What is claimed is:

1. A device for communication, the device comprising:

a communication unit comprising:

a support structure;

a partial power source comprising:

a first material deposited onto the support structure; and

a second material deposited onto the support structure and electrically isolated from the first material, wherein the first material and the second material are selected to have a voltage potential difference when in contact with a conducting fluid to provide power to activate the device;

a control module associated with the support structure and electrically connected to the first material and the second material for controlling the conductance between the first material and the second material such that a change in conductance between the first material and the second material alters the device's current signature and thereby encodes information in the current signature; and

a unit in communication with the control module and associated with the support structure to at least either receive a signal from an external source or send a signal to the external source;

~~2. The device of claim 1, further comprising~~ a sealed housing defining a cavity, wherein the communication unit is positioned within the cavity; and

~~3. The device of claim 2, further comprising~~ a release material within the cavity, wherein the unit generates a release command to cause the release material to expand and open the sealed housing.

42. The device of claim 31, wherein the unit includes a mechanism that extends outward from the unit to penetrate a wall portion of the sealed housing and allow the communication unit to be separated from the sealed housing.

53. The device of claim 21, wherein the unit includes a rod that is mechanically activated to tear a wall portion of the sealed housing and cause the sealed housing to open and allow the communication unit to come into contact with the conducting fluid.

64. The device of claim 1 wherein the unit measures at least one characteristic associated with an environment immediately surrounding the communication unit.

75. The device of claim 6 4 further comprising a release apparatus secured to the support structure and in communication with the unit, wherein the release apparatus receives the release command from the unit and in response to the signal causes the device to be exposed to the conducting fluid.

86. The device of claim 75, wherein the cavity includes a material that is in communication with the release apparatus and the release apparatus causes the material to expand within the cavity such that the sealed housing breaks apart.

97. The device of claim 75, wherein the release apparatus includes an expanding material that expands within the cavity to cause the sealed housing to break apart.

108. The device of claim 75, wherein the release apparatus includes a rod that is mechanically extended from the release apparatus within the cavity of the sealed housing to cause the sealed housing to break apart.

119. The device of claim 1, wherein after the device comes into contact with the conducting fluid, a signal received at the unit is sent to the control module and the

control module reduce the power generated by the device by altering the conductance between the first material and the second material.

~~12~~10. The device of claim 1, wherein the unit sends information associated with the environment of the device to an external source.

~~13~~11. The device of claim 1 wherein the unit comprises an impedance measurement unit coupled to the first material at one output and coupled to the second material at another output to measure the impedance of the surrounding environment and to control the device.

~~14~~12. The device of claim ~~13~~11, wherein the unit sends an impedance signal to the control module and the control module alters the conductance between the first material and the second material upon receipt of the impedance signal.

~~15~~13. The device of claim of ~~14~~ 12 wherein the impedance measuring unit sends the impedance signal to the control module to indicate to the control module that the impedance of the surrounding environment is below the designated value and the device can be activated.

~~16~~14. The device of claim 1 wherein the unit receives a deactivate signal from an external source and communicates that information to the control module such that the control module alters the conductance between the first material and the second material in order to prevent generation of a current flow between the first material and second material and thereby deactivate the device.

~~17~~15. The device of claim 1, further comprising a sealed housing defining a cavity, wherein the communication unit is positioned within the cavity and further comprising an electroactive matrix within the cavity, wherein the unit generates voltage to cause the electroactive matrix to expand and open the sealed housing.

~~18~~16. The device of claim 1, wherein after the device comes into contact with the conducting fluid, a signal received at the unit is sent to the control module and the control module adjusts conductance in response to impedance to at least one of maintain a constant power output and maintain power above a minimum threshold.

~~19~~17. The device of claim ~~13~~11, wherein after the device comes into contact with the conducting fluid, the impedance measurement is correlated to at least one indicator selected from a group consisting essentially of the following: hydration state, presence of a drug, gastro-intestinal motility/waves, gastric transit time, presence of specific tissue type, and location of specific tissue type.

~~20~~18. The device of claim ~~13~~11, wherein the impedance measurement unit measures impedance at multiple frequencies.