

A

B

C

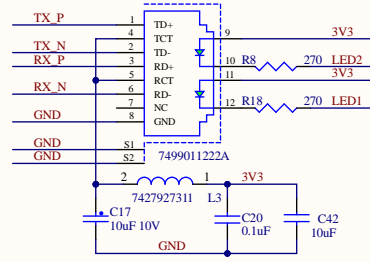
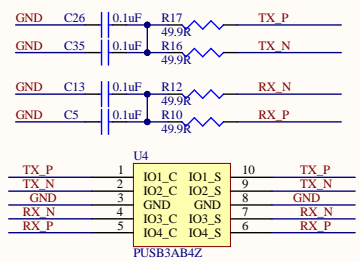
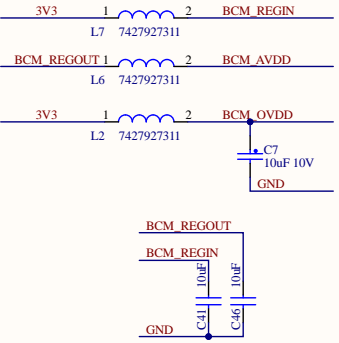
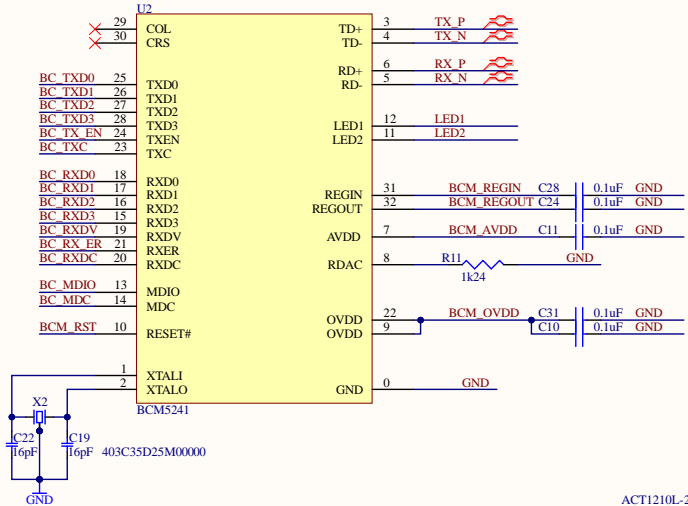
D

A

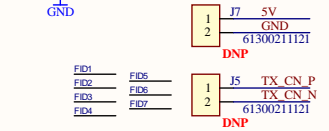
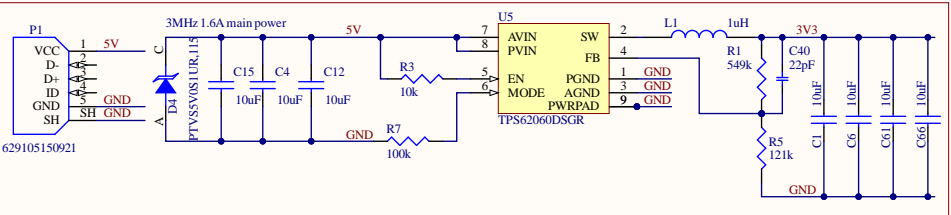
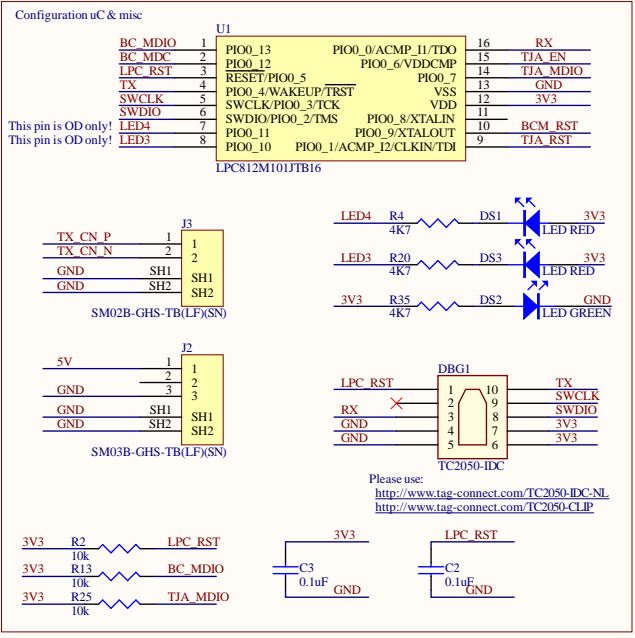
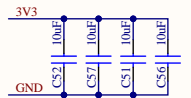
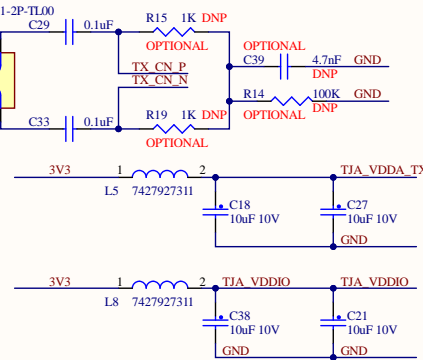
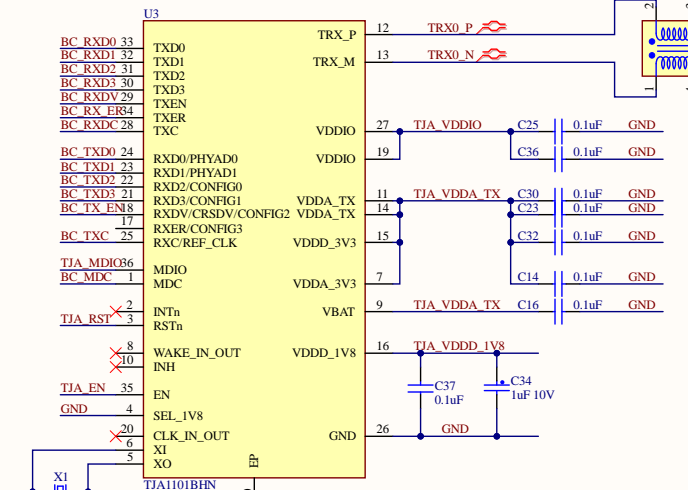
B

C

D



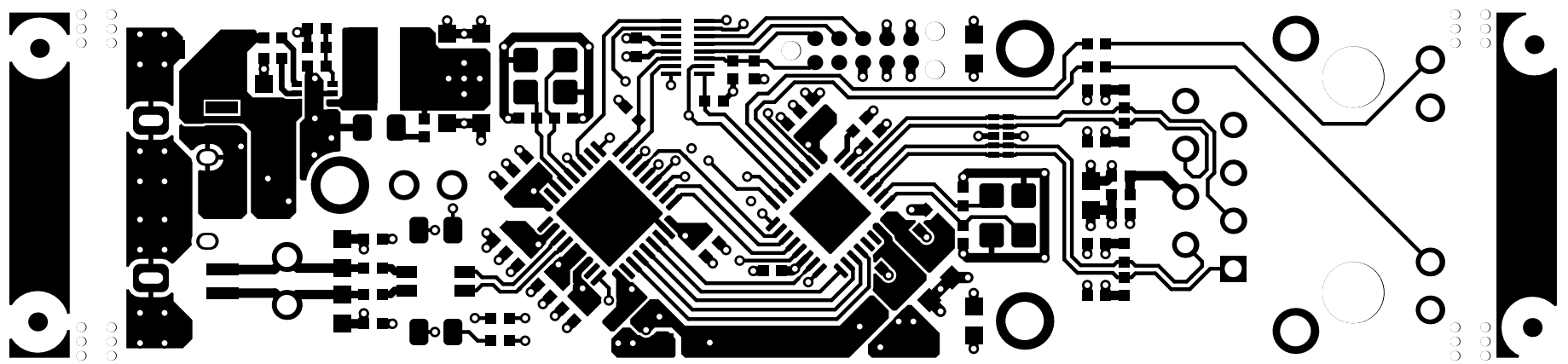
Please note:
 Both the PHYs have no bootstrap resistors
 Also, the TJA1101 address cannot be changed via the management bus
 Also, the BCM5241 address cannot be changed via the management bus
 This is the reason why there are two independent MDIO lanes.



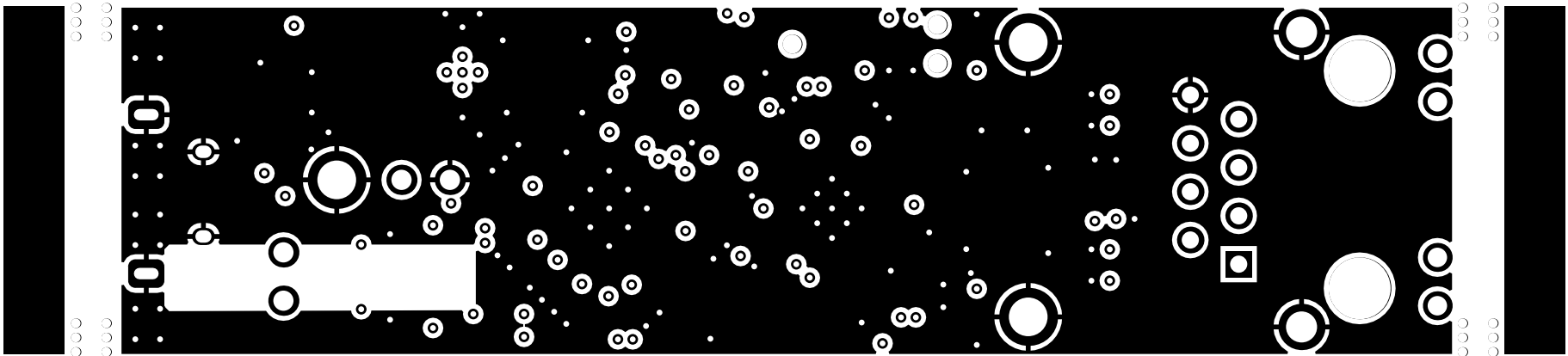
Title: RDDDRONE-T1ADAPT		
PX4 Robotic Drone 100BASE-T1 to 100BASE-TX adapter		
Size: 1	Document Number:	Revision: 2A
Date: 5/19/2021	Sheet 1 of 1	
File: RDDDRONE-T1ADAPT_SchDoc	Drawn By: Andrew Bushuey	



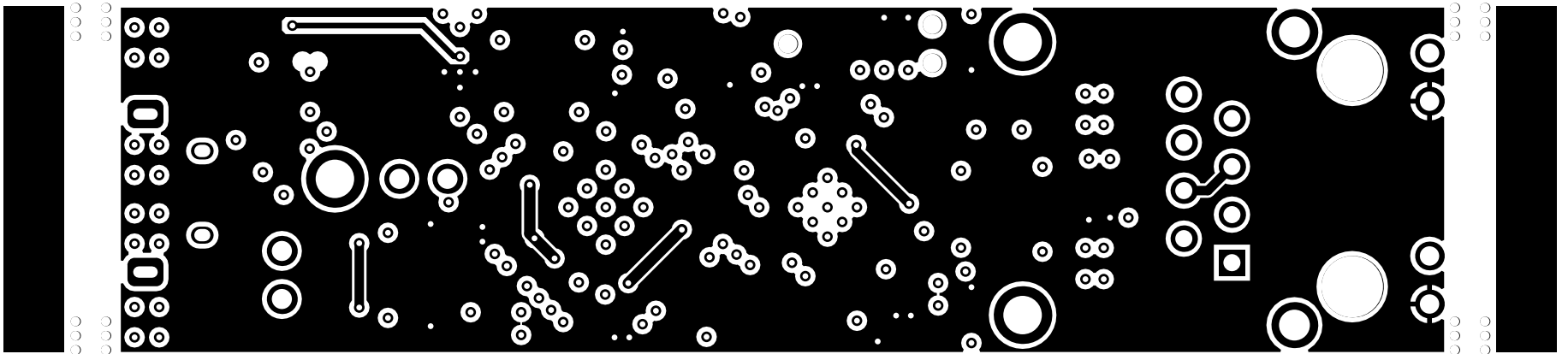
ASSEMBLY BOTTOM (MIRRORED)



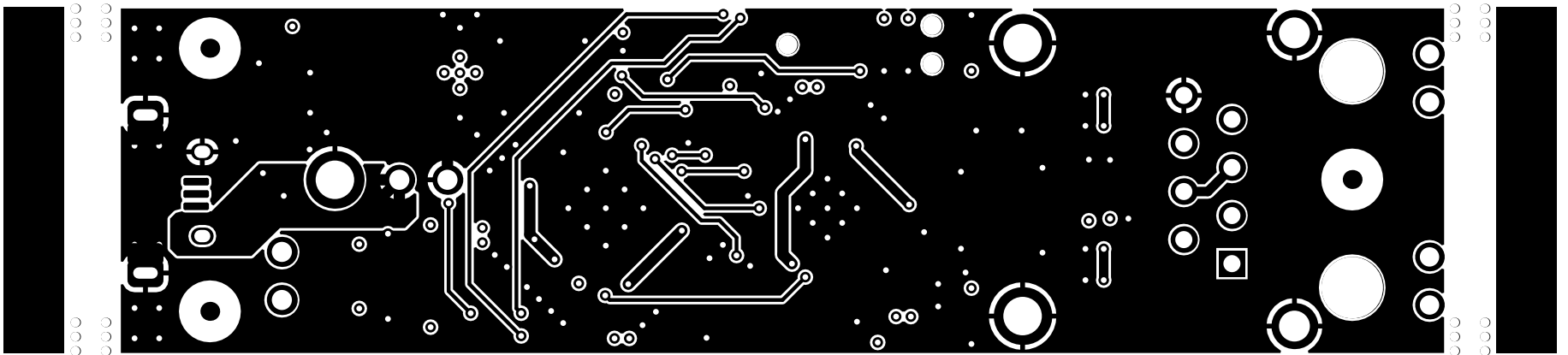
LAYER1 - TOP



LAYER 2 - GROUND PLANE

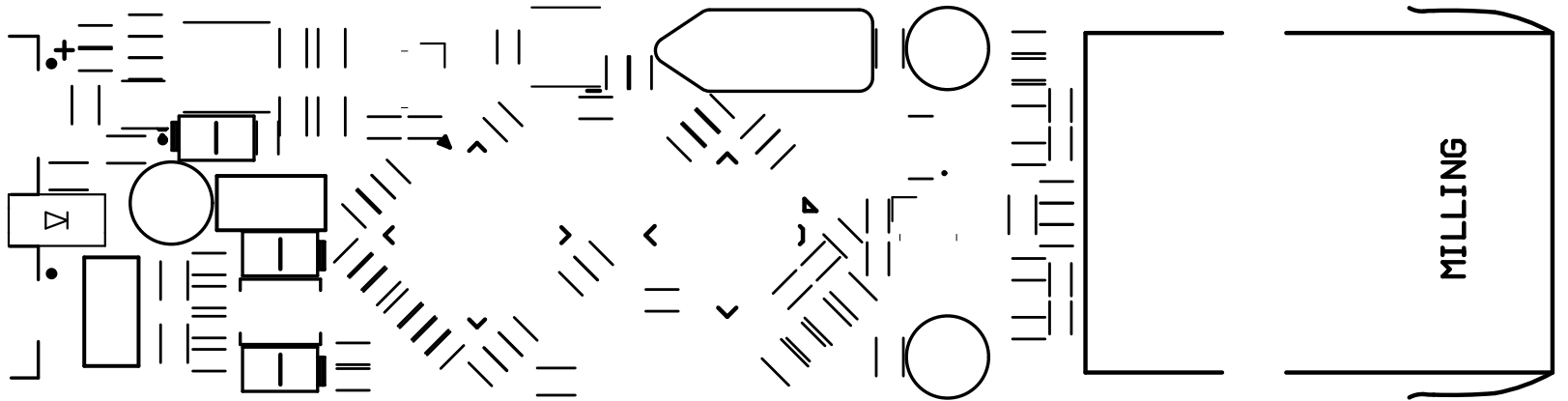


LAYER 3 - POWER PLANE



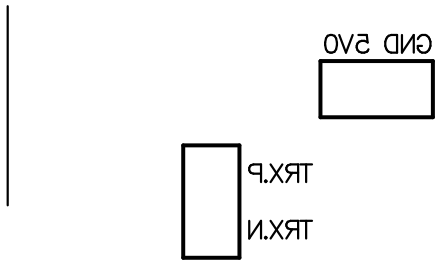
LAYER 4 - BOTTOM LAYER

MILLING



SILKSCREEN TOP

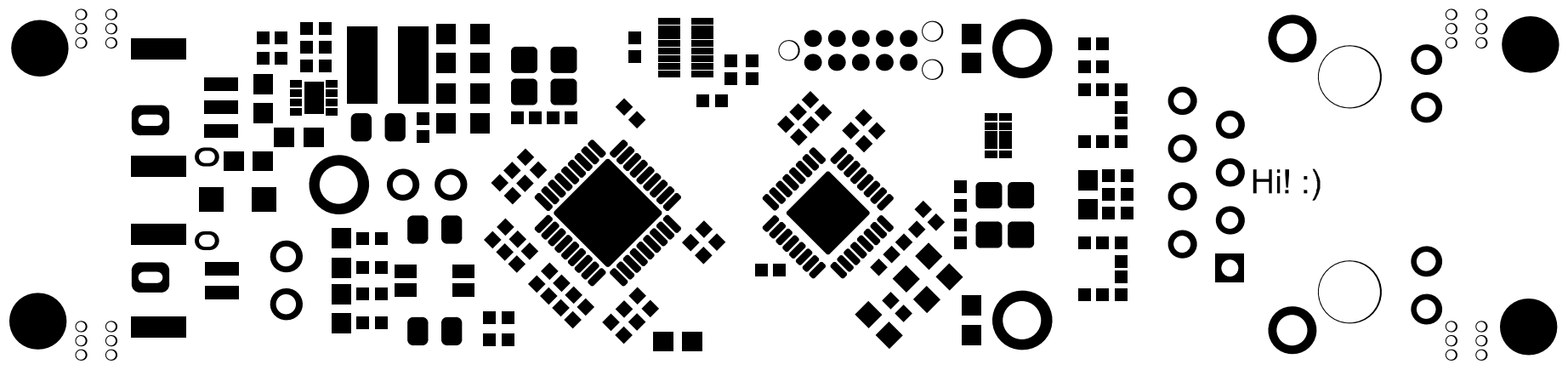
SILKSCREEN BOTTOM



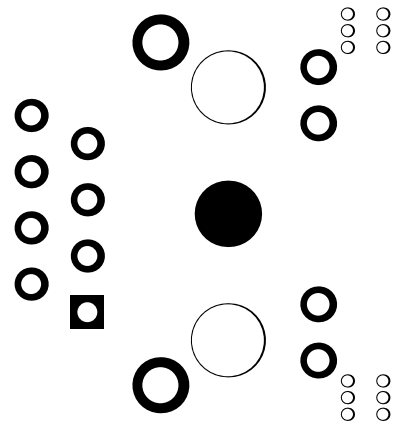
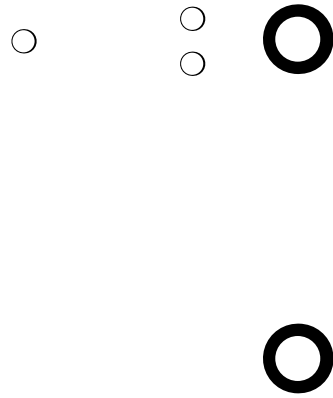
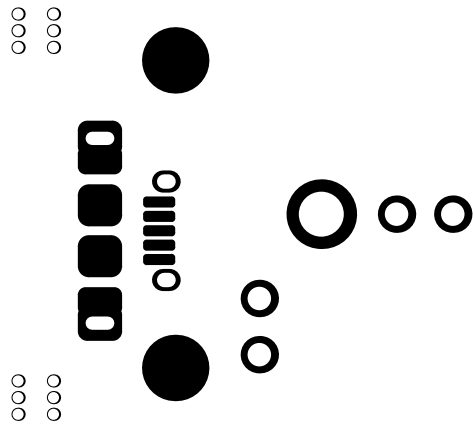
RD DRONE-TI ADAPT



Rev. 2A



MASK TOP



MASK BOTTOM

Description	Quantity	ManType	Manufacturer	Designator	Notes
CAP CER 10UF 6.3V X5R 0603		14 885012106006	Würth Elektronik	C1, C4, C6, C12, C15, C41, C42, C46, C51, C52, C56, C57, C61, C66	
0.1 uF 6.3V X5R		22 C1005X5R0J104K	TDK Corporation	C2, C3, C5, C10, C11, C13, C14, C16, C20, C23, C24, C25, C26, C28, C29, C30, C31, C32, C33, C35, C36, C37	Option: C1005X5R0J104K
CAP CER 10UF 10V 20% X5R 0402		6 CL05A106MP5NUNC	SAMSUNG	C7, C17, C18, C21, C27, C38	
CAP CER 16PF 50V NPO 0402		4 CC0402JRNPO9BN160	YAGEO	C8, C9, C19, C22	
CAP CER 1UF 10V X5R 0402		1 885012105012	Würth Elektronik	C34	
4.7nF		1 C0402C472K5RACTU	KEMET	C39	DNP
CAP CER 22PF 50V COG/NPO 0402		1 885012005057	Würth	C40	
TVS DIODE 5V 9.2V CFP3		1 PTVS5V0S1UR,115	Nexperia USA Inc.	D4	
		1 TC2050-IDC	Tag-Connect LLC	DBG1	DNP
LED RED CLEAR 0805 SMD		2 150080RS75000	Würth Elektronik	DS1, DS3	
LED GREEN CLEAR 0805 SMD		1 150080GS75000	Würth Elektronik	DS2	
		7		FID1, FID2, FID3, FID4, FID5, FID6, FID7	DNP
WE-RJ45 LAN Transformer, THT, 10/100 Base-T, Port 1x1, Tab Down		1 7499011222A	Würth Elektronik	J1	
Connector Header Surface Mount, Right Angle 3 position 0.049" (1.25mm)		1 SM03B-GHS-TB(LF)(SN)	JST Sales America Inc.	J2	
Connector Header Surface Mount, Right Angle 2 position 0.049" (1.25mm)		1 SM02B-GHS-TB(LF)(SN)	JST Sales America Inc.	J3	
CONN HEADER VERT 2POS 2.54MM		2 61300211121	Würth Elektronik	J5, J7	DNP
FIXED IND 1UH 2A 25 MOHM SMD		1 TYS40181R0N-10	Laird-Signal Integrity Products	L1	
FERRITE BEAD 120 OHM 0402 1LN		6 7427927311	Würth Elektronik	L2, L3, L5, L6, L7, L8	
TH-0.6-3.0-M1.4 / https://www.mac8japan.com/products/458		3 TH-0.6-3.0-M1.4	Mac8	MH1, MH2, MH3	DNP
Conn Micro USB Type AB RCP 5 POS 0.65mm Solder RA SMD 5 Terminal 1 Port T/R		1 629105150921	Würth Elektronik	P1	
RES 549K OHM 1/16W 1% 0402		1 RC1005F5493CS	Samsung	R1	
RES 10K OHM 1/16W 5% 0402		4 RMCFO402JT10K0	Stackpole Electronics Inc	R2, R3, R13, R25	
RES 4.7K OHM 5% 1/16W 0402		3 RMCFO402JT4K70	STACKPOLE	R4, R20, R35	
RES 121K OHM 1/16W 1% 0402		1 RC1005F1213CS	Samsung	R5	
RES SMD 100K OHM 5% 1/16W 0402		1 RMCFO402JT100K	Vishay Dale	R7	
RESISTOR TF 270 OHM 1% 0.0625W 0402		2 RMCFO402FT270R	Stackpole Electronics Inc	R8, R18	
RESISTOR TF 49.9 OHM 1% 0.0625W 0402		4 RMCFO402FT49R9	Stackpole Electronics Inc	R10, R12, R16, R17	
RES 1K24 OHM 1/16W 5% 0402		1 RC0402FR-071K24L	YAGEO	R11	
RES 100K OHM 1/16W 5% 0402 SMD		1 ERJ-2GEJ104X	PANASONIC	R14	DNP
RES SMD 1.02K OHM 1% 1/16W 0402		2 RC0402FR-071K02L	YAGEO	R15, R19	DNP
200µH @ 100kHz 2 Line Common Mode Choke Surface Mount 70mA DCR 5.50hm		1 ACT1210L-201-2P-TL00	TDK Corporation	TR1	
IC MCU 32BIT 16KB FLASH 16XSON		1 LPC812M101JTB16X	NXP USA Inc.	U1	
10/100 Fast Ethernet PHY with MII, RMII and RevMII support		1 BCM5241A1IMLGT	Broadcom Limited	U2	
IC TRANSCEIVER FULL 1/1 36HVQFN		1 TJA1101BHN	NXP USA Inc.	U3	
TVS DIODE 3.3V 5V DFN2510A-10		1 PUSB3AB4Z	Nexperia USA Inc.	U4	
1.6A DC/DC Step Down Converter in 2x2 SON Package		1 TPS62060DSGR	Texas Instruments	U5	
CRYSTAL 25.0000MHZ 18PF SMD		2 403C35D25M00000	CTS-Frequency Controls	X1, X2	