Radio Exposure Evaluation Report

FCC ID	:	**2A9V3PAX1800LITE**
Equipment	:	**WiFi Access Point**
Brand Name	:	**Plasma Cloud**
Model Name	:	**PAX1800-Lite**
Applicant	:	**Plasma Cloud Pte. Ltd. 10 ANSON ROAD #33-03 INTERNATIONAL PLAZA,079903 SINGAPORE**
Manufacturer	:	**Plasma Cloud Pte. Ltd. 10 ANSON ROAD #33-03 INTERNATIONAL PLAZA, 079903 SINGAPORE**
Standard	:	**47 CFR FCC Part 2 Subpart J, section 2.1091**

The product was received on May 14, 2025, and testing was started from Jun. 12, 2025 and completed on Jul. 01, 2025. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR FCC Part 2 Subpart J, section 2.1091 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory
No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FA551403	01	Initial issue of report	Jul. 16, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
None

Reviewed by: Ryan Hsiao

Report Producer: Amber Chiu

1 General Description

1.1 Information

1.1.1 EUT General Information

RF General Information			
Evaluation Mode	**Frequency Range (MHz)**	**Operating Frequency (MHz)**	**Modulation Type**
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM))

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Support
1	1	LYNWAVE	MLX24M-126AA0-A	PIFA	I-Pex	2.4G
2	2	LYNWAVE	MLX24M-126AA0-A	PIFA	I-Pex	2.4G
3	1	LYNWAVE	MLX24M-126AA0-A	Patch	I-Pex	5G
4	2	LYNWAVE	MLX24M-126AA0-A	Patch	I-Pex	5G

Ant.	Port	Gain (dBi)				
		2.4G	5G			
			UNII-1	UNII-2A	UNII-2C	UNII-3
1	1	3.9	-	-	-	-
2	2	3.2	-	-	-	-
3	1	-	7	7.3	7.3	7.9
4	2	-	7.1	7.3	7	7

Note 1: The EUT has four antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/ax mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX)

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

1.1.3 Accessories

Accessories				
Bracket 1	Brand Name	BLUEMAX INTERNATIONAL CO.,LTD.	Model Name	34M0-0S000041-01Z
Bracket 2	Brand Name	BLUEMAX INTERNATIONAL CO.,LTD.	Model Name	34M0-00000140-01Z
Bracket 3	Brand Name	BLUEMAX INTERNATIONAL CO.,LTD.	Model Name	34M0-00000141-01Z
Kit parts	Brand Name	GUANDONG LONG FEI HARDWARE PRECISION ELECTRONICS CO.,LTD.	Model Name	3000-00000145-01Z

Reminder: Regarding to more detail and other information, please refer to user manual.

1.2 Testing Location

Test Lab.：Sporton International Inc. Hsinhua Laboratory			
☒	Hsinhua **(TAF:** 3785**)**	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)	
		TEL: 886-3-327-3456	**FAX:** 886-3-327-0973
	Conformity Assessment Body Identifier (CABID) TW3785		
☐	Wen 33rd.St. **(TAF:** 3785**)**	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)	
		TEL: 886-3-318-0787	**FAX:** 886-3-318-0287
	Conformity Assessment Body Identifier (CABID) TW3785		
Subcontractor：Sporton International Inc. Hsinchu Laboratory			
☐	Hsinchu **(TAF:** 3787**)**	**ADD:** No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)	
		TEL: 886-3-656-9065	**FAX:** 886-3-656-9085
	Test site Designation No. TW0006 with FCC.		

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

Multiple Transmitters Condition
Co-location as simultaneously transmitting (co-transmitting) and the evaluation shall be consider that simultaneous transmissions from co-located devices the individual transmitters are evaluated separately. After sum of the individual value (basic restriction / reference level) are measured/calculated also have to under basic restriction / reference level.
Co-transmitting mode:
WLAN 2.4GHz+ WLAN 5GHz

2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.
The following formula was used to calculate the Power Density:

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $\frac{30 \times P \times G}{377 \times d^2}$

2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

WLAN 2.4GHz_Non-Beamforming

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	TL Ratio
2.4G;G1D	3.90	25.27	29.17	0.50	29.67	20.00	0.18439	1.00000	0.18439
2.4G;D1D	3.90	24.72	28.62	0.50	29.12	20.00	0.16245	1.00000	0.16245

WLAN 5GHz_Non-Beamforming

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	TL Ratio
5.2G;D1D	7.10	24.40	31.50	0.50	32.00	20.00	0.31530	1.00000	0.31530
5.3G;D1D	7.30	21.80	29.10	0.50	29.60	20.00	0.18144	1.00000	0.18144
5.6G;D1D	7.30	22.13	29.43	0.50	29.93	20.00	0.19576	1.00000	0.19576
5.8G;D1D	7.90	23.98	31.88	0.50	32.38	20.00	0.34414	1.00000	0.34414

WLAN 2.4GHz_Beamforming

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	TL Ratio
2.4G;D1D	6.57	23.66	30.23	0.50	30.73	20.00	0.23536	1.00000	0.23536

WLAN 5GHz_Beamforming

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	TL Ratio
5.2G;D1D	10.06	24.40	34.46	0.50	34.96	20.00	0.62335	1.00000	0.62335
5.3G;D1D	10.31	19.15	29.46	0.50	29.96	20.00	0.19712	1.00000	0.19712
5.6G;D1D	10.16	19.19	29.35	0.50	29.85	20.00	0.19219	1.00000	0.19219
5.8G;D1D	10.47	23.98	34.45	0.50	34.95	20.00	0.62191	1.00000	0.62191

WLAN 2.4GHz+ WLAN 5GHz

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	TL Ratio
2.4G;D1D	6.57	23.66	30.23	0.50	30.73	20.00	0.23536	1.00000	0.23536
5.2G;D1D	10.06	24.40	34.46	0.50	34.96	20.00	0.62335	1.00000	0.62335
								Sum Ratio	0.85871
								Ratio Limit	1

———THE END———