What is claimed is:

1. A multi-modal based electronic device comprising:

at least one instruction and a memory storing a lookup table;

a sensor subsystem configured to sense environmental information, including temperature or humidity, within different distances depending on operating mode; and

a processor configured to operate the electronic device by interpreting the instructor and to direct the operating mode,

wherein the operating mode comprises:

a first mode for sensing first environmental information within a first distance,

a second mode for sensing second environmental information within a second distance greater than the first distance, and

a third mode for sensing third environmental information within a third distance corresponding to an object of interest or a region of interest; and

wherein the sensor subsystem is further configured to:

sense the first environmental information for a first duration in each first cycle under the first mode,

operate in the second mode for a second duration during at least a portion of a remaining time within the first cycle excluding the first duration, and

operate in the third mode for a third duration during at

least a portion of a remaining time excluding both the first duration and the second duration within the first cycle.

2. The multi-modal based electronic device according to claim 1, wherein the electronic device operating in the second mode is used for the calibration of third environmental information sensed by another electronic device located within the second distance.

3. The multi-modal based electronic device according to claim 1, wherein the lookup table includes at least one of heat transfer quantity, heat transfer rate, heat transfer resistance, and thermal conductance related to at least one of thermal conduction, thermal convection, and thermal transmittance.

4. The multi-modal based electronic device according to claim 1, wherein the electronic device is directly attached to a cargo loading space for transportation or to the cargo itself.

5. The multi-modal based electronic device according to claim 1, further comprising a communication module configured to support near-field communication with other electronic devices.

6. A sensing method for environmental information, including temperature or humidity, in a multi-modal based electronic device,

the method comprising:

sensing first environmental information within a first distance according to a first mode;

sensing second environmental information within a second distance that is relatively farther than the first distance according to a second mode during the time when the first environmental information is not being sensed; and

sensing third environmental information within a third distance, which is the distance to an object of interest or a region of interest, according to a third mode during the time when neither the first nor the second environmental information is being sensed,

wherein the sensing of the first environmental information includes storing information indicating a connection relationship with at least one electronic device located within the first distance, or with at least one electronic device located adjacent to an object of interest within an area of interest.