XI815 circuit description

MAC: ISL3841 that is a CPU control and process between
PCMCIA interface and BaseBand. ISL38741(U3) integrated Baseband process is
part of the PRISM chip. Adding Intersil's B.B HFA3861, IF Quad Mod /DE-modem
HFA3783, RF/IF converter HFA3685 and power amplifier (HFA3924). Protocols and
PHY support are implemented in firmware thus, supporting customization.

B.B : HFA3861 is part of the PRISM chip. The HFA3861 directly interfaces with
IF QMODEM(HFA3783) and MAC HFA3841. The HFA3861 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 including 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 HFA3683:

The HFA3685 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 HFA3983:

The HFA3983 is a 2.4GHz RF power amplifier that power the signal from HFA3683
transmit chain. HFA3983 include a power amplifier and a power detector to make an
Automatic level control RF power.

RF filter FL3 LFSN30N and FL5 MDR642E:
Pass the RF signal and reject spurious from Transmit mixer that HFA3683 polling out.

RF switch U8, U10 As179:
Control RF signal to Receive and transmit chain by MAC HFA3841 and Antenna
diversity by B.B HFA3861B.