

Virtual RAID on CPU (VROC) Hardware Key Product Architecture

Specification

Revision 1.0

July 2026

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Publication March 19, 2026

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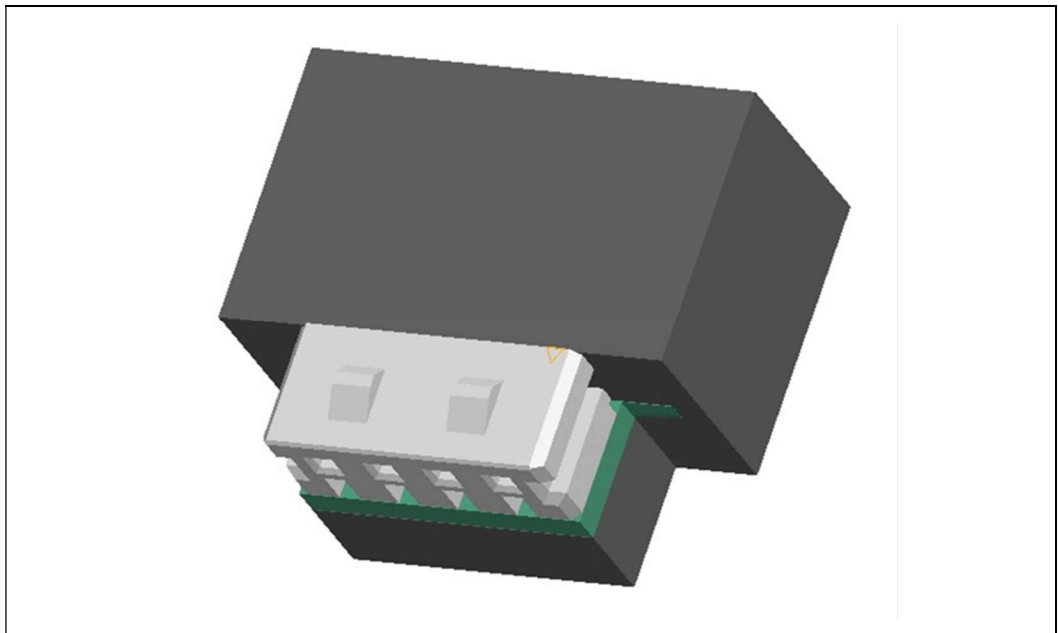
Revision History

Revision Number	Description	Revision Date
1.0	• Initial release	July 2026

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1 ***VROC Hardware Key***

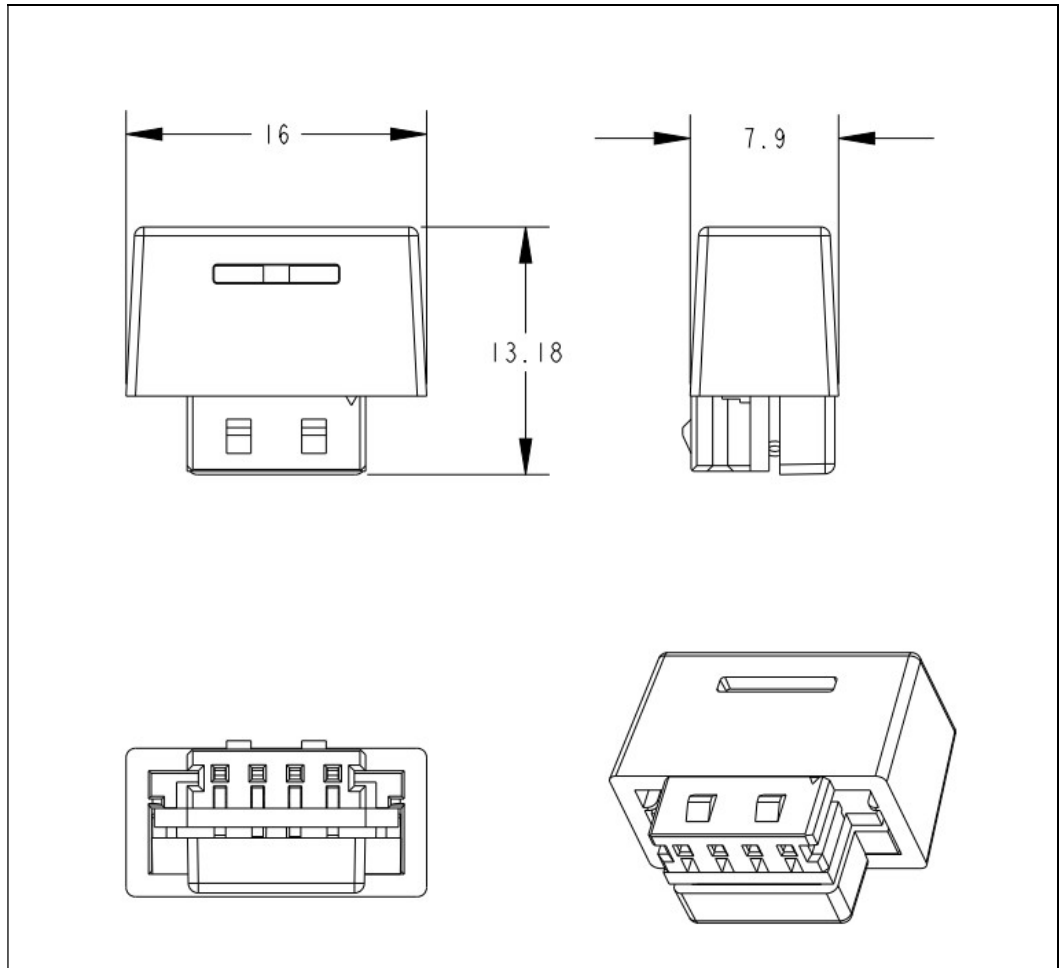
The VROC hardware Key is a common hardware module which can be used across supported Intel® Platforms with the appropriate configuration. The VROC hardware Key is a small PCB board that has security EEPROM that is read by the Virtual RAID on CPU (VROC) UEFI driver to enable different VROC SKU capabilities. The PCB is enclosed by a cosmetic plastic cover. The VROC hardware key docks into a 4-pin connector on the baseboard and is retained by locking features on this connector.



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2 *VROC Hardware Key Placement*

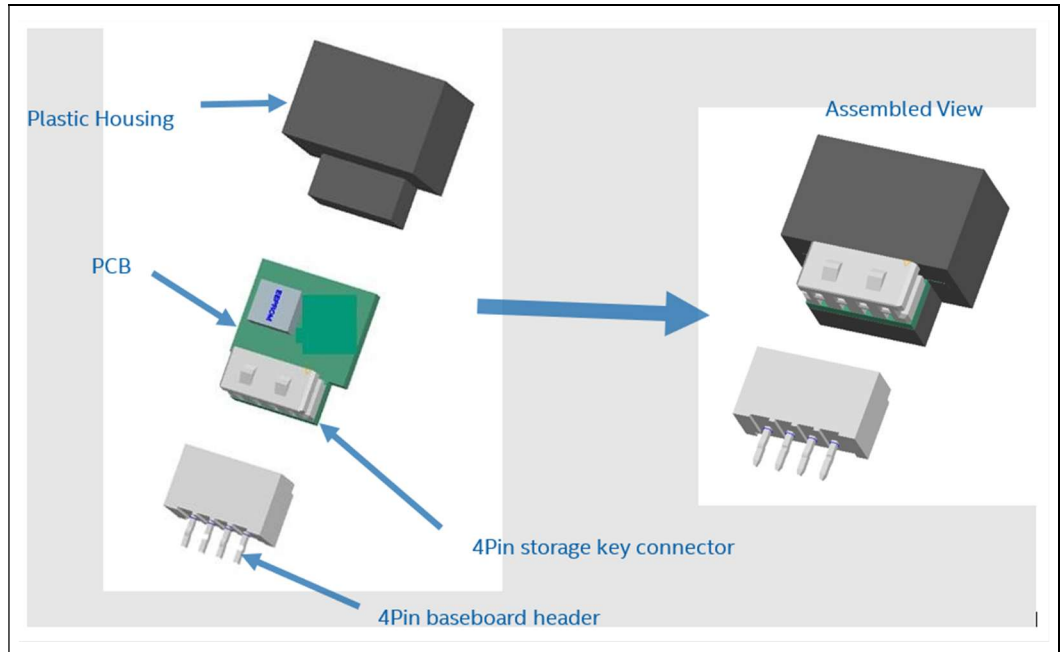
Figure 21. VROC Hardware Key Dimensioned Drawing



Note: Height of VROC hardware key is set such that it can fit under PCIe cards, in pedestal or rack application. This will offer better baseboard placement flexibility without impacting PCIe card support.

2.1 VROC Hardware Key Placement Details

Figure 2-2. VROC Hardware Key Placement Details



Baseboard side header - Molex 53290-0480, please contact Molex to get the datasheet and the drawing.

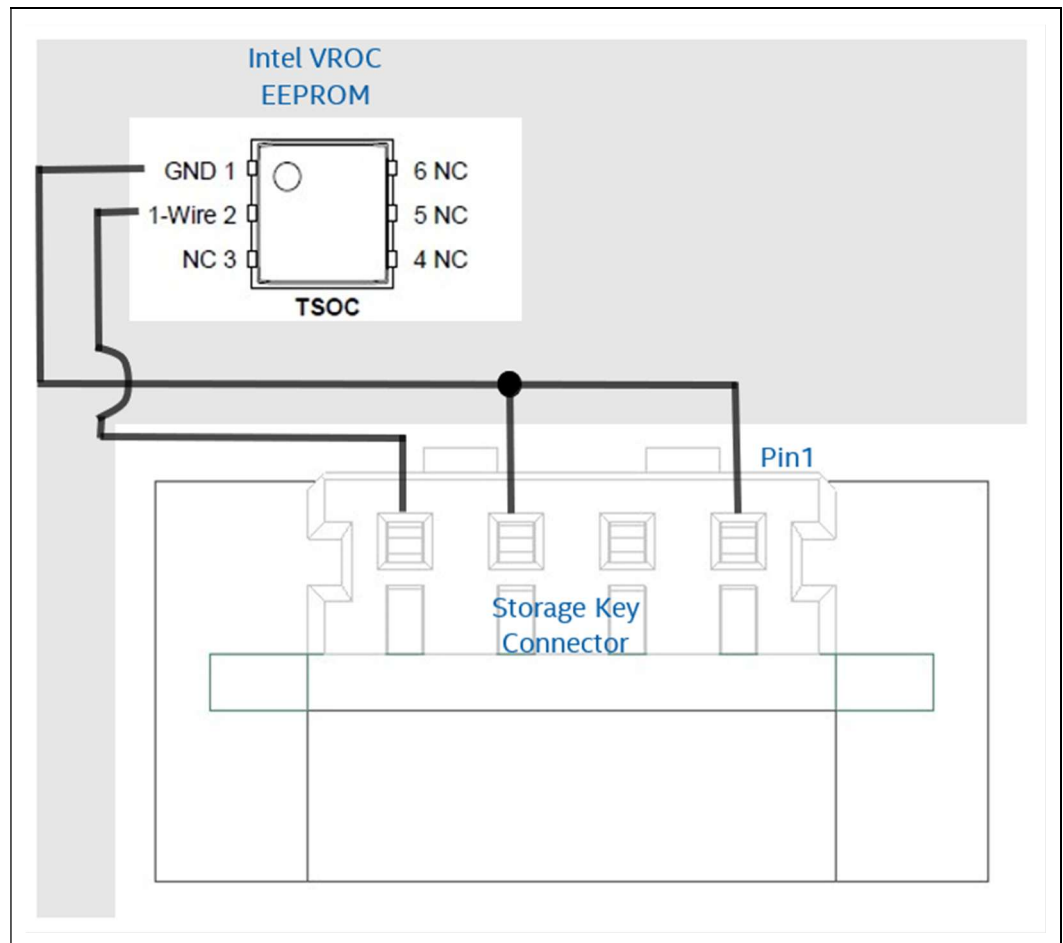
VROC hardware key module side receptacle – Molex 52418-0410, please contact Molex to get the datasheet and the drawing.

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3 *VROC Hardware Key Functional Description*

3.1 VROC Hardware Key Block Diagram

Figure 3-1. VROC Hardware Key Wire Diagram



3.2 VROC Hardware Key Pin Connection on Intel Platform

Please follow the latest Intel CRB/RVP schematics and Intel platform design guide to implement VROC circuits on customer's design. Please contact your Intel representative to obtain the latest platform design documentation. Please be aware that the assigned GPIO pin connecting to the VROC hardware key must be fixed and

cannot be changed on customer's design because it is hardcoded in VROC UEFI driver.
Please contact your Graid technology CE representative for further information.

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4 *VROC Hardware Key Type and Label Description*

4.1 VROC Hardware Key Type

There are two types of VROC hardware keys:

SKU	Product Code	Label Color	Description
Standard	VROCSTANMOD	Black	VROC Standard SKU (RAID 0/1/10)
Premium	VROCPREMOD	Red	VROC Premium SKU (RAID 0/1/5/10)

Figure 4-1. VROC Standard Hardware Key



Figure 4-2. VROC Premium Hardware Key



4.2 VROC Hardware Key Label Description

This section provides the VROC Hardware Key label content description.

Figure 4-3. VROC Hardware Key Label



Label content description

Label Part	Location	Description
Product code		Standard sku: VROCSTANMOD Premium sku: VROCPREMMOD
Manufacture date code		YYWW: year and work week Example: 1731 = Year 2017 ww31
2D QR code		Serial number of the key

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