Measurement-based Analysis of Doppler Characteristics for Ultra-Wideband Radio Channels in an Office Environment

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Abstract:

In this work, an analysis of the Doppler characteristics for Ultra-Wideband indoor communication is presented. Channel sounding measurements ranging from 3.1 to 10.6 GHz
were performed over the course of several days in an occupied office environment, with the help of a network analyzer. Based on these measurements, we analyze the behavior of both the Doppler spread and RMS Doppler spread in the Ultra-Wideband frequency band. Our measurements indicate a frequency-dependent behavior for both parameters, where consistent values could be measured with respect to time of observation.