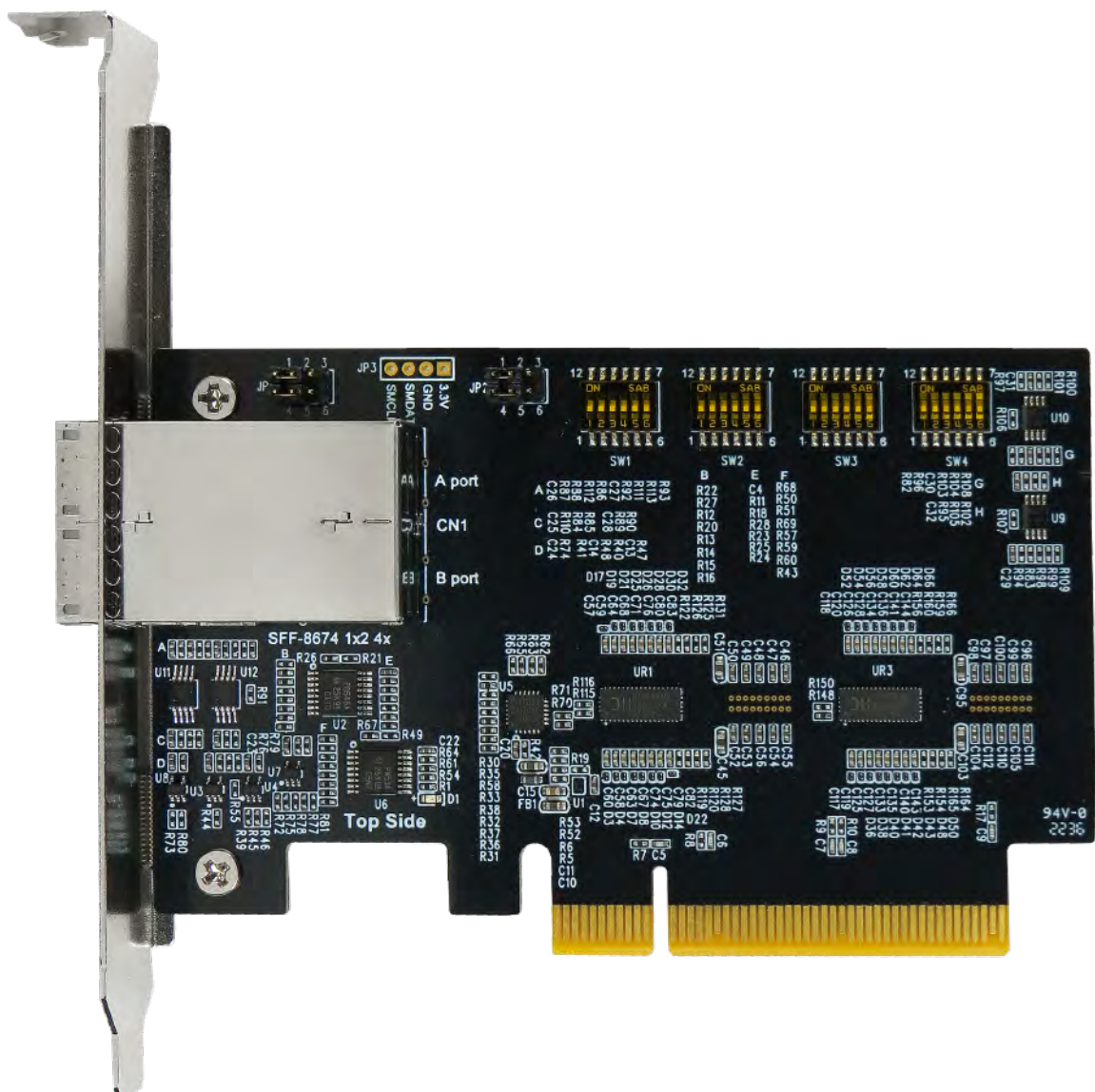


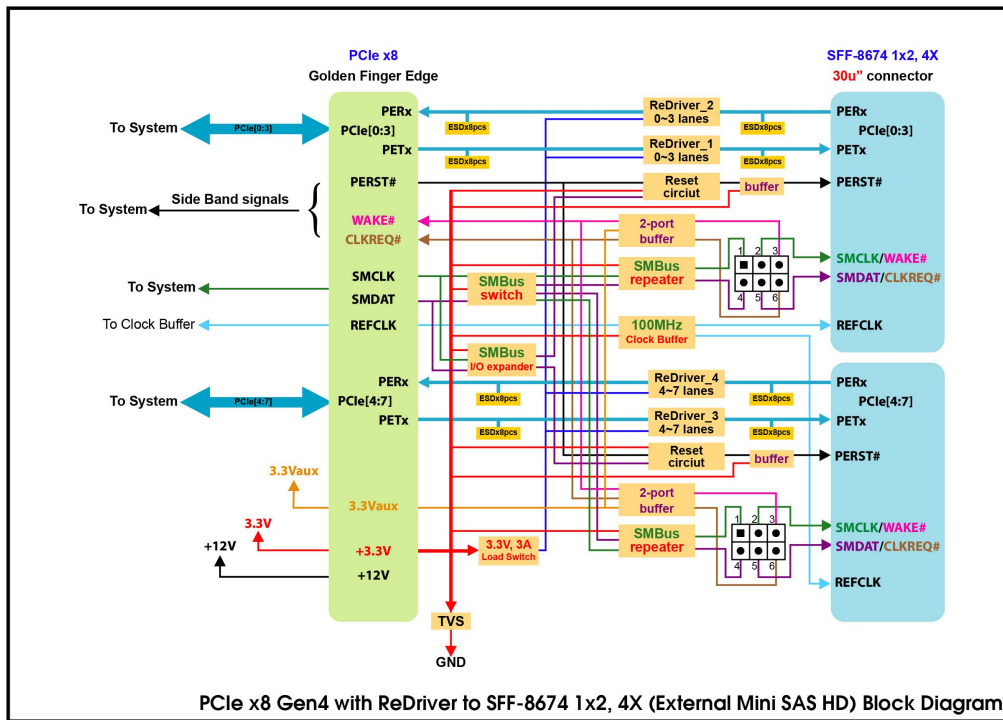
Innocard Minerva

DP8710

PCIe x8 Gen4 with ReDriver to
External Mini SAS HD 1x2, 4X (SFF-8674) AIC



PCIe x8 Gen4 with ReDriver to External Mini SAS HD 1x2, 4X AIC



Features

- ※ External Mini SAS HD 1x2, 4X(SFF-8674) to PCIe x8 Gen4 convert
- ※ Built-in SFF-8674 1x2, 4X connector
- ※ Input power 3.3V with TVS and Load Switch protection
- ※ PCIe 4.0 8-lane signals input and output with ESD protection
- ※ Built-in ReDriver to extend PCIe 4.0, 16GT/s 8 lanes differential pair signals 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 SFF-8674 1x2, 4X to drive longer cable length. It may be buffered and fanned out to the SFF-8674 1x2, 4X clock pin.
- ※ Built-in SMBus Switch(Address: 0x70) with Reset Funtion for SFF-8674 1x2, 4X SMBus communication
- ※ Built- in SMBus bidirectional buffer repeater
- ※ Built-in SMBus I/O Expander(Address: 0x20) for OOB(out of band) management to remote SFF-8674 1x2, 4X Reset signals
- ※ Built-in PERST# Bus Buffer Gate to be used over longer trace lengths and over longer cable lengths.
- ※ 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

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-8614 R3.4.4_CB

Applications

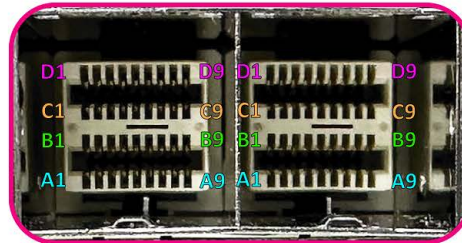
- ※ Rack server
- ※ Microserver and Tower server
- ※ High performance computing
- ※ Hareware accelerator
- ※ Storage Controller HBA(Host Bus Adapter)
- ※ Desktop PC/motherboard

PCIe x8 Gen4 with ReDriver to External Mini SAS HD 1x2, 4X AIC

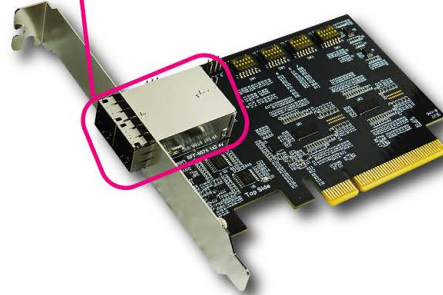
The following figure shows SFF-8674 1x2, 4X pin out

SFF-8674 1x1, 4X pin define

Pin#	Net	Pin#	Net
A1	REFCLKp	B1	PERST#
A2	REFCLKn	B2	
A3	GND	B3	GND
A4	PERp0	B4	PERp1
A5	PERn0	B5	PERn1
A6	GND	B6	GND
A7	PERp3	B7	PERp2
A8	PERn3	B8	PERn2
A9	GND	B9	GND
C1	SMCLK/WAKE#	D1	
C2	SMDAT/CLKREQ#	D2	
C3	GND	D3	GND
C4	PETp0	D4	PETp1
C5	PETn0	D5	PETn1
C6	GND	D6	GND
C7	PETp3	D7	PETp2
C8	PETn3	D8	PETn2
C9	GND	D9	GND



PCIe 4.0 SFF-8674 1x2, 4X 30μ" Au plating connector



Model No.: DP8710

PCIe x8 Gen4 with ReDriver to SFF-8674 1x2, 4X AIC

The switches settings are as noted below

JP1 SETUP

1-2	ON	SMCLK1	Default setup
4-5	ON	SMDAT1	
2-3	ON	WAKE1#	
5-6	ON	CLKREQ1#	

JP2 SETUP

1-2	ON	SMCLK2	Default setup
4-5	ON	SMDAT2	
2-3	ON	WAKE2#	
5-6	ON	CLKREQ2#	

Model No.: DP8710
PCIe x8 Gen 4 with Redriver to External Mini SAS HD 1x2, 4X AIC

SW1 SW2 SW3 SW4

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

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

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