

# 3M™ TWIN AXIAL PCI EXPRESS X8 EXTENDER ASSEMBLIES GEN 4.0, 8KH9 SERIES

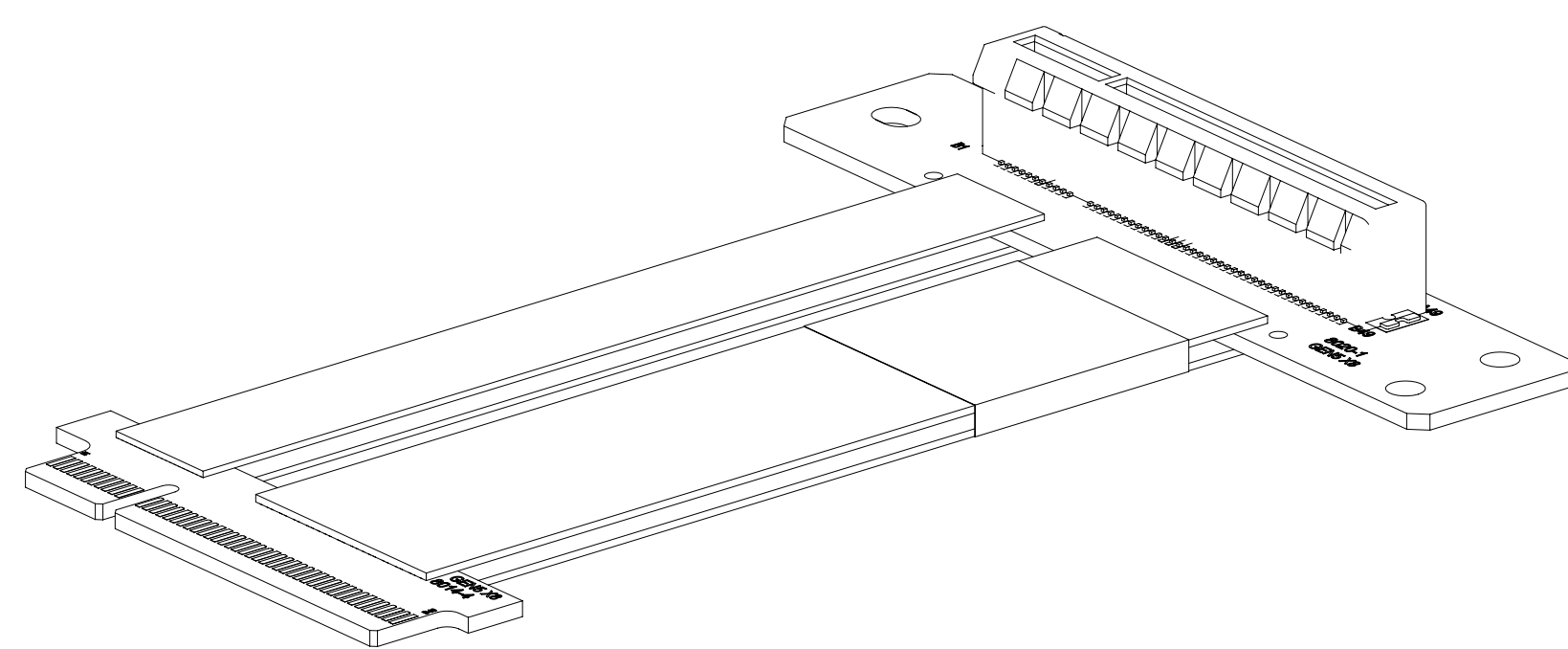
BILL OF MATERIALS			
ITEM	DESCRIPTION	QTY	
1.0	PBA PCB ASSY, PADDLECARD, PCIE X8	1	
1.1	PCB PCIE X8 (98 POS) SURFACEMOUNT 3M P/N: 78-9102-8020-1	1	
1.2	CONN CONNECTOR, PCIE (98 POS) SMT, X8 GEN 5	1	
2.0	PCB PCIE X8 EXTENDER (98 POS) CARD-EDGE 3M P/N: 78-9102-8014-4	1	
3.0	CABLE RIBBON TWINAX CABLE 3M P/N: SL8802/22-15FN5-00	AS REQUIRED	
4.0	CABLE RIBBON CABLE, 20 POSITION 3M P/N: HF447-20	AS REQUIRED	
5.0	STRAIN RELIEF ADHESIVE	AS REQUIRED	
6.0	LABEL SEE ASSEMBLY PART DETAIL	1	

## ORDERING INFORMATION

8KH9-0968-XXXX

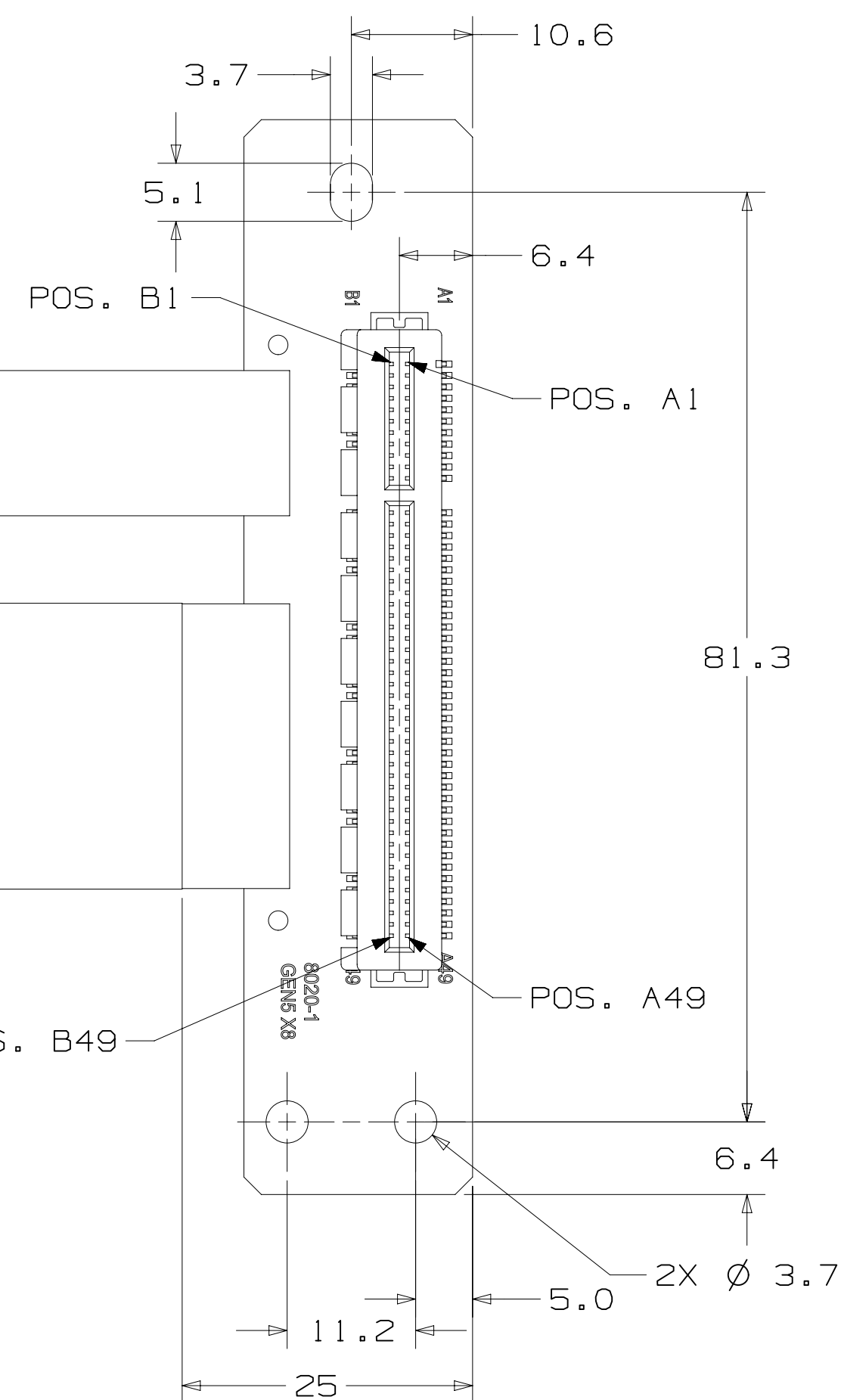
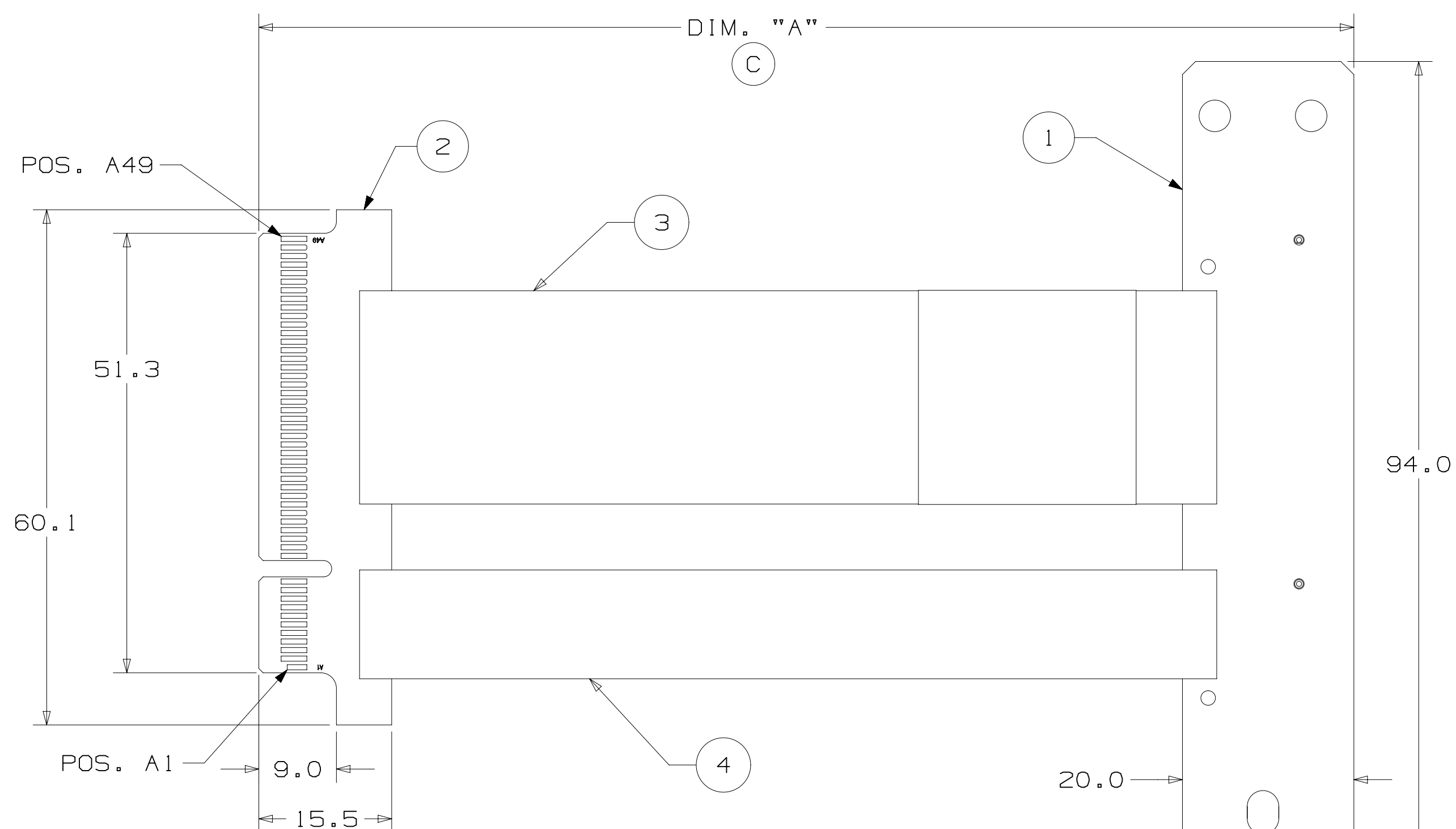
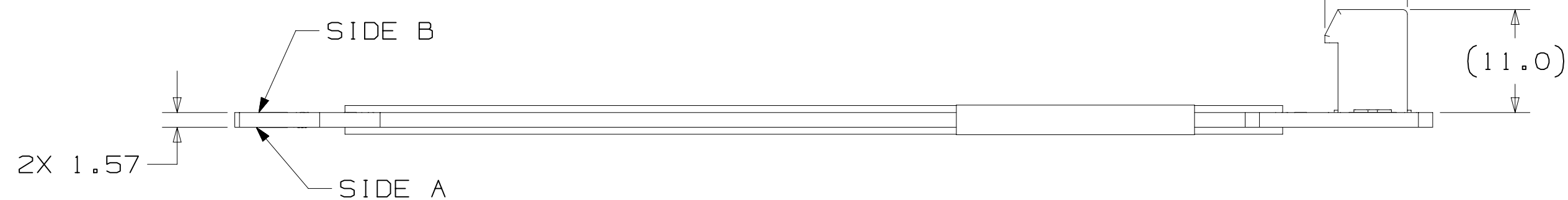
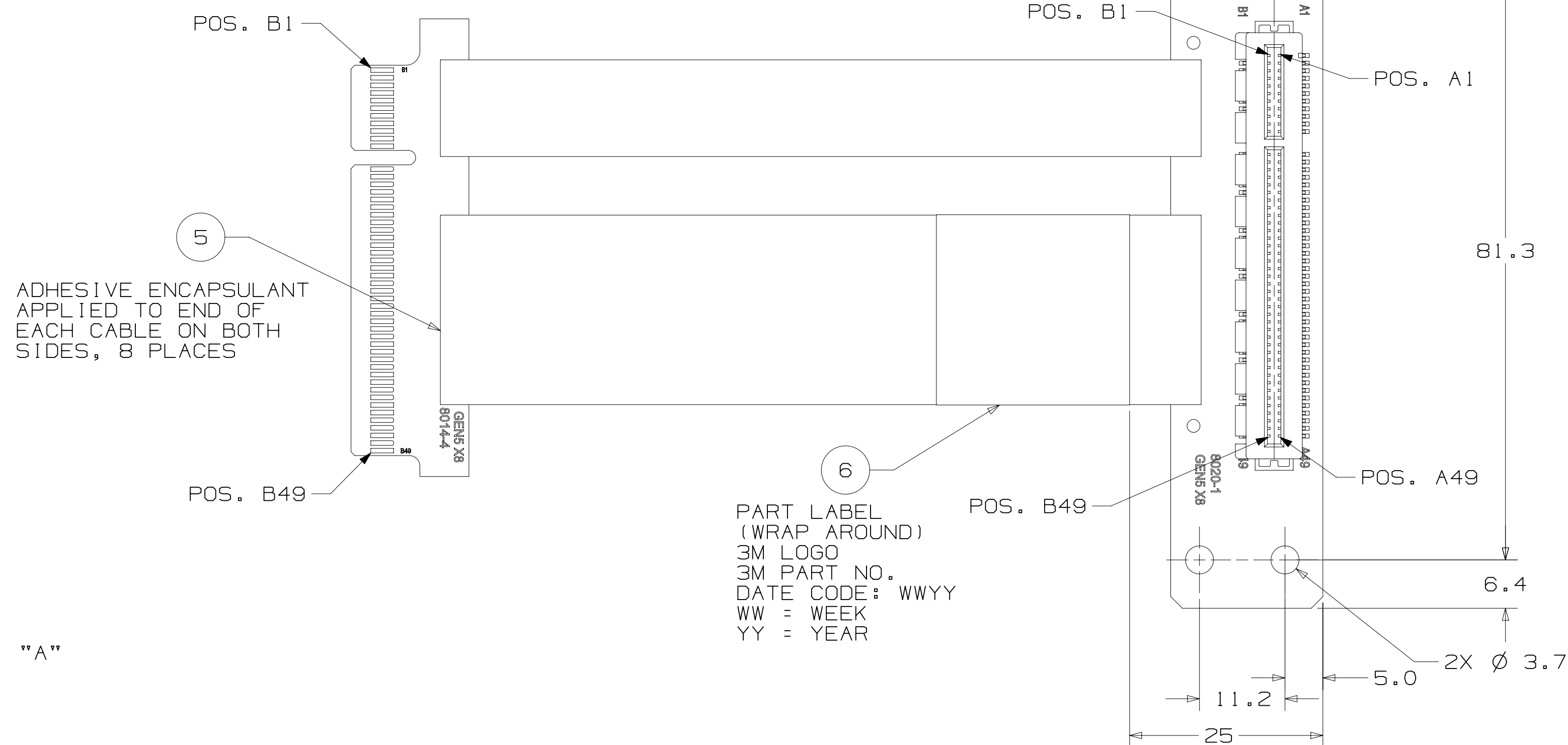
STANDARD LENGTHS DIM. "A"  
0250 = [ 250 MM ]  
0500 = [ 500 MM ]

NOTE:  
NON-STANDARD LENGTHS AVAILABLE UPON REQUEST.  
MAY REQUIRE HIGHER MOQ'S AND LONGER LEAD TIMES.



3M ELECTRONICS MATERIALS SOLUTIONS DIVISION  
INTERCONNECT SOLUTIONS  
<http://www.3m.com/TwinAx>

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- NOTES
- DIMENSIONS ARE IN MILLIMETERS.
  - 3M TWIN AXIAL CABLE DESCRIPTION:  
30 AWG, SILVER PLATED SIGNAL WIRE  
IMPEDANCE: 85 ± 5 OHM  
OVERALL RIBBON WIDTH: 24.90 MM  
OVERALL RIBBON THICKNESS: 0.75 MM
  - REGULATORY INFORMATION:  
VISIT [3M.com/regs](http://3m.com/regs) OR CONTACT YOUR 3M REPRESENTATIVE TO FIND THE ROHS COMPLIANCE STATUS OF THE 3M PART YOU ARE INTERESTED IN.
  - THIS CABLE CONSTRUCTION HAS A THIN ALUMINUM LAYER AT EACH EDGE. USER SHOULD EVALUATE ITS USE IN THEIR APPLICATION AND, IF NECESSARY, INSULATING TAPE MAY BE APPLIED TO COVER THE ALUMINUM LAYER, AS USER DEEMS APPROPRIATE.
  - PRODUCT SPECIFICATION: PS-0390.
  - FLAMMABILITY RATING  
-TWINAX/AUX RIBBONS: UL94 HB  
HORIZONTAL FLAME  
TEST FOR INTERNAL WIRING  
-PCBS: UL94V-0
  - PADDLECARD PLATING:  
30µ" MIN. GOLD PLATING  
50µ" MIN. NICKEL UNDERPLATING.
  - UNLESS OTHERWISE NOTED, REFERENCES TO INDUSTRY SPECIFICATIONS ARE INTENDED TO INDICATE SUBSTANTIAL COMPLIANCE TO THE MATERIAL ELEMENTS OF THE SPECIFICATION. SUCH REFERENCES SHOULD NOT BE CONSTRUED AS A GUARANTEE OF COMPLIANCE TO ALL REQUIREMENTS IN A GIVEN SPECIFICATION.
  - CLOTH TAPE WRAPPED AROUND CABLE RIBBONS AT BACK OF EACH CONNECTOR. ALSO, UP TO TWO ADDITIONAL TAPE PIECES WILL BE WRAPPED AROUND THE TWO CABLE RIBBONS SPACED EQUIDISTANT FROM THE CONNECTOR ENDS AND EACH OTHER, DEPENDING ON ASSY LENGTH (L):  
L <= 0.2M: NO ADDITIONAL TAPE  
0.2M < L <= 0.6M: 1 TAPE WRAP  
0.6M < L <= 1.0M: 2 TAPE WRAP
  - LENGTH TOLERANCE:  
± 5MM FOR LENGTHS LESS THAN 0.5M.  
± 8MM FOR LENGTHS 0.5 TO 1.0 METER.
  - (X) DENOTES ITEM FIND NUMBER IN TABLE 1: BILL OF MATERIALS.
  - (C) DENOTES CRITICAL DIMENSION.

DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				AUG 15, 2022 WORK REQUEST 13204 PRODUCTION RELEASE	LDS	MML
DATE	DATE	DATE	DATE	DATE	DATE	DATE
CASTIGLIONE	MAR 15, 2019	MFG				
M LETTANG	AUG 15, 2022	APPL				
DIVISION CODE: EMSD DO NOT SCALE DRAWING TOLERANCES EXCEPT AS NOTED INCHES: .00 ±, .000 ±, .0000 ± MILLIMETERS: 0 ±, .1 ±, .05 ±, .005 ± INTERPRET PER ASME Y14.5 - 2018 MAX SURFACE ROUGHNESS: .000 ± SURFACES MARKED ONLY						
TITLE: 8KH9-0968-XXXX CABLE ASSY, X8 GEN 4.0 SMT EXTENDER, PCIE				CAGE NUMBER: D78-5100-2687-1 MODEL:		

REVISION: A  
 DRAWING NUMBER: 78-5100-2687-1  
 DATE: 8/15/2022  
 TIME: 11:00 AM  
 USER: MML  
 STATUS: OK  
 SHEET: 1 OF 2

3M™ TWIN AXIAL PCI EXPRESS X8 EXTENDER ASSEMBLIES GEN 4.0,  
8KH9 SERIES

Edgecard pin #	Side B Description	Name	CEM pin #
B01	+12 volt power	+12v	B01
B02	+12 volt power	+12v	B02
B03	+12 volt power	+12v	B03
B04	Ground	GND	B04
B05	SMBus clock	SMCLK	B05
B06	SMBus data	SMDAT	B06
B07	Ground	GND	B07
B08	+3.3 volt power	+3.3v	B08
B09	+TRST#	JTAG1	B09
B10	3.3v auxiliary power	3.3Vaux	B10
B11	Link Reactivation	WAKE#	B11
<b>Mechanical Key</b>			
B12	Clock Request Signal	CLKREQ#	B12
B13	Ground	GND	B13
B14	Transmitter Lane 0, Differential pair	PETp(0)	B14
B15		PETn(0)	B15
B16	Ground	GND	B16
B17	Presence detect	PRSNT2#	B17
B18	Ground	GND	B18
B19	Transmitter Lane 1, Differential pair	PETp(1)	B19
B20		PETn(1)	B20
B21	Ground	GND	B21
B22	Ground	GND	B22
B23	Transmitter Lane 2, Differential pair	PETp(2)	B23
B24		PETn(2)	B24
B25	Ground	GND	B25
B26	Ground	GND	B26
B27	Transmitter Lane 3, Differential pair	PETp(3)	B27
B28		PETn(3)	B28
B29	Ground	GND	B29
B30	Emergency Pwr Reduct	PWRBRK#	B30
B31	Presence detect	PRSNT2#	B31
B32	Ground	GND	B32
B33	Transmitter Lane 4, Differential pair	PETp(4)	B33
B34		PETn(4)	B34
B35	Ground	GND	B35
B36	Ground	GND	B36
B37	Transmitter Lane 5, Differential pair	PETp(5)	B37
B38		PETn(5)	B38
B39	Ground	GND	B39
B40	Ground	GND	B40
B41	Transmitter Lane 6, Differential pair	PETp(6)	B41
B42		PETn(6)	B42
B43	Ground	GND	B43
B44	Ground	GND	B44
B45	Transmitter Lane 7, Differential pair	PETp(7)	B45
B46		PETn(7)	B46
B47	Ground	GND	B47
B48	Presence detect	PRSNT2#	B48
B49	Ground	GND	B49

Edgecard pin #	Side A Description	Name	CEM pin #
A01	Presence detect	PRSNT#1	A01
A02	+12 volt power	+12v	A02
A03	+12 volt power	+12v	A03
A04	Ground	GND	A04
A05	TCK	JTAG2	A05
A06	TDI	JTAG3	A06
A07	TDO	JTAG4	A07
A08	TMS	JTAG5	A08
A09	+3.3 volt power	+3.3v	A09
A10	+3.3 volt power	+3.3v	A10
A11	Fundamental reset	PERST#	A11
<b>Mechanical Key</b>			
A12	Ground	GND	A12
A13	Reference Clock, Differential pair	REFCLK+	A13
A14		REFCLK-	A14
A15	Ground	GND	A15
A16	Receiver Lane 0, Differential pair	PERp(0)	A16
A17		PERn(0)	A17
A18	Ground	GND	A18
A19	Manufacturer Test Mode	MFG	A19
A20	Ground	GND	A20
A21	Receiver Lane 1, Differential pair	PERp(1)	A21
A22		PERn(1)	A22
A23	Ground	GND	A23
A24	Ground	GND	A24
A25	Receiver Lane 2, Differential pair	PERp(2)	A25
A26		PERn(2)	A26
A27	Ground	GND	A27
A28	Ground	GND	A28
A29	Receiver Lane 3, Differential pair	PERp(3)	A29
A30		PERn(3)	A30
A31	Ground	GND	A31
A32	Reserved	RSVD	A32
A33	Reserved	RSVD	A33
A34	Ground	GND	A34
A35	Receiver Lane 4, Differential pair	PERp(4)	A35
A36		PERn(4)	A36
A37	Ground	GND	A37
A38	Ground	GND	A38
A39	Receiver Lane 5, Differential pair	PERp(5)	A39
A40		PERn(5)	A40
A41	Ground	GND	A41
A42	Ground	GND	A42
A43	Receiver Lane 6, Differential pair	PERp(6)	A43
A44		PERn(6)	A44
A45	Ground	GND	A45
A46	Ground	GND	A46
A47	Receiver Lane 7, Differential pair	PERp(7)	A47
A48		PERn(7)	A48
A49	Ground	GND	A49

ALL GROUNDS ARE TIED TOGETHER IN PCBs

Regulatory: For regulatory information about this product, visit 3M.com/regs or contact your 3M representative.

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DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				AUG 15, 2022	LDS	MML
				WORK REQUEST 13204		
				PRODUCTION RELEASE		
DATE	DATE	DATE	DATE	DATE	DATE	DATE
CASTIGLIONE	MAR 15, 2019	MFG				
M LETTANG	AUG 15, 2022	APPL				
DIVISION		DIVISION CODE		3M Center		
		EMSD		St. Paul, MN 55144		
DO NOT SCALE DRAWING		SCALE 1/1		TOLERANCES EXCEPT AS NOTED		
THIRD ANGLE PROJECTION		INCHES		MILLIMETERS		
INTERPRET PER ASME Y14.5 - 2018		0 ± 1		0 ± 1		
MAX SURFACE ROUGHNESS		0.00 ± .05		0.00 ± .05		
MARKED ONLY		0.00 ± .005		0.00 ± .005		
		ANGLES				
		MODEL		CAGE NUMBER		
				D 78-5100-2687-1		
				DRAWING NO.		
				REV. A		
				SHT 2 OF 2		

78-5100-2687-1  
 DRAWING NUMBER  
 REV. 1  
 8/15/2022  
 DATE  
 UTC  
 08:00:00  
 TIME  
 08/15/2022  
 DATE  
 78-5100-2687-1  
 DRAWING NUMBER  
 REV. A  
 SHT 2 OF 2