



Title: QFHMIX01E

Frontend for QFH active antenna

Author:

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3.3V source parameters:

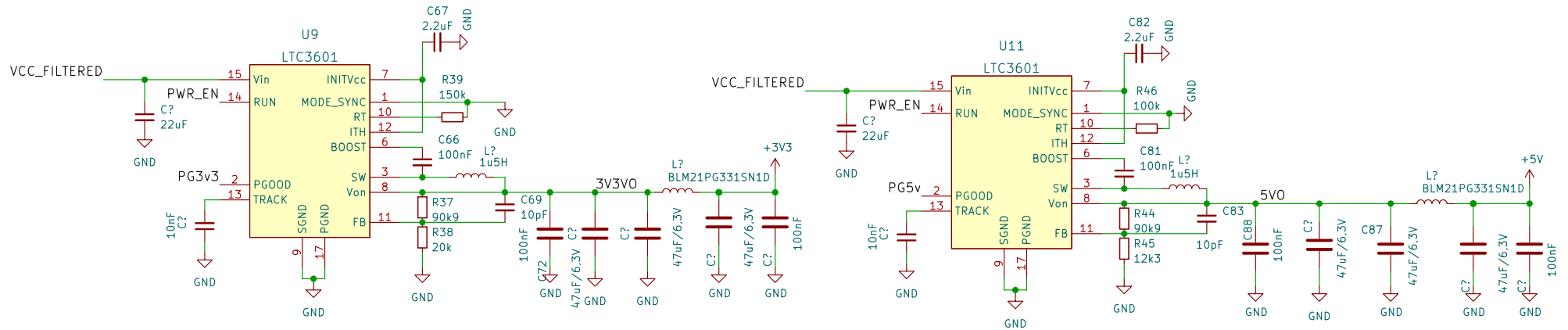
Designed consumption: 0.05A
Switching: continuous mode
Frequency: 2133,3kHz (same as 5V source)
Delta I: (current ripple), for inductor
I_{rms} =

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

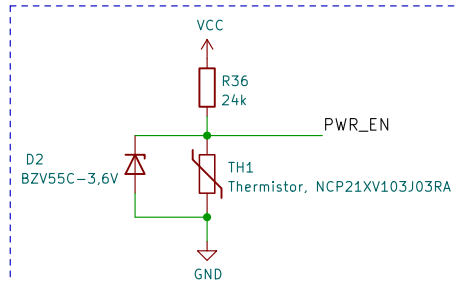
Frequency is set by external resistor, to minimize temperature dependency. Switching frequency is set to 2133,3kHz.

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



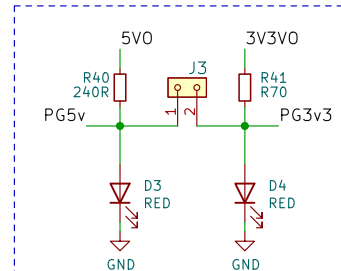
Over-temperature protection



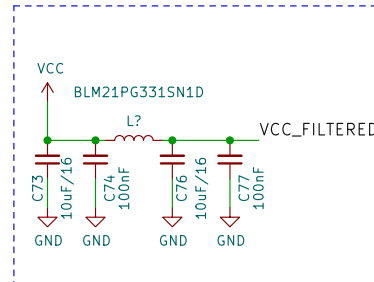
PWR_EN enables power regulation by voltage above 1.25V. Voltage below 1V turn off internal power source.

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

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.

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