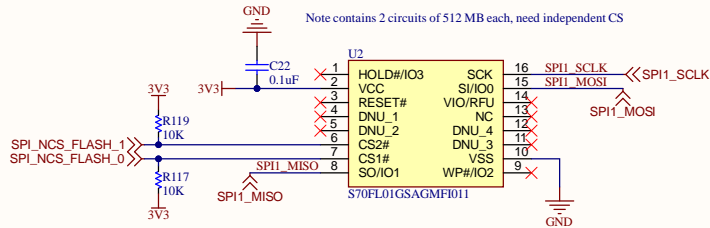
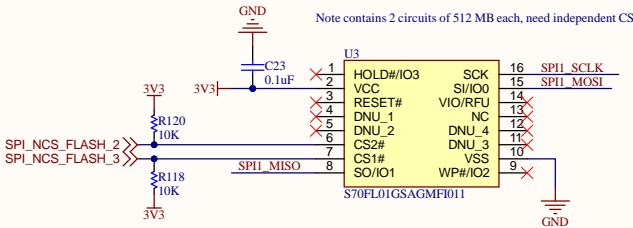


Flash Memory

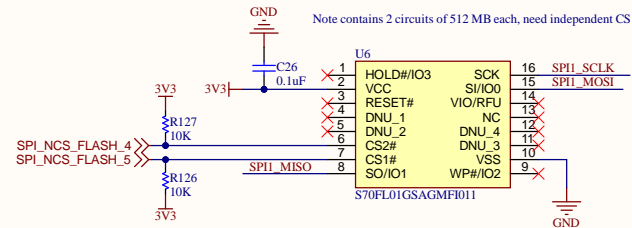
Can use as alternative (stock) S70FL01GSDPMFV010, halves the frequency (133 to 66 MHz)



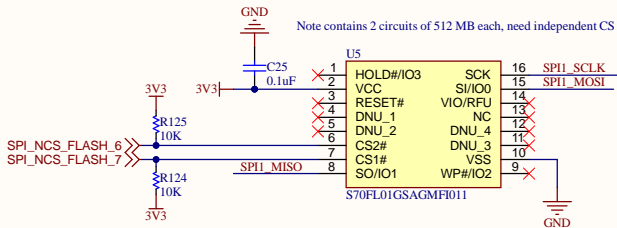
Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA



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

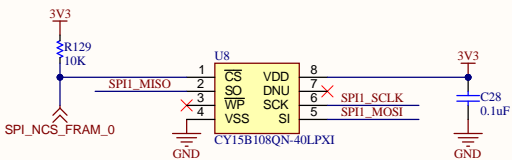


Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA

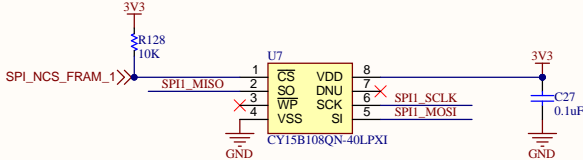


Voltage: 3V3, Max current: 90 mA
Voltage: 3V3, Typical Standby current: 140 uA

FRAM Memory



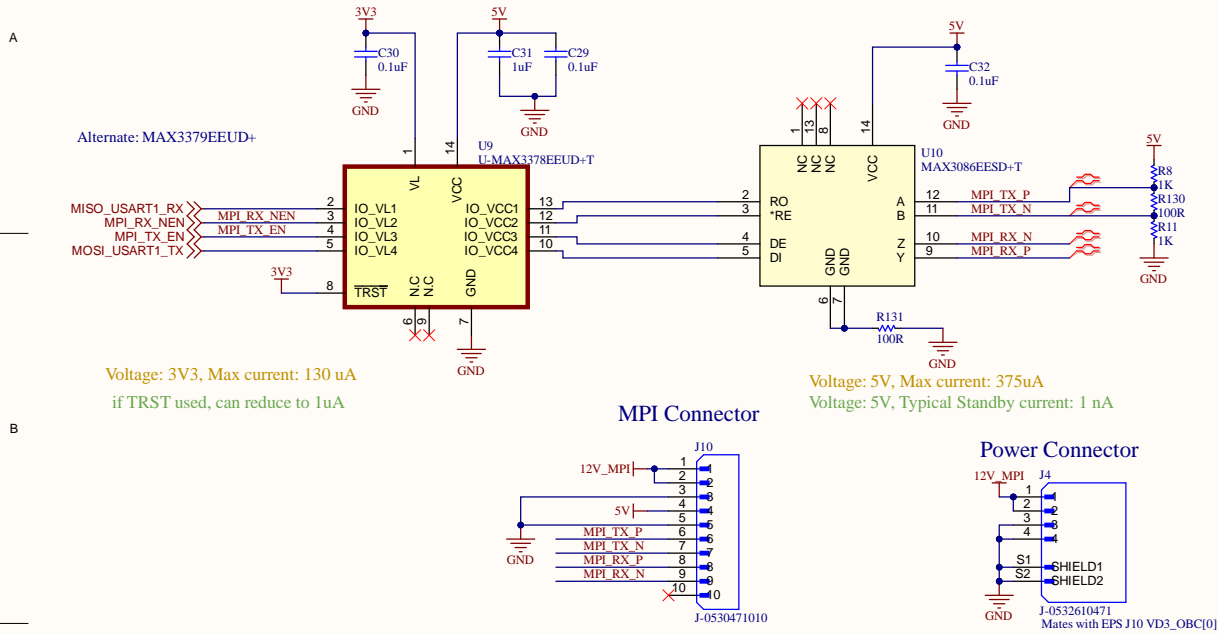
Voltage: 3V3, Typical current: 2.6 mA
Voltage: 3V3, Typical Standby current: 3.5 uA



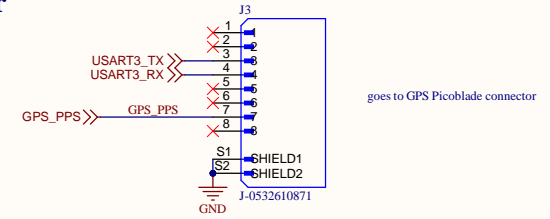
Voltage: 3V3, Typical current: 2.6 mA
Voltage: 3V3, Typical Standby current: 3.5 uA

Title		
Memory		
Size	Number	Revision
A3		
Date:	11-14-2023	Sheet of
File:	C:\Users\...Memory.SchDoc	Drawn By: James Chen
	7	8

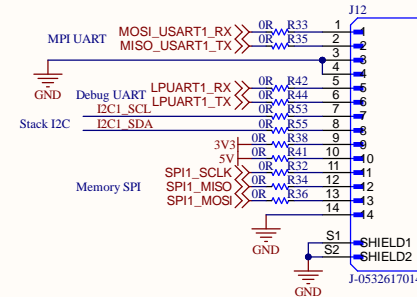
MPI RS422 Transceiver + Connector



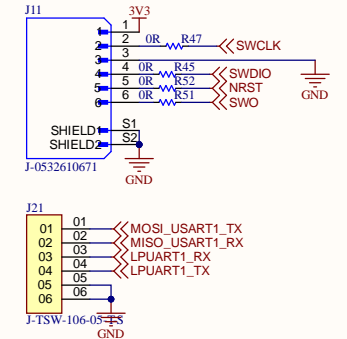
GPS connector



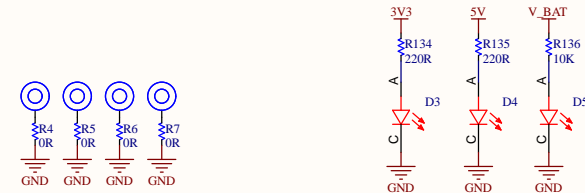
Umbilical connector



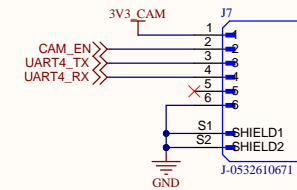
Programming Connector



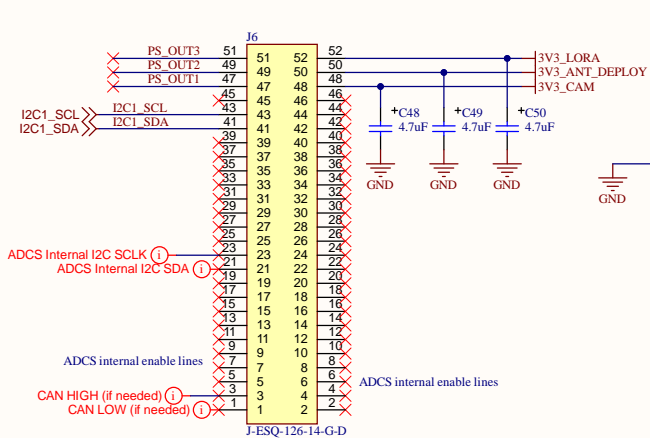
Voltage indicator LED's



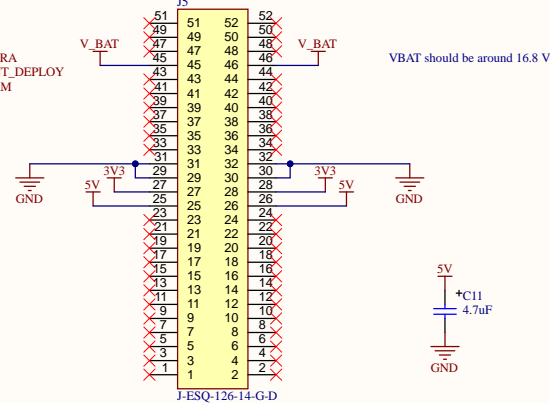
Camera Connector



H1 PC104 Connector



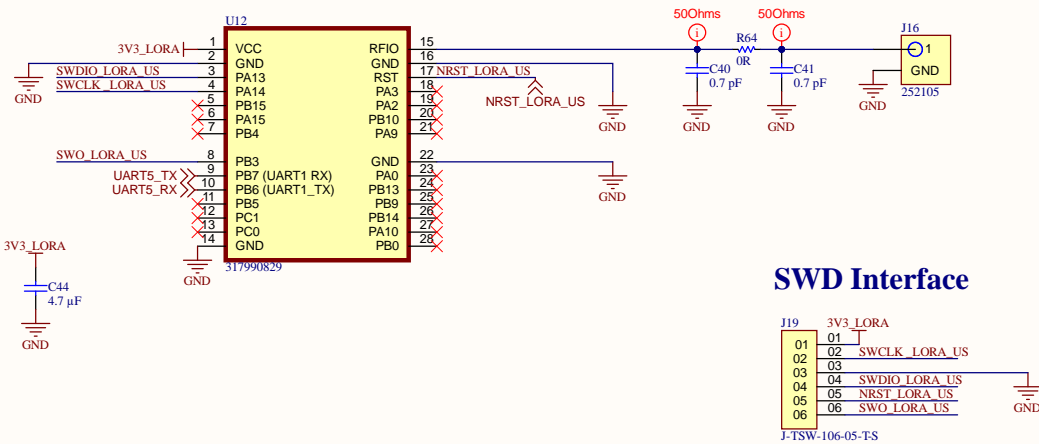
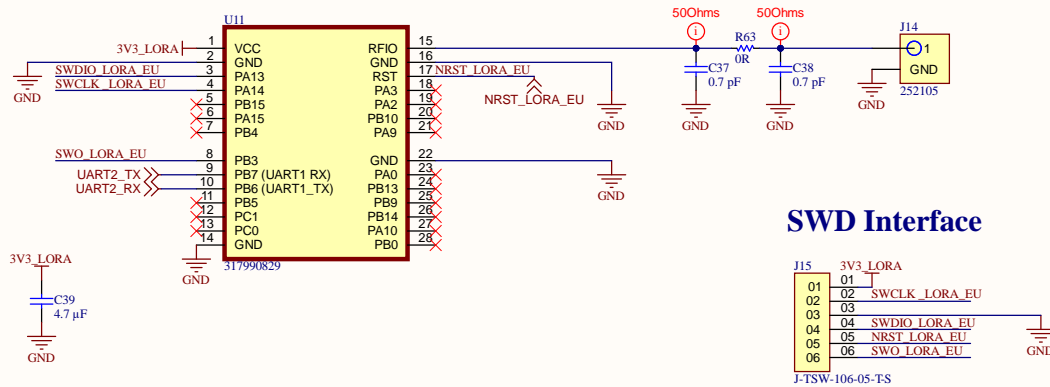
H2 PC104 Connector



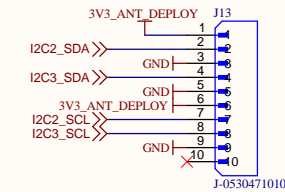
External Connectors

Size	Number	Revision
A3		
Date:	11-14-2023	Sheet of
File:	C:\Users\...\External Connectors.SchDoc	Drawn By: James Chen

Antenna Deployment



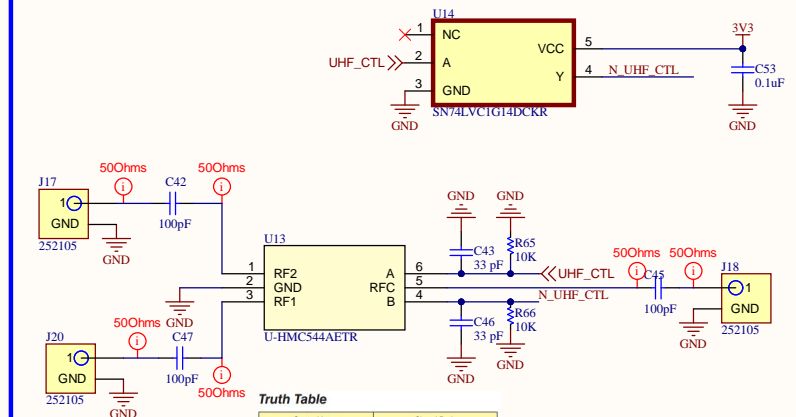
Antenna Connector (9 pin)



Two I2C? Duplicate and connect it?

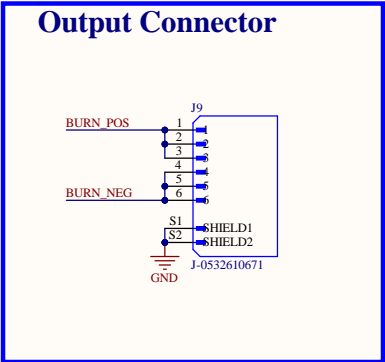
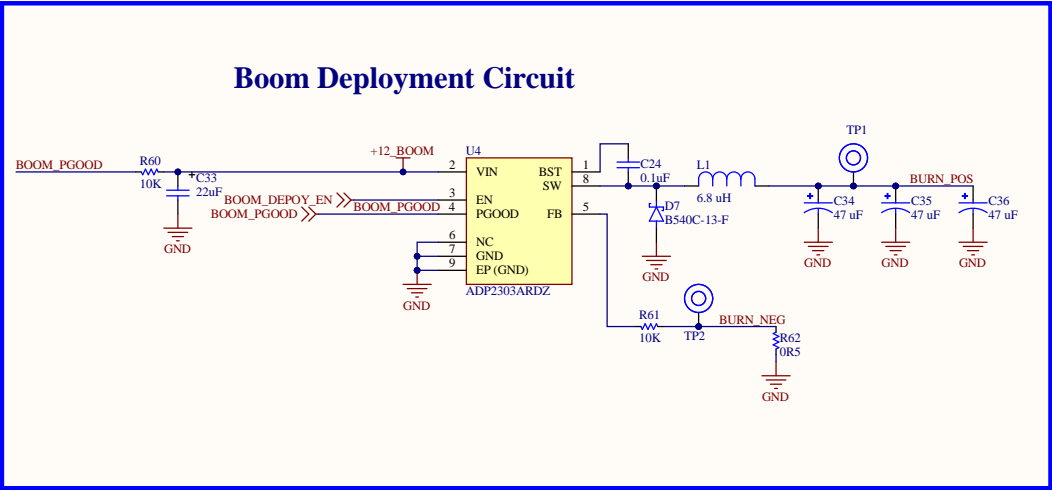
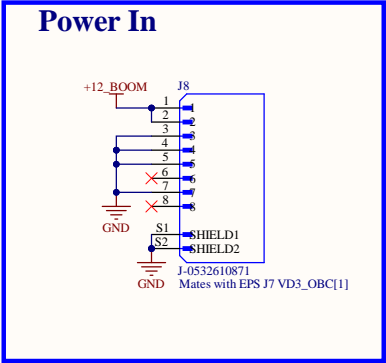
Voltage: 3V3, Typical Standby current: 13 mA

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

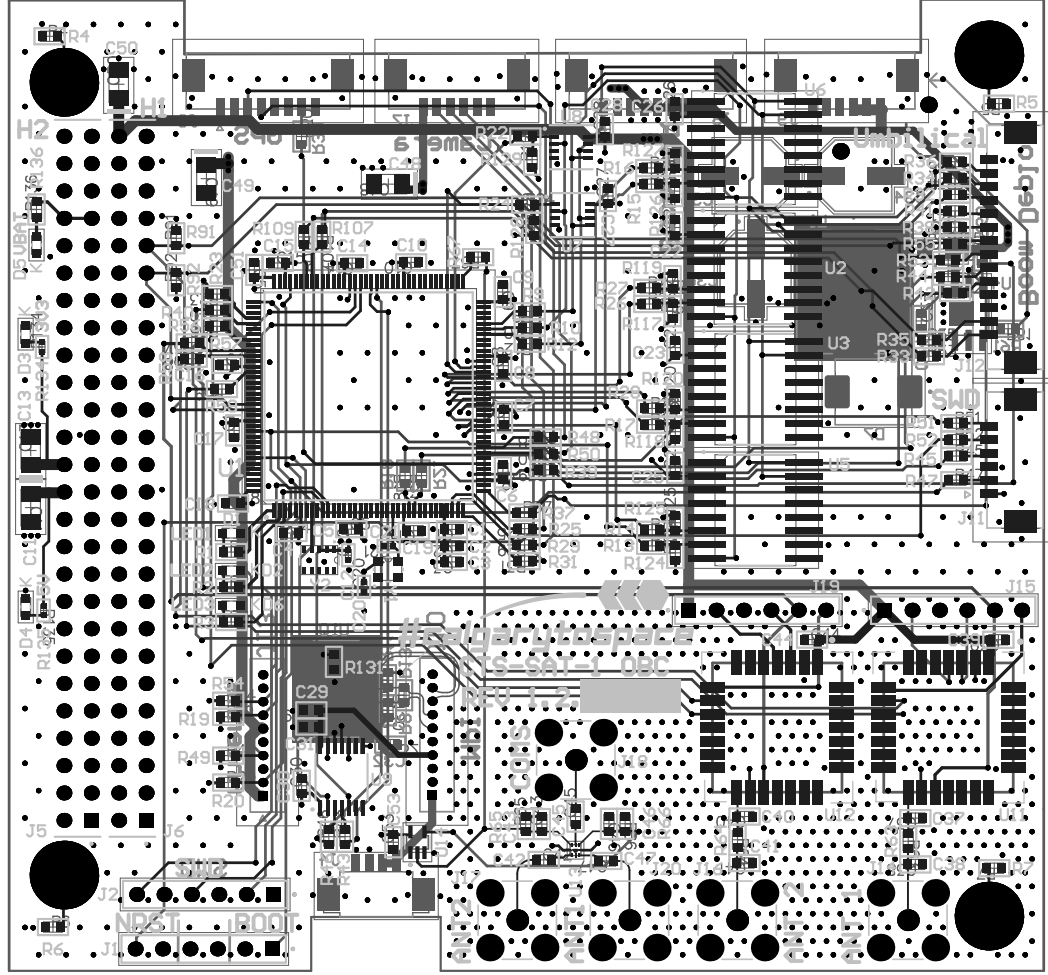


Truth Table

Control Input		Signal Path	
A	B	RFC to RF1	RFC to RF2
Low	High	On	Off
High	Low	Off	On



Title		
Motor Control		
Size	Number	Revision
A3		
Date:	11-14-2023	Sheet of
File:	C:\Users\james\Documents\Boom Deployment.SchDoc	Drawn By: James Chen



Designator	Description	Manufacturer	Manufacturer Part #	Quantity
C1, C2, C3, C4	0.1 µF ±10% 25V Ceramic Capacitor	Samsung Electro-Mechanics	CL10B104KABNNC	27
C16, C17, C18, C19, C22, C23, C24, C25, C26, C27, C28, C29, C30, C32, C51, C53	0.1 µF ±10% 25V Ceramic Capacitor	Yageo	CC0603KRX7R8BB105	2
C2, C31	4.7 µF Molded Tantalum Capacitors 20 V 1206 (3216 Metric) XRM	AVX Corporation	TAJMA475K020RNU	9
C12, C20, C52, C54	0.1 µF ±1% 50V Ceramic Capacitor C0G, NP0 0402 (1005 Metric)	YAGEO	CC0402KRX7R8BB104	4
C21	15 pF ±1% 50V Ceramic Capacitor C0G, NP0 0402 (1005 Metric)	YAGEO	CC0402F8NCP09B1150	1
C33	CAP TANT 22UF 10% 10V 1206	KYOCERA AVX	TPSA226K010T0900	1
C34, C35, C36	CAP ALUM POLY 47UF 20% 25V SMD	Panasonic Electronic Components	255VPF47M	3
C37, C38, C40, C41	CAP CER 0.7PF 50V NP0 0603	KEMET	C8806C788B5G0C	4
C39, C44	CAP CER 4.7UF 16V X7R 0603	Murata Electronics	GRM18B271C475K E2J1	2
C42, C46, C47	CAP CER 100PF 50V X7R 0603	YAGEO	CC0603KRX7R9BB101	3
C43, C46	CAP CER 33PF 50V X7R 0603	KEMET	CK0603C33K5RAC7867	2
D1, D2, D3, D4, D5, D6	Red 620nm LED Indication - Discrete 2 pin 0603 - 1608 Metric	Rohm Semiconductor	SM-LD12U1W1B6	6
D7	DIODE SCHOTTKY 40V 5A SMC	Diodes Incorporated	B540C-13-F	1
J1, J2, J15, J19, J21	CONN HEADER VERT 4POS 2.54MM	Samtec	TSW-106-05-T-S	5
J3, J8	CONN HEADER SMD 8/A 4POS 1.25MM			2
J4	CONN HEADER SMD 8/A 4POS 1.25MM			1
J5, J6	CONN SOCKET 52POS 0.1 GOLD PCB	Samtec Inc.	ESQ-126-14-G-D	2
J7, J9, J11	CONN HEADER SMD 8/A 4POS 1.25MM			3
J10, J13	CONN HEADER VERT 10POS 1.25MM	Molex	0530471010	2
J12	Connector Header Surface Mount, Right Angle, 14 position (0.095 (1.25mm))	Molex	0532617014	1
J14, J16, J17, J18, J20	CONN MCX RCPT STR 50 OHM PCB	Amphenol RF	252105	5
L1	FIXED IND 6.8UH 8A 23.3 MOHM SMD	Vishay Dale	HLF4040ZDERAR8M01	1
R1, R2, R3	220 Ohms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	Suumu	RR0816P-221-D	3
R4, R5, R6, R7, R13, R14, R15, R16, R17, R22, R24, R26, R27, R28, R30, R31, R32, R33, R34, R35, R36, R37, R38, R41, R42, R43, R44, R45, R46, R47, R51, R52, R53, R55, R63, R64, R67, R107, R109	0 Ohms Jumper 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thick Film	Stackpole Electronics Inc	RMCF0603ZT0R00	39
R8, R11	RES SMD 1K OHM 1% 1/16W 0603	TE Connectivity Passive Product	CPV0603F1K0C1	2
R9, R10, R12, R18, R21, R23, R25, R29, R39, R40, R46, R50, R56, R57, R58, R59	22 Ohms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	Suumu	RR0816O-220-D	16
R19, R20, R49, R54, R91, R92	RES SMD 4.7K OHM 1% 1/10W 0603	Bourns Inc.	GR0603-FX-4701ELF	6
R60, R61, R65, R66, R117, R118, R119, R120, R124, R125, R126, R127, R128, R129, R136	RES 10K OHM 1% 1/8W 0603, 10 kOhms ±0.1% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	Stackpole Electronics Inc, TE Connectivity Passive Product	RWCPR0603FTD10K0, CPV0603B10KE	15
R62	2W ±75ppm/°C ±1% 250mΩ ±527 Chip Resistor - Surface Mount ROHS	Vishay Dale	WSR2R2500FEA	1
R130, R131	RES SMD 100 OHM 0.5% 1/16W 0603	Suumu	RR08P100DCT-ND	2
R134, R135	RES 220 OHM 5% 1/16W 0402	Yageo	RC0402JR-07220RL	2
S1	NO 50mA Brick Regging DPST 80000A 12V SMD Tactile Switches ROHS	Shenzhen Kinghelm Elec	KH-6X6X4-3H-STM	1
TP1, TP2	Test Point			2
U1	IC MCU 32BIT 2MB FLASH 144LQFP	STMicroelectronics	STM32L4R5ZIT6	1
U2, U3, U5, U6	IC FLASH 1GBIT SPI/QUAD 16SOIC	Cypress Semiconductor	ST0F101G5AGMF1011	4
U4	IC REG BUCK ADJUSTABLE 3A 8SOIC	Analog Devices Inc.	ADP2303ABDZ	1
U7, U8	IC FRAM 8MBIT SPI 80NMZ 8CCFN	Cypress Semiconductor	CY158108QN-68LFB	2
U9	IC TRNXL TR BIDIRECTIONAL 14TSSOP	Maxim Integrated	MAX3378EUD-T	1
U10	IC TRANSCEIVER FULL 1/1 14SOIC	Maxim Integrated Products	MAX3086EESD-T	1
U11, U12	LORA ES WIRELESS MODULE 128K BPS	Seed Technology Co., Ltd	317990E29	2
U13	090-4GHz 23dB 0.7dB SOT-23-6 RF Switches ROHS	Analog Devices	HVMS44AETR	1
U14	IC INVERT SCHMITT 1CH 1IN 5CTO			1
U15	MSOP 8 Temperature Sensors ROHS	STMicroelectronics	STDS75DS2F	1
U1	XTAL OSC TCXO 25.0000MHZ HCMOS	ECSS Inc.	ECS-TXO-2520-33-250-AN-TR	1
Y2	XTAL OSC TCXO 32.7680MHZ CMOS	EPSON	15-3941CE 32.7680K083	1