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ESP-MONITOR

Module for serial data and current consumption monitoring

CONTENTS:

Version Revision: 1.0

DESIGN CONSIDERATIONS

DESIGN NOTE:
Example text for informational design notes.

DESIGN NOTE:
Example text for critical design notes.

LAYOUT NOTE:
Example text for critical layout guidelines.

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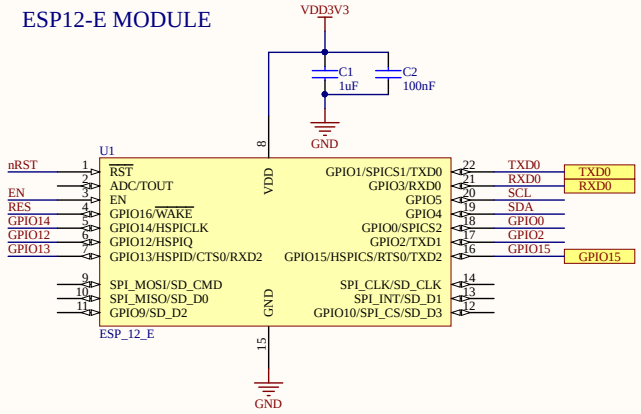
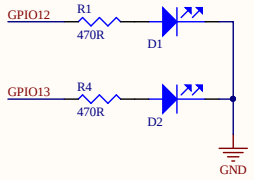
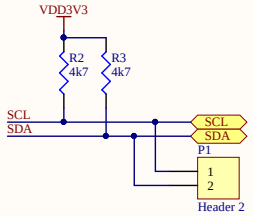
ESP12-E MODULE



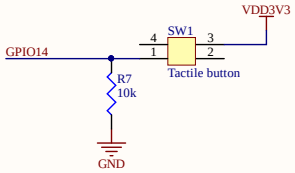
LED INDICATORS



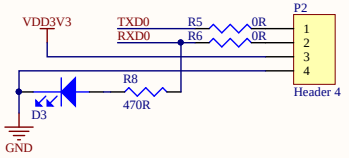
I2C PULLUPS



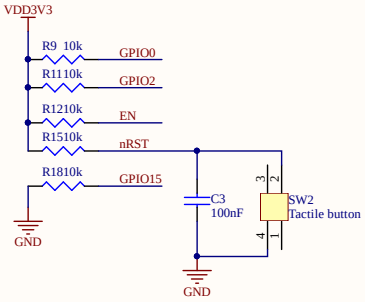
USER BUTTON



UART CONN

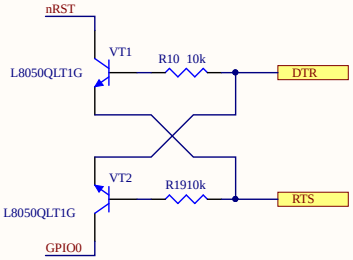


STARTUP RESISTORS



Design note:
On every boot/reset/wakeup,
GPIO15 MUST keep LOW, GPIO2 MUST keep HIGH.
GPIO0 HIGH ->RUN MODE, LOW-> FLASH MODE.
When you need to use the sleep mode,GPIO16 and RST should be connected,
and GPIO16 will output LOWto reset the system at the time of wakeup.

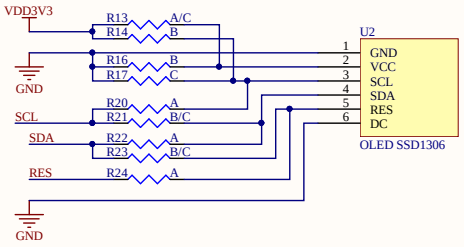
AUTO PROGRAM CIRCUIT



Design note:
Auto program circuit

DTR	RTS	RST	GPIO0
1	1	1	1
0	0	1	1
1	0	0	1
0	1	1	0

OLED DISPLAY



Design note:
Check pinout on oled display, determine if it is A, B or C. Solder 0 ohm resistors on marked positions, leave other ones disconected.

PIN	A	B	C
1	GND	NC	NC
2	VCC	GND	VCC
3	SCL	VCC	GND
4	SDA	SCL	SCL
5	RES	SDA	SDA
6	DC	NC	NC

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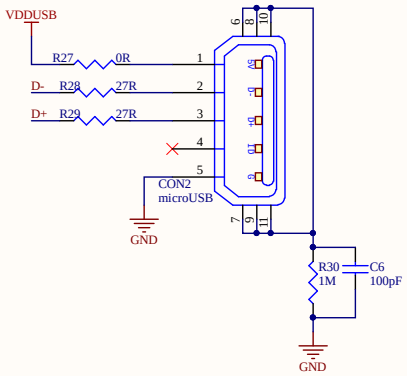
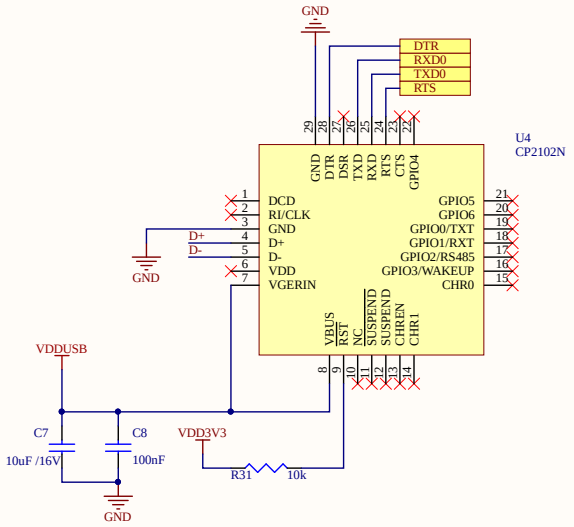
USB CONN



USB TO UART



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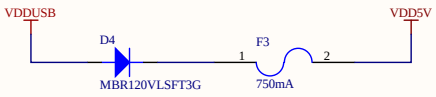
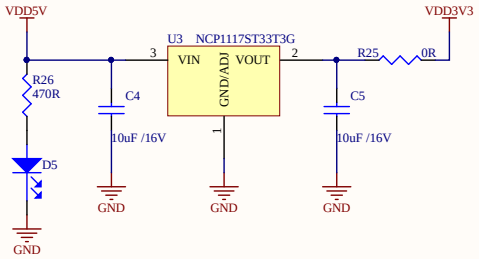
POWER





Design note:
Expected max current consumption: 170mA (ESP12)
+ 26mA (CP2012) = 200mA
Output from NCP1117: 3.3V 800mA
Current limit: 500 mA?
Max supply voltage: 20 V
Voltage dropout: 1.2V@800mA

POWER CONNS

Desing note:
Power supply pins for chaining modules together

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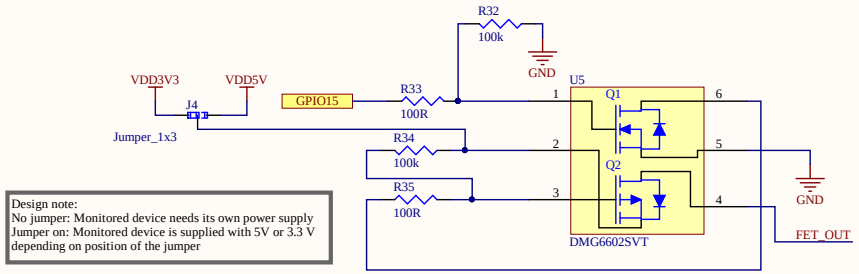
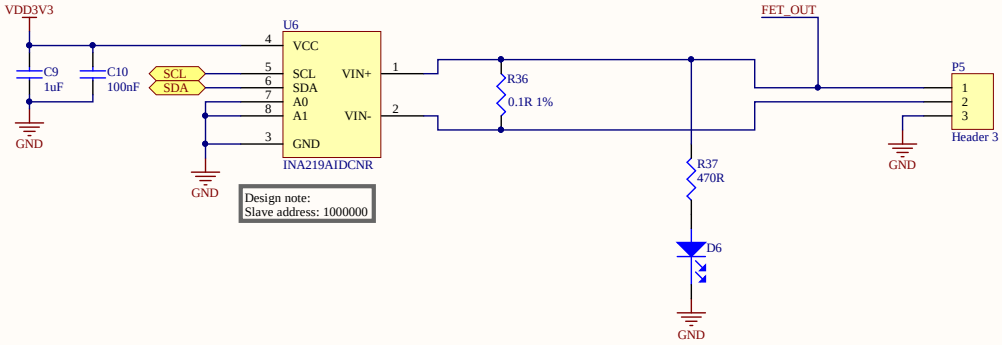
Power cycle FET



Current monitor



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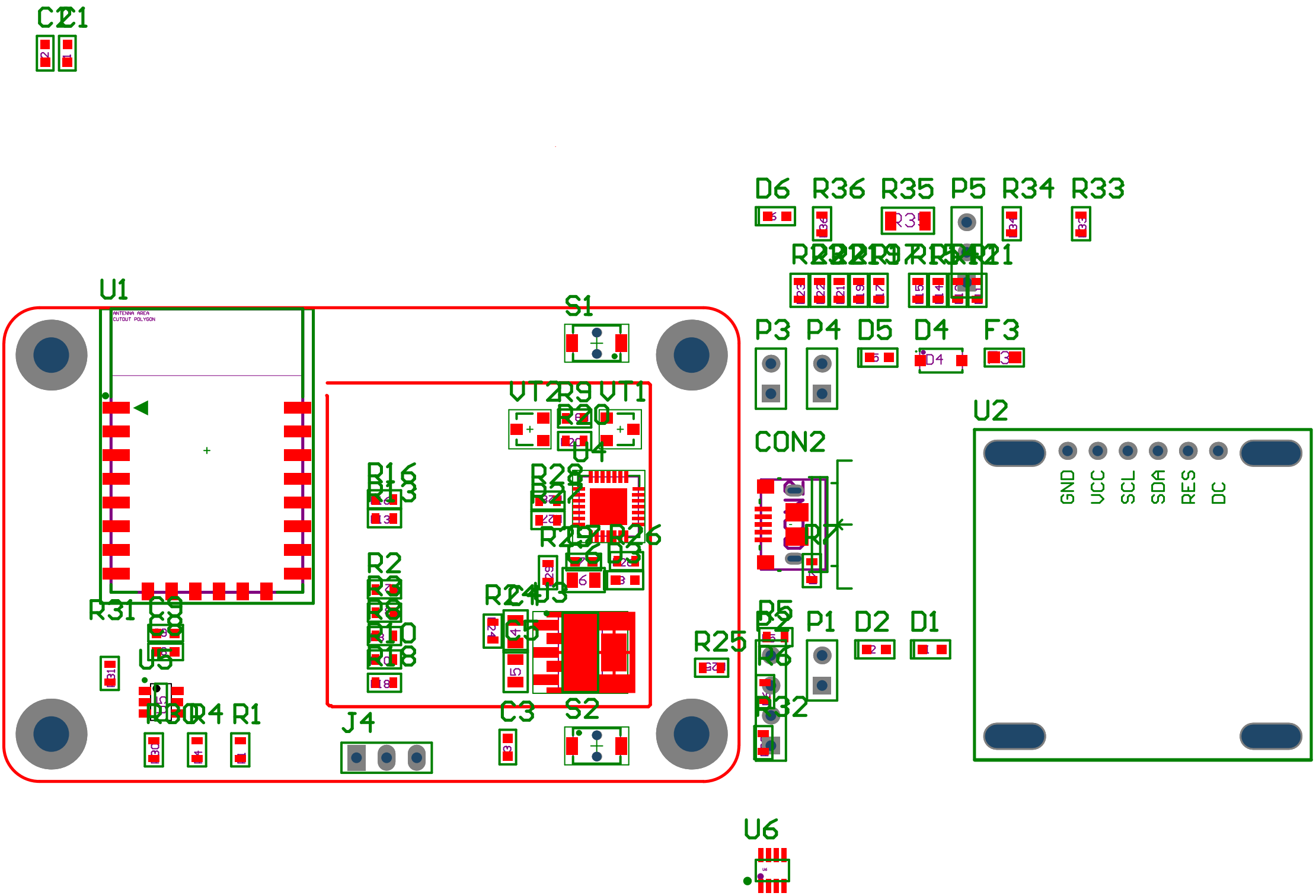
C21
U1
ANTENNA AREA
CUTOUT POLYGON
S1
VT2
R9
VT1
R20
U4
R16
R28
R29
R26
R2
R24
J3
R31
C20
U5
R30
R4
R1
J4
C3
S2
R25
D6
R36
R35
P5
R34
R33
P3
P4
D5
D4
F3
U2
CON2
R7
P2
P1
D2
D1
R6
R32
GND
VCC
SCL
SDA
RES
DC
U6

Board Stack Report