MPE TEST REPORT

Applicant	Asiatelco Technologies Co.
FCC ID	XYO-AD21
Product	GPS Tracker
Brand	ATEL
Model	AD21
Report No.	EFTA25060143-IE-03-M1
Issue Date	July 2, 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.

Prepared by: Wei Fangying *Approved by: Xu Kai*

Eurofins TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
TEL: +86-021-50791141/2/3
FAX: +86-021-50791141/2/3-8000

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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.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Xu Kai
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	https://www.eurofins.com/electrical-and-electronics
E-mail:	Kain.Xu@cpt.eurofinscn.com

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.	

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2 Description of Equipment Under Test

Client Information

Applicant	Asiatelco Technologies Co.
Applicant address	289 Bisheng Road, Building 8, 3F, Zhang jiang Hi-Tech Park, Pudong, Shanghai 201204, China
Manufacturer	Asiatelco Technologies Co.
Manufacturer address	289 Bisheng Road, Building 8, 3F, Zhang jiang Hi-Tech Park, Pudong, Shanghai 201204, China

General Technologies

EUT Description			
Model	AD21		
Lab Internal SN	EFTA25060143-IE-03/S01		
Hardware Version	3.0.0		
Software Version	5.6.8.17		
Frequency	Band	TX (MHz)	RX (MHz)
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 12	699 ~ 716	729 ~ 746
	LTE Band 13	777 ~ 787	746 ~ 756
	Bluetooth LE	2400 ~ 2483.5	2400 ~ 2483.5
Date of Testing	June 18, 2025 ~ June 19, 2025		
Date of Sample Received	June 11, 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.			

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3 Maximum Output Power (Measured) /Tune up 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 Tune up		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
LTE Band 2	25.0000	316.2278	0.8700	1.2218
LTE Band 4	25.0000	316.2278	1.4100	1.3836
LTE Band 5	25.0000	316.2278	-7.9700	0.1596
LTE Band 12	25.0000	316.2278	-3.8500	0.4121
LTE Band 13	25.0000	316.2278	-0.3900	0.9141

Band	Maximum Output Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Bluetooth LE	3.8100	2.4044	-7.6800	0.1706

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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.

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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)
LTE Band 2	1.000
LTE Band 4	1.000
LTE Band 5	0.549
LTE Band 12	0.466
LTE Band 13	0.518
Bluetooth LE	1.000

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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/cm^2)
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 Tune up/Output Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm^2)	Limit Value (mW/cm^2)	The MPE Ratio
LTE Band 2	25.0000	0.8700	25.8700	386.3670	0.0769	1.0000	0.0769
LTE Band 4	25.0000	1.4100	26.4100	437.5221	0.0870	1.0000	0.0870
LTE Band 5	25.0000	-7.9700	17.0300	50.4661	0.0100	0.5490	0.0183
LTE Band 12	25.0000	-3.8500	21.1500	130.3167	0.0259	0.4660	0.0556
LTE Band 13	25.0000	-0.3900	24.6100	289.0680	0.0575	0.5180	0.1110
Bluetooth LE	3.8100	-7.6800	-3.8700	0.4102	0.0001	1.0000	0.0001
Note: **R** = 20cm **π**= 3.1416 The MPE Ratio = Mac Result÷Limit Value							

So the simultaneous transmitting antenna pairs as below:
TER = Bluetooth Antenna MPE ratio + Zigbee Antenna MPE ratio = 0.0001 + 0.1110 = 0.1111<1

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

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ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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

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