MPE TEST REPORT

Applicant	Asiatelco Technologies Co.
FCC ID	XYO-BTG15L
Product	GPS TRACKER
Brand	ATEL
Model	BTG15L; BTG17L
Report No.	EFTA25030149-IE-02-M1V1
Issue Date	April 29, 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.	April 28, 2025
Rev.1	Updated information.	April 29, 2025
Note: This revised report (Report No.: EFTA25030149-IE-02-M1V1) supersedes and replaces the previously issued report (Report No.: EFTA25030149-IE-02-M1). Please discard or destroy the previously issued report and dispose of it accordingly.		

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.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
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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	Asiatelco Technologies Co.
Applicant address	#68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201204, China
Manufacturer	Asiatelco Technologies Co.
Manufacturer address	#68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201204, China

General Technologies

EUT Description			
Model	BTG15L; BTG17L		
Lab internal SN	EFTA25030149-IE-01/S01		
Hardware Version	p2		
Software Version	v5.6.11.7		
Frequency	Band	TX (MHz)	RX (MHz)
	GSM 850	824 ~ 849	869 ~ 894
	GSM 1900	1850 ~ 1910	1930 ~ 1990
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 66	1710 ~ 1780	2110 ~ 2180
	Bluetooth LE	2400 ~ 2483.5	2400 ~ 2483.5
Date of Sample Received	March 13, 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. The customer claims that BTG15L and BTG17L are only different in model, and the others are the same. This report only records BTG15L test data.			

3 Maximum 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)

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power (dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

Each Tx slots maximum tune up use the most strictest factor for evaluation by making calculation.

Band		Burst-Averaged Output Power (Adjusted for Tune Up) (dBm)	Division Factors	Frame-Averaged Output Power (Adjusted for Tune Up) (dBm)
GSM 900	GSM	36.00	-9.03	26.97
	1 Tx slots	36.00	-9.03	26.97
	2 Tx slots	36.00	-6.02	29.98
	3 Tx slots	34.20	-4.26	29.94
	4 Tx slots	33.00	-3.01	**29.99**
GSM 1800	GSM	33.00	-9.03	23.97
	1 Tx slot	33.00	-9.03	23.97
	2 Tx slots	33.00	-6.02	26.98
	3 Tx slots	31.20	-4.26	26.94
	4 Tx slots	30.00	-3.01	**26.99**

Note:
Division Factors

To average the power, the division factor is as follows:
1Txslot = 1 transmit time slot out of 8 time slots
=> conducted power divided by (8/1) => -9.03 dB
2Txslots = 2 transmit time slots out of 8 time slots
=> conducted power divided by (8/2) => -6.02 dB
3Txslots = 3 transmit time slots out of 8 time slots
=> conducted power divided by (8/3) => -4.26 dB
4Txslots = 4 transmit time slots out of 8 time slots
=> conducted power divided by (8/4) => -3.01 dB

Band	Maximum Tune up Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
GSM 850	29.99	997.700	-3.15	0.484
GSM 1900	26.99	500.035	2.27	1.687
LTE Band 2	25.70	371.535	2.27	1.687
LTE Band 4	25.70	371.535	2.27	1.687
LTE Band 5	25.70	371.535	-3.15	0.484
LTE Band 7	25.70	371.535	2.58	1.811
LTE Band 66	25.70	371.535	2.27	1.687
Bluetooth LE	8.00	6.310	5.50	3.548

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)
GSM850	0.549
GSM1900	1.000
LTE Band 2	1.000
LTE Band 4	1.000
LTE Band 5	0.549
LTE Band 7	1.000
LTE Band 66	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/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 (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm^2)	Limit Value (mW/cm^2)
GSM850	29.99	-3.15	26.840	483.059	0.019	0.549
GSM1900	26.99	2.27	29.260	843.335	0.033	1.000
LTE Band 2	25.70	2.27	27.970	626.614	0.025	1.000
LTE Band 4	25.70	2.27	27.970	626.614	0.025	1.000
LTE Band 5	25.70	-3.15	22.550	179.887	0.007	0.549
LTE Band 7	25.70	2.58	28.280	672.977	0.027	1.000
LTE Band 66	25.70	2.27	27.970	626.614	0.025	1.000
Bluetooth LE	8.00	5.50	13.500	22.387	0.001	1.000
Note: **R** = 20cm **π**= 3.1416						

Bluetooth LE antenna and WWAN antenna can't transmit simultaneously.

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

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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