

## Circuit Description

### a. Transmitter section

Data from the host is sent to the U6(BCM4318) through the RF\_OUT interface. After being converted from digital to analog signals by the I and Q transmit digital-to-analog converters (DAC) in the U6(BCM4318) the output signals are routed to the Transceiver SIGE2521A60 (U17) . Antenna1 connect to SIGEI-PLEX connector.

### b. Receiver section

The input signal to the radio is received through either antenna1 or antenna2. The received signal from the selected antenna connect to SIGE2521A60. Which is fed to a bandpass filter. Then, the signal is routed to multilayer balun(U15:HHM1520).

After the U15(HHM1520) the signal output to BCM4318 , which the signals direct ADC to BCM6338.

### c. RF VCO section

The RF VCO(2.412-2.484Ghz)(BCM4318) operates at twice the channel frequency. It is divided by two in a flip-flop circuit to form accurate in-phase (I) and quadrature (Q) LO signals at the channel frequency. The VCO is phase locked to the 20MHz crystal-controlled clock by the synthesizer in the U6 (transceiver BCM4318) and therefore constitutes an accurate channel frequency reference for the radio.