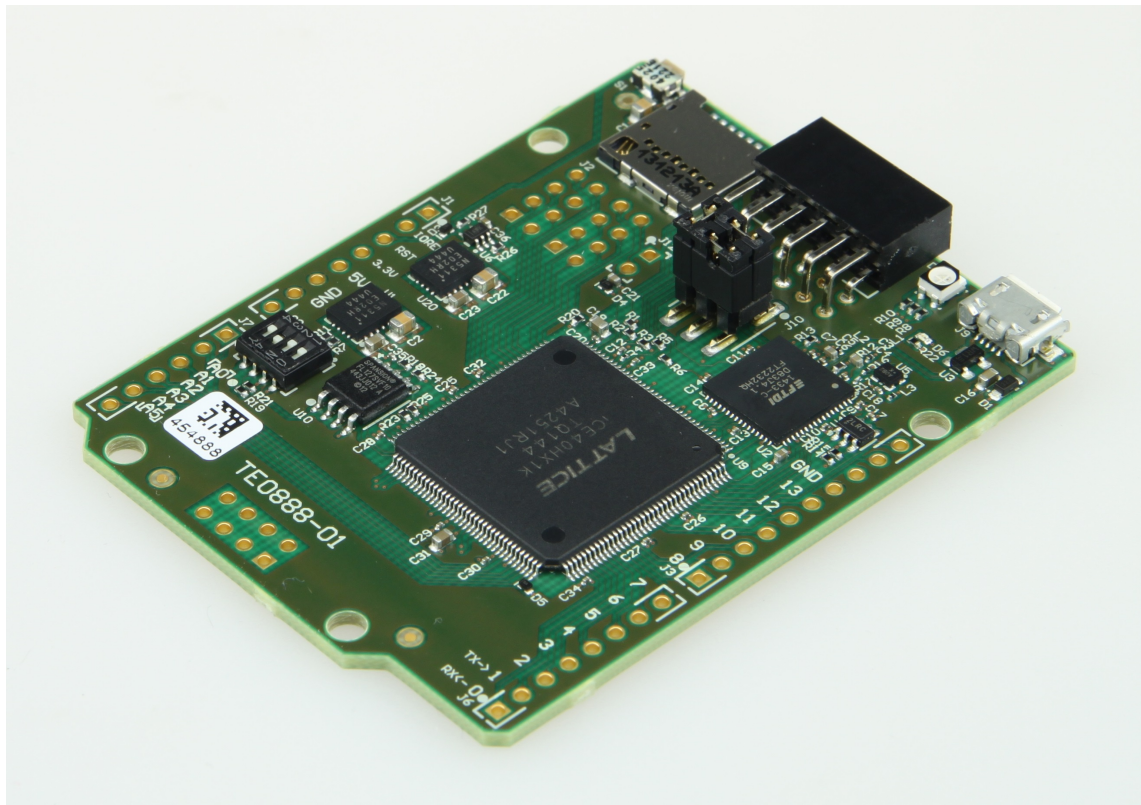


# DIPSY EPT (Emulator Programmer Tool)



## Compatibility with iCEstick Evaluation Kit

| Feature                       | iCEstick                                             | DIPSY EPT                             | Notes                                   |
|-------------------------------|------------------------------------------------------|---------------------------------------|-----------------------------------------|
| FPGA                          | ICE40HX1K                                            | ice40HX1K                             | optional assembly with ICE40HX4K        |
| iceCUBE                       | Yes                                                  | Yes                                   | free license                            |
| IceStorm                      | Yes                                                  | Yes *                                 | HX4K is not supported by IceStorm       |
| Total I/O in header/connector | 24 (Pmod + 2 headers)                                | 47                                    | Pmod+Arduino+ESP8266+DIPSY headers      |
| PIO0 - 8 I/O                  | J1 prototype holes                                   | Arduino Header Digital D0..D7         |                                         |
| PIO1 - Pmod Slot              | vertical (not fully compliant to Pmod Specification) | R/A version as per Pmod Specification | Pinout compatible                       |
| PIO2 - 8 I/O                  | J3 prototype holes                                   | 4 pins are in "DIPSY" header          | iCEstick J3 pins not directly available |
| USB Connector                 | USB B, "stick form factor"                           | micro USB                             | Rev 2 has mini USB                      |
| USB Interface                 | FT2232H                                              | FT2232H                               |                                         |
| FTDI EEPROM                   | 93LC56                                               | 93AA56                                |                                         |
| FTDI ADBUS                    | 6 pins connected                                     | 8 pins connected                      | more options on channel A possible      |
| FTDI BDBUS                    | 7 pins connected                                     | 8 pins connected                      | 7 pins are at same locations            |
| FTDI BCBUS                    | not connected                                        | 6 pins connected                      | Support for high speed FIFO modes       |

|                               |                                       |                                  |                                                     |
|-------------------------------|---------------------------------------|----------------------------------|-----------------------------------------------------|
| SPI Flash size                | 4 Mbyte                               | 16 Mbyte                         |                                                     |
| SPI Flash type                | Micron N25Q032A                       | Spansion S25FL127S               | Supported by Diamond Programmer                     |
| SPI Flash Connection          | One bit I/O only                      | <b>Quad 4 Bit mode supported</b> |                                                     |
| SPI Flash Programming         | yes, USB                              | yes, USB                         | Supported by Diamond and open source tools          |
| Configuration RAM Programming | <b>not supported</b>                  | yes, USB                         | Supported by Diamond and open source tools          |
| Boot mode selection           | SPI Flash Boot as fixed default       | SPI slave or SPI Master (flash)  | ICEd has DIP switches for boot mode                 |
| Multiboot support             | <b>cold boot select not supported</b> | cold boot select on DIP Switches |                                                     |
| iCE CRESETB                   | fixed connection ADBUS7               | ADBUS7 with disconnect jumper    | more options when using FTDI a for custom protocols |
| 12MHz Clock                   | FPGA Pin 21                           | FPGA Pin 21                      | Same as iCEstick, shared from FTDI Clock            |
| iRDA Transceiver              | available on board                    | not present on board             | Pins are available in Arduino Analog Header         |
| WiFi                          | as Pmod add-on only                   | ESP8266 header                   | ESP header can be used I/O extension with 5 I/O     |
| LED0                          | LED0 red, active high                 | RGB LED, active low              |                                                     |
| LED1                          | LED1 red, active high                 | RGB LED, active low              |                                                     |
| LED2                          | LED2 red, active high                 | RGB LED, active low              |                                                     |
| LED3                          | LED3 red, active high                 | SMD LED green, active high       |                                                     |
| LED4                          | LED4 green, active high               | not present                      |                                                     |
| SD Card                       | as Pmod add-on only                   | microSD socket onboard           |                                                     |
| Reset (reconfig) button       | not available                         | onboard reset button             |                                                     |