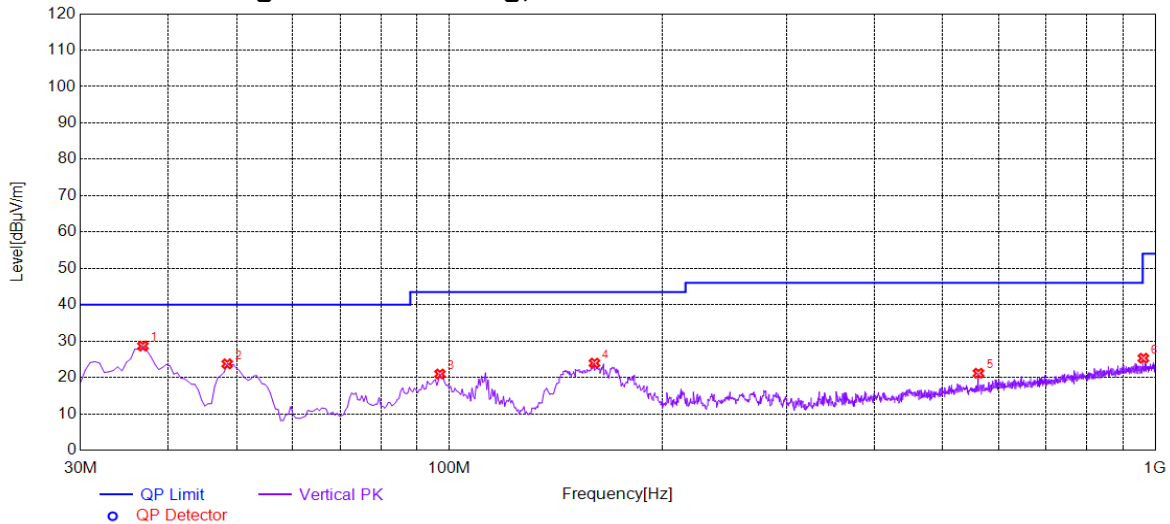




4.9.1.2 Charge + Transmitting, Horizontal



Suspected List

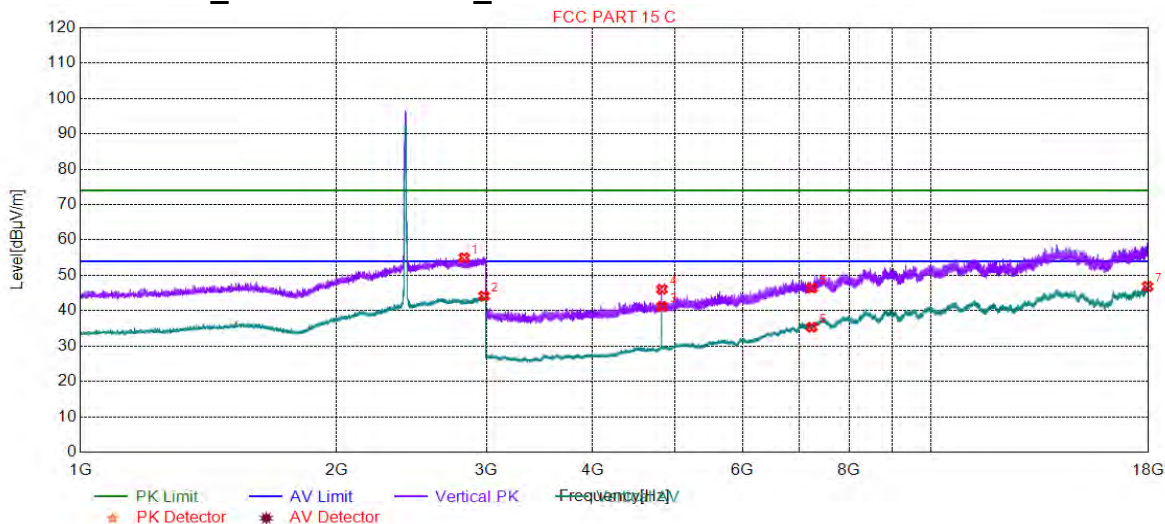
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.7934	28.65	-32.19	40.00	11.35	180	344	Vertical
2	48.4392	23.74	-30.19	40.00	16.26	235	344	Vertical
3	96.9635	20.95	-32.21	43.50	22.55	287	29	Vertical
4	160.5303	23.94	-34.26	43.50	19.56	170	1	Vertical
5	561.8259	21.16	-21.13	46.00	24.84	256	150	Vertical
6	962.1511	25.30	-14.32	54.00	28.70	268	54	Vertical



4.9.2 Transmitter emission above 1GHz

4.9.2.1 ANT1

4.9.2.1.1 802.11B_Lowest Channel_ Vertical

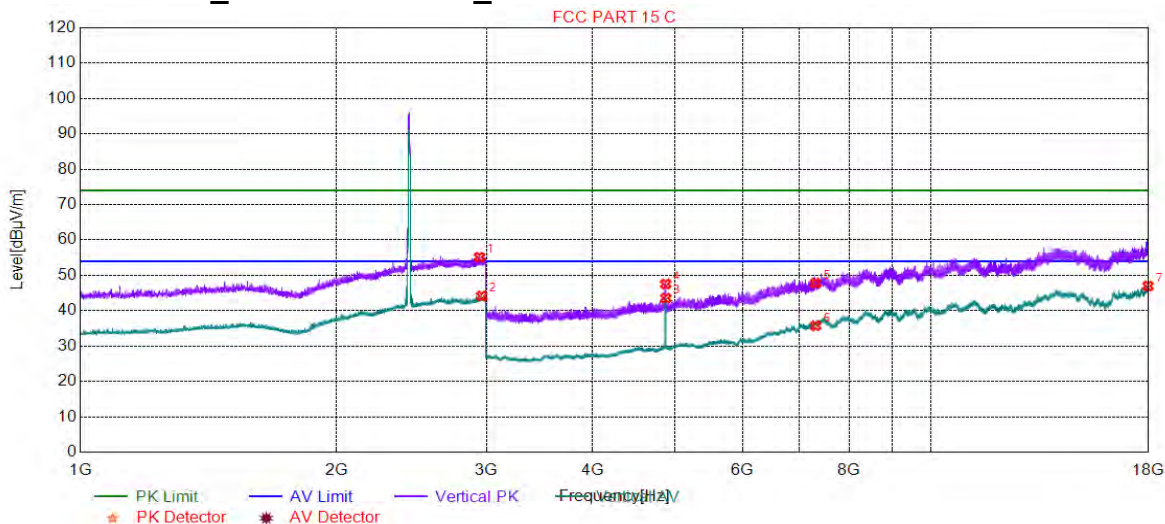


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2824.9562	54.99	9.11	74.00	19.01	203	11	Vertical
2	2980.9952	44.17	9.54	54.00	9.83	170	231	Vertical
3	4824.0000	41.16	-18.21	54.00	12.84	150	347	Vertical
4	4824.0000	46.07	-18.21	74.00	27.93	279	347	Vertical
5	7236.0000	46.37	-9.99	74.00	27.63	212	191	Vertical
6	7236.0000	35.34	-9.99	54.00	18.66	287	342	Vertical
7	17949.947	46.84	0.70	54.00	7.16	212	342	Vertical



4.9.2.1.2 802.11B_ Middle Channel_ Vertical

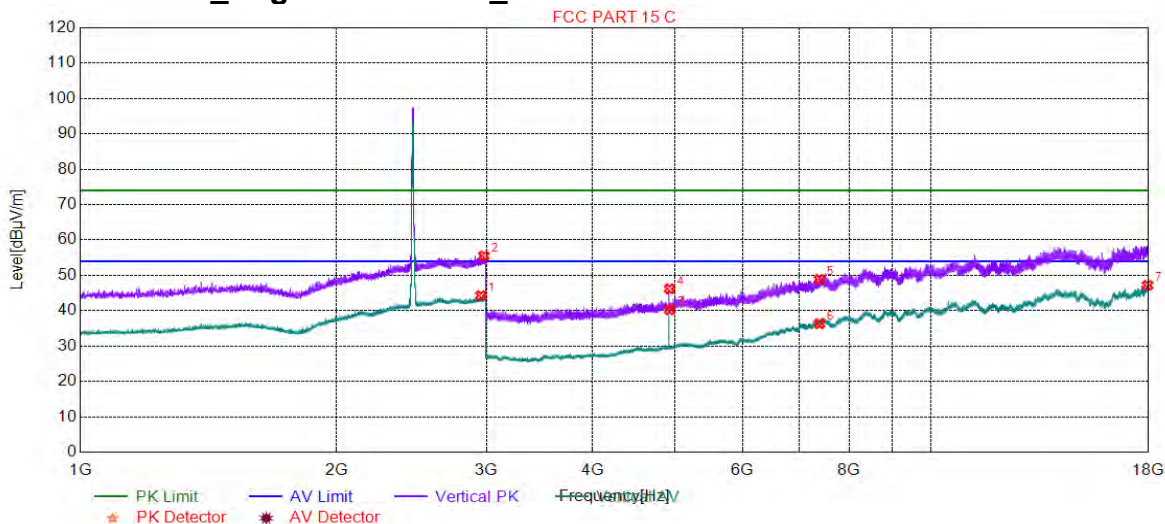


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2944.4861	55.18	9.62	74.00	18.82	219	204	Vertical
2	2962.4906	44.14	9.62	54.00	9.86	198	82	Vertical
3	4874.0000	43.55	-17.99	54.00	10.45	196	292	Vertical
4	4874.0000	47.56	-17.99	74.00	26.44	162	320	Vertical
5	7311.0000	47.82	-9.74	74.00	26.18	236	41	Vertical
6	7311.0000	35.75	-9.74	54.00	18.25	171	142	Vertical
7	17969.748	46.98	0.71	54.00	7.02	290	0	Vertical



4.9.2.1.3 802.11B_ Highest Channel_ Vertical

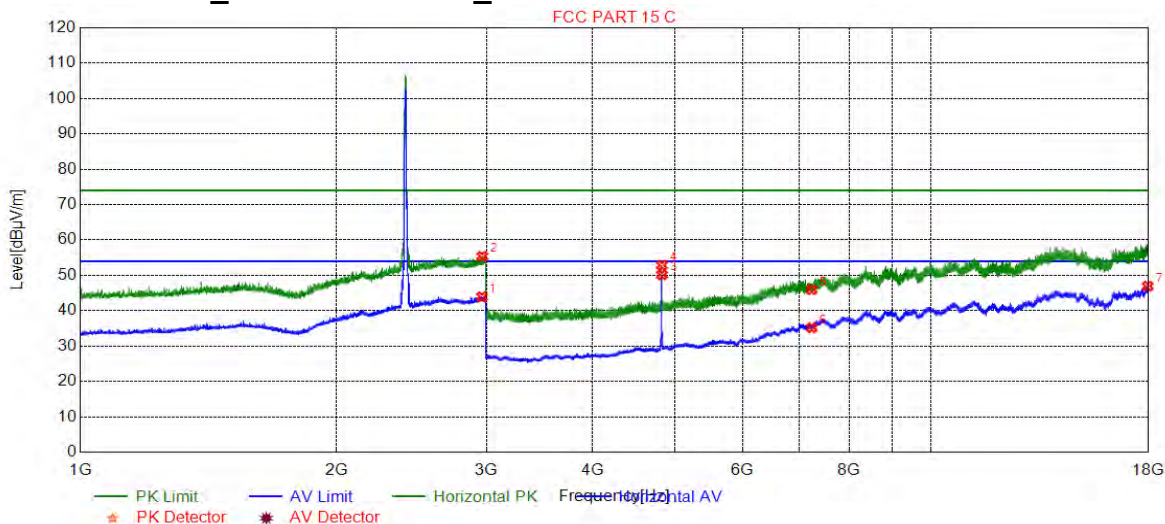


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2955.4889	44.27	9.65	54.00	9.73	184	301	Vertical
2	2980.4951	55.50	9.54	74.00	18.50	241	192	Vertical
3	4924.0000	40.25	-17.72	54.00	13.75	163	296	Vertical
4	4924.0000	46.19	-17.72	74.00	27.81	229	324	Vertical
5	7386.0000	48.84	-9.55	74.00	25.16	154	241	Vertical
6	7386.0000	36.33	-9.55	54.00	17.67	150	0	Vertical
7	17949.397	47.17	0.70	54.00	6.83	165	92	Vertical



4.9.2.1.4 802.11B_Lowest Channel_ Horizontal

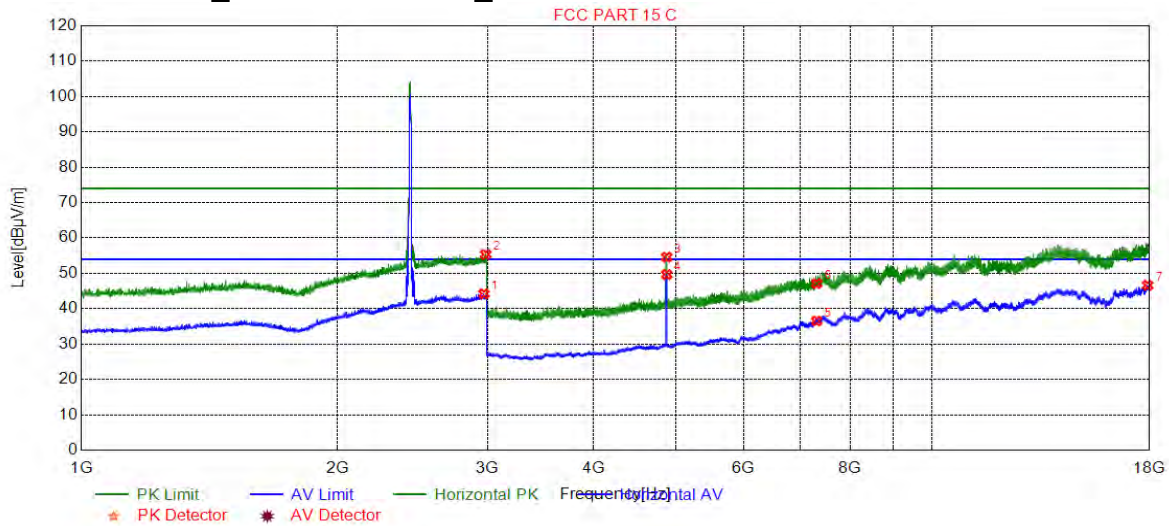


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2964.4911	43.94	9.61	54.00	10.06	150	223	Horizontal
2	2966.9917	55.39	9.60	74.00	18.61	118	142	Horizontal
3	4824.0000	50.14	-18.21	54.00	3.86	193	18	Horizontal
4	4824.0000	52.86	-18.21	74.00	21.14	246	360	Horizontal
5	7236.0000	45.95	-9.99	74.00	28.05	102	41	Horizontal
6	7236.0000	35.20	-9.99	54.00	18.80	248	241	Horizontal
7	17955.447	46.92	0.71	54.00	7.08	211	342	Horizontal



4.9.2.1.5 802.11B_ Middle Channel_ Horizontal

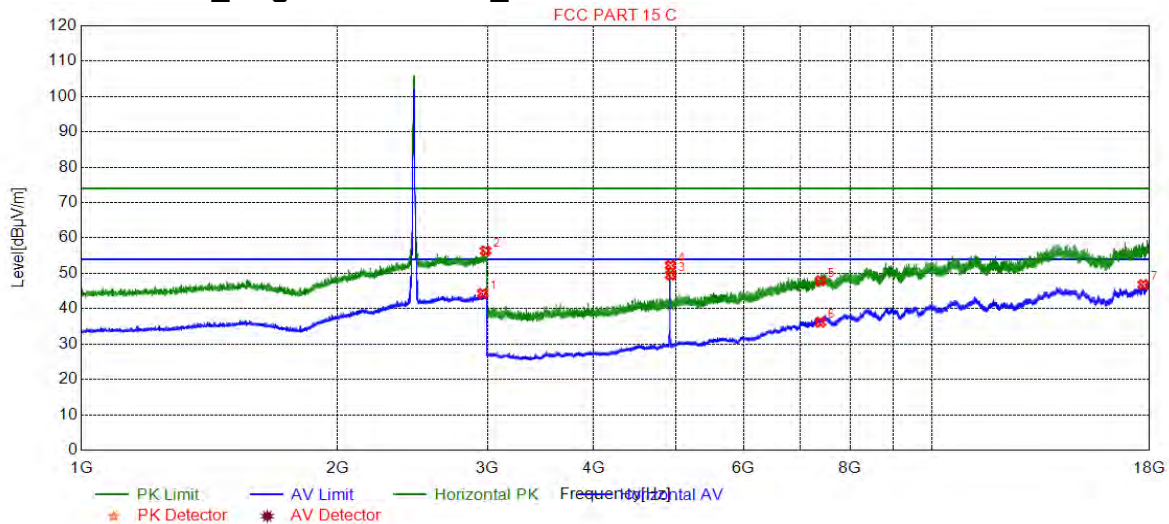


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2972.4931	44.23	9.58	54.00	9.77	159	267	Horizontal
2	2986.9967	55.36	9.51	74.00	18.64	233	59	Horizontal
3	4874.0000	54.59	-17.99	74.00	19.41	243	18	Horizontal
4	4874.1874	49.66	-17.99	54.00	4.34	104	18	Horizontal
5	7311.0000	36.53	-9.74	54.00	17.47	225	90	Horizontal
6	7311.0000	47.11	-9.74	74.00	26.89	220	191	Horizontal
7	17904.845	46.62	0.69	54.00	7.38	158	0	Horizontal



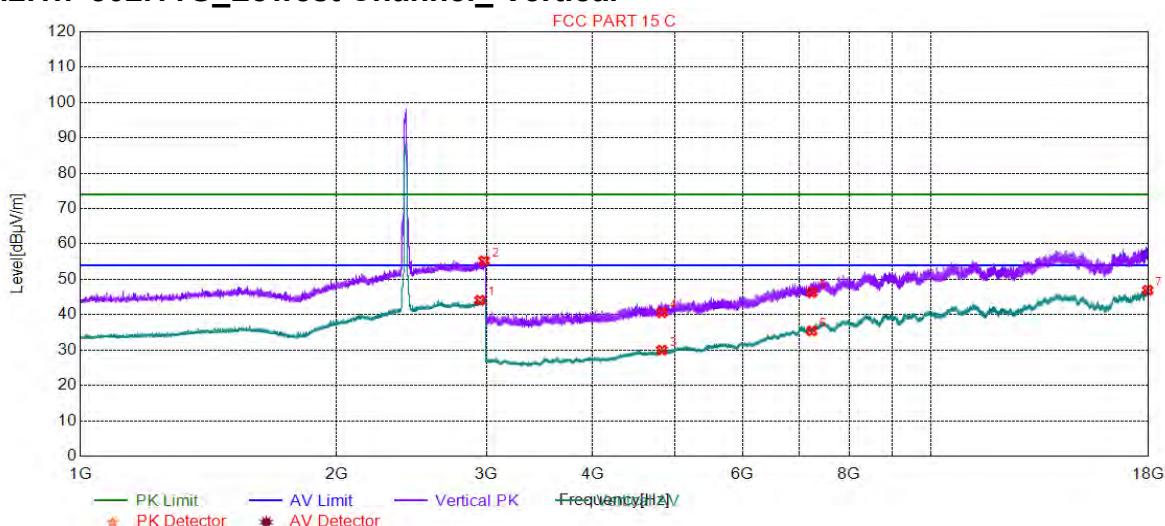
4.9.2.1.6 802.11B_ Highest Channel_ Horizontal



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2962.9907	44.31	9.62	54.00	9.69	163	73	Horizontal
2	2985.9965	56.36	9.51	74.00	17.64	106	196	Horizontal
3	4924.0000	49.51	-17.72	54.00	4.49	186	18	Horizontal
4	4924.0000	52.24	-17.72	74.00	21.76	126	18	Horizontal
5	7386.0000	47.88	-9.55	74.00	26.12	211	292	Horizontal
6	7386.0000	36.20	-9.55	54.00	17.80	100	242	Horizontal
7	17693.634	46.82	1.36	54.00	7.18	221	93	Horizontal

4.9.2.1.7 802.11G_Lowest Channel_Vertical

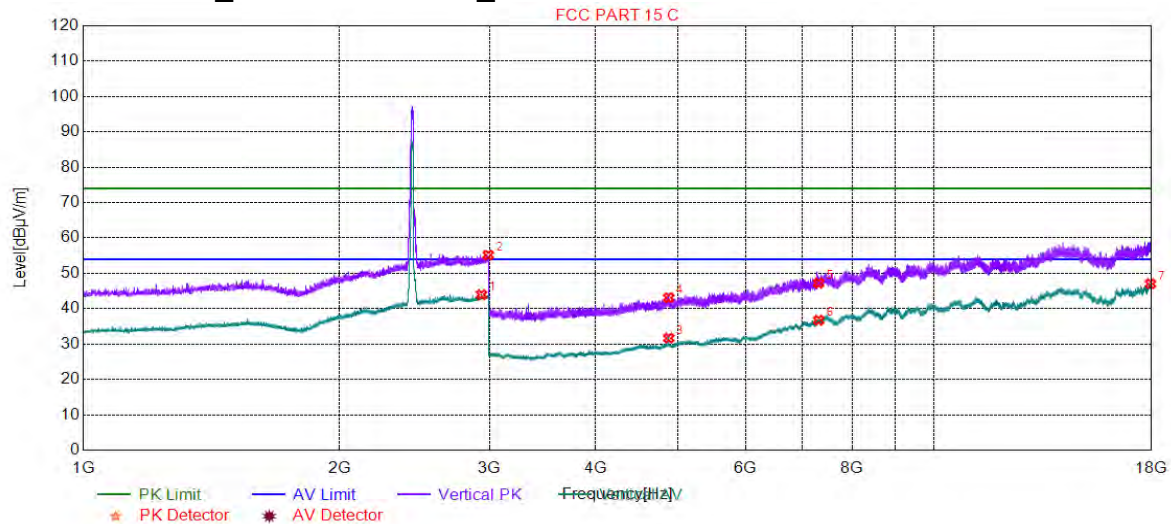


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2948.4871	44.09	9.66	54.00	9.91	176	14	Vertical
2	2981.4954	55.23	9.54	74.00	18.77	170	3	Vertical
3	4824.0000	30.00	-18.21	54.00	24.00	265	100	Vertical
4	4824.0000	40.58	-18.21	74.00	33.42	197	156	Vertical
5	7236.0000	46.25	-9.99	74.00	27.75	239	342	Vertical
6	7236.0000	35.41	-9.99	54.00	18.59	279	140	Vertical
7	17954.347	46.91	0.71	54.00	7.09	152	39	Vertical



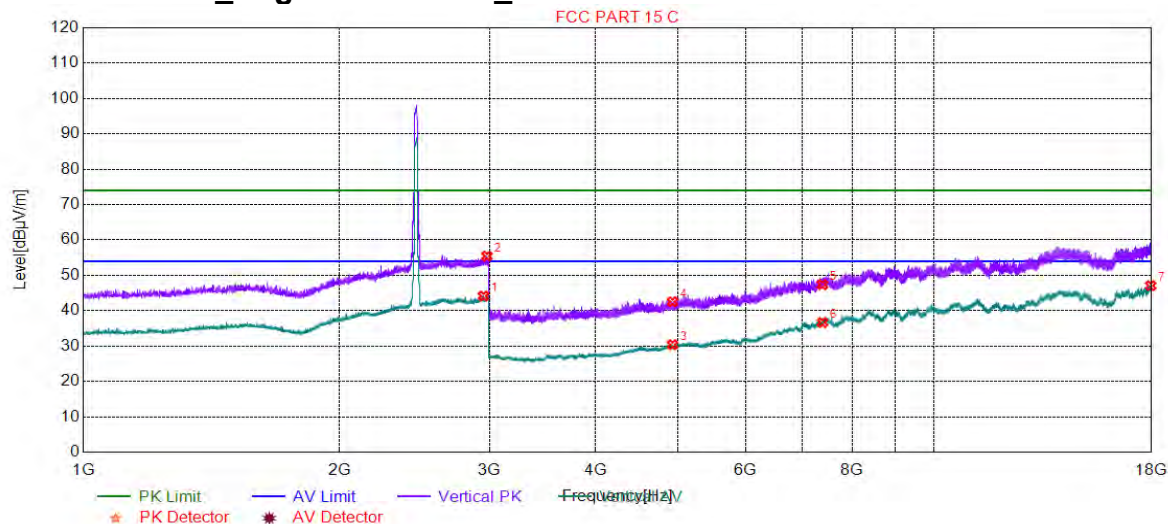
4.9.2.1.8 802.11G_ Middle Channel_ Vertical



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2936.4841	43.97	9.53	54.00	10.03	259	301	Vertical
2	2990.4976	55.19	9.49	74.00	18.81	280	287	Vertical
3	4874.0000	31.68	-17.99	54.00	22.32	236	293	Vertical
4	4874.0000	43.10	-17.99	74.00	30.90	208	18	Vertical
5	7311.0000	47.25	-9.74	74.00	26.75	173	242	Vertical
6	7311.0000	36.75	-9.74	54.00	17.25	295	0	Vertical
7	17942.797	47.07	0.70	54.00	6.93	230	292	Vertical

4.9.2.1.9 802.11G_ Highest Channel_ Vertical

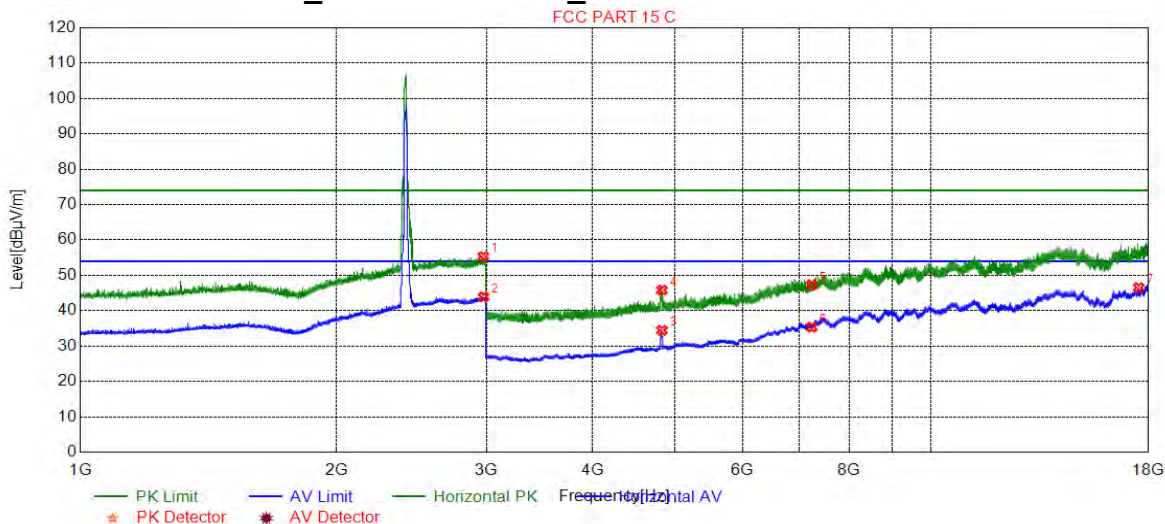


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2952.9882	44.15	9.67	54.00	9.85	211	273	Vertical
2	2980.9952	55.44	9.54	74.00	18.56	150	29	Vertical
3	4924.0000	30.40	-17.72	54.00	23.60	188	321	Vertical
4	4924.0000	42.53	-17.72	74.00	31.47	259	266	Vertical
5	7386.0000	47.36	-9.55	74.00	26.64	177	41	Vertical
6	7386.0000	36.67	-9.55	54.00	17.33	262	41	Vertical
7	17953.797	47.09	0.71	54.00	6.91	212	142	Vertical



4.9.2.1.10 802.11G_Lowest Channel_ Horizontal

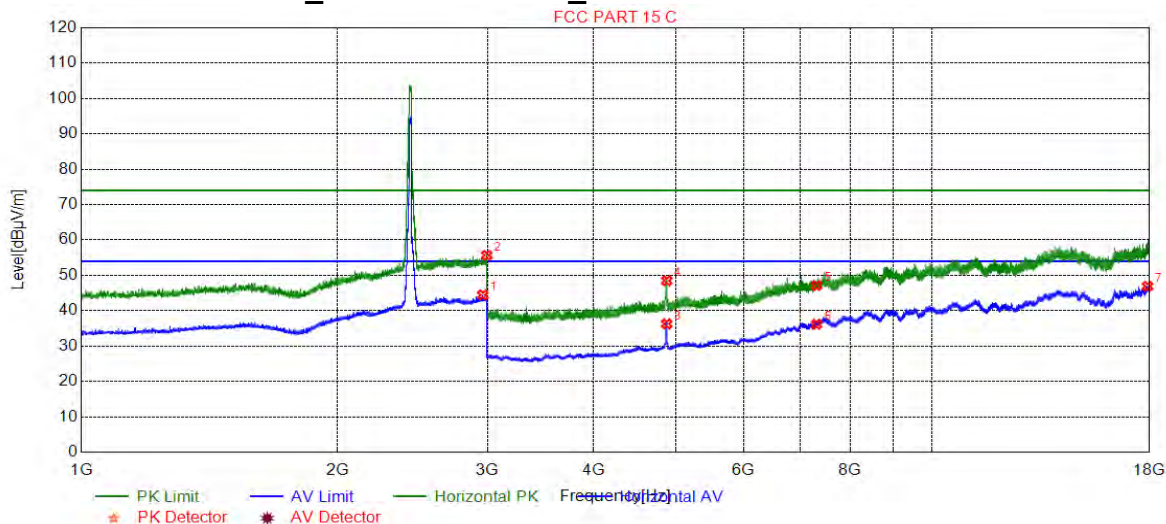


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2974.9937	55.35	9.57	74.00	18.65	229	224	Horizontal
2	2977.4944	43.92	9.55	54.00	10.08	220	18	Horizontal
3	4824.0000	34.46	-18.21	54.00	19.54	181	360	Horizontal
4	4824.0000	45.82	-18.21	74.00	28.18	157	18	Horizontal
5	7236.0000	47.32	-9.99	74.00	26.68	212	192	Horizontal
6	7236.0000	35.34	-9.99	54.00	18.66	246	0	Horizontal
7	17525.876	46.54	1.02	54.00	7.46	234	342	Horizontal



4.9.2.1.11 802.11G_Middle Channel_Horizontal

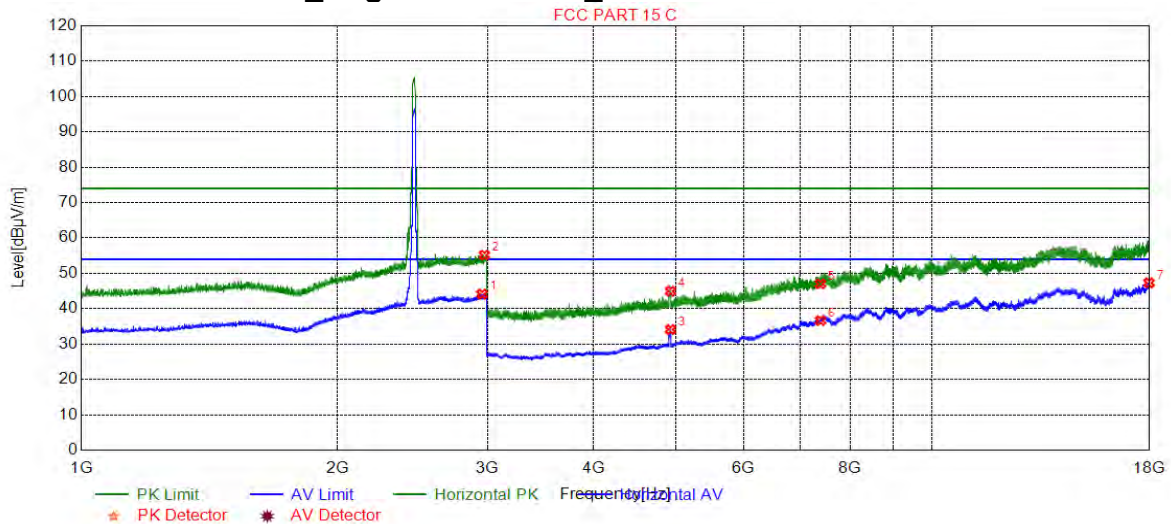


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2963.4909	44.45	9.62	54.00	9.55	192	347	Horizontal
2	2995.4989	55.68	9.47	74.00	18.32	169	18	Horizontal
3	4874.0000	36.28	-17.99	54.00	17.72	164	45	Horizontal
4	4874.0000	48.46	-17.99	74.00	25.54	233	360	Horizontal
5	7311.0000	47.10	-9.74	74.00	26.90	223	141	Horizontal
6	7311.0000	36.16	-9.74	54.00	17.84	246	0	Horizontal
7	17900.445	46.91	0.69	54.00	7.09	166	141	Horizontal



4.9.2.1.12 802.11G_ Highest Channel_ Horizontal

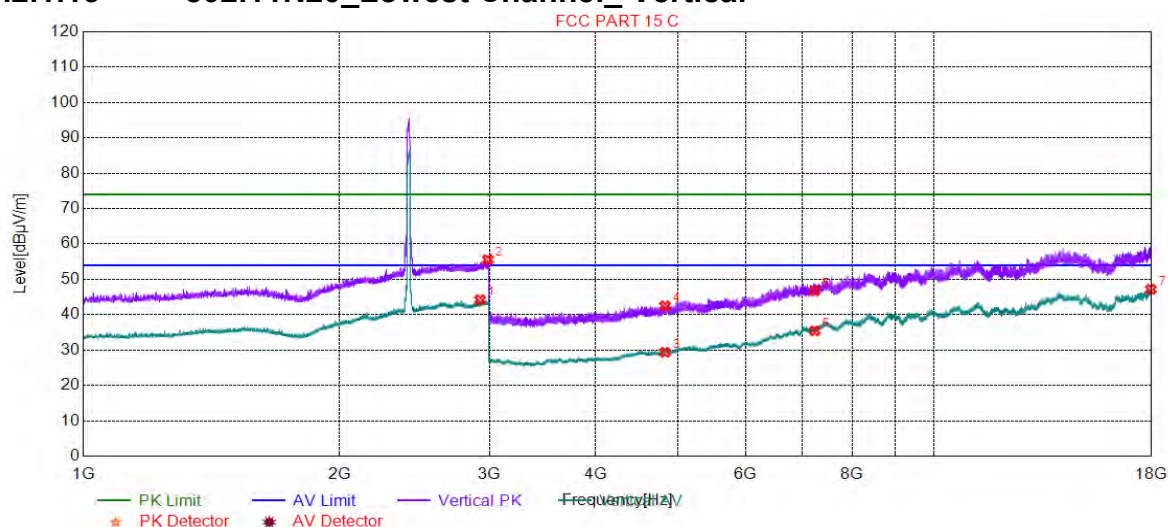


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2956.4891	44.14	9.65	54.00	9.86	238	349	Horizontal
2	2975.9940	55.18	9.56	74.00	18.82	147	196	Horizontal
3	4924.0000	34.11	-17.72	54.00	19.89	227	18	Horizontal
4	4924.0000	44.97	-17.72	74.00	29.03	210	46	Horizontal
5	7386.0000	47.02	-9.55	74.00	26.98	109	41	Horizontal
6	7386.0000	36.65	-9.55	54.00	17.35	211	91	Horizontal
7	17972.498	47.30	0.71	54.00	6.70	139	91	Horizontal



4.9.2.1.13 802.11N20_Lowest Channel_Vertical

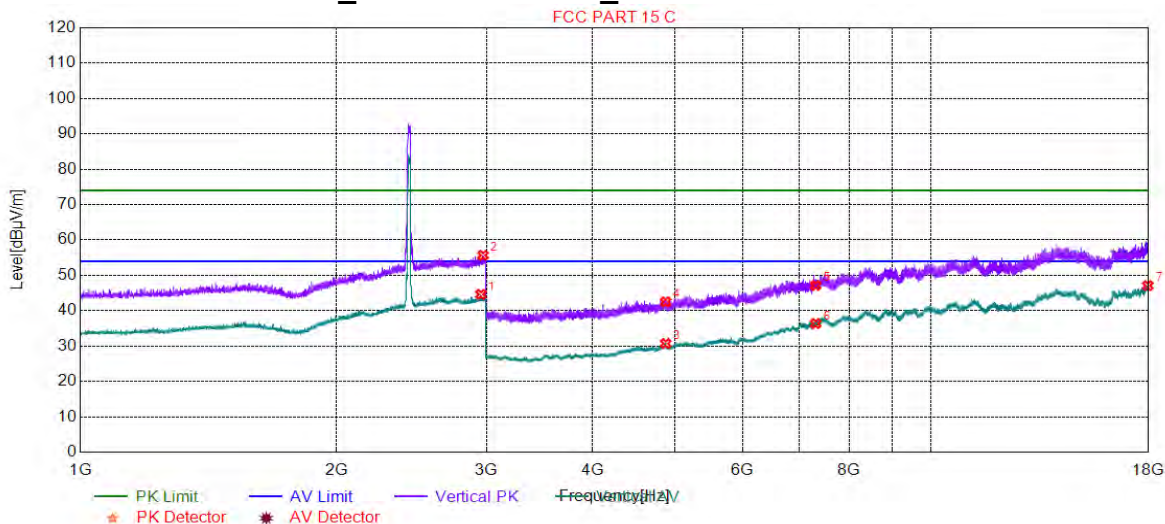


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2925.4814	44.21	9.42	54.00	9.79	187	342	Vertical
2	2987.4969	55.56	9.51	74.00	18.44	184	260	Vertical
3	4824.0000	29.38	-18.21	54.00	24.62	286	45	Vertical
4	4824.0000	42.50	-18.21	74.00	31.50	259	155	Vertical
5	7236.0000	46.74	-9.99	74.00	27.26	181	292	Vertical
6	7236.0000	35.45	-9.99	54.00	18.55	234	90	Vertical
7	17958.747	47.17	0.71	54.00	6.83	262	0	Vertical



4.9.2.1.14 802.11N20_Middle Channel_Vertical



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2955.4889	44.61	9.65	54.00	9.39	239	286	Vertical
2	2972.9932	55.66	9.57	74.00	18.34	281	286	Vertical
3	4874.0000	30.72	-17.99	54.00	23.28	246	349	Vertical
4	4874.0000	42.50	-17.99	74.00	31.50	242	211	Vertical
5	7311.0000	47.13	-9.74	74.00	26.87	222	0	Vertical
6	7311.0000	36.37	-9.74	54.00	17.63	239	92	Vertical
7	17958.747	47.10	0.71	54.00	6.90	179	242	Vertical



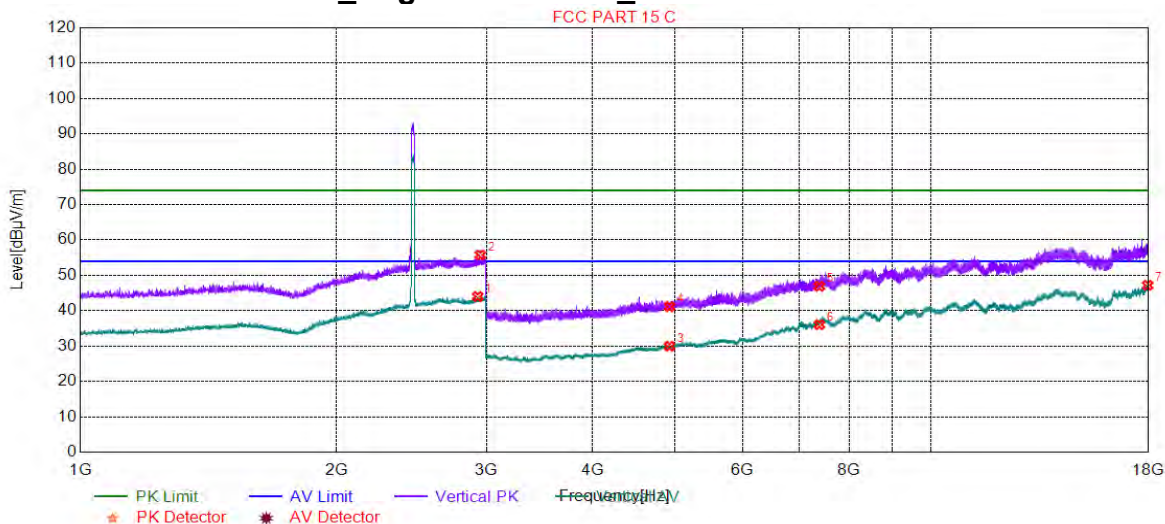
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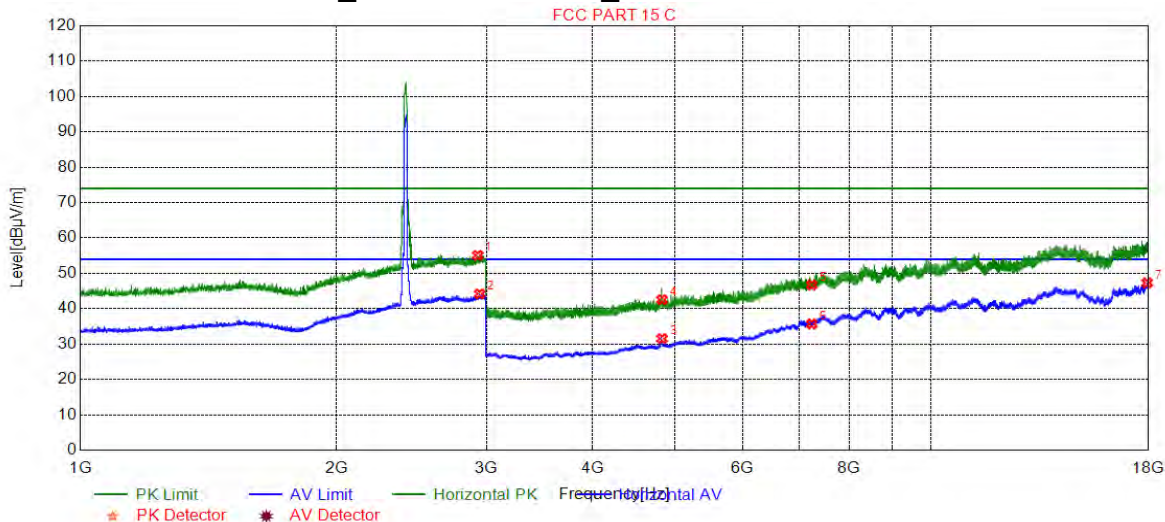
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4.9.2.1.15 802.11N20_ Highest Channel_ Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2930.4826	44.02	9.47	54.00	9.98	180	94	Vertical
2	2950.9877	55.79	9.68	74.00	18.21	197	176	Vertical
3	4924.0000	29.95	-17.72	54.00	24.05	290	360	Vertical
4	4924.0000	41.15	-17.72	74.00	32.85	266	360	Vertical
5	7386.0000	46.89	-9.55	74.00	27.11	188	190	Vertical
6	7386.0000	36.06	-9.55	54.00	17.94	293	291	Vertical
7	17953.797	47.19	0.71	54.00	6.81	179	0	Vertical

4.9.2.1.16 802.11N20_Lowest Channel_Horizontal

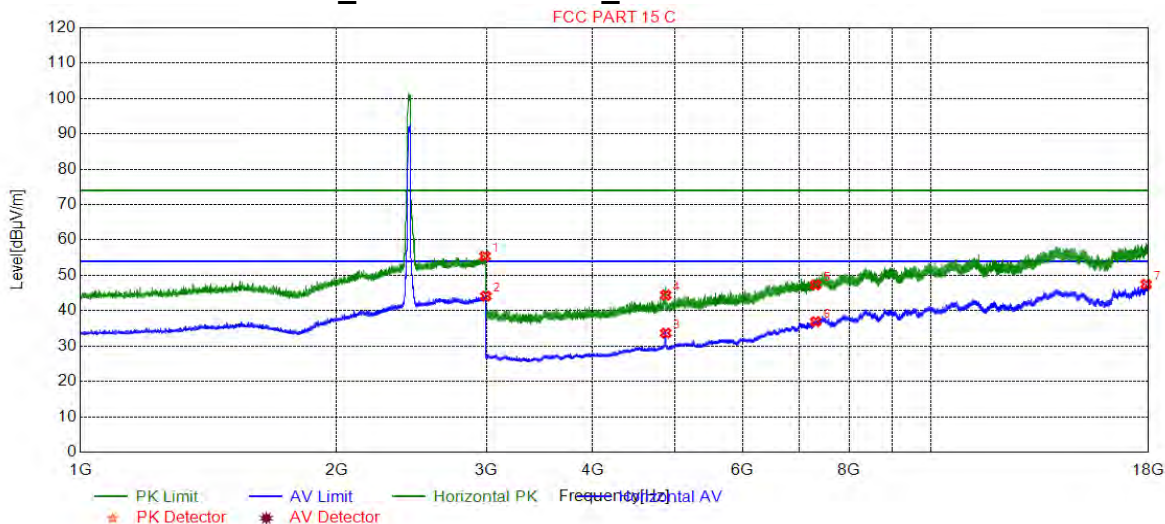


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2930.9827	55.09	9.47	74.00	18.91	120	358	Horizontal
2	2945.9865	44.19	9.64	54.00	9.81	121	73	Horizontal
3	4824.0000	31.54	-18.21	54.00	22.46	215	18	Horizontal
4	4824.0000	42.56	-18.21	74.00	31.44	240	18	Horizontal
5	7236.0000	46.72	-9.99	74.00	27.28	101	90	Horizontal
6	7236.0000	35.70	-9.99	54.00	18.30	110	0	Horizontal
7	17927.396	47.29	0.70	54.00	6.71	117	41	Horizontal



4.9.2.1.17 802.11N20_ Middle Channel_ Horizontal



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2987.9970	55.46	9.51	74.00	18.54	110	18	Horizontal
2	2995.9990	44.13	9.47	54.00	9.87	188	209	Horizontal
3	4874.0000	33.66	-17.99	54.00	20.34	210	18	Horizontal
4	4874.0000	44.43	-17.99	74.00	29.57	194	18	Horizontal
5	7311.0000	47.29	-9.74	74.00	26.71	186	292	Horizontal
6	7311.0000	36.92	-9.74	54.00	17.08	207	141	Horizontal
7	17880.644	47.46	0.43	54.00	6.54	136	91	Horizontal



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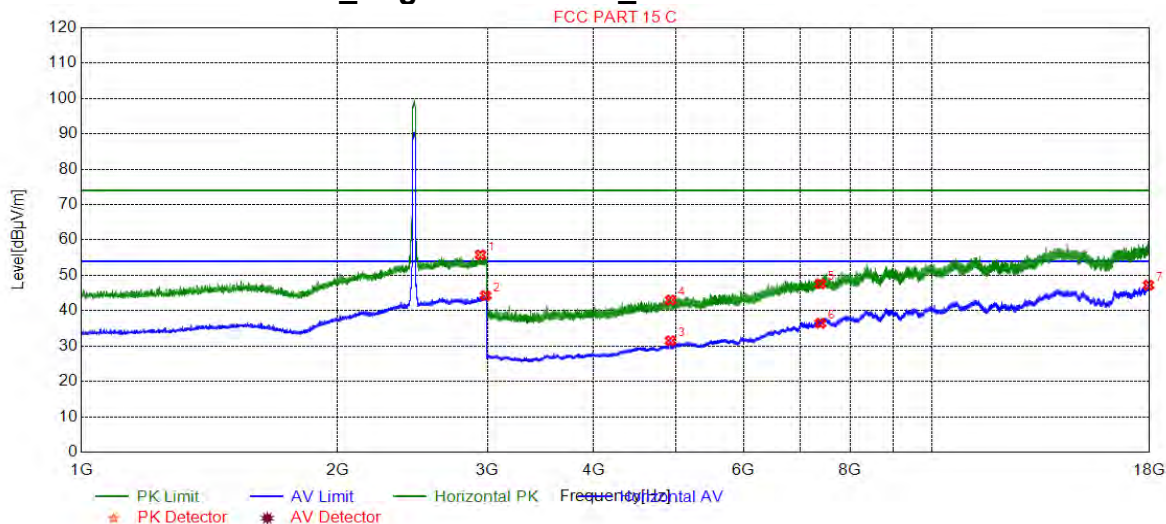
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4.9.2.1.18 802.11N20_ Highest Channel_ Horizontal



Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2944.9862	55.79	9.63	74.00	18.21	124	305	Horizontal
2	2985.9965	44.27	9.51	54.00	9.73	234	196	Horizontal
3	4924.0000	31.51	-17.72	54.00	22.49	224	18	Horizontal
4	4924.0000	42.97	-17.72	74.00	31.03	122	348	Horizontal
5	7386.0000	47.59	-9.55	74.00	26.41	137	192	Horizontal
6	7386.0000	36.44	-9.55	54.00	17.56	216	292	Horizontal
7	17942.797	47.22	0.70	54.00	6.78	154	92	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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4.10 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:			

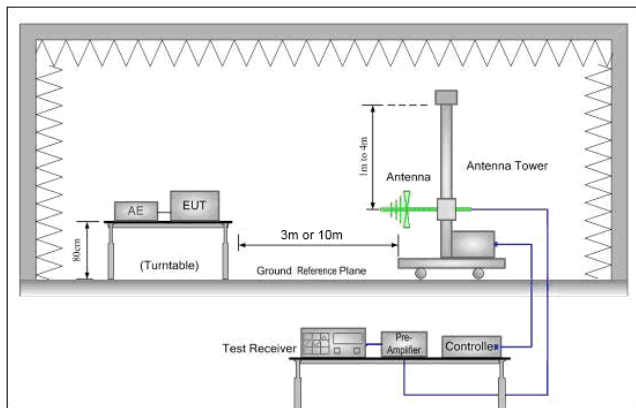


Figure 1. 30MHz to 1GHz

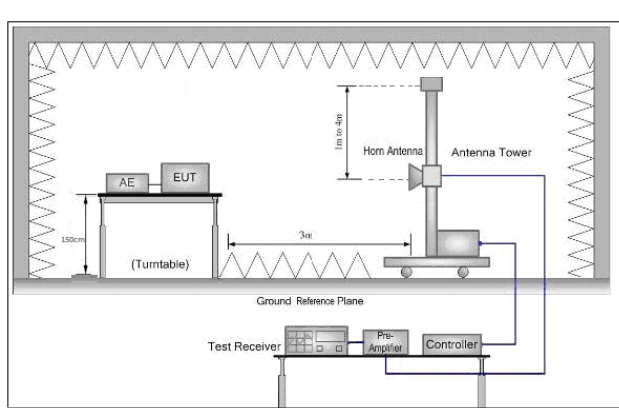


Figure 2. Above 1 GHz

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); 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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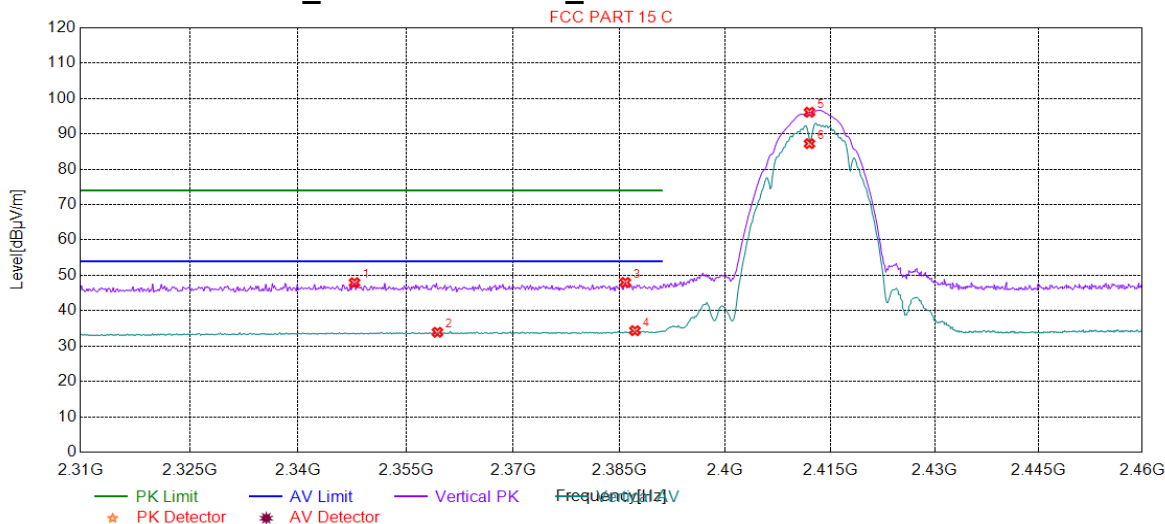
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Test plot as follows:

4.10.1 ANT1

4.10.1.1 802.11B_Lowest Channel_ Vertical

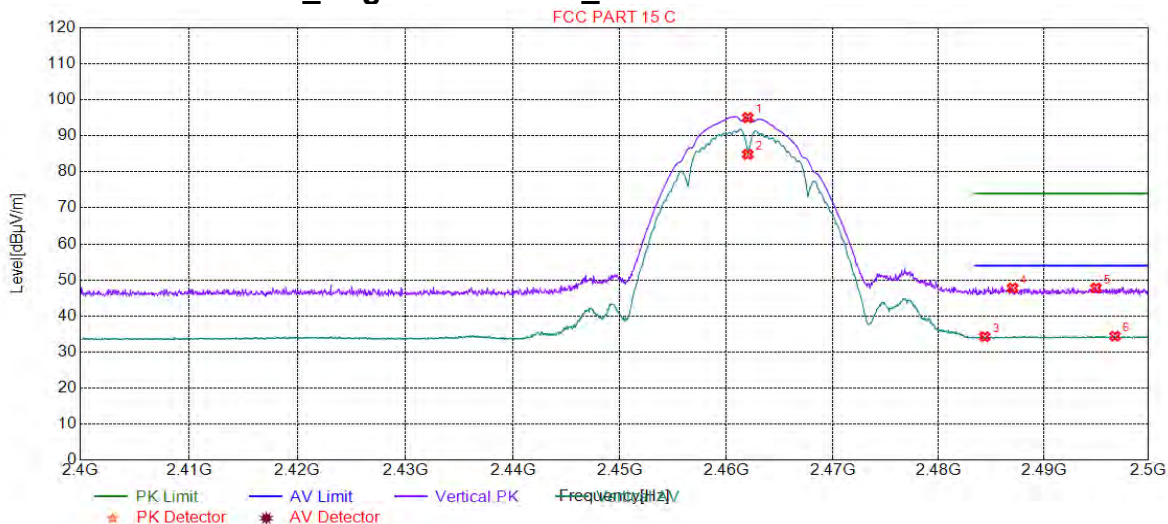


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2347.8378	47.94	7.79	74.00	26.06	241	14	Vertical
2	2359.3994	33.91	7.80	54.00	20.09	208	109	Vertical
3	2385.8258	48.00	7.77	74.00	26.00	153	170	Vertical
4	2387.1772	34.36	7.77	54.00	19.64	236	326	Vertical
5	2412.0000	96.13	7.81	0.00	-96.13	232	14	Vertical
6	2412.0000	87.23	7.81	0.00	-87.23	167	14	Vertical



4.10.1.2 802.11B_ Highest Channel_ Vertical

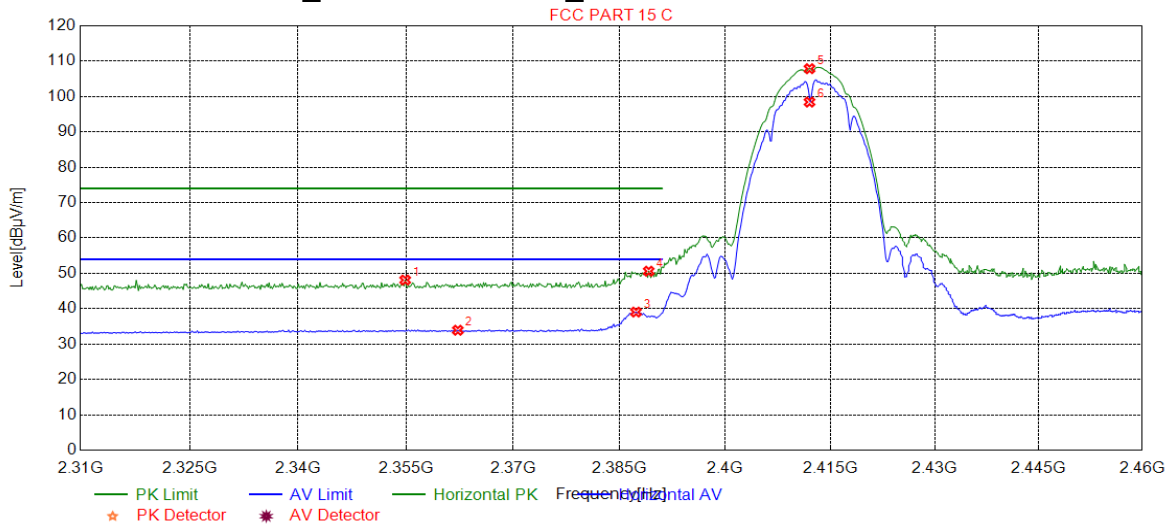


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	95.05	7.98	0.00	-95.05	293	18	Vertical
2	2462.0000	84.85	7.98	0.00	-84.85	217	14	Vertical
3	2484.3922	34.26	8.01	54.00	19.74	249	324	Vertical
4	2487.0435	47.75	8.01	74.00	26.25	269	62	Vertical
5	2494.9975	47.78	8.02	74.00	26.22	269	105	Vertical
6	2496.7984	34.39	8.03	54.00	19.61	225	127	Vertical



4.10.1.3 802.11B_Lowest Channel_Horizontal

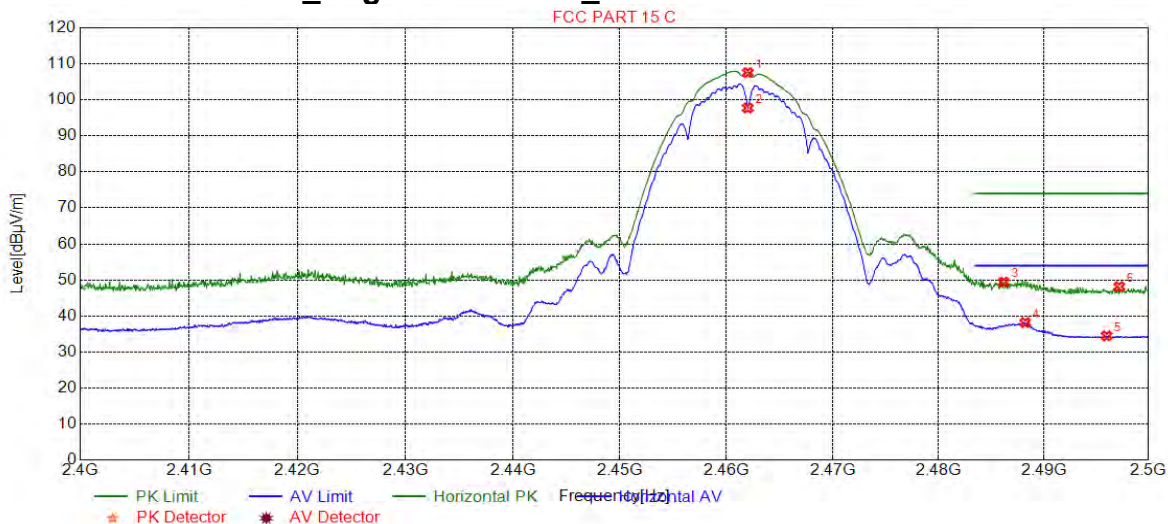


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2354.8949	48.11	7.81	74.00	25.89	142	236	Horizontal
2	2362.2523	33.92	7.80	54.00	20.08	123	42	Horizontal
3	2387.3273	39.06	7.77	54.00	14.94	107	204	Horizontal
4	2389.1291	50.61	7.77	74.00	23.39	104	212	Horizontal
5	2412.0000	107.87	7.81	0.00	-107.87	107	204	Horizontal
6	2412.0000	98.43	7.81	0.00	-98.43	220	208	Horizontal



4.10.1.4 802.11B_ Highest Channel_ Horizontal

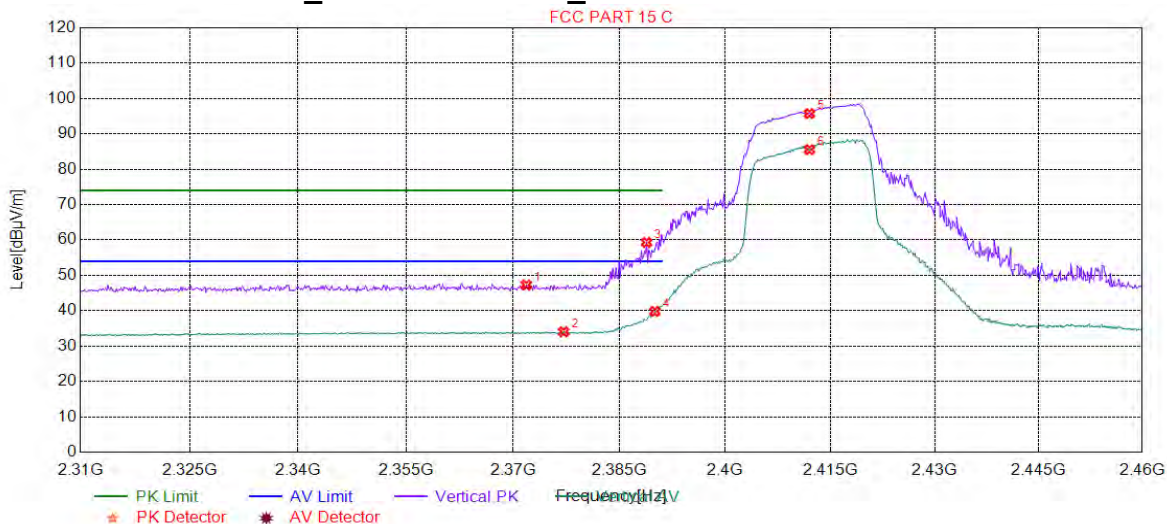


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	107.56	7.98	0.00	-107.56	199	204	Horizontal
2	2462.0000	97.72	7.98	0.00	-97.72	208	204	Horizontal
3	2486.1931	49.41	8.01	74.00	24.59	104	199	Horizontal
4	2488.2441	38.16	8.02	54.00	15.84	167	204	Horizontal
5	2495.9980	34.48	8.03	54.00	19.52	203	221	Horizontal
6	2497.1986	48.14	8.03	74.00	25.86	184	160	Horizontal



4.10.1.5 802.11G_Lowest Channel_ Vertical

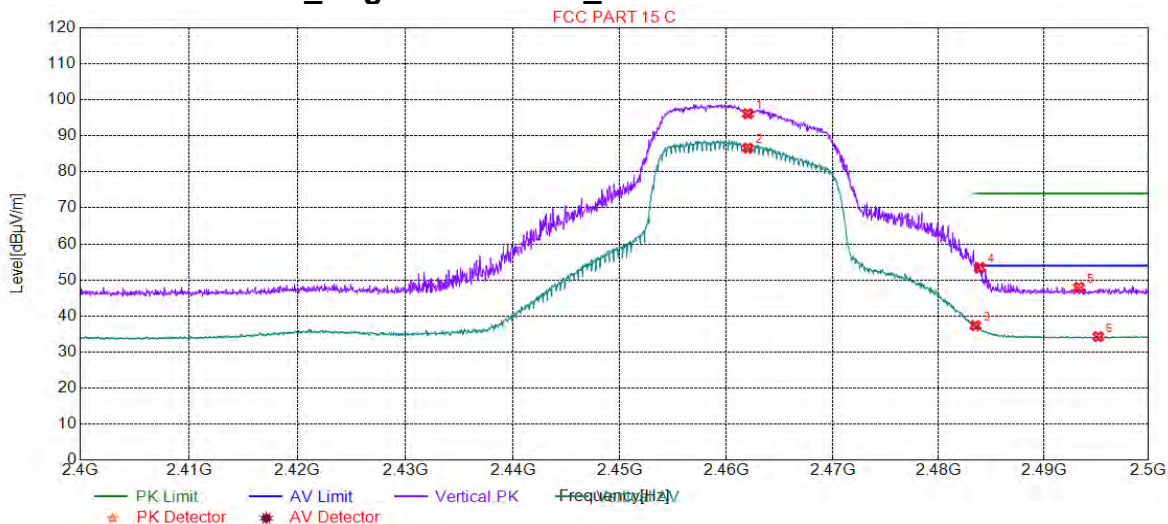


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2371.8619	47.28	7.79	74.00	26.72	175	133	Vertical
2	2377.1171	34.05	7.78	54.00	19.95	180	18	Vertical
3	2388.8288	59.30	7.77	74.00	14.70	225	21	Vertical
4	2390.0000	39.78	7.77	54.00	14.22	290	21	Vertical
5	2412.0000	95.73	7.81	0.00	-95.73	270	18	Vertical
6	2412.0000	85.54	7.81	0.00	-85.54	189	18	Vertical



4.10.1.6 802.11G_ Highest Channel_ Vertical

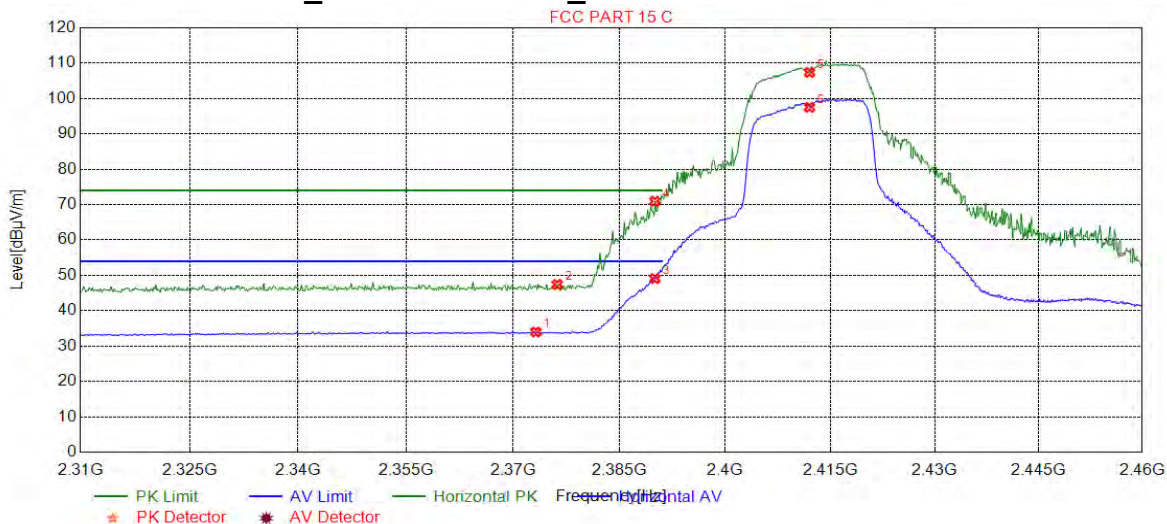


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.0000	96.15	7.98	0.00	-96.15	285	330	Vertical
2	2462.0000	86.64	7.98	0.00	-86.64	171	330	Vertical
3	2483.5000	37.34	8.01	54.00	16.66	237	287	Vertical
4	2483.9420	53.46	8.01	74.00	20.54	250	346	Vertical
5	2493.3467	47.96	8.02	74.00	26.04	235	14	Vertical
6	2495.1976	34.27	8.02	54.00	19.73	240	73	Vertical



4.10.1.7 802.11G_Lowest Channel_ Horizontal

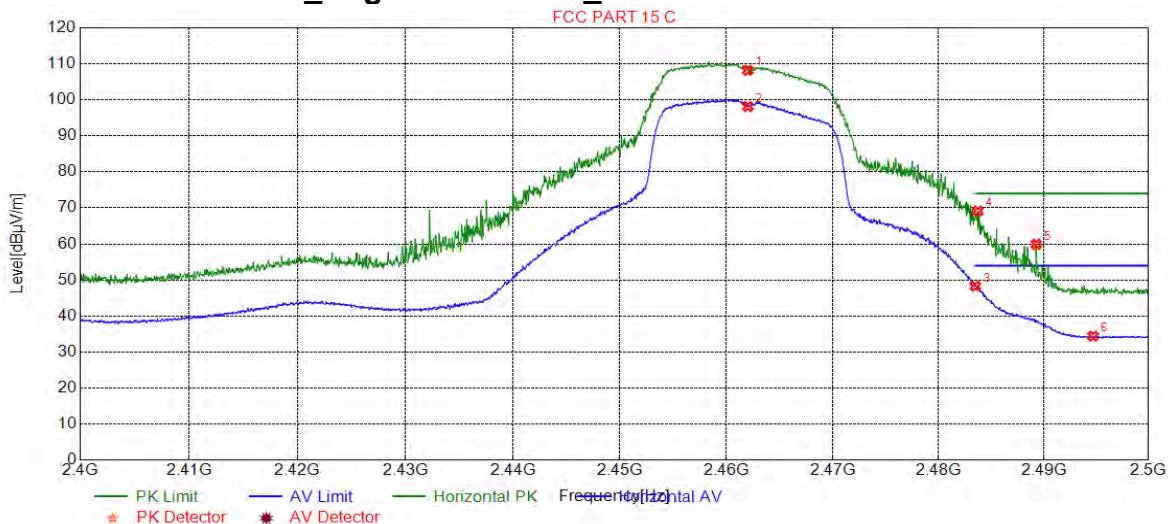


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2373.2132	33.98	7.79	54.00	20.02	152	196	Horizontal
2	2376.2162	47.42	7.78	74.00	26.58	130	167	Horizontal
3	2390.0000	49.09	7.77	54.00	4.91	240	216	Horizontal
4	2390.0000	70.93	7.77	74.00	3.07	112	216	Horizontal
5	2412.0000	107.39	7.81	0.00	-107.39	161	216	Horizontal
6	2412.0000	97.52	7.81	0.00	-97.52	180	216	Horizontal



4.10.1.8 802.11G_ 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	108.17	7.98	0.00	-108.17	104	210	Horizontal
2	2462.0000	98.17	7.98	0.00	-98.17	109	216	Horizontal
3	2483.5000	48.28	8.01	54.00	5.72	185	216	Horizontal
4	2483.7419	69.12	8.01	74.00	4.88	193	205	Horizontal
5	2489.2946	59.90	8.02	74.00	14.10	199	216	Horizontal
6	2494.6973	34.41	8.02	54.00	19.59	181	221	Horizontal



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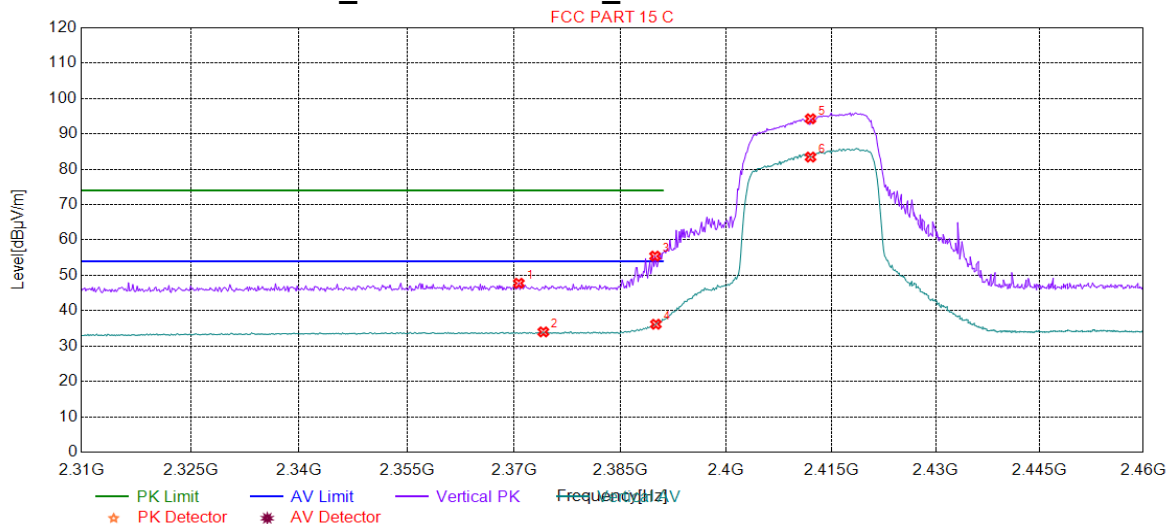
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4.10.1.9 802.11N20_Lowest Channel_Vertical

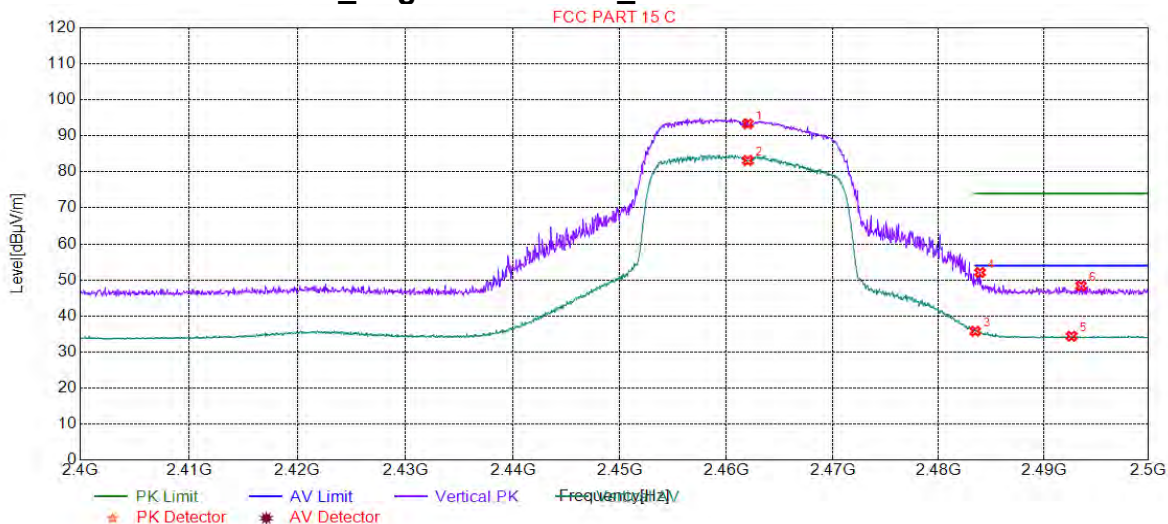


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2370.6607	47.77	7.79	74.00	26.23	266	79	Vertical
2	2374.1141	34.01	7.79	54.00	19.99	208	94	Vertical
3	2389.8799	55.43	7.77	74.00	18.57	198	18	Vertical
4	2390.0000	36.18	7.77	54.00	17.82	191	18	Vertical
5	2412.0000	94.27	7.81	0.00	-94.27	176	18	Vertical
6	2412.0000	83.44	7.81	0.00	-83.44	248	18	Vertical



4.10.1.10 802.11N20_ 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	93.33	7.98	0.00	-93.33	273	349	Vertical
2	2462.0000	83.16	7.98	0.00	-83.16	160	343	Vertical
3	2483.5000	35.77	8.01	54.00	18.23	249	343	Vertical
4	2483.9420	52.06	8.01	74.00	21.94	255	327	Vertical
5	2492.6463	34.38	8.02	54.00	19.62	185	354	Vertical
6	2493.5468	48.37	8.02	74.00	25.63	196	206	Vertical



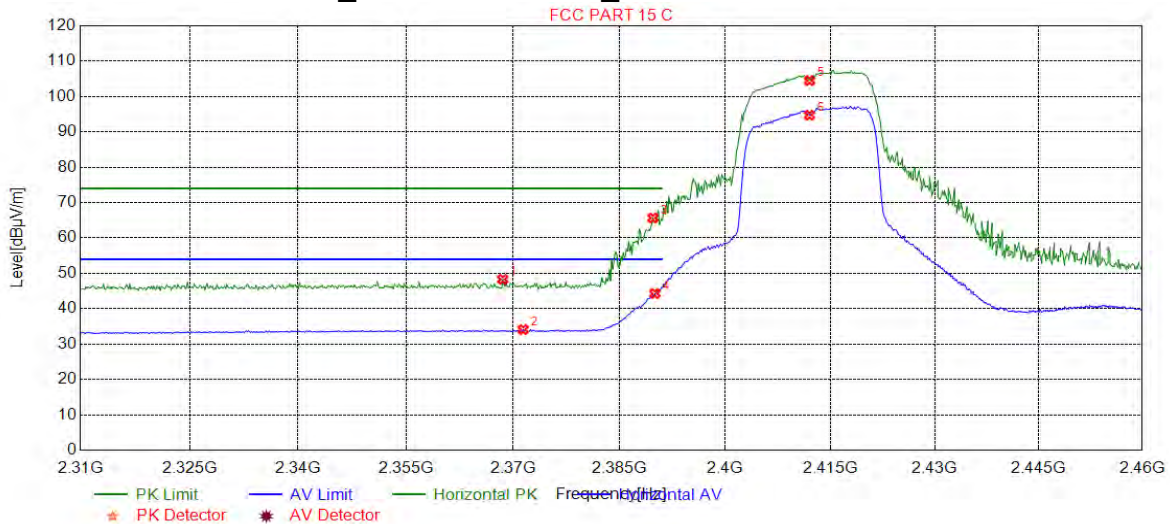
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4.10.1.11 802.11N20_Lowest Channel_Horizontal

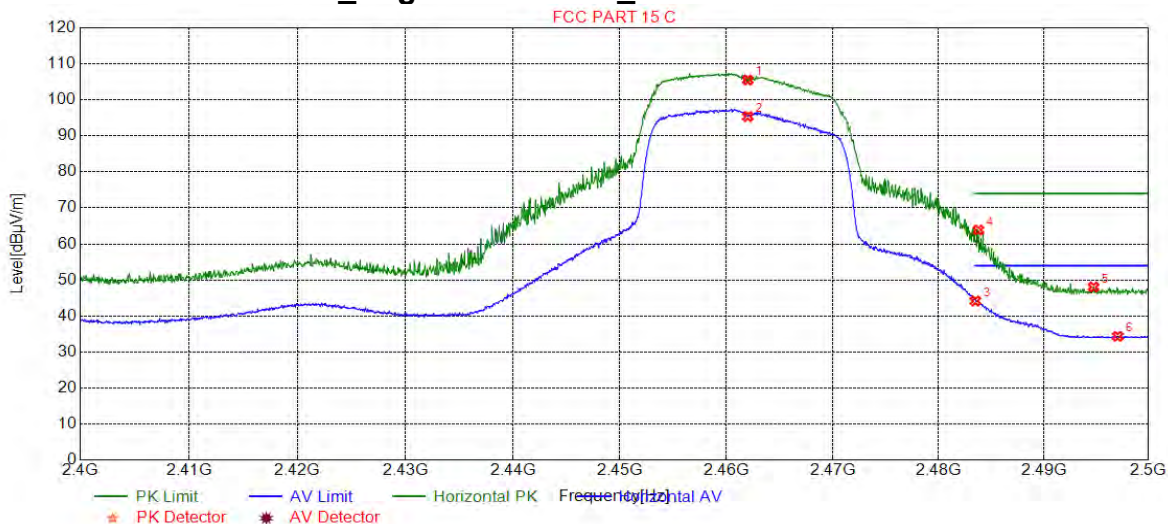


Suspected List

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2368.5586	48.32	7.79	74.00	25.68	118	346	Horizontal
2	2371.4114	34.11	7.79	54.00	19.89	185	223	Horizontal
3	2389.7297	65.67	7.77	74.00	8.33	216	215	Horizontal
4	2390.0000	44.31	7.77	54.00	9.69	222	211	Horizontal
5	2412.0000	104.50	7.81	0.00	-104.50	223	215	Horizontal
6	2412.0000	94.72	7.81	0.00	-94.72	115	219	Horizontal



4.10.1.12 802.11N20_ 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	105.51	7.98	0.00	-105.51	106	204	Horizontal
2	2462.0000	95.38	7.98	0.00	-95.38	155	209	Horizontal
3	2483.5000	44.17	8.01	54.00	9.83	232	214	Horizontal
4	2483.7919	63.86	8.01	74.00	10.14	142	209	Horizontal
5	2494.7474	48.05	8.02	74.00	25.95	238	270	Horizontal
6	2497.0485	34.34	8.03	54.00	19.66	127	209	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.





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

Lab A:

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	Temperature test	$\pm 1^{\circ}\text{C}$
5	Humidity test	$\pm 3\%$
6	DC and low frequency voltages	$\pm 0.5\%$

Lab B:

No.	Item	Measurement Uncertainty
1	Conduction Emission	$\pm 3.0\text{dB}$ (150kHz to 30MHz)
2	Radiated Emission	$\pm 4.8\text{dB}$ (Below 1GHz)
		$\pm 4.8\text{dB}$ (1GHz to 6GHz)
		$\pm 4.5\text{dB}$ (6GHz to 18GHz)
		$\pm 5.02\text{dB}$ (Above 18GHz)



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6 Equipment List

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



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CE Test System					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2019-09-07	2020-09-06
Artificial network	ROHDE&SCHWARZ	ENV216	XAW01-04-01	2019-07-16	2020-07-15
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2019-12-06	2020-12-05
Measurement Software	Tonscend	TS+ CE V2.5	XAW02-05-02	NCR	NCR

RSE Test System					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Semi-Anechoic Chamber	Brilliant-emc	N/A	XAW03-35-01	2019-09-11	2022-09-10
MXA signal analyzer	Keysight	N9020A	XAW01-06-01	2020-04-02	2021-04-01
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2019-09-07	2020-09-06
Receiving antenna (30MHz~3GHz)	Schwarzbeck	VULB 9163	XAW01-09-01	2019-10-13	2021-10-12
Receiving antenna (1GHz~18GHz)	Schwarzbeck	BBHA 9120D	XAW01-09-02	2019-10-13	2021-10-12
Receiving antenna (15GHz~40GHz)	Schwarzbeck	BBHA 9170	XAW01-09-03	2019-10-13	2021-10-12
Directional antenna rack controller	Max-Full	MF-7802BS	XAW03-03-01	NCR	NCR
High-speed antenna rack controller	Max-Full	MF-7802	XAW03-04-01	NCR	NCR
Filter bank	Tonscend	JS0806-F	XAW03-05-01	NCR	NCR
Filter bank	Tonscend	JS0806s	XAW03-05-02	NCR	NCR
Amplifier	Tonscend	TAP00903040	XAW01-41-01	2019-11-18	2020-11-17
Amplifier	Tonscend	TAP01018048	XAW01-41-02	2019-11-18	2020-11-17
Amplifier	Tonscend	TAP18040048	XAW01-41-03	2019-12-03	2020-12-02
Amplifier	Shanghai Steed	YX28980930	XAW01-41-06	2019-11-18	2020-11-17
Temperature and humidity meter	MingGao	TH101B	XAW01-01-01	2019-12-06	2020-12-05
Measurement Software	Tonscend	TS+ RSE V3.0.0.2	XAW02-05-01	NCR	NCR



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7 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of Set-Up for ZR/2020/40013.

The End



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