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Qualification Test Report Summary

NXS Series

QTR Summary Only, TML Qual 121

Revision B, 06 April 2022

Revision Letter	Page Number	Paragraph / Appendix	Description of Revision	Approval Date
A.	-	-	Original Release	03/08/2021
B	3,4,5	4, qual results	Requirement's column added	06/04/2022

1. Scope

This document provides a summary of the test data from the approved Qualification Test Plan TML_QUAL_112 / 121.
Assessments performed were carried out in alignment with ESCC 3401 and with reference to QTR# 2017-04-075, rev A3.

2. Description of Tested Connectors

Part Number	Quantity	Description
HXS-7000 (NXS012R0RACA10)	5	Nexus 12-Way Receptacle
HXS-7001 (NXS012P000CA10)	5	Nexus 12-Way Plug
HXS-7002 (NXS012RS11CA10)	5	Nexus 12-Way Receptacle Saver
HXS-7011 (NXS012PS11CA10)	5	Nexus 12-Way Connector Assembly Saver
HCW-068	24	Twinax Cable Loop Assembly

A connector set consists of 1 x 12-Way HXS-7000, 1 x 12-Way HXS-7001, 1 x 12-Way HXS-7002 (where applicable) and 1 x 12-Way HXS-7011 (where applicable) and 12 x HCW-068.

3. Standard Atmospheric Test Conditions

All tests and examinations referenced were conducted within the ranges stated in this paragraph, unless specified otherwise.

Temperature: 22°C ± 3°C
Relative Humidity: 30-60% Max
Pressure: 970 -1020 mBarG

4. Qualification Results

Test Activity	Requirement	Related Specification(s)	SINT Qual Para	Date Tested	Qual Result
SCREENING			8.1		
First Article Inspection	-	-	8.1.1	-	**Pass**
Mating / Unmating Forces	≤120N (12 bay)	ESCC 3401 par 9.20	8.1.2	18-Mar 21	**Pass**
Low Level Contact Resistance	≤170mΩ	ESCC 3401 par 9.1.1.3	8.1.3	19-Mar	**Pass**
Insulation Resistance	≥1000MΩ	EIA 363-21E	8.1.4	22-Mar	**Pass**
Dielectric Withstand Voltage	≤2µA	EIA 364-20E	8.1.5	22-Mar	**Pass**
Mated Shell Conductivity	≤2.5mV	ESCC 3401 Par 9.1.1.4	8.1.6	23-Mar	**Pass**
Voltage Standing Wave Ratio	-10dB	ESCC 3402 Par 9.16	8.1.7	25-Mar	**Pass**
Insertion Loss	Fig.3	ESCC 3401 Par 9.1.1.6	8.1.8	26-Mar	**Pass**
Test Group I			8.2		
Screw Torque Force	0.1≤ **X** ≤0.7Nm	-	8.2.1	29-Mar	**Pass**
Low Level Sine Sweep (Con Monitor)	No visual damage (Stress in profile)	ESCC 3401 9.11.1(b)	8.2.2	01-Apr to 07-Apr	**Pass**
Sine Vibration (Con Monitor)	No visual damage (Stress in profile)	ESCC 3401 Par 9.11.2	8.2.3	06-Apr to 07-Apr	**Pass**
Random Vibration (Con Monitor)	No visual damage (Stress in profile)	ESCC 3401 Par 9.11.3	8.2.4	06-Apr to 07-Apr	**Pass**
Low Level Sine Sweep (Con Monitor)	No visual damage (Stress in profile)	ESCC 3401 9.11.1(b)	8.2.5	06-Apr to 07-Apr	**Pass**
External Visual Inspection	No visual damage	IEC512-2 Test 1a	8.2.6	07-Apr	**Pass**
Low Level Contact Resistance	≤mΩ	ESCC 3401 par 9.1.3	8.2.7	08-Apr	**Pass**
Screw Torque Force Drift	0.1≤ **X** ≤0.7Nm	-	8.2.8	08-Apr	**Pass**
1/2 Sine Mechanical Shock (Con Monitor)	Sample #1	ESCC 3401 Par 9.12.1	8.2.9	08-Apr	**Pass**
External Visual Inspection	No visual damage	IEC512-2 Test 1a	8.2.10	08-Apr	**Pass**
Low Level Contact Resistance	≤170mΩ	ESCC 3401 par 9.1.3	8.2.11	09-Apr	**Pass**
Screw Torque Force Drift	0.1≤ **X** ≤0.7Nm	-	8.2.12	09-Apr	**Pass**
Dry Heat (with Insulation Resistance)	≥100MΩ	ESCC 3401 9.13.2 IEC 60068-2-2	8.2.13	13-Apr	**Pass**
Damp Heat (Cycle 1)	-	ESCC 3401 9.13.3 IEC 60068-2-30	8.2.14	14-Apr to 15-Apr	**Pass**
Cold Test	-	ESCC 3401 9.13.4 IEC 60068-2-1	8.2.15	15-Apr	**Pass**
Low Air Pressure (with DWV)	<1mA	ESCC 3401 9.13.5 IEC 60068-2-13	8.2.16	16-Apr	**Pass**
Damp Heat (Remaining Cycles)	-	ESCC 3401 9.13.6 IEC 60068-2-30	8.2.17	16-Apr to 21-Apr	**Pass**
Insulation Resistance	≥100MΩ	EIA 363-21E	8.2.18	21-Apr	**Pass**
Recovery & Visual Inspection	No deficiency criteria defined	ESCC 3401 Par 9.13.7 IEC 512-2 Test 1a	8.2.19	22-Apr	**Pass**
Insulation Resistance	≥100MΩ	EIA 363-21E	8.2.20	26-Apr	**Pass**
Dielectric Withstand Voltage	Sample #1	EIA 364-20E	8.2.21	26-Apr	**Pass**

Test Activity Test Group II	Affected Samples	Related Specifcation(s)	Section 8.3	Date Tested	Qual Result
Rapid Change of Temperature (5 Cycles - 55C, +125C)	-	ESCC 3401 Par 9.16	8.3.1	26-Mar	Pass
External Visual Inspection	No visual damage	IEC 512-2 Test 1a	8.3.2	29-Mar	Pass
Low Level Contact Resistance	≤170mΩ	ESCC 3401 par 9.1.3	8.3.3	29-Mar	Pass
Mated Shell Conductivity	≤2.5mV	ESCC 3401 Par 9.1.1.4	8.3.4	29-Mar	Pass
Insulation Resistance	≥1000MΩ	EIA 363-21E	8.3.5	29-Mar	Pass
Dielectric Withstand Voltage	≤2μA	EIA 364-20E	8.3.6	29-Mar	Pass
Voltage Standing Wave Ratio	-10dB	ESCC 3402 Par 9.16	8.3.7	30-Mar	Pass
Insertion Loss	Fig.3	ESCC 3401 Par 9.1.1.6	8.3.8	31-Mar	Pass
Contact Retention	≤0.3mm	ESCC 3401 Par 9.17	8.3.9	09-Apr to 13-Apr	Pass
Mated Shell Conductivity	≤2.5mV	ESCC 3401 Par 9.1.1.4	8.3.10	13-Apr	Pass
Low Level Contact Resistance	≤170mΩ	ESCC 3401 par 9.1.3	8.3.11	14-Apr	Pass
Mating / Unmating Forces	≤120N	ESCC 3401 par 9.20	8.3.12	14-Apr	Pass
Endurance (500 Cycles)	≤120N	ESCC 3401 Par 9.18	8.3.13	14-Apr	Pass
Mating / Unmating Forces	≤120N	ESCC 3401 par 9.20	8.3.14	15 Apr	Pass
Low Level Contact Resistance	≤170mΩ LLCR Drift <50mΩ	ESCC 3401 par 9.1.3	8.3.15	15-Apr	Pass
Mated Shell Conductivity	≤2.5mV	ESCC 3401 Par 9.1.1.4	8.3.16	15-Apr	Pass
Insulation Resistance	≥1000MΩ	EIA 363-21E	8.3.17	16-Apr	Pass
Dielectric Withstand Voltage	≤2μA	EIA 364-20E	8.3.18	16-Apr	Pass
Voltage Standing Wave Ratio	-10dB	ESCC 3402 Par 9.16	8.3.19	19-Apr	Pass
Insertion Loss	Fig.3	ESCC 3401 Par 9.1.1.6	8.3.20	19-Apr	Pass
Destructive Physical Analysis	FIO	-	8.3.21	27.05.21	-

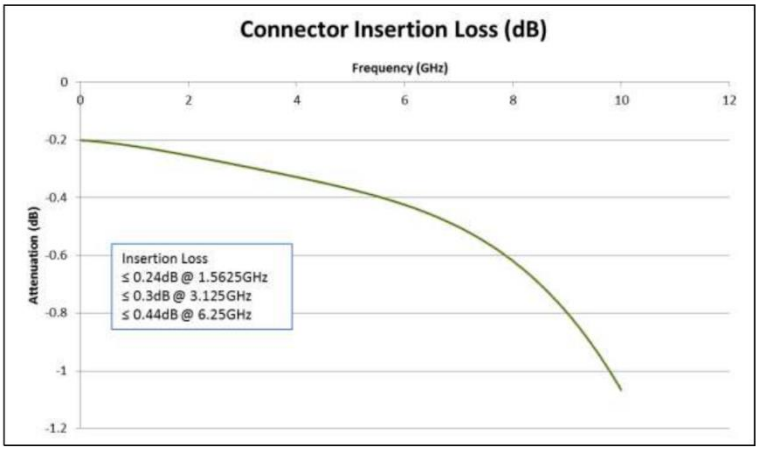

Figure 3: Insertion Loss Requirement