

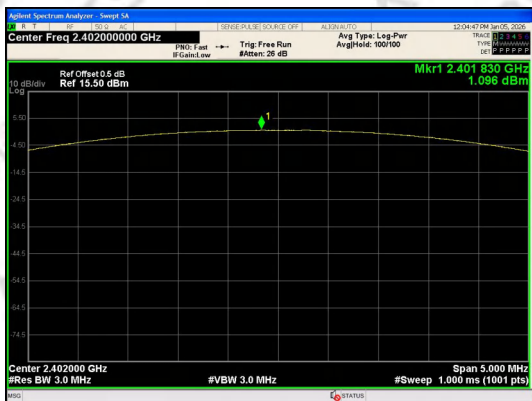
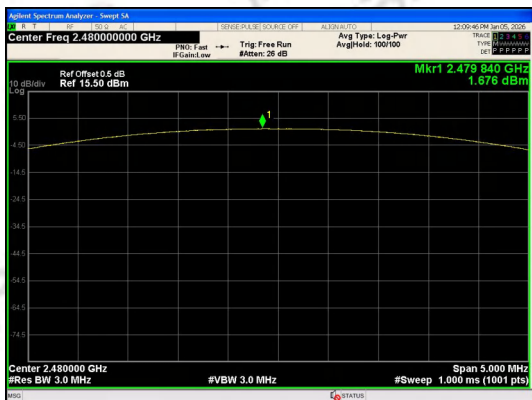
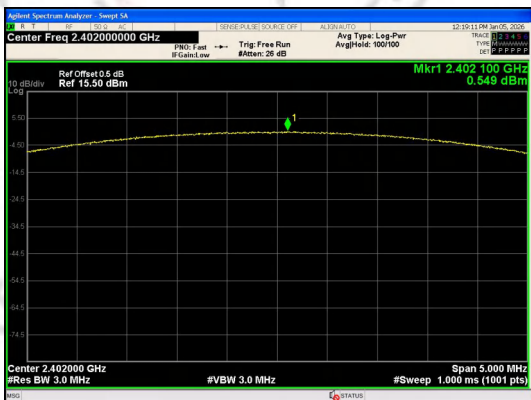
Appendix A of data

A1.Maximum Peak Conducted Output Power

Test Result

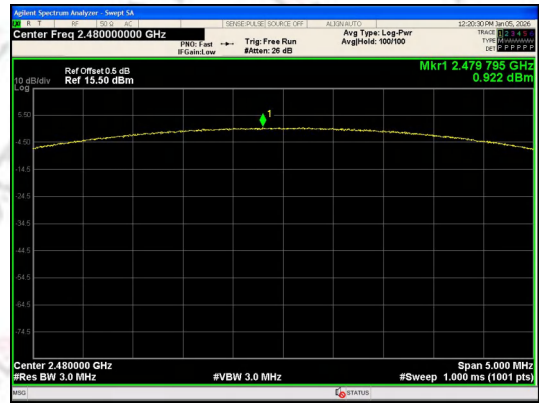
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	1.10	1.29	≤21	PASS
		39	1.45	1.40		PASS
		78	1.68	1.47		PASS
$\pi/4$ DQPSK	2-DH5	0	0.55	1.13		PASS
		39	0.74	1.19		PASS
		78	0.92	1.24		PASS
8DPSK	3-DH5	0	1.10	1.29		PASS
		39	1.10	1.29		PASS
		78	1.23	1.33		PASS

Test Graphs

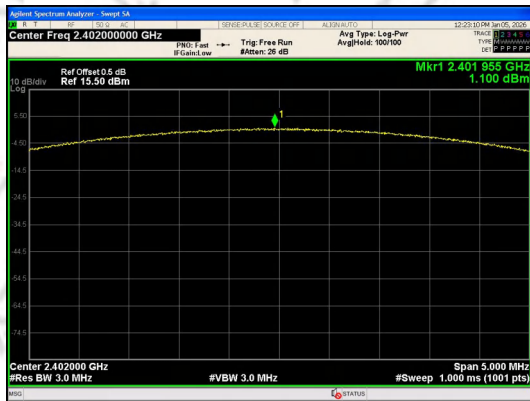
	
Peak Output Power GFSK_Channel 0	Peak Output Power GFSK_Channel 39
	
Peak Output Power GFSK_Channel 78	Peak Output Power $\pi/4$ DQPSK_Channel 0



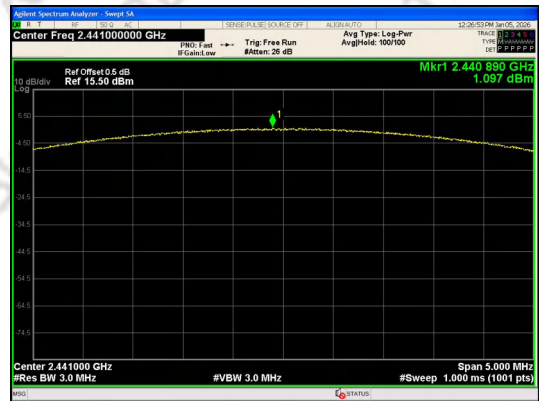
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



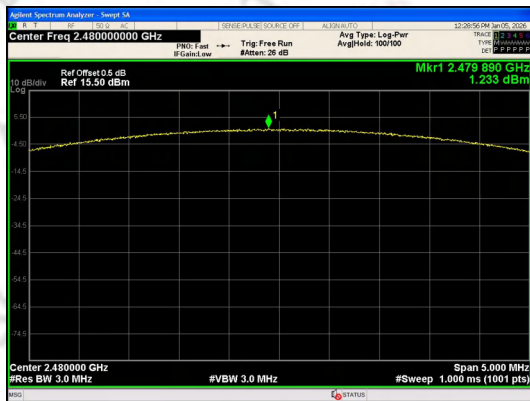
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



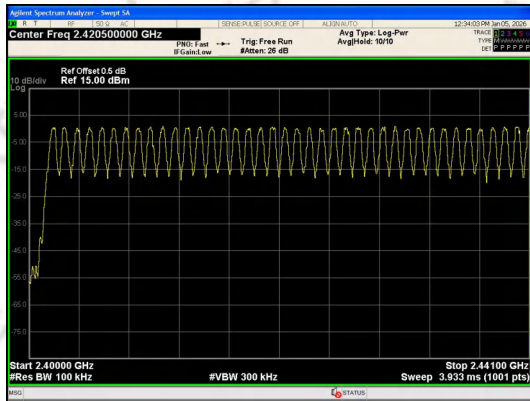
Peak Output Power
8DPSK_Channel 78

A2.Number of Hopping Frequencies

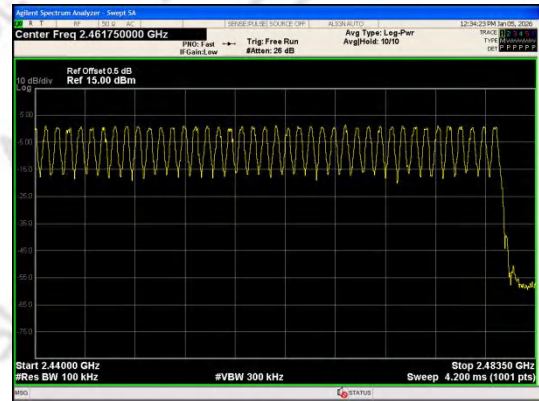
Test Result

Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

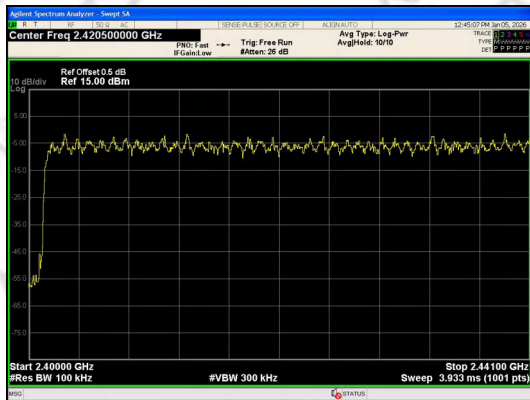
Test Graphs



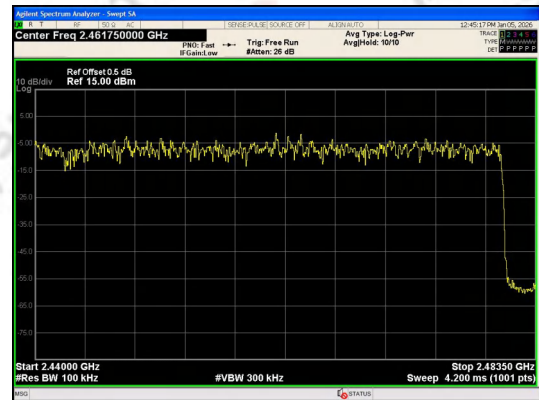
Low End Spectrum Channel Hopping Plot
GFSK



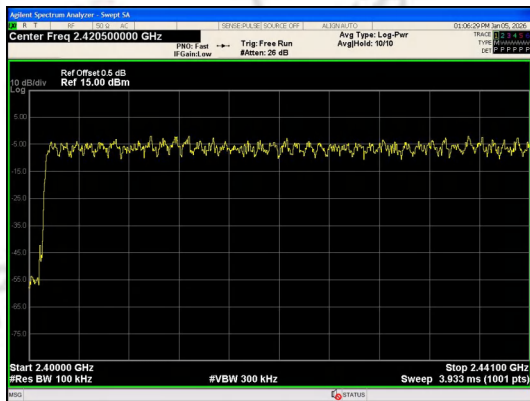
High End Spectrum Channel Hopping Plot
GFSK



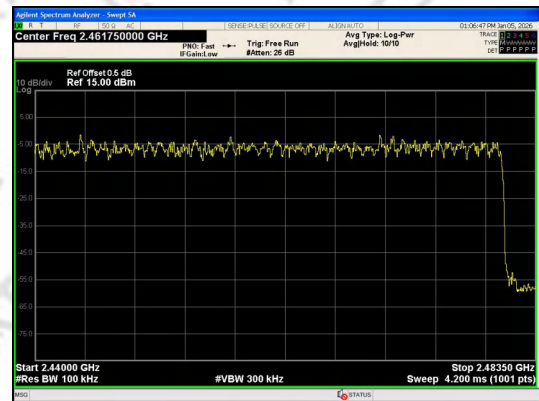
Low End Spectrum Channel Hopping Plot
 $\pi/4$ DQPSK



High End Spectrum Channel Hopping Plot
 $\pi/4$ DQPSK



Low End Spectrum Channel Hopping Plot
8DPSK



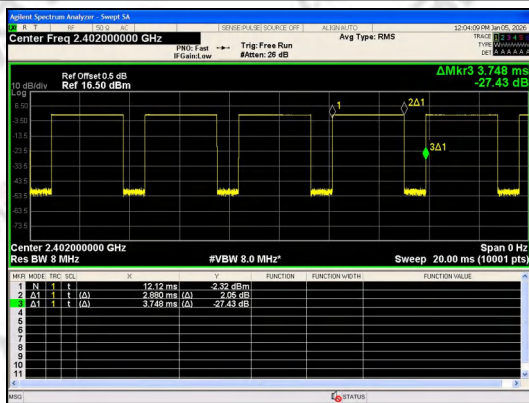
High End Spectrum Channel Hopping Plot
8DPSK

A3.Duty Cycle and Dwell Time

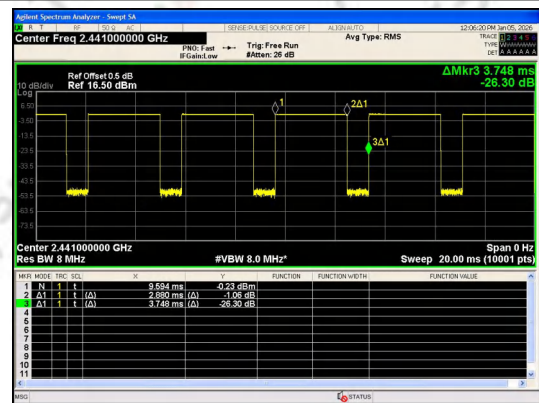
Duty Cycle Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
GFSK	DH5	0	2.880	3.748	76.84	0.7684	1.1441
		39	2.880	3.748	76.84	0.7684	1.1441
		78	2.880	3.748	76.84	0.7684	1.1441
$\pi/4$ DQPSK	2-DH5	0	2.888	3.748	77.05	0.7705	1.1323
		39	2.888	3.748	77.05	0.7705	1.1323
		78	2.888	3.748	77.05	0.7705	1.1323
8DPSK	3-DH5	0	2.890	3.748	77.11	0.7711	1.1289
		39	2.890	3.748	77.11	0.7711	1.1289
		78	2.890	3.748	77.11	0.7711	1.1289

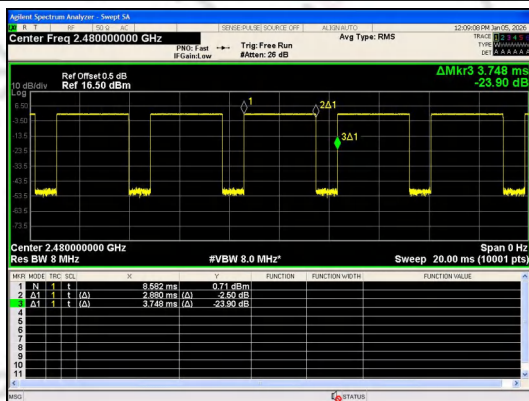
Test Graphs



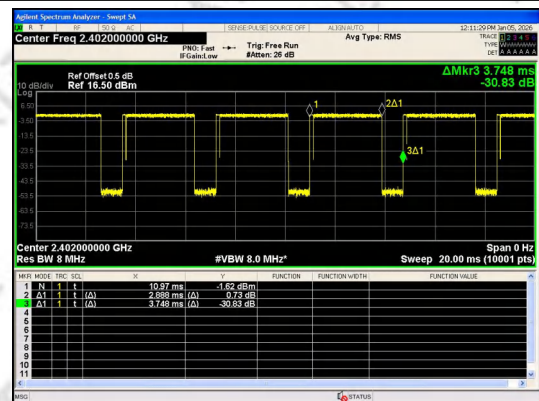
GFSK(DH5)_Channel 0

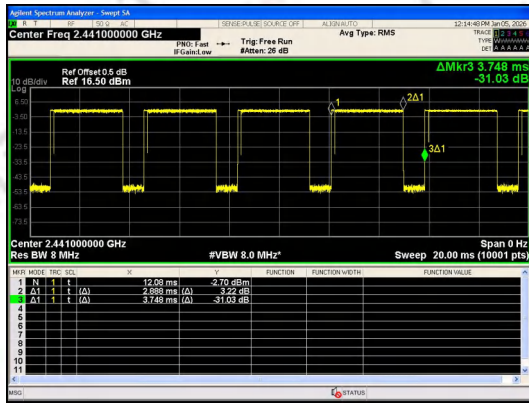


GFSK(DH5)_Channel 39

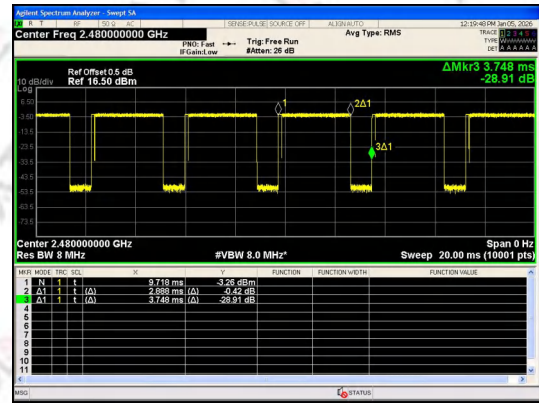


GFSK(DH5)_Channel 78

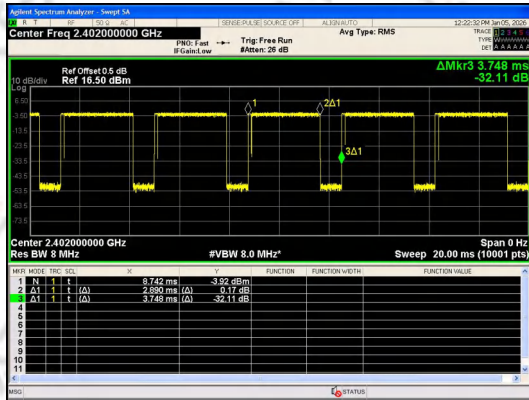

 $\pi/4$ DQPSK(2-DH5)_Channel 0



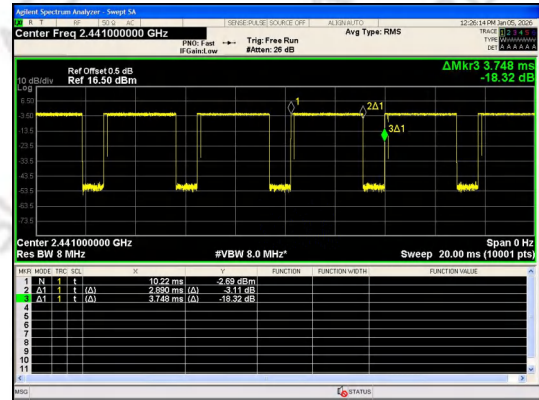
$\pi/4$ DQPSK(2-DH5)_Channel 39



$\pi/4$ DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



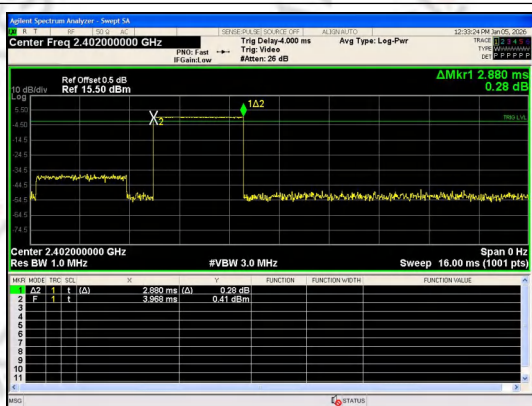
8DPSK(3-DH5)_Channel 78

Dwell Time Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	Hopping	2.880	111	319.68	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	103	298.29		PASS
8DPSK	3-DH5		2.896	99	286.7		PASS

Note: Dwell time=Pulse time(ms)*Number of Pulses in 31.6 seconds

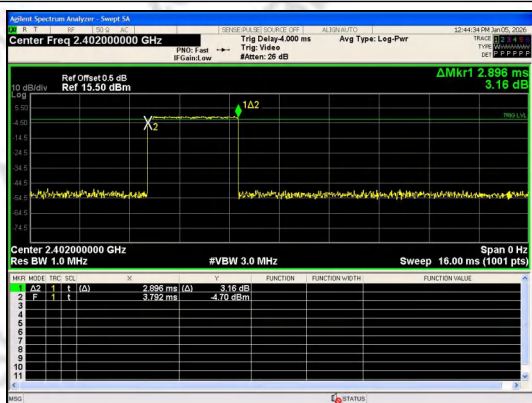
Test Graphs



Pulse Width
GFSK_DH5



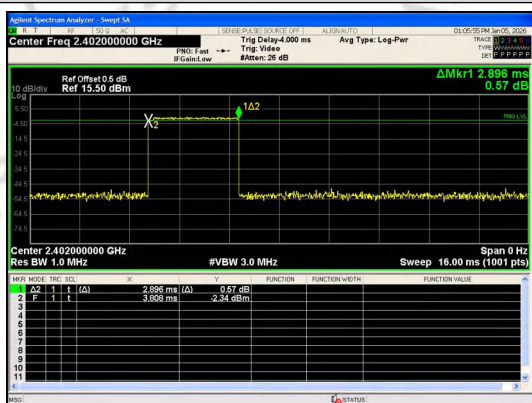
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
 $\pi/4$ DQPSK_2-DH5



Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5



Pulse Width



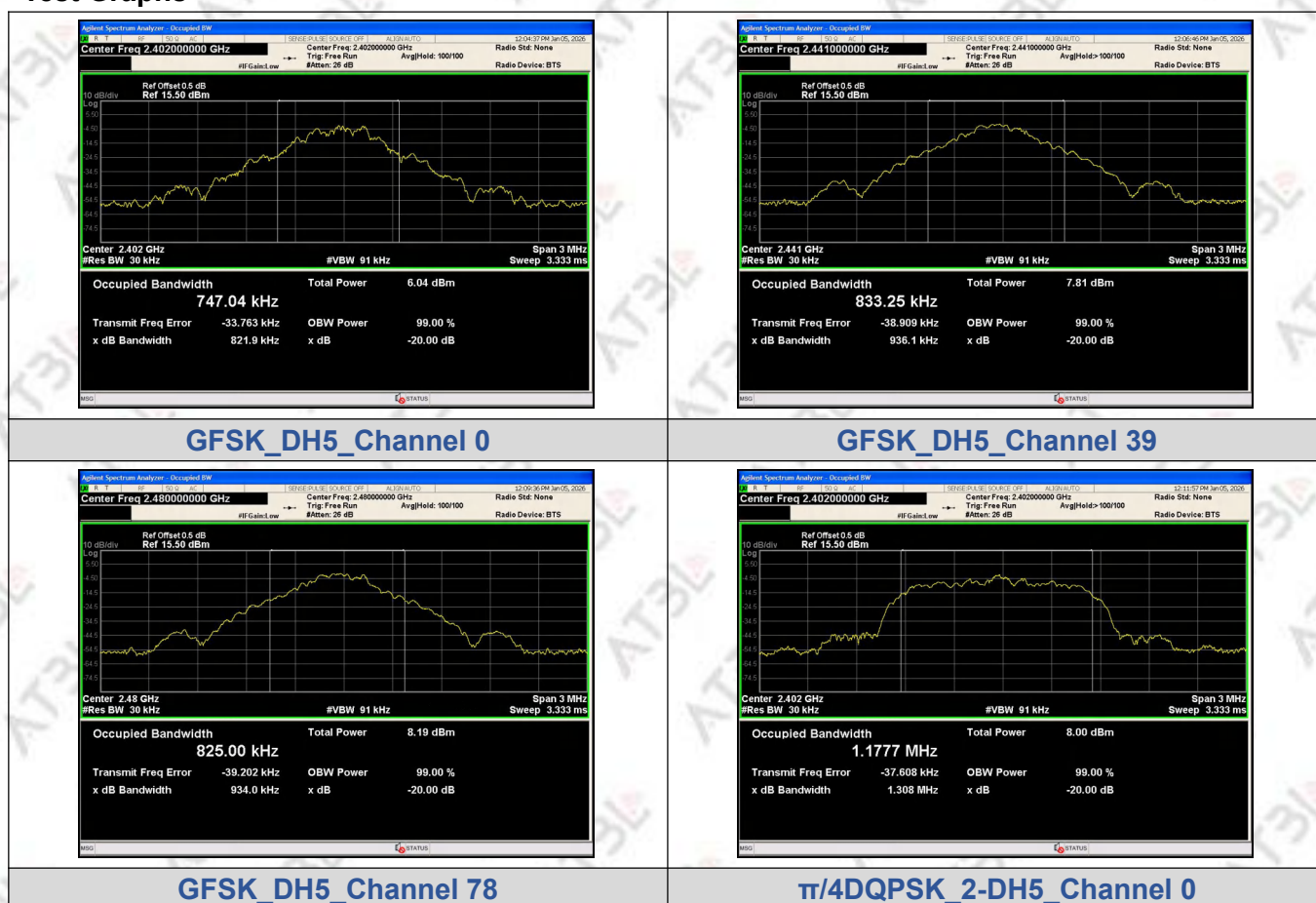
Number of Pulses in 31.6 seconds

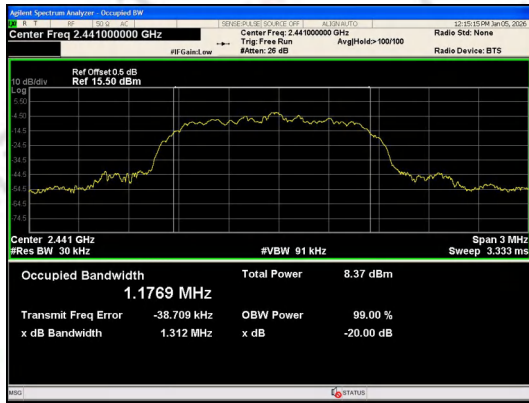
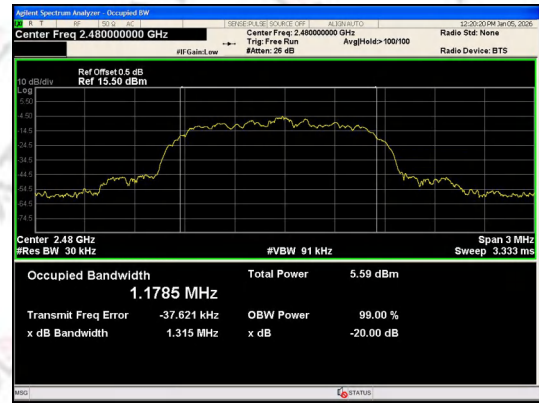
A4.20dB Bandwidth

Test Result

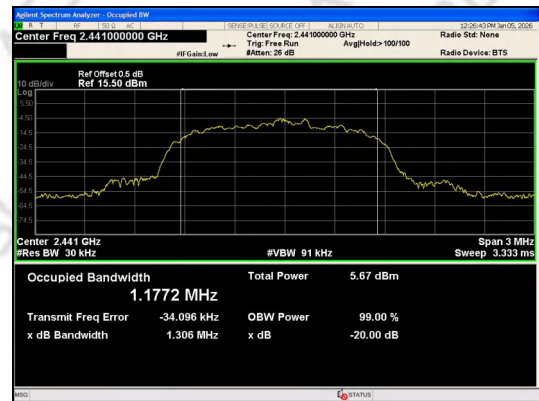
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.8219
	39	2441 MHz	0.9361
	78	2480 MHz	0.9340
$\pi/4$ DQPSK	0	2402 MHz	1.308
	39	2441 MHz	1.312
	78	2480 MHz	1.315
8DPSK	0	2402 MHz	1.311
	39	2441 MHz	1.306
	78	2480 MHz	1.306

Test Graphs

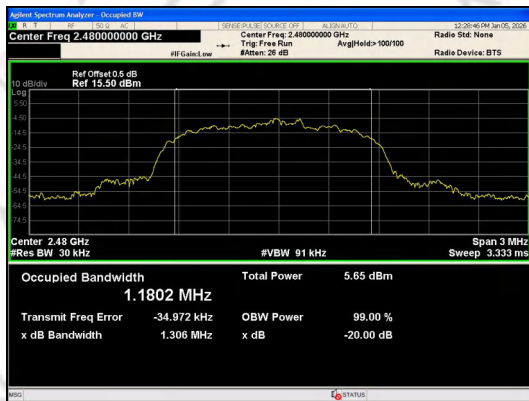



 $\pi/4$ DQPSK_2-DH5_Channel 39

 $\pi/4$ DQPSK_2-DH5_Channel 78


8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



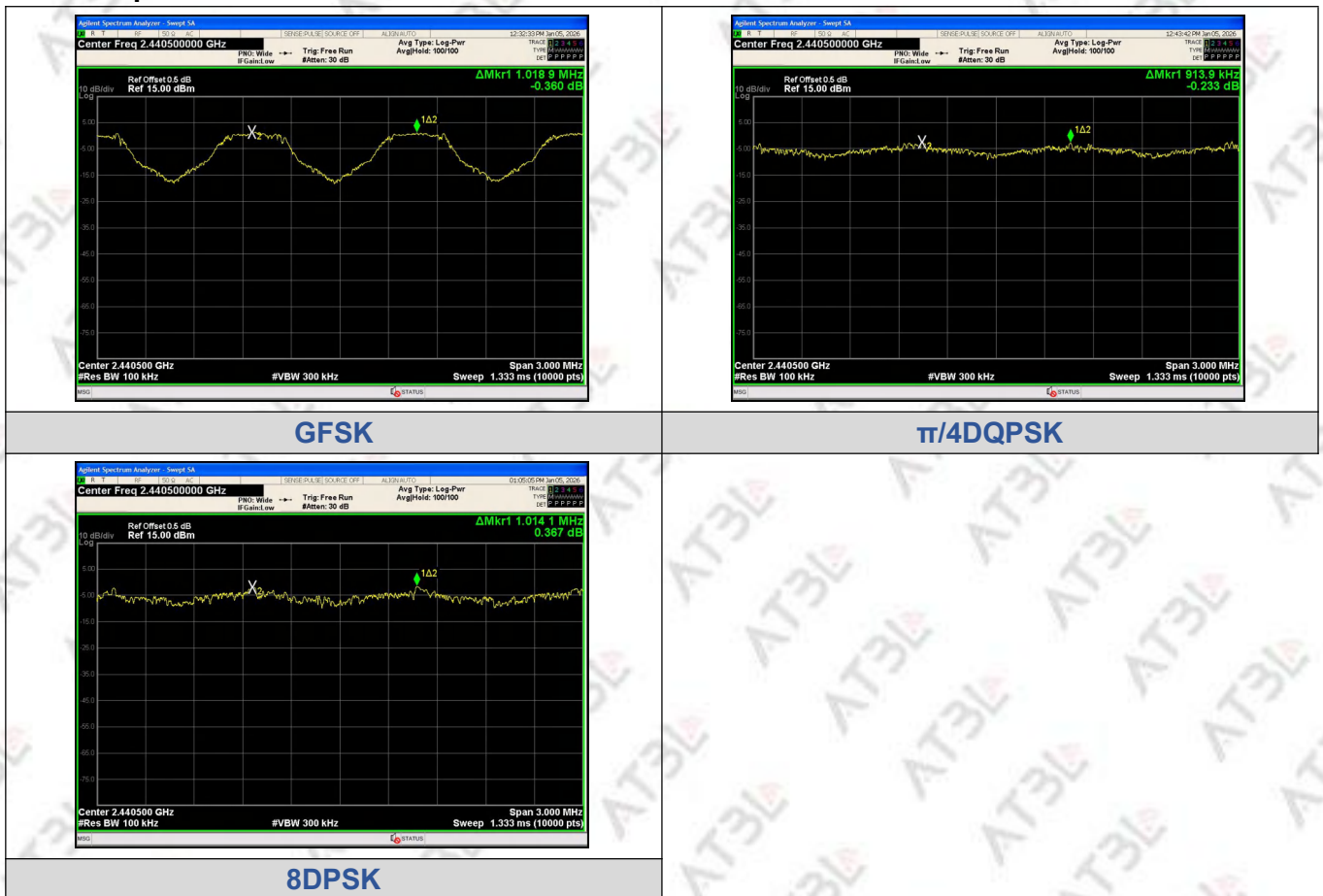
8DPSK_3-DH5_Channel 78

A5.Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Minimum Limit (MHz)	Result
GFSK	DH5	2439.9556	2440.9745	1.0189	0.547	PASS
$\pi/4$ DQPSK	2-DH5	2440.0432	2440.9571	0.9139	0.872	PASS
8DPSK	3-DH5	2439.9595	2440.9736	1.0141	0.870	PASS

Test Graphs



A6.Conducted Band Edge and Conducted Spurious Emission

Test Result

Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-54.234	-19.02	-35.214	PASS
			3202.44	-42.267	-19.02	-23.247	PASS
		39	3254.88	-44.224	-18.62	-25.604	PASS
		78	2483.50	-58.387	-18.86	-39.527	PASS
			3306.69	-44.489	-18.86	-25.629	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-52.131	-19.71	-32.421	PASS
			3202.44	-42.477	-19.71	-22.767	PASS
		39	3254.88	-44.444	-18.89	-25.554	PASS
		78	2483.50	-58.371	-22.94	-35.431	PASS
			3306.69	-45.718	-22.94	-22.778	PASS
8DPSK	3-DH5	0	2400.00	-55.452	-22.22	-33.232	PASS
			3202.44	-43.830	-22.22	-21.610	PASS
		39	3254.88	-45.288	-21.96	-23.328	PASS
		78	2483.50	-56.965	-21.91	-35.055	PASS
			3306.69	-45.843	-21.91	-23.933	PASS

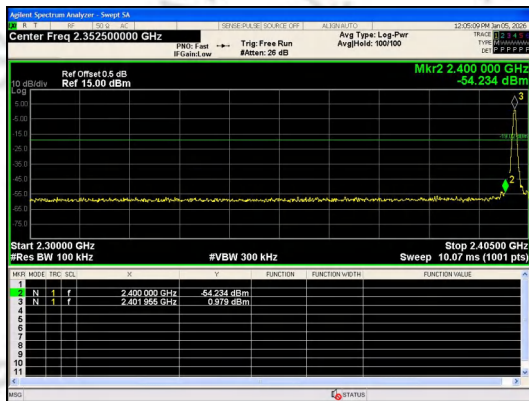
Note: input compensation coefficient (dB)= Cable Loss (dB)

Hopping

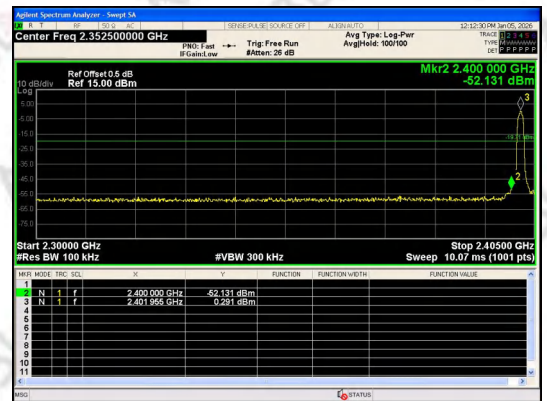
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2400.00	-54.726	-19.28	-35.446	PASS
			2483.50	-56.339	-18.32	-38.019	PASS
π/4DQPSK	2-DH5		2398.91	-55.046	-21.76	-33.286	PASS
			2400.00	-56.583	-21.76	-34.823	PASS
			2483.50	-57.293	-21.51	-35.783	PASS
8DPSK	3-DH5		2400.00	-55.738	-22.02	-33.718	PASS
			2483.50	-56.429	-21.75	-34.679	PASS
Note: input compensation coefficient (dB)= Cable Loss (dB)							

Test Graphs

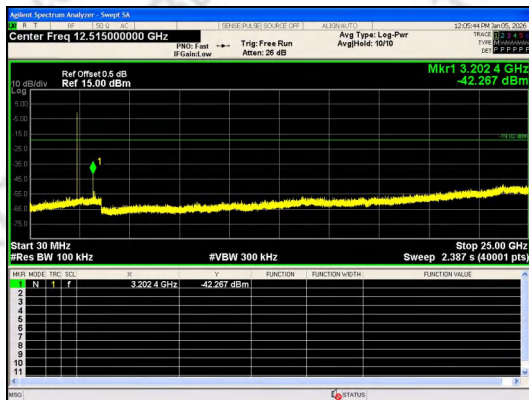
Non-Hopping



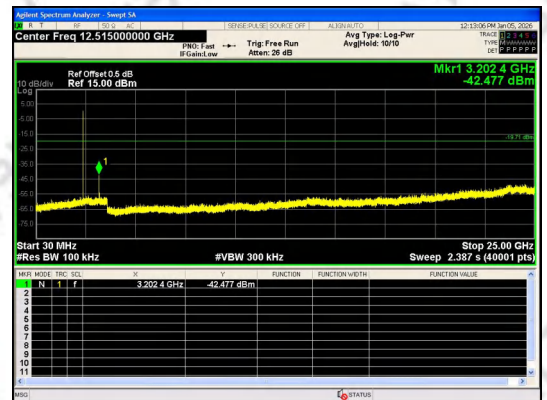
Out Of Band Emission
GFSK_DH5_Channel 0



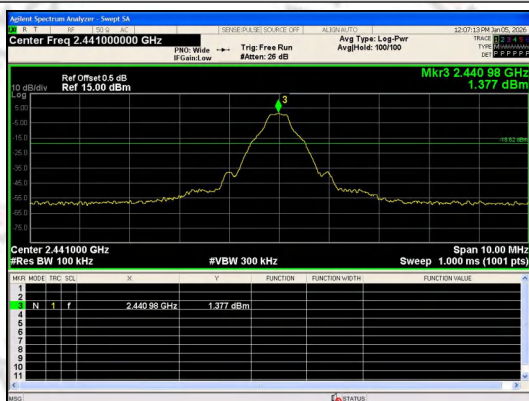
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



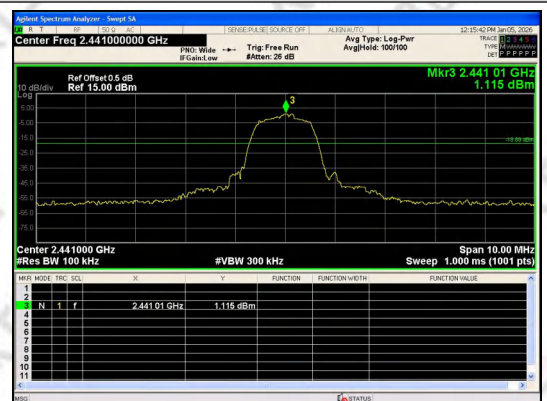
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



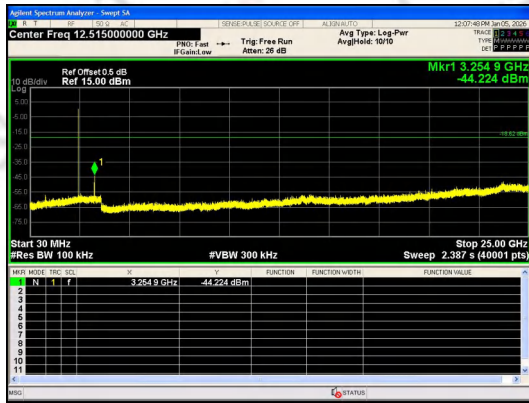
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



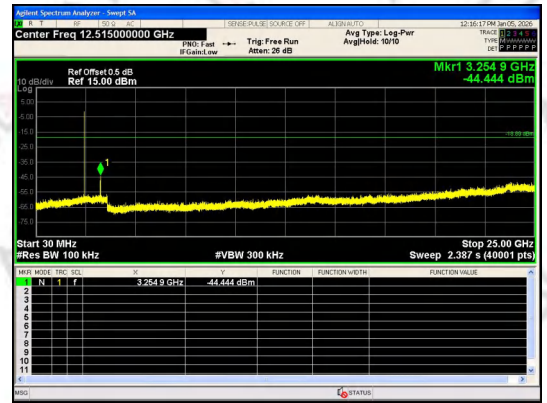
Out Of Band Emission
GFSK_DH5_Channel 39



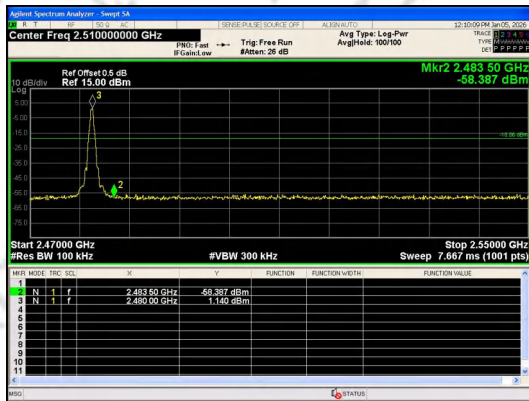
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



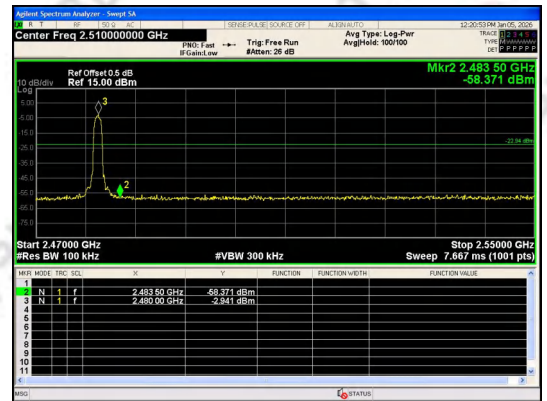
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



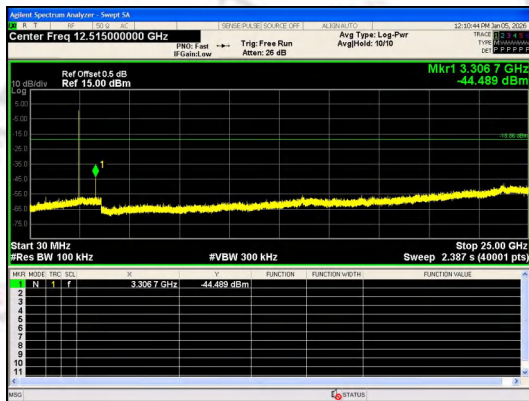
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39



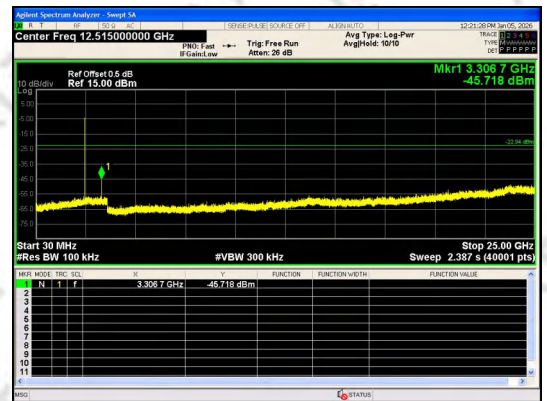
Out Of Band Emission
GFSK_DH5_Channel 78



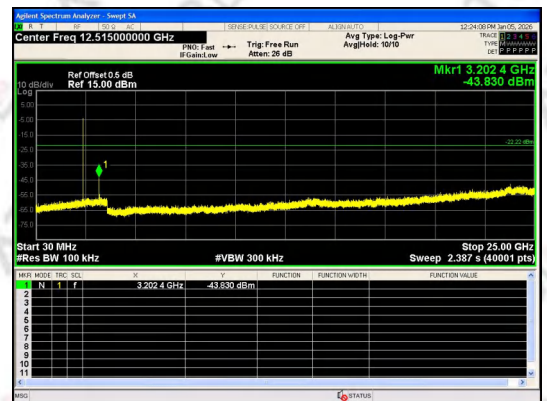
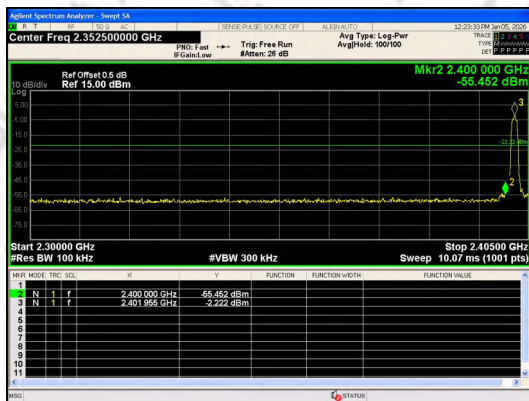
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



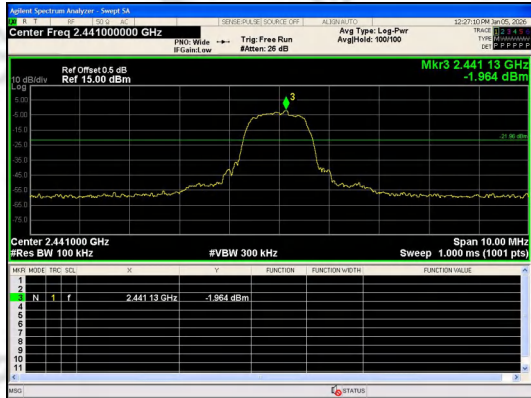
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



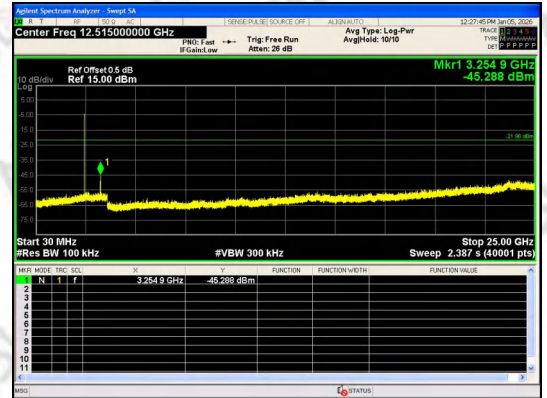
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



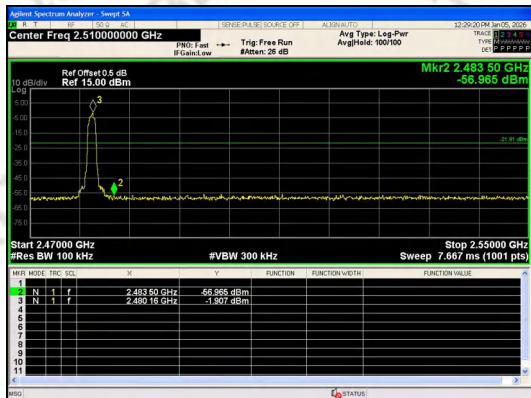
Out Of Band Emission 8DPSK_3-DH5_Channel 0



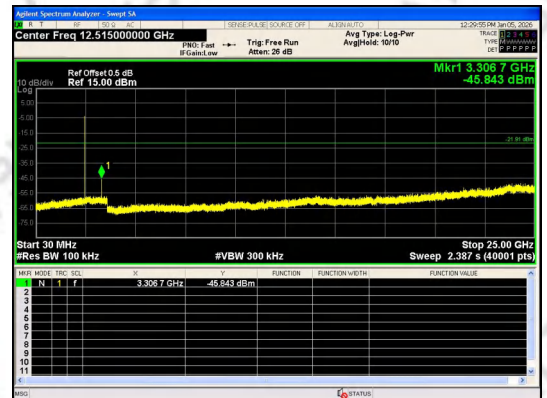
30.0 MHz - 25000.0 MHz 8DPSK_3-DH5_Channel 0



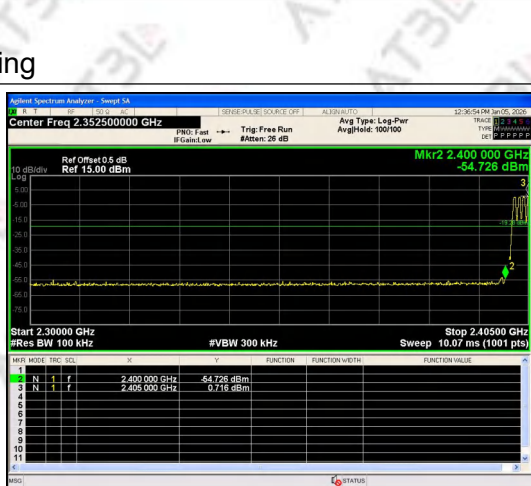
Out Of Band Emission 8DPSK_3-DH5_Channel 39



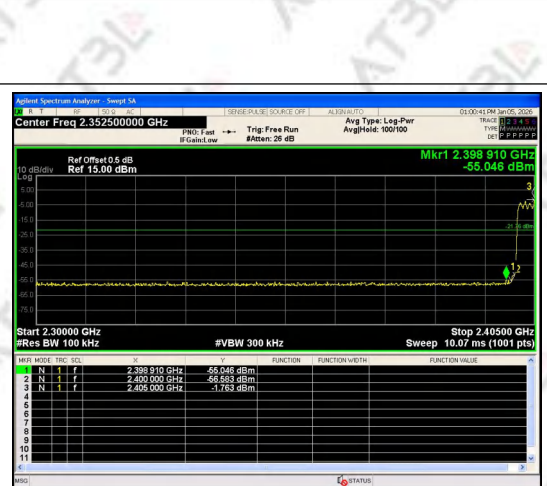
30.0 MHz - 25000.0 MHz 8DPSK_3-DH5_Channel 39



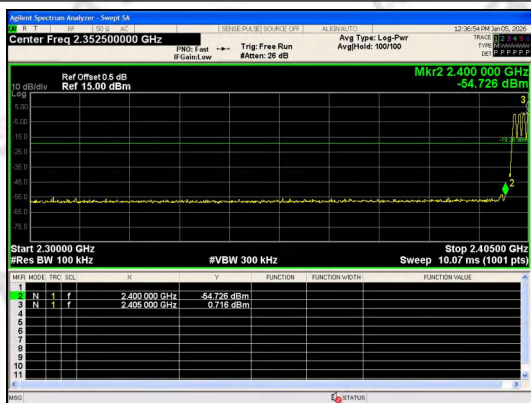
Out Of Band Emission 8DPSK_3-DH5_Channel 78



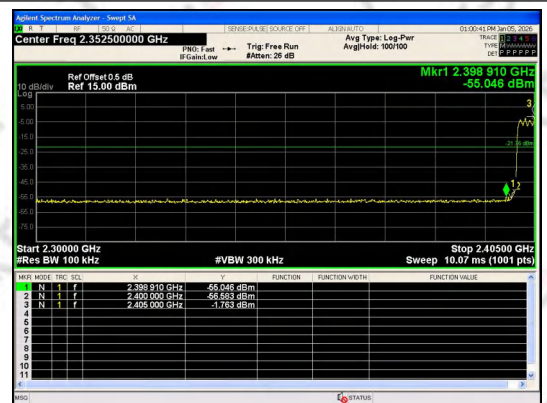
30.0 MHz - 25000.0 MHz 8DPSK_3-DH5_Channel 78



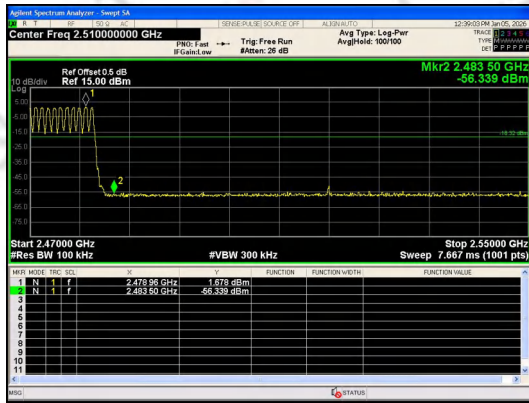
Hopping



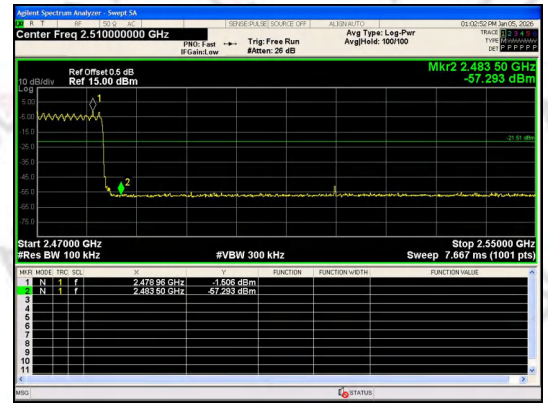
Out Of Band Emission(Left) GFSK_DH5_Channel Hopping



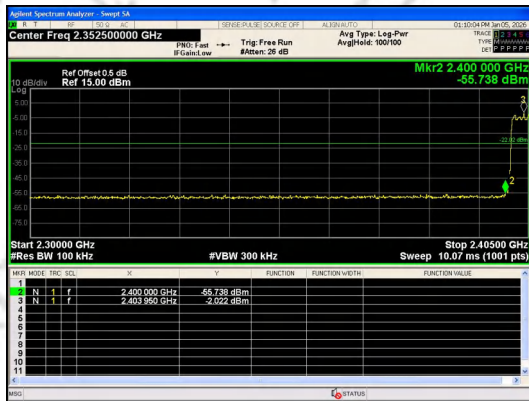
Out Of Band Emission(Left) π/4DQPSK_2-DH5_Channel Hopping



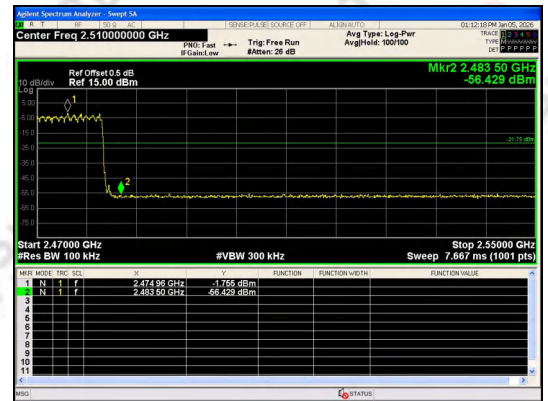
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



Out Of Band Emission(Left)
8DPSK_3-DH5_Channel Hopping



Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

A7.Radiated Spurious Emission and Restricted Band

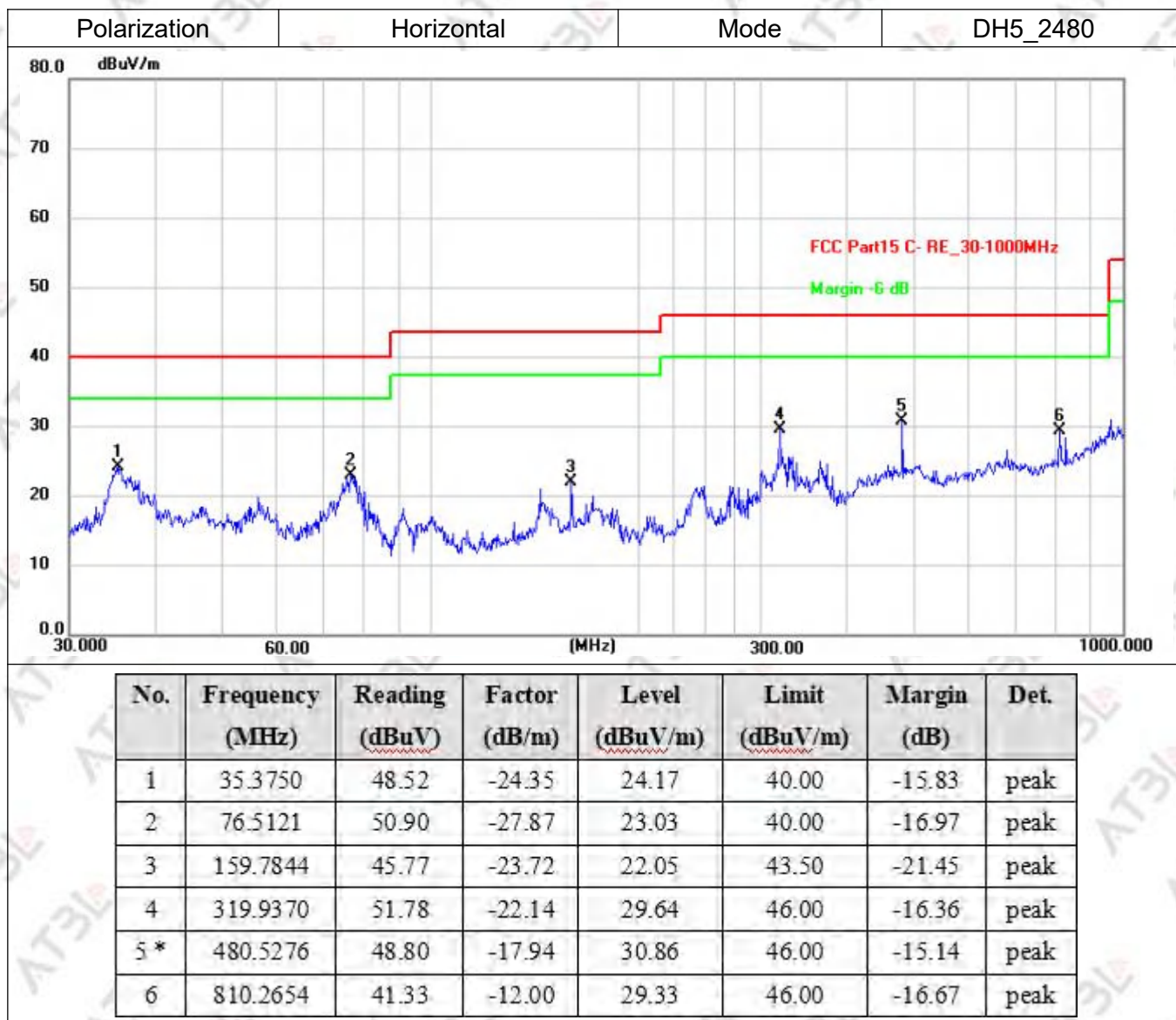
For 9 kHz ~ 30 MHz

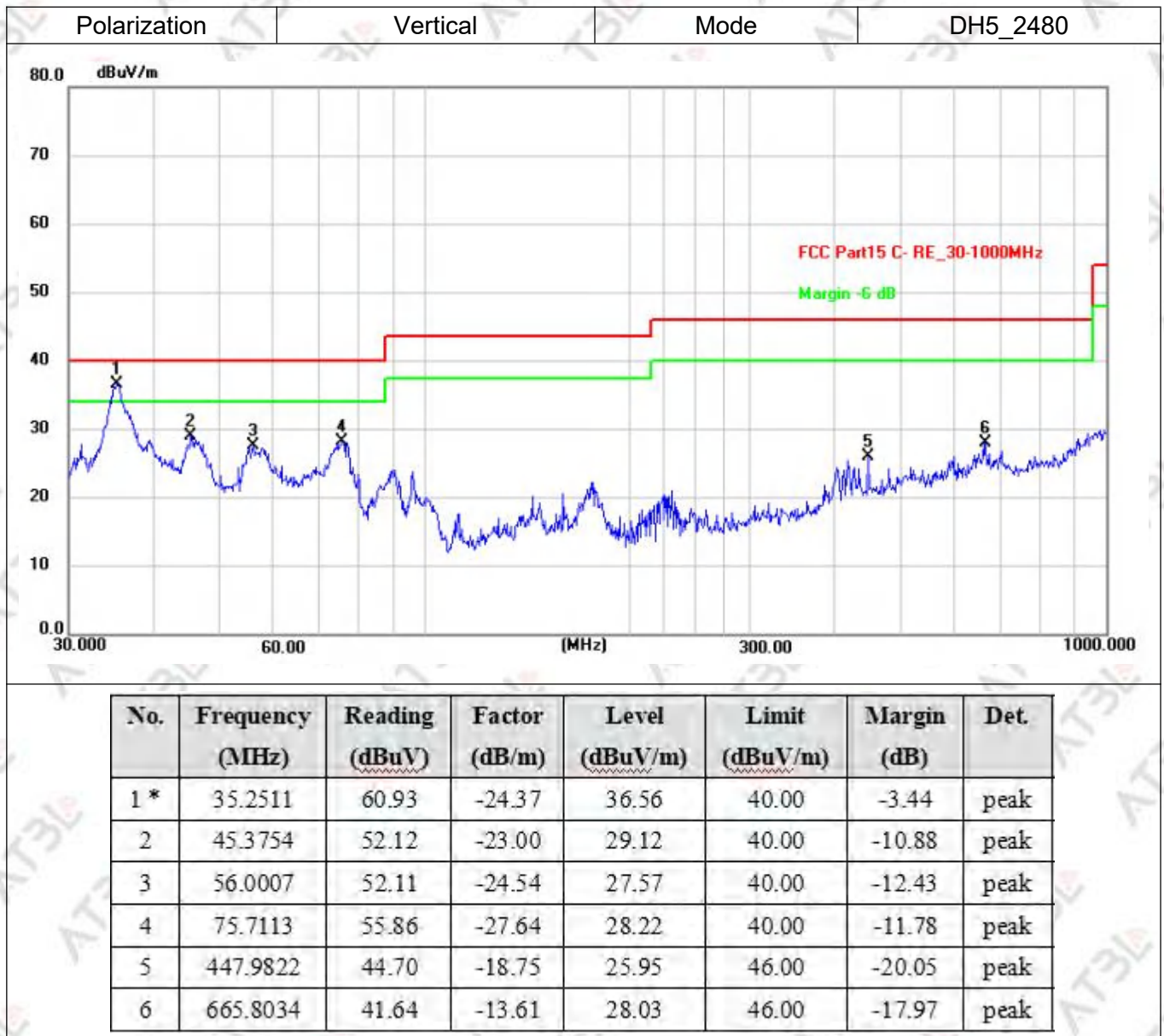
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

For 30 MHz ~ 1 GHz:

Note:

- 1.All modes have been tested, only worst mode(DH5_2480MHz) 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.

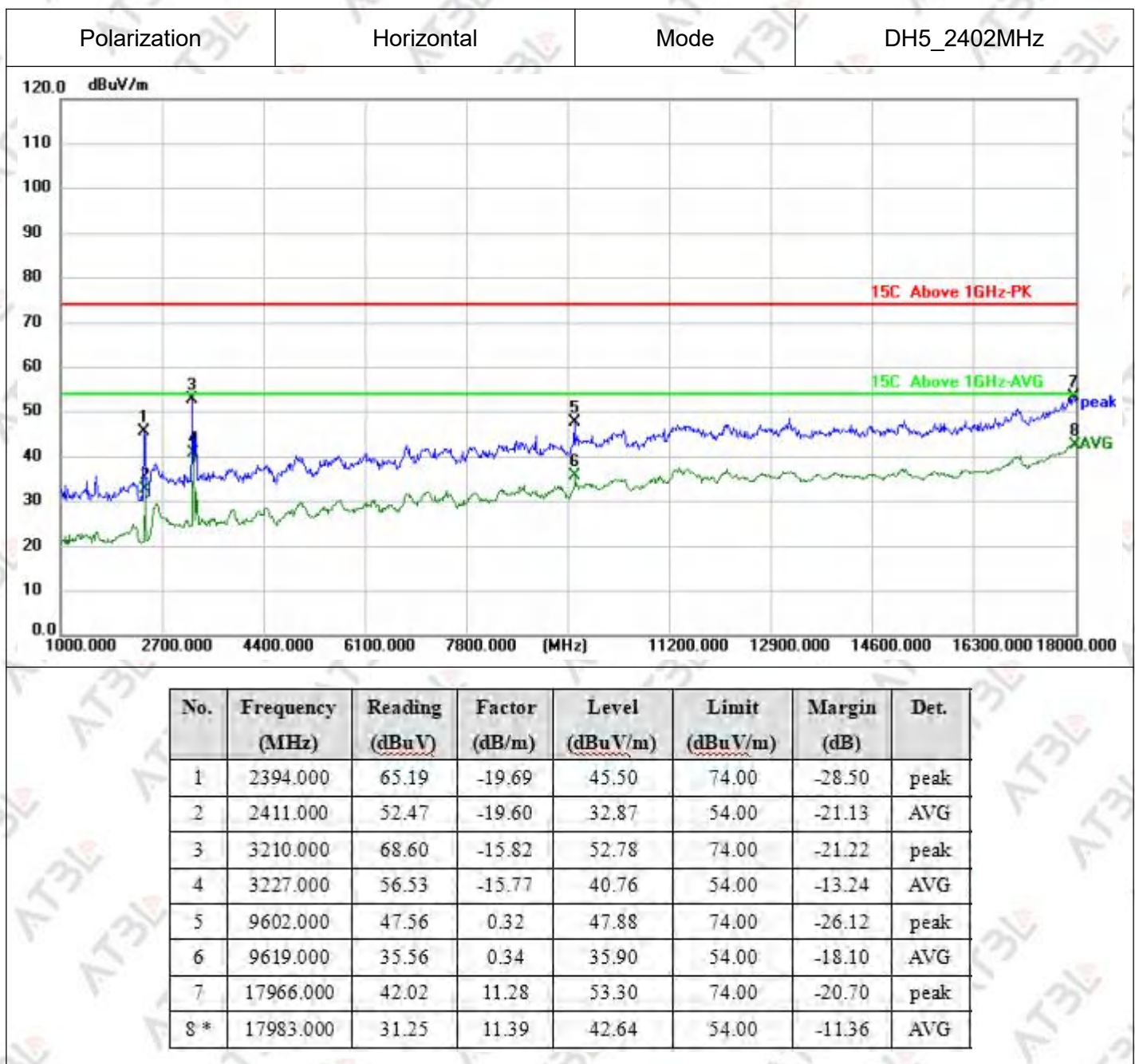


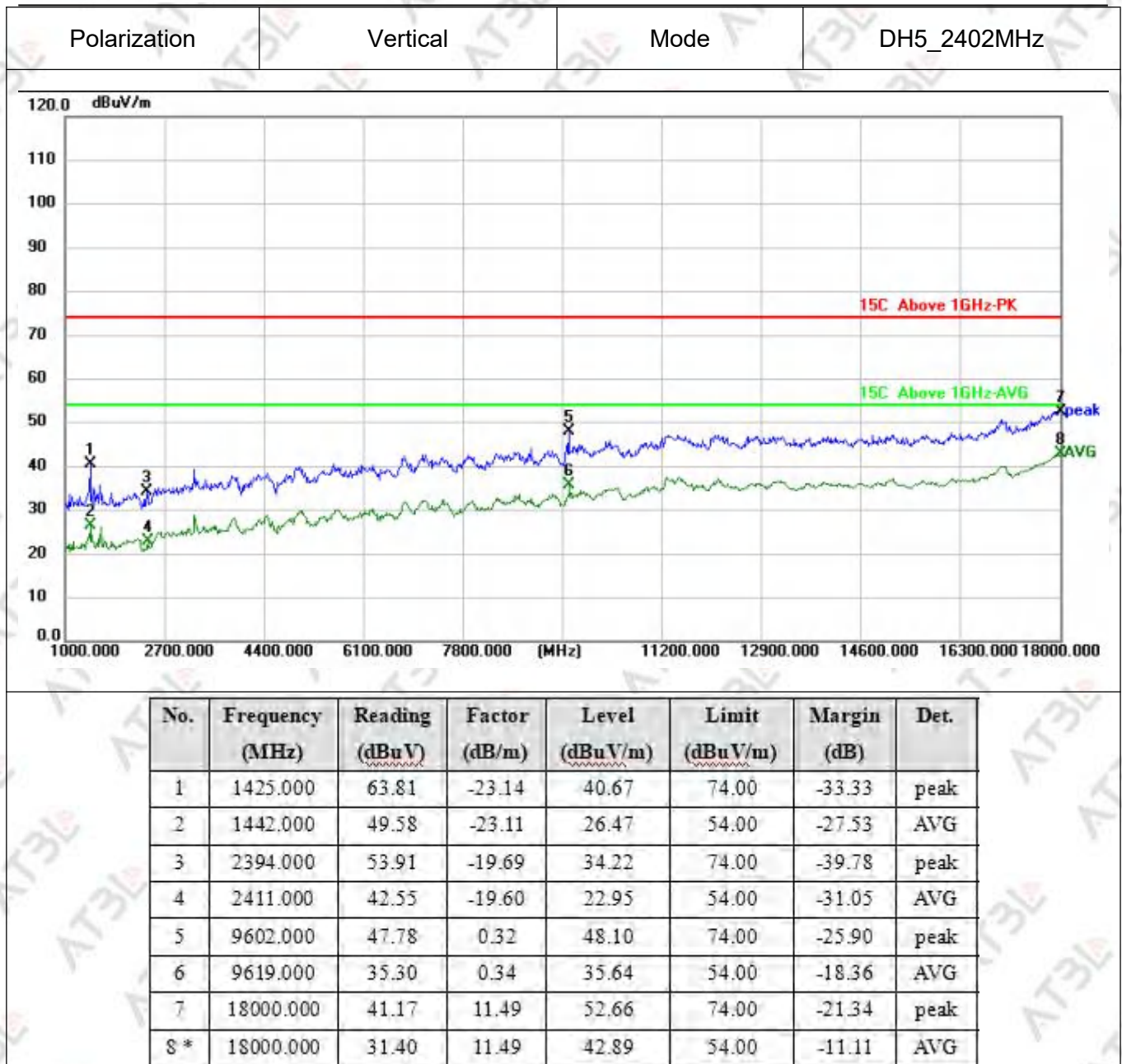


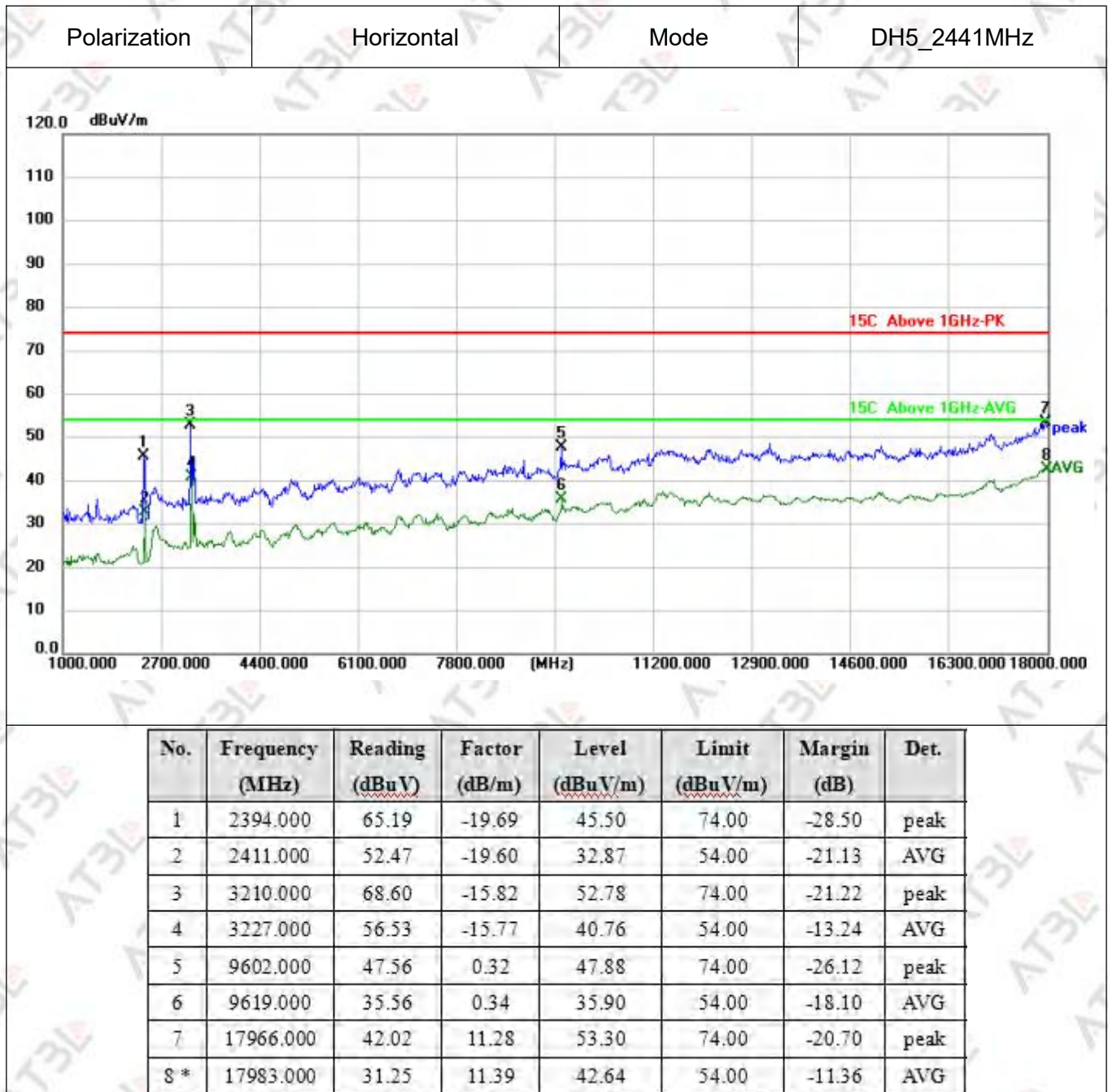
For 1 GHz ~ 18GHz:

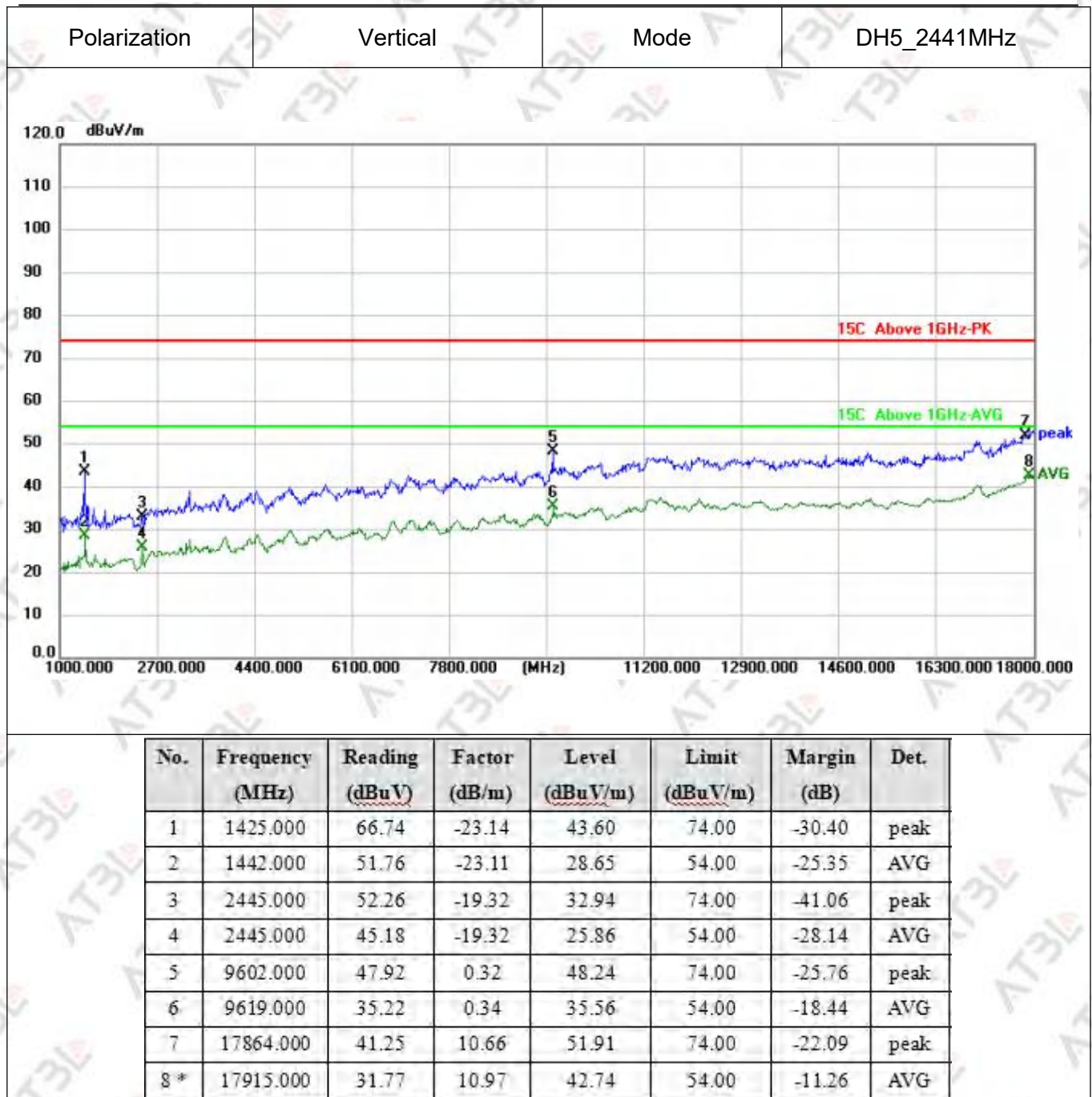
Note:

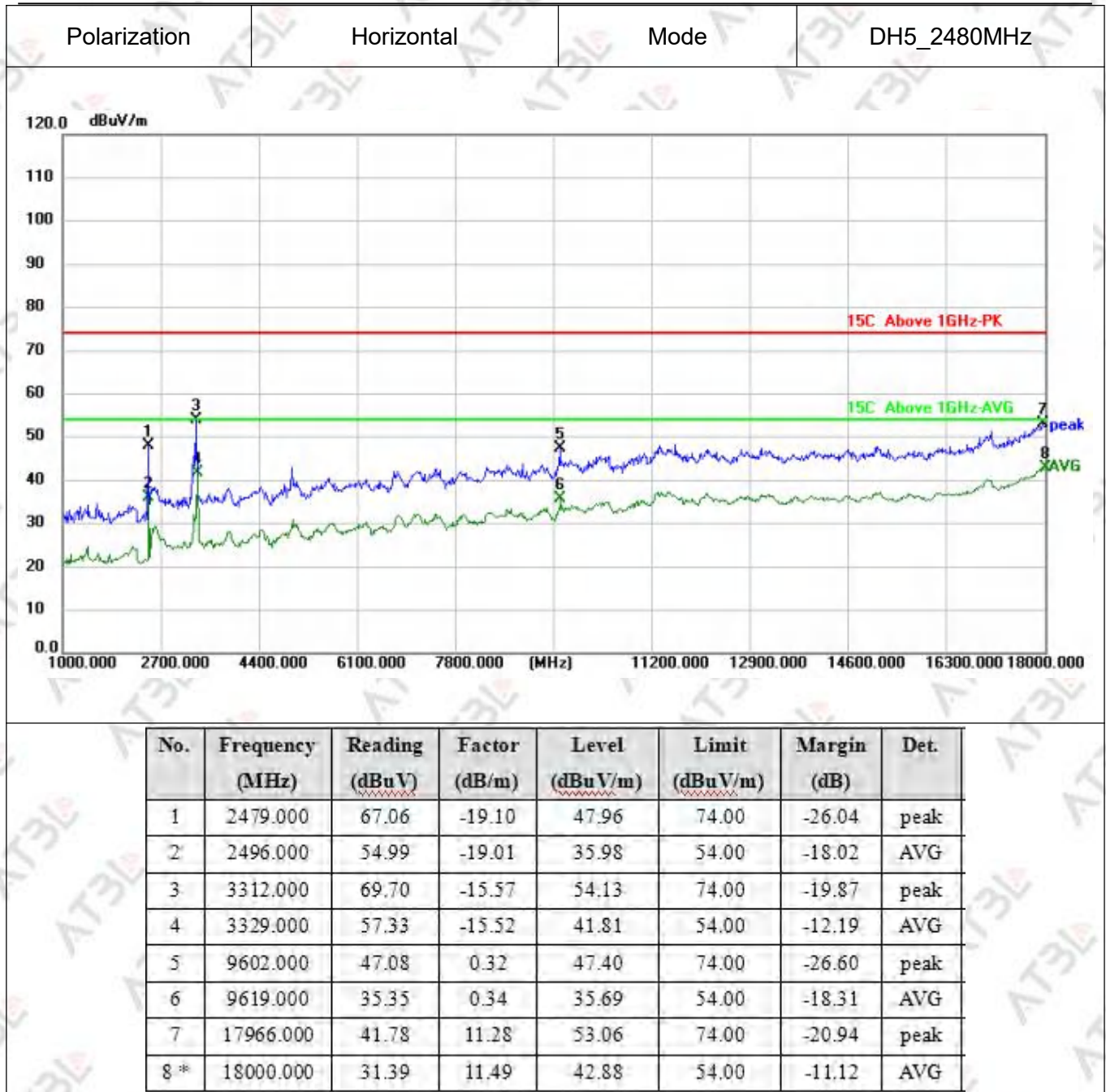
1. In frequency ranges 18 ~25GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.
2. We used the filter to test and 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 (DH5 and 3DH5) was recorded in the test report.

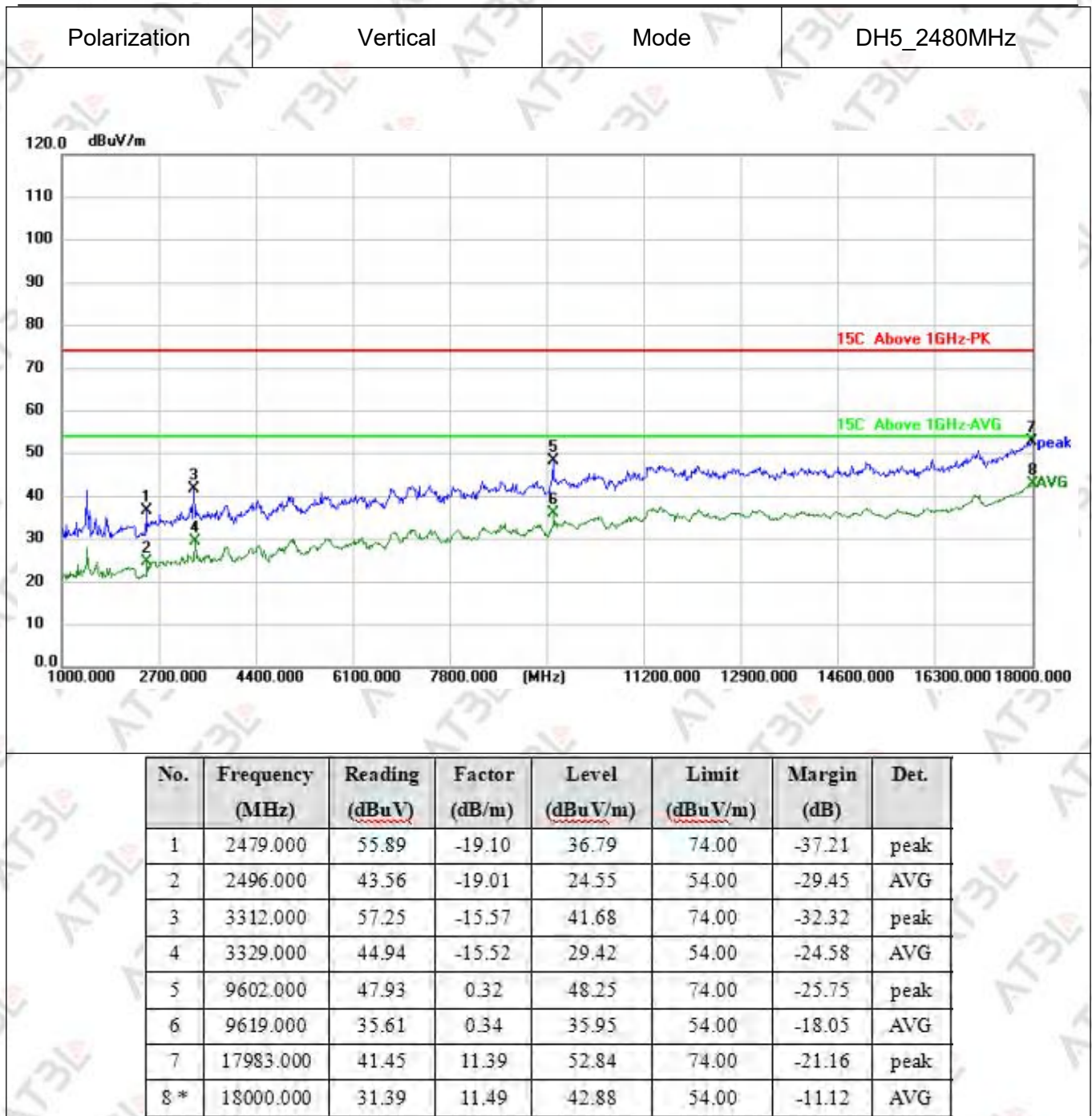


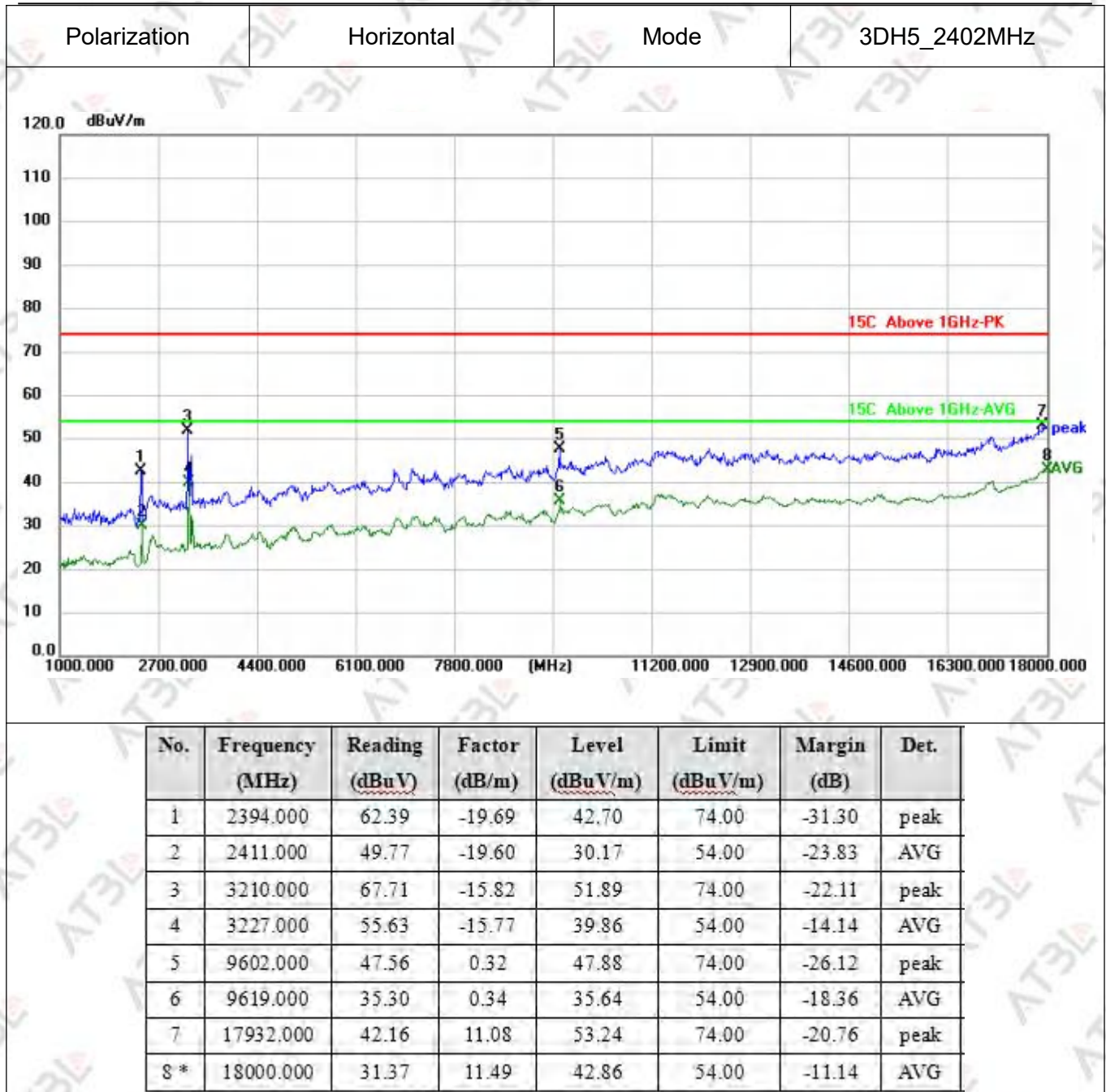


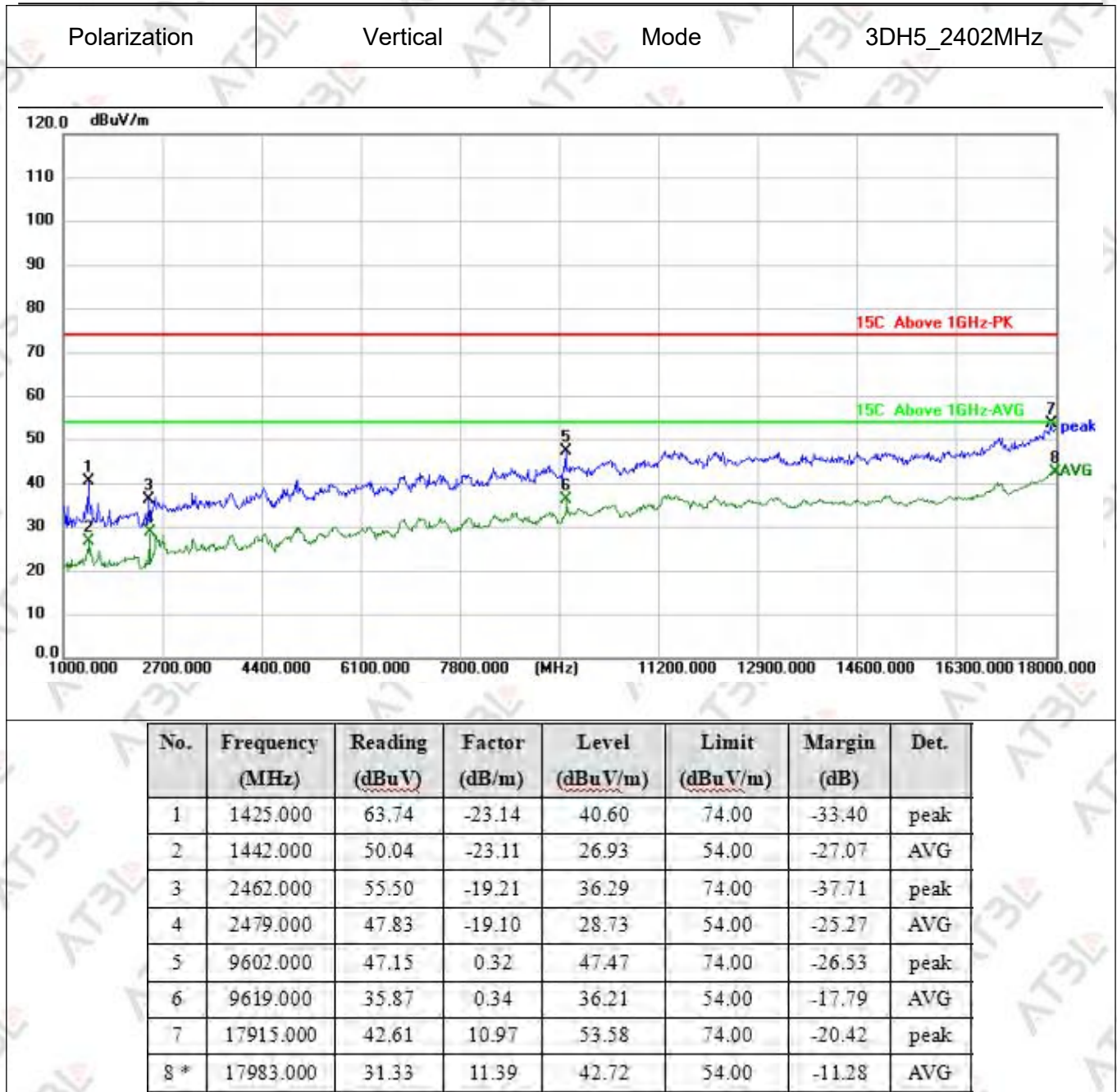


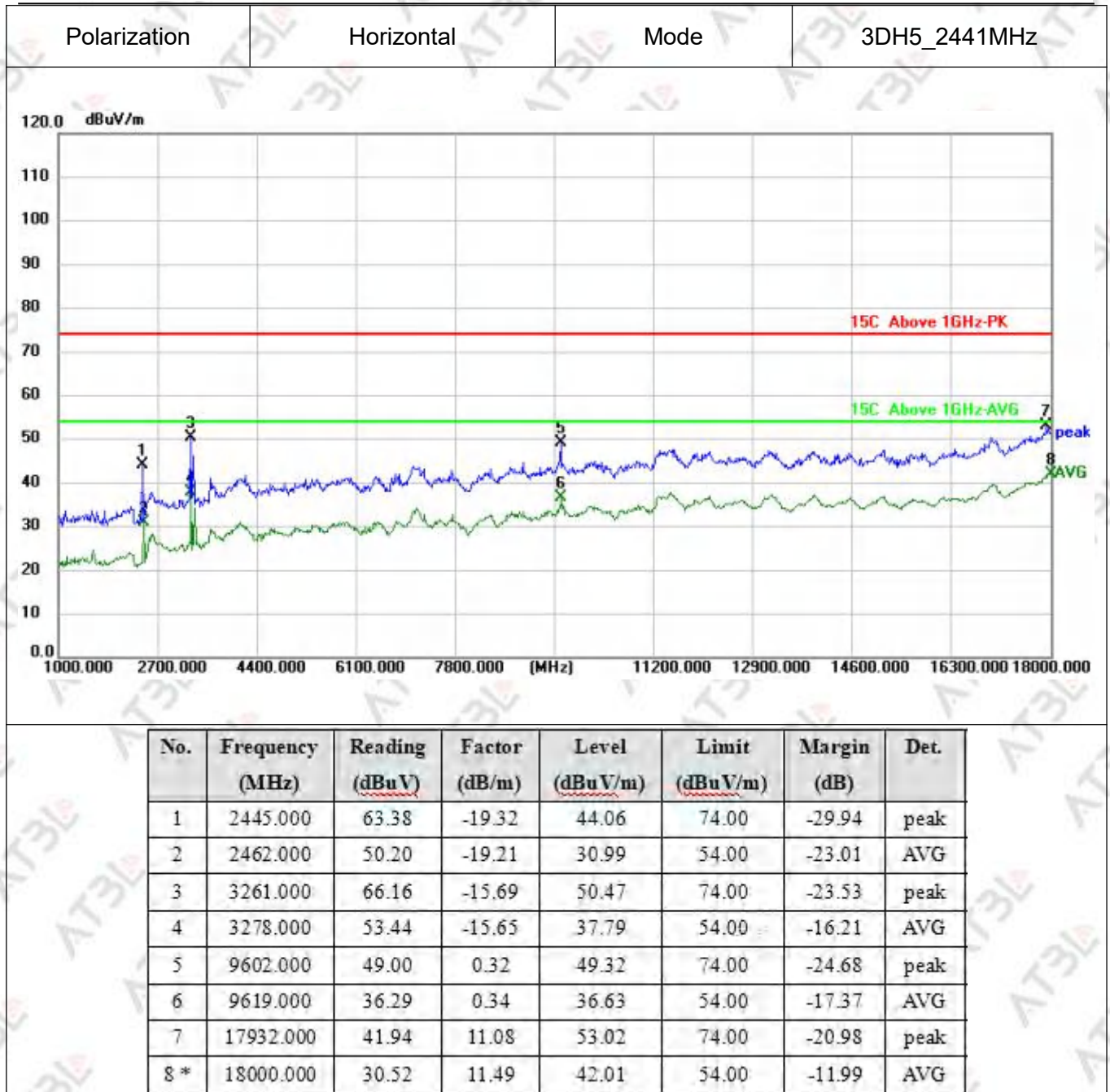


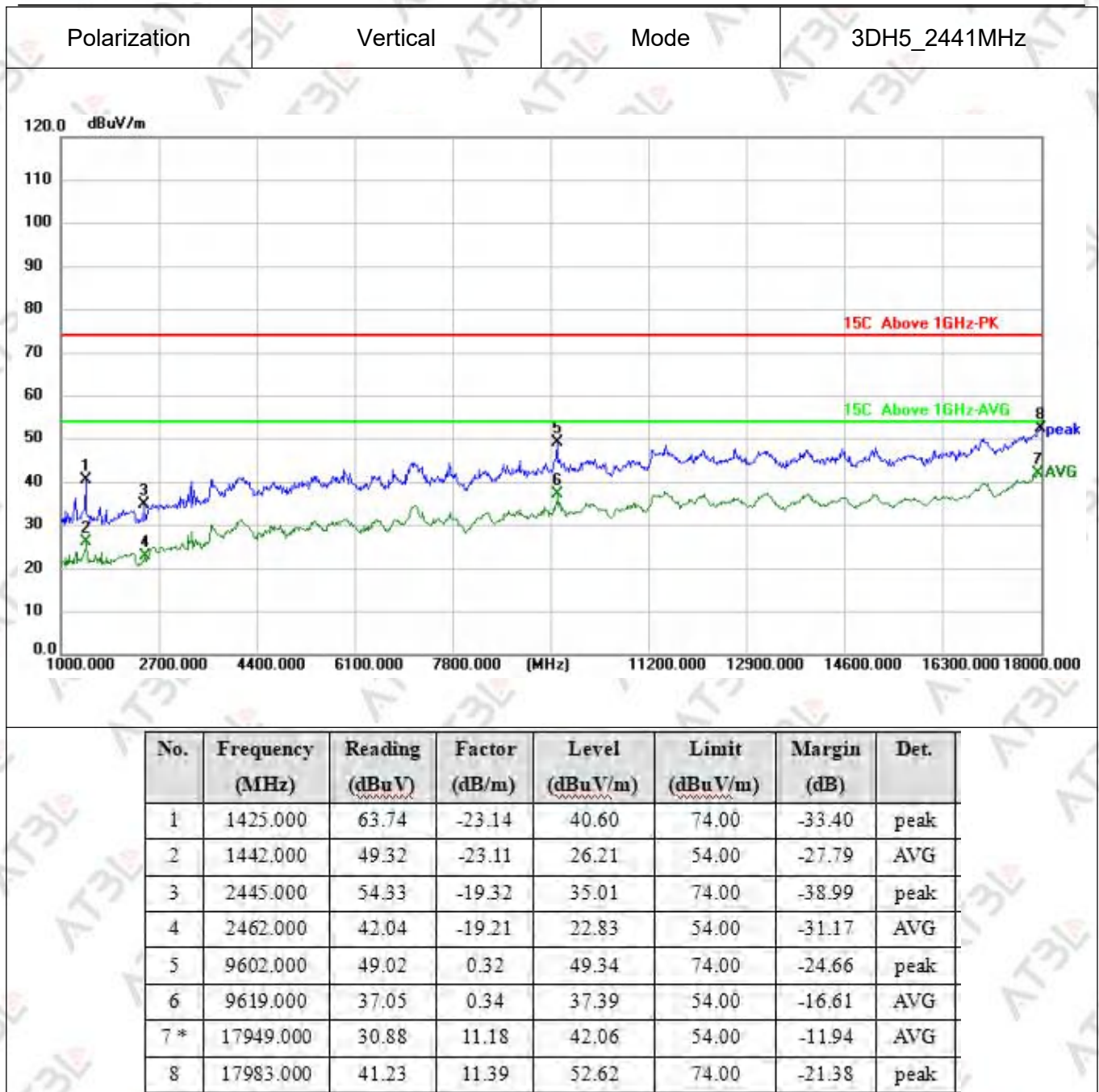




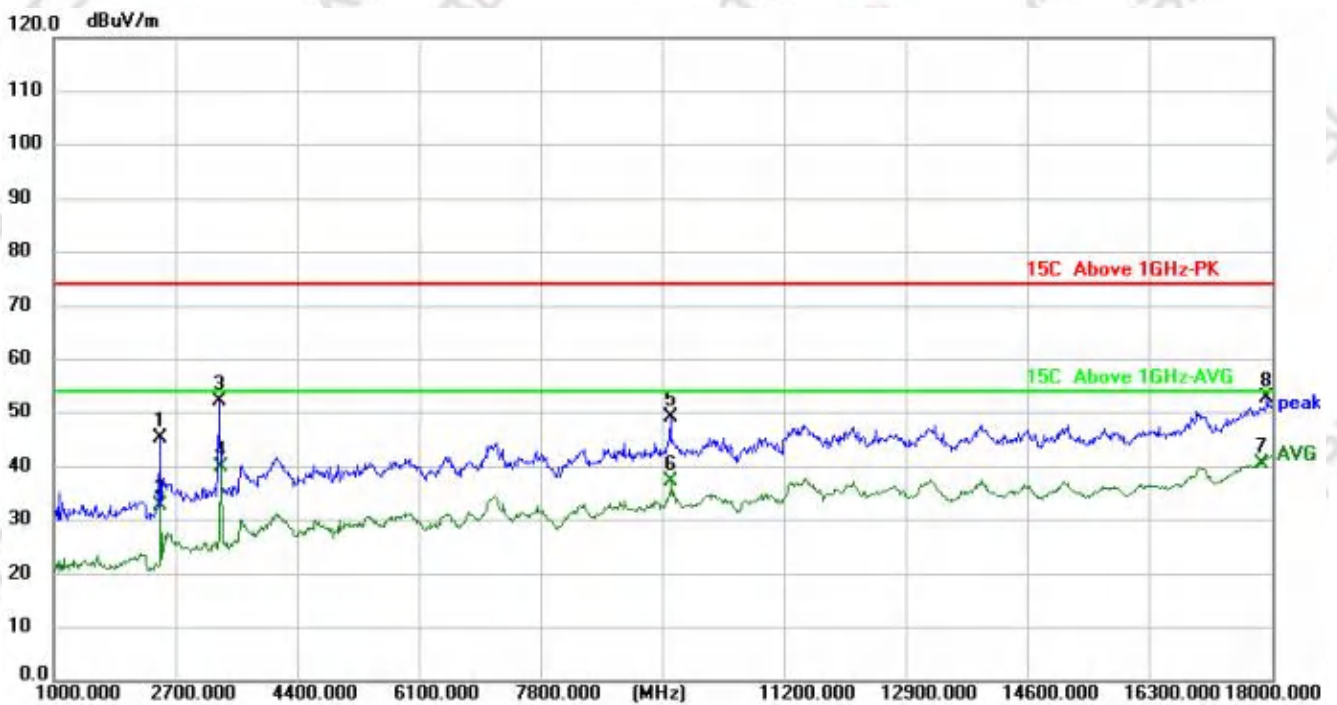




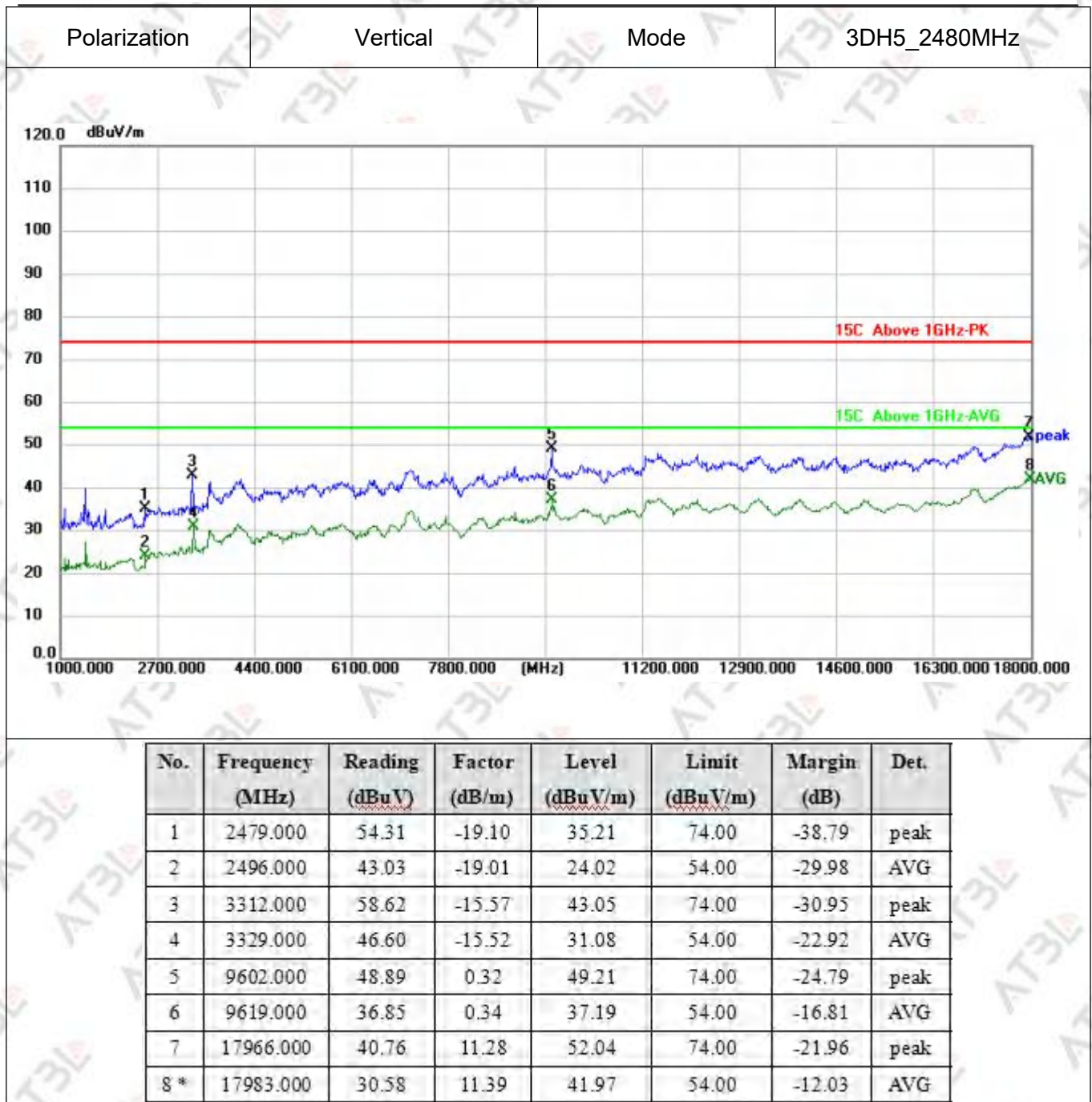




Polarization	Horizontal	Mode	3DH5_2480MHz
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2479.000	64.52	-19.10	45.42	74.00	-28.58	peak
2	2496.000	51.68	-19.01	32.67	54.00	-21.33	AVG
3	3312.000	67.66	-15.57	52.09	74.00	-21.91	peak
4	3329.000	55.48	-15.52	39.96	54.00	-14.04	AVG
5	9602.000	48.92	0.32	49.24	74.00	-24.76	peak
6	9619.000	36.99	0.34	37.33	54.00	-16.67	AVG
7 *	17847.000	30.03	10.55	40.58	54.00	-13.42	AVG
8	17932.000	41.64	11.08	52.72	74.00	-21.28	peak

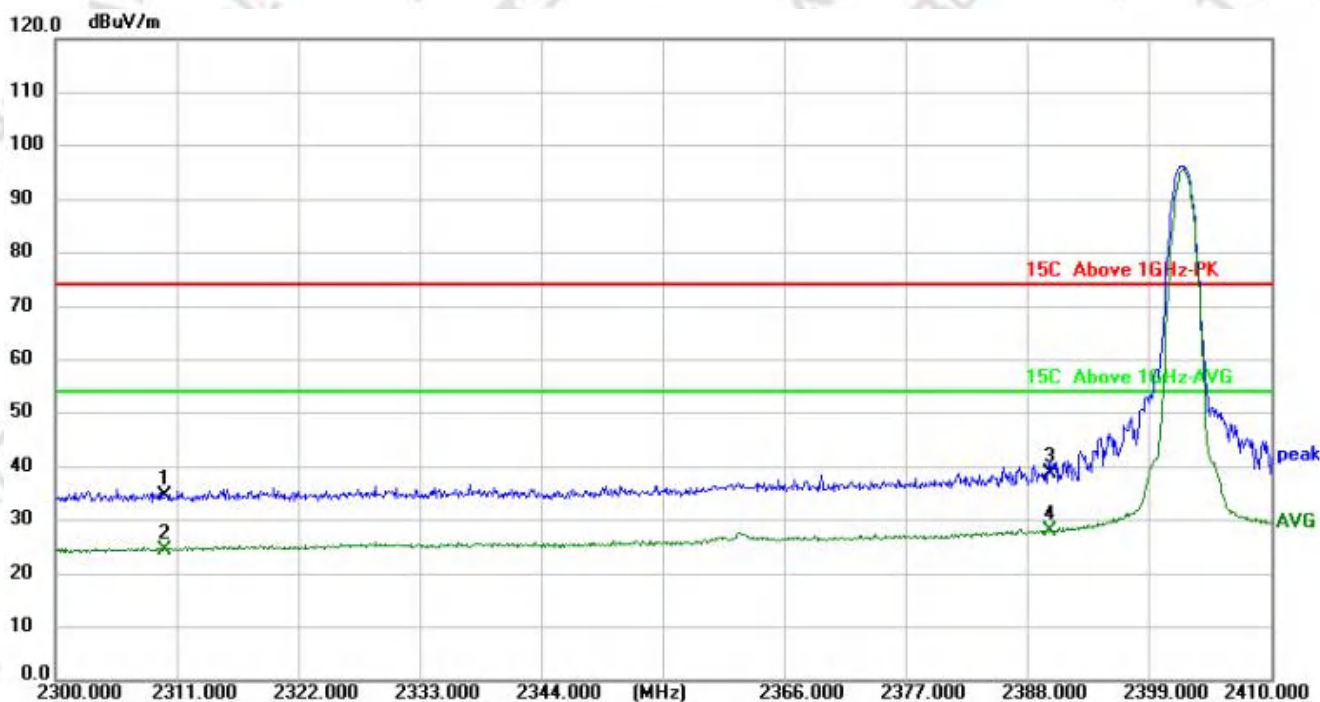


Test Result of Restricted Band

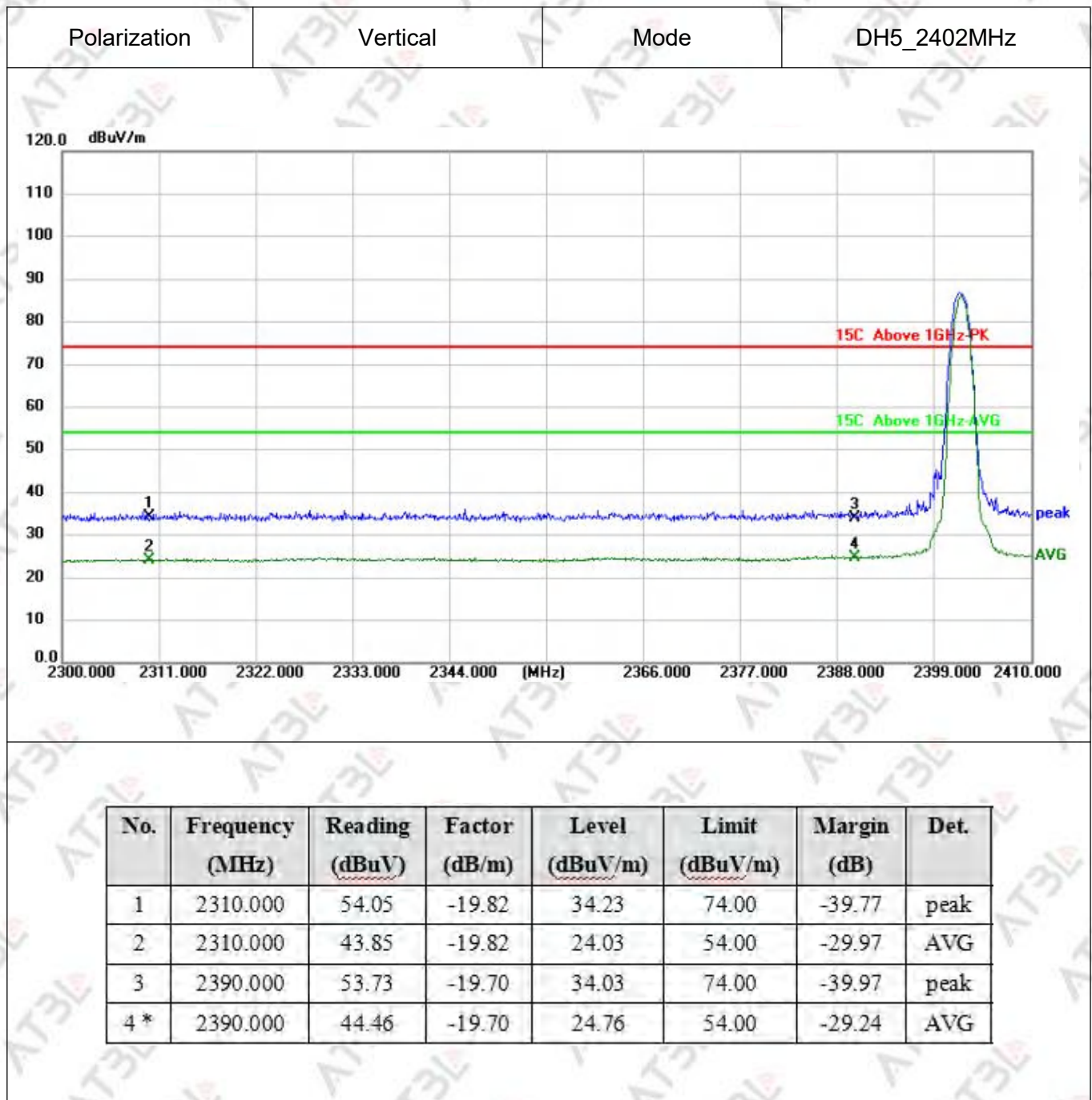
Note:

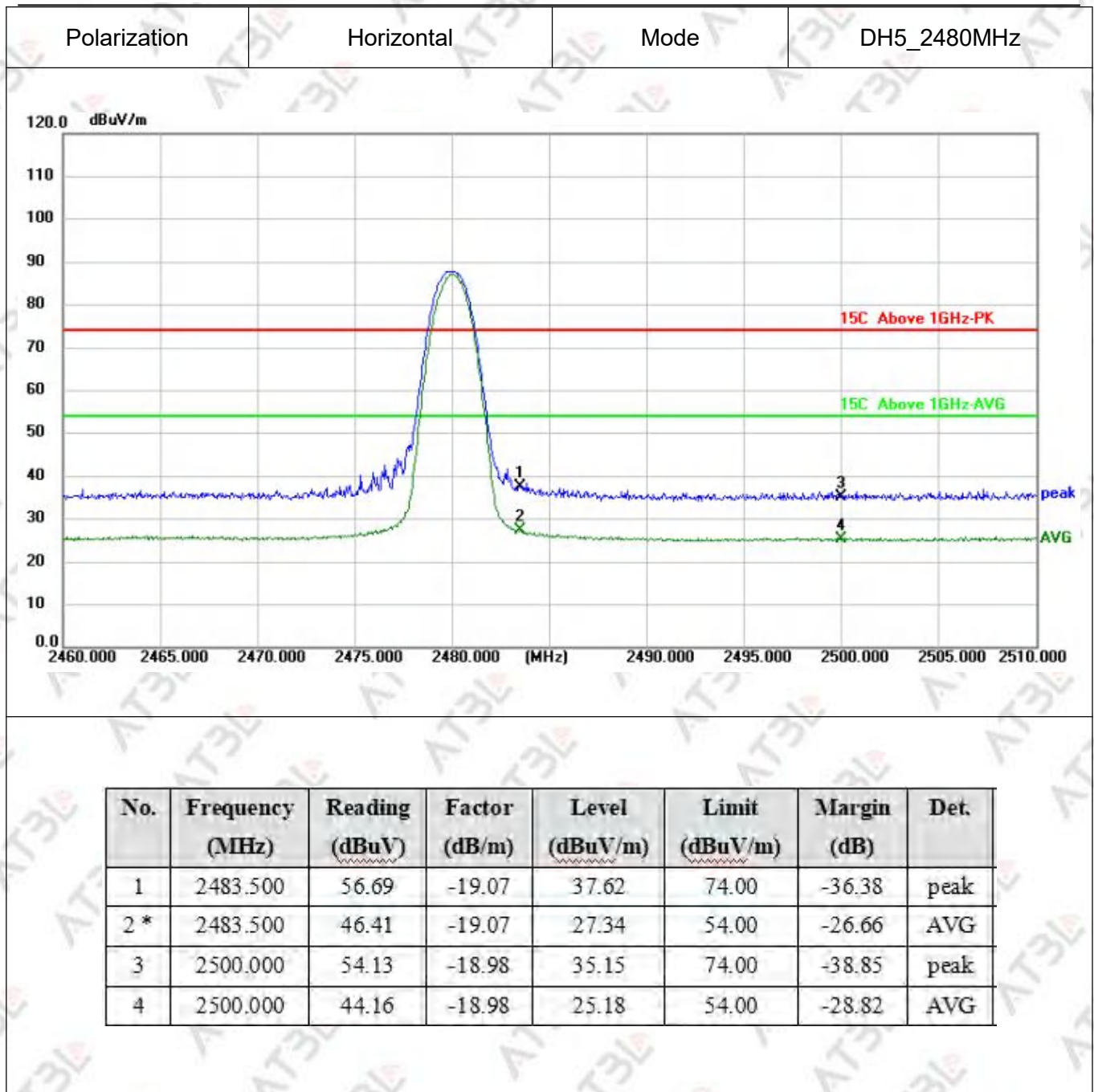
All modes have been tested, only worst case(DH5)mode was recorded in the test report.

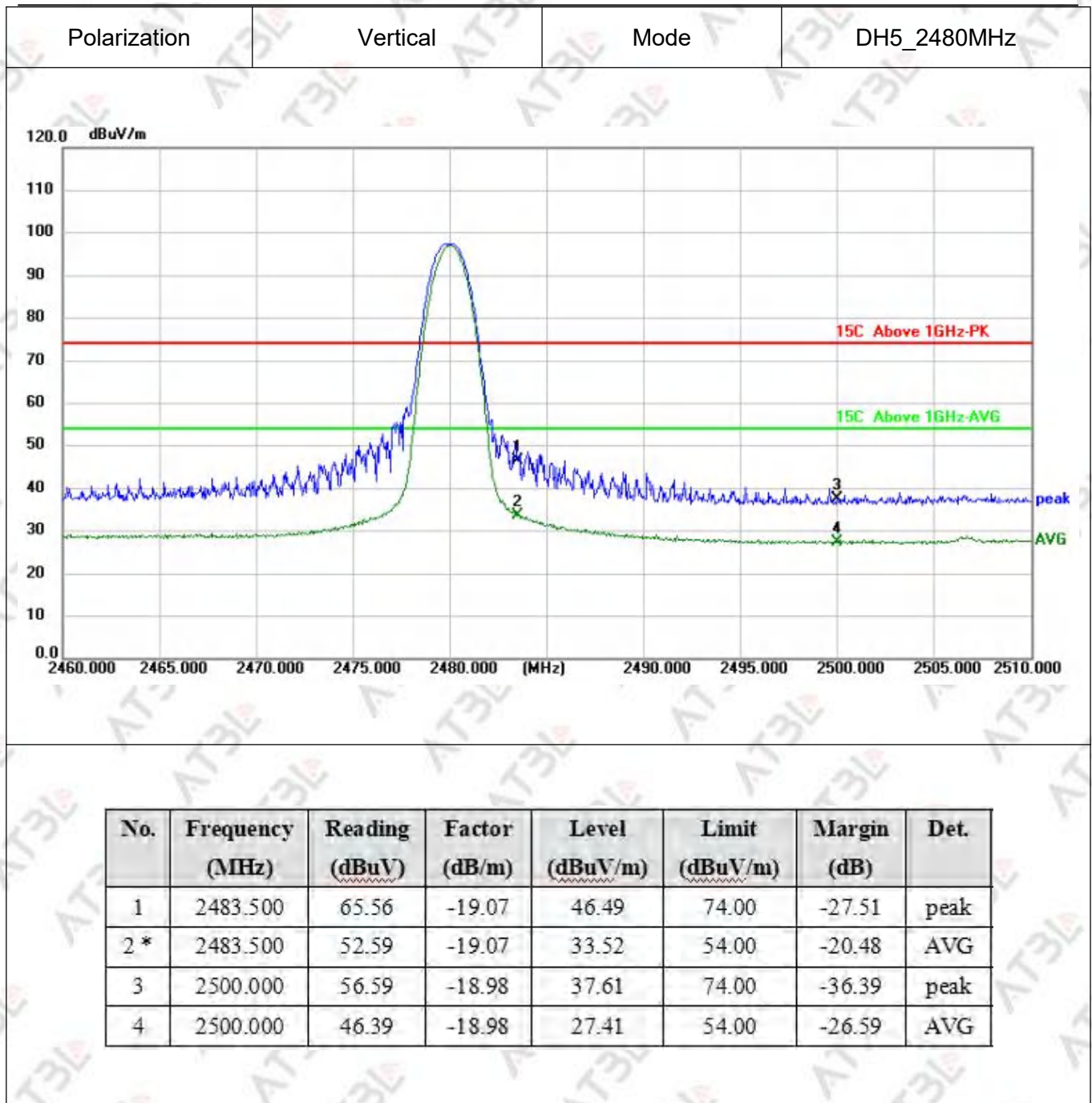
Polarization	Horizontal	Mode	DH5_2402MHz
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2310.000	54.47	-19.82	34.65	74.00	-39.35	peak
2	2310.000	44.17	-19.82	24.35	54.00	-29.65	AVG
3	2390.000	58.31	-19.70	38.61	74.00	-35.39	peak
4 *	2390.000	47.63	-19.70	27.93	54.00	-26.07	AVG



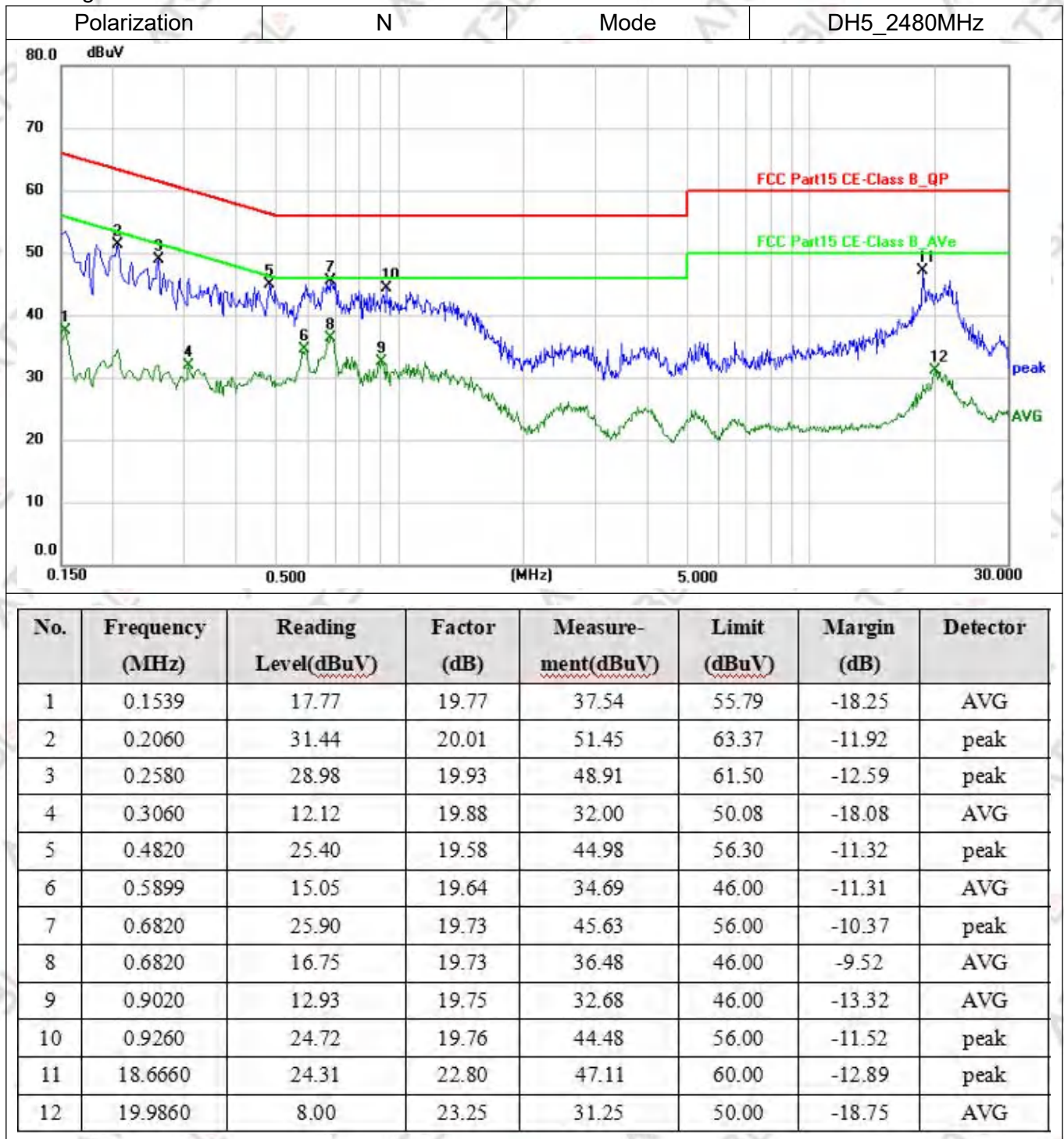


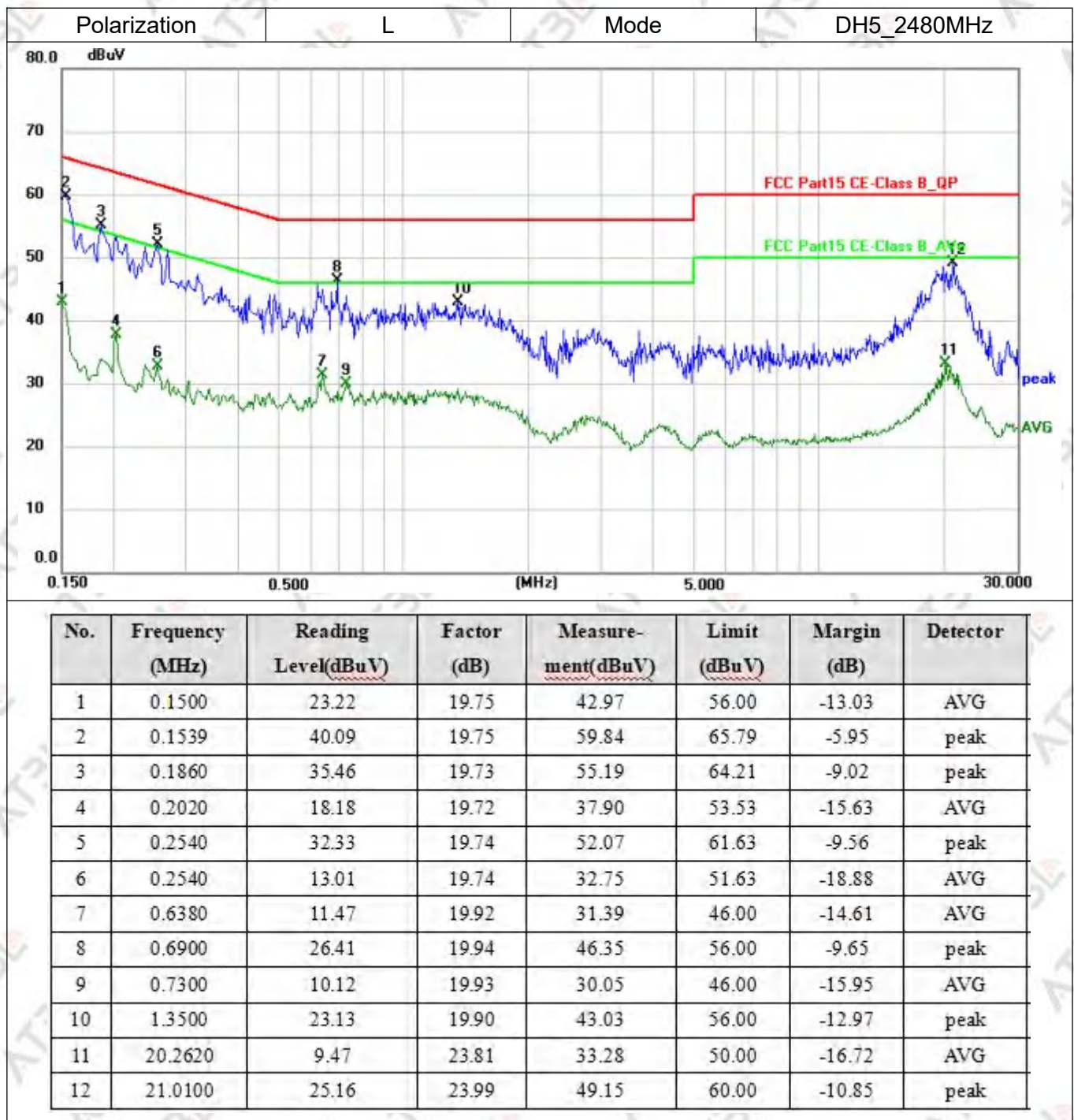


A8.AC Power-Line Conducted Emission

Note:

- 1.All modes have been tested, only worst case(DH5_2480MHz)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).
4. The emission levels of other frequencies were less than 20dB margin against the limit.
5. Margin value = Emission level-Limit value.





*****END*****