CLAIMS

1. A method for indicating a data rate of a packet, the method performed by a transmitting device and comprising: selecting the data rate of a data field of the packet; selecting a sequence; indicating a reference pattern to a receiving device, the reference pattern based on the selected sequence; selecting a first pattern including two instances of the selected sequence when the selected data rate is a low data rate, the first pattern configured to generate two positive peaks in a signal based on a correlation between the first pattern and the reference pattern; selecting a second pattern including one instance of a logical complement of the selected sequence when the selected data rate is a high data rate, the second pattern configured to generate one negative peak in the signal based on a correlation between the second pattern and the reference pattern; and transmitting the packet to the receiving device, the preamble of the packet including either the first pattern or the second pattern based on the selected data rate.

2. The method of claim 1, wherein the first number is greater than the second number, the low data rate is approximately 62.5 kb/s, and the high data rate is approximately 250 kb/s.

3. The method of claim 1, wherein the second structure further includes one or more instances of a second sequence or one or more instances of a logical complement of the second sequence.

4. The method of claim 1, wherein the second structure further includes one or more instances of a pad sequence.

5. The method of claim 1, wherein the selected pattern is embedded within a Sync field of the packet preamble.

6. The method of claim 1, wherein the selected pattern is transmitted by modulating an OFDM waveform using an ON-OFF keying modulation scheme.

7. The method of claim 1, further comprising: selecting a length of the preamble based on the selected data rate.

8. The method of claim 1, wherein the reference pattern is derived from the sequence by: converting each logical low bit of the sequence to a negative one; and converting each logical high bit of the sequence to a positive one.

9. The method of claim 1, wherein the selected sequence comprises a maximum length sequence (MLS).

10. The method of claim 1, wherein the selected sequence is configured to indicate the first data rate, and the logical complement of the selected sequence is configured to indicate the second data rate.

11. The method of claim 1, wherein the first pattern is configured to generate noise in the correlation signal when the first pattern and the reference pattern are misaligned in time.

12. A transmitting device, comprising: one or more processors; and a memory storing instructions that, when executed by the one or more processors, cause the transmitting device to: select a data rate of a data field of the packet; select a sequence; indicate a reference pattern to a receiving device, the reference pattern based on the selected sequence; select a first pattern including two instances of the selected sequence when the selected data rate is a low data rate, the first pattern configured to generate two positive peaks in a signal based on a correlation between the first pattern and the reference pattern; select a second pattern including one instance of a logical complement of the selected sequence when the selected data rate is a high data rate, the second pattern configured to generate one negative peak in the signal based on a correlation between the second pattern and the reference pattern; and transmit the packet to the receiving device, the preamble of the packet including either the first pattern or the second pattern based on the selected data rate.

13. The transmitting device of claim 12, wherein the first number is greater than the second number, the low data rate is approximately 62.5 kb/s, and the high data rate is approximately 250 kb/s.

14. The transmitting device of claim 12, wherein the second structure further includes one or more instances of a second sequence or one or more instances of a logical complement of the second sequence.

15. The transmitting device of claim 12, wherein the second structure further includes one or more instances of a pad sequence.

16. The transmitting device of claim 12, wherein the selected pattern is embedded within a Sync field of the packet preamble.

17. The transmitting device of claim 12, wherein the selected pattern is transmitted by modulating an OFDM waveform using an ON-OFF keying modulation scheme.

18. The transmitting device of claim 12, wherein execution of the instructions further causes the transmitting device to: select a length of the preamble based on the selected data rate.

19. The transmitting device of claim 12, wherein the reference pattern is derived from the sequence by: converting each logical low bit of the sequence to a negative one; and converting each logical high bit of the sequence to a positive one.

20. The transmitting device of claim 12, wherein the selected sequence comprises a maximum length sequence (MLS).

21. The method of claim 1, wherein the selected sequence is configured to indicate the first data rate, and the logical complement of the selected sequence is configured to indicate the second data rate.

22. The transmitting device of claim 12, wherein the first pattern is configured to generate noise in the correlation signal when the first pattern and the reference pattern are misaligned in time.

23. A non-transitory computer-readable medium storing one or more programs containing instructions that, when executed by one or more processors of an apparatus, cause the apparatus to perform operations comprising: selecting a data rate of a data field of a packet to be transmitted to a receiving device selecting a sequence; indicating a reference pattern to the receiving device, the reference pattern based on the selected sequence; selecting a first pattern including two instances of the selected sequence when the selected data rate is a low data rate, the first pattern configured to generate two positive peaks in a signal based on a correlation between the first pattern and the reference pattern; selecting a second pattern including one

instance of a logical complement of the selected sequence when the selected data rate is a high data rate, the second pattern configured to generate one negative peak in the signal based on a correlation between the second pattern and the reference pattern; and transmitting the packet to the receiving device, the preamble of the packet including either the first pattern or the second pattern based on the selected data rate.

24. The non-transitory computer-readable medium of claim 23, wherein the first number is greater than the second number, the low data rate is approximately 62.5 kb/s, and the high data rate is approximately 250 kb/s.

25. The non-transitory computer-readable medium of claim 23, wherein the second structure further includes one or more instances of a second sequence or one or more instances of a logical complement of the second sequence.

26. The non-transitory computer-readable medium of claim 23, wherein the second structure further includes one or more instances of a pad sequence.

27. The non-transitory computer-readable medium of claim 23, wherein the selected pattern is embedded within a Sync field of the packet preamble.

28. The non-transitory computer-readable medium of claim 23, wherein execution of the instructions causes the apparatus to perform operations further comprising: selecting a length of the preamble based on the selected data rate.

29. The non-transitory computer-readable medium of claim 23, wherein the reference pattern is derived from the sequence by: converting each logical low bit of the sequence to a negative one; and converting each logical high bit of the sequence to a positive one.

30. An apparatus, comprising: means for selecting a data rate of a data field of a packet to be transmitted to a receiving device; means for selecting a sequence; means for indicating a reference pattern to the receiving device, the reference pattern based on the selected sequence; means for selecting a first pattern including two instances of the selected sequence when the selected data rate is a low data rate, the first pattern configured to generate two positive peaks in a signal based on a correlation between the first pattern and the reference pattern; means for selecting a second pattern including one instance of a logical complement of the selected sequence when the selected data rate is a high data rate, the second pattern configured to

generate one negative peak in the signal based on a correlation between the second pattern and the reference pattern; and means for transmitting the packet to the receiving device, the preamble of the packet including either the first pattern or the second pattern based on the selected data rate.