

MPE TEST REPORT

Applicant Shanghai Xiangcheng Communication Technology Co., Ltd
FCC ID 2A2UU-Pegasus1
Product Pegasus1
Brand Nebullar
Model Pegasus1
Report No. EFTA25040240-IE-08-M1V1
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 the compliance with the requirements as documented in this report.

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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	May 28, 2025
Rev.1	Updated information.	June 17, 2025
Note: This revised report (Report No.: EFTA25040240-IE-08-M1V1) supersedes and replaces the previously issued report (Report No.: EFTA25040240-IE-08-M1). Please discard or destroy the previously issued report and dispose of it accordingly.		

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1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

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	Shanghai Xiangcheng Communication Technology Co., Ltd
Applicant address	6th Floor, Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai, China
Manufacturer	Shanghai Xiangcheng Communication Technology Co., Ltd
Manufacturer address	6th Floor, Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai, China

General Technologies

EUT Description			
Model	Pegasus1		
IMEI	354721089983665		
Hardware Version	V1.0		
Software Version	V1.0		
Frequency	Band	TX (MHz)	RX (MHz)
	WCDMA B2	1850 ~ 1910	1930 ~ 1990
	WCDMA B4	1710 ~ 1755	2110 ~ 2155
	WCDMA B5	824 ~ 849	869 ~ 894
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	699 ~ 716	729 ~ 746
	LTE Band 38	2570 ~ 2620	2570 ~ 2620
	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-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5GHz (U-NII-2C)	5470 ~ 5600 5650 ~ 5725	5470 ~ 5600 5650 ~ 5725
	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
	NFC	13.56	13.56
Date of Testing	April 27, 2025 ~ May 19, 2025		

Date of Sample Received	April 22, 2025
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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

Numeric gain (G)=10^(antenna gain/10)

Band	Maximum Output Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
WCDMA B2	21.60	144.54	2.11	1.63
WCDMA B4	21.67	146.89	2.30	1.70
WCDMA B5	21.69	147.57	1.30	1.35
LTE Band 2	24.43	277.33	2.11	1.63
LTE Band 4	24.88	307.61	2.30	1.70
LTE Band 5	21.89	154.53	1.30	1.35
LTE Band 7	25.16	328.10	2.42	1.75
LTE Band 38	25.38	345.14	2.72	1.87
LTE Band 41	25.33	341.19	2.72	1.87
Wi-Fi 2.4G	16.16	41.30	2.19	1.66
Wi-Fi 5GHz (U-NII-1)	13.46	22.18	1.91	1.55
Wi-Fi 5GHz (U-NII-2A)	13.50	22.39	2.59	1.82
Wi-Fi 5GHz (U-NII-2C)	14.74	29.79	2.34	1.71
Wi-Fi 5GHz (U-NII-3)	14.20	26.30	2.34	1.71
Bluetooth	10.63	11.56	1.99	1.58
Bluetooth LE	-2.95	0.51	1.99	1.58

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 B2	1.000
WCDMA B4	1.000
WCDMA B5	0.549
LTE Band 2	1.000
LTE Band 4	1.000
LTE Band 5	0.549
LTE Band 7	1.000
LTE Band 38	1.000
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 Output Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm ²)	Limit Value (mW/cm ²)	The MPE Ratio
WCDMA B2	21.6000	2.1100	23.7100	234.9633	0.0467	1.0000	0.0467
WCDMA B4	21.6700	2.3000	23.9700	249.4595	0.0496	1.0000	0.0496
WCDMA B5	21.6900	1.3000	22.9900	199.0673	0.0396	0.5490	0.0721
LTE Band 2	24.4300	2.1100	26.5400	450.8167	0.0897	1.0000	0.0897
LTE Band 4	24.8800	2.3000	27.1800	522.3962	0.1039	1.0000	0.1039
LTE Band 5	21.8900	1.3000	23.1900	208.4491	0.0415	0.5490	0.0755
LTE Band 7	25.1600	2.4200	27.5800	572.7960	0.1140	1.0000	0.1140
LTE Band 38	25.3800	2.7200	28.1000	645.6542	0.1284	1.0000	0.1284
LTE Band 41	25.3300	2.7200	28.0500	638.2635	0.1270	1.0000	0.1270
Wi-Fi 2.4G	16.1600	2.1900	18.3500	68.3912	0.0136	1.0000	0.0136
Wi-Fi 5GHz (U-NII-1)	13.4600	1.9100	15.3700	34.4350	0.0069	1.0000	0.0069
Wi-Fi 5GHz (U-NII-2A)	13.5000	2.5900	16.0900	40.6443	0.0081	1.0000	0.0081
Wi-Fi 5GHz (U-NII-2C)	14.7400	2.3400	17.0800	51.0505	0.0102	1.0000	0.0102
Wi-Fi 5GHz (U-NII-3)	14.2000	2.3400	16.5400	45.0817	0.0090	1.0000	0.0090
Bluetooth	10.6300	1.9900	12.6200	18.2810	0.0036	1.0000	0.0036
Bluetooth LE	-2.9500	1.9900	-0.9600	0.8017	0.0002	1.0000	0.0002

Note: R = 20cm

$\pi = 3.1416$

The MPE Ratio = Mac Result ÷ Limit Value

1. This MPE analysis is applicable to any collocated transmitters with EIRP for Wi-Fi /BT is less than or equal to 26dBm.

Bluetooth antenna and Wi-Fi 2.4GHz antenna and Wi-Fi 5GHz antenna can't transmit simultaneously.
So the simultaneous transmitting antenna pairs as below:

$$\text{TER} = \text{Wi-Fi 2.4GHz Antenna MPE ratio} + \text{Zigbee Antenna MPE ratio} = 0.0136 + 0.1284 = 0.142 < 1$$

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 *****