

# **POWER AWARE MULTICHANNEL MAC PROTOCOL FOR AD-HOC NETWORKS**

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Frequency hopping is an attractive solution for unlicensed radio devices operating in the U.S. ISM band (902-928 MHz). Spread spectrum systems implementing frequency hopping possess the ability to resist jamming, achieve better channel utilization, provide multiple access under the same bandwidth, and include an inherent security. The Federal Communications Commission (FCC) waives the license requirements in the U.S. ISM band and permits frequency hopping systems to transmit at powers up to +30dBm. Furthermore, power consumption is an important aspect of ad-hoc networks because of the power restraints of wireless systems. Battery operated devices can benefit substantially from a power aware multichannel MAC protocol because it can considerably enhance battery life. A study into power requirements of a wireless node is vital to improve the power awareness of wireless devices used in wireless ad-hoc networks (Mattern & Römer, n.d.).