

WiLD™ 802.11b Modem

IEEE 802.11b DSSS/CCK modem (PHY) for integration into Wireless LAN standard ICs and ASICs with data rates up to 11 Mbit/sec.

Key Design Features

- DSSS technology
- Modulation: DBPSK, DQPSK, CCK
- Supported data rates: 1, 2, 5.5, 11 Mbps
- Compliant to IEEE 802.11b standard
- Low gate count: 200 K logic gates, fully synthesizable
- RF-Modem interface: I/Q
- Extremely low 802.11b Modem implementation loss: 1.3 dB for small office channel
- Optimized for WiLD CMOS Radios and third party 2.4 GHz RF ICs (Zero-IF architecture). Wipro-NewLogic offers tuning service for best system performance on request.

IP Package Features

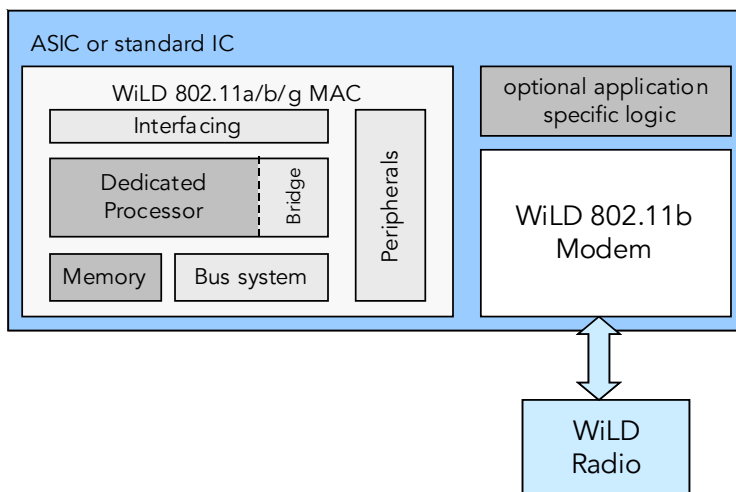
- Designed in synthesizable VHDL for easy technology migration
- Optimized interface to WiLD 802.11a/b/g MAC
- Designed for easy integration into an ASIC
- DFT ready for use with major ATPG tools
- Supplied selection of scripts:
 - VHDL compilation
 - Synthesis
 - Test insertion
- Supplied with test bench suite permitting reverification of core after user modifications
- Comprehensive documentation and training
- Turnkey IC design and IP integration service available on request
- Matlab model available for evaluation

Interfacing to the WiLD 802.11b Modem

The WiLD 802.11b Modem can be easily connected to Wipro-NewLogic's WiLD 802.11a/b/g MAC through the Burst Processor (BuP) which is part of the WiLD 802.11a/b/g MAC and an ARM AMBA bus interface. The simple and flexible interface makes it easy to combine the WiLD 802.11b Modem with third party MAC controller ICs or other MAC IP cores.

RF ICs are connected to the WiLD 802.11b Modem by an I/Q interface which is complemented by a standard 3 wire interface for control information.

Interfaces of the WiLD 802.11b Modem are designed for easy and reliable verification with minimal design size. As these interfaces are not standardised, Wipro-NewLogic offers an interface customization service upon request.





Integration into a WLAN ASIC

The WiLD 802.11b Modem is designed for integration into an ASIC using standard CMOS technology.

Besides the 802.11 MAC controller (e.g. WiLD 802.11a/b/g MAC) a WLAN ASIC could host further application specific logic as well as other 802.11 modems (e.g. WiLD 802.11a/g Modems) and/or RF cores (e.g. WiLD CMOS Radios).

Validation Platform

A dedicated FPGA based rapid Prototyping platform (WiLD Card I) is available for IP customers.

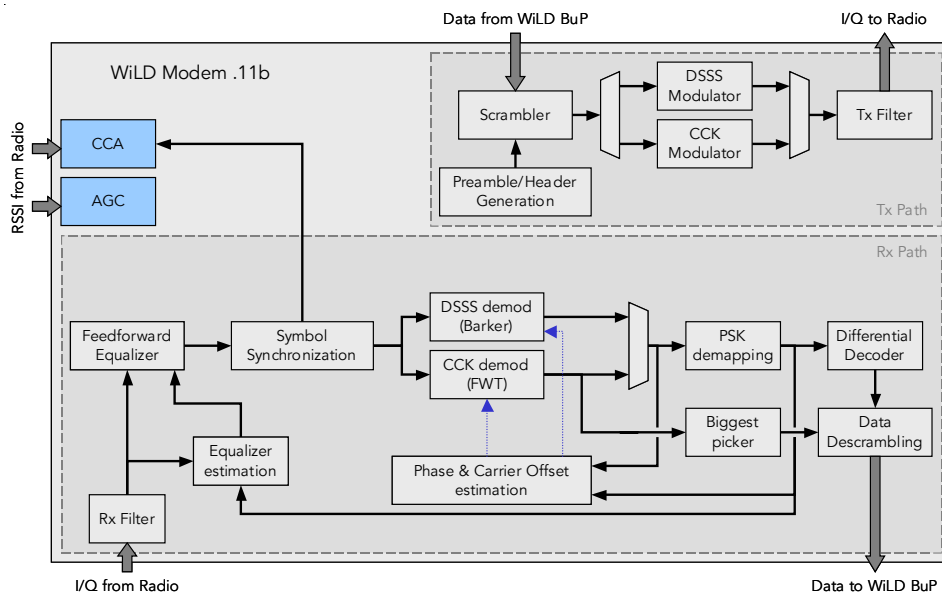
It can be used for:

- HW prototyping
- SW development
- Joint HW/SW debug
- System validation
- System demonstration
- Pre-Silicon application software development

Applications

WiLD IP can be implemented in PC hosted and embedded solutions for WLAN technology, such as:

- Network Interface Cards (NICs)
- Access Points (APs)
- Home networking devices
- Consumer electronics, Audio, Video, Games
- Wireless Terminals



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