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**QUALIFICATION TEST REPORT ABSTRACT
FOR
HiPer-D SUBMINIATURE PLUG AND RECEPTACLE
SERIES 28 CONNECTORS**

REPORT NO. GT-15-171 ABSTRACT



**280-018P
Crimp terminated,
pin connector**



**280-19S
Crimp terminated,
socket connector**

PREPARED BY:  _____ DATE: 3/16/2022
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UPDATED BY: _____ DATE: _____

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1.0 Product Description/Application

The HiPer-D[®] connector is a M24308-type D-Subminiature connector with superior design features. Unlike standard M24308 connectors with stamped steel shells, the HiPer-D[®] connector features a one-piece machined shell, 200°C continuous operating temperature rating, and enhanced mated shell EMI/RFI protection via an integrated ground spring. Aerospace grade fluorosilicone grommets and face seals (JAXA / NASA outgassing available) provide environmental protection. The HiPer-D[®] is intermateable, intermountable, and interchangeable with standard M24308 D-Sub connectors.

1.1 Purpose

Testing was performed on HiPer-D Subminiature Plug and Receptacle Series 28 connectors to determine their conformance to the requirements outlined in the HiPer-D Performance Specification 289-001. These requirements meet or exceed those specified in MIL-DTL-24308G. All tests follow Qualification Test Plan (QTP) 399 and were performed in accordance with EIA 364 test procedures.

1.2 Scope

This report summarizes the mechanical, environmental, and electrical qualification testing of HiPer-D Series 28 connectors. The information in this report was obtained from tests conducted by Glenair test laboratory in the UK. The documents listed below are on file at Glenair and are available upon request.

Applicable Test Reports		
Test Report Number	Provider	Date
04-0215	Glenair UK Ltd.	September 22, 2015
GT-15-171	Glenair, Inc.	November 5, 2022

1.3 Conclusion

HiPer-D Series 28 connectors have been shown to be capable of meeting performance requirements of HiPer-D Performance Specification 289-001.

1.4 Test Specimen Description

Group 1				
Serial Number	Part Number		Shell Size	Backshell req.
001	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
002	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
003	280-018P1H15MEGS	High Density #22 Plug, 15 pin	1	N/A
004	280-019S1H15MEP	High Density #22 Receptacle, 15 socket	1	N/A
005	280-018P3S25MEGS	Standard Density #20 Plug, 25 pin	3	N/A
006	280-019S3S25MEP	Standard Density #20 Receptacle, 25 socket	3	N/A
007	280-018P3H44MEGS	High Density #22 Plug, 44 pin	3	N/A
008	280-019S3H44MEP	High Density #22 Receptacle, 44 socket	3	N/A



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Group 2				
Serial Number	Part Number		Shell Size	Backshell req.
009	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	289T005ME1B-TSK
010	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	289T005ME1B-TSK
011	280-018P1H15MEGS	High Density #22 Plug, 15 pin	1	289T005ME1B-TSK
012	280-019S1H15MEP	High Density #22 Receptacle, 15 socket	1	289T005ME1B-TSK
013	280-018P3S25MEGS	Standard Density #20 Plug, 25 pin	3	289T005ME3B-TSK
014	280-019S3S25MEP	Standard Density #20 Receptacle, 25 socket	3	289T005ME3B-TSK
015	280-018P3H44MEGS	High Density #22 Plug, 44 pin	3	289T005ME3B-TSK
016	280-019S3H44MEP	High Density #22 Receptacle, 44 socket	3	289T005ME3B-TSK

Group 4				
Serial Number	Part Number		Shell Size	Backshell req.
021	280-018P3S25MEGS	Standard Density #20 Plug, 25 pin	3	N/A
022	280-019S3S25MEP	Standard Density #20 Receptacle, 25 socket	3	N/A
023	280-018P1H15MEGS	Standard Density #20 Plug, 15 pin	3	N/A
024	280-019S1H15MEP	Standard Density #20 Receptacle, 15 socket	3	N/A
025	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
026	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
027	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
028	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
029	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
030	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
031	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
032	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
033	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
034	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
035	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
036	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
037	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
038	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A
039	280-018P1S9MEGS	Standard Density #20 Plug, 9 pin	1	N/A
040	280-019S1S9MEP	Standard Density #20 Receptacle, 9 socket	1	N/A



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Group 5				
Serial Number	Part Number		Shell Size	Backshell req.
041	280-026P3S25MEGNA	Standard Density #20 Plug, 25 pin	3	N/A
042	280-026P3H44MEP	Standard Density #20 Receptacle, 44 socket	3	N/A

2.0 Qualification Test Summary

Qualification Test Summary			
Test Description	Serial No.	Sample Size (mated pairs)	Results
Group 1			
Visual and mechanical examination	001-008	4	Passed
Magnetic permeability	001-008	4	Passed
Temperature cycling	001-008	4	Passed
Durability	001-008	4	Passed
Altitude immersion	001-008	4	Passed
Insulation resistance @ ambient	001-008	4	Passed
DWV @ sea level	001-008	4	Passed
Insert retention	001-008	4	Passed
Shell to shell conductivity	001-008	4	Passed
Salt spray	001-008	4	Passed
Shell to shell conductivity	001-008	4	Passed
Post-test examination	001-008	4	Passed
Group 2			
Visual and mechanical examination	009-0016	4	Passed
Mating/unmating force	009-0016	4	Passed
Contact retention	009-0016	4	Passed
Altitude – low temperature	009-0016	4	Passed
Insulation resistance @ ambient	009-0016	4	Passed
DWV @ sea level	009-0016	4	Passed
Insulation resistance @ high temperature	009-0016	4	Passed
DWV @ altitude	009-0016	4	Passed
Durability	009-0016	4	Passed
Vibration	009-0016	4	Passed
Sine vibration	011, 012, 013, 014	2	Passed
Random vibration	009, 010, 015, 016	2	Passed
Shock	009-0016	4	Passed
Shell to shell conductivity	009-0016	4	Passed
Humidity	009-0016	4	Passed
Insulation resistance @ ambient	009-0016	4	Passed
DWV @ sea level	009-0016	4	Passed
Post-test examination	009-0016	4	Passed
Group 4			
Visual and mechanical examination	021-024	2	Passed
Water immersion	021-024	2	Passed



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Fluid immersion	021-040	10	Passed
DWV @ sea level	021-040	10	Passed
Group 5			
Visual and mechanical examination	041-042	2	Passed
Contact resistance	041-042	2	Passed
Low level contact resistance	041-042	2	Passed
Current rating	041-042	2	Passed
Solderability	041-042	2	Passed
Resistance to solder heat	041-042	2	Passed
Insulation resistance	041-042	2	Passed
Post-test examination	041-042	2	Passed

3.0 Qualification Testing Details – Group 1

3.1 **Visual and mechanical examination**

EIA 364, para. 3.33 and 4.4.1 - All samples were visually examined under x2 magnification for workmanship and finished and mechanical function prior to testing.

3.2 **Magnetic Permeability**

3.2.1 Test Method/Requirement

EIA-364-54, para. 3.7 and 4.4.2 - Fully wired, assembled, and mated connectors were tested by means of a 2.0μ test piece installed in a low mu indicator.

3.2.2 Results

PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit errors or failures.

3.2.3 Test Anomalies/Deviations

N/A

3.3 **Temperature Cycling**

3.3.1 Test Method/Requirement

EIA-364, para. 3.9 and 4.4.5 – Fully wired and assembled connectors were subjected to 5 cycles of -65°C to +200°C, with 1hr dwell at each temperature. Samples were unmated.

3.3.2 Results

PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit errors or failures.

3.3.3 Test Anomalies/Deviations

N/A

3.4 **Durability**

3.4.1 Test Method/Requirement

EIA-364-09, para. 3.10 and 4.4.6 – The test connectors were subjected to 500 engagement/disengagement cycles at a rate of 3 cycles per minute

3.4.2 Results

PASS. PNs 280-018P and 280-019S, SNs 001-008 achieved complete separation

3.4.3 Test Anomalies/Deviations
N/A

3.5 Altitude Immersion

3.5.1 Test Method/Requirement

EIA-364-03, para. 3.11 and 4.4.7 – Mated samples were individually subjected to 3 cycles of pressure change from 35mb to Atmospheric pressure within 1 minute whilst immersed in a 5% saline solution, the samples being maintained at each pressure for 30 minutes. Upon completion of 3 cycles, while still immersed, both the Insulation Resistance (EIA-364-20) and Dielectric Withstand Voltage (EIA 634 -20) were measured. After removal from the saline solution the samples were washed in tap water and dried for 24 hours at ambient prior to final examination.

3.5.2 Results

PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit errors or failures.

3.5.3 Test Anomalies/Deviations
N/A

3.6 Insert Retention

3.6.1 Test Method/Requirement

EIA-364-35, para. 3.14 and 4.4.10 – The unmated, unwired connectors were tested in two groups, one in each direction. A 60lb (267.5N) load being applied to each connector for a period of 1 minute via purpose made tooling. Upon completion, the samples were inspected for damage, cracking, and evidence of deterioration.

3.6.2 Results

PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit signs of degradation.

3.6.3 Test Anomalies/Deviations
N/A

3.7 Shell to Shell Conductivity

3.7.1 Test Method/Requirement

EIA-364-83, para 3.21 and 4.4.19 – Mated connectors were tested at 1.0 amp, 1.5V max, the measurement being allowed to settle for 10 sec.

3.7.2 Results

PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit errors or failures.

3.7.3 Test Anomalies/Deviations
N/A

3.8 Salt Spray

3.8.1 Test Method/Requirement

EIA-364-26, para. 3.15 and 4.4.11 – Test samples were mated, test duration 48 hours at 35°C, 5% NaCl solution. All cable ends were sealed by means of heatshrink/beeswax. The conductivity was measured upon completion, followed by post-test examination.

3.8.2 Results
PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit signs of degradation.

3.8.3 Test Anomalies/Deviations
N/A

3.9 **Post-Test Examination**

3.9.1 Test Method/Requirement
Samples were examined for corrosion, blistering, or pitting that would impair operation.

3.9.2 Results
PASS. PNs 280-018P and 280-019S, SNs 001-008 did not exhibit signs of degradation.

3.9.3 Test Anomalies/Deviations
N/A

4.0 Qualification Testing Details - Group 2

4.1 **Visual and Mechanical Examination**

EIA-364, para. 3.33 and 4.4.1 – All samples were visually examined under x2 magnification for workmanship and finish and mechanical function prior to testing.

4.2 **Mating/Unmating Force**

4.2.1 Test Method/Requirement
EIA-364-13, para. 3.8 and 4.4.4 – Fully wired sample pairs were subjected to engagement/disengagement cycles, occurring approximately twice per minute, the recorded values being an average of 5 cycles.

4.2.2 Results
PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.2.3 Test Anomalies/Deviations
N/A

4.3 **Contact Retention**

4.3.1 Test Method/Requirement
EIA-364—2, para. 3.17 and 4.4.15 – 20% of contacts of unmated samples pre-loaded to 3lbf (13.6N) and then loaded to 9.0lbf (40.03N) and maintained for 6 sec. Each loaded contact not displaced by more than 0.012ins (0.3mm) max.

4.3.2 Results
PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.3.3 Test Anomalies/Deviations
N/A

4.4 **Altitude – Low Temperature**

4.4.1 Test Method/Requirement
EIA-364-105, para. 3.18 and 4.4.16 – Fully wired pairs were individually tested. Testing summarized as follows:

- a. Initial precondition at 50°C for 8hrs minimum
- b. The sample was placed in a Vacuum Chamber. The temperature was reduced to -55°C until stabilization.
- c. The chamber pressure was reduced to 44.4mb (33.3torr) and maintained for 1hr minimum
- d. A DWV voltage of 325V_{rms} was applied between 2 groups of contacts and shell for 1 min
- e. Insulation Resistance was measured at -65°C and 11mb (100,000ft equivalent) pressure
- f. With the voltage removed the temperature and pressure were returned to normal
- g. Dielectric Withstand Voltage and Insulation Resistance were applied for 5 sec. minimum

4.4.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.4.3 Test Anomalies/Deviations

N/A

4.5 **Insulation Resistance at Elevated Temperature**

4.5.1 Test Method/Requirement

EIA-364-21, para. 3.12.2 and 4.4.8.2 – Unmated samples were tested at 500V dc while at 200°C; the samples were maintained at temperature for 30 minutes minimum.

4.5.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.5.3 Test Anomalies/Deviations

N/A

4.6 **Dielectric Withstanding Voltage at Altitude**

4.6.1 Test Method/Requirement

EIA-364-20, para. 3.13 and 4.4.9.2 – Mated connectors and unmated pin halves were tested to Method A; contacts were divided into 2 groups. The shell was connected to the ground. Testing was carried out while the samples were at pressure of 44mb (70,000ft equivalent).

4.6.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.6.3 Test Anomalies/Deviations

N/A

4.7 **Durability**

4.7.1 Test Method/Requirement

EIA-364-09, para. 3.10 and 4.4.6 – Mating pairs of fully wired connectors were completely engaged/separated 500 times at a rate of 3 operations per minute.

4.7.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.7.3 Test Anomalies/Deviations

N/A

4.8 **Vibration**

4.8.1 Test Method/Requirement

EIA-364, para. 3.19 and 4.4.17 – The test connectors were divided into 2 groups of 2 mating pairs of samples, one group undergoing Sine Vibration, the other undergoing Random Vibration. All samples were mated and secured via jackscrews and jackposts to mounting plates, all contacts were wired in series and continuously monitored for discontinuities of $>1.0\mu\text{sec}$. The 1 metre (39.4 inches) long cable bundle was clamped and supported approximately 8 to 12 inches from the backshell, in addition to being clamped at the backshell exit.

4.8.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.8.3 Test Anomalies/Deviations

N/A

4.9 **Sine Vibration**

4.9.1 Test Method/Requirement

EIA-364, para. 3.19 and 4.4.17.1, (two samples) – The mated samples were attached to the vibration jiggling via the mounting plates and subject to the following levels:

Frequency range:	10 to 2000Hz
Velocity:	254mm/sec from 10 -50Hz
Amplitude:	1.5mm peak to peak from 50 – 140Hz
Sweep time:	10Hz to 2000Hz and return, 20 minutes
Duration:	6hrs/axis, 18hrs total

4.9.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.9.3 Test Anomalies/Deviations

N/A

4.10 **Random Vibration**

4.10.1 Test Method/Requirement

EIA-364, para. 3.19 and 4.4.17.2, (two samples) – The mated samples were attached to the vibration jiggling via the mounting plates and subject to the following levels:

Frequency:	Spectral Density (g^2/Hz)
50Hz:	0.251
100Hz:	1.000
2000Hz:	1.000
Overall 'g':	43.92 g_{rms}
Duration:	6hrs/axis, 18hrs total

4.10.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.10.3 Test Anomalies/Deviations

N/A

4.11 Shock

4.11.1 Test Method/Requirement

EIA-364-27, para. 3.20 and 4.4.18 – All samples were mated and secured via jackscrews and jackposts to mounting plates, all contacts were wired in series and continuously monitored for discontinuities of $>1.0\mu\text{sec}$. The 1 metre (39.4 inches) long cable bundle was clamped and supported approximately 8 to 12 inches from the backshell, in addition to being clamped at the backshell exit. After mounting on the shock tester, all test samples were subject to the following levels in each direction of each axis (18 total):

Shock: Half Sine
Amplitude: $300g \pm 45g$
Duration: 3 ± 1 milisec.

4.11.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.11.3 Test Anomalies/Deviations

N/A

4.12 Shell to Shell Conductivity

4.12.1 Test Method/Requirement

EIA-364-83, para. 3.21 and 4.4.19 – Mated connectors were subjected to 1.0 amp, 1.5V max, the measurement being allowed to settle for 10 sec.

4.12.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.12.3 Test Anomalies/Deviations

N/A

4.13 Humidity

4.13.1 Test Method/Requirement

EIA-364-31, para. 3.22 and 4.4.20 (Test Method IV) – Wired, mated test connectors were mounted in the horizontal position and 100V polarizing was applied between alternate contacts and shell. During the final cycle, 3 hours minimum after the start of step 7a while at high humidity, Insulation Resistance and Dielectric Withstand Voltage was measured whilst the chamber was at 20°C.

4.13.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.13.3 Test Anomalies/Deviations

N/A

4.14 Insulation Resistance

4.14.1 Test Method/Requirement

EIA-364-21, para. 3.12.1 and 4.4.8.1 – Mated samples were subjected to 500V dc electrification for 1 minute. The voltage was applied between adjacent contacts and shell.

4.14.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.14.3 Test Anomalies/Deviations
N/A

4.15 **Dielectric Withstand Voltage at Sea Level**

4.15.1 Test Method/Requirement

EIA-364-20, para. 3.13 and 4.4.9.1 – Mated samples were subjected to 1000V AC_{rms}. The voltage was applied between adjacent contacts and shell.

4.15.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit errors or failures.

4.15.3 Test Anomalies/Deviations

N/A

4.16 **Post-Test Examination**

4.16.1 Test Method/Requirement

EIA 364, para. 3.33 and 4.4.31 – Samples were examined for corrosion, blistering, or pitting that would impair operation.

4.16.2 Results

PASS. PNs 280-018P and 280-019S, SNs 009-016 did not exhibit signs of degradation.

4.16.3 Test Anomalies/Deviations

N/A

5.0 Qualification Testing Details – Group 4

5.1 **Visual and Mechanical Examination**

All samples were visually examined under x2 magnification for workmanship and finish and mechanical function prior to testing.

5.2 **Water Immersion**

5.2.1 Test Method/Requirement

EIA-364, para. 3.30 and 4.4.28 – Two mated pairs of connectors were testing, wired with 36 inches of maximum dia cable, the cable ends were sealed using heatshrink adhesive caps. Both samples were fully engaged by means of jackpost/jackscrew, after which the connectors and cables were fully immersed in water to 1 metre (39.4ins) depth for 1 hour duration. Note: Prior to immersion, both samples were pre-heated to 10°C above the water temperature. After 1 hour immersion, a 50V dc insulation check was carried out after removal of a number of the cable seals to check for water ingress, after which both samples were visually inspected for moisture ingress.

5.2.2 Results

PASS. PNs 280-018P and 280-019S, SNs 021-040 did not exhibit errors, failures, or degradation.

5.2.3 Test Anomalies/Deviations

N/A

5.3 Fluid Immersion

5.3.1 Test Method/Requirement

EIA-364-10, para. 3.32 and 4.4.30 – One mated pair sample per fluid.

5.3.2 Results

PASS. PNs 280-018P and 280-019S, SNs 021-040 did not exhibit signs of degradation.

5.3.3 Test Anomalies/Deviations

N/A

5.4 Mating/Unmating Force

5.4.1 Test Method/Requirement

EIA-364-13, para. 3.8 and 4.4.4 – Fully mated sample pairs were subjected to a series of engagement/disengagements, occurring approximately 2 cycles per minute. The recorded values were an average of 5 cycles.

5.4.2 Results

PASS. PNs 280-018P and 280-019S, SNs 021-040 did not exhibit errors or failures.

5.4.3 Test Anomalies/Deviations

N/A

5.5 Dielectric Withstand Voltage at Sea Level

5.5.1 Test Method/Requirement

EIA-364-20, para. 3.13 and 4.4.9.1 – Mated samples were subjected to voltage applied between adjacent contacts and shell.

5.5.2 Results

PASS. PNs 280-018P and 280-019S, SNs 021-040 did not exhibit errors or failures.

5.5.3 Test Anomalies/Deviations

N/A

5.6 Post-Test Examination

5.6.1 Test Method/Requirement

EIA-364, para. 3.33 and 4.4.31 – Samples were examined for corrosion, blistering, pitting or swelling that would impair operation.

5.6.2 Results

PASS. PNs 280-018P and 280-019S, SNs 021-040 did not exhibit signs of degradation.

5.6.3 Test Anomalies/Deviations

N/A

6.0 Qualification Testing Details - Group 5

6.1 **Visual and Mechanical Examination**

All samples were visually examined under x2 magnification for workmanship and finish and mechanical function prior to testing.

6.2 Contact Resistance

6.2.1 Test Method/Requirement

EIA-364-06, para. 3.16 and 4.4.12 – Tested with mating connectors from Group 1. Contacts of #20 tested at a test current of 7.5 amp, #22 contacts were tested at 5 amp. 20% of contacts were tested. The cable contribution was deducted from the final result.

6.2.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit errors or failures.

6.2.3 Test Anomalies/Deviations

N/A

6.3 Low Level Contact Resistance

6.3.1 Test Method/Requirement

EIA-364-23, para. 3.28 and 4.4.26 – Samples tested at 20mV maximum drive voltage, 100mA maximum current. 20% of contacts were tested. The cable contribution was deducted from the final result.

6.3.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit errors or failures.

6.3.3 Test Anomalies/Deviations

N/A

6.4 Current Rating

6.4.1 Test Method/Requirement

EIA-364-70, para. 3.29 and 4.4.27 (Test Method 1) – #22 contacts were tested at 5 amp and #20 contacts were tested at 7.5 amp. One contact tested per connector. The temperature rise was recorded on the connector shell and conductor until stabilization.

6.4.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit errors or failures.

6.4.3 Test Anomalies/Deviations

N/A

6.5 Solderability

6.5.1 Test Method/Requirement

EIA-364, para. 3.26 and 4.4.24 – PCB terminations were preconditioned with 8 hour of steam aging prior to being tested to IEC-68-2-20, Test Ta, method 1, (245°C sec heat application). Multicore MFR301 flux was used. After testing, the samples were visually inspected and reviewed with reference to the requirements of MIL-STD-202, method 208.

6.5.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit signs of degradation.

6.5.3 Test Anomalies/Deviations

N/A

6.6 Resistance to Solder Heat

6.6.1 Test Method/Requirement

EIA-364-56, para. 3.27 and 4.4.25 – Unmated PCB connectors with Multicore MFR301 flux were used in conjunction with a 260°C soldering iron applied for a duration sufficient to maintain the solder in a liquid form for 10 seconds. After testing the samples were visually inspected for damage or deformation.

6.6.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit signs of degradation.

6.6.3 Test Anomalies/Deviations

N/A

6.7 Insulation Resistance

6.7.1 Test Method/Requirement

EIA-364-21, para. 3.12.1 and 4.4.8.1 – Mated samples were subjected to a voltage of 500V dc, electrification time 1 minute.

6.7.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit errors or failures.

6.7.3 Test Anomalies/Deviations

N/A

6.8 Post-Test Examination

6.8.1 Test Method/Requirement

EIA-364, para. 3.33 and 4.4.31 – Samples were examined for corrosion, blistering, pitting, swelling, or distortion that would impair operation.

6.8.2 Results

PASS. PNs 280-018P and 280-019S, SNs 041-042 did not exhibit signs of degradation.

6.8.3 Test Anomalies/Deviations

N/A