

# Configuration via USB bus (firmware and/or bitstream)

To configure a TE USB FX2 module via USB bus, there are different procedures to follow according to module status and purpose of use.

See [OpenFutNet](#), [Firmware Tools Comparison](#),

- [recovery boot](#) and [update boot](#) for USB [firmware](#).
- [C# OpenFutNet](#) or [Python OpenFut](#) for FPGA bitstream

For instance, a full quality control test already performed at Trenz Electronic laboratory premises requires all the following steps to be performed:

1. [Cypress USB generic device driver](#) installation;
2. USB FX2 microcontroller large EEPROM programming;
3. [specific USB device driverinstallation](#);
4. an \*.iic file generation/download;
5. a firmware upgrade tool ([Cypress tools: CyConsole or CyControlCenter](#) TE tools: [OpenFut](#), [OpenFutNet](#) or FX2EEPROMProgrammer) utilization.

reference bitstream file written on SPI Flash

| step | first development cycle | following development cycles | EEPROM recovery (boot recovery) | quality control (lab test) |
|------|-------------------------|------------------------------|---------------------------------|----------------------------|
| (1)  |                         |                              | ✓                               | ✓                          |
| (2)  |                         |                              | ✓                               | ✓                          |
| (3)  | ✓                       |                              |                                 | ✓                          |
| (4)  | ✓                       | ✓                            |                                 | ✓                          |
| (5)  | ✓                       | ✓                            |                                 | ✓                          |
| (6)  | ✓                       | ✓                            |                                 | ✓                          |
| (7)  |                         | ✓                            |                                 | ✓                          |

(7) custom bitstream file written on SPI Flash is obviously not performed during quality control.  
**Configuration steps via USB bus according to module status and purpose of use.**