

MPE TEST REPORT

Applicant PATEO CONNECT Technology
(Shanghai) Corporation

FCC ID 2BOT7-PCM3-J

Product Infotainment System

Brand PATEO

Model PCCM Plus 991/981 I;
PCCM Plus 997/987 II

Report No. EFTA25050020-IE-04-M1

Issue Date June 17, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **§2.1091 and FCC 47 CFR Part 1 1.1310**. The test results show that the equipment tested can demonstrate

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Table of Contents

1	Test Laboratory	3
1.1	Notes of the Test Report.....	3
1.2	Test Facility.....	3
1.3	Testing Location.....	3
1.4	Laboratory Environment	3
2	Description of Equipment Under Test	4
3	Maximum Output Power (Measured) and Antenna Gain.....	5
4	MPE Limit.....	6
5	RF Exposure Evaluation Result.....	8
	ANNEX A: The EUT Appearance	9

1 Test Laboratory

1.1 Notes of the Test Report

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1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25°C
Relative humidity	Min. = 20%, Max. = 80%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	PATEO CONNECT Technology (Shanghai) Corporation
Applicant address	Room 3701, No. 866 Dongchangzhi Road, Hongkou District, Shanghai, 200080, PR.China
Manufacturer	PATEO CONNECT Technology (Shanghai) Corporation
Manufacturer address	Room 3701, No. 866 Dongchangzhi Road, Hongkou District, Shanghai, 200080, PR.China

General Technologies

EUT Description			
Model	PCCM Plus 991/981 I; PCCM Plus 997/987 II		
Lab Internal SN	EFTA25050020-IE-04/S01		
Hardware Version	V2.0		
Software Version	rc1.userdebug.PCM3		
Frequency	Band	TX (MHz)	RX (MHz)
	WCDMA B5	824 ~ 849	869 ~ 894
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 41	2535 ~ 2655	2535 ~ 2655
	Wi-Fi 2.4G	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5GHz (U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5GHz (U-NII-3)	5725~5850	5725~5850
	Bluetooth	2400 ~ 2483.5	2400 ~ 2483.5
	Bluetooth LE	2400 ~ 2483.5	2400 ~ 2483.5
Date of Testing	May 7, 2025~ May 22, 2025		
Date of Sample Received	May 7, 2025		
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

3 Maximum Output Power (Measured) and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by

$$\text{Numeric gain (G)} = 10^{(\text{antenna gain}/10)}$$

Band	Maximum Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
WCDMA B5	23.50	223.87	6.85	4.84
LTE Band 5	23.50	223.87	6.85	4.84
LTE Band 41	23.50	223.87	6.85	4.84
Wi-Fi 2.4GHz	17.87	61.24	5.90	3.89
Wi-Fi 5GHz U-NII-1 Antenna 1	15.63	36.56	4.30	2.69
Wi-Fi 5GHz U-NII-1 Antenna 2	15.63	36.56	5.20	3.31
Wi-Fi 5GHz U-NII-3	16.19	41.59	6.90	4.90
Bluetooth	9.33	8.57	2.90	1.95
Bluetooth LE	8.88	7.73	2.90	1.95

4 MPE Limit

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

*f = frequency in MHz. * = Plane-wave equivalent power density.*

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 300~1500 MHz is $f/1500$, for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm ²)
WCDMA B5	0.549
LTE Band 5	0.549
LTE Band 41	1.000
Wi-Fi 2.4GHz	1.000
Wi-Fi 5GHz	1.000
Bluetooth	1.000
Bluetooth LE	1.000

5 RF Exposure Evaluation Result

RF exposure evaluation method is based on KDB 447498 D01, this calculation is based on the conducted power, maximum power and antenna gain with provides the minimum separation distance. The formula shown below is from OET Bulletin 65 Edition 97-01 Per KDB 447498 D01:

$$S = PG / 4\pi R^2$$

Where: S = power density (in appropriate units, e.g. mW/cm²)

P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)

G = the numeric gain of the antenna

R = distance to the center of radiation of the antenna (20 cm = limit for MPE)

Band	Maximum Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm ²)	Limit Value (mW/cm ²)	The MPE Ratio
WCDMA B5	23.500	6.850	30.350	1083.927	0.216	0.549	0.393
LTE Band 5	23.500	6.850	30.350	1083.927	0.216	0.549	0.393
LTE Band 41	23.500	6.850	30.350	1083.927	0.216	1.000	0.216
Wi-Fi 2.4GHz	17.870	5.900	23.770	238.232	0.047	1.000	0.047
Wi-Fi 5GHz U-NII-1 Antenna 1	15.630	4.300	19.930	98.401	0.020	1.000	0.020
Wi-Fi 5GHz U-NII-1 Antenna 2	15.630	5.200	20.830	121.060	0.024	1.000	0.024
Wi-Fi 5GHz U-NII-3	16.190	6.900	23.090	203.704	0.041	1.000	0.041
Bluetooth	9.330	2.900	12.230	16.711	0.003	1.000	0.003
Note: R = 20cm $\pi = 3.1416$ The MPE Ratio = Mac Result÷Limit Value							

So the simultaneous transmitting antenna pairs as below:

TER = Wi-Fi 2.4GHz Antenna MPE ratio + Zigbee Antenna MPE ratio+ Bluetooth Antenna MPE ratio
 = 0.047 + 0.393 + 0.003 = 0.443<1

Note: For transmitters, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

*****END OF REPORT *****