Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

REPORT DATE: Revision:

8/12/22 В

TITLE:	D : Will the Testing of Coning V Destates	Project No.	0798196
	Connectors	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 200 ^o C.	All connectors tested meet requirements.

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Date: 08/12/2022	Date: 2/7/23	Date:			
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<u>Summary (continued):</u>

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	A A O Part Number	Size-	Connector Type	Sample Plating
ID	AAO I alt Nullibel	Arrangement		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.

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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.

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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.

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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

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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.

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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.

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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 1G² vibration at 200°C 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 @ 200°C	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.

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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 1G² vibration at 200°C 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 @ 200 ^o C	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.

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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.

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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.

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<u>Summary (continued):</u>

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.

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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.

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

REPORT DATE: Revision: 8/12/22 B

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.

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

REPORT DATE: Revision: 8/12/22 B

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.

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395 REPORT NO. ESR-55555 REPORT DATE: 8/12/22 Revision: B

<u>APPENDIX A</u> <u>CLT 10580 Group 1 Test Results</u>

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

	phenol Corporation Aerospace Operations Sidne			ney, N.Y. 1383			
Visual Exa	Visual Examination of Test Samples Test Equipment		Temp.R.H.CLTAmbientAmbient10580)	Report ESR-55555	
			Cal Date	Due Date	Technici	an	Date
					D.Cogsw	vell	8/23/2021
	Parts were examine	d to ensure that t	they were function	oning and free of	workmanship or mec	hanical defects	5
	AAO Part Number	Lot Number	Observ	vations	Status		
Sample ID				ations			
1R1	XPF2-782702-99S	NONE	No Observa	able defects	Accept		
1R1 1P1	XPF2-782702-99S XPF2-782712-99P	NONE	No Observa No Observa	able defects able defects	Accept Accept		
1R1 1P1 1R2	XPF2-782702-99S XPF2-782712-99P XPF2-782702-99P	NONE NONE NONE	No Observa No Observa No Observa	able defects able defects able defects	Accept Accept Accept		

Amphenol Corporation	Aerospace C	ace Operations		Sidney, N.Y. 13838	
Tomporature Oveling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10580	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	
			1		

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 -65°C +0°C, -5°C and the temperature off step 3 was +175°C +5°C, -0°C. 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	space Operations		Sidney, N.Y. 13838	
Counting 8 Uncounting	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling	Ambient	Ambient	10580	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.

	Maximum	Uncoupling Torque					
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
1R1	Pecord	Data Only no B	ass/Fail	24	2.8	Accept	
1P1	Record	Data Only no Pass/Fail		2.4	2.0	Ассері	
1R2	Record Data Only no Rece/Eail			24	2.6	Accent	
1P2	Record	Record Data Only no Pass/Fail			2.0	Ассері	

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

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	Sid	Sidney, N.Y. 13838		
Durability	Temp.	R.H.	CLT	Report		
	Ambient	Ambient	10580	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	Q/25/2021	Accont	
1P1	XPF2-782712-99P	10	500	8/23/2021	Ассерг	
1R2	XPF2-782702-99P	10	500	Q/25/2021	Accont	
1P2	XPF2-782712-99S	10	500	0/25/2021	Accept	

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

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 138		
Counting 8 Uncounting	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling	Ambient	Ambient	10580	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.

	Uncoup		ng Torque			
Sample ID Coupling Torque (in*lbf) Min. (in*		Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
1R1	Report Data Only no Dass/Fail			13	2.8	Accept
1P1	Record	Record Data Only no Pass/Fail			2.0	Ассері
1R2	Record Data Only no Pass/Eail			2.0	11	Accent
1P2	Record	Data Only no Fa	ass/1 all	2.0	4.4	Ассері

Amphenol Corporation	Aerospace (Operations	Sidney, N.Y. 1383		
Shall to Shall Conductivity	Temp.	R.H.	CLT	Report	
Shell-to-Shell conductivity	Ambient	Ambient	10580	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-4008	1/22/2021	12/21/2021			
Power Supply IC-3991	5/3/2021	10/2/2021	D.Cogswell	8/26/2021	

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	XPF2-782702-99S	16	Accept	8/26/2021	
to 1R1	XPF2-782712-99P	1.0	71000001	0/20/2021	
1P2 mated	XPF2-782702-99S	1 2	Accent	8/26/2021	
to 1R2	XPF2-782712-99P	1.2	лосері	0/20/2021	

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

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	AAO Part Number	Time 1st Cycle	Time 2nd Cycle	Time 3rd Cycle	Status*
ID	AAO Part Number	Start/Finish	Start/Finish	Start/Finish	Status
1R1	XPF2-782702-99S			1.20/	Accept
1P1	XPF2-782712-99P	11:00 /	12:10 /	1.20/	Accept
1R2	XPF2-782702-99S	11:30am	12:40 pm	1:50pm	Accept
1P2	XPF2-782712-99P	ſ			Accept

*See next 2 data sheets for IR DWV results

Amphen	Amphenol Corporation Aerospace Operations					ney, N.Y. 13838
Insulation	n Resistance While in Sa	alt Water Solution Post	Temp.	R.H.	CLT	Report
	Altitude Imme	rsion	Ambient	Ambient	10580	ESR-55555
	Test Equipm	ent	Cal Date	Due Date	Technician	Date
	F-2672 159 Circuit Con	nector Tester	6/15/2021	12/14/2021		
					Kimberly Edwards (25953)	9/10/2021
EIA-364-	-21. All cavities were	tested. 500 VDC was	applied to each	contact during t	est.	
Sample		Minimum IR	Dee	ulta.	Chatura	
ID	AAO Part Number	Requirement	Kes	suits	Status	
1R1	XPF2-782702-99S	5,000 MΩ	All location		Accont	
1P1	XPF2-782712-99P	5,000 MΩ		5/5,000 10122	Ассерг	
1R2	XPF2-782702-99S	5,000 MΩ	All locations >5,000 M Ω		Accept	
1P2	XPF2-782712-99P	5,000 MΩ			Accept	

Amphen	mphenol Corporation Aerospace Operations				Sid	ney, N.Y. 13838
Dielectr	ic Withstanding Voltag	e While in Salt Water	Temp.	R.H.	CLT	Report
	Solution Post Altitude	e Immersion	Ambient	Ambient	10580	ESR-55555
	Test Equipm	ent	Cal Date	Due Date	Technician	Date
	F-2672 159 Circuit Con	nector Tester	6/15/2021	12/14/2021		
					Kimberly Edwards (25953)	9/10/2021
					1	
Dielectrie procedure mated in	c Withstanding Volta e EIA-364-20. All cav salt water solution for	age post Altitude Imi rities were tested. 180 • the test.	mersion: Mated 00 VAC RMS wa	Connectors wer s applied to eacl	e tested in accordance wi h contact during test. Cor	th test nnectors were
Sample	AAO Bart Number	Maximum Leak	Por	sulte	Statuc	
ID	AAU Part Number	Requirement	Results		Status	
1R1	XPF2-782702-99S	2 mA	All locations tested < 2 mA		Accont	
1P1	XPF2-782712-99P	2 mA			Accept	

All locations tested < 2 mA

Accept

1R2

1P2

XPF2-782702-99S

XPF2-782712-99P

2 mA

2 mA

Amphenol Corporation	Aerospac	e Operations	Sidney, N.Y. 138		
Floatwicel Engagement	Temp.	R.H.	CLT	Report	
Electrical Eligagement	Ambient	Ambient	10580	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	
			1		

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. 138		
External Panding Moment	Temp.	R.H.	CLT	Report	
External bending Moment	Ambient	Ambient	10580	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Zwick PG-3141	8/12/2021	2/10/2022			
Discontinuity Meter IC-4882	12/21/2020	12/21/2021	B. Martin	10/1/2021	
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	25.7	No Discontinuitios	Accont
1P1	XPF2-78212-99P	75	2.1	55.7	No Discontinuities	Accept
1R2	XPF2-782702-99P	75	2.1	25.7	No Discontinuitios	Accont
1P2	XPF2-782712-99S	75	2.1	55.7	No Discontinuities	Ассерг

phenol Co	rporation		Aerospace Operations			Sidney, N.Y. 13
	Deat Test Evensin	ation.	Temp. R.H.		CLT	Report
	Post lest Examina	ation	Ambient	Ambient	10580	ESR-5555
	Test Equipment		Cal Date	Due Date	Technician	Date
					D. Cogswell	10/1/202
	Parts were examined	l to ensure that t	hey were function	ing and free of work	manship or mechani	cal defects
Sample ID	AAO Part Number	Lot Number	Obser	vations	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	

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX B</u> <u>CLT 10580 Group 2 Test Results</u>

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

phenol Co	phenol Corporation Aerospace Operation		Operations	itions Sidney, N.Y.		
			Temp.	R.H.	CLT	Report
			Ambient	Ambient	10580	ESR-5555
	Test Equipment		Cal Date	Due Date	Technician	Date
10X	Magnification Micros	соре				
					D.Cogswell	8/23/202
	Parts were examined	d to ensure that t	hey were functio	ning and free of w	orkmanship or mechanic	al defects.
	· · · · · · · · · · · · · · · · · · ·					
ample ID	AAO Part Number	Lot Number	Obser	vations	Status	
2R1	XPF2-782702-35P	NONE	No D	efects	Accept	
2P1	XPF2-782712-35S	NONE	No D	efects	Accept	
2R2	XPF2-782702-35P	NONE	No D	efects	Accept	
2P2	XPF2-782712-35S	NONE	No D	etects	Accept	
2R3	XPFH-782702-99P	NONE	No D	efects	Accept	
2P3	XPFH-/82/12-99S	NONE	No Defects		Accept	

Amphenol Corporation	Aerospace O	perations	Sidney, N.Y. 1383		
Tomporature Oxiling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10580	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	
			1		

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 -65°C +0°C, -5°C and the temperature off step 3 was +175°C +5°C, -0°C. 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 C	perations	Sidney, N.Y. 1383		
Tomporature Cycling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10580	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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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. 1383		
Coupling & Uncoupling	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling	Ambient	Ambient	10580	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Torquemeter PG-2738	7/28/2021	10/27/2021			
			D.Cogswell	8/25/2021	
			1		

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.

	Moximum	Uncoupling Torque					
Sample ID Coupling Torque (in*lbf)		Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
2R1	Record Data Only/ No Dasa/Eail			2.2	2.0	Accont	
2P1	Record	Record Data Only/ No Fass/Fall			2.0	Ассері	
2R2	Record Data Only/ No Reco/Fail			2.2	2.2	Accent	
2P2	Record Data Only/ No Fass/Fail			2.2	2.2	Ассері	
2R3	Record Data Only/ No Pass/Eail			24	1.8	Accent	
2P3	Record	Data Only/ NO P	ass/1 all	2.4	1.0	лосері	

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 138		
Shall to Shall Conductivity	Temp.	R.H.	CLT	Report	
Shell-to-Shell Conductivity	Ambient	Ambient	10580	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-4008	1/22/2021	12/21/2021		9/25/2021	
Power Supply IC-3991	5/3/2021	10/2/2021	D.Cogswell	8/25/2021	
			1	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	XPF2-782702-35P	4.4 m\/	Accent	8/25/2021
to 2R1	XPF2-782712-35S	4.4 III V	Лосері	0/20/2021
2P2 mated	XPF2-782702-35P	/1.2 m\/	Accent	8/25/2021
to 2R2	XPF2-782712-35S	4.2 mv	Лосері	0/20/2021
2P3 mated	XPFH-782702-35P	0.26 mV	Accent	0/1/2021
to 2R3	XPFH-782712-35S	0.20 111	Λυσερι	3/1/2021

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838		
Durability	Temp.	R.H.	CLT	Report	
Durability	Ambient	Ambient	10580	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	0/26/2021	Accept	
2P1	XPF2-782712-35S	10	500	8/20/2021		
2R2	XPF2-782702-35P	10	500	8/26/2021	Accept	
2P2	XPF2-782712-35S	10				
2R3	XPFS-782702-99P	10	500	0/1/2021	Accort	
2P3	XPFS-782712-99S	10	500	9/1/2021	Accept	

Durability cycles were performed by hand.

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

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				No damage or	
2P1	XPF2-782712-35S	50	8.5	5.8	breakage occurred	Accept
2R2	XPF2-782702-35P	50	0 5	E Q	No damage or	Assent
2P2	XPF2-782712-35S	50	0.0	5.0	occurred	Accept
2R3	XPFS-782702-99P	50	9.5	F 9	No damage or	Accept
2P3	XPFS-782712-99S	50	0.0	5.0	occurred	Ассері

Amphenol Corporation		Aerospace Operations		Sidney, N.Y. 13838				
Vibration			Temp.	R.H.	CLT		Report	
		Ambient	Ambient	10580		ESR-55555		
	Test Equipment		Cal Date	Due Date	Techr	iician	Date	
To be added	later (need vibration	report from lab)					9/8/2021 thru	
					Andrew	Hosier	9/8/2021 till u 9/17/2021	
							9/1//2021	
Vibration per M	1IL-DTL-38999 3.27	7 and 4.5.23.2. 2 p	pairs per the Sign	and 5G^2 vibrati	on profiles.			
Samples are to	be prepped in acco	ordance with L-409	990-141.					
	AAO Part				Coupling Nut	Breakage/	1	
Sample ID	Number	Profile	Date Complete	Discontinuities	Movement	Loosening		
2P1 mated to			0/15/21 thru		Movement	Looserning		
2F1 IIIaleu lu 2R1	XPF2-762702-55P	4.5.23.2.4	9/13/21 unu 0/17/21	None	None	None		
2D2 mated to	XPF2-782712-355		0/15/21 thru					
	XPF2-782702-35P	4.5.23.2.4	9/15/21 thru 0/17/21	None	None	None		
2RZ	XPF2-782712-355		9/17/21				-	
2P3 mated to	XPFS-782702-99P	4.5.23.2.1	9/10/21 thru	None	None	None		
2R3	XPFS-782712-995		9/15/21					
Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838					
----------------------------------	-----------	------------	--------------------------	-----------	--			
Coupling & Uncoupling After Vibo	Temp.	R.H.	CLT	Report				
Coupling & Oncoupling After Vibe	Ambient	Ambient	10580	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.

	Movimum	Uncoupling Torque					
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf) Max. (in*lbf)		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
2R1	Pocord	Data Only/ No. B	lace/Eail	1	Б	Accont	
2P1	Recolu		a55/Fall	4	5	Ассері	
2R2	Record	Data Only/ No P	lass/Fail	4	6	Accent	
2P2	Record		ass/1 all	4	0	Ассері	
2R3	Record Data Only/ No Bass/Eail			3	1	Accent	
2P3	Record	Data Only/ NO P	ass/1 all	5	4	лосері	

Amphenol Co	nphenol Corporation		Aerospace	Operations	Sidney, N.Y. 13		
Post 1	Post Test Examination of Samples			Temp.R.H.AmbientAmbient		CLT 10580	
	Test Equipment		Cal Date	Due Date	Technician		Date
10X	10X Magnification Microscope					vards (25953)	9/30/2021
	Parts were examine	d to ensure that	they were function	ning and free of w	orkmanship or m	echanical defects.	
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status		
2R1	XPF2-782702-35P	NONE	and specification	s. No defects or	Assess		
2P1	XPF2-782712-35S	NONE	damage detrime operation	ntal to	Accept		
2R2	XPF2-782702-35P	NONE	Meets conforma and specification	nce to drawing s. No defects or			
2P2	XPF2-782712-35S	NONE	damage detrimental to		Accept		
2R3	XPFS-782702-99P	NONE	Meets conforma	nce to drawing			
			and specifications. No defects or		Accept		

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX C</u> <u>CLT 10580 Group 3 Test Results</u>

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

mpnenoi Co	henol Corporation Aerospace Operations			Sidney	y, N.Y. 13838		
	Visual Examination			R.H.	C	LT	Report
			Ambient	Ambient	10580		ESR-55555
	Test Equipment		Cal Date	Due Date	Tech	nician	Date
					D.Coį	gswell	See Below
	Parts were examined t	o ensure that the	y were functionir	ng and free of wor	kmanship or mec	hanical defects.	
Sample ID	AAO Part Number	Lot Number	Obser	vations	Statuc	Data	1
201				vacions	Status	Date	
21/1	XPF2-782702-35S	NONE	No defects	on samples	Accept	8/24/2021	
3P1	XPF2-782702-35S XPF2-782712-35P	NONE NONE	No defects No defects	on samples on samples	Accept Accept	8/24/2021 8/24/2021	
3P1 3R2	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S	NONE NONE NONE	No defects No defects No defects	on samples on samples on samples	Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021	
3P1 3R2 3P2	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782712-35P	NONE NONE NONE NONE	No defects No defects No defects No defects	on samples on samples on samples on samples	Accept Accept Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021 8/24/2021	
3P1 3R2 3P2 3R3	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S	NONE NONE NONE NONE NONE	No defects No defects No defects No defects No defects	on samples on samples on samples on samples on samples	Accept Accept Accept Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021	
3P1 3R2 3P2 3R3 3P3	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782712-35P	NONE NONE NONE NONE NONE NONE	No defects No defects No defects No defects No defects No defects	on samples on samples on samples on samples on samples on samples	Accept Accept Accept Accept Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021	
3P1 3R2 3P2 3R3 3P3 3R4	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782702-35S XPF2-782702-35S XPF2-782712-35P XPF2-782702-35P	NONE NONE NONE NONE NONE NONE NONE	No defects No defects No defects No defects No defects No defects No defects	on samples on samples on samples on samples on samples on samples on samples	Accept Accept Accept Accept Accept Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021	
3P1 3P2 3P2 3R3 3P3 3R4 3P4	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782712-35P XPF2-782702-35P XPF2-782702-35S	NONE NONE NONE NONE NONE NONE NONE NONE	No defects No defects No defects No defects No defects No defects No defects No defects	on samples on samples on samples on samples on samples on samples on samples on samples on samples	Accept Accept Accept Accept Accept Accept Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021	
3P1 3P2 3P2 3R3 3P3 3R4 3P4 3R5	XPF2-782702-35S XPF2-782712-35P XPF2-782702-35S XPF2-782702-35S XPF2-782702-35S XPF2-782702-35P XPF2-782702-35P XPF2-782712-35S XPF2-782702-35P	NONE NONE NONE NONE NONE NONE NONE NONE	No defects No defects No defects No defects No defects No defects No defects No defects No defects	on samples on samples on samples on samples on samples on samples on samples on samples on samples on samples	Accept Accept Accept Accept Accept Accept Accept Accept Accept Accept Accept	8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021 8/24/2021	

Amphenol Corporation	Aerospace O	perations	Sidney, N.Y. 1383		
Tomporatura Cualing	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient		10580	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	
			1		

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 -65°C +0°C, -5°C and the temperature off step 3 was +175°C +5°C, -0°C. 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 Sidn						ney, N.Y. 13838
Dielectric Withstanding Voltage at Sea Level			Temp. Ambient	R.H. Ambient	CLT 10580	Report ESR-55555
	Test Equipm	ent	Cal Date	Due Date	Technician	Date
Multi-Circuit Tester F-2672			6/15/2021	12/14/2021	D. Cogswell	8/27/2021
Dielectr were tes	ic Withstanding Volt ted. 1800 VAC RMS	age: Mated Connecto was applied to each c	rs were tested in ontact during tes	accordance with t. Connectors w	n test procedure EIA-364- ere to be mated for test.	20. All cavities
						1
Sample ID	AAO Part Number	Maximum Leak Requirement	Voltage (V AC)	Results		Status
3R1	XPF2-782702-35S	2	2500		antione needed	Exceeds 38999
3P1	XPF2-782712-35P	2 mA	2500		cations passed	Requirements
3R2	XPF2-782702-35S	2	2500			Exceeds 38999
3P2	XPF2-782712-35P	2 mA	2500		cations passed	Requirements
3R3	XPF2-782702-35S	2	2500			Exceeds 38999
3P3	XPF2-782712-35P	2 mA	2500		cations passed	Requirements
3R4	XPF2-782702-35P	2	2500			
3P4	XPF2-782712-35S	2 mA	2500	All locations passed		Requirements
3R5	XPF2-782702-35P	2	2500	A 11 1 -	antions possed	Exceeds 38999
3P5	XPF2-782712-35S	2 MA	2500			Requirements

Amphen	Amphenol Corporation Aerospace Operations Sidr								
Dielectric Withstanding Voltage at Altitude			Temp. Ambient	R.H. Ambient	CLT 10580	Report ESR-55555			
	Test Equipme	ent	Cal Date	Due Date	Technician	Date			
	Multi-Circuit Teste	r F-2672	6/15/2021	12/14/2021					
					D.Cogswell	9/24/2021			
Dielectri altitude w	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		Maximum Leak	Maximum Test						
ID	AAO Part Number	Requirement	Voltage (V AC)		Results				
3R1	XPF2-782702-35S	2 m (1600	A II 1	ocations passed	Exceeds 38999			
3P1	XPF2-782712-35P	2 IIIA	1000	All I	ocations passed	Requirements			
3R2	XPF2-782702-35S	2 m∆	1600	Location 4 are	ched at 1600 V. The other	Exceeds 38999			
3P2	XPF2-782712-35P	2 MA	1000	lo	cations passed	Requirements			
3R3	XPF2-782702-35S	2 m (1600	AU 1	ocations passed	Exceeds 38999			
3P3	XPF2-782712-35P	2 IIIA	1000	All I	All locations passed				
3R4	XPF2-782702-35P	2 m 4	1600	A 11 1	All locations passed				
3P4	XPF2-782712-35S	2 IIIA	1000	AIT					
3R5	XPF2-782702-35P	2 m (1600	Location 7 arche	ed at 1550 V during ramp up.	Exceeds 38999			
3P5	XPF2-782712-35S	2 IIIA	1000	The oth	ner locations passed	Requirements			

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX D</u> <u>CLT 10580 Group 4 Test Results</u>

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

mphenol Co	phenol Corporation		Aerospace	Operations		Sidney, N.Y		
Visu	Visual Examination of Samples		Temp. Ambient	R.H. Ambient	CI 105	. T 580	Report ESR-55555	
	Test Equipment		Cal Date	Due Date	Techr	nician	Date	
					D. Coį	gswell	8/26/2021	
	Parts were examine	d to ensure that th	ney were functio	oning and free of	workmanship or m	echanical def	ects.	
Sample ID	AAO Part Number	Lot Number	Obser	vations	Status			
4R1	XPFS-782702-99S	NONE	No D	efects	Accept			
4P1	XPFS-782712-99P	NONE	No D	efects	Accept			
4R2	XPFS-782702-99P	NONE	No D	efects	Accept			

No Defects

Accept

4P2

XPFS-782712-99S

NONE

Amphenol Corporation	Aerospace C	perations	Sidney, N.Y. 1383		
Tomporature Cueling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10580	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	Ves
4P1	XPF2-782712-99P	1:12 PM	2:13 PM	3:15	165
4R2	XPF2-782702-99P	12:12 PM	1:13 PM	2:15	Voc
4P2	XPF2-782712-99S	1:12 PM	2:13 PM	3:15	Tes

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 1383		
Coupling & Uncoupling, Doct Ico Posicianco	Temp.	R.H.	CLT	Report	
Coupling & Oncoupling, Post ice resistance	Ambient	Ambient	10580	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.

	Maximum	Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
4R1	Pecord	Basard Data Only na Dasa/Eail			3.8	Accept
4P1	Record	d Data Only no Pass/Fall		4.0	5.0	Ассері
4R2	Record Data Only no Pass/Eail			2.8	3.0	Accent
4P2	Record	Record Data Only no Pass/Fail			5.2	лосері

mphenol Corporation			Aerospace	Operations			Sidney, N.Y. 13838	
	Post Test Examination		Test Examination Temp. R.H. Ambient Ambient Ambient		CLT 1058	:0	Report ESR-55555	
	Test Equipment		Cal Date	Due Date	Technie	cian	Date	
					D. Cogs	well	8/26/2021	
	Parts were examine	d to ensure that th	ney were functio	ning and free of w	vorkmanship or med	chanical defe	ects.	
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status			
Sample ID 4R1	AAO Part Number XPF2-782702-99S	Lot Number NONE	Observ No De	vations efects	Status Accept			
Sample ID 4R1 4P1	AAO Part Number XPF2-782702-99S XPF2-782712-99P	Lot Number NONE NONE	Observ No Do No Do	vations efects efects	Status Accept Accept			
Sample ID 4R1 4P1 4R2	AAO Part Number XPF2-782702-99S XPF2-782712-99P XPF2-782702-99P	Lot Number NONE NONE NONE	Observ No De No De No De	vations efects efects efects	Status Accept Accept Accept			

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX E</u> <u>CLT 10615 Group 1 Test Results</u>

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

mphenol 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	Technicia	n Date	
					D. Cogswe	ell 11/4/2021	
	Parts were examine	d to ensure that t	hey were function	ning and free of v	vorkmanship or mecha	inical defects.	
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status		
Sample ID 1R1	AAO Part Number XPFH-782701-35P	Lot Number NONE	Observ No Defeo	vations cts, good	Status Accept		
Sample ID 1R1 1P1	AAO Part Number XPFH-782701-35P XPFH-782711-35S	Lot Number NONE NONE	Observ No Defec	vations cts, good cts, good	Status Accept Accept		
Sample ID 1R1 1P1 1R2	AAO Part Number XPFH-782701-35P XPFH-782711-35S XPFH-782701-35P	Lot Number NONE NONE NONE	Observ No Defec No Defec No Defec	vations cts, good cts, good cts, good	Status Accept Accept Accept		

Amphenol Corporation	Aerospace C	perations	Sidney, N.Y. 138		
Tomporature Cucling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10615	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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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. 1383		
Counting 8 Uncounting	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling	Ambient	Ambient	10615	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.

	Maximum	Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
1R1				1.8	2.2	Accent
1P1	Record Resu	Ite only No Rece/Eqil Criteria		1.0	2.2	Лосері
1R2	Tecolu Resu	nto orny, NO F do		2	24	Accent
1P2				2	2.4	Лосері

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

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	XPFH-782701-35P	0.9	Accent	
to 1R1	XPFH-782711-35S	0.0	7600001	
1P2 mated	XPFH-782701-35P	0.0	Accont	
to 1R2	XPFH-782711-35S	0.9	Accept	

Amphenol Corporation		Aerospace Operations		Sic		Iney, N.Y. 13
Durability		Temp.	R.H.	C	LT	Report
		Ambient	Ambient	100	615	ESR-5555
Т	est Equipment	Cal Date	Due Date	Techi	nician	Date
				C.Bo	ecke	2/1/2022
rability test per N 0 cycles per hour nnectors shall me	AIL-DTL-38999 paragraphs 3.12 . After conditioning, connector eet subsequent test requireme	2 and 4.5.8.1. Conners were visually exants.	ectors were mated a mined for damage of the second se	and unmated 500 detrimental to th	0 cycles at a rate e operation of th	not to exceed e connector, a
Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results	
1R1	XPFH-782701-35P	10	500	2/1/2022	Accont	
1P1	XPFH-782711-35S	10	500	2/1/2022	Ассерг	
1R2	XPFH-782701-35P	10	500	2/1/2022	Accent	
1P2	XPFH-782711-35S	10	500	2/1/2022	Ассерг	
	All durability testing wa	as done manually at	t a rate of approxim	ately 300 Cycles	per hour	
	An durability testing we			lately 500 cycles		

Amphenol Corporation	Aerospace	Operations	S	idney, N.Y. 13838
	Temp.	R.H.	CLT	Report
Coupling & Uncoupling	Ambient	Ambient	10615	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.

	Maximum	Uncouplir	Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
1R1	Pecord	Data Only no P	ass/Eail	1.2	3.8	Accept	
1P1	Record	Data Only no Pa	ass/1 all	1.2	5.0	Ассері	
1R2	Record	Data Only no P	ass/Fail	1.6	12	Accent	
1P2	Record	Data Only NO Fa	ass/1 all	1.0	7.2	лосері	

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

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	XPFH-782701-35P	1 1	Accent	
to 1R1	XPFH-782711-35S	1.1	Лосорг	
1P2 mated	XPFH-782701-35P	782701-35P 1 1		
to 1R2	XPFH-782711-35S	1.1	Accept	

Amphenol Corporation	Aerospace Oper	ations	Sidney, N.Y. 138		
Altitude Immersion	Temp.	R.H.	CLT	Report	
Altitude Inimersion	Ambient	Ambient	10615	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	AAO Part Number	Time 1st Cycle	Time 2nd Cycle	Time 3rd Cycle	Status*
ID	AAO Part Number	Start/Finish	Start/Finish	Start/Finish	Status
1R1	XPFH-782701-35P				Accept
1P1	XPFH-782711-35S	9:30 AM/	10:30 AM/	11:30 AM/	Accept
1R2	XPFH-782701-35P	10:00 AM	11:00AM	12:00 PM	Accept
1P2	XPFH-782711-35S				Accept

*See next 2 data sheets for IR DWV results

Amphenol Corporation			Aerospace Operations			Sidr	ney, N.Y. 13838
Insulation	n Resistance While in Sa	alt Water Solution Post	Temp.	R.H.	CLT		Report
Altitude Immsersion			Ambient	Ambient	1061	5	ESR-55555
	Test Equipm	ent	Cal Date	Due Date	Technic	cian	Date
	F-2672 159 Circuit Con	nector Tester	1/9/2022	4/8/2022			
					D.Cogsv	well	2/24/2022
EIA-364	on Resistance post A -21. All cavities were	Ntitude Immersion: N tested. 500 VDC was	applied to each c	were tested in ac contact during test	cordance with te	est procedu	ure
Sample	AAO Part Number	Minimum IR	Por	ulte	Status		
ID	AAO Part Nulliber	Requirement	Res	Suits	Status		
1R1	XPFH-782701-35P	5,000 MΩ	All locatio	ns >50 GO	Accept		
1P1	XPFH-782711-35S	5,000 MΩ		13 / 50 632			
1R2	XPFH-782701-35P	5,000 MΩ	All locatio	ns >50 GΩ	Accept		
1P2	XPFH-782711-35S	5,000 MΩ					

Amphen	ol Corporation		Aerospace Oper	ations		Sid	ney, N.Y. 13838
Dielectric Withstanding Voltage While in Salt Water			Temp.	R.H.		CLT	Report
	Solution Post Altitude	Immsersion	Ambient	Ambient	1	0615	ESR-55555
	Test Equipm	ent	Cal Date	Due Date	Tec	hnician	Date
	F-2672 159 Circuit Con	nector Tester	1/9/2022	4/8/2022			
					D. C	ogswell	2/24/2022
procedure	e EIA-364-20. All Cav	nites were tested. 20		is applied to each	i contact du	inng test.	
Sample	AAO Part Number	Maximum Leak	Reg	sults	Status		
ID		Requirement		Suits	Status		
1R1	XPFH-782701-35P	2 mA	All locations <2n	A No flash-over	Accent		
1P1	XPFH-782711-35S	2 mA		IA. NO HUSH OVER	лесере		
1R2	XPFH-782701-35P	2 mA	All locations <2n	nA No flash-over	Accept		
1P2	XPFH-782711-35S	2 mA			Accept		

Amphenol Corporation	Aerospace (Operations	Sidney, N.Y. 1383		
Electrical Engagement	Temp.	R.H.	CLT	Report	
Electrical Engagement	Ambient	Ambient	10615	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Caliper 44-177425-1 F49					
Multi-Meter IC-4756	11/23/2021	5/24/2022	D.Cogswell	3/2/2022	

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 1 16	0.060	Accont
1P1	XPFH-782711-35S	0.034	1.515	1.440	0.009	Accept
1R2	XPFH-782701-35P	0.034	1 5 2 4	1 446	0.078	Accont
1P2	XPFH-782711-35S	0.034	1.524	1.440	0.070	Accept

Amphenol Corporation	Aerospace	Operations	Sid	ney, N.Y. 13838
External Panding Moment	Temp.	R.H.	CLT	Report
External bending woment	Ambient	Ambient	10615	ESR-55555
Test Equipment	Cal Date	Due Date	Technician	Date
Zwick PG-3141	8/9/2022	2/7/2023		
Caliper I47	4/19/2022	4/18/2023	J. Lee	8/11/2022
			1	

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	Accent
1P1	XPFH-782711-35S	50	2.1	55.7	Discontinuities	лосері
1R2	XPFH-782701-35P	50	2.1	35.7	No	Accont
1P2	XPFH-782711-35S	50	۷.۱	55.7	Discontinuities	лосері

	henol Corporation Aerospace Operations S			Sidney, N.Y. 13838		
Post Test Examination of Samples		Temp. Ambient	R.H. Ambient	CLT 10615	Report FSR-55555	
	Test Equipment		Cal Date	Due Date	Technician	Date
				D. Cogswell	8/11/2022	
	Parts were examine	d to ensure that	they were functio	ning and free of wo	orkmanship or mechan	iical defects.
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status	
Sample ID 1R1	AAO Part Number XPFH-782701-35P	Lot Number none	Observ No detrimental	vations damage to parts	Status Accept	
Sample ID 1R1 1P1	AAO Part Number XPFH-782701-35P XPFH-782711-35S	Lot Number none none	Observ No detrimental No detrimental	vations damage to parts damage to parts	Status Accept Accept	
Sample ID 1R1 1P1 1R2	AAO Part Number XPFH-782701-35P XPFH-782711-35S XPFH-782701-35P	Lot Number none none none	Observ No detrimental No detrimental No detrimental	vations damage to parts damage to parts damage to parts	Status Accept Accept Accept	

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX F</u> <u>CLT 10615 Group 2 Test Results</u>

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

mphenol Co	henol Corporation Aerospace Operations				Sid	ney, N.Y. 13838	
Visu	al Examination of Sa	mples	Temp. Ambient	R.H. Ambient	CLT 10615 Technician		Report ESR-55555
	Test Equipment		Cal Date	Due Date			Date
					D. Cogswell		11/4/2021
	Parts were examine	d to ensure that t	hey were functio	ning and free of v	vorkmanship or m	echanical defects	
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status		
2R1	XPFS-782701-35P	NONE	No Observa	ble Defects	Accept		
2P1	XPFS-782711-35S	NONE	No Observa	ble Defects	Accept		
2R2	XPFS-782701-35P	NONE	No Observa	ble Defects	Accept		
2P2	XPFS-782711-35S	NONE	No Observa	No Observable Defects			
			No Observable Defects		Accept		
2R3	XPFS-782701-35P	NONE	No Observa	ble Defects ble Defects	Accept Accept		
2R3 2P3	XPFS-782701-35P XPFS-782711-35S	NONE NONE	No Observa No Observa	ble Defects ble Defects ble Defects	Accept Accept Accept		
2R3 2P3 2R4	XPFS-782701-35P XPFS-782711-35S XPFS-782701-98P	NONE NONE NONE	No Observa No Observa No Observa	ble Defects ble Defects ble Defects ble Defects	Accept Accept Accept Accept		
2R3 2P3 2R4 2P4	XPFS-782701-35P XPFS-782711-35S XPFS-782701-98P XPFS-782711-98S	NONE NONE NONE NONE	No Observa No Observa No Observa No Observa	ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects	Accept Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4 2R5	XPFS-782701-35P XPFS-782711-35S XPFS-782701-98P XPFS-782701-98P XPFS-782701-98P	NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa	ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects	Accept Accept Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4 2R5 2P5	XPFS-782701-35P XPFS-782711-35S XPFS-782701-98P XPFS-782701-98P XPFS-782701-98P XPFS-782701-98P	NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa	ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects	Accept Accept Accept Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4 2R5 2P5 2R6	XPFS-782701-35P XPFS-782711-35S XPFS-782701-98P XPFS-782701-98P XPFS-782701-98P XPFS-782701-98P XPFS-782701-98P	NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa	ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects ble Defects	Accept Accept Accept Accept Accept Accept Accept Accept Accept		

Amphenol Corporation	Aerospace O	perations	Sidney, N.Y. 1383		
Tomporature Oxiling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10615	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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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. 1383		
Coupling & Uncoupling	Temp.	R.H.	CLT	Report	
Coupling & Oncoupling	Ambient	Ambient	10615	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Torquemeter PG-2738	10/27/2021	1/26/2022			
			D.Cogswell	11/8/2021	
			1		

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.

	Maximum	Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
2R1	Record	Data Only no P	ass/Eail	1.4	2.6	Accent
2P1	Record	Data Only no Fa	a55/Fall	1.4	2.0	Accept
2R2	Record	Data Only no P	ass/Fail	2.0	2.8	Accent
2P2	Record Data Only no Pass/Pall			2.0	2.0	Ассері
2R3	Record	Data Only no P	ass/Fail	2.6	3.8	Accent
2P3	Record		uss/1 ull	2.0	0.0	Лосорі
2R4	Record	Data Only no P	ass/Fail	24	3.2	Accent
2P4	Record		ass/1 all	2.4	0.2	Ассері
2R5	Record	Data Only no P	ass/Fail	1.6	1 /	Accent
2P5	Record Data Only no Pass/Pall		1.0	1.4	Ассері	
2R6	Record	Pocord Data Only no Poco/Fail			24	Accent
2P6	Record			2.2	2.4	Accept

Amphenol Corporation	Aerospace (Operations	Sidney, N.Y. 1383		
Shall to Shall Conductivity	Temp.	R.H.	CLT	Report	
Shell-to-Shell Conductivity	Ambient	Ambient	10615	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-4553	3/19/2021	2/16/2022			
Power Supply IC-3991	10/5/2021	3/6/2022	D.Cogswell	11/8/2021	

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

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	
2P1 mated	XPFS-782701-35P	1.8	Accent	
to 2R1	XPFS-782711-35S	1.0	7666691	
2P2 mated	XPFS-782701-35P	0.8	Accent	
to 2R2	XPFS-782711-35S	0.0	Accept	
2P3 mated	XPFS-782701-35P	0.5	Accent	
to 2R3	XPFS-782711-35S	0.0	Лосері	
2P4 mated	XPFS-782701-98P	13	Accent	
to 2R4	XPFS-782711-98S	1.5	Accept	
2P5 mated	XPFS-782701-98P	15	Accent	
to 2R5	XPFS-782711-98S	1.5	Accept	
2P6 mated	XPFS-782701-98P	0.6	Accent	
to 2R6	XPFS-782711-98S	0.0	Accept	

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838		
Durahility	Temp.	R.H.	CLT	Report	
Burability	Ambient	Ambient	10615	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	0	500	11/12/2021	Accont
2P1	XPFS-782711-35S	0	500	11/12/2021	Accept
2R2	XPFS-782701-35P	0	500	11/12/2021	Accont
2P2	XPFS-782711-35S	0	500	11/12/2021	Accept
2R3	XPFS-782701-35P	0	500	1/7/2022	Accont
2P3	XPFS-782711-35S	0	500	1/7/2022	Ассерг
2R4	XPFS-782701-98P	0	500	11/12/2021	Accont
2P4	XPFS-782711-98S	0	500	11/15/2021	Accept
2R5	XPFS-782701-98P	0	500	11/12/2021	Accont
2P5	XPFS-782711-98S	0	500	11/15/2021	Accept
2R6	XPFS-782701-98P	0	500	11/12/2021	Accort
2P6	XPFS-782711-98S	[°]	500	11/15/2021	Ассерг

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace	Operations	Sidne	y, N.Y. 13838
Coupling & Uncoupling	Temp.	R.H.	CLT	Report
Coupling & Oncoupling	Ambient	Ambient	10615	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.

	Maximum	Uncouplir	ng Torque			
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
2R1	Record	Data Only no P	ass/Eail	1.6	2.2	Accent
2P1	Record	Data Only no Fa	ass/Faii	1.0	2.2	Accept
2R2	Record	Data Only no P	ass/Fail	1.8	34	Accent
2P2	Record	Data Only no ra	ass/1 all	1.0	0.4	Лосері
2R3	Record	Data Only no P	ass/Fail	2.0	22	Accent
2P3	1,00010			2.0	2.2	7,000001
2R4	Record	Data Only no P	ass/Fail	1.6	22	Accent
2P4	1,00010			1.0	2.2	7,000001
2R5	Record	Data Only no P	ass/Fail	1.8	34	Accent
2P5	TRECOID	Data Only no ra		1.0	0.4	Лосорг
2R6	Record	Data Only no P	ass/Fail	2.8	4.6	Accent
2P6	Record			2.0	ч.0	Лосері

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

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	XPFS-782701-35P	1.9	Accont	2/15/2022
to 2R1	XPFS-782711-35S	1.0	Accept	2/13/2022
2P2 mated	XPFS-782701-35P	0.7	Accont	2/15/2022
to 2R2	XPFS-782711-35S	0.7	Accept	2/13/2022
2P3 mated	XPFS-782701-35P	1 2	Accont	2/15/2022
to 2R3	XPFS-782711-35S	1.5	Accept	2/15/2022
2P4 mated	XPFS-782701-98P	2.0	Accept	2/15/2022
to 2R4	XPFS-782711-98S	2.0	Accept	2/15/2022
2P5 mated	XPFS-782701-98P	1.2	Accort	1/26/2022
to 2R5	XPFS-782711-98S	1.5	Accept	1/20/2022
2P6 mated	XPFS-782701-98P	1.9	Accont	1/26/2022
to 2R6	XPFS-782711-98S	1.0	Accept	1/20/2022

Amphenol Co	orporation		Aerospace	• Operations		Sidne	y, N.Y. 13838
•	cooccome Throad Stre	ngth	Temp.	R.H.	CLT 10615		Report
А	ccessory inread stre	engtn	Ambient	Ambient			ESR-55555
	Test Equipment		Cal Date	Due Date	Technician		Date
	Spring Scale PG-223	34	12/7/2021	2/4/2022	D. Cogswell		See Below
	IC-5025 Timer		12/7/2021	6/7/2022			
	Spring Scale PG-223	34	2/4/2022	4/5/2022			
Accessory T service to a ri one minute au The connecto	hread Strength pe gid panel. The spe nd released. The sp prs were unmated a	r MIL-DTL-38999 cified torque per pecified torque w nd visual inspect	9 paragraphs 3.2 table IX of MIL-E as then applied ted at 3X magnif	26 and 4.5.32. M DTL-38999 was a to the accessory ication for damag	ated connectors v applied to the acce of the receptacle ge or breakage.	vere mounted as essory of the plu for one minute a	in normal g and held for nd released.
Sample ID	AAO Part Number	Minimum Torque (in*lbf)	Moment Arm (in)	Applied Force (lbf)	Observations	Date	Status
2R1	XPFS-782701-35P	50	9 5	E Q	No domogo	2/15/2022	Accept
2P1	XPFS-782711-35S	50	0.0	J.0	No damage	2/15/2022	Accept
2R2	XPFS-782701-35P	50	85	5.8	No damage	2/15/2022	Accent
2P2	XPFS-782711-35S	50	0.5	5.0	No damage	2/13/2022	Ассері
2R3	XPFS-782701-35P	50	85	5.8	No damage	2/15/2022	Accent
2P3	XPFS-782711-35S		0.0	0.0	No damage	2/10/2022	десерг
2R4	XPFS-782701-98P	50	8.5	5.8	No damage	2/15/2022	Accept
2P4	XPFS-782711-98S	00	0.0	0.0	no damago	2,10,2022	, 1000pt
2R5	XPFS-782701-98P	50	8.5	5.8	No damage	1/26/2022	Accept
2P5	XPFS-782711-98S		0.0	0.0		112012022	, .000pt
2R6	XPFS-782701-98P	50	85	5.8	No damage	1/26/2022	Accent
2P6	XPFS-782711-98S	50	0.5	0.0	no damaye	1/20/2022	Лосері

Vibration Temp. Ambient R.H. Ambient CLT Ambient Report 10615 Report See Vibe/Shock Report Due Date Due Date Technician Date ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles. amples are to be prepped in accordance with L-40990-141. A. Hosier 1/31/202 ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 4 1/31/2022 None No Movement Status Movement 2P5 mated XPFS-782701-98P to 2R5 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPFS-782701-98P to 2R6 4.5.23.2.4 1/31/2022 None No Movement Accept		poration		Aerospace	Operations		Sidne	y, N.Y. 138	
Unration Ambient Ambient 10615 ESR-5555 Test Equipment Cal Date Due Date Technician Date See Vibe/Shock Report		Vibuation		Temp.	R.H.	C	LT	Report	
Test Equipment Cal Date Due Date Technician Date See Vibe/Shock Report A. Hosier 1/31/202 ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles. A. Hosier 1/31/202 ibration 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. Movement Sample ID AAO Part Number Profile Date Complete Discontinuities Coupling nut 2P5 mated XPFS-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPFS-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPFS-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept		Vibration		Ambient	Ambient	10615		ESR-5555	
See Vibe/Shock Report A. Hosier 1/31/202 ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles. amples 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 XPF5-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPF5-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept 10 2R6 XPF5-782711-98S 4.5.23.2.4 1/31/2022 None No Movement Accept		Test Equipme	ent	Cal Date	Due Date	Technician		Date	
ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles. amples 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 XPF5-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPF5-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPF5-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPF5-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPF5-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated XPF5-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept	Se	ee Vibe/Shock R	Report						
ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles. amples are to be prepped in accordance with L-40990-141. <u>Sample ID AAO Part Number Profile Date Complete Discontinuities Coupling nut Movement Status</u> <u>2P5 mated XPF5-782701-98P</u> 4.5.23.2.4 1/31/2022 None No Movement Accept <u>2P6 mated XPF5-782701-98P</u> 4.5.23.2.4 1/31/2022 None No Movement Accept to 2R6 XPF5-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept						A. H	osier	1/31/202	
ibration per MIL-DTL-38999 3.27 and 4.5.23.2, 2 pairs per each of the 3 vibration profiles. amples are to be prepped in accordance with L-40990-141. <u>Sample ID AAO Part Number Profile Date Complete Discontinuities Coupling nut Status</u> <u>2P5 mated XPF5-782701-98P</u> 4.5.23.2.4 1/31/2022 None No Movement Accept <u>2P6 mated XPF5-782701-98P</u> 4.5.23.2.4 1/31/2022 None No Movement Accept to 2R6 XPF5-782711-985 4.5.23.2.4 1/31/2022 None No Movement Accept									
Sample IDAAO Part NumberProfileDate CompleteDiscontinuitiesCoupling nut MovementStatus2P5 mated to 2R5XPFS-782711-9854.5.23.2.41/31/2022NoneNo MovementAccept2P6 mated to 2R6XPFS-782701-98P XPFS-782711-9854.5.23.2.41/31/2022NoneNo MovementAccept	ibration per N amples are to	MIL-DTL-38999 be prepped in	9 3.27 and 4.5.23.2, accordance with L-	2 pairs per ea 40990-141.	ch of the 3 vibratio	on profiles.			
2P5 mated to 2R5 XPFS-782701-98P XPFS-782701-98P to 2R6 4.5.23.2.4 1/31/2022 None No Movement Accept 2P6 mated to 2R6 XPFS-782701-98P XPFS-782711-98S 4.5.23.2.4 1/31/2022 None No Movement Accept		Sample ID	AAO Part Number	Profile	Date Complete	Discontinuities	Coupling nut Movement	Status	
2P6 mated XPFS-782701-98P 4.5.23.2.4 1/31/2022 None No Movement Accept to 2R6 XPFS-782711-98S 4.5.23.2.4 1/31/2022 None No Movement Accept		2P5 mated to 2R5	XPFS-782701-98P XPFS-782711-98S	4.5.23.2.4	1/31/2022	None	No Movement	Accep	
		2P6 mated to 2R6	XPFS-782701-98P XPFS-782711-98S	4.5.23.2.4	1/31/2022	None	No Movement	Accep	
Coupling & Uncoupling After Vibe Temp. Ambient R.H. Ambient Ctr Motions Rep. ESR-5 Test Equipment Cal Date Due Date Technician Date Torquemetter PG-2738 1/26/2022 4/27/2022 D. Cogswell 2/1/2 oupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled ann necoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and record Sample ID Maximum Coupling Torque (in*lbf) Uncoupling Torque Min. (in*lbf) Coupling Max. (in*lbf) Uncoupling Torque (in*lbf) Date Tested Sta 2R5 2P5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 2P6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc		Amphenol Corporation		Aerospace Operations		tions Si		<u>dney, N.Y. 1383</u>	
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Ambient Ambient Ambient 10615 ESR-5 Test Equipment Cal Date Due Date Technician Da Torquemeter PG-2738 1/26/2022 4/27/2022 D. Cogswell 2/1/2 Dupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled and coupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and record Sample ID Maximum Coupling Torque Coupling Torque (in*lbf) Uncoupling Torque (in*lbf) Date Tested State 285 2R5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc	Couplin	Coupling & Uncoupling After Vibe		ng & Uncoupling After Vibe Temp. R.H.		R.H.	R.H. CLT		Report
Test Equipment Cal Date Due Date Technician Date Torquemeter PG-2738 1/26/2022 4/27/2022 D. Cogswell 2/1/2 Dupling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4.For qualification testing, mating halves were coupled an coupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and record Sample ID Maximum Coupling Torque (in*lbf) Uncoupling Torque Min. (in*lbf) Coupling Max. (in*lbf) Uncoupling Torque (in*lbf) Date Tested State 2R5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc				Ambient		100	515	ESR-5555	
Torquemeter PG:2738 1/26/2022 4/27/2022 D. Cogswell 2/1/2 upling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4. For qualification testing, mating halves were coupled an coupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and record 2/1/2 Sample ID Maximum Coupling Torque (in*lbf) Uncoupling Torque Min. (in*lbf) Coupling Max. (in*lbf) Uncoupling Torque (in*lbf) Date Tested Sta 2R5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc		Test Equipment		Cal Date	Due Date	Tech	nician	Date	
upling Torque per MIL-DTL-38999 paragraphs 3.11 and 4.6.4. For qualification testing, mating halves were coupled and record coupled; the forces or torques which must be applied to facilitate full coupling and uncoupling were measured and record Sample ID Maximum Coupling Torque (in*lbf) Uncoupling Torque (in*lbf) Coupling Torque (in*lbf) Date Tested Sta 2R5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc	Torquemeter PG-2738			1/26/2022	4/27/2022	D. Co	gswell	2/1/2022	
Maximum Coupling Torque (in*lbf) Max. (in*lbf) Coupling Torque (in*lbf) Uncoupling Torque (in*lbf) Date Tested Sta 2R5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc 2P6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc	upling Toro coupled; the	que per MIL-DTL- forces or torques	38999 paragrapl which must be a Uncouplir	hs 3.11 and 4.6. applied to facilita	4.For qualificatio ate full coupling a	n testing, mating and uncoupling w) halves were co vere measured a	upled and nd recorded	
2R5 Record Data Only no Pass/Fail 4.4 4.2 2/1/2022 Acc 2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc 2P6 P6 P6 P6 P6 P6 P6 P6	Sample ID	Maximum Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Date Tested	Status	
2R6 Record Data Only no Pass/Fail 6.0 6.6 2/1/2022 Acc	2R5 2P5	- Record	Data Only no Pa	ass/Fail	4.4	4.2	2/1/2022	Accept	
	2R6	Record	Data Onlv no Pa	ass/Fail	6.0	6.6	2/1/2022	Accept	

Amphenol Corporation	Aerospace (Operations	Sidney, N.Y. 1383		
Shall to Shall Conductivity After Vibe	Temp.	R.H.	CLT	Report	
Shell-to-Shell Conductivity After Vibe	Ambient	Ambient	10615	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-4008	7/22/2021	6/21/2022			
Power Supply IC-3991	12/7/2021	6/7/2022	D. Cogswell	See Below	

2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status	Date	
2P5 mated	XPFS-782701-98P	1.3	Accept	2/1/2022	
to 2R5	XPFS-782711-98S				
2P6 mated	XPFS-782701-98P	1.8	Accent	2/1/2022	
to 2R6	XPFS-782711-98S	1.0	Accept	2/1/2022	

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838		
Doct Test Examination of Samples	Temp.	R.H.	CLT	Report	
Post rest examination of samples	Ambient	Ambient	10615	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

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX G</u> <u>CLT 10617 Group 2 Test Results</u>

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

Amphenol Co	rporation		Aerospace Operations			Sidney, N.Y. 138		
			Temp.	R.H.	CI	.T	Report	
			Ambient	Ambient	106	517	ESR-55555	
	Test Equipment		Cal Date	Due Date	Techr	lician	Date	
10X	Magnification Micros	scope						
					D.Cog	swell	10/27/2021	
	Parts were examine	d to ensure that t	ney were functio	ning and free of v	workmansnip or m	echanical defects		
Sample ID	AAO Part Number	Lot Number	Obser	vations	Status			
2R1	XPFH-782702-35P	NONE	No D	efects	Accept			
2P1	XPFH-782712-35S	NONE	No D	efects	Accept			
2R2	XPFH-782702-35P	NONE	No D	efects	Accept			

No Defects

Accept

2P2

XPFH-782712-35S

NONE

Amphenol Corporation	Aerospace O	perations	Sidney, N.Y. 13838		
Tomporature Cucling	Temp.	R.H.	CLT	Report	
Temperature Cycling	Ambient	Ambient	10617	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	
			1		

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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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. 1383		
Coupling & Uncoupling	Temp.	R.H.	CLT	Report	
Coupling & Oncoupling	Ambient	Ambient	10617	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Torquemeter PG-2738	10/27/2021	1/26/2022			
			D.Cogswell	10/27/2021	
			1		

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.

	Uncoupling Torque		ng Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
2R1	No Pass/Fail Criteria. Record data only.			1.8	2.0	Accent	
2P1				1.0	2.0	Ассері	
2R2	No Pass/Fail Criteria Record data only			2.2	24	Accent	
2P2	110 F 855/1 8	il Chiena. Neco	u uata offiy.	2.2	2.4	Лосері	

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 138		
Shall to Shall Conductivity	Temp.	R.H.	CLT	Report	
Shell-to-Shell Conductivity	Ambient	Ambient	10617	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-4858	6/22/2021	12/21/2021			
Power Supply IC-3991	10/5/2021	3/6/2022	D.Cogswell	10/27/2021	
			1		

2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated	XPFH-782702-35P	0.92	Accent
to 2R1	XPFH-782712-35S	0.02	7,00001
2P2 mated	XPFH-782702-35P	2702-35P 0.05	
to 2R2	XPFH-782712-35S	0.95	Accept

Amphenol Corporation	Aerospace	Operations	Sic	Sidney, N.Y. 13838		
Durahility	Temp.	R.H.	CLT	Report		
Durability	Ambient	Ambient	10617	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	10/20/2021	Accont	
2P1	XPFH-782712-35S	10	500	10/28/2021	Ассерг	
2R2	XPFH-782702-35P	10	500	10/20/2021	Accont	
2P2	XPFH-782712-35S	10	500	10/28/2021	Accept	

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace (Operations	Sic	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 Samples are to be prepped in accordance with	.3. L-40990-141.				

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

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. 138		
Shall to Shall Conductivity After Vibo	Temp.	R.H.	CLT	Report	
Shell-to-Shell Conductivity After Vibe	Ambient	Ambient	10617	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-3994	7/22/2021	6/21/2022			
Power Supply IC-3991	10/5/2021	3/6/2022	D.Cogswell	2/2/2022	
			1		

2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated	XPFH-782702-35P	1 98	Accent
to 2R1	XPFH-782712-35S	1.50	Лосорг
2P2 mated	XPFH-782702-35P	-35P 1.60 Acc	
to 2R2	XPFH-782712-35S	1.02	Accept

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838		
Coupling 8 Uncoupling After Vibo	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling After Vibe	Ambient	Ambient	10617	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Torquemeter PG-2738	1/26/2022	4/27/2022			
			D.Cogswell	2/2/2022	
			1		

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.

	Maximum	Uncoupling Torque				Status	
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf) Max. (in*lbf)		Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)		
2R1	No Pass/Fail Criteria. Record data only.			2.8	3.0	Accept	
2P1				2.0	5.2	Ассері	
2R2	No Pass/Fail Critoria - Record data only			1 /	3.6	Accent	
2P2	NU F 855/1 a	il Chiena. Neco	u uata offiy.	1.4	5.0	Ассері	

phenol Corporation		Aerospace Operations			Sidney, N.Y. 1383		
Post	Test Examination of S	amples	Temp.	R.H.	CLT 10617		Report
			Ambient	Ambient	10617		ESR-55555
	Test Equipment		Cal Date	Due Date	Technici	an	Date
10>	(Magnification Micros	scope	-				2/2/2022
					D. Cogsw	ell	2/2/2022
	Parts were examine	d to ensure that	they were function	oning and free of w	vorkmanship or mech	anical defects.	
			1				
Sample ID	AAO Part Number	Lot Number	Obser	vations	Status		
2R1	XPFH-782702-35P	NONE	No Performance	e hindering	Accept		
2P1	XPFH-782712-355	NONE	damage from te	sting.			
2KZ	XPFH-/82/02-35P	NONE	No Performance	enindering	Accept		

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX H</u> <u>CLT 10630 Group 1 Test Results</u>

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

nphenol Co	henol Corporation Aerospace Operations Si				Sid	ney, N.Y. 1383	
Prelimina	ary Examination of Te	st Samples	Temp. Ambient	R.H. Ambient	CLT 10630		Report ESR-55555
	Test Equipment		Cal Date	Due Date	Technician		Date
					D. Coş	gswell	12/22/2021
	Parts were examined	d to ensure that t	hey were functio	ning and free of v	workmanship or m	echanical defects	
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status		
181	XDEH_782702_25D	NONE	No Defe	rts good	Accent		
1P1	XPFH-782703-35F	NONE	No Defe	cts good	Accept		
1R2	XPEH-782703-35P	NONE	No Defe	cts, good	Accept		
1P2	XPFH-782713-35S	NONE	No Defects, good		Accept		

Amphenol Corporation	Aerospace Operations		Sid	ney, N.Y. 13838
Tomporature Cueling	Temp.	R.H.	CLT	Report
Temperature Cycling	Ambient	Ambient	10630	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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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. 1383		
Coupling & Uncoupling	Temp.	R.H.	CLT	Report	
	Ambient	Ambient	10630	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Torquemeter PG-2738	10/25/2021	1/26/2022			
			D.Cogswell	12/23/2021	
			1		

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.

	Uncoupling Torque						
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
1R1				4.2	4.0	Accept	
1P1	Record Resu	pord Regulta only. No Rego/Fail Criteria			4.0	Ассері	
1R2	Record Results only, No Pass/Fair Chiena			3.6	ΔΔ	Accent	
1P2				5.0	7.4	лосері	

nphenol Corporation Aerospace Operations		S	idney, N.Y. 13838	
Shell-to-Shell Conductivity	Temp.	R.H.	CLT	Report
	Ambient	Ambient	10630	ESR-55555
Test Equipment	Cal Date	Due Date	Technician	Date
Multi-Meter IC-4049	12/9/2021	12/9/2022		
Power Supply IC-3991	12/7/2021	6/7/2022	D. Cogswell	12/23/2021
			1	

2. millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated	XPFH-782703-35P	0.6	Accept
to 1R1	XPFH-782713-35S	0.0	71000001
1P2 mated	XPFH-782703-35P	0.6	Accent
to 1R2	XPFH-782713-35S	0.0	Αυσερι

Amphenol Corporation		Aerospace	e Operations	Sidney, N.Y. 1		
	Durability Temp. R.H.		R.H.	CLT	Report	
	Durability	Ambient	Ambient	10630	ESR-5555	
Т	est Equipment	Cal Date	Due Date	Technician	Date	
				C.Boecke	2/7/2022	
ability test per I cycles per hour	MIL-DTL-38999 paragraphs 3.1. After conditioning, connector	2 and 4.5.8.1. Conners were visually exa	ectors were mated a mined for damage of	and unmated 500 cycles detrimental to the opera	at a rate not to exceed ation of the connector, a	
nectors shall me	MIL Part Number	nts. Shell Size	Total Cycles	Results		
1R1	XPFH-782703-35P			neouno		
1P1	XPFH-782713-35S	12	500	Accept		
1R2	XPFH-782703-35P	10				
1P2	XPFH-782713-35S	12	500	Accept		
			•			
	All durability testing wa	as done manually at	a rate of approvim	ately 300 Cycles ner hou	ır	
	An durability testing Wa	as uone manually at	a rate of approxim	ately 500 Cycles per nou	11	

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

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.

	Movimum		Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	
1R1				11	8.8	Accent	
1P1	Record Resu	lite only. No Pas	e/Eail Criteria	4.4	0.0	Лосері	
1R2	Record Results only, No Pass/Fair Chteria			3.8	7.2	Accent	
1P2				5.0	1.2	лосері	

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

2. millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
1P1 mated	XPFH-782703-35P	0.6	Accent
to 1R1	XPFH-782713-35S	0.0	Accept
1P2 mated	XPFH-782703-35P	0.6	Accont
to 1R2	XPFH-782713-35S	0.0	Accept

Amphenol Corporation	Aerospace Oper	ations	Sid	ney, N.Y. 13838
Altitudo Immorrion	Temp.	R.H.	CLT	Report
Altitude immersion	Ambient	Ambient	10630	ESR-55555
Test Equipment	Cal Date	Due Date	Technician	Date
IC-5286 Pressure Gauge	8/3/2021	7/3/2022		
F-0993 Clock			D. Cogswell	2/24/2022

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

*See next 2 data sheets for IR DWV results

Amphenol Corporation			Aerospace Oper	Sidney, N.Y. 13838		
Insulation	n Resistance While in Sa	It Water Solution Post	Temp. R.H.		CLT	Report
	Altitude Immsersion		Ambient	Ambient	10630	ESR-55555
	Test Equipment		Cal Date	Due Date	Technicia	n Date
	F-2672 159 Circuit Con	nector Tester	1/9/2022	4/8/2022		
					D.Cogswe	II 2/24/2022
Insulatio	on Resistance post A	Ititude Immersion: M	lated Connectors	were tested in a	ccordance with tes	t procedure
EIA-364	-21. All cavities were	tested. 500 VDC was	applied to each o	contact during tes	st.	1
				j		
Sample		Minimum IR				
ID	AAO Part Number	Requirement	Results		Status	
1R1	XPFH-782703-35P	5,000 MΩ		. 50.00		
1P1	XPFH-782713-35S	5,000 MΩ	All locatio	σ >50 G Ω	Accept	
1R2	XPFH-782703-35P	5,000 MΩ			Assant	
1P2	XPFH-782713-35S	5,000 MΩ		015 >50 G12	Ассерг	

Amphenol Corporation Aerospace Operations					Sid	ney, N.Y. 13838	
Dielectr	ic Withstanding Voltag	e While in Salt Water	Temp.	R.H.		CLT	Report
Solution Post Altitude Immsersion		Ambient	Ambient	1	0630	ESR-55555	
	Test Equipm	ent	Cal Date	Due Date	Tec	hnician	Date
	F-2672 159 Circuit Con	nector Tester	1/9/2022	4/8/2022			
					D. Cogswell 2		2/24/2022
procedure EIA-364-	e -20. All cavities were t	ested. 2000 VAC RM	mersion: Mated IS was applied to	each contact du	ring test.	accordance wi	in test
Sample		Maximum Leak	Dee	. It -	Chatrus		
ID	AAO Part Number	Requirement	Res	ults	Status		
1R1	XPFH-782703-35P	2 mA	All locations <2m	A No flach over	Accont		
1P1	XPFH-782713-35S	2 mA	All locations <211	A. NO Hash-over	Ассері		
1R2	XPFH-782703-35P	2 mA	All locations < 2m	A No flash-over	Accent		
1P2	XPFH-782713-35S	2 mA		A. NO HASH-OVEL	Ассері		

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

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 52/	1 /27	0.007	Accont
1P1	XPFH-782713-35S	0.034	1.554	1.457	0.097	Ассерт
1R2	XPFH-782703-35P	0.034	1 522	1 / 29	0.004	Accont
1P2	XPFH-782713-35S	0.034	1.352	1.430	0.094	Accept

Amphenol Corporation	Aerospace	Operations	Sid	idney, N.Y. 13838	
External Panding Moment	Temp.	R.H.	CLT	Report	
External bending woment	Ambient	Ambient	10630	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Zwick PG-3141	8/9/2022	2/7/2023			
Caliper I47	4/19/2022	4/18/2023	J. Lee	8/11/2022	
			1		

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	35.0	No	Accent
1P1	XPFH-782713-35S	15	2.1	55.5	Discontinuities	лосері
1R2	XPFH-782703-35P	75	2.1	35.0	No	Accont
1P2	XPFH-782713-35S	75	۷.۱	55.9	Discontinuities	Accept

Post Test Examination of Samples Temp. Ambient Test Equipment Cal Date Parts were examined to ensure that they were functioning and	R.H. Ambient Due Date	CLT 1063 Technic D. Cogs nanship or mecha	:0 c ian well nical defects.	Report ESR-55555 Date 8/12/2022
Test Equipment Cal Date Parts were examined to ensure that they were functioning and	Due Date	Technic D. Cogs nanship or mecha	cian well nical defects.	Date 8/12/2022
Parts were examined to ensure that they were functioning and	d free of workm	D. Cogs nanship or mecha	well nical defects.	8/12/2022
Parts were examined to ensure that they were functioning and	d free of workm	nanship or mecha	nical defects.	
Sample II) I AA() Part Number I of Number I () Servation		Status		
		Status		
1R1 XPFH-782703-35P none No Performance Innib	iting Defects	Accept		
1P1 XPFH-782713-355 none No Performance Inhib	iting Defects	Accept		
1P2 XPEH-782703-35P Holle No Performance Inhib	iting Defects	Accept		
	iting Deletts	Accept		

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX I</u> <u>CLT 10630 Group 2 Test Results</u>

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

nphenol Corporation			Aerospace Operations			Sidn	ey, N.Y. 13838
Prelimin	ary Examination of Tes	t Samnles	Temp.	Temp. R.H.			Report
i reimini		t Samples	Ambient	Ambient	10630 Technician		ESR-55555
	Test Equipment		Cal Date	Due Date			Date
					D. Cogsv	well	12/21/2021
	Parts were examined t	o ensure that the	y were functionir	ng and free of wor	kmanship or mecha	anical defects.	
	1 1		I				
Sample ID	AAO Part Number	Lot Number	Obser	vations	Status		
2R1	XPFH-782703-35P	NONE	No Observa	able Defects	Accept		
2D1							
21 1	APEN-702713-333	NONE	No Observa	able Defects	Accept		
2R2	XPFH-782713-355 XPFH-782703-35P	NONE NONE	No Observa No Observa	able Defects able Defects	Accept Accept		
2R2 2P2	XPFH-782713-355 XPFH-782703-35P XPFH-782713-355	NONE NONE NONE	No Observa No Observa No Observa	able Defects able Defects able Defects	Accept Accept Accept		
2R2 2P2 2R3	XPFH-782713-355 XPFH-782703-35P XPFH-782713-355 XPFH-782703-35P	NONE NONE NONE NONE	No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects	Accept Accept Accept Accept		
2R2 2P2 2R3 2P3	XPFH-782713-353 XPFH-782703-35P XPFH-782713-355 XPFH-782703-35P XPFH-782713-355	NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept		
2R2 2P2 2R3 2P3 2R4	XPFH-782713-353 XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P	NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept		
2R2 2P2 2R3 2P3 2R4 2P4	XPFH-782713-353 XPFH-782703-35P XPFH-782713-355 XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782713-35S	NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept		
2R2 2P2 2R3 2P3 2R4 2P4 2R5	XPFH-782713-353 XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P	NONE NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept Accept Accept		
2R2 2P2 2R3 2P3 2R4 2P4 2R5 2P5	XPFH-782713-353 XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782703-35P XPFH-782713-35S XPFH-782703-35P XPFH-782703-35P XPFH-782703-35S XPFH-782703-35S XPFH-782703-35P XPFH-782703-35S XPFH-782703-35S	NONE NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept Accept Accept Accept		
2R2 2P2 2R3 2P3 2R4 2P4 2R5 2P5 2R6	XPFH-782713-353 XPFH-782703-35P XPFS-782703-35P	NONE NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept Accept Accept Accept Accept		

Amphenol Corporation	Aerospace C	perations	Sidne	y, N.Y. 13838
Tomporatura Cualing	Temp.	R.H.	CLT	Report
Temperature Cycling	Ambient	Ambient	10630	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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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	Sidne	y, N.Y. 13838
Coupling & Uncoupling	Temp.	R.H.	CLT	Report
Coupling & Oncoupling	Ambient	Ambient	10630	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.

	Maximum	Uncouplir	ng Torque			
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
2R1	Pocord	Data Only no B	acc/Eail	2.04	2.5	Accont
2P1	Record	Data Only no Fa	ass/Faii	5.24	2.0	Accept
2R2	Record	Data Only no P	ass/Fail	3 25	3 27	Accent
2P2	Record		ass/1 all	5.25	5.21	Ассері
2R3	Record	Data Only no P	ass/Fail	2.88	3 4 2	Accent
2P3	T CCOTO			2.00	0.42	Лосорі
2R4	Record	Data Only no P	ass/Fail	3.03	2.82	Accent
2P4	TRECOID			0.00	2.02	Лосорі
2R5	Record	Data Only no P	ass/Fail	3 33	3 35	Accent
2P5	Record		uss/1 ull	0.00	0.00	Лесері
2R6	Record	l Data Only no P	ass/Fail	3 25	3.07	Accent
2P6	Record	Data Only no Fa	ass/1 all	5.25	5.07	Λυσμι

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

2 millivolts

Sample ID	AAO Part Number	Millivolt Drop (mV)	Status
2P1 mated to	XPFH-782703-35P	0.59	Accont
2R1	XPFH-782713-35S	0.58	Ассерг
2P2 mated to	XPFH-782703-35P	0.50	Accont
2R2	XPFH-782713-35S	0.59	Accept
2P3 mated to	XPFH-782703-35P	0.74	Accort
2R3	XPFH-782713-35S	0.74	Accept
2P4 mated to	XPFH-782703-35P	0.76	Accent
2R4	XPFH-782713-35S	0.76	Ассерг
2P5 mated to	XPFH-782703-35P	0.72	Accont
2R5	XPFH-782713-35S	0.75	Accept
2P6 mated to	XPFH-782703-35P	0.76	Accort
2R6	XPFH-782713-35S	0.76	Accept

Amphenol Corporation	Aerospace	Operations	Sidne	ey, N.Y. 13838
Durahilitu	Temp.	R.H.	CLT	Report
Durability	Ambient	Ambient	10630	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
			1	

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	10	500	1/10/2022	Accont
2P1	XPFH-782713-35S	12	500	1/19/2022	Accept
2R2	XPFH-782703-35P	12	500	1/20/2022	Accont
2P2	XPFH-782713-35S	12	500	1/20/2022	Accept
2R3	XPFH-782703-35P	12	500	1/22/2022	Accont
2P3	XPFH-782713-35S	12	500	1/25/2022	Accept
2R4	XPFH-782703-35P	12	500	1/22/2022	Accont
2P4	XPFH-782713-35S	12	500	1/23/2022	Accept
2R5	XPFH-782703-35P	10	500	1/22/2022	Accont
2P5	XPFH-782713-35S	12	500	1/25/2022	Accept
2R6	XPFH-782703-35P	12	500	1/22/2022	Accont
2P6	XPFH-782713-35S	12	500	1/23/2022	Ассерг

Durability cycles were performed by hand.

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

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	8.2	NI/A	Accent
2P1	XPFH-782713-35S	50	0.0	0.5	N/A	Accept
2R2	XPFH-782703-35P	50 6.0		8.2	NI/A	Accent
2P2	XPFH-782713-35S	50	0.0	0.5	N/A	Accept
2R3	XPFH-782703-35P	50	6.0	8.2	NI/A	Accent
2P3	XPFH-782713-35S	50	0.0	0.5	N/A	Accept
2R4	XPFH-782703-35P	50	6.0	8.2	NI/A	Accent
2P4	XPFH-782713-35S	50	0.0	0.5	N/A	Accept
2R5	XPFH-782703-35P	50	6.0	0.0	NI / A	Accont
2P5	XPFH-782713-35S	50	0.0	0.5	N/A	Ассерг
2R6	XPFH-782703-35P	50	6.0	0.2	NI/A	Accont
2P6	XPFH-782713-35S	50	0.0	0.5	N/A	Ассері

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX J</u> <u>CLT 10654 Group 1 Test Results</u>

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

inplication co	rporation		Aerospace	Operations		Sidney, N.Y. 13838
Visual	Examination of Test S	Samples	Temp.R.H.AmbientAmbient		CLT 10654	Report ESR-55555
	Test Equipment		Cal Date	Due Date	Technicia	n Date
					D. Cogswe	ell 2/18/2022
	Parts were examined	d to ensure that t	hey were functio	oning and free of v	workmanship or mecha	anical defects.
Sample ID	AAO Part Number	Lot Number	Observ	vations	Status	
Sample ID 1R1	AAO Part Number XPFH-782704-35P	Lot Number NONE	Observ No Defe	vations cts. good	Status Accept	
Sample ID 1R1 1P1	AAO Part Number XPFH-782704-35P XPFH-782714-35S	Lot Number NONE NONE	Observ No Defe No Defe	vations cts, good cts, good	Status Accept Accept	
Sample ID 1R1 1P1 1R2	AAO Part Number XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P	Lot Number NONE NONE NONE	Observ No Defe No Defe No Defe	vations cts, good cts, good cts, good	Status Accept Accept Accept	
Amphenol Corporation	Aerospace C	perations	Sid	ney, N.Y. 13838		
--------------------------------------	-------------	-----------	-------------	-----------------		
Tomporature Cucling	Temp.	R.H.	CLT	Report		
Temperature Cycling	Ambient	Ambient	10654	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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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. 1383		
	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling	Ambient	Ambient	10654	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.

	Maximum	Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
1R1				5.2	74	Accent
1P1	Record Resu	lte only. No Pas	s/Eail Criteria	5.2	7.4	Лосері
1R2	Trecord Tread	Record Results only, No Fass/Fall Chiena			18	Accent
1P2				4.0	4.0	Ассері

Amphenol Corporation Aeros		Operations	Sid	ney, N.Y. 13838
Shall to Shall Conductivity	Temp.	R.H.	CLT	Report
Shell-to-shell conductivity	Ambient	Ambient	10654	ESR-55555
Test Equipment	Cal Date	Due Date	Technician	Date
Multi-Meter IC-4098	12/9/2021	12/9/2022		
Power Supply IC-3991	12/7/2021	6/7/2022	D.Cogswell	2/21/2022
			1	

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

DurabilityTemp. AmbientR.H. AmbientCLT Me 10654Re ESR- DescriptionTest EquipmentCal DateDue DateTechnicianD			Aerospace	Operations		Sic	ney, N.Y. 13
AmbientAmbient10654ESR-Test EquipmentCal DateDue DateTechnicianDImage: Control of the		Durability	Temp.	R.H.	CI	LT	Report
Test EquipmentCal DateDue DateTechnicianDImage: Cal DateImage: Cal Date			Ambient	Ambient	106	554	ESR-55555
Image: constraint of the constra	Те	est Equipment	Cal Date	Due Date	Techr	nician	Date
and the second state of approximately 300 Cycles per hour.rability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectorswere mated and unmated 500 cycles at a rate not to excles per hour. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, a nuectors shall meet subsequent test requirements.Sample IDMIL Part NumberShell SizeTotal CyclesDateResults1R1XPFH-782704-35P145002/21/2022Accept1P1XPFH-782714-35S145002/21/2022Accept1P2XPFH-782714-35S145002/21/2022Accept					D.Cog	swell	2/21/202
rability test per MIL-DTL-38999 paragraphs 3.12 and 4.5.8.1. Connectorswere mated and unmated 500 cycles at a rate not to excles per hour. After conditioning, connectors were visually examined for damage detrimental to the operation of the connector, a unectors shall meet subsequent test requirements.Sample IDMIL Part NumberShell SizeTotal CyclesDateResults1R1XPFH-782704-35P145002/21/2022Accept1P1XPFH-782714-35S145002/21/2022Accept1P2XPFH-782714-35S145002/21/2022Accept							
Sample IDMIL Part NumberShell SizeTotal CyclesDateResults1R1XPFH-782704-35P145002/21/2022Accept1P1XPFH-782714-35S145002/21/2022Accept1R2XPFH-782704-35P145002/21/2022Accept1P2XPFH-782714-35S145002/21/2022Accept	r ability test per N les per hour. Afte inectors shall me	ЛIL-DTL-38999 paragraphs 3.12 er conditioning, connectors we et subsequent test requiremer	2 and 4.5.8.1. Conner re visually examine nts.	ectorswere mated a d for damage detri	and unmated 500 mental to the ope	cycles at a rate ration of the cor	not to exceed nnector, and
1R1XPFH-782704-35P XPFH-782714-35S145002/21/2022Accept1R2XPFH-782704-35P XPFH-782714-35S145002/21/2022Accept1P2XPFH-782714-35S145002/21/2022Accept	Sample ID	MIL Part Number	Shell Size	Total Cycles	Date	Results	
1P1XPFH-782714-35S145002/21/2022Accept1R2XPFH-782704-35P145002/21/2022Accept1P2XPFH-782714-35S145002/21/2022Accept	1R1	XPFH-782704-35P		500	0 /04 /0000	• .	-
1R2 XPFH-782704-35P 14 500 2/21/2022 Accept 1P2 XPFH-782714-35S 14 500 2/21/2022 Accept All durability testing was done manually at a rate of approximately 300 Cycles per hour.	1P1	XPFH-782714-35S	14	500	2/21/2022	Accept	
International of the second	1R2	XPEH-782704-35P					-
All durability testing was done manually at a rate of approximately 300 Cycles per hour.	1P2	XPFH-782714-35S	14	500	2/21/2022	Accept	
All durability testing was done manually at a rate of approximately 300 Cycles per hour.	1.2						4
All durability testing was done manually at a rate of approximately 300 Cycles per hour.							
		All durability testing wa	as done manually a	t a rate of approxin	nately 300 Cycles	per hour.	

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 1383		
Counting 8 Uncounting	Temp.	R.H.	CLT	Report	
Coupling & Uncoupling	Ambient	Ambient	10654	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	
			1		

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.

Movimum		Uncoupling Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status
1R1	Pecord	Desert Data Only no Dese/Esil			13.4	Accept
1P1	Record	Record Data Only no Pass/Fail		11.0	15.4	Ассері
1R2	Record Data Only no Reco/Fail			9.0	11.2	Accent
1P2	Record	Record Data Only no Pass/Fail			11.2	Ассері

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 1383		
Shall to Shall Conductivity	Temp.	R.H.	CLT	Report	
Shell-to-Shell Conductivity	Ambient	Ambient	10654	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Multi-Meter IC-4089	12/9/2021	12/9/2022			
Power Supply IC-3991	10/5/2021	3/6/2022	D.Cogswell	2/22/2022	
			1		

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	XPFH-782704-35P	0.80	Accent
to 1R1	XPFH-782714-35S	0.03	Лосері
1P2 mated	XPFH-782704-35P	0.85	Accont
to 1R2	XPFH-782714-35S	0.85	Accept

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

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

*See next 2 data sheets for IR DWV results

Amphen	ol Corporation		Aerospace Opera	ations	S	idney, N.Y. 13838	
Insulation	n Resistance While in Sa	alt Water Solution Post	Temp.	R.H.	CLT	Report	
	Altitude Immsersion		Ambient	Ambient	10654	ESR-55555	
	Test Equipm	ent	Cal Date	Due Date	Technician	Date	
	F-2672 159 Circuit Con	nector Tester	1/9/2022	4/8/2022			
					D.Cogswell	2/24/2022	
EIA-364	nsulation 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		Minimum IR					
ID	AAO Part Number	Requirement	Res	ults	Status		
1R1	XPFH-782704-35P	5 000 MO					
1P1	XPFH-782714-35S	5.000 MΩ	All locatio	ns >50 GΩ	Accept		
1R2	XPFH-782704-35P	5,000 MΩ					
1P2	XPFH-782714-35S	5,000 MΩ	All locatio	ns >50 GΩ	Accept		

<u>Amphen</u>	ol Corporation		Aerospace Opera	ations		Si	dney, N.Y. 1383	
Dielectr	Dielectric Withstanding Voltage While in Salt Water		Temp.	R.H.	CLT		Report	
Solution Post Altitude Immsersion		Ambient	Ambient	1065	54	ESR-55555		
Test Equipment		Cal Date	Due Date	Techni	cian	Date		
	F-2672 159 Circuit Connector Tester		1/9/2022	4/8/2022				
					D. Cogswell		2/24/2022	
rocedure	e EIA-364-20. All cavi	ties were tested. 200	0 VAC RMS was	applied to each	contact during	test.	with test	
Sample		Maximum Leak						
ID	AAO Part Number	Requirement	Res	ults	Status			
1R1	XPFH-782704-35P	2 mA						
1P1	XPFH-782714-35S	2 mA	All locations <2m	A. No flash-over	Accept			
1R2	XPFH-782704-35P	2 mA	All locations <2mA. No flash-over		A +			
1P2	XPFH-782714-35S	2 mA			Accept			

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

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 5 2 2	1 442	0.081	Accont
1P1	XPFH-782714-35S	0.034	1.525	1.442	0.001	Accept
1R2	XPFH-782704-35P	0.034	1 5 2 1	1 440	0.081	Accont
1P2	XPFH-782714-35S	0.034	1.321	1.440	0.001	Ассері

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838		
External Panding Moment	Temp.	R.H.	CLT	Report	
External bending woment	Ambient	Ambient	10654	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
Zwick PG-3141	8/9/2022	3/7/2023			
Caliper F47	4/19/2022	4/18/2023	J. Lee	8/11/2022	
			1		

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	2.00	23.8	No	Accent
1P1	XPFH-782714-35S	100	2.09	20.0	Discontinuities	Ассері
1R2	XPFH-782704-35P	100	2.08	22.0	No	Accont
1P2	XPFH-782714-35S	100	2.00	23.9	Discontinuities	Accept

Post Test Examination of Test Samples Temp. R.H. CLT Ambient Ambient Ambient 10654 Test Equipment Cal Date Due Date Technician Image: Constraint of the second of	Repor ESR-555 Date
Ambient Ambient 10654 Test Equipment Cal Date Due Date Technician Due Due Due Due	ESR-555 Date
Test Equipment Cal Date Due Date Technician Image: Constraint of the second sec	Date
D. Cogswell	
	8/12/20
Parts were examined to ensure that they were functioning and free of workmanship or mechanical defect	s.
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	

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

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395

<u>APPENDIX K</u> <u>CLT 10654 Group 2 Test Results</u>

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

mphenol Corporation			Aerospace	Operations		Sidn	ey, N.Y. 13838
	Visual Examination		Temp.	R.H.	CLI	Г	Report
	VISUAI Examination		Ambient Ambient		10654		ESR-55555
	Test Equipment		Cal Date	Due Date	Techni	ician	Date
					Matt Sin	nonds	1/24/2022
	Parts were examined t	o ensure that the	y were functionir	ng and free of wor	kmanship or mech	nanical defects.	
Sample ID	AAO Part Number	Lot Number	Obser	vations	Status		
2R1	XPFH-782704-35P	NONE	No Observa	able Defects	Accept		
2P1	XPFH-782714-35S	NONE	No Observa	able Defects	Accept		
2R2	XPFH-782704-35P	NONE	No Observa		Accont		
2P2				able Defects	Ассерт		
212	XPFH-782714-35S	NONE	No Observa	able Defects able Defects	Accept		
2R3	XPFH-782714-35S XPFH-782704-35P	NONE NONE	No Observa No Observa	able Defects able Defects able Defects	Accept Accept Accept		
2R3 2P3	XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S	NONE NONE NONE	No Observa No Observa No Observa	able Defects able Defects able Defects able Defects	Accept Accept Accept Accept		
2R3 2P3 2R4	XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P	NONE NONE NONE NONE	No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4	XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S	NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4 2R5	XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P	NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4 2R5 2P5	XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S	NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept Accept Accept		
2R3 2P3 2R4 2P4 2R5 2P5 2R6	XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P XPFH-782704-35P XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P	NONE NONE NONE NONE NONE NONE NONE NONE	No Observa No Observa No Observa No Observa No Observa No Observa No Observa	able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects able Defects	Accept Accept Accept Accept Accept Accept Accept Accept Accept Accept		

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

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 -65°C +0°C, -5°C and the temperature off step 3 was +200°C +5°C, -0°C. 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.	R.H.	CLT	Report	
Coupling & Oncoupling	Ambient	Ambient	10654	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.

	Moximum	Uncoupli	ng Torque					
Sample ID Coupling Torque (in*lbf)		Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	Date	
2R1	Pecore	l Data Only no P	ass/Eail	11	3.5	Accent	1/26/2022	
2P1	Record Data Only no Pass/Fall			4.1	5.5	Ассері	1/20/2022	
2R2	Record Data Only no Pass/Eail			4.0	4.5	Accent	1/26/2022	
2P2				4.0	4.0	Лосерг	1720/2022	
2R3	Record Data Only no Pass/Fail			4.8	6.6	Accent	2/16/2022	
2P3	Record Data Only no Pass/Fall		uss/1 ull	4.0	0.0	Лосорг	2/10/2022	
2R4	Record	I Data Only no P	ass/Fail	4.6	4.8	Accent	2/16/2022	
2P4	Record Data Only no Pass/Fail		uss/1 ull	4.0	4.0	Лосерг	2/10/2022	
2R5	Record Data Only no Pass/Fail		3.6	6.8	Accent	2/16/2022		
2P5		Necold Data Only no Pass/Fall		0.0	0.0	Лосерг	2/10/2022	
2R6	Record Data Only no Pass/Fail			3.8	6	Accent	2/16/2022	
2P6		Record Data Only no Pass/Fail				5	7.000001	2/10/2022

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

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	XPFH-782704-35P	1 56	Accont	1/26/2022	
to 2R1	XPFH-782714-35S	1.50	Ассері	1/20/2022	
2P2 mated	XPFH-782704-35P	1.86	Accent	1/26/2022	
to 2R2	XPFH-782714-35S	1.00	Ассері	1/20/2022	
2P3 mated	XPFH-782704-35P	1.08	Accont	2/16/2022	
to 2R3	XPFH-782714-35S	1.90	Accept	2/10/2022	
2P4 mated	XPFH-782704-35P	1 4 4	Accont	2/16/2022	
to 2R4	XPFH-782714-35S	1.44	Accept	2/10/2022	
2P5 mated	XPFH-782704-35P	1.65	Accort	2/16/2022	
to 2R5	XPFH-782714-35S	1.05	Accept	2/10/2022	
2P6 mated	XPFH-782704-35P	1 56	Accont	2/16/2022	
to 2R6	XPFH-782714-35S	1.50	Accept	2/10/2022	

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 1383		
Durahilitu	Temp.	R.H.	CLT	Report	
Durability	Ambient	Ambient	10654	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	Accont	
2P1	XPFH-782714-35S	14	500	1/20/2022	Accept	
2R2	XPFH-782704-35P	14	500	1/26/2022	Accont	
2P2	XPFH-782714-35S	14	500	1/20/2022	Accept	
2R3	XPFH-782704-35P	14	500	2/16/2022	Accont	
2P3	XPFH-782714-35S	14	500	2/10/2022	Ассерг	
2R4	XPFH-782704-35P	14	500	2/21/2022	Accont	
2P4	XPFH-782714-35S	14	500	2/21/2022	Accept	
2R5	XPFH-782704-35P	14	500	2/10/2022	Accont	
2P5	XPFH-782714-35S	14	500	2/10/2022	Accept	
2R6	XPFH-782704-35P	14	500	2/16/2022	Accont	
2P6	XPFH-782714-35S	14	500	2/10/2022	Ассері	

Durability cycles were performed by hand.

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 1383		
Coupling 8 Uncoupling	Temp.	R.H.	CLT	Report	
Coupling & Oncoupling	Ambient	Ambient	10654	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.

	Uncoupling Torque		ng Torque				
Sample ID	Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)	Status	Date
2R1	Record	l Data Only no P	ass/Eail	11 7	14.6	Accent	1/26/2022
2P1	Record Data Only no Pass/Fall			11.7	14.0	Accept	1/20/2022
2R2	Record Data Only no Dasa/Eail			13.2	13.6	Accent	1/26/2022
2P2	Record Data Only no Fass/Fail			15.2	15.0	Ассері	1/20/2022
2R3	Record Data Only no Bass/Eail			12.6	11.2	Accent	2/22/2022
2P3	Record Data Only no Pass/Pall		12.0	11.2	Лосері	212212022	
2R4	Record	Beaard Data Only no Beac/Eail			10.0	Accent	2/22/2022
2P4	Record Data Only no Fass/Fail		11.0	19.0	Accept	212212022	
2R5	Record Data Only no Pass/Fail		10.4	12.6	Accent	2/22/2022	
2P5	Record	Record Data Only no Pass/Pall		10.4	12.0	Accept	212212022
2R6	Record Data Only no Pass/Fail			14.6	17.6	Accent	2/22/2022
2P6	T T COI U	Data Only no P	ass/1 all	14.0	17.0	Лосері	

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

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	XPFH-782704-35P	0.84	Accept	1/26/2022	
to 2R1	XPFH-782714-35S				
2P2 mated	XPFH-782704-35P	0.56	Accent	1/26/2022	
to 2R2	XPFH-782714-35S	0.00	Лосорг	1/20/2022	
2P3 mated	XPFH-782704-35P	0.66	Accent	2/22/2022	
to 2R3	XPFH-782714-35S	0.00	Ассері	212212022	
2P4 mated	XPFH-782704-35P	0.70	Accont	2/22/2022	
to 2R4	XPFH-782714-35S	0.70	Accept	212212022	
2P5 mated	XPFH-782704-35P	0.38	Accont	2/22/2022	
to 2R5	XPFH-782714-35S	0.50	Accept	212212022	
2P6 mated	XPFH-782704-35P	0.48	Accent	2/22/2022	
to 2R6	XPFH-782714-35S	0.40	лосері	212212022	

Amphenol Corporation			Aerospace Operations			Sidne	y, N.Y. 13838
А	ccessory Thread Str	ength	Temp. Ambient	R.H. Ambient	CLT 10654		Report ESR-55555
	Test Equipment		Cal Date	Due Date	Techn	lician	Date
	Spring Scale PG-22	34	2/4/2022	4/5/2022	Chric D	oooko	
	IC-5025 Timer		12/7/2021	6/7/2022	D.Cog	swell	See Below
rigid panel. Th released. The unmated and	e specified torque p specified torque was visual inspected at 3	er table IX of MIL- s then applied to t X magnification fo	DTL-38999 was ap he accessory of th or damage or brea	oplied to the acces ne receptacle for o kage.	ssory of the plug an one minute and rele	d held for one mir ased. The connec	nute and tors were
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-782714-355				-		
2RZ 2D2	XPFH-782704-35P	50	8.5"	5.8	N/A	Accept	1/26/2022
2R3	XPFH-782704-35P						
2P3	XPFH-782714-35S	50	8.5"	5.8	N/A	Accept	2/22/2022
2R4	XPFH-782704-35P	50	0 5"	ΕQ	NI/A	Accont	2/22/2022
2P4	XPFH-782714-35S	50	0.0	5.6	IN/A	Ассерг	2/22/2022
2R5	XPFH-782704-35P	50	8 5"	5.8	N/A	Accent	2/22/2022
2P5	XPFH-782714-35S	50	0.5	5.0	N/A	лисери	2/22/2022

8.5"

5.8

N/A

Accept

2/22/2022

50

2R6

2P6

XPFH-782704-35P

XPFH-782714-35S

ENGINEERING SUMMARY REPORT REPORT NO. ESR-55555

Amphenol Corporation Aerospace Operations Sidney, NY 13838-1395 REPORT NO. ESR-55555 REPORT DATE: 8/12/22 Revision: B

<u>APPENDIX L</u> CLT 10696 Test Results

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

Amphenol Corporation			Aerospace	Aerospace Operations			Sidney, N.Y. 13838	
Visu	Visual and Mechanical Examination Test Equipment		Temp. Ambient	R.H. Ambient	CLT 10696		Report ESR-55555	
			Cal Date	Due Date	Technicia	an	Date	
10X Magnification Microscope		roscope			D. Cogsw	ell	4/27/2022	
Visual and and piece (military sta	Mechanical Examina parts shall be visually andards.	tion per MIL-DTL-3 and mechanically e	8999 paragraphs examined to ensu	3.1, 3.3, 3.4, 3.55, re product is in ac	3.52, 3.53, and 4.5.1 cordance with the sp	. The connecto	ors, accessories, d the applicable	
Sample ID	Amphenol Part Number	Description	Observ	vations	Status			
Sample ID P1	Amphenol Part Number XPFH-782713-35S	Description Plug 12	Observ No De	vations efects	Status Accept			
Sample ID P1 R1	Amphenol Part Number XPFH-782713-35S XPFH-782703-35P	Description Plug 12 Receptacle 12	Observ No De No De	vations efects efects	Status Accept Accept			

No Defects

No Defects

No Defects

No Defects

No Defects

Accept

Accept

Accept

Accept

Accept

R2

Ρ3

R3

Ρ4

R4

XPFH-782703-35P

XPFH-782714-35S

XPFH-782704-35P

XPFH-782714-35S

XPFH-782704-35P

Receptacle 12

Plug 14

Receptacle 14

Plug 14

Receptacle 14

Amphenol Corporation	Aerospace Ope	erations	Sidr	ney, N.Y. 13838
Tomporaturo Cuelo	Temp.	R.H.	CLT	Report
Temperature cycle	Ambient	Ambient	10696	ESR-55555
Test Equipment	Cal Date	Due Date	Technician	Date
Environmental Chamber IC-5918	3/9/2022	9/7/2022		4/27/2022
			D. Barbeisch	4/2//2022
			1	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 -65°C +0°C, -5°C and the temperature off step 3 to be +200°C +5°C, -0°C 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 P1	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. 1383	
Coupling and Uncoupling Torque	Temp.	R.H.	CLT	Report
Coupling and Oncoupling Torque	Ambient	Ambient	10696	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
			1	

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.

			Uncoupli	ng Torque		
Sample ID	Amphenol Part Number	Maximum Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)
P1 mated	XPFH-782713-35S	16	2	16	3.4	7 9
to R1	XPFH-782703-35P	10	2	10	5.4	7.8
P2 mated	XPFH-782713-35S	16	2	16	3.4	67
to R2	XPFH-782703-35P	10	2	10	5.4	0.7
P3 mated	XPFH-782714-35S	20	Λ	20	5.4	6.9
to R3	XPFH-782704-35P	20	4	20	5.4	0.9
P4 mated	XPFH-782714-35S	20	1	20	6.8	7 /
to R4	XPFH-782704-35P	20	4	20	0.8	7.4

Amphenol Corporation		Aerospace	Operations	Sid	Sidney, N.Y. 13838		
She	Shell to Shell Conductivity		R.H.	CLT	Report		
She		Ambient	Ambient	10696	ESR-55555		
	Test Equipment	Cal Date	Due Date	Technician	Date		
Ро	wer Supply IC-4859	10/20/2021	10/20/2022				
N	1ultimeter IC-4089	12/9/2021	12/9/2022	D. Barbeisch	4/29/2022		
Shell-to-Shell (DC maximum o receptacle. The millivolt drop to	Conductivity per MIL-DTL-38 pen circuit voltage was applie voltage drop from the rear ac be 2 mV (after conditionioning	8999 paragraphs 3.2 ad from the rear acce ccessory thread of th g)	9 and 4.5.25, ai essory threard o e plug to the re	nd EIA-364-83. A 1.0 \pm 0.1 A DC f the plug connector through the ceptacle flange was measured.	current at 1.5V flange of the The maximum		
Sample ID	Part Number	Millivolt Drop	Status	1			
-		(mV)		-			
P1 mated	XPFH-782713-35S	0.63	Accept				
to R1	XPFH-782703-35P			_			
P2 mated	XPFH-782713-35S	0.55	Accent				
to R2	XPFH-782703-35P	0.55	Ассерт				
P3 mated	XPFH-782714-35S	0.59	Accort				
to R3	XPFH-782704-35P	0.58	Accept				
P4 mated	XPFH-782714-35S	0.05	Assault	1			
to R4	XPFH-782704-35P	0.65	Accept				

Amphenol Corporation	Aerospace	Aerospace Operations		Sidney, N.Y. 13838		
Durchility	Temp.	R.H.	CLT	Report		
Durability	Ambient	Ambient	10696	ESR-55555		
Test Equipment	Cal Date	Due Date	Technician	Date		
Timer F-0027	3/8/2022	9/6/2022		4/26/2022		
			D, Barbeisch	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	XPFH-782713-35S	F00	Dass
to R1	XPFH-782703-35P	500	Pass
P2 mated	XPFH-782713-35S	500	Pace
to R2	XPFH-782703-35P	500	F 055
P3 mated	XPFH-782714-35S	500	Pace
to R3	XPFH-782704-35P	500	Fass
P4 mated	XPFH-782714-35S	500	Pass
to R4	XPFH-782704-35P	500	F 055

Amphenol Corporation	Aerospace	Operations	Si	dney, N.Y. 13838
Accessory Thread Strongth	Temp.	R.H.	CLT	Report
Accessory Thread Strength	Ambient	Ambient	10696	ESR-55555
Test Equipment	Cal Date	Due Date	Technician	Date
Timer F-0027	3/8/2022	9/6/2022		
Spring Scale PG-746	4/5/2022	6/3/2022	D. Barbeisch	5/4/2022
			1	

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.

Part Number	Inch-pounds	Status
	Applied	
XPFH-782713-35S	50	Pass
XPFH-782703-35P	50	Pass
XPFH-782713-35S	50	Pass
XPFH-782703-35P	50	Pass
XPFH-782714-35S	50	Pass
XPFH-782704-35P	50	Pass
XPFH-782714-35S	50	Pass
XPFH-782704-35P	50	Pass
	Part Number XPFH-782713-35S XPFH-782703-35P XPFH-782713-35S XPFH-782703-35P XPFH-782714-35S XPFH-782704-35P XPFH-782714-35S XPFH-782704-35P XPFH-782704-35P XPFH-782704-35P XPFH-782704-35P XPFH-782704-35P	Part Number Inch-pounds Applied XPFH-782713-35S 50 XPFH-782703-35P 50 XPFH-782713-35S 50 XPFH-782703-35P 50 XPFH-782703-35P 50 XPFH-782703-35P 50 XPFH-782704-35P 50 XPFH-782704-35P 50 XPFH-782714-35S 50 XPFH-782704-35P 50 XPFH-782704-35P 50 XPFH-782704-35P 50

Amphenol Corporation	Aerospace	Operations		Sidney, N.Y. 1383		
Vibration	Temp.	R.H.	CLT	Report		
Vibration	Ambient	Ambient	10696	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 (200°C ± 5°C). 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	Accent
R1	XPFH-782703-35P	None	None	Ассерг
P2	XPFH-782713-35S	Nono	Nono	Accont
R2	XPFH-782703-35P	None	None	Ассерг
P3	XPFH-782714-35S	Nono	Nono	Accont
R3	XPFH-782704-35P	None	None	Ассерг
P4	XPFH-782714-35S	Nono	Nono	Accont
R4	XPFH-782704-35P	None	None	Ассерг

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 1383		
Shock	Temp.	R.H.	CLT	Report	
SHOCK	Ambient	Ambient	10696	ESR-55555	
Test Equipment	Cal Date	Due Date	Technician	Date	
See Vibration/Shock Report				6/8/2022	
			A. Hosier		
]		

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	None	None		
P2	XPFH-782713-35S	Nono	None	Accept	
R2	XPFH-782703-35P	None			
P3	XPFH-782714-35S	Nono	Nono	Accort	
R3	XPFH-782704-35P	None	None	Ассері	
P4	XPFH-782714-35S	Nono	None	Accept	
R4	XPFH-782704-35P	NOTE	None		

Amphenol Corporation	Aerospace	Operations	Sidney, N.Y. 13838		
Coupling and Uncoupling Torque	Temp.	R.H.	CLT	Report	
Coupling and Oncoupling Torque	Ambient	Ambient	10696	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	
			1		

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.

			Uncoupling Torque					
Sample ID	Amphenol Part Number	Maximum Coupling Torque (in*lbf)	Min. (in*lbf)	Max. (in*lbf)	Coupling Torque (in*lbf)	Uncoupling Torque (in*lbf)		
P1 mated	XPFH-782713-35S	16	2	16	10.4	11.8		
to R1	XPFH-782703-35P	10	2	10	10.4	11.0		
P2 mated	XPFH-782713-35S	16	2	16	96	12 /		
to R2	XPFH-782703-35P	10	2	10	9.0	12.4		
P3 mated	XPFH-782714-35S	20	1	20	11.6	12.8		
to R3	XPFH-782704-35P	20	4	20	11.0	15.0		
P4 mated	XPFH-782714-35S	20	Λ	20	12.0	15 /		
to R4	XPFH-782704-35P	20	4	20	12.0	15.4		

Amphenol Corporation		Aerospace	Operations	Sidney, N.Y. 13838		
Shell to Shell Conductivity		Temp.	R.H.	CLT	Report	
		Ambient	Ambient	10696	ESR-55555	
	Test Equipment	Cal Date	Due Date	Technician	Date	
P	ower Supply IC-4859	10/20/2021	10/20/2022			
I	Multimeter IC-4089	12/9/2021	12/9/2022	D. Cogswell 6/17/		
DC maximum of receptacle. The millivolt drop to	open circuit voltage was applied voltage drop from the rear acc be 2 mV (after conditionioning)	from the rear acce essory thread of the	essory threard o e plug to the rec	f the plug connector through the ceptacle flange was measured.	flange of the The maximum	
		Millivolt Drop	<u></u>	1		
Sample ID	Part Number	(mV)	Status			
P1 mated	XPFH-782713-35S	0.57	Accent			
to R1	XPFH-782703-35P	0.57	Accept			
P2 mated	XPFH-782713-35S	0.80	Accept			
to R2	XPFH-782703-35P	0.85				
P3 mated	XPFH-782714-35S	0.79	Accont			
to R3	XPFH-782704-35P	0.78	Accept			
P4 mated	XPFH-782714-35S	0.86	Accont			
to R4	XPFH-782704-35P	0.00	Ассерг			

Amphenol Corporation			Aerospace	Operations		Sidney, N.Y. 13838		
		Temp. R.H.		CL	Г	Report		
			Ambient	Ambient	106	96	ESR-55555	
	Test Equipment	t	Cal Date	Due Date	ue Date Technician E			
1	0X Magnification Mic	roscope						
					D. Cog	swell	6/17/2022	
Visual and	Mechanical Examinat	tion per MIL-DTL-3	89999 paragraphs	3.1, 3.3, 3.4, 3.55	5, 3.52, 3.53, and 4.	5.1. The connecto	ors, accessories,	
and piece p	parts shall be visually a	and mechanically	examined to ensu	ure product is in a	ccordance with the	specification and	d the applicable	
military sta	indards.					-1-		
mintary sta	inuarus.							
Sample ID	Amphenol Part	Description	Ohser	vations	Status			
Sample in	Number	Description	00361	Valions	Status			
P1	XPFH-782713-35S	Plug 12	No D	efects	Accept			
R1	XPFH-782703-35P	Receptacle 12	No D	efects	Accept			
P2	XPFH-782713-35S	Plug 12	No D	efects	Accept			
R2	XPFH-782703-35P	Receptacle 12	No D	efects	Accept			
Р3	XPFH-782714-35S	Plug 14	No D	efects	Accept			
R3	XPFH-782704-35P	Receptacle 14	No D	efects	Accept			
P4	XPFH-782714-35S	Plug 14	No D	efects	Accept			
R4	XPFH-782704-35P	Receptacle 14	No D	efects	Accept			
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