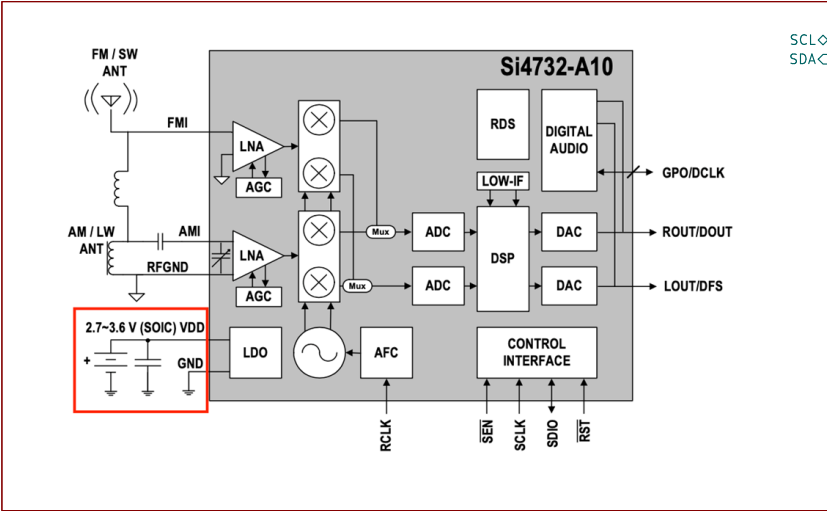


radio

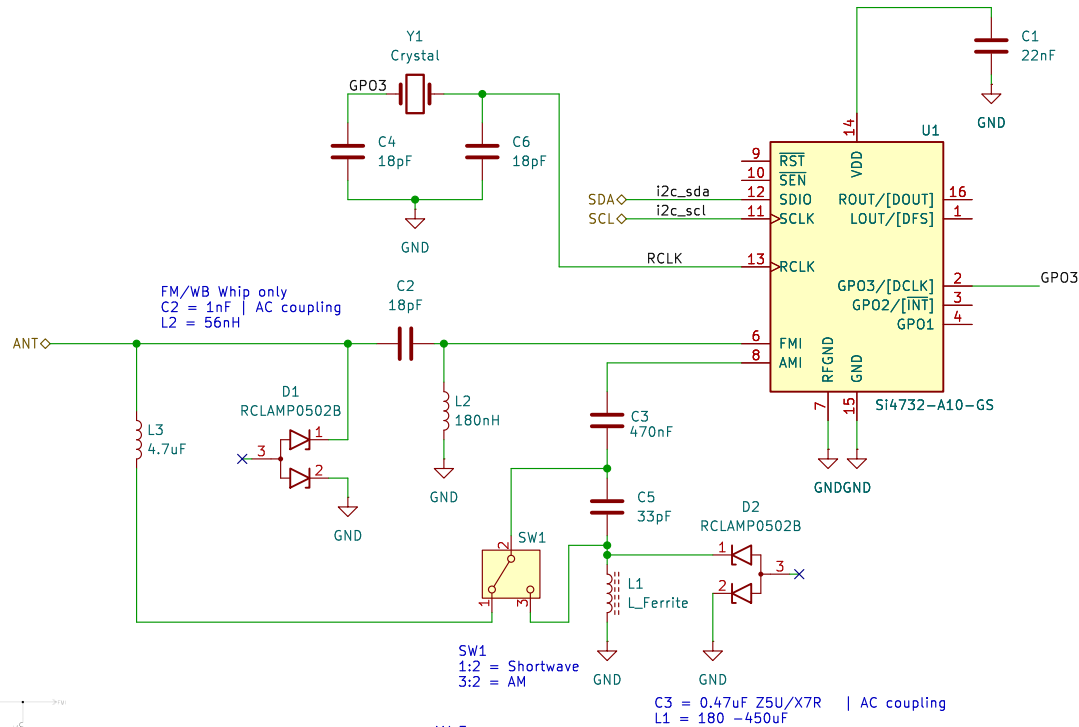


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microcontroller

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FM Whip Antenna Schematic

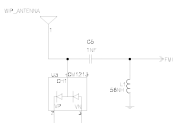


Figure 23: FM/Whip Antenna

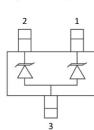
Device Connection Options

This device is optimized for protection of 1 line operating in excess of 3GHz. It may also be used to protect two lines operating in excess of 2.0GHz. The device is connected as follows.

Protection for one line with ~1pF capacitance can be achieved by connecting one data line to either pin 1 or pin 2 with the other pin connected to ground. Pin 3 is not connected. The connection to ground should be made directly to a ground plane. The path length should also be kept as short as possible to minimize parasitic inductance.

Protection of two lines is achieved by connecting data lines at pins 1 & 2. Pin 3 is connected to ground. The connection to ground should be made directly to a ground plane. The path length should also be kept as short as possible to minimize parasitic inductance.

Figure 1: Pin Configuration



$$\text{AM Trap}$$

$$F_{c_trap} = 1/(2 \cdot \pi \cdot \sqrt{C5 \cdot L1})$$

$$\text{AMI input parasitic cap}$$

$$C_{total} = 1/(\text{Leffective} \cdot (2 \cdot \pi \cdot F_{max})^2)$$

C_{total} = total cap at AMI input
 Leffective = Effective inductance at AMI input
 F_{max} = Highest frequency in AM band

example: $C_{total} = 29\text{pF}$ with 300uF AM 10KHz spacing $F_{max} = 1710\text{KHz}$

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