Application Note

21 November 2016

Disabling the RCM3900 Series ASIX Ethernet Controller to reduce heat generation
Customers using the RCM3900 Series Rabbit Core Modules without enabling the TCP/IP stack may experience excess heat generation from the uninitialized ASIX Ethernet controller. Digi recommends using code provided in a new disable_ethernet.c sample to initialize the chip and power down the PHY or put it in standby. You can find the sample code here:

https://github.com/digidotcom/DCRabbit_9/blob/master/Samples/RCM3900/disable_ethernet.c

The sample code defines necessary macros to make use of BOARD_DEPS.LIB, which defines the configuration values specific to each ASIX-based board. The sample then configures external I/O to write to the chip, and writes to the necessary ASIX registers to power down the PHY or put the regulator in standby.

Although written for and tested on the RCM3910, the sample should work on other Rabbit hardware using the Rabbit 3000 chip and ASIX Ethernet controller. Just update the #use "RCM39XX.LIB" statement with the appropriate library name.