Core System

U1A — GPIO : 3.3V/1.8V SWITCHABLE — K210

BANK4 GPIO, BANK0 GPIO, BANK5 GPIO, BANK1 GPIO, BANK6 GPIO, BANK2 GPIO, BANK7 GPIO, BANK3 GPIO

U1B — GPIO : 1.8V ONLY — K210

SPI0 OUT, MISC, DVP IN, SPI3

26M square wave 11mA 1.8V
U6 26Mhz Crystal — GND XOUT / XIN GND

U8 GD25LQ64/128 — Flash Memory — 8/16/128MB
CS, SO/IO1, WP/IO2, GND, VCC, HOLD/IO3, CLK, SI/IO0

RGB LED
LED1 LED_1615_RGB
R19 4.7K LED_R, R18 10K LED_G, R17 4.7K LED_B

KEY
S1 RST, S2 BOOT

MIC
U7 MSM261S4030H0
GND, VDD, NC, SD, WS, SCK, CHIPEN L/R
C45 100nf 3V3_MIC, FB5 CBW100505U601T
1:RIGHT 0:LEFT

Power
Sheet: Sheet_Power
File: MAIX_bit_pow.sch
+3V3, +1V8, +5V, GND

8bit MCU LCD
J2 FPC-24P-0.5mm
LEDK, LEDA, GND, VCI, IOVCC, NC, CS, RST, RS, WR, RD, DB7, DB6, DB5, DB4, DB3, DB2, DB1, DB0, GND, NC, NC, NC, NC, pad, pad
R15 5R1, C40 100nf

TF Card
P1 TF CARD
DAT2, DAT3/CS, CMD/MOSI, CLK, VDD, GND, DAT0/MISO, DAT1, PAD4, PAD3, PAD2, PAD1
R11 10K, R12 10K, C39 100nf

DVP Carmera
J1 FPC-24P-0.5mm
PAD, PAD, Y0/AFGND, Y1/AFVCC, Y4, Y3, Y5, Y2, Y6, PCLK, Y7, DGND, Y8, XCLK, Y9, DOVDD, DVDD, HREF, PWDN, VSYNC, RESET, SIO_C, AVDD, SIO_D, AGND, NC/STROBE
R9 0R(NC), R10 0R(NC), R13 2K, R14 2K

U3 LN6206P512 — Vin, GND, Vout
U4 XC6206-3V0 — Vin, GND, Vout
C35 10uf, C36 100nf, C37 22uf, C38 10uf, C48 100nF
FB1 CBW100505U601T, FB4 CBW100505U601T

Connector
J14 J19 SIP20 SIP6
J13 J20 SIP6SIP20
J16 SIP4
J17, **J18**

ISP DOWNLOAD
USB to UART IC
U9 CH552T
P3.2/TXD1/INT0/VBUS1/AIN3, P1.4/T2/CAP1/SCS/TIN2/UCC1/AIN1, P1.5/MOSI/PWM1/TIN3/UCC2/AIN2, P1.6/MISO/RXD1/TIN4, P1.7/SCK/TXD1/TIN5, RST/T2EX/CAP2_, P1.0/T2/CAP1/TIN0, P1.1/T2EX/CAP2/TIN1/VBUS2/AIN0, P3.1/PWM2/TXD, P3.0/PWM1/RXD
V33, VCC/VDD, GND/VSS, XI, X0, P1.2/XI/RXD1, P1.3/X0/TXD1, P3.7/UDM, P3.6/UDP, P3.5/T1, P3.4/PWM2/RXD1/T0, P3.3/INT1
C52 10uF

U10 24Mhz 12pf 10ppm — GND XOUT / XIN GND
C51 18pF, C53 18pF

R22 1K, R23 2K, R27 4.7K, DS1 RED LED
R16 12K-1%, **U5** SGM803T RESET VCC GND, C41 100nF
DS2 RED LED R24 300R, DS3 RED LED R25 120R

USB Port
J12 USB type C
GND, VBUS, CC1, USBDP, Dp1, SBU1, Dn1, USBDM, VBUS, GND
R20 5.1K, R26 5.1K

Note:
BOOT(IO16) pull low to enter ISP mode, download from IO4,5
SPI3 Support XIP SPI0/1/3 for Master, SPI2 for slave
3.3V IO speed 80M, 1.8V IO speed 208M. Simple test PWM is faster than 300MHz.

Open-source hardware with MaixPy, A.I. at edge.
Shenzhen Sipeed Technology Co, Ltd.
Sheet: /
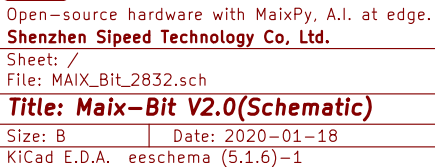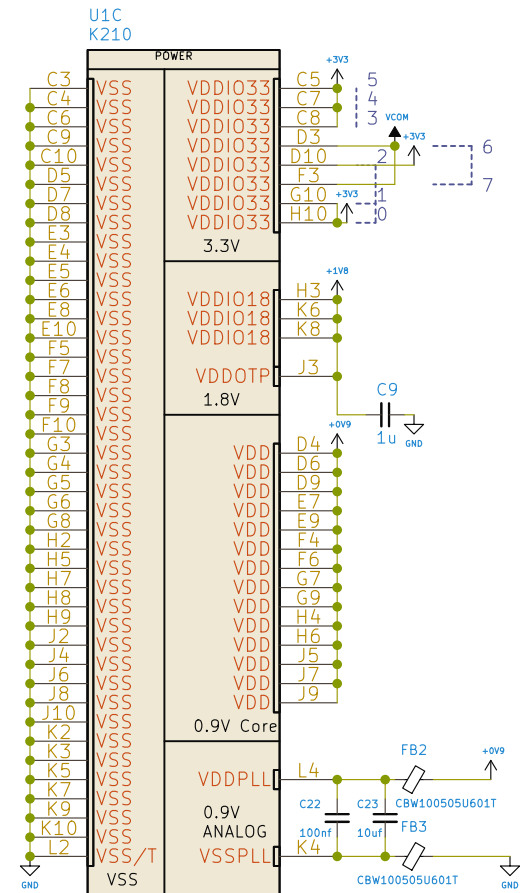File: MAIX_Bit_2832.sch
Title: Maix-Bit V2.0(Schematic)
Size: B   Date: 2020-01-18   Rev: 2.0
KiCad E.D.A. eeschema (5.1.6)-1   Id: 1/2

DCDC&LDO

U2
RY1303A

L1
2.2uH-DCR<0.1R-1.5A

+0V9

Ra
R1
150K-1%

C2
10u

C3
18p

Vadj

Rb
R2
300K-1%

Vout = 0.6*(1 + Ra/Rb)

11 SW1   VIN1 10
14 FB1   VIN2 7
6 SW2   VIN3 19
3 FB2   VCC 16
20 SW3   EN1 9
2 FB3   EN2 8
                EN3 18

L2
2.2uH-DCR<0.1R-1.5A

+3V3

Ra
R3
680K-1%

C6
10u

C7
18p

Rb
R4
150K-1%

Vout = 0.6*(1 + Ra/Rb)

L3
2.2uH-DCR<0.1R-1.5A

+1V8

Ra
R5
300K-1%

C10
10u

C11
18p

Rb
R6
150K-1%

Vout = 0.6*(1 + Ra/Rb)

GND1 GND2 GND3 PAD
12 5 1 21

C1
10u

+5V

C4
10u

+5V

C5
10u

+5V

+5V

C8
1u

+5V

GND

AGND 17
AGND 4
AGND 13
AGND 15

GNDA

Select bank 6,7 Voltage

+3V3

R7
0R(NC)

VCOM

R8
0R

+1V8

+3V3

C12 10u
C13 10u
C14 100nf
C15 100nf
C16 100nf
C17 100nf
C18 100nf
C19 100nf
C20 100nf
C21 100nf

GND

+0V9

C24 10u
C25 10u
C26 100nf
C27 100nf
C28 100nf
C29 100nf
C30 100nf
C31 10uF
C46 100nf
C47 100nf

GND

1V8

C32 10u
C33 10u
C34 100nf
C49 100nf
C50 100nf

GND

U1C
K210

POWER

VSS

VDDIO33 3.3V
VDDIO18 1.8V
VDDOTP
VDD 0.9V Core
VDDPLL 0.9V ANALOG
VSSPLL

VSS/T
VSS

GND

C5 +3V3
C7
C8

5
4
3 VCOM

+3V3
2

+3V3
1

0

6
7

+1V8

H3
K6
K8

J3

C9
1u GND

L4

FB2
+0V9

C22
100nf

C23
10uf

FB3

CBW100505U601T

CBW100505U601T

GND