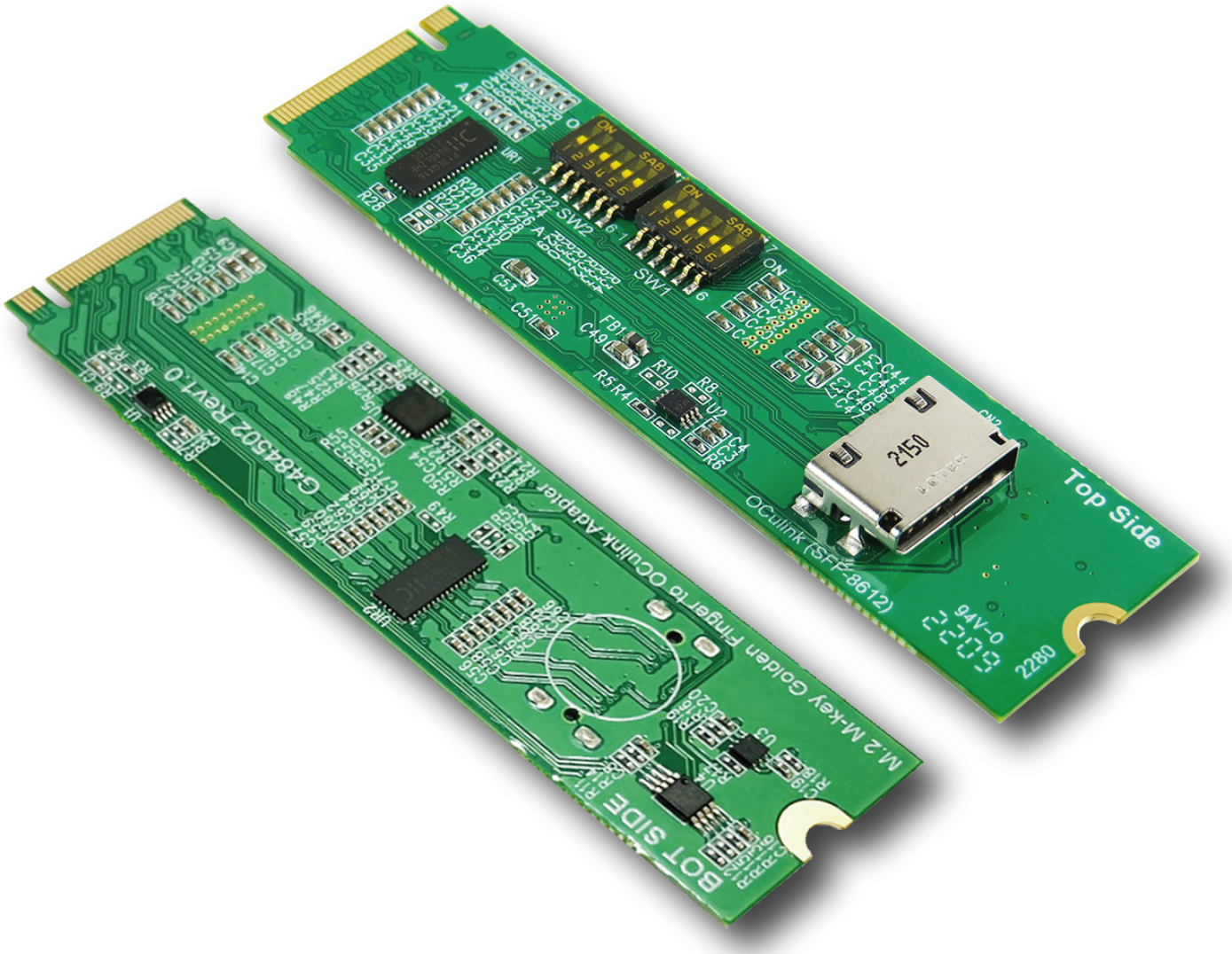
Innocard

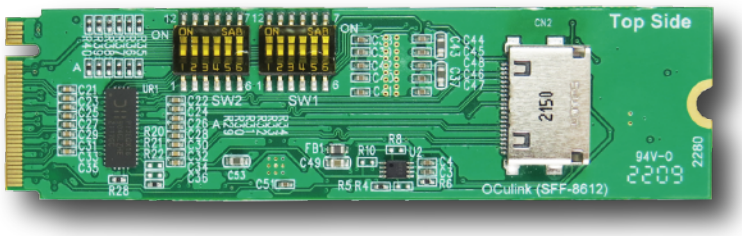
Minerva

DP6303

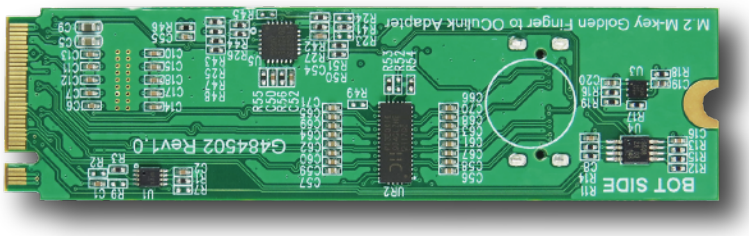
M.2 M-key *PCIe Gen4* with ReDriver to OCulink 4i (SFF-8612) Adapter



M.2 M-key *PCIe Gen4* with ReDriver to OCulink 4i (SFF-8612) Adapter



Top side



Bottom side

Features

※ OCulink 4i (SFF-8612) to M.2 PCIe 4.0 convert
※ Built- in SFF-8612 connector, pin-out defined by SFF-9402 Rev1.1
※ Built- in PCIe ReDriver to extend PCIe Gen4, 16GT/s differential pair signals
※ Built- in PCIe 100MHz Clock buffer to drive longer trace lengths and longer cable
※ Built- in SMBus bidirectional buffer repeater and Voltage level shift
※ Built- in PERST# Bidirectional Voltage-Level Translator
※ Built- in WAKE# Bidirectional Voltage-Level Translator
※ Built- in CLKREQ# Bidirectional Voltage-Level Translator
※ M.2 CLKREQ# signal is tied to SFFF-8612 B13 pin
※ Built- in PWRDIS Bidirectional Voltage-Level Translator
※ M.2 PWRDIS signal is tied to SFFF-8612 A9 pin

Specifications

※ PCI Express Base Specification Rev 4.0
※ PCIe_CEM_SPEC_R4_V1_0_08072019_NCB
※ Support SSD_Form_Factor_Version1_a
※ Compliant with PCI_Express_OCuLink_1.0a
※ Compliant with SFF-9402 Specification Version 1.1
※ PCI Express M.2 Spec Rev4.0 Ver1.0 11052020 NCB

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
※ Hareware accelerator
※ Storage Controller HBA(Host Bus Adapter)
※ Desktop PC/motherboard

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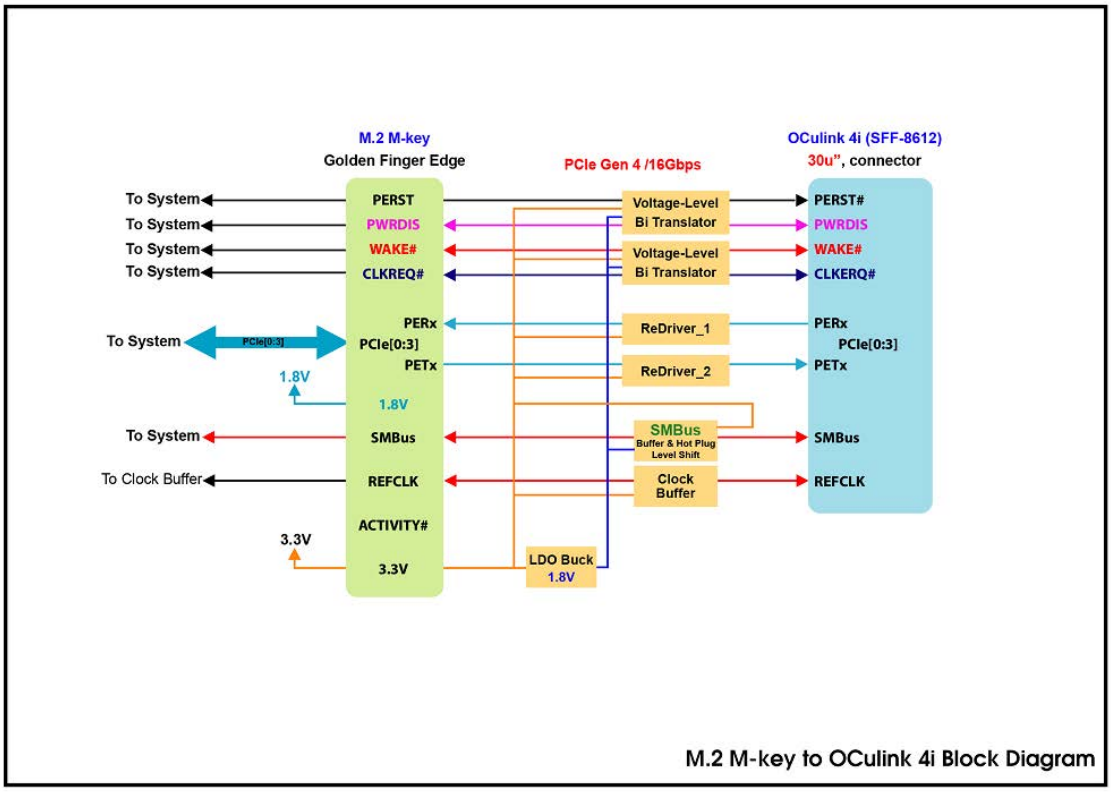


M.2 M-key to OCulink 4i Block Diagram

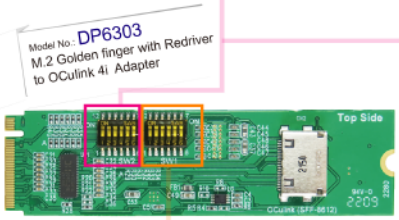
The switches settings are as noted below

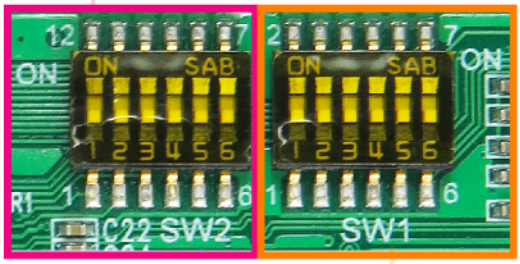
SW1				
1-12	Output Swing Setting	on	0	800 mVp-p
		off	1	1200 mVp-p
2-11 FG0	Flat Gain Setting	on	0	
		off	1	
3-10 FG1		on	0	
		off	1	
4-9 EQ0	Equalization Setting	on	0	
		off	1	
5-8 EQ1		on	0	
		off	1	
6-7 EQ2		on	0	
		off	1	

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





SW2				
1-12	Output Swing Setting	on	0	800 mVp-p
		off	1	1200 mVp-p
2-11 FG0_1	Flat Gain Setting	on	0	
		off	1	
3-10 FG1_1		on	0	
		off	1	
4-9 EQ0_1	Equalization Setting	on	0	
		off	1	
5-8 EQ1_1		on	0	
		off	1	
6-7 EQ2_1		on	0	
		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

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