

WaRP Pedometer Daughterboard Schematics

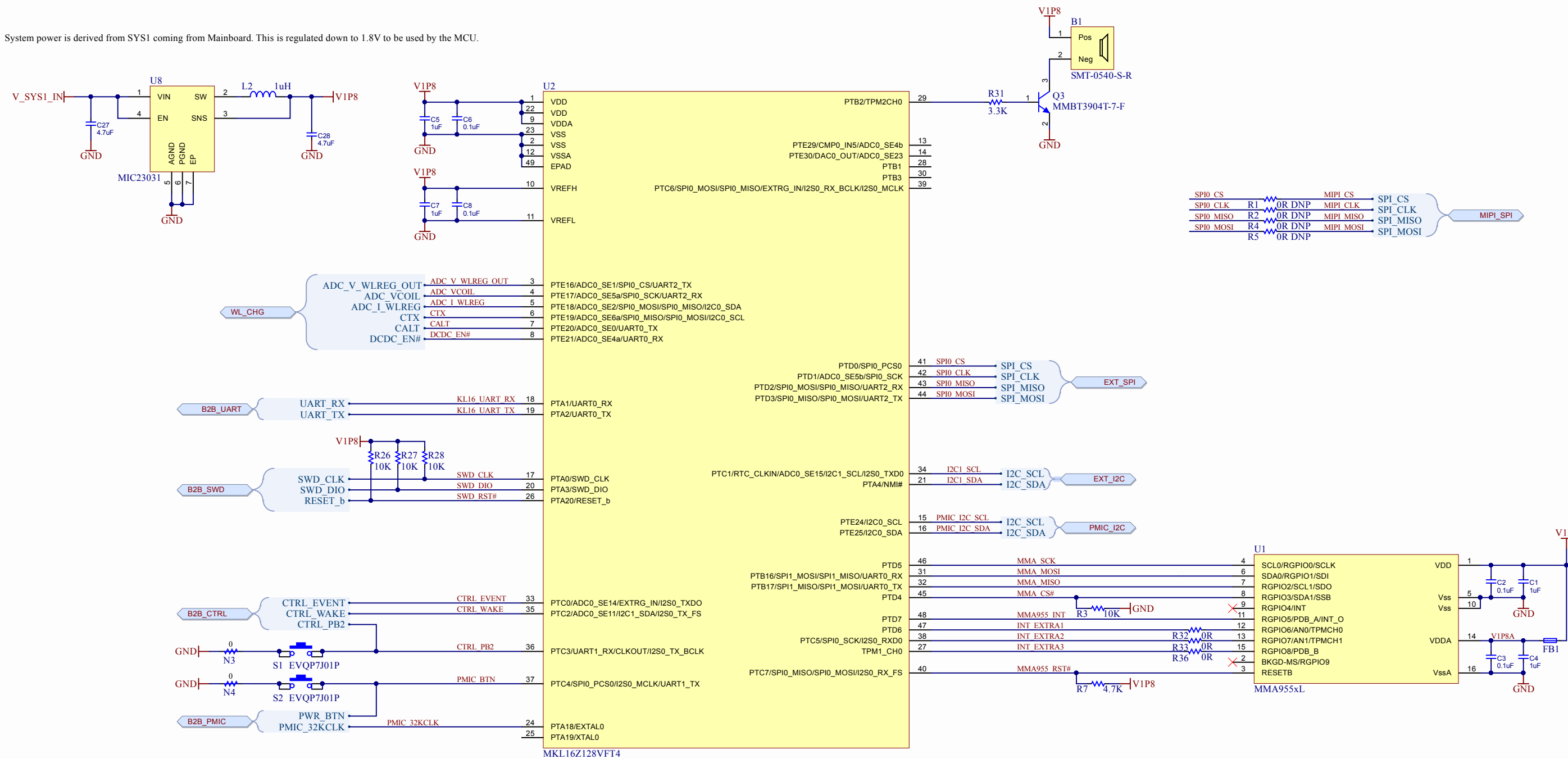
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Document History

Date	Comment	Revision
01/30/2015	Initial Public Release	v1.2

Kinetic MCU + Pedometer Sensor Chip

System power is derived from SYS1 coming from Mainboard. This is regulated down to 1.8V to be used by the MCU.



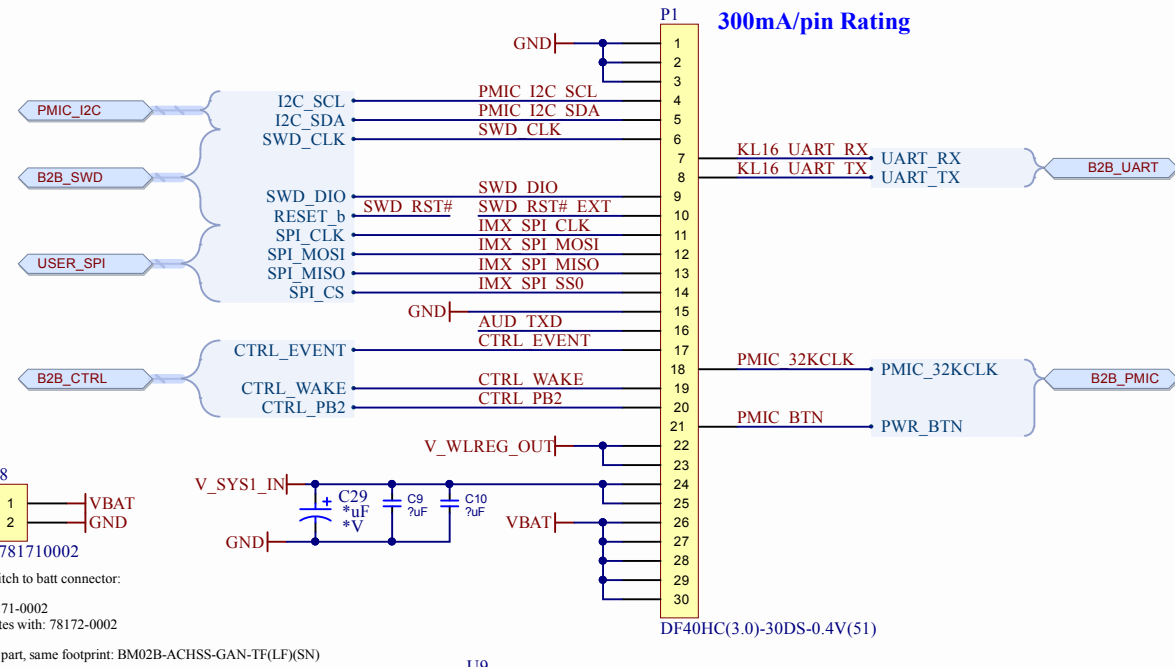
The push button interface is required to operate the Android based OS in the current release. These buttons are actually soft buttons meaning that they do not send a signal directly to the iMX6 on the mainboard, instead, an event is sent via uart to the mainboard. The PMIC_BTN does connect directly to the PMIC chip on the mainboard and is also used to turn the device on and off.

Project Name WaRP Daughterboard - Pedometer			REVO Revolution Robotics, Inc. revotics.com
Title MCU + Sensor	Revision 1.2	Author	
Filename: Daughterboard_MCU.SchDoc			Please visit our site for support and additional info.
Date: 2/5/2015	Sheet Number: 1 of 3		

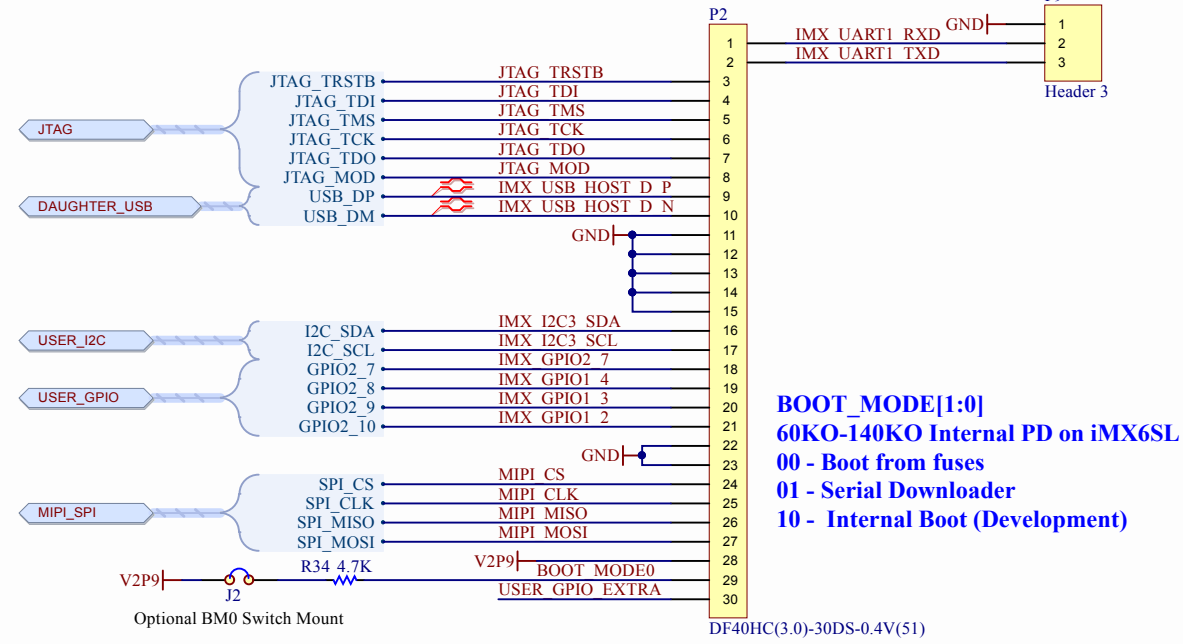
WaRP Mainboard - B2B Connectors

While all pins on the B2B Connectors are brought out to harnesses, this daughterboard does not make use of most of these interfaces. The harnesses are present for reference purposes only.

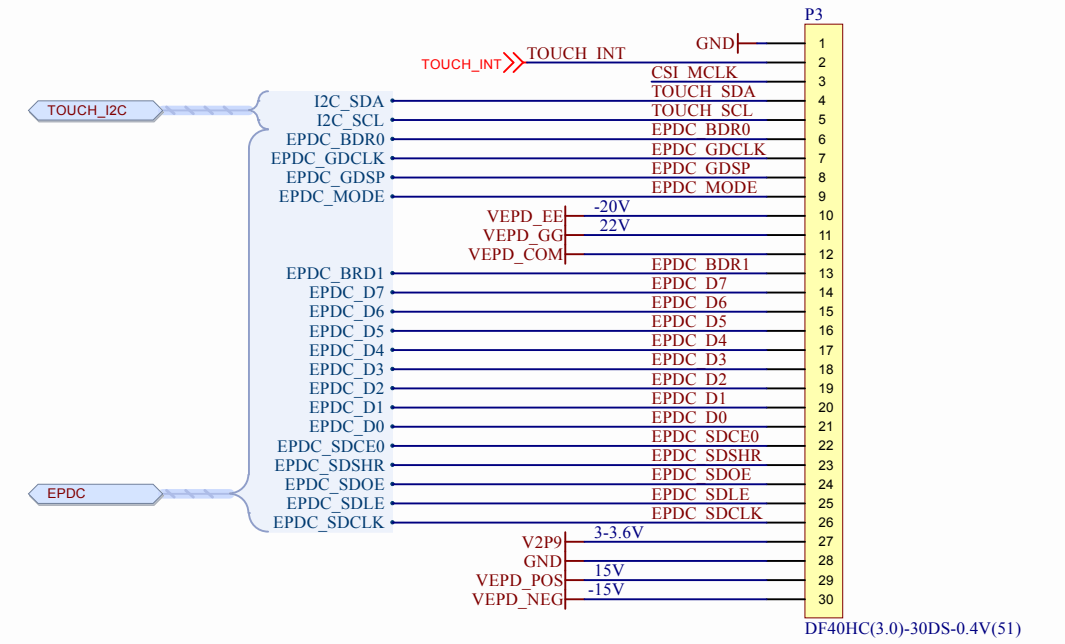
Port 1: Primary Daughterboard Connector



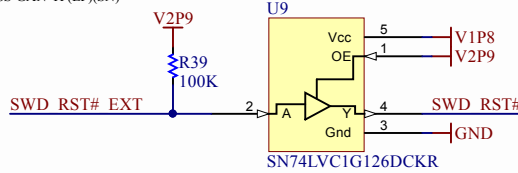
Port 2: Mechanical/Debug Connector



Port 3: EPDC/LCD Touch Connector

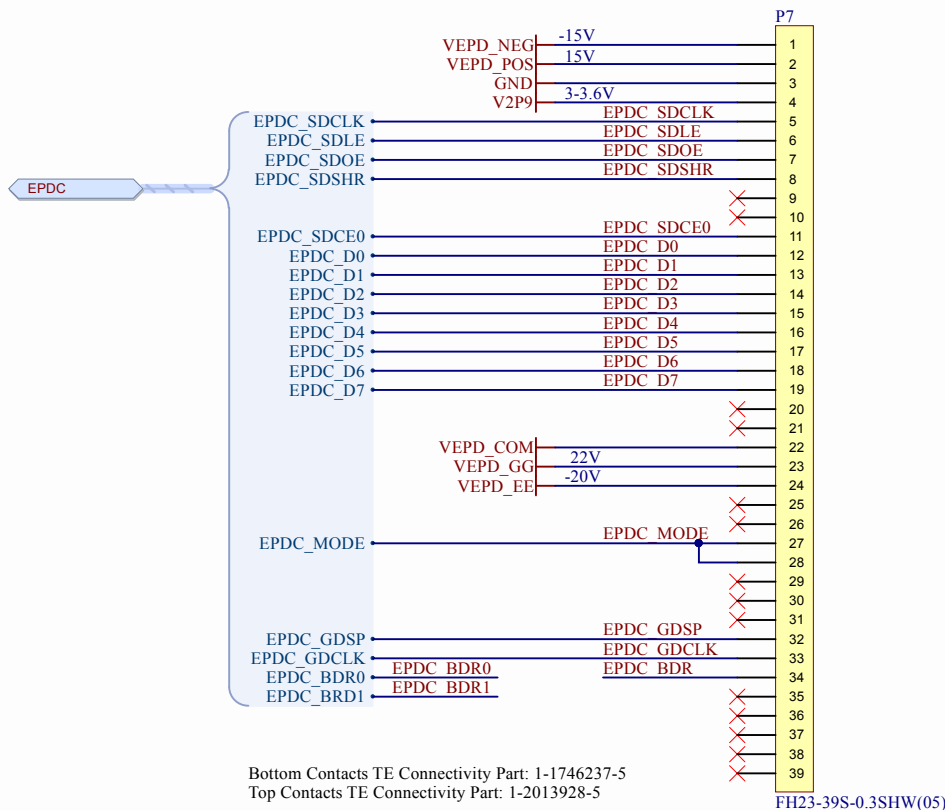


Switch to bait connector:
 78171-0002
 Mates with: 78172-0002
 Alt part, same footprint: BM02B-ACHSS-GAN-TF(LF)(SN)

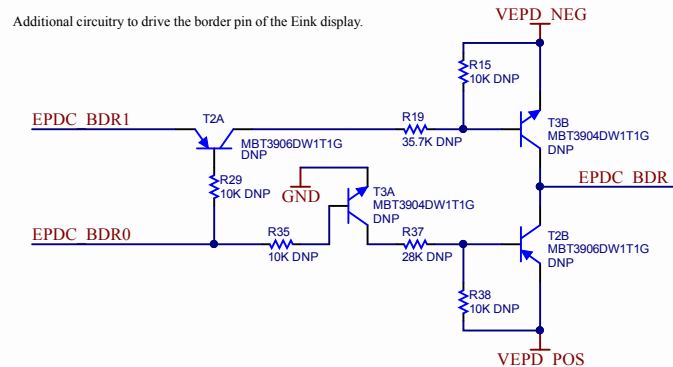


When off the Solo.itc is pulling the RST GPIO low. In order to keep the KL16 running, this buffer will allow the SWD_RST# pullup resistor to pull RST high when the Mainboard supplied 2.9V is off (buffer output will be high-2). Otherwise the RST line is controlled via the GPIO as normal, and driven at 1.8V.

Eink FPC Connector

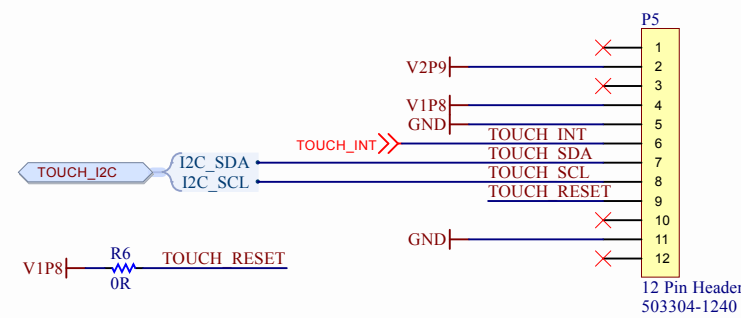


Additional circuitry to drive the border pin of the Eink display.

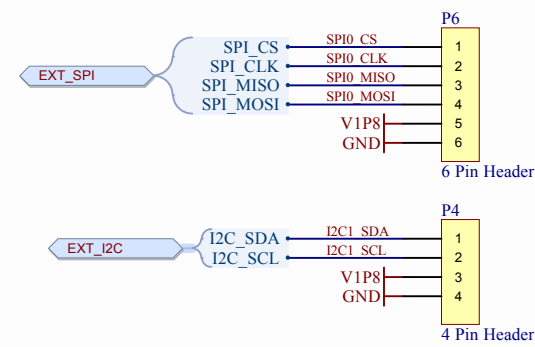


LCD Touch Connector

This connector is used by the 1.54" Color LCD + Touch Module that is sold for WaRP. This module has an on-board touch controller so this is only a connector to attach the I2C interfaces to the Mainboard.

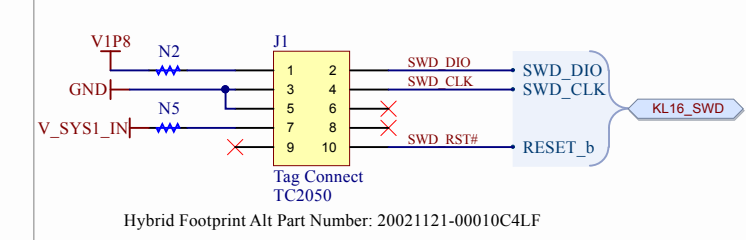


Additional I/O brought out from MCU (Unused)



Programming Header

SWD PORT (P&E Compatible)



This interface is used for production programming. WaRP Mainboard also carries a SWD interface so in the future, we should be able to program daughterboards right from the WaRP Mainboard. For now, to change the firmware on the daughterboard, a programmer is required. You can use a modified Freescale KL25 Freedom board. Check our site for more information on this.

Freescale MCU driven Qi Wireless Charger

Revised coil per Vishay & Randy (Freescale)

