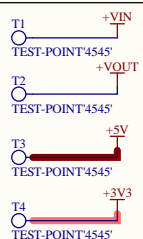


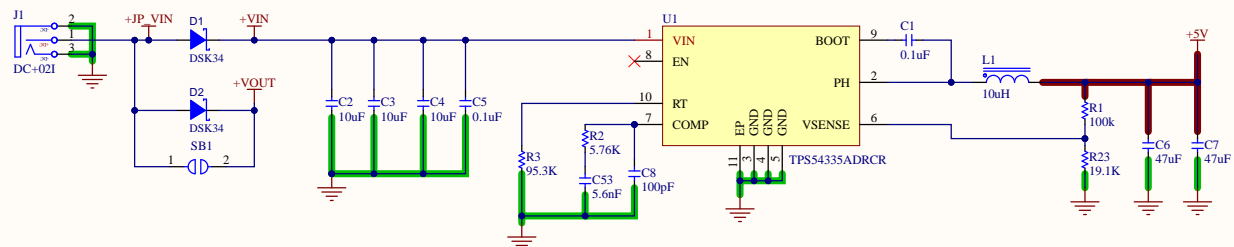
1 POWER

Power.SchDoc

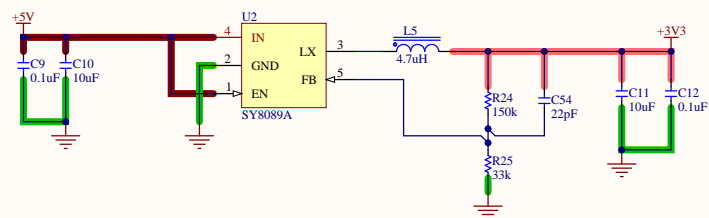


DC IN 8~28V

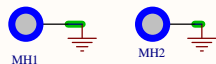
8V~28V to 5V@1A



5V to 3V3@2A



Mouting Holes



Logo EPCB

ESP32 Gateway_V2.0

Title: ESP32 S3 Gateway_PrtPcb

Page Contents:

Size: A3

DWGNO ThinkHC

Revision: V2.0

Date: 5/23/2023

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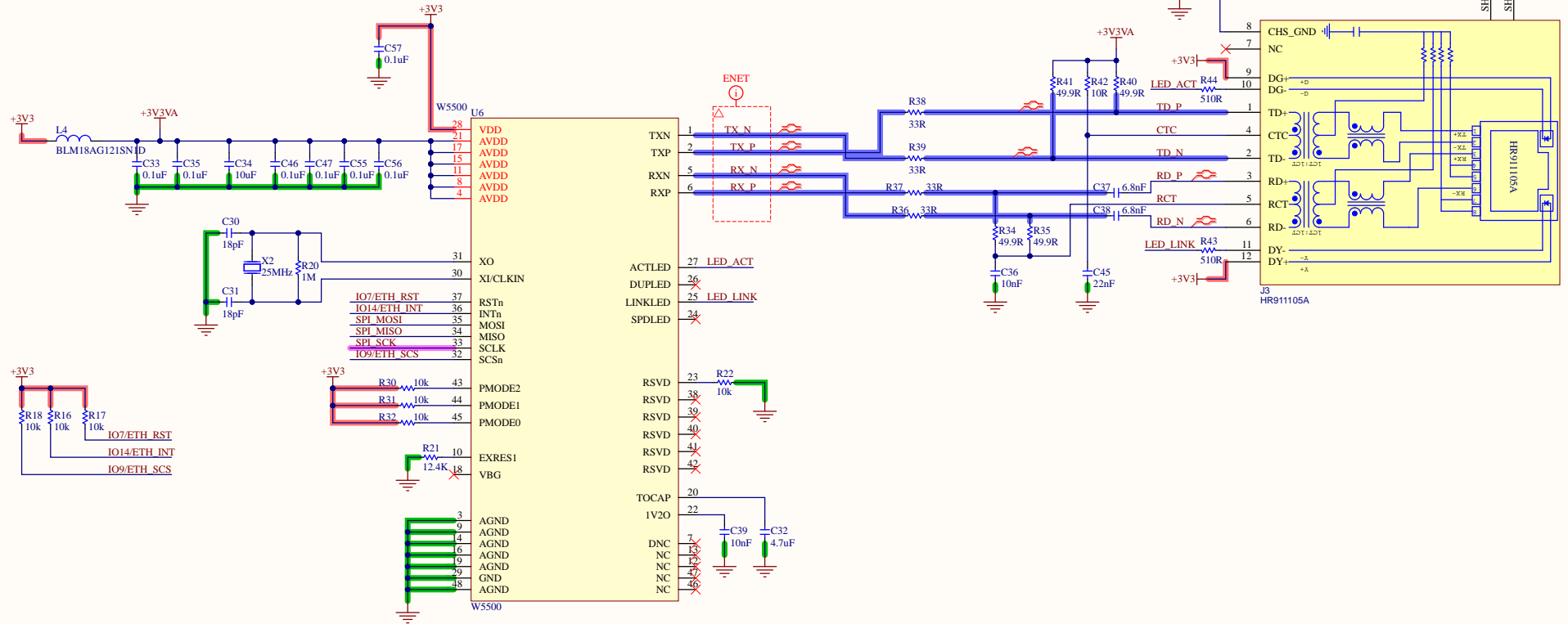
2 ETHERNET

Ethernet.SchDoc

Ethernet

IO7/ETH_RST	>> IO7/ETH_RST
IO14/ETH_INT	>> IO14/ETH_INT
SPI_MOSI	>> SPI_MOSI
SPI_MISO	>> SPI_MISO
SPI_SCK	>> SPI_SCK
IO9/ETH_SCS	>> IO9/ETH_SCS

W5500 SPI Ethernet ICs



ESP32 Gateway_V2.0

Title: ESP32 S3 Gateway_PrtPcb

Page Contents:

Size: A3

DWGNO: TinhHC

Revision: V2.0

Date: 5/23/2023

Sheet 2 of 5

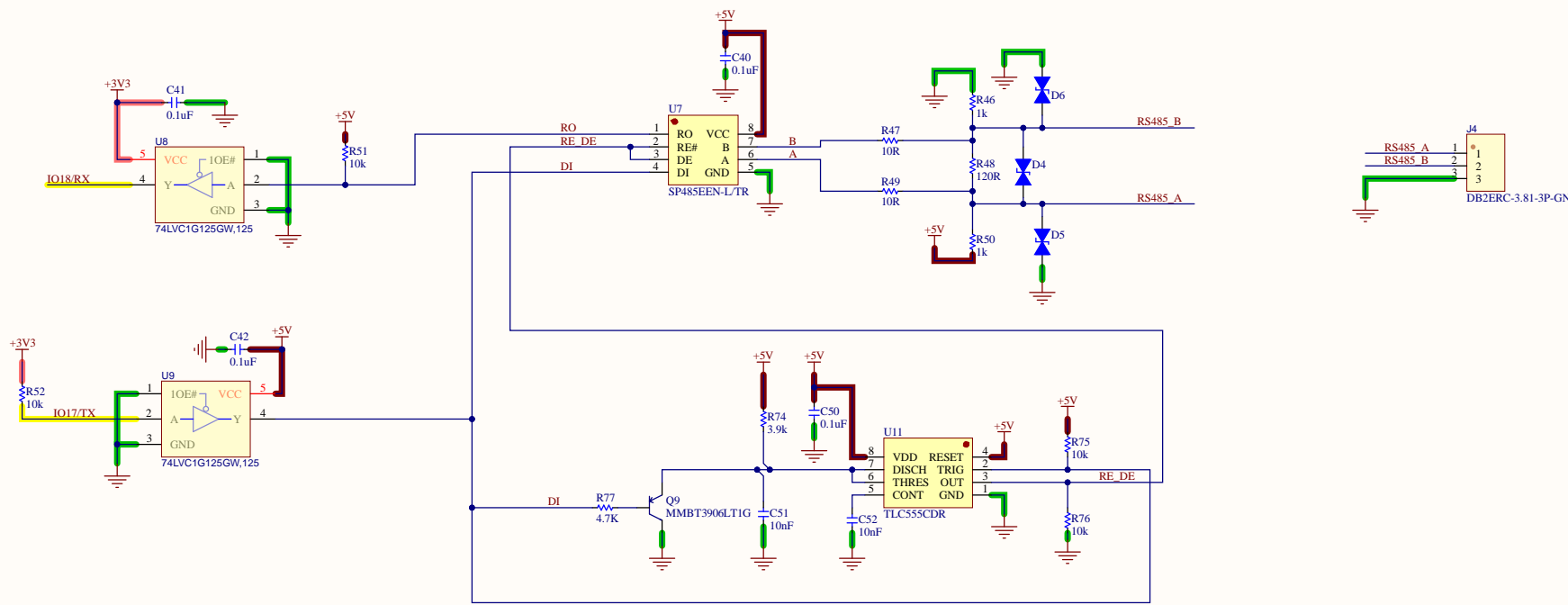
3 RS485

RS485.SchDoc

RS485

IO17/TX >> IO17/TX
IO18/RX >> IO18/RX

RS485



ESP32 Gateway_V2.0

Title: ESP32 S3 Gateway.PrjPcb

Page Contents:

Size: A3

DWGNO ThinhHC

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V2.0

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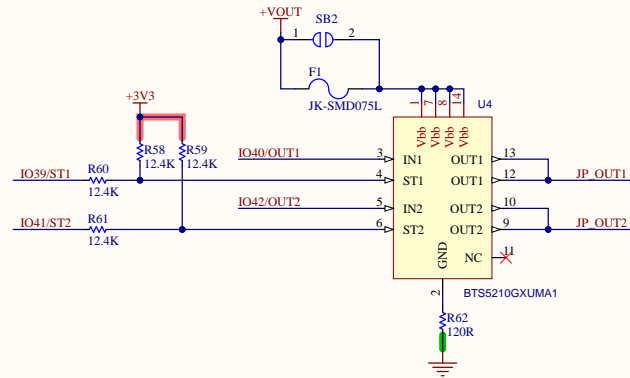
4 OUTPUT, INPUT

Output, Input.SchDoc

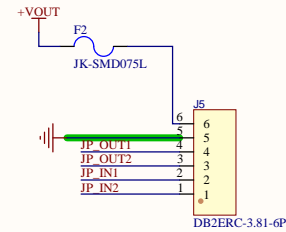
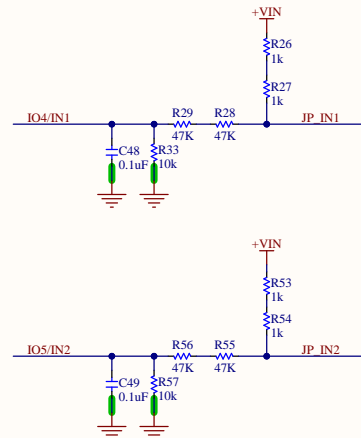
Input and Output

IO4/IN1	IO4/IN1
IO5/IN2	IO5/IN2
IO40/OUT1	IO40/OUT1
IO39/ST1	IO39/ST1
IO42/OUT2	IO42/OUT2
IO41/ST2	IO41/ST2

Output-Smart High-Side Power Switch-Status Feedback



Input Active Low



ESP32 Gateway_V2.0

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ESP32.SchDoc

IO7/ETH_RST	IO7/ETH_RST
IO14/ETH_INT	IO14/ETH_INT
SPI_MOSI	SPI_MOSI
SPI_MISO	SPI_MISO
SPI_SCK	SPI_SCK
IO9/ETH_SCS	IO9/ETH_SCS

IO17/TX >> IO17/TX
IO18/RX >> IO18/RX

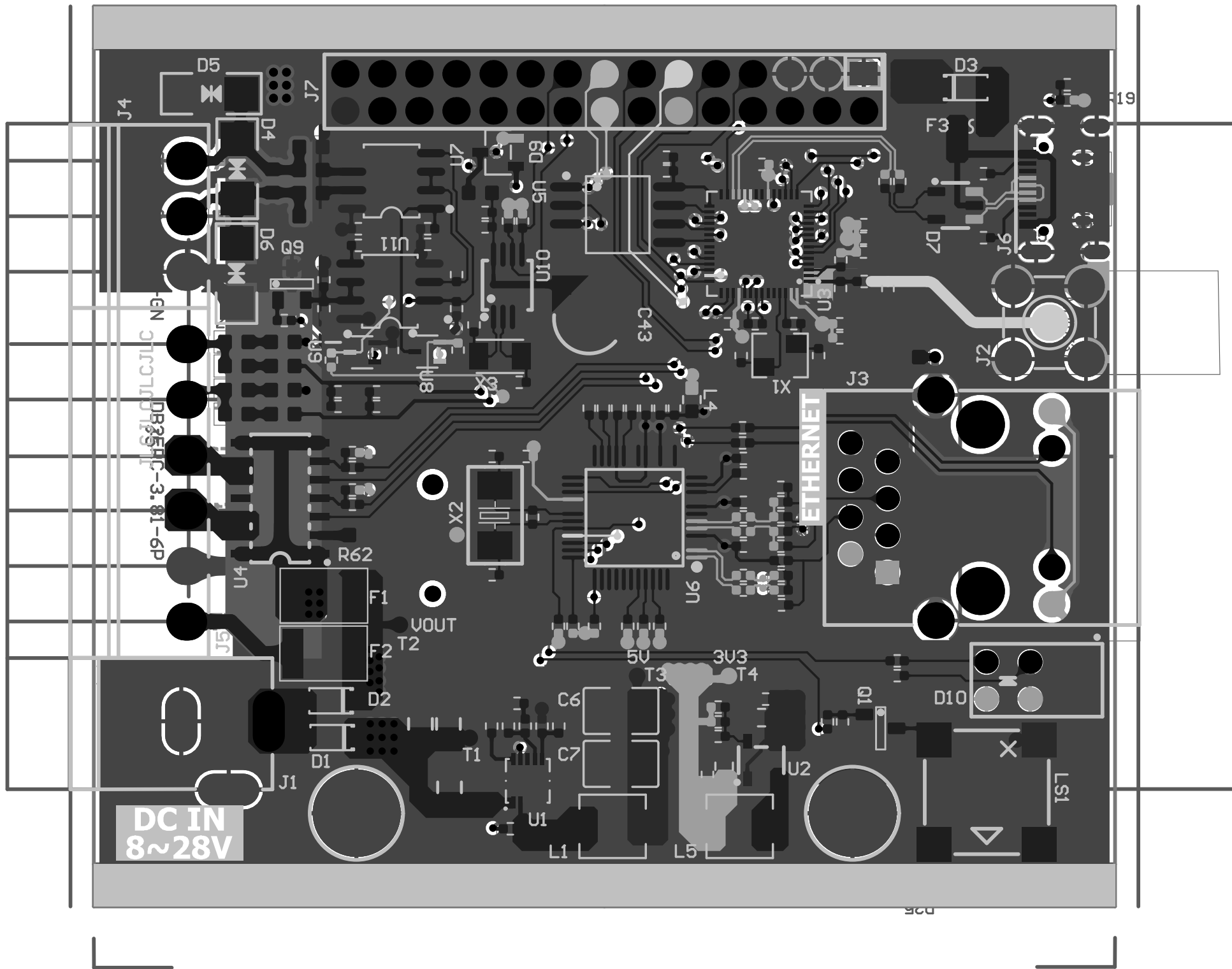
IO4/IN1	IO4/IN1
IO5/IN2	IO5/IN2
IO40/OUT1	IO40/OUT1
IO39/ST1	IO39/ST1
IO42/OUT2	IO42/OUT2
IO41/ST2	IO41/ST2

Pinout diagram of the ADXL345 accelerometer. The chip is shown with pins 1-30. Connections include:

- Power:** +VIN to pin 27, +3V3 to pin 2, +5V to pin 30.
- Ground:** Pins 1, 4, 5, 6, 8, 10, 12, 13, 14, 15, 16, 18, 20, 21, 22, 23, 25, 26, 28, 29, and 30.
- Serial Interface:** SPI_MISO to pin 7, SPI_MOSI to pin 9, SPI_SCK to pin 11, I2C_SDA to pin 17, I2C_SCL to pin 19, and ESP_BOOT to pin 24.

ESP32 Gateway_V2.0

Title: ESP32 S3 Gateway.PrjPcb			
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ESP32 S3 Gateway.PrjPcb

#	Comment	Designator	Footprint	SC Part Number	Manufacturer Part Number	Manufacturer	Quantity	Description	Assembly Type	Link
1	0.1uF	C1, C9,	C_0402	C307331	CL05B104KB54PNC	Samsung Electro-Mechanics	20	50V 100nF X7R ±10% 0	SMT Assembly	
2	10uF	C2, C3,	C_0805	C2932476	CL21A106KBYQNNE	Samsung Electro-Mechanics	3	50V 10uF X5R ±10% 0	SMT Assembly	
3	0.1uF	C5	C-0603	C14663	CC0603KRX7R9BB104	YAGEO	1	50V 100nF X7R ±10% 0	SMT Assembly	
4	47uF	C6, C7	C-1210	C77101	GRM32ER61C476KE15L	Murata Electronics	2	16V 47uF X5R ±10% 1	SMT Assembly	
5	100pF	C8	C_0402	C1546	0402CG101J500NT	FH(Guangdong Fenghua Adva	1	100pF 50V COG ±5% 0	SMT Assembly	
6	10uF	C10, C1	C_0603	C70225	0603X106K160NT	FH(Guangdong Fenghua Adva	2	10uF 16V X5R ±10% 0	SMT Assembly	
7	22pF	C13, C1	C_0402	C1555	0402CG220J500NT	FH(Guangdong Fenghua Adva	3	50V 22pF COG ±5% 04	SMT Assembly	
8	2pF	C15	C_0402	C285089	0402CG2R0B500NT	FH(Guangdong Fenghua Adva	1	50V 2pF 0402 Multilayer	SMT Assembly	
9	2.6pF	C16	C_0402	C2190109	GCM1555C1H2R6CA16D	Murata Electronics	1	50V 2.6pF 0402 Multilay	SMT Assembly	
10	6pF	C17, C1	C_0402	C1575	0402CG6R0C500NT	FH(Guangdong Fenghua Adva	2	50V 6pF X7R ±10% 04	SMT Assembly	
11	1uF	C20, C2	C_0402	C52923	CL05A105KA5N0NC	Samsung Electro-Mechanics	5	25V 1uF X5R ±10% 04	SMT Assembly	
12	10uF	C24, C3	C_0402	C15525	CL05A106MQ5NUNC	Samsung Electro-Mechanics	3	6.3V 10uF X5R ±20% 0	SMT Assembly	
13	10nF	C29, C3	C_0402	C15195	CL05B103KB5NNNC	Samsung Electro-Mechanics	5	50V 10nF X7R ±10% 04	SMT Assembly	
14	18pF	C30, C3	C_0402	C1549	0402CG180J500NT	FH(Guangdong Fenghua Adva	2	50V 18pF COG ±5% 04	SMT Assembly	
15	4.7uF	C32	C_0402	C23733	CL05A475MP5NRNC	Samsung Electro-Mechanics	1	10V 4.7uF X5R ±20% 0	SMT Assembly	
16	6.8nF	C37, C3	C_0402	C1542	0402B682K500NT	FH(Guangdong Fenghua Adva	2	50V 6.8nF X7R ±10% 0	SMT Assembly	
17	XH414HG-IV01E_C9	C43	CAP-TH_XH414HG	C9900013866	XH414HG-IV01E	N/A	1	Cap Supercap 80000uF	SMT Assembly	
18	22nF	C45	C_0402	C1532	0402B223K500NT	FH(Guangdong Fenghua Adva	1	50V 22nF X7R ±10% 04	SMT Assembly	
19	5.6nF	C53	C_0402	C1540	0402B562K500NT	FH(Guangdong Fenghua Adva	1	5.6nF 50V X7R ±10% 0	SMT Assembly	
20	DSK34	D1, D2,	SOD-123_L2.8-W1.4	C41029	DSK34	MDD (Microdiode Electronics	3	DSK34 450V 550mV@3	SMT Assembly	
21	SMAJ12CA	D4, D5,	SMA-DO-214AC - C	C32700	SMAJ12CA	RULON/Shenzhen Ruilongyue	3	1uA 20.1A 19.9V 13.3V	SMT Assembly	
22	TPUSBLC6-2SC6	D7	SOT-23-6_L2.9-W1	C558442	TPUSBLC6-2SC6	TECH PUBLIC	1	ESD ROHS SOT23-6 I	SMT Assembly	
23	BAT54C	D9	SOT-23-3_L2.9-W1	C14308	BAT54CLT1G	ON Semicon	1	SCHOTTKY BARRIER	SMT Assembly	
24	2LED_3MM	D10	2LED_3MM	N/A	SSF-LX240IGD	Lumex	1	LED DUAL RED/GREEN	Hand Soldering	
25	JK-SMD075L	F1, F2	F_1812	C920242	JK-SMD075L	Jinrui Electronic Materials Co.	2	JK-SMD075L 33V 750m	SMT Assembly	
26	BSMD0603L-150	F3	F0603	C914094	BSMD0603L-150	BHFUSE	1	6V 1.5A 50A 1W -40°C-	SMT Assembly	
27	DC+02I	J1	DC0	C718033	DC+02I	JINJIA	1	Jac DC input 5.5x2.1MM	Hand Soldering	
28	ATN SMA	J2	ANTEN_SMA	N/A	N/A	N/A	1	Connector; SMB Straig	Hand Soldering	
29	HR911105A	J3	RJ45-TH_HR911105	C12074	HR911105A	HANRUN/Zhongshan HanRun	1	RJ45 RJReceptacle 1	Wave Soldering	
30	DB2ERC-3.81-3P-G	J4	CONN-TH_0P-P3.81	C395690	DB2ERC-3.81-3P-GN	DIBO	1	3.81mm 1x3P Green B	Hand Soldering	
31	DB2ERC-3.81-6P	J5	CONN-TH_6P-P3.81	C395709	DB2ERC-3.81-6P-GN	DIBO	1	250V 10A 6 Bend -40°C	Hand Soldering	
32	TYPE-C 16PIN 2MD	J6	USB-C-SMD_TYPE	C2765186	TYPE-C 16PIN	SHOU HAN	1	5A 1 Surface Mount 16	SMT Assembly	
33	2.54-2*15P	J7	HDR-TH_30P-P2.54	C5337168	2.54-2*15P	BOOMELE(博穆精密)	1	Straight,P=2.54mm Fe	SMT Assembly	
34	10uH	L1	IND-SMD_L4.4-W4.4	C408339	MVSA0402S-100MT	Sunlord	1	POWER INDUCTORS	SMT Assembly	
35	2.7nH	L2, L3	L_0402	C108255	CLH1005T-2N7S-S	Chilisin Elec	2	400mA 2.7nH 150mQ	SMT Assembly	
36	BLM18AG121SN1D	L4	L_0603	C76892	MVSA0402S-100MT	Murata Electronics	1	120Q @ 100MHz 500m	SMT Assembly	
37	4.7uH	L5	IND-SMD_L4.4-W4.4	C408337	MVSA0402S-4R7MT	Sunlord	1	4.7uH IND 4.2x4.4x2.0r	SMT Assembly	
38	MLT-8530	LS1	Buzzer SMD	C94599	MLT-8530	Jiangsu Huaneng Elec	1	Externally Driven 80dB	Hand Soldering	
39	MMBT3904	Q1	SOT-23-3	C20526	MMBT3904	Changjiang Electronics Tech	1	MMBT3904 TRANSIST	SMT Assembly	
40	MMBT3906LT1G	Q9	SOT-23-3	C53444	MMBT3906LT1G	ON Semicon	1	MMBT3906 TRANSIST	SMT Assembly	
41	100k	R1, R19	R_0402	C25741	0402WGF1003TCE	UNI-ROYAL(Uniroyal Elec)	2	100kQ ±1% 0402 Chip	SMT Assembly	
42	5.76K	R2	R_0402	C25910	0402WGF5761TCE	Uniroyal Elec	1	5.76kQ 1/16W Thick Fil	SMT Assembly	
43	95.3K	R3	R_0402	C26990	0402WGF9532TCE	Uniroyal Elec	1	95.3kQ 1/16W Thick Fil	SMT Assembly	
44	0R	R4	R_0402	C17168	0402WGF0000TCE	UNI-ROYAL(Uniroyal Elec)	1	62.5mW Thick Film Re	SMT Assembly	
45	5.1K	R5, R6	R_0402	C25905	0402WGF5101TCE	UNI-ROYAL(Uniroyal Elec)	2	62.5mW Thick Film Re	SMT Assembly	
46	49.9R	R7, R34	R_0402	C25120	0402WGF499JTCE	UNI-ROYAL(Uniroyal Elec)	5	62.5mW Thick Film Re	SMT Assembly	
47	120R	R8, R48	R_0603	C22787	0603WAF1200T5E	UNI-ROYAL(Uniroyal Elec)	3	100mW Thick Film Re	SMT Assembly	
48	4.7K	R9, R13	R_0402	C25900	0402WGF4701TCE	UNI-ROYAL(Uniroyal Elec)	3	62.5mW Thick Film Re	SMT Assembly	
49	1K	R10, R1	R_0402	C11702	0402WGF1001TCE	UNI-ROYAL(Uniroyal Elec)	3	62.5mW Thick Film Re	SMT Assembly	
50	22R	R14, R1	R_0402	C25092	0402WGF220JTCE	UNI-ROYAL(Uniroyal Elec)	2	22R 22Q ±1% 0402 CH	SMT Assembly	
51	10k	R16, R1	R_0402	C25744	0402WGF1002TCE	UNI-ROYAL(Uniroyal Elec)	14	10kQ 1% 0402 Chip Re	SMT Assembly	
52	1M	R20	R_0402	C26083	0402WGF1004TCE	UNI-ROYAL(Uniroyal Elec)	1	62.5mW Thick Film Re	SMT Assembly	
53	12.4K	R21, R5	R_0402	C11692	0402WGF1242TCE	UNI-ROYAL(Uniroyal Elec)	5	62.5mW Thick Film Re	SMT Assembly	
54	19.1K	R23	R_0402	C52036	0402WGF1912TCE	Uniroyal Elec	1	19.1kQ 0402 1/16W Th	SMT Assembly	
55	150k	R24	R_0402	C413108	ERJ2RKf1503X	PANASONIC	1	150kQ ±1% 0402 Chip	SMT Assembly	
56	33k	R25	R_0402	C25779	0402WGF3302TCE	UNI-ROYAL(Uniroyal Elec)	1	33kQ ±5% 1/16W Thick	SMT Assembly	
57	1k	R26, R2	R_0603	C21190	0603WAF1001T5E	UNI-ROYAL(Uniroyal Elec)	6	100mW Thick Film Re	SMT Assembly	
58	47K	R28, R2	R_0603	C25819	0603WAF4702T5E	UNI-ROYAL(Uniroyal Elec)	4	100mW Thick Film Re	SMT Assembly	
59	33R	R36, R3	R_0402	C25105	0402WGF330JTCE	UNI-ROYAL(Uniroyal Elec)	4	62.5mW Thick Film Re	SMT Assembly	
60	10R	R42	R_0402	C25077	0402WGF100JTCE	UNI-ROYAL(Uniroyal Elec)	1	62.5mW Thick Film Re	SMT Assembly	
61	510R	R43, R4	R_0402	C25123	0402WGF5100TCE	UNI-ROYAL(Uniroyal Elec)	2	62.5mW Thick Film Re	SMT Assembly	
62	0R	R45	R_0603	C21189	0603WAF0000T5E	UNI-ROYAL(Uniroyal Elec)	1	100mW Thick Film Re	SMT Assembly	
63	10R	R47, R4	R_0603	C22859	0603WAF100JT5E	UNI-ROYAL(Uniroyal Elec)	2	100mW Thick Film Re	SMT Assembly	
64	3.9k	R74	R_0402	C321486	RC-02W3901FT	FH(Guangdong Fenghua Adva	1	3.9kQ 0402 1% Chip R	SMT Assembly	
65	YTS-A020-3	S2	SW-SMD_YIYUAN	C2910682	YTS-A020-3	YIYUAN(怡远)	1	50mA Surface Mount S	SMT Assembly	
66	TPS54335ADRCR	U1	VSON-10_L3.0-W3.4	C473400	TPS54335ADRCR	Texas Instruments	1	TPS54335A 28V 3A S	SMT Assembly	
67	SY8089A	U2	SOT-23-5_L3.0-W1	C479074	SY8089A1AAC	Silergy Corp	1	High Efficiency 5.5V, 2A	SMT Assembly	
68	ESP32-S3	U3	QFN-56_L7.0-W7.0	C2913192	ESP32-S3	ESPRESSIF(乐鑫)	1	ESP32-S3 QFN-56-EP	SMT Assembly	
69	BTS5210GXUMA1	U4	PG-DSO-14_L8.8-W3.0	C2150070	BTS5210GXUMA1	Infineon	1	BTS5210GXUMA1 5.5V	AMT Assembly	
70	W25Q128JVSQTR	U5	SOIC-8_L5.3-W5.3	C97521	W25Q128JVSQ	WINBOND	1	W25Q128JVSQTR 128	SMT Assembly	
71	W5500	U6	LQFP-48_L7.0-W7.4	C32843	W5500	WIZNET	1	W5500 SPI LQFP-48(7	SMT Assembly	
72	SP485EEN-LTR	U7	SOIC-8	C6855	SP485EEN-LTR	MaxLinear	1	transceiver 4.75V-5.25	SMT Assembly	
73	74LVC1G125GW,12	U8, U9	SOT-353_L2.1-W1.3	C12519	74LVC1G125GW,125	Nexperia	2	74LVC1G125GW,125 3	SMT Assembly	
74	BM8563EMA	U10	MSOP-8_L3.0-W3.0	C269878	BM8563EMA	GATEMODE(捷茂微)	1	MSOP-8 Real-time Cld	SMT Assembly	
75	TLC555CDR	U11	SOIC-8	C6986	TLC555CDR	Texas Instruments	1	SOIC-8 Timers / Clock	SMT Assembly	
76	40Mhz±10ppm	X1	SMD-3225_4P	C9010	X322540MPB4SI	Yangxing Tech	1	40MHz 15pF ±10ppm ±	SMT Assembly	
77	25MHz	X2	OSC-SMD_L5.0-W3	C112569	X503225MSB2GI	Yangxing Tech	1	25MHz 20pF ±10ppm ±	SMT Assembly	
78	32.768kHz	X3	CRYSTAL-SMD_L3	C841881	Q13FC13500005	Seiko Epson	1	32.768kHz 12.5pF ±10	SMT Assembly	