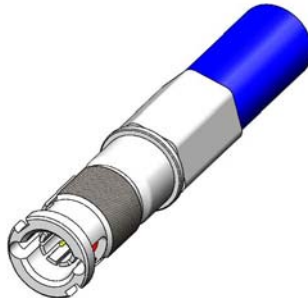
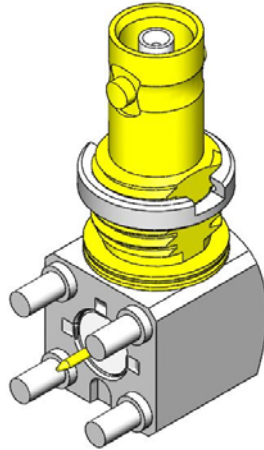




Project Number: Design Qualification Test Report	Tracking Code: 1424892_Report_Rev_1
Requested by: Alvin Wang	Date: 3/1/2018
Part #: HDBNC-J-P-GN-RA-BH1/RFA6T-H4SP2-102148-0300	
Part description: HDBNC/RFA6T	Tech: Kason He
Test Start: 1/19/2018	Test Completed: 2/6/2018



DESIGN QUALIFICATION TEST REPORT

HDBNC/RFA6T

HDBNC-J-P-GN-RA-BH1/RFA6T-H4SP2-102148-0300

Tracking Code: 1424892_Report_Rev_1	Part #: HDBNC-J-P-GN-RA-BH1/RFA6T-H4SP2-102148-0300
Part description: HDBNC/RFA6T	

REVISION HISTORY

DATE	REV.NUM.	DESCRIPTION	ENG
3/1/2018	1	Initial Issue	KH

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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SCOPE

To perform the following tests: Design Qualification test. Please see test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) After soldering, the parts to be used for LLCR testing were cleaned according to TLWI-0001.
- 4) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 5) The automated procedure is used with aqueous compatible soldering materials.
- 6) Parts not intended for testing LLCR are visually inspected and cleaned if necessary.
- 7) Any additional preparation will be noted in the individual test sequences.
- 8) Solder Information: Lead Free
- 9) Samtec Test PCBs used: PCB-107812-TST

FLOWCHARTS**IR/DWV****Pin-to-Ground**Group 1

HDBNC-J-P-GN-RA-BH1
RFA6T-H4SP2-102148-0300
2 Assemblies

Step	Description
1.	IR (3)
2.	DWV at Test Voltage (1) Test Voltage = 500 V
3.	Thermal Shock (4)
4.	IR (3)
5.	DWV at Test Voltage (1) Test Voltage = 500 V
6.	Humidity (2)
7.	IR (3)
8.	DWV at Test Voltage (1) Test Voltage = 500 V

(1) DWV at Test Voltage = EIA-364-20

Test Condition = 1 (Sea Level)

DWV test voltage is equal to 75% of the lowest breakdown voltage

Test voltage applied for 60 seconds

(2) Humidity = EIA-364-31

Test Condition = B (240 Hours)

Test Method = III (+25°C to +65°C @ 90% RH to 98% RH)

Test Exceptions: ambient pre-condition and delete steps 7a and 7b

(3) IR = EIA-364-21

Test Condition = 500 Vdc, 2 Minutes Max

(4) Thermal Shock = EIA-364-32

Exposure Time at Temperature Extremes = 1/2 Hour

Method A, Test Condition = I (-55°C to +85°C)

Test Duration = A-3 (100 Cycles)

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL SHOCK:

- 1) EIA-364-32, *Thermal Shock (Temperature Cycling) Test Procedure for Electrical Connectors*.
- 2) Test Condition 1: -55°C to +85°C
- 3) Test Time: ½ hour dwell at each temperature extreme
- 4) Number of Cycles: 100
- 5) All test samples are pre-conditioned at ambient.
- 6) All test samples are exposed to environmental stressing in the mated condition.

HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
- 2) Test Condition B, 240 Hours.
- 3) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 4) All samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

INSULATION RESISTANCE (IR):

To determine the resistance of insulation materials to leakage of current through or on the surface of these materials when a DC potential is applied.

- 1) PROCEDURE:
 - a. Reference document: EIA-364-21, *Insulation Resistance Test Procedure for Electrical Connectors*.
 - b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Electrification Time 2.0 minutes
 - iii. Test Voltage (500 VDC) corresponds to calibration settings for measuring resistances.
- 2) MEASUREMENTS:
- 3) When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 1000 megohms.

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

To determine if the sockets can operate at its rated voltage and withstand momentary over potentials due to switching, surges, and other similar phenomenon. Separate samples are used to evaluate the effect of environmental stresses so not to influence the readings from arcing that occurs during the measurement process.

- 1) PROCEDURE:
 - a. Reference document: EIA-364-20, *Withstanding Voltage Test Procedure for Electrical Connectors*.
 - b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Barometric Test Condition 1
 - iii. Rate of Application 500 V/Sec
 - iv. Test Voltage (VAC) until breakdown occurs
- 2) MEASUREMENTS/CALCULATIONS
 - a. The breakdown voltage shall be measured and recorded.
 - b. The dielectric withstanding voltage shall be recorded as 75% of the minimum breakdown voltage.
 - c. The working voltage shall be recorded as one-third (1/3) of the dielectric withstanding voltage (one-fourth of the breakdown voltage).

RESULTS

Insulation Resistance minimums, IR

Pin to Ground

- **Initial**
 - Mated-----45000 Meg Ω ----- Passed
 - Unmated ----- 45000 Meg Ω ----- Passed
- **Thermal Shock**
 - Mated----- 45000 Meg Ω ----- Passed
 - Unmated ----- 45000 Meg Ω ----- Passed
- **Humidity**
 - Mated-----45000 Meg Ω ----- Passed
 - Unmated -----45000 Meg Ω ----- Passed

Dielectric Withstanding Voltage minimums, DWV

- **Minimums**
 - Breakdown Voltage-----667 VAC
 - Test Voltage -----500 VAC
 - Working Voltage -----165 VAC

Pin to Ground

- **Initial DWV**-----Passed
- **Thermal DWV**-----Passed
- **Humidity DWV**-----Passed

DATA SUMMARIES

INSULATION RESISTANCE (IR):

	Pin to Ground		
	Mated	Unmated	Unmated
Minimum	HDBNC/RFA6T	HDBNC	RFA6T
Initial	45000	45000	45000
Thermal	45000	45000	45000
Humidity	45000	45000	45000

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	HDBNC/RFA6T
Break Down Voltage	667
Test Voltage	500
Working Voltage	165

Pin to Ground	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** HZ-THC-01**Description:** Humidity transmitter**Manufacturer:** Thermtron**Model:** SM-8-8200**Serial #:** 38846**Accuracy:** Last Cal: 2/24/2018, Next Cal: 2/23/2019**Equipment #:** DG-HPM-02**Description:** Hipot Safety Tester**Manufacturer:** Vitrek**Model:** V73**Serial #:** 025866**Accuracy:**

... Last Cal: 10/20/2017, Next Cal: 10/19/2018

Equipment #: HZ-HPM-01**Description:** NA9636H**Manufacturer:** Ainuo**Model:** 6031A**Serial #:** 089601091**Accuracy:** Last Cal: 3/5/2017, Next Cal: 3/4/2018**Equipment #:** HZ-TSC-01**Description:** Vertical Thermal Shock Chamber**Manufacturer:** Cincinnatti Sub Zero**Model:** VTS-3-6-6-SC/AC**Serial #:** 10-VT14994**Accuracy:** Last Cal: 06/24/2017, Next Cal: 06/23/2018