User Manual
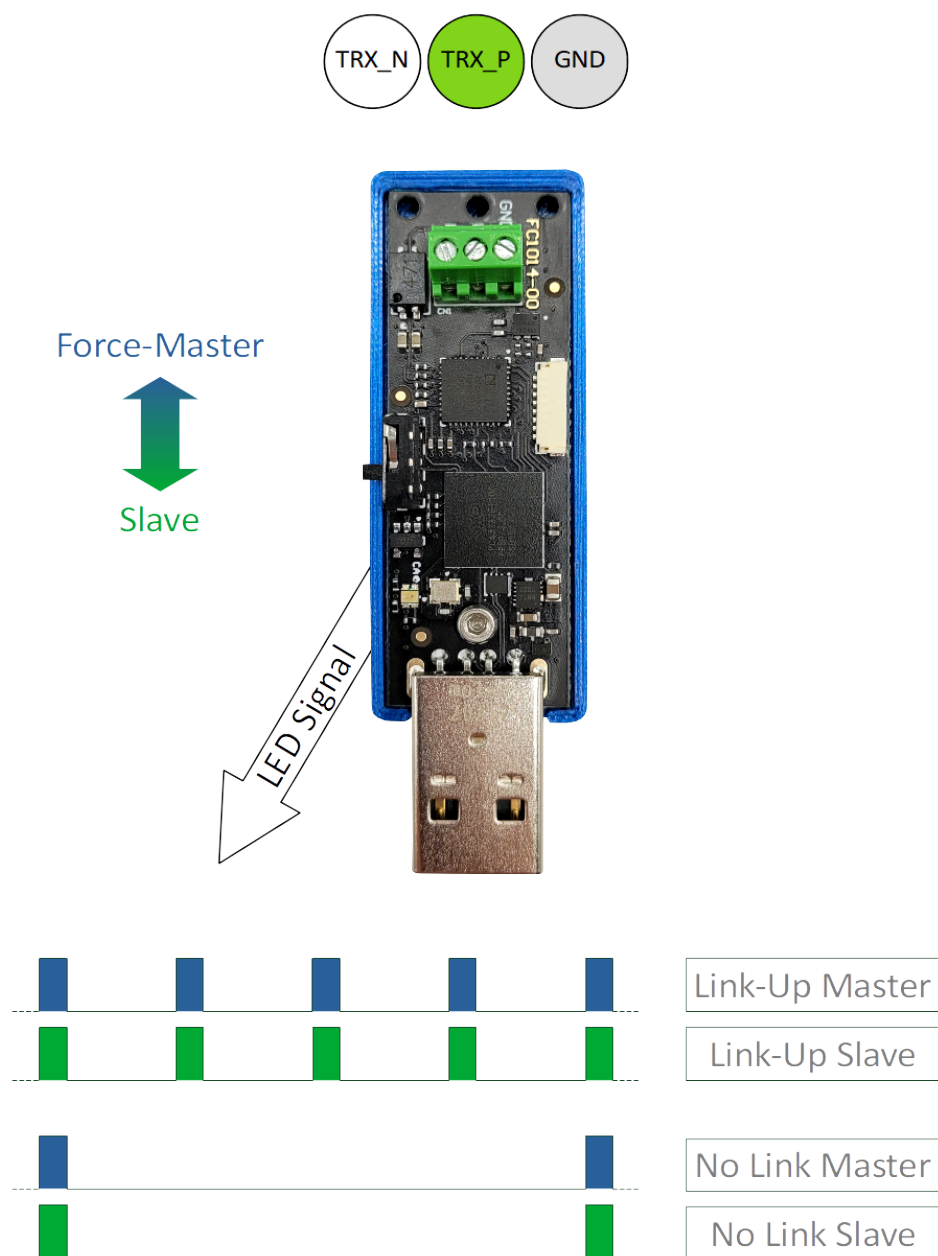
FC621 USB 10BASE-T1L Stick
Version 1.0.0

February 23, 2024
Build 1

1 Usage

2 Overview

The FC621 USB 10BASE-T1L Stick is a new variant for USB to 10BASE-T1L adapter. All functionality in using a USB network device is supported same way as 100BASE-T1 adapters. For 10BASE-T1L, ADI ADIN1100 is used for the Phy-Transceiver. The complete software package, called Broadway, is optimized and extended to Broadway2. As the firmware and API is improved and extended, Broadway2 only supports the new adapters.

In all cases, FC621 comes with standard USB2.0 class drivers to enable minimal changes to USB host systems.

To behave like a standard USB device, FC621 includes 2 classes:

- USB BULK

- USB CDC-ECM

The control interface is using USB BULK to have high-bandwidth side-channel using multiple instances. As officially supported by Windows 10, this interface is supported by user-mode extensions for Windows included in broadway_api.Dll and on Linux-based platforms using broadway2_api.so.

As USB CDC-ECM is implemented on FC621 firmware, the USB-adapter is direct supported on Linux/Android platforms. On Windows, a CDC-ECM driver needs to be installed to get network device running.
Broadway2 includes updated CDC-ECM driver and supports latest MS-Windows 7/8/10 for 32 and 64-bit for all FibreCode network adapters.

2.1 Deliverables

- FC621 USB 10BASE-T1L Stick

- UTP-Cable 2m

- Broadway2 Software Package (separate zip-file)

3 Software

For complete software running 100BASE-T1, 10BASE-T1L and SPI/SMI-Adapters there is one common software installation Broadway2.

Details can be found in Broadway2 documentation, delivered together with Broadway2 download packages available for Windows (WSP) and Linux (LSP)

4   Firmware Update

For each variant, FibreCode supports easy USB update package which is always found in latest WSP_xxxx.zip file under Firmware.

Important: Update is NOT supported on Linux

For update of FC621, follow next steps:

1. Login to Windows 7 or Windows 10 PC

2. Unzip Firmware folder to folder like tmp

3. Connect exactly one FC621 to Windows

4. Open console in extracted firmware folder and enter:
   `update_app_stick_FC621.cmd FC300108_V_xx_yy_zz-n.bin`

Note: In case of updating multiple sticks of same type connected via USB-Hub, use of update_all_app_stick_FC621.cmd in same folder supports this.