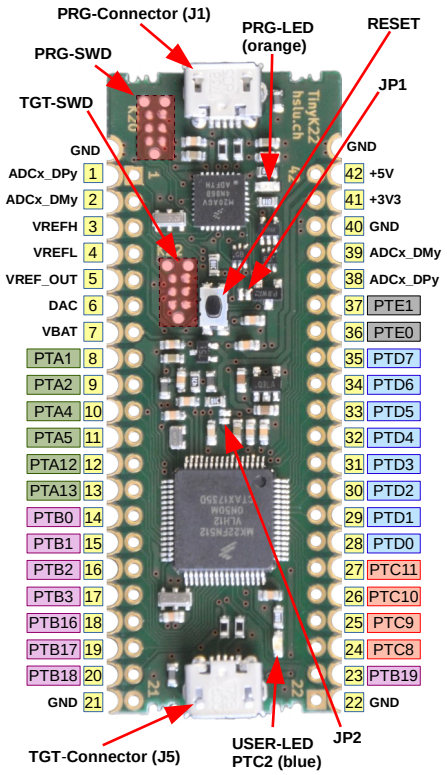
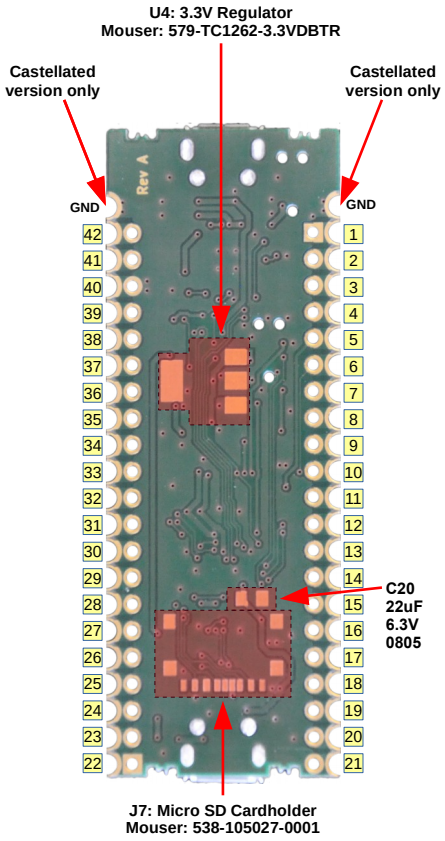
TinyK22
Rev A

Lucerne University of Applied Sciences and Arts
HOCHSCHULE LUZERN
Technik & Architektur





	LPUART0	UART0	UART1	UART2	FTM0	FTM1	FTM2	FTM3	I2C0	I2C1	SPI0	SPI1	ADC0	ADC1	CMP0
PTA1		R			6										
PTA2		T			7										
PTA4					1										
PTA5					2										
PTA12						0									
PTA13						1									
PTB0						0			C				8	8	
PTB1						1			D				9	9	
PTB2					3				C				12	12	
PTB3					0				D				13	13	
PTB16		R										O			
PTB17		T										I			
PTB18							0								
PTB19							1								
PTC8								4						4b	2
PTC9								5						5b	3
PTC10								6		C				6b	
PTC11								7		D				7b	
PTD0								0							
PTD1								1			C		5b		
PTD2	R			R				2	C		O				
PTD3	T			T				3	D		I				
PTD4					4										
PTD5					5							C	6b		
PTD6		R			6							O	7b		
PTD7		T			7							I			
PTE0			T							C				4a	
PTE1			R							D		I/O		5a	

UART R:RxD, T:TxD
FTM 0..7: Channel
I2C C:SCL, D:SDA
SPI C:Clock, O:SOUT, I:SIN
ADC 4..13:Channel
CMP 2..3: Input

UART to Programmer:
UART1 or LPUART0
(PTC3 & PTC4)

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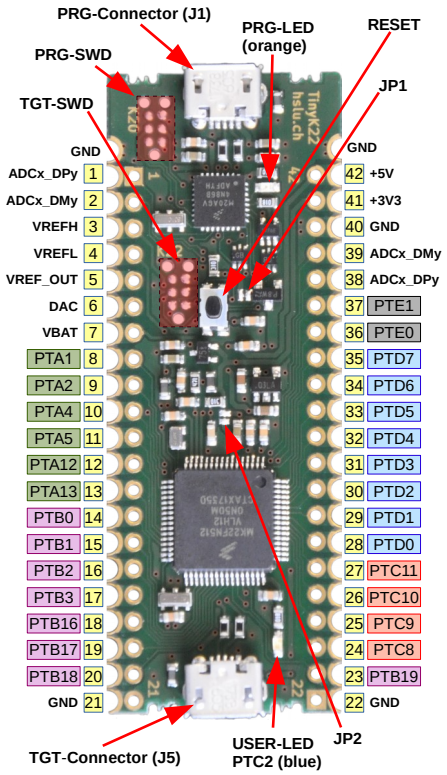

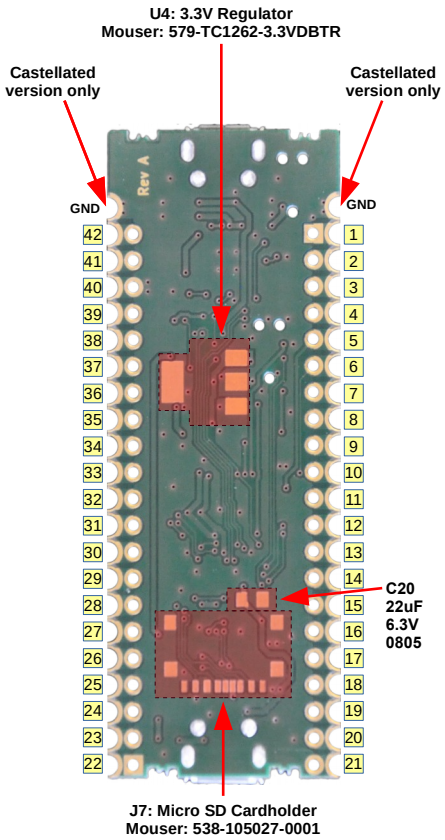

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PTA12						0									
PTA13						1									
PTB0						0			C				8	8	
PTB1						1			D				9	9	
PTB2					3				C				12	12	
PTB3					0				D				13	13	
PTB16		R										O			
PTB17		T										I			
PTB18							0								
PTB19							1								
PTC8								4						4b	2
PTC9								5						5b	3
PTC10								6		C				6b	
PTC11								7		D				7b	
PTD0								0							
PTD1								1			C		5b		
PTD2	R			R				2	C		O				
PTD3	T			T				3	D		I				
PTD4					4										
PTD5					5							C	6b		
PTD6		R			6							O	7b		
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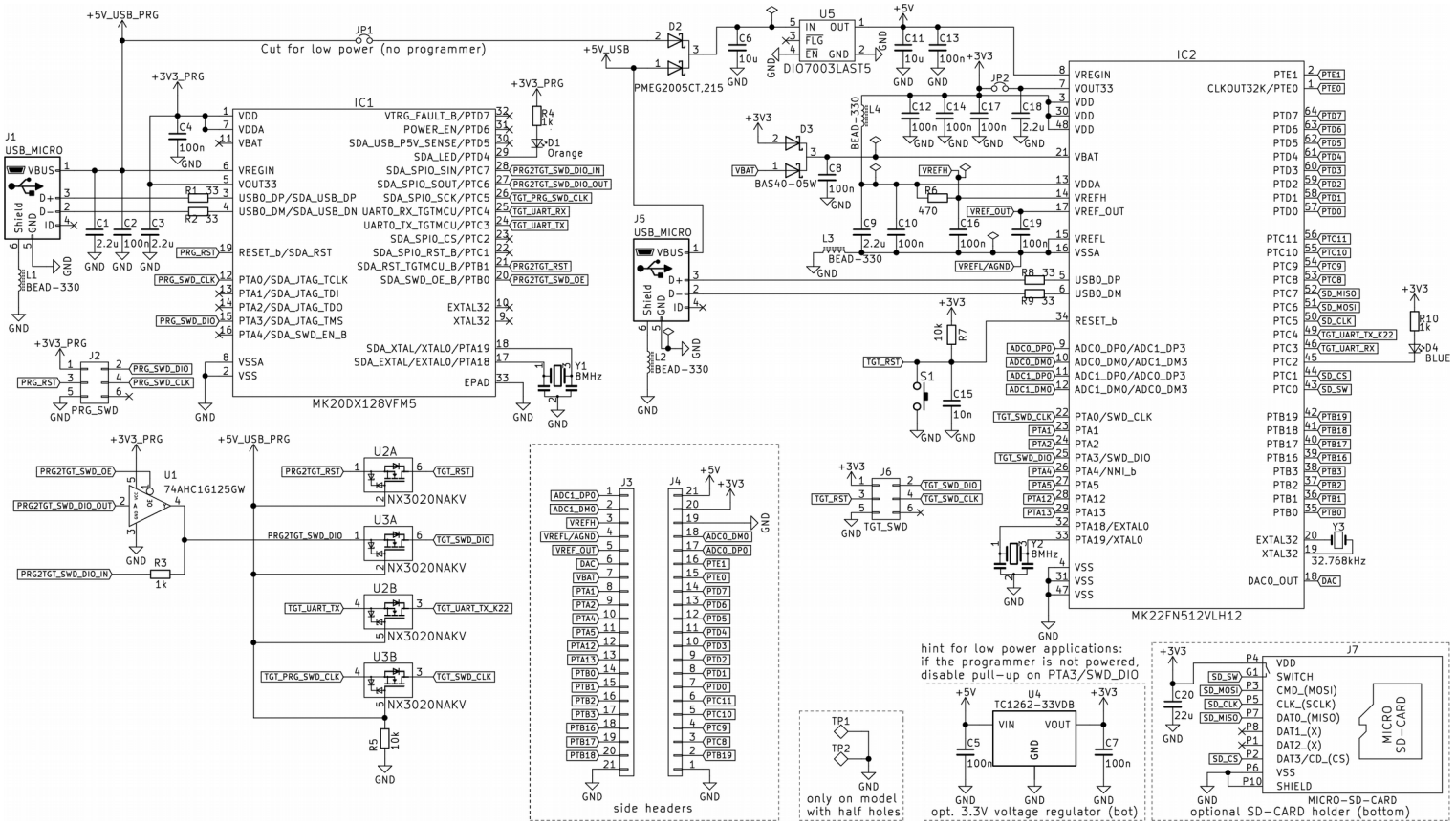
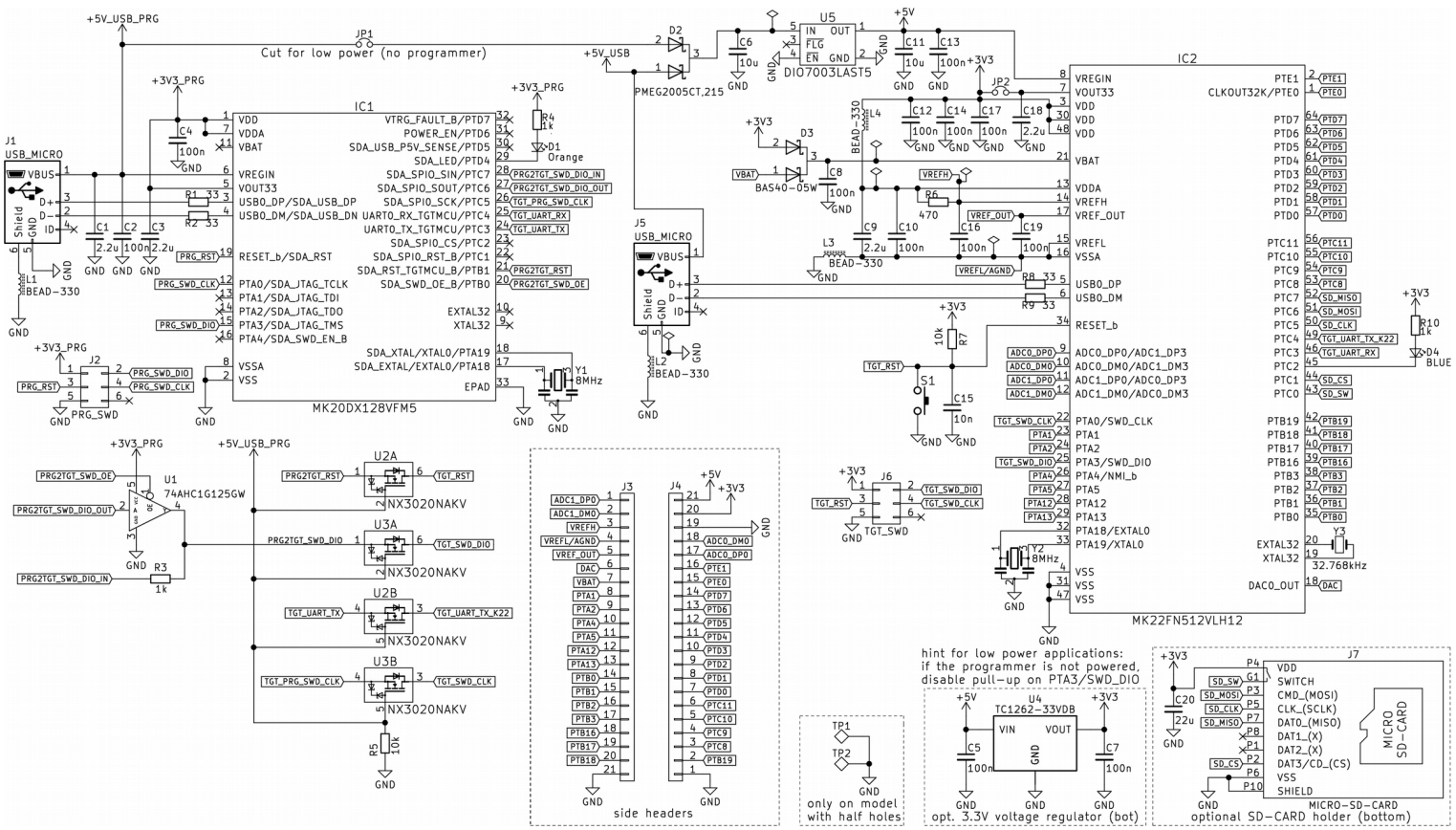

+5V_USB_PRG
JP1
Cut for low power (no programmer)
+5V_USB
D2
PMEG2005CT,215
U5
DIO7003LAST5
IN OUT
FLG
EN GND
+5V
+3V3
JP2
IC2
MK22FN512VLH12
VREGIN
VOUT33
VBAT
VREFH
VREF_OUT
VREFL
VSSA
VDDA
USB0_DP
USB0_DM
RESET_b
PTA0/SWD_CLK
PTA1
PTA2
PTA3/SWD_DIO
PTA4/NMI_b
PTA5
PTA12
PTA13
PTA18/EXTAL0
PTA19/XTAL0
EXTAL32
XTAL32
DAC0_OUT
IC1
MK20DX128VFM5
VDD
VDDA
VBAT
VREGIN
VOUT33
USB0_DP/SDA_USB_DP
USB0_DM/SDA_USB_DN
RESET_b/SDA_RST
PTA0/SDA_JTAG_TCLK
PTA1/SDA_JTAG_TDI
PTA2/SDA_JTAG_TDO
PTA3/SDA_JTAG_TMS
PTA4/SDA_SWD_EN_B
VSSA
VSS
EPAD
VTRG_FAULT_B/PTD7
POWER_EN/PTD6
SDA_USB_P5V_SENSE/PTD5
SDA_LED/PTD4
SDA_SPI0_SIN/PTC7
SDA_SPI0_SOUT/PTC6
SDA_SPI0_SCK/PTC5
UART0_RX_TGTMCU/PTC4
UART0_TX_TGTMCU/PTC3
SDA_SPI0_CS/PTC2
SDA_SPI0_RST_B/PTC1
SDA_RST_TGTMCU_B/PTB1
SDA_SWD_OE_B/PTB0
SDA_XTAL/XTAL0/PTA19
SDA_EXTAL/EXTAL0/PTA18
EXTAL32
XTAL32
J1
USB_MICRO
J5
USB_MICRO
J2
PRG_SWD
J3
side headers
J4
J6
TGT_SWD
J7
MICRO SD-CARD
MICRO-SD-CARD
optional SD-CARD holder (bottom)
U1
74AHC1G125GW
U2A
U3A
U2B
U3B
NX3020NAKV
U4
TC1262-33VDB
VIN
VOUT
GND
opt. 3.3V voltage regulator (bot)
TP1
TP2
only on model
with half holes
hint for low power applications:
if the programmer is not powered,
disable pull-up on PTA3/SWD_DIO
PRG_RST
PRG_SWD_DIO
PRG_SWD_CLK
PRG2TGT_SWD_OE
PRG2TGT_SWD_DIO_OUT
PRG2TGT_SWD_DIO_IN
PRG2TGT_SWD_DIO
PRG2TGT_RST
TGT_RST
TGT_SWD_DIO
TGT_SWD_CLK
TGT_UART_TX
TGT_UART_RX
TGT_UART_TX_K22
TGT_PRG_SWD_CLK
TGT_UART_RX
TGT_UART_TX
TGT_PRG_SWD_CLK
TGT_SWD_OE
TGT_SWD_DIO_OUT
TGT_SWD_DIO_IN
ADC0_DP0/ADC1_DP3
ADC0_DM0/ADC1_DM3
ADC1_DP0/ADC0_DP3
ADC1_DM0/ADC0_DM3
SD_SW
SD_MOSI
SD_CLK
SD_MISO
SD_CS
R1 33
R2 33
R3 1k
R4 1k
R5 10k
R6 470
R7 10k
R8 33
R9 33
R10 1k
C1 2.2u
C2 100n
C3 2.2u
C4 100n
C5 100n
C6 10u
C7 100n
C8 100n
C9 2.2u
C10 100n
C11 10u
C12 100n
C13 100n
C14 100n
C15 10n
C16 100n
C17 100n
C18 2.2u
C19 100n
C20 22u
L1 BEAD-330
L2 BEAD-330
L3 BEAD-330
L4 BEAD-330
D1 Orange
D3 BAS40-05W
D4 BLUE
S1
Y1 8MHz
Y2 8MHz
Y3 32.768kHz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PRG2TGT_SWD_DIO_IN
PRG2TGT_SWD_DIO
PRG2TGT_RST
TGT_RST
TGT_SWD_DIO
TGT_SWD_CLK
TGT_UART_TX
TGT_UART_RX
TGT_UART_TX_K22
TGT_PRG_SWD_CLK
TGT_UART_RX
TGT_UART_TX
TGT_PRG_SWD_CLK
TGT_SWD_OE
TGT_SWD_DIO_OUT
TGT_SWD_DIO_IN
ADC0_DP0/ADC1_DP3
ADC0_DM0/ADC1_DM3
ADC1_DP0/ADC0_DP3
ADC1_DM0/ADC0_DM3
SD_SW
SD_MOSI
SD_CLK
SD_MISO
SD_CS
R1 33
R2 33
R3 1k
R4 1k
R5 10k
R6 470
R7 10k
R8 33
R9 33
R10 1k
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C2 100n
C3 2.2u
C4 100n
C5 100n
C6 10u
C7 100n
C8 100n
C9 2.2u
C10 100n
C11 10u
C12 100n
C13 100n
C14 100n
C15 10n
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