AGND

P1 1X20 PTH Header

20 +3V3_A	20
19	19 AUDIO_OUT_R
18 ADC1_INP10	18 AUDIO_OUT_L
17 ADC1_INP15	17 AUDIO_IN_R
16 ADC1_INP5	16 AUDIO_IN_L
15 ADC1_INP7	15 USART1_RX
14 ADC1_INP3	14 USART1_TX
13 ADC1_INP11	13 I2C1_SDA
12 ADC1_INP4	12 I2C1_SCL
11 DAC1_OUT2	11 SPI1_MOSI
10 DAC1_OUT1	10 SPI1_MISO
9 SAI2_MCLK_B	9 SPI1_SCK
8 SAI2_SD_B	8 SPI1_NSS
7 SAI2_SD_A	7 SDMMC1_CK
6 SAI2_FS_B	6 SDMMC1_CMD
5 SAI2_SCK_B	5 SDMMC1_D0
4 USB_HS_D_-	4 SDMMC1_D1
3 USB_HS_D_+	3 SDMMC1_D2
2 +3V3_D	2 SDMMC1_D3
1 V_IN	1 USB_HS_ID

P2 1X20 PTH Header

P5 MICRO USB AB

USB_OTG_FS_VBUS
USB_OTG_FS_D_IN_-   USB_OTG_FS_D_-
USB_OTG_FS_D_IN_+   USB_OTG_FS_D_+
                    USB_OTG_FS_ID

GND

UNREGULATED_VCC

D2 NSR1820MW2T3G
C3 10UF   C30 100NF
D1 NSR1820MW2T3G
V_IN
GND   GND

GND

U1
1 I/O_1	I/O1 6	USB_OTG_FS_D_-
3 I/O_2	I/O2 4	USB_OTG_FS_D_+
2 GND	VBUS 5	USB_OTG_FS_VBUS

USB_OTG_FS_D_IN_-
USB_OTG_FS_D_IN_+

GND

Power Indicator

+3V3_D

R14 1K
D PWR RED LED R0603

GND

R7
DNI 0R
GND   AGND

+3V3 ANALOG

+3V3 DIGITAL

TPS62176

FB1
UNREGULATED_VCC

VIN	SW	
EN	VOS	
AGND	PG	
PGND	FB	

U
L1 2.2UH IHLP2013 2R2M

C8 10UF
GND

GND   GND

R32 47K
R3 15K
GND

C11 22UF
GND

+3V3_D

R8 DNI 5R1   +3V3_A

U4 3v3
ON		
IN LP2985	OUT	
GND	BYPASS	

R1 5R1   3V3A_IN
UNREGULATED_VCC

FB1
FB
C1 22UF

C21 10UF   C9 1UF
AGND   AGND

C4 10UF   C7 2.2UF
AGND   AGND   AGND

MCU XTAL

MCU PERIPHERALS

MCU

LED_USER

TEST_GPIO

U2A
SAI2_SD_B — P0
SAI2_MCLK_B — P1
SAI2_SCK_B — P2
ADC1_INP15 — P3
DAC1_OUT1 — P4
DAC1_OUT2 — P5
ADC1_INP3 — P6
ADC1_INP7 — P7
— P8
USB_OTG_FS_VBUS — P9
USB_OTG_FS_ID — P10
USB_OTG_FS_D_- — P11
USB_OTG_FS_D_+ — P12
JTMS — P13
JTCK — P14
JTDI — P15

U2B
— P0
ADC1_INP5 — P1
— P2
JTDO — P3
SPI1_MISO — P4
SPI1_MOSI — P5
USART1_TX — P6
USART1_RX — P7
I2C1_SCL — P8
I2C1_SDA — P9
— P10
I2C2_SDA — P11
USB_HS_ID — P12
— P13
USB_HS_D_- — P14
USB_HS_D_+ — P15

U2C
ADC1_INP10 — P0
ADC1_INP11 — P1
— P2
— P3
ADC1_INP4 — P4
— P5
— P6
LED_USER — P7
SDMMC1_D0 — P8
SDMMC1_D1 — P9
SDMMC1_D2 — P10
SDMMC1_D3 — P11
SDMMC1_CK — P12
— P13
— P14
— P15

U2D
FMC_D2 — P0
FMC_D3 — P1
SDMMC1_CMD — P2
SEED V1.1 VERSION PIN — P3
— P4
— P5
— P6
— P7
FMC_D13 — P8
FMC_D14 — P9
FMC_D15 — P10
SAI2_SD_A — P11
— P12
— P13
FMC_D0 — P14
FMC_D1 — P15

U2E
FMC_NBL0 — P0
FMC_NBL1 — P1
SAI1_MCLK_A — P2
SAI1_SD_B — P3
SAI1_FS_A — P4
SAI1_SCK_A — P5
SAI1_SD_A — P6
FMC_D4 — P7
FMC_D5 — P8
FMC_D6 — P9
FMC_D7 — P10
FMC_D8 — P11
FMC_D9 — P12
FMC_D10 — P13
FMC_D11 — P14
FMC_D12 — P15

U2F
FMC_A0 — P0
FMC_A1 — P1
FMC_A2 — P2
FMC_A3 — P3
FMC_A4 — P4
FMC_A5 — P5
QUADSPI_BK1_IO3 — P6
QUADSPI_BK1_IO2 — P7
QUADSPI_BK1_IO0 — P8
QUADSPI_BK1_IO1 — P9
QUADSPI_CLK — P10
FMC_SDNRAS — P11
FMC_A6 — P12
FMC_A7 — P13
FMC_A8 — P14
FMC_A9 — P15

U2G
FMC_A10 — P0
FMC_A11 — P1
FMC_A12 — P2
BOOT_FLASH — P3
FMC_BA0 — P4
FMC_BA1 — P5
QUADSPI_BK1_NCS — P6
— P7
FMC_SDCLK — P8
SAI2_FS_B — P9
SPI1_NSS — P10
SPI1_SCK — P11
— P12
— P13
TEST_GPIO — P14
FMC_SDNCAS — P15

U2H
RCC_OSC_IN — P0
RCC_OSC_OUT — P1
FMC_SDCKE0 — P2
FMC_SDNE0 — P3
I2C2_SCL — P4
FMC_SDNWE — P5
— P6
— P7
FMC_D16 — P8
FMC_D17 — P9
FMC_D18 — P10
FMC_D19 — P11
FMC_D20 — P12
FMC_D21 — P13
FMC_D22 — P14
FMC_D23 — P15

U2I
FMC_D24 — P0
FMC_D25 — P1
FMC_D26 — P2
FMC_D27 — P3
FMC_NBL2 — P4
FMC_NBL3 — P5
FMC_D28 — P6
FMC_D29 — P7
— P8
FMC_D30 — P9
FMC_D31 — P10
— P11

U2POWER
VDD
VDDUSB
VBAT
VCAP_1
VCAP2
VREF+
VREF-
VDDA
PDR_ON
NRST
BOOT0
VSS
AGND

RESET   BOOT_FLASH

+3V3_D
+3V3_A
+3.3V

R4 — LED_USER 1K R0603 — RED LED
R19 10K   R20 47K   C12 2.2UF
S3 S4 PTSB15

C2 18PF   C34 18PF   ABMB-16 XTAL   Y2

P6 — Mini JTAG Header
JTMS, JTCK, JTDO, JTDI, RESET

C83 100NF, C82 100NF, C81 100NF, C80 100NF, C29 100NF, C27 100NF, C23 100NF, C25 100NF, C63 100NF, C62 100NF, C60 100NF, C61 100NF, C19 100NF, C17 100NF, C16 100NF, C15 2.2UF, C14 2.2UF
C20 10UF, C5 100NF, C18 10UF, C53 100NF

GND

RAM

Flash Memory

ELECTROSMITH