

# Operation Principle

1. DPF-A70-H is a highly integrated MAC/baseband processor to support Wireless photo player. The processor supports the Direct Sequence Spread Spectrum (DSSS) for 2.4GHz band and Orthogonal Frequency Division Multiplexing (OFDM) for 2.4GHz bands.

For the MAC part, it provides all the required functions and many optional features in the IEEE standards, such as 802.11b, 802.11g.

Using advanced algorithms and design methodologies, the chip is best-in-class in terms of throughput, power consumption, range, multi-path tolerance. External interfaces include USB 2.0.

2. Transceiver is a monolithic SiGe half duplex direct-conversion radio transceiver designed for IEEE 802.11b/g WLAN system or other wireless system application operation in 2.412-2.462GHz bands. The transceiver achieves low noise figure, high input sensitivity, and high linearity, while consuming low dc power. The receive path features a gain selectable, low-noise amplifiers (LNA), followed by RF-to-baseband I/Q demodulator, discrete-step variable-gain amplifier and integrated channel-selection filters. The transmit chain includes integrated reconstruction filters, a baseband-to-RF I/Q modulator, discrete-step variable-gain amplifiers for power –level control, and pre-drivers for external power amplifier. The modulator and demodulator are driven by internal VCO. The VCO is phase-locked by an internal 3-wire-interfaced PLL. An internal autonomous calibration circuit calibrates the bandwidth of the integrated channel-selection filters and the reconstruction filters. Three low dropout regulator (LDO) are also integrated.