Kicad for Software Developers
EESchema

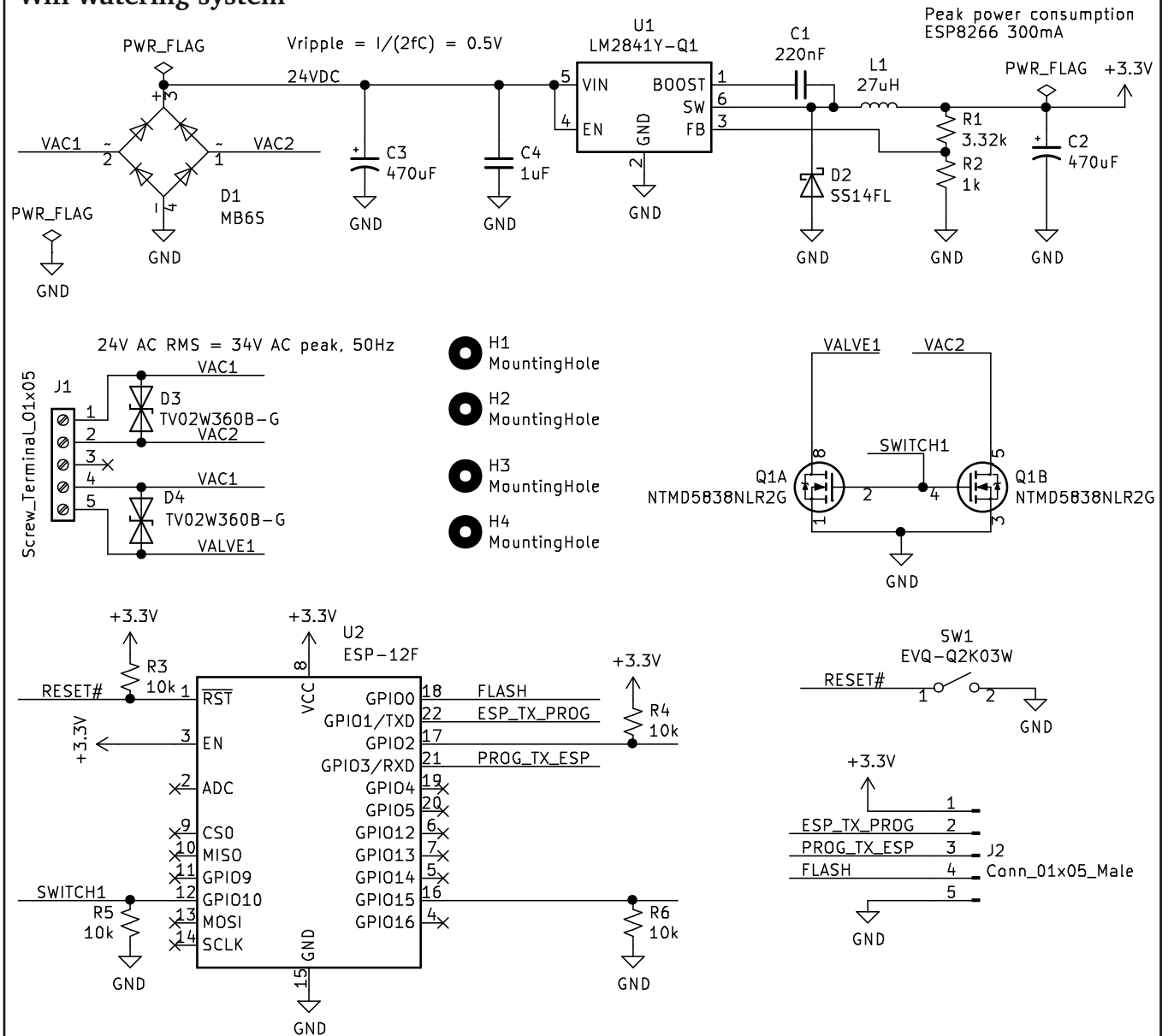**Example Schematic**
Wifi watering system

Reference	Symbol	Value
C1	Device:C_Small	220nF
C2	Device:CP1_Small	470uF
C3	Device:CP1_Small	470uF
C4	Device:C_Small	1uF
D1	Diode_Bridge:MB6S	MB6S
D2	Device:D_Schottky	SS14FL
D3	Device:D_TVS	TV02W360B-G
D4	Device:D_TVS	TV02W360B-G
H1	Mechanical:MountingHole	MountingHole
H2	Mechanical:MountingHole	MountingHole
H3	Mechanical:MountingHole	MountingHole
H4	Mechanical:MountingHole	MountingHole
J1	Connector:Screw_Terminal_01x05	Screw_Terminal_01x05
J2	Connector:Conn_01x05_Male	Conn_01x05_Male
L1	Device:L_Small	27uH
PWR_FLAG	power:PWR_FLAG	
Q1	Transistor_FET:FDS6890A	NTMD5838NLR2G
R1	Device:R_Small_US	3.32k
R2	Device:R_Small_US	1k
R3	Device:R_Small_US	10k
R4	Device:R_Small_US	10k
R5	Device:R_Small_US	10k
R6	Device:R_Small_US	10k
SW1	Switch:SW_SPST	EVQ-Q2K03W
U1	Regulator_Switching:LM2841Y	LM2841Y-Q1
U2	RF_Module:ESP-12F	ESP-12F

Shortcuts

Ctrl-Z - Undo
F1 - Zoom In
F2 - Zoom Out
a - Add component
m - Move component
r - Rotate component
x - Flip component around X axis
y - Flip component around Y axis
c - Copy component
w - Place Wire
l - Place net Label
p - Place power Port
Del - Delete

Peak power consumption
ESP8266 300mA

$Vripple = I/(2fC) = 0.5V$

24VDC

24V AC RMS = 34V AC peak, 50Hz

U1 LM2841Y-Q1
VIN BOOST
EN SW
GND FB

C1 220nF
L1 27uH
R1 3.32k
R2 1k
C2 470uF
D2 SS14FL
C3 470uF
C4 1uF

PWR_FLAG +3.3V
VAC1 VAC2
D1 MB6S
GND

J1 Screw_Terminal_01x05
D3 TV02W360B-G
D4 TV02W360B-G
VAC1 VAC2 VALVE1

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole

VALVE1 VAC2
SWITCH1
Q1A NTMD5838NLR2G
Q1B NTMD5838NLR2G
GND

U2 ESP-12F
RST VCC
EN
ADC
CS0
MISO
GPIO9
GPIO10
MOSI
SCLK
GND
GPIO0 FLASH
GPIO1/TXD ESP_TX_PROG
GPIO2
GPIO3/RXD PROG_TX_ESP
GPIO4
GPIO5
GPIO12
GPIO13
GPIO14
GPIO15
GPIO16

+3.3V
R3 10k
RESET#
R4 10k
R5 10k
SWITCH1
R6 10k

SW1 EVQ-Q2K03W
RESET#
GND

J2 Conn_01x05_Male
ESP_TX_PROG
PROG_TX_ESP
FLASH
GND
+3.3V

Kicad for Software Developers
PCBNew

Reference	Footprint
C1	Capacitor_SMD:C_0603_1608Metric
C2	Capacitor_THT:C_Radial_D12.5mm_H20.0mm_P5.00mm
C3	Capacitor_THT:C_Radial_D12.5mm_H20.0mm_P5.00mm
C4	Capacitor_SMD:C_0603_1608Metric
D1	Package_TO_SOT_SMD:TO-269AA
D2	Diode_SMD:D_SOD-123F
D3	Diode_SMD:D_SOD-123
D4	Diode_SMD:D_SOD-123
H1	MountingHole:MountingHole_3.2mm_M3
H2	MountingHole:MountingHole_3.2mm_M3
H3	MountingHole:MountingHole_3.2mm_M3
H4	MountingHole:MountingHole_3.2mm_M3
J1	TerminalBlock_Phoenix:TerminalBlock_Phoenix_PT-1,5-5-5.0-H_1x05_P5.00mm_Horizontal
J2	Connector_PinHeader_1.27mm:PinHeader_1x05_P1.27mm_Vertical
L1	Inductor_SMD:L_0805_2012Metric
Q1	Package_SO:SOIC-8_3.9x4.9mm_P1.27mm
R1	Resistor_SMD:R_0603_1608Metric
R2	Resistor_SMD:R_0603_1608Metric
R3	Resistor_SMD:R_0603_1608Metric
R4	Resistor_SMD:R_0603_1608Metric
R5	Resistor_SMD:R_0603_1608Metric
R6	Resistor_SMD:R_0603_1608Metric
SW1	Button_Switch_SMD:SW_SPST_EVQQ2
U1	Package_TO_SOT_SMD:TSOT-23-6
U2	RF_Module:ESP-12E

Preset Layer Groupings:
Two layers, parts on Front only

Copper Layers: 2

Board Thickness: 1.6 mm

Layers:

Name	Enabled	Type
F.CrtYd	☑	Off-board, testing
F.Fab	☑	Off-board, manufacturing
F.Adhes	☑	On-board, non-copper

Cancel   OK

Net Classes Editor | Global Design Rules

Net Classes:

	Clearance	Track Width	Via Dia	Via Drill	µVia Dia	µVia Drill	Diff Pair Width	Diff Pair Gap
Default	0.15	0.15	0.6	0.3	0.6	0.3	0.2	0.25
AC	0.3	0.3	0.8	0.5	0.6	0.3	0.2	0.25

Add   Remove   Move Up

Net Class Membership:

Default ▼   Select All   AC ▼   Select All

Net	Class	
	Default	
+3V3	Default	
/24VDC	Default	

<<<   >>>

Net	Class	
/VAC1	AC	
/VAC2	AC	
/VALVE1	AC	

Cancel   OK