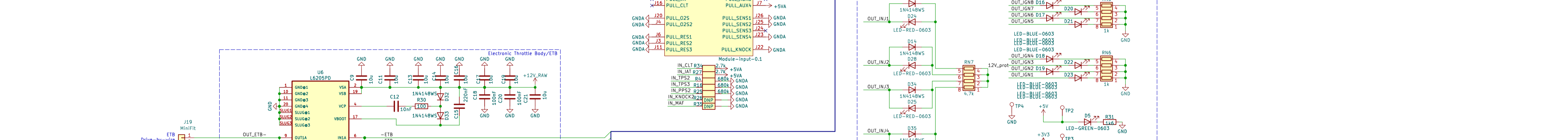
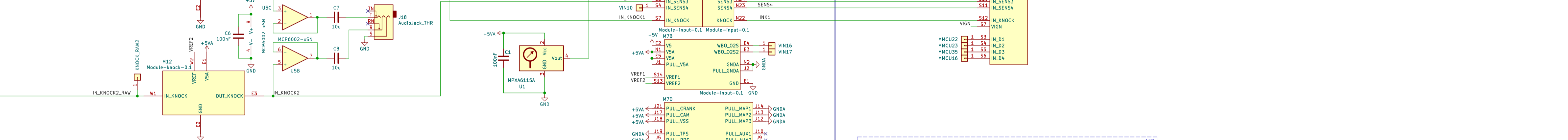
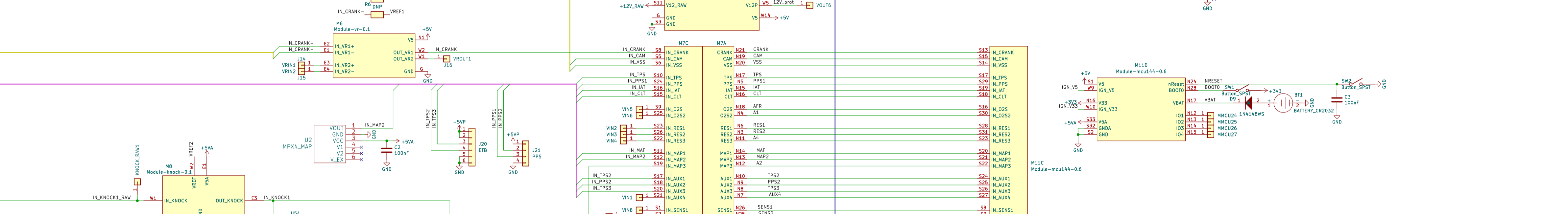
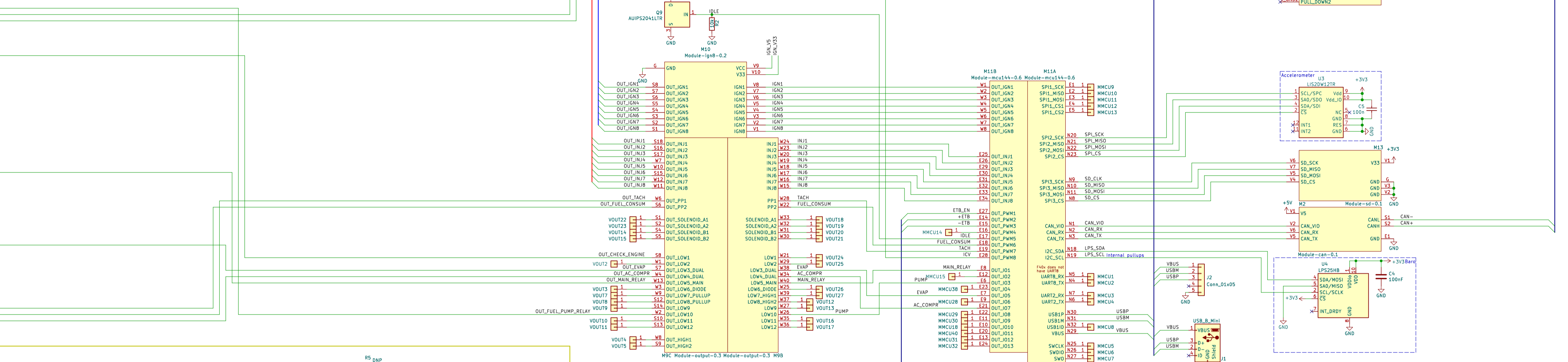
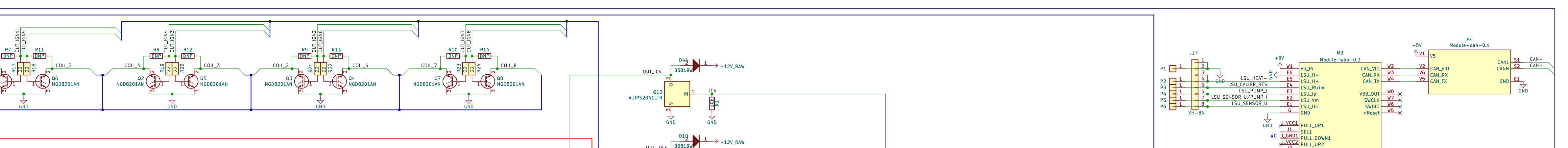
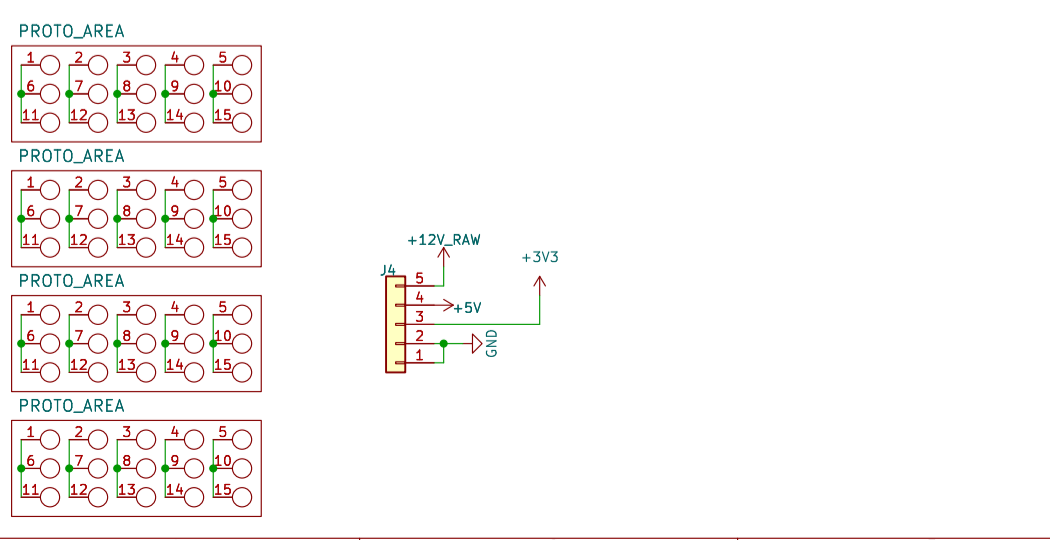
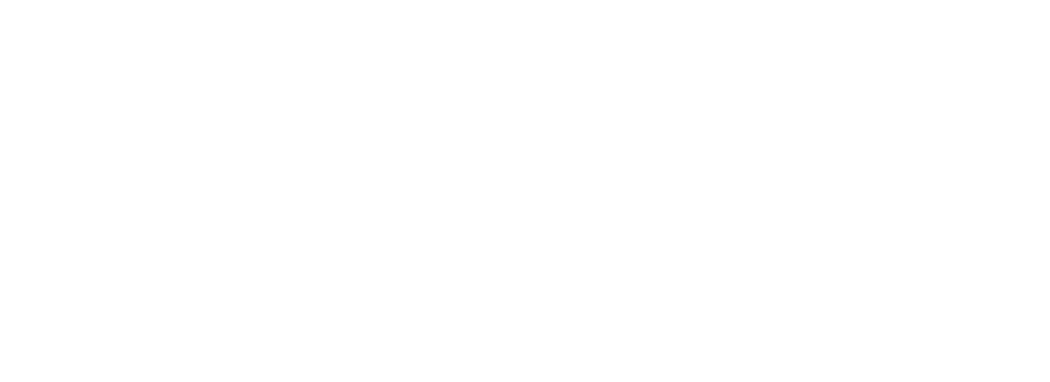
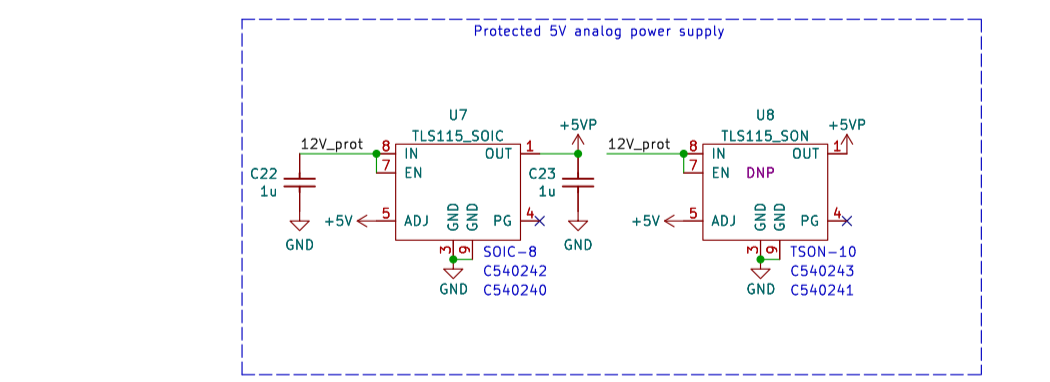
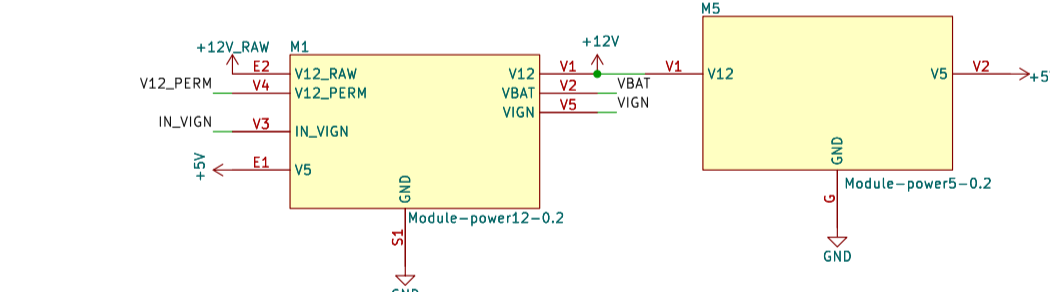
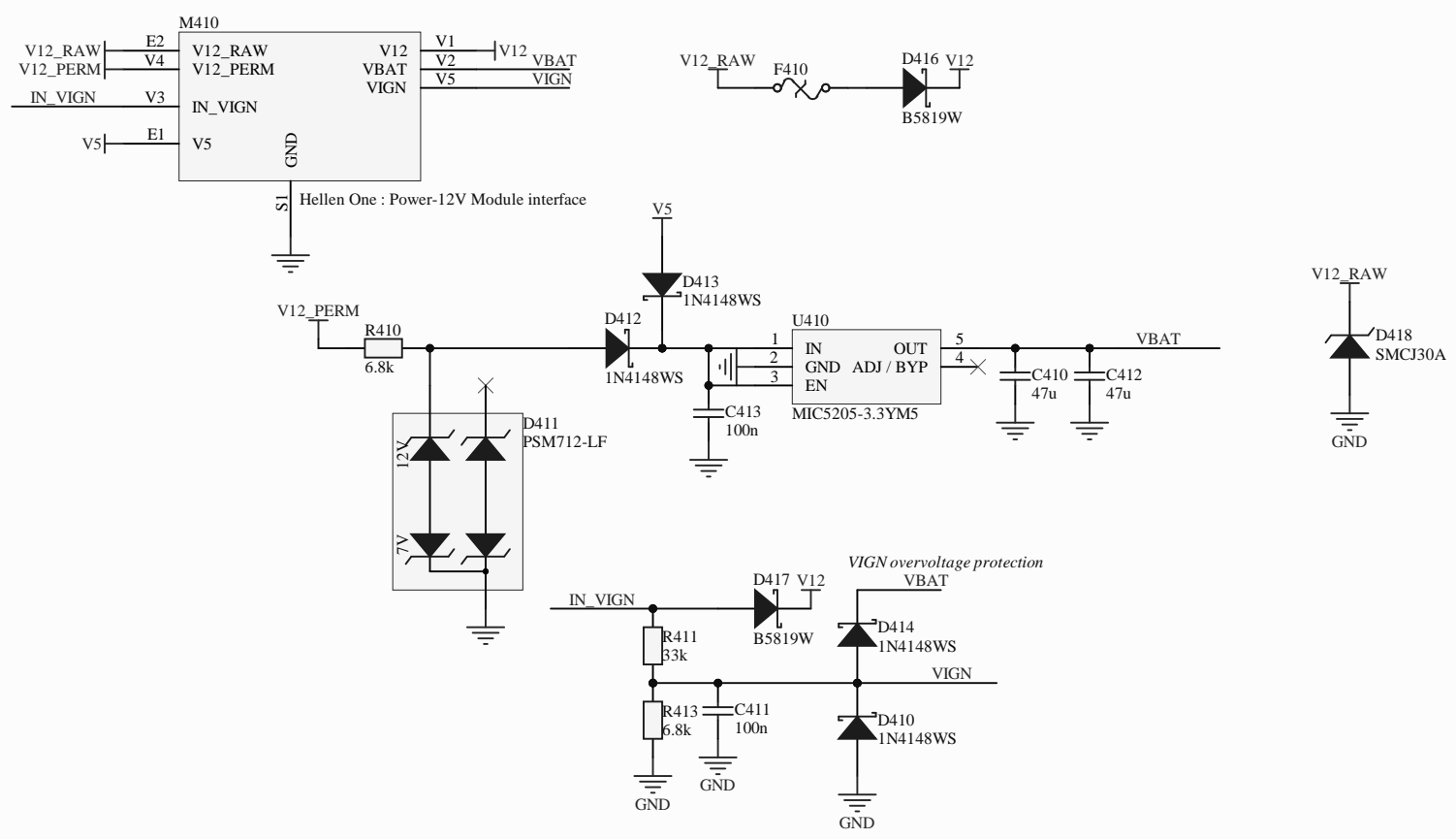
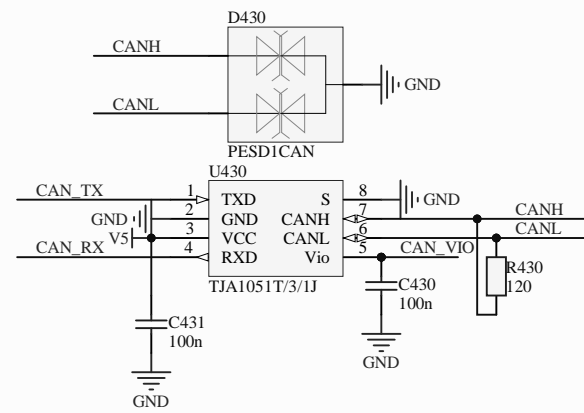
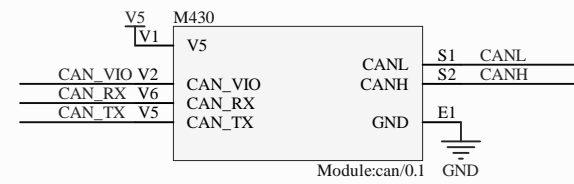
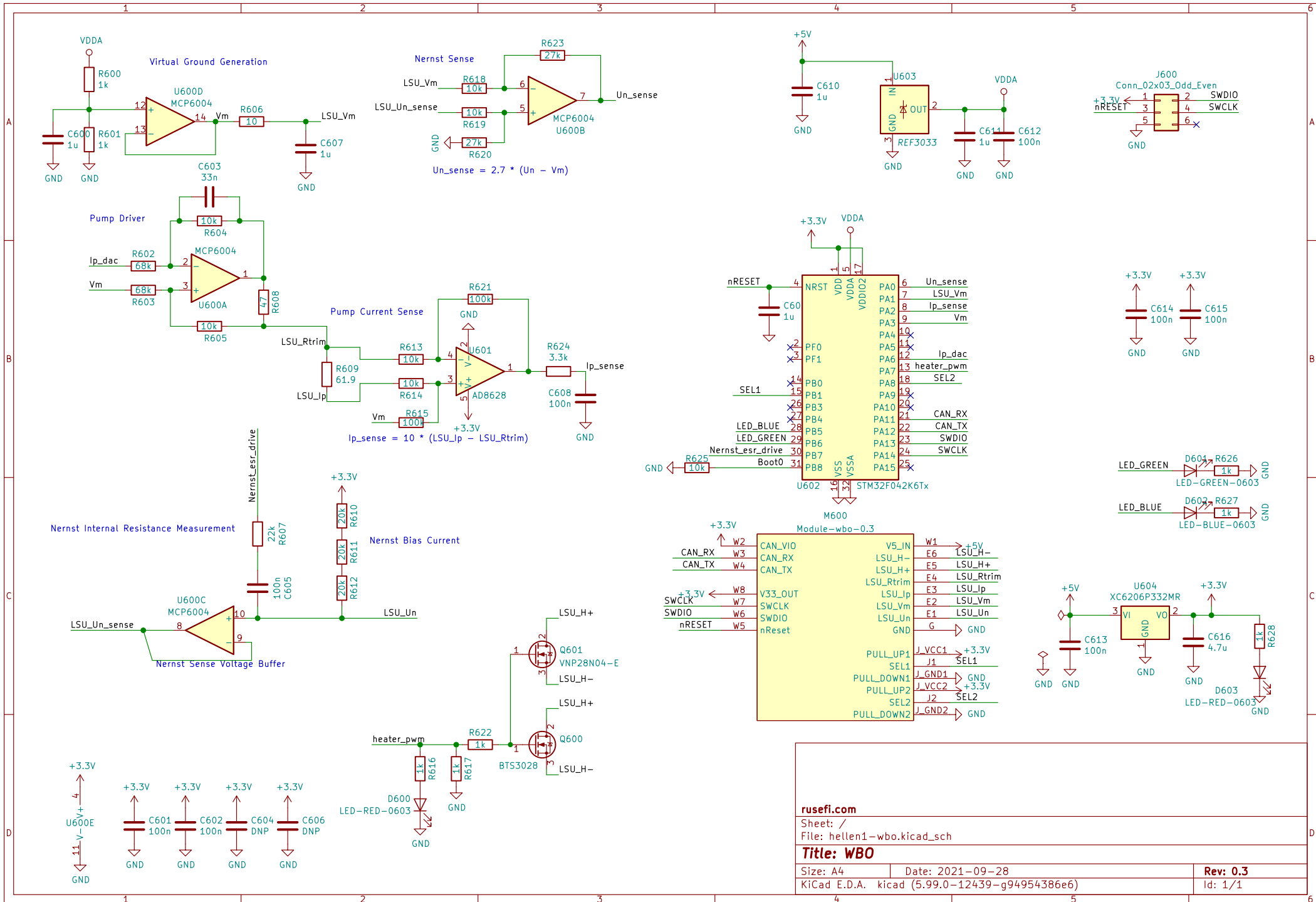


- 1 Fuel pump
- 2 IN_5
- 3 IN_6
- 4 IN_4
- 5 GND
- 6 VVT Selenoid | inj7
- 7 X
- 8 X
- 9 X
- 10 NC
- 11 NC
- 12 NC
- 13 GND
- 14 GND
- 15 IN_Crank
- 16 IN_Crank
- 17 GND
- 18 NC
- 19 USB_D+
- 20 USB_D-
- 21 COIL_4
- 22 COIL_5
- 23 COIL_6
- 24 COIL_7
- 25 COIL_8
- 26 COIL_9
- 27 COIL_10
- 28 COIL_11
- 29 COIL_12
- 30 COIL_13
- 31 COIL_14
- 32 COIL_15
- 33 COIL_16
- 34 COIL_17
- 35 COIL_18
- 36 COIL_19
- 37 COIL_20
- 38 COIL_21
- 39 COIL_22
- 40 COIL_23
- 41 COIL_24
- 42 COIL_25
- 43 COIL_26
- 44 COIL_27
- 45 COIL_28
- 46 COIL_29
- 47 COIL_30
- 48 COIL_31
- 49 COIL_32
- 50 COIL_33
- 51 COIL_34
- 52 COIL_35
- 53 COIL_36
- 54 COIL_37
- 55 COIL_38
- 56 COIL_39
- 57 COIL_40
- 58 COIL_41
- 59 COIL_42
- 60 COIL_43
- 61 COIL_44
- 62 COIL_45
- 63 COIL_46
- 64 COIL_47
- 65 COIL_48
- 66 COIL_49
- 67 COIL_50
- 68 COIL_51
- 69 COIL_52
- 70 COIL_53
- 71 COIL_54
- 72 COIL_55
- 73 COIL_56
- 74 COIL_57
- 75 COIL_58
- 76 COIL_59
- 77 COIL_60
- 78 COIL_61
- 79 COIL_62
- 80 COIL_63
- 81 COIL_64
- 82 COIL_65
- 83 COIL_66
- 84 COIL_67
- 85 COIL_68
- 86 COIL_69
- 87 COIL_70
- 88 COIL_71
- 89 COIL_72
- 90 COIL_73
- 91 COIL_74
- 92 COIL_75
- 93 COIL_76
- 94 COIL_77
- 95 COIL_78
- 96 COIL_79
- 97 COIL_80
- 98 COIL_81
- 99 COIL_82
- 100 COIL_83

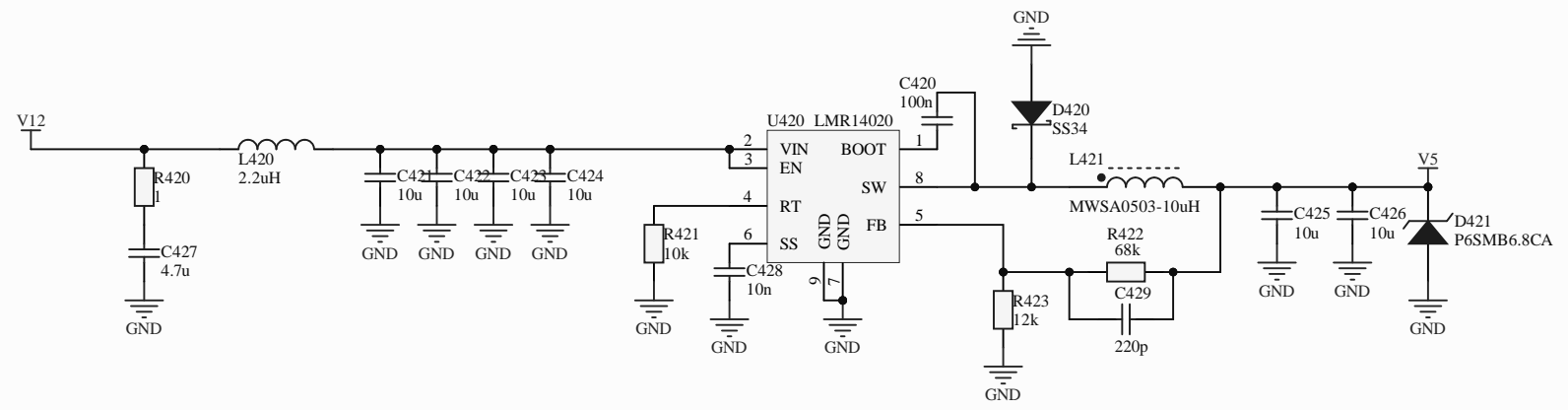
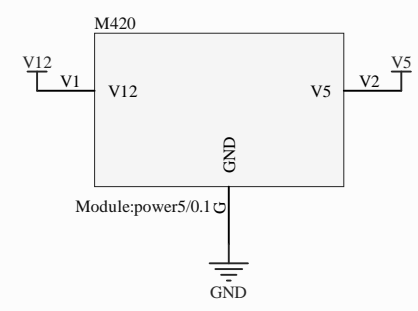


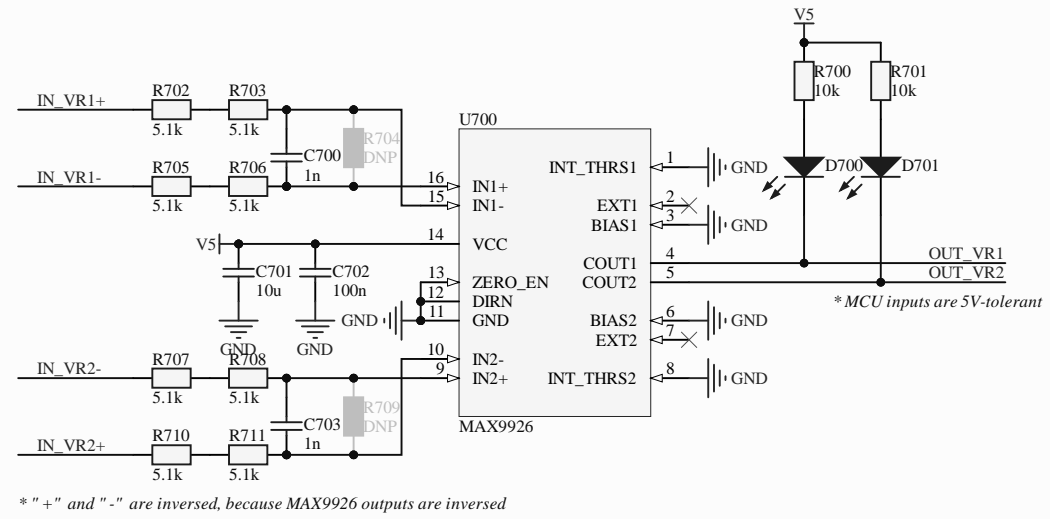
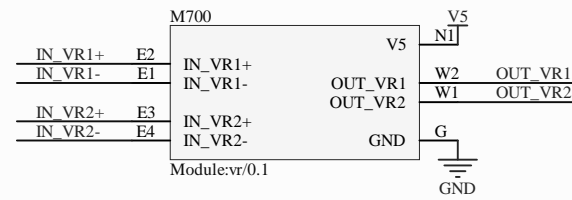






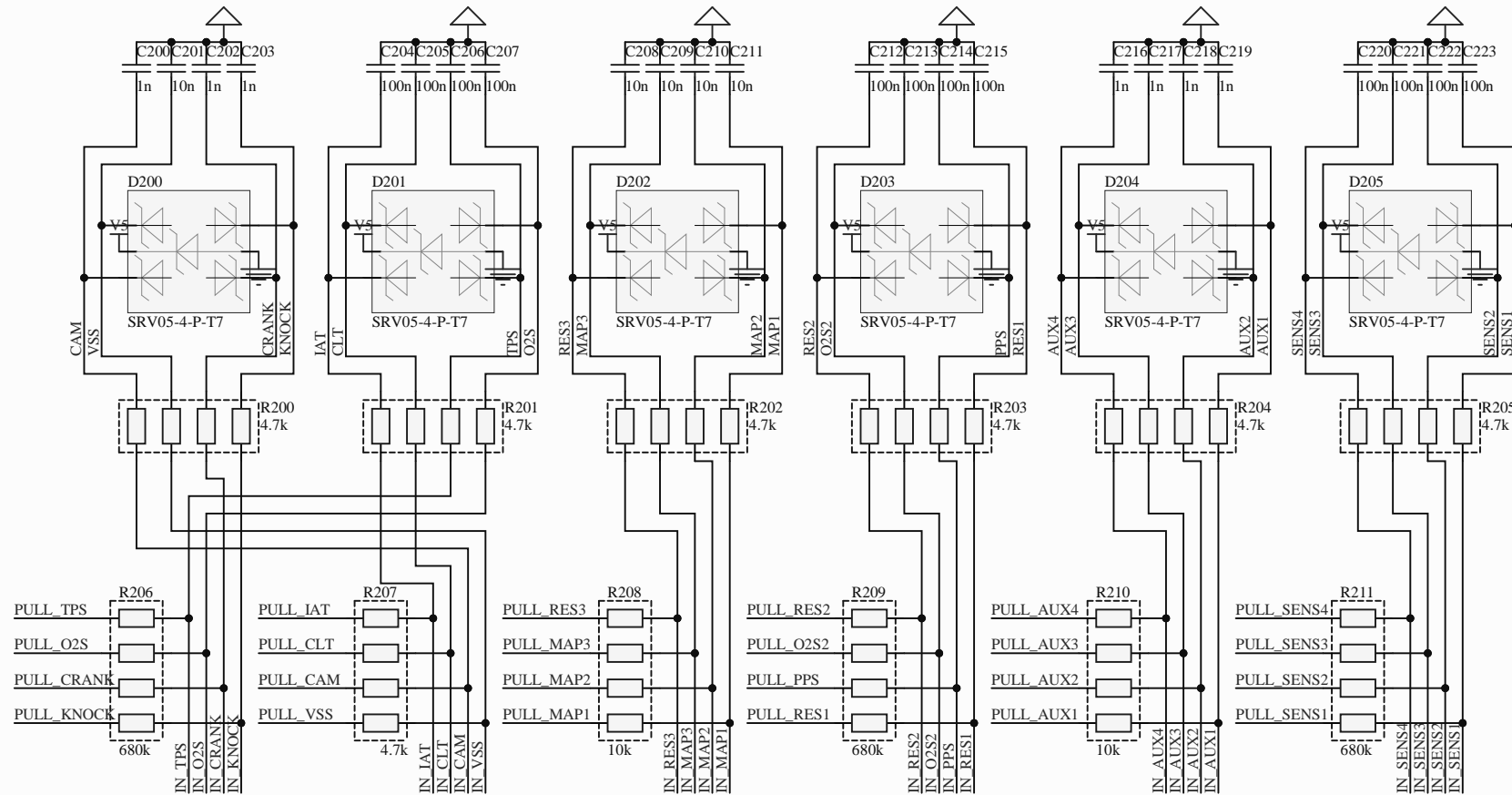
rusefi.com	
Sheet: /	
File: hellen1-wbo.kicad_sch	
Title: WBO	
Size: A4	Date: 2021-09-28
KiCad E.D.A. kicad (5.99.0-12439-g94954386e6)	
Rev: 0.3	
Id: 1/1	





M200D			
PULL_CRANK J21	PULL_CRANK	PULL_MAP1	J14 PULL_MAP1
PULL_CAM J17	PULL_CAM	PULL_MAP2	J13 PULL_MAP2
PULL_VSS J18	PULL_VSS	PULL_MAP3	J12 PULL_MAP3
PULL_TPS J19	PULL_TPS	PULL_AUX1	J10 PULL_AUX1
PULL_PPS J5	PULL_PPS	PULL_AUX2	J9 PULL_AUX2
PULL_IAT J15	PULL_IAT	PULL_AUX3	J8 PULL_AUX3
PULL_CLT J16	PULL_CLT	PULL_AUX4	J7 PULL_AUX4
PULL_O2S J20	PULL_O2S	PULL_SENS1	J26 PULL_SENS1
PULL_O2S2 J4	PULL_O2S2	PULL_SENS2	J25 PULL_SENS2
		PULL_SENS3	J24 PULL_SENS3
		PULL_SENS4	J23 PULL_SENS4
PULL_RES1 J6	PULL_RES1	PULL_SENS4	J22 PULL_KNOCK
PULL_RES2 J3	PULL_RES2		
PULL_RES3 J11	PULL_RES3		

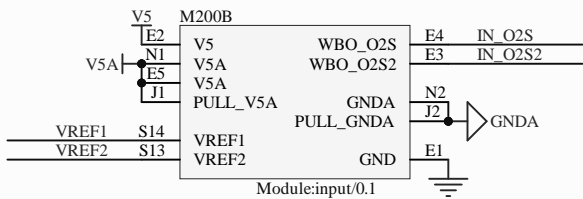
Module:input/0.1



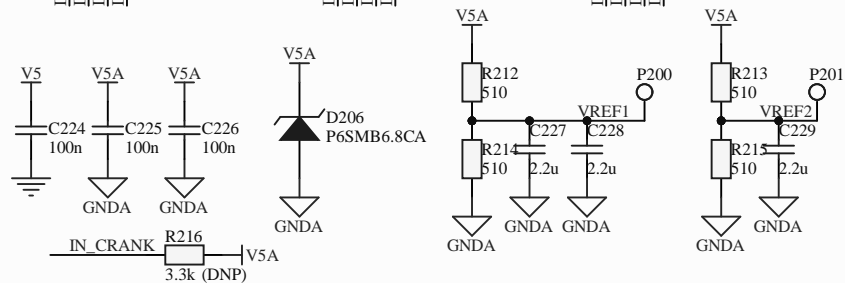
M200C		M200A	
IN_CRANK S8	IN_CRANK	N21 CRANK	
IN_CAM S5	IN_CAM	N19 CAM	
IN_VSS S6	IN_VSS	N20 VSS	
IN_TPS S10	IN_TPS	N17 TPS	
IN_PPS S24	IN_PPS	N5 PPS	
IN_IAT S16	IN_IAT	N15 IAT	
IN_CLT S15	IN_CLT	N16 CLT	
IN_O2S S9	IN_O2S	N18 O2S	
IN_O2S2 S25	IN_O2S2	N4 O2S2	
IN_RES1 S23	IN_RES1	N6 RES1	
IN_RES2 S26	IN_RES2	N3 RES2	
IN_RES3 S22	IN_RES3	N11 RES3	
IN_MAP1 S11	IN_MAP1	N14 MAP1	
IN_MAP2 S12	IN_MAP2	N13 MAP2	
IN_MAP3 S19	IN_MAP3	N12 MAP3	
IN_AUX1 S17	IN_AUX1	N10 AUX1	
IN_AUX2 S18	IN_AUX2	N9 AUX2	
IN_AUX3 S20	IN_AUX3	N8 AUX3	
IN_AUX4 S21	IN_AUX4	N7 AUX4	
IN_SENS1 S1	IN_SENS1	N26 SENS1	
IN_SENS2 S2	IN_SENS2	N25 SENS2	
IN_SENS3 S3	IN_SENS3	N24 SENS3	
IN_SENS4 S4	IN_SENS4	N23 SENS4	
IN_KNOCK S7	IN_KNOCK	N22 KNOCK	

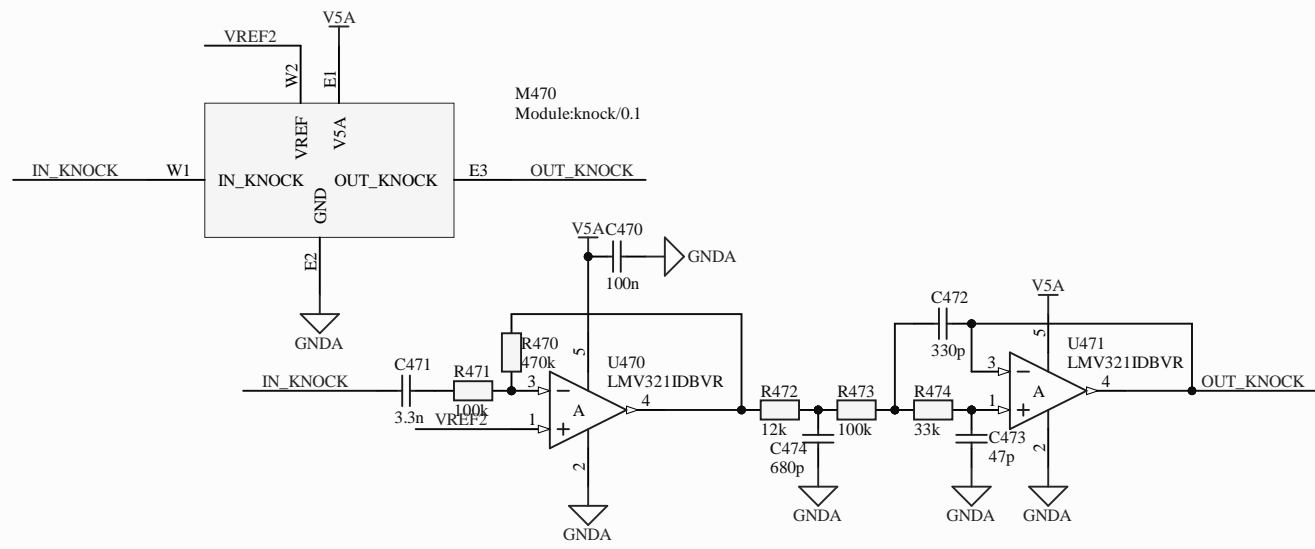
Module:input/0.1

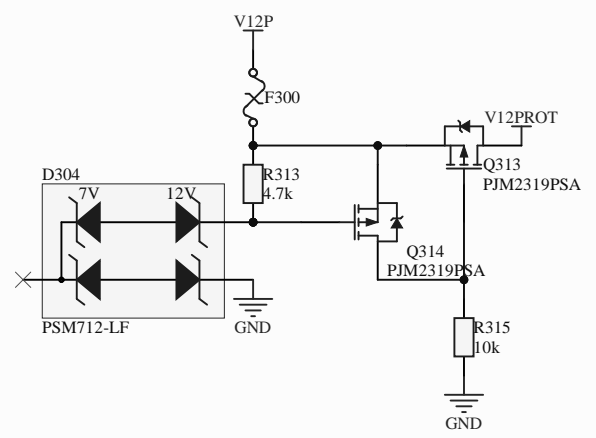
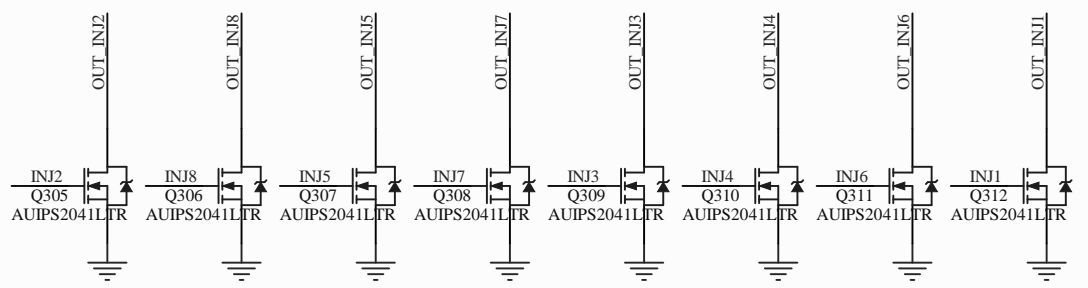
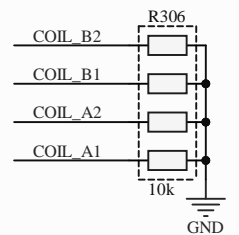
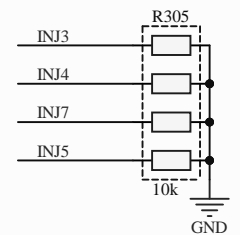
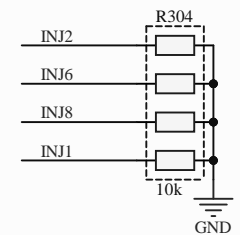
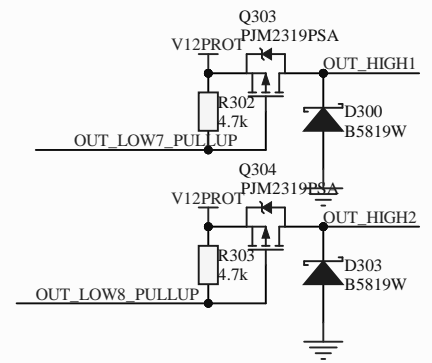
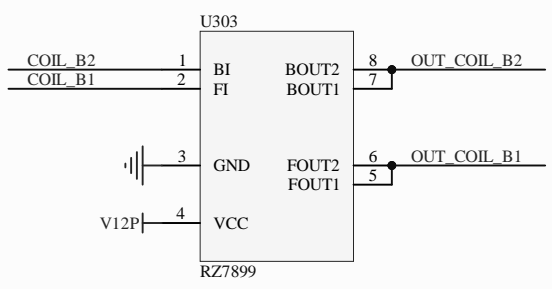
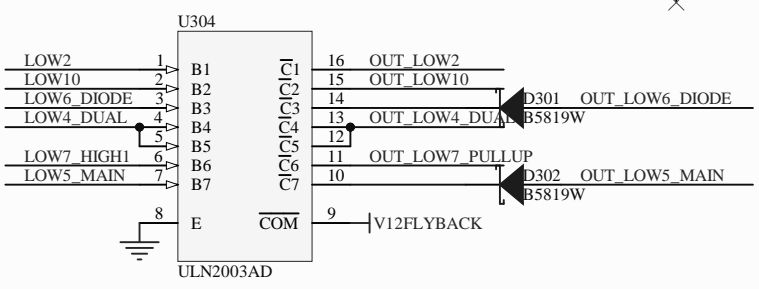
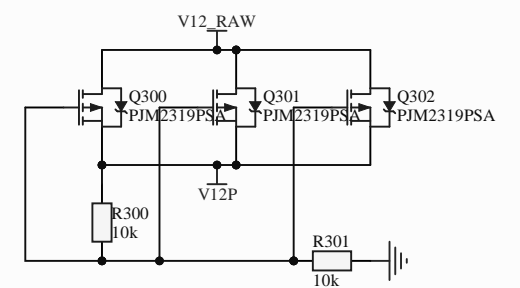
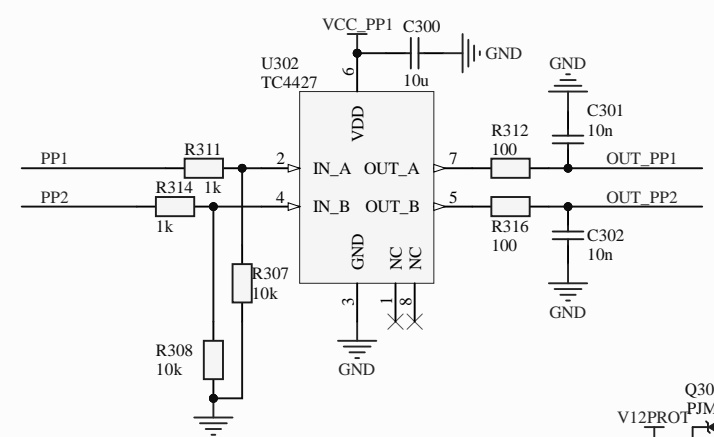
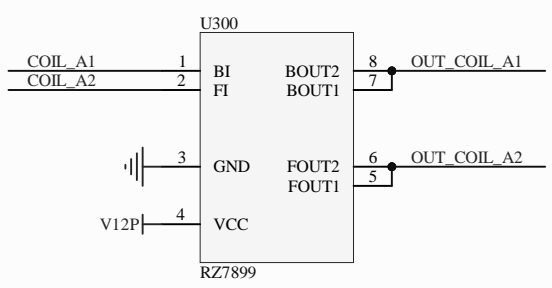
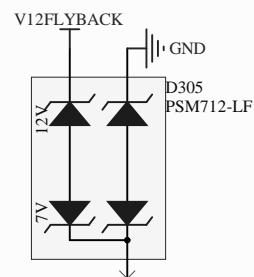
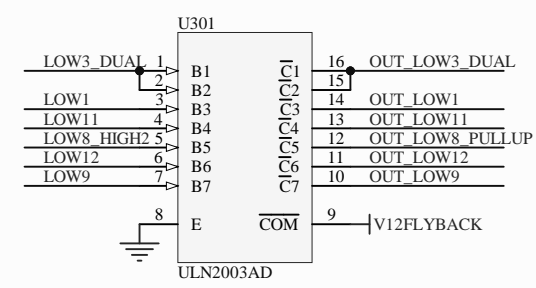
Module:input/0.1



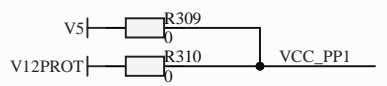
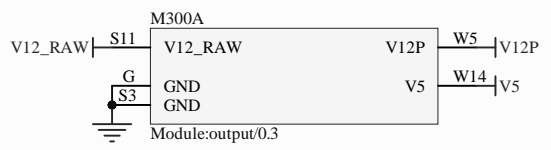
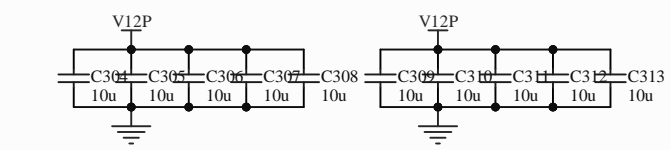
Module:input/0.1



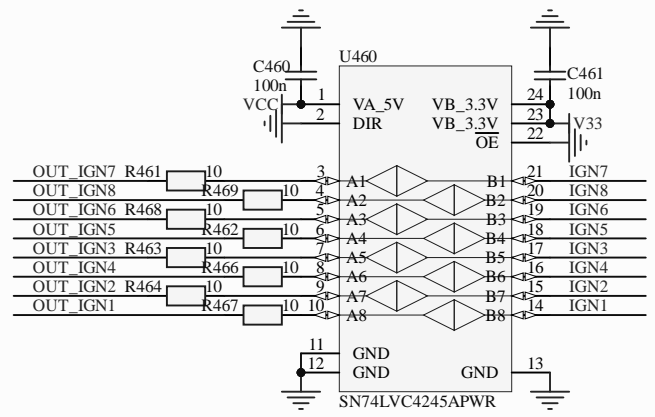
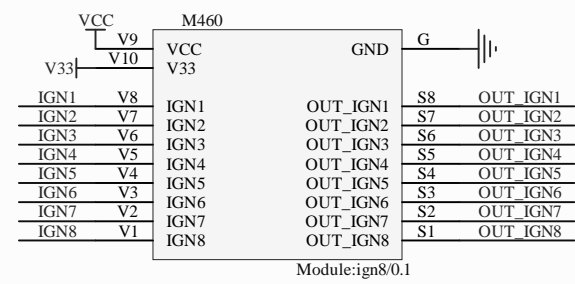


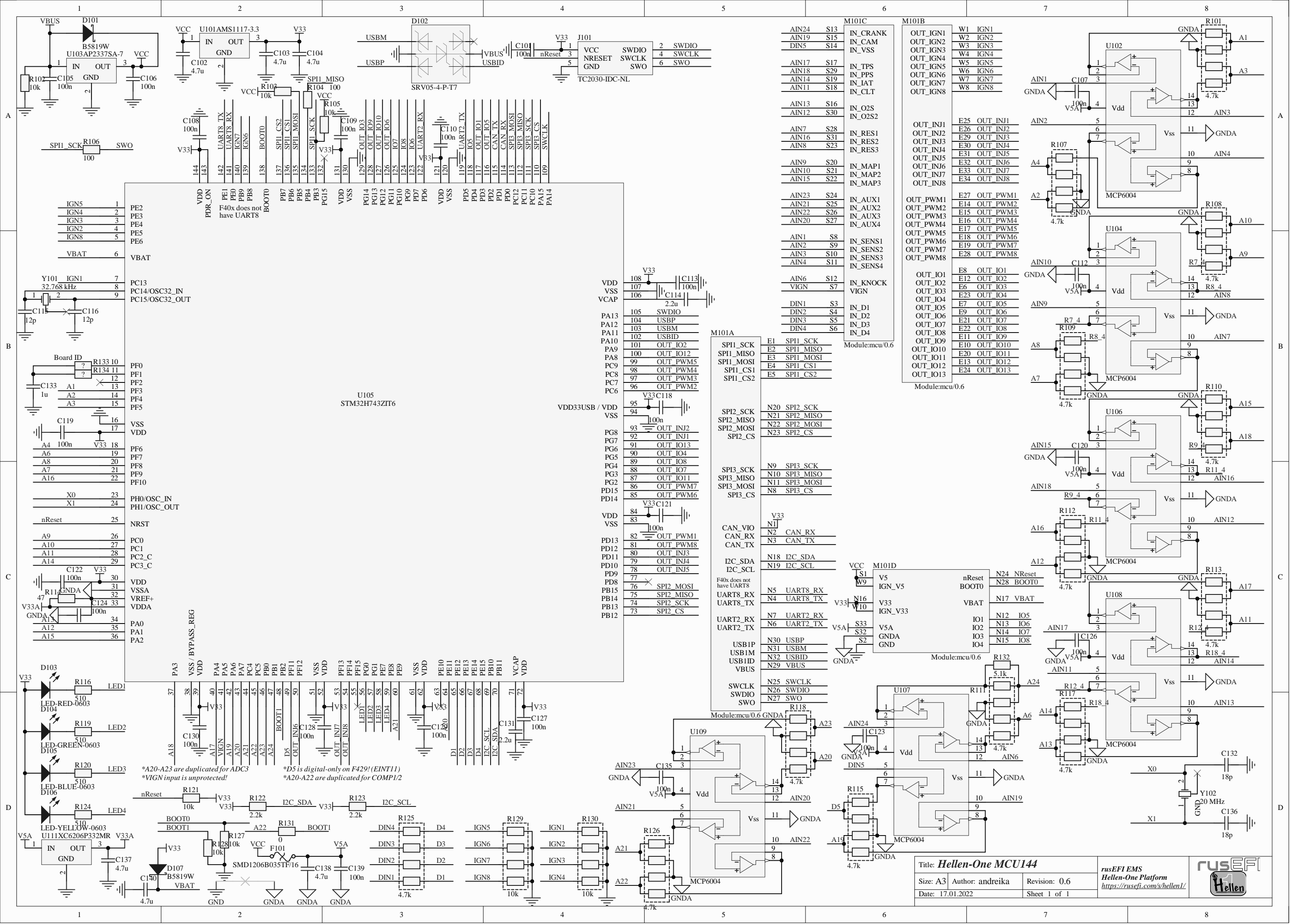


M300B		M300C	
INJ1	W24	OUT_INJ1	S18
INJ2	W23	OUT_INJ2	S16
INJ3	W20	OUT_INJ3	S17
INJ4	W19	OUT_INJ4	W7
INJ5	W18	OUT_INJ5	W10
INJ6	W17	OUT_INJ6	S15
INJ7	W16	OUT_INJ7	W12
INJ8	W15	OUT_INJ8	W11
PP1	W28	OUT_PP1	W6
PP2	W22	OUT_PP2	S6
COIL_A1	W33	OUT_SOLENOID_A1	S1
COIL_A2	W32	OUT_SOLENOID_A2	S2
COIL_B1	W31	OUT_SOLENOID_B1	S4
COIL_B2	W30	OUT_SOLENOID_B2	S5
LOW1	W21	OUT_LOW1	S8
LOW2	W29	OUT_LOW2	W1
LOW3_DUAL	W38	OUT_LOW3_DUAL	S7
LOW4_DUAL	W34	OUT_LOW4_DUAL	W4
LOW5_MAIN	W40	OUT_LOW4_DUAL	W13
LOW6_DIODE	W25	OUT_LOW5_MAIN	W3
LOW7_HIGH1	W39	OUT_LOW6_DIODE	W9
LOW8_HIGH2	W37	OUT_LOW7_PULLUP	S12
LOW9	W27	OUT_LOW8_PULLUP	S14
LOW10	W26	OUT_LOW9	W2
LOW11	W35	OUT_LOW10	S10
LOW12	W36	OUT_LOW11	S13
		OUT_LOW12	
		OUT_HIGH1	W8
		OUT_HIGH2	S9



* These can be removed in the board compilation file





IGN5	1	PE2	VDD_ON	144	143
IGN4	2	PE3	PDR_ON	142	141
IGN3	3	PE4	PE0	140	139
IGN2	4	PE5	PE1	138	137
IGN8	5	PE6	F40x does not have UART8	136	135
VBAT	6	VBAT	BOOT0	134	133
Y101_IGN1	7	PC13	PB7	132	131
PC14/OSC32_IN	8	PC15/OSC32_OUT	PB6	130	129
PF0	10	PF1	PB5	128	127
PF2	12	PF3	PB4	126	125
PF4	14	PF5	PB3	124	123
VSS	16	VDD	PG15	122	121
A4	18	A6	PG14	120	119
A6	19	A8	PD5	118	117
A7	21	A16	PD4	116	115
X0	23	X1	PD3	114	113
nReset	25	NRST	PD2	112	111
A9	26	A10	PD1	110	109
A10	27	A11	PD0	108	107
A11	28	A14	PA13	106	105
A12	35	A15	PA12	104	103
PA0	34	PA1	PA11	102	101
PA2	36	PA3	PA9	100	99
VSS / BYPASS_REG	37	VDD	PA8	98	97
PA4	40	PA5	PA7	96	95
PA6	42	PA7	PC9	94	93
PA8	44	PA9	PC8	92	91
PC5	45	PC6	PC7	90	89
PB0	46	PB1	PC6	88	87
PB2	48	PB3	PD15	86	85
PB4	50	PB5	PD14	84	83
PB6	52	PB7	VDD	82	81
PB8	54	PB9	VSS	80	79
PB10	56	PB11	PD13	78	77
PG0	57	PG1	PD12	76	75
PG2	58	PG3	PD11	74	73
PG4	59	PG5	PD10	72	71
PG6	61	PG7	PD9	70	69
PG8	62	PG9	PD8	68	67
PG10	64	PG11	PB15	66	65
PG12	66	PG13	PB14	64	63
PG14	68	PG15	PB13	62	61
PCAN_RX	113	PCAN_TX	PB12	60	59
PCAN_RX	114	PCAN_TX	VCAP	71	72
PCAN_RX	115	PCAN_TX	VDD	70	69
PCAN_RX	116	PCAN_TX	VSS	68	67
PCAN_RX	117	PCAN_TX	VCAP	71	72
PCAN_RX	118	PCAN_TX	VDD	70	69
PCAN_RX	119	PCAN_TX	VSS	68	67
PCAN_RX	120	PCAN_TX	VCAP	71	72
PCAN_RX	121	PCAN_TX	VDD	70	69
PCAN_RX	122	PCAN_TX	VSS	68	67
PCAN_RX	123	PCAN_TX	VCAP	71	72
PCAN_RX	124	PCAN_TX	VDD	70	69
PCAN_RX	125	PCAN_TX	VSS	68	67
PCAN_RX	126	PCAN_TX	VCAP	71	72
PCAN_RX	127	PCAN_TX	VDD	70	69
PCAN_RX	128	PCAN_TX	VSS	68	67
PCAN_RX	129	PCAN_TX	VCAP	71	72
PCAN_RX	130	PCAN_TX	VDD	70	69
PCAN_RX	131	PCAN_TX	VSS	68	67
PCAN_RX	132	PCAN_TX	VCAP	71	72
PCAN_RX	133	PCAN_TX	VDD	70	69
PCAN_RX	134	PCAN_TX	VSS	68	67
PCAN_RX	135	PCAN_TX	VCAP	71	72
PCAN_RX	136	PCAN_TX	VDD	70	69
PCAN_RX	137	PCAN_TX	VSS	68	67
PCAN_RX	138	PCAN_TX	VCAP	71	72
PCAN_RX	139	PCAN_TX	VDD	70	69
PCAN_RX	140	PCAN_TX	VSS	68	67
PCAN_RX	141	PCAN_TX	VCAP	71	72
PCAN_RX	142	PCAN_TX	VDD	70	69
PCAN_RX	143	PCAN_TX	VSS	68	67
PCAN_RX	144	PCAN_TX	VCAP	71	72

