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PQ-MDS-PCIEXP
PCI Expansion Adaptor Board
084-00195-1

User's manual

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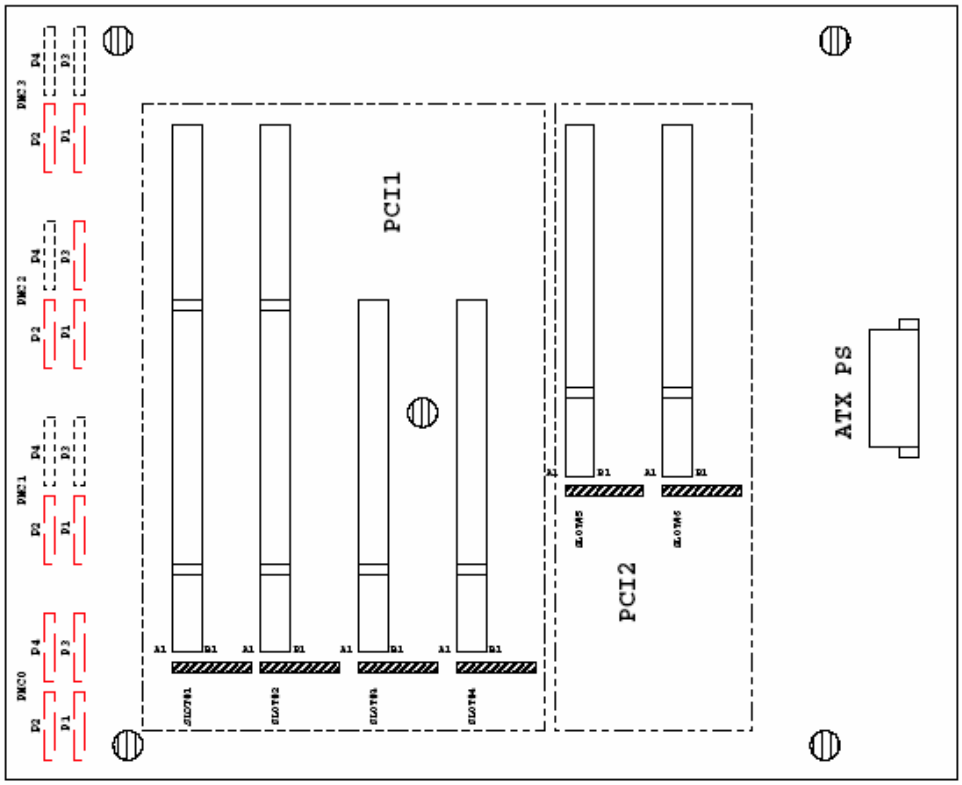
1. General

This document details technical specification of the PCI Expansion Adapter Board (**PQ-MDS-PCIEXP**) targeted be used with 83xx I/O board to provide standard PCI slot's data interface to Host CPU and power supply to inserted PCI cards.

2. Form factor

PQ-MDS-PCIEXP realized as single PCB board to provide interconnections between corresponding ATCA PMC connectors placed on the **PQ-MDS-PIB** Platform I/O Board and standard PCI slots. ATX PS connector provides accessing to external PS guaranteeing powering of the PCI cards inserted into the slots. Layout of the **PQ-MDS-PCIEXP** represented in the Figure 1.

Figure 1



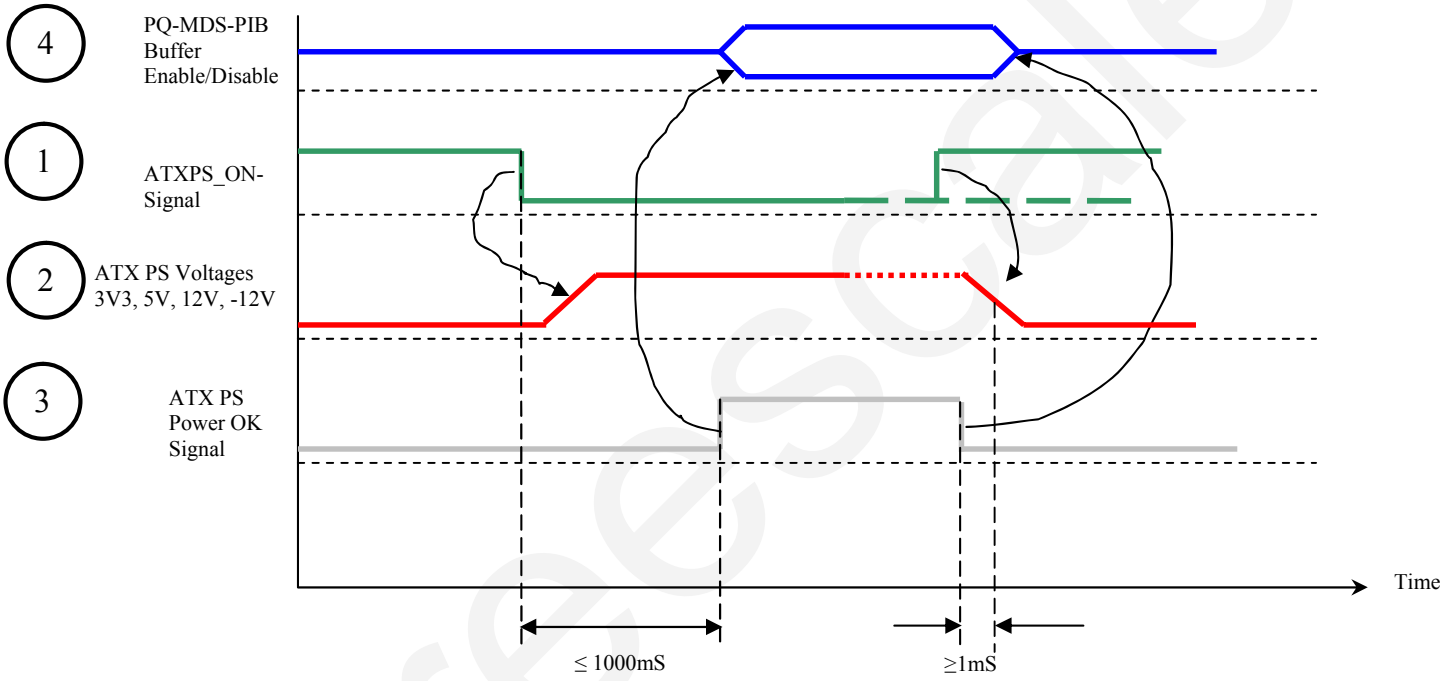
LEGEND:

1. - Assembled
2. - Not populated
3. - Slot for PCI card bracket
4. - Board feet

3. Power supply

To secure fail-safe interconnection between **PQ-MDS-PIB** and PCI Add-in card/cards inserted into the **PQ-MDS-PCIEXP** slots PCI interface buffers placed on **PQ-MDS-PIB** board should be 3-stated until signal Power-OK from ATX PS (OK) received. In its turn this signal produced by ATX PS after ATX PS_ON- signal from **PQ-MDS-PIB** board (OK) received, and all voltages supplied by PS are stable. To summarize this explanation power sequence timing-diagram represented in the Figure 2.

Figure 2



To simplify integration procedure there is the service jumper populated in the **PQ-MDS-PCIEXP**, which provide manual ATX PS_ON signal to the PS or remote one from **PQ-MDS-PIB** board as it's explained above (short J1 pins 1-2 or 2-3 correspondingly). Usage of external ATX PS to supply inserted PCI cards provide capability to use up to 6 add-in cards without any power consumption restriction.
Two LED's are populated on the board to indicate:

- ATX-PS connection (PS-RDY) and
- Normal operation (PWR-ON)

J1 default – short 1-2 pins (Manual ATX PS Control)

4. Data interface

PQ-MDS-PCIEXP supports 6 PCI slots ensuring following buses:

- PCI1 64bit – 2slots (#1,2)
- PCI1 32bit – 4slots (#1…4)
- PCI2 32bit – 2slots (#5,6)

5. Compatibility

PQ-MDS-PCIEXP supports both 3V3 and 5V0 PCI Add-in cards

6. Identification

PCI slots allocated on the **PQ-MDS-PCIEXP** are use corresponding IDSEL signals connected each one to the AD bus as shows in the Table 1

Table 1

Slot#	IDSEL signal connected to	Note
1	PCI1_AD21	
2	PCI1_AD22	
3	PCI1_AD23	
4	PCI1_AD24	
5	PCI2_AD25 (PCI1_AD57)	
6	PCI2_AD26 (PCI1_AD58)	

7. Interrupts

Interrupt signals from all slots are implemented in compliance with PCI standard and represented in the Table 2.

Table 2

Interrupt	Slot #						Note
	1	2	3	4	5	6	
	Pin #						
INTA-	A6	B7	A7	B8	A6	B7	
INTB-	B7	A7	B8	A6	B7	A7	
INTC-	A7	B8	A6	B7	A7	B8	
INTD-	B8	A6	B7	A7	B8	A6	

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