WHAT IS CLAIMED IS:

1. A system comprising:

an ~~in vivo~~ ingestible transmitter configured to be disrupted following ingestion into a living body, the ingestible transmitter configured to transmit an encoded signal using the living body as a conductive medium;

a transbody functionality module to facilitate communication of the encoded signal, the transbody functionality module comprising a collision avoidance functionality module comprising a duty cycle modulation module to provide duty cycle modulation functionality, the duty cycle modulation module comprising a dithering module to dither a duty cycle and a spread spectrum module to spread transmissions from the ingestible transmitter among multiple frequencies; and

a receiver to receive the encoded signal.

2. The system of claim 1, wherein the transbody functionality module is selected from the group consisting essentially of a beacon functionality module, and a frequency hopping functionality module~~, and a collision avoidance functionality module~~.

3. The system of claim 2, wherein the beacon functionality module comprises at least one element selected from the group consisting essentially of:

a beacon wakeup module to provide beacon wakeup functionality;

a beacon signal module to provide beacon signal functionality;

a wave / frequency module to provide a continuous wave and a single frequency tone;

a multiple frequency module to provide multiple frequencies; and

a modulated signal module to provide at least one modulated encoded signal.

4. The system of claim 3, wherein a frequency ratio of a beacon and data channel is invariant to frequency error in an ingestible event marker system to provide additional assurance of detection of the encoded signal.

5. The system of claim 3, wherein the frequency hopping functionality module comprises a random module to provide random frequency hops on a narrow band transmitted signal.

6. The system of claim 3, wherein the collision avoidance functionality module comprises at least one element selected from the group consisting essentially of:

a transmitter module to provide a first ~~in vivo~~ ingestible transmitter transmitting at a first frequency and a second in vivo transmitter transmitting at a second frequency module;

~~a duty cycle modulation module to provide duty cycle modulation functionality;~~

a retransmit randomization module to provide random retransmittals; and

a spread spectrum module to provide spread spectrum functionality.

7. The system of claim 6, wherein the duty cycle modulation module includes a dithering module to dither a duty cycle and a frequency spread module to spread the transmissions among multiple frequencies.

8. The system of claim 6, wherein the transmitter module~~s~~ comprises a multiple band pass filter module to provide multiple band pass filtering by different devices wherein respective encoded signals are filtered by respective band pass filters.

9. A method comprising:

transmitting, via an ~~in vivo~~ ingestible transmitter configured to be disrupted following ingestion into a living body, an encoded signal using the living body as a conduction medium;

facilitating, via a transbody functionality module, communication of the encoded signal, wherein the transbody functionality module comprises a collision avoidance functionality module comprising a duty cycle modulation module to provide duty cycle modulation functionality, the duty cycle modulation module comprising a dithering module to dither a duty cycle and spread spectrum module to spread transmissions from the ingestible transmitter among multiple frequencies, and wherein facilitating comprises modulating a duty cycle and wherein the modulating a duty cycle includes dithering the duty cycle and spreading among frequencies; and

receiving, via a receiver, the encoded signal.

10. The method of claim 9, further comprising:

providing characteristics of the encoded signal, wherein the characteristics optimize power consumption to facilitate the receiver in at least one of the following: spending maximum

time in an inactive mode, waking up quickly, and waking up during a period of high probability that the transmitter is present.

11. The method of claim 9, wherein the facilitating, via ~~a~~ the transbody functionality module, communication of the encoded signal comprises at least one of:

facilitating, via a beacon functionality module, communication of the encoded signal;

facilitating, via a frequency hopping functionality module, communication of the encoded signal; and

facilitating, via ~~a~~ the collision avoidance functionality module, communication of the encoded signal.

12. The method of claim 11, wherein the facilitating, via ~~a~~ the beacon functionality module communication of the signal comprises at least one of:

providing beacon wakeup functionality;

providing beacon signal functionality;

generating a continuous wave, single frequency tone;

providing a first frequency that is different from a data signal which is at a second frequency; and

modulating the encoded signal.

13. The method of claim 11, wherein the facilitating, via ~~a~~ the frequency hopping functionality module, communication of the encoded signal comprises generating random frequency hops on a narrow band transmitted signal.

14. The method of claim 11, wherein the facilitating, via ~~a~~ the collision avoidance functionality module, communication of the encoded signal comprises at least one of:

transmitting, via a first in vivo transmitter at a first frequency and transmitting, via a second in vivo transmitter, at a second frequency;

modulating a duty cycle;

retransmitting randomly; and

spreading across a frequency spectrum.

15. The method of claim 14, wherein the modulating a duty cycle includes dithering the duty cycle and spreading among frequencies.

16. The method of claim 14, wherein the transmitting at different frequencies comprises providing multiple band pass filtering by different devices wherein respective encoded signals are filtered by respective band pass fillers.

17. The method of claim 9 in a form of a machine-readable medium embodying a set of instructions that, when executed by a machine, causes the machine to perform the method of claim 8.

18. An article, comprising:

a storage medium having instructions, that when executed by a computing platform, result in execution of a method of providing transbody communications employing communication channels in a living body, the method comprising:

transmitting, via an ~~in-vivo~~ ingestible transmitter configured to be disrupted following ingestion into a living body, an encoded signal using the living body as a conduction medium;

facilitating, via a transbody functionality module, communication of the encoded signal, wherein the transbody functionality module comprises a collision avoidance functionality module comprising a duty cycle modulation module to provide duty cycle modulation functionality, the duty cycle modulation module comprising a dithering module to dither a duty cycle and spread spectrum module to spread transmissions from the ingestible transmitter among multiple frequencies, and wherein facilitating comprises modulating a duty cycle and wherein the modulating a duty cycle includes dithering the duty cycle and spreading among frequencies; and

receiving, via a receiver, the encoded signal.

19. The article of claim 18, further comprising:

providing characteristics of the encoded signal, wherein the characteristics optimize power consumption to facilitate the receiver in at least one of the following: spending maximum time in an inactive mode, waking up quickly, and waking up during a period of high probability that the transmitter is present.

20. The article of claim 18, wherein the facilitating, via ~~a~~ the transbody functionality module, communication of the encoded signal comprises at least one of:

facilitating, via a beacon functionality module, communication of the encoded signal;

facilitating, via a frequency hopping functionality module, communication of the encoded signal; and

facilitating, via ~~a~~ the collision avoidance functionality module, communication of the encoded signal.