

TEST REPORT

Product Name : Pocket Thermal Imager
Model Number : UTi260T
FCC ID : 2APMK-2601203T

Prepared for : UNI-TREND TECHNOLOGY (CHINA) CO.,LTD.
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1. TEST RESULT CERTIFICATION

Applicant : UNI-TREND TECHNOLOGY (CHINA) CO.,LTD.
Address : No 6, Gong Ye Bei 1 st Road, Songshan Lake National High-Tech Industrial Development Zone, Dongguan City, Guangdong Province, China
Manufacturer : UNI-TREND TECHNOLOGY (CHINA) CO.,LTD.
Address : No 6, Gong Ye Bei 1 st Road, Songshan Lake National High-Tech Industrial Development Zone, Dongguan City, Guangdong Province, China
EUT : Pocket Thermal Imager
Model Name : UTi260T
Trademark : UNI-T

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093,1.1307(b)(1)	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1093, 1.1307(b)(1).
The test results of this report relate only to the tested sample identified in this report

Date of Test : March 15, 2024 to May 09, 2024 , November 15, 2024 to December 03, 2024

Prepared by :

Warren Deng

Warren Deng /Editor

Tim Dong

Reviewer :

Tim Dong /Supervisor



Approve & Authorized Signer :

Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2403150095E00406R	May 09, 2024	Original Report
M1	EDG2411140272E00206R	December 03, 2024	Update circuit board, add auxiliary download program circuit, and reserve circuit (unused). Due to the circuit modification of the product, only the non-RF part is involved, The conducted emission and 30-1000MHz Radiated emission part needs to be tested.

2. EUT Specification

Characteristics	Description
Product:	Pocket Thermal Imager
Model Number:	UTi260T
Sample:	2#
Device Type:	NFC
Modulation:	ASK
Operating Frequency Range(s) :	13.110-14.010 MHz
Number of Channels:	1 channel
Max Field Strength:	30.98 dBuV@3m
Antenna Gain:	0 dBi
Power supply:	DC 5V from USB, DC 3.7V from Li-ion Battery
Evaluation applied:	<input type="checkbox"/> MPE Evaluation <input checked="" type="checkbox"/> SAR Evaluation

3. Test Requirement:

RF EXPOSURE EVALUATION

According to KDB 447498 and §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.

- a) For 100 MHz to 6 GHz and *test separation distances* ≤ 50 mm, the 1-g and 10-g *SAR test exclusion thresholds* are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR,}^{30} \text{ where}$$

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation³¹
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

- b) For 100 MHz to 6 GHz and *test separation distances* > 50 mm, the 1-g and 10-g *SAR test exclusion thresholds* are determined by the following (also illustrated in Appendix B):³²

- 1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f_{\text{(MHz)}}/150)]\}$ mW, for 100 MHz to 1500 MHz
- 2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz

- c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):³³

- 1) For *test separation distances* > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f_{\text{(MHz)}})]$
- 2) For *test separation distances* ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $1/2$
- 3) SAR measurement procedures are not established below 100 MHz.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to quality for TCB approval. One antenna is available for the EUT. The minimum separation distance is 5mm.

According to ANSI C63.10-2013

9.5 Equations to calculate EIRP

Calculate the EIRP from the radiated field strength in the far field using Equation (22):

$$\text{EIRP} = E + 20\log(d) - 104.7 \quad (22)$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E is the field strength of the emission at the measurement distance, in dBμV/m

d is the measurement distance, in m

NFC

Channel Freq. (MHz)	Max Field Strength (dBuV/m)	peak output power (dBm)	Tune upPower (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
13.56	30.98	-64.1776	-65±1	-64	0.0000000035	3

According to KDB 447498, no stand-alone required for NFC antenna, and no simultaneous SAR measurement is required.

*** End of Report ***