

Report No.: 58250SC10039901

Test Report

Client Name : Shenzhen Vstarcam Technology Co., Ltd.

Address 4-5th Floor, G Building, Jiangxia Tech Park,

Huangfengling Industrial Zone, Shiyan street, Baoan

District, ShenZhen City, Guangdong Province, P.R China

Product Name : IP CAMERA

Date : Jan. 06, 2022



TEST REPORT IEC 60825-1

Safety of laser products

Part 1: Equipment classification and requirements

Report	
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Report reference No...... 58250SC10039901

Compiled by Clearloveq Zheng

Approved by...... Terry Tian

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Contents 14 pages

Testing laboratory

Name Anbotek (Guangzhou) Compliance Laboratory Limited

Address Rm.508, Bld.2, No.232, Kezhu Road, Science City, Economic &

Technology Development Area, Guangzhou, Guangdong, China.

510663

Testing location Same as above

Applicant

Name Shenzhen Vstarcam Technology Co., Ltd.

Zone, Shiyan street, Baoan District, ShenZhen City, Guangdong

Province, P.R China

Manufacturer

Name Shenzhen Vstarcam Technology Co., Ltd.

Address...... 4-5th Floor, G Building, Jiangxia Tech Park, Huangfengling Industrial

Zone, Shiyan street, Baoan District, ShenZhen City, Guangdong

Province, P.R China

Test specification

Standard IEC 60825-1:2014

Test procedure N.A.

Non-standard test method N.A.

Test item Description

Product name: IP CAMERA

Trademark N.A.

Model and/or type reference C38S-P

Rating(s) DC5V, 2A



Test case verdicts

Test case does not apply to the test object: N(.A.)

Test item does meet the requirement: P(ass)

Test item does not meet the requirement: F(ail)

Testing

Date of receipt of test item Dec. 13, 2021

Copy of marking plate:

Note: This label for reference only.

IP CAMERA

Model No.: C38S-P Rating: 5V===2A

CLASS 1 LASER PRODUCT

Shenzhen Vstarcam Technology Co., Ltd. 4-5th Floor, G Building, Jiangxia Tech Park, Huangfengling Industrial Zone, Shiyan street, Baoan District, ShenZhen City, Guangdong Province, P.R China

General product information:

The product is a laser level.



Anbore	tek Anatotek	Anborok	IEC 60825-1	anbotek Anbotek	Anbah	Anb
Clause	Requirement – Tes	t Anbore	Anu- notek	Result - Remark	Ve	erdict

4	CLASSIFICATION PRINCIPLES		
4.3	Classification rules	Ann atek anbotek	
4.3 a	Radiation of a single wavelength	And tek abotek	Р
4.3 b	Radiation of multiple wavelengths	Plak Vupor Win Potek	N
otek Anbo	Laser product emits at two or more wavelengths shown as additive in Table 1	nbotek Ambotek Ambo	N
unbotek .	Laser product emits at two or more wavelengths not shown as additive in Table 1	Ambotek Ambotek A	N
4.3 c	Radiation from extended sources (see 5.4.3)	Anbotek Anbot	N
4.3 d	Non-uniform, non-circular or multiple apparent source	tek Vupotek Vupotek	N _P
4.3 e	Time bases	inpoter Aupo	
Dien Vi	1) 0,25 s	Anbotok Anboto An	N
nbotek	2) 100 s	Class 1	Р
anbotek	3) 30000 s	abotek Anbotes	N
4.3 f	Repetitively pulsed or modulated lasers	ok potek Aupotes	N
	1) Any single pulse	-k hotek Anbotek	N
rak bu	2) Average power for pulse trains	ipole, wupos	N
nbotek Ar	3) Pulse duration t ≤ T _i : Number of pulses N and C ₅ :	Anbotek Anbotek An	N
Anbotek	3) Pulse duration t > T _i : Number of pulses N and C ₅ :	Anbotek Anbotes	Р
4.4 Mnbal	Laser products designed to function as conventional lamps.	ek Anbotek Anbotek	N
tok Vu	α measured at 200 mm distance from closest point of human access (α > 5 mrad).	Anbotek Anbotek Anbo	N
Anbotek	Un-weighted radiance L measured at 200 mm distance (comparison with $L_T = 1 \text{ MWm}^{-2}\text{sr}^{-1}/\alpha$) under reasonably foreseeable single fault conditions.	Anbotek Anbotek	N
Aupor	Evaluation of emission according to IEC 62471 series (optional):	ek Anbotak Anbotak	N
	Standard applied (IEC 62471 series):	pore Ann otek Anbots	
	Risk Group:	Anbores And atek and	
	Classification of product based on accessible laser radiation (if no laser radiation accessible: Class 1).	Anbotek Anbotek Anbotek Anbotek Anbotek	
5	DETERMINATION OF THE ACCESSIBLE EMISSION PRODUCT CLASSIFICATION	N LEVEL and	



Clause sab	Deguirement Test	Decult Demand	M===!:-(
Clause	Requirement – Test	Result - Remark	Verdict
5.1.	Tests	ak Anbores And	You
o. I ole.	b. votes votes	Antotek Anbu	ok D
Anborek	Compliance under reasonably foreseeable sing fault conditions.	gie Wipotek Wipot	P
5.3	Determination of the class of the laser product	: abotek Anbote An	otek
Anbo	For Class 1C: vertical safety standard applied requirements for Class 1C.	with	Anbo
5.4	Measurement geometry		
5.4.1	General	otek Anbotek Anbo	No
5.4.2	Default (simplified) evaluation	oter Aupotek Aupon	P
anbotek	Conditions applied	Anto Lek abotek An	P
· nbo	Aperture diameter		Anbores P
101	Reference point :	I hope we work	Anbo' P
nbotek	Measurement distance(for each condition)	Anborek Anborek	N N
5.4.3	Evaluation condition for extended sources	obotek Anbote	N
abolek	Conditions applied	Anbor ak hotek Ant	N N
Anbo	Most restrictive position(distance from reference point)		Anbores N
Jek V.	Angular subtense of the apparent source α and (for each condition)	C ₆ :	N N
5.4.3 a	Aperture diameters (for each condition)	ofek Anbors An	N°ed N
5.4.3 b	Angle of acceptance (for each condition)	motel Anbote Anb	otek Wo
5	ENGINEERING SPECIFICATIONS		
6.2 Anbu	Protective housing	botek Anbore	700.
5.2.1	General	Anbotek Anbotek	Anbo.
botek	Protective housing prevents access to energy le in excess of the AEL for Class 1.	evels	A ^{rri} P
Anbotek	Protective housing prevents access to energy le equivalent to Class 4 and withstands exposures under reasonably foreseeable single fault conditions.	n ok botek Anb	otek N
ek Anbu	Maintenance of Class 1, 1C, 1M, 2, 2M, or 3R (access to emissions of Class 3B or 4 is preven	ted).	Anbote N
potek	Maintenance of Class 3B product (access to emission of Class 4 is prevented).	tek Anbotek Anbotek	Ant N
5.2.2	Service	wotek Anbotek Anbote	N ₁
3.2.3	Removable laser system (laser system complies with requirements of Clauses 6 and 7).	Anbotok Anbotek Anbo	nbotek Ani



N	ton Muse, the Manage, Mu	- ok - wotok Anbo	I
Clause	Requirement – Test	Result - Remark	Verdict
ole, b	ho hotek Anbore An	anbotek Anbo. A.	40,00
6.3.1	Panel is intended to be removed during operation (or maintenance) and would give access to higher energy levels (see Table 13).	Anbotek Anbotek	Anbotek
Anbotek Anbotek	Accessible emission (after removal of the panel) corresponds to product Class (designated by "X" in Table 13)	otek Anbotek Anbotek	N
otek Ar	Emission through the opening if interlocked panel of Class 1, 1C, 1M, 2, or 2M is removed (Emission < AEL of Class 1M or 2M).	Anbotek Anbotek Anb	N Notek
Anbotek	Emission through the opening if interlocked panel of Class 3R, 3B, or 4 is removed (Emission < AEL of Class 3R).	Anbotek Anbotek	Anbo
	Requirements regarding reasonably foreseeable single fault condition.	abotek Anbotek Anbote	N N
6.3.2	Override mechanism	botek Anbote Ans	N
upotek	Behaviour of override in operation when the panel is replaced.	Anbotek Anbotek A	Anbotek
Aupo	Visible or audible warning for override mode.	Anbore And otek	No
6.4	Remote interlock connector	olok Aupolog Aupo	N
6.5 M	Manual reset	motek Anbotek Anbo.	N
6.6	Key control	Lotek Anbotek Anbo	N
6.7	Laser radiation emission warning	And stek Anbotek Al	
6.7.1	Laser product is a 3R (λ <400 nm; λ >700 nm), 1C, 3B or 4 laser systems.	Anbotek Anbotek	AnboN
6.7.2	Audible or visible warning.	lek Anborek Anbor	N
Anbor	Warning is failsafe or redundant.	otek Anbotek Anbote	N
iek Au	Viewing of the visible warning does not require exposure to emissions > AEL for Class 1M and 2M.	Anbotek Anbotek Anbo	N
6.7.3	Operational control and laser aperture are provided with a warning device when they are separated more than 2 m from warning device.	Anbotek Anbotek	Anbo Ne
6.7.4	Visible indication of output aperture if laser emission may be distributed through more than one output.	ak Anbotak Anbotak	N _{p.0}
6.7.5	Switch for handheld Class 3R device must be depressed for emission (in lieu of emission indicator).	Anbotek Anbotek Anbot	N Notek
6.8	Beam stop or attenuator	Anb.	N
6.9	Controls	Anbor An-	N
6.10	Viewing optics	lok Bupore Was	N



Clause	Requirement – Test	Result - Remark	Verdict
olege.	upotes, Yupo	Ant Anbotek Anb	· o/r
inbotek spotek	a) Human access to laser radiation in excess of Class 1M prevented when the shutter is opened or attenuation varied.	Anbotek Anbotek	N
Anbotek	b) Opening of the shutter or variation of the attenuation prevented when exposure to laser radiation in excess of Class 1M is possible.	Diek Anbotek Anbotek	N
6.11	Scanning safeguard	Vupos VK Polek Vup	° N
6.12	Safeguard for Class 1C products	Anbore K Ann Motek	N
Anbotek	a) Human access to laser radiation in excess of AEL for Class 1 measured under Condition 3 is prevented.	Anbotek Anbotek	N
Anbo	b) Human access to laser radiation in excess of AEL for Class 3B measured through 3,5 mm aperture at 5 mm distance from applicator is prevented.	Anbotek Anbotek Anbotel	N
6.13	Walk-in access	Anbore And Arek	polek
Anbotek Anbotek	a) Means provided so that any person inside the housing can prevent activation of Class 3B or 4 laser hazards.	Anbotek Anbotek	N
Anbo	b) A warning device provides adequate warning of emission to any person within the housing.	otek Anbore Anborek	N
hotek Anbotek	c) Where "walk-in" access during operation is intended or reasonably foreseeable, emission of laser radiation that is equivalent to Class 3B or 4 while someone is present inside the enclosure of Class 1, Class 2 or Class 3R product is prevented by engineering means.	Anbotek Anbotek Anbotek Anbotek Anbotek Anbotek	N
6.14	Environmental conditions	otek Anbores Anso	
Anbo	- climatic conditions	hotek Anborek Anbo	Р
lok bu	- vibration and shock	work Anborek Anbo	Р
6.15	Protection against other hazards	Anto otek Anbotek Al	
6.15.1	Non-optical hazards (product safety standard)	Aug stek supotek	Р
And otek	- electrical hazards;	Vupo, W. Społek	Р
Vilan	- excessive temperature;	lek Aupon Au	Р
Anho.	- spread of fire from the equipment;	nootek Anbore And	Р
S. V.	- sound and ultrasonics;	upotek Anbores Anbo	Р
potek	- harmful substances;	abotek Anbotek Ar	Р
anbotek.	- explosion;	hotek Anborek	Р
6.15.2	Collateral radiation	k hotek Anbotek	N
6.16	Power limiting circuit	Aris Sk botek	N



	IEC 60825-1		
Clause	Requirement – Test	Result - Remark	Verdict
otek Ar	upo, William Vupo, Vupo,	hotek Anbots Ant	400
7.1 tel	General	All Lotek Anbotek A	
Anbotek Anbotek	Labels durable, permanently affixed	Anbotek Anbotek	Arib P
Anbotek	Labels clearly visible	itek Anbotek Anbot	Р
k Aupo	Reading of labels is possible without exposure to laser radiation in excess of AEL for Class 1.	Inbotek Anbotek Anbote	N A
Ofer An	Colour combination	Anbotek Anbo. Anbo.	q ^{lotod}
Anboten	Labelling impractical due to the size or design of the product.	Anbotek Anbotek	Р
W. Olok	Warning label – Hazard symbol (Figure 3)	And tek anbotek	N
7.2 - 7.7	Text on explanatory label or pictogram (laser class, warning text)	hotek Anbotek Anbotek	P _{An} l
7.8	Aperture label	anbotek Anbotes Am	N
7.9	Radiation output and standards information	abotek Anbote A	
aborek	Max output of laser radiation	hotek Anboten	VUD N
abolek	Pulse duration	work Anborek	N
4 .bot	Emitted wavelength(s):	Ann Otek Pupotek	Nanh
Pro-	Name and publication date of the standard:	bole And stek anbol	N
7.10	Labels for access panels	Anbotek Anbo	
7.10.1 a) – f)	Labels for panels - warning wording used:	Anbotek Anbotek	N
7.10.2	Labels for safety interlocked panels - Warning wording used:	ek Anbotek Anbotek	N
7.11 Anbor	Warning for invisible laser radiation	Potek Vupotek Vupo.	N
7.12	Warning for visible laser radiation:	notek Anbotek Anbo	N
7.13	Warning for potential hazard to the skin or anterior parts of the eye - warning wording used:	Anbotek Anbotek An	N

8	OTHER INFORMATIONAL REQUIREMENTS					
8.1	Information for the user	stek supotek Aupo,				
abotek Ar	a) adequate instructions for assembly, maintenance and safe use and description of the classification limitations, if appropriate.	Anbotek Anbotek Anbo	Р			
bolek	b) additional warning for Class 1M and 2M	Annotek Anbotek	N			
Anbolek	c) laser beam parameters for radiation above the AEL of Class 1	ak Anbotek Anbotek				
Anbo	Wavelength:	otek Anbotek Anbo	N			
lek bi	Beam divergence:	botek Anbotek Anber	N			



	IEC 60825-1		
Clause	Requirement – Test	Result - Remark	Verdict
olen b	upo, w. otek Vubojes, Vijes	potek Anbore And	400
	Pulse pattern: (pulse duration, repetition rate,)	Anbotek Anbotek	N
Anboro	Maximum power or energy output:	Anbote, And	N
Aupor	d) safety instruction for embedded laser products and other incorporated laser products.	stek Anbotes Amb	Р
nbotek Ar	e) MPE and NOHD for Class 3B and 4 laser products; For collimated beam Class 1M and 2M lasers the extended NOHD (ENOHD).	Anbotek Anbotek Anb	N
Aupore.	f) information for the selection of eye protection.	. Aupotak Aupo	N
Anbois	g) reproduction of all required labels and warnings.	rek Anbores Anbo	N
Aupo	h) location of laser apertures	botek Anbotes Anbo	N
Hek Mu	i) list of controls, adjustments of procedures for operation and maintenance - and warning statement.	Aupotek Aupotek Aup	N
upotek	j) information (compatibility requirements) about laser energy source if not incorporated.	Anborek Amborek	N
Anborek	k) additional warning for Class 1, 1M, 2, 2M, and 3R regarding skin or corneal burns.	iek Anbotek Anbotek	Р
rek Anbo	I) Information for Class 1C products (e.g. warning that repeated application may pose a risk).	botek Anbotek Anbo	N
3.2	Purchasing and service information	Anbo tek abotek Ar	Р
Anbotek	a) safety classification of each laser product stated in all descriptive material (e.g. brochures).	Anbotek Anbotek	Р
Anbolek	b) adequate instructions for servicing available:	ek nbotek Anbote	Р
	warnings and precautions regarding exposure of laser emission above Class 1	botek Anbotek Anbotek	¢.
	maintenance schedule	Aupotok Aupore Wu	
	list of controls and procedures that could increase accessible emissions	Anbotek Anbotek Ar	
	description of displaceable partsprotective procedures for service personnel	ek Anbotek Anbotek	
	reproduction of labels and hazard warnings	stek anbotek Anbore	

9	ADDITIONAL REQUIREMENTS FOR SPECIFIC LASER PRODUCTS					
9.1	Applicable other parts of the standard series IEC 60	825	holek	Anboren		
Anbotek	IEC 60825-2 (Safety of optical communication systems)	otek	Anbolek	Anbotek	N	
Aupor	IEC 60825-4 (Laser guards)	notek	Vupoler	Vun.	N	



Page 10 of 14

by:	IEC 60825-1	port Anti-	. 0
Clause	Requirement – Test	Result - Remark	Verdict
ole, V	upor Antonio Antonio Antonio	botek Anbote Ant	400
Anbotek	IEC 60825-12 (Safety of free space optical communication systems used for transmission of information)	Anbotek Anbotek	N
9.2	Medical laser products: Class 3B and Class 4 medical laser products comply with IEC 60601-2-22	otek Anbotek Anbotek	N
9.3	Laser processing machines: Comply with IEC/ISO 11553 series.	Aupotek Vupotek Vup	N
9.4	Electric toys: Comply with IEC 62115	Anbotek Anbo.	N
9.5	Consumer electronic products: Comply with IEC 60950 (IT-equipment) or IEC 60065 (AV equipment)	tek Anbotek Anbotek	N

Email: service.gz@anbotek.com



Anbore	tek abotek	Anbotek	IEC 60825-1	anbotek Anbotes	Anbe Antek
Clause	Requirement – Tes	t Anboten	k wotek	Result - Remark	Verdict

Test condition

- 1. Condition 1 is intended to apply to collimated beams where telescopes and binoculars may increase the hazard. The radiation is collected through a circular aperture stop having a diameter 50 mm and its location is 2000 mm away from the reference points.
- 2. Condition 2 is intended to apply to optical fibre communication systems.
- 3. Condition 3 applies to the unaided eye. For power and energy measurement of scanned laser radiation, condition 3 shall be used. The radiation is collected through a circular aperture stop having a diameter 7 mm and its location is 100 mm away from the reference points.

Condition 2 is not applicable to this product, and the condition 3 is obviously severer than condition 1.

Therefore, measurements for condition 1 and condition 2 are omitted.

Class	intotek Anbors An	Beam shape	ibotek Anbotek
Wavelength:	650nm	Position of app. source	Anbotek Anbotek
Angular Subtense:	Less than 1.5mrad	Pulse width tpw:	- Anbotek Anbote
Breakpoint T1:	oter Anbotek Anbot	Period duration:	ek Anbors Andrew
Breakpoint T2:	Wpolek Vupolek Vu	Number of pulses N:	potek Vupotek
C1:	Anbotek Anbotek	C5:	Antonek Anborek
C2:	- Anbor Anborek	C6:	- Anbotek Anbotes
C3: Manage Manage	tek Ambotek Anbote	C7:	Anbotes Anbo
C4:	2.57	notek Anbotek An	ootek Anbotek A
AEL limits:	3.9 x 10 ⁻⁴ W	Anbotek Anbotek	Anbotek Anbotek

Measurement: 0.27mW

Conclusions: This product is class 1 laser product.



Photo Documentation







Photo Documentation







Photo Documentation





End of Report