power

J1
PJ-002A
D1 1N4007RLG A K
+12
C1 100UF
GND

U1 LM2576
VIN
ON/OFF
FEEDBACK
OUTPUT
GROUND
GND

L1 100UH
D3 1N4007RLG A K
VCC
C2 1000UF
GND

SIM800

ANTENNA CN1
VCC
GND
ANTEN
R1 10K
SIMRST
VCC VCC
c3 c4
GND

*1
net
VCC
Reset
Rxt
Txd
GND
Ring
DTR
MIC+
MIC-
Spk+
Spk-
TX0
RX0
simgnd
Component_1

CRYSTAL

C5 33PF
XTAL1
XTAL1 11.0592 MHz
C6 33PF
XTAL2
GND

RESET

VCC
R8 10K
RESET
reset1
B B'
A A'
GND

U2 ATmega16

pg   37 PA0 (ADC0)   PC0 (SCL)   19 simrst1
status   36 PA1 (ADC1)   PC1 (SDA)   20 simturnon
lockout   35 PA2 (ADC2)   PC2 (TCK)   21 rx2
alarmout 34 PA3 (ADC3)   PC3 (TMS)   22 tx2
          33 PA4 (ADC4)   PC4 (TDO)   23 485en
          32 PA5 (ADC5)   PC5 (TDI)   24 pir
          31 PA6 (ADC6)   PC6 (TOSC1) 25
datain   30 PA7 (ADC7)   PC7 (TOSC2) 26

          40 PB0 (XCK/T0) PD0 (RXD)   9 RX0
          41 PB1 (T1)   PD1 (TXD)   10 TX0
LOCKIN   42 PB2 (INT2/AIN0) PD2 (INT0) 11 INT0
          43 PB3 (OC0/AIN1) PD3 (INT1) 12 INT1
SS   44 PB4 (SS)   PD4 (OC1B) 13 SIMRST
MOSI   5 PB5 (MOSI)   PD5 (OC1A) 14 simturnon1
MISO   6 PB6 (MISO)   PD6 (ICP1) 15
SCK   7 PB7 (SCK)   PD7 (OC2)   16

XTAL1   8 XTAL1   AVCC   27
XTAL2   7 XTAL2
                            VCC   5 vcc5 vcc
RESET   4 RESET   VCC   17
                            VCC   38
           6 GND
          18 GND   AREF   29
          28 GND
          39 GND
GND

simgnd
R4 330
Q1 C945
GND

status   pg
R6 1K   R7 1K
status1 pg1
GND

DATAIN
VCC
REMOTE1
Header 4
GND

ALARMOUT
R5 330
Q2 C945
GND

ALARM
+12
D4 1N4007RLG A K
ALARM
RELAY1
+12
T1
ALARM
GND

PROGRAMMER

mosi miso sck reset vcc5 gnd
6 5 4 3 2 1
J?
Header6X1

U3 MAX485
rx2   1 RO   B   7 R11 100 rs1
485en 2 RE   A   6 R12 100
485en 3 DE
tx2   4 DI VCC   8 VCC
          GND   5
GND

pir R9 330 VCC
pirin R10 330 Q3 C945
GND

+12
pir1
pirin
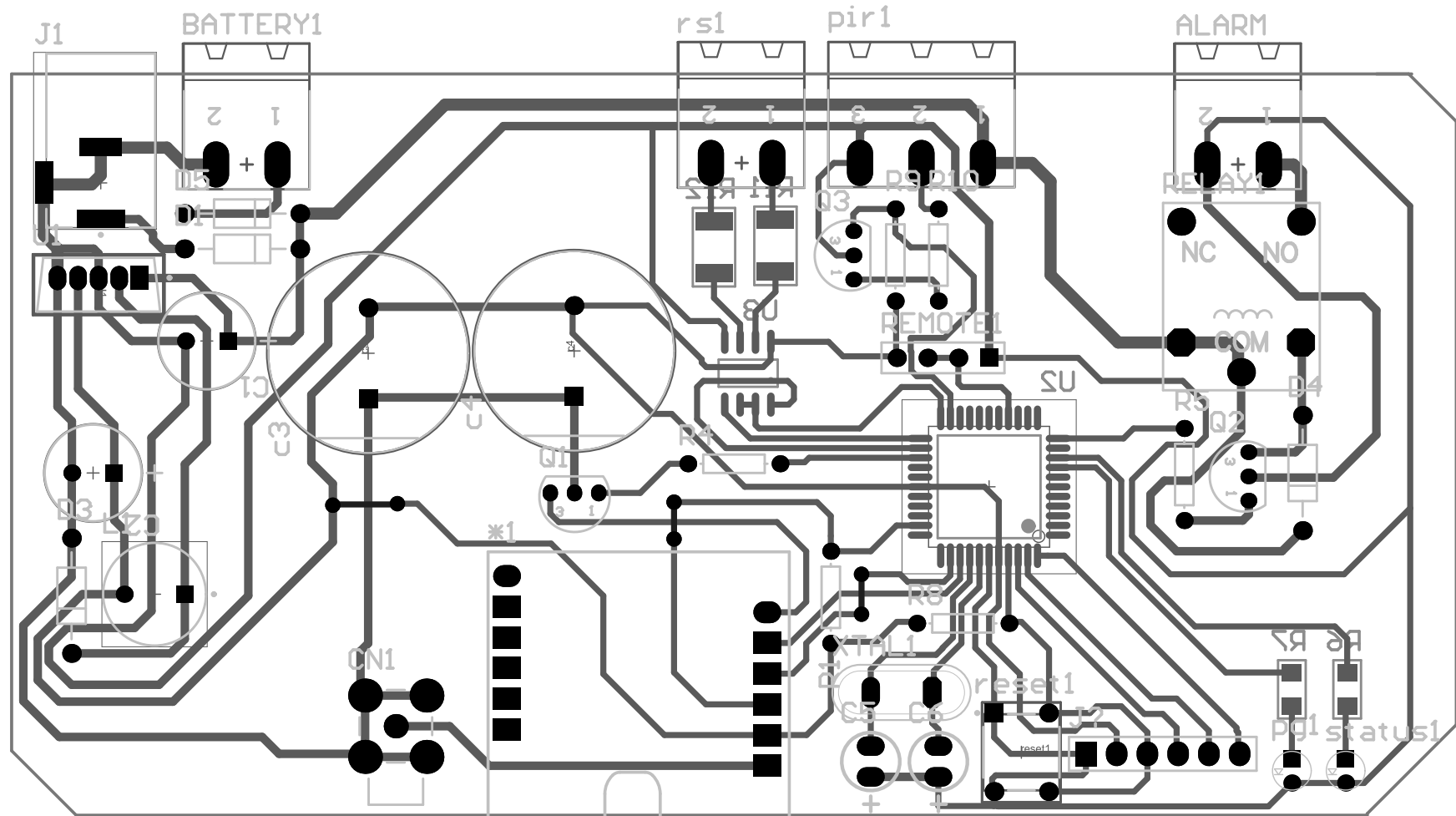+12 D5 1N4007RLG K A
GND
BATTERY1
GND

Title
Size A4
Number
Revision
Date: 2/18/1402
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Drawn By:

Quantity	LibRef	Footprint	Designator	Description	Comment
1	Component_1	PCBComponent_1	*1		Component_1
2	CON_Phoenix_MSTB_02	MSTB 2,5/2-G-5,08	BATTERY1, rs1	2 Pitch: 5.08 mm Color: green Contact surface: Tin Assembly	PHOENIX
2	CMP-05427-001624-1	FP-RAD-TH-D_16_0_5-L_25_2-MFG	c3, c4	Aluminum Electrolytic Capacitors (Radial Lead Type) 4700uF ±20% 16V	ECA1CM472
1	CMP-1665-00042-2	CAPPR65-350-1150X800X1250	C1	Aluminum Electrolytic Capacitor, 100 uF, +/- 20%, 50 V, -40 to 85 degC, 2-Pin THD, RoHS, Bulk	100UF
1	CMP-1665-00042-2	CAPPR65-350-1150X800X1250	C2	Aluminum Electrolytic Capacitor, 100 uF, +/- 20%, 50 V, -40 to 85 degC, 2-Pin THD, RoHS, Bulk	1000UF
2	Cap Semi	RB.1/.3	C5, C6	Capacitor (Semiconductor SIM Model)	33PF
1	ANTENNA	SMA-Right	CN1		ANTENNA
4	CMP-0902-00147-1	ONSC-AXIAL_LEAD-2-59-10_P	D1, D3, D4, D5	Standard Recovery Rectifier, 2-Pin Axial_Lead, Pb-Free, Tape and Reel	1N4007RLG
1	CMP-2000-06895-2	CUI-PJ-002A_V	J1	Through Hole Right Angle DC Power Jack, 2.5 A, 2 mm Center Pin, 3 Position, -25 to 85 degC, RoHS, Bulk	PJ-002A
1	Header6X1	HEADER 6X1	J?		Header6X1
1	CMP-1747-00013-1	INDR62-500-1100X850X1100	L1	Radial Inductor, 100 uH, +/- 10%, 0.91 A, -55 to 105 degC, 2-Pin THD, RoHS, Bulk	100UH
2	LED 3MM	LED3mm_GRN	pg1, status1	Light Emitting Diode	LED3MM
1	CON_Phoenix_MSTB_03	MSTB 2,5/3-G-5,08	pir1	3 Pitch: 5.08 mm Color: green Contact surface: Tin Assembly	PHOENIX
3	C945	c945	Q1, Q2, Q3	NPN Silicon Epitaxial Planar Transistor	C945
6	Res1	AXIAL-0.3	R1, R4, R5, R8, R9, R10	Resistor	Res1
2	Resistor SMD	1206 Resistor	R6, R7		Resistor SMD
2	Resistor SMD	1812 Resistor	R11, R12		Resistor SMD
1	RELAY General	Relay 15.40x12.10x13.10	RELAY1	Relay_SPDT POWER NEEDLE	Relay
1	Header 4	HDR1X4	REMOTE1	Header, 4-Pin	Header 4
1	CMP-05618-000085-1	FP-EVQ-PAE09K-MFG	reset1	SWITCH TACTILE SPST-NO 0.02A 15V	EVQ-PAE09K
1	CON_Phoenix_MSTB_02	MSTB 2,5/2-G-5,08	T1	2 Pitch: 5.08 mm Color: green Contact surface: Tin Assembly	ALARM
1	CMP-0069-01993-4	FP-KC0005A-MFG	U1	IC REG BUCK ADJ 3A TO220-5	LM2576
1	CMP-0095-00235-2	44A_M	U2	8-bit AVR Microcontroller, 4.5-5.5V, 16KB Flash, 512 Bytes EEPROM, 1KB SRAM, 44-pin TQFP, Industrial Grade (-40°C to 85°C), Pb-Free	ATmega16
1	MAX485	SOIC-8	U3		MAX485
1	CRYSTAL	My_Crystal	XTAL1	Crystal	11.0592 MHz