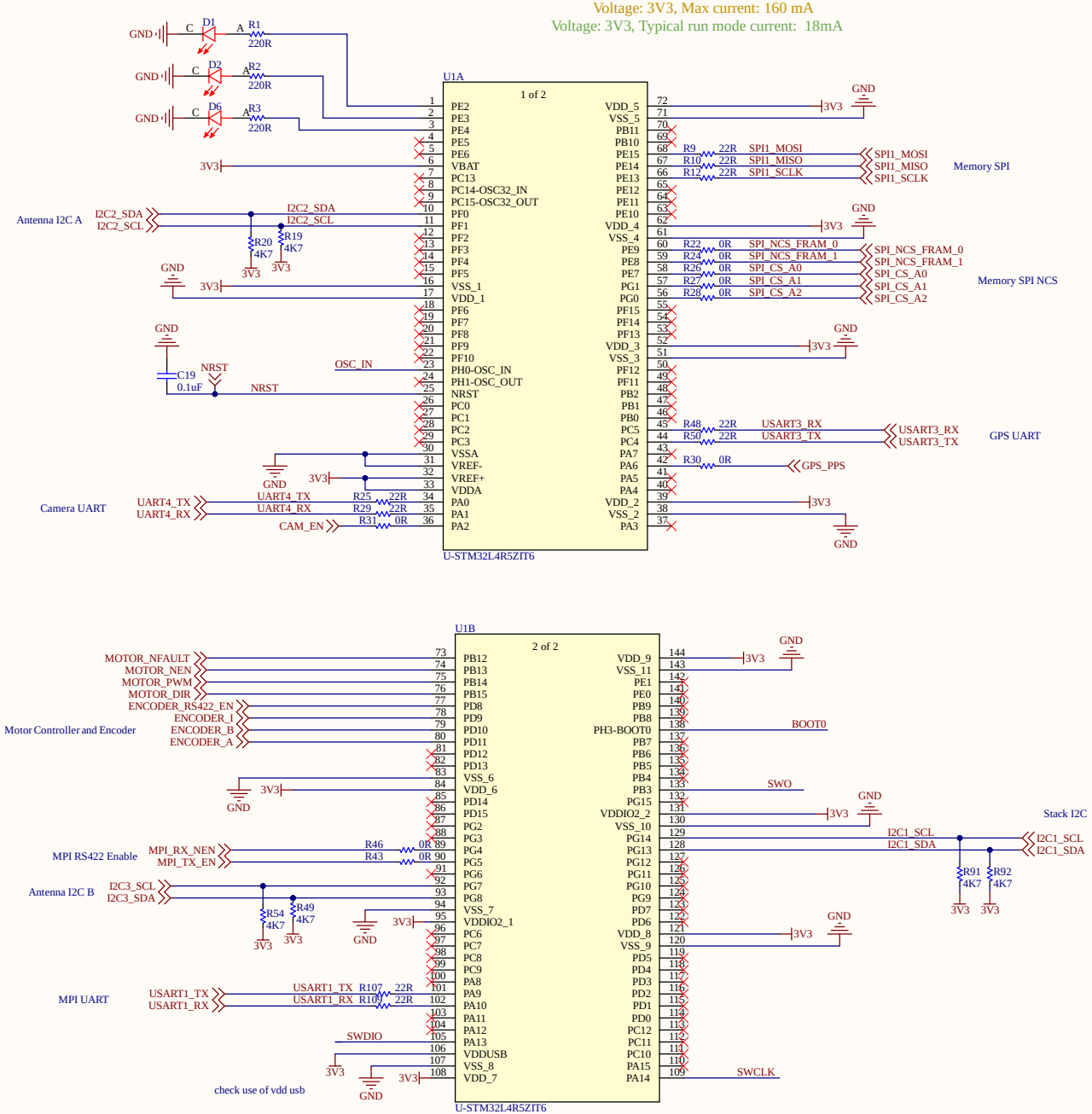
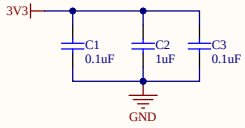
STM32

Voltage: 3V3, Max current: 160 mA
Voltage: 3V3, Typical run mode current: 18mA

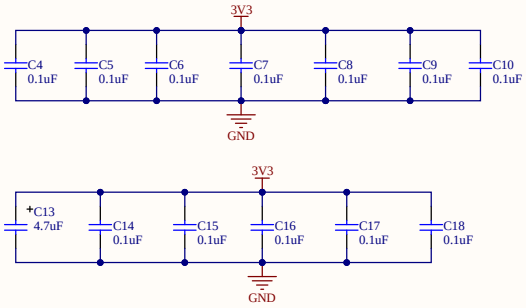


VDDA Capacitors

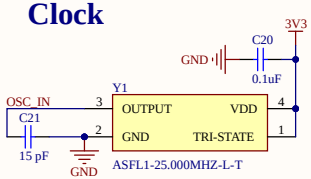


Decoupling Capacitors

Place as close to pins as possible

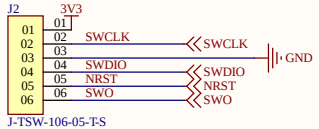


Clock

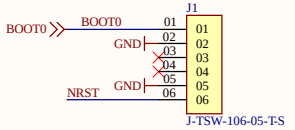


Voltage: 3V3, Max current: 15 mA

SWD Interface



NRST + BOOT + Spare GPIO



Title: STM32		
Size: A3	Number	Revision
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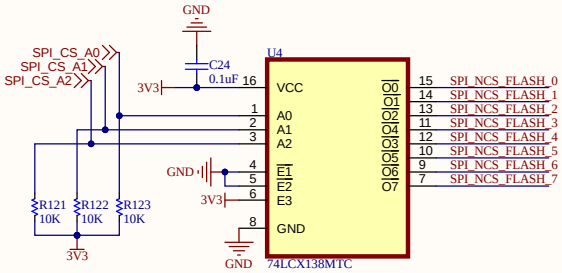
File: C:\Users\..\STM32.SchDoc		Drawn By:

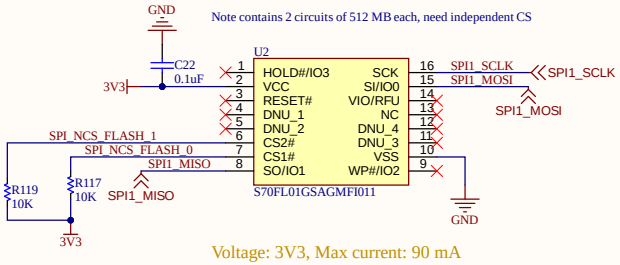
Flash CS Decoder



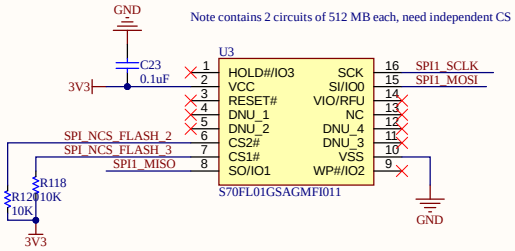
Voltage: 3V3, Max current: ~1mA

Flash Memory

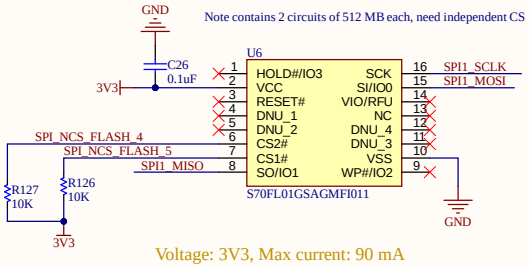
Can use as alternative (stock) S70FL01GSDPMFV010, halfs the freqyency (133 to 66 MHz)



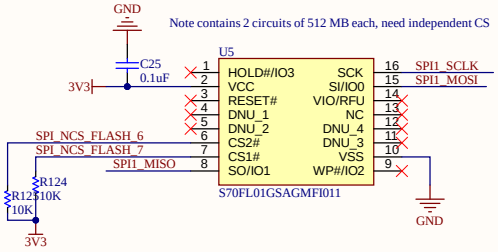
Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA



Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA

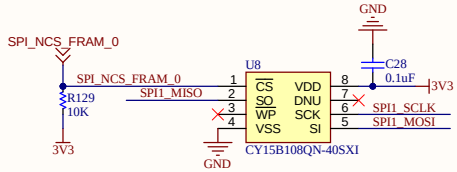


Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA

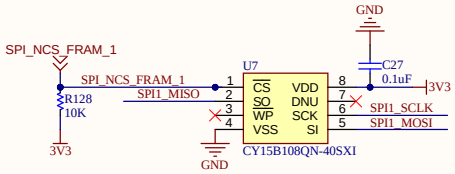


Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA

FRAM Memory



Voltage: 3V3, Typical current: 2.6 mA
Voltage: 3V3, Typical Standby current: 3.5 uA



Voltage: 3V3, Typical current: 2.6 mA
Voltage: 3V3, Typical Standby current: 3.5 uA

Title	Memory	
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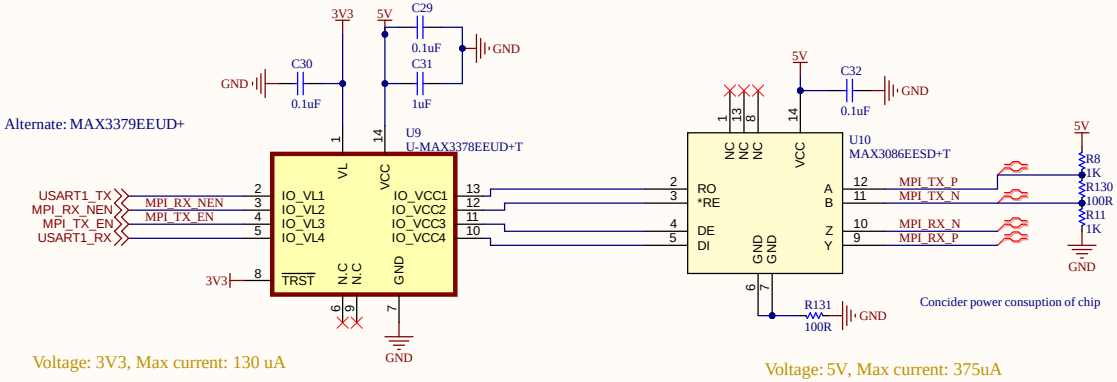
Date: 5-05-2022		Sheet of
File: C:\Users\..\Memory.SchDoc		Drawn By: James Chen

MPI RS422 driver + Connector



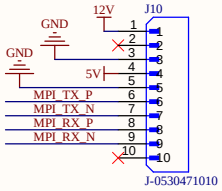
Voltage: 3V3, Max current: 130 uA

if TRST used, can reduce to 1uA

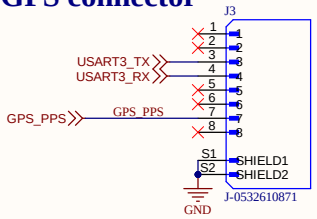
Voltage: 5V, Max current: 375uA

Voltage: 5V, Typical Standby current: 1 nA

MPI Connector

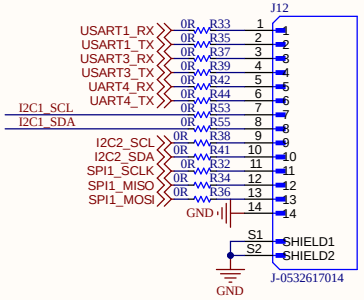


GPS connector

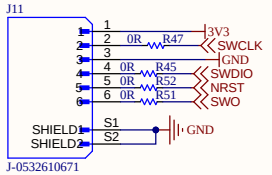


goes to GPS Picoblade connector

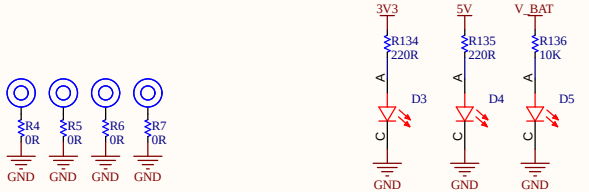
Umblilical connector



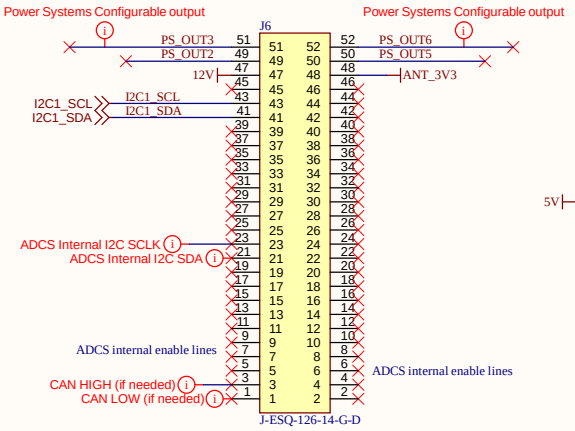
Programming Connector



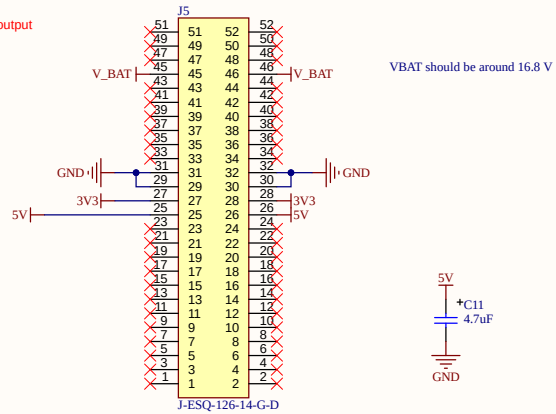
Voltage indicator LED's



H1 PC104 Connector

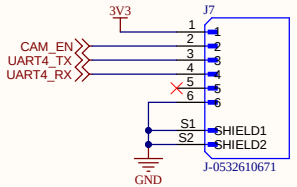


H2 PC104 Connector



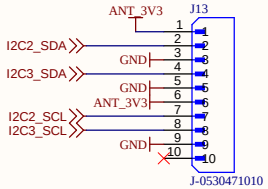
VBAT should be around 16.8 V

Camera Connector



Title: **External Connectors**		
Size: A3	Number	Revision
Date: 5-05-2022		Sheet of
File: C:\Users\..\External Connectors.SchDoc		Drawn By: James Chen

Connector (9 pin)



Two I2C? Diplicate and connect it?

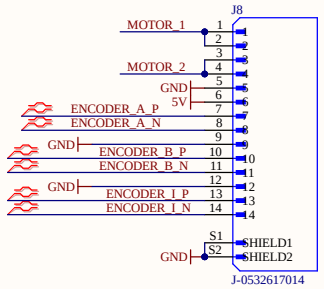
Determine real pinout!

Voltage: 3V3, Typical Standby current: 13 mA

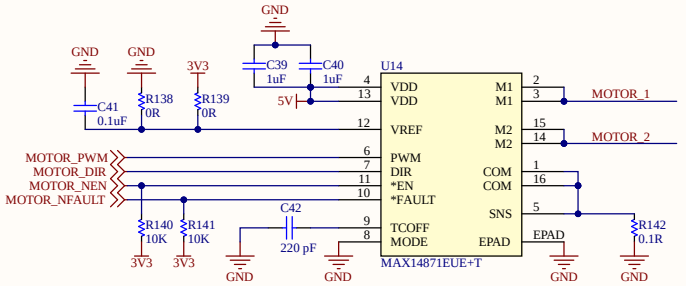
2W system, 3V3, ~600mA Activated in deployment

Title: Antenna Deployment		
Size: A3	Number:	Revision:
Date: 5-05-2022	Sheet of	
File: C:\Users\..\Antenna Deployment.SchDoc	Drawn By: James Chen	

Motor Connector

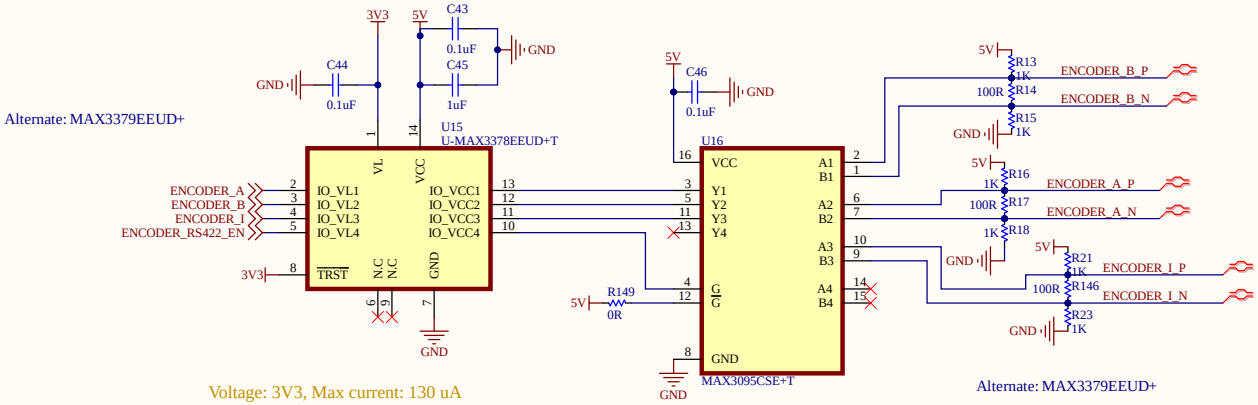


Motor Controller



Voltage: 5V, Max current: 3A
Voltage: 5V, Typical Standby current: 10 uA

Motor Encoder



Voltage: 3V3, Max current: 130 uA
if TRST used, can reduce to 1uA

Voltage: 5V, Max current: 2.4mA
Voltage: 5V, Typical Shutdown current: 1 nA

Title: **Motor Control**		
Size: A3	Number	Revision
Date: 5-05-2022		Sheet of
File: C:\Users\..\Motor Control.SchDoc		Drawn By: James Chen

Comment	Description	Designator	Footprint	LibRef	Quantity
PC104 Mounting		*1, *2, *3, *4	PC104 Mounting Points	PC104 Mounting	4
0.1uF	0.1 µF ±10% 25V Ceramic Capacitor X7R 0603 (1608 Metric)	C1, C3, C4, C5, C6, C7, C8, C9, C10, C14, C15, C16, C17, C18, C19, C22, C23, C24, C25, C26, C27, C28, C29, C30, C32, C41, C43, C44, C46	0603	CC-104-K-25V-X7R-0603	29
1uF	CAP CER 1UF 25V X7R 0603	C2, C31, C39, C40, C45	0603	CC-105-K-25V-X7R-0603	5
4.7uF	4.7 µF Molded Tantalum Capacitors 20 V 1206 (3216 Metric) 4Ohm	C11, C13	CAP TANT 1206 (A) TCJ	CT-474-M-20V-OTH-1206	2
0.1uF	CAP CER 0.1UF 25V X7R 0402	C20	0402	CC-104-K-25V-X7R-0402	1
15 pF	15 pF ±1% 50V Ceramic Capacitor C0G, NP0 0402 (1005 Metric)	C21	0402	CC-159-J-50V-C0G-0402	1
220 pF	15 pF ±1% 50V Ceramic Capacitor C0G, NP0 0201 (0603 Metric)	C42	0603	CC-228-J-50V-C0G-0603	1
D-SML-D12U1WT86	Red 620nm LED Indication - Discrete 2.2V 0603 _1608 Metric	D1, D2, D3, D4, D5, D6	D-SML-D12U1WT86	D-SML-D12U1WT86	6
J-TSW-106-05-T-S	CONN HEADER VERT 6POS 2.54MM	J1, J2	J-TSW-106-05-T-S	J-TSW-106-05-T-S	2
J-0532610871	CONN HEADER SMD R/A 8POS 1.25MM	J3	J-532610871	J-0532610871	1
J-ESQ-126-14-G-D	CONN SOCKET 52POS 0.1 GOLD PCB	J5, J6	J-ESQ-126-14-G-D	J-ESQ-126-14-G-D	2
J-0532610671	CONN HEADER SMD R/A 6POS 1.25MM	J7, J11	J-0532610671	J-0532610671	2
J-0532617014	Connector Header Surface Mount, Right Angle 14 position 0.049 (1.25mm)	J8, J12	J-532617014	J-0532617014	2
J-0530471010	CONN HEADER VERT 10POS 1.25MM	J10, J13	J-0530471010	J-0530471010	2
220R	220 Ohms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	R1, R2, R3	0603	RT-220R-F-1/16W-0603	3
0R	0 Ohms Jumper 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thick Film	R4, R5, R6, R7, R22, R24, R26, R27, R28, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R41, R42, R43, R44, R45, R46, R47, R51, R52, R53, R55, R138, R139, R149	0603	RT-0R00-F-1/10W-0603	33
1K	RES SMD 1K OHM 1% 1/16W 0603	R8, R11, R13, R15, R16, R18, R21, R23	0603	RT-1K0-F-1/16W-0603	8
22R	22 Ohms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	R9, R10, R12, R25, R29, R48, R50, R107, R109	0603	RT-22R0-F-1/16W-0603	9
100R	RES SMD 100 OHM 0.5% 1/16W 0603	R14, R17, R130, R131, R146	0603	RT-100R-F-1/16W-0603	5
4K7	RES SMD 4.7K OHM 1% 1/10W 0603	R19, R20, R49, R54, R91, R92	0603	RT-4K7-F-1/16W-0603	6
10K	10 kOhms ±0.1% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R136, R140, R141	0603	RT-10K0-F-1/16W-0603	16
100R	RES 220 OHM 5% 1/16W 0402	R134, R135	0402	RT-220R-F-1/16W-0402	2
0.1R	RES 0.1 OHM 1% 3W 2512	R142	2512	RT-0R1-3W-2512	1
U-STM32L4R5ZIT6	IC MCU 32BIT 2MB FLASH 144LQFP	U1	U-STM32L4R5ZIT6	U-STM32L4R5ZIT6	1
S70FL01GSAGMFI011	IC FLASH 1GBIT SPI/QUAD 16SOIC	U2, U3, U5, U6	U-S70FL01GSAGMFI011	U-S70FL01GSAGMFI011	4
74LCX138MTC	IC DECODER/DEMUX 1X3:8 16TSSOP	U4	U-74LCX138MTC	U-74LCX138MTC	1
CY15B108QN-40SXI	IC FRAM 8MBIT SPI 40MHZ 8SOIC	U7, U8	U-CY15B108QN-40SXI	U-CY15B108QN-40SXI	2
U-MAX3378EEUD+T	IC TRNSLTR BIDIRECTIONAL 14TSSOP	U9, U15	U-MAX3378EEUD+T	U-MAX3378EEUD+T	2
MAX3086EESD+T	IC TRANSCEIVER FULL 1/1 14SOIC	U10	U-MAX3086EESD+T	U-MAX3086EESD+T	1
MAX14871EUE+T	IC MOTOR DRIVER 4.5V-36V 16TSSOP	U14	U-MAX14871EUE+T	U-MAX14871EUE+T	1
MAX3095CSE+T	IC RECEIVER 0/4 16SO	U16	U-MAX3095CSE+T	U-MAX3095CSE+T	1
ASFL1-25.000MHZ-L-T	XTAL OSC XO 25.0000MHZ HCMOS TTL	Y1	Y-ASFL125000MHZLT	Y-ASFL1-25.000MHZ-L-T	1