TEST REPORT

FCC MPE Test for IET10N
Certification

APPLICANT
SJIT Co.,Ltd

REPORT NO.
HCT-RF-2406-FI007

DATE OF ISSUE
June 14, 2024

Tested by
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Applicant	**SJIT Co.,Ltd** 54-11 Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea
Product Name Model Name	Asset Tracker IET10N
FCC ID	2BEK7IET10N
Date of Test	February 02, 2024 ~ June 14, 2024
Frequency range	[BT LE] 2 402 MHz – 2 480 MHz [WLAN] 2 412 MHz – 2 462 MHz [Sigfox] RC2 - TX : 902.1375 MHz – 904.6625 MHz - RX : 905.1375 MHz – 907.6625 MHz RC4 - TX : 920.1375 MHz – 922.6625 MHz - RX : 921.6375 MHz – 924.1625 MHz
Test Standard Used	FCC Rule: § 1.1310, § 2.1091
Location of Test	■ Permanent Testing Lab ☐ On Site Testing (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)
Test Results	PASS

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	June 14, 2024	Initial Release

Notice

Content
Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance. The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated. The test results have only been applied with the test methods required by the standard(s). The laboratory is not accredited for the test results marked *. Information provided by the applicant is marked **. Test results provided by external providers are marked ***. When confirmation of authenticity of this test report is required, please contact www.hct.co.kr The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

RF Exposure Statement

1. Limit

According to § 1.1310, § 2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
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

2. Maximum Permissible Exposure Prediction

Prediction of MPE limit at a given distance

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

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

3. RESULTS

3-1. BT LE

Maximum output Power at antenna input terminal	2.00	dBm
Maximum output Power at antenna input terminal	1.58	mW
Prediction distance	20.00	cm
Prediction frequency	2 402 – 2 480	MHz
Antenna Gain(typical)	3.01	dBi
Antenna Gain(numeric)	2.00	-
Power density at prediction frequency(S)	0.0006	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	5.01	(dBm)
ERP	2.86	(dBm)
ERP	0.002	(W)
ERP Limit	3.00	(W)
MARGIN	31.91	(dB)

3-2. DTS

Maximum output Power at antenna input terminal	9.00	dBm
Maximum output Power at antenna input terminal	7.94	mW
Prediction distance	20.00	cm
Prediction frequency	2 412 – 2 462	MHz
Antenna Gain(typical)	3.01	dBi
Antenna Gain(numeric)	2.00	-
Power density at prediction frequency(S)	0.0032	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	12.01	(dBm)
ERP	9.86	(dBm)
ERP	0.010	(W)
ERP Limit	3.00	(W)
MARGIN	24.91	(dB)

3-3. Sigfox RC2

Maximum output Power at antenna input terminal	22.00	dBm
Maximum output Power at antenna input terminal	158.49	mW
Prediction distance	20.00	cm
Prediction frequency	902.1375 – 904.6625	MHz
Antenna Gain(typical)	2.50	dBi
Antenna Gain(numeric)	1.78	-
Power density at prediction frequency(S)	0.0561	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.6014	mW/cm^2

2.1091

EIRP	24.50	(dBm)
ERP	22.35	(dBm)
ERP	0.172	(W)
ERP Limit	1.50	(W)
MARGIN	9.41	(dB)

3-4. Sigfox RC4

Maximum output Power at antenna input terminal	22.00	dBm
Maximum output Power at antenna input terminal	158.49	mW
Prediction distance	20.00	cm
Prediction frequency	920.1375 – 922.6625	MHz
Antenna Gain(typical)	2.40	dBi
Antenna Gain(numeric)	1.74	-
Power density at prediction frequency(S)	0.0548	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.6134	mW/cm^2

2.1091

EIRP	24.40	(dBm)
ERP	22.25	(dBm)
ERP	0.168	(W)
ERP Limit	1.50	(W)
MARGIN	9.51	(dB)

Simultaneous transmission operations

$$\sum_{i=1}^{n} \frac{Power\ \ density\ \ i}{Limit\ \ i} < 1$$

->Simultaneous MPE 20 cm is

BT LE (0.0006) + 2.4G WLAN (0.0032) = 0.0038 < 1

BT LE (0.0006) + Sigfox RC2 (0.0933) = 0.0939 < 1