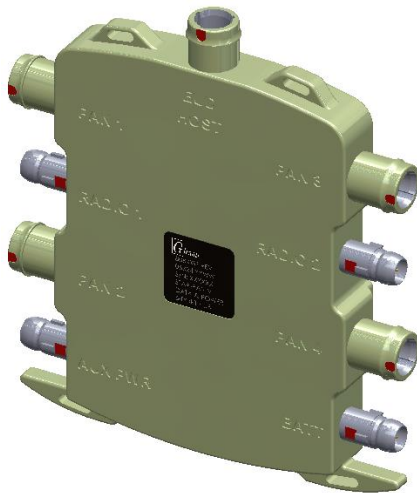




Glenair, Inc. 1211 Air Way, Glendale, CA 91201  
Tel: (818) 247-6000 Fax: (818) 247-7240

**QUALIFICATION TEST REPORT ABSTRACT  
FOR  
STAR-PAN™ VI DATA AND POWER  
6 PORT HUB 808-037**

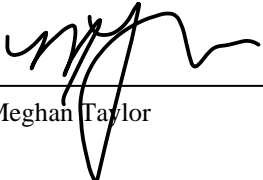
**REPORT NO. GT-19-180 ABSTRACT**



**Front View  
6 Port Hub**



**Rear View  
6 Port Hub**

PREPARED BY:   
Meghan Taylor

DATE: 12/3/2021

UPDATED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

THIS COPYRIGHT DOCUMENT IS THE PROPERTY OF GLENAIR INC. AND IS FURNISHED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE DISCLOSED, REPRODUCED IN WHOLE OR IN PART, USED TO SOLICIT QUOTATIONS FROM COMPETITIVE SOURCES, OR USED FOR MANUFACTURE BY ANYONE OTHER THAN GLENAIR INC. WITHOUT THE WRITTEN PERMISSION OF GLENAIR INC. THE INFORMATION HEREON HAS BEEN DEVELOPED AT PRIVATE EXPENSE AND MAY BE USED FOR THE PURPOSES OF ENGINEERING EVALUATION AND FOR INCORPORATION INTO TECHNICAL SPECIFICATIONS AND OTHER DOCUMENTS WHICH SPECIFY PROCUREMENT OF PRODUCTS FROM GLENAIR INC.



**QUALIFICATION TEST REPORT**  
**STAR-PAN™ 6 Port Hub**  
**Part No. 808-037**

**No.:** GT-19-180 Abstract  
**Date:** December 2, 2021  
**Sheet:** 2 of 7

1.0 Product Description/Application

Glenair 808-037 STAR-PAN™ 6 Port Hub is a USB hub with integrated power management functions for supplying power to connected devices. Its rugged construction is intended for tactical applications in hostile environments. The 6 Port Hub, subjected to a series of environmental and mechanical tests, is designed to meet the requirements of MIL-STD-810G-CHG 1 while utilizing lightweight aluminum alloy housing and high conductivity gold plated copper alloy contacts.

1.1 Purpose

Testing was performed on Glenair 808-037 STAR-PAN™ 6 Port Hub to determine its conformance to the performance requirements of MIL-STD-810G-CHG 1.

1.2 Scope

This report summarizes the environmental qualification testing of STAR-PAN™ 6 Port Hub per QTP 045334. The information in this report was obtained from tests conducted by DNB Engineering Inc, Vertical Labs, and Glenair. The documents listed below are on file at Glenair and are available upon request.

Applicable Test Reports		
Test Report Number	Provider	Date Tested
TR045334	DNB Engineering, Inc	12/21/2018
41629-0924581	Environment Associates, Inc.	12/03/2018
1810430	Truesdail Laboratories, Inc.	11/20/2018
19241D1SPV1	Vertical Labs	10/01/2019
GT-19-180	Glenair Inc.	10/25/2019

1.3 Conclusion

Glenair STAR-PAN™ 6 Port Hub has been shown to be capable of meeting performance requirements of MIL-STD-810G-CHG 1.

1.4 Test Specimen

Test Sample Description		
Description	Part Number	Serial Number
6 Port Hub	808-037	000327
6 Port Hub	808-037	000078
6 Port Hub	808-037	000309
6 Port Hub lids	808-037	001, 002, 003, 004

1.5 Inspection Procedure

All tests were performed with the test specimen at standard laboratory conditions and within procedural parameters as defined by MIL-STD-810G-CHG 1 and QTP 045334.



2.0 Qualification Test Summary

Qualification Test Summary		
Test Description	Abstract Reference	Results
Low Pressure (Altitude)	2.1.1	Passed
Temperature Shock	2.1.2	Passed
Contamination by Fluids	2.1.3	Passed*
Solar Radiation	2.1.4	Passed
Rain	2.1.5	Passed
Humidity	2.1.6	Passed
Salt Fog	2.1.7	Passed
Sand and Dust	2.1.8	Passed
Explosive Atmosphere	2.1.9	Passed
Functional Shock	2.1.10	Passed
Shock Transit Drop	2.1.11	Passed
Fungus	2.1.12	Passed*

2.1 Qualification Testing Details

2.1.1 **Low Pressure (Altitude)**

Test Method

MIL-STD-810G-CHG 1, 500.6

Procedure I (nonoperational), II (operational), III (rapid decompression), & IV (explosive decompression)

Requirement

The EUT must show no visible signs of damage during or as a result of these tests and operate normally during (if applicable) and post testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit signs of damage or operational errors or failures.

Test Anomalies/Deviations

N/A

2.1.2 **Temperature Shock**

Test Method

MIL-STD-810G-CHG 1, 503.6

Procedure I (nonoperational)



**QUALIFICATION TEST REPORT**  
**STAR-PAN™ 6 Port Hub**  
**Part No. 808-037**

**No.:**  
**Date:**  
**Sheet**

**GT-19-180 Abstract**  
**December 2, 2021**  
**4 of 7**

Requirement

The EUT must show no visible signs of damage during or as a result of these tests and operate normally post testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit signs of damage or post-test operational errors or failures.

Test Anomalies/Deviations

N/A

**2.1.3 Contamination by Fluids**

Test Method

MIL-STD-810G-CHG 1, 504.2

Procedure II, per Table 504.2-II. EUT was powered off during testing.

Requirement

The EUT must show no visible signs of damage, i.e., color degradation, paint peeling, or chipping to the paint finish as a result of testing.

Results

PASS.\* PN 808-037, SN 000327 did not exhibit visible signs of testing after final retest.

Test Anomalies/Deviations

While testing Fluid #25 Isopropyl Alcohol at DNB, the coating on a hub lid began blistering and separating from base metal. The supplier was notified, and they traced the issue to surface preparation before primer was applied. This supplier subsequently improved their process control during the surface cleaning phase. Retesting was performed at Glenair's Glendale facility, again at DNB, and finally at Vertical Labs. All samples met test standard requirements. Please see full test report for more details.

**2.1.4 Solar Radiation**

Test Method

MIL-STD-810G-CHG 1, 505.6

Procedure I

Requirement

The EUT must show no visible signs of damage as a result of testing and operate normally post testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit visible damage or errors or post-test operational errors or failures.



**QUALIFICATION TEST REPORT**  
**STAR-PAN™ 6 Port Hub**  
**Part No. 808-037**

**No.:**  
**Date:**  
**Sheet**

**GT-19-180 Abstract**  
**December 2, 2021**  
**5 of 7**

Test Anomalies/Deviations

N/A

**2.1.5 Rain**

Test Method

MIL-STD-810G-CHG 1, 506.6  
Procedure I, operational

Requirement

The EUT must operate normally during and after testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit errors or failures during or post-testing.

Test Anomalies/Deviations

N/A

**2.1.6 Humidity**

Test Method

MIL-STD-810G-CHG 1, 507.6  
Procedure specified in Qualification Test Procedure; see full report

Requirement

The EUT must show no visible signs of damage or corrosion as a result of testing and must operate normally post-testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit and visible signs of damage or corrosion or post-test operational errors or failures.

Test Anomalies/Deviations

N/A

**2.1.7 Salt Fog**

Test Method

MIL-STD-810G-CHG 1, 509.6  
Procedure specified in Qualification Test Procedure; see full report

Requirement

The EUT must show no visible signs of damage or carrion during or as a result of testing and must operate normally post-testing.



Results

PASS. The EUT did not exhibit visible signs of damage or corrosion or post-test operational errors or failures.

Test Anomalies/Deviations

N/A

**2.1.8 Sand and Dust**

Test Method

MIL-STD-810G-CHG 1, 510.6

Procedure I & II

Requirement

The EUT must show no visible signs of damage, dust and sand penetration, or corrosion during or as a result of testing and must operate normally post-testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit visible signs of damage, corrosion, or dust and sand penetration into the unit. It operated normally post-testing.

Test Anomalies/Deviations

N/A

**2.1.9 Explosive Atmosphere**

Test Method

MIL-STD-810G-CHG 1, 511.6

Procedure I

Requirement

The EUT must show no physical signs of ignition and subsequent damage as a result of testing and must operate normally post-testing.

Results

PASS. The EUT showed no signs of ignition during or as a result of testing.

Test Anomalies/Deviations

N/A

**2.1.10 Functional Shock**

Test Method

MIL-STD-810G-CHG 1, 516.7

Procedure 1, operating

Requirement



The EUT must show no visible signs of damage as a result of testing and must operate normally during and post-testing.

Results

PASS. PN 808-037, SN 000327 did not exhibit signs of physical of damage and operated normally during and post-testing.

Test Anomalies

N/A

**2.1.11 Shock Transit Drop**

Test Method

MIL-STD-810G-CHG 1, 516.7  
Procedure IV, nonoperating

Requirement

The EUT must show no visible signs of physical damage and operate normally post-testing.

Results

The EUT did not exhibit signs of physical damage and operated normally post-testing

Test Anomalies/Deviations

N/A

**2.1.12 Fungus**

Test Method

MIL-STD-810G-CHG 1, 508.7  
Procedure specified in Qualification Test Procedure; see full report

Requirement

MIL-STD-810G-CHG 1 does not specify a pass/fail criterion for this test.

Results

See full report

Test Anomalies/Deviations

N/A