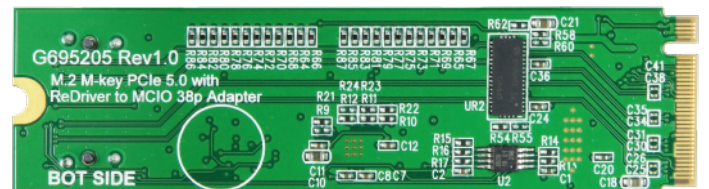
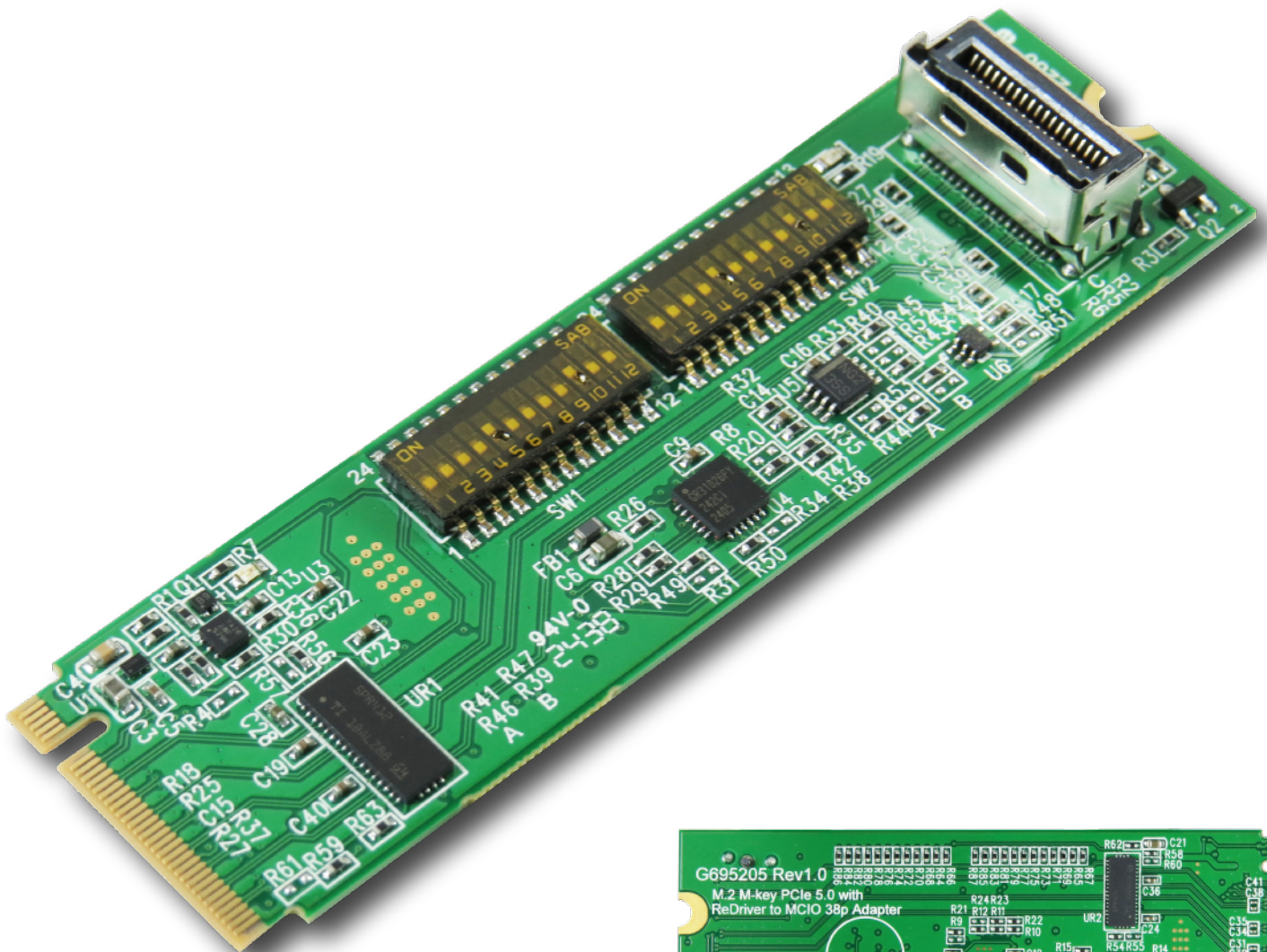


# Innocard Minerva

## EP7102

M.2 M-key PCIe 5.0 with ReDriver to MCIO 38P



Bottom side

# M.2 M-key PCIe 5.0 with ReDriver to MCIO 38P

## Features

- ※ Built- in 3.3V, 3A Load Switch with Reverse Current Protection and Controlled Turn-On
- ※ MCIO 38P (SFF-TA-1016) to M.2 PCIe 5.0 convert
- ※ Built- in MCIO 38P connector with 30u"(0.76um) min Au mating area plating
- ※ Built- in PCIe ReDriver to extend PCIe 5.0, 32GT/s differential pair signals
- ※ Built- in PCIe 100MHz Clock buffer to drive longer trace lengths and longer cable
  - ◆ The REFCLKp signal, it is tied to MCIO 38P B11 pin
  - ◆ The REFCLKn signal, it is tied to MCIO 38P B12 pin
- ※ Built- in SMBus repeater and Voltage level shift with Hot swappable level translating
  - ◆ The SMCLK signal, it is tied to MCIO 38P A8 pin
  - ◆ The SMDAT signal, it is tied to MCIO 38P A9 pin
- ※ Built- in PERST# Bidirectional Voltage-Level Translator, it is tied to MCIO 38P A11 pin
- ※ The WAKE# signal, it is tied to MCIO 38P B8 pin
- ※ The CLKREQ# signal, it is tied to MCIO 38P A12 pin
- ※ The PWRDIS signal signal, it is tied to MCIO 38P B9 pin
- ※ LED1 Green ON indicates 3.3V ready
- ※ LED2 Red from ON to OFF indicates PERST# signals normal

## Specifications

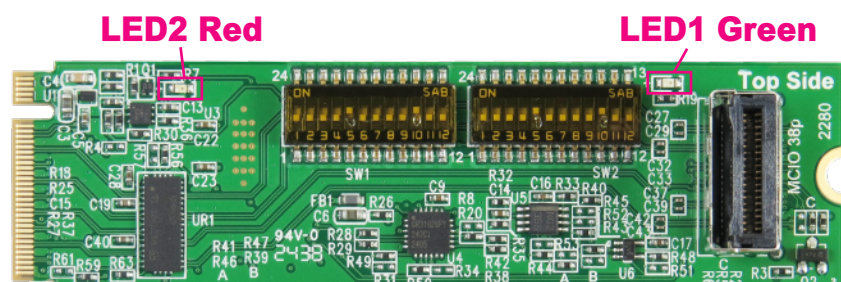
- ※ PCI Express Base Specification Rev 5.0
- ※ PCIe\_CEM\_R5.1\_V1.0\_08072023\_NCB
- ※ Compliant with SFF-TA-1016 Rev 1.2
- ※ PCI\_Express\_M.2\_Spec\_Rev5.1

## Operating system support

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

## Applications

- ※ Windows 8 & 8.1
- ※ Windows 10
- ※ Windows 11
- ※ UEFI 2.3.1 or later



# M.2 M-key PCIe 5.0 with ReDriver to MCIO 38P

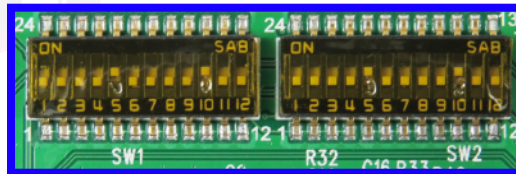
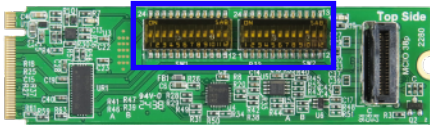
The switches settings are as noted below

Flat Gain Configuration Settings				
			INDEX	Flat Gain
SW1 & SW2	1-24	on	L0	-5.6 dB
	2-23	on	L1	-3.8 dB
	3-22	on	L2	-1.2 dB
	4-21	on	L3	+2.6 dB
			L4 (float)	+0.6 dB
Equalization Control Settings				
			INDEX	EQ Gain
EQ0 Settings	5-20	on	L0	}
	6-19	on	L1	
	7-18	on	L2	
	8-17	on	L3	
			L4 (float)	
EQ1 Settings	9-16	on	L0	}
	10-15	on	L1	
	11-14	on	L2	
	12-13	on	L3	

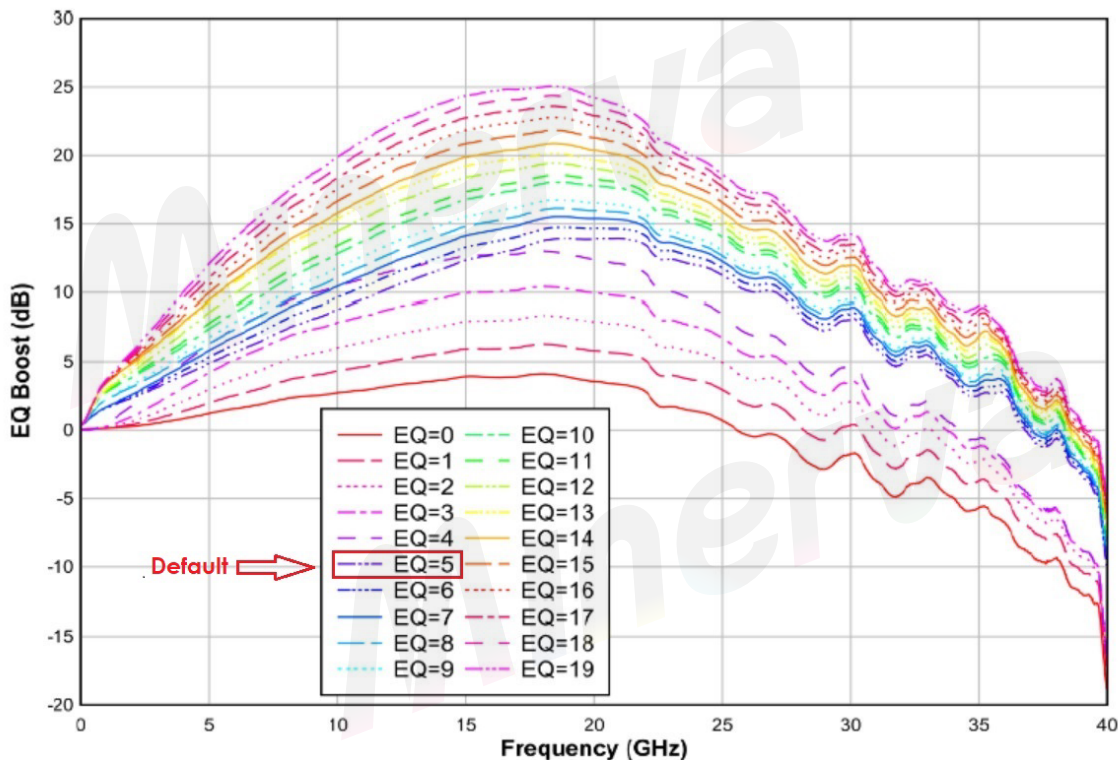
Equalization Control Settings				
EQ INDEX	EQUALIZATION SETTING		TYPICAL EQ BOOST (dB)	
	EQ0	EQ1	At 8 GHz	At 16 GHz
0	L0	L0	2.0	4.0
1	L1	L0	4.0	6.0
2	L2	L0	5.0	8.0
3	L3	L0	7.0	10.0
4	L4	L0	8	12
5	L0	L1	7.0	12.0
6	L1	L1	7.5	13.0
7	L2	L1	8.0	14.0
8	L3	L1	9.0	15.0
9	L4	L1	10.0	15.5
10	L0	L2	10.5	16.0
11	L1	L2	11.0	17.0
12	L2	L2	12.0	17.5
13	L3	L2	12.5	18.5
14	L4	L2	13.0	19.0
15	L0	L3	14.0	20.0
16	L1	L3	15.0	21.0
17	L2	L3	16.0	22.0
18	L3	L3	16.5	23.0
19	L4	L3	17.0	24.0

Model No.: EP7102

M.2 PCIe 5.0 with Redriver to MCIO 38P



EP7102 AIC built-in ReDriver EQ Boost(dB) vs Frequency as below



# M.2 M-key PCIe 5.0 with ReDriver to MCIO 38P

