PCI Express Card Edge Connector, Vertical, SMT Type

1. INTRODUCTION

1.1. PURPOSE

Testing was performed on the TE Connectivity **PCI Express Card Edge Connector, Vertical, SMT Type** to determine its conformance to the requirements of Product Specification 108-57870, Revision A.

1.2. SCOPE

This report covers the electrical, mechanical, and environmental performance of the TE Connectivity **PCI Express Card Edge Connector, Vertical, SMT Type**.

1.3. CONCLUSION

The TE Connectivity **PCI Express Card Edge Connector, Vertical, SMT Type** meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57870, Revision A.

1.4. PRODUCT DESCRIPTION

The PCI Express connector is used in PCI or PCI-based systems, supporting x1, x4, x8, and x16 link widths to suit different bandwidth requirements. These connectors support the PCI Express signal and power requirements, as well as auxiliary signals used to facilitate the interface between motherboard and add-in card hardware.

1.5. TEST SAMPLES

Test specimens were randomly selected from normal current production lots, and the following Product were used for test：

Test Group	Quantity	Description	Part Number
A, B, C, D, E, F, G, H	5 EA.	**PCI Express Card Edge Connector, Vertical, SMT Type**	2041366-x

1.6. QUALIFICATION TEST SEQUENCE

Test or Examination	Test Group							
	A	B	C	D	E	F	G	H
	Test Sequence (a)							
Examination of product	**1, 9**	**1, 8**	**1, 10**	**1, 8**	**1, 8**	**1, 3**	**1, 3**	**1, 3**
Low level contact resistance	**3, 7**	**2, 5, 7**	**2, 5, 7, 9**	**2, 5, 7**				
Dielectric withstanding voltage					**2, 6**			
Insulation resistance					**3, 7**			
Temperature rise								**2**
Mating force (Add-In Card)	**2, 6**							
Unmating force (Add-In Card)	**4, 8**							
Durability	**5**	**3**	**3**	**3**				
Reseating		**6**	**8**					
Vibration (random)				**6**				
Solderability						**2**		
Resistance to Reflow soldering heat							**2**	
Thermal shock			**4**		**4**			
Humidity-temperature cycling.			**6**		**5**			
Temperature life		**4**						
Temperature life (Preconditioning)				**4**				

NOTE：（a）Numbers indicate sequence in which tests are performed.

（b）Discontinuities shall not take place in this test group, during tests.

Figure 1

2. TEST RESULT

GP	Test Description	Requirement	Test Result				Judgment
			Max.	Min.	Ave.	Std. Dev.	
A	Examination of product.	Meets product drawing.	PASSED				PASSED
	Mating Force	117 g/contact pair max	43.37	40.62	42.05	0.91	Accepted
	Low level contact resistance	30 mΩ max.	10.25	7.38	9.05	0.84	Accepted
	Unmating Force	15 g/per contact pair min.	18.00	16.73	17.22	0.40	Accepted
	Durability	No damage	PASSED				PASSED
	Mating Force	117 g/contact pair max	43.64	41.97	42.88	0.53	Accepted
	Low level contact resistance	30 mΩ max.	18.11	14.62	16.25	1.22	Accepted
	Unmating Force	15 g/contact pair min.	19.06	17.42	18.41	0.53	Accepted
	Examination of Product	Meets product drawing.	PASSED				PASSED
B	Examination of product	Meets product drawing.	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	14.91	10.60	12.29	1.57	Accepted
	Durability	No damage	PASSED				Accepted
	Temperature life	No damage	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	20.15	15.35	18.02	1.30	Accepted
	Reseating	No damage	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	23.21	19.13	20.91	1.27	Accepted
	Examination of Product	Meets product drawing.	PASSED				Accepted
C	Examination of product	Meets product drawing.	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	13.59	10.34	12.08	1.15	Accepted
	Durability	No damage	PASSED				Accepted
	Thermal shock	No damage	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	18.33	14.64	16.43	1.14	Accepted
	Humidity-temperature cycling	No damage	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	19.08	15.84	17.94	0.98	Accepted
	Reseating	No damage	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	22.45	18.84	20.70	1.39	Accepted
	Examination of product	Meets product drawing.	PASSED				Accepted
D	Examination of Product	Meets product drawing.	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	12.64	7.88	9.93	1.79	Accepted
	Durability	No damage	PASSED				Accepted
	Temperature life (Preconditioning)	No damage	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	15.63	13.50	14.71	0.81	Accepted
	Vibration, random	No discontinuities of 1 us Or longer duration	PASSED				Accepted
	Low level contact resistance	30 mΩ max.	24.00	19.78	22.20	1.33	Accepted
	Examination of Product	Meets product drawing.	PASSED				Accepted

Figure 2 (continued)

GP	Test Description	Requirement	Test Result				Judgment
			Max.	Min.	Ave.	Std. Dev.	
E	Examination of product	Meets product drawing.	PASSED				Accepted
	Dielectric withstanding Voltage	No breakdown or flashover	PASSED				Accepted
	Insulation Resistance	1000 MΩ Min	PASSED				Accepted
	Thermal shock	No damage	PASSED				Accepted
	Humidity-temperature cycling	No damage	PASSED				Accepted
	Dielectric withstanding Voltage	No breakdown or flashover	PASSED				Accepted
	Insulation Resistance	1000 MΩ Min	PASSED				Accepted
	Examination of Product	Meets product drawing.	PASSED				Accepted
F	Examination of Product	Meets product drawing.	PASSED				Accepted
	Solderability	95% solder coverage min..	PASSED				Accepted
	Examination of Product	Meets product drawing.	PASSED				Accepted
G	Examination of Product	Meets product drawing.	PASSED				Accepted
	Resistance to Reflow soldering heat	No damage	PASSED				Accepted
	Examination of Product	Meets product drawing.	PASSED				Accepted
H	Examination of Product	Meets product drawing.	PASSED				Accepted
	Contact current rating/ Temperature rise	Less than 30℃ temp rise.	PASSED				Accepted
	Examination of Product	Meets product drawing.	PASSED				Accepted

Figure 2 (end)