



REPORT No. : SZ19050138S01

RF EXPOSURE EVALUATION REPORT

APPLICANT : Shenzhen Jimi IOT Co.,Ltd
PRODUCT NAME : ASSET GPS TRACKER
MODEL NAME : AT6
BRAND NAME : Jimi
FCC ID : 2AMLFAT6
STANDARD(S) : 47CFR 2.1091
: KDB 447498
RECEIPT DATE : 2019-05-14
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MORLAB

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Change history		
Version	Date	Reason of changed
1.0	2019-05-21	First edition



1. Technical Information

Note: Provide by manufacturer.

1.1 Applicant and Manufacturer Information

Applicant:	Shenzhen Jimi IOT Co.,Ltd
Applicant Address:	4/F, Building C, Gaoxinqi Industrial Park, Liuxian 1st Road, No.67 Xin'an Street, Bao'an District, Shenzhen, China
Manufacturer:	Shenzhen Jimi IOT Co.,Ltd
Manufacturer Address:	4/F, Building C, Gaoxinqi Industrial Park, Liuxian 1st Road, No.67 Xin'an Street, Bao'an District, Shenzhen, China

1.2 Equipment under Test (EUT) Description

EUT Name:	ASSET GPS TRACKER
Hardware Version:	NFC112_V4.0
Software Version:	GT370W_30_S1G15U8_D23_R0_V01_WM_20181115_1136
Frequency Bands:	GSM850: 824.2MHz ~ 848.8MHz GSM1900: 1850.2MHz ~ 19010.8MHz WCDMA Band II: 1852.4MHz ~ 1907.6MHz WCDMA Band V: 826.4MHz ~ 846.6MHz
Modulation Mode:	GPRS: GMSK, EDGE: 8PSK WCDMA: QPSK
Antenna Type:	FPC Antenna
Antenna Gain:	-1.5dBi

Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3 Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	NFC112_V4.0	GT370W_30_S1G15U8_D23_R0_V01_WM_20181115_1136

1.4 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	47 CFR§2.1091	Radio Frequency Radiation Exposure Evaluation: mobile devices
2	KDB 447498 D01v06	General RF Exposure Guidance

2. Device Category and RF Exposure Limit

Per user manual, Based on 47CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47CFR 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. In this context, the term "fixed location" means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

GENERAL POPULATION / UNCONTROLLED EXPOSURE

The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(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
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz* = Plane-wave equivalent power density

3. RF Output Power

<GSM>

GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GPRS 1 Tx slot	32.24	31.96	32.07	32.50	23.24	22.96	23.07	23.50
GPRS 2 Tx slots	29.84	30.01	30.18	30.50	23.84	24.01	24.18	24.50
GPRS 3 Tx slots	28.72	28.83	28.97	29.00	24.46	24.57	24.71	24.74
GPRS 4 Tx slots	26.62	26.67	26.88	27.00	23.62	23.67	23.88	24.00
EDGE 1 Tx slot	26.14	26.13	26.24	26.50	17.14	17.13	17.24	17.50
EDGE 2 Tx slots	25.84	25.85	25.94	26.00	19.84	19.85	19.94	20.00
EDGE 3 Tx slots	24.70	24.58	24.71	25.00	20.44	20.32	20.45	20.74
EDGE 4 Tx slots	21.94	21.99	22.13	22.50	18.94	18.99	19.13	19.50

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GPRS 1 Tx slot	29.66	29.45	29.59	30.00	20.66	20.45	20.59	21.00
GPRS 2 Tx slots	28.45	28.24	27.91	28.50	22.45	22.24	21.91	22.50
GPRS 3 Tx slots	26.84	26.59	26.25	27.00	22.58	22.33	21.99	22.74
GPRS 4 Tx slots	24.70	24.47	24.16	25.00	21.70	21.47	21.16	22.00
EDGE 1 Tx slot	25.96	25.93	25.68	26.00	16.96	16.93	16.68	17.00
EDGE 2 Tx slots	25.62	25.53	25.39	26.00	19.62	19.53	19.39	20.00
EDGE 3 Tx slots	23.97	23.95	23.65	25.00	19.71	19.69	19.39	20.74
EDGE 4 Tx slots	21.23	21.14	21.14	21.50	18.23	18.14	18.14	18.50

Note: According to KDB 447498 Section 4.3, SAR test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.



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<WCDMA>

Band	WCDMA II			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel	9262	9400	9538		4132	4182	4233	
Rx Channel	9662	9800	9938		4357	4407	4458	
Frequency (MHz)	1852.4	1880	1907.6		826.4	836.4	846.6	
RMC 12.2Kbps	22.07	21.95	21.96	22.50	22.32	22.46	22.24	22.50
HSDPA Subtest-1	21.76	21.79	21.91	22.00	21.78	21.54	21.57	22.00
HSDPA Subtest-2	21.76	21.68	21.87	22.00	21.62	21.46	21.41	22.00
HSDPA Subtest-3	21.81	21.84	21.73	22.00	21.57	21.44	21.41	22.00
HSDPA Subtest-4	21.75	21.80	21.66	22.00	21.48	21.36	21.32	21.50

4. RF Exposure Evaluation

Standalone transmission evaluation:

Bands	Frequency (MHz)	Antenna Gain (dBi)	Maximum Tune-up Limit (dBm)	EIRP (mW)	Power density (mW/cm ²)	Limit for MPE (mW/cm ²)
GSM 850	848.8	-1.5	24.74	210.863	0.042	0.566
GSM 1900	1850.2	-1.5	22.74	133.045	0.026	1.0
WCDMA Band II	1852.4	-1.5	22.50	125.893	0.025	1.0
WCDMA Band V	836.4	-1.5	22.50	125.893	0.025	0.558

Note:

1. According to KDB 447498, SAR test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

2. MPE calculation method

$$\text{Power Density} = \text{EIRP} / 4\pi R^2$$

Where: EIRP = P+G

P = Output Power (dBm)

G = Antenna Gain (dBi)

R = Separation Distance (20cm)



Annex A General Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
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2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
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