U1 — W25Q32

Pin	Label	Pin	Label
1	/CS (SCS/CMD)	5	DI (SDI/SD1)
6	CLK (SCK/CLK)	2	DO (SDO/SD0)
7	/HOLD (SHD/SD2)	3	/WP (SWP/SD3)

VCC, GND, VDD_SDIO, 8, 4

U3

XIN, GND, XOUT, 40MHz 20ppm
C1 22pF 0603, C2 22pF 0603, GND

P1
U0TXD 1, U0RXD 2, 3, 4, VCC, GND

U4
GND, XIN, XOUT, GND, 40MHz 20ppm
C4 20pF 0603, C5 20pF 0603, 3V3, GND

U2 — CH374U

Pin	Label	Pin	Label
1	WR# (CH374U WR)	24	INT#
2	RD# (CH374U RD)	23	VCC
3	UD2+	22	CS# (CH374U CS)
4	UD2-	21	GND
5	A0 (CH374U A0)	20	SDO/D7 (CH374U D7)
6	V3	19	SDI/D6 (CH374U D6)
7	UD+	18	SCK/D5 (CH374U D5)
8	UD-	17	SCS/D3 (CH374U D4)
9	UD1+	16	D2 (CH374U D3)
10	UD1-	15	D1 (CH374U D2)
11	XI	14	(CH374U D1)
12	XO	13	D0 (CH374U D0)

R1 06030R, C3 0.1uF 0603, 3V3, GND

U5 — ESP32-D0WDQ6

Left side pins:
1 VDDA, 2 LNA_IN, 3 VDD3P3, 4 VDD3P3, 5 SENSOR_VP, 6 SENSOR_CAPP, 7 SENSOR_CAPN, 8 SENSOR_VN, 9 CHIP_PU, 10 VDET_1, 11 VDET_2, 12 32K_XP, 13 32K_XN, 14 GPIO25

Top pins:
CAP1, CAP2, VDDA, XTAL_P, XTAL_N, VDDA, U0TXD, U0RXD, GPIO22, GND(49), GPIO21

Right side pins:
38 GPIO19 (CH374U D7), 37 VDD3P3_CPU, 36 GPIO23 (CH374U A0), 35 GPIO18 (CH374U D6), 34 GPIO5 (CH374U CS), 33 SD_DATA_1 (SDI/SD1), 32 SD_DATA_0 (SDO/SD0), 31 SD_CLK (SCK/CLK), 30 SD_CMD (SCS/CMD), 29 SD_DATA_3 (SWP/SD3), 28 SD_DATA_2 (SHD/SD2), 27 GPIO17 (CH374U D5), 26 VDD_SDIO (CH374U D4), 25 GPIO16

Bottom pins:
15 GPIO26 (USB_LED1), 16 GPIO27 (USB_LED2), 17 MTMS (CH374U D2), 18 MTDI (CH374U D1), 19 VDD3P3_RTC, 20 MTCK (CH374U D3), 21 MTDO (CH374U D0), 22 GPIO2, 23 GPIO0, 24 GPIO4 (STATUS_LED)

C6 100pF 0603, C7 1uF 0603, GND
R2 20K 0603, C8 10nF 0603, C9 3.3nF 0603, R5 100R 0603
CH374U WR, U0TXD, U0RXD, CH374U RD
C16 0.1nF 0603, 3V3
C27 1uF 0603, VDD_SDIO, GND
C28 0.1uF 0603, 3V3, GND

ANT1 — PCB_ANT
ANT 1, GND 2
L1 2.0nH 1.1nH, C14 0603, L2 TBD 0603, C18 TBD 0603, C19 TBD 0603
C11 0.1uF 0603, C12 10uF 0805, C13 1uF 0603, C15 NC 0603, 3V3, GND
CHIP_PU, USB_LED0

CON1 — B-type
VBUS, DM (CP2102 D-), DP (CP2102 D+), ID, GND, SH
VCC, GND

R3 12K 0603, R6 0R 0603 — K1 (TACT 2P)
CHIP_PU, 3V3, GND
R7 12K 0603, R8 0R 0603 — K2 (TACT 2P)
GPIO0, 3V3, GND
K3 (TACT 2P)
GPIO2, GND

此处使用二极管的话压降会过大，此版本需要将二极管替换成0R电阻

U6 — TLV1117
IN, OUT, GND
D1 1N5819 SOD323
VCC, 5V, 3V3
C20 100uF 1206, C22 10uF 0805, C23 0.1uF 0603, C24 10uF 0805, C25 0.1uF 0603, C21 100uF 1206
GND

USB1
VCC, DM, DP, GND — UD-, UD+, GND
C10 10uF 0805, R4 1R 0805, 5V, GND

USB2
VCC, DM, DP, GND — UD1-, UD1+, GND
C17 10uF 0805, R9 1R 0805, 5V, GND

USB3
VCC, DM, DP, GND — UD2-, UD2+, GND
C26 10uF 0805, R10 1R 0805, 5V, GND

Q1 SS8050 Y1, Q2 SS8050 Y1
CHIP_PU, DTR, R12 12K 0603, R16 12K 0603, RTS, GPIO0
U0RXD, U0TXD, R13 0R 0603, R14 0R 0603

U7 — TYPEC
B1 GND, A12 GND, B4 VBUS, A9 VBUS, B5 CC2, A8 SBUS1, B6 DP2, A7 SBUS1, B7 DN2, A6 DP1, B8 SBUS2, A5 CC1, B9 VBUS, A4 VBUS, B12 GND, A1 GND
VCC, GND, CP2102 D+, CP2102 D-, DN1, DP1

U8 — CP2102
1 DCD, 2 RI, 3 GND, 4 D+ (CP2102 D+), 5 D- (CP2102 D-), 6 VDD, 7 REGIN, 8 VBUS
Top: GND, DTR, DSR, TXD, RXD, RTS, CTS, NC (28,27,26,25,24,23,22)
U0RXD, U0TXD
Right: 21 NC, 20 NC, 19 NC, 18 NC, 17 NC, 16 NC, 15 NC
Bottom: RST, SUSPEND, SUSPEND, NC, NC (9,10,11,12,13,14)
C29 1uF 0603, GND, VCC
C30 10uF 0603, C31 0.1uF 0603, GND

LEDs
D2 0603 red — R11 1K 0603 — 3V3, GND
D3 0603 green — R15 1K 0603 — USB LED0, 3V3
D4 0603 green — R17 1K 0603 — USB LED1, 3V3
D5 0603 green — R18 1K 0603 — USB LED2, 3V3
D6 0603 blue — R19 1K 0603 — STATUS LED, 3V3

Bill of Materials

ATouch

Source Data From: ATouch.PrjPCB

Project: ATouch.PrjPCB

Variant: None

Creation Date: 2020/3/24   10:41:16

Print Date: 43914   43914.44538

Footprint	Comment	LibRef	Designator	Description	Quantity
MINI_ANT	PCB_ANT	PCB_ANT	ANT1	PCB_ANT	1
CAP_0603	C0603	Cap_0603	C1, C2, C3, C4, C5, C6, C7, C8, C9, C11, C13, C14, C15, C16, C18, C19, C23, C25, C27, C28, C29, C30, C31	Capacitor	23
CAP_0805	C0805	Cap_0805	C10, C12, C17, C22, C24, C26	Capacitor	6
CAP_TAN_A 1206	C1206	Cap_Tan_1206	C20, C21	Capacitor Tantalum	2
USB_Micro-AB	MicroUSB	USB_Micro	CON1	USB	1
SOD-323	1N5819	Diode_SOD323	D1	Diode	1
LED_0603_RED	red	LED_0603	D2	LED	1
LED_0603_GREEN	green	LED_0603	D3, D4, D5	LED	3
LED_0603_BLUE	blue	LED_0603	D6	LED	1
ButtonTACT_3x6x2.5_180	#NAME?	ButtonTACT_3x6x2.5_180	K1, K2, K3	Button	3
IND_0603	H0603	Ind_0603	L1, L2	Inductor	2
HDR1x4_2.54_180	HDR1x4_2.54	HDR1x4_2.54	P1	Header	1
SOT-23(SOT-23-3)	SS8050 Y1	SOT-23 SS8050 Y1	Q1, Q2	三极管	2
RES_0603	R0603	Res_0603	R1, R2, R3, R5, R6, R7, R8, R11, R12, R13, R14, R15, R16, R17, R18, R19	Resistor	16
RES_0805	R0805	Res_0805	R4, R9, R10	Resistor	3
SOIC08	W25Q32	W25Q32	U1	W25Q32	1
SSOP24	CH374U	CH374U	U2	CH374U	1
3225	40MHz±10ppm	OSC	U3, U4	OSC	2
ESP32_QFN48_6x6	ESP32-D0WDQ6	ESP32-D0WDQ6	U5	ESP32-D0WDQ6	1
SOT223-3	TLV1117	TLV1117	U6	Power	1
USB-TYPE-C_16PIN-MALE-TYPE-C-31-M-12	TYPEC	TYPEC-16P	U7		1
QFN28	CP2102	CP2102	U8	CP2102	1
USB_TypeA	USB_TypeA	USB_TypeA	USB1, USB2, USB3	USB	3
					77

Approved	Notes