

Test Date	2018/03/26	Temp./Hum.	25°C/54%
Mode	802.11ac-VHT80	UNII Band	II-2A
Cable Loss	1.74dB	Frequency	TX 5290MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)		Test Voltage	AC 120V, 60Hz (via AC/DC Adapter)
			6.02

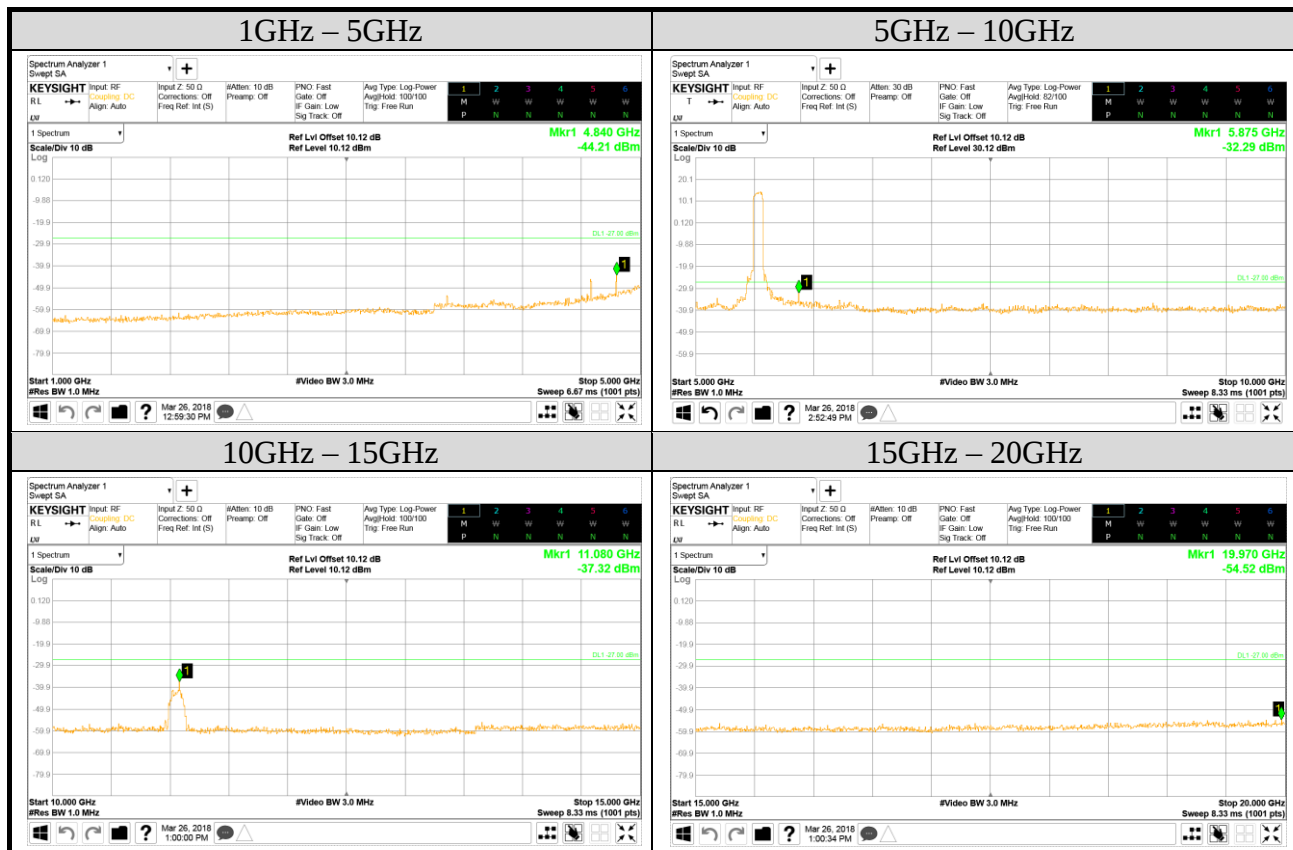




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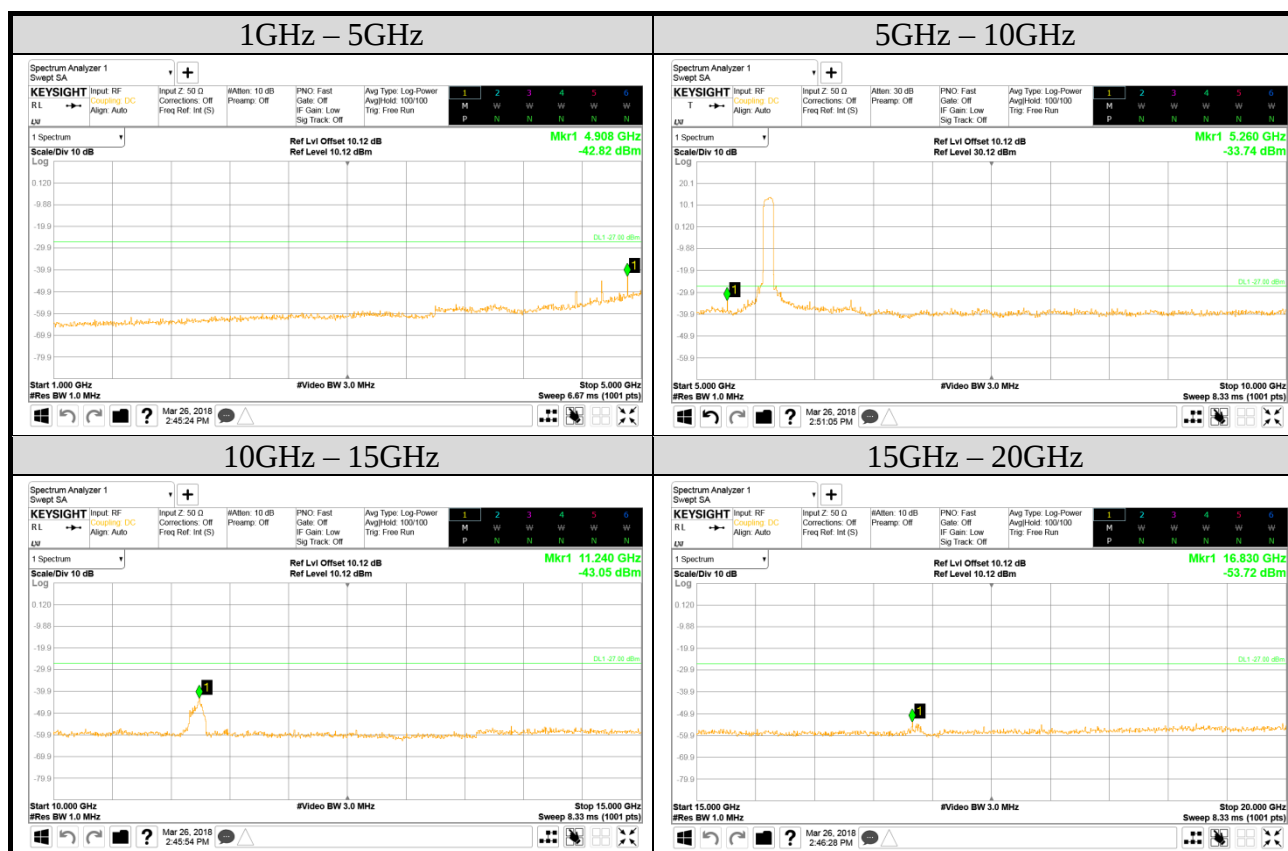
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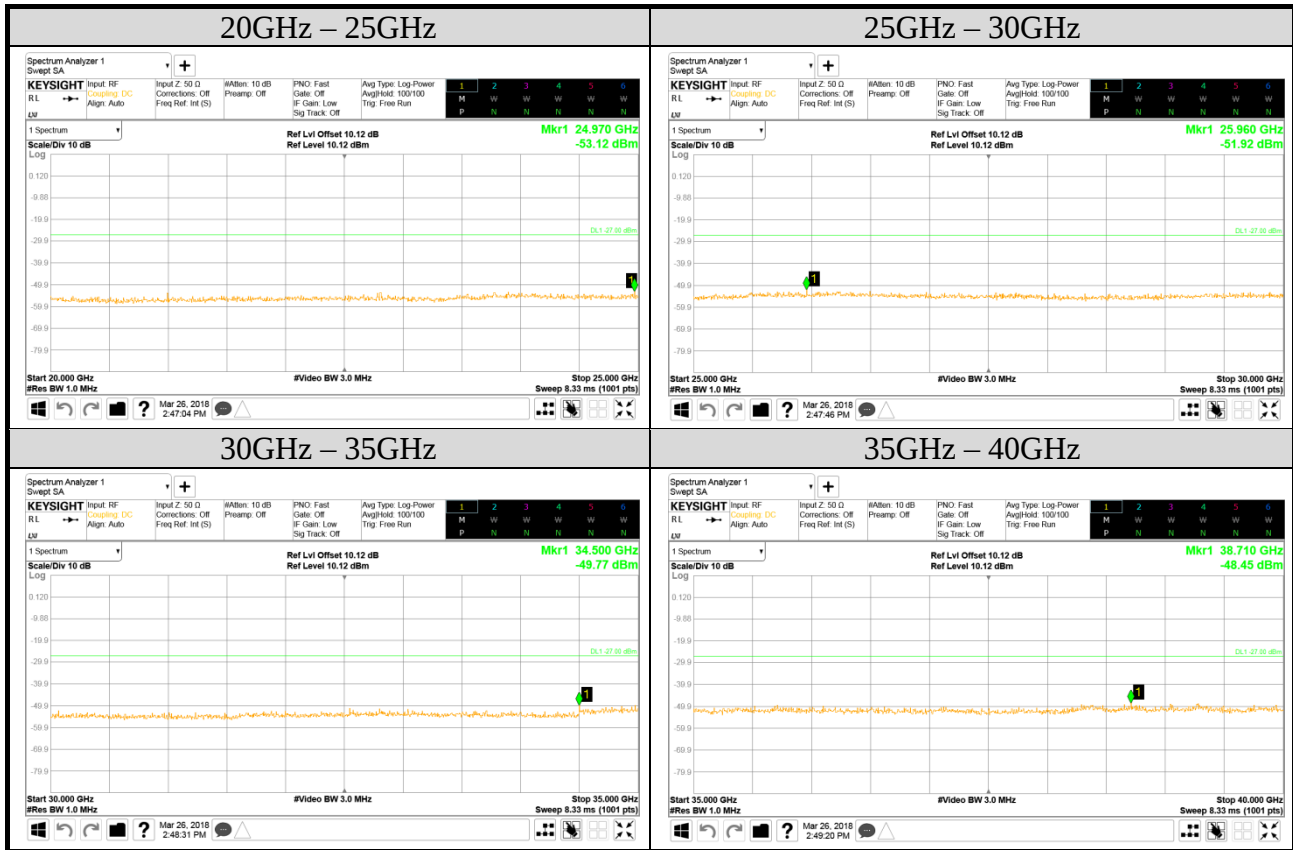
Test Date	2018/03/26	Temp./Hum.	25°C/54%
Mode	802.11ac-VHT80	UNII Band	II-2C
Cable Loss	1.74dB	Frequency	TX 5530MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)		Test Voltage	AC 120V, 60Hz (via AC/DC Adapter)
			6.02





Test Date	2018/03/26	Temp./Hum.	25°C/54%
Mode	802.11ac-VHT80	UNII Band	II-2C
Cable Loss	1.74dB	Frequency	TX 5610MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)		Test Voltage	AC 120V, 60Hz (via AC/DC Adapter)
			6.02





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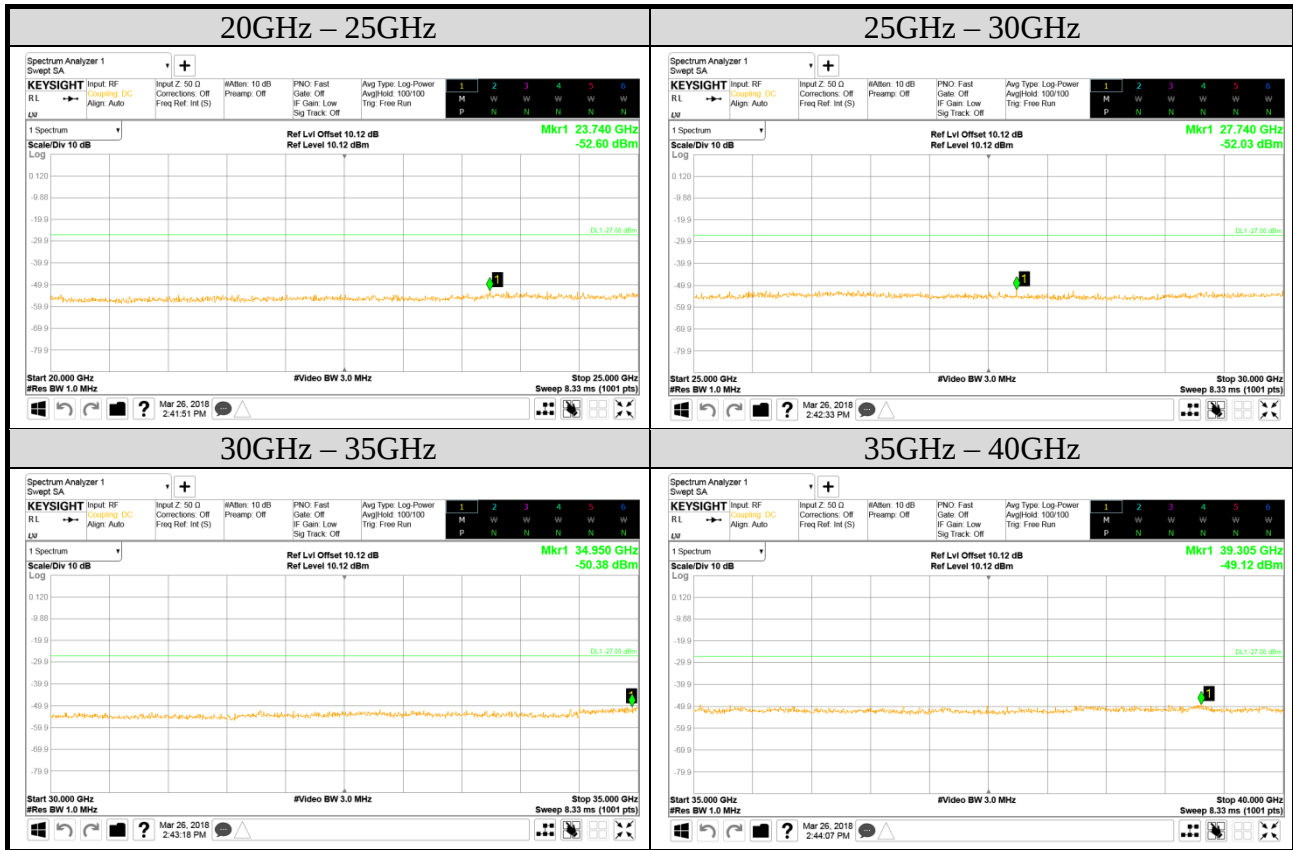
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Test Date	2018/03/26~28	Temp./Hum.	25°C/54%
Mode	802.11ac-VHT80	UNII Band	III
Cable Loss	1.74dB	Frequency	TX 5775MHz
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)		Test Voltage	AC 120V, 60Hz (via AC/DC Adapter)
			6.02



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A.6 POWER SPECTRAL DENSITY

Test Date	2018/03/26~11/26	Temp./Hum.	24~25°C/54~55%
Test Voltage	AC 120V, 60Hz (via AC/DC Adapter)		

A.6.1 Power Spectral Density Result

- CDD Mode

Mode	UNII Band	Centre Frequency (MHz)	Power Spectral Density (dBm)	Limit
802.11a	I	5180	7.816	8.62 dBm/MHz ^{Note 2}
		5200	8.056	
		5240	7.979	
	II-2A	5260	7.983	
		5300	7.841	
		5320	7.677	
	II-2C	5500	8.053	27.62dBm/500 kHz ^{Note 2}
		5580	8.091	
		5700	8.086	
	III ^{Note3}	5745	15.943	
		5785	16.767	
		5825	16.414	

Note: 1. All results have been included cable loss and Simultaneous Factor and correct duty factor.

2. According to KDB 662911 D01, Directional gain= G_{ANT} + Array Gain ;

Array Gain= $10\log(N_{ANT}/N_{SS})$

Directional gain= $2.36+10\log(4/1)=2.36+6.02=8.38\text{dBi} > 6\text{dBi}$

Band I~II-2C: Limit= $11-(8.38-6)=8.62\text{dBm}$ Band III: Limit= $30-(8.38-6)=27.62\text{dBm}$

3. BWCF 6.99dB (100kHz converted to 500kHz) has been included in the test result.

Mode	UNII Band	Centre Frequency (MHz)	Power Spectral Density (dBm)	Limit
802.11n-HT20	I	5180	8.048	8.62 dBm/MHz ^{Note 2}
		5200	7.763	
		5240	8.087	
	II-2A	5260	8.052	
		5300	7.967	
		5320	7.887	
	II-2C	5500	8.038	27.62dBm/500 kHz ^{Note 2}
		5580	8.115	
		5700	8.114	
	III ^{Note3}	5745	17.168	
		5785	17.183	
		5825	16.838	
802.11ac-VHT40	I	5190	8.118	8.62 dBm/MHz ^{Note 2}
		5230	8.020	
	II-2A	5270	8.098	
		5310	7.820	
	II-2C	5510	8.118	
		5550	8.102	
		5670	8.100	
	III ^{Note3}	5755	12.974	27.62dBm/500 kHz ^{Note 2}
		5795	13.433	
802.11ac-VHT80	I	5210	6.285	8.62 dBm/MHz ^{Note 2}
	II-2A	5290	6.581	
	II-2C	5530	6.665	
		5610	6.487	
	III ^{Note3}	5775	10.883	27.62dBm/500 kHz ^{Note 2}

Note: 1. All results have been included cable loss and Simultaneous Factor and correct duty factor.

2. According to KDB 662911 D01, Directional gain= $G_{ANT} + \text{Array Gain}$;

Array Gain= $10\log(N_{ANT}/N_{SS})$

Directional gain= $2.36 + 10\log(4/1) = 2.36 + 6.02 = 8.38\text{dBi} > 6\text{ dBi}$

Band I~II-2C: Limit= $11 - (8.38 - 6) = 8.62\text{dBm}$ Band III: Limit= $30 - (8.38 - 6) = 27.62\text{dBm}$

3. BWCF 6.99dB (100kHz converted to 500kHz) has been included in the test result.

• SDM Mode

Mode	UNII Band	Centre Frequency (MHz)	Power Spectral Density (dBm)	Limit
802.11n-HT20	I	5180	10.308	11 dBm/MHz
		5200	10.390	
		5240	10.461	
	II-2A	5260	10.464	
		5300	10.372	
		5320	10.302	
	II-2C	5500	10.455	30dBm/500 kHz
		5580	10.282	
		5700	10.467	
	III ^{Note3}	5745	17.168	
		5785	17.183	
		5825	16.838	
802.11ac-VHT40	I	5190	10.450	11 dBm/MHz
		5230	9.529	
	II-2A	5270	9.297	
		5310	8.960	
	II-2C	5510	8.962	
		5550	8.864	
	III ^{Note3}	5670	8.176	30dBm/500 kHz
		5755	12.974	
802.11ac-VHT80	I	5210	5.418	11 dBm/MHz
	II-2A	5290	4.891	
	II-2C	5530	5.684	
		5610	5.291	
	III ^{Note3}	5775	10.883	30dBm/500 kHz

Note: 1. All results have been included cable loss and Simultaneous Factor and correct duty factor.

2. According to KDB 662911 D01, Directional gain= $G_{ANT} + \text{Array Gain}$;

Array Gain= $10\log(N_{ANT}/N_{SS})$

Directional gain= $2.36 + 10\log(4/2) = 2.36 + 3.01 = 5.37\text{dBi} < 6\text{dBi}$

3. BWCF 6.99dB (100kHz converted to 500kHz) has been included in the test result.

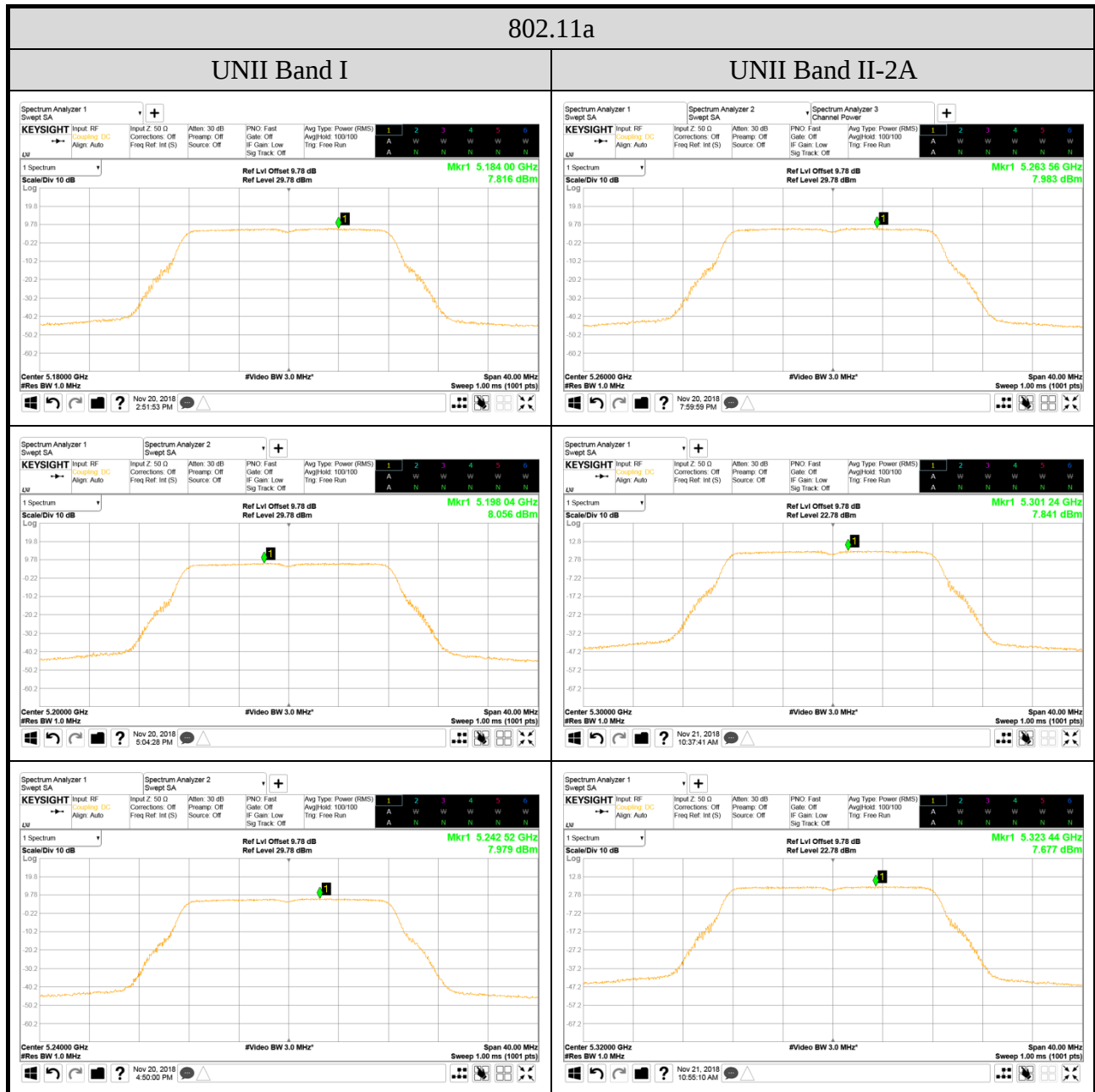
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A.6.3 Measurement Plots

- CDD Mode

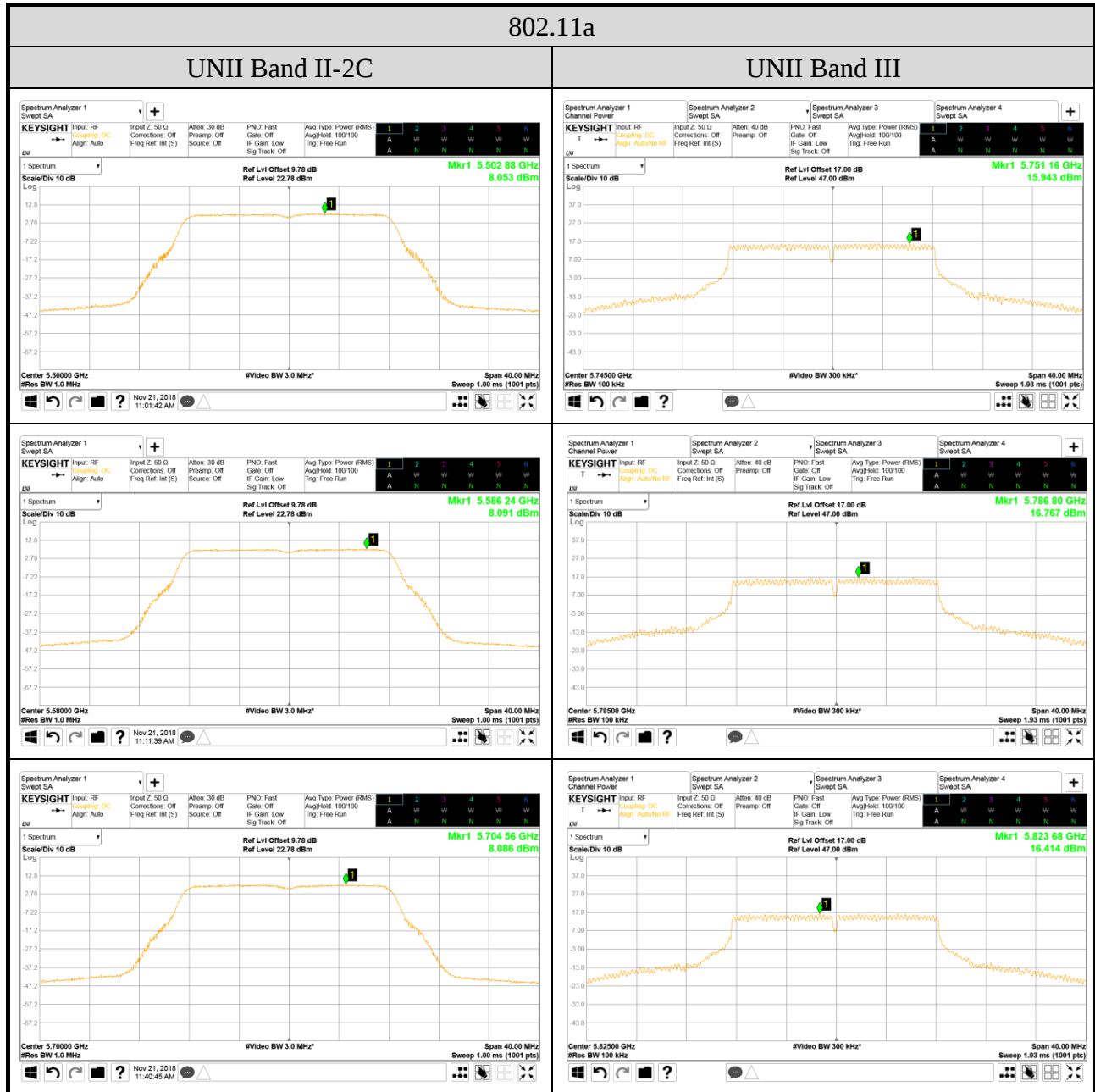
Cable Loss	Band I & II-2A: 3.48dB	Duty Cycle Factor	0.28dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02



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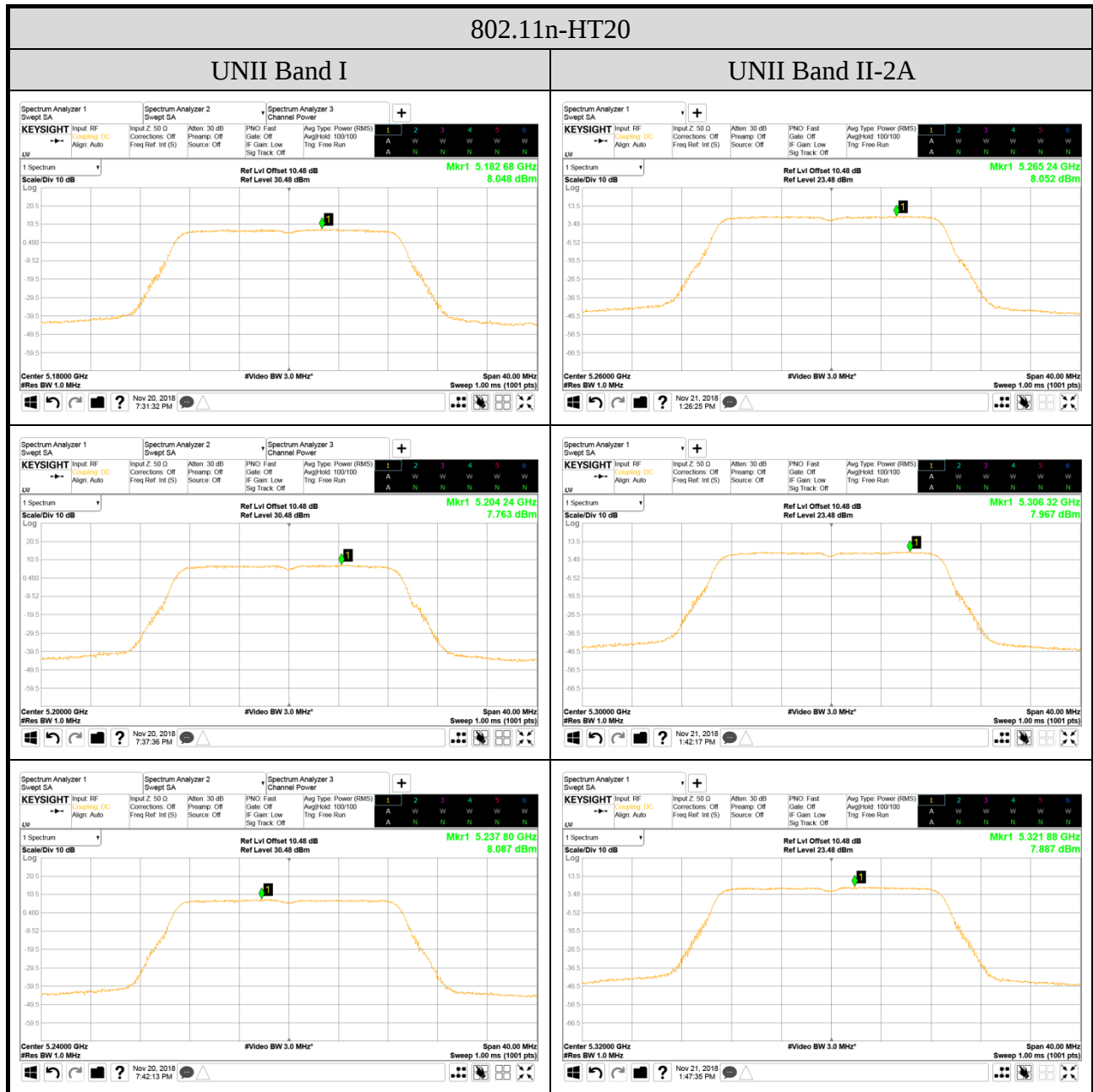
Cable Loss	Band II-2C: 3.48dB Band III: 3.7dB	Duty Cycle Factor	0.28dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02



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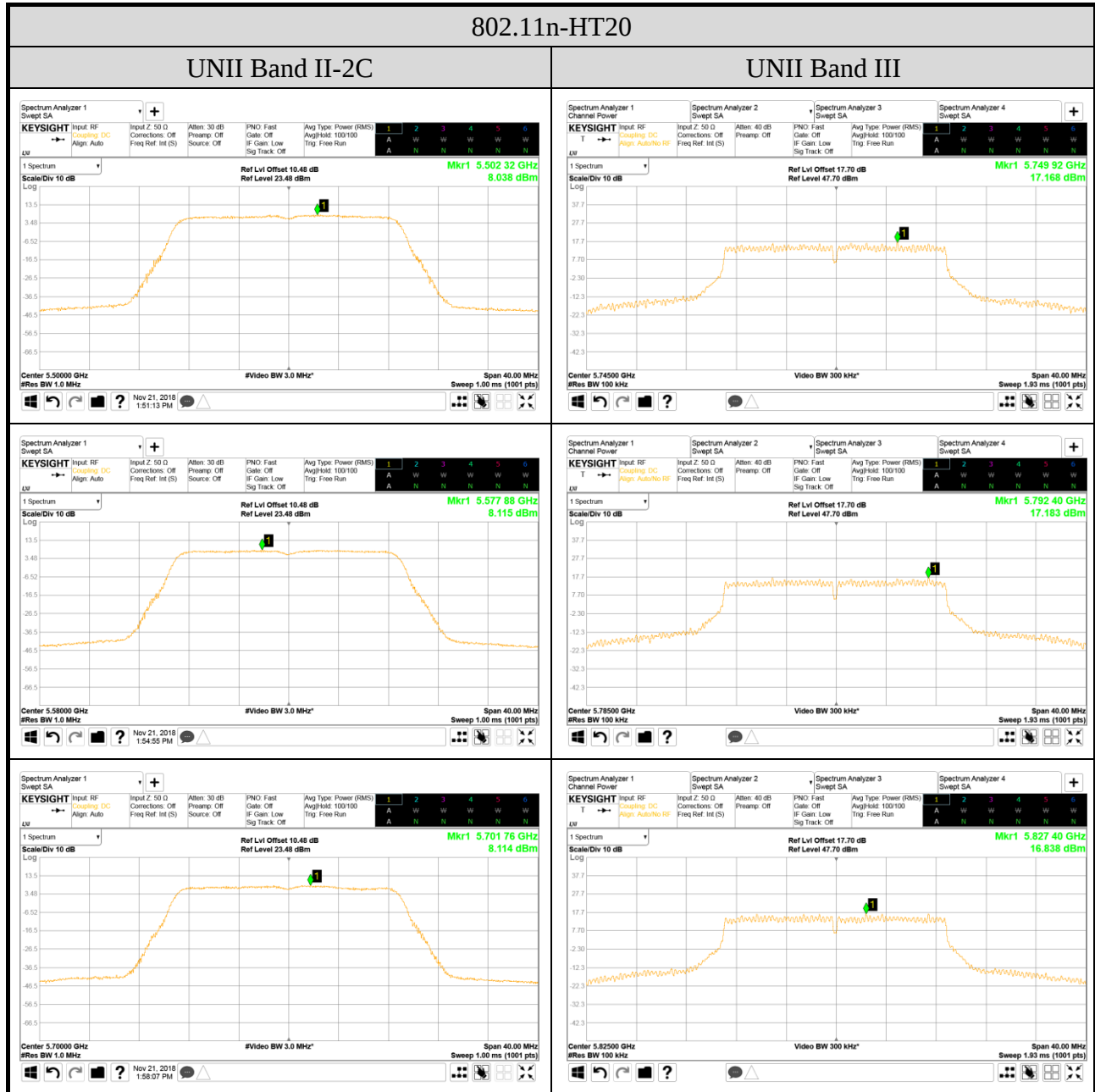
Cable Loss	Band I & II-2A: 3.48dB	Duty Cycle Factor	0.98dB
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			6.02



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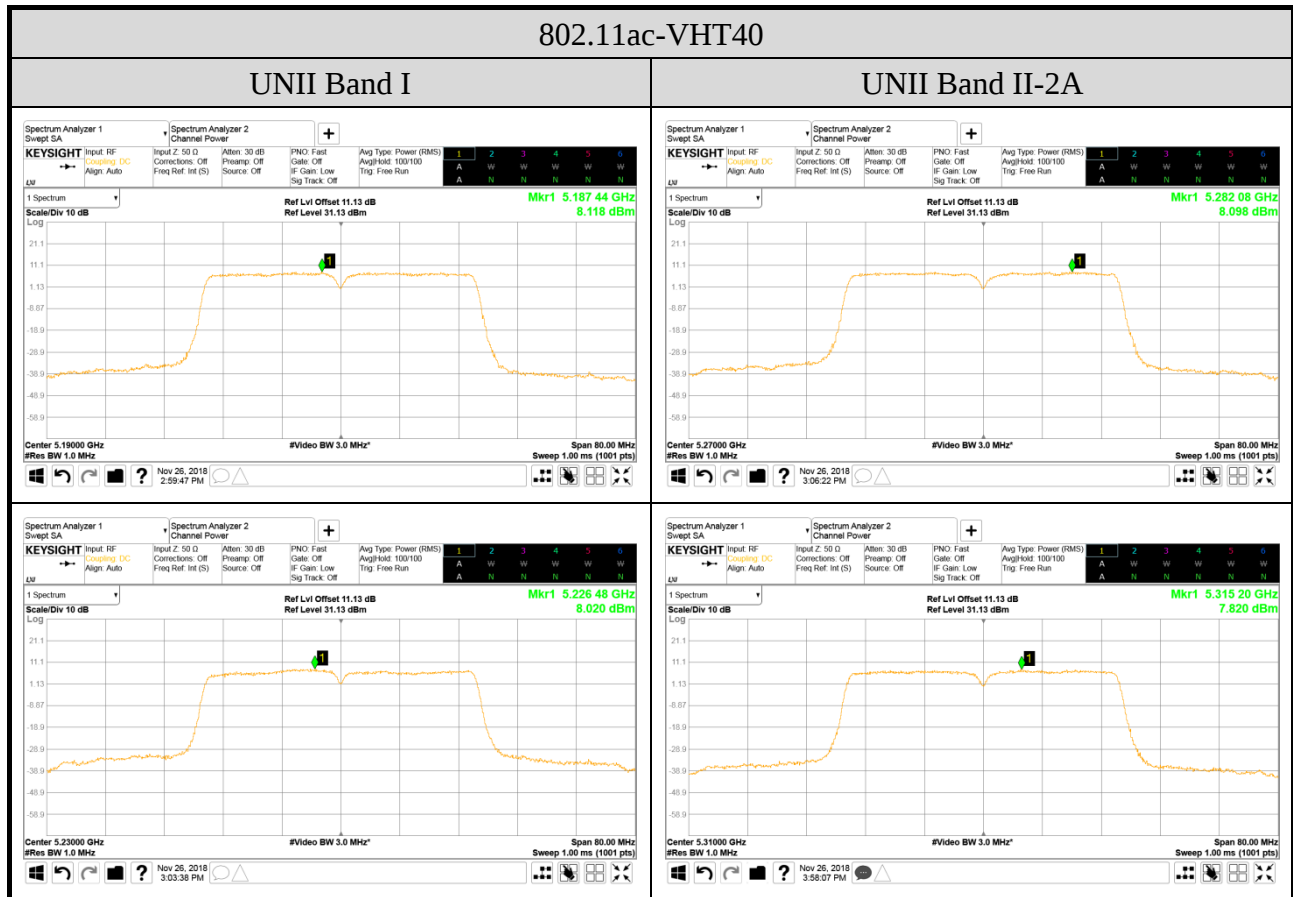
Cable Loss	Band II-2C: 3.48dB Band III: 3.7dB	Duty Cycle Factor	0.98dB
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			6.02



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Cable Loss	Band I & II-2A: 3.48dB	Duty Cycle Factor	1.63dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02



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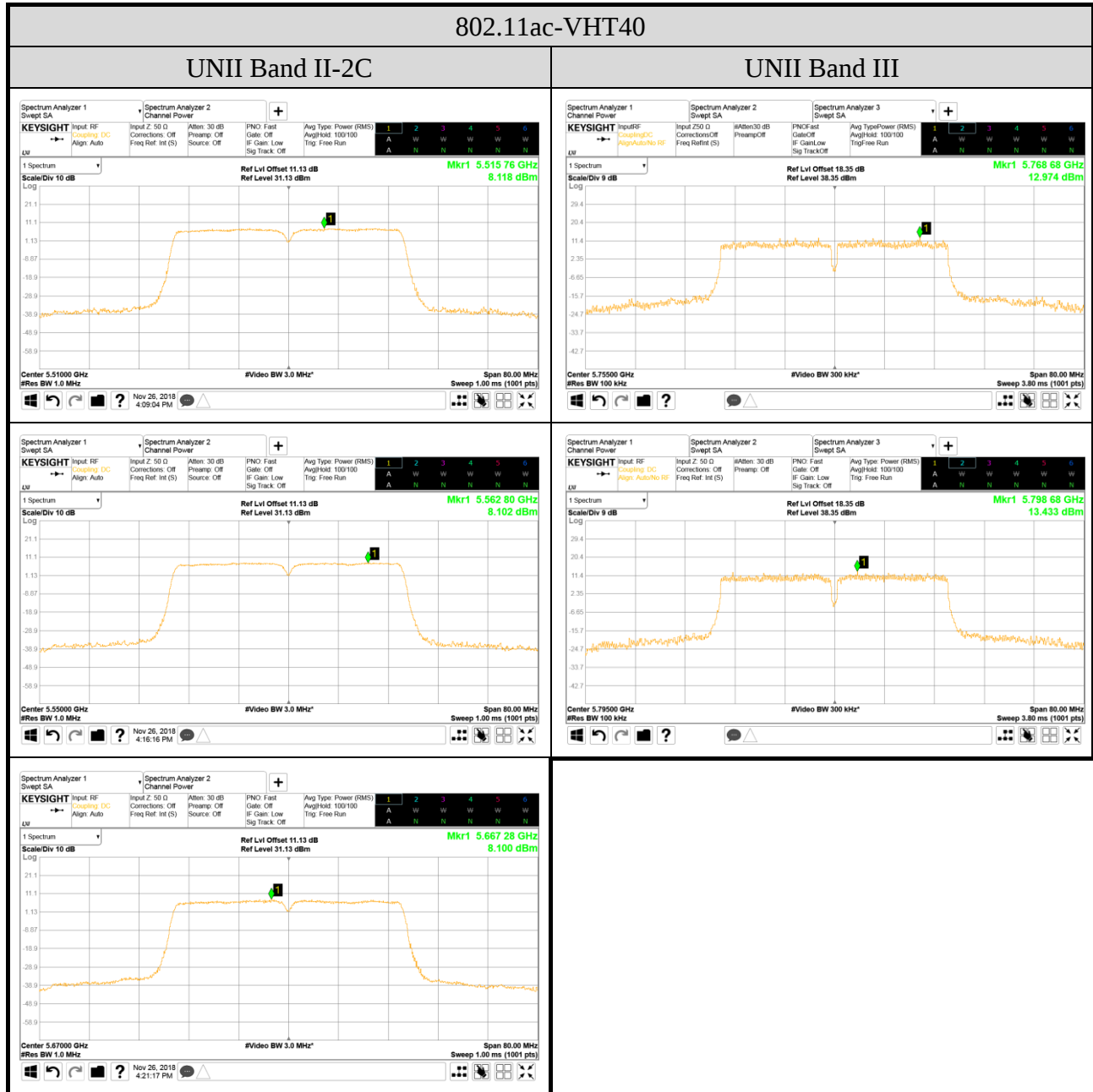
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Cable Loss	Band II-2C: 3.48dB Band III: 3.7dB	Duty Cycle Factor	1.63dB
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			6.02



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Cable Loss	Band I & II-2A & II-2C: 3.48dB Band III: 3.7dB	Duty Cycle Factor	2.38dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02

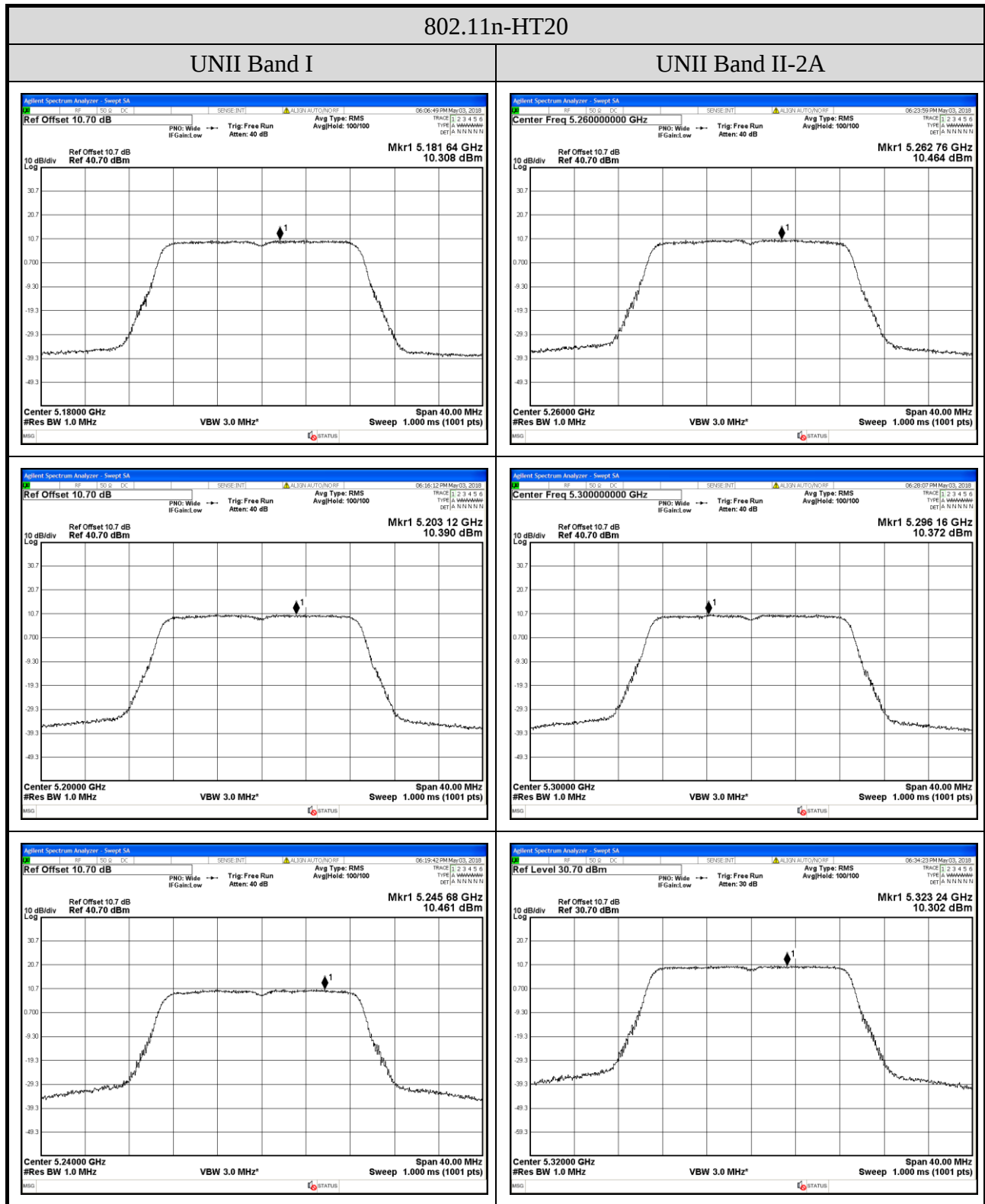


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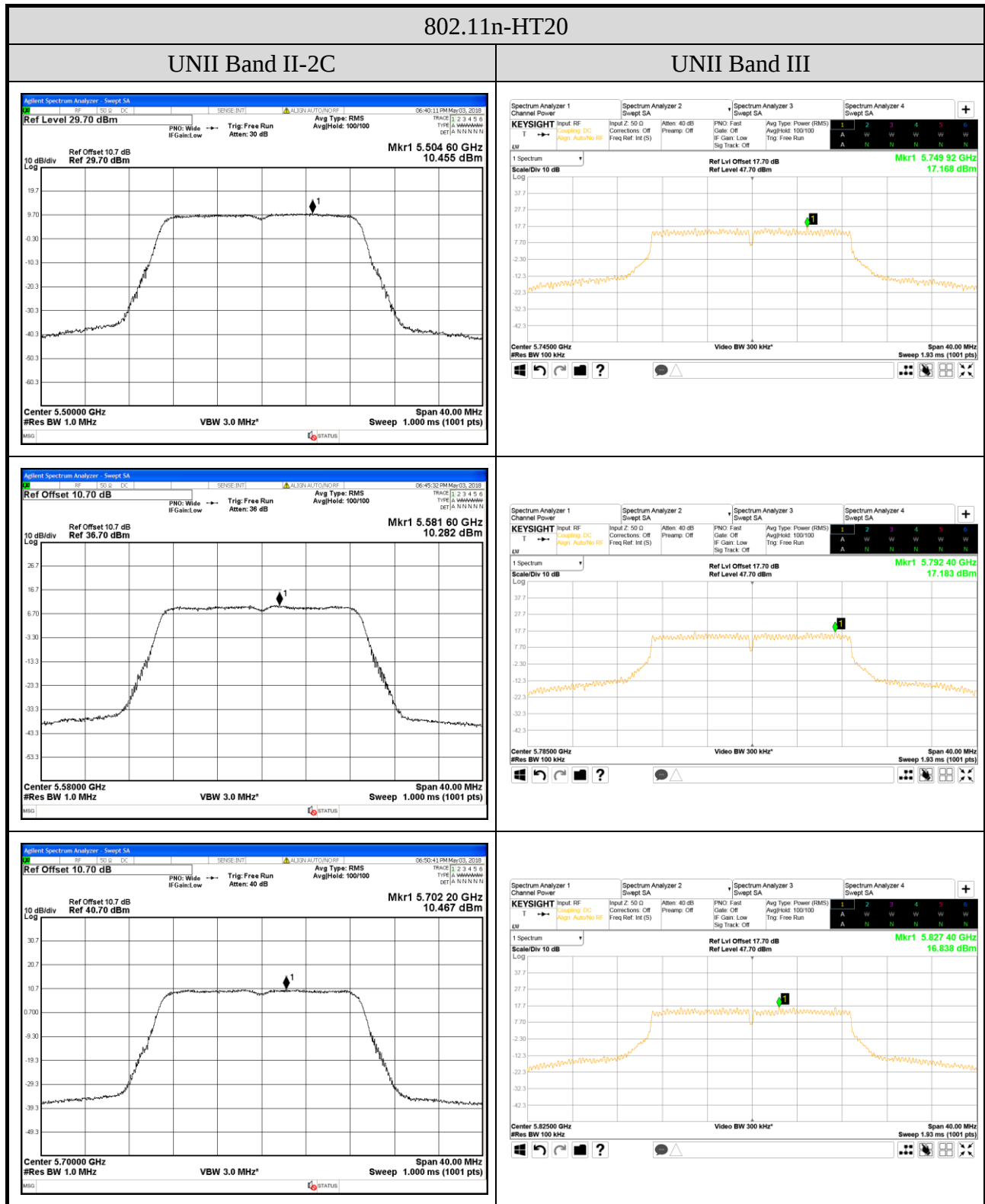
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SDM Mode

Cable Loss	Band I & II-2A: 3.7dB	Duty Cycle Factor	0.98dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02



Cable Loss	Band II-2C & III: 3.7dB	Duty Cycle Factor	0.98dB
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			6.02



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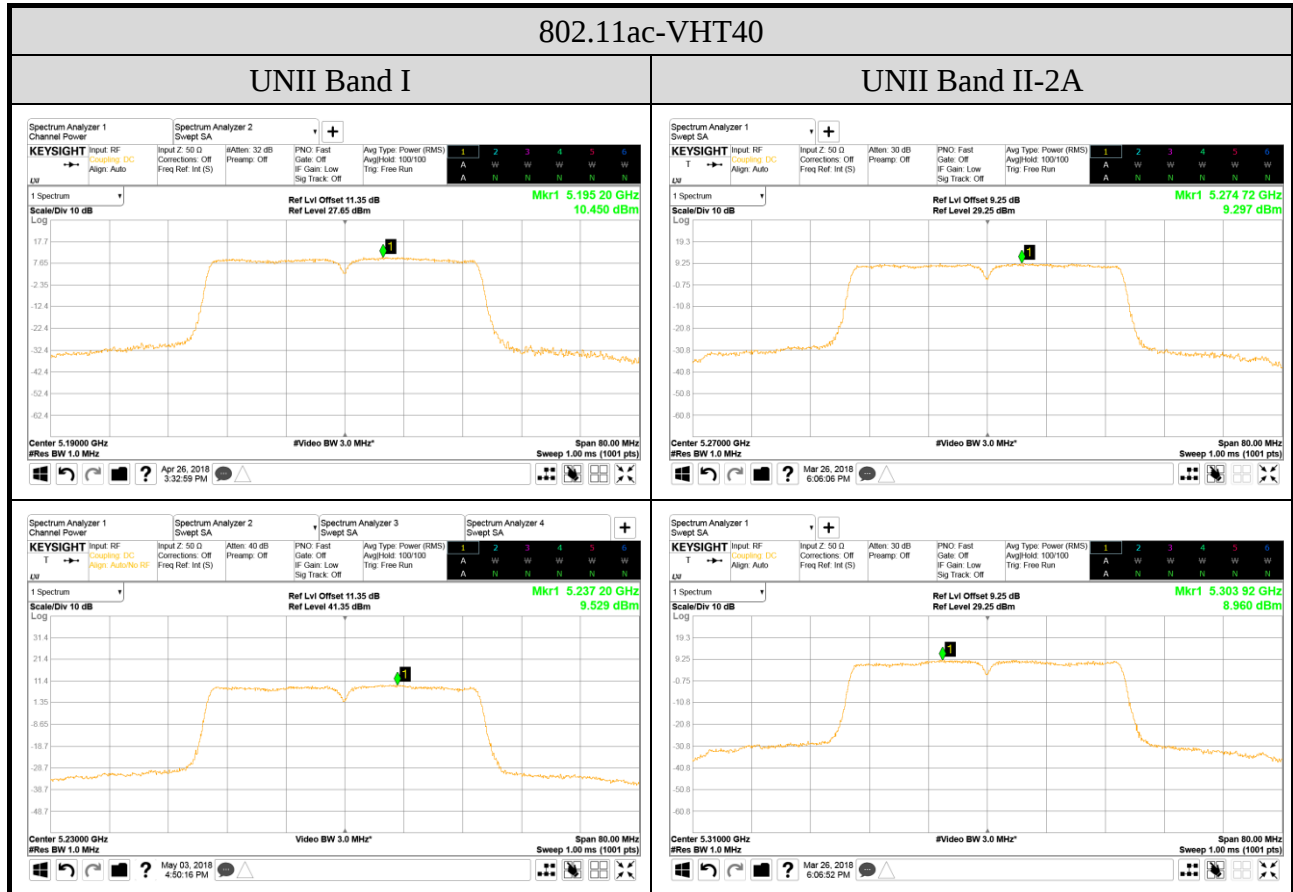
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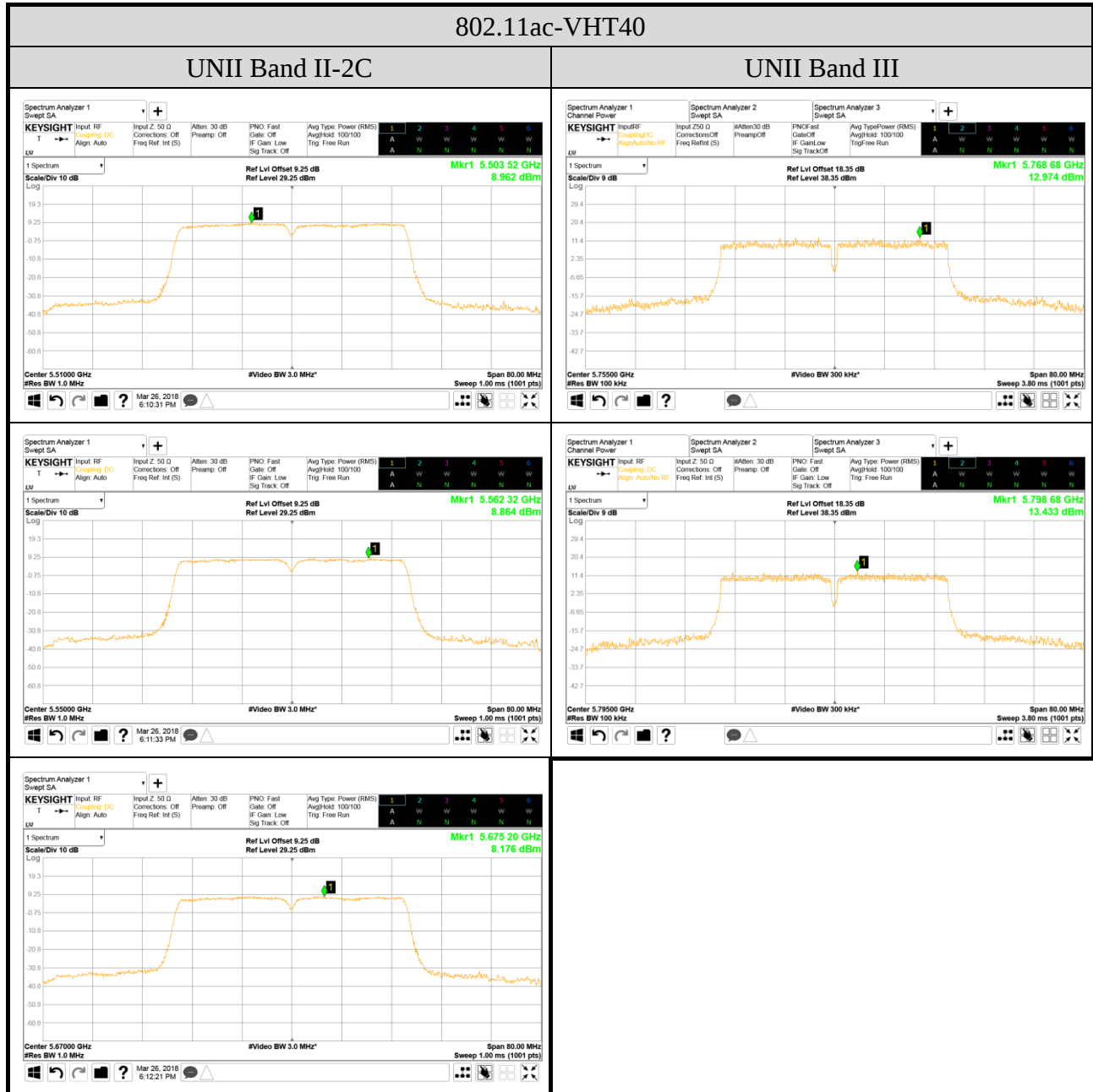
Cable Loss	Band I: 3.7dB Band II-2A: 1.6dB	Duty Cycle Factor	1.63dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02



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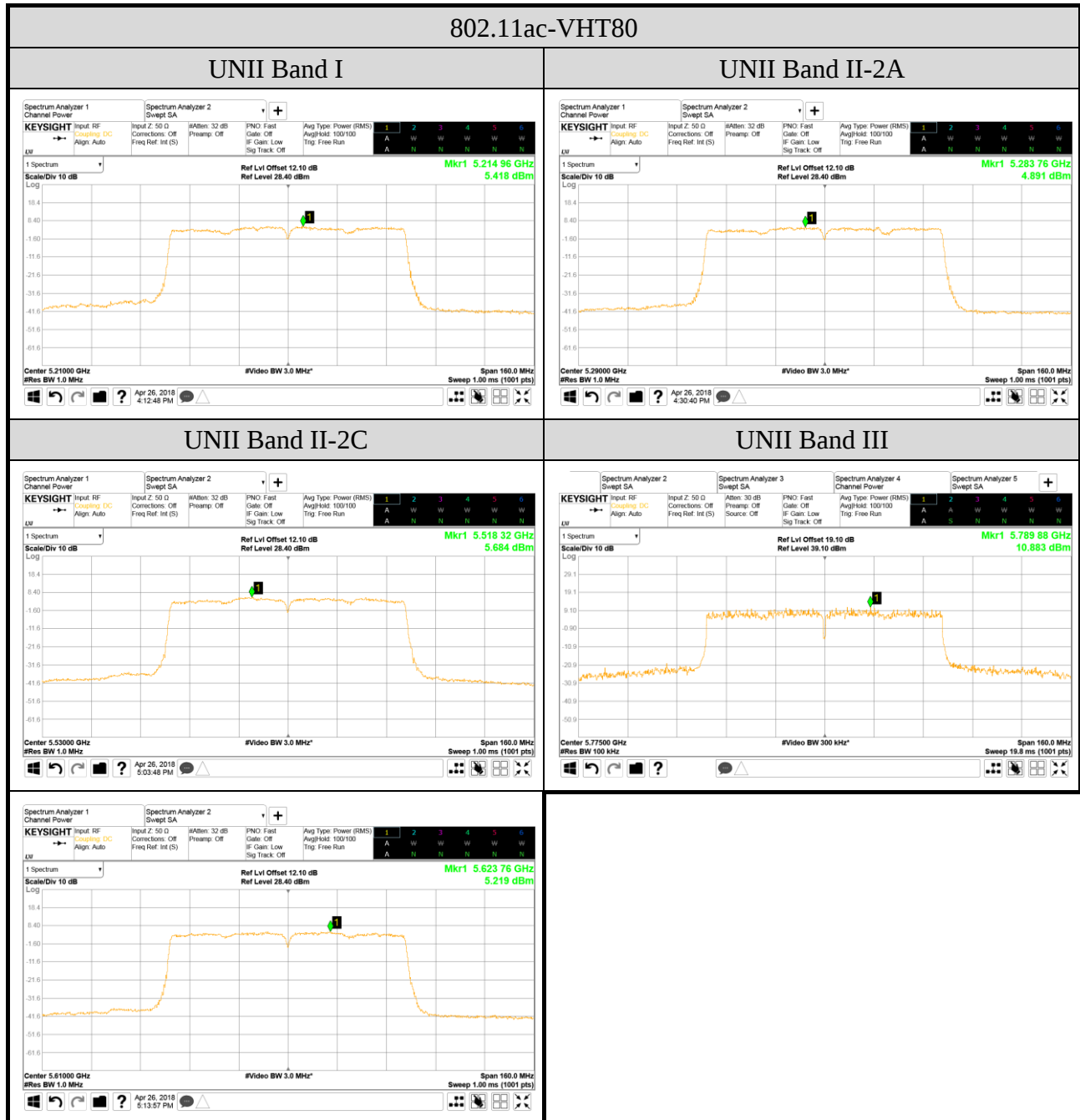
Cable Loss	Band II-2C: 1.6dB Band III: 3.7dB	Duty Cycle Factor	1.63dB
Simultaneous Factor10 log(n) (Note: “n” is antenna number)			6.02



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Cable Loss	Band I & II-2A & II-2C & III: 3.7dB	Duty Cycle Factor	2.38dB
Simultaneous Factor 10 log(n) (Note: "n" is antenna number)			6.02



A.7 FREQUENCY STABILITY

Test Date	2018/04/24	Temp./Hum.	24°C/55%
Cable Loss	---	Test Voltage	AC 120V, 60Hz (via AC/DC Adapter)

A.7.1 Frequency stability Result

Temperature (°C)	Voltage (Vac)	Centre Frequency (MHz)	Measurement Value (MHz)	Frequency Stability (ppm)
25	120	5745	5745.011	1.915
-30	102		5744.994	-1.044
	138		5744.992	-1.393
-20	102		5745.020	3.481
	138		5744.983	-2.959
-10	102		5744.986	-2.437
	138		5745.014	2.437
0	102		5744.983	-2.959
	138		5744.995	-0.870
10	102		5744.991	-1.567
	138		5744.997	-0.522
20	102		5744.979	-3.655
	138		5745.006	1.044
30	102		5745.009	1.567
	138		5745.007	1.218
40	102		5745.019	3.307
	138		5745.016	2.785
50	102		5745.002	0.348
	138		5745.022	3.829