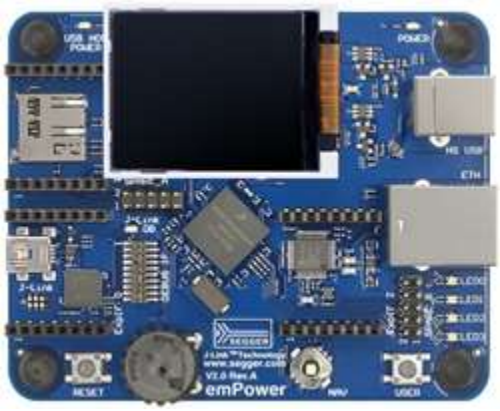
Part Number: 6.30.00 EMPOWER EVALUATION BOA

Description: emPower Evaluation Board

The **emPower** evaluation board includes an evaluation set of SEGGER's middleware products, accelerating the start of any embedded project. SEGGER's embOS real-time operating system is at the heart of the evaluation software package. Furthermore, evaluation versions of the file system emFile, graphics library emWin, emUSB Host and Device, and TCP/IP stack embOS/IP (including web server demo) enable full use of the available emPower peripherals.

emPower also features a J-Link OB, an on-board version of SEGGER's industry leading debug probe J-Link, which includes drag & drop programming. There are three expansion interfaces to easily connect additional modules. Each connector provides I2C, SPI, UART, GPIO/timer, analog input and power. A display adapter connector enables the connection of small TFT displays. The emPower board is powered by USB only. Current consumption drawn strongly depends on the application and connected peripherals. Idle consumption is approx. 85 mA.



Controller:

- Kinetis MK66FN2M0VMD18

CPU:

- Cortex-M4F

Board main features:

- On-board debug probe J-Link-OB with Drag & Drop Programming; SWD/SWO only
- 1.8" LCD module (resolution 160x128)
- External debug interface also available (19-pin Cortex-M interface); includes trace support
- Freescale Kinetis K66 MCU (MK66FN2M0VMD18)
- Display adapter connector (5 V/3.3 V, SPI, PWM for backlight control)
- Fast Ethernet
- USB device: High speed, B-type connector
- USB host: Full speed, providing USB supply to device, A type receptacle (for directly plugging in A type devices/modules)
- NAND Flash 1GBit
- 3 expansion interfaces providing I2C, SPI buses, UART, GPIO/timer, analog input, power; compatible to 3.3 V SExI modules
- Micro SD card connector
- Joystick 4(+1)-way, 1x "FIRE" button, 1x RESET button
- Rotary input (potentiometer to ADC)
- LEDs: 4x BiColor red/green
- Pin headers for spare MCU signals
- No jumpers or solder jumpers
- Rubber feet
- Dimensions 99 mm x 80 mm

Controller main features:

- 180 MHz ARM Cortex-M4 based core with DSP instructions and Single Precision Floating Point unit
- 2 MB program flash memory
- 256 KB RAM
- 4 KB FlexRAM
- Memory protection unit with multi-master protection
- 48 MHz internal reference
- Hardware random-number generator
- Supports DES, AES, SHA accelerator (CAU)
- Two 16-bit SAR ADCs and two 12-bit DAC
- Ethernet controller with RMII interface to external PHY and hardware IEEE 1588 capability
- USB high-/full-/low-speed On-the-Go with on-chip high speed transceiver
- USB full-/low-speed OTG with on-chip transceiver
- CAN, SPI, I2C and UART modules
- Secure Digital Host Controller (SDHC)