



TL16100B

Ingress Protection

Panorama Antennas

2nd September 2016

1	Original Issue	S K Lee	2/09/2016
ISSUE	MODIFICATION	PREPARED BY	DATE



Table of Contents

		<u>Page</u>
1	SCOPE OF WORK	3
2	EQUIPMENT UNDER TEST	3
3	TEST LABORATORY	4
4	TEST PERIOD	4
5	OPERATION OF THE EUT DURING TESTING	5
6	TESTS	6
	APPENDICES	9
A1	IP TEST PHOTOGRAPHS	10



4413

1 SCOPE OF WORK

Test requirements

This file contains the results of tests carried out to meet the consolidated Environmental Compatibility requirements of EN 60529:1992+A1:2002

2 EQUIPMENT UNDER TEST

The tests were performed only on the samples shown below

Description	Multifunction MiMo Antenna
Model Number	GPSD-7-27
Serial No.	N/A

Client: Panorama Antennas Ltd
Frogmore
London
SW18 1HF

Contact: Robert Seweryn

Test Results

The equipment under test complied with the Environmental Compatibility requirements of the specification. This test report may not be reproduced in whole or part without the prior written approval of the laboratory. The test results in this report are facts and any opinions or interpretations derived from these facts shall be marked *

Signed

Mr. Stephen Lee
Laboratory Manager



3 TEST LABORATORY

The tests were carried out at MS Testing, located in Newton Aycliffe, Co. Durham, UK.

Laboratory accreditation:

MS Testing is UKAS Accredited Test Laboratory No. 4413 and has also been recognized by Bureau Veritas as per BV Note NR320.

Ambient conditions in the laboratory:

PARAMETER	Required (ISO 17025)
Temperature °C	15 – 35
Humidity % RH	42 – 78
Barometric pressure mbar	860 - 1060

4 TEST PERIOD

The tests were carried out during the period from 31st August 2016 to 1st September 2016

5 OPERATION OF THE EUT DURING TESTING

5.1 Configuration and peripherals

Supply Voltage	N/A
-----------------------	-----

Enclosure Ports Present	N/A
Signal/Control Ports Present*	N/A

Accessories and Peripheral Devices	
Test Software	N/A
Laptop	N/A



5.2 System Configuration



5.3 Operating Mode and Environmental Conditions

The EUT was checked to make sure it was sealed as per the manufacturer's instructions.

5.4 Performance Criterion

Performance Criterion A

The Equipment Under Test (EUT) shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed as defined in the technical specification published by the manufacturer.

Performance Criterion B

The EUT shall continue to operate as intended after the tests. No degradation of performance or loss of function is allowed as defined in the technical specification published by the manufacturer. During the test, degradation or loss of function or performance which is self recoverable is however allowed but no change of actual operating state or stored data is allowed.

Performance Criterion C

Temporary degradation or loss of function or performance is allowed during and after the test provided function is self recoverable, or can be restored by the operation of the controls as defined in the technical specification published by the manufacturer. No corruption or loss of data is allowed.

5.5 Monitoring of the EUT

The EUT is checked after the test for the ingress of water and dust.

5.6 EUT Specific Performance Criterion

Performance Criterion A

The EUT is checked after the test for the ingress of water and dust.

Performance Criterion B

N/A

Performance Criterion C

N/A



4413

6 TEST RESULTS

Modifications made to the EUT

No modifications were made to the EUT.

TESTS

The tests detailed in this file are –

	TEST	Basic Standard
	Equipment Performance †	N/A
6.3	Sealing Test (IP)	EN60529



Environmental Test File No. **TL16100B**

6.1 Equipment Performance †

Specification

The conformance to drawings is checked and a functional performance test is demonstrated to ensure that the system operates in accordance with the customer's instructions.

Test Procedure

The EUT is checked after the test for the ingress of water and dust.

Environmental Test File No. **TL16100B**

6.3 Sealing Test (EN 60529:2002)

Specification

The equipment will be tested to the requirements of IP66

Test Procedure

IP6X test

During the test the EUT is supported in its normal operating position inside a dust chamber for 8 hours with talcum powder circulated throughout the chamber, the pressure inside the EUT was maintained below atmospheric pressure by the use of a vacuum pump. After 8 hours the housings were opened to check for traces of powder within the enclosure.

IPX6 test

The EUT's were sprayed at a distance of 3m with water through a 12.5mm nozzle and at a flow rate of 100 l/minute for a period of not less than 3 minutes.

Results

No ingress of dust or water was found in the enclosure so the sample complied with the IP66 requirements of EN 60529:1992+A1:2002

Refer to the Appendices for test result photographs.



This test report relates only to the actual item(s) tested, details of which can be found in Section 2 of this report

The test results in this report are facts and any opinions or interpretations derived from the results of these tests shall be marked *

Any testing not presently covered by the scope of our UKAS Schedule of Accreditation shall be marked †

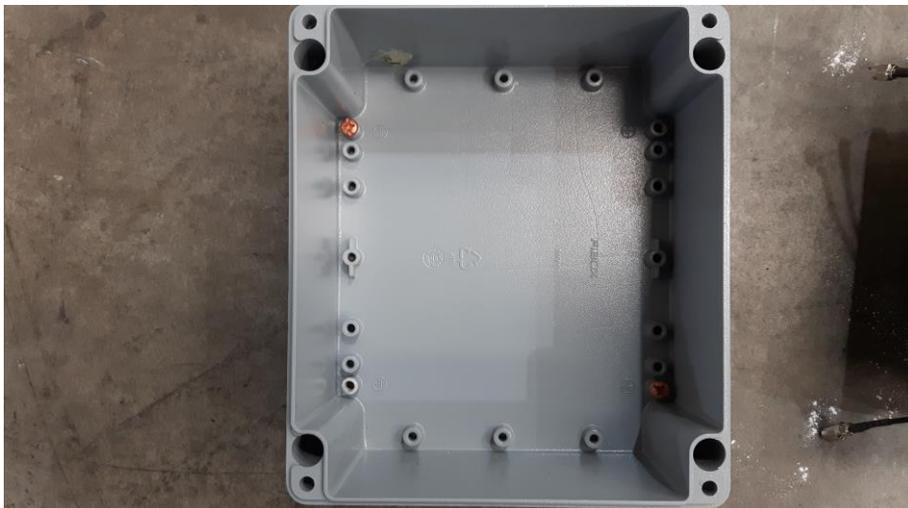
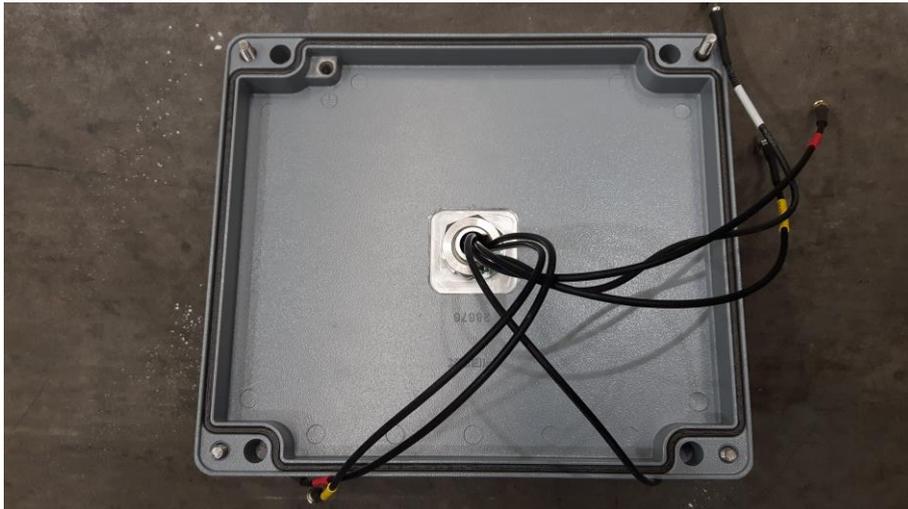
This test report must not be reproduced except in its entirety and with the prior written permission of Mariner Systems (UK) Limited

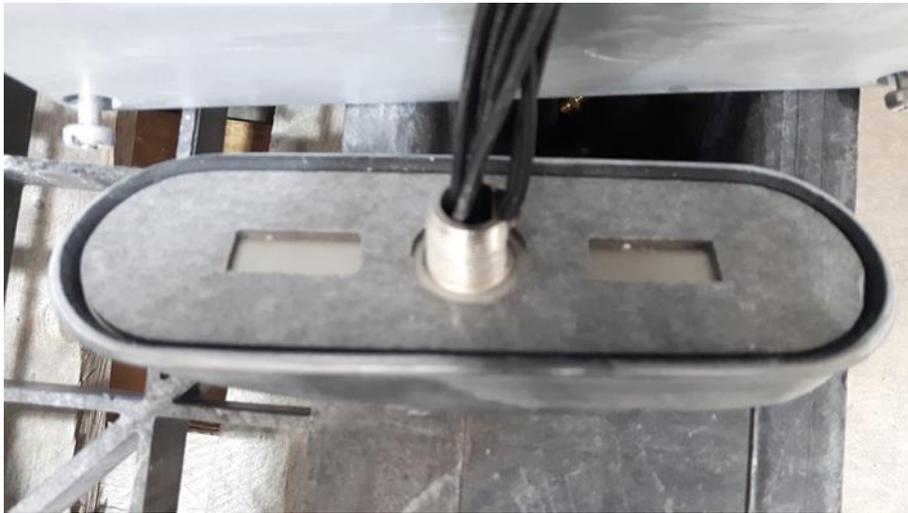


APPENDICES



After The Dust Test





After Water Test

