

# Technical Description

## **Media Access Controller (MAC) with Baseband Processor Unit (U9)**

U9 is a single-chip wireless LAN integrated controller that provides all processing and functionality needed for the MAC protocol of wireless LAN. It has on-board A/D and D/A for analog I and Q inputs and outputs, for which the U10 is recommended.

Firmware, which stored by Flash (U16), implements the Wireless LAN MAC protocol and some configurations parameters for the PC Card.

## **I/Q Modulator/Demodulator and Synthesizer (U10)**

It features all the necessary blocks for quadrature modulation and demodulation of “I” and “Q” baseband signals. The receive and transmit IF paths can share a common differential matching network.

## **2.4GHz RF/IF Converter and Synthesizer (U11)**

The receive chain features a low noise, gain selectable amplifier followed by a down-converter mixer. It's input from Antenna connector (RF signal). Output IF signal to U10. An up-converter mixer and a high performance preamplifier compose the transmit chain. The remaining circuitry comprises a high frequency Phase Locked Loop synthesizer with a three wire programmable interface for local oscillator applications. It receive IF signals from U10, then up to 2.4GHz (RF signal) output to U3 by up-converter with LO.

## **2.4GHz Power Amplifier and Detector (U3)**

It is input from U11, and output to antenna connector.