

FWB2411 Circuit Operation Explanation

* FWB2411 is composed of RF part & CPU part.

1. RF Tx Activity

A. If Ethernet Data is incoming through the PHY chip(LXT972), CPU(S3C4510B) save it to SDRAM. CPU operate by algorithm and if it have data to transmit, it send data to FPGA(ALTERA EPF6010ATC100-3).

At there, data is framed, it is send to modem IC(HFA3861).

B. If modem IC receive data from CPU part, data is modulated to DSSS(2Mbps) or CCK(11Mbps). Modulated data is up-converted to 2.4GHz through HFA3783 and HFA3683.

Up-converted data is amplified by Power AMP(MA2306), and is send to air.

2. RF Rx Activity

A. If FWB2411 receive data from air, data flow is reverse of Tx.

Namely, its flow is as like this.

ATF35143 -> HFA3683(RF Down Mixer) -> HFA3783(IF Down Mixer) -> HFA3861(Baseband Modem)

B. Demodulated signal send to FPGA chip and, handled by CPU, send to Ethernet port.

3. On booting state, CPU copy firmware program from Flash memory to SDRAM, after that, algorithm proceed by firmware program.