**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Examples of 802.15.4w PHY encodings** | |
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| Abstract | This document contains examples of modulated frames for IEEE Std 802.15.4.w. If it has been approved by the IEEE 802.15 WG, the introduction will contain the date of the approval. All other versions of the document are unofficial drafts. | |
| Purpose | The information in the document is an informative supplement to the standard and is intended to assist implementers in correctly implementing the standard. | |
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## Introduction

This document contains example frame encodings for some of the PHYs in IEEE Std 802.15.4w.

This document has not been approved by IEEE 802.15.

The encodings are provided to the best knowledge of the contributors. Therefore, if you find potential errors in the encodings please do not hesitate to contact the authors of this document.

## Split Mode

This section gives examples for test vectors for the 802.15.4w split mode. The structure follows the split mode reference modulator given in Figure 1. Some blocks offer parameter options, e.g. different FEC types. In these cases the different options are handled separately.



Figure 1: 802.15.4w split mode reference modulator

### FEC

#### Convolutional Code Rate 1/2

Configuration:

* Input data length xxx bits
* …

Input Data:



Output Data:



#### Convolutional Code Rate 1/3

#### LDPC Code Rate 1/4 Single LDPC Codeword

#### LDPC Code Rate 1/4 Multiple LDPC Codewords

### Data Whitening

### Codeword Spitting and Interleaving

#### Convolutional Code Rate 1/2

#### Convolutional Code Rate 1/3

#### LDPC Code Rate 1/4 Single LDPC Codeword

#### LDPC Code Rate 1/4 Multiple LDPC Codewords

### Mux

### Spreading

### Time and Channel Assignment

### Precoding

### FSK Bit-to-symbol mapping

### FSK Modulation

## 3 Non-split Mode