Eval-FE50MLIR DC-50 MBd LC Evaluation Kit User Guide



OVERVIEW

The Eval-FE50MLIR evaluation kit enables evaluation of the Firecomms DC-50 MBd inverting (Rx) LC transceiver for plastic optic fibre (POF) and large core glass fibre (200, 400 um PCS). The kit includes a single LC transceiver pre-mounted onto a simple PCB that allows easy application of DC power via standard 2 mm diameter DC jacks. Data input (TXD) and data output (RXD) are connected via standard screw terminal SMA connectors. A simplex loop-back POF cable with LC plug is also included.

For particular POF or PCS lengths and assemblies please contact Firecomms Applications support directly.





FIGURE 1 Recommended circuit layout for the DC-50 MBd LC transceiver

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EVALUATION KIT CONTENTS

The Evaluation Kit contains the following:

- 1. Evaluation PCB
- 2. FE50MLIR mounted onto the evaluation PCB
- 3. POF cable with loop back LC plug (1 m, 0.5 NA, 2.2 mm jacket simplex POF)
- 4. FE50MLIR Datasheet

INITIAL SETUP

- 1. Connect GND of a DC power supply to the ground points of the PCB (black terminals).
- 2. Connect 3.3 / 5 V to each of the Tx and Rx VCC jacks (red terminals).
- 3. To measure common GND, connect a probe to the test points TP1 (Tx) and TP2 (Rx).
- 4. Connect suitable pattern generator signal via an SMA cable to the TXD data pin.
- 5. Connect the RXD data pin (TTL output) to a suitable high-speed oscilloscope using 1 MΩ termination and high-speed coax, SMA terminated cable.
- 6. For a loop-back cable test, connect the provided LC loop-back cable assembly into the LC connector. This connects the Tx back to the Rx over 1m of Step-Index POF.



Setup of the FE50MLIR Evaluation PCB