TOC

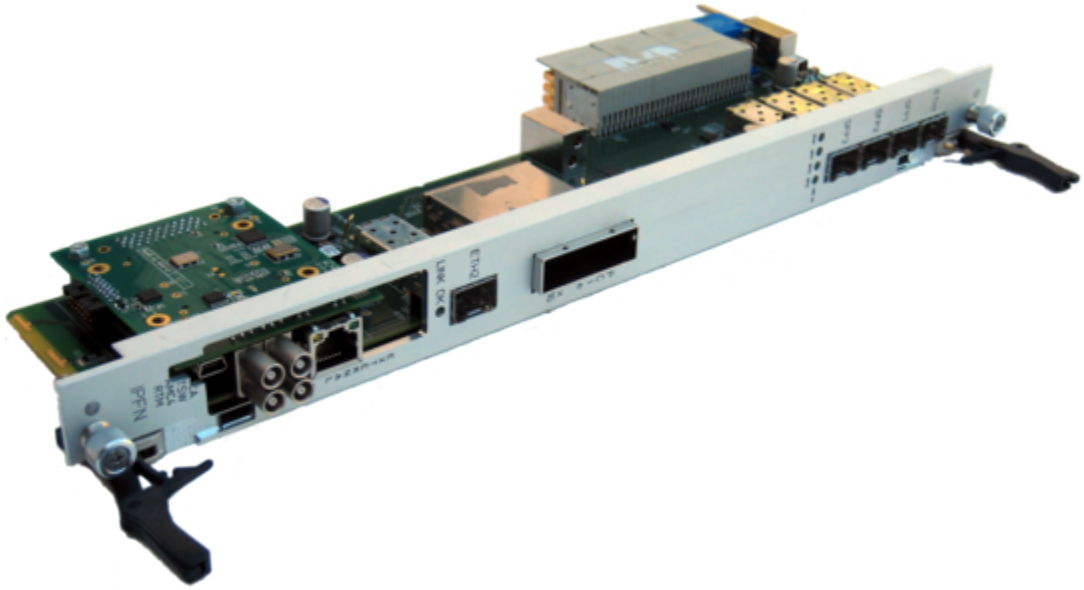
Development and production:

- Engineering Design

Datasheet

The ATCA-PTSW-AMC4_RTM board is an **xTCA**[1] based module that follows the specifications presented in PICMG[2]® PhysRTM.0, Revision 1.0 Draft 0.1g that complements PICMG® 3.0, Revision 3.0[3] with respect to ARTM[4] specification.

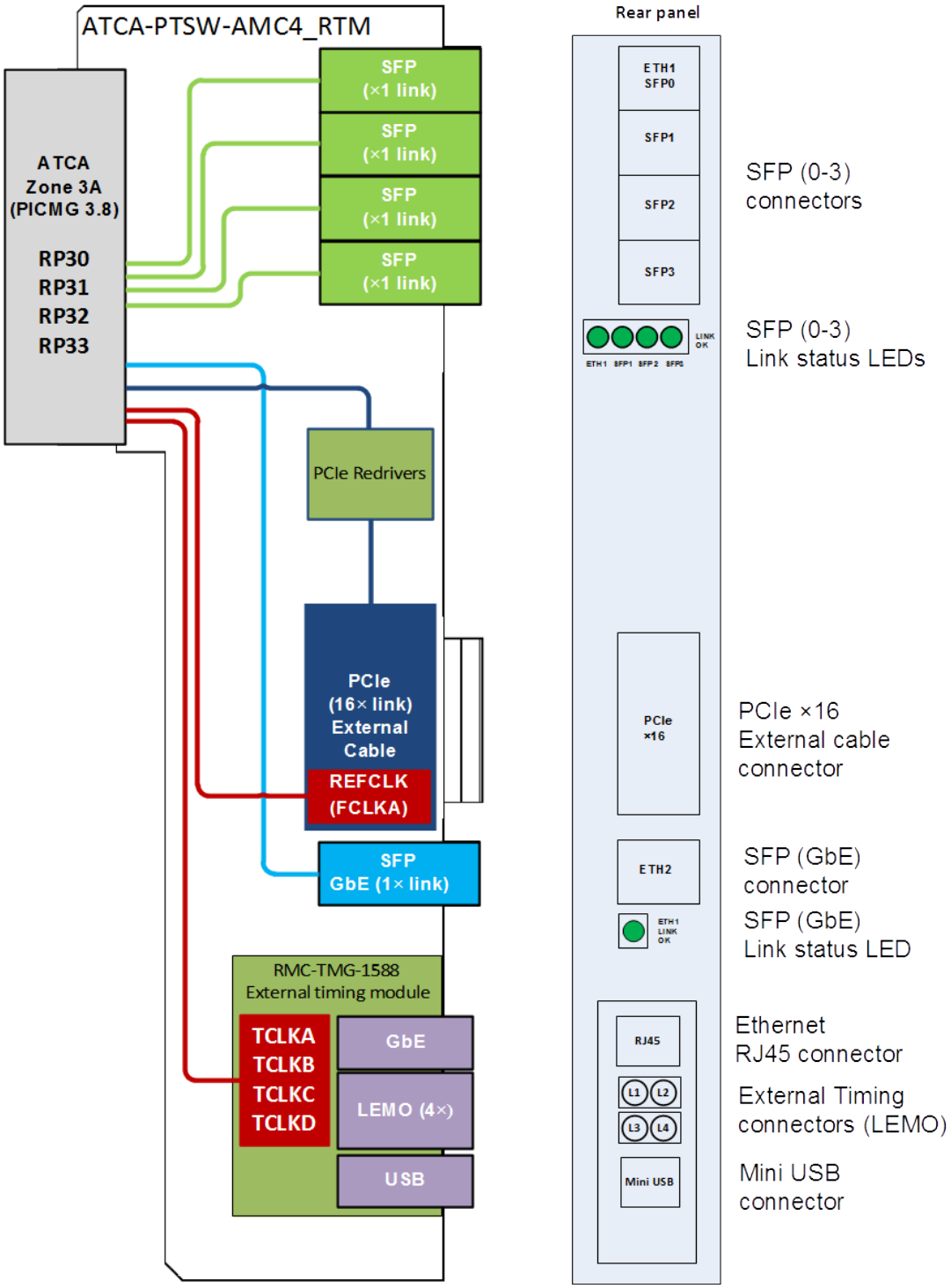
The module acts as a passive External Host to ATCA Base carrier interface, providing the required electrical and logical connections, with status information.



The module main features are:

- PICMG 3.8 R1.0 compliant (ARTM "Zone 3A")
- PCI Express Cable 16× plug to connect to an external host adapter; PCI Express External Cabling Rev1.0.
- Four General purpose SFP links (Optical or Ethernet)
- One SFP Gigabit link (Ethernet only) connected to AMC1.
- External Timing mezzanine interface for timing modules:
  - RMC-TMG-1588 module implementing an IEEE-1588-2008 over Ethernet interface to an external Grand Master clock, or:
  - Standard TTL clock/trigger interface.

Figure 1 – ATCA-PTSW-AMC4_RTM Rear Transition Module block diagram and panel.

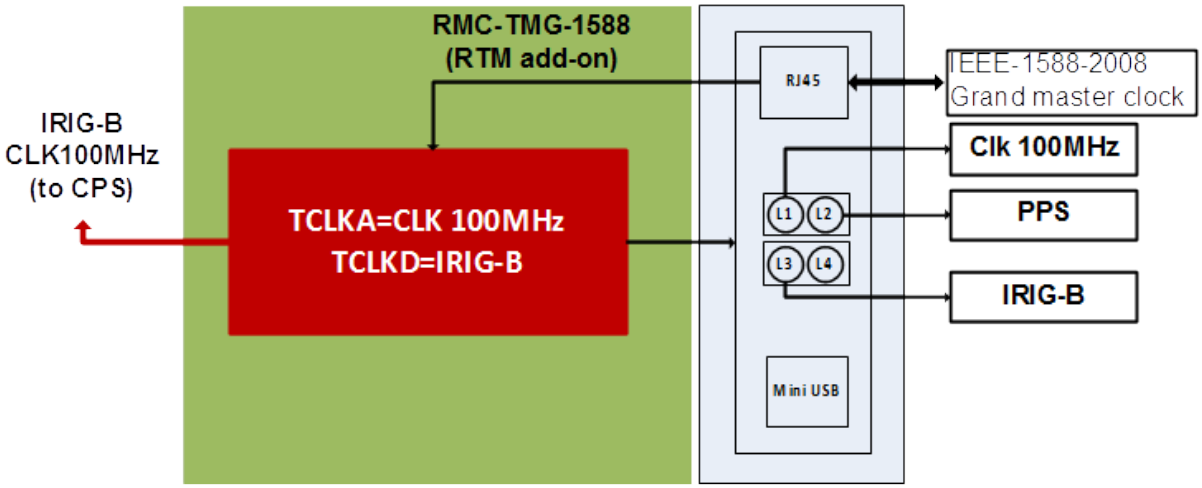


RMC-TMG-1588 External Timing Module

The RMC-TMG-1588 was developed as an external timing module add-on for the ATCA-PTSW-AMC4_RTM. Its main purpose is to generate the IRIG-B 100MHz clock and timecode signals for distribution to the ATCA-PTSW-AMC4 Front Board and, through the Front Boards's FPGA CPS, to all system endpoints. CLK100MHz

uses RTM TCLKA physical line and IRIG-B timecode uses TCLKD. The generated clock signals are synchronized with the IEEE-1588-2008 protocol, which core is implemented on the RMC-TMG-1588 local firmware. The module provides an RJ45 GbE connector where an external master clock unit should be connected. The IRIG-B clock and time code signals, as well as an auxiliary "pulse-per-second" (PPS) sync signal are made available at the external LEMO connectors. The overall scheme is presented on Figure 2.

Figure 2 – RMC-TMG-1588 module connectivity diagram and panel



User Manual

View the User Manual of this board.