



Technical Report No. 68.210.15.268.01

Rev. 00

Dated 2015-08-18

Client: Name: Cre8tek Company Limited
Address: F3A, B8, Yijing Industrial City, TianLiao, GongMing, Guang
Ming,Shenzhen, 518132, China
Contact person: Mr. Frank Wang

Manufacturing place: Manufacturer's name: Polaris Electronics A/S
Address: Kaerholt 1, 9210 Aalborg Denmark

Factory: Same as client

Test Subject.....: Product: Satellite based tracking and messaging
Type: SIRIUS One

Test Specification.....: IP67 test according to IEC 60529:1989+A1:1999+A2:2013

Purpose of examination.....: Test according to the above test specification.

Test result: The test results show that the presented product is in compliance with
the specified requirements.

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1 Description of the test subject

Satellite based tracking and messaging

1.1 Function

- Manufacturer's specification for intended use: According to user instruction
- Manufacturer's specification for predictive misuse: According to user instruction

1.2 Consideration of the foreseeable misuse

- Not applicable
- Covered through the applied standard
- Covered by the following comment
- Covered by attached risk analysis

1.3 Technical Data

Degree of protection: IP67

2 Order

2.1 Date of Purchase Order, Customer's Reference

2015-08-03

2.2 Receipt of Test Sample, Location

Sample received on 2015-08-03, E&E Department, Shenzhen

2.3 Date of Testing

From 2015-08-03 to 2015-08-18

2.4 Location of Testing

E&E Department, Shenzhen

2.5 Points of Non-compliance or Exceptions of the Test Procedure

N/A

3 Test result

Selected sub-clauses from	Checked points	Requirement	Pass / Fail/Not application	Remark
Clause 12 & 13 of IEC 60529	IP6X	<p>The test wire of shall not penetrate and adequate clearance shall be kept.</p> <p>The enclosure under test is supported in the test chamber and the pressure inside the enclosure is maintained below the surrounding atmospheric pressure by a vacuum pump. The suction connection shall be made to a hole specially provided for this test. If it is impracticable to make a special hole, the suction connection shall be made the cable inlet hole, If there are other holes these shall be treated as intended for normal use on site. The object of the test is to draw into the enclosure, by mean of depression, a volume of air 80 times the volume of the sample enclosure tested without exceeding the extraction rate of 60 volumes per hour. In no event shall the depression exceed 2 kPa. If an extraction rate of 40-60 volumes per hour is obtained the duration of the test is 2h.</p> <p>If , with a maximum depression of 2 kPa, the extraction rate is less than 40 volumes per hour, the test is continued until 80 volume have been drawn through, or a period of 8 h has elapsed.</p> <p>The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.</p>	Pass	<p>The duration of the test is 2h.</p> <p>No deposit of dust is observable inside the enclosure at the end of the test.</p>
Clause 14 of IEC 60529	IPX7	<p>Water level on enclosure 0.15m above top, 1m above bottom</p> <p>Duration: 30min</p> <p>The protection is satisfactory if no water is observable inside the enclosure at the end of the test.</p> <p>In general, if any water has entered, it shall not:</p> <ul style="list-style-type: none"> - be sufficient to interfere with the correct operation of the equipment or impair safety; - deposit on insulation parts where it could lead to tracking along the creepage distances; - reach live parts or windings not designed to operate when wet; 	Pass	No water is observable inside the enclosure at the end of the test.

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		<p>- accumulate near the cable end or enter the cable if any; If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment.</p>		
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5 Documentation

- Photo documentation: See Attachment No. 1

6 Summary

The test specification is met.

**TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
TÜV SÜD Group**

Engineer: 
Hedy Li
Project Handler



Technical Report checked:


Jack Liu
Designated Reviewer

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