MPE TEST REPORT

Applicant	Sarekon, Inc.
FCC ID	2A3HG-AT10-A
Product	GPS Tracker AT10-A
Model	AT10-A
Report No.	R2107A0654-M1V1
Issue Date	October 26, 2021

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 1.1310.** The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Fangying Wei

Prepared by: Fangying Wei

Guangchang Fan

Approved by: Guangchang Fan

TA Technology (Shanghai) Co., Ltd.

No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000

Table of Contents

1 Test Laboratory 4
1.1 Notes of the Test Report 4
1.2. Test facility 4
1.3 Testing Location 4
1.4 Laboratory Environment 5
2 Description of Equipment under Test 6
3 Maximum conducted output power (measured) and antenna Gain 7
4 Test Result 8
ANNEX A: The EUT Appearance 11

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

Version	Revision description	Issue Date
Rev.0	Initial issue of report.	August 11, 2021
Rev.1	Update information in Page 1, Page 5 and Page 6.	October 26, 2021
Note: This revised report (Report No. R2107A0654-M1V1) supersedes and replaces the previously issued report (Report No. R2107A0654-M1). Please discard or destroy the previously issued report and dispose of it accordingly.		

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

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 **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)

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:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Fan Guangchang
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	fanguangchang@ta-shanghai.com

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
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.	

AT10-A (Report No.:R2107A0654-M1V1) is a variant model of AT10-2(Report No.: R2104A0318-M1V1). The product changes are as follows:

1. Shell.

2. Power supply interface.

This report only changes the product name, model and FCC ID. Test values partial duplicated from Original for variant .There is no test in this report.

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

2 Description of Equipment under Test

Client Information

Applicant	Sarekon, Inc.
Applicant address	280 E. 1st Ave #60 Broomfield US
Manufacturer	Asiatelco Technologies Co.
Manufacturer address	No. 68 Huatuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201203, China

General Technologies

Model	AT10-A
IMEI	866642050250804
Hardware Version	AT15_P1
Software Version	3.6
Date of Testing:	April 13, 2021~April 25, 2021
Date of Sample Received:	April 8, 2021
Note: 1. The EUT is sent from the applicant to 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 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.	

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

3 Maximum conducted 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 Conducted Output Power (dBm)	
	(dBm)	(mW)
LTE Band 2	24.000	251.189
LTE Band 4	24.000	251.189
LTE Band 12	24.000	251.189
LTE Band 13	24.000	251.189
LTE Band 25	24.000	251.189
Bluetooth LE	0.440	1.107

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

4 Test Result

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

TABLE 1 – LIMITS FOR MAXIMUN PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0 ……	614	1.63	*(100)	6
3-30 ……	1842/f	4.89/f	*(900/f2)	6
30-300 ……	61.4	0.163	1.0	6
300-1500 ……	……	……	f/300	6
1500-100,000 ……	……	……	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34 ……	614	1.63	*(100)	30
1.34-30 ……	824/f	2.19/f	*(180/f2)	30
30-300 ……	27.5	0.073	0.2	30
300-1500 ……	……	……	f/1500	30
1500-100,000 ……	……	……	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.

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

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 12	0.477
LTE Band 13	0.525
LTE Band 25	1.000
Bluetooth LE	1.000

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

RF Exposure Calculations:

The following information provides the minimum separation distance for the highest gain antenna provided. This calculation is based on the conducted power, considering maximum power and antenna gain. The formula shown in KDB 447498 D01 is used in the calculation.

Equation from KDB 447498 D01 General RF Exposure Guidance v06 (10/23/2015) is:

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

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	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	PG (mW)	Test Result (mW/cm^2)	Limit Value (mW/cm^2)
LTE Band 2	2.270	24.000	26.270	423.643	0.084	1.000
LTE Band 4	1.500	24.000	25.500	354.813	0.071	1.000
LTE Band 12	-1.230	24.000	22.770	189.234	0.038	0.477
LTE Band 13	-1.230	24.000	22.770	189.234	0.038	0.525
LTE Band 25	2.270	24.000	26.270	423.643	0.084	1.000
Bluetooth LE	2.67	0.440	3.110	2.046	0.0004	1.000
Note: **R** = 20cm **π**= 3.1416						

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

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

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

This report shall not be reproduced except in full, without the written approval of TA Technology (Shanghai) Co., Ltd.