



Title: QFHMIX01E

Frontend for QFH active antenna

Author:

Size: A4

Page: 2/3

Date: 2022-07-31



3.3V source parameters:

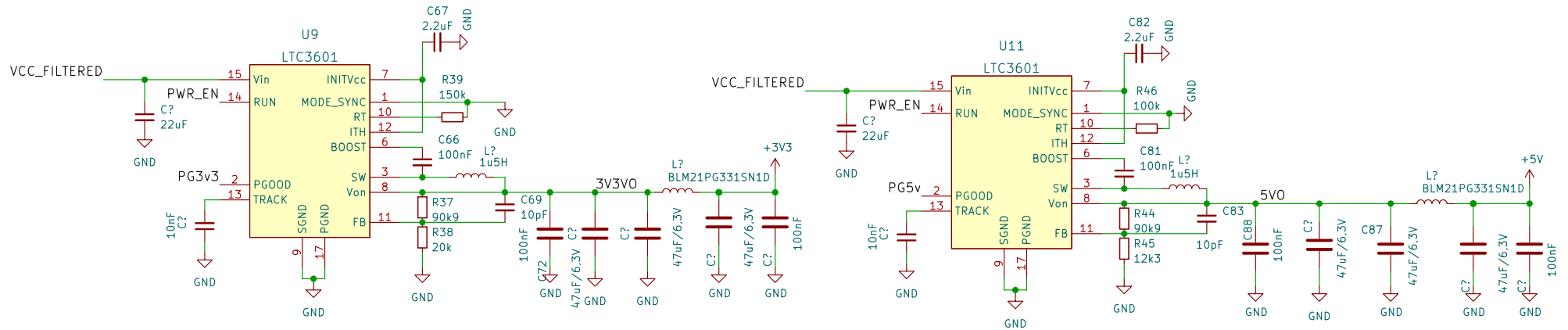
Designed consumption: 0.05A
Switching: continuous mode
Frequency: 2133,3kHz (same as 5V source)
Delta I: (current ripple), for inductor
I_{rms} =

Booth step-down are forced to continuous operation to enforce minimal voltage-ripple and fixed switching frequency.

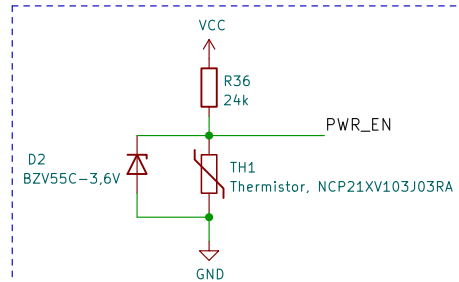
Frequency is set by external resistor, to minimize temperature dependency. Switching frequency is set to 2133,3kHz.

5V source parameters:

Designed consumption: 0.8A
Switching: continuous mode
Frequency: 2133,3kHz
Delta I: 1mA (current ripple), for 1mH inductor
I_{rms} = 0.885A



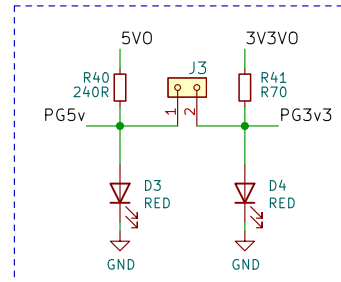
Over-temperature protection



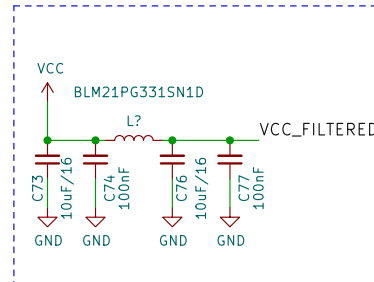
PWR_EN enables power regulation by voltage above 1.25V. Voltage below 1V turn off internal power source.

Thermistor NCP21XV103J03RA with 24k resistor is designed to disconnect electronic at 75C.

Power status LED and header output



LED is powered by 10 mA to ensure that maximum current trough power source PG pin is not exceed. (PG pin is open-drain, active in failure condition)



Ensures that switching frequency is not "transmitted" by incoming cable and incoming power wires.

Title: QFH MIX01E

Frontend for QFH active antenna

Author:

Size: A4

Page: 3/3

Date: 2022-07-31

