Operating Frequencies:

The product contains oscillator operating at 32.768 kHz, 38.4 MHz and 50.0 MHz. The product contains crystals operating at 32.768 KHz.

Radio Theory of Operation

The product contains the following radios:
- 802.11b/g/n (WLAN), operating on the 2450 MHz ISM band
- Bluetooth, operating on the 2450 MHz ISM band.

WLAN and Bluetooth:
An Murata type TNBLE integrated radio module is used to provide both WLAN 802.11b/g/n and Bluetooth 2.1+BLE support. The TN module is based on the Texas Instruments WL1831L transceiver, and also includes power regulators, control circuitry, RF switch, and output power amplifiers for both WLAN and Bluetooth operation.

The antenna used is a Johanson technology 2450AT18B100E 2.45GHz Ceramic Chip Antenna with a peak gain of 0.5dBi. The antenna is permanently mounted to the main processing board. It is not accessible or removable by the user.

For WLAN operation an SDIO port is provided to communicate to the system CPU for receive (RX) and transmit (TX) data transfer and control. For Bluetooth operation an I2S port is provided for data transfer. An additional serial UART, interrupt (IRQ), and module enable signals are provided for module control. These are also connected to the system processor.

All WLAN and Bluetooth radio settings and protocols are programmed at manufacturing and cannot be modified by a user, with the exception of WLAN channel selection. The thermal imager, including the radios, will automatically cease operation and thus radio communication once battery capacity reaches a specified minimum threshold.