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FCC ID : RYK-WNFQ268AXB

Mode	802.11ax(HE80)	Channel	183
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5904.8	52.68	-11.74	40.94	68.2	-27.26	AVG
		5923	64	-11.74	52.26	88.2	-35.94	PK
	@	6865	114.22	-11.74	102.48	N/A	N/A	PK
	@	6865	103.53	-11.74	91.79	N/A	N/A	AVG
		7149.4	63.44	-11.74	51.7	88.2	-36.5	PK
		7188.6	51.74	-11.74	40	68.2	-28.2	AVG
		13730	59.14	-11.74	47.4	88.2	-40.8	PK
		13730	52.92	-11.74	41.18	68.2	-27.02	AVG
Chain 1		5871.2	62.74	-11.74	51	88.2	-37.2	PK
		5920.2	52.01	-11.74	40.27	68.2	-27.93	AVG
	@	6865	110.14	-11.74	98.4	N/A	N/A	PK
	@	6865	100.28	-11.74	88.54	N/A	N/A	AVG
		7209.6	62.26	-11.74	50.52	88.2	-37.68	PK
		7212.4	51.77	-11.74	40.03	68.2	-28.17	AVG
		13730	58.74	-11.74	47	88.2	-41.2	PK
		13730	52.63	-11.74	40.89	68.2	-27.31	AVG

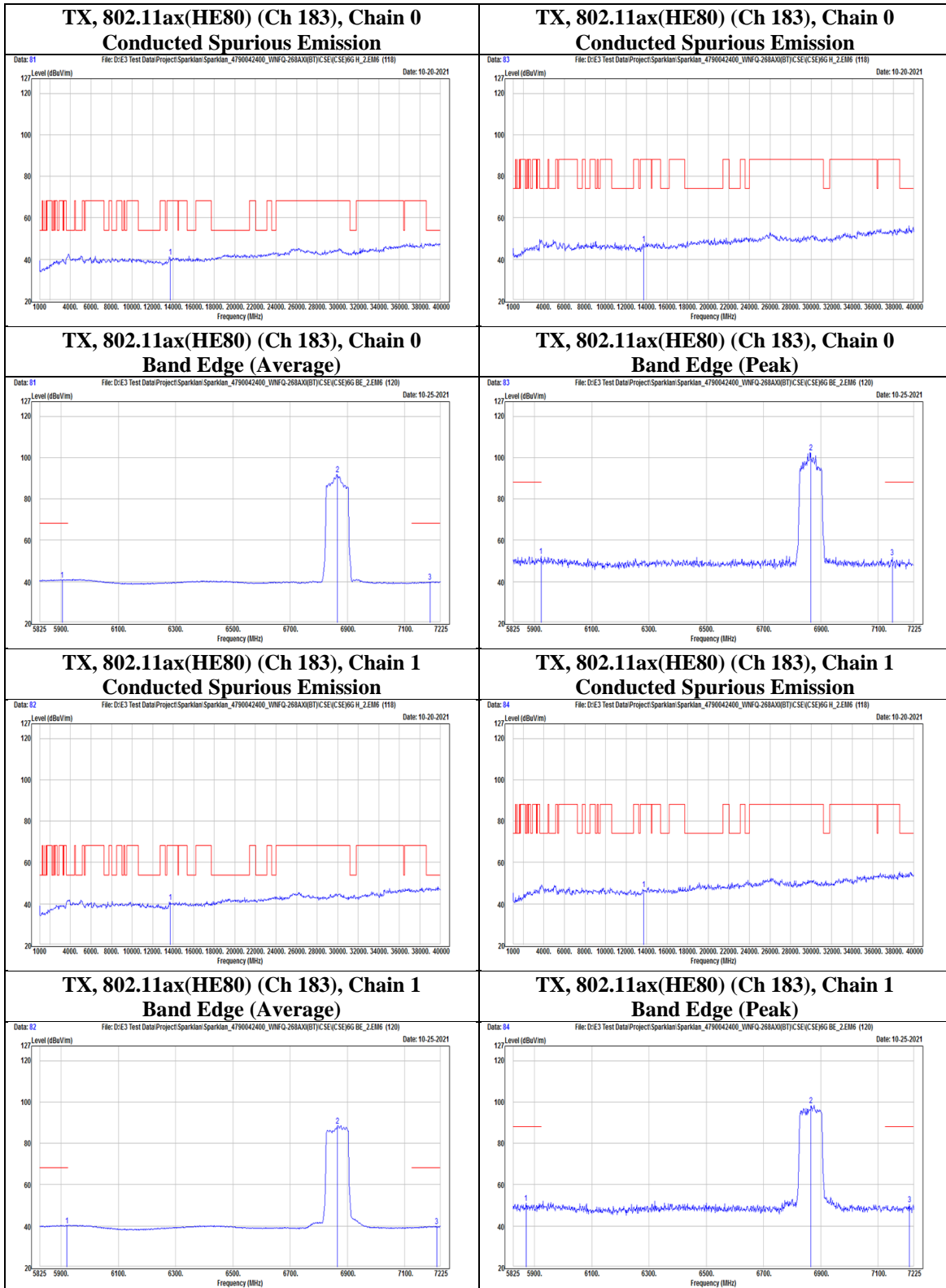
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Doc No: 17-EM-F0988 / 1.0





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Mode	802.11ax(HE80)	Channel	199
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0	@	6945	115.33	-11.74	103.59	N/A	N/A	PK
	@	6945	105.26	-11.74	93.52	N/A	N/A	AVG
		7169	63.62	-11.74	51.88	88.2	-36.32	PK
		7190	51.98	-11.74	40.24	68.2	-27.96	AVG
		13890	51.56	-11.74	39.82	68.2	-28.38	AVG
Chain 1	@	6945	112.42	-11.74	100.68	N/A	N/A	PK
	@	6945	103.43	-11.74	91.69	N/A	N/A	AVG
		7215.2	51.62	-11.74	39.88	68.2	-28.32	AVG
		7218	62.54	-11.74	50.8	88.2	-37.4	PK
		13890	52.15	-11.74	40.41	68.2	-27.79	AVG

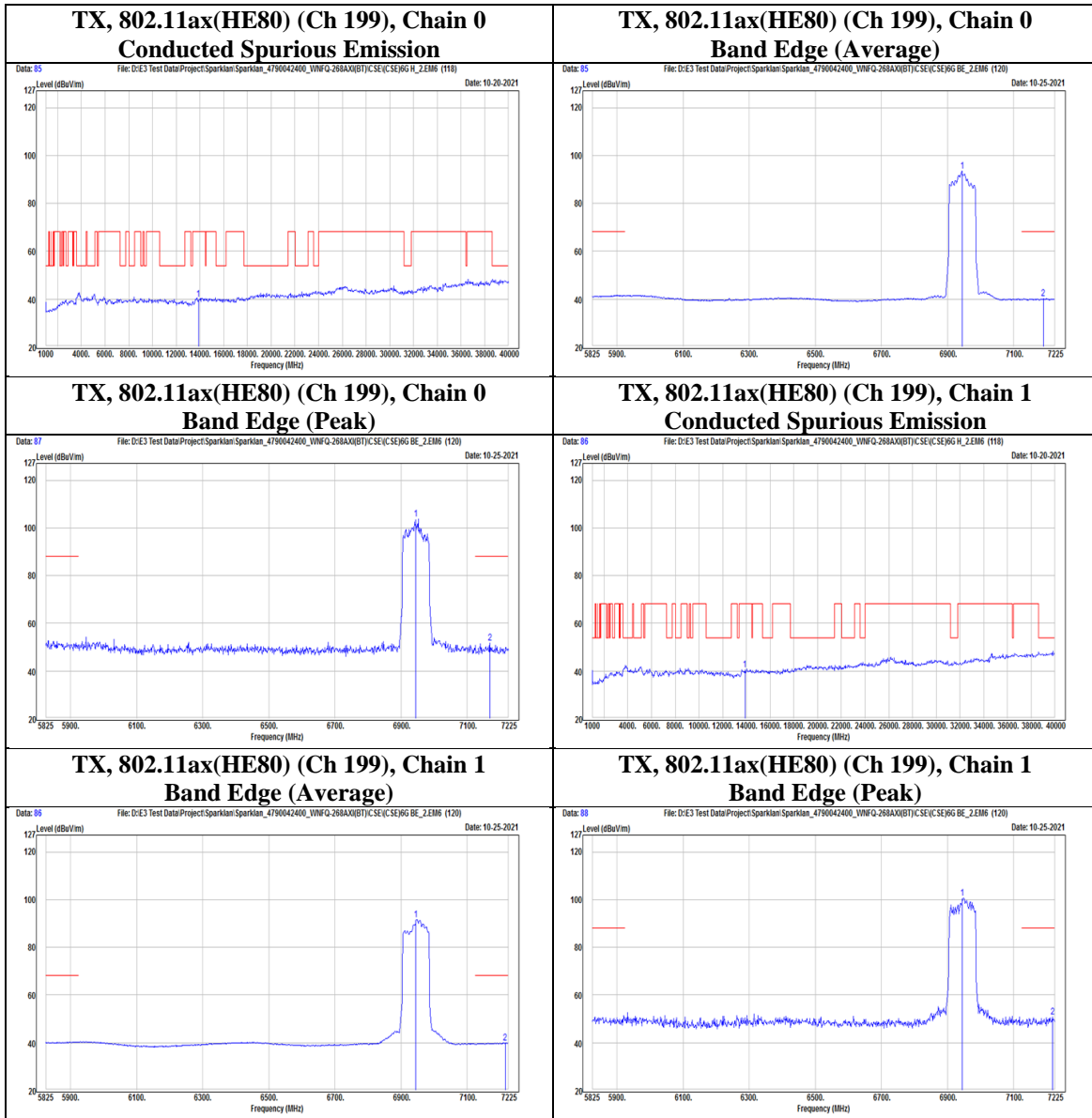
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Mode	802.11ax(HE80)	Channel	215
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0	@	7025	113.21	-11.74	101.47	N/A	N/A	PK
	@	7025	104.28	-11.74	92.54	N/A	N/A	AVG
		7199.8	63.65	-11.74	51.91	88.2	-36.29	PK
		7199.8	52.24	-11.74	40.5	68.2	-27.7	AVG
		14050	59.93	-11.74	48.19	88.2	-40.01	PK
		14050	52.3	-11.74	40.56	68.2	-27.64	AVG
Chain 1	@	7025	113.83	-11.74	102.09	N/A	N/A	PK
	@	7025	104.01	-11.74	92.27	N/A	N/A	AVG
		7188.6	62.1	-11.74	50.36	88.2	-37.84	PK
		7222.2	51.98	-11.74	40.24	68.2	-27.96	AVG
		14050	58.23	-11.74	46.49	88.2	-41.71	PK
		14050	52.92	-11.74	41.18	68.2	-27.02	AVG

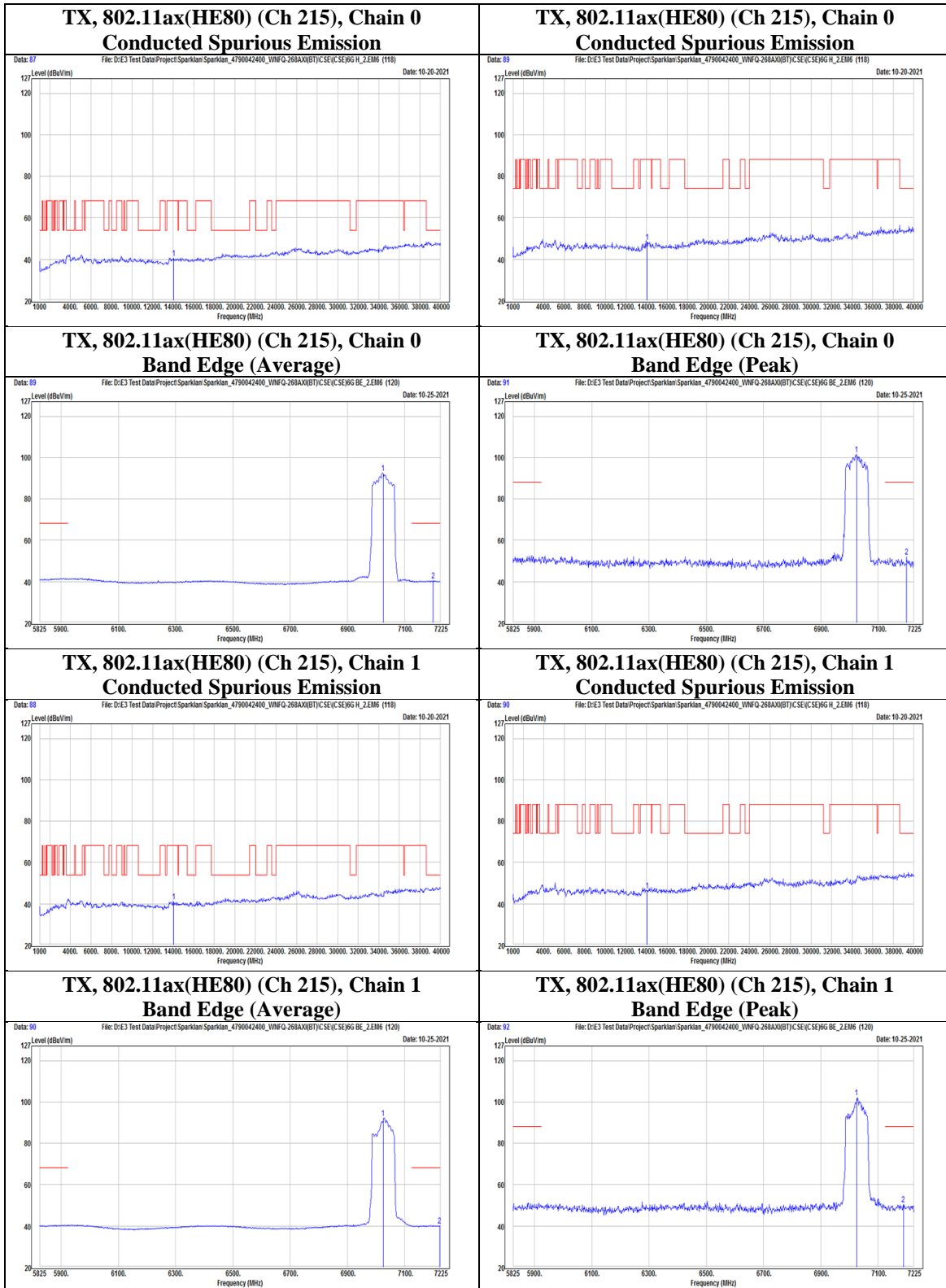
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Mode	802.11ax(HE160)	Channel	15
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5876.8	70.54	-11.74	58.8	88.2	-29.4	PK
		5879.6	60.02	-11.74	48.28	68.2	-19.92	AVG
	@	6025	113.84	-11.74	102.1	N/A	N/A	PK
	@	6025	104.14	-11.74	92.4	N/A	N/A	AVG
		12050	58.31	-11.74	46.57	74	-27.43	PK
		12050	50.63	-11.74	38.89	54	-15.11	AVG
Chain 1		5872.6	60.05	-11.74	48.31	68.2	-19.89	AVG
		5911.8	71.26	-11.74	59.52	88.2	-28.68	PK
	@	6025	109.77	-11.74	98.03	N/A	N/A	PK
	@	6025	100.5	-11.74	88.76	N/A	N/A	AVG
		12050	57.84	-11.74	46.1	74	-27.9	PK
		12050	50.75	-11.74	39.01	54	-14.99	AVG

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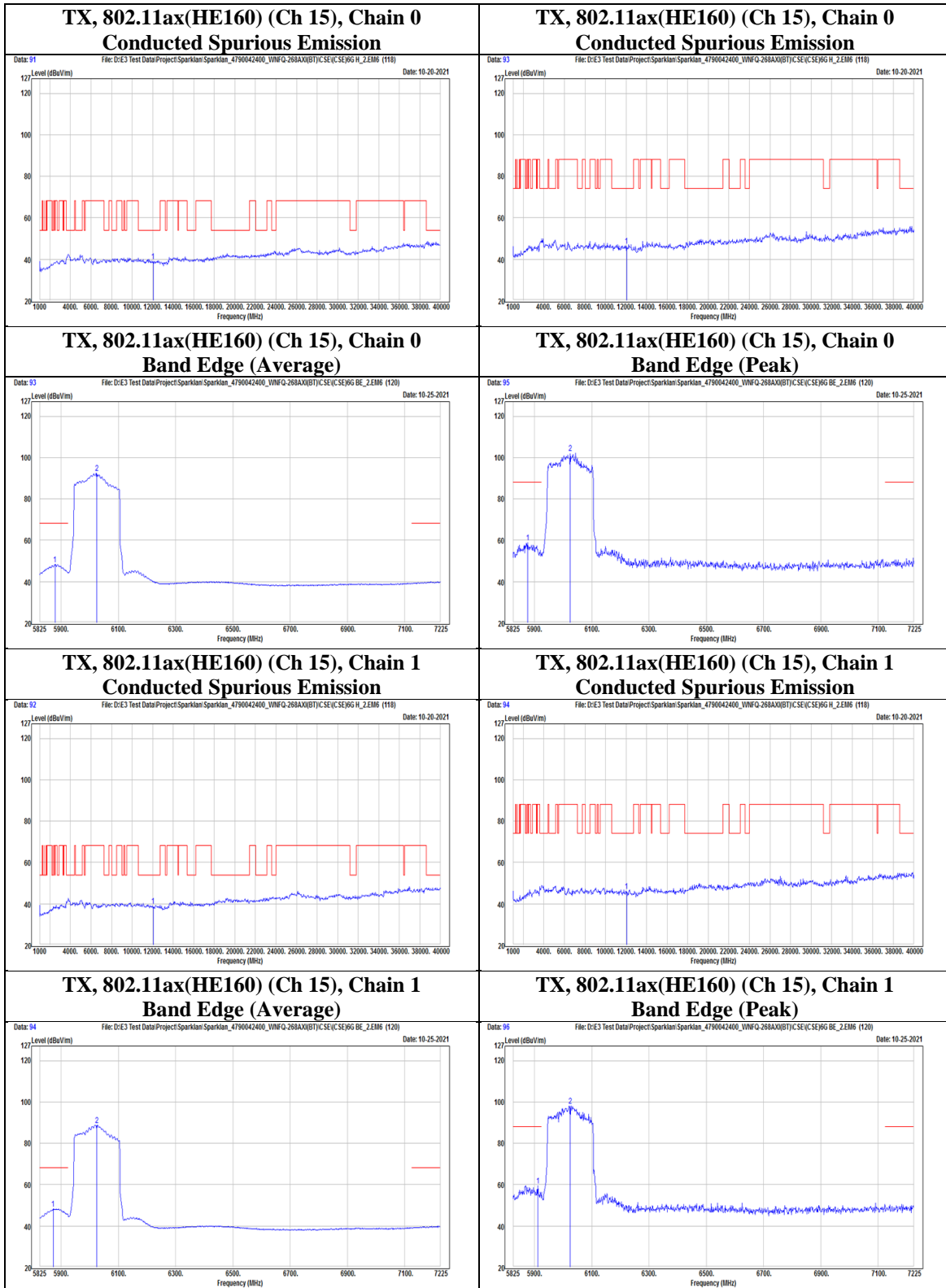
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Mode	802.11ax(HE160)	Channel	47
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5876.8	64.36	-11.74	52.62	88.2	-35.58	PK
		5909	52.55	-11.74	40.81	68.2	-27.39	AVG
	@	6185	112.24	-11.74	100.5	N/A	N/A	PK
	@	6185	102.52	-11.74	90.78	N/A	N/A	AVG
		12370	58.1	-11.74	46.36	74	-27.64	PK
		12370	51.04	-11.74	39.3	54	-14.7	AVG
Chain 1		5893.6	62.76	-11.74	51.02	88.2	-37.18	PK
		5917.4	52.24	-11.74	40.5	68.2	-27.7	AVG
	@	6185	111.31	-11.74	99.57	N/A	N/A	PK
	@	6185	100.38	-11.74	88.64	N/A	N/A	AVG
		12370	57.79	-11.74	46.05	74	-27.95	PK
		12370	50.76	-11.74	39.02	54	-14.98	AVG

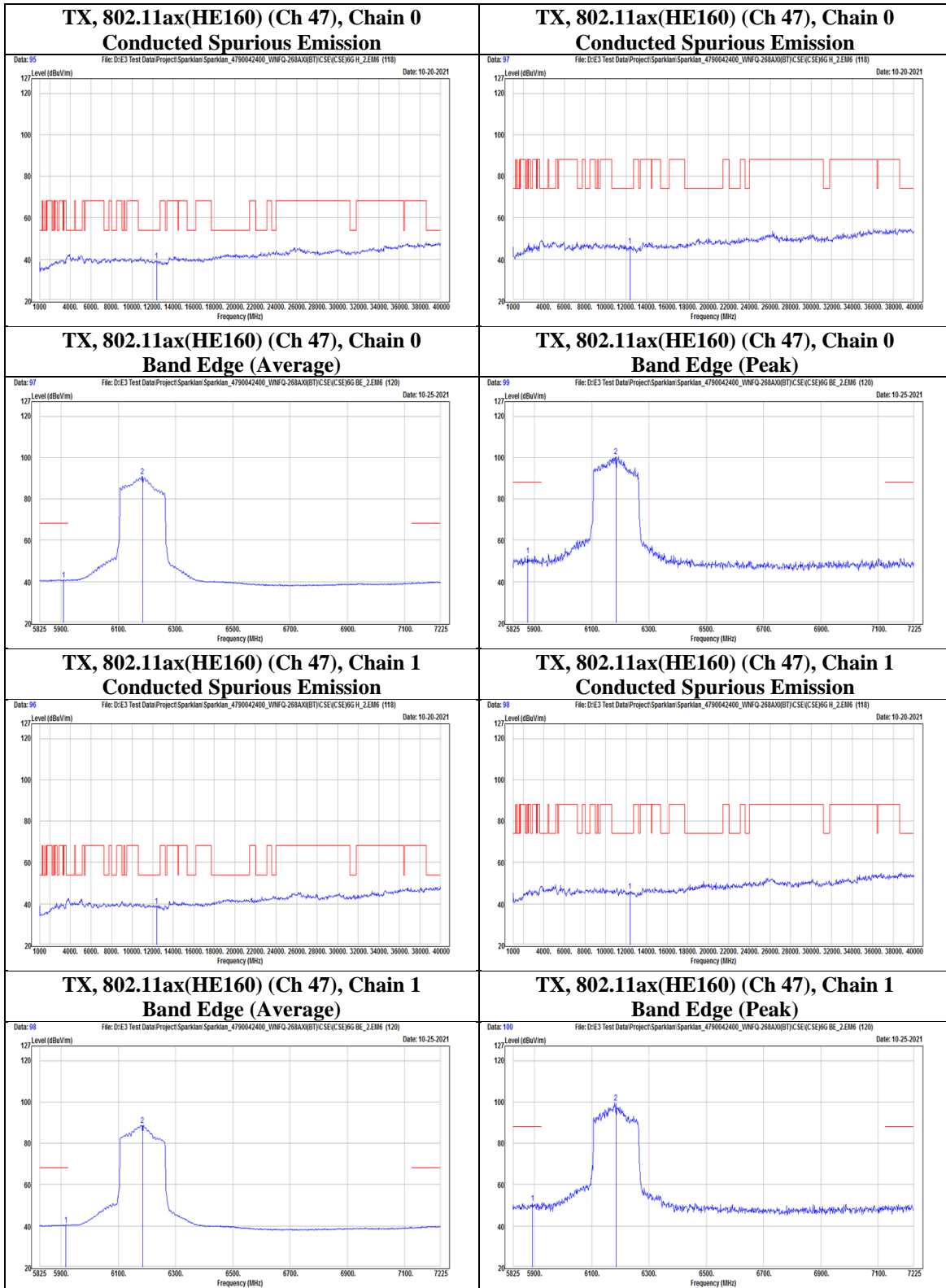
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Mode	802.11ax(HE160)	Channel	79
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5902	53.27	-11.74	41.53	68.2	-26.67	AVG
		5924.4	63.82	-11.74	52.08	88.2	-36.12	PK
	@	6345	113.13	-11.74	101.39	N/A	N/A	PK
	@	6345	102.88	-11.74	91.14	N/A	N/A	AVG
		7176	62.41	-11.74	50.67	88.2	-37.53	PK
		7206.8	51.72	-11.74	39.98	68.2	-28.22	AVG
		12690	56.87	-11.74	45.13	74	-28.87	PK
		12690	51.31	-11.74	39.57	54	-14.43	AVG
Chain 1		5876.8	63.53	-11.74	51.79	88.2	-36.41	PK
		5904.8	52.21	-11.74	40.47	68.2	-27.73	AVG
	@	6345	110.3	-11.74	98.56	N/A	N/A	PK
	@	6345	100.38	-11.74	88.64	N/A	N/A	AVG
		7205.4	62.37	-11.74	50.63	88.2	-37.57	PK
		7212.4	51.68	-11.74	39.94	68.2	-28.26	AVG
		12690	57.8	-11.74	46.06	74	-27.94	PK
		12690	50.42	-11.74	38.68	54	-15.32	AVG

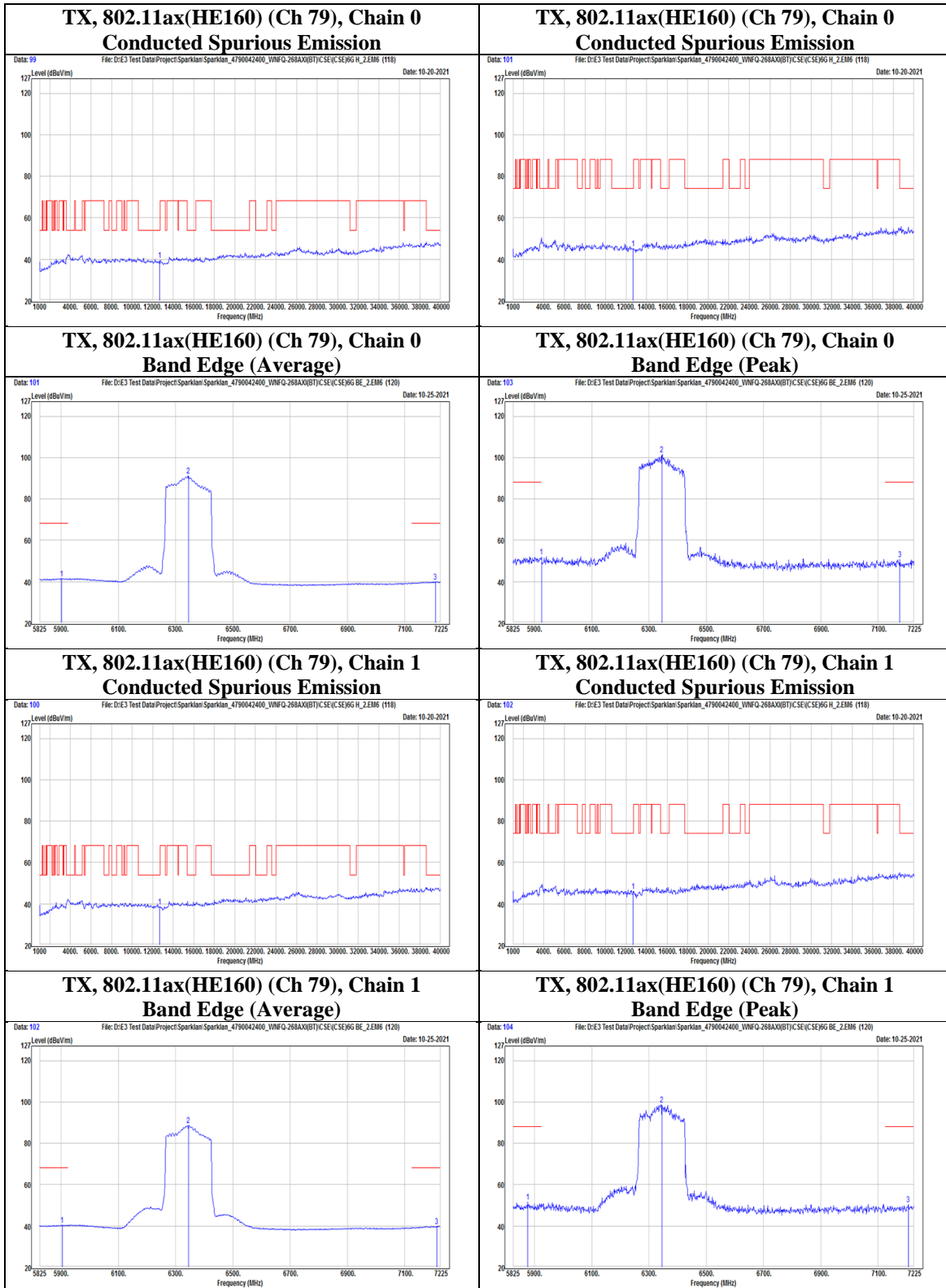
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Mode	802.11ax(HE160)	Channel	111
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5874	64.79	-11.74	53.05	88.2	-35.15	PK
		5903.4	53.84	-11.74	42.1	68.2	-26.1	AVG
	@	6505	114.01	-11.74	102.27	N/A	N/A	PK
	@	6505	103.82	-11.74	92.08	N/A	N/A	AVG
		7143.8	63.08	-11.74	51.34	88.2	-36.86	PK
		7199.8	51.66	-11.74	39.92	68.2	-28.28	AVG
		13010	57.12	-11.74	45.38	88.2	-42.82	PK
		13010	49.86	-11.74	38.12	68.2	-30.08	AVG
Chain 1		5897.8	63.13	-11.74	51.39	88.2	-36.81	PK
		5900.6	52.11	-11.74	40.37	68.2	-27.83	AVG
	@	6505	111.13	-11.74	99.39	N/A	N/A	PK
	@	6505	101.17	-11.74	89.43	N/A	N/A	AVG
		7201.2	63.2	-11.74	51.46	88.2	-36.74	PK
		7206.8	51.69	-11.74	39.95	68.2	-28.25	AVG
		13010	57.21	-11.74	45.47	88.2	-42.73	PK
		13010	50.07	-11.74	38.33	68.2	-29.87	AVG

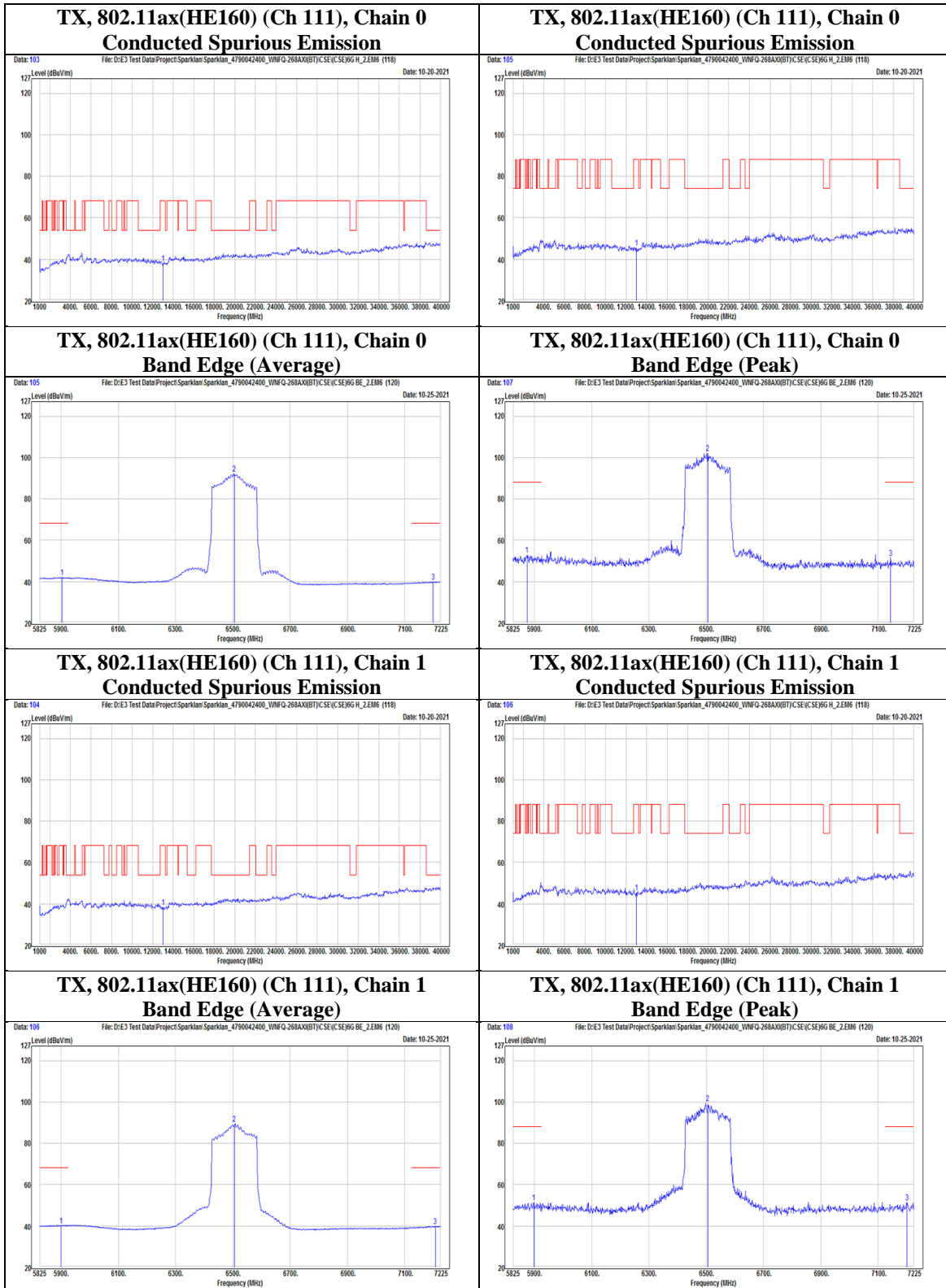
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Mode	802.11ax(HE160)	Channel	143
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5883.8	64.98	-11.74	53.24	88.2	-34.96	PK
		5911.8	53.39	-11.74	41.65	68.2	-26.55	AVG
	@	6665	112.52	-11.74	100.78	N/A	N/A	PK
	@	6665	102.75	-11.74	91.01	N/A	N/A	AVG
		7199.8	51.77	-11.74	40.03	68.2	-28.17	AVG
		7223.6	63.16	-11.74	51.42	88.2	-36.78	PK
		13330	57.31	-11.74	45.57	74	-28.43	PK
		13330	50.1	-11.74	38.36	54	-15.64	AVG
Chain 1		5892.2	63.08	-11.74	51.34	88.2	-36.86	PK
		5914.6	52.23	-11.74	40.49	68.2	-27.71	AVG
	@	6665	110.4	-11.74	98.66	N/A	N/A	PK
	@	6665	100.4	-11.74	88.66	N/A	N/A	AVG
		7188.6	51.63	-11.74	39.89	68.2	-28.31	AVG
		7219.4	64.07	-11.74	52.33	88.2	-35.87	PK
		13330	57.92	-11.74	46.18	74	-27.82	PK
		13330	49.87	-11.74	38.13	54	-15.87	AVG

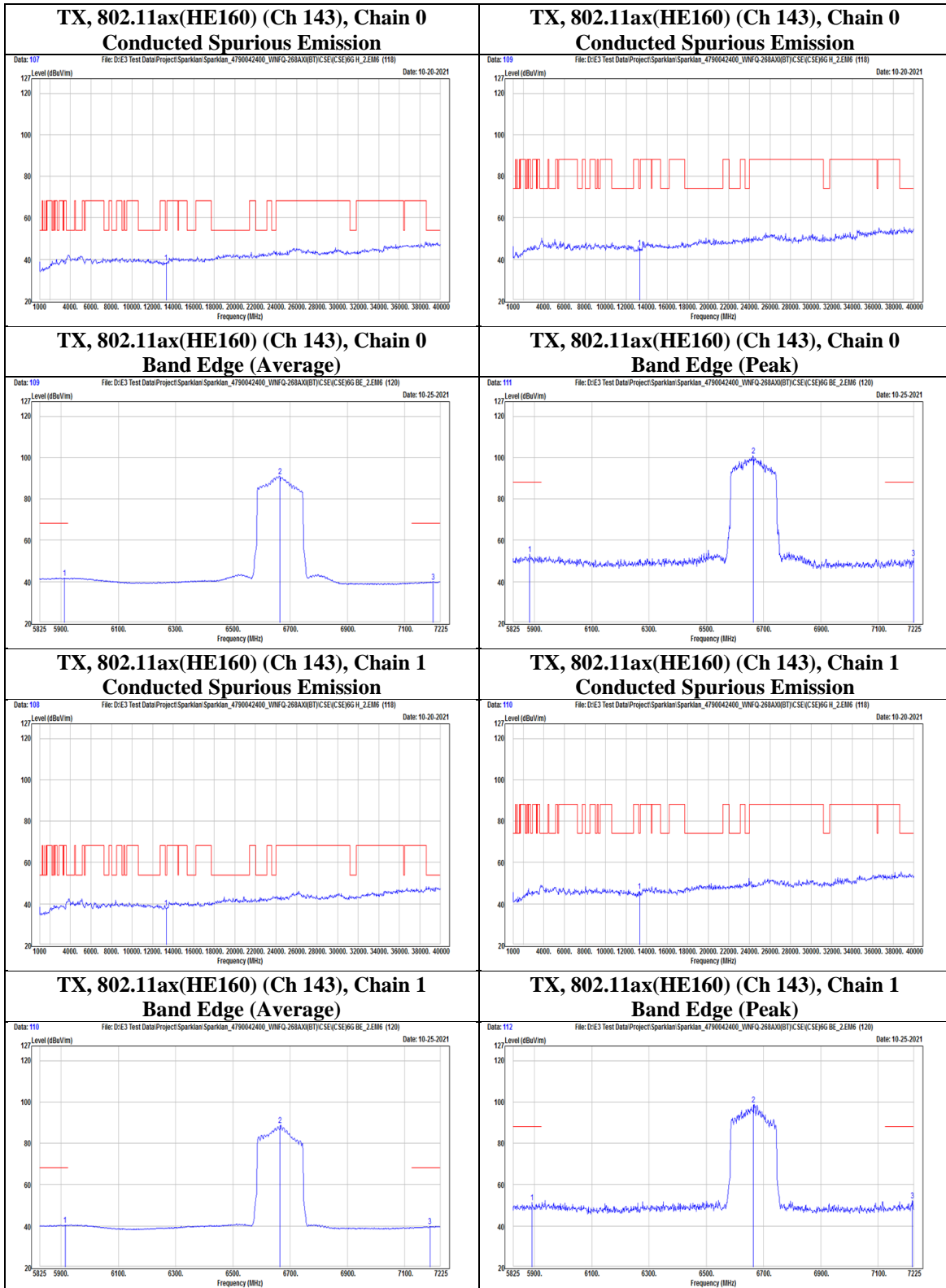
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Mode	802.11ax(HE160)	Channel	175
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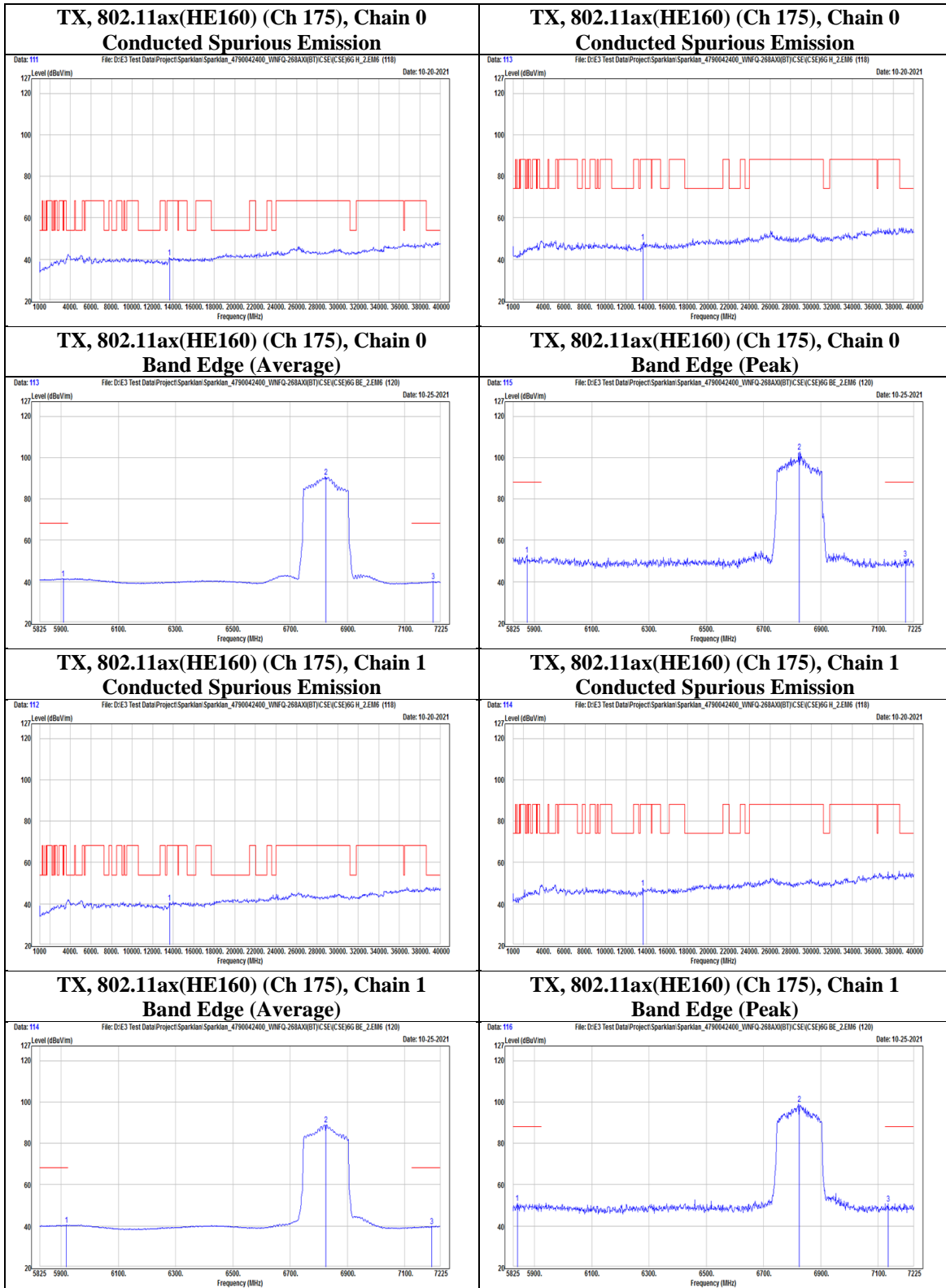
TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		5874	64.58	-11.74	52.84	88.2	-35.36	PK
		5907.6	53.09	-11.74	41.35	68.2	-26.85	AVG
	@	6825	114.59	-11.74	102.85	N/A	N/A	PK
	@	6825	102.47	-11.74	90.73	N/A	N/A	AVG
		7195.6	62.82	-11.74	51.08	88.2	-37.12	PK
		7199.8	51.93	-11.74	40.19	68.2	-28.01	AVG
		13650	60.17	-11.74	48.43	88.2	-39.77	PK
		13650	52.48	-11.74	40.74	68.2	-27.46	AVG
Chain 1		5840.4	62.81	-11.74	51.07	88.2	-37.13	PK
		5918.8	52.14	-11.74	40.4	68.2	-27.8	AVG
	@	6825	110.68	-11.74	98.94	N/A	N/A	PK
	@	6825	100.66	-11.74	88.92	N/A	N/A	AVG
		7135.4	62.64	-11.74	50.9	88.2	-37.3	PK
		7194.2	51.63	-11.74	39.89	68.2	-28.31	AVG
		13650	59.41	-11.74	47.67	88.2	-40.53	PK
		13650	52.2	-11.74	40.46	68.2	-27.74	AVG

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Mode	802.11ax(HE160)	Channel	207
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0	@	6985	112.45	-11.74	100.71	N/A	N/A	PK
	@	6985	102.97	-11.74	91.23	N/A	N/A	AVG
		7125	67.03	-11.74	55.29	88.2	-32.91	PK
		7125	57.69	-11.74	45.95	68.2	-22.25	AVG
		13970	58.9	-11.74	47.16	88.2	-41.04	PK
		13970	51.53	-11.74	39.79	68.2	-28.41	AVG
Chain 1	@	6985	111.17	-11.74	99.43	N/A	N/A	PK
	@	6985	102.04	-11.74	90.3	N/A	N/A	AVG
		7125	53.91	-11.74	42.17	68.2	-26.03	AVG
		7139.6	65.06	-11.74	53.32	88.2	-34.88	PK
		13970	58.98	-11.74	47.24	88.2	-40.96	PK
		13970	52.4	-11.74	40.66	68.2	-27.54	AVG

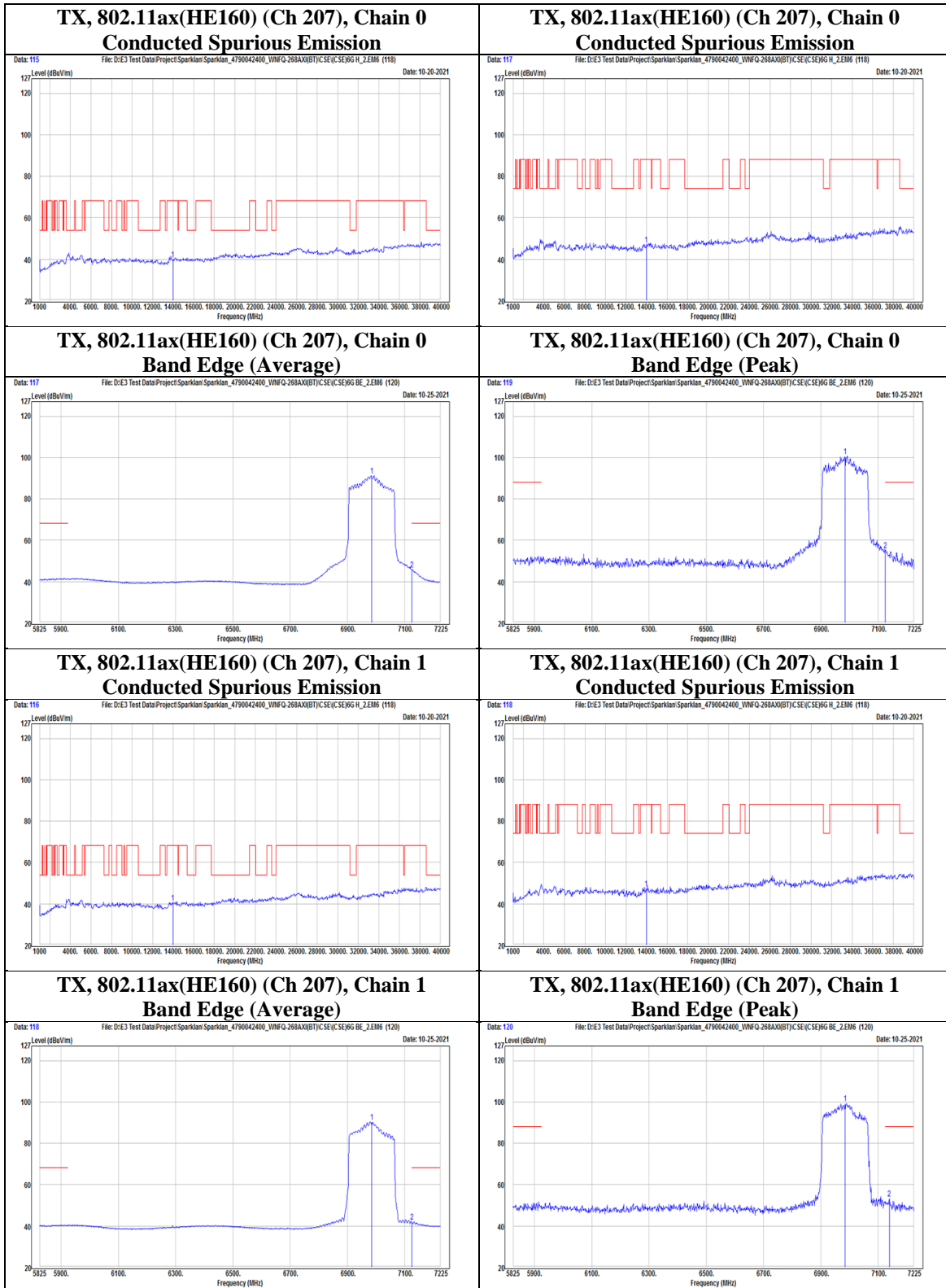
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### Below 1 GHz

Mode	802.11a	Channel	233
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TX Chain	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Chain 0		64.92	25.62	-7.04	18.58	40	-21.42	PK
		126.03	26.39	-7.04	19.35	43.5	-24.15	PK
		457.77	27.12	-7.04	20.08	46	-25.92	PK
		674.08	27.57	-7.04	20.53	46	-25.47	PK
		769.14	27.93	-7.04	20.89	46	-25.11	PK
		978.66	26.79	-7.04	19.75	54	-34.25	PK
Chain 1		73.65	25.94	-7.04	18.9	40	-21.1	PK
		169.68	26.65	-7.04	19.61	43.5	-23.89	PK
		462.62	26.5	-7.04	19.46	46	-26.54	PK
		601.33	26.62	-7.04	19.58	46	-26.42	PK
		885.54	27.65	-7.04	20.61	46	-25.39	PK
		994.18	26.85	-7.04	19.81	54	-34.19	PK

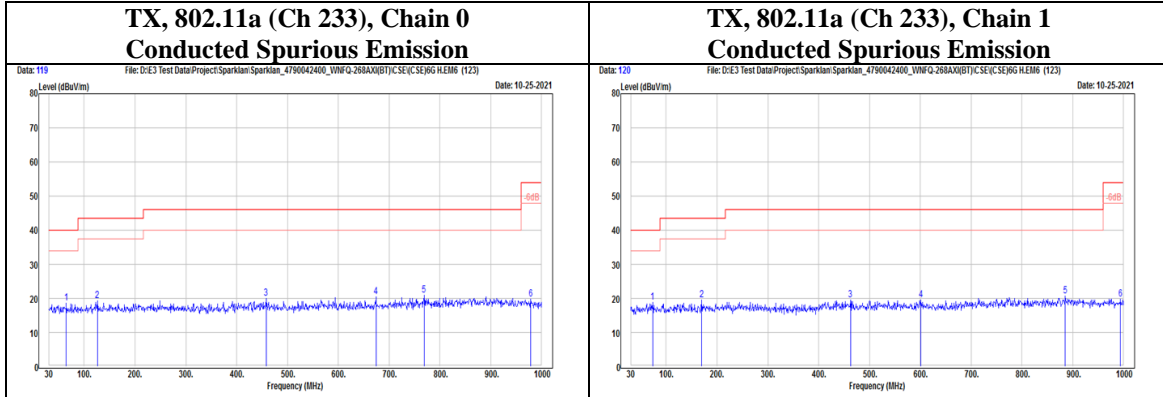
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### 9 kHz ~ 30 MHz Data:

For 9 kHz to 30 MHz radiated emission have performed all modes of operation were investigated. The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

No non-compliance noted:

### **KDB 414788 D01 OATS and Chamber Correlation Justification**

- Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

- OATs and chamber correlation testing had been performed and chamber measured test results is the worst case test result.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m 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.

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## 9.7. AC Power Line Conducted Emission

### Requirements

Frequency (MHz)	Conducted limit (dB $\mu$ 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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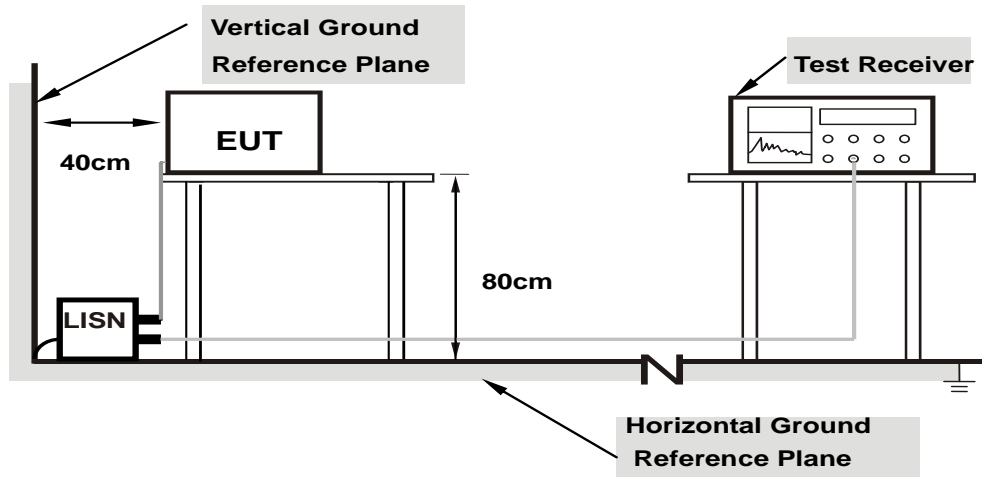
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## Test Setup



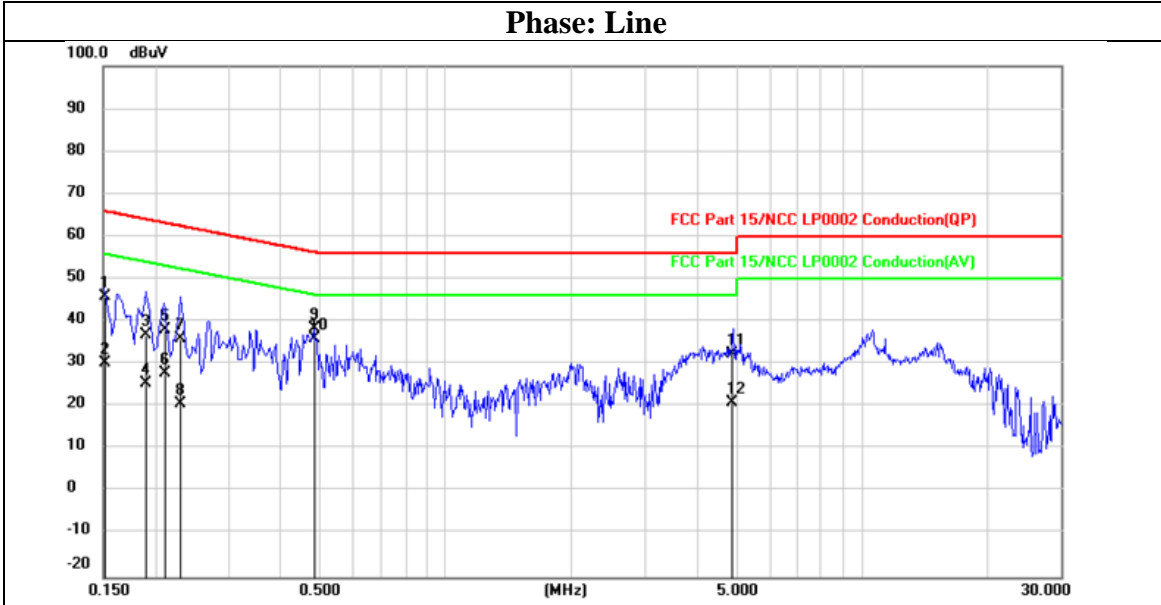
**Note: 1.Support units were connected to second LISN.**

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



**Test Data**

Mode	TX_802.11a	Channel	233
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1519	45.87	0.08	45.95	65.90	-19.95	QP
2	0.1519	30.23	0.08	30.31	55.90	-25.59	AVG
3	0.1886	36.79	0.08	36.87	64.10	-27.23	QP
4	0.1886	25.52	0.08	25.60	54.10	-28.50	AVG
5	0.2116	37.91	0.08	37.99	63.14	-25.15	QP
6	0.2116	27.72	0.08	27.80	53.14	-25.34	AVG
7	0.2312	35.82	0.08	35.90	62.41	-26.51	QP
8	0.2312	20.44	0.08	20.52	52.41	-31.89	AVG
9	0.4846	38.28	0.09	38.37	56.26	-17.89	QP
10	0.4846	35.95	0.09	36.04	46.26	-10.22	AVG
11	4.8576	32.06	0.23	32.29	56.00	-23.71	QP
12	4.8576	20.71	0.23	20.94	46.00	-25.06	AVG

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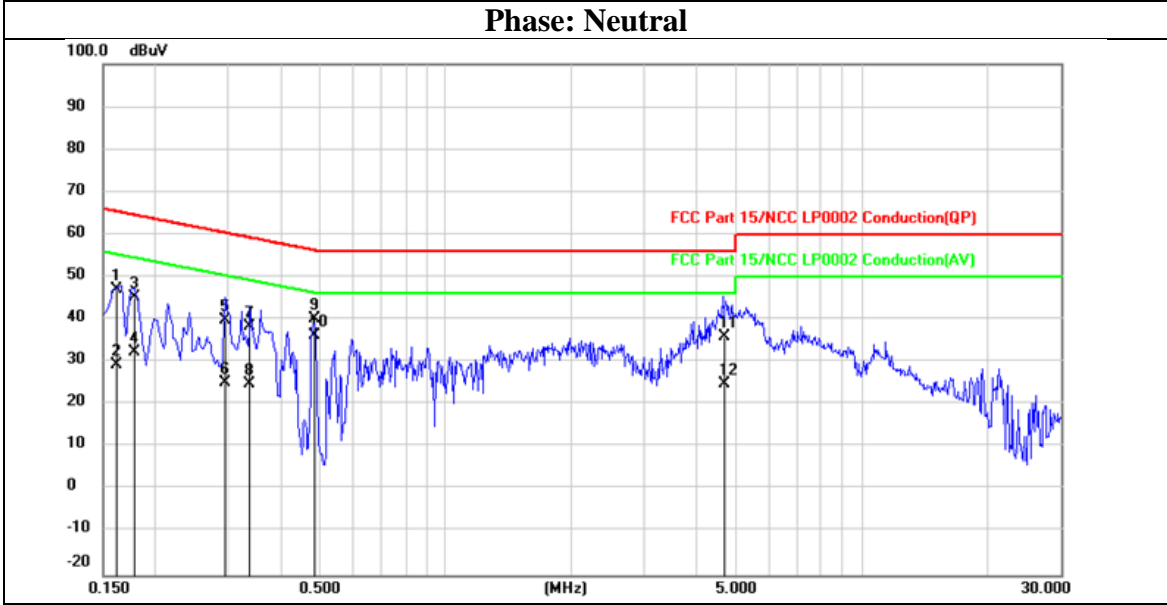
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Mode	TX_802.11a	Channel	233
------	------------	---------	-----



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1610	46.87	0.06	46.93	65.41	-18.48	QP
2	0.1610	29.23	0.06	29.29	55.41	-26.12	AVG
3	0.1793	45.26	0.07	45.33	64.52	-19.19	QP
4	0.1793	32.38	0.07	32.45	54.52	-22.07	AVG
5	0.2942	39.65	0.07	39.72	60.40	-20.68	QP
6	0.2942	25.04	0.07	25.11	50.40	-25.29	AVG
7	0.3389	38.41	0.08	38.49	59.23	-20.74	QP
8	0.3389	24.90	0.08	24.98	49.23	-24.25	AVG
9	0.4846	40.11	0.08	40.19	56.26	-16.07	QP
10	0.4846	36.08	0.08	36.16	46.26	-10.10	AVG
11	4.6886	35.70	0.21	35.91	56.00	-20.09	QP
12	4.6886	24.60	0.21	24.81	46.00	-21.19	AVG

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## 9.8. In-Band Emission (Mask) Measurement

### Requirements

Test Item	Frequencies (MHz)	(X) dBc <sup>*1</sup>
Emission Mask	At 1 MHz outside of channel edge	20
	At one channel bandwidth from the channel center <sup>*2</sup>	28
	At one- and one-half times the channel bandwidth away from channel center <sup>*3</sup>	40
	More than one- and one-half times the channel bandwidth	40

\*1 :The power spectral density must be suppressed by “x” dB

\*2 : At frequencies between one megahertz outside an unlicensed device’s channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression,

\*3 : At frequencies between one and one- and one-half times an unlicensed device’s channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression.

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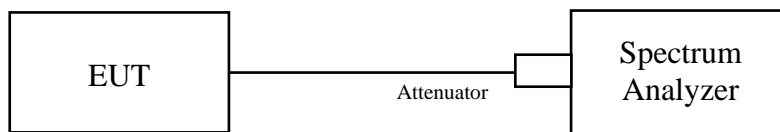


## Test procedure

### Using method:

- a. Connect output of the antenna port to a spectrum analyzer and adjust appropriate attenuation.
- b. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (Determine the channel edge.)
- c. Measure the power spectral density ( for emissions mask reference) using the following procedure:
  - a) Set the span to encompass the entire 26 dB EBW of the signal.
  - b) Set RBW = same RBW used for 26 dB EBW measurement.
  - c) Set VBW  $\geq 3 \times$  RBW
  - d) Number of points in sweep  $\geq [2 \times \text{span} / \text{RBW}]$ .
  - e) Sweep time = auto.
  - f) Detector = RMS (i.e., power averaging)
  - g) Trace average at least 100 traces in power averaging (rms) mode.
  - h) Use the peak search function on the instrument to find the peak of the spectrum.
- d. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
  - a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
  - b) Suppressed by 28 dB at one channel bandwidth from the channel center.
  - c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
- e. Adjust the span to encompass the entire mask as necessary and clear trace.
- f. Trace average at least 100 traces in power averaging (rms) mode.
- g. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask

## Test Setup



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.

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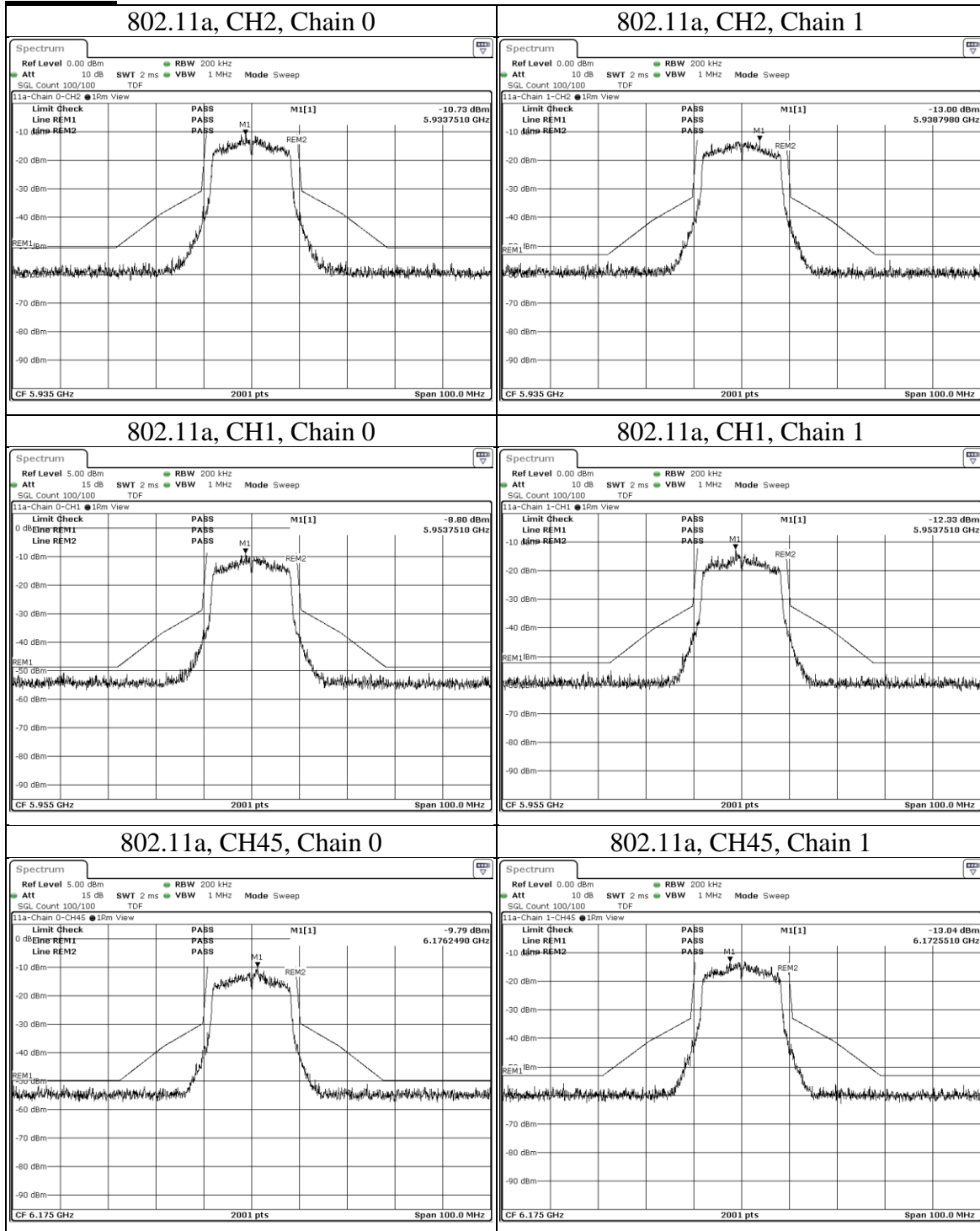
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### Test Data



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