changed the capacitor 7 to 30pF
Old one no longer for sale
Transmit:
Must be connected to TAO (timer A output), usually P1.1

Receive:
Code must be checked before this port can be changed
Must be on a low value port number of port #1 (ie port 1.0, 1.2)
This has to do with the constant generator in the MSP430 and its ability to quickly reference this port.

Supervisor Interrupt:
Must be placed on port 2, so it does not collide with the read interrupt

RTC Interrupt:
Must be on port 2 by the same logic

---

Designed by: Miran Alhaideri

Title: Mio 2.0 Digital

Data: 08/07/13

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Version: #1 'Release'

The MSP430/G2X is a family of devices running on fixed or external clocks. The 430 devices have very low current consumption for the same clock rate as traditional 430 family members, and can run at clock rates of 20 MHz to 4 MHz.

The pinout of the MSP430/G2X devices is shown in the diagram. The pins are labeled with their function and location on the chip.

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**Notes:**
- [GND] Ground
- [Vin] Input Voltage
- [POXL0MOSI] Output Data
- [POXL0MISO] Input Data
- [Gnd] Ground
- [Vin] Input Voltage
Removed R16 (200k) resistor in series with CapSenseLine. Not serving a purpose. Used extra port to route an ADC pin to header.

Connect Int1 and Int 2 to Microcontroller if space will allow it...  No Space...
PCB Layout Rules and Guidelines

5x5 Routing
5mil clearance
5mil trace width
8mil trace width preferred

Via 8x12
Hole size 8mil annular ring 12mil

Prototron rules hole size plus 2mils of annular on either size (hole+4mil).
More annular is needed for vias and probe points that will be man handled and repeatedly soldered and re-soldered.

RF Signals
(Above routing rules only valid for low frequency signals or digital I/O)

RF need larger vias and careful routing

Trace Thickness
1/2 oz. 0.7 mils
1 oz. 1.4 mils
2 oz. 2.8 mils

Title: Moo Top
Designed by: Hong Zhang & Jeremy Gummesson Data: 08/06/10
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File: H:\Private\SPQR - Summer Research 2013\Moo2.0_08072013\Moo_Top.SchDoc
### Bill of Materials

**Source Data From:** Moo2.0.PrjPcb  
**Project:** Moo2.0.PrjPcb  
**Variant:** None  
**Creation Date:** 9/15/2013 10:35:48 PM

#### Footprint | Comment | LibRef | Designator | Description | Quantity | Notes
---|---|---|---|---|---|---
0805 | Ceramic_Chip_Capacitor | C1 | Ceramic Capacitor - Standard | 1
0402 | Ceramic_Chip_Capacitor | C2, C4, C10, C11, C12, C13, C14, C20, C1p2, Cp3, Cp4, Cs1, Cs2, Cs3, Cs4, Cs5 | 17
0603 | 1 uF Tantalum Chip Capacitor | C6 | Decoupling capacitor | 1
MaxCap LX | MaxCap LX 0.1F | C7 | MaxCap LX 0.1F, low leakage supper cap | 1
0402 | Ceramic Capacitor | C21, C22 | Ceramic Capacitor - Standard | 2
Var-Cap_603 | Var Cap | CV1 | Var-Cap 603 Compatible, DK: SG2029CT-ND | 1
SOT-323 | HSMS-285C | D1, D2, D3, D4, D5 | Agilent Schottky Diode, Bridge Quad, HSMS-285C | 5
SOD-523 | RB751S40T1 | D6, D7 | Schottky Diode | 2
0603 - LED | SML-311UT76 | DA1 | LED 630NM RED WTR CLR 0603 SMBD | 1
SOD-523 | ES6253.3T1 | ED | 5V Overvoltage Protection Zener | 1
0603 | Inductor | L1 | Inductor | 1
48-GFN | MSP430F56x | MCU1 | 48QFN MSP430F56x | 1
MHDRX10 | MHDRX10 | P1, P2, P3 | Header, 10-Pin | 3
MHDRX14 | MHDRX14 | P4 | Header, 4-Pin | 1
Probe Point | Probe Point | PF1, PF2 | Probe Point for debug | 1
SOT-23 | BF255A | G1 | 500 MHz Wideband Transistor | 1
SOT233 | NKI314AN | G2, G3, G5 | Power Mosfet 20V, 890mA, Single N-channel | 3
sot343r | BF1212WR | G4 | | 1
0402 | Thick Chip Resistor | R1, R2, R3, R4, R5, R8, R10, R11, R17, R18, R19 | Thick Film Chip Resistor | 11
0603 - RES | Thick Chip Resistor | R8 | Thick Film Chip Resistor | 1
SMA Port | SMA Port | SMA1 | Two pin SMA connector wisp | 1
SC70 | LM94021 | TMP | Temperature Sensor | 1
sc70-5 | NSC22005QGQ2 | G | On Semi 10uA Comparer | 1
UDFN6 | NLSV1244 | U2, U4 | Level Shifter: 1-Bit Dual-Supply Non-Inverting Level Translator | 2
SC82-AB | NCP583 | G3 | Ultra-Low Iq 150mA CMOS LDO Regulator with Enable | 1
SOT-23-5 | NCP300LSN20T | G5 | 2.0V Voltage Detector; Active-low, CMOS output | 1
SOT-23-5 | SC705 | TS5A166 | TI Analog Switch 100mA 1ch Normally Open | 1
16-pin QFN | SOT256F040 | G7 | Serial Flash Memory - 8 Lead SOIC Package | 1
for ADXL362 | ADXL362 | XL1 | Analog Devices 3D Accelerometer | 1
FC-135 | FC-135 | Y1 | | 1

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