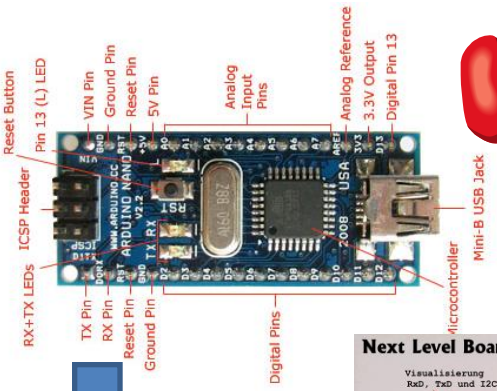
Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

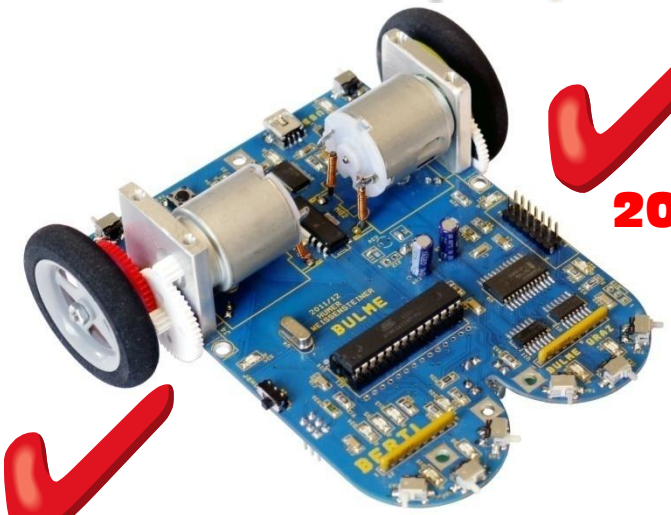
FTKL- Tagung 2010 – Zukunft?

I .. V Jahrgang

Arduino / AVR o. PIC

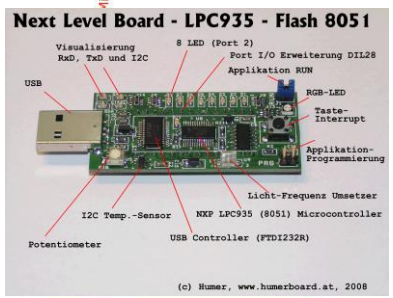


AVR 2011



2011

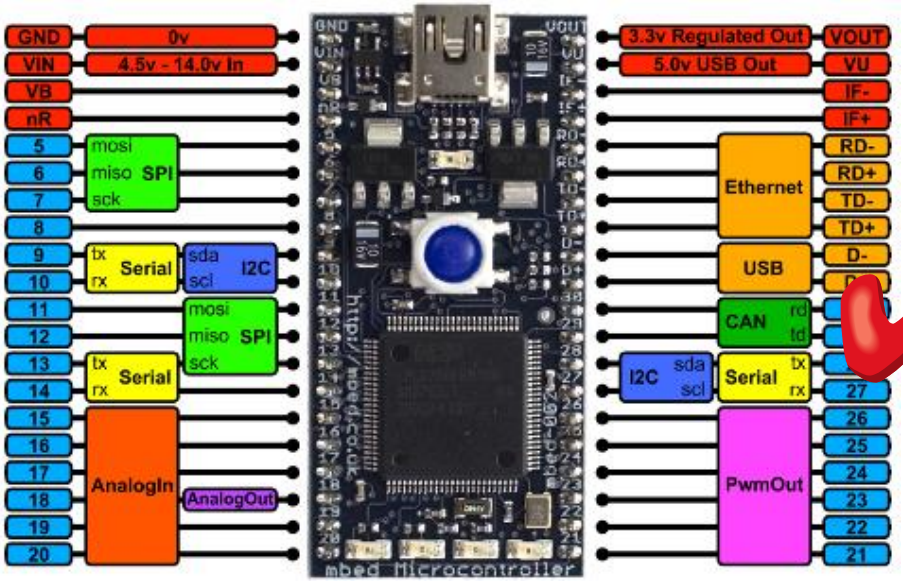
Ev. 8051-Flash



8051 2010

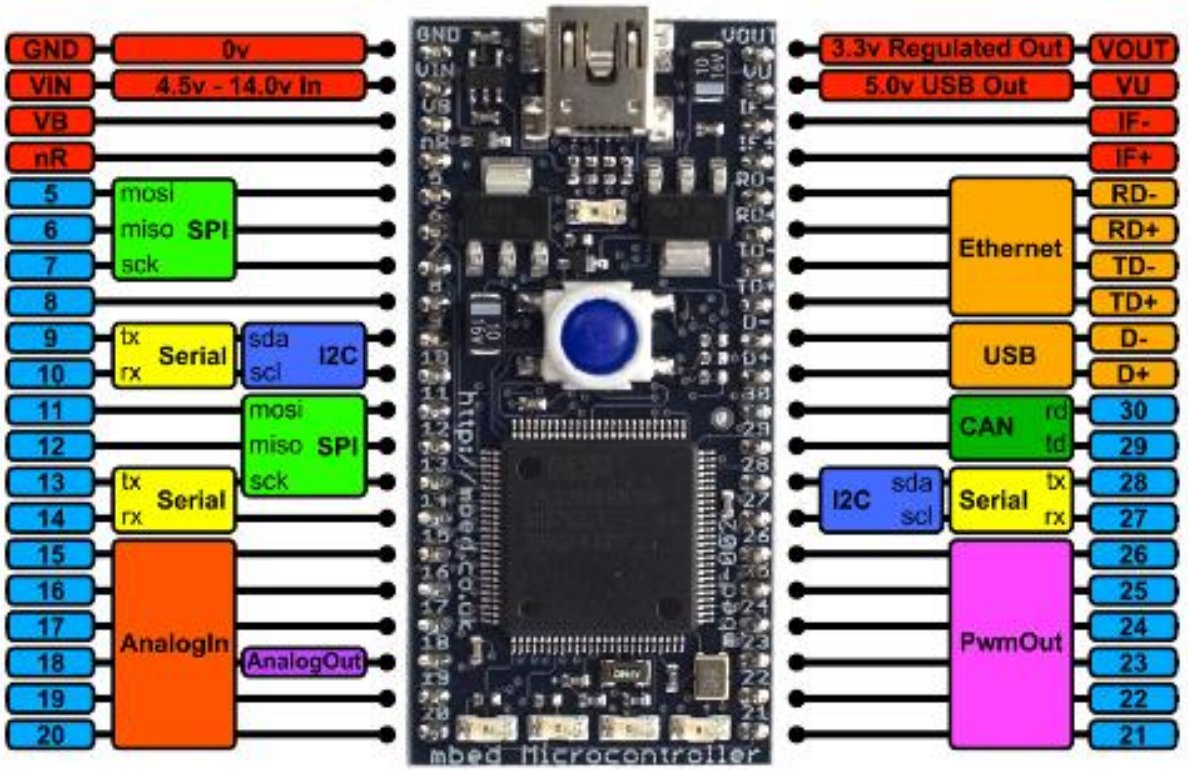
Cortex – M0 o. M3

mbed



ARM 2012

Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed



mbed
Online Compiler

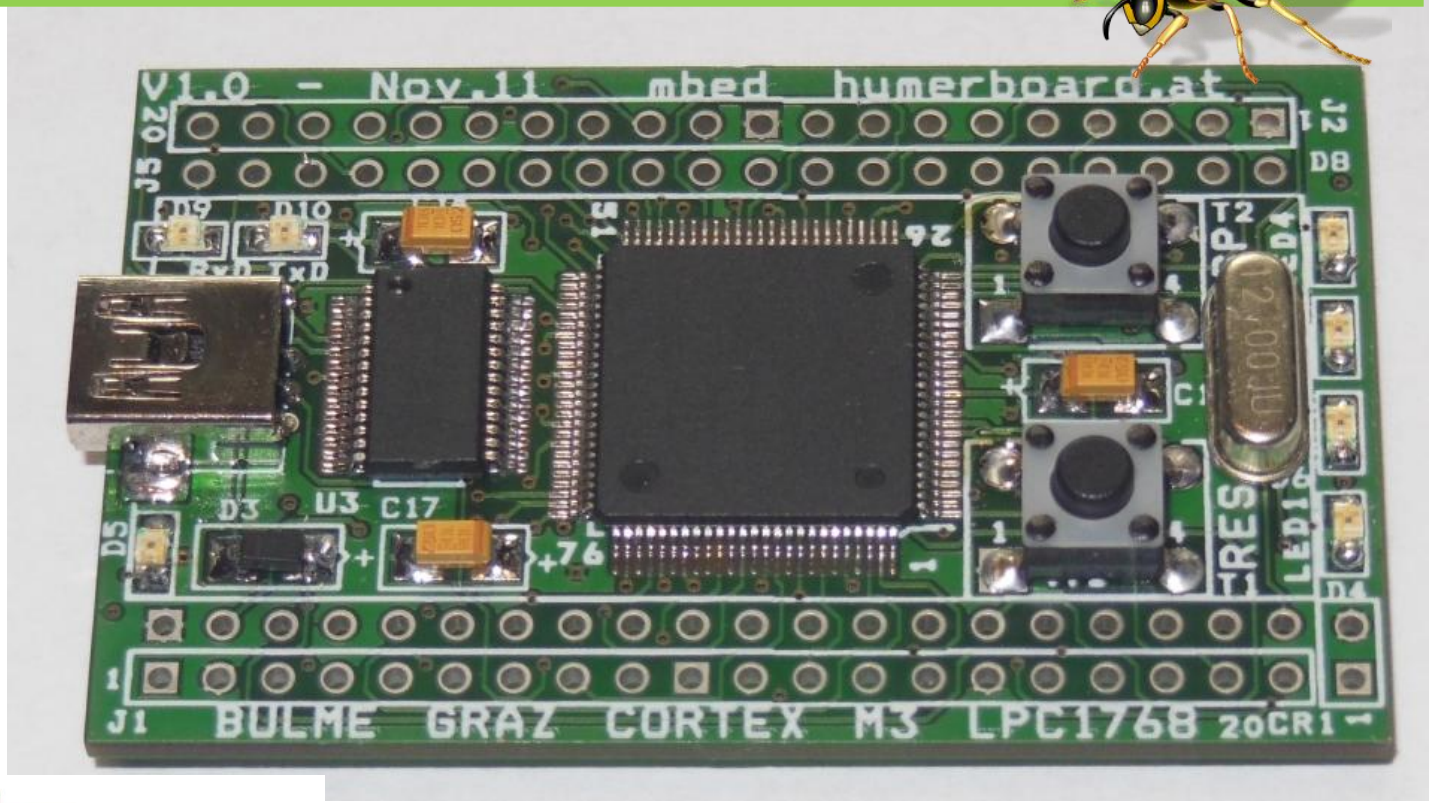
ARM
KEIL Tools by ARM
GCC
code_red
CodeSourcery

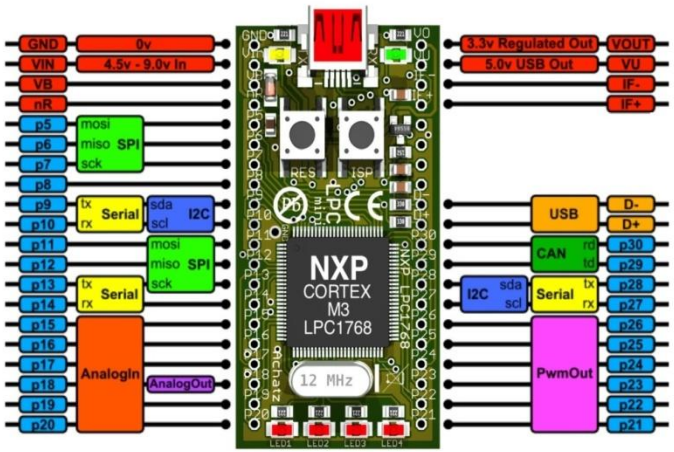
www.mbed.org

ARM-Cortex-M3
96MHz, 32KB RAM, 512KB FLASH

Ethernet, USB Host/Device, 2xSPI, 2xI2C, 3xUART, CAN, 6xPWM, 6xADC, GPIO

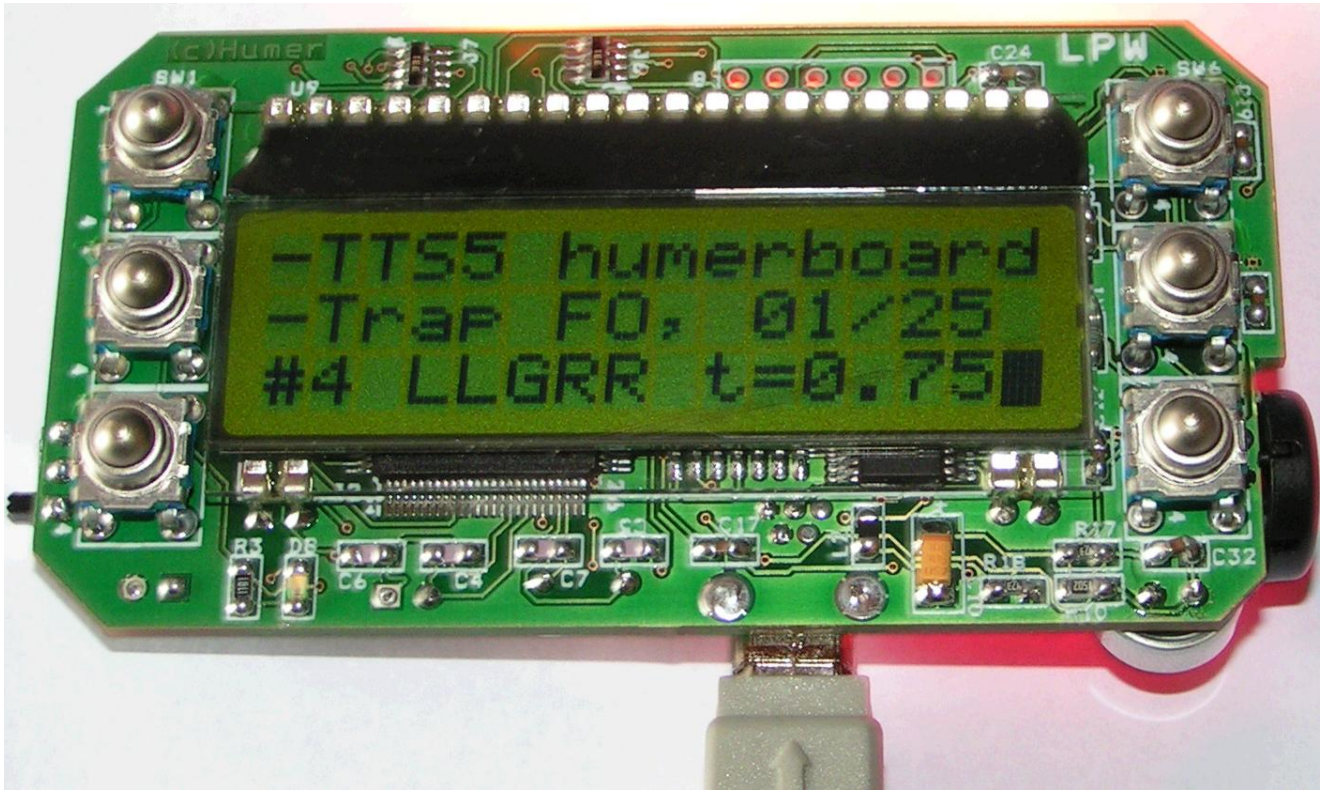
Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed





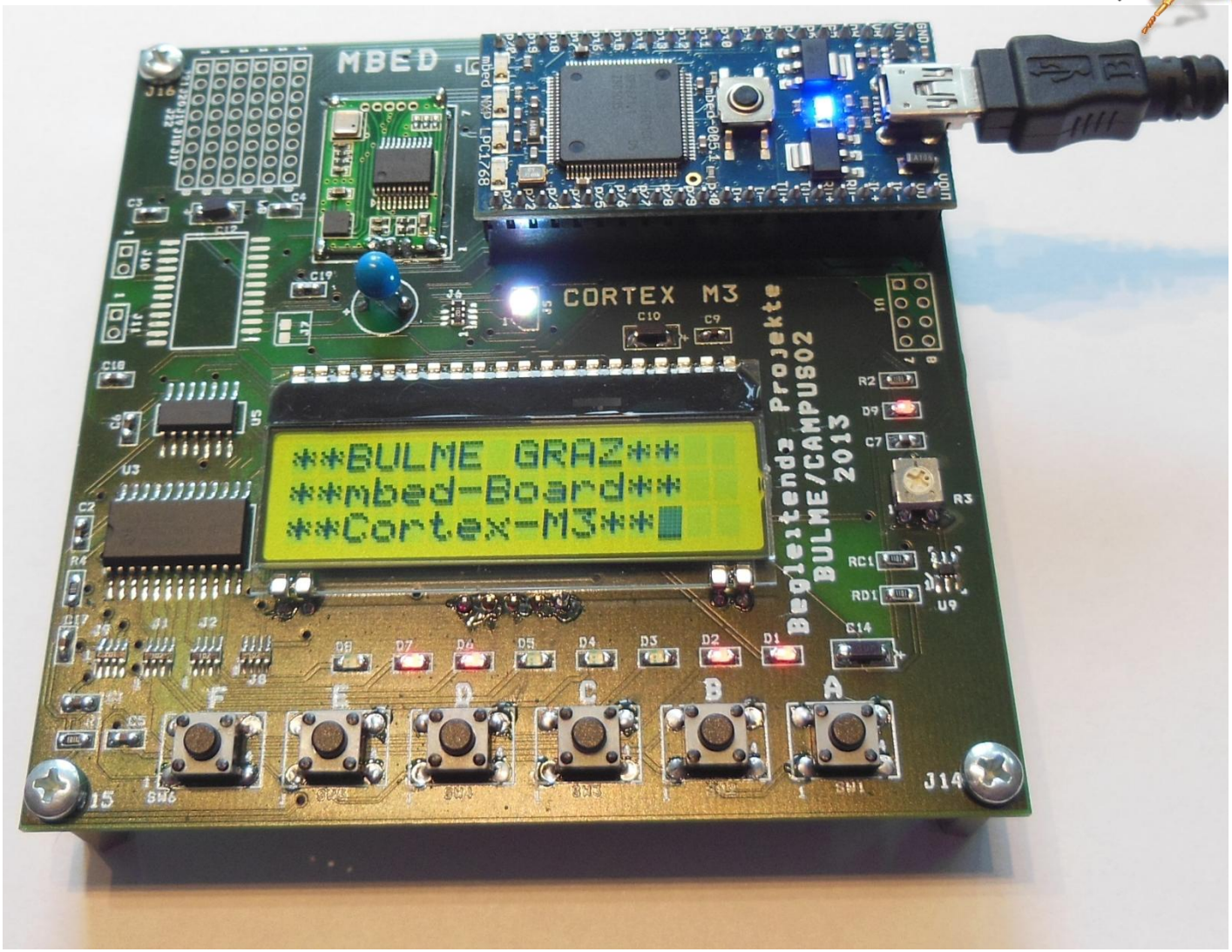
Werkstättenprojekt, BULME GRAZ,
Bauteilkosten ca. €15,--
ARM-Cortex-M3, LPC1768
96MHz, 32KB RAM, 512KB FLASH

mbed-Beispiel: Diplomarbeit „ Trap Training System“



Beschleunigung
und
Gyrator 3 Achsen
Kompass
Luftdruck
Puls

FTKL- Tagung 2012 – Cortex M3 - mbed



Prototyp, BULME GRAZ, Humer

Break-Out Boards: Beispiel ebay, China, ohne Versandkosten

ca. 18€

10DOF 9-axis Indicator Module L3G4200D ADXL345 HMC5883L BMP085 Acceleration Gyro

! BMP085 Air-pressure model altitude weather/ temperature digital sensor module

€13,--

Calibrated digital sensor

- **I2C data interface**
- **Pressure resolution: 0.01hpa**
- **Pressure accuracy: ±2hpa**
- **Pressure range: 300~1100hpa**
- **Altitude resolution: 1m**
- **Altitude range: -689~8948m**
- **Compass resolution: 1°**
- **Compass accuracy:±3°**
- **Compass range: 0°~359°**
- **Temperature resolution: 0.1°C**
- **Temperature accuracy: ±1°C**
- **Temperature range: -40°C ~+85°C**
- **Standby current ≤ 2uA**
- **Supply voltage: 2.8~3.3V**

http://www.neuhold-elektronik.at/

LIPO-Akkus, 3.7V geschützt und ungeschützt

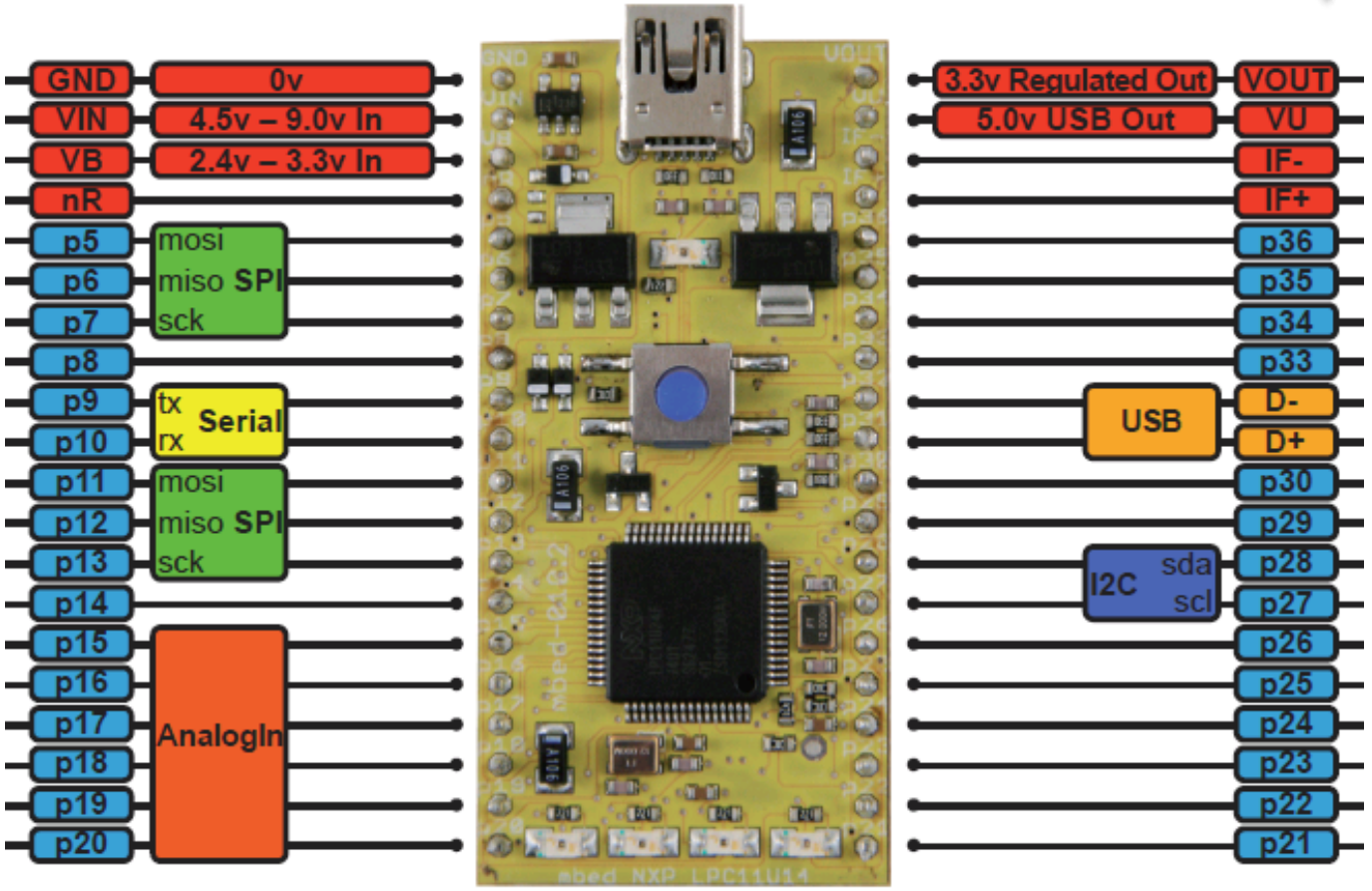
Bauform 18650
LIPO 3,7V/4Ah ca. 4€

Bauform 14500 (AA)
LIPO 3,7V/1Ah ca. 3€

Weitere Bauformen:
26650 …. bis 6 Ah
18350
18500
18700
16340 … CR123A
10440 … (AAA), … 600 mAh
….. weitere folgen

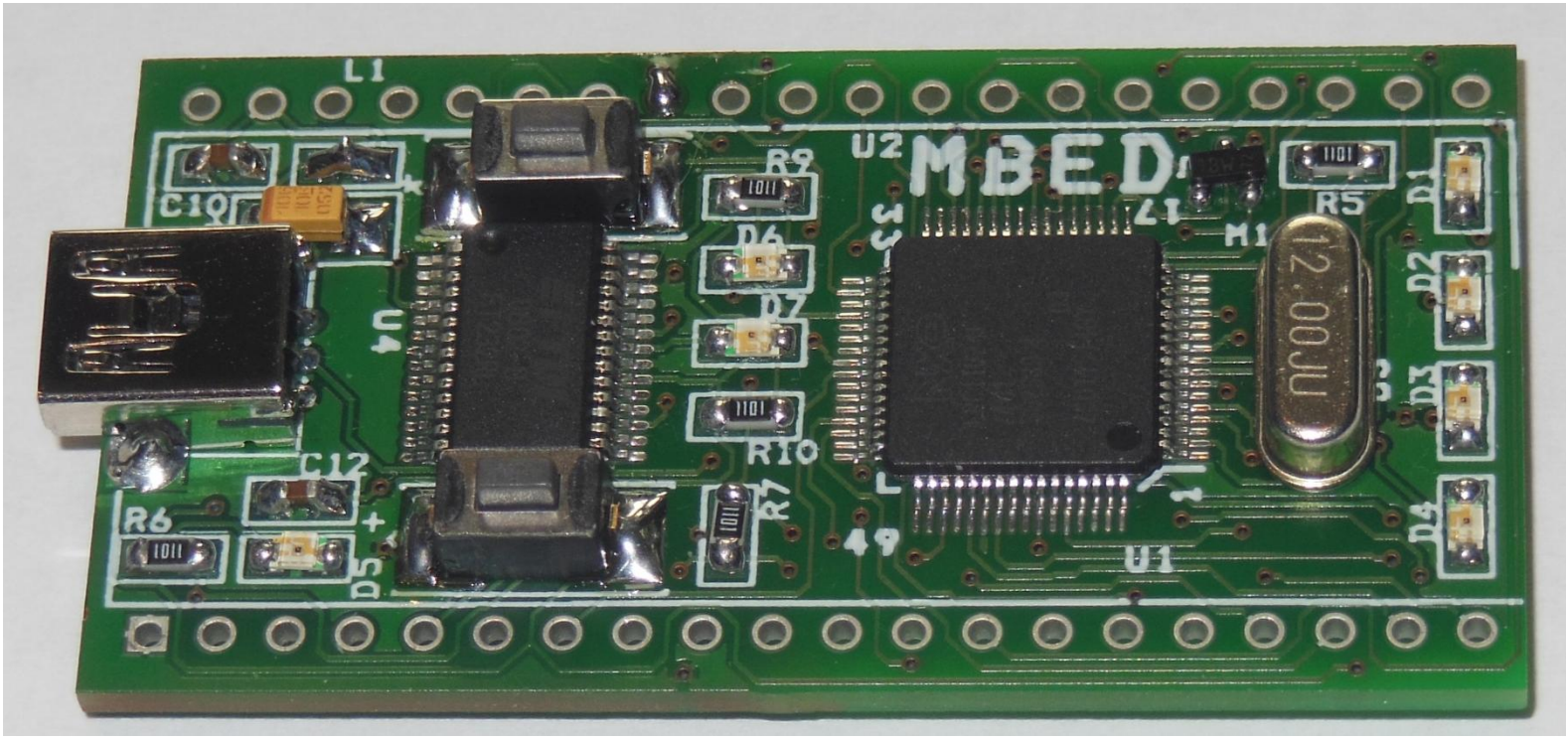
Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

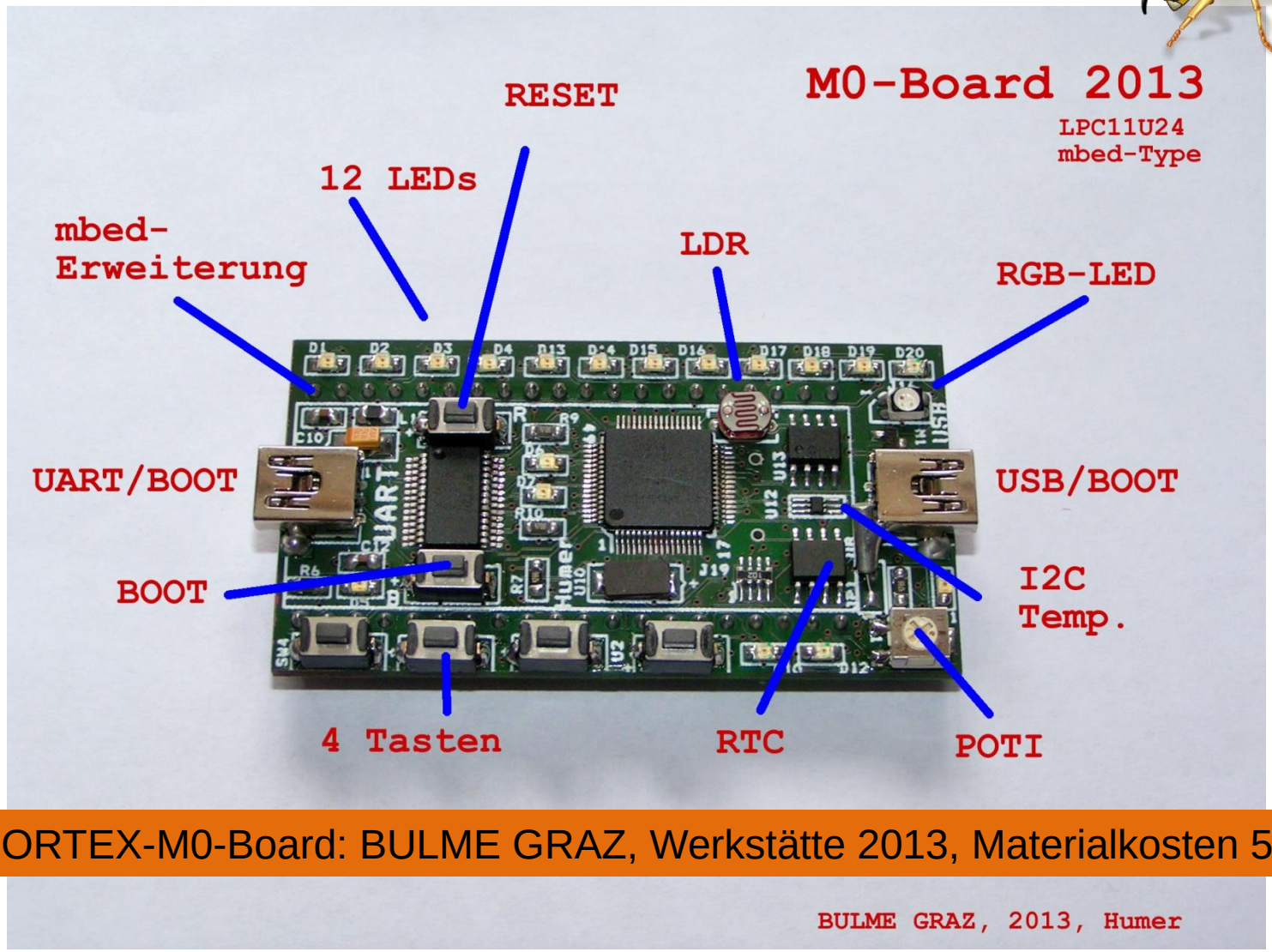


Low power ARM® Cortex™-M0 Core
48MHz, 8KB RAM, 32KB FLASH
USB Device, 2xSPI, I2C , UART, 6xADC, GPIO

Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

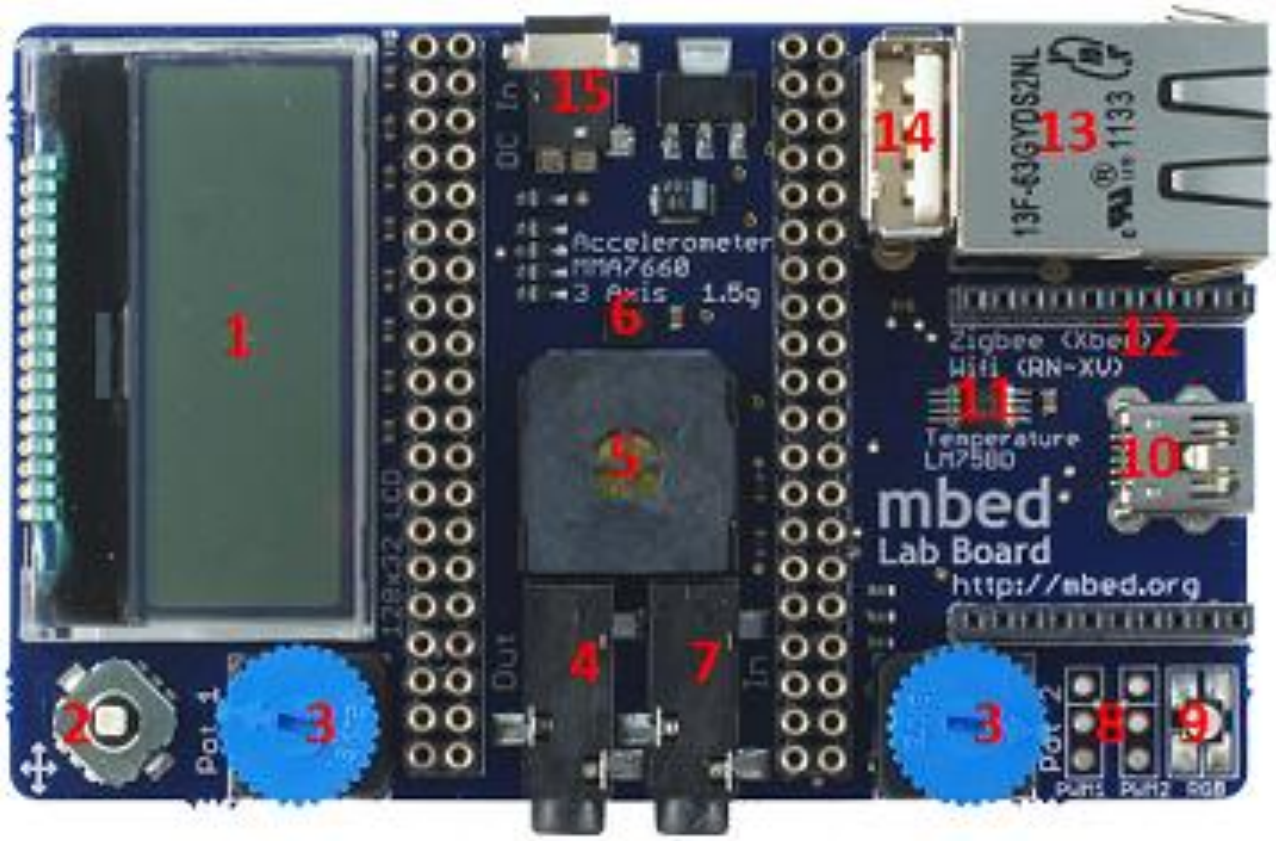


CORTEX-M0-Board: BULME GRAZ, Werkstätte 2012, Materialkosten 9€

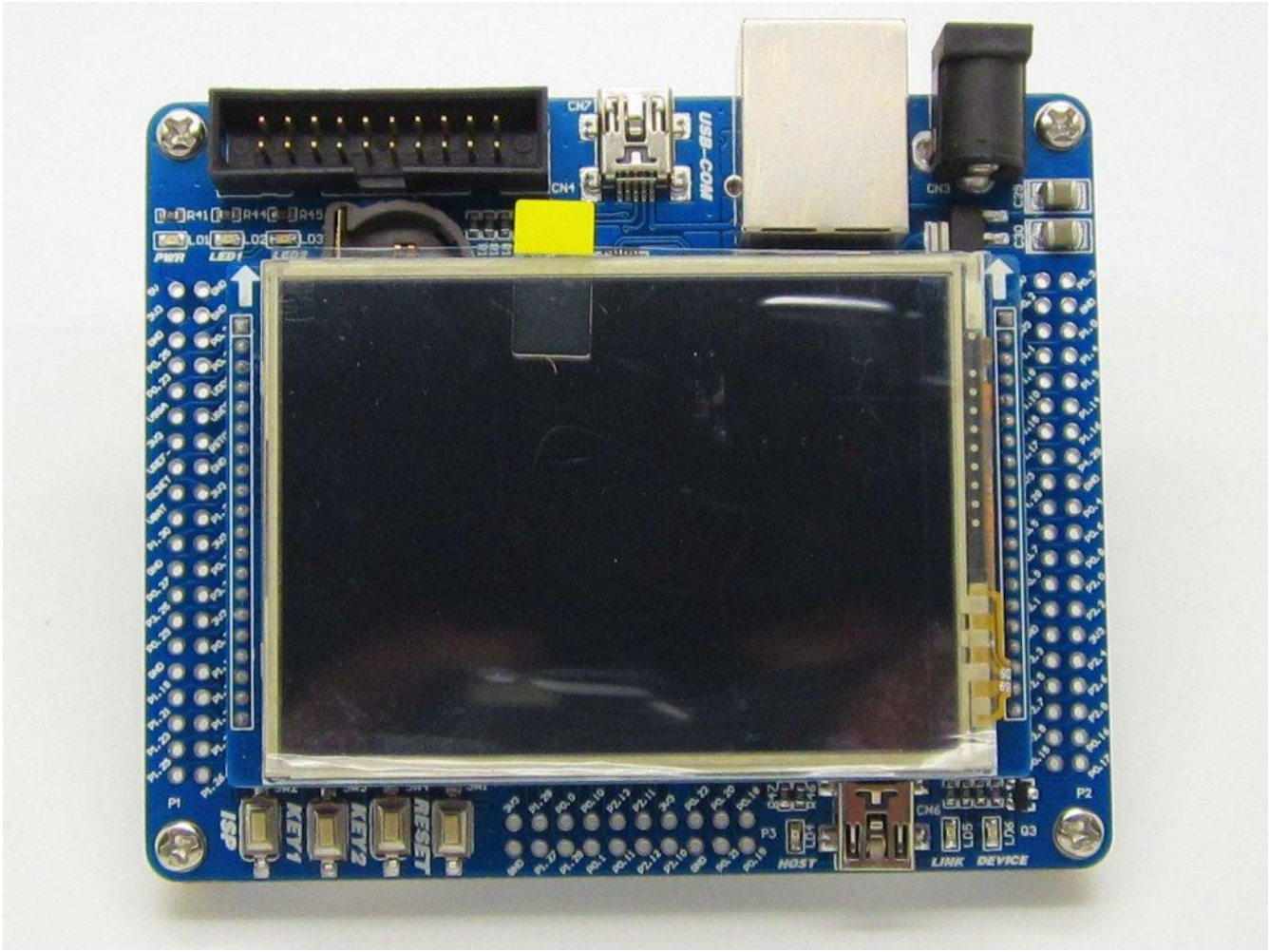


CORTEX-M0-Board: BULME GRAZ, Werkstätte 2013, Materialkosten 5..20€

Erweiterungsboard – mbed – rs-components (40€)

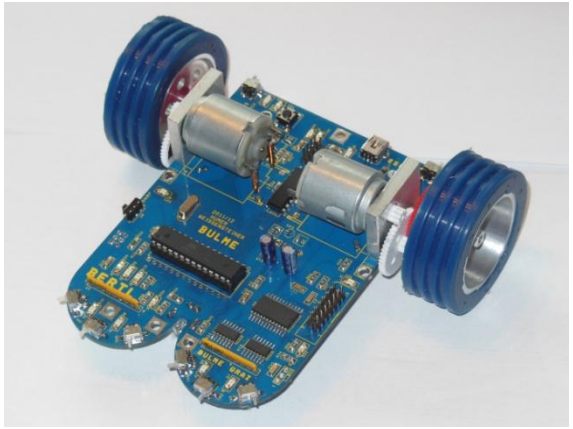


Ebay-Beispiel: LPC1768+GLCD(SPI) 320x240 Farbe (30€)

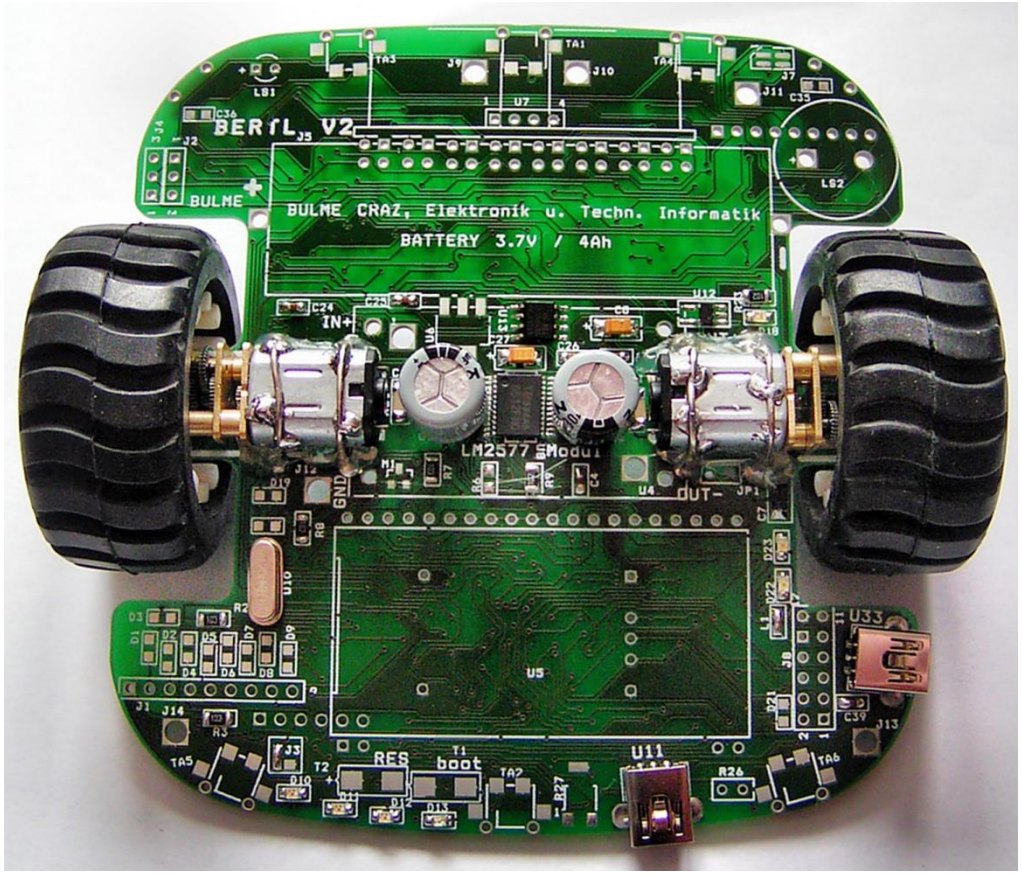


Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

BERTL 2012/2013



BERTL 2014?

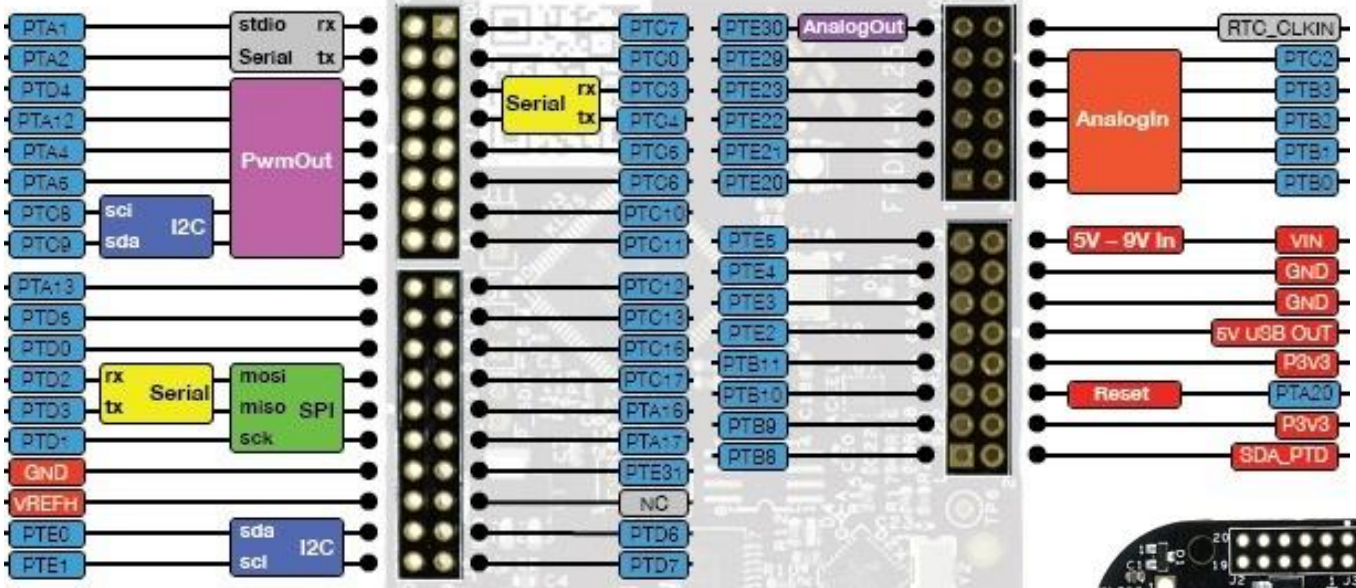


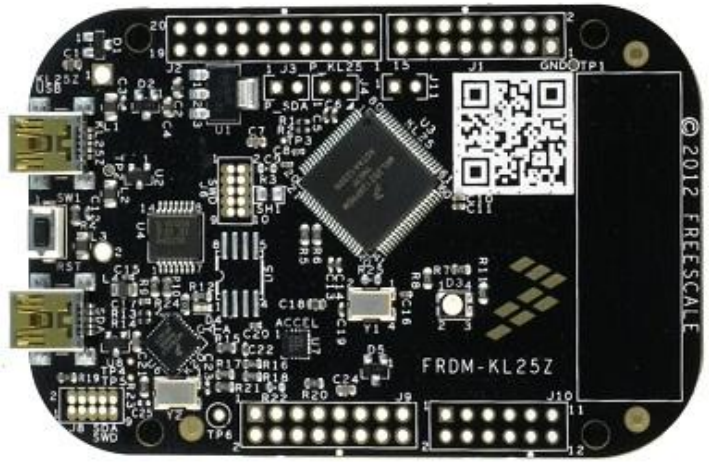
Bausätze ab 9/12 ca. 70€ wes@bulme.at

Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

Bericht: FTKL- Tagung 2012 – Cortex M3 - mbed

High performance ARM® Cortex™-M0+ Core
48MHz, 16KB RAM, 128KB FLASH
2xSPI, 2xI2C, 3xUART, 6xPWM, 6xADC, Touch Sensor, GPIO

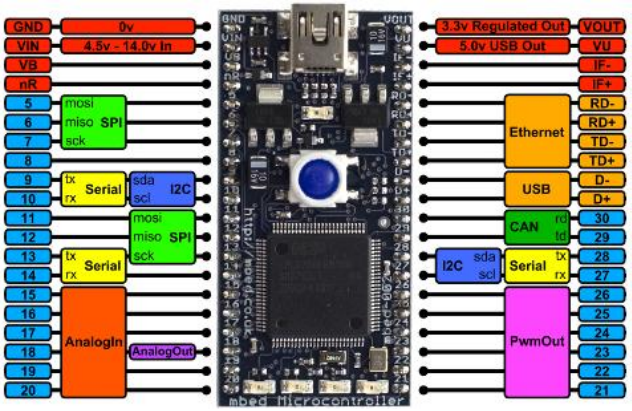




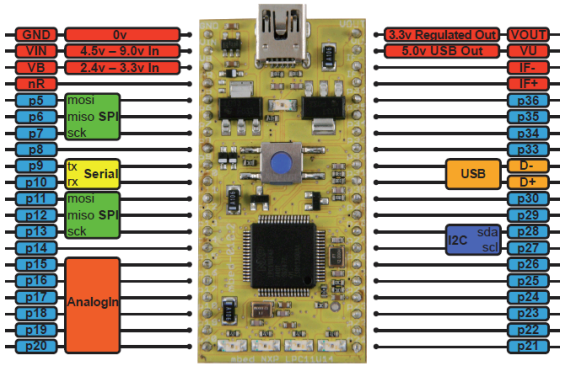
ARDUINO und MBED

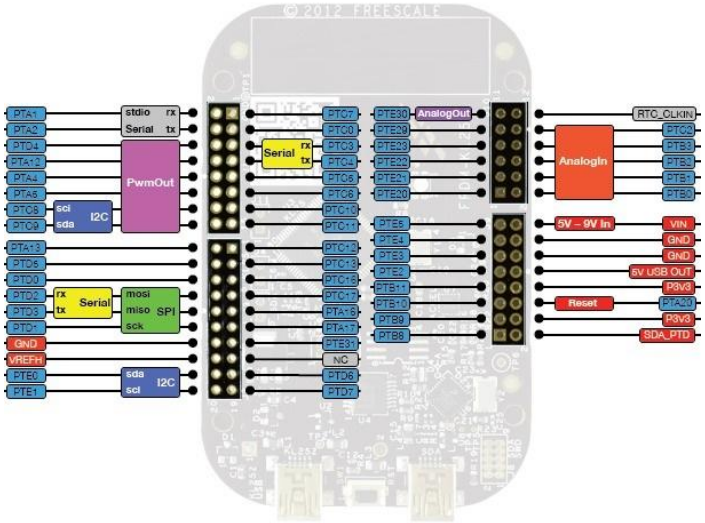
FTKL- Tagung 2012 – Cortex M0 - mbed

Mbed – Cortex M3/LPC1768 (50€)

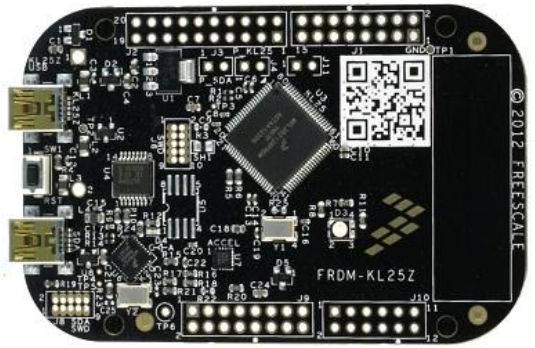


Mbed – Cortex M0/LPC11U24 (35€)





Arduino/Mbed – Cortex M0+ (13€)



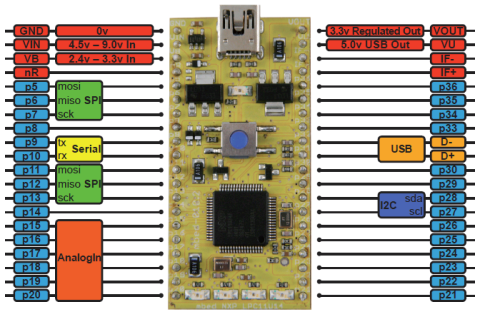
FTKL- Tagung 2013 – Zukunft?

II .. V Jahrgang

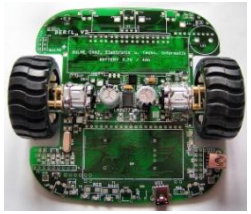
ARM: Cortex-M0/M0+

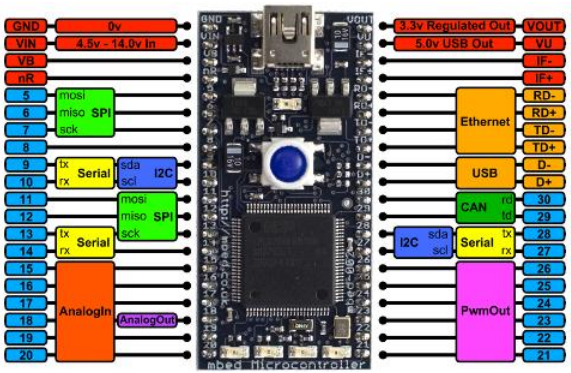
ARM: Cortex-M3

Raspberry + mbed

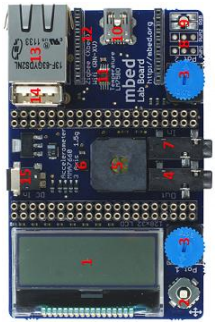


2014

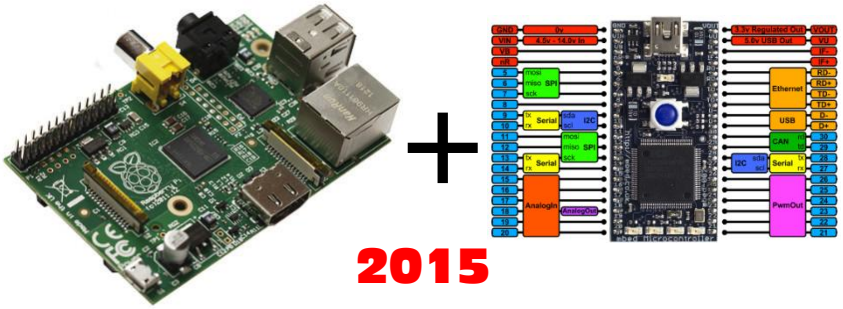




2013



Projekte..



2015

5.4.2013

T E R M I N FTKL-Tagung 2013
Thema: mbed

- Mo., 4. November 2013
- BULME Graz
- 2 Halbtage
- CortexM0x- Implementierung

Vielen Dank!