

PSD NVNT n20 2462MHz Ant1 MIMO



PSD NVNT n20 2462MHz Ant2 MIMO



PSD NVNT n40 2422MHz Ant1 SISO



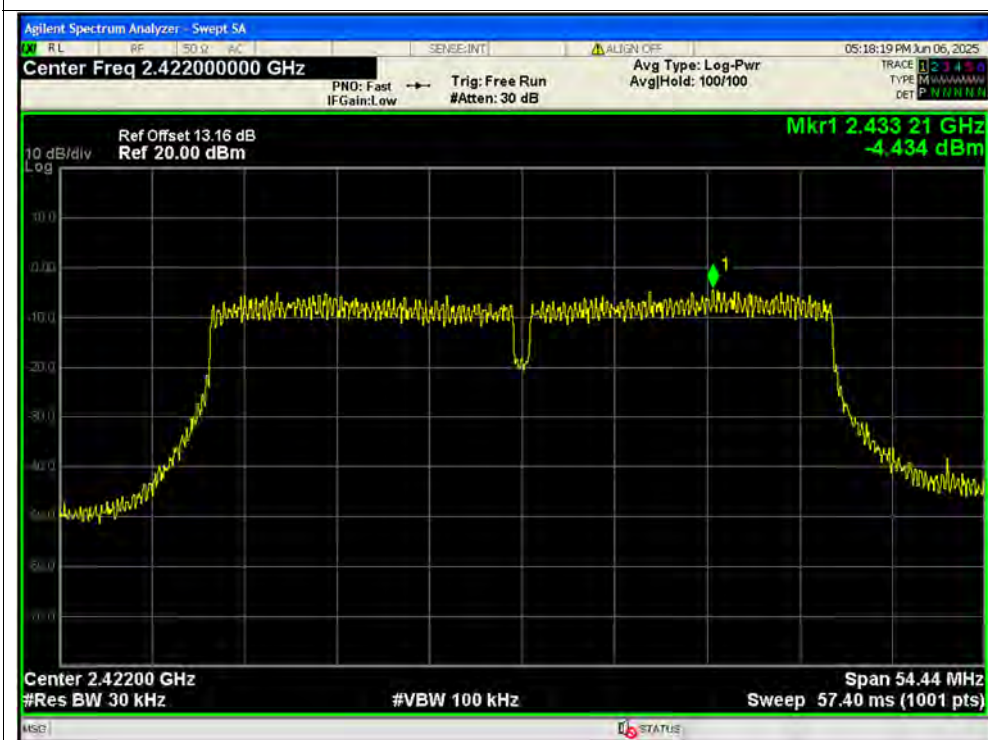
PSD NVNT n40 2437MHz Ant1 SISO



PSD NVNT n40 2452MHz Ant1 SISO



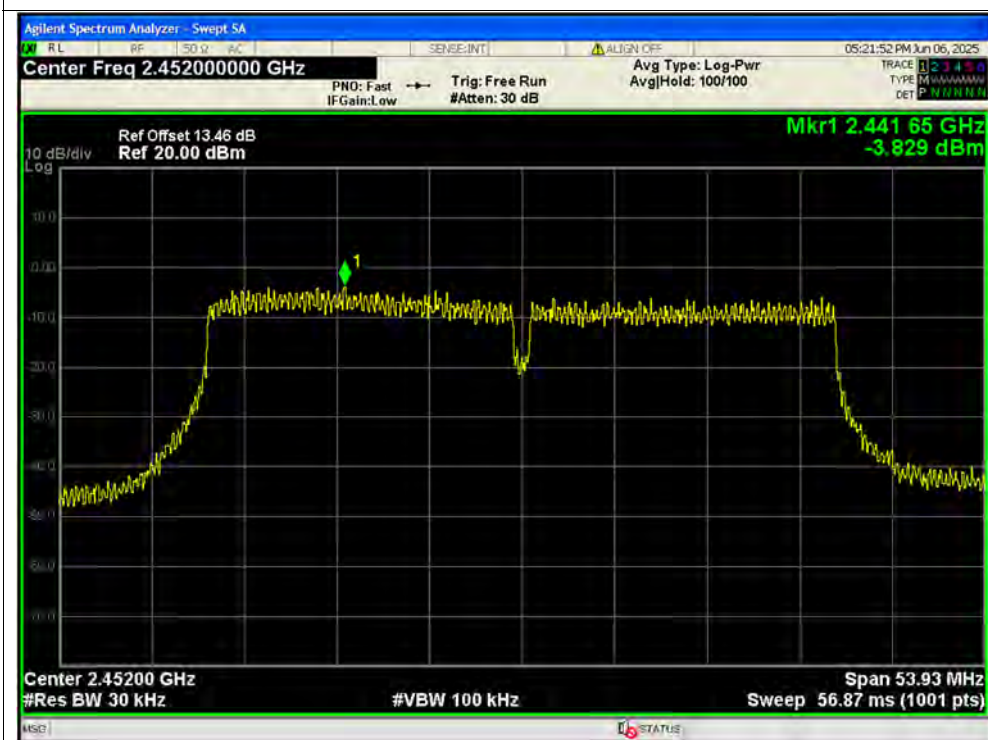
PSD NVNT n40 2422MHz Ant2 SISO



PSD NVNT n40 2437MHz Ant2 SISO



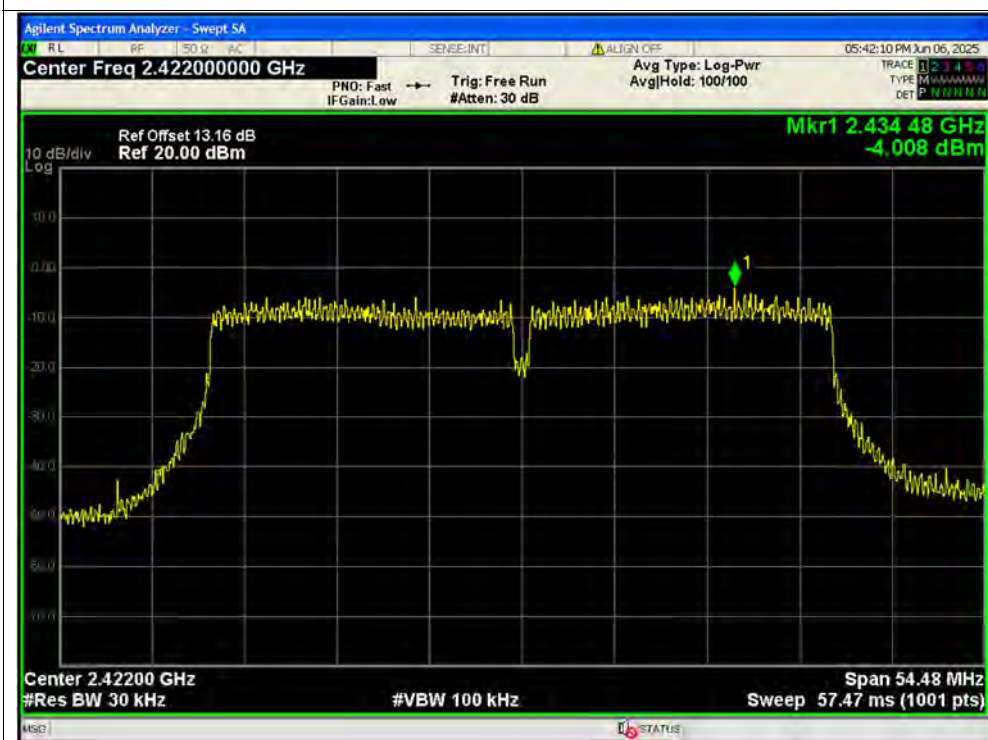
PSD NVNT n40 2452MHz Ant2 SISO



PSD NVNT n40 2422MHz Ant1 MIMO



PSD NVNT n40 2422MHz Ant2 MIMO



PSD NVNT n40 2437MHz Ant1 MIMO



PSD NVNT n40 2437MHz Ant2 MIMO



PSD NVNT n40 2452MHz Ant1 MIMO



PSD NVNT n40 2452MHz Ant2 MIMO

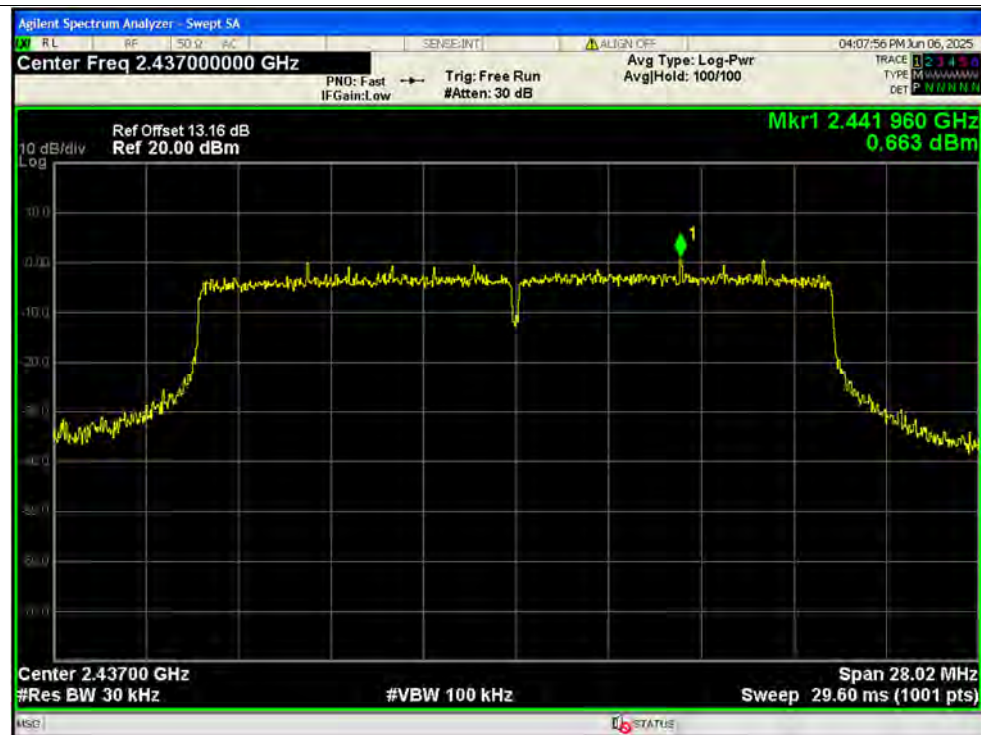




PSD NVNT ax20 2412MHz Ant1 SISO



PSD NVNT ax20 2437MHz Ant1 SISO



PSD NVNT ax20 2462MHz Ant1 SISO



PSD NVNT ax20 2412MHz Ant2 SISO





PSD NVNT ax20 2437MHz Ant2 SISO



PSD NVNT ax20 2462MHz Ant2 SISO



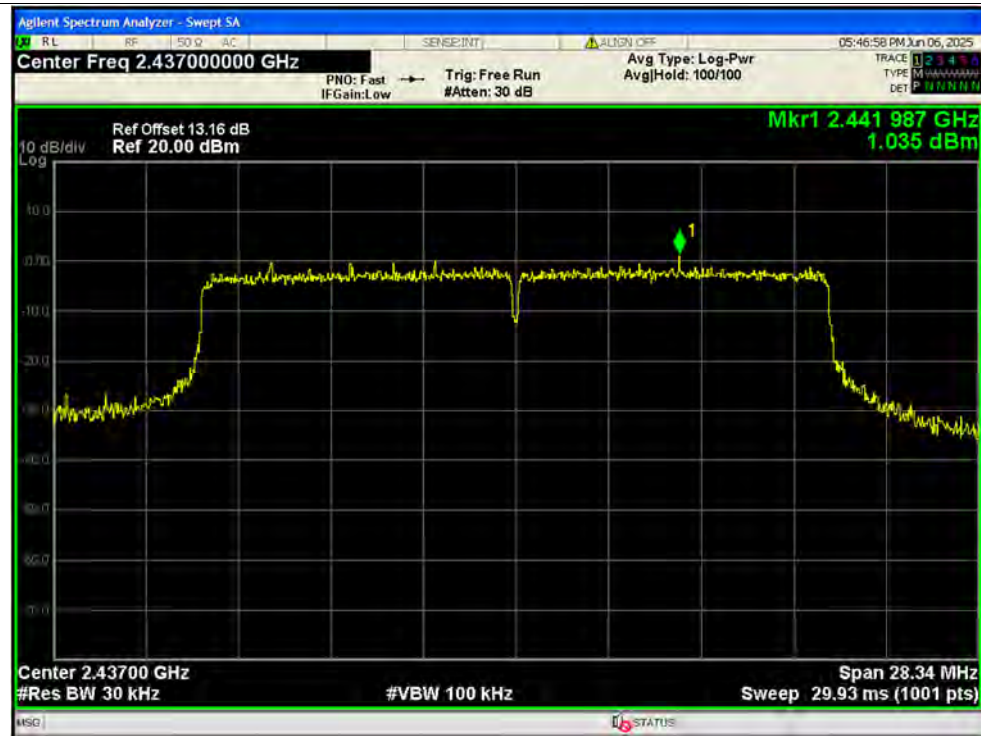
PSD NVNT ax20 2412MHz Ant1 MIMO



PSD NVNT ax20 2412MHz Ant2 MIMO



PSD NVNT ax20 2437MHz Ant1 MIMO



PSD NVNT ax20 2437MHz Ant2 MIMO





PSD NVNT ax20 2462MHz Ant1 MIMO



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PSD NVNT ax40 2452MHz Ant1 MIMO



PSD NVNT ax40 2452MHz Ant2 MIMO





A.8. 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+Data cable+WIFI TX

Test voltage: AC 120V/60Hz

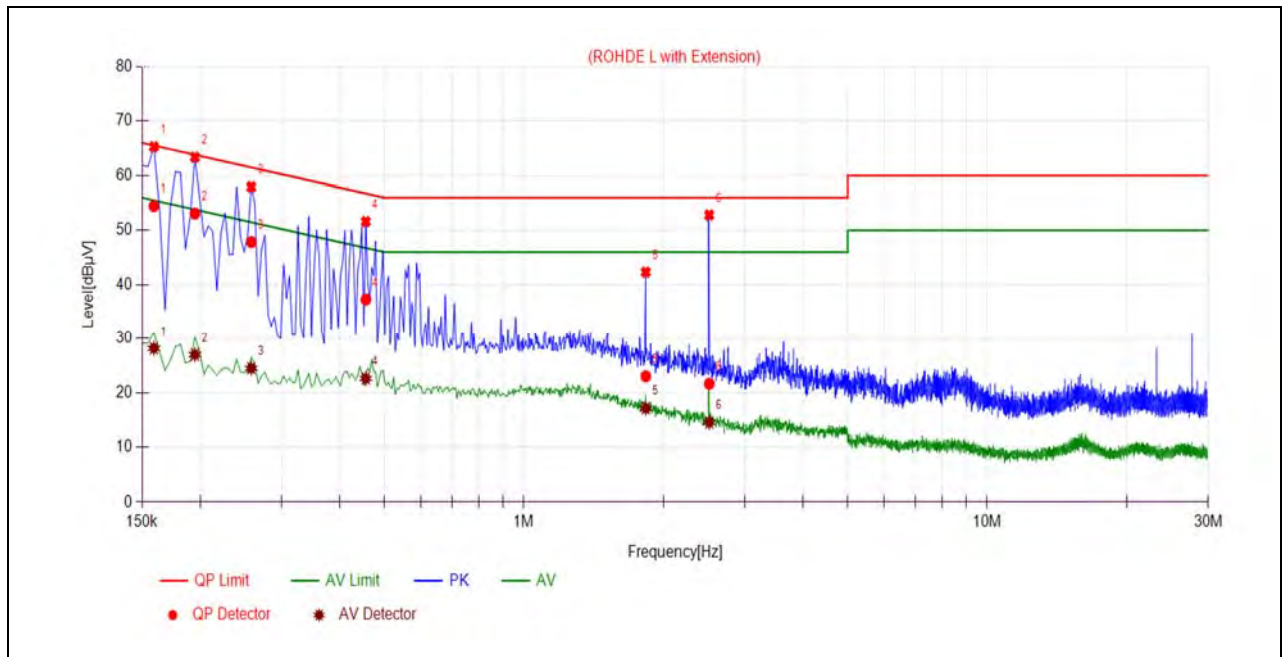
The measurement results are obtained as below:

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

U_R : Receiver Reading

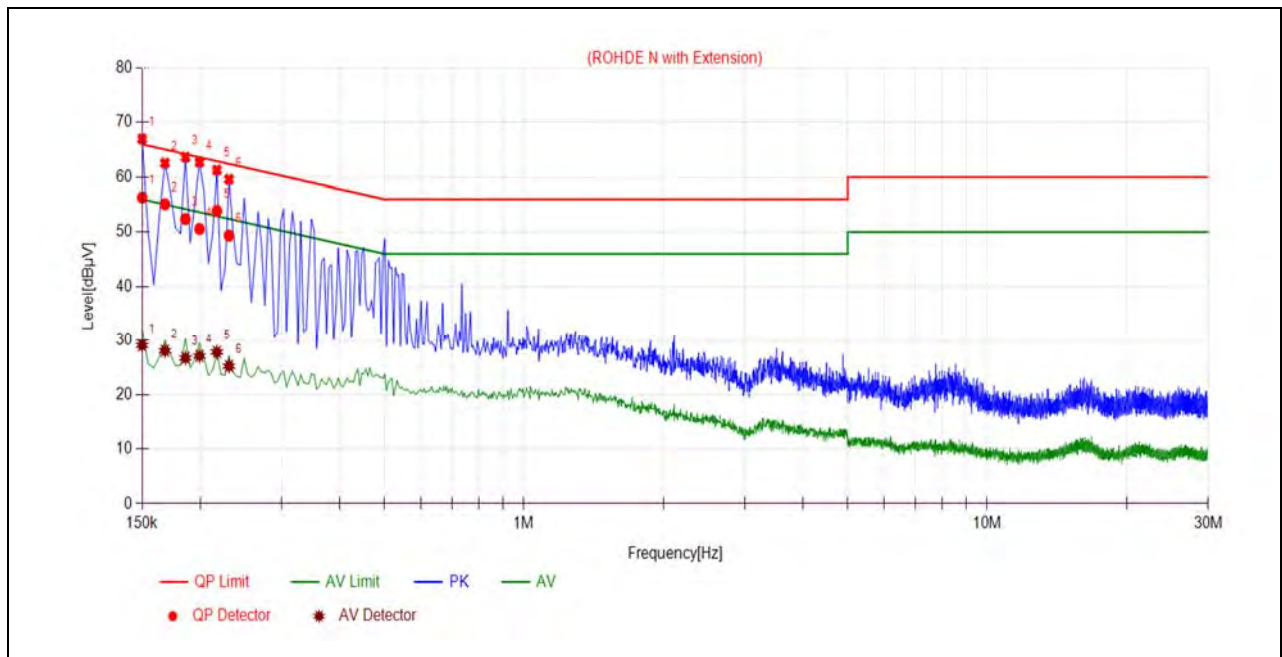
A_{Factor} : Voltage division factor of LISN

B. Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1590	54.47	28.15	65.52	55.52	Line	PASS
2	0.1950	53.09	26.98	63.82	53.82		PASS
3	0.2580	47.85	24.47	61.49	51.49		PASS
4	0.4560	37.27	22.60	56.76	46.76		PASS
5	1.8331	23.00	17.12	56.00	46.00		PASS
6	2.5126	21.61	14.53	56.00	46.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1500	56.34	29.07	66.00	56.00	Neutral	PASS
2	0.1680	55.10	28.07	65.06	55.06		PASS
3	0.1860	52.38	26.73	64.21	54.21		PASS
4	0.1995	50.59	27.10	63.63	53.63		PASS
5	0.2175	53.90	27.82	62.91	52.91		PASS
6	0.2310	49.36	25.22	62.41	52.41		PASS

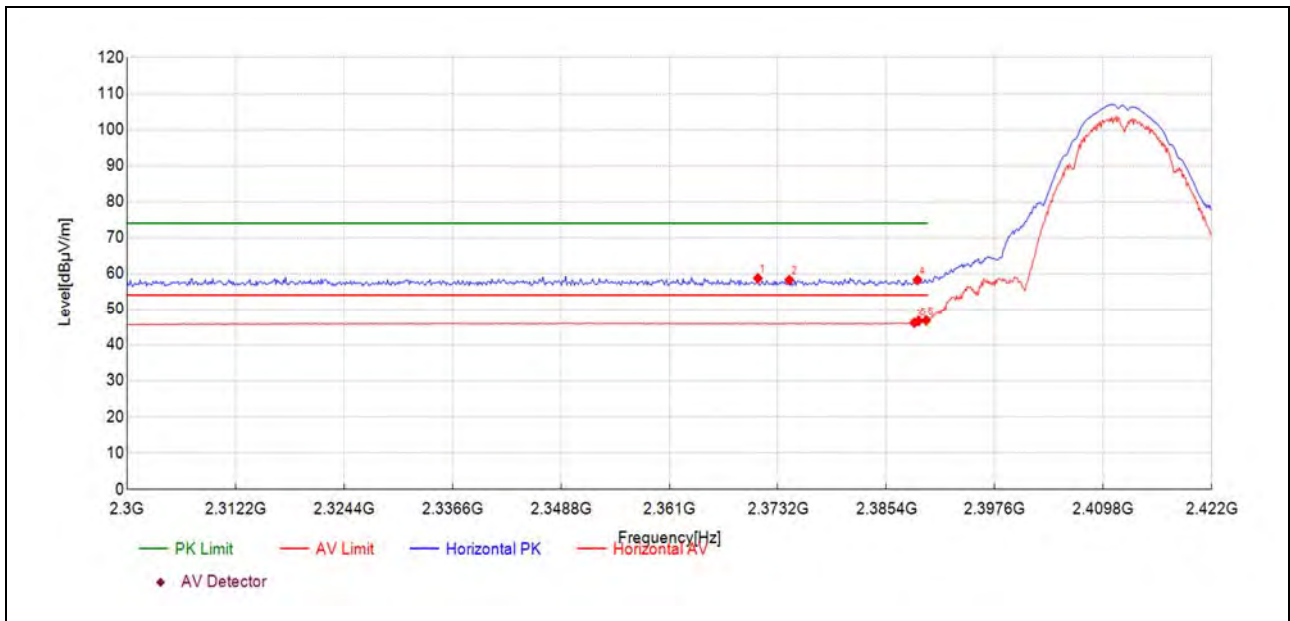
A.9. Restricted Frequency Bands

Note 1: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (Horizontal) 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.

802.11b Mode

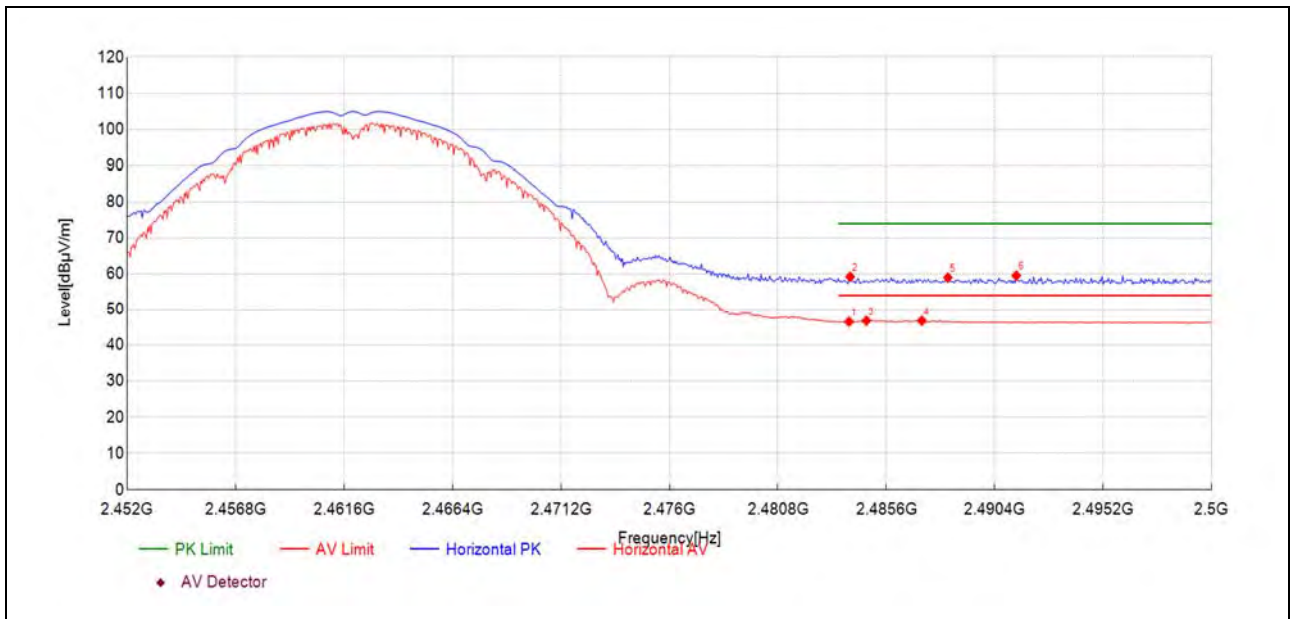
Plot for Channel 1



Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2370.95	21.3	58.74	37.470	74.00	15.26	150	279	PK	PASS
2374.49	20.8	58.25	37.480	74.00	15.75	150	329	PK	PASS
2388.54	8.6	46.10	37.490	54.00	7.90	150	137	AV	PASS
2388.90	20.8	58.27	37.490	74.00	15.73	150	128	PK	PASS
2389.03	9.1	46.59	37.490	54.00	7.41	150	128	AV	PASS
2389.88	9.3	46.80	37.490	54.00	7.20	150	137	AV	PASS



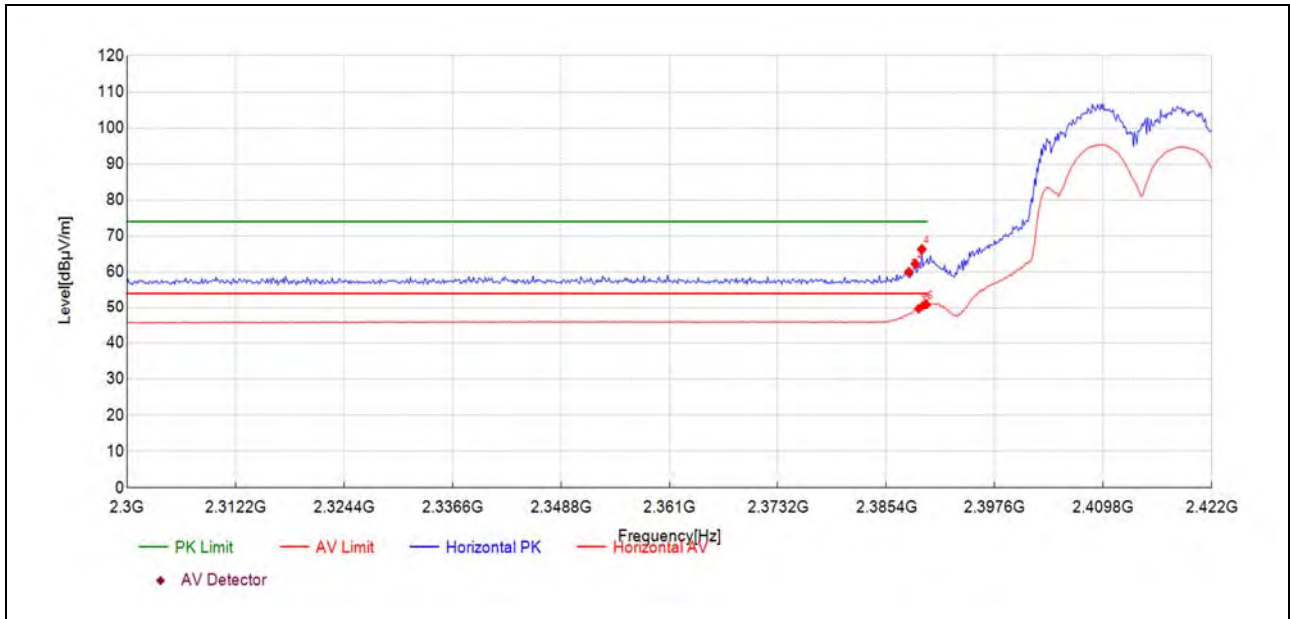
Plot for Channel 11



Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2483.95	8.3	46.52	38.270	54.00	7.48	150	54	AV	PASS
2484.00	21.0	59.25	38.270	74.00	14.75	150	23	PK	PASS
2484.72	8.5	46.80	38.270	54.00	7.20	150	147	AV	PASS
2487.17	8.5	46.81	38.270	54.00	7.19	150	160	AV	PASS
2488.32	20.7	59.01	38.270	74.00	14.99	150	9	PK	PASS
2491.35	21.3	59.58	38.260	74.00	14.42	150	337	PK	PASS

**802.11ax (HEW40) Mode**

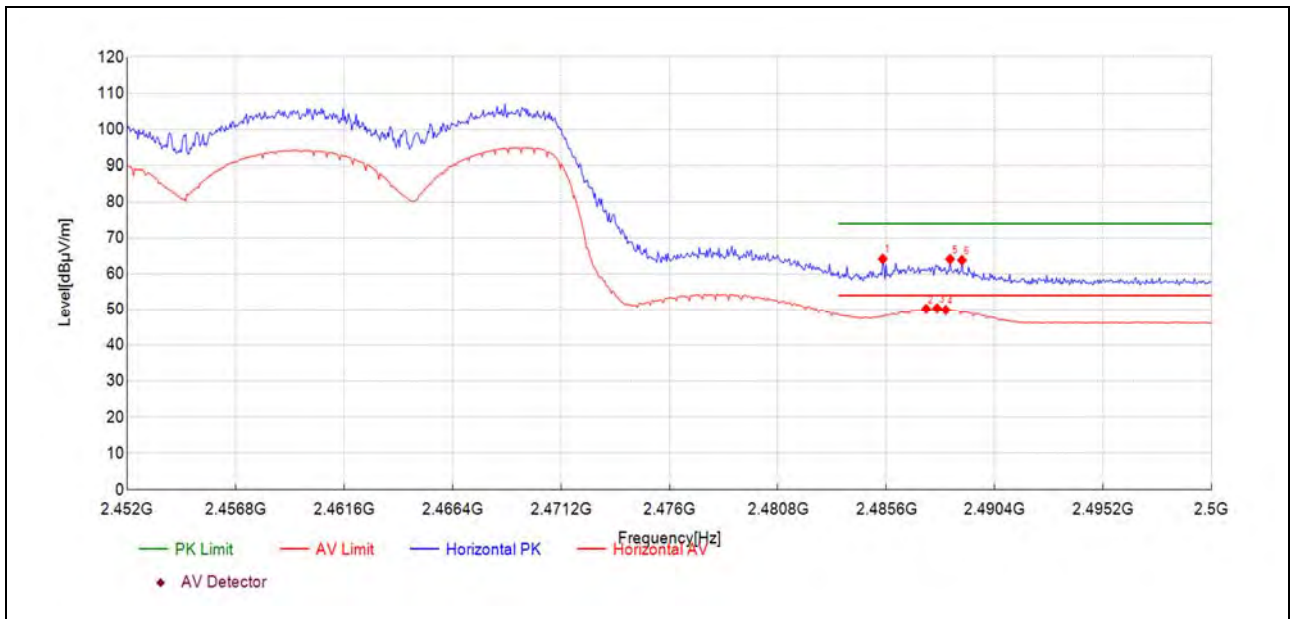
Plot for Channel 3



Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2387.93	22.5	59.95	37.490	74.00	14.05	150	143	PK	PASS
2388.66	24.8	62.26	37.490	74.00	11.74	150	59	PK	PASS
2389.03	12.2	49.69	37.490	54.00	4.31	150	143	AV	PASS
2389.39	28.8	66.29	37.490	74.00	7.71	150	143	PK	PASS
2389.52	13.0	50.48	37.490	54.00	3.52	150	143	AV	PASS
2389.88	13.4	50.91	37.490	54.00	3.09	150	147	AV	PASS



Plot for Channel 9



Fre. (MHz)	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
2485.44	25.9	64.19	38.270	74.00	9.81	150	134	PK	PASS
2487.36	12.0	50.22	38.270	54.00	3.78	150	139	AV	PASS
2487.84	12.1	50.37	38.270	54.00	3.63	150	148	AV	PASS
2488.23	11.6	49.91	38.270	54.00	4.09	150	148	AV	PASS
2488.42	25.9	64.13	38.270	74.00	9.87	150	148	PK	PASS
2488.95	25.6	63.85	38.260	74.00	10.15	150	139	PK	PASS



A.10. 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 (X axis) test condition was recorded in this test report.

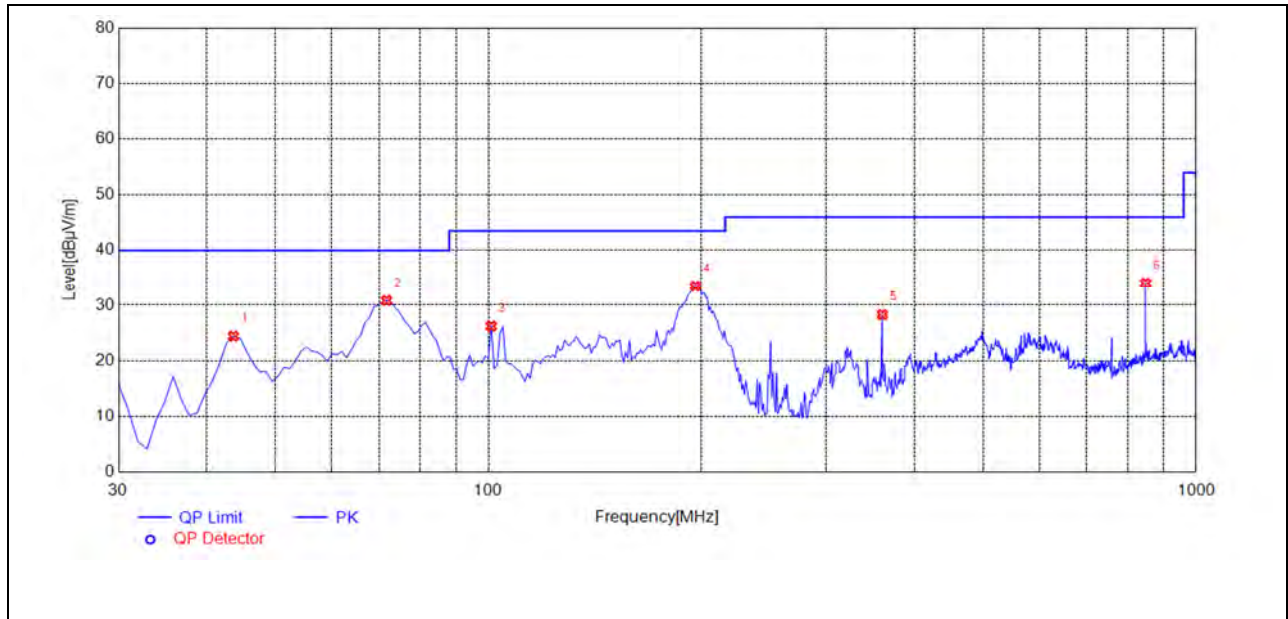
Note2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note3: For the frequency, which started from 18GHz to 10th harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note4: All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded.

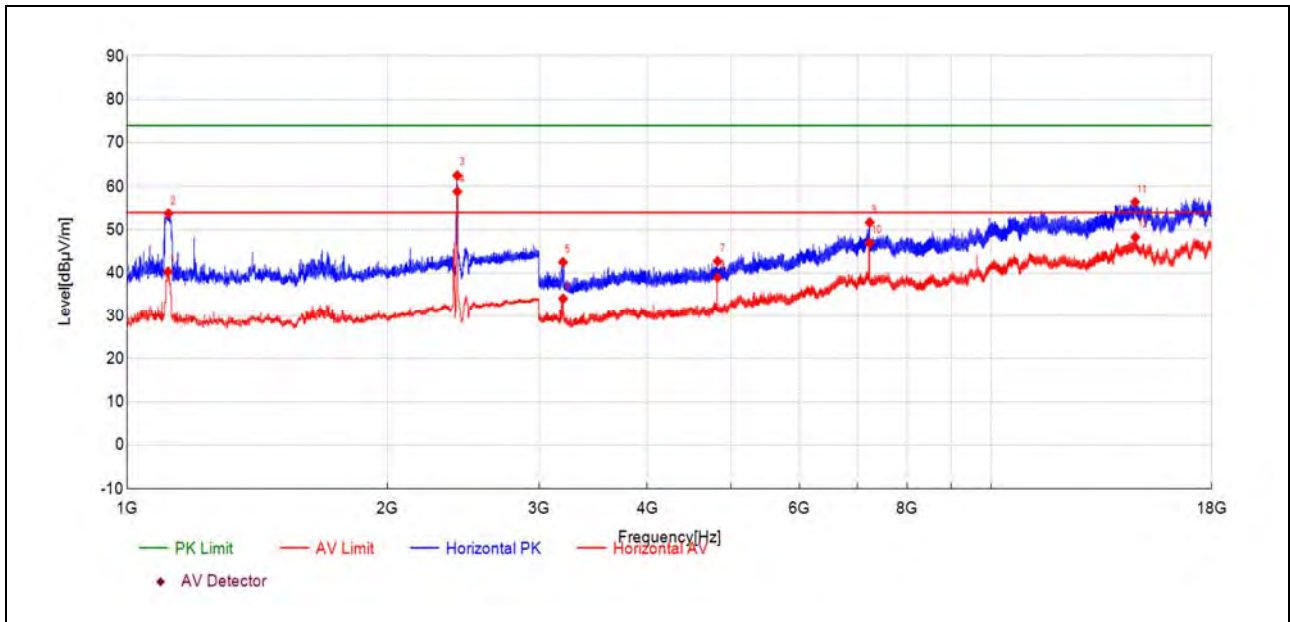
**802.11b Mode**

Plot for Channel 1



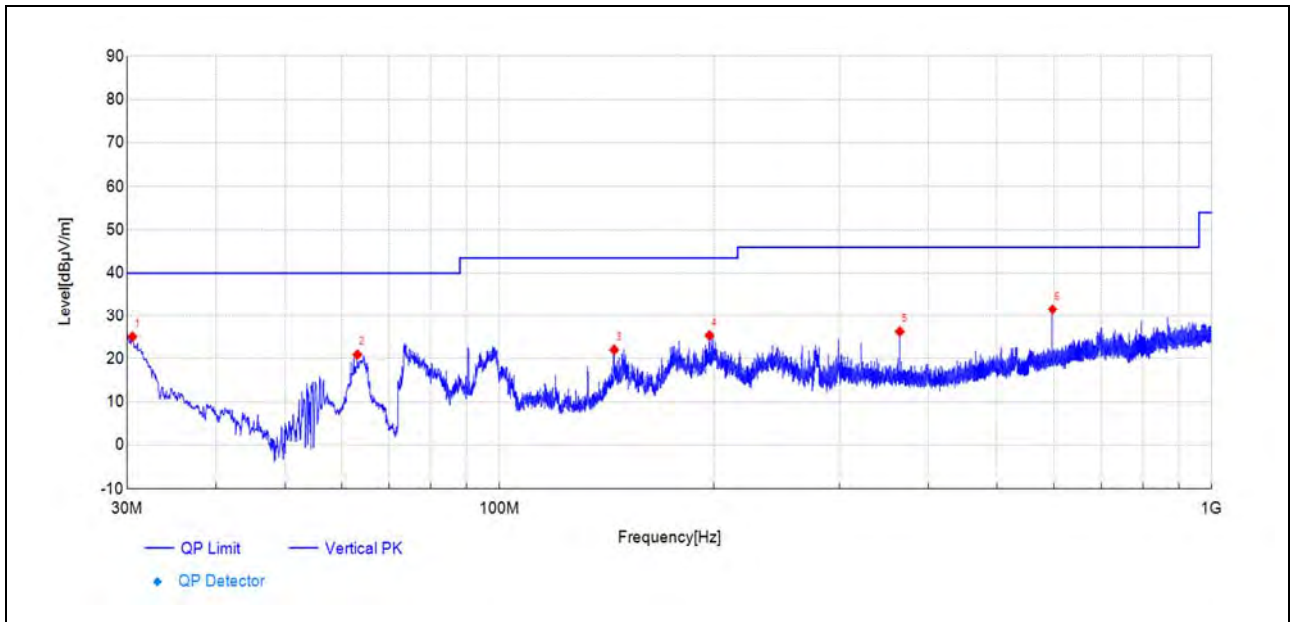
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
33.64	58.7	28.67	-30.070	40.00	11.33	150	317	PK	PASS
63.42	57.7	28.64	-29.100	40.00	11.36	150	88	PK	PASS
149.85	62.4	30.86	-31.510	43.50	12.64	150	68	PK	PASS
252.82	60.9	33.58	-27.330	46.00	12.42	150	216	PK	PASS
471.91	51.4	30.33	-21.110	46.00	15.67	150	209	PK	PASS
796.63	44.2	29.95	-14.290	46.00	16.05	150	27	PK	PASS



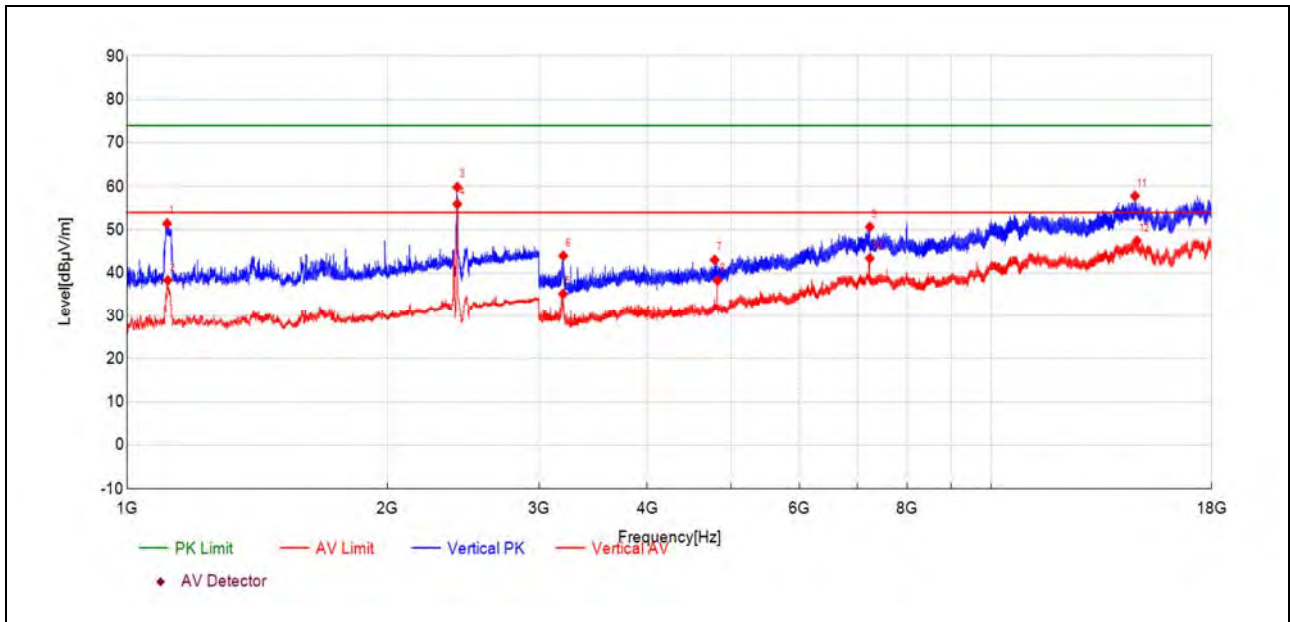
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
1115.22	42.6	40.33	-2.230	54.00	13.67	150	165	AV	PASS
1117.22	56.0	53.78	-2.220	74.00	20.22	150	159	PK	PASS
2410.68	57.2	62.59	5.380	-	-	150	137	PK	NA
2411.48	53.5	58.84	5.390	-	-	150	137	AV	NA
3195.43	53.3	42.52	-10.800	74.00	31.48	150	64	PK	PASS
3195.86	44.9	34.05	-10.810	54.00	19.95	150	64	AV	PASS
4824.05	47.8	42.75	-5.000	74.00	31.25	150	185	PK	PASS
4824.48	44.0	38.96	-4.990	54.00	15.04	150	146	AV	PASS
7234.41	47.1	51.70	4.600	74.00	22.30	150	278	PK	PASS
7234.84	42.3	46.93	4.590	54.00	7.07	150	278	AV	PASS
14675.91	35.9	56.43	20.540	74.00	17.57	150	347	PK	PASS
14687.48	27.8	48.33	20.570	54.00	5.67	150	238	AV	PASS



(Antenna Vertical, 30MHz to 1GHz)

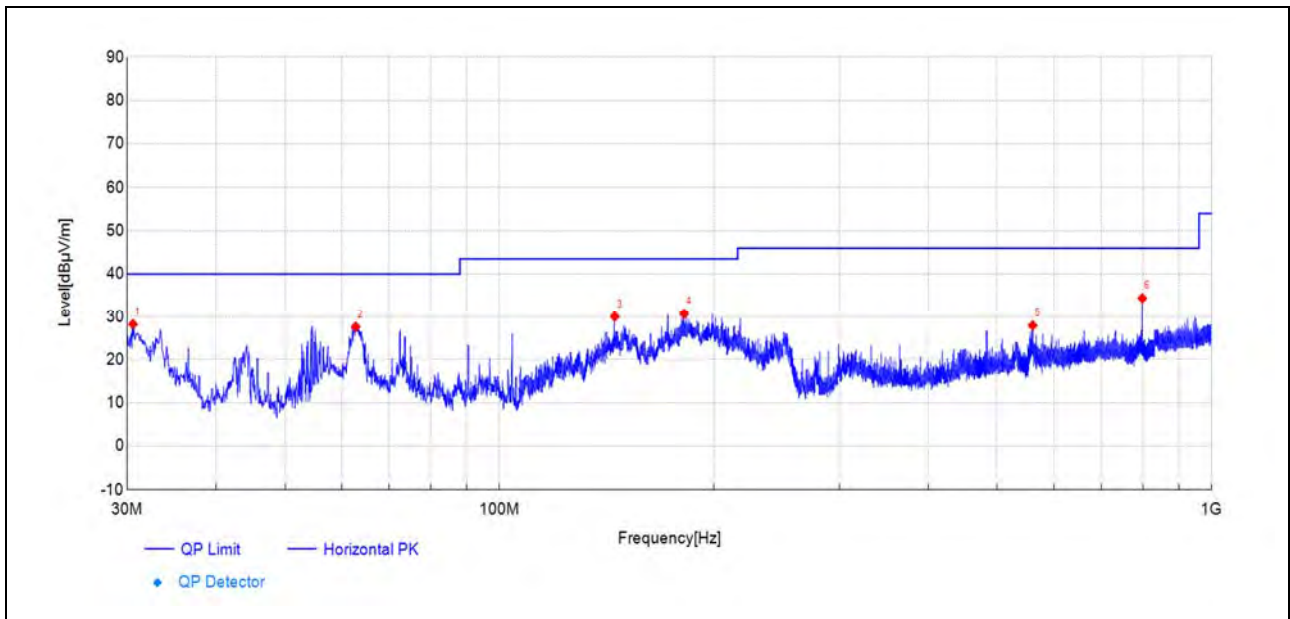
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
30.53	55.8	25.05	-30.770	40.00	14.95	150	145	PK	PASS
63.18	50.0	20.92	-29.060	40.00	19.08	150	288	PK	PASS
144.90	53.5	22.02	-31.430	43.50	21.48	150	179	PK	PASS
197.19	54.4	25.38	-29.060	43.50	18.12	150	138	PK	PASS
364.81	49.7	26.24	-23.420	46.00	19.76	150	357	PK	PASS
597.87	48.7	31.50	-17.230	46.00	14.50	150	36	PK	PASS



(Antenna Vertical, 1GHz to 18GHz)

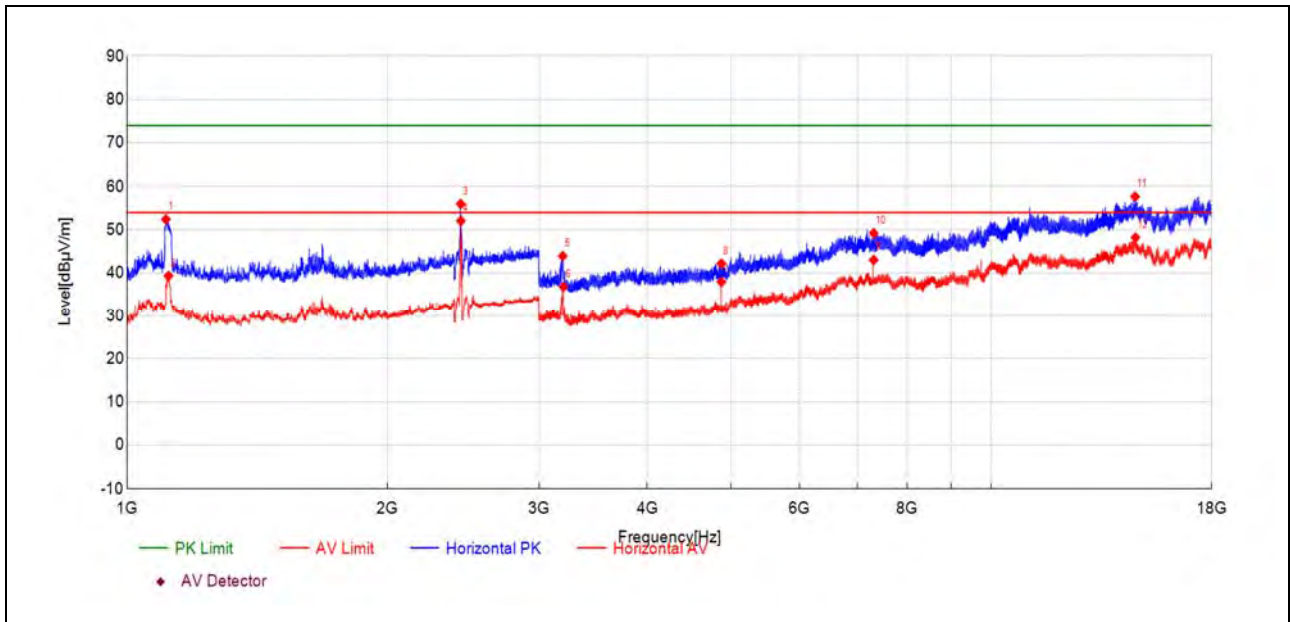
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
1112.82	53.7	51.45	-2.240	74.00	22.55	150	142	PK	PASS
1114.82	40.6	38.32	-2.230	54.00	15.68	150	142	AV	PASS
2410.68	54.5	59.91	5.380	-	-	150	82	PK	NA
2411.48	50.6	55.98	5.390	-	-	150	88	AV	NA
3195.86	46.0	35.16	-10.810	54.00	18.84	150	36	AV	PASS
3198.01	54.8	43.99	-10.830	74.00	30.01	150	279	PK	PASS
4786.77	48.4	43.06	-5.290	74.00	30.94	150	49	PK	PASS
4824.48	43.3	38.27	-4.990	54.00	15.73	150	9	AV	PASS
7236.55	46.1	50.70	4.560	74.00	23.30	150	130	PK	PASS
7236.98	38.9	43.41	4.560	54.00	10.59	150	130	AV	PASS
14672.48	37.3	57.84	20.530	74.00	16.16	150	358	PK	PASS
14747.91	27.3	47.48	20.180	54.00	6.52	150	49	AV	PASS

Plot for Channel 6



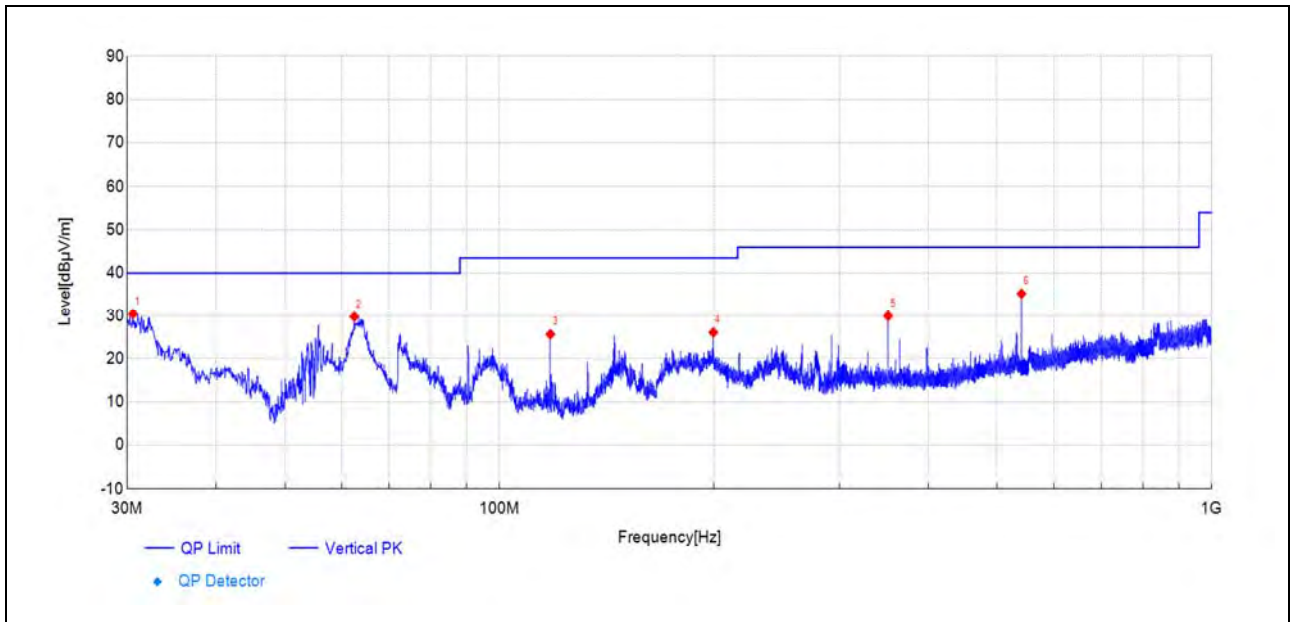
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
30.58	59.0	28.22	-30.750	40.00	11.78	150	47	PK	PASS
62.84	56.5	27.60	-28.940	40.00	12.40	150	87	PK	PASS
145.19	61.5	30.02	-31.520	43.50	13.48	150	20	PK	PASS
181.67	61.1	30.69	-30.360	43.50	12.81	150	100	PK	PASS
560.62	46.5	27.91	-18.590	46.00	18.09	150	40	PK	PASS
799.05	49.0	34.37	-14.670	46.00	11.63	150	73	PK	PASS



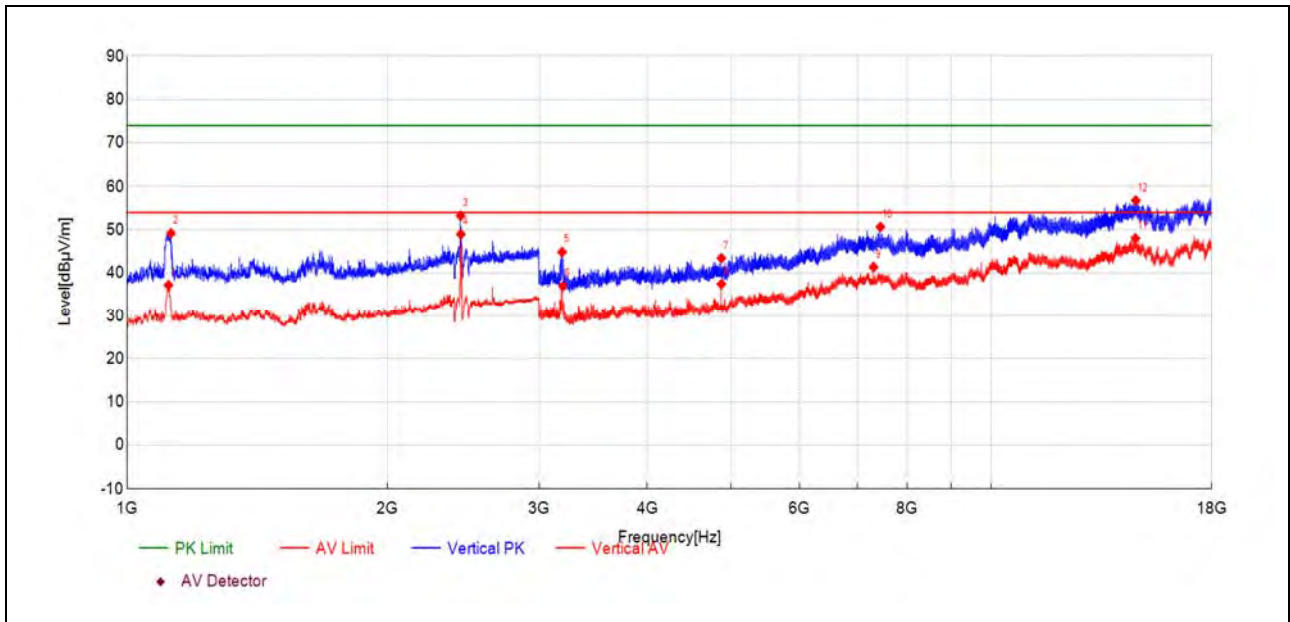
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
1109.22	54.7	52.43	-2.270	74.00	21.57	150	159	PK	PASS
1117.22	41.6	39.36	-2.220	54.00	14.64	150	154	AV	PASS
2433.09	50.3	56.01	5.710	-	-	150	137	PK	NA
2434.29	46.4	52.10	5.740	-	-	150	148	AV	NA
3193.29	54.7	43.95	-10.790	74.00	30.05	150	24	PK	PASS
3199.72	47.7	36.82	-10.850	54.00	17.18	150	24	AV	PASS
4874.20	42.9	37.97	-4.960	54.00	16.03	150	170	AV	PASS
4874.20	47.2	42.19	-4.960	74.00	31.81	150	184	PK	PASS
7312.41	38.8	43.04	4.200	54.00	10.96	150	290	AV	PASS
7312.84	45.0	49.23	4.210	74.00	24.77	150	290	PK	PASS
14675.48	37.2	57.70	20.540	74.00	16.30	150	184	PK	PASS
14689.19	27.7	48.23	20.580	54.00	5.77	150	305	AV	PASS



(Antenna Vertical, 30MHz to 1GHz)

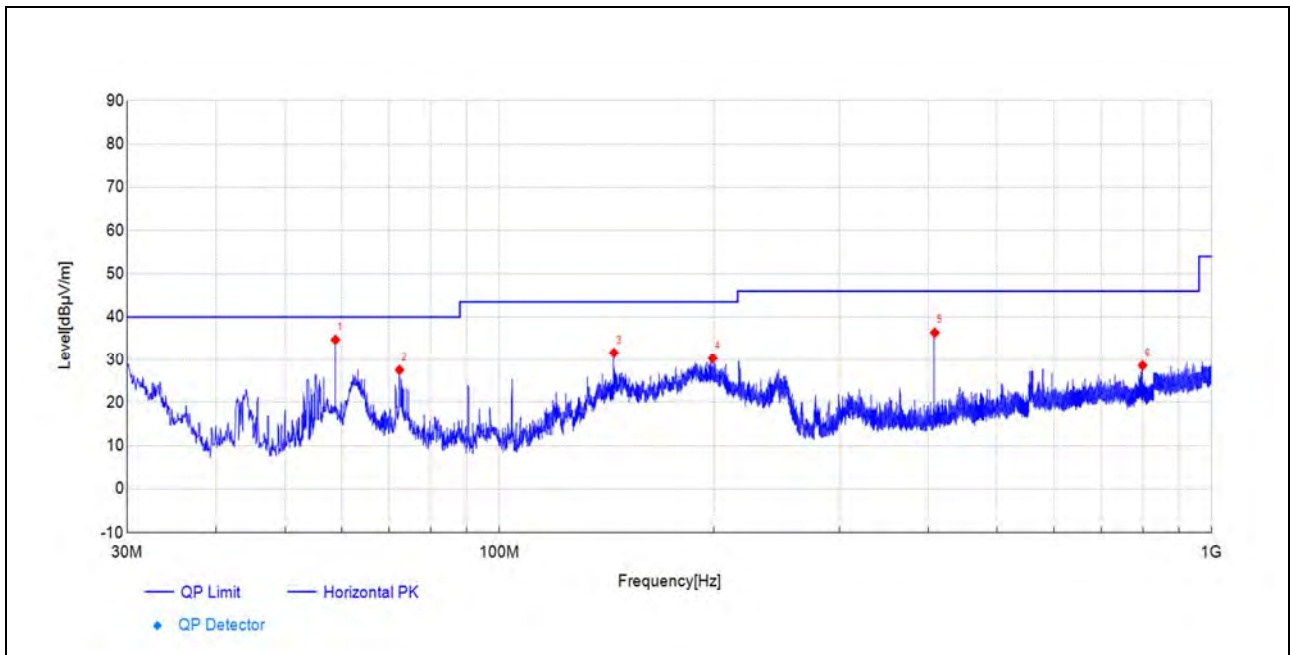
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
30.58	61.2	30.41	-30.750	40.00	9.59	150	333	PK	PASS
62.55	58.5	29.75	-28.790	40.00	10.25	150	252	PK	PASS
117.89	56.3	25.64	-30.680	43.50	17.86	150	118	PK	PASS
199.66	54.9	26.09	-28.810	43.50	17.41	150	320	PK	PASS
351.33	53.8	29.94	-23.830	46.00	16.06	150	63	PK	PASS
540.68	54.5	35.20	-19.250	46.00	10.80	150	9	PK	PASS



(Antenna Vertical, 1GHz to 18GHz)

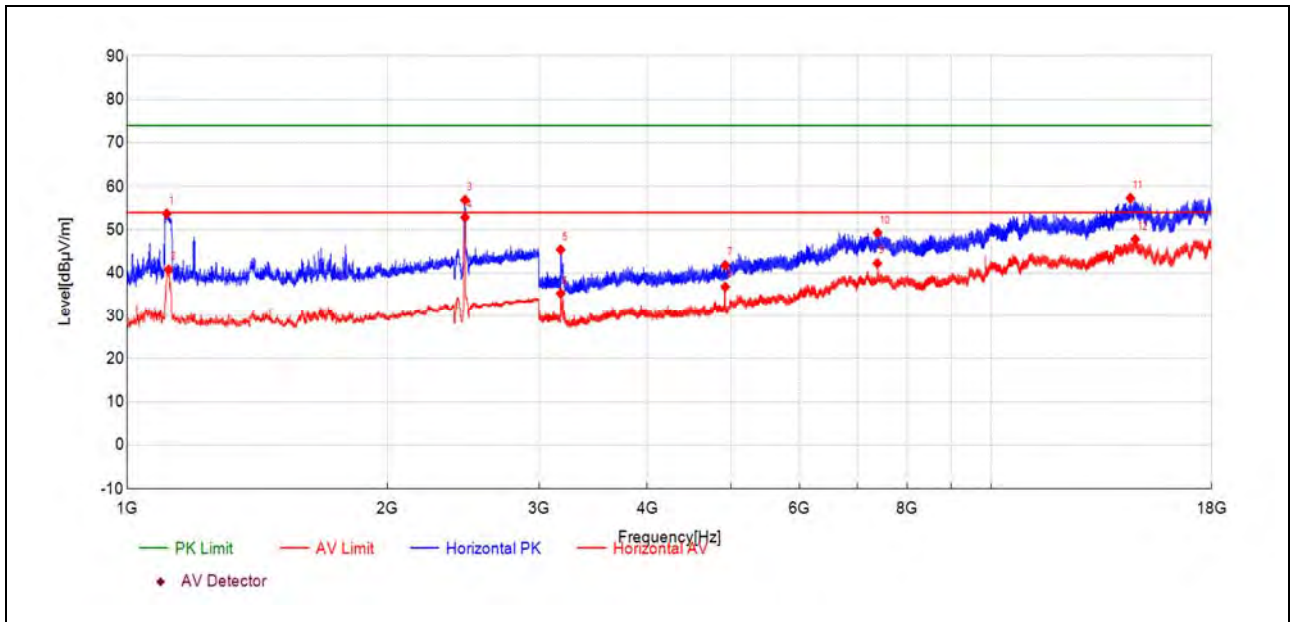
Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
1116.82	39.4	37.19	-2.220	54.00	16.81	150	140	AV	PASS
1124.42	51.4	49.21	-2.160	74.00	24.79	150	140	PK	PASS
2432.69	47.6	53.28	5.710	-	-	150	85	PK	NA
2433.89	43.3	49.01	5.720	-	-	150	85	AV	NA
3187.72	55.6	44.88	-10.740	74.00	29.12	150	277	PK	PASS
3195.01	47.8	36.96	-10.800	54.00	17.04	150	277	AV	PASS
4873.77	48.4	43.44	-4.960	74.00	30.56	150	305	PK	PASS
4874.20	42.4	37.47	-4.960	54.00	16.53	150	305	AV	PASS
7310.27	37.2	41.39	4.180	54.00	12.61	150	344	AV	PASS
7443.98	46.1	50.67	4.620	74.00	23.33	150	170	PK	PASS
14690.91	27.5	48.05	20.570	54.00	5.95	150	130	AV	PASS
14703.33	36.2	56.81	20.570	74.00	17.19	150	76	PK	PASS

Plot for Channel 11



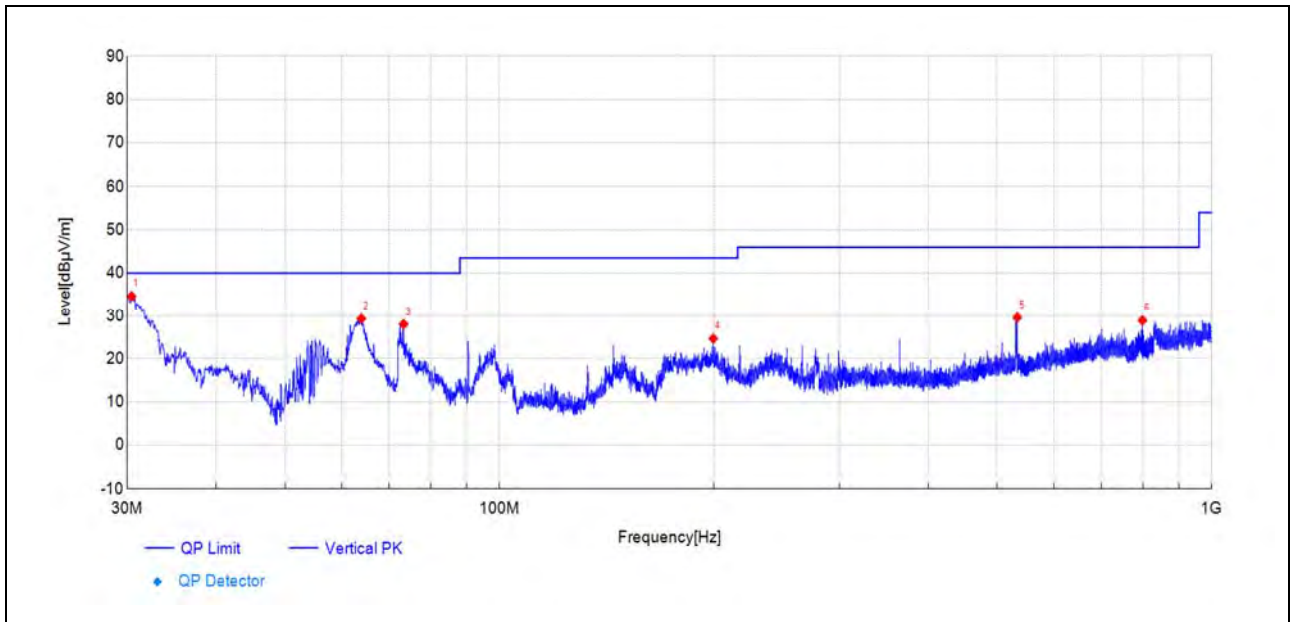
(Antenna Horizontal, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
58.86	63.3	34.71	-28.560	40.00	5.29	150	331	PK	PASS
72.39	59.2	27.55	-31.690	40.00	12.45	150	16	PK	PASS
144.81	63.0	31.60	-31.410	43.50	11.90	150	244	PK	PASS
199.27	59.2	30.29	-28.860	43.50	13.21	150	150	PK	PASS
408.42	59.7	36.35	-23.300	46.00	9.65	150	136	PK	PASS
799.78	43.4	28.60	-14.790	46.00	17.40	150	0	PK	PASS



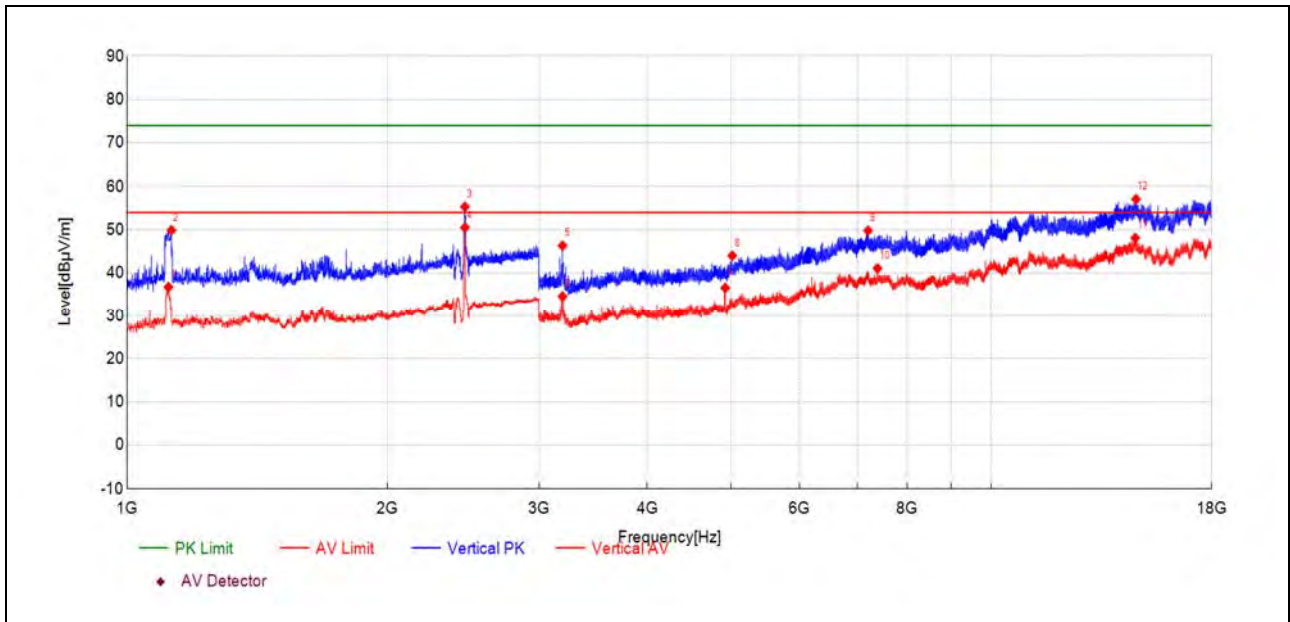
(Antenna Horizontal, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
1111.62	56.0	53.76	-2.260	74.00	20.24	150	154	PK	PASS
1117.22	43.0	40.81	-2.220	54.00	13.19	150	160	AV	PASS
2461.09	51.0	56.90	5.950	-	-	150	138	PK	NA
2461.49	47.0	52.90	5.940	54.00	1.10	150	138	AV	PASS
3175.72	56.1	45.43	-10.630	74.00	28.57	150	48	PK	PASS
3176.15	45.9	35.28	-10.630	54.00	18.72	150	35	AV	PASS
4923.91	46.8	41.85	-4.980	74.00	32.15	150	305	PK	PASS
4924.34	41.8	36.82	-4.980	54.00	17.18	150	305	AV	PASS
7384.84	37.6	42.25	4.670	54.00	11.75	150	305	AV	PASS
7388.27	44.6	49.32	4.690	74.00	24.68	150	277	PK	PASS
14493.33	37.6	57.34	19.720	74.00	16.66	150	237	PK	PASS
14682.33	27.3	47.82	20.550	54.00	6.18	150	184	AV	PASS



(Antenna Vertical, 30MHz to 1GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
30.44	65.4	34.60	-30.780	40.00	5.40	150	83	PK	PASS
64.00	58.5	29.30	-29.220	40.00	10.70	150	35	PK	PASS
73.36	60.3	28.00	-32.320	40.00	12.00	150	273	PK	PASS
199.66	53.4	24.63	-28.810	43.50	18.87	150	360	PK	PASS
533.26	48.6	29.57	-19.030	46.00	16.43	150	266	PK	PASS
799.44	43.6	28.88	-14.730	46.00	17.12	150	186	PK	PASS



(Antenna Vertical, 1GHz to 18GHz)

Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Verdict
1116.82	39.0	36.74	-2.220	54.00	17.26	150	137	AV	PASS
1125.63	52.1	49.91	-2.150	74.00	24.09	150	137	PK	PASS
2460.69	49.4	55.34	5.950	-	-	150	88	PK	NA
2461.09	44.6	50.54	5.950	54.00	3.46	150	93	AV	PASS
3191.58	57.1	46.36	-10.780	74.00	27.64	150	50	PK	PASS
3192.01	45.4	34.59	-10.780	54.00	19.41	150	50	AV	PASS
4924.34	41.6	36.57	-4.980	54.00	17.43	150	290	AV	PASS
5016.49	47.7	44.02	-3.690	74.00	29.98	150	251	PK	PASS
7203.98	44.8	49.85	5.060	74.00	24.15	150	36	PK	PASS
7387.41	36.4	41.11	4.680	54.00	12.89	150	210	AV	PASS
14682.76	27.6	48.12	20.550	54.00	5.88	150	356	AV	PASS
14711.48	36.6	57.10	20.500	74.00	16.90	150	104	PK	PASS

END OF REPORT