View from Top side (Scale 1:1)

View from Bottom side (Scale 1:1)

Component View ATmega328P(ATMEGA328) (Scale 5:2)

ATMEL
MEGA328P
AU 1343

MP1
MP2

P1
MS1
DS1
MC1

J3
R24
R23
R22

R17
Q2
R16
R15

Z1
C32
C31
C30
C29
C33

MC2

J2

S2

C28
C26
C27

C22 R11
S1

C21
C19
U4
C20

C16
C18
U3
Y1
?

P4

C17
C15

F4

U5

C7
C4
C3
C14
C10
C9

R1 R4
L1 L2

D9
D10
D8

K2
K3
K1

C2 C8
C1 C12
C5 C11

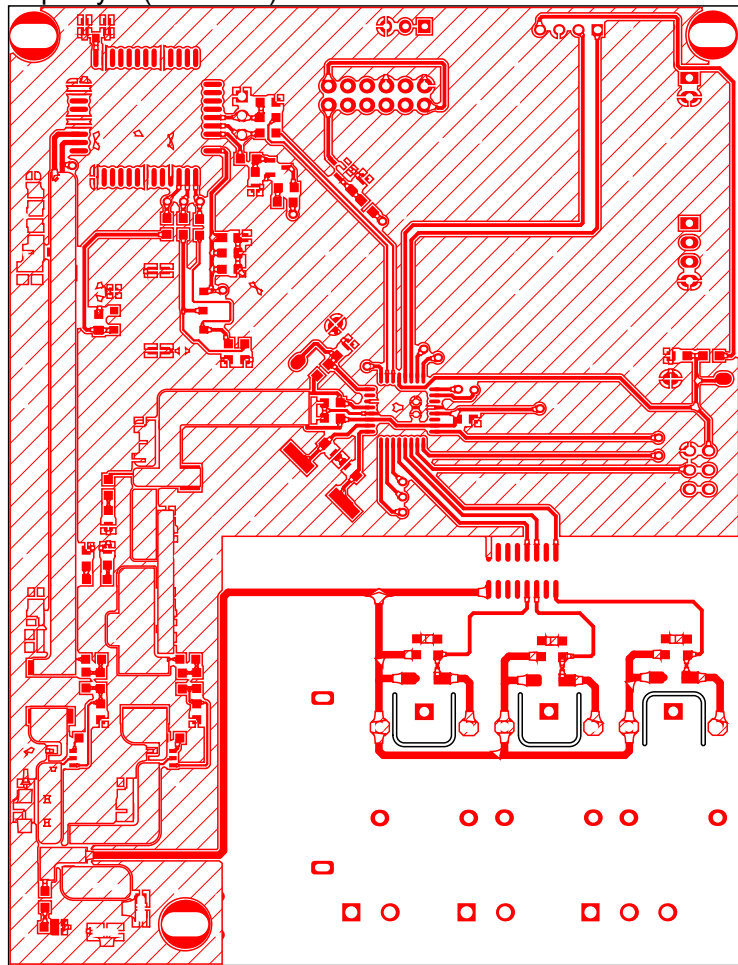F2 F3
F1

R7
J1
MP3
F5
P6
P3
P2

R33
R34

R1

View from Left side (Scale 1:1)

16.00 MHz

Top Layer (Scale 1:1)

Bottom Layer (Scale 1:1)

View from Top side (Scale 1:1)

MP1
MC1
P1
DS1
MS1
MP2
MC2

J3
R24
R23
R22

R17
Q2
R16
Q1
Q3

Z1
C32
C31
C30
C29
C28
C26
C27
C33

J2

S2
S1
R22 R11

U4
C21
C19
C20

C16
C18
U3
P4
C17
C15
Y1

U5

C7
C4
C3
C14
C10
C9

R1
R4
L1
L2

C2
C8
C1
C5
C12
C11

F2 F3
F1
R7
J1
MP3

F5
K2
K3
K1
D9
D10
D8

P6
P3
P2

SECTION A-A (Scale 1:1)

16.00 MHz

A
A
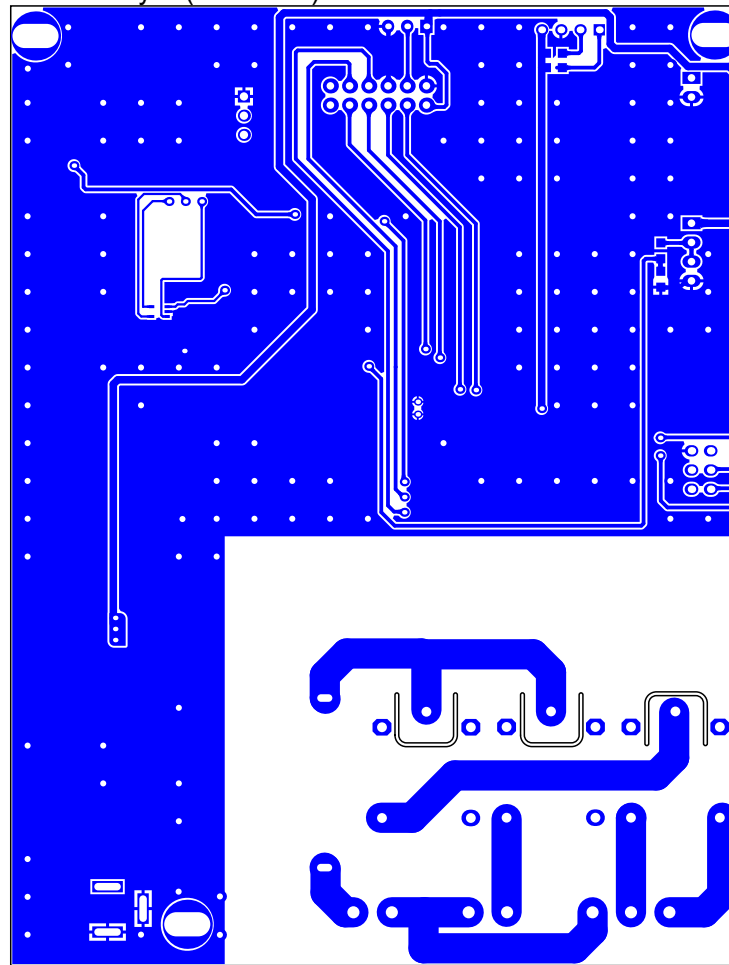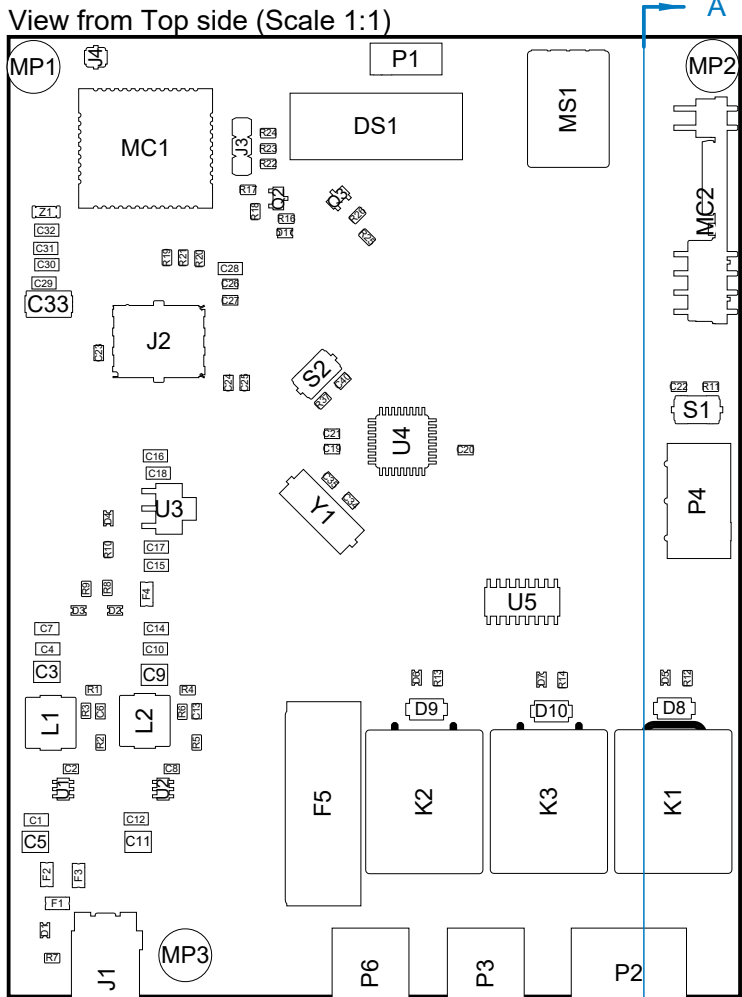
Layer Stack Legend
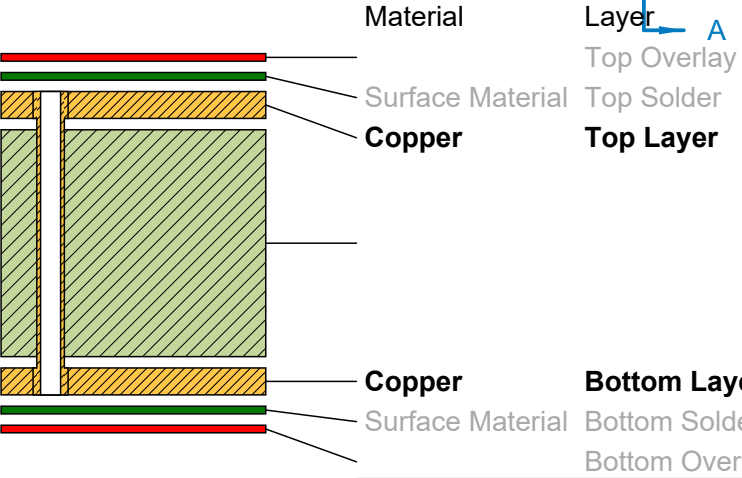
Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.01mm	Solder Resist	Solder Mask	GTS
Copper	**Top Layer**	**0.04mm**		**Signal**	**GTL**
		1.50mm	*FR-4*	*Dielectric*	
Copper	**Bottom Layer**	**0.04mm**		**Signal**	**GBL**
Surface Material	Bottom Solder	0.01mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO
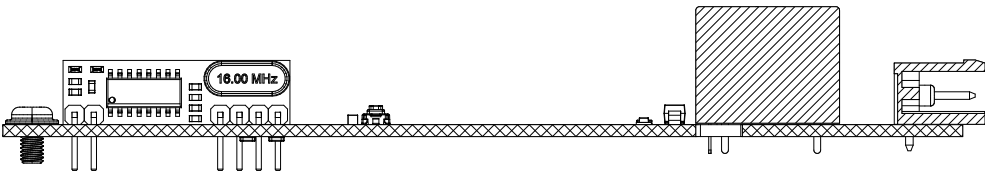
Total thickness: 1.59mm

Drill Drawing View (Scale 1:1)

Drill Table
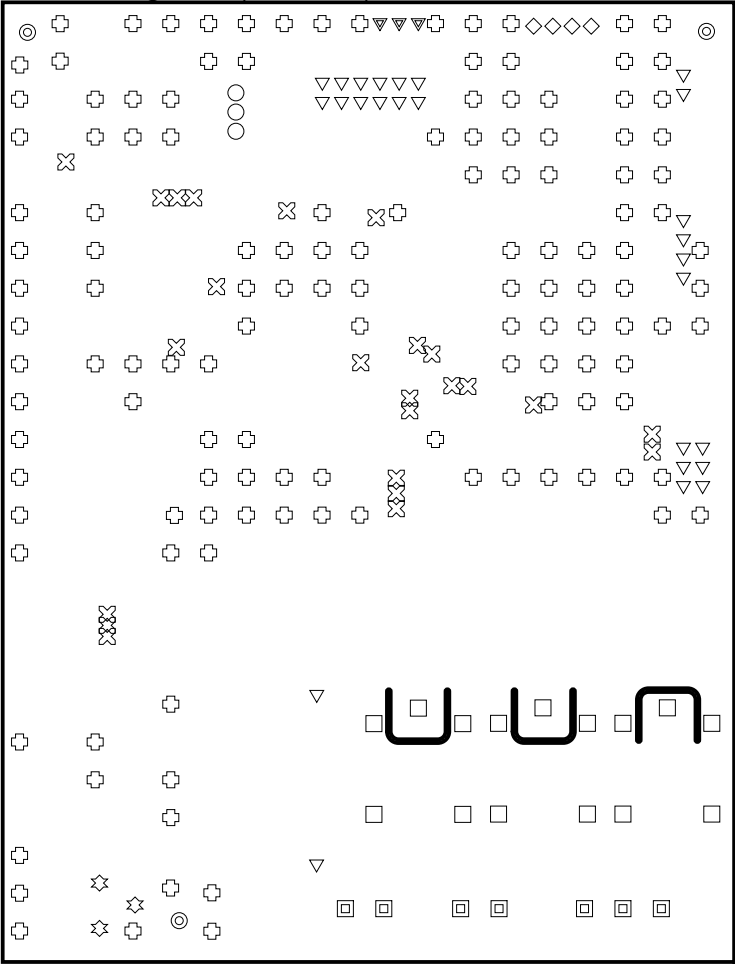
Symbol	Count	Hole Size	Plated	Hole Tolerance
⊠	24	0.60mm	Plated	
▽	3	0.76mm	Plated	
⊕	136	0.80mm	Plated	
◇	4	0.91mm	Plated	
✤	3	0.99mm	Plated	
▽	26	1.00mm	Plated	
○	3	1.10mm	Plated	
□	15	1.30mm	Plated	
▣	7	1.60mm	Plated	
◎	3	3.20mm	Plated	
	224 Total			

Realistic View

Via Type Type 1A (Scale 5:1)
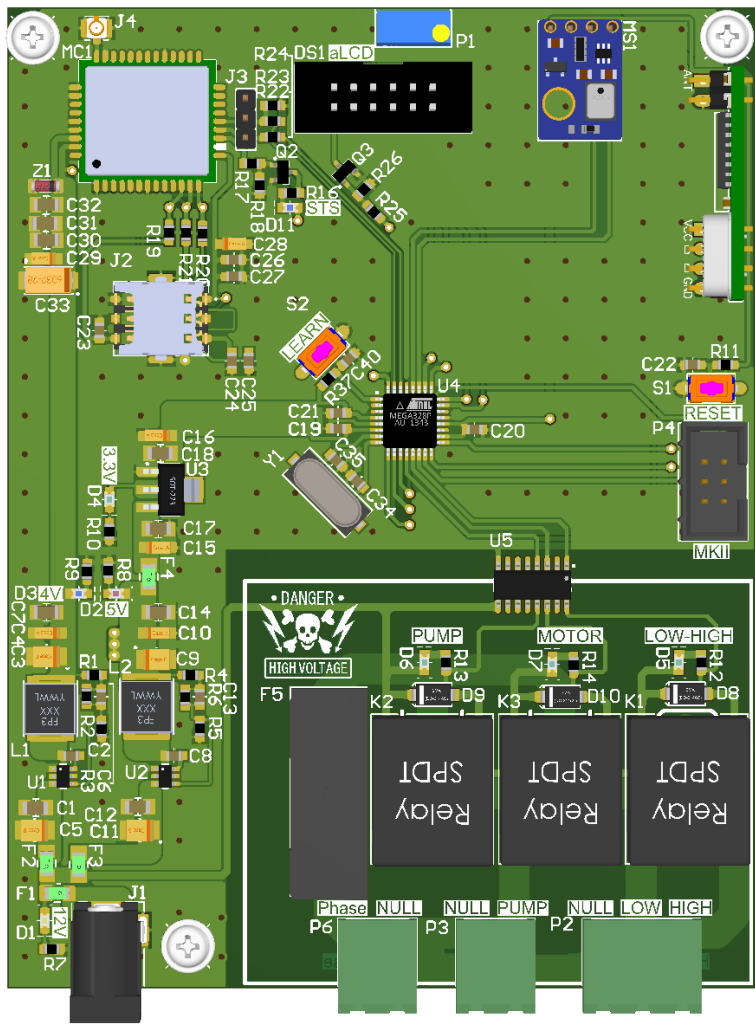
View from Top side (Scale 1.4:1)
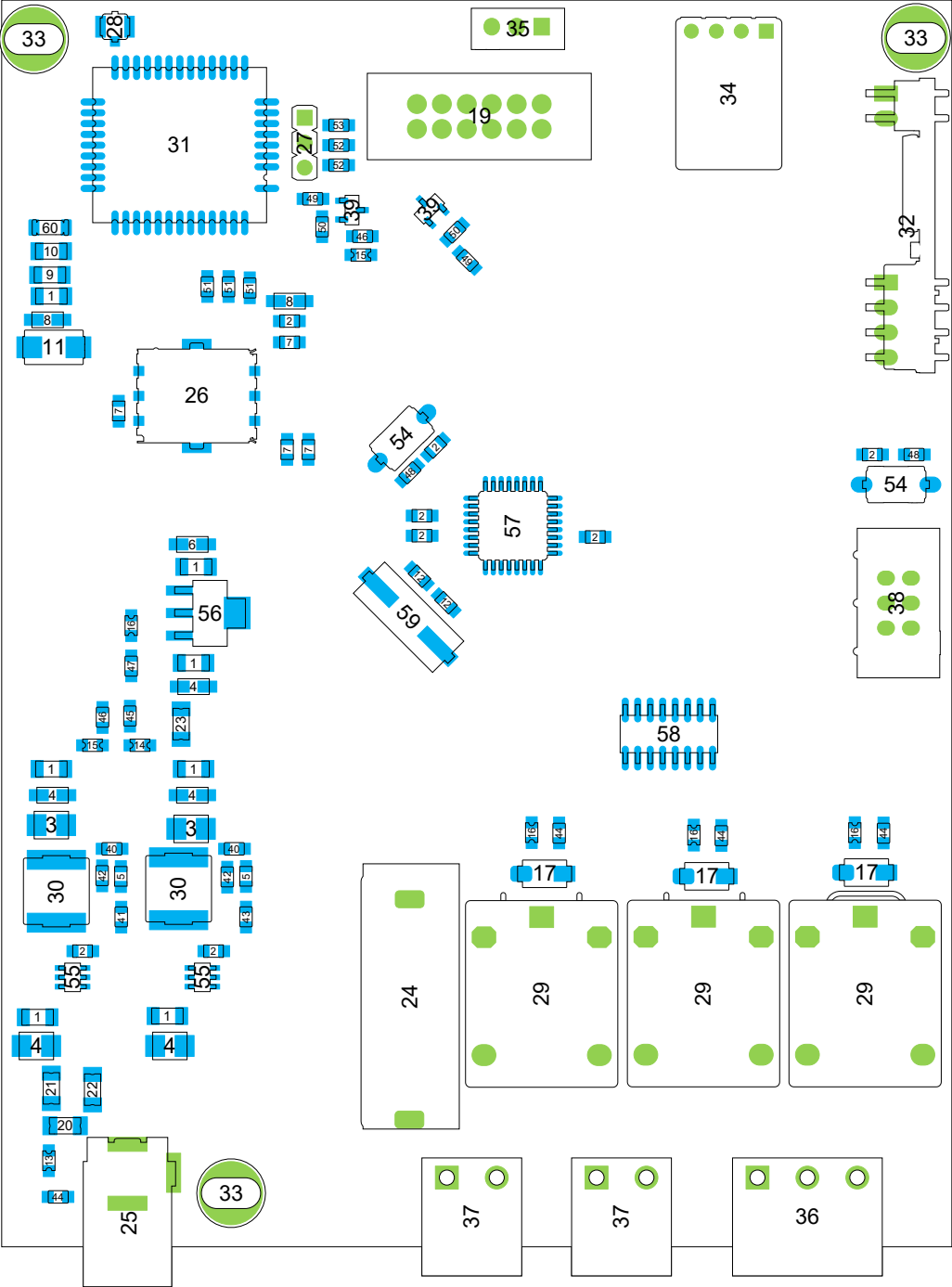
View from Bottom side (Scale 1.4:1)

Bill Of Materials

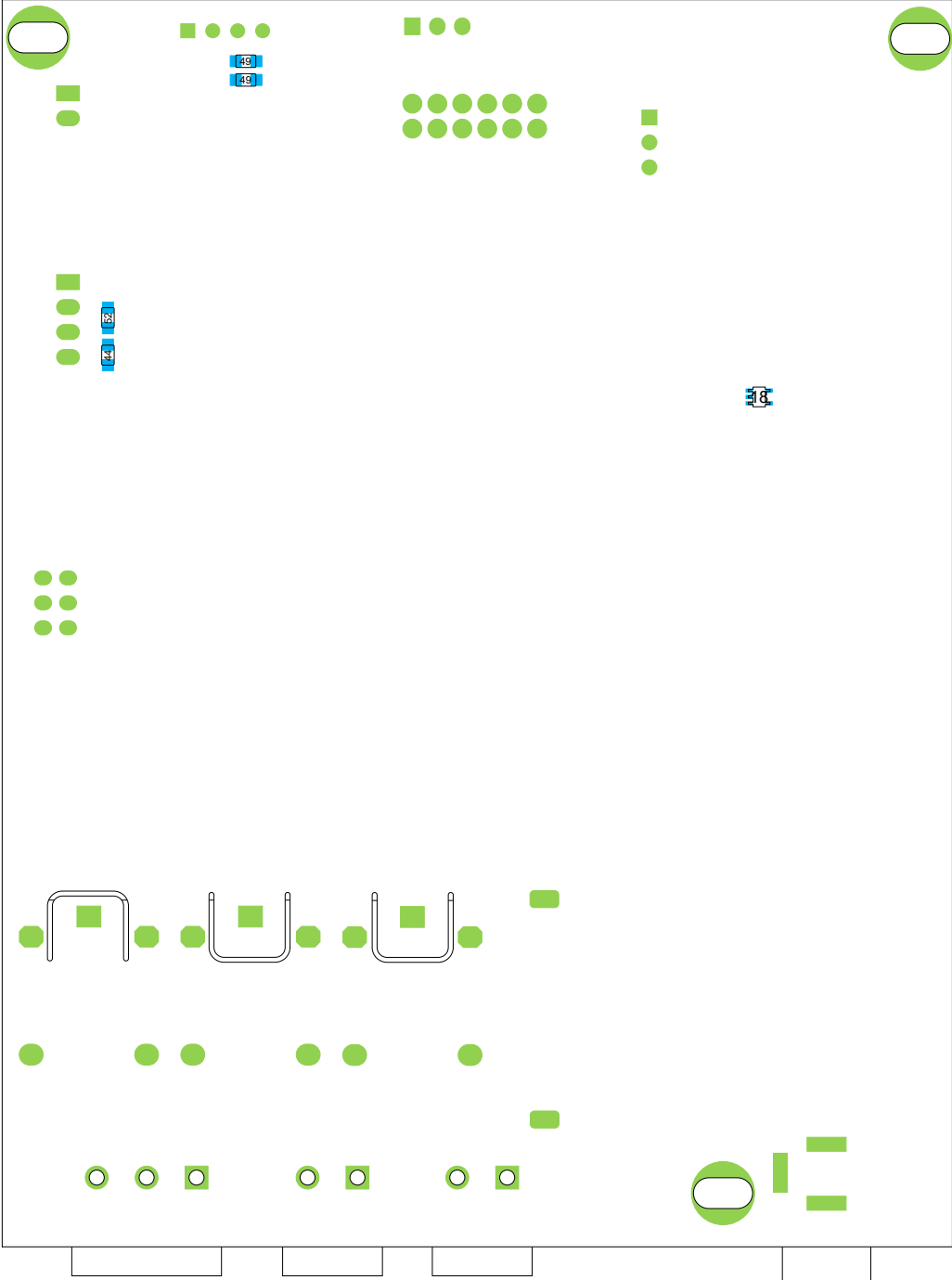| Line #	Comment	Library Ref	Footprint	Inflow	Rating	Type	Value
1	100n	Cap_Multi_SMD_100nF_1206	CAP 1206/3216	inflow?	50V	MultiLayer	100n
2	100n	Cap_Multi_SMD_100nF_0805	CAP 0805/2012	inflow?	50V	MultiLayer	100n
3	47u	Cap_Tantalum	SMT_C_Tantalum_B	inflow?	6.3v	Tantalum	47u
4	10u	Cap_Tantalum	SMT_C_Tantalum_A, SMT_C_Tantalum_B	inflow?	6.3v, 25v	Tantalum	10u
5	68p	Cap_Multi_SMD_0805	CAP 0805/2012	inflow?	Rating?	MultiLayer	68p
6	22u	Cap_Tantalum	SMT_C_Tantalum_A	inflow?	6.3v	Tantalum	22u
7	33p	Cap_Multi_SMD_0805	CAP 0805/2012	inflow?	Rating?	MultiLayer	33p
8	1u	Cap_Tantalum	SMT_C_Tantalum_A	inflow?	6.3V	Tantalum	1u
9	10p	Cap_Multi_SMD_1206	CAP 1206/3216	inflow?	50V	MultiLayer	10p
10	33p	Cap_Multi_SMD_1206	CAP 1206/3216	inflow?	50V	MultiLayer	33p
11	100u	Cap_Tantalum	SMT_C_Tantalum_C	inflow?	6.3V	Tantalum	100u
12	22p	Cap_Multi_SMD_0805	CAP 0805/2012	inflow?	Rating?	MultiLayer	22p
13	Yellow	Semi_LED_SMD	LED 0805/2012 YELLOW	inflow?	Rating?	LED	Yellow
14	Red	Semi_LED_SMD	LED 0805/2012 RED	inflow?	Rating?	LED	Red
15	Blue	Semi_LED_SMD	LED 0805/2012 BLUE	inflow?	Rating?	LED	Blue
16	Green	Semi_LED_SMD	LED 0805/2012 GREEN	inflow?	Rating?	LED	Green
17	1N5819	Semi_Diod_Sch_1N5819_SMD	430X270D	inflow?	Rating?	Schottky	1N5819
18	SMF-05	Semi_Diod_TVS_SMF05	SC70-5_N	inflow?	Rating?	TVS	SMF-05
19	16x2	ModSen_LCD_CH_16x2_Box	BOX-HDR-2x6-2.54mm-S	8116	Rating?	Alphanumeric	16x2
20	3A	Other_Elec_Fuse_SMD	1206_F	inflow?	Rating?	Fast	3A
21	2A	Other_Elec_Fuse_SMD	1206_F	inflow?	Rating?	Fast	2A
22	1A	Other_Elec_Fuse_SMD	1206_F	inflow?	Rating?	Fast	1A
23	0.5A	Other_Elec_Fuse_SMD	1206_F	inflow?	Rating?	Fast	0.5A
24	5A	Other_Elec_Fuse_THT	FUSE_BLX_20x5	inflow?	Rating?	Type?	5A
25	Female	Con_Power_Jack	Power Jack BIG	6127	Rating?	Type?	Female
26	6'Pin	Con_Socket_SimCard_1	GCT_SIM8051_Plastik	inflow?	Rating?	Nano	6'Pin
27	3	Con_MPH_3x1_V_THT_2.54	HDR_THT_3M_2.54mm	7152	Rating?	Type?	3
28	U.FL	Con_RF_U.FL	IPEX-3x3mm	inflow?	Rating?	RF	U.FL
29	12V	SW_Relay_SPDT	Relay 18.85x15.35x15.70	inflow?	Rating?	SPDT	12V
30	10u	Ind_SMD	L_7	inflow?	3.8A	Type?	10u
31	M66	ModSen_Com_M66	m66	inflow?	Rating?	GSM-GPRS	M66
32	RXB22	ModSen_Com_RXB22_433	RF_ETRXB	8251	433M	Learning	RXB22
33	M3	Other_Mech_Screw	SCREW-M3	8243	Rating?	Screw	M3
34	AHT20	ModSen_AHT20	AHT20	inflow?	Rating?	Air T&H	AHT20
35	10K	Res_Multi	Multi turn 01	inflow?	Rating?	Type?	10K
36	Value?	Con_Power_3	Phoenix_3PIN_RA_P5.08mm	inflow?	3b	Type?	Value?
37	2'Pin	Con_Power_2	Phoenix_2PIN_RA_P5.08mm	inflow?	Rating?	Type?	2'Pin

Bill Of Materials

Line #	Comment	Library Ref	Footprint	Inflow	Rating	Type	Value
38	3x2	Con_Prog_MKII_ISP	IDC_2X3	inflow?	Rating?	Type?	3x2
39	NPN	Semi_BJT_BC817	SOT23_N	inflow?	Rating?	Type?	NPN
40	49.9b	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	1%	49.9b
41	17.8K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	1%	17.8K
42	100K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	1%	100K
43	13.7K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	1%	13.7K
44	1.8K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	1.8K
45	680b	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	680b
46	100b	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	100b
47	220b	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	220b
48	10K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	10K
49	4.7K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	4.7K
50	47K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	47K
51	22b	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	22b
52	1K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	1K
53	5.6K	Res_SMD_0805	RES 0805 (2012X06L)	inflow?	0.125W	10%	5.6K
54	PB	SW_PushButton_2_SMD	SW_PB_SMD_2PIN_SPST_6X3X2	8260	2b	Vertical	PB
55	Value?	IC_Reg_TPS54302	TPS54302	inflow?	S	Switching	Value?
56	3.3V	IC_Reg_AMS1117_3.3	SOT223_M	5217	1A	LDO	3.3V
57	ATmega328P	IC_MCU_ATmega328P_SMD	ATMEGA328	inflow?	Rating?	Type?	ATmega328P
58	ULN2003	IC_Driver_ULN2003	SO16_M	1506	Rating?	Driver	ULN2003
59	12M	Other_Elec_Xtal_SMD	Crystal SMD	inflow?	Rating?	Quartz	12M
60	5.1V	Semi_Diod_Zener_SMD	SOD80, LL-34	inflow?	0.5W	Zener	5.1V