

## Description

The X20-Phantom-EK evaluation kit is designed for high-speed evaluation of Ultra Communications' X20-Phantom family of quad optical parallel fiber modules. Each evaluation board is fitted with a solder attached X20-Phantom module. SMA connectors are provided for the differential AC-coupled high-speed CML I/O interface (built into module). There are four high-speed differential inputs to the VCSEL driver and four high-speed differential outputs from the receiver. Each channel operates at data rates of up to 2.5 Gbps, optimized for 8b/10b encoded data as used in Fibre Channel, Gigabit Ethernet and Firewire.

The module is supplied with a ribbon fiber cable with an MTP connector interface. This cable can be detached from the module. The fiber is 50 micron core multimode fiber. The product emits optical power within Class 1M limits at 850 nm, do not use a magnifying device to directly view optical emission.

The size of the board is roughly 13 x 23 cm<sup>2</sup>.

The X20-Phantom contains a microcontroller that configures the part for data transmission upon power up. Power is supplied by the banana jack connector.

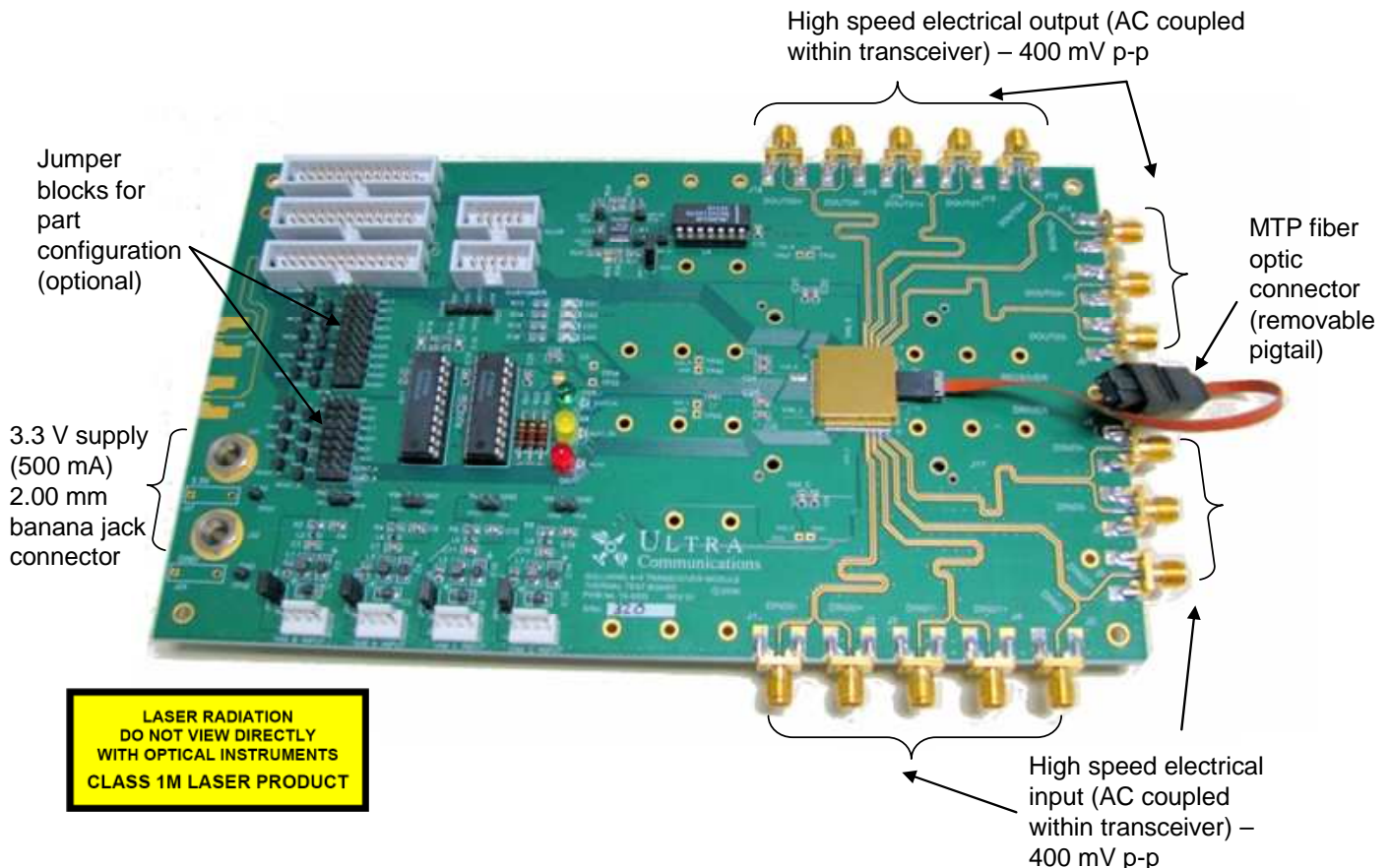
## Electrical Connections

Each evaluation board has a jumper block to enable/disable certain functions within the module. The jumper block has config/status pins in a center column with Vdd and GND in columns on either side. This allows convenient connections between signal pins and Vdd or GND. A full PCB schematic drawing will be provided.

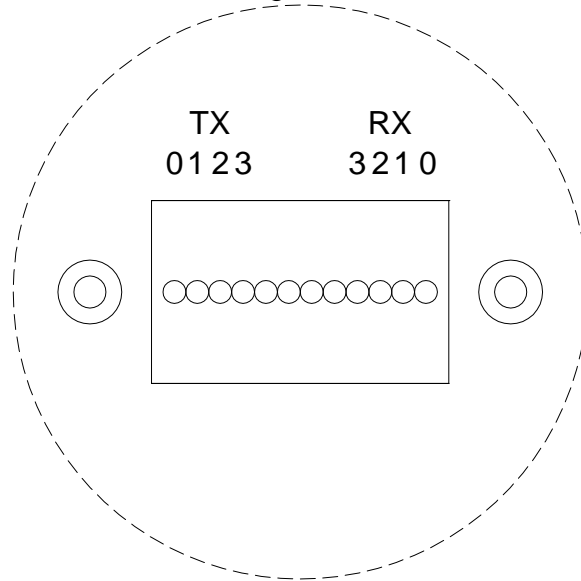
Note: For accurate measurement of receiver sensitivity, the SQEN pin (in jumper block) should be connected to GND, disabling the squelch function. The squelch function turns off receiver outputs at low light levels to reduce system noise.

To ensure best performance, terminate unused data input/output connectors with 50 Ω single SMA terminations.

Note: Jumpers should be installed in positions J19-J22.



View looking at fiber connector



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