
Test Report Number: **103684** **Issue 1**

Customer Name & Address: Panorama Antennas Ltd
61 Frogmore
London
SW18 1HF

Customer Order Number: 230005279

Test Sample(s) Description: L[G]-7-38[24-58] Antenna Range

Author:



Paul Lee
Test Lab Manager

Approval:



Steve Drane
Service Manager

Issue Date:

23rd July 2019

*The results detailed herein relate only to the test item(s) submitted for testing.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.*

Test Report Number: 103684 Issue 1

Contents

1	Introduction	3
2	Equipment List	3
3	Test Item Serial Numbers	3
4	Test Plan	4
4.1	IP6Kx Dust Ingress	4
4.2	IPx9K Water Ingress	4
4.3	Test Item Mounting	5
5	Test Results.....	7
5.1	IP6Kx Dust Ingress	7
5.2	IPx9K Water Ingress	7
5.3	Post Test Photos	8
6	Conclusions.....	12
6.1	Test Item Variants	12
7	Revision History	12

Tables & Figures

Table 1: Equipment List	3
Table 2: Test Item Serial Numbers	3
Table 3: IP6Kx Dust Ingress Test Profile	4
Table 4: IPx9K Water Ingress Test Profile	4
Table 5: Revision History	12
Figure 1: Test Item Mounting – IP6Kx Dust Ingress	5
Figure 2: Test Item Mounting – IPx9K Water Ingress	6
Figure 3: Post Test Photos – IP6Kx Dust Ingress	8
Figure 4: Post Test Photos – IP6Kx Dust Ingress	9
Figure 5: Post Test Photos – IPx9K Water Ingress	10
Figure 6: Post Test Photos – IPx9K Water Ingress	11

Test Report Number: 103684 Issue 1

1 Introduction

This report details the environmental testing carried out on two L[G]-7-38[24-58] Antenna Range Antennas, as supplied by Panorama Antennas Ltd.

The test items were subjected to the environmental tests detailed in Section 4 of this report, following the guidelines of the defined environmental test standards, and as detailed in Alphatech quotation ATQ-107-19-05-PL.

The testing was performed between the 15th and 17th July 2019.

2 Equipment List

Description:	Serial No:	Calibration Due:
IPx9K Chamber	IP20	11 th Nov 2019
IP4X EN Probe	IP004	3 rd May 2021
Sauter FK50 Force Gauge	WD090000132	8 th Aug 2019
ST1000 Dust Chamber	233/20947	n/a

Table 1: Equipment List

3 Test Item Serial Numbers

Description:	Part No:	Serial No:
L[G]-7-38[24-58] Antenna Range Antenna	SP6-0367-B-49 18	L18428
L[G]-7-38[24-58] Antenna Range Antenna	SP6-0367-B-49 18	L18429

Table 2: Test Item Serial Numbers

Test Report Number: 103684 Issue 1

4 Test Plan

The following sections define the environmental test profiles to which the test items were subjected, and depicts the orientation of the test items within the test chambers.

4.1 IP6Kx Dust Ingress

Reference Standard:	DIN 40 050 Part 9: Road Vehicles Degrees of Protection
Code:	IP6Kx
Probe:	Ø1mm at 1N
Dust:	DIN 40 050 Test Dust
Duration:	20 cycles of 6 second agitation / 15 minute pause

Table 3: IP6Kx Dust Ingress Test Profile

4.2 IPx9K Water Ingress

Reference Standard:	DIN 40 050 Part 9: Road Vehicles Degrees of Protection
Code:	IPx9K
Water Temperature:	+80 ±5°C
Flow Rate:	15 ± 1L/min
Turntable Speed:	5 ± 1rpm
Duration:	30 seconds per nozzle position

Table 4: IPx9K Water Ingress Test Profile

Test Report Number: **103684** **Issue 1**

4.3 Test Item Mounting



Figure 1: Test Item Mounting – IP6Kx Dust Ingress

Test Report Number: 103684 Issue 1

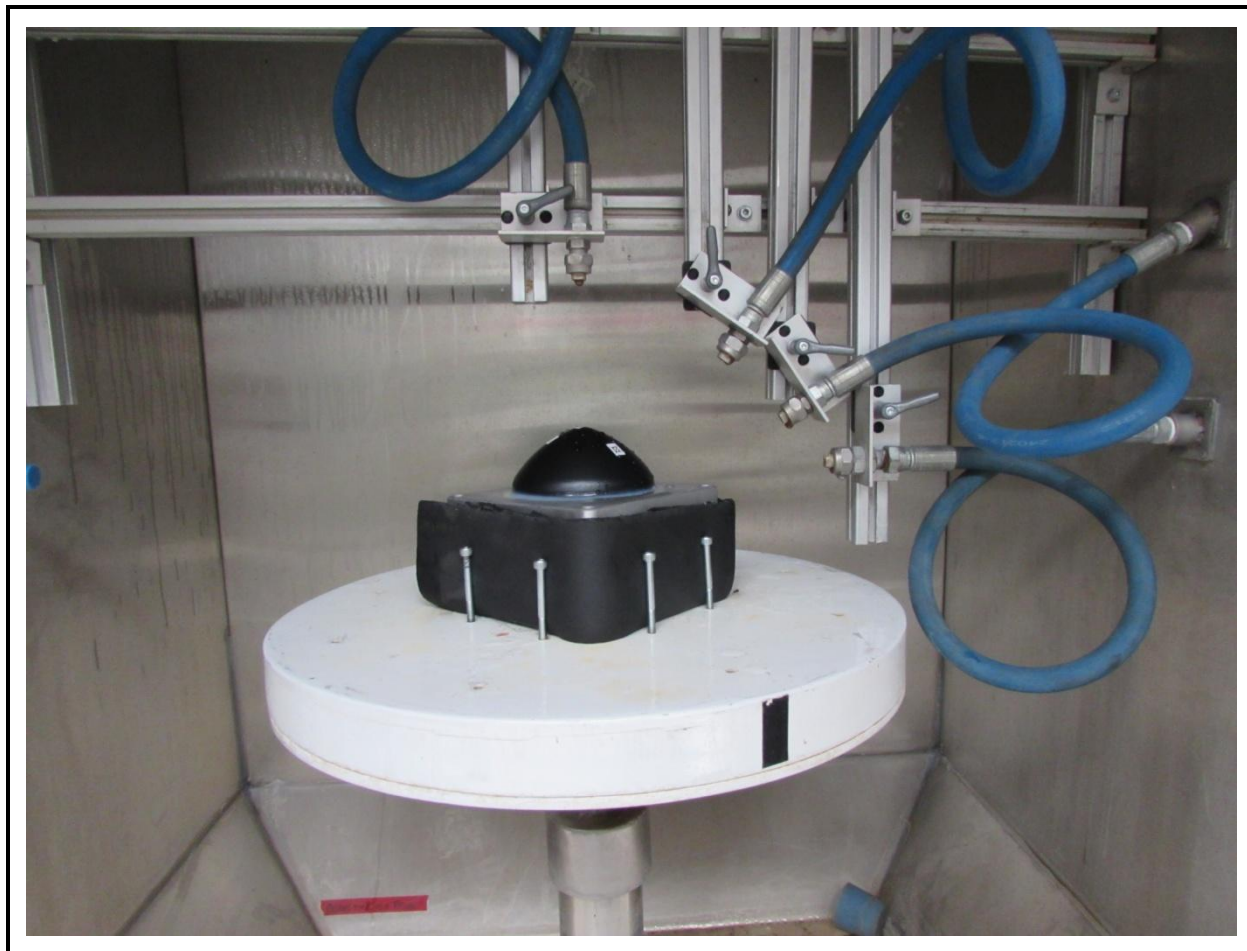


Figure 2: Test Item Mounting – IPx9K Water Ingress

Test Report Number: 103684 Issue 1

5 Test Results

The following sections present the results of the applied tests.

The Antennas were subjected to the tests, installed in metal enclosures which replicated their in-service installation.

The inspection for ingress was performed on the Antenna case and on the metal enclosure.

5.1 IP6Kx Dust Ingress

Antenna L18428 was subjected to the IP6Kx test, consisting of a Probe test and a Dust test.

During the IP6Kx Probe test, the test probe did not penetrate the Antenna case or the metal enclosure.

On completion of the IP6Kx Dust test, no signs of dust ingress were observed within the Antenna case or the metal enclosure.

White particles were observed on the inside of the antenna dome, but were white in colour, as opposed to the test dust which is grey. Hence they were not deemed to be dust ingress.

Therefore, Antenna L18428 conformed to the requirements of the IP6Kx rating as prescribed in DIN 40 050 Part 9.

5.2 IPx9K Water Ingress

Antenna L18429 was subjected to the IPx9K test.

On completion of the IPx9K test, no signs of water ingress were observed within the Antenna case.

Water was observed within the metal enclosure, but there was no evidence of it ingressing via the Antenna / metal enclosure interface.

Therefore, Antenna L18429 conformed to the requirements of the IPx9K rating as prescribed in DIN 40 050 Part 9.

Test Report Number: 103684 Issue 1

5.3 Post Test Photos

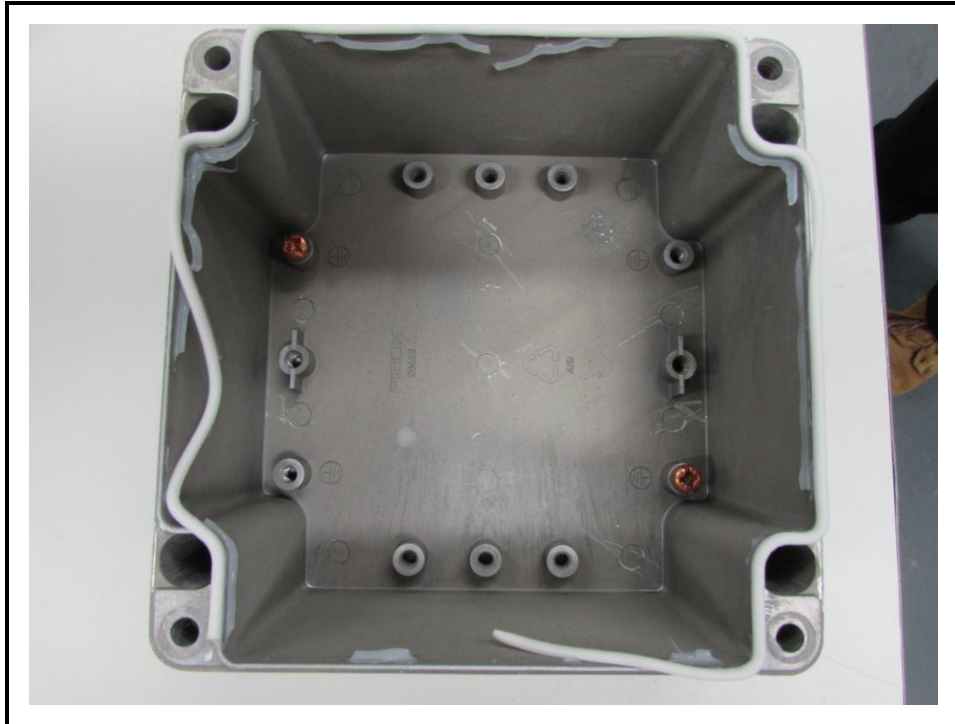


Figure 3: Post Test Photos – IP6Kx Dust Ingress

Test Report Number: 103684 Issue 1

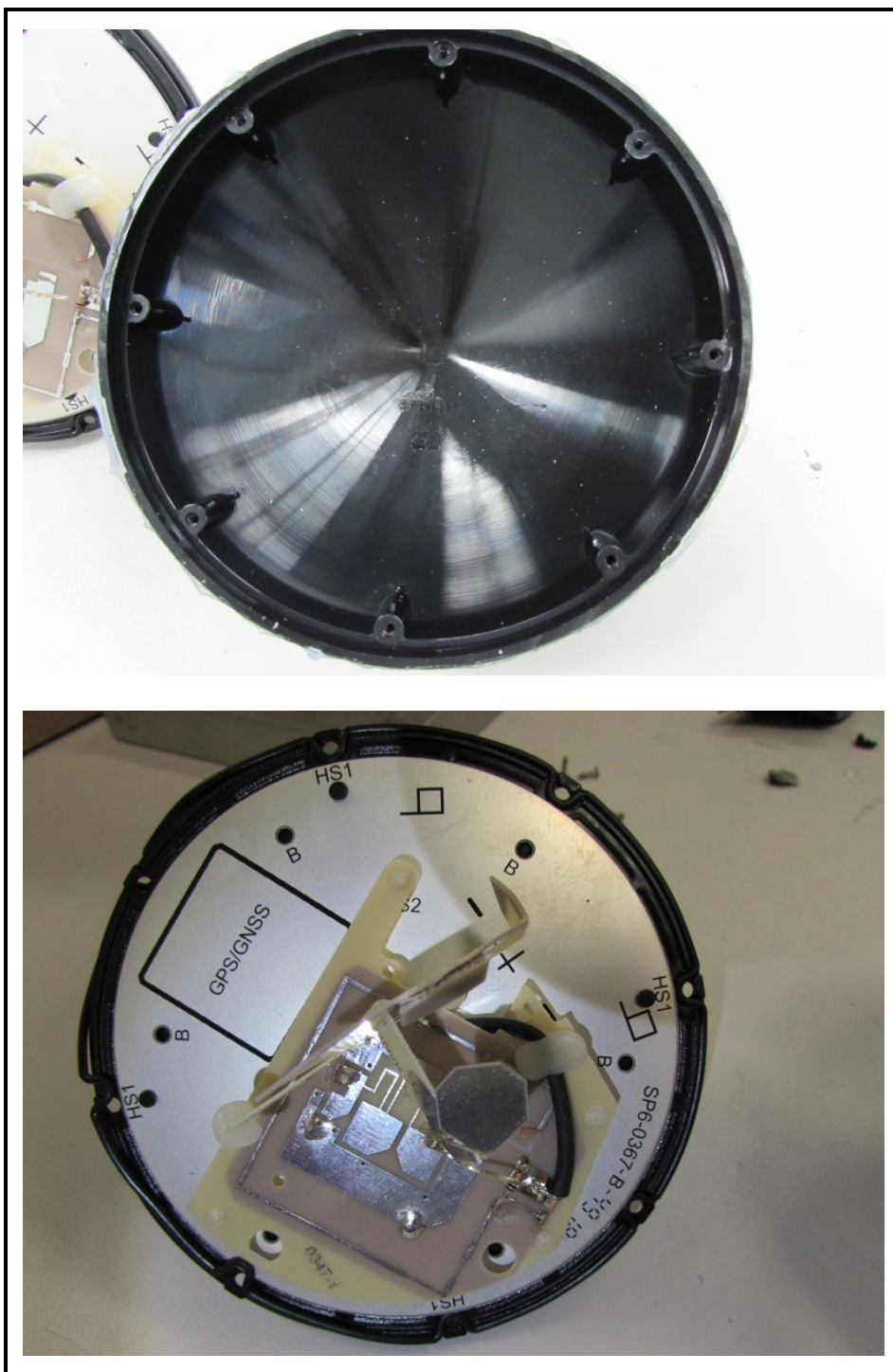


Figure 4: Post Test Photos – IP6Kx Dust Ingress

Test Report Number: **103684** **Issue 1**

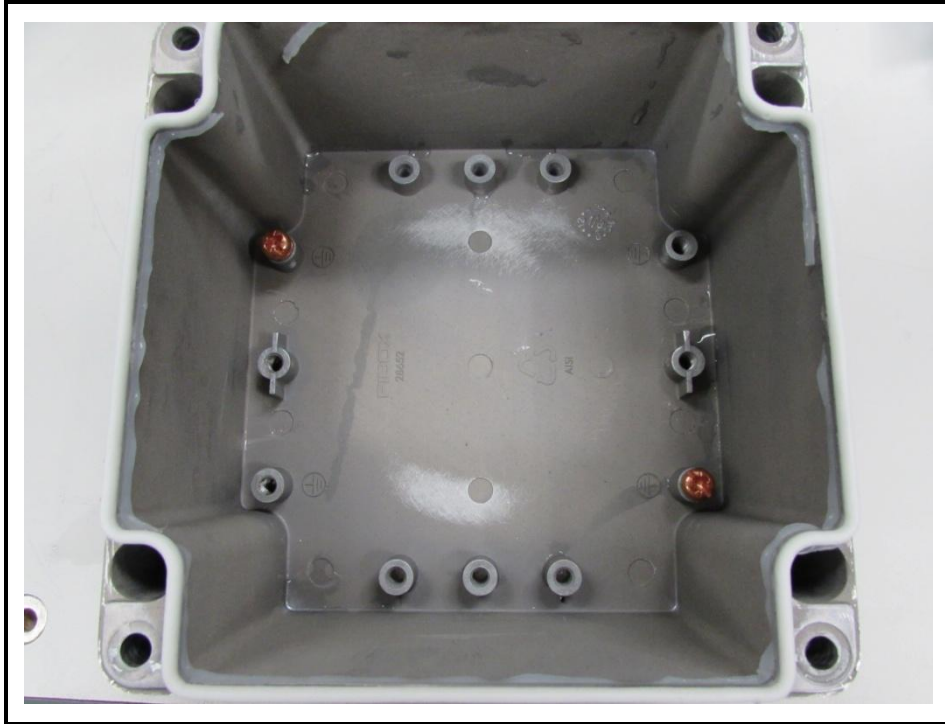


Figure 5: Post Test Photos – IPx9K Water Ingress

Test Report Number: 103684 Issue 1

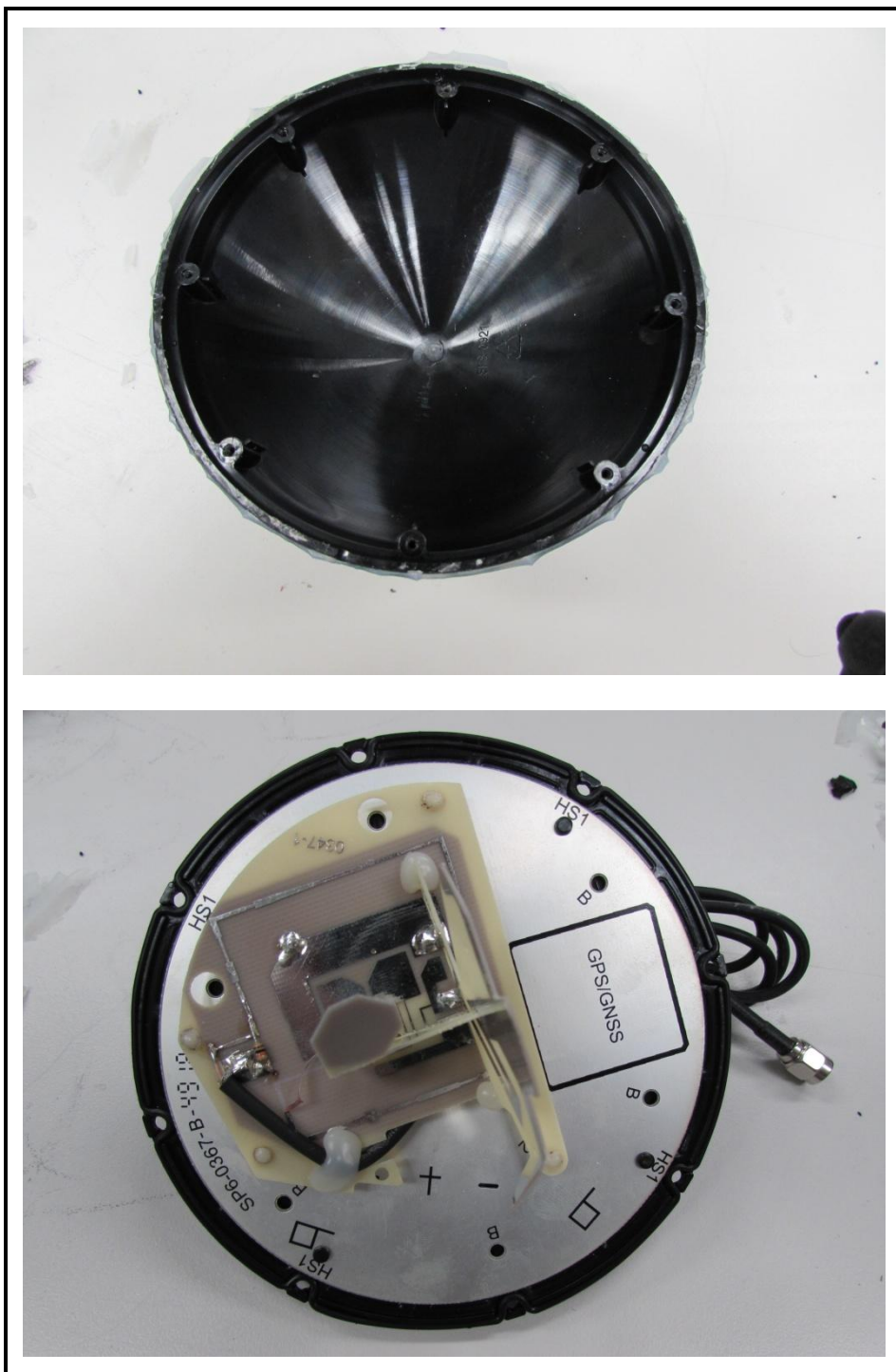


Figure 6: Post Test Photos – IPx9K Water Ingress

Test Report Number: 103684 Issue 1

6 Conclusions

The detailed tests were performed in accordance with the requirements of the defined environmental test standard.

Antenna L18428 conformed to the requirements of the IP6Kx rating as prescribed in DIN 40 050 Part 9.

Antenna L18429 conformed to the requirements of the IPx9K rating as prescribed in DIN 40 050 Part 9.

6.1 Test Item Variants

The customer has confirmed that the Antennas in the L[G]-7-38[24-58] Antenna Range are identical to the Antennas subjected to the IP tests detailed in this test report, the only exception being internal components not related to the sealing of the Antenna.

7 Revision History

Revision Level	Summary of Changes
1	Initial Release

Table 5: Revision History

END OF REPORT