



9.6. AC Power Line Conducted Emission

Requirements

Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Procedures

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

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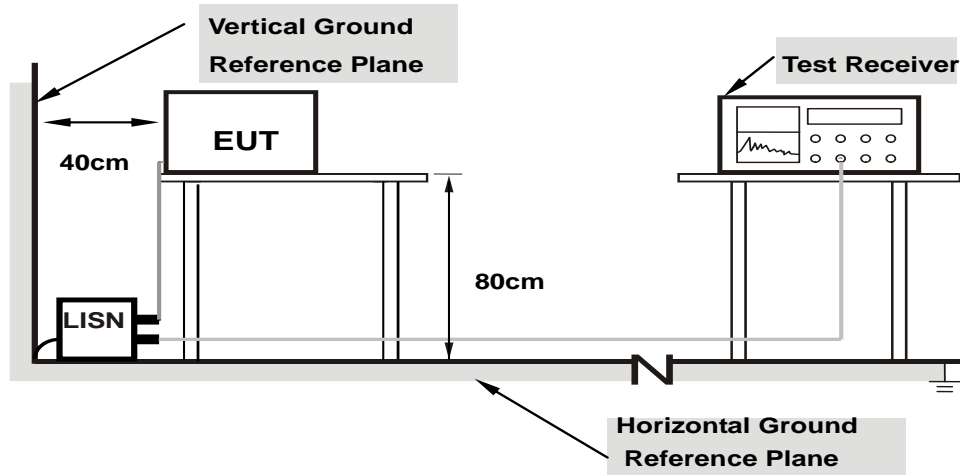
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Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the Setup Configurations.

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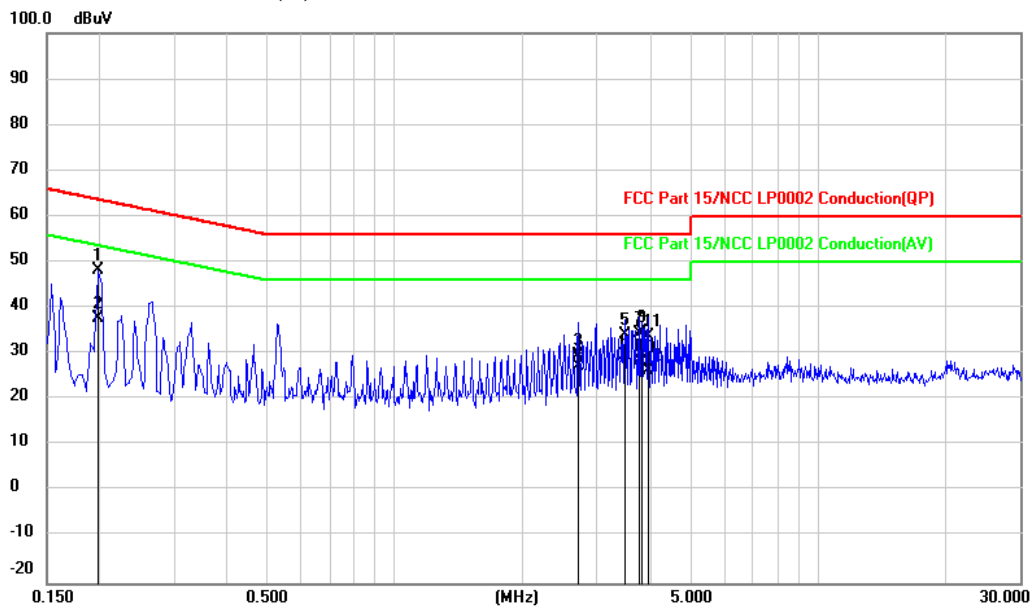
Test Data

Non-Beamforming mode

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	150 kHz ~ 30 MHz

Phase of Power : Line (L)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1980	28.79	19.53	48.32	63.69	-15.37	QP
2	0.1980	18.35	19.53	37.88	53.69	-15.81	AVG
3	2.7100	10.01	19.56	29.57	56.00	-26.43	QP
4	2.7100	7.61	19.56	27.17	46.00	-18.83	AVG
5	3.5020	14.52	19.57	34.09	56.00	-21.91	QP
6	3.5020	10.21	19.57	29.78	46.00	-16.22	AVG
7	3.7660	14.88	19.58	34.46	56.00	-21.54	QP
8	3.7660	8.81	19.58	28.39	46.00	-17.61	AVG
9	3.8300	15.30	19.58	34.88	56.00	-21.12	QP
10	3.8300	8.59	19.58	28.17	46.00	-17.83	AVG
11	3.9660	14.26	19.58	33.84	56.00	-22.16	QP
12	3.9660	6.79	19.58	26.37	46.00	-19.63	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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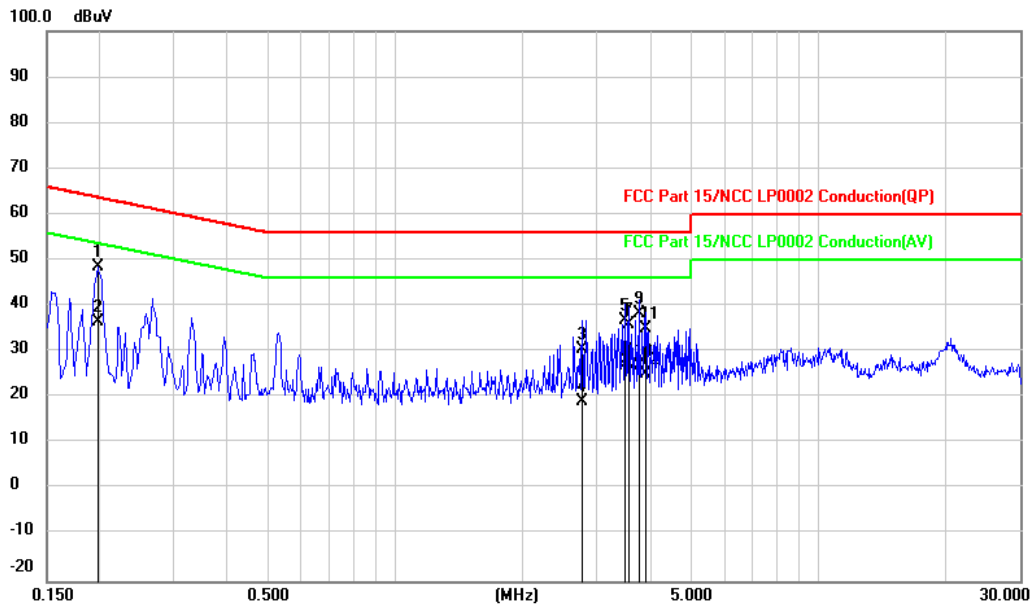
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Phase of Power : Neutral (N)



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Doc No: 17-EM-F0876 / 5.0



No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1980	29.12	19.53	48.65	63.69	-15.04	QP
2	0.1980	17.14	19.53	36.67	53.69	-17.02	AVG
3	2.7740	10.96	19.56	30.52	56.00	-25.48	QP
4	2.7740	-0.32	19.56	19.24	46.00	-26.76	AVG
5	3.5020	17.40	19.56	36.96	56.00	-19.04	QP
6	3.5020	7.46	19.56	27.02	46.00	-18.98	AVG
7	3.5660	16.38	19.58	35.96	56.00	-20.04	QP
8	3.5660	7.67	19.58	27.25	46.00	-18.75	AVG
9	3.7660	18.80	19.58	38.38	56.00	-17.62	QP
10	3.7660	7.43	19.58	27.01	46.00	-18.99	AVG
11	3.9020	15.39	19.58	34.97	56.00	-21.03	QP
12	3.9020	5.48	19.58	25.06	46.00	-20.94	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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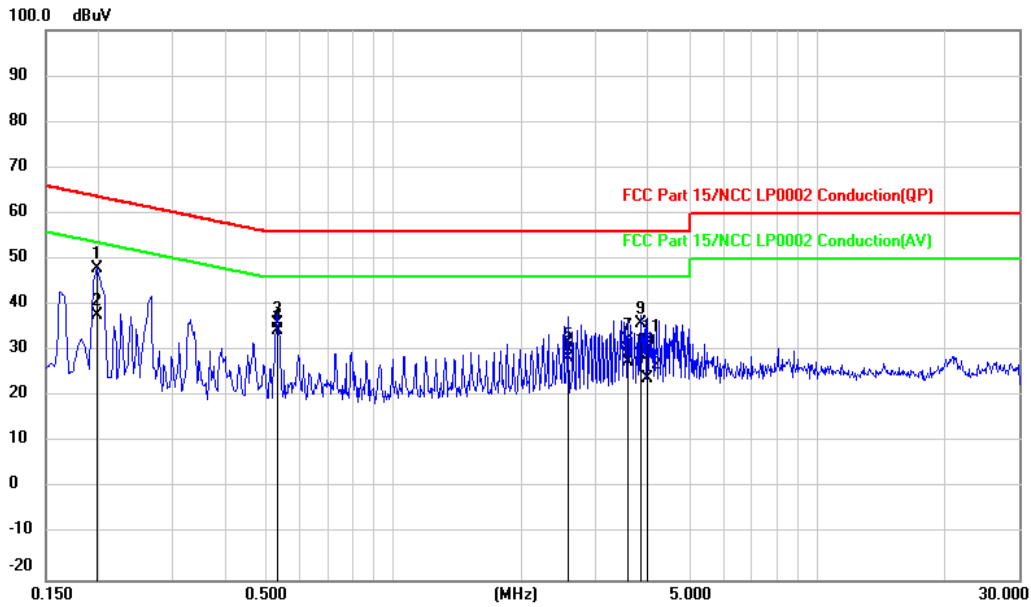


Beamforming mode

802.11ax (HE20)

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	150 kHz ~ 30 MHz

Phase of Power : Line (L)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1980	28.51	19.53	48.04	63.69	-15.65	QP
2	0.1980	18.14	19.53	37.67	53.69	-16.02	AVG
3	0.5299	16.41	19.52	35.93	56.00	-20.07	QP
4	0.5299	14.97	19.52	34.49	46.00	-11.51	AVG
5	2.5780	10.83	19.56	30.39	56.00	-25.61	QP
6	2.5780	8.90	19.56	28.46	46.00	-17.54	AVG
7	3.5660	12.63	19.58	32.21	56.00	-23.79	QP
8	3.5660	7.91	19.58	27.49	46.00	-18.51	AVG
9	3.8340	16.40	19.58	35.98	56.00	-20.02	QP
10	3.8340	9.47	19.58	29.05	46.00	-16.95	AVG
11	3.9700	12.33	19.58	31.91	56.00	-24.09	QP
12	3.9700	4.39	19.58	23.97	46.00	-22.03	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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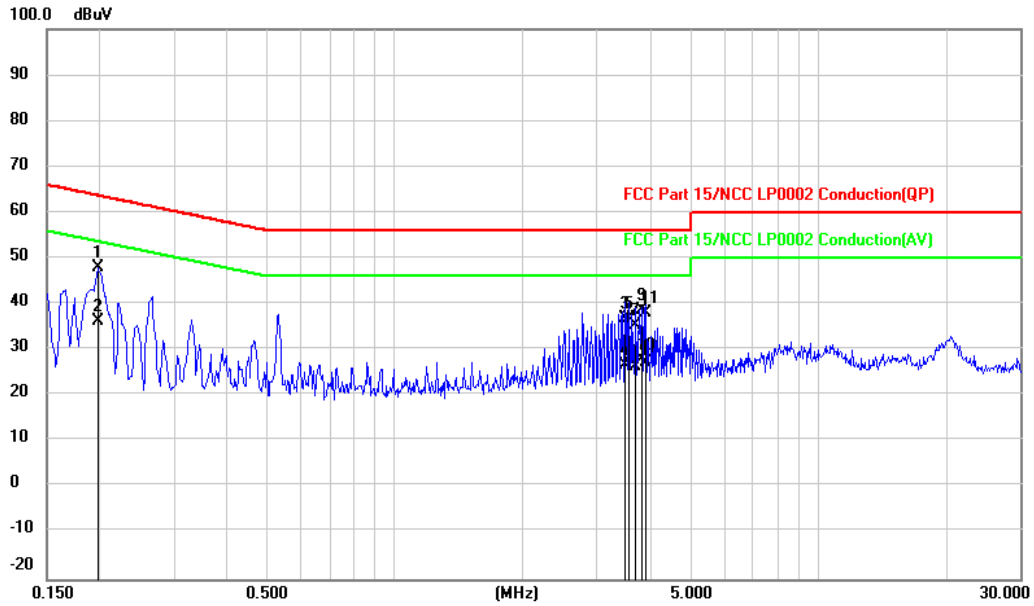
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Phase of Power : Neutral (N)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1980	28.47	19.53	48.00	63.69	-15.69	QP
2	0.1980	16.79	19.53	36.32	53.69	-17.37	AVG
3	3.5020	17.43	19.56	36.99	56.00	-19.01	QP
4	3.5020	7.00	19.56	26.56	46.00	-19.44	AVG
5	3.5700	17.38	19.58	36.96	56.00	-19.04	QP
6	3.5700	8.44	19.58	28.02	46.00	-17.98	AVG
7	3.7020	15.77	19.58	35.35	56.00	-20.65	QP
8	3.7020	6.85	19.58	26.43	46.00	-19.57	AVG
9	3.8340	19.03	19.58	38.61	56.00	-17.39	QP
10	3.8340	8.40	19.58	27.98	46.00	-18.02	AVG
11	3.9020	18.37	19.58	37.95	56.00	-18.05	QP
12	3.9020	7.73	19.58	27.31	46.00	-18.69	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
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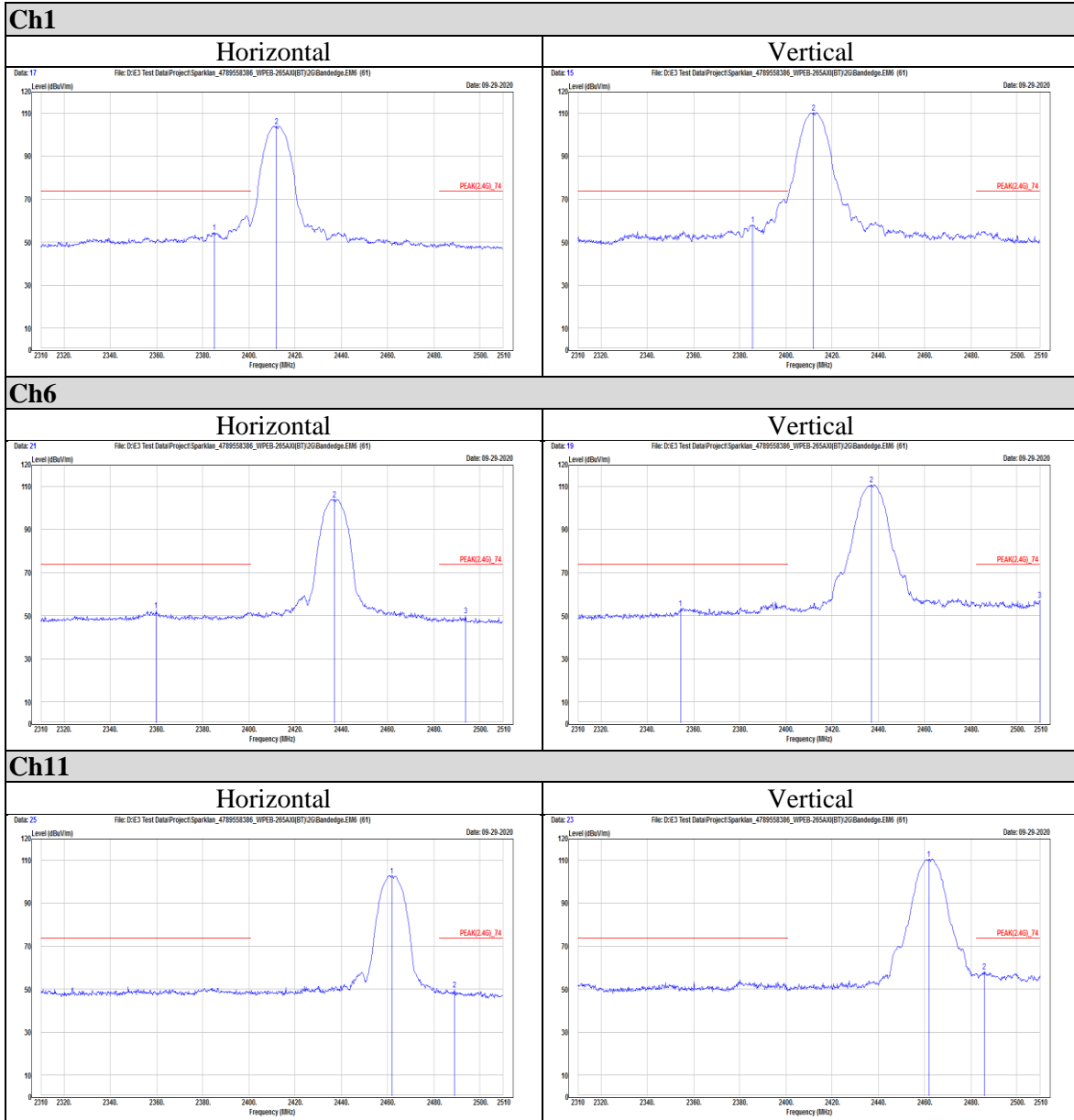


Appendix I Radiated Band Edge Measurement

Non-Beamforming mode

802.11b

Peak



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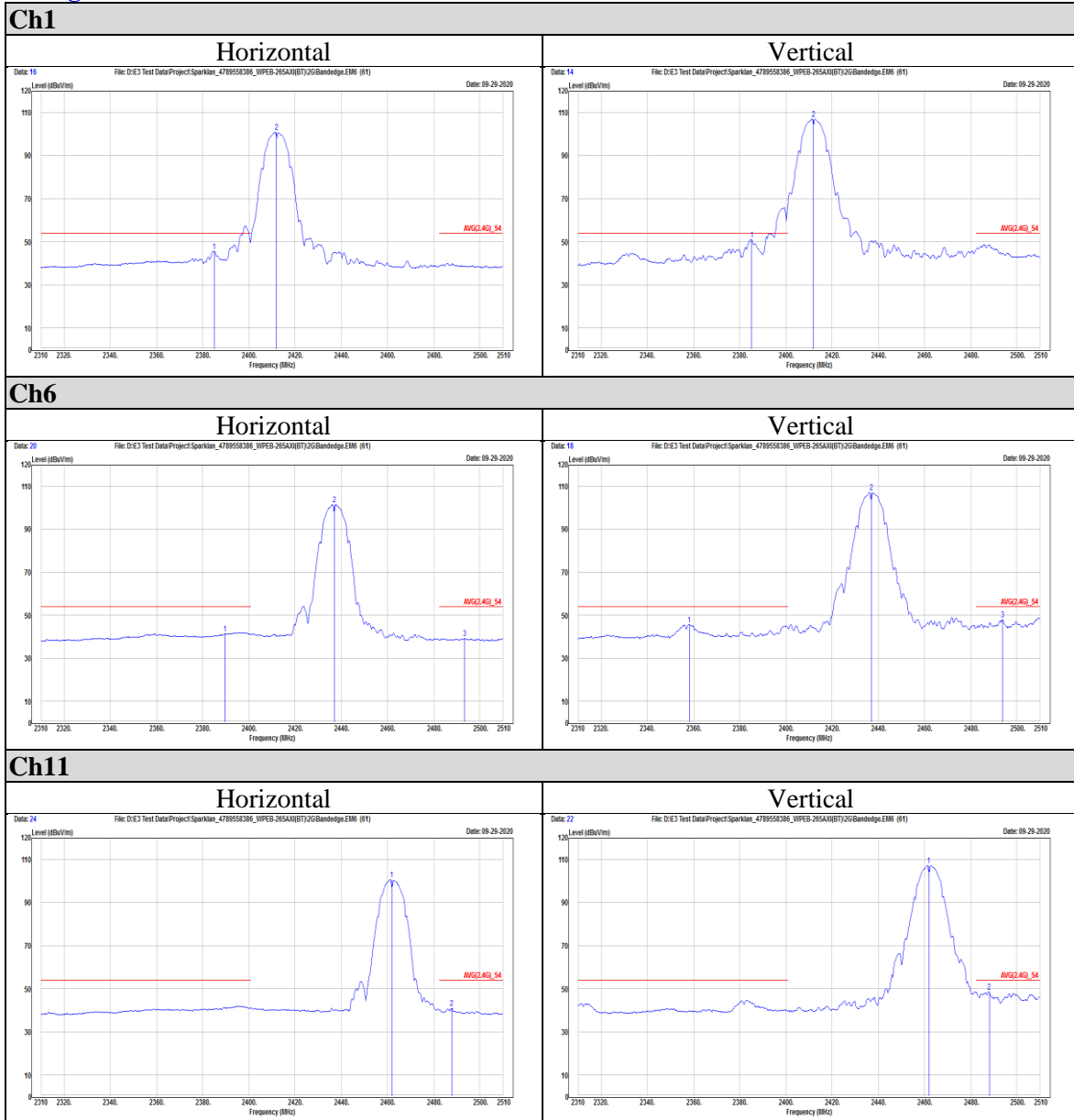
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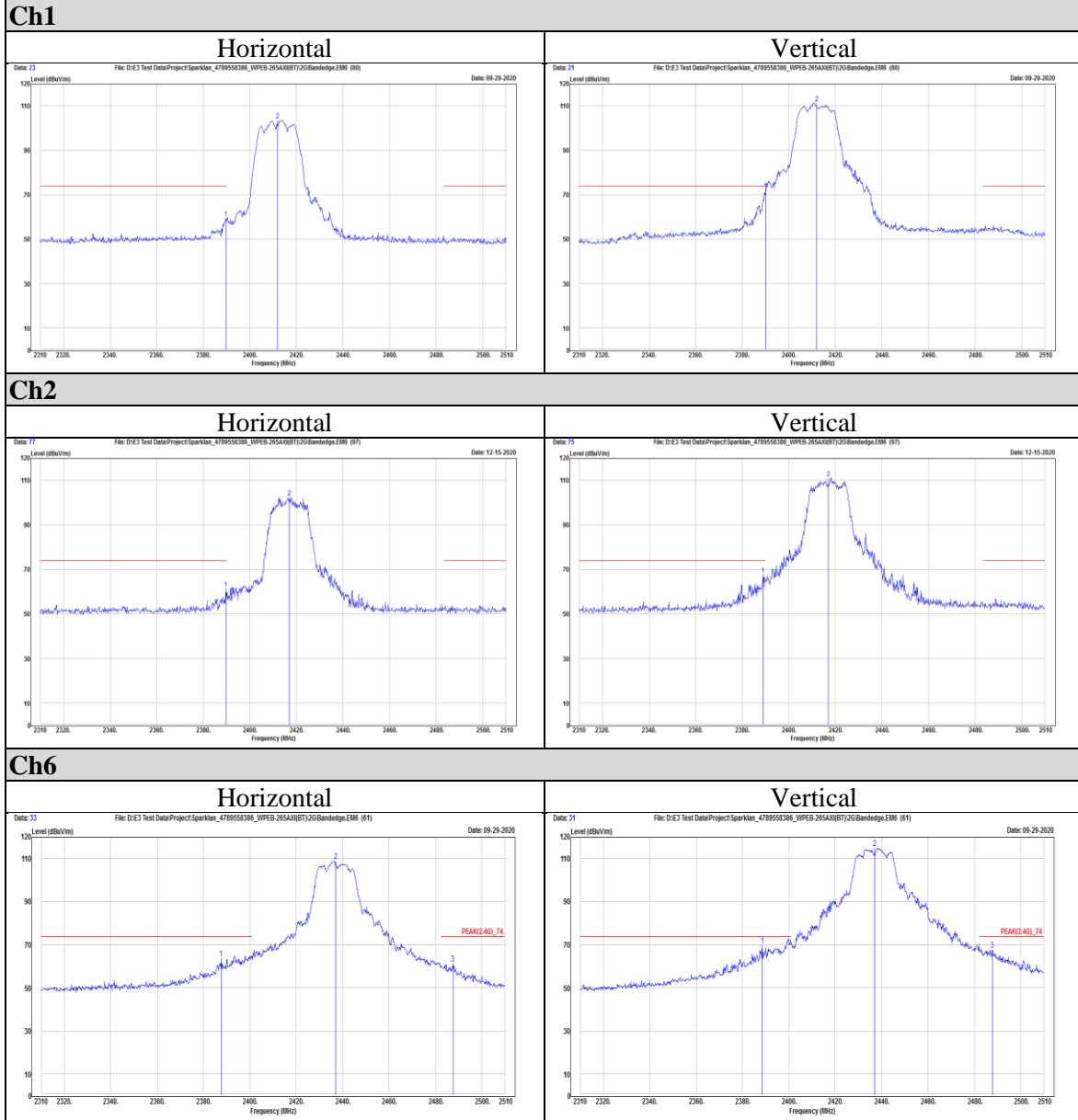
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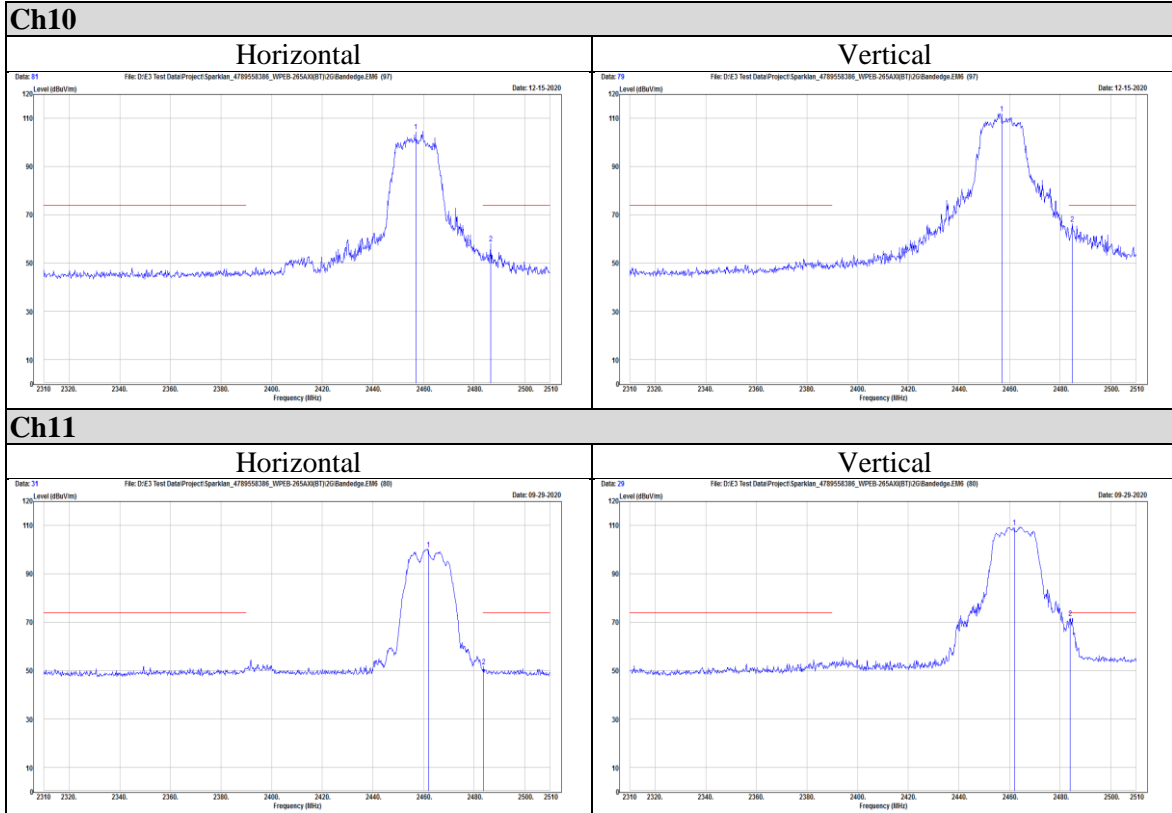




802.11g

Peak





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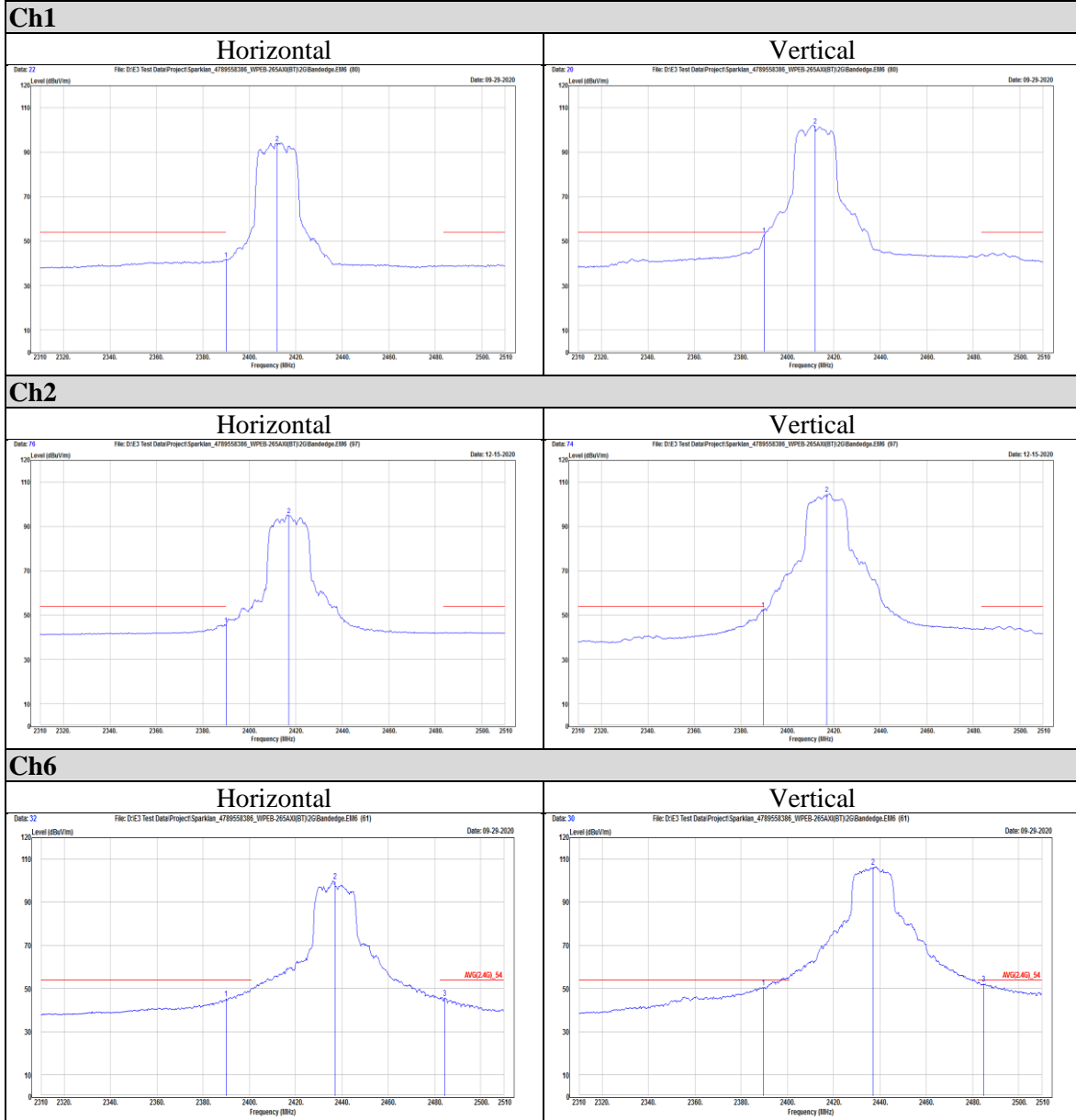
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Average

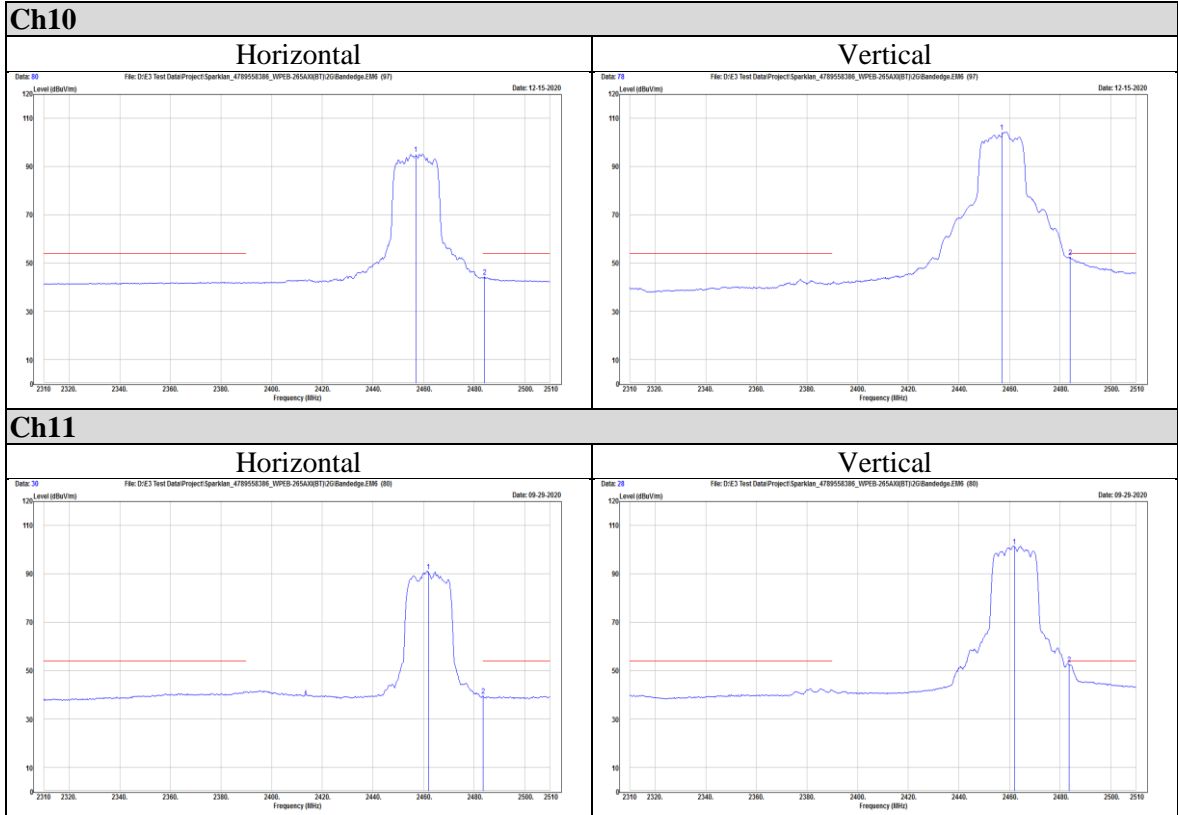


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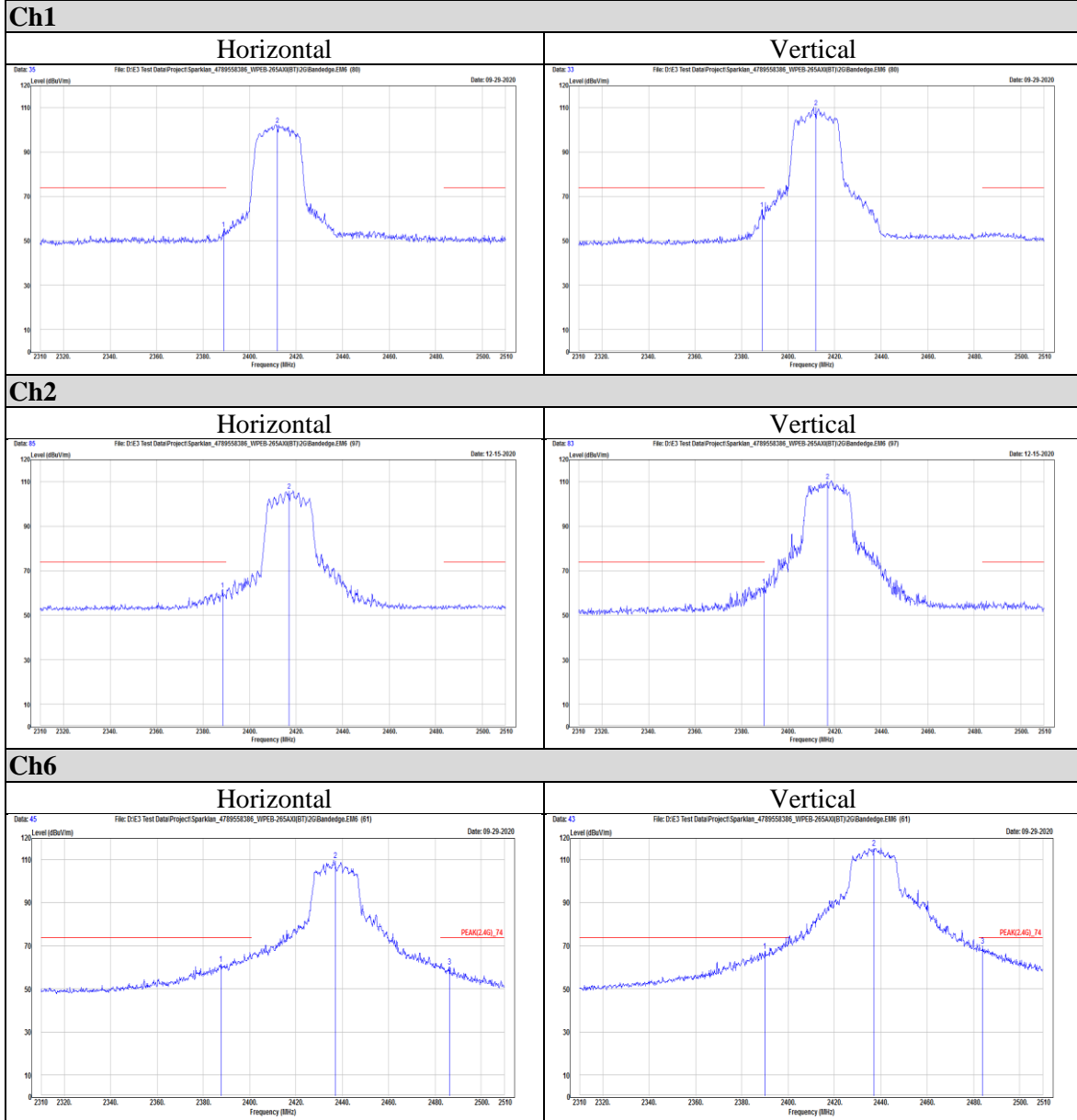
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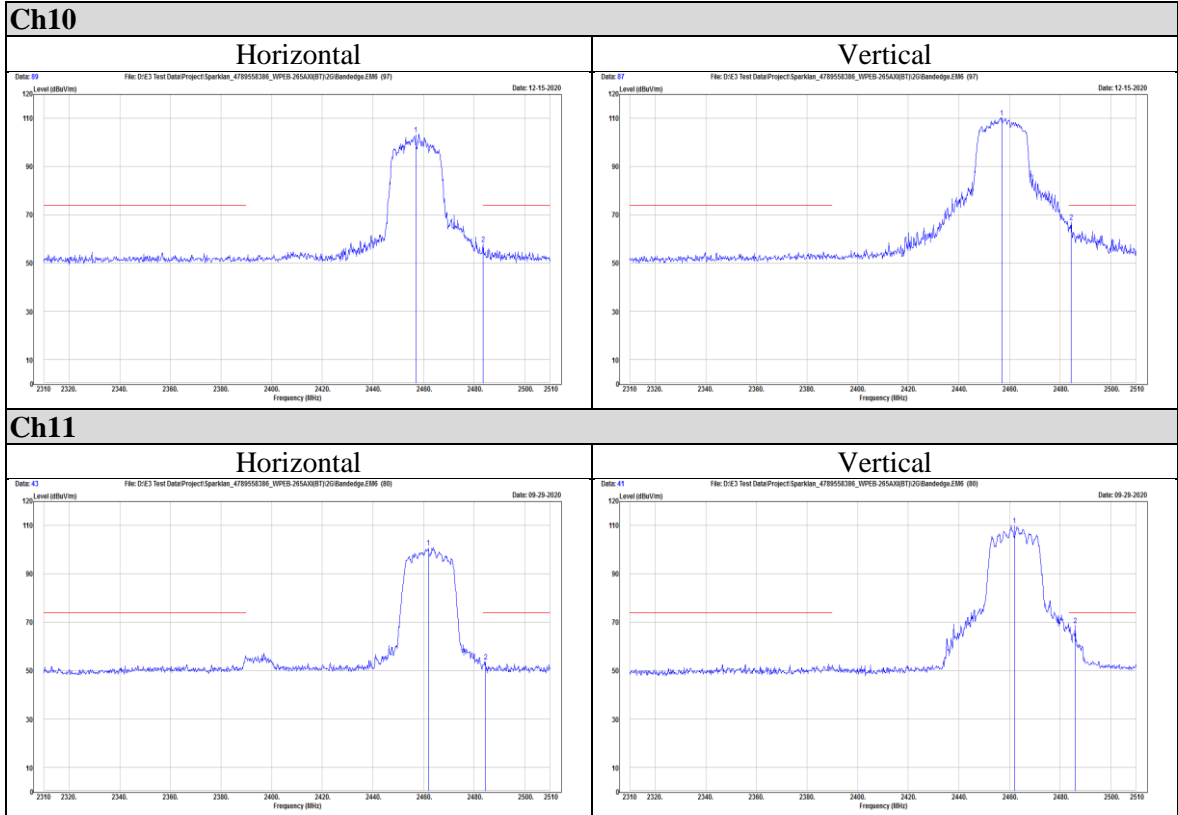




802.11ax (HE20)

OFDM Peak





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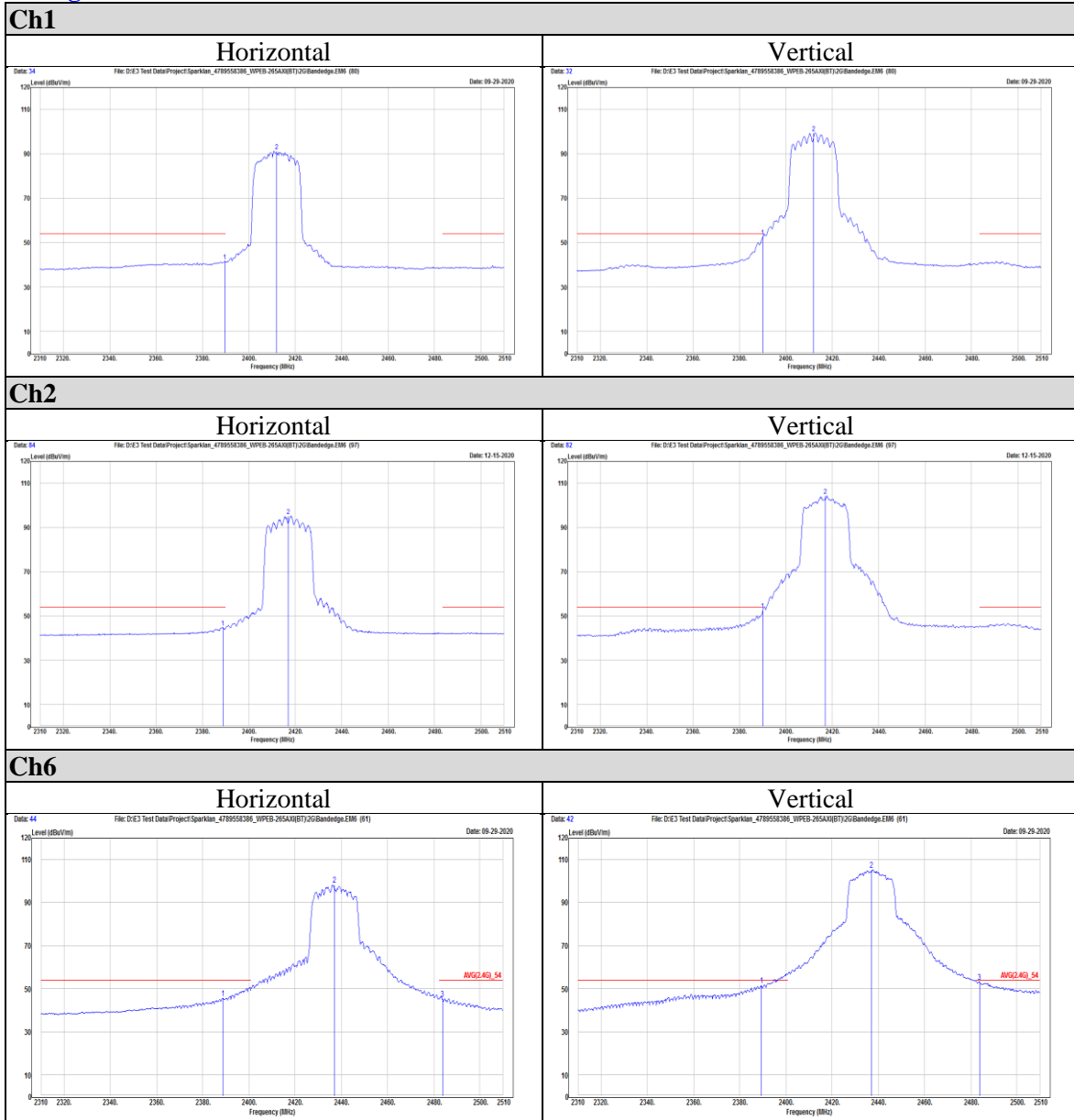
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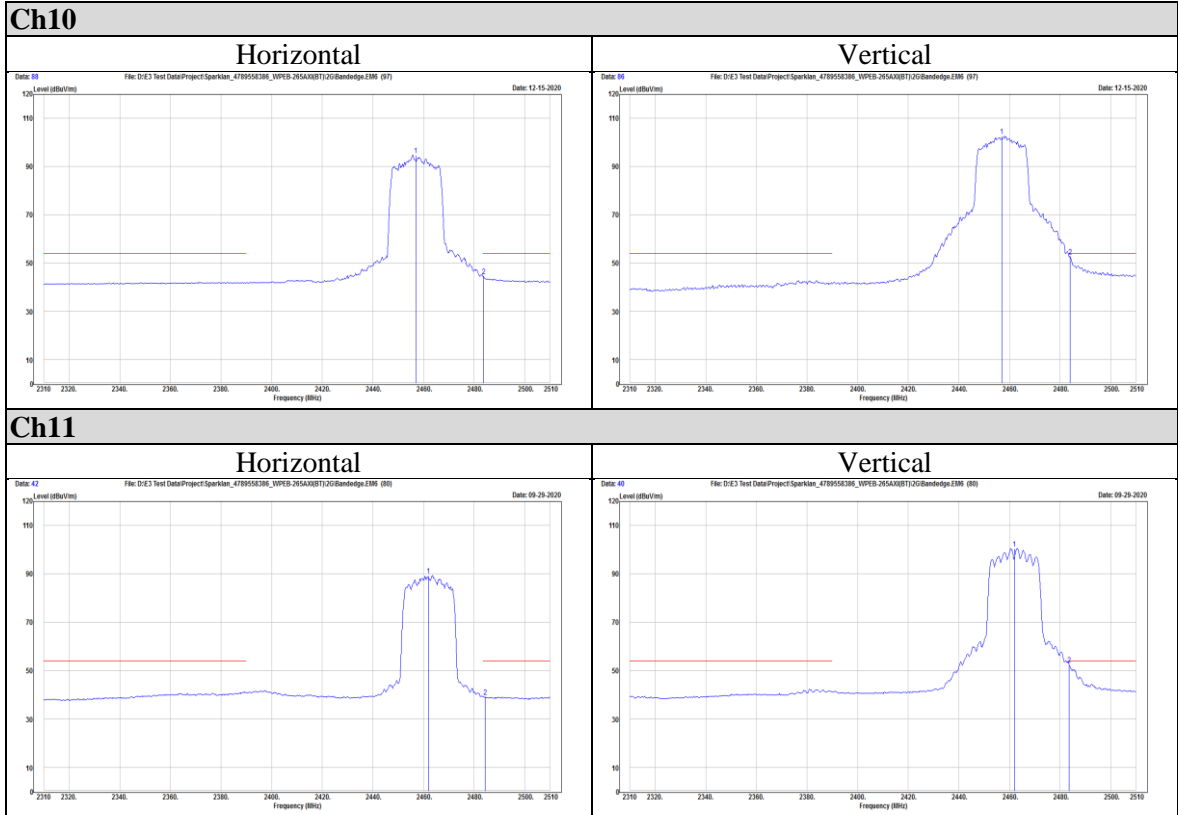


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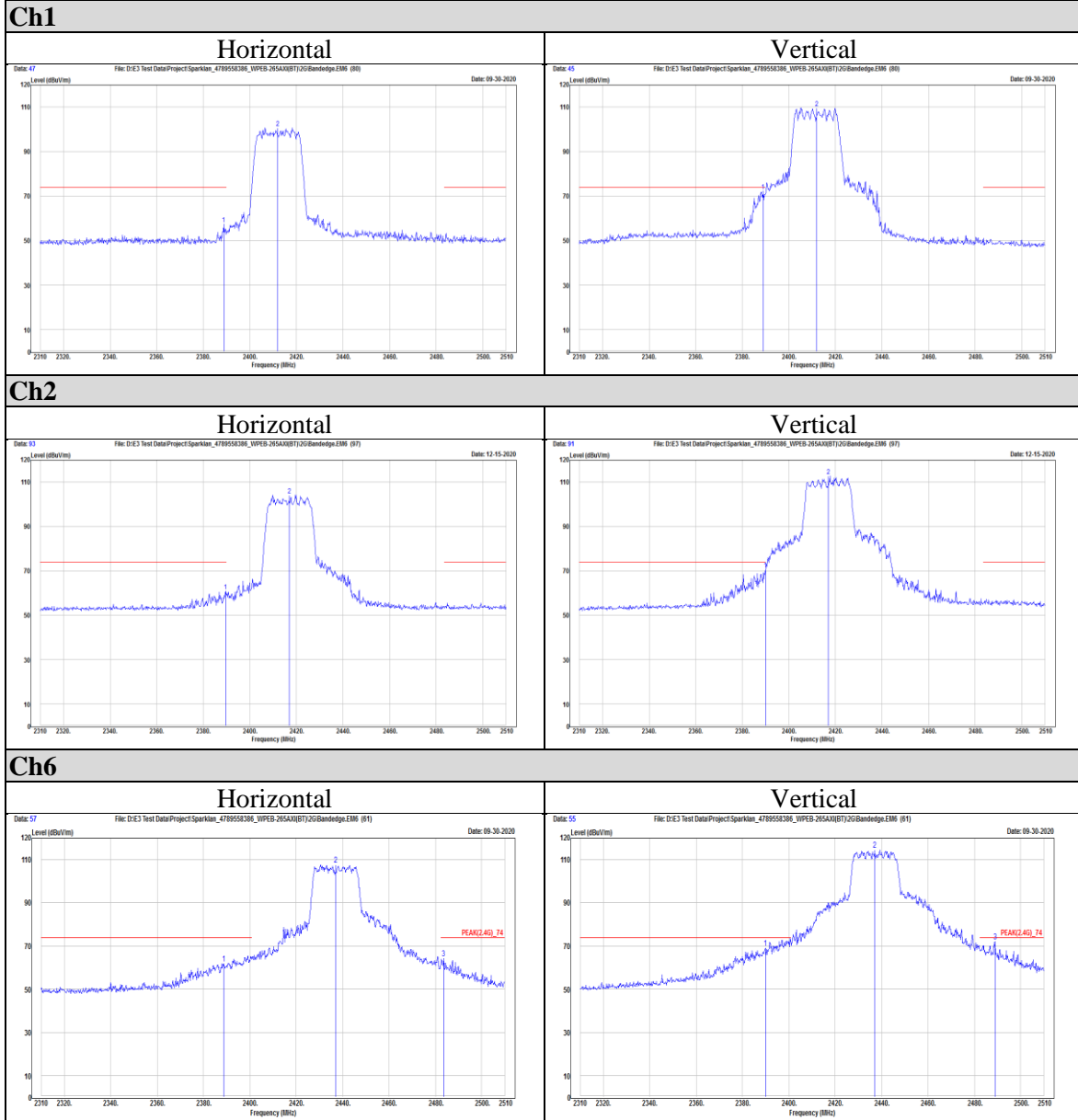
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Peak

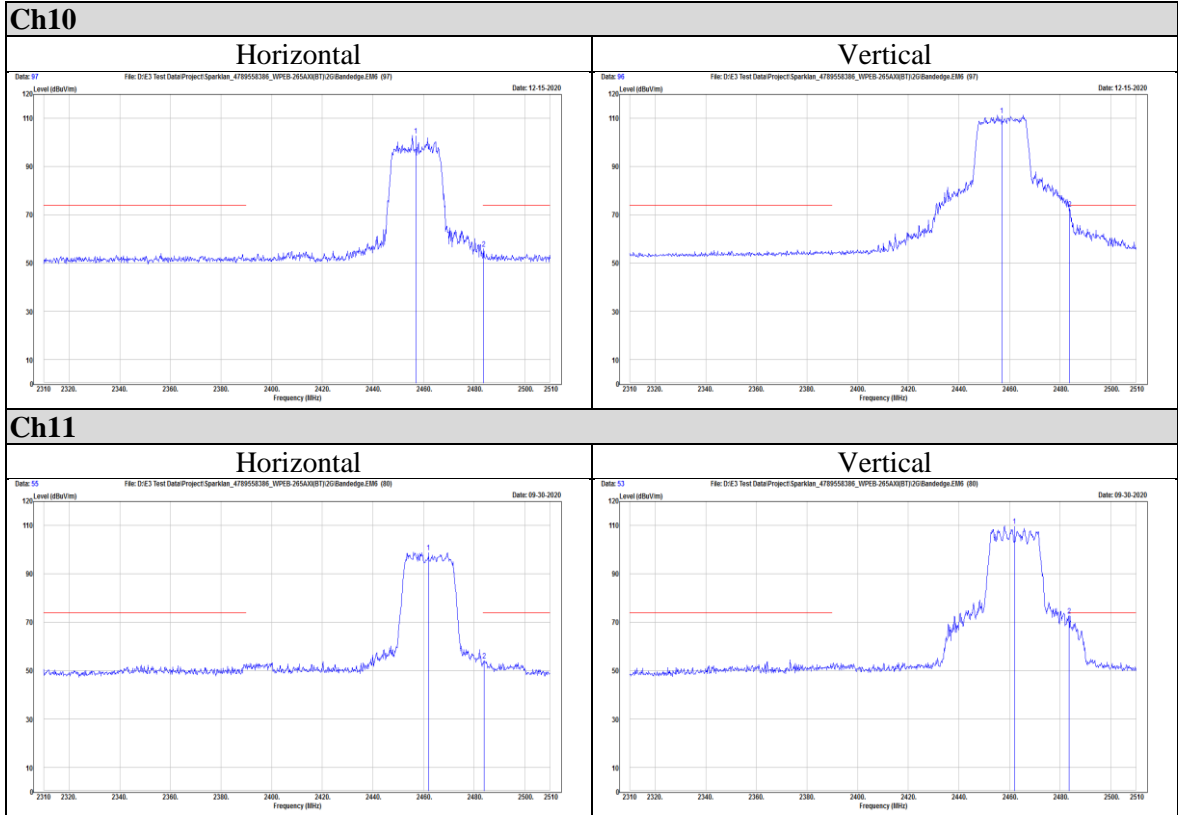


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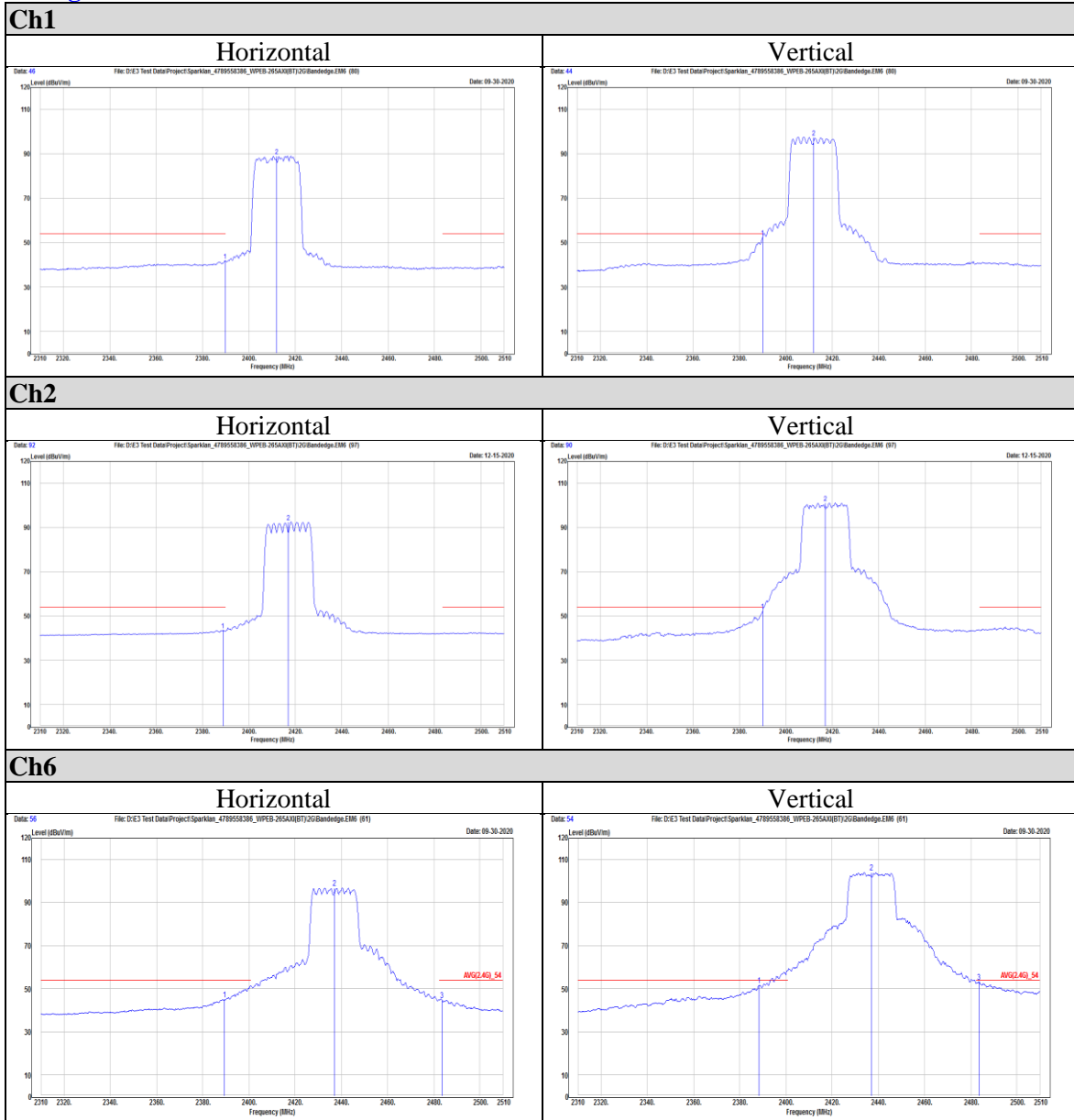
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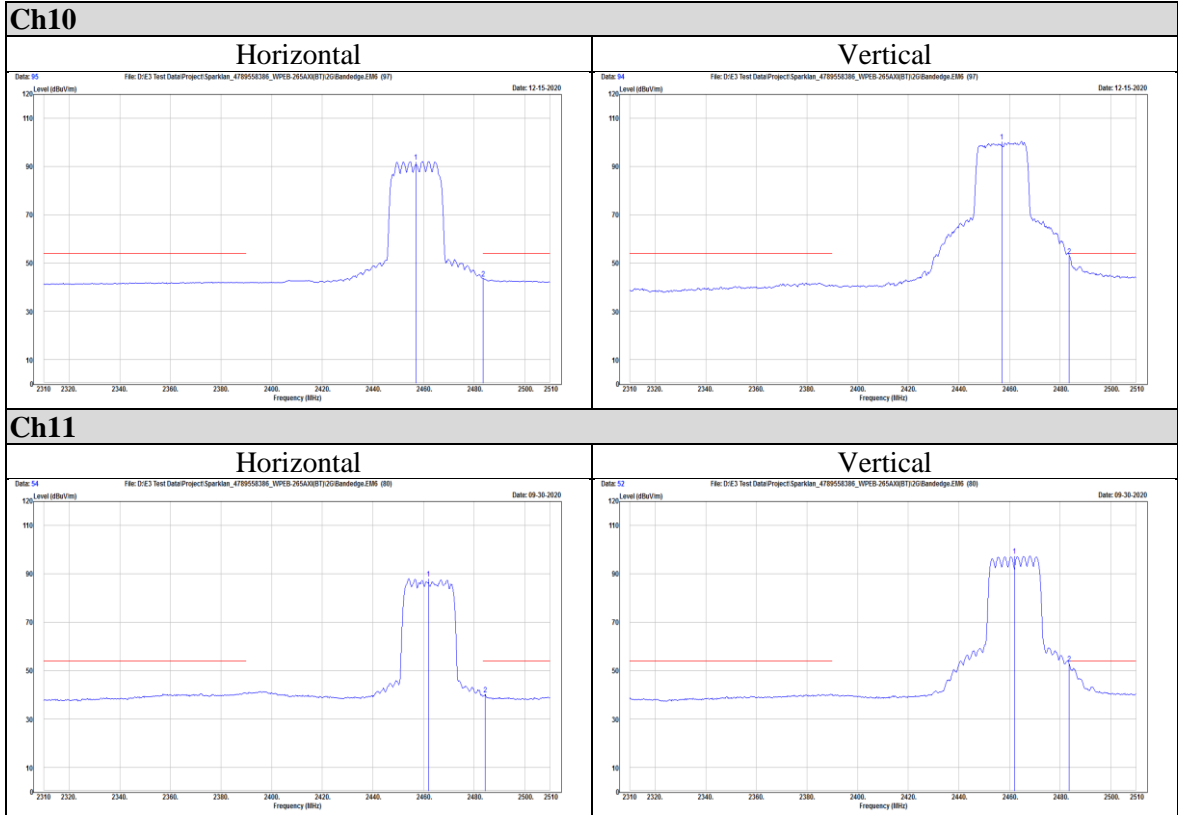


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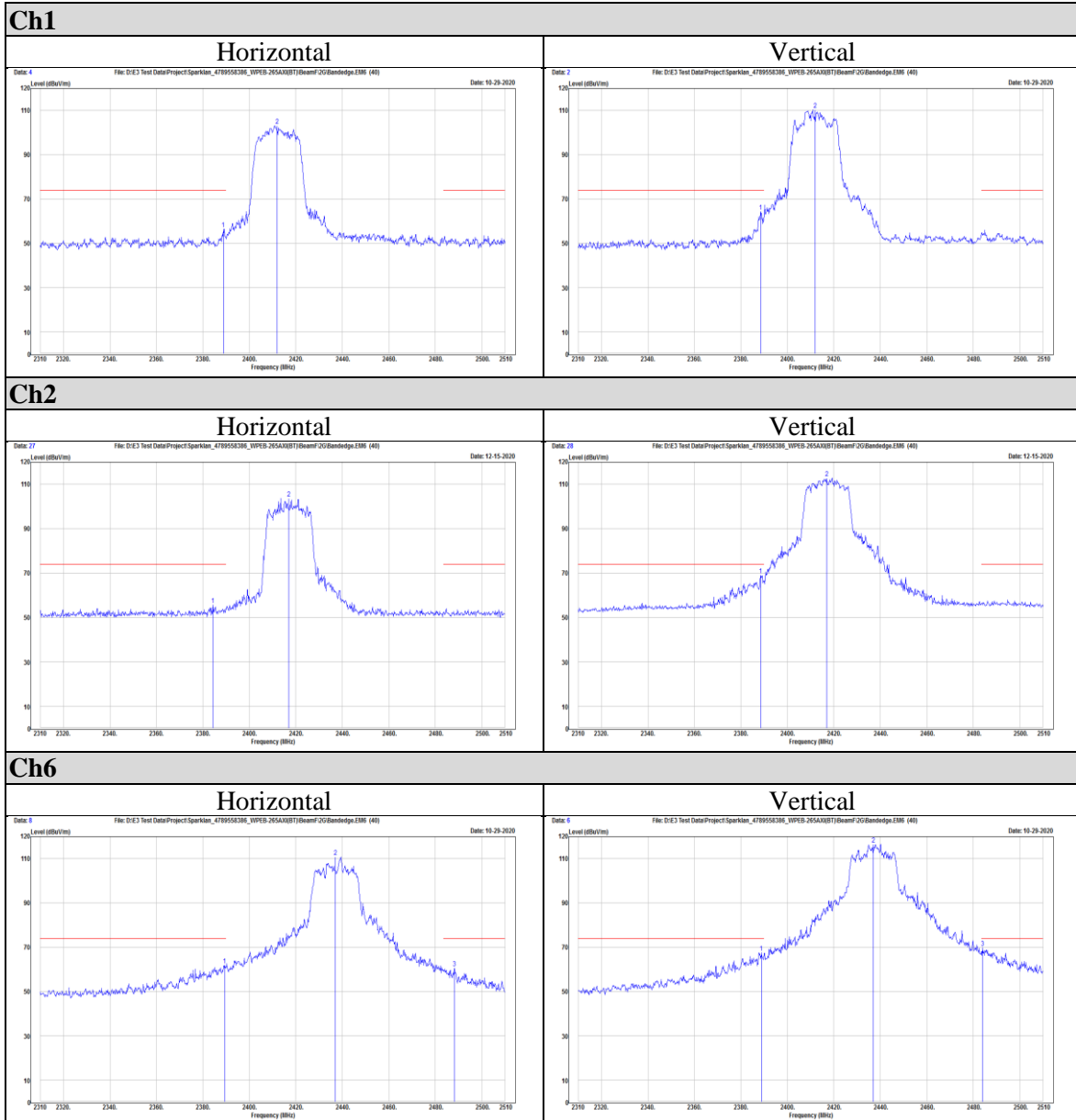


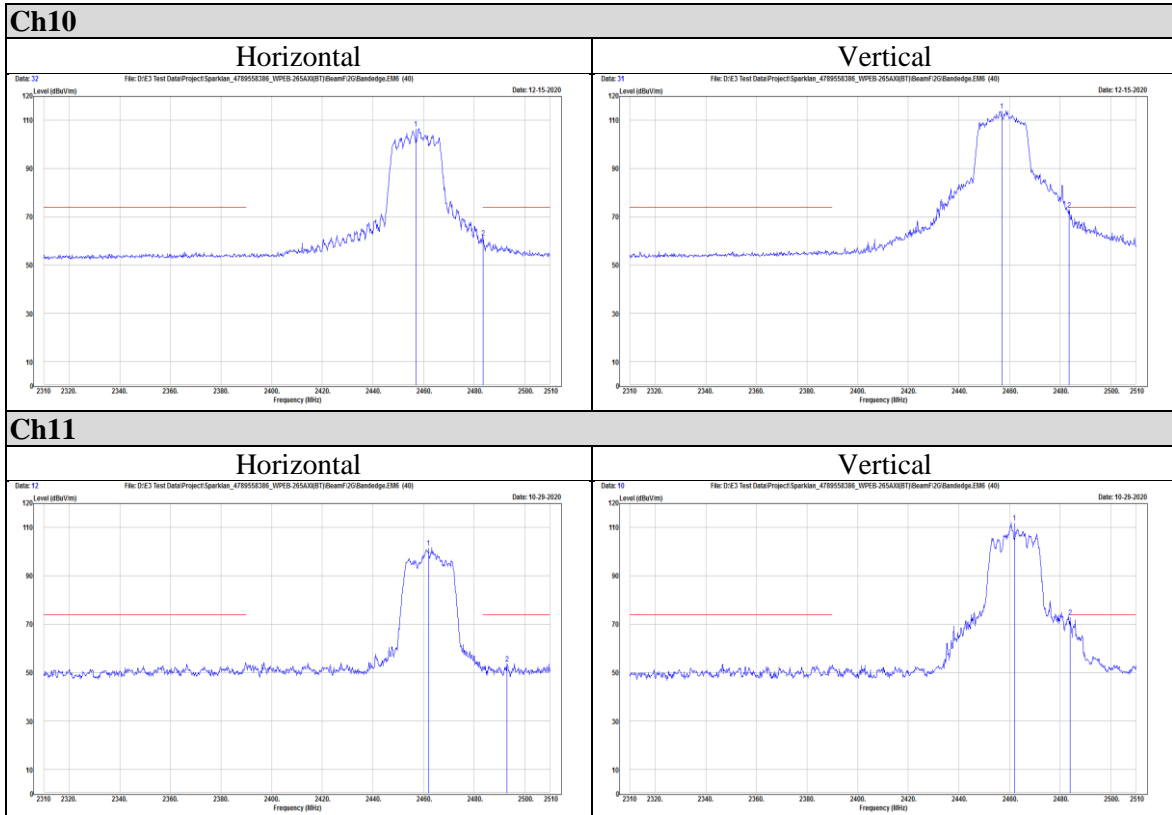
Beamforming mode

802.11ax (HE20)

OFDM

Peak





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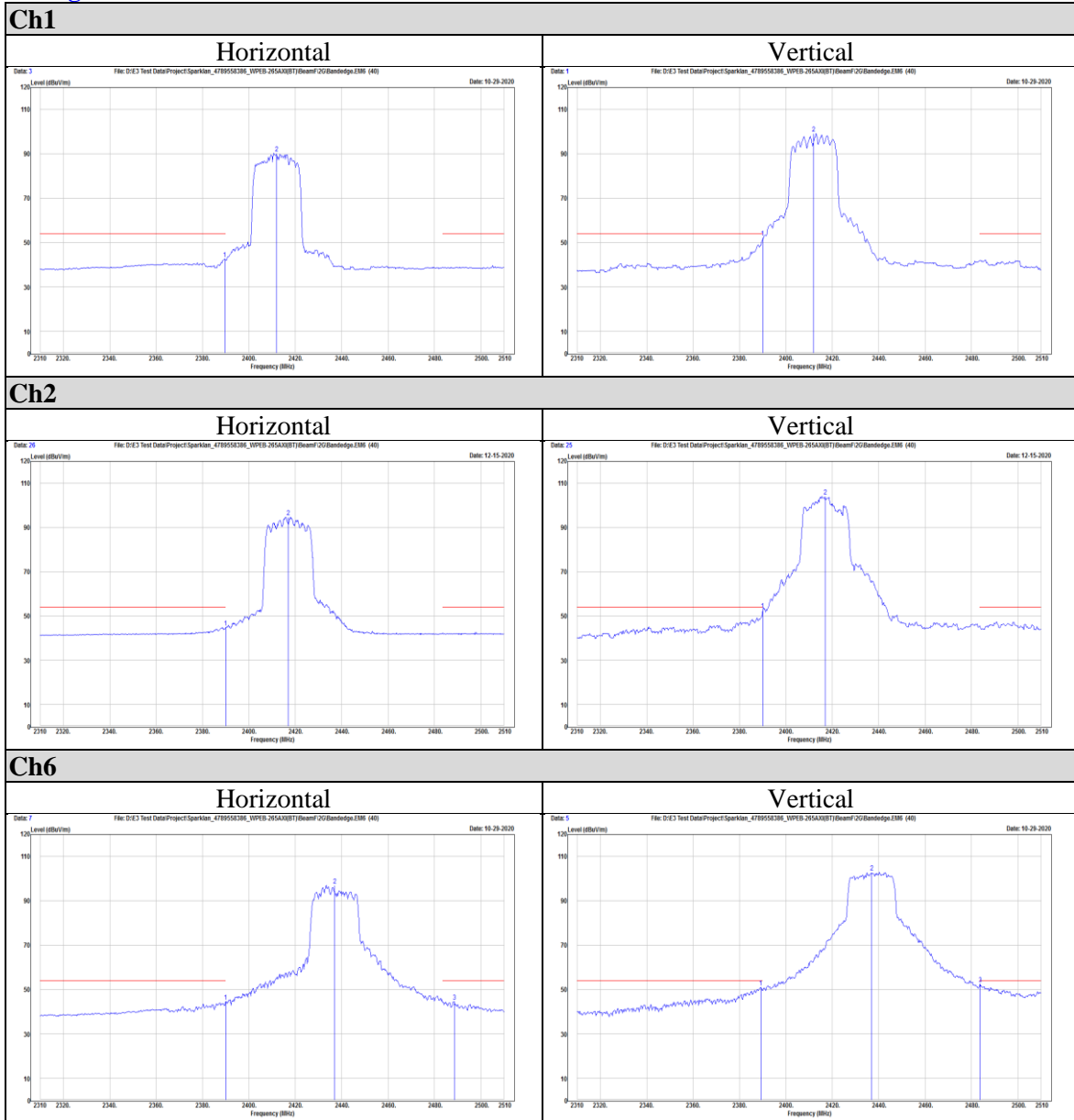
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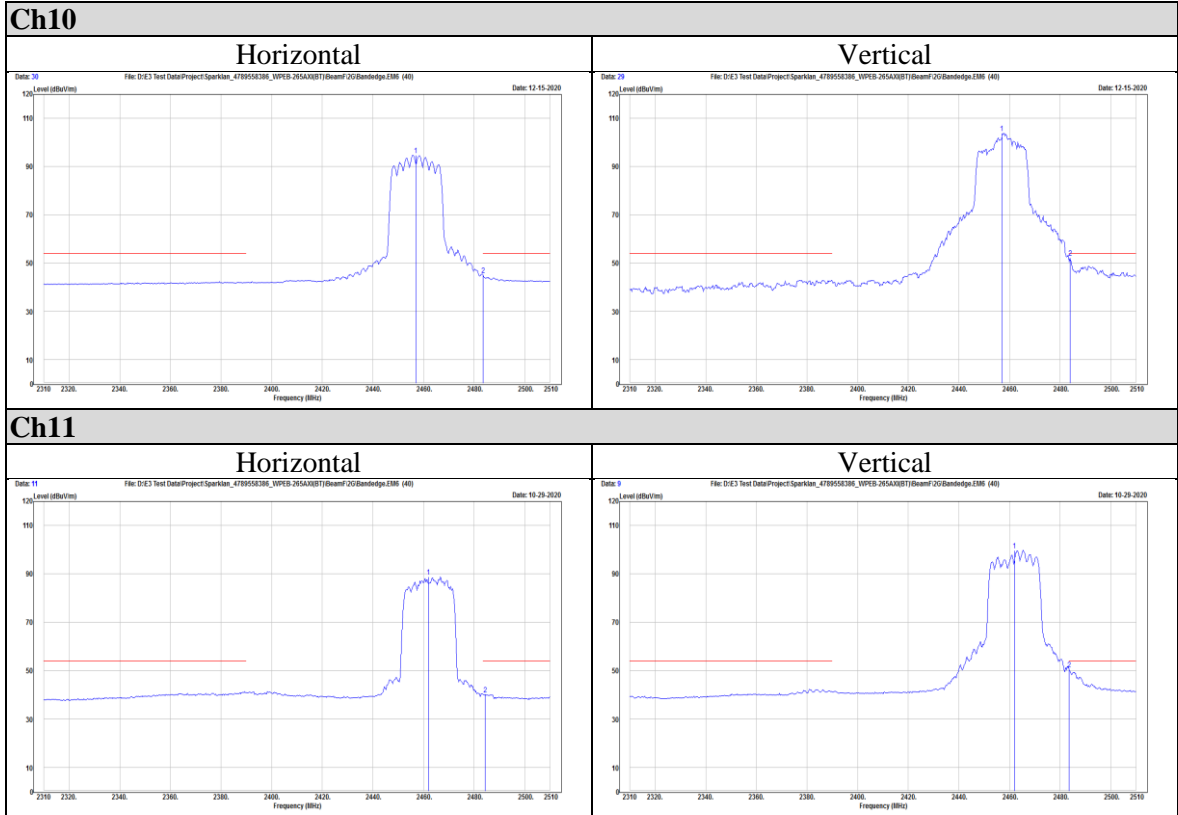
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Average





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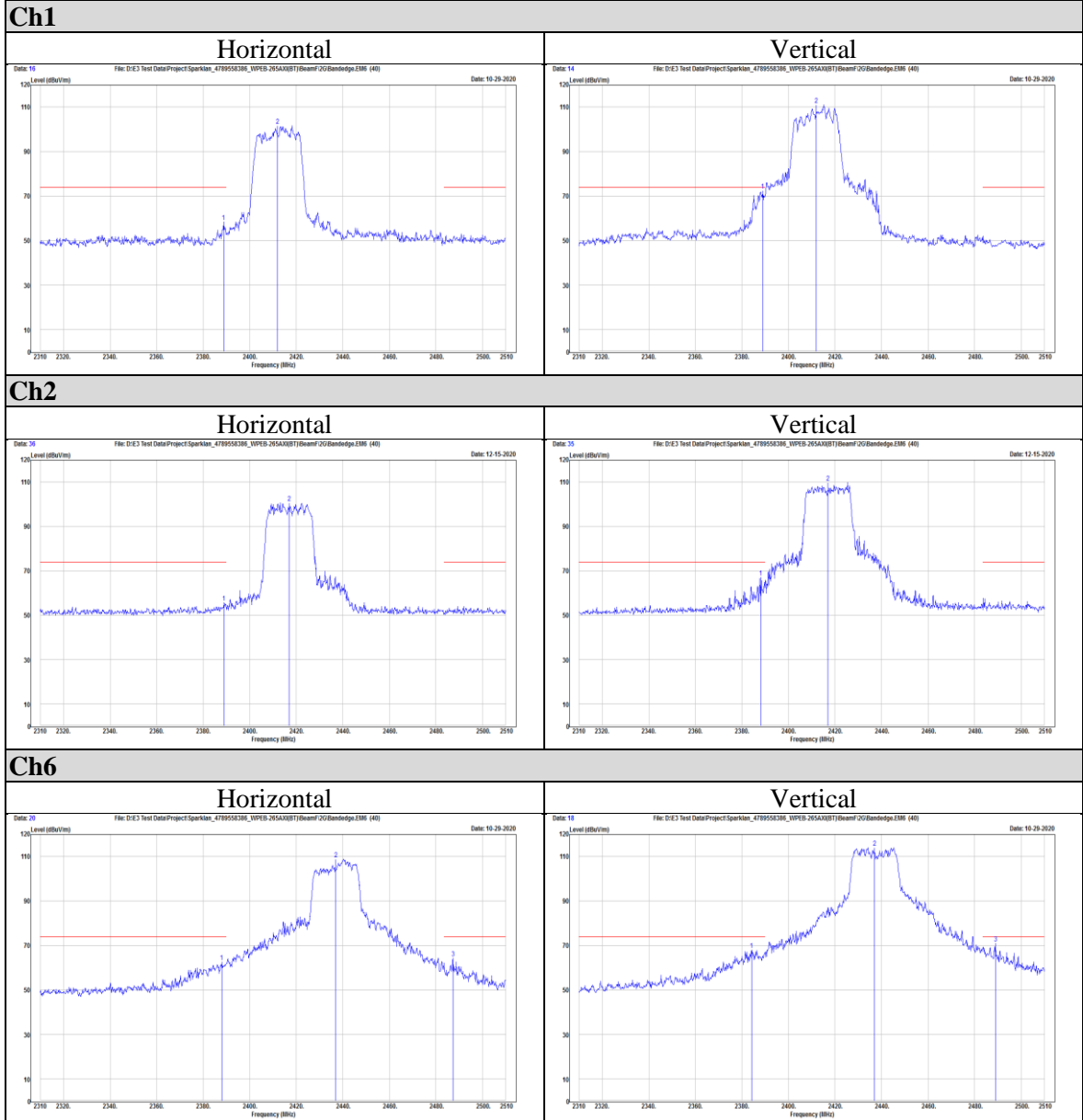
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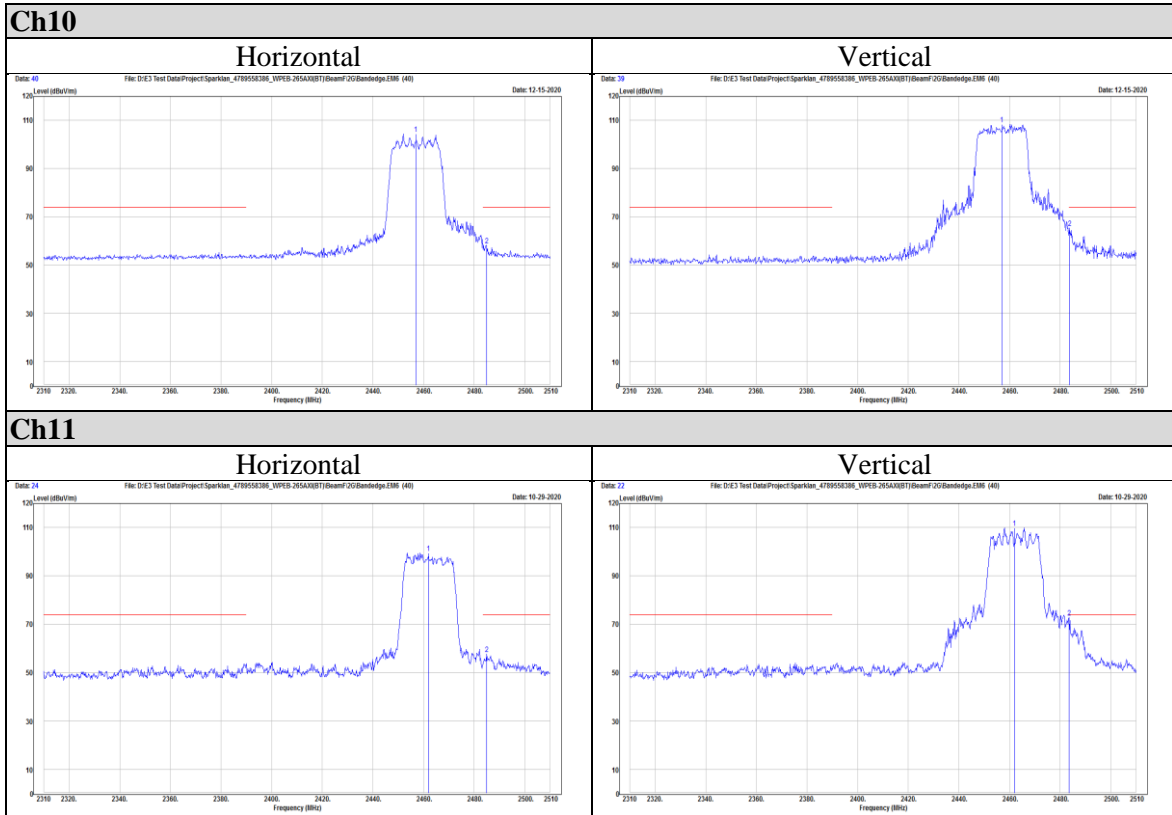
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Doc No: 17-EM-F0876 / 5.0



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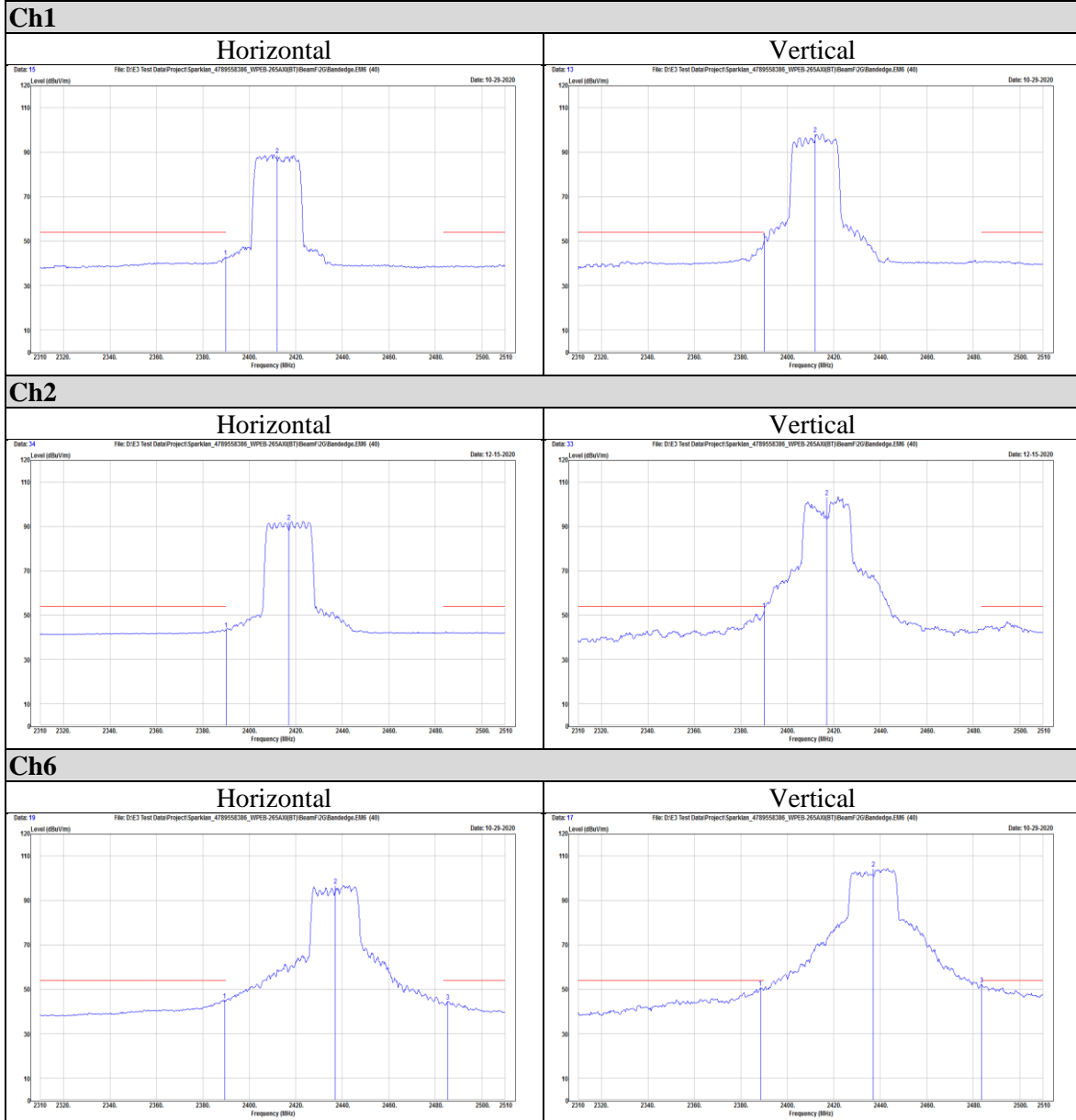
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Average

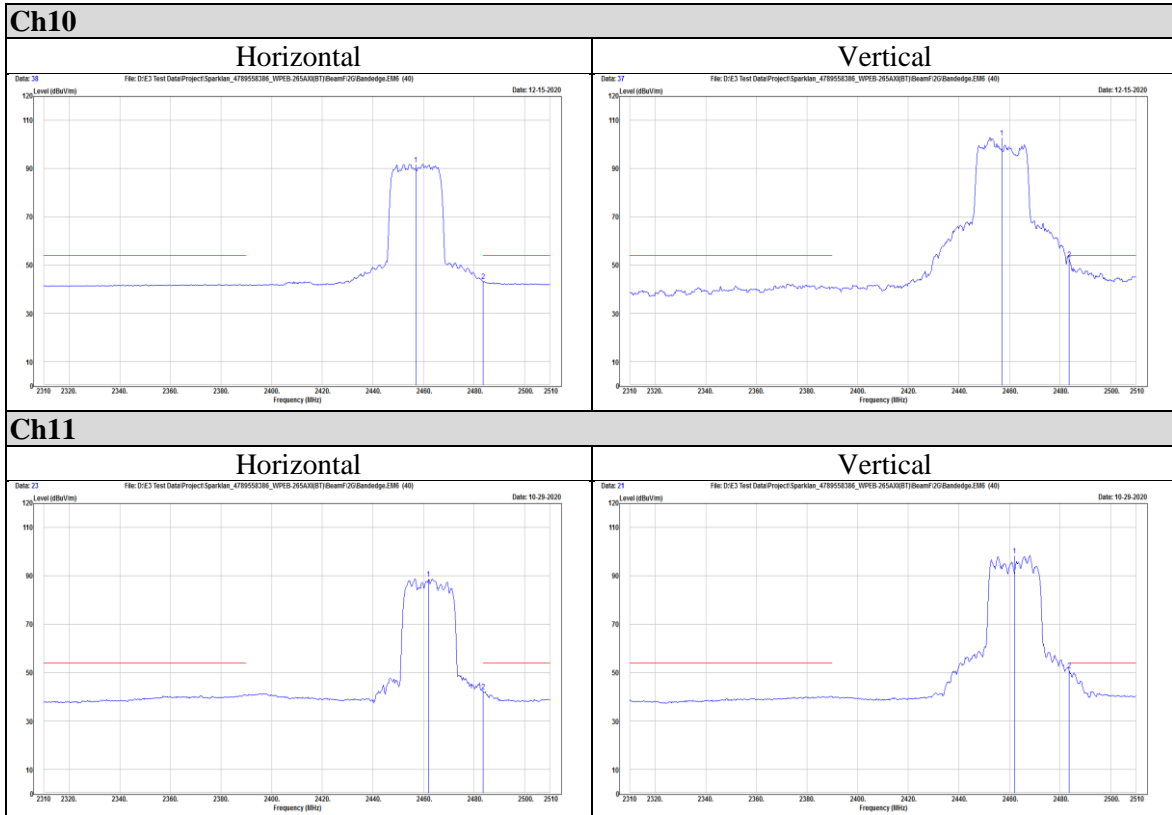


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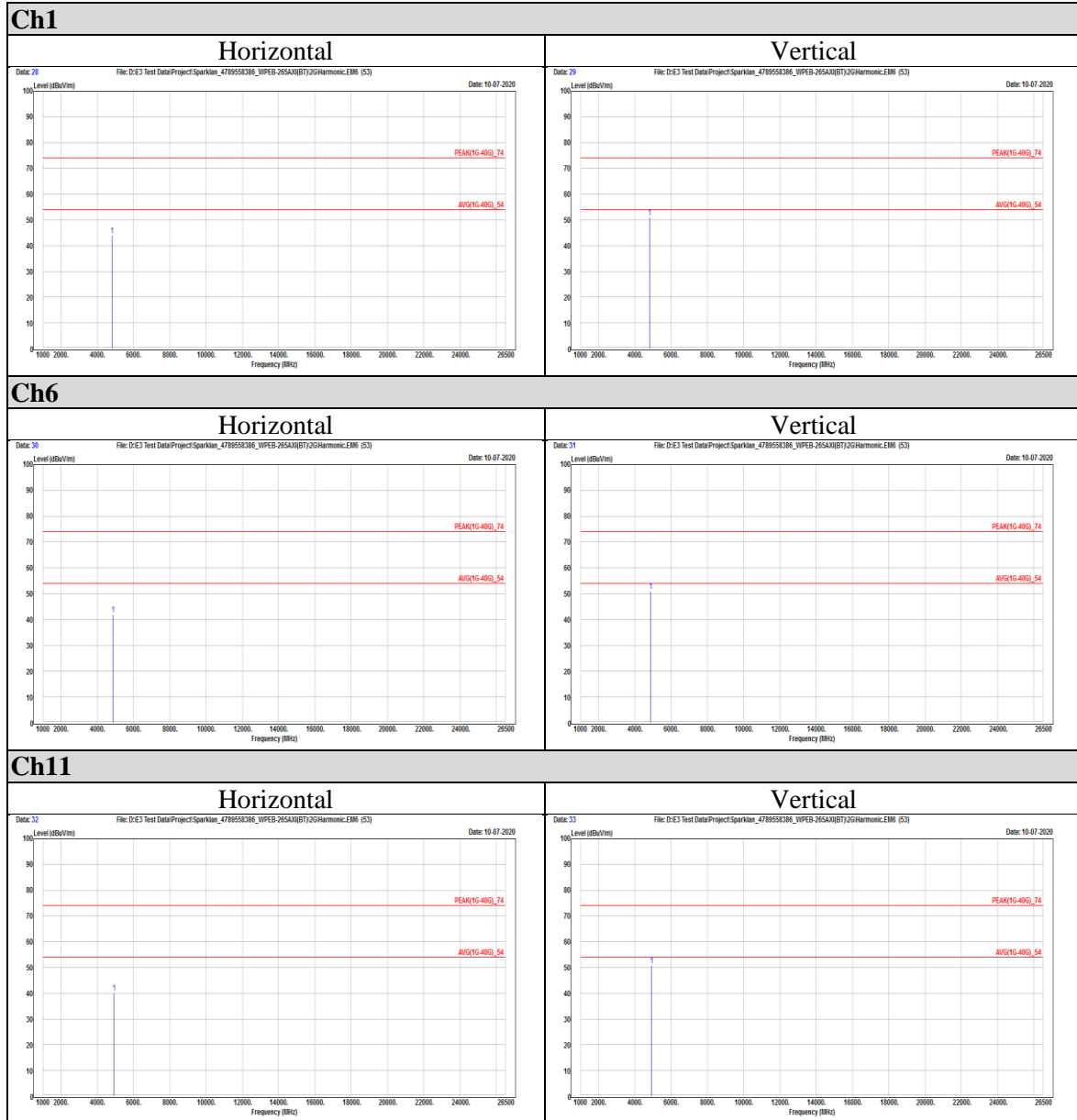
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Appendix II Radiated Spurious Emission Measurement

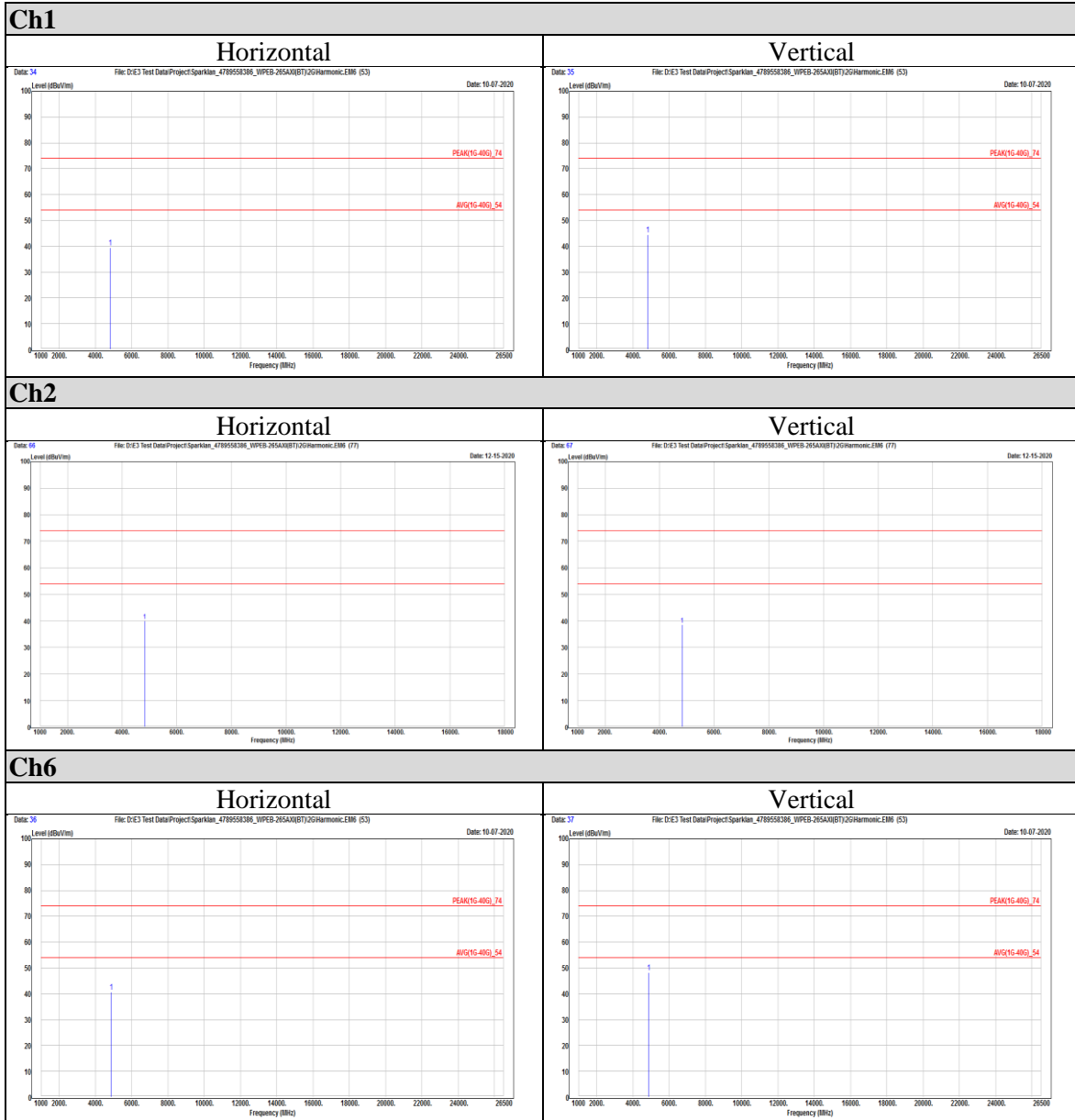
Non-Beamforming mode

802.11b





802.11g

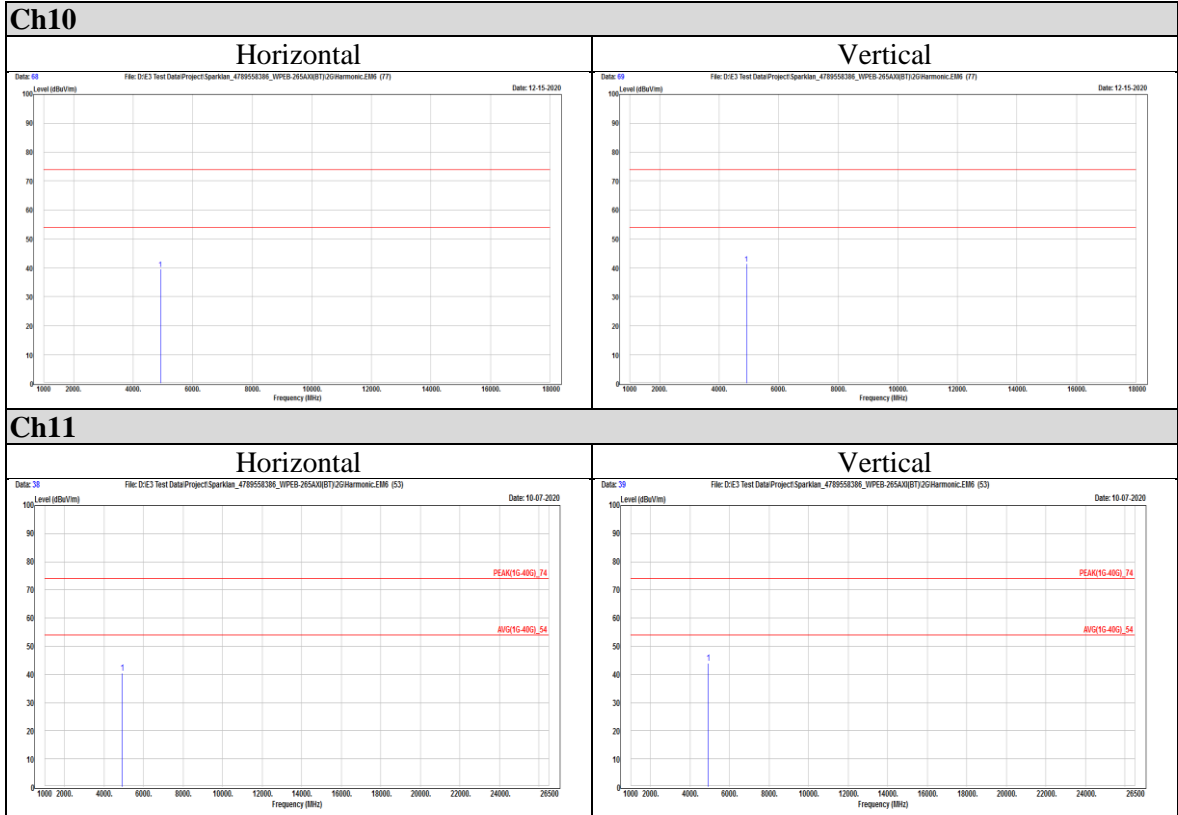


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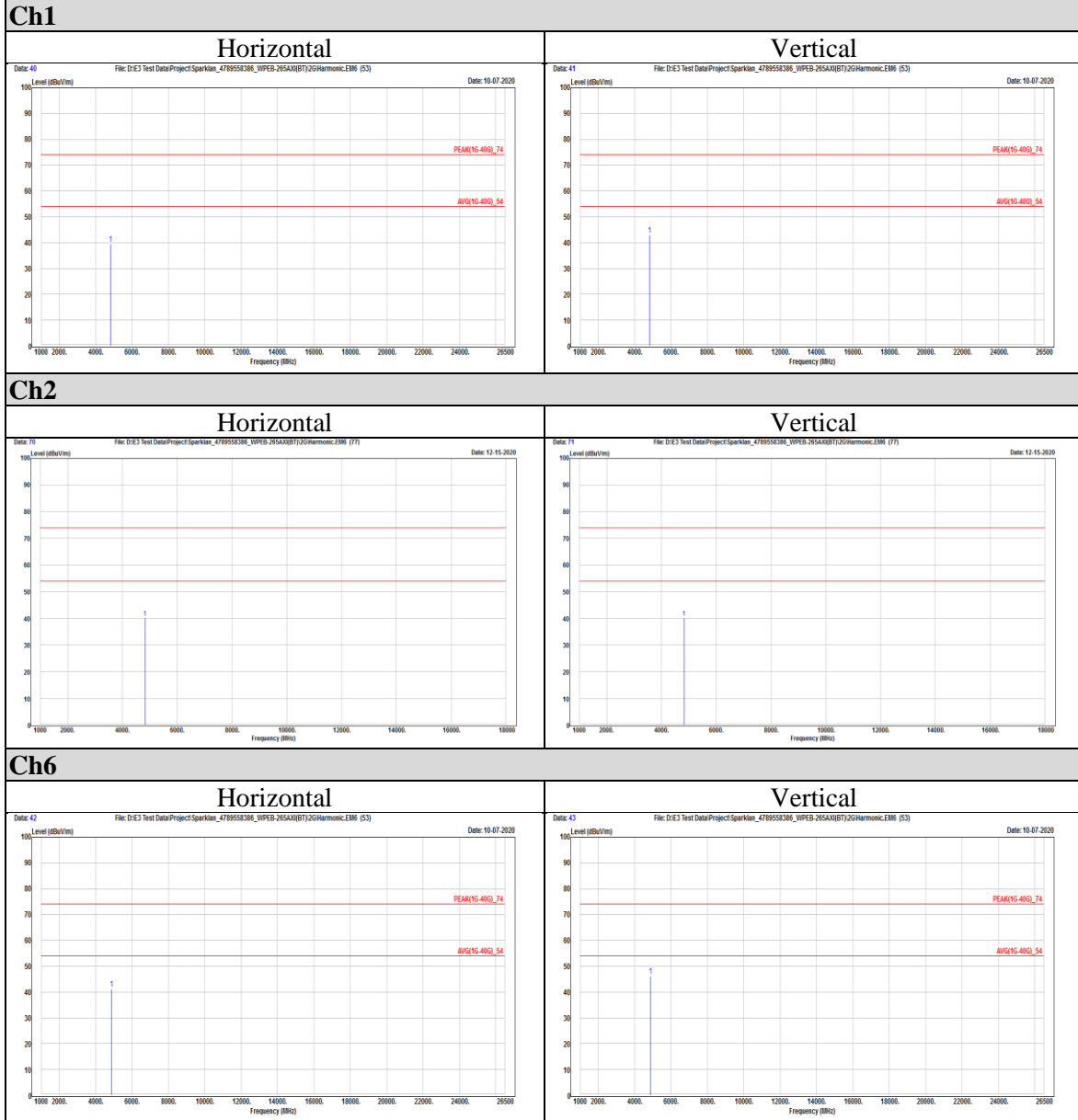
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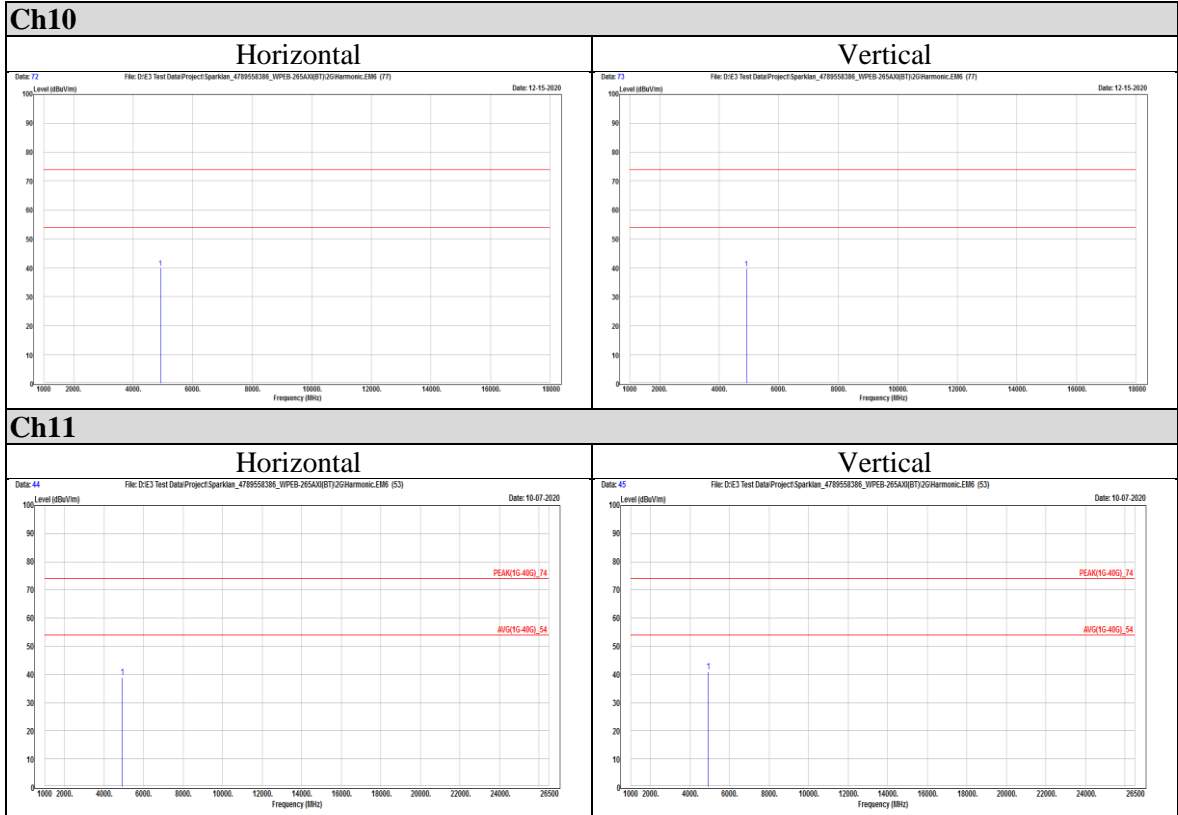




802.11ax (HE20)

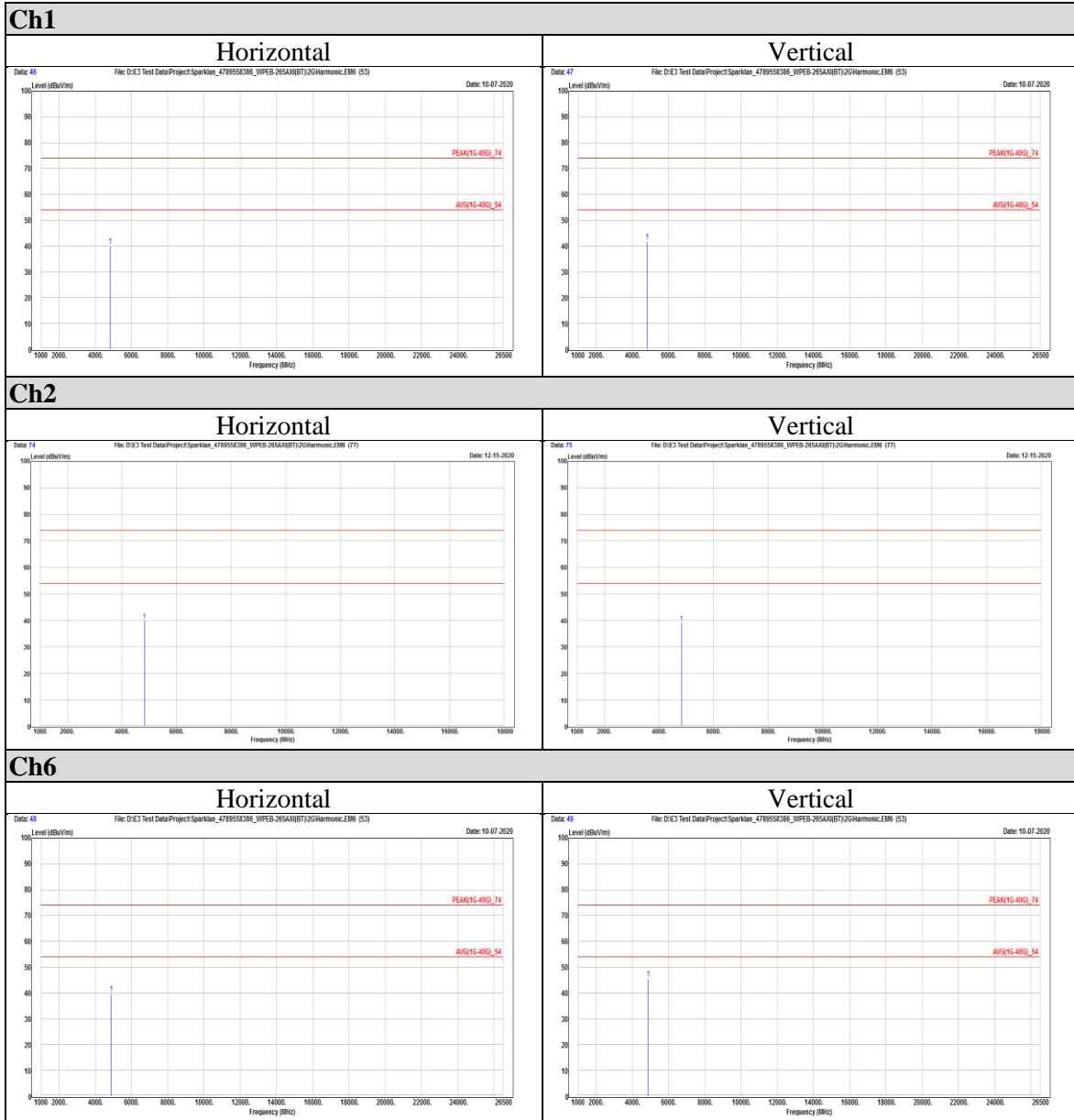
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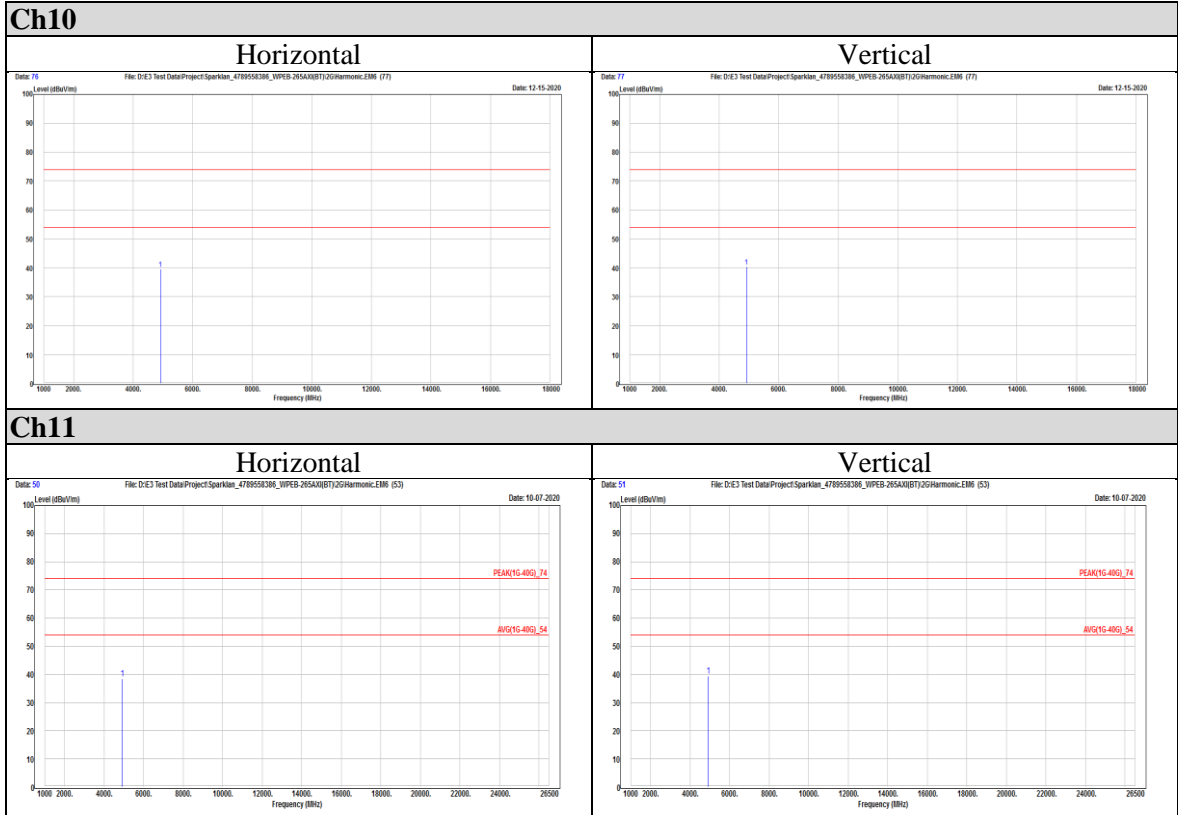






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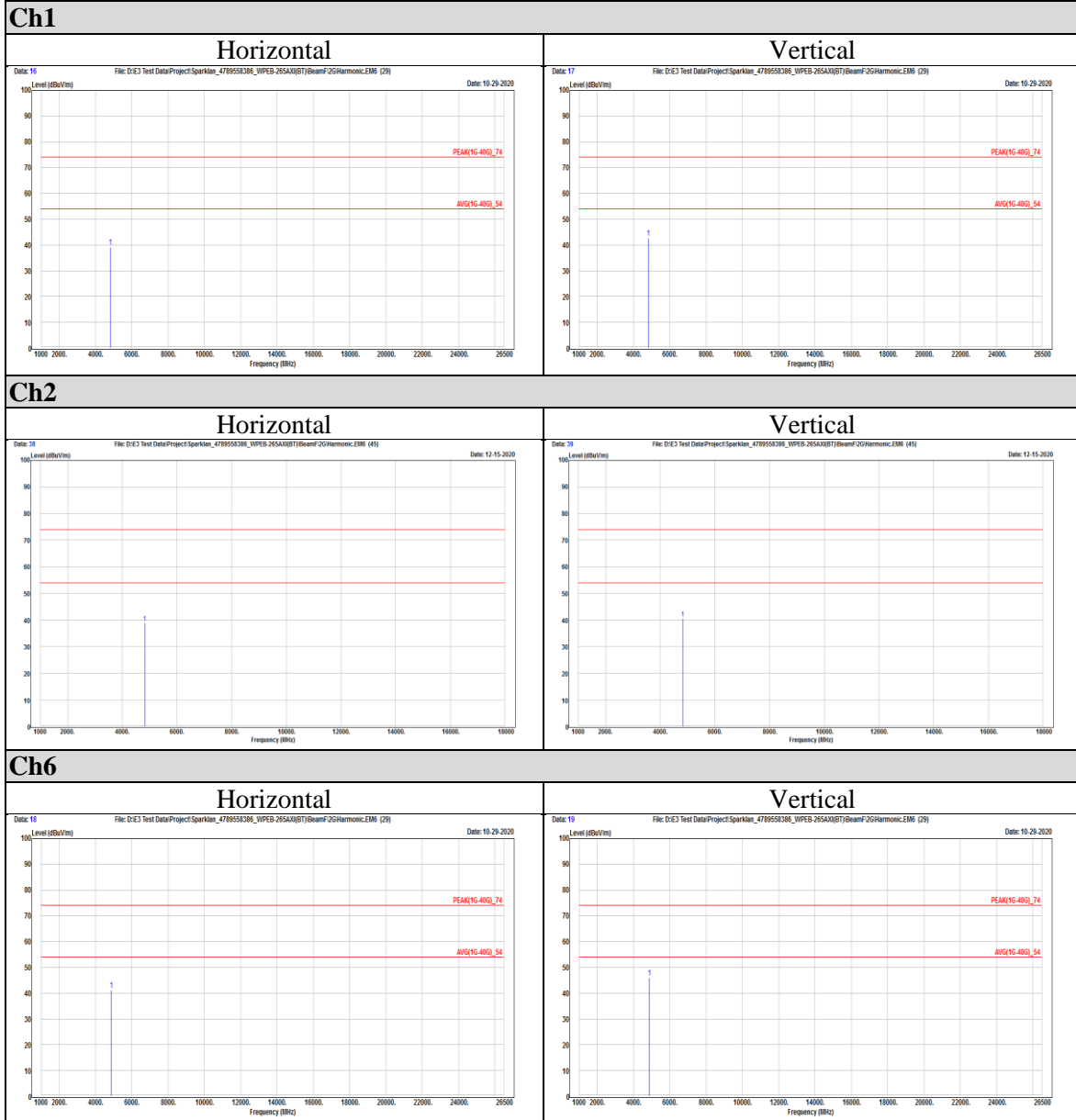
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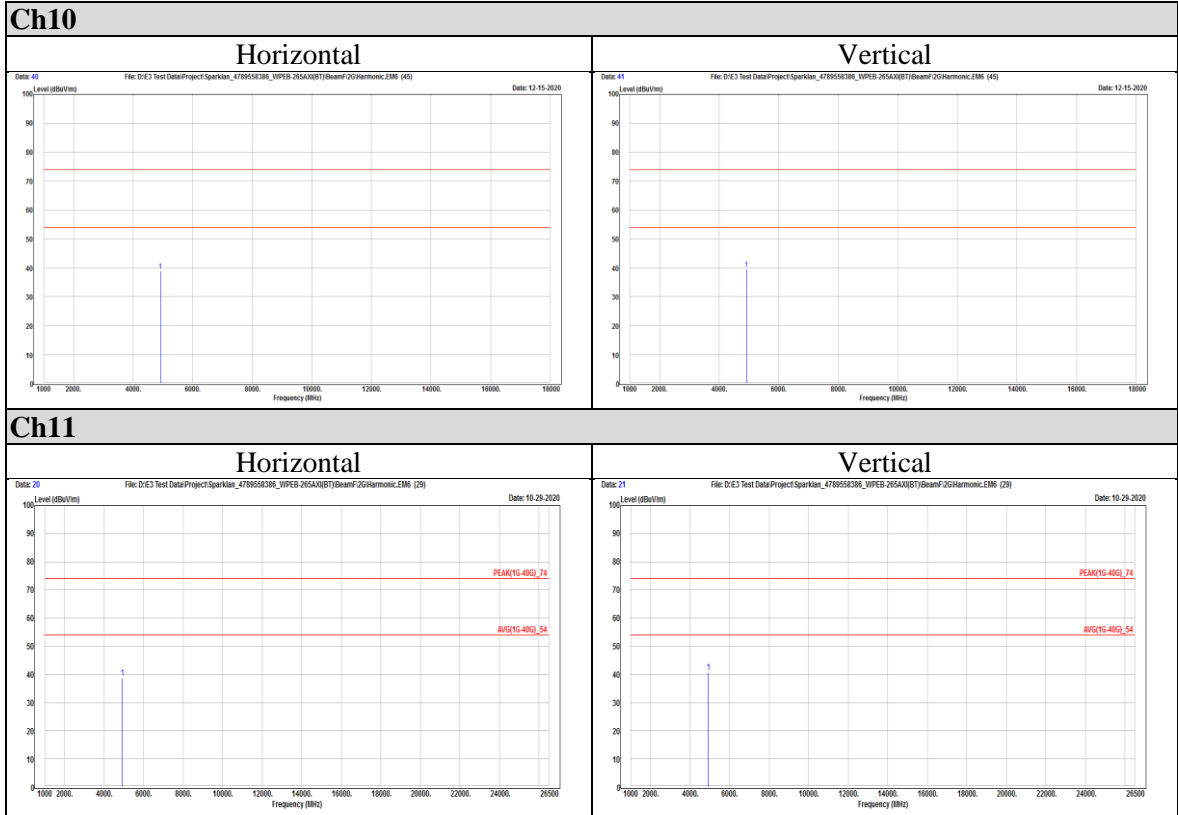


Beamforming mode

802.11ax (HE20)

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