CLAIMS

1. A method for determining the presence of a mobile device located in a predetermined detection zone within a vehicle, the method comprising:

receiving by a detection module a communication signal;

determining by the detection module that the communication signal was transmitted by a mobile device located within a predetermined detection zone within a vehicle; and

transmitting by a control module a control signal to the mobile device located within the predetermined detection zone.

2. The method of claim 1, comprising transmitting by the detection module a detection signal to the control module when a voltage potential substantially equals a predetermined value, wherein the voltage potential of the predetermined value indicates the presence of the mobile device within the predetermined detection zone.

3. The method of claim 1, comprising:

scanning by the detection module for a plurality of frequency bands associated with the mobile device;

monitoring by the detection module a radiated power level of the communication signal received by the detection module in each of the plurality frequency bands; and

transmitting by the detection module a detection signal to the control module when the measured radiated power level substantially equals at least a predetermined value.

4. The method of claim 1, comprising:

harvesting by the detection module the energy in the received communication signal; and

generating a voltage potential corresponding to the location of the mobile device within the detection zone.

5. The method of claim 1, comprising:

monitoring by the control module a functional system of the vehicle; and

activating the transmission of the control signal by the control module when the monitored functional system is activated and the detection module determines that the communication signal was transmitted by the mobile device located within the predetermined detection zone.

6. The method of claim 5, wherein the functional system of the vehicle is any one of an ignition system, a transmission system, and a sensor.

7. The method of claim 1, comprising jamming by the control module the mobile device.

8. The method of claim 1, comprising jamming by the control module at least one function of the mobile device.

9. The method of claim 1, comprising redirecting by the control module the operation of the mobile device to a hands-free alternate system.

10. An apparatus for determining the presence of a mobile device located in a predetermined detection zone within a vehicle, the apparatus comprising:

a detection module to receiving a communication signal and determine that the communication signal was transmitted by a mobile device located within a predetermined detection zone within a vehicle; and

a control module coupled to the detection module, the control module comprising a jamming module operative to transmit a control signal to the mobile device located within the predetermined detection zone.

11. The apparatus of claim 10, comprising:

a power sensor circuit to detect the energy radiated by the communication signal and convert the energy radiated by the communication signal to a voltage potential; and

a logic module coupled to the power sensor circuit operative to receive a signal indicative of the location of the mobile device and to transmit a detection signal to the control module when the voltage potential substantially equals a predetermined value, wherein the voltage potential of the predetermined value indicates the presence of the mobile device within the predetermined detection zone.

12. The apparatus of claim 10, comprising:

a scanner coupled to the detection module operative to sweep for a plurality of frequency bands associated with the mobile device; and

a power sensor circuit coupled to the scanner, the power sensor circuit operative to monitor a radiated power level of the communication signal received by the detection module in each of the plurality frequency bands.

13. The apparatus of claim 10, comprising:

an energy harvester to harvest the energy in the received communication signal; and

to generate a voltage potential corresponding to the location of the mobile device within the detection zone.

14. A system for determining the presence of a mobile device located in a predetermined detection zone within a vehicle, the apparatus comprising:

a detection module to receiving a communication signal and determine that the communication signal was transmitted by a mobile device located within a predetermined detection zone within a vehicle;

a control module coupled to the detection module, the control module comprising a jamming module operative to transmit a control signal to the mobile device located within the predetermined detection zone; and

a monitoring logic to monitor a functional system of the vehicle activating the transmission of the control signal by the control module when the monitored functional system is activated and the detection module determines that the communication signal was transmitted by the mobile device located within the predetermined detection zone.

15. The system of claim 14, wherein the functional system of the vehicle is any one of an ignition system, a transmission system, and a sensor.

16. The system of claim 14, comprising:

a power sensor circuit to detect the energy radiated by the communication signal and convert the energy radiated by the communication signal to a voltage potential; and

a logic module coupled to the power sensor circuit operative to receive a signal indicative of the location of the mobile device and to transmit a detection signal to the control module when the voltage potential substantially equals a predetermined value, wherein the voltage potential of the predetermined value indicates the presence of the mobile device within the predetermined detection zone.

17. The system of claim 14, comprising:

a scanner coupled to the detection module operative to sweep for a plurality of frequency bands associated with the mobile device; and

a power sensor circuit coupled to the scanner, the power sensor circuit operative to monitor a radiated power level of the communication signal received by the detection module in each of the plurality frequency bands.

18. The system of claim 14, comprising:

an energy harvester to harvest the energy in the received communication signal; and

to generate a voltage potential corresponding to the location of the mobile device within the detection zone.

19. The system of claim 14, comprising jamming by the control module the mobile device.

20. The system of claim 14, comprising jamming by the control module at least one function of the mobile device.

21. The system of claim 14, comprising redirecting by the control module the operation of the mobile device to a hands-free alternate system.

22. A system for detecting the presence of a mobile device within a vehicle, the system comprising:

a control module to transmit a probing signal; and

a detection module to receive a signal indicating the presence of a mobile device within a predetermined detection zone of a vehicle.

23. The system of claim 22, wherein the detection module detects an echo signal in response to the probing signal, wherein the echo signal indicates the presence of the mobile device within the predetermined detection zone.

24. The system of claim 22, wherein the detection module detects a signal transmitted by the mobile device in response to the probing signal, wherein the signal indicates the presence of the mobile device within the predetermined detection zone.

25. The system of claim 22, wherein the predetermined detection zone is in proximity to the driver seat portion of the vehicle.

26. The system of claim 22, wherein the control module and the detection module are combined in one circuit.

27. A method of detecting the presence of a mobile device within a vehicle, the method comprising:

transmitting, by a control module, a probing signal; and

receiving, by a detection module, a signal indicating the presence of a mobile device within a predetermined detection zone of a vehicle.

28. The method of claim 27, comprising:

receiving, by the detection module, an echo signal in response to the probing signal, wherein the echo signal indicates the presence of the mobile device within the predetermined detection zone.

29. The method of claim 27, comprising:

receiving, by the detection module, a signal transmitted by the mobile device in response to the probing signal, wherein the signal indicates the presence of the mobile device within the predetermined detection zone.

CLAIMS

1. A method for determining the presence of a mobile device located in a predetermined detection zone within a vehicle, the method comprising:

receiving by a detection module a communication signal;

determining by the detection module that the communication signal was transmitted by a mobile device located within a predetermined detection zone within a vehicle;

transmitting by a control module a control signal to the mobile device located within the predetermined detection zone; and

scanning by the detection module for a plurality of frequency bands associated with the mobile device;

monitoring by the detection module a radiated power level of the communication signal received by the detection module in each of the plurality frequency bands; and

transmitting by the detection module a detection signal to the control module when the measured radiated power level substantially equals at least a predetermined value.

2. The method of claim 1, comprising transmitting by the detection module a detection signal to the control module when a voltage potential equals a predetermined value, wherein the voltage potential of the predetermined value indicates the presence of the mobile device within the predetermined detection zone.

3. The method of claim 1, comprising:

harvesting by the detection module the energy in the received communication signal; and

generating a voltage potential corresponding to the location of the mobile device within the detection zone.

4. The method of claim 1, comprising:

monitoring by the control module a functional system of the vehicle; and

activating the transmission of the control signal by the control module when the monitored functional system is activated and the detection module determines that the communication signal was transmitted by the mobile device located within the predetermined detection zone.

5. The method of claim 4, wherein the functional system of the vehicle is any one of an ignition system, a transmission system, and a sensor.

6. The method of claim 1, comprising jamming by the control module the mobile device.

7. The method of claim 1, comprising jamming by the control module at least one function of the mobile device.

8. The method of claim 1, comprising redirecting by the control module the operation of the mobile device to a hands-free alternate system.

9. An apparatus for determining the presence of a mobile device located in a predetermined detection zone within a vehicle, the apparatus comprising:

a detection module to receiving a communication signal and determine that the communication signal was transmitted by a mobile device located within a predetermined detection zone within a vehicle;

a control module coupled to the detection module, the control module comprising a jamming module operative to transmit a control signal to the mobile device located within the predetermined detection zone; and

a scanner coupled to the detection module operative to sweep for a plurality of frequency bands associated with the mobile device; and

a power sensor circuit coupled to the scanner, the power sensor circuit operative to monitor a radiated power level of the communication signal received by the detection module in each of the plurality frequency bands.

10. The apparatus of claim 9, comprising:

a power sensor circuit to detect the energy radiated by the communication signal and convert the energy radiated by the communication signal to a voltage potential; and

a logic module coupled to the power sensor circuit operative to receive a signal indicative of the location of the mobile device and to transmit a detection signal to the control module when the voltage potential substantially equals a predetermined value, wherein the voltage potential of the predetermined value indicates the presence of the mobile device within the predetermined detection zone.

11. The apparatus of claim 9, comprising:

an energy harvester to harvest the energy in the received communication signal; and

to generate a voltage potential corresponding to the location of the mobile device within the detection zone.

12. A system for determining the presence of a mobile device located in a predetermined detection zone within a vehicle, the apparatus comprising:

a detection module to receive a communication signal and determine that the communication signal was transmitted by a mobile device located within a predetermined detection zone within a vehicle;

a control module coupled to the detection module, the control module comprising a jamming module operative to transmit a control signal to the mobile device located within the predetermined detection zone; and

a scanner coupled to the detection module operative to sweep for a plurality of frequency bands associated with the mobile device; and

a power sensor circuit coupled to the scanner, the power sensor circuit operative to monitor a radiated power level of the communication signal received by the detection module in each of the plurality frequency bands;

a monitoring logic to monitor a functional system of the vehicle activating the transmission of the control signal by the control module when the monitored functional system is activated and the detection module determines that the communication signal was transmitted by the mobile device located within the predetermined detection zone.

13. The system of claim 12, wherein the functional system of the vehicle is any one of an ignition system, a transmission system, and a sensor.

14. The system of claim 12, comprising:

a power sensor circuit to detect the energy radiated by the communication signal and convert the energy radiated by the communication signal to a voltage potential; and

a logic module coupled to the power sensor circuit operative to receive a signal indicative of the location of the mobile device and to transmit a detection signal to the control module when the voltage potential substantially equals a predetermined value, wherein the voltage potential of the predetermined value indicates the presence of the mobile device within the predetermined detection zone.

15. The system of claim 12, comprising:

an energy harvester to harvest the energy in the received communication signal; and

to generate a voltage potential corresponding to the location of the mobile device within the detection zone.

16. The system of claim 12, comprising jamming by the control module the mobile device.

17. The system of claim 12, comprising jamming by the control module at least one function of the mobile device.

18. The system of claim 12, comprising redirecting by the control module the operation of the mobile device to a hands-free alternate system.