Code:

```
/ Pin definitions
#define IR_SENSOR 2        // IR sensor input
#define RESET_BUTTON 3     // Manual reset button
#define BUZZER 13          // Buzzer
#define VIBRATION 4        // Vibration motor (through relay or transistor)
#define RF_TRANSMIT 5      // Connected to RF transmitter button pin (via transistor)

bool alertTriggered = false;

void setup() {
  pinMode(IR_SENSOR, INPUT);           // IR sensor
  pinMode(RESET_BUTTON, INPUT_PULLUP);   // Button uses internal pull-up
  pinMode(BUZZER, OUTPUT);
  pinMode(VIBRATION, OUTPUT);
  pinMode(RF_TRANSMIT, OUTPUT);

  digitalWrite(BUZZER, LOW);
  digitalWrite(VIBRATION, LOW);
  digitalWrite(RF_TRANSMIT, LOW);

  Serial.begin(9600);
}

void loop() {
  bool drowsy = digitalRead(IR_SENSOR) == LOW;       // Assuming LOW = detection
  bool buttonPressed = digitalRead(RESET_BUTTON) == LOW;

  if (drowsy && !alertTriggered) {
    alertTriggered = true;

    // Activate alerts
    digitalWrite(BUZZER, HIGH);
    digitalWrite(VIBRATION, HIGH);

    // Simulate button press to RF transmitter
    digitalWrite(RF_TRANSMIT, HIGH);
    delay(500); // Hold the signal for 0.5s
    digitalWrite(RF_TRANSMIT, LOW);
```

```
    Serial.println("Drowsiness Detected! Alert Activated.");
  }

  if (alertTriggered && buttonPressed) {
    alertTriggered = false;

    digitalWrite(BUZZER, LOW);
    digitalWrite(VIBRATION, LOW);
    digitalWrite(RF_TRANSMIT, LOW);

    Serial.println("Alert Reset by User.");
  }

  delay(100);
}
```