

Appendix B of data

B1.Maximum Peak Conducted Output Power

Test Result

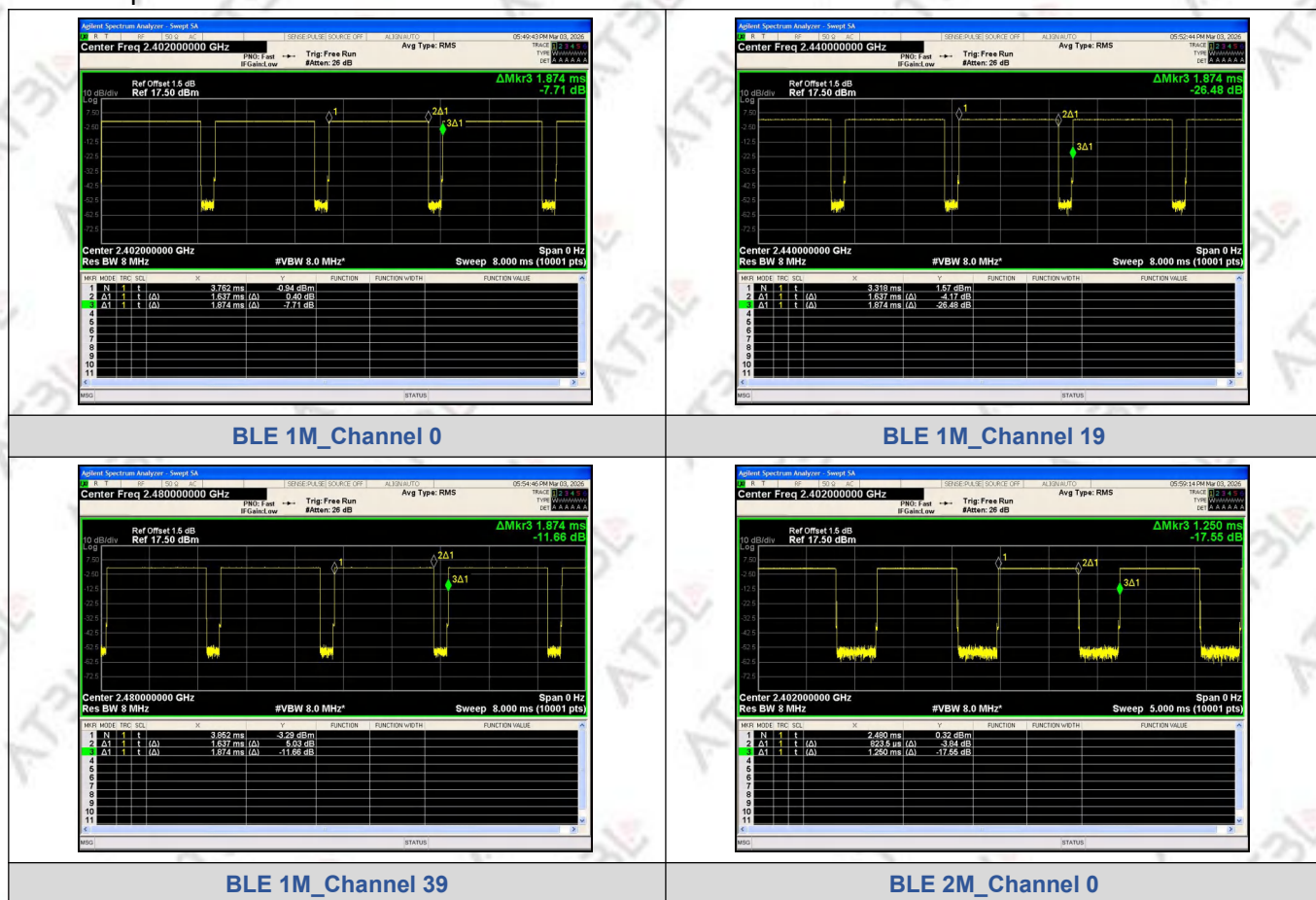
Mode	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
BLE 1M	0	-0.99	0.796	≤30	PASS
	19	0.02	1.005	≤30	PASS
	39	-0.83	0.826	≤30	PASS
BLE 2M	0	-0.85	0.822	≤30	PASS
	19	0.13	1.030	≤30	PASS
	39	-0.70	0.851	≤30	PASS

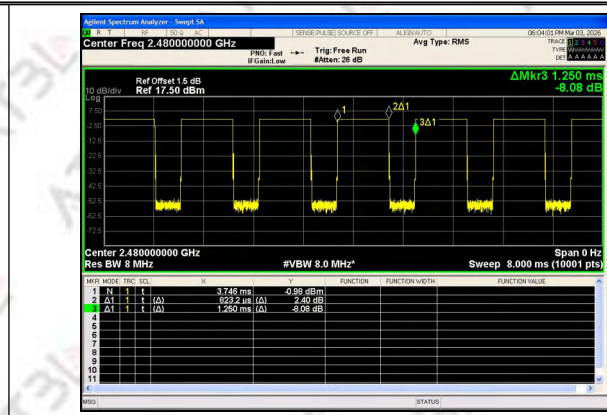
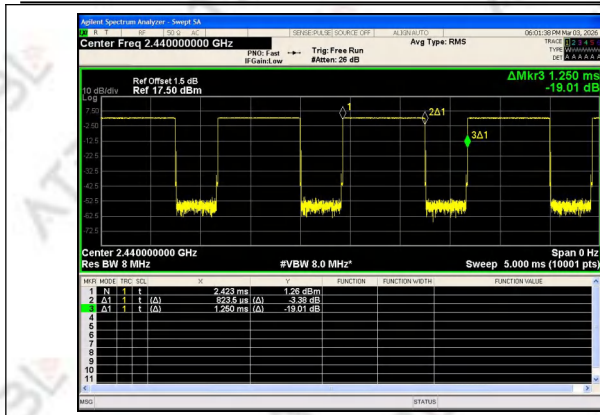
B2.Duty Cycle

Test Result

Mode	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
BLE 1M	0	1.637	1.874	87.32	0.8732	0.5889
	19	1.637	1.874	87.36	0.8736	0.5869
	39	1.637	1.874	87.32	0.8732	0.5889
BLE 2M	0	0.824	1.250	65.91	0.6591	1.8105
	19	0.823	1.249	65.91	0.6591	1.8105
	39	0.823	1.250	65.88	0.6588	1.8125

Test Graphs





B3.6dB Bandwidth and 99% Bandwidth

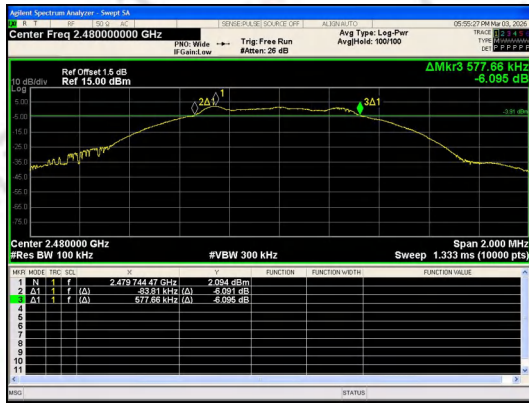
6dB Bandwidth

Test Result

Mode	Channel	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
BLE 1M	0	2402	0.6600	≥0.5	PASS
	19	2440	0.6600		PASS
	39	2480	0.6600		PASS
BLE 2M	0	2402	1.160		PASS
	19	2440	1.160		PASS
	39	2480	1.150		PASS

Test Graphs





BLE 1M_Channel 39

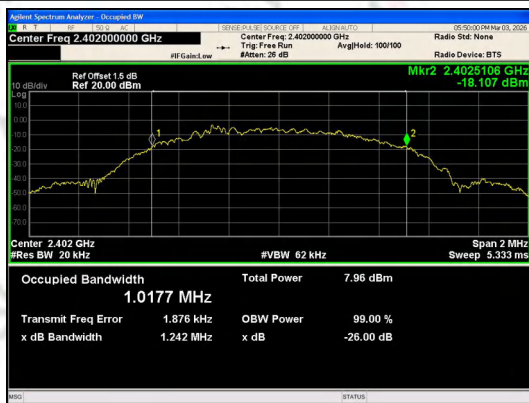


BLE 2M_Channel 39

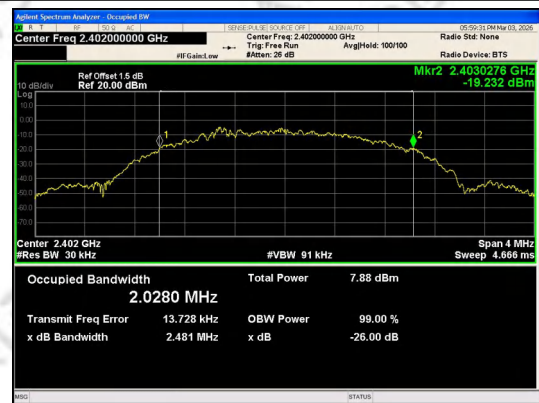
99dB Bandwidth Test Result

Mode	Channel	Center Frequency (MHz)	99% BW (MHz)
BLE 1M	0	2402	1.0177
	19	2440	1.0174
	39	2480	1.0168
BLE 2M	0	2402	2.0280
	19	2440	2.0283
	39	2480	2.0176

Test Graphs



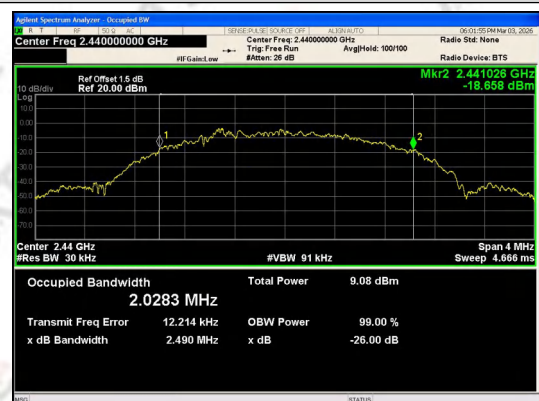
BLE 1M_Channel 0



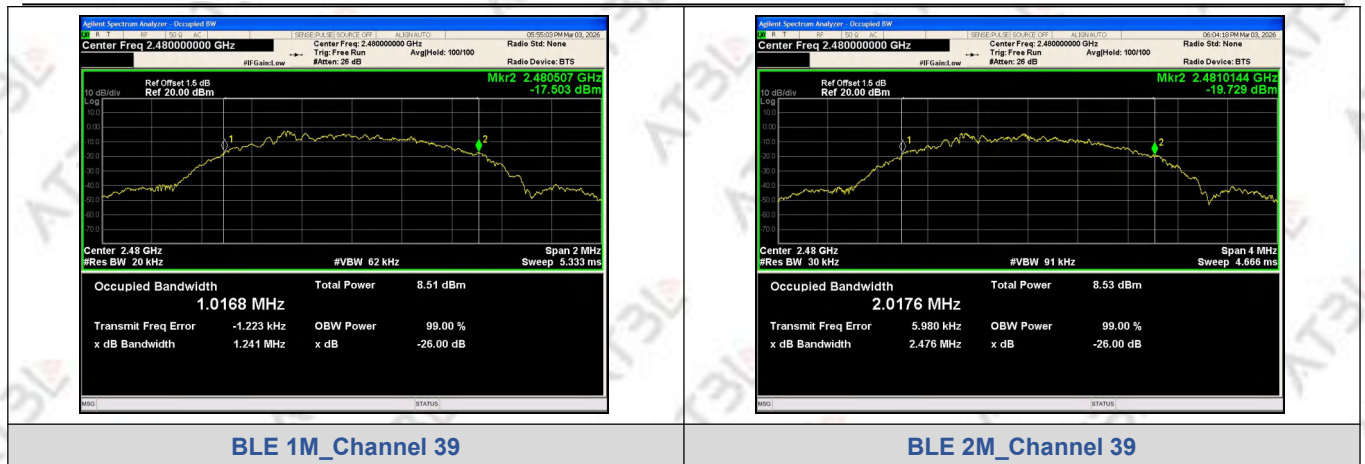
BLE 2M_Channel 0



BLE 1M_Channel 19



BLE 2M_Channel 19



B4. Power Spectral Density

Test Result

Mode	Channel	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
BLE 1M	0	-14.680	≤8	PASS
	19	-13.610	≤8	PASS
	39	-14.440	≤8	PASS
BLE 2M	0	-18.090	≤8	PASS
	19	-17.150	≤8	PASS
	39	-17.530	≤8	PASS

Test Graphs



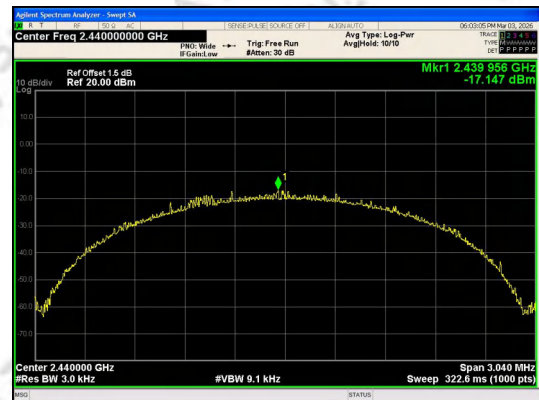
BLE 1M_Channel 0



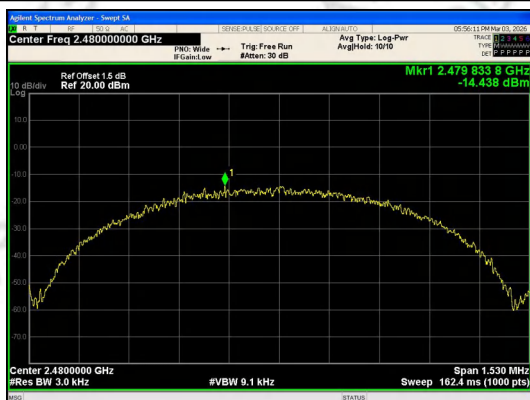
BLE 2M_Channel 0



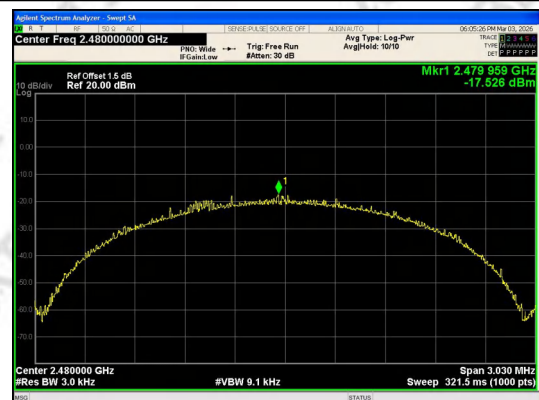
BLE 1M_Channel 19



BLE 2M_Channel 19



BLE 1M_Channel 39



BLE 2M_Channel 39

B5.Conducted Spurious & Band Edge Emission

Mode	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Cable Loss (dB)	Limit (dBm)	Over Limit (dB)	Result
BLE 1M	0	2398.39	-60.056	N/A	-21.21	-38.846	PASS
		2400.00	-61.896	N/A	-21.21	-40.686	PASS
		24870.8	-49.098	1.36	-21.21	-27.888	PASS
	19	24822.1	-48.653	1.36	-20.18	-28.473	PASS
		2483.50	-61.276	N/A	-21.04	-40.236	PASS
		24816.5	-48.936	1.36	-21.04	-27.896	PASS
BLE 2M	0	2400.00	-47.236	N/A	-21.33	-25.906	PASS
		24910.1	-48.377	1.36	-21.33	-27.047	PASS
	19	24954.4	-48.413	1.36	-20.34	-28.073	PASS
		2483.50	-62.071	N/A	-21.18	-40.891	PASS
	39	24849.6	-48.946	1.36	-21.18	-27.766	PASS

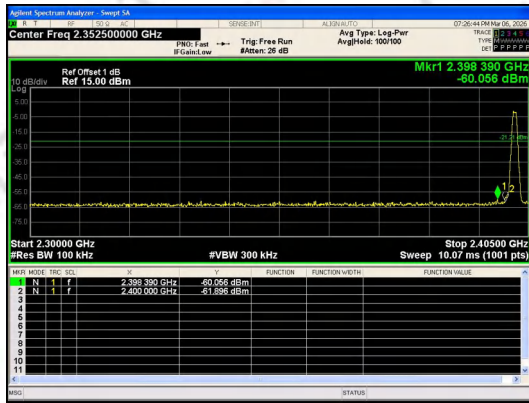
Note:

1.input compensation coefficient (dB)= Cable Loss (dB)

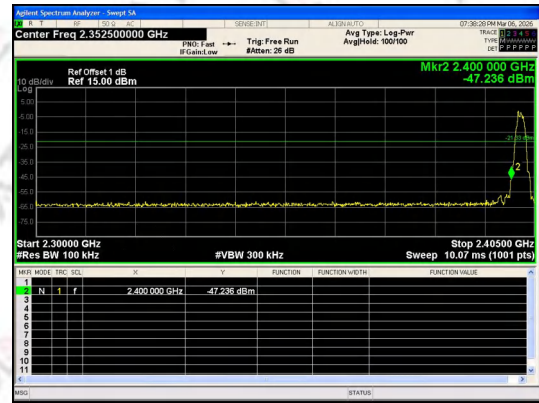
2.30MHz~25GHz OOB Emission Level final result cable loss was added. maximum cable Loss is 2.86 dB (When the frequency reaches 25GHz, add an additional compensation of 1.36dB for Cable Loss.)

Test Graphs

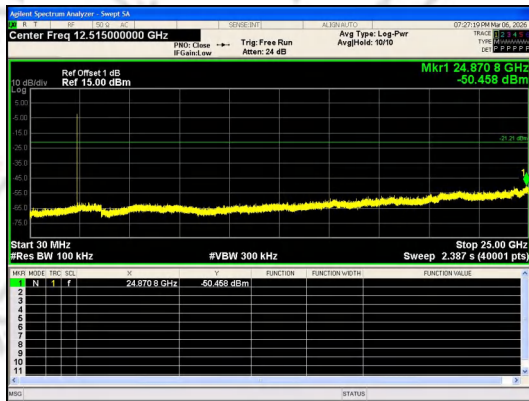




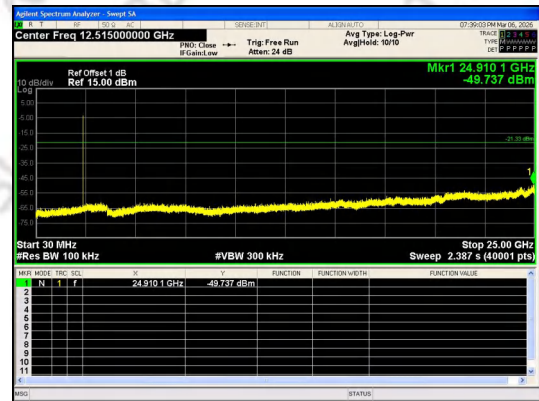
Out Of Band Emission
BLE 1M_Channel 0



Out Of Band Emission
BLE 2M_Channel 0



30.0 MHz - 25000.0 MHz
BLE 1M_Channel 0



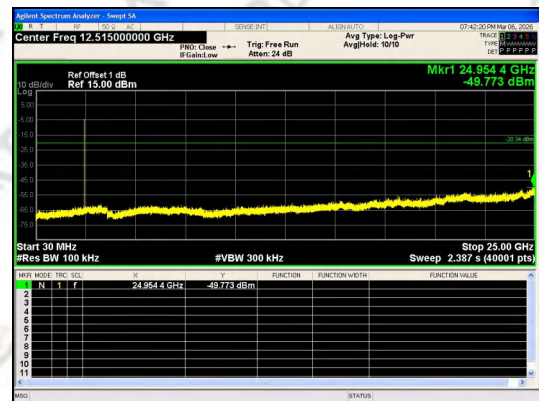
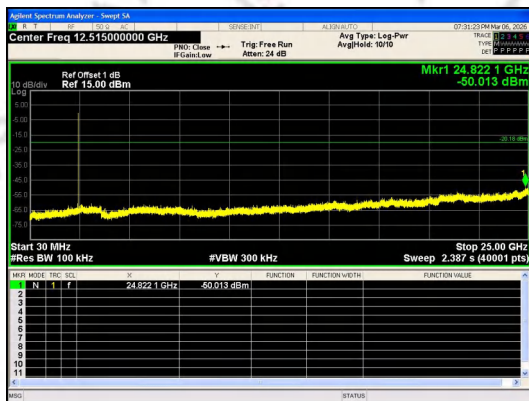
30.0 MHz - 25000.0 MHz
BLE 2M_Channel 0



In-Band Reference Level
BLE 1M_Channel 19



In-Band Reference Level
BLE 2M_Channel 19



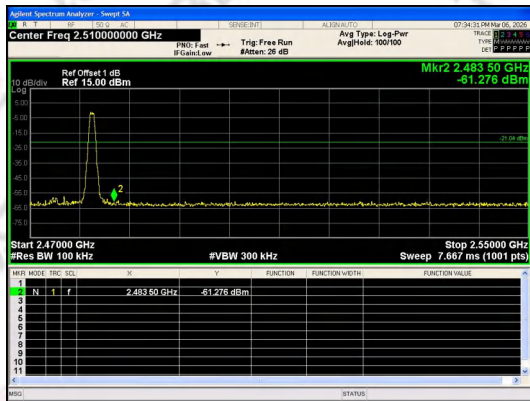
30.0 MHz - 25000.0 MHz
BLE 1M_Channel 19



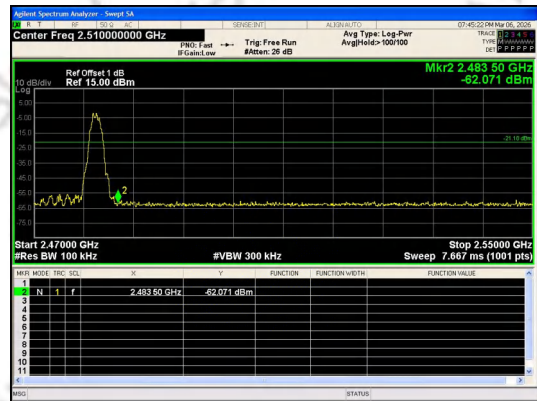
30.0 MHz - 25000.0 MHz
BLE 2M_Channel 19



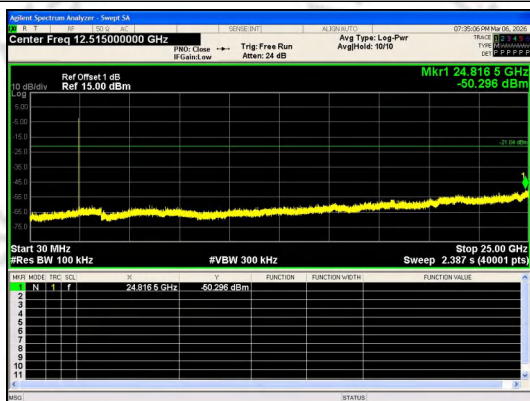
In-Band Reference Level
BLE 1M_Channel 39



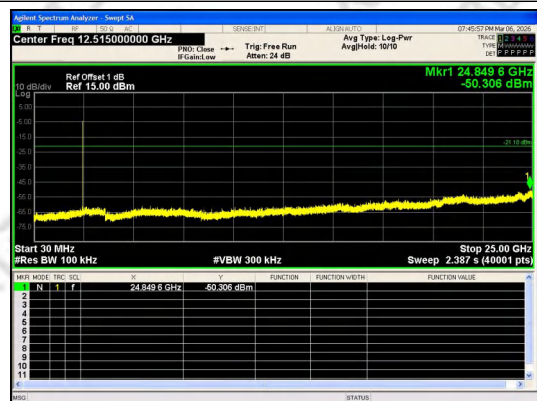
In-Band Reference Level
BLE 2M_Channel 39



Out Of Band Emission
BLE 1M_Channel 39



Out Of Band Emission
BLE 2M_Channel 39



30.0 MHz - 25000.0 MHz
BLE 1M_Channel 39

30.0 MHz - 25000.0 MHz
BLE 2M_Channel 39

B5.Radiated Spurious Emission and Restricted Band

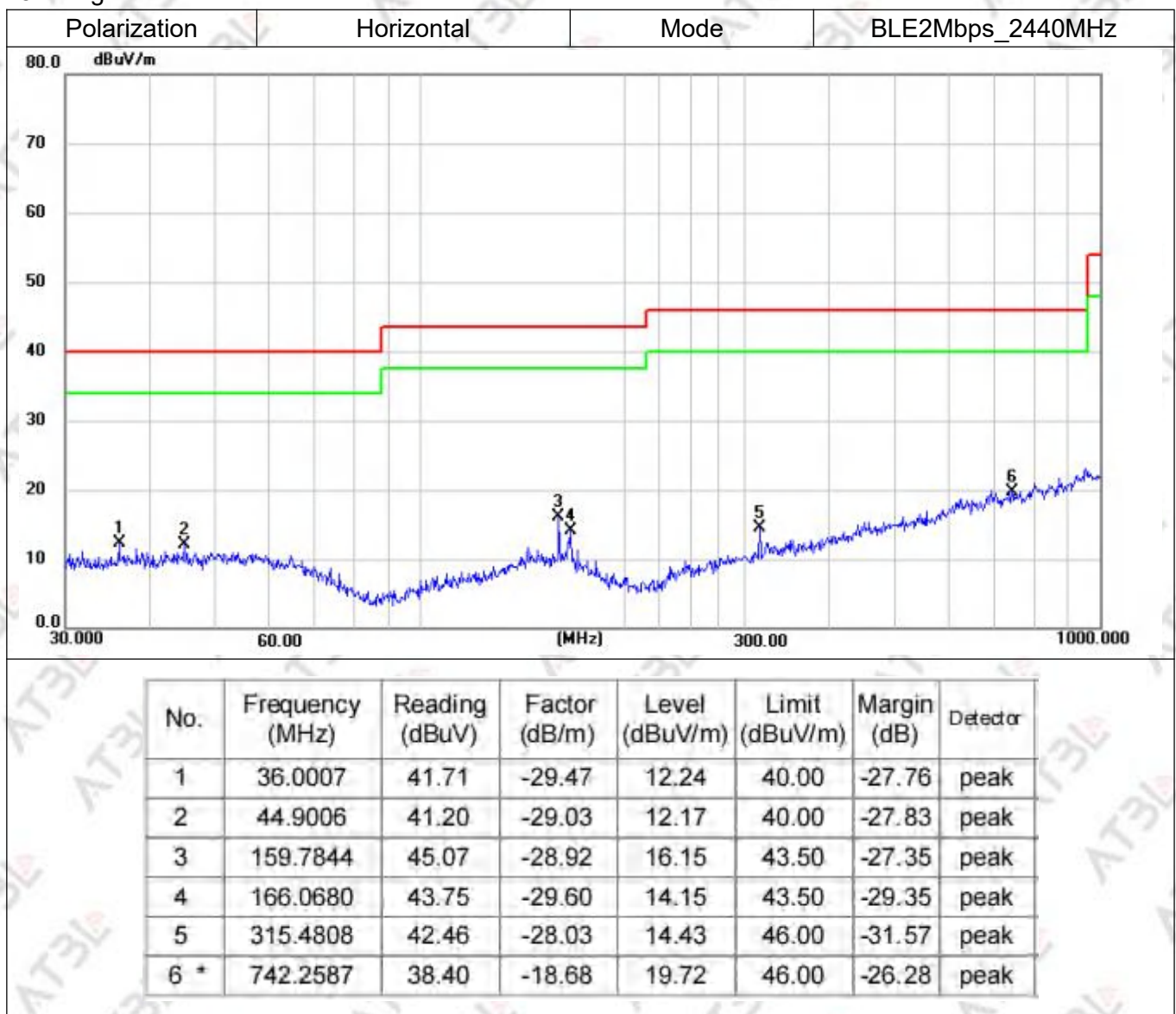
For 9 kHz ~ 30 MHz

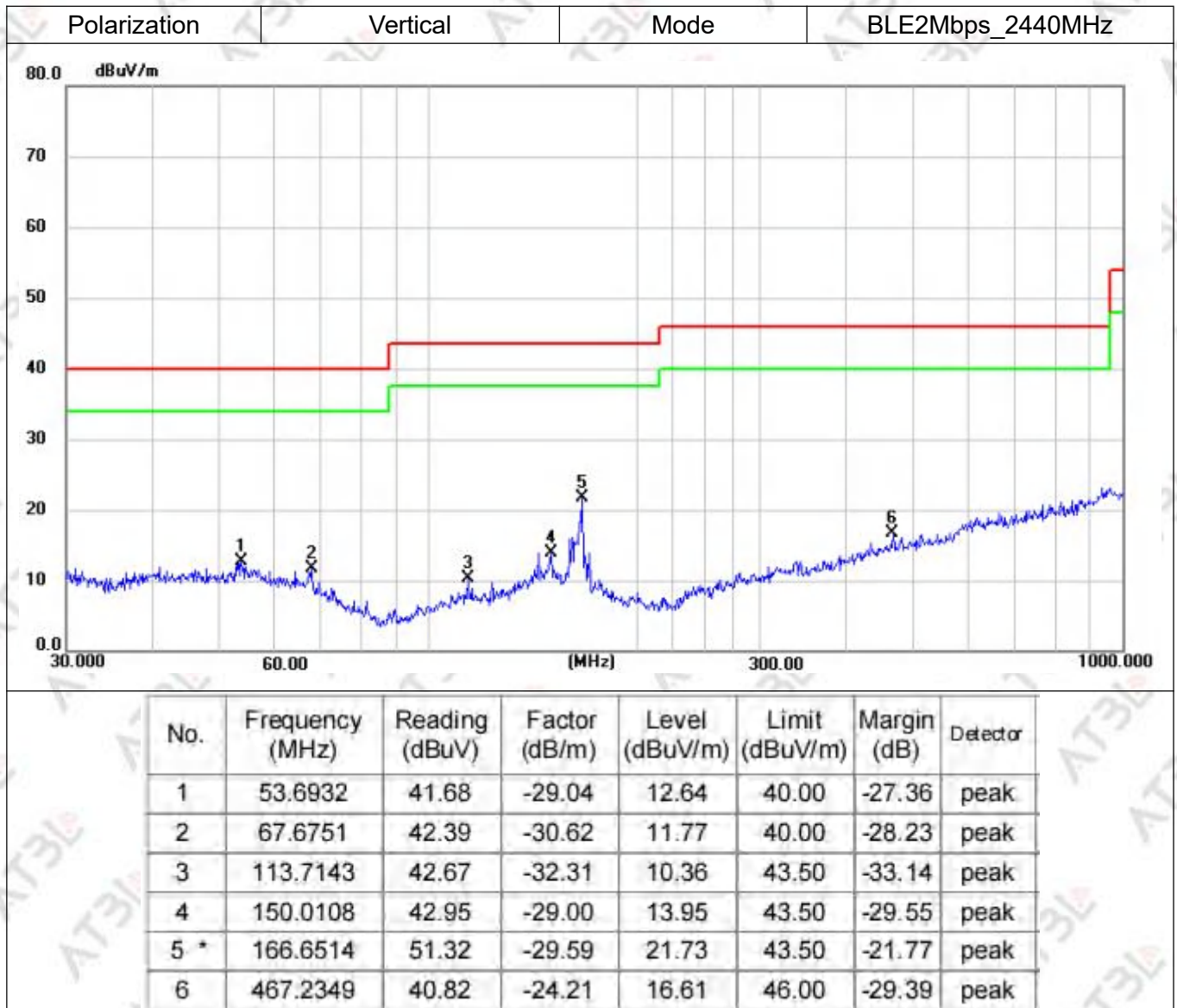
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

For 30 MHz ~ 1 GHz:

Note:

- 1.All modes have been tested, only worst (BLE2Mbps_2440MHz)mode was recorded in the test report.
- 2.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.
4. The emission levels of other frequencies were less than 20dB margin against the limit.
5. Margin value = Emission level-Limit value.

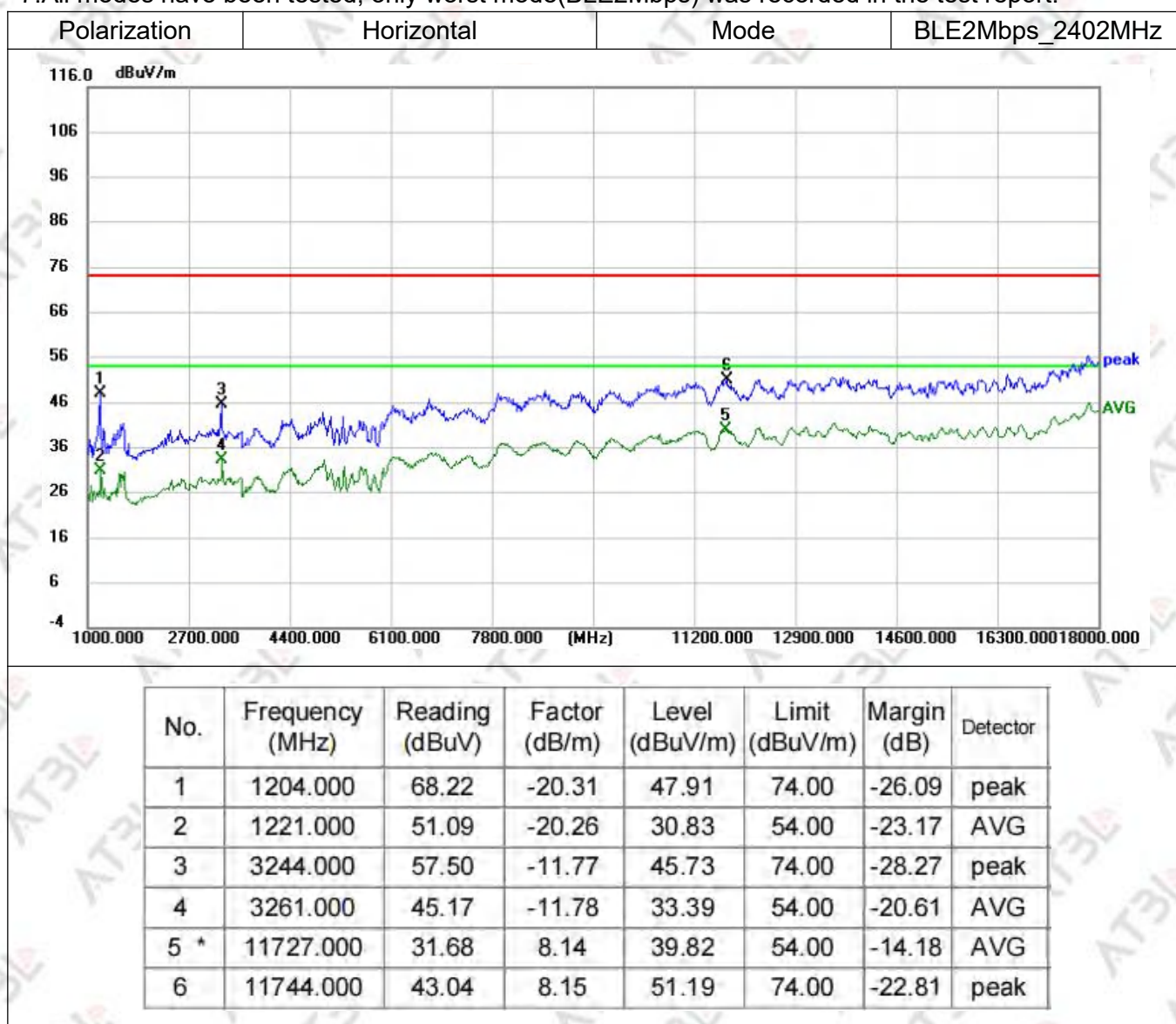


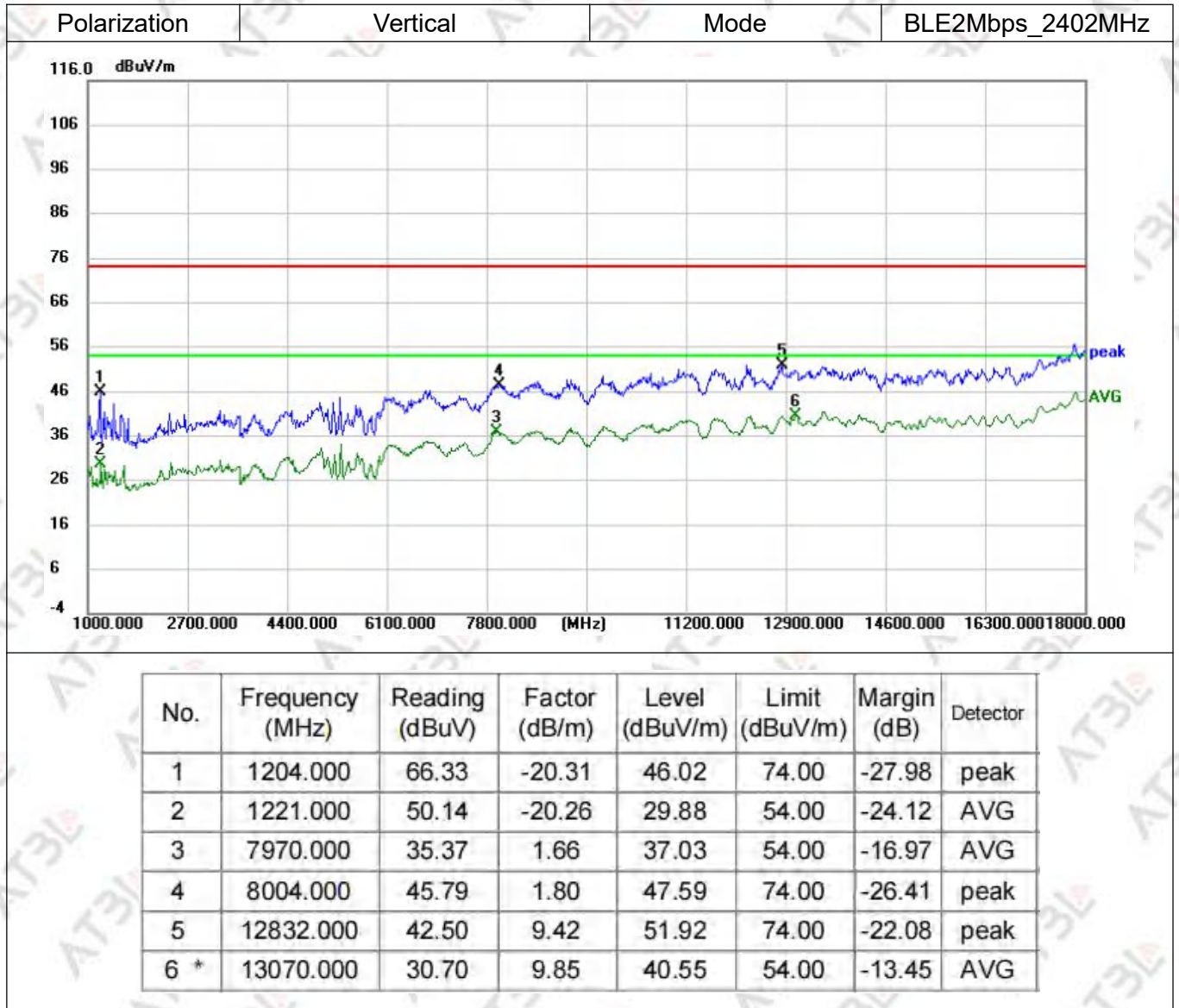


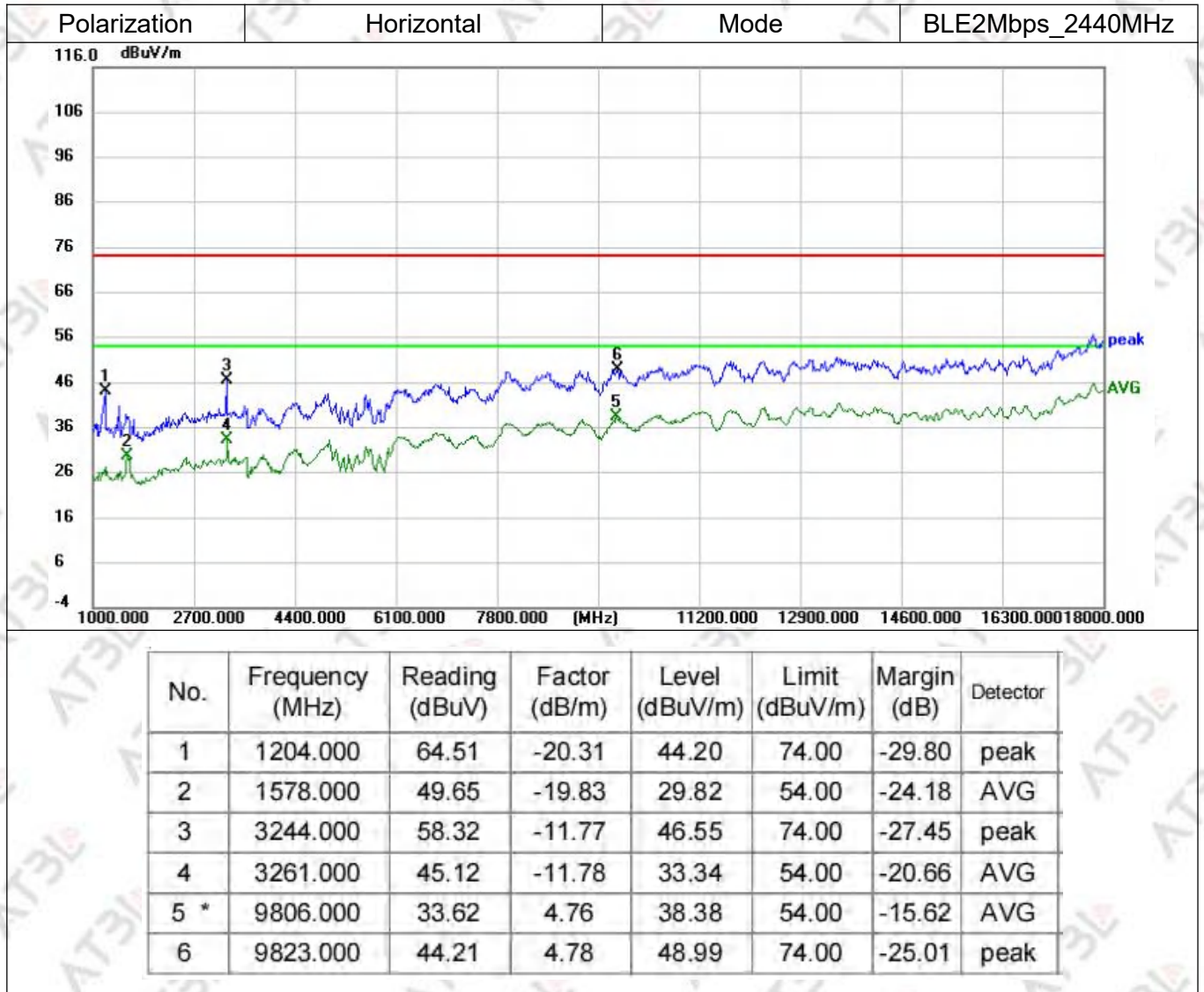
For 1 GHz ~ 18GHz:

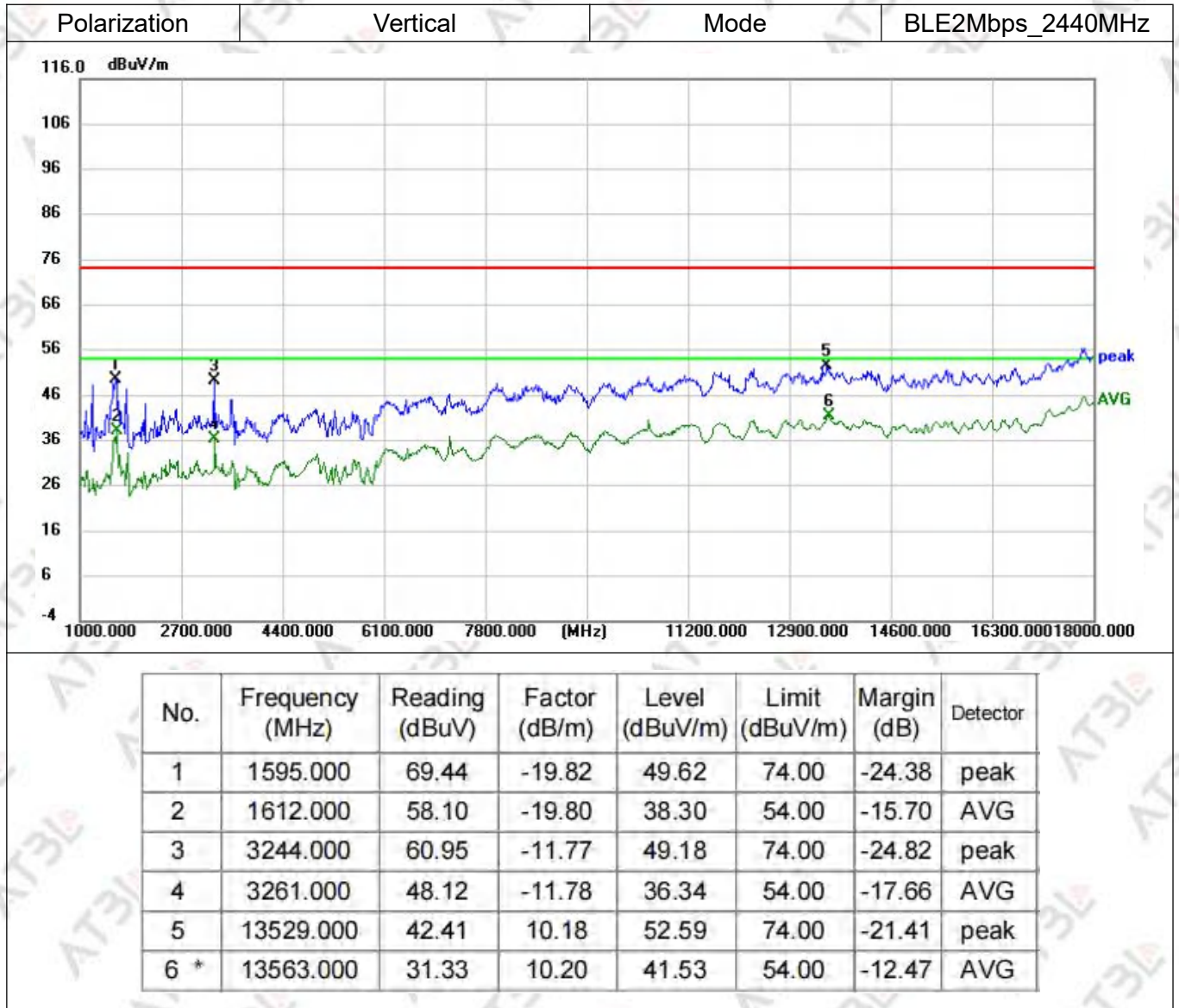
Note:

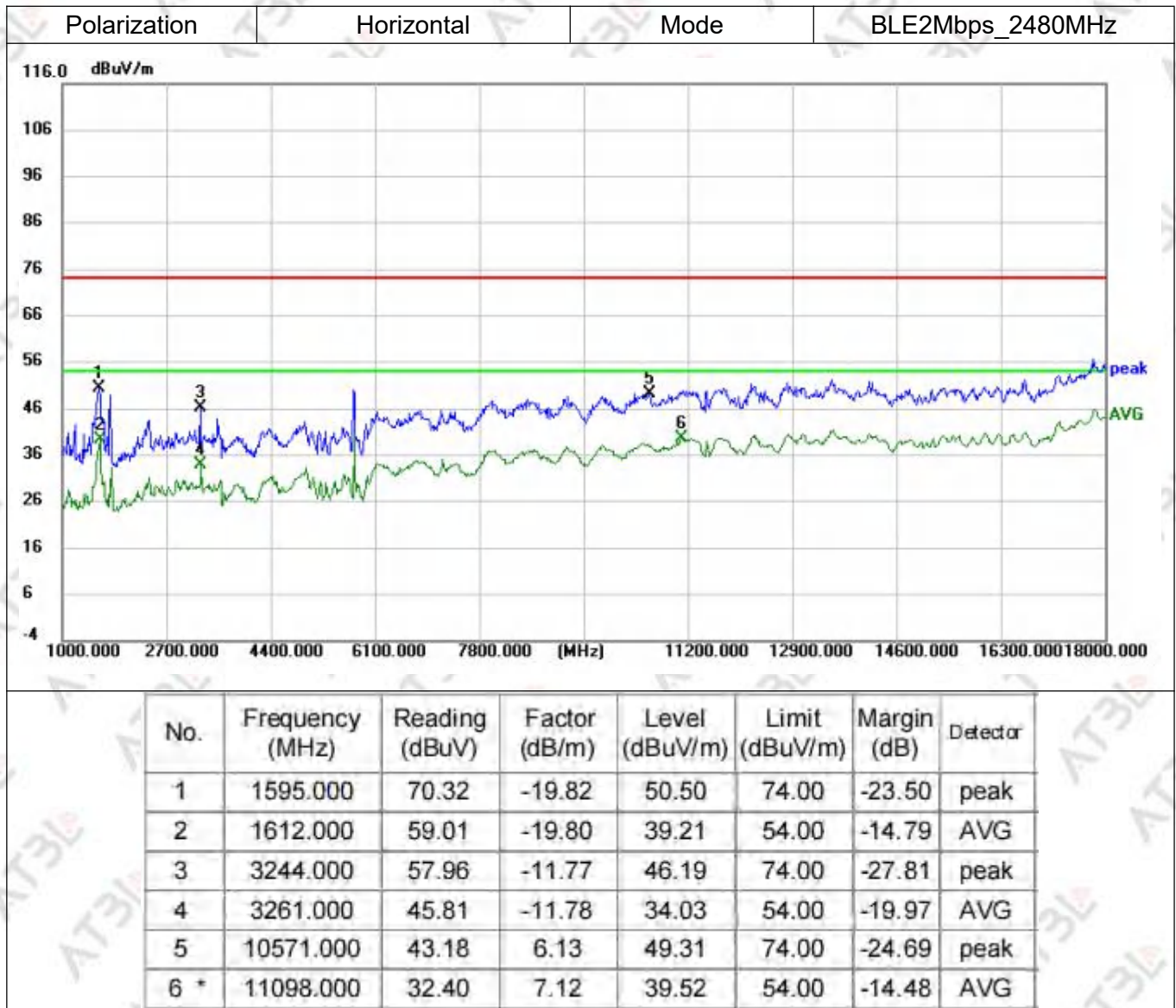
1. In frequency ranges 18 ~25GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.
2. We used the filter to test and the main frequency was filtered out.
3. Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
4. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.
5. The emission levels of other frequencies were less than 20dB margin against the limit.
6. Margin value = Emission level-Limit value.
7. All modes have been tested, only worst mode(BLE2Mbps) was recorded in the test report.

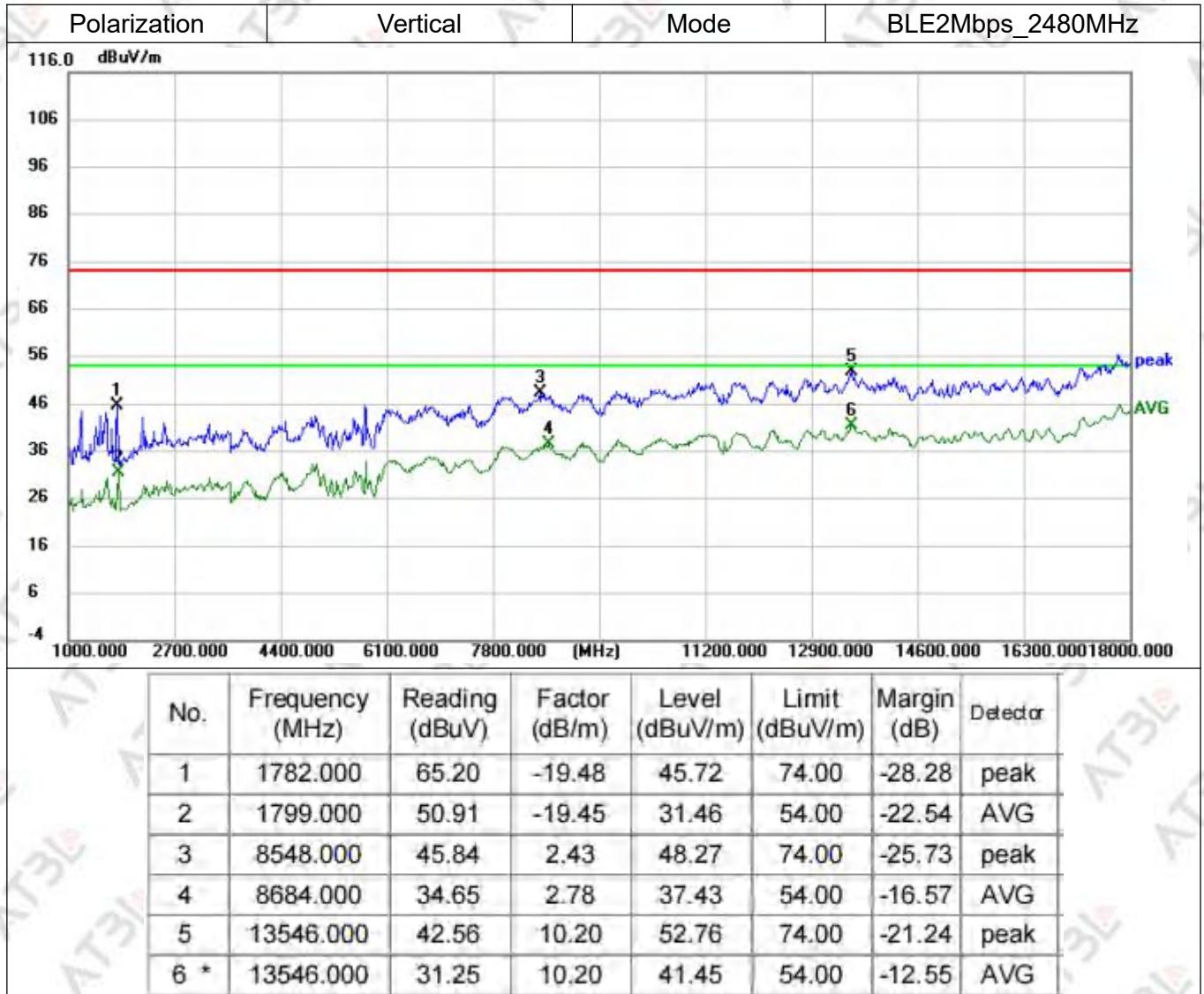








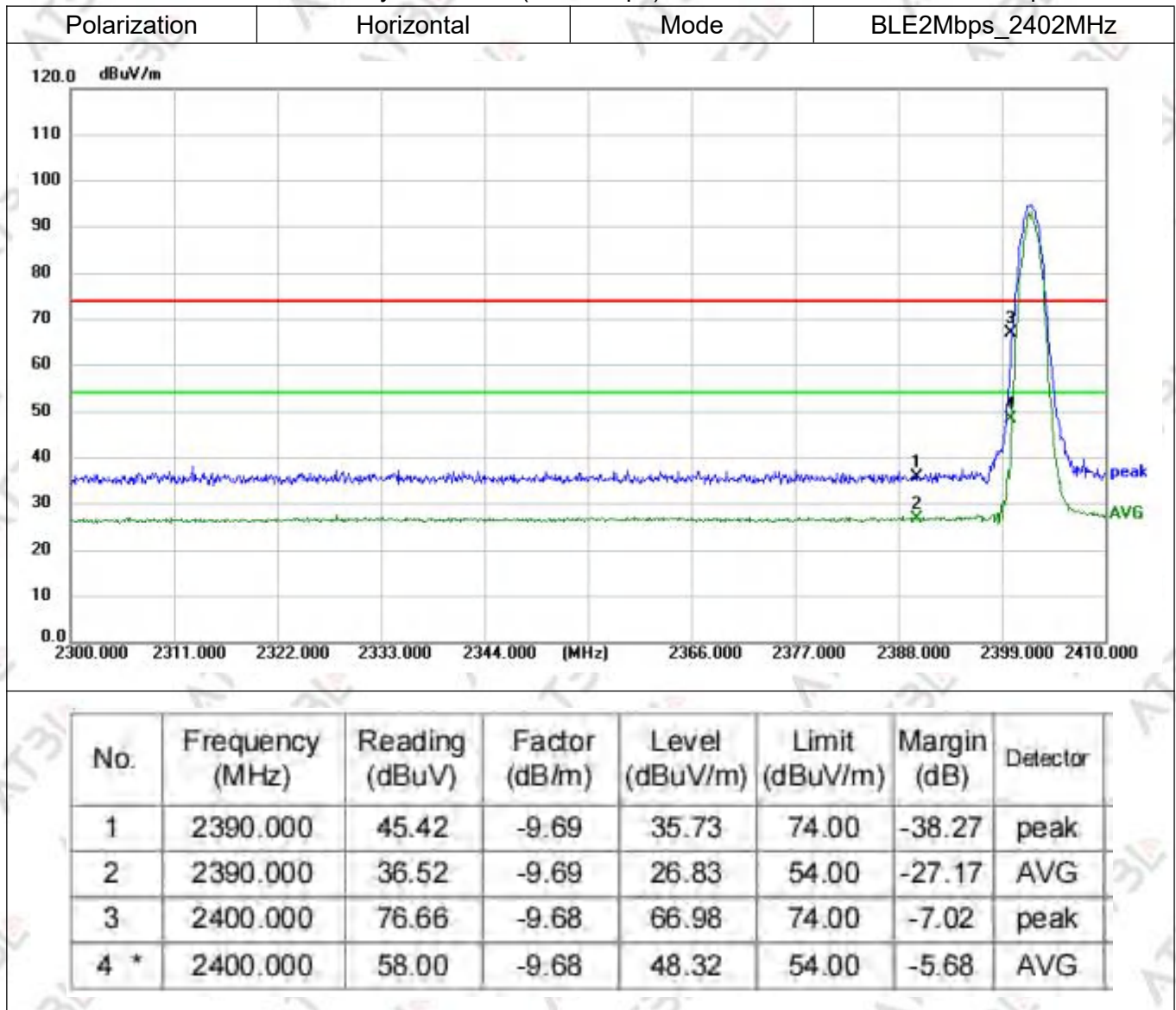


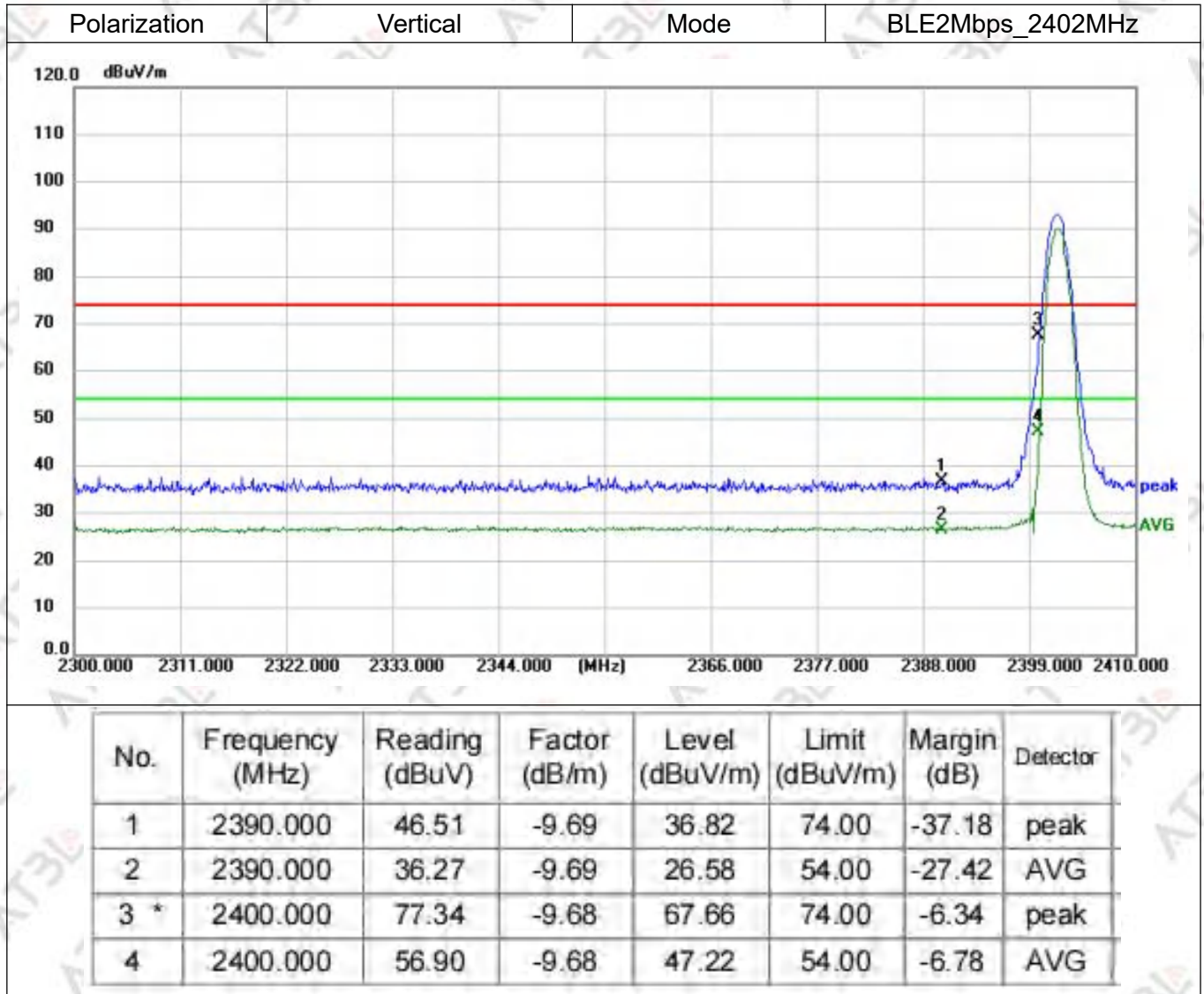


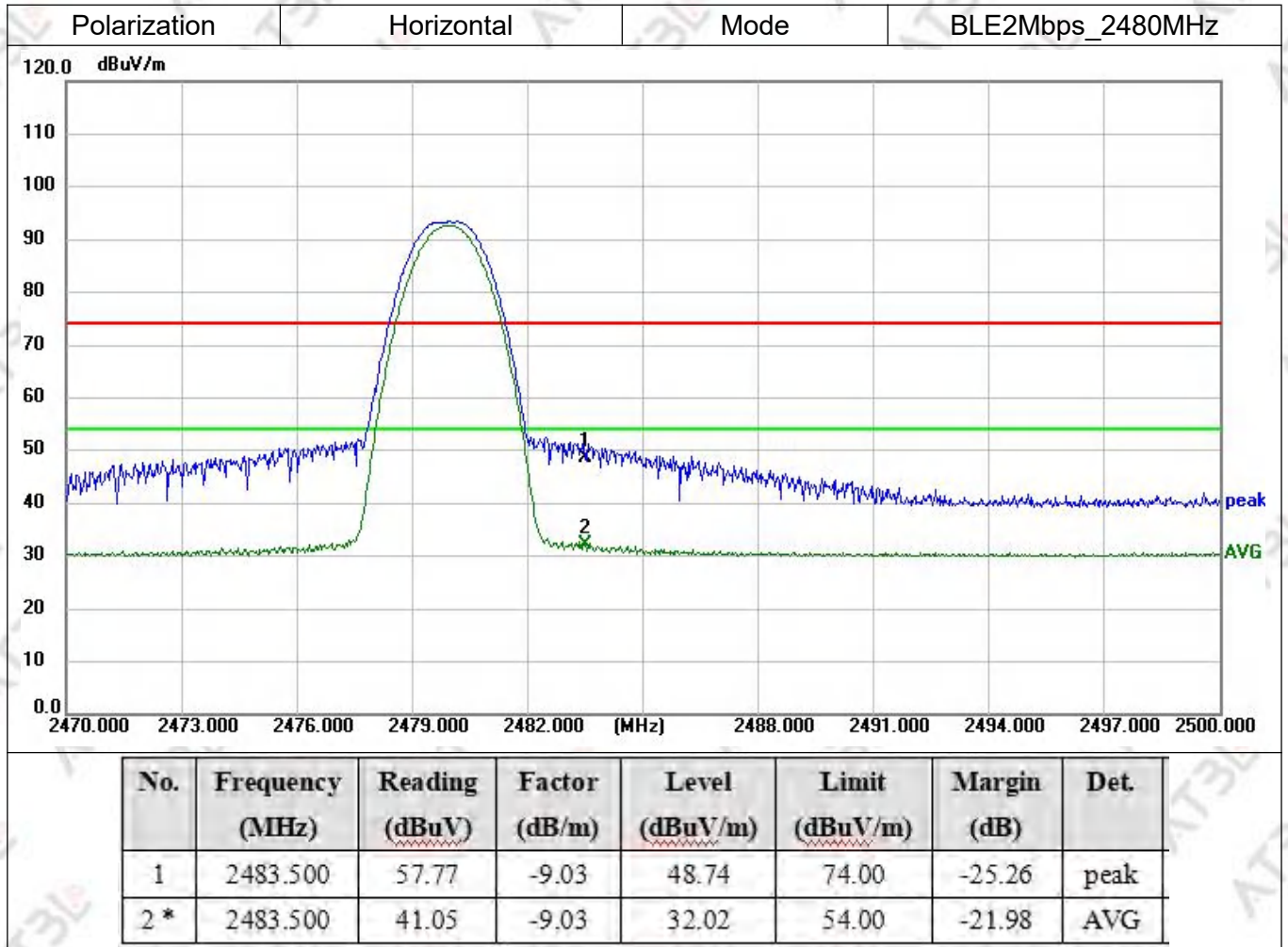
Test Result of Restricted Band

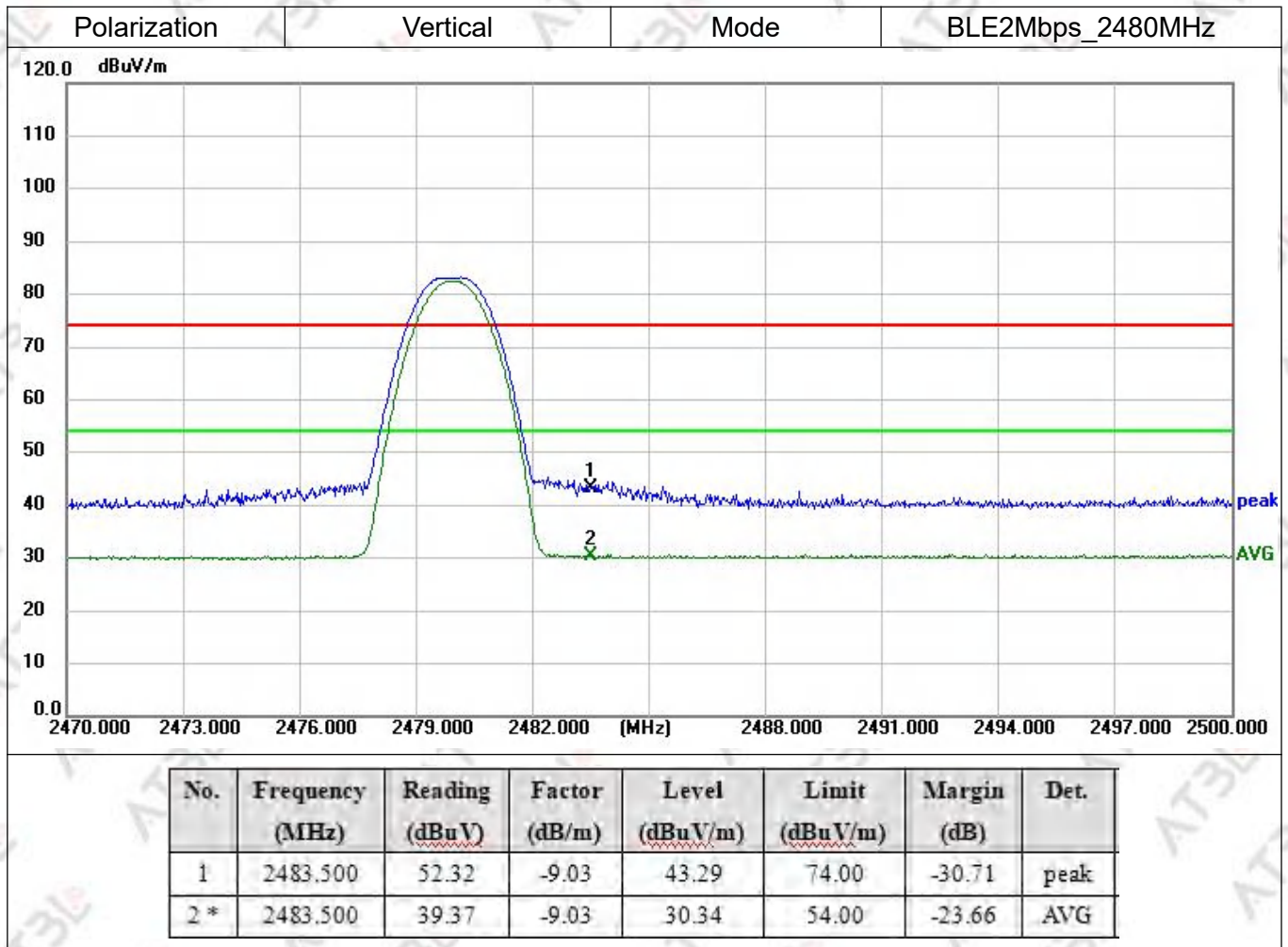
Note:

All modes have been tested, only worst case(BLE2Mbps)mode was recorded in the test report.





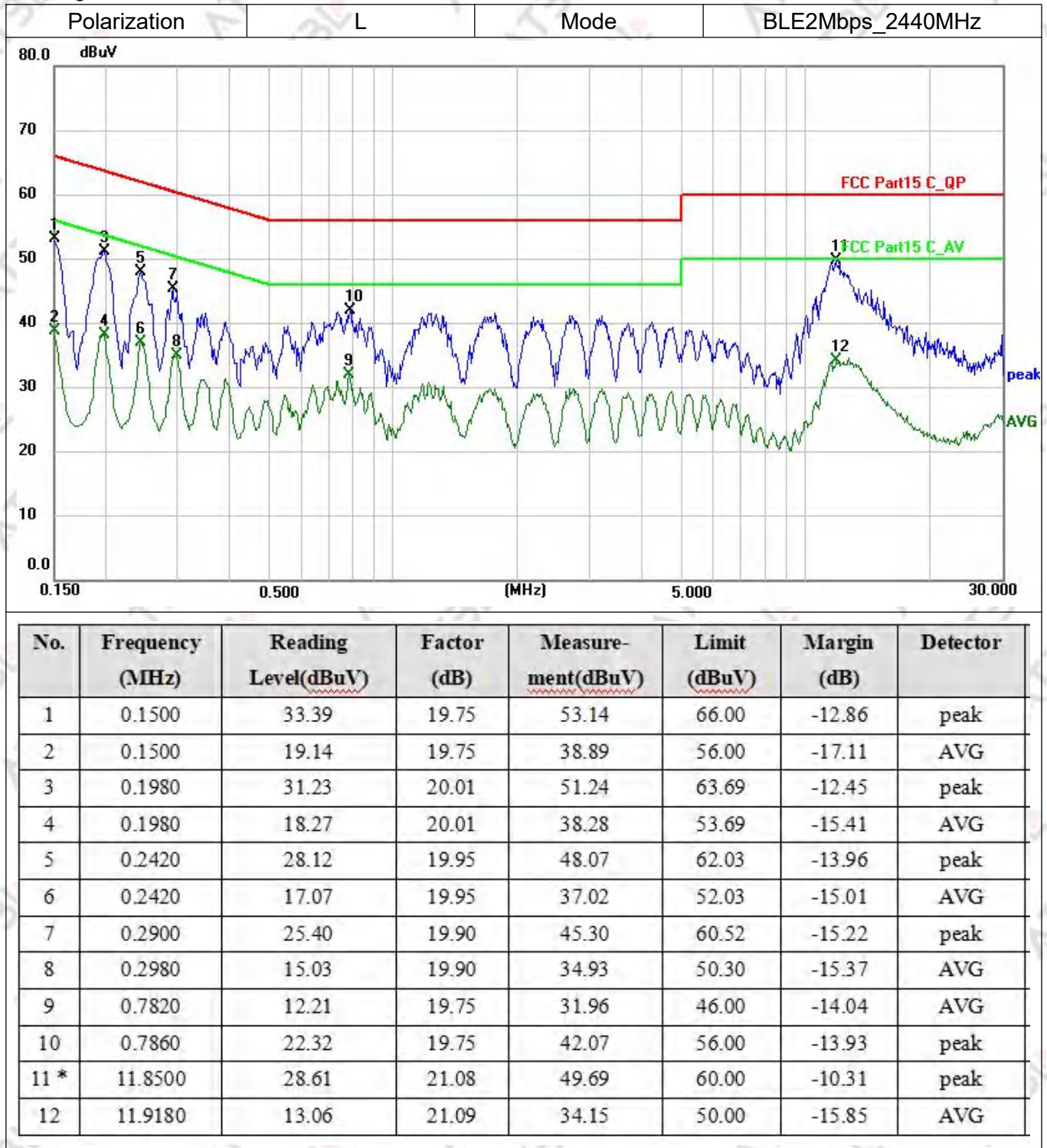


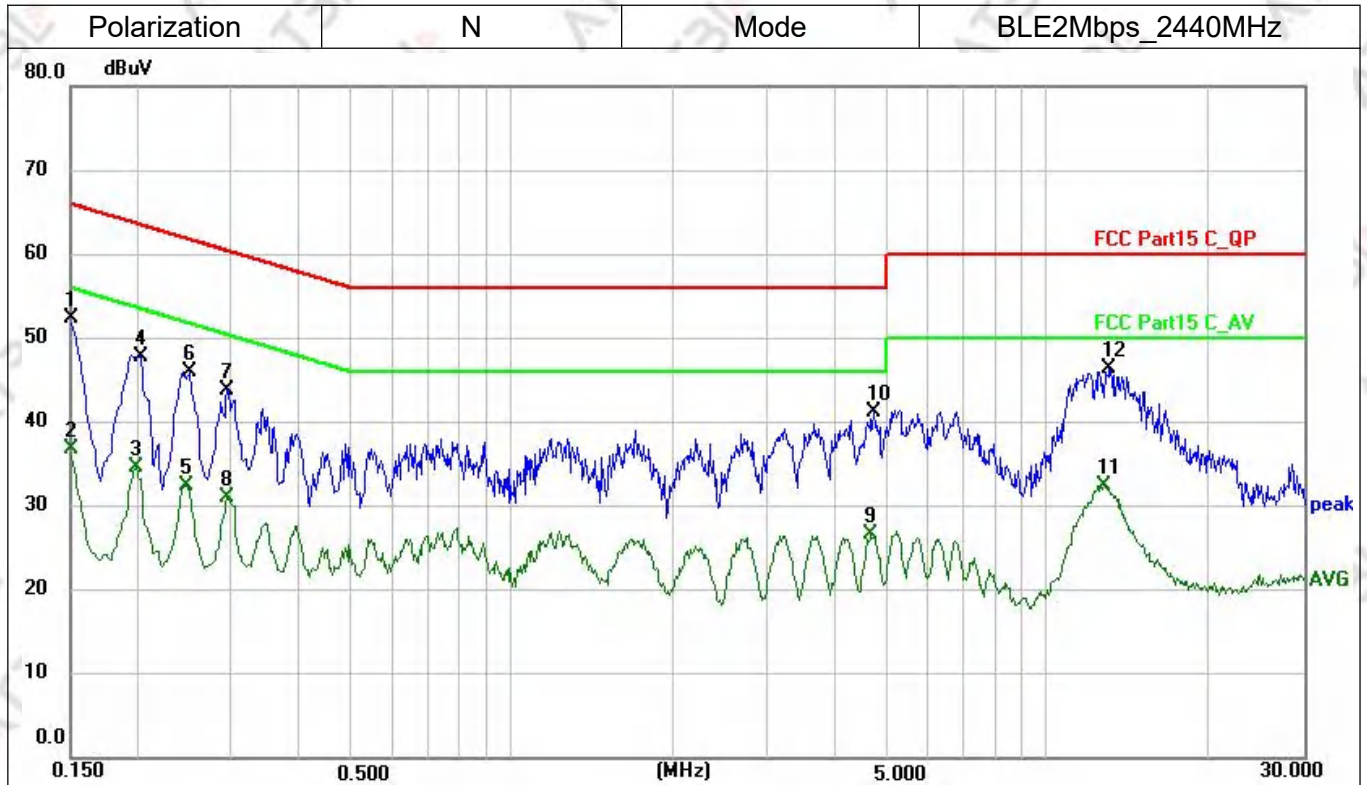


B6.AC Power-Line Conducted Emission

Note:

- 1.All modes have been tested, only worst mode(BLE2Mbps_2440MHz) was recorded in the test report.
- 2.Emission Level= Reading Value+ Correction Factor.
- 3.Correction Factor= Insertion loss+ Cable Factor.
- 4.The emission levels of other frequencies were less than 20dB margin against the limit.
- 5.Margin value = Emission level-Limit value.





No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	32.60	19.75	52.35	66.00	-13.65	peak
2	0.1500	17.14	19.75	36.89	56.00	-19.11	AVG
3	0.1980	14.90	19.72	34.62	53.69	-19.07	AVG
4	0.2020	28.08	19.72	47.80	63.53	-15.73	peak
5	0.2460	12.77	19.74	32.51	51.89	-19.38	AVG
6	0.2500	26.19	19.74	45.93	61.76	-15.83	peak
7	0.2940	24.02	19.79	43.81	60.41	-16.60	peak
8	0.2940	11.33	19.79	31.12	50.41	-19.29	AVG
9	4.6860	6.27	20.36	26.63	46.00	-19.37	AVG
10	4.7380	20.84	20.36	41.20	56.00	-14.80	peak
11	12.7380	11.08	21.40	32.48	50.00	-17.52	AVG
12 *	13.0540	24.98	21.49	46.47	60.00	-13.53	peak

*****END*****