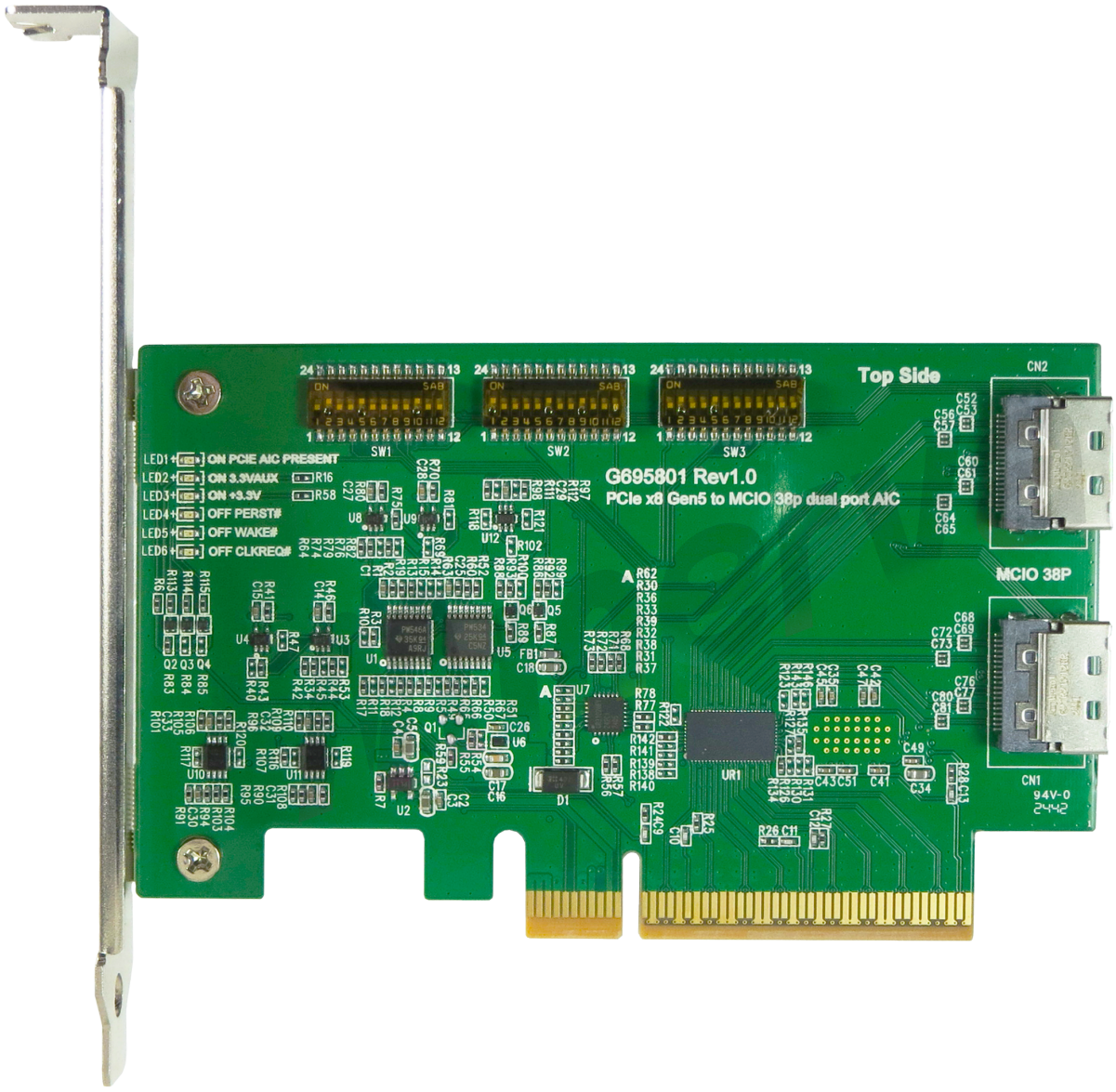
Innocard

Minerva

EP8102

PCIe x8 Gen5 with ReDriver to MCIO 38P Daul Port AIC



PCIe x8 Gen5 with ReDriver to MCIO 38P Daul Port AIC

Features

※ MCIO 38P (SFF-TA-1016) dual port to PCIe x8 Gen 5 convert
※ Built-in MCIO 38P (SFF-TA-1016) connector dual port
※ Built-in ReDriver to extend PCIe 5.0 8 Lanes signals data link width reach.
※ Built-in PCIe 100MHz Clock buffer(Address: 0x6C/7 bits), default Zout=100 ohm to drive longer trace length and longer cable length.
※ Built-in PCIe SMBus Switch(Address:0x70/7 bits) 4-channel with Reset Function for MCIO 38P (SFF-TA-1016) and PCIe 100MHz Clock buffer SMBus control
※ Built-in SMBus I/O Expander(Address: 0x20/7 bits) for OOB(out of band) management to remote MCIO 38P dual port Reset signals
※ Built-in PERST# Bus Buffer Gate to be used over longer trace lengths and longer cable length.
※ Built-in WAKE# Bus Buffer Gate to be used over longer trace lengths and longer cable length.
※ Built-in CLKREQ# Bus Buffer Gate to be used over longer trace lengths and longer over cable length.
※ LED1 Green ON indicates AIC PRSNT#
※ LED2 Green ON indicates 3.3VAUX ready
※ LED3 Green ON indicates 3.3Vready
※ LED4 Green OFF indicates PERST# Normal (Function intentionally inverted)
※ LED5 Green OFF indicates WAKE# Normal (Function intentionally inverted)
※ LED6 Green OFF indicates CLKREQ# Normal (Function intentionally inverted)

Specifications

※ PCI Express Base Specification Rev 5.0
※ PCIe_CEM_R5.1_V1.0_08072023_NCB
※ Compliant with SFF-TA-1016 Rev 1.2

Operating system support

※ Windows 10
※ Windows 11
※ UEFI 2.3.1 or later

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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The switches settings are as noted below

SW1 For UR1

Equalization Control Settings				
			INDEX	EQ Gain
1-24	on	EQ1 BANK1 Settings	L0	
2-23	on		L1	
3-22	on		L2	
4-21	on		L3	
			L4	
5-20	on	EQ0 BANK1 Settings	L0	
6-19	on		L1	
7-18	on		L2	
8-17	on		L3	
			L4	
9-16	on	EQ1 BANK0 Settings	L0	
10-15	on		L1	
11-14	on		L2	
12-13	on		L3	
			L4	

SW2 For UR1

Equalization Control Settings				
			INDEX	EQ Gain
1-24	on	EQ0 BANK0 Settings	L0	
2-23	on		L1	
3-22	on		L2	
4-21	on		L3	
			L4	

SW2 For UR2

Equalization Control Settings				
			INDEX	EQ Gain
5-20	on	EQ1 BANK1 Settings	L0	
6-19	on		L1	
7-18	on		L2	
8-17	on		L3	
			L4	
9-16	on	EQ0 BANK1 Settings	L0	
10-15	on		L1	
11-14	on		L2	
12-13	on		L3	
			L4	

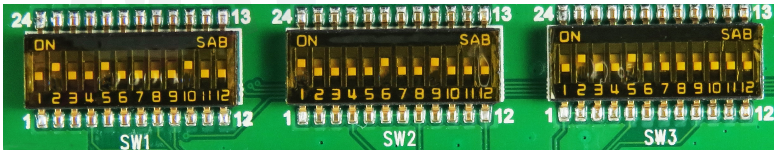
SW3 For UR2

Equalization Control Settings				
			INDEX	EQ Gain
1-24	on	EQ1 BANK0 Settings	L0	
2-23	on		L1	
3-22	on		L2	
4-21	on		L3	
			L4	
5-20	on	EQ0 BANK0 Settings	L0	
6-19	on		L1	
7-18	on		L2	
8-17	on		L3	
			L4	

SW3 For UR1, UR2

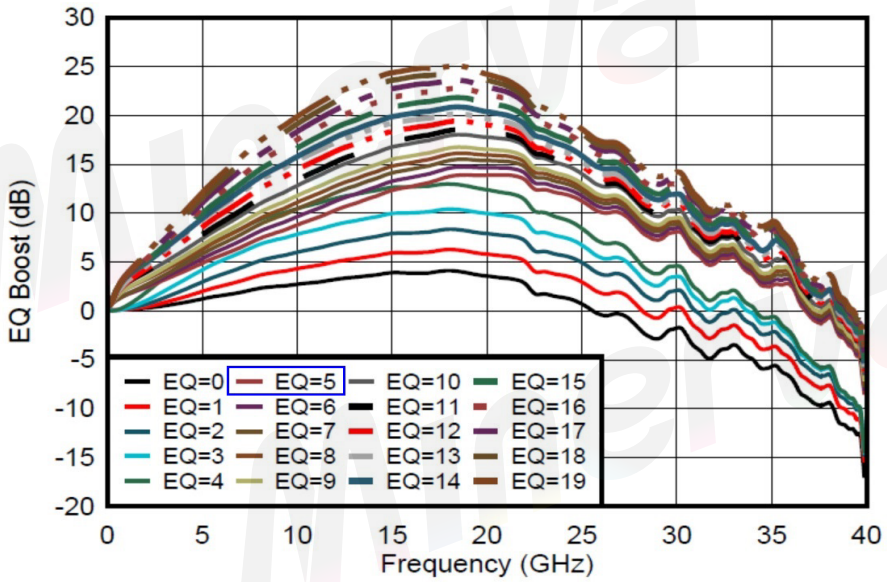
			INDEX	
9-16	on		L0	
10-15	on		L1	
11-14	on		L2	
12-13	on		L3	
			L4 (float)	

Equalization Control Settings				
	EQUALIZATION SETTING		TYPICAL EQ BOOST (dB)	
EQ INDEX	EQ1	EQ0	At 8 GHz	At 16 GHz
0	L0	L0	3.0	4.0
1	L0	L1	4.0	6.0
2	L0	L2	5.5	8.0
5	L1	L0	6.5	10.5
6	L1	L1	7.0	11.5
7	L1	L2	7.5	12.5
8	L1	L3	8.5	13.0
9	L1	L4	9.0	14.0
10	L2	L0	10.0	15.0
11	L2	L1	10.5	15.5
12	L2	L2	11.0	16.5
13	L2	L3	12.0	17.0
14	L3	L4	12.5	18.0
15	L3	L0	13.0	19.0
16	L3	L1	14.0	19.5
17	L3	L2	14.5	20.5
18	L3	L3	15.5	21.0
19	L3	L4	16.0	22.0



EQ Setup Default: EQ1/L1 & EQ0/L0
Flat Fain Setup Default: Float/L4

EP8102 AIC built-in ReDriver EQ Boost(dB) vs Frequency as below



Typical EQ Boost vs Frequency

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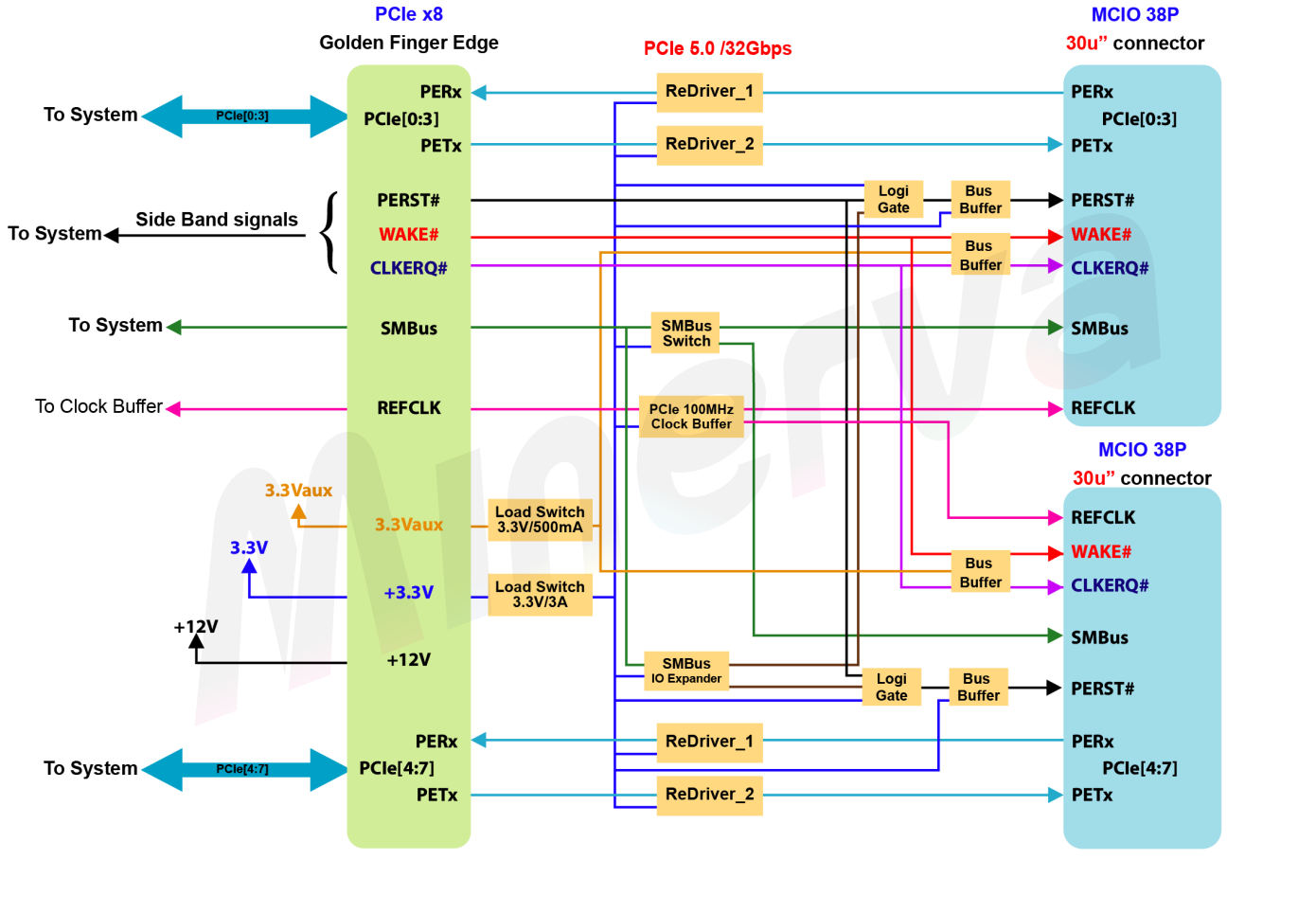

PCIe x8 with ReDriver for MCIO 38P Daul Port Block Diagram