

Design of joint detection for wireless LAN and WiMAX preamble

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Abstrak

WLAN and WiMAX frame structures are preceded by preamble signals. They have some similarities such as consisting of two adjacent signals with repetition patterns. Therefore, this paper introduces a joint detection of WLAN and WiMAX preambles using a common circuit. Time domain detection is proposed in order to avoid FFT involvement that can increase the system complexity and latency. The proposed system is constructed from repetition based auto-correlation and cross-correlation with resources sharing that has lower complexity than the conventional one. Moreover, the fixed point simulation shows that the proposed circuit has satisfied the receiver minimum sensitivity requirements for both WLAN and WiMAX standards.