNER	NNB 41	03/10013	02/13/2019	02/12/2020
Software	EZ-EMC(CCS-3A1-CE)				

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



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Adaptivity Room / Dynamic Frequency Selection					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Attenuator	E-INSTRUMENT	EPA-600H	EC1400050	07/25/2018	07/24/2019
Coaxial Cable	Woken	SS402	DC001	06/28/2019	06/27/2020
Coaxial Cable	Woken	SS402	DC002	06/28/2019	06/27/2020
Coaxial Cable	Woken	SS402	DC003	06/28/2019	06/27/2020
Coaxial Cable	Woken	WC12	DC004	06/28/2019	06/27/2020
Coaxial Cable	Woken	WC12	DC005	06/28/2019	06/27/2020
Power Divider	Solvang Technology	STI08-0015	008	07/27/2018	07/26/2019
Spectrum Analyzer	R&S	FSU 26	100258	06/20/2019	06/19/2020
Vector Signal Generator	R&S	SMU 200A	101480	03/27/2019	03/26/2020
Vector Signal Genertor	R&S	SMU 200A	103439	04/25/2019	04/24/2020
Software	GPBShot,DFS-Aggregate-Time FSU,R&S Pulse Sequencer DFS				

For Below 1GHz test data in section 4.5:

3M 966 Chamber Test Site					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Bilog Antenna	Sunol Sciences	JB3	A030105	07/13/2018	07/12/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	02/26/2019	02/25/2020
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/26/2019	02/25/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/30/2019	01/29/2020
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/20/2018	08/19/2019
High Pass Filters	MICRO TRONICS	HPM13195	003	02/26/2019	02/25/2020
Horn Antenna	ETS LINDGREN	3116	00026370	12/26/2018	12/25/2019
Loop Ant	COM-POWER	AL-130	121051	03/22/2019	03/21/2020
Pre-Amplifier	EMEC	EM330	060609	02/26/2019	02/25/2020
Pre-Amplifier	HP	8449B	3008A00965	02/26/2019	02/25/2020
Pre-Amplifier	MITEQ	AMF-6F-26040 0-40-8P	985646	02/26/2019	02/25/2020
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	05/30/2018	05/29/2019
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
Software	e3 6.11-20180413				

Remark:

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



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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	NB(G)	Lenovo	IBM 1951	N/A	CJ6UPA3489WL

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 789033 D02, KDB 905462 D02.



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2. TEST SUMMERY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207	4.1	AC Conducted Emission	Pass
15.403(i)	4.2	26dB Bandwidth	Pass
15.407(e)	4.2	6dB Bandwidth	Pass
15.403(i)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	4.3	Output Power Measurement	Pass
15.407(a)	4.4	Power Spectral Density	Pass
15.407(b)	4.5	Radiation Band Edge	Pass
15.407(b)	4.5	Radiation Spurious Emission	Pass
15.407(g)	4.6	Frequency Stability	Pass
15.407(h)	4.7	Dynamic Frequency Selection	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	1. IEEE 802.11a mode: 6Mbps 2. IEEE 802.11n HT 20 MHz mode: MCS0 3. IEEE 802.11n HT 40 MHz mode: MCS0 4. IEEE 802.11ac VHT 20 MHz mode: MCS0 5. IEEE 802.11ac VHT 40 MHz mode: MCS0 5. IEEE 802.11ac VHT 80 MHz mode: MCS0			
Operating Frequency Range & Number of Channels		Mode	Frequency Range (MHz)	Number of Channels
	U-NII-1	IEEE 802.11a	5180 ~ 5240	4 Channels
		IEEE 802.11n HT 20 MHz	5180 ~ 5240	4 Channels
		IEEE 802.11n HT 40 MHz	5190 ~ 5230	2 Channels
		IEEE 802.11ac VHT 20 MHz	5180 ~ 5240	4 Channels
		IEEE 802.11ac VHT 40 MHz	5190 ~ 5230	2 Channels
		IEEE 802.11ac VHT 80 MHz	5210	1 Channels
	U-NII-2a	IEEE 802.11a	5260 ~ 5320	4 Channels
		IEEE 802.11n HT 20 MHz	5260 ~ 5320	4 Channels
		IEEE 802.11n HT 40 MHz	5270 ~ 5310	2 Channels
		IEEE 802.11ac VHT 20 MHz	5260 ~ 5320	4 Channels
		IEEE 802.11ac VHT 40 MHz	5270 ~ 5310	2 Channels
		IEEE 802.11ac VHT 80 MHz	5290	1 Channels
	U-NII-2c	IEEE 802.11a	5500 ~ 5700	11 Channels
		IEEE 802.11n HT 20 MHz	5500 ~ 5700	11 Channels
		IEEE 802.11n HT 40 MHz	5510 ~ 5670	5 Channels
		IEEE 802.11ac VHT 20 MHz	5500 ~ 5700	11 Channels
		IEEE 802.11ac VHT 40 MHz	5510 ~ 5670	5 Channels
		IEEE 802.11ac VHT 80 MHz	5530	1 Channels
	U-NII-3	IEEE 802.11a	5745 ~ 5825	5 Channels
		IEEE 802.11n HT 20 MHz	5745 ~ 5825	5 Channels
		IEEE 802.11n HT 40 MHz	5755 ~ 5795	2 Channels
		IEEE 802.11ac VHT 20 MHz	5745 ~ 5825	5 Channels
		IEEE 802.11ac VHT 40 MHz	5755 ~ 5795	2 Channels
		IEEE 802.11ac VHT 80 MHz	5775	1 Channels

Remark:

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. Covered modes are test reduction modes. The output powers on the covered modes are equal to or less than the mode referenced and use the same module
3. The mode IEEE 802.11ac VHT20 and VHT40 are only different in control messages with IEEE 802.11n 20 MHz and HT40, and have same power setting. Therefore, the highest power (IEEE 802.11n 20 MHz and HT40) were test conducted and radiated measurement and recorded in this report.

3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conducted Emission	
Test Condition	AC Power line conducted emission for line and neutral
Power supply Mode	Mode 1: EUT power by host system.
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Radiated Emission Measurement Above 1G	
Test Condition	Band edge, Emission for Unwanted and Fundamental
Power supply Mode	Mode 1: EUT power by host system.
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)
Worst Polarity	☒ Horizontal ☐ Vertical

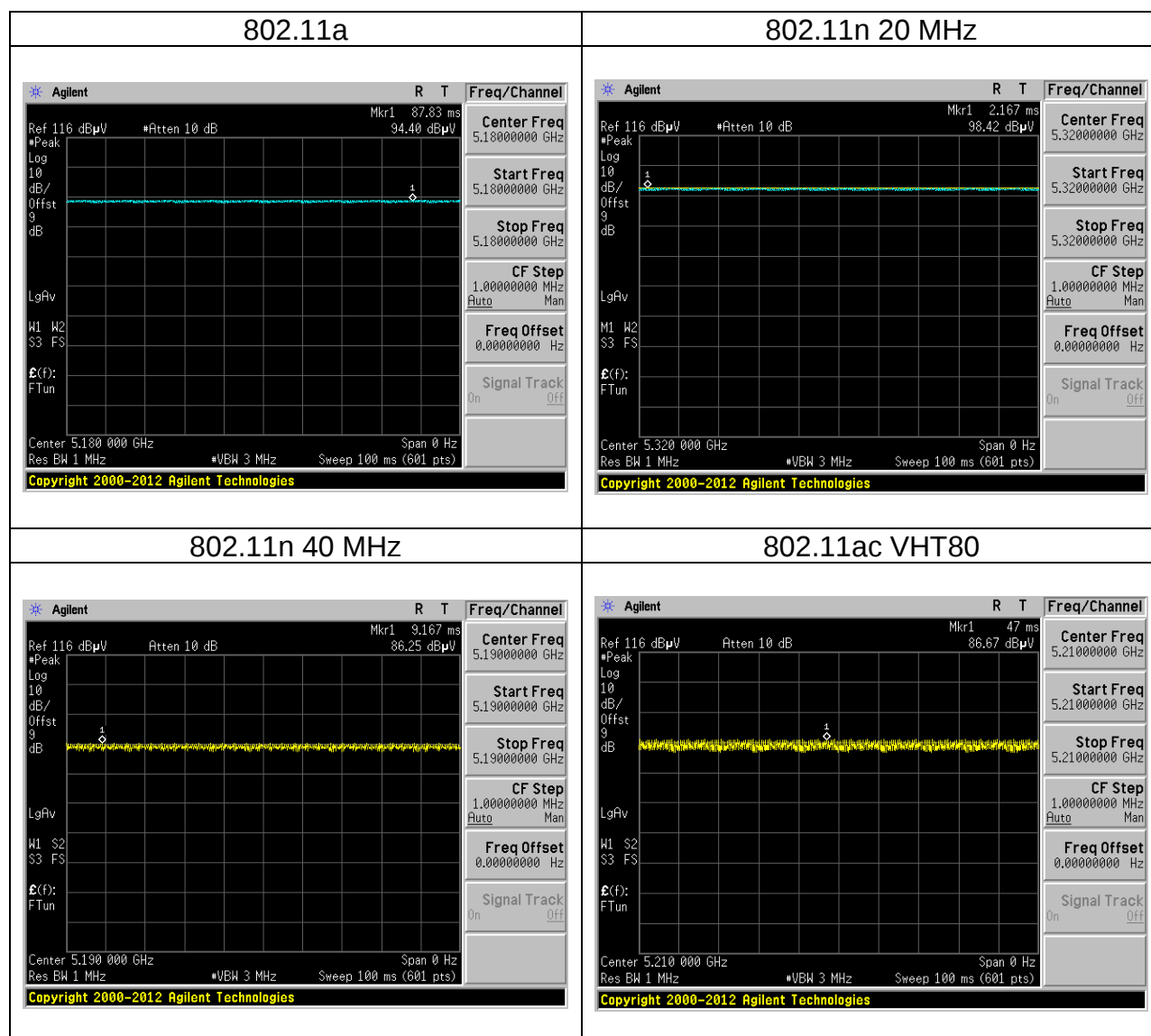
Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by host system.
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis, X, Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case (X-Plane and Horizontal) were recorded in this report
3. For below 1G, AC power line conducted emission and radiation emission were performed the EUT transmit at the highest output power channel as worse case.

3.3 EUT DUTY CYCLE

Duty Cycle			
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)
802.11a	100.0000	100.0000	100.00%
802.11n 20	100.0000	100.0000	100.00%
802.11n 40	100.0000	100.0000	100.00%
802.11ac VHT80	100.0000	100.0000	100.00%



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

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

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

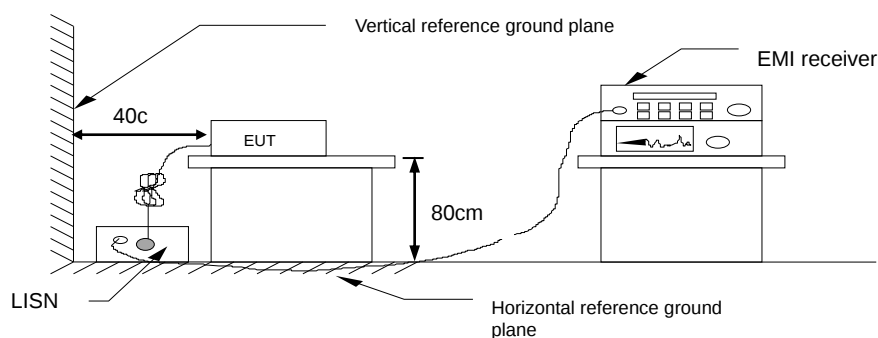
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

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

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

4.1.3 Test Setup



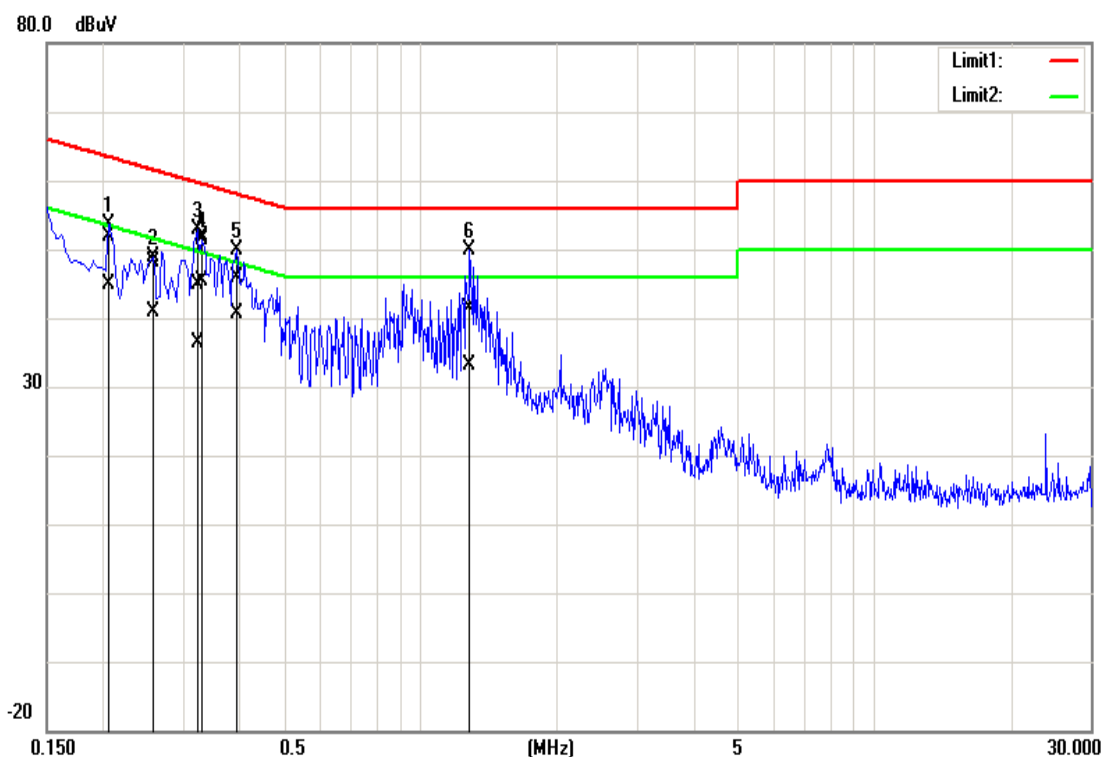
4.1.4 Test Result

Pass.

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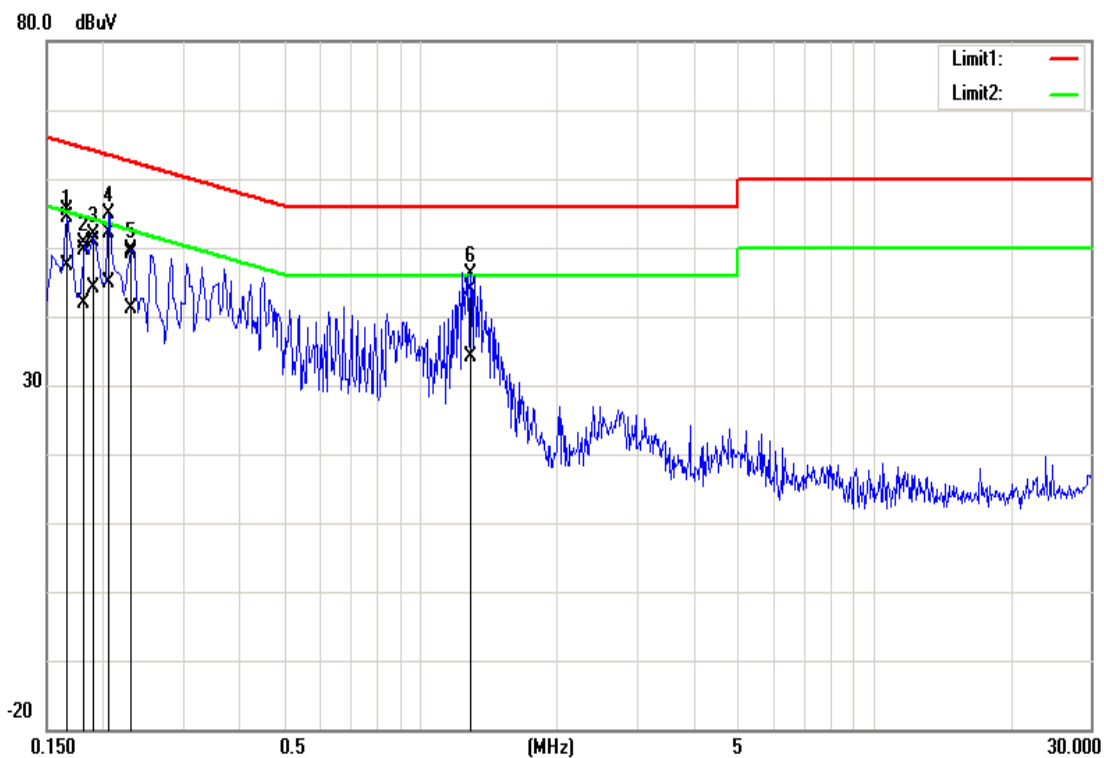
Test Data

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Line	Test Date	July 09, 2019
		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
0.2060	41.63	34.74	10.13	51.76	44.87	63.36	53.37	-11.60	-8.50	Pass
0.2580	37.93	30.75	10.13	48.06	40.88	61.49	51.50	-13.43	-10.62	Pass
0.3220	34.79	26.18	10.14	44.93	36.32	59.65	49.66	-14.72	-13.34	Pass
0.3300	41.85	35.23	10.14	51.99	45.37	59.45	49.45	-7.46	-4.08	Pass
0.3940	35.84	30.47	10.14	45.98	40.61	57.98	47.98	-12.00	-7.37	Pass
1.2860	31.23	23.05	10.17	41.40	33.22	56.00	46.00	-14.60	-12.78	Pass

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Neutral	Test Date	July 09, 2019
		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
0.1660	45.39	37.30	10.02	55.41	47.32	65.15	55.16	-9.74	-7.84	Pass
0.1820	39.57	31.74	10.02	49.59	41.76	64.39	54.39	-14.80	-12.63	Pass
0.1900	40.95	34.10	10.02	50.97	44.12	64.03	54.04	-13.06	-9.92	Pass
0.2060	42.00	34.80	10.02	52.02	44.82	63.36	53.37	-11.34	-8.55	Pass
0.2300	39.18	31.18	10.02	49.20	41.20	62.45	52.45	-13.25	-11.25	Pass
1.2860	33.85	23.99	10.04	43.89	34.03	56.00	46.00	-12.11	-11.97	Pass

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

4.2.1 Test Limit

26 dB Bandwidth : For reporting purposes only.

6 dB Bandwidth : Least 500kHz.

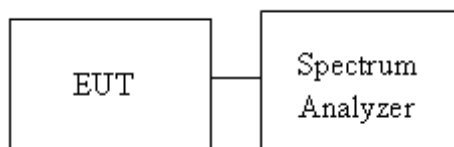
Occupied Bandwidth(99%) : For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 789033 D02 Section C, D, 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. UNII-1, UNII-2a and UNII-2c,
 - (1) BW=20MHz : SA set RBW = 300kHz, VBW = 1MHz and Detector = Peak, to measurement 26 dB Bandwidth.
 - (2) BW=40MHz : SA set RBW = 1MHz, VBW = 3MHz and Detector = Peak, to measurement 26 dB Bandwidth.
 - (3) BW=80MHz : SA set RBW = 1MHz, VBW = 3MHz and Detector = Peak, to measurement 26 dB Bandwidth.
4. UNII-3, SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 6 dB Bandwidth.
5. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth.
6. Measure and record the result of 6 dB, 26 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup



4.2.4 Test Result

UNII-1 5150-5250 MHz			
Test mode: IEEE 802.11a mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5180	17.3661	21.1594
Mid	5220	17.8002	21.1594
High	5240	17.6555	21.1594
Test mode: IEEE 802.11n HT20 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5180	18.3791	21.8841
Mid	5220	18.5962	21.9565
High	5240	18.5238	21.9565
Test mode: IEEE 802.11n HT40 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5190	38.0897	44.174
High	5230	38.0897	44.522
Test mode: IEEE 802.11ac VHT80 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Mid	5210	78.4949	83.71



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UNII-2a 5250-5350 MHz			
Test mode: IEEE 802.11a mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5260	17.6555	21.1594
Mid	5280	17.6555	21.1594
High	5320	17.4384	21.1594
Test mode: IEEE 802.11n HT20 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5260	18.7409	22.1739
Mid	5280	18.3791	22.029
High	5320	19.2474	22.029
Test mode: IEEE 802.11n HT40 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5270	37.7424	44.29
High	5310	37.9739	44.29
Test mode: IEEE 802.11ac VHT80 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Mid	5290	78.0318	83.478



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UNII-2c 5475-5725 MHz			
Test mode: IEEE 802.11a mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5500	17.0043	21.2319
Mid	5580	17.4384	21.0145
High	5700	23.0824	21.8841
Test mode: IEEE 802.11n HT20 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5500	18.0897	21.8841
Mid	5580	18.7409	21.8116
High	5700	22.7930	22.1014
Test mode: IEEE 802.11n HT40 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Low	5510	37.5108	44.406
Mid	5500	36.4688	44.522
High	5670	36.5846	49.043
Test mode: IEEE 802.11ac VHT80 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Mid	5530	83.5890	83.014



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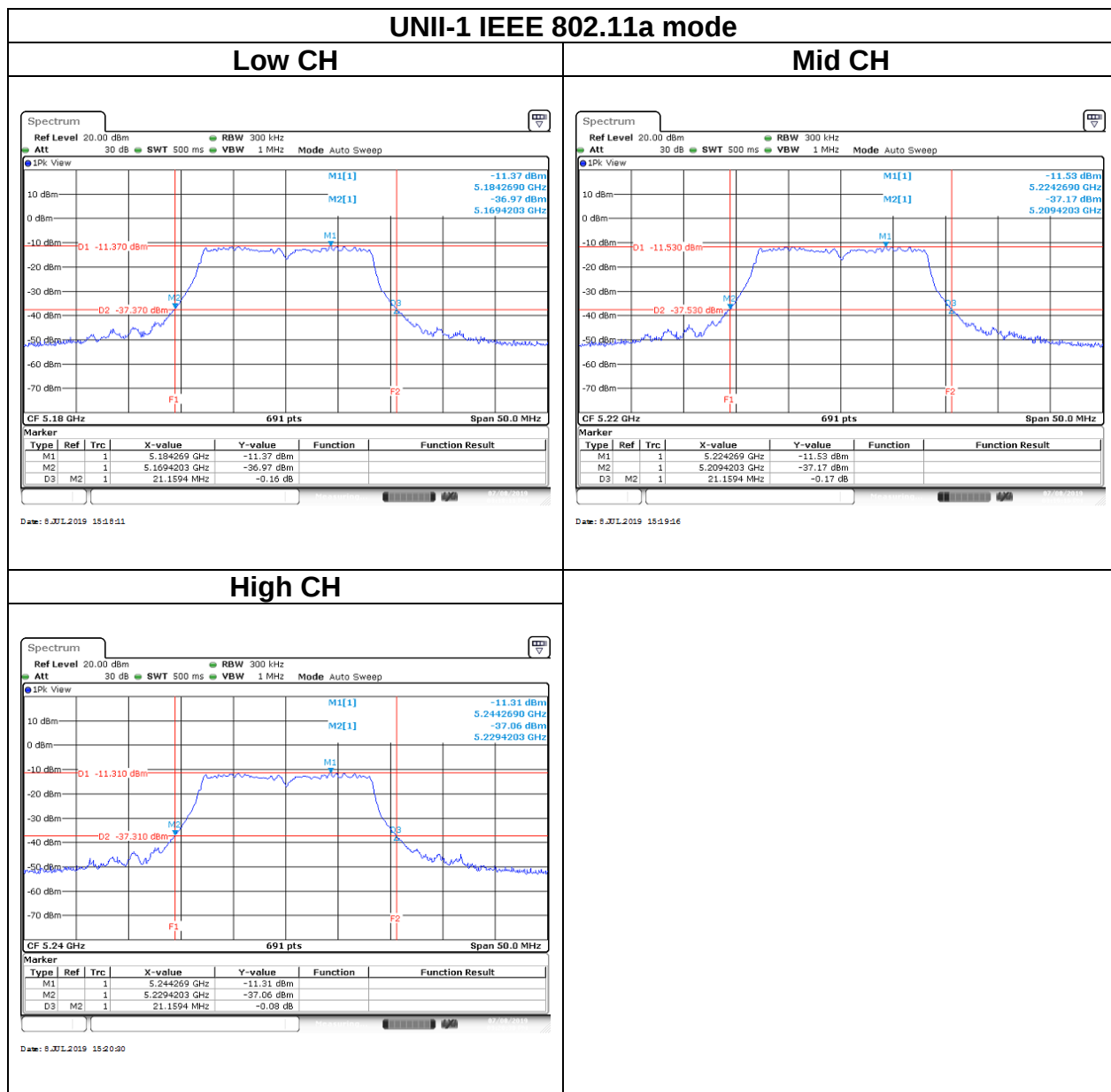
UNII-3 5725-5825MHz			
Test mode: IEEE 802.11a mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	6dB BW (MHz)
Low	5745	19.9710	16.5217
Mid	5785	18.3068	16.5217
High	5825	18.0897	16.5217
Test mode: IEEE 802.11n HT20 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	6dB BW (MHz)
Low	5745	19.6816	17.6087
Mid	5785	19.6816	17.7391
High	5825	18.7409	17.6957
Test mode: IEEE 802.11n HT40 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	6dB BW (MHz)
Low	5755	36.5846	36.406
High	5795	36.4688	36.406
Test mode: IEEE 802.11ac VHT80 mode			
Channel	Frequency (MHz)	OBW(99%) (MHz)	26dB BW (MHz)
Mid	5775	78.4949	76.522



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Test Data

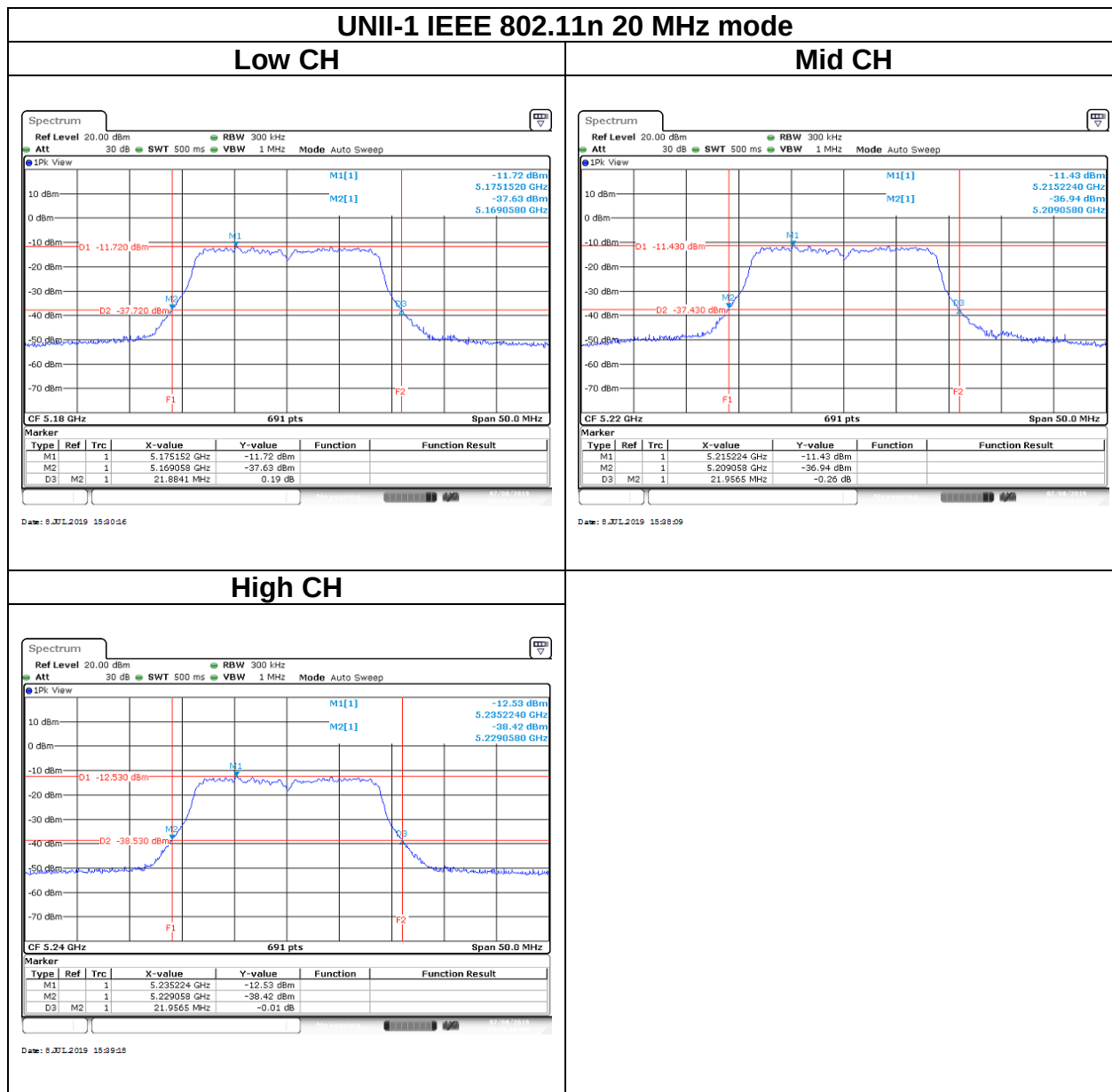
26dB BANDWIDTH





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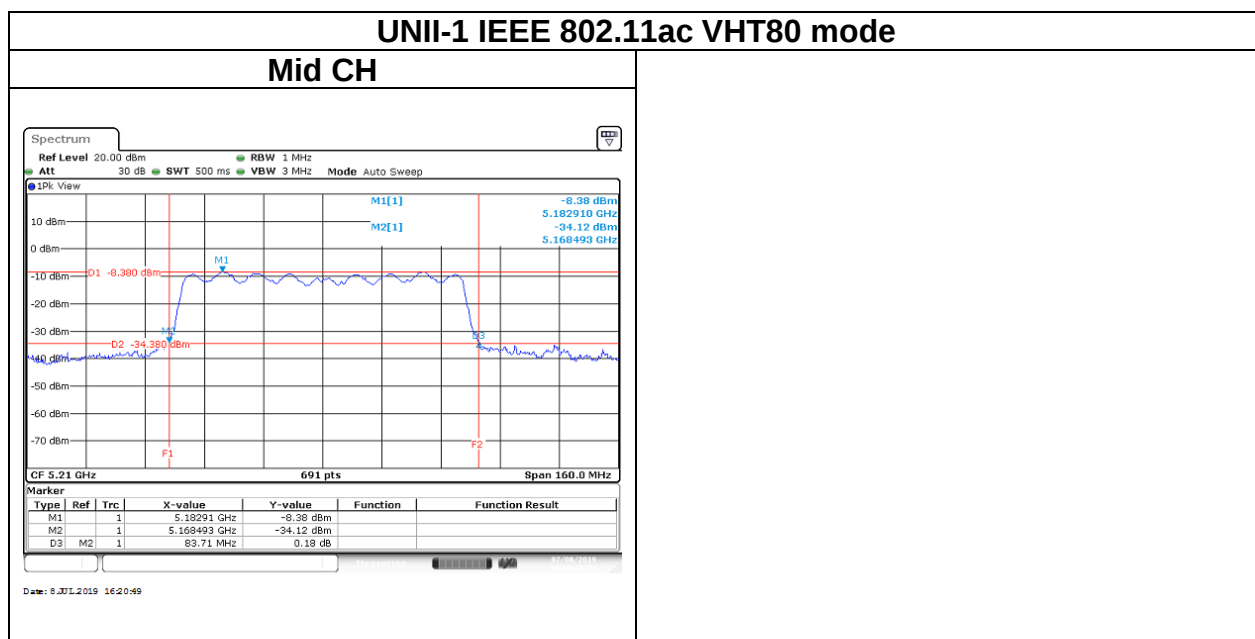
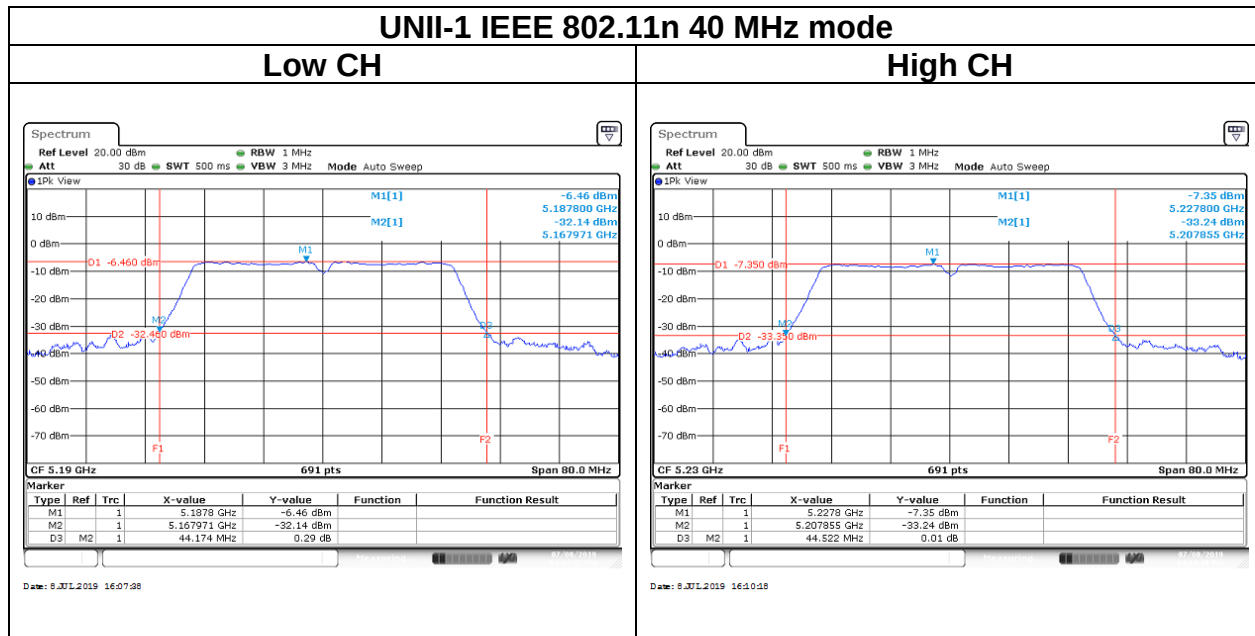
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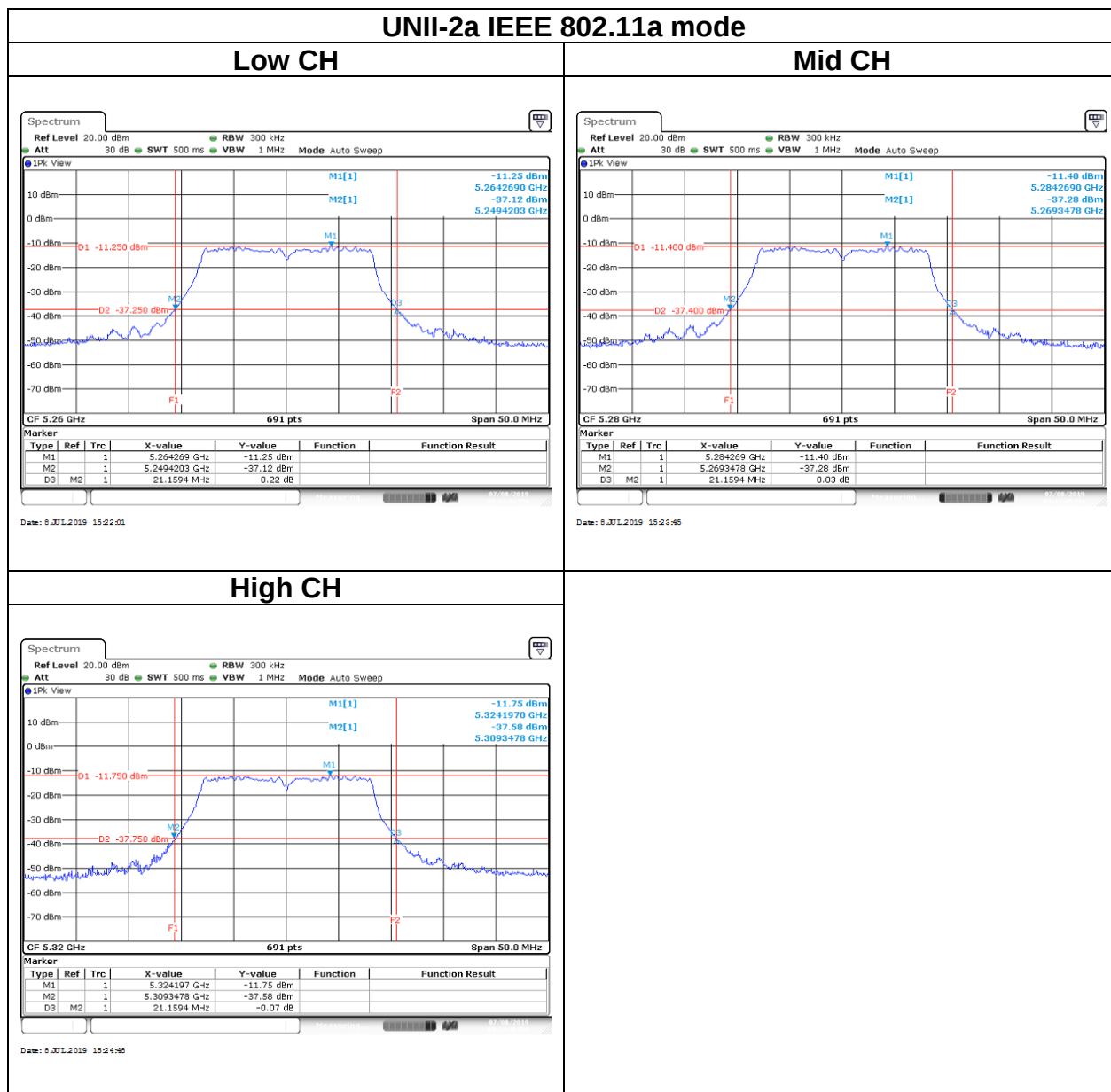




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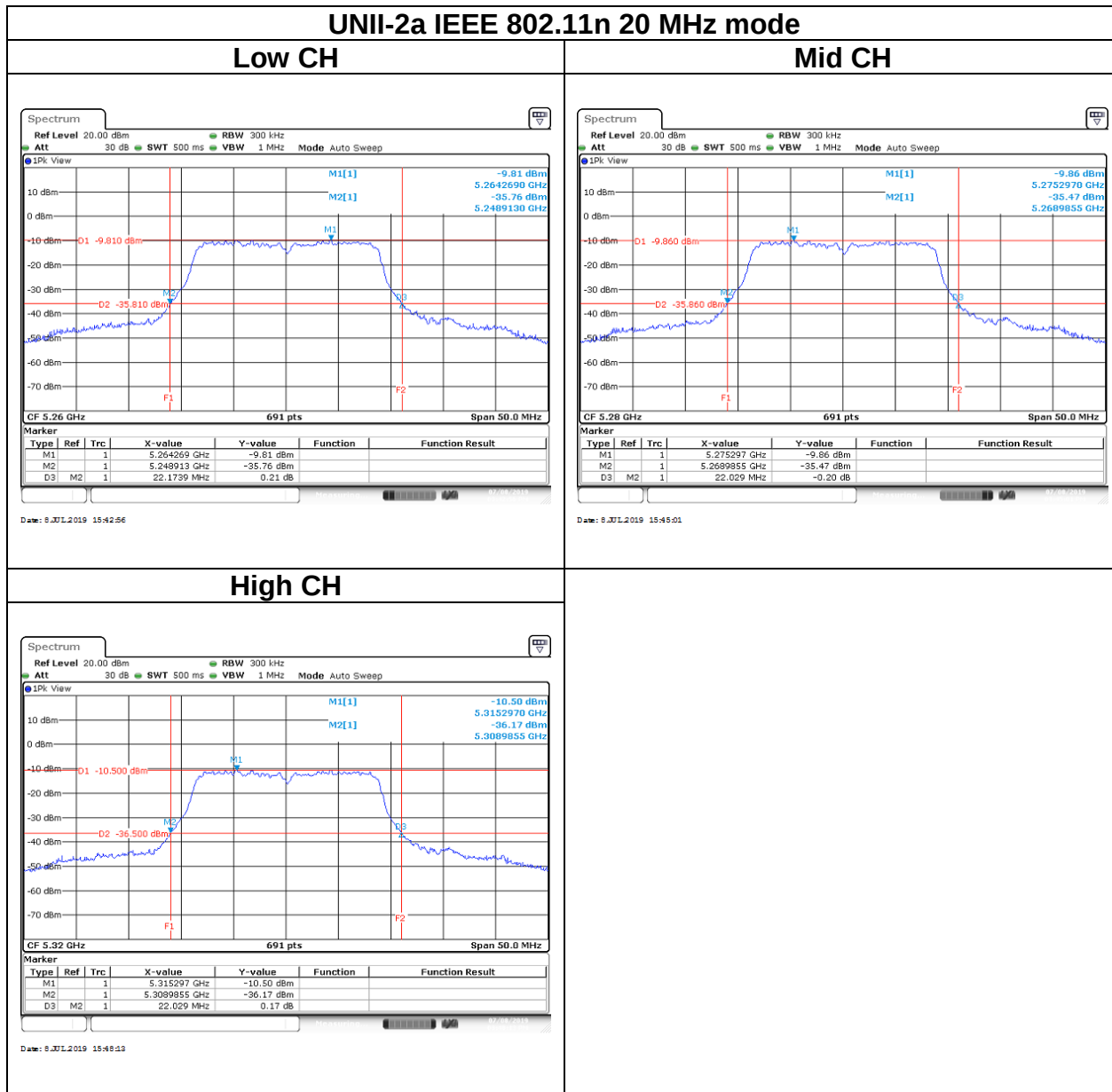
26dB BANDWIDTH





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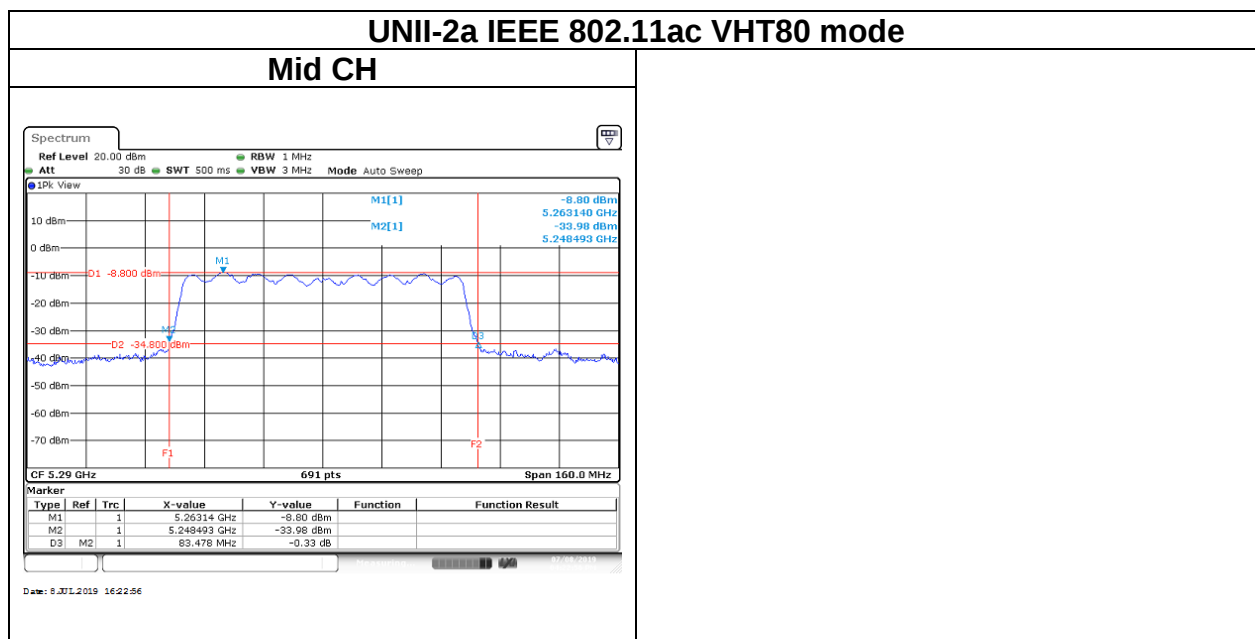
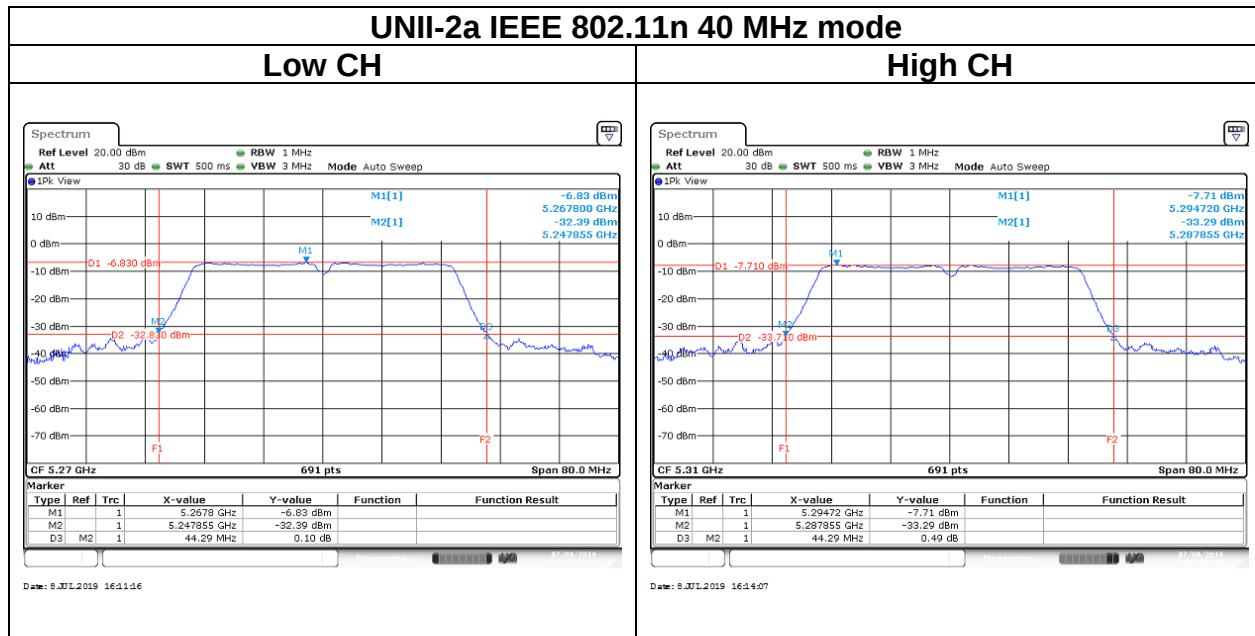
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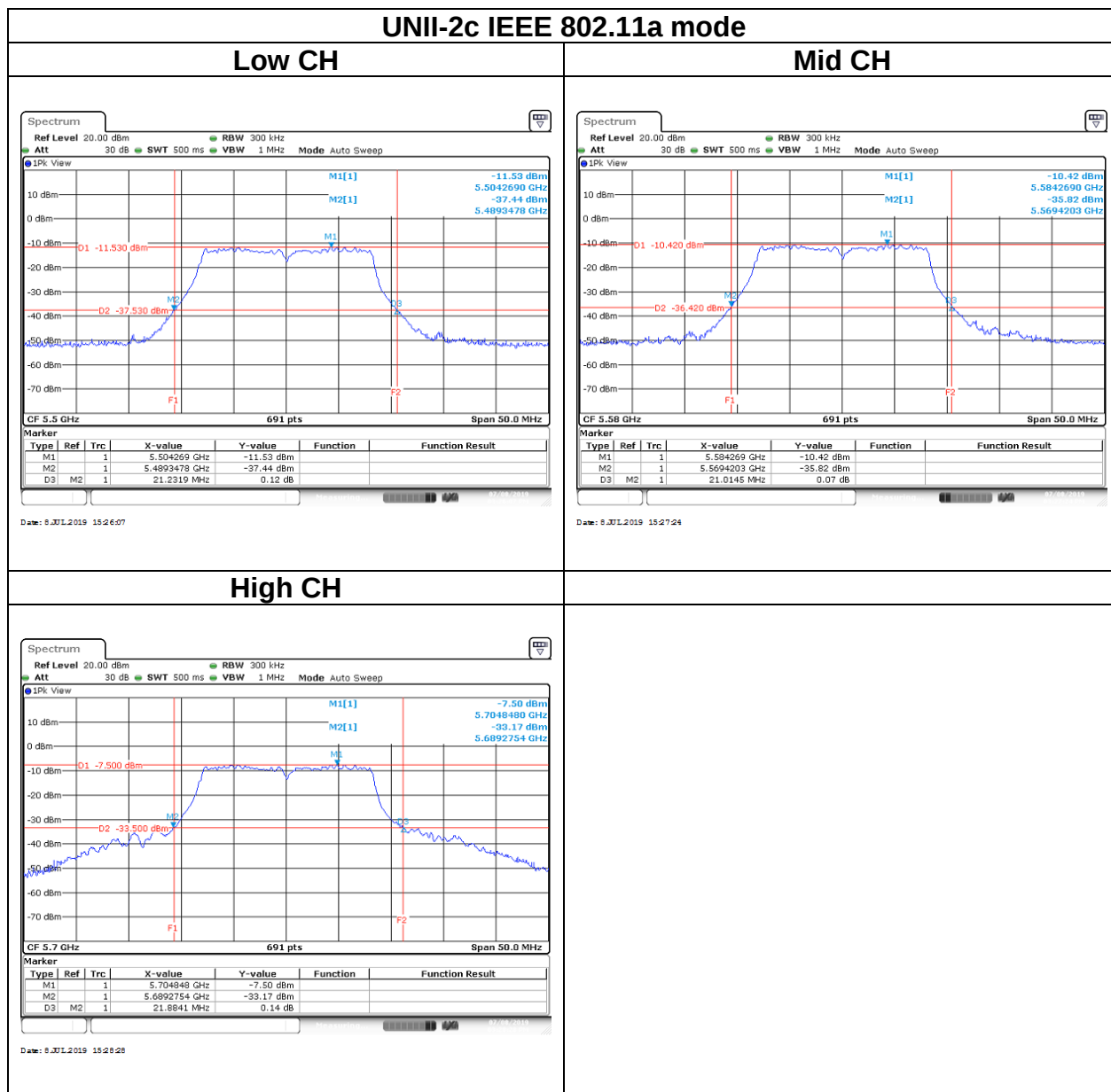




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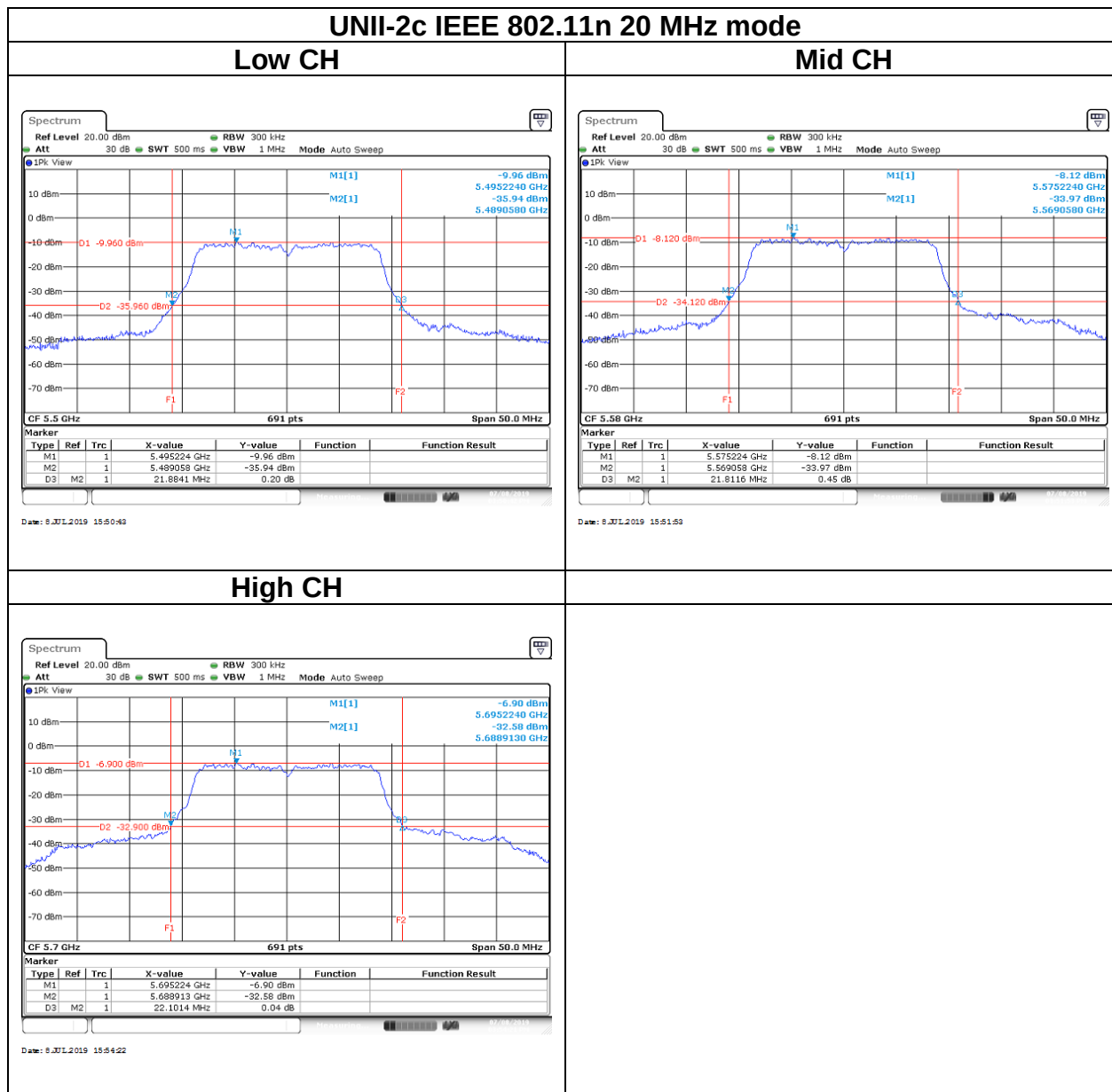
26dB BANDWIDTH





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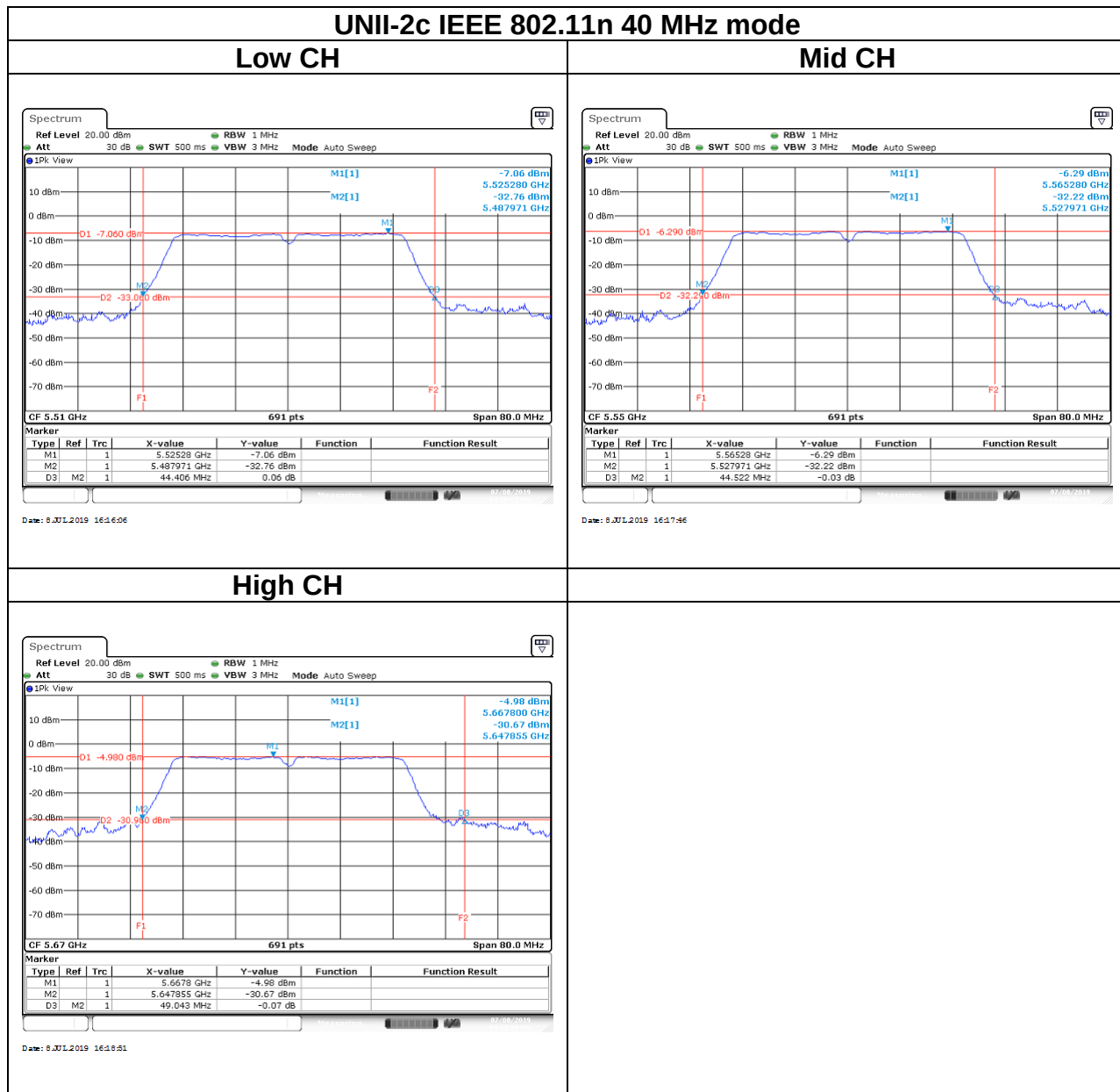
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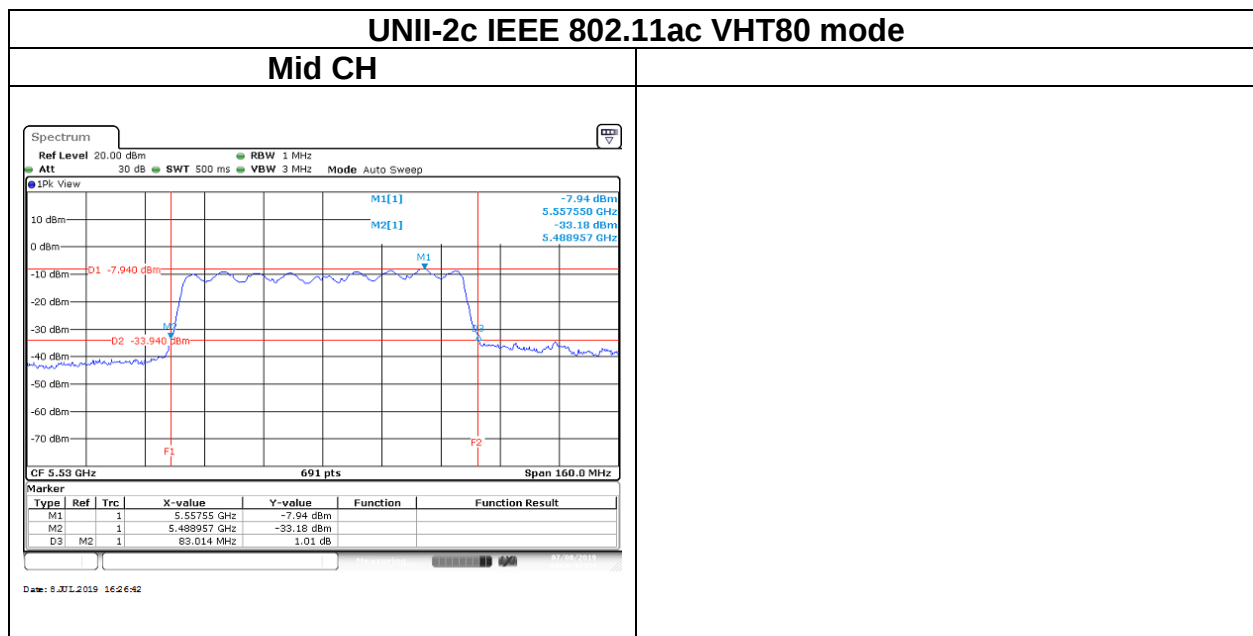
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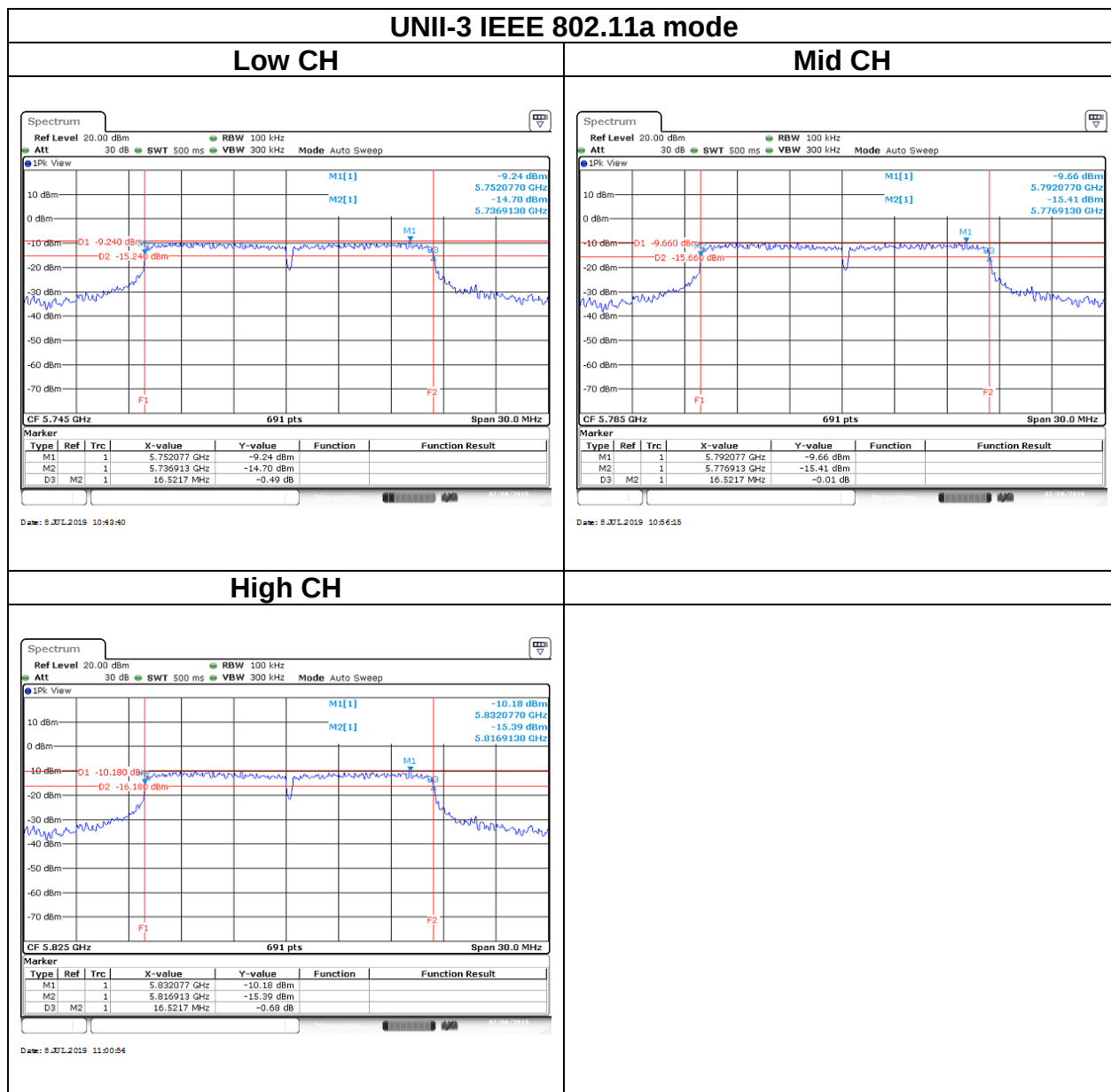


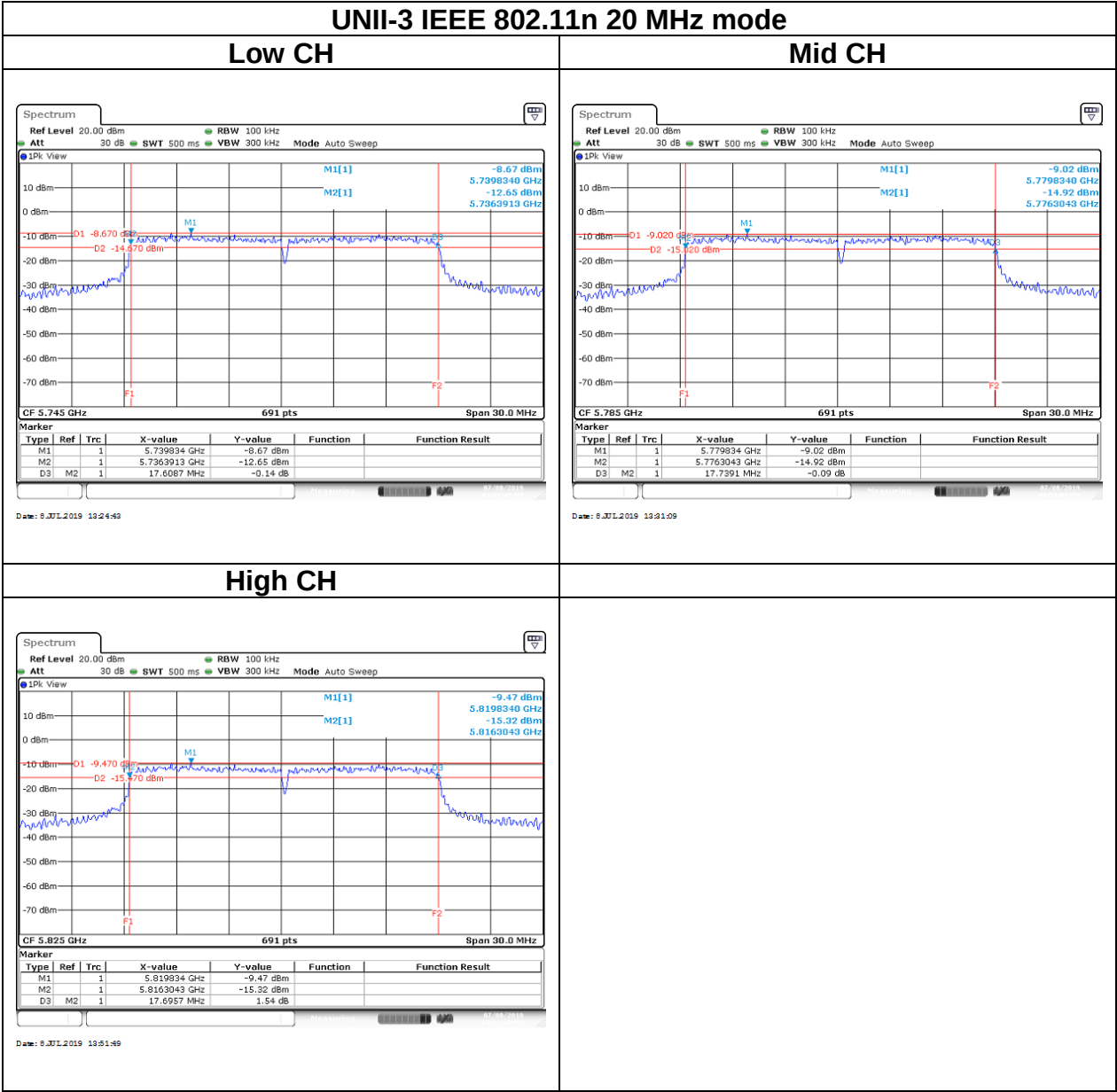


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Test Data

6dB BANDWIDTH

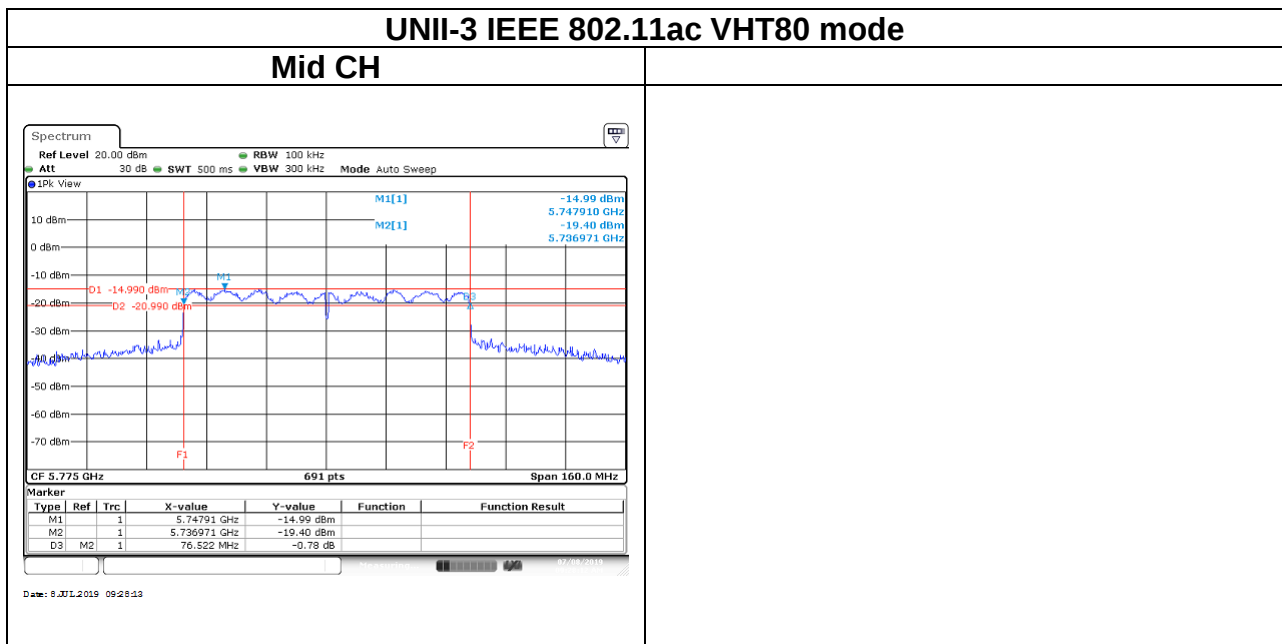
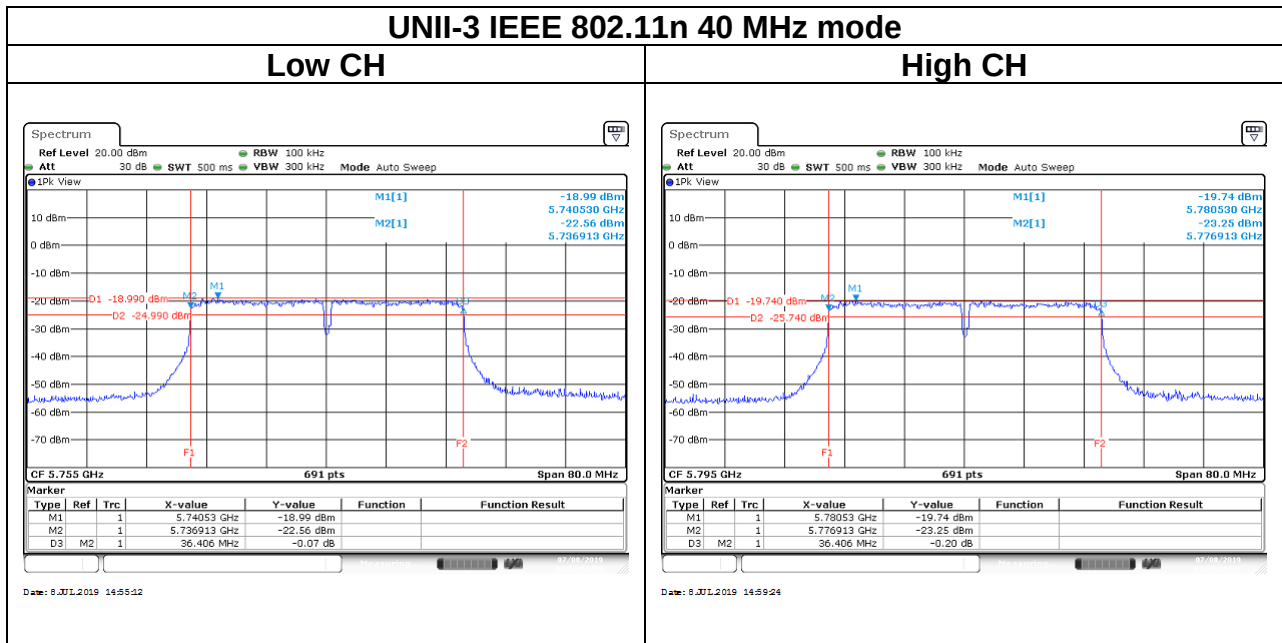






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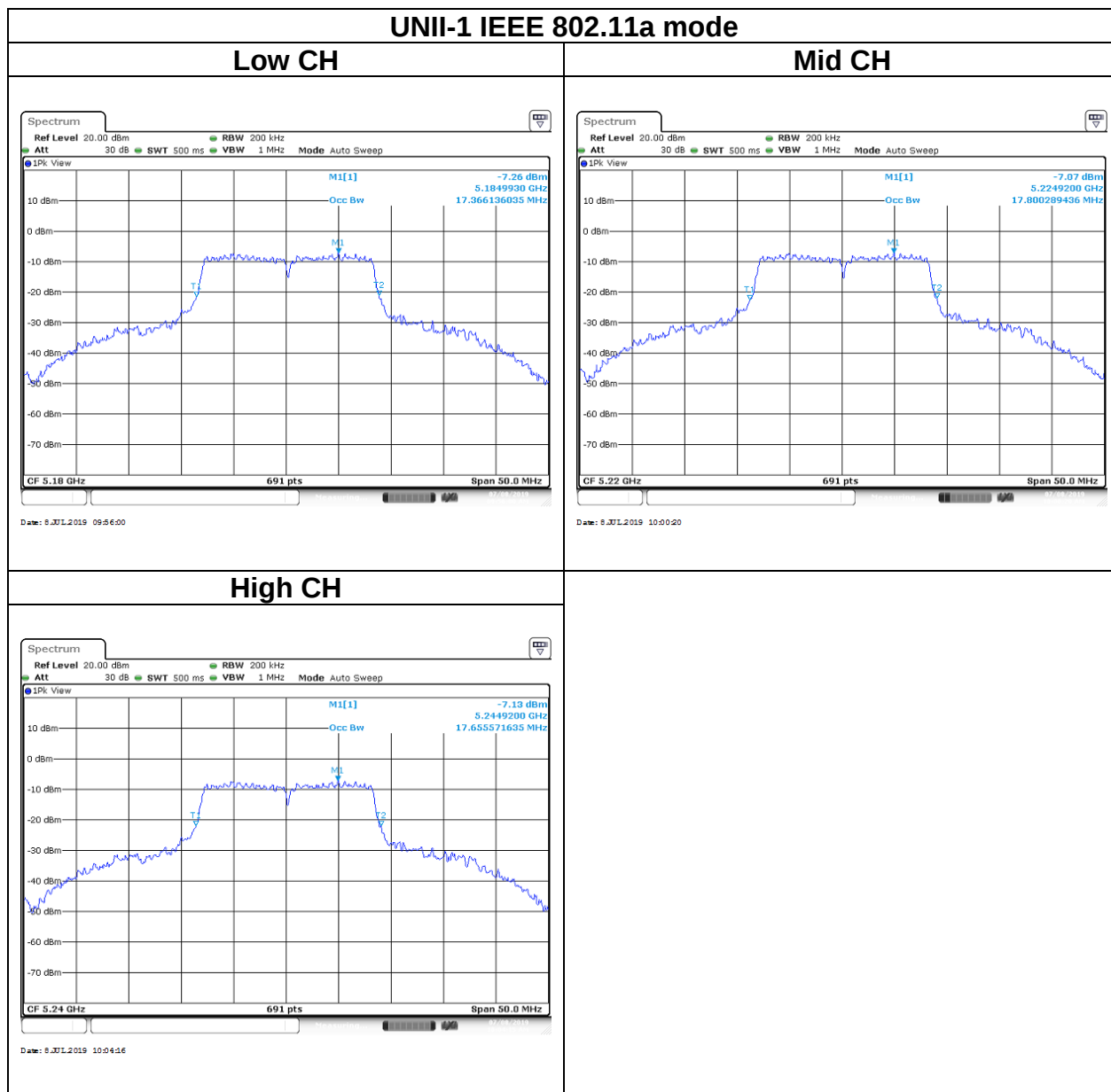


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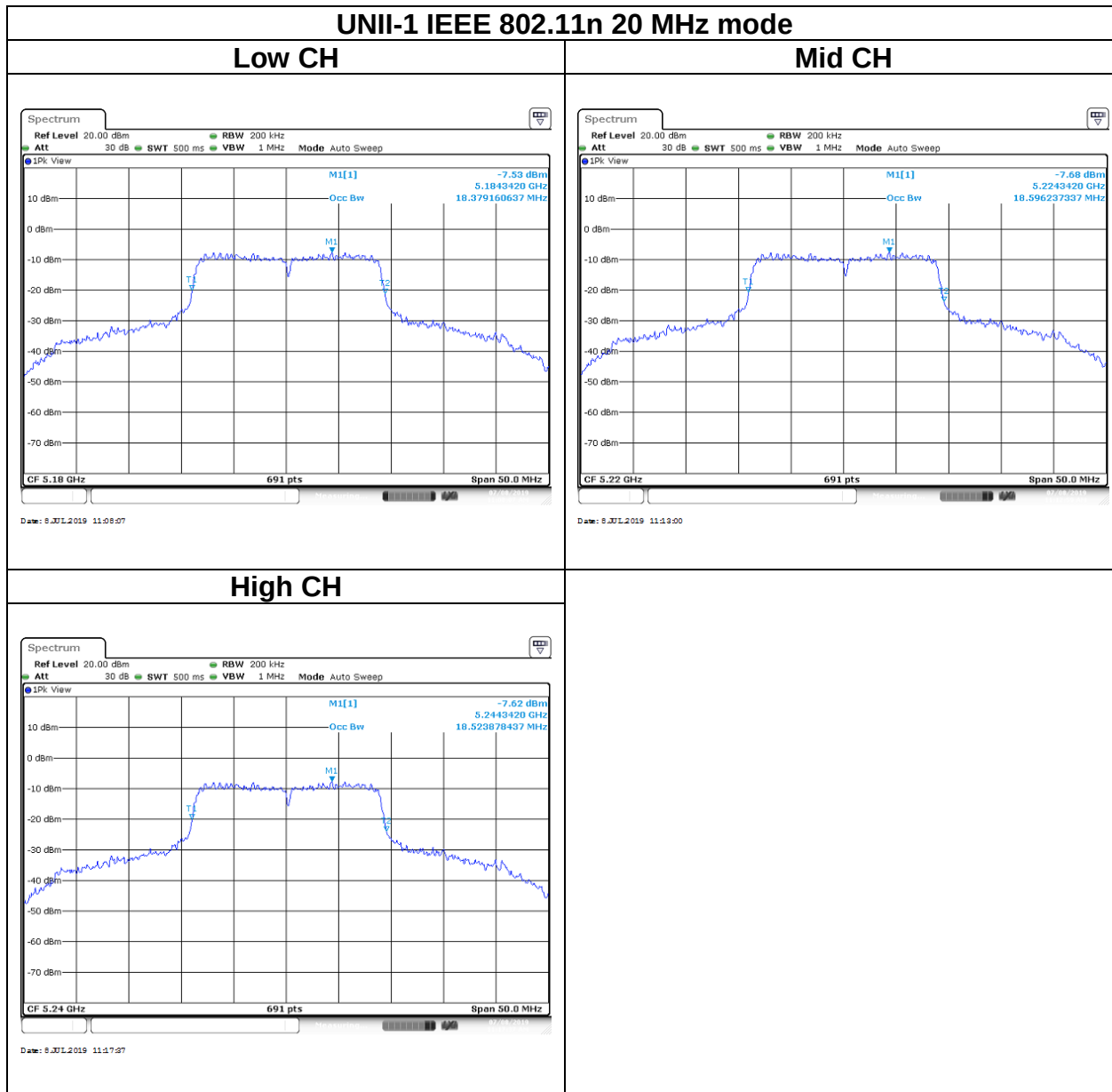
Test Data

BANDWIDTH (99%)





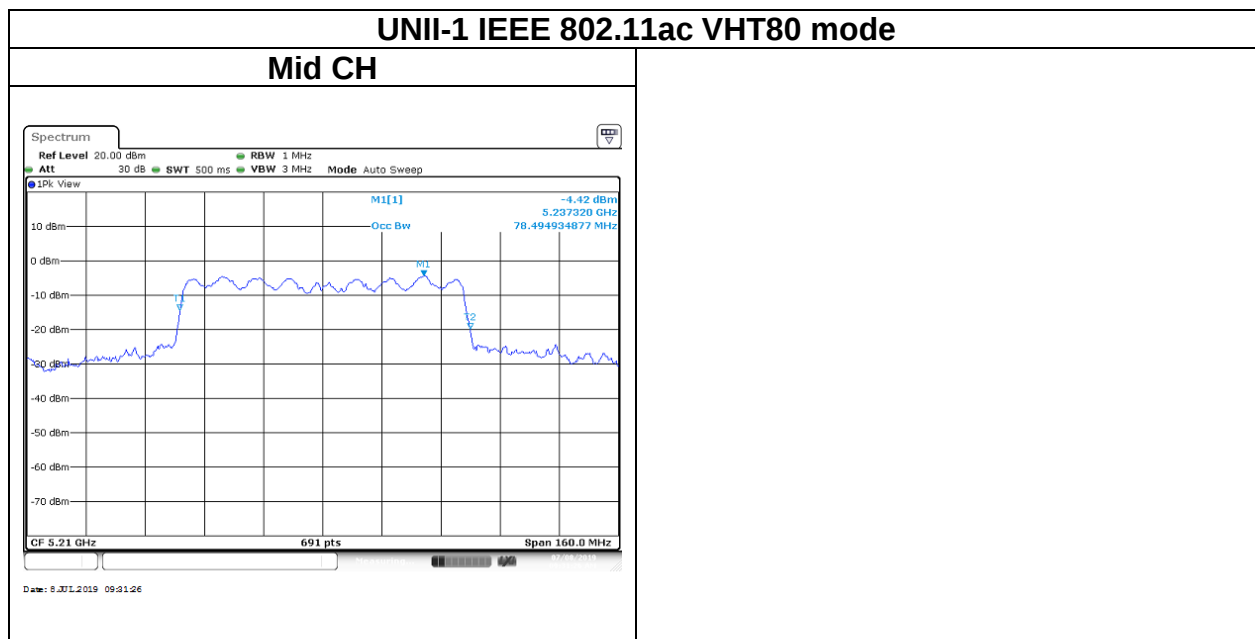
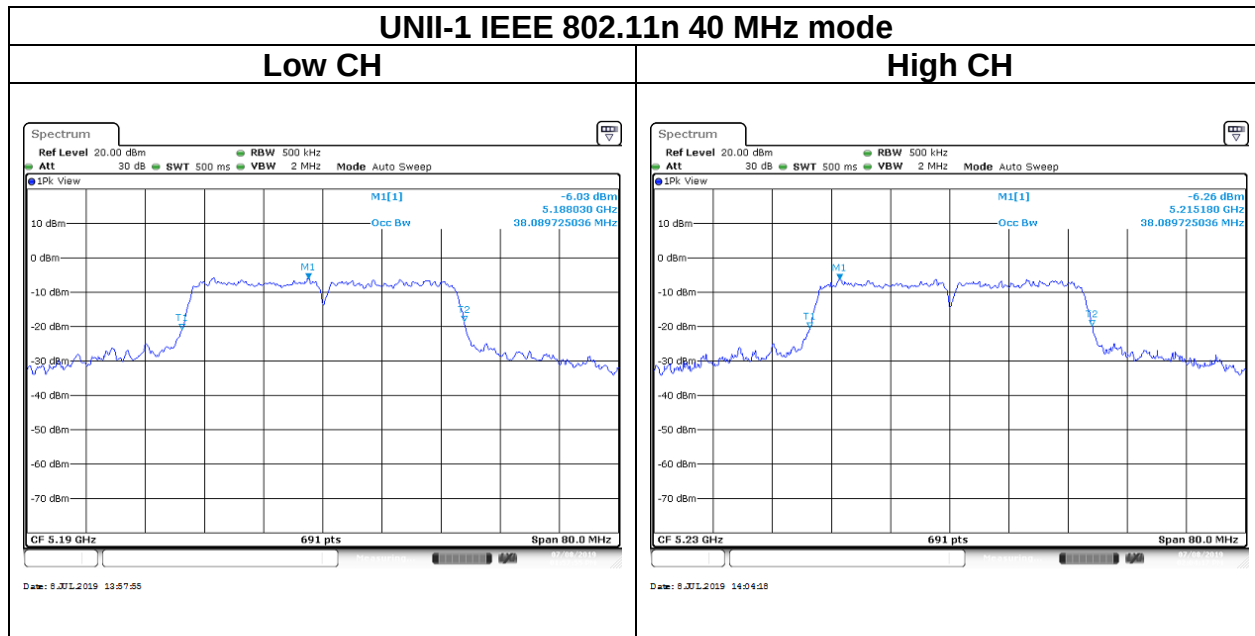
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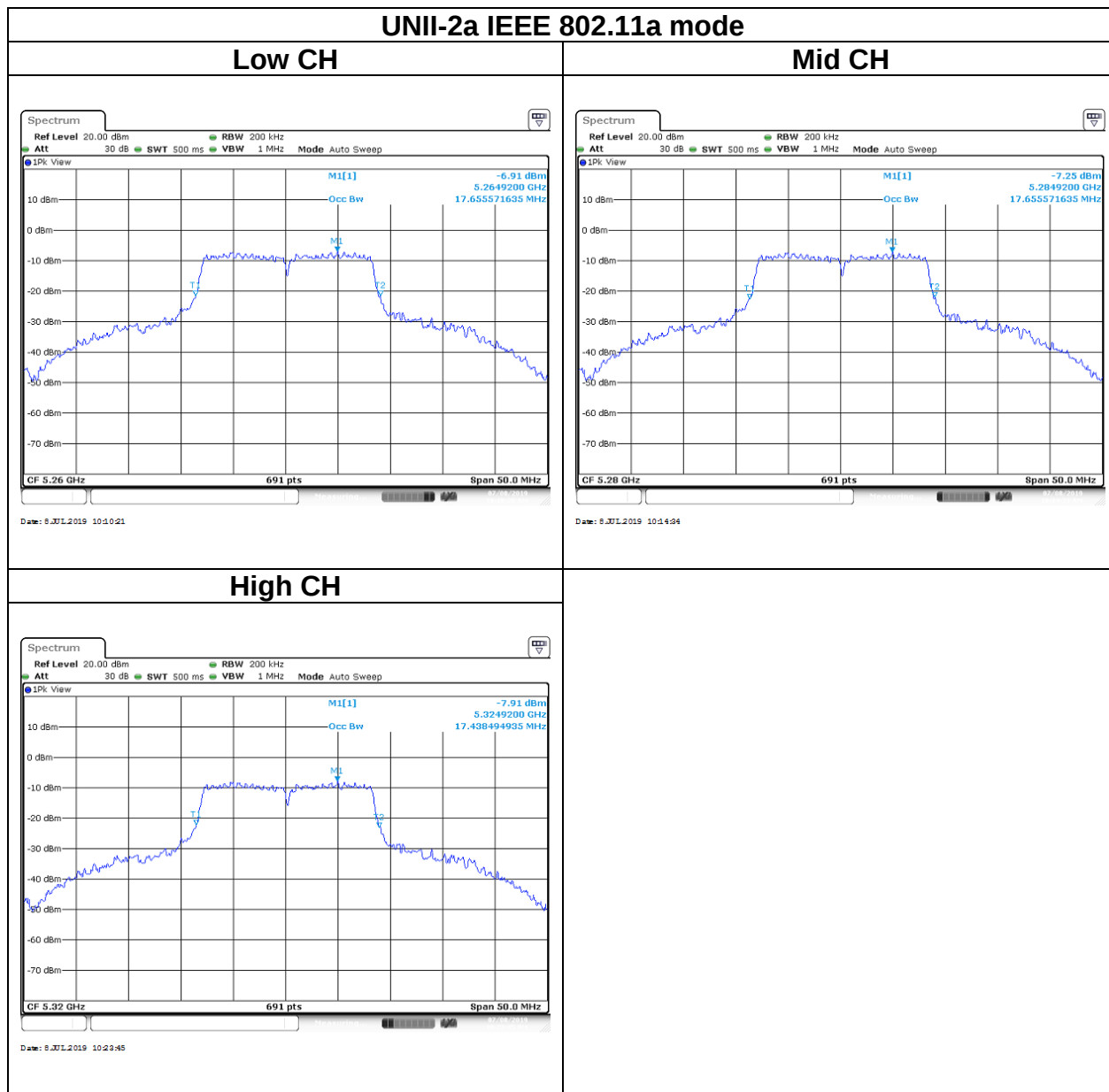
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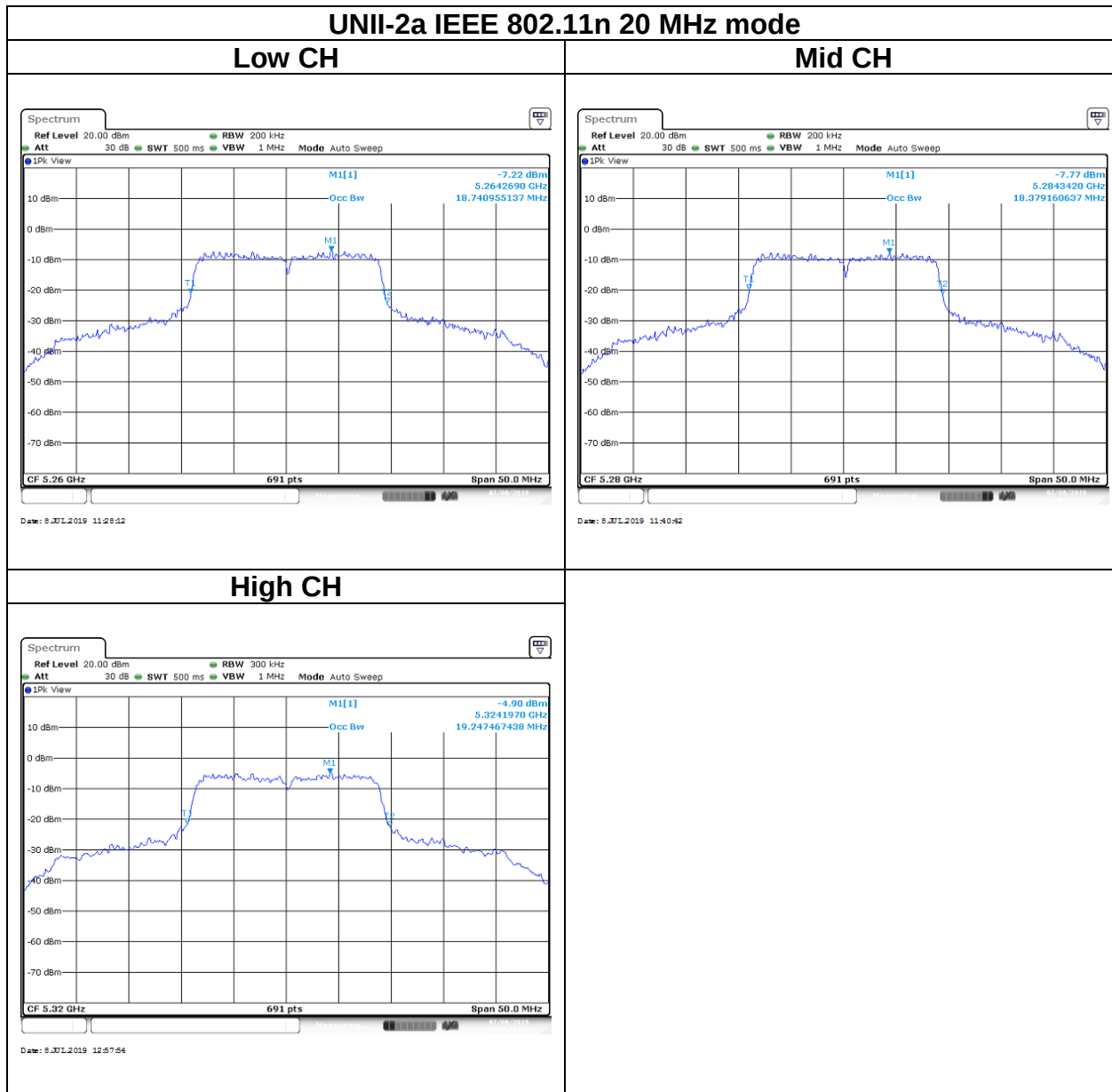
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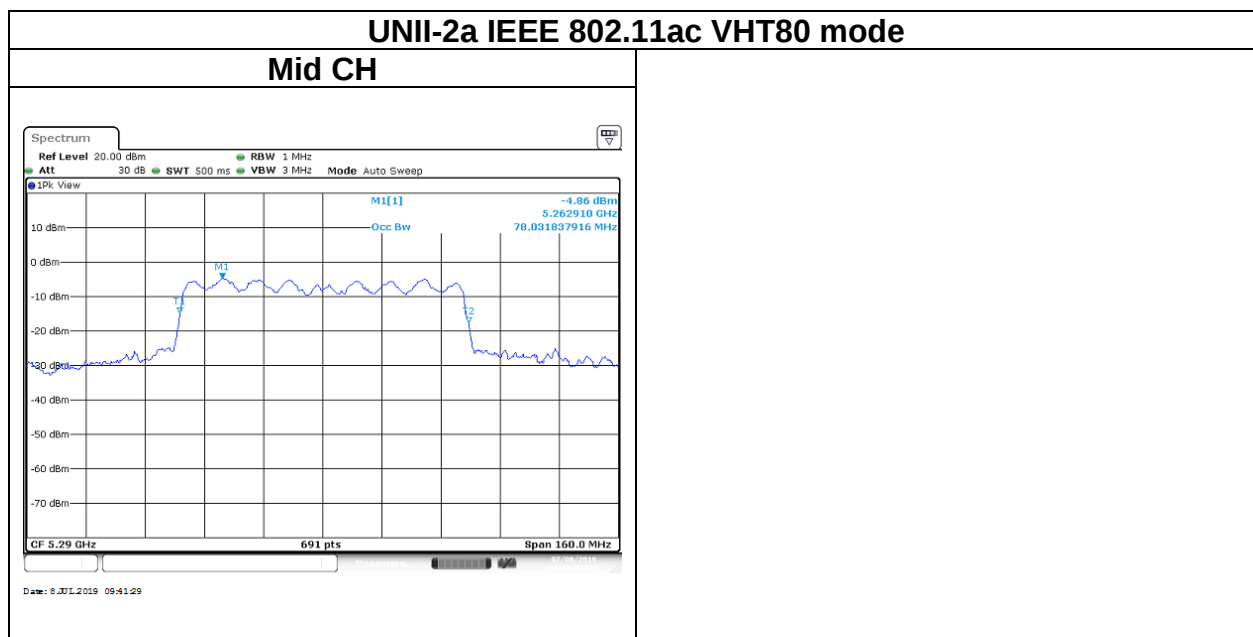
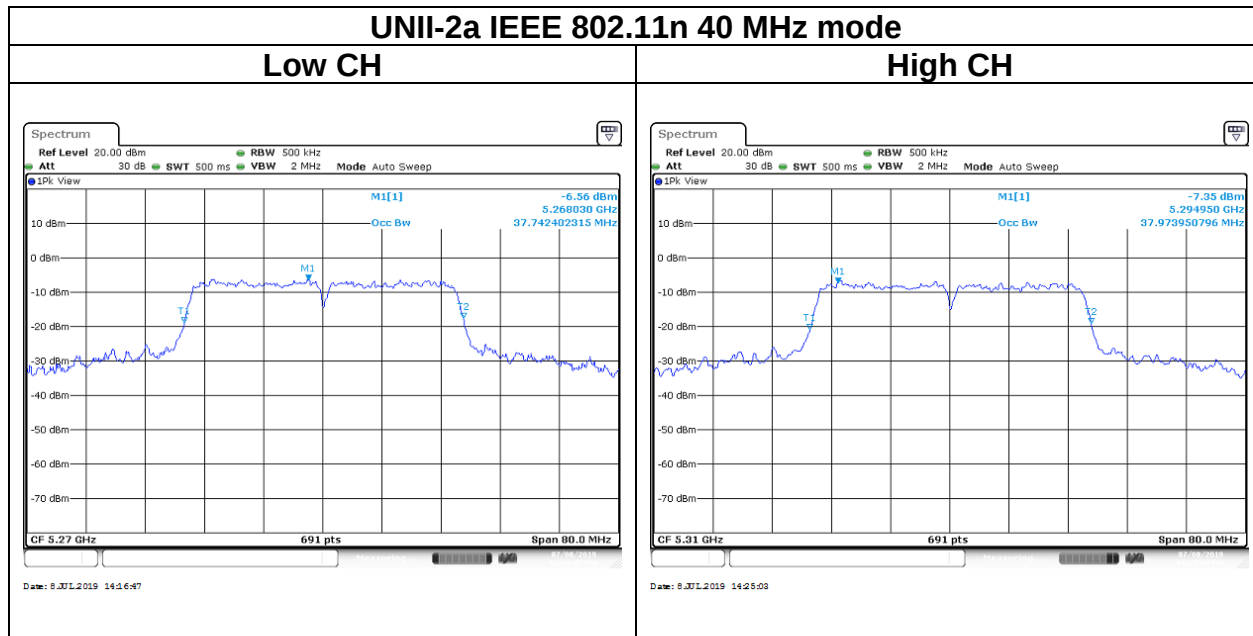
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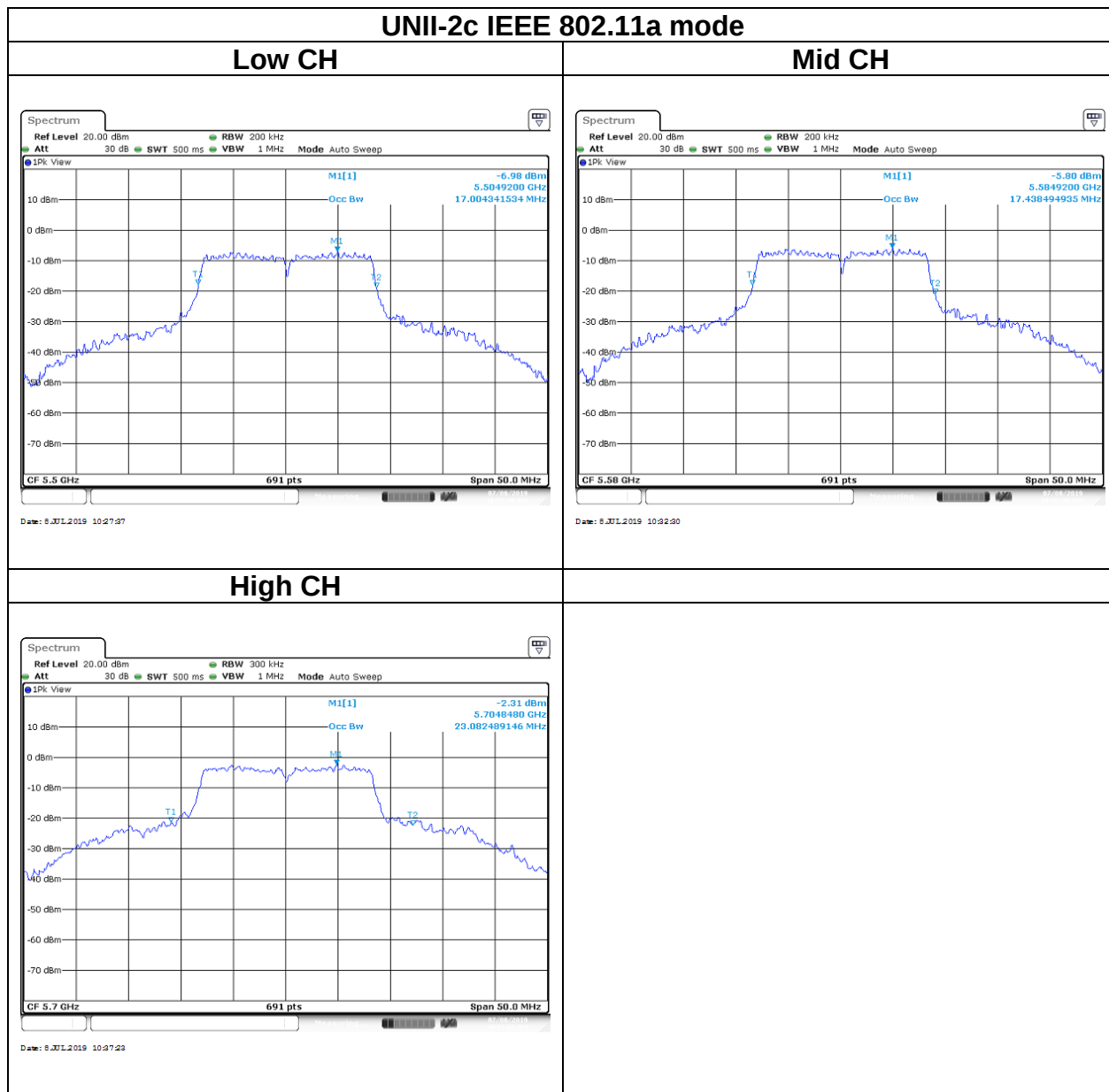




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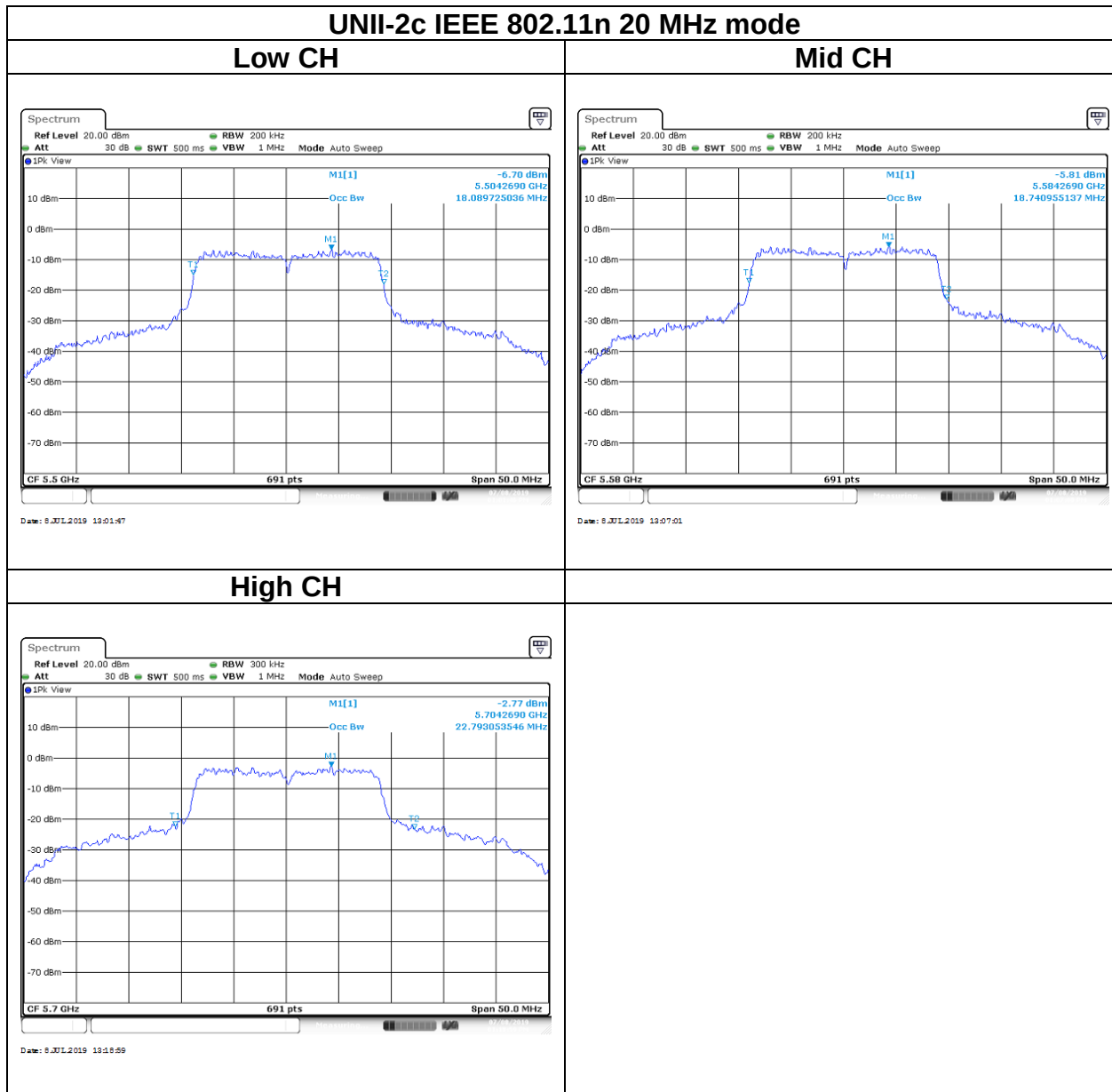
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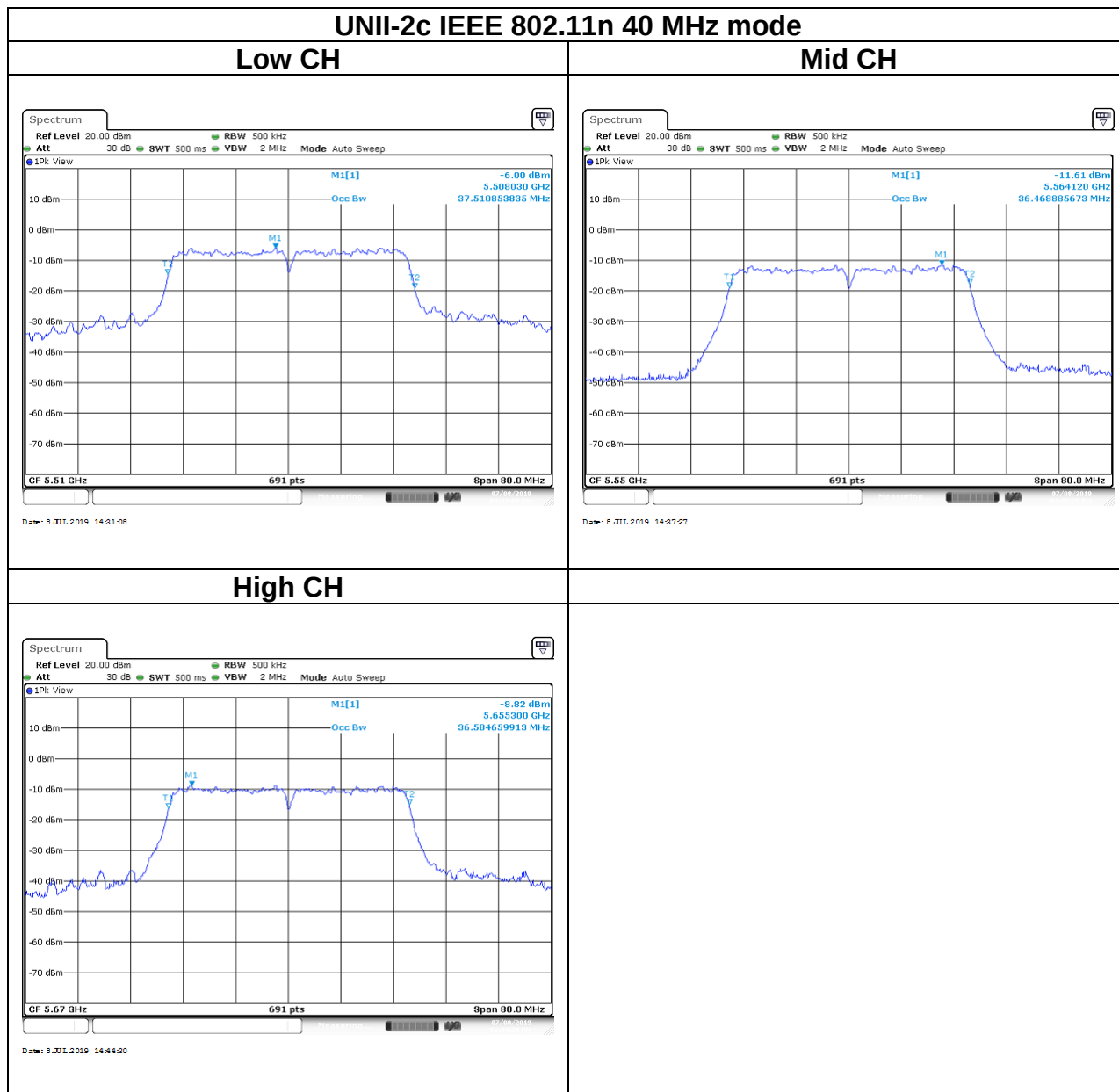
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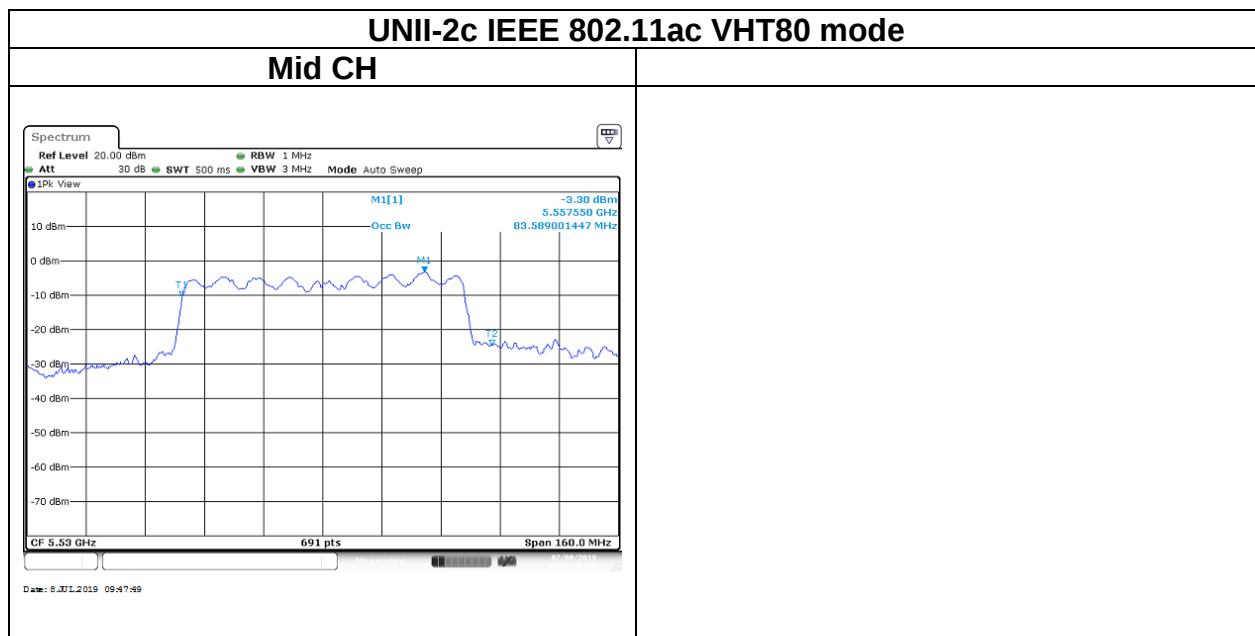
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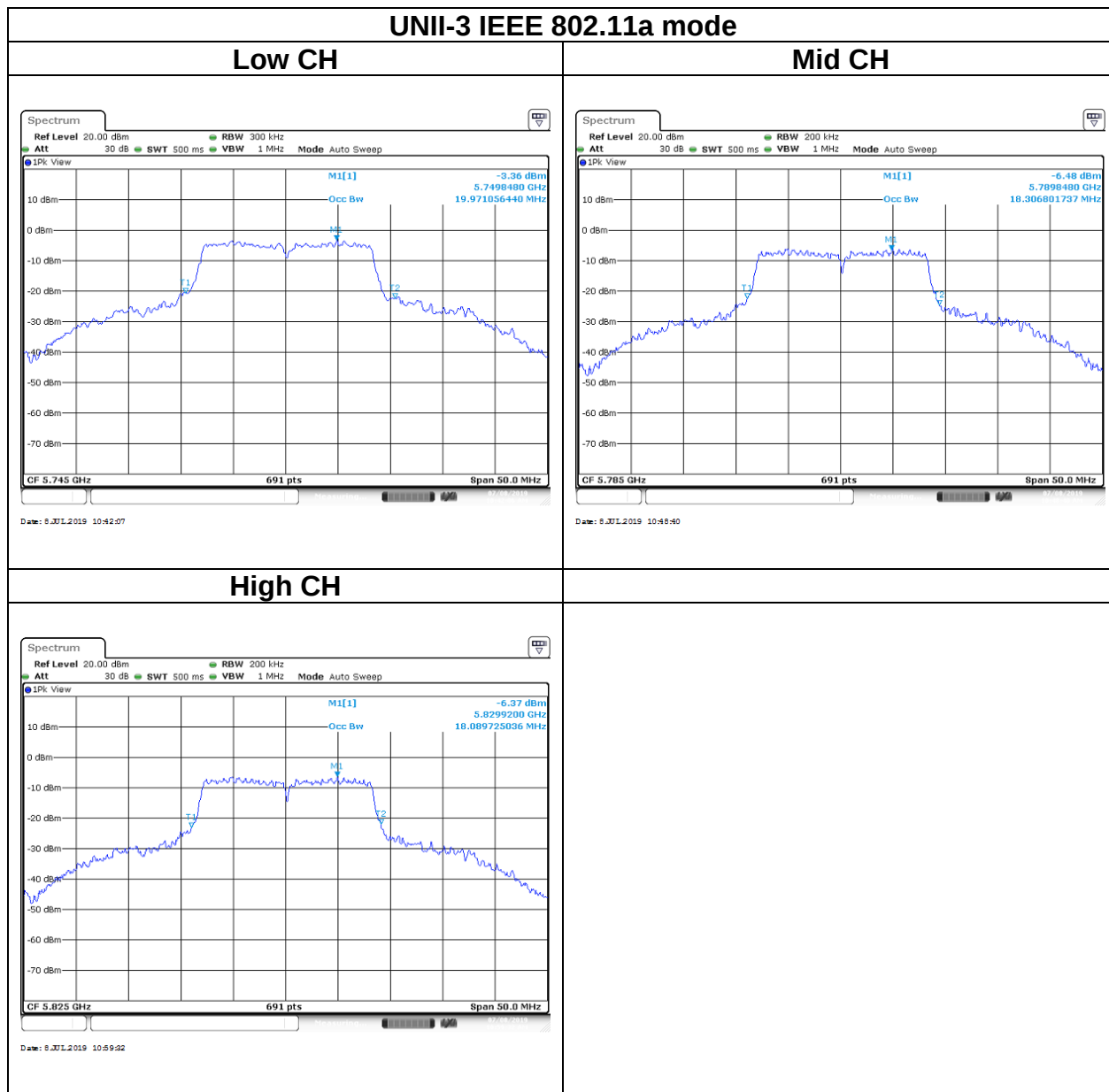




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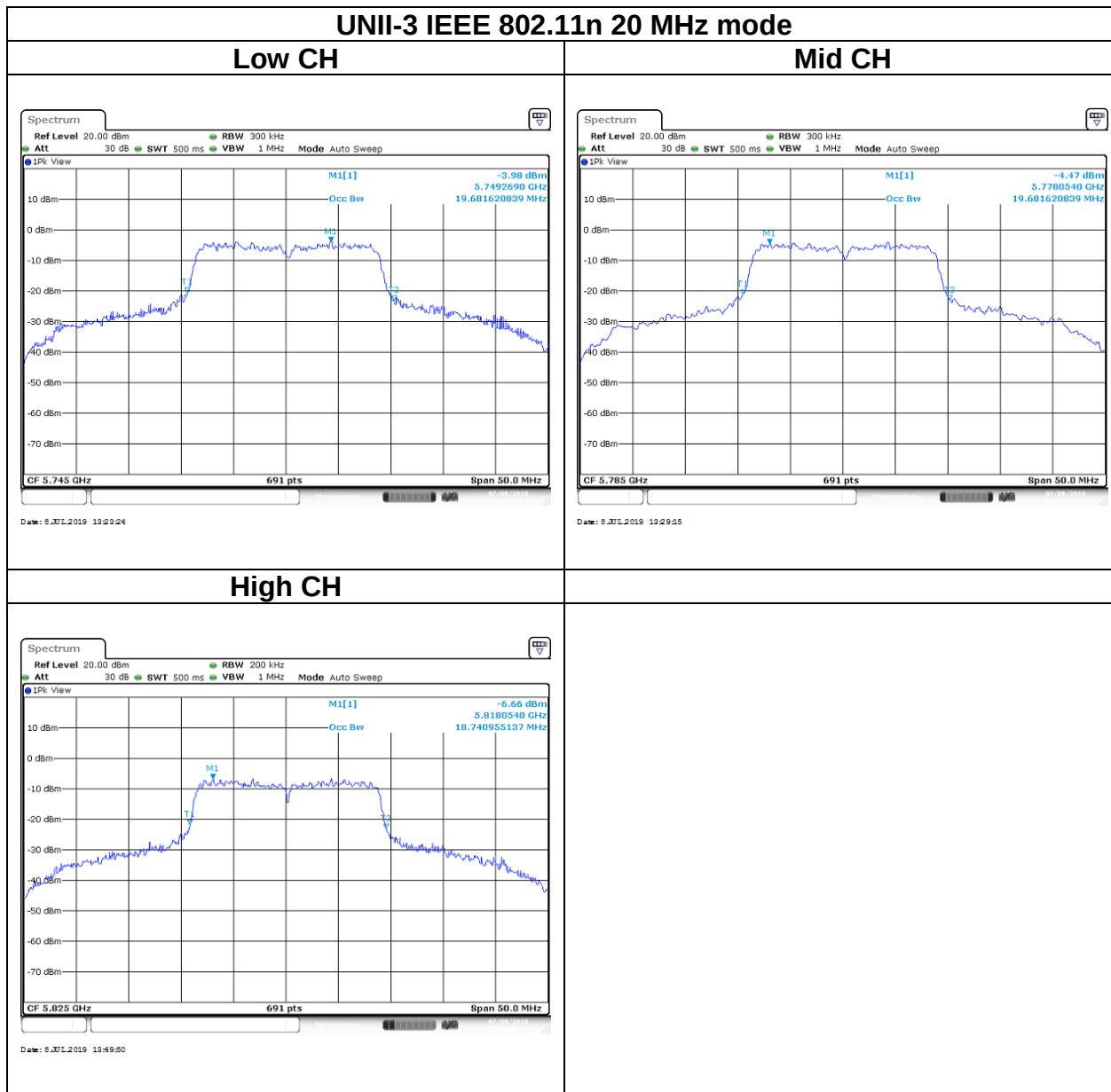
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