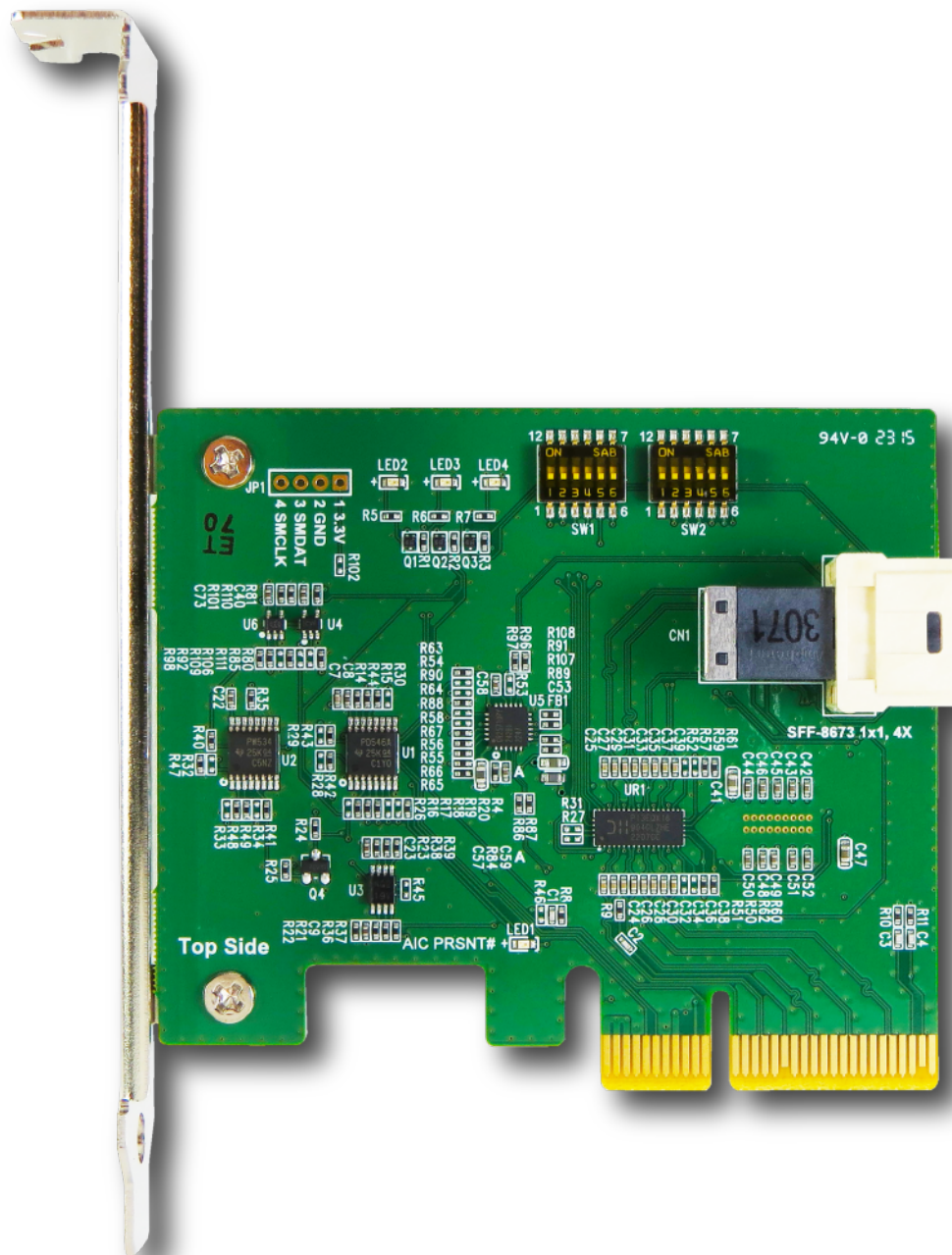


Innocard Minerva

DP9710

PCIe x4 Gen4 with ReDriver to SFF-8673 1x1, 4X AIC



PCIe x4 Gen4 with ReDriver to SFF-8673 1x1, 4X AIC

Features

- ※ Supports Server BMC management
- ※ Supports Industrial Grade temperature range
- ※ Mini SAS HD 1x1, 4X to PCI Express x4 Gen4 convert
- ※ Built- in SFF-8673, 30u" connector
- ※ Built-in ReDriver to extend PCIe 4.0, 16GT/s 16 lanes differential pair signals data link width, and may provides programmable linear equalization, output swing and flat gain
- ※ Built- in PCIe 100MHz Clock buffer to drive longer trace lengths and more longer cable, Address: 0x6C(7 bits)
- ※ Built- in SMBus Switch, Address: 0x71(7 bits)
- ※ Built- in SMBus I/O Expander, Address: 0x20(7 bits) for Mini SAS HD PWRDIS control
- ※ Supports PCIe PERST# for OOB(out of band) management to remote Mini SAS HD Reset
- ※ Built- in WAKE# bidirectional voltage-level translator for Open-Drain output to be used longer PCB trace lengths and longer cable
- ※ Built- in CLKREQ# bidirectional voltage-level translator for Open-Drain output to be used longer PCB trace lengths and longer cable
- ※ LED1 Green LED on indicates AIC ready
- ※ LED2 Red on to off indicates PCIe WAKE# signals(LED OFF-NORMAL)
- ※ LED3 Red on to off indicates PCIe CLKREQ# signals(LED OFF-NORMAL)
- ※ LED4 Red on to off indicates PCIe PERST# signals(LED OFF-NORMAL)

Specifications

- ※ PCI Express Base Specification Rev 4.0
- ※ PCIe_CEM_SPEC_R4_V1_0_08072019_NCB
- ※ Compliant with SFF-8613_R3.5.4_CB

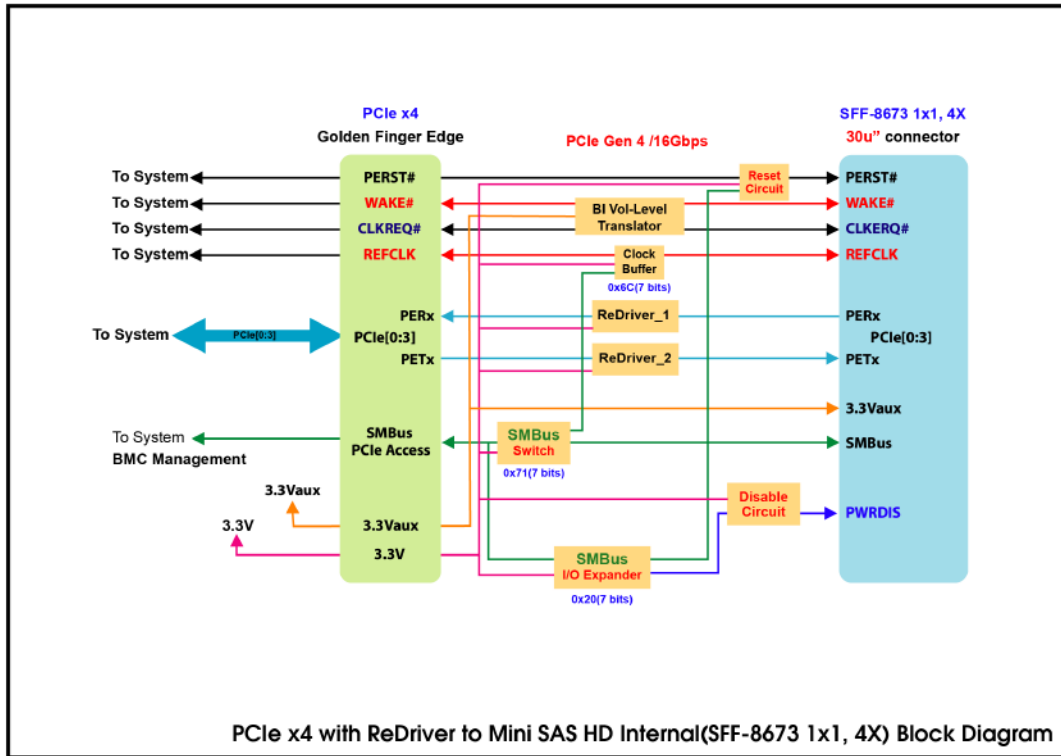
Operating system support

- ※ Windows 7
- ※ Windows 8 &8.1
- ※ Windows 10
- ※ UEFI 2.3.1 or later

Applications

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

PCIe x4 Gen4 with ReDriver to SFF-8673 1x1, 4X AIC



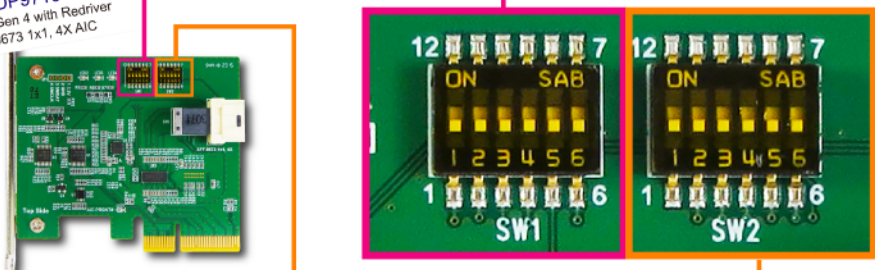
The switches settings are as noted below

SW1	1-12	Output Swing Setting	on	0
	2-11	Flat Gain Setting	off	1
	FG0		on	0
	3-10		off	1
	FG1	on	0	
	4-9	Equalization Setting	on	0
	EQ0		off	1
5-8	on		0	
EQ1	off		1	
6-7	on	0		
EQ2	off	1		

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

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	

Model No. DP9710
PCIe x4 Gen 4 with Redriver
to SFF-8673 1x1, 4X AIC



SW2	1-12	Output Swing Setting	on	0
	2-11	Flat Gain Setting	on	0
	FG0_1		off	1
	3-10		on	0
	FG1_1	off	1	
	4-9	Equalization Setting	on	0
	EQ0_1		off	1
5-8	on		0	
EQ1_1	off		1	
6-7	on	0		
EQ2_1	off	1		

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

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	

PCIe x4 Gen4 with ReDriver to SFF-8673 1x1, 4X AIC

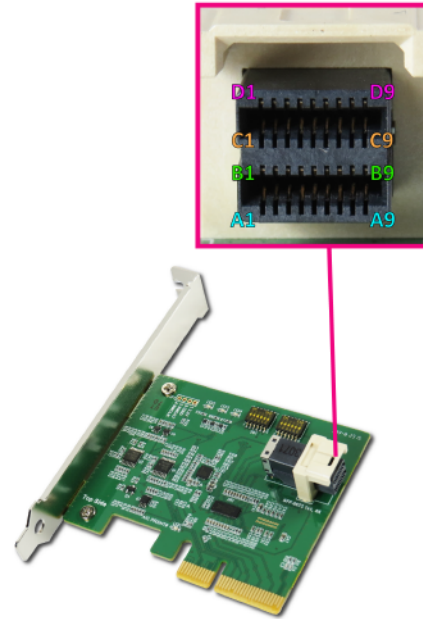
The following figure shows SFF-8673 1x2, 4X pin out

Home host

SFF-8673 1x1, 4X following Intel pin define

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

PCIe 4.0 SFF-8673 1x1, 4X
30μ" Au plating connector



Model No.: **DP9710**
PCIe x8 Gen4 with ReDriver to Mini SAS HD 1x1, 4X AIC