

TEST REPORT

Applicant: Asiatelco Technologies Co.
Address: #289 Bisheng Road, Building-8, 3F, Zhang jiang Hi-Tech Park, Pudong, Shanghai 201204, China
Equipment Type: GPS TRACKER
Model Name: AT16N
Brand Name: ATEL
FCC ID: XYO-AT16N
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: N/A
Test Date: N/A
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ISSUED BY:

Shanghai Tejet Communications Technology Co., Ltd. Testing Center



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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jan. 07, 2026</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Address	1-2/F., Building 1, No. 222 Xuanlan Road, Xuanqiao Town, Pudong New District, Shanghai, China

1.2 Test Location

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Location	1st to 2nd floors, Building 1, No. 222 Xuanlan Road, Xuanqiao Town, Pudong New District, Shanghai, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1352. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 29671.

2 PRODUCT INFORMATION

2.1 Applicant Information

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

2.2 Manufacturer Information

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

2.3 General Description for Equipment under Test (EUT)

EUT Name	GPS TRACKER
Model Name Under Test	AT16N
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	P1
Software Version	V1.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	4G Network LTE FDD Band 2/4/12/13/14/17/25/66 BLE:1M&2M&S2&S8
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	LTE,BLE		
Frequency Range	LTE B2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE B4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE B12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE B13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE B14	TX: 788 ~ 798MHz	RX: 758 ~ 768 MHz
	LTE B17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE B25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE B66	TX: 1710~ 1780 MHz	RX: 2110 ~ 2280 MHz
	BLE	2402 ~ 2480 MHz	
Antenna Type	WWAN	PIFA Antenna	
	BLE	PIFA Antenna	
Exposure Category	General Population/Uncontrolled Exposure		
Product Type	Mobile Device		

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01

3.2 Limit Standards

No.	Identity	Document Title
1	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices

4 DEVICE CATEGORY AND LEVELS LIMITS

Mobile Devices:

CFR Title 47 §2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

FCC KDB 447498 D04 General RF Exposure Guidance v01 Limit

Evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i. e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
300		39	65	88	110	129	148	166	184	201	217
450		22	44	67	89	112	135	158	180	203	226
835		9	25	44	66	90	116	145	175	207	240
1900		3	12	26	44	66	92	122	157	195	236
2450		3	10	22	38	59	83	111	143	179	219
3600		2	8	18	32	49	71	96	125	158	195
5800		1	6	14	25	40	58	80	106	136	169

5 ASSESSMENT RESULT

5.1 Output Power

LTE								
Mode	Band 2	Band 4	Band 12	Band 13	Band 14	Band 17	Band 25	Band 66
Conducted Power (dBm)	24.40	24.30	23.74	24.56	24.37	23.96	24.30	24.05
Antenna Gain (dBi)	2.66	3.51	0.98	1.29	1.13	0.98	2.66	3.51
EIRP (dBm)	27.06	27.81	22.57	23.70	23.35	22.79	26.96	27.56

Note: This report listed the worst case conducted power value, please refer to RF test report No.BL-SH25C1382-501 for more details.

BLE	
Mode	BLE 1M
Conducted Power (dBm)	7.95
Antenna Gain (dBi)	6.00
EIRP/ERP (dBm)	13.95

Note: This report listed the worst case conducted power value, please refer to RF test report No.BL-SH25C1382-601 for more details.

5.2 Tune-up power

Mode		Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
LTE	Band 2	【23.00,25.00】	【25.66,27.66】	【23.51,25.51】
	Band 4	【23.00,25.00】	【26.51,28.51】	【24.36,26.36】
	Band 12	【23.00,25.00】	/	【21.83,23.83】
	Band 13	【24.00,26.00】	/	【23.14,25.14】
	Band 14	【23.00,25.00】	/	【21.98,23.98】
	Band 17	【23.00,25.00】	/	【21.83,23.83】
	Band 25	【23.00,25.00】	【25.66,27.66】	【23.51,25.51】
	Band 66	【23.00,25.00】	【26.51,28.51】	【24.36,26.36】
BLE		【7.00,9.00】	【13.00,15.00】	【10.85,12.85】

Note1: ERP= EIRP -2.15dB.

Note2: According KDB 447498 D04, used the greater of maximum conducted power and ERP to compare with the threshold value Pth.

5.3 RF Exposure Evaluation Result

Evolution mode		Frequency (MHz)	Distance (mm)	Maximum power Tune up(dBm)	Maximum power (mW)	Threshold Power (mW)	P/Plimit	Verdict
LTE	Band 2	1850	20	25.51	355.63	3060.00	0.1162	Pass
	Band 4	1710	20	26.36	432.51	3060.00	0.1413	Pass
	Band 12	699	20	25.00	316.23	1425.96	0.2218	Pass
	Band 13	777	20	26.00	398.11	1585.08	0.2512	Pass
	Band 14	793	20	25.00	316.23	1617.72	0.1955	Pass
	Band 17	704	20	25.00	316.23	1436.16	0.2202	Pass
	Band 25	1850	20	25.51	355.63	3060.00	0.1162	Pass
	Band 66	1710	20	26.36	432.51	3060.00	0.1413	Pass
BLE		2402	20	12.85	19.28	3060.00	0.0063	Pass

5.4 Collocated Power Calculation

Evolution mode	Frequency(MHz)	Power /Limit	$\Sigma(\text{Power/ Limit})$	Verdict
LTE Band13	777MHz ~ 787 MHz	0.2512	0.2575	Pass
BLE	2402 ~ 2480 MHz	0.0063		

Note:

1. $\Sigma(\text{Power /Limit})$: This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for BLE+WWAN.
2. Both of the BLE\ WWAN can transmit simultaneously, the formula of calculated the Power is $CP1 / LP1 + CP2 / LP2 + \dots \text{etc.} < 1$
 CP = Calculation power
 LP = Limit of power
3. The worst-case situation is 0.2575, which is less than "1". This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
4. More power list please refer to RF test report.

5.5 Conclusion

This EUT is deemed to comply with the reference level limits, therefore the basic restrictions are compliant with human exposure limits.

Statement

1. The Testing Center guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
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--END OF REPORT--