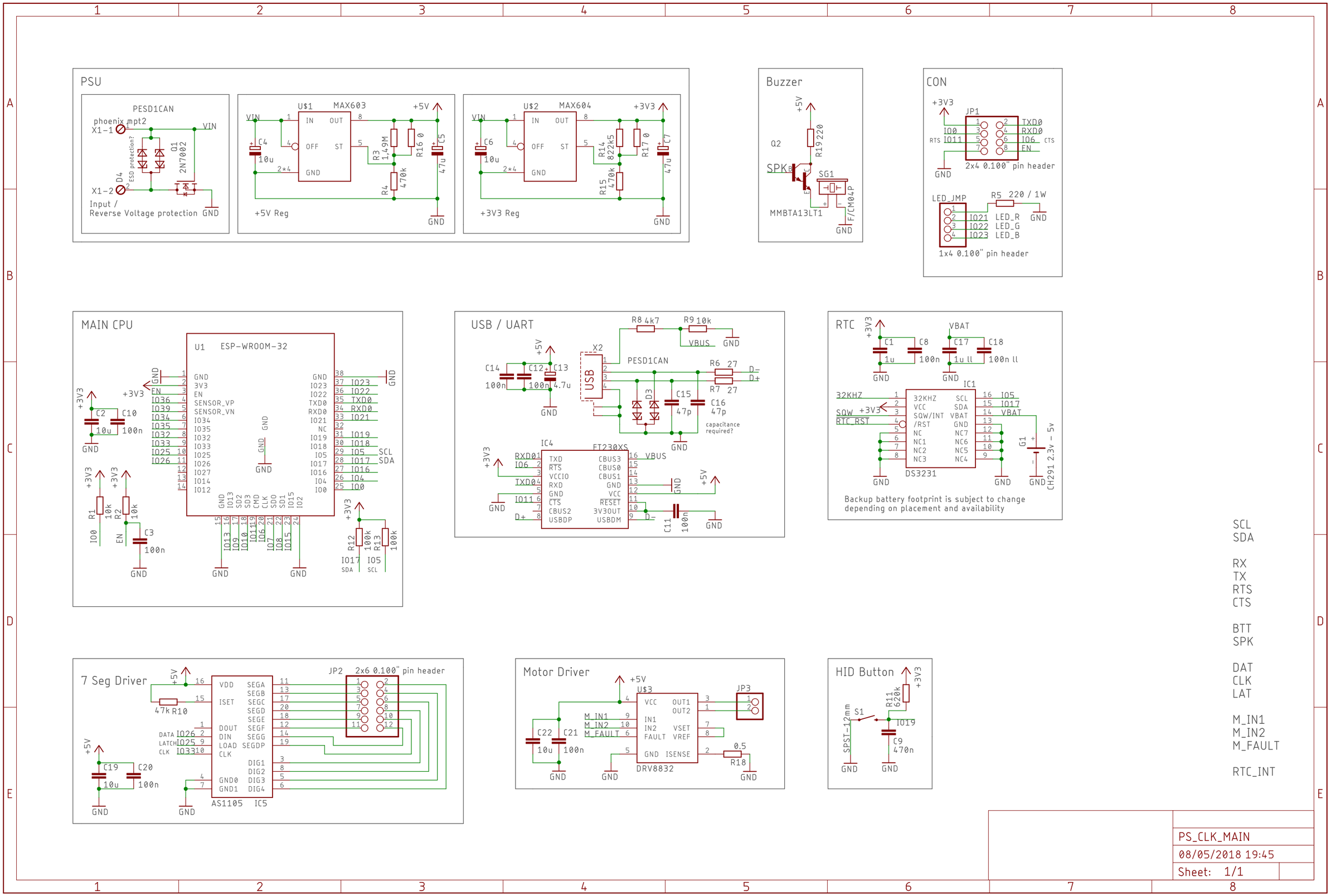
PSU
PESD1CAN
phoenix mpt2
X1-1
X1-2
VIN
D4
ESD protection?
Q1
2N7002
Input /
Reverse Voltage protection
GND
U$1
MAX603
IN
OUT
OFF
ST
GND
C4
10u
2*4
R3
1,49M
R16 0
R4
470k
C5
47u
+5V
+5V Reg
U$2
MAX604
C6
10u
R14
822k5
R17 0
R15
470k
C7
47u
+3V3
+3V3 Reg
Buzzer
Q2
R19 220
SPK
SG1
MMBTA13LT1
F/CM04P
CON
JP1
TXD0
RXD0
IO0
IO6
RTS
CTS
IO11
EN
2x4 0.100" pin header
LED_JMP
R5 220 / 1W
IO21
IO22
IO23
LED_R
LED_G
LED_B
1x4 0.100" pin header
MAIN CPU
U1 ESP-WROOM-32
GND
3V3
EN
SENSOR_VP
SENSOR_VN
IO34
IO35
IO32
IO33
IO25
IO26
IO27
IO14
IO12
IO13
SD2
SD3
CMD
CLK
SD0
SD1
IO15
IO2
IO9
IO10
IO7
IO8
IO23
IO22
TXD0
RXD0
IO21
NC
IO19
IO18
IO5
IO17
IO16
IO4
IO0
SCL
SDA
C2
10u
C10
100n
R1
10k
R2
10k
C3
100n
R12
100k
R13
100k
USB / UART
R8 4k7
R9 10k
VBUS
X2
USB
PESD1CAN
C14
100n
C12
100n
C13
4.7u
R6 27
R7 27
D-
D+
D3
C15
47p
C16
47p
capacitance
required?
IC4
FT230XS
TXD
RTS
VCCIO
RXD
GND
CTS
CBUS2
USBDP
CBUS3
CBUS0
CBUS1
VCC
RESET
3V3OUT
USBDM
RXD01
IO6
TXD0
IO11
C11
100n
RTC
C1
1u
C8
100n
VBAT
C17
1u ll
C18
100n ll
IC1
32KHZ
SQW
RTC_RST
VCC
SQW/INT
/RST
NC
NC1
NC2
NC3
SCL
SDA
VBAT
NC7
NC6
NC5
NC4
IO5
IO17
DS3231
G1
CH291 2.3v - 5v
Backup battery footprint is subject to change
depending on placement and availability
7 Seg Driver
JP2 2x6 0.100" pin header
VDD
ISET
DOUT
DIN
LOAD
CLK
GND0
GND1
SEGA
SEGB
SEGC
SEGD
SEGE
SEGF
SEGG
SEGDP
DIG1
DIG2
DIG3
DIG4
47k R10
DATA IO26
LATCH IO25
CLK IO33
C19
10u
C20
100n
AS1105 IC5
Motor Driver
U$3
VCC
IN1
IN2
FAULT
GND
OUT1
OUT2
VSET
VREF
ISENSE
M_IN1
M_IN2
M_FAULT
JP3
C22
10u
C21
100n
0.5
R18
DRV8832
HID Button
R11
620k
S1
SPST-12mm
IO19
C9
470n
SCL
SDA
RX
TX
RTS
CTS
BTT
SPK
DAT
CLK
LAT
M_IN1
M_IN2
M_FAULT
RTC_INT
PS_CLK_MAIN
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