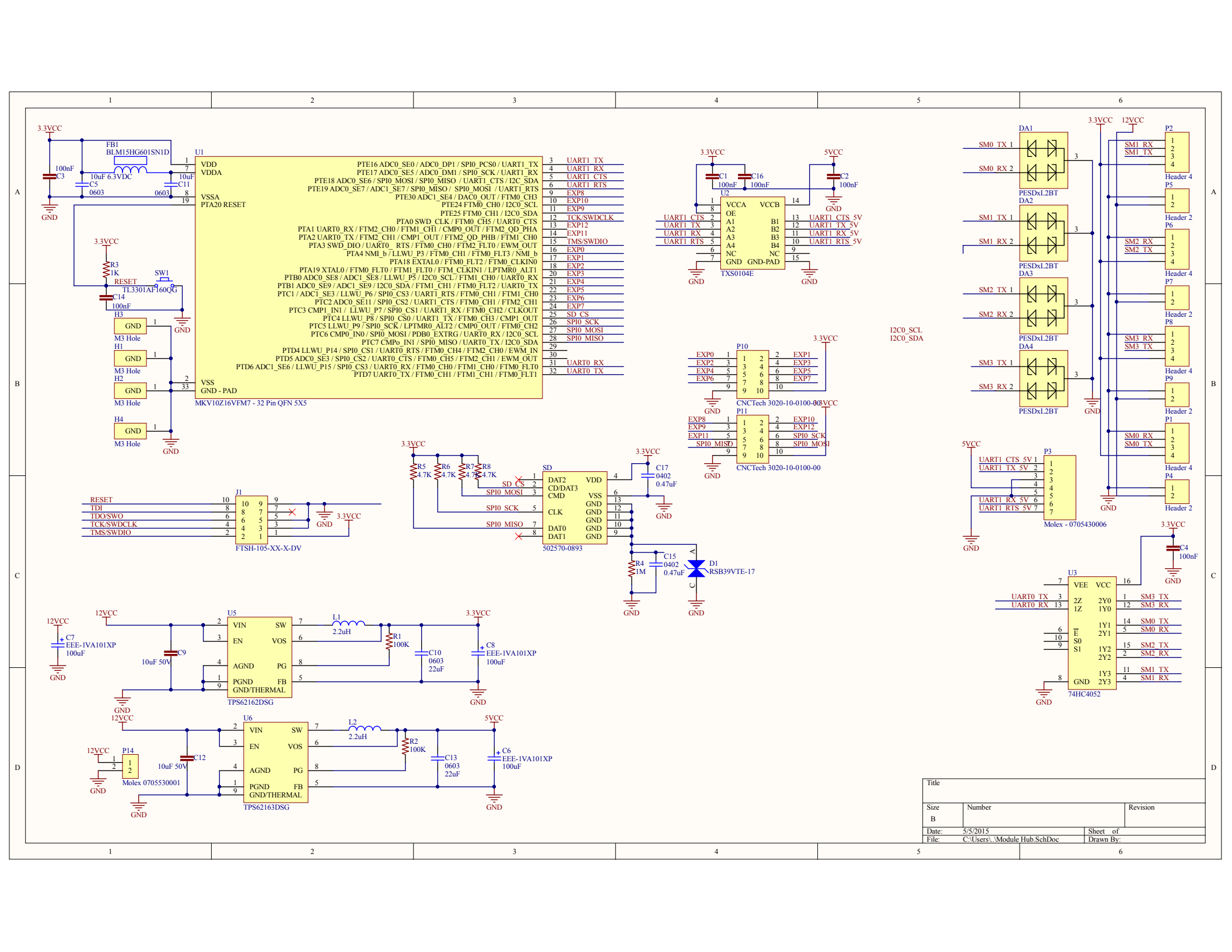
3.3VCC
FB1
BLM15HG601SN1D
100nF
C3
10uF 6.3VDC
C5
0603
0603
C11
10uF
GND
U1
VDD
VDDA
VSSA
PTA20 RESET
VSS
GND - PAD
MKV10Z16VFM7 - 32 Pin QFN 5X5
PTE16 ADC0_SE0 / ADC0_DP1 / SPI0_PCS0 / UART1_TX
PTE17 ADC0_SE5 / ADC0_DM1 / SPI0_SCK / UART1_RX
PTE18 ADC0_SE6 / SPI0_MOSI / SPI0_MISO / UART1_CTS / I2C_SDA
PTE19 ADC0_SE7 / ADC1_SE7 / SPI0_MISO / SPI0_MOSI / UART1_RTS
PTE30 ADC1_SE4 / DAC0_OUT / FTM0_CH3
PTE24 FTM0_CH0 / I2C0_SCL
PTE25 FTM0_CH1 / I2C0_SDA
PTA0 SWD_CLK / FTM0_CH5 / UART0_CTS
PTA1 UART0_RX / FTM2_CH0 / FTM1_CH1 / CMP0_OUT / FTM2_QD_PHA
PTA2 UART0_TX / FTM2_CH1 / CMP1_OUT / FTM2_QD_PHB / FTM1_CH0
PTA3 SWD_DIO / UART0_ RTS / FTM0_CH0 / FTM2_FLT0 / EWM_OUT
PTA4 NMI_b / LLWU_P3 / FTM0_CH1 / FTM0_FLT3 / NMI_b
PTA18 EXTAL0 / FTM0_FLT2 / FTM0_CLKIN0
PTA19 XTAL0 / FTM0_FLT0 / FTM1_FLT0 / FTM_CLKIN1 / LPTMR0_ALT1
PTB0 ADC0_SE8 / ADC1_SE8 / LLWU_P5 / I2C0_SCL / FTM1_CH0 / UART0_RX
PTB1 ADC0_SE9 / ADC1_SE9 / I2C0_SDA / FTM1_CH1 / FTM0_FLT2 / UART0_TX
PTC1 / ADC1_SE3 / LLWU_P6 / SPI0_CS3 / UART1_RTS / FTM0_CH1 / FTM1_CH0
PTC2 ADC0_SE11 / SPI0_CS2 / UART1_CTS / FTM0_CH1 / FTM2_CH1
PTC3 CMP1_IN1 / LLWU_P7 / SPI0_CS1 / UART1_RX / FTM0_CH2 / CLKOUT
PTC4 LLWU_P8 / SPI0_CS0 / UART1_TX / FTM0_CH3 / CMP1_OUT
PTC5 LLWU_P9 / SPI0_SCK / LPTMR0_ALT2 / CMP0_OUT / FTM0_CH2
PTC6 CMP0_IN0 / SPI0_MOSI / PDB0_EXTRG / UART0_RX / I2C0_SCL
PTC7 CMPo_IN1 / SPI0_MISO / UART0_TX / I2C0_SDA
PTD4 LLWU_P14 / SPI0_CS1 / UART0_RTS / FTM0_CH4 / FTM2_CH0 / EWM_IN
PTD5 ADC0_SE3 / SPI0_CS2 / UART0_CTS / FTM0_CH5 / FTM2_CH1 / EWM_OUT
PTD6 ADC1_SE6 / LLWU_P15 / SPI0_CS3 / UART0_RX / FTM0_CH0 / FTM1_CH0 / FTM0_FLT0
PTD7 UART0_TX / FTM0_CH1 / FTM1_CH1 / FTM0_FLT1
UART1_TX
UART1_RX
UART1_CTS
UART1_RTS
EXP8
EXP10
EXP9
TCK/SWDCLK
EXP12
EXP11
TMS/SWDIO
EXP0
EXP1
EXP2
EXP3
EXP4
EXP5
EXP6
EXP7
SD_CS
SPI0_SCK
SPI0_MOSI
SPI0_MISO
UART0_RX
UART0_TX
R3
1K
SW1
RESET
TL3301AF160QG
C14
100nF
H3
M3 Hole
H1
M3 Hole
H2
M3 Hole
H4
M3 Hole
C1
100nF
C16
100nF
C2
100nF
U2
VCCA
VCCB
OE
A1
A2
A3
A4
NC
GND
GND-PAD
B1
B2
B3
B4
NC
TXS0104E
UART1_CTS_5V
UART1_TX_5V
UART1_RX_5V
UART1_RTS_5V
I2C0_SCL
I2C0_SDA
P10
CNCTech 3020-10-0100-00
P11
CNCTech 3020-10-0100-00
J1
FTSH-105-XX-X-DV
R5
4.7K
R6
4.7K
R7
4.7K
R8
4.7K
SD
DAT2
CD/DAT3
CMD
CLK
DAT0
DAT1
VDD
VSS
GND
502570-0893
C17
0402
0.47uF
R4
1M
C15
0402
0.47uF
D1
RSB39VTE-17
DA1
DA2
DA3
DA4
PESDxL2BT
SM0_TX_1
SM0_RX_2
SM1_TX_1
SM1_RX_2
SM2_TX_1
SM2_RX_2
SM3_TX_1
SM3_RX_2
P2
P5
P6
P7
P8
P9
P1
P4
Header 4
Header 2
P3
Molex - 0705430006
U3
74HC4052
C4
100nF
C7
EEE-1VA101XP
100uF
12VCC
C9
10uF 50V
U5
TPS62162DSG
VIN
EN
AGND
PGND
GND/THERMAL
SW
VOS
PG
FB
L1
2.2uH
R1
100K
C10
0603
22uF
C8
EEE-1VA101XP
100uF
U6
TPS62163DSG
L2
2.2uH
R2
100K
C13
0603
22uF
C6
EEE-1VA101XP
100uF
C12
10uF 50V
P14
Molex 0705530001
5VCC
Title
Size
B
Number
Revision
Date:
5/5/2015
Sheet of
File:
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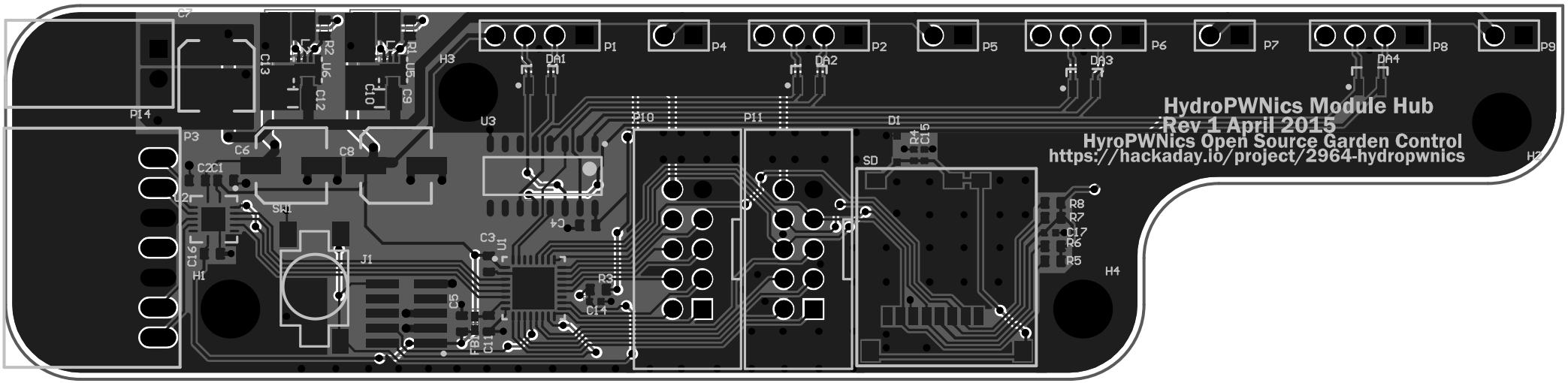
Drawn By:


HydroPWNics Module Hub
Rev 1 April 2015
HyroPWNics Open Source Garden Control
https://hackaday.io/project/2964-hydropwnics
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P14
DA1
DA2
DA3
DA4
D1
SD
SW1
J1
U1
U2
U3
H1
H2
H3
H4
C2C1
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
R1_U5_
R2_U6_
R3
R4
R5
R6
R7
R8
FB1

Comment	Description	Designator	Footprint	LibRef	Quantity
100nF	CAP CER 0603 100nF 50V 10% X7R	C1, C2, C3, C4, C16	C0603	C0603C104K5RACTU	5
0603	CAP CER 10UF 6.3V 10% JB 0603	C5, C11	C0603	C1608JB0J106K080AB	2
EEE-1VA101XP	CAP ALUM 100UF 35V 20% SMD	C6, C7, C8	EEE-1VA101XP	EEE-1VA101XP	3
10uF 50V	CAP CER 10UF 50V 10% X5R 1206	C9, C12	C1206	CL31A106KBHNNNE	2
0603	CAP CER 22UF 6.3V 10% X5R 0805	C10, C13	C0805	CL21A226KQQNNNE	2
100nF	CAP CER 0402 100nF 16V 10% X7R	C14	C0402	GRM155R71C104KA88D	1
0402	0.47uF 6.3v C0402 - GRM155R60J474KE19D	C15, C17	C0402	GRM155R60J474KE19D	2
RSB39VTE-17	DIODE TVS	D1	SOD323-R	RSB39VTE-17	1
PESDxL2BT	PESDxL2BT TVS Diode Array 2x	DA1, DA2, DA3, DA4	SOT95P230X110-3N	PESDxL2BT	4
BLM15HG601SN1D	BLM15HG601SN1D	FB1	BLM18PG121SN1D	BLM15HG601SN1D	1
M3 Hole	3mm Hole	H1, H2, H3, H4	Hole-3mm	Hole	4
FTSH-105-XX-X-DV		J1	FTSH-105-XX-X-DV	ARM Cortex JTAG-DEBUG Header	1
VLS252012T-2R2M1R3	VLS252012T-2R2M1R3	L1, L2	VLS252012T-2R2M1R3	VLS252012T-2R2M1R3	2
Header 4	Header, 4-Pin	P1, P2, P6, P8	HDR1X4	Header 4	4
Molex - 0705430006	0705530041	P3	0705530041	0705530041	1
Header 2	Header, 2-Pin	P4, P5, P7, P9	HDR1X2	Header 2	4
CNCTech 3020-10-0100-00	CNCTech 3020-10-0100-00	P10, P11	3020-10-0100-00	3020-10-0100-00	2
Molex 0705530001	Molex 0705530002 Right Angle 2.54mm Shrouded Header	P14	0705530001	0705530001	1
100K	RES 100K OHM 1/10W 1% 0603 SMD	R1, R2	R0603	RC0603FR-07100KL	2
1K	RES 0603 1K 100mW 1%	R3	R0603	ERJ-3EKF1001V	1
1M	RES 0402 1M 100mW 5%	R4	R0402	ERJ2GEJ105X	1
4.7K	RES 0603 4.7K 100mW 1%	R5, R6, R7, R8	R0603	ERJ3EKF4701V	4
502570-0893	microSD 502570-0893 Molex Part	SD	502570-0893 - Molex SD	502570-0893	1
TL3301AF160QG	TL3301AF160QG	SW1	TL3301AF160QG	TL3301AF160QG	1
MKV10Z16VFM7 - 32 Pin QFN 5X5	IC MCU ARM Cortex M0+ 16KB 32QFN 75MHZ	U1	MKV10Z16VFM7	MKV10Z16VFM7	1
TXS0104E	TXS0104E - Bidriectional Opendrain/pushpull level shift	U2	RGY (S-PVQFN-N14)	TXS0104E	1
74HC4052	Dual 4-channel analog multiplexer/demultiplexer	U3	74HC4052	74HC4052	1
TPS62162DSG		U5	DSG8-1600X900TP	TPS62162SOP	1
TPS62163DSG		U6	DSG8-1600X900TP	TPS62162SOP	1