

TEST REPORT
EN 50689
Safety of laser products — Particular
Requirements for Consumer Laser Products

Report Number.: 240703082GZU-002

Date of issue: 28 Aug 2024

Total number of pages.....: 13

Name of Testing Laboratory preparing the Report.....: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Applicant's name: UNI-TREND TECHNOLOGY (CHINA) CO.,LTD.

Address: No 6, Gong Ye Bei 1 st Road, Songshan Lake National High-Tech Industrial Development Zone, Dongguan, Guangdong Province, China

Test specification:

Standard.....: EN 50689:2021

Test procedure: Test report

Non-standard test method: N/A

Test Report Form No.: TTRF_EN50689_2021A

Test Report Form(s) Originator: Copyright © 2022 Intertek

Master TRF.....: 2022-04



General disclaimer:

Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

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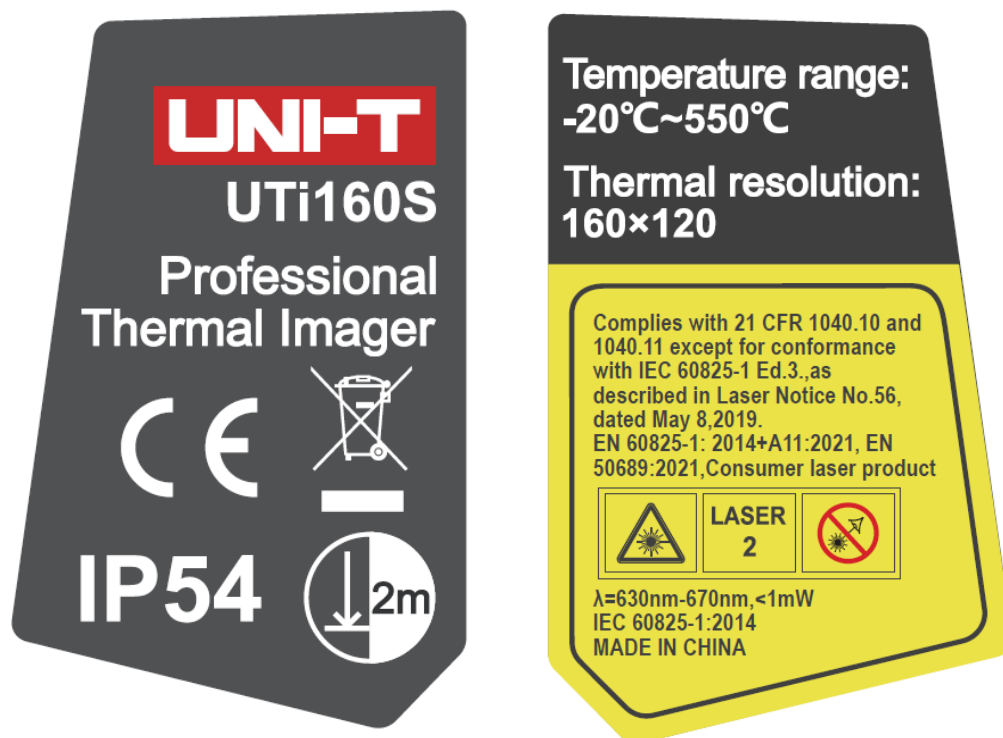
Test item description..... :	Professional Thermal Imager
Trade Mark..... :	UNI-T
Manufacturer	Same as applicant
Model/Type reference..... :	UTi160S
Ratings..... :	3.7Vdc/2600mAh 18650 Li-ion battery, Class 2 laser product

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	Testing Laboratory:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Testing location/ address		Room 101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu District, Guangzhou, Guangdong, China
Tested by (name, function, signature)..... :		Jenny Zhan, Assist Engineer 
Approved by (name, function, signature) .. :		Justin He, Manager 
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	
Testing location/ address		
Tested by (name, function, signature)..... :		
Approved by (name, function, signature) .. :		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	
Testing location/ address		
Tested by (name + signature)..... :		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		

List of Attachments (including a total number of pages in each attachment):	
Appendix 1 Product photos	3 pages
Summary of testing:	
Tests performed (name of test and test clause): All applicable tests were performed.	Testing location: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Room 101/301/401/102/202/302/402/502/602/702/802, No. 7-2, Caipin Road, Huangpu District, Guangzhou, Guangdong, China
Summary of compliance with National Differences (List of countries addressed): None.	
<input checked="" type="checkbox"/> The product fulfils the requirements of EN 50689:2021.	
Statement concerning the uncertainty of the measurement systems used for the tests (may be required by the product standard or client)	
<input type="checkbox"/> Internal procedure used for type testing through which traceability of the measuring uncertainty has been established: Procedure number, issue date and title: Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.	
<input checked="" type="checkbox"/> Statement not required by the standard used for type testing	

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars:
Classification of installation and use..... : Portable

Supply Connection : Battery operated

Possible test case verdicts:

- Test case does not apply to the test object : N/A (Not Applicable)

- Test object does meet the requirement : P (Pass)

- Test object does not meet the requirement : F (Fail)

Testing:
Date of receipt of test item..... : 03 Jul 2024

Date (s) of performance of tests : 03 Jul 2024 – 28 Aug 2024

General remarks:

The test results presented in this report relate only to the object tested.

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"(see ENCLOSURE #)" refers to additional information appended to the report.

"(see Form A.xx)" refers to a Table appended to the report.

Bottom lines for measurement Tables Forms A.xx are optional if used as record.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

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Name and address of factory (ies) : Same as applicant

General product information and other remarks:

UTi160S is a handheld thermal imager integrated imaging with temperature measurement, center spot temperature measurement, and auto high/low spot tracking, equipped with LED light, laser pointer, high/low alarm.

Description of model differences:

None.

Description of special features:

None.

EN 50689			
Clause	Requirement + Test	Result - Remark	Verdict
4	Classification of consumer laser products		P
	Laser products shall comply with EN 60825-1		P
	The product shall be in the lowest feasible class commensurate with the intended function		P
5	Child appealing consumer laser products	Not a child appealing consumer laser product	N/A
	Shall be Class 1 laser products		N/A
	Additionally, the accessible emission determined at the closest point of human access and the point of the highest accessible emission shall not exceed the maximum permissible exposure values for the skin as specified in EN 60825-1, Table A.5.		N/A
	A laser pointer of any class, other than Class 1, shall not be a child appealing consumer laser product		N/A
	Shall not exceed 0,001 W·m ⁻² in the wavelength range 180 nm ≤ λ < 315 nm.		N/A
	Shall comply with all stated requirements. Products that do not comply with all stated requirements are considered as unsafe.		N/A
	Shall comply with the battery safety requirements from EN IEC 62115:2020.		N/A
6	All other consumer laser products		P
6.1	Generic requirements for consumer laser products		P
	The classification, engineering, labelling and information for the user requirements of EN 60825-1 apply		P
	Class 1, Class 2 and a subgroup of Class 3R are permitted	Class 2 laser product	P
	Additional requirements for Class 3R consumer laser products are given in 6.2	Class 2 laser product	N/A
	Consumer laser products that are not child appealing shall meet the following requirements:		-
	a) shall not be Class 1M, Class 2M, Class 3B or Class 4		P
	b) The accessible emission determined at the closest point of human access and the point of the highest accessible emission with a circular aperture stop with a diameter of 3,5 mm shall not exceed the AEL of Class 3B;	Max 0.727mW	P
	c) During any user maintenance, access to laser radiation in excess of the assigned laser class shall not be possible		P
6.2	Requirements for Class 3R consumer laser products	Class 2 laser product	N/A
	When the specific application of the consumer laser product requires a Class 3R laser product, the additional requirements a) to h) shall be met.		N/A
	a) The laser product shall not be a laser pointer;		N/A

EN 50689			
Clause	Requirement + Test	Result - Remark	Verdict
	b) A statement justifying the reason why a Class 3R product is required shall be given in the information to the user. This will include why a Class 1 or Class 2 consumer laser product is not adequate		N/A
	c) A deliberate action is required by the user prior to activation of the laser emission, avoiding unexpected exposure. A clear emission indication on the device shall be provided		N/A
	d) Intrabeam viewing is not intended or necessary for the function of the product		N/A
	e) The wavelength shall be within the range of 400 nm $\leq \lambda < 1250$ nm. Additional emission in the wavelength range of 1250 nm to 1400 nm is not permitted. That is, if there is emission in both wavelength ranges, the product has to be Class 1 or Class 2.		N/A
	f) The AEL that is applied for classification shall be based on $C6 = 1$,		N/A
	g) For the wavelength range of 400 nm to 700 nm in case of continuous wave emission (i.e. no pulse duration less than 0,25 s) or pulsed accessible emission, the peak power of the continuous wave emission or pulses shall not exceed 5 mW as defined by the AEL of Class 3R for emission duration t equal to 0,25 s;		N/A
	h) For the wavelength range of 700 nm to 1250 nm in case of continuous wave emission or, pulsed accessible emission, the peak power of the pulses shall not exceed $2 \times C4 \times C7$ mW as defined by the AEL of Class 3R for emission duration of t equal to 100 s.		N/A
7	User information and labelling		P
7.1	General		P
	The requirements of this Clause 7 apply additionally to the requirements of EN 60825-1, Clause 7 (labelling) and Clause 8 (information for the user, purchasing and servicing information)		P
	A statement of compliance with EN 50689 shall be included in the information for the user. The information for the user shall describe the product's intended use as a consumer laser product.		P
	Additional wording shall be on the explanatory label to show that the laser product is a consumer laser product that is compliant with EN 50689		P
	The required reference to EN 50689 is in lieu of the reference to EN 60825-1		P
	The requirements of EN 60825-1:2014, 7.11 and 7.12 (invisible laser radiation, visible laser radiation) and EN 60825-1:2014/A11:2021 also apply		P

EN 50689			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	For Class 3R consumer laser products	Class 2 laser product	N/A
	In addition to the requirements of 7.1, the following additional information shall be provided in the information to the user for Class 3R consumer laser products:		-
	a) A statement that the user should not deliberately irradiate themselves or anyone else intentionally with the laser beam. For intended outdoor use information shall be provided to avoid non intentional exposure of other people;		N/A
	b) A description of the emission indicator		N/A
	c) Technical specification for the control measure to ensure the product can only be activated through deliberate action;		N/A
	d) That the Class 3R classification was determined with $C6 = 1$ according to EN 60825-1		N/A
	e) The justification for why a Class 3R consumer laser product is necessary for the intended application		N/A
	f) A statement that the product complies with EN 50689		N/A
	g) Date of statement of compliance with EN 50689 and identity of the manufacturer or/and supplier		N/A



Photo 1 – Front view



Photo 2 – Rear view



Photo 3 – Side view



Photo 4 – Other Side view



Photo 5 – Internal view

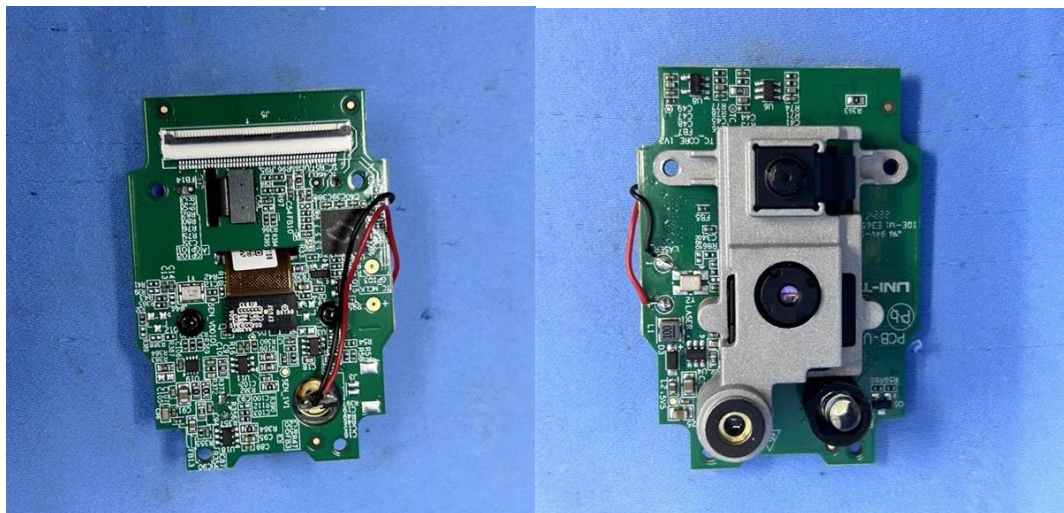


Photo 6 – PCB view

**** END OF REPORT****