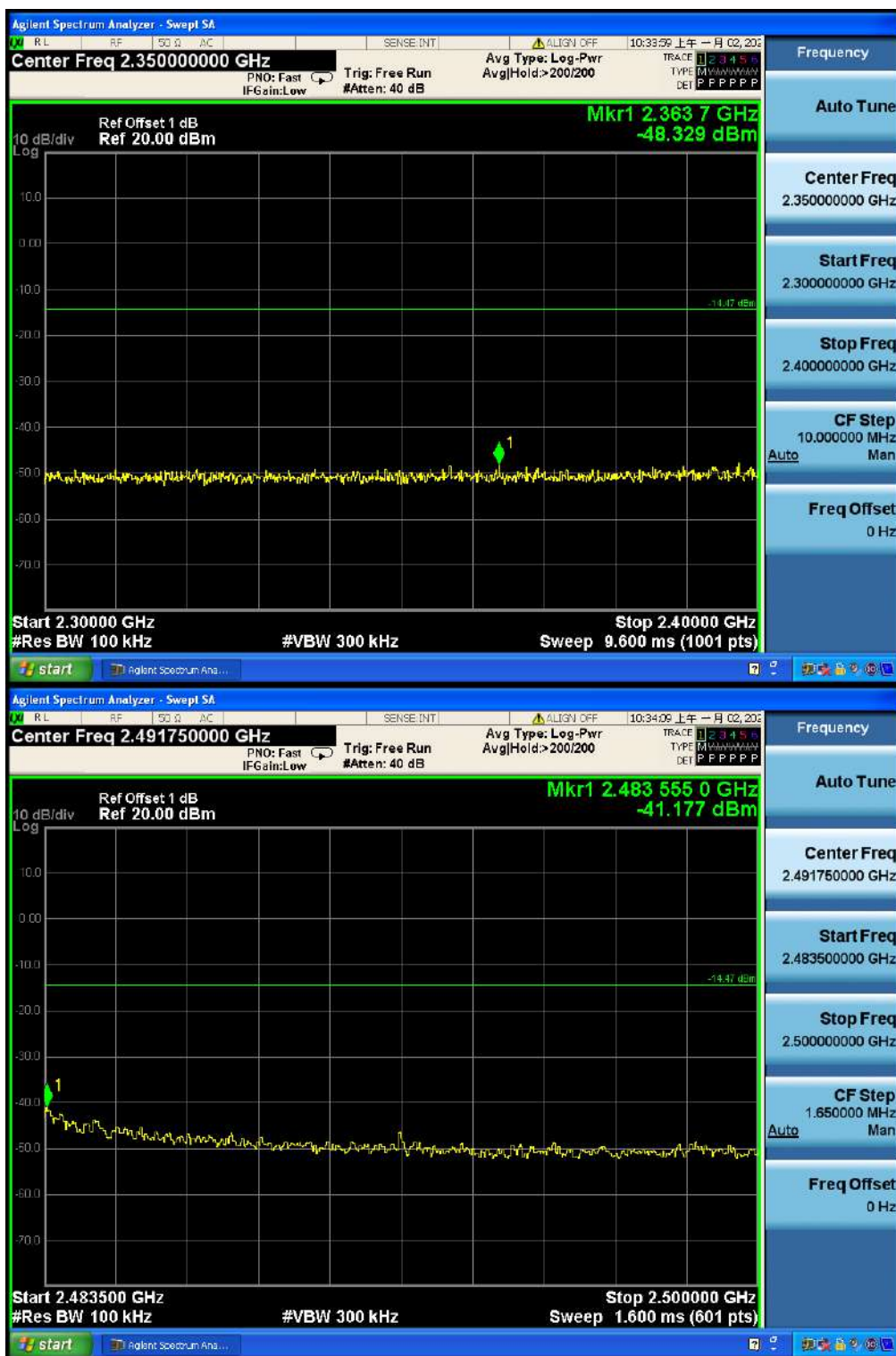


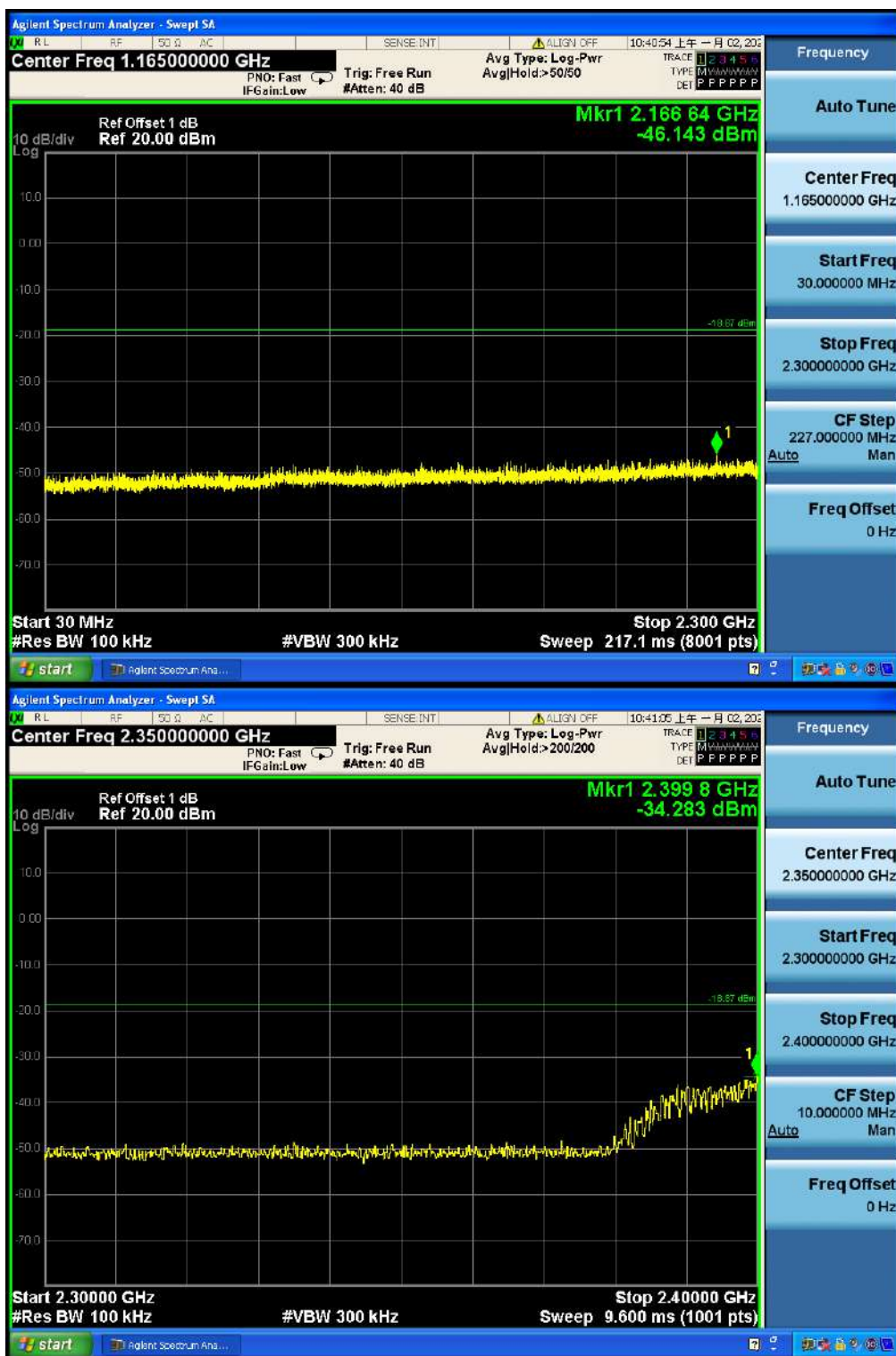


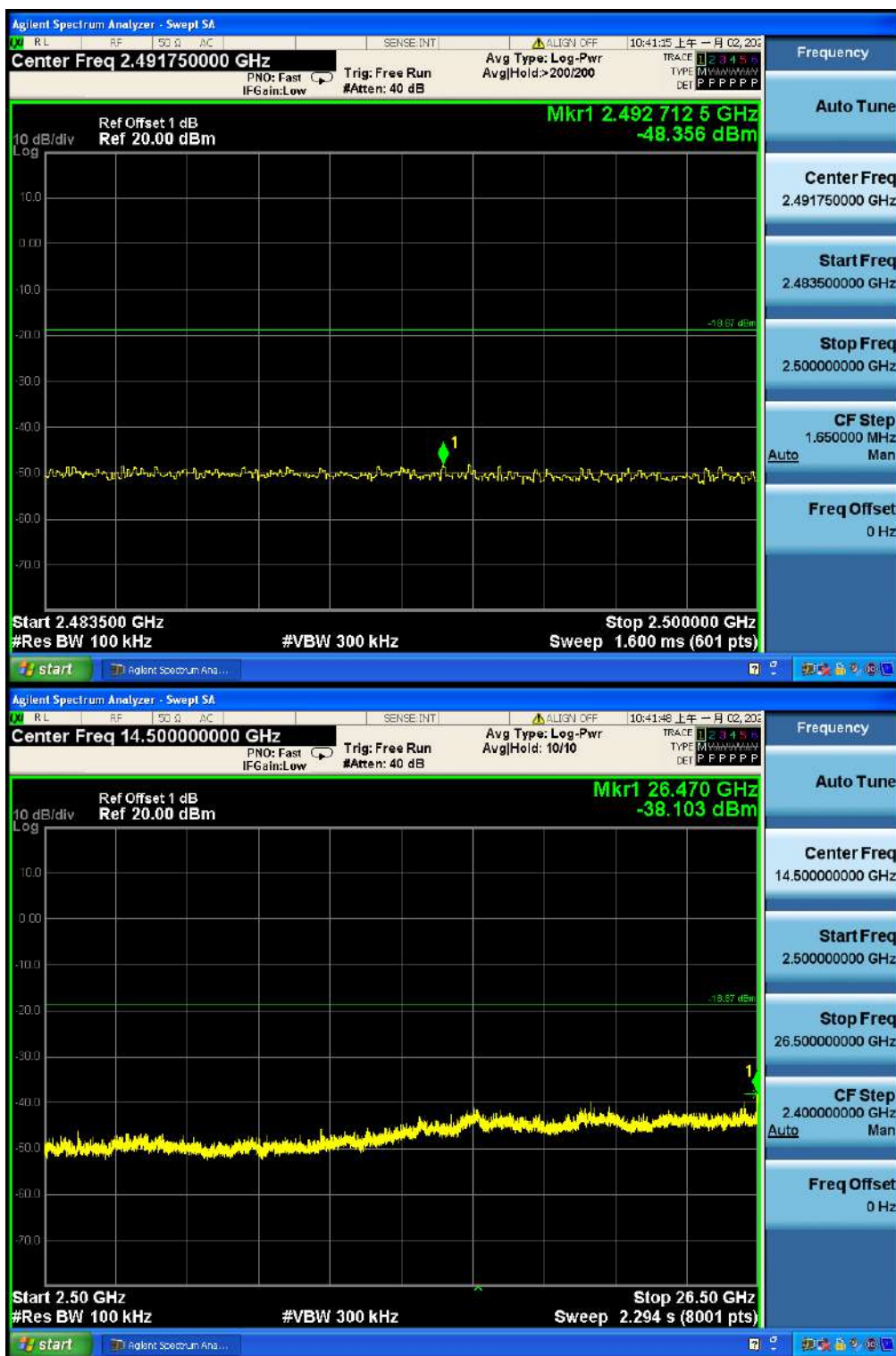


4.9.1.1.10 802.11N40 Lowest Channel

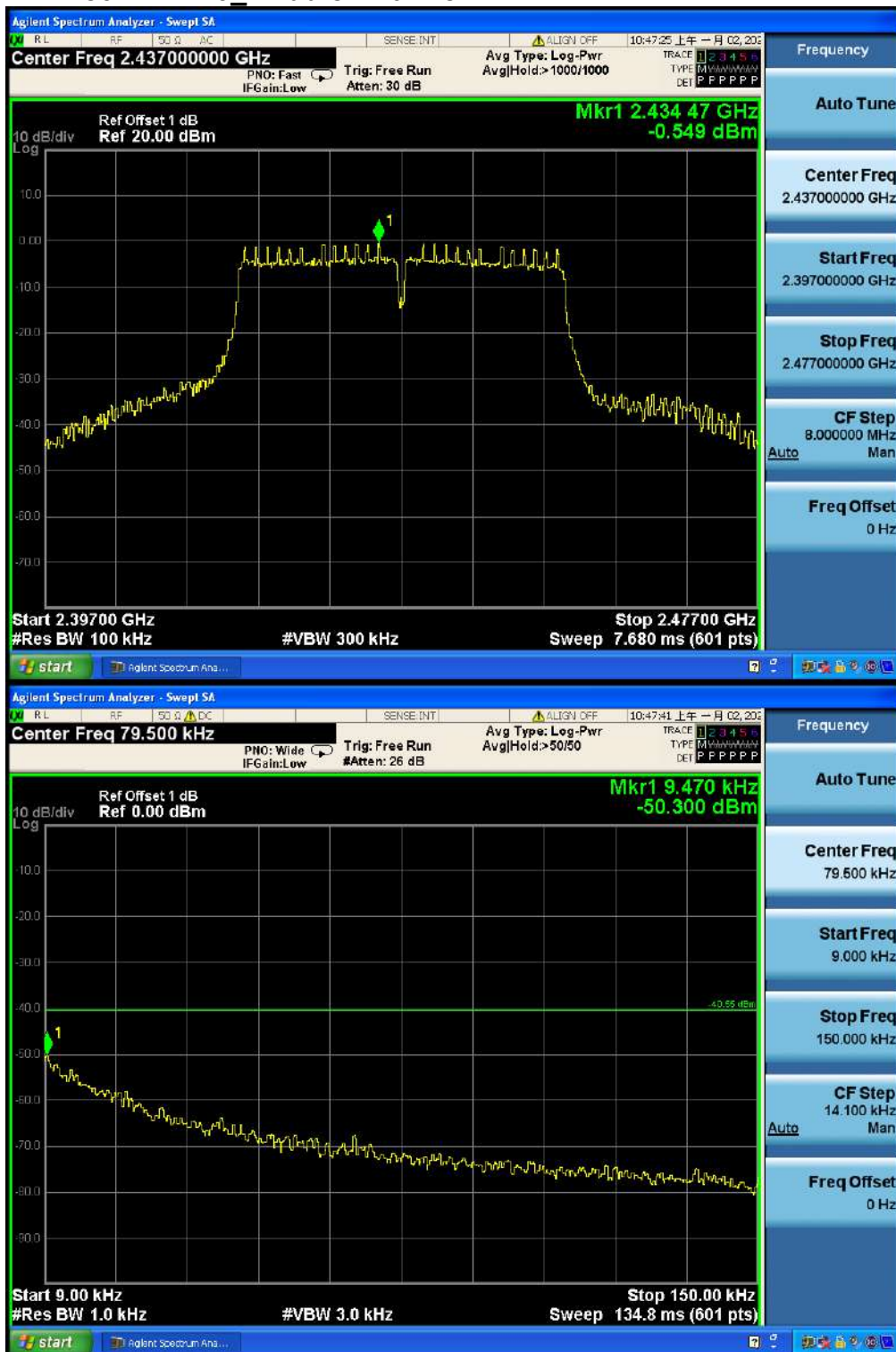


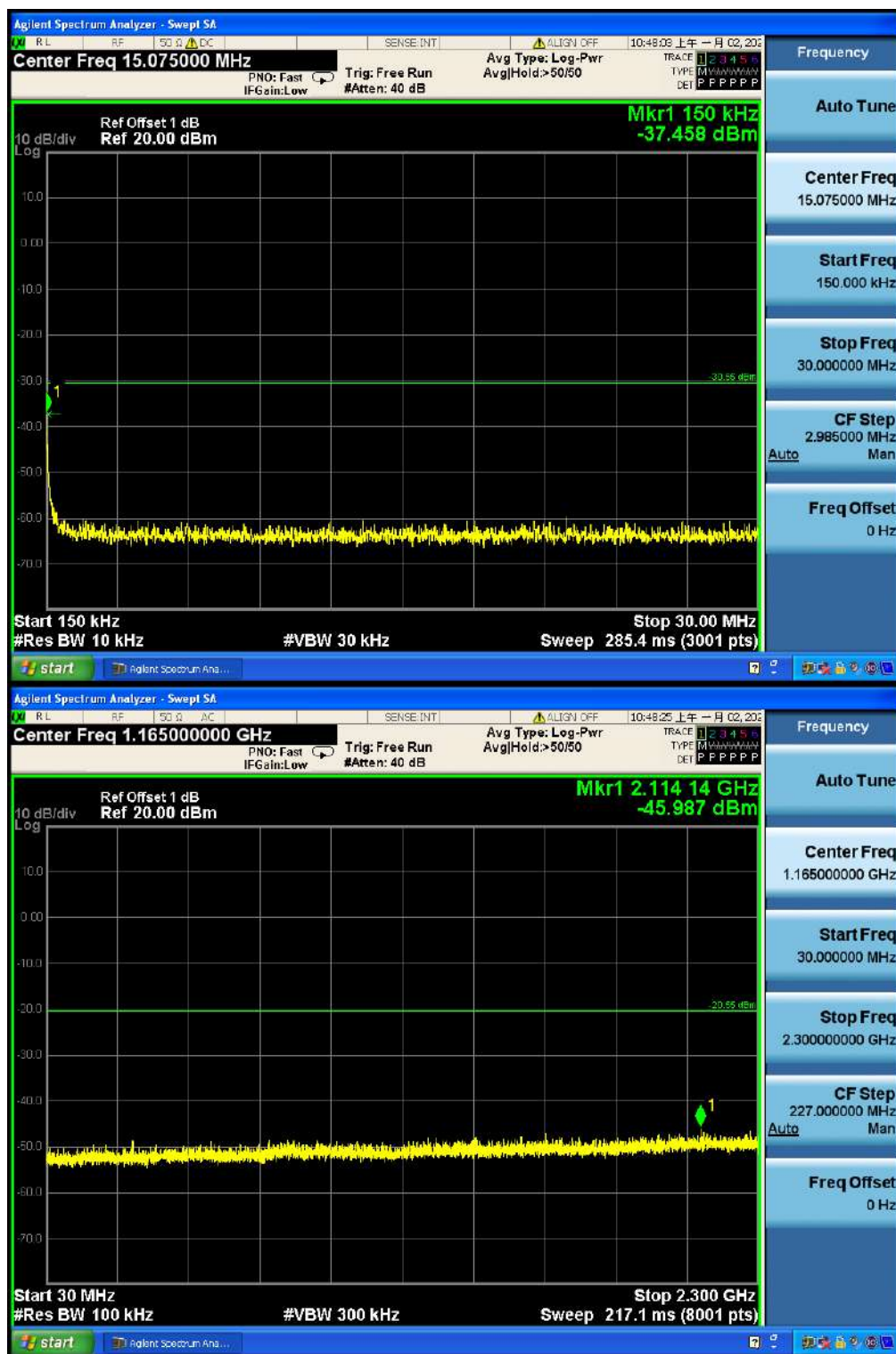






4.9.1.1.11 802.11 N40_ Middle Channel







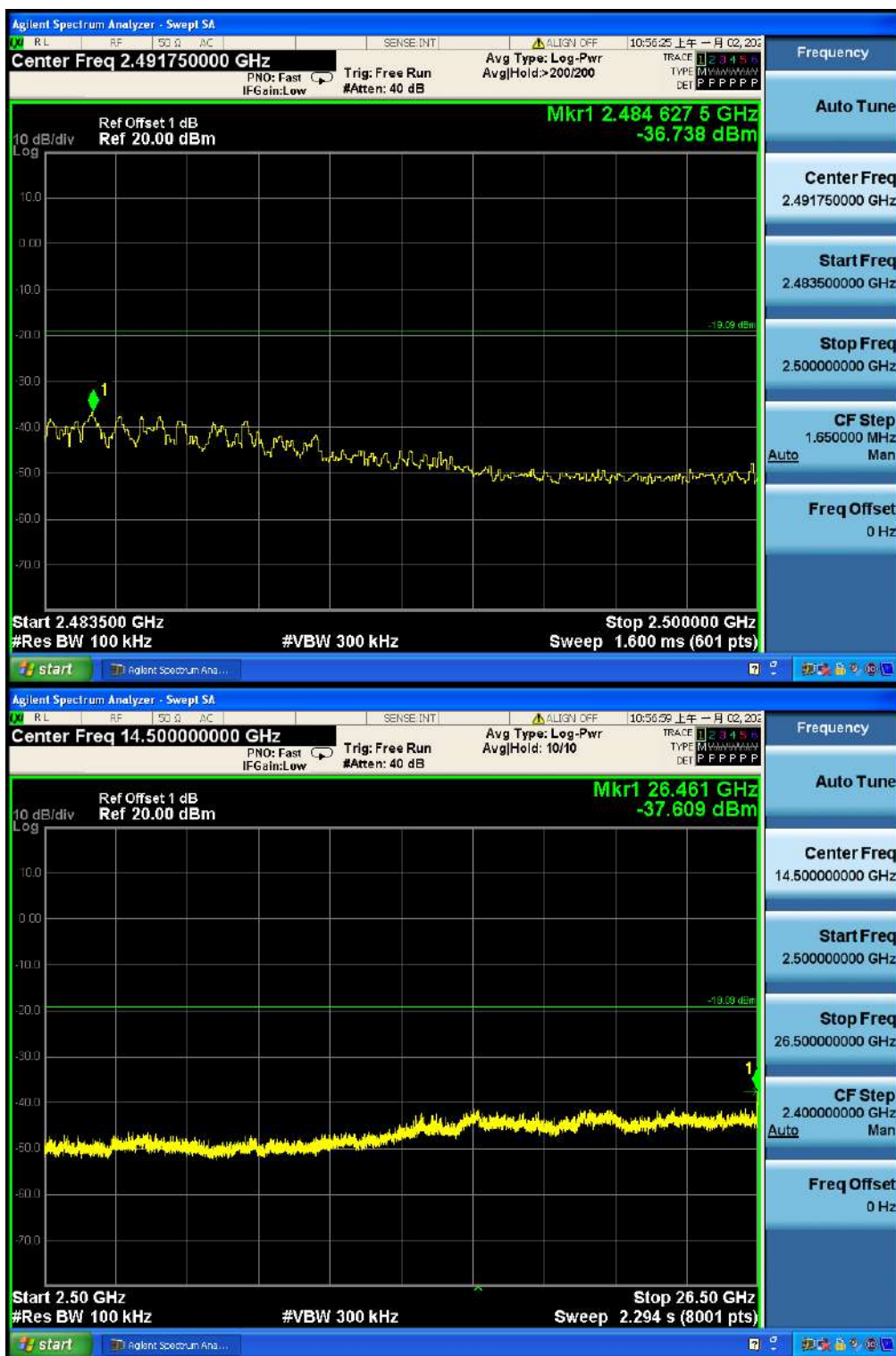


4.9.1.1.12 802.11 N40_Highest Channel









Remark:

Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.



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4.10 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				

Test Setup:	
-------------	--



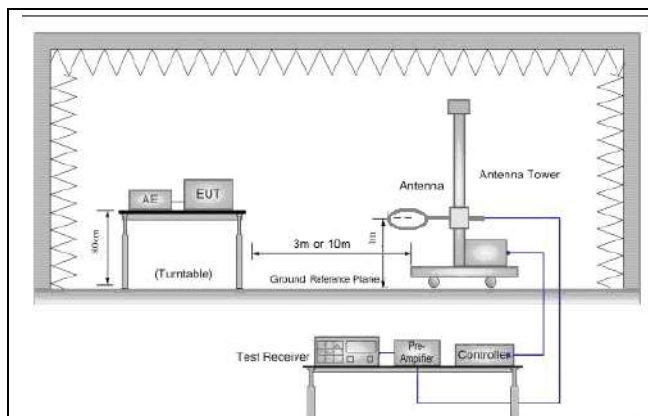


Figure 1. Below 30MHz

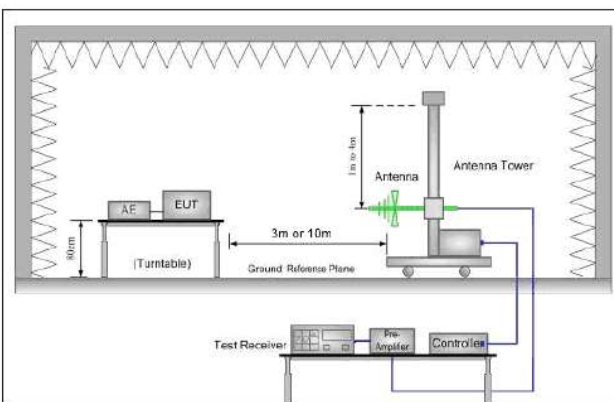


Figure 2. 30MHz to 1GHz

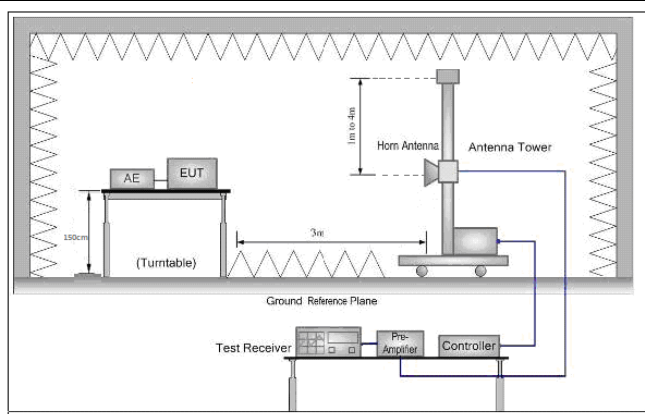


Figure 3. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 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
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 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. h. Test the EUT in the lowest channel, the middle channel ,the Highest channel i. 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. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge + Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40) For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



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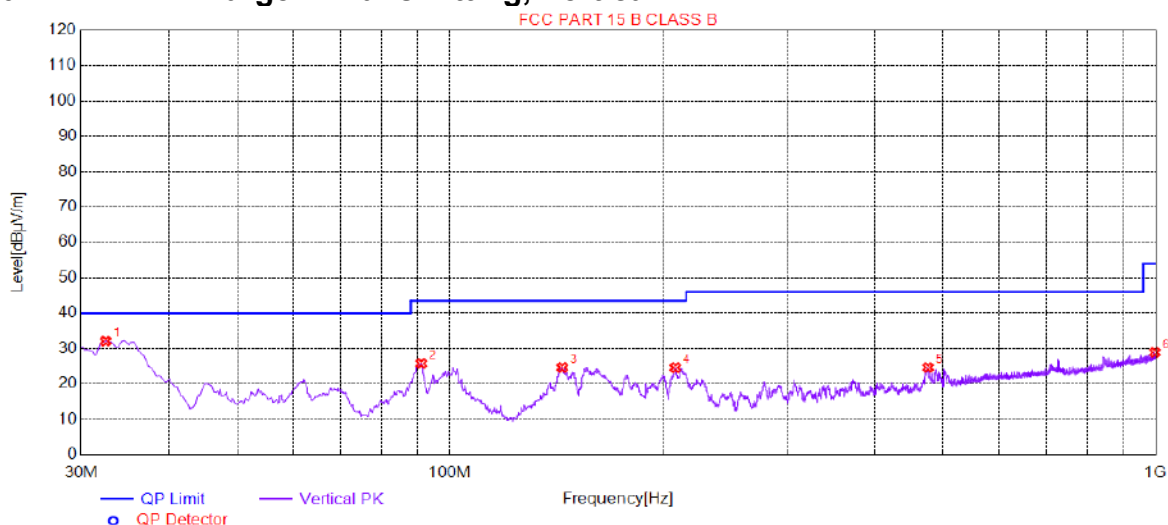
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4.10.1 Radiated emission below 1GHz

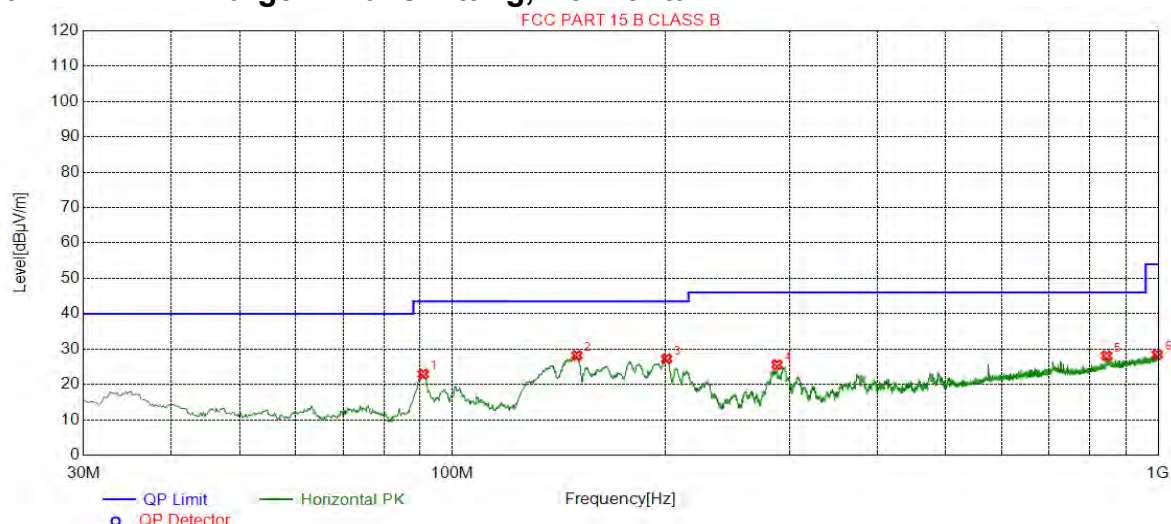
4.10.1.1 Charge + Transmitting, Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.5225	32.12	-30.02	40.00	7.88	100	14	Vertical
2	91.1222	25.80	-33.53	43.50	17.70	100	272	Vertical
3	144.2889	24.67	-35.34	43.50	18.83	100	336	Vertical
4	208.7097	24.63	-31.01	43.50	18.87	200	343	Vertical
5	475.7071	24.68	-23.91	46.00	21.32	100	25	Vertical
6	997.0894	28.92	-14.83	54.00	25.08	200	346	Vertical



4.10.1.2 Charge + Transmitting, Horizontal



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	90.9282	22.96	-33.56	43.50	20.54	200	187	Horizontal
2	150.1100	28.19	-35.08	43.50	15.31	200	245	Horizontal
3	201.1422	27.26	-31.16	43.50	16.24	200	239	Horizontal
4	288.2657	25.61	-28.71	46.00	20.39	100	34	Horizontal
5	844.9630	28.12	-16.97	46.00	17.88	200	228	Horizontal
6	997.0894	28.48	-14.83	54.00	25.52	200	274	Horizontal



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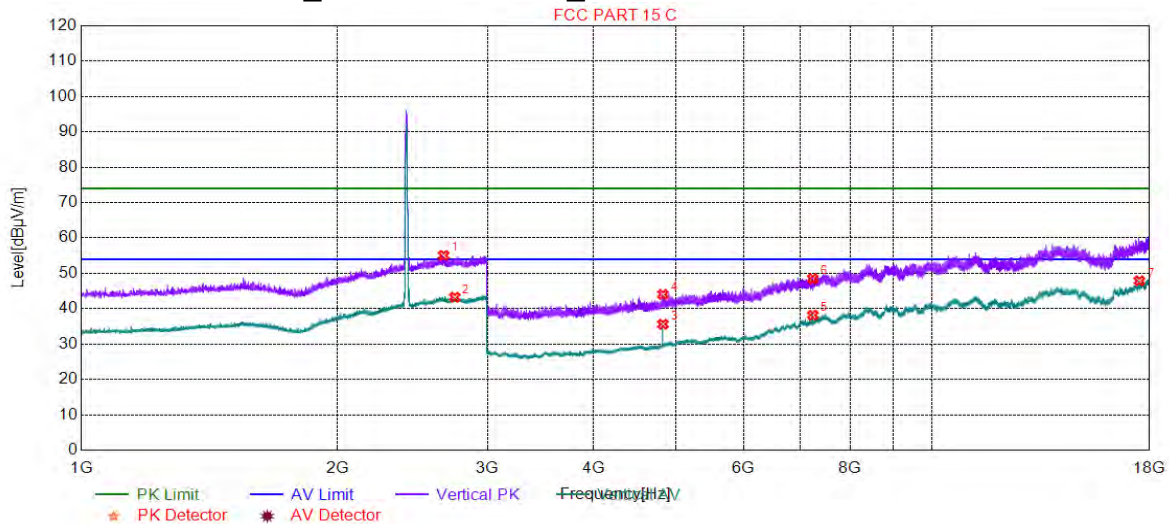
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4.10.2 Transmitter emission above 1GHz

4.10.2.1 ANT1

4.10.2.1.1 802.11B_Lowest Channel_ Vertical



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2664.9162	55.08	8.67	74.00	18.92	150	303	Vertical
2	2746.4366	43.24	9.07	54.00	10.76	150	45	Vertical
3	4824.0000	35.62	-18.21	54.00	18.38	150	99	Vertical
4	4824.0000	44.03	-18.21	74.00	29.97	150	262	Vertical
5	7236.0000	38.16	-9.99	54.00	15.84	150	266	Vertical
6	7236.0000	48.47	-9.99	74.00	25.53	150	266	Vertical
7	17509.9255	47.88	1.96	54.00	6.12	150	359	Vertical



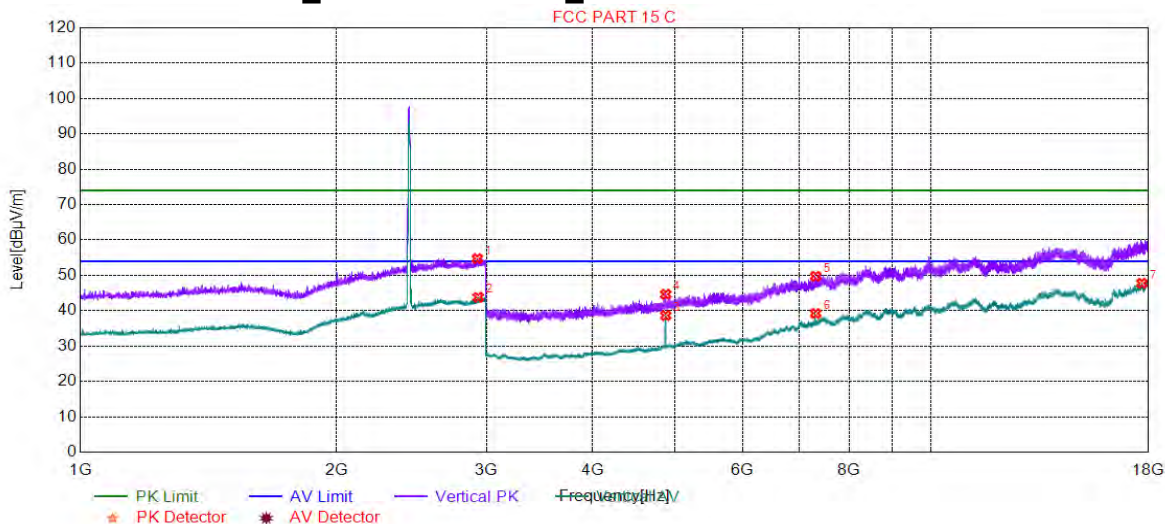
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4.10.2.1.2 802.11B_ Middle Channel_ Vertical

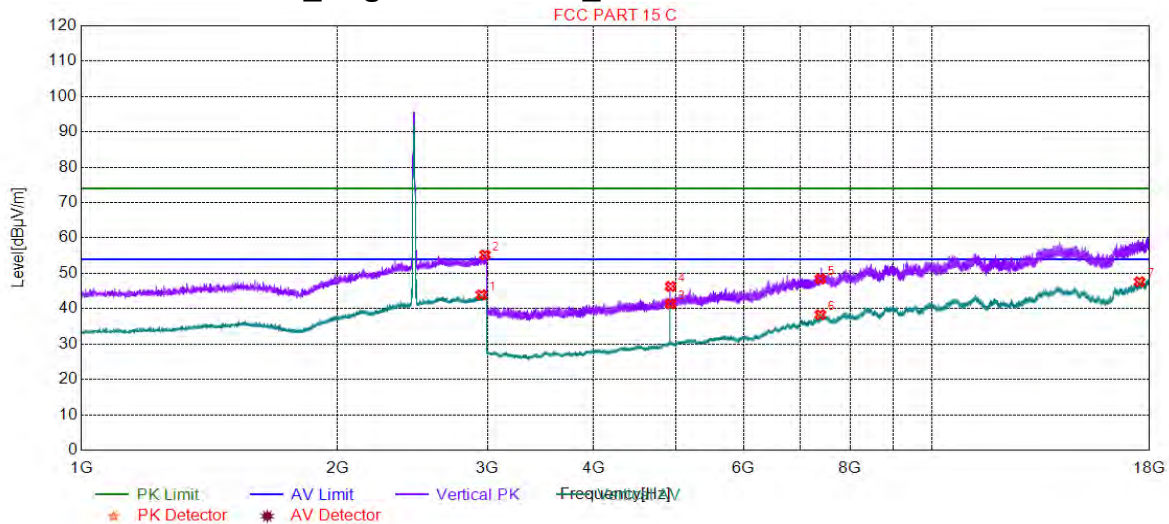


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2927.4819	54.73	9.44	74.00	19.27	150	86	Vertical
2	2934.4836	43.82	9.51	54.00	10.18	150	249	Vertical
3	4874.0000	38.63	-17.99	54.00	15.37	150	71	Vertical
4	4874.0000	44.64	-17.99	74.00	29.36	150	97	Vertical
5	7311.0000	49.75	-9.74	74.00	24.25	150	267	Vertical
6	7311.0000	39.23	-9.74	54.00	14.77	150	68	Vertical
7	17673.8337	47.77	2.35	54.00	6.23	150	18	Vertical



4.10.2.1.3 802.11B_Highest Channel_Vertical

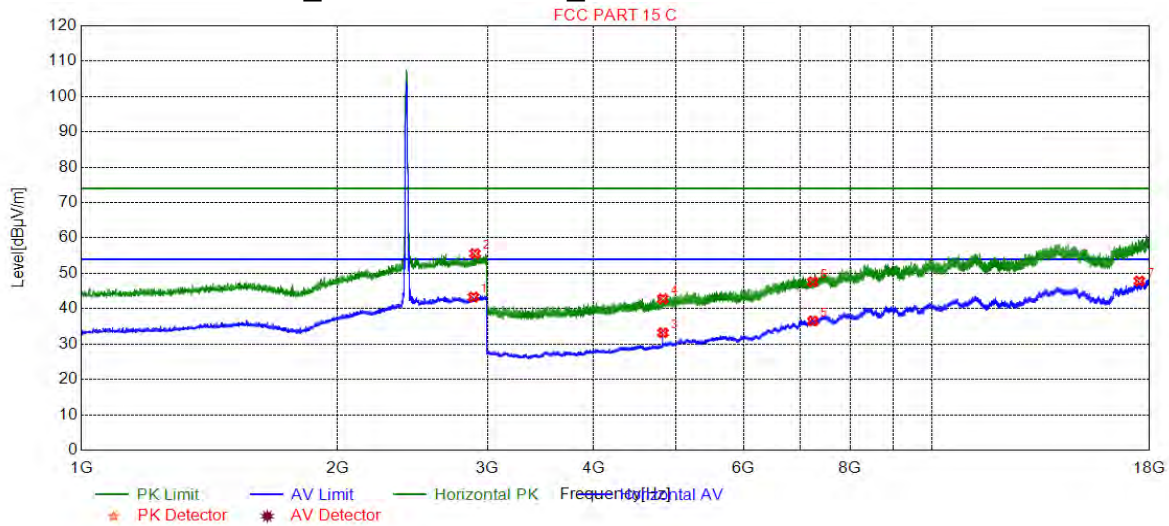


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2951.9880	43.94	9.67	54.00	10.06	150	44	Vertical
2	2980.9952	55.22	9.54	74.00	18.78	150	44	Vertical
3	4924.0000	41.35	-17.72	54.00	12.65	150	288	Vertical
4	4924.0000	46.30	-17.72	74.00	27.70	150	260	Vertical
5	7386.0000	48.42	-9.55	74.00	25.58	150	267	Vertical
6	7386.0000	38.32	-9.55	54.00	15.68	150	217	Vertical
7	17517.0759	47.64	1.99	54.00	6.36	150	360	Vertical



4.10.2.1.4 802.11B_Lowest Channel_ Horizontal

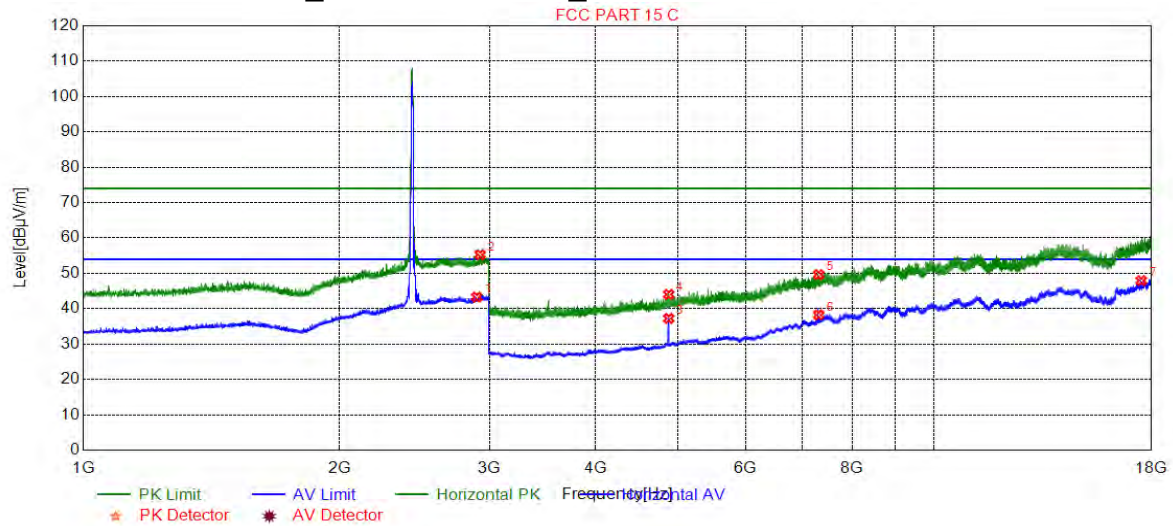


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2889.4724	43.30	9.16	54.00	10.70	150	342	Horizontal
2	2901.4754	55.60	9.16	74.00	18.40	150	0	Horizontal
3	4824.0000	33.19	-18.21	54.00	20.81	150	342	Horizontal
4	4824.0000	42.81	-18.21	74.00	31.19	150	342	Horizontal
5	7236.0000	36.50	-9.99	54.00	17.50	150	18	Horizontal
6	7236.0000	47.60	-9.99	74.00	26.40	150	167	Horizontal
7	17506.6253	47.84	1.95	54.00	6.16	150	266	Horizontal



4.10.2.1.5 802.11B_ Middle Channel_ Horizontal

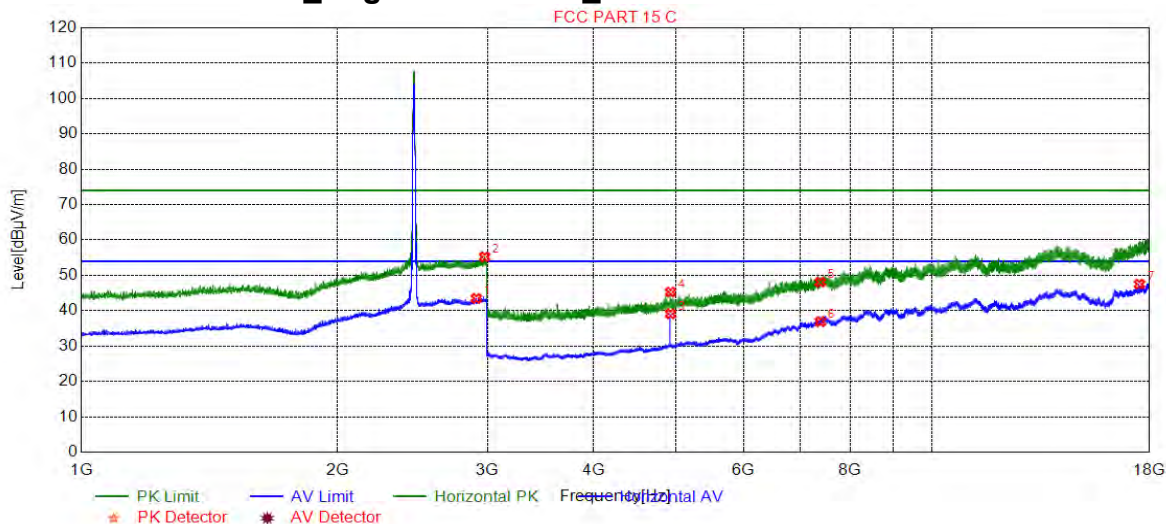


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2899.4749	43.30	9.14	54.00	10.70	150	219	Horizontal
2	2925.4814	55.29	9.42	74.00	18.71	150	82	Horizontal
3	4874.0000	37.25	-17.99	54.00	16.75	150	342	Horizontal
4	4874.0000	44.04	-17.99	74.00	29.96	150	315	Horizontal
5	7311.0000	49.63	-9.74	74.00	24.37	150	68	Horizontal
6	7311.0000	38.26	-9.74	54.00	15.74	150	18	Horizontal
7	17505.5253	47.94	1.94	54.00	6.06	150	218	Horizontal



4.10.2.1.6 802.11B_Highest Channel_Horizontal

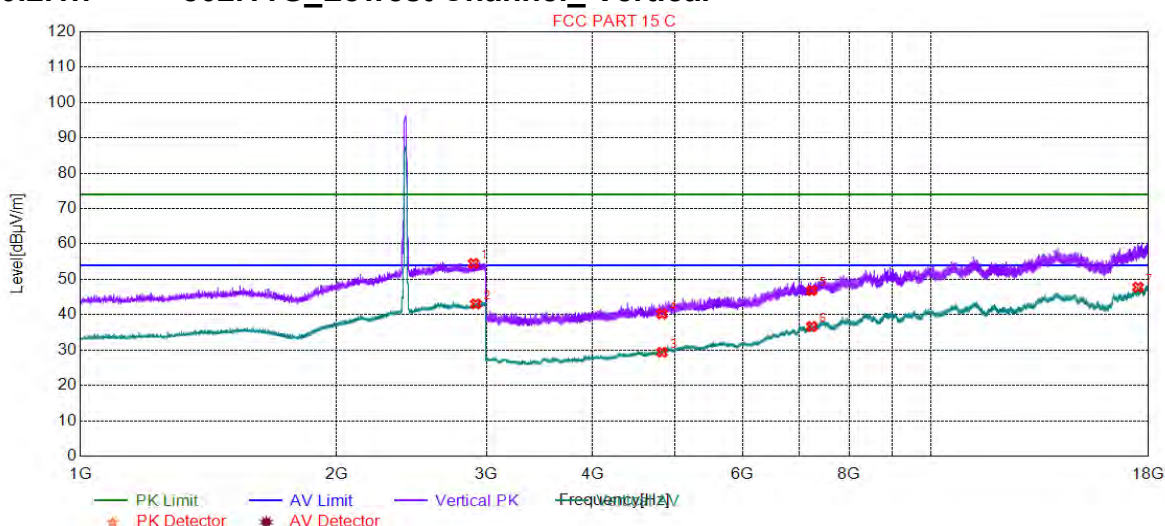


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2911.9780	43.47	9.27	54.00	10.53	150	342	Horizontal
2	2978.4946	55.23	9.55	74.00	18.77	150	261	Horizontal
3	4924.0000	39.12	-17.72	54.00	14.88	150	342	Horizontal
4	4924.0000	45.25	-17.72	74.00	28.75	150	342	Horizontal
5	7386.0000	48.05	-9.55	74.00	25.95	150	68	Horizontal
6	7386.0000	36.90	-9.55	54.00	17.10	150	274	Horizontal
7	17508.8254	47.53	1.95	54.00	6.47	150	119	Horizontal



4.10.2.1.7 802.11G_Lowest Channel_Vertical

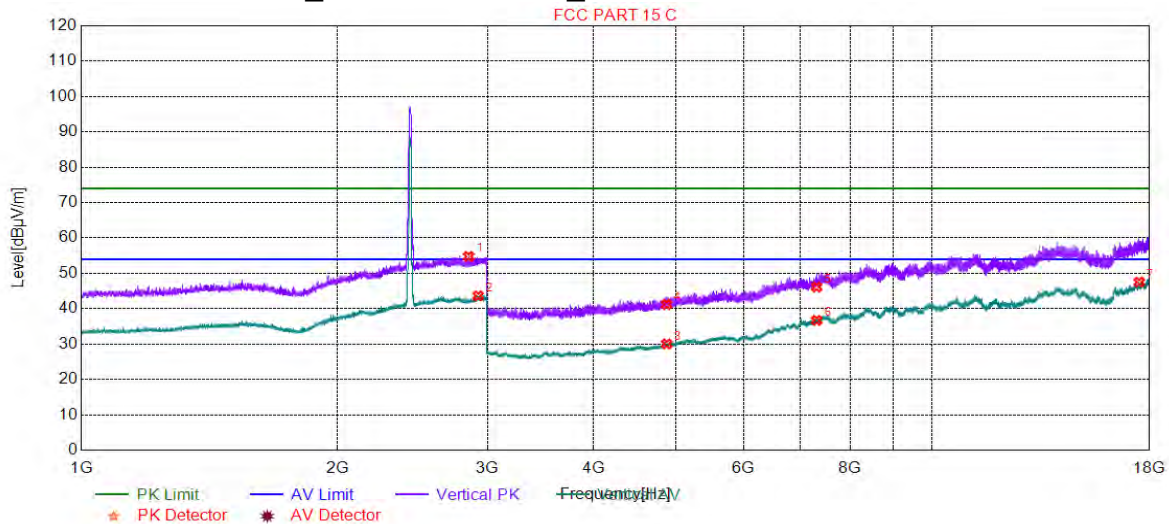


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2896.9742	54.50	9.15	74.00	19.50	150	59	Vertical
2	2915.4789	43.06	9.31	54.00	10.94	150	305	Vertical
3	4824.0000	29.39	-18.21	54.00	24.61	150	315	Vertical
4	4824.0000	40.22	-18.21	74.00	33.78	150	17	Vertical
5	7236.0000	46.83	-9.99	74.00	27.17	150	268	Vertical
6	7236.0000	36.66	-9.99	54.00	17.34	150	168	Vertical
7	17495.6248	47.78	1.89	54.00	6.22	150	317	Vertical



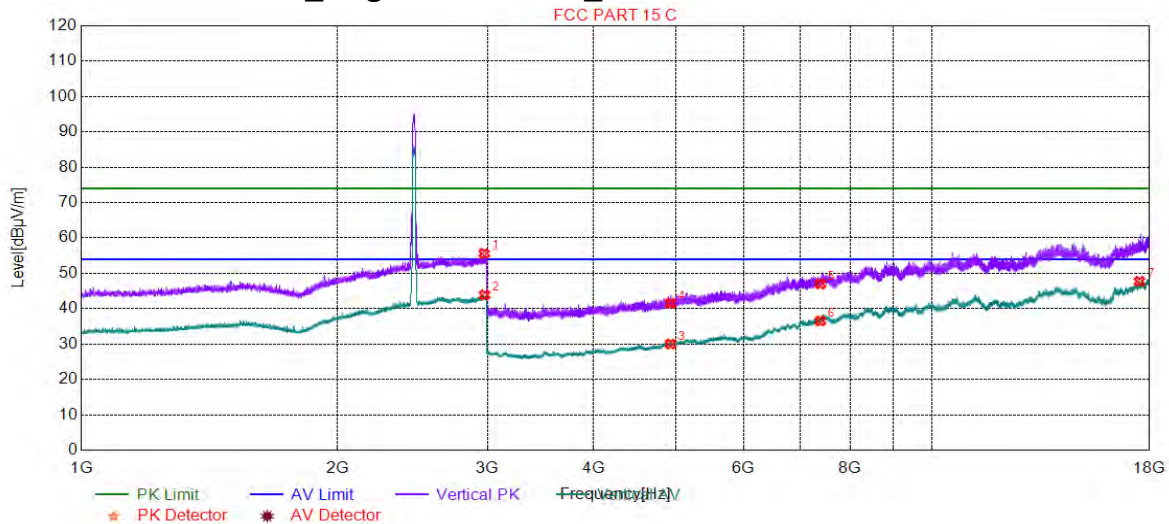
4.10.2.1.8 802.11G_Middle Channel_Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2851.9630	54.79	9.24	74.00	19.21	150	196	Vertical
2	2925.9815	43.64	9.42	54.00	10.36	150	32	Vertical
3	4874.0000	30.05	-17.99	54.00	23.95	150	0	Vertical
4	4874.0000	41.20	-17.99	74.00	32.80	150	314	Vertical
5	7311.0000	46.13	-9.74	74.00	27.87	150	276	Vertical
6	7311.0000	36.70	-9.74	54.00	17.30	150	276	Vertical
7	17501.6751	47.53	1.93	54.00	6.47	150	72	Vertical



4.10.2.1.9 802.11G_ Highest Channel_ Vertical

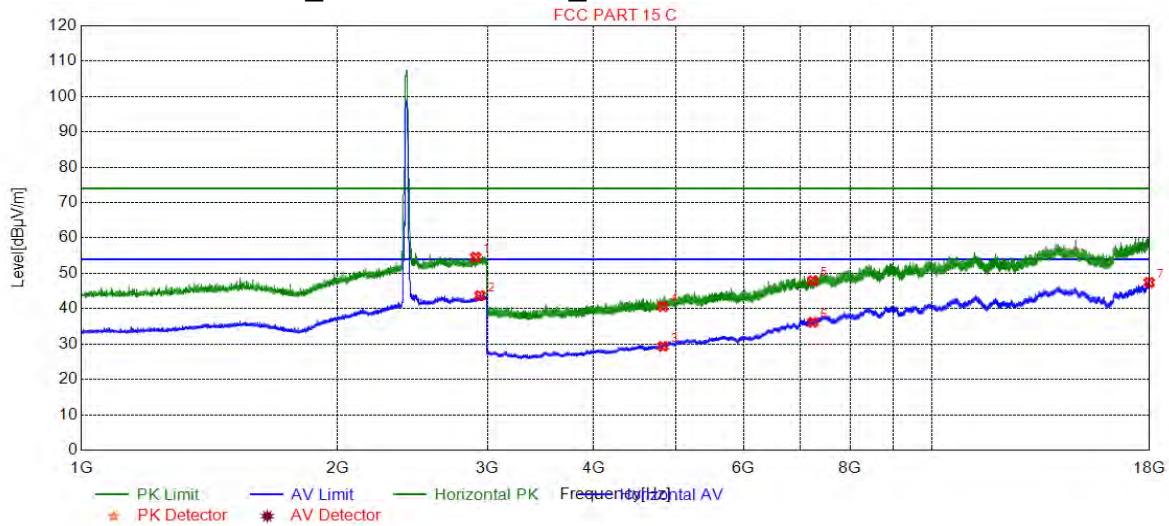


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2974.4936	55.62	9.57	74.00	18.38	150	345	Vertical
2	2976.9942	43.90	9.56	54.00	10.10	150	168	Vertical
3	4924.0000	30.03	-17.72	54.00	23.97	150	16	Vertical
4	4924.0000	41.55	-17.72	74.00	32.45	150	260	Vertical
5	7386.0000	47.00	-9.55	74.00	27.00	150	117	Vertical
6	7386.0000	36.54	-9.55	54.00	17.46	150	18	Vertical
7	17515.9758	47.75	1.98	54.00	6.25	150	67	Vertical

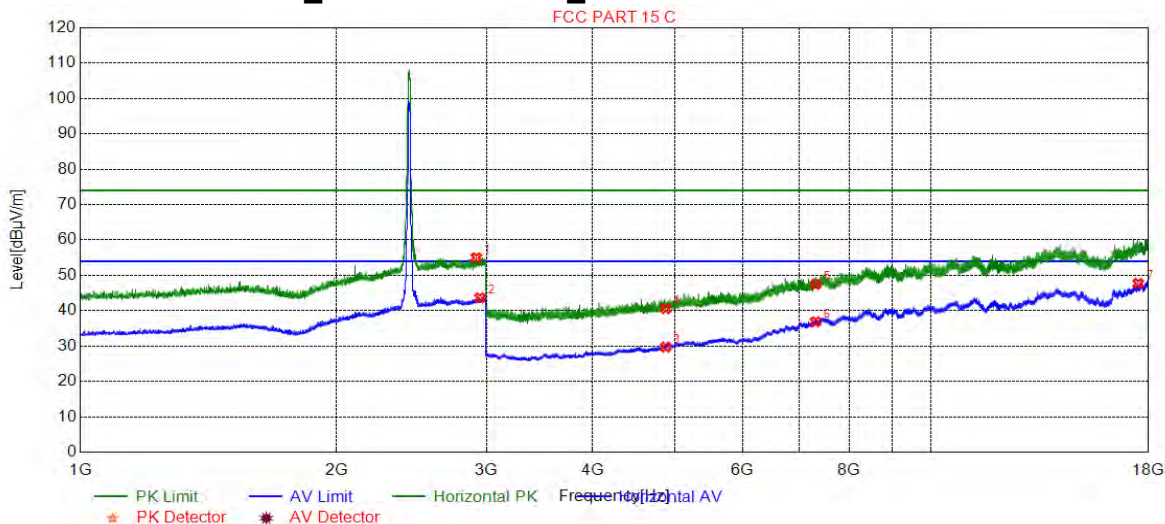


4.10.2.1.10 802.11G_Lowest Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2905.9765	54.57	9.20	74.00	19.43	150	15	Horizontal
2	2939.9850	43.73	9.57	54.00	10.27	150	152	Horizontal
3	4824.0000	29.35	-18.21	54.00	24.65	150	342	Horizontal
4	4824.0000	40.59	-18.21	74.00	33.41	150	71	Horizontal
5	7236.0000	47.94	-9.99	74.00	26.06	150	67	Horizontal
6	7236.0000	36.17	-9.99	54.00	17.83	150	359	Horizontal
7	17977.9989	47.42	1.71	54.00	6.58	150	359	Horizontal

4.10.2.1.11 802.11G_ Middle Channel_ Horizontal



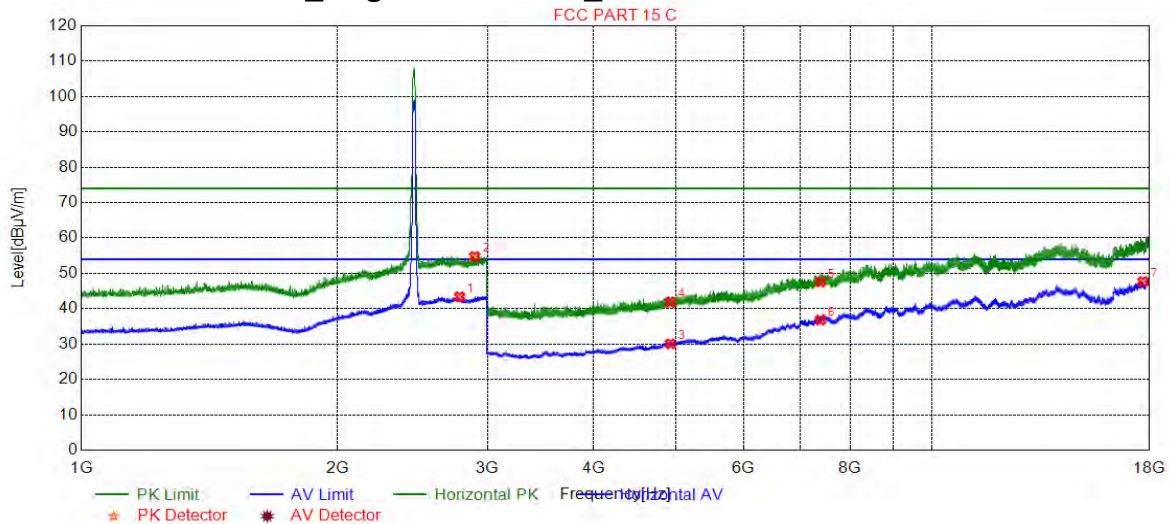
Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2919.4799	55.01	9.35	74.00	18.99	150	342	Horizontal
2	2948.4871	43.66	9.66	54.00	10.34	150	246	Horizontal
3	4874.0000	29.76	-17.99	54.00	24.24	150	179	Horizontal
4	4874.0000	40.57	-17.99	74.00	33.43	150	206	Horizontal
5	7311.0000	47.43	-9.74	74.00	26.57	150	18	Horizontal
6	7311.0000	36.90	-9.74	54.00	17.10	150	315	Horizontal
7	17503.8752	47.74	1.94	54.00	6.26	150	216	Horizontal



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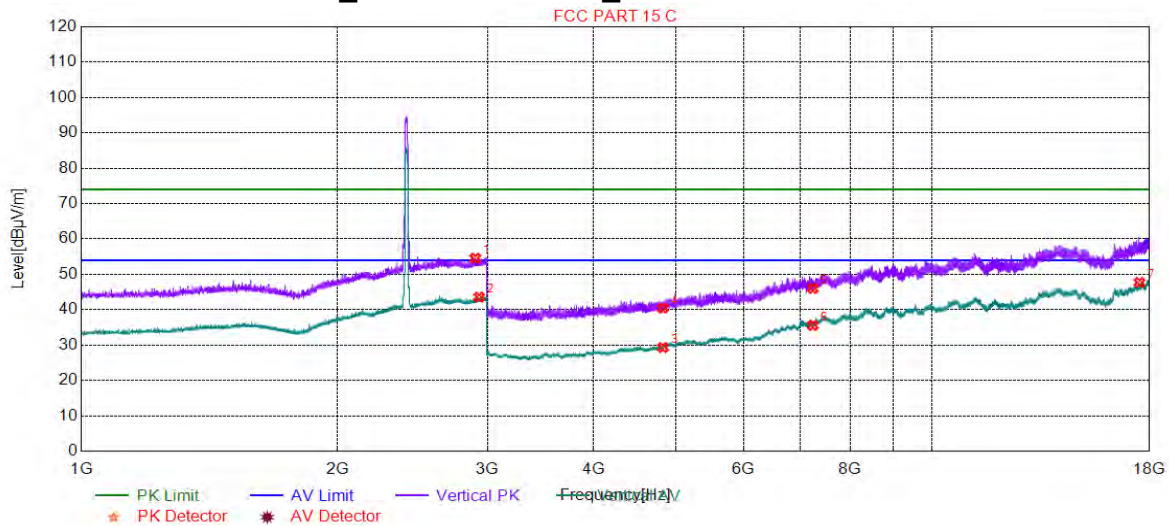
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4.10.2.1.12 802.11G_ Highest Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2782.9457	43.36	9.02	54.00	10.64	150	17	Horizontal
2	2898.9747	54.78	9.14	74.00	19.22	150	276	Horizontal
3	4924.0000	30.08	-17.72	54.00	23.92	150	178	Horizontal
4	4924.0000	41.89	-17.72	74.00	32.11	150	44	Horizontal
5	7386.0000	47.58	-9.55	74.00	26.42	150	217	Horizontal
6	7386.0000	36.80	-9.55	54.00	17.20	150	267	Horizontal
7	17685.3843	47.70	2.35	54.00	6.30	150	18	Horizontal

4.10.2.1.13 802.11N20_Lowest Channel_Vertical

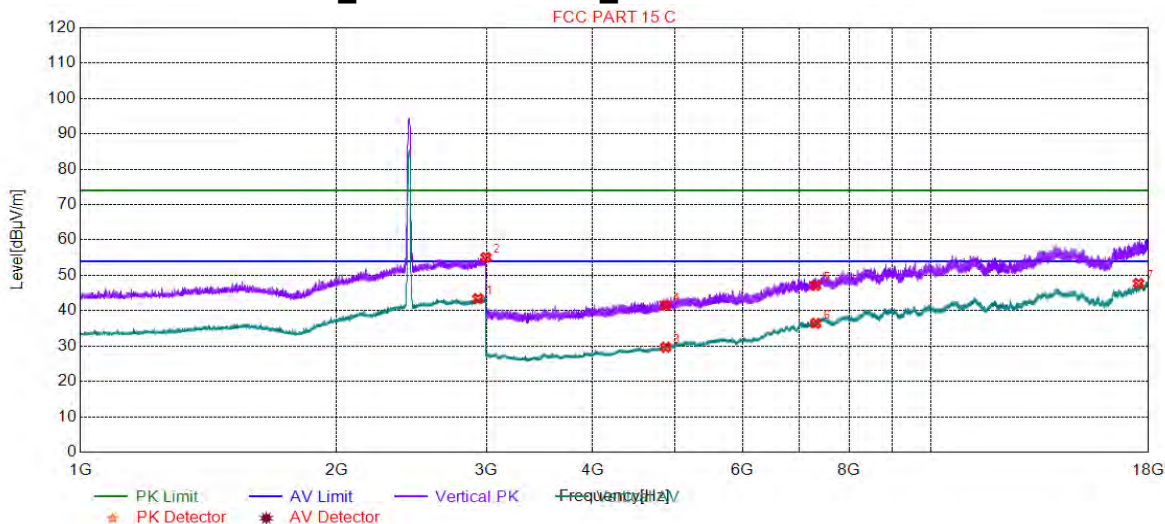


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2903.9760	54.57	9.18	74.00	19.43	150	100	Vertical
2	2933.9835	43.56	9.51	54.00	10.44	150	168	Vertical
3	4824.0000	29.31	-18.21	54.00	24.69	150	0	Vertical
4	4824.0000	40.44	-18.21	74.00	33.56	150	288	Vertical
5	7236.0000	46.04	-9.99	74.00	27.96	150	167	Vertical
6	7236.0000	35.57	-9.99	54.00	18.43	150	18	Vertical
7	17512.6756	47.71	1.97	54.00	6.29	150	118	Vertical



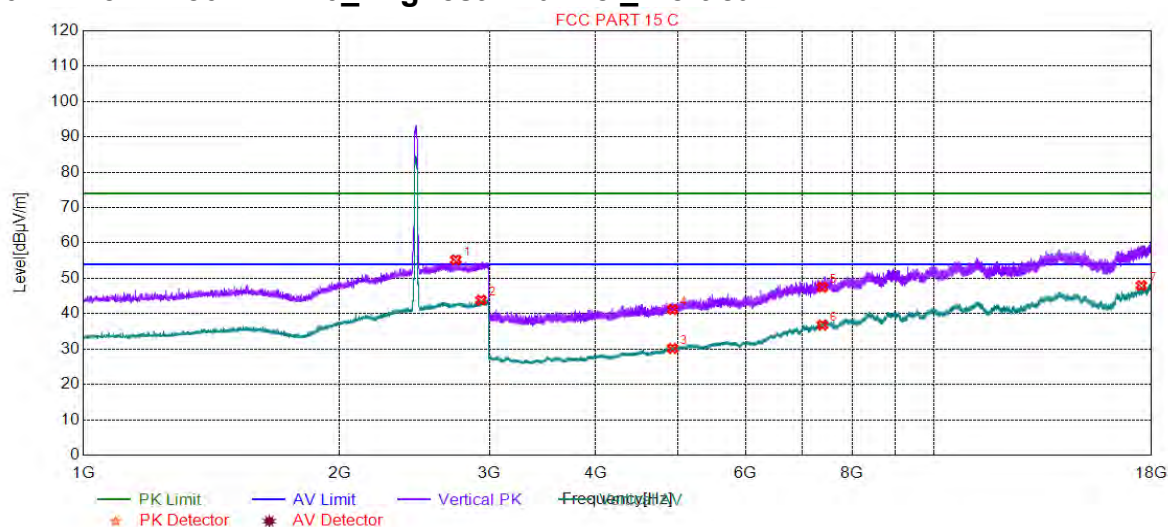
4.10.2.1.14 802.11N20_ Middle Channel_ Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2932.4831	43.39	9.49	54.00	10.61	150	302	Vertical
2	2996.4991	55.08	9.47	74.00	18.92	150	275	Vertical
3	4874.0000	29.69	-17.99	54.00	24.31	150	207	Vertical
4	4874.0000	41.57	-17.99	74.00	32.43	150	44	Vertical
5	7311.0000	47.12	-9.74	74.00	26.88	150	217	Vertical
6	7311.0000	36.41	-9.74	54.00	17.59	150	68	Vertical
7	17515.4258	47.75	1.98	54.00	6.25	150	118	Vertical



4.10.2.1.15 802.11N20_ Highest Channel_ Vertical

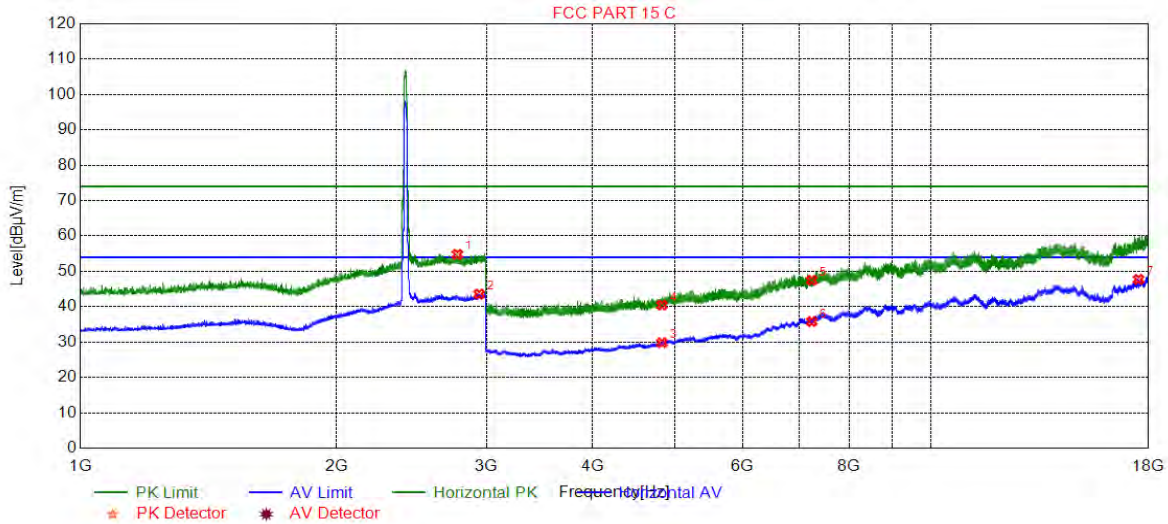


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2739.4349	55.28	9.00	74.00	18.72	150	318	Vertical
2	2932.9832	43.87	9.50	54.00	10.13	150	236	Vertical
3	4924.0000	30.16	-17.72	54.00	23.84	150	0	Vertical
4	4924.0000	41.22	-17.72	74.00	32.78	150	342	Vertical
5	7386.0000	47.49	-9.55	74.00	26.51	150	167	Vertical
6	7386.0000	36.78	-9.55	54.00	17.22	150	68	Vertical
7	17506.0753	47.95	1.94	54.00	6.05	150	267	Vertical



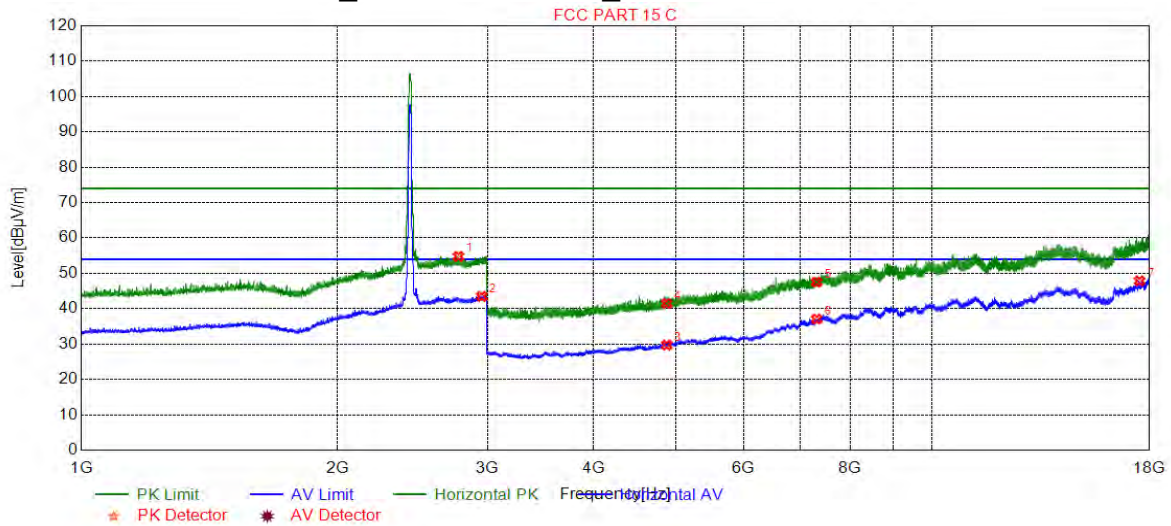
4.10.2.1.16 802.11N20_Lowest Channel_Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2773.4434	54.82	9.05	74.00	19.18	150	342	Horizontal
2	2941.4854	43.57	9.59	54.00	10.43	150	274	Horizontal
3	4824.0000	29.82	-18.21	54.00	24.18	150	124	Horizontal
4	4824.0000	40.44	-18.21	74.00	33.56	150	0	Horizontal
5	7236.0000	47.48	-9.99	74.00	26.52	150	169	Horizontal
6	7236.0000	35.82	-9.99	54.00	18.18	150	219	Horizontal
7	17517.0759	47.73	1.99	54.00	6.27	150	169	Horizontal



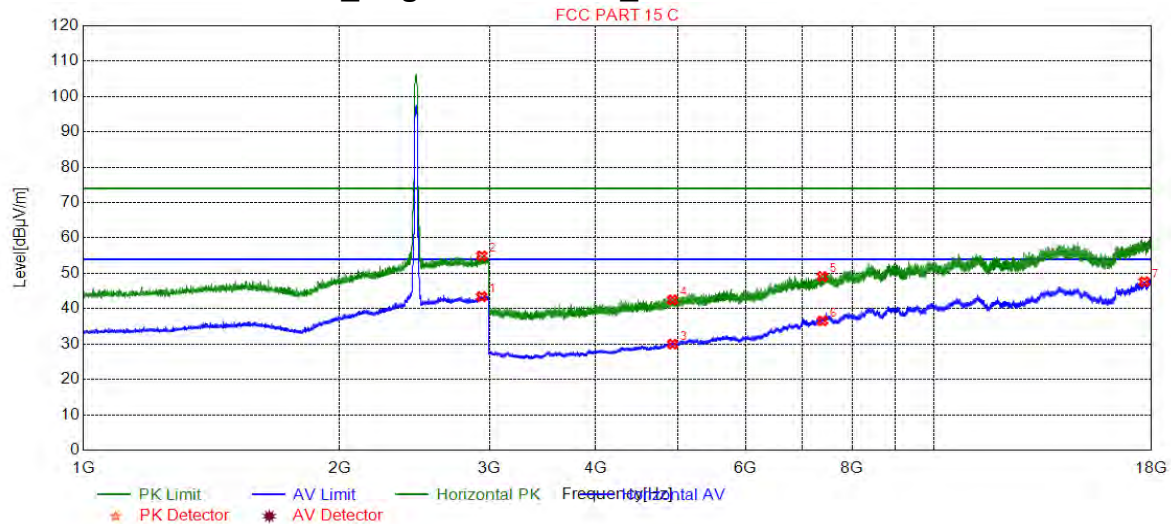
4.10.2.1.17 802.11N20_ Middle Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2773.9435	54.79	9.05	74.00	19.21	150	3	Horizontal
2	2954.4886	43.48	9.66	54.00	10.52	150	220	Horizontal
3	4874.0000	29.72	-17.99	54.00	24.28	150	98	Horizontal
4	4874.0000	41.49	-17.99	74.00	32.51	150	342	Horizontal
5	7311.0000	47.53	-9.74	74.00	26.47	150	359	Horizontal
6	7311.0000	37.06	-9.74	54.00	16.94	150	217	Horizontal
7	17518.1759	47.87	1.99	54.00	6.13	150	18	Horizontal



4.10.2.1.18 802.11N20_ Highest Channel_ Horizontal

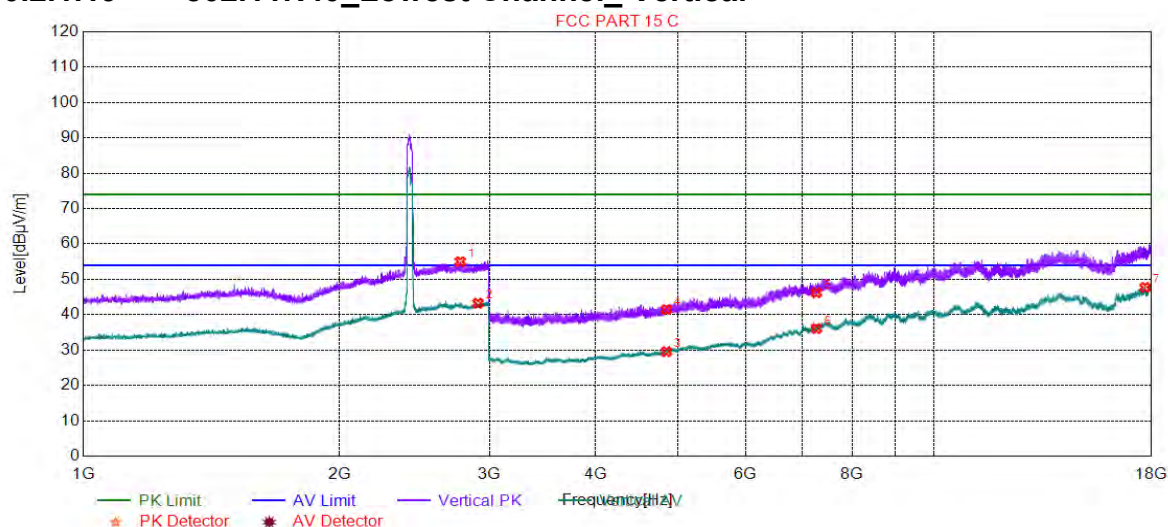


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2937.4844	43.41	9.54	54.00	10.59	150	194	Horizontal
2	2938.9847	54.93	9.56	74.00	19.07	150	194	Horizontal
3	4924.0000	30.00	-17.72	54.00	24.00	150	179	Horizontal
4	4924.0000	42.49	-17.72	74.00	31.51	150	260	Horizontal
5	7386.0000	49.09	-9.55	74.00	24.91	150	359	Horizontal
6	7386.0000	36.57	-9.55	54.00	17.43	150	267	Horizontal
7	17645.7823	47.63	2.33	54.00	6.37	150	18	Horizontal



4.10.2.1.19 802.11N40_Lowest Channel_Vertical

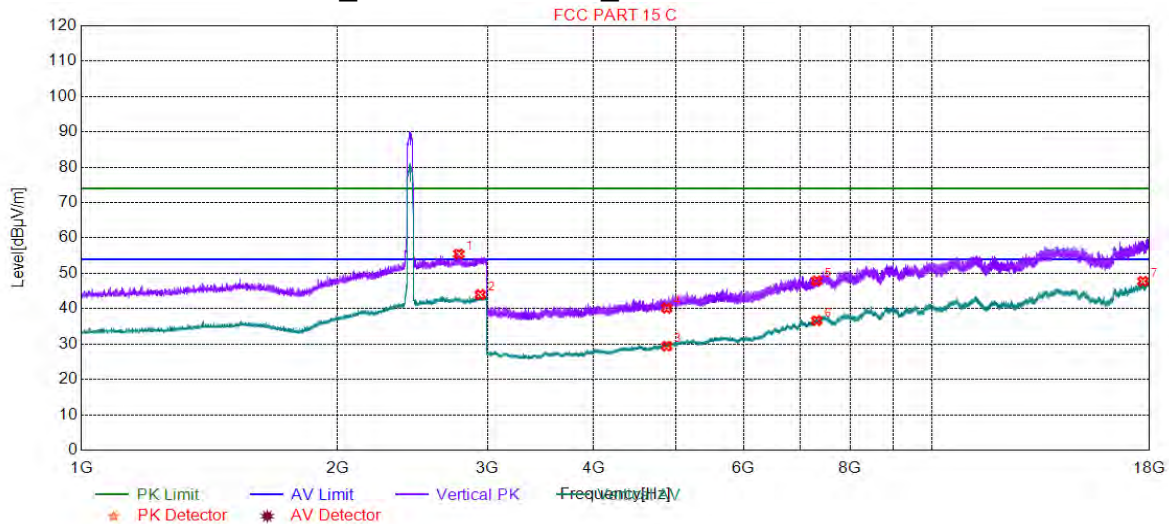


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2772.9432	55.02	9.05	74.00	18.98	150	154	Vertical
2	2908.4771	43.26	9.23	54.00	10.74	150	194	Vertical
3	4844.0000	29.56	-18.13	54.00	24.44	150	44	Vertical
4	4844.0000	41.46	-18.13	74.00	32.54	150	0	Vertical
5	7266.0000	46.24	-9.88	74.00	27.76	150	217	Vertical
6	7266.0000	36.10	-9.88	54.00	17.90	150	117	Vertical
7	17685.9343	47.73	2.35	54.00	6.27	150	217	Vertical



4.10.2.1.20 802.11N40_ Middle Channel_ Vertical

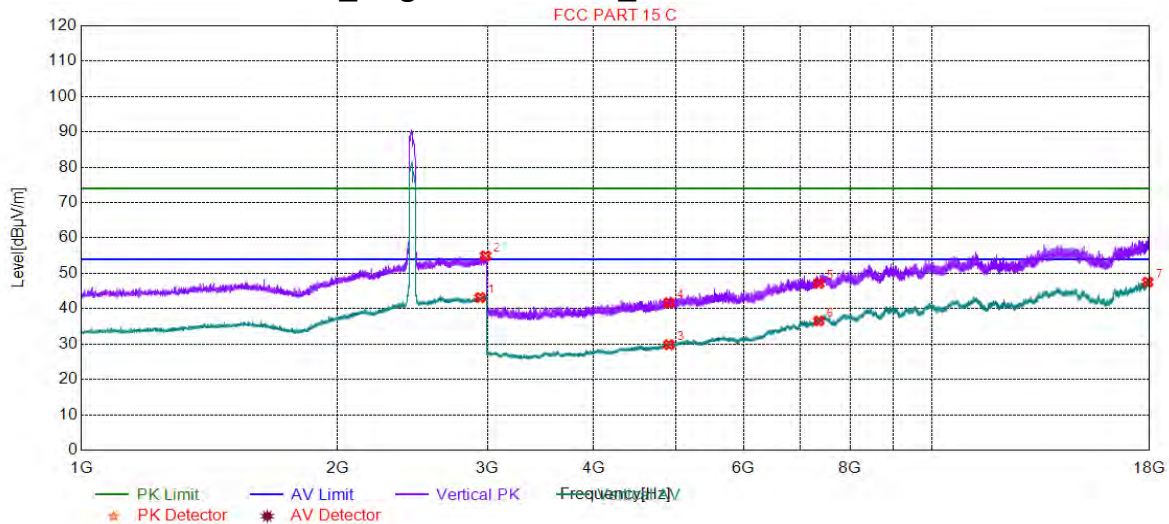


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2776.4441	55.50	9.04	74.00	18.50	150	345	Vertical
2	2942.4856	43.97	9.60	54.00	10.03	150	140	Vertical
3	4874.0000	29.42	-17.99	54.00	24.58	150	71	Vertical
4	4874.0000	40.16	-17.99	74.00	33.84	150	0	Vertical
5	7311.0000	47.86	-9.74	74.00	26.14	150	317	Vertical
6	7311.0000	36.63	-9.74	54.00	17.37	150	267	Vertical
7	17677.1339	47.74	2.35	54.00	6.26	150	118	Vertical



4.10.2.1.21 802.11N40_ Highest Channel_ Vertical

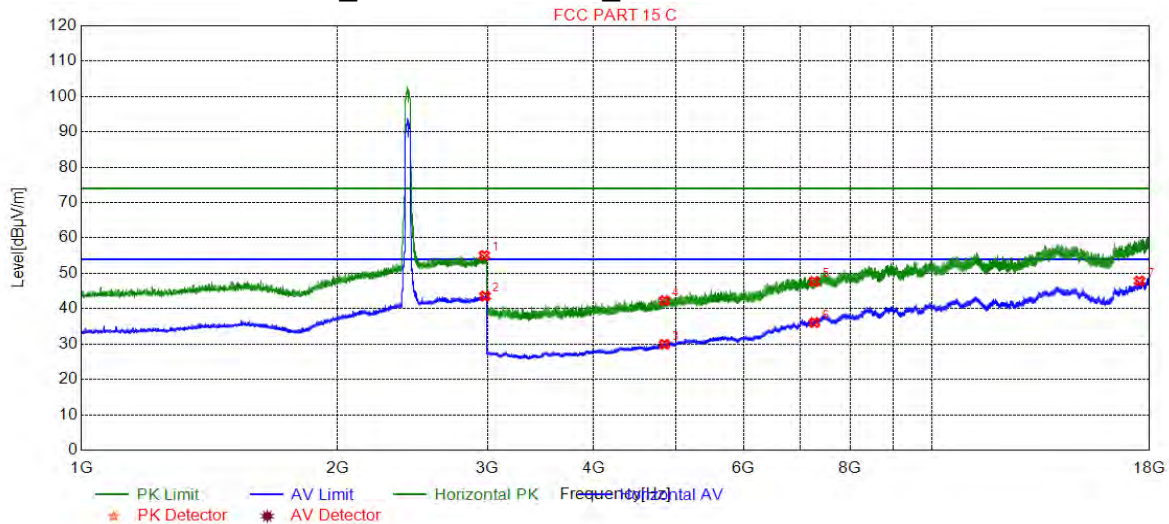


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2941.4854	43.15	9.59	54.00	10.85	150	139	Vertical
2	2985.9965	54.93	9.51	74.00	19.07	150	261	Vertical
3	4904.0000	29.81	-17.85	54.00	24.19	150	234	Vertical
4	4904.0000	41.65	-17.85	74.00	32.35	150	288	Vertical
5	7356.0000	47.17	-9.62	74.00	26.83	150	360	Vertical
6	7356.0000	36.52	-9.62	54.00	17.48	150	68	Vertical
7	17907.5954	47.55	1.69	54.00	6.45	150	168	Vertical



4.10.2.1.22 802.11N40_Lowest Channel_Horizontal

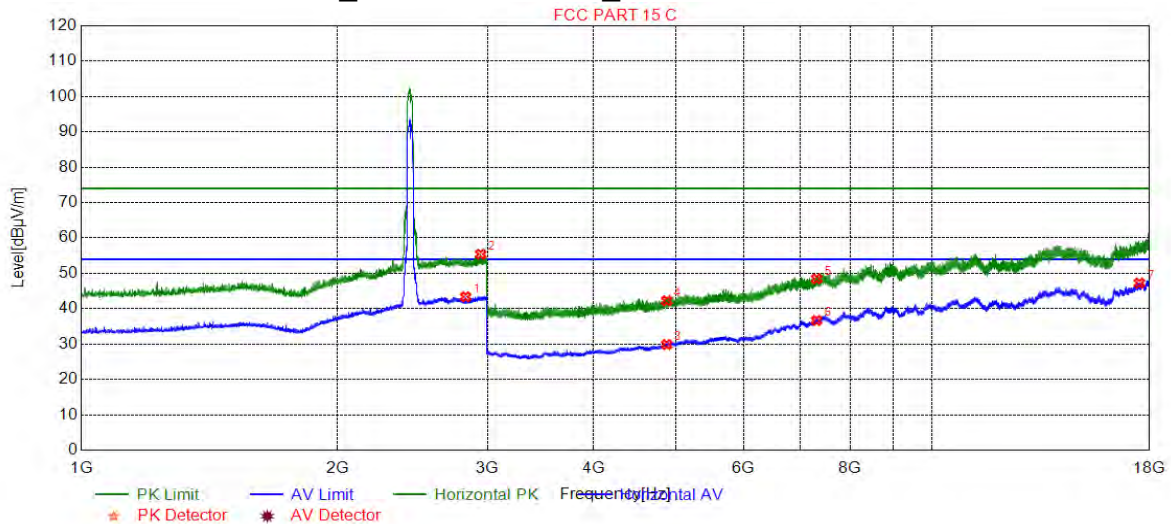


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2974.4936	55.08	9.57	74.00	18.92	150	29	Horizontal
2	2980.9952	43.54	9.54	54.00	10.46	150	315	Horizontal
3	4844.0000	29.93	-18.13	54.00	24.07	150	45	Horizontal
4	4844.0000	42.28	-18.13	74.00	31.72	150	234	Horizontal
5	7266.0000	47.69	-9.88	74.00	26.31	150	67	Horizontal
6	7266.0000	36.06	-9.88	54.00	17.94	150	118	Horizontal
7	17517.6259	47.84	1.99	54.00	6.16	150	317	Horizontal



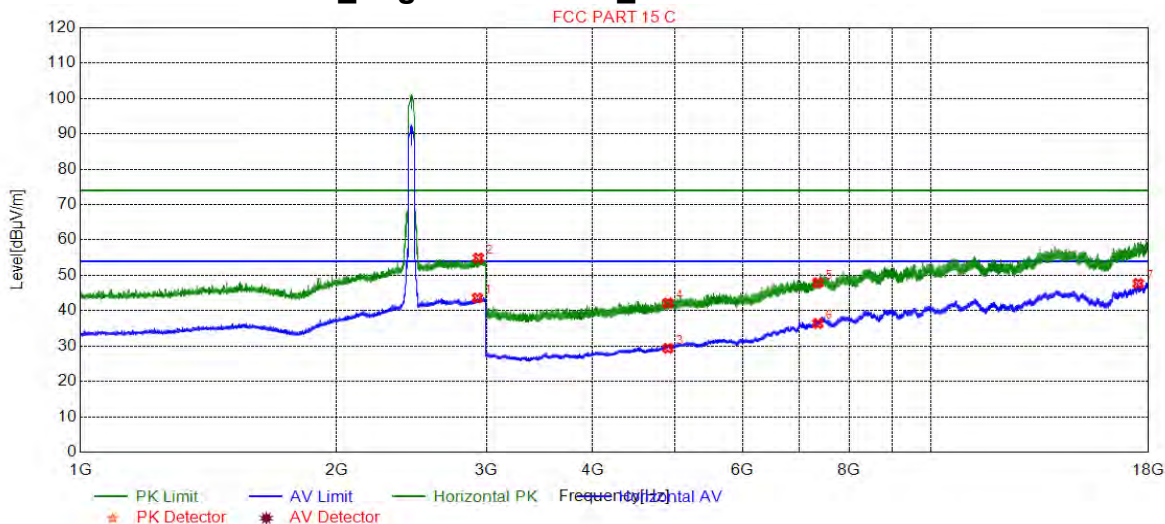
4.10.2.1.23 802.11N40_ Middle Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2828.4571	43.36	9.13	54.00	10.64	150	54	Horizontal
2	2946.4866	55.42	9.64	74.00	18.58	150	27	Horizontal
3	4874.0000	29.87	-17.99	54.00	24.13	150	260	Horizontal
4	4874.0000	42.25	-17.99	74.00	31.75	150	72	Horizontal
5	7311.0000	48.45	-9.74	74.00	25.55	150	166	Horizontal
6	7311.0000	36.68	-9.74	54.00	17.32	150	18	Horizontal
7	17508.8254	47.25	1.95	54.00	6.75	150	68	Horizontal



4.10.2.1.24 802.11N40_ Highest Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2927.9820	43.59	9.44	54.00	10.41	150	2	Horizontal
2	2935.4839	54.90	9.52	74.00	19.10	150	67	Horizontal
3	4904.0000	29.37	-17.85	54.00	24.63	150	137	Horizontal
4	4904.0000	42.17	-17.85	74.00	31.83	150	169	Horizontal
5	7356.0000	47.88	-9.62	74.00	26.12	150	360	Horizontal
6	7356.0000	36.39	-9.62	54.00	17.61	150	360	Horizontal
7	17504.4252	47.70	1.94	54.00	6.30	150	119	Horizontal

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz and 18GHz to 25GHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. 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. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.



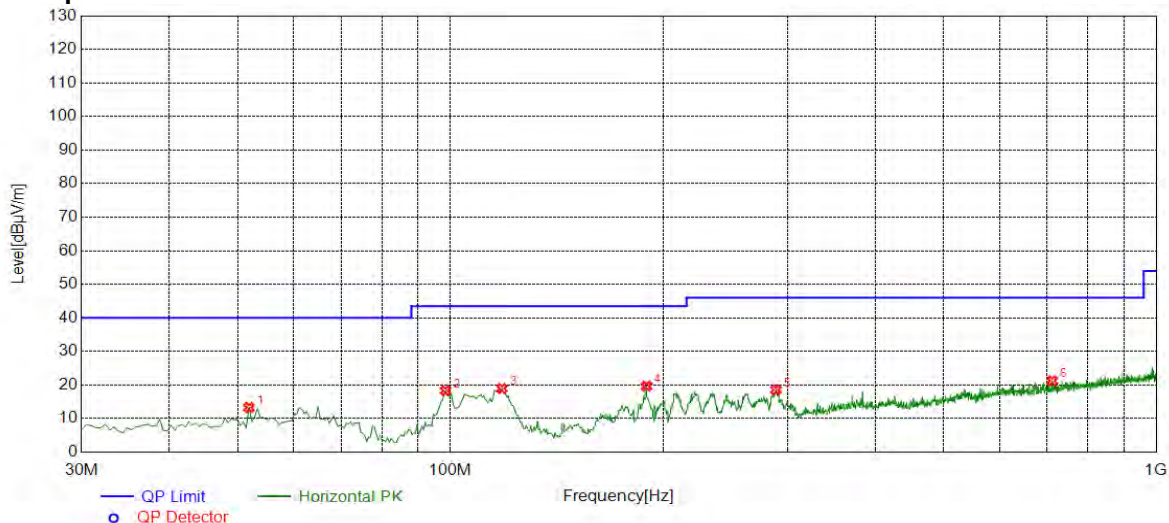
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4.11 Spot Check Radiated Spurious Emissions

4.11.1 Transmitter emission below 1GHz

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	51.8359	13.32	-30.46	40.00	26.68	150	23	Horizontal
2	98.4192	18.32	-31.96	43.50	25.18	150	57	Horizontal
3	118.314	18.98	-33.00	43.50	24.52	150	251	Horizontal
4	189.644	19.69	-31.92	43.50	23.81	150	82	Horizontal
5	289.119	18.55	-28.16	46.00	27.45	150	101	Horizontal
6	712.251	21.25	-18.47	46.00	24.75	150	257	Horizontal

Final Data List



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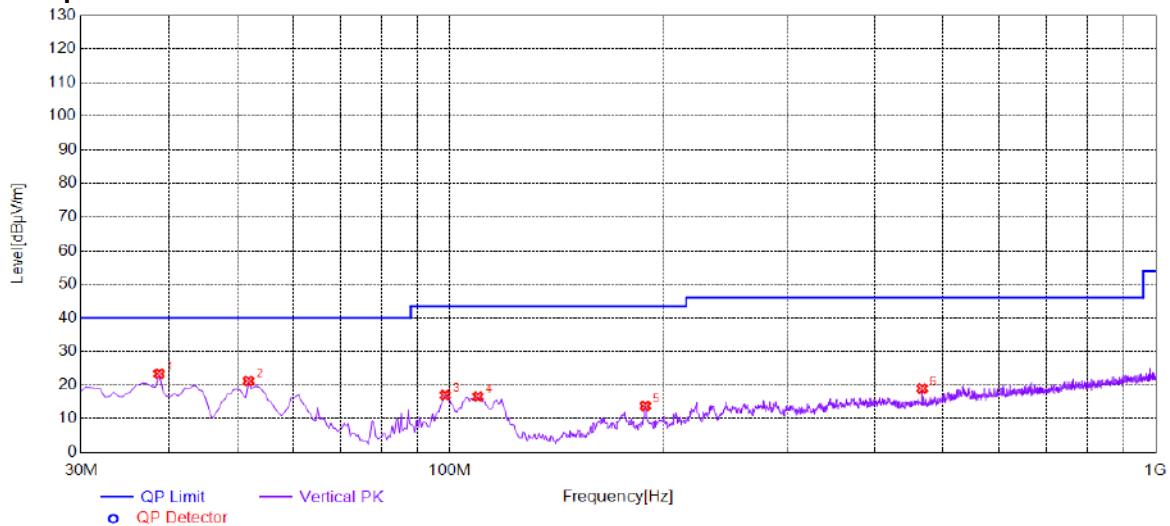
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Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	38.7344	23.43	-31.57	40.00	16.57	150	348	Vertical
2	51.8359	21.25	-30.46	40.00	18.75	150	291	Vertical
3	98.4192	17.08	-31.96	43.50	26.42	150	75	Vertical
4	109.579	16.65	-31.69	43.50	26.85	150	94	Vertical
5	189.159	13.84	-31.97	43.50	29.66	150	126	Vertical
6	466.718	19.02	-23.49	46.00	26.98	150	157	Vertical

Final Data List



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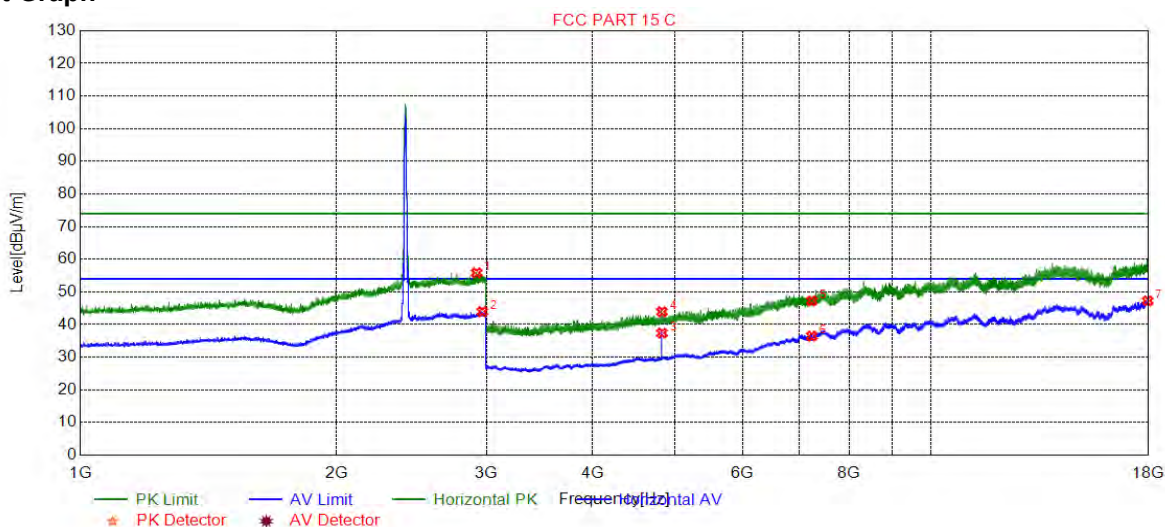
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4.12 Spot Check Transmitter emission above 1GHz

4.12.1.1 802.11B_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2922.48	55.87	9.38	74.00	18.13	150	232	Horizontal
2	2966.49	43.96	9.60	54.00	10.04	150	246	Horizontal
3	4824.00	37.40	-18.21	54.00	16.60	150	342	Horizontal
4	4824.00	43.94	-18.21	74.00	30.06	150	342	Horizontal
5	7236.00	47.24	-9.99	74.00	26.76	150	360	Horizontal
6	7236.00	36.48	-9.99	54.00	17.52	150	18	Horizontal
7	17953.7	47.26	0.71	54.00	6.74	150	18	Horizontal

Final Data List



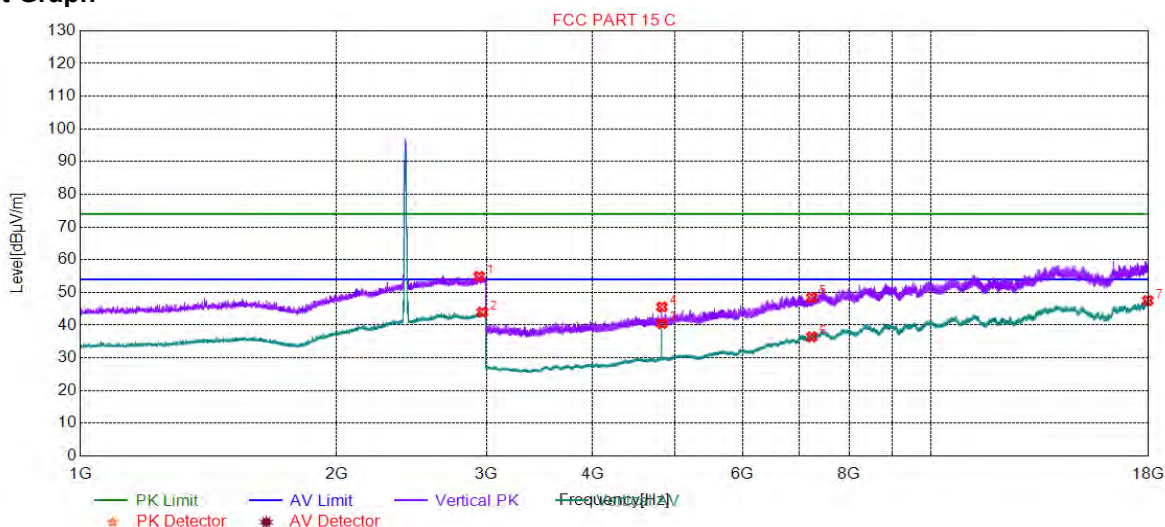
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4.12.1.2 802.11B_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2941.48	54.91	9.59	74.00	19.09	150	167	Vertical
2	2967.49	43.96	9.60	54.00	10.04	150	18	Vertical
3	4824.00	40.50	-18.21	54.00	13.50	150	178	Vertical
4	4824.00	45.59	-18.21	74.00	28.41	150	178	Vertical
5	7236.00	48.47	-9.99	74.00	25.53	150	119	Vertical
6	7236.00	36.44	-9.99	54.00	17.56	150	270	Vertical
7	17957.0	47.52	0.71	54.00	6.48	150	360	Vertical

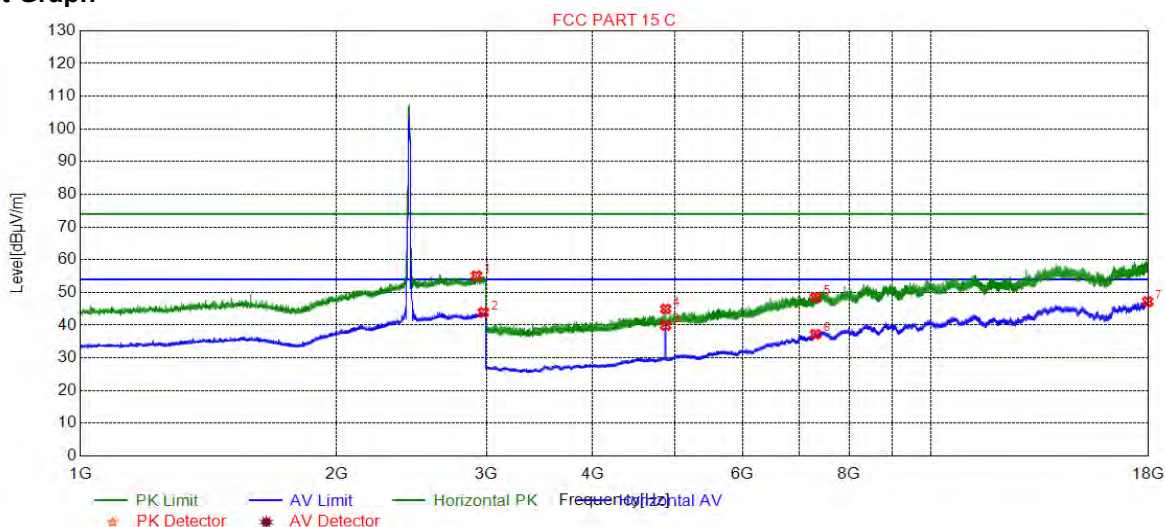
Final Data List





4.12.1.3 802.11B_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2920.98	55.13	9.37	74.00	18.87	150	14	Horizontal
2	2975.99	43.93	9.56	54.00	10.07	150	151	Horizontal
3	4874.00	39.94	-17.99	54.00	14.06	150	342	Horizontal
4	4874.00	44.97	-17.99	74.00	29.03	150	232	Horizontal
5	7311.00	48.53	-9.74	74.00	25.47	150	69	Horizontal
6	7311.00	37.22	-9.74	54.00	16.78	150	69	Horizontal
7	17952.6	47.19	0.71	54.00	6.81	150	169	Horizontal

Final Data List



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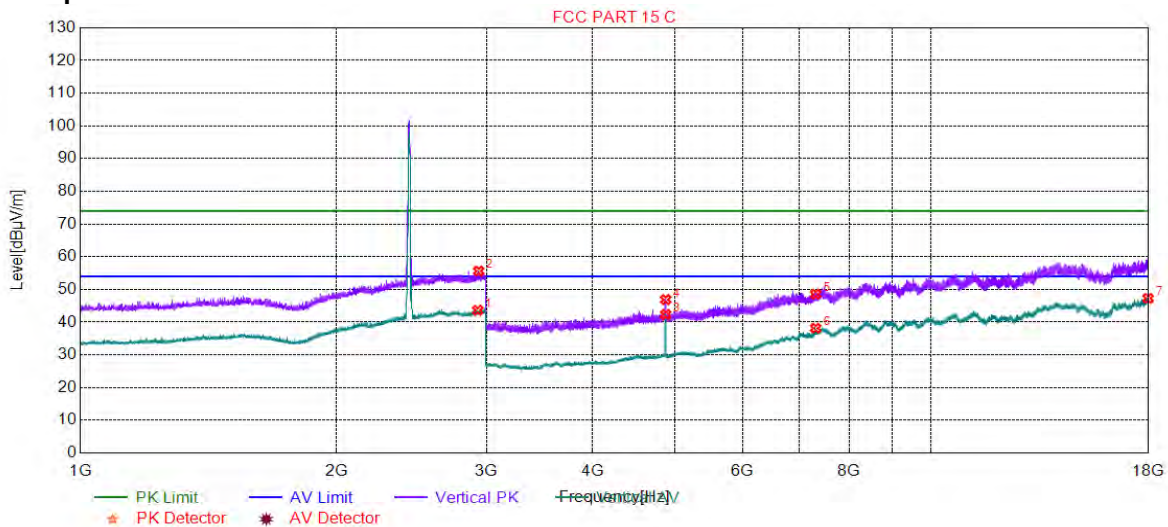
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4.12.1.4 802.11B_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2930.48	43.62	9.47	54.00	10.38	150	196	Vertical
2	2938.48	55.67	9.56	74.00	18.33	150	224	Vertical
3	4874.00	42.36	-17.99	54.00	11.64	150	95	Vertical
4	4874.00	46.91	-17.99	74.00	27.09	150	287	Vertical
5	7311.00	48.60	-9.74	74.00	25.40	150	68	Vertical
6	7311.00	38.18	-9.74	54.00	15.82	150	268	Vertical
7	17975.7	47.27	0.71	54.00	6.73	150	68	Vertical

Final Data List



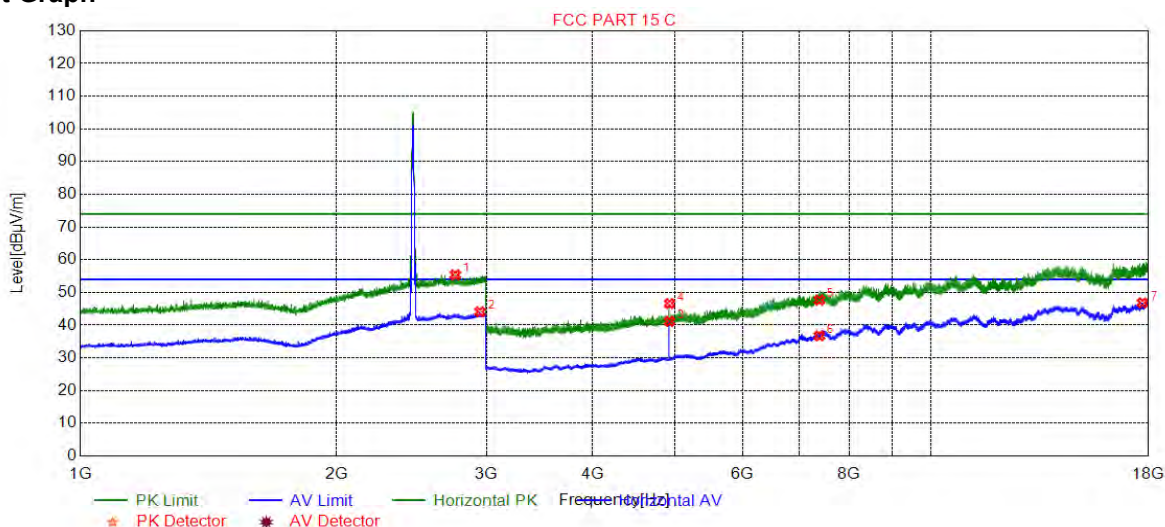
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4.12.1.5 802.11B_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2757.93	55.41	9.09	74.00	18.59	150	259	Horizontal
2	2948.98	44.09	9.67	54.00	9.91	150	328	Horizontal
3	4924.00	41.15	-17.72	54.00	12.85	150	342	Horizontal
4	4924.00	46.60	-17.72	74.00	27.40	150	342	Horizontal
5	7386.00	47.67	-9.55	74.00	26.33	150	168	Horizontal
6	7386.00	36.75	-9.55	54.00	17.25	150	270	Horizontal
7	17705.7	46.83	1.25	54.00	7.17	150	320	Horizontal

Final Data List



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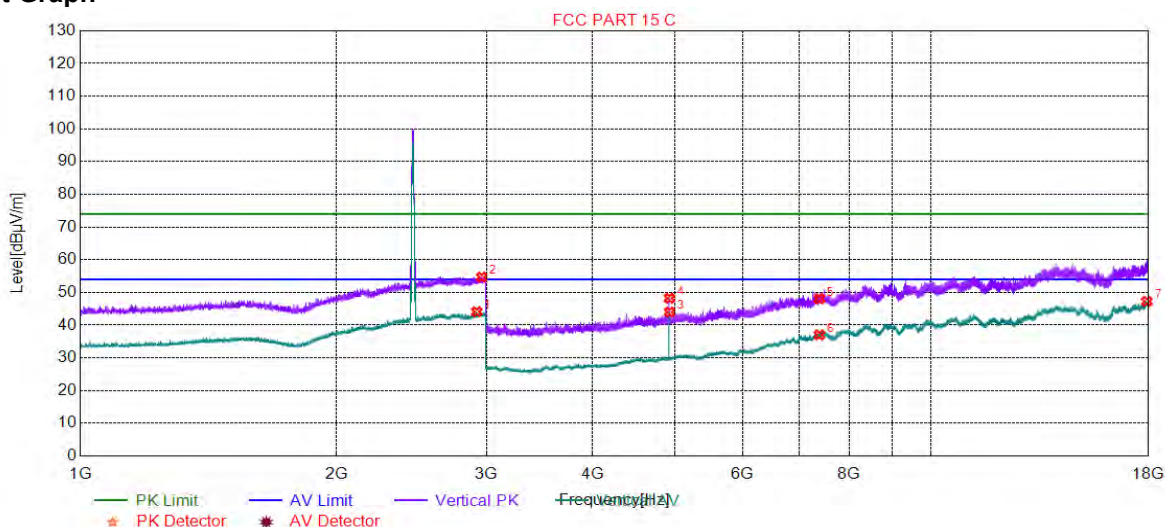
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4.12.1.6 802.11B_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2922.98	44.11	9.39	54.00	9.89	150	18	Vertical
2	2961.99	54.70	9.62	74.00	19.30	150	330	Vertical
3	4924.00	44.01	-17.72	54.00	9.99	150	204	Vertical
4	4924.00	48.24	-17.72	74.00	25.76	150	176	Vertical
5	7386.00	48.08	-9.55	74.00	25.92	150	277	Vertical
6	7386.00	37.03	-9.55	54.00	16.97	150	227	Vertical
7	17912.5	47.28	0.69	54.00	6.72	150	18	Vertical

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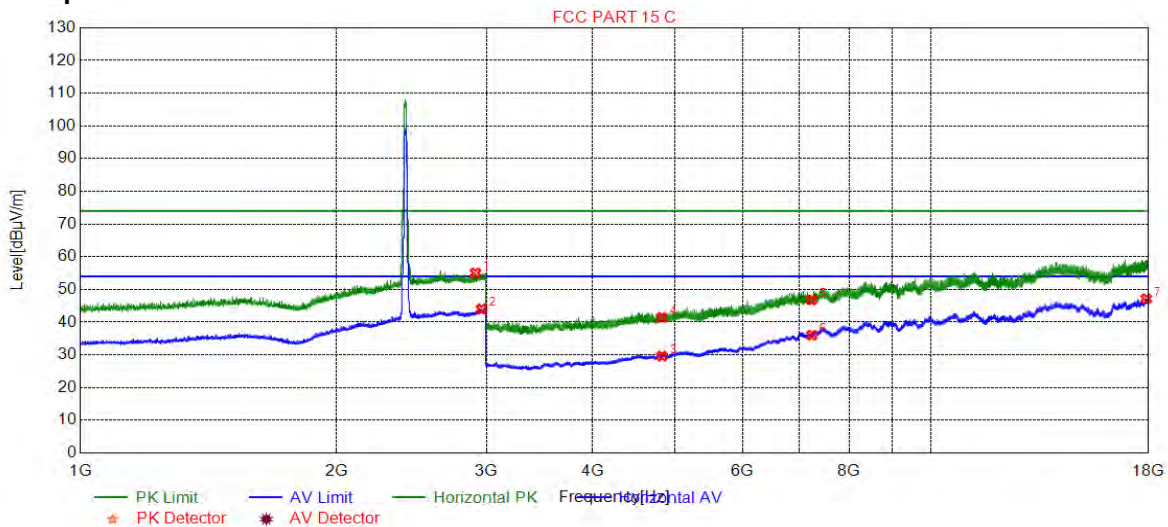
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4.12.1.7 802.11G_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2912.97	55.07	9.28	74.00	18.93	150	67	Horizontal
2	2960.49	44.03	9.63	54.00	9.97	150	13	Horizontal
3	4824.00	29.65	-18.21	54.00	24.35	150	205	Horizontal
4	4824.00	41.45	-18.21	74.00	32.55	150	342	Horizontal
5	7236.00	46.83	-9.99	74.00	27.17	150	18	Horizontal
6	7236.00	36.03	-9.99	54.00	17.97	150	18	Horizontal
7	17882.8	47.17	0.46	54.00	6.83	150	320	Horizontal

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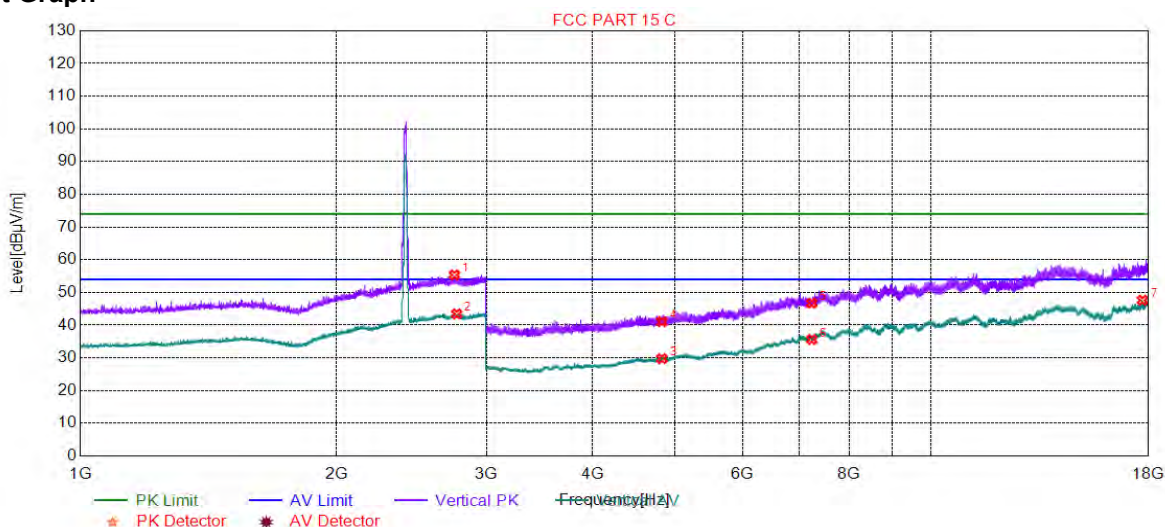
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4.12.1.8 802.11G_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2751.93	55.37	9.10	74.00	18.63	150	308	Vertical
2	2768.94	43.44	9.06	54.00	10.56	150	266	Vertical
3	4824.00	29.77	-18.21	54.00	24.23	150	95	Vertical
4	4824.00	41.08	-18.21	74.00	32.92	150	260	Vertical
5	7236.00	46.72	-9.99	74.00	27.28	150	169	Vertical
6	7236.00	35.64	-9.99	54.00	18.36	150	320	Vertical
7	17704.6	47.63	1.27	54.00	6.37	150	169	Vertical

Final Data List



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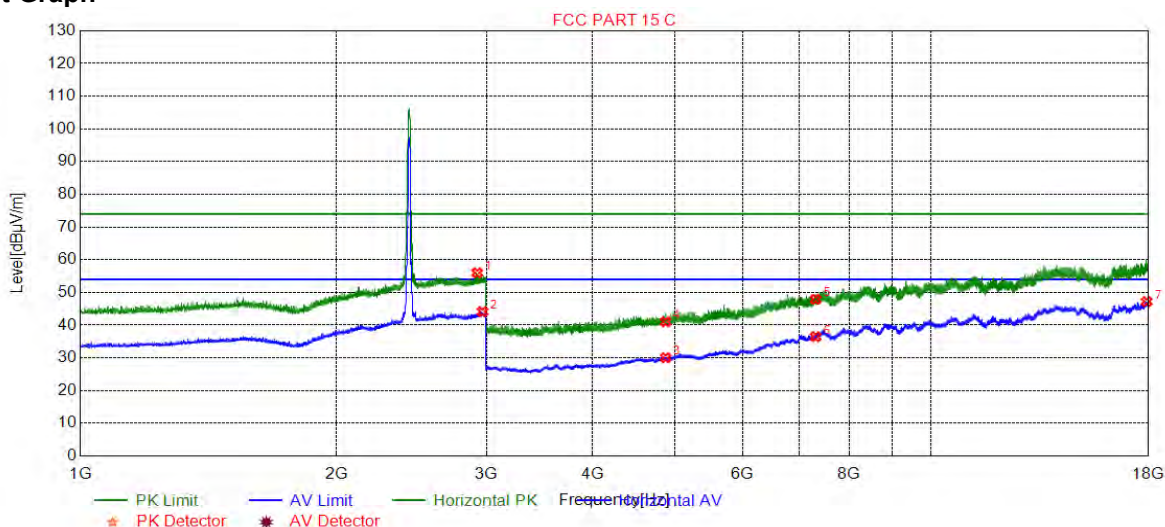
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4.12.1.9 802.11G_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2925.98	56.02	9.42	74.00	17.98	150	39	Horizontal
2	2967.99	44.12	9.60	54.00	9.88	150	2	Horizontal
3	4874.00	30.05	-17.99	54.00	23.95	150	232	Horizontal
4	4874.00	41.05	-17.99	74.00	32.95	150	204	Horizontal
5	7311.00	47.91	-9.74	74.00	26.09	150	68	Horizontal
6	7311.00	36.48	-9.74	54.00	17.52	150	169	Horizontal
7	17904.8	47.21	0.69	54.00	6.79	150	118	Horizontal

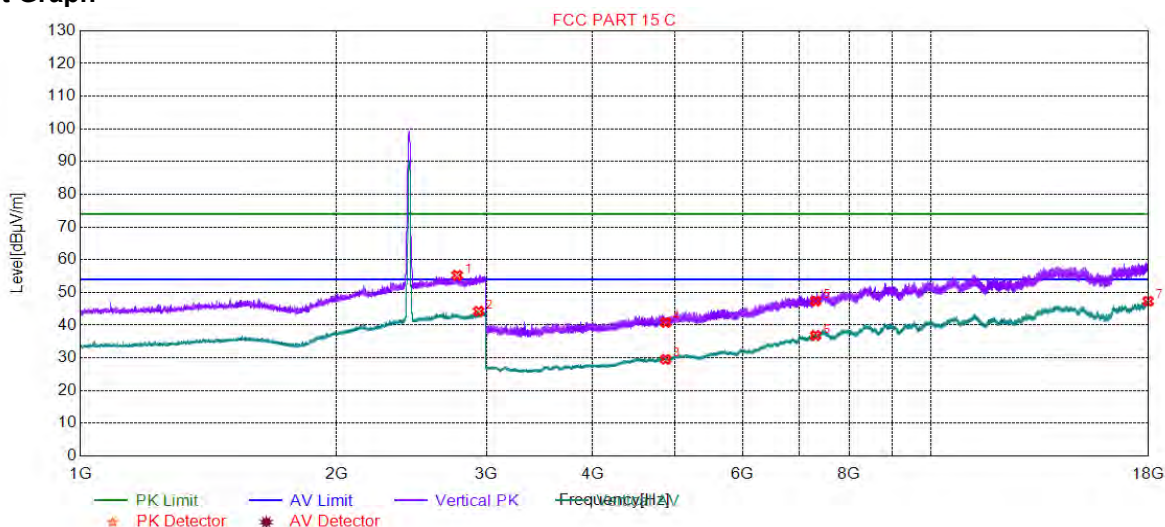
Final Data List





4.12.1.10 802.11G_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2771.94	55.26	9.05	74.00	18.74	150	265	Vertical
2	2937.98	44.25	9.55	54.00	9.75	150	265	Vertical
3	4874.00	29.54	-17.99	54.00	24.46	150	12	Vertical
4	4874.00	40.87	-17.99	74.00	33.13	150	150	Vertical
5	7311.00	47.37	-9.74	74.00	26.63	150	269	Vertical
6	7311.00	36.85	-9.74	54.00	17.15	150	219	Vertical
7	17975.7	47.33	0.71	54.00	6.67	150	219	Vertical

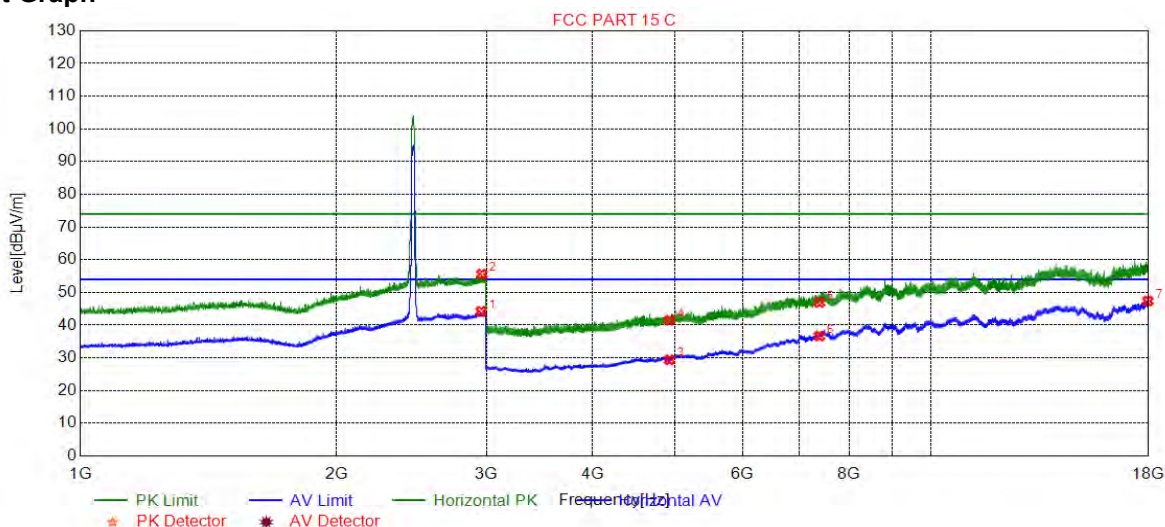
Final Data List





4.12.1.11 802.11G_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2957.48	44.24	9.65	54.00	9.76	150	162	Horizontal
2	2963.99	55.61	9.62	74.00	18.39	150	121	Horizontal
3	4924.00	29.42	-17.72	54.00	24.58	150	201	Horizontal
4	4924.00	41.52	-17.72	74.00	32.48	150	64	Horizontal
5	7386.00	46.95	-9.55	74.00	27.05	150	269	Horizontal
6	7386.00	36.68	-9.55	54.00	17.32	150	219	Horizontal
7	17964.7	47.41	0.71	54.00	6.59	150	118	Horizontal

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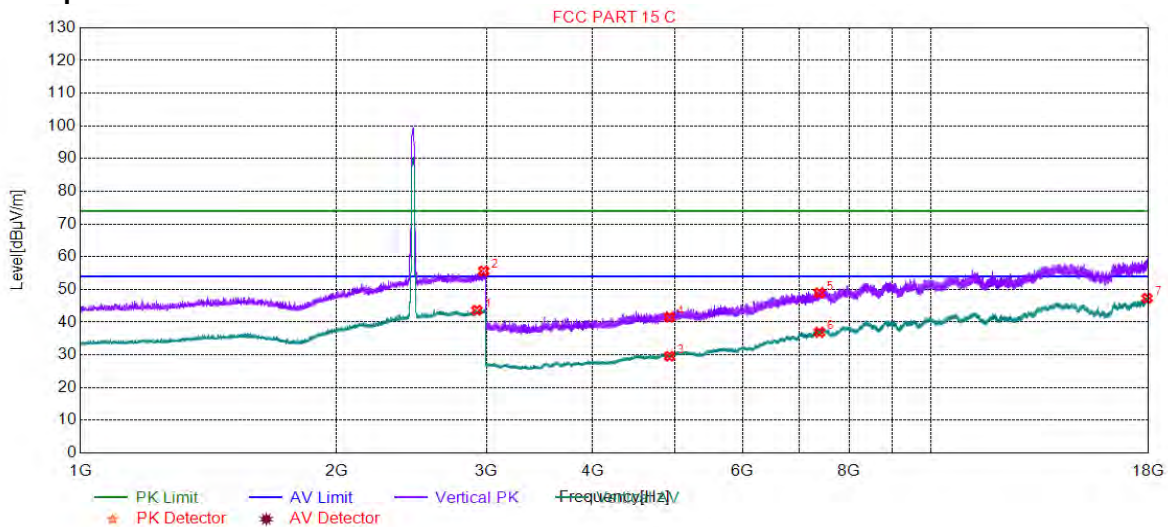
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4.12.1.12 802.11G_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2923.48	43.64	9.39	54.00	10.36	150	128	Vertical
2	2978.99	55.63	9.55	74.00	18.37	150	87	Vertical
3	4924.00	29.60	-17.72	54.00	24.40	150	42	Vertical
4	4924.00	41.52	-17.72	74.00	32.48	150	342	Vertical
5	7386.00	48.95	-9.55	74.00	25.05	150	269	Vertical
6	7386.00	36.90	-9.55	54.00	17.10	150	319	Vertical
7	17925.7	47.32	0.70	54.00	6.68	150	18	Vertical

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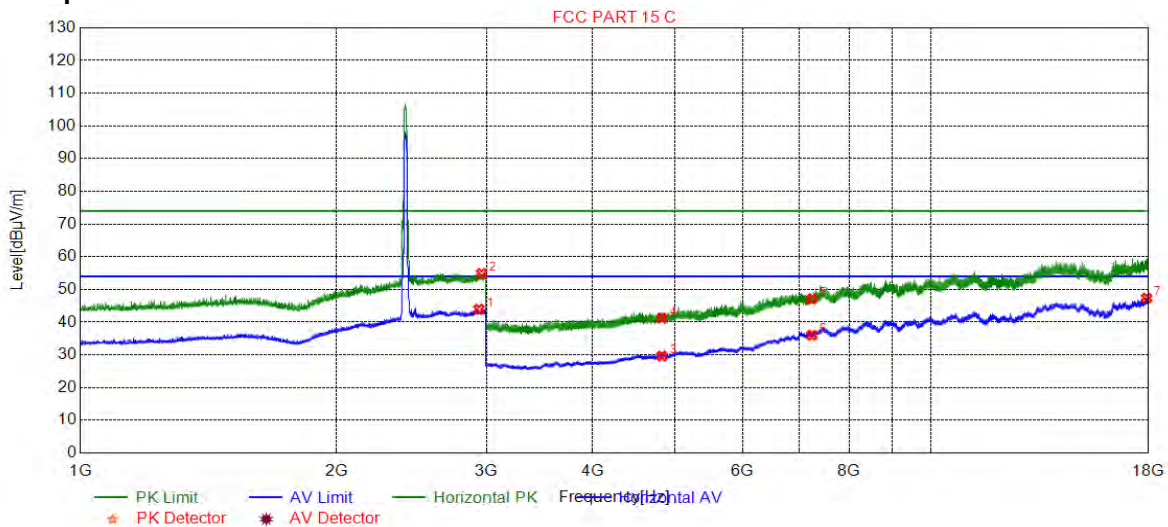
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4.12.1.13 802.11N20_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2939.98	43.97	9.57	54.00	10.03	150	16	Horizontal
2	2961.99	54.89	9.62	74.00	19.11	150	16	Horizontal
3	4824.00	29.65	-18.21	54.00	24.35	150	233	Horizontal
4	4824.00	41.21	-18.21	74.00	32.79	150	342	Horizontal
5	7236.00	47.10	-9.99	74.00	26.90	150	321	Horizontal
6	7236.00	36.01	-9.99	54.00	17.99	150	321	Horizontal
7	17903.7	47.38	0.69	54.00	6.62	150	119	Horizontal

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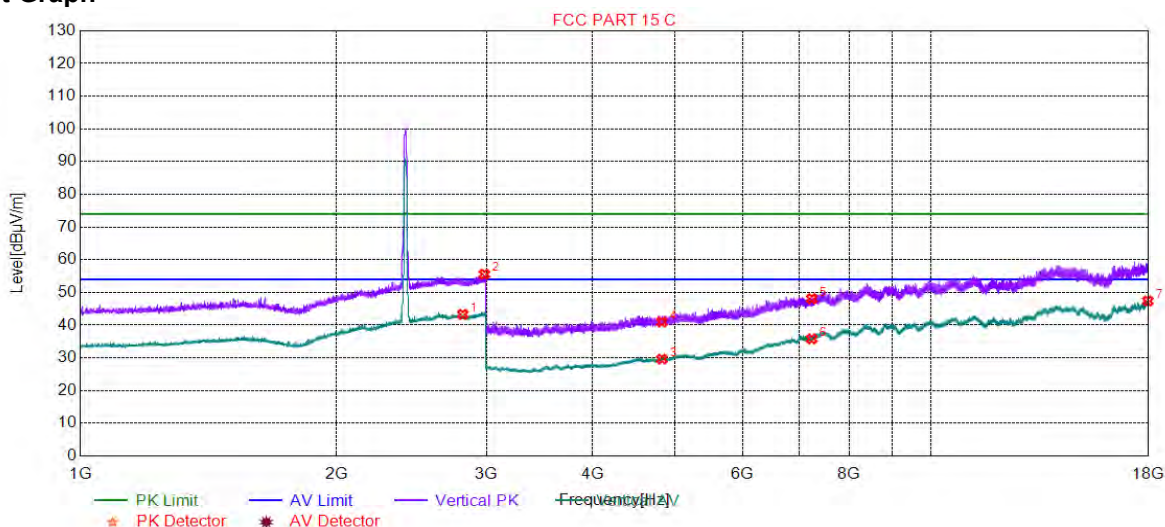
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4.12.1.14 802.11N20_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2813.95	43.32	9.05	54.00	10.68	150	196	Vertical
2	2983.49	55.60	9.53	74.00	18.40	150	18	Vertical
3	4824.00	29.64	-18.21	54.00	24.36	150	13	Vertical
4	4824.00	40.99	-18.21	74.00	33.01	150	205	Vertical
5	7236.00	48.09	-9.99	74.00	25.91	150	360	Vertical
6	7236.00	35.81	-9.99	54.00	18.19	150	269	Vertical
7	17964.7	47.43	0.71	54.00	6.57	150	320	Vertical

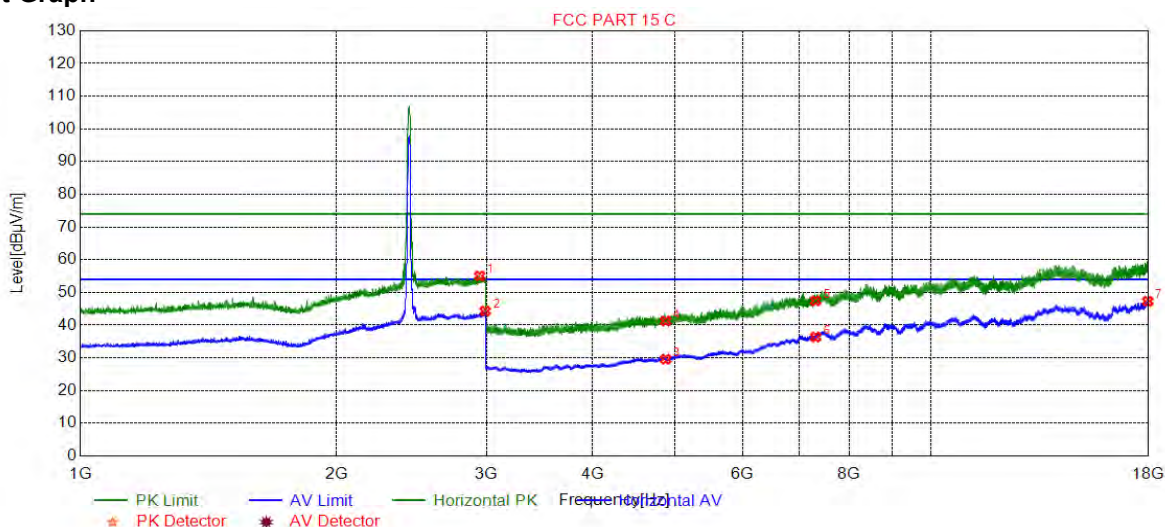
Final Data List





4.12.1.15 802.11N20_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2945.98	55.06	9.64	74.00	18.94	150	137	Horizontal
2	2989.99	44.30	9.50	54.00	9.70	150	247	Horizontal
3	4874.00	29.59	-17.99	54.00	24.41	150	15	Horizontal
4	4874.00	41.26	-17.99	74.00	32.74	150	260	Horizontal
5	7311.00	47.45	-9.74	74.00	26.55	150	119	Horizontal
6	7311.00	36.39	-9.74	54.00	17.61	150	169	Horizontal
7	17953.7	47.31	0.71	54.00	6.69	150	69	Horizontal

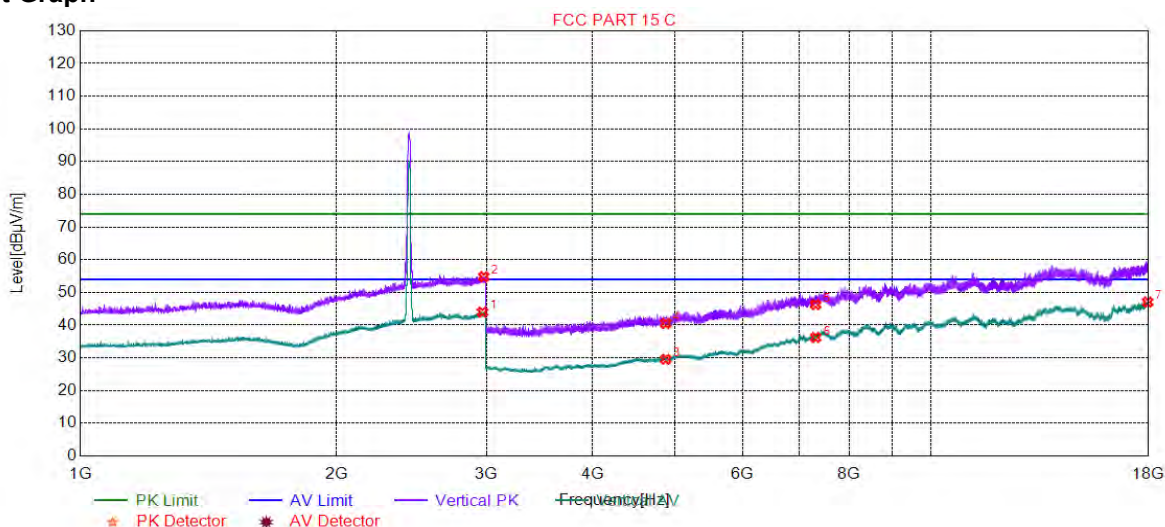
Final Data List





4.12.1.16 802.11N20_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2967.99	44.00	9.60	54.00	10.00	150	279	Vertical
2	2979.49	54.83	9.54	74.00	19.17	150	196	Vertical
3	4874.00	29.56	-17.99	54.00	24.44	150	288	Vertical
4	4874.00	40.53	-17.99	74.00	33.47	150	260	Vertical
5	7311.00	46.30	-9.74	74.00	27.70	150	270	Vertical
6	7311.00	36.25	-9.74	54.00	17.75	150	320	Vertical
7	17952.1	47.06	0.71	54.00	6.94	150	320	Vertical

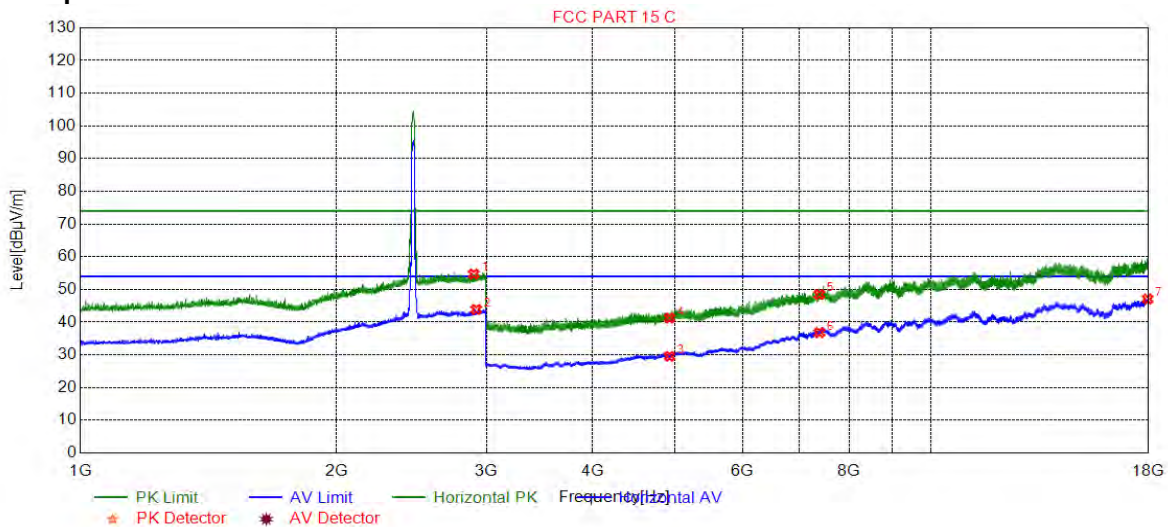
Final Data List





4.12.1.17 802.11N20_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2898.97	54.72	9.14	74.00	19.28	150	124	Horizontal
2	2917.97	43.90	9.33	54.00	10.10	150	192	Horizontal
3	4924.00	29.55	-17.72	54.00	24.45	150	315	Horizontal
4	4924.00	41.24	-17.72	74.00	32.76	150	260	Horizontal
5	7386.00	48.48	-9.55	74.00	25.52	150	360	Horizontal
6	7386.00	36.84	-9.55	54.00	17.16	150	270	Horizontal
7	17951.0	47.08	0.71	54.00	6.92	150	320	Horizontal

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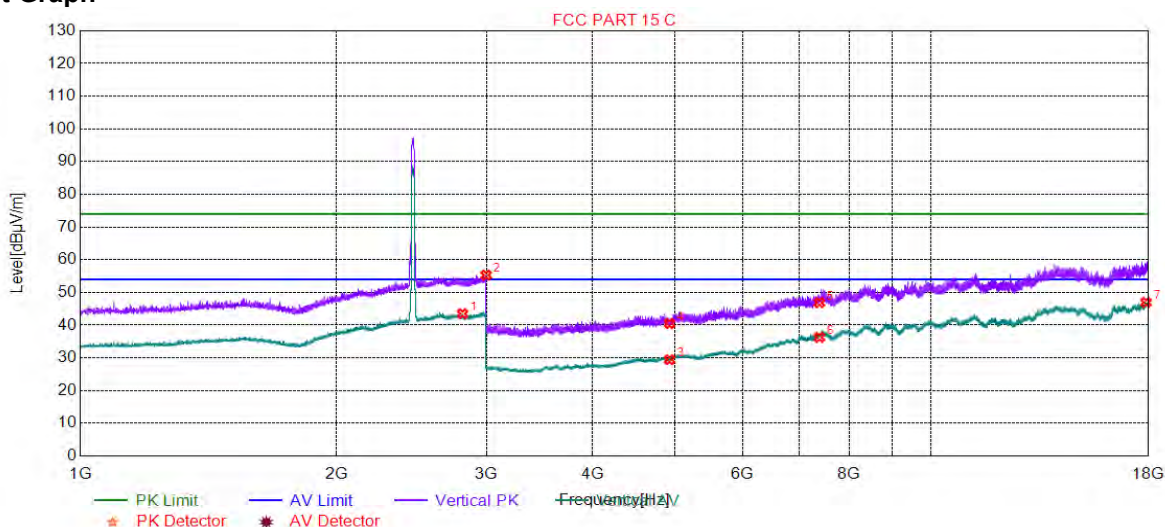
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4.12.1.18 802.11N20_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2812.45	43.51	9.04	54.00	10.49	150	153	Vertical
2	2997.99	55.31	9.46	74.00	18.69	150	86	Vertical
3	4924.00	29.46	-17.72	54.00	24.54	150	315	Vertical
4	4924.00	40.51	-17.72	74.00	33.49	150	232	Vertical
5	7386.00	46.89	-9.55	74.00	27.11	150	360	Vertical
6	7386.00	36.29	-9.55	54.00	17.71	150	170	Vertical
7	17874.0	46.97	0.35	54.00	7.03	150	170	Vertical

Final Data List



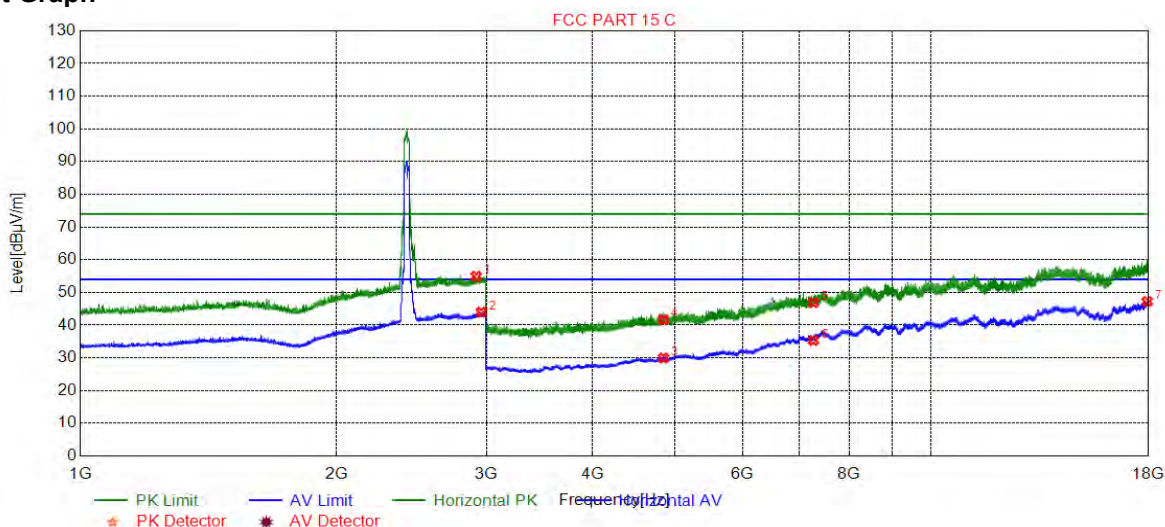
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4.12.1.19 802.11N40_Channel 3

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2918.47	54.93	9.34	74.00	19.07	150	176	Horizontal
2	2958.48	43.98	9.64	54.00	10.02	150	342	Horizontal
3	4844.00	29.97	-18.13	54.00	24.03	150	149	Horizontal
4	4844.00	41.65	-18.13	74.00	32.35	150	204	Horizontal
5	7266.00	46.88	-9.88	74.00	27.12	150	69	Horizontal
6	7266.00	35.36	-9.88	54.00	18.64	150	220	Horizontal
7	17930.6	47.26	0.70	54.00	6.74	150	119	Horizontal

Final Data List



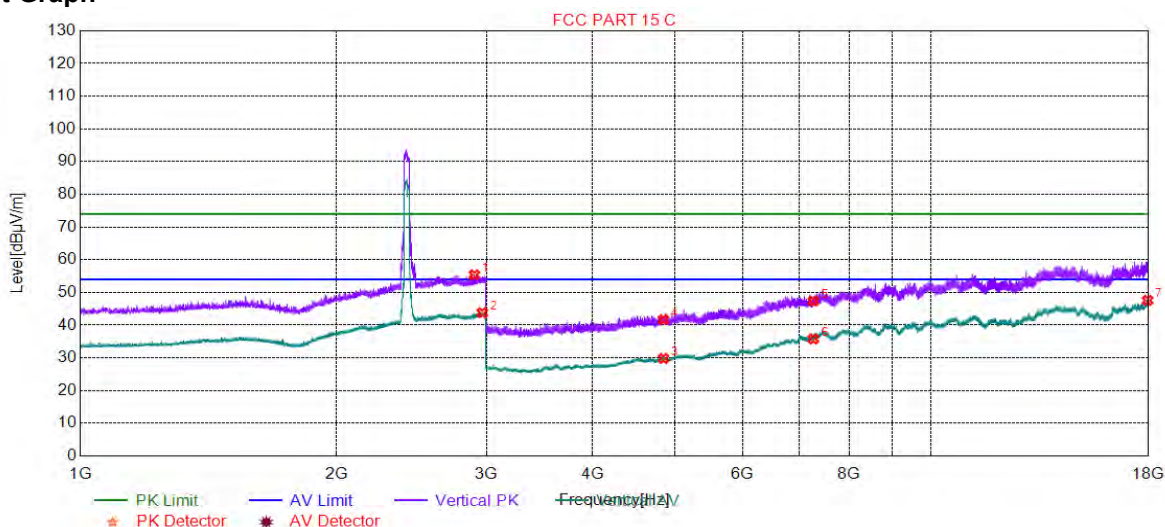
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4.12.1.20 802.11N40_Channel 3

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2903.97	55.41	9.18	74.00	18.59	150	169	Vertical
2	2965.99	43.82	9.61	54.00	10.18	150	358	Vertical
3	4844.00	29.84	-18.13	54.00	24.16	150	204	Vertical
4	4844.00	41.71	-18.13	74.00	32.29	150	204	Vertical
5	7266.00	47.35	-9.88	74.00	26.65	150	320	Vertical
6	7266.00	35.80	-9.88	54.00	18.20	150	18	Vertical
7	17949.3	47.59	0.70	54.00	6.41	150	219	Vertical

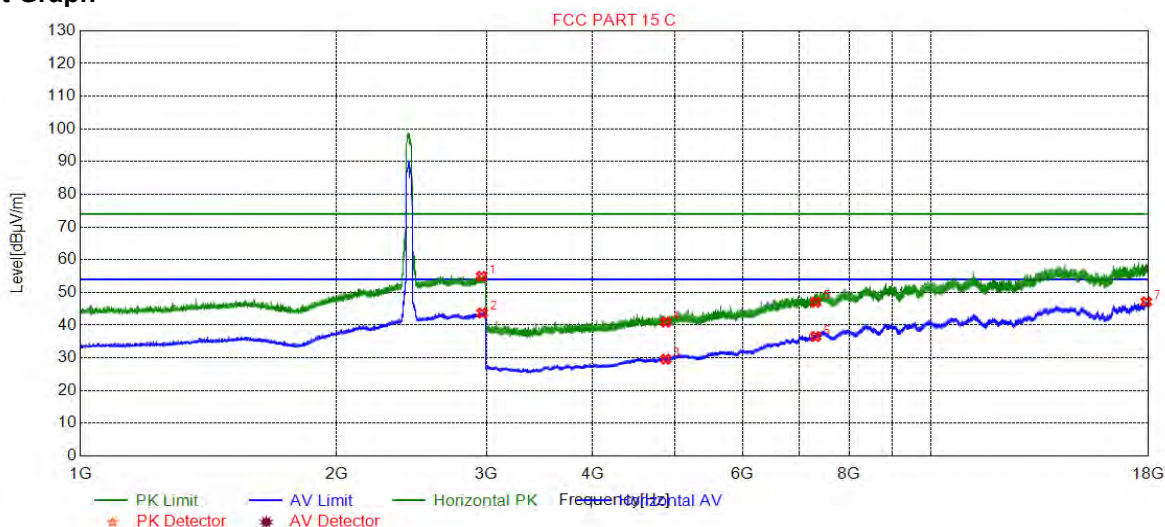
Final Data List





4.12.1.21 802.11N40_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2960.99	54.94	9.63	74.00	19.06	150	96	Horizontal
2	2965.99	43.71	9.61	54.00	10.29	150	110	Horizontal
3	4874.00	29.61	-17.99	54.00	24.39	150	150	Horizontal
4	4874.00	40.97	-17.99	74.00	33.03	150	315	Horizontal
5	7311.00	47.01	-9.74	74.00	26.99	150	321	Horizontal
6	7311.00	36.54	-9.74	54.00	17.46	150	220	Horizontal
7	17885.0	47.15	0.49	54.00	6.85	150	220	Horizontal

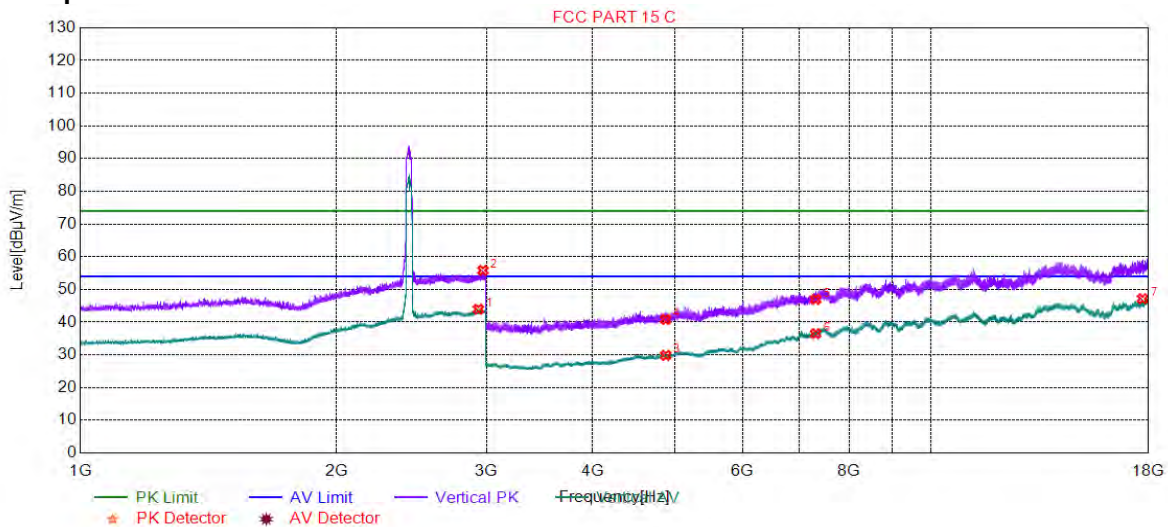
Final Data List





4.12.1.22 802.11N40_Channel 6

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2935.48	43.98	9.52	54.00	10.02	150	358	Vertical
2	2971.99	55.83	9.58	74.00	18.17	150	59	Vertical
3	4874.00	29.85	-17.99	54.00	24.15	150	206	Vertical
4	4874.00	40.84	-17.99	74.00	33.16	150	315	Vertical
5	7311.00	46.96	-9.74	74.00	27.04	150	220	Vertical
6	7311.00	36.48	-9.74	54.00	17.52	150	220	Vertical
7	17707.3	47.17	1.21	54.00	6.83	150	320	Vertical

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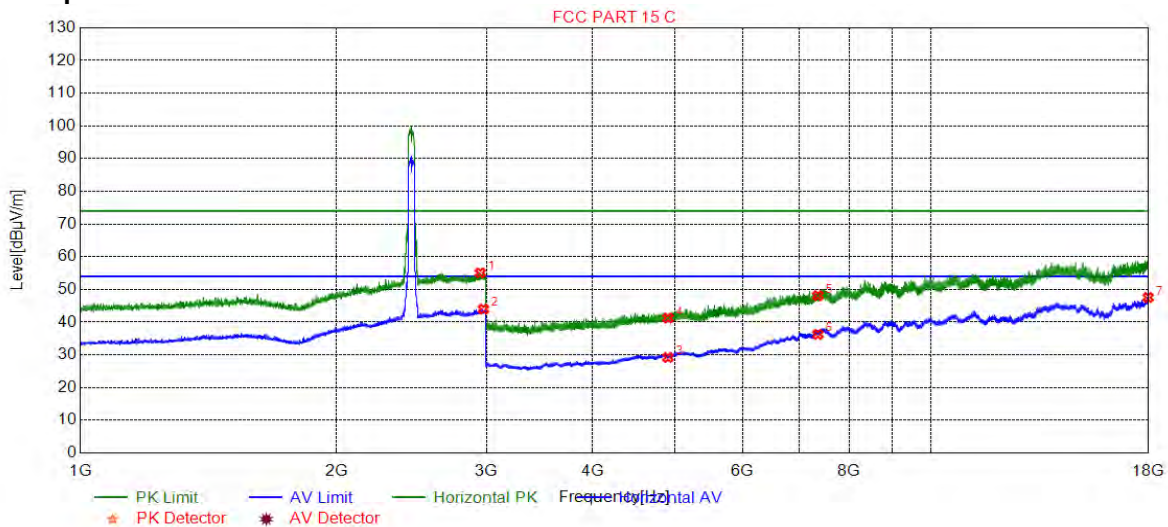
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4.12.1.23 802.11N40_Channel 9

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2950.48	55.11	9.68	74.00	18.89	150	110	Horizontal
2	2976.49	44.00	9.56	54.00	10.00	150	164	Horizontal
3	4904.00	29.22	-17.85	54.00	24.78	150	314	Horizontal
4	4904.00	41.25	-17.85	74.00	32.75	150	259	Horizontal
5	7356.00	48.10	-9.62	74.00	25.90	150	319	Horizontal
6	7356.00	36.26	-9.62	54.00	17.74	150	219	Horizontal
7	17976.3	47.55	0.71	54.00	6.45	150	69	Horizontal

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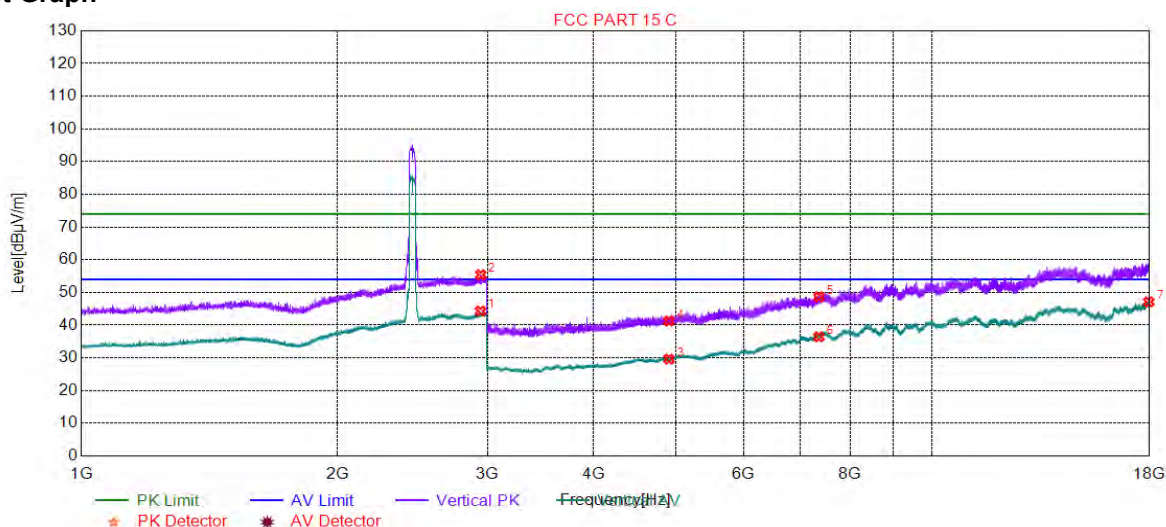
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4.12.1.24 802.11N40_Channel 9

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2943.98	44.33	9.62	54.00	9.67	150	334	Vertical
2	2946.98	55.43	9.65	74.00	18.57	150	347	Vertical
3	4904.00	29.64	-17.85	54.00	24.36	150	228	Vertical
4	4904.00	41.25	-17.85	74.00	32.75	150	59	Vertical
5	7356.00	48.67	-9.62	74.00	25.33	150	169	Vertical
6	7356.00	36.43	-9.62	54.00	17.57	150	219	Vertical
7	17955.9	47.12	0.71	54.00	6.88	150	68	Vertical

Final Data List

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz and 18GHz to 25GHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. 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. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.



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4.13 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

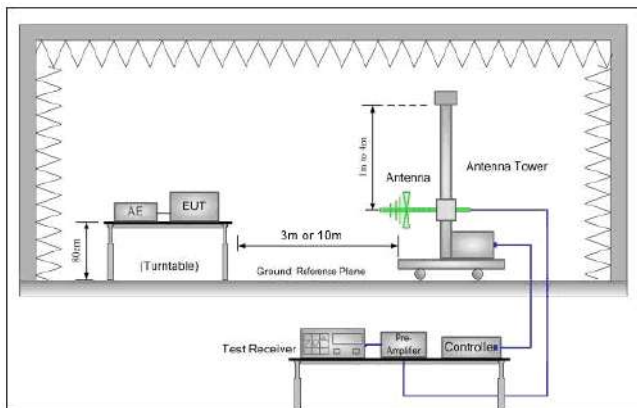


Figure 1. 30MHz to 1GHz

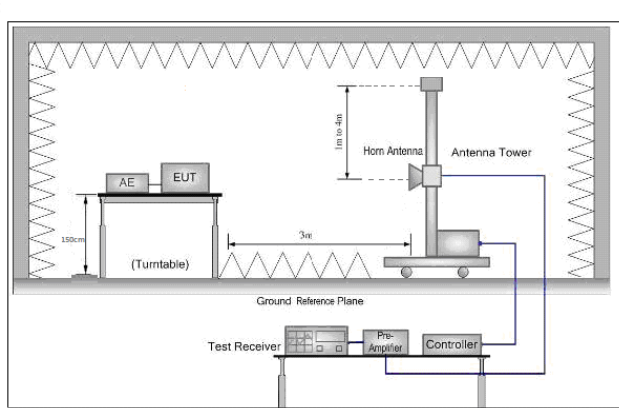


Figure 2. Above 1 GHz



Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. 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. e. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel , the Highest channel i. 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. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge +Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40). Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



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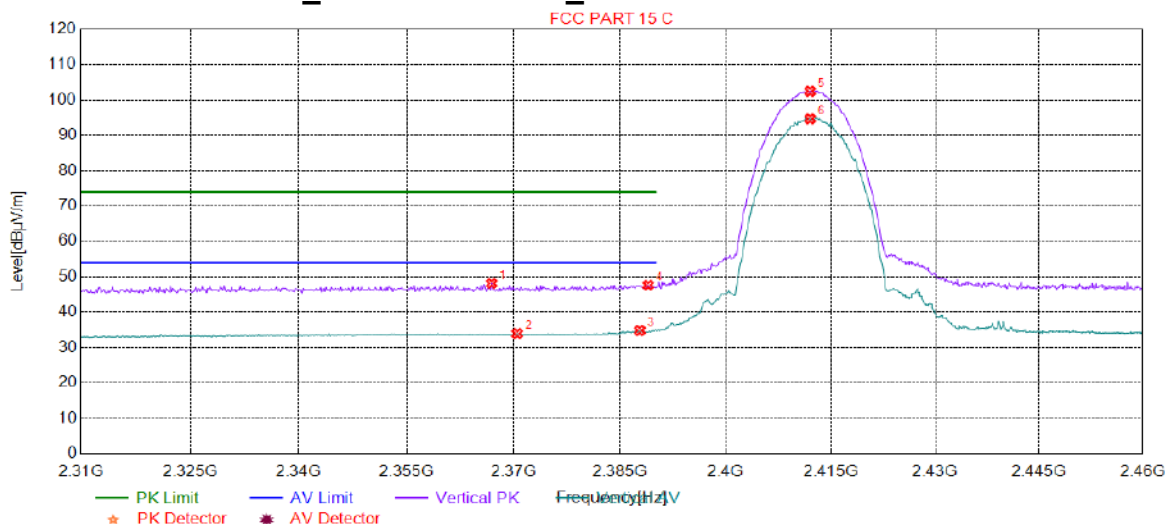
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Test plot as follows:

4.13.1.1 802.11B_Lowest Channel_Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2366.9069	48.16	7.79	74.00	25.84	200	100	Vertical
2	2370.5105	33.95	7.79	54.00	20.05	100	29	Vertical
3	2387.7778	34.84	7.77	54.00	19.16	100	274	Vertical
4	2388.9790	47.64	7.77	74.00	26.36	100	294	Vertical
5	2412.0000	102.46	7.81	0.00	-102.46	100	227	Vertical
6	2412.0000	94.67	7.81	0.00	-94.67	100	223	Vertical

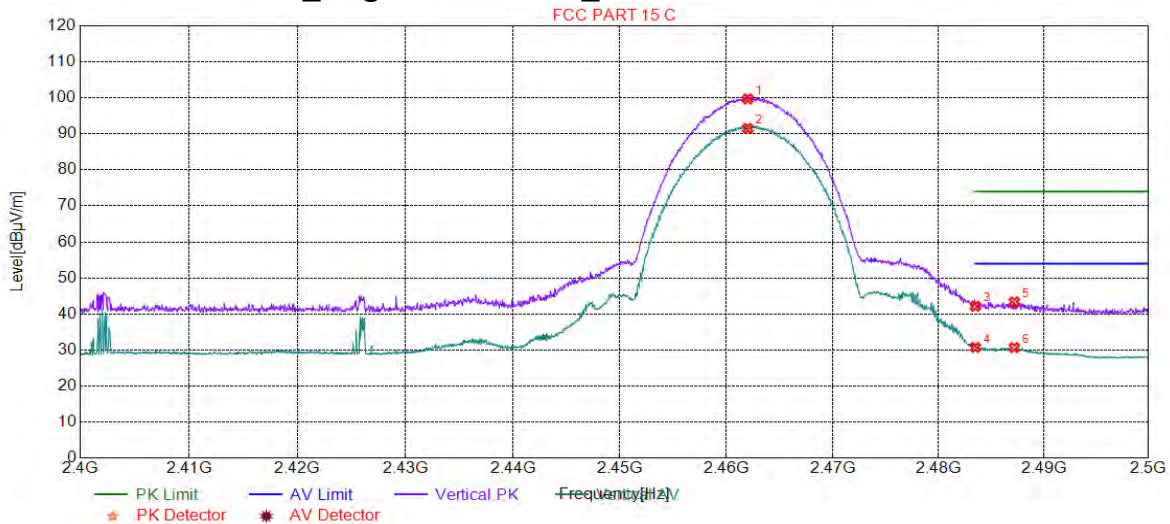


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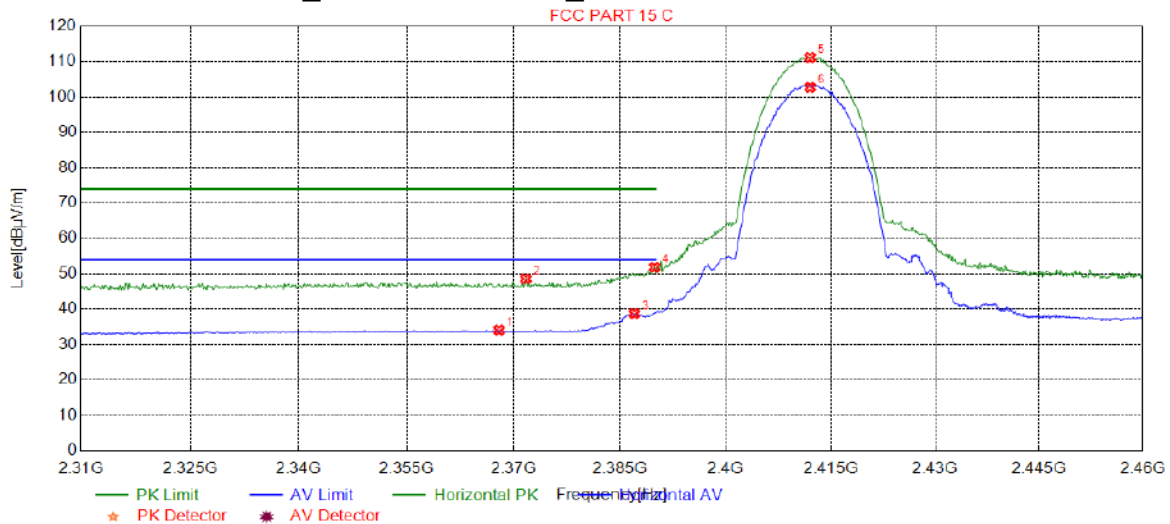
4.13.1.2 802.11B_ Highest Channel_ Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	99.70	7.98	0.00	-99.70	150	62	Vertical
2	2462.0000	91.52	7.98	0.00	-91.52	150	62	Vertical
3	2483.5000	42.15	8.01	74.00	31.85	150	106	Vertical
4	2483.5000	30.72	8.01	54.00	23.28	150	89	Vertical
5	2487.1936	43.37	8.01	74.00	30.63	150	315	Vertical
6	2487.1936	30.68	8.01	54.00	23.32	150	94	Vertical



4.13.1.3 802.11B_Lowest Channel_ Horizontal



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2367.9580	34.08	7.79	54.00	19.92	200	107	Horizontal
2	2371.7117	48.60	7.79	74.00	25.40	200	360	Horizontal
3	2387.0270	38.76	7.77	54.00	15.24	100	338	Horizontal
4	2389.8799	51.84	7.77	74.00	22.16	200	354	Horizontal
5	2412.0000	111.16	7.81	0.00	-111.16	100	342	Horizontal
6	2412.0000	102.72	7.81	0.00	-102.72	100	338	Horizontal



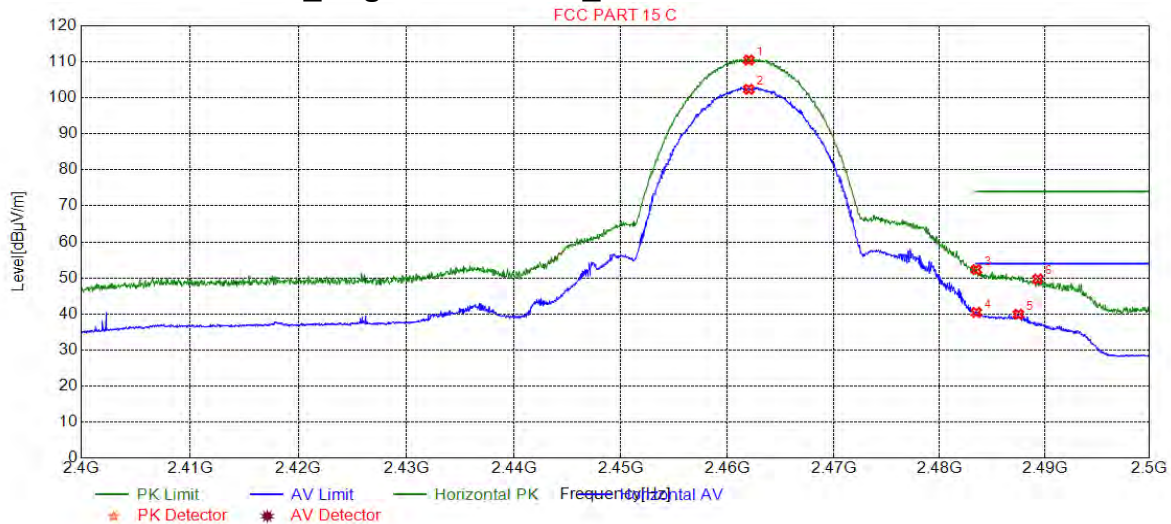
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4.13.1.4 802.11B_ Highest Channel_ Horizontal

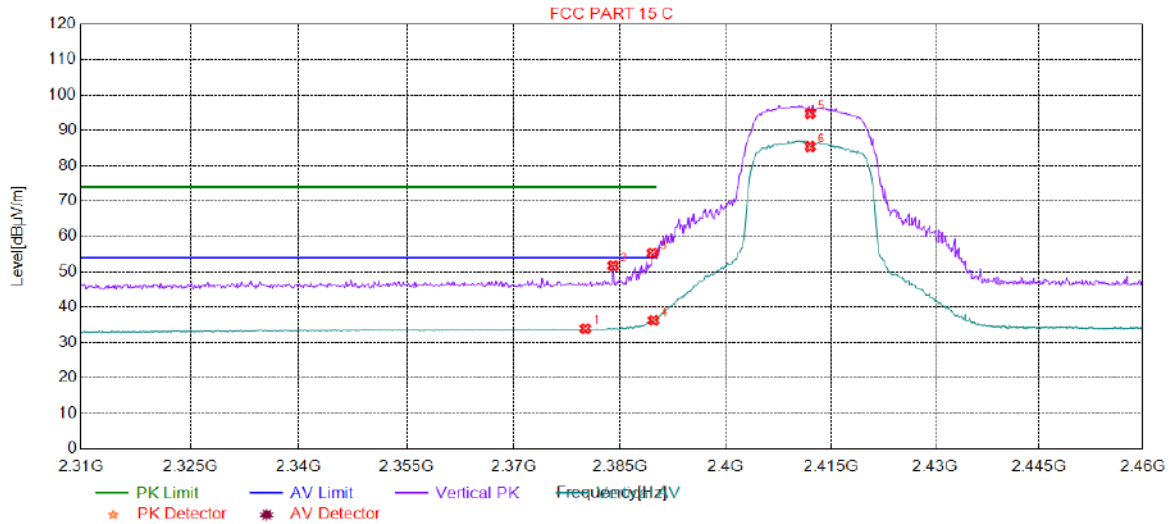


Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	110.48	7.98	0.00	-110.48	150	346	Horizontal
2	2462.0000	102.36	7.98	0.00	-102.36	150	346	Horizontal
3	2483.5000	52.30	8.01	74.00	21.70	150	346	Horizontal
4	2483.5000	40.44	8.01	54.00	13.56	150	346	Horizontal
5	2487.4937	39.93	8.01	54.00	14.07	150	346	Horizontal
6	2489.3447	49.70	8.02	74.00	24.30	150	188	Horizontal





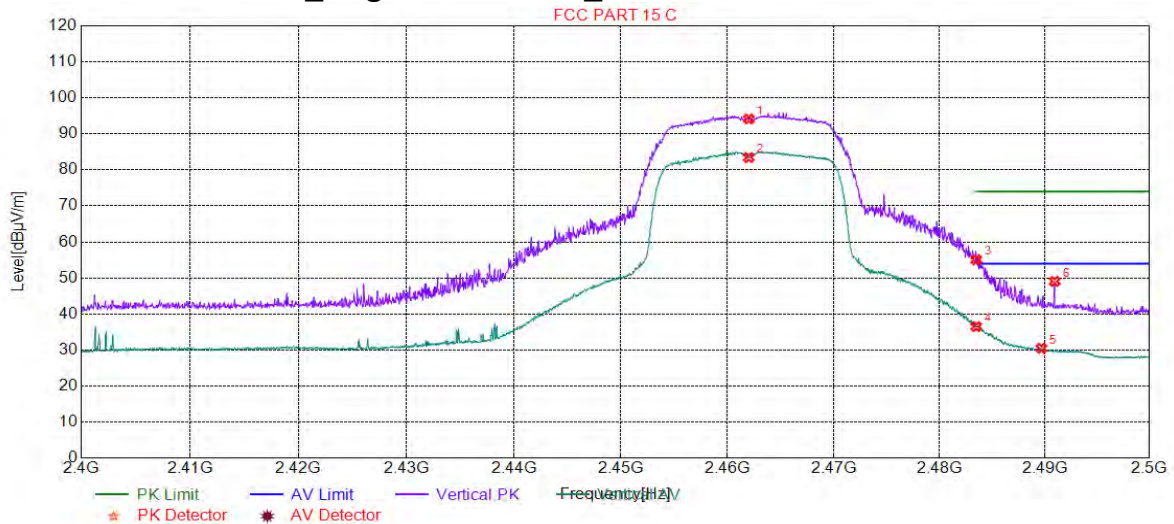
4.13.1.5 802.11G_Lowest Channel_Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2380.1201	33.91	7.78	54.00	20.09	150	123	Vertical
2	2384.0240	51.72	7.78	74.00	22.28	150	119	Vertical
3	2389.5796	55.30	7.77	74.00	18.70	150	82	Vertical
4	2389.7297	36.26	7.77	54.00	17.74	150	102	Vertical
5	2412.0000	94.74	7.81	0.00	-94.74	150	119	Vertical
6	2412.0000	85.43	7.81	0.00	-85.43	150	123	Vertical



4.13.1.6 802.11G_ Highest Channel_ Vertical

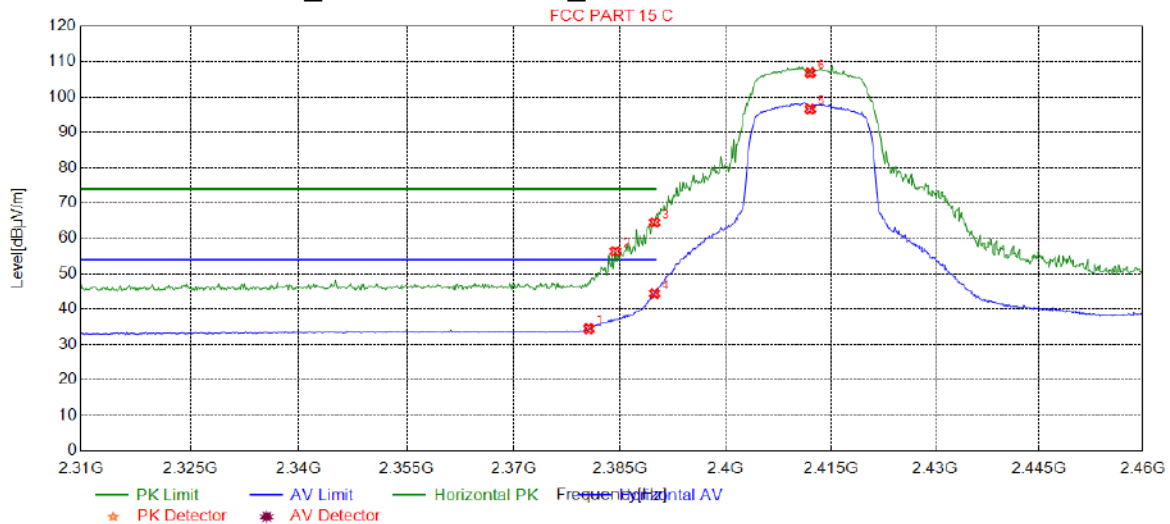


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	94.13	7.98	0.00	-94.13	150	310	Vertical
2	2462.0000	83.42	7.98	0.00	-83.42	150	96	Vertical
3	2483.5000	55.07	8.01	74.00	18.93	150	79	Vertical
4	2483.5000	36.51	8.01	54.00	17.49	150	107	Vertical
5	2489.6948	30.48	8.02	54.00	23.52	150	107	Vertical
6	2490.9455	49.05	8.02	74.00	24.95	150	123	Vertical

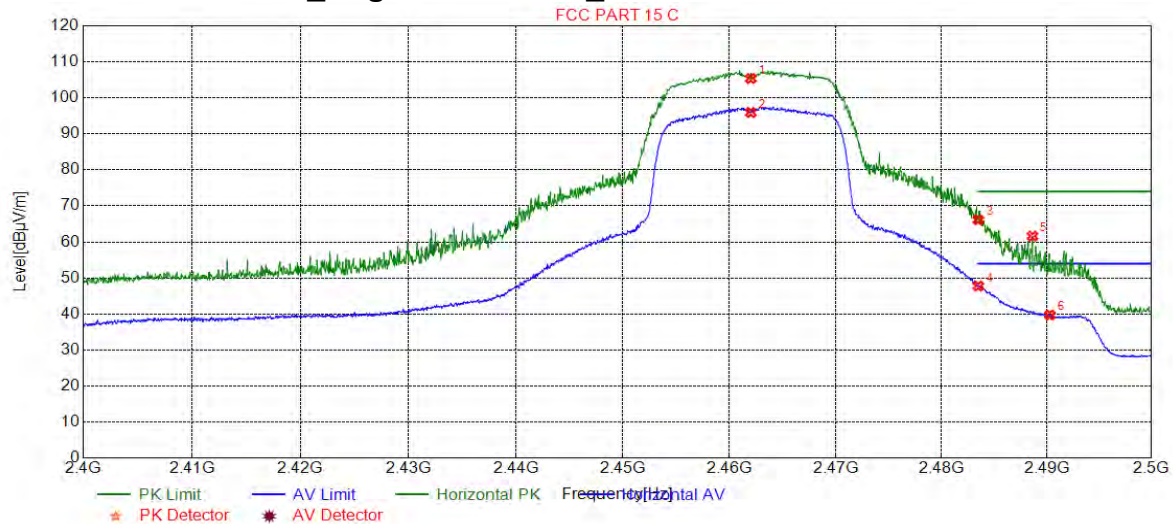


4.13.1.7 802.11G_Lowest Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2380.5706	34.49	7.78	54.00	19.51	150	346	Horizontal
2	2384.3243	56.37	7.78	74.00	17.63	150	346	Horizontal
3	2389.8799	64.53	7.77	74.00	9.47	150	346	Horizontal
4	2389.8799	44.42	7.77	54.00	9.58	150	346	Horizontal
5	2412.0000	96.56	7.81	0.00	-96.56	150	346	Horizontal
6	2412.0000	106.81	7.81	0.00	-106.81	150	346	Horizontal

4.13.1.8 802.11G_ Highest Channel_ Horizontal



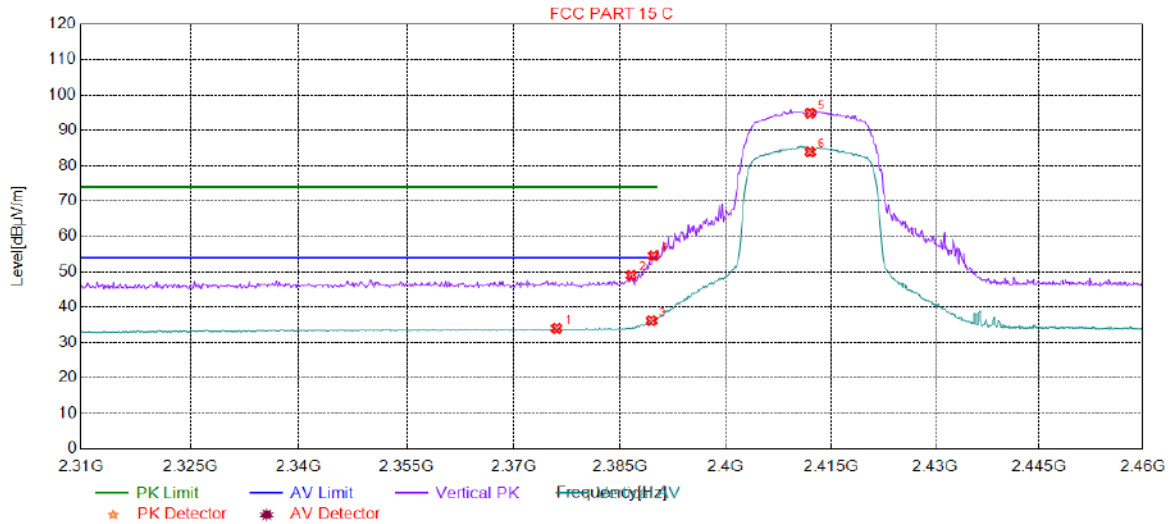
Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	105.36	7.98	0.00	-105.36	150	3	Horizontal
2	2462.0000	95.93	7.98	0.00	-95.93	150	3	Horizontal
3	2483.5000	66.12	8.01	74.00	7.88	150	195	Horizontal
4	2483.5000	47.74	8.01	54.00	6.26	150	0	Horizontal
5	2488.6443	61.59	8.02	74.00	12.41	150	216	Horizontal
6	2490.2951	39.72	8.02	54.00	14.28	150	205	Horizontal





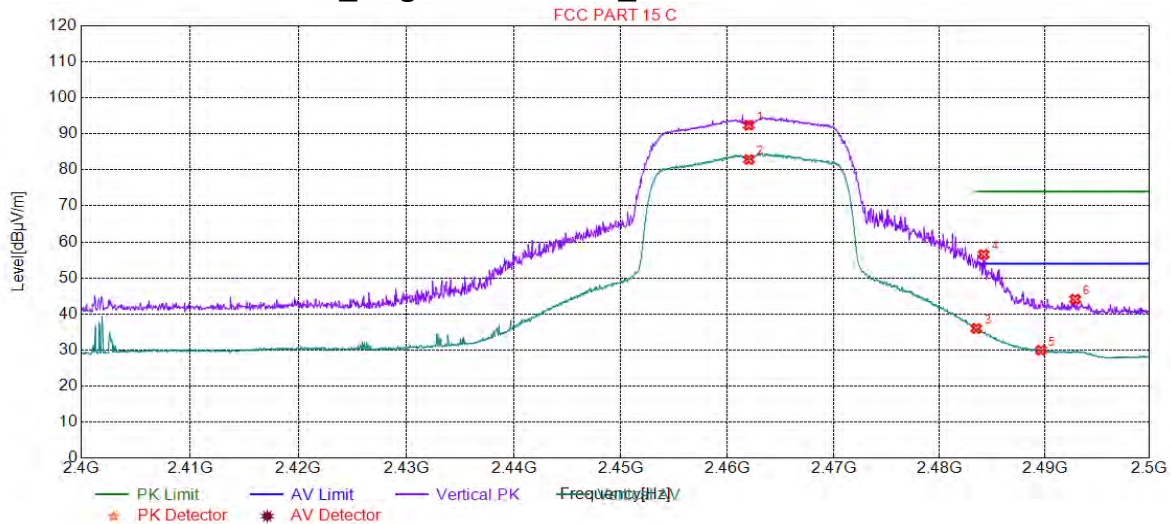
4.13.1.9 802.11N20_Lowest Channel_Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2376.0661	34.01	7.78	54.00	19.99	150	305	Vertical
2	2386.5766	49.05	7.77	74.00	24.95	150	100	Vertical
3	2389.4294	36.17	7.77	54.00	17.83	150	100	Vertical
4	2389.7297	54.53	7.77	74.00	19.47	150	96	Vertical
5	2412.0000	94.83	7.81	0.00	-94.83	150	120	Vertical
6	2412.0000	83.94	7.81	0.00	-83.94	150	120	Vertical



4.13.1.10 802.11N20_ Highest Channel_ Vertical

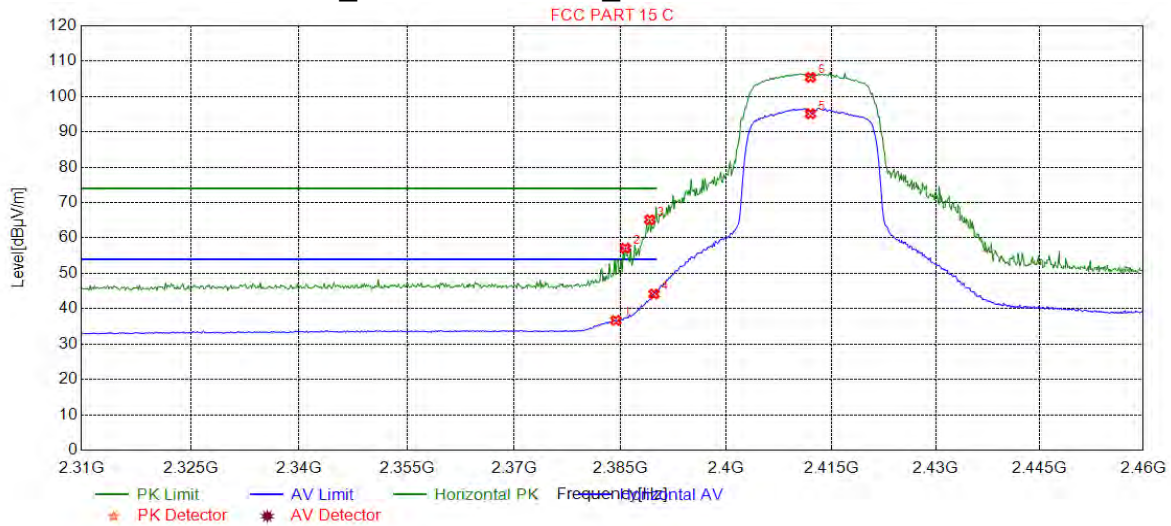


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	92.40	7.98	0.00	-92.40	150	78	Vertical
2	2462.0000	82.87	7.98	0.00	-82.87	150	78	Vertical
3	2483.5000	36.00	8.01	54.00	18.00	150	288	Vertical
4	2484.1921	56.52	8.01	74.00	17.48	150	282	Vertical
5	2489.6448	29.96	8.02	54.00	24.04	150	271	Vertical
6	2492.8964	44.10	8.02	74.00	29.90	150	271	Vertical



4.13.1.11 802.11N20_Lowest Channel_Horizontal

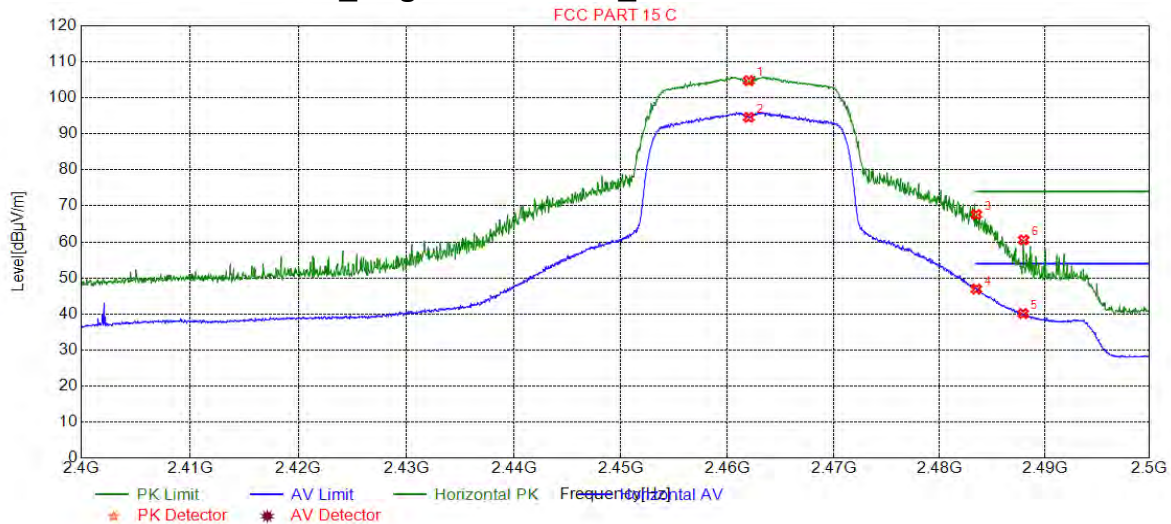


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2384.3243	36.70	7.78	54.00	17.30	150	346	Horizontal
2	2385.6757	57.12	7.77	74.00	16.88	150	164	Horizontal
3	2389.1291	65.16	7.77	74.00	8.84	150	202	Horizontal
4	2389.7297	44.15	7.77	54.00	9.85	150	0	Horizontal
5	2412.0000	95.12	7.81	0.00	-95.12	150	1	Horizontal
6	2412.0000	105.42	7.81	0.00	-105.42	150	214	Horizontal



4.13.1.12 802.11N20_ Highest Channel_ Horizontal



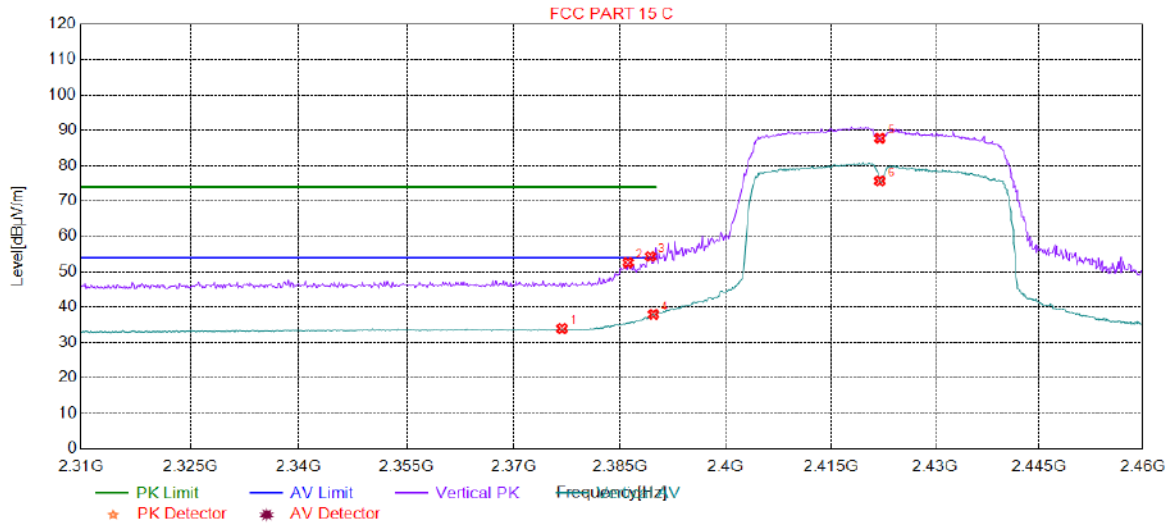
Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	104.75	7.98	0.00	-104.75	150	258	Horizontal
2	2462.0000	94.57	7.98	0.00	-94.57	150	0	Horizontal
3	2483.5000	67.60	8.01	74.00	6.40	150	0	Horizontal
4	2483.5000	46.90	8.01	54.00	7.10	150	198	Horizontal
5	2487.9440	40.11	8.02	54.00	13.89	150	198	Horizontal
6	2487.9940	60.57	8.02	74.00	13.43	150	187	Horizontal





4.13.1.13 802.11N40_Lowest Channel_Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2376.8168	33.95	7.78	54.00	20.05	150	279	Vertical
2	2386.1261	52.58	7.77	74.00	21.42	150	103	Vertical
3	2389.2793	54.34	7.77	74.00	19.66	150	58	Vertical
4	2389.7297	37.96	7.77	54.00	16.04	150	99	Vertical
5	2422.0000	87.75	7.85	0.00	-87.75	150	124	Vertical
6	2422.0000	75.69	7.85	0.00	-75.69	150	124	Vertical



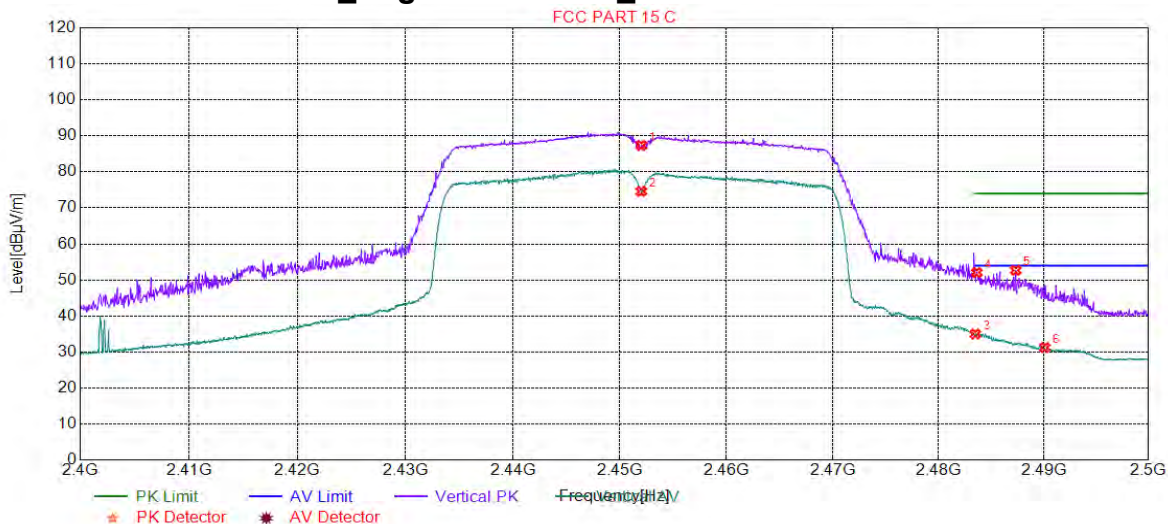
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4.13.1.14 802.11N40_ Highest Channel_ Vertical

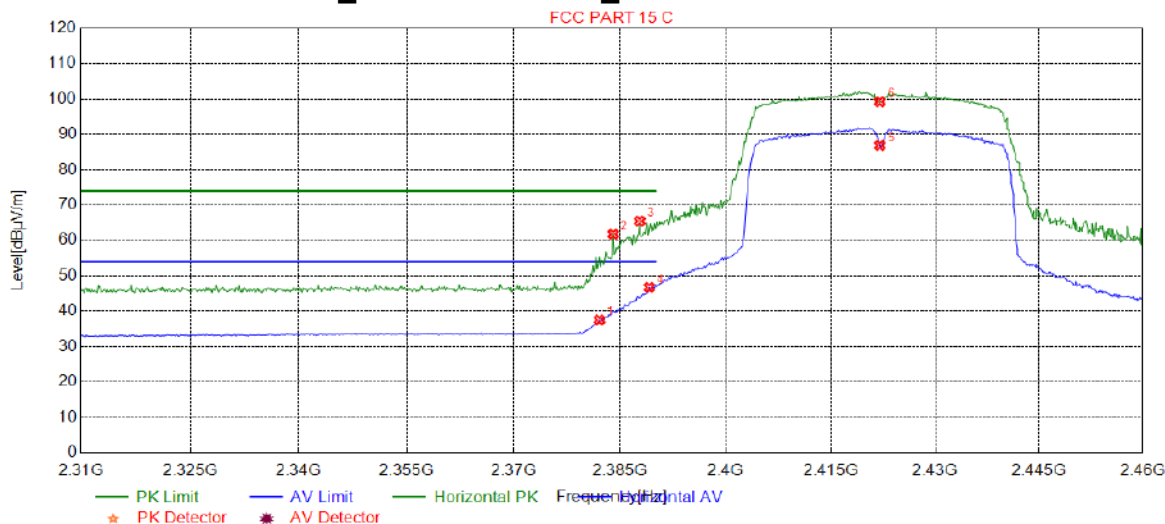


Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.0000	87.36	7.97	0.00	-87.36	150	78	Vertical
2	2452.0000	74.60	7.97	0.00	-74.60	150	100	Vertical
3	2483.5000	35.00	8.01	54.00	19.00	150	307	Vertical
4	2483.6418	52.07	8.01	74.00	21.93	150	296	Vertical
5	2487.3437	52.68	8.01	74.00	21.32	150	313	Vertical
6	2490.0950	31.23	8.02	54.00	22.77	150	307	Vertical





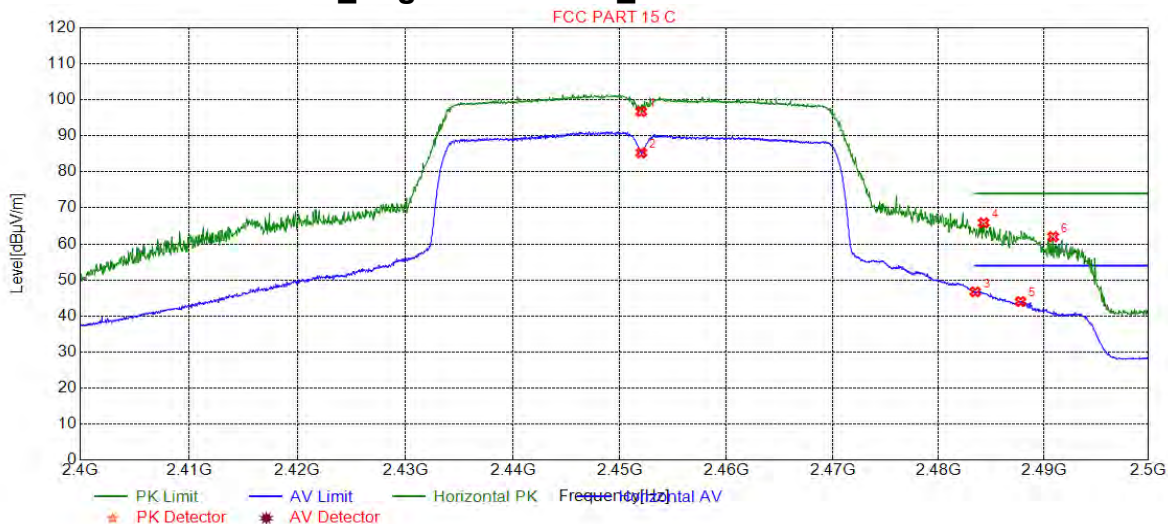
4.13.1.15 802.11N40_Lowest Channel_Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2382.0721	37.50	7.78	54.00	16.50	150	346	Horizontal
2	2384.0240	61.78	7.78	74.00	12.22	150	346	Horizontal
3	2387.7778	65.48	7.77	74.00	8.52	150	346	Horizontal
4	2389.1291	46.75	7.77	54.00	7.25	150	346	Horizontal
5	2422.0000	86.86	7.85	0.00	-86.86	150	346	Horizontal
6	2422.0000	99.26	7.85	0.00	-99.26	150	194	Horizontal



4.13.1.16 802.11N40_ Highest Channel_ Horizontal



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.0000	96.71	7.97	0.00	-96.71	150	9	Horizontal
2	2452.0000	85.27	7.97	0.00	-85.27	150	346	Horizontal
3	2483.5000	46.69	8.01	54.00	7.31	150	346	Horizontal
4	2484.2921	65.87	8.01	74.00	8.13	150	199	Horizontal
5	2487.7939	44.02	8.02	54.00	9.98	150	199	Horizontal
6	2490.8954	62.01	8.02	74.00	11.99	150	9	Horizontal

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

All Modes have been tested, but only the worst case data displayed in this report.

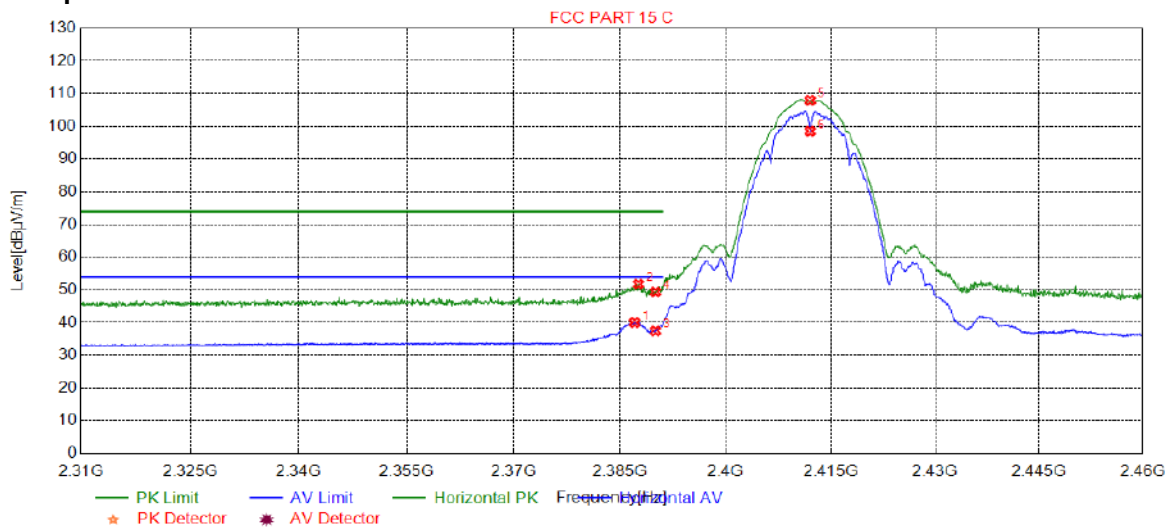




4.14 Spot Check Restricted bands around fundamental frequency

4.14.1.1 802.11B_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.06	40.03	7.77	54.00	13.97	150	188	Horizontal
2	2387.58	51.79	7.77	74.00	22.21	150	193	Horizontal
3	2390.00	37.47	7.77	54.00	16.53	150	188	Horizontal
4	2390.00	49.39	7.77	74.00	24.61	150	177	Horizontal
5	2412.00	107.99	7.81	0.00	-107.99	150	188	Horizontal
6	2412.00	98.55	7.81	0.00	-98.55	150	182	Horizontal

Final Data List



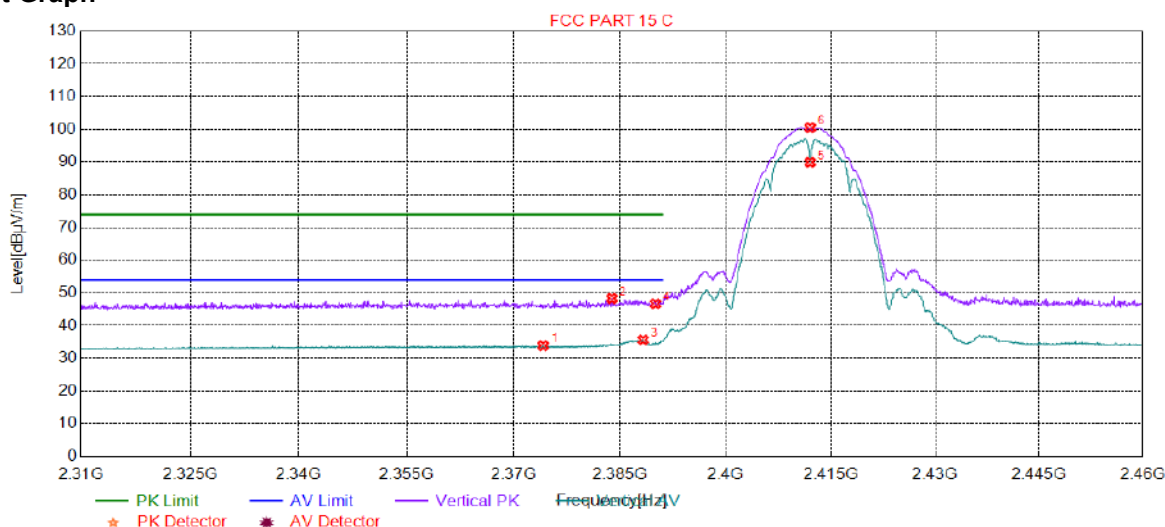
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4.14.1.2 802.11B_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2374.15	33.92	7.79	54.00	20.08	150	122	Vertical
2	2383.83	48.31	7.78	74.00	25.69	150	155	Vertical
3	2388.26	35.68	7.77	54.00	18.32	150	308	Vertical
4	2390.00	46.71	7.77	74.00	27.29	150	248	Vertical
5	2412.00	89.99	7.81	0.00	-89.99	150	303	Vertical
6	2412.00	100.55	7.81	0.00	-100.55	150	308	Vertical

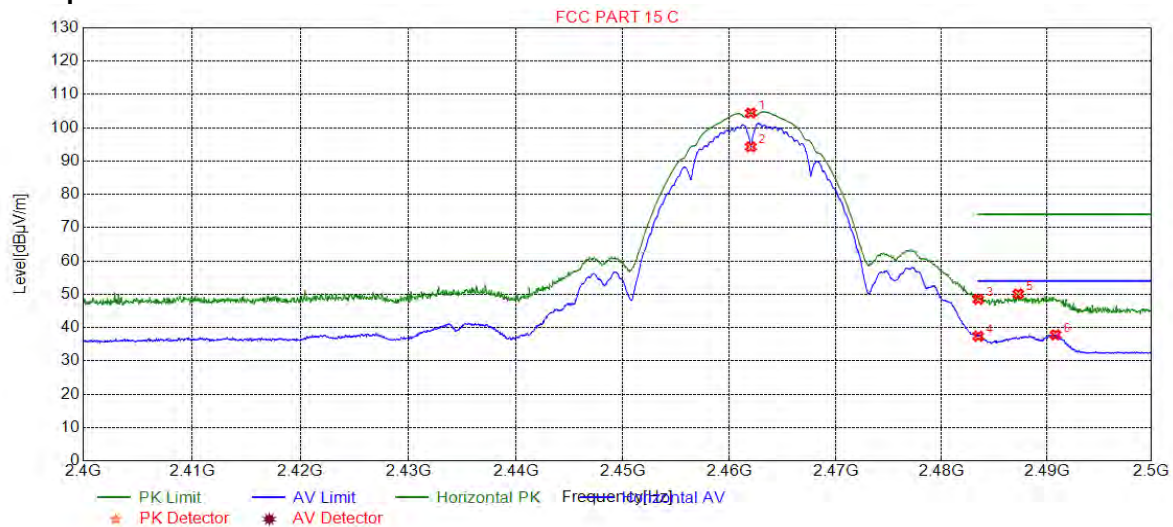
Final Data List





4.14.1.3 802.11B_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	104.46	7.98	0.00	-104.46	150	188	Horizontal
2	2462.00	94.27	7.98	0.00	-94.27	150	188	Horizontal
3	2483.50	48.53	8.01	74.00	25.47	150	134	Horizontal
4	2483.50	37.46	8.01	54.00	16.54	150	215	Horizontal
5	2487.29	50.16	8.01	74.00	23.84	150	160	Horizontal
6	2490.84	37.85	8.02	54.00	16.15	150	166	Horizontal

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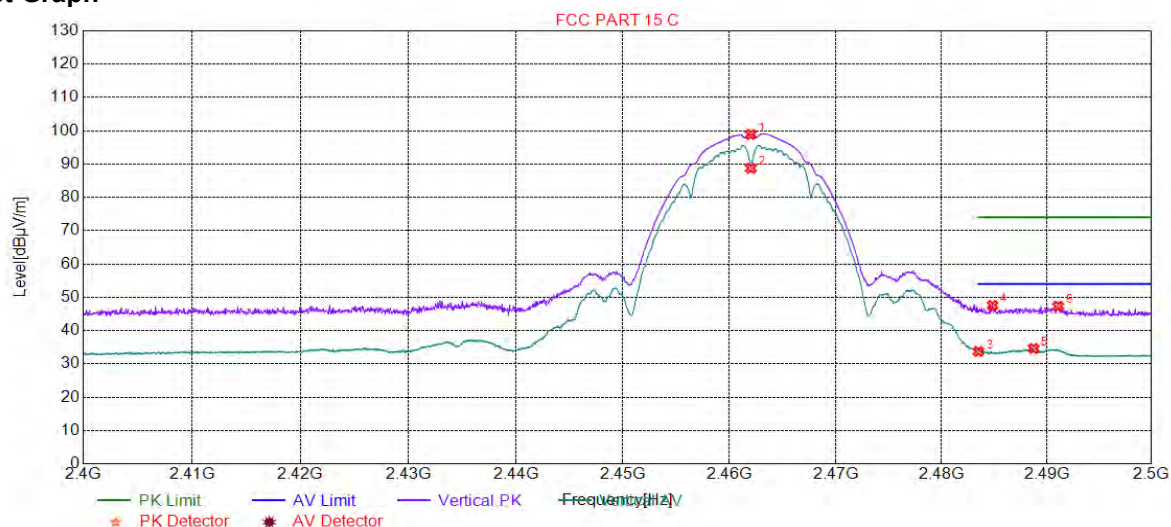
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4.14.1.4 802.11B_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	98.90	7.98	0.00	-98.90	150	41	Vertical
2	2462.00	88.75	7.98	0.00	-88.75	150	315	Vertical
3	2483.50	33.77	8.01	54.00	20.23	150	315	Vertical
4	2484.84	47.58	8.01	74.00	26.42	150	315	Vertical
5	2488.74	34.64	8.02	54.00	19.36	150	315	Vertical
6	2491.09	47.33	8.02	74.00	26.67	150	14	Vertical

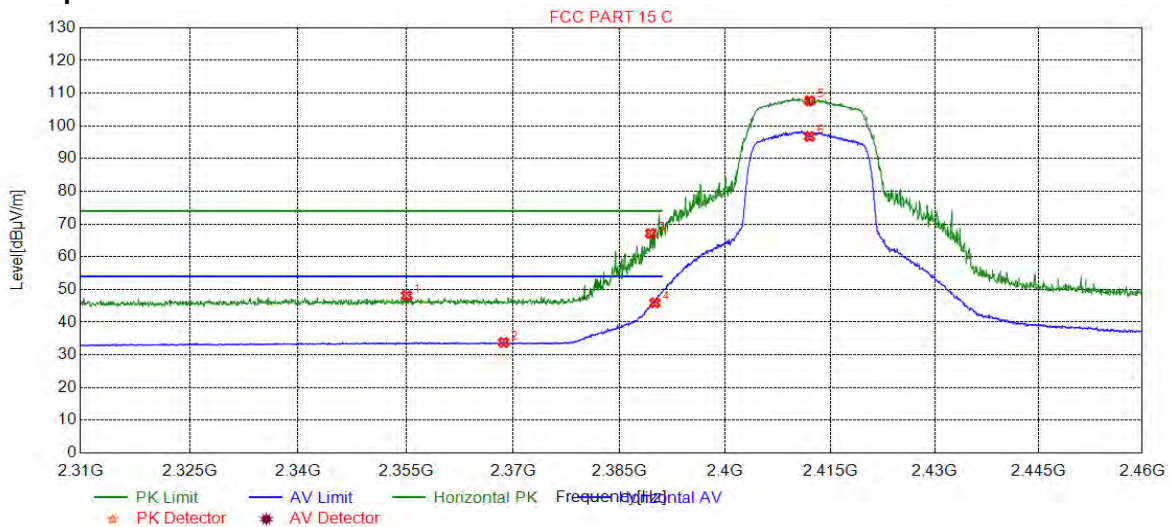
Final Data List





4.14.1.5 802.11G_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2355.09	48.15	7.80	74.00	25.85	150	161	Horizontal
2	2368.67	33.79	7.79	54.00	20.21	150	221	Horizontal
3	2389.38	67.12	7.77	74.00	6.88	150	188	Horizontal
4	2390.00	45.91	7.77	54.00	8.09	150	188	Horizontal
5	2412.00	107.68	7.81	0.00	-107.68	150	194	Horizontal
6	2412.00	96.78	7.81	0.00	-96.78	150	188	Horizontal

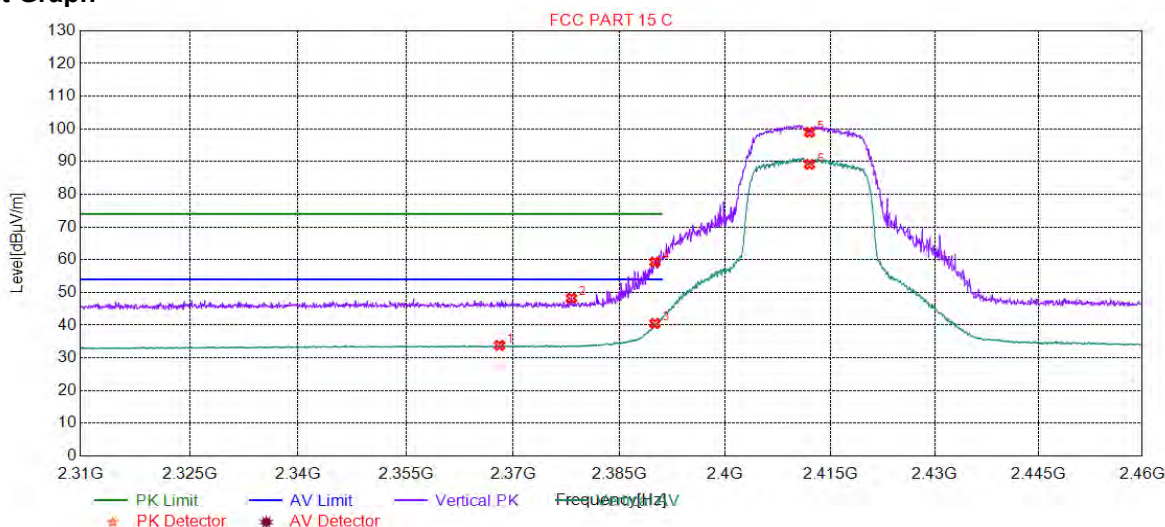
Final Data List





4.14.1.6 802.11G_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2368.07	33.81	7.79	54.00	20.19	150	220	Vertical
2	2378.20	48.26	7.78	74.00	25.74	150	285	Vertical
3	2390.00	40.54	7.77	54.00	13.46	150	40	Vertical
4	2390.00	59.30	7.77	74.00	14.70	150	225	Vertical
5	2412.00	98.97	7.81	0.00	-98.97	150	40	Vertical
6	2412.00	89.18	7.81	0.00	-89.18	150	40	Vertical

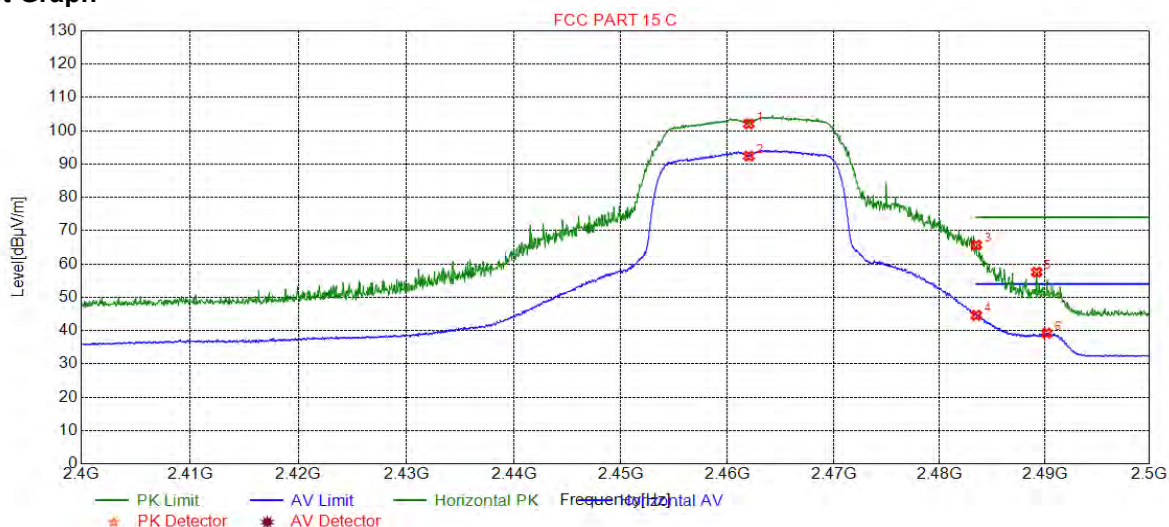
Final Data List





4.14.1.7 802.11G_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	102.08	7.98	0.00	-102.08	150	165	Horizontal
2	2462.00	92.39	7.98	0.00	-92.39	150	143	Horizontal
3	2483.50	65.70	8.01	74.00	8.30	150	138	Horizontal
4	2483.50	44.60	8.01	54.00	9.40	150	143	Horizontal
5	2489.24	57.57	8.02	74.00	16.43	150	143	Horizontal
6	2490.19	39.22	8.02	54.00	14.78	150	143	Horizontal

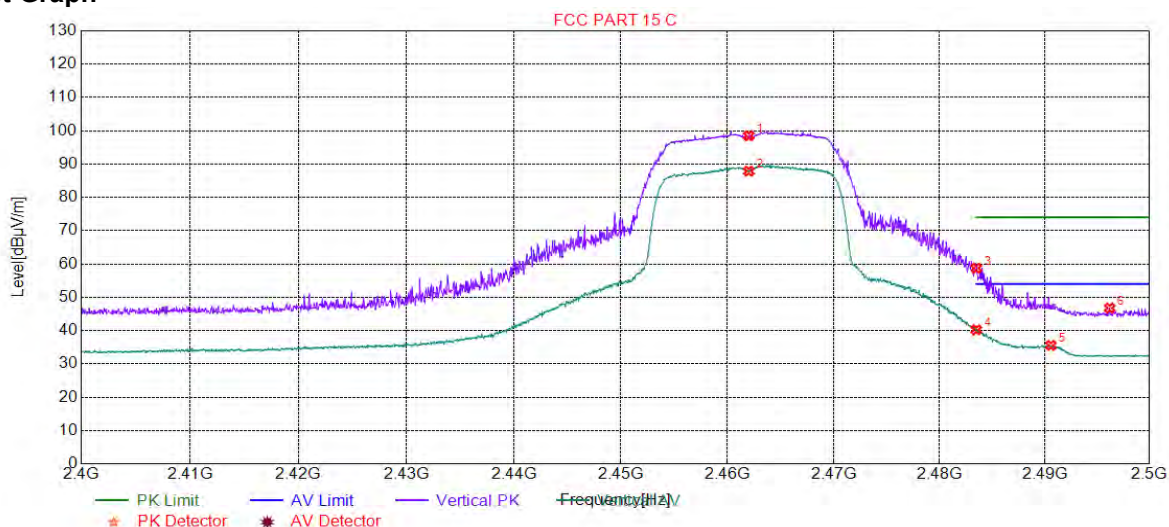
Final Data List





4.14.1.8 802.11G_Channel 11

Test Graph



Suspected List

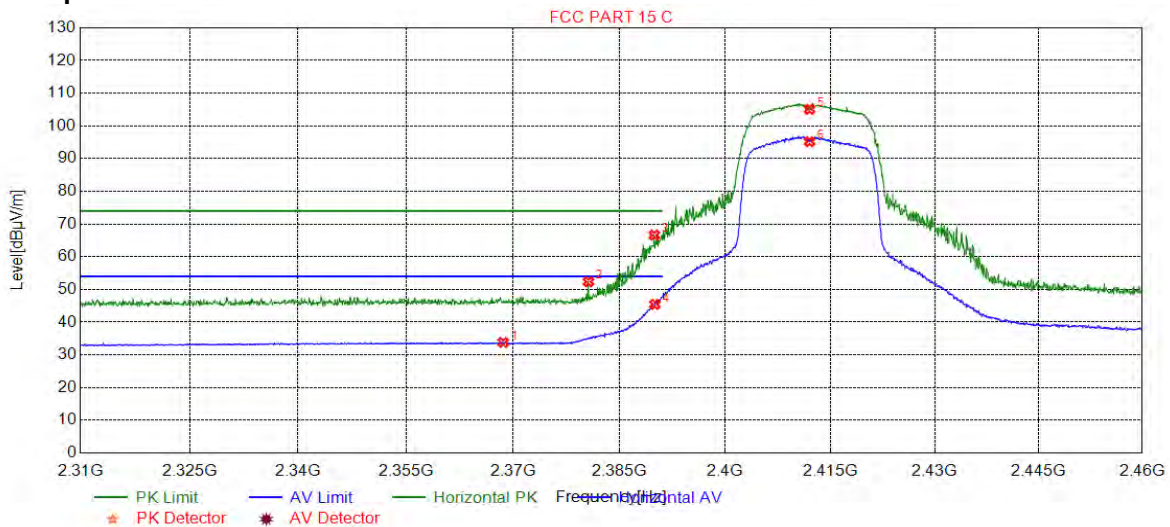
Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	98.52	7.98	0.00	-98.52	150	19	Vertical
2	2462.00	87.87	7.98	0.00	-87.87	150	19	Vertical
3	2483.50	58.76	8.01	74.00	15.24	150	214	Vertical
4	2483.50	40.27	8.01	54.00	13.73	150	220	Vertical
5	2490.59	35.60	8.02	54.00	18.40	150	220	Vertical
6	2496.19	46.79	8.03	74.00	27.21	150	252	Vertical

Final Data List



4.14.1.9 802.11N20_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2368.60	33.83	7.79	54.00	20.17	150	199	Horizontal
2	2380.61	52.37	7.78	74.00	21.63	150	199	Horizontal
3	2389.91	66.64	7.77	74.00	7.36	150	210	Horizontal
4	2390.00	45.44	7.77	54.00	8.56	150	210	Horizontal
5	2412.00	105.09	7.81	0.00	-105.09	150	205	Horizontal
6	2412.00	95.18	7.81	0.00	-95.18	150	199	Horizontal

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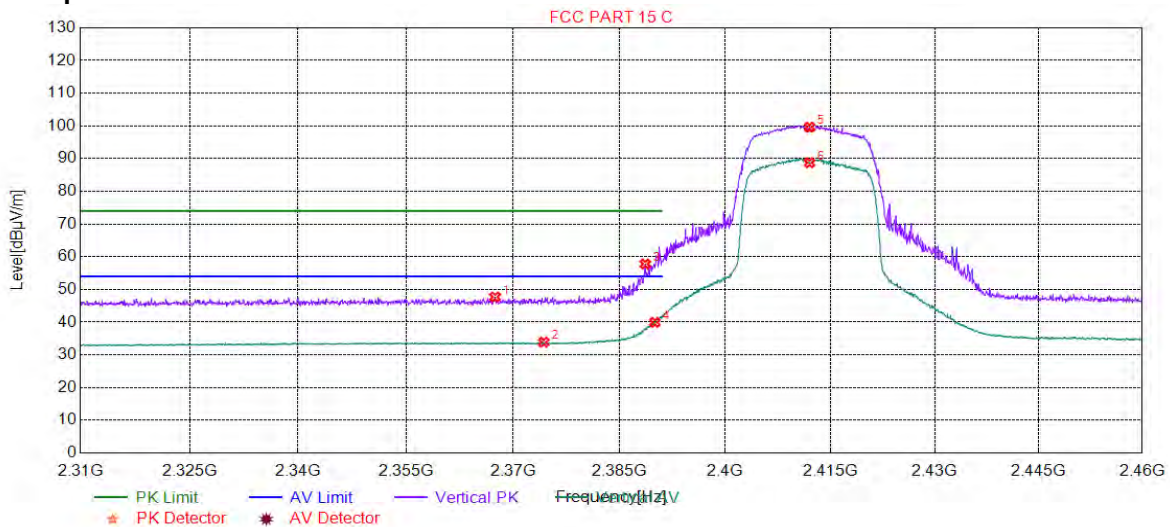
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4.14.1.10 802.11N20_Channel 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2367.47	47.71	7.79	74.00	26.29	150	118	Vertical
2	2374.30	33.89	7.79	54.00	20.11	150	327	Vertical
3	2388.63	57.79	7.77	74.00	16.21	150	233	Vertical
4	2390.00	39.95	7.77	54.00	14.05	150	228	Vertical
5	2412.00	99.64	7.81	0.00	-99.64	150	68	Vertical
6	2412.00	88.73	7.81	0.00	-88.73	150	62	Vertical

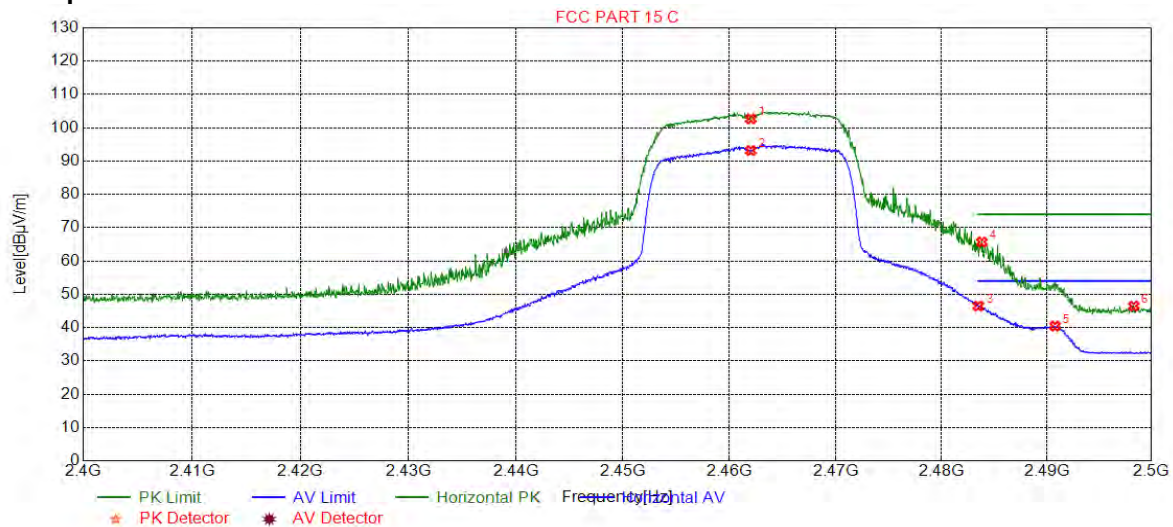
Final Data List





4.14.1.11 802.11N20_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	102.70	7.98	0.00	-102.70	150	205	Horizontal
2	2462.00	93.17	7.98	0.00	-93.17	150	205	Horizontal
3	2483.50	46.50	8.01	54.00	7.50	150	205	Horizontal
4	2483.84	65.69	8.01	74.00	8.31	150	200	Horizontal
5	2490.79	40.45	8.02	54.00	13.55	150	205	Horizontal
6	2498.29	46.49	8.03	74.00	27.51	150	133	Horizontal

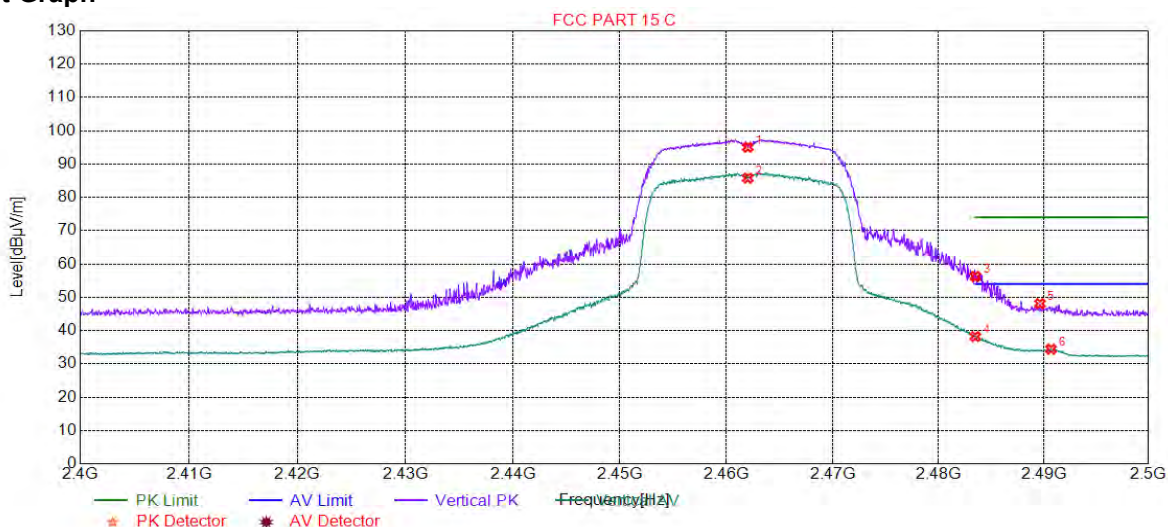
Final Data List





4.14.1.12 802.11N20_Channel 11

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	95.06	7.98	0.00	-95.06	150	19	Vertical
2	2462.00	85.80	7.98	0.00	-85.80	150	14	Vertical
3	2483.50	56.29	8.01	74.00	17.71	150	200	Vertical
4	2483.50	38.23	8.01	54.00	15.77	150	63	Vertical
5	2489.64	48.12	8.02	74.00	25.88	150	41	Vertical
6	2490.69	34.45	8.02	54.00	19.55	150	216	Vertical

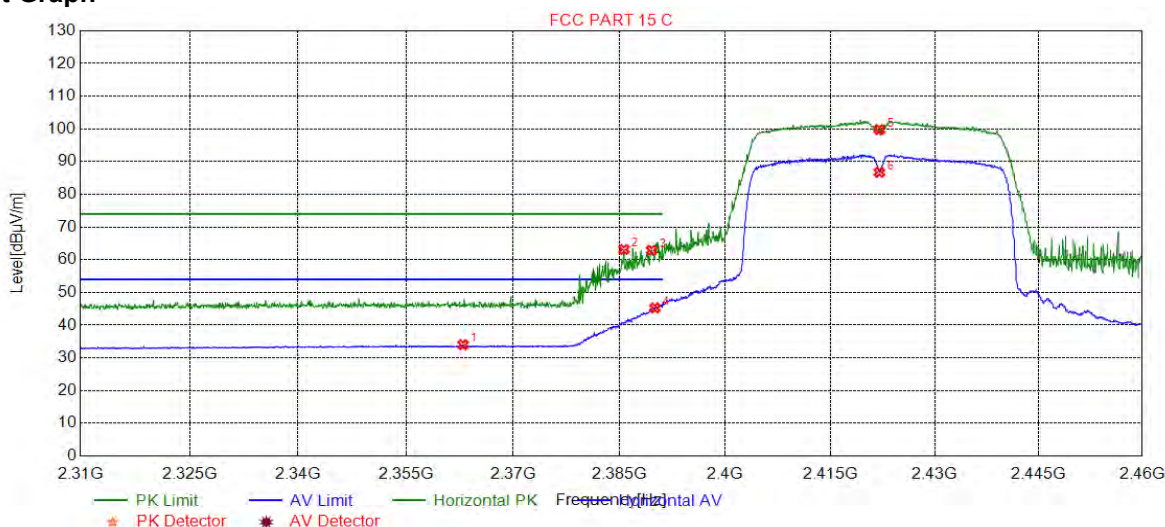
Final Data List





4.14.1.13 802.11N40_Channel 3

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2362.97	34.02	7.80	54.00	19.98	150	130	Horizontal
2	2385.63	63.15	7.77	74.00	10.85	150	198	Horizontal
3	2389.53	62.93	7.77	74.00	11.07	150	192	Horizontal
4	2390.00	45.30	7.77	54.00	8.70	150	203	Horizontal
5	2422.00	99.81	7.85	0.00	-99.81	150	208	Horizontal
6	2422.00	86.74	7.85	0.00	-86.74	150	208	Horizontal

Final Data List



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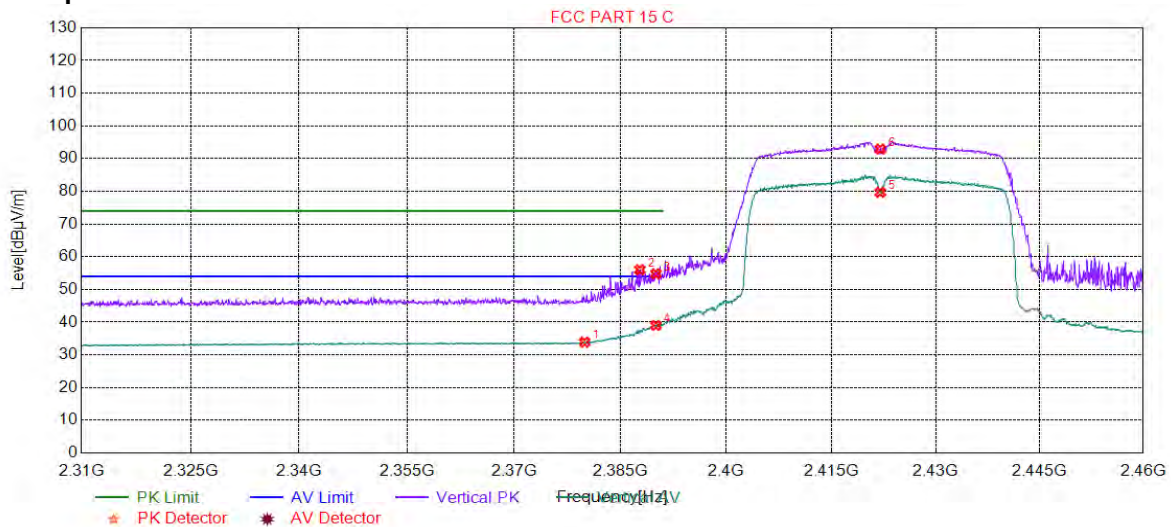
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4.14.1.14 802.11N40_Channel 3

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2379.93	33.88	7.78	54.00	20.12	150	30	Vertical
2	2387.73	56.02	7.77	74.00	17.98	150	355	Vertical
3	2390.00	54.80	7.77	74.00	19.20	150	14	Vertical
4	2390.00	39.02	7.77	54.00	14.98	150	322	Vertical
5	2422.00	79.72	7.85	0.00	-79.72	150	30	Vertical
6	2422.00	92.93	7.85	0.00	-92.93	150	30	Vertical

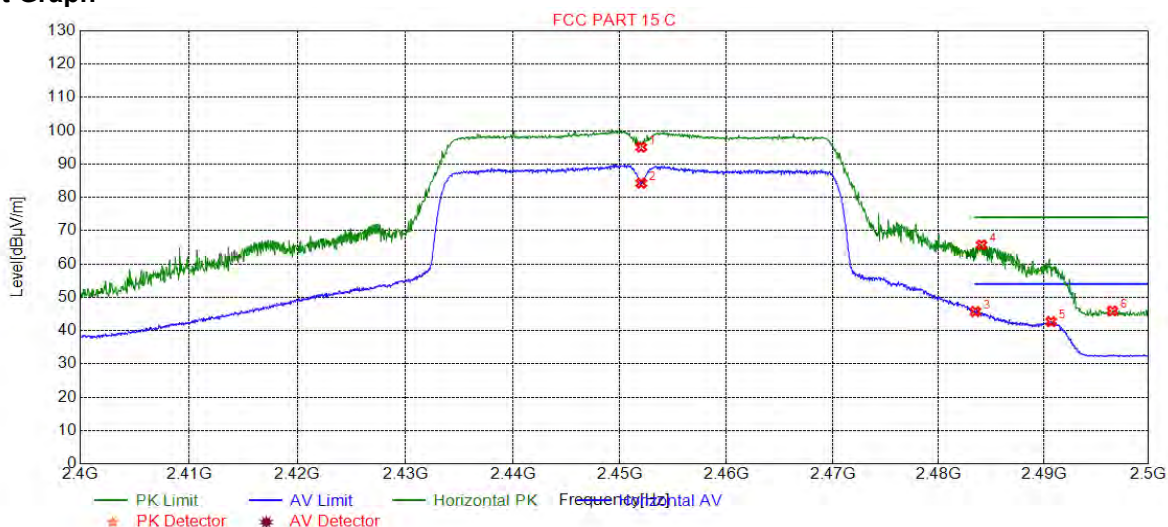
Final Data List





4.14.1.15 802.11N40_Channel 9

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.00	95.09	7.97	0.00	-95.09	150	195	Horizontal
2	2452.00	84.24	7.97	0.00	-84.24	150	200	Horizontal
3	2483.50	45.75	8.01	54.00	8.25	150	205	Horizontal
4	2484.09	65.74	8.01	74.00	8.26	150	195	Horizontal
5	2490.69	42.71	8.02	54.00	11.29	150	200	Horizontal
6	2496.54	45.93	8.03	74.00	28.07	150	134	Horizontal

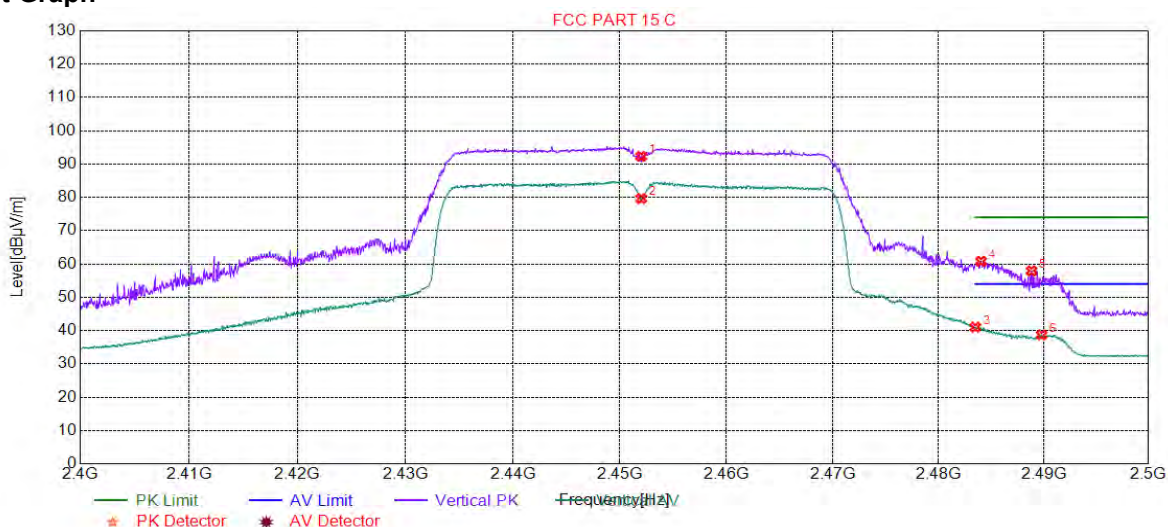
Final Data List





4.14.1.16 802.11N40_Channel 9

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.00	92.32	7.97	0.00	-92.32	150	138	Vertical
2	2452.00	79.65	7.97	0.00	-79.65	150	160	Vertical
3	2483.50	41.05	8.01	54.00	12.95	150	149	Vertical
4	2484.04	60.85	8.01	74.00	13.15	150	171	Vertical
5	2488.84	57.96	8.02	74.00	16.04	150	187	Vertical
6	2489.79	38.73	8.02	54.00	15.27	150	182	Vertical

Final Data List

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

All Modes have been tested, but only the worst case data displayed in this report.



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (M-10) Testing Laboratory

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5 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	$\pm 0.75\text{dB}$
2	RF power density, conducted	$\pm 2.84\text{dB}$
3	Spurious emissions, conducted	$\pm 0.75\text{dB}$
4	Radiated Spurious emission test	$\pm 4.5\text{dB}$ (30MHz-1GHz)
		$\pm 4.8\text{dB}$ (1GHz-25GHz)
5	Conduct emission test	$\pm 3.12\text{ dB}$ (9KHz- 30MHz)
6	Temperature test	$\pm 1^{\circ}\text{C}$
7	Humidity test	$\pm 3\%$
8	DC and low frequency voltages	$\pm 0.5\%$





6 Equipment List

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2020/5/10	2023/5/9
LISN	Rohde & Schwarz	ENV216	SEM007-01	2020/7/14	2021/7/14
LISN	ETS-LINDGREN	Feb-16	SEM007-02	2020/4/1	2021/3/31
Measurement Software	AUDIX	e3 V5.4.1221d	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020/6/12	2021/6/11
2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2020/2/11	2021/2/10
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2020/3/2	2021/3/1

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
DC Power Supply	Agilent Technologies Inc	66311B	W009-09	2020/7/15	2021/7/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2020/1/3	2021/1/2
Coaxial Cable	SGS	N/A	SEM031-01	2020/6/12	2021/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020/7/14	2021/7/14
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2019/10/27	2020/10/27
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2020/7/14	2021/7/14



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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Measurement Software	AUDIX	e3V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020/6/12	2021/6/11
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2020/3/12	2021/3/11
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2020/6/27	2023/6/26
Horn Antenna (0.8-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Pre-amplifier(0.1-1.3GHz)	HP	8447D	SEM005-02	2020/7/14	2021/7/14
Low Noise Amplifier(100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2019/9/3	2020/9/2
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2020/3/2	2021/3/1
Band filter	N/A	N/A	SEM023-01	N/A	N/A

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020/8/5	2023/8/4
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020/6/12	2021/6/11
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2020/7/14	2021/7/14
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2020/6/27	2023/6/26
Pre-amplifier (0.1-1.3GHz)	Agilent Technologies	8447D	SEM005-01	2020/3/2	2021/3/1



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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018/3/31	2021/3/30
EMI Test Receiver (9k-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2020/3/2	2021/3/1
Trilog-Broadband Antenna(25M-2GHz)	Schwarzbeck	VULB9168	SEM003-18	2020/3/15	2022/3/14
Pre-amplifier (9k-1GHz)	Sonoma	310N	SEM005-03	2020/3/12	2021/3/11
Loop Antenna (9kHz-30MHz)	ETS-Lindgren	6502	SEM003-08	2017/8/22	2020/8/21
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2020/6/12	2021/6/11

7 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of Set-Up for ZR/2020/80027.

The End

