

PCI EXPRESS CARD EDGE Connector**1. INTRODUCTION****1.1. Purpose**

Testing was performed on the PCI Express card edge connector to determine its conformance to the requirements of Product Specification 108-57400 Revision O.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of PCI Express card edge Connector.

1.3. Conclusion

PCI Express card edge connector meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57400 Revision O.

1.4. Product Description

PCI Express card edge connector is designed for printed circuit board applications. The contacts are copper alloy, gold plated on the contact interface and Tin-Lead or Tin plating on the soldertail, all over nickel under-plated. The housing material is thermoplastic, UL94V-0.

1.5. Test Samples

The test samples were randomly selected from normal current production lots, and the following part numbers were used for test :

Test Group	Quantity	Description
A, B, C, D, E, F, G, H, I	5EA.	PCI Express card edge Connector

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1.6. QUALIFICATION TEST SEQUENCE

Test or Examination	Test Group								
	A	B	C	D	E	F	G	H	I
	Test Sequence (a)								
Examination of Product	1,5	1,5	1,5	1,7	1,9	1,6	1,3	1,3	1,5
Contact Resistance	2,4	2,4	2,4		2,8	2,5			2,4
Insulation Resistance				2,5					
Dielectric Withstanding Voltage				3,6					
Module Board Insertion Force					3,7				
Module Board Removal Force					4,6				
Durability					5				
Vibration						3			
Mechanical Shock						4			
Resistance to Wave Soldering Heat							2		
Solderability								2	
Temperature Life		3							
Thermal Shock	3								
Humidity Temperature cycling				4					3
Salt Spray			3						

Figure 1.

NOTE : (a) The numbers indicate sequence in which tests were performed.

2. TEST RESULT

GP	TEST	SPEC.	DATA			
			Mean	σ	Max.	Min.
A	Contact Resistance	30m Ω Max.	16.43	1.54	21.12	12.10
	Thermal Shock	-55°C~85°C, 5cycles	OK	—	OK	OK
	Contact Resistance	$\Delta R=20m\Omega$ Max.	13.22	1.33	14.11	11.89
	Appearance	No Damage	OK	—	OK	OK
B	Contact Resistance	30m Ω Max.	17.38	1.71	23.31	12.79
	Temperature Life	105°C, 168hours	OK	—	OK	OK
	Contact Resistance	$\Delta R=20m\Omega$ Max.	12.56	1.37	13.86	11.27
	Appearance	No Damage	OK	—	OK	OK
C	Contact Resistance	30m Ω Max.	16.26	1.86	24.61	12.42
	Salt Spray	35 $\pm$ 2°C, 48Hrs	OK	—	OK	OK
	Contact Resistance	$\Delta R=20m\Omega$ Max.	11.91	1.63	14.28	10.39
	Appearance	No Damage	OK	—	OK	OK
D	Insulation Resistance	1,000M Ω Min.	>9999	—	>9999	>9999
	Dielectric Withstanding Voltage	500VAC, 1 minute	OK	—	OK	OK
	Humidity Temperature Cycling	25°C~65°C, 95%RH 10cycles	OK	—	OK	OK
	Insulation Resistance	1,000MO Min.	>9999	—	>9999	>9999
	Dielectric Withstanding Voltage	500VAC, 1 minute	OK	—	OK	OK
	Appearance	No Damaged	OK	—	OK	OK
E	Contact Resistance	30m Ω Max.	16.19	1.64	22.24	11.76
	Module Board Insertion Force	0.12Kg/pin Max.	0.0912	0.005	0.0971	0.0911
	Module Board Removal Force	0.015Kg/pin Min.	0.0179	0.003	0.0189	0.0173
	Durability	50Cycles	OK	—	OK	OK
	Module Board Insertion Force	0.12Kg/pin Max.	0.0937	0.004	0.0986	0.0882
	Module Board Removal Force	0.015Kg/pin Min.	0.0171	0.003	0.0178	0.0161
	Contact Resistance	$\Delta R=20m\Omega$ Max.	12.51	1.24	14.35	10.48
	Appearance	No Damaged	OK	—	OK	OK

Figure 2 (Cont.)

GP	TEST	SPEC.	DATA			
			Mean	σ	Max.	Min.
F	Contact Resistance	30m Ω Max.	16.43	1.45	21.37	12.78
	Vibration	0.1 μ sec. Max	OK	—	OK	OK
	Mechanical Shock	0.1 μ sec. Max	OK	—	OK	OK
	Contact Resistance	$\Delta R=20m\Omega$ Max.	11.24	1.35	13.13	9.89
	Appearance	No Damaged	OK	—	OK	OK
G	Resistance to Wave Soldering Heat	265 $\pm$ 5 $^{\circ}$ C, 10 $\pm$ 0.5sec.	OK	—	OK	OK
	Appearance	No Damaged	OK	—	OK	OK
H	Solderability	95% Min. coverage	OK	—	OK	OK
	Appearance	No Damaged	OK	—	OK	OK
I	Contact Resistance	30m Ω Max.	16.14	1.34	21.53	12.31
	Humidity Temperature Cycling	25 $^{\circ}$ C~65 $^{\circ}$ C, 95%RH 10cycles	OK	—	OK	OK
	Contact Resistance	$\Delta R=20m\Omega$ Max.	11.45	1.47	13.61	10.14
	Appearance	No Damaged	OK	—	OK	OK

Figure 2 (End)