WHAT IS CLAIMED IS:

1. A method for uplink transmission comprising:

determining a channel loss that occurs along a communication channel between an access point and a tag;

determining an uplink spreading factor based at least in part on the channel loss and at least in part on a predetermined power at which the access point is to receive an uplink signal from the tag, wherein the uplink signal comprises a plurality of symbols, and wherein the uplink spreading factor comprises a number of chips per symbol.

spreading the uplink signal with the uplink spreading factor; and

transmitting the uplink signal from the tag to the access point.

2. The method of claim 1, further comprising receiving a downlink signal from the access point, wherein the channel loss is determined based at least in part on the downlink signal.

3. The method of claim 2, wherein the channel loss is determined based at least in part on a known power at which the access point transmitted the downlink signal.

4. The method of claim 2, wherein the channel loss is determined based at least in part on a downlink spreading factor used by the access point to spread the downlink signal.

5. The method of claim 1, further comprising determining an uplink power at which to transmit the uplink signal, wherein the uplink power is determined based at least in part on the channel loss and at least in part on the predetermined power.

6. The method of claim 1, wherein the uplink signal is transmitted at full power if the uplink spreading factor is not a minimum spreading factor.

7. The method of claim 6, further comprising:

if the uplink spreading factor is the minimum spreading factor, determining whether transmission of the uplink signal at a reduced power allows the uplink signal to be received by the access point at the predetermined power; and

transmitting the uplink signal at the reduced power if it is determined that the reduced power allows the uplink signal to be received by the access point at the predetermined power.

8. A tag comprising:

a processor configured to

determine a channel loss that occurs along a communication channel between an access point and a tag; and

determine an uplink spreading factor based at least in part on the channel loss and at least in part on a predetermined power at which the access point is to receive an uplink signal from the tag, wherein the uplink signal comprises a plurality of symbols, and wherein the uplink spreading factor comprises a number of chips per symbol;

a pseudo-noise spreader operatively coupled to the processor and configured to spread the uplink signal with the uplink spreading factor; and

a transmitter operatively coupled to the processor and configured to transmit the uplink signal from the tag to the access point.

9. The tag of claim 8, further comprising a receiver operatively coupled to the processor and configured to receive a downlink signal from the access point, wherein the processor determines the channel loss based at least in part on the downlink signal.

10. The tag of claim 9, wherein the processor determines the channel loss based at least in part on a known power at which the access point transmitted the downlink signal.

11. The tag of claim 9, wherein the processor determines the channel loss based at least in part on a downlink spreading factor used by the access point to spread the downlink signal.

12. The tag of claim 8, wherein the processor is further configured to determine an uplink power at which to transmit the uplink signal, wherein the uplink power is determined based at least in part on the channel loss and at least in part on the predetermined power.

13. The tag of claim 8, wherein the transmitter transmits the uplink signal at full power if the uplink spreading factor is not a minimum spreading factor.

14. The tag of claim 13, wherein:

the processor is further configured to determine whether transmission of the uplink signal at a reduced power allows the uplink signal to be received by the access point at the predetermined power if the uplink spreading factor is the minimum spreading factor; and

the transmitter is configured to transmit the uplink signal at the reduced power if it is determined by the processor that the reduced power allows the uplink signal to be received by the access point at the predetermined power.

15. A system comprising:

an access point comprising

a first transmitter configured to transmit a downlink signal along a communication path to a tag; and

the tag comprising

a receiver configured to receive the downlink signal from the access point;

a processor operatively coupled to the receiver and configured to

determine a channel loss that occurs along the communication channel between the access point and the tag, wherein the channel loss is determined based at least in part on the downlink signal; and

determine an uplink spreading factor based at least in part on the channel loss and at least in part on a predetermined power at which the access point is to receive an uplink signal from the tag, wherein the uplink signal comprises a plurality of symbols, and wherein the uplink spreading factor comprises a number of chips per symbol.

a pseudo-noise spreader operatively coupled to the processor and configured to spread the uplink signal with the uplink spreading factor; and

a second transmitter operatively coupled to the processor and configured to transmit the uplink signal from the tag to the access point.

16. The system of claim 15, wherein the processor of the tag determines the channel loss based at least in part on a known power at which the access point transmitted the downlink signal.

17. The system of claim 15, wherein the processor of the tag determines the channel loss based at least in part on a downlink spreading factor used by the access point to spread the downlink signal.

18. The system of claim 15, wherein the processor of the tag is further configured to determine an uplink power at which to transmit the uplink signal, wherein the uplink power is determined based at least in part on the channel loss and at least in part on the predetermined power.

19. The system of claim 15, wherein the second transmitter transmits the uplink signal at full power if the uplink spreading factor is not a minimum spreading factor.

20. The system of claim 19, wherein:

the processor of the tag is further configured to determine whether transmission of the uplink signal at a reduced power allows the uplink signal to be received by the access point at the predetermined power if the uplink spreading factor is the minimum spreading factor; and

the second transmitter is configured to transmit the uplink signal at the reduced power if it is determined by the processor that the reduced power allows the uplink signal to be received by the access point at the predetermined power.

CLAIMS

1. A method for uplink transmission comprising:

determining a channel loss that occurs along a communication channel between an access point and a tag;

determining an uplink spreading factor based at least in part on the channel loss and at least in part on a predetermined power at which the access point is to receive an uplink signal from the tag, wherein the uplink signal comprises a plurality of symbols, and wherein the uplink spreading factor comprises a number of chips per symbol;

spreading the uplink signal with the uplink spreading factor; and

transmitting the uplink signal from the tag to the access point.

2. The method of claim 1, further comprising receiving a downlink signal from the access point, wherein the channel loss is determined based at least in part on the downlink signal.

3. The method of claim 2, wherein the channel loss is determined based at least in part on a known power at which the access point transmitted the downlink signal.

4. The method of claim 2, wherein the channel loss is determined based at least in part on a downlink spreading factor used by the access point to spread the downlink signal.

5. The method of claim 1, further comprising determining an uplink power at which to transmit the uplink signal, wherein the uplink power is determined based at least in part on the channel loss and at least in part on the predetermined power.

6. The method of claim 1, wherein the uplink signal is transmitted at full power if the uplink spreading factor is not a minimum spreading factor.

7. The method of claim 6, further comprising:

if the uplink spreading factor is the minimum spreading factor, determining whether transmission of the uplink signal at a reduced power allows the uplink signal to be received by the access point at the predetermined power; and

transmitting the uplink signal at the reduced power if it is determined that the reduced power allows the uplink signal to be received by the access point at the predetermined power.

8. A tag comprising:

a processor configured to

determine a channel loss that occurs along a communication channel between an access point and a tag; and

determine an uplink spreading factor based at least in part on the channel loss and at least in part on a predetermined power at which the access point is to receive an uplink signal from the tag, wherein the uplink signal comprises a plurality of symbols, and wherein the uplink spreading factor comprises a number of chips per symbol;

a pseudo-noise spreader operatively coupled to the processor and configured to spread the uplink signal with the uplink spreading factor; and

a transmitter operatively coupled to the processor and configured to transmit the uplink signal from the tag to the access point.

9. The tag of claim 8, further comprising a receiver operatively coupled to the processor and configured to receive a downlink signal from the access point, wherein the processor determines the channel loss based at least in part on the downlink signal.

10. The tag of claim 9, wherein the processor determines the channel loss based at least in part on a known power at which the access point transmitted the downlink signal.

11. The tag of claim 9, wherein the processor determines the channel loss based at least in part on a downlink spreading factor used by the access point to spread the downlink signal.

12. The tag of claim 8, wherein the processor is further configured to determine an uplink power at which to transmit the uplink signal, wherein the uplink power is determined based at least in part on the channel loss and at least in part on the predetermined power.

13. The tag of claim 8, wherein the transmitter transmits the uplink signal at full power if the uplink spreading factor is not a minimum spreading factor.

14. The tag of claim 13, wherein:

the processor is further configured to determine whether transmission of the uplink signal at a reduced power allows the uplink signal to be received by the access point at the predetermined power if the uplink spreading factor is the minimum spreading factor; and

the transmitter is configured to transmit the uplink signal at the reduced power if it is determined by the processor that the reduced power allows the uplink signal to be received by the access point at the predetermined power.

15. A system comprising:

an access point comprising

a first transmitter configured to transmit a downlink signal along a communication path to a tag; and

the tag comprising

a receiver configured to receive the downlink signal from the access point;

a processor operatively coupled to the receiver and configured to

determine a channel loss that occurs along the communication channel between the access point and the tag, wherein the channel loss is determined based at least in part on the downlink signal; and

determining an uplink spreading factor based at least in part on the channel loss and at least in part on a predetermined power at which the access point is to receive an uplink signal from the tag, wherein the uplink signal comprises a plurality of symbols, and wherein the uplink spreading factor comprises a number of chips per symbol;

a pseudo-noise spreader operatively coupled to the processor and configured to spread the uplink signal with the uplink spreading factor; and

a second transmitter operatively coupled to the processor and configured to transmit the uplink signal from the tag to the access point.

16. The system of claim 15, wherein the processor of the tag determines the channel loss based at least in part on a known power at which the access point transmitted the downlink signal.

17. The system of claim 15, wherein the processor of the tag determines the channel loss based at least in part on a downlink spreading factor used by the access point to spread the downlink signal.

18. The system of claim 15, wherein the processor of the tag is further configured to determine an uplink power at which to transmit the uplink signal, wherein the uplink power is determined based at least in part on the channel loss and at least in part on the predetermined power.

19. The system of claim 15, wherein the second transmitter transmits the uplink signal at full power if the uplink spreading factor is not a minimum spreading factor.

20. The system of claim 19, wherein:

the processor of the tag is further configured to determine whether transmission of the uplink signal at a reduced power allows the uplink signal to be received by the access point at the predetermined power if the uplink spreading factor is the minimum spreading factor; and

the second transmitter is configured to transmit the uplink signal at the reduced power if it is determined by the processor that the reduced power allows the uplink signal to be received by the access point at the predetermined power.