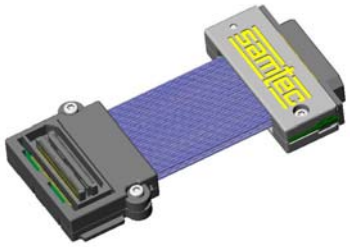
Series: HQCD 38 AWG ribbon coax HS Cable Assembly, 0.5 mm pitch



1.0 SCOPE

1.1 This specification covers performance, tests, and quality requirements for the Samtec HQCD Micro-coax High Speed Cable Assembly 0.5mm pitch

2.0 ELECTRICAL

2.1 Dielectric Withstanding Voltage, DWV, per EIA-364-20
- 2.1.1 450 VAC in DV - DV Configuration

2.2 Insulation Resistance, IR, per EIA-364-21
- 2.2.1 > 1,000 Meg Ohms DV - EM Configuration

2.3 Low Level Contact Resistance, LLCR, per EIA-364--23
- 2.3.1 18.8 milli Ohms Average - Contact System
- 2.3.2 4.1 milli Ohms Average - GND System

2.4 Current Carrying Capacity for a 30°C temp rise, CCC, per EIA-364-70
- 2.4.1 0.42 A at 70 degrees ambient

3.0 MATERIALS

3.1 Insulator Material
- 3.1.1 LCP

3.2 Contact
- 3.2.1 Copper Alloy with Gold over 50 microInches Nickel

4.0 MECHANICAL

4.1 Operational Temperature
- 4.1.1 -25 degrees C to 80 degrees C

4.2 Mating/Unmating forces, per EIA-364-13
- 4.2.1 4.5/4.7 lbs respectively - One Bank
- 4.2.2 14.5/13.3lbs respectively - Three Banks
- 4.2.3 27.2/24.8 lbs respectively - Five Banks

4.3 Durability after 800 cycles per EIA-364-23
- 4.3.1 LLCR change < 15.0 milli-Ohms (L- plating) --- PASS

4.4 Normal Force at 0.006 inches deflection, per EIA-364-04
- 4.4.1 90 gr.

4.5 Cable /Connector Pull, Loss of SIG or GND continuity, TEU configuration
- 4.5.1 SIG In-line pull, DV : 21 lbs
- 4.5.2 SIG In-line pull, EM : 25 lb
- 4.5.3 GND In-line pull, DV : 140 lb
- 4.5.4 GND In-line pull, EM : 120 lb

4.6 Cable /Connector Pull, Loss of SIG or GND continuity, TTL configuration
- 4.6.1 SIG In-line pull : 39 lbs
- 4.6.2 GND In-line pull: 175 lbs

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5.0 ENVIRONMENTAL

5.1 Thermal Aging per EIA-364-17
- 5.1.1 DWV at 750 VAC --- PASS
- 5.1.2 Insulation Resistance >1000 Meg Ohms --- PASS
- 5.1.3 Change in Ground LLCR not to exceed +5.0 milli-Ohms (L- plating) --- PASS
- 5.1.4 Change in Contact LLCR After Thermal and Gas Tight not to exceed +15.0 milli-Ohms (L- plating) --- PASS
- 5.1.5 Change in Ground LLCR After Thermal and Gas Tight not to exceed +5.0 milli-Ohms (L- plating) --- PASS
- 5.1.6 Test Conditions
  - 5.1.6.1 105 degrees C
  - 5.1.6.2 250 hours

5.2 Cyclic Humidity per EIA-364-31
- 5.2.1 DWV at 650 VAC --- PASS
- 5.2.2 Insulation Resistance >1000 Meg Ohms --- PASS
- 5.2.3 No evidence of Breakdown or Arcing when applying 750 VAC --- PASS
- 5.2.4 Change in LLCR not to exceed +15.0 milli-Ohms (L- plating) --- PASS
- 5.2.5 Test Conditions
  - 5.2.5.1 Cyclic 25 degrees C to 65 degrees C for 240 hours, at 90% to 95% RH
  - 5.2.5.2 Time Condition "B" (240 hours) for Method III, excluding sub-cycle 7A and 7B

5.3 Thermal Shock per EIA-364-32
- 5.3.1 No Evidence of Physical Damage seen --- PASS
- 5.3.2 Change in Signal LLCR did not exceed +15 mOhm --- PASS
- 5.3.3 Change in GND LLCR not to exceed +5 mOhm --- PASS
- 5.3.4 Test Conditions
  - 5.3.4.1 # Thermal Cycles: 5
  - 5.3.4.2 Hot Temperature: 85 degrees C +3 degrees C/-0 degrees C
  - 5.3.4.3 Cold Temperature: 55 degrees C +0 degrees C/-3 degrees C
  - 5.3.4.4 Dwell/Configuration: 30 Minutes, Mated and Mounted
  - 5.3.4.5 Hot/Cold Transition: Instantaneous

5.4 Mechanical Shock per EIA-364-27
- 5.4.1 No Evidence of Physical Damage seen --- PASS
- 5.4.2 Test Conditions
  - 5.4.2.1 Test Condition: Test Condition "A"
  - 5.4.2.2 Peak Value: 50 G
  - 5.4.2.3 Duration: 11.0 milliSec
  - 5.4.2.4 Waveform: Half Sine
  - 5.4.2.5 # Shocks/Direction: 3 Shocks/3 Axes (18 total)

5.5 Mechanical Shock per EIA-364-27
- 5.5.1 No Evidence of Physical Damage seen --- PASS
- 5.5.2 No Contact Interruptions greater than 1.0 microSec --- PASS
- 5.5.3 Test Conditions
  - 5.5.3.1 Test Condition: "A"
  - 5.5.3.2 Peak Value: 50 G
  - 5.5.3.3 Duration: 11.0 milliSec
  - 5.5.3.4 Waveform: Half Sine
  - 5.5.3.5 # Shocks/Direction: 3 Shocks/3 Axes (18 total)

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5.6 Vibration per EIA-364-28
- 5.6.1 No Evidence of Physical Damage seen --- PASS
- 5.6.2 Change in Signal LLCR not to exceed +15 mOhm --- PASS
- 5.6.3 Change in GND LLCR not to exceed +5 mOhm --- PASS
- 5.6.4 Test Conditions
  - 5.6.4.1 Test Condition: Test condition V, Random
  - 5.6.4.2 Frequency: 50 to 2000 Hz
  - 5.6.4.3 PSD: 0.04
  - 5.6.4.4 Duration: 2 Hour/Axis, 3 Axes Total
  - 5.6.4.5 G's: 7.3 G rms

5.7 Vibration per EIA-364-28
- 5.7.1 No Evidence of Physical Damage seen --- PASS
- 5.7.2 No Contact Interruptions greater than 1.0 microSec --- PASS
- 5.7.3 Test Conditions
  - 5.7.3.1 Test Condition: Test condition V, Random
  - 5.7.3.2 Frequency: 50 to 2000 Hz
  - 5.7.3.3 PSD: 0.04
  - 5.7.3.4 Duration: 1 Hour/Axis, 3 Axes Total
  - 5.7.3.5 G's: 7.3 G rms

6.0 HIGH FREQUENCY PERFORMANCE

6.1 Performance with Sinusoidal Signals
- 6.1.1 Readings based on using – 3dB insertion Loss point.
- 6.1.2 For complete test information, click **HERE**

Series	**Configuration**
HQCD	Single-Ended
Length	**Bandwidth**
6"	1.68 GHz
9"	1.64 GHz
12"	1.51 GHz
19.68"	1.16 GHz
29.53"	630 MHz
39.37"	375 MHz

For additional information, contact Samtec Signal Integrity Group sig@samtec.com or 1-(800)-726-8329.

7.0 ASSEMBLY PRECAUTIONS

7.1 When laying out the printed wiring board, care should be taken to insure adequate clearance for the cable assembly housing. Failure to do so could result in interference with other components.