Sharp Low consumption Versatile board

USB-C JTAG / CDC Serial to MCU

USB_C_Receptacle_USB2.0

VBUS	A4	VBUS
CC1	A5	
CC2	B5	
D-	A7	
D-	B7	USB_D-
D+	A6	USB_D+
D+	B6	
SBU1	A8	
SBU2	B8	
SHIELD	S1	
GND	A1	

J1

R2 5.1k
R1 5.1k
GND GND

U2 USBLC6-2P6
USB_D+ 4 — 6 USB_D-
USB_U_D+ 3 — 1 USB_U_D-
VBUS
GND

Power 3.3V MCU & TOUCH ONLY

U3 PWR_FLAG MCP1700-3302E_SOT23
VBUS — VI 3 — VO 2 — VDD
GND 1
C5 10uF
C6 10uF
GND

LCSC: C190794

U1
NRF52840-QIAA-R

Pin	Signal
A8	P0.31/AIN7
B1	VDD
B3	DCC
B5	DEC4
B7	VSS
B9	P0.30/AIN6
C1	DEC1
D2	P0.00/XL1
F2	P0.01/XL2
G1	P0.26
H2	P0.27
J1	P0.04/AIN2
K2	P0.05/AIN3
L1	P0.06
M2	P0.07
N1	P0.08
P2	P1.08
R1	P1.09
T2	P0.11
U1	P0.12
W1	VDD
Y2	VDDH
A10	P0.29/AIN5
A12	P0.02/AIN0
A14	P1.15
A16	P1.13
A18	DEC2
A20	P1.10
A22	ANT
A23	VDD
AB2	XC2
AC5	DCCH
AC9	DECUSB
AD2	P0.14
AD4	VBUS USB_D-
AD6	D+ USB_D+

Signal	Pin
VSS	74 GND
VDD	AD23 VDD2
P1.00	AD22
P0.24	AD20
P0.22	AD18
AD16	AD16
VDD	AD14 VDD2
P0.17	AD12
P0.15	AD10
SWDIO	AC24 SWDIO
P0.25	AC21
P0.23	AC19
P0.21	AC17
P0.19	AC15 RESET
P0.18/NRESET	AC13
P0.16	AA24 SWCLK
SWDCLK	Y23
P1.01	W24 SDA
P1.02	V23
P1.03	U24
P1.04	T23 SCL
P1.05	R24
P1.06	P23 VDD2_ENABLE
P1.07	N24
DEC5	L24
P0.09/NFC1	J24
P0.10/NFC2	H23
VSS_PA	F23 GND
DEC2	E24
DEC3	D23
XC1	B24 XC1
P1.11	B19
P1.12	B17
P1.14	B15
P0.03/AIN1	B13
P0.28/AIN4	B11
P0.13	AD8

TP2 VDD1
VDD
C4 1uF
GND

L3 15nH   L2 10uH
C16 1uF
C1 12pF
32.768K   Y1
C2 12pF
GND
100nF C3
32.768K   Y2
C10 22pF   XC1
C11 22pF
GND

VDD2 4.7uF C7
C8 4.7uF
GND
DNP C13
VDD2 XC2 C9 4.7uF
VDD L1 10uH
VBUS

VDD2 POWER

VIN
C14 10uF
GND GND
U4 RT9080-33GJ5
VIN 1 — VOUT 5 VDD2
GND 2 — NC 4
— EN 3 VDD2_ENABLE
C15 10uF
GND

SWDIO 1
SWCLK 2
VDD2 3 J2 Conn_01x05_PROG
RESET 4
5
GND

TP1 VDD2_EN

L4 2.7nH
ANT1 2450AT42E0100E
GND_2 4 — GND_1 3 GND
FEEDING_POINT 1 — NC 2
CHIP ANTENNA
C18 DNP   C17 DNP
100pF C12
GND GND
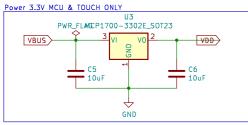
DESIGN REFERENCES
1. https://resources.altium.com/p/getting-started-nrf52-mcu-pcb
2. https://github.com/mike-rankin/nRF52832_Oled_Board Thanks Mike!

Thanks to Larry Bank for the Insights & Tests
This board aims to be a low consumption driver for SHARP LCDs
with optional touch support and external resonator to generate the SQW
required to keep display running while MCU sleeps

Fasani Corp.
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