ECM-9958 10G-KR Ready Conversion Module

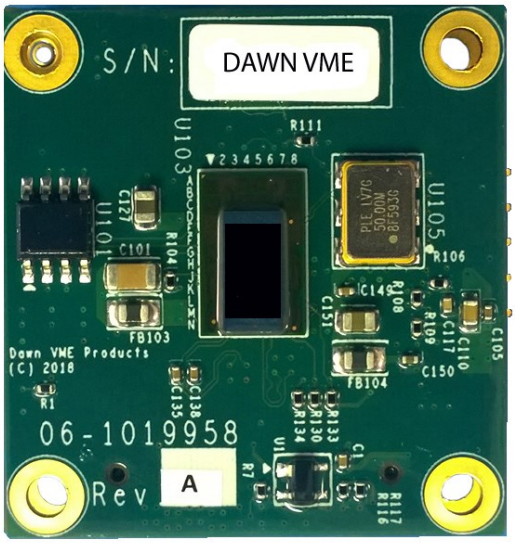
Dawn VME Products®

Another Performance Design from the Team at Dawn

10G-KR/ KX / SGMII to 10G / 1G-BASE-T Conversion Module

Features

- **Convert Backplane SERDES interfaces (KR/KX/ SGMII/USXGMII/) to 10G/ 1000/100 BASE-T for External Chassis interface.**
- **(10GBASE-T/5GBASE-T/2.5GBASE-T/1000BASE-T/100BASE-T) Ethernet PHY transceiver**
- **IEEE ® 802.3-2012 compliant auto-negotiation**
- **High-Performance full KR (with auto-negotiation) / XFI / USXGMII / 2500BASE-X/ SGMII**
- **Configurable as KR or XFI in 10G, 2500BASE-X in 2.5G, and SGMII in 1G/100M, or all rates via USXGMII/KR**
- **10G-Base T operation at 2.7W (Typical for 30 meters of CAT 6 cable)**



Overview

The *issue* is backplane communication standards 10G-Base KR, 1G-Base KX are designed to use a minimal amount of Differential pairs (usually 1 TX & 1 RX = 4 wires) to transfer data between slots.
While these backplane standards are useful between VPX slots over very short distances, they are not compatible with standard Commercial Ethernet equipment (based on the RJ45 connector) and using 100M-BaseT / 1G-BaseT / 10G-BaseT (BaseT) standards where Transformer coupling is used on the output signals. These "BaseT" standards are de-signed for long distance communication (well over 12 inches). The BaseT signaling standards like 1G-BaseT and 10G-BaseT require 8 wires per port and the 3u VPX connector does not support enough signal lines for a large volume of these 8 wire ports. Dawn's Customers want more "Ethernet" ports (which usually means they want more 1G-BaseT / 10G-BaseT ports) than are available on common VPX 3u cards.

So the *solution* is to convert the Backplane standard ports (10G-Base KR, SGMII, KX ...etc) to 10G-BaseT / 1G-BaseT Ethernet ports, so they can be linked to other equipment which is more than 12 inches from the source VPX card.

Specifications

Mechanical

- Dimensions: 34mm X 36mm x 18mm
- Weight: ~ 2 oz
- Mounting standoffs (at PCB side
- Mounting hole size (in 4 corners of module) 0.107"
- Mounting screw size #2-56 (typical 1/4" for 0.062" thick PCB
- (#2-56 mounting screw Length depends on host PCB thickness)

Temperature Operation

- -40C to +85C
  (Contact Dawn for extended Temperature versions.)

Power Requirements

- 3.3V @ 2.7W
  (Typical for 30 meters of CAT 6 cable)

Interface Connector

- Samtec P/N QSH-020-01-L-D-DP-A

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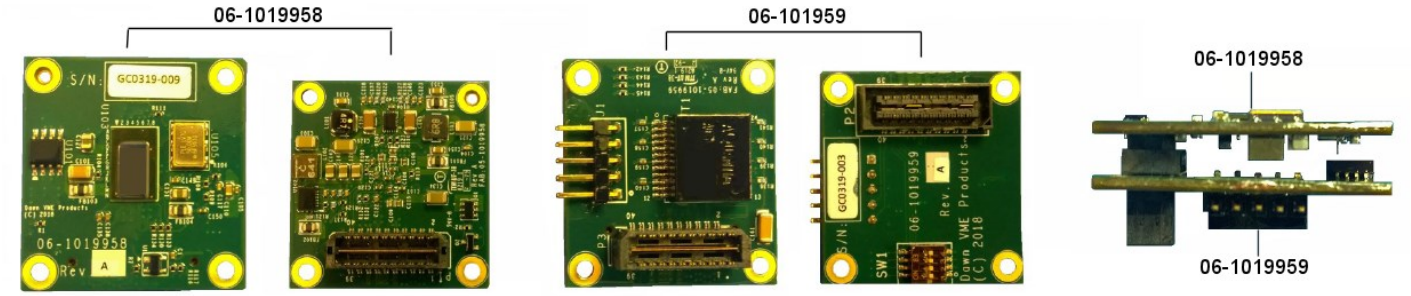
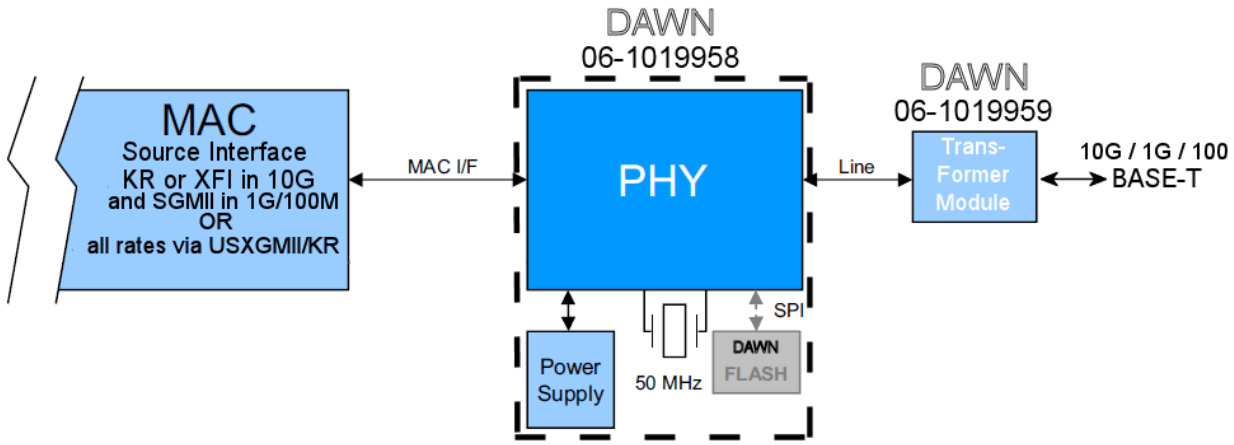
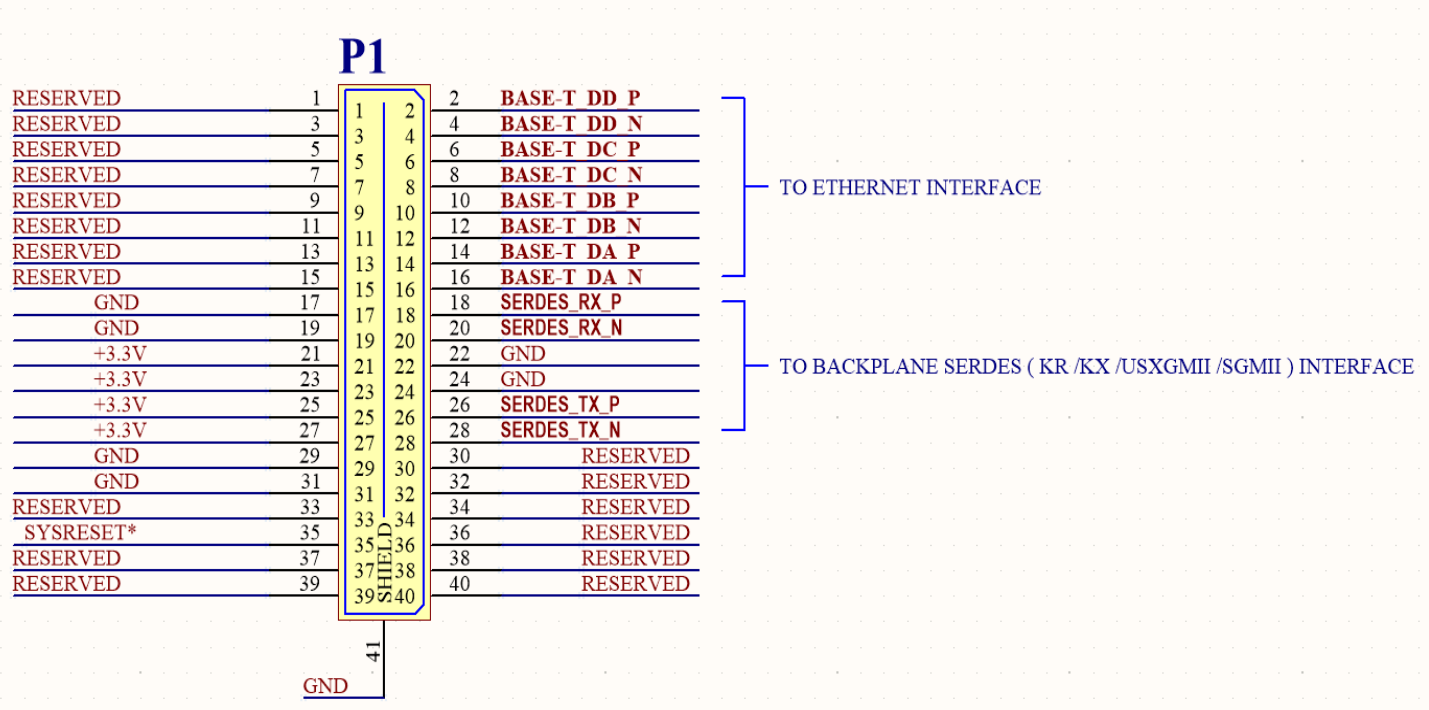
Functional Diagrams







Other Products from Dawn:

Card cages and enclosures for commercial, aerospace and military applications

Enclosure 3D solid model design, manufacturing and production from commercial to full-rugged conduction cooled military

Custom and Standard product PCB design, layout, production

RuSH™ Rugged system health monitor,

Backplanes for **cPCI 2.1, cPCI 2.16, VME, VME64x, VXI, VXS, VPX, CUSTOM,** Build to Print Powered Enclosures for Development, Prototype, Production, Deployment Prototype Boards, Extender Boards, Form Factor Extenders, Front Panels, Filler Panels, Custom Panels, Build to Print Panels, Build to print machining, fabrication and assembly