NOTES, UNLESS OTHERWISE SPECIFIED:

1. RESISTANCE VALUES IN OHMS.

2. CAPACITANCE VALUES IN MICROPARDAS.

3. REFERENCE DESIGNATORS USED:

4. ALL 0.1 uF AND 0.01uF CAPACITORS ARE DECOUPLING CAPS UNLESS OTHERWISE NOTED. THEY ARE SHOWN ON THE PAGE WITH THE INTEGRATED CIRCUITS THEY SHOULD BE PLACED NEAR.

Schematic Contents

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Initial schematic for layout 3/31/2011 RRP
Changes for Beta Build 1/09/2012 RRP
Added 2 codecs, audio amplifiers 8/22/2012 RRP
Sync'd codec clocks, HPI, ON to I/O Exp, MSP430 to LCD, minor fixes 12/19/2013 MM
HPION = 1 SELECTS HPI MODE

SEL_MMC0_I2S
ON = MMC0/I2SD/McBSP mux to MMC/SD (MMC/SD boot)
OFF = MMC0/I2SD/McBSP mux to I2S (CODEC)

[SEL0_MMC1_MCSPI, SEL0_MMC1_MCSPI] = [OFF, OFF] : MMC1/McSPI mux to header (JP46)
[SEL1_MMC1_MCSPI, SEL0_MMC1_MCSPI] = [OFF, ON] : MMC1/McSPI mux to SPI Flash (U68)
[SEL1_MMC1_MCSPI, SEL0_MMC1_MCSPI] = [ON, OFF] : MMC1/McSPI mux to microSD card (J21) & RF Header
[SEL1_MMC1_MCSPI, SEL0_MMC1_MCSPI] = [ON, ON] : MMC1/McSPI mux to MSP430 (U54) through U45 switch
DIR and OEn are on a power domain.

OEn, DIR function

C11: 100 nF
C12: 100 nF

VDD_IO1
VDD_IO1

R174: 10 kΩ

C137: 0.1 µF
C138: 0.1 µF

U553: SN74LVC1G04DCK

R270: 0

C121: 0.1 µF
C122: 0.1 µF
C123: 0.1 µF
C124: 0.1 µF
C125: 0.1 µF
NOTE: DIMENSIONS AND LOCATIONS OF THESE CONNECTORS MUST MEET SPECIFICATION FOR INTERFACE MODULES
Max Input: 5VDC, 4A.
Use only recommended power supplies.

\[ R_{\text{top}} = R_{\text{bot}} \left( \frac{V_{\text{out}}}{V_{\text{FB}}}) - 1 \right) \]

\[ R_{\text{top}} = 180k\left(\frac{5}{0.5}-1\right) \]
VDDIO1 CBTLV_SEL = 0  (3.3 VDDIO1) REGULATOR OUTPUT = 3.3V
VDDIO1 CBTLV_SEL = 1  (1.8 VDDIO1) REGULATOR OUTPUT = 2.5V
LAYOUT NOTE:
These 3 connectors need to be placed in specific coordinates to allow for Interfacing to the ADS Codec Daughter Card.

Remove RESISTOR for Internal Voltage Measurement.

GPAIN Battery Measurement.

Battery Measurement.
Tie Analog Power to Digital Power through single point connection or Ferrite Bead.

Remove if not using with I2C

MICROPHONE IN

STEREO IN

HEADPHONES OUT

STEREO OUT
Tie Analog Power to Digital Power through single-point connection or Ferrite Bead.

Route all mic lines away from digital signals!
This board uses a mirrored footprint for J23.

FOR 3 WIRE SPI MODE CONNECT BS0 TO VDD_101

LCD POWER 13V
SPI FLASH

DIR AND OEn ARE ON A POWER DOMAIN

MEM_SPI_DX
MEM_SPI_CLK
MEM_SPI_CS0
MEM_SPI_RX

MSP430_SPI_OEn
MSP430_SPI_DIR
MSP430_SPI_OEn
MSP430_SPI_DIRn

MSP430_SPI_DX[34]
MSP430_SPI_CLK[34]
MSP430_SPI_CS0[34]
MSP430_SPI_RX[34]

McSPI_CLK[3]
McSPI_SOMI[3]
McSPI_CS0[3]
McSPI_SIMO[3]

MSP430_SPI_OEn[34,37]
MSP430_SPI_DIR[34,37]
MSP430_SPI_OE[37]
MSP430_SPI_DIRn[37]

LCD_SCLK_MSP[33]
LCD_CS0_MSP[33]

MSP430_SPI_SEL[34]
4.125 = \left(1 + \frac{R_{\text{TOP}}}{R_{\text{BOTTOM}}}\right)^3.125

R_{\text{BOTTOM}} = R_{\text{TOP}}

3.3 = 0.8 \times \left(1 + \frac{R_{\text{TOP}}}{R_{\text{BOTTOM}}}\right)

V_{\text{OUT}} = 0.8 \times \left(1 + \frac{R_{\text{TOP}}}{R_{\text{BOTTOM}}}\right)

3V3_{\text{MSP430}}

VIN_{\text{EVM}}