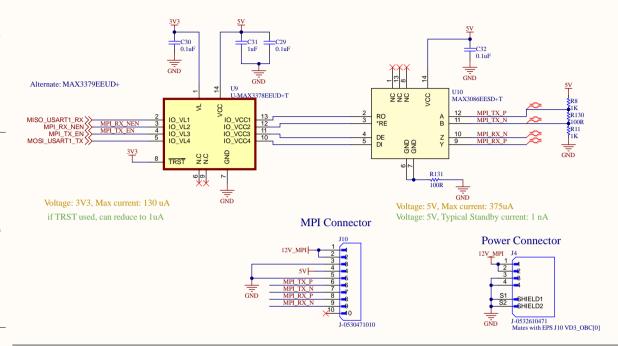


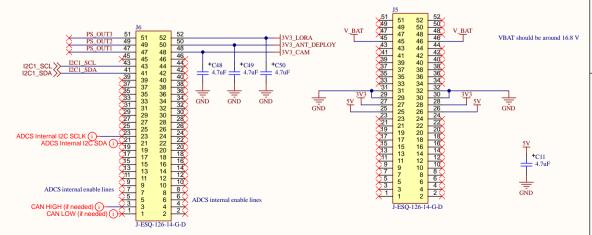
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Size	Number	Revision
A3		
Date:	11-14-2023	Sheet of
File:	C:\Users\\Memory.SchDoc	Drawn By: James Chen

## **MPI RS422 Transceiver + Connector**

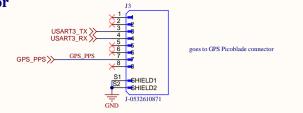


### **H1 PC104 Connector**

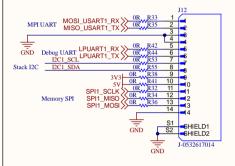
### **H2 PC104 Connector**



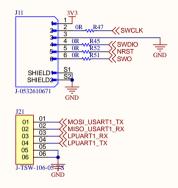
## **GPS** connector



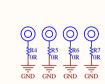
### **Umblilical connector**

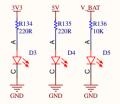


### **Programming Connector**

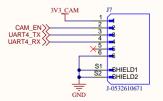


# **Voltage indicator LED's**

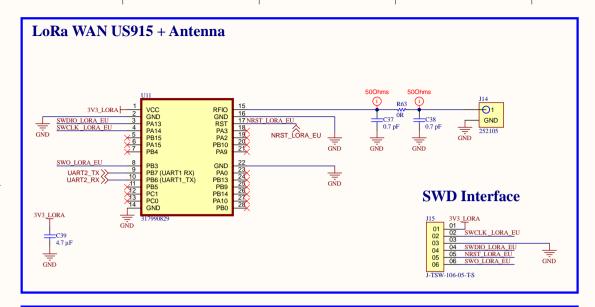


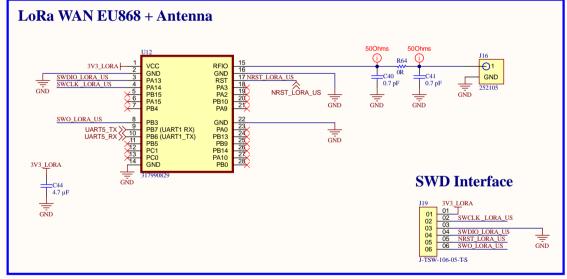


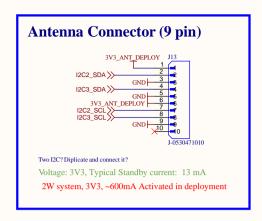
#### **Camera Connector**

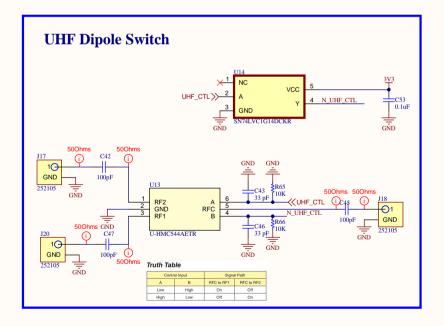


Title External Connectors						
Size	Number			Revision		
A3						
Date:	11-14-2023		Sheet of	•		
File:	C:\Users\\Externa	al Connectors.SchD	orawn By:	James Chen		



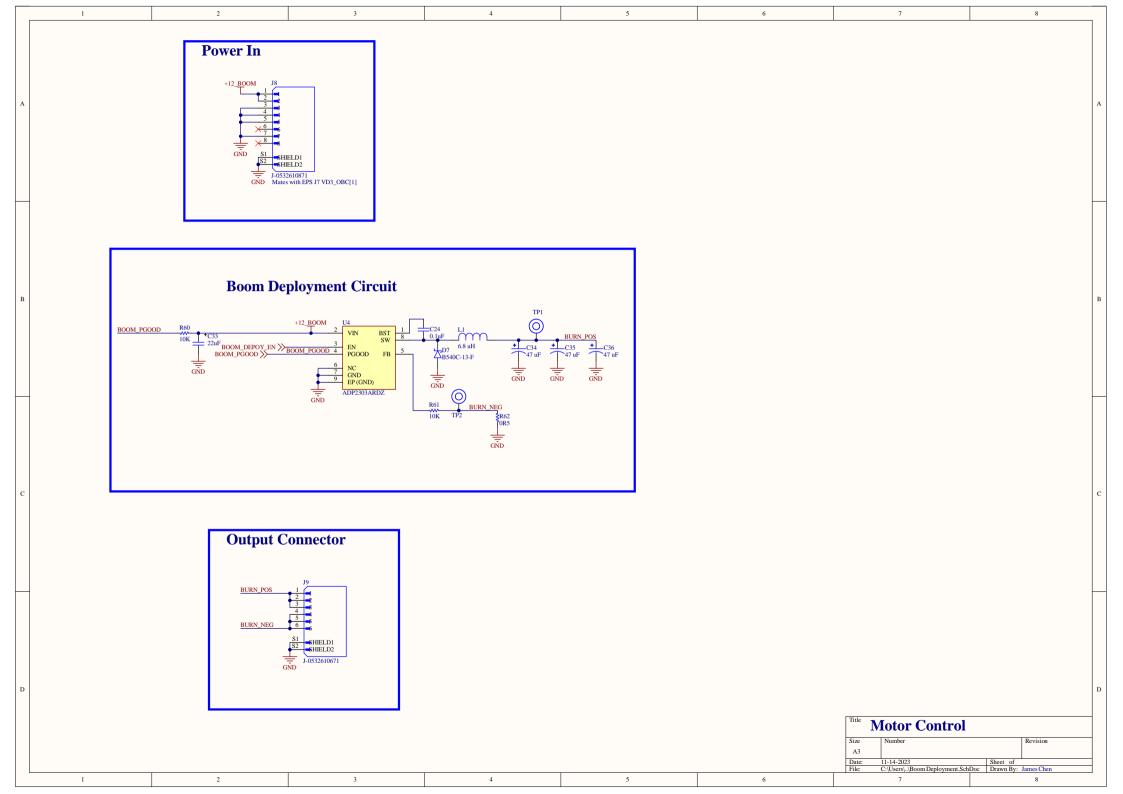


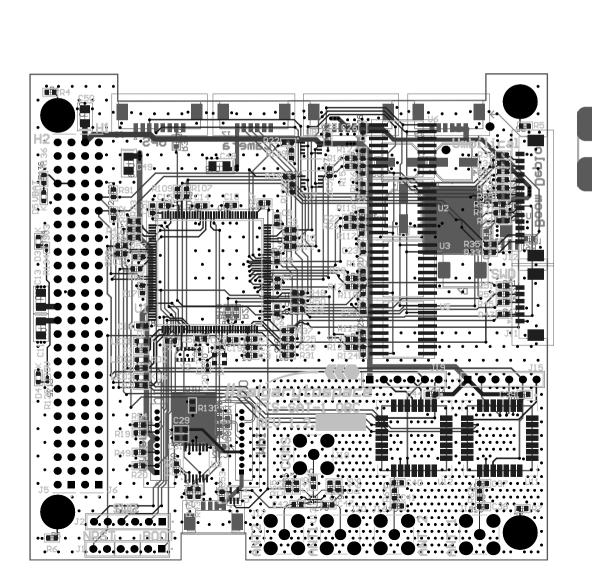




**Antenna Deployment** Date: 11-14-2023 Sheet of C:\Users\..\Antenna and LoRa.SchDoc Drawn By: James Chen

С





Designator	Description	Manufacturer	Manufacturer Part	Quantity
*1, *2, *3, *4			7	
C1, C3, C4, C5, C6, C7, C8, C9, C10, C14, C15,	0.1 μF ±10% 25V			
C16, C17, C18, C19,	Ceramic Capacitor	Samsung Electro-	CL10B104KA8NNN	
C22, C23, C24, C25,	X7R 0603 (1608	Mechanics	С	
C26, C27, C28, C29,	Metric)			
C30, C32, C51, C53	CAP CER 1UF 25V X7R		CC0603KRX7R8BB	
C2, C31	0603	Yageo	105	
C11 C12 C49 C40	4.7 µF Molded			
C11, C13, C48, C49, C50	Tantalum Capacitors 20 V 1206 (3216	AVX Corporation	TAJA475K020RNJ	
	Metric) 40hm			
C12, C20, C52, C54	CAP CER 0.1UF 25V	YAGEO	CC0402KPX7R8BB	
	X7R 0402 15 pF ±1% 50V		104	
C21	Ceramic Capacitor	YAGEO	CC0402FRNPO9B	
U21	COG, NPO 0402 (1005	TAGEU	N150	
	Metric) CAP TANT 22UF 10%		TPSA226K010T090	
C33	10V 1206	KYOCERA AVX	0	
	CAP ALUM POLY 47UF	Panasonic		
C34, C35, C36	20% 25V SMD	Electronic Components	25SVPF47M	
C37, C38, C40, C41	CAP CER 0.7PF 50V	KEMET	CBR06C708B5GAC	
C37, C38, C40, C41	NP0 0603			
C39, C44	CAP CER 4.7UF 16V X7R 0603	Murata	GRM188Z71C475K	
	CAP CER 100PF 50V	Electronics	CC0603KRX7R9BB	
C42, C45, C47	X7R 0603	YAGEO	101	
C43, C46	CAP CER 33PF 50V	KEMET	C0603C330K5RAC	
	X7R 0603 Red 620nm LED		7867	
D1 D2 D3 D4 DE D4	Indication - Discrete	Rohm	SML-D12U1WT86	
D1, D2, D3, D4, D5, D6	2.2V 0603 _1608	Semiconductor	SWIL-D1∠U1W186	
	Metric DIODE SCHOTTKY 40V	Diodes	-	
D7	5A SMC	Incorporated	B540C-13-F	
J1, J2, J15, J19, J21	CONN HEADER VERT	Samtec	TSW-106-05-T-S	
	6POS 2.54MM CONN HEADER SMD			
J3, J8	R/A 8POS 1.25MM			
J4	CONN HEADER SMD			
	R/A 4POS 1.25MM CONN SOCKET 52POS			
J5, J6	ONN SOCKET 52POS 0.1 GOLD PCB	Samtec Inc.	ESQ-126-14-G-D	
J7, J9, J11	CONN HEADER SMD			
	R/A 6POS 1.25MM			
J10, J13	CONN HEADER VERT 10POS 1.25MM	Molex	0530471010	
	Connector Header			
J12	Surface Mount, Right	Molex	0532617014	
	Angle 14 position 0.049 (1.25mm)			
114 114 117 110 111	CONN MCX RCPT STR	American Cor	252105	
J14, J16, J17, J18, J20	50 OHM PCB	Amphenol RF	252105	
L1	FIXED IND 6.8UH 8A 23.3 MOHM SMD	Vishay Dale	IHLP4040DZER6R8 M01	
	220 Ohms ±0.5%			
R1, R2, R3	0.063W, 1/16W Chip	Susumu	RR0816P-221-D	
,	Resistor 0603 (1608 Metric) - Thin Film			
R4, R5, R6, R7, R13,	meury - iffili Film			
R14, R15, R16, R17,	1		1	
R22, R24, R26, R27,	0 Ohms Jumper 0.1W,		ı	
R28, R30, R31, R32, R33, R34, R35, R36,	1/10W Chip Resistor	Stackpole		
R37, R38, R41, R42,	0603 (1608 Metric) Automotive AEC-Q200	Electronics Inc	RMCF0603ZT0R00	
R43, R44, R45, R46,	Automotive AEC-Q200 Thick Film		1	
R47, R51, R52, R53, R55, R63, R64, R67.	1		1	
R107, R109	<u> </u>			
R8, R11	RES SMD 1K OHM 1%	TE Connectivity	CPF0603F1K0C1	
R9, R10, R12, R18,	1/16W 0603 22 Ohms ±0.5%	Passive Product		
R21, R23, R25, R29,	0.063W, 1/16W Chip	Current	DD0014C 220 F	
R39, R40, R48, R50,	Resistor 0603 (1608	Susumu	RR0816Q-220-D	
R56, R57, R58, R59 R19, R20, R49, R54,	Metric) - Thin Film RES SMD 4.7K OHM		CR0603-FX-	
K19, K20, K49, K54, R91, R92	1% 1/10W 0603	Bourns Inc.	4701ELF	
R60. R61. R65. R66.	RES 10K OHM 1%			
R117, R118, R119,	1/8W 0603, 10 kOhms	Stackpole	RNCP0603FTD10K	
R120, R124, R125,	±0.1% 0.063W, 1/16W Chip Resistor 0603	Electronics Inc, TE Connectivity	O, CPF0603FTD10K	
R126, R127, R128, R129, R136	(1608 Metric) - Thin	Passive Product		
N 147, R 130	Film			
	2W ±75ppm/°C ±1% 250mΩ 4527 Chip		1	
R62	Resistor - Surface	Vishay Dale	WSR2R2500FEA	
	Mount ROHS			
R130, R131	RES SMD 100 OHM 0.5% 1/16W 0603	Susumu	RR08P100DCT-ND	
D124 D126	RES 220 OHM 5%	Voano	RC0402JR-	
R134, R135	1/16W 0402	Yageo	07220RL	
	NO 50mA Brick		1	
S1	nogging SPST 80000次	Shenzhen	KH-6X6X4.3H-STM	
	12V SMD Tactile Switches ROHS	Kinghelm Elec		
TP1, TP2	Test Point			
	LEST POINT	STMicroelectronic		
	IC MCU 32BIT 2MB		STM32L4R5ZIT6	
	FLASH 144LQFP	s		
U1 U2, U3, U5, U6	FLASH 144LQFP IC FLASH 1GBIT	s Cypress	S70FL01GSAGMFI0	
U1	FLASH 144LQFP IC FLASH 1GBIT SPI/QUAD 16SOIC	s Cypress Semiconductor	S70FL01GSAGMFI0 11	
U1 U2, U3, U5, U6	FLASH 144LOFP IC FLASH 1GBIT SPI/QUAD 16SOIC IC REG BUCK	s Cypress Semiconductor Analog Devices	11	
U1	FLASH 144LOFP IC FLASH 1GBIT SPI/QUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC	s Cypress Semiconductor Analog Devices Inc.	ADP2303ARDZ	
U1 U2, U3, U5, U6 U4	FLASH 144LOFP IC FLASH 1GBIT SPI/QUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAM 8MBIT SPI	s Cypress Semiconductor Analog Devices Inc. Cypress	11 ADP2303ARDZ CY15B108QN-	
U1 U2, U3, U5, U6 U4	FLASH 144LOFP IC FLASH 1GBIT SPI/QUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC	s Cypress Semiconductor Analog Devices Inc.	ADP2303ARDZ	
U1 U2, U3, U5, U6 U4 U7, U8	FLASH 144LOFP IC FLASH 1GBIT SPI/OUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAM BIMBIT SPI 40MHZ BGOFN IC TRNSLTR BIDIRECTIONAL	s Cypress Semiconductor Analog Devices Inc. Cypress	11 ADP2303ARDZ CY15B108QN-	
U1 U2, U3, U5, U6 U4 U7, U8	FLASH 144LQFP IC FLASH 1GBIT SPI/QUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAMBIMBIT SPI 40MHZ BGOFN IC TRISL TR BIDIRECTIONAL 14TSSOP	S Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated	11 ADP2303ARDZ CY15B108QN- 40LPXI	
U1 U2, U3, U5, U6 U4 U7, U8	FLASH 144LOFP IC FLASH 1GBIT SPI/OUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAM BIMBIT SPI 40MHZ BGOFN IC TRINST IR BIDIRECTIONAL 14TSSOP IC TRANSCEIVER FULL	S Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Products	11 ADP2303ARDZ CY15B108QN- 40LPXI	
U1 U2, U3, U5, U6 U4 U7, U8	FLASH 144LOFP IC FLASH 1GBIT SPI/OUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAM 8IMBIT SPI 40MHZ 8GOFN IC TRNSLTR BIDIRECTIONAL 14TSSOP IC TRANSCEIVER FULL 11 ASOIC LORA-ES WIRELESS	S Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated	11 ADP2303ARDZ CY15B10B0N- 40LPXI MAX3378EEUD+T MAX3086EESD+T	
U1 U2, U3, U5, U6 U4 U7, U8	RASH 144LOFP IC FLASH 1GBIT SPI/QUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAM BMBIT SPI 400H/2 GGGFN IC TRINSL TR BIDIRECTIONAL 14TSSOP IC TRANSCEIVER FULL 1/1 14SOIC LORA-ES WIRELESS MODULE (TAPE RE	S Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Products	ADP2303ARDZ  CY15B108QN- 40LPXI  MAX3378EEUD+T	
U1 U2, U3, U5, U6 U4 U7, U8 U9 U10 U110	ILASH 144LOFP IC FLASH 16BIT SPI/QUAD 16SOIC IC REG BUCK ADJUSTABLE 3A 8SOIC IC FRAM BMBIT SPI 40MHZ BGOEN IC TRINSI TR BIDIRECTIONAL 14TSSOP IC TRANSELVER FULL 1/1 14SOIC LORAES WIRELESS MODULE (TAPE RE MODULE (TAPE RE	s Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Maxim Integrated Fooducts Seeed Technology Co., Ltd	11 ADP2303ARDZ CY15B108QN- 40LPXI MAX3378EEUD+T MAX3086EESD+T 317990829	
U1 U2, U3, U5, U6 U4 U7, U8 U9	FLASH 144.OFP  IC FLASH 16SDIC  IC FLASH	S Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Products Seed Technology Seed Technology	11 ADP2303ARDZ CY15B10B0N- 40LPXI MAX3378EEUD+T MAX3086EESD+T	
U1 U2, U3, U5, U6 U4 U4 U4 U7, U8 U9 U10 U11, U12 U113	FLASH 144.OFP CF LASH 16BIT SPI/OUAD 16SOIC IC REG BUCK ADJUSTABLE 2A BSOIC IC TRAM BMBIT SPI 40M4Z BGOTN IC TRAMS BMBIT SPI 40M4Z BGOTN IC TRAMS.	s Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Maxim Integrated Fooducts Seeed Technology Co., Ltd	11 ADP2303ARDZ CY15B108QN- 40LPXI MAX3378EEUD+T MAX3086EESD+T 317990829	
U1 U2, U3, U5, U6 U4 U7, U8 U9 U10 U11, U12 U13	FLASH 144.OFP  CF FLASH 16BIT SPICOUAD 145.OIC  IC REG BUCKD  IC REG BUCKD  IC REG BUCKD  IC FEAN BMBIT SPI 40ANEZ BCOTH  IC TENNS IT B BIDIBECTIONAL  14TSSOP  IC TRANSCEWER FULL  1/1 145.OIC  LORA ES WIRELESS  MODULE (TAPE BE	s Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Products Seeed Technology Co., Ltd Analog Devices	11 ADP2303ARDZ CY15B108QN- 40LPXI MAX3378EEUD+T MAX3086EESD+T 317990829	
U1 U2, U3, U5, U6 U4 U7, U8 U9 U10 U11, U12 U13 U14 U14 U17, U8 U19 U10 U11, U12 U13	FLASH 144.OFP CF LASH 16BIT SPI/OUAD 16SOIC IC REG BUCK ADJUSTABLE 2A BSOIC IC TRAM BMBIT SPI 40M4Z BGOTN IC TRAMS BMBIT SPI 40M4Z BGOTN IC TRAMS.	s Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Maxim Integrated Fooducts Seeed Technology Co., Ltd	11 ADP2303ARDZ CY15B108QN- 40LPXI MAX3378EEUD+T MAX3086EESD+T 317990829	
U1 U2, U3, U5, U6 U4 U4 U7, U8 U9 U10 U110 U113 U14 U15	FLASH 144.OFP  G FLASH (GBIT SPUCUAD 1650IC  C REG BUCK ADAUSTABLE 3A 850IC  C FRASH 850IT  IC TRASH STATE  IC	s Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Products Seed Technology Co., Ltd Analog Devices STMicroelectronic S	11 ADP2303ARDZ CY15B108QN- 40LPX MAX3378EEUD+T MAX3086EESD+T 317990829 HMC544AETR	
U1 U2, U3, U5, U6 U4 U7, U8 U9 U10 U110	FLASH 144.OFP  CF FLASH 16BIT SPIPCHAD 16SOIC  IC REG BUCK FLASH 16BIT SPIPCHAD 16SOIC  IC REAM BUMIT SPI 400HZ 8GOST IC REAM BUMIT SPI 400HZ 8GOST IC REAM SUBTILITY IC TENSIT REBIDIBECTIONAL 14TSOP IC TENSIT REBIDIBECTIONAL 14TSOP IC TENSIT REBIDIBECTIONAL 14TSOP IC TENSIT SPIPCH FULL 1/1 14SOIC ICRAES WIRELESS MODULE (TAPE BE 0491-44742 2286 F 0491-44742 2286 F 0501-250 F IC MURET SCHMITT ICH 11BI SZO ICH 11BI SZO MSCP 3 Temperature Sensors ROIS  IC NIVERT SCHMITT ICH 11BI SZO MSCP 3 Temperature Sensors ROIS	s Cypress Semiconductor Analog Devices Inc. Cypress Semiconductor Maxim Integrated Maxim Integrated Products Seeed Technology Co., Ltd Analog Devices	11 ADP2303ARDZ CY158108QN- 40LP3 MAX3378EEUD+T MAX3086EESD+T 317990829 HMC544AETR STDS75DS2F	