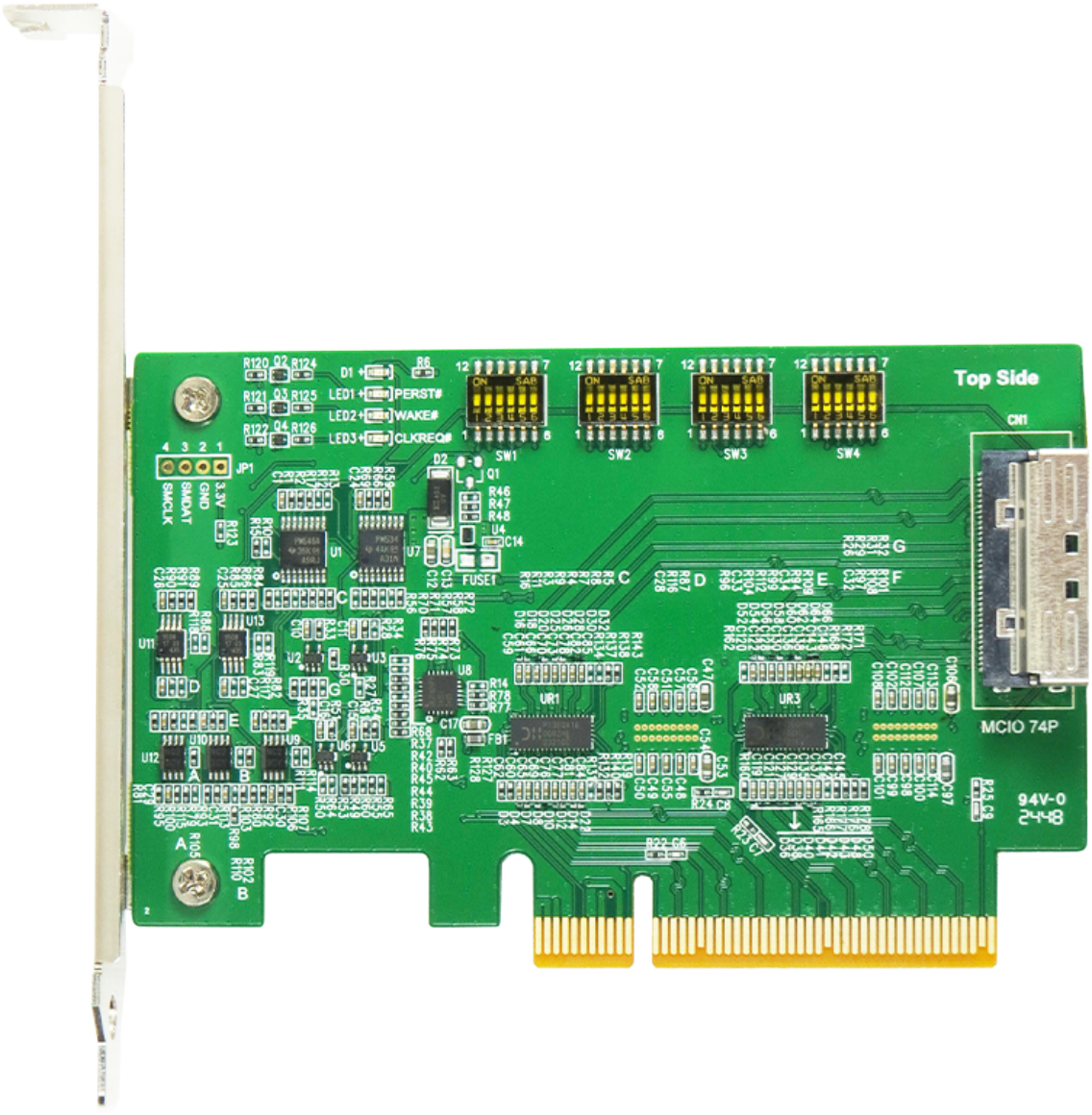
Innocard

Minerva

DP8414

PCIe x8 Gen4 with ReDriver to MCIO 74P AIC



PCIe x4 Gen4 with ReDriver to MCIO 74P AIC

Features

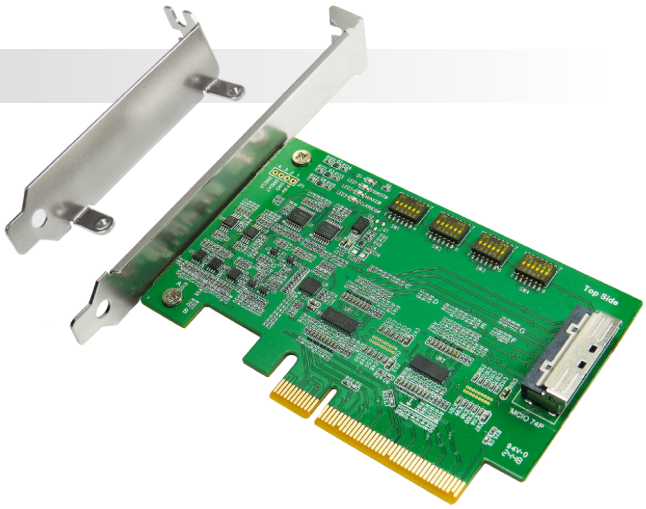
※ MCIO 74P to PCIe x8 Gen4 convert
※ Built-in MCIO 74P connector, 30u"connector
※ Input power 3.3V with TVS and Load Switch protection to protect ReDriver controller
※ PCIe 4.0 eight-lane signals input and output with ESD protection
※ Built-in ReDriver controller to extend PCIe 4.0, 16GT/s differential pair signals 8 lanes data link width, and may provides programmable linear equalization, output swing and flat gain.
※ The PCIe 8 lanes can be bifurcated into two x4 link width to support different system topologies
※ Built-in PCIe 100MHz clock buffer(Address: 0x6C) for MCIO 74P to drive longer cable length. It may be buffered and fanned out to the MCIO 74P clock pin dual port output.
※ Built-in SMBus Switch(Address: 0x70) with Reset funtion for MCIO 74P dual port SMBus communication
※ Built- in SMBus bidirectional buffer repeater
※ Built-in SMBus I/O Expander(Address: 0x20) for OOB(out of band) management to remote MCIO 74P Reset signals
※ Built-in PERST# Bus Buffer Gate to be used over longer trace lengths and over longer cable length.
※ Supports PCIe PERST# for OOB(out of band) management to remote MCIO 74P Reset
※ Built-in WAKE# Bus Buffer Gate to be used over longer trace lengths and over longer cable lengths.
※ Built-in CLKREQ# Bus Buffer Gate to be used over longer trace lengths and over longer cable length.
※ D1 Green LED on indicates AIC ready
※ LED1 Green OFF indicates PERST# Normal (Function intentionally inverted)
※ LED2 Green OFF indicates WAKE# Normal (Function intentionally inverted)
※ LED3 Green OFF indicates CLKREQ# Normal (Function intentionally inverted)

Specifications

※ PCI Express Base Specification Rev 4.0
※ PCIe_CEM_SPEC_R4_V1_0_08072019_NCB
※ PCI_Express_External_Cabling_R3.0a_06042020_NCB
※ SFF-TA-8613 R3.5.4_CB
※ SFF-9401 Rev1.1

Applications

※ Rack server
※ Microserver and Tower server
※ High performance computing
※ Hareware accelerator
※ Storage Controller HBA(Host Bus Adapter)
※ Desktop PC/motherboard



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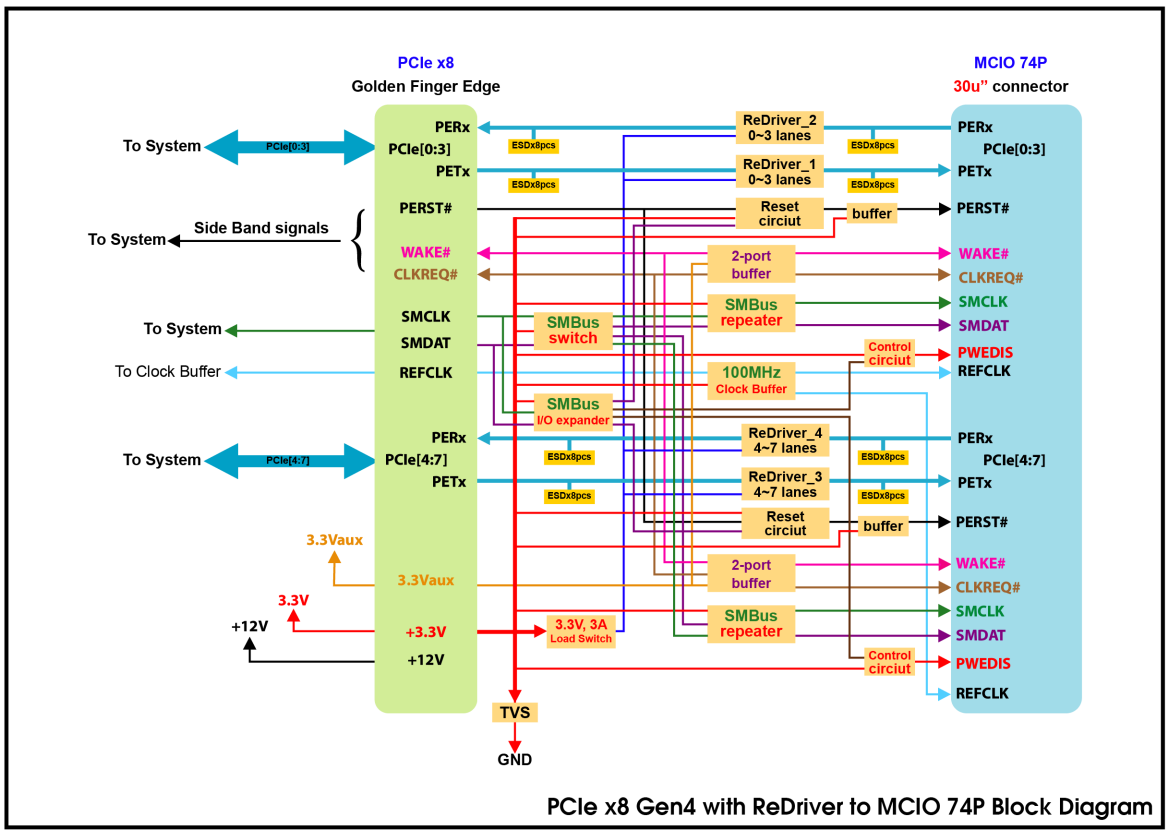
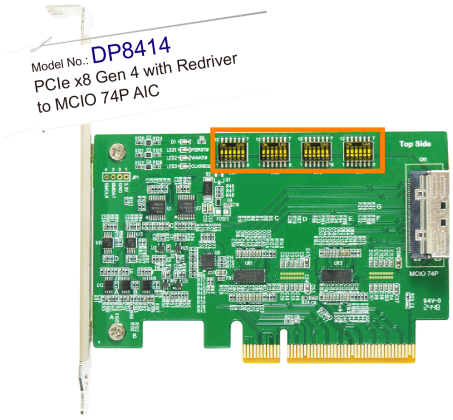
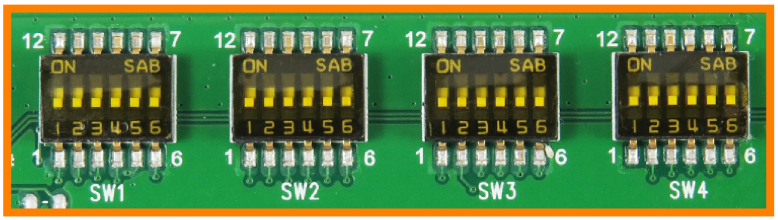


PCIe x8 Gen4 with ReDriver to MCIO 74P Block Diagram

The switches settings are as noted below





1

SW1 OR SW2 OR SW3 OR SW4	1-12	Output Swing Setting	on	0	800 mVp-p
			off	1	1200 mVp-p
	2-11 FG0	Flat Gain Setting	on	0	
			off	1	
	3-10 FG1		on	0	
			off	1	
	4-9 EQ0	Equalization Setting	on	0	
			off	1	
	5-8 EQ1		on	0	
			off	1	
	6-7 EQ2		on	0	
			off	1	

2

Flat Gain Setting		
FG1	FG0	dB
0	0	-3.5
0	1	-2
1	0	-0.5
1	1	1

Default Value :
1. Swing : High
2. Flat Gain : High
3. Equalization : High

3

Equalizer Setting (dB)						
EQ2	EQ1	EQ0	@1.25GHz	@2.5GHz	@4GHz	@8GHz
0	0	0	0.2	1.0	2.3	5.6
0	0	1	0.2	1.1	2.6	6.2
0	1	0	1.8	2.7	3.9	7.0
0	1	1	2.1	3.3	4.8	8.5
1	0	0	3.0	4.2	5.8	9.4
1	0	1	3.2	4.6	6.5	10.4
1	1	0	4.3	5.8	7.8	11.7
1	1	1	4.5	6.5	8.8	13.0