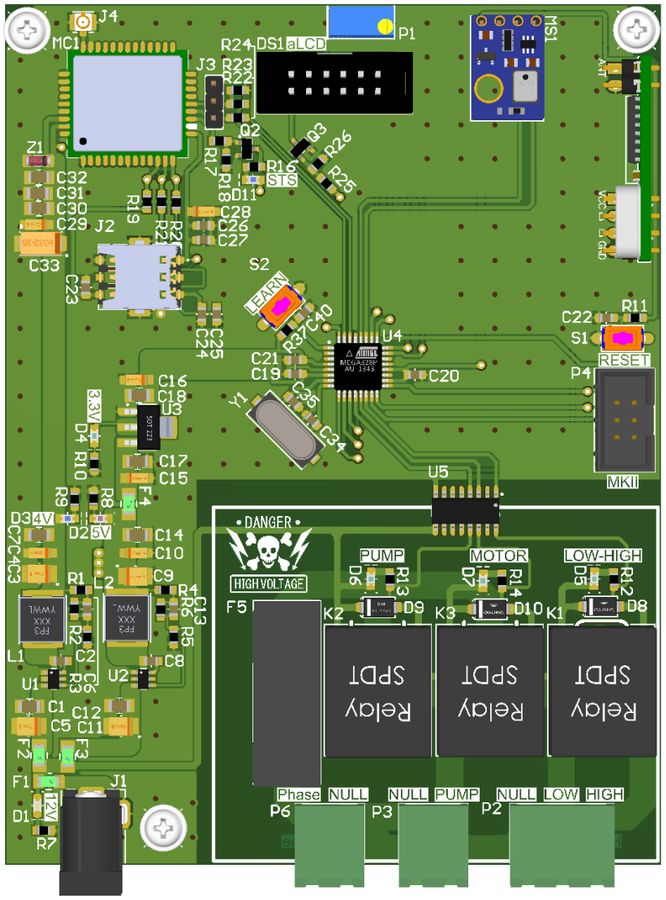
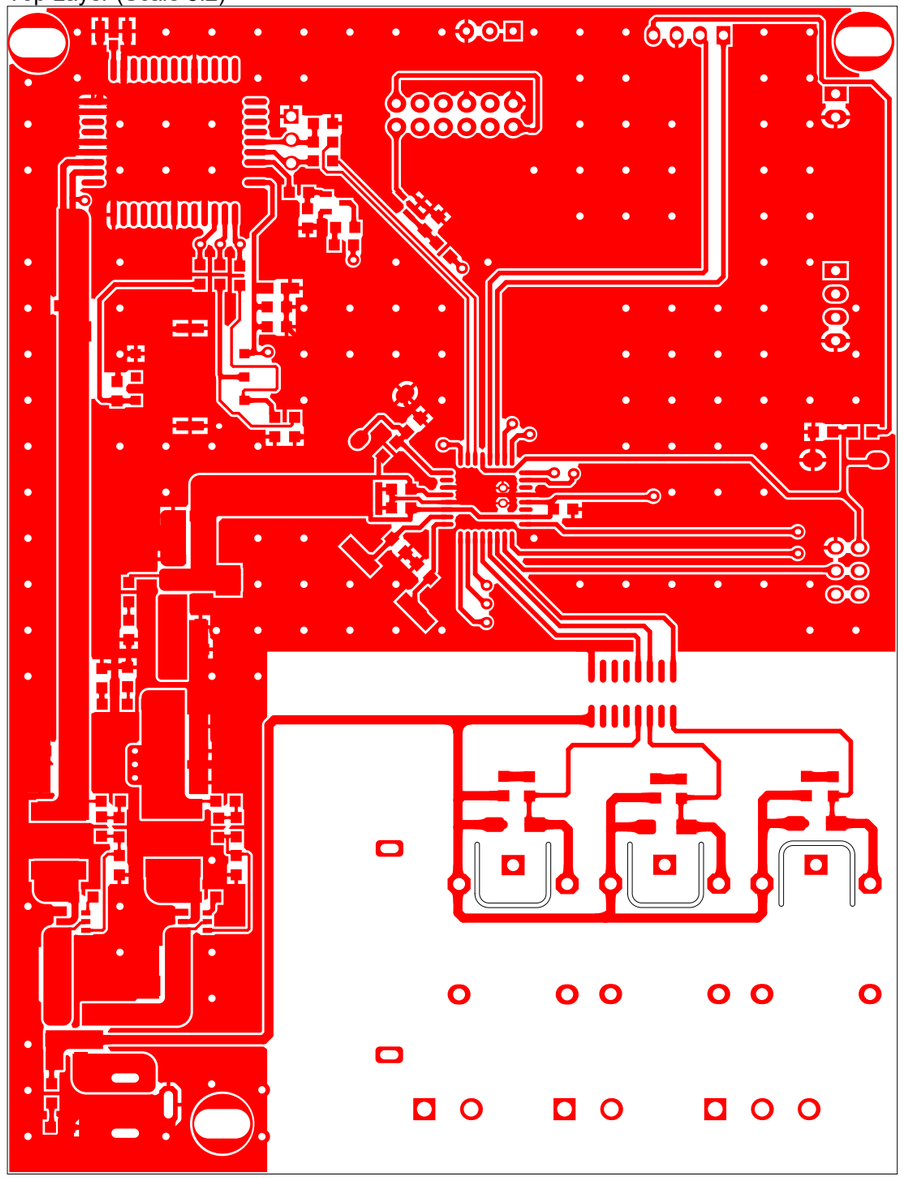
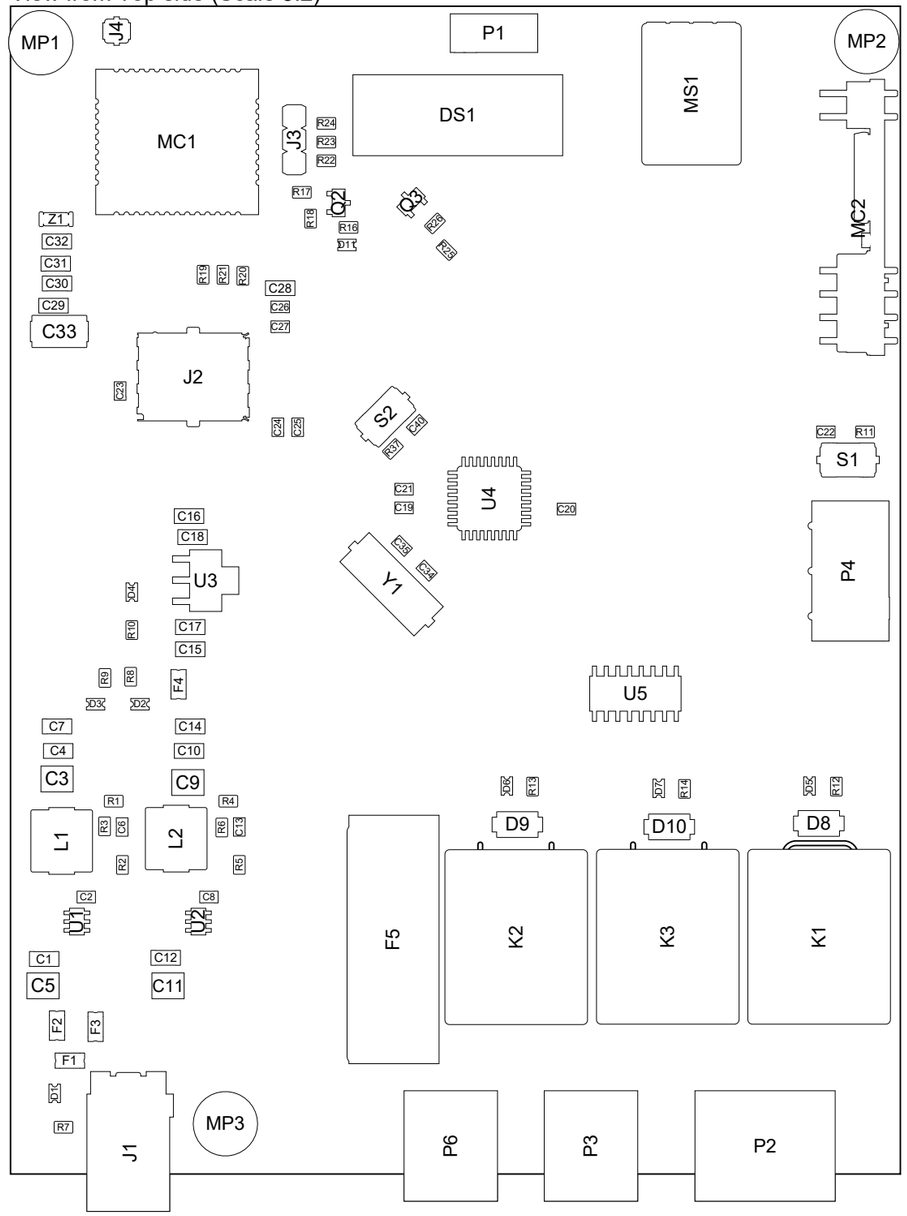
Realistic View



Top Layer (Scale 3:2)

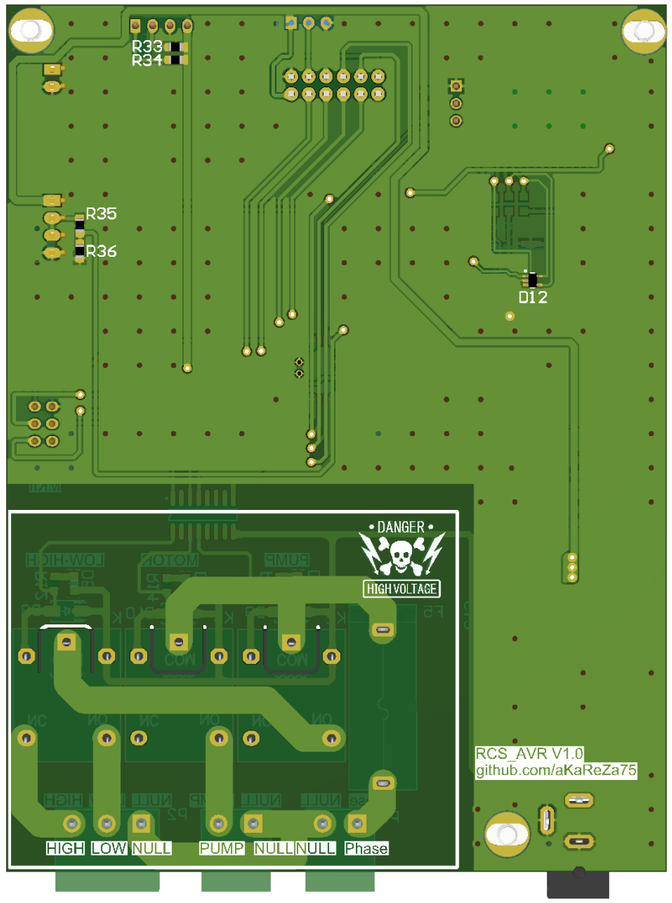


View from Top side (Scale 3:2)

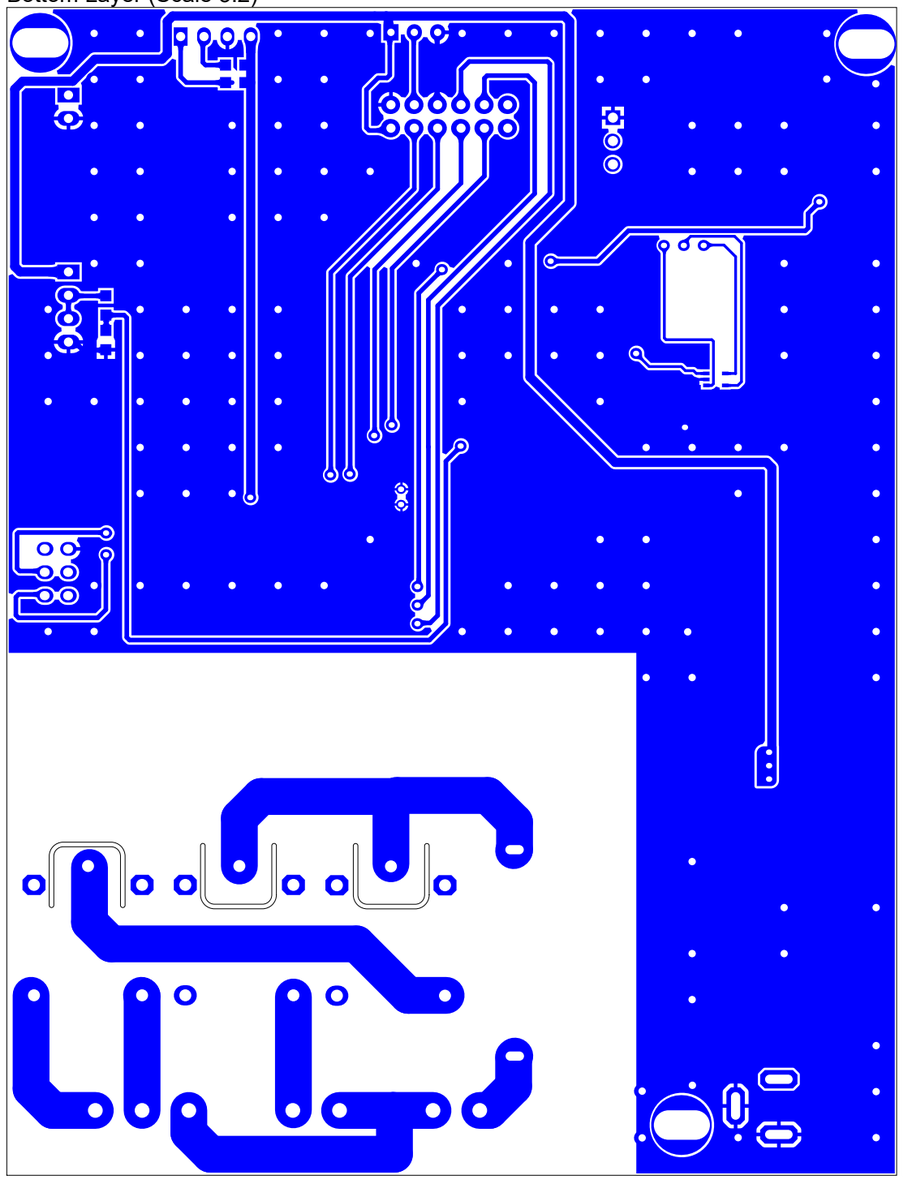


Title: TOP View	Drawn by:	Hossein Bagheri	
Project: AVR RCS	Revision: 1.0	aKaReZa	
Company: github.com/aKaReZa75	Sheet 1 of 8		

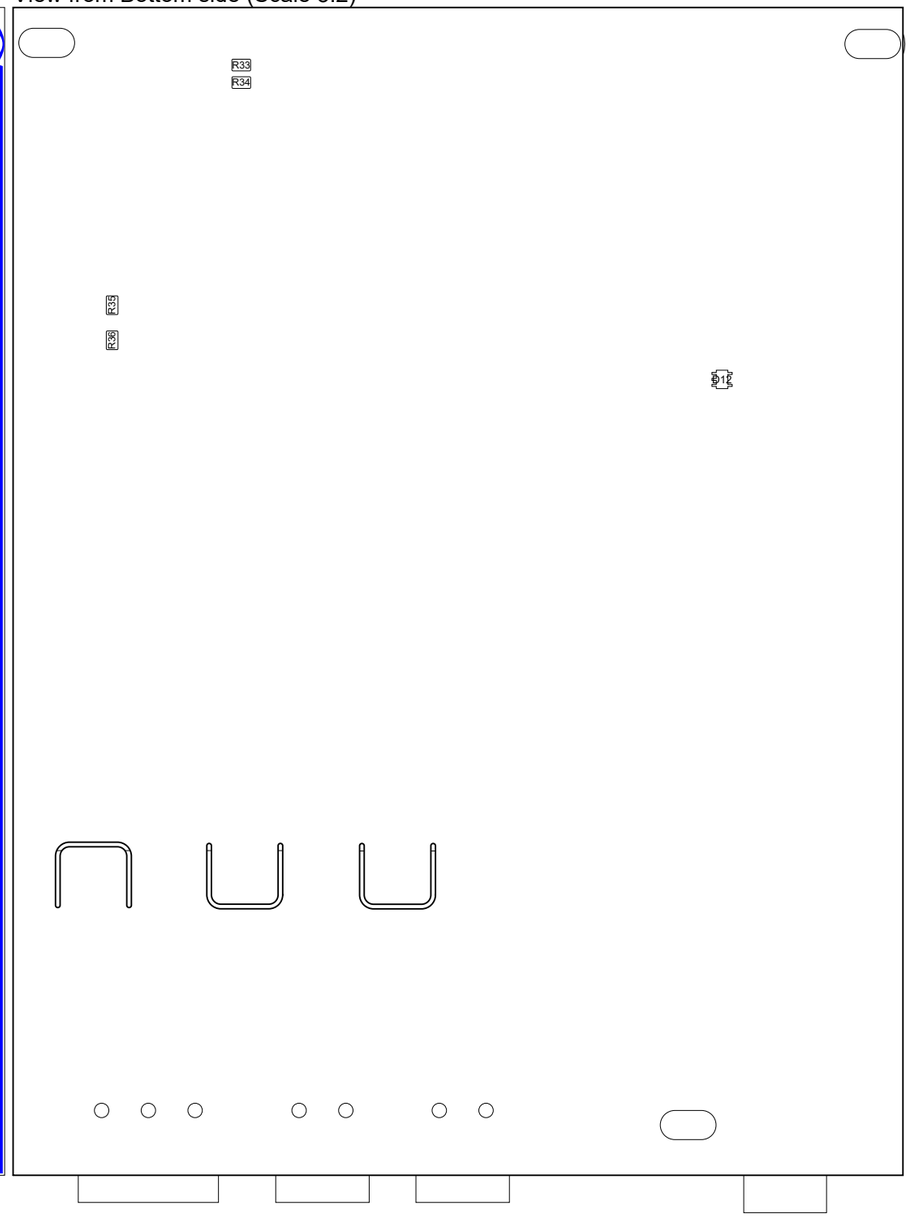
Realistic View



Bottom Layer (Scale 3:2)

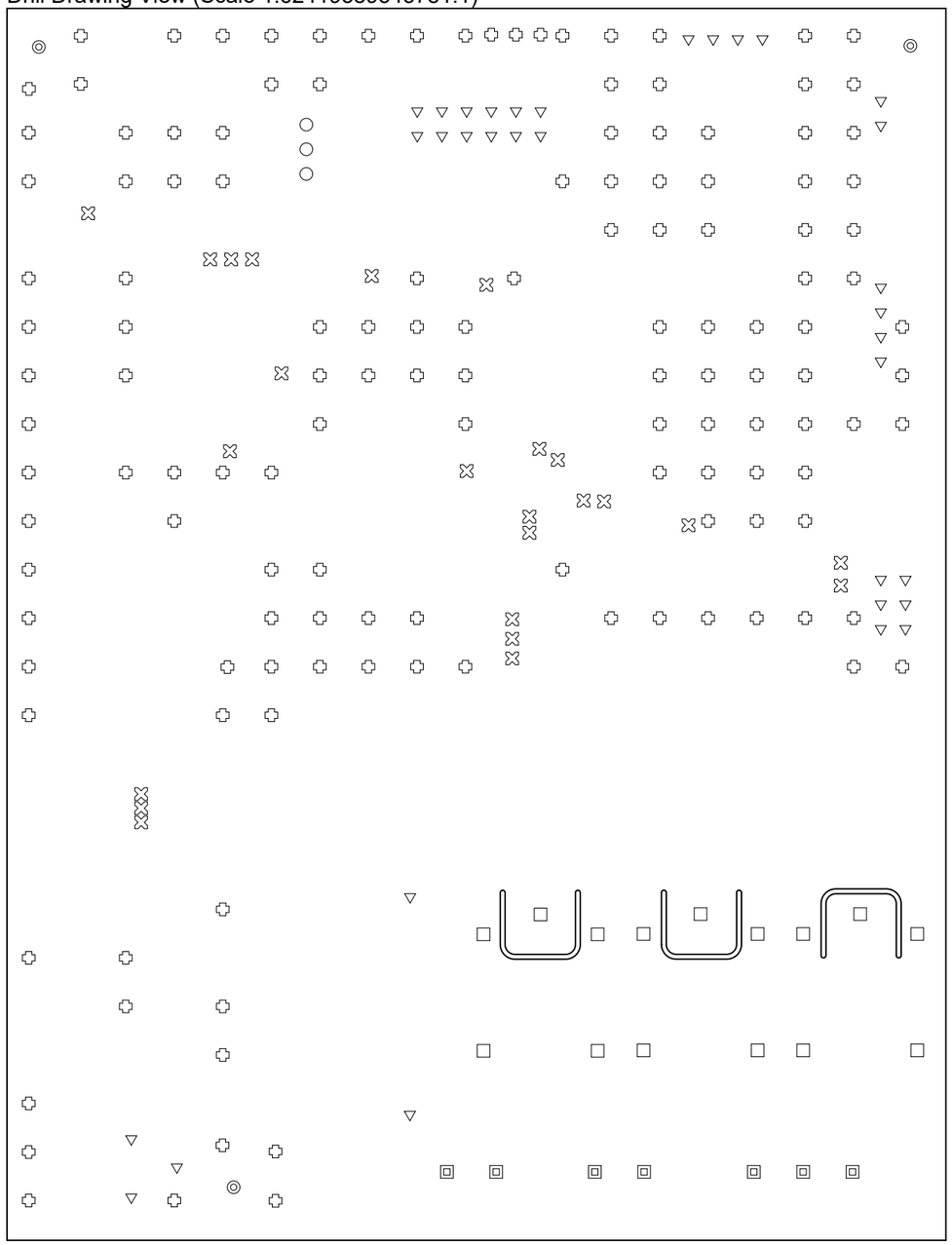


View from Bottom side (Scale 3:2)

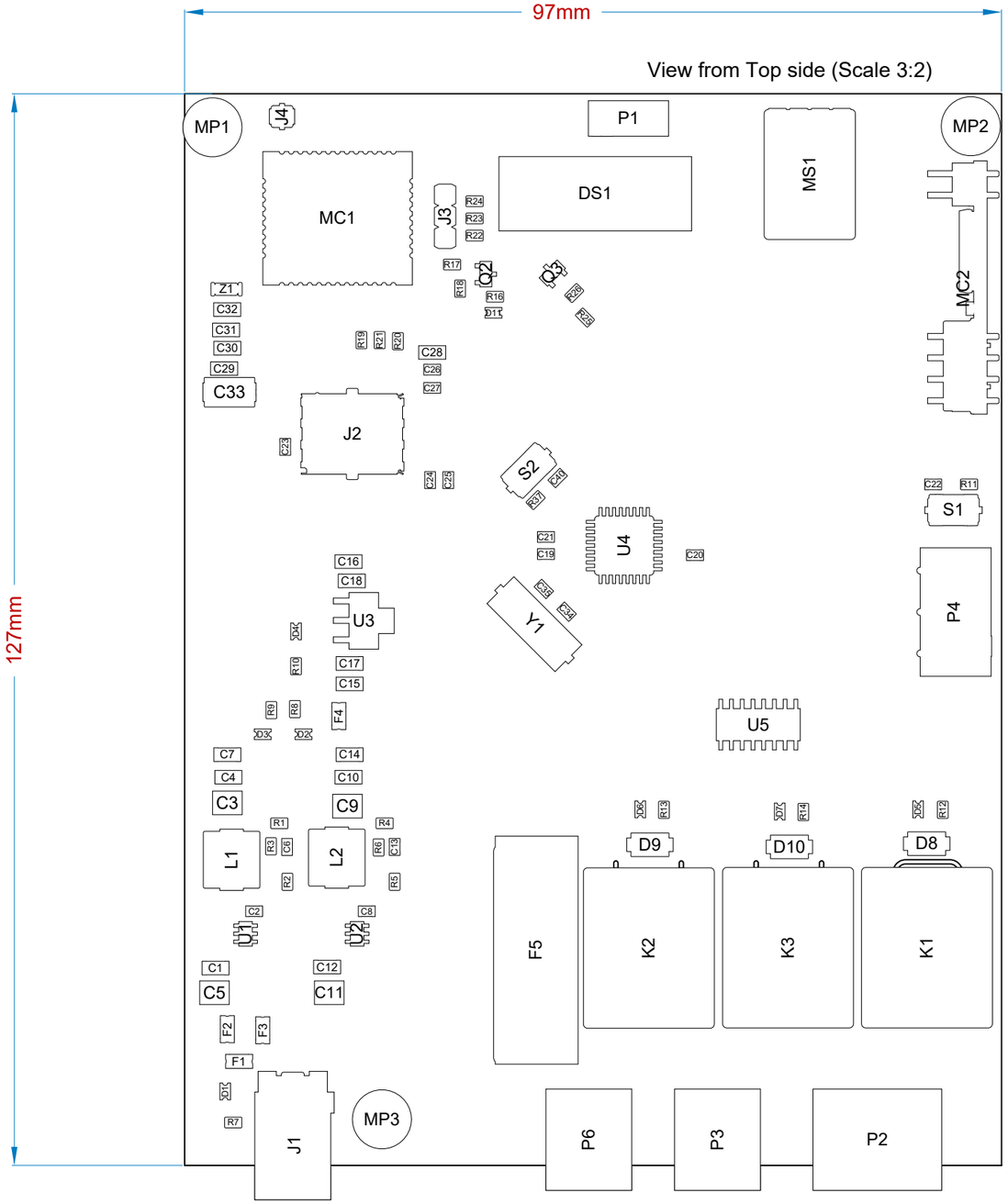


Title: Bottom View	Drawn by:	Hossein Bagheri	
Project: AVR RCS	Revision: 1.0	aKaReZa	
Company: github.com/aKaReZa75	Sheet 2 of 8		

Drill Drawing View (Scale 1.62419589543781:1)



View from Top side (Scale 3:2)

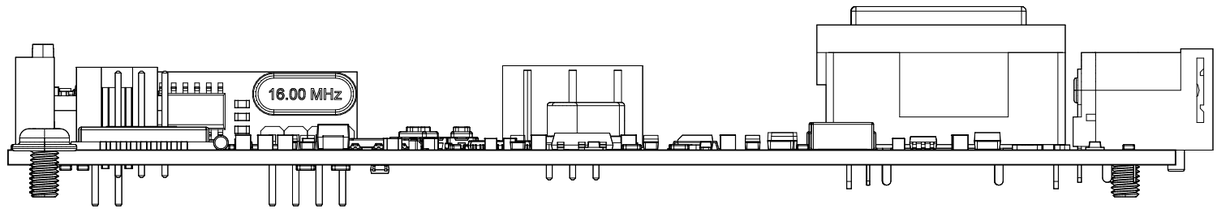


Drill Table

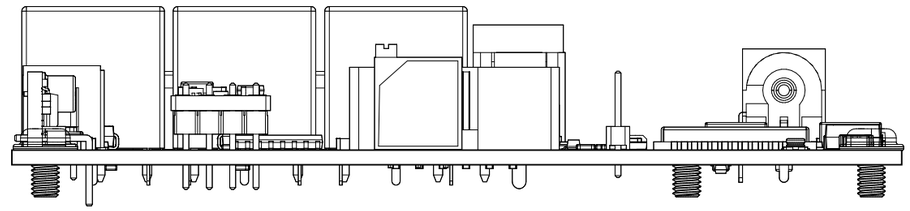
Symbol	Count	Hole Size	Plated	Hole Tolerance
⊠	24	1mm	Plated	
⌖	139	1mm	Plated	
▽	33	1mm	Plated	
○	3	1mm	Plated	
□	15	1mm	Plated	
⧈	7	2mm	Plated	
◎	3	3mm	Plated	
	224 Total			

Title: Drill Drawing and Dimensions	Drawn by:	Hossein Bagheri	
Project: AVR RCS	Revision: 1.0	aKaReZa	
Company: github.com/aKaReZa75	Sheet 3 of 8		

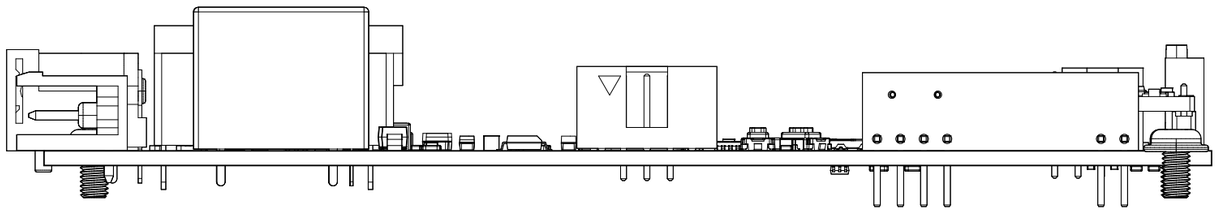
View from Left side (Scale 3:2)



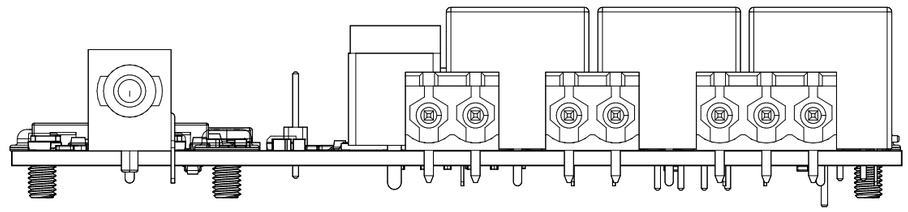
View from Back side (Scale 3:2)



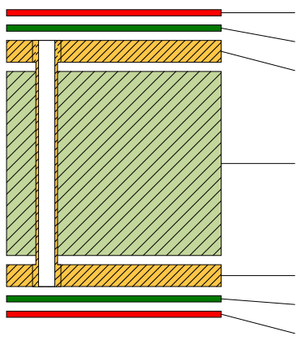
View from Right side (Scale 1.5:1)



View from Front side (Scale 3:2)



Layer Stack Legend

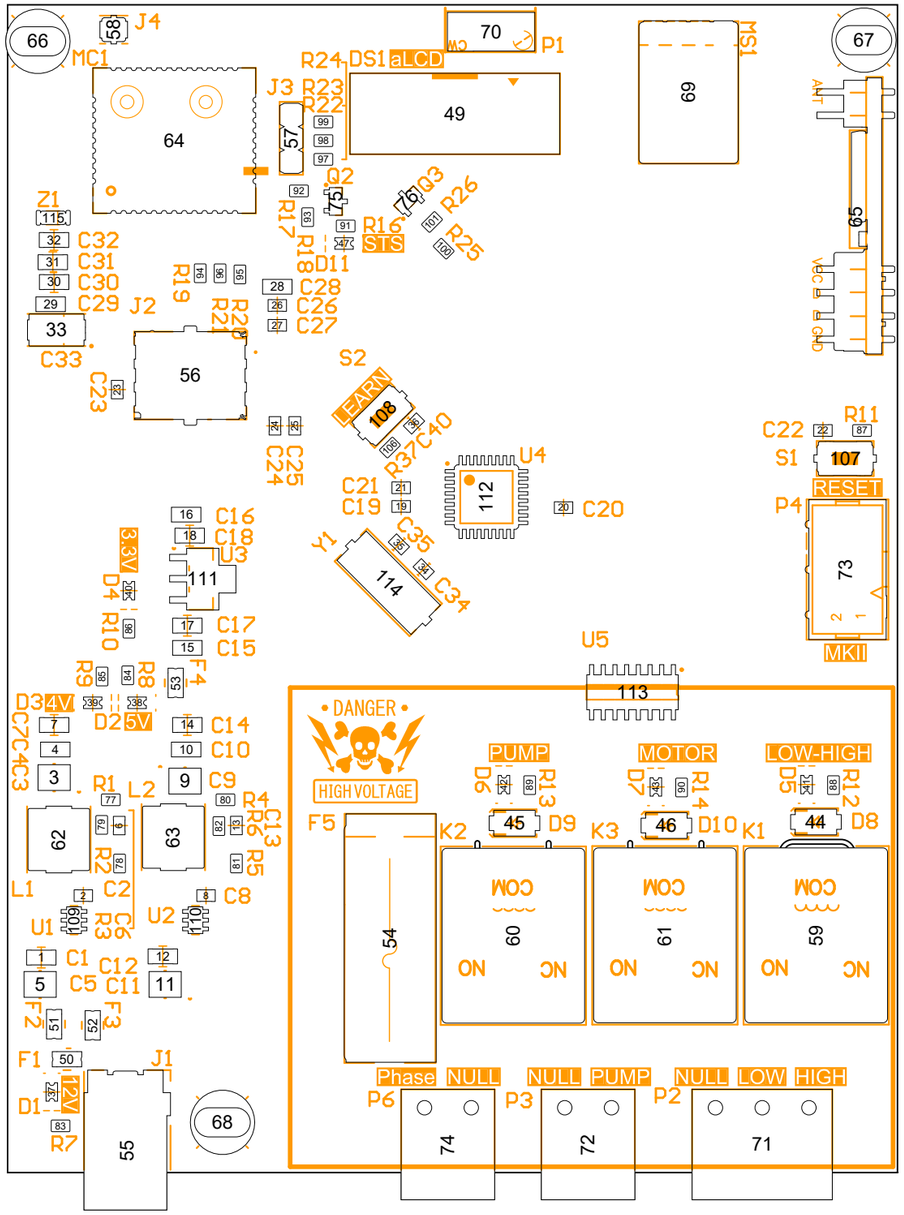


Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0mm	Solder Resist	Solder Mask	GTS
Copper	**Top Layer**	**0mm**		**Signal**	**GTL**
		1mm	*FR-4*	*Dielectric*	
Copper	**Bottom Layer**	**0mm**		**Signal**	**GBL**
Surface Material	Bottom Solder	0mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

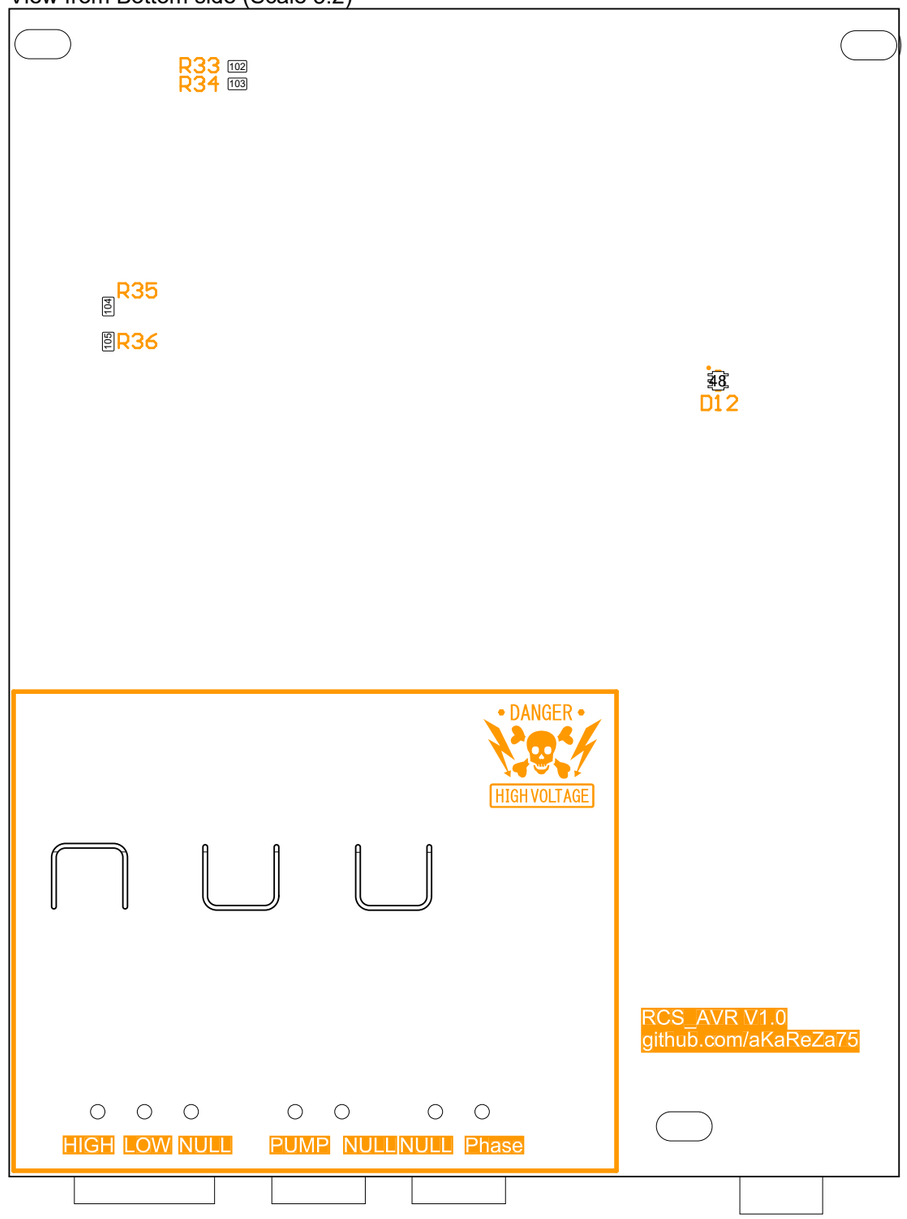
Total thickness: 2mm

Title: Layer Stack and Side View	**Drawn by:**	Hossein Bagheri	
Project: AVR RCS	**Revision:** 1.0	aKaReZa	
Company: github.com/aKaReZa75	**Sheet** 4 **of** 8		

View from Top side (Scale 3:2)



View from Bottom side (Scale 3:2)



Title: Component Positions View	Drawn by:	Hossein Bagheri	
Project: AVR RCS	Revision: 1.0	aKaReZa	
Company: github.com/aKaReZa75	Sheet 5 of 8		

Bill Of Materials

Line #	Designator	Comment	Library Ref	Footprint	Package	Rating	Type	Value
1	C1	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
2	C2	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
3	C3	47u	Cap_Tantalum	SMT_C_Tantalum_B	Package?	6.3v	Tantalum	47u
4	C4	10u	Cap_Tantalum	SMT_C_Tantalum_A	Package?	6.3v	Tantalum	10u
5	C5	10u	Cap_Tantalum	SMT_C_Tantalum_B	Package?	25v	Tantalum	10u
6	C6	68p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	68p
7	C7	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
8	C8	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
9	C9	47u	Cap_Tantalum	SMT_C_Tantalum_B	Package?	6.3v	Tantalum	47u
10	C10	10u	Cap_Tantalum	SMT_C_Tantalum_A	Package?	6.3v	Tantalum	10u
11	C11	10u	Cap_Tantalum	SMT_C_Tantalum_B	Package?	25v	Tantalum	10u
12	C12	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
13	C13	68p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	68p
14	C14	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
15	C15	10u	Cap_Tantalum	SMT_C_Tantalum_A	Package?	6.3v	Tantalum	10u
16	C16	22u	Cap_Tantalum	SMT_C_Tantalum_A	Package?	6.3v	Tantalum	22u
17	C17	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
18	C18	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
19	C19	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
20	C20	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
21	C21	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
22	C22	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
23	C23	33p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	33p
24	C24	33p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	33p
25	C25	33p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	33p
26	C26	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
27	C27	33p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	33p
28	C28	1u	Cap_Tantalum	SMT_C_Tantalum_A	SMD-A	6.3V	Tantalum	1u
29	C29	1u	Cap_Tantalum	SMT_C_Tantalum_A	SMD-A	6.3V	Tantalum	1u
30	C30	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	1206	50V	MultiLayer	100n
31	C31	10p	Cap_Multi_SMD_1206	CAP 1206/3216	1206	50V	MultiLayer	10p
32	C32	33p	Cap_Multi_SMD_1206	CAP 1206/3216	1206	50V	MultiLayer	33p
33	C33	100u	Cap_Tantalum	SMT_C_Tantalum_C	SMD-C	6.3V	Tantalum	100u
34	C34	22p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	22p
35	C35	22p	Cap_Multi_SMD_0805	CAP 0805/2012	0805	Rating?	MultiLayer	22p
36	C40	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	0805	50V	MultiLayer	100n
37	D1	Yellow	Semi_LED_SMD	LED 0805/2012 YELLOW	Package?	Rating?	LED	Yellow
38	D2	Red	Semi_LED_SMD	LED 0805/2012 RED	Package?	Rating?	LED	Red
39	D3	Blue	Semi_LED_SMD	LED 0805/2012 BLUE	Package?	Rating?	LED	Blue
40	D4	Green	Semi_LED_SMD	LED 0805/2012 GREEN	Package?	Rating?	LED	Green
41	D5	Green	Semi_LED_SMD	LED 0805/2012 GREEN	Package?	Rating?	LED	Green
42	D6	Green	Semi_LED_SMD	LED 0805/2012 GREEN	Package?	Rating?	LED	Green
43	D7	Green	Semi_LED_SMD	LED 0805/2012 GREEN	Package?	Rating?	LED	Green

Title: Bill of Materials	Drawn by:	Hossein Bagheri
Project: AVR RCS	Revision: 1.0	aKaReZa
Company: github.com/aKaReZa75	Sheet 6 of 8	

Bill Of Materials

Line #	Designator	Comment	Library Ref	Footprint	Package	Rating	Type	Value
44	D8	1N5819	Semi_Diod_Sch_1N5819_SMD	430X270D	SMA	Rating?	Schottky	1N5819
45	D9	1N5819	Semi_Diod_Sch_1N5819_SMD	430X270D	SMA	Rating?	Schottky	1N5819
46	D10	1N5819	Semi_Diod_Sch_1N5819_SMD	430X270D	SMA	Rating?	Schottky	1N5819
47	D11	Blue	Semi_LED_SMD	LED 0805/2012 BLUE	Package?	Rating?	LED	Blue
48	D12	SMF-05	Semi_Diod_TVS_SMF05	SC70-5_N	SC70-5	Rating?	TVS	SMF-05
49	DS1	16x2	ModSen_LCD_CH_16x2_Box	BOX-HDR-2x6-2.54mm-S	Dip	Rating?	Alphanumeric	16x2
50	F1	3A	Other_Elec_Fuse_SMD	1206_F	1206	Rating?	Fast	3A
51	F2	2A	Other_Elec_Fuse_SMD	1206_F	1206	Rating?	Fast	2A
52	F3	1A	Other_Elec_Fuse_SMD	1206_F	1206	Rating?	Fast	1A
53	F4	0.5A	Other_Elec_Fuse_SMD	1206_F	1206	Rating?	Fast	0.5A
54	F5	5A	Other_Elec_Fuse_THT	FUSE_BLX_20x5	Package?	Rating?	Type?	5A
55	J1	Female	Con_Power_Jack	Power Jack BIG	Package?	Rating?	Type?	Female
56	J2	6'Pin	Con_Socket_SimCard_1	GCT_SIM8051_Plastik	SMD	Rating?	Nano	6'Pin
57	J3	3	Con_MPH_3x1_V_THT_2.54	HDR_THT_3M_2.54mm	Package?	Rating?	Type?	3
58	J4	U.FL	Con_RF_U.FL	IPEX-3x3mm	SMD	Rating?	RF	U.FL
59	K1	12V	SW_Relay_SPDT	Relay 18.85x15.35x15.70	Dip	Rating?	SPDT	12V
60	K2	12V	SW_Relay_SPDT	Relay 18.85x15.35x15.70	Dip	Rating?	SPDT	12V
61	K3	12V	SW_Relay_SPDT	Relay 18.85x15.35x15.70	Dip	Rating?	SPDT	12V
62	L1	10u	Ind_SMD	L_7	Package?	3.8A	Type?	10u
63	L2	10u	Ind_SMD	L_7	Package?	3.8A	Type?	10u
64	MC1	M66	ModSen_Com_M66	m66	Dip	Rating?	GSM-GPRS	M66
65	MC2	RXB22	ModSen_Com_RXB22_433	RF_ETRXB	Dip	433M	Learning	RXB22
66	MP1	M3	Other_Mech_Screw	SCREW-M3	Package?	Rating?	Screw	M3
67	MP2	M3	Other_Mech_Screw	SCREW-M3	Package?	Rating?	Screw	M3
68	MP3	M3	Other_Mech_Screw	SCREW-M3	Package?	Rating?	Screw	M3
69	MS1	AHT20	ModSen_AHT20	AHT20	Dip	Rating?	Air T&H	AHT20
70	P1	10K	Res_Multi	Multi turn 01	Package?	Rating?	Type?	10K
71	P2	Value?	Con_Power_3	Phoenix_3PIN_RA_P5.08mm	Dip	3b	Type?	Value?
72	P3	2'Pin	Con_Power_2	Phoenix_2PIN_RA_P5.08mm	Package?	Rating?	Type?	2'Pin
73	P4	3x2	Con_Prog_MKII_ISP	IDC_2X3	Package?	Rating?	Type?	3x2
74	P6	2'Pin	Con_Power_2	Phoenix_2PIN_RA_P5.08mm	Package?	Rating?	Type?	2'Pin
75	Q2	NPN	Semi_BJT_BC817	SOT23_N	Package?	Rating?	Type?	NPN
76	Q3	NPN	Semi_BJT_BC817	SOT23_N	Package?	Rating?	Type?	NPN
77	R1	49.9b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	1%	49.9b
78	R2	17.8K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	1%	17.8K
79	R3	100K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	1%	100K
80	R4	49.9b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	1%	49.9b
81	R5	13.7K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	1%	13.7K
82	R6	100K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	1%	100K
83	R7	1.8K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1.8K
84	R8	680b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	680b
85	R9	100b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	100b
86	R10	220b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	220b
87	R11	10K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	10K
88	R12	1.8K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1.8K
89	R13	1.8K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1.8K
90	R14	1.8K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1.8K
91	R16	100b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	100b
92	R17	4.7K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	4.7K

Title: Bill of Materials	Drawn by:	Hossein Bagheri	
Project: AVR RCS	Revision: 1.0	aKaReZa	
Company: github.com/aKaReZa75	Sheet 7 of 8		

Bill Of Materials

Line #	Designator	Comment	Library Ref	Footprint	Package	Rating	Type	Value
93	R18	47K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	47K
94	R19	22b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	22b
95	R20	22b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	22b
96	R21	22b	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	22b
97	R22	1K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1K
98	R23	1K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1K
99	R24	5.6K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	5.6K
100	R25	4.7K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	4.7K
101	R26	47K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	47K
102	R33	4.7K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	4.7K
103	R34	4.7K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	4.7K
104	R35	1K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1K
105	R36	1.8K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	1.8K
106	R37	10K	Res_SMD_0805	RES 0805 (2012X06L)	0805	0.125W	10%	10K
107	S1	PB	SW_PushButton_2_SMD	SW_PB_SMD_2PIN_SPST_6X3X2	SMD	2b	Vertical	PB
108	S2	PB	SW_PushButton_2_SMD	SW_PB_SMD_2PIN_SPST_6X3X2	SMD	2b	Vertical	PB
109	U1	Value?	IC_Reg_TPS54302	TPS54302	SOT-23-6	S	Switching	Value?
110	U2	Value?	IC_Reg_TPS54302	TPS54302	SOT-23-6	S	Switching	Value?
111	U3	3.3V	IC_Reg_AMS1117_3.3	SOT223_M	SOT223	1A	LDO	3.3V
112	U4	ATmega328P	IC_MCU_ATmega328P_SMD	ATMEGA328	Package?	Rating?	Type?	ATmega328P
113	U5	ULN2003	IC_Driver_ULN2003	SO16_M	SO-16	Rating?	Driver	ULN2003
114	Y1	12M	Other_Elec_Xtal_SMD	Crystal SMD	SMD	Rating?	Quartz	12M
115	Z1	5.1V	Semi_Diod_Zener_SMD	SOD80, LL-34	SOD-80	0.5W	Zener	5.1V

Title: Bill of Materials	Drawn by:	Hossein Bagheri	
Project: AVR RCS	Revision: 1.0	aKaReZa	
Company: github.com/aKaReZa75	Sheet 8 of 8		