Shenzhen Global Test Service Co.,Ltd.
1F, Building No. 13A, Zhonghaixin Science and Technology City, No.12,6 Road, Ganli Industrial Park, Buji Street, Longgang District, Shenzhen, Guangdong

RF Exposure evaluation

Report Reference No. ..... :	**GTSR18050237-02**
FCC ID. ..... :	**2AKO3-HTPW302**
Compiled by (position+printed name+signature)..:	File administrators Jimmy Wang
Supervised by (position+printed name+signature)..:	Test Engineer Peter Xiao
Approved by (position+printed name+signature)..:	Manager Jason Hu
Date of issue.....:	Jun . 6, 2018

Representative Laboratory Name .:	**Shenzhen Global Test Service Co.,Ltd.**
Address.....:	1F, Building No. 13A, Zhonghaixin Science and Technology City, No.12,6 Road, Ganli Industrial Park, Buji Street, Longgang District, Shenzhen, Guangdong
Applicant's name.....:	**Dogness Smart Technology(Dongguan)Co.,LTD**
Address.....:	Third floor, building1, Tongsha new industrial zone, Tongsha community of Dongcheng street, Dongguan city
Test specification ..... **:**	
Standard .....:	**ANSI C95.1–1999/IEEE 1528:2013** **47CFR §2.1093**
TRF Originator.....:	Shenzhen Global Test Service Co.,Ltd.
Master TRF.....:	Dated 2014-12

Test item description .....:	GSM&GPS position tracker
Trade Mark .....:	/
Manufacturer.....:	**Dogness Smart Technology(Dongguan)Co.,LTD**
Model/Type reference.....:	HT-PW302-S
Listed Models .....:	See 1.2
Operation Frequency.....	GSM 850MHz; PCS 1900MHz;
Modulation Type	GPRS(GMSK)
Hardware version .....:	HT-PW302-S-MB-V1.2
Software version .....:	V2.0.0.8
Rating .....:	DC 3.80V
Result.....:	**PASS**

T E S T R E P O R T

Test Report No. : **GTSR18050237-02**	Jun. 6, 2018 Date of issue

Equipment under Test	:	GSM&GPS position tracker
Model /Type	:	HT-PW302-S
Listed Models	:	See 1.2
Applicant	:	**Dogness Smart Technology(Dongguan)Co.,LTD**
Address	:	Third floor, building1, Tongsha new industrial zone, Tongsha community of Dongcheng street, Dongguan city, China
Manufacturer	:	**Dogness Smart Technology(Dongguan)Co.,LTD**
Address	:	Third floor, building1, Tongsha new industrial zone, Tongsha community of Dongcheng street, Dongguan city, China

Test result	**Pass**

The test report merely corresponds to the test sample.

Contents

1. SUMMARY

1.1. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

○	/	M/N:	/
		Manufacturer:	/

1.2. Product Description

Product Name:	GSM&GPS position tracker
Trade Mark:	/
Model/Type reference:	HT-PW302-S
List Model:	C1, JD02, HT-PW302-SA, HT-PW302-ST, HT-PW302-SC, HT-PW302-SD, HT-PW302-SE, HT-PW302-SF, HT-PW302-SG, HT-PW302-SH, HT-PW302-SI, HT-PW302-SJ, HT-PW302-SK, HT-PW302-SL, HT-PW302-SN, HT-PW302-SO, HT-PW302-SP, HT-PW302-SQ, HT-PW302-SR, HT-PW302-SS
Power supply:	DC 3.8V
Modilation Type	GMSK
Antenna Type	Internal antenna
GPRS Note	The manufacturer controls the duty cycle of GPRS as 3% by the software
GPS function	Supported
GPRS	Supported
GPRS Power Class	GPRS 850:Power Class 4/ GPRS 1900:Power Class 1
GPRS Operation Frequency	GPRS 850 :824.2MHz-848.8MHz/ GPRS 1900:1850.2MHz-1909.8MHz
GPRS Operation Frequency Band	GPRS850/GPRS1900
GPRS Multislot Class	Multi-slot Class 12
Extreme temp. Tolerance	-30°C to +50°C
GPRS operation mode	Class B
Antenna gain:	GPRS 850: -0.85dbi, GPRS 1900: -1.07dbi
Remark: The products are identical in interior structure, electrical circuits and components, just model names and color are different.	

Note: For more details, refer to the user's manual of the EUT.

2. TEST ENVIRONMENT

2.1. Address of the test laboratory

Shenzhen Global Test Service Co.,Ltd.
1F, Building No. 13A, Zhonghaixin Science and Technology City, No.12,6 Road, Ganli Industrial Park, Buji Street, Longgang District, Shenzhen, Guangdong

2.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 165725

Shenzhen Global Test Service Co.,Ltd EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

CNAS-Lab Code: L8169

Shenzhen Global Test Service Co.,Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories. Date of Registration: Dec. 11, 2015. Valid time is until Dec. 10, 2018.

2.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3. Method of measurement

3.1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.
According to §1.1310 and §2.1093 RF exposure requirement
KDB447498 v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

3.2. Requirement

According to the KDB-447498 D01 V06, FCC 47CFR § 2.1091 the following RF exposure evaluation shall to demonstrate RF exposure compliance.

Friis transmission formula: Pd = (Pout*G)/(4*pi*r2)

Where

Pd = power density in mW/cm2, Pout = output power to antenna in mW;

G = gain of antenna in linear scale, Pi = 3.1416;

R = 20cm, distance between observation point and center of the radiator in cm.

3.3. Conducted Power Results

Max Conducted power measurement results and power drift from tune-up tolerance provide by manufacturer:

GSM 850		**Burst-Average Conducted power (dBm)**			**/**	**Time-Average power (dBm)**		
		Channel/Frequency(MHz)				**Channel/Frequency(MHz)**		
		128/824.2	**190/836.6**	**251/848.8**		**128/824.2**	**190/836.6**	**251/848.8**
GPRS (GMSK)	1TX slot	31.93	31.97	31.95	-9.03dB	22.90	22.94	22.92
	2TX slot	30.38	30.46	30.42	-6.02dB	24.36	24.44	24.40
	3TX slot	28.26	28.30	28.27	-4.26dB	24.00	24.04	24.01
	4TX slot	27.53	27.66	27.65	-3.01dB	24.52	**24.65**	24.64
GSM 1900		**Burst Conducted power (dBm)**			**/**	**Average power (dBm)**		
		Channel/Frequency(MHz)				**Channel/Frequency(MHz)**		
		512/ 1850.2	**661/ 1880**	**810/ 1909.8**		**512/ 1850.2**	**661/ 1880**	**810/ 1909.8**
GPRS (GMSK)	1TX slot	29.91	30.09	30.01	-9.03dB	20.88	21.06	20.98
	2TX slot	27.45	27.53	27.56	-6.02dB	21.43	21.51	21.54
	3TX slot	26.36	26.41	26.38	-4.26dB	22.10	22.15	22.12
	4TX slot	25.42	25.58	25.55	-3.01dB	22.41	**22.57**	22.54

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

Manufacturing tolerance

GSM 850 GPRS (GMSK) (Brust-Average)				
Channel		251	190	128
1 Txslot	Target (dBm)	32.00	32.00	32.00
	Tolerance ±(dB)	1	1	1
2 Txslot	Target (dBm)	30.00	30.00	30.00
	Tolerance ±(dB)	1	1	1
3 Txslot	Target (dBm)	28.00	28.00	28.00
	Tolerance ±(dB)	1	1	1
4 Txslot	Target (dBm)	27.00	27.00	27.00
	Tolerance ±(dB)	1	1	1
GSM 1900 GPRS (GMSK) (Brust-Average)				
Channel		810	661	512
1 Txslot	Target (dBm)	30.00	30.00	30.00
	Tolerance ±(dB)	1	1	1
2 Txslot	Target (dBm)	27.00	27.00	27.00
	Tolerance ±(dB)	1	1	1
3 Txslot	Target (dBm)	26.00	26.00	26.00
	Tolerance ±(dB)	1	1	1
4 Txslot	Target (dBm)	25.00	25.00	25.00
	Tolerance ±(dB)	1	1	1

4. Limit

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) 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
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	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

5. Evaluation Result

Band/ Mode	Target power W/ tolerance (dBm)	Max tune up power tolerance (dBm)	Max Output power to antenna (mW)	gain of antenna in linear scale	Power Density at R=20cm (mW/cm2)	Limit (mW/cm2)	Result
GRRS 850	**32±1**	**33**	**1995.3**	**0.8222**	**0.3264**	**0.57**	**Pass**
GPRS 1900	**30±1**	**31**	**1258.9**	**0.7816**	**0.1958**	**1.0**	**Pass**

6. Conclusion

this equipment complies with FCC rediation exposure limits set forth for an uncontralled environment

.....End of Report.....