## XI815 circuit description

MAC and B.B: ISL3873 that is a CPU control and process between PCMCIA interface and BaseBand. ISL3873 (U3) integrated Baseband process is part of the PRISM chip. The ISL3873 directly interfaces with IF QMODEM(HFA3783). Adding Intersil's RF/IF converter ISL3685) and power amplifier (ISL3984). Protocols and PHY support are implemented in firmware thus, supporting customization. The ISL3873 have on board A/Ds and D/A for analog I and Q inputs and outputs, for which the HFA3783. DBPSK and DQPSK, with data scrambling capability, are available along with CCK to provide a variety of data rates. Both Receive and Transmit AGC functions with 7-bit AGC control obtain maximum performance in the analog portion of the transciver.

## **IF QMODEM HFA3783:**

The HFA3783 is a highly integrated and fully SiGe baseband converter for half duplex wireless application. It has a integrated AGC receive IF amplifier and variety Transmit amplifier. The receive and Transmit paths share a common differential path. A pair of 2<sup>nd</sup> order antialiasing filtrs with an integrated DC offset cancellation architecture is include in the AGC chain for threshold comparison. Up and down conversion are perform by doubly balanced mixer for I/Q IF processing.

## RF/IF converter and synthesizer ISL3685:

The ISL3685 include a receive chain feature LNA and down-converter mixer. For tX chain have an up-converter mixer and driver amplifier. Also have RF synthesizer to lock 2.1GHz that convert IF (374MHz) 2.4GHz.

# RF power amplifier ISL3984:

The ISL3984 is a 2.4GHz RF power amplifier that power the signal from ISL3685 transmit chain. ISL3984 include a power amplifier and a power detector to make a Automatic level control RF power.

#### RF filter FL4 MDR742F and FL2 MDR741F:

Pass the RF signal and reject spurious from Transmit mixer that ISL3685 polling out.

## RF switch U13 As179:

Control RF signal to Receive and transmit chain by MAC ISL3873.