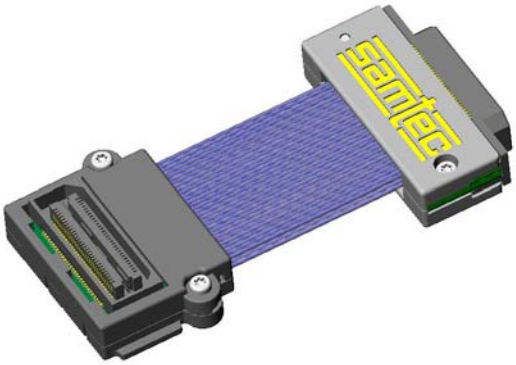
Project Number: NA	Tracking Code: TC043--0347		
Requested by: John Reid	Date: 1/13/2004	Product Rev: 4	
Part #: HQCD-030-06.00-STR-TEU-1	Lot #: 1/13/2004	Tech: T. Receveur	Eng: J. Tozier
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch			Qty to test: 55
Test Start: 3/29/2004	Test Completed: 3/29/2004		



DVT

PART DESCRIPTION

HQCD-030-06.00-STR-TEU-1

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to IS0 10012-l and ANSI/NCSL 2540-1, as applicable.

SCOPE

To perform the following tests: DVT

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) The ultrasonic procedure can be used with either aqueous or non-aqueous soldering components and follows:
   a) Sample test boards are to be ultrasonically cleaned after test lead attachment, preparation and/or soldering using the following process.
   b) Sample test boards are immersed into Branson 3510 cleaner containing Kyzen Ionox HC1 (or equivalent) with the following conditions:
      i) Temperature: ----------55° C+/- 5° C
      ii) Frequency:----------40 KHz
      iii) Immersion Time: ----------5 to 10 Minutes
   c) Sample test boards are removed and placed into the Branson 3510 cleaner containing deionized water with the following conditions:
      i) Temperature: ----------55° C +/- 5° C
      ii) Frequency:----------40 KHz
      iii) Immersion Time: ----------5 to 10 Minutes
   d) Sample test boards are removed and placed in a beaker positioned on a hot plate with a magnetic stirrer containing deionized water warmed to 55° C +/- 5° C for 1/2 to 1 minute
   e) Upon removal, the sample test boards are rinsed for 1/2 to 1 minute in room temperature free flowing deionized water.
   f) After the final rinse, the sample test boards are dried in an air-circulating oven for 10 to 15 minutes at 50° C +/- 5° C
   g) Sample test boards are then allowed to set and recover to room ambient condition prior to testing.
7) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
8) Any additional preparation will be noted in the individual test procedures.

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

FLOWCHARTS

TEST STEP	GROUP A 1 board min 6 Contacts in series, clustered if possible
01	CCC

Tabulate calculated current at RT, 65° C, 75° C and 95° C
after derating 20% and based on 105 ° C
CCC, Temp rise = EIA-364-70

	DV and EM END			
	2 Mating Parts	2 Mating Parts	2 Mating Parts	2 Mating Parts
TEST STEP	GROUP 1 2 Boards Ambient	GROUP 2A 2 Boards Ambient	GROUP 2b 2 Boards Thermal	GROUP 2c 2 Boards Humidity
01	IR	DWV/Working Voltage	Thermal Aging	Humidity
02	Data Review		DWV/Working Voltage	DWV/Working Voltage
03	Thermal Aging			
04	IR			
05	Data Review			
06	Humidity			
07	IR			

Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;
Time Condition 'B' (250 hours)
Humidity =EIA-364-31, Test Condition B (240 Hours)
and Method III (+25 ° C to +65 ° C @ 90%RH to 98% RH)
delete steps 7a and 7b

	DV and END	
	5 Mating Parts	5 Mating Parts
TEST STEP	GROUP A, -DV End 5 boards min MOTHER BOARDS Cable Pull, SIG	GROUP A, -DV End 5 boards min MOTHER BOARDS Cable Pull, GND
01	Pull test, Cable Break	Pull test, Cable Break

Secure one cable for SIG test and ALL cables for GND
Monitor both Signal and GND Continuity
record forces when SIG and GND continuity fails

FLOWCHARTS Continued

TEST STEP	GROUP 1 2 Boards
01	Cable Resistance
02	Data Review
03	Thermal Aging
04	Cable Resistance
05	Data Review
06	Humidity
07	Cable Resistance

Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;
Time Condition 'B' (250 hours)

Humidity =EIA-364-31, Test Condition B (240 Hours)
and Method III (+25 ° C to +65 ° C @ 90%RH to 98% RH)

delete steps 7a and 7b

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

ATTRIBUTE DEFINITIONS

Following is a brief, simplified description of attributes.

THERMAL AGING:

1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors.*
   a) Test Condition 4 at 105° C.
   b) Test Time Condition B for 250 hours.
2) Connectors are mated.

CYCLIC HUMIDITY:

1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors.*
   a) Test Condition B, 240 Hours.
   b) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
2) Connectors are mated.

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) EIA-364-70, *Temperature Rise versus Current Test Procedure for Electrical Connectors and Sockets*.
2) When current passes through a contact, the temperature of the contact increases as a result of I^2R (resistive) heating.
3) The number of contacts being investigated plays a significant part in power dissipation and therefore temperature rise.
4) The size of the temperature probe can affect the measured temperature.
5) Copper traces on PC boards will contribute to temperature rise:
   a) Self heating (resistive)
   b) Reduction in heat sink capacity affecting the heated contacts
6) A de-rating curve, usually 20%, is calculated.
7) Calculated de-rated currents at three temperature points are reported:
   a) Ambient
   b) 65^{o} C
   c) 75^{o} C
   d) 95^{o} C
8) Typically, neighboring contacts (in close proximity to maximize heat build up) are energized.
9) The thermocouple (or temperature measuring probe) will be positioned at a location to sense the maximum temperature in the vicinity of the heat generation area.
10) A computer program, *TR 803.exe*, ensures accurate stability for data acquisition.
11) Hook-up wire cross section is larger than the cross section of any connector leads/PC board traces, jumpers, etc.
12) Hook-up wire length is longer than the minimum specified in the referencing standard.

ATTRIBUTE DEFINITIONS Continued

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
      ii) Mated
      iii) Mounted
      iv) Rate of Application 500 V/Sec
      v) 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).

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
      ii) Mated
      iii) Mounted
      iv) Electrification Time 2.0 minutes
      v) Test Voltage (VDC) corresponding to calibration settings for measuring resistances
2) MEASUREMENTS:
   a) When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 1000 megohms.

SUPPLEMENTAL TESTS:

1. **Connector Pull … Secure cable near cable center and pull on connector**
    a. **At 0°, in-line with cable**

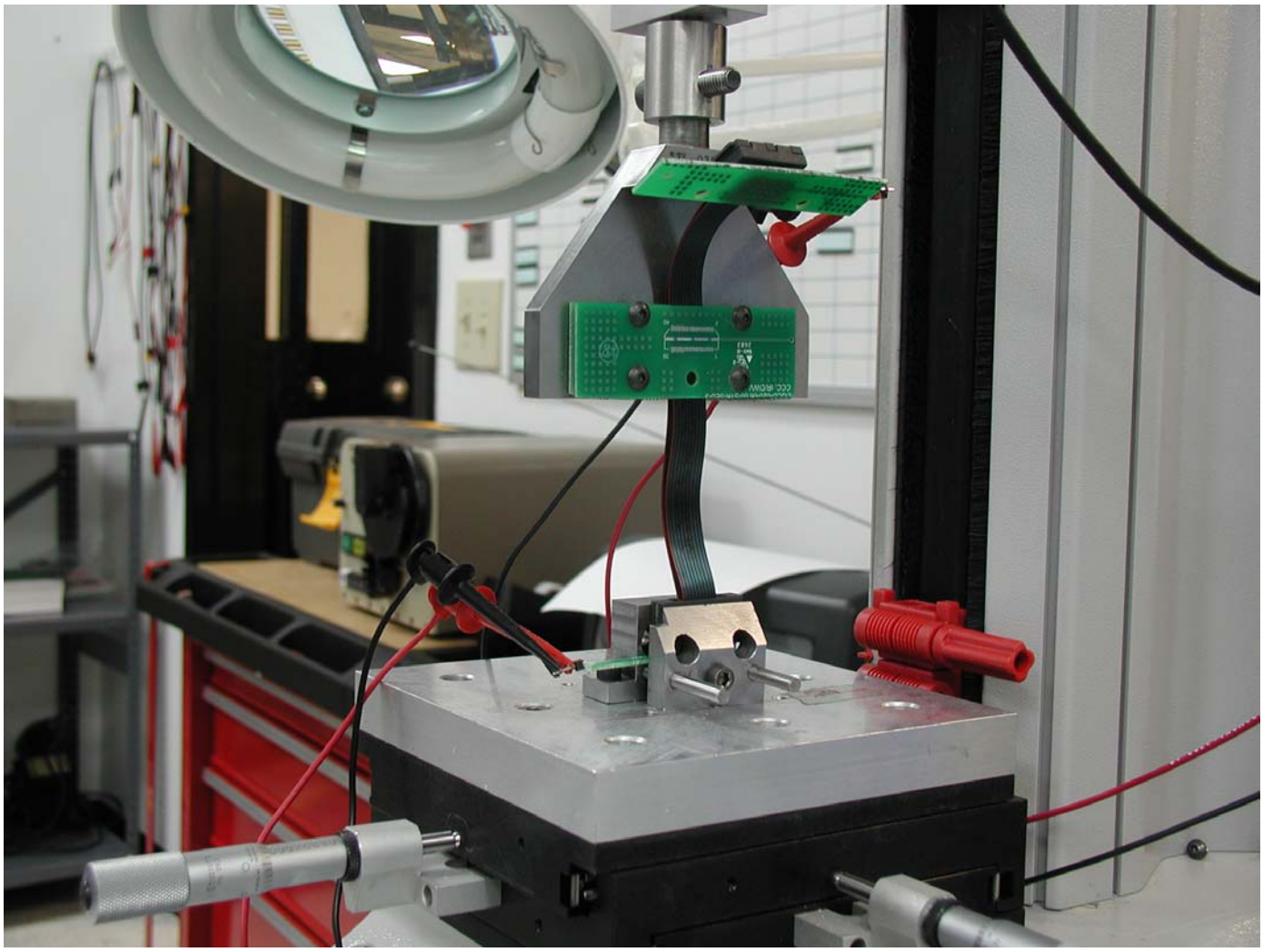


Fig 1
0° connector pull. Notice the electrical continuity hook-up wires

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

RESULTS

Temperature Rise, CCC At 95°C, relative to 105°C and 20% de-rated

- **At Center of Cable**
  - **6 Adjacent Conductors Powered----------0.42 A**

Dielectric Withstanding Voltage minimums, DWV

- **Initial**
  - **Breakdown**
    - **Mated**
      - **Top Cable ----------700 VAC**
      - **Bottom Cable----------900 VAC**
    - **Unmated**
      - **Top Cable ---------- 1000 VAC**
      - **Bottom Cable----------600 VAC**
  - **DWV**
    - **Mated**
      - **Top Cable ----------525 VAC**
      - **Bottom Cable----------675 VAC**
    - **Unmated**
      - **Top Cable ----------750 VAC**
      - **Bottom Cable----------450 VAC**
  - **Working voltage**
    - **Mated**
      - **Top Cable ----------175 VAC**
      - **Bottom Cable----------225 VAC**
    - **Unmated**
      - **Top Cable ----------250 VAC**
      - **Bottom Cable----------150 VAC**
- **Thermal**
  - **Breakdown**
    - **Mated**
      - **Top Cable ---------- 1000 VAC**
      - **Bottom Cable---------- 1200 VAC**
    - **Unmated**
      - **Top Cable ---------- 1000 VAC**
      - **Bottom Cable---------- 1100 VAC**
  - **DWV**
    - **Mated**
      - **Top Cable ----------750 VAC**
      - **Bottom Cable----------900 VAC**
    - **Unmated**
      - **Top Cable ----------750 VAC**
      - **Bottom Cable----------825 VAC**
  - **Working voltage**
    - **Mated**
      - **Top Cable ----------250 VAC**
      - **Bottom Cable----------300 VAC**
    - **Unmated**
      - **Top Cable ----------250 VAC**
      - **Bottom Cable----------275 VAC**
- **Humidity**
  - **Breakdown**
    - **Mated**
      - **Top Cable ----------700 VAC**
      - **Bottom Cable----------900 VAC**

- **Unmated**
  - **Top Cable ---------- 1000 VAC**
  - **Bottom Cable ---------- 1100 VAC**

- **DWV**
  - **Mated**
    - **Top Cable ----------525 VAC**
    - **Bottom Cable ----------675 VAC**
  - **Unmated**
    - **Top Cable ----------750 VAC**
    - **Bottom Cable ----------825 VAC**

- **Working voltage**
  - **Mated**
    - **Top Cable ----------175 VAC**
    - **Bottom Cable ----------225 VAC**
  - **Unmated**
    - **Top Cable ----------250 VAC**
    - **Bottom Cable ----------275 VAC**

Insulation Resistance minimums, IR

- **Initial**
  - **Mated**
    - **Top Row ----------7,000 Meg Ω ---------- Pass**
    - **Bottom Row---------- 25,000 Meg Ω ---------- Pass**
  - **Unmated**
    - **Top Row ----------8,000 Meg Ω ---------- Pass**
    - **Bottom Row---------- 25,000 Meg Ω ---------- Pass**
- **Thermal**
  - **Mated**
    - **Top Row ---------- 35,000 Meg Ω**
    - **Bottom Row---------- 35,000 Meg Ω**
  - **Unmated**
    - **Top Row ---------- 25,000 Meg Ω**
    - **Bottom Row---------- 35,000 Meg Ω**
- **Humidity**
  - **Mated**
    - **Top Row ---------- 75,000 Meg Ω**
    - **Bottom Row----------100,000 Meg Ω**
  - **Unmated**
    - **Top Row ----------100,000 Meg Ω**
    - **Bottom Row----------100,000 Meg Ω**

Supplemental – Connector/Cable Pull

- **Sig**
  - **DV---------- 21.0 lbs min**
  - **EM ---------- 25.0 lbs min**
- **GND**
  - **DV---------- 140.0 lbs min**
  - **EM ---------- 120.0 lbs min**

Supplemental – Conductor Resistances, Snaked Signal Maxima

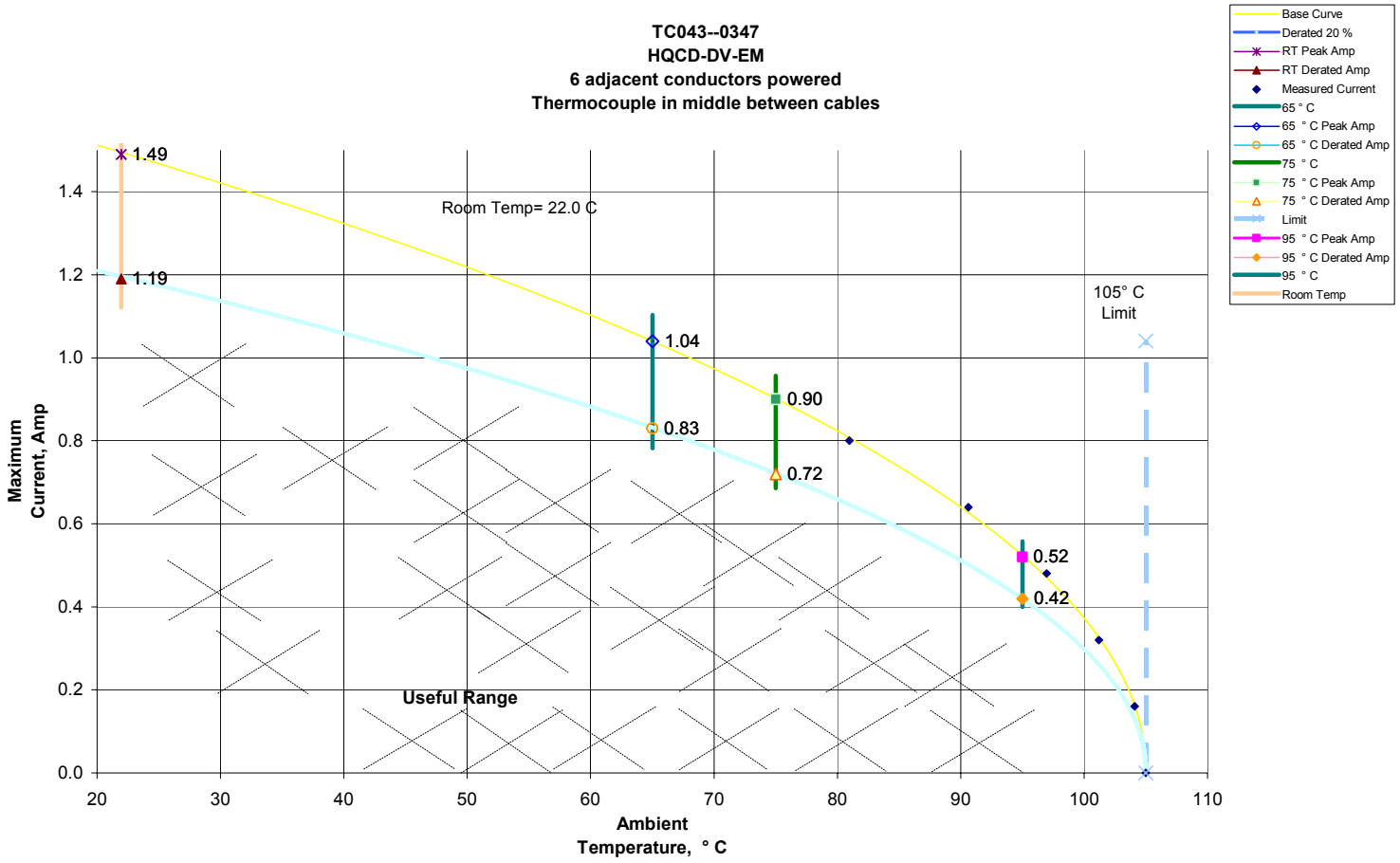
- **Initial---------- 197.9 mΩ**
- **Thermal---------- 197.9 mΩ**
- **Humidity---------- 206.2 mΩ**

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
3) Temperature readings recorded are those for which three successive readings, 15 minutes apart, differ less than 1° C (computer controlled data acquisition).
4) Two configurations were tested and temperatures were monitored at the PCB near cable termination and at a point near the center of the cable, remote from the PBC:
   a) SIX adjacent signal wires powered
   b) Ground Plane Powered



DATA SUMMARIES Continued

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

	Initial, VAC					
	Voltage Rate *500 VAC Per Sec.*					
	Test Voltage *Until Breakdown Occurs*					
	TOP					
	Mated			Un Mated		
	Breakdown Voltage	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
Average	700	525	175	1000	750	250
Min	700	525	175	1000	750	250
Max	700	525	175	1000	750	250
	BOTTOM					
	Mated			Un Mated		
	Breakdown Voltage	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
Average	900	675	225	600	450	150
Min	900	675	225	600	450	150
Max	900	675	225	600	450	150

	Thermal, VAC					
	Voltage Rate *500 VAC Per Sec.*					
	Test Voltage *Until Breakdown Occurs*					
	TOP					
	Mated			Un Mated		
	Breakdown Voltage	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
Average	1000	750	250	1000	750	250
Min	1000	750	250	1000	750	250
Max	1000	750	250	1000	750	250
	BOTTOM					
	Mated			Un Mated		
	Breakdown Voltage	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
Average	1200	900	300	1100	825	275
Min	1200	900	300	1100	825	275
Max	1200	900	300	1100	825	275

DATA SUMMARIES Continued

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

	Humidity, VAC					
	Voltage Rate ***500 VAC Per Sec.***					
	Test Voltage ***Until Breakdown Occurs***					
	TOP					
	Mated			Un Mated		
	Breakdown Voltage	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
Average	700	525	175	1000	750	250
Min	700	525	175	1000	750	250
Max	700	525	175	1000	750	250
	BOTTOM					
	Mated			Un Mated		
	Breakdown Voltage	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
Average	900	675	225	1100	825	275
Min	900	675	225	1100	825	275
Max	900	675	225	1100	825	275

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA SUMMARIES Continued

INSULATION RESISTANCE (IR):

	Electrification Time *Two (2) minutes*			
	Initial, Meg Ohms			
	Top Row	Bottom Row	Top Row	Bottom Row
	Mated	Mated	Unmated	Unmated
	Insulation Resistance	Insulation Resistance	Insulation Resistance	Insulation Resistance
Average	16000	25000	14000	27500
Min	7000	25000	8000	25000
Max	25000	25000	20000	30000

	Electrification Time *Two (2) minutes*			
	Thermal, Meg Ohms			
	Top Row	Bottom Row	Top Row	Bottom Row
	Mated	Mated	Unmated	Unmated
	Insulation Resistance	Insulation Resistance	Insulation Resistance	Insulation Resistance
Average	35000	35000	25000	35000
Min	35000	35000	25000	35000
Max	35000	35000	25000	35000

	Electrification Time *Two (2) minutes*			
	Humidity, Meg Ohms			
	Top Row	Bottom Row	Top Row	Bottom Row
	Mated	Mated	Unmated	Unmated
	Insulation Resistance	Insulation Resistance	Insulation Resistance	Insulation Resistance
Average	75000	100000	100000	100000
Min	75000	100000	100000	100000
Max	75000	100000	100000	100000

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA SUMMARIES Continued

SUPPLEMENTAL TESTS:

Connector Pull SIG, DV

SIG Pull DV	Force (Lbs)
Minimum	21.0
Maximum	*70.0*
Average	***46.8***

Connector Pull SIG, EM

SIG Pull EM	Force (Lbs)
Minimum	25.0
Maximum	*87.0*
Average	***56.4***

Connector Pull GND, DV

GND Pull DV	Force (Lbs)
Minimum	140.0
Maximum	190.0
Average	**166.0**

Connector Pull GND, EM

GND Pull EM	Force (Lbs)
Minimum	120.0
Maximum	180.0
Average	**166.0**

Conductor Resistance

	Resistance, milli-Ohms/Cable		
	Initial	**Thermal**	**Humidity**
Avg	**182.9**	**186.2**	**189.5**
Min	**147.9**	**164.5**	**164.5**
Max	**197.9**	**197.9**	**206.2**
St. Dev.	**19.9**	**13.9**	**16.7**

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Test Date:	3/3/2004
Operator:	TR
Temperature (C):	23
Humidity (RH):	38%
Equipment ID:	HPM-01

	Initial, VAC					
	Voltage Rate ***500 VAC Per Sec.***					
	Test Voltage ***Until Breakdown Occurs***					
	TOP					
	Mated			Un Mated		
Sample #	**Breakdown Voltage**	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
1	700	525	175	1000	750	250
	BOTTOM					
	Mated			Un Mated		
Sample #	**Breakdown Voltage**	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
1	900	675	225	600	450	150

Test Date:	3/24/2004
Operator:	
Temperature (C):	23
Humidity (RH):	30%
Equipment ID:	HPM-01

	Thermal, VAC					
	Voltage Rate ***500 VAC Per Sec.***					
	Test Voltage ***Until Breakdown Occurs***					
	TOP					
	Mated			Un Mated		
Sample #	**Breakdown Voltage**	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
1	1000	750	250	1000	750	250
	BOTTOM					
	Mated			Un Mated		
Sample #	**Breakdown Voltage**	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
1	1200	900	300	1100	825	275

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA Continued

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Test Date:	3/24/2004
Operator:	TR
Temperature (C):	23
Humidity (RH):	30%
Equipment ID:	HPM-01

	Humidity, VAC					
	Voltage Rate ***500 VAC Per Sec.***					
	Test Voltage ***Until Breakdown Occurs***					
	TOP					
	Mated			Un Mated		
Sample #	**Breakdown Voltage**	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
1	700	525	175	1000	750	250
	BOTTOM					
	Mated			Un Mated		
Sample #	**Breakdown Voltage**	**DWV**	**Working Voltage**	**Breakdown Voltage**	**DWV**	**Working Voltage**
1	900	675	225	1100	825	275

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA Continued

INSULATION RESISTANCE (IR):

Test Date:	2/20/2004
Operator:	Troy Cook
Temperature (C):	22
Humidity (RH):	35%
Equipment ID:	HPM-01

	Electrification Time *Two (2) minutes*			
	Initial, Meg Ohms			
	Top Row	Bottom Row	Top Row	Bottom Row
	Mated	Mated	Unmated	Unmated
Sample #	Insulation Resistance	Insulation Resistance	Insulation Resistance	Insulation Resistance
1	7000	25000	8000	30000
2	25000	25000	20000	25000

Test Date:	3/3/2004
Operator:	TR
Temperature (C):	21
Humidity (RH):	38%
Equipment ID:	HPM-01

	Electrification Time *Two (2) minutes*			
	Thermal, Meg Ohms			
	Top Row	Bottom Row	Top Row	Bottom Row
	Mated	Mated	Unmated	Unmated
Sample #	Insulation Resistance	Insulation Resistance	Insulation Resistance	Insulation Resistance
1	35000	35000	25000	35000

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA Continued

INSULATION RESISTANCE (IR):

Test Date:	3/24/2004
Operator:	TR
Temperature (C):	23
Humidity (RH):	30%
Equipment ID:	HPM-01

	Electrification Time *Two (2) minutes*			
	Humidity, Meg Ohms			
	Top Row	Bottom Row	Top Row	Bottom Row
	Mated	Mated	Unmated	Unmated
Sample #	**Insulation Resistance**	**Insulation Resistance**	**Insulation Resistance**	**Insulation Resistance**
1	75000	100000	100000	100000

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA Continued

SUPPLEMENTAL: SIG Connector Pull 0°

Test Date:	3/3/2004
Operator:	TR
Temperature (C):	24
Humidity (RH):	38%
Equipment ID:	TCT-03
Load Cell:	LC-2500N(icell)
Used In:	EQCD-DV-EM

SIG Pull DV	**SIG … Secure ONE Cable, DV end pulled, cable secured**	
Sample#	Maximum Force (Lbs)	failure mode
1	58.7	*loss of continuity*
2	60.0	*loss of continuity*
3	25.0	*loss of continuity*
4	32.0	*loss of continuity*
5	21.0	*loss of continuity*
6	40.0	*loss of continuity*
7	70.0	*loss of continuity*
8	56.0	*loss of continuity*
9	60.0	*loss of continuity*
10	45.0	*loss of continuity*

SIG Pull EM	**SIG … Secure ONE Cable, EM end pulled, cable secured**	
Sample#	Maximum Force (Lbs)	failure mode
1	68.0	*loss of continuity*
2	37.0	*loss of continuity*
3	87.0	*loss of continuity*
4	25.0	*loss of continuity*
5	40.0	*loss of continuity*
6	78.0	*loss of continuity*
7	60.0	*loss of continuity*

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA Continued

SUPPLEMENTAL: GND Connector Pull 0°

Test Date:	3/26/2004
Operator:	TR
Temperature (C):	23
Humidity (RH):	33%
Equipment ID:	TCT-03
Load Cell:	LC-2500N(icell)
Used In:	EQCD-DV-EM

GND Pull DV

Sample#	GND … Secure ONE Cable, DV End Pulled, Cable Secured	
	Maximum Force (Lbs)	Failure Mode
1	150.0	*loss of continuity*
2	160.0	*loss of continuity*
3	140.0	*loss of continuity*
4	190.0	*loss of continuity*
5	190.0	*loss of continuity*

GND Pull EM

Sample#	GND … Secure ONE Cable, EM End Pulled, Cable Secured	
	Maximum Force (Lbs)	Failure Mode
1	120.0	*loss of continuity*
2	180.0	*loss of continuity*
3	175.0	*loss of continuity*
4	180.0	*loss of continuity*
5	175.0	*loss of continuity*

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

DATA Continued

SUPPLEMENTAL TESTS: Signal resistance

	Initial	Thermal	Humidity
Test Date:	2/20/2004	3/3/2004	3/22/2004
Operator:	Troy Cook	Tim Receveur	Tim Receveur
Temperature (C):	21	23	23
Humidity (RH):	33%	38%	24%
Pressure (In. Hg):	29.53	na	na
Equipment ID1:	MO-01	MO-01	MO-01

	Resistance, milli-Ohms/Cable		
Cable/Signal	**Initial**	**Thermal**	**Humidity**
1	197.9	197.9	197.9
2	147.9	164.5	164.5
3	189.5	189.5	197.9
4	189.5	197.9	206.2
5	189.5	181.2	181.2

Tracking Code: TC043--0347	Part #: HQCD-030-06.00-STR-TEU-1
Part description: Micro Co-ax High Speed Cable Assy, 0.5 mm Pitch	

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: MO-02
Description: Multimeter /Data Acquisition System
Manufacturer: Keithley
Model: 2700
Serial #: 0780546
Accuracy: See Manual
… Last Cal: 6/12/03, Next Cal: 6/12/04

Equipment #: PS-01
Description: System Power Supply
Manufacturer: Hewlett Packard
Model: HP 6033A
Serial #: (HP) 3329A-07330
Accuracy: See Manual
… Last Cal6/12/03, Next Cal: 6/12/04

Equipment #: TC090601-103/105
Description: IC Thermocouple-103/105
Manufacturer: Samtec
Serial #: TC090601-103/105
Accuracy: +/- 1 degree C

Equipment #: MO-03
Description: Multimeter /Data Acquisition System
Manufacturer: Keithley
Model: 2700
Serial #: 0791975
Accuracy: See Manual
… Last Cal: 6/12/03, Next Cal: 6/12/04

Equipment #: HPM-01
Description: Hipot Megommeter
Manufacturer: Hipotronics
Model: H306B-A
Serial #: M9905004
Accuracy: 2 % Full Scale Accuracy
… Last Cal: 6/12/03, Next Cal: 6/12/04

Equipment #: OV-03
Description: Cascade Tek Forced Air Oven
Manufacturer: Cascade Tek
Model: TFO-5
Serial #: 0500100
Accuracy: Temp. Stability: +/-.1C/C change in ambient
… Last Cal: 6/20/03, Next Cal: 6/30/04

Equipment #: THL-01
Description: Temperature/Humidity Chart Recorder
Manufacturer: Dickson
Model: THDX
Serial #: 9316255
Accuracy: Temp: +/- 1C; Humidity: +/-2% RH (0 - 60%) Temp: +/- 1C; Humidity: +/-2% RH (0 - 60%)
… Last Cal: 7/03/03, Next Cal: 7/30/04

Equipment #: THC-01
Description: Temperature/Humidity Chamber
Manufacturer: Thermotron
Model: SM-8-7800
Serial #: 30676
Accuracy: See Manual
… Last Cal: 5/28/2003, Next Cal: 5/28/2004

Equipment #: LC-2500N(icell)
Description: 2500 N Load Cell for Dillon Quantrol
Manufacturer: Dillon Quantrol
Model: icell
Serial #: 01-0132-01
Accuracy: .10% of capacity
… Last Cal: 3/27/03, Next Cal: 3/27/04

Equipment #: TCT-03
Description: Dillon Quantrol TC2 Test Stand
Manufacturer: Dillon Quantrol
Model: TC2
Serial #: 02-1033-03
Accuracy: Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.
… Last Cal: 6/12/03, Next Cal: 6/12/04

Equipment #: MO-01
Description: Micro-Ohmeter
Manufacturer: Keithley
Model: 580
Serial #: 0780546
Accuracy: See Manual
… Last Cal: 6/12/03, Next Cal: 6/12/04