R1 5.1K R2 5.1K

USB
B1 GND GND A12
B4 VBUS VBUS A9
B5 CC2 SBU1 A8
B6 DP2 DN1 A7
B7 DN2 DP1 A6
B8 SBU2 CC1 A5
B9 VBUS VBUS A4 VUSB
B12 GND GND A1
GND

R9 22R
UD_P
UD_N
R10 22R

VUSB D
B5919WS
C3 10uF

3V3
1 VIN VOUT 5
2 GND
3 EN BP 4
RT9013-33GB
C4 10uF C5 100nF

+3.3
R3 4.7K
LED_3V3
Green
GND

GND
X_NFC
C1 12pF C2 12pF
GND 3 1
27.12M

VUSB
C6 100nF C7 10uF
GND

NFC_IC
PN5180
41 PAD
40 AUX1
39 IRQ
38 GPO1
37 CLK2
36 CLK1
35 n.c.
34 n.c.
33 n.c.
32 n.c.
31 n.c.

NSS 1 NSS
2 AUX2/DWL_REQ
MOSI 3 MOSI
MISO 4 PVSS
5 MISO
6 PVDD
SCK 7 SCK
BUSY 8 BUSY
9 VSS
RESET 10 RESET

30 DVDD
29 VDD
28 AVDD
27 VSS
26 VBAT
25 VDHF
24 ANT2
23 ANT1
22 TVDD
21 TX1

GND
GND +3.3
GND
C8 100nF
C9 2.2uF
C10 470nF
C11 82pF C12 82pF
C13 33pF
L1 470nH
R4 1.1R

ANT2
ANT1 VUSB
ANT1
TX1

11 n.c.
12 VBAT
13 VBAT
14 n.c./LDO_OUT
15 RXN
16 RXP
17 VMID
18 TX2
19 TVSS
20 n.c.

+3.3
C18 100nF C19 100nF C20 100nF
GND

C21 1.5pF C22
+3.3
R5 4.7K R6 4.7K
TX2 TX1
TX2
L2 470nH
C24 220pF
C25 33pF
C26 33pF C27 82pF
ANT2
R7 1.1R

C15 220pF C16 33pF C17 82pF
GND

MCU
ATmega32U4
45 PAD
44 AVCC
43 GND
42 AREF
41 PF0(ADC0)
40 PF1(ADC1)
39 PF4(ADC4)
38 PF5(ADC5)
37 PF6(ADC6)
36 PF7(ADC7)
35 VCC
34 VCC

+3.3
C14 100nF
GND
VUSB
RESET 1 PE6
2 UVcc
UD_N 3 D-
UD_P 4 D+
5 UGnd
6 UCap
7 VBus
8 PB0(SS)
SCK 9 PB1(SCK)
MOSI 10 PB2(MOSI)
MISO 11 PB3(MISO)
C23 1uF
VUSB

33 PE2/HWB
32 PC7
31 PC6
30 PB6(ADC13) NSS
29 PB5(ADC12) BUSY
28 PB4(ADC11)
27 PD7(ADC10)
26 PD6(ADC9)
25 PD4(ADC8)
24 AVCC +3.3
23 GND
GND

12 PB7
13 RESET
14 VCC
15 GND
16 XTAL2
17 XTAL1
18 PD0(SCL)
19 PD1(SDA)
20 PD2(RX)
21 PD3(TX)
22 PD5

R8 10K
+3.3
X 8M
1 3
C28 20pF C29 20pF
GND

Title: SDVX_Cardreader
Size A4
Number: Sirius
Revision: V1.0
Date: 2/13/2022
File: D:\Altium Documents\..\SDVX_Cardreader.SchDoc
Sheet of
Drawn By: Sirius

KONMAI_
Cardreader

USB

X_NFC

YUCARD
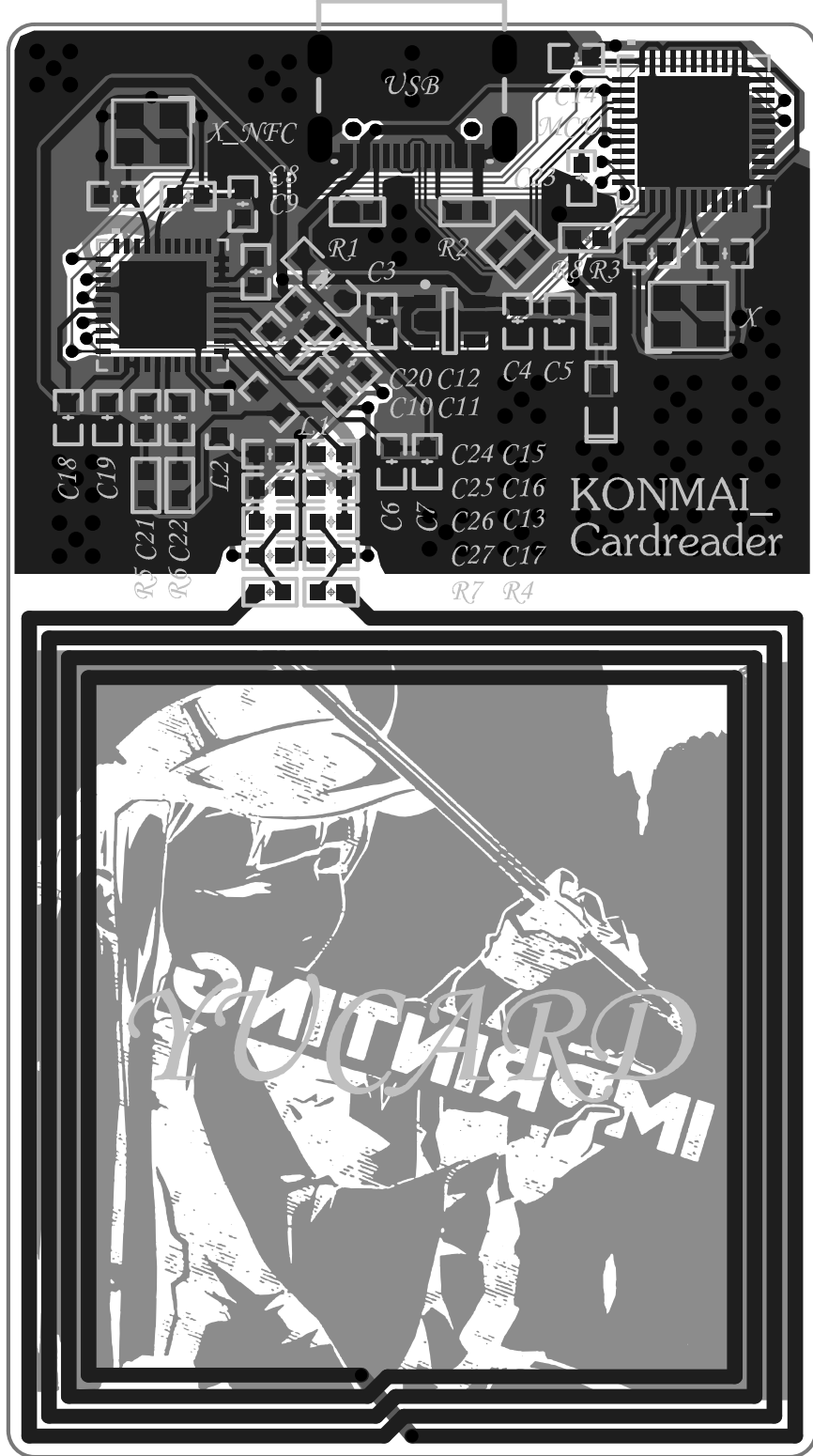
Comment	Description	Designator	Footprint	LibRef	Quantity
RT9013-33GB	LDO 3.0V/0.3A	3V3	SOT-23-5	RT9193-30GB	1
12pF	贴片电容	C1, C2	C0603_L	C	2
10uF	贴片电容, TVDD续流电容	C3, C4, C7	C0603_L	C	3
100nF	贴片电容, TVDD续流电容, DVDD滤波, AREF滤波电容, VBAT滤波	C5, C6, C8, C14, C18 C19, C20	C0603_L	C	7
2.2uF	AVDD滤波	C9	C0603_L	C	1
470nF	贴片电容	C10	C0603_L	C	1
82pF	贴片电容	C11, C12, C17, C27	C0603_L	C	4
33pF	贴片电容	C13, C16, C25, C26	C0603_L	C	4
220pF	贴片电容	C15, C24	C0603_L	C	2
1.5pF	贴片电容	C21, C22	C0603_L	C	2
1uF	贴片电容	C23	C0603_L	C	1
20pF	贴片电容	C28, C29	C0603_L	C	2
B5919WS	肖特基二极管	D	SOD-323	1N5819	1
470nH	贴片小功率电感	L1, L2	L0603	L	2
Green	贴片LED	LED_3V3	LED0603_G	LED-SMD	1
ATmega32U4	AVR单片机	MCU	44PW_ATM-M	ATmega32U4	1
PN5180	NFC_IC	NFC_IC	QFN40_PN5180_NXP-L	PN5180	1
5.1K	贴片电阻	R1, R2	R0603_L	R	2
4.7K	贴片电阻	R3, R5, R6	R0603_L	R	3
1.1R	贴片电阻	R4, R7	R0603_L	R	2
10K	贴片电阻	R8	R0603_L	R	1
22R	贴片电阻	R9, R10	R0603_L	R	2
TYPE-C 2.0 -16P	USB2.0 Type-C 16Pin 母座	USB	USB-C-SMD_16P	USB2.0_Type-C_16Pin	1
8M	4脚无源晶振(谐振器)	X	XTAL-3225-4P	XTAL-4P	1
27.12M	4脚无源晶振(谐振器)	X_NFC	XTAL-3225-4P	XTAL-4P	1