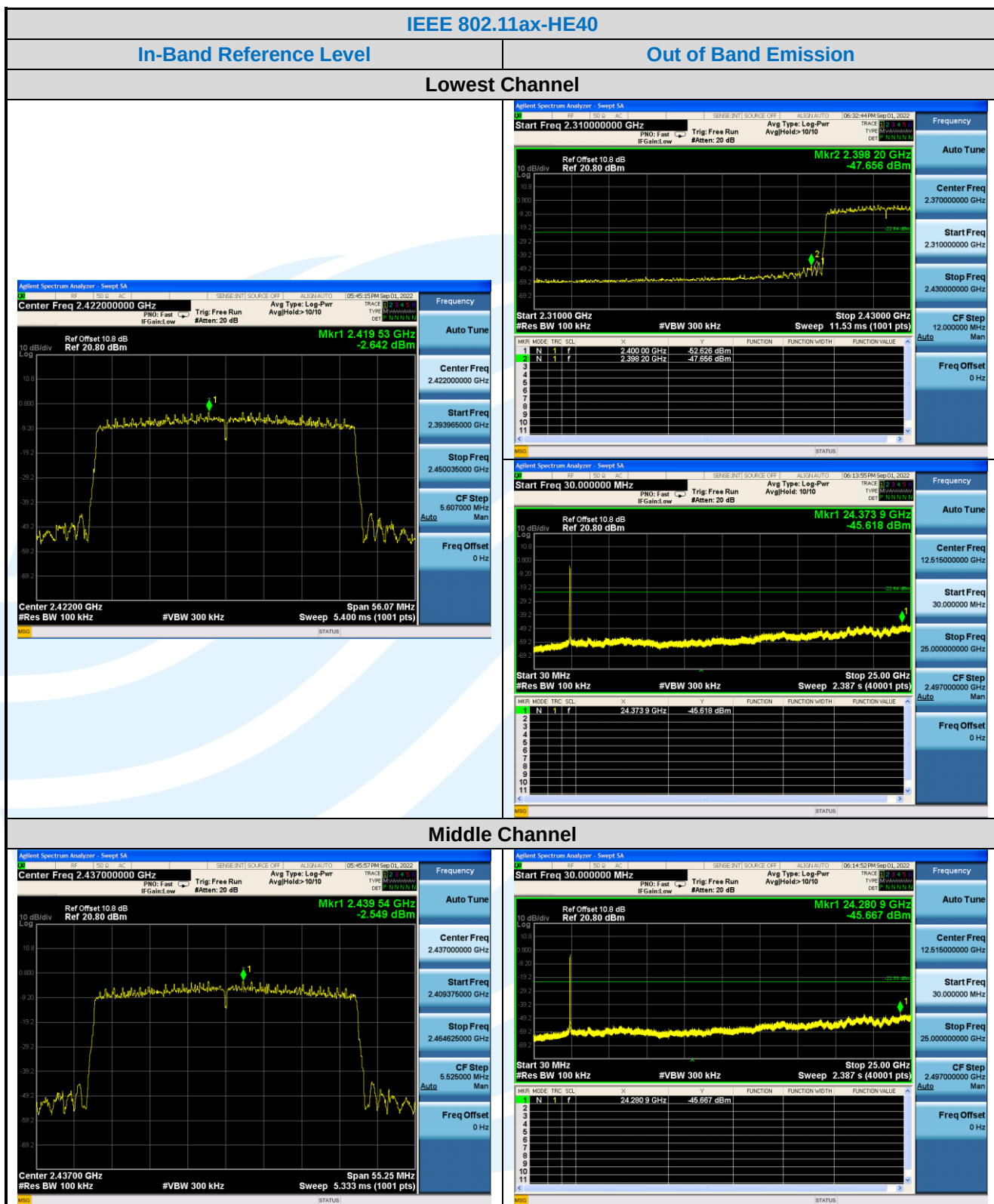
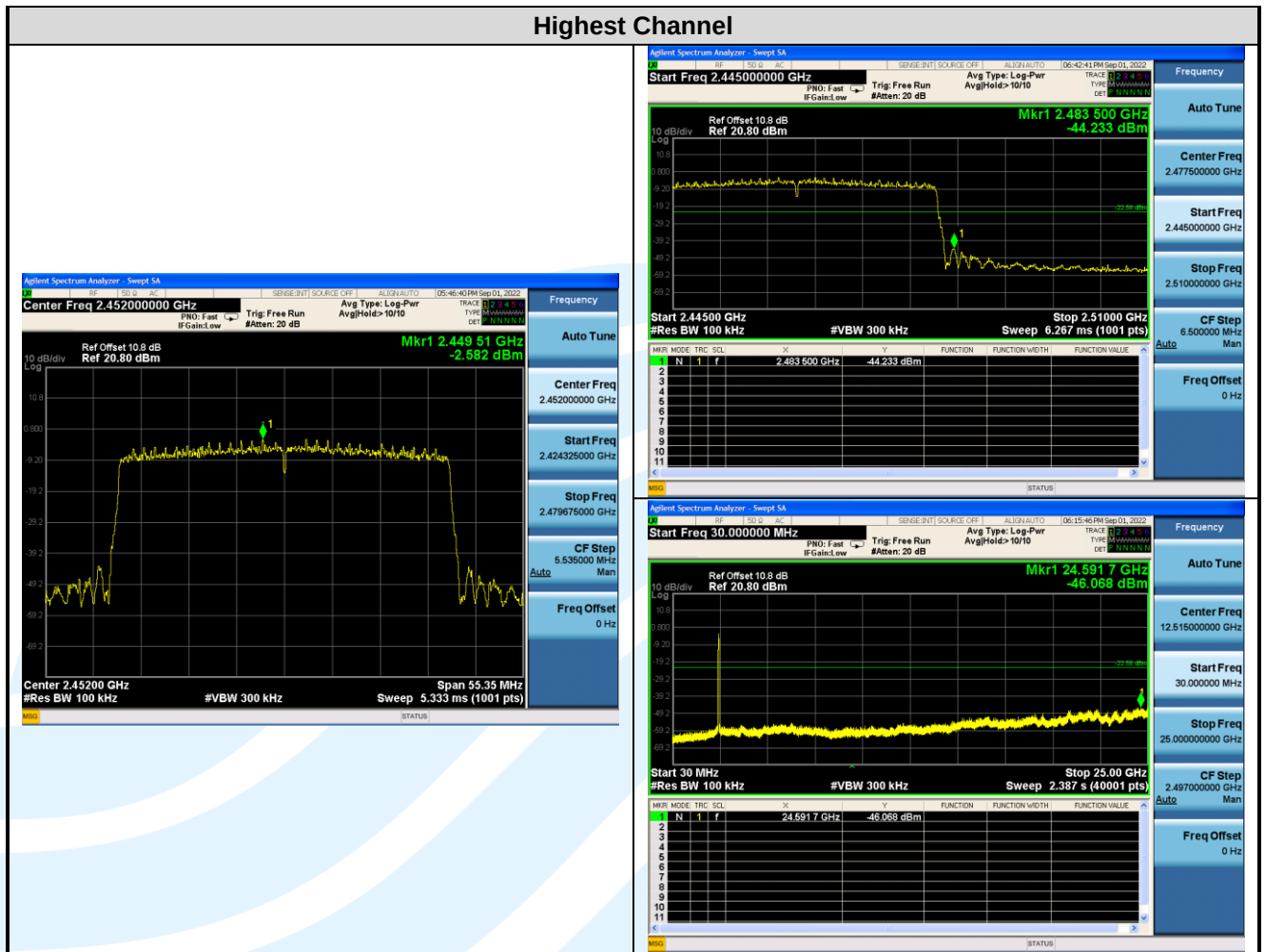
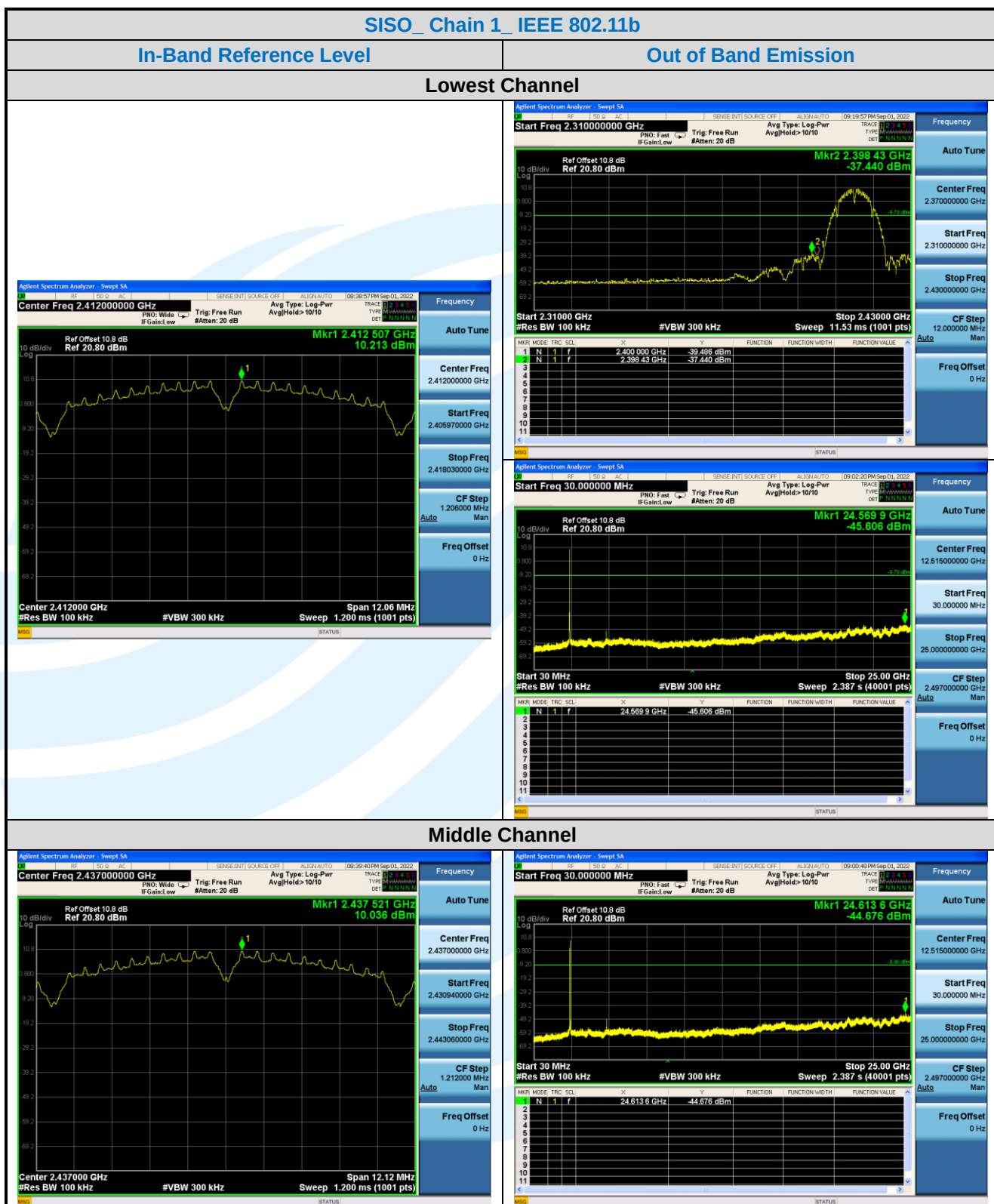
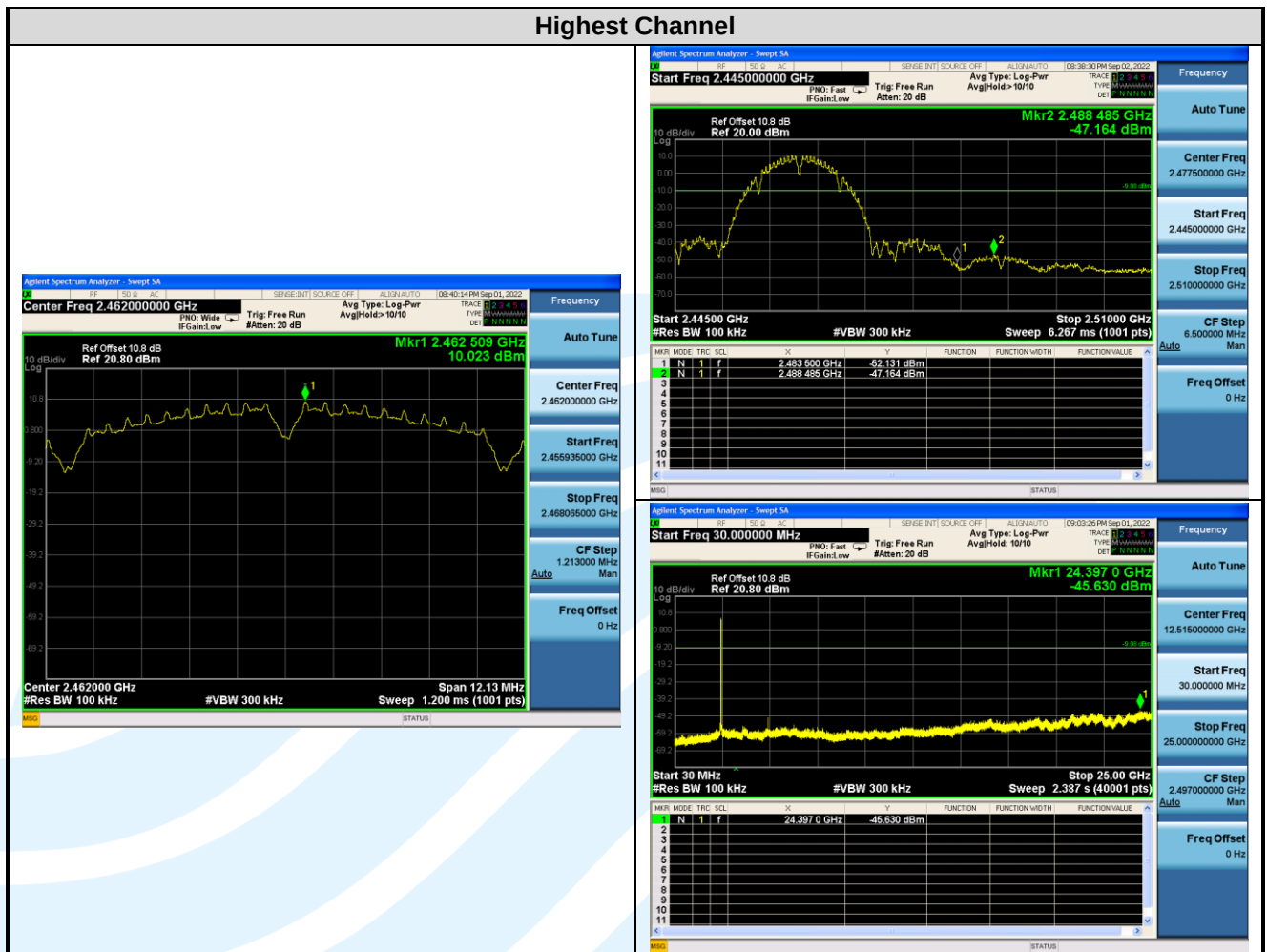


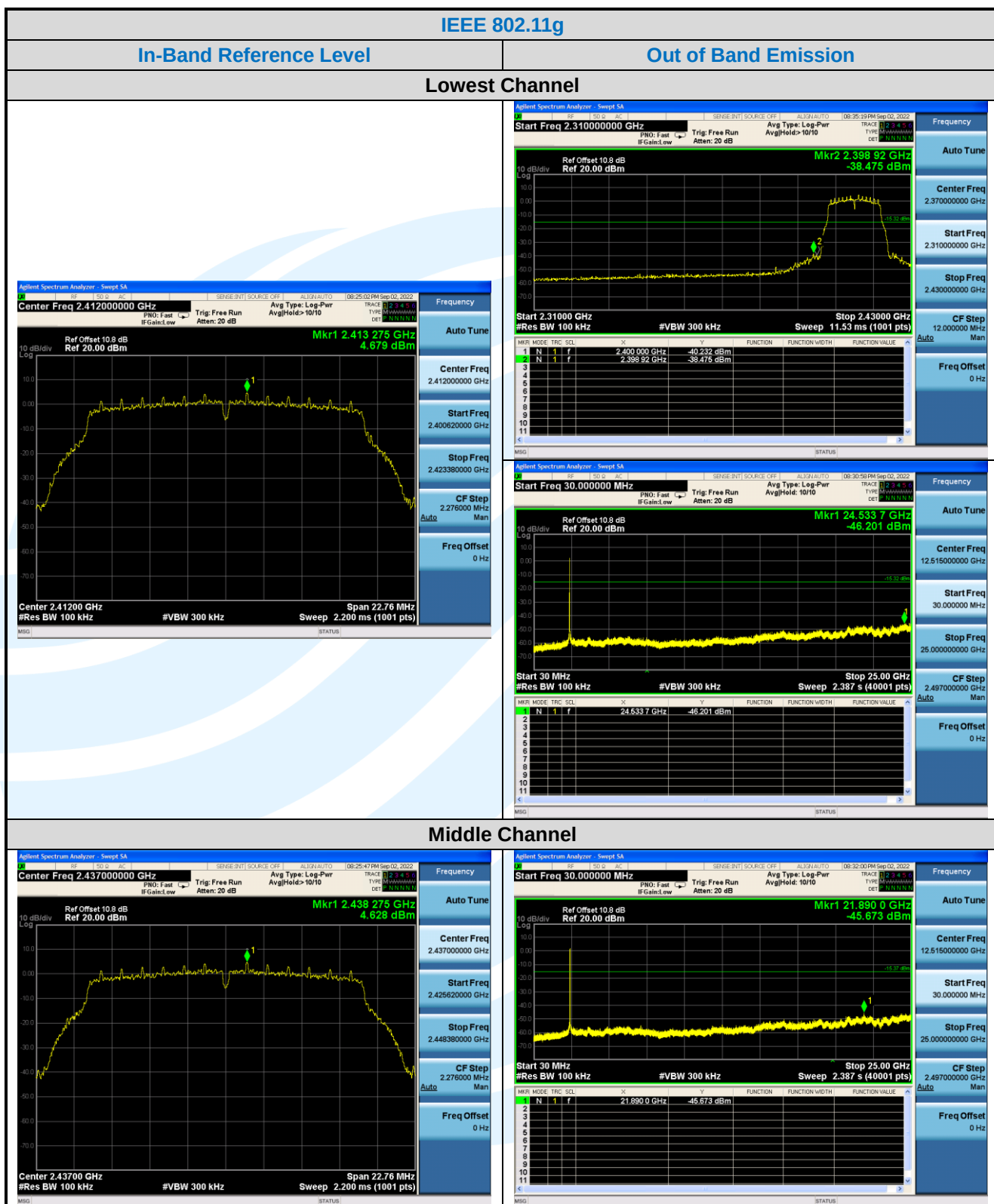


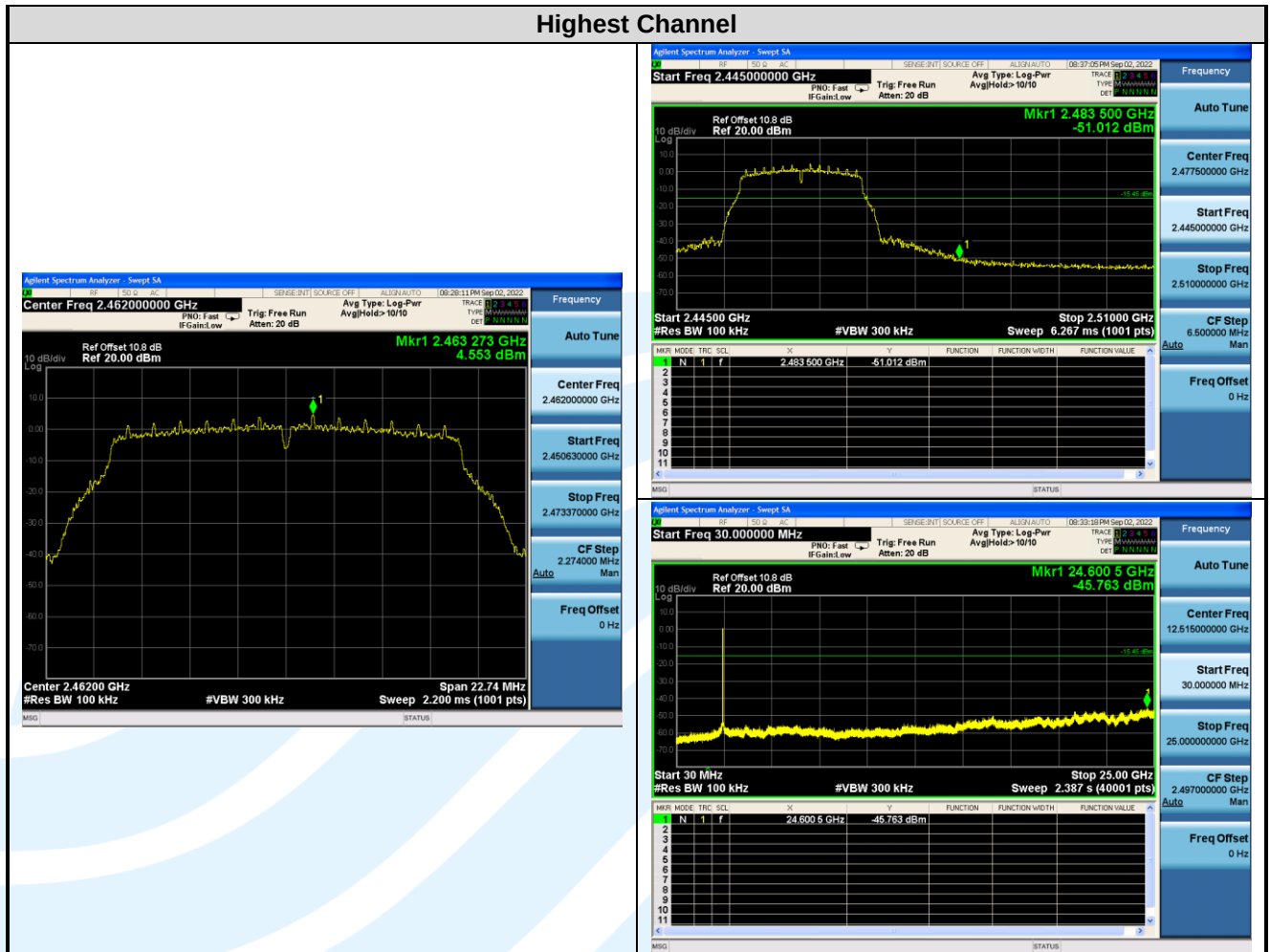


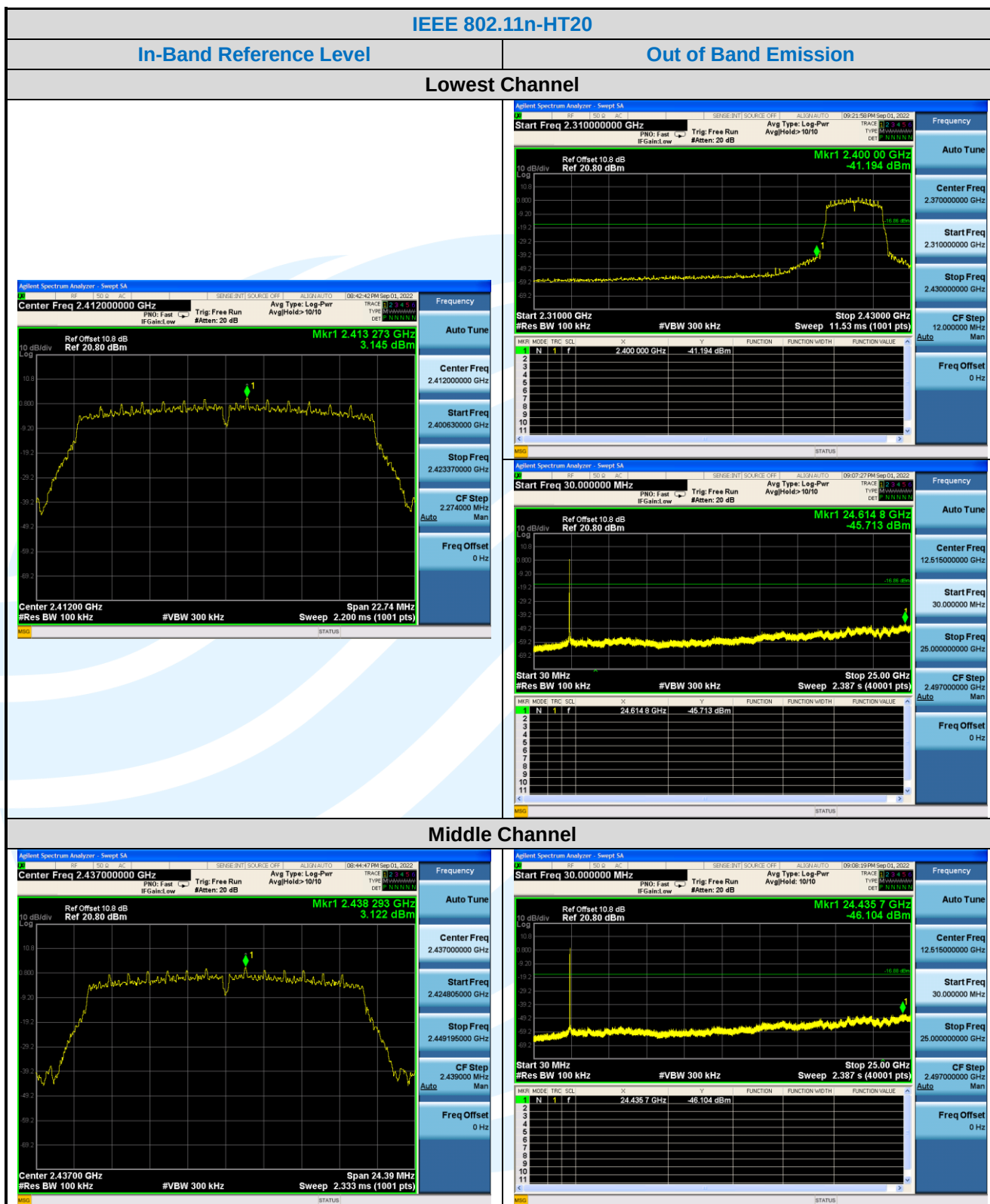
ANT1

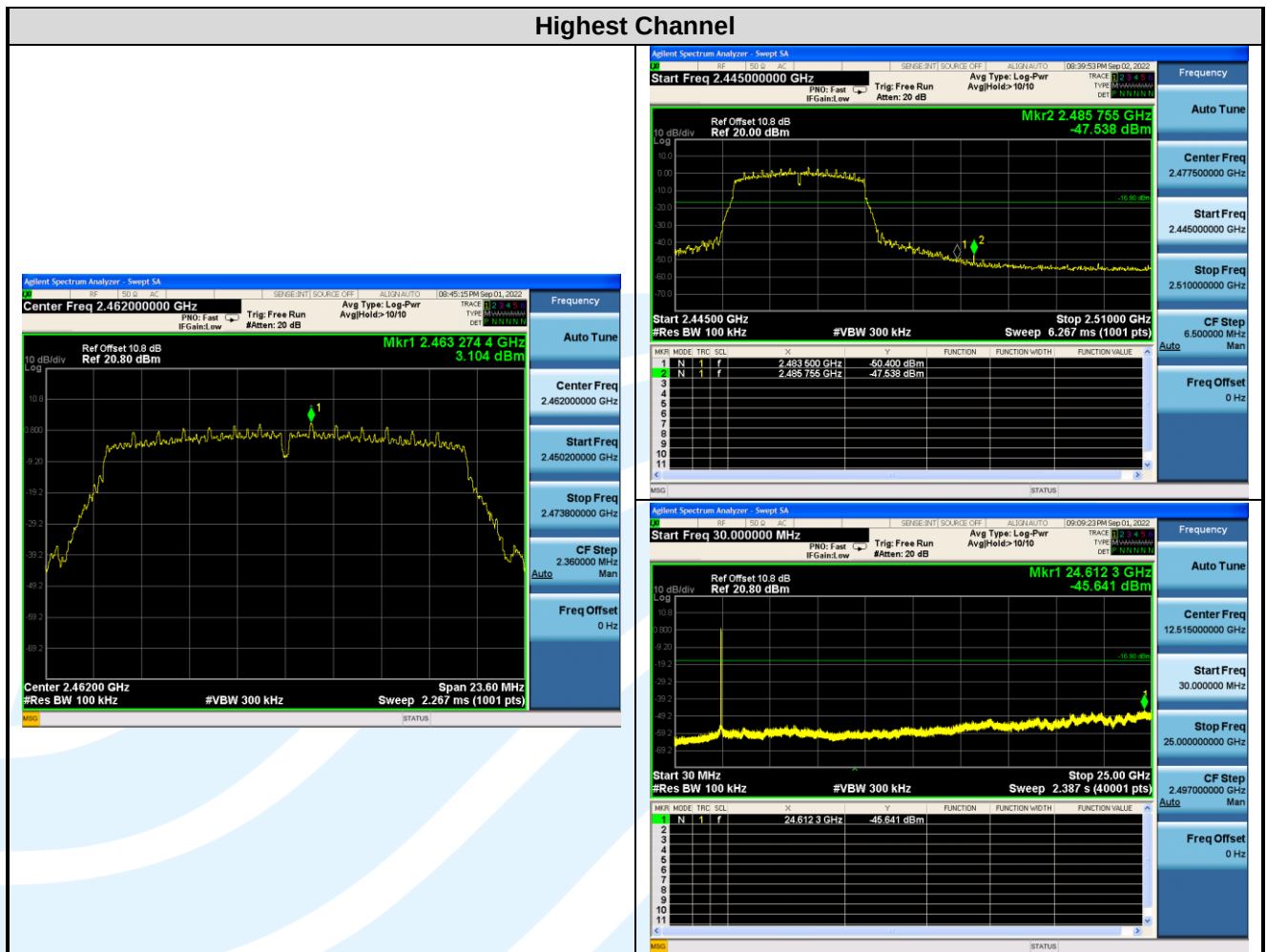


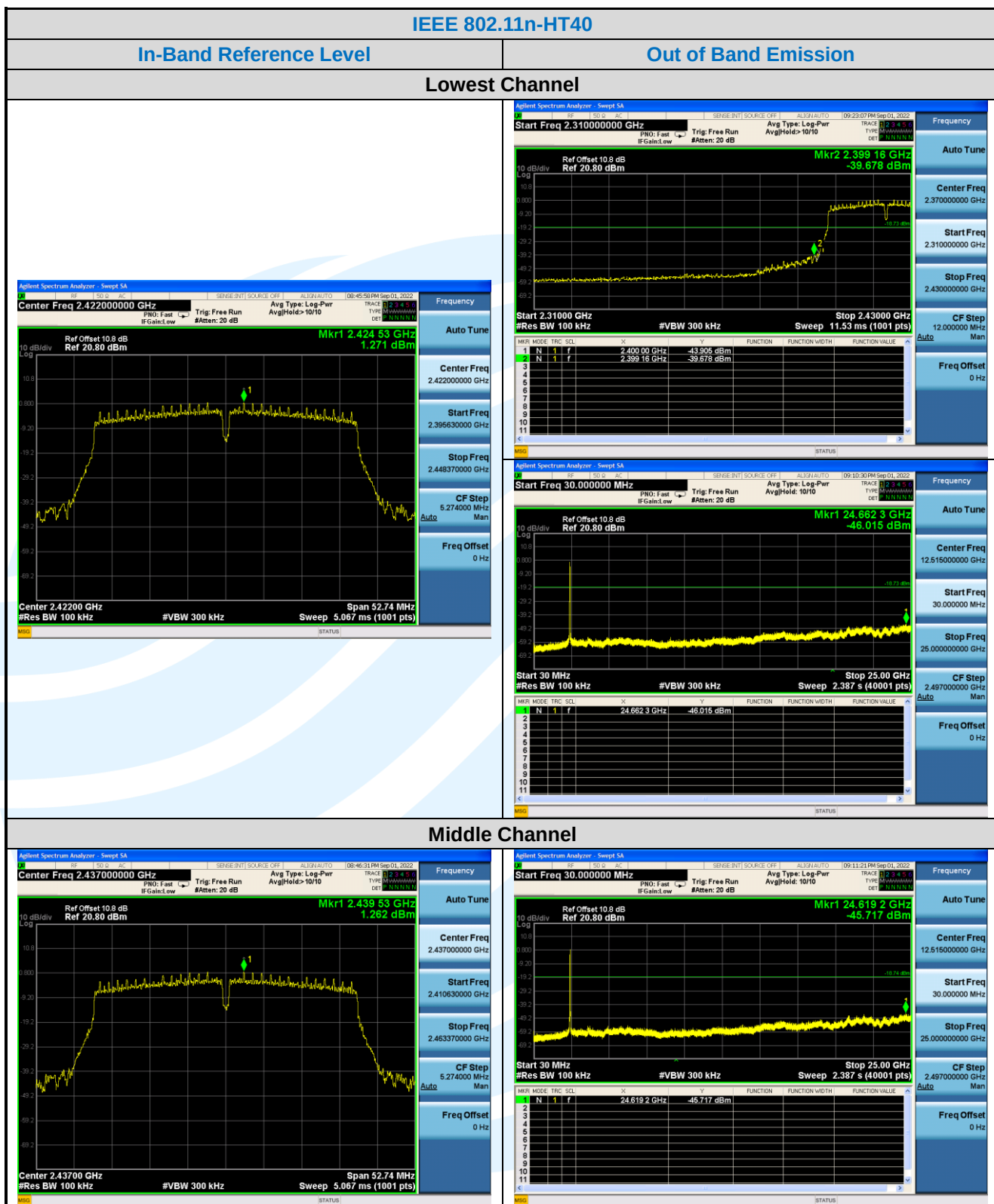


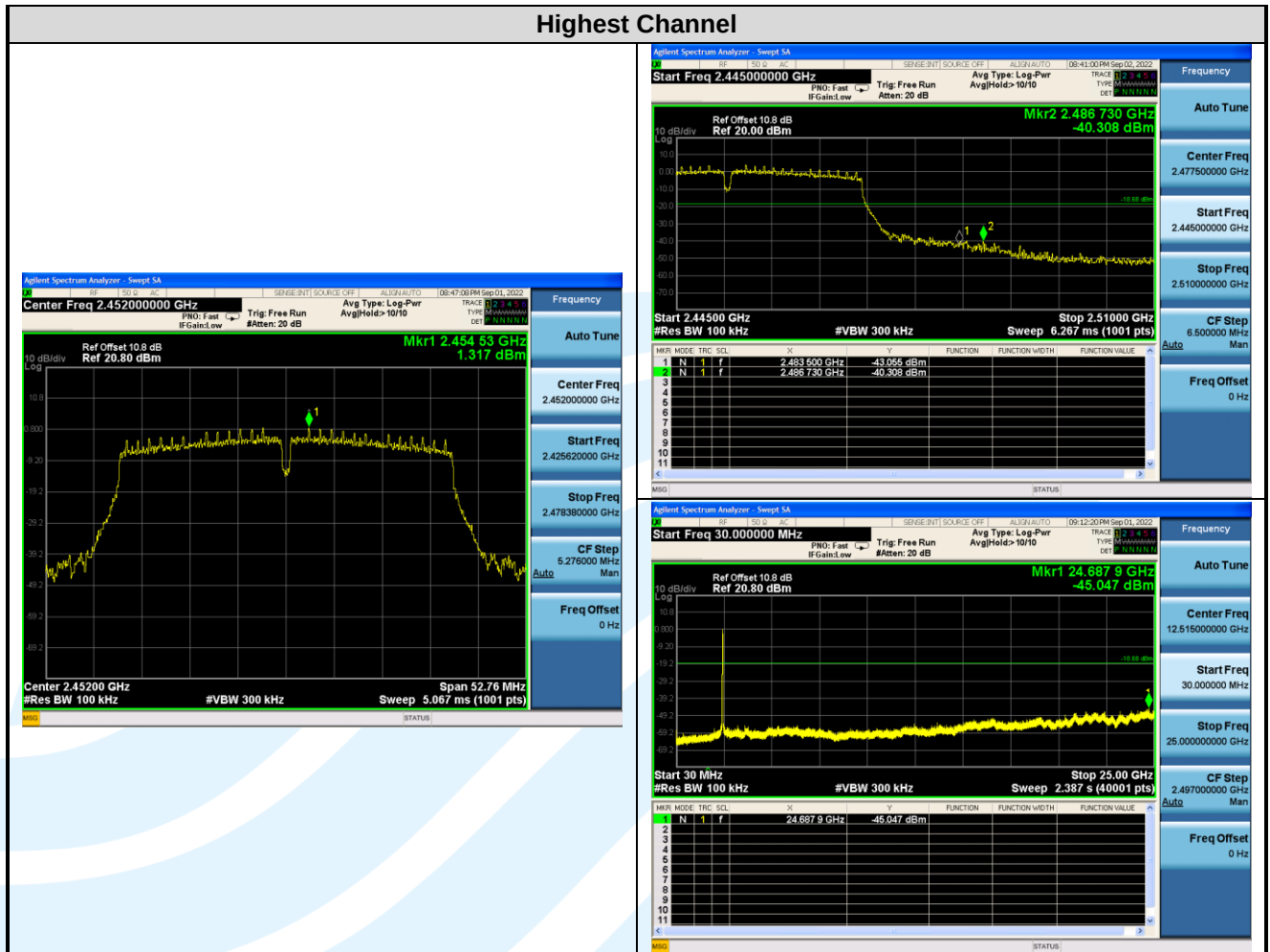


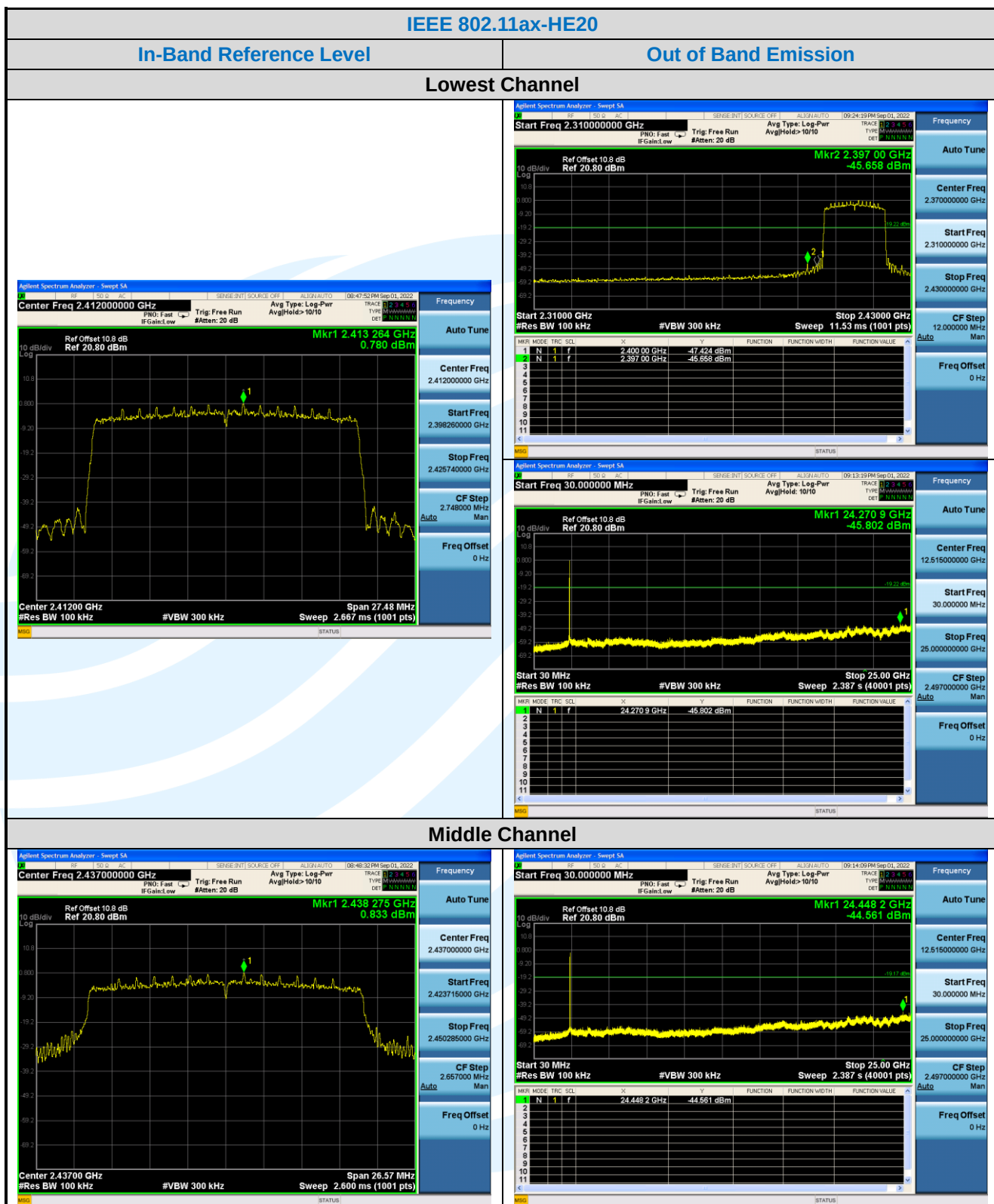


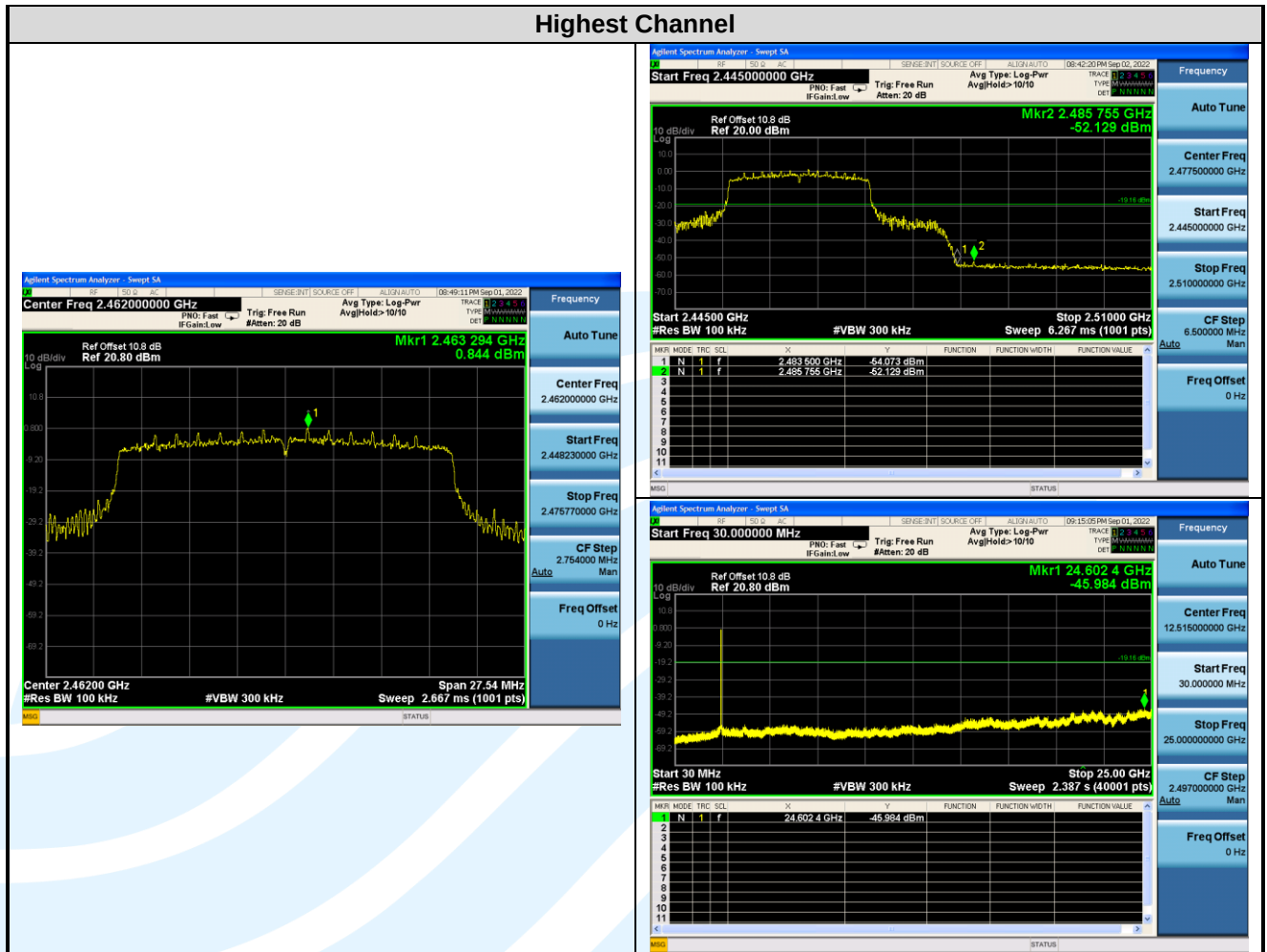


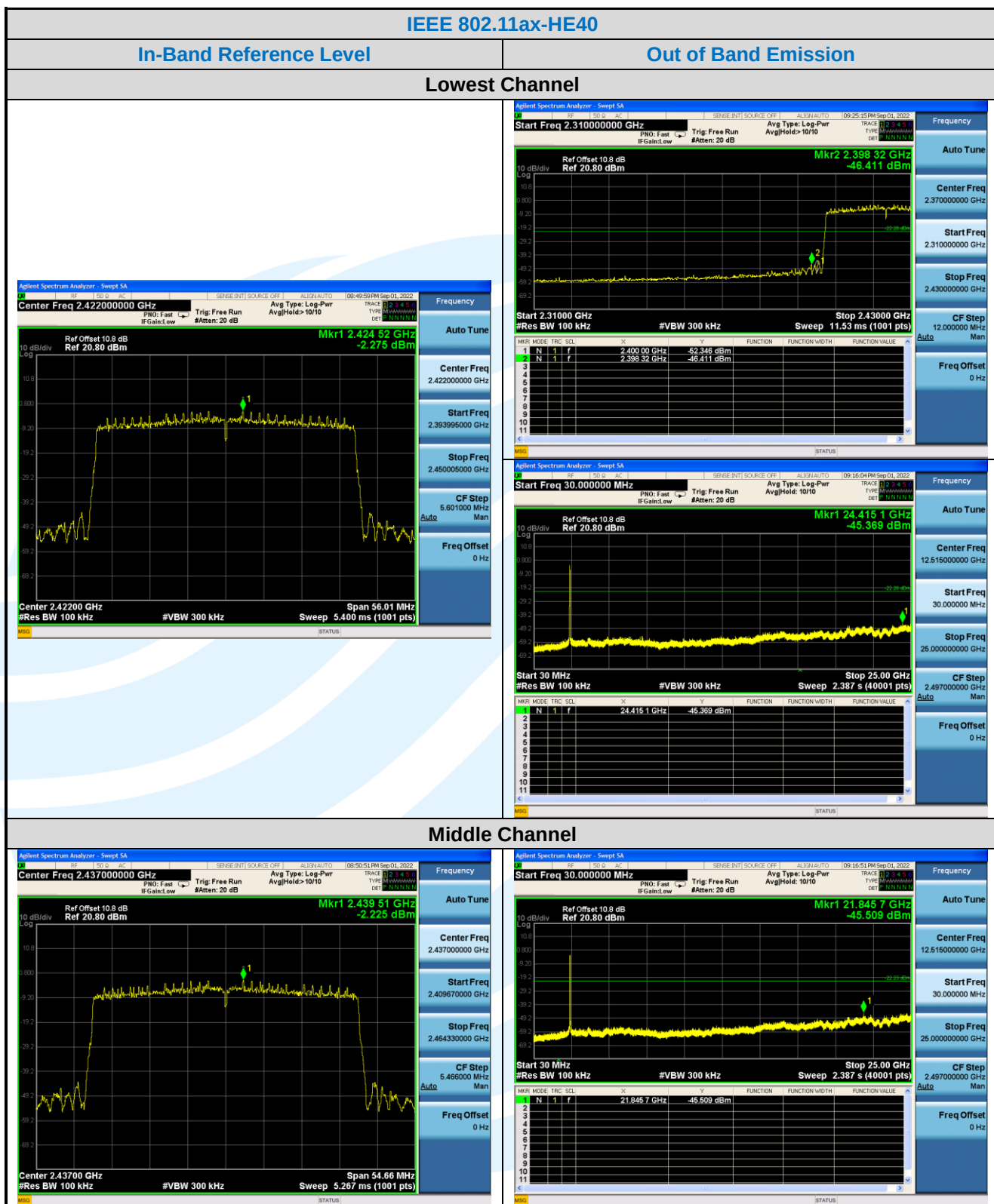


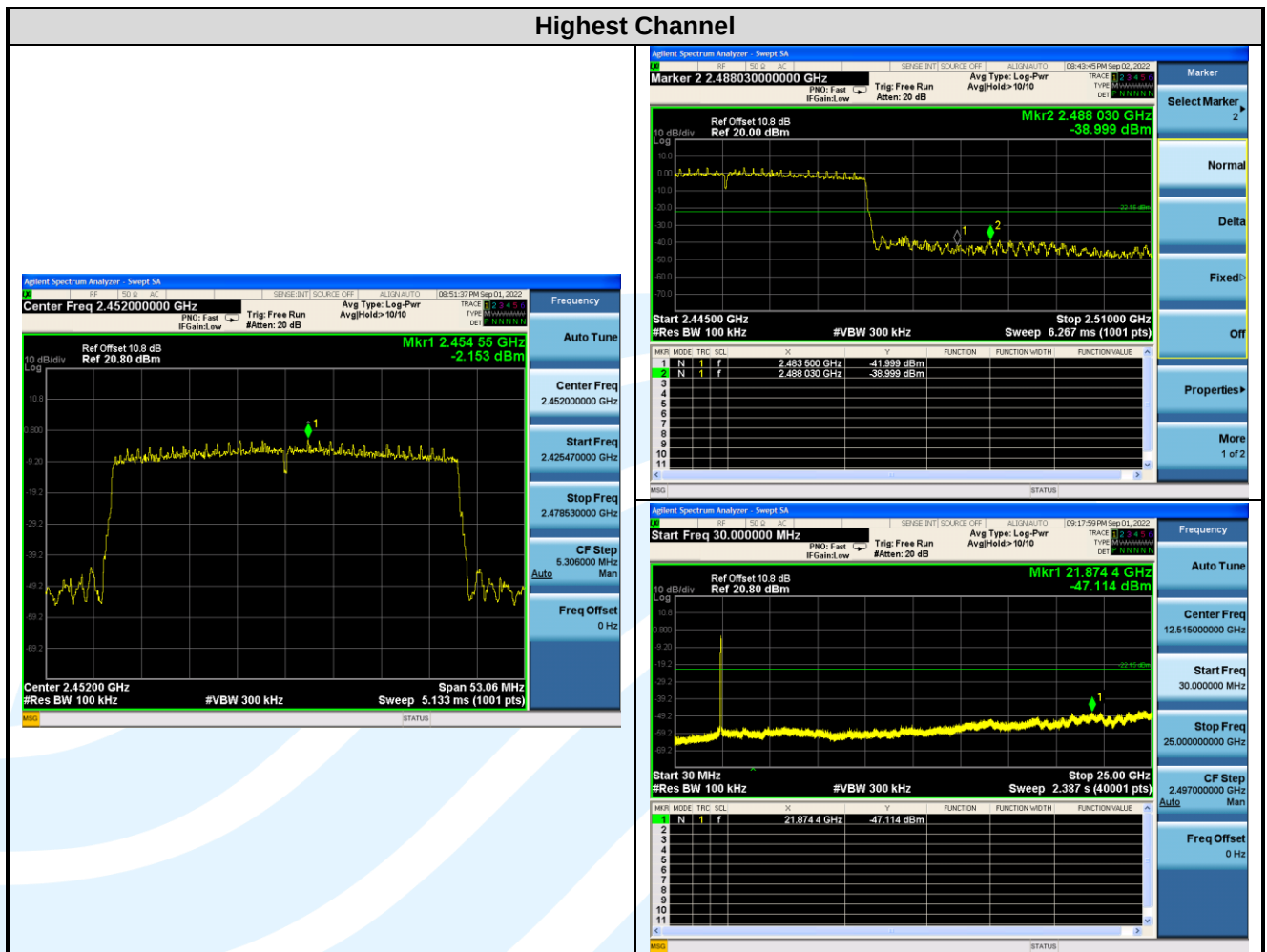












5.7 RADIATED SPURIOUS EMISSIONS

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.205/15.209

Test Method: ANSI C63.10-2013 Clause 11.11 & Clause 11.12

Receiver Setup:

Frequency	RBW
0.009 MHz-0.150 MHz	200/300 kHz
0.150 MHz -30 MHz	9/10 kHz
30 MHz-1 GHz	100/120 kHz
Above 1 GHz	1 MHz

Limits:

Spurious Emissions

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009 MHz-0.490 MHz	2400/F(kHz)	--	--	300
0.490 MHz-1.705 MHz	24000/F(kHz)	--	--	30
1.705 MHz-30 MHz	30	--	--	30
30 MHz-88 MHz	100	40.0	Quasi-peak	3
88 MHz-216 MHz	150	43.5	Quasi-peak	3
216 MHz-960 MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1 GHz	500	54.0	Average	3

Remark:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Test Setup: Refer to section 4.5.1 for details.

Test Procedures:

1. From 30 MHz to 1GHz test procedure as below:

- 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 3) The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 4) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 6) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

2. Above 1GHz test procedure as below:

- 1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter (Above 18GHz the distance is 1 meter and table is 1.5 meter).

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- 2) Test the EUT in the lowest channel, middle channel, the Highest channel
- 3) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
- 4) Repeat above procedures until all frequencies measured was complete.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:

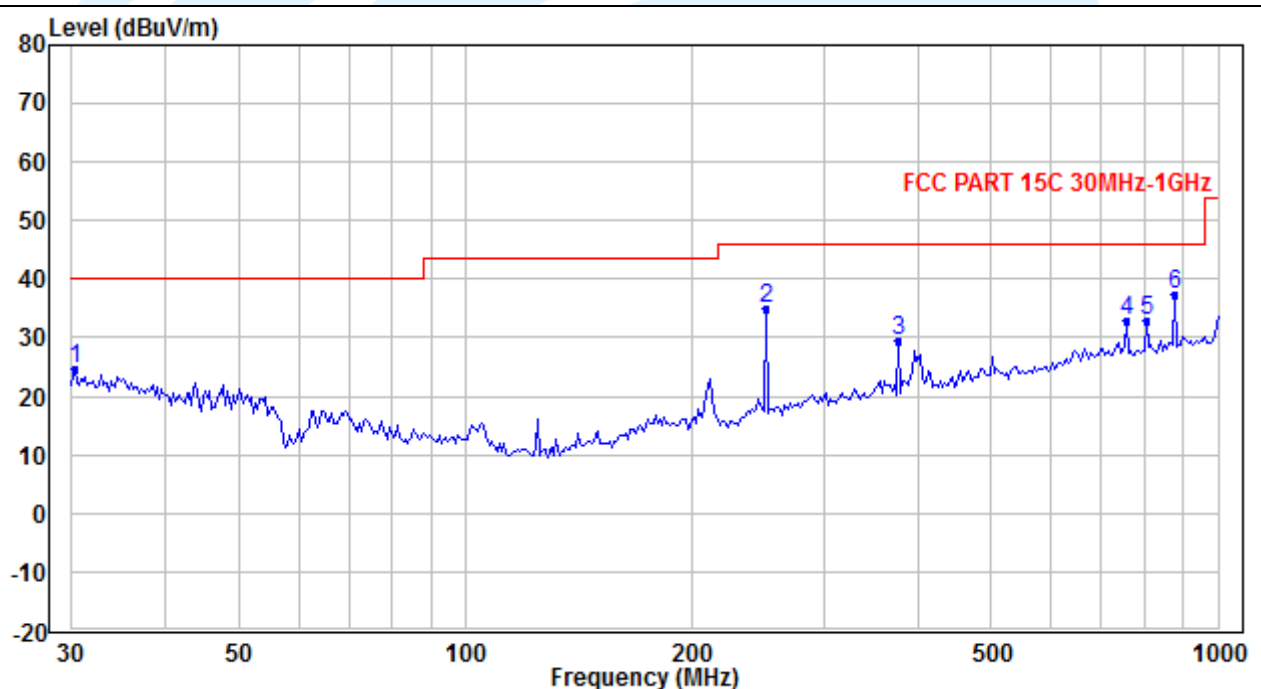
Radiated Emission Test Data (9 kHz ~ 30 MHz):

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

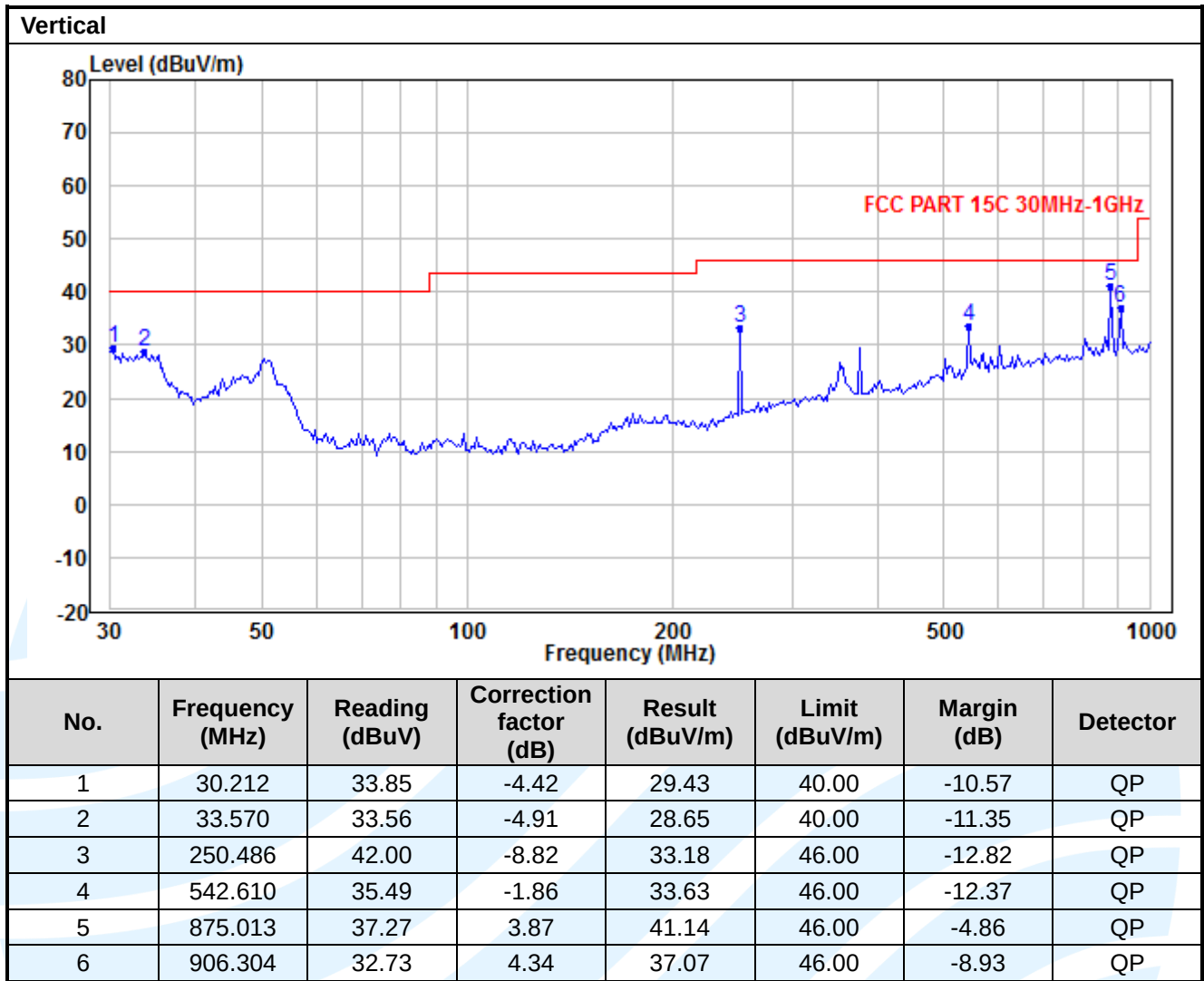
Radiated Emission Test Data (30 MHz ~ 1 GHz):

Worst-Case Configuration: IEEE 802.11n-HT20_Channel 11

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.212	29.18	-4.42	24.76	40.00	-15.24	QP
2	250.486	43.68	-8.82	34.86	46.00	-11.14	QP
3	376.523	34.79	-5.26	29.53	46.00	-16.47	QP
4	754.963	31.04	1.71	32.75	46.00	-13.25	QP
5	804.252	30.19	2.60	32.79	46.00	-13.21	QP
6	875.013	33.50	3.87	37.37	46.00	-8.63	QP



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Radiated Emission Test Data (Above 1GHz):
SISO_Ant. 0 IEEE 802.11b Channel 1:

No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4824	42.4	-2.3	40.0	74	-34.0	Peak	Horizontal
2	4824	29.2	-2.3	26.9	54	-27.2	Average	Horizontal
3	7236	42.3	1.5	43.8	74	-30.2	Peak	Horizontal
4	7236	29.1	1.5	30.6	54	-23.4	Average	Horizontal
5	4824	43.3	-2.3	41.0	74	-33.0	Peak	Vertical
6	4824	29.9	-2.3	27.6	54	-26.4	Average	Vertical
7	7236	41.7	1.5	43.2	74	-30.8	Peak	Vertical
8	7236	28.5	1.5	29.9	54	-24.1	Average	Vertical

SISO_Ant. 0 IEEE 802.11b Channel 6:

1	4874	40.2	-2.3	38.0	74	-36.1	Peak	Horizontal
2	4874	28.2	-2.3	25.9	54	-28.1	Average	Horizontal
3	7311	39.3	1.6	40.9	74	-33.1	Peak	Horizontal
4	7311	28.0	1.6	29.6	54	-24.4	Average	Horizontal
5	4874	37.9	-2.3	35.6	74	-38.4	Peak	Vertical
6	4874	28.6	-2.3	26.3	54	-27.7	Average	Vertical
7	7311	40.1	1.6	41.7	74	-32.3	Peak	Vertical
8	7311	27.8	1.6	29.4	54	-24.6	Average	Vertical

SISO_Ant. 0 IEEE 802.11b Channel 11:

1	4924	39.8	-2.3	37.6	74	-36.4	Peak	Horizontal
2	4924	29.1	-2.3	26.8	54	-27.2	Average	Horizontal
3	7386	40.7	1.7	42.4	74	-31.6	Peak	Horizontal
4	7386	28.3	1.7	30.0	54	-24.0	Average	Horizontal
5	4924	38.8	-2.3	36.5	74	-37.5	Peak	Vertical
6	4924	28.7	-2.3	26.4	54	-27.6	Average	Vertical
7	7386	38.3	1.7	40.0	74	-34.0	Peak	Vertical
8	7386	27.0	1.7	28.7	54	-25.3	Average	Vertical

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SISO_ Ant. 1_ IEEE 802.11b_ Channel 1:								
1	4824	39.5	-2.3	37.2	74	-36.8	Peak	Horizontal
2	4824	29.0	-2.3	26.7	54	-27.3	Average	Horizontal
3	7236	41.3	1.5	42.7	74	-31.3	Peak	Horizontal
4	7236	29.4	1.5	31.1	54	-22.9	Average	Horizontal
5	4824	40.0	-2.3	37.7	74	-36.3	Peak	Vertical
6	4824	28.3	-2.3	26.1	54	-27.9	Average	Vertical
7	7236	38.9	1.5	40.4	74	-33.6	Peak	Vertical
8	7236	26.4	1.5	28.1	54	-25.9	Average	Vertical
SISO_ Ant. 1_ IEEE 802.11b_ Channel 6:								
1	4874	39.9	-2.3	37.6	74	-36.4	Peak	Horizontal
2	4874	28.1	-2.3	25.8	54	-28.2	Average	Horizontal
3	7311	38.6	1.6	40.2	74	-33.8	Peak	Horizontal
4	7311	28.5	1.6	30.1	54	-23.9	Average	Horizontal
5	4874	39.1	-2.3	36.8	74	-37.2	Peak	Vertical
6	4874	28.3	-2.3	26.0	54	-28.0	Average	Vertical
7	7311	40.3	1.6	41.9	74	-32.1	Peak	Vertical
8	7311	26.5	1.6	28.1	54	-25.9	Average	Vertical
SISO_ Ant. 1_ IEEE 802.11b_ Channel 11:								
1	4924	39.7	-2.3	37.5	74	-36.6	Peak	Horizontal
2	4924	29.6	-2.3	27.3	54	-26.7	Average	Horizontal
3	7386	39.7	1.7	41.5	74	-32.6	Peak	Horizontal
4	7386	30.0	1.7	31.5	54	-22.5	Average	Horizontal
5	4924	37.6	-2.3	35.4	74	-38.6	Peak	Vertical
6	4924	28.7	-2.3	26.4	54	-27.6	Average	Vertical
7	7386	39.1	1.7	40.8	74	-33.2	Peak	Vertical
8	7386	28.3	1.7	29.7	54	-24.3	Average	Vertical

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SISO_ Ant. 0_ IEEE 802.11g_ Channel 1:								
1	4824	40.2	-2.3	37.8	74	-36.2	Peak	Horizontal
2	4824	28.5	-2.3	26.2	54	-27.8	Average	Horizontal
3	7236	39.9	1.5	41.4	74	-32.6	Peak	Horizontal
4	7236	28.1	1.5	29.6	54	-24.4	Average	Horizontal
5	4824	39.6	-2.3	37.3	74	-36.7	Peak	Vertical
6	4824	29.0	-2.3	26.7	54	-27.3	Average	Vertical
7	7236	40.8	1.5	42.3	74	-31.7	Peak	Vertical
8	7236	27.9	1.5	29.4	54	-24.6	Average	Vertical
SISO_ Ant. 0_ IEEE 802.11g_ Channel 6:								
1	4874	38.7	-2.3	36.4	74	-37.6	Peak	Horizontal
2	4874	28.2	-2.3	26.0	54	-28.1	Average	Horizontal
3	7311	39.5	1.6	41.1	74	-32.9	Peak	Horizontal
4	7311	29.3	1.6	30.9	54	-23.1	Average	Horizontal
5	4874	40.7	-2.3	38.4	74	-35.6	Peak	Vertical
6	4874	28.6	-2.3	26.3	54	-27.7	Average	Vertical
7	7311	39.7	1.6	41.3	74	-32.7	Peak	Vertical
8	7311	27.0	1.6	28.6	54	-25.4	Average	Vertical
SISO_ Ant. 0_ IEEE 802.11g_ Channel 11:								
1	4924	40.0	-2.3	37.7	74	-36.3	Peak	Horizontal
2	4924	28.0	-2.3	25.7	54	-28.3	Average	Horizontal
3	7386	40.4	1.7	42.1	74	-31.9	Peak	Horizontal
4	7386	29.3	1.7	31.1	54	-22.9	Average	Horizontal
5	4924	39.5	-2.3	37.3	74	-36.7	Peak	Vertical
6	4924	28.7	-2.3	26.4	54	-27.6	Average	Vertical
7	7386	39.2	1.7	40.9	74	-33.1	Peak	Vertical
8	7386	28.2	1.7	29.9	54	-24.1	Average	Vertical

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