
Subject: **FCC 15-407d : Disabling Use of 5.15-5.25 GHz band when connecting external antenna.** Date: **September 23, 2004**

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Author: Jim Archibald

FEATURE DESCRIPTION:

The following describes the method for disabling the use of the 802.11a/h frequencies in the 5.150 to 5.250 GHz band when an external antenna is connected.

FCC specification 15.407d states that “Any U-NII device that operates in the 5.15-5.25 GHz band shall use a transmitting antenna that is an integral part of the device.” The Agere-based Wireless LAN PC-Card (reference design model 8u580) adheres to the above requirement as is described below.

The model 8u580 PC-Card features an external antenna connector switch made by Aliner Enterprises (model 23-302B). The antenna connector is shown as connector J600 in Figure 1. The Aliner receptacle will accept a male connector that runs to an external 5GHz range extending antenna.

When the external antenna is inserted into jack J600 then pins 1 and 2 of J600 are disconnected from each other. When this occurs, the 3.3V DC voltage provided by the DIVERSITY digital signal becomes open across J600 pins 1 and 2. This results in the signal EXTANTSEN being pulled low. The EXTANTSEN output signal runs to the PHY STATUS digital input signal on pin K2 of the Agere WL60040 Media Access Controller (MAC) IC.

The firmware running in the Agere WL60040 MAC device senses the state of PHY STATUS input pin. If PHY STATUS is LOW then the logic implemented in the MAC firmware disables any 802.11 transmission in the 5.15-5.25 GHz U-NII band.

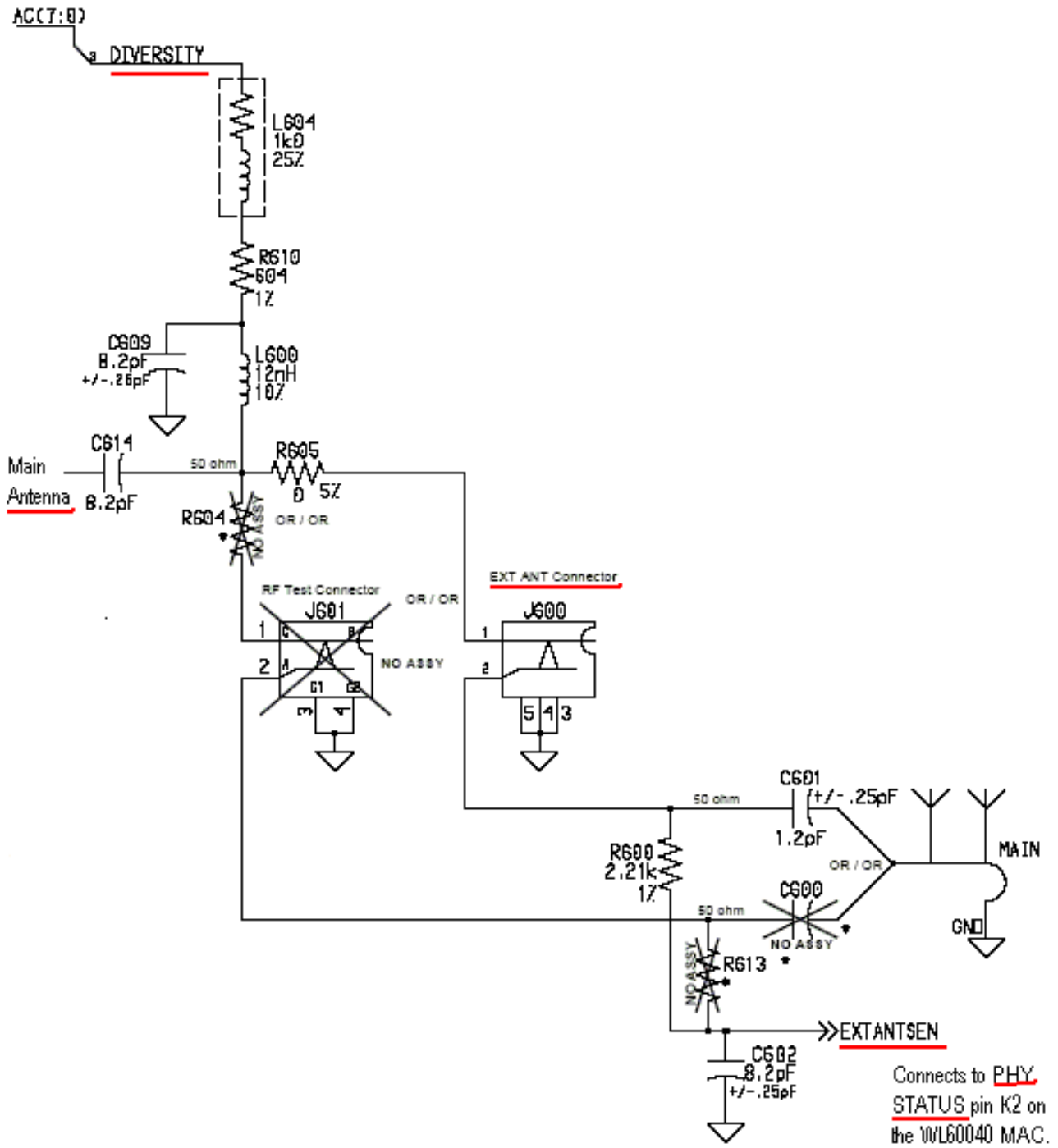


Figure 1. Schematic diagram of logic used in 8u580 PC-Card to disable transmission in the 5.15-5.25 GHz spectrum.