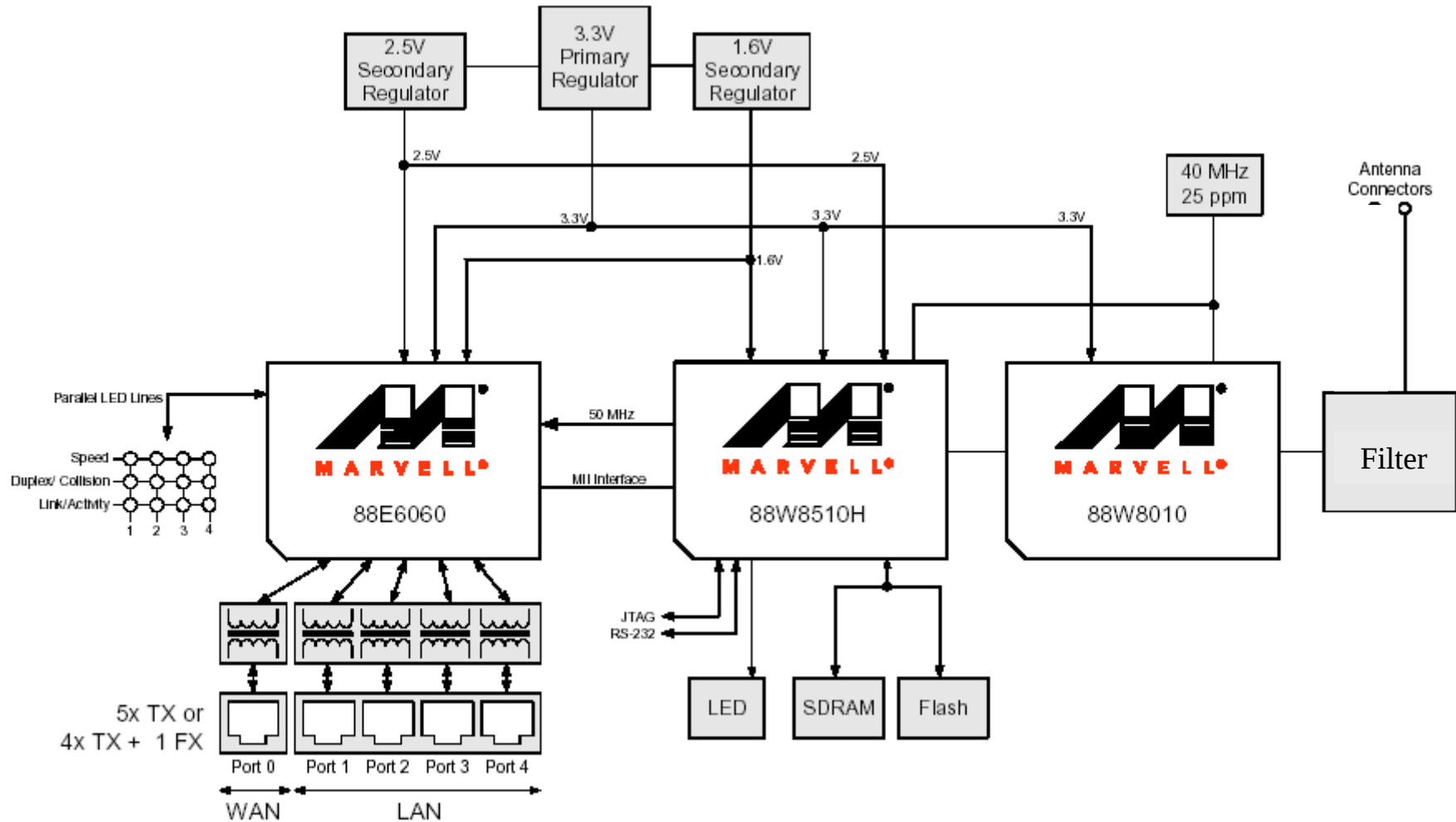
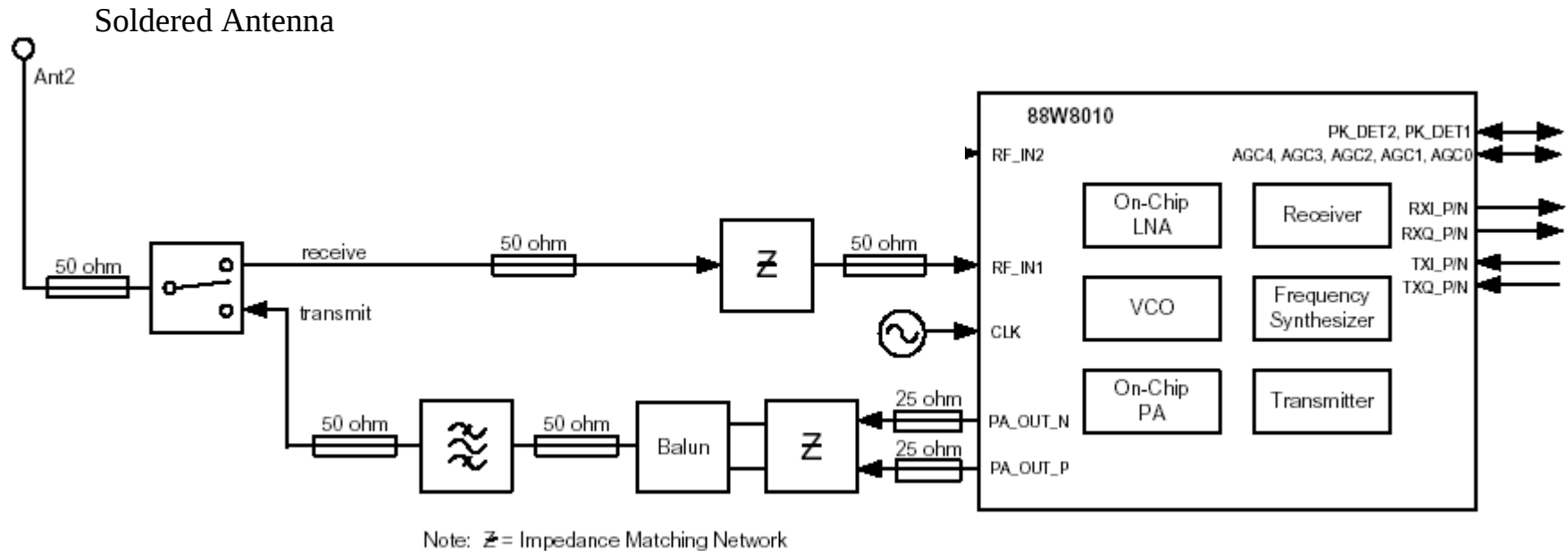


Functional Block Diagram



RF Block Diagram



Operational Theory

2.1.1 Rx Path

The receive signal from either antenna port passes through an impedance matching circuit before reaching the 88W8010. The RF signal is then fed into the 88W8010 at the RF_IN1 or RF_IN2 pin for processing.

The 88W8010 receive path consists of the following:

- 2.4 GHz LNA/mixer combination
- variable gain IF amplifier
- quadrature demodulator
- pair of baseband LPFs
- programmable gain amplifiers

2.1.2 Tx Path

The 88W8010 transmit path includes the following:

- pair of LPFs
- quadrature up-converter
- image reject RF mixer
- variable gain amplifier
- integrated power amplifier

Transmit I/Q analog baseband signals are fed from the 88W8510H to the 88W8010, where the baseband LPF of the 88W8010 removes aliasing products from the DAC. The image reject RF mixer enables up-conversion of the signal to the desired channel frequency without generating an image tone. This eliminates the need for an external image reject RF filter before the PA. The high efficiency PA integrated into the 88W8010 is configurable into various states to minimize power consumption. The embedded power control loop provides accurate control over the actual transmitted power.

The RF output signal on the PA_OUT_P and PA_OUT_N pins of the 88W8010 is passed through an impedance matching circuit before it enters the balun to prepare for transmission.