

Diagram 7- 37

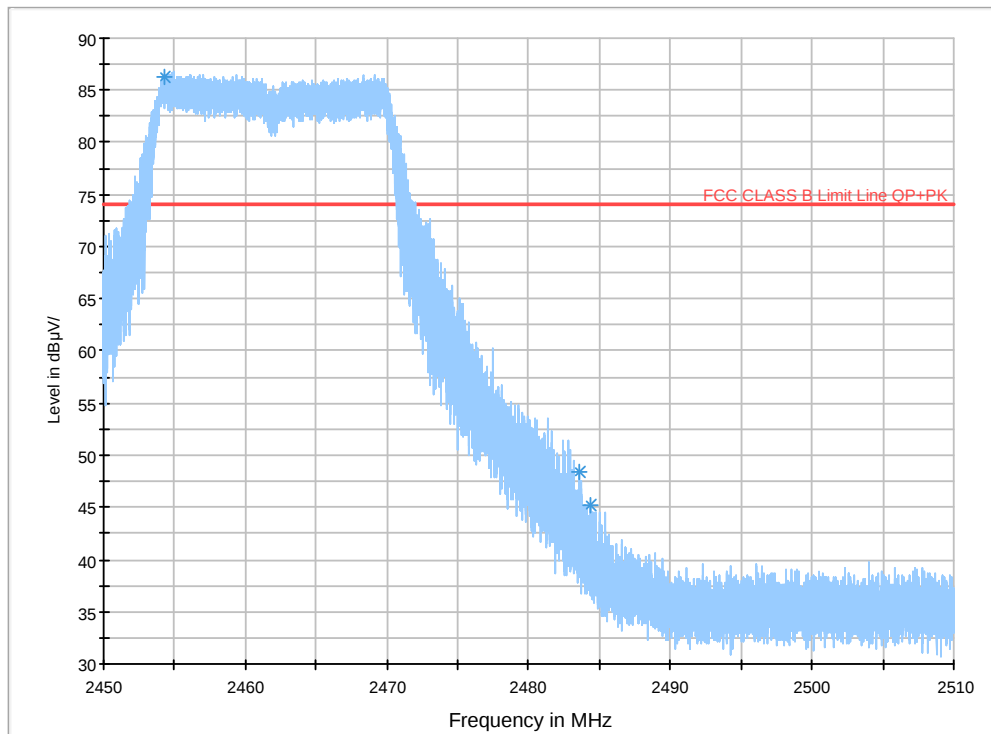


Diagram 7- 38

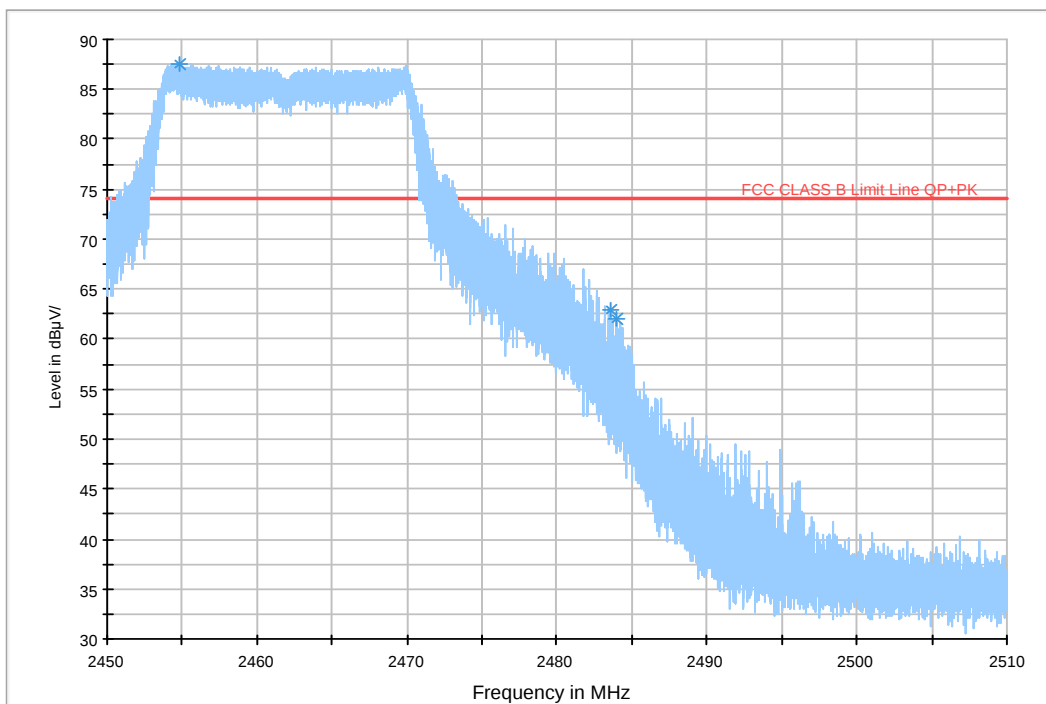


Diagram 7- 39

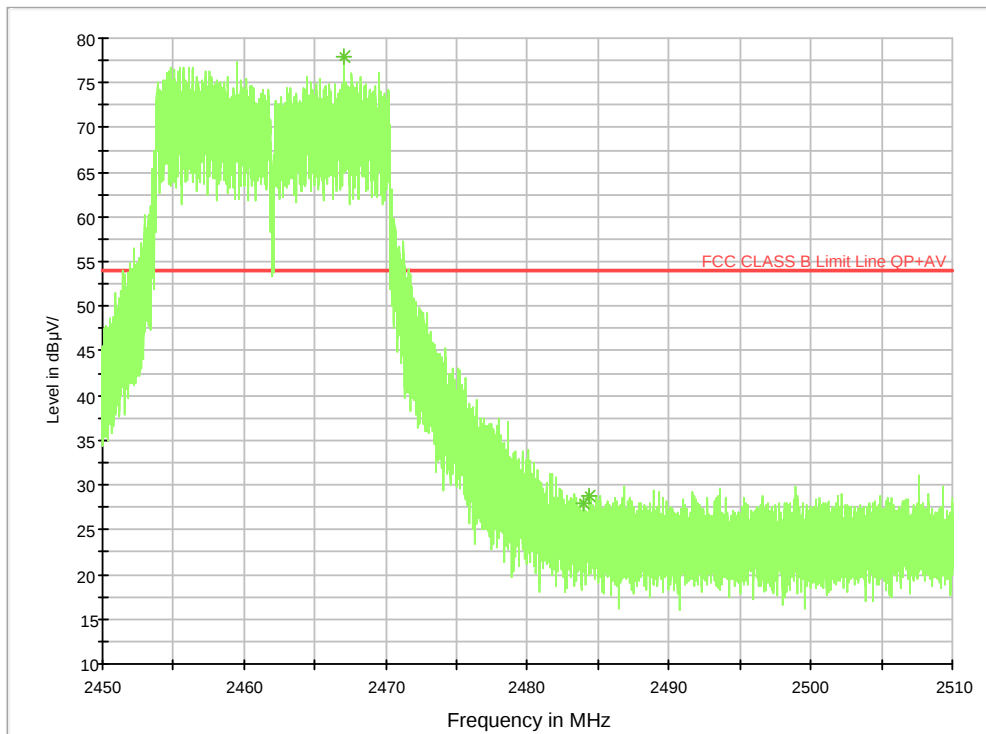


Diagram 7-40

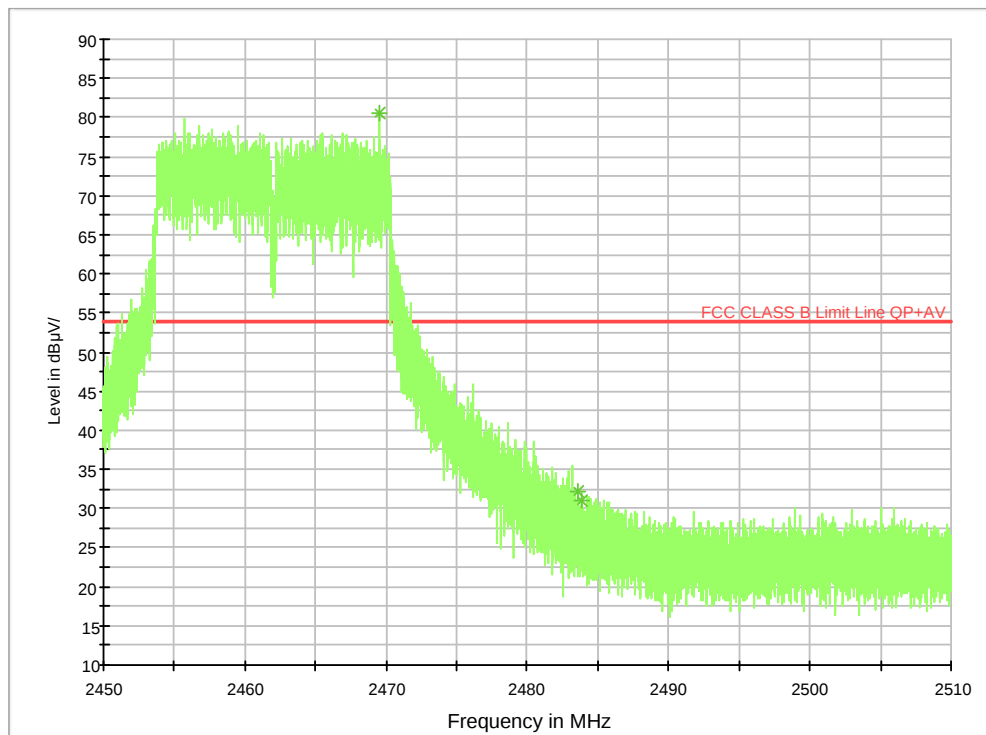


Diagram 7- 41

FCC CLASS B HF7.0_7G-18G_HOR

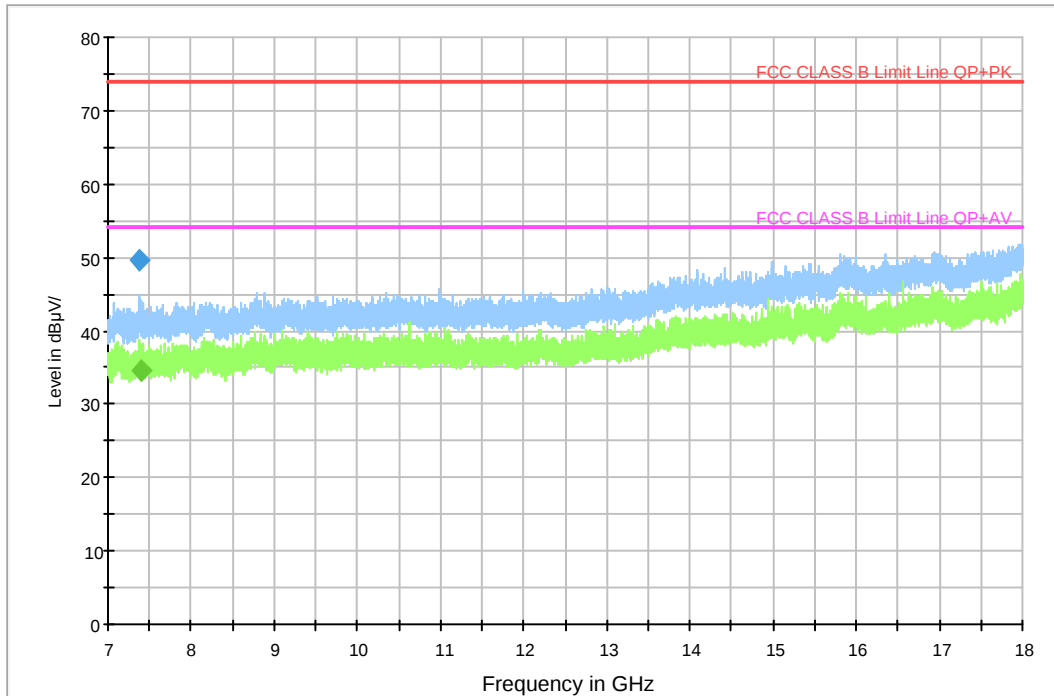
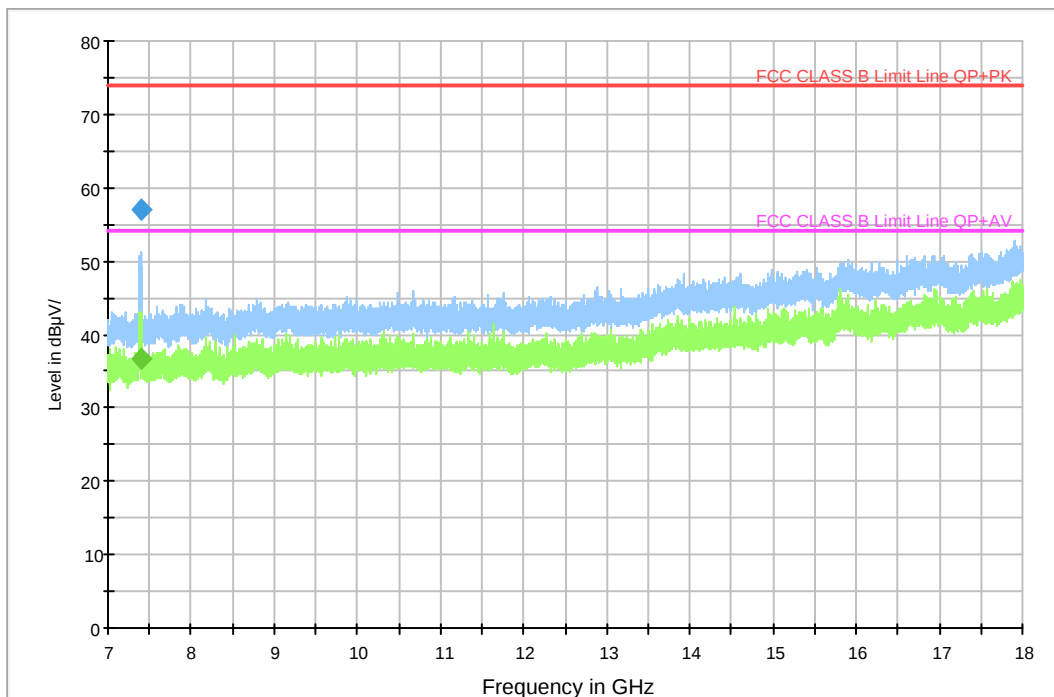


Diagram 7- 42

FCC CLASS B HF7.0_7G-18G_VER



Test Mode	802.11.n20-2412MHz					
Frequency (MHz)	Reading (dBμV/m)	Polarization	Margin (dB)	Limit (dBμV/m)	Detector (PK/AV)	Comment
1320.211000	46.4	H	27.6	74.0	PK	Diagram 7- 43
4817.503333	48.4	H	25.6	74.0	PK	
1320.052000	42.5	H	11.5	54.0	AV	
1320.000334	49.4	V	24.6	74.0	PK	Diagram 7-44
4830.514667	48.8	V	25.2	74.0	PK	
1320.020667	45.6	V	8.4	54.0	AV	
2390.000000	55.6	H	18.4	74	PK	Diagram 7-45
2400.000000	67.2	H	6.8	74	PK	
2405.335000	86.7	H	--	--	PK*	
2390.000000	38.7	V	35.3	74	PK	Diagram 7-46
2400.000000	65.4	V	8.6	74	PK	
2413.626500	85.9	V	--	--	PK	
2390.000000	19.4	H	34.6	54	AV	Diagram 7-47
2400.000000	37.5	H	16.5	54	AV	
2416.674000	75.3	H	--	--	AV*	
2390.000000	11.6	V	42.4	54	AV	Diagram 7-48
2400.000000	30.9	V	23.1	54	AV	
2418.905000	70.1	V	--	--	AV*	
7239.675138	53.3	H	20.7	74.0	PK	Diagram 7-49
7239.267158	48.3	H	5.7	54.0	AV	Diagram 7-50
7231.967524	56.7	V	17.3	74.0	PK	
7239.128763	48.7	V	5.3	54.0	AV	

Diagram 7- 43

FCC CLASS B HF3.0_1G-7G_HOR

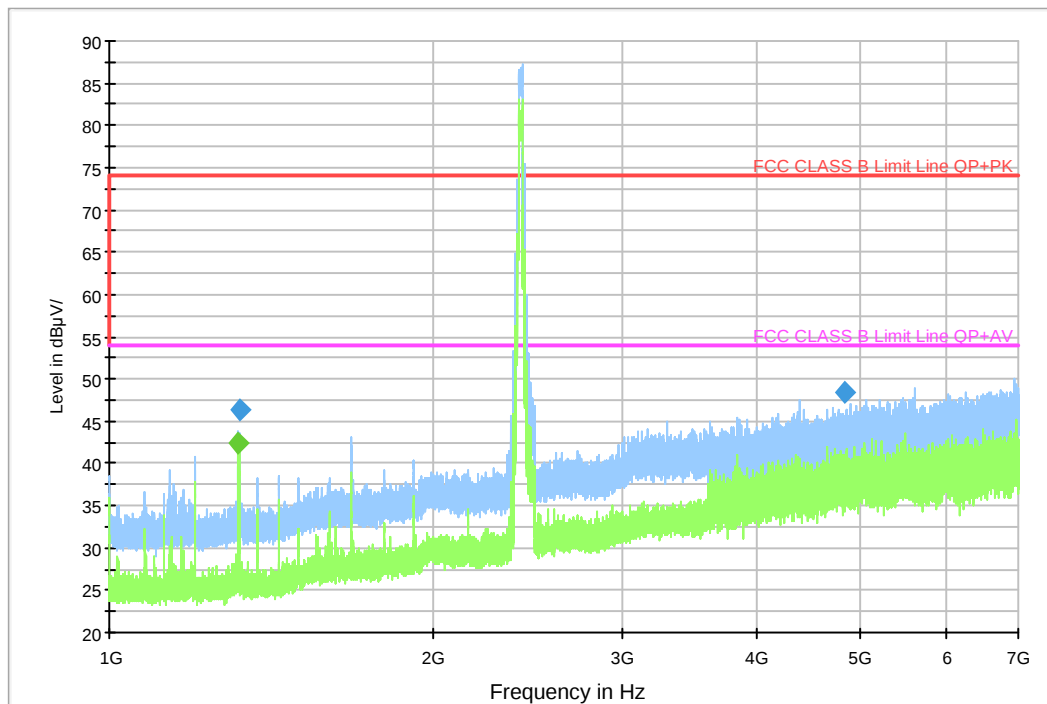


Diagram 7- 44

FCC CLASS B HF3.0_1G-7G_VER

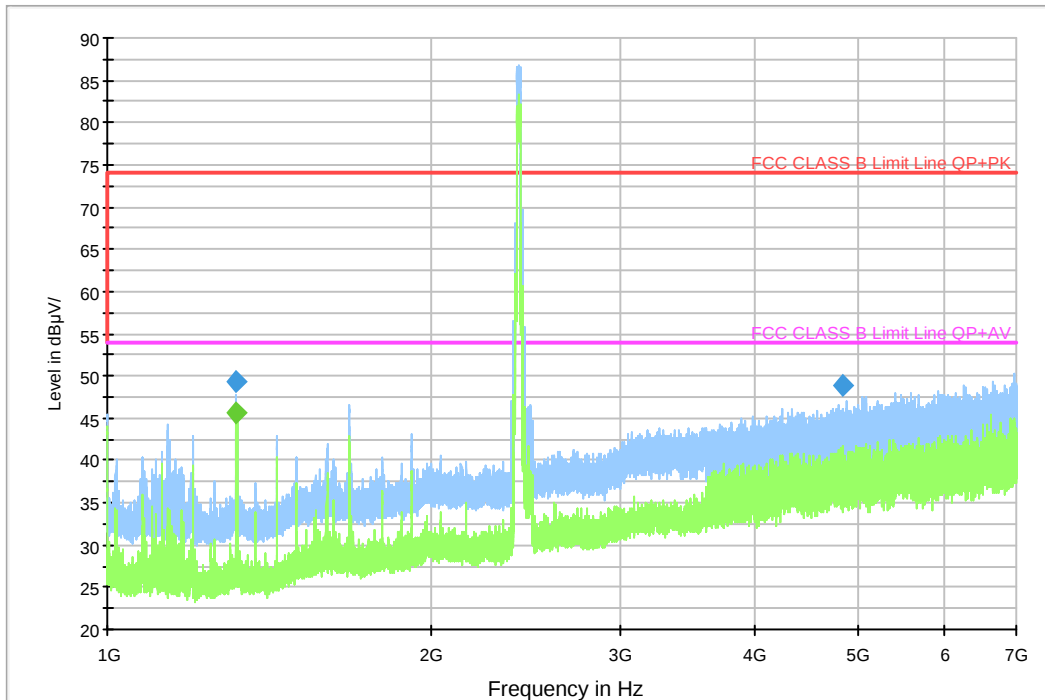


Diagram 7- 45

FCC BAND EDGE 2.4G LOW HF1.0 PK HOR

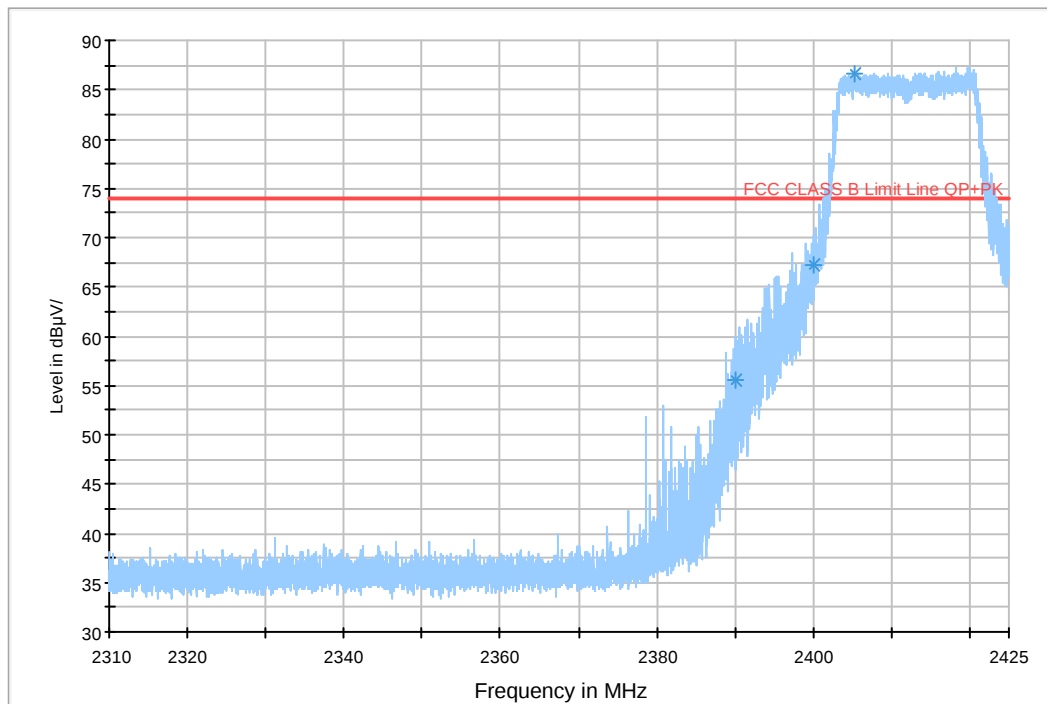


Diagram 7-46

FCC BAND EDGE 2.4G LOW HF1.0 PK VER

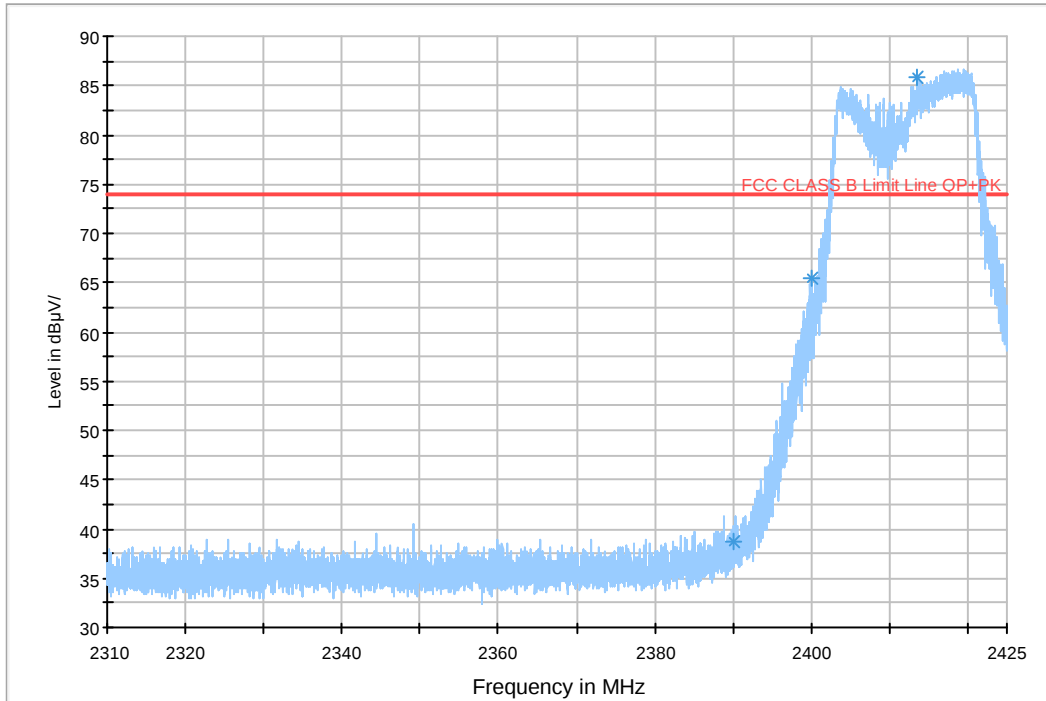


Diagram 7-47

FCC BAND EDGE 2.4G LOW HF1.0 AV HOR

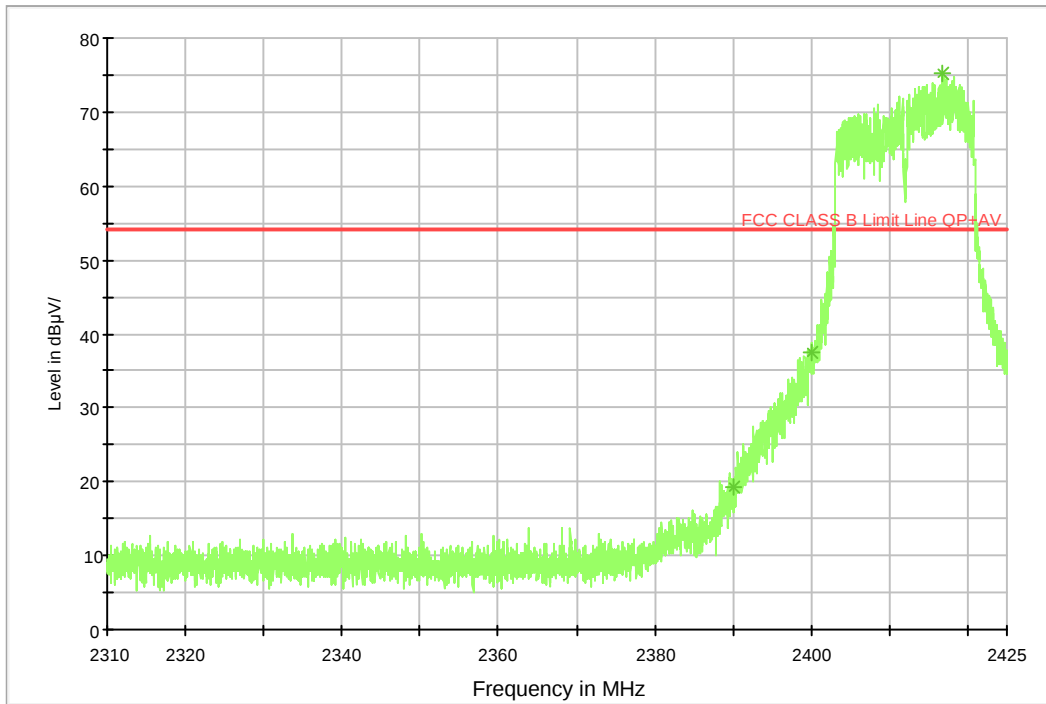


Diagram 7-48

FCC BAND EDGE 2.4G LOW HF1.0 AV VER

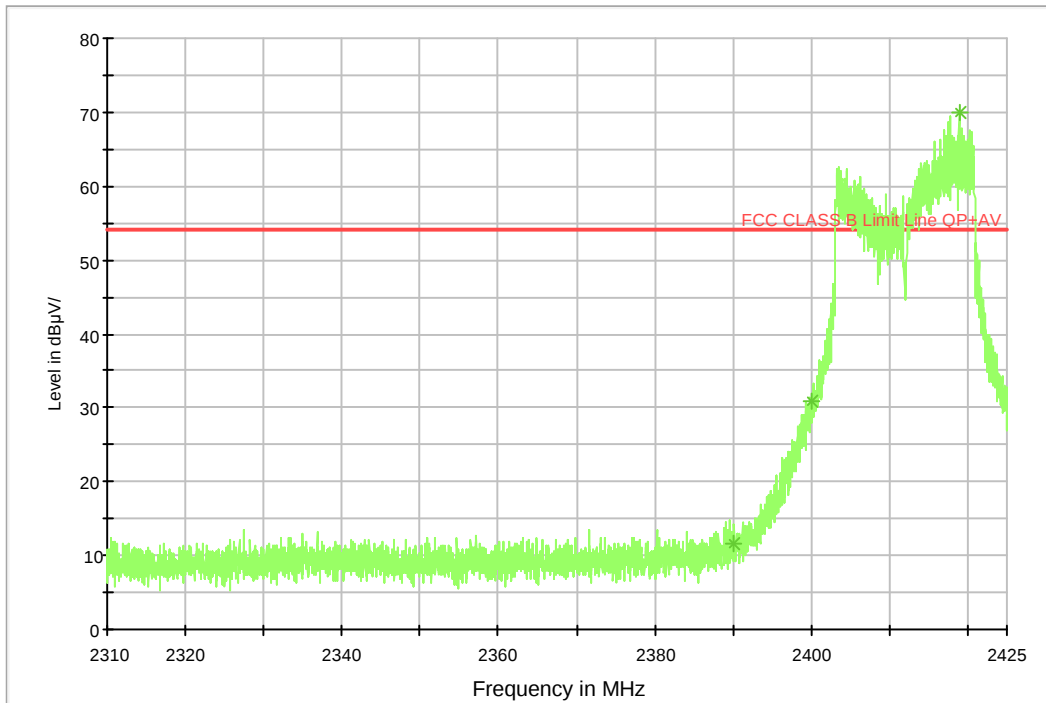


Diagram 7- 49

FCC CLASS B HF7.0_7G-18G_HOR

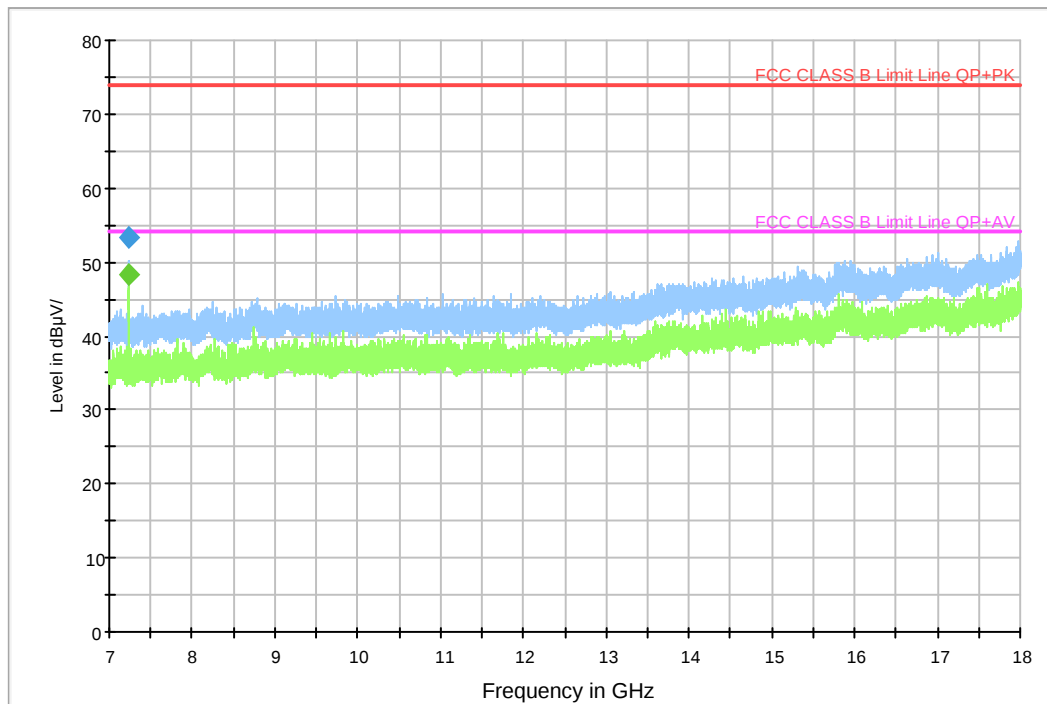
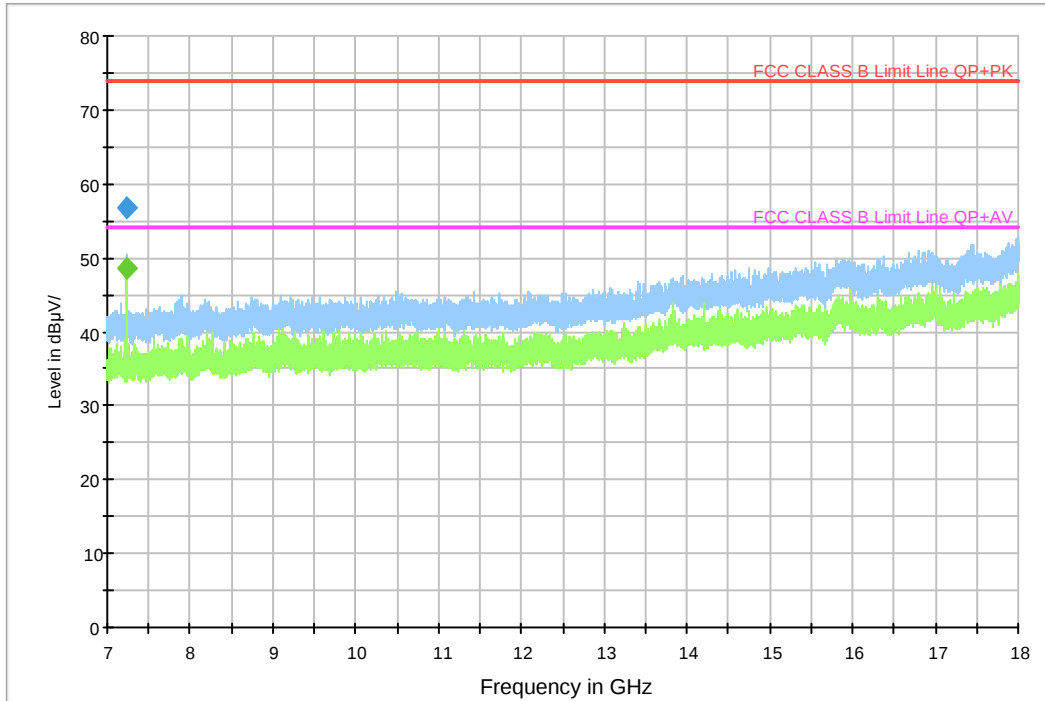


Diagram 7- 50

FCC CLASS B HF7.0_7G-18G_VER



Test Mode	802.11.n20-2437MHz					
Frequency (MHz)	Reading (dBµV/m)	Polarization	Margin (dB)	Limit (dBµV/m)	Detector (PK/AV)	Comment
1320.224667	46.0	H	28.0	74.0	PK	Diagram 7- 51
4975.103334	48.3	H	25.7	74.0	PK	
1319.957333	42.8	H	11.2	54.0	AV	
1320.184333	49.0	V	25.0	74.0	PK	Diagram 7-52
4875.470667	48.3	V	25.7	74.0	PK	
1320.011333	45.9	V	8.1	54.0	AV	
7310.963726	59.6	H	14.4	74.0	PK	Diagram 7-53
7310.376843	49.4	H	4.6	54.0	AV	
7312.037648	55.8	V	18.2	74.0	PK	Diagram 7-54
7312.037548	48.9	V	4.1	54.0	AV	

Diagram 7- 51

FCC CLASS B HF3.0_1G-7G_HOR

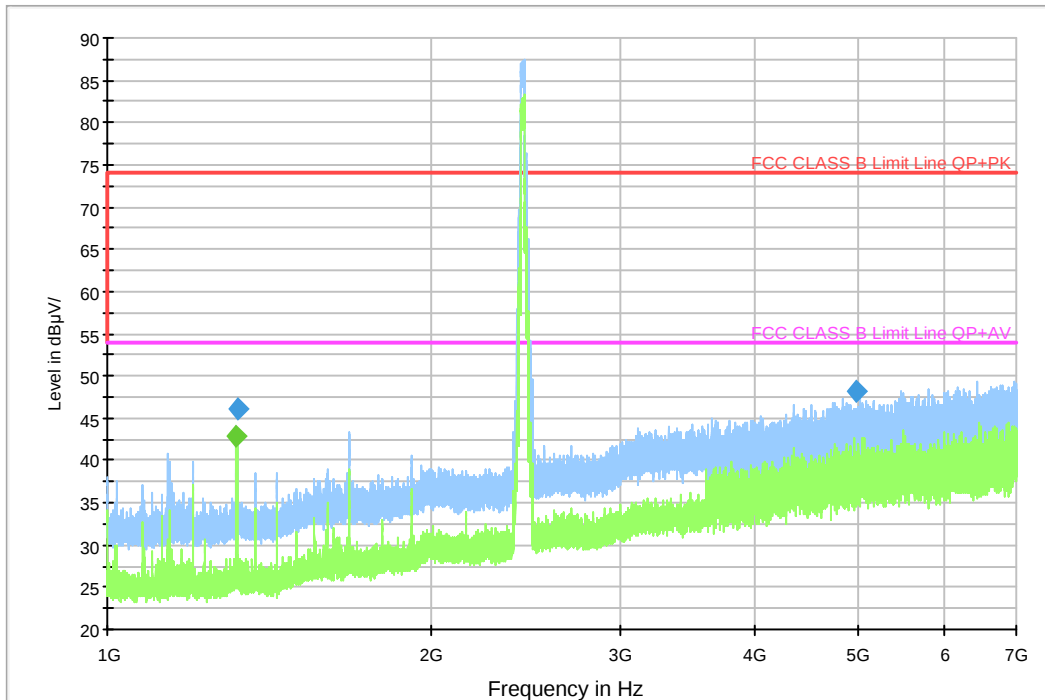


Diagram 7- 52

FCC CLASS B HF3.0_1G-7G_VER

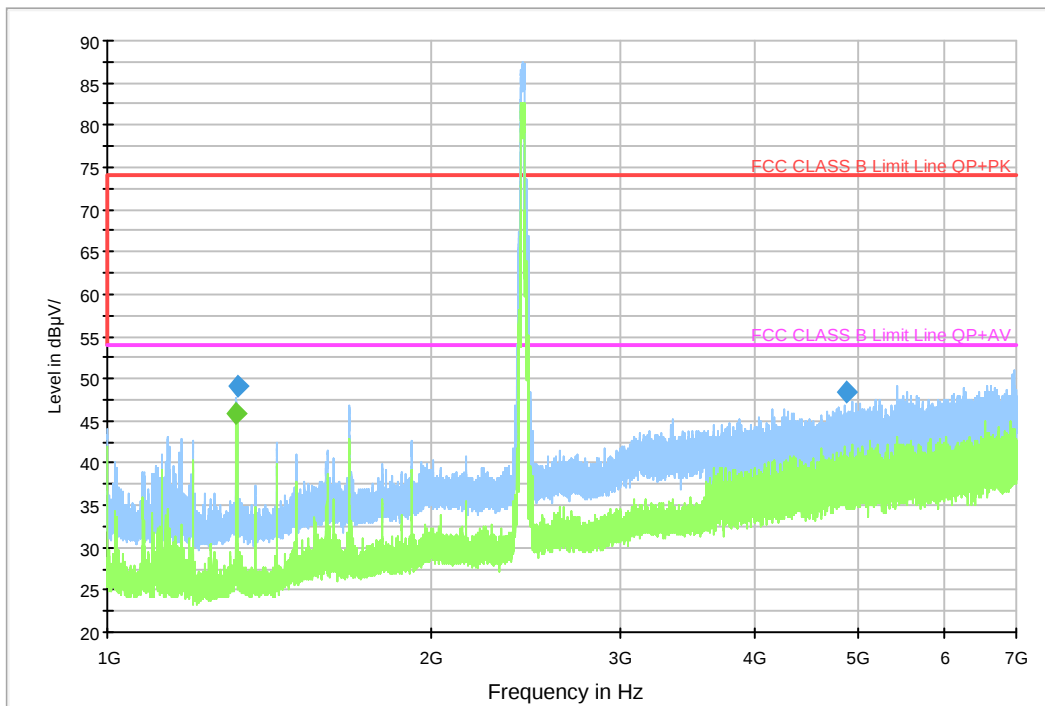


Diagram 7- 53

FCC CLASS B HF7.0_7G-18G_HOR

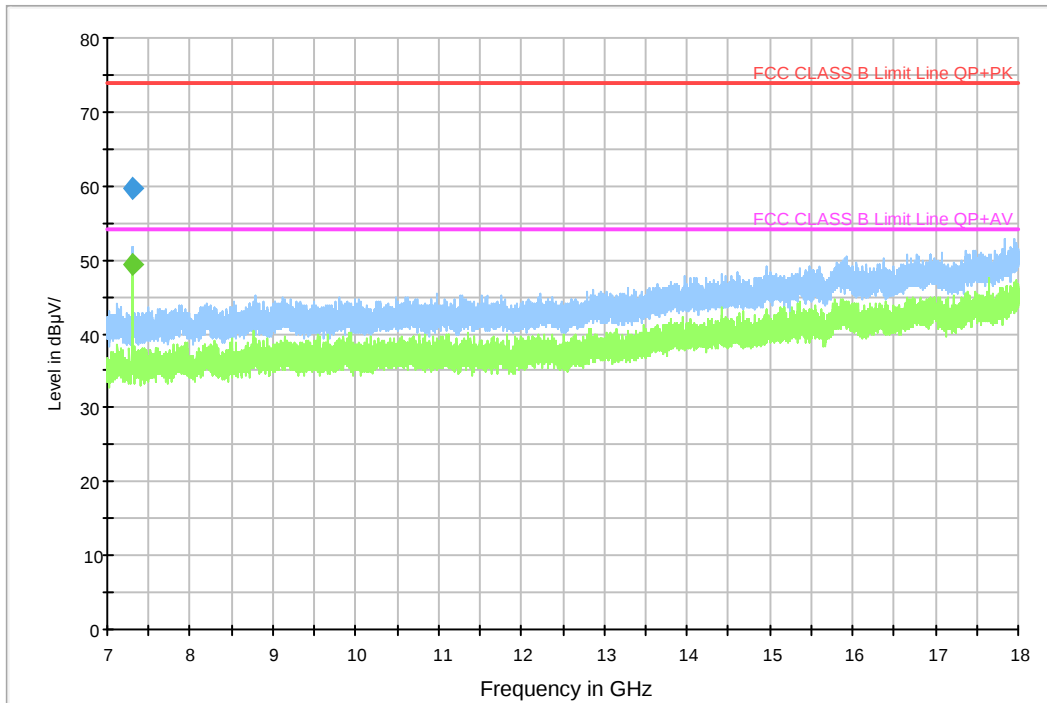
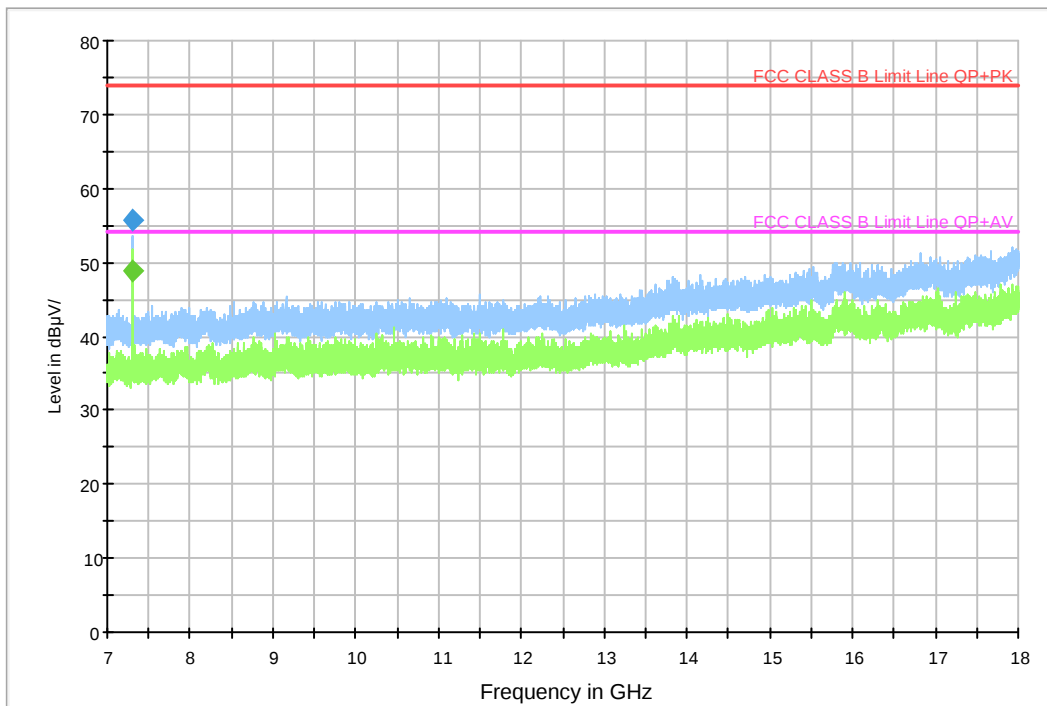


Diagram 7- 54

FCC CLASS B HF7.0_7G-18G_VER



Test Mode	802.11.n20-2462MHz					
Frequency (MHz)	Reading (dBμV/m)	Polarization	Margin (dB)	Limit (dBμV/m)	Detector (PK/AV)	Comment
4924.667333	51.4	H	22.6	74.0	PK	Diagram 7- 55
4924.077667	39.7	H	14.3	54.0	AV	
4924.902333	51.5	V	22.5	74.0	PK	Diagram 7-56
4924.169333	39.8	V	14.2	54.0	AV	
2453.506000	87.3	H	--	--	PK*	Diagram 7-57
2483.600000	62.5	H	11.5	74.0	PK	
2483.880000	61.9	H	12.1	74.0	PK	
2453.964000	87.6	V	--	--	PK*	Diagram 7-58
2483.526000	67.6	V	6.4	74.0	PK	
2483.822000	64.2	V	9.8	74.0	PK	
2456.676000	78.5	H	--	--	AV*	Diagram 7-59
2483.674000	31.0	H	23	54.0	AV	
2484.482000	31.8	H	22.2	54.0	AV	
2464.488000	83.4	V	--	--	AV*	Diagram 7-60
2483.808000	36.5	V	17.5	54.0	AV	
2484.232000	35.2	V	18.8	54.0	AV	
73887.325610	48.6	H	25.4	74.0	PK	Diagram 7-61
7387.534680	36.4	H	17.6	54.0	AV	Diagram 7-62
7386.027680	55.4	V	18.6	74.0	PK	
7385.963700	43.6	V	11.4	54.0	AV	

Diagram 7- 55

FCC CLASS B HF3.0_1G-7G_HOR

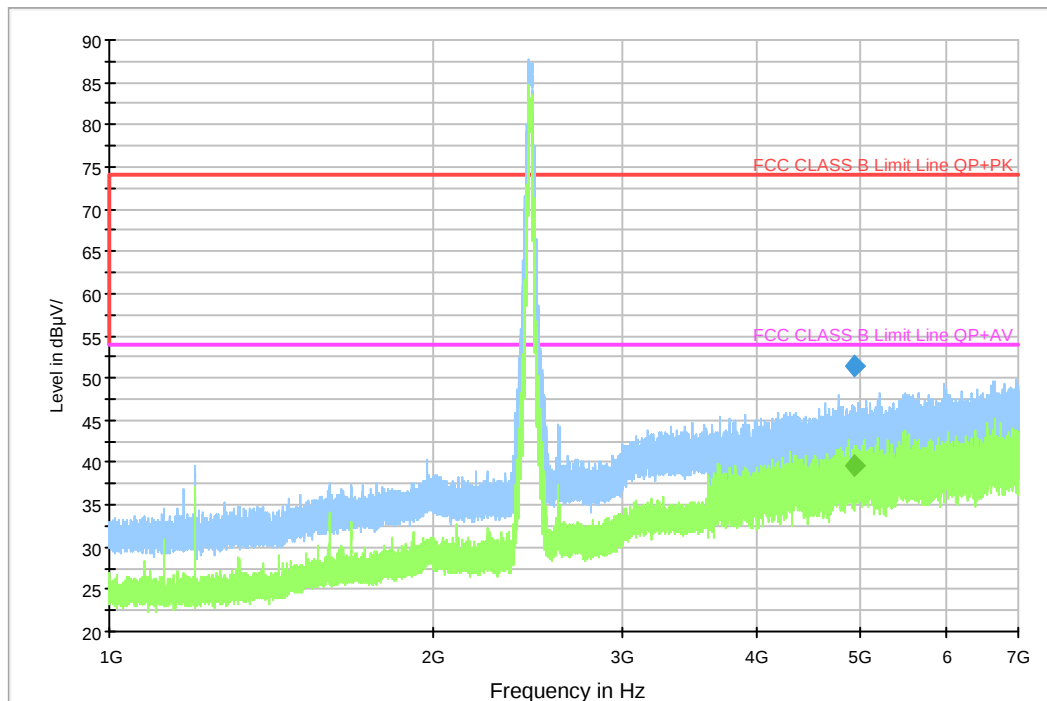


Diagram 7- 56

FCC CLASS B HF3.0_1G-7G_VER

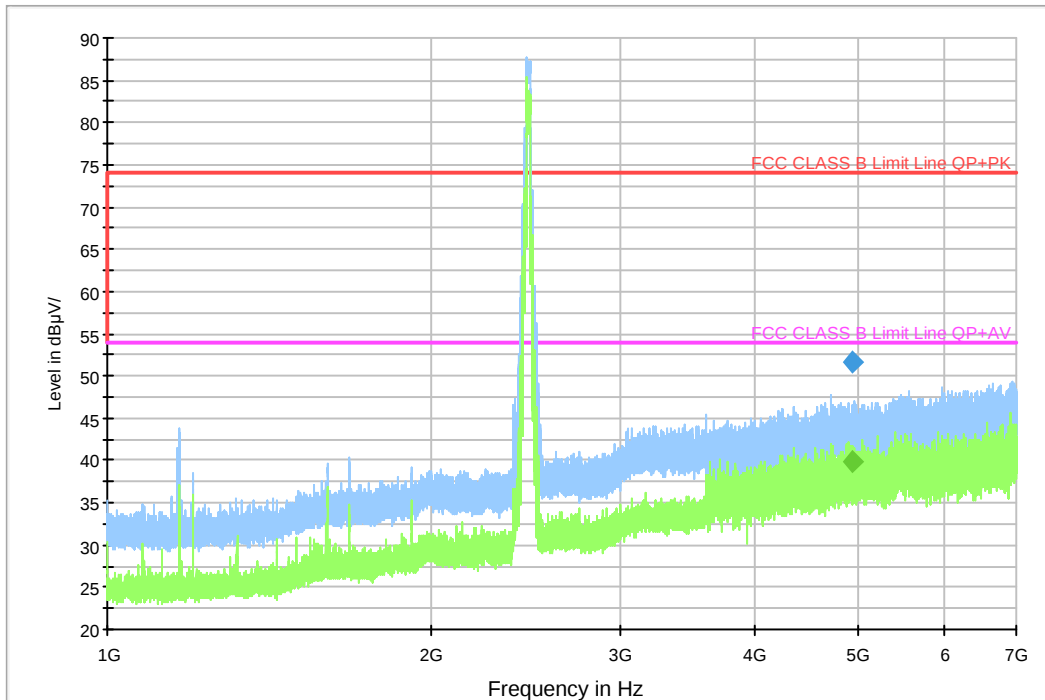


Diagram 7- 57

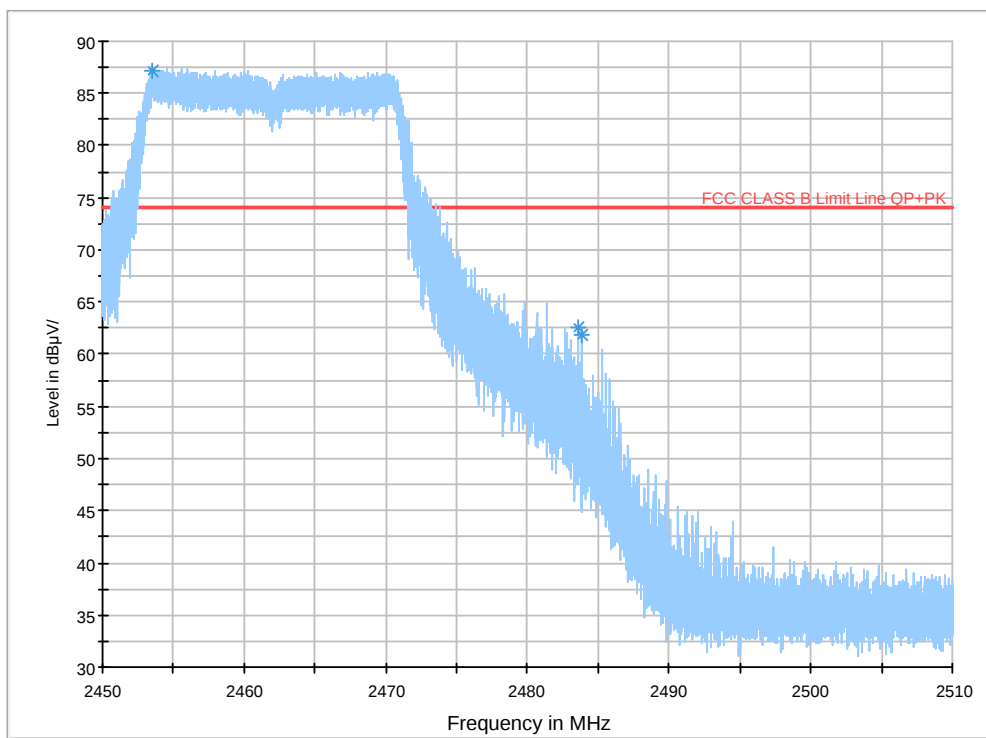


Diagram 7- 58

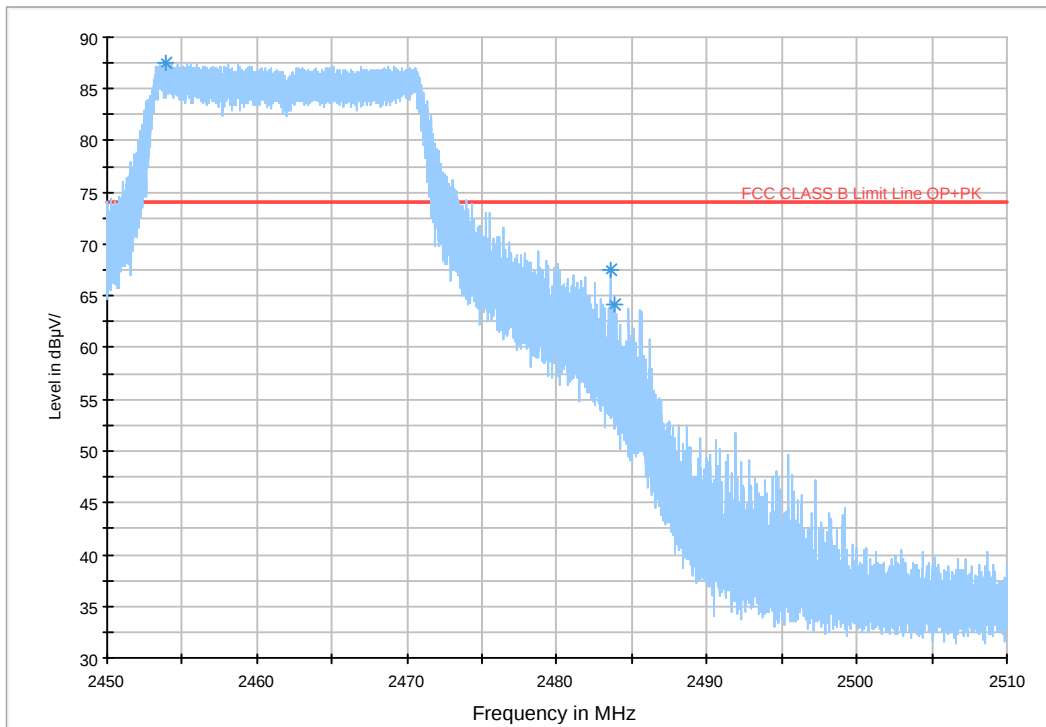


Diagram 7-59

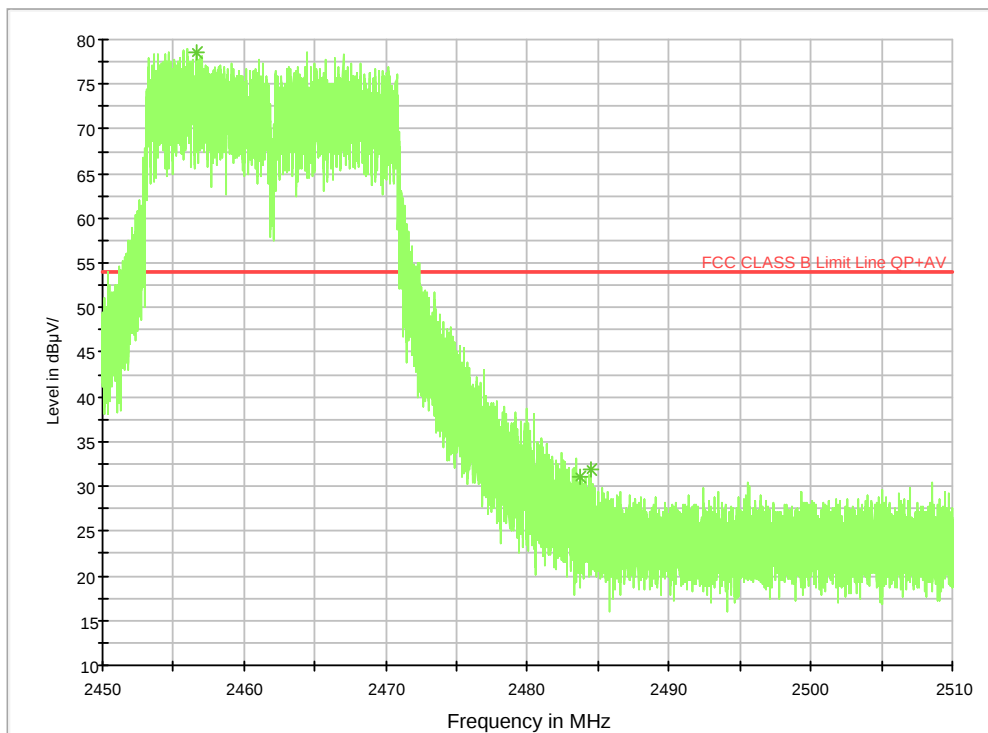


Diagram 7-60

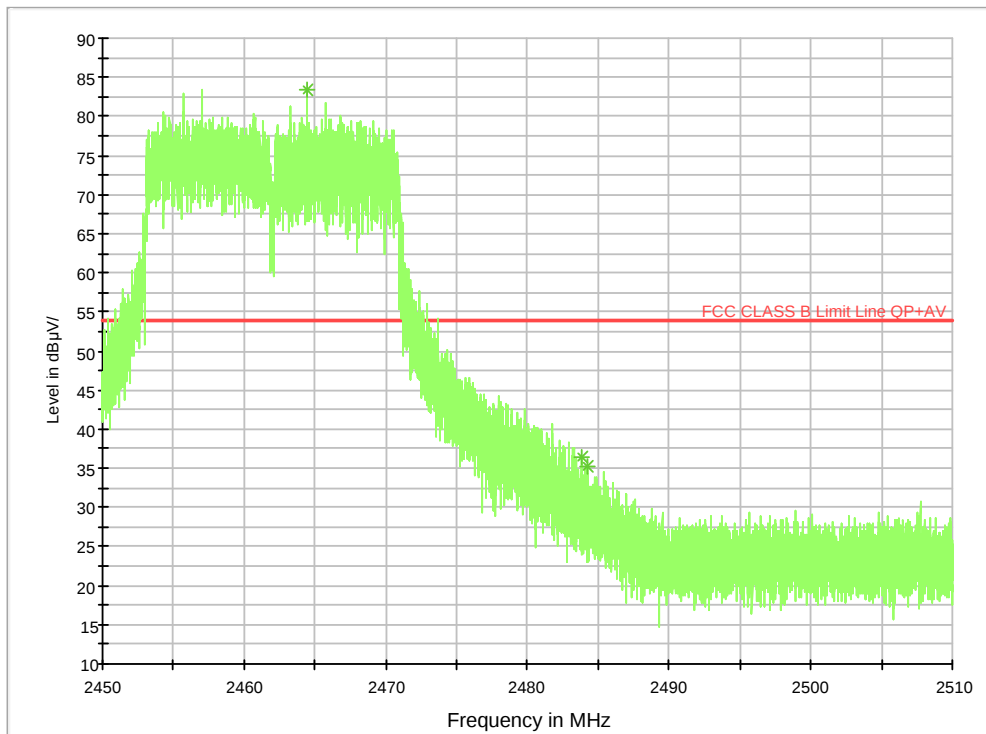


Diagram 7- 61

FCC CLASS B HF7.0_7G-18G_HOR

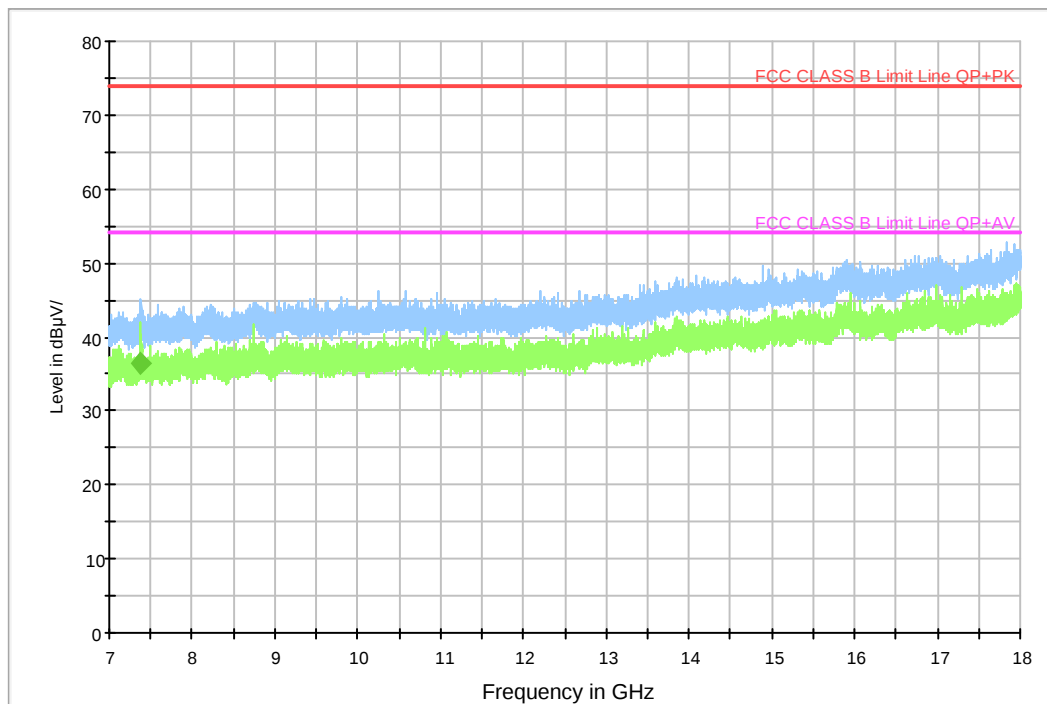
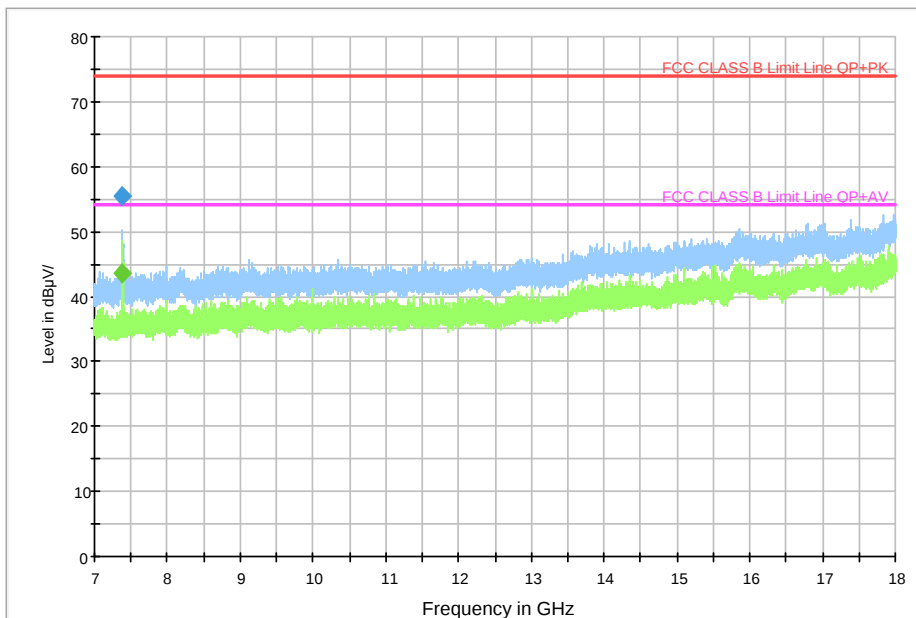


Diagram 7- 62

FCC CLASS B HF7.0_7G-18G_VER



Test Mode	802.11.n40-2422MHz					
Frequency (MHz)	Reading (dBμV/m)	Polarization	Margin (dB)	Limit (dBμV/m)	Detector (PK/AV)	Comment
4844.085000	51.4	H	22.6	74.0	PK	Diagram 7- 63
4844.458000	39.4	H	14.6	54.0	AV	
4844.419000	51.8	V	22.2	74.0	PK	Diagram 7-64
4845.480333	42.4	V	11.6	54.0	AV	
2390.000000	59.3	H	14.7	74.0	PK	Diagram 7-65
2400.000000	65.3	H	8.7	74.0	PK	
2419.732000	86.6	H	--	--	PK*	
2386.650000	65.1	H	8.9	74.0	PK	Diagram 7-66
2390.000000	46.0	V	28	74.0	PK	
2400.000000	63.8	V	10.2	74.0	PK	
2419.774000	85.8	V	--	--	PK*	Diagram 7-67
2385.138000	47.7	V	26.3	74.0	PK	
2389.996000	43.4	H	10.6	54.0	AV	
2399.516000	52.7	H	1.3	54.0	AV	Diagram 7-68
2387.616000	51.3	H	2.7	54.0	AV	
2410.072000	81.9	H	--	--	AV*	
2390.000000	36.8	V	17.2	54.0	AV	Diagram 7-69
2400.000000	49.1	V	4.9	54.0	AV	
2419.312000	80.2	V	--	--	AV*	
7259.432563	53.2	H	18.8	74.0	PK	Diagram 7-70
7275.98735	35.6	H	18.4	54.0	AV	
7258.35326	61.3	V	12.7	74.0	PK	Diagram 7-70
7258.256710	41.8	V	12.2	54.0	AV	

Diagram 7- 63

FCC CLASS B HF3.0_1G-7G_HOR

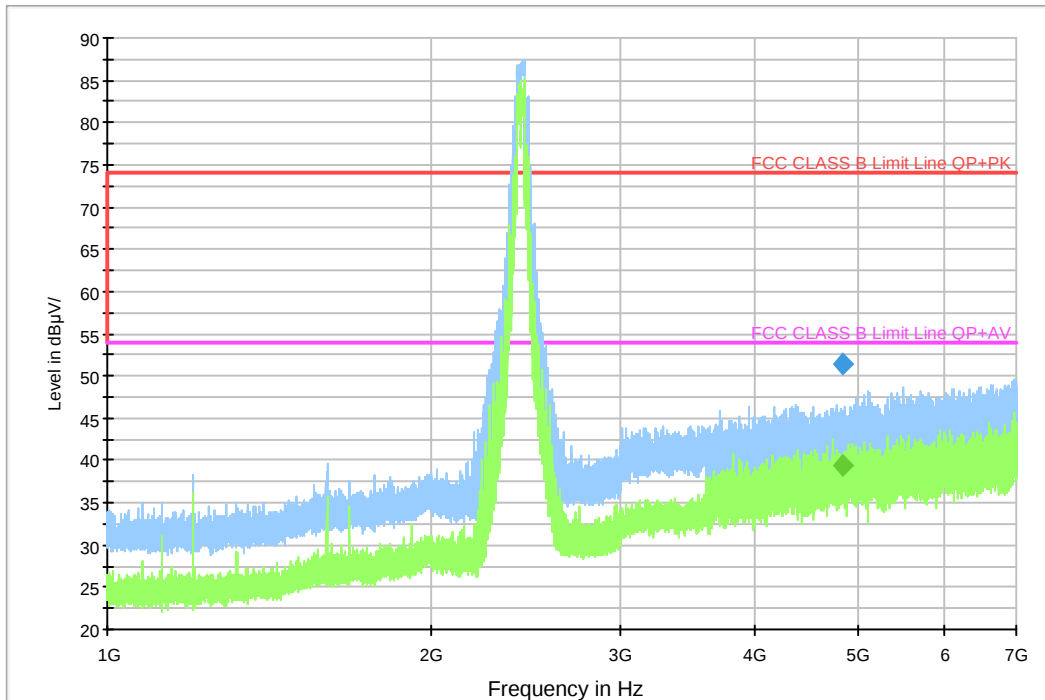


Diagram 7- 64

FCC CLASS B HF3.0_1G-7G_VER

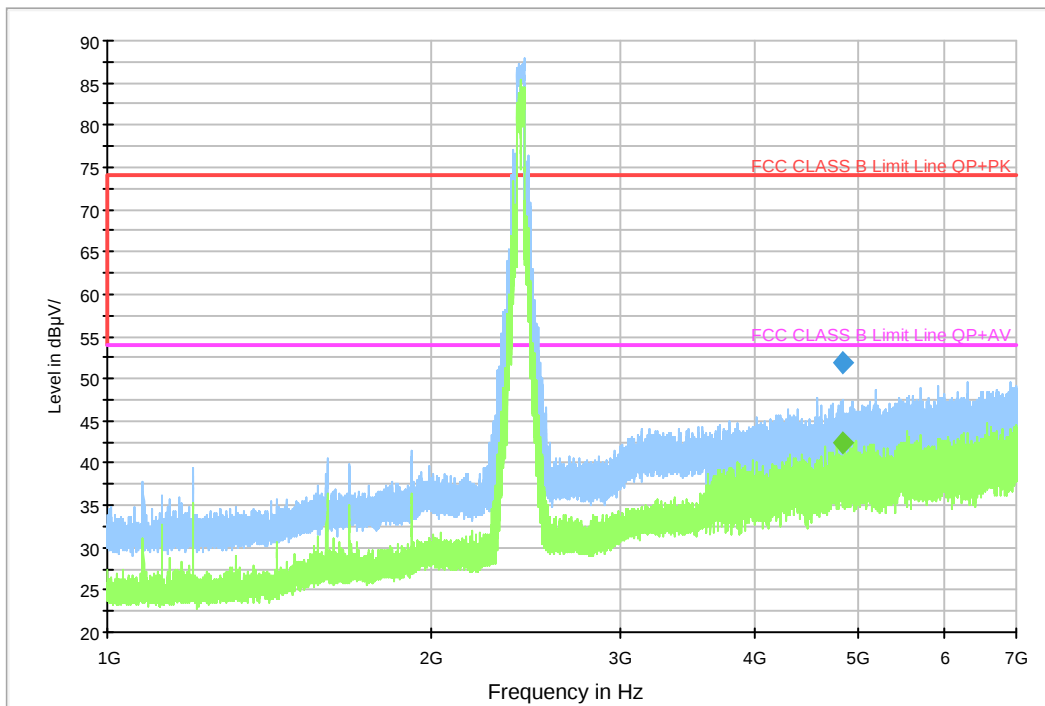


Diagram 7- 65

FCC BAND EDGE 2.4G LOW HF1.0 PK HOR

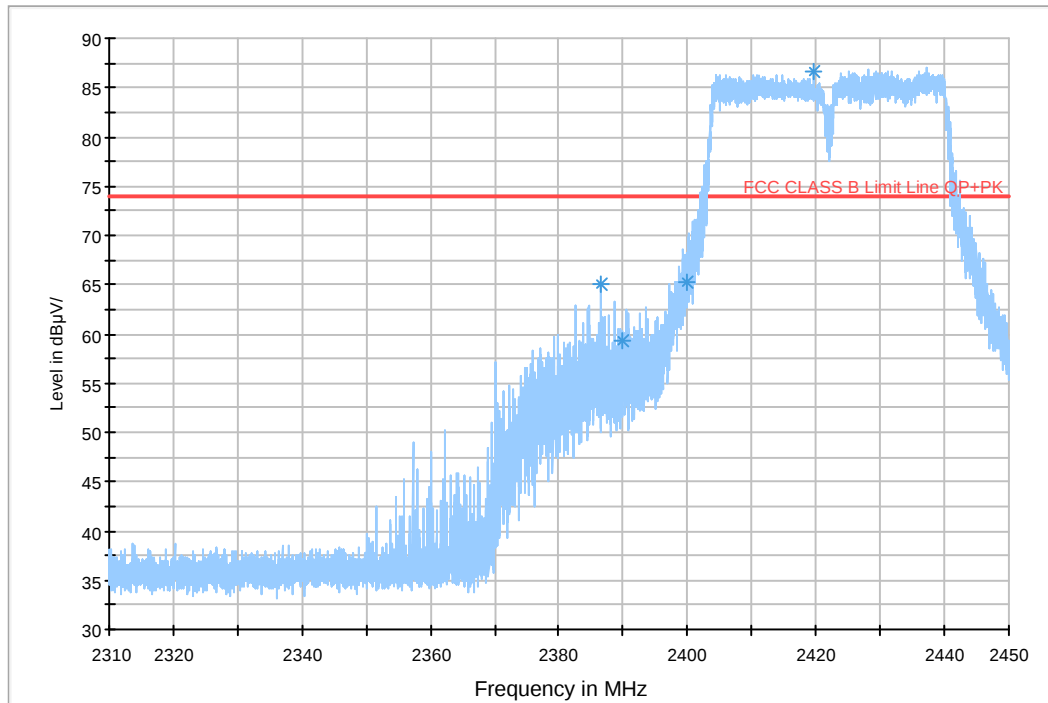


Diagram 7-66

FCC BAND EDGE 2.4G LOW HF1.0 PK VER

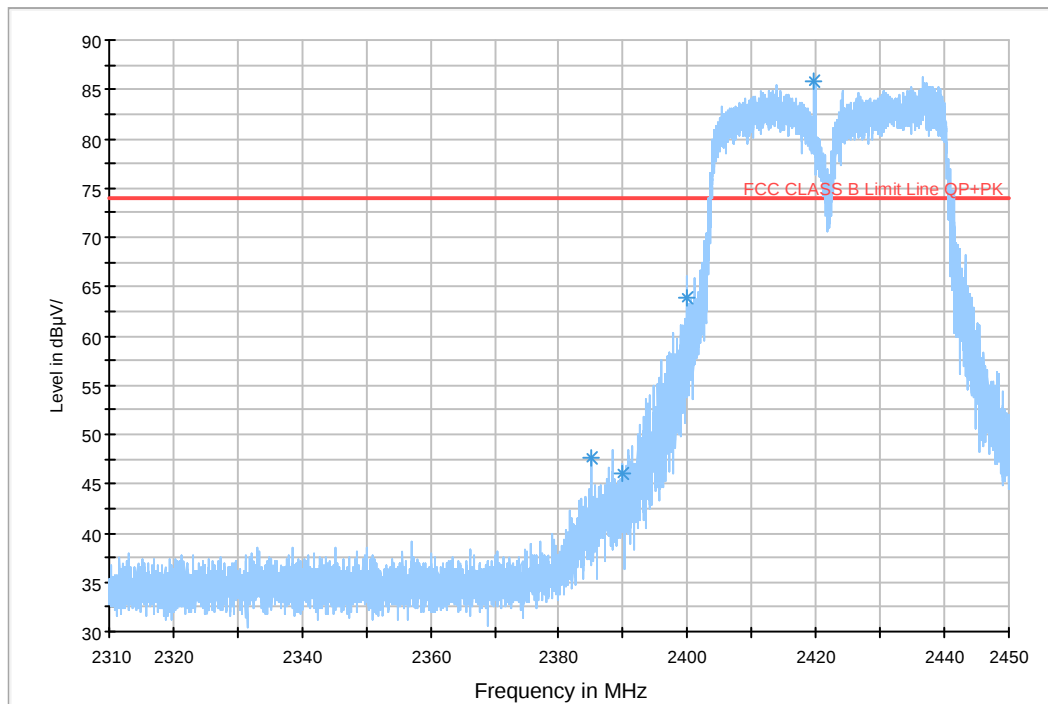


Diagram 7-67

FCC BAND EDGE 2.4G LOW HF1.0 AV HOR

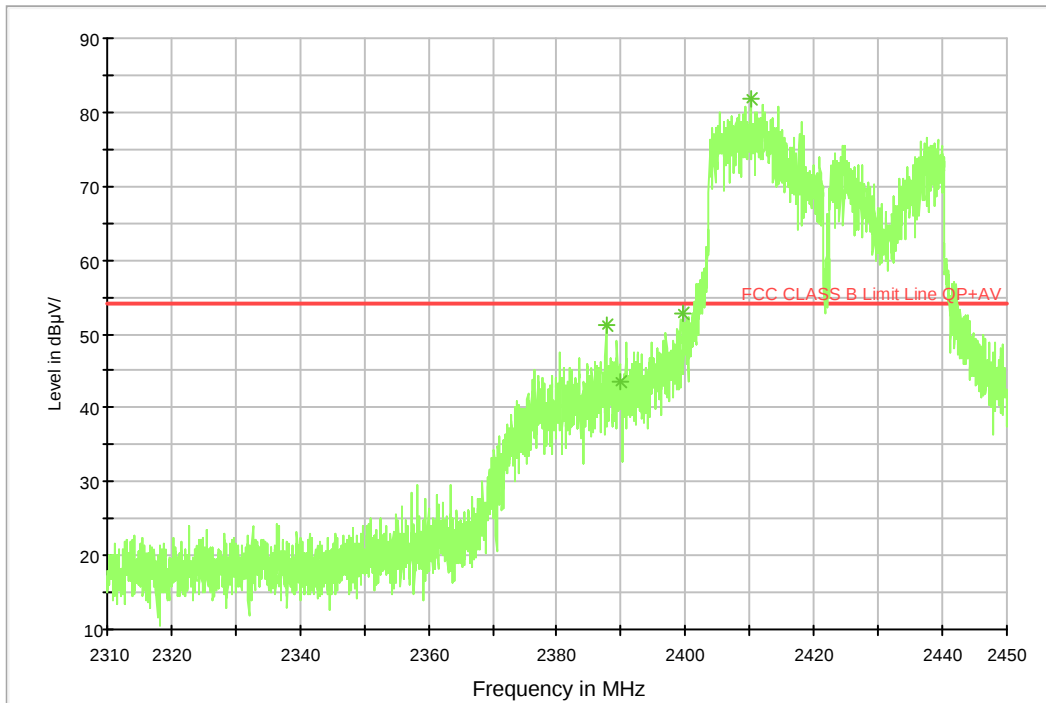


Diagram 7-68

FCC BAND EDGE 2.4G LOW HF1.0 AV VER

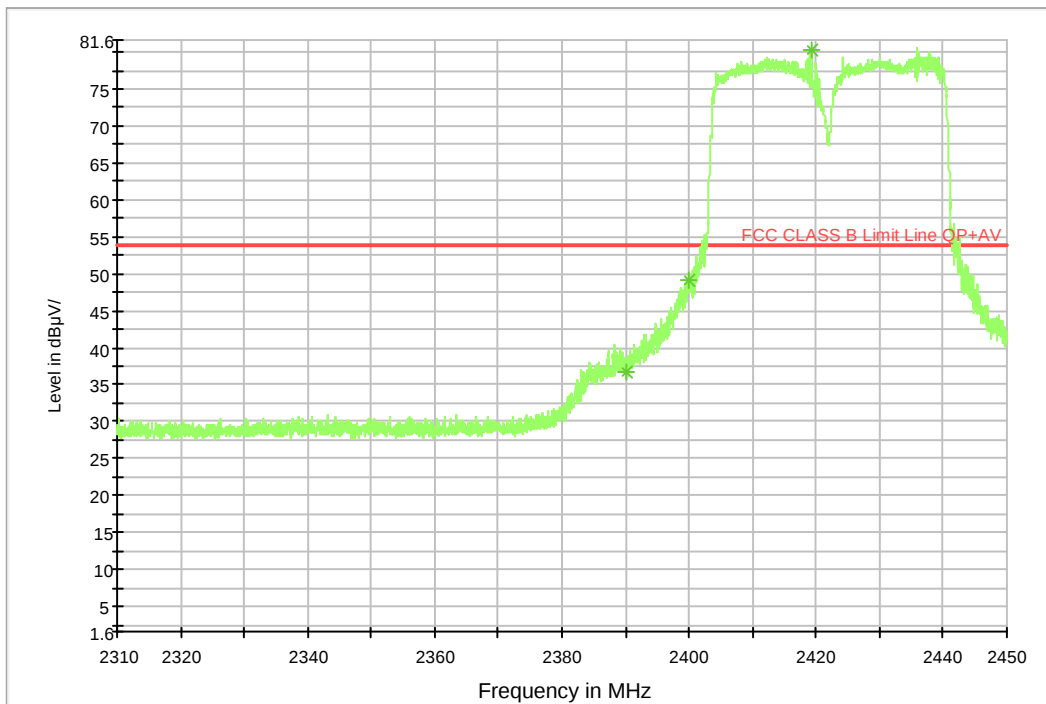


Diagram 7- 69

FCC CLASS B HF7.0_7G-18G_HOR

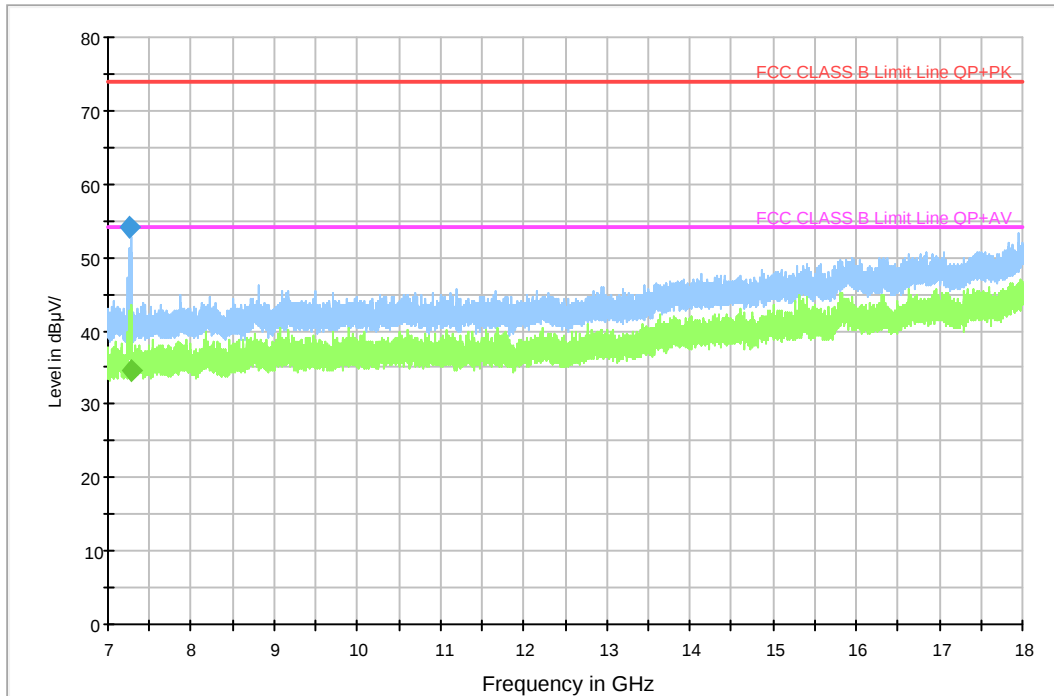
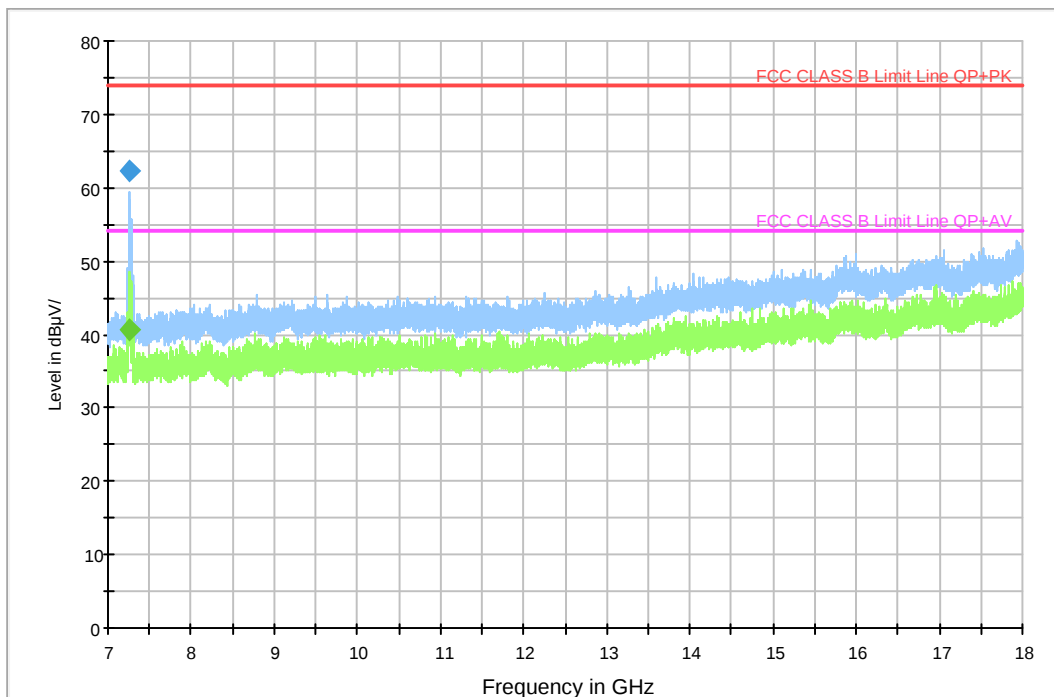


Diagram 7- 70

FCC CLASS B HF7.0_7G-18G_VER



Test Mode	802.11.n40-2437MHz					
Frequency (MHz)	Reading (dBμV/m)	Polarization	Margin (dB)	Limit (dBμV/m)	Detector (PK/AV)	Comment
4927.758334	52.4	H	21.6	74.0	PK	Diagram 7- 71
4925.284333	39.0	H	15.0	54.0	AV	
4875.832000	52.6	V	21.4	74.0	PK	Diagram 7-72
4874.915334	39.8	V	14.2	54.0	AV	
7329.153674	48.5	H	21.5	74.0	PK	Diagram 7-73
7334.956817	33.4	H	20.6	54.0	AV	
7333.36821	56.9	V	17.1	74.0	PK	Diagram 7-74
7331.986236	37.2	V	16.8	54.0	AV	

Diagram 7- 71

FCC CLASS B HF3.0_1G-7G_HOR

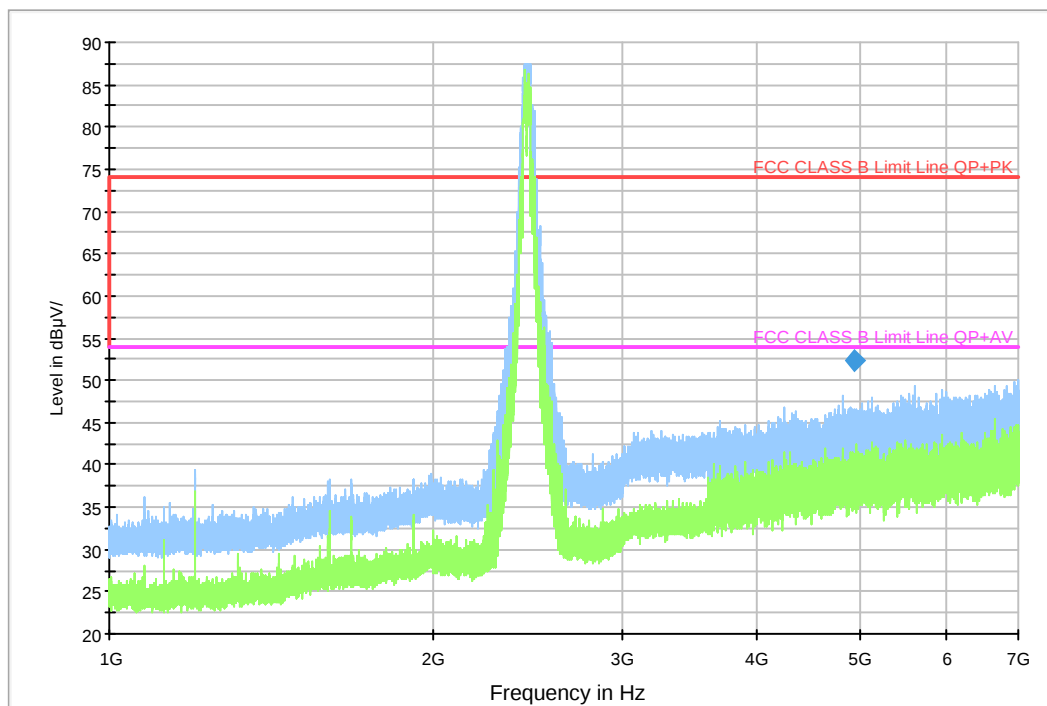


Diagram 7- 72

FCC CLASS B HF3.0_1G-7G_VER

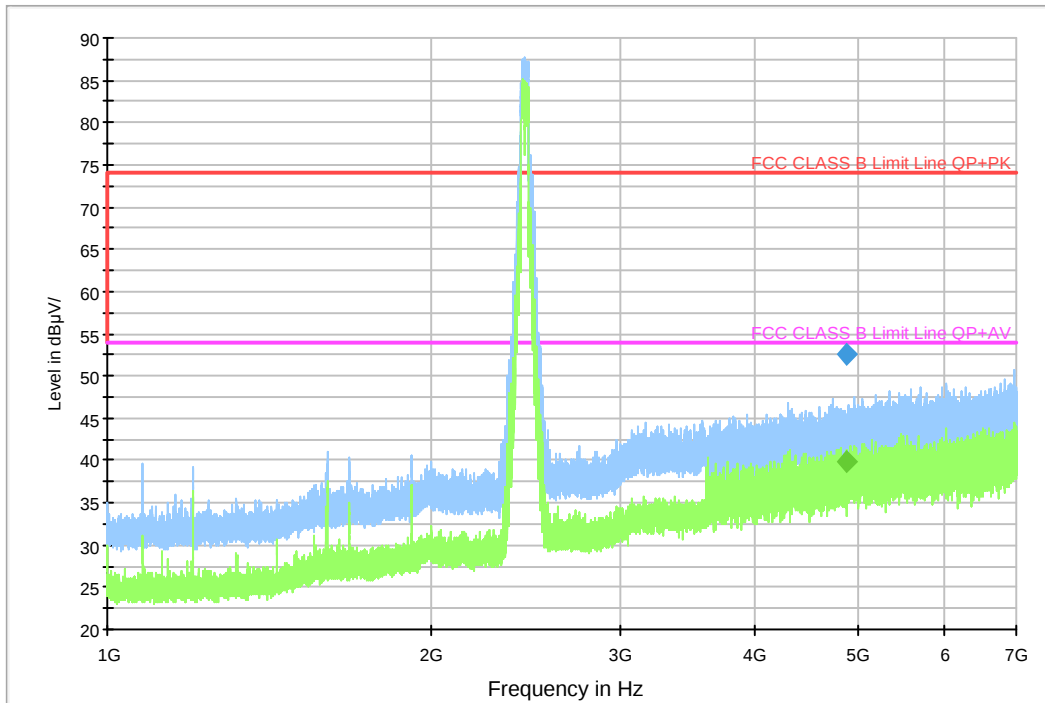


Diagram 7- 73

FCC CLASS B HF7.0_7G-18G_HOR

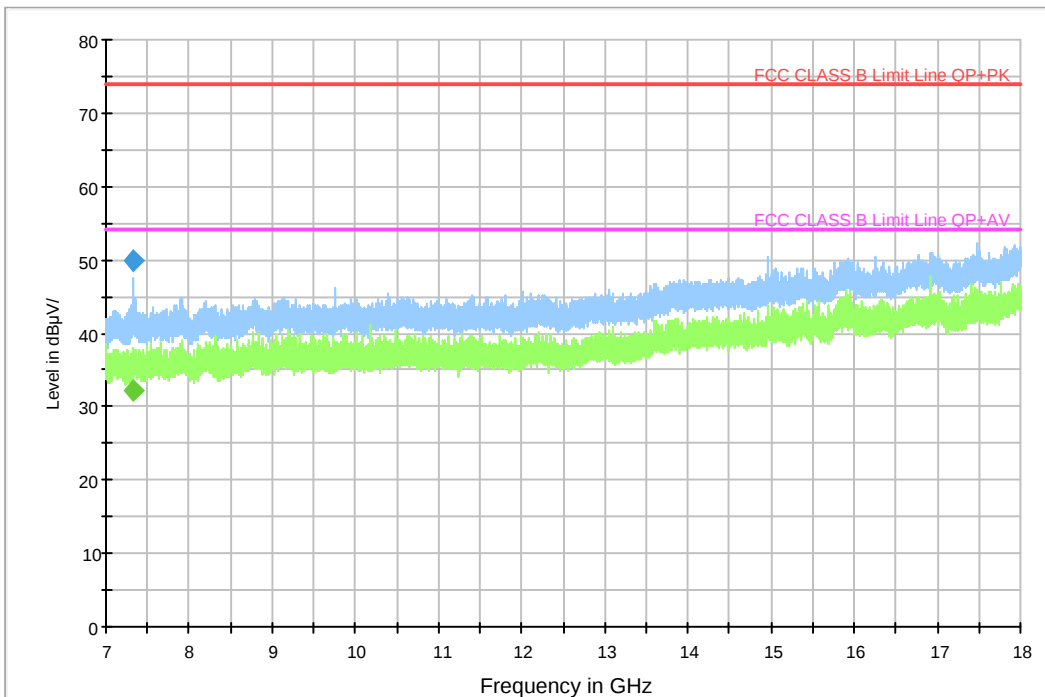
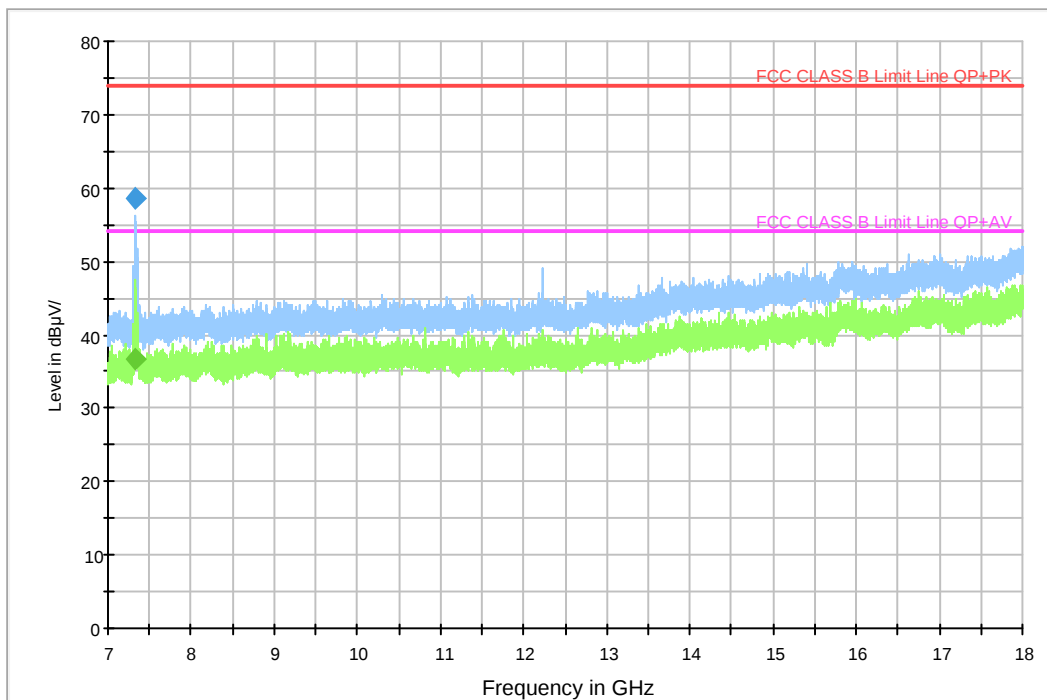


Diagram 7- 74

FCC CLASS B HF7.0_7G-18G_VER



Test Mode	802.11.n40-2452MHz					
Frequency (MHz)	Reading (dBµV/m)	Polarization	Margin (dB)	Limit (dBµV/m)	Detector (PK/AV)	Comment
4928.938667	47.5	H	26.5	74.0	PK	Diagram 7- 75
4926.970333	38.8	H	15.2	54.0	AV	
4927.810333	49.3	V	24.6	74.0	PK	Diagram 7-76
4932.136000	38.2	V	15.8	54.0	AV	
2483.500000	53.0	H	21	74.0	PK	Diagram 7-77
2486.984000	61.5	H	12.5	74.0	PK	
2449.860000	87.3	H	--	--	PK*	
2483.500000	45.6	V	28.4	74.0	PK	Diagram 7-78
2448.145500	85.8	V	--	--	PK*	
2447.000000	85.0	H	--	--	AV*	Diagram 7-79
2483.504000	41.6	H	12.4	54.0	AV	
2484.488000	46.9	H	7.1	54.0	AV	
2437.015000	79.9	V	--	--	AV*	Diagram 7-80
2483.500000	25.9	V	28.1	54.0	AV	
2488.544000	33.6	V	20.4	54.0	AV	
--	--	H	--	--	PK	Diagram 7-81
--	--	H	--	--	AV	
7384.75367	49.7	V	24.3	74.0	PK	Diagram 7-82
7404.74358	36.7	V	17.3	54.0	AV	

Diagram 7- 75

FCC CLASS B HF3.0_1G-7G_HOR

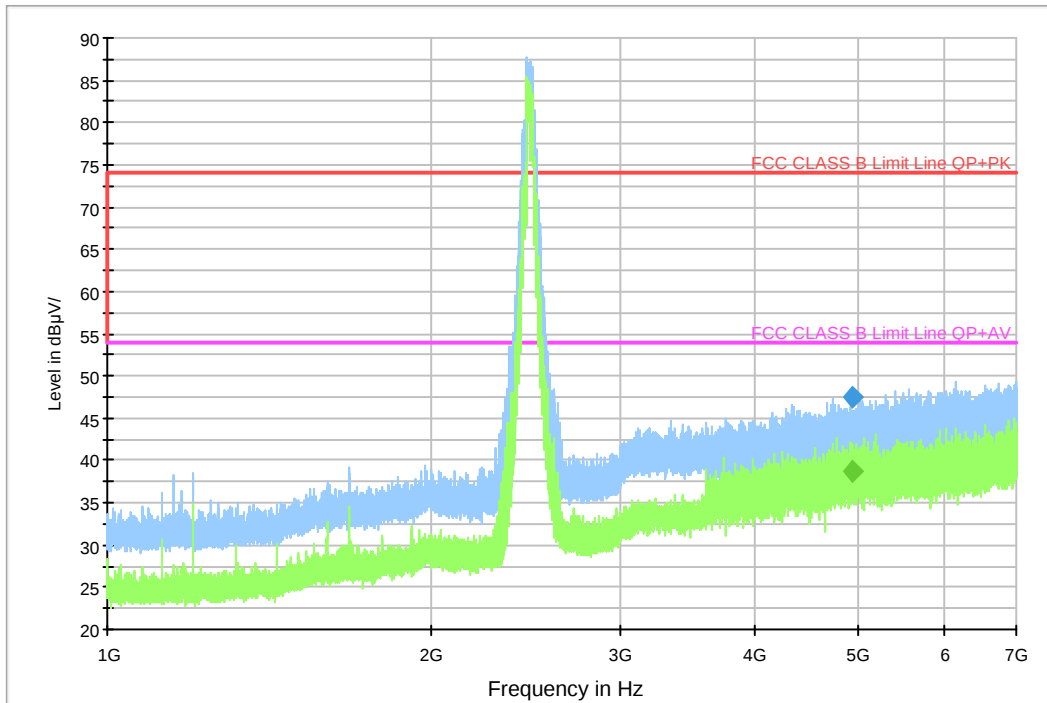


Diagram 7- 76

FCC CLASS B HF3.0_1G-7G_VER

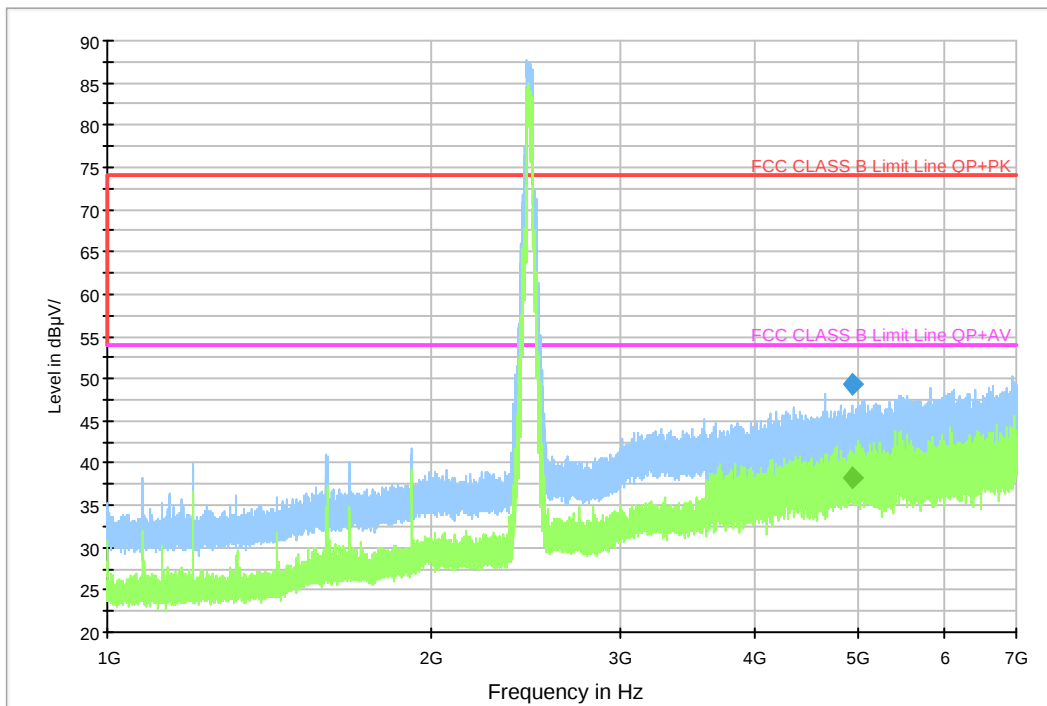


Diagram 7- 77

FCC BAND EDGE 2.4G HIGH HF1.0 PK HOR

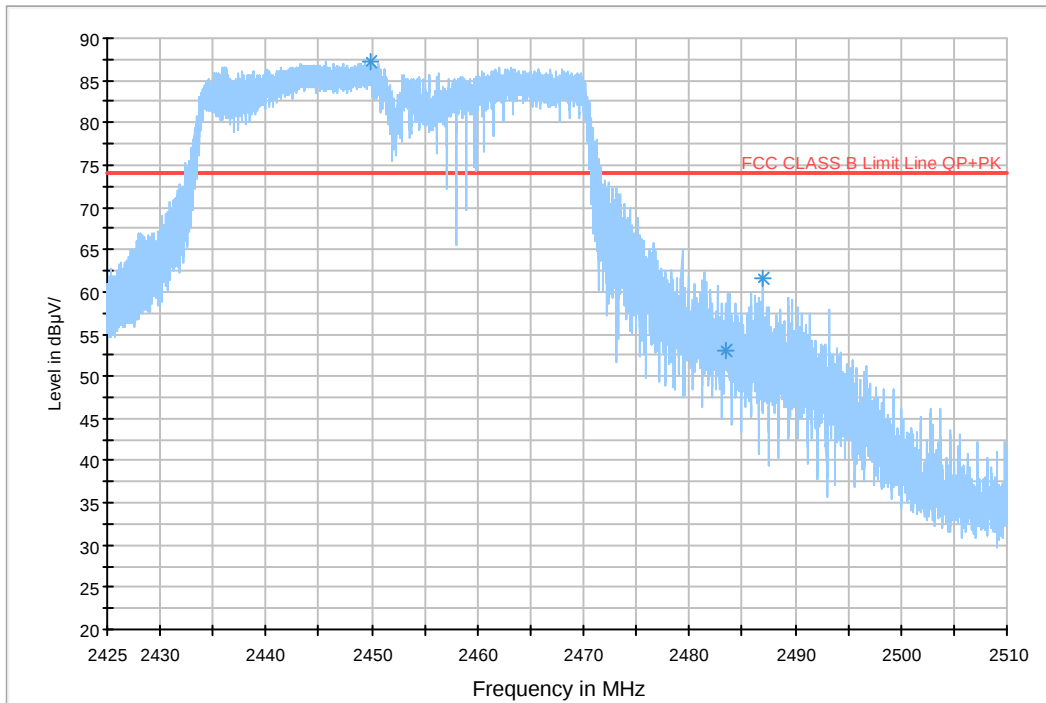


Diagram 7- 78

FCC BAND EDGE 2.4G HIGH HF1.0 PK VER

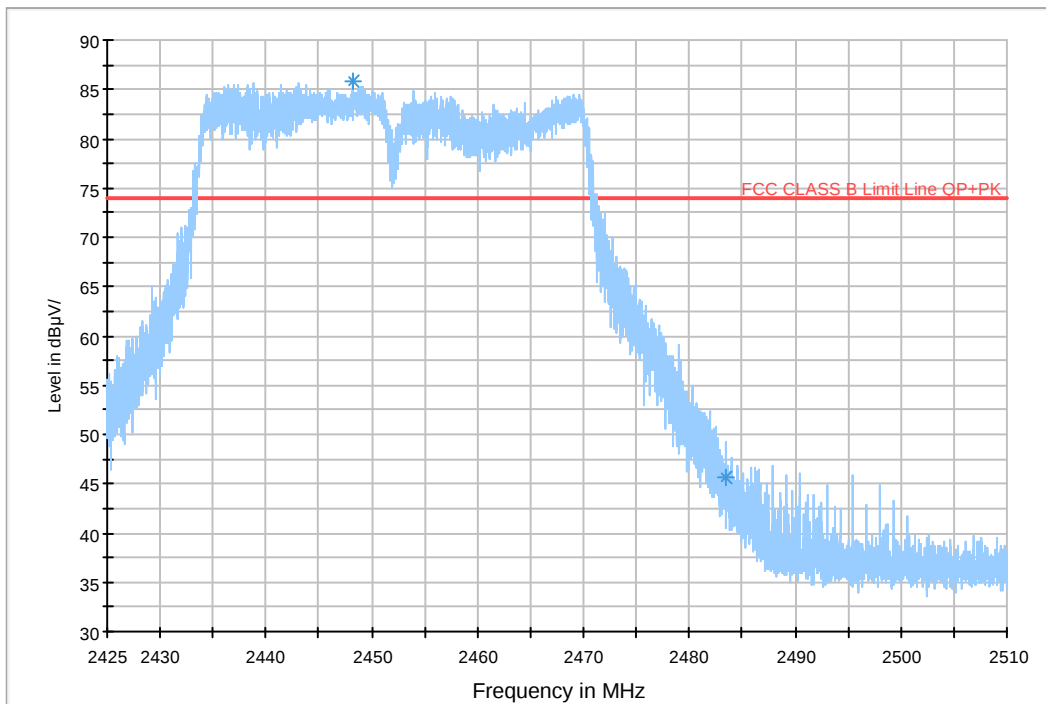


Diagram 7-79

FCC BAND EDGE 2.4G HIGH HF1.0 AV HOR

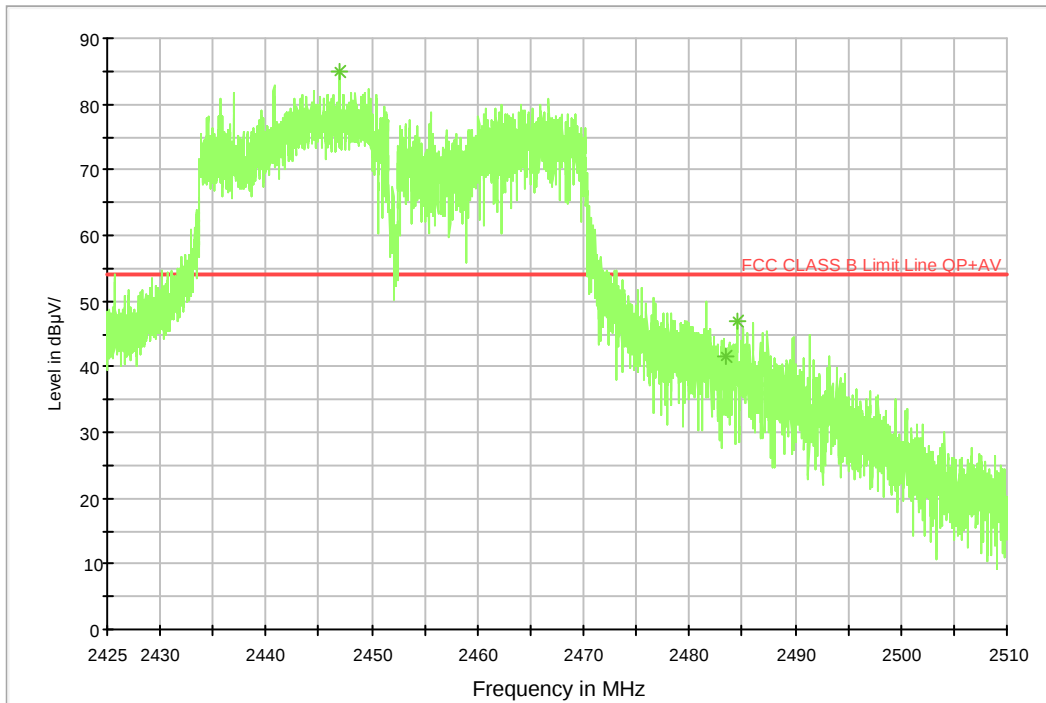


Diagram 7-80

FCC BAND EDGE 2.4G HIGH HF1.0 AV VER

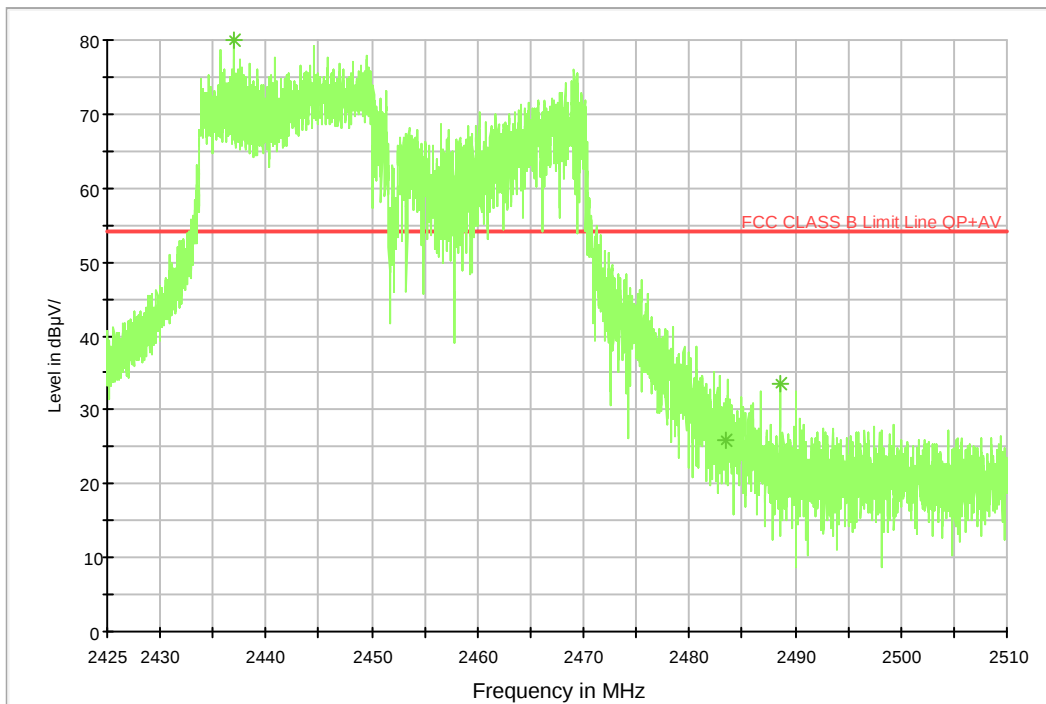


Diagram 7- 81

FCC CLASS B HF7.0_7G-18G_HOR

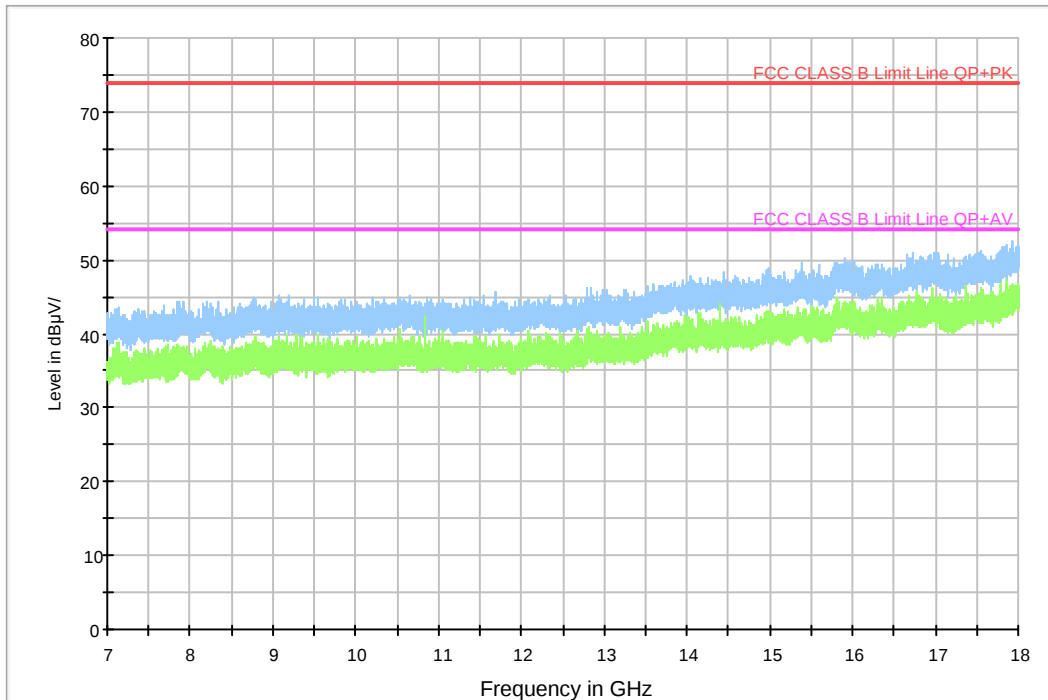
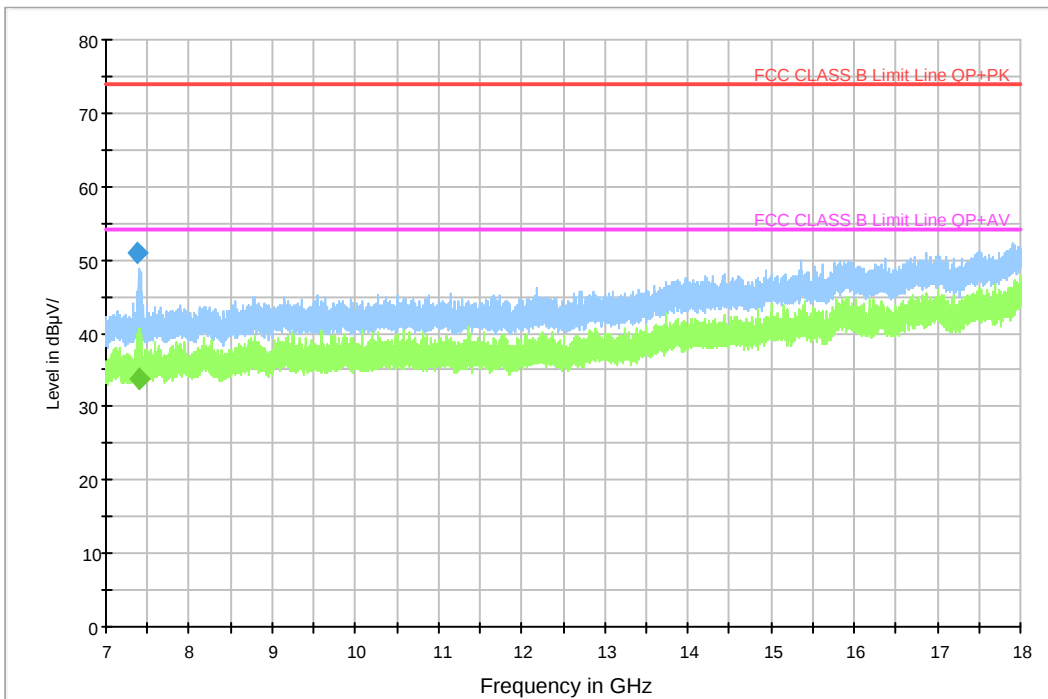


Diagram 7- 82

FCC CLASS B HF7.0_7G-18G_VER





8 6dB EMISSION BANDWIDTH

8.1 Applicable Standard: FCC §15.247(a)

Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands, The minimum 6dB bandwidth shall be at least 500kHz

8.2 Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2012-6-17	2013-6-17

***statement of traceability:** ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

8.3 Test Procedure

The transmitter output was connected to a spectrum analyzer. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz RBW and 300 KHz VBW. The 6dB bandwidth is defined as the total spectrum with the power of which is lower than peak power for 6dB.

Detector = Peak, Trace mode = max hold, Sweep = auto couple.

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

8.4 Environmental Conditions

Temperature:	20 ° C
Relative Humidity:	53%
ATM Pressure:	1009mbar

8.5 Test Result: pass

Mode	Channel	Antenna Port	6dB bandwidth(MHz)	Limit (kHz)	Test Data	Result
802.11.b	CH LOW	Port 1	10.07	500	Diagram 8-1	Pass
		Port 2	10.11	500		Pass
	CH MID	Port 1	10.11	500	Diagram 8-2	Pass
		Port 2	10.13	500		Pass
	CH HIGH	Port 1	10.13	500	Diagram 8-3	Pass
		Port 2	10.13	500		Pass
802.11.g	CH LOW	Port 1	16.38	500	Diagram 8-4	Pass
		Port 2	16.38	500		Pass
	CH MID	Port 1	16.36	500	Diagram 8-5	Pass
		Port 2	16.37	500		Pass
	CH HIGH	Port 1	16.39	500	Diagram 8-6	Pass
		Port 2	16.39	500		Pass
802.11.n. HT20	CH LOW	Port 1	17.60	500	Diagram 8-7	Pass
		Port 2	17.63	500		Pass
	CH MID	Port 1	17.35	500	Diagram 8-8	Pass
		Port 2	17.35	500		Pass
	CH HIGH	Port 1	17.63	500	Diagram 8-9	Pass
		Port 2	17.66	500		Pass
802.11.n. HT40	CH LOW	Port 1	35.78	500	Diagram 8-10	Pass
		Port 2	35.79	500		Pass
	CH MID	Port 1	35.74	500	Diagram 8-11	Pass
		Port 2	36.04	500		Pass
	CH HIGH	Port 1	36.11	500	Diagram 8-12	Pass
		Port 2	36.13	500		Pass

Please refer to following plots.

Diagram 8-1

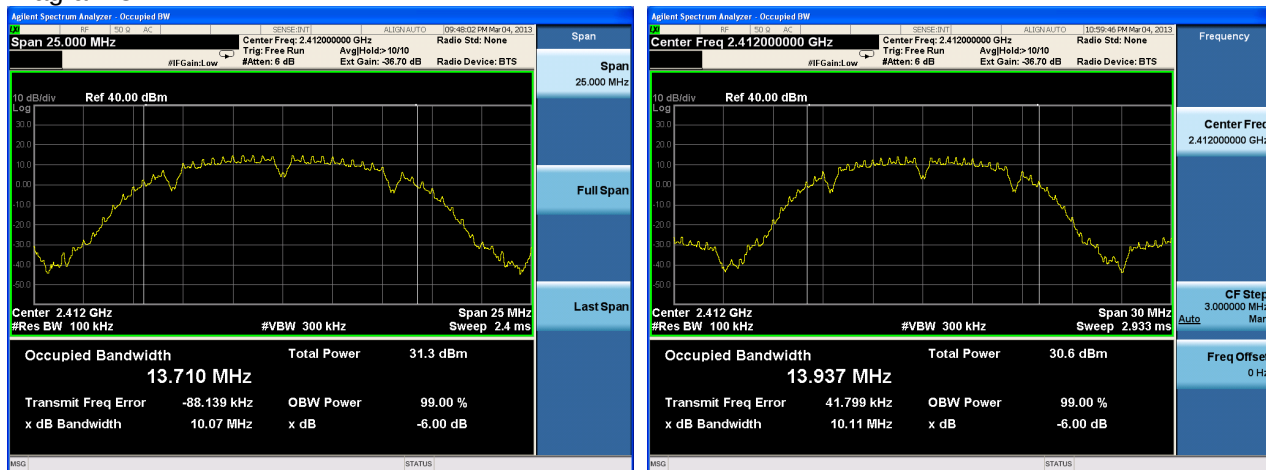


Diagram 8-2

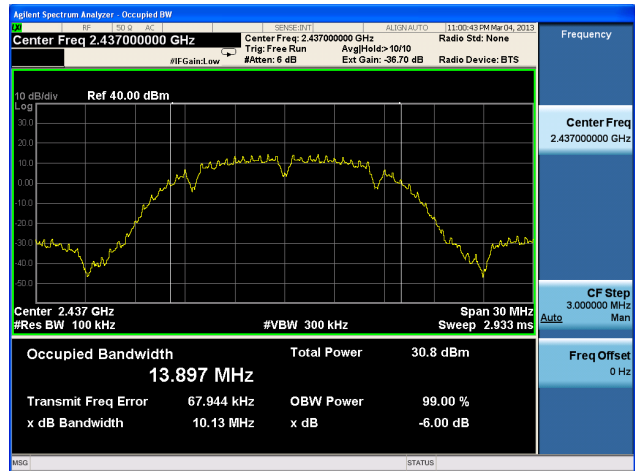
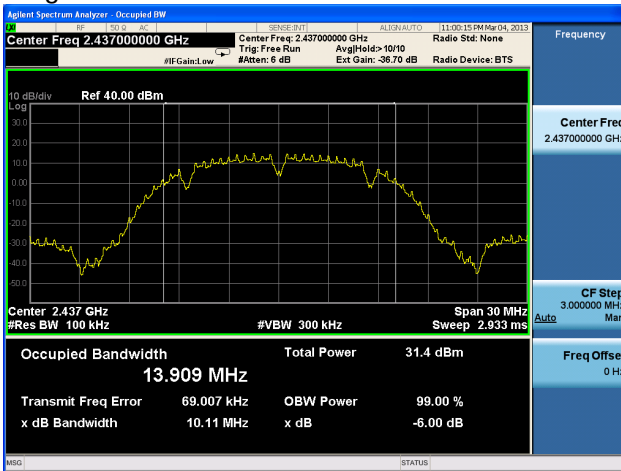


Diagram 8-3

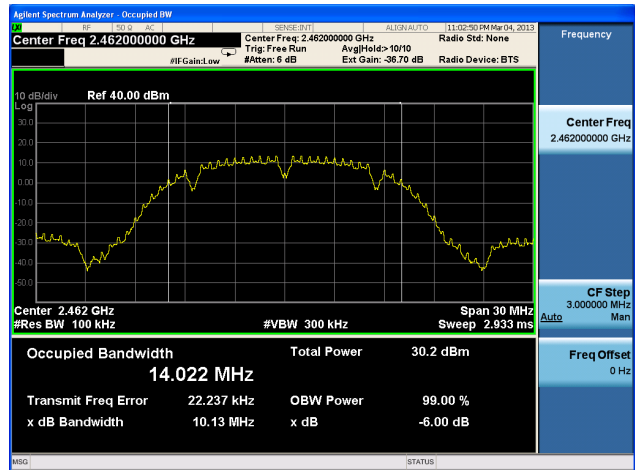
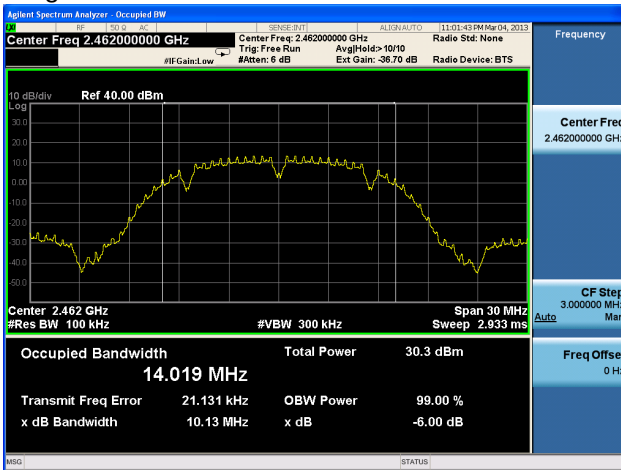


Diagram 8-4

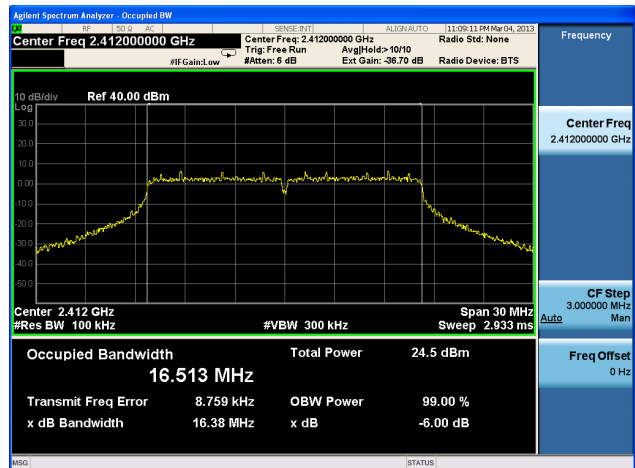
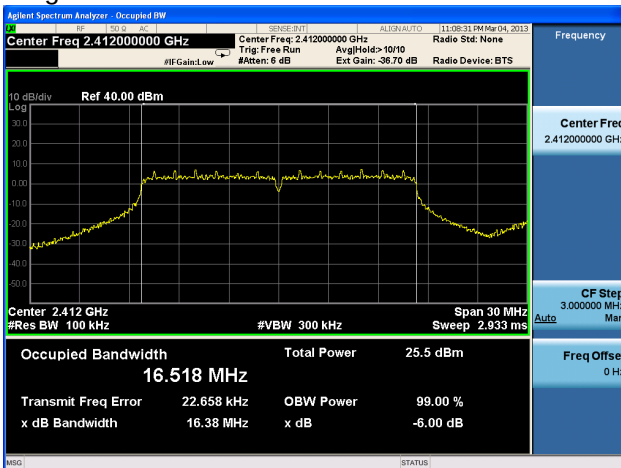


Diagram 8-5

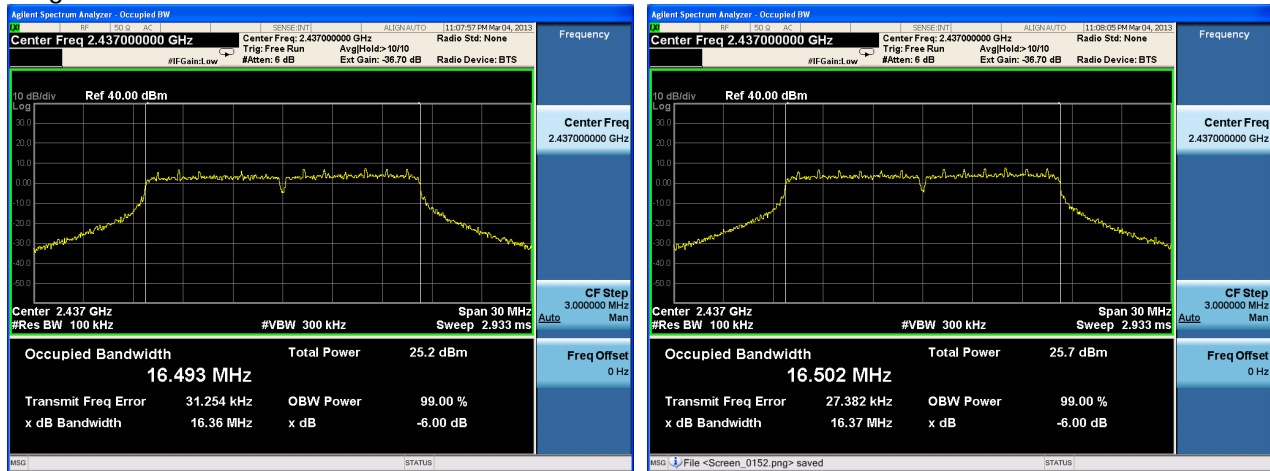


Diagram 8-6

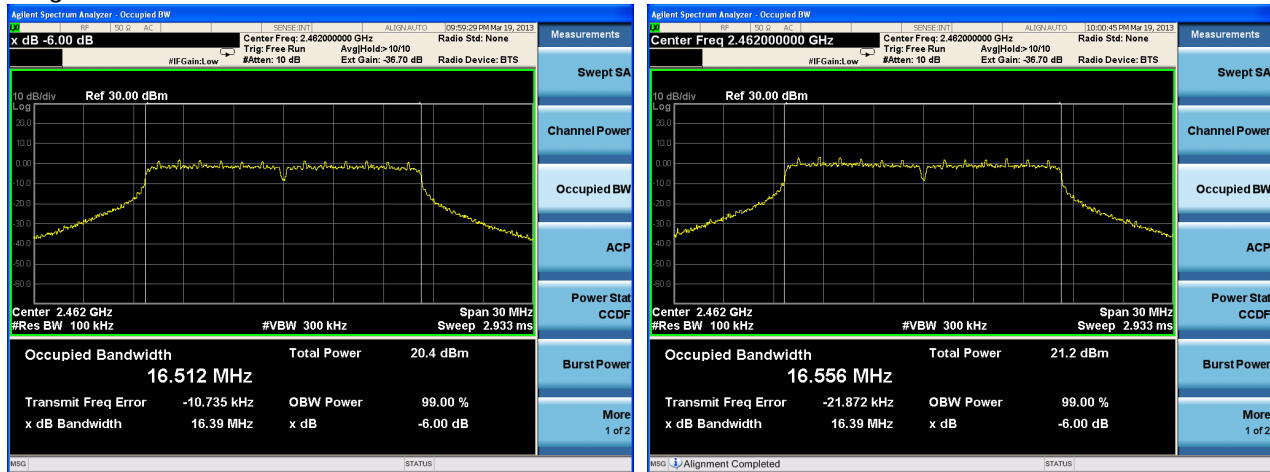


Diagram 8-7

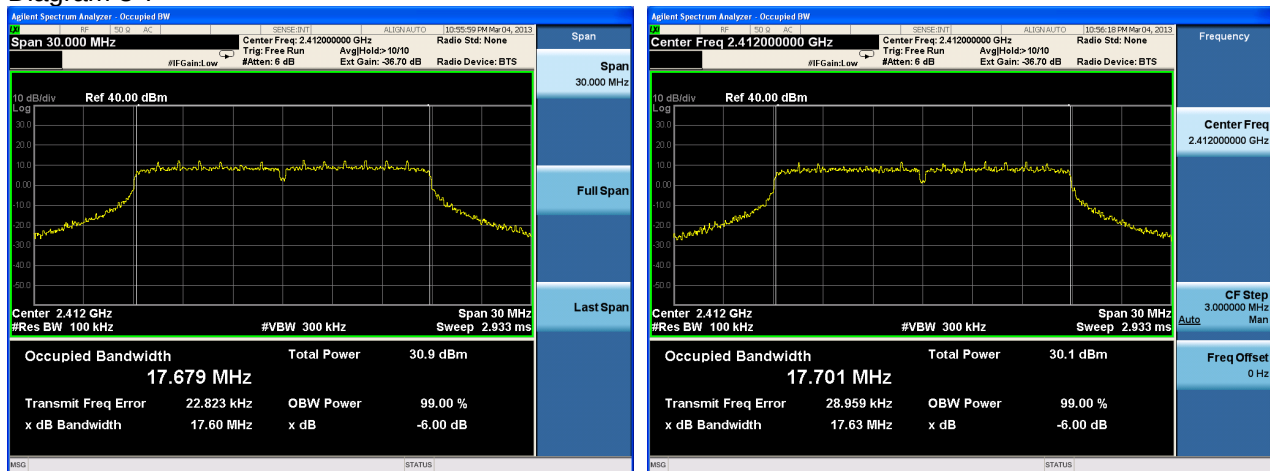


Diagram 8-8

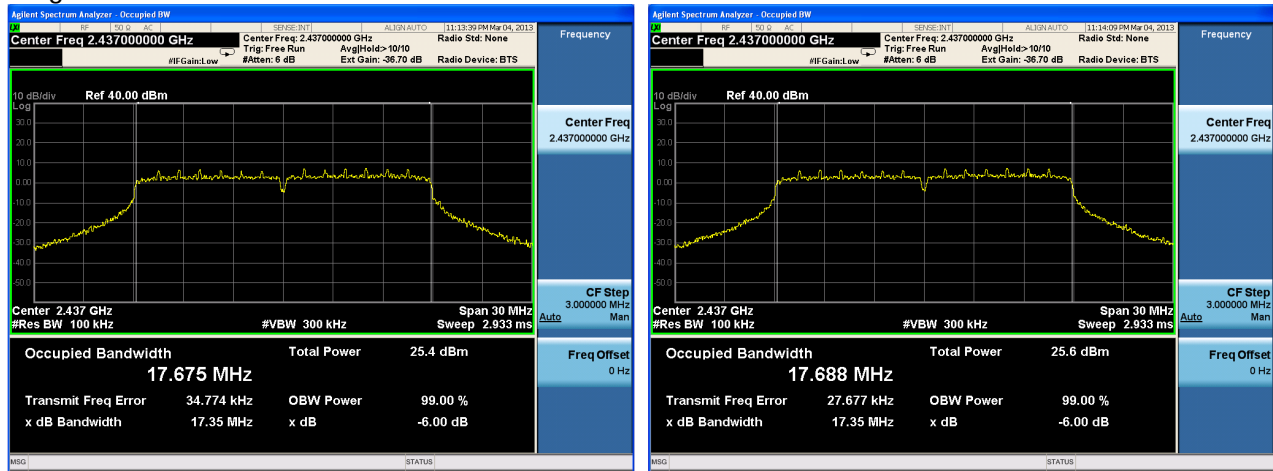


Diagram 8-9

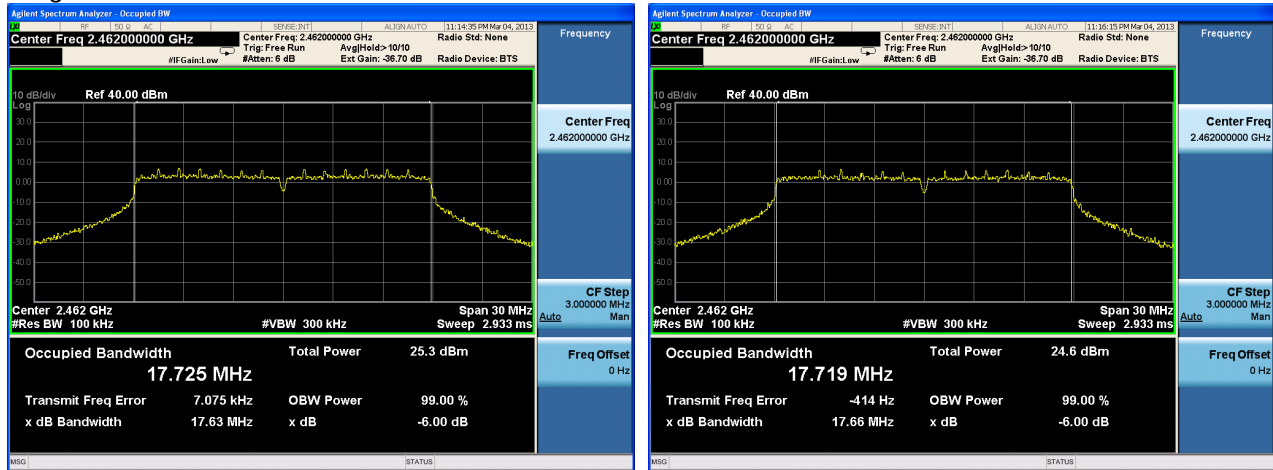


Diagram 8-10

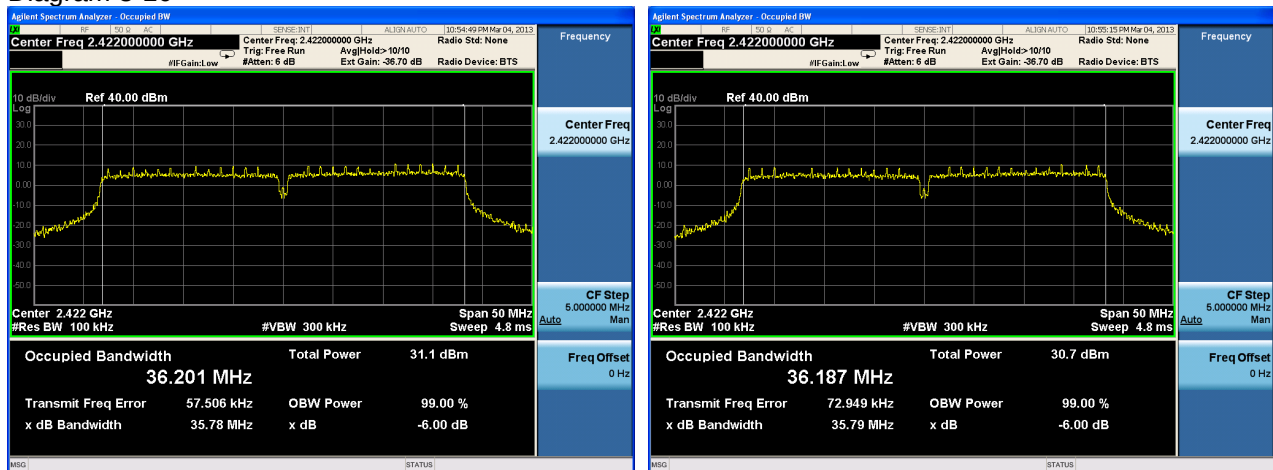


Diagram 8-11

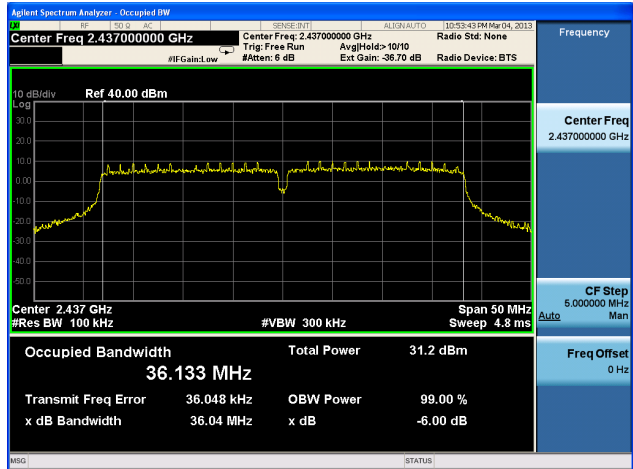
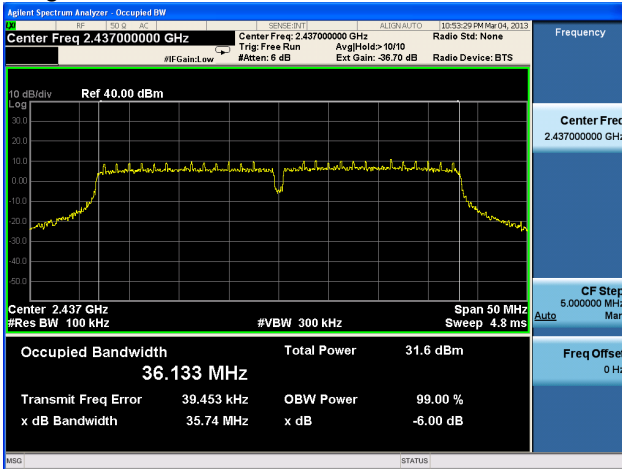
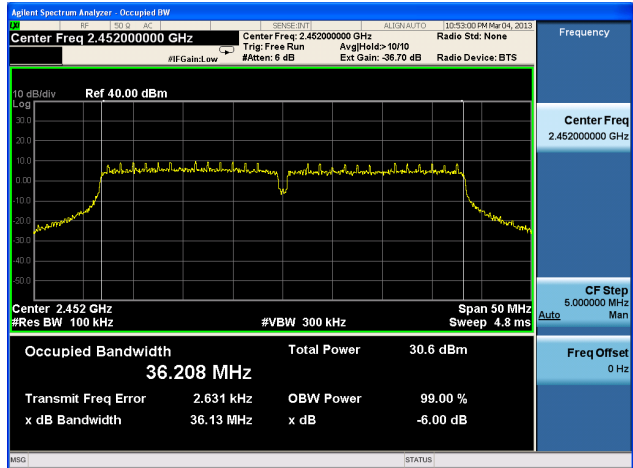
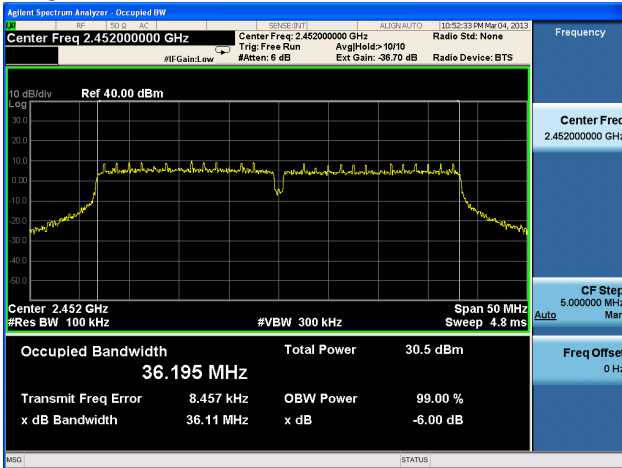


Diagram 8-12



9 MAXIMUM PEAK OUTPUT POWER

9.1 Applicable Standard: FCC §15.247

According to FCC§15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g. alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

9.2 Test Equipment List and Details

Manufacturer	Description	Model	Calibration Date	Calibration Due Date
ANRITSU	Power Meter	ML2495A	2012-6-17	2013-6-17
ANRITSU	Pulse Power Sensor	MA2411B	2013-2-28	2014-2-28

***statement of traceability:** ZTE Corporation Reliability Testing Center attest that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

9.3 Test Procedure

The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

9.4 Test Data Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53%
ATM Pressure:	1009mbar

9.5 Test Result: Pass

And according to FCC47CFR section 15.247(b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB than the directional gain of the antenna exceeds 6dBi, the applicable output power limit shall be calculated as follows:



$$P_{\text{Out}} = 30 - \text{Floor}(G_{\text{Tx}} - 6) = 30 - (15 - 6) = 21$$

where:

P_{Out} = maximum conducted output power in dBm,

G_{Tx} = the maximum transmitting antenna directional gain in dBi.

Mode	Channel	Antenna Port	Power (dBm)	Total Power (dBm)	Limit (dBm)	Result
802.11.b	CH LOW	Port 1	16.12	19.04	21	Pass
		Port 2	15.94			Pass
	CH MID	Port 1	16.42	19.16	21	Pass
		Port 2	15.86			Pass
	CH HIGH	Port 1	15.72	18.54	21	Pass
		Port 2	15.34			Pass
802.11.g	CH LOW	Port 1	15.49	18.58	21	Pass
		Port 2	15.65			Pass
	CH MID	Port 1	15.67	18.71	21	Pass
		Port 2	15.73			Pass
	CH HIGH	Port 1	15.86	18.73	21	Pass
		Port 2	15.57			Pass
802.11.n. HT20	CH LOW	Port 1	16.21	19.06	21	Pass
		Port 2	15.89			Pass
	CH MID	Port 1	15.67	18.48	21	Pass
		Port 2	15.26			Pass
	CH HIGH	Port 1	15.44	18.39	21	Pass
		Port 2	15.32			Pass
802.11.n. HT40	CH LOW	Port 1	16.34	19.54	21	Pass
		Port 2	16.72			Pass
	CH MID	Port 1	16.86	19.91	21	Pass
		Port 2	16.93			Pass
	CH HIGH	Port 1	16.52	19.43	21	Pass
		Port 2	16.31			Pass

10 100kHz BANDWIDTH OF FREQUENCY BAND EDGE

10.1 Applicable Standard: FCC § 15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

10.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	MXA Series Spectrum Analyzer	N9020A	MY48011941	2012-6-17	2013-6-17

***statement of traceability:** ZTE Corporation Reliability Testing Center attest that all calibration have been performed per the NVLAP requirements, traceable to NIST.

10.3 Test Procedure

Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency, the spurious emissions more than 20 dB below the permissible value are not reported.

RBW =100kHz, VBW=300kHz; Detector = Peak, Trace mode = max hold

10.4 Environmental Conditions

Normal condition:	25° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

10.5 Test Result: pass

Mode	Port	Channel	Test Data	Test Result
802.11.b	Port 1	CH LOW	Diagram 10-1	Pass
		CH MID	Diagram 10-2	Pass
		CH HIGH	Diagram 10-3	Pass
	Port 2	CH LOW	Diagram 10-4	Pass
		CH MID	Diagram 10-5	Pass
		CH HIGH	Diagram 10-6	Pass
802.11.g	Port 1	CH LOW	Diagram 10-7	Pass
		CH MID	Diagram 10-8	Pass
		CH HIGH	Diagram 10-9	Pass
	Port 2	CH LOW	Diagram 10-10	Pass
		CH MID	Diagram 10-11	Pass
		CH HIGH	Diagram 10-12	Pass
802.11.n20	Port 1	CH LOW	Diagram 10-13	Pass
		CH MID	Diagram 10-14	Pass
		CH HIGH	Diagram 10-15	Pass
	Port 2	CH LOW	Diagram 10-16	Pass
		CH MID	Diagram 10-17	Pass
		CH HIGH	Diagram 10-18	Pass
802.11.n40	Port 1	CH LOW	Diagram 10-19	Pass
		CH MID	Diagram 10-20	Pass
		CH HIGH	Diagram 10-21	Pass
	Port 2	CH LOW	Diagram 10-22	Pass
		CH MID	Diagram 10-23	Pass
		CH HIGH	Diagram 10-24	Pass

Please refer to following plots.

Diagram 10-1



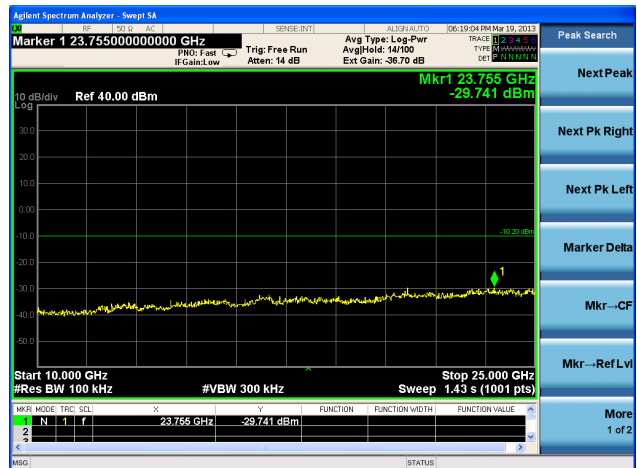
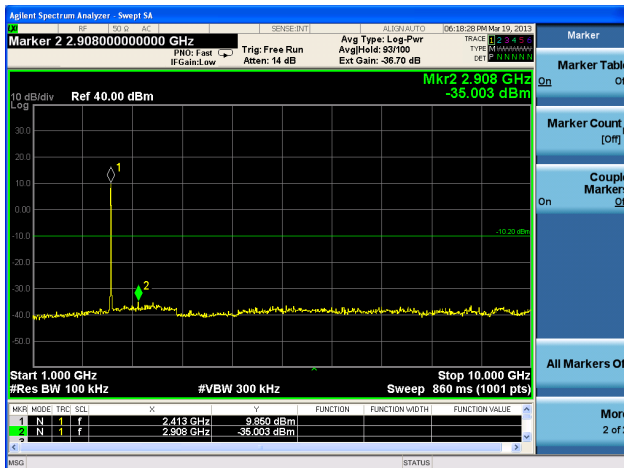


Diagram 10-2

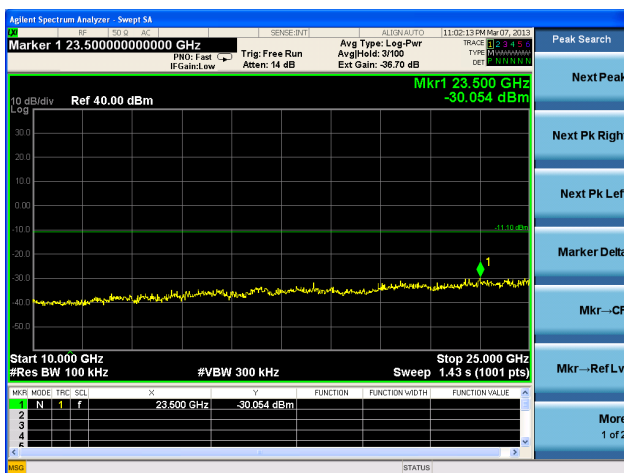
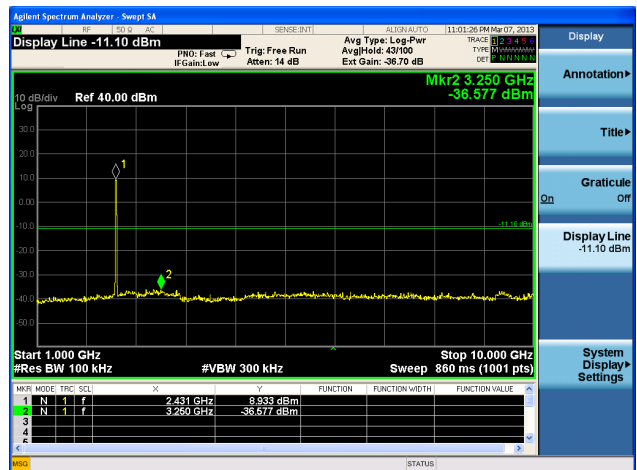
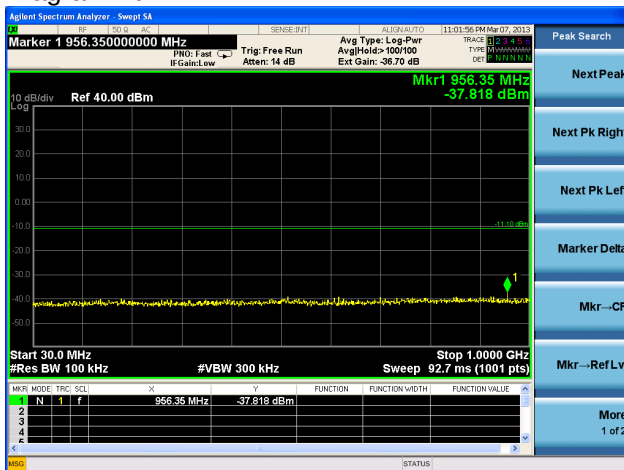


Diagram 10-3

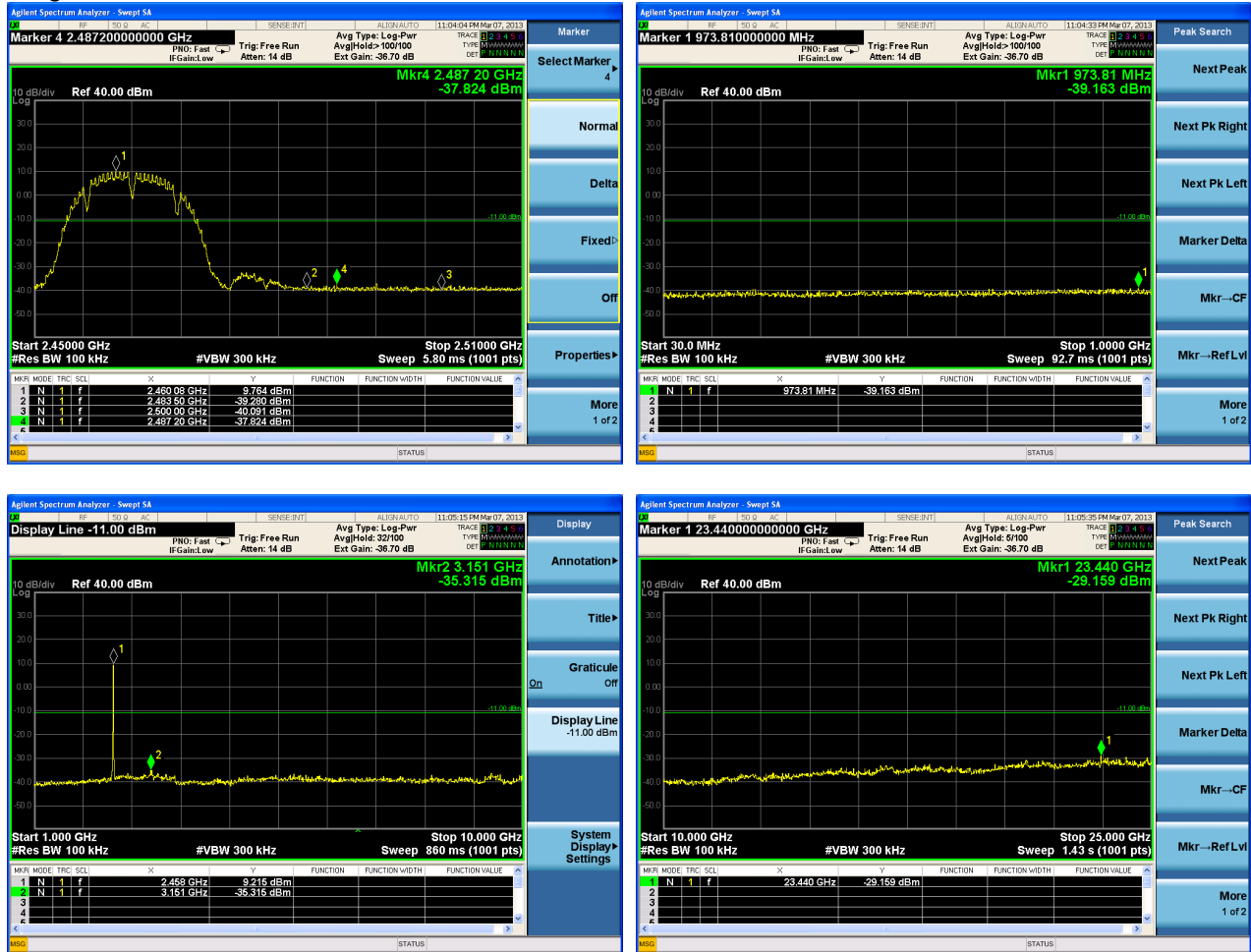


Diagram 10-4

