

# Radio PHY

This page describes the physical radio configuration for use in sending packets over the air.

## 915MHz Mode

This is the primary (and currently, only) PHY configuration supported. It runs on 2MHz wide channels in the 915MHz ISM band, supporting data rates up to 250kbps.

## Radio Configuration

- Modulation scheme: ~~2GFSK, 250kbps data rate~~ OQPSK, 250ksym/sec (500kbps), 500kHz deviation
- DSSS: Code length 32, spreading factor 8 (4 bits/chip), chip base 74 4A C3 9B
- Data whitening: Bit 0, PN9 polynomial, seed 0x01F0
- Preamble: 32 bits
  - The precise value of the preamble is one of the chip codes, so it's not specified
- Sync word: ??
  - TODO: can this be used as address filtering for devices?
- Forward error correction: None
- Checksum: CCITT\_16, seed 0xffff, includes packet header

[https://community.silabs.com/s/article/understanding-dsss-encoding-and-decoding-on-efr32-devices?language=en\\_US](https://community.silabs.com/s/article/understanding-dsss-encoding-and-decoding-on-efr32-devices?language=en_US)

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