

- ▶ 100Base-T1
- ▶ USB-A connector
- ▶ Windows and Linux Raw-Ethernet device
- ▶ NXP TJA1100 access
- ▶ Flexible Software APIs

## The USB-Tool-Stick for Automotive Ethernet Compact and flexible USB2.0 adapter

The FC611 extends family of USB / Automotive Ethernet (100Base-T1) to full-featured Ethernet Layer2 receiver and sender. In comparison to FC601, the FC611 is not installed as network device, but comes with new powerful Broadway2-API to get full raw Layer2 access in 100Base-T1 networks.

### Features

- ▶ NXP TJA1100MRA4 Automotive Ethernet Phy
- ▶ Master/Slave switch to start simple
- ▶ USB Bulk In-Out to Ethernet Layer2
- ▶ Common C-API and python wrapper
- ▶ UTP connector to connect Automotive 100Base-T1 devices
- ▶ Software API to access all features of TJA1100
- ▶ python wrapper on new Broadway2-API
- ▶ Easy firmware update via USB
- ▶ Windows 10, Windows 7, Raspberry Pi and Ubuntu

### Applications

- ▶ Windows/Linux Host as raw protocol analyzer for 100Base-T1 networks
- ▶ Test/Counterpart to node/switch environments
- ▶ use powerful python packages like dpkt, pypacker to decode raw frames to ICMP, UDP/TCP-IP, ...
- ▶ Point-to-Point 100Base-T1 using 2xFC611
- ▶ fits perfect to all Automotive Ethernet switches like NXP SJA1105 to verify layer2 switching rules and timing
- ▶ verify and validate all test modes of TJA1100

# Technical Details

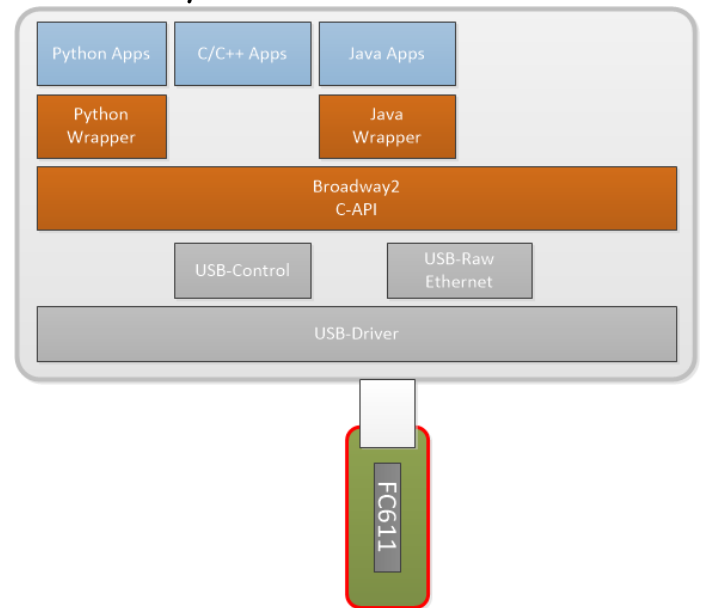
## Basic information

- ▶ USB-Powered
- ▶ Master-Slave Switch on USB-Stick
- ▶ Raw-Ethernet frame receive incl. 64-bit Timestamp and sequence counter on stick
- ▶ Raw-Ethernet sender to access MAC, VLAN, raw data section
- ▶ Based on latest NXP TJA1100MRA4
- ▶ Simple UTP connector (Tool-Less)
- ▶ Powerful and flexible API for SMI Register Access
- ▶ Python and C++ sample applications
- ▶ Python abstraction class for TJA1100 MDIO registers

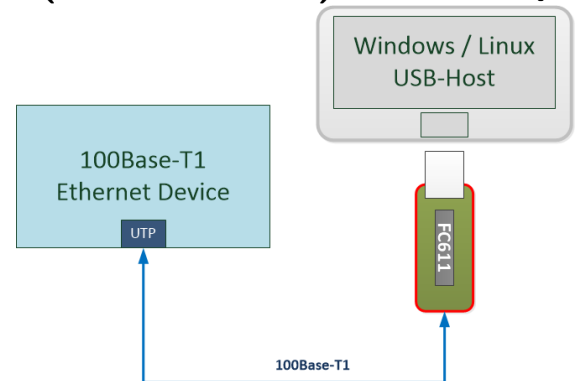
## Use-Cases

- ▶ Layer-2 MAC/low-level driver testing
- ▶ Layer2-network setup (including multiple Instances)
- ▶ VLAN, AVB/TSN network testing
- ▶ NXP TJA1100 system validation/emulation
- ▶ Security, Stability-checks of ECUs (Bubbling-Idiot, protocol errors, ...)

## System-Overview for Windows/Linux



## Layer-2 (Raw-Ethernet) Test-Setup



More information at [www.fibrecode.com](http://www.fibrecode.com)