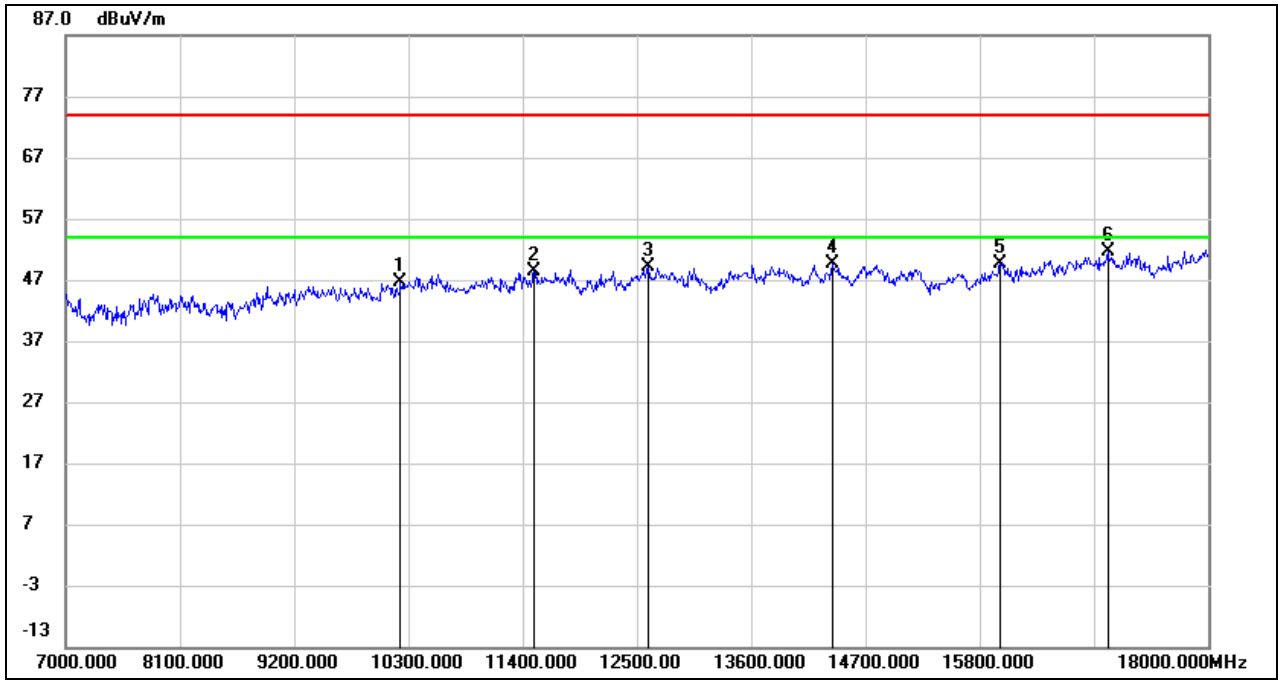
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10223.000	35.94	10.62	46.56	74.00	-27.44	peak
2	11510.000	34.89	13.39	48.28	74.00	-25.72	peak
3	12610.000	34.87	14.21	49.08	74.00	-24.92	peak
4	14381.000	32.96	16.62	49.58	74.00	-24.42	peak
5	15998.000	31.93	17.80	49.73	74.00	-24.27	peak
6	17032.000	30.82	20.72	51.54	74.00	-22.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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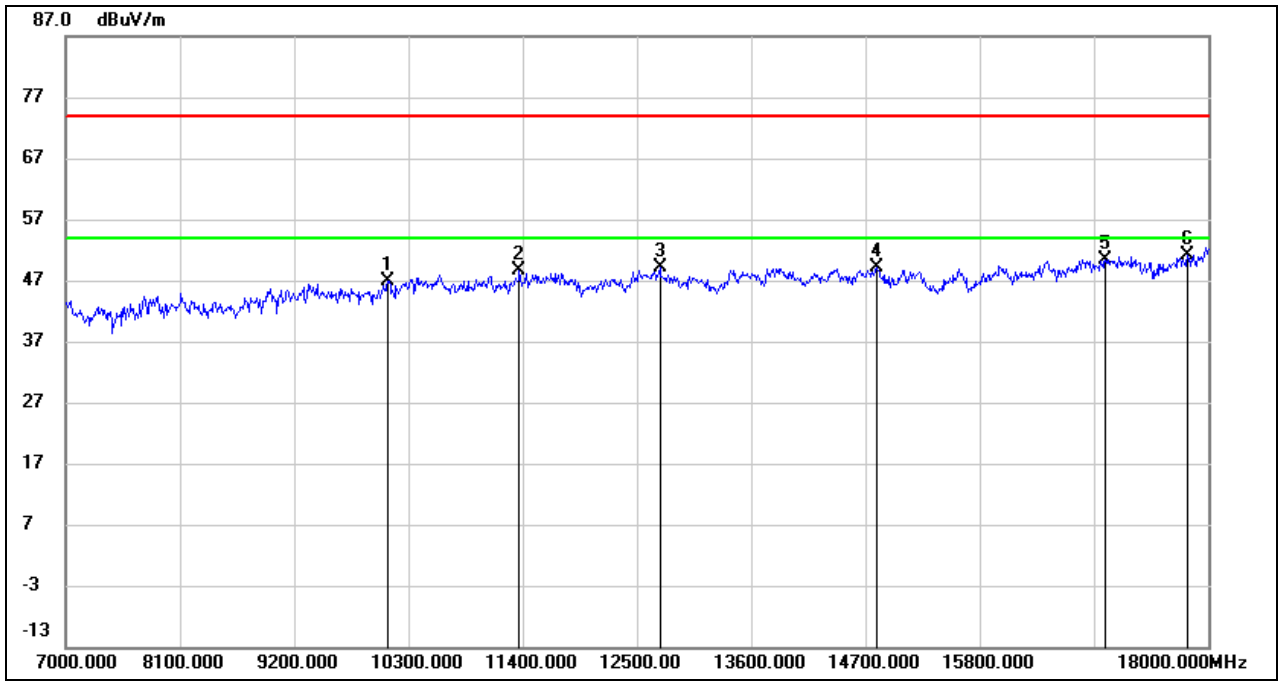
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10102.000	36.04	10.78	46.82	74.00	-27.18	peak
2	11367.000	35.99	12.58	48.57	74.00	-25.43	peak
3	12720.000	34.40	14.79	49.19	74.00	-24.81	peak
4	14810.000	32.94	16.07	49.01	74.00	-24.99	peak
5	17010.000	29.69	20.67	50.36	74.00	-23.64	peak
6	17802.000	27.82	23.41	51.23	74.00	-22.77	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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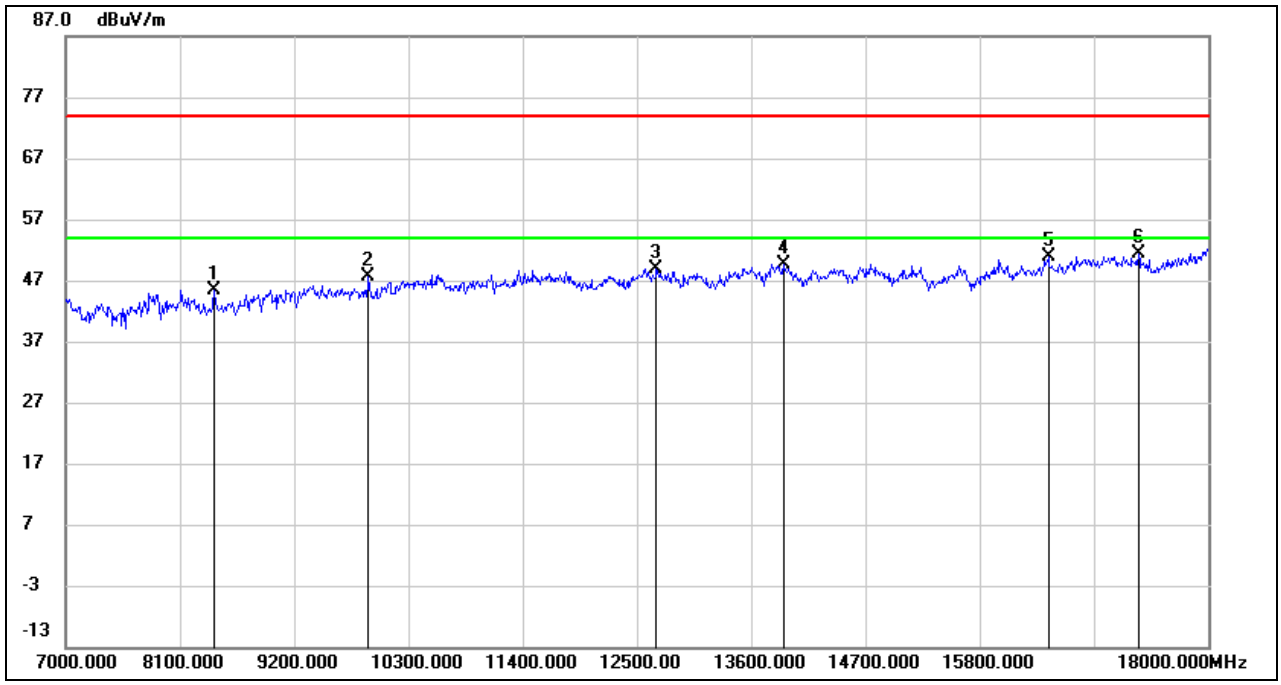
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8430.000	37.50	7.88	45.38	74.00	-28.62	peak
2	9915.000	37.43	10.26	47.69	74.00	-26.31	peak
3	12687.000	34.48	14.40	48.88	74.00	-25.12	peak
4	13908.000	33.59	16.16	49.75	74.00	-24.25	peak
5	16460.000	31.35	19.49	50.84	74.00	-23.16	peak
6	17329.000	29.60	21.78	51.38	74.00	-22.62	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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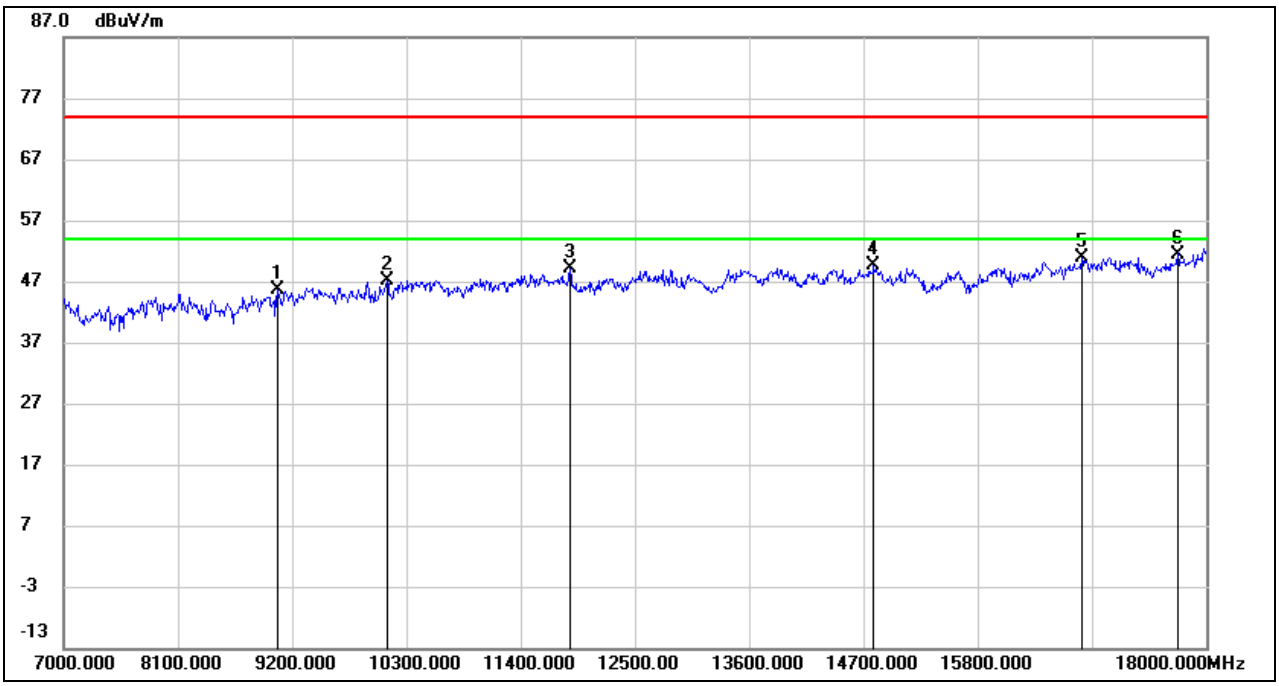
STRADDLE CHANNEL 138

ANTENNA 1 TEST RESULTS (WORST CASE)

HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9057.000	36.17	9.44	45.61	74.00	-28.39	peak
2	10113.000	36.46	10.74	47.20	74.00	-26.80	peak
3	11873.000	35.68	13.37	49.05	74.00	-24.95	peak
4	14799.000	33.53	16.06	49.59	74.00	-24.41	peak
5	16801.000	30.64	20.19	50.83	74.00	-23.17	peak
6	17725.000	28.78	22.72	51.50	74.00	-22.50	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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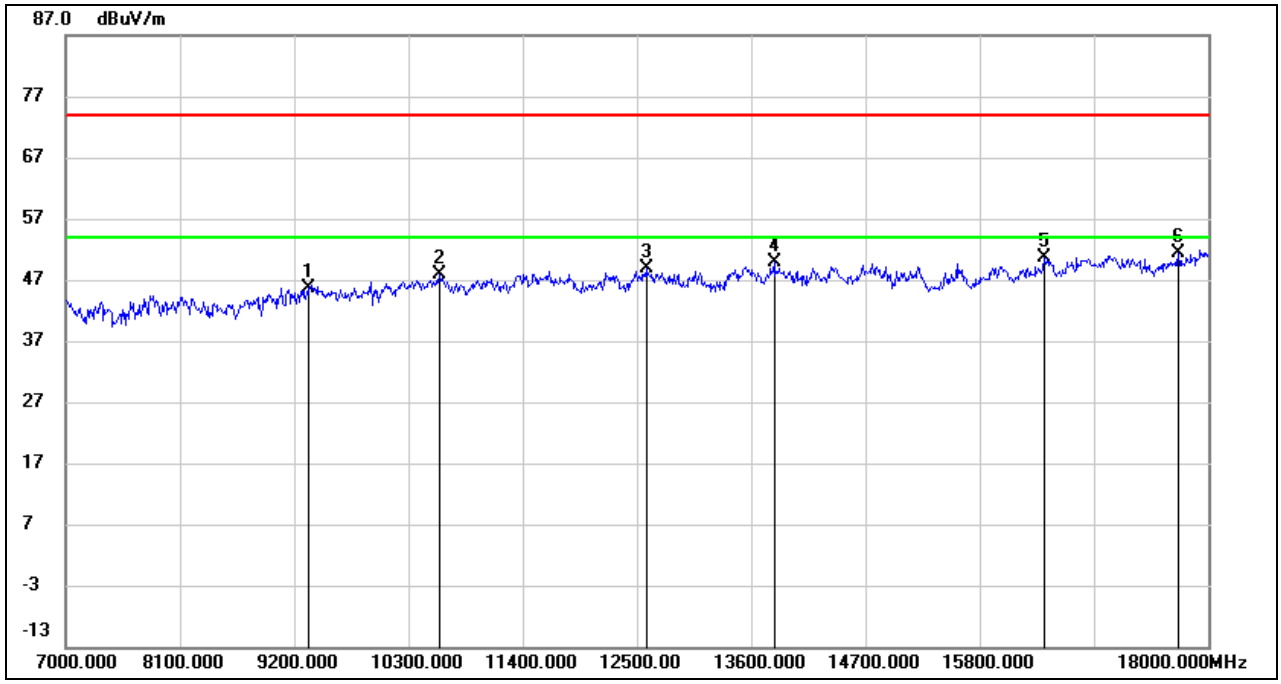
HARMONICS AND SPURIOUS EMISSIONS (VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9343.000	36.13	9.57	45.70	74.00	-28.30	peak
2	10597.000	35.39	12.43	47.82	74.00	-26.18	peak
3	12588.000	34.70	14.27	48.97	74.00	-25.03	peak
4	13820.000	33.07	16.89	49.96	74.00	-24.04	peak
5	16416.000	31.21	19.33	50.54	74.00	-23.46	peak
6	17714.000	28.72	22.62	51.34	74.00	-22.66	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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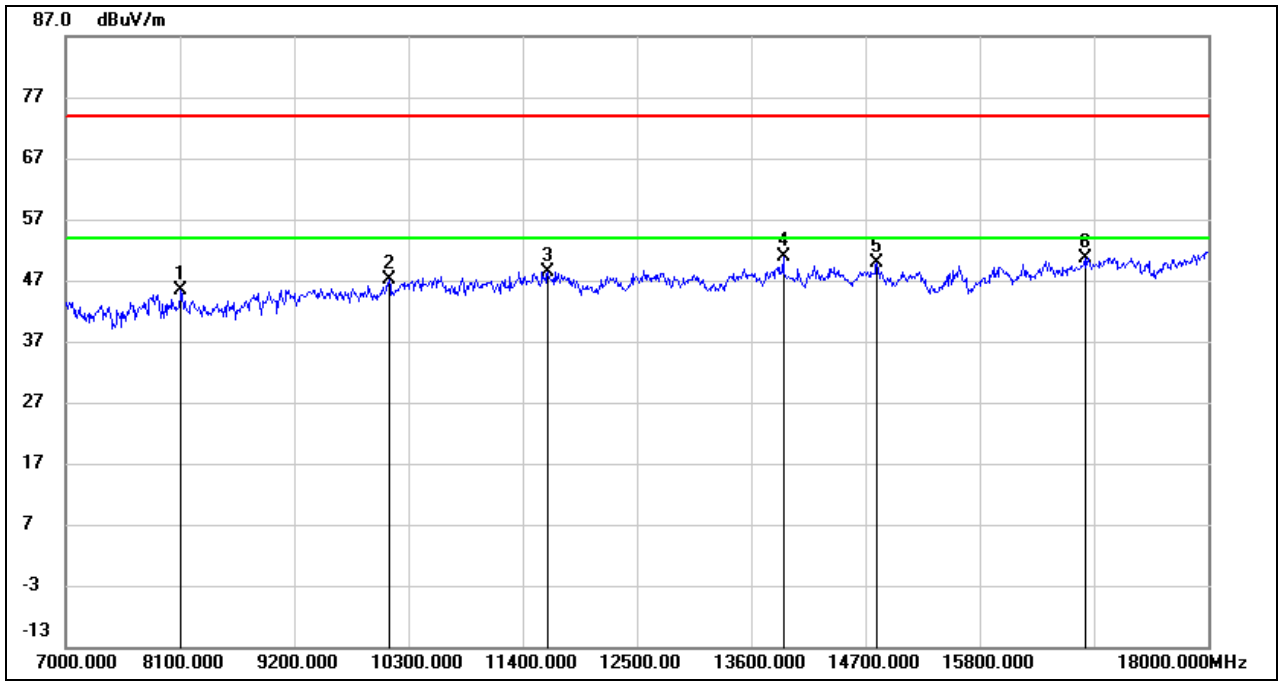
UNII-3 BAND

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8111.000	37.07	8.21	45.28	74.00	-28.72	peak
2	10113.000	36.29	10.74	47.03	74.00	-26.97	peak
3	11642.000	35.14	13.33	48.47	74.00	-25.53	peak
4	13908.000	34.71	16.16	50.87	74.00	-23.13	peak
5	14810.000	33.79	16.07	49.86	74.00	-24.14	peak
6	16812.000	30.51	20.18	50.69	74.00	-23.31	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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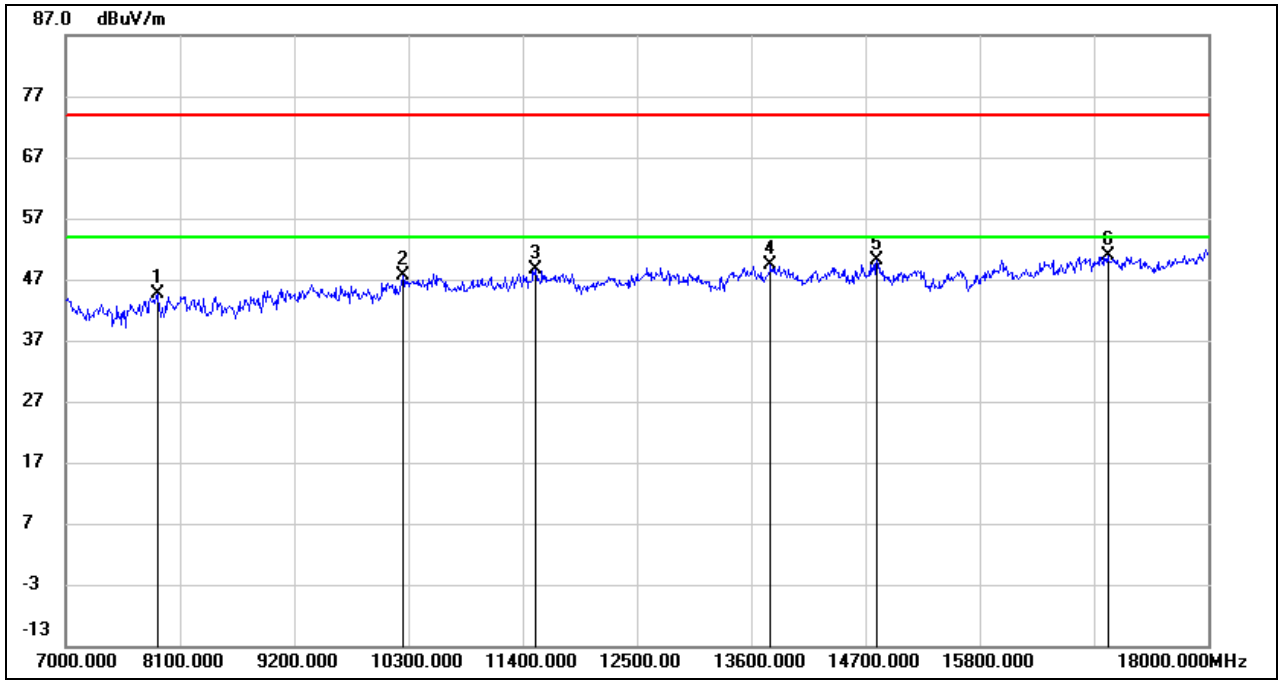
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7880.000	37.02	7.72	44.74	74.00	-29.26	peak
2	10245.000	36.80	10.82	47.62	74.00	-26.38	peak
3	11521.000	35.28	13.40	48.68	74.00	-25.32	peak
4	13787.000	32.47	16.94	49.41	74.00	-24.59	peak
5	14810.000	34.12	16.07	50.19	74.00	-23.81	peak
6	17032.000	30.20	20.72	50.92	74.00	-23.08	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

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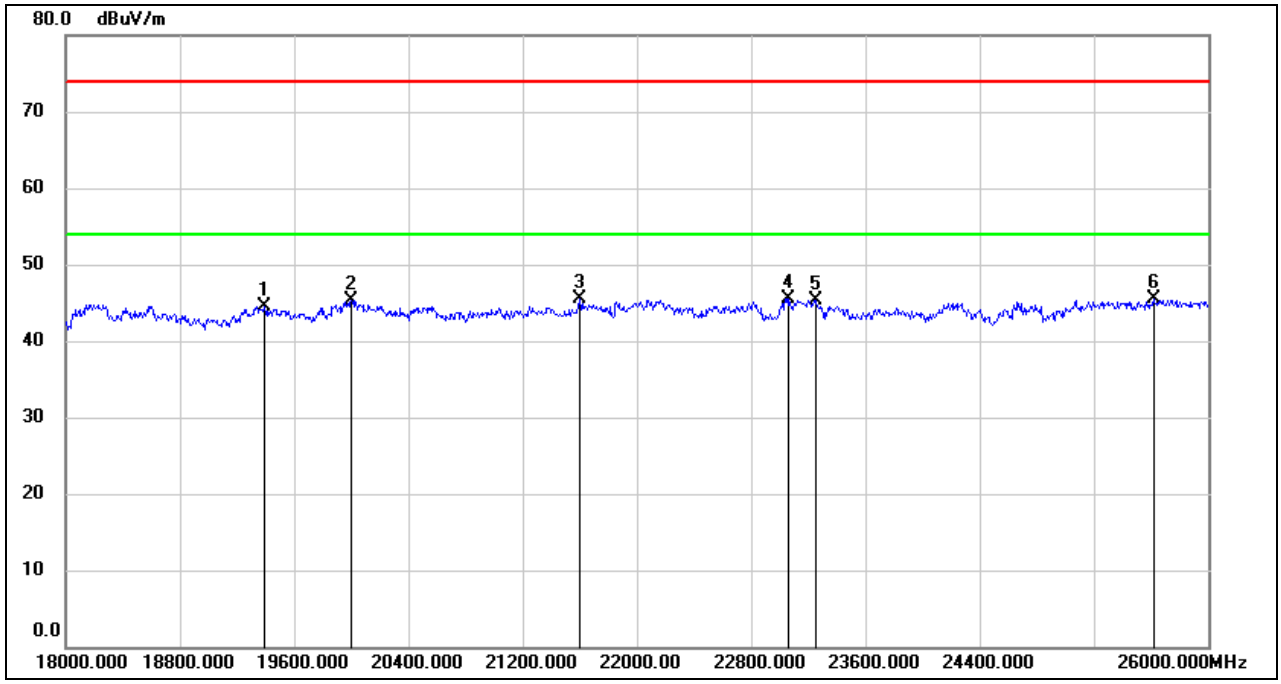
8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.4.1. 802.11n HT40 MODE

SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	19392.000	50.12	-5.57	44.55	74.00	-29.45	peak
2	20000.000	50.81	-5.45	45.36	74.00	-28.64	peak
3	21600.000	50.02	-4.54	45.48	74.00	-28.52	peak
4	23064.000	48.99	-3.42	45.57	74.00	-28.43	peak
5	23256.000	48.72	-3.35	45.37	74.00	-28.63	peak
6	25616.000	46.68	-1.24	45.44	74.00	-28.56	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

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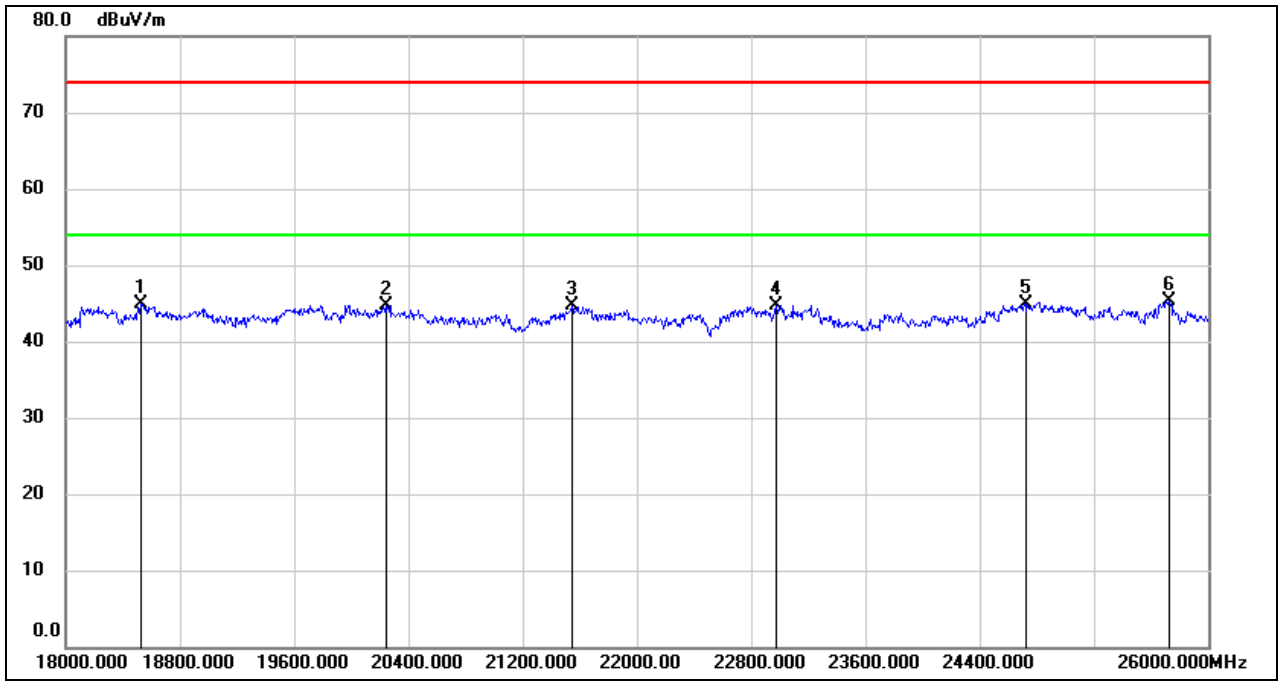
SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18528.000	50.11	-5.26	44.85	74.00	-29.15	peak
2	20240.000	50.32	-5.61	44.71	74.00	-29.29	peak
3	21544.000	49.26	-4.63	44.63	74.00	-29.37	peak
4	22976.000	48.26	-3.46	44.80	74.00	-29.20	peak
5	24720.000	47.22	-2.33	44.89	74.00	-29.11	peak
6	25728.000	46.11	-0.72	45.39	74.00	-28.61	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

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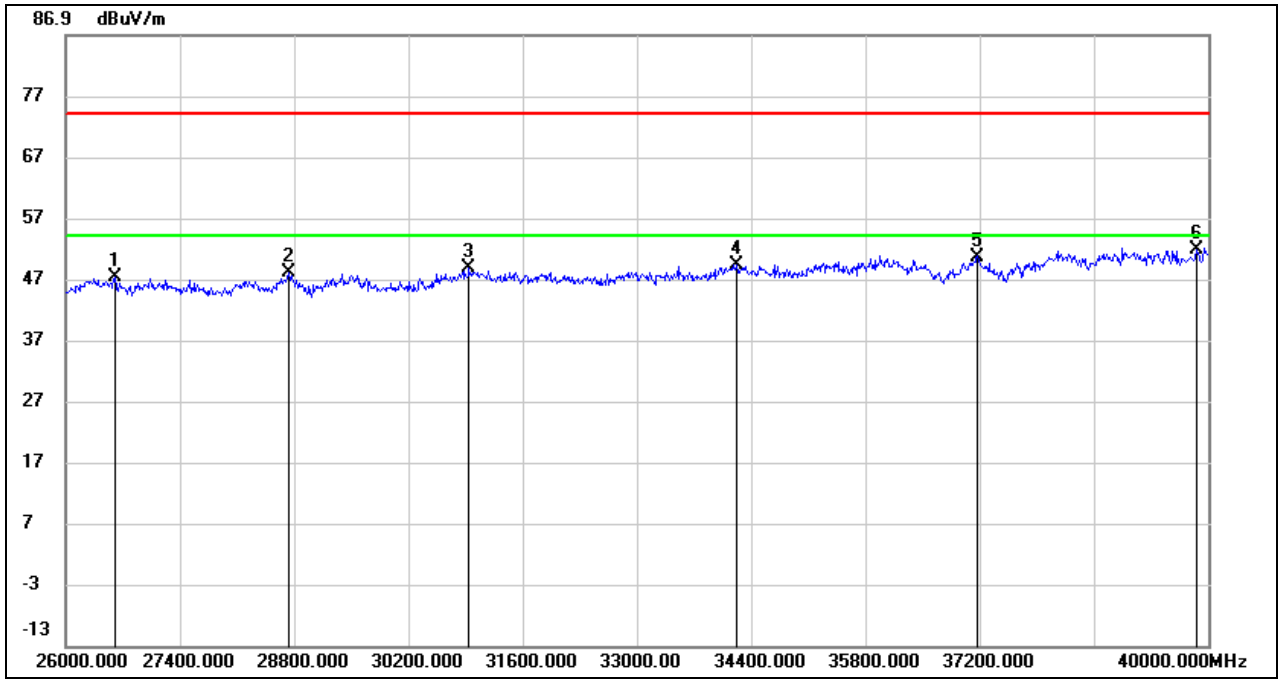
8.5. SPURIOUS EMISSIONS (26 GHz ~ 40 GHz)

8.5.1. 802.11n HT40 MODE

SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26602.000	52.09	-4.80	47.29	74.00	-26.71	peak
2	28730.000	48.72	-0.69	48.03	74.00	-25.97	peak
3	30942.000	49.56	-0.81	48.75	74.00	-25.25	peak
4	34218.000	48.15	1.13	49.28	74.00	-24.72	peak
5	37172.000	47.49	3.16	50.65	74.00	-23.35	peak
6	39860.000	46.87	4.97	51.84	74.00	-22.16	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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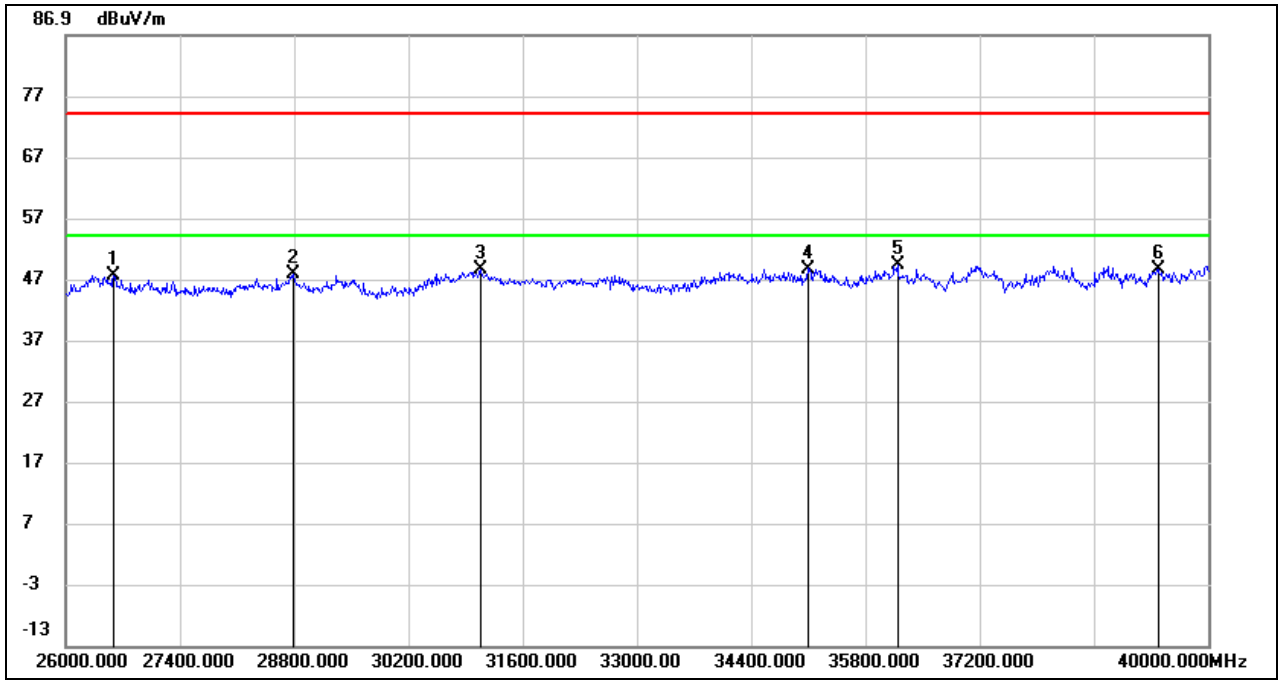
SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	26588.000	52.42	-4.80	47.62	74.00	-26.38	peak
2	28786.000	48.30	-0.64	47.66	74.00	-26.34	peak
3	31082.000	49.29	-0.74	48.55	74.00	-25.45	peak
4	35100.000	46.80	1.85	48.65	74.00	-25.35	peak
5	36192.000	45.86	3.43	49.29	74.00	-24.71	peak
6	39384.000	44.00	4.61	48.61	74.00	-25.39	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Proper operation of the transmitter prior to adding the filter to the measurement chain.

Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

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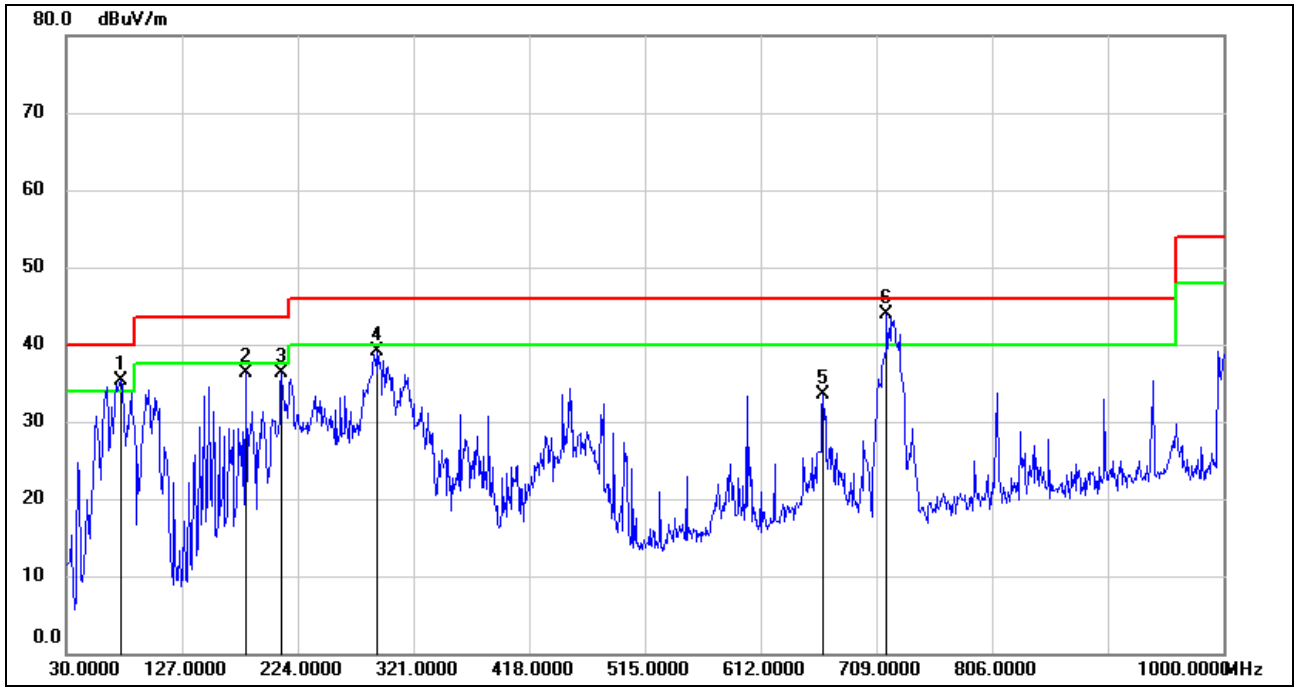
8.6. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.6.1. 802.11n HT40 MODE

SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	75.5899	55.65	-20.35	35.30	40.00	-4.70	QP
2	180.3500	52.90	-16.53	36.37	43.50	-7.13	QP
3	210.4200	53.10	-16.87	36.23	43.50	-7.27	QP
4	289.9600	53.97	-14.78	39.19	46.00	-6.81	QP
5	664.3800	41.10	-7.67	33.43	46.00	-12.57	QP
6	717.7300	50.36	-6.52	43.84	46.00	-2.16	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

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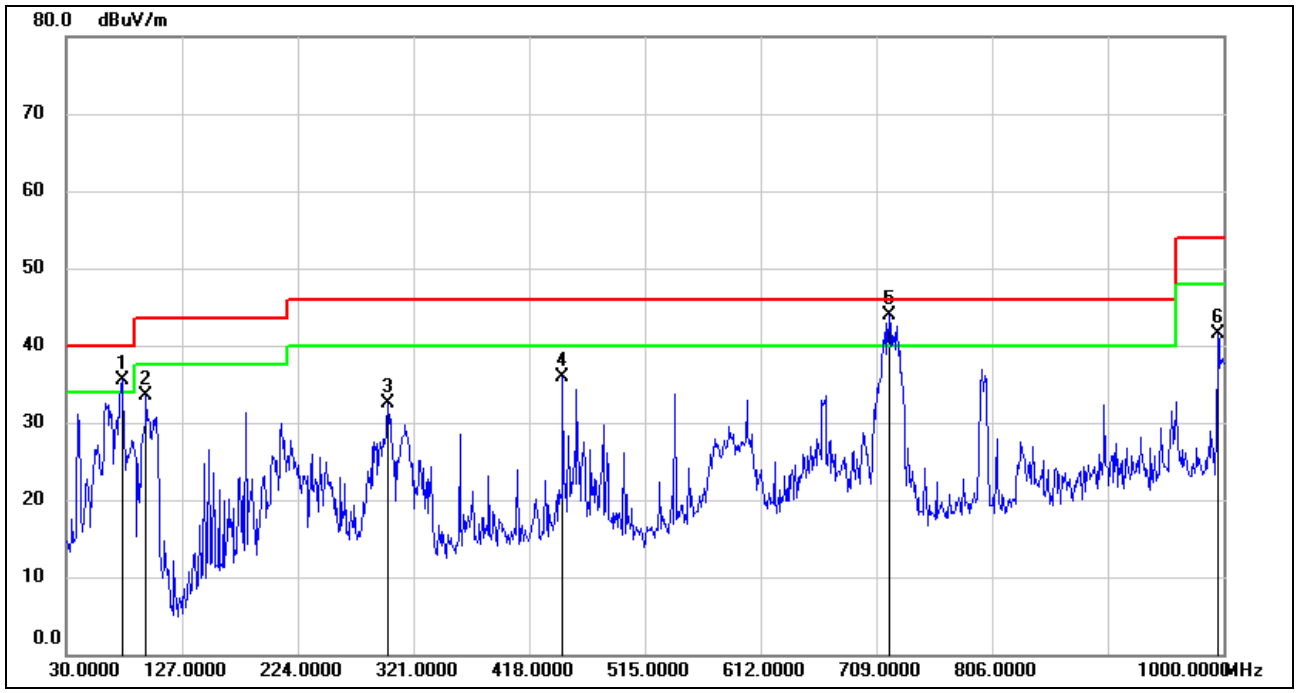
SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	76.5600	55.80	-20.38	35.42	40.00	-4.58	QP
2	96.9300	54.86	-21.43	33.43	43.50	-10.07	QP
3	299.6600	46.84	-14.39	32.45	46.00	-13.55	QP
4	446.1300	47.89	-11.89	36.00	46.00	-10.00	QP
5	719.6700	50.38	-6.45	43.93	46.00	-2.07	QP
6	995.1500	44.87	-3.30	41.57	54.00	-12.43	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

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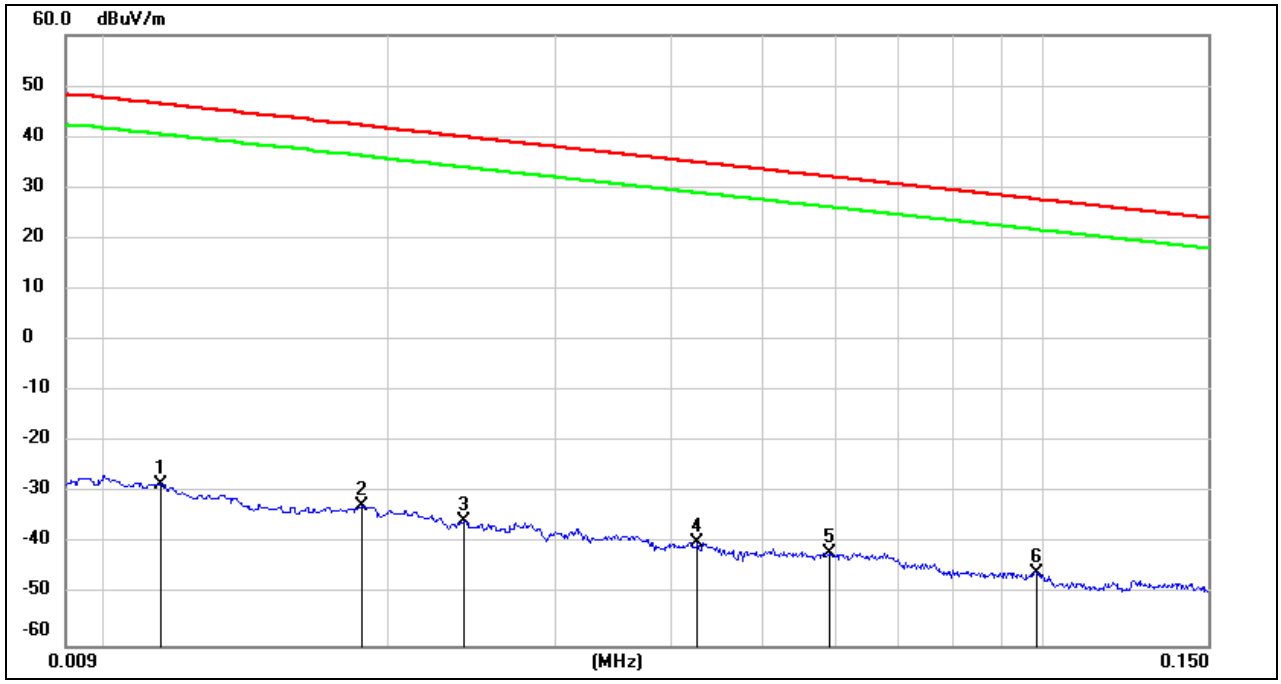
8.7. SPURIOUS EMISSIONS BELOW 30 MHz

8.7.1. 802.11n HT40 MODE

SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

9 kHz~ 150 kHz



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0114	73.00	-101.40	-28.4	46.46	-79.90	-5.04	-74.86	peak
2	0.0187	68.70	-101.35	-32.65	42.16	-84.15	-9.34	-74.81	peak
3	0.0240	65.82	-101.36	-35.54	40	-87.04	-11.50	-75.54	peak
4	0.0427	61.64	-101.45	-39.81	34.99	-91.31	-16.51	-74.80	peak
5	0.0589	59.81	-101.52	-41.71	32.2	-93.21	-19.30	-73.91	peak
6	0.0985	56.05	-101.78	-45.73	27.73	-97.23	-23.77	-73.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. dBuA/m = dBuV/m – 20log10(120π) = dBuV/m -51.5.

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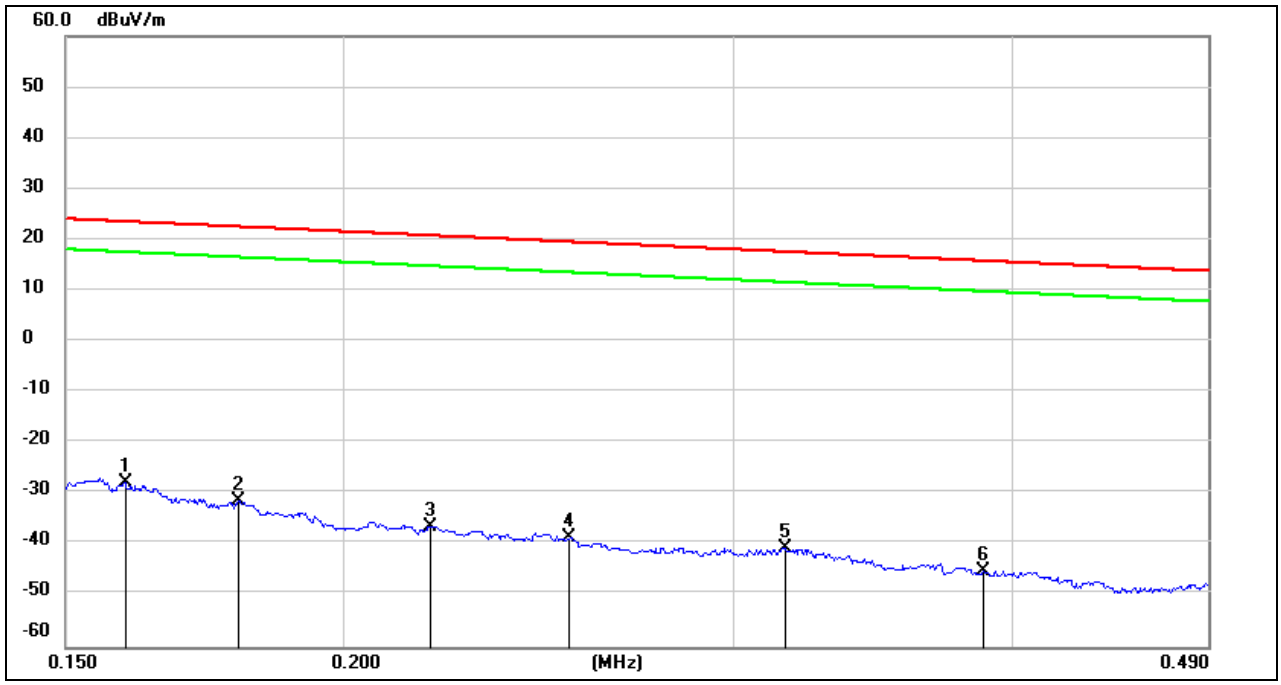
150 kHz ~ 490 kHz



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1595	73.86	-101.65	-27.79	23.55	-79.29	-27.95	-51.34	peak
2	0.1794	70.27	-101.68	-31.41	22.53	-82.91	-28.97	-53.94	peak
3	0.2190	65.27	-101.75	-36.48	20.79	-87.98	-30.71	-57.27	peak
4	0.2530	63.14	-101.80	-38.66	19.54	-90.16	-31.96	-58.20	peak
5	0.3163	61.20	-101.87	-40.67	17.6	-92.17	-33.90	-58.27	peak
6	0.3881	56.90	-101.95	-45.05	15.82	-96.55	-35.68	-60.87	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. dBuA/m = dBuV/m – 20log10(120π) = dBuV/m -51.5.

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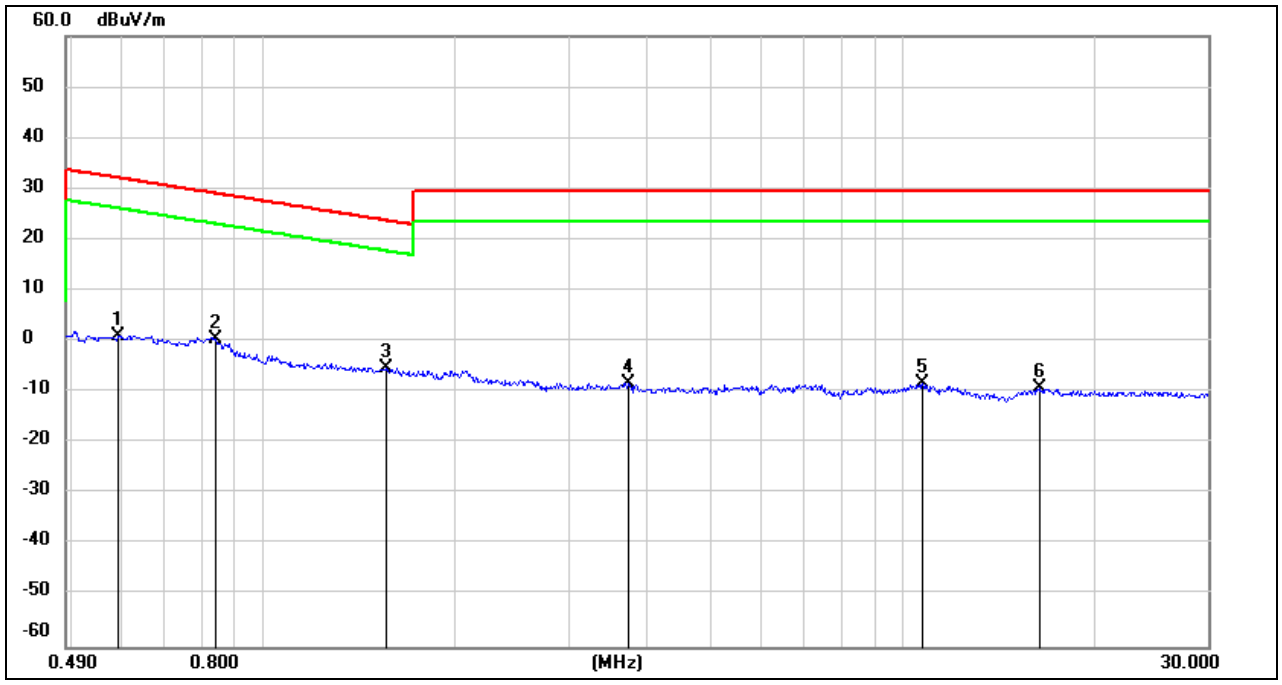
490 kHz ~ 30 MHz



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5917	63.24	-62.08	1.16	32.16	-50.34	-19.34	-31.00	peak
2	0.8400	62.71	-62.17	0.54	29.12	-50.96	-22.38	-28.58	peak
3	1.5564	56.68	-62.02	-5.34	23.76	-56.84	-27.74	-29.10	peak
4	3.7100	53.20	-61.41	-8.21	29.54	-59.71	-21.96	-37.75	peak
5	10.7299	52.48	-60.83	-8.35	29.54	-59.85	-21.96	-37.89	peak
6	16.3959	51.67	-60.96	-9.29	29.54	-60.79	-21.96	-38.83	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. dBuA/m = dBuV/m – 20log10(120π) = dBuV/m -51.5.

Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

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9. AC POWER LINE CONDUCTED EMISSIONS

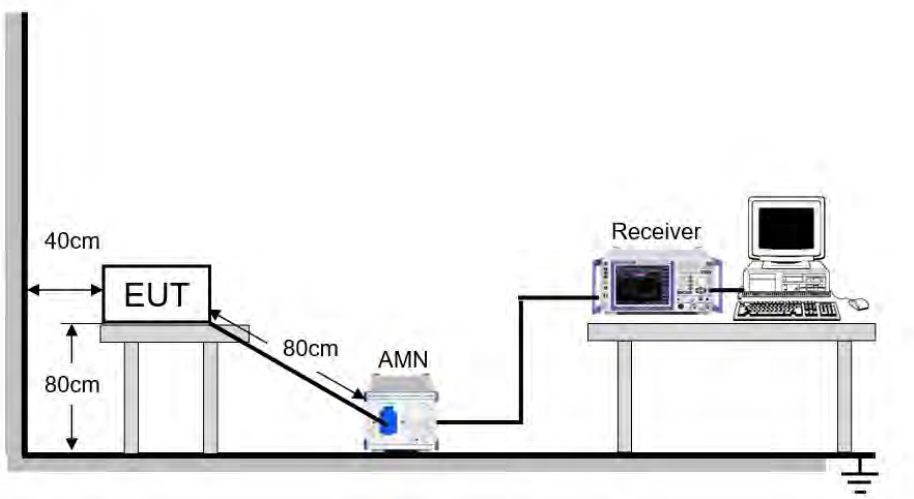
LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST ENVIRONMENT

Temperature	22 °C	Relative Humidity	68.9 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

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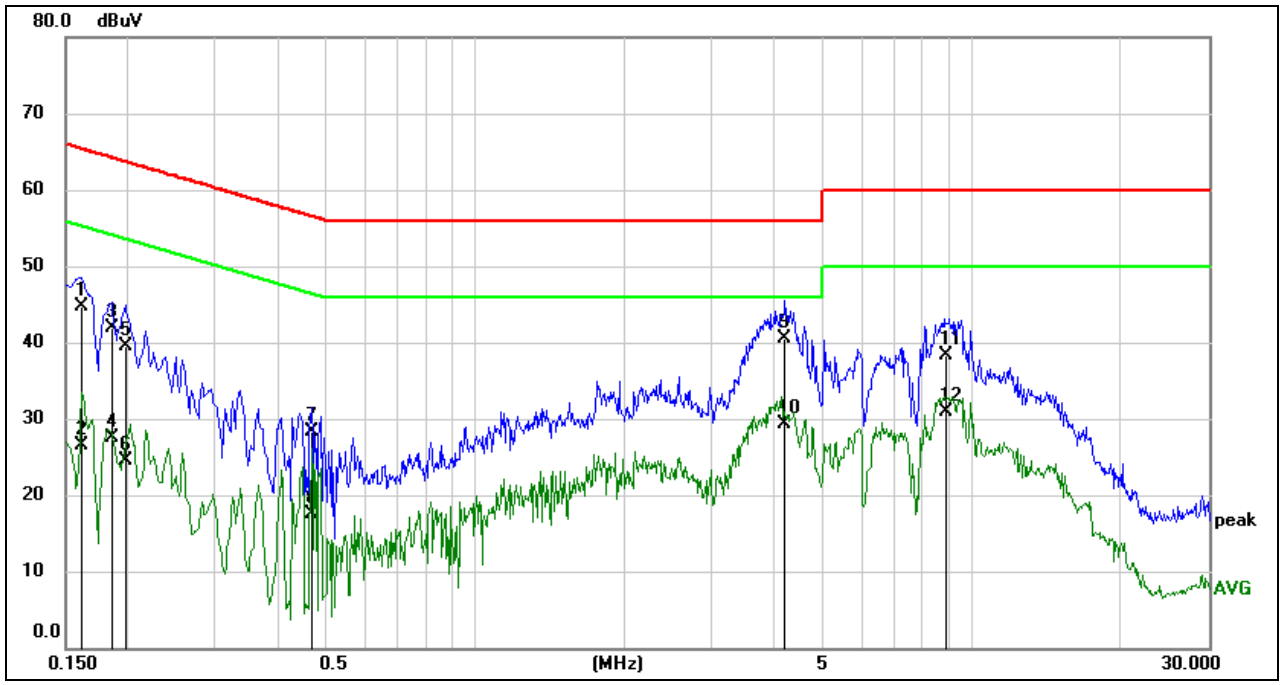
RESULTS

9.1. 802.11a MODE

LINE N RESULTS (UNII-2C BAND HIGH CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1617	35.15	9.60	44.75	65.38	-20.63	QP
2	0.1617	16.95	9.60	26.55	55.38	-28.83	AVG
3	0.1857	32.26	9.60	41.86	64.23	-22.37	QP
4	0.1857	17.90	9.60	27.50	54.23	-26.73	AVG
5	0.1978	29.97	9.60	39.57	63.70	-24.13	QP
6	0.1978	14.86	9.60	24.46	53.70	-29.24	AVG
7	0.4670	18.76	9.60	28.36	56.57	-28.21	QP
8	0.4670	8.00	9.60	17.60	46.57	-28.97	AVG
9	4.2099	30.90	9.66	40.56	56.00	-15.44	QP
10	4.2099	19.62	9.66	29.28	46.00	-16.72	AVG
11	8.8577	28.51	9.74	38.25	60.00	-21.75	QP
12	8.8577	21.14	9.74	30.88	50.00	-19.12	AVG

Note: 1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

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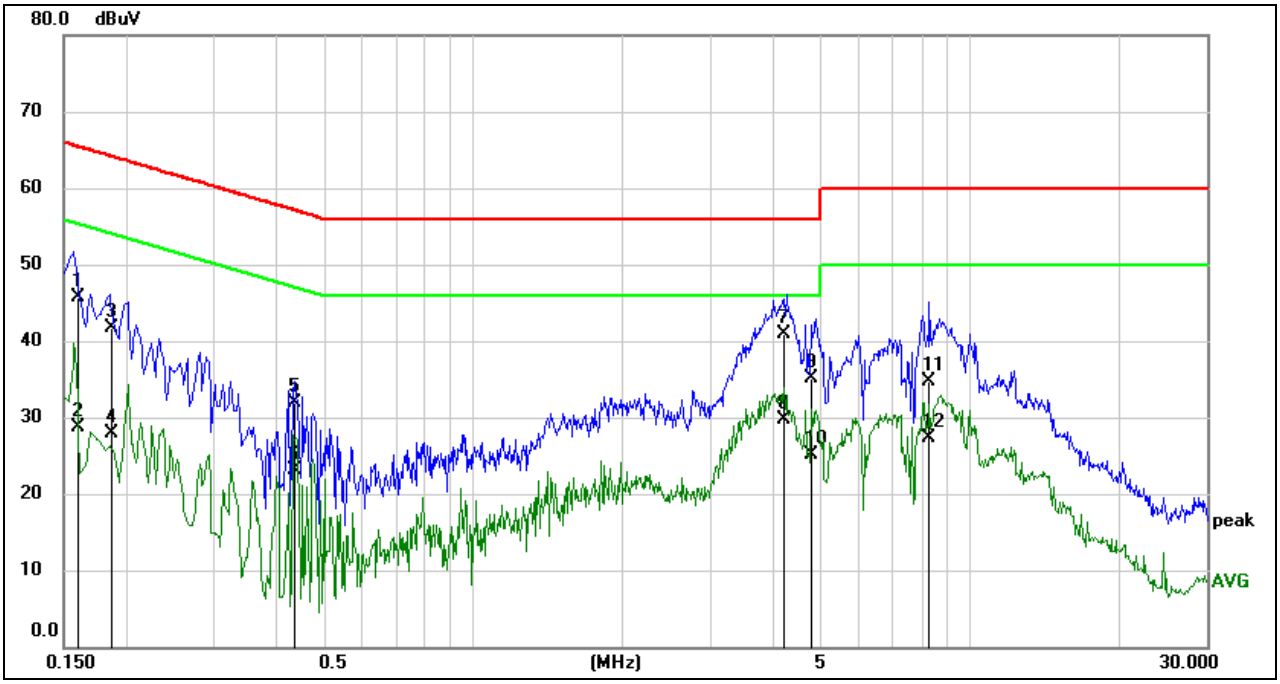
LINE L RESULTS (UNII-2C BAND HIGH CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1603	36.08	9.61	45.69	65.45	-19.76	QP
2	0.1603	19.05	9.61	28.66	55.45	-26.79	AVG
3	0.1880	32.09	9.60	41.69	64.12	-22.43	QP
4	0.1880	18.39	9.60	27.99	54.12	-26.13	AVG
5	0.4354	22.34	9.60	31.94	57.15	-25.21	QP
6	0.4354	13.45	9.60	23.05	47.15	-24.10	AVG
7	4.2229	31.15	9.66	40.81	56.00	-15.19	QP
8	4.2229	20.11	9.66	29.77	46.00	-16.23	AVG
9	4.8187	25.50	9.67	35.17	56.00	-20.83	QP
10	4.8187	15.39	9.67	25.06	46.00	-20.94	AVG
11	8.3331	25.05	9.72	34.77	60.00	-25.23	QP
12	8.3331	17.57	9.72	27.29	50.00	-22.71	AVG

Note: 1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes had been tested, but only the worst data was recorded in the report.

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10. FREQUENCY STABILITY

LIMITS

The frequency of the carrier signal shall be maintained within band of operation.

TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between 0 °C ~ 40 °C (declared by customer).

2. The temperature was incremented by 10 °C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

3. The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

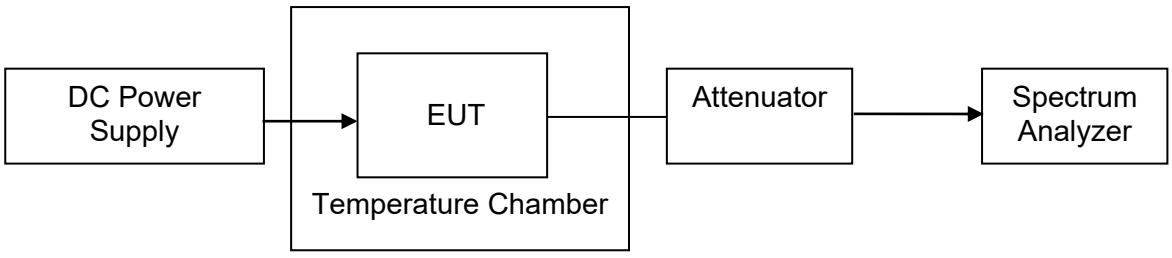
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

5. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

TEST SETUP



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TEST ENVIRONMENT

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	20 % - 75 %	/
Atmospheric Pressure	100 kPa ~102 kPa	/
Temperature	T_N (Normal Temperature): 22 °C – 28 °C	T_L (Low Temperature): 0 °C
		T_H (High Temperature): 40 °C
Supply Voltage	V_N (Normal Voltage): DC 5 V	V_L (Low Voltage): DC 4.25 V
		V_H (High Voltage): DC 5.75 V

RESULTS

Please refer to Appendix E.

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11. DYNAMIC FREQUENCY SELECTION

APPLICABILITY OF DFS REQUIREMENTS

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands.
Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	☐ Master	☒ Client Without Radar Detection	☐ Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

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LIMITS

(1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

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PARAMETERS OF RADAR TEST WAVEFORMS

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 5 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A	Roundup $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.
Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a
Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. Test aggregate is average of the percentage of successful detections of short pulse radar types 1-4.

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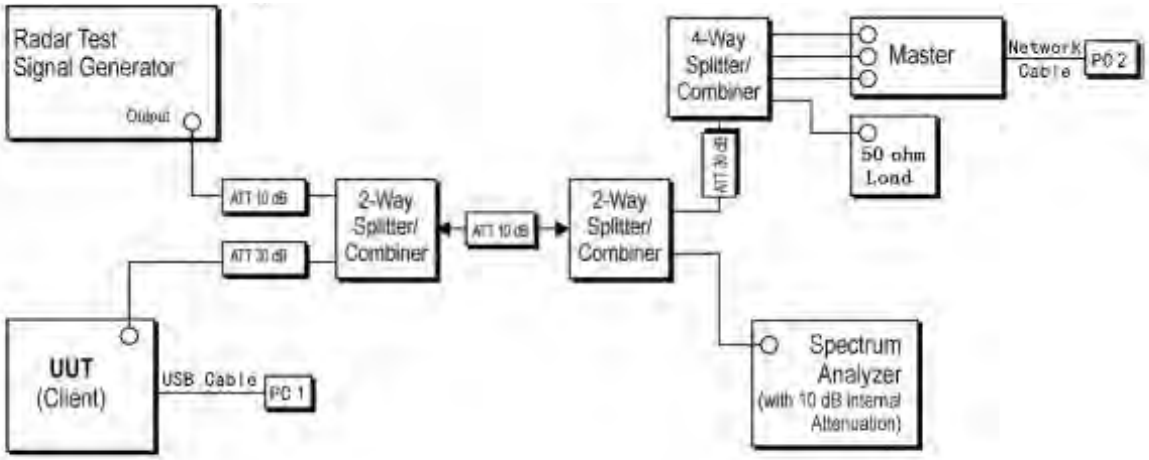
TEST SETUP

Setup for Client with injection at the Master



TEST ENVIRONMENT

Temperature	26.8 °C	Relative Humidity	59.2 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

RESULTS

Please refer to Appendix F.

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12. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RESULTS

Complies

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Appendix

Appendix A1: Emission Bandwidth

Test Result

Test Mode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11A	Ant1	5180	17.920	5171.160	5189.080	PASS
	Ant2	5180	18.000	5171.040	5189.040	PASS
	Ant1	5200	18.080	5191.120	5209.200	PASS
	Ant2	5200	18.200	5190.880	5209.080	PASS
	Ant1	5240	18.440	5230.760	5249.200	PASS
	Ant2	5240	18.360	5230.760	5249.120	PASS
	Ant1	5260	18.280	5250.920	5269.200	PASS
	Ant2	5260	17.880	5251.160	5269.040	PASS
	Ant1	5280	18.240	5270.960	5289.200	PASS
	Ant2	5280	18.360	5270.760	5289.120	PASS
	Ant1	5320	18.360	5310.840	5329.200	PASS
	Ant2	5320	17.920	5311.160	5329.080	PASS
	Ant1	5500	18.040	5491.120	5509.160	PASS
	Ant2	5500	18.320	5490.920	5509.240	PASS
	Ant1	5600	18.240	5590.960	5609.200	PASS
	Ant2	5600	18.400	5590.760	5609.160	PASS
	Ant1	5700	18.640	5690.560	5709.200	PASS
	Ant2	5700	18.080	5690.960	5709.040	PASS
	Ant1	5720	18.320	5710.880	5729.200	PASS
	Ant2	5720	18.000	5710.960	5728.960	PASS
	Ant1	5720_UNII-2C	14.12	5710.880	5725	PASS
	Ant2	5720_UNII-2C	14.04	5710.960	5725	PASS
	Ant1	5720_UNII-3	4.2	5725	5729.200	PASS
	Ant2	5720_UNII-3	3.96	5725	5728.960	PASS
	Ant1	5745	18.680	5735.600	5754.280	PASS
	Ant2	5745	18.160	5735.960	5754.120	PASS
	Ant1	5785	18.280	5776.000	5794.280	PASS
	Ant2	5785	18.240	5775.960	5794.200	PASS
	Ant1	5825	18.400	5815.840	5834.240	PASS
	Ant2	5825	18.520	5815.720	5834.240	PASS
11N20MIMO	Ant1	5180	19.280	5170.400	5189.680	PASS
	Ant2	5180	19.400	5170.360	5189.760	PASS
	Ant1	5200	19.360	5190.400	5209.760	PASS
	Ant2	5200	19.160	5190.520	5209.680	PASS
	Ant1	5240	19.320	5230.400	5249.720	PASS
	Ant2	5240	19.200	5230.520	5249.720	PASS
	Ant1	5260	19.160	5250.600	5269.760	PASS
	Ant2	5260	19.200	5250.720	5269.920	PASS
	Ant1	5280	19.160	5270.520	5289.680	PASS
	Ant2	5280	19.120	5270.760	5289.880	PASS
	Ant1	5320	19.240	5310.560	5329.800	PASS
	Ant2	5320	19.240	5310.520	5329.760	PASS
	Ant1	5500	19.200	5490.480	5509.680	PASS
	Ant2	5500	19.320	5490.600	5509.920	PASS
	Ant1	5600	19.440	5590.480	5609.920	PASS
	Ant2	5600	19.360	5590.640	5610.000	PASS
	Ant1	5700	19.080	5690.560	5709.640	PASS
	Ant2	5700	18.960	5690.720	5709.680	PASS
	Ant1	5720	19.240	5710.640	5729.880	PASS
	Ant2	5720	19.400	5710.440	5729.840	PASS
	Ant1	5720_UNII-2C	14.36	5710.640	5725	PASS
	Ant2	5720_UNII-2C	14.56	5710.440	5725	PASS

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	Ant1	5720_UNII-3	4.88	5725	5729.880	PASS
	Ant2	5720_UNII-3	4.84	5725	5729.840	PASS
	Ant1	5745	19.400	5735.520	5754.920	PASS
	Ant2	5745	19.360	5735.520	5754.880	PASS
	Ant1	5785	19.400	5775.480	5794.880	PASS
	Ant2	5785	19.120	5775.680	5794.800	PASS
	Ant1	5825	19.400	5815.440	5834.840	PASS
	Ant2	5825	19.200	5815.720	5834.920	PASS
11N40MIMO	Ant1	5190	40.400	5169.280	5209.680	PASS
	Ant2	5190	40.240	5170.000	5210.240	PASS
	Ant1	5230	38.880	5210.640	5249.520	PASS
	Ant2	5230	39.600	5210.880	5250.480	PASS
	Ant1	5270	40.400	5250.080	5290.480	PASS
	Ant2	5270	40.320	5249.920	5290.240	PASS
	Ant1	5310	40.400	5290.240	5330.640	PASS
	Ant2	5310	39.520	5290.320	5329.840	PASS
	Ant1	5510	40.960	5490.240	5531.200	PASS
	Ant2	5510	41.200	5490.160	5531.360	PASS
	Ant1	5590	40.240	5570.320	5610.560	PASS
	Ant2	5590	40.400	5570.320	5610.720	PASS
	Ant1	5670	40.160	5650.240	5690.400	PASS
	Ant2	5670	40.880	5649.920	5690.800	PASS
	Ant1	5710	40.560	5689.840	5730.400	PASS
	Ant2	5710	40.240	5690.160	5730.400	PASS
	Ant1	5710_UNII-2C	35.16	5689.840	5725	PASS
	Ant2	5710_UNII-2C	34.84	5690.160	5725	PASS
	Ant1	5710_UNII-3	5.4	5725	5730.400	PASS
	Ant2	5710_UNII-3	5.4	5725	5730.400	PASS
	Ant1	5755	39.920	5735.320	5775.240	PASS
	Ant2	5755	41.120	5734.680	5775.800	PASS
	Ant1	5795	40.400	5775.000	5815.400	PASS
	Ant2	5795	40.640	5775.240	5815.880	PASS
11AC20MIMO	Ant1	5180	19.280	5170.520	5189.800	PASS
	Ant2	5180	18.960	5170.760	5189.720	PASS
	Ant1	5200	19.400	5190.360	5209.760	PASS
	Ant2	5200	19.320	5190.640	5209.960	PASS
	Ant1	5240	19.080	5230.520	5249.600	PASS
	Ant2	5240	19.360	5230.600	5249.960	PASS
	Ant1	5260	19.280	5250.560	5269.840	PASS
	Ant2	5260	19.360	5250.440	5269.800	PASS
	Ant1	5280	19.480	5270.320	5289.800	PASS
	Ant2	5280	19.280	5270.640	5289.920	PASS
	Ant1	5320	19.160	5310.600	5329.760	PASS
	Ant2	5320	19.120	5310.520	5329.640	PASS
	Ant1	5500	19.440	5490.360	5509.800	PASS
	Ant2	5500	19.120	5490.640	5509.760	PASS
	Ant1	5600	19.240	5590.600	5609.840	PASS
	Ant2	5600	19.240	5590.600	5609.840	PASS
	Ant1	5700	19.120	5690.520	5709.640	PASS
	Ant2	5700	19.320	5690.520	5709.840	PASS
	Ant1	5720	19.200	5710.600	5729.800	PASS
	Ant2	5720	19.160	5710.640	5729.800	PASS
	Ant1	5720_UNII-2C	14.4	5710.600	5725	PASS
	Ant2	5720_UNII-2C	14.36	5710.640	5725	PASS
	Ant1	5720_UNII-3	4.8	5725	5729.800	PASS
	Ant2	5720_UNII-3	4.8	5725	5729.800	PASS
	Ant1	5745	19.080	5735.680	5754.760	PASS
	Ant2	5745	19.320	5735.560	5754.880	PASS
	Ant1	5785	19.320	5775.440	5794.760	PASS
	Ant2	5785	19.280	5775.400	5794.680	PASS
	Ant1	5825	19.200	5815.640	5834.840	PASS

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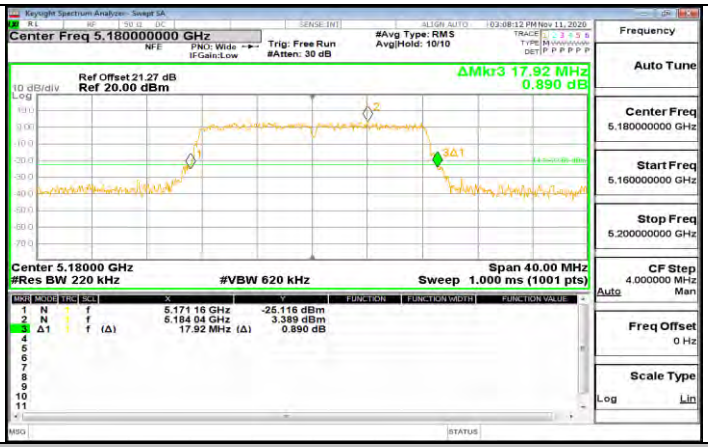
	Ant2	5825	19.280	5815.480	5834.760	PASS
11AC40MIMO	Ant1	5190	40.960	5169.760	5210.720	PASS
	Ant2	5190	41.120	5169.440	5210.560	PASS
	Ant1	5230	39.760	5210.240	5250.000	PASS
	Ant2	5230	39.600	5210.320	5249.920	PASS
	Ant1	5270	40.640	5249.520	5290.160	PASS
	Ant2	5270	40.160	5249.920	5290.080	PASS
	Ant1	5310	40.400	5289.920	5330.320	PASS
	Ant2	5310	40.560	5290.000	5330.560	PASS
	Ant1	5510	41.040	5489.920	5530.960	PASS
	Ant2	5510	40.800	5490.240	5531.040	PASS
	Ant1	5590	39.840	5570.480	5610.320	PASS
	Ant2	5590	39.840	5570.640	5610.480	PASS
	Ant1	5670	40.720	5649.520	5690.240	PASS
	Ant2	5670	39.760	5650.320	5690.080	PASS
	Ant1	5710	40.320	5689.680	5730.000	PASS
	Ant2	5710	41.280	5689.760	5731.040	PASS
	Ant1	5710_UNII-2C	35.32	5689.680	5725	PASS
	Ant2	5710_UNII-2C	35.24	5689.760	5725	PASS
	Ant1	5710_UNII-3	5	5725	5730.000	PASS
	Ant2	5710_UNII-3	6.04	5725	5731.040	PASS
	Ant1	5755	40.320	5734.760	5775.080	PASS
	Ant2	5755	40.560	5735.160	5775.720	PASS
	Ant1	5795	40.320	5774.600	5814.920	PASS
	Ant2	5795	39.760	5775.160	5814.920	PASS
11AC80MIMO	Ant1	5210	79.040	5170.640	5249.680	PASS
	Ant2	5210	79.520	5170.800	5250.320	PASS
	Ant1	5290	80.480	5249.520	5330.000	PASS
	Ant2	5290	79.840	5250.640	5330.480	PASS
	Ant1	5530	87.200	5490.480	5577.680	PASS
	Ant2	5530	81.120	5490.000	5571.120	PASS
	Ant1	5610	79.360	5570.800	5650.160	PASS
	Ant2	5610	80.000	5570.480	5650.480	PASS
	Ant1	5690	80.160	5650.000	5730.160	PASS
	Ant2	5690	80.160	5649.840	5730.000	PASS
	Ant1	5690_UNII-2C	75	5650.000	5725	PASS
	Ant2	5690_UNII-2C	75.16	5649.840	5725	PASS
	Ant1	5690_UNII-3	5.16	5725	5730.160	PASS
	Ant2	5690_UNII-3	5	5725	5730.000	PASS
	Ant1	5775	79.520	5735.800	5815.320	PASS
	Ant2	5775	80.960	5734.360	5815.320	PASS

Test Graphs



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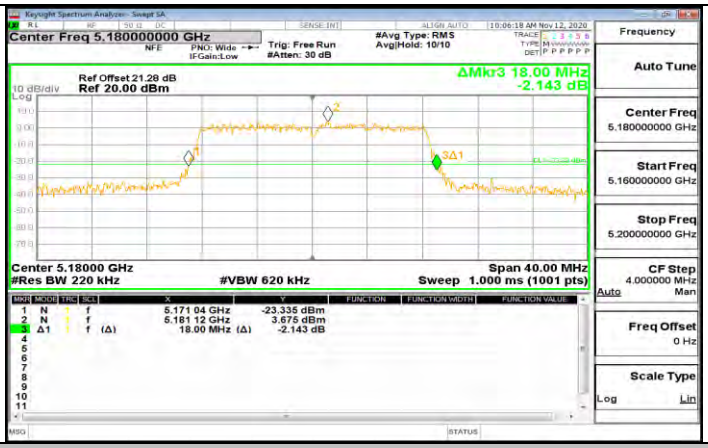

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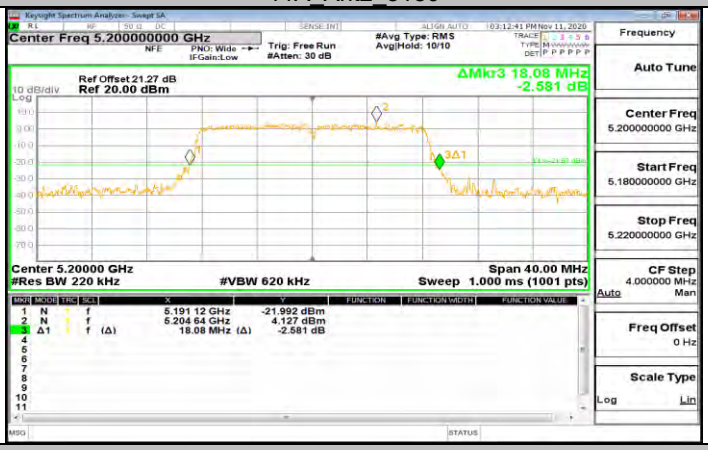
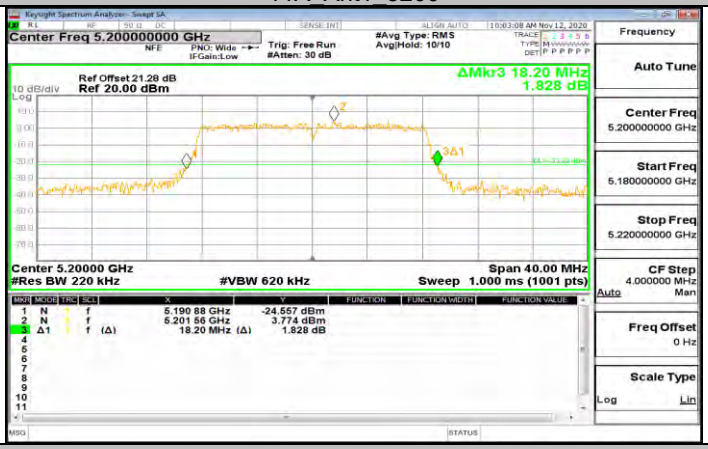


11A_Ant1_5200



11A_Ant2_5200

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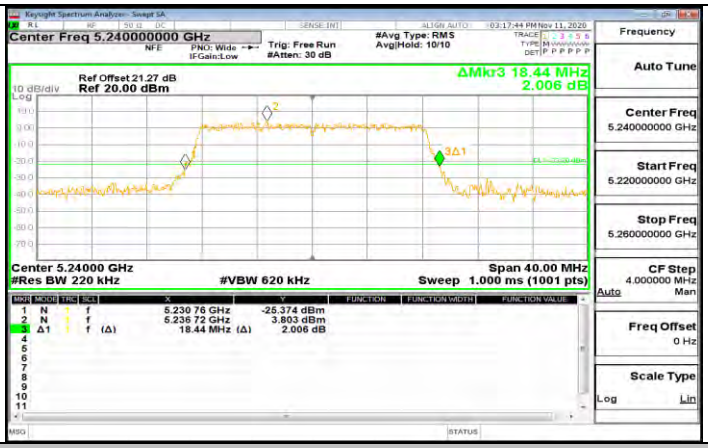

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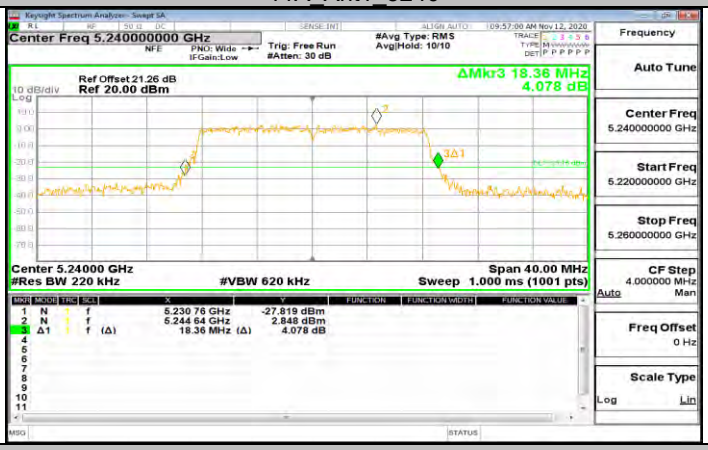

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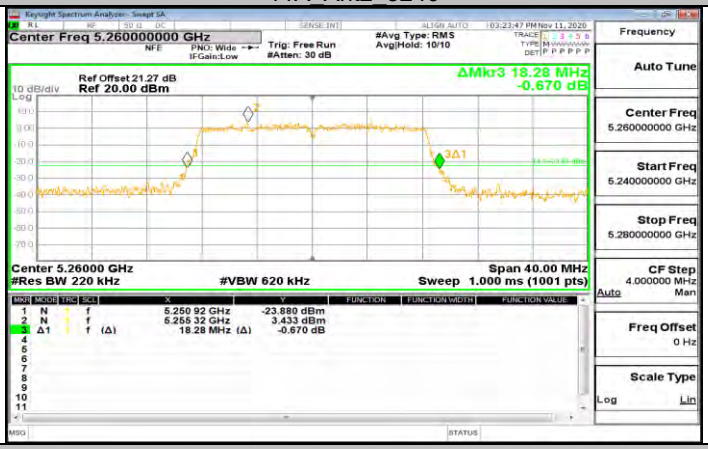

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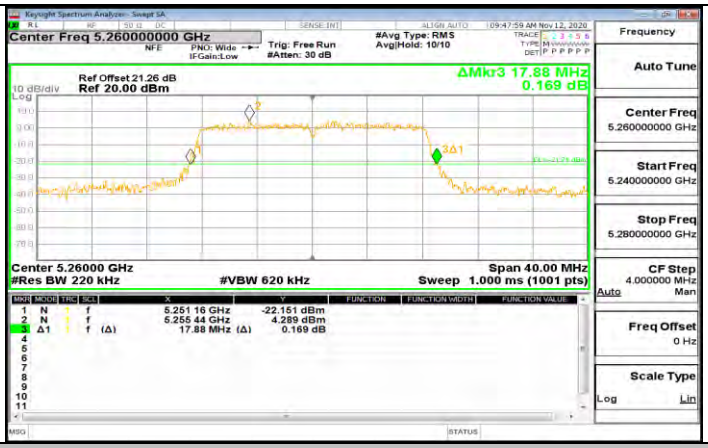

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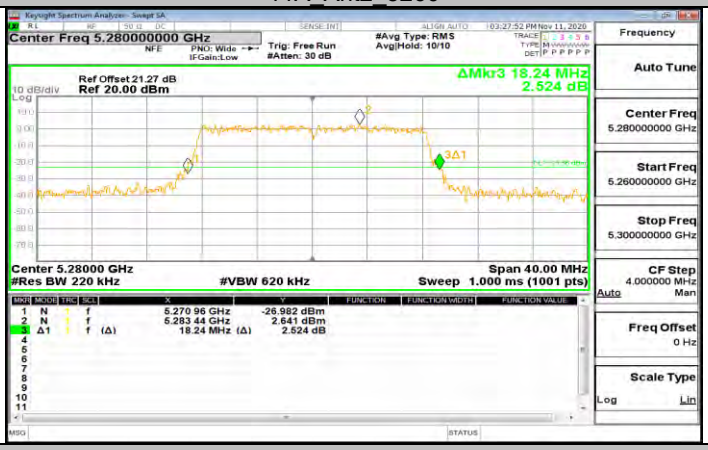
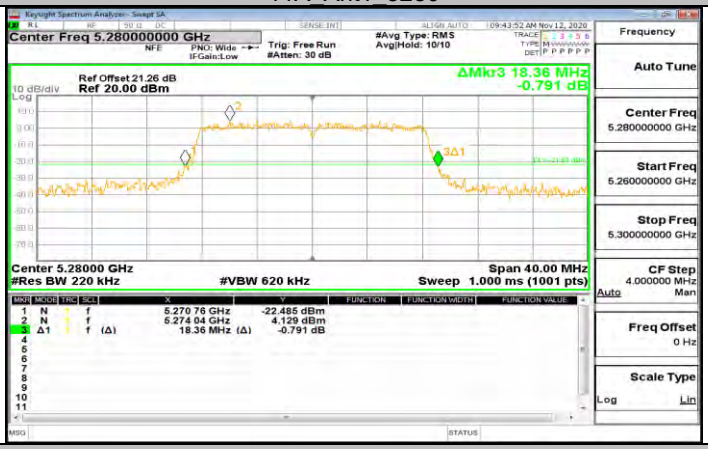


11A_Ant1_5280



11A_Ant2_5280

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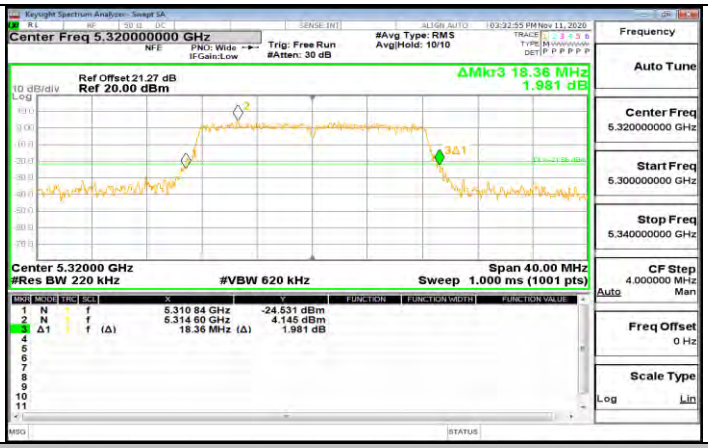

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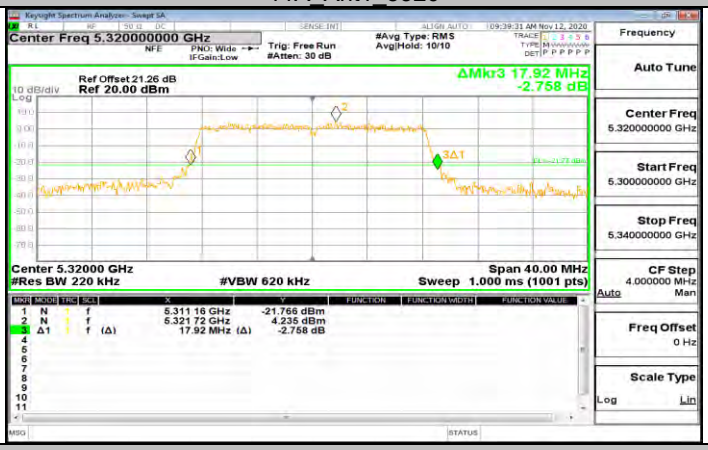

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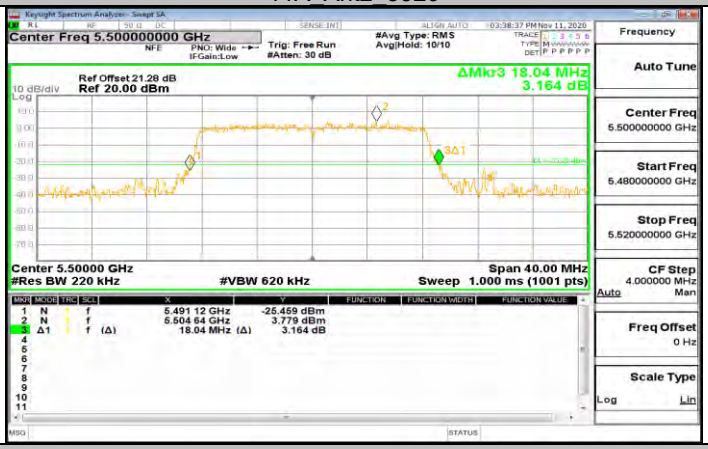

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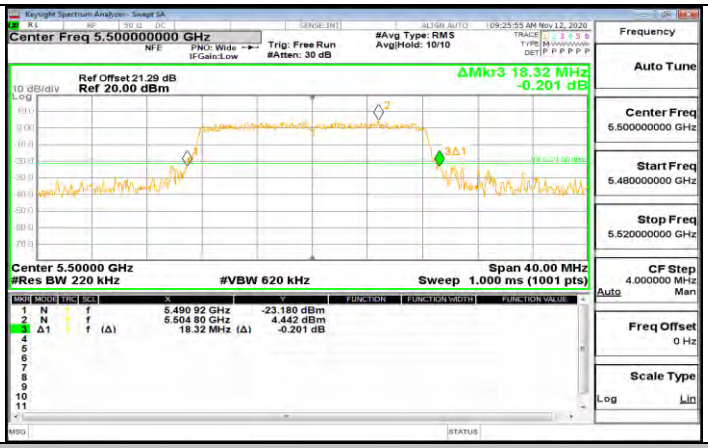

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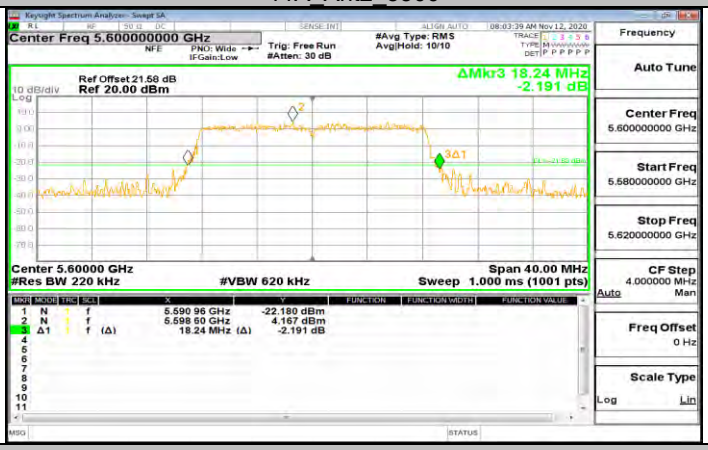
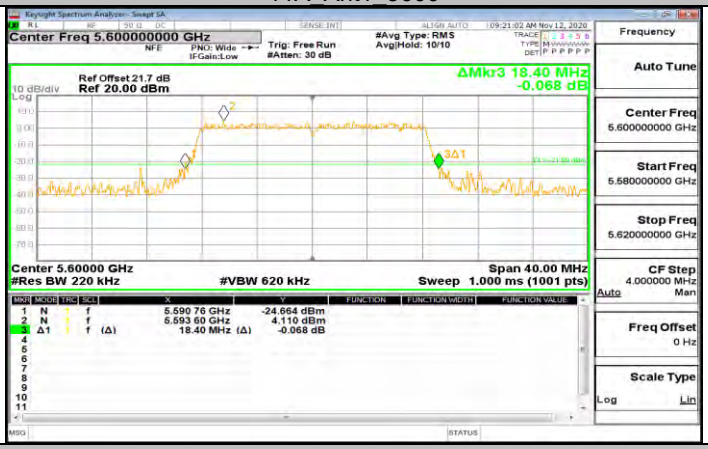


11A_Ant1_5600



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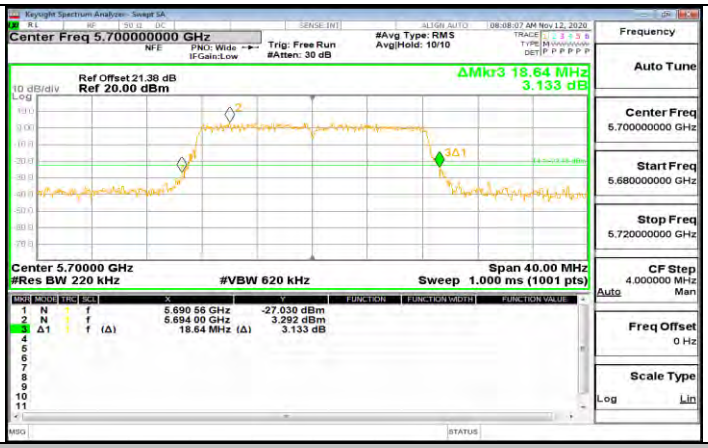
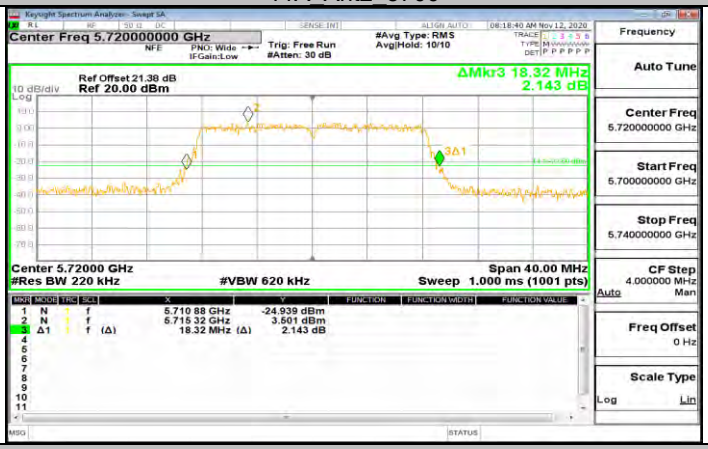


11A_Ant1_5700

11A_Ant2_5700



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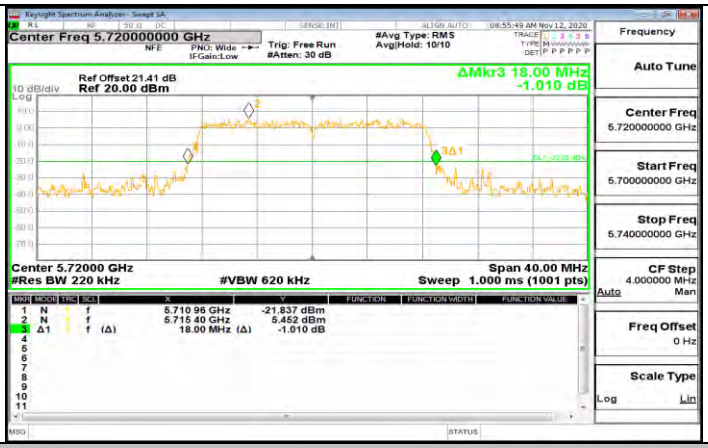

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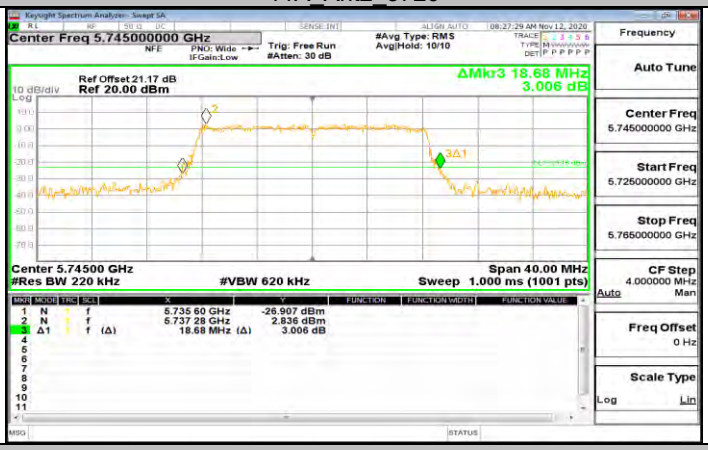

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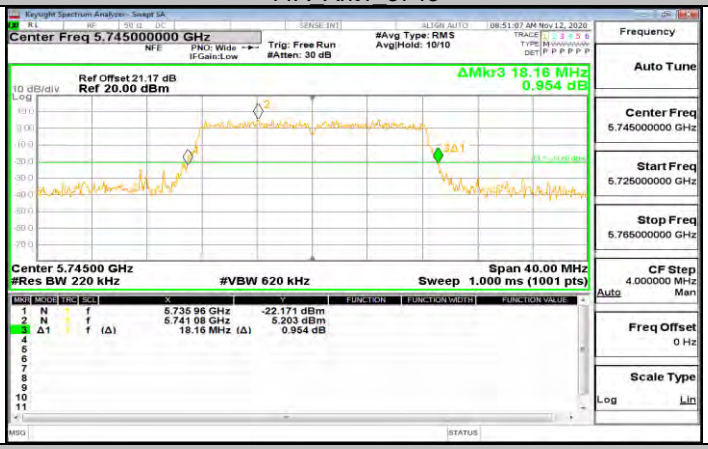

11A_Ant2_5745

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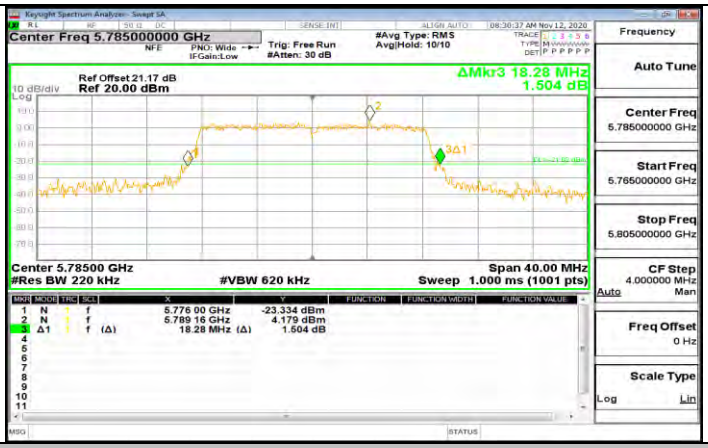

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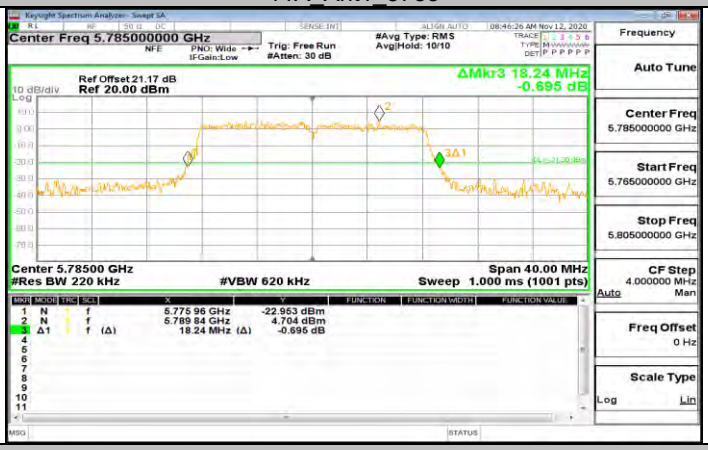
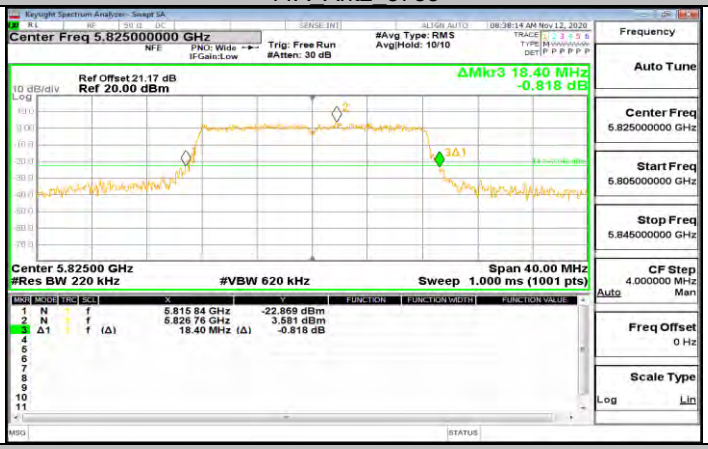


11A_Ant2_5785



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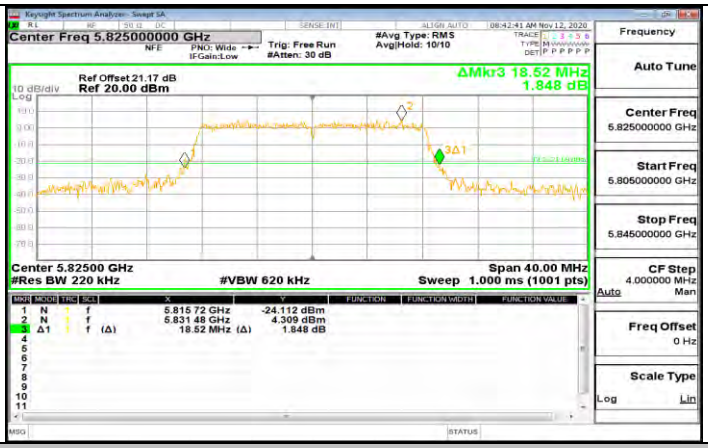

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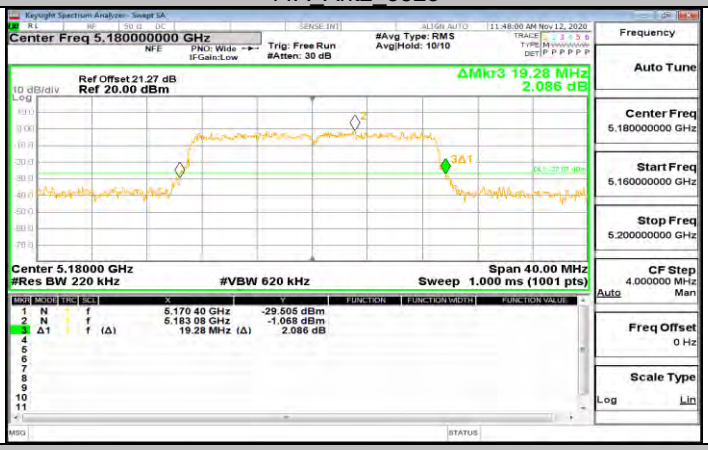
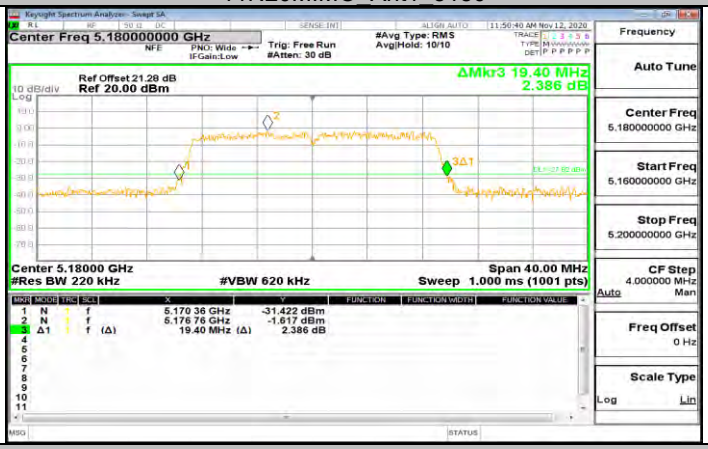


11N20MIMO_Ant1_5180



11N20MIMO_Ant2_5180

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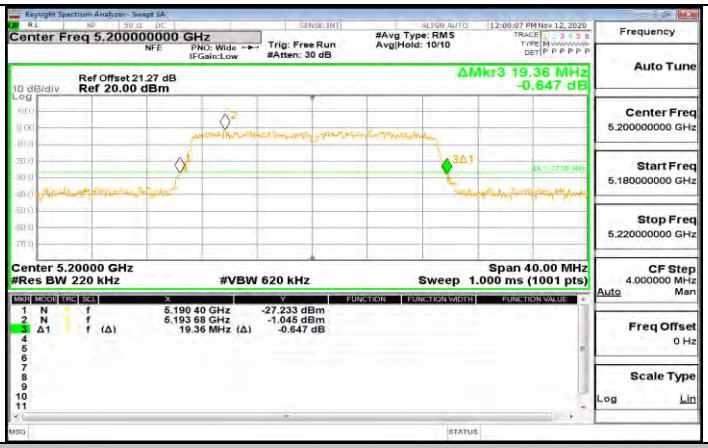
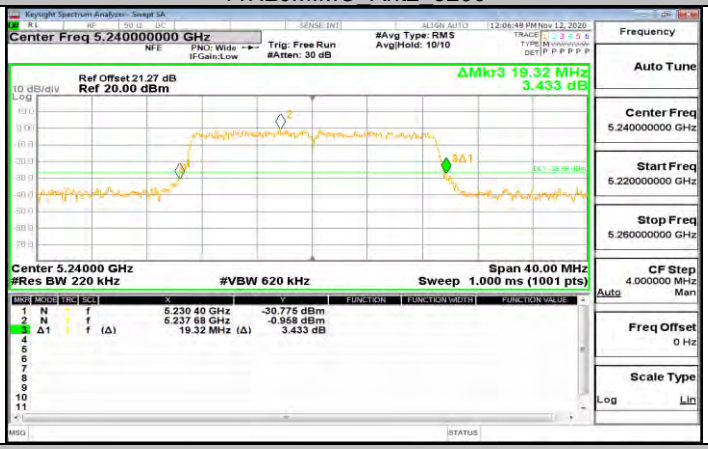


11N20MIMO_Ant1_5200

11N20MIMO_Ant2_5200



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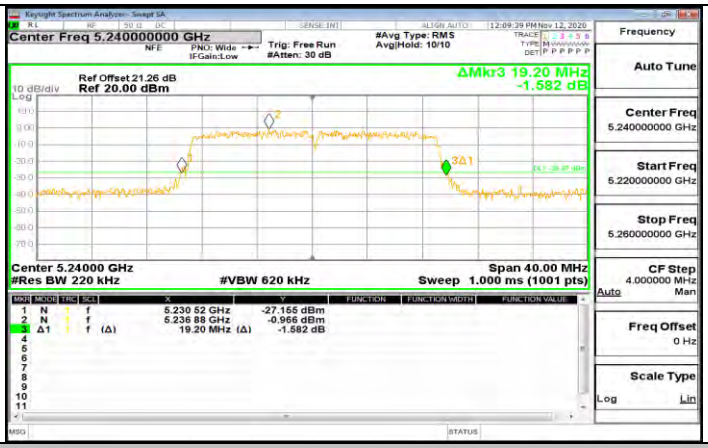

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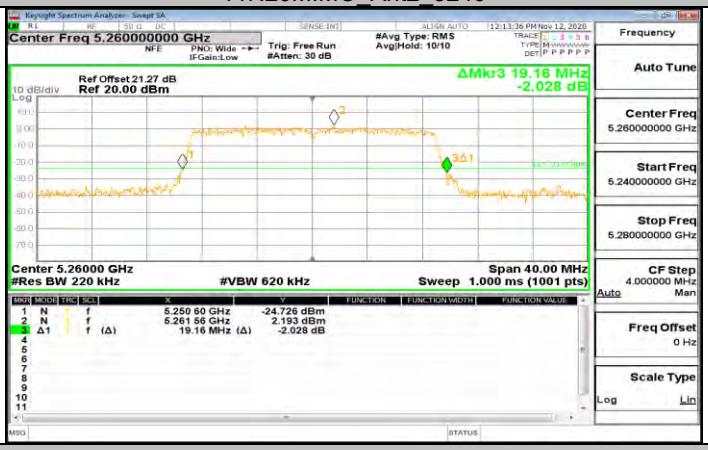

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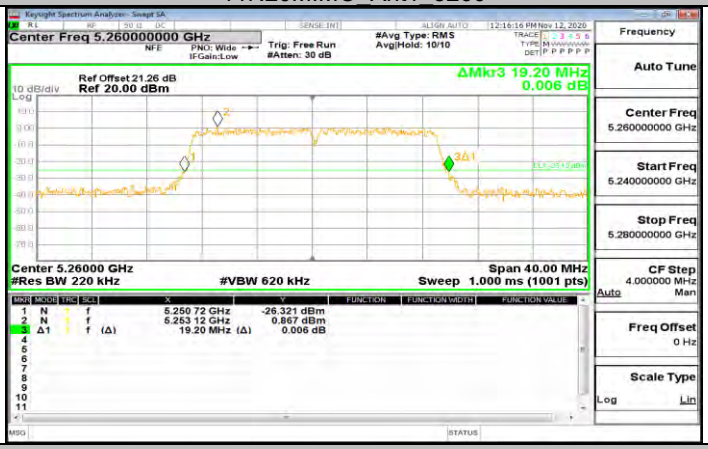

11N20MIMO_Ant2_5260

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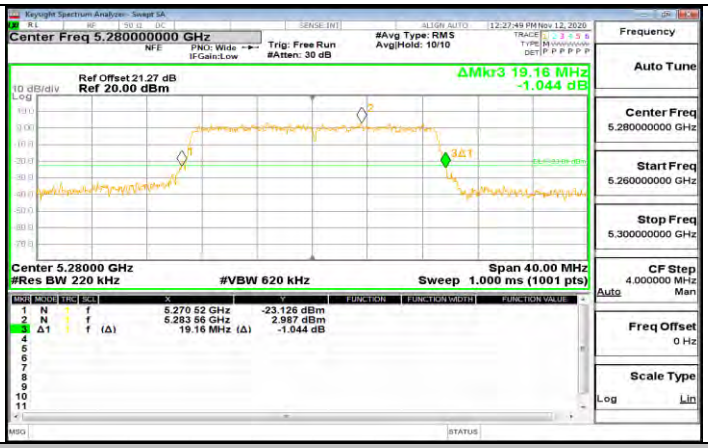

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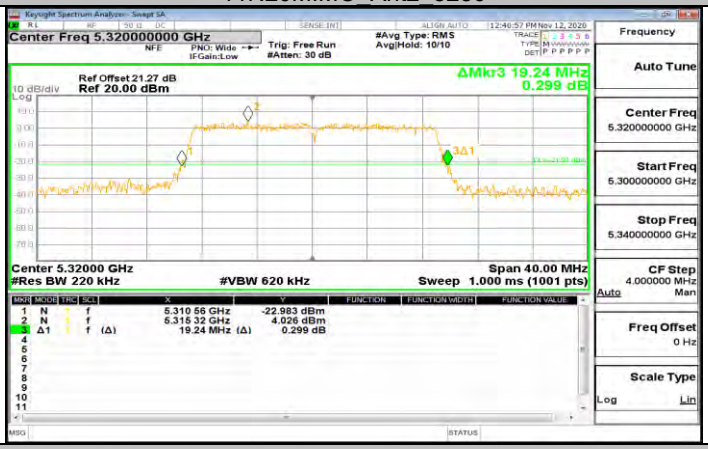
11N20MIMO_Ant2_5280



11N20MIMO_Ant1_5320

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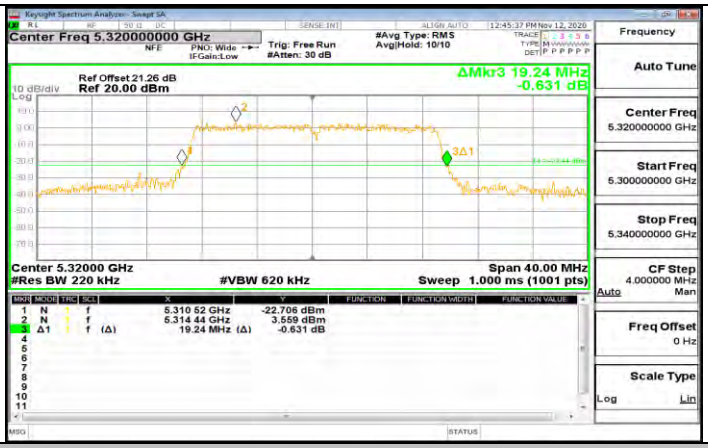

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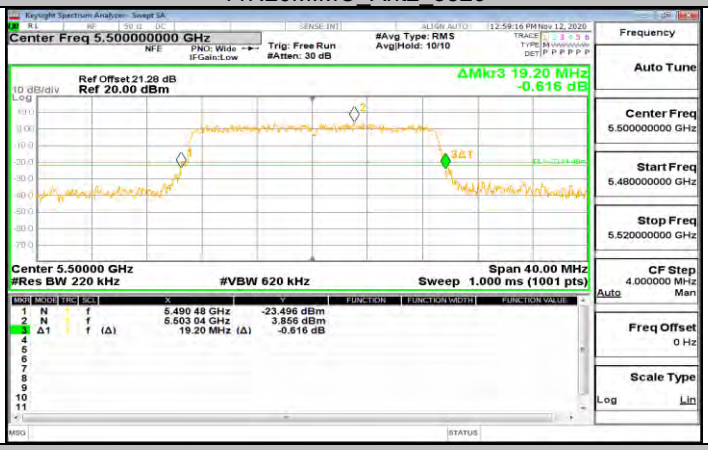
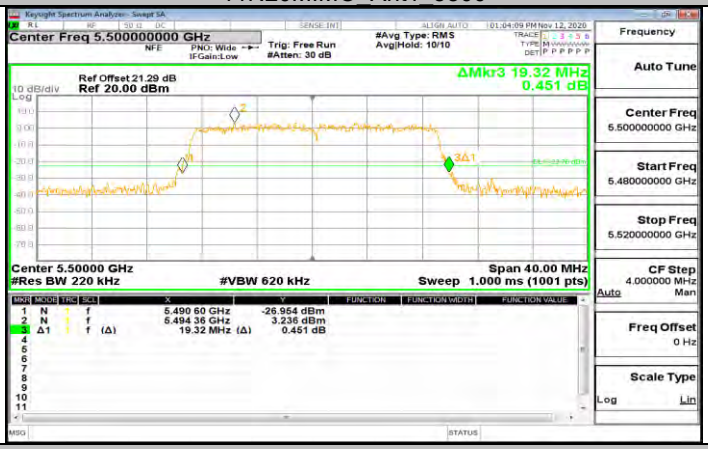


11N20MIMO_Ant1_5500



11N20MIMO_Ant2_5500

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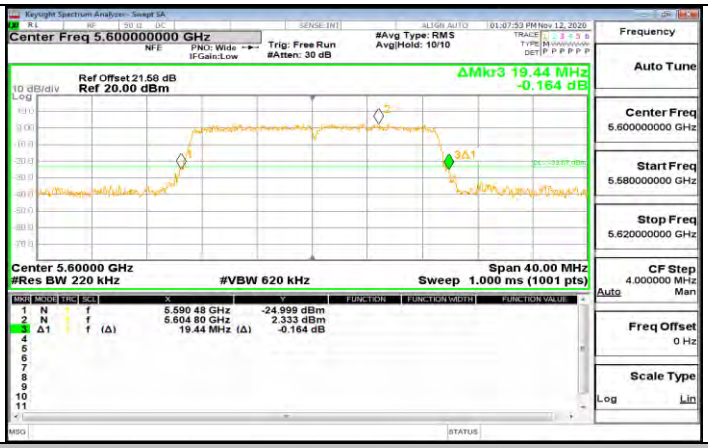

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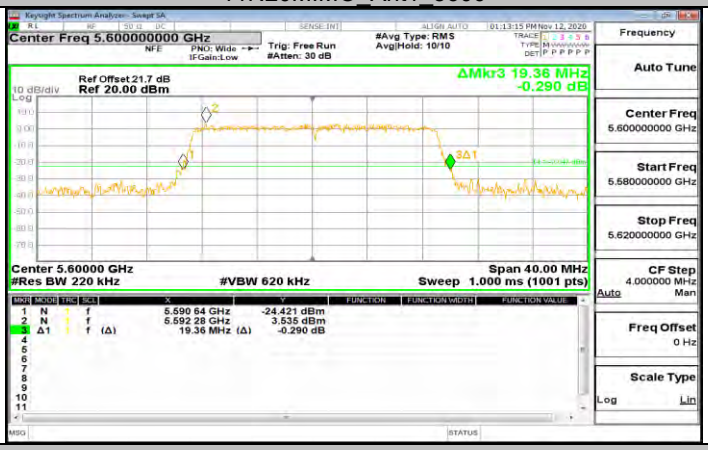

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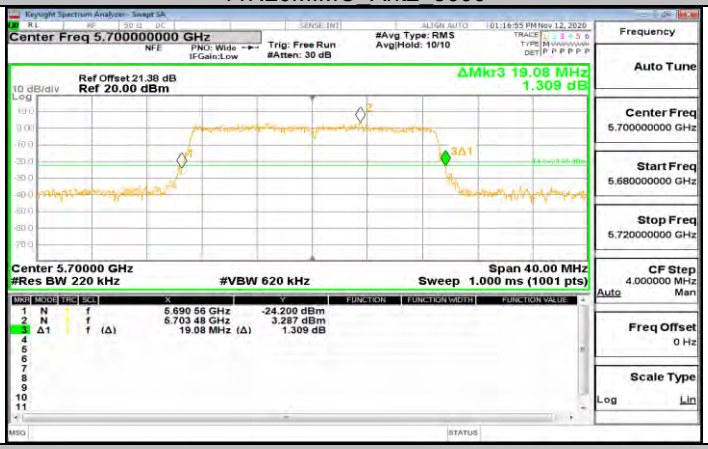

11N20MIMO_Ant1_5700

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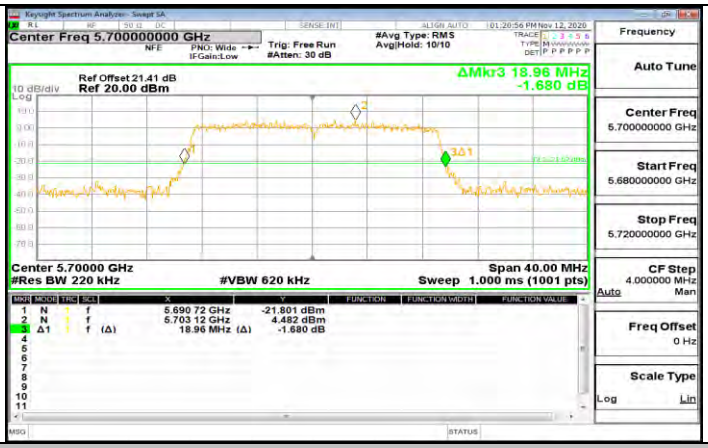

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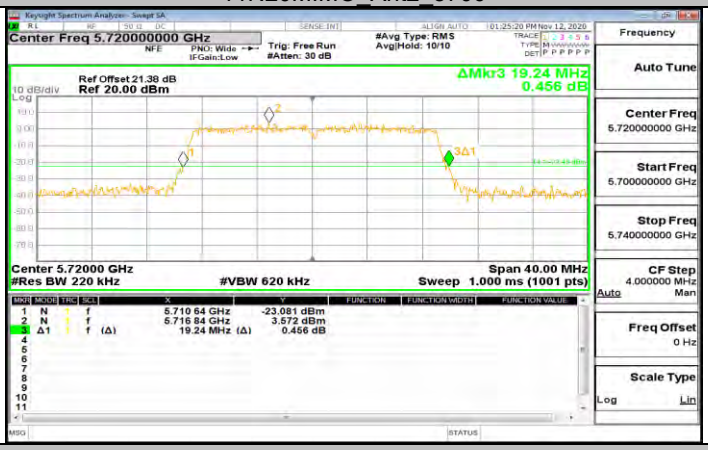

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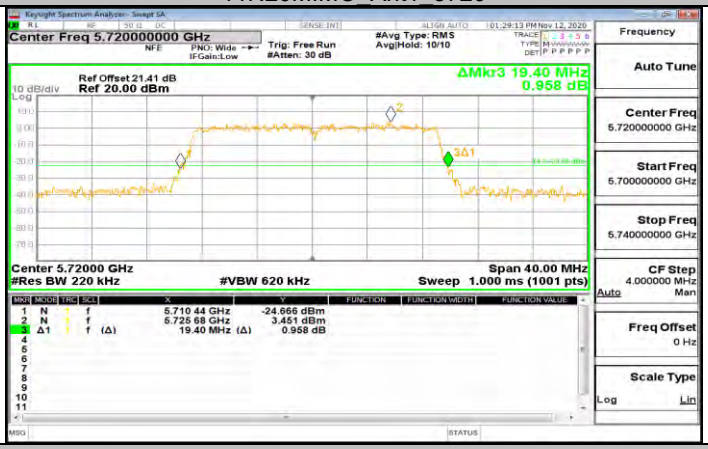

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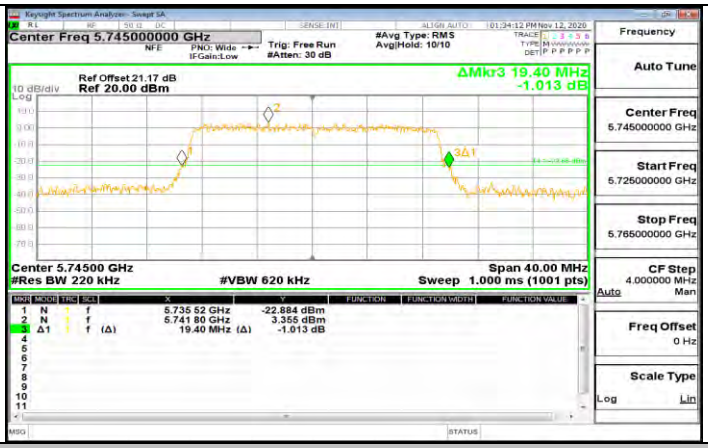

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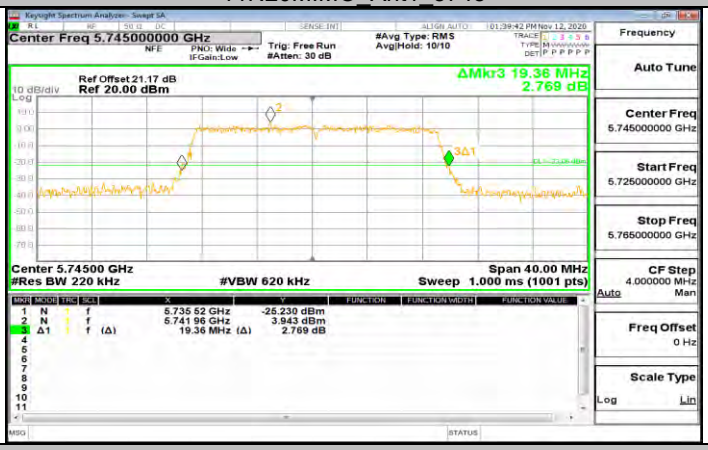

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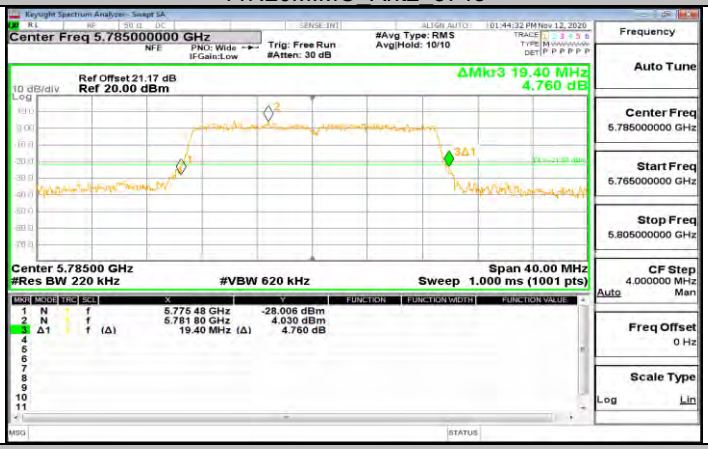

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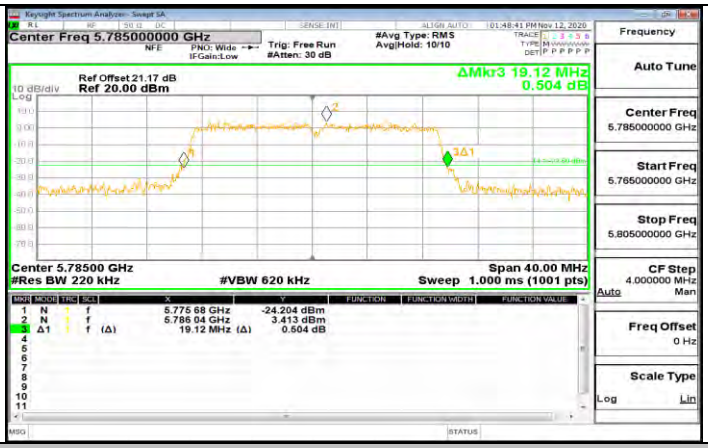

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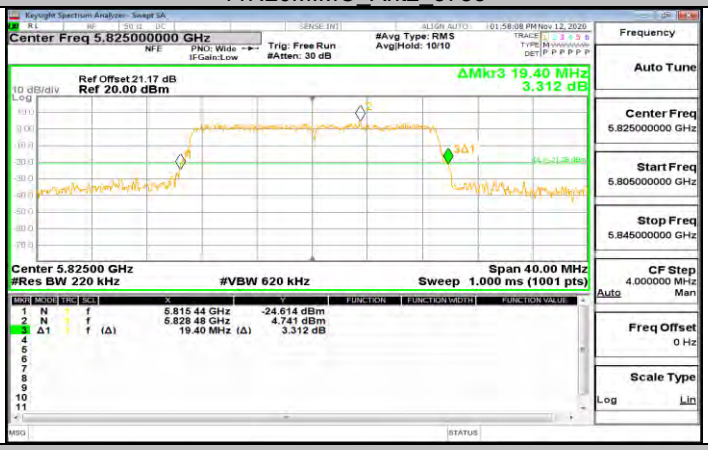

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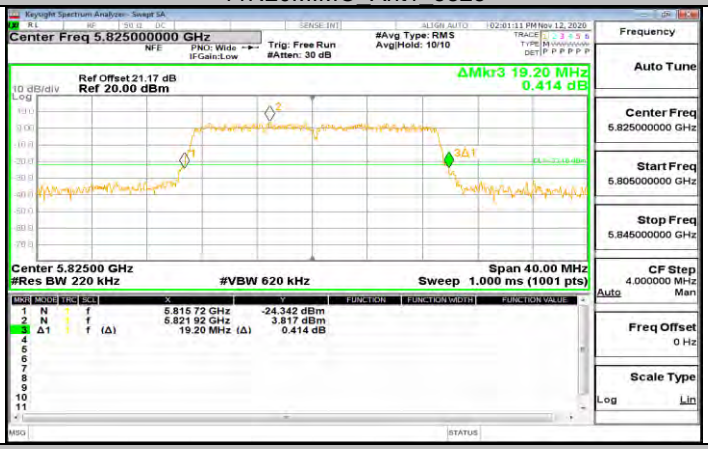

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11N40MIMO_Ant1_5190

11N40MIMO_Ant2_5190

11N40MIMO_Ant1_5230

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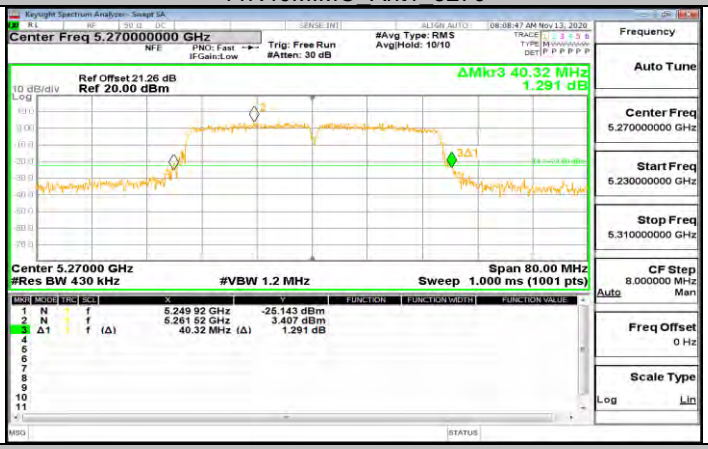
11N40MIMO_Ant2_5230

11N40MIMO_Ant1_5270



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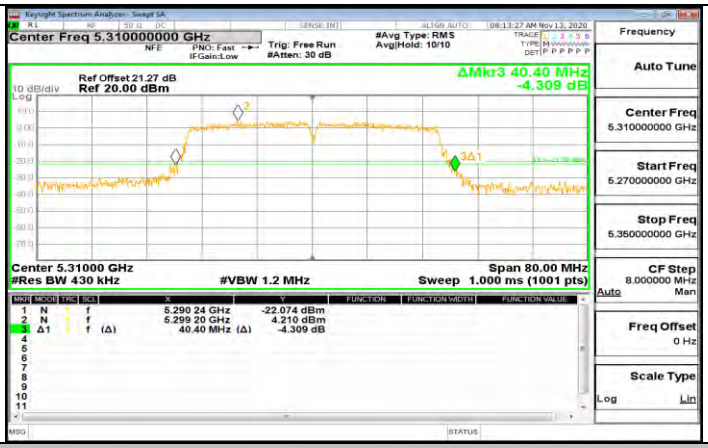

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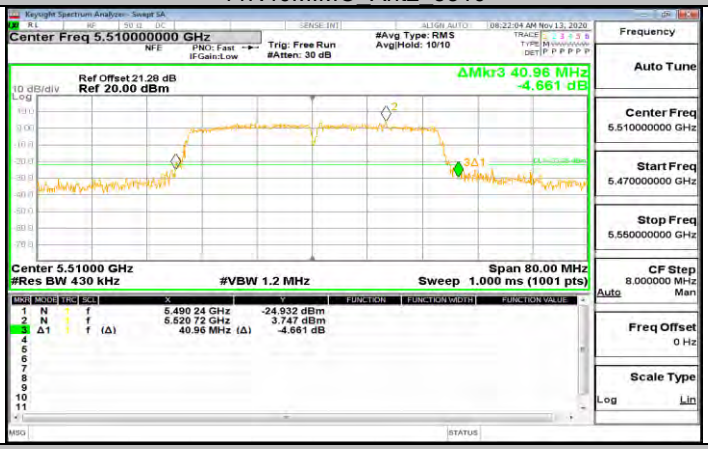

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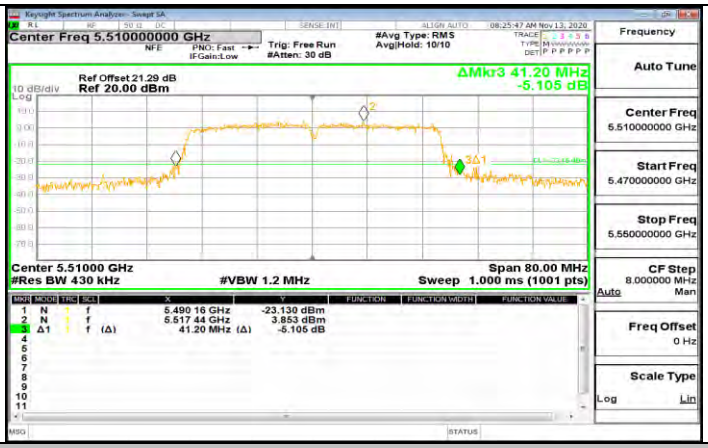

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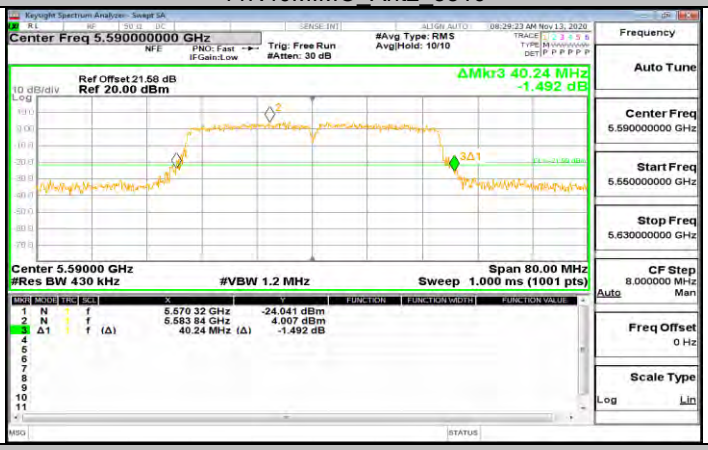

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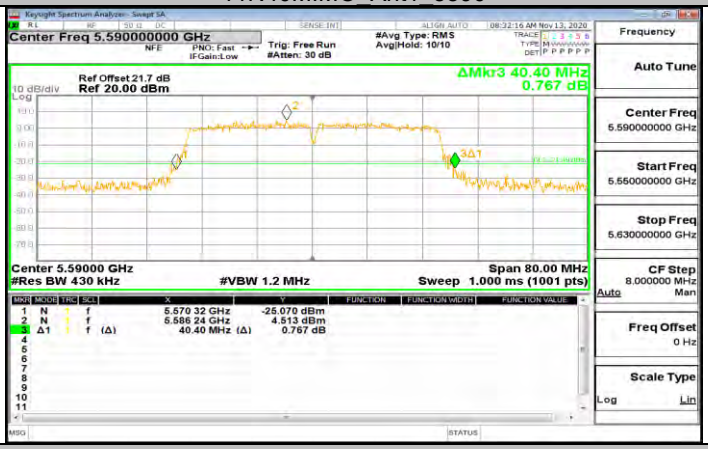

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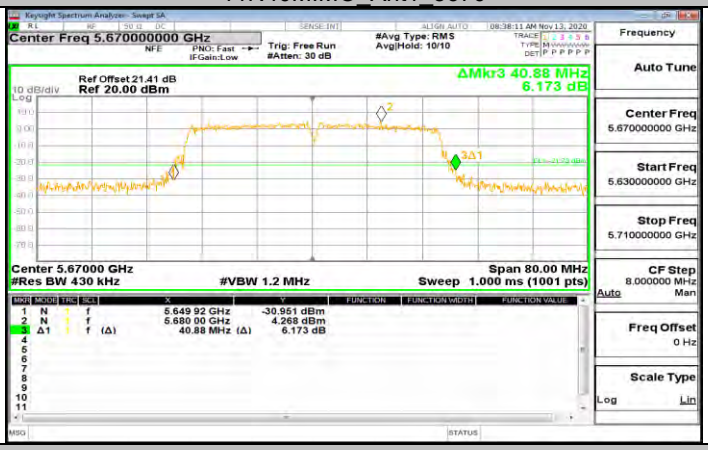

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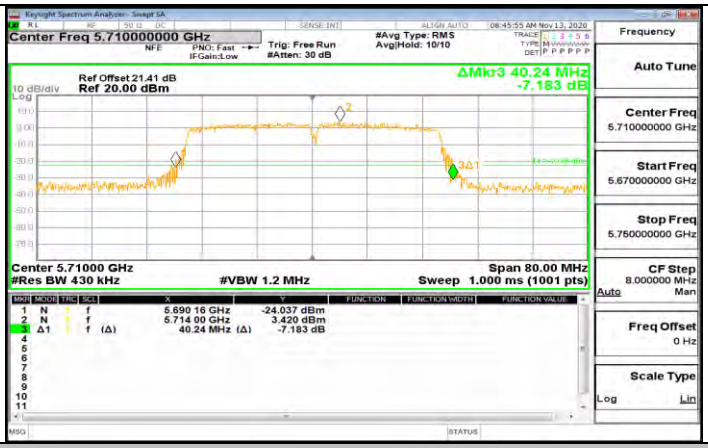

11N40MIMO_Ant2_5710

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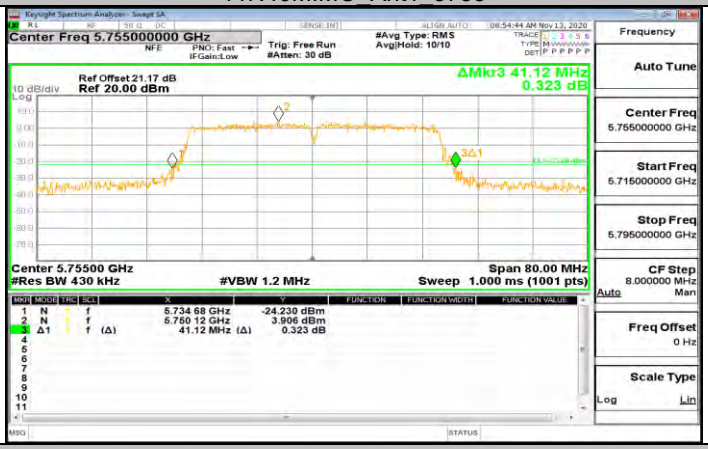

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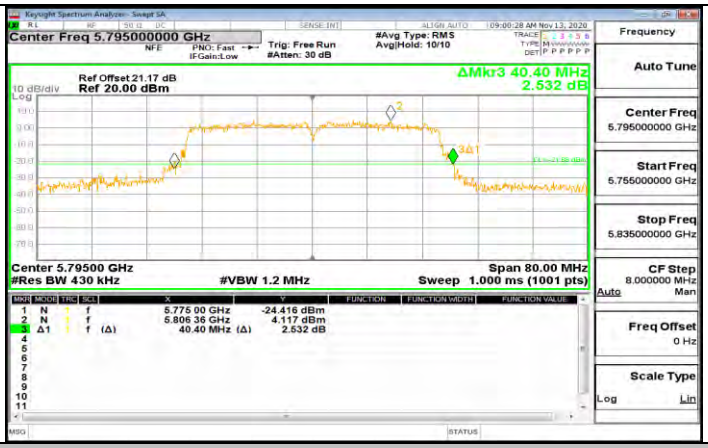

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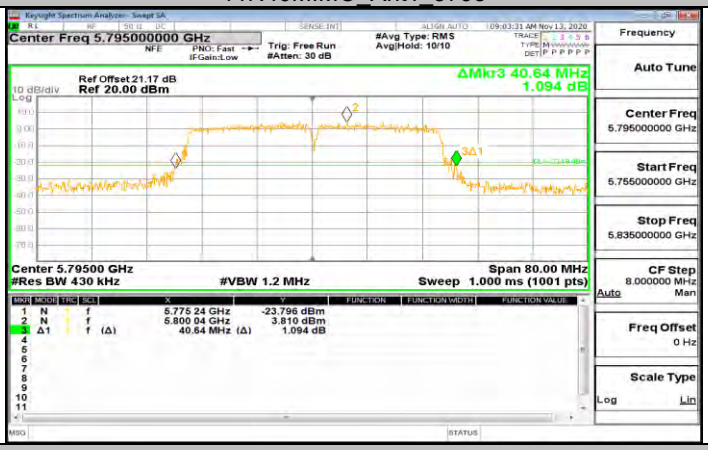

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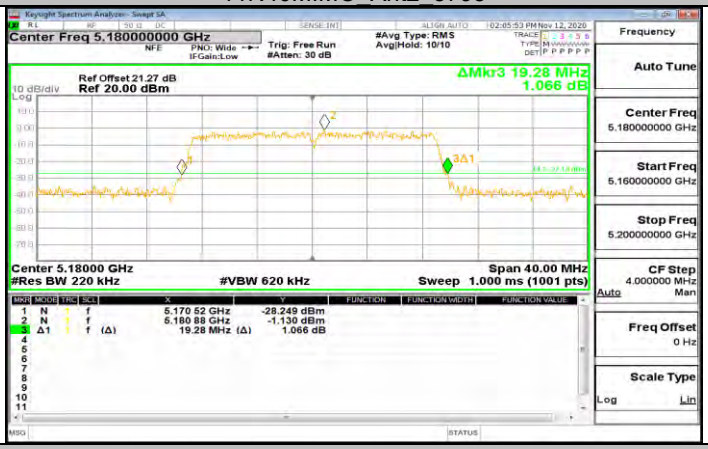

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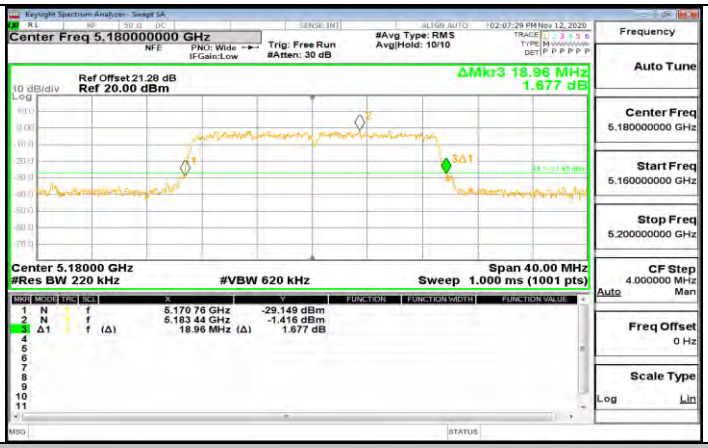

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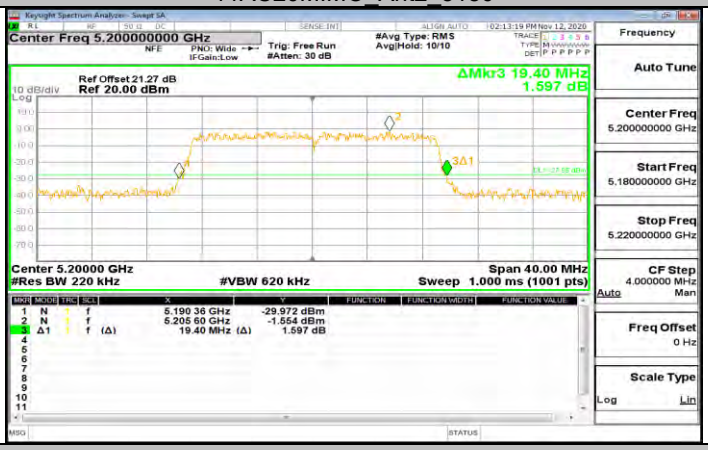

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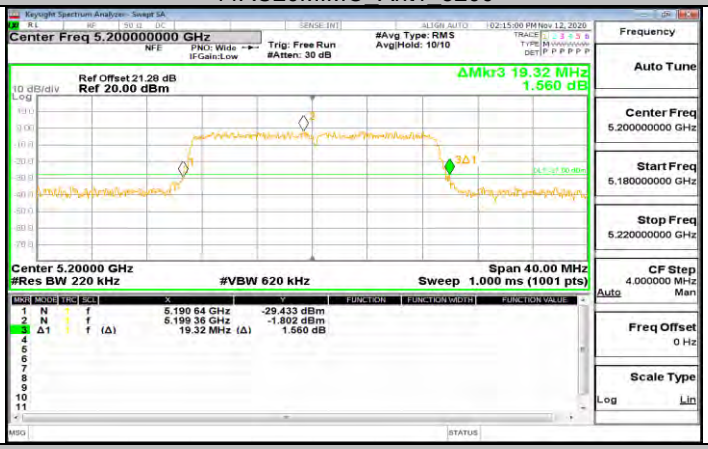

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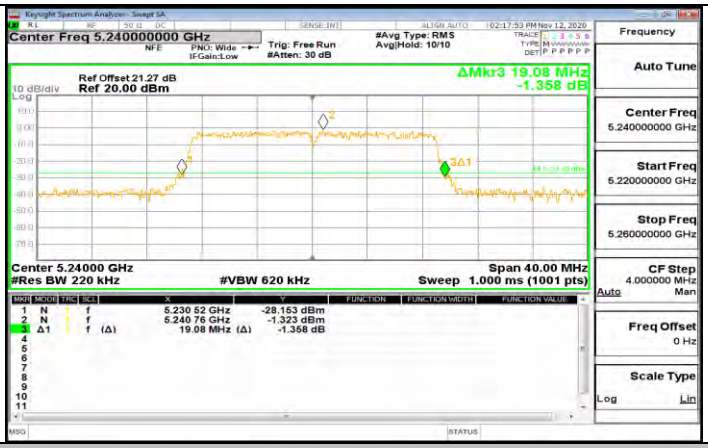

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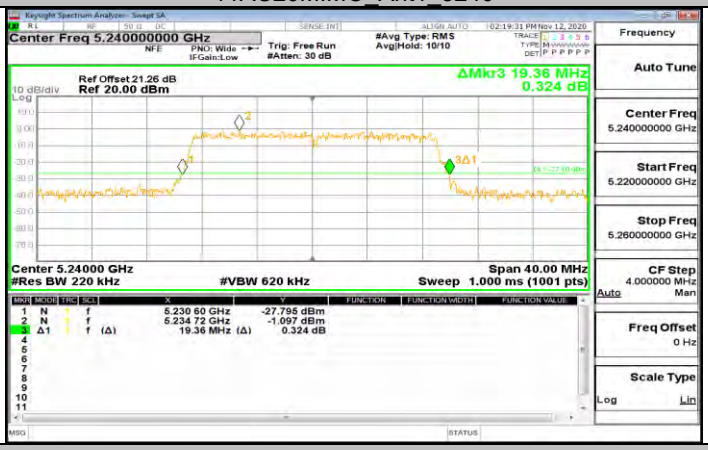

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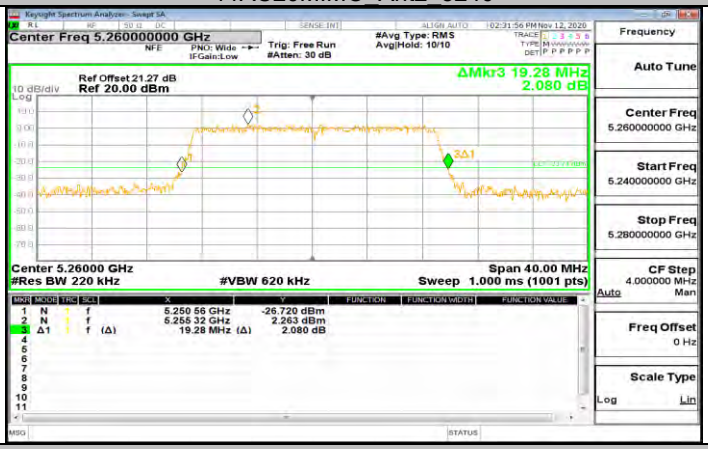

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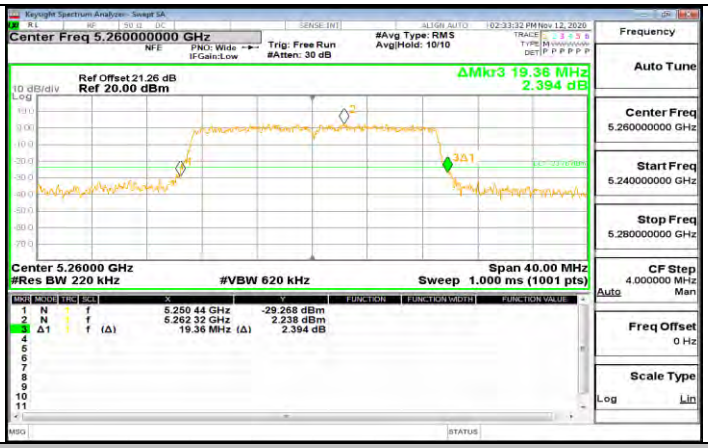

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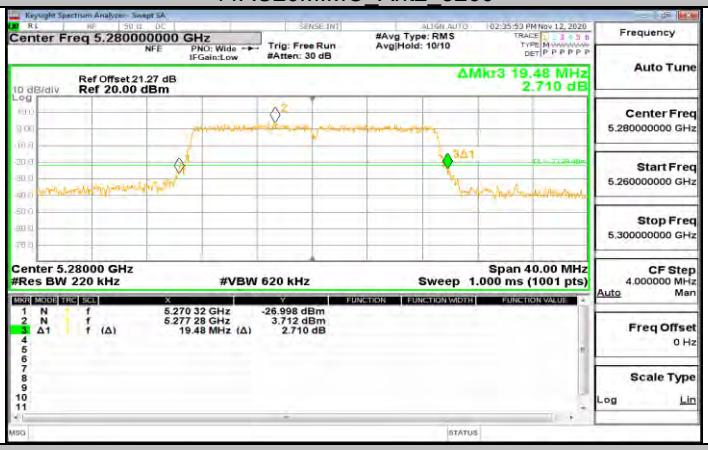

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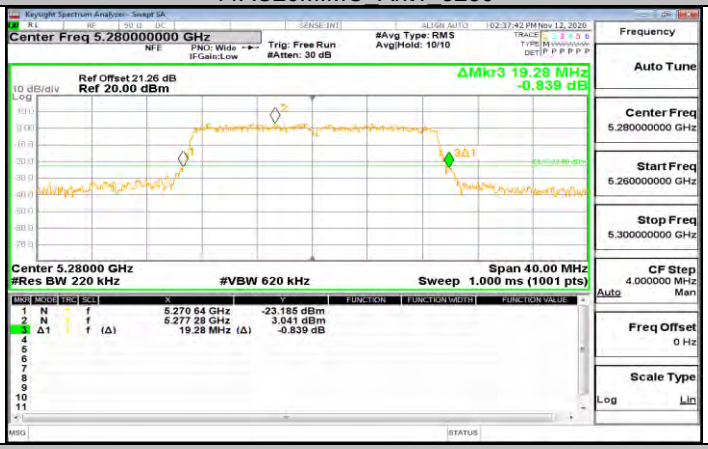

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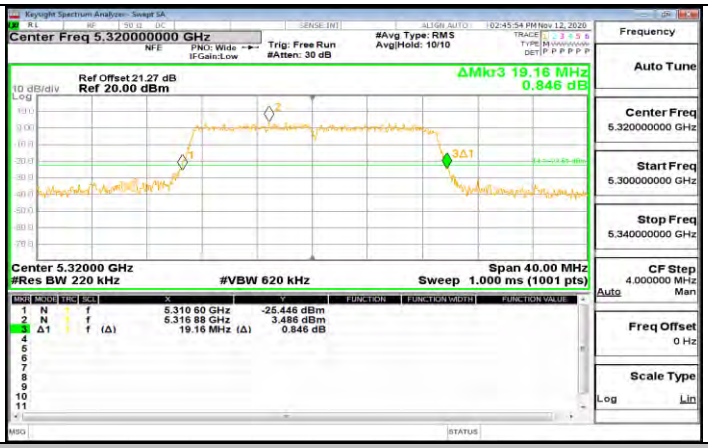

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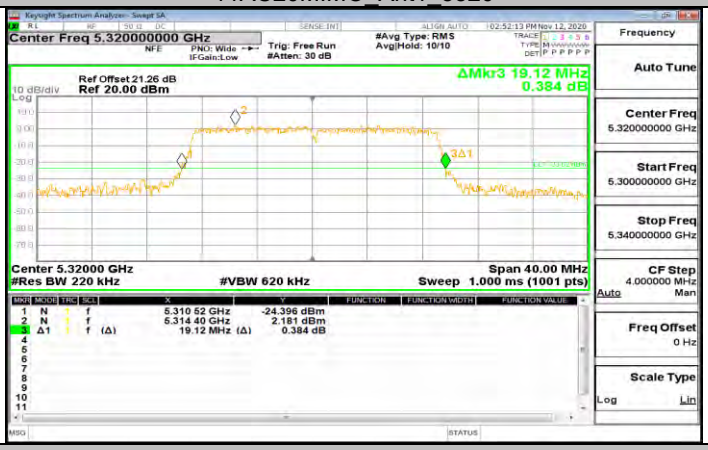

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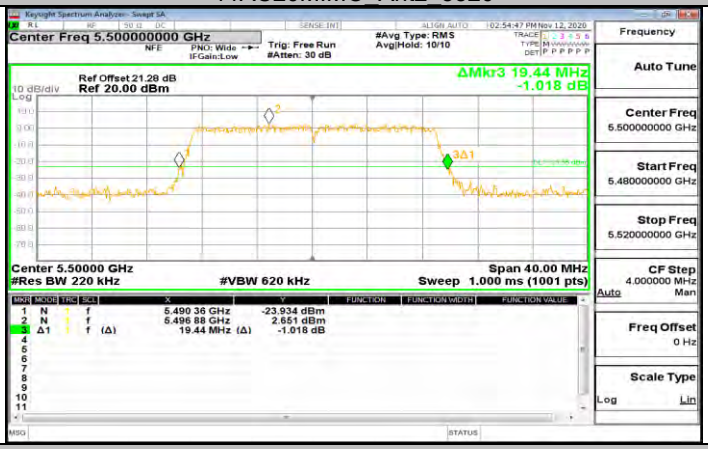

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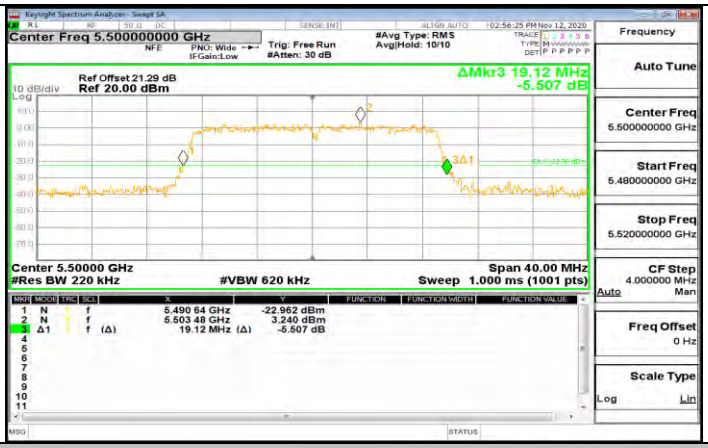

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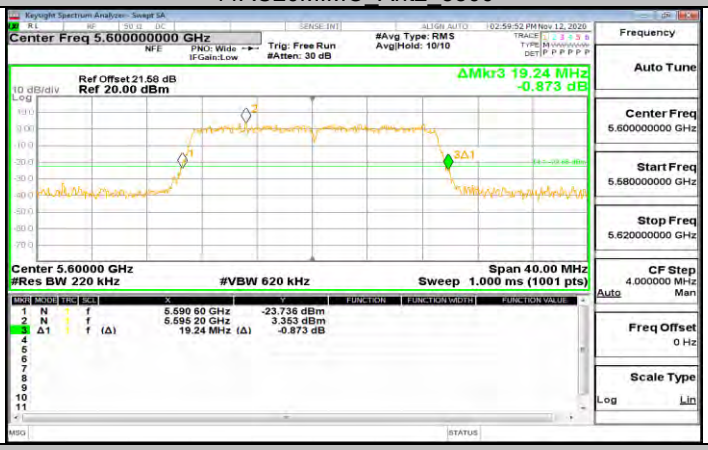

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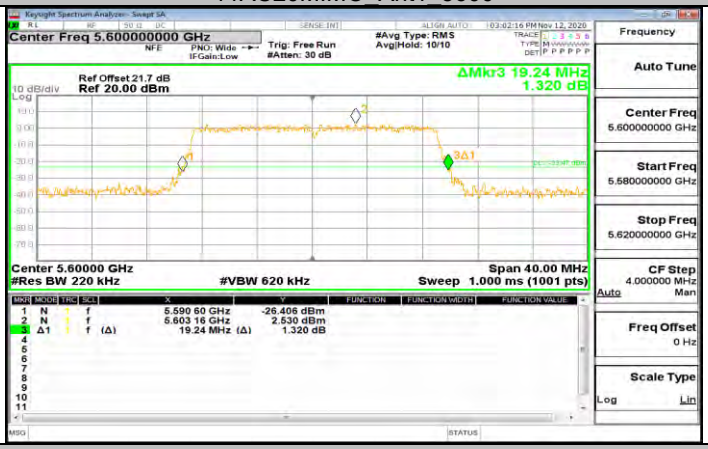

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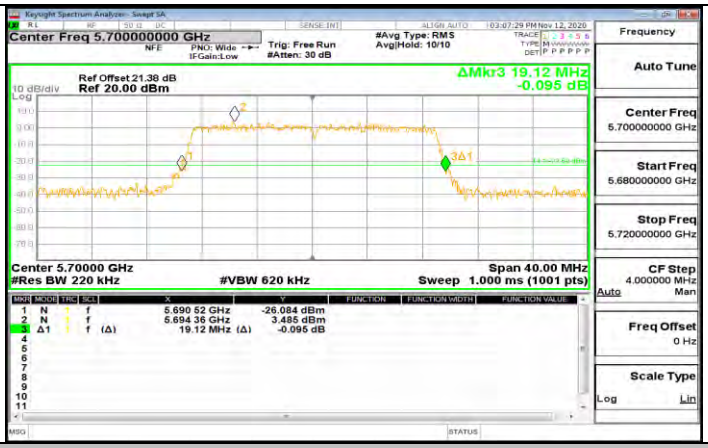

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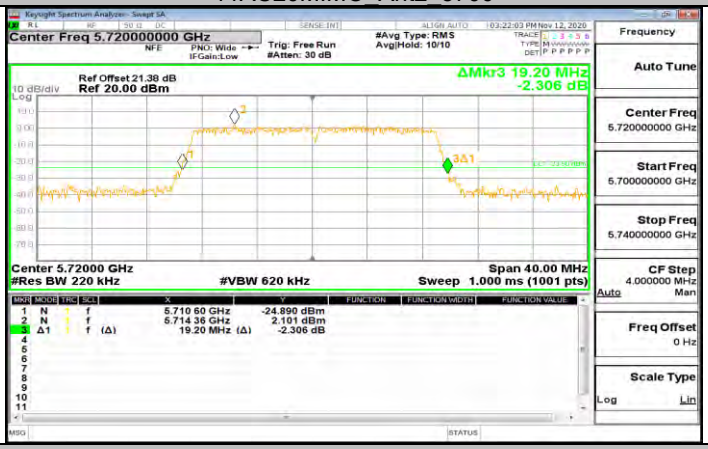

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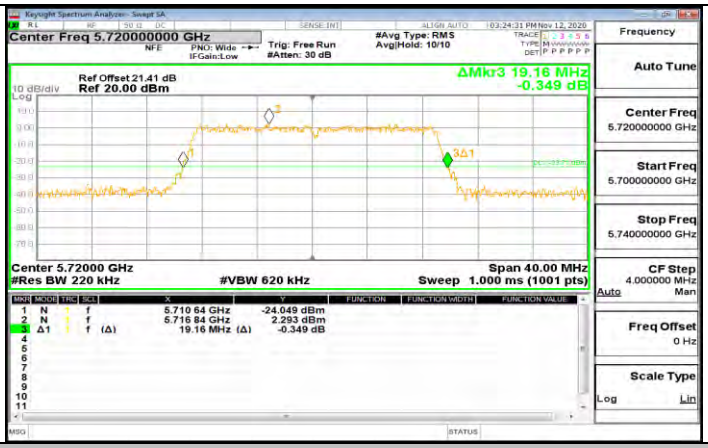

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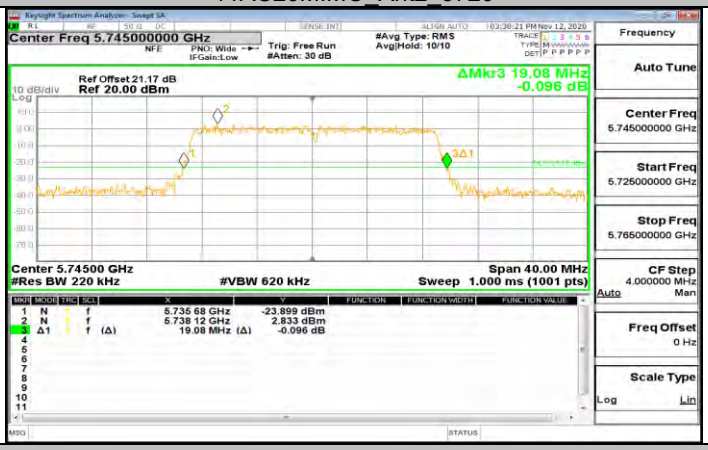

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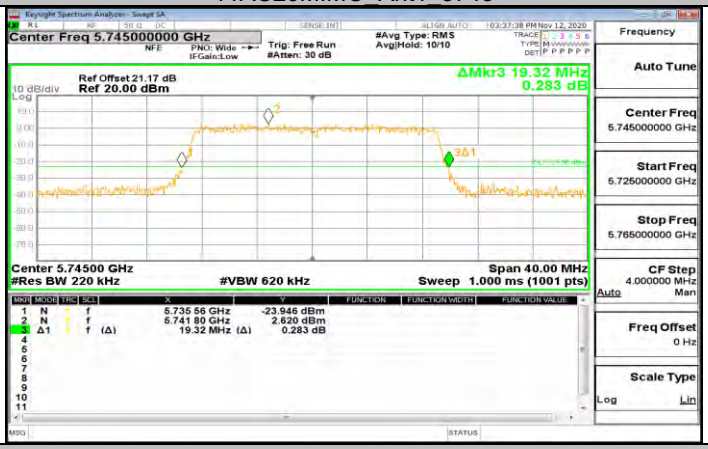

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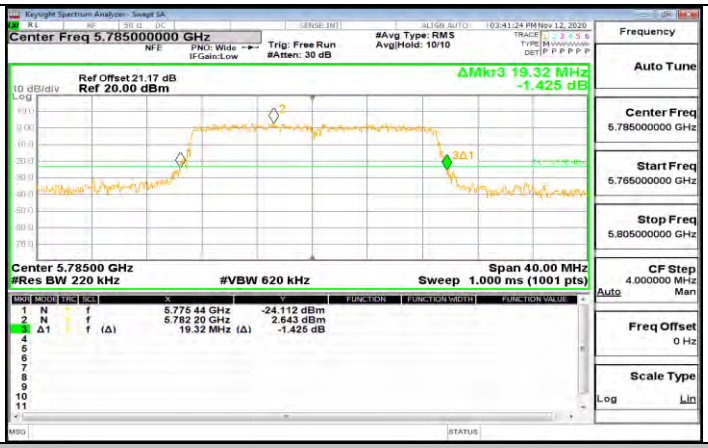

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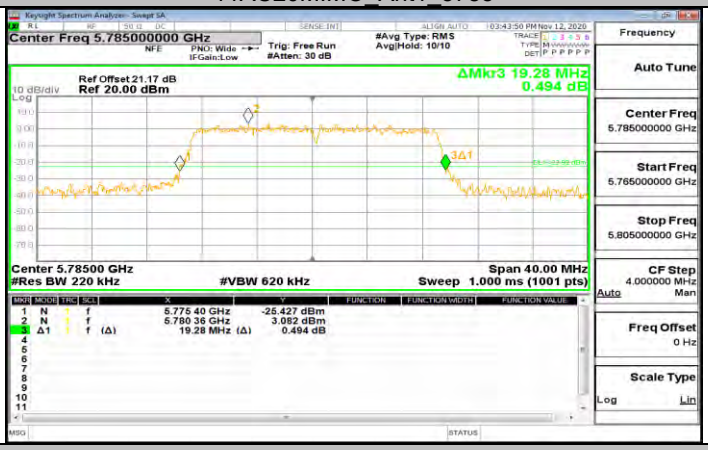

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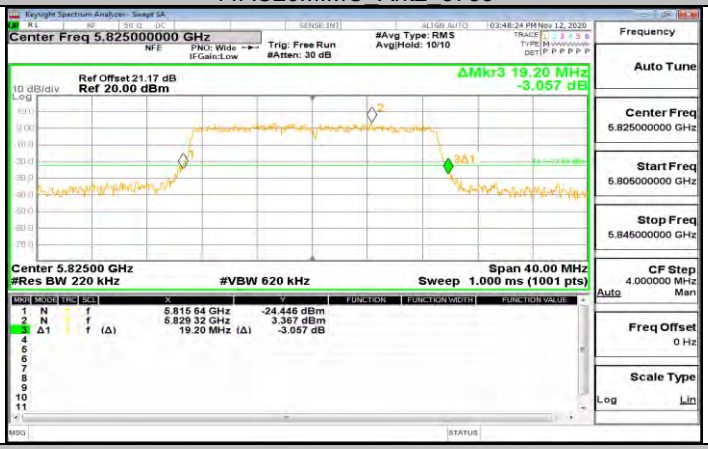

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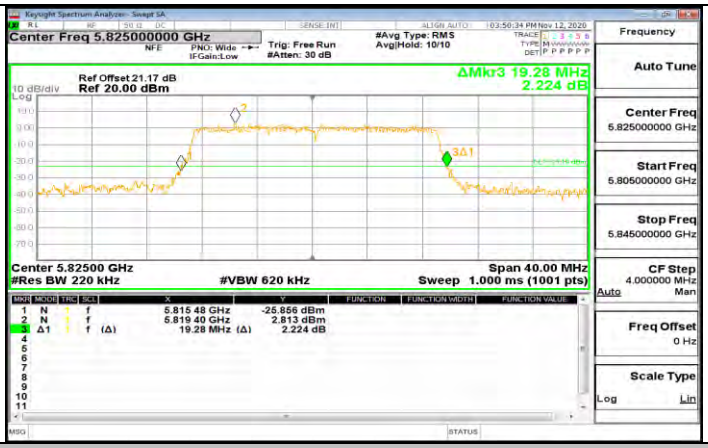

11AC20MIMO_Ant2_5825

11AC40MIMO_Ant1_5190

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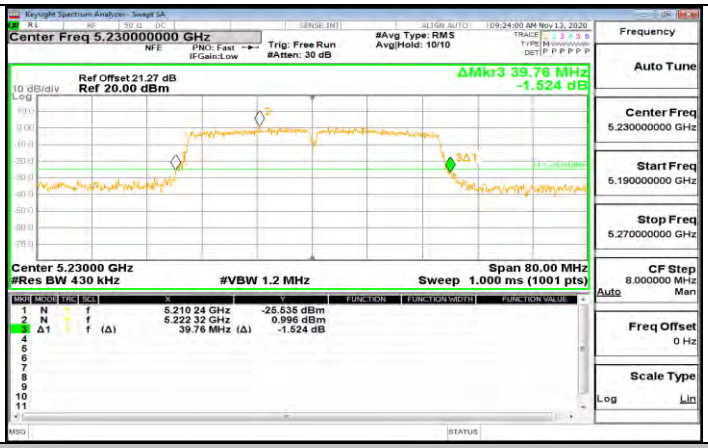

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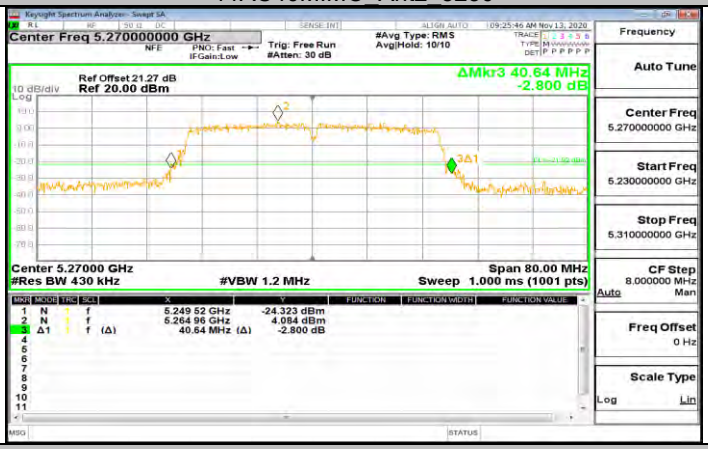

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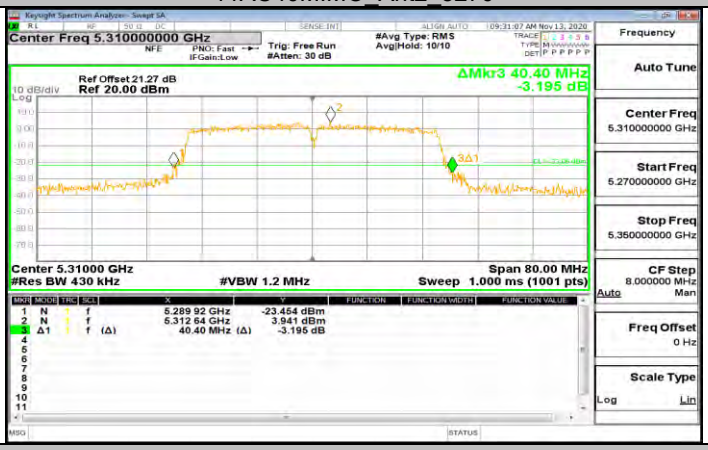

11AC40MIMO_Ant1_5310

11AC40MIMO_Ant2_5310

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11AC40MIMO_Ant1_5510

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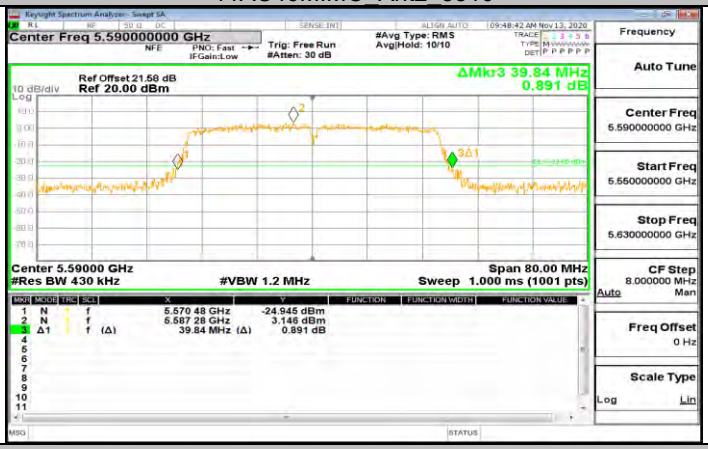

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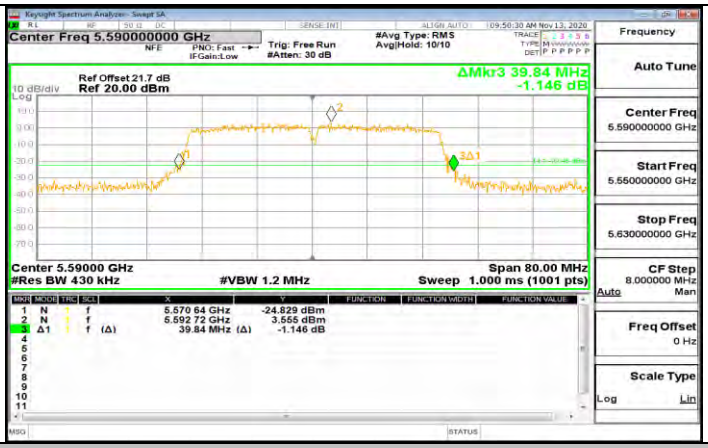
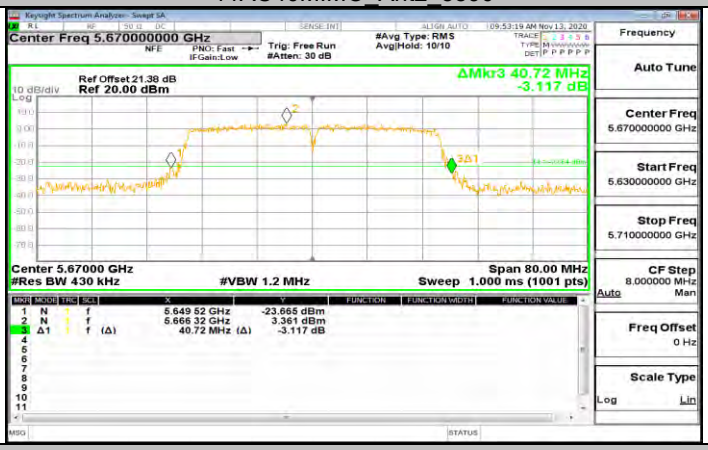


11AC40MIMO_Ant2_5590



11AC40MIMO_Ant1_5670

11AC40MIMO_Ant2_5670

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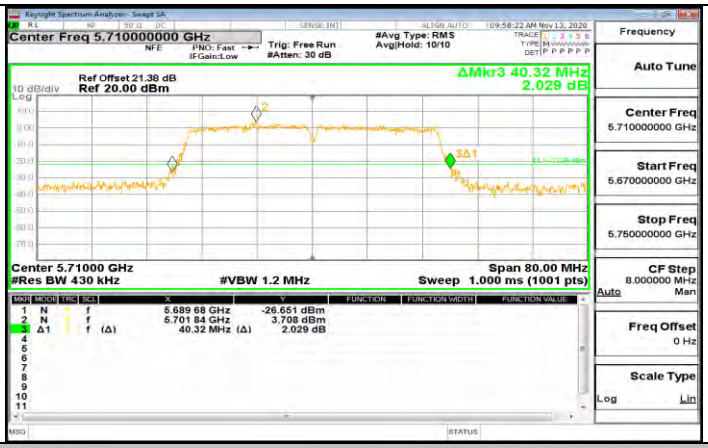
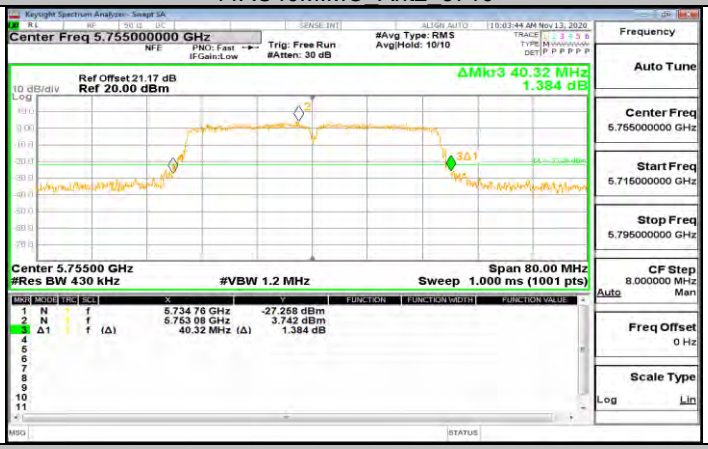


11AC40MIMO_Ant1_5710

11AC40MIMO_Ant2_5710



11AC40MIMO_Ant1_5755

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11AC40MIMO_Ant2_5755

11AC40MIMO_Ant1_5795

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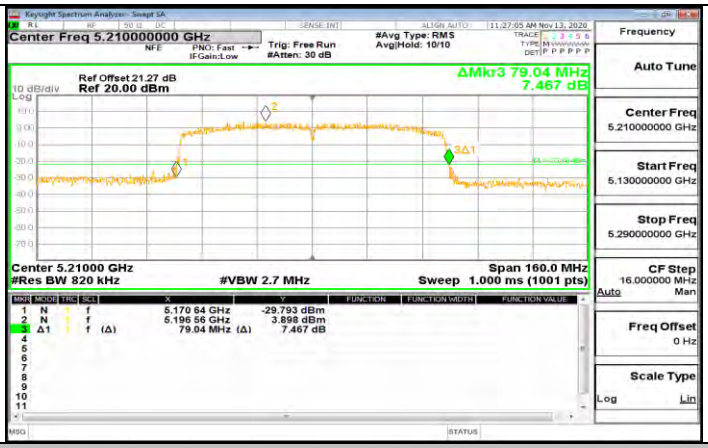

11AC80MIMO_Ant1_5210

11AC80MIMO_Ant2_5210

11AC80MIMO_Ant1_5290

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