

# **NewLogic Offers World's First Silicon Digital Interface Between Modem and Radio for WiFi Applications**

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NewLogic Technologies, a leading supplier of intellectual property (IP) cores for wireless systems, today announced the availability of all its IEEE 802.11 WiLD WLAN IP blocks in silicon demonstrating the world's first commercial implementation of a digital interface (HiSS or High Speed Serial interface) between modem and radio.

Based on this silicon implementation NewLogic offers a demonstration platform consisting of an 802.11a/b/g MAC/modem chip which is connected to the NewLogic dual band, triple mode CMOS radio transceiver via the HiSS interface. The solution is provided with a complete software stack that supports the recent .11e/i/h standard extensions. The demo system can be connected to a host system via PCI or USB interface.

"The industry has been waiting for a long time for an architecture that enables seamless integration of a WLAN MAC and modem into a bigger SoC (System On Chip). Our evaluation platform proves the concept of the digital interface and secures the full functionality of our IP in actual silicon as an end to end solution" states Uwe Hering, Sr. VP Sales and Marketing at NewLogic. "We believe this to be a significant milestone that will enable the WiFi market to grow even further, since WLAN can now be considered as a peripheral interface that can easily be integrated into various SoCs or even ASICs."

To meet the demand in the market to integrate WLAN MAC and modem functions into SoCs, NewLogic developed the digital HiSS interface which migrates all analog functions such as ADC/DAC and PLL out of the modem into the radio. Having a purely digital MAC/Baseband solution supports the migration to smaller geometry technologies independently of mixed signal constraints, to reduce production test time, to improve performance (since the ADC/DACs can benefit from a higher supply voltage on the RF chip) and to offer improved yield. Another benefit of the HiSS interface is the possibility to move the radio up to 3 feet away from the modem - this is ideal for laptop applications where the radio can be placed behind the LCD screen, while the modem remains on the motherboard or on a MiniPCI module. A low-cost ribbon cable can then replace the coax cables that would instead be used to connect the radio on the motherboard to the antennas behind the screen.

The HiSS interface uses 5 standard LVDS pairs running at 240 MHz and one standard digital IO. The respective I and Q data are multiplexed in serial with control and address data within a digital stream. As the NewLogic WiLD radio transceiver contains the functions to detect the presence of a valid input signal (e.g. RSSI, Receiver Signal Strength Indications) without the use of the modem and MAC, the HiSS interface is shut off when no data is transmitted and therefore reduces the overall system power consumption.

Since NewLogic's WiLD IP including the radio transceiver is developed in CMOS technology, the MAC, modem and radio can also be easily integrated onto a single die as a single chip WLAN solution.

NewLogic's WiLD IP with its dualband radio and flexible MAC and modem, is multimode capable offering the .11 a/b/g features required for today's designs. It also already supports the latest .11e (Quality of Service), .11i (Security) and .11h (Power control and dynamic frequency

selection including radar detection for North America and Europe) extensions essential for implementing state-of-the art WiFi solutions.

All WiLD IP blocks are proven in silicon and are available for customers today. Demonstrations of the silicon implementation and evaluation boards are available on request

Source: [www.newlogic.com/](http://www.newlogic.com/)

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