

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 transceiver.

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 2nd order antialiasing filters 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.