SR3002 OPERATIONAL DESCRIPTION: FCC ID : QJZSR3002

Power Supply

Generates 24 VDC power from 120 VAC line voltage.

Voltage Regulation

Generates all necessary voltages for the Smart-Trakker from the 24 VDC power supply voltage.

Clock Generator

Generates the 13.56 MHz clock for the transmitter amplifier. A divided clock signal synchronizes the microcontroller.

Modulator, Transmitter Amplifier

Modulates the carrier with a digital signal from the microcontroller for data transmission. The Transmitter Amplifier amplifies the modulated carrier.

Modulation Index, RF Power Regulation

Keeps the Antenna Output Voltage to a software adjustable value. The Modulation Index is software adjusted after any change in the RF-output power and at large temperature variations.

Receiver, Filter, Demodulator and ADC

The SmartTag IC sends an AM signal. This signal is converted for digital processing by the 12-bit ADC after filtering, demodulation, and amplification.

Optocouplers

All internal signals are galvanically decoupled by optocouplers.

Microcontroller

Processes the communication protocol between the SmartTag IC and the Smart-Trakker reader. The serial interface signals are converted so that the tag IC can process them and signals from the tag are converted to serial interface compatible signals.

RS232 Interface

Communication to the host is via a serial interface with a jumper selectable baud rate of 57.6 or 115.2 kbaud.