

CLAIMS

1. A system, comprising:
a specimen holder bin comprising a plurality of slots each sized to receive a respective specimen holder;
a gateway node configured to broadcast an interrogation signal to a wireless tag affixed to the specimen holder bin; and
the wireless tag comprising a radio frequency identifier (RFID) circuit, a radio frequency (RF) communication circuit, a processor, a memory storing an identifier (ID) associated with the RFID circuit, and an energy source electrically connected to the RFID circuit, the RF circuit, and the processor, wherein the wireless tag is configured to, responsive to the interrogation signal, broadcast the identifier associated with the RFID circuit to the gateway node.
2. The system of claim 1, wherein the wireless tag is a flexible adhesive tape platform that encapsulates the RFID circuit, the RF circuit, the processor, the memory, and the energy source.
3. The system of claim 1 wherein the wireless tag is affixed to the specimen holder bin by an adhesive.
4. The system of claim 1, further comprising a plurality of specimen holders in respective ones of the slots of the specimen holder bin, wherein each specimen holder of the plurality comprises a respective RFID tag affixed to an exterior surface of the specimen holder, each RFID tag comprising an identifier associated with a respective specimen holder.
5. The system of claim 1, wherein the gateway is further operable to broadcast an interrogation signal to the respective RFID tags of the plurality of specimen holders and, in response to the interrogation signal, the respective RFID tags broadcast the identifiers associated with the plurality of specimen holders to the gateway.
6. The system of claim 5, wherein the gateway is further operable to broadcast an advertising packet to the RF circuit and, in response to receipt of the advertising packet, the RF circuit is operable to establish a communication connection with the gateway.

7. The system of claim 5, wherein the gateway correlates the identifiers associated with the plurality of specimen holders with the identifier of the RF communication circuit.

8. The system of claim 5, wherein the gateway correlates the identifiers associated with the plurality of specimen holders with the identifier of the RFID circuit in the wireless tag on the specimen holder bin.

9. The system of claim 1, wherein the wireless tag is further configured to receive at least two additional signals from additional gateway nodes and to determine, based on the interrogation signal and the two additional signals, a location associated with the specimen holder bin.

10. The system of claim 1, further comprising a gateway operable to broadcast an RF advertising packet to the wireless tag that comprises a request to receive the identifier associated with the RF communication circuit in the wireless tag.

11. The system of claim 10, wherein the RF circuit is a Bluetooth Low Energy circuit.

12. A method comprising:

broadcasting, by a node of a wireless tracking system, an interrogation signal to one or more wireless tags, the one or more wireless tags associated with a plurality of assets;

receiving, by the wireless tracking system, one or more identifiers corresponding to the one or more wireless tags;

determining, by the wireless tracking system based on the received one or more identifiers, an event associated with the plurality of assets; and

transmitting, by the wireless tracking system, an alert of the determined event.

13. The method of claim 12, wherein determining an event associated with the plurality of assets further comprises:

accessing, by the wireless tracking system, a plurality of associated identifiers from a database;

comparing, by the wireless tracking system, the received one or more identifiers to the plurality of associated identifiers of the database; and

identifying, by the wireless tracking system, that the received one or more identifiers is missing an identifier of the plurality of associated identifiers of the database.

14. The method of claim 13, wherein determining an event associated with the plurality of assets further comprises:

accessing, by the wireless tracking system, a plurality of associated identifiers from a database;

comparing, by the wireless tracking system, the received one or more identifiers to the plurality of associated identifiers of the database; and

identifying, by the wireless tracking system, that the received one or more identifiers includes an extraneous identifier not included in the plurality of associated identifiers of the database.

15. The method of claim 13, wherein transmitting an alert of the determined event further comprises transmitting one or more of: an identifier of a wireless tag, a location of the wireless tag, a description of the event, and one or more conditions associated with the event.

16. The method of claim 13, the one or more wireless tags comprise comprising a radio frequency identifier (RFID) circuit, a radio frequency (RF) circuit, a processor, a memory storing an identifier (ID) associated with the RFID circuit, and an energy source electrically connected to the RFID circuit, the RF circuit, and the processor.

17. The method of claim 17, wherein the RF circuit is a Bluetooth Low Energy circuit.

18. The method of claim 13, wherein the determining is performed by the node of the wireless tracking system.

19. The method of claim 13, wherein the plurality of assets are being contained or transported within or as part of a container.

20. The method of claim 19, wherein the container is a specimen holder bin and each of the plurality of assets is a vial.