

- ▶ 10BASE-T1L (ADIN1100)
- ▶ USB-A connector
- ▶ Windows and Linux network device
- ▶ ADI ADIN1100 register access
- ▶ Flexible Software APIs and Tools

## Overview

The FC621 USB 10BASE-T1L Stick represents a compact hardware interface connecting MS-Windows and Linux based PCs with industrial 10BASE-T1L Ethernet network devices and switches.

The FC621 USB 10BASE-T1L Stick functions as seamless media converter between a standard USB 2.0 interface and an industrial Ethernet network. On Windows and Linux host PCs the USB 10BASE-T1L Stick is detected as standard Ethernet device.

Flexible software APIs feature full access to ADIN1100 PHY internal registers. This enables cable testing and network diagnosis.

## Features

### Hardware

- ▶ Analog Devices ADIN1100 10BASE-T1L PHY
- ▶ 10BASE-T1L physical interface with UTP connector
- ▶ NXP LPC4333 32-bit ARM Cortex-M4/M0 microcontroller
- ▶ High-Speed USB 2.0 device interface with Type-A connector
- ▶ Network Master/Slave configuration via hardware switch
- ▶ USB powered
- ▶ Compact and modular design

### Software

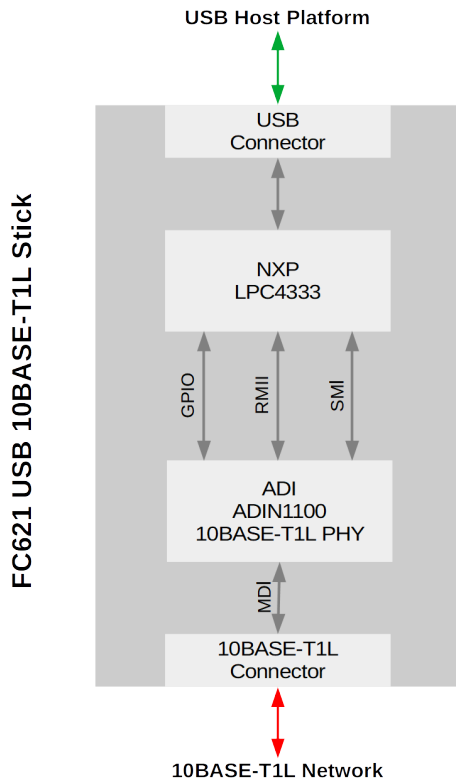
- ▶ MS-Windows and Linux compatible
- ▶ Standard Ethernet Network device on host PC
- ▶ USB CDC/ECM driver for MS-Windows
- ▶ Powerful and flexible API for ADIN1100 SMI access
- ▶ Common C-API and Python wrapper
- ▶ Python abstraction class for ADIN1100 MDIO register
- ▶ Firmware update via USB

## Applications

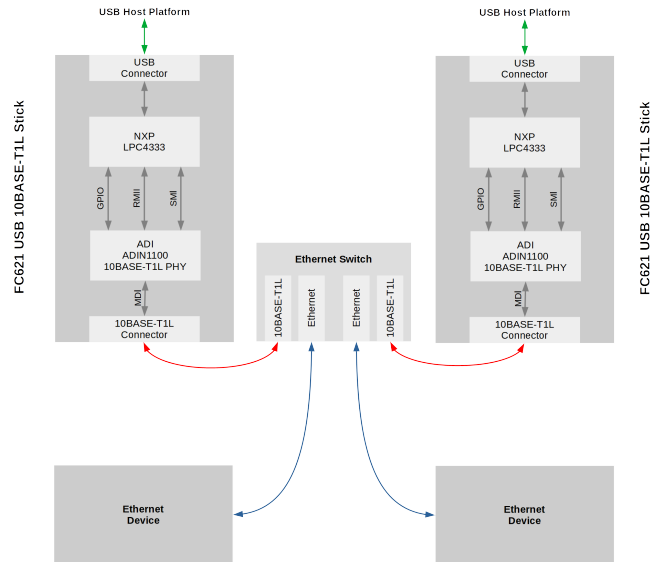
The USB interface of the FC621 USB 10BASE-T1L Stick allows seamless connection to a broad variety of PCs, notebooks and embedded platforms. The USB Control and CDC/ECM profiles enable the usage of USB hosts running MS-Windows as well as Linux operating systems. This enables the USB 10BASE-T1L Stick for the following applications:

- ▶ Standard Ethernet network device supporting 10BASE-T1L physical interface
- ▶ MS-Windows and Linux PC used as protocol analyzer (Wireshark) for 10BASE-T1L networks
- ▶ Point-to-Point industrial Ethernet network connection using two USB 10BASE-T1L Sticks
- ▶ Evaluation of Analog Devices ADIN1100 10BASE-T1L PHY chip with full access to MDIO registers
- ▶ 10BASE-T1L cable testing and network diagnosis
- ▶ Simulation of multiple nodes on industrial Ethernet switch designs
- ▶ Industrial Ethernet network simulation and demonstration

## Block Diagram



## Typical Application



## Technical Data

Dimensions:	68 x 20 x 15 mm
Power Supply:	5 V (USB powered)
Temperature range:	0°C to +85°C
USB Connector:	USB 2.0 Type-A
10BASE-T1L Connector:	PTR screw terminal

## Ordering Information

Order Number:	FC621
Product Name:	USB 10BASE-T1L Stick
Deliverables:	USB 10BASE-T1L Stick incl. 2 m UTP Ethernet Cable and dark blue sub-shell