

430eForth for LaunchPad

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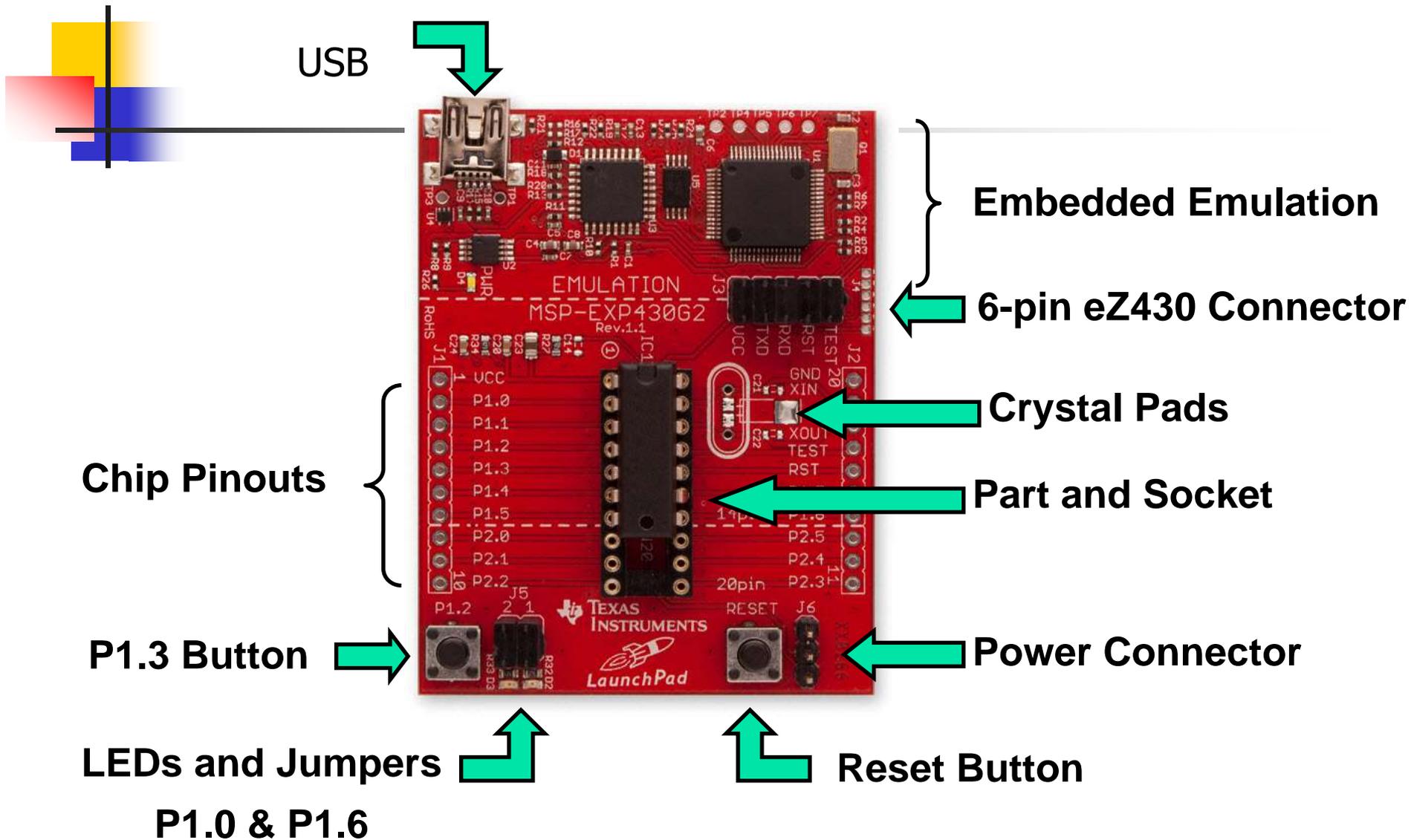
SVFIG



Summary

- MSP-EXP430G2 LaunchPad
- Code Composer Studio 5.2 IDE
- 430uForth for G2231
- 430eForth for G2553
- Turnkey Application

MSP-EXP430G2 LaunchPad





MSP-EXP430G2 LaunchPad

- MSP430G2231 Microcontroller
 - 2KB Flash memory
 - 256 Bytes RAM
 - 2 8-bit GPIO ports
 - ADC
 - UART/SPI/I2C
 - Counter/Timers



LaunchPad 1.3

- MSP430G2553 Microcontroller
 - 16KB Flash memory
 - 256 Bytes Information Flash
 - 512 Bytes RAM
 - 1.1 MHz Internal Oscillator



Code Composer Studio 5.2

- C/C++ Compiler
- 430 Assembler
- USB Programmer/USART
- Target Debugger
- Demo



430uForth for G2231

- 2 KB Flash is too small to be interesting
- Interpreter only
- eForth model is greatly reduced to fit into flash
- Very small Forth word set
- Software UART



430eForth for G2553

- Based on eforth86.asm v1.0
- Kernel from 430uForth
- No multitasking elements
- No CATCH/THROW
- No serious optimization



430eForth for G2553

- New words compiled to flash
- Initial values of user variables are store in Information flash, Segment D
- Minimal support for turnkey system
- At 1.1 MHz, 100,000 empty loops per second



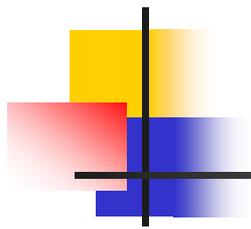
Comments on G2553

- It is a 16-bit microcontroller, much more compatible to Forth than 8-bit AVR microcontrollers.
- 16 registers are more than enough.
- CCS IDE is very smooth, though complicated.
- USB interface has matured.

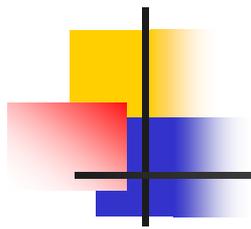


Turnkey Application

- Compile code to fill flash memory.
- Reload eForth to clear flash memory.
- When all code are verified, erase Segment D and copy user variables to this segment.
- Application will boot up.



Questions?



Thank you.