

HONEYWELL T8665E Circuit Description

The radio circuit consists of three sections: the transceiver hybrid, an RSSI detector and the controller. Referring to the schematic of the radio section, 32006012:

Transmit Mode

Ports RB3 and RB4 of the controller, U3, are used to control the state of the transceiver IC, U2. In the sleep state, the control pins of U3 (CNTRL0 and CNTRL1) are both low.

To enable transmit; U3 pulls CNTRL0 high through RB3. Data pulses are output from port RB1 and applied to the TXMOD input of U2 (pin 8) through resistor, R9. The RF output from U2 appears at pin 20 and is coupled to the antenna through the matching network, L1, L2.

Receive Mode

To enable receive, U3 pulls CNTRL0 and CNTRL1 high through ports RB3 and RB4, respectively. Demodulated data appears at the RXDATA output (pin 7) of U2 and is input to the controller on port RB2 (pin 23).

The baseband signal appearing at BBOUT (pin5) of U2 is applied to the positive input of opamp, U1-2, through capacitor, C5. The opamps and their supporting components constitute a peak detector used to develop an RSSI voltage. This voltage appears at the output of U1-1 and is input to the controller on port RA0 (pin 2). The RSSI is used to assess the system operating margin.