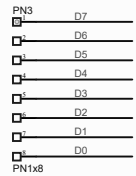
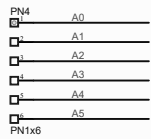
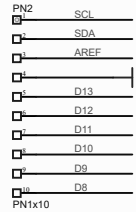
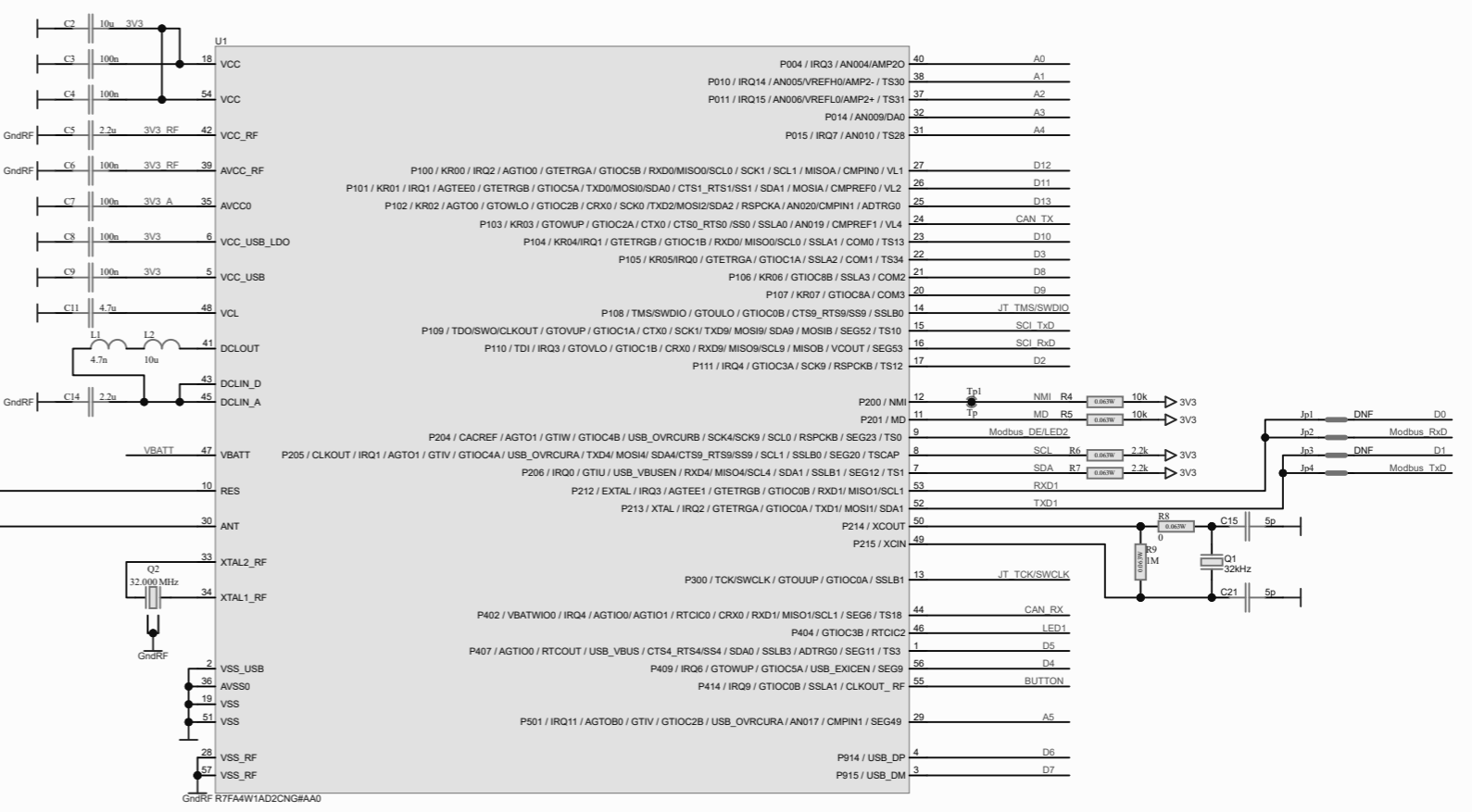
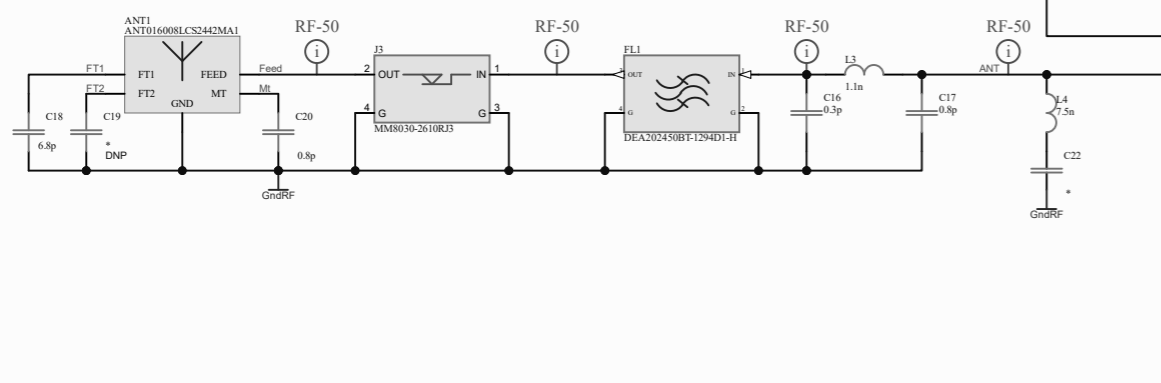
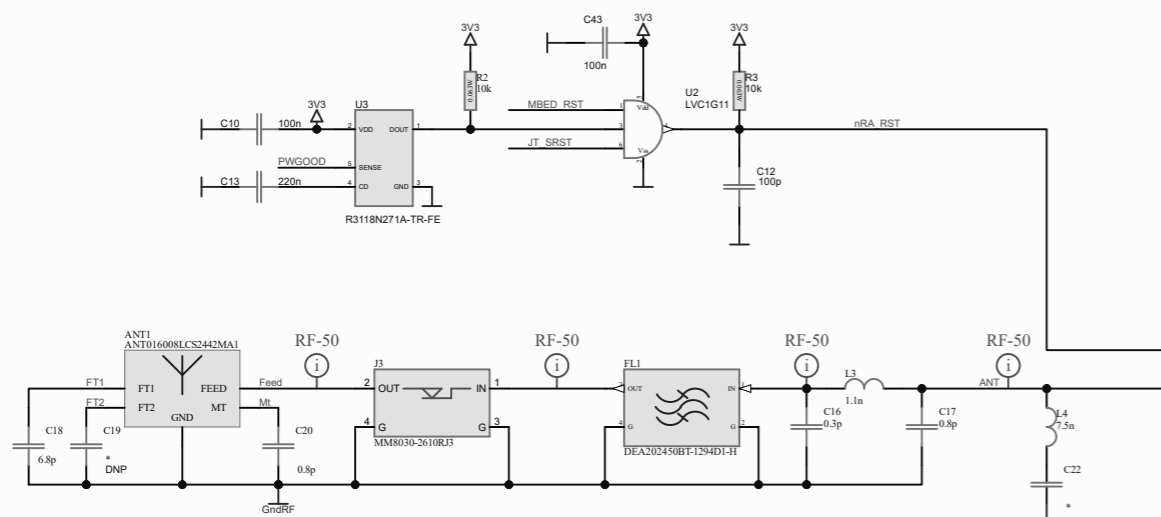
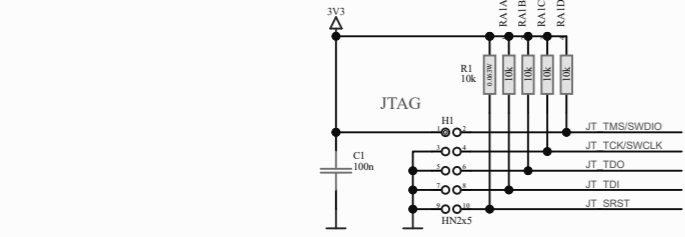


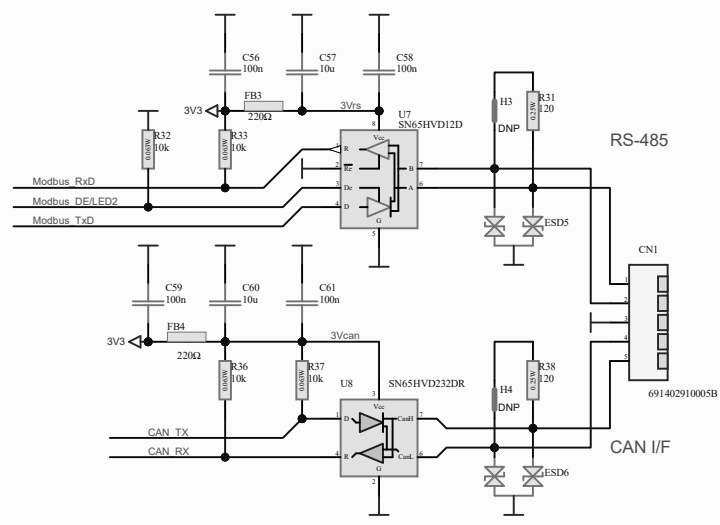
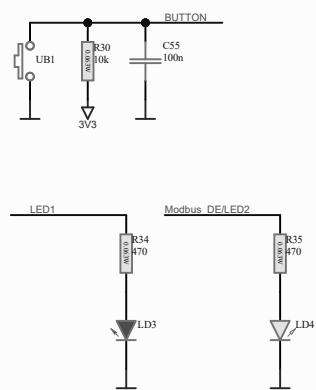
# Arduino Rev. 3



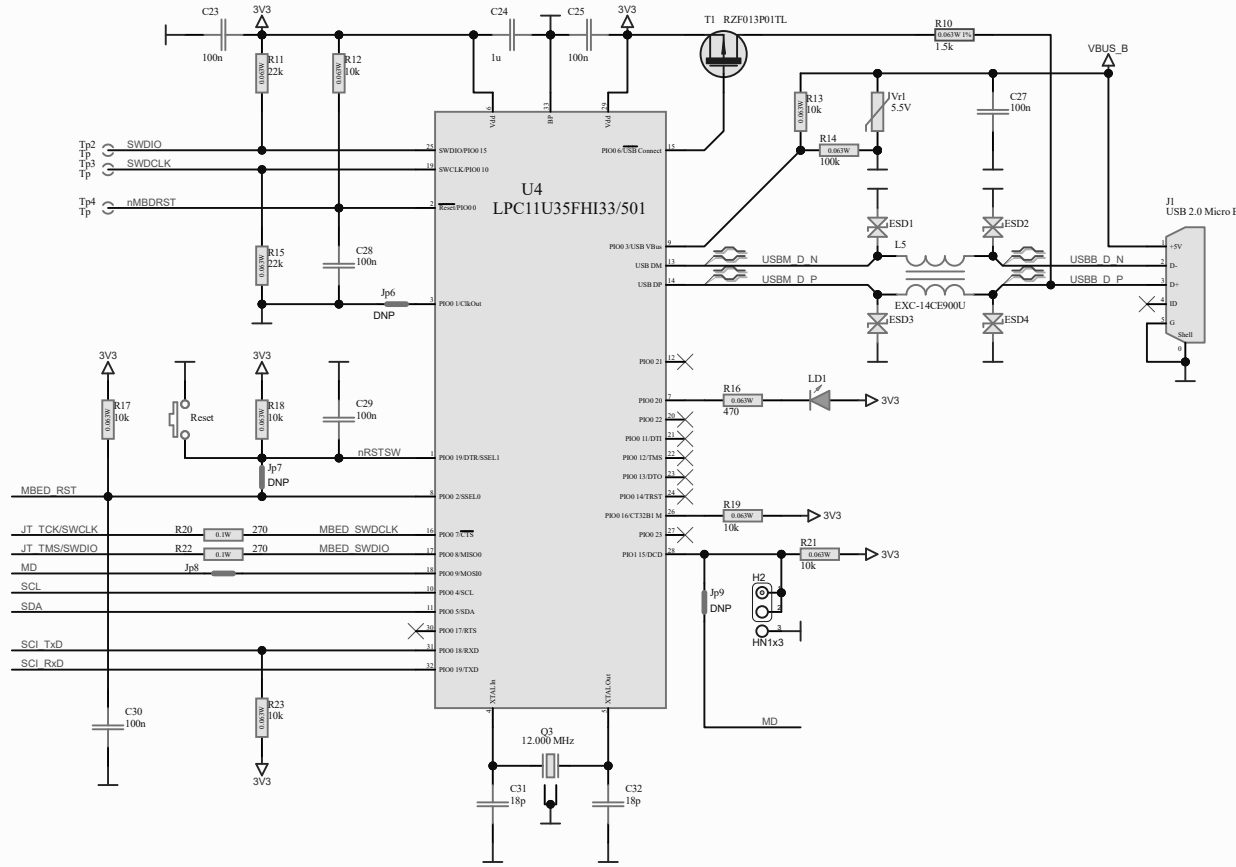
<b>VK-RA4W1</b>			
<b>Board I/O</b>			
A4			Revision: 1.0
Date: 21.02.2022	Drawn by: DT	Approved by:	Sheet 1 of 5



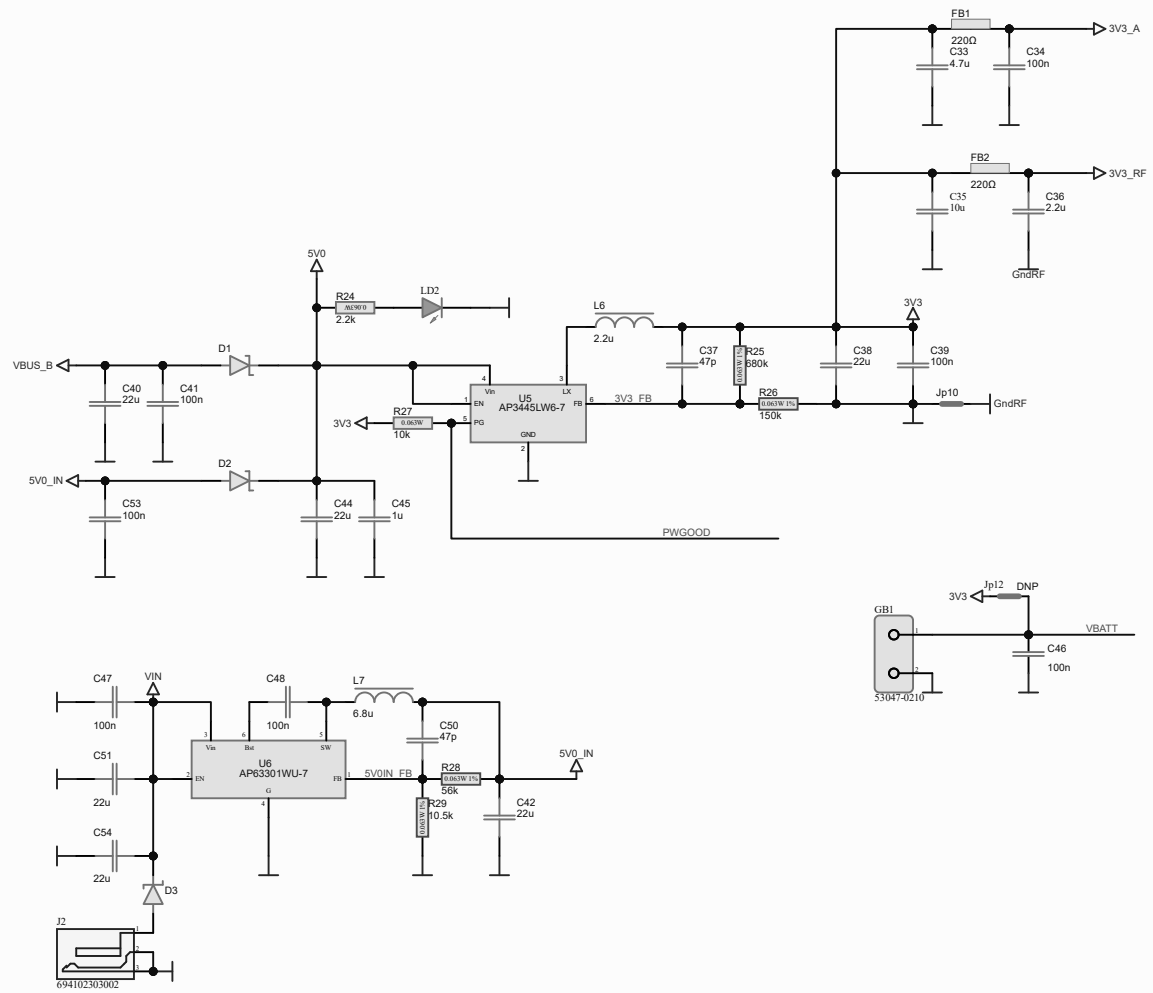
<b>VK-RA4W1</b>			
<b>Control &amp; RF</b>			
A3			Revision: 1.0
Date: 21.02.2022	Drawn by: DT	Approved by:	Sheet 2 of 5



<b>VK-RA4W1</b>			
<b>Periphery OB</b>			
A4			Revision: 1.0
Date: 21.02.2022	Drawn by: DT	Approved by:	Sheet 3 of 5



<b>VK-RA4W1</b>			
mbed interface			
A4			Revision: 1.0
Date: 21.02.2022	Drawn by: DT	Approved by:	Sheet 4 of 5



<b>VK-RA4W1</b>			
<b>Power Supply</b>			
A4			Revision: 1.0
Date: 21.02.2022	Drawn by: DT	Approved by:	Sheet 5 of 5

Designator	Description	Quantity	Comment	Part Number	Manufacturer	Placement
ANT1	Antenna CERAMIC CHIP ANTENNA 2.4GHz WLAN+BT	1	ANT016008LCS2442MA1	ANT016008LCS2442MA1	TDK	
C1, C3, C4, C6, C7, C8, C9, C10, C2, C35, C57, C60	SMD 0402 50V X7R 10%	22	100n	885012205086	Würth Elektronik	
C5, C14	SMD 0402 6.3V X5R 20%	4	10u	885012105020	Würth Elektronik	
C11	SMD 0402 6.3V X5R 20%	2	2.2u	CL05A225MQ5NNNC	Samsung	
C12	SMD 0402 6.3V X5R 10%	1	4.7u	CL05A475MQ5NNNC	Samsung	
C13	SMD 0402 50V C0G 5%	1	100p		Samsung	
C15	SMD 0402 16V X7R 10%	1	220n	CL05B224KO5NNNC	Samsung	
C16	SMD 0402 50V X7R 10%	1	5p	CL05B104KB5NNNC	Samsung	
C17	SMD 0402 50V C0G 5%	1	0.3p		Samsung	
C18	SMD 0402 50V C0G 5%	1	0.8p		Samsung	
C19	SMD 0201 50V C0G 5%	1	6.8p		Samsung	
C20	SMD 0201 50V C0G 5%	1	1		Samsung	DNP
C21	SMD 0402 6.3V X5R 20%	1	0.8p		Samsung	
C22	SMD 0402 50V C0G 5%	1	5p	CL05A106MQ5NNNC	Samsung	
C24	SMD 0402 50V C0G 5%	1	1		Samsung	
C31, C32	SMD 0402 16V X5R 10%	1	1u	CL05A105KO5NNNC	Samsung	
C33	SMD 0402 50V C0G 5%	2	18p	CL05C180JB5NNNC	Samsung	
C36	SMD 0402 6.3V X5R 20%	1	4.7u	CL05A106MQ5NNNC	Samsung	
C37, C50	SMD 0402 50V X7R 10%	1	2.2u	CL05B104KB5NNNC	Samsung	
C38, C44	SMD 0402 50V C0G 5%	2	47p	CL05C470JB5NNNC	Samsung	
C39, C48, C53	SMD 0603 6.3V X5R 10%	2	22u	CL10A226MQ8NRNC	Samsung	
C40, C42	SMD 0603 10V X5R 20%	3	100n	885012205086	Würth Elektronik	
C41	SMD 0603 10V X5R 20%	2	22u	C0603 10uF 10V X5R SAMSUNG	Samsung	
C45	SMD 0402 6.3V X5R 20%	1	100n	885012205086	Würth Elektronik	
C47	SMD 0603 25V X5R 10%	1	1u	CL10A105KA8NNNC	Samsung	
C51, C54	SMD 0603 50V X7R 5%	1	100n	CL10B104JB8NNNC	Samsung	
CH1	SMD 0805 25V X5R 10%	2	22u	GRM21BR61E226ME44L	Samsung	
D1, D2, D3	Fixed Terminal Block WR-TBL Terminal block - Screw	1	691402910005B	691402910005B	Würth Elektronik	
ESD1, ESD2, ESD3, ESD4	SMD SOD128 5A 30V Schottky	3	PMEG3050EP	PMEG3050EP,115	Nexperia	
ESD5, ESD6	ESD Suppressor WE-VE ESD 0402 12Vdc 5pF	4	82357120050	82357120050	Würth Elektronik	
FB1, FB2, FB3, FB4	TVS Diode WE-TVS Standard 0.5uA 24VDC 2Channel	2	824098024	824098024	Würth Elektronik	
FL1	SMD 0603 2A 220p/50mΩ	4	0.525u	BLM18G221SN1D	Murata	
GB1	Signal Conditioning 2.4Fz WLAN/BT Multilayer Band	1	DEA202450BT-1294D1-H	DEA202450BT-1294D1-H	TDK	
H1	Headers & Wire Housings VERTICAL HDR 2P	1	53047-0210	53047-0210	Molex	
H2	Pin Header, Board-to-Board, 1.27 mm, 2 Rows, 10 C	1	HN2x5	62101021021	Würth Elektronik	
J1	Micro USB 2.0 B Receptacle Horizontal SMT	1	HN1x3	CH31032V200	CVLUX	
J2	DC Power Connectors WR-DC PwrJk CtrPnTHT Right	1	USB 2.0 Micro B	629105136821	Würth Elektronik	
J3	Microwave Coaxial Connectors with Switch SWG Type	1	694102303002	694102303002	Würth Elektronik	
Jp8	Microwave Coaxial Connectors with Switch SWG Type	1	MM8030-2610RJ3	MM8030-2610RJ3	Murata	
L1	SMD 0402 0 Ω	1	0.05	060303A000JT50	UniOhm	
L2	SMD 0402	1	4.7n	LOG15H54N7502D	Murata	
L3	SMD 0805	1	10u	MLZ1608M100WT000	TDK	
L4	SMD 0402	1	1.1n	LOW15AN6N8H00D	Murata Electronics	
L5	SMD 0402	1	7.5n	LOG15H57N5302D	Murata	
L6	Common mode Noise Filters 90Ω	1	EXC-14CE900U	EXC-14CE900U	Panasonic	
L7	3.1A 60mΩ 1.6x1 h1mm	1	2.2u	TFM201610ALMA2R2MTAA	TDK	
L8	1.34A 120mΩ 4x4x1.65mm	1	6.8u	LQH44PN6R8MP0L	Murata	
LD1, LD2	Standard LED - SMD WL-SMCD SMD Mono SMD 0603	2	150060GSS5040	150060GSS5040	Würth Elektronik	
LD3	WL-SMCD Red 632nm 63mcd/20mA	1	150060R555040	150060R555040	Würth Elektronik	
LD4	WL-SMCD SMD MonoChip 0603 Yellow 591nm	1	SML-D12Y1W	150060Y555040	Würth Elektronik	
PN1, PN3	Съединител гнездов, височина на тялото 8.5mm, 1	2	PN1x8	CB39082V100	CVLUX	
PN2	Съединител гнездов, височина на тялото 8.5mm, 1	1	PN1x10	CB39102V100	CVLUX	
PN4	Съединител гнездов, височина на тялото 8.5mm, 1	1	PN1x6	CB39062V100	CVLUX	
Q1	SMD 5.0x3.2x1.1mm 2pin	1	32kHz	NX2012SA-32.768K-STD-MUB-1	NDK	
Q2	Crystal 32MHz 10uW 6pF SMD 1.6 mm x 1.2 mm	1	32.000 MHz	NX1612SA-32.000MHZ-CHP-CIS-3	NDK	
Q3	Crystal WE-XTAL 12.0MHz 30ppm 3.2 x 2.5mm	1	12.000 MHz	830108338809	Würth Elektronik	
R1, R2, R3, R4, R5, R12, R13, R14, R6, R7, R24	SMD 0402 0.063W 5% 50V	18	10k		YAGEO	
R8	SMD 0402 0.063W 5% 50V	3	2.2k		YAGEO	
R9	SMD 0402 0.063W 5% 50V	1	0		YAGEO	
R10	SMD 0402 0.063W 5% 50V	1	1M		YAGEO	
R11, R15	SMD 0402 0.063W 1% 50V	1	1.5k		YAGEO	
R14	SMD 0402 0.063W 5% 50V	2	22k		YAGEO	
R16, R34, R35	SMD 0402 0.063W 5% 50V	1	100k		YAGEO	
R20, R22	SMD 0603 0.1W 5% 75V	3	470		YAGEO	
R25	SMD 0402 0.063W 1% 50V	2	270		YAGEO	
R26	SMD 0402 0.063W 1% 50V	1	680k		YAGEO	
R28	SMD 0402 0.063W 1% 50V	1	150k		YAGEO	
R29	SMD 0402 0.063W 1% 50V	1	56k		YAGEO	
R31, R38	SMD 0402 0.063W 1% 50V	1	10.5k		YAGEO	
RA1	SMD 1206 0.25W 5% 200V	2	120	RC1206JR-07120RL, [NoValue]	YAGEO	
Reset, UB1	SMD 0805 (4RM-0402) 0.0625W 5%	1	10k	YC124-JR-074K7L	YAGEO	
T1	Tactile Switch WS-TASV SMT 2.5mm 160q 50mA 16V	2	434133025816	434133025816	Würth Elektronik	
U1	12V 0.26Q/4.5V 1.06kQ/1.5V 1.3A	1	RZF013P01TL	RZF013P01TL	ROHM Semiconductor	
U2	RF Microcontroller - MCU MCU RA4 ARM CM4 48MHz	1	R7FA4W1AD2CNG#AA0	R7FA4W1AD2CNG#AA0	Renesas	
U3	3 Inpt Pos And Gate	1	LVC1G11	SN74LVC1G11DBVR	Texas Instruments	
U4	Supervisory Circuits Low Voltage Detector w/SENSE	1	R3118N271A-TR-FE	R3118N271A-TR-FE	Ricoh Electronics	
U5	ARM Cortex-M0 64KB Flash 12KB SRAM	1	LPC11U35FHI33/501	LPC11U35FHI33/501	NXP Semiconductors	
U6	Vin-2.7-5.5V Vout-0.6-.Vin Fb-0.6V Imax-3A	1	AP3445LW6-7	AP3445LW6-7	Diodes Incorporated	
U7	Switching Voltage Regulator DC-DC Conv HV Buck TS	1	AP63301WU-7	AP63301WU-7	Diodes Incorporated	
U8	RS-485 Interface IC 3.3V 1Mbps	1	SN65HVD12D	SN65HVD12DR	Texas Instruments	
U9	CAN Interface IC 3.3V 1 Mb/s	1	SN65HVD23DR	SN65HVD23DR	Texas Instruments	
Vr1	Varistors WE-VS SMD 0402 220pF 20A 5.5VDC	1	5.5V	82537040	Würth Elektronik	