Chair of
„Secure Digital Circuits“

der Bundeswehr Universität München

Design of an 802.11ax High-Efficiency WLAN Simulation Framework for the Internet of Things

Introduction

The latest WiFi standard 802.11ax High-Efficiency WLAN (HEW), also known as Wi-Fi 6, promises increased spectral efficiency over their predecessors especially by introducing Orthogonal Frequency Division Multiple Access (OFDMA). The support of OFDMA will enable a variety of new Internet-of-Things (IoT) applications demanding for low-cost, low-complexity modem implementations.

Source: mightygadget.co.uk

Short Project Description

The goal of this project is to develop a MATLAB-based simulation platform for the 802.11ax HEW communication standard that enables an analysis of potential low-cost digital-baseband algorithms. MATLAB’s WLAN toolbox can be used as an entry point with a subsequent replacement of key receiver-sided algorithms including those for synchronization, channel estimation and equalization, as well as for Low-Density Parity Check (LDPC) codes.

Prerequisites

- Interest in wireless communication and signal processing
- Matlab programming experience is helpful

What you will learn

You will gain insights in one of the most important wireless communication schemes of our time and get familiar with key digital-baseband algorithms for synchronization, channel estimation and equalization, as well as for forward error correction.

Contact

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