



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
First characteristic numeral	Omitting
Second characteristic numeral	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°CRelative humidity: 55±20%RHTest Method/ Specification:Test method: According to IEC 60529 Edition 2.1: 2001-02--IPX6Sample condition: Non-operatingTest 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 mmDelivery 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 nozzleTest 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.
		AGGRESSOR-111-C/ No.1
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.		

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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°CRelative humidity: 55±20%RHTest Method/ Specification:Test method: Reference to IEC 62287Pulse shape: Half-sineAcceleration: 10 GPulse duration: 25 msShock 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 st	10.48	26.10	63.46
	2 nd	10.34	26.20	62.88
	3 rd	10.24	26.30	62.47

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

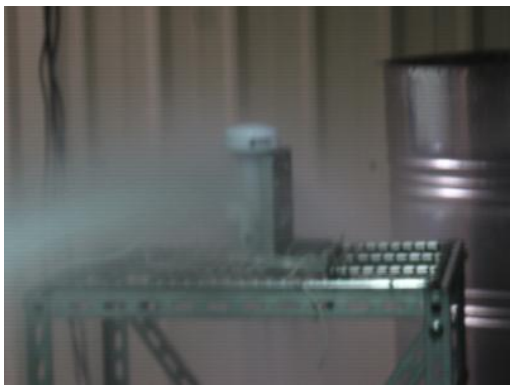
Check Item		Appearance check (Visual check)	Functional check (Before test and after test)
Style / Item No.			
AGGRESSOR-111-C/ No.2		No visible damage	Normal

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Test Photos:

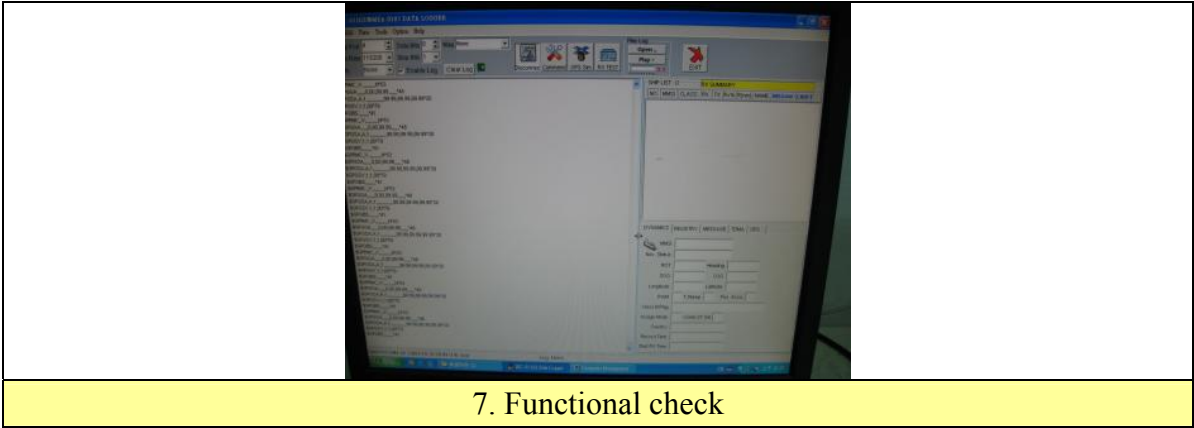
	
1. Appearance of specimen: AGGRESSOR-111-C	2. Appearance of specimen: AGGRESSOR-111-C
	
3. Test for protection against water	4. Test for protection against water
	
5. Location of measuring accelerometer	6. Mechanical Shock test: -Z axis

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Test Photos--Continued:



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