

CLAIMS

What is claimed is:

1. A wireless transmit/receive unit (WTRU) comprising:
 - one or more antennas;
 - a first transceiver operatively coupled to the one or more antennas, the one or more antennas and the first transceiver configured to receive a first signal from a network using zero energy of the WTRU;
 - the one or more antennas and the first transceiver further configured to extract energy from the first signal;
 - the first transceiver further configured to examine a separation in time between energy threshold events to decode an energy signature of the first signal;
 - the first transceiver further configured to activate a second transceiver operatively coupled to the one or more antennas if the decoded energy signature matches a stored energy signature, wherein the second transceiver is powered by the WTRU; and
 - the one or more antennas and the second transceiver configured to receive a second signal from the network.
2. The WTRU of claim 1, wherein the energy threshold events are generated by determining that an amount of the extracted energy stored in a temporary storage element exceeds a threshold.
3. The WTRU of claim 2, wherein the separation in time between energy threshold events is based on one or more of a capacity of the temporary storage element and a configured value of the threshold.
4. The WTRU of claim 1, wherein the energy threshold events are converted to a digital signal by transferring the extracted energy from a temporary storage element to a permanent storage element.
5. The WTRU of claim 1, wherein the first signal comprises one or more sections of different time duration and amplitudes with a constant energy.
6. The WTRU of claim 1, wherein the first transceiver comprises a passive receiver that is powered only by the first signal.
7. The WTRU of claim 1, wherein the second transceiver is powered by a battery.
8. The WTRU of claim 1, wherein the second transceiver comprises a primary transceiver.

9. The WTRU of claim 1, wherein the first transceiver is operatively coupled to a first antenna of the one or more antennas and the second transceiver is operatively coupled to a second antenna of the one or more antennas.

10. The WTRU of claim 1, wherein the extracting and the examination are performed concurrently.

11. The WTRU of claim 1, wherein the stored energy signature consists of a start sequence that is required to initiate the activation of the second transceiver.

12. A wireless transmit/receive unit (WTRU) comprising:

one or more antennas;

a first transceiver operatively coupled to the one or more antennas, the one or more antennas and the first transceiver configured to receive a first signal from a network using zero energy of the WTRU;

the one or more antennas and the first transceiver further configured to extract energy from the first signal;

the first transceiver further configured to examine a separation in time between energy threshold events to decode an energy signature of the first signal, wherein the energy threshold events are generated by determining that an amount of the extracted energy stored in a temporary storage element exceeds a threshold, and wherein the separation in time between energy threshold events is based on one or more of a capacity of the temporary storage element and a configured value of the threshold;

the first transceiver further configured to convert the energy threshold events to a digital signal by transferring the extracted energy from a temporary storage element to a permanent storage element;

the first transceiver further configured to activate a second transceiver operatively coupled to the one or more antennas if the decoded energy signature matches a stored energy signature, wherein the second transceiver is powered by the WTRU; and

the one or more antennas and the second transceiver configured to receive a second signal from the network.

13. A method for use in a wireless transmit/receive unit (WTRU), the method comprising:

receiving a first signal from a network using a first transceiver, wherein the first transceiver uses zero energy from the WTRU;

extracting energy from the first signal and examining a separation in time between energy threshold events to decode an energy signature of the first signal;

activating a second transceiver operatively coupled to the one or more antennas if the decoded energy signature matches a stored energy signature, wherein the second transceiver is powered by the WTRU; and

receiving a second signal from the network using the second transceiver powered by the WTRU.

14. The method of claim 13, further comprising:

generating the threshold events by determining that an amount of the extracted energy stored in a temporary storage element exceeds a threshold.

15. The method of claim 14, wherein the separation in time between energy threshold events is based on one or more of a capacity of the temporary storage element and a configured value of the threshold.

16. The method of claim 13, further comprising:

converting the energy threshold events to a digital signal by transferring the extracted energy from a temporary storage element to a permanent storage element.

17. The method of claim 13, wherein the first signal comprises one or more sections of different time duration and amplitudes with a constant energy.

18. The method of claim 13, wherein the first transceiver comprises a passive receiver that is powered only by the first signal.

19. The method of claim 13, wherein the second transceiver is powered by a battery.

20. The method of claim 13, wherein the second transceiver comprises a primary transceiver.

21. The method of claim 13, wherein the first transceiver is operatively coupled to a first antenna of the one or more antennas and the second transceiver is operatively coupled to a second antenna of the one or more antennas.

22. The method of claim 13, wherein the extracting and the examination are performed concurrently.

23. The method of claim 13, wherein the stored energy signature consists of a start sequence that is required to initiate the activation of the second transceiver.