MPE TEST REPORT

Applicant	Positec Technology (China)Co., Ltd
FCC ID	2ASC3WA0866
Product	Anti-Theft GPS Tracker
Brand	WORX
Model	WA0866,WA0866.x (x = 0-9, or A-Z)
Report No.	R1812A0591-M1V1
Issue Date	February 2, 2019

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.

Songyan Fan　　Guangchang Fan

Approved by: Songyan Fan　　*Approved by: Guangchang Fan*

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A.1 EUT Appearance 10

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1 Test Laboratory

1.1 Notes of the Test Report

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1.2 Test facility

CNAS (accreditation number:L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

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 electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

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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
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Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	xukai@ta-shanghai.com

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.	

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2 Description of Equipment under Test

Client Information

Applicant	Positec Technology (China)Co., Ltd
Applicant address	18,Dongwang Road,Suzhou Industrial park,Jiangsu 215123,P.R. China
Manufacturer	Positec Technology (China)Co., Ltd
Manufacturer address	18,Dongwang Road,Suzhou Industrial park,Jiangsu 215123,P.R. China

General Technologies

Model	WA0866,WA0866.x (x = 0-9, or A-Z)
SN	/
Hardware Version	R1.0.3
Software Version	V1.65
Date of Testing:	December 28, 2018~ January 21,2019

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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	Burst Turn up Power(dBm)	Division Factors (dB)	Time-Averaged Tune up Power (dBm)
GSM 850	33.00	-9.03	23.97
GSM 1900	30.00	-9.03	20.97

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

Band	Maximum Conducted Output Power (dBm)		Antenna Gain (dBi)	Numeric gain
	(dBm)	(mW)		
GSM 850	23.97	249.46	-1.09	0.78
GSM 1900	20.97	125.03	3.41	2.19
LTE Band 2	24.00	251.19	3.41	2.19
LTE Band 4	23.00	199.53	3.27	2.12
LTE Band 12	24.00	251.19	-0.99	0.80
LTE Band 13	24.00	251.19	0.29	1.07

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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.

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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
GSM850	0.55mW/cm^2
GSM1900	1.00mW/cm^2
LTE Band 2	1.00mW/cm^2
LTE Band 4	1.00mW/cm^2
LTE Band 12	0.47mW/cm^2
LTE Band 13	0.52mW/cm^2

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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	PG (mW)	Test Result (mW/cm^2)	Limit Value (mW/cm^2)	Conclusion
GSM 850	194.09	0.04	0.55	Pass
GSM 1900	274.16	0.05	1.00	Pass
LTE Band 2	550.81	0.11	1.00	Pass
LTE Band 4	423.64	0.08	1.00	Pass
LTE Band 12	199.99	0.04	0.47	Pass
LTE Band 13	268.53	0.05	0.52	Pass
Note: **R** = 20cm Π= 3.1416				

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

A.1 EUT Appearance

a: EUT

Picture 1 EUT

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