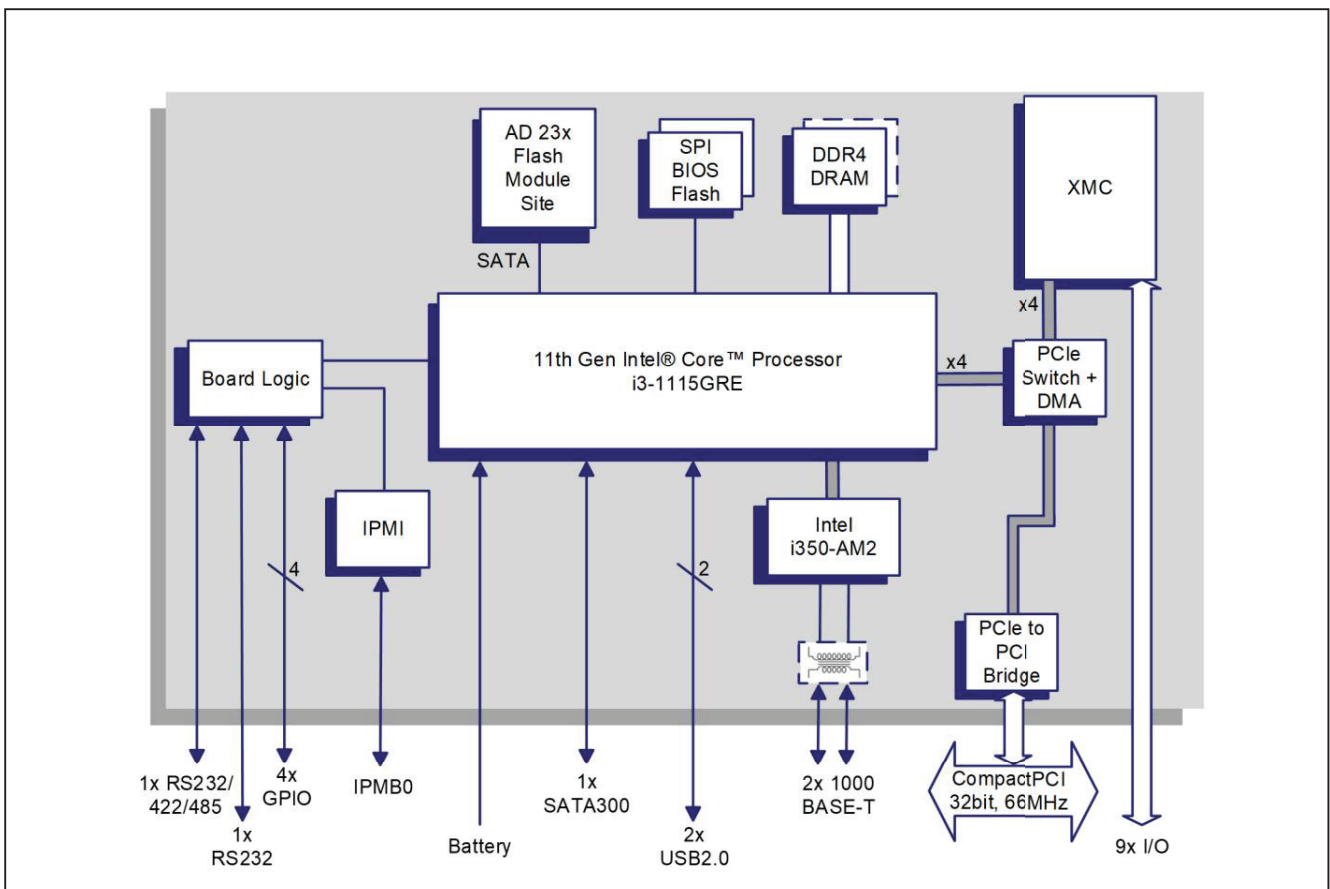
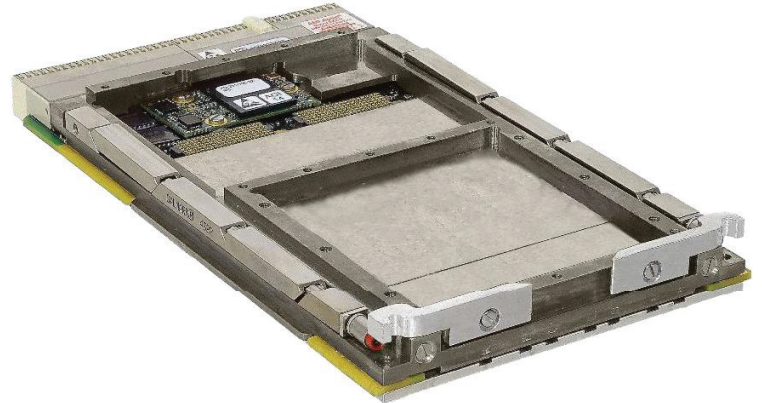


## Rugged 3U CompactPCI® board based on 11th Gen Intel® Core™ Processor

### Key Features

TP 792/311-RC is plug compatible with the popular TP 702/msd-RC family allowing transitions for higher performance and longer life deployments.

- Dual-core processor with 12 W TDP for low power requirements
- Single Channel 8GB DRAM with built in in-band ECC for reliable operation
- Built in I/O interfaces including SATA, USB, Ethernet, GPIO and Serial
- Optional AD 231/105 Flash module for local storage



# Specification

## Central Processor

- 11<sup>th</sup> Gen Intel Core™ CPU:
  - 2-core Intel Core™ i3-1115GRE CPU  
12W TDP, 1.7GHz non-Turbo
  - Intel Advanced Vector Extensions AVX-512
  - Intel Vector Neuro Network Instructions (VNNI)

## DRAM

- 8 Gbytes soldered DDR4-2666 IBECC DRAM:
  - single channel architecture

## Mass Storage Interfaces

- 1x SATA300 interfaces accessible via J2
- 1x optional AD 231/10x Flash Disk Module site

## Ethernet Interfaces

- 2x Ethernet interfaces via J2 supporting:
  - 1000BASE-T or 100BASE-TX
- implemented by an Intel i350-AM2 Ethernet controller via a 1 x2 PCI Express port

## Serial Interfaces

- 2x serial interfaces accessible via J2:
  - 1x RS232 interface supporting Tx and Rx
  - 1x RS232 interface supporting Tx, Rx, RI, CTS, RTS, DSR, DTR and DCD or 1x RS422/RS485 supporting Tx and Rx
- 16550 compatible UARTs

## XMC Interface

- 1x XMC site, all in a single 4HP slot:
  - XMC (Switched Mezzanine Card) interface via a x4 PCI Express switch (with DMA support)
  - optional rear panel I/O via J2
  - VITA 42 Connectors

## Other Peripheral Interfaces

- PC-compatible Real Time Clock
- watchdog timer; 32-bit Long Duration Timer with processor interrupt ability
- 2x USB 2.0 interfaces via J2
- 4x GPIO signals via J2
- external battery supply for the RTC
- CPU temperature monitor; board temperature monitor; voltages monitor:
  - all accessible via IPMI

## IPMI

- PICMG 2.9 R1.0 (System Management Spec.):
  - implements the IPMB0 interface
- on-board Baseboard Management Controller
- supports 8 Kbytes of non-volatile memory

## CompactPCI Interface

- universal signalling support, compliant with PICMG 2.1 R2.0; 3.3 V or 5 V signalling levels
- 33/66 MHz; 32-bit interface via J1
- PCI Express link from processor via PCIe-PCI bridge for off-board accesses:
  - DMA hardware support included
- operates as a System Slot controller (supporting up to 7 peripheral slots) or operates in a Peripheral Slot
- user option to disable CompactPCI interface (Satellite Mode):
  - receives power from CompactPCI bus

## Software Support

- support for Linux

## Firmware Support

- dual 32 Mbyte BIOS SPI Flash EPROMs
- UEFI boot firmware (BIOS):
  - UEFI 2.7 support
  - implements Secure Boot
- implements Intel Boot Guard
- optional Fast Boot solution using the
- Intel Firmware Support Package (FSP)
- LAN boot firmware included

## Board Security Features

- supports ROP Attack Prevention and Advanced Crypto Key Protection

## Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

## Electrical Specification

- typical current consumption (-core i3 processor with 8 Gbytes DRAM):
  - +5 V @ 2.56 A
  - +3.3 V @ 2.84 A
  - +12.0V @ 0.1A
- voltages +5%/-3%
- -12 V not required for base board.
- +12 V@500 mA and -12 V@100 mA to XMC site
- XMC site VPWR = 5.0 V only

## Environmental Specification

- operating temperatures (at card edge):
  - VITA 47 Class CC4, -40 C to +85 C
- non-operating temperature:
  - VITA 47 Class C4, -55 C to +105 C
- operating altitude:
  - -1,000 to 50,000 feet (-305 to 15,240 meters)
- 5% to 95% Relative Humidity, non-condensing (operating/non-operating)

## Mechanical Specification

- 3U form-factor:
  - 3.9-inches x 6.3-inches (100 mm x 160 mm)
- single sot (0.8")
- connectors: IEC-1076-4-101 for J1-J2
- shock: VITA 47 Class OS2, 40 g
- random vibration: VITA 47 Class V3, 0.1 g<sup>2</sup>/Hz

## Legacy Computing Board Compatibility

- rear I/O compatible with the popular TP 702/msd-RC