ENGINEERING SUMMARY REPORT

REPORT NO. ESR-55555
REPORT DATE: 8/12/22
Revision: B

Amphenol Corporation Aerospace Operations
Sidney, NY 13838-1395

TITLE:	Design Validation Testing of Series V Prototype Connectors	Project No.	0798196
		CLT	Various

Distribution: Test Lab, D. Cogswell, J Ryder, M. Simonds, R. Barnes, J. Paul, H.Kyaw, M.Blachowicz

Purpose: Evaluate performance of the newly developed Series V connector prototypes.

Conclusions: The series V prototype are capable of meeting MIL-DTL-38999 performance requirements.

Recommendations: Series V connectors meet the performance of the criteria described within; they can move into production.

References: CLTs-10580, 10615, 10617, 10630, 10654, and 10696, MIL-DTL-38999 RevM w/Amd2.

Summary:
Size 8, 10, 12 and 14 Series V prototype connectors were subjected to DVT testing to prove out the performance of their design. The following table shows an outline of the different tests performed organized by the work order submitted to Amphenol's test lab.

CLT	Connectors Tested	Description	Results
10580	Series V Size 10	DVT Testing, 4 Test Groups focusing on O-Ring seal, mechanical strength, ratcheting mechanism, Increased DWV test voltages and ice resistance.	All connectors tested meet requirements.
10615	Series V Size 8	DVT Testing, 2 Test Groups focusing on O-Ring seal, mechanical strength, ratcheting mechanism, vibration requirements.	All connectors tested meet requirements.
10617	Series V Size 10	DVT Testing, $1G^2$ Random Vibration at 200ºC.	All connectors tested meet requirements.
10630	Series V Size 12	DVT Testing, 2 Test Groups focusing on O-Ring seal, mechanical strength, ratcheting mechanism.	All connectors tested meet requirements.
10654	Series V Size 14	DVT Testing, 2 Test Groups focusing on O-Ring seal, mechanical strength, ratcheting mechanism.	All connectors tested meet requirements.
10696	Series V Size 12 & 14	DVT Testing, $1G^2$ Random Vibration at 200ºC.	All connectors tested meet requirements.

Prepared: D. Cogswell	Approved: R Ramer	Witnessed:
Date: 08/12/2022	Date: 2/7/23	Date:

Use of this data is unlimited

Summary (continued):

CLT 10580 Group 1 Test Outline:

The group 1 test sequence was developed to test the performance of the mating thread, the main joint sealing O-ring, the ratcheting mechanism and the thinner wall sections of size 10 series V connectors.

CLT 10580 Group 1 Test Samples

The following samples were subjected to the tests of group one. All samples were prepared with nominal OD wire.

Sample ID	AAO Part Number	Size-Arrangement	Connector Type	Sample Plating Finish
1R1	XPF2-782702-99S	10-99	Wall Mount Recpt.	Black Zinc Nickel
1P1	XPF2-782712-99P	10-99	Straight Plug	Black Zinc Nickel
1R2	XPF2-782702-99S	10-99	Wall Mount Recpt.	Black Zinc Nickel
1P2	XPF2-782712-99P	10-99	Straight Plug	Black Zinc Nickel

CLT 10580 Group 1 Tests Performed

Group 1 - 2 Mated Pairs, Samples to be prepped with nominal od wire.	Requirements MIL-DTL-38999 Section	Test Section MIL-DTL-38999	Qty Tested/ Qty Passed	Date of Test
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	2 Pair/2 Pair	8/23/21
Temperature cycling	3.8	4.5.4	2 Pair/2 Pair	8/24/21
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	8/25/21
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	8/25/21
Durability	3.12	4.5.8	2 Pair/2 Pair	8/26/21
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	8/26/21
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	8/26/21
Altitude Immersion - Test of O-Ring seal, rear of connectors shall be potted.	3.13	4.5.9	2 Pair/2 Pair	9/10/21
IR, While in salt water solution	3.14.1	4.5.10.1	2 Pair/2 Pair	9/10/21
DWV, While in salt water solution	3.15	4.5.11.1	2 Pair/2 Pair	9/10/21
Electrical Engagement	3.19	4.5.15	2 Pair/ 2 Pair	9/24/21
External Bending Moment - 38999 Series II Torques	3.2	4.5.16	2 Pair/ 2 Pair	9/24/21
Post Test Exam	3.52 and 3.53	4.5.49	2 Pair/ 2 Pair	9/24/21

See Appendix A for Detailed Data Sheets.

Summary (continued):

CLT 10580 Group 2 Test Outline:

The primary focus of the group 2 test sequence was to determine the capabilities of the Series V size 10 connector prototypes to survive the MIL-DTL-38999 series III sine vibration and $5G^2$ random vibration test profiles.

CLT 10580 Group 2 Test Samples:

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
2R1	XPF2-782702-35P	10-35	Wall Mount Recpt.	Black Zinc Nickel
2P1	XPF2-782712-35S	10-35	Straight Plug	Black Zinc Nickel
2R2	XPF2-782702-35P	10-35	Wall Mount Recpt.	Black Zinc Nickel
2P2	XPF2-782712-35S	10-35	Straight Plug	Black Zinc Nickel
2R3	XPFH-782702-99P	10-99	Wall Mount Recpt.	Thick Electroless Nickel
2P3	XPFH-782712-99S	10-99	Straight Plug	Thick Electroless Nickel

CLT 10580 Group 2 Test Summary:

Group 2	Requirements MIL-DTL-38999 Section	Procedure MIL-DTL-38999 Section	Qty Tested/ Qty Passed	Date of Test
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	3 Pair/3 Pair	8/23/21
Temperature Cycling	3.8	4.5.4	3 Pair/3 Pair	8/24/21, 8/31/21
Coupling Torque - measure, no p/f	3.11	4.5.7	3 Pair/3 Pair	8/25/21, 9/1/21
Shell to Shell Conductivity	3.29	4.5.25	3 Pair/3 Pair	8/25/21, 9/1/21
Durability	3.12	4.5.8	3 Pair/3 Pair	8/26/21, 9/1/21
Accessory Thread Strength	3.26	4.5.22	3 Pair/3 Pair	9/1/21
Vibration Sine Profile (1 Sample)	3.27	4.5.23.2.1	1 Pair/1 Pair	9/9/21
Vibration 5G^2 Random (2 Samples)	3.27	4.5.23.2.4	2 Pair/2 Pair	9/15/21
Coupling Torque - measure, no p/f	3.11	4.5.7	3 Pair/3 Pair	9/30/21
Post Test Examination	3.52 and 3.53	4.5.49	3 Pair/3 Pair	9/30/21

See Datasheets in Appendix B for Details.

Summary (continued):

CLT 10580 Group 3 Test Outline:

The focus of group 3 was to test the dielectric withstanding voltage of the Series V Connectors at sea level and at 75,000 ft. altitude.

CLT 10580 Group 3 Test Samples

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
3R1	XPF2-782702-35S	10-35	Wall Mount Recpt.	Black Zinc-Nickel
3P1	XPF2-782712-35P	10-35	Straight Plug	Black Zinc-Nickel
3R2	XPF2-782702-35S	10-35	Wall Mount Recpt.	Black Zinc-Nickel
3P2	XPF2-782712-35P	10-35	Straight Plug	Black Zinc-Nickel
3R3	XPF2-782702-35S	10-35	Wall Mount Recpt.	Black Zinc-Nickel
3P3	XPF2-782712-35P	10-35	Straight Plug	Black Zinc-Nickel
3R4	XPF2-782702-35P	10-35	Wall Mount Recpt.	Black Zinc-Nickel
3P4	XPF2-782712-35S	10-35	Straight Plug	Black Zinc-Nickel
3R5	XPF2-782702-35P	10-35	Wall Mount Recpt.	Black Zinc-Nickel
3P5	XPF2-782712-35S	10-35	Straight Plug	Black Zinc-Nickel

CLT 10580 Group 3 Test Summary

Group 3 IR-DWV Group - 5 Mated Pairs of Connectors	**Requirements MIL-DTL-38999 Section**	**Procedure MIL-DTL-38999 Section**	**QTY Tested/QTY Passed**	**Date of Test**
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	5 Pair/5 Pair	8/24/21
Temperature Cycling (only 10-35 arrangement)	3.8	4.5.4	5 Pair /5 Pair	8/26/21
DWV at Sea Level (mated)	3.15	4.5.11.1	5 Pair /5 Pair	8/27/21
DWV at 75,000 ft. testing	3.15	4.5.11.2	5 Pair /5 Pair	9/24/21

See Appendix C for detailed datasheets.

Summary (continued):

CLT 10580 Group 4 Test Outline:
This group was solely to test ice resistance of the connectors.

CLT 10580 Group 4 Test Samples

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
4R1	XPFS-782702-99S	10-99	Wall Mount Recpt.	Black Zinc Nickel
4P1	XPFS-782712-99P	10-99	Straight Plug	Black Zinc Nickel
4R2	XPFS-782702-99P	10-99	Wall Mount Recpt.	Black Zinc Nickel
4P2	XPFS-782712-99S	10-99	Straight Plug	Black Zinc Nickel

CLT 10580 Group 4 Test Summary

Group 4	Requirements MIL-DTL-38999 Section	Procedure MIL-DTL-38999 Section	Qty Tested/ Qty Passed	Date of Test
Visual and mechanical examination	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	2 Pair/2 Pair	8/26/21
Ice resistance	3.44	4.5.40	2 Pair/2 Pair	8/26/21
Post Test Examination	3.52 and 3.53	4.5.49	2 Pair/2 Pair	8/26/21

See Appendix D for detailed datasheets.

Summary (continued):

CLT 10615 Group 1 Test Outline:

The group 1 test sequence was developed to test the performance of the mating thread, the main joint sealing O-ring, the ratcheting mechanism and the thinner wall sections of size 8 series V connectors.

CLT 10615 Group 1 Test Samples

The following samples were subjected to the tests of group one. All samples were prepared with nominal OD wire.

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
1R1	XPFH-782701-35P	8-35	Wall Mount Recpt.	Electroless Nickel
1P1	XPFH-782711-35S	8-35	Straight Plug	Electroless Nickel
1R2	XPFH-782701-35P	8-35	Wall Mount Recpt.	Electroless Nickel
1P2	XPFH-782711-35S	8-35	Straight Plug	Electroless Nickel

CLT 10615 Group 1 Tests Performed

Group 1 - 2 Mated Pairs, Samples to be prepped with nominal od wire.	**Requirements MIL-DTL-38999 Section**	**Test Section MIL-DTL-38999**	**Qty Tested/ Qty Passed**	**Date of Test**
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	2 Pair/2 Pair	11/4/21
Temperature cycling	3.8	4.5.4	2 Pair/2 Pair	11/4/21
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	1/31/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	1/31/22
Durability	3.12	4.5.8	2 Pair/2 Pair	2/1/22
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	2/15/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	2/15/22
Altitude Immersion - Test of O-Ring seal, rear of connectors shall be potted.	3.13	4.5.9	2 Pair/2 Pair	2/24/22
IR, While in salt water solution	3.14.1	4.5.10.1	2 Pair/2 Pair	2/24/22
DWV, While in salt water solution	3.15	4.5.11.1	2 Pair/2 Pair	2/24/22
Electrical Engagement	3.19	4.5.15	2 Pair/ 2 Pair	3/2/22
External Bending Moment - 38999 Series II Torques	3.2	4.5.16	2 Pair/ 2 Pair	8/11/22
Post Test Exam	3.52 and 3.53	4.5.49	2 Pair/ 2 Pair	8/11/22

See Datasheets in Appendix E for Details.

Summary (continued):

CLT 10615 Group 2 Test Outline:

The primary focus of the CLT 10615 group 2 test sequence was to determine the capabilities of the Series V Size 8 connector prototypes to survive the MIL-DTL-38999 series III $1G^2$ vibration at 200ºC test requirements.

CLT 10615 Group 2 Test Samples:

Sample ID	AAO Part Number	Size-Arrangement	Connector Type	Finish
2R1	XPFH-782701-35P	8-35	Wall Mount Recpt.	Electroless Nickel
2P1	XPFH-782711-35S	8-35	Straight Plug	Electroless Nickel
2R2	XPFH-782701-35P	8-35	Wall Mount Recpt.	Electroless Nickel
2P2	XPFH-782711-35S	8-35	Straight Plug	Electroless Nickel
2R3	XPFH-782701-35P	8-35	Wall Mount Recpt.	Electroless Nickel
2P3	XPFH-782711-35S	8-35	Straight Plug	Electroless Nickel
2R4	XPFH-782701-98P	8-98	Wall Mount Recpt.	Electroless Nickel
2P4	XPFH-782711-98S	8-98	Straight Plug	Electroless Nickel
2R5	XPFH-782701-98P	8-98	Wall Mount Recpt.	Electroless Nickel
2P5	XPFH-782711-98S	8-98	Straight Plug	Electroless Nickel
2R6	XPFH-782701-98P	8-98	Wall Mount Recpt.	Electroless Nickel
2P6	XPFH-782711-98S	8-98	Straight Plug	Electroless Nickel

CLT 10615 Group 2 Test Summary:

Group 2	Requirements MIL-DTL-38999 Section	Procedure MIL-DTL-38999 Section	Qty Tested/ Qty Passed	Date of Test
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	6 Pair/6 Pair	11/4/21
Temperature Cycling	3.8	4.5.4	6 Pair/6 Pair	11/4/21
Coupling Torque - measure, no p/f	3.11	4.5.7	6 Pair/6 Pair	11/8/21
Shell to Shell Conductivity	3.29	4.5.25	6 Pair/6 Pair	11/8/21
Durability	3.12	4.5.8	6 Pair/6 Pair	11/12/21, 1/7/22
Coupling Torque - measure, no p/f	3.11	4.5.7	6 Pair/6 Pair	1/26/22
Shell to Shell Conductivity	3.29	4.5.25	6 Pair/6 Pair	1/26/22, 2/15/22
Accessory Thread Strength	3.26	4.5.32	6 Pair/6 Pair	1/26/22, 2/15/22
Vibration 1G^2 Random @ 200ºC	3.27	4.5.23.2.4	2 Pair/2 Pair	1/31/22
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	2/1/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	2/1/22
Post Test Examination	3.52 and 3.53	4.5.49	2 Pair/2 Pair	2/1/22

See Datasheets in Appendix F for Details.

Summary (continued):

CLT 10617 Group 2 Test Outline:

The primary focus of the group 2B test sequence was to determine the capabilities of the Series V Size 10 connector prototypes to survive the MIL-DTL-38999 series III $1G^2$ vibration at 200ºC test requirements. These were submitted to the test lab under CLT 10617.

CLT 10617 Group 2 Test Samples:

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
2R1	XPFH-782702-35P	10-35	Wall Mount Recpt.	Electroless Nickel
2P1	XPFH-782712-35S	10-35	Straight Plug	Electroless Nickel
2R2	XPFH-782702-35P	10-35	Wall Mount Recpt.	Electroless Nickel
2P2	XPFH-782712-35S	10-35	Straight Plug	Electroless Nickel

CLT 10617 Group 2 Test Summary:

Group 2	Requirements MIL-DTL-38999 Section	Procedure MIL-DTL-38999 Section	Qty Tested/ Qty Passed	Date of Test
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	2 Pair/2 Pair	10/27/21
Temperature Cycling	3.8	4.5.4	2 Pair/2 Pair	10/27/21
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	10/27/21
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	10/27/21
Durability	3.12	4.5.8	2 Pair/2 Pair	10/28/21
Vibration 1G^2 Random @ 200ºC	3.27	4.5.23.2.4	2 Pair/2 Pair	1/28/22
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	2/2/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	2/2/22
Post Test Examination	3.52 and 3.53	4.5.49	2 Pair/2 Pair	2/2/22

See Datasheets in Appendix G for Details.

Summary (continued):

CLT 10630 Group 1 Test Outline:

The group 1 test sequence was developed to test the performance of the mating thread, the main joint sealing O-ring, the ratcheting mechanism and the thinner wall sections of size 12 series V connectors.

CLT 10630 Group 1 Test Samples

The following samples were subjected to the tests of group one. All samples were prepared with nominal OD wire.

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
1R1	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
1P1	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
1R2	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
1P2	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel

CLT 10630 Group 1 Tests Performed

Group 1 - 2 Mated Pairs, Samples to be prepped with nominal od wire.	**Requirements MIL-DTL-38999 Section**	**Test Section MIL-DTL-38999**	**Qty Tested/ Qty Passed**	**Date of Test**
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	2 Pair/2 Pair	12/22/21
Temperature cycling	3.8	4.5.4	2 Pair/2 Pair	12/22/21
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	12/23/21
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	12/23/21
Durability	3.12	4.5.8	2 Pair/2 Pair	2/7/22
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	2/15/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	2/15/22
Altitude Immersion - Test of O-Ring seal, rear of connectors shall be potted.	3.13	4.5.9	2 Pair/2 Pair	2/24/22
IR, While in salt water solution	3.14.1	4.5.10.1	2 Pair/2 Pair	2/24/22
DWV, While in salt water solution	3.15	4.5.11.1	2 Pair/2 Pair	2/24/22
Electrical Engagement	3.19	4.5.15	2 Pair/ 2 Pair	3/2/22
External Bending Moment - 38999 Series II Torques	3.2	4.5.16	2 Pair/ 2 Pair	8/11/22
Post Test Exam	3.52 and 3.53	4.5.49	2 Pair/ 2 Pair	8/11/22

See Datasheets in Appendix H for Details.

Summary (continued):

CLT 10630 Group 2 Test Outline:

The primary focus of the CLT 10630 group 2 test sequence was to determine the capabilities of the Series V Size 12 connector prototypes to make it through rear accessory durability and rear accessory thread strength.

CLT 10630 Group 2 Test Samples:

Sample ID	AAO Part Number	Size-Arrangement	Connector Type	Finish
2R1	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
2P1	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
2R2	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
2P2	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
2R3	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
2P3	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
2R4	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
2P4	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
2R5	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
2P5	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
2R6	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
2P6	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel

CLT 10630 Group 2 Test Summary:

Group 2	Requirements MIL-DTL-38999 Section	Procedure MIL-DTL-38999 Section	Qty Tested/ Qty Passed	Date of Test
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	6 Pair/6 Pair	12/21/21
Temperature Cycling	3.8	4.5.4	6 Pair/6 Pair	12/22/21
Coupling Torque - measure, no p/f	3.11	4.5.7	6 Pair/6 Pair	12/23/21
Shell to Shell Conductivity	3.29	4.5.25	6 Pair/6 Pair	12/23/21
Durability	3.12	4.5.8	6 Pair/6 Pair	1/19,1/20,1/23/22
Accessory Thread Strength	3.26	4.5.32	6 Pair/6 Pair	1/23/22

See Datasheets in Appendix I for Details.

Summary (continued):

CLT 10654 Group 1 Test Outline:

The group 1 test sequence was developed to test the performance of the mating thread, the main joint sealing O-ring, the ratcheting mechanism and the thinner wall sections of size 14 series V connectors.

CLT 10654 Group 1 Test Samples

The following samples were subjected to the tests of group one. All samples were prepared with nominal OD wire.

Sample ID	AAO Part Number	Arrangement	Connector Type	Finish
1R1	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
1P1	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
1R2	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
1P2	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel

CLT 10654 Group 1 Tests Performed

Group 1 - 2 Mated Pairs, Samples to be prepped with nominal od wire.	**Requirements MIL-DTL-38999 Section**	**Test Section MIL-DTL-38999**	**Qty Tested/ Qty Passed**	**Date of Test**
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	2 Pair/2 Pair	2/18/22
Temperature cycling	3.8	4.5.4	2 Pair/2 Pair	2/18/22
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	2/21/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	2/21/22
Durability	3.12	4.5.8	2 Pair/2 Pair	2/21/22
Coupling Torque - measure, no p/f	3.11	4.5.7	2 Pair/2 Pair	2/22/22
Shell to Shell Conductivity	3.29	4.5.25	2 Pair/2 Pair	2/22/22
Altitude Immersion - Test of O-Ring seal, rear of connectors shall be potted.	3.13	4.5.9	2 Pair/2 Pair	2/24/22
IR, While in salt water solution	3.14.1	4.5.10.1	2 Pair/2 Pair	2/24/22
DWV, While in salt water solution	3.15	4.5.11.1	2 Pair/2 Pair	2/24/22
Electrical Engagement	3.19	4.5.15	2 Pair/ 2 Pair	3/2/22
External Bending Moment - 38999 Series II Torques	3.2	4.5.16	2 Pair/ 2 Pair	8/11/22
Post Test Exam	3.52 and 3.53	4.5.49	2 Pair/ 2 Pair	8/12/22

See Datasheets in Appendix J for Details.

Summary (continued):

CLT 10654 Group 2 Test Outline:

The primary focus of the CLT 10654 group 2 test sequence was to determine the capabilities of the Series V Size 14 connector prototypes to make it through rear accessory durability and rear accessory thread strength.

CLT 10654 Group 2 Test Samples:

Sample ID	AAO Part Number	Size-Arrangement	Connector Type	Finish
2R1	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
2P1	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
2R2	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
2P2	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
2R3	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
2P3	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
2R4	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
2P4	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
2R5	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
2P5	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
2R6	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
2P6	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel

CLT 10654 Group 2 Test Summary:

Group 2	Requirements MIL-DTL-38999 Section	Procedure MIL-DTL-38999 Section	Qty Tested/ Qty Passed	Date of Test
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	6 Pair/6 Pair	1/24/22
Temperature Cycling	3.8	4.5.4	6 Pair/6 Pair	1/24/22
Coupling Torque - measure, no p/f	3.11	4.5.7	6 Pair/6 Pair	1/25/22
Shell to Shell Conductivity	3.29	4.5.25	6 Pair/6 Pair	1/26/22, 2/16/22
Durability	3.12	4.5.8	6 Pair/6 Pair	1/26/22, 2/16/22 2/18/22, 2/21/22
Accessory Thread Strength	3.26	4.5.32	6 Pair/6 Pair	1/26/22, 2/22/22

See Datasheets in Appendix K for Details.

Summary (continued):

CLT 10696 Test Outline:

The primary focus of the CLT 10696 test sequence was to determine the capabilities of the Series V Size 12 and 14 series V connectors through vibration and shock testing.

CLT 10696 Test Samples:

Sample ID	AAO Part Number	Size-Arrangement	Connector Type	Finish
R1	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
P1	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
R2	XPFH-782703-35P	12-35	Wall Mount Recpt.	Electroless Nickel
P2	XPFH-782713-35S	12-35	Straight Plug	Electroless Nickel
R3	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
P3	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel
R4	XPFH-782704-35P	14-35	Wall Mount Recpt.	Electroless Nickel
P4	XPFH-782714-35S	14-35	Straight Plug	Electroless Nickel

CLT 10696 Test Summary:

Group 2	**Requirements MIL-DTL-38999 Section**	**Procedure MIL-DTL-38999 Section**	**Qty Tested/ Qty Passed**	**Date of Test**
Visual Exam	3.1, 3.3, 3.4, 3.5, 3.52 and 3.53	4.5.1	4 Pair/4 Pair	4/27/22
Temperature Cycling	3.8	4.5.4	4 Pair/4 Pair	4/27/22, 4/28/22
Coupling Torque - measure, no p/f	3.11	4.5.7	4 Pair/4 Pair	4/28/22
Shell to Shell Conductivity	3.29	4.5.25	4 Pair/4 Pair	4/29/22
Durability	3.12	4.5.8	4 Pair/4 Pair	4/29/22, 5/2/22
Accessory Thread Strength	3.26	4.5.32	4 Pair/4 Pair	5/4/22
Vibration 1G^2 Random @ 200ºC	3.27	4.5.23.2.4	4 Pair/4 Pair	6/6-6/7/22
Shock	3.28	4.5.24	4 Pair/4 Pair	6/8/22
Coupling Torque - measure, no p/f	3.11	4.5.7	4 Pair/4 Pair	6/16/22
Shell to Shell Conductivity	3.29	4.5.25	4 Pair/4 Pair	6/17/22
Post Test Examination	3.52 and 3.53	4.5.49	4 Pair/4 Pair	6/17/22

See Datasheets in Appendix L for Details.

APPENDIX A
CLT 10580 Group 1 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Visual Examination of Test Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	8/23/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPF2-782702-99S	NONE	No Observable defects	Accept
1P1	XPF2-782712-99P	NONE	No Observable defects	Accept
1R2	XPF2-782702-99P	NONE	No Observable defects	Accept
1P2	XPF2-782712-99S	NONE	No Observable defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M. Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D.Cogswell	8/24/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +175ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
1R1	XPF2-782702-99S	None	ACCEPT
1P1	XPF2-782712-99P	None	ACCEPT
1R2	XPF2-782702-99P	None	ACCEPT
1P2	XPF2-782712-99S	None	ACCEPT

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	7/28/2021	10/27/2021	D.Cogswell	8/25/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Data Only no Pass/Fail			2.4	2.8	Accept
1P1						
1R2	Record Data Only no Pass/Fail			2.4	2.6	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4008	1/22/2021	12/21/2021	D.Cogswell	8/25/2021
Power Supply IC-3991	5/3/2021	10/2/2021		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
5.0 millivolts.

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date Tested
1P1 mated to 1R1	XPF2-782702-99S XPF2-782712-99P	4.2	Accept	8/25/2021
1P2 mated to 1R2	XPF2-782702-99P XPF2-782712-99S	4.9	Accept	8/25/2021

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	8/26/2021

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles at a rate not to exceed 300 cycles per hour. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results
1R1	XPF2-782702-99S	10	500	8/25/2021	Accept
1P1	XPF2-782712-99P				
1R2	XPF2-782702-99P	10	500	8/25/2021	Accept
1P2	XPF2-782712-99S				

All durability testing was done manually at a rate of approximately 300 Cycles per hour

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torque Meter PG-2738	7/28/2021	10/27/2021	D.Cogswell	8/26/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Data Only no Pass/Fail			1.3	2.8	Accept
1P1						
1R2	Record Data Only no Pass/Fail			2.0	4.4	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4008	1/22/2021	12/21/2021	D.Cogswell	8/26/2021
Power Supply IC-3991	5/3/2021	10/2/2021		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
5.0 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date Tested
1P1 mated to 1R1	XPF2-782702-99S	1.6	Accept	8/26/2021
	XPF2-782712-99P			
1P2 mated to 1R2	XPF2-782702-99S	1.2	Accept	8/26/2021
	XPF2-782712-99P			

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Altitude Immersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
IC-5286 Pressure Gauge	8/3/2021	7/3/2022	Kimberly Edwards (25953)	9/10/2021
F-0993 Clock	8/3/2021	2/1/2022		

Altitude Immersion, Mated connectors were tested in accordance with test procedure EIA-364-03. The following details applied:

a. All wire ends were located within the chamber and exposed to the chamber atmosphere but not submerged or sealed.

b. At the end of the third cycle, while the connectors are still submerged in the solution, the insulation resistance at ambient temperature shall be measured as specified in 4.5.10.1, and the dielectric withstanding voltage test shall be performed as specified in 4.5.11.1. Connectors were potted for this test since the area of concentration is the O-Ring interfacial seal.

Sample ID	AAO Part Number	Time 1st Cycle Start/Finish	Time 2nd Cycle Start/Finish	Time 3rd Cycle Start/Finish	Status*
1R1	XPF2-782702-99S	11:00 / 11:30am	12:10 / 12:40 pm	1:20/ 1:50pm	Accept
1P1	XPF2-782712-99P				Accept
1R2	XPF2-782702-99S				Accept
1P2	XPF2-782712-99P				Accept

*See next 2 data sheets for IR DWV results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Insulation Resistance While in Salt Water Solution Post Altitude Immersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	6/15/2021	12/14/2021	Kimberly Edwards (25953)	9/10/2021

Insulation Resistance post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-21. All cavities were tested. 500 VDC was applied to each contact during test.

Sample ID	AAO Part Number	Minimum IR Requirement	Results	Status
1R1	XPF2-782702-99S	5,000 MΩ	All locations >5,000 MΩ	Accept
1P1	XPF2-782712-99P	5,000 MΩ		
1R2	XPF2-782702-99S	5,000 MΩ	All locations >5,000 MΩ	Accept
1P2	XPF2-782712-99P	5,000 MΩ		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Dielectric Withstanding Voltage While in Salt Water Solution Post Altitude Immersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	6/15/2021	12/14/2021	Kimberly Edwards (25953)	9/10/2021

Dielectric Withstanding Voltage post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-20. All cavities were tested. 1800 VAC RMS was applied to each contact during test. Connectors were mated in salt water solution for the test.

Sample ID	AAO Part Number	Maximum Leak Requirement	Results	Status
1R1	XPF2-782702-99S	2 mA	All locations tested < 2 mA	Accept
1P1	XPF2-782712-99P	2 mA		
1R2	XPF2-782702-99S	2 mA	All locations tested < 2 mA	Accept
1P2	XPF2-782712-99P	2 mA		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Electrical Engagement	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Caliper 44-177425-1 F49	5/14/2021	5/3/2022	B. Martin	9/24/2021

Electrical Engagement per MIL-DTL-38999 paragraphs 3.19 and 4.5.15. Counterpart plugs and receptacles were wired to provide a complete series circuit through all contacts of the mated connector. A suitable power source and indicator was used such that the earliest point at which the circuit was completed, during normal connector mating, was established. Connector halves were slowly mated until first indication of a completed circuit was observed. The mating operation was held at this point and the overall connector length was measured from solid reference points on the connector halves. The mating operation was continued until the connector halves were the completely mated position. A second overall length measurement was then taken from the same reference points. The difference of these two measurements shall not be less than 0.034 in.

Sample ID	AAO Part Number	Min. Engagement Requirement (in.)	First Reference (in.)	Second Reference (in.)	Overall Engagement (in.)	Status
1R1	XPF2-782702-99S	0.034	1.560	1.470	0.090	Accept
1P1	XPF2-782712-99P	0.034	1.560	1.470	0.090	Accept
1R2	XPF2-782702-99P	0.034	1.570	1.490	0.080	Accept
1P2	XPF2-782712-99S	0.034	1.570	1.490	0.080	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
External Bending Moment	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Zwick PG-3141	8/12/2021	2/10/2022	B. Martin	10/1/2021
Discontinuity Meter IC-4882	12/21/2020	12/21/2021		
Caliper 44-177425-1 F49	5/14/2021	5/3/2022		

External Bending Moment per MIL-DTL-38999 paragraphs 4.5.16 and 3.20. The receptacle connector was mounted as in normal service to a rigid panel. Before mating the plug connector to the receptacle, an adapter was attached as shown on figure 22. After mating the plug and receptacle connectors, the distance "L" from the point of load application "P" to the mounting panel was determined. The applied load at point "P" was determined as the bending moment specified in table XVII divided by the lever arm "L". This load was applied at a rate of approximately 10 pounds per second until the required load was achieved. The applied load was held for 1 minute, then the load was released. Continuity of the contacts were monitored during the test. The test circuit used to monitor the circuit was capable of detecting a discontinuity in excess of 1 microsecond.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status
1R1	XPF2-782702-99S	75	2.1	35.7	No Discontinuities	Accept
1P1	XPF2-78212-99P					
1R2	XPF2-782702-99P	75	2.1	35.7	No Discontinuities	Accept
1P2	XPF2-782712-99S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	10/1/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPF2-782702-99S	NONE	No performance inhibiting damage	Accept
1P1	XPF2-782712-99P	NONE	No performance inhibiting damage	Accept
1R2	XPF2-782702-99P	NONE	No performance inhibiting damage	Accept
1P2	XPF2-782712-99S	NONE	No performance inhibiting damage	Accept

APPENDIX B
CLT 10580 Group 2 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
	Temp. Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
10X Magnification Microscope			D.Cogswell	8/23/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPF2-782702-35P	NONE	No Defects	Accept
2P1	XPF2-782712-35S	NONE	No Defects	Accept
2R2	XPF2-782702-35P	NONE	No Defects	Accept
2P2	XPF2-782712-35S	NONE	No Defects	Accept
2R3	XPFH-782702-99P	NONE	No Defects	Accept
2P3	XPFH-782712-99S	NONE	No Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D.Cogswell	8/24/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +175ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 2.81 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
2R1	XPF2-782702-35P	No Observations	Accept
2P1	XPF2-782712-35S	No Observations	Accept
2R2	XPF2-782702-35P	No Observations	Accept
2P2	XPF2-782712-35S	No Observations	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D.Cogswell	8/31/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
2R3	XPFH-782702-99P	No visible defects	Accept
2P3	XPFH-782712-99S	No visible defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	7/28/2021	10/27/2021	D.Cogswell	8/25/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	Record Data Only/ No Pass/Fail			2.2	2.0	Accept
2P1						
2R2	Record Data Only/ No Pass/Fail			2.2	2.2	Accept
2P2						
2R3	Record Data Only/ No Pass/Fail			2.4	1.8	Accept
2P3						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4008	1/22/2021	12/21/2021	D.Cogswell	8/25/2021
Power Supply IC-3991	5/3/2021	10/2/2021		9/1/2021

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts for Sample 3 and 5 millivolts for Samples 1 & 2.

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date Tested
2P1 mated to 2R1	XPF2-782702-35P XPF2-782712-35S	4.4 mV	Accept	8/25/2021
2P2 mated to 2R2	XPF2-782702-35P XPF2-782712-35S	4.2 mV	Accept	8/25/2021
2P3 mated to 2R3	XPFH-782702-35P XPFH-782712-35S	0.26 mV	Accept	9/1/2021

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	8/26/2021

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles manually. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results
2R1	XPF2-782702-35P	10	500	8/26/2021	Accept
2P1	XPF2-782712-35S				
2R2	XPF2-782702-35P	10	500	8/26/2021	Accept
2P2	XPF2-782712-35S				
2R3	XPFS-782702-99P	10	500	9/1/2021	Accept
2P3	XPFS-782712-99S				

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Accessory Thread Strength	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Spring Scale PG-2234	8/10/2021	10/8/2021	Kimberly Edwards(25953)	9/1/2021
IC-5025 Timer	6/15/2021	12/14/2021		

Accessory Thread Strength per MIL-DTL-38999 paragraphs 3.26 and 4.5.32. Mated connectors were mounted as in normal service to a rigid panel. The specified torque per table IX of MIL-DTL-38999 was applied to the accessory of the plug and held for one minute and released. The specified torque was then applied to the accessory of the receptacle for one minute and released. The connectors were unmated and visual inspected at 3X magnification for damage or breakage.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status
2R1	XPF2-782702-35P	50	8.5	5.8	No damage or breakage occurred	Accept
2P1	XPF2-782712-35S					
2R2	XPF2-782702-35P	50	8.5	5.8	No damage or breakage occurred	Accept
2P2	XPF2-782712-35S					
2R3	XPFS-782702-99P	50	8.5	5.8	No damage or breakage occurred	Accept
2P3	XPFS-782712-99S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Vibration	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
To be added later (need vibration report from lab)			Andrew Hosier	9/8/2021 thru 9/17/2021

Vibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per the Sign and 5G^2 vibration profiles.
Samples are to be prepped in accordance with L-40990-141.

Sample ID	AAO Part Number	Profile	Date Complete	Discontinuities	Coupling Nut Movement	Breakage/ Loosening
2P1 mated to 2R1	XPF2-782702-35P	4.5.23.2.4	9/15/21 thru 9/17/21	None	None	None
	XPF2-782712-35S					
2P2 mated to 2R2	XPF2-782702-35P	4.5.23.2.4	9/15/21 thru 9/17/21	None	None	None
	XPF2-782712-35S					
2P3 mated to 2R3	XPFS-782702-99P	4.5.23.2.1	9/10/21 thru 9/15/21	None	None	None
	XPFS-782712-99S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling After Vibe	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torque meter PG-2738	7/28/2021	10/27/2021	Kimberly Edwards (25953)	9/30/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	Record Data Only/ No Pass/Fail			4	5	Accept
2P1						
2R2	Record Data Only/ No Pass/Fail			4	6	Accept
2P2						
2R3	Record Data Only/ No Pass/Fail			3	4	Accept
2P3						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
10X Magnification Microscope			Kimberly Edwards (25953)	9/30/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPF2-782702-35P	NONE	Meets conformance to drawing and specifications. No defects or damage detrimental to operation	Accept
2P1	XPF2-782712-35S	NONE		
2R2	XPF2-782702-35P	NONE	Meets conformance to drawing and specifications. No defects or damage detrimental to operation	Accept
2P2	XPF2-782712-35S	NONE		
2R3	XPFS-782702-99P	NONE	Meets conformance to drawing and specifications. No defects or damage.	Accept
2P3	XPFS-782712-99S	NONE		

APPENDIX C
CLT 10580 Group 3 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Visual Examination	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	See Below

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status	Date
3R1	XPF2-782702-35S	NONE	No defects on samples	Accept	8/24/2021
3P1	XPF2-782712-35P	NONE	No defects on samples	Accept	8/24/2021
3R2	XPF2-782702-35S	NONE	No defects on samples	Accept	8/24/2021
3P2	XPF2-782712-35P	NONE	No defects on samples	Accept	8/24/2021
3R3	XPF2-782702-35S	NONE	No defects on samples	Accept	8/24/2021
3P3	XPF2-782712-35P	NONE	No defects on samples	Accept	8/24/2021
3R4	XPF2-782702-35P	NONE	No defects on samples	Accept	8/24/2021
3P4	XPF2-782712-35S	NONE	No defects on samples	Accept	8/24/2021
3R5	XPF2-782702-35P	NONE	No defects on samples	Accept	8/24/2021
3P5	XPF2-782712-35S	NONE	No defects on samples	Accept	8/24/2021

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M. Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D.Cogswell	8/26/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +175ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 3.6 lbs.) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
3R1	XPF2-782702-35S	No damage to parts	Accept
3P1	XPF2-782712-35P	No damage to parts	Accept
3R2	XPF2-782702-35S	No damage to parts	Accept
3P2	XPF2-782712-35P	No damage to parts	Accept
3R3	XPF2-782702-35S	No damage to parts	Accept
3P3	XPF2-782712-35P	No damage to parts	Accept
3R4	XPF2-782702-35P	No damage to parts	Accept
3P4	XPF2-782712-35S	No damage to parts	Accept
3R5	XPF2-782702-35P	No damage to parts	Accept
3P5	XPF2-782712-35S	No damage to parts	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Dielectric Withstanding Voltage at Sea Level	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Circuit Tester F-2672	6/15/2021	12/14/2021	D. Cogswell	8/27/2021

Dielectric Withstanding Voltage: Mated Connectors were tested in accordance with test procedure EIA-364-20. All cavities were tested. 1800 VAC RMS was applied to each contact during test. Connectors were to be mated for test.

Sample ID	AAO Part Number	Maximum Leak Requirement	Maximum Test Voltage (V AC)	Results	Status
3R1	XPF2-782702-35S	2 mA	2500	All locations passed	Exceeds 38999 Requirements
3P1	XPF2-782712-35P				
3R2	XPF2-782702-35S	2 mA	2500	All locations passed	Exceeds 38999 Requirements
3P2	XPF2-782712-35P				
3R3	XPF2-782702-35S	2 mA	2500	All locations passed	Exceeds 38999 Requirements
3P3	XPF2-782712-35P				
3R4	XPF2-782702-35P	2 mA	2500	All locations passed	Exceeds 38999 Requirements
3P4	XPF2-782712-35S				
3R5	XPF2-782702-35P	2 mA	2500	All locations passed	Exceeds 38999 Requirements
3P5	XPF2-782712-35S				

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Dielectric Withstanding Voltage at Altitude	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Circuit Tester F-2672	6/15/2021	12/14/2021	D.Cogswell	9/24/2021

Dielectric Withstanding Voltage: Mated Connectors were tested in accordance with test procedure EIA-364-20, except altitude was 75,000 ft. All cavities were tested.

Sample ID	AAO Part Number	Maximum Leak Requirement	Maximum Test Voltage (V AC)	Results	Status
3R1	XPF2-782702-35S	2 mA	1600	All locations passed	Exceeds 38999 Requirements
3P1	XPF2-782712-35P				
3R2	XPF2-782702-35S	2 mA	1600	Location 4 arched at 1600 V. The other locations passed	Exceeds 38999 Requirements
3P2	XPF2-782712-35P				
3R3	XPF2-782702-35S	2 mA	1600	All locations passed	Exceeds 38999 Requirements
3P3	XPF2-782712-35P				
3R4	XPF2-782702-35P	2 mA	1600	All locations passed	Exceeds 38999 Requirements
3P4	XPF2-782712-35S				
3R5	XPF2-782702-35P	2 mA	1600	Location 7 arched at 1550 V during ramp up. The other locations passed	Exceeds 38999 Requirements
3P5	XPF2-782712-35S				

APPENDIX D
CLT 10580 Group 4 Test Results

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Visual Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	8/26/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
4R1	XPFS-782702-99S	NONE	No Defects	Accept
4P1	XPFS-782712-99P	NONE	No Defects	Accept
4R2	XPFS-782702-99P	NONE	No Defects	Accept
4P2	XPFS-782712-99S	NONE	No Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Thermometer IC-2587	6/23/2021	12/19/2021	D. Cogswell	8/26/2021

le Resistance per MIL-DTL-38999 paragraphs 3.44 and 4.5.40.
Mated connectors were immersed in tap water for 1 minute and then placed in an ambience of - 65° C +0°C/- 5°C for 1 hour. A minimum of three such cycles were performed until the connector surfaces are completely iced over. Immediately after removal from the last cycle, the frozen connectors were uncoupled and then recoupled. The connectors were then uncoupled and recoupled a second time with the uncoupling and coupling torque measured in accordance with 4.5.7. The uncoupling and coupling torque shall not be measured on the first uncoupling and recoupling. See Following datasheet for coupling/uncoupling torque data.

*May need more than 3 cycles if the connectors are not iced over after 3 cycles.

Sample ID	AAO Part Number	Cycle 1 (Start/Finish)	Cycle 2 (Start/Finish)	Cycle 3 (Start/Finish)	Iced Over?
4R1	XPF2-782702-99S	12:12 PM	1:13 PM	2:15	Yes
4P1	XPF2-782712-99P	1:12 PM	2:13 PM	3:15	
4R2	XPF2-782702-99P	12:12 PM	1:13 PM	2:15	Yes
4P2	XPF2-782712-99S	1:12 PM	2:13 PM	3:15	

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling, Post Ice Resistance	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	7/28/2021	10/27/2021	D.Cogswell	8/26/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded. For quality conformance, suitable gauges may be used instead of the appropriate counterparts.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
4R1	Record Data Only no Pass/Fail			4.0	3.8	Accept
4P1						
4R2	Record Data Only no Pass/Fail			2.8	3.2	Accept
4P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10580	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	8/26/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
4R1	XPF2-782702-99S	NONE	No Defects	Accept
4P1	XPF2-782712-99P	NONE	No Defects	Accept
4R2	XPF2-782702-99P	NONE	No Defects	Accept
4P2	XPF2-782712-99S	NONE	No Defects	Accept

APPENDIX E
CLT 10615 Group 1 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Examination of Test Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	11/4/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPFH-782701-35P	NONE	No Defects, good	Accept
1P1	XPFH-782711-35S	NONE	No Defects, good	Accept
1R2	XPFH-782701-35P	NONE	No Defects, good	Accept
1P2	XPFH-782711-35S	NONE	No Defects, good	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D. Cogswell	11/4/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
1R1	XPFH-782701-35P	No damage to parts	Accept
1P1	XPFH-782711-35S	No damage to parts	Accept
1R2	XPFH-782701-35P	No damage to parts	Accept
1P2	XPFH-782711-35S	No damage to parts	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/27/2022	D.Cogswell	1/31/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Results only, No Pass/Fail Criteria			1.8	2.2	Accept
1P1						
1R2				2	2.4	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4089	12/9/2021	12/8/2022	D. Cogswell	1/31/2022
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2.0 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated to 1R1	XPFH-782701-35P	0.9	Accept
	XPFH-782711-35S		
1P2 mated to 1R2	XPFH-782701-35P	0.9	Accept
	XPFH-782711-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			C.Boecke	2/1/2022

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles at a rate not to exceed 300 cycles per hour. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results
1R1	XPFH-782701-35P	10	500	2/1/2022	Accept
1P1	XPFH-782711-35S				
1R2	XPFH-782701-35P	10	500	2/1/2022	Accept
1P2	XPFH-782711-35S				

All durability testing was done manually at a rate of approximately 300 Cycles per hour

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/27/2022	D.Cogswell	2/15/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Data Only no Pass/Fail			1.2	3.8	Accept
1P1						
1R2	Record Data Only no Pass/Fail			1.6	4.2	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4089	12/9/2021	12/8/2022	D. Cogswell	2/15/2022
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2.0 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated to 1R1	XPFH-782701-35P	1.1	Accept
	XPFH-782711-35S		
1P2 mated to 1R2	XPFH-782701-35P	1.1	Accept
	XPFH-782711-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Altitude Immersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
IC-5286 Pressure Gauge	8/3/2021	7/3/2022	D. Cogswell	2/24/2022

Altitude Immersion, Mated connectors were tested in accordance with test procedure EIA-364-03. The following details aplied:

a. All wire ends were located within the chamber and exposed to the chamber atmosphere but not submerged or sealed.

b. At the end of the third cycle, while the connectors are still submerged in the solution, the insulation resistance at ambient temperature shall be measured as specified in 4.5.10.1, and the dielectric withstanding voltage test shall be performed as specified in 4.5.11.1. Connectors were potted for this test since the area of concentration is the O-Ring interfacial seal.

Sample ID	AAO Part Number	Time 1st Cycle Start/Finish	Time 2nd Cycle Start/Finish	Time 3rd Cycle Start/Finish	Status*
1R1	XPFH-782701-35P	9:30 AM/ 10:00 AM	10:30 AM/ 11:00AM	11:30 AM/ 12:00 PM	Accept
1P1	XPFH-782711-35S				Accept
1R2	XPFH-782701-35P				Accept
1P2	XPFH-782711-35S				Accept

*See next 2 data sheets for IR DWV results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Insulation Resistance While in Salt Water Solution Post Altitude Immsersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	1/9/2022	4/8/2022	D.Cogswell	2/24/2022

Insulation Resistance post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-21. All cavities were tested. 500 VDC was applied to each contact during test.

Sample ID	AAO Part Number	Minimum IR Requirement	Results	Status
1R1	XPFH-782701-35P	5,000 MΩ	All locations >50 GΩ	Accept
1P1	XPFH-782711-35S	5,000 MΩ		
1R2	XPFH-782701-35P	5,000 MΩ	All locations >50 GΩ	Accept
1P2	XPFH-782711-35S	5,000 MΩ		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Dielectric Withstanding Voltage While in Salt Water Solution Post Altitude Immsersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	1/9/2022	4/8/2022	D. Cogswell	2/24/2022

Dielectric Withstanding Voltage post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-20. All cavities were tested. 2000 VAC RMS was applied to each contact during test.

Sample ID	AAO Part Number	Maximum Leak Requirement	Results	Status
1R1	XPFH-782701-35P	2 mA	All locations <2mA. No flash-over	Accept
1P1	XPFH-782711-35S	2 mA		
1R2	XPFH-782701-35P	2 mA	All locations <2mA. No flash-over	Accept
1P2	XPFH-782711-35S	2 mA		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Electrical Engagement	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Caliper 44-177425-1 F49			D.Cogswell	3/2/2022
Multi-Meter IC-4756	11/23/2021	5/24/2022		

Electrical Engagement per MIL-DTL-38999 paragraphs 3.19 and 4.5.15. Counterpart plugs and receptacles were wired to provide a complete series circuit through all contacts of the mated connector. A suitable power source and indicator were used to determine the easiest point a complete circuit was established. Connector halves were slowly mated by the normal mating means until first indication of a completed circuit was observed. The mating operation was held at this point and the overall connector length was measured from solid reference points on the connector halves. The mating operation was then continued until the connector halves were in the completely mated position. A second overall length measurement was then taken from the same reference points. The difference of these two measurements shall be not less than .034 in.

Sample ID	AAO Part Number	Min Engagement Requirement (in.)	First Reference (in.)	Second Reference (in.)	Overall Engagement (in)	Status
1R1	XPFH-782701-35P	0.034	1.515	1.446	0.069	Accept
1P1	XPFH-782711-35S	0.034				
1R2	XPFH-782701-35P	0.034	1.524	1.446	0.078	Accept
1P2	XPFH-782711-35S	0.034				

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
External Bending Moment	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Zwick PG-3141	8/9/2022	2/7/2023	J. Lee	8/11/2022
Caliper I47	4/19/2022	4/18/2023		

External Bending Moment per MIL-DTL-38999 paragraphs 4.5.16 and 3.20. The receptacle connector was mounted as in normal service to a rigid panel. Before mating the plug connector to the receptacle, an adapter was attached as shown on figure 22. After mating the plug and receptacle connectors, the distance "L" from the point of load application "P" to the mounting panel was determined. The applied load at point "P" was determined as the bending moment specified in table XVII divided by the lever arm "L". This load was applied at a rate of approximately 10 pounds per second until the required load was. The applied loadwas held for 1 minute, then the load was released. Continuity of the contacts were monitored during the test. The test circuit used to monitor the circuitwas capable of detecting a discontinuity in excess of 1 microsecond.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status
1R1	XPFH-782701-35P	50	2.1	35.7	No Discontinuities	Accept
1P1	XPFH-782711-35S					
1R2	XPFH-782701-35P	50	2.1	35.7	No Discontinuities	Accept
1P2	XPFH-782711-35S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	8/11/2022

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPFH-782701-35P	none	No detrimental damage to parts	Accept
1P1	XPFH-782711-35S	none	No detrimental damage to parts	Accept
1R2	XPFH-782701-35P	none	No detrimental damage to parts	Accept
1P2	XPFH-782711-35S	none	No detrimental damage to parts	Accept

APPENDIX F
CLT 10615 Group 2 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Visual Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	11/4/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPFS-782701-35P	NONE	No Observable Defects	Accept
2P1	XPFS-782711-35S	NONE	No Observable Defects	Accept
2R2	XPFS-782701-35P	NONE	No Observable Defects	Accept
2P2	XPFS-782711-35S	NONE	No Observable Defects	Accept
2R3	XPFS-782701-35P	NONE	No Observable Defects	Accept
2P3	XPFS-782711-35S	NONE	No Observable Defects	Accept
2R4	XPFS-782701-98P	NONE	No Observable Defects	Accept
2P4	XPFS-782711-98S	NONE	No Observable Defects	Accept
2R5	XPFS-782701-98P	NONE	No Observable Defects	Accept
2P5	XPFS-782711-98S	NONE	No Observable Defects	Accept
2R6	XPFS-782701-98P	NONE	No Observable Defects	Accept
2P6	XPFS-782711-98S	NONE	No Observable Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D. Cogswell	11/4/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
2R1	XPFS-782701-35P	No Observable Defects	Accept
2P1	XPFS-782711-35S	No Observable Defects	Accept
2R2	XPFS-782701-35P	No Observable Defects	Accept
2P2	XPFS-782711-35S	No Observable Defects	Accept
2R3	XPFS-782701-35P	No Observable Defects	Accept
2P3	XPFS-782711-35S	No Observable Defects	Accept
2R4	XPFS-782701-98P	No Observable Defects	Accept
2P4	XPFS-782711-98S	No Observable Defects	Accept
2R5	XPFS-782701-98P	No Observable Defects	Accept
2P5	XPFS-782711-98S	No Observable Defects	Accept
2R6	XPFS-782701-98P	No Observable Defects	Accept
2P6	XPFS-782711-98S	No Observable Defects	Accept

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	10/27/2021	1/26/2022	D.Cogswell	11/8/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	Record Data Only no Pass/Fail			1.4	2.6	Accept
2P1						
2R2	Record Data Only no Pass/Fail			2.0	2.8	Accept
2P2						
2R3	Record Data Only no Pass/Fail			2.6	3.8	Accept
2P3						
2R4	Record Data Only no Pass/Fail			2.4	3.2	Accept
2P4						
2R5	Record Data Only no Pass/Fail			1.6	1.4	Accept
2P5						
2R6	Record Data Only no Pass/Fail			2.2	2.4	Accept
2P6						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4553	3/19/2021	2/16/2022	D.Cogswell	11/8/2021
Power Supply IC-3991	10/5/2021	3/6/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated to 2R1	XPFS-782701-35P XPFS-782711-35S	1.8	Accept
2P2 mated to 2R2	XPFS-782701-35P XPFS-782711-35S	0.8	Accept
2P3 mated to 2R3	XPFS-782701-35P XPFS-782711-35S	0.5	Accept
2P4 mated to 2R4	XPFS-782701-98P XPFS-782711-98S	1.3	Accept
2P5 mated to 2R5	XPFS-782701-98P XPFS-782711-98S	1.5	Accept
2P6 mated to 2R6	XPFS-782701-98P XPFS-782711-98S	0.6	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	See Below

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles manually. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	AAO Part Number	Shell Size	Total Cycles	Date	Results
2R1	XPFS-782701-35P	8	500	11/12/2021	Accept
2P1	XPFS-782711-35S				
2R2	XPFS-782701-35P	8	500	11/12/2021	Accept
2P2	XPFS-782711-35S				
2R3	XPFS-782701-35P	8	500	1/7/2022	Accept
2P3	XPFS-782711-35S				
2R4	XPFS-782701-98P	8	500	11/13/2021	Accept
2P4	XPFS-782711-98S				
2R5	XPFS-782701-98P	8	500	11/13/2021	Accept
2P5	XPFS-782711-98S				
2R6	XPFS-782701-98P	8	500	11/13/2021	Accept
2P6	XPFS-782711-98S				

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555

Test Equipment	Cal Date	Due Date	Technician	Date
Torquemeter PG-2738	1/26/2022	4/27/2022	D.Cogswell	1/26/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4. For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	Record Data Only no Pass/Fail			1.6	2.2	Accept
2P1						
2R2	Record Data Only no Pass/Fail			1.8	3.4	Accept
2P2						
2R3	Record Data Only no Pass/Fail			2.0	2.2	Accept
2P3						
2R4	Record Data Only no Pass/Fail			1.6	2.2	Accept
2P4						
2R5	Record Data Only no Pass/Fail			1.8	3.4	Accept
2P5						
2R6	Record Data Only no Pass/Fail			2.8	4.6	Accept
2P6						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4008	7/22/2021	6/21/2022	D.Cogswell	See below
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date
2P1 mated to 2R1	XPFS-782701-35P XPFS-782711-35S	1.8	Accept	2/15/2022
2P2 mated to 2R2	XPFS-782701-35P XPFS-782711-35S	0.7	Accept	2/15/2022
2P3 mated to 2R3	XPFS-782701-35P XPFS-782711-35S	1.3	Accept	2/15/2022
2P4 mated to 2R4	XPFS-782701-98P XPFS-782711-98S	2.0	Accept	2/15/2022
2P5 mated to 2R5	XPFS-782701-98P XPFS-782711-98S	1.3	Accept	1/26/2022
2P6 mated to 2R6	XPFS-782701-98P XPFS-782711-98S	1.8	Accept	1/26/2022

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Accessory Thread Strength	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Spring Scale PG-2234	12/7/2021	2/4/2022	D. Cogswell	See Below
IC-5025 Timer	12/7/2021	6/7/2022		
Spring Scale PG-2234	2/4/2022	4/5/2022		

Accessory Thread Strength per MIL-DTL-38999 paragraphs 3.26 and 4.5.32. Mated connectors were mounted as in normal service to a rigid panel. The specified torque per table IX of MIL-DTL-38999 was applied to the accessory of the plug and held for one minute and released. The specified torque was then applied to the accessory of the receptacle for one minute and released. The connectors were unmated and visual inspected at 3X magnification for damage or breakage.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Date	Status
2R1	XPFS-782701-35P	50	8.5	5.8	No damage	2/15/2022	Accept
2P1	XPFS-782711-35S						
2R2	XPFS-782701-35P	50	8.5	5.8	No damage	2/15/2022	Accept
2P2	XPFS-782711-35S						
2R3	XPFS-782701-35P	50	8.5	5.8	No damage	2/15/2022	Accept
2P3	XPFS-782711-35S						
2R4	XPFS-782701-98P	50	8.5	5.8	No damage	2/15/2022	Accept
2P4	XPFS-782711-98S						
2R5	XPFS-782701-98P	50	8.5	5.8	No damage	1/26/2022	Accept
2P5	XPFS-782711-98S						
2R6	XPFS-782701-98P	50	8.5	5.8	No damage	1/26/2022	Accept
2P6	XPFS-782711-98S						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Vibration	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
See Vibe/Shock Report			A. Hosier	1/31/2022

Vibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles.
Samples are to be prepped in accordance with L-40990-141.

Sample ID	AAO Part Number	Profile	Date Complete	Discontinuities	Coupling nut Movement	Status
2P5 mated to 2R5	XPFS-782701-98P	4.5.23.2.4	1/31/2022	None	No Movement	Accept
	XPFS-782711-98S					
2P6 mated to 2R6	XPFS-782701-98P	4.5.23.2.4	1/31/2022	None	No Movement	Accept
	XPFS-782711-98S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling After Vibe	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/27/2022	D. Cogswell	2/1/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Date Tested	Status
		Min. (in*lbf)	Max. (in*lbf)				
2R5	Record Data Only no Pass/Fail			4.4	4.2	2/1/2022	Accept
2P5							
2R6	Record Data Only no Pass/Fail			6.0	6.6	2/1/2022	Accept
2P6							

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity After Vibe	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4008	7/22/2021	6/21/2022	D. Cogswell	See Below
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date
2P5 mated to 2R5	XPFS-782701-98P XPFS-782711-98S	1.3	Accept	2/1/2022
2P6 mated to 2R6	XPFS-782701-98P XPFS-782711-98S	1.8	Accept	2/1/2022

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10615	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	2/1/2022

Post Test Exam of Parts: Samples were inspected for damage detrimental to the operation of the connectors at the end of testing.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R5	XPFS-782701-98P	NONE	No Observable Damage	Accept
2P5	XPFS-782711-98S	NONE	No Observable Damage	Accept
2R6	XPFS-782701-98P	NONE	No Observable Damage	Accept
2P6	XPFS-782711-98S	NONE	No Observable Damage	Accept

APPENDIX G
CLT 10617 Group 2 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
	Temp. Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
10X Magnification Microscope			D.Cogswell	10/27/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPFH-782702-35P	NONE	No Defects	Accept
2P1	XPFH-782712-35S	NONE	No Defects	Accept
2R2	XPFH-782702-35P	NONE	No Defects	Accept
2P2	XPFH-782712-35S	NONE	No Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D.Cogswell	10/27/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. 1/2 hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
2R1	XPFH-782702-35P	No observable defects	Accept
2P1	XPFH-782712-35S	No observable defects	Accept
2R2	XPFH-782702-35P	No observable defects	Accept
2P2	XPFH-782712-35S	No observable defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	10/27/2021	1/26/2022	D.Cogswell	10/27/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	No Pass/Fail Criteria. Record data only.			1.8	2.0	Accept
2P1						
2R2	No Pass/Fail Criteria. Record data only.			2.2	2.4	Accept
2P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4858	6/22/2021	12/21/2021	D.Cogswell	10/27/2021
Power Supply IC-3991	10/5/2021	3/6/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated to 2R1	XPFH-782702-35P	0.92	Accept
	XPFH-782712-35S		
2P2 mated to 2R2	XPFH-782702-35P	0.95	Accept
	XPFH-782712-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	10/28/2021

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles manually. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results
2R1	XPFH-782702-35P	10	500	10/28/2021	Accept
2P1	XPFH-782712-35S				
2R2	XPFH-782702-35P	10	500	10/28/2021	Accept
2P2	XPFH-782712-35S				

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Vibration	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
See Vibe/Shock Report #			Andrew Hosier	1/28/2022

Vibration per MIL-DTL-38999 3.27 and 4.5.23.3.
Samples are to be prepped in accordance with L-40990-141.

Sample ID	AAO Part Number	Profile	Date Complete	Status
2P1 mated to 2R1	XPF2-782702-35P	4.5.23.2.3	1/28/2022	Accept
	XPF2-782712-35S			
2P2 mated to 2R2	XPF2-782702-35P	4.5.23.2.3	1/28/2022	Accept
	XPF2-782712-35S			

There were no discontinuities observed on test samples.
There was no damage to connectors resulting from test.
There was no coupling nut movement.

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity After Vibe	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-3994	7/22/2021	6/21/2022	D.Cogswell	2/2/2022
Power Supply IC-3991	10/5/2021	3/6/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated to 2R1	XPFH-782702-35P	1.98	Accept
	XPFH-782712-35S		
2P2 mated to 2R2	XPFH-782702-35P	1.62	Accept
	XPFH-782712-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling After Vibe	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/27/2022	D.Cogswell	2/2/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	No Pass/Fail Criteria. Record data only.			2.8	3.2	Accept
2P1						
2R2	No Pass/Fail Criteria. Record data only.			1.4	3.6	Accept
2P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10617	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
10X Magnification Microscope			D. Cogswell	2/2/2022

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPFH-782702-35P	NONE	No Performance hindering damage from testing.	Accept
2P1	XPFH-782712-35S	NONE		
2R2	XPFH-782702-35P	NONE	No Performance hindering damage from testing.	Accept
2P2	XPFH-782712-35S	NONE		

APPENDIX H
CLT 10630 Group 1 Test Results

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Preliminary Examination of Test Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555

Test Equipment	Cal Date	Due Date	Technician	Date
			D. Cogswell	12/22/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPFH-782703-35P	NONE	No Defects, good	Accept
1P1	XPFH-782713-35S	NONE	No Defects, good	Accept
1R2	XPFH-782703-35P	NONE	No Defects, good	Accept
1P2	XPFH-782713-35S	NONE	No Defects, good	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D. Cogswell	12/22/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
1R1	XPFH-782703-35P	No damage to parts	Accept
1P1	XPFH-782713-35S	No damage to parts	Accept
1R2	XPFH-782703-35P	No damage to parts	Accept
1P2	XPFH-782713-35S	No damage to parts	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	10/25/2021	1/26/2022	D.Cogswell	12/23/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Results only, No Pass/Fail Criteria			4.2	4.0	Accept
1P1						
1R2				3.6	4.4	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4049	12/9/2021	12/9/2022	D. Cogswell	12/23/2021
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2. millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated to 1R1	XPFH-782703-35P	0.6	Accept
	XPFH-782713-35S		
1P2 mated to 1R2	XPFH-782703-35P	0.6	Accept
	XPFH-782713-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			C.Boecke	2/7/2022

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles at a rate not to exceed 300 cycles per hour. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	MIL Part Number	Shell Size	Total Cycles	Results
1R1	XPFH-782703-35P	12	500	Accept
1P1	XPFH-782713-35S			
1R2	XPFH-782703-35P	12	500	Accept
1P2	XPFH-782713-35S			

All durability testing was done manually at a rate of approximately 300 Cycles per hour

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/27/2022	D.Cogswell	2/15/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4. For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Results only, No Pass/Fail Criteria			4.4	8.8	Accept
1P1						
1R2				3.8	7.2	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4049	12/9/2021	12/9/2022	D. Cogswell	2/15/2022
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2. millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated to 1R1	XPFH-782703-35P	0.6	Accept
	XPFH-782713-35S		
1P2 mated to 1R2	XPFH-782703-35P	0.6	Accept
	XPFH-782713-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Altitude Immersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
IC-5286 Pressure Gauge	8/3/2021	7/3/2022	D. Cogswell	2/24/2022
F-0993 Clock				

Altitude Immersion, Mated connectors were tested in accordance with test procedure EIA-364-03. The following details applied:

a. All wire ends were located within the chamber and exposed to the chamber atmosphere but not submerged or sealed.

b. At the end of the third cycle, while the connectors are still submerged in the solution, the insulation resistance at ambient temperature shall be measured as specified in 4.5.10.1, and the dielectric withstanding voltage test shall be performed as specified in 4.5.11.1. Connectors were potted for this test since the area of concentration is the O-Ring interfacial seal.

Sample ID	AAO Part Number	Time 1st Cycle Start/Finish	Time 2nd Cycle Start/Finish	Time 3rd Cycle Start/Finish	Status*
1R1	XPFH-782703-35P	9:30 AM/ 10:00 AM	10:30 AM/ 11:00AM	11:30 AM/ 12:00 PM	Accept
1P1	XPFH-782713-35S				Accept
1R2	XPFH-782703-35P				Accept
1P2	XPFH-782713-35S				Accept

*See next 2 data sheets for IR DWV results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Insulation Resistance While in Salt Water Solution Post Altitude Immsersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	1/9/2022	4/8/2022	D.Cogswell	2/24/2022

Insulation Resistance post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-21. All cavities were tested. 500 VDC was applied to each contact during test.

Sample ID	AAO Part Number	Minimum IR Requirement	Results	Status
1R1	XPFH-782703-35P	5,000 MΩ	All locations >50 GΩ	Accept
1P1	XPFH-782713-35S	5,000 MΩ		
1R2	XPFH-782703-35P	5,000 MΩ	All locations >50 GΩ	Accept
1P2	XPFH-782713-35S	5,000 MΩ		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Dielectric Withstanding Voltage While in Salt Water Solution Post Altitude Immsersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	1/9/2022	4/8/2022	D. Cogswell	2/24/2022

Dielectric Withstanding Voltage post Altitude Immersion: Mated Connectors were tested in accordance with test procedure
EIA-364-20. All cavities were tested. 2000 VAC RMS was applied to each contact during test.

Sample ID	AAO Part Number	Maximum Leak Requirement	Results	Status
1R1	XPFH-782703-35P	2 mA	All locations <2mA. No flash-over	Accept
1P1	XPFH-782713-35S	2 mA		
1R2	XPFH-782703-35P	2 mA	All locations <2mA. No flash-over	Accept
1P2	XPFH-782713-35S	2 mA		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Electrical Engagement	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Caliper 44-177425-1 F49			D.Cogswell	3/2/2022
Multi-Meter IC-4756	11/23/2021	5/24/2022		

Electrical Engagement per MIL-DTL-38999 paragraphs 3.19 and 4.5.15. Counterpart plugs and receptacles were wired to provide a complete series circuit through all contacts of the mated connector. A suitable power source and indicator were used to determine the easliest point a complete circuit was estabilished. Connector halves were slowly mated by the normal mating means until first indication of a completed circuit was observed. The mating operation was held at this point and the overall connector length was measured from solid reference points on the connector halves. The mating operation was then continued until the connector halves were in the completely mated position. A second overall length measurement was then taken from the same reference points. The difference of these two measurements shall be not less than .034 in.

Sample ID	AAO Part Number	Min Engagement Requirement (in.)	First Reference (in.)	Second Reference (in.)	Overall Engagement (in)	Status
1R1	XPFH-782703-35P	0.034	1.534	1.437	0.097	Accept
1P1	XPFH-782713-35S	0.034				
1R2	XPFH-782703-35P	0.034	1.532	1.438	0.094	Accept
1P2	XPFH-782713-35S	0.034				

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
External Bending Moment	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Zwick PG-3141	8/9/2022	2/7/2023	J. Lee	8/11/2022
Caliper I47	4/19/2022	4/18/2023		

External Bending Moment per MIL-DTL-38999 paragraphs 4.5.16 and 3.20. The receptacle connector was mounted as in normal service to a rigid panel. Before mating the plug connector to the receptacle, an adapter was attached as shown on figure 22. After mating the plug and receptacle connectors, the distance "L" from the point of load application "P" to the mounting panel was determined. The applied load at point "P" was determined as the bending moment specified in table XVII divided by the lever arm "L". This load was applied at a rate of approximately 10 pounds per second until the required load was. The applied loadwas held for 1 minute, then the load was released. Continuity of the contacts were monitored during the test. The test circuit used to monitor the circuitwas capable of detecting a discontinuity in excess of 1 microsecond.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status
1R1	XPFH-782703-35P	75	2.1	35.9	No Discontinuities	Accept
1P1	XPFH-782713-35S					
1R2	XPFH-782703-35P	75	2.1	35.9	No Discontinuities	Accept
1P2	XPFH-782713-35S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination of Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	8/12/2022

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPFH-782703-35P	none	No Performance Inhibiting Defects	Accept
1P1	XPFH-782713-35S	none	No Performance Inhibiting Defects	Accept
1R2	XPFH-782703-35P	none	No Performance Inhibiting Defects	Accept
1P2	XPFH-782713-35S	none	No Performance Inhibiting Defects	Accept

APPENDIX I
CLT 10630 Group 2 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Preliminary Examination of Test Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	12/21/2021

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPFH-782703-35P	NONE	No Observable Defects	Accept
2P1	XPFH-782713-35S	NONE	No Observable Defects	Accept
2R2	XPFH-782703-35P	NONE	No Observable Defects	Accept
2P2	XPFH-782713-35S	NONE	No Observable Defects	Accept
2R3	XPFH-782703-35P	NONE	No Observable Defects	Accept
2P3	XPFH-782713-35S	NONE	No Observable Defects	Accept
2R4	XPFH-782703-35P	NONE	No Observable Defects	Accept
2P4	XPFH-782713-35S	NONE	No Observable Defects	Accept
2R5	XPFH-782703-35P	NONE	No Observable Defects	Accept
2P5	XPFH-782713-35S	NONE	No Observable Defects	Accept
2R6	XPFS-782703-35P	NONE	No Observable Defects	Accept
2P6	XPFH-782713-35S	NONE	No Observable Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D. Cogswell	12/22/2021

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
2R1	XPFH-782703-35P	No Observable Defects	Accept
2P1	XPFH-782713-35S	No Observable Defects	Accept
2R2	XPFH-782703-35P	No Observable Defects	Accept
2P2	XPFH-782713-35S	No Observable Defects	Accept
2R3	XPFH-782703-35P	No Observable Defects	Accept
2P3	XPFH-782713-35S	No Observable Defects	Accept
2R4	XPFH-782703-35P	No Observable Defects	Accept
2P4	XPFH-782713-35S	No Observable Defects	Accept
2R5	XPFH-782703-35P	No Observable Defects	Accept
2P5	XPFH-782713-35S	No Observable Defects	Accept
2R6	XPFH-782703-35P	No Observable Defects	Accept
2P6	XPFH-782713-35S	No Observable Defects	Accept

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555

Test Equipment	Cal Date	Due Date	Technician	Date
Torquemeter PG-2738	10/25/2021	1/26/2022	D.Cogswell	12/23/2021

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4. For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
2R1	Record Data Only no Pass/Fail			3.24	2.5	Accept
2P1						
2R2	Record Data Only no Pass/Fail			3.25	3.27	Accept
2P2						
2R3	Record Data Only no Pass/Fail			2.88	3.42	Accept
2P3						
2R4	Record Data Only no Pass/Fail			3.03	2.82	Accept
2P4						
2R5	Record Data Only no Pass/Fail			3.33	3.35	Accept
2P5						
2R6	Record Data Only no Pass/Fail			3.25	3.07	Accept
2P6						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4553	3/19/2021	2/16/2022	D.Cogswell	12/23/2021
Power Supply IC-3991	10/5/2021	3/6/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated to 2R1	XPFH-782703-35P XPFH-782713-35S	0.58	Accept
2P2 mated to 2R2	XPFH-782703-35P XPFH-782713-35S	0.59	Accept
2P3 mated to 2R3	XPFH-782703-35P XPFH-782713-35S	0.74	Accept
2P4 mated to 2R4	XPFH-782703-35P XPFH-782713-35S	0.76	Accept
2P5 mated to 2R5	XPFH-782703-35P XPFH-782713-35S	0.73	Accept
2P6 mated to 2R6	XPFH-782703-35P XPFH-782713-35S	0.76	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
IC-5025 Timer	12/7/2021	6/7/2022	Matt Simonds, Chris Boecke	See Below

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles manually. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	AAO Part Number	Shell Size	Total Cycles	Date	Results
2R1	XPFH-782703-35P	12	500	1/19/2022	Accept
2P1	XPFH-782713-35S				
2R2	XPFH-782703-35P	12	500	1/20/2022	Accept
2P2	XPFH-782713-35S				
2R3	XPFH-782703-35P	12	500	1/23/2022	Accept
2P3	XPFH-782713-35S				
2R4	XPFH-782703-35P	12	500	1/23/2022	Accept
2P4	XPFH-782713-35S				
2R5	XPFH-782703-35P	12	500	1/23/2022	Accept
2P5	XPFH-782713-35S				
2R6	XPFH-782703-35P	12	500	1/23/2022	Accept
2P6	XPFH-782713-35S				

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Accessory Thread Strength	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10630	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Spring Scale PG-2234	12/7/2021	2/4/2022	Chris Boecke	1/23/2022
IC-5025 Timer	12/7/2021	6/7/2022		

Accessory Thread Strength per MIL-DTL-38999 paragraphs 3.26 and 4.5.32. Mated connectors were mounted as in normal service to a rigid panel. The specified torque per table IX of MIL-DTL-38999 was applied to the accessory of the plug and held for one minute and released. The specified torque was then applied to the accessory of the receptacle for one minute and released. The connectors were unmated and visual inspected at 3X magnification for damage or breakage.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status
2R1	XPFH-782703-35P	50	6.0	8.3	N/A	Accept
2P1	XPFH-782713-35S					
2R2	XPFH-782703-35P	50	6.0	8.3	N/A	Accept
2P2	XPFH-782713-35S					
2R3	XPFH-782703-35P	50	6.0	8.3	N/A	Accept
2P3	XPFH-782713-35S					
2R4	XPFH-782703-35P	50	6.0	8.3	N/A	Accept
2P4	XPFH-782713-35S					
2R5	XPFH-782703-35P	50	6.0	8.3	N/A	Accept
2P5	XPFH-782713-35S					
2R6	XPFH-782703-35P	50	6.0	8.3	N/A	Accept
2P6	XPFH-782713-35S					

APPENDIX J
CLT 10654 Group 1 Test Results

Prepared: D. Cogswell	**Approved:**	**Witnessed:**
Date: 08/12/2022	**Date:**	**Date:**
Use of this data is unlimited		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Visual Examination of Test Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	2/18/2022

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPFH-782704-35P	NONE	No Defects, good	Accept
1P1	XPFH-782714-35S	NONE	No Defects, good	Accept
1R2	XPFH-782704-35P	NONE	No Defects, good	Accept
1P2	XPFH-782714-35S	NONE	No Defects, good	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648	7/20/2021	6/19/2022	D. Cogswell	2/18/2022

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
1R1	XPFH-782704-35P	No damage to parts	Accept
1P1	XPFH-782714-35S	No damage to parts	Accept
1R2	XPFH-782704-35P	No damage to parts	Accept
1P2	XPFH-782714-35S	No damage to parts	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/26/2022	D.Cogswell	2/21/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Results only, No Pass/Fail Criteria			5.2	7.4	Accept
1P1						
1R2				4.0	4.8	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4098	12/9/2021	12/9/2022	D.Cogswell	2/21/2022
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2. millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date Tested
1P1 mated to 1R1	XPFH-782704-35P XPFH-782714-35S	0.91	Accept	2/16/2022
1P2 mated to 1R2	XPFH-782704-35P XPFH-782714-35S	0.76	Accept	2/16/2022

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D.Cogswell	2/21/2022

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectorswere mated and unmated 500 cycles at a rate not to exceed 300 cycles per hour. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results
1R1	XPFH-782704-35P	14	500	2/21/2022	Accept
1P1	XPFH-782714-35S				
1R2	XPFH-782704-35P	14	500	2/21/2022	Accept
1P2	XPFH-782714-35S				

All durability testing was done manually at a rate of approximately 300 Cycles per hour.

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torque Meter PG-2738	1/26/2022	4/26/2022	D.Cogswell	2/22/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
		Min. (in*lbf)	Max. (in*lbf)			
1R1	Record Data Only no Pass/Fail			11.0	13.4	Accept
1P1						
1R2	Record Data Only no Pass/Fail			9.0	11.2	Accept
1P2						

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4089	12/9/2021	12/9/2022	D.Cogswell	2/22/2022
Power Supply IC-3991	10/5/2021	3/6/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2. millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated to 1R1	XPFH-782704-35P	0.89	Accept
	XPFH-782714-35S		
1P2 mated to 1R2	XPFH-782704-35P	0.85	Accept
	XPFH-782714-35S		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Altitude Immersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
IC-5286 Pressure Gauge	8/3/2021	7/3/2022	D. Cogswell	2/24/2022
F-0993 Clock				

Altitude Immersion, Mated connectors were tested in accordance with test procedure EIA-364-03. The following details applied:

a. All wire ends were located within the chamber and exposed to the chamber atmosphere but not submerged or sealed.

b. At the end of the third cycle, while the connectors are still submerged in the solution, the insulation resistance at ambient temperature shall be measured as specified in 4.5.10.1, and the dielectric withstanding voltage test shall be performed as specified in 4.5.11.1. Connectors were potted for this test since the area of concentration is the O-Ring interfacial seal.

Sample ID	AAO Part Number	Time 1st Cycle Start/Finish	Time 2nd Cycle Start/Finish	Time 3rd Cycle Start/Finish	Status*
1R1	XPFH-782704-35P	9:30 AM/ 10:00 AM	10:30 AM/ 11:00AM	11:30 AM/ 12:00 PM	Accept
1P1	XPFH-782714-35S				Accept
1R2	XPFH-782704-35P				Accept
1P2	XPFH-782714-35S				Accept

*See next 2 data sheets for IR DWV results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Insulation Resistance While in Salt Water Solution Post Altitude Immsersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	1/9/2022	4/8/2022	D.Cogswell	2/24/2022

Insulation Resistance post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-21. All cavities were tested. 500 VDC was applied to each contact during test.

Sample ID	AAO Part Number	Minimum IR Requirement	Results	Status
1R1	XPFH-782704-35P	5,000 MΩ	All locations >50 GΩ	Accept
1P1	XPFH-782714-35S	5,000 MΩ		
1R2	XPFH-782704-35P	5,000 MΩ	All locations >50 GΩ	Accept
1P2	XPFH-782714-35S	5,000 MΩ		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Dielectric Withstanding Voltage While in Salt Water Solution Post Altitude Immsersion	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
F-2672 159 Circuit Connector Tester	1/9/2022	4/8/2022	D. Cogswell	2/24/2022

Dielectric Withstanding Voltage post Altitude Immersion: Mated Connectors were tested in accordance with test procedure EIA-364-20. All cavities were tested. 2000 VAC RMS was applied to each contact during test.

Sample ID	AAO Part Number	Maximum Leak Requirement	Results	Status
1R1	XPFH-782704-35P	2 mA	All locations <2mA. No flash-over	Accept
1P1	XPFH-782714-35S	2 mA		
1R2	XPFH-782704-35P	2 mA	All locations <2mA. No flash-over	Accept
1P2	XPFH-782714-35S	2 mA		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Electrical Engagement	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Caliper 44-177425-1 F49			D.Cogswell	3/2/2022
Multi-Meter IC-4756	11/23/2021	5/24/2022		

Electrical Engagement per MIL-DTL-38999 paragraphs 3.19 and 4.5.15. Counterpart plugs and receptacles were wired to provide a complete series circuit through all contacts of the mated connector. A suitable power source and indicator were used to determine the earliest point a complete circuit was established. Connector halves were slowly mated by the normal mating means until first indication of a completed circuit was observed. The mating operation was held at this point and the overall connector length was measured from solid reference points on the connector halves. The mating operation was then continued until the connector halves were in the completely mated position. A second overall length measurement was then taken from the same reference points. The difference of these two measurements shall be not less than .034 in.

Sample ID	AAO Part Number	Min Engagement Requirement (in.)	First Reference (in.)	Second Reference (in.)	Overall Engagement (in)	Status
1R1	XPFH-782704-35P	0.034	1.523	1.442	0.081	Accept
1P1	XPFH-782714-35S	0.034				
1R2	XPFH-782704-35P	0.034	1.521	1.440	0.081	Accept
1P2	XPFH-782714-35S	0.034				

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
External Bending Moment	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Zwick PG-3141	8/9/2022	3/7/2023	J. Lee	8/11/2022
Caliper F47	4/19/2022	4/18/2023		

External Bending Moment per MIL-DTL-38999 paragraphs 4.5.16 and 3.20. The receptacle connector was mounted as in normal service to a rigid panel. Before mating the plug connector to the receptacle, an adapter was attached as shown on figure 22. After mating the plug and receptacle connectors, the distance "L" from the point of load application "P" to the mounting panel was determined. The applied load at point "P" was determined as the bending moment specified in table XVII divided by the lever arm "L". This load was applied at a rate of approximately 10 pounds per second until the required load was. The applied loadwas held for 1 minute, then the load was released. Continuity of the contacts were monitored during the test. The test circuit used to monitor the circuitwas capable of detecting a discontinuity in excess of 1 microsecond.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status
1R1	XPFH-782704-35P	100	2.09	23.8	No Discontinuities	Accept
1P1	XPFH-782714-35S					
1R2	XPFH-782704-35P	100	2.08	23.9	No Discontinuities	Accept
1P2	XPFH-782714-35S					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Post Test Examination of Test Samples	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			D. Cogswell	8/12/2022

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
1R1	XPFH-782704-35P	none	No performance inhibiting damage	Accept
1P1	XPFH-782714-35S	none	No performance inhibiting damage	Accept
1R2	XPFH-782704-35P	none	No performance inhibiting damage	Accept
1P2	XPFH-782714-35S	none	No performance inhibiting damage	Accept

APPENDIX K
CLT 10654 Group 2 Test Results

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Visual Examination	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
			Matt Simonds	1/24/2022

Parts were examined to ensure that they were functioning and free of workmanship or mechanical defects.

Sample ID	AAO Part Number	Lot Number	Observations	Status
2R1	XPFH-782704-35P	NONE	No Observable Defects	Accept
2P1	XPFH-782714-35S	NONE	No Observable Defects	Accept
2R2	XPFH-782704-35P	NONE	No Observable Defects	Accept
2P2	XPFH-782714-35S	NONE	No Observable Defects	Accept
2R3	XPFH-782704-35P	NONE	No Observable Defects	Accept
2P3	XPFH-782714-35S	NONE	No Observable Defects	Accept
2R4	XPFH-782704-35P	NONE	No Observable Defects	Accept
2P4	XPFH-782714-35S	NONE	No Observable Defects	Accept
2R5	XPFH-782704-35P	NONE	No Observable Defects	Accept
2P5	XPFH-782714-35S	NONE	No Observable Defects	Accept
2R6	XPFH-782704-35P	NONE	No Observable Defects	Accept
2P6	XPFH-782714-35S	NONE	No Observable Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Blue M Thermal Shock Chamber IC-4648			Matt Simonds	1/24/2022

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 test condition I, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 was -65ºC +0ºC, -5ºC and the temperature off step 3 was +200ºC +5ºC, -0ºC. Connectors were tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 0.6 lbs) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
2R1	XPFH-782704-35P	No Observable Defects	Accept
2P1	XPFH-782714-35S	No Observable Defects	Accept
2R2	XPFH-782704-35P	No Observable Defects	Accept
2P2	XPFH-782714-35S	No Observable Defects	Accept
2R3	XPFH-782704-35P	No Observable Defects	Accept
2P3	XPFH-782714-35S	No Observable Defects	Accept
2R4	XPFH-782704-35P	No Observable Defects	Accept
2P4	XPFH-782714-35S	No Observable Defects	Accept
2R5	XPFH-782704-35P	No Observable Defects	Accept
2P5	XPFH-782714-35S	No Observable Defects	Accept
2R6	XPFH-782704-35P	No Observable Defects	Accept
2P6	XPFH-782714-35S	No Observable Defects	Accept

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-2738	1/26/2022	4/27/2022	D. Cogswell	See Below

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	Date
		Min. (in*lbf)	Max. (in*lbf)				
2R1	Record Data Only no Pass/Fail			4.1	3.5	Accept	1/26/2022
2P1							
2R2	Record Data Only no Pass/Fail			4.0	4.5	Accept	1/26/2022
2P2							
2R3	Record Data Only no Pass/Fail			4.8	6.6	Accept	2/16/2022
2P3							
2R4	Record Data Only no Pass/Fail			4.6	4.8	Accept	2/16/2022
2P4							
2R5	Record Data Only no Pass/Fail			3.6	6.8	Accept	2/16/2022
2P5							
2R6	Record Data Only no Pass/Fail			3.8	6	Accept	2/16/2022
2P6							

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4098	12/9/2021	12/9/2022	D.Cogswell	See Below
Power Supply IC-3991	12/7/2021	6/7/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date
2P1 mated to 2R1	XPFH-782704-35P XPFH-782714-35S	1.56	Accept	1/26/2022
2P2 mated to 2R2	XPFH-782704-35P XPFH-782714-35S	1.86	Accept	1/26/2022
2P3 mated to 2R3	XPFH-782704-35P XPFH-782714-35S	1.98	Accept	2/16/2022
2P4 mated to 2R4	XPFH-782704-35P XPFH-782714-35S	1.44	Accept	2/16/2022
2P5 mated to 2R5	XPFH-782704-35P XPFH-782714-35S	1.65	Accept	2/16/2022
2P6 mated to 2R6	XPFH-782704-35P XPFH-782714-35S	1.56	Accept	2/16/2022

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Timer IC-5025	12/7/2021	6/7/2022	Chris Boecke	See Below

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectors were mated and unmated 500 cycles manually. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, and connectors shall meet subsequent test requirements.

Sample ID	AAO Part Number	Shell Size	Total Cycles	Date	Results
2R1	XPFH-782704-35P	14	500	1/26/2022	Accept
2P1	XPFH-782714-35S				
2R2	XPFH-782704-35P	14	500	1/26/2022	Accept
2P2	XPFH-782714-35S				
2R3	XPFH-782704-35P	14	500	2/16/2022	Accept
2P3	XPFH-782714-35S				
2R4	XPFH-782704-35P	14	500	2/21/2022	Accept
2P4	XPFH-782714-35S				
2R5	XPFH-782704-35P	14	500	2/18/2022	Accept
2P5	XPFH-782714-35S				
2R6	XPFH-782704-35P	14	500	2/16/2022	Accept
2P6	XPFH-782714-35S				

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace Operations		Sidney, N.Y. 13838
Coupling & Uncoupling	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torquemeter PG-3452	12/16/2021	3/17/2022	D.Cogswell	See Below

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and recorded.

Sample ID	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	Date
		Min. (in*lbf)	Max. (in*lbf)				
2R1	Record Data Only no Pass/Fail			11.7	14.6	Accept	1/26/2022
2P1							
2R2	Record Data Only no Pass/Fail			13.2	13.6	Accept	1/26/2022
2P2							
2R3	Record Data Only no Pass/Fail			12.6	11.2	Accept	2/22/2022
2P3							
2R4	Record Data Only no Pass/Fail			11.0	19.0	Accept	2/22/2022
2P4							
2R5	Record Data Only no Pass/Fail			10.4	12.6	Accept	2/22/2022
2P5							
2R6	Record Data Only no Pass/Fail			14.6	17.6	Accept	2/22/2022
2P6							

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell-to-Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Multi-Meter IC-4553	3/19/2021	2/16/2022	D.Cogswell	2/22/2022
Power Supply IC-3991	10/5/2021	3/6/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. When tested as specified in 4.5.25, the probes did not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:
2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date Tested
2P1 mated to 2R1	XPFH-782704-35P XPFH-782714-35S	0.84	Accept	1/26/2022
2P2 mated to 2R2	XPFH-782704-35P XPFH-782714-35S	0.56	Accept	1/26/2022
2P3 mated to 2R3	XPFH-782704-35P XPFH-782714-35S	0.66	Accept	2/22/2022
2P4 mated to 2R4	XPFH-782704-35P XPFH-782714-35S	0.70	Accept	2/22/2022
2P5 mated to 2R5	XPFH-782704-35P XPFH-782714-35S	0.38	Accept	2/22/2022
2P6 mated to 2R6	XPFH-782704-35P XPFH-782714-35S	0.48	Accept	2/22/2022

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Accessory Thread Strength	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10654	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Spring Scale PG-2234	2/4/2022	4/5/2022	Chris Boecke D.Cogswell	See Below
IC-5025 Timer	12/7/2021	6/7/2022		

Accessory Thread Strength per MIL-DTL-38999 paragraphs 3.26 and 4.5.32. Mated connectors were mounted as in normal service to a rigid panel. The specified torque per table IX of MIL-DTL-38999 was applied to the accessory of the plug and held for one minute and released. The specified torque was then applied to the accessory of the receptacle for one minute and released. The connectors were unmated and visual inspected at 3X magnification for damage or breakage.

Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Status	Date
2R1	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	1/26/2022
2P1	XPFH-782714-35S						
2R2	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	1/26/2022
2P2	XPFH-782714-35S						
2R3	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	2/22/2022
2P3	XPFH-782714-35S						
2R4	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	2/22/2022
2P4	XPFH-782714-35S						
2R5	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	2/22/2022
2P5	XPFH-782714-35S						
2R6	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	2/22/2022
2P6	XPFH-782714-35S						

APPENDIX L
CLT 10696 Test Results

Amphenol Corporation	Aerospace Operations	Sidney, N.Y. 13838

Visual and Mechanical Examination	Temp. Ambient	R.H. Ambient	CLT 10696	Report ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
10X Magnification Microscope			D. Cogswell	4/27/2022

Visual and Mechanical Examination per MIL-DTL-38999 paragraphs 3.1, 3.3, 3.4, 3.55, 3.52, 3.53, and 4.5.1. The connectors, accessories, and piece parts shall be visually and mechanically examined to ensure product is in accordance with the specification and the applicable military standards.

Sample ID	Amphenol Part Number	Description	Observations	Status
P1	XPFH-782713-35S	Plug 12	No Defects	Accept
R1	XPFH-782703-35P	Receptacle 12	No Defects	Accept
P2	XPFH-782713-35S	Plug 12	No Defects	Accept
R2	XPFH-782703-35P	Receptacle 12	No Defects	Accept
P3	XPFH-782714-35S	Plug 14	No Defects	Accept
R3	XPFH-782704-35P	Receptacle 14	No Defects	Accept
P4	XPFH-782714-35S	Plug 14	No Defects	Accept
R4	XPFH-782704-35P	Receptacle 14	No Defects	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Temperature Cycle	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Environmental Chamber IC-5918	3/9/2022	9/7/2022	D. Barbeisch	4/27/2022 4/28/2022

Temperature Cycling per MIL-DTL-38999 paragraphs 3.8 and 4.5.4, and EIA-364-32 Test Method A, Test Duration A, 5 cycles, except that steps 2 and 4 shall be 2 minutes maximum. The temperature of step 1 to be -65ºC +0ºC, -5ºC and the temperature off step 3 to be +200ºC +5ºC, -0ºC for classes F and K. Connectors to be tested in the fully mated condition. One (1) hour dwells at temperature extremes were used (weight of sample approximately 4.22 lbs.) After conditioning, connectors to be visually examined for damage detrimental to operation.

Sample ID	AAO Part Number	Observations	Status
P1 mated to R1	XPFH-782713-35S	Nothing to note	Compliant
	XPFH-782703-35P	Nothing to note	Compliant
P2 mated to R2	XPFH-782713-35S	Nothing to note	Compliant
	XPFH-782703-35P	Nothing to note	Compliant
P3 mated to R3	XPFH-782714-35S	Nothing to note	Compliant
	XPFH-782704-35P	Nothing to note	Compliant
P4 mated to R4	XPFH-782714-35S	Nothing to note	Compliant
	XPFH-782704-35P	Nothing to note	Compliant

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling and Uncoupling Torque	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torque Meter PG-3452	3/17/2022	6/16/2022	D. Barbeisch	4/28/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.5.7. The maximum torque required to fully mate and unmate connectors was recorded.

Sample ID	Amphenol Part Number	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)
			Min. (in*lbf)	Max. (in*lbf)		
P1 mated to R1	XPFH-782713-35S	16	2	16	3.4	7.8
	XPFH-782703-35P					
P2 mated to R2	XPFH-782713-35S	16	2	16	3.4	6.7
	XPFH-782703-35P					
P3 mated to R3	XPFH-782714-35S	20	4	20	5.4	6.9
	XPFH-782704-35P					
P4 mated to R4	XPFH-782714-35S	20	4	20	6.8	7.4
	XPFH-782704-35P					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell to Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Power Supply IC-4859	10/20/2021	10/20/2022	D. Barbeisch	4/29/2022
Multimeter IC-4089	12/9/2021	12/9/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. A 1.0 ± 0.1 A DC current at 1.5V DC maximum open circuit voltage was applied from the rear accessory threard of the plug connector through the flange of the receptacle. The voltage drop from the rear accessory thread of the plug to the receptacle flange was measured. The maximum millivolt drop to be 2 mV (after conditionioning)..

Sample ID	Part Number	Millivolt Drop (mV)	Status
P1 mated to R1	XPFH-782713-35S XPFH-782703-35P	0.63	Accept
P2 mated to R2	XPFH-782713-35S XPFH-782703-35P	0.55	Accept
P3 mated to R3	XPFH-782714-35S XPFH-782704-35P	0.58	Accept
P4 mated to R4	XPFH-782714-35S XPFH-782704-35P	0.65	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Durability	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Timer F-0027	3/8/2022	9/6/2022	D, Barbeisch	4/26/2022 to 5/2/2022

Durability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8. Connectors to be mated and unmated 500 times at a rate not to exceed 300 cycles per hour. After conditioning, connectors to be visually examined for damage detrimental to the operation of the connector. Failure to complete durability test due to mechanical malfunction shall be cause for rejection.

Sample ID	Part Number	Cycles	Status
P1 mated to R1	XPFH-782713-35S	500	Pass
	XPFH-782703-35P		
P2 mated to R2	XPFH-782713-35S	500	Pass
	XPFH-782703-35P		
P3 mated to R3	XPFH-782714-35S	500	Pass
	XPFH-782704-35P		
P4 mated to R4	XPFH-782714-35S	500	Pass
	XPFH-782704-35P		

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Accessory Thread Strength	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Timer F-0027	3/8/2022	9/6/2022	D. Barbeisch	5/4/2022
Spring Scale PG-746	4/5/2022	6/3/2022		

Accessory Thread Strength per MIL-DTL-38999M paragraphs 3.26 and 4.. Mated connectors were mounted as in normal service to a rigid panel. The specified torque per table IX of MIL-DTL-38999M was applied to the accessory of the plug and held for one minute and released. The specified torque was then applied to the accessory of the receptacle for one minute and released.

Sample ID	Part Number	Inch-pounds Applied	Status
P1 mated to R1	XPFH-782713-35S	50	Pass
	XPFH-782703-35P	50	Pass
P2 mated to R2	XPFH-782713-35S	50	Pass
	XPFH-782703-35P	50	Pass
P3 mated to R3	XPFH-782714-35S	50	Pass
	XPFH-782704-35P	50	Pass
P4 mated to R4	XPFH-782714-35S	50	Pass
	XPFH-782704-35P	50	Pass

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Vibration	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
See Vibration report			A. Hosier	6/6-6/7/2022

Group 2 Vibration Procedure for Series III class F. (1G^2 at 200C)Random Profile

Vibration per MIL-DTL-38999 Rev.M paragraphs3.27, 4.5.23, and EIA-364-28 Test Condition VI - series III, class F crimp contact style connectors, which shall be tested at elevated temperature (200ºC ± 5ºC). The duration of the test to be 8 hours in the longitudinal direction and 8 hours in the perpendicular direction. Microsecond discontinuity to be monitored per EIA-364-46 .

Sample ID	Amphenol Part Number	Discontinuities	Coupling Nut Movement	Status
P1	XPFH-782713-35S	None	None	Accept
R1	XPFH-782703-35P			
P2	XPFH-782713-35S	None	None	Accept
R2	XPFH-782703-35P			
P3	XPFH-782714-35S	None	None	Accept
R3	XPFH-782704-35P			
P4	XPFH-782714-35S	None	None	Accept
R4	XPFH-782704-35P			

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shock	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
See Vibration/Shock Report			A. Hosier	6/8/2022

Mechanical Shock per MIL-DTL-38999M paragraphs 3.28 and 4.5.24, and EIA-364-27. Connectors to be subjected to 3 shocks in each direction of 3 mutually perpendicular axes, for a total of 18 shocks. Each shock to be an approximate half sine wave of 300 G ± 15% magnitude with a duration of 3 ± milliseconds. The wire bundle to be clamped to fixed points at least 8 inches from the rear of the connector. Microsecond discontinuity to be monitored per EIA-364-46.

Sample ID	Amphenol Part Number	Discontinuities	Coupling Nut Movement	Status
P1	XPFH-782713-35S	None	None	Accept
R1	XPFH-782703-35P			
P2	XPFH-782713-35S	None	None	Accept
R2	XPFH-782703-35P			
P3	XPFH-782714-35S	None	None	Accept
R3	XPFH-782704-35P			
P4	XPFH-782714-35S	None	None	Accept
R4	XPFH-782704-35P			

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Coupling and Uncoupling Torque	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Torque Meter PG-3452	3/17/2022	6/16/2022	D. Cogswell	6/16/2022

Coupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.5.7. The maximum torque required to fully mate and unmate connectors was recorded.

Sample ID	Amphenol Part Number	Maximum Coupling Torque (in*lbf)	Uncoupling Torque		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)
			Min. (in*lbf)	Max. (in*lbf)		
P1 mated to R1	XPFH-782713-35S	16	2	16	10.4	11.8
	XPFH-782703-35P					
P2 mated to R2	XPFH-782713-35S	16	2	16	9.6	12.4
	XPFH-782703-35P					
P3 mated to R3	XPFH-782714-35S	20	4	20	11.6	13.8
	XPFH-782704-35P					
P4 mated to R4	XPFH-782714-35S	20	4	20	12.0	15.4
	XPFH-782704-35P					

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Shell to Shell Conductivity	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
Power Supply IC-4859	10/20/2021	10/20/2022	D. Cogswell	6/17/2022
Multimeter IC-4089	12/9/2021	12/9/2022		

Shell-to-Shell Conductivity per MIL-DTL-38999 paragraphs 3.29 and 4.5.25, and EIA-364-83. A 1.0 ± 0.1 A DC current at 1.5V DC maximum open circuit voltage was applied from the rear accessory threard of the plug connector through the flange of the receptacle. The voltage drop from the rear accessory thread of the plug to the receptacle flange was measured. The maximum millivolt drop to be 2 mV (after conditionioning).

Sample ID	Part Number	Millivolt Drop (mV)	Status
P1 mated to R1	XPFH-782713-35S XPFH-782703-35P	0.57	Accept
P2 mated to R2	XPFH-782713-35S XPFH-782703-35P	0.89	Accept
P3 mated to R3	XPFH-782714-35S XPFH-782704-35P	0.78	Accept
P4 mated to R4	XPFH-782714-35S XPFH-782704-35P	0.86	Accept

Amphenol Corporation	Aerospace Operations			Sidney, N.Y. 13838
Visual and Mechanical Examination	**Temp.** Ambient	**R.H.** Ambient	**CLT** 10696	**Report** ESR-55555
Test Equipment	**Cal Date**	**Due Date**	**Technician**	**Date**
10X Magnification Microscope			D. Cogswell	6/17/2022

Visual and Mechanical Examination per MIL-DTL-38999 paragraphs 3.1, 3.3, 3.4, 3.55, 3.52, 3.53, and 4.5.1. The connectors, accessories, and piece parts shall be visually and mechanically examined to ensure product is in accordance with the specification and the applicable military standards.

Sample ID	Amphenol Part Number	Description	Observations	Status
P1	XPFH-782713-35S	Plug 12	No Defects	Accept
R1	XPFH-782703-35P	Receptacle 12	No Defects	Accept
P2	XPFH-782713-35S	Plug 12	No Defects	Accept
R2	XPFH-782703-35P	Receptacle 12	No Defects	Accept
P3	XPFH-782714-35S	Plug 14	No Defects	Accept
R3	XPFH-782704-35P	Receptacle 14	No Defects	Accept
P4	XPFH-782714-35S	Plug 14	No Defects	Accept
R4	XPFH-782704-35P	Receptacle 14	No Defects	Accept