Use of Overlapping Channels for Expanded Wireless Communications

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WARF: P06353US

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a method for the simultaneous use of overlapping wireless communication channels.

Overview

Wireless communication devices typically operate in one of two bands of the electromagnetic spectrum. The bands are divided into several channels set at center frequencies, but many partially overlap each other. Due to the interference between partially overlapped channels, their simultaneous use generally has been avoided, limiting devices' throughput.

The Invention

UW-Madison researchers have developed a method for the simultaneous use of overlapping wireless communication channels, providing substantially higher throughput. They developed criteria for characterizing the interference levels that can arise as a result of any given arrangement of wireless communication devices operating at different channels. This provides a method for controlling interference levels, allowing the overlap of channels while keeping interference within acceptable, predetermined bounds.

Applications

- Wireless communications

Key Benefits

- Allows the use of more adjacent channels than conventional methods, substantially increasing throughput
- Devices may be programmed to self-adjust when encountering a preprogrammed maximum level of interference.

Additional Information

For More Information About the Inventors

- Suman Banerjee

Related Technologies

- See WARF reference number P06380US for a related technology.

Tech Fields

- Information Technology : Networking & telecommunications

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