

DESIGN OF WIRELESS LOCAL AREA NETWORK 802.11B COEXISTENCE MECHANISM FOR WPAN

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Abstract

WLAN (802.11b) and WPAN (BT) devices uses different wireless technologies though they operate in the same 2.4 GHz ISM band and both have mechanisms to deal with interference from another similar system, but due to lack of mechanism for coexistence, depending on their characteristics there are (100% in some cases) chances that if these devices operating simultaneously causes interference and will degrade the performance of each other. The effect of interference will depend on the relative location of the two transceivers, observation results shown in the paper. Severity of impact depends on the distance between two. Smaller distance leads to heavy loss of information from both the side, when these devices are collocated at the same platform situation become worst. Since both these technology have a huge market share and simultaneous operation is becoming the necessity. So there required a solution which allow WLAN devices to work simultaneously with WPAN device. Therefore collocated coexistence of WLAN and WPAN is the major problem our approach is to obtain a solution to this problem so that both these device can operate simultaneously at the same time without any loss of information. We use a control logic in the form of state machine. This control logic will constantly monitor the state of the GPIO Pins for the status of WLAN and BT device before it transfers the data.

Keywords: Coexistence, ISM band, WLAN, WPAN