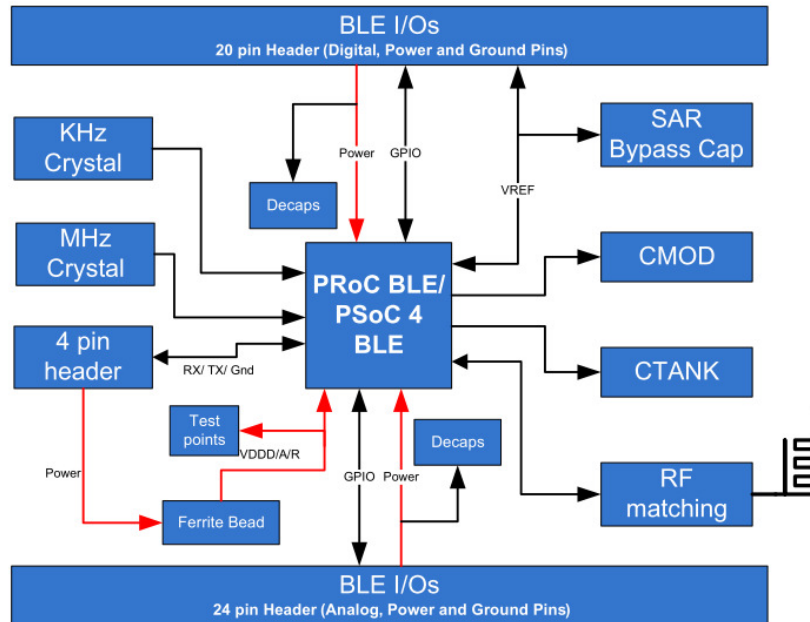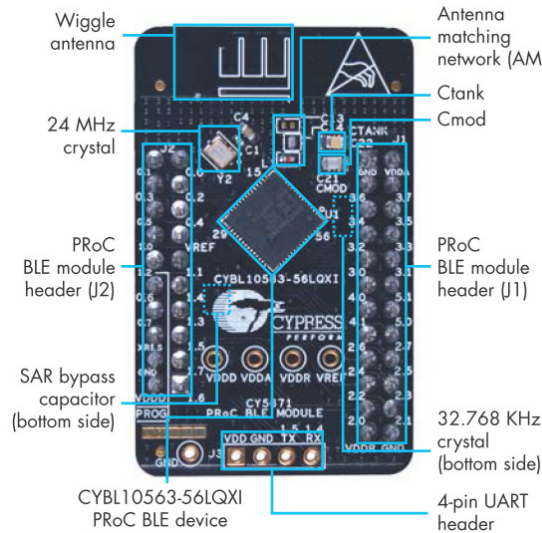**Theory of Operation/Technical Description – FCC ID: WAP-CY5671**

The EUT enables customers to evaluate and develop Bluetooth Low Energy projects using the PSoC 4 BLE and PRoC BLE devices/silicon.
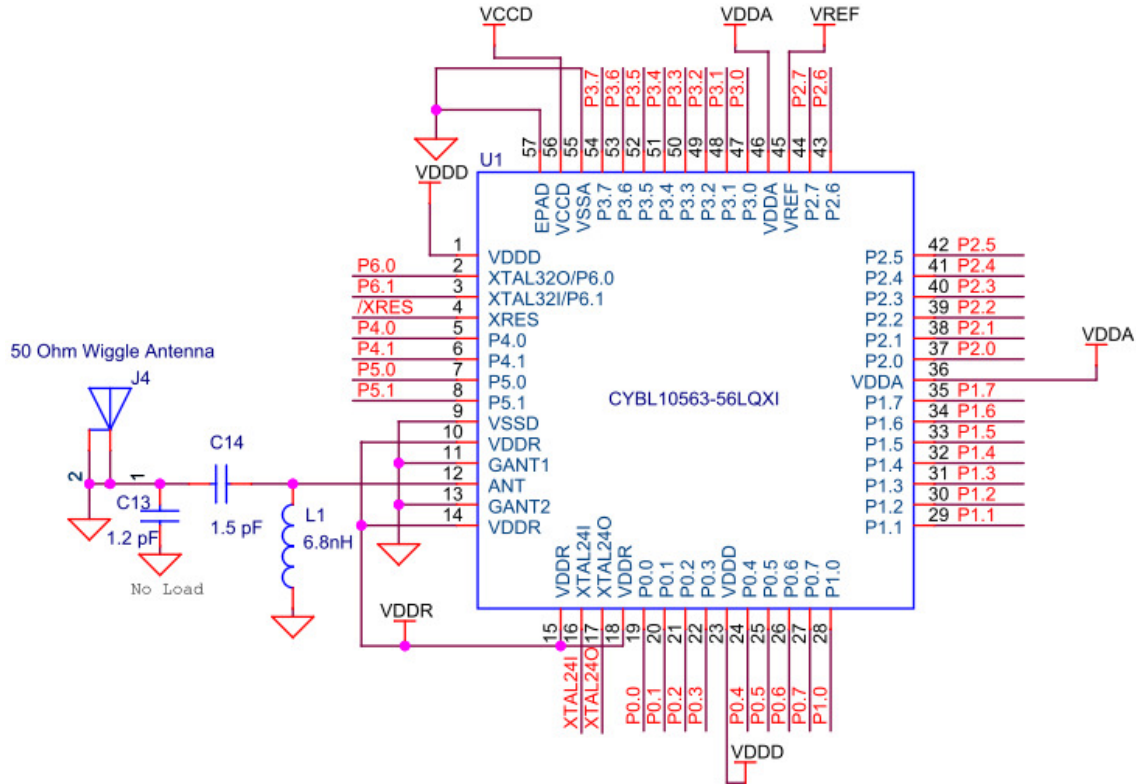
The basic operation mode is:
- BLE communication was established between CY5670 CySmart USB Dongle and CY5671 PRoC BLE Module plugged into BLE Pioneer Baseboard.

RF circuit function:

This CY5671 PRoC BLE Module board act as a basic breakout board for the CYBL10563-56LQXI BLE silicon. In addition to including the PRoC BLE devices, the module boards also contain the BLE passives (resistors, capacitors, external crystals, and antenna-matching network), an on-board antenna, and headers for connecting to the baseboard. The baseboard contains the power supply section (USB and battery), an on-board programmer/debugger, a 1-Mb F-RAM, an RGB LED, a five-segment CapSense slider, a proximity header, a user switch, and a reset switch for interfacing with the module.
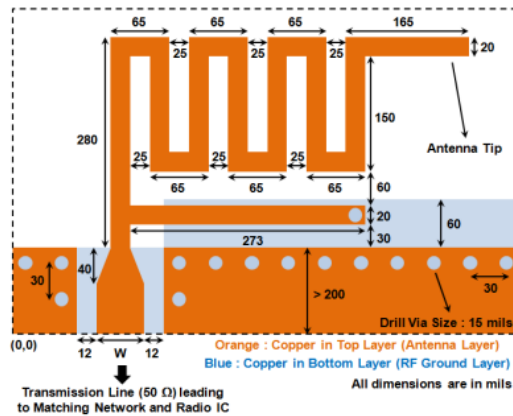
RF signal flow:

Description of Antenna system (Baluns, Multiplexers)

The Modules/Dongle uses the wiggle antenna (PCB antenna; Meandered Inverted-F Antenna). Refer to the Antenna Design Guide (AN91445 attached) for details.

Top Layer (Antenna Layer)

Classification of specified radio equipment

Class: 2.4GHz Low Power Data Communication – Bluetooth low energy
Frequency: F1D 2402MHz～2480MHz (2MHz separation 40 channels)
Modulation method: GFSK; Frequency Deviation +/-250 kHz, Data Speed 1Mbps
Operation power/voltage: DC Max 5V
Maximum power of the module: 0dBm; (Note: This power cannot be set higher than the 0dBm)