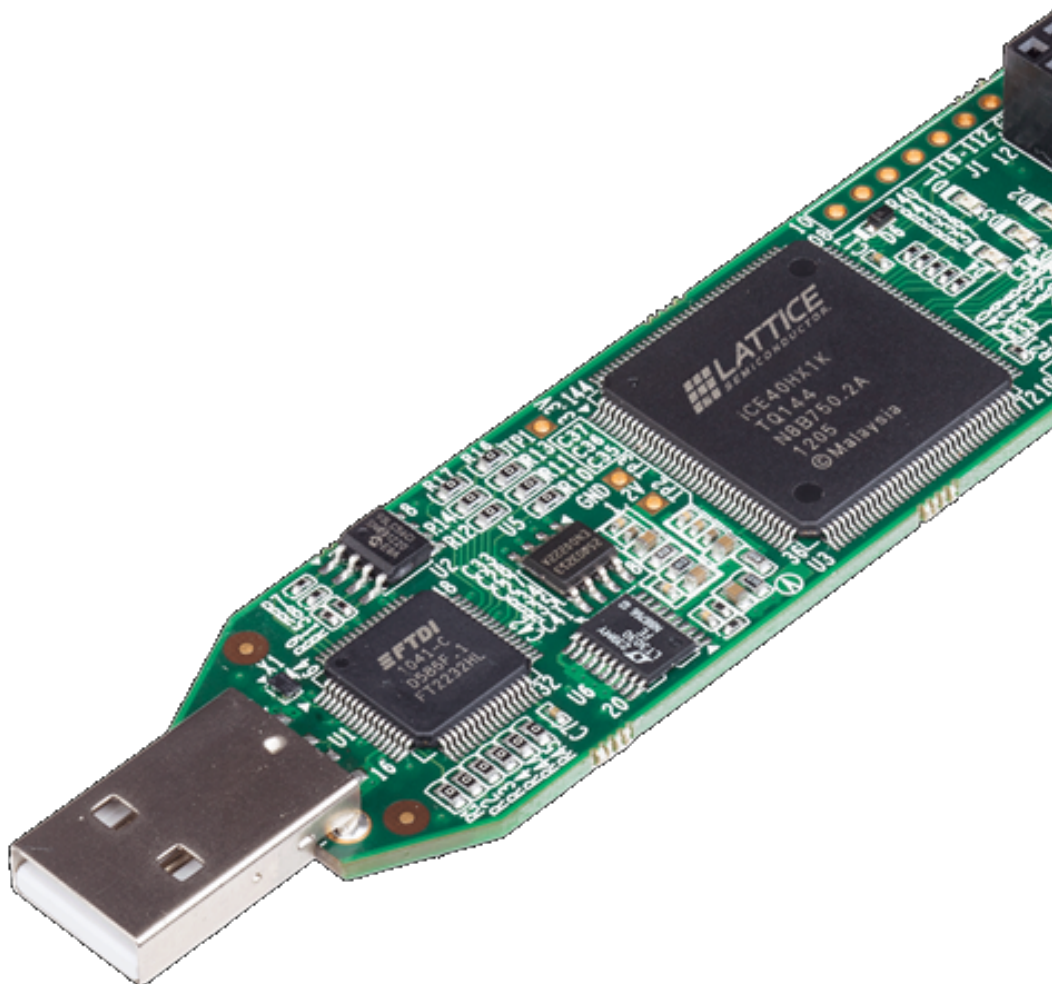


Pokiaľ ste ešte neprišli na chuť FPGA-čkam, skúste tento kit. Pekný, malý, lacný - obsahuje Lattice FPGA, FTDI 2232H, IrDA transceiver 5x LED a 32 Mbit SPI flash.

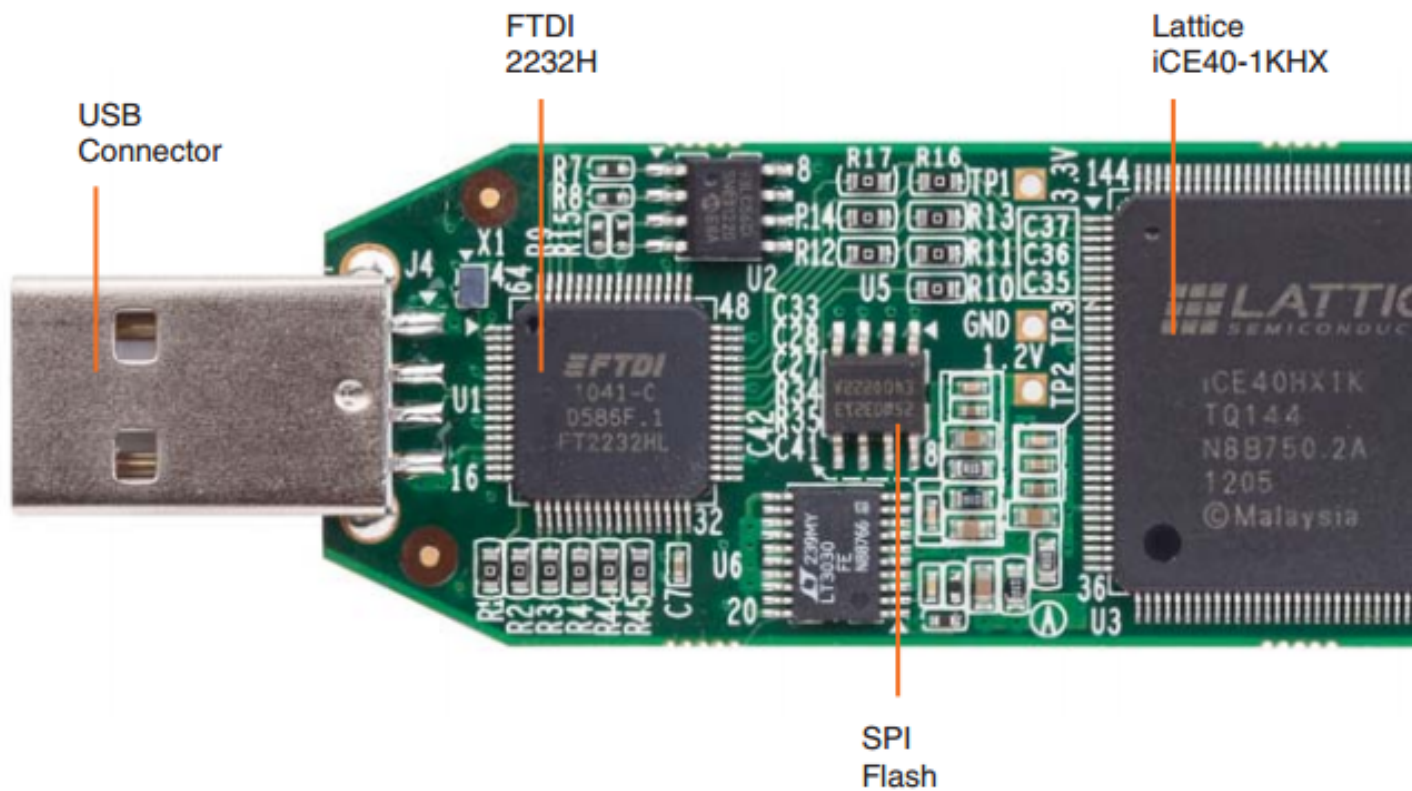
Nejedná sa o žiadnu novinku, ale páči sa mi.



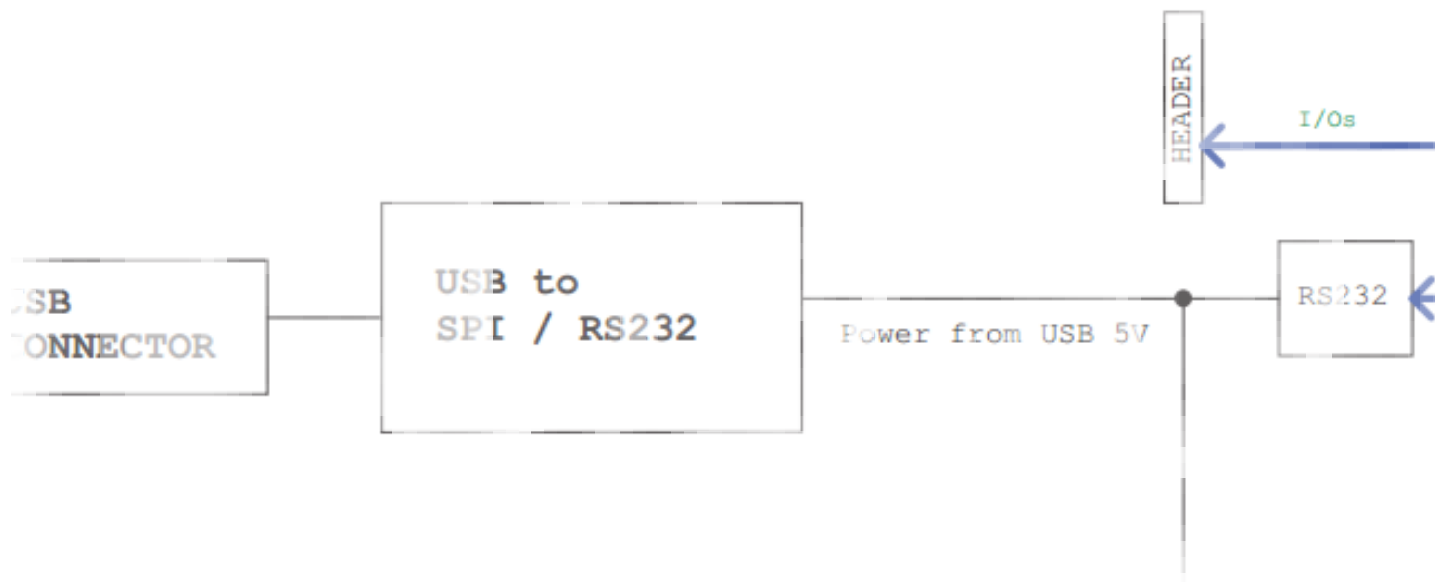
Vlastnosti

- USB thumb drive form factor
- iCE40HX-1k on board
- 2 x 6 position Digilent Pmod™ connector for other peripheral connections
- FTDI 2232H USB device allows iCE device programming and UART interface to a PC
- Vishay TFDU4101 IrDA transceiver
- Five user LEDs
- Discera 12 Mhz MEMS oscillator
- Micron 32 Mbit N25Q32 SPI flash

- USB connector provides the power supply
- 16 LVCMOS/LVTTL (3.3 V) digital I/O connections on 0.1" through-hole connections



Blokové zapojenie



Pre prácu s kitom je nutný ešte aj [IDE Lattice iCEcube2™](#) na nahratie [Diamond Programmer](#). Okrem toho by malo fungovať aj open-source riešenie [yosys -- Yosys Open SYnthesis Suite](#).

Použitý FPGA čip je z rodiny iCE40 HX.

Part Number							
Logic Cells (LUT + Flip-Flop)							
16K 4K16 Memory Blocks							
16K 4K16 RAM bits							
Phase-Locked Loops (PLLs)							
Maximum Programmable I/O Pins							
Maximum Differential Input Pairs		8		12	20	23	
High Current LED Drivers		0	3	3	0	0	
Package	Code	Programmable I/O: Max Inputs (V _{IO})					
6 WLCSP (1.40 mm x 1.48 mm, 0.35 mm)	SG16		10(0)	10(0)			
12 QFN (5 mm x 5 mm, 0.5 mm)	SG32	21(3)					
16 ucBGA (2.5 mm x 2.5 mm, 0.4 mm)	CM36	25(3)		25(3) ¹			
19 ucBGA (3 mm x 3 mm, 0.4 mm)	CM49	37(6)		35(5) ¹			
21 ucBGA (4 mm x 4 mm, 0.4 mm)	CM81			63(8)	63(9) ²	63(9) ²	
21 csBGA (5 mm x 5 mm, 0.5 mm)	CB81			62(9) ¹			
24 QFN (7 mm x 7 mm, 0.5 mm)	QN84			67(7) ¹			
100 VQFP (14 mm x 14 mm, 0.5 mm)	VQ100						72
121 ucBGA (5 mm x 5 mm, 0.4 mm)	CM121			95(12)	93(13)	93(13)	
121 csBGA (6 mm x 6 mm, 0.5 mm)	CB121			92(12)			
132 csBGA (8 mm x 8 mm, 0.5 mm)	CB132						95
144 TQFP (20 mm x 20 mm)							95
225 ucBGA (7 mm x 7 mm)							
256-ball caBGA (14 mm x 14 mm)							

1. No PLL available
2. Only one PLL available
3. High Current LED Drivers

Odkazy

- [iCEstick Evaluation Kit HomePage](#)
- [iCEstick User Manual](#)
- [IDE Lattice iCEcube2™](#)
- [iCEstick User Manual](#)
- [Diamond Programmer](#)
- [iCE40 LP/HX Family Data Sheet](#)
- [IP & Reference Designs for iCE40 LP/HX/LM](#)
- [yosys -- Yosys Open SYnthesis Suite](#)

Cena

U [Mouser](#) majú kit za 20,68 Eur a [Farnell](#) si ho cení na 20,41 Eur.

FPGA čip samotný v púzde TQFP144, sa dá zakúpiť od 5,93 Eur ([Farnell](#))

Distribúcia

[viď. Adresár](#)