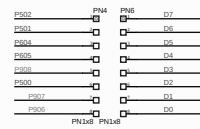
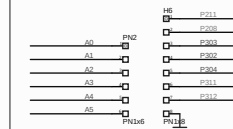
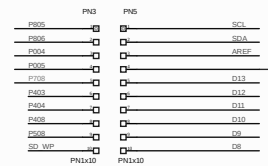
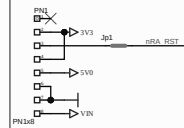


Arduino Rev. 3



VK-RA6M5

Board I/O

A4

Revision: 2.0

Date: 18.05.2022

Drawn by: DT

Approved by:

Sheet 1 of 7

A

B

C

D

A

B

C

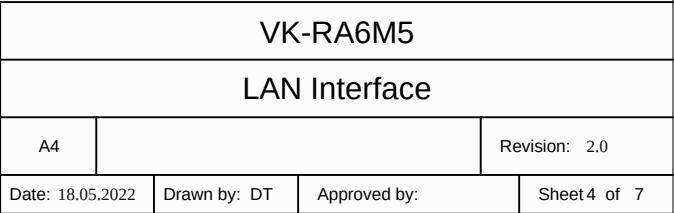
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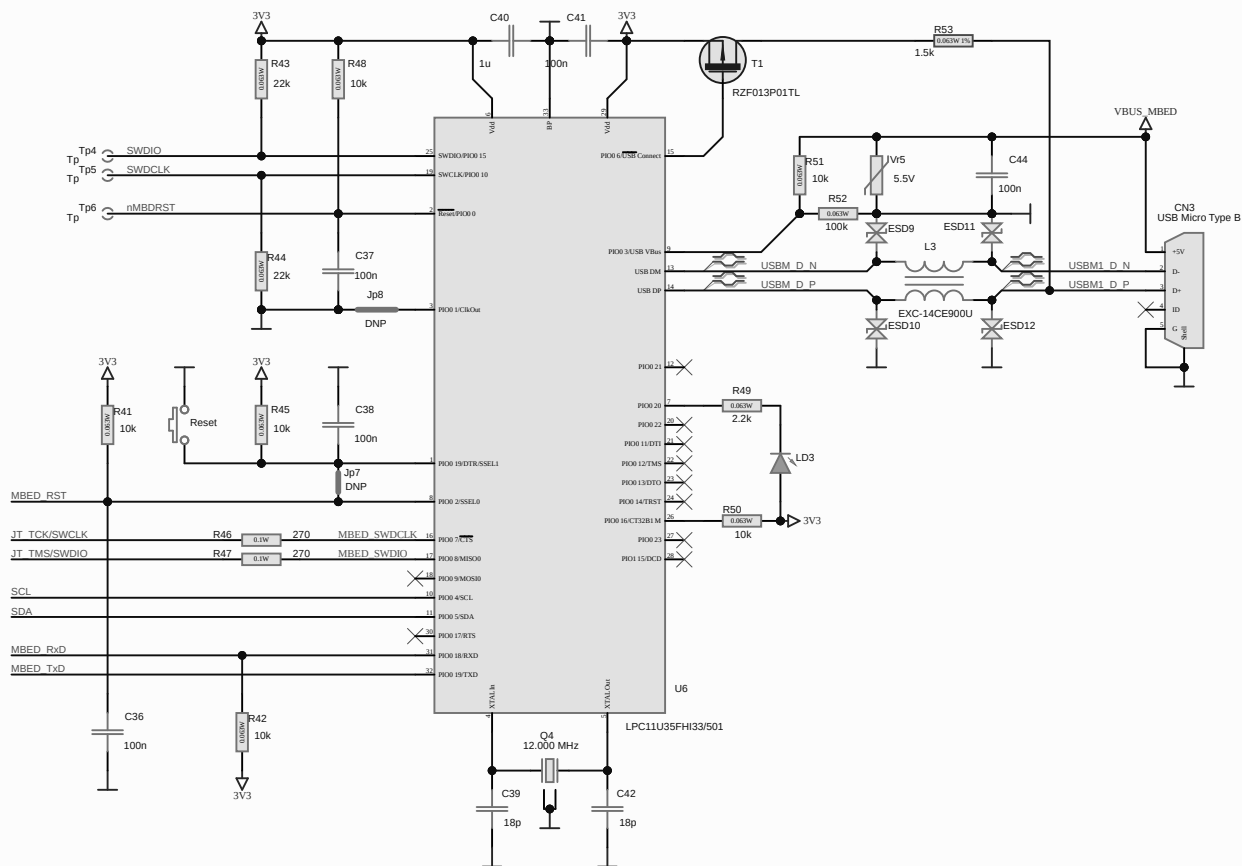


U1A					
A0	169	P000 / IRQ6-DS / AN000AN100	P500 / CACREF / AN118 / GTIU / AGTOA0 / CTSS / USB_VBUSEN / QSPCLK	140	P500
A1	168	P001 / IRQ7-DS / AN001AN101	P501 / IRQ11 / AN117 / GTIW / AGTOB0 / TXD5 / USB_OVRCURA / QSSL	141	P501
A2	167	P002 / IRQ8-DS / AN002AN102	P502 / IRQ12 / AN118 / GTIW / AGTOA2 / CTSS / RXD5 / USB_OVRCURA / QIO0	142	P502
A3	166	P003 / AN003	P503 / AN119 / GTETRG0 / AGTOB2 / CTSS / SCK5 / USB_EXICEN / QIO1	143	P503
P004	165	P004 / IRQ9-DS / AN004	P504 / AN120 / ALE / GTETRG0 / AGTOA3 / SCK6 / CTSS / RTSS / USB_ID / QIO2	144	P504
P005	164	P005 / IRQ10-DS / AN005	P505 / IRQ14 / AN121 / AGTOB3 / RXD6 / QIO3	145	MBED_R103
LED_B	163	P006 / IRQ11-DS / AN006	P506 / IRQ15 / QIO4	146	MBED_T103
LED_G	162	P007 / AN007	P507 / AN122 / TXD6	147	MBED_R103
LED_R	161	P008 / IRQ12-DS / AN008	P508 / AN123 / SCK6 / SCK5	148	P508
SB2	160	P009 / IRQ13-DS / AN009	P511 / IRQ15 / GTIOC0B / RXD4 / SDA1 / A / CRX1	149	P509
SB1	159	P010 / IRQ14 / AN010	P512 / IRQ14 / GTIOC0A / TXD4 / SCL1 / A / CTX1	178	CAN_TX
A4	152	P014 / AN012 / D00	P513 / RXD5_B	174	CAN_STBY
A5	151	P015 / IRQ13 / AN013 / D0A1			
OM_SCLK_BSS	132	P100 / IRQ2 / D0 / GTETRG0 / GTIOC0B / AGTIO0 / RXD0 / SCK1 / MIS0B_A / QSPCLK / OM_SCLK			
OM_SIO7	131	P101 / IRQ1 / D1 / GTETRG0 / GTIOC0A / AGTEE0 / TXD0 / CTSS / RTS1 / MOSI0_A / QIO1 / OM_SIO7			
OM_SIO4	130	P102 / ADTRG0 / D2 / GTOWLO / GTIOC0B / AGTIO0 / SCK0 / RSPCK0_A / CRX0 / QIO0 / OM_SIO4			
OM_SIO6	129	P103 / D3 / GTOWUP / GTIOC0A / AGTIO1 / CTSS / RTSS / SCL1_B / SDA0_A / USB_OVRCURA-DS / SSURCK0_C / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
OM_SIO5	128	P104 / IRQ2 / D4 / GTETRG0 / GTIOC0B / AGTEE1 / RXD0 / SCL1_A / QIO2 / OM_SIO5			
OM_SIO8	127	P105 / IRQ0 / D6 / GTETRG0 / GTIOC0A / AGTIO2 / TXD0 / SCL1_B / SDA0_A / USB_OVRCURA-DS / SSURCK0_C / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
OM_SIO0	126	P106 / D6 / GTIOC0B / AGTIO0 / SCK0 / SCL1_B / SDA0_A / USB_OVRCURA-DS / SSURCK0_C / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
OM_SIO3	125	P107 / D7 / GTIOC0A / AGTIO0 / CTSS / RTS0 / OM_SIO3			
JT_TMS/SWDIO	89	P108 / TMS/SWDIO / GTOWLO / GTIOC0B / AGTIO0 / SCK0 / RSPCK0_A / CRX0 / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
TDQVSCI_T10	90	P109 / TDQVSCI_T10 / GTOWUP / GTIOC0A / AGTIO1 / CTSS / RTSS / SCL1_B / SDA0_A / USB_OVRCURA-DS / SSURCK0_C / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
TDQVSCI_R10	91	P110 / TDI / IRQ3 / GTOWLO / GTIOC0B / AGTEE1 / RXD0 / SCL1_A / QIO2 / OM_SIO5			
D3	92	P111 / IRQ4 / A6 / GTIOC0A / AGTIO0 / SCK0 / RSPCK0_A / CRX0 / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
D4	93	P112 / A4 / GTIOC0B / AGTIO0 / SCK0 / RSPCK0_A / CRX0 / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
D5	94	P113 / A3 / GTIOC0A / AGTEE1 / RXD0 / SCL1_A / QIO2 / OM_SIO5			
D6	95	P114 / A2 / GTIOC0B / AGTIO0 / CTSS / RTS0 / OM_SIO3			
D9	96	P115 / A1 / GTIOC0A / SSITX00_B			
D12	54	P202 / IRQ3-DS / WRU10C1 / GTIOC0B / AGTIO0 / SCK0 / RSPCK0_A / CRX0 / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
D11	53	P203 / IRQ2-DS / A19 / GTIOC0A / AGTIO1 / CTSS / RTS2 / TXD9 / MOSI0_A / CTX0 / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
D13	52	P204 / CACREF / A19 / GTIW / GTIOC0B / AGTIO1 / SCK0 / RSPCK0_A / CRX0 / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
SD_D2	51	P205 / CLKOUT / IRQ2-DS / A18 / GTIW / GTIOC0A / AGTIO1 / TXD4 / CTSS / RTS0 / SCL1_B / SDA0_A / USB_OVRCURA-DS / SSURCK0_C / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
SD_D2	50	P206 / IRQ0-DS / WAIT / GTIU / RXD4 / CTSS / SDA1 / SCL1_A / USB_VBUSEN / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			
D8	49	P207 / A17 / TXD4 / SCL1_A / QIO2 / OM_SIO5			
P208	66	P208 / DTA04 / C54 / GTOWLO / QIO3 / SDA0A2_B / ET0_WOL / ET0_WOL1 / TS01			
SD_VIP	65	P209 / DTA04 / C55 / GTOWUP / AGTEE1 / QIO2 / SDA0A2_B / ET0_WOL / ET0_WOL1 / TS01			
SD_CD	64	P210 / DTA04 / C56 / GTIW / AGTIO0 / QIO1 / SDA0A2_B / ET0_WOL / ET0_WOL1 / TS01			
P211	63	P211 / DTA04 / C57 / GTIW / AGTIO0 / QIO0 / SDA0A2_B / ET0_WOL / ET0_WOL1 / TS01			
P214	62	P214 / TCLK / GTIU / AGTIO0 / QSPCLK / SDA0A2_B / ET0_WOL / ET0_WOL1 / TS01			
JT_TCK/SWCLK	88	P300 / TCK/SWCLK / GTOWUP / GTIOC0A / SCL1_A			
D10	87	P301 / IRQ6 / A6 / GTOWLO / GTIOC0B / AGTIO0 / RXD0 / CTSS / RTS9 / SCL1_A			
P302	86	P302 / IRQ5 / A3 / GTOWUP / GTIOC0A / TXD2 / SCL1_A			
P303	85	P303 / A8 / GTIOC0B / CTSS			
P304	84	P304 / IRQ8 / A9 / GTOWLO / GTIOC0A / AGTEE2 / RXD0			
QSPCLK	83	P305 / IRQ8 / A10 / GTOWUP / AGTIO2 / TXD6 / QSPCLK			
QSSL	80	P306 / A11 / GTOWLO / D / AGTIO2 / SCK6 / QSSL			
QIO4	79	P307 / A12 / GTOWUP / D / AGTEE4 / CTSS / RTS6 / QIO4			
QIO1	78	P308 / A13 / AGTIO0 / CTSS / CTSS / QIO1			
QIO2	77	P309 / A14 / AGTIO0 / RXD3 / QIO2			
QIO3	76	P310 / A15 / AGTEE1 / TXD3 / QIO3			
P311	75	P311 / C52 / AGTIO0 / SCK0			
P312	74	P312 / C53 / AGTIO0 / CTSS / RTS3			
P313	55	P313 / A20 / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			
P314	56	P314 / ADTRG0 / A21			
P315	57	P315 / A22 / RXD4_C			
ET_RST	1	P400 / IRQ0 / ADTRG1 / GTIOC0A / AGTIO1 / SCK4 / SCK7 / SCL1_A / AUDIO_CLK / ET0_WOL / ET0_WOL1			
ET_MDC_R25	22	P401 / IRQ0-DS / GTETRG0 / GTIOC0B / CTSS / RTS1 / RXD7 / SDA0_A / CTX0 / ET0_WOL / ET0_WOL1			
ET_MIO_RAND	3	P402 / CACREF / IRQ0-DS / AGTIO0 / AGTIO1 / AGTIO2 / AGTIO3 / RTCC1 / CTSS / RXD0 / AUDIO_CLK / ET0_WOL / ET0_WOL1			
P403	4	P403 / IRQ14-DS / GTIOC0A / AGTIO1 / AGTIO2 / AGTIO3 / RTCC1 / CTSS / RTS0 / SDA0A2_A / ET0_WOL / ET0_WOL1			
P404	5	P404 / IRQ15-DS / GTIOC0B / AGTIO0 / G / AGTIO1 / AGTIO2 / AGTIO3 / RTCC1 / CTSS / SDA0A2_A / ET0_WOL / ET0_WOL1			
RMIO_TXD0_EN	6	P405 / GTIOC0A / SSITX00_A / ET0_TX_EN / RMIO_TXD0_EN			
RMIO_TXD1_RAMB	7	P406 / GTIOC0B / AGTIO0 / SCL1_A / SCL1_B / SDA0_A / USB_VBUS / ET0_WOL / ET0_WOL1 / TS01			
USBP2_VBUS	44	P407 / ADTRG0 / GTIOC0A / AGTIO0 / RTCC0 / CTSS / RTS4 / SDA0_B / SCL1_A / USB_VBUS / ET0_WOL / ET0_WOL1 / TS01			
P408	43	P408 / IRQ7 / GTOWLO / GTIOC0B / AGTIO0 / CTSS / RTS4 / SDA0_B / SCL1_A / USB_VBUS / ET0_WOL / ET0_WOL1 / TS01			
D1	42	P409 / IRQ6 / GTOWUP / AGTIO2 / TXD3 / SDA2 / USB_EXICEN / USBHS_EXICEN / ET0_RX_CLK / RMIO_RX_ER / A / TS05			
SD_D1	41	P410 / IRQ6 / GTOWLO / GTIOC0B / AGTIO0 / RXD0 / SCL1_A / SCL1_B / SDA0A3_A / ET0_WOL / ET0_WOL1 / TS01			
SD_D0	40	P411 / IRQ4 / GTOWUP / GTIOC0A / AGTIO1 / TXD0 / CTSS / RTS3 / MOSI0_B / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			
SD_CMD	39	P412 / GTOWLO / AGTEE1 / SCK0 / CTSS / RSPCK0_B / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			
SD_CLK	38	P413 / GTOWUP / AGTEE1 / CTSS / RTS0 / SCL1_B / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			
SNA	37	P414 / IRQ9 / GTIOC0B / AGTIO0 / SDA2 / CTSS / SCL1_B / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			
SCL	36	P415 / IRQ6 / GTIOC0A / AGTIO1 / SCL2 / SCL1_B / USB_VBUSEN / SDA0A2_A / ET0_WOL / ET0_WOL1 / TS01			

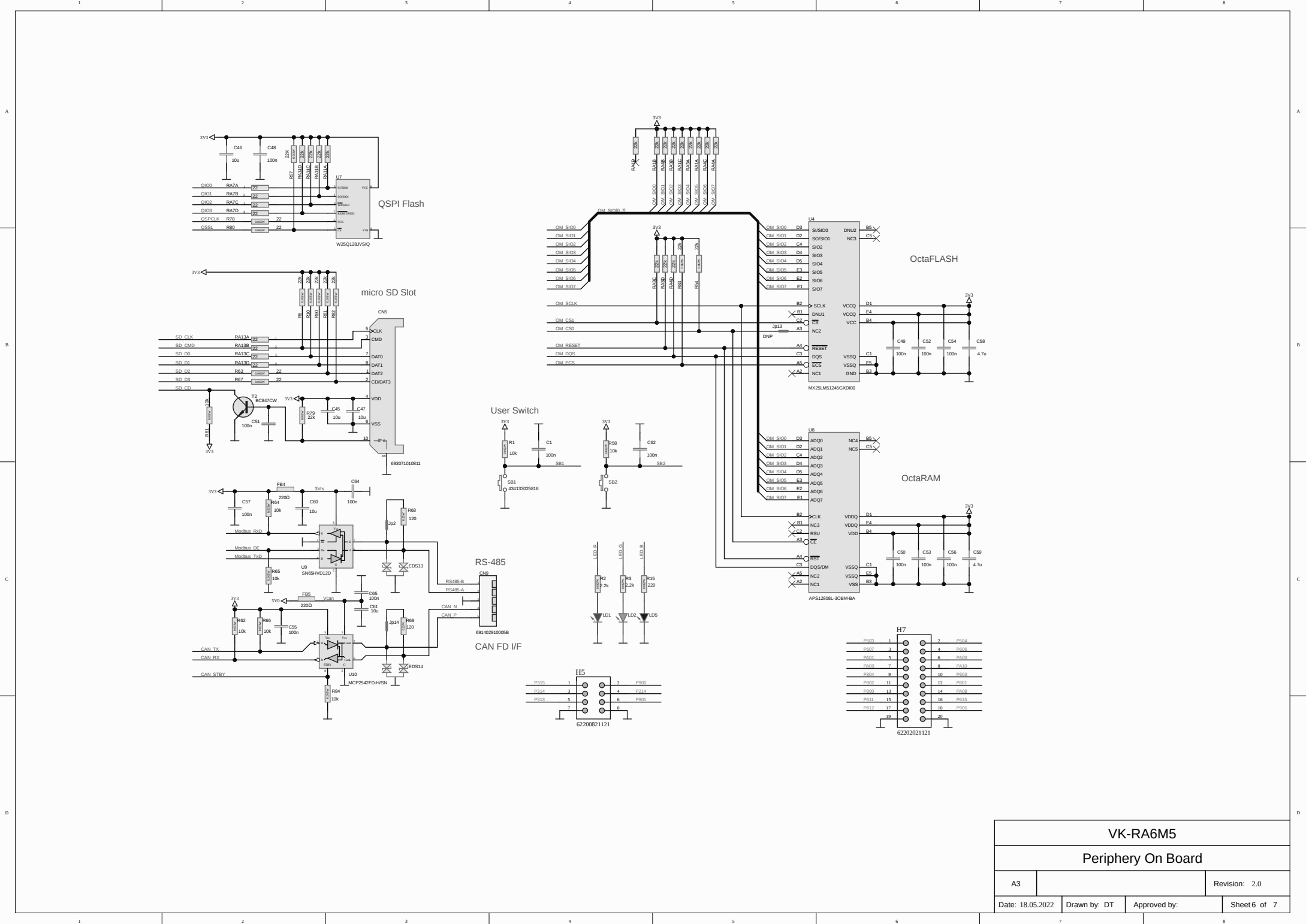
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VK-RA6M5			
MCU I/O			
A3			Revision: 2.0
Date: 18.05.2022	Drawn by: DT	Approved by:	Sheet 3 of 7





VK-RA6M5			
mbed Interface			
A4			Revision: 2.0
Date: 18.05.2022	Drawn by: DT	Approved by:	Sheet5 of 7



Designator	Description	Comment	Quantity	Part Number	Manufacturer	Placement
C1, C2, C5, C7, C14, C15, C18, C19, C21, C22, C29, C30	SMD 0402 50V X7R 10%	100n	51	885012205086	Würth Elektronik	
C3	SMD 0402 16V X7R 10%	220n	1	CL05B224K05NNNC	Samsung	
C4, C6	SMD 0402 50V C0G 5%	15p	2		Samsung	
C8, C11	SMD 0402 50V C0G 5%	100p	2		Samsung	
C9, C10	SMD 0402 50V C0G 5%	12p	2	CL05C120J85NNNC	Samsung	
C12, C13, C16, C43, C81, C82	SMD 0603 10V X5R 10%	22u	6	CL10A226MP8NRNC	Samsung	
C17	SMD 0603 25V X5R 10%	10u	1	CL10A106MA8NRNC	Samsung	
C20, C35, C45, C46, C47, C60, C61, C85, C86, C100, C101	SMD 0402 6.3V X5R 20%	10u	14	885012105020	Würth Elektronik	
C23, C26, C28, C31	SMD 0402 50V C0G 5%	10p	4	GCM1555C1H100JA16D	Murata Electronics	
C24	SMD 0402 50V C0G 5%	470p	1	CL05C471J85NNNC	Samsung	
C25, C27, C40, C89, C90, C91	SMD 0402 16V X5R 10%	1u	6	CL05A105K05NNNC	Samsung	
C32	SMD 0402 16V X7R 10%	22n	1	CL05B223K05NNNC	Samsung	
C39, C42	SMD 0402 50V C0G 5%	18p	2	CL05C180J85NNNC	Samsung	
C49, C50, C52, C53, C54, C56	SMD 0402 50V X7R 10%	100n	6	CL05B104K85NNNC	Samsung	
C58, C59	SMD 0402 16V X5R 10%	4.7u	2	CL05A105K05NNNC	Samsung	
C68	SMD Case C 10V 1.2Q	100u	1	1TAJC107K010RNJ	AVX	
C70, C71, C72, C76	SMD 0805 25V X5R 10%	22u	4	GRM21BR61E226ME44L	Samsung	
C74	SMD 0603 25V X5R 10%	1u	1	CL10A105K8NNNC	Samsung	
C75, C77, C84, C88	SMD 0603 6.3V X5R 10%	22u	4	CL10A226MQ8NRNC	Samsung	
C79, C83	SMD 0402 50V C0G 5%	47p	2	CL05C47J85NNNC	Samsung	
CN1, CN3	USB Connector WR-COM Type B SMT 5Pin Horiztl FmiMicro	USB Micro Type B	2	629105138821	Würth Elektronik	
CN2	USB Connector WR-COM USB Micro SMT Type AB Horiztl	USB Micro Type AB	1	629105150921	Würth Elektronik	
CN5	Memory Card Connector WR-CRD SD Micro Card 8Pin Push & Push		1	693071010811	Würth Elektronik	
CN8	Ethernet Connector 1X1 TAB DOWN W/LEDs		1	7499010211A	Würth Elektronik	
CN9	Fixed Terminal Block WR-TBL Terminal block - Screwless Push IN - THT		1	6914029100058	Würth Elektronik	
D2, D3, D4, D5, D6	SMD SOD128 5A 30V Schottky	PMEG3050EP	5	PMEG3050EP,115	Nexperia	
EDS13, EDS14	WE-TVS TVS Diode - Standard Series	824098024	2	824098024	Würth Elektronik	
ESD1, ESD2, ESD3, ESD4, ESD5, ESD6, ESD7, ESD8, ESD9	ESD Suppressors / TVS Diodes WE-VE ESD 0402 12vdc 5pF	82357120050	12	82357120050	Würth Elektronik	
FB1, FB2	SMD 1806 3.5A 75Q/15mQ	120n	2	BLM41P6600SN1L	Murata	
FB4, FB5, FB6, FB7, FB8, FB9, FB10	Ferrite Bead WE-CBF HF 0603 SMD 100MHz 220Ohm 600mA	220Q	7	742863122	Würth Elektronik	
GB1	Headers & Wire Housings VERTICAL HDR 2P	53047-0210	1	53047-0210	Molex	
H1	Pin Header, Board-to-Board, 1.27 mm, 2 Rows, 10 Contacts, Surface Mount, W	HN2x5	1	62101021021	Würth Elektronik	
H2	WR-PHD Pin Header, THT, pitch 2mm, Single Row, Vertical, 2p	62000211121	1	62000211121	Würth Elektronik	
H5	WR-PHD Pin Header, THT, pitch 1.27mm, Dual Row, Vertical, 8p	62200821121	1		Würth Elektronik	
H6, PN1, PN4, PN6	h8.6	PN1x8	4	61300811821	Würth Elektronik	
H7	WR-PHD Pin Header, THT, pitch 1.27mm, Dual Row, Vertical, 20p	62202021121	1		Würth Elektronik	
J1	DC Power Connectors WR-DC Pwr.Jk CtrPnTHT Right Angled	694102303002	1	694102303002	Würth Elektronik	
Jp1, Jp11, Jp12, Jp13	SMD 0402 0 Ω	0.05	4	06033A3000JT50	UniOhm	
Jp3, Jp6	SMD 0402 0 Ω	0.05	2	06033A3000JT50	UniOhm	
Jp4, Jp5, Jp9, Jp10	SMD 0402 0 Ω	0.05	4	06033A3000JT50	UniOhm	
L1, L2, L3	Common mode Noise Filters 90Q	EXC-14CE900U	3	EXC-14CE900U	Panasonic	DNP
L5	1.34A 120mQ 4x4x1.65mm	6.8u	1	1QH44P6NR8MPOL	Murata	
L6	Fixed Inductor 2.2uH 2.2A 130mOhms 1MHz Tpl=20%	2.2u	1	TFM201610ALMA2R2MTAA	TDK	
LD1	Standard LED - SMD WL-SMCD SMD MonoChip 0603 Red 632nm	150060RS55040	1	150060RS55040	Würth Elektronik	
LD2, LD3, LD4	Standard LED - SMD WL-SMCD SMD Mono SMD 0603 Green 520nm	150060GS55040	3	150060GS55040	Würth Elektronik	
LD6	Standard LED - SMD WL-SMCD SMD Mono SMD 0603 Blue 465nm	150060BS55040	1	150060BS55040	Würth Elektronik	
PN2	h8.6	PN1x6	1	61300611821	Würth Elektronik	
PN3, PN5	h8.6	PN1x10	2	61301011821	Würth Elektronik	
Q1	Crystal WE-XTAL 24.0MHz 30ppm 3.2 x 2.5mm	24MHz	1	1830058124	Würth Elektronik	
Q2	Crystal WE-XTAL 32.7680kHz 2.0ppm 2.0 x 1.2mm	32KHz	1	1830050789	Würth Elektronik	
Q3	SMD CMOS Oscillator 50MHz	2520MVLIC	1	ECS-2520MVLIC-500-8N-TR	ECS	
Q4	Crystal WE-XTAL 12.0MHz 30ppm 3.2 x 2.5mm	12.000 MHz	1	1830108338809	Würth Elektronik	
R1, R4, R5, R16, R19, R20, R23, R24, R41, R42, R45, R46	SMD 0402 0.063W 5% 50V	10k	25		YAGEO	
R2, R3, R21, R22, R49, R70	SMD 0402 0.063W 5% 50V	2.2k	6		YAGEO	
R6, R10, R43, R44, R54, R57, R60, R79, R81, R82, R83	SMD 0402 0.063W 5% 50V	22k	11		YAGEO	
R7, R8, R11, R72	SMD 0402 0.063W 5% 50V	4k	4		YAGEO	
R9	SMD 0402 0.063W 5% 50V	1 Ω	1		YAGEO	
R12	SMD 0402 0.063W 5% 50V	0.1M	1		YAGEO	DNP
R13, R25, R28, R29, R55, R63, R67, R78, R80	SMD 0402 0.063W 5% 50V	22	9		YAGEO	
R14	SMD 0402 0.063W 1% 50V	2.2k	1		YAGEO	
R15	SMD 0402 0.063W 5% 50V	220	1		YAGEO	
R17, R18	SMD 0402 0.063W 5% 50V	15k	2		YAGEO	
R26, R27	SMD 0402 0.063W 5% 50V	1.5k	2		YAGEO	
R30, R33, R34, R35	SMD 0402 0.063W 1% 50V	49.9	4		YAGEO	
R31, R39	SMD 0402 0.063W 5% 50V	270	2		YAGEO	
R32	SMD 0402 0.063W 1% 50V	12.1k	1		YAGEO	
R36	SMD 0603 0.1W 5% 75V	10	1		YAGEO	
R37, R38	SMD 0402 0.063W 5% 50V	4.7k	2		YAGEO	
R40	SMD 0402 0.063W 5% 50V	0/1A	1		YAGEO	
R46, R47	SMD 0603 0.1W 5% 75V	270	2		YAGEO	
R52	SMD 0402 0.063W 5% 50V	100k	1		YAGEO	
R53	SMD 0402 0.063W 1% 50V	1.5k	1		YAGEO	
R68, R69	SMD 1206 0.25W 5% 200V	120	2	RC1206JR-07120RL, [NoValue]	YAGEO	
R73	SMD 0402 0.063W 1% 50V	10.5k	1		YAGEO	
R75	SMD 0402 0.063W 1% 50V	56k	1		YAGEO	
R76	SMD 0402 0.063W 1% 50V	150k	1		YAGEO	
R77	SMD 0402 0.063W 1% 50V	680k	1		YAGEO	
RA1, RA3, RA4, RA11	SMD 0805 (4RM-0402) 0.0625W 5%	22k	4	YC124-JR-074K7L	YAGEO	
RA2	SMD 0805 (4RM-0402) 0.0625W 5%	10k	1	YC124-JR-074K7L	YAGEO	
RA5, RA6, RA7, RA13	SMD 0805 (4RM-0402) 0.0625W 5%	22	4	YC124-JR-074K7L	YAGEO	
Reset, SB1, SB2	Tactile Switch WS-TASV SMT 2.5mm 160g 50mA 16V Black	434133025816	3	434133025816	Würth Elektronik	
T1	12V 0.26Q/4.5V 1.06kQ/1.5V 1.3A	RZF013P01TL	1	RZF013P01TL	ROHM Semiconductor	
T2	45V 0.1A 100MHz 4.5pF	BC847CW	1	BC847CW1G	ON Semiconductor	
U1	ARM Microcontrollers - MCU MCU RA6 ARM CM33 200MHZ 2M/512K QFP176	R7FA6M58H3CFC	1	R7FA6M58H3CFC	Renesas Electronics	
U2	Supervisory Circuits Low Voltage Detector w/SENSE pin	R3118N271A	1	R3118N271A-TR-FE	Ricoh Electronics	
U3	3 Inpt Pos AND Gate	LVC1G11	1	SN74LVC1G11DBVR	Texas Instruments	
U4	OctaFlashTM Memory, NOR Flash Serial-SPI 3V/3.3V 512M-bit 512M/64M x 1/8	MX25LM51245GXDIO0	1	MX25LM51245GXDIO0	Macronix	
U5	Ethernet ICs Small Footprint RMII 10/100 Ethernet	LAN8720AI-CP	1	LAN8720AI-CP	Microchip Technology	
U6	ARM Cortex-M0 64Kb Flash 12Kb SRAM	LPC111U35FH133/501	1	LPC111U35FH133/501	NXP Semiconductors	
U7	Flash 128Mb	W25Q128VSIQ	1	W25Q128VSIQ	Winbond	
U8	Octal Double-Data-Rate PSRAM	AP51280BL-30BM-BA	1	AP51280BL-30BM-BA	AP MEMORY	
U9	RS-485 Interface IC 3.3V 1Mbps	SN65HVD12D	1	SN65HVD12D	Texas Instruments	
U10	CAN Interface IC 3.3-V CAN Transceivers with CAN FD (Flexible Data Rate) 8-S	MC2P2542FD-H/SN	1	MC2P2542FD-H/SN	Microchip	
U11	Current Limited, Power-Distribution Switch USB, 2A, 60 mOhms	AP22802	1	AP22802AW5-7	Diodes Incorporated	
U12	Vin 3.8-32V 500KHz Fb=0.8V Iout=3A	AP63301WU-7	1	AP63301WU-7	Diodes Incorporated	
U13	Vin=2.7-5.5V Vout=0.6..Vin Fb=0.6V Imax=3A	AP3445LW6-7	1	AP3445LW6-7	Diodes Incorporated	
Vr1, Vr2, Vr5	Varistor WE-VS SMD 0402 220pF 20A 5.5VDC	82537040	3	82537040	Würth Elektronik	