

**A.5. Frequency Stability**

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20C 3.45V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
20C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
20C 4.45V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
-10C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
0C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
10C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
30C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
40C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
50C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
55C 3.85V	CW	5180	Ant1	5179.986	-14000	-2.7	25	Pass
20C 3.45V	CW	5260	Ant1	5259.986	-14000	-2.66	25	Pass
20C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
20C 4.45V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
-10C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
0C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
10C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
30C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
40C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
50C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
55C 3.85V	CW	5260	Ant1	5259.985	-15000	-2.85	25	Pass
20C 3.45V	CW	5500	Ant1	5499.984	-16000	-2.91	25	Pass
20C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
20C 4.45V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
-10C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
0C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
10C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
30C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
40C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
50C 3.85V	CW	5500	Ant1	5499.983	-17000	-3.09	25	Pass
55C 3.85V	CW	5500	Ant1	5499.982	-18000	-3.27	25	Pass
20C 3.45V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
20C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
20C 4.45V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
-10C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass



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0C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
10C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
30C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
40C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
50C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass
55C 3.85V	CW	5745	Ant1	5744.982	-18000	-3.13	25	Pass

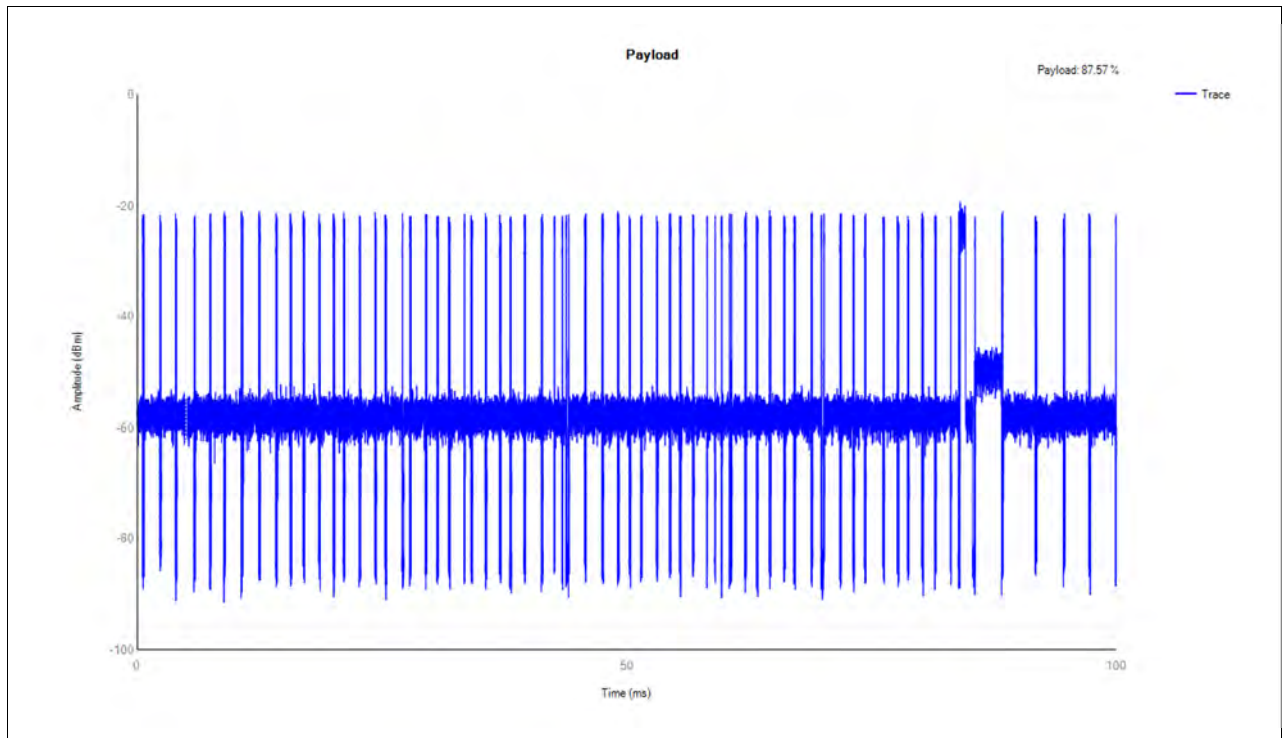


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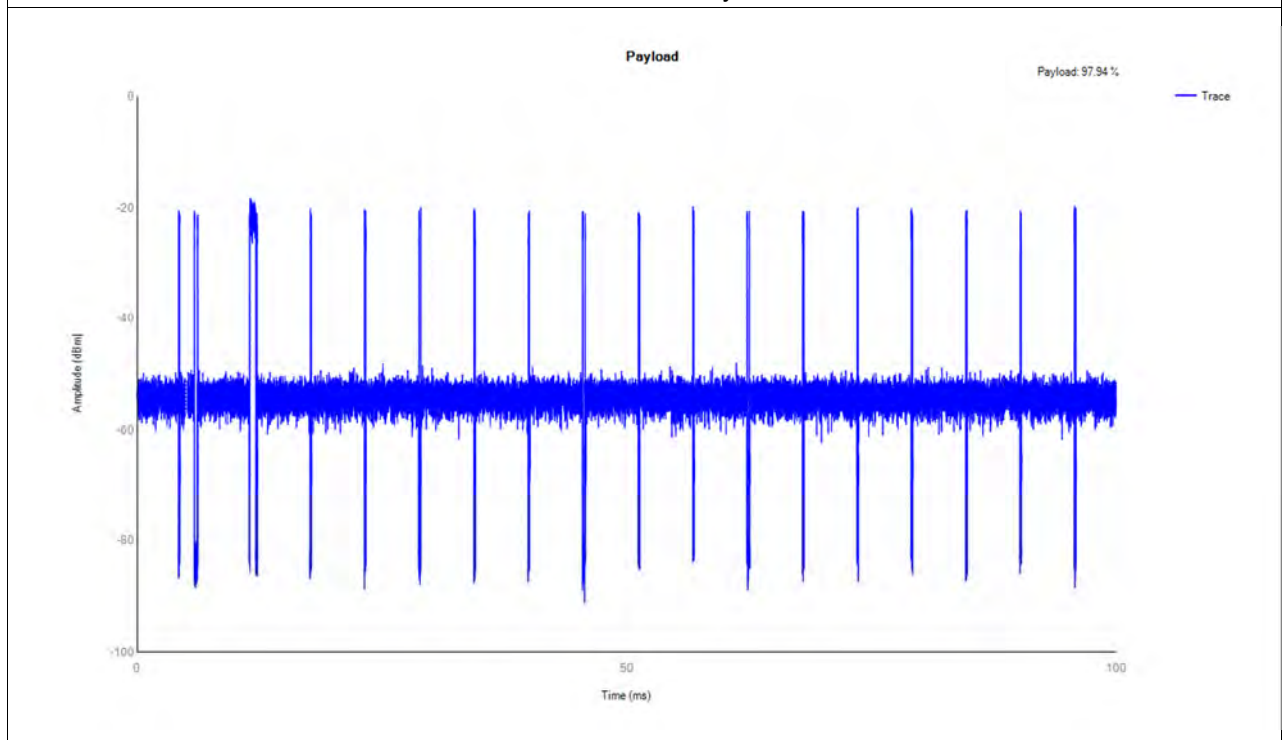
A.6. Dynamic Frequency Selection

Payload

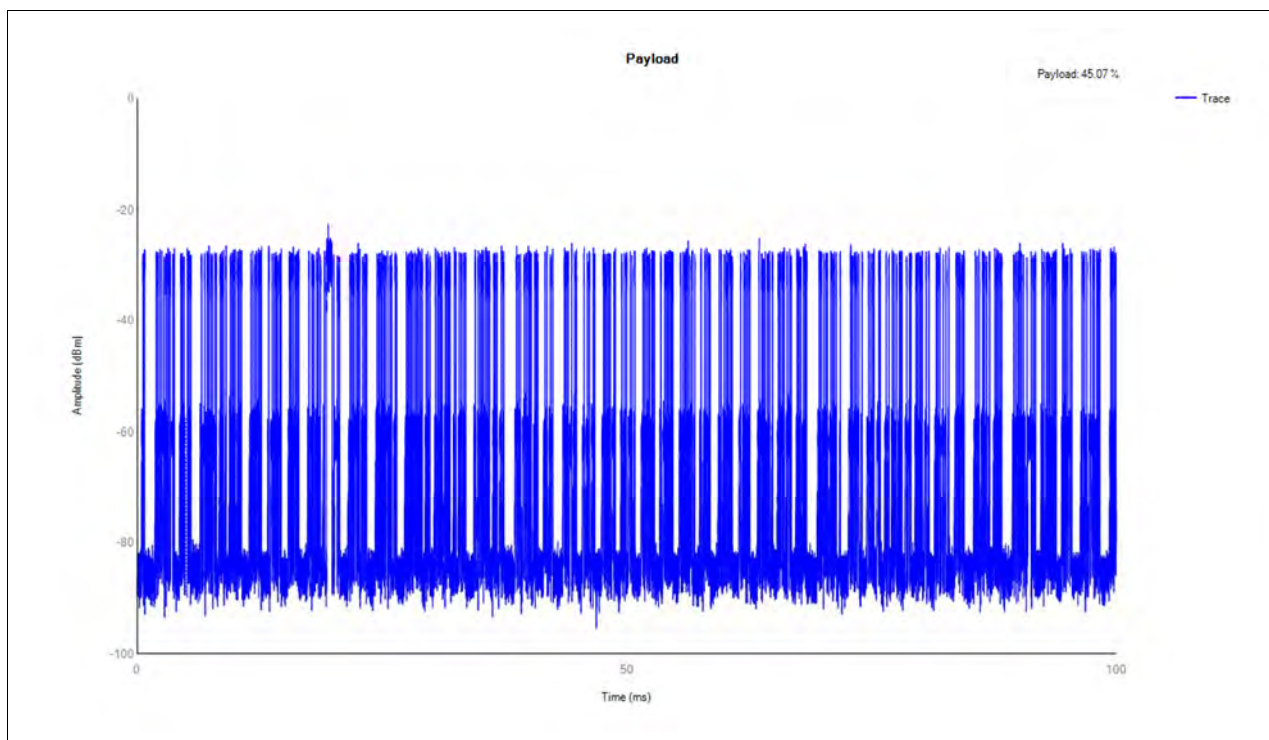
Mode	Frequency (MHz)	Result	Verdict
ac20	5320	87.57	Pass
ac20	5500	97.94	Pass
ac80	5290	45.07	Pass
ac80	5530	40.73	Pass



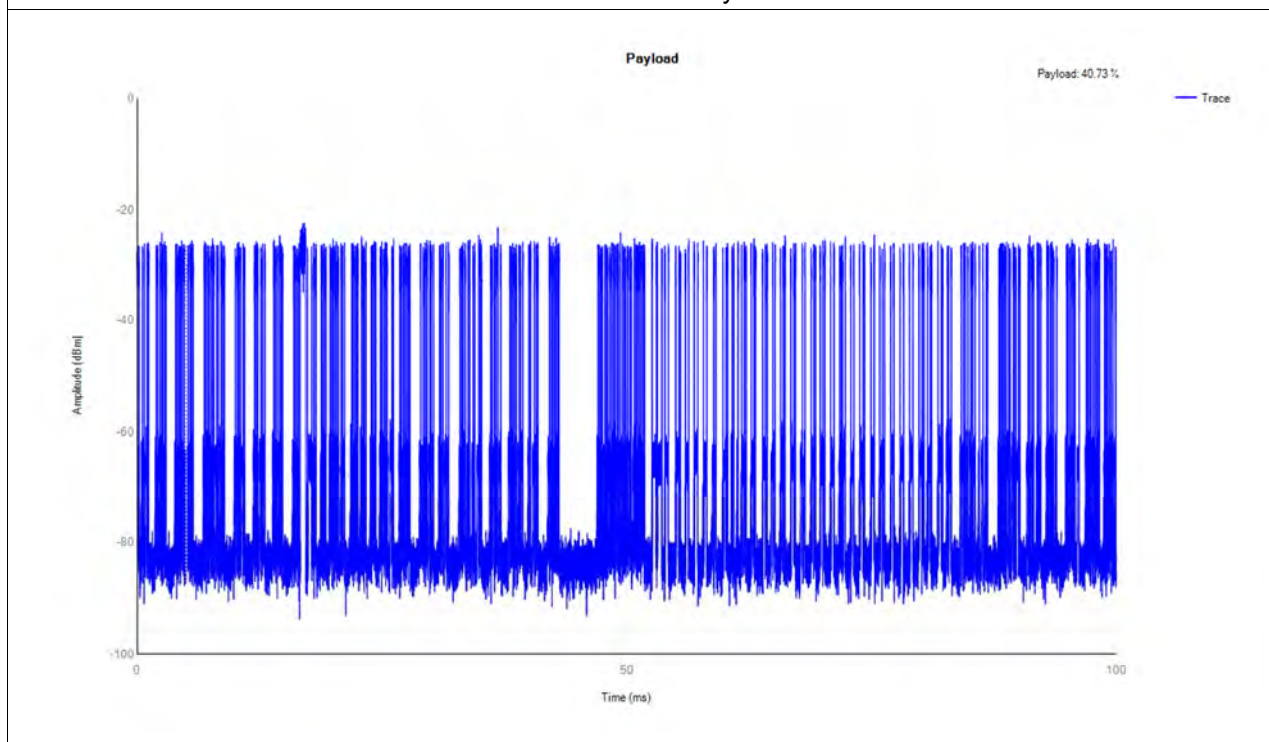
ac20 5320MHz Payload



ac20 5500MHz Payload



ac80 5290MHz Payload



ac80 5530MHz Payload



Detection Thresholds

Mode	Frequency (MHz)	Type	Result	Verdict
ac20	5320	DFS_FCC_T0	See test Graph	Pass
ac20	5500	DFS_FCC_T0	See test Graph	Pass
ac80	5290	DFS_FCC_T0	See test Graph	Pass
ac80	5530	DFS_FCC_T0	See test Graph	Pass

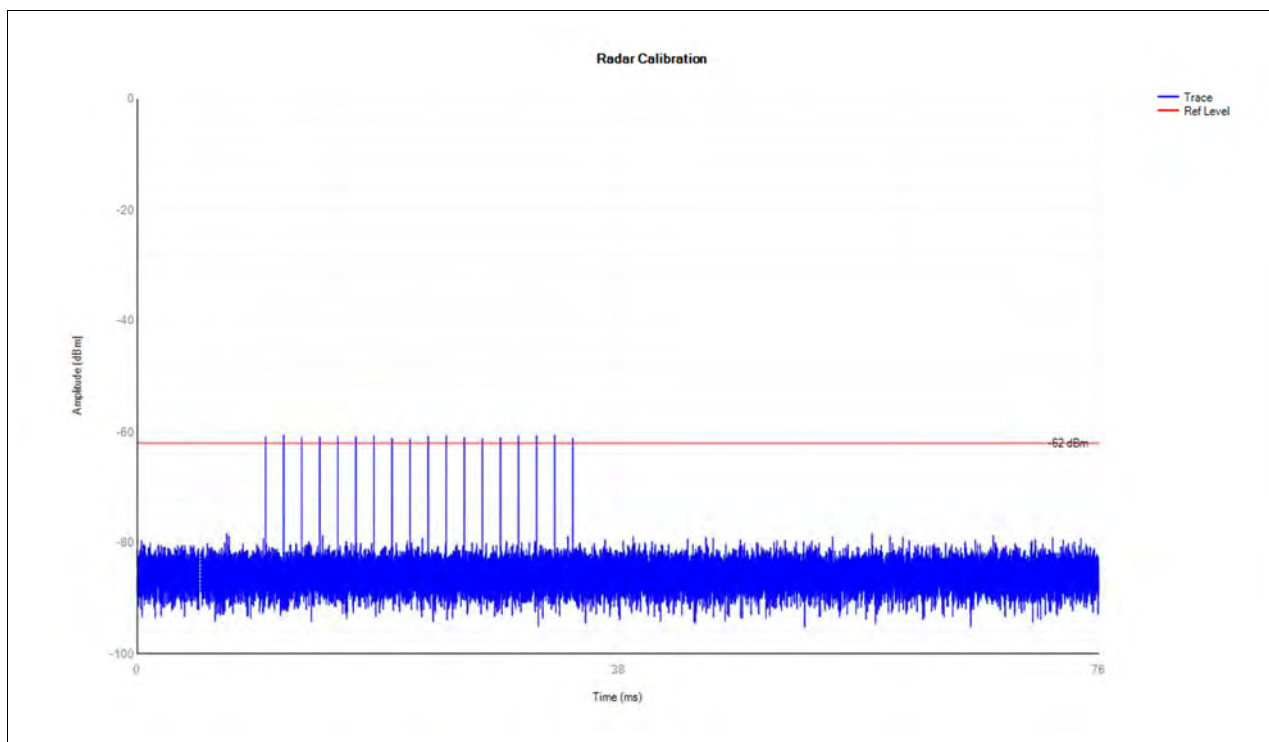
Spectrum analyzer settings:

Span: Zero

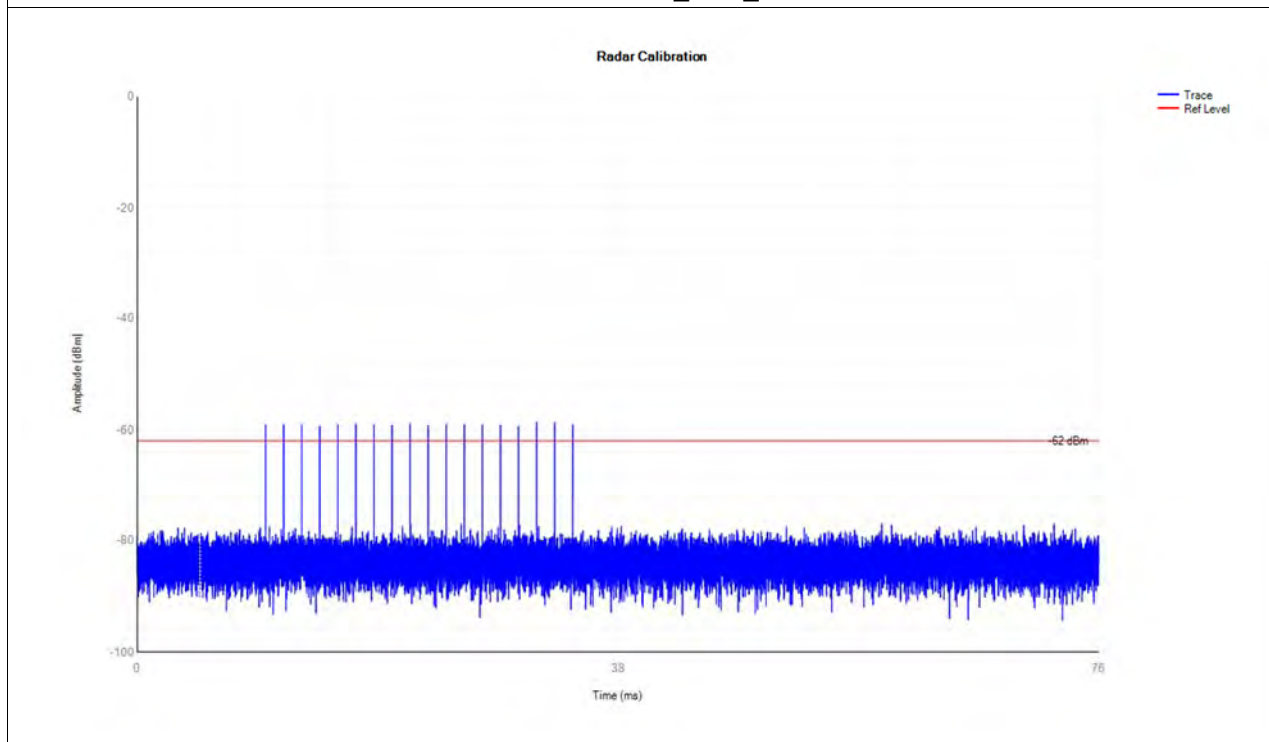
Detector Type: Peak

RBW: 3MHz

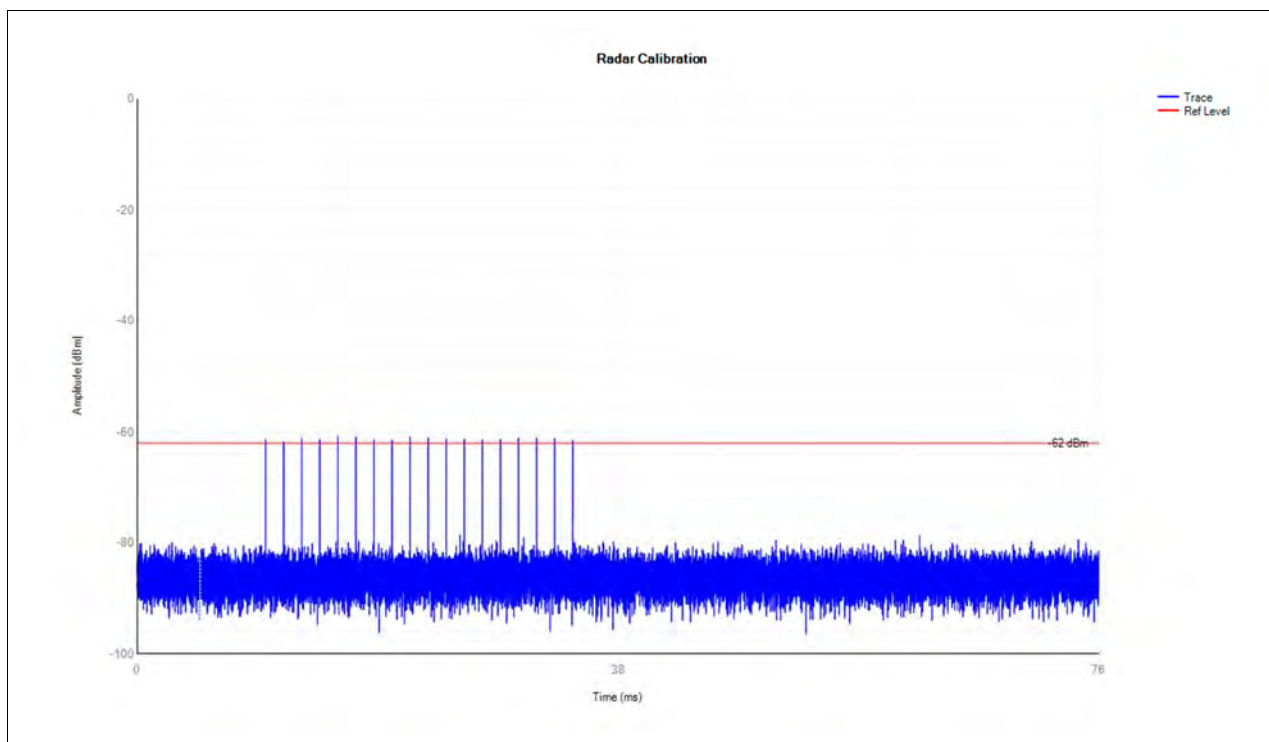
VBW: 3MHz



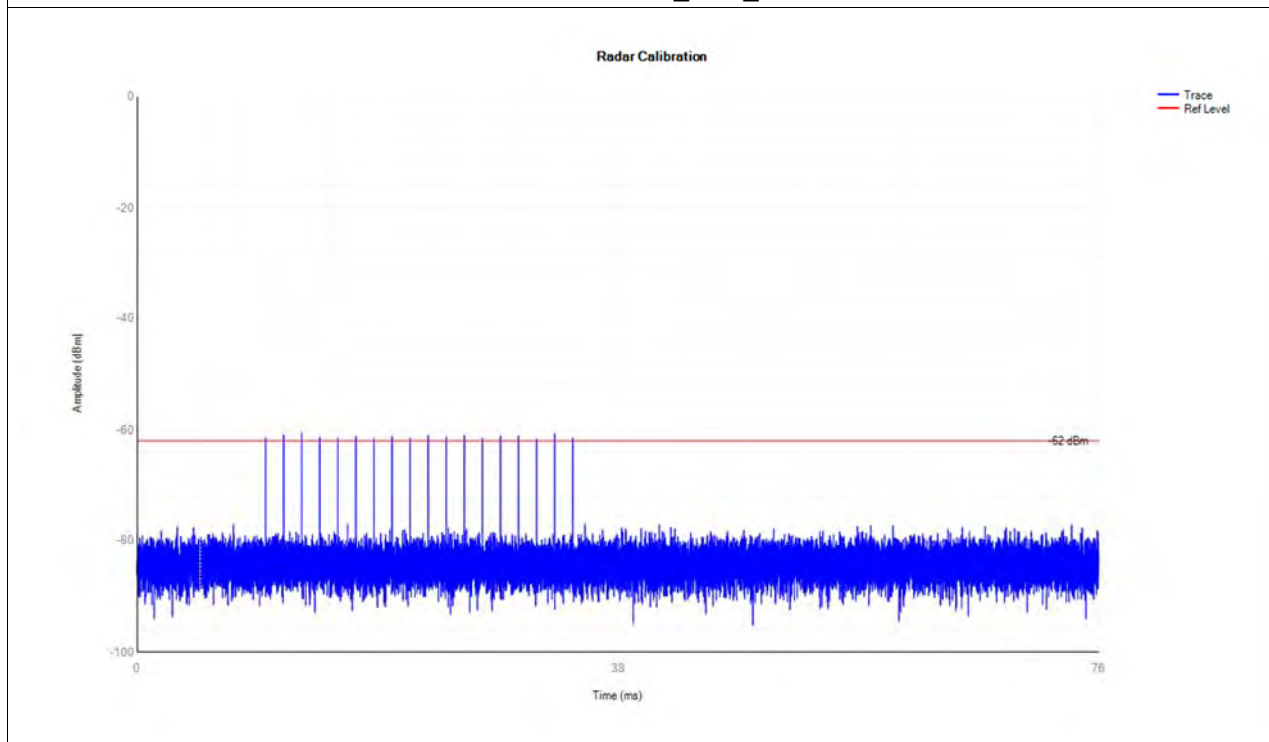
5320MHz DFS_FCC_T0



5500MHz DFS_FCC_T0



5290MHz DFS_FCC_T0



5530MHz DFS_FCC_T0



Channel Move Time and Channel Closing Transmission Time

Mode	Frequency (MHz)	Channel Move Time (s)	Limit Channel Move Time (s)	Close Transmission Time (s)	Limit Close Transmission Time (s)	Close Transmission Time after 200ms(s)	Limit Close Transmission Time after 200ms (s)	Verdict
ac20	5320	0.804	10	0.036	0.26	0.014	0.06	Pass
ac20	5500	0.912	10	0.087	0.26	0.01	0.06	Pass
ac80	5290	0.828	10	0.06	0.26	0.015	0.06	Pass
ac80	5530	0.771	10	0.017	0.26	0.013	0.06	Pass

Spectrum analyzer settings:

Span: Zero

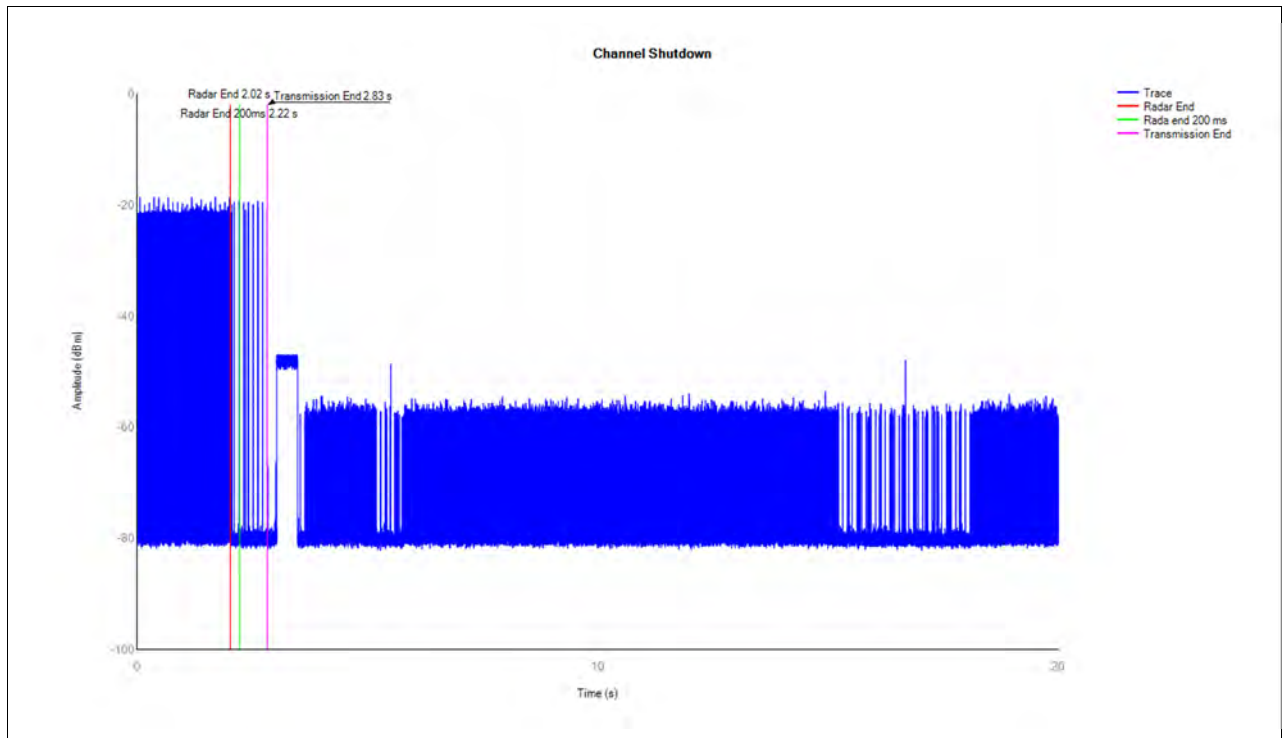
Detector type: Peak

RBW: 3MHz

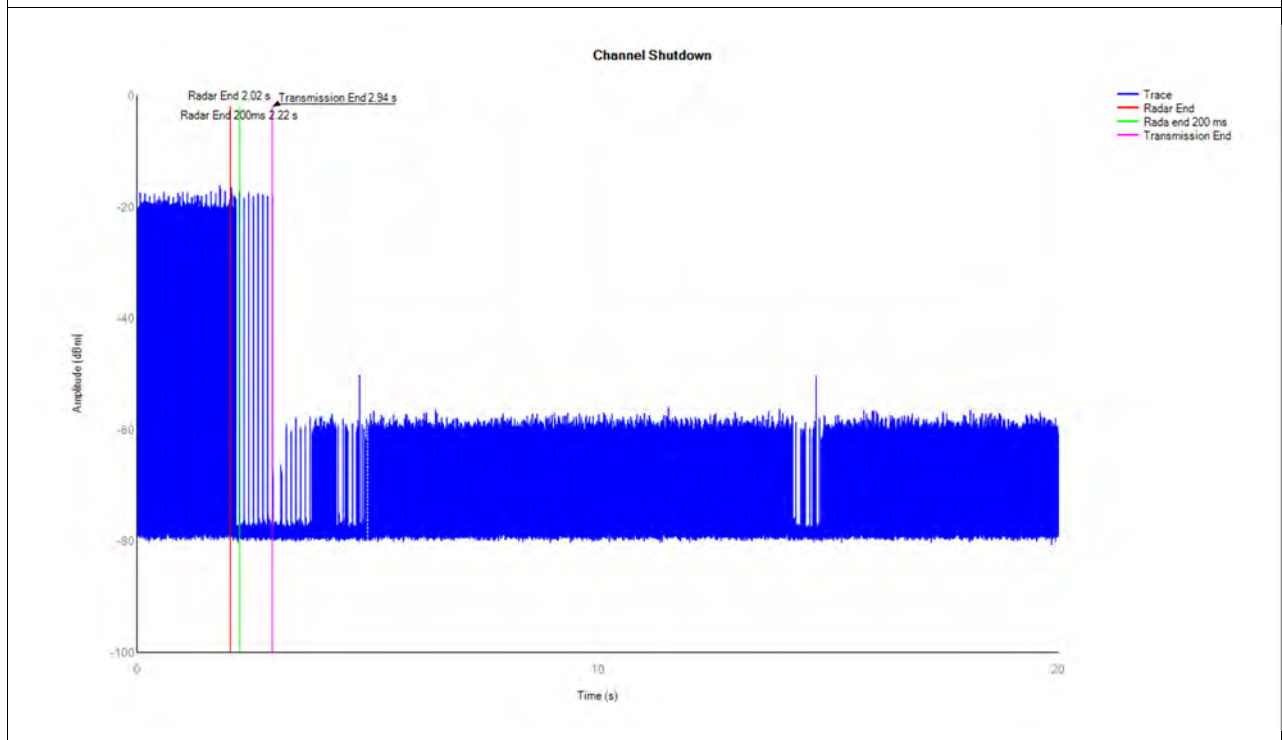
VBW: 3MHz

Sweep time: 20s

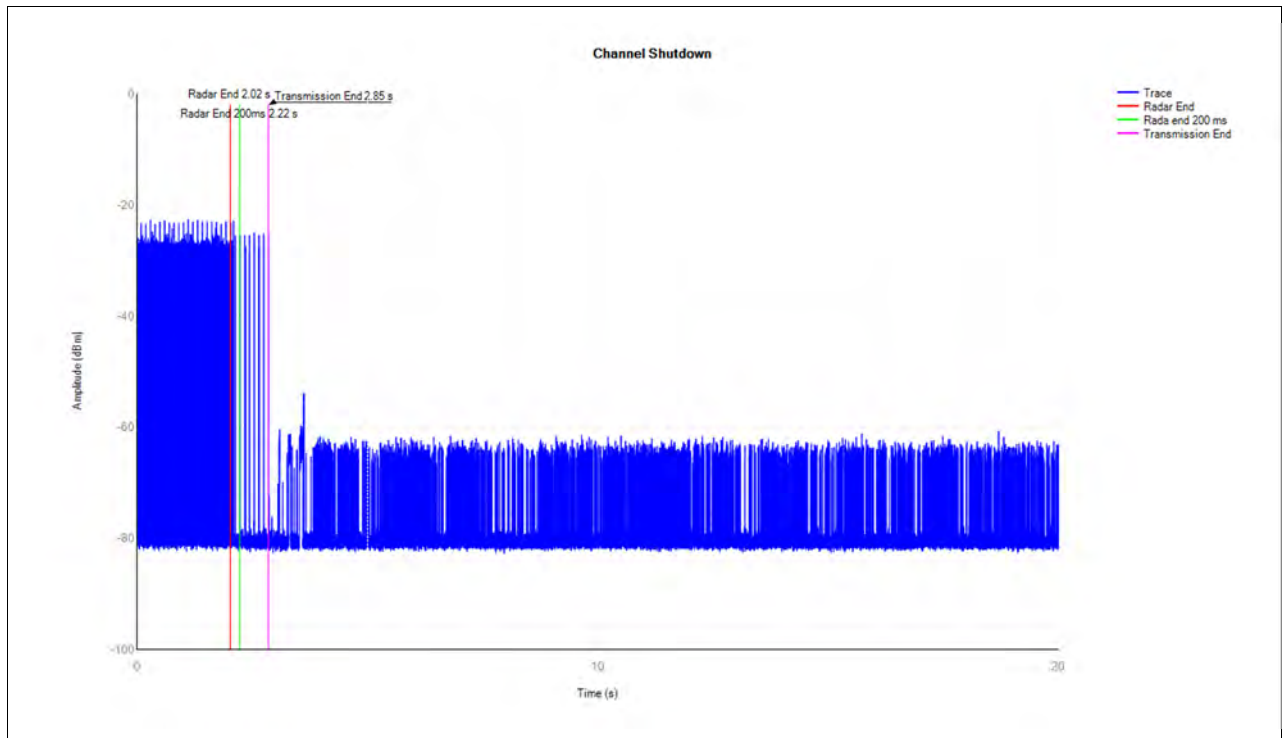




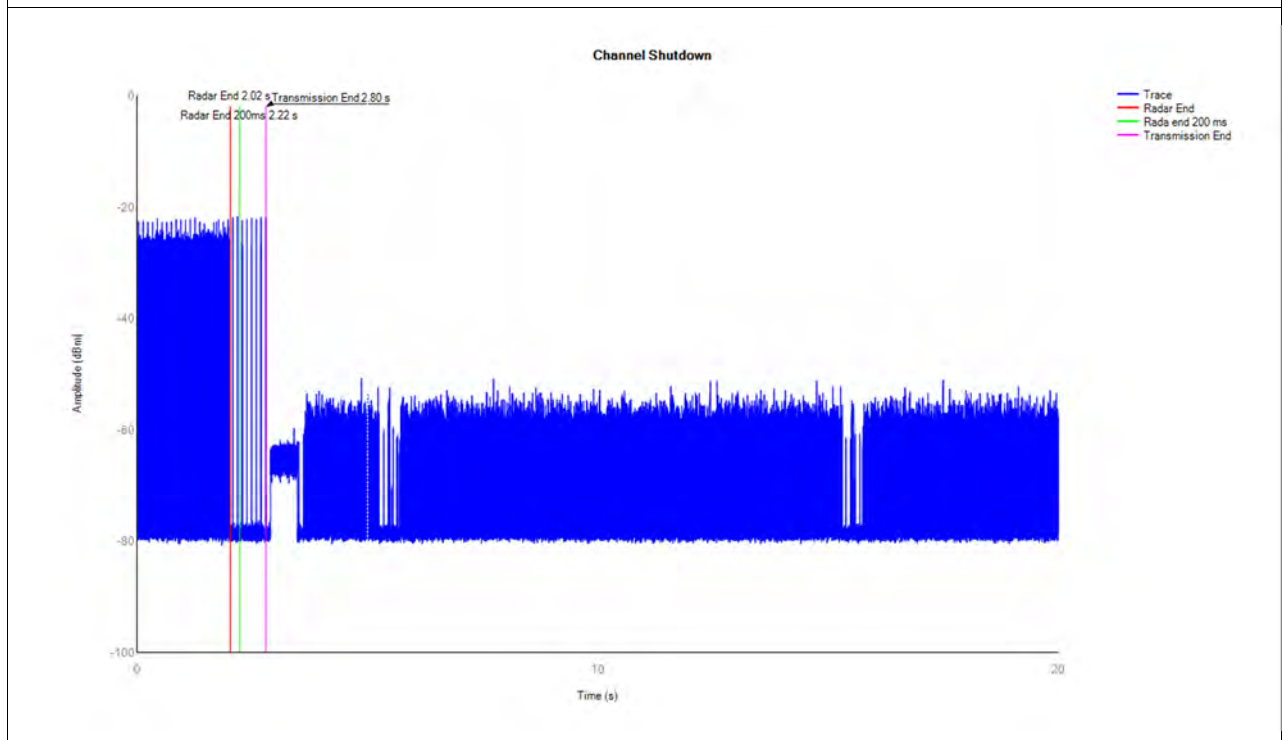
ac20 5320MHz Shutdown



ac20 5500MHz Shutdown



ac80 5290MHz Shutdown



ac80 5530MHz Shutdown

Note: The signal above the noise floor after the radar signal ends is the signal which leaked from other channels that have been moved following the Master device.



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Non-Occupancy Period

Mode	Frequency (MHz)	Result	Verdict
ac20	5320	See test Graph	Pass
ac20	5500	See test Graph	Pass

Spectrum analyzer settings:

Span: Zero

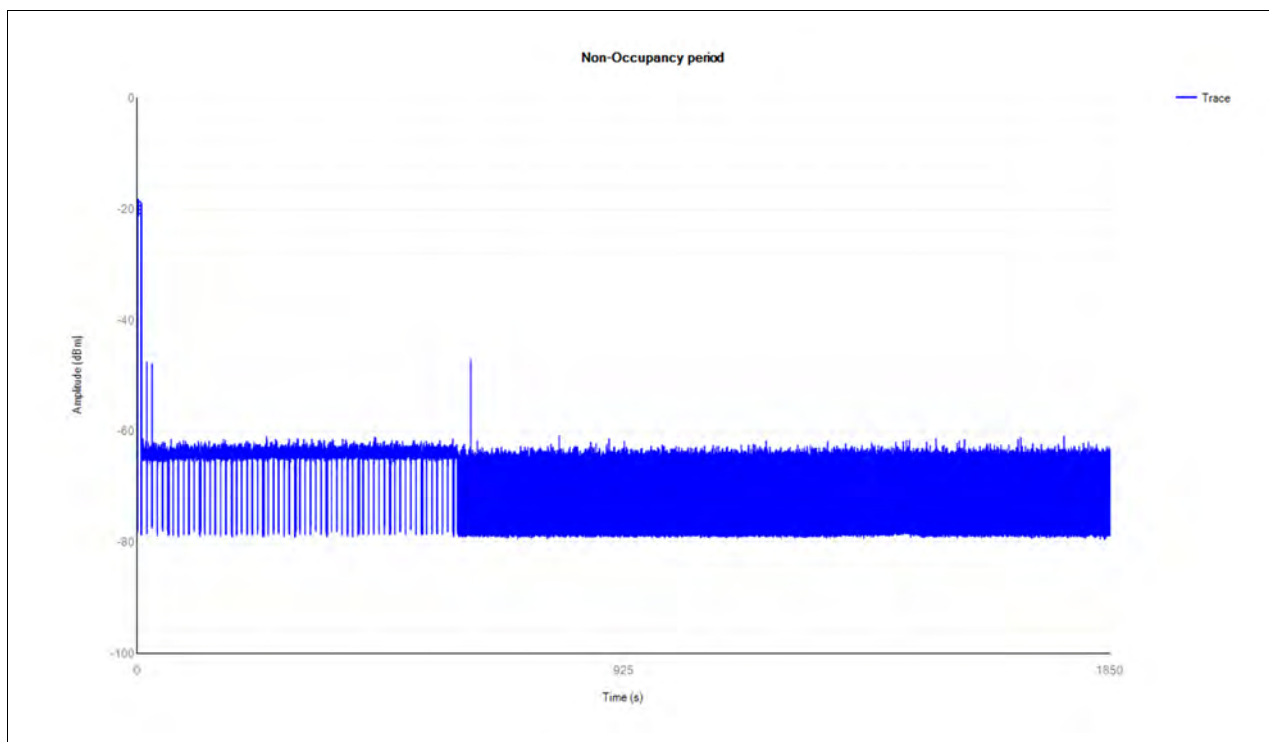
Detector type: Peak

RBW: 3MHz

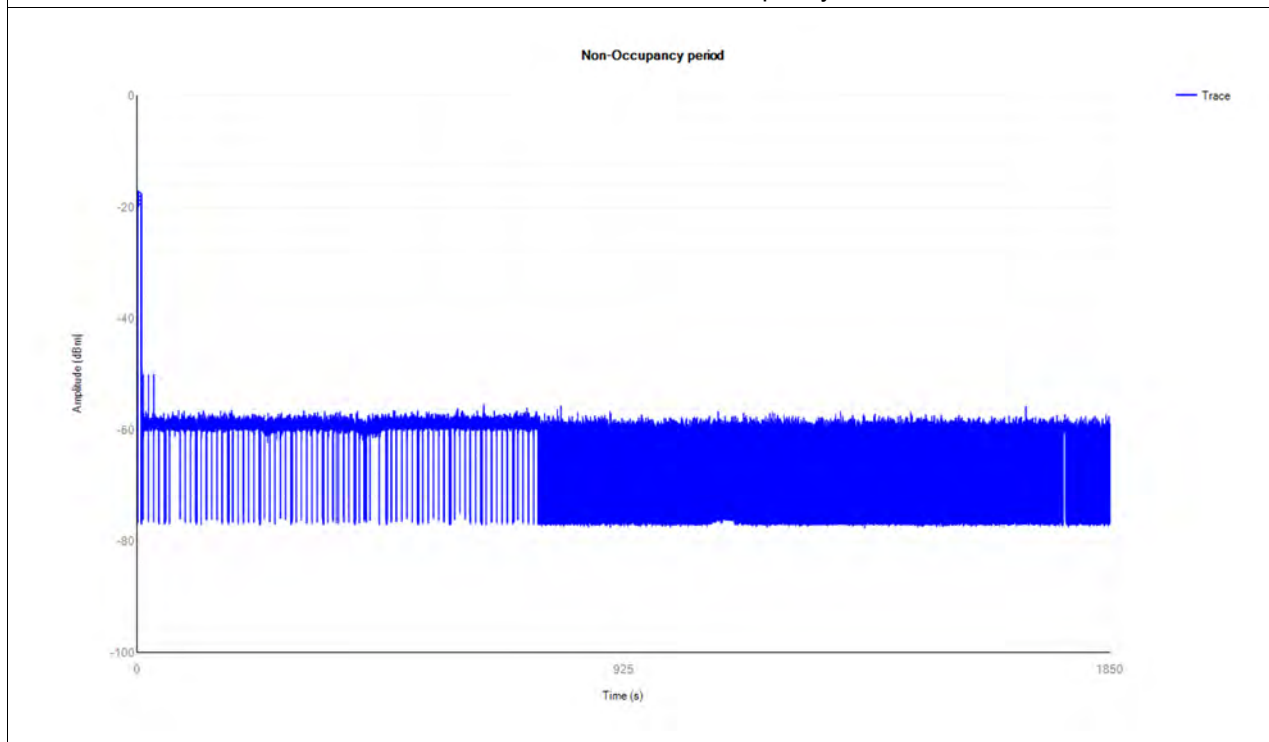
VBW: 3MHz

Sweep time: 1850s





ac20 5320MHz Non-Occupancy



ac20 5500MHz Non-Occupancy



A.7. Conducted Emission

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Set RBW=9kHz, VBW=30kHz. Refer to recorded points and plots below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test Setup:

Test Mode: EUT+Adapter+USB Cable+Earphone+WIFI TX

Test voltage: AC 120V/60Hz

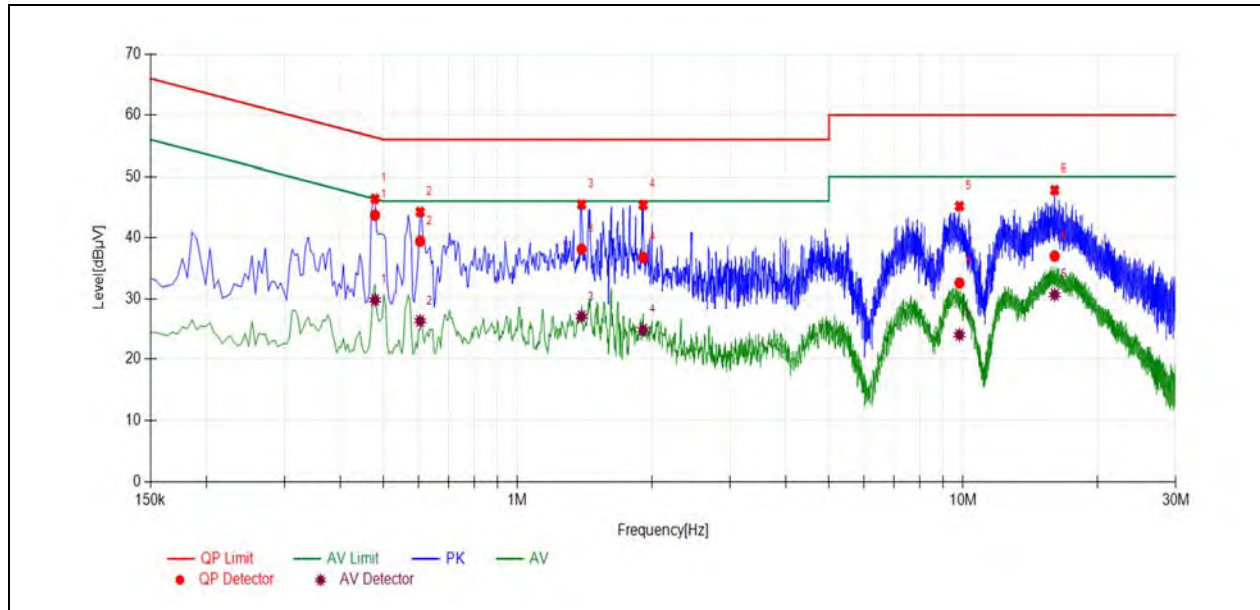
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

U_R : Receiver Reading

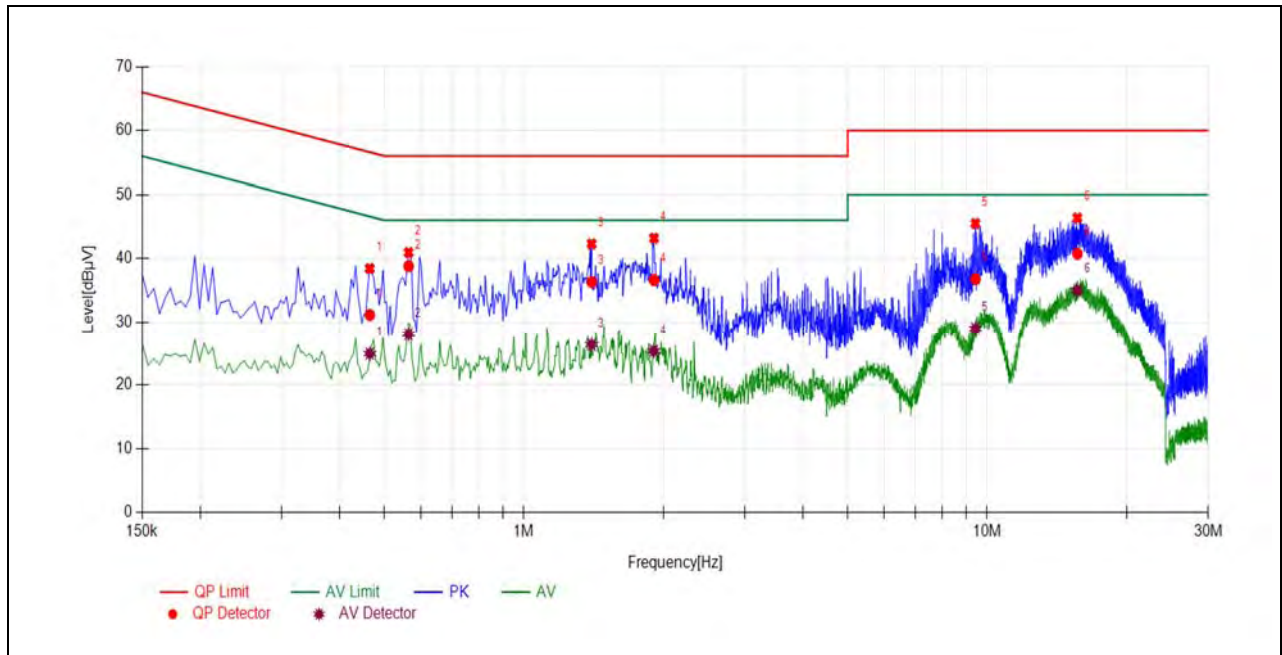
A_{Factor} : Voltage division factor of LISN

B. Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.4785	43.69	29.81	56.37	46.37	Line	PASS
2	0.6045	39.43	26.23	56.00	46.00		PASS
3	1.3921	38.13	26.96	56.00	46.00		PASS
4	1.9140	36.79	24.76	56.00	46.00		PASS
5	9.8109	32.59	23.94	60.00	50.00		PASS
6	16.0484	37.00	30.67	60.00	50.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.4650	31.14	24.92	56.60	46.60	Neutral	PASS
2	0.5640	38.81	28.05	56.00	46.00		PASS
3	1.4009	36.32	26.36	56.00	46.00		PASS
4	1.9095	36.62	25.37	56.00	46.00		PASS
5	9.4331	36.78	28.98	60.00	50.00		PASS
6	15.6555	40.77	35.03	60.00	50.00		PASS

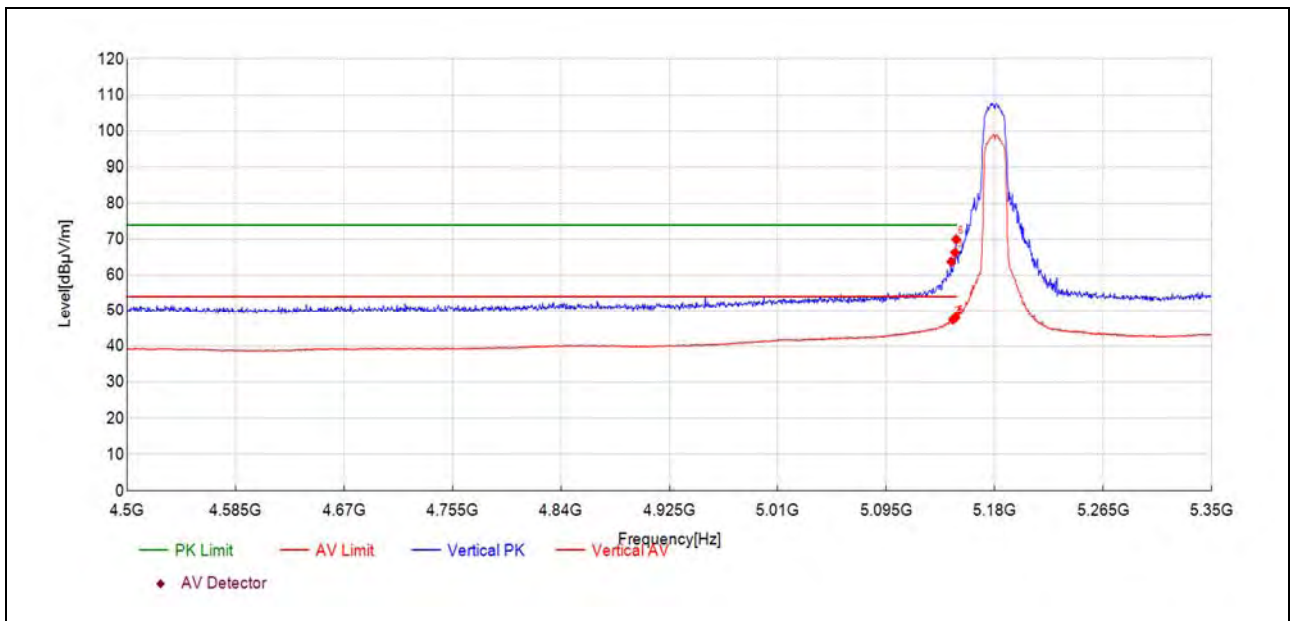
A.8. Restricted Frequency Bands

Note 1: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition was recorded in this test report.

Note 2 All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.

802.11a Mode

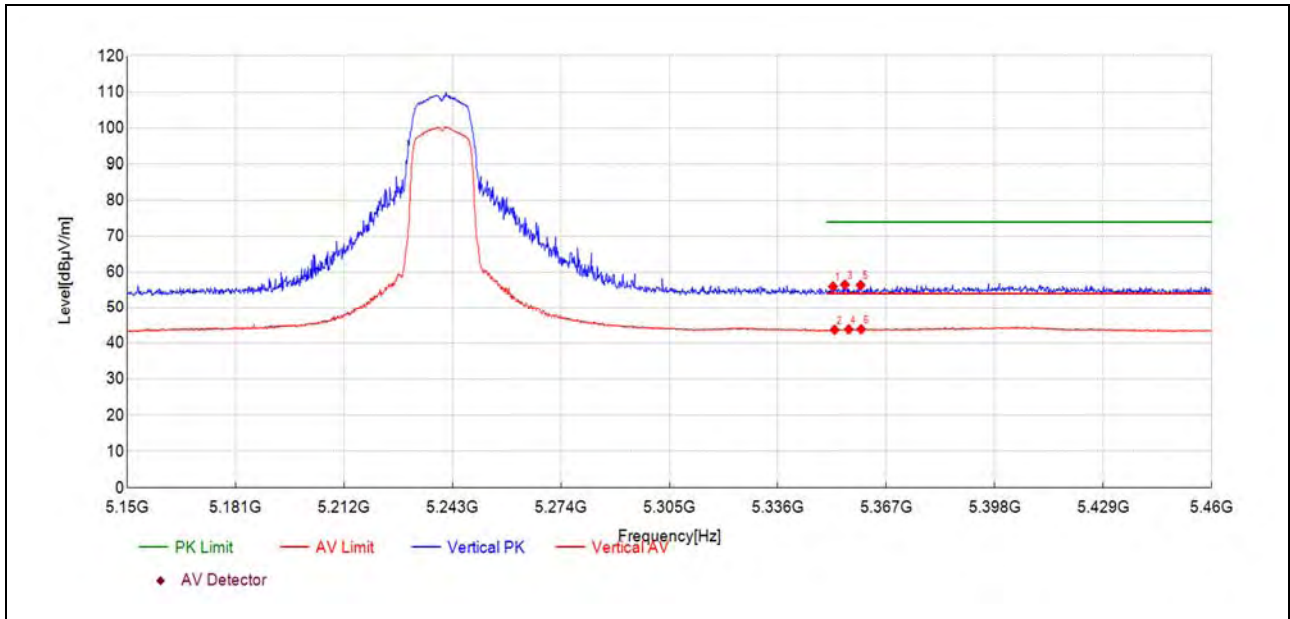
Plot for Channel 36



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5145.90	49.3	63.77	14.520	74.00	10.23	201	PK	Vertical	PASS
5147.17	32.9	47.42	14.540	54.00	6.58	229	AV	Vertical	PASS
5148.87	51.8	66.33	14.570	74.00	7.67	219	PK	Vertical	PASS
5149.30	33.4	48.00	14.580	54.00	6.00	219	AV	Vertical	PASS
5149.72	33.2	47.80	14.590	54.00	6.20	224	AV	Vertical	PASS
5149.72	55.4	69.96	14.590	74.00	4.04	219	PK	Vertical	PASS

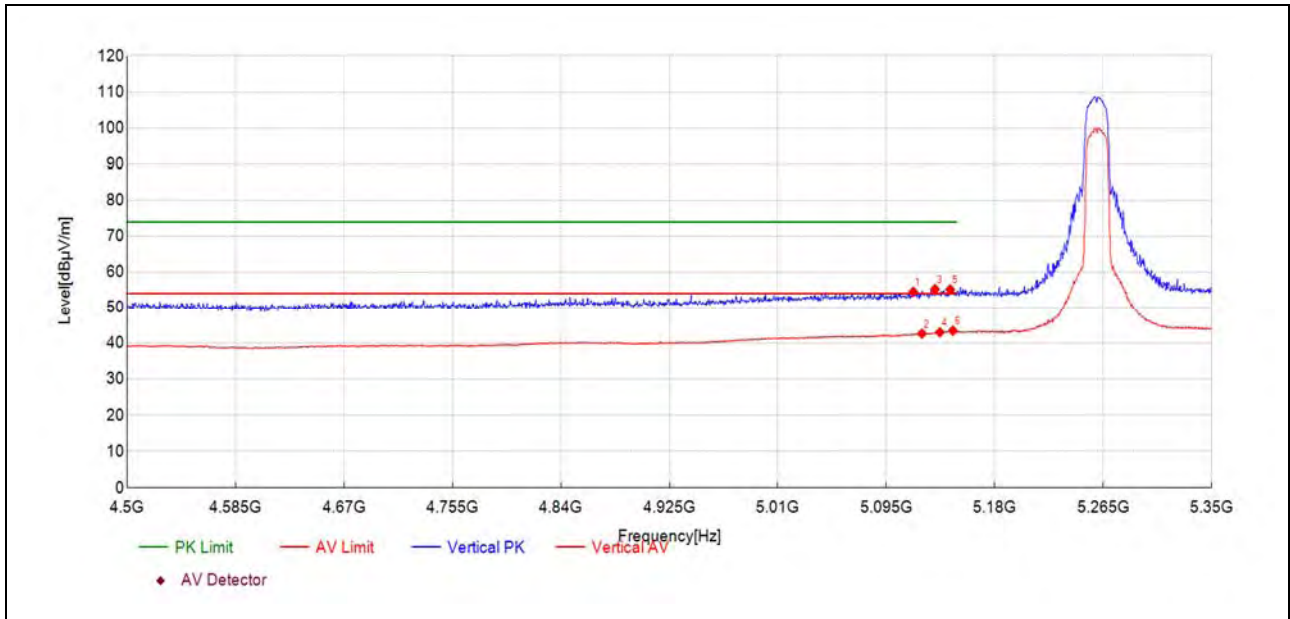


Plot for Channel 48



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5351.76	41.0	56.00	15.000	74.00	18.00	234	PK	Vertical	PASS
5352.22	28.7	43.69	15.010	54.00	10.31	231	AV	Vertical	PASS
5355.17	41.5	56.52	15.050	74.00	17.48	291	PK	Vertical	PASS
5356.25	28.8	43.84	15.070	54.00	10.16	260	AV	Vertical	PASS
5359.66	41.3	56.38	15.120	74.00	17.62	231	PK	Vertical	PASS
5359.82	28.7	43.85	15.120	54.00	10.15	222	AV	Vertical	PASS

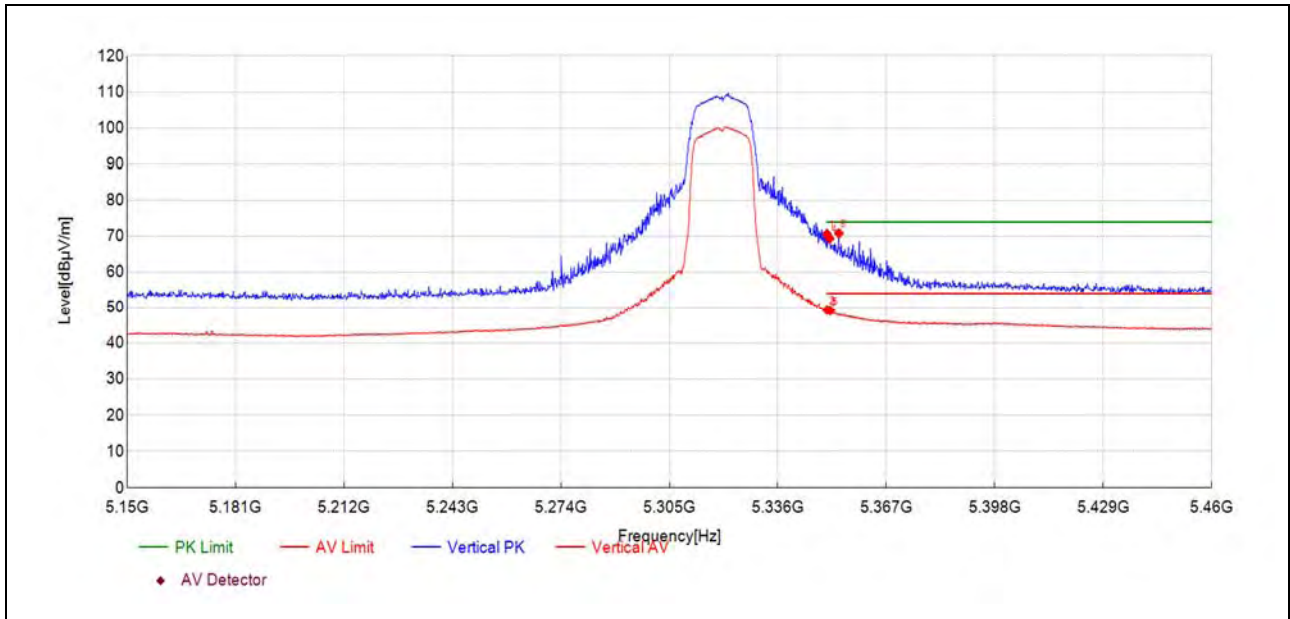
Plot for Channel 52



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5116.13	40.6	54.53	13.970	74.00	19.47	102	PK	Vertical	PASS
5122.94	28.5	42.63	14.090	54.00	11.37	212	AV	Vertical	PASS
5133.14	41.0	55.27	14.290	74.00	18.73	226	PK	Vertical	PASS
5136.97	28.7	43.01	14.360	54.00	10.99	221	AV	Vertical	PASS
5145.05	40.7	55.18	14.500	74.00	18.82	60	PK	Vertical	PASS
5147.17	28.9	43.48	14.540	54.00	10.52	226	AV	Vertical	PASS

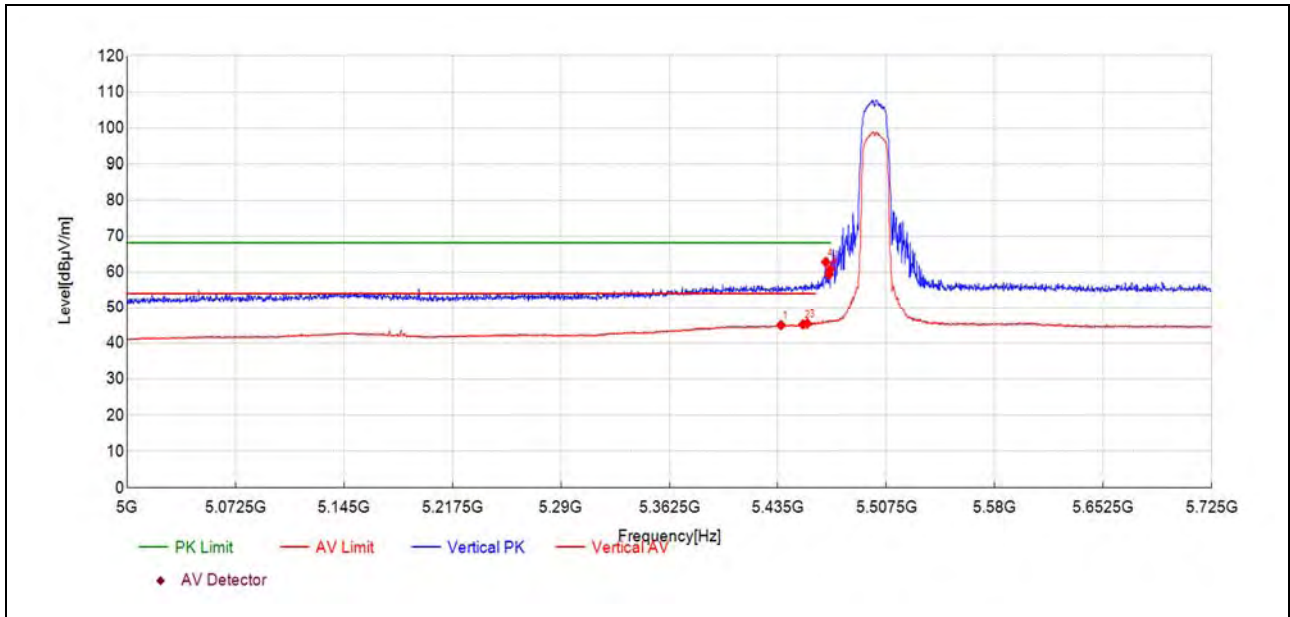


Plot for Channel 64



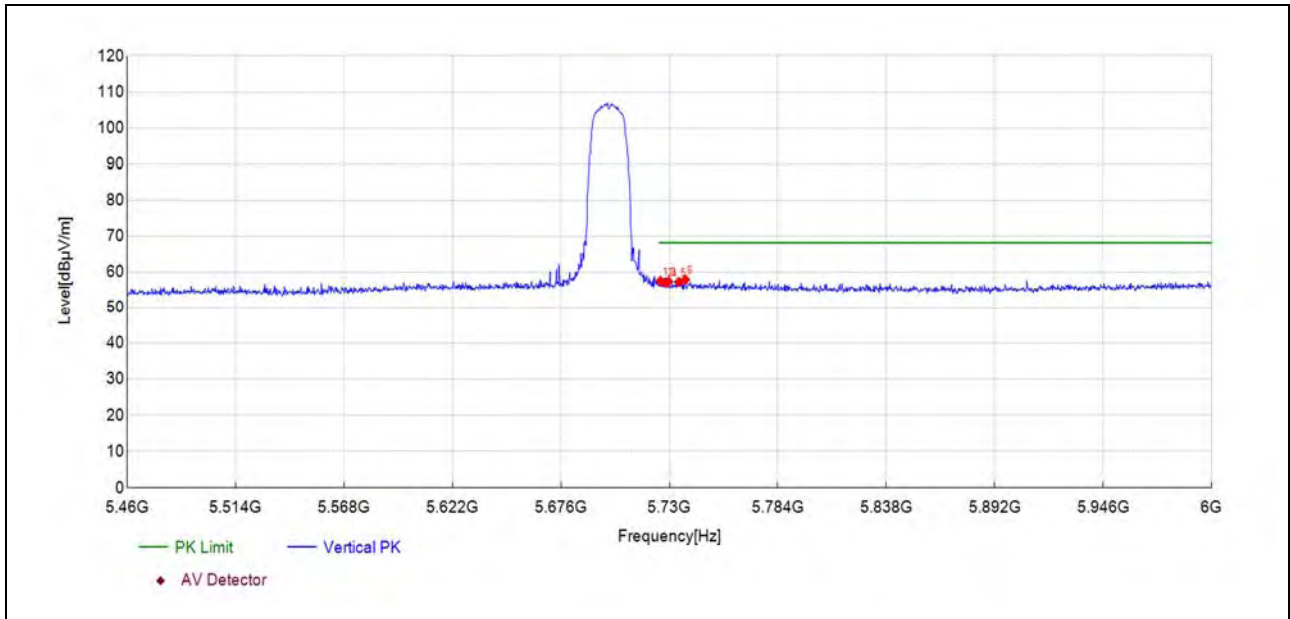
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5350.05	55.7	70.63	14.980	74.00	3.37	260	PK	Vertical	PASS
5350.05	34.4	49.34	14.980	54.00	4.66	269	AV	Vertical	PASS
5350.67	34.0	49.02	14.990	54.00	4.98	297	AV	Vertical	PASS
5350.83	54.4	69.40	14.990	74.00	4.60	302	PK	Vertical	PASS
5350.98	34.2	49.21	14.990	54.00	4.79	283	AV	Vertical	PASS
5353.46	55.8	70.82	15.030	74.00	3.18	302	PK	Vertical	PASS

Plot for Channel 100



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5437.08	29.8	44.98	15.230	54.00	9.02	219	AV	Vertical	PASS
5451.83	30.1	45.18	15.080	54.00	8.82	219	AV	Vertical	PASS
5454.73	30.4	45.46	15.090	54.00	8.54	259	AV	Vertical	PASS
5467.06	47.7	62.83	15.130	68.23	5.40	264	PK	Vertical	PASS
5469.23	44.2	59.37	15.140	68.23	8.86	268	PK	Vertical	PASS
5469.96	45.6	60.76	15.150	68.23	7.47	214	PK	Vertical	PASS

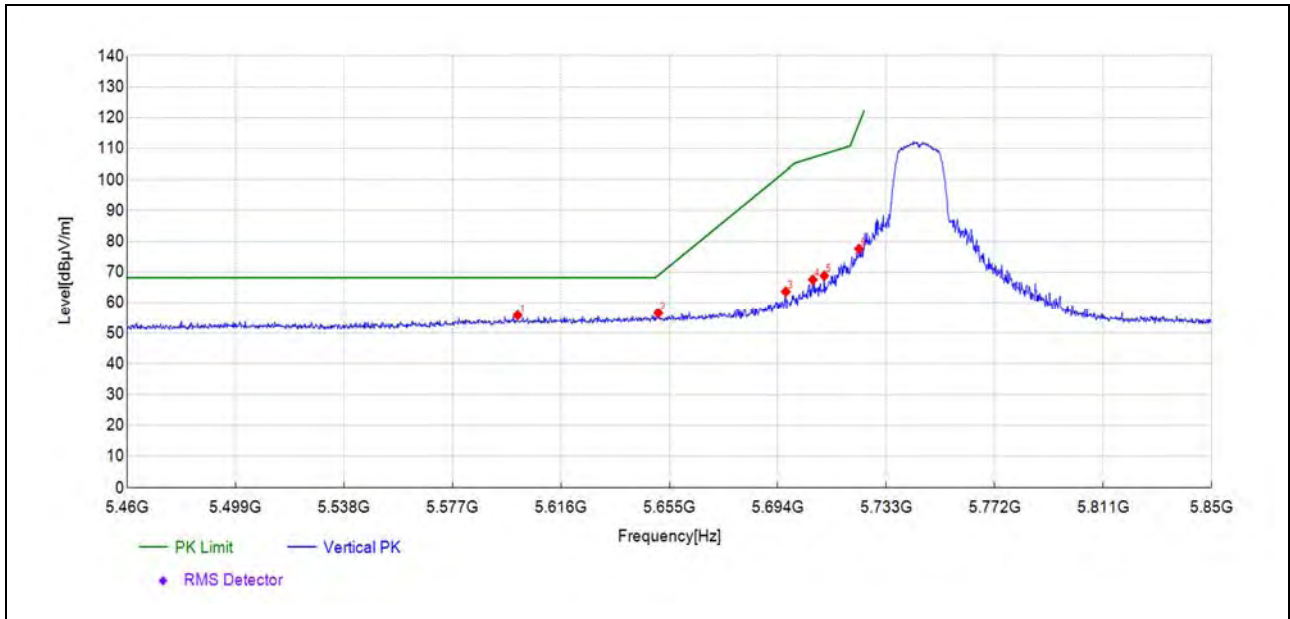
Plot for Channel 140



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5725.54	41.3	57.53	16.250	68.23	10.70	265	PK	Vertical	PASS
5727.97	40.9	57.12	16.250	68.23	11.11	202	PK	Vertical	PASS
5729.59	41.1	57.35	16.260	68.23	10.88	290	PK	Vertical	PASS
5730.14	40.6	56.88	16.260	68.23	11.35	278	PK	Vertical	PASS
5734.73	41.0	57.27	16.270	68.23	10.96	228	PK	Vertical	PASS
5737.97	41.6	57.90	16.270	68.23	10.33	273	PK	Vertical	PASS

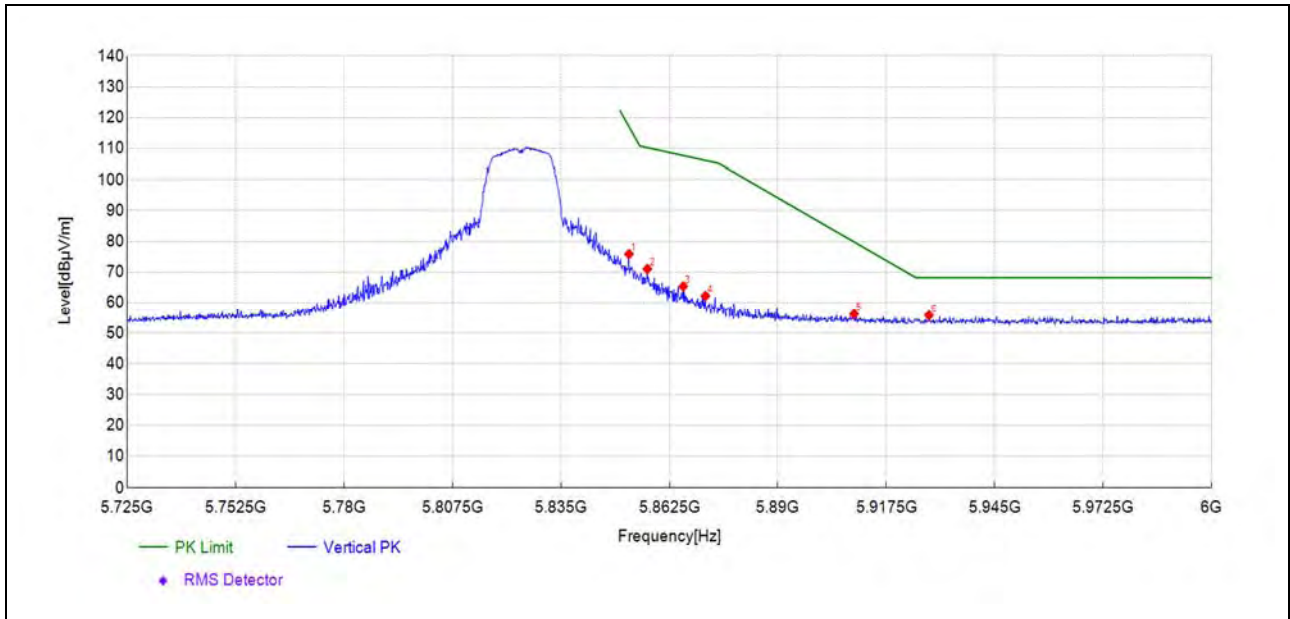


Plot for Channel 149



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5600.47	39.8	55.72	15.910	68.23	12.51	279	PK	Vertical	PASS
5651.00	40.7	56.48	15.820	68.97	12.49	288	PK	Vertical	PASS
5696.85	47.5	63.66	16.170	102.90	39.24	254	PK	Vertical	PASS
5706.60	51.3	67.55	16.220	107.08	39.53	292	PK	Vertical	PASS
5710.70	52.7	68.87	16.220	108.23	39.36	271	PK	Vertical	PASS
5723.19	61.3	77.56	16.240	118.10	40.54	220	PK	Vertical	PASS

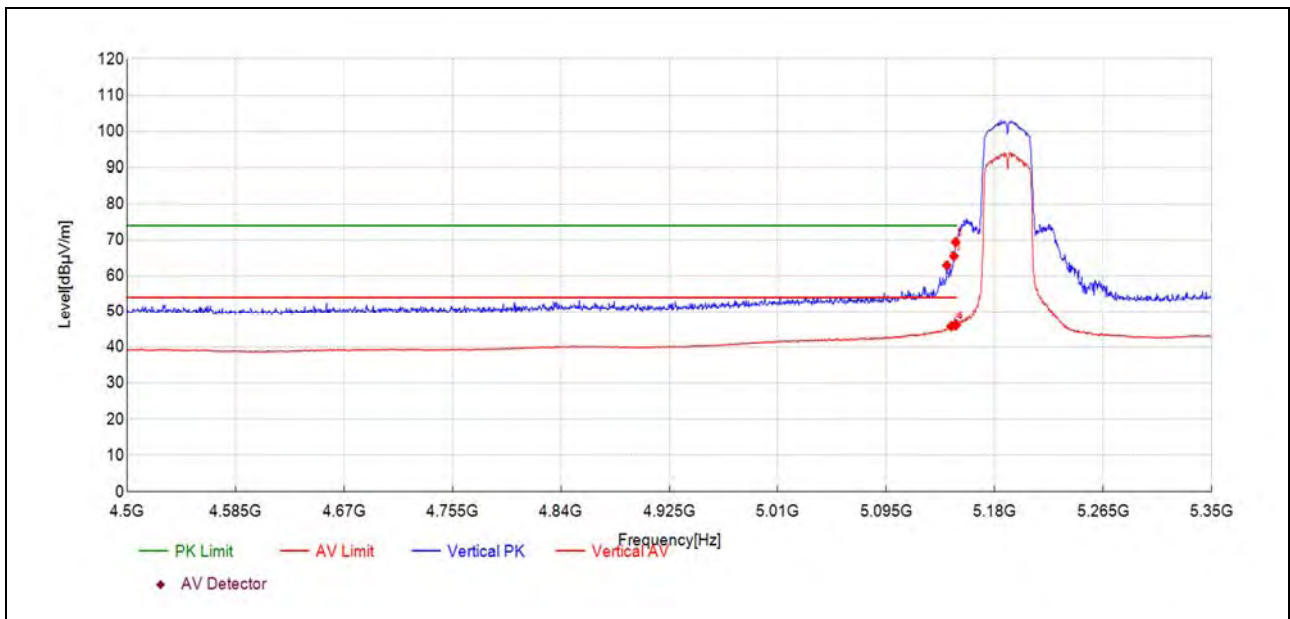
Plot for Channel 165



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5852.25	59.9	75.88	15.980	117.10	41.22	295	PK	Vertical	PASS
5856.93	55.1	71.05	16.000	110.29	39.24	287	PK	Vertical	PASS
5866.01	49.4	65.40	16.020	107.75	42.35	278	PK	Vertical	PASS
5871.65	46.2	62.27	16.050	106.17	43.90	245	PK	Vertical	PASS
5909.34	40.0	56.20	16.230	79.82	23.62	299	PK	Vertical	PASS
5928.33	39.3	55.70	16.380	68.23	12.53	316	PK	Vertical	PASS

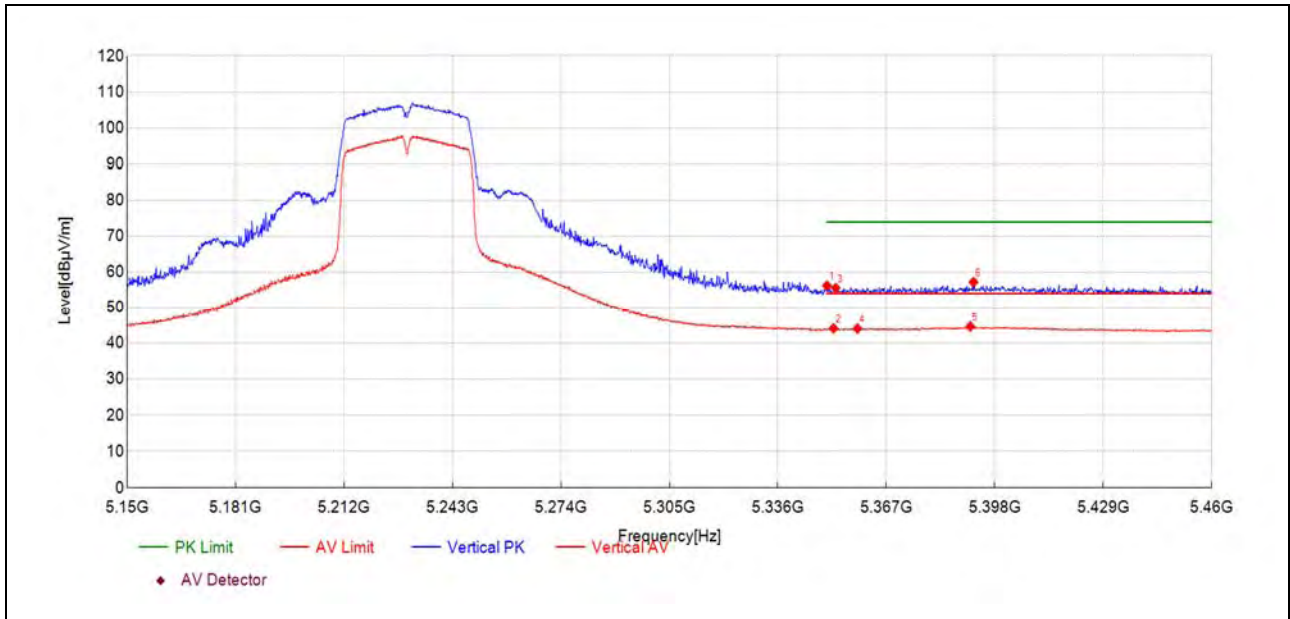
**802.11n (HT40) Mode**

Plot for Channel 38



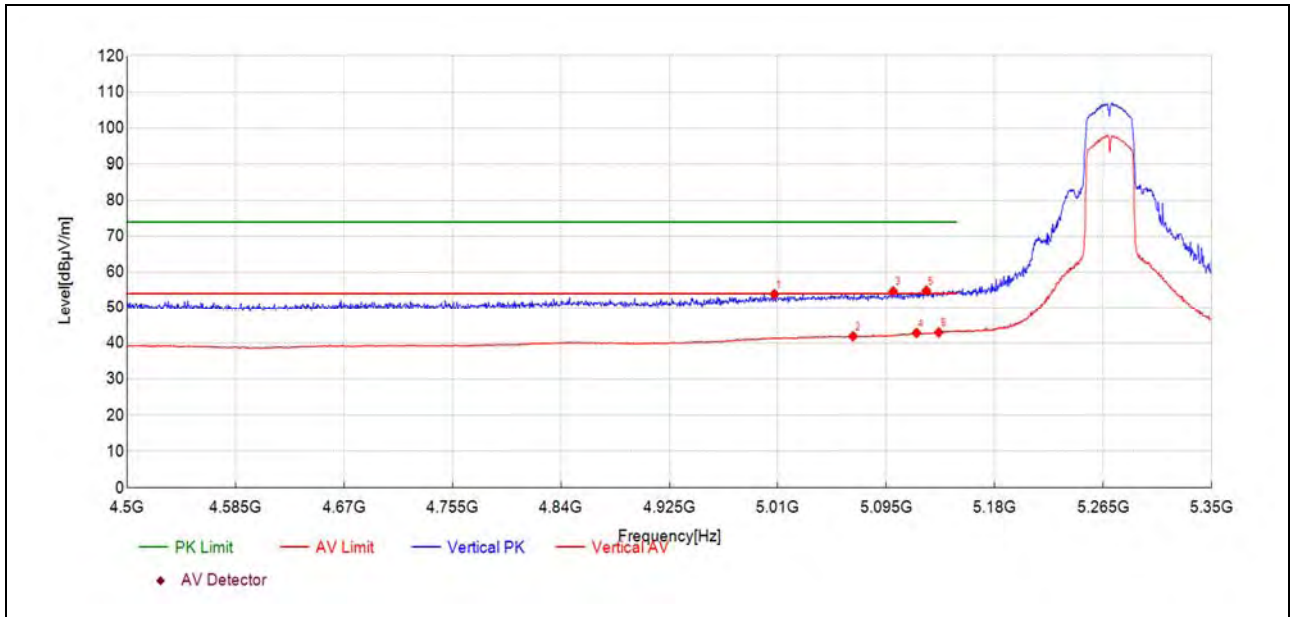
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5142.50	48.5	62.95	14.450	74.00	11.05	198	PK	Vertical	PASS
5145.90	31.3	45.78	14.520	54.00	8.22	213	AV	Vertical	PASS
5148.02	50.9	65.49	14.550	74.00	8.51	217	PK	Vertical	PASS
5148.87	31.5	46.11	14.570	54.00	7.89	217	AV	Vertical	PASS
5149.30	54.9	69.44	14.580	74.00	4.56	227	PK	Vertical	PASS
5149.72	31.6	46.16	14.590	54.00	7.84	217	AV	Vertical	PASS

Plot for Channel 46



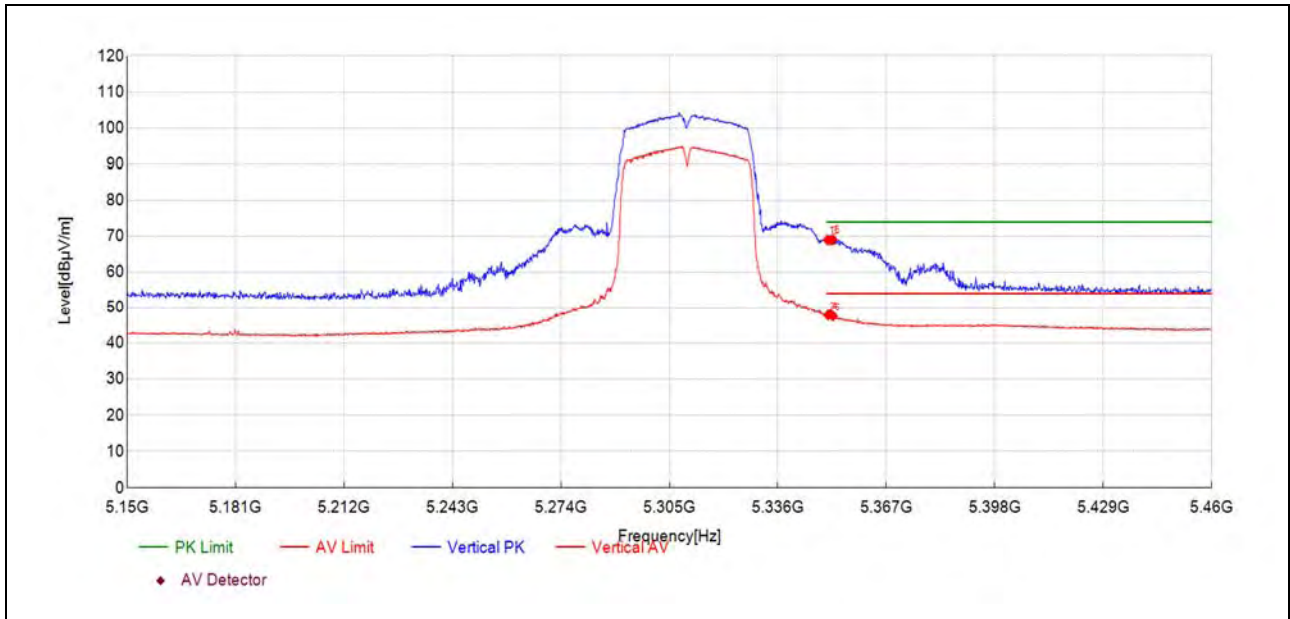
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5350.05	41.3	56.25	14.980	74.00	17.75	255	PK	Vertical	PASS
5351.91	29.1	44.10	15.010	54.00	9.90	255	AV	Vertical	PASS
5352.53	40.6	55.57	15.020	74.00	18.43	274	PK	Vertical	PASS
5358.73	29.0	44.05	15.100	54.00	9.95	255	AV	Vertical	PASS
5390.99	29.1	44.63	15.550	54.00	9.37	265	AV	Vertical	PASS
5391.92	41.7	57.26	15.570	74.00	16.74	208	PK	Vertical	PASS

Plot for Channel 54



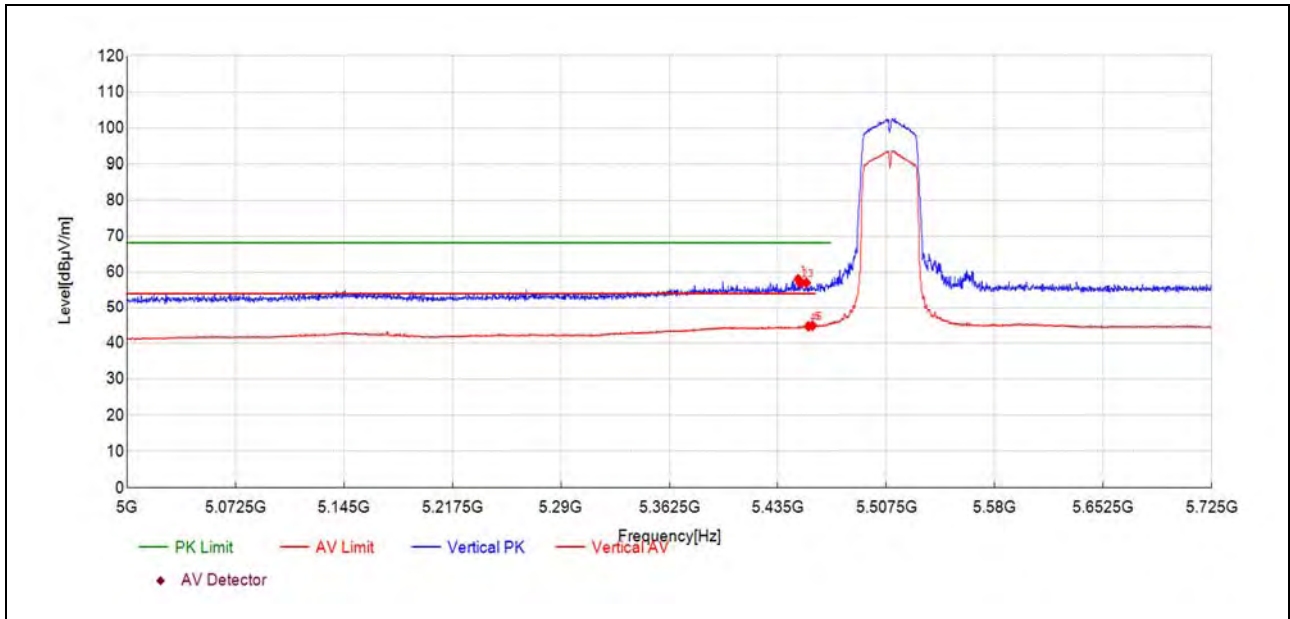
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5007.28	40.8	53.88	13.050	74.00	20.12	270	PK	Vertical	PASS
5068.93	28.4	41.90	13.530	54.00	12.10	292	AV	Vertical	PASS
5100.40	41.0	54.66	13.690	74.00	19.34	255	PK	Vertical	PASS
5118.68	28.8	42.83	14.020	54.00	11.17	218	AV	Vertical	PASS
5126.34	40.7	54.88	14.160	74.00	19.12	208	PK	Vertical	PASS
5136.12	28.7	43.00	14.340	54.00	11.00	274	AV	Vertical	PASS

Plot for Channel 62



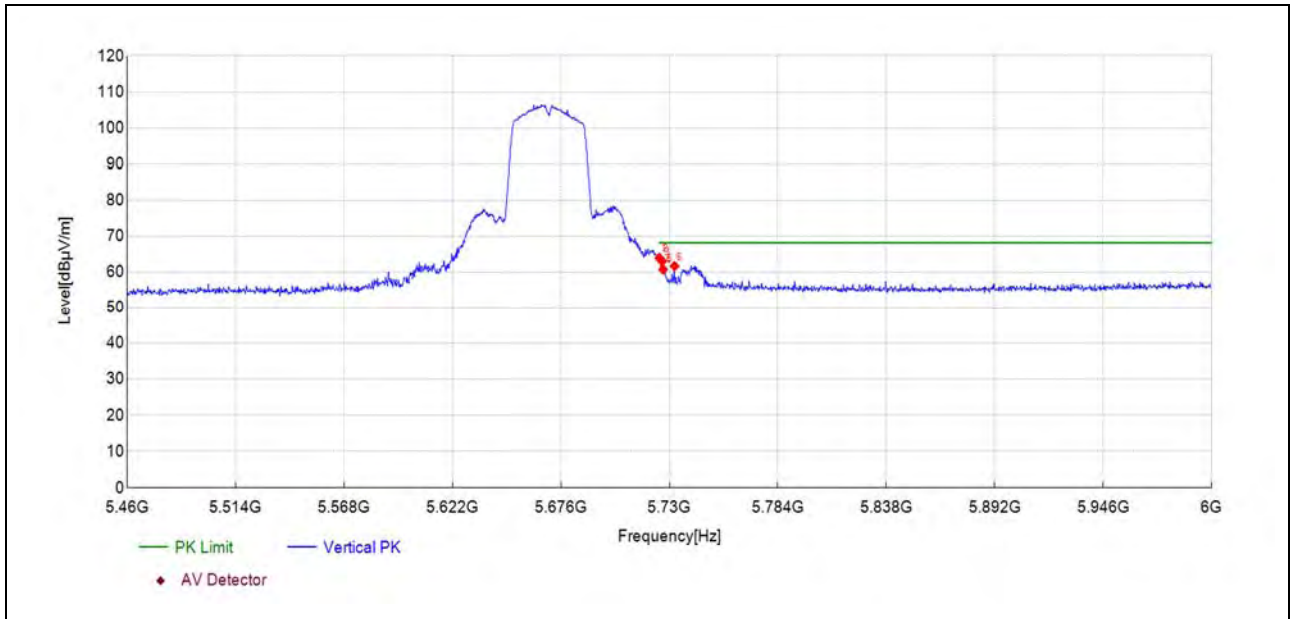
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5350.21	54.0	69.00	14.980	74.00	5.00	264	PK	Vertical	PASS
5350.36	32.8	47.81	14.990	54.00	6.19	212	AV	Vertical	PASS
5351.14	53.9	68.87	15.000	74.00	5.13	259	PK	Vertical	PASS
5351.14	33.1	48.06	15.000	54.00	5.94	212	AV	Vertical	PASS
5351.76	54.1	69.07	15.000	74.00	4.93	255	PK	Vertical	PASS
5351.76	32.6	47.57	15.000	54.00	6.43	212	AV	Vertical	PASS

Plot for Channel 102



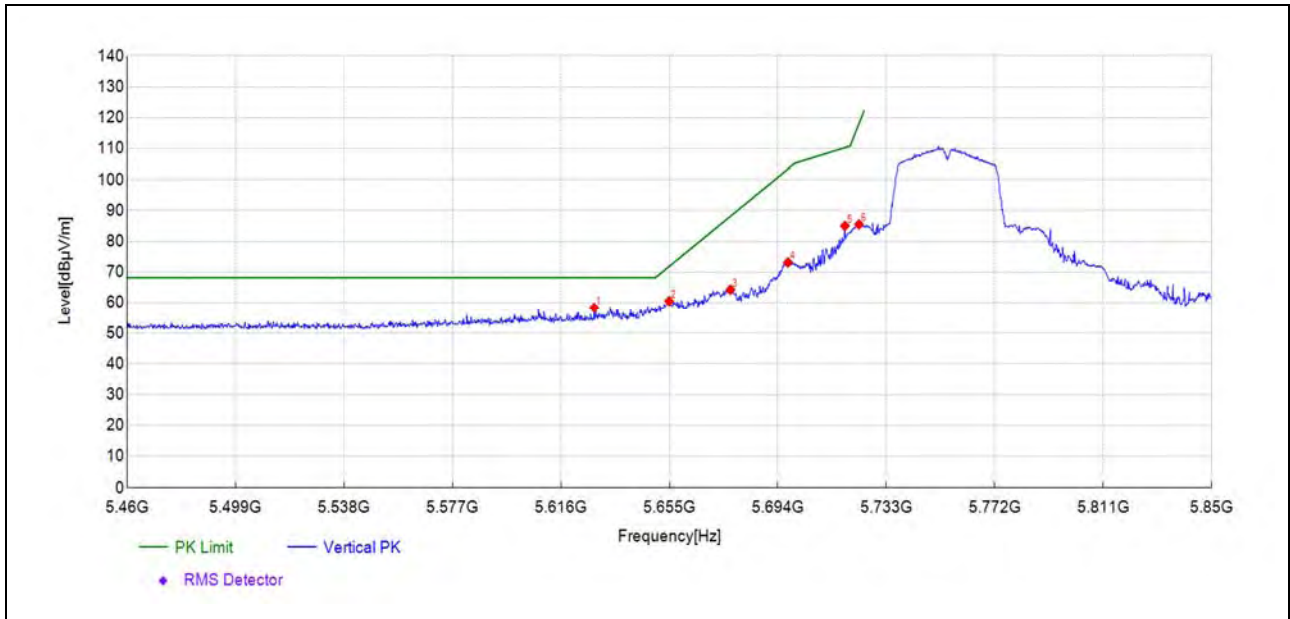
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5448.68	43.0	58.04	15.080	68.23	10.19	221	PK	Vertical	PASS
5450.13	41.9	57.00	15.070	68.23	11.23	231	PK	Vertical	PASS
5454.00	42.0	57.04	15.090	68.23	11.19	216	PK	Vertical	PASS
5455.45	29.6	44.66	15.090	54.00	9.34	281	AV	Vertical	PASS
5458.11	29.7	44.84	15.100	54.00	9.16	266	AV	Vertical	PASS
5459.56	29.6	44.71	15.110	54.00	9.29	256	AV	Vertical	PASS

Plot for Channel 134



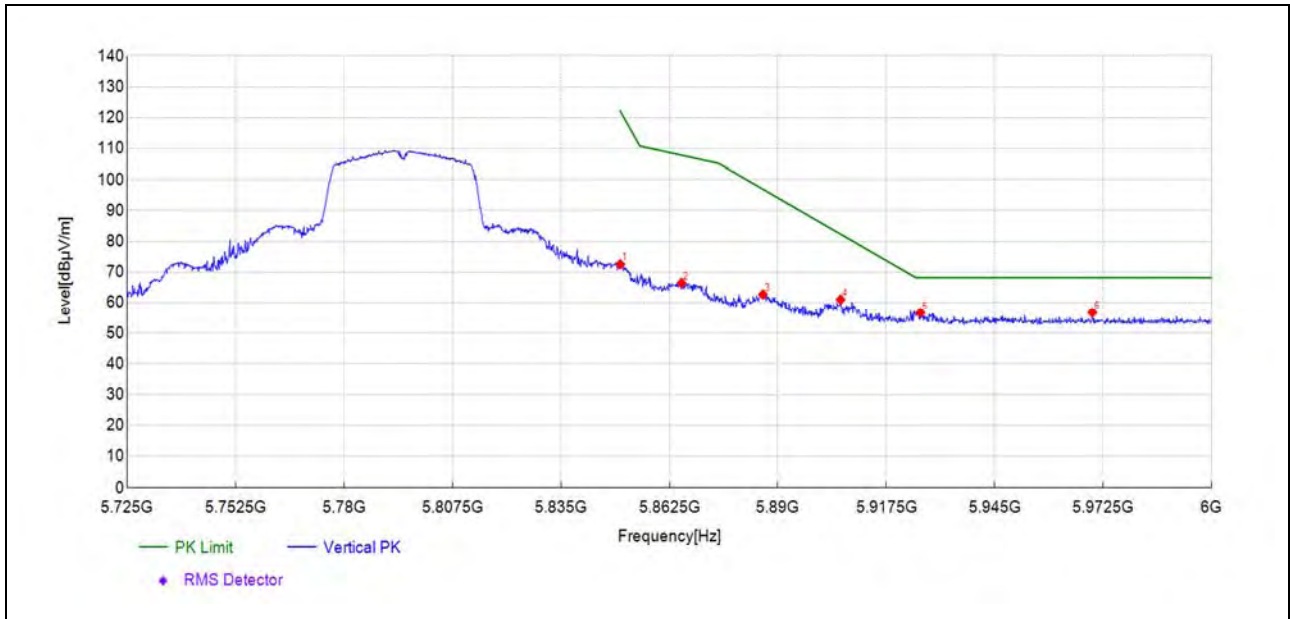
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5725.00	47.7	63.97	16.250	68.23	4.26	215	PK	Vertical	PASS
5725.54	47.7	63.92	16.250	68.23	4.31	211	PK	Vertical	PASS
5726.35	46.8	63.02	16.250	68.23	5.21	274	PK	Vertical	PASS
5726.89	44.5	60.78	16.250	68.23	7.45	265	PK	Vertical	PASS
5727.70	44.9	61.18	16.250	68.23	7.05	265	PK	Vertical	PASS
5732.57	45.4	61.70	16.260	68.23	6.53	265	PK	Vertical	PASS

Plot for Channel 151



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5627.98	42.5	58.31	15.850	68.23	9.92	273	PK	Vertical	PASS
5654.90	44.7	60.55	15.840	71.86	11.31	277	PK	Vertical	PASS
5676.95	48.3	64.30	16.020	88.17	23.87	206	PK	Vertical	PASS
5697.63	57.0	73.20	16.190	103.48	30.28	265	PK	Vertical	PASS
5718.11	68.8	85.04	16.230	110.30	25.26	298	PK	Vertical	PASS
5723.19	69.3	85.54	16.240	118.10	32.56	210	PK	Vertical	PASS

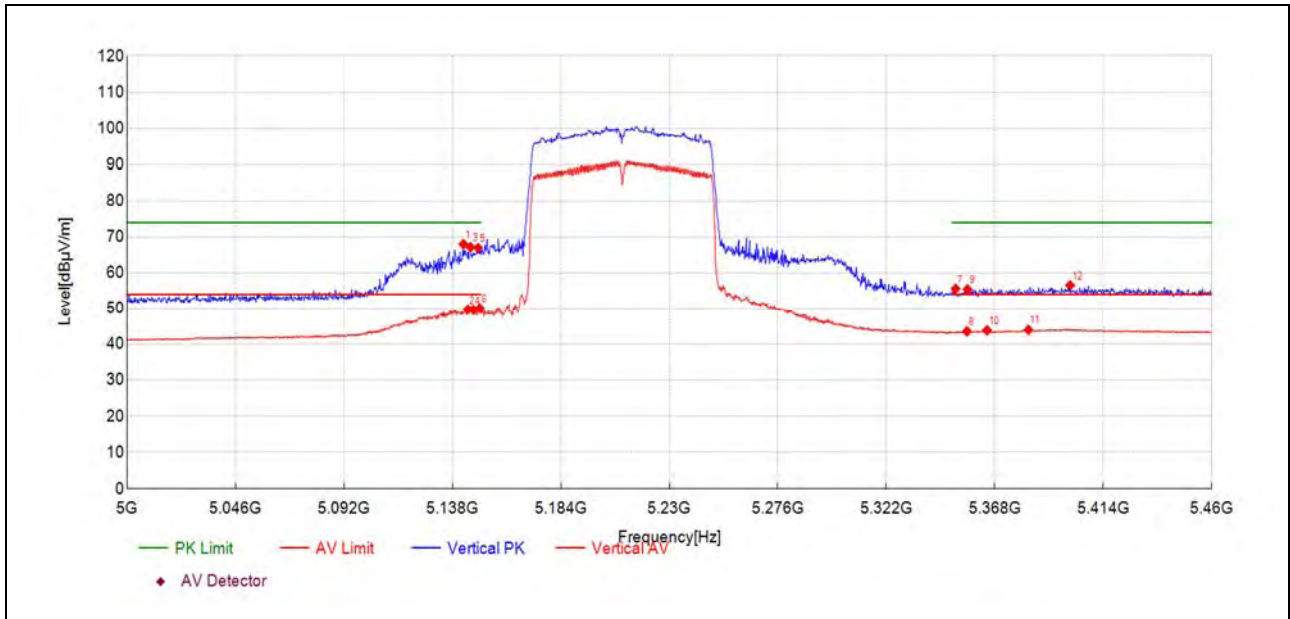
Plot for Channel 159



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5850.05	56.6	72.56	15.970	122.12	49.56	266	PK	Vertical	PASS
5865.60	50.5	66.50	16.020	107.86	41.36	270	PK	Vertical	PASS
5886.23	46.6	62.74	16.100	96.92	34.18	283	PK	Vertical	PASS
5905.90	44.9	61.05	16.200	82.36	21.31	266	PK	Vertical	PASS
5926.13	40.2	56.58	16.360	68.23	11.65	283	PK	Vertical	PASS
5969.73	39.9	56.67	16.790	68.23	11.56	300	PK	Vertical	PASS

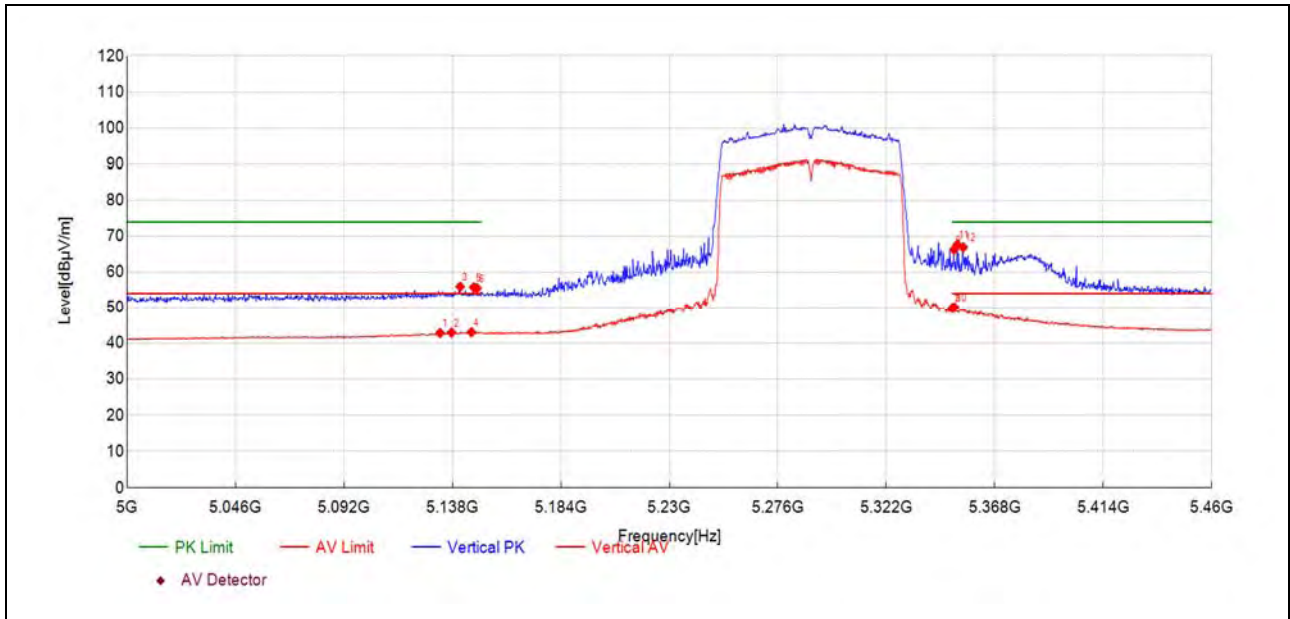
**802.11ac (VHT80) Mode**

Plot for Channel 42



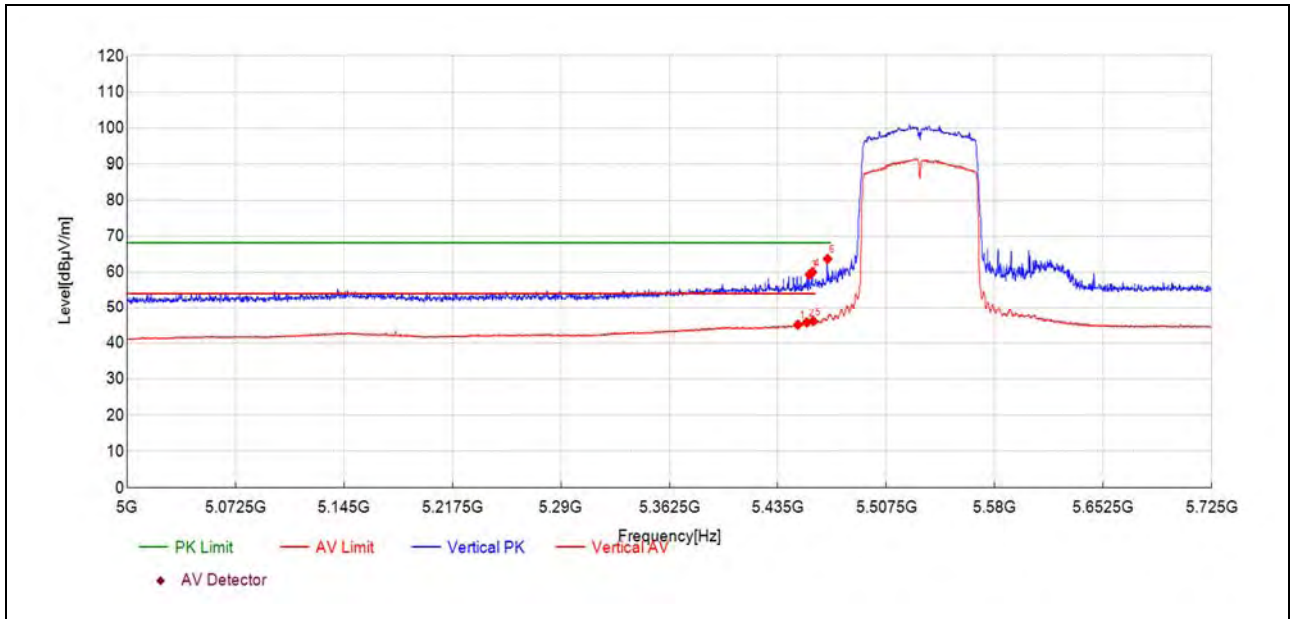
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5142.67	53.6	68.01	14.460	74.00	5.99	266	PK	Vertical	PASS
5144.51	35.3	49.78	14.490	54.00	4.22	218	AV	Vertical	PASS
5145.66	52.7	67.18	14.510	74.00	6.82	232	PK	Vertical	PASS
5146.81	35.2	49.69	14.530	54.00	4.31	223	AV	Vertical	PASS
5148.88	52.4	66.93	14.570	74.00	7.07	317	PK	Vertical	PASS
5149.57	35.6	50.14	14.580	54.00	3.86	228	AV	Vertical	PASS
5351.39	40.6	55.62	15.000	74.00	18.38	289	PK	Vertical	PASS
5356.22	28.5	43.55	15.070	54.00	10.45	247	AV	Vertical	PASS
5356.45	40.4	55.44	15.070	74.00	18.56	355	PK	Vertical	PASS
5364.73	28.6	43.83	15.190	54.00	10.17	285	AV	Vertical	PASS
5382.22	28.5	43.96	15.430	54.00	10.04	251	AV	Vertical	PASS
5399.94	40.9	56.57	15.680	74.00	17.43	147	PK	Vertical	PASS

Plot for Channel 58



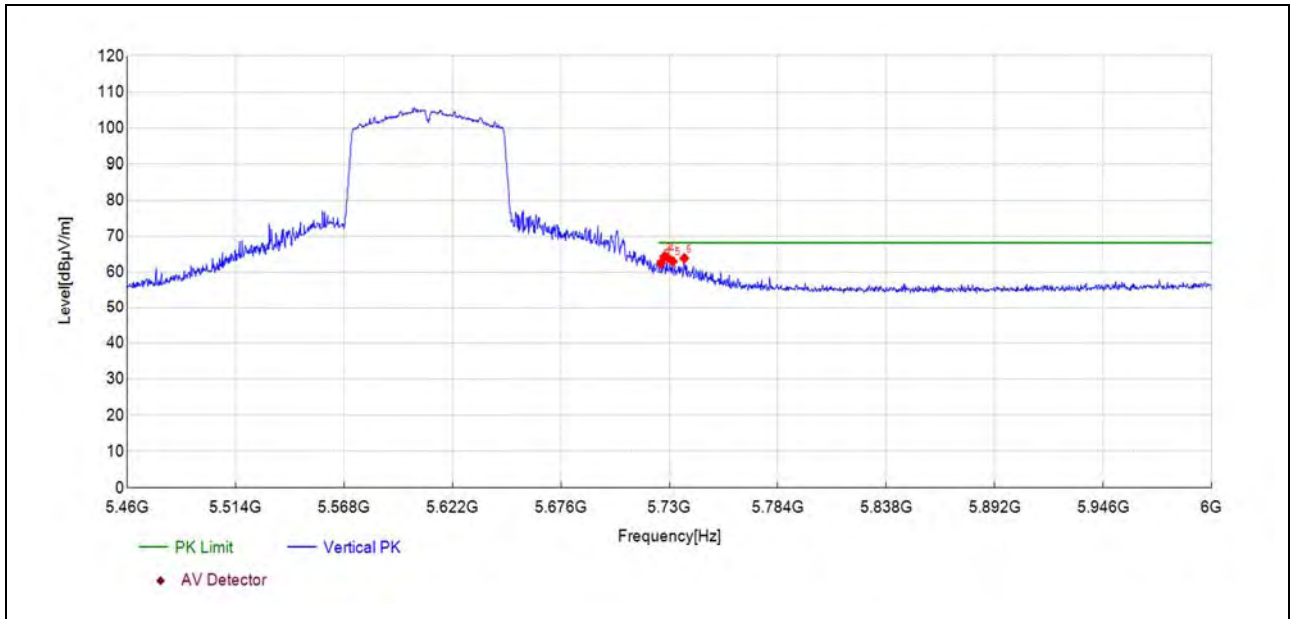
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5132.78	28.6	42.83	14.280	54.00	11.17	217	AV	Vertical	PASS
5137.61	28.6	42.94	14.370	54.00	11.06	217	AV	Vertical	PASS
5141.29	41.5	55.95	14.430	74.00	18.05	208	PK	Vertical	PASS
5146.12	28.5	43.04	14.520	54.00	10.96	222	AV	Vertical	PASS
5147.04	41.3	55.81	14.540	74.00	18.19	10	PK	Vertical	PASS
5148.42	41.0	55.52	14.560	74.00	18.48	184	PK	Vertical	PASS
5350.01	34.9	49.91	14.980	54.00	4.09	217	AV	Vertical	PASS
5350.70	35.2	50.17	14.990	54.00	3.83	222	AV	Vertical	PASS
5350.70	51.3	66.26	14.990	74.00	7.74	278	PK	Vertical	PASS
5350.93	35.1	50.08	14.990	54.00	3.92	283	AV	Vertical	PASS
5352.08	52.6	67.65	15.010	74.00	6.35	213	PK	Vertical	PASS
5354.61	51.9	66.91	15.040	74.00	7.09	213	PK	Vertical	PASS

Plot for Channel 106



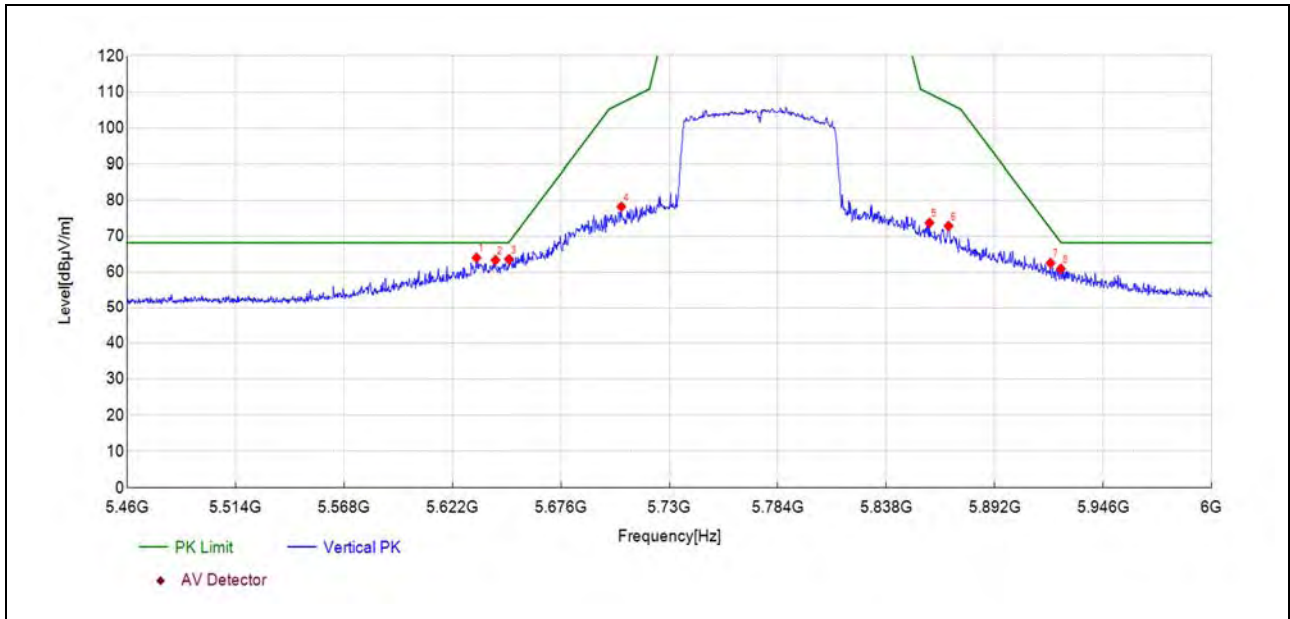
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5448.44	30.0	45.12	15.080	54.00	8.88	274	AV	Vertical	PASS
5454.24	30.7	45.76	15.090	54.00	8.24	260	AV	Vertical	PASS
5456.18	44.2	59.30	15.090	68.23	8.93	215	PK	Vertical	PASS
5458.11	44.9	59.99	15.100	68.23	8.24	270	PK	Vertical	PASS
5458.59	31.0	46.13	15.100	54.00	7.87	260	AV	Vertical	PASS
5468.26	48.6	63.70	15.140	68.23	4.53	284	PK	Vertical	PASS

Plot for Channel 122



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5725.81	46.3	62.53	16.250	68.23	5.70	266	PK	Vertical	PASS
5726.89	46.6	62.80	16.250	68.23	5.43	278	PK	Vertical	PASS
5727.43	48.0	64.28	16.260	68.23	3.95	291	PK	Vertical	PASS
5729.05	47.8	64.07	16.250	68.23	4.16	266	PK	Vertical	PASS
5731.76	46.7	63.00	16.260	68.23	5.23	283	PK	Vertical	PASS
5737.43	47.6	63.87	16.280	68.23	4.36	283	PK	Vertical	PASS

Plot for Channel 155



Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5633.97	48.2	64.00	15.830	68.23	4.23	254	PK	Vertical	PASS
5643.42	47.6	63.38	15.820	68.23	4.85	258	PK	Vertical	PASS
5650.18	47.8	63.61	15.810	68.36	4.75	279	PK	Vertical	PASS
5706.09	62.0	78.24	16.210	106.94	28.70	258	PK	Vertical	PASS
5859.53	57.8	73.76	16.010	109.56	35.80	279	PK	Vertical	PASS
5868.98	56.8	72.86	16.040	106.91	34.05	254	PK	Vertical	PASS
5919.77	46.2	62.55	16.310	72.10	9.55	258	PK	Vertical	PASS
5924.90	44.6	60.94	16.350	68.30	7.36	238	PK	Vertical	PASS



A.9. Radiated Emission

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V/m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note1: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

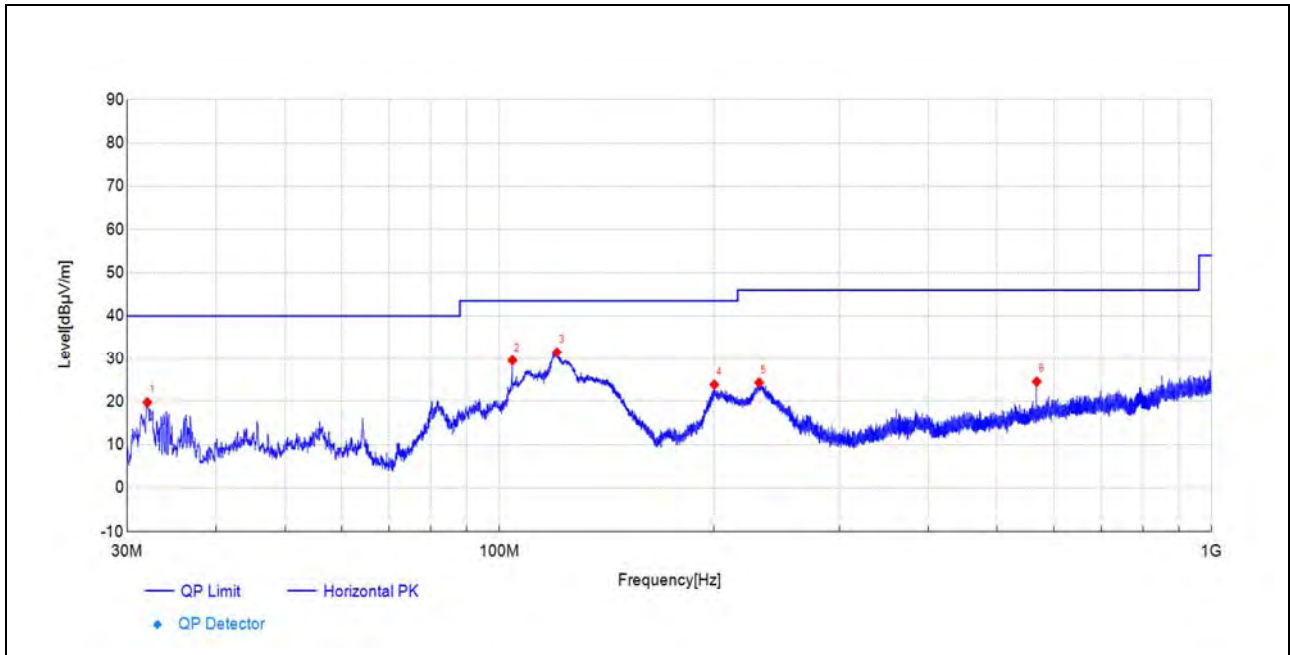
Note2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note3: For the frequency, which started from 18GHz to 40GHz harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note 4: All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.

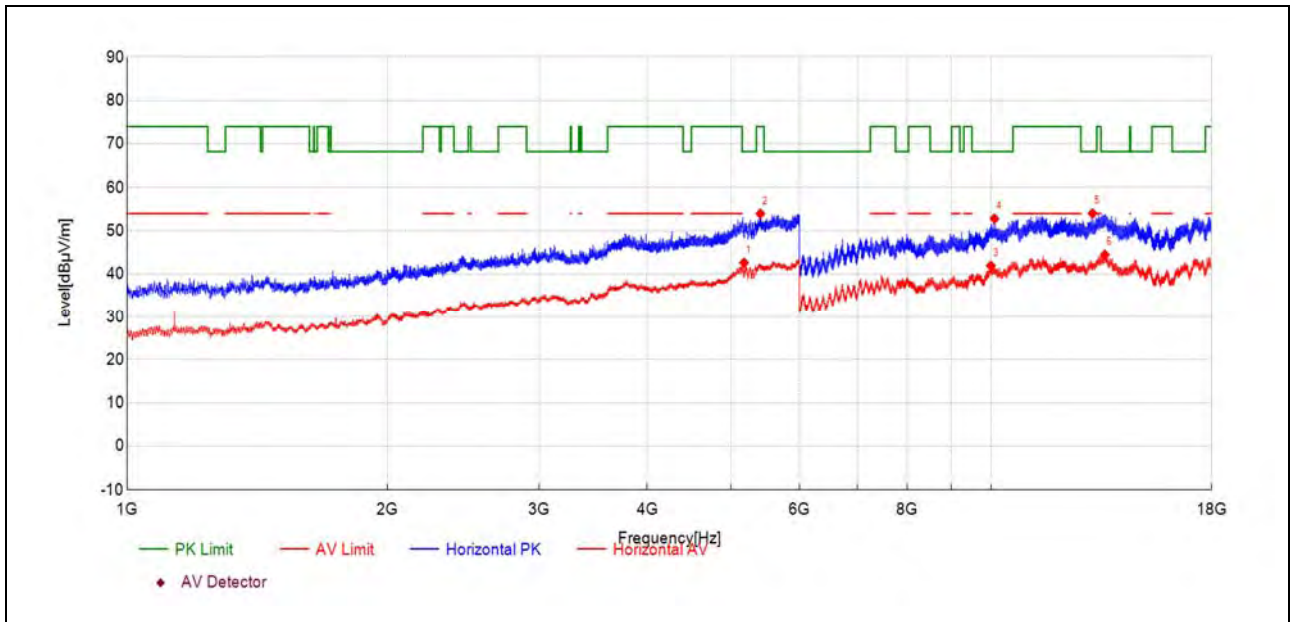
**802.11a Mode**

Plot for Channel 44



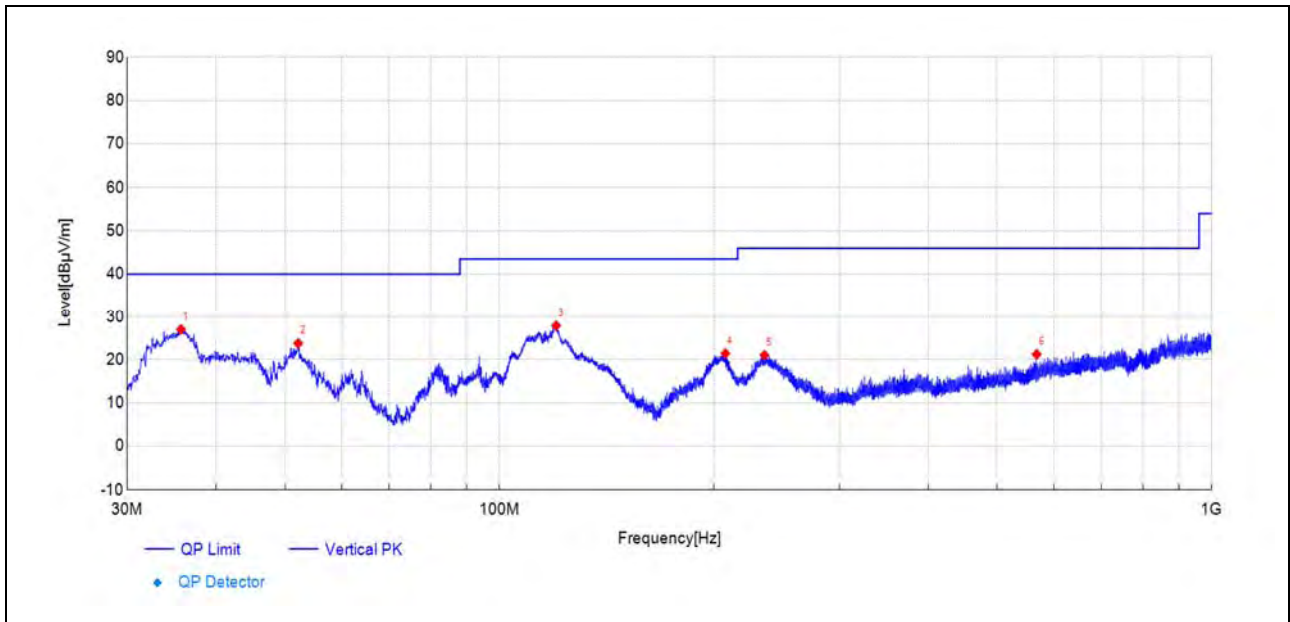
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
32.04	50.3	19.77	-30.480	40.00	20.23	322	PK	Horizontal	PASS
104.31	59.1	29.56	-29.520	43.50	13.94	317	PK	Horizontal	PASS
120.41	62.0	31.48	-30.540	43.50	12.02	128	PK	Horizontal	PASS
200.29	52.7	23.86	-28.820	43.50	19.64	354	PK	Horizontal	PASS
231.48	52.3	24.35	-27.950	46.00	21.65	251	PK	Horizontal	PASS
567.99	42.9	24.59	-18.320	46.00	21.41	322	PK	Horizontal	PASS



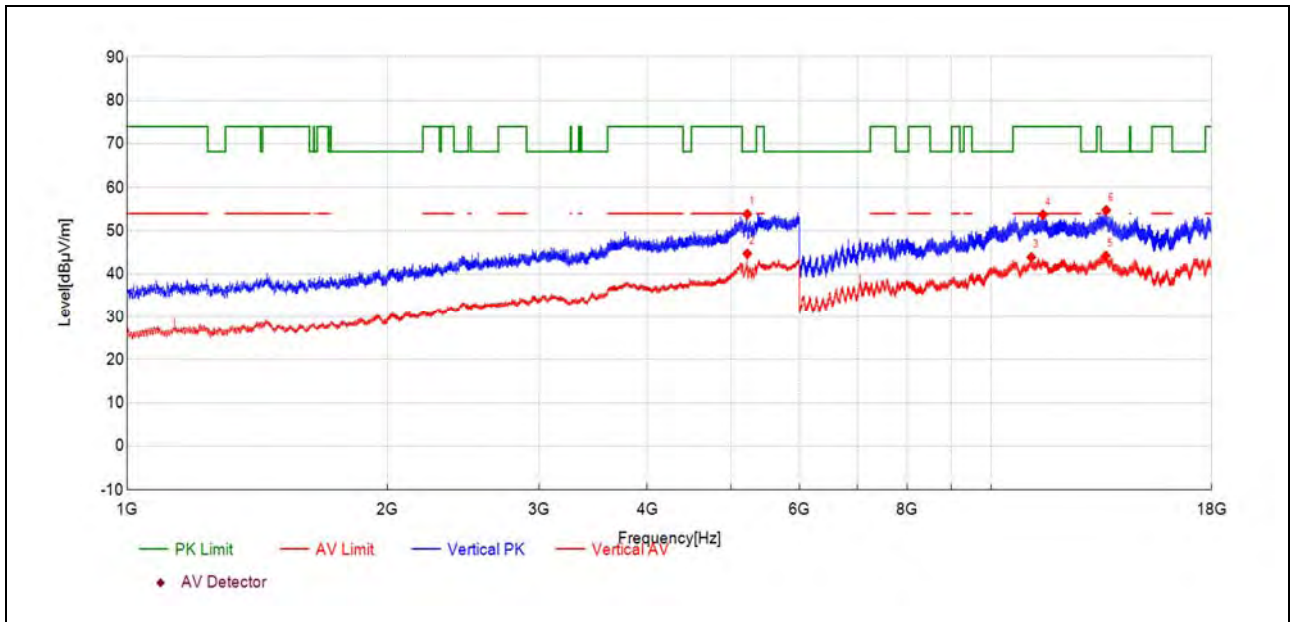
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5177.20	26.1	42.63	16.550	-	-	234	AV	Horizontal	NA
5406.76	35.9	53.98	18.100	74.00	20.02	220	PK	Horizontal	PASS
9992.32	31.7	41.93	10.250	-	-	133	AV	Horizontal	NA
10090.72	42.0	52.82	10.800	68.23	15.41	319	PK	Horizontal	PASS
13101.40	38.7	54.05	15.360	68.23	14.18	0	PK	Horizontal	PASS
13540.14	27.4	44.49	17.090	-	-	187	AV	Horizontal	NA



(Antenna Vertical, 30MHz to 1GHz)

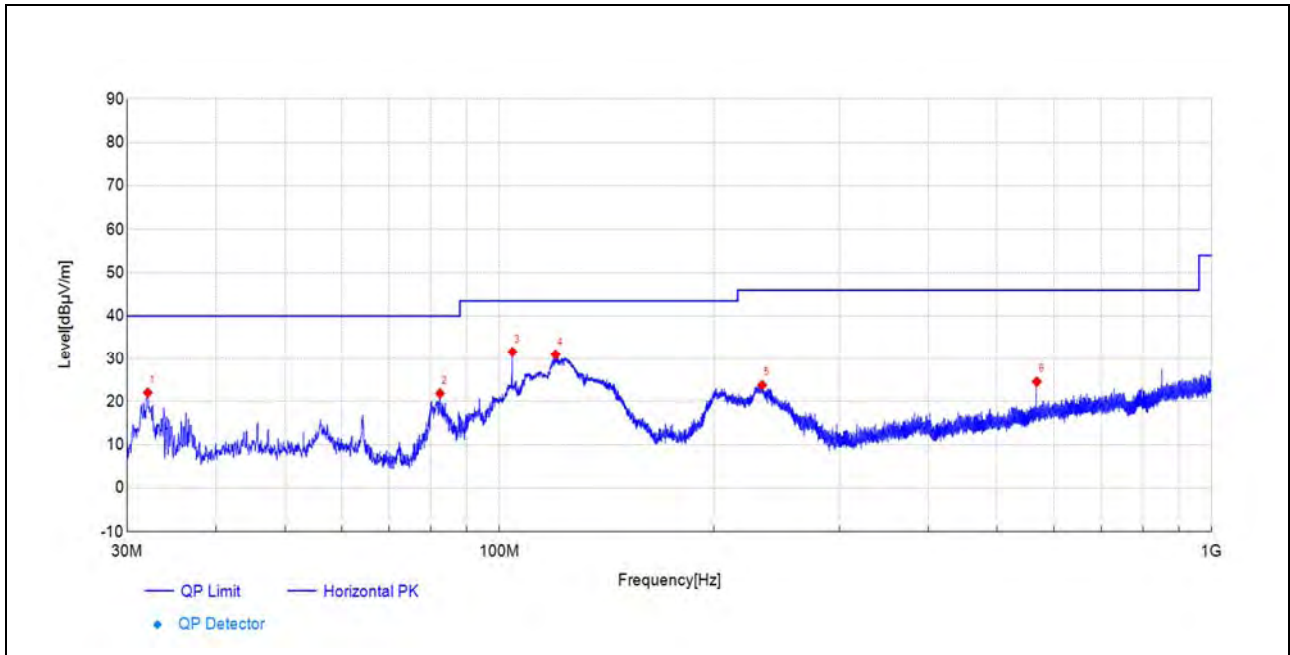
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
35.72	56.7	27.00	-29.710	40.00	13.00	11	PK	Vertical	PASS
52.17	51.7	23.76	-27.940	40.00	16.24	57	PK	Vertical	PASS
120.12	58.4	27.87	-30.510	43.50	15.63	139	PK	Vertical	PASS
207.62	50.9	21.42	-29.460	43.50	22.08	330	PK	Vertical	PASS
235.55	48.9	21.02	-27.910	46.00	24.98	16	PK	Vertical	PASS
567.99	39.6	21.23	-18.320	46.00	24.77	0	PK	Vertical	PASS



(Antenna Vertical, 1GHz to 18GHz)

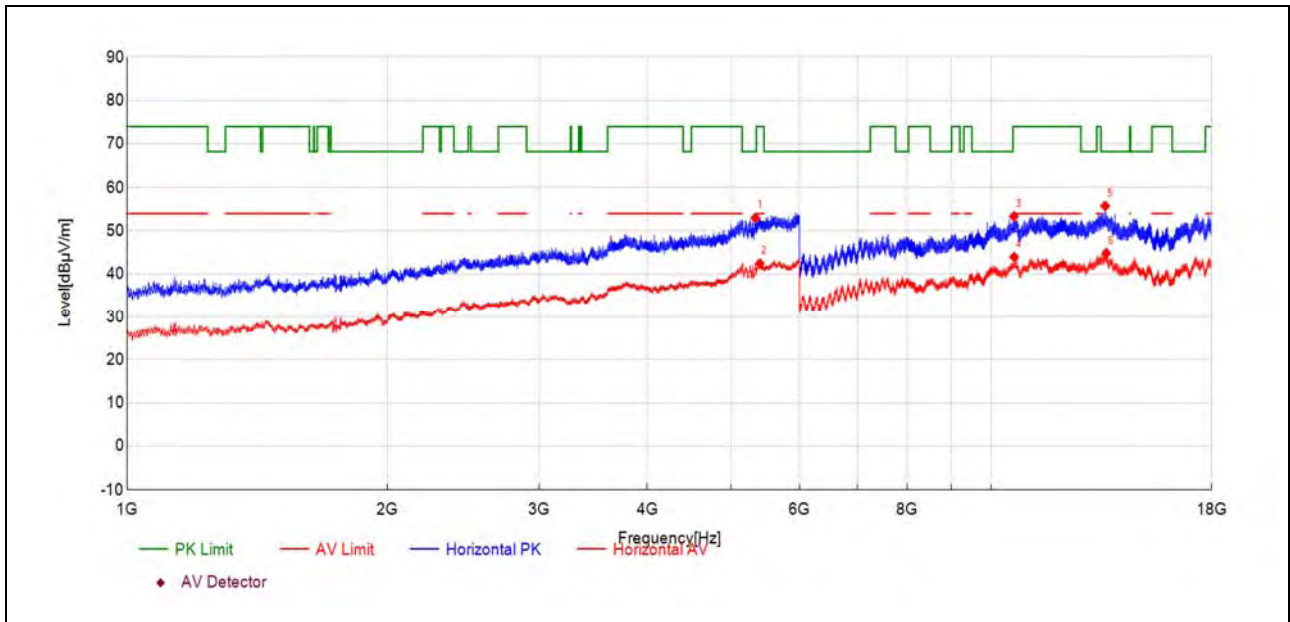
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5220.84	37.5	53.88	16.420	-	-	226	PK	Vertical	NA
5220.84	28.3	44.72	16.420	-	-	233	AV	Vertical	NA
11130.45	30.4	43.90	13.530	54.00	10.10	14	AV	Vertical	PASS
11483.74	39.5	53.76	14.250	74.00	20.24	296	PK	Vertical	PASS
13567.50	27.2	44.25	17.100	-	-	111	AV	Vertical	NA
13590.06	37.7	54.76	17.110	68.23	13.47	78	PK	Vertical	PASS

Plot for Channel 60



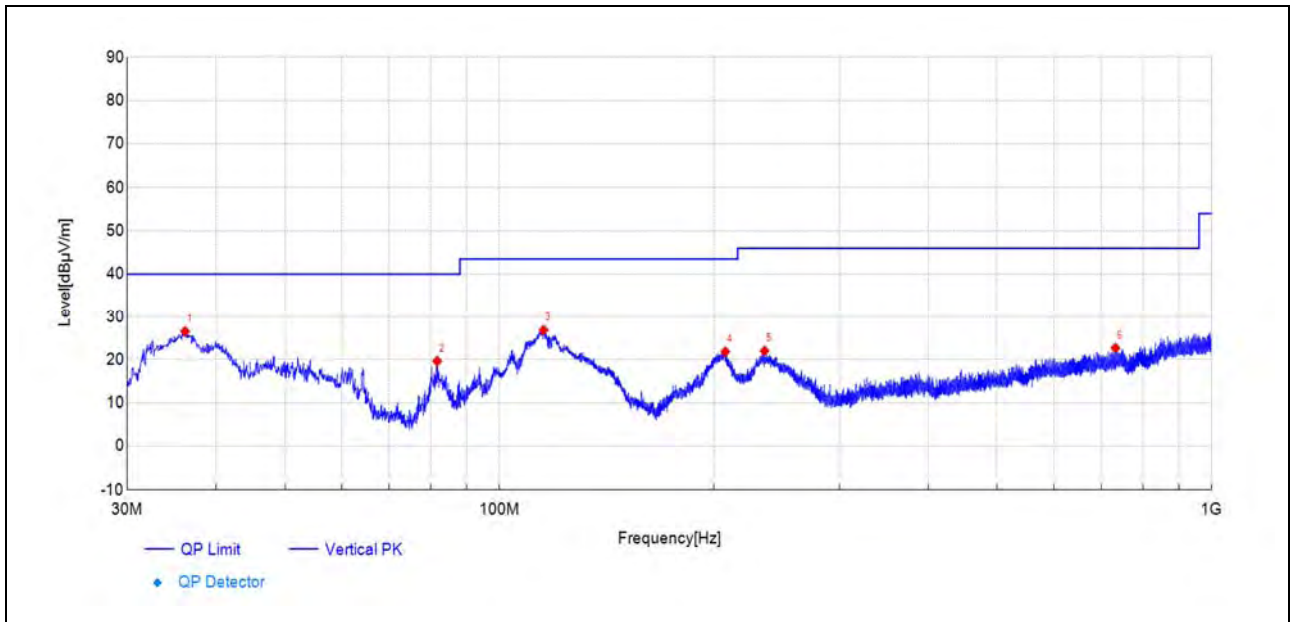
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
32.09	52.5	22.04	-30.480	40.00	17.96	31	PK	Horizontal	PASS
82.53	53.6	21.88	-31.750	40.00	18.12	309	PK	Horizontal	PASS
104.31	61.1	31.57	-29.520	43.50	11.93	335	PK	Horizontal	PASS
119.87	61.5	30.98	-30.530	43.50	12.52	128	PK	Horizontal	PASS
233.86	51.7	23.78	-27.930	46.00	22.22	283	PK	Horizontal	PASS
568.04	42.9	24.59	-18.320	46.00	21.41	320	PK	Horizontal	PASS



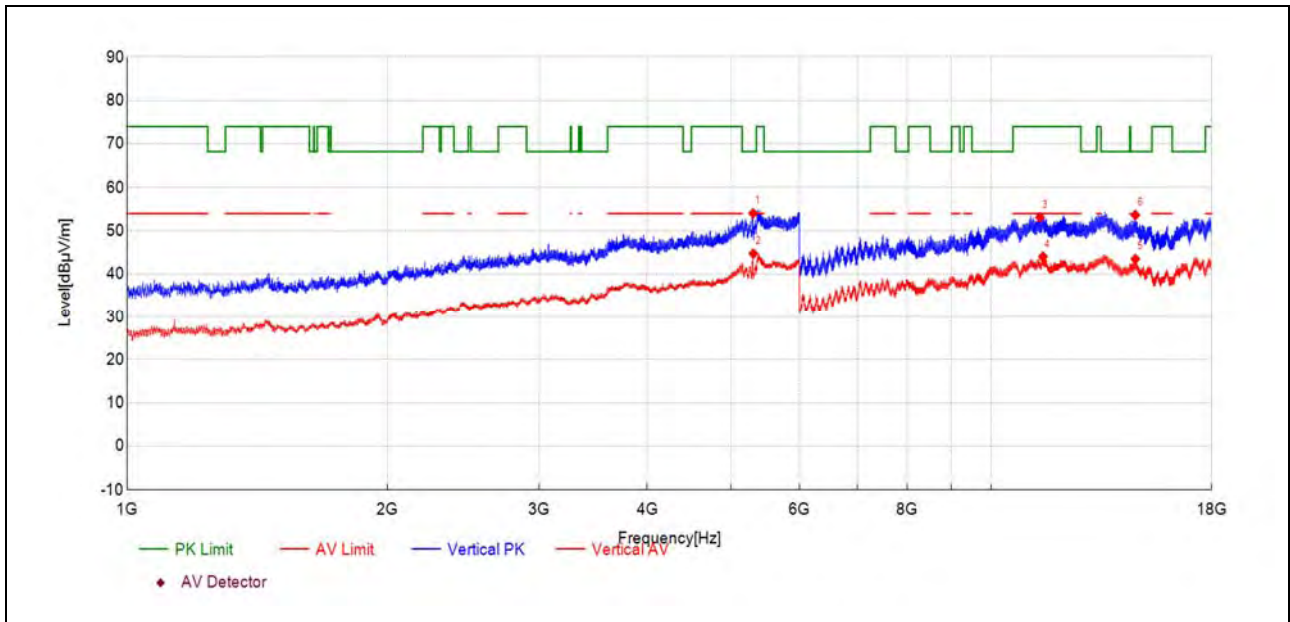
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5336.30	35.8	53.02	17.240	68.23	15.21	324	PK	Horizontal	PASS
5398.58	24.3	42.44	18.170	54.00	11.56	289	AV	Horizontal	PASS
10625.95	41.2	53.36	12.200	74.00	20.64	243	PK	Horizontal	PASS
10632.19	31.7	43.94	12.240	54.00	10.06	200	AV	Horizontal	PASS
13548.30	38.7	55.77	17.090	68.23	12.46	48	PK	Horizontal	PASS
13591.02	27.8	44.85	17.100	-	-	210	AV	Horizontal	NA



(Antenna Vertical, 30MHz to 1GHz)

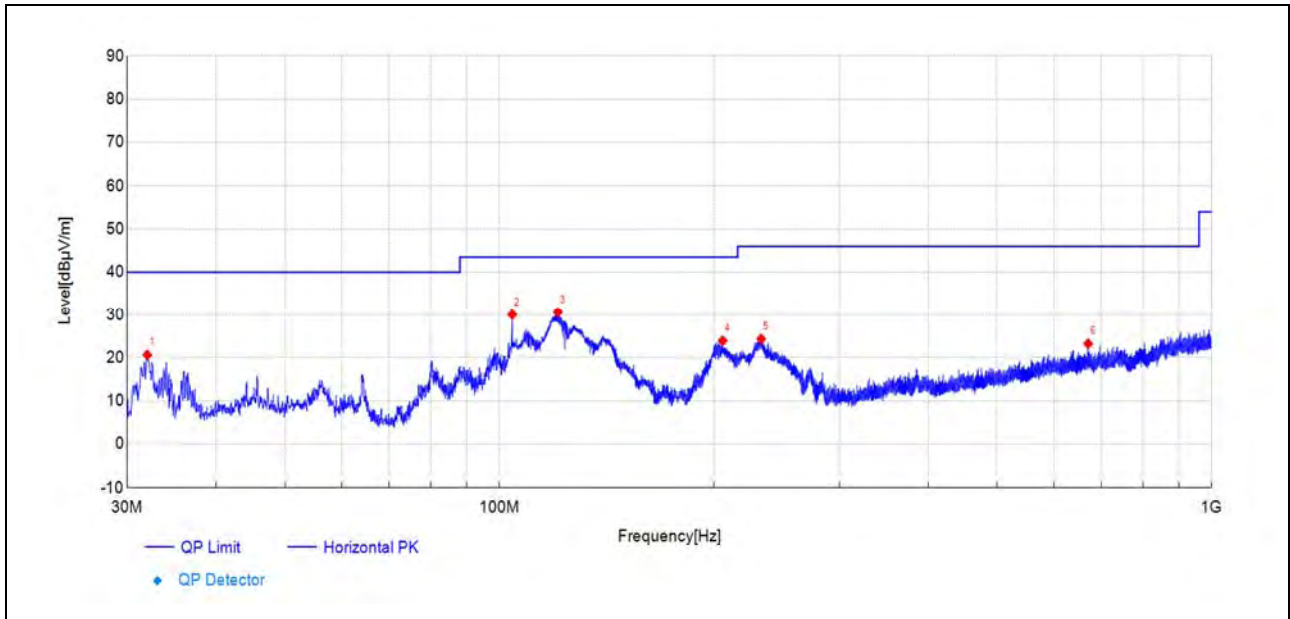
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
36.21	56.1	26.56	-29.530	40.00	13.44	358	PK	Vertical	PASS
81.75	51.5	19.65	-31.880	40.00	20.35	46	PK	Vertical	PASS
115.36	57.0	26.83	-30.150	43.50	16.67	9	PK	Vertical	PASS
207.52	51.3	21.83	-29.460	43.50	21.67	324	PK	Vertical	PASS
235.60	49.9	22.02	-27.910	46.00	23.98	9	PK	Vertical	PASS
732.51	37.9	22.67	-15.270	46.00	23.33	118	PK	Vertical	PASS



(Antenna Vertical, 1GHz to 18GHz)

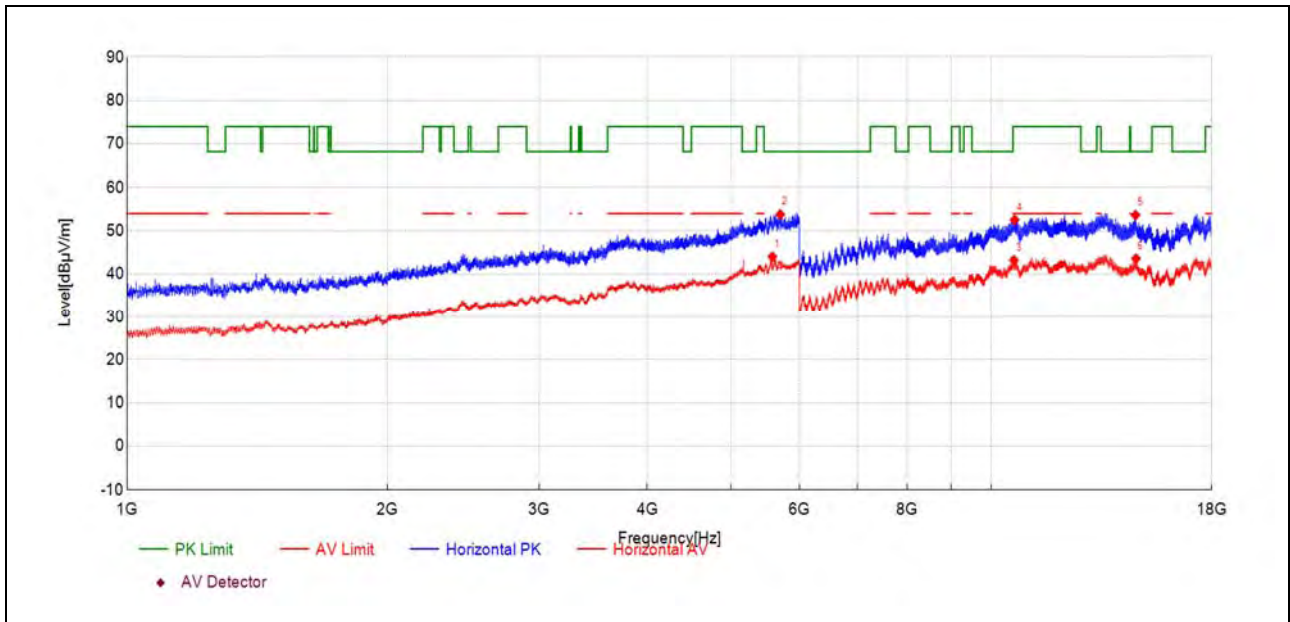
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5302.66	37.2	54.07	16.850	-	-	255	PK	Vertical	NA
5307.21	27.8	44.73	16.900	-	-	228	AV	Vertical	NA
11389.66	39.1	53.14	14.070	74.00	20.86	28	PK	Vertical	PASS
11482.30	29.8	44.04	14.250	54.00	9.96	307	AV	Vertical	PASS
14685.47	26.5	43.49	16.950	-	-	265	AV	Vertical	NA
14685.95	36.7	53.66	16.950	68.23	14.57	169	PK	Vertical	PASS

Plot for Channel 120



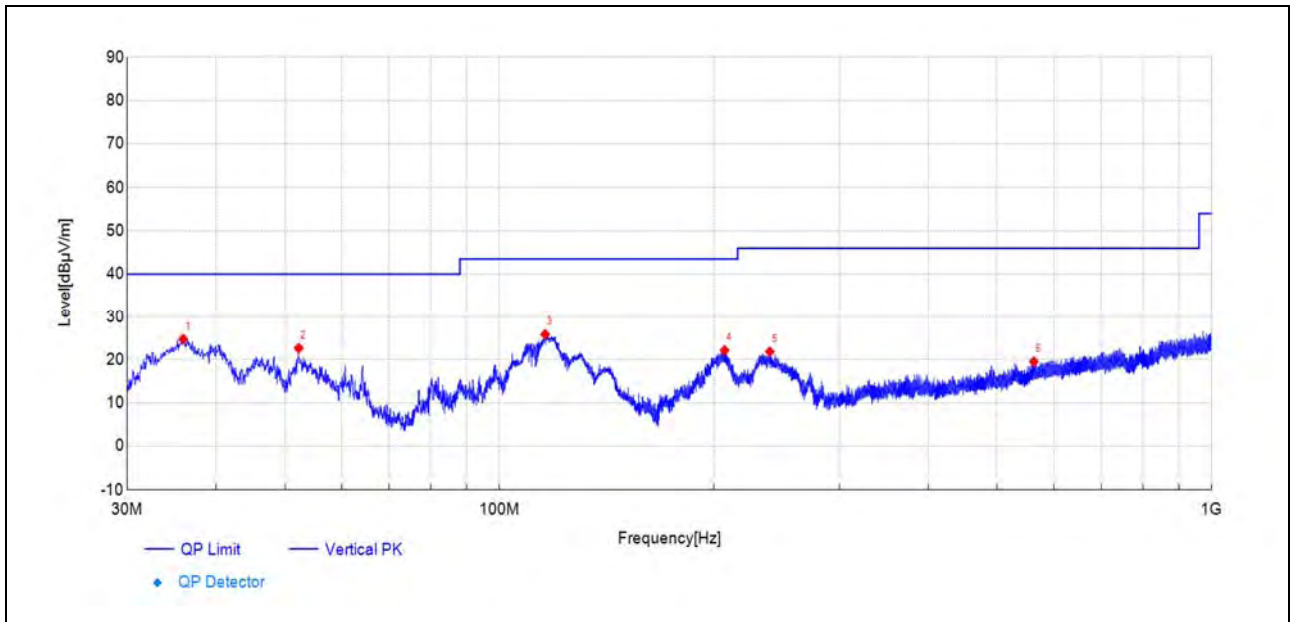
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
32.04	51.1	20.63	-30.480	40.00	19.37	294	PK	Horizontal	PASS
104.26	59.5	30.00	-29.540	43.50	13.50	129	PK	Horizontal	PASS
120.80	61.2	30.57	-30.580	43.50	12.93	134	PK	Horizontal	PASS
205.82	53.3	23.89	-29.390	43.50	19.61	351	PK	Horizontal	PASS
233.08	52.3	24.32	-27.930	46.00	21.68	284	PK	Horizontal	PASS
670.81	39.5	23.20	-16.270	46.00	22.80	300	PK	Horizontal	PASS



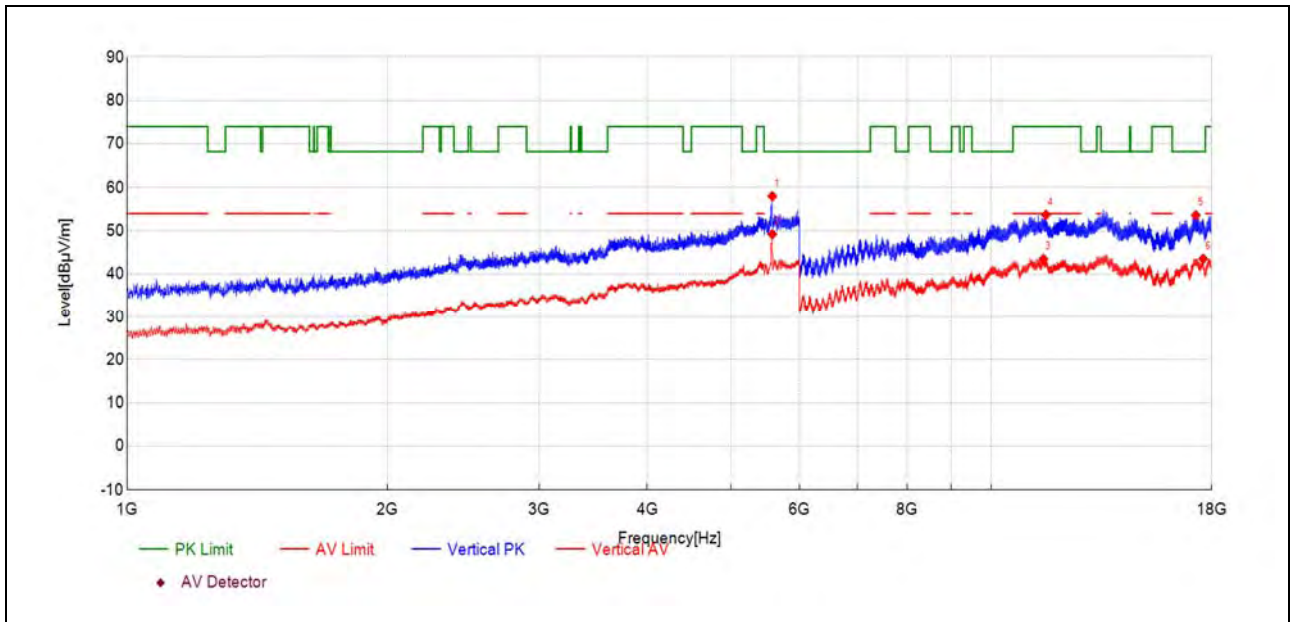
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5582.69	26.3	44.02	17.770	-	-	79	AV	Horizontal	NA
5701.34	35.3	53.82	18.570	68.23	14.41	298	PK	Horizontal	PASS
10625.47	31.0	43.23	12.210	54.00	10.77	307	AV	Horizontal	PASS
10646.59	40.3	52.57	12.290	74.00	21.43	9	PK	Horizontal	PASS
14695.55	36.7	53.66	17.000	68.23	14.57	178	PK	Horizontal	PASS
14712.35	26.8	43.60	16.820	-	-	2	AV	Horizontal	NA



(Antenna Vertical, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
35.97	54.4	24.76	-29.600	40.00	15.24	61	PK	Vertical	PASS
52.26	50.6	22.63	-27.920	40.00	17.37	71	PK	Vertical	PASS
115.90	55.9	25.85	-30.040	43.50	17.65	9	PK	Vertical	PASS
207.08	51.6	22.15	-29.440	43.50	21.35	313	PK	Vertical	PASS
239.68	49.7	21.83	-27.880	46.00	24.17	9	PK	Vertical	PASS
562.75	38.0	19.53	-18.490	46.00	26.47	241	PK	Vertical	PASS

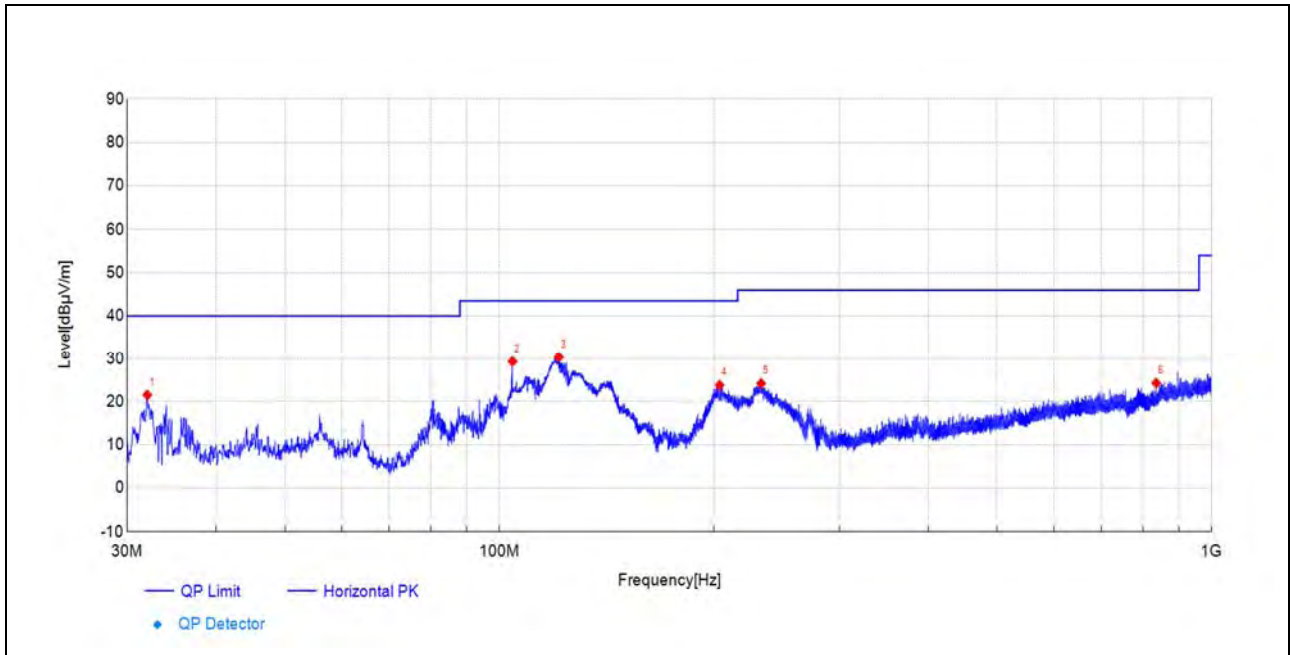


(Antenna Vertical, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5581.78	40.3	58.03	17.750	68.23	10.20	234	PK	Vertical	PASS
5582.23	31.5	49.25	17.760	-	-	234	AV	Vertical	NA
11497.66	29.2	43.49	14.270	54.00	10.51	201	AV	Vertical	PASS
11572.06	39.4	53.72	14.280	74.00	20.28	179	PK	Vertical	PASS
17252.13	38.1	53.61	15.520	68.23	14.62	51	PK	Vertical	PASS
17594.38	26.1	43.54	17.470	-	-	201	AV	Vertical	NA

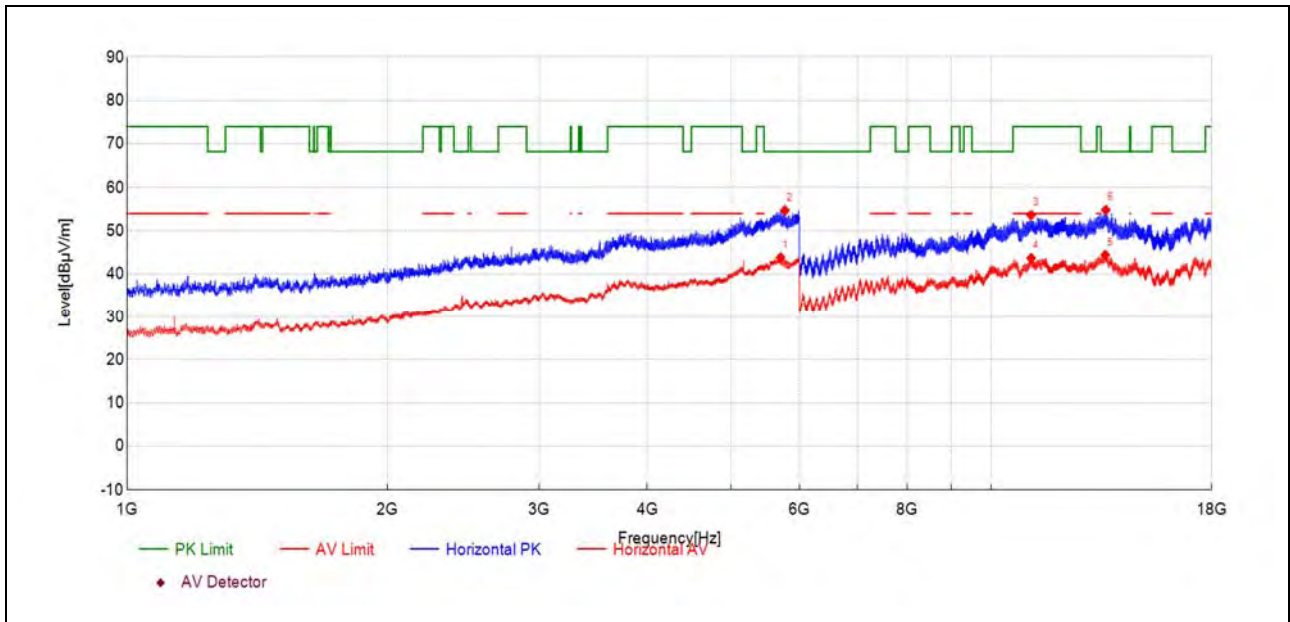


Plot for Channel 157



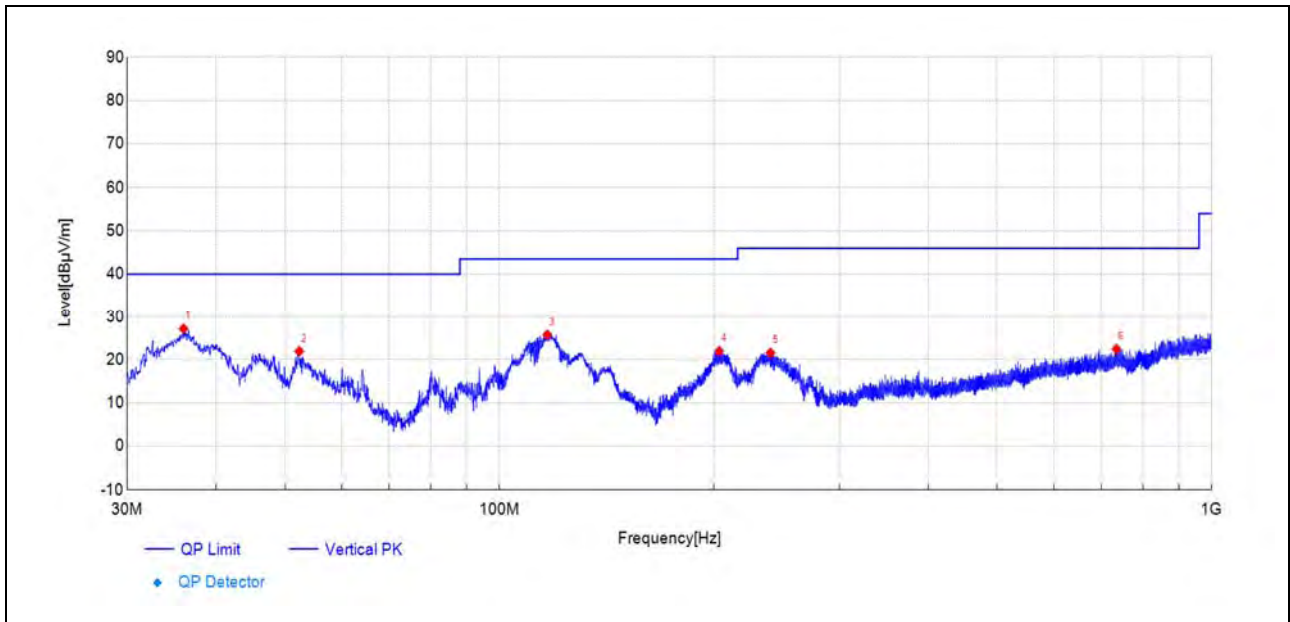
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
32.04	52.0	21.50	-30.480	40.00	18.50	197	PK	Horizontal	PASS
104.35	58.8	29.31	-29.490	43.50	14.19	130	PK	Horizontal	PASS
121.14	61.0	30.34	-30.680	43.50	13.16	140	PK	Horizontal	PASS
203.74	53.0	23.77	-29.220	43.50	19.73	351	PK	Horizontal	PASS
233.03	52.1	24.18	-27.930	46.00	21.82	290	PK	Horizontal	PASS
835.72	38.1	24.29	-13.790	46.00	21.71	171	PK	Horizontal	PASS



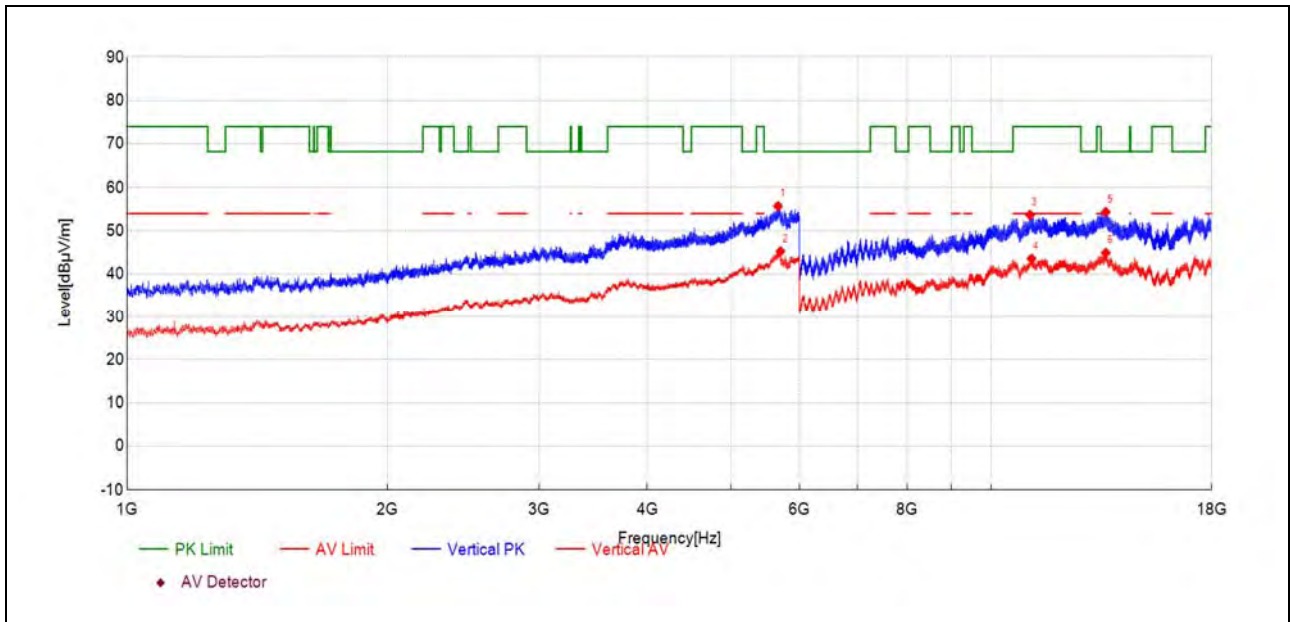
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5705.88	24.4	43.84	19.480	-	-	17	AV	Horizontal	NA
5772.71	35.6	54.73	19.150	68.23	13.50	100	PK	Horizontal	PASS
11124.20	40.1	53.67	13.530	74.00	20.33	233	PK	Horizontal	PASS
11125.65	30.2	43.71	13.530	54.00	10.29	244	AV	Horizontal	PASS
13555.02	27.4	44.44	17.090	-	-	146	AV	Horizontal	NA
13572.78	37.7	54.83	17.100	68.23	13.40	146	PK	Horizontal	PASS



(Antenna Vertical, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
36.01	56.7	27.15	-29.590	40.00	12.85	143	PK	Vertical	PASS
52.36	49.8	21.92	-27.900	40.00	18.08	56	PK	Vertical	PASS
116.72	56.1	25.75	-30.310	43.50	17.75	9	PK	Vertical	PASS
203.44	51.1	21.94	-29.180	43.50	21.56	328	PK	Vertical	PASS
240.21	49.4	21.56	-27.850	46.00	24.44	9	PK	Vertical	PASS
734.79	37.3	22.43	-14.890	46.00	23.57	178	PK	Vertical	PASS



(Antenna Vertical, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
5666.79	36.7	55.71	19.020	68.23	12.52	228	PK	Vertical	PASS
5704.06	25.8	45.26	19.480	-	-	276	AV	Vertical	NA
11089.64	40.2	53.70	13.460	74.00	20.30	28	PK	Vertical	PASS
11136.21	30.1	43.57	13.520	54.00	10.43	351	AV	Vertical	PASS
13571.34	37.3	54.36	17.100	68.23	13.87	210	PK	Vertical	PASS
13573.74	27.8	44.92	17.090	-	-	48	AV	Vertical	NA





Notes

1. The report shall have report stamp or our company stamp.
2. The report shall be invalid without all the signatures of the editor and approver.
3. The report shall not be changed.
4. Any objections must be raised to Morlab within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.
5. Conformity declaration:
 - ☒ Morlab issues a statement of conformity based on the corresponding standards (default)
 - ☐ Morlab issues a statement of conformity based on the applicant requirement
6. Use of uncertainty of measurement for decisions on conformity (decision rule):

No decision rule is specified by the testing standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule).

————— END OF REPORT —————

