050-404-EVALBOARD

2 MHz TO 3 GHz
GLENAIR PCB MOUNT EVALBOARD FOR 'RF-OVER-FIBER' TRANSMITTER OR RECEIVER MODULES

REV	DESCRIPTION	DATE	APPROVED
A	Release	12/18/2018	GJP/RAS

16U2-4566

050-404-EVALBOARD
Glenair PCB Mount Evaluation Board for RF-over-Fiber Transmitter or Receiver

Description

The 050-404-EVALBOARD is used to test and evaluate any single channel PCB Mount RF over Fiber Optical modules (UUT). UUT can be an optical transmitter or an optical receiver. The evaluation board incorporates a high quality RF PWB material stack up with a 50 Ohm SMA connector to be used for RF in or RF out. This board in combination with module datasheets, is also a good reference for customers to design their own host board.

Current Modules Supported:

050-404 , Optical Transmitter
050-405 , Optical Receiver
050-406 , Low Noise Optical Transmitter
050-407 , Low Noise Optical Receiver

Modules require a single 5V DC power supply (500 mA max). The evaluation board is supplied with convenient banana plug test wires and jumpers to start testing quickly.

How to Order

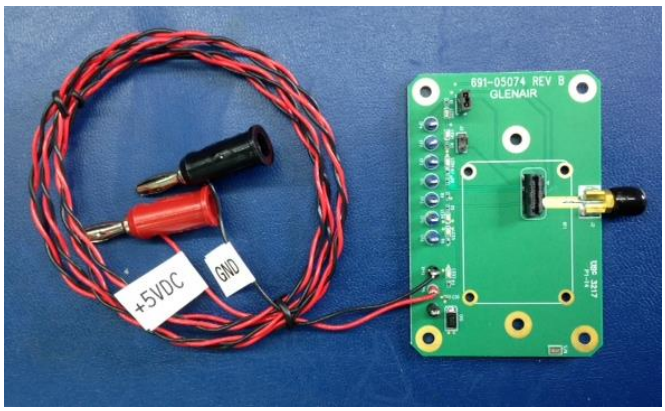
050-404-EVALBOARD

Evaluation Board Photo with Module Installed

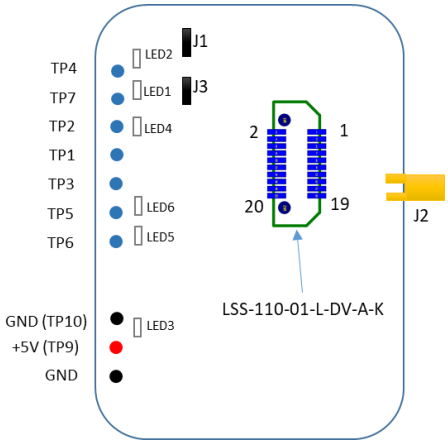
What is included with the Evaluation board

- High performance PWB Evaluation board with SMA connector and high speed (Samtec Inc. Razor Beam™ PN: LSS-110-01-L-DV-A-K) installed
- Banana plug power cables, already attached to the board and labeled
- Test points and LED's for basic status
- 1 SC/APC - SC/APC adapter
- 4 # 0-80 hardware for mounting module
- Hardware for standoffs

Evaluation Board Photo with no Module Installed



Connector Orientations for Reference



Connectors, Jumpers and Test Points

- J1 Jumper: when a TX nodule is installed, LASER is enabled (ships installed)
- J2 : SMA RF connector (RF In for Optical Transmitter & RF Out for Optical Receiver) [goes to pin 17 on Eval board 20 pin connector]
- J3 Jumper: when installed Write Protect is Disabled (this is for factory use only)
- TP4 : when 0 V , LASER ON [LED2 ON] ; otherwise LASER OFF
- TP7 : when 0 V , Write Enabled [LED1 ON] ; otherwise Write Protected
- TP1 : I2C SCL ; [4.99K pull-ups on Eval board]
- TP3 : I2C SDA ; [4.99K pull-ups on Eval board]
- LED3 will be ON when +5V applied
- TP2,TP5 & TP6 (LED's 4,5 &6) are not used at this time

Getting Started Notes

- If J1 jumper installed for a Transmitter module, unit will power up with LASER on and ready to test
- J1 has no effect on a Receiver module
- Receiver is ready for test once Eval board is powered up
- I2C typical data rate is 100 KHz (400 KHz max)
- Receiver module can handle the optical power out of a transmitter module so optical attenuator is optional

Laser Safety

Transmitters are Class 1 devices in accordance with FDA/CDRH Eye Safety requirements.

In spite of the class 1 rating, it is strongly recommend taking precautions to avoid exposures to the unprotected eye. Before powering an optical transmitter module, remove JUMPER J1, this will disable LASER. Ensure there is no exposure risk before installing J1. It is also recommend that the transmit fiber jumper be terminated to a receiver before turning on the LASER.

Fiber Handling

Fiber optic cables require special handling.

Avoid bending the fiber with small radiuses exceeding manufacturer's minimum bend radius specification (nominally < 1" radius). Use dust caps when the fiber connector is not mated. Clean and inspect fiber connector ends with appropriate cleaning and inspection tools to insure proper operation.

ESD precaution

Fiber optic modules are sensitive to electro static discharge (ESD). Open the ESD protection packaging only in ESD protected environment. Use appropriate ESD protection when handling the modules.