



中国认可  
国际互认  
检测  
TESTING  
CNAS L6983

Report No.	202109005
Total pages	10

# Test Report

(No copies without permission)

Sample:

DCAM550U

Model:

/

Test Type:

Commission Test

Clientele:

Qingdao Vzense Technology Co., Ltd

Weifang Semiconductor Lighting Product Testing Center



# Weifang Semiconductor Lighting Product Testing Center

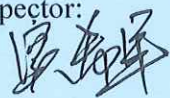
## Test Report

Report No.: 202109005

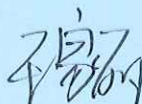
1 / 10

Sample	DCAM550U	Model	/
Brand	/	Sample Quantity	8
Entrust Unit	Qingdao Vzense Technology Co., Ltd		
Sample Sending Unit	Qingdao Vzense Technology Co., Ltd		
Contact Name	Kim	Telephone	18562722583
Test Type	Commission Test	Test Site	Reliability Testing Room
Date of Receival	2021-09-02	Test Date	2021-09-02-~ 2021-09-10
Sample No.	202109005-001~ 202109005-008	Status of Sample	In good condition
Check Quantity	/	Testing Batch No.	/
Standard	See test instructions on page 2 for details		
Test Condition	Damp heat,steady state,Cold,Damp heat,cyclic, Change of temperature,Electrostatic discharge immunity, free fall*,Packing drop (color box, medium box)*, Radiated emission,Shock*		
Test Results	The testing process of the samples is in accordance with the relevant provisions mentioned above.See pages 3 to 9 of this report for testing data.  (The Special Stamp for Inspection Report) Date: 2021.11.2		
Remark	The test basis and test items marked "*" are not within the scope of CNAS accreditation of our laboratory		

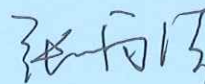
Main-Inspector:



Reviewer:



Approver:



Date:

2021.11.2

Date:

2021.11.2

Date:

2021.11.2



Sample description and testing instructions				
1, Sample: DCAM550U 2, Model:/ 3, Running Conditions: DC12V 4, Testing Instructions:				
NO.	Standard	Test Condition	Test Conditions	Remark
1	GB/T2423.3-2016 Environmental testing for electric and electronic products-Part 2:Testing method-Test Cab:Damp heat,steady state	Damp heat,steady state	Startup state, 60℃, 90%RH storage 120h	After the test, stand at room temperature for 2h to fully check the function of the product, and the product is qualified if its appearance structure has no deformation and cracking failure VD55U1CVB8280010P VD55U1CVB8280008P
2	GB/T2423.1-2008 Environmental testing for electric and electronic products-Part 2: Test methods-Tests A:Cold	Cold	-20℃, stored for 120h	After the test, stand at room temperature for 2h to fully check the function of the product, and the product is qualified if its appearance structure has no deformation and cracking failure VD55U1CVB8280007P VD55U1CVB8280006P
3	GB/T2423.4-2008 Environmental testing for electric and electronic products-Part 2:Test method-Test Db:Damp heat,cyclic (12h+12h cycle)	Damp heat,cyclic	Boot state, initial humidity 95%, temperature 25℃, 3h to 55℃, humidity 95%, 9h;3h to 25℃, 95% humidity, maintain 9h.This is one loop, of which there are three	After the test, stand at room temperature for 2h to fully check the function of the product, and the product is qualified if its appearance structure has no deformation and cracking failure VD55U1CVB8280010P VD55U1CVB8280008P
4	GB/T 2423.22-2012 Environmental testing-Part 2:Test methods- Test N:Change of temperature	Change of temperature	High Temp:85±3℃; Low Temp:-40±3℃; Each step duration for 1 h; Transition : < 5 min; Cycl:45	After the test, stand at room temperature for 2h to fully check the function of the product, and the product is qualified if its appearance structure has no deformation and cracking failure VD55U1CVB8280007P VD55U1CVB8280006P

5	GB/T 17626.2-2018 Electromagnetic compatibility-Testing and measurement techniques-Electrostatic discharge immunity test	Electrostatic discharge immunity	Normal working status/charging status Contact discharge +/-4KV, +/-6KV, air discharge +/-8KV, +/-10KV Working status: boot (USB+DC power supply)	1. Functions after ESD test 2. During the product test process, the working state of the product shall not be changed (but the automatic recovery problem without human intervention is acceptable and meets the NATIONAL standard GRADE B) VD55U1CVB8280012P VD55U1CVB8280005P
6*	Test according to customer requirements, see test conditions	free fall	Floor: slab Height:100cm; Positions:6Surfaces/4Corners Each Surface Drop 2 Times OFF	After each cycle drop test, the appearance structure and basic functions of the product shall be checked. The product structure shall not be cracked that may affect the use of users, and the appearance of slight surface scratches shall be considered as qualified VD55U1CVB8280012P VD55U1CVB8280005P
7*	Test according to customer requirements, see test conditions	Packaging drop	76cm,One corner, three edges and six sides	The function of the product is OK, allowing the packaging appearance to have wrinkles, the rupture length is less than 1cm
8	GB/T 9254-2008 Information technology equipment-Radio disturbance characteristics-Limit and methods of measurement	Radiated emission	Radiated emission : 30MHz-1GHz,A	/
9*	GB/T 2423.5-2019 Environmental testing-Part 2: Test methods-Test Ea and guidance: Shock	Shock	4axis( $\pm X, \pm Y$ )50G 11ms Half sine No Package 40	Fully check the function of the product, the appearance of the product structure without deformation cracking failure is qualified VD55U1CVB8280010P VD55U1CVB8280008P



Test Results					
NO.	Test Condition	Standard	Test Conditions	Test Results	Determine
1	Damp heat, steady state	GB/T 2423.3-2016	Startup state, 60°C, 90%RH storage 120h	Meet testing requirements	P
2	Cold	GB/T 2423.1-2008	-20°C, stored for 120h	Meet testing requirements	P
3	Damp heat, cyclic	GB/T 2423.4-2008	Boot state, initial humidity 95%, temperature 25°C, 3h to 55°C, humidity 95%, 9h; 3h to 25°C, 95% humidity, maintain 9h. This is one loop, of which there are three	Meet testing requirements	P
4	Change of temperature	GB/T 2423.22-2012	High Temp: 85±3°C; Low Temp: -40±3°C; Each step duration for 1 h; Transition : < 5 min; Cycle: 45	Meet testing requirements	P
5	Electrostatic discharge immunity	GB/T 17626.2-2018	Normal working status/charging status Contact discharge +/-4KV, +/-6KV, air discharge +/-8KV, +/-10KV Working status: boot (USB+DC power supply)	Meet testing requirements	P
6*	free fall	Test according to customer requirements, see test conditions	Floor: slab Height: 100cm; Positions: 6 Surfaces/ 4 Corners Each Surface Drop 2 Times OFF	Meet testing requirements	P
7*	Packaging drop	Test according to customer requirements, see test conditions	76cm, One corner, three edges and six sides	Meet testing requirements	P
8	Radiated emission	GB/T 9254-2008	Radiated emission : 30MHz-1GHz, A	Meet testing requirements	P
9*	Shock	GB/T 2423.5-2019	4axis (±X, ±Y) 50G 11ms Half sine No Package 40	Meet testing requirements	P

## Remark :

- 1, Temp:15°C ~ 35°C Humidity: 25% ~ 75%RH
- 2, When uncertainty is required in the test criteria, the uncertainty must be provided.  
The uncertainty      /     .
- 3, The test information
  - (1) Damp heat, steady state, Damp heat, cyclic



- (2) Cold



- (3) Change of temperature



- (4) Electrostatic discharge immunity





(5) free fall

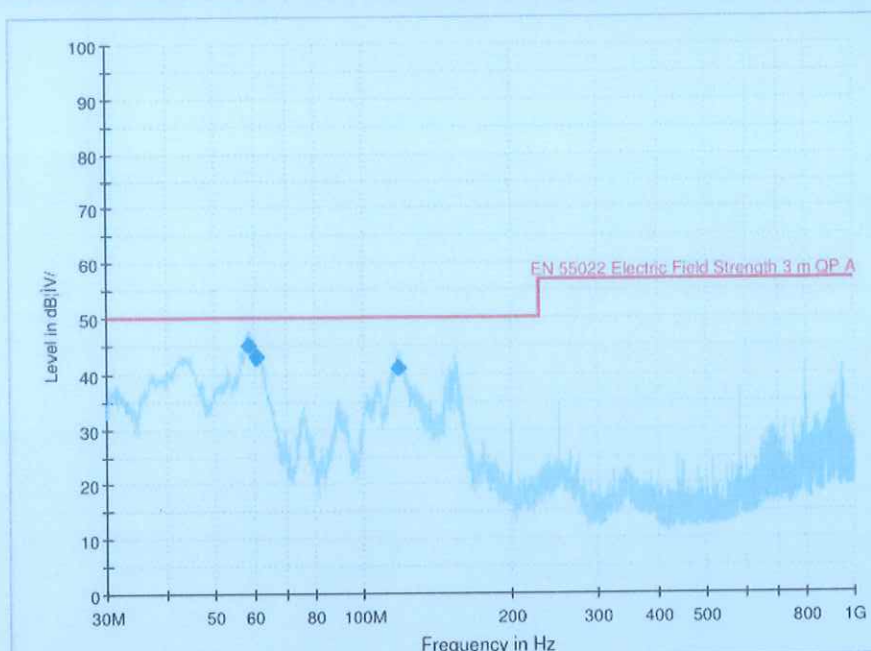


(6) Packaging drop



(7) Radiated emission





### Final Result

Frequency (MHz)	QuasiPeak (dB; $\sqrt{\text{V/m}}$ )	MaxPeak (dB; $\sqrt{\text{V/m}}$ )	Average (dB; $\sqrt{\text{V/m}}$ )	Limit (dB; $\sqrt{\text{V/m}}$ )	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
58.161111	44.93	---	---	50.00	5.07	3000.0	120.000	100.0	V
60.795000	43.01	---	---	50.00	6.99	3000.0	120.000	100.0	V
118.237222	40.98	---	---	50.00	9.02	3000.0	120.000	100.0	V

### (8) Shock



### 4. The testing process

#### (1) Damp heat, steady state

Before the test, check the appearance of the sample, no obvious damage, put the sample into the high temperature and high humidity test box, high temperature and high humidity test, 60°C, 90%RH storage 120h; After the test, it was recovered for 2 hours at room temperature.

#### (2) Cold

Before the test, check the appearance of the sample, no obvious damage, put the sample into the low temperature test box, start the sample, conduct the low temperature test, run at -20°C for 120h; After the test, it was recovered for 2 hours at room temperature.



## (3) Damp heat,cyclic

Before the test, check the appearance of the sample, no obvious damage, put the sample into the high temperature and high humidity test box, sample boot, high temperature and high humidity test, initial humidity 95%, temperature 25℃, 3h to 50℃, humidity 95%, maintain 9h;3h to 25℃, 95% humidity, maintain 9h.This is a loop, there are three loops;After the test, it was recovered for 2 hours at room temperature.

## (4) Change of temperature

Before the test, the samples were visually inspected and put into the test chamber for cold and hot shock test. The high temperature was set at 85℃ and the low temperature was set at -40℃.Each was stored for 30min and 45 cycles were carried out. After the test, it was recovered for 2h at room temperature.

## (5) Electrostatic discharge immunity

Test Site	Test Voltage	Discharge Patterns	Number of Discharge	Criteria	Test Results
Metal case or screw	4KV	Contact discharge	10+10	a	A
Metal case or screw	6KV	Contact discharge	10+10	a	A
Non-metallic shell or gap	8KV	Air discharge	10+10	a	A
Non-metallic shell or gap	10KV	Air discharge	10+10	a	A

Detection based on

Classification of judgment criteria:

A) Perform normally within the limits specified by the manufacturer, applicant or user

B) The function or performance is temporarily reduced or lost, but after the disturbance stops, the test equipment can restore its normal function by itself, requiring operator intervention

C) Temporary reduction or loss of function or performance, which can only be recovered with operator intervention

D) Reduced or lost functions that cannot be restored to the normal state by themselves due to hardware or software damage or data loss

Test results:

A: During the test, the sample can work normally without damage, failure or state change;The equipment can work normally after the test

Test specification

Test parts: shell and other personnel operation parts

Test requirements: contact discharge  $\pm 4\text{KV}$ ,  $\pm 6\text{KV}$ , air discharge  $\pm 8\text{KV}$ ,  $\pm 15\text{KV}$  interval time  $\geq 1\text{s}$ ; Plus and minus 10 each.

(6) free fall

Before the test, check the appearance of the sample, no obvious damage, put the sample into the drop test equipment, set the height of 1m for the test.

(7) Packaging drop

According to the standard, the drop test was carried out on the package of the single product. The drop height was 76cm. After the test, the packaging was visually wrinkled and the rupture length was less than 1cm.

(8) Shock

The sample was fixed on the impact test bench, and the impact test bench was set as half sine wave test, with peak acceleration 50g, pulse width 11ms,  $\pm X$ ,  $\pm Y$ , and a total of 40 shocks. After the test, the sample can work normally.



**Equipment**

NO.	Name	Model	Valid Date of Measurement
1	High temperature and high humidity test chamber	VC <sup>3</sup> 7150	2022.08.31
2	Hot and cold shock test chamber (device)	VT3 7012 S2	2022.08.31
3	Low temperature test chamber	ECT-408-70-CP-SD	2022.08.30
4	Impact test bench	CL-300	2022.08.27
5	Drop bench	DLJ-200	2022.08.27
6	EMI test receiver	ESU40	2022.08.16
7	anechoic chamber	APC15107	2025.09.07
8	Shielding room	APC15107	2025.09.07

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