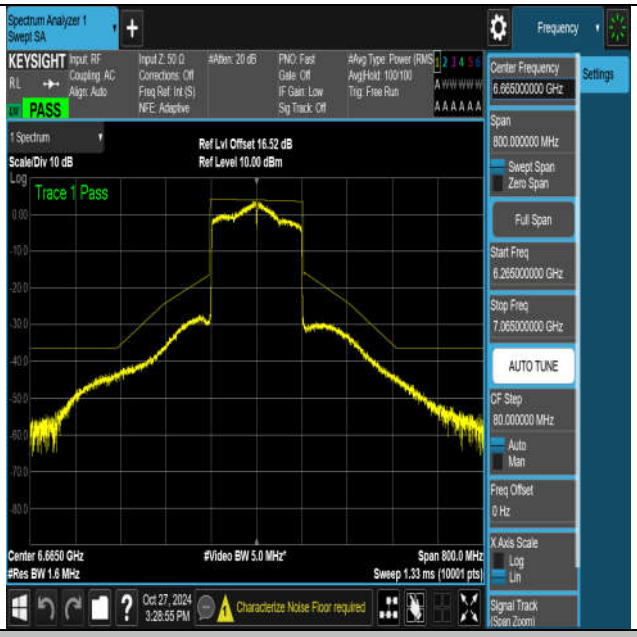
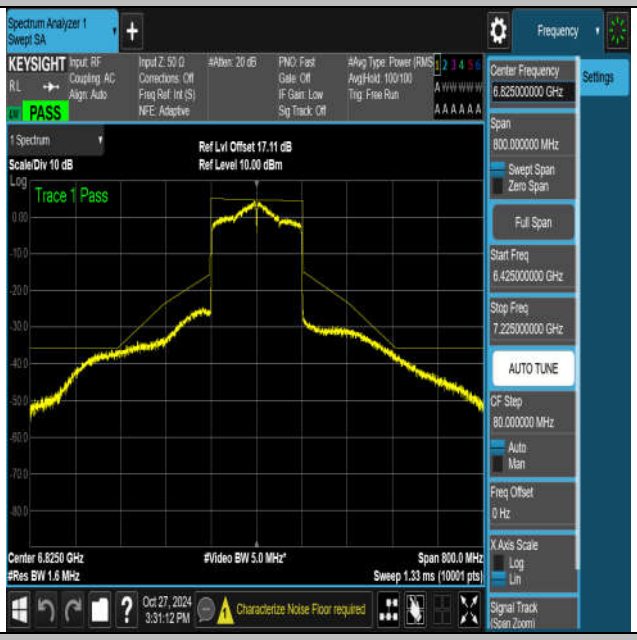
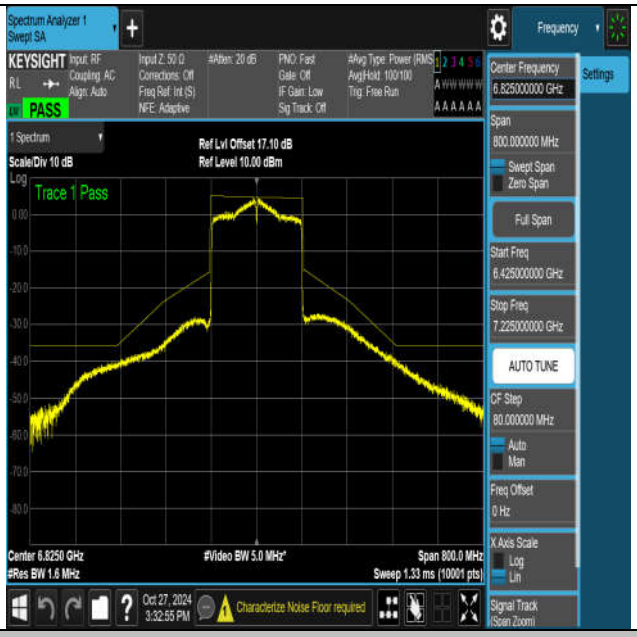


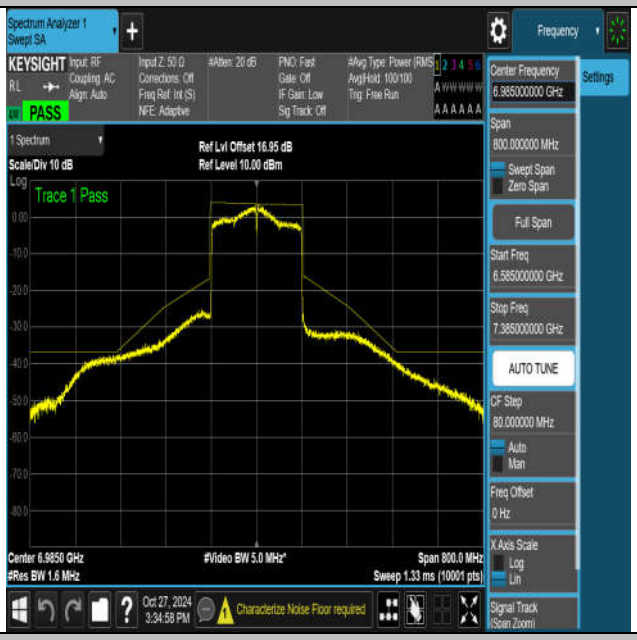
NTNV-11AX160MIMO-Ant9-6665-PASS



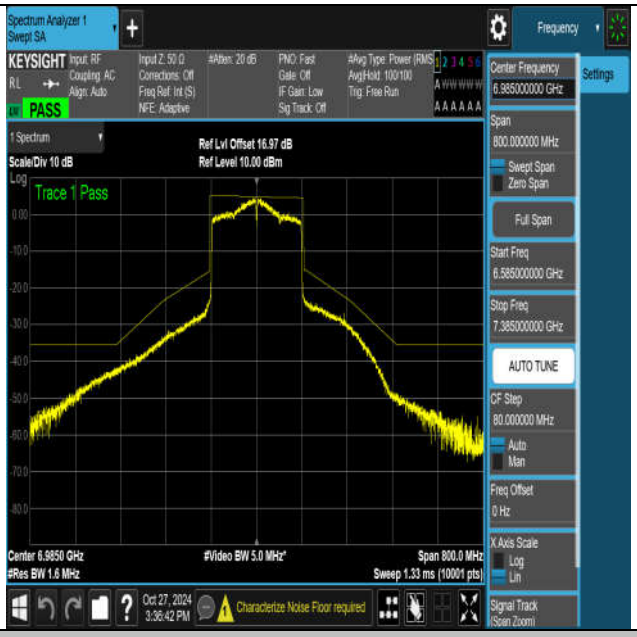
NTNV-11AX160MIMO-Ant8-6825-PASS



NTNV-11AX160MIMO-Ant9-6825-PASS

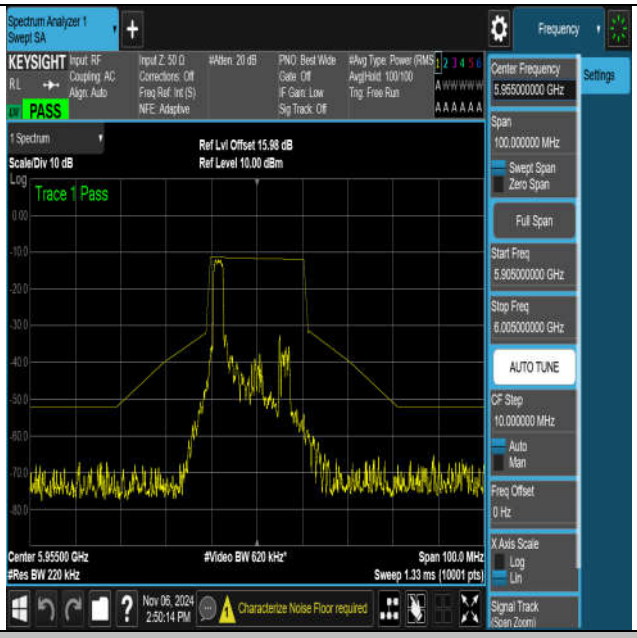


NTNV-11AX160MIMO-Ant8-6985-PASS

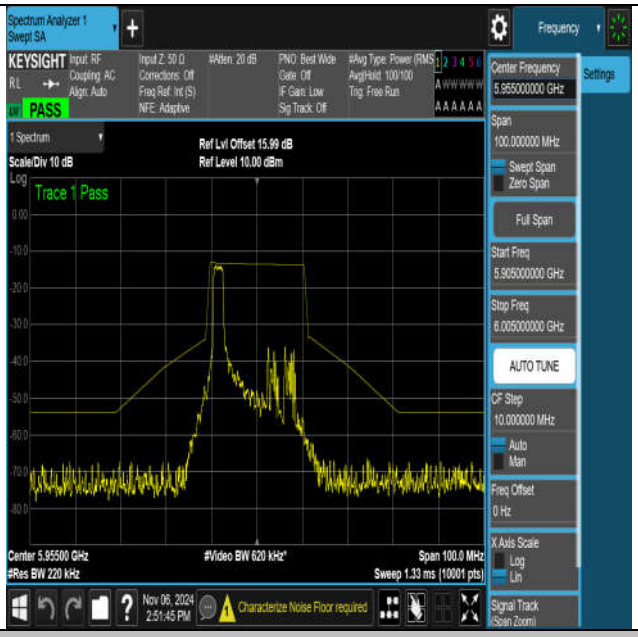


NTNV-11AX160MIMO-Ant9-6985-PASS

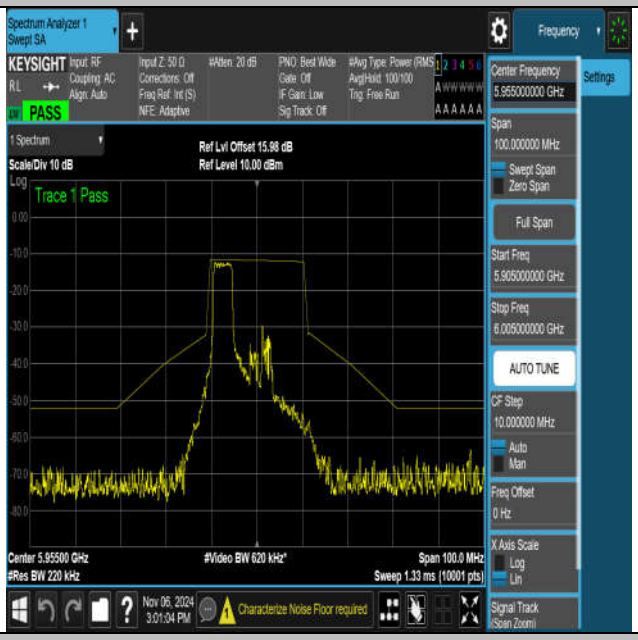
Partial RU :



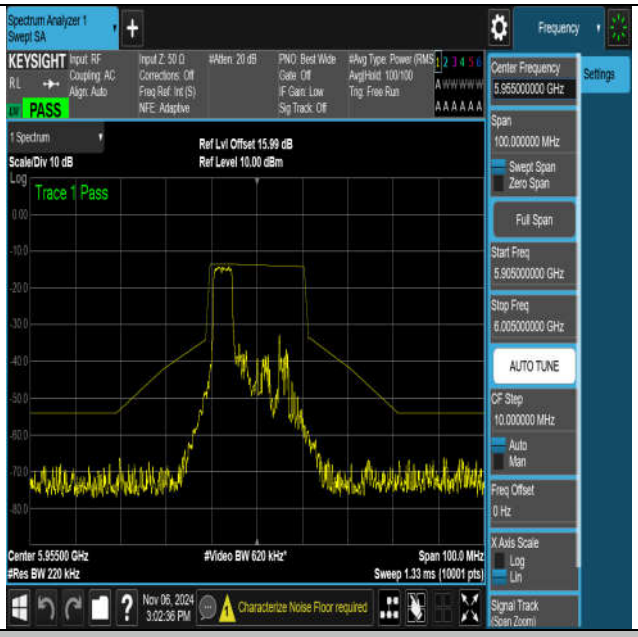
NTNV-11AX20MIMO-Ant8-5955-26Tone-RU0-PASS



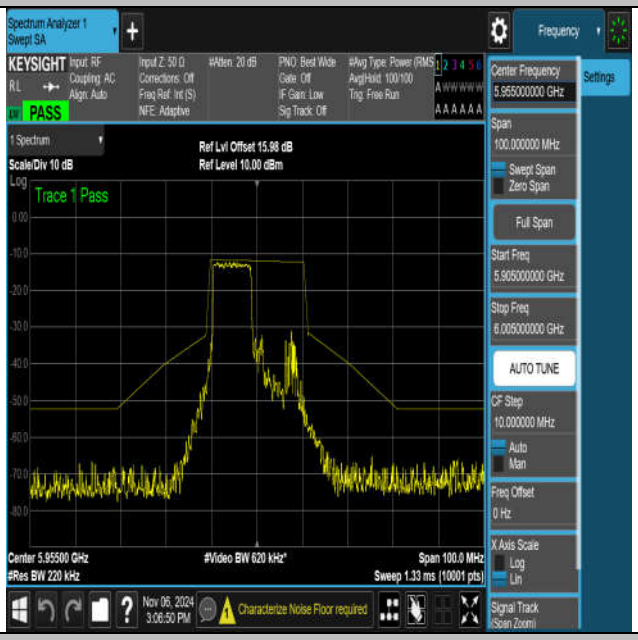
NTNV-11AX20MIMO-Ant9-5955-26Tone-RU0-PASS



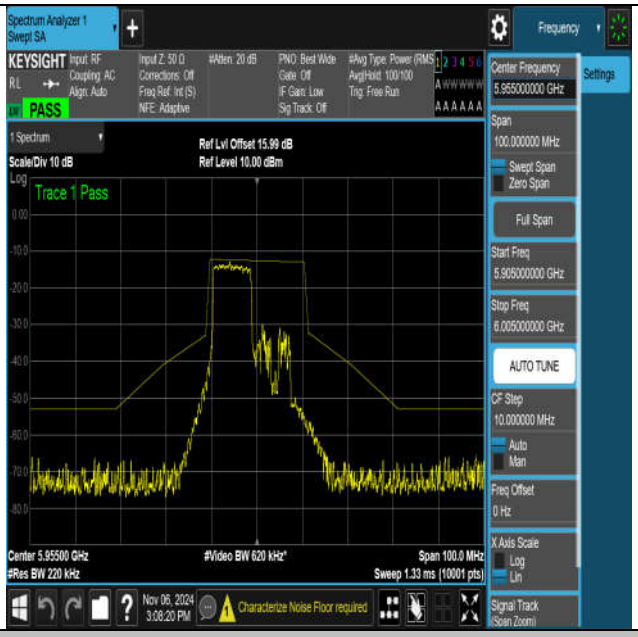
NTNV-11AX20MIMO-Ant8-5955-52Tone-RU37-PASS



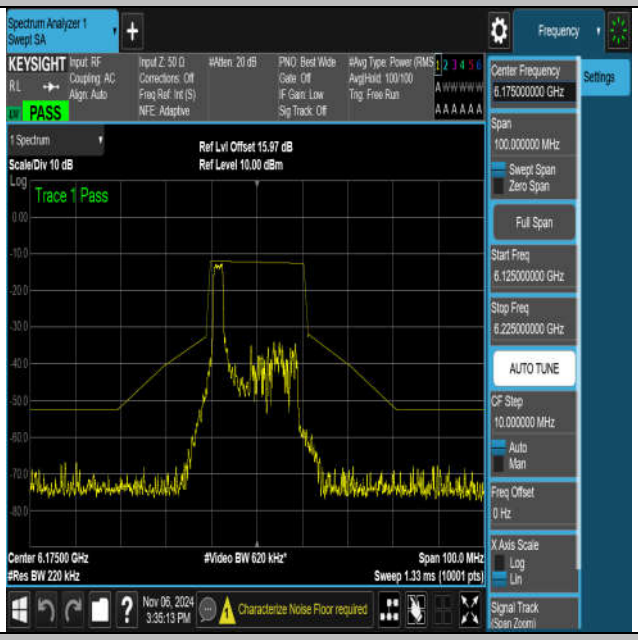
NTNV-11AX20MIMO-Ant9-5955-52Tone-RU37-PASS



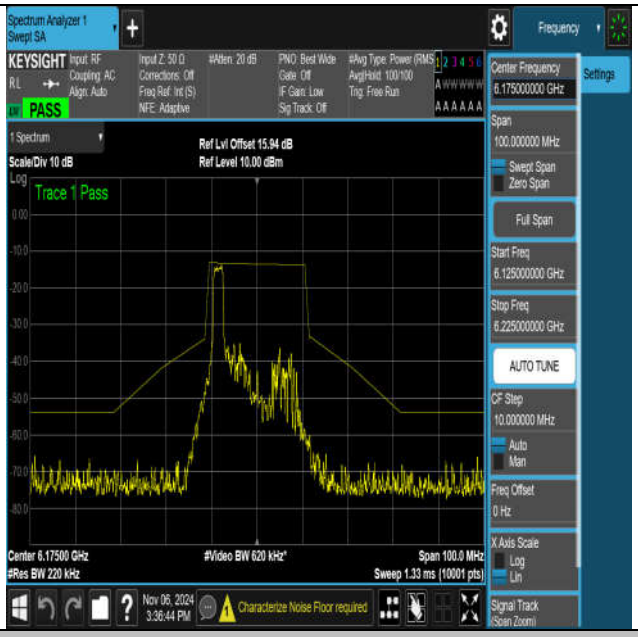
NTNV-11AX20MIMO-Ant8-5955-106Tone-RU53-PASS



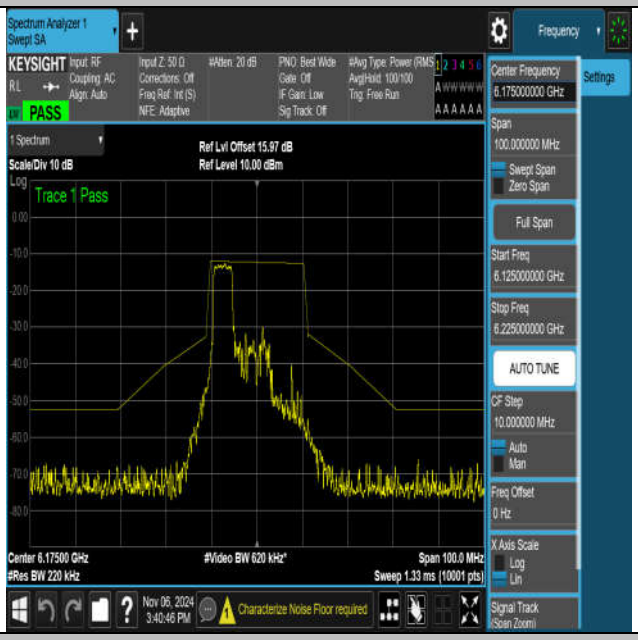
NTNV-11AX20MIMO-Ant9-5955-106Tone-RU53-PASS



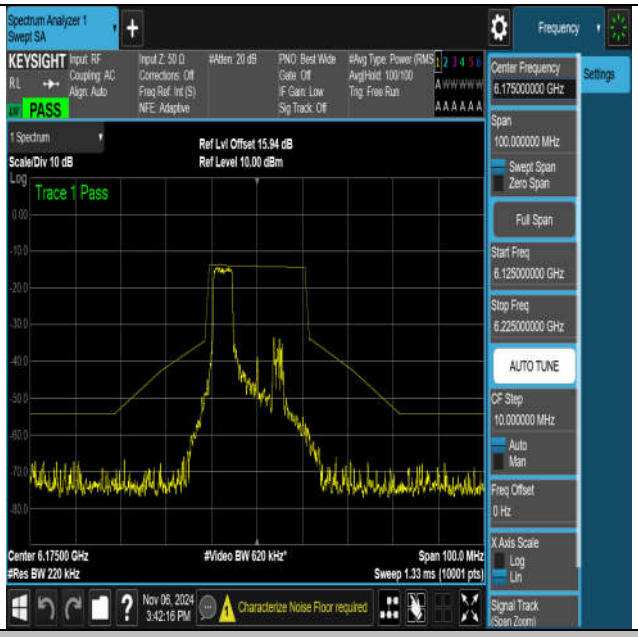
NTNV-11AX20MIMO-Ant8-6175-26Tone-RU0-PASS



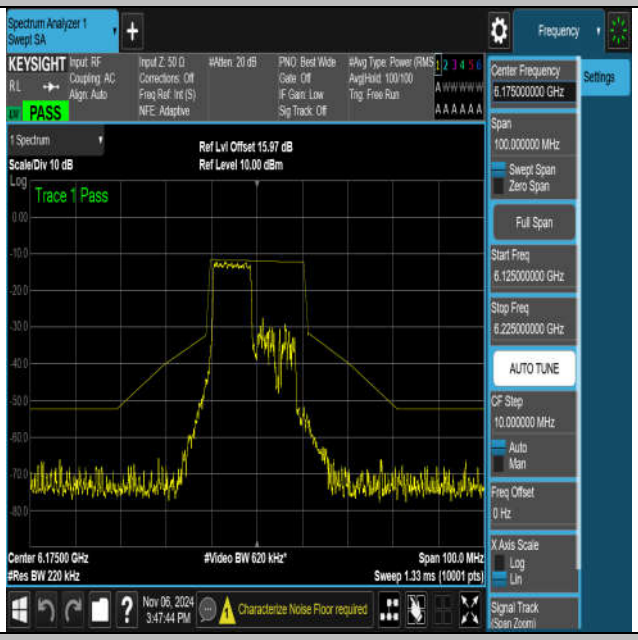
NTNV-11AX20MIMO-Ant9-6175-26Tone-RU0-PASS



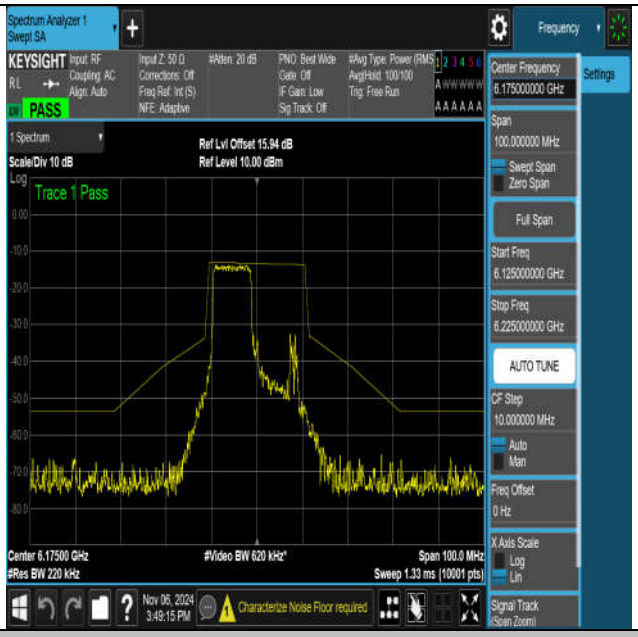
NTNV-11AX20MIMO-Ant8-6175-52Tone-RU37-PASS



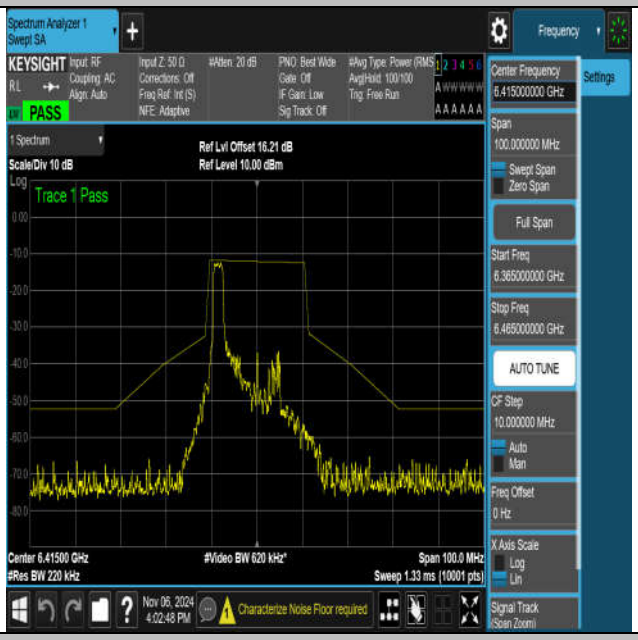
NTNV-11AX20MIMO-Ant9-6175-52Tone-RU37-PASS



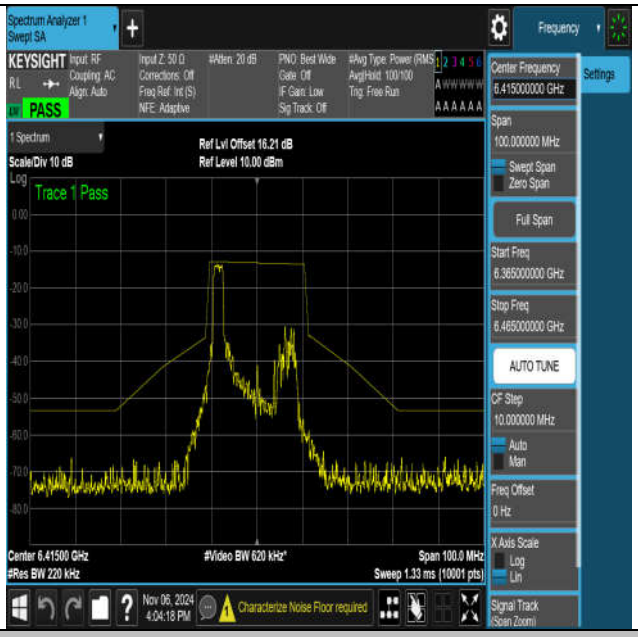
NTNV-11AX20MIMO-Ant8-6175-106Tone-RU53-PASS



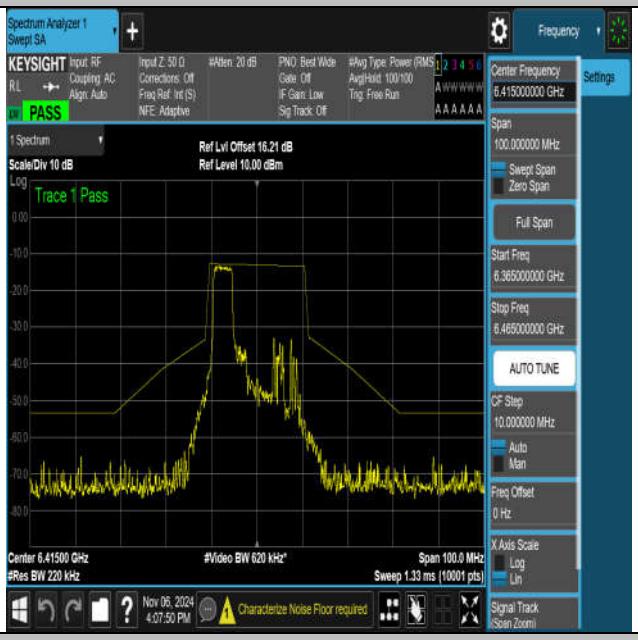
NTNV-11AX20MIMO-Ant9-6175-106Tone-RU53-PASS



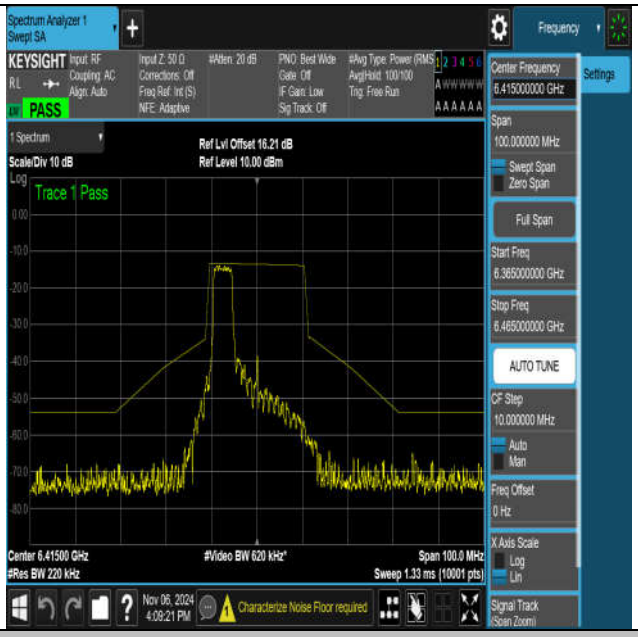
NTNV-11AX20MIMO-Ant8-6415-26Tone-RU0-PASS



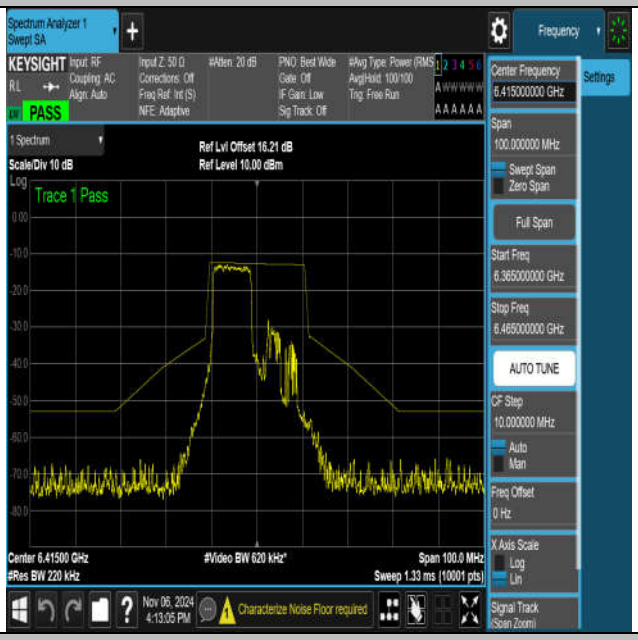
NTNV-11AX20MIMO-Ant9-6415-26Tone-RU0-PASS



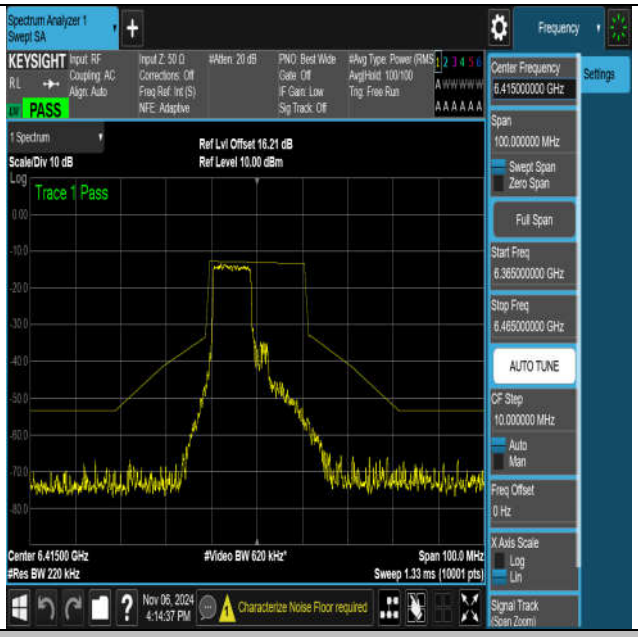
NTNV-11AX20MIMO-Ant8-6415-52Tone-RU37-PASS



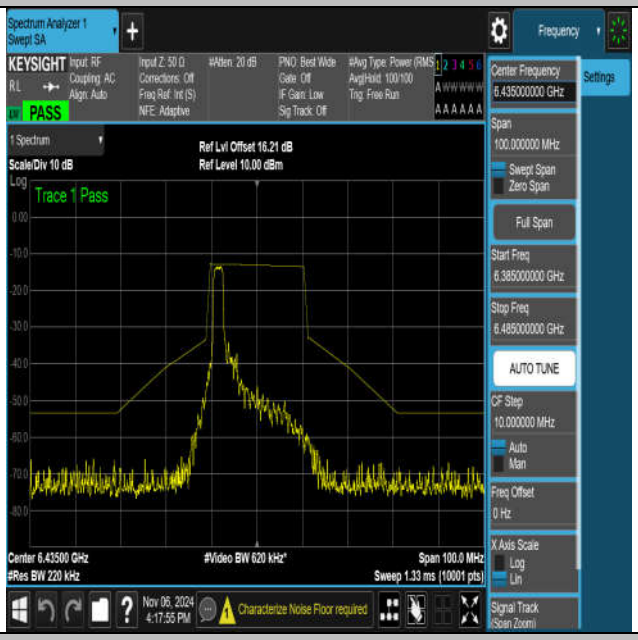
NTNV-11AX20MIMO-Ant9-6415-52Tone-RU37-PASS



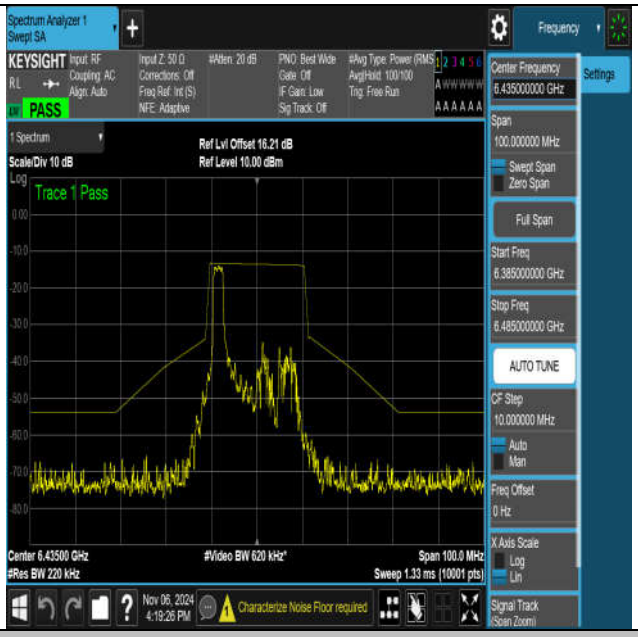
NTNV-11AX20MIMO-Ant8-6415-106Tone-RU53-PASS



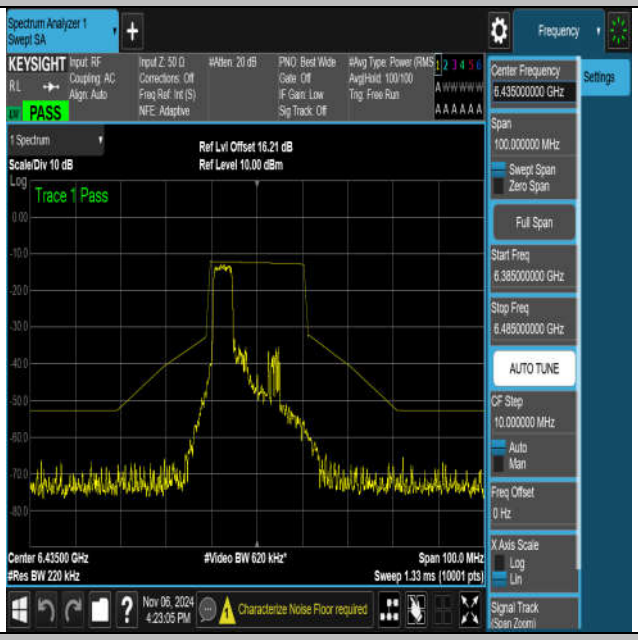
NTNV-11AX20MIMO-Ant9-6415-106Tone-RU53-PASS



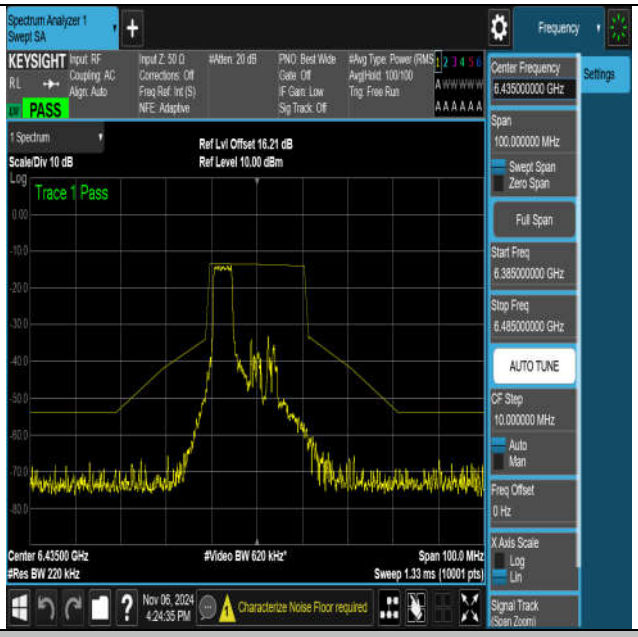
NTNV-11AX20MIMO-Ant8-6435-26Tone-RU0-PASS



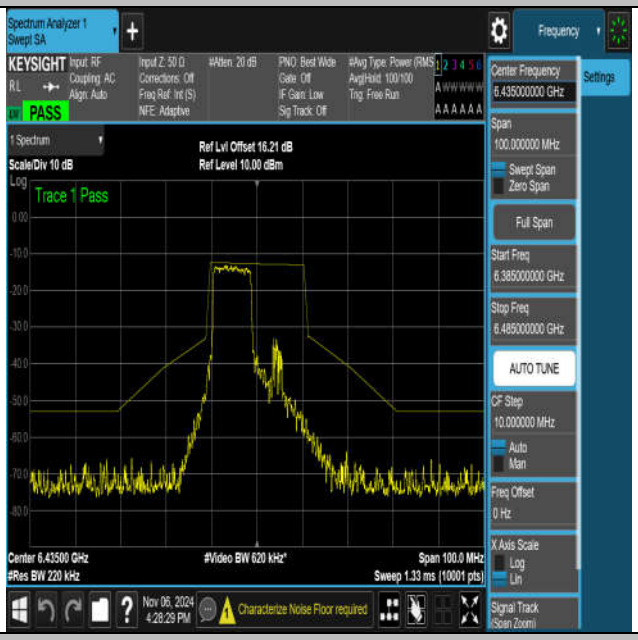
NTNV-11AX20MIMO-Ant9-6435-26Tone-RU0-PASS



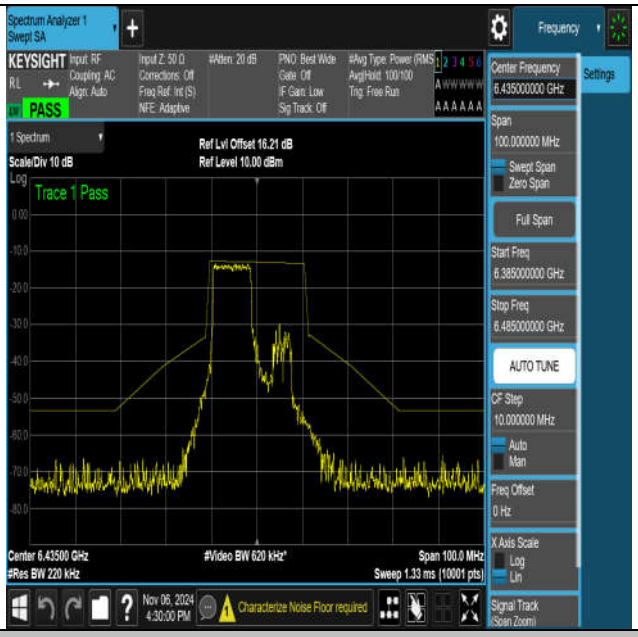
NTNV-11AX20MIMO-Ant8-6435-52Tone-RU37-PASS



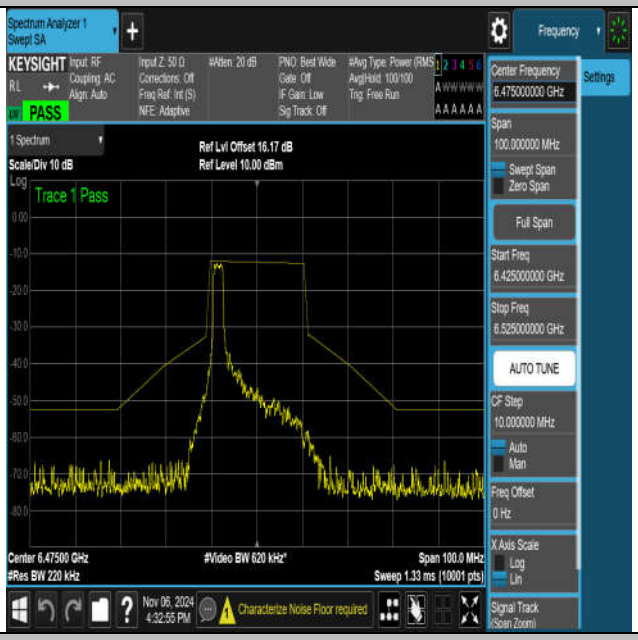
NTNV-11AX20MIMO-Ant9-6435-52Tone-RU37-PASS



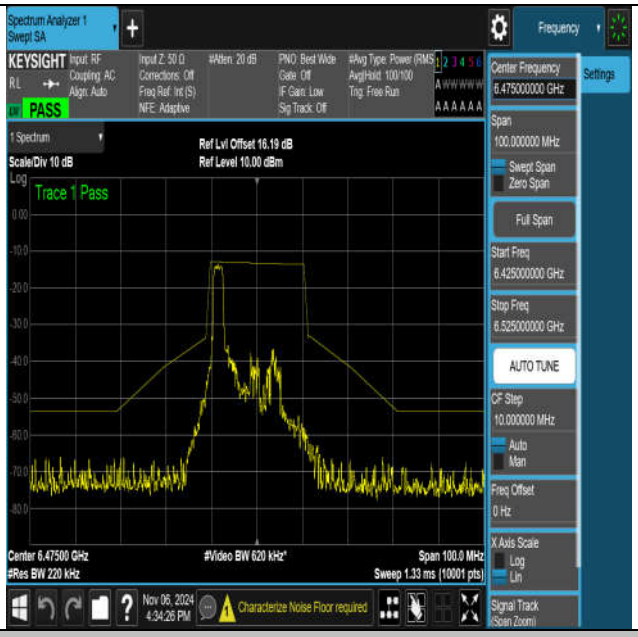
NTNV-11AX20MIMO-Ant8-6435-106Tone-RU53-PASS



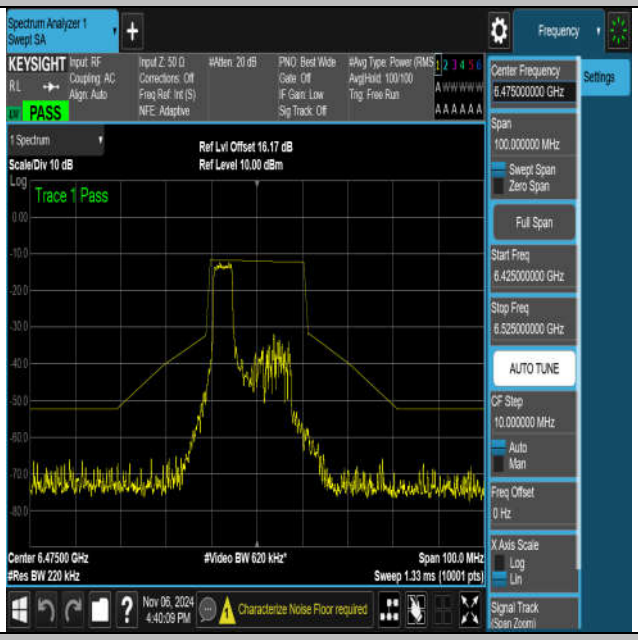
NTNV-11AX20MIMO-Ant9-6435-106Tone-RU53-PASS



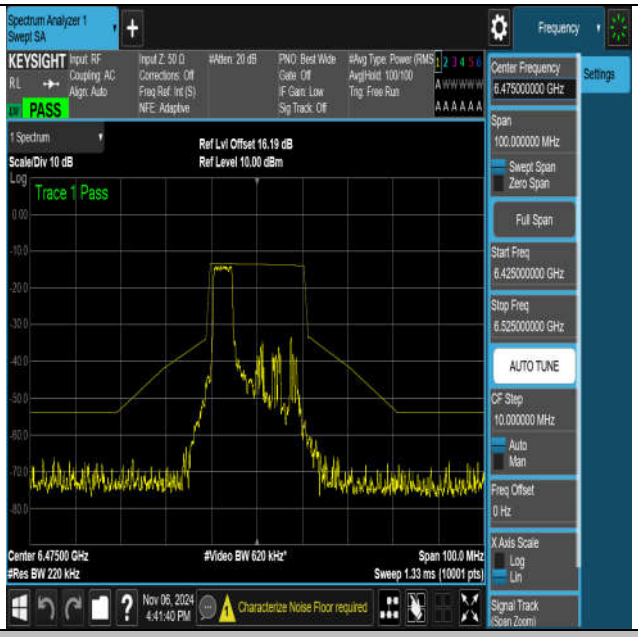
NTNV-11AX20MIMO-Ant8-6475-26Tone-RU0-PASS



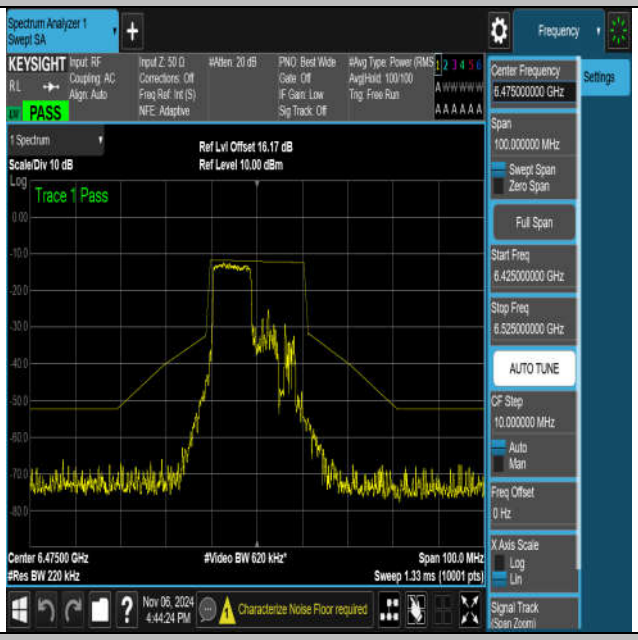
NTNV-11AX20MIMO-Ant9-6475-26Tone-RU0-PASS



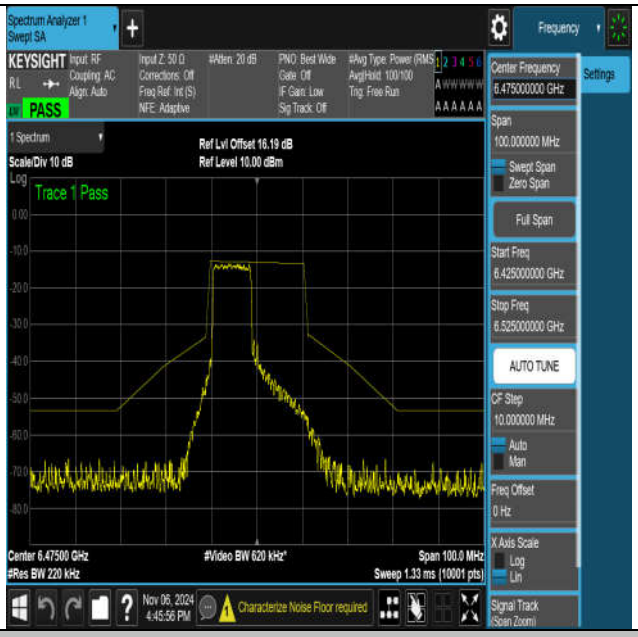
NTNV-11AX20MIMO-Ant8-6475-52Tone-RU37-PASS



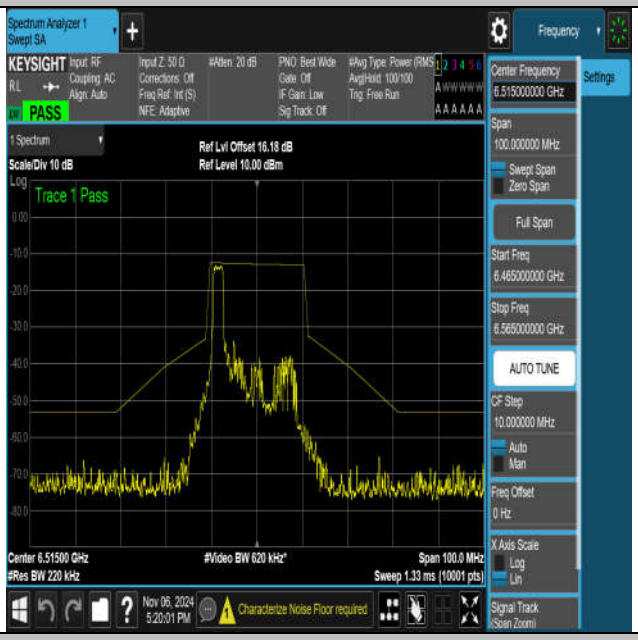
NTNV-11AX20MIMO-Ant9-6475-52Tone-RU37-PASS



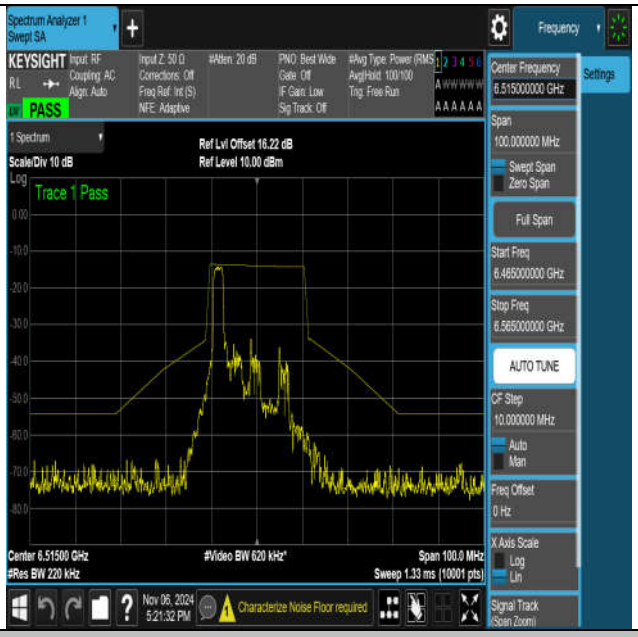
NTNV-11AX20MIMO-Ant8-6475-106Tone-RU53-PASS



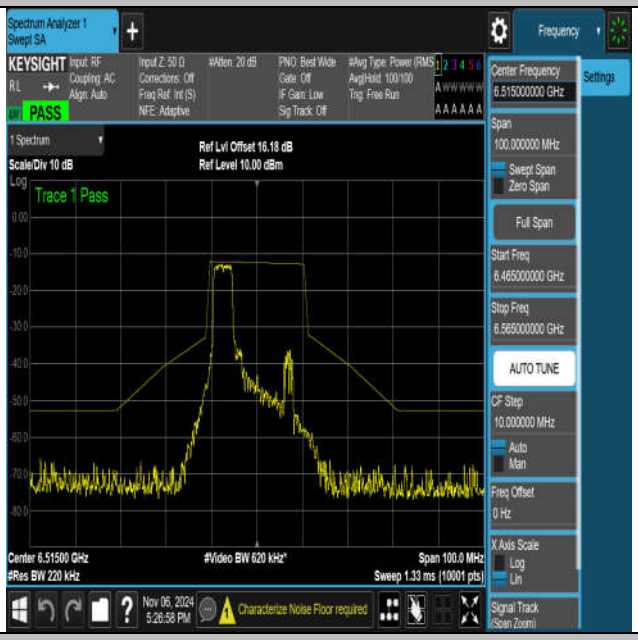
NTNV-11AX20MIMO-Ant9-6475-106Tone-RU53-PASS



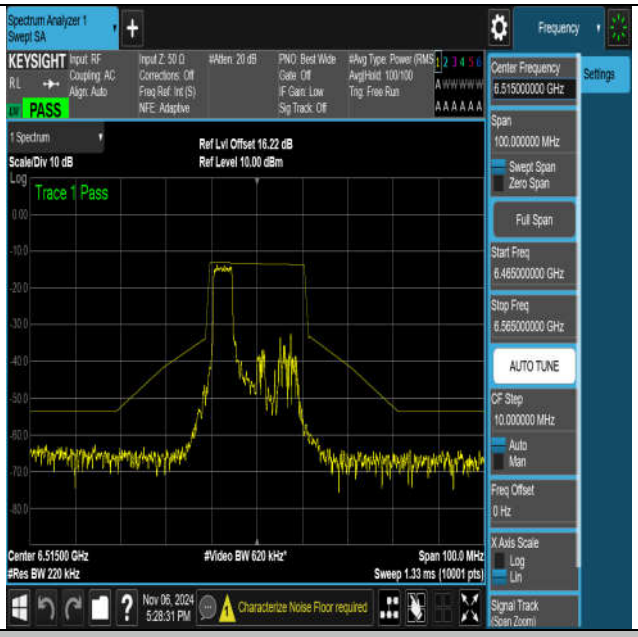
NTNV-11AX20MIMO-Ant8-6515-26Tone-RU0-PASS



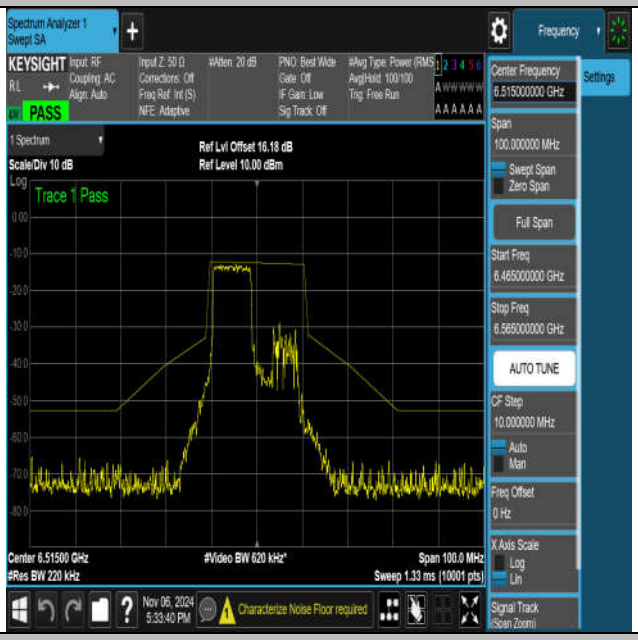
NTNV-11AX20MIMO-Ant9-6515-26Tone-RU0-PASS



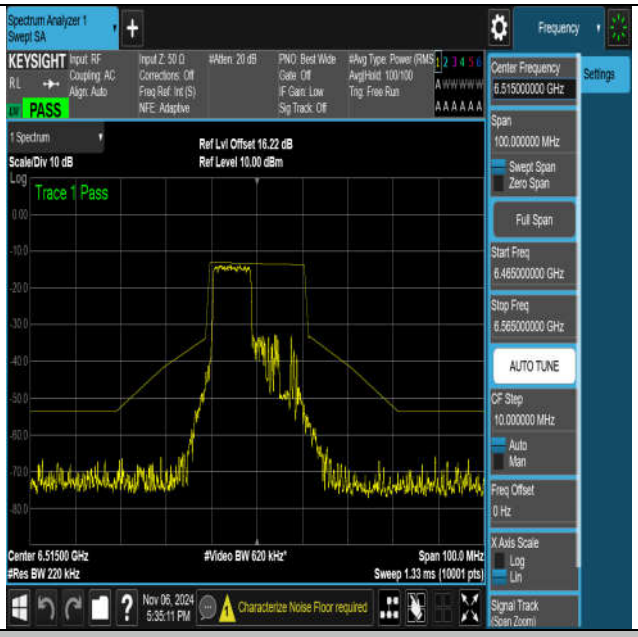
NTNV-11AX20MIMO-Ant8-6515-52Tone-RU37-PASS



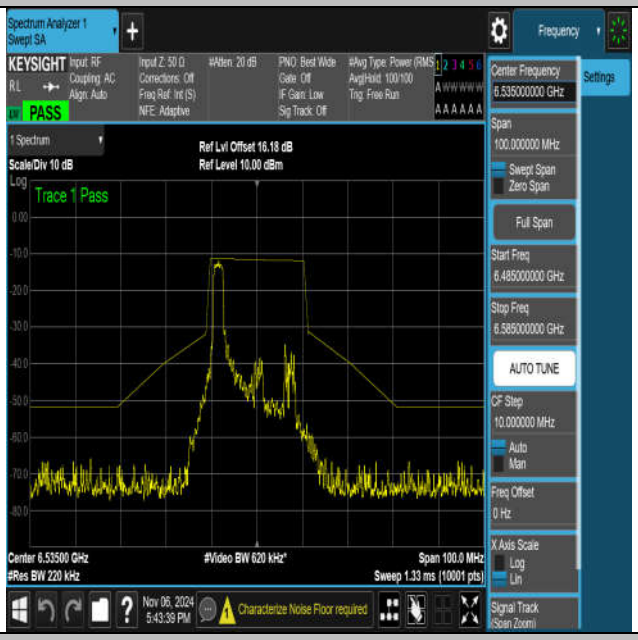
NTNV-11AX20MIMO-Ant9-6515-52Tone-RU37-PASS



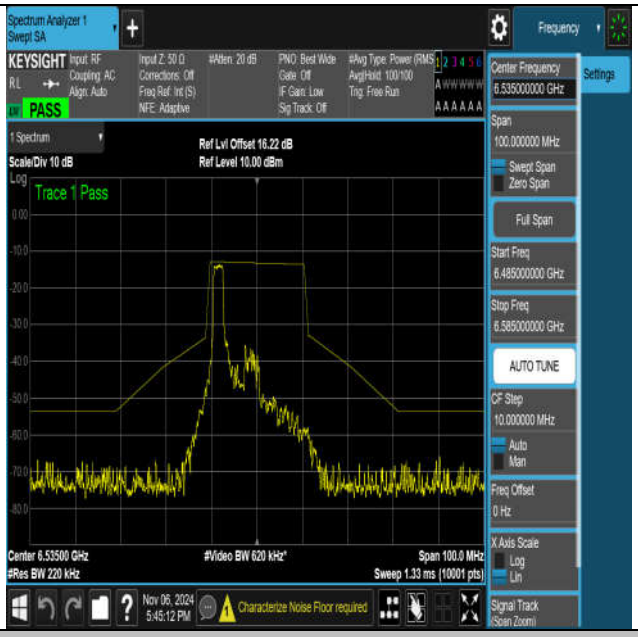
NTNV-11AX20MIMO-Ant8-6515-106Tone-RU53-PASS



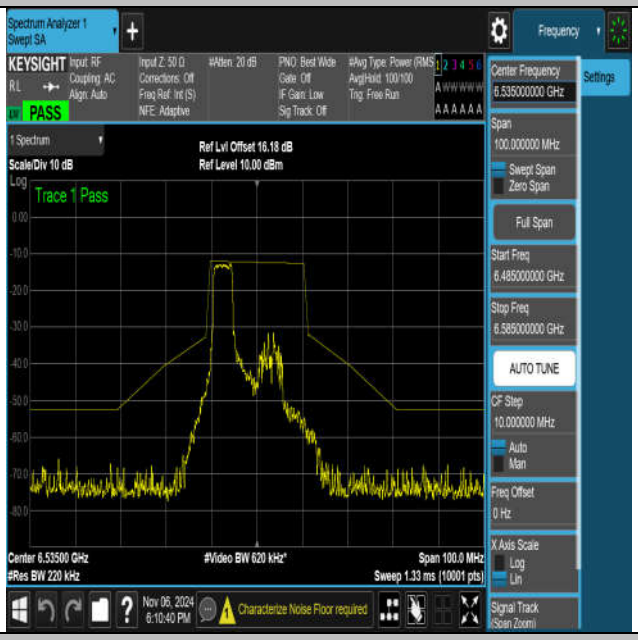
NTNV-11AX20MIMO-Ant9-6515-106Tone-RU53-PASS



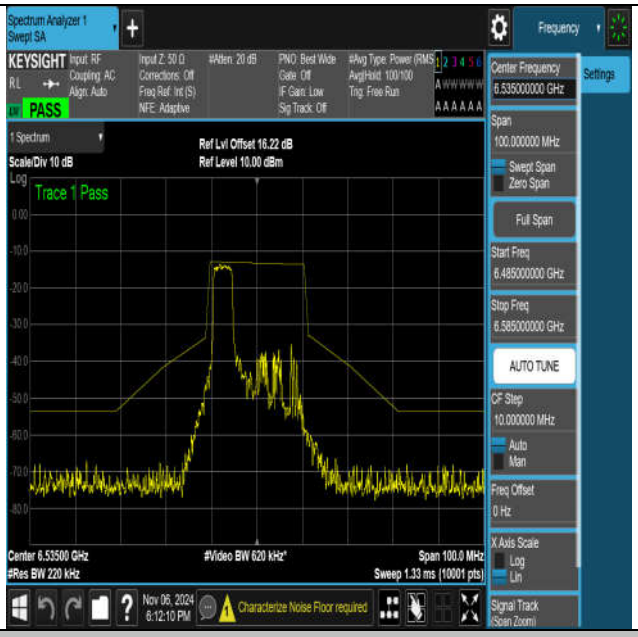
NTNV-11AX20MIMO-Ant8-6535-26Tone-RU0-PASS



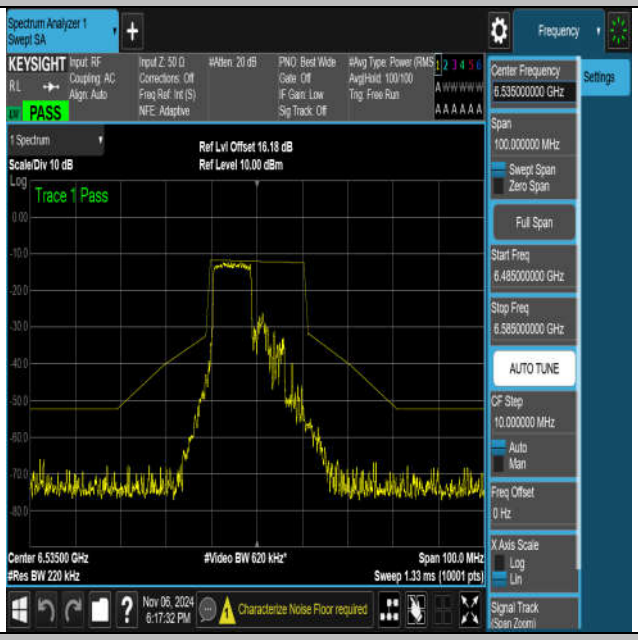
NTNV-11AX20MIMO-Ant9-6535-26Tone-RU0-PASS



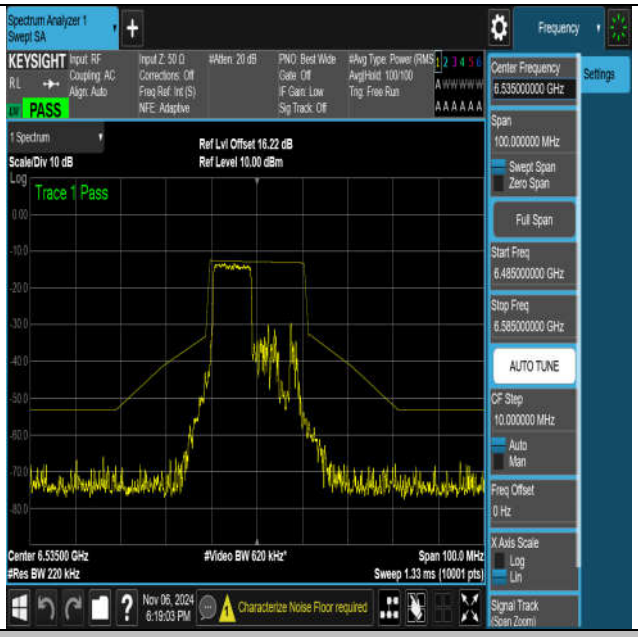
NTNV-11AX20MIMO-Ant8-6535-52Tone-RU37-PASS



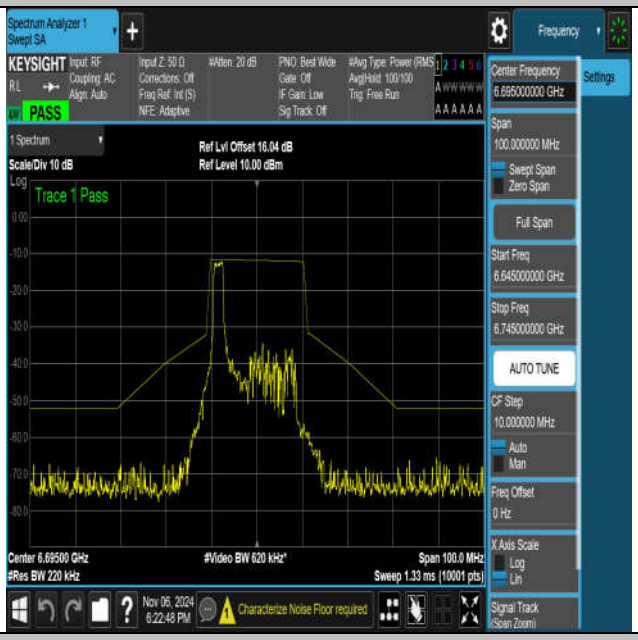
NTNV-11AX20MIMO-Ant9-6535-52Tone-RU37-PASS



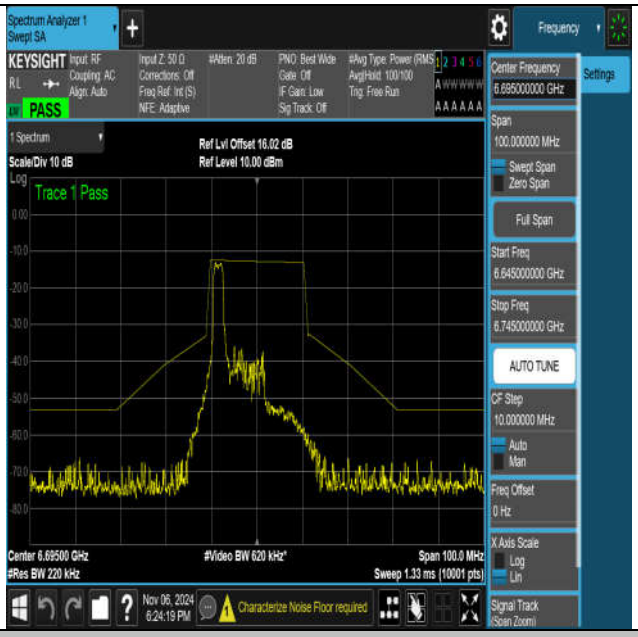
NTNV-11AX20MIMO-Ant8-6535-106Tone-RU53-PASS



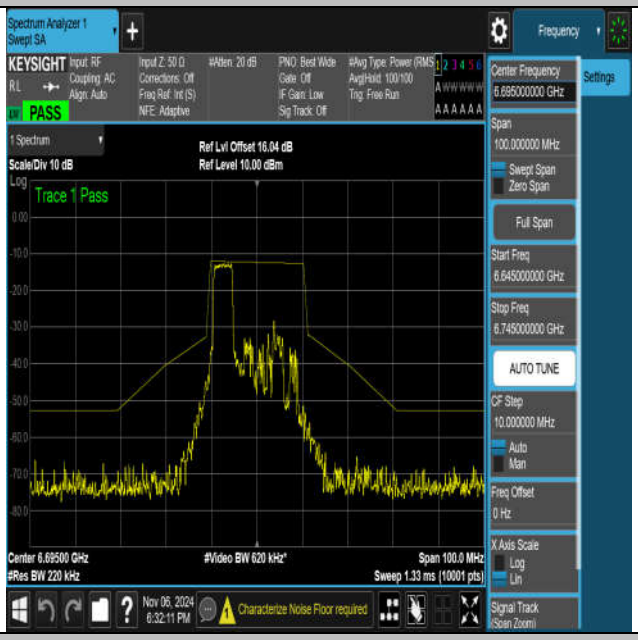
NTNV-11AX20MIMO-Ant9-6535-106Tone-RU53-PASS



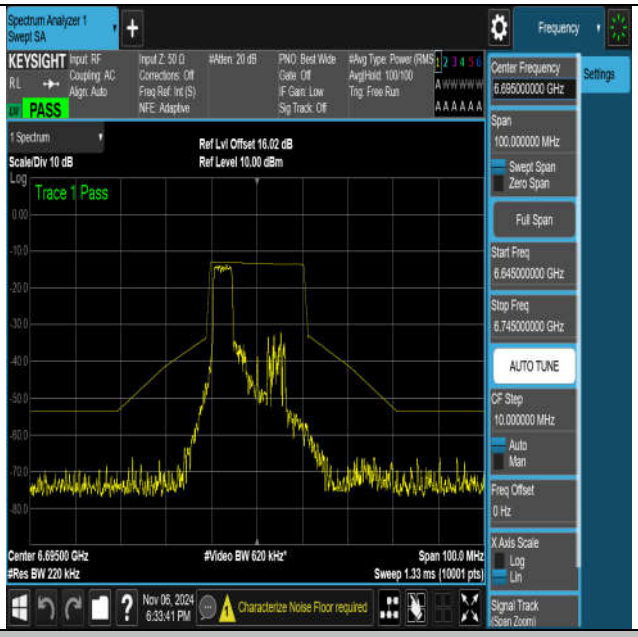
NTNV-11AX20MIMO-Ant8-6695-26Tone-RU0-PASS



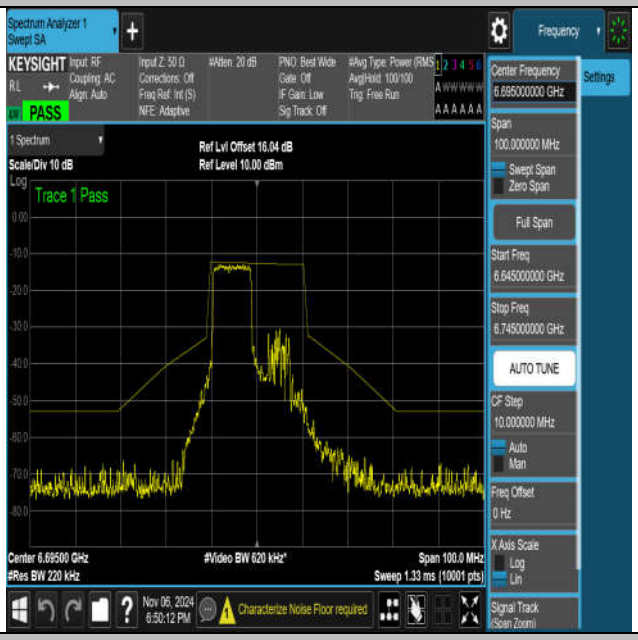
NTNV-11AX20MIMO-Ant9-6695-26Tone-RU0-PASS



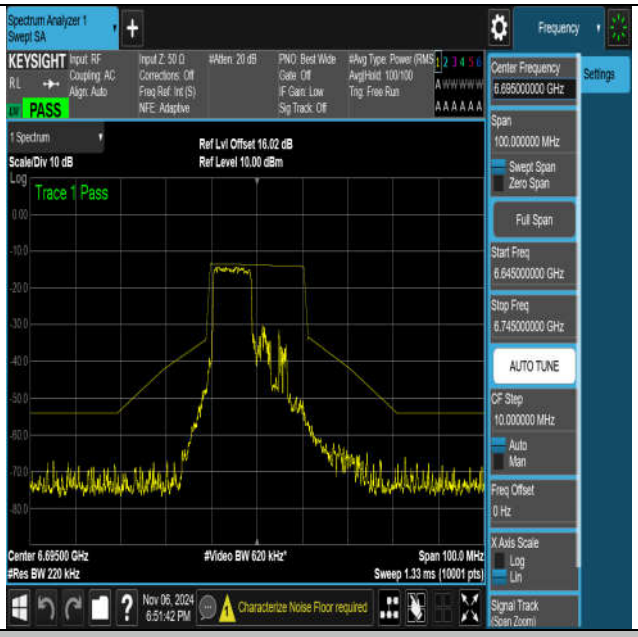
NTNV-11AX20MIMO-Ant8-6695-52Tone-RU37-PASS



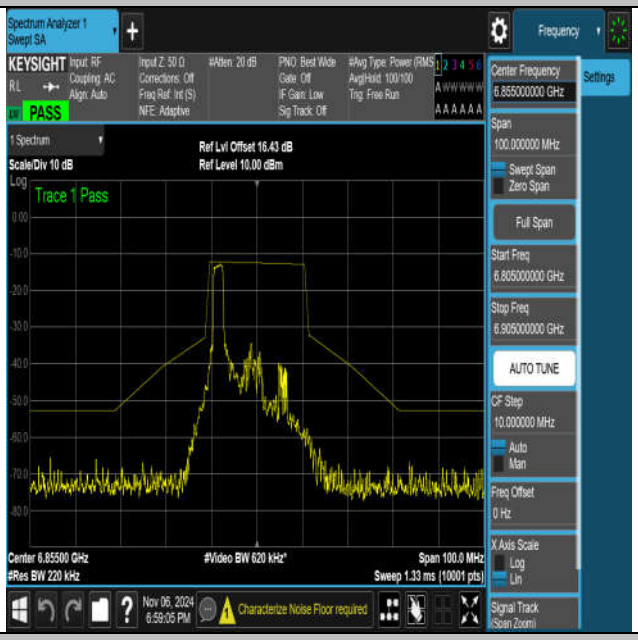
NTNV-11AX20MIMO-Ant9-6695-52Tone-RU37-PASS



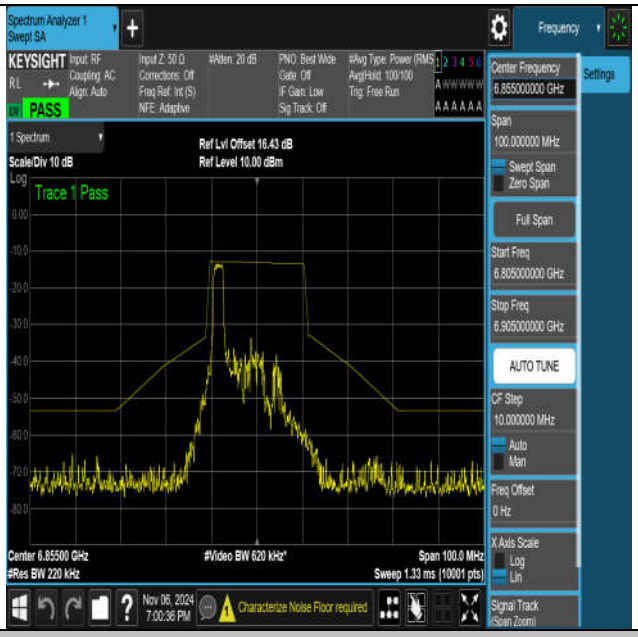
NTNV-11AX20MIMO-Ant8-6695-106Tone-RU53-PASS



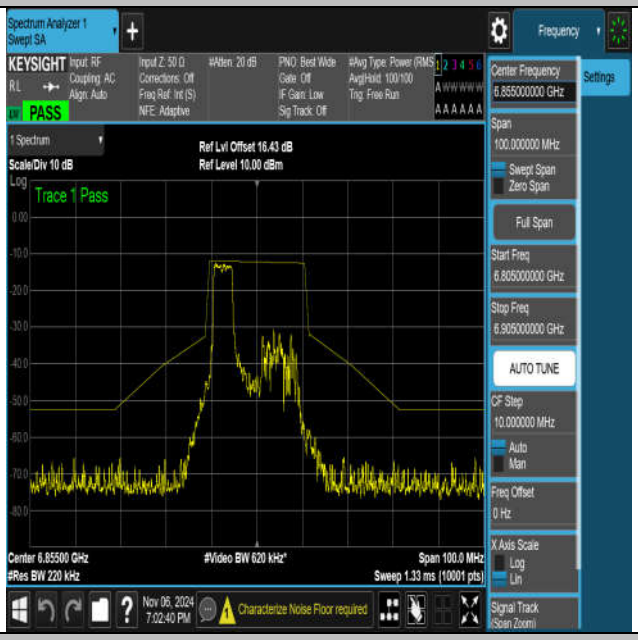
NTNV-11AX20MIMO-Ant9-6695-106Tone-RU53-PASS



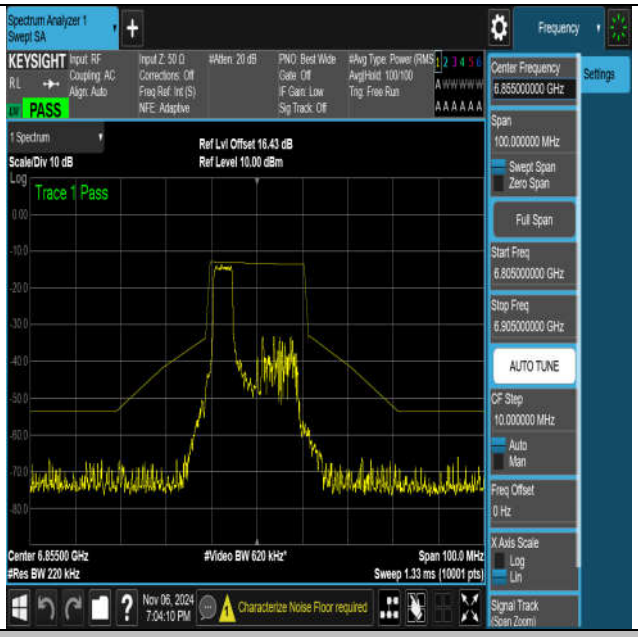
NTNV-11AX20MIMO-Ant8-6855-26Tone-RU0-PASS



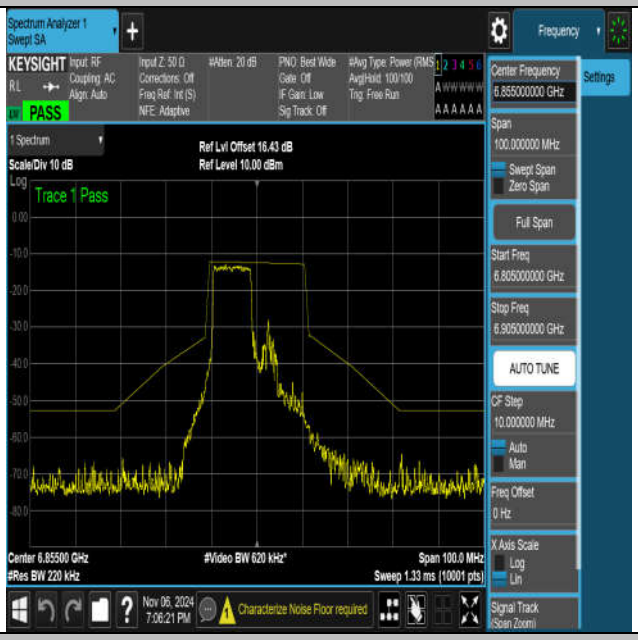
NTNV-11AX20MIMO-Ant9-6855-26Tone-RU0-PASS



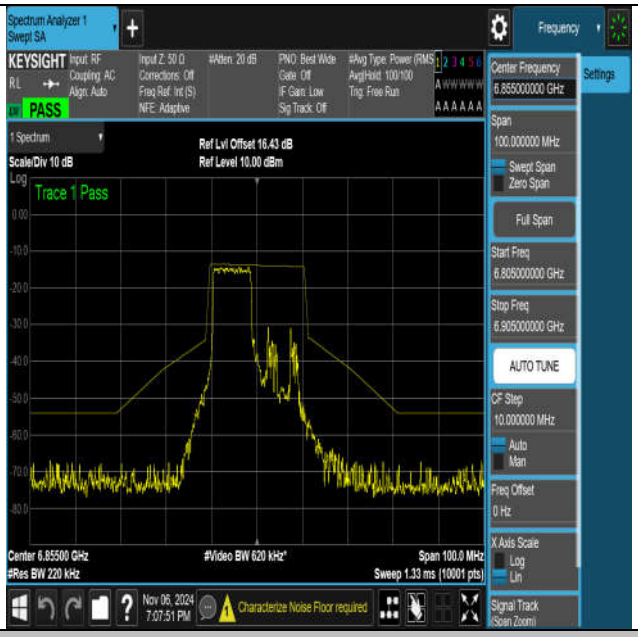
NTNV-11AX20MIMO-Ant8-6855-52Tone-RU37-PASS



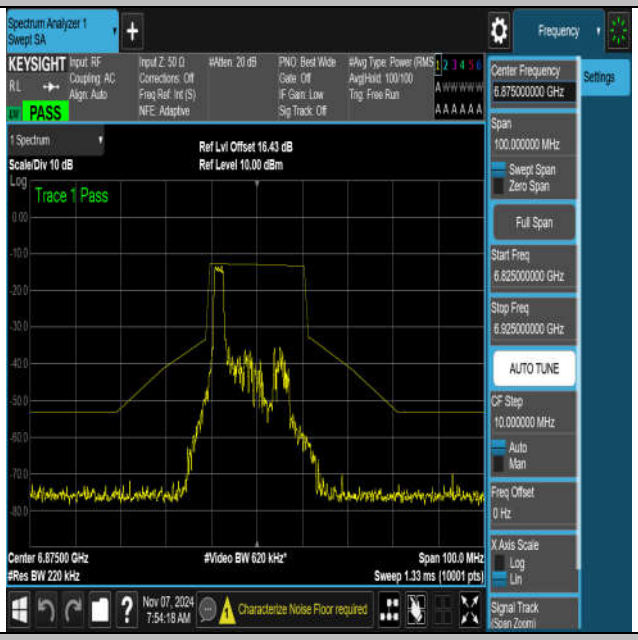
NTNV-11AX20MIMO-Ant9-6855-52Tone-RU37-PASS



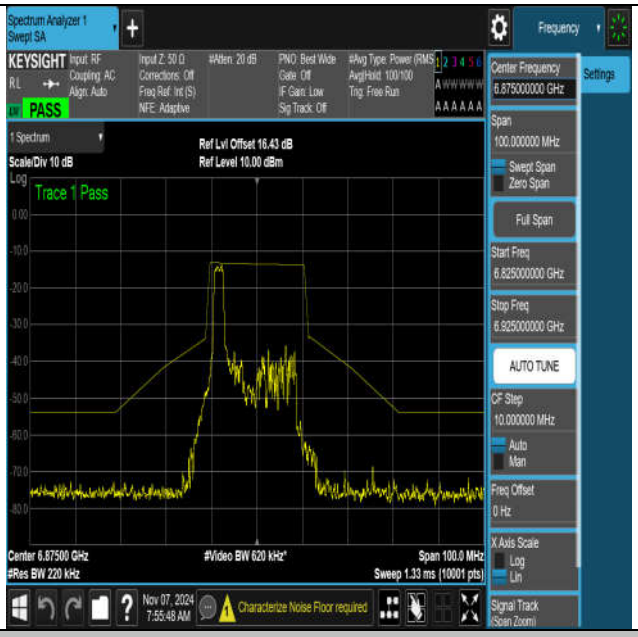
NTNV-11AX20MIMO-Ant8-6855-106Tone-RU53-PASS



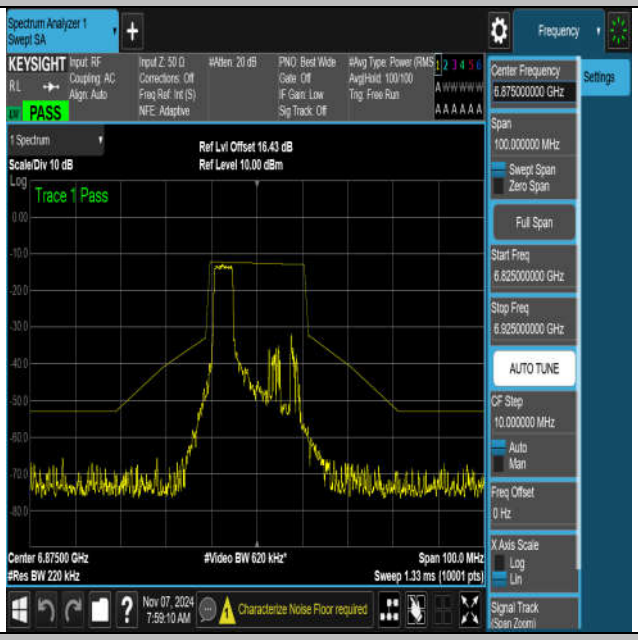
NTNV-11AX20MIMO-Ant9-6855-106Tone-RU53-PASS



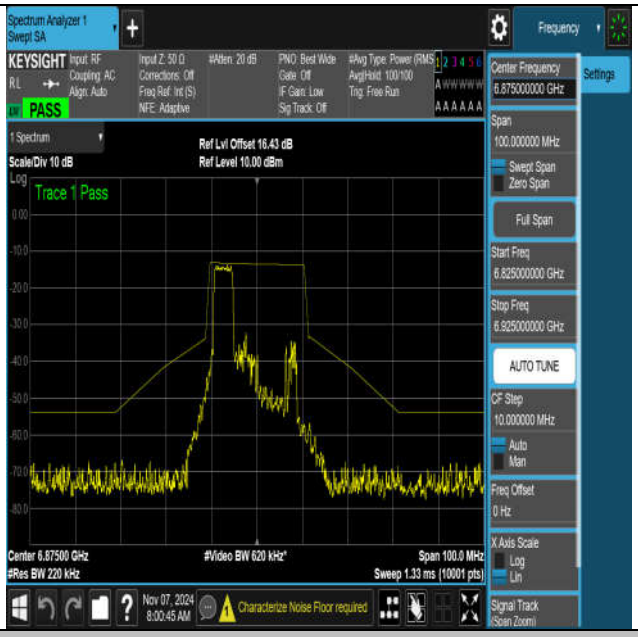
NTNV-11AX20MIMO-Ant8-6875-26Tone-RU0-PASS



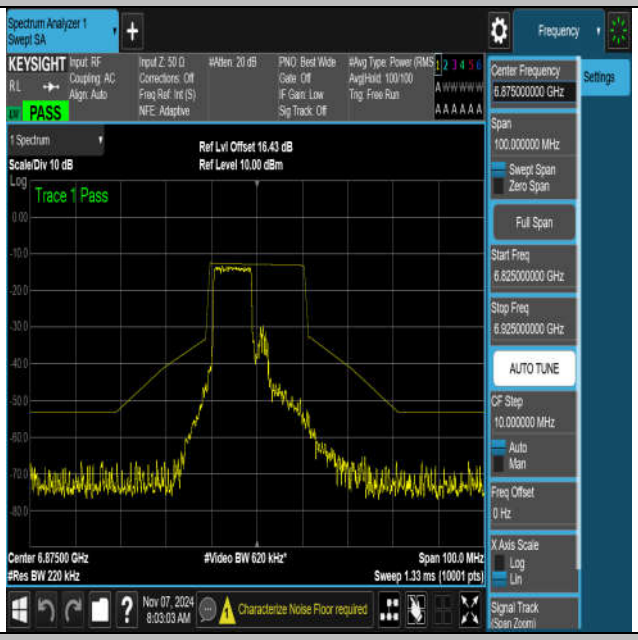
NTNV-11AX20MIMO-Ant9-6875-26Tone-RU0-PASS



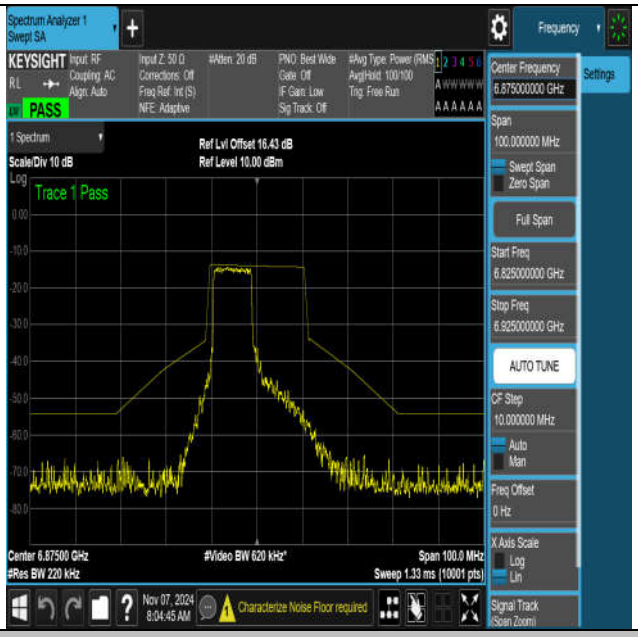
NTNV-11AX20MIMO-Ant8-6875-52Tone-RU37-PASS



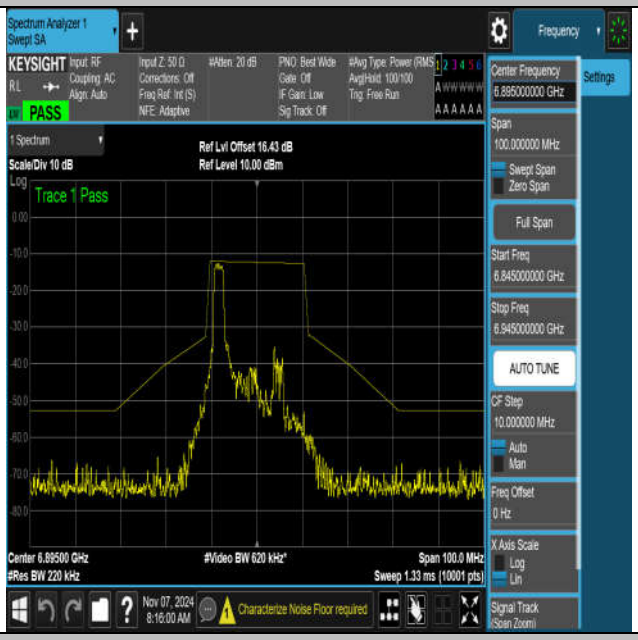
NTNV-11AX20MIMO-Ant9-6875-52Tone-RU37-PASS



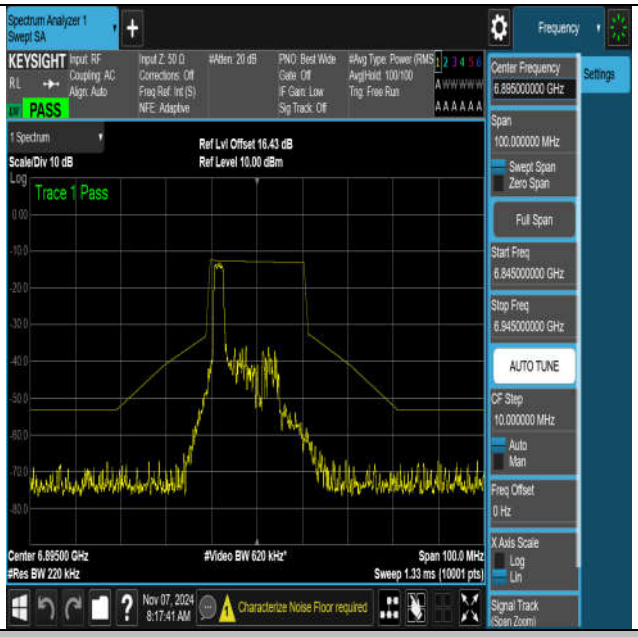
NTNV-11AX20MIMO-Ant8-6875-106Tone-RU53-PASS



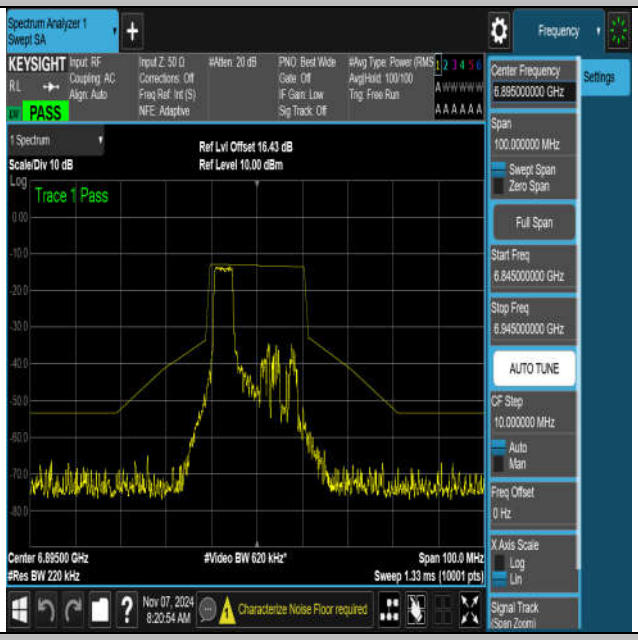
NTNV-11AX20MIMO-Ant9-6875-106Tone-RU53-PASS



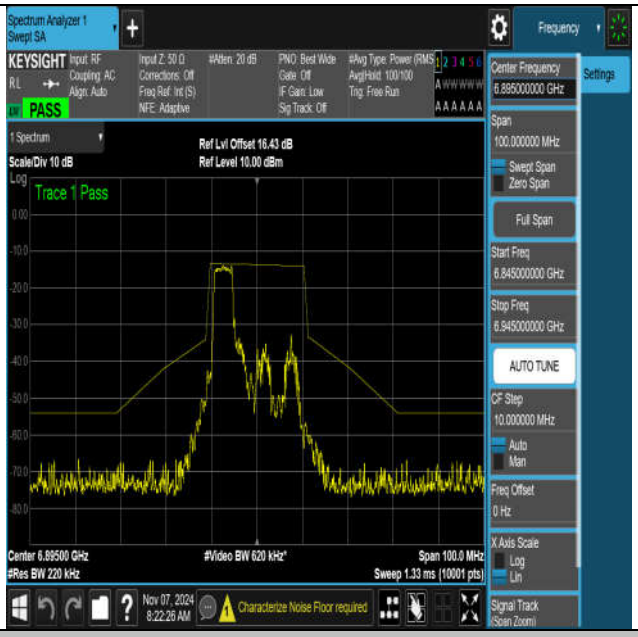
NTNV-11AX20MIMO-Ant8-6895-26Tone-RU0-PASS



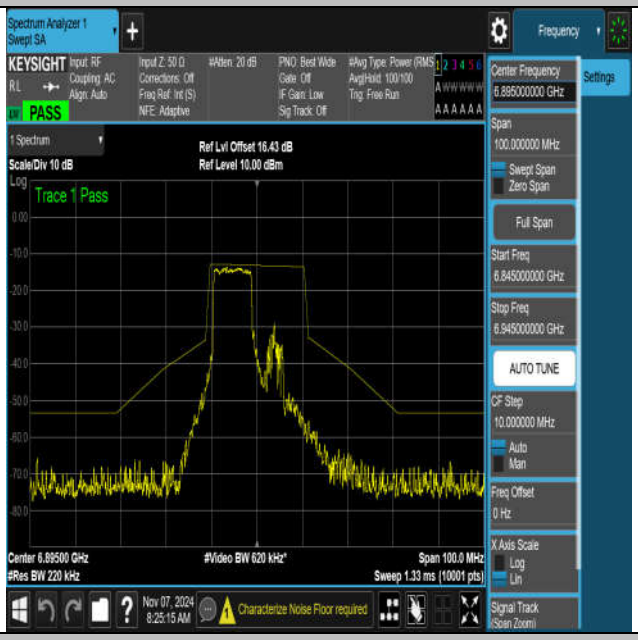
NTNV-11AX20MIMO-Ant9-6895-26Tone-RU0-PASS



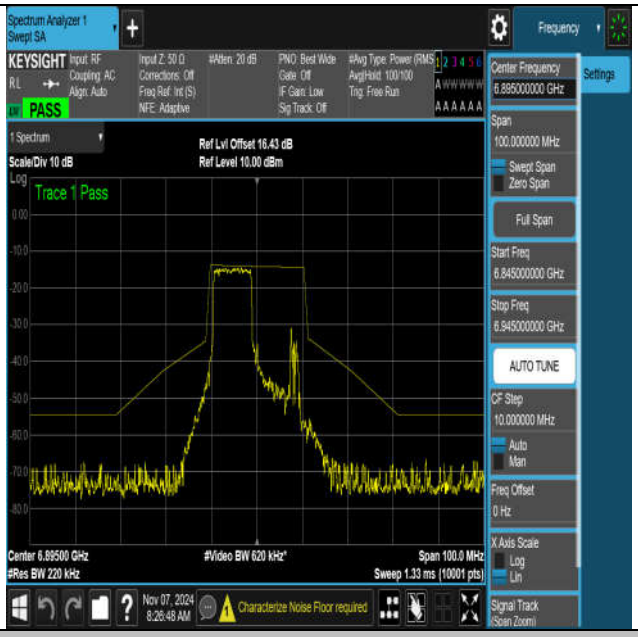
NTNV-11AX20MIMO-Ant8-6895-52Tone-RU37-PASS



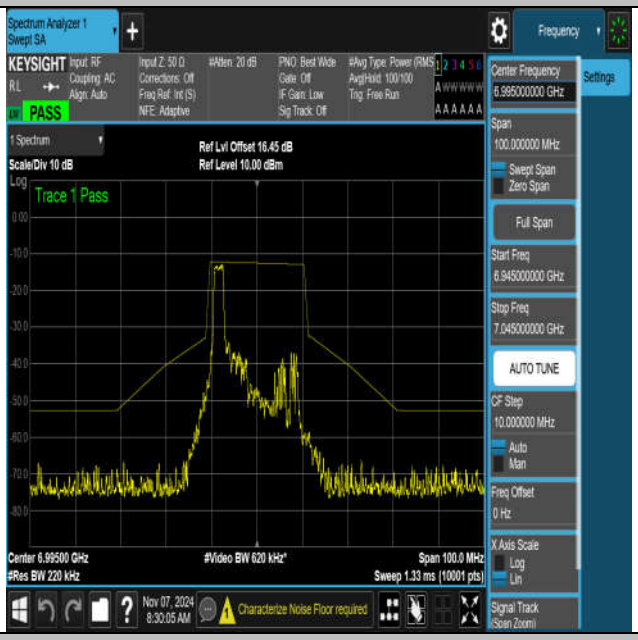
NTNV-11AX20MIMO-Ant9-6895-52Tone-RU37-PASS



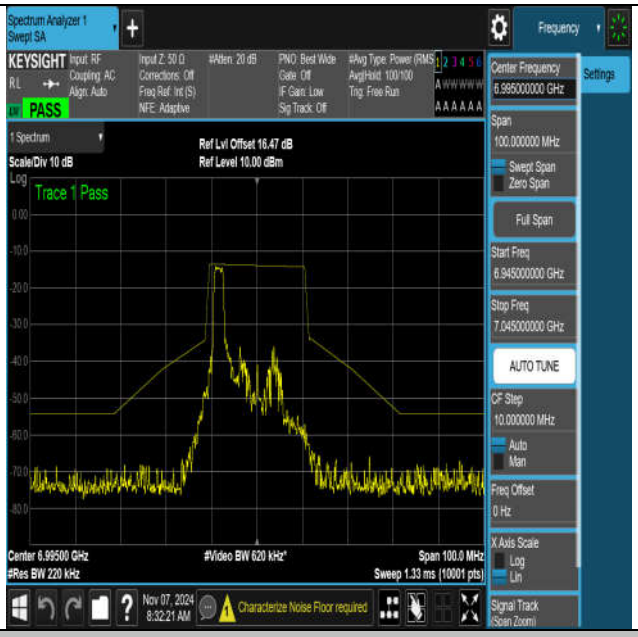
NTNV-11AX20MIMO-Ant8-6895-106Tone-RU53-PASS



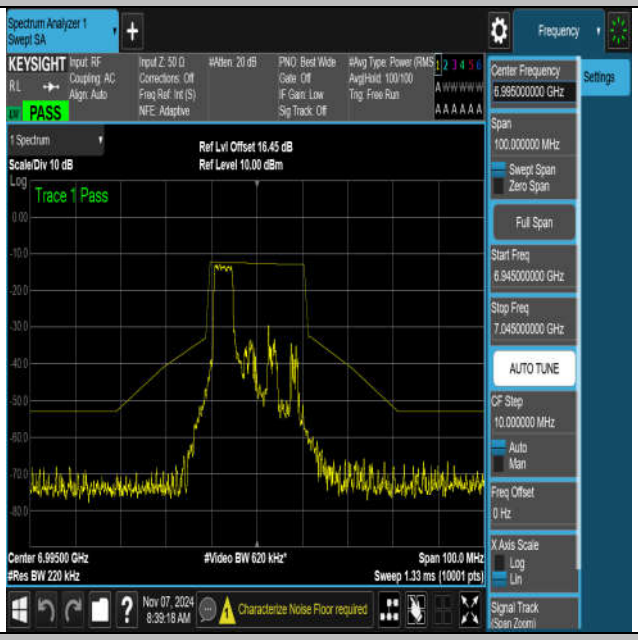
NTNV-11AX20MIMO-Ant9-6895-106Tone-RU53-PASS



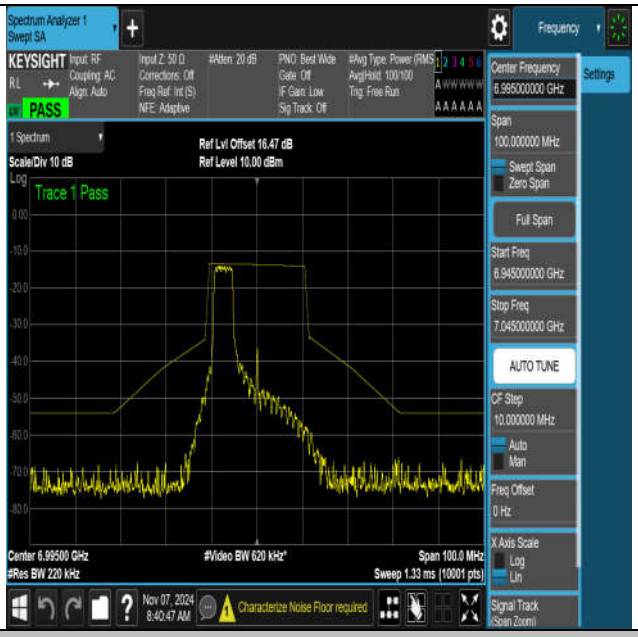
NTNV-11AX20MIMO-Ant8-6995-26Tone-RU0-PASS



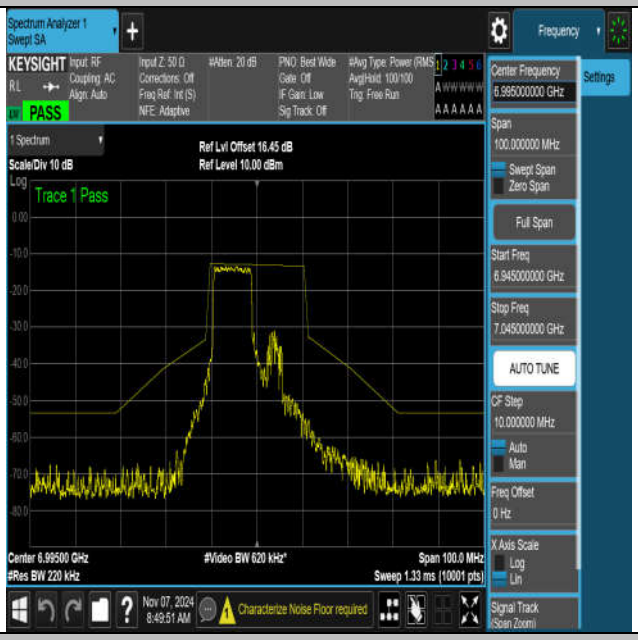
NTNV-11AX20MIMO-Ant9-6995-26Tone-RU0-PASS



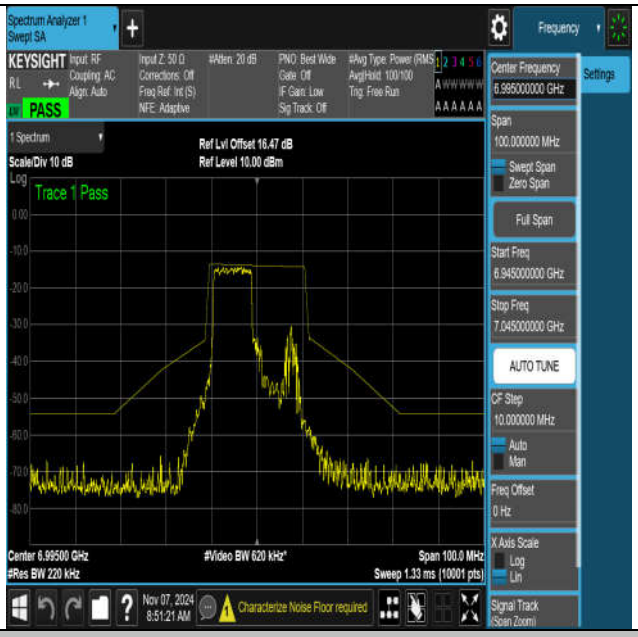
NTNV-11AX20MIMO-Ant8-6995-52Tone-RU37-PASS



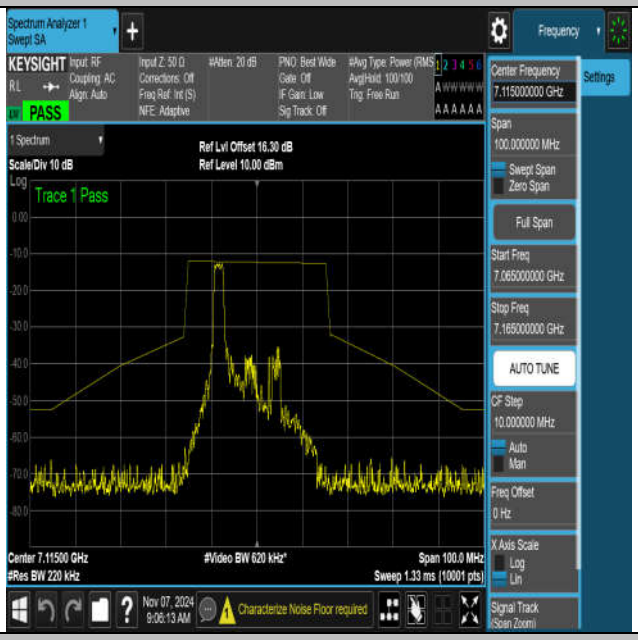
NTNV-11AX20MIMO-Ant9-6995-52Tone-RU37-PASS



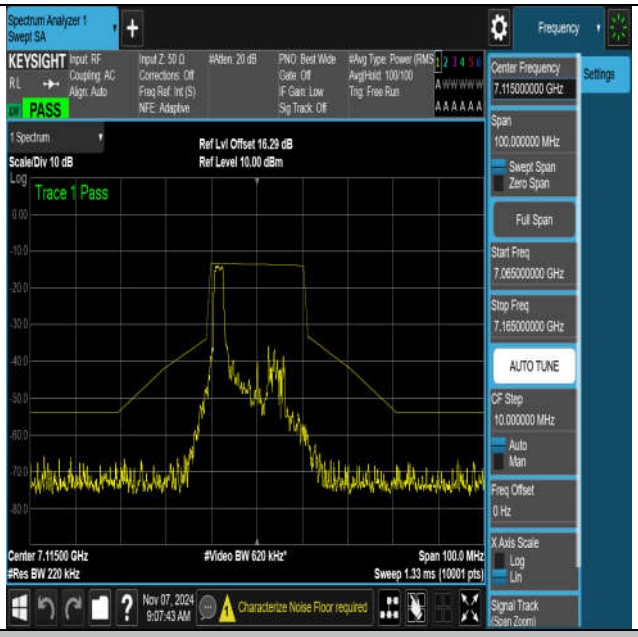
NTNV-11AX20MIMO-Ant8-6995-106Tone-RU53-PASS



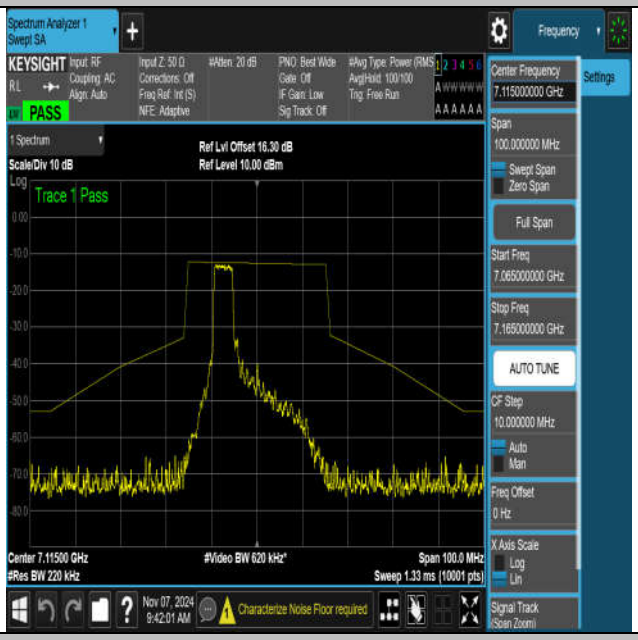
NTNV-11AX20MIMO-Ant9-6995-106Tone-RU53-PASS



NTNV-11AX20MIMO-Ant8-7115-26Tone-RU0-PASS



NTNV-11AX20MIMO-Ant9-7115-26Tone-RU0-PASS



NTNV-11AX20MIMO-Ant8-7115-52Tone-RU37-PASS

A.8. Band Edges Compliance

Measurement of method: See KDB 789033 D02 Section G and KDB 987594 D02 Section G.

Measurement Limit:

Standard	Limit (dBμV/m)	
FCC 47 CFR Part 15.407 RSS-248 4.6	outside of the 5.925-7.125 GHz band	-27dBm/MHz

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

Measurement Result:

Mode	Frequency (MHz)	Test Results	Conclusion
802.11a	5955MHz	Fig.1	**P**
	7115MHz	Fig.2	**P**
802.11ax-HE20	5955MHz	Fig.3	**P**
	7115MHz	Fig.4	**P**
802.11ax-HE40	5965MHz	Fig.5	**P**
	7085MHz	Fig.6	**P**
802.11ax-HE80	5985MHz	Fig.7	**P**
	7025MHz	Fig.8	**P**
802.11ax-HE160	6025MHz	Fig.9	**P**
	6985MHz	Fig.10	**P**

Note: The measurement results include the horizontal polarization and vertical polarization measurements. For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

See below for test graphs.
Conclusion: PASS

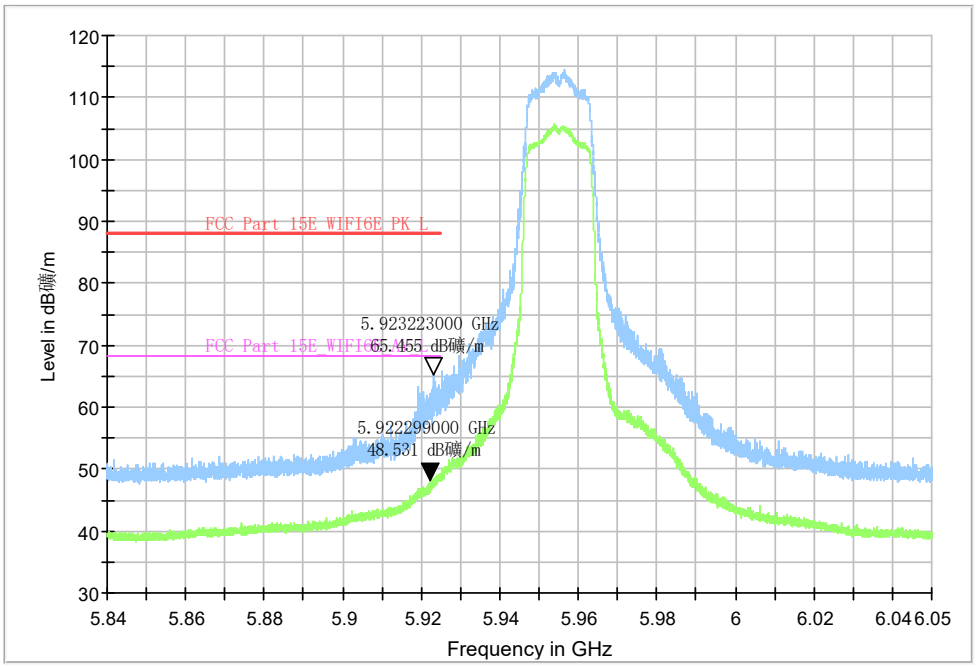


Fig. 1 Band Edges (802.11a, CH1 5955MHz)

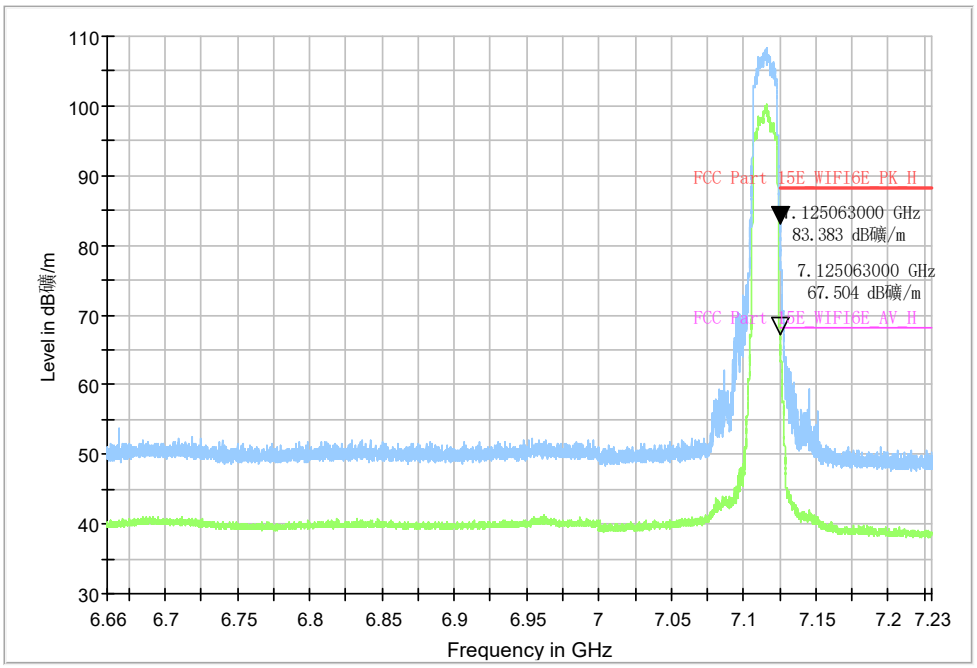


Fig. 2 Band Edges (802.11a, CH233 7115MHz)

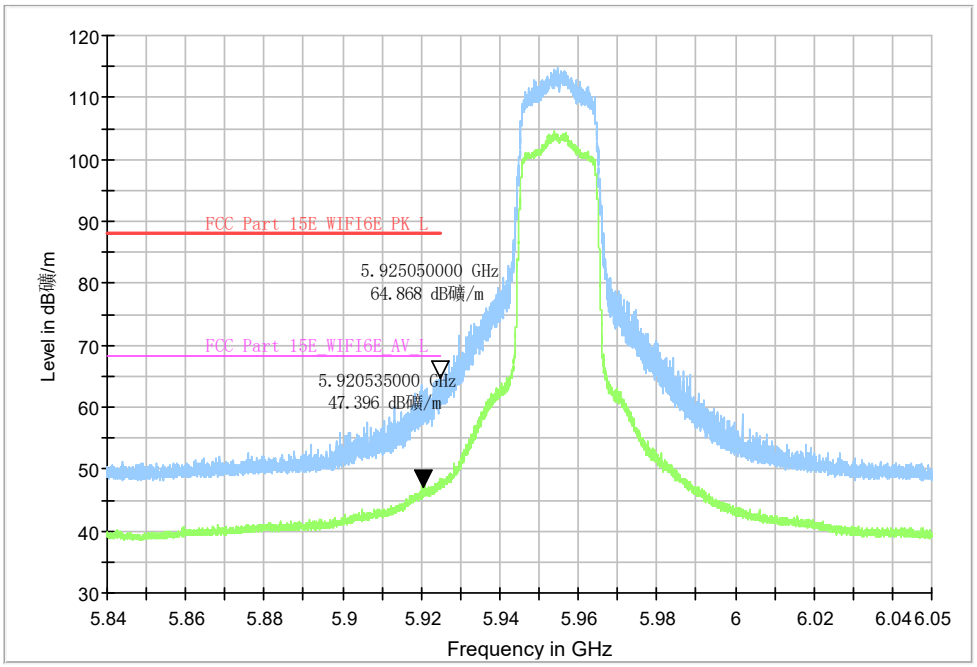


Fig. 3 Band Edges (802.11ax-HE20, CH1 5955MHz)

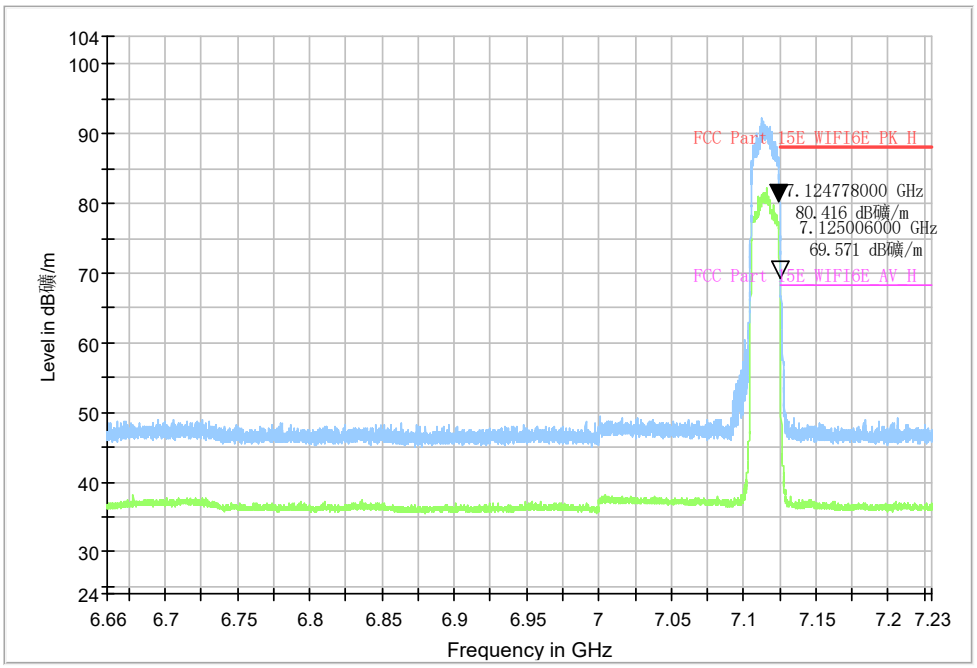


Fig. 4 Band Edges (802.11ax-HE20, CH233 7115MHz)

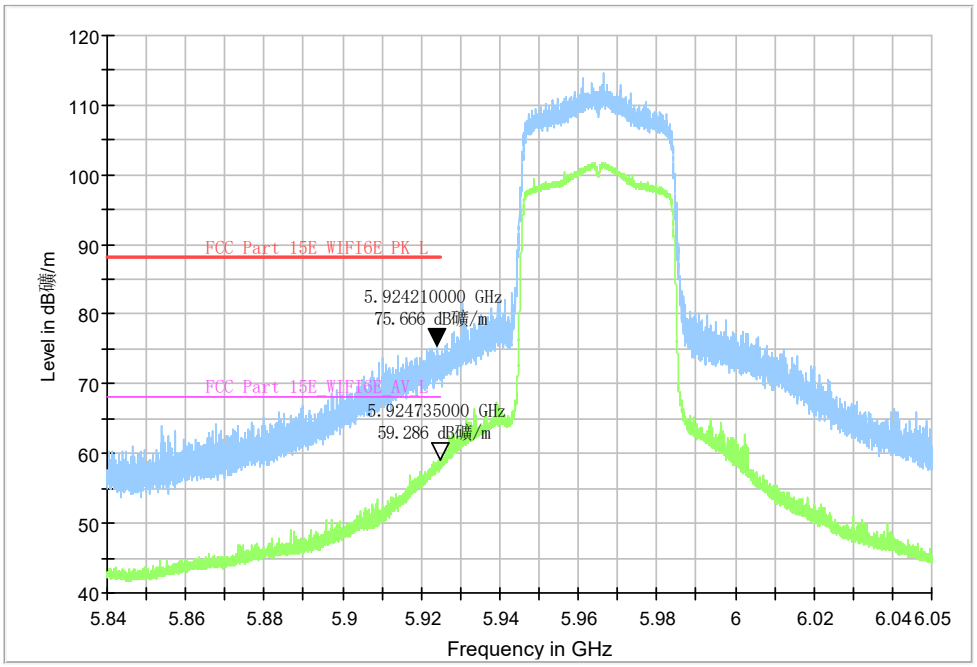


Fig. 5 Band Edges (802.11ax-HE40, CH3 5965MHz)

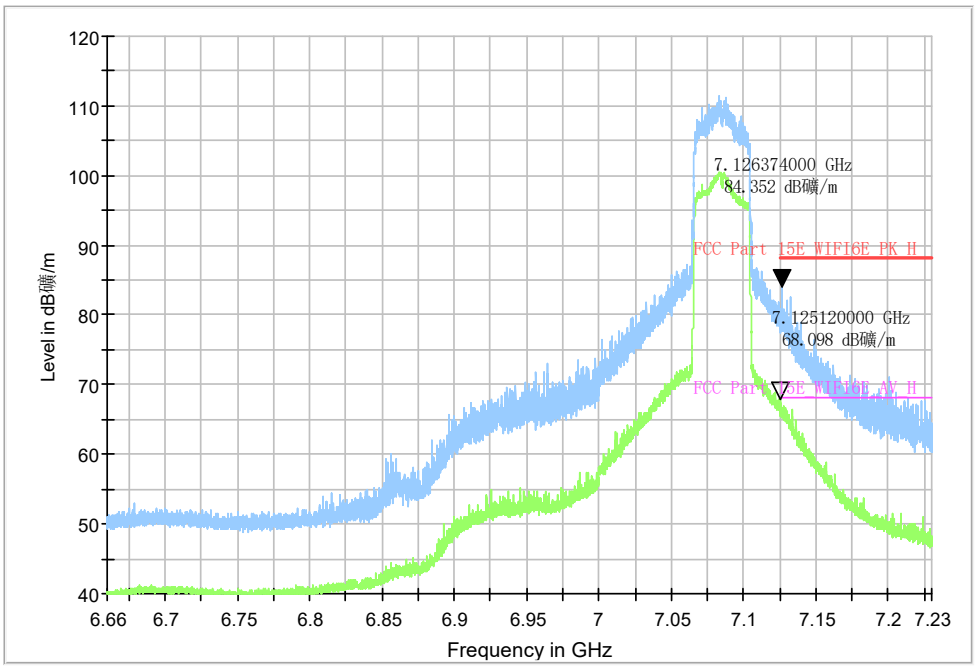


Fig. 6 Band Edges (802.11ax-HE40, CH227 7085MHz)

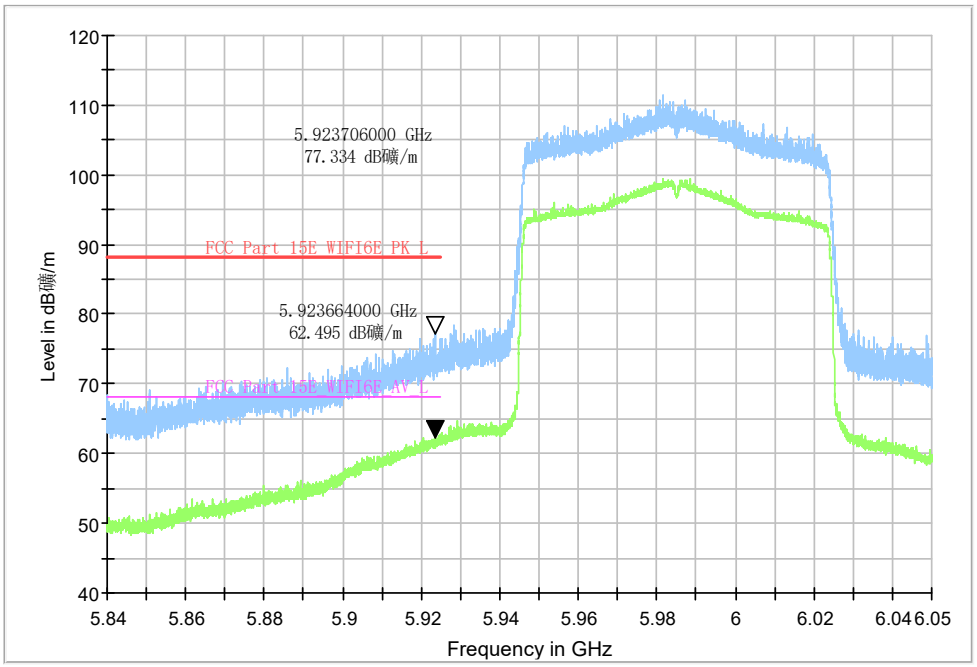


Fig. 7 Band Edges (802.11ax-HE80, CH7 5985MHz)

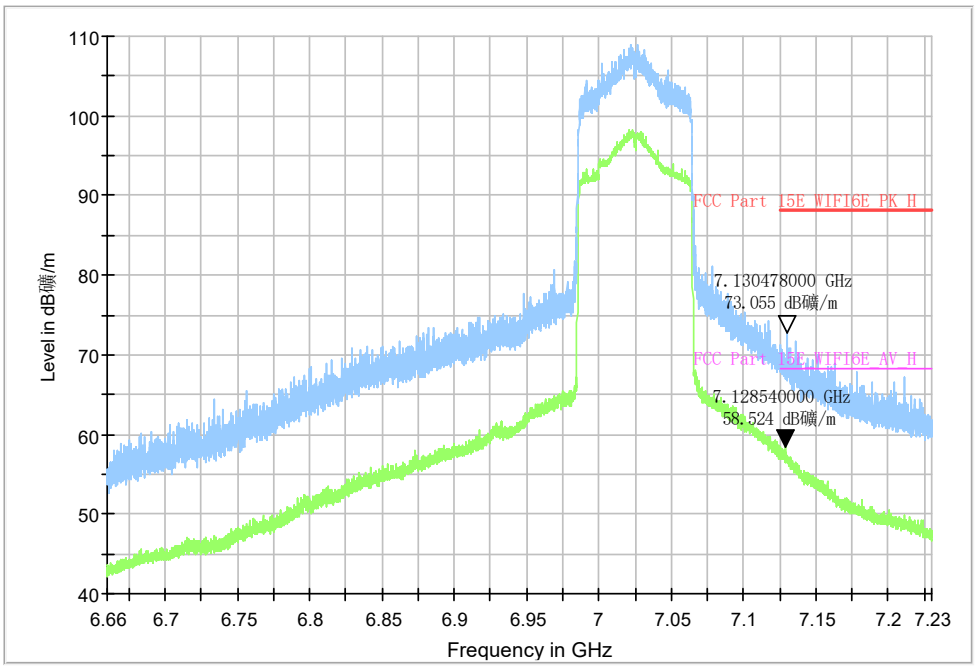


Fig. 8 Band Edges (802.11ax-HE80, CH215 7025MHz)

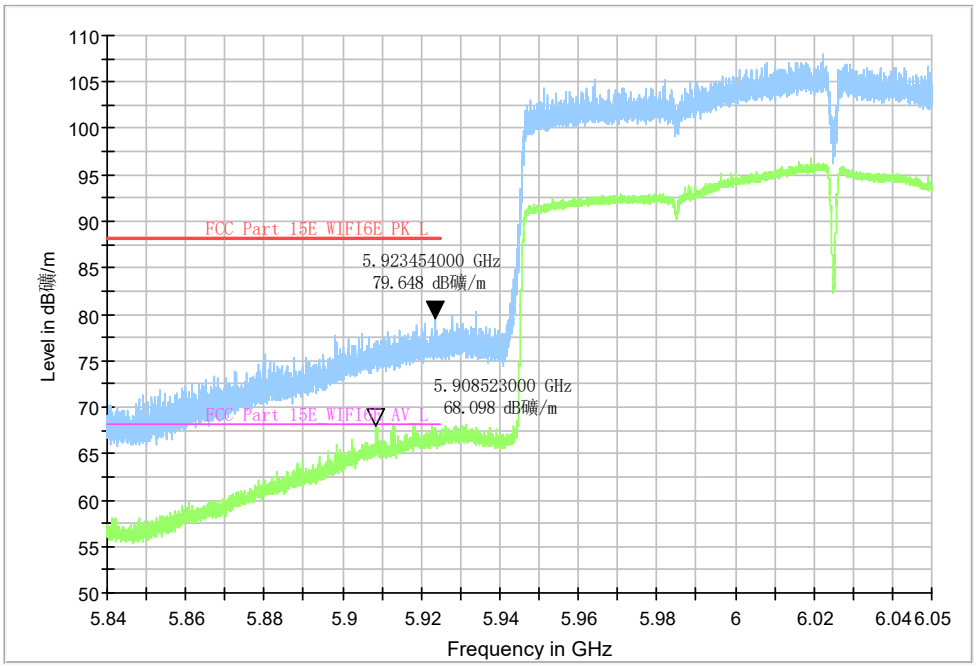


Fig. 9 Band Edges (802.11ax-HE160, CH15 6025MHz)

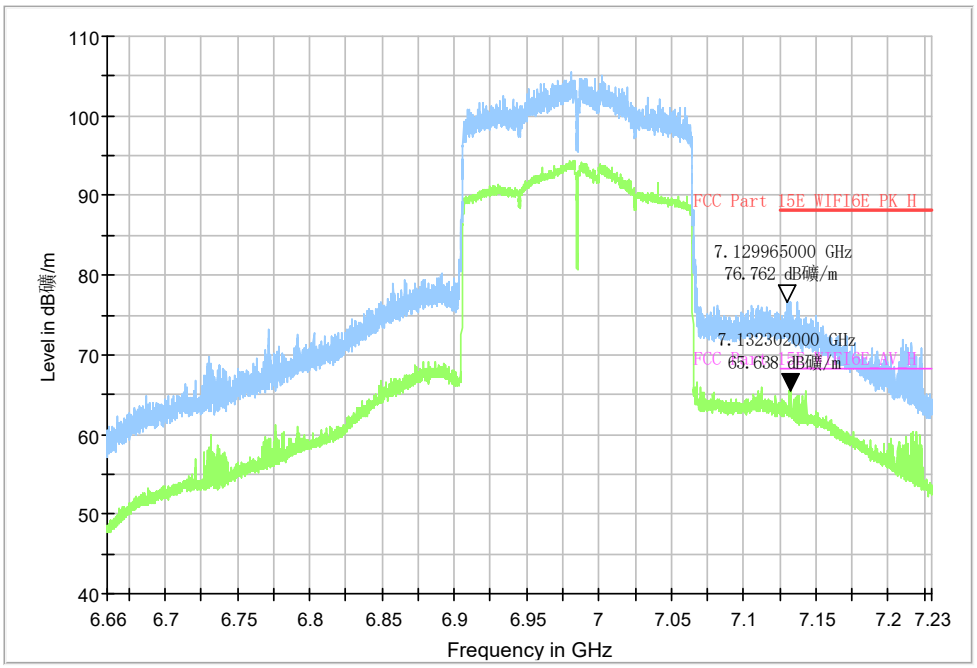


Fig. 10 Band Edges (802.11ax-HE160, CH207 6985MHz)

A.9. Unwanted Spurious Emission

Measurement of method: See KDB 789033 D02 Section G and KDB 987594 D02 Section G.

Measurement Limit:

Standard	Limit (dBμV/m)	
FCC 47 CFR Part 15.209	Peak	74
	Average	54

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength (dBμV/m)	Measurement distance (m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Note: For frequency range below 960MHz, the limit in 15.209 is defined in 10m test distance. The limit used above is calculated from 10m to 3m.

The measurement results include the horizontal polarization and vertical polarization measurements. For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

Measurement Result:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	Ch 1	1 GHz ~18 GHz	Fig.11	**P**
	Ch 45	1 GHz ~18 GHz	Fig.12	**P**
	Ch 93	1 GHz ~18 GHz	Fig.13	**P**
	Ch 97	1 GHz ~18 GHz	Fig.14	**P**
	Ch 105	1 GHz ~18 GHz	Fig.15	**P**
	Ch 113	1 GHz ~18 GHz	Fig.16	**P**
	Ch 117	1 GHz ~18 GHz	Fig.17	**P**
	Ch 153	1 GHz ~18 GHz	Fig.18	**P**
	Ch 185	1 GHz ~18 GHz	Fig.19	**P**
	Ch 209	1 GHz ~18 GHz	Fig.20	**P**
	Ch 233	1 GHz ~18 GHz	Fig.21	**P**
802.11ax -HE20	Ch 1	1 GHz ~18 GHz	Fig.22	**P**
	Ch 45	1 GHz ~18 GHz	Fig.23	**P**
	Ch 93	1 GHz ~18 GHz	Fig.24	**P**
	Ch 97	1 GHz ~18 GHz	Fig.25	**P**
	Ch 105	1 GHz ~18 GHz	Fig.26	**P**

	Ch 113	1 GHz ~18 GHz	Fig.27	**P**
	Ch 117	1 GHz ~18 GHz	Fig.28	**P**
	Ch 153	1 GHz ~18 GHz	Fig.29	**P**
	Ch 185	1 GHz ~18 GHz	Fig.30	**P**
	Ch 209	1 GHz ~18 GHz	Fig.31	**P**
	Ch 233	1 GHz ~18 GHz	Fig.32	**P**
802.11ax -HE40	Ch 3	1 GHz ~18 GHz	Fig.33	**P**
	Ch 43	1 GHz ~18 GHz	Fig.34	**P**
	Ch 91	1 GHz ~18 GHz	Fig.35	**P**
	Ch 99	1 GHz ~18 GHz	Fig.36	**P**
	Ch 107	1 GHz ~18 GHz	Fig.37	**P**
	Ch 115	1 GHz ~18 GHz	Fig.38	**P**
	Ch 155	1 GHz ~18 GHz	Fig.39	**P**
	Ch 187	1 GHz ~18 GHz	Fig.40	**P**
	Ch 211	1 GHz ~18 GHz	Fig.41	**P**
	Ch 227	1 GHz ~18 GHz	Fig.42	**P**
802.11ax -HE80	Ch 7	1 GHz ~18 GHz	Fig.43	**P**
	Ch 55	1 GHz ~18 GHz	Fig.44	**P**
	Ch 103	1 GHz ~18 GHz	Fig.45	**P**
	Ch 119	1 GHz ~18 GHz	Fig.46	**P**
	Ch 151	1 GHz ~18 GHz	Fig.47	**P**
	Ch 183	1 GHz ~18 GHz	Fig.48	**P**
	Ch 215	1 GHz ~18 GHz	Fig.49	**P**
802.11ax -HE160	Ch 15	1 GHz ~18 GHz	Fig.50	**P**
	Ch 47	1 GHz ~18 GHz	Fig.51	**P**
	Ch 79	1 GHz ~18 GHz	Fig.52	**P**
	Ch 111	1 GHz ~18 GHz	Fig.53	**P**
	Ch 143	1 GHz ~18 GHz	Fig.54	**P**
	Ch 175	1 GHz ~18 GHz	Fig.55	**P**
	Ch 207	1 GHz ~18 GHz	Fig.56	**P**
All channels		30 MHz ~1 GHz	Fig.57	**P**
		18 GHz ~26.5 GHz	Fig.58	**P**
		26.5GHz~40GHz	Fig.59	**P**

Note:

The measurement results include the horizontal polarization and vertical polarization measurements. For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss. P_{Mea} is the field strength recorded from the instrument. The measurement results are obtained as described below:

Result = P_{Mea} + A_{Rpl} = P_{Mea} + Cable Loss + Antenna Factor

See below for test graphs.

Conclusion: PASS

Worst Case Result:

802.11ax-HE20 CH1

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
8697.000000	46.18	88.20	42.02	H	7.5
10020.500000	45.91	88.20	42.29	H	9.1
12804.000000	49.79	88.20	38.41	H	12.8
13935.500000	50.09	88.20	38.11	H	13.0
14956.500000	51.52	88.20	36.68	H	14.8
16756.000000	55.15	88.20	33.05	V	18.7

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
8697.000000	34.16	68.20	34.04	H	7.5
10020.500000	34.60	68.20	33.60	H	9.1
12804.000000	37.49	68.20	30.71	H	12.8
13935.500000	37.87	68.20	30.33	H	13.0
14956.500000	39.03	68.20	29.17	H	14.8
16756.000000	42.74	68.20	25.46	V	18.7

802.11ax-HE40 CH3

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
8795.500000	45.32	88.20	42.88	V	7.4
9951.000000	46.88	88.20	41.32	H	8.9
12928.000000	49.37	88.20	38.83	H	12.8
13858.500000	50.09	88.20	38.11	V	13.1
14906.500000	50.65	88.20	37.55	H	14.9
16746.500000	54.91	88.20	33.29	H	18.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
8795.500000	33.82	68.20	34.38	V	7.4
9951.000000	34.33	68.20	33.87	H	8.9
12928.000000	37.36	68.20	30.84	H	12.8
13858.500000	36.87	68.20	31.33	V	13.1
14906.500000	38.73	68.20	29.47	H	14.9
16746.500000	42.64	68.20	25.56	H	18.8

802.11ax-HE80 CH7

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
9888.000000	46.35	88.20	41.85	V	8.9
12870.500000	49.03	88.20	39.17	H	12.6
13967.000000	50.99	88.20	37.21	H	13.0
14943.500000	50.85	88.20	37.35	H	15.0
16583.500000	53.99	88.20	34.21	V	18.7
17475.500000	54.54	88.20	33.66	V	20.1

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
9888.000000	34.60	68.20	33.60	V	8.9
12870.500000	37.59	68.20	30.61	H	12.6
13967.000000	37.81	68.20	30.39	H	13.0
14943.500000	39.04	68.20	29.16	H	15.0
16583.500000	41.94	68.20	26.26	V	18.7
17475.500000	42.81	68.20	25.39	V	20.1

802.11ax-HE160 CH15

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
8742.500000	46.21	88.20	41.99	V	7.6
9996.500000	46.92	88.20	41.28	V	9.1
12787.000000	49.35	88.20	38.85	V	12.8
14188.000000	49.88	88.20	38.32	H	13.3
14963.500000	50.90	88.20	37.30	V	14.8
16795.000000	54.23	88.20	33.97	H	18.6

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
8742.500000	34.35	68.20	33.85	V	7.6
9996.500000	34.36	68.20	33.84	V	9.1
12787.000000	37.36	68.20	30.84	V	12.8
14188.000000	37.91	68.20	30.29	H	13.3
14963.500000	38.87	68.20	29.33	V	14.8
16795.000000	41.67	68.20	26.53	H	18.6

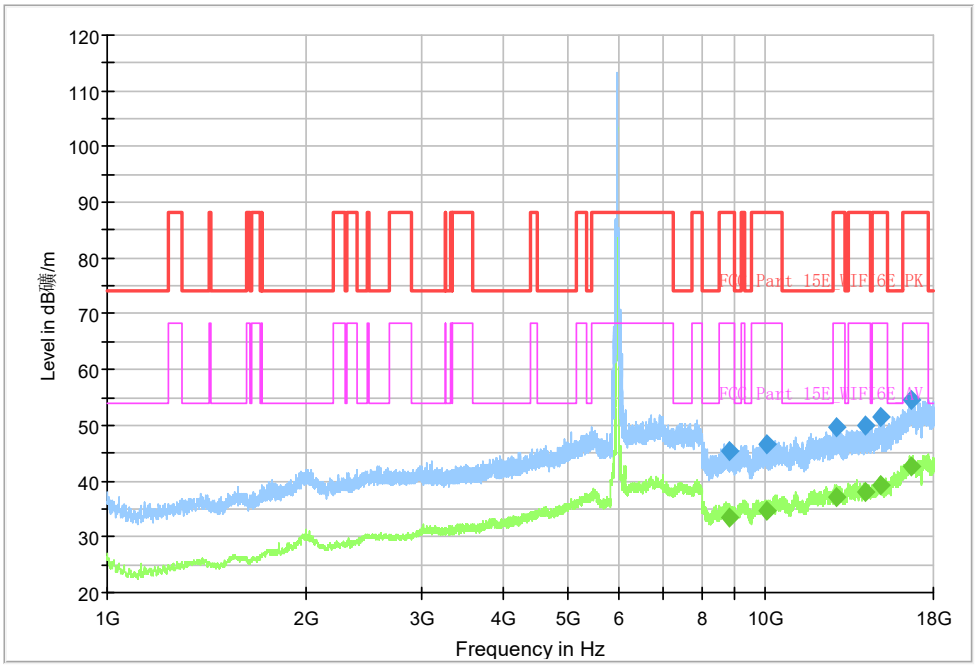


Fig. 11 Transmitter Spurious Emission (802.11a, CH1, 1GHz-18GHz)

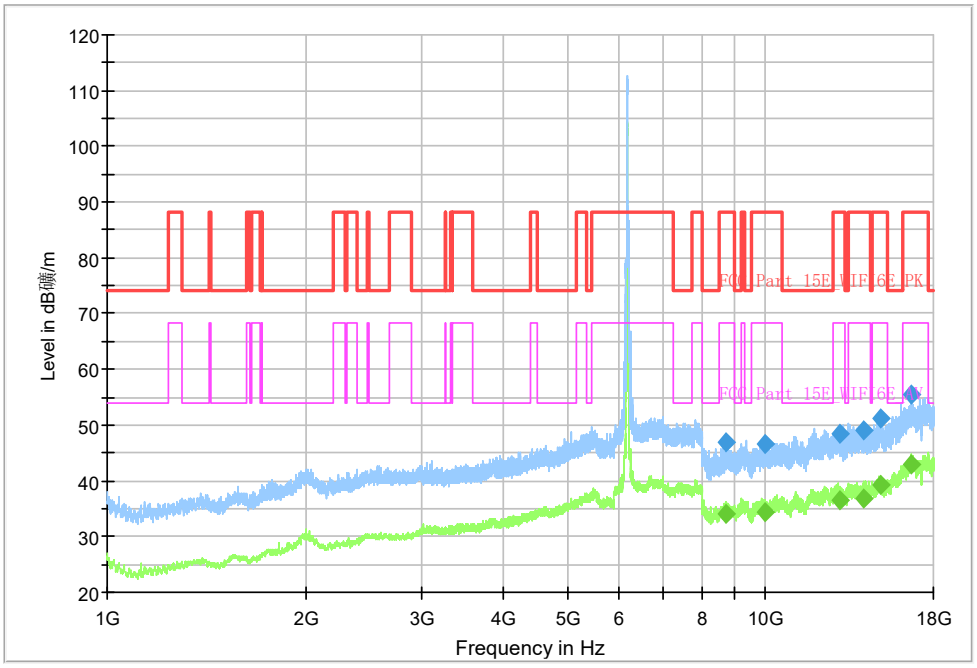


Fig. 12 Transmitter Spurious Emission (802.11a, CH45, 1GHz-18GHz)

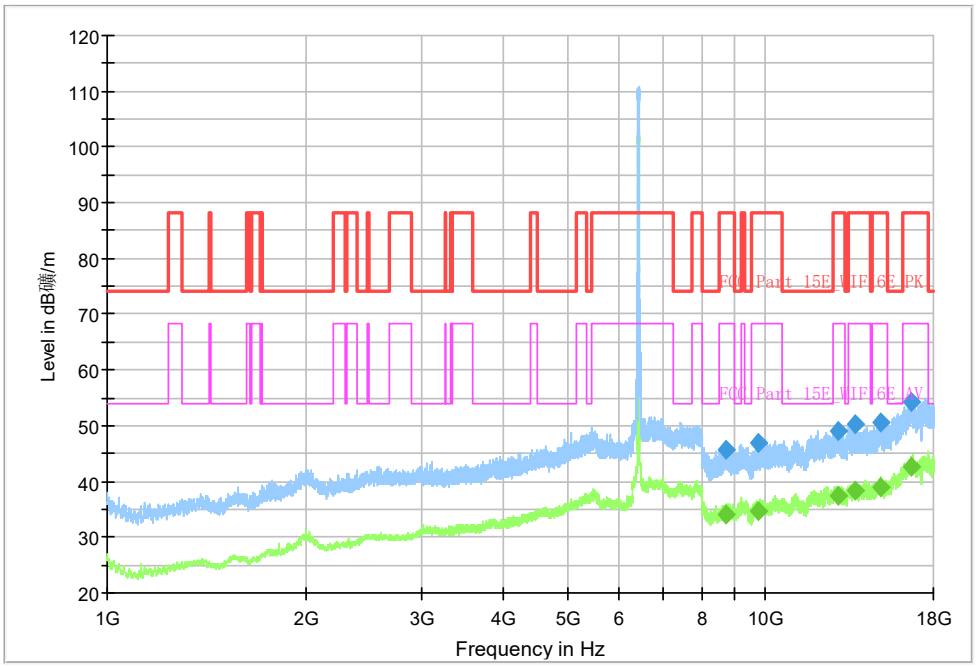


Fig. 13 Transmitter Spurious Emission (802.11a, CH93, 1GHz-18GHz)

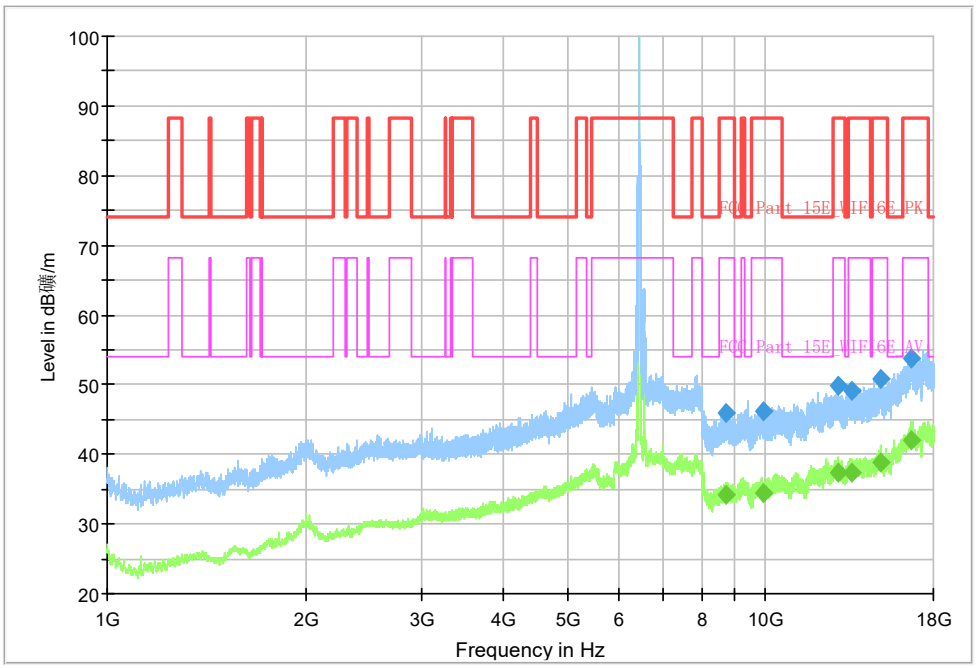


Fig. 14 Transmitter Spurious Emission (802.11a, CH97, 1GHz-18GHz)

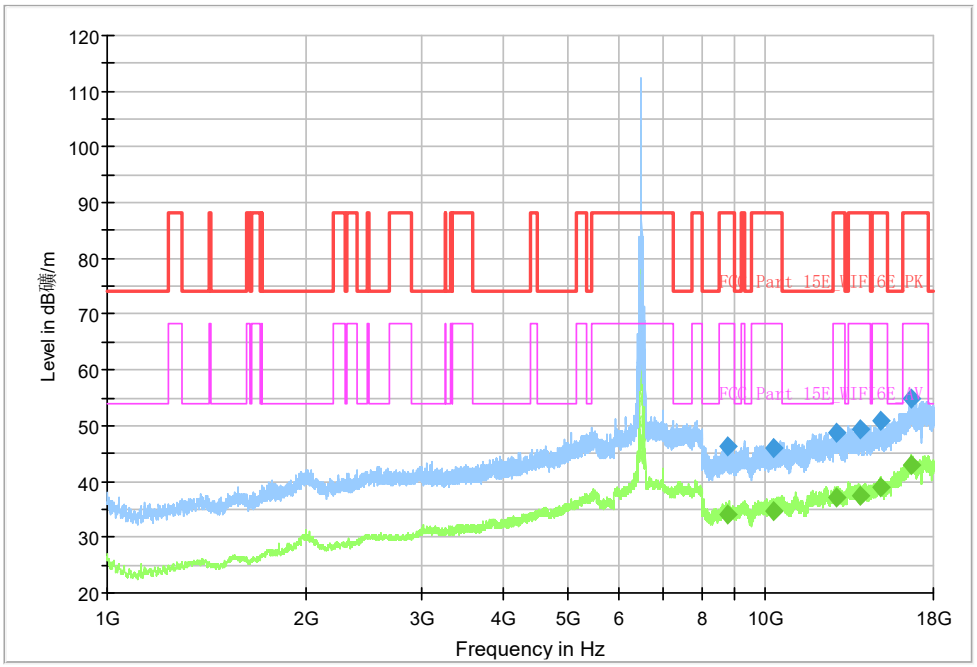


Fig. 15 Transmitter Spurious Emission (802.11a, CH105, 1GHz-18GHz)

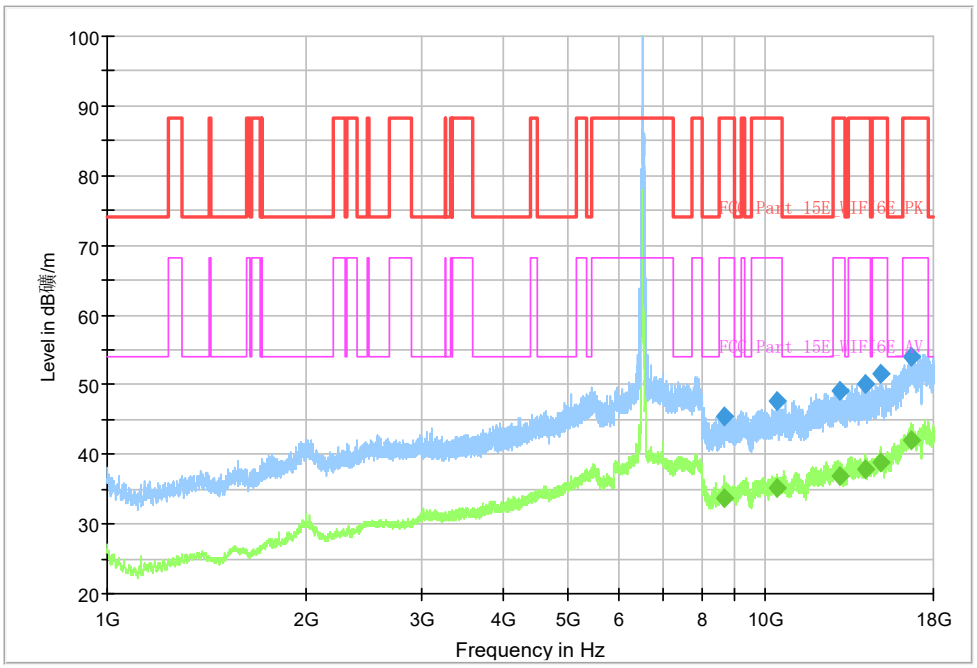


Fig. 16 Transmitter Spurious Emission (802.11a, CH113, 1GHz-18GHz)

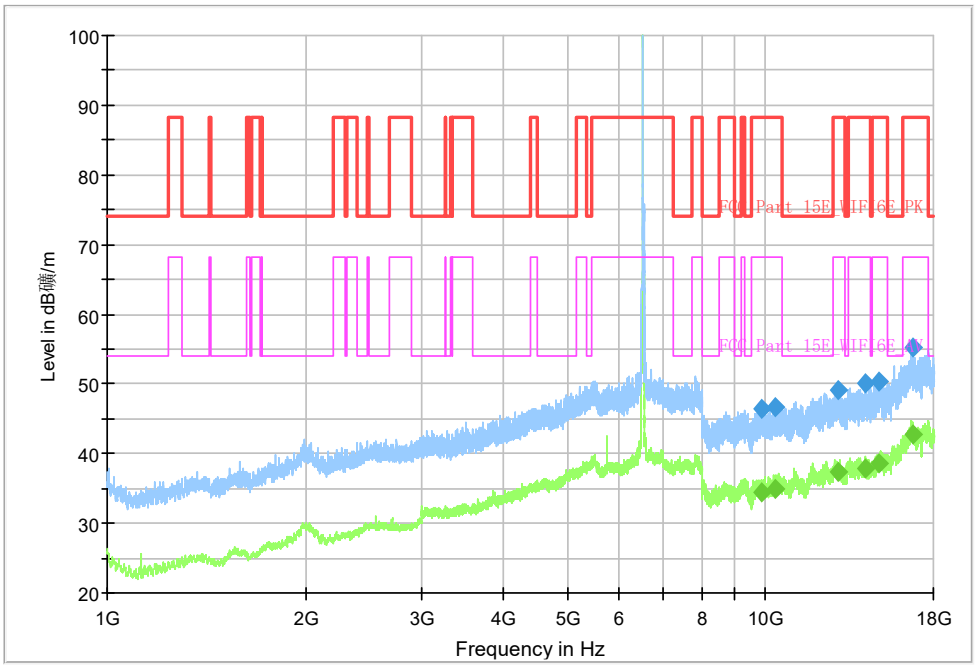


Fig. 17 Transmitter Spurious Emission (802.11a, CH117, 1GHz-18GHz)

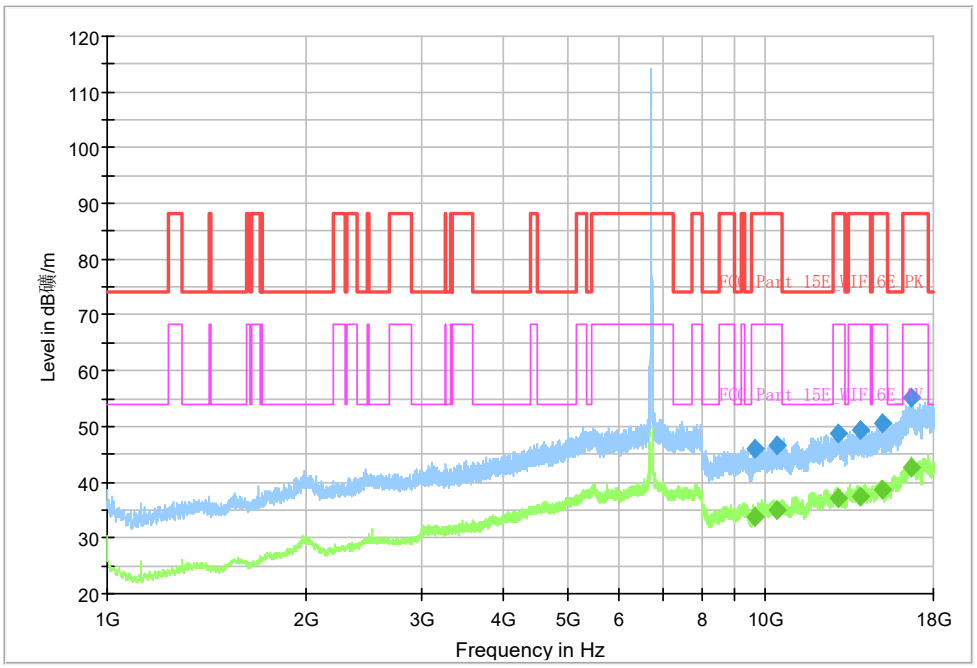


Fig. 18 Transmitter Spurious Emission (802.11a, CH153, 1GHz-18GHz)

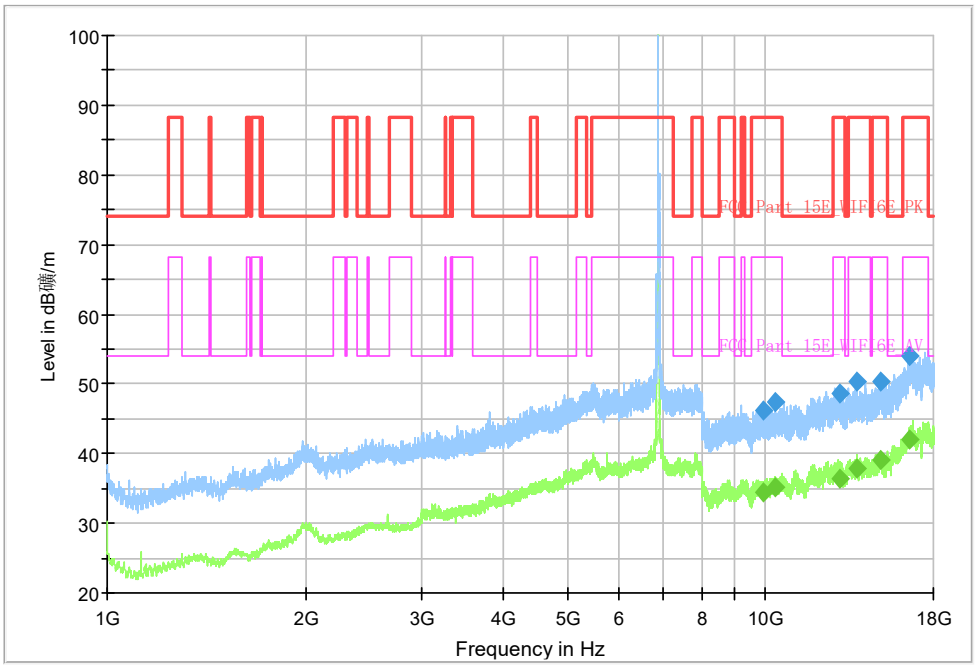


Fig. 19 Transmitter Spurious Emission (802.11a, CH185, 1GHz-18GHz)

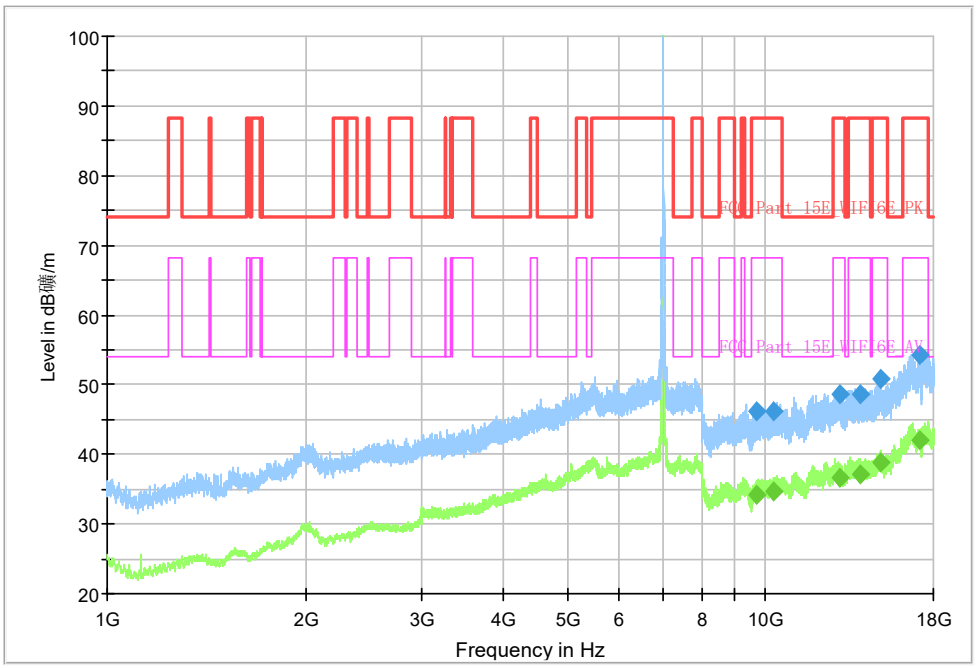


Fig. 20 Transmitter Spurious Emission (802.11a, CH209, 1GHz-18GHz)

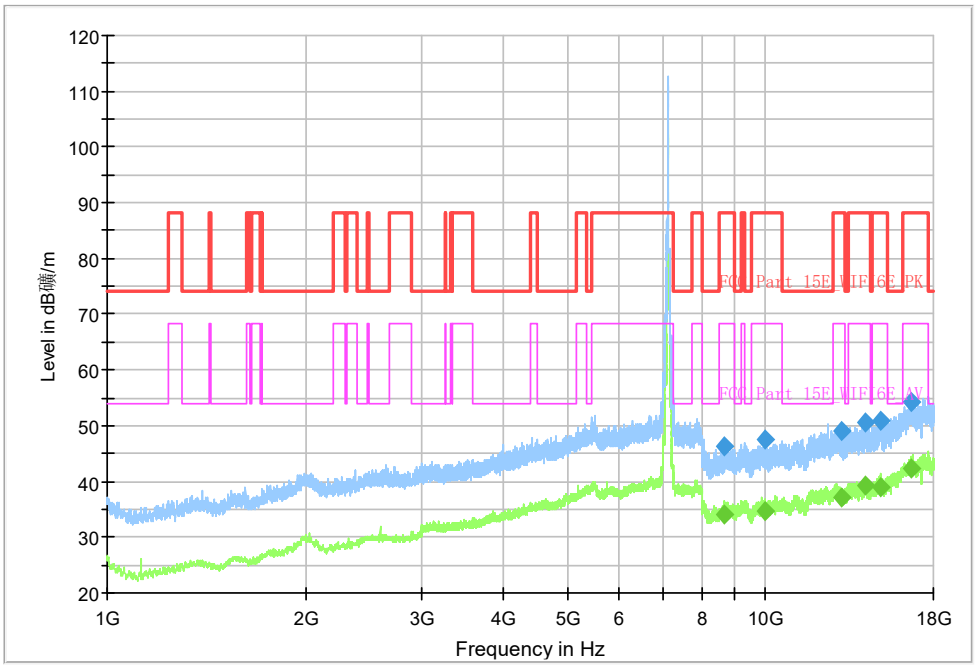


Fig. 21 Transmitter Spurious Emission (802.11a, CH233, 1GHz-18GHz)

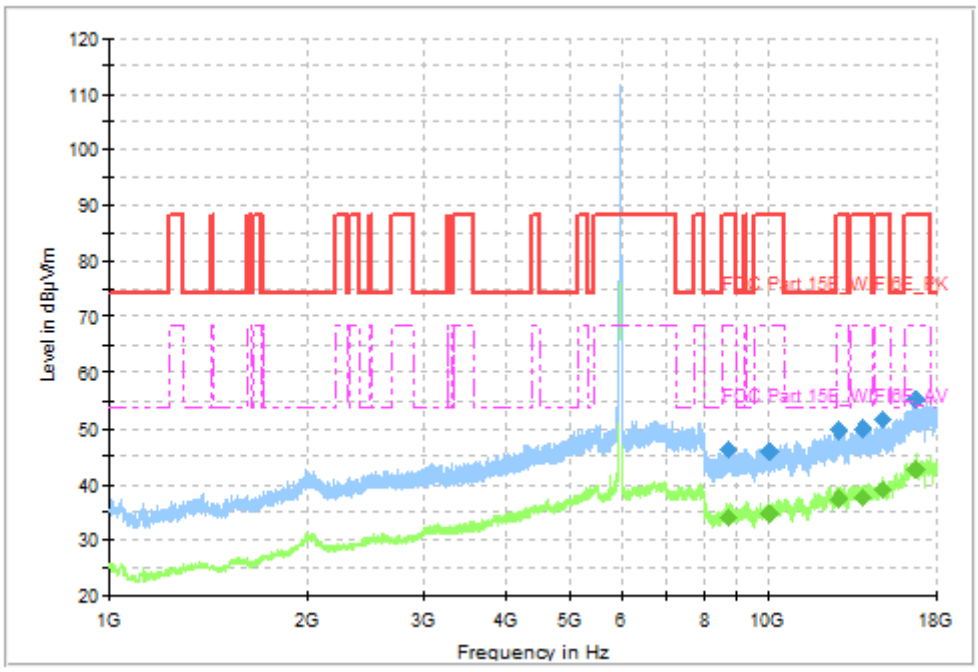


Fig. 22 Transmitter Spurious Emission (802.11ax-HE20, CH1, 1GHz-18GHz)

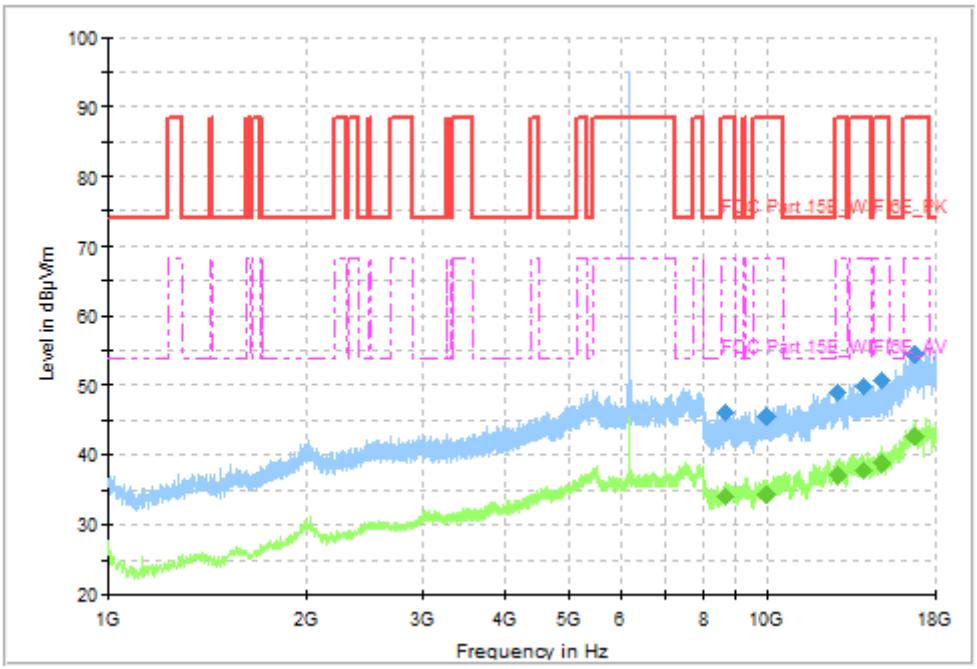


Fig. 23 Transmitter Spurious Emission (802.11ax-HE20, CH45, 1GHz-18GHz)

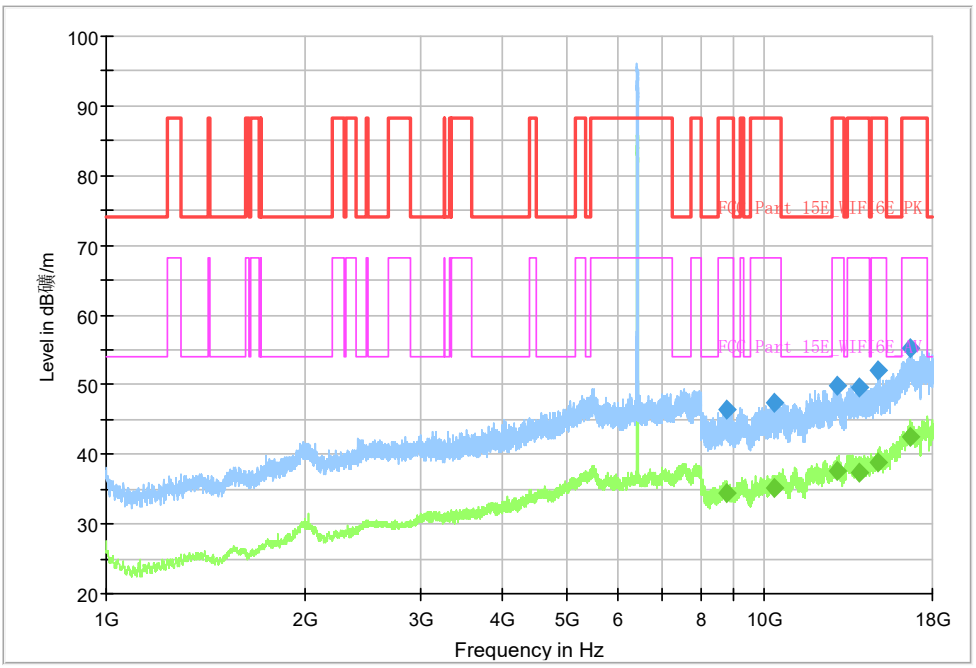


Fig. 24 Transmitter Spurious Emission (802.11ax-HE20, CH93, 1GHz-18GHz)

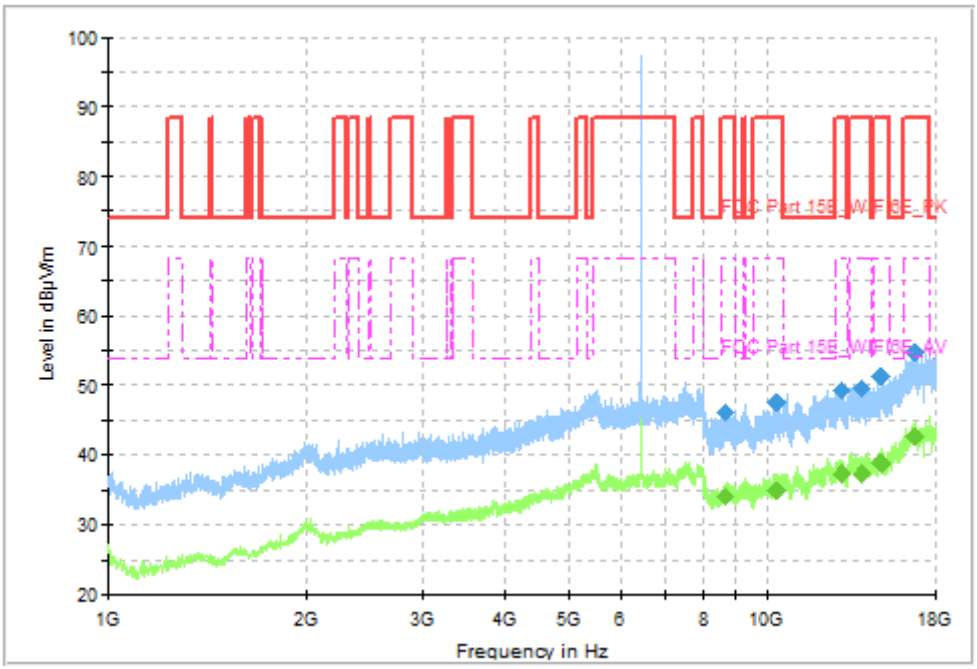


Fig. 25 Transmitter Spurious Emission (802.11ax-HE20, CH97, 1GHz-18GHz)

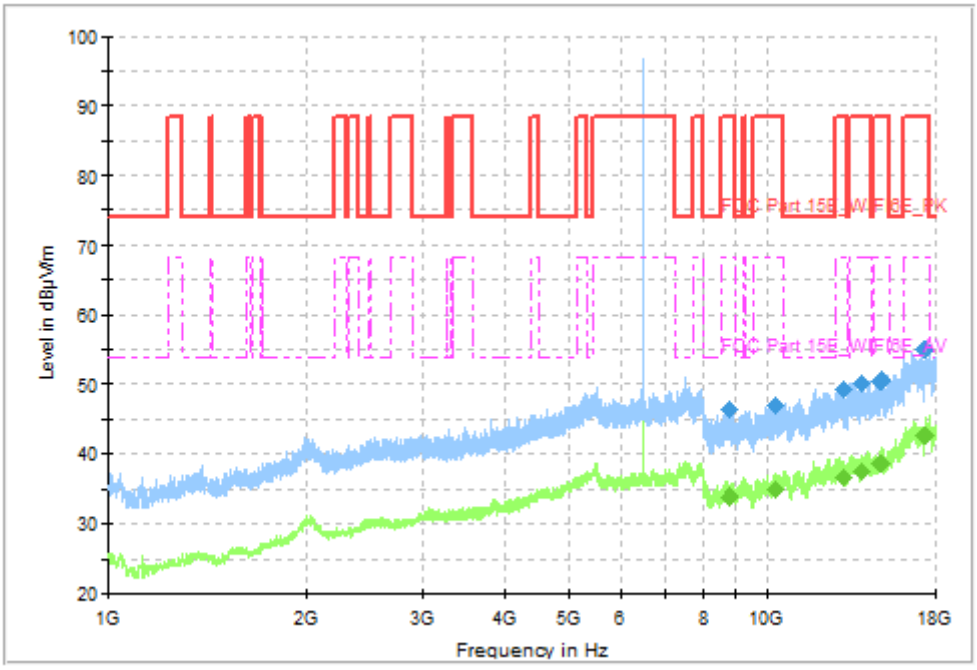


Fig. 26 Transmitter Spurious Emission (802.11ax-HE20, CH105, 1GHz-18GHz)

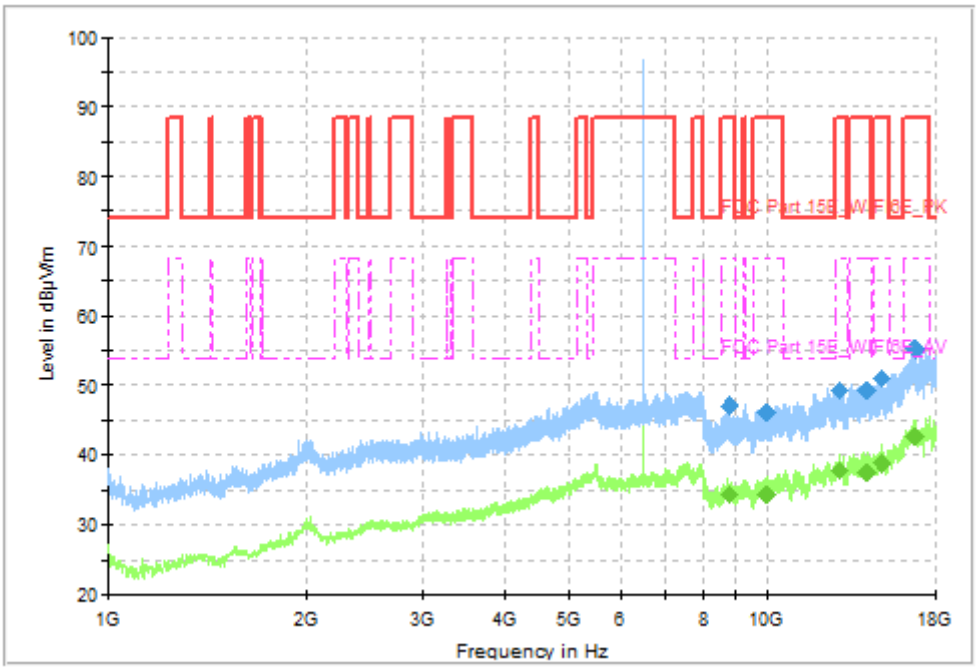


Fig. 27 Transmitter Spurious Emission (802.11ax-HE20, CH113, 1GHz-18GHz)

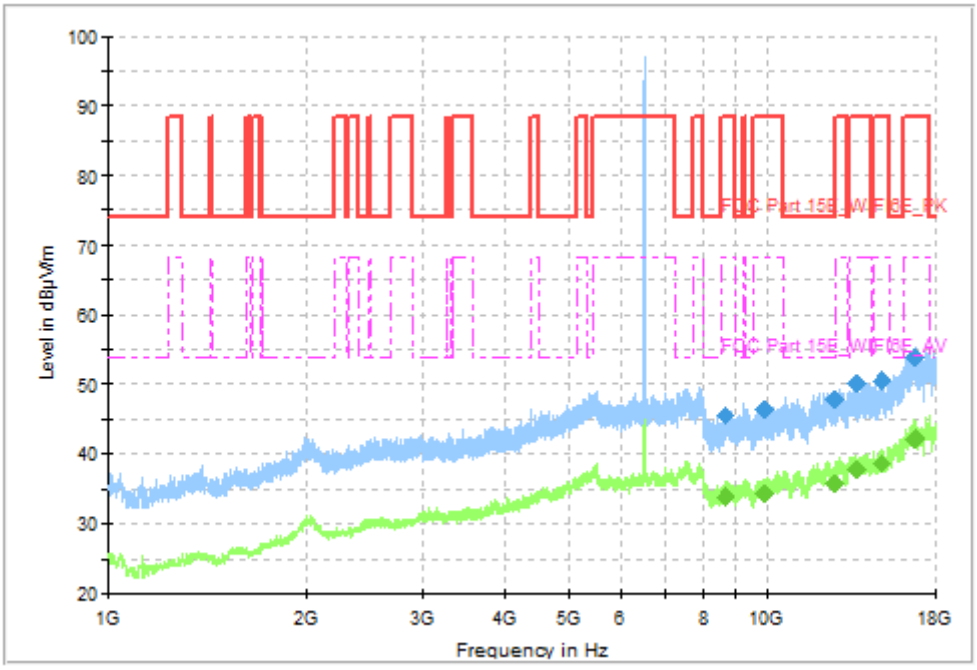


Fig. 28 Transmitter Spurious Emission (802.11ax-HE20, CH117, 1GHz-18GHz)

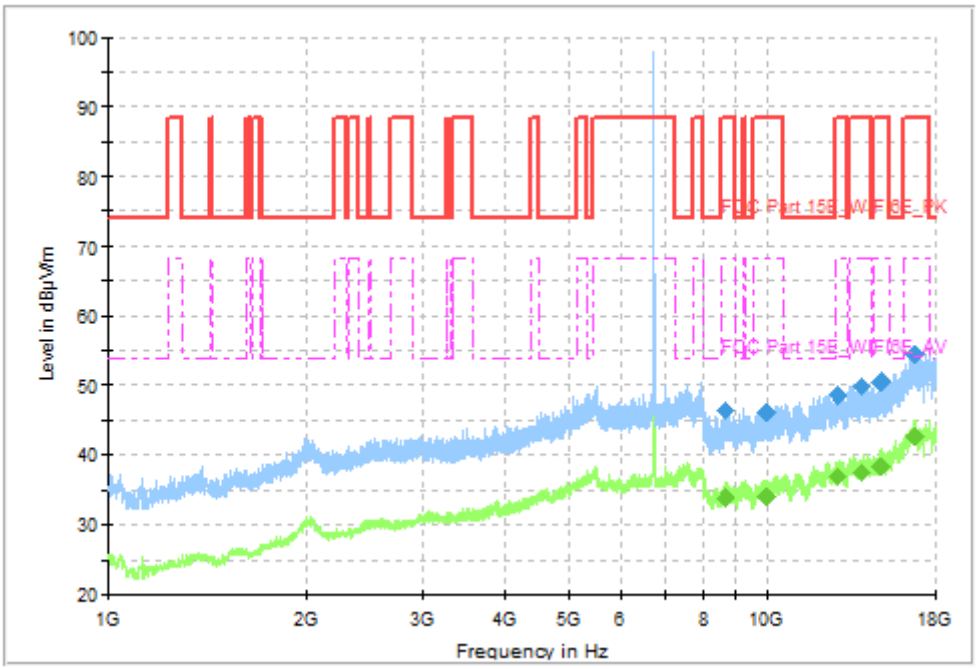


Fig. 29 Transmitter Spurious Emission (802.11ax-HE20, CH153, 1GHz-18GHz)

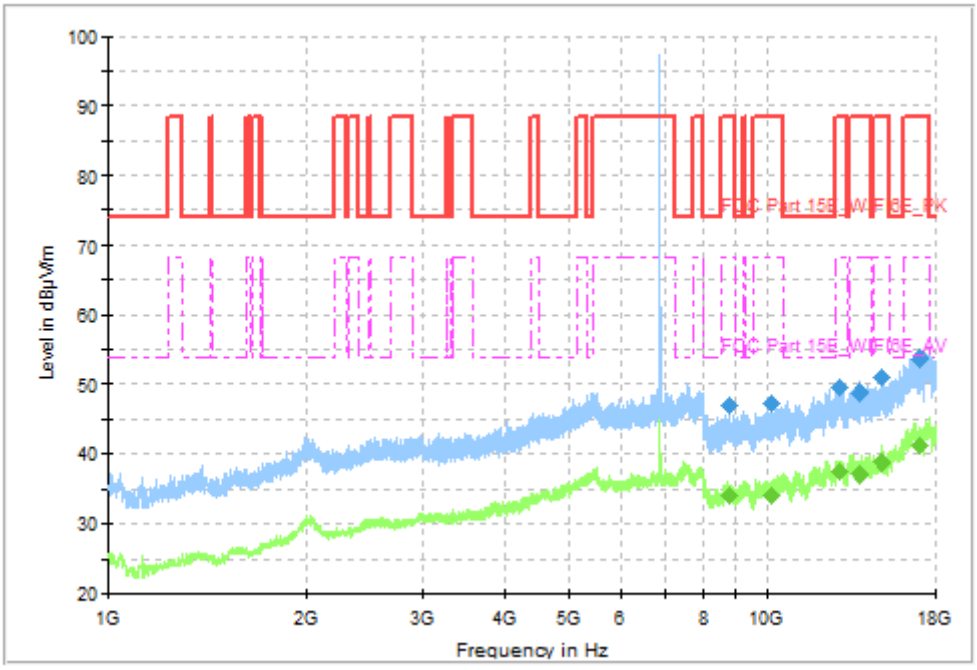


Fig. 30 Transmitter Spurious Emission (802.11ax-HE20, CH185, 1GHz-18GHz)

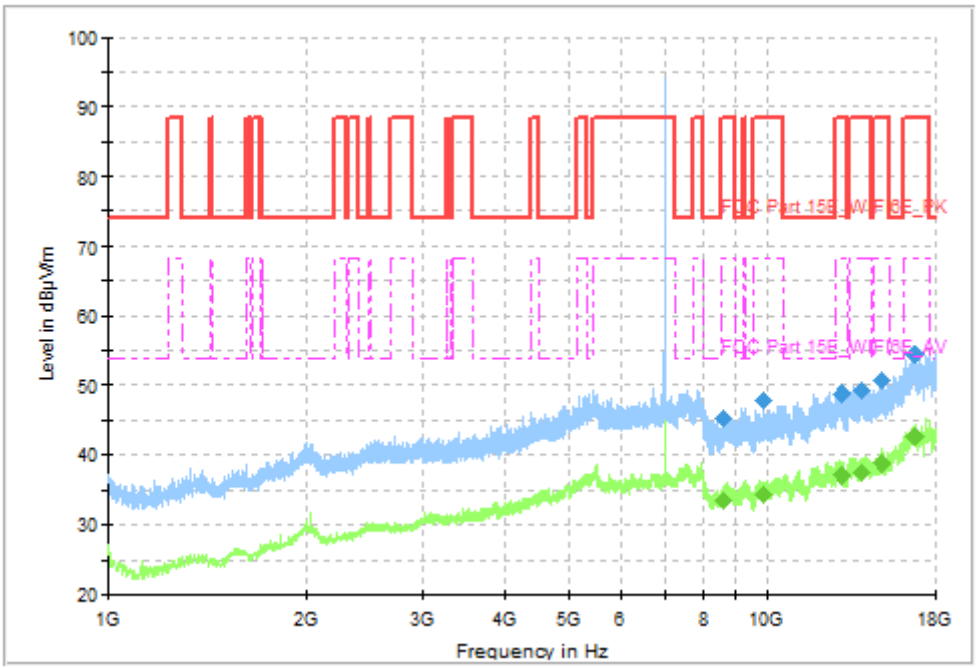


Fig. 31 Transmitter Spurious Emission (802.11ax-HE20, CH209, 1GHz-18GHz)

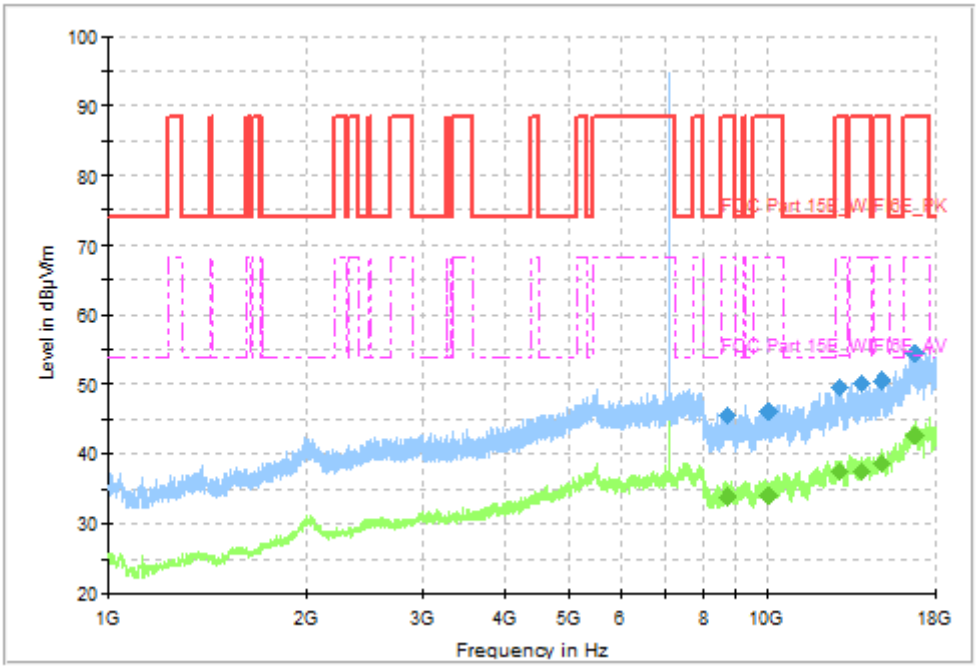


Fig. 32 Transmitter Spurious Emission (802.11ax-HE20, CH233, 1GHz-18GHz)

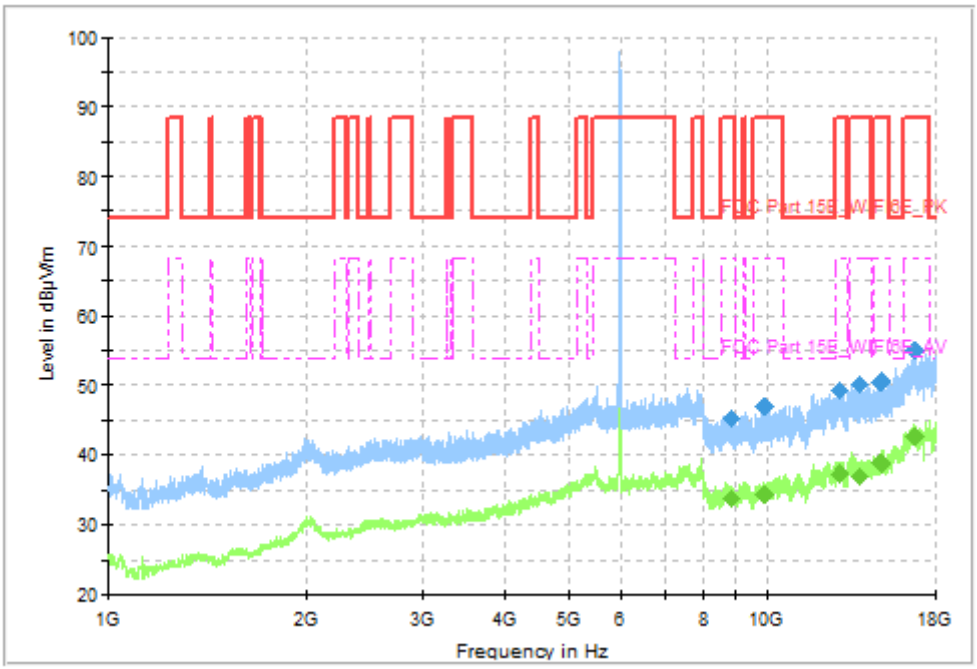


Fig. 33 Transmitter Spurious Emission (802.11ax-HE40, CH3, 1GHz-18GHz)

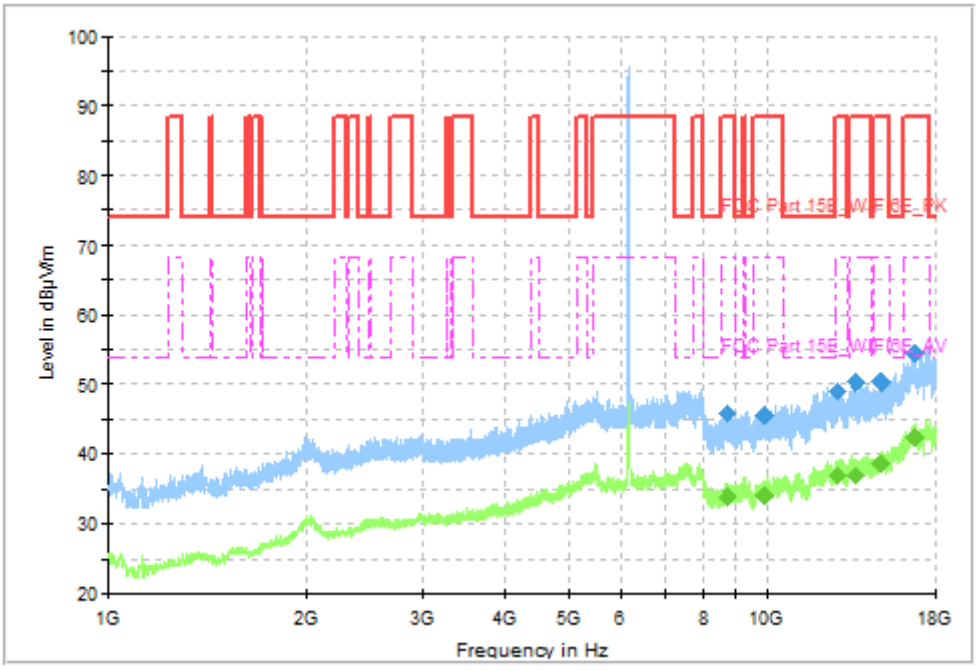


Fig. 34 Transmitter Spurious Emission (802.11ax-HE40, CH43, 1GHz-18GHz)

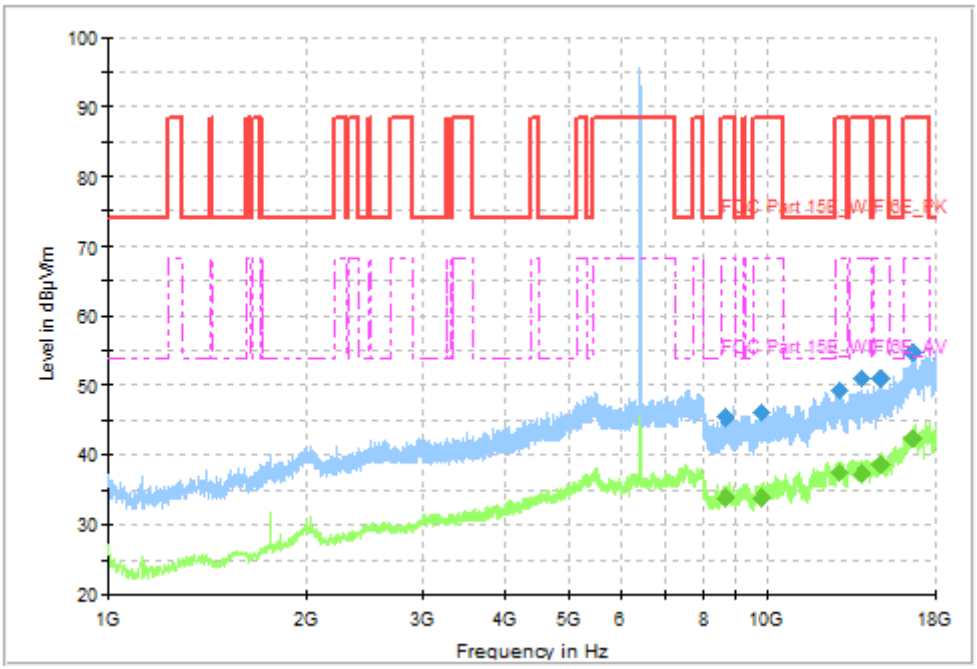


Fig. 35 Transmitter Spurious Emission (802.11ax-HE40, CH91, 1GHz-18GHz)

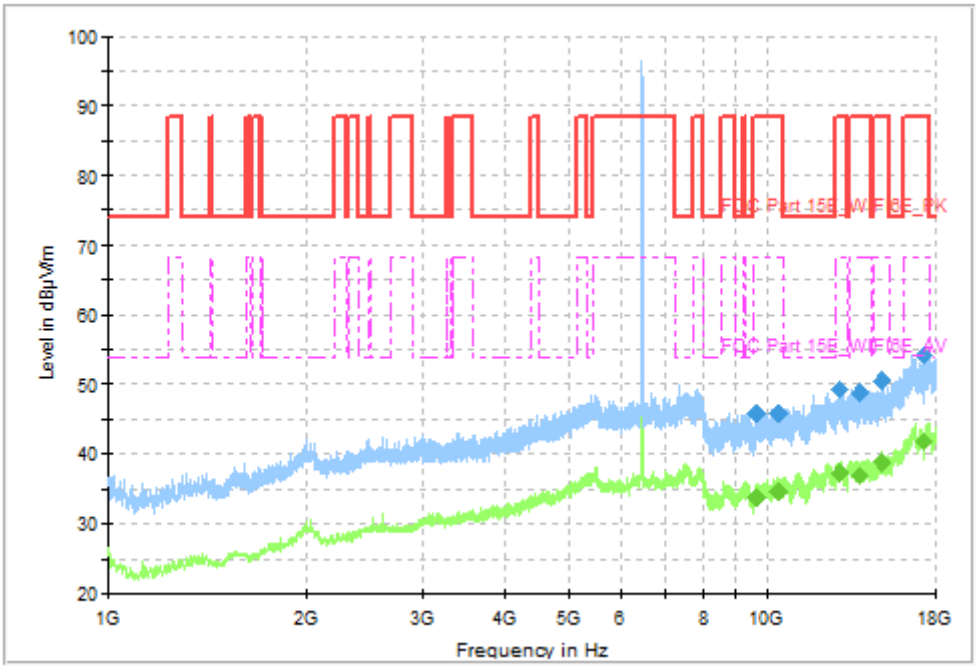


Fig. 36 Transmitter Spurious Emission (802.11ax-HE40, CH99, 1GHz-18GHz)

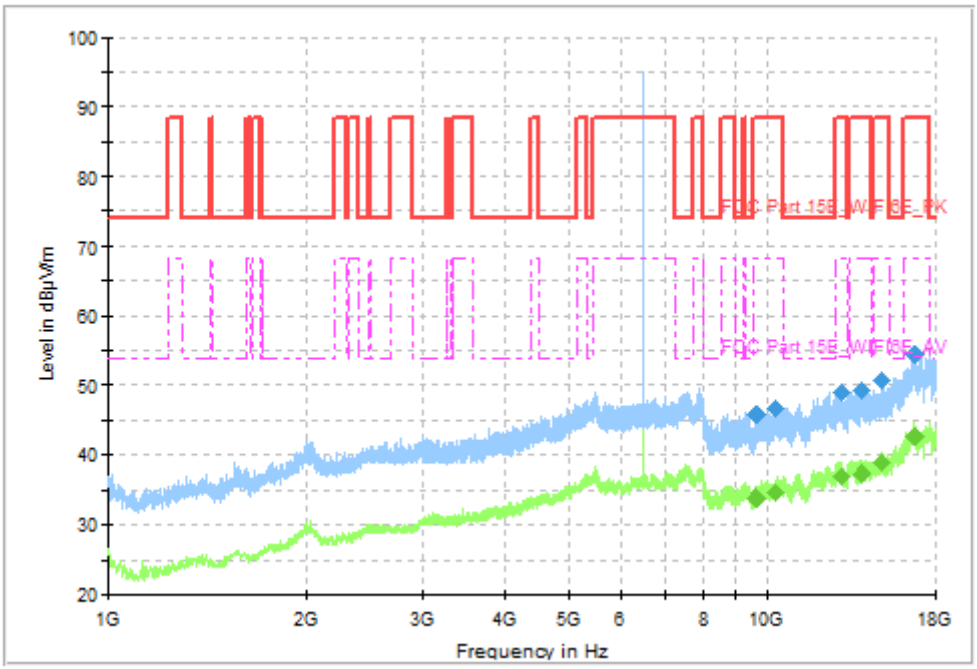


Fig. 37 Transmitter Spurious Emission (802.11ax-HE40, CH107, 1GHz-18GHz)

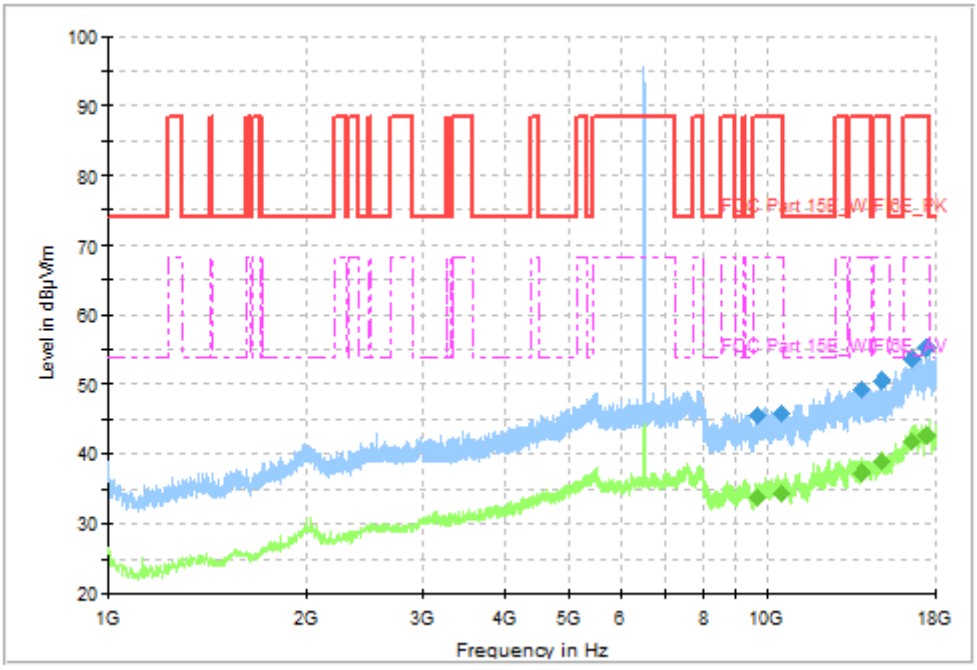


Fig. 38 Transmitter Spurious Emission (802.11ax-HE40, CH115, 1GHz-18GHz)

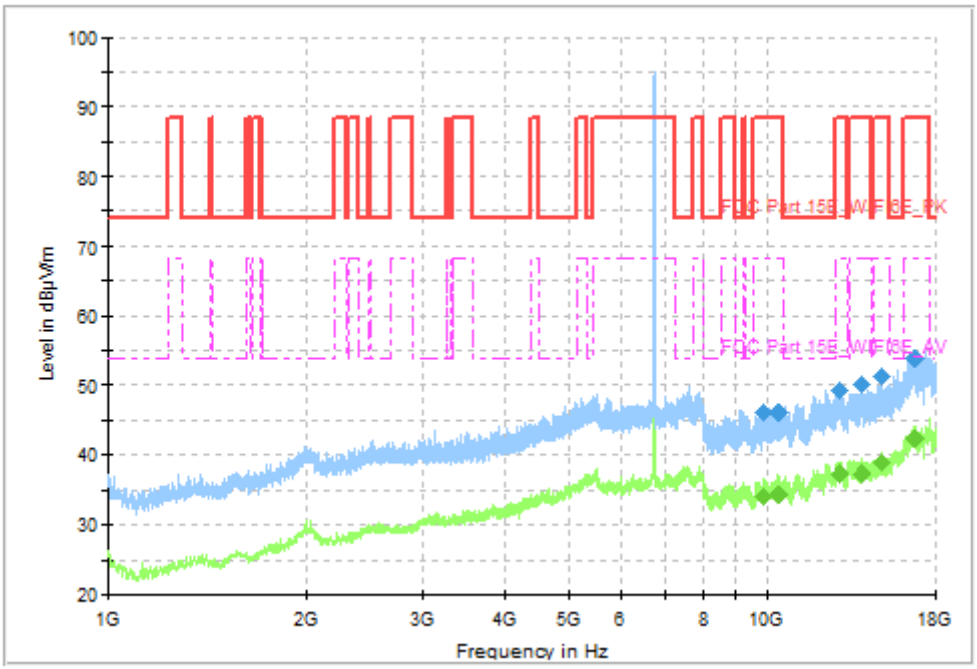


Fig. 39 Transmitter Spurious Emission (802.11ax-HE40, CH155, 1GHz-18GHz)

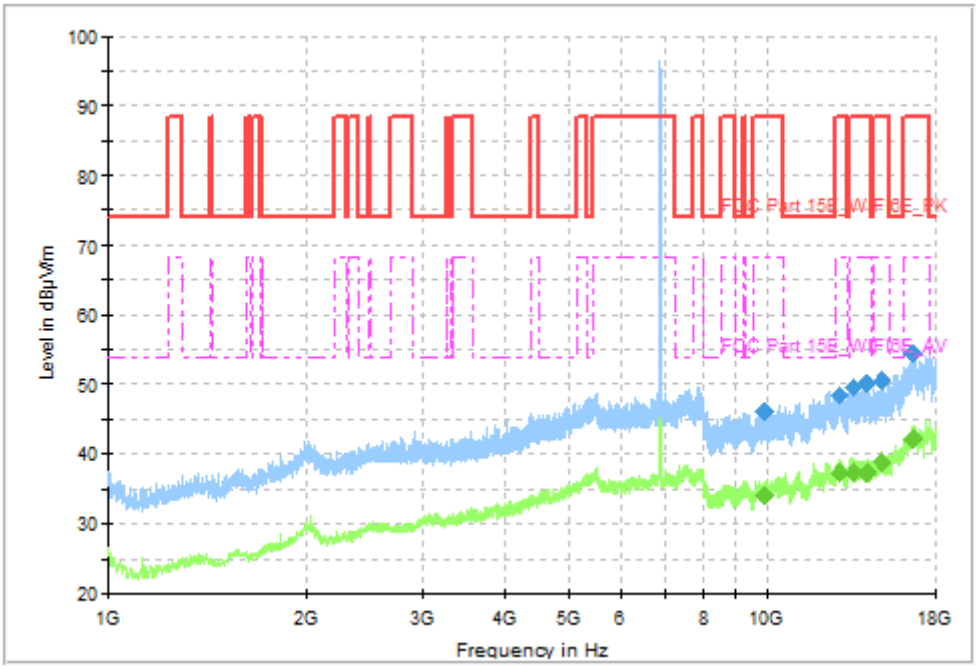


Fig. 40 Transmitter Spurious Emission (802.11ax-HE40, CH187, 1GHz-18GHz)

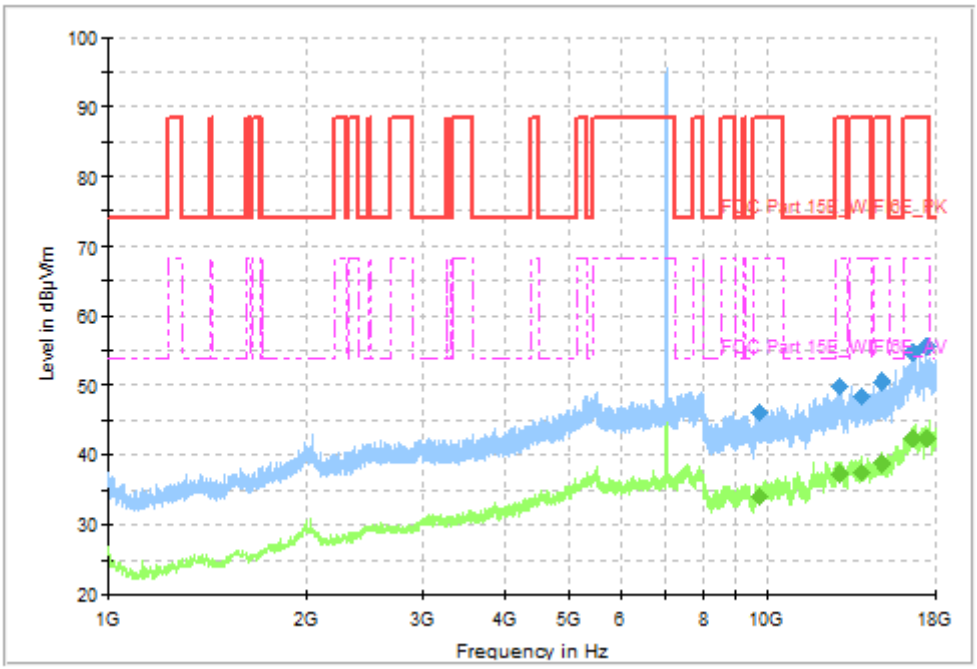


Fig. 41 Transmitter Spurious Emission (802.11ax-HE40, CH211, 1GHz-18GHz)

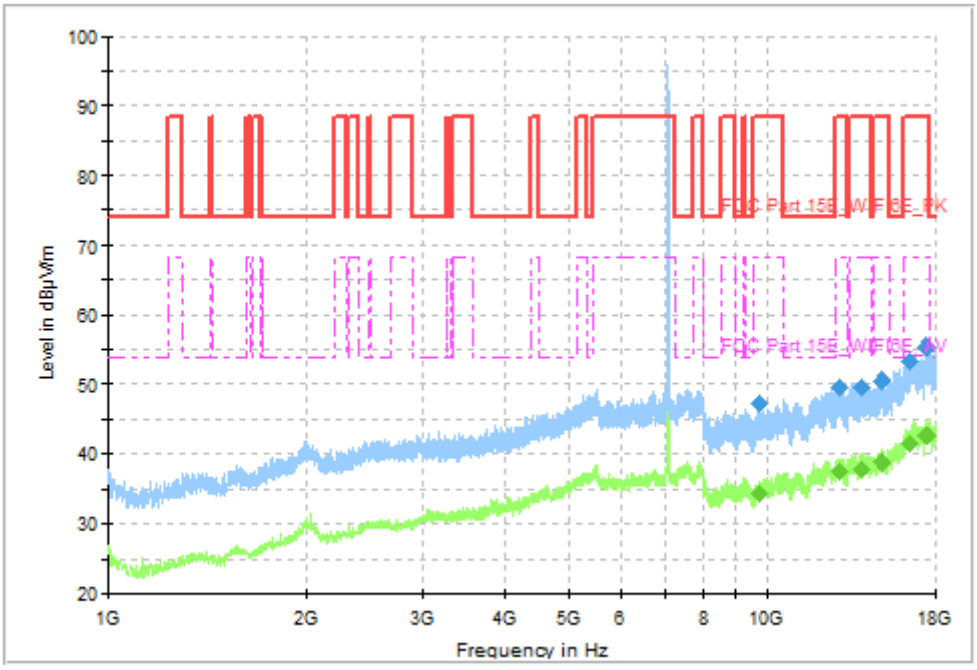


Fig. 42 Transmitter Spurious Emission (802.11ax-HE40, CH227, 1GHz-18GHz)

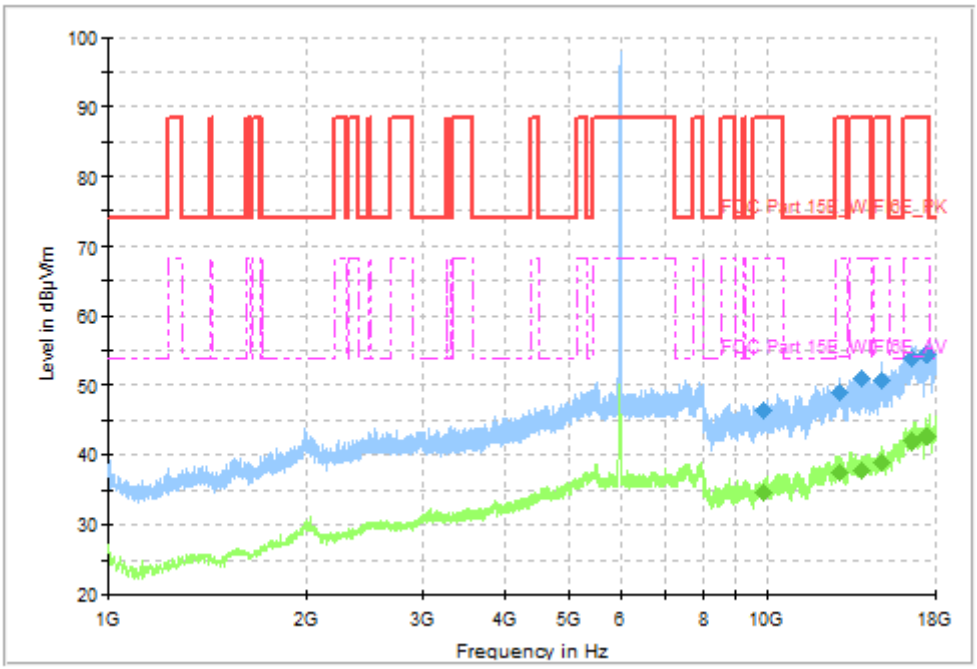


Fig. 43 Transmitter Spurious Emission (802.11ax-HE80, CH7, 1GHz-18GHz)

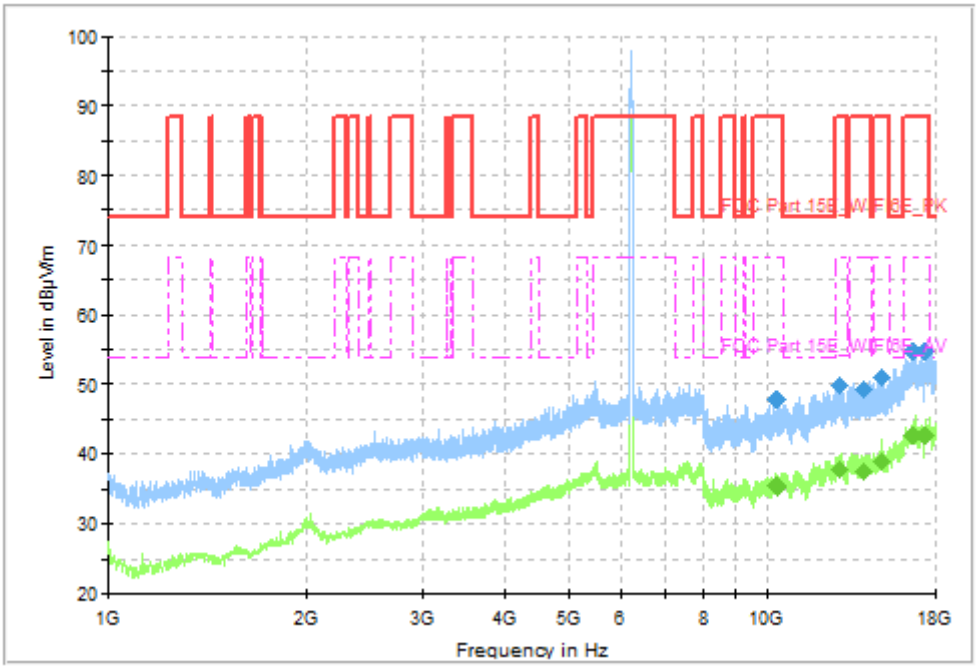


Fig. 44 Transmitter Spurious Emission (802.11ax-HE80, CH55, 1GHz-18GHz)