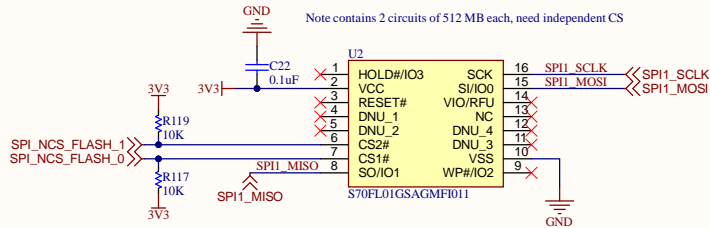
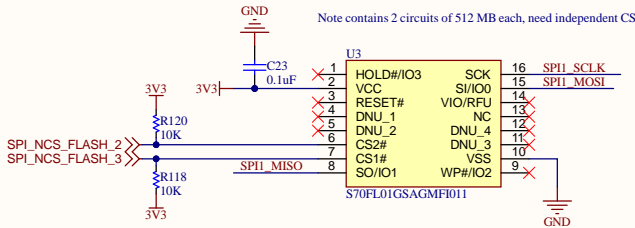


## Flash Memory

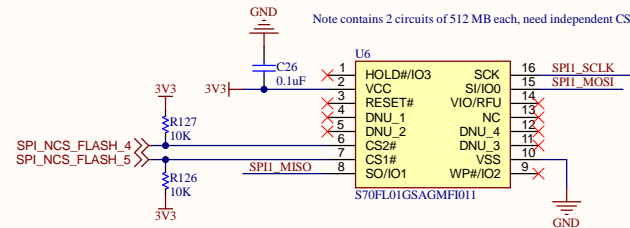
Can use as alternative (stock) S70FL01GSDPMFV010, halves the frequency (133 to 66 MHz)



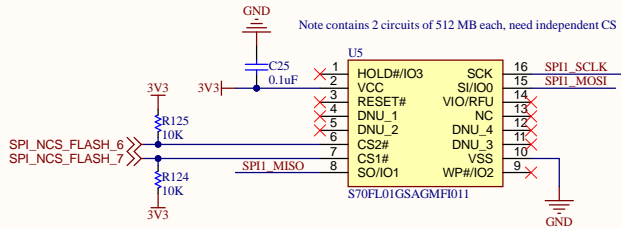
Voltage: 3V3, Max current: 90 mA  
Voltage: 3V3, Typical Standby current: 140 uA



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

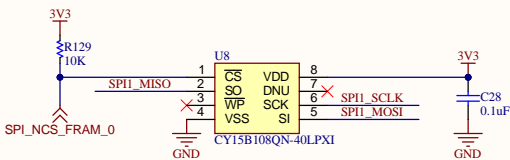


Voltage: 3V3, Max current: 90 mA  
Voltage: 3V3, Typical Standby current: 140 uA

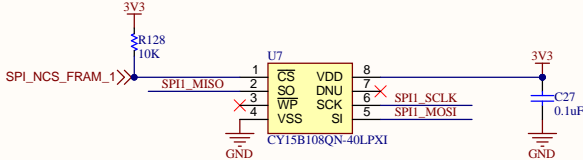


Voltage: 3V3, Max current: 90 mA  
Voltage: 3V3, Typical Standby current: 140 uA

## FRAM Memory



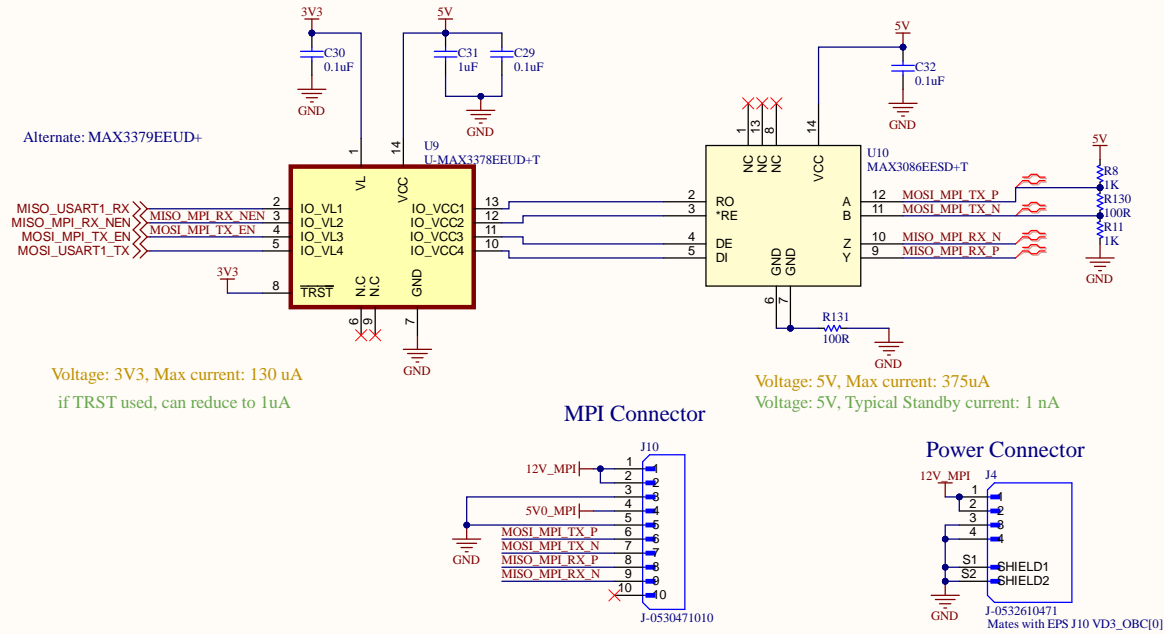
Voltage: 3V3, Typical current: 2.6 mA  
Voltage: 3V3, Typical Standby current: 3.5 uA



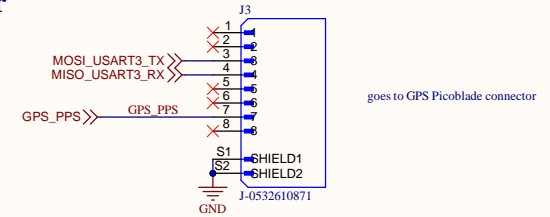
Voltage: 3V3, Typical current: 2.6 mA  
Voltage: 3V3, Typical Standby current: 3.5 uA

Title		
Memory		
Size	Number	Revision
A3		
Date:	12-19-2023	Sheet of
File:	C:\Users\...Memory.SchDoc	Drawn By: James Chen

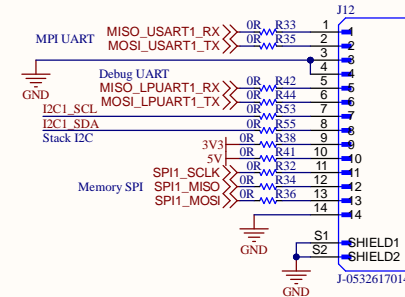
## MPI RS422 Transceiver + Connector



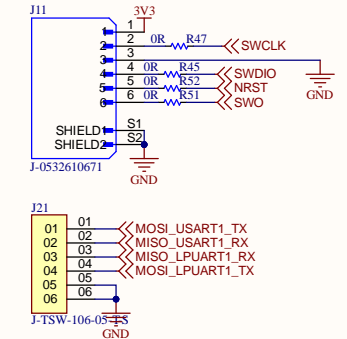
## GPS connector



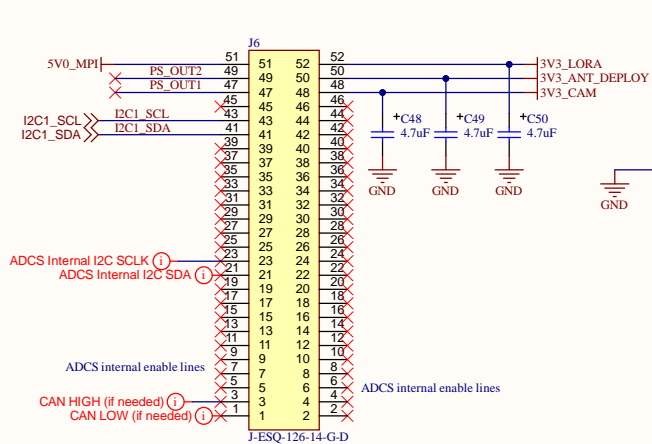
## Umbilical connector



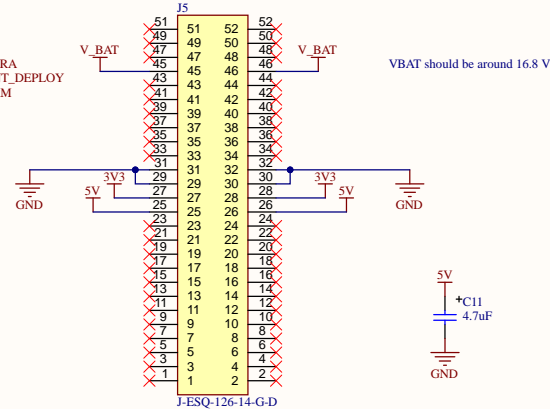
## Programming Connector



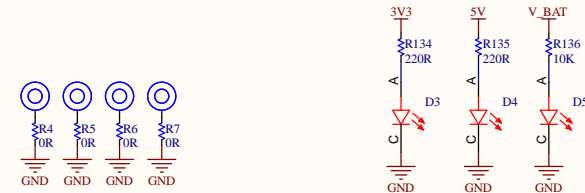
## H1 PC104 Connector



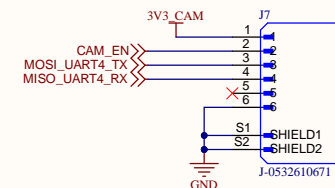
## H2 PC104 Connector



## Voltage Indicator LEDs



## Camera Connector



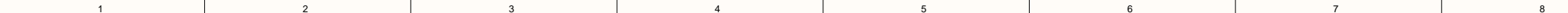
## External Connectors

Size A3	Number	Revision
Date:	12-19-2023	Sheet of
File:	C:\Users\...\External Connectors.SchDoc	Drawn By: James Chen

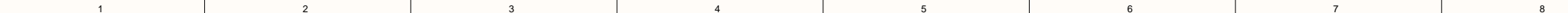
## B



## D



## D



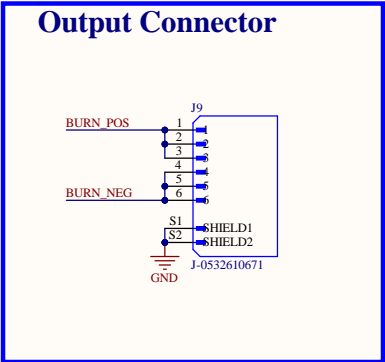
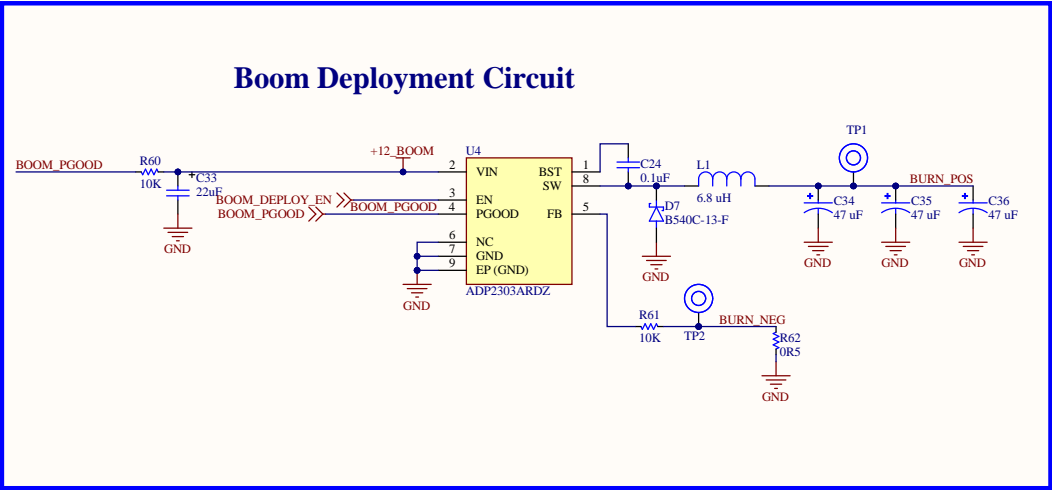
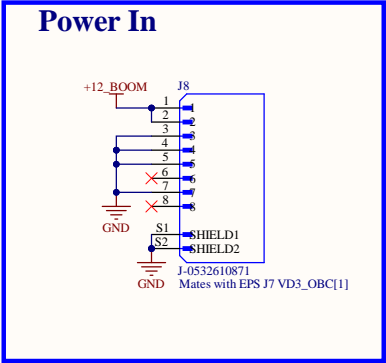
1	2	3	4	5	6	7	8
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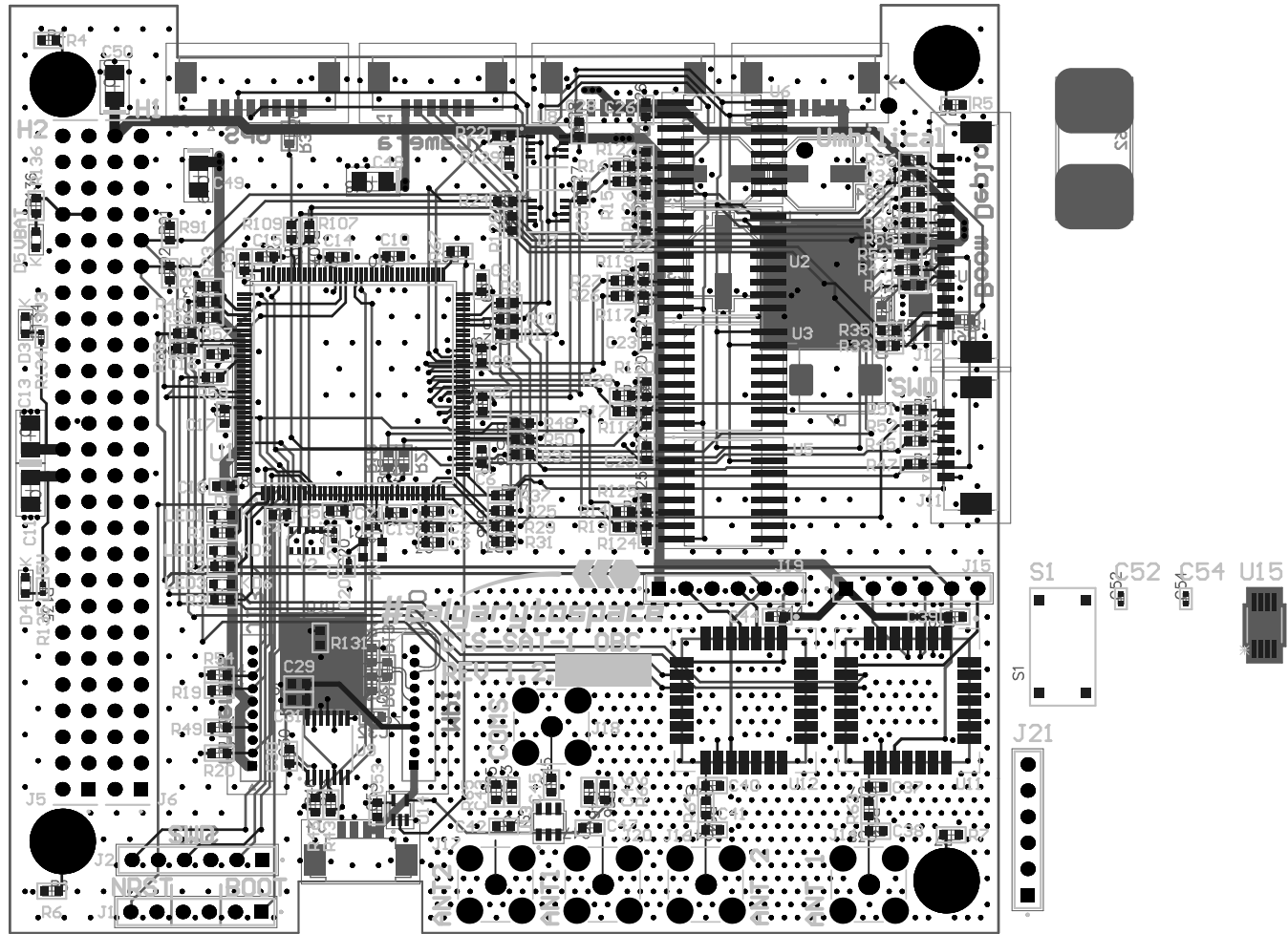
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1	2	3	4	5	6	7	8
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1	2	3	4	5	6	7	8
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Title		
Motor Control		
Size	Number	Revision
A3		
Date:	12-19-2023	Sheet of
File:	C:\Users\james\Documents\Boom Control.SchDoc	Drawn By: James Chen



Designator	Description	Manufacturer	Manufacturer Part #	Quantity
*1, *2, *3, *4				4
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, C31, C33	0.1 µf ±10% 25V Ceramic Capacitor X7R 0603 (1608 Metric)	Samsumg Electro-Mechanics	CL10B104KARNNNC	27
C2, C31	CAP CER 10UF 25V X7R 0603	Yageo	CC0603K0X7R8BB105	2
C11, C13, C48, C49, C50	4.7 µf Agedded Tantalum Capacitors 20 V 1206 (3216 Metric) 40hm	AVX Corporation	TAJUA75K020RNJ	5
C12, C20, C52, C54	CAP CER 0.1UF 25V X7R 0402	YAGEO	CC0402K0X7R8BB104	4
C21	15 µf ±1% 50V Ceramic Capacitor C0G NPO 0402 (1005 Metric)	YAGEO	CC0402F7RNP09BNT50	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 0.1PF 50V NPO 0603	KEI-MET	CBR06C70BB5GAC	4
C39, C44	CAP CER 4.7UF 16V X7R 0602	Murata Electronics	GRM188Z71C475KJ27J1	2
C42, C45, C47	CAP CER 100PF 50V X7R 0603	YAGEO	CC0603K0X7R8BB101	3
C43, C46	CAP CER 33PF 50V X7R 0603	KEI-MET	C0603C33K5SRAC7867	2
D1, D2, D3, D4, D5, D6	Red 620nm LED Indication - Discrete 2-V 0603_1608 Metric	Rohm Semiconductor	SML-D12U1WTB6	6
D7	DIODE SCHOTTKY 40V 5A SMC	Diodes Incorporated	BS40C-13-F	1
J1, J2, J15, J19, J21	CONN HEADER VERT 8POS 2.54MM	Samtec	TSW-106-05-T-5	5
J3, J8	CONN HEADER SMD R/A 8POS 1.25MM			2
J4	CONN HEADER SMD R/A 8POS 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 R/A 8POS 1.25MM			3
J10, J13	CONN HEADER VERT 10POS 1.25MM	Molex	0530471010	2
J12	Connector Header Surface Mount, Right Angle 14 position 0.049 (1.25mm)	Molex	0532617014	1
J14, J16, J17, J18, J20	CONN MCK REPT STR 50 OHM PCB	Amphenol RF	252105	5
L1	FIXED IND 6.8UH 8A 2% 1808SMD	Vishay Dale	IHLF4040DZER6R8A01	1
R1, R2, R3, R134, R135	220 Ohms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	Susumu	RR0816P-221-D	5
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) - Thick Film	Stackpole Electronics Inc.	RMCF0603JT0R00	39
R8, R11	RES SMD 1K OHM 1% 1/16W 0603	TE Connectivity Passive Product	CPF0603F1K0C1	2
R9, R10, R12, R18, R21, R23, R25, R29, R39, R40, R48, R50, R56, R57, R58, R59	22 Ohms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) - Thin Film	Susumu	RR0816Q-220-D	16
R19, R20, R49, R54, R91, R92	RES SMD 4.7K OHM 1% 1/10W 0603	Bourns Inc.	CR0603-FX-4701ELF	6
R60, R63, R65, R66, R111, 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	RNCP0603T1010K0, CPF0603B10RE	15
R62	2W ±75ppm/°C ±1% 250mΩ 4327 Chip Resistor - Surface Mount ROHS	Vishay Dale	WSR2R2500FEA	1
R130, R131	RES SMD 100 OHM 0.5% 1/16W 0603	Susumu	RR08P100DCT-ND	2
S1	NO 50mA Brick Jogging SPST 80000:1 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	STM32L4R50T6	1
U2, U3, U5, U6	IC FLASH 1GBIT SPI/QUAD 16SOIC	Cypress Semiconductor	STF0L01GSAGMF1011	4
U4	IC REG BUCK ADJUSTABLE 3A RSOC	Analog Devices Inc.	ADP2303ARDZ	1
U7, U8	IC TRAM 8MBIT SPI 40MHZ BGQFN	Cypress Semiconductor	CY1581108QN-40LP91	2
U9	IC TRNSLTR BIDIRECTIONAL 14TSSOP	Maxim Integrated Products	MAX3178EUD+-T	1
U10	IC TRANSCEIVER FULL 1/1 14SOIC	Maxim Integrated Products	MAX3086EED+-T	1
U11, U12	CHOKES WIRELESS MODULE (TAPE RE	Sensel Technology Co., Ltd	317990829	2
U13	0Hz-4GHz 23dB 0.7dB SOT-23 4 RF Switches ROHS	Analog Devices	HMCS444ETR	1
U14	IC INVERT SCHMITT TCH 1IN SC70			1
U15	MSOP-8 Temperature Sensors ROHS	STMicroelectronics	STDS75DS2F	1
Y1	XTAL OSC TCXO 25.0000MHZ HCMOS	ECS Inc.	ECS-1X0-2520-33-250-AN-TB	1
Y2	XTAL OSC TCXO 32.768MHZ CMOS	EPSON	1G-3541CE-32-7680KX83	1