DYNAMIC ENGINEERING

150 Dubois St. Suite C, Santa Cruz, CA 95060
831-457-8891   **Fax** 831-457-4793
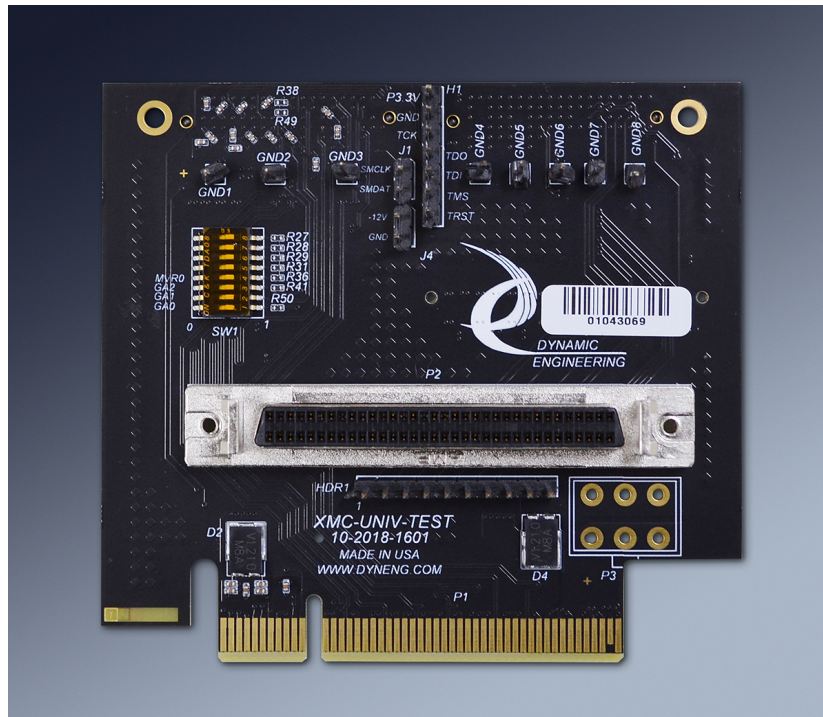http://www.dyneng.com
sales@dyneng.com
Est. 1988

User Manual

XMC-UNIV-TEST

Revision A2 Revised   3/28/19
Corresponding Hardware: Revision A
Fab numbers: 10-2018-1601

XMC-UNIV-TEST
PCI and PMC Compatible Carrier

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The electronic equipment described herein generates, uses, and can radiate radio frequency energy. Operation of this equipment in a residential area is likely to cause radio interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Dynamic Engineering's products are not authorized for use as critical components in life support devices or systems without the express written approval of the president of Dynamic Engineering.

Connection of incompatible hardware is likely to cause serious damage.

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Product Description

XMC-UNIV-TEST is part of the Dynamic Engineering PCIe and XMC Compatible family of modular I/O components. Adapt an XMC to a PCIe slot.   The device is for test support. Testpoints for JTAG and rear IO connections.

In a PCIe position, the B side is forward the A side is the rear. XMC-UNIV-TEST has the Host/carrier side connectors mounted to the A side. The XMC will have it's main component side forward in this configuration.   The SCSI connector is routed to the Jn4/Jn6 XMC connector to provide a method of connecting to "user IO" while testing.

"B" Front side with the testpoints and SCSI.

"A" Rear side with carrier type connectors to mate to XMC.
Note mounting holes to optionally connect XMC to Carrier via 10 mm standoff positions.

Special features:
• Passive 1-8 lane PCIe interface
• Bipass capacitors on all XMC power pins plus 2x10 uF on VPWR.
• JTAG header routed to XMC connections
• Header for SMB
• +12V and 3.3V supplied – VPWR tied to 12V. Aux header for added 12V if required
• 8 grounds to support logic analyzer connection as well as ocilloscope
• User IO [Jn6/Jn4] available through SCSI connector.

Headers and TestPoints

JTAG [H1] TRST, TDI, TDO, TMST, TCK plus a 3.3V and a Ground reference to interface with the installed XMC via the JTAG signals.

GND 8 Ground testpoints are spaced along the top to support Logic Analyzer and Ocilloscope reference. Each are labeled GND.

J1 SMB Data and SMB Clk on two pin header. Labeled in silk.

J4 Minus 12V connection pin 1, Gnd pin2 for XMC's requiring -12V. Labeled in Silk.

SW1 Switches 3:1 correspond to Global addressing 2:0 Switch 4 = MVRO. Open = '1', closed = '0' all switches. Undefined are available [Spare].

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XMC Module Backplane IO Interface Pin Assignment

Pin assignments for the XMC Module IO Interface – from Pn4/Pn6 to the XMC-UNIV-TST connector. Also see the User Manual for your XMC board for more information.

SCSI II [P2]		Jn4		Jn6	
1	35	3	1	B1	A1
2	36	4	2	E1	D1
3	37	7	5	C2	C1
4	38	8	6	F2	F1
5	39	11	9	B3	A3
6	40	12	10	E3	D3
7	41	15	13	C4	C3
8	42	16	14	F4	F3
9	43	19	17	B5	A5
10	44	20	18	E5	D5
11	45	23	21	C6	C5
12	46	24	22	F6	F5
13	47	27	25	B7	A7
14	48	28	26	E7	D7
15	49	31	29	C8	C7
16	50	32	30	F8	F7
17	51	35	33	B9	A9
18	52	36	34	E9	D9
19	53	39	37	C10	C9
20	54	40	38	F10	F9
21	55	43	41	B11	A11
22	56	44	42	E11	D11
23	57	47	45	C12	C11
24	58	48	46	F12	F11
25	59	51	49	B13	A13
26	60	52	50	E13	D13
27	61	55	53	B15	A15
28	62	56	54	E15	D15
29	63	59	57	B17	A17
30	64	60	58	E17	D17
31	65	63	61	B19	A19
32	66	64	62	E19	D19
33	67			C14	C13
34	68			F14	F13

HDR1

10	9			F19	F18
8	7			F17	F16
6	5			F15	C19
4	3			C18	C17
2	1			C16	C15

FIGURE 1   XMC-UNIV-TEST JN4/JN6 INTERFACE STANDARD

Read table:
P2-1 = Jn4-3 = Jn6-B1
Signals are matched length and differentially routed with 100 ohm impendance

Construction and Reliability

XMC-UNIV-TEST is constructed out of 0.062 inch thick high temp RoHS compliant FR4 material.

Surface mounted components are used. The connectors are SMT for the XMC and through hole for the testpoints and IO.

The XMC Module connectors are keyed and shrouded with Gold plated pins on both plugs and receptacles. They are rated at 1 Amp per pin, 50 insertion cycles minimum. These connectors make consistent, correct insertion easy and reliable. With careful installation the connectors will last longer and jambing on will result in a shorter lifespan.

The XMC Module is secured against the carrier with the XMC connectors. It is recommended, for enhanced security, that the XMC mounting screws are installed. The screws and stand-off's are supplied with the XMC from the OEM. Dynamic Engineering has screws, standoffs, blank bezels and other XMC hardware available at a reasonable cost if your XMC was not shipped with some of the required attachment hardware or if it has been misplaced.

Thermal Considerations

If the XMC installed has a large heat dissipation; forced air cooling is recommended. Since the XMC is vertical and the lid is off the box, standard air-flow may need to be enhanced.

Warranty and Repair

Please refer to the warranty page on our website for the current warranty offered and options.

http://www.dyneng.com/warranty.html

Service Policy

Before returning a product for repair, verify as well as possible that the suspected unit is at fault. Then call the Customer Service Department for a RETURN MATERIAL AUTHORIZATION (RMA) number. Carefully package the unit, in the original shipping carton if this is available, and ship prepaid and insured with the RMA number clearly written on the outside of the package. Include a return address and the telephone number of a technical contact. For out-of-warranty repairs, a purchase order for repair charges must accompany the return. Dynamic Engineering will not be responsible for damages due to improper packaging of returned items. For service on Dynamic Engineering Products not purchased directly from Dynamic Engineering contact your reseller. Products returned to Dynamic Engineering for repair by other than the original customer will be treated as out-of-warranty.

Out of Warranty Repairs

Out of warranty repairs will be billed on a material and labor basis. Customer approval will be obtained before repairing any item if the repair charges will exceed one half of the quantity one list price for that unit. Return transportation and insurance will be billed as part of the repair and is in addition to the minimum charge.

For Service Contact:

Customer Service Department
Dynamic Engineering
150 DuBois St. Suite C
Santa Cruz, CA 95060
831-457-8891   831-457-4793 fax Internet Address support@dyneng.com

Specifications

Logic Interfaces: 1-8 Lane PCIe.

Access types: All PCIe types supported

CLK rates supported: Gen1-3

Software Interface: Passive, no SW required for adapter

Testpoints: SMB, JTAG and grounds

Interface: XMC front bezel directly, rear IO via SCSI connector and HDR1.

Dimensions: minimized to cover as little of the XMC as possible.

Construction: High Temp FR4 Multi-Layer Printed Circuit, Through Hole and Surface Mount Components.

Order Information

standard temperature range -40⇔85ºC

XMC-UNIV-TEST   Vertical mount component side forward XMC adapter into PCI. 1-8 lane PCIe bus interface. Testpoints on SMB, JTAG signals. Switch for Global Address and MVRO. Impedance controlled, matched length routing. SCSI connector differentially routed to Jn4 / JN6 for rear IO applications.
-ROHS [ROHS compliant parts and process]
http://www.dyneng.com/XMC-UNIV-TEST.html

HDEterm68   http://www.dyneng.com/HDEterm68.html
68 pin SCSI II to 68 screw terminal converter with DIN rail mounting.

HDEcabl68   http://www.dyneng.com/HDEcabl68.html
SCSI cables with latch blocks or thumbscrews and various lengths are available. Custom lengths can be ordered.

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