



Reliability Laboratory

# TEST REPORT

Report No.: HCD0137A/2009  
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Date: April 13, 2010

ALLTEK TECHNOLOGY CORP.  
7F, NO. 605, RUEI GUANG RD.,  
NEIHU, TAIPEI, R.O.C.

The following merchandise was submitted and identified by the vendor as:

Product Description: GPS Antenna  
Style/ Item No.: AGGRESSOR-111-C/ No.1, No.2  
Manufacturer/Vendor: Alltek Technology Corp.  
Country of Origin: Taiwan  
Quantity: Total 2 pieces  
Testing Period: Jan. 12, 2010 to Jan. 18, 2010  
Note: (Client's declaration) H/W: M-PCB-AISPF03P51, M-PCB-AISCTL01P52;  
S/W: Version 1.0

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required: (According to client's test specification, please see following sheets in detail.)

1. Test for Degrees of Protection Provided by Enclosures

IP Code	IPX6
<b>First characteristic numeral</b>	Omitting
<b>Second characteristic numeral</b>	Degrees of protection against ingress of water

2. Mechanical Shock test

Test Results: – PLEASE SEE ATTACHED SHEETS –

\*HCD0137/2009, dated January 18 , 2010, is hereby canceled and replaced by HCD0137A/2009.

Terence Hsieh  
Manager - Operation

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## 1. Test for Degrees of Protection Provided by Enclosures:

### Test Equipment:

Name	Brand	Model	Serial No.
IPX6 Water Jet Hose Nozzle Set	PTL	P03.28	5040045

### Lab Environmental Conditions:

Ambient temperature: 25±3°C  
 Relative humidity: 55±20%RH

### Test Method/ Specification:

Test method: According to IEC 60529 Edition 2.1: 2001-02--IPX6  
 Sample condition: Non-operating  
 Test means: Spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as specified in test standard.  
 Internal diameter of the nozzle: 12.5 mm  
 Delivery rate: 100 l/min ±5%  
 Distance from nozzle to enclosure surface: between 2.5 m and 3 m  
 Core of the substantial stream: circle of approximately 120 mm diameter at 2.5 m distance from nozzle  
 Test duration: 30 minutes/ (total 2 faces, each faces 15 minutes see photo 3, 4)

- Examine the appearance of specimen(s) by visual check and perform functional check before test and after test.
- Functional check: Examine whether the navigation function of specimen should be work normally or nor.

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Specimen:

Style/ Item No.: AGGRESSOR-111-C/ No.1

Quantity: Total 1 piece

Test Result:

Degree of protection against ingress of water (IPX6)

Test Result		
Check Item		Style/Item No.
		<b>AGGRESSOR-111-C/ No.1</b>
1	Provide protection against ingress water?	Yes
2	(followed check item 1) If any water has entered, does the water accumulate near the cable end or live parts?	N/A
3	Functional check	Normal

Note 1: N/A means "Not Applicable".  
 Note 2: The check items in this test report for inspecting the degree of protection provided by enclosures are reference to the requirements specified in IEC 60529 Edition 2.1: 2001-02 and in accordance with the acceptance conditions specified by client.

## 2. Mechanical Shock test:

### Test Equipment:

Name	Brand	Model	Serial No.
Shock Test System	LANSMONT	65-81 TTSII	M-13418
Data Acquisition & Analysis System	LANSMONT	103570-2-B	0503-73
ICP Accelerometer	PCB	353B14	79713
Triaxial ICP Accelerometer	PCB	356A02	88041

### Lab Environmental Conditions:

Ambient temperature: 25±3°C

Relative humidity: 55±20%RH

### Test Method/ Specification:

Test method: Reference to IEC 62287

Pulse shape: Half-sine

Acceleration: 10 G

Pulse duration: 25 ms

Shock direction: -Z axis (See photo 6)

No. of shock: 3 shocks/ axis (total 3 shocks)

- Measure the impact value for designated shock test.
- Measuring accelerometer is attached on the designated position of specimen for acceleration response measurement. (see photo 5)
- Examine the appearance of specimen(s) by visual check and perform functional check before test and after test.
- Functional check: Examine whether the navigation function of specimen should be work normally or nor.

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Specimen:

Style/ Item No. : AGGRESSOR-111-C/ No.2

Quantity : 1 piece

Test Result:

1. Mechanical shock value measurement:

Test Item		Accereration (G)	Duration (ms)	Velocity Change (in/s)
Style / Item No.				
AGGRESSOR-111-C/ No.2	1 <sup>st</sup>	10.48	26.10	63.46
	2 <sup>nd</sup>	10.34	26.20	62.88
	3 <sup>rd</sup>	10.24	26.30	62.47

2. Examination of product (Appearance check and Functional check):

Check Item	Appearance check (Visual check)	Functional check (Before test and after test)
Style / Item No.		
AGGRESSOR-111-C/ No.2	No visible damage	Normal

Test Photos:

	
<p>1. Appearance of specimen: AGGRESSOR-111-C</p>	<p>2. Appearance of specimen: AGGRESSOR-111-C</p>
	
<p>3. Test for protection against water</p>	<p>4. Test for protection against water</p>
	
<p>5. Location of measuring accelerometer</p>	<p>6. Mechanical Shock test: -Z axis</p>

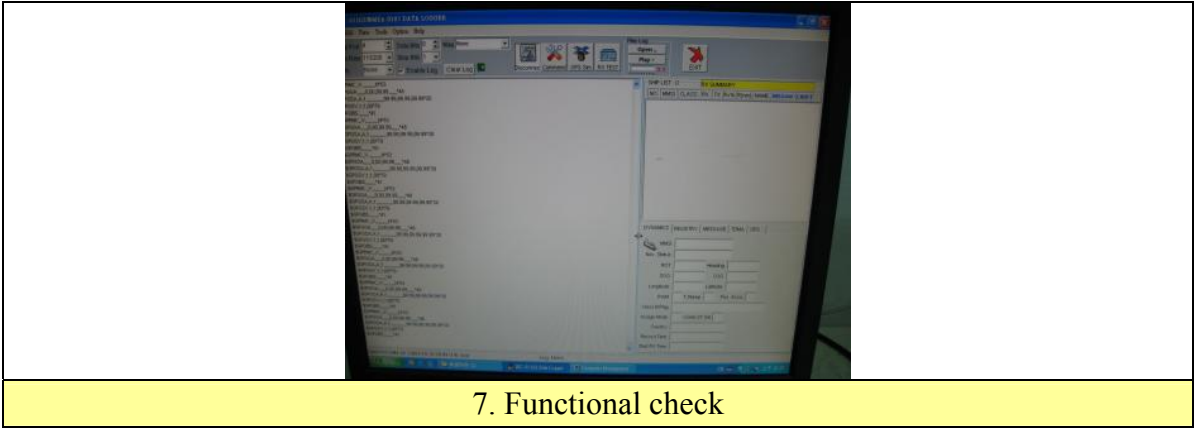
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Test Photos--Continued:



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