[first/second] signal based on the [first/second] detected parameter."

113. Accordingly, Green discloses or renders obvious limitations 1[b] and 1[c].

d. 1[d]: "wherein said mode-determining component is further operable to generate a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal"

114. Limitation 1[d] requires that "said mode-determining component is further operable to generate a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal." As I discussed in section VI.B.1.b above, Green's vehicle status determination module 84 or computer program are each the "mode-determining component" of the '952 patent. For the reasons discussed below, Green's vehicle status determination module 84 or computer program are each configured to perform the additional functionality recited in claim 1[d].

115. As noted in section V.D above, I interpret "crash mode signal" as "a signal that indicates detection of a vehicle crash."

116. As discussed further below, it is my opinion that, in performing the method of Green's Figure 11, the vehicle status determination module 84 or computer program determines if an accident condition has occurred, i.e., "generate[s] a crash mode signal," "based on the in-vehicle signal, the first detector

signal and the second detector signal," as required for claim 1[d].

117. In Green, vehicle status determination module 84 or computer program ("mode-determining component") determines if an accident condition has occurred "based on the in-vehicle signal" because crash detection method performed by the devise does not begin to collect additional sensor data and perform the crash detection algorithm of Figure 11 until after the control vehicle status determination module 84 or computer program confirms that the mobile device is actually located in a moving vehicle, i.e., the "mode- determining component" has "generate[d] an in-vehicle signal." Ex. 1005, Green at 13:22-23 ("The process may begin in step 202 by confirming that the mobile device is in fact located in a moving vehicle.").

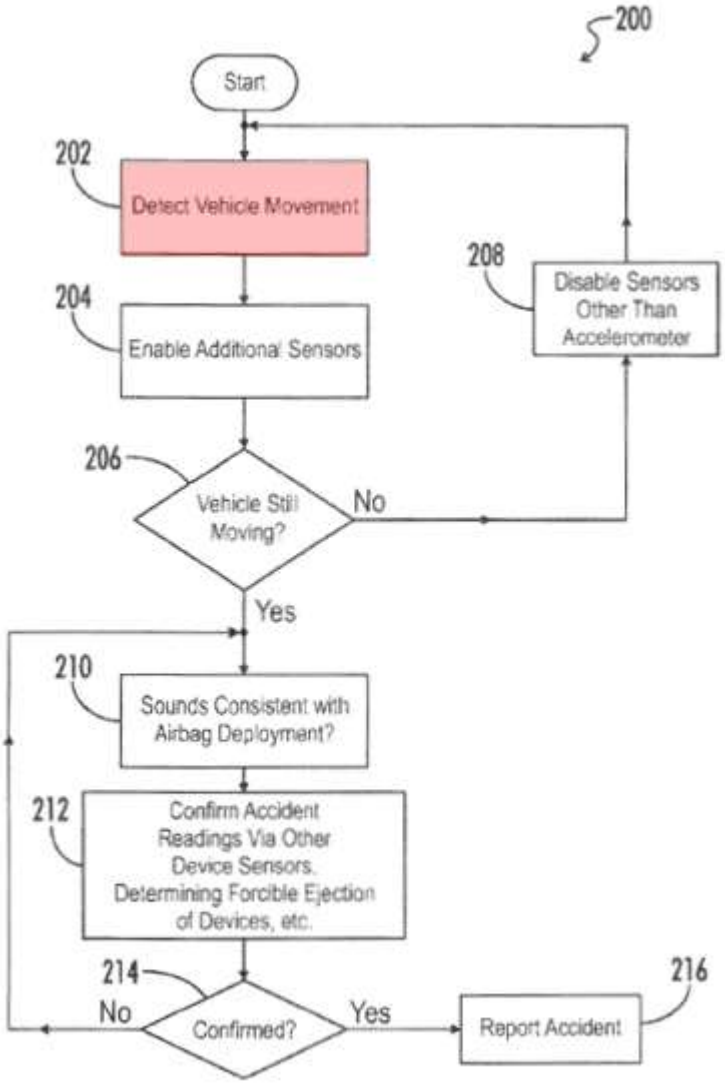


FIG. 11

Id. at Fig. 11 (annotated).

118. At step 210, the mobile device detects a sound from the ***microphone*** "as being consistent with airbag deployment in the vehicle, while the program is in active mode." *Id.* at 14:35-38. Because smartphone microphones generally "are [not] sensitive enough to accurately measure the pressures/impulses/noises

generated by airbag deployment sensor set collects data," Green discloses that "sound detection may desirably be used in conjunction with other data points to detect a crash." *Id.* at 14:55-62.

119. "Therefore, in step 212 the process continues by confirming the accident reading via other device sensors such as the ***accelerometer*** . . . ." *Id.* at 14:63-67. "***If the detected accident condition is in fact confirmed by other sensors*** (i.e., 'yes' in response to the query of step 214) the process continues to step 216 and the program is triggered to report the accident . . . ." *Id.* at 15:3-8.

120. In other words, a POSITA would understand that Green's vehicle status determination module 84 or computer program generates a "crash mode signal" if analysis of audio data from the sound analysis module 82 or computer program (i.e., a "first detector signal") and analysis of accelerometer and speed data from the speed calculation module 80 or computer program (i.e., a "second detector signal") indicates that there has been an accident. In this example, because the '952 patent does not require a specific order in which the "first detector signal" and the "second detector signal" are generated, a POSITA would understand that analysis of the accelerometer and speed data could comprise a "first detector signal" (such that the speed calculation module 80 or computer program are each the "first detecting component") while analysis of the audio data comprises a "second detector signal"

(such that the sound analysis module 82 or computer program are each the "second detecting component").

121. Green's "crash mode signal" is "based on the in-vehicle signal, the first detector signal and the second detector signal" because it is generated (1) only after an in-vehicle determination has been made and (2) based on the parameters detected by the "detecting components" discussed above. Green's disclosure is consistent with the '952 patent specification's disclosure of generating a crash mode signal "based on the in-vehicle signal, the first detector signal and the second detector signal." For example, the '952 patent states, "let crash mode be such a mode wherein predetermined functions of device 202 may be activated, such as automatically contacting emergency services." '952 patent, at 14:36-39. Further, as shown in Figure 3 of the '952 patent, the determination of a crash mode occurs (1) after an in-vehicle signal has been generated at step S304 and (2) based on the parameters detected by the "detecting components" at steps S306 and S308.

122. Accordingly, Green discloses or renders obvious claim 1[d].

123. Taken together, Green renders obvious claim 1.

2. Claim 2

124. Claim 2 depends on claim 1, which Green discloses as discussed above. It is my opinion that Green also discloses claim 2.

125. Claim 2 reads as follows: "The device of claim 1, wherein said first detecting component is operable to detect, as the first parameter, one of the group consisting of magnetic fields in any of three dimensions, electric fields in any of three dimensions, electro-magnetic fields in any of three dimensions, velocity in any of three dimensions, acceleration in any of three dimensions, angular velocity in any of three dimensions, angular acceleration in any of three dimensions, geodetic position, sound, temperature, vibrations in any of three dimensions, pressure in any of three dimensions, biometrics, contents of surrounding atmosphere, a change in electric fields in any of three dimensions, a change in magnetic fields in any of three dimensions, a change in electro-magnetic fields in any of three dimensions, a change in velocity in any of three dimensions, a change in acceleration in any of three dimensions, a change in angular velocity in any of three dimensions, a change in angular acceleration in any of three dimensions, a change in geodetic position in any of three dimensions, a change in sound, a change in temperature, a change in vibrations in any of three dimensions, a change in pressure in any of three dimensions, a change in biometrics, a change in contents of surrounding atmosphere and combinations thereof."

126. As discussed above, Green's sound analysis module 82 or computer program are each "a first detecting component operable [to] detect a first parameter"

as claimed in the '952 patent. *See supra* section VI.B.1.c.

127. As discussed above, Green discloses that the sound analysis module 82 or computer program detect and analyze sound data. *See id.* In light of Green's disclosure above, a POSITA would understand that sound analysis module 82 or computer program are each operable to detect sound and change in sound, both of which are parameters listed in claim 2.

128. Additionally, as discussed above, Green's speed calculation module 80 or computer program are each "a first detecting component operable [to] detect a first parameter" as claimed in the '952 patent. *See supra* section VI.B.1.c.

129. As discussed above, Green discloses that the speed calculation module 80 or computer program detect and analyze acceleration data. *See id.* In light of Green's disclosure above, a POSITA would understand that speed calculation module 80 or computer program are each operable to detect acceleration in any of three dimensions and a change in acceleration in any of three dimensions, both of which are parameters listed in claim 2.

130. Accordingly, Green renders obvious claim 2.

3. Claim 3

131. Claim 3 depends on claims 1 and 2, which Green discloses as discussed above. It is my opinion that Green also discloses claim 3.

132. Claim 3 reads as follows: "The device of claim 2, wherein said first detecting component is operable to detect, as the first parameter, a parameter associated with deployment of an airbag within the vehicle."

133. As discussed above, Green's sound analysis module 82 or computer program are each "a first detecting component operable [to] detect a first parameter" as claimed in the '952 patent. *See supra* section VI.B.1.c. Referring to Figure 11, Green discloses that "[t]he process continues in step 210 when a sound has been detected by the program as being consistent with ***airbag deployment in the vehicle***, while the program is in active mode." Ex. 1005, Green at 14:35-42. Green discloses that "[t]he noises/impulses that the microphone detects can be interpreted in two fashions, by analyzing the sound signature or by detecting the occurrence of a given threshold (measured in for example decibels—dB as is conventionally known in the art)." *Id.* at 14:35-42. A POSITA would understand that from the disclosure of Green that the sound analysis module 82 or computer program (i.e., the "first detecting component") detects and analyzes sound. A POSITA would further understand that sound is "a parameter associated with deployment of an airbag within the vehicle."

134. Accordingly, Green's sound analysis module 82 or computer program are each "said first detecting component [that] is operable to detect, as the first

parameter, a parameter associated with deployment of an airbag within the vehicle," and Green discloses claim 3.

4. Claim 4

135. Claim 4 depends on claims 1 and 2, which Green discloses as discussed above. It is my opinion that Green also discloses claim 4.

136. Claim 4 reads as follows: "The device of claim 2, wherein said first detecting component is operable to detect, as the first parameter, acceleration along a single axis, and wherein said first detecting component is operable to generate the first detector signal when the detected acceleration along the single axis is equal to or greater than a predetermined value."

137. As discussed above, Green's speed calculation module 80 or computer program are each "a first detecting component operable [to] detect a first parameter" as claimed in the '952 patent. *See supra* section VI.B.1.c.

138. With reference to Figure 11, Green states that "in step 212 the process continues by confirming the accident reading via other device sensors such as the accelerometer, in a manner which in various embodiments may be substantially equivalent to that of the process 100 described above." Ex. 1005, Green at 14:63-67.

139. With reference to process 100, Green discloses, for example, that a

crash determination can be made, in part, by detecting whether "[i]f at any point a vehicle acceleration reading is determined to be greater than the first threshold [of 3 Gs]," which is indicative of an accident. *Id.* at 10:62-11:4.

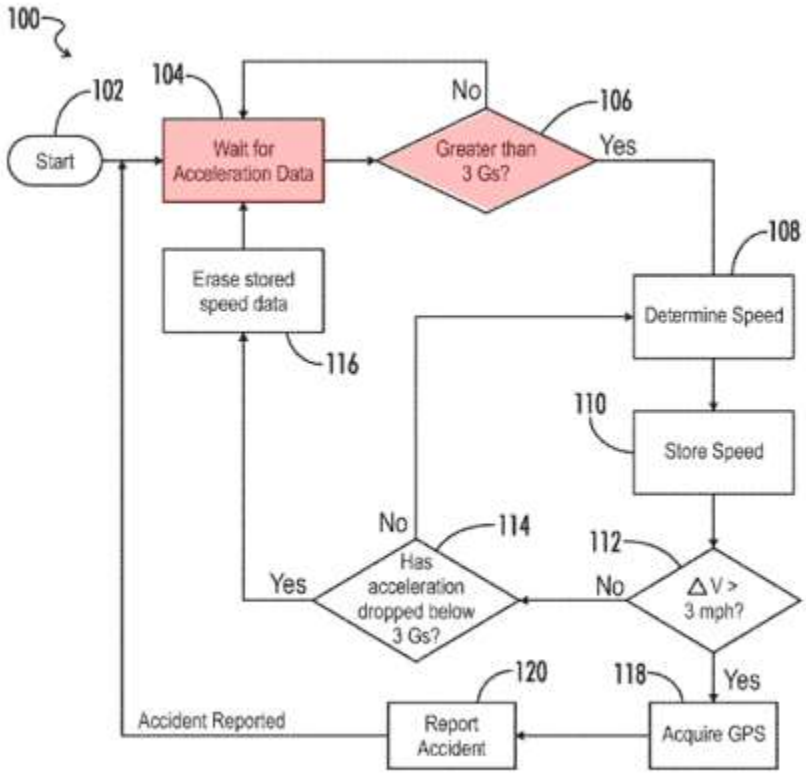


FIG. 9

Id. at Fig. 9 (annotated).

140. To determine whether the acceleration is greater than 3 Gs, a POSITA would understand that the speed calculation module 80 or computer program are each detecting and analyzing acceleration data (i.e., generating the "first detector signal," when the detected acceleration is equal to or greater than a predetermined value—in this case, 3 Gs.

141. Accordingly, Green's speed calculation module 80 or computer program are each a "first detecting component [that] is operable to detect, as the first parameter, acceleration along a single axis, and wherein said first detecting component is operable to generate the first detector signal when the detected acceleration along the single axis is equal to or greater than a predetermined value," and Green discloses claim 4.

5. Claim 5

142. Claim 5 depends on claim 1, which Green discloses as discussed above. It is my opinion that Green also discloses claim 5.

143. Claim 5 reads as follows: "The device of claim 1, further comprising a communication component operable to wirelessly communicate with a network."

144. The '952 patent discloses that "[d]evice 202 includes . . . ***a communication component 224*** . . . ." Ex. 1001, '952 patent at 5:16-21. The '952 patent discloses that "[c]ommunication component 224 is additionally configured to communicate with network 208 via a communication line 262." *Id.* at 7:7-9. The '952 patent further discloses that "[c]ommunication component 224 may be any known device or system that is operable to communicate with network 208" such as "a wireless transmitter/receiver." *Id.* at 7:9-12. The '952 patent discloses that "[c]ommunication lines 230, 232, 234, 236, 238, 240, 242, 244, 244 [sic], 246, 248,

250, 252, 254, 256, 258, 260 and 262 may be any known wired or wireless communication path or media by which one component may communicate with another component." *Id.* at 7:18-22.

145. Referring to Figure 8, copied below, Green discloses that "residing within or about the device housing(s) 10 and functionally linked to the controller 62 may be without limitation . . . a ***communications device 90*** such as a ***cellular modem*** . . . ." Ex. 1005, Green at 7:40-47. Green further discloses that "the audio output 98 may be effective to provide real-time voice functionality in addition to programmed alerts, such as may be desirable in the event of an emergency by providing emergency personnel, 911 operators, etc., with a direct outlet for communicating via the local device with a driver." *Id.* at 7:50-55.

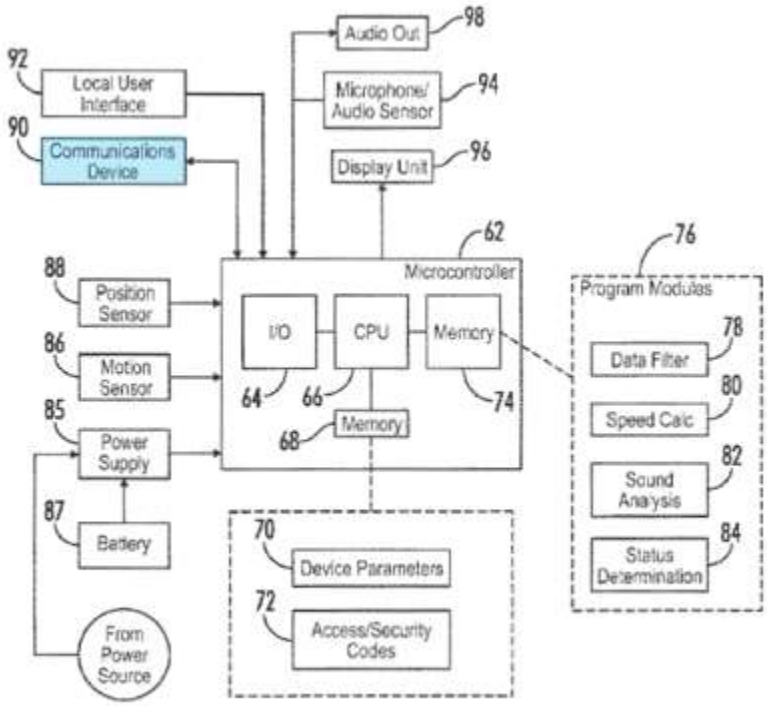


FIG. 8

Id. at Fig. 8 (annotated).

146. Referring to Figure 11, Green discloses that the "process continues to step 216 and the program is triggered to ***report the accident*** in a manner which in various embodiments may be substantially equivalent to that of the process 100 described above" in Figure 9. Ex. 1005, Green at 15:5-8. With respect to Figure 9, Green discloses "***transmitting*** vehicle position data and other programmed data to predetermined personnel such as EMS, family, friends, etc." *Id.* at 10:62-11:4.

147. Additionally, as shown in Figure 10, Green's device may comprise a user device that can communicate over a communications network 42. Green explains that the term "communications network" may refer to a

"telecommunications networks (whether wired, ***wireless***, ***cellular*** or the like)" or "a global network such as the Internet." *Id.* at 6:9-18.

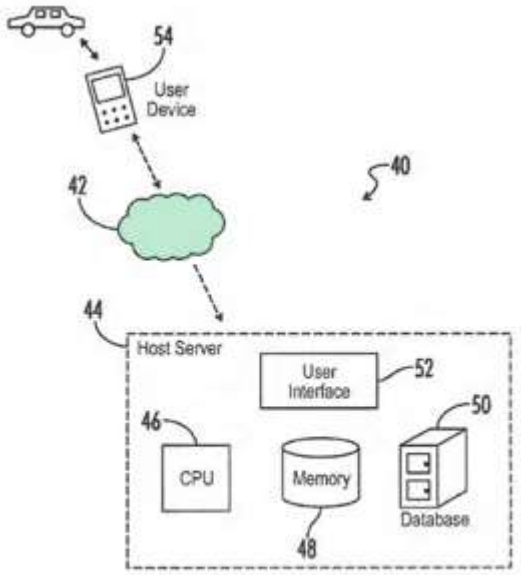


FIG. 10

Id. at Fig. 10 (annotated).

148. In light of the above disclosures, a POSITA would understand that Green's communications device 90 (e.g., a cellular modem) and the user device 54 are capable of wirelessly communicating with communications network 42 (e.g., wireless telecommunications networks, the Internet, etc.) to, for example, report an accident to the proper authorities.

149. Green's disclosure of the communications device 90 and user device wirelessly communicating with communications network 42 is consistent with the disclosure of the "communication component" in the '952 patent.

150. Accordingly, Green's communications device 90 is "a communication component operable to wirelessly communicate with a network," and Green discloses claim 5.

6. Claim 6

151. Claim 6 depends on claim 1, which Green discloses as discussed above. It is my opinion that Green also discloses claim 6.

152. Claim 6 reads as follows: "The device of claim 1, further comprising: an operating component operable to operate in a first mode and a second mode, wherein said operating component is operable to switch from operating in the first mode to operating in the second mode based on the crash mode signal." For the reasons discussed below, the computer program of the local device 10 and user device are each "an operating component" as claimed in the '952 patent.

153. As discussed above, referring to Figure 11, if the program determines that the mobile device is located in a moving vehicle at step 202, then the program "enabl[es] additional sensors (step 204)." *Id.* at 13:55-57; *see also id.* at 13:67-14:3 ("Assuming that the accelerometer data indicates the device is in a moving vehicle, the other sensors will start collecting data to aid in the full functioning of the application."). Green discloses that "when the program is executed and fully functioning," it enters into "active mode." *Id.* at 14:4-5. Green discloses that the

program "may continue to check data from the sensors to confirm that it is, in reality, in a moving vehicle (step 206)." *Id.* at 145-7. If the program determines that the mobile device is no longer in a vehicle, then at step 208 "the program returns to passive mode where it only draws data from the accelerometer." *Id.* at 14:7-15.

154. In my opinion, Green's "active mode" is a "first mode," which I interpret as "a first mode of operation." *See supra* section V.D. That Green's "active mode" is a "first mode" is supported by the specification of the '952 patent, which states that the device is placed in "vehicle mode" after the in-vehicle signal has been generated. Ex. 1001, '952 patent at 4:67-5:4 ("In accordance with aspects of the present invention, a communication device may be able to detect the crash of vehicle 102 **based on being in the vehicle mode** and based on detecting two parameters ….").

155. Then, once a crash has been detected (i.e., when the "crash mode signal" has been generated), the local device 10 and user device 54 in Green are configured to perform various predetermined actions, as depicted in the Report Accident block of Figure 11; at that point, Green's mobile device is operating in a "second mode," which Patent Owner contends means "a second mode of operation."

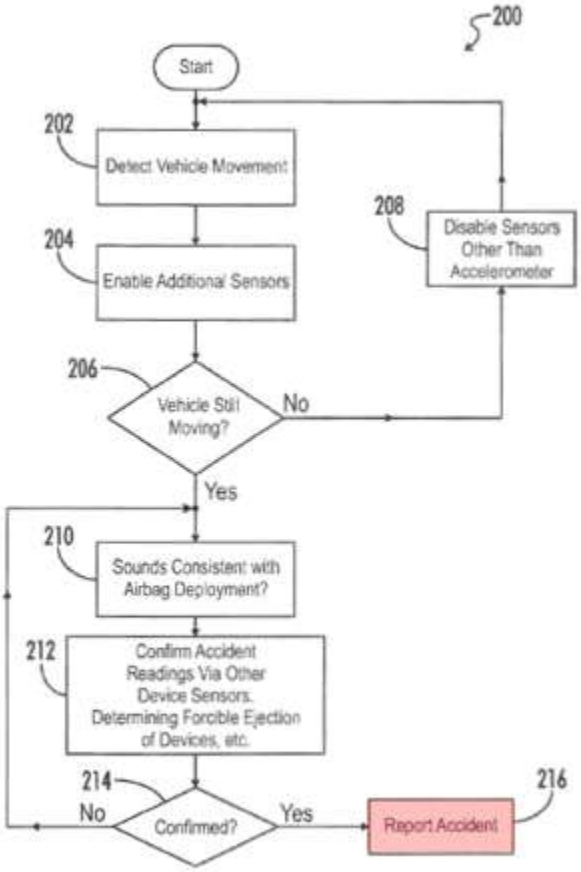


FIG. 11

Ex. 1005, Green at Fig. 11 (annotated).

156. Green discloses that, "[i]f the detected accident condition is in fact confirmed by other sensors (i.e., 'yes' in response to the query of step 214) the process continues to step 216 and the program is triggered to ***report the accident*** in a manner which in various embodiments may be substantially equivalent to that of the process 100 described above." *Id.* at 15:3-8. Thus, once operating in "crash mode," Green's mobile device performs actions such as "***reporting the accident*** pursuant to programmed instruction by for example ***transmitting vehicle position***

data and other programmed data to predetermined personnel such as EMS, family, friends, etc. ….” *Id.* at 10:62-11:4.

157. A POSITA would understand, based on the disclosures of the ’952 patent specification, that the mobile device taking predetermined actions once a crash has been detected constitutes operating in a “second mode” (called the “crash mode” in the specification) as recited in claim 6. In particular, the ’952 patent states: “[F]or purposes of discussion, let the **crash mode** be such **a mode wherein predetermined functions of device 202 may be activated, such as automatically contacting emergency services**.” Ex. 1001, ’952 patent at 14:36-39. Thus a POSITA would understand that its “second mode” corresponds to the “crash mode” of the ’952 patent.

158. A POSITA would understand that the computer program in Green is the component that controls the functionality of the mobile device; as shown in Figure 8 below, all other components of the mobile device, including the program modules 76, the sensors, and the communications module, operate through the control unit 62.

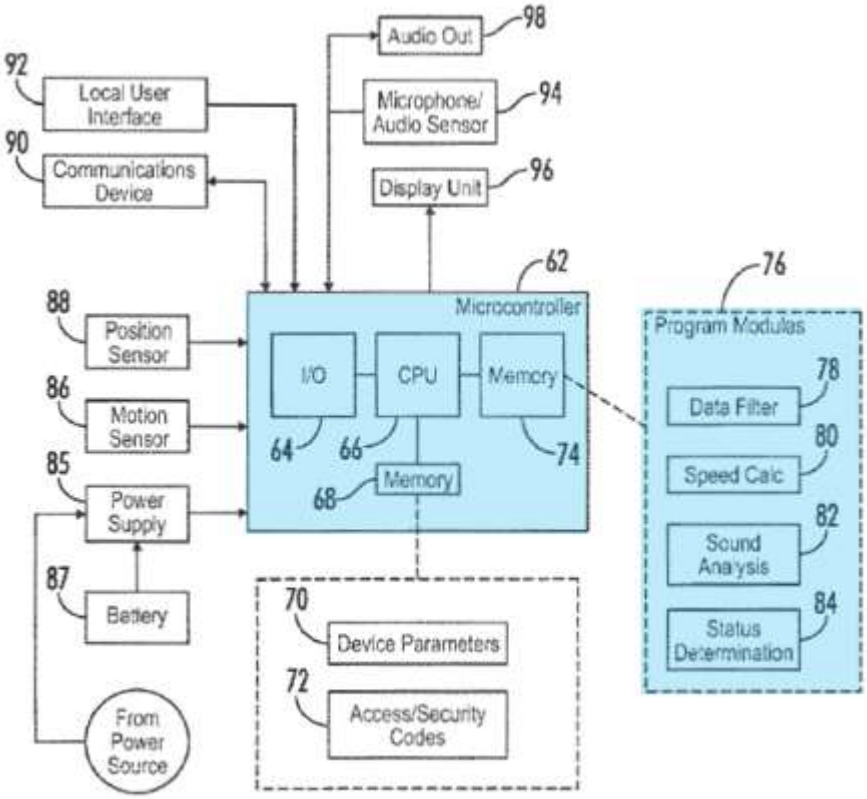


FIG. 8

Id. at Fig. 8 (annotated).

159. Accordingly, a POSITA would understand that the computer program controls the mode of operation of the mobile device and, thus, operates as an "operating component" as that term is used in the '952 patent.

160. As discussed above, I have reviewed the '952 patent specification and could not find any discussion or explanation relating to the term "operating component." However, based on my review of the specification, it is my opinion that a POSITA would understand that an "operating component" as recited in claim 6 can be implemented in a device's central processor via the computer program of

Green. For example, the '952 patent specification states that multiple components with different functionalities "may be implemented as a computer having tangible computer-readable media for carrying or having computer-executable instructions or data structures stored thereon." Ex. 1001, '952 patent at 5:33-41. Thus, a POSITA would understand that multiple components, including the "operating component," may exist in the control unit 62. Accordingly, a POSITA would have been motivated to use any of these components as an operating component to switch from a first mode to a second mode based on the crash mode signal with a reasonable expectation of success.

161. Accordingly, Green discloses the limitation of claim 6 of "an operating component operable to operate in a first mode and a second mode, wherein said operating component is operable to switch from operating in the first mode to operating in the second mode based on the crash mode signal."

7. Independent Claim 7

162. It is my opinion that Green renders obvious each and every claim limitation of independent claim 7 as discussed below.

a. 7[pre]: "A method for use with a vehicle, said method comprising"

163. To the extent the preamble of claim 7 is limiting, Green discloses "[a] method for use with a vehicle."

164. Green is directed to a "[s]ystem and ***method*** for automatic traffic accident determination and notification." Furthermore, with reference to Figure 11, Green discloses a "***method 200 of detecting a vehicle status*** and more particularly an accident condition, as may be performed by a computer program product executed from a smartphone …." Green, 13:1-5.

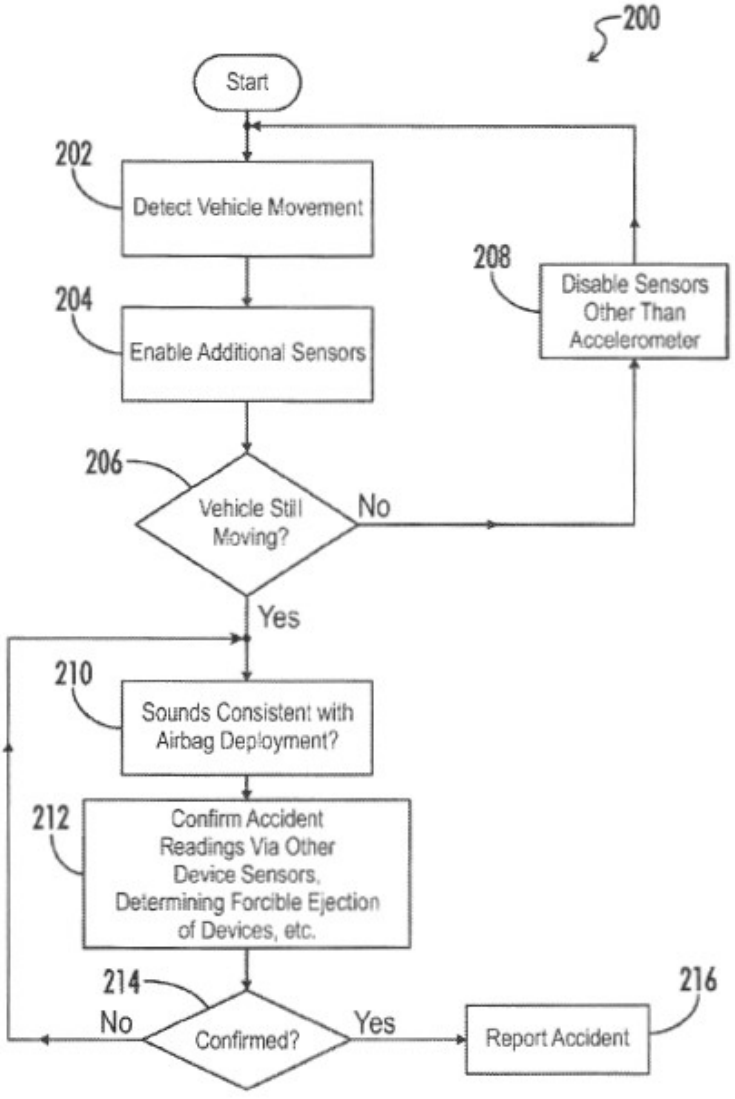


FIG. 11

Id. at Fig. 11.

165. Accordingly, Green discloses "[a] method for use with a vehicle."

b. 7[a] & 7[b]: "detecting, via a mode-determining component, whether the mode-determining component is in the vehicle" & "generating, via the mode-determining component, an in-vehicle signal"

166. It is my opinion that Green discloses or renders obvious limitations 7[a] and 7[b].

167. Limitations claim 7[a] and 7[b] refer to steps of the method performed by the components recited in limitation 1[a], as shown in the table below:

Limitations 7[a] & 7[b]	Limitation 1[a]
7[a]: detecting, via a mode-determining component, whether the ***mode-determining component*** is in the vehicle	a mode-determining component operable to detect whether the ***device*** is in the vehicle and to generate an in-vehicle signal;
7[b]: generating, via the mode-determining component, an in-vehicle signal;	

168. A POSITA would understand that "detecting . . . whether the ***mode-determining component*** is in the vehicle" of limitation 7[a] corresponds to

"detect[ing] whether the ***device*** is in the vehicle" of limitation 1[a]. As discussed above, A POSITA would understand that Green's control unit 62 is the "mode-determining component" of limitation 1[a]. As discussed above, Green discloses that the control unit 62 is contained within the "device" of limitation 1[a]. Therefore, Green discloses or renders obvious limitations 7[a] and 7[b] for at least the same reasons as limitation 1[a] (*see supra* section VI.B.1.b).

c. 7[c] & 7[d]: "detecting, via a first detecting component, a first parameter" & "generating, via the first detecting component, a first detector signal based on the first detected parameter"

169. It is my opinion that Green discloses or renders obvious limitations 7[c] and 7[d].

170. The limitations of claim 7[c] and 7[d] refer to steps of the method performed by the components recited in claim 1[b], as shown in the table below:

Limitations 7[c] & 7[d]	Limitation 1[b]
7[c]: detecting, via a first detecting component, a first parameter	a first detecting component operable [to] detect a first parameter and to generate a first detector signal based on the first detected parameter
7[b]: generating, via the first detecting component, a first detector signal based on the first detected	

Limitations 7[c] & 7[d]	Limitation 1[b]
parameter	

171. Therefore, Green discloses or renders obvious limitations 7[c] and 7[d] for the same reasons as limitation 1[b] (*see supra* section VI.B.1.c).

d. 7[e] & 7[f]: "detecting, via a second detecting component, a second parameter" & "generating, via the second detecting component, a second detector signal based on the second detected parameter"

172. It is my opinion that Green discloses or renders obvious limitations 7[e] and 7[f].

173. The limitations of claim 7[e] and 7[f] refer to steps of the method performed by the components recited in claim 1[c], as shown in the table below:

Limitations 7[e] & 7[f]	Limitation 1[c]
7[e]: detecting, via a second detecting component, a second parameter	a second detecting component operable [to] detect a second parameter and to generate a second detector signal based on the second detected parameter
7[f]: generating, via the second detecting component, a second detector signal based on the second detected parameter	

174. Therefore, Green discloses or renders obvious limitations 7[e] and 7[f]

for the same reasons as limitation 1[c] (*see supra* section **Error! Reference source not found.**c).

e. 7[g]: "generating, via the mode-determining component, a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal"

175. It is my opinion that Green discloses or renders obvious limitation 7[g].

176. The limitations of claim 7[g] refer to steps of the method performed by the components recited in claim 1[d], as shown in the table below:

Limitation 7[g]	Limitation 1[c]
7[g]: generating, via the mode-determining component, a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal.	wherein said mode-determining component is further operable to generate a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal.

177. Therefore, Green discloses or renders obvious limitation 7[g] for the same reasons as limitation 1[d] (*see supra* section VI.B.1.dd).

8. Claim 8

178. Claim 8 depends on claim 7, which Green renders obvious as discussed

above. It is also my opinion that Green renders obvious claim 8.

179. Claim 2 depends on claim 1, which Green discloses as discussed above. The limitations of claim 8 refer to steps of the method performed by the components recited in claim 2, as shown in the table below:

Claim 8	Claim 2
The method of claim 7, wherein said detecting a first parameter comprises detecting one of the group consisting of magnetic fields in any of three dimensions, electric fields in any of three dimensions, electro-magnetic fields in any of three dimensions, velocity in any of three dimensions, acceleration in any of three dimensions, angular velocity in any of three dimensions, angular acceleration in any of three dimensions, geodetic position, sound, temperature, vibrations in any of three dimensions,	The device of claim 1, wherein said first detecting component is operable to detect, as the first parameter, one of the group consisting of magnetic fields in any of three dimensions, electric fields in any of three dimensions, electro-magnetic fields in any of three dimensions, velocity in any of three dimensions, acceleration in any of three dimensions, angular velocity in any of three dimensions, angular acceleration in any of three dimensions, geodetic position, sound, temperature, vibrations in any of three dimensions,

Claim 8	Claim 2
pressure in any of three dimensions, biometrics, contents of surrounding atmosphere, a change in electric fields in any of three dimensions, a change in magnetic fields in any of three dimensions, a change in electro-magnetic fields in any of three dimensions, a change in velocity in any of three dimensions, a change in acceleration in any of three dimensions, a change in angular velocity in any of three dimensions, a change in angular acceleration in any of three dimensions, a change in geodetic position in any of three dimensions, a change in sound, a change in temperature, a change in vibrations in any of three dimensions, a change in pressure in any of three	pressure in any of three dimensions, biometrics, contents of surrounding atmosphere, a change in electric fields in any of three dimensions, a change in magnetic fields in any of three dimensions, a change in electro-magnetic fields in any of three dimensions, a change in velocity in any of three dimensions, a change in acceleration in any of three dimensions, a change in angular velocity in any of three dimensions, a change in angular acceleration in any of three dimensions, a change in geodetic position in any of three dimensions, a change in sound, a change in temperature, a change in vibrations in any of three dimensions, a change in pressure in any of three

Claim 8	Claim 2
dimensions, a change in biometrics, a change in contents of surrounding atmosphere and combinations thereof.	dimensions, a change in biometrics, a change in contents of surrounding atmosphere and combinations thereof.

180. Claim 2 of the '952 patent requires that "said first detecting component is operable to detect, as the first parameter . . . ." As discussed above, claim 7, to which claim 8 depends, requires "detecting, via a first detecting component, a first parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" as required by claim 8.

181. Therefore, Green renders obvious claim 8 for the same reasons as claim 2 (*see supra* section VI.B.2).

9. Claim 9

182. Claim 9 depends on claims 7 and 8, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 9.

183. Claim 3 depends on claims 1 and 2, which Green renders obvious as discussed above. The limitations of claim 9 refer to steps of the method performed by the components recited in claim 3, as shown in the table below:

Claim 9	Claim 3
The method of claim 8, wherein said detecting a first parameter comprises detecting a parameter associated with deployment of an airbag within the vehicle.	The device of claim 2, wherein said first detecting component is operable to detect, as the first parameter, a parameter associated with deployment of an airbag within the vehicle.

184. Claim 3 of the '952 patent requires that "said first detecting component is operable to detect, as the first parameter . . . ." As discussed above, claim 7, to which claim 9 depends, requires "detecting, via a first detecting component, a first parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" as required by claim 9.

185. Therefore, Green renders obvious claim 9 for the same reasons as claim 3 (*see supra* section VI.B.3).

10. Claim 10

186. Claim 10 depends on claims 7 and 8, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 10.

187. Claim 4 depends on claims 1 and 2, which Green renders obvious as discussed above. The limitations of claim 10 refer to steps of the method performed by the components recited in claim 4, as shown in the table below:

Claim 10	Claim 4
The method of claim 8, wherein said detecting a first parameter comprises detecting acceleration along a single axis, and wherein said generating a first detector signal comprises generating the first detector signal when the detected acceleration along the single axis is equal to or greater than a predetermined value.	The device of claim 2, wherein said first detecting component is operable to detect, as the first parameter, acceleration along a single axis, and wherein said first detecting component is operable to generate the first detector signal when the detected acceleration along the single axis is equal to or greater than a predetermined value.

188. Claim 4 of the '952 patent requires that "said first detecting component is operable to detect, as the first parameter . . . ." As discussed above, claim 7, to which claim 10 depends, requires "detecting, via a first detecting component, a first parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" as required by claim 10.

189. Claim 4 of the '952 patent requires that "said first detecting component is operable to generate the first detector signal . . . ." As discussed above, claim 7, to which claim 10 depends, requires "generating, via the first detecting component,

a first detector signal based on the first detected parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" and "generating a first detector signal" as required by claim 10.

190. Therefore, Green renders obvious claim 10 for the same reasons as claim 4 (*see supra* section VI.B.4).

11. Claim 11

191. Claim 11 depends on claim 7, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 11.

192. Claim 5 depends on claim 1, which Green renders obvious as discussed above. The limitations of claim 11 refer to steps of the method performed by the components recited in claim 5, as shown in the table below:

Claim 11	Claim 5
The method of claim 7, further comprising wirelessly communicating, via a communication component, with a network.	The device of claim 1, further comprising a communication component operable to wirelessly communicate with a network.

193. Therefore, Green renders obvious claim 11 for the same reasons as claim 5 (*see supra* section VI.B.5).

12. Claim 12

194. Claim 12 depends on claim 7, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 12.

195. Claim 6 depends on claim 1, which Green renders obvious as discussed above. The limitations of claim 12 refer to steps of the method performed by the components recited in claim 6, as shown in the table below:

Claim 12	Claim 6
The method of claim 7, further comprising: operating an operating component in a first mode; and switching operation of the operating component from the first mode to a second mode based on the crash mode signal.	The device of claim 1, further comprising: an operating component operable to operate in a first mode and a second mode, wherein said operating component is operable to switch from operating in the first mode to operating in the second mode based on the crash mode signal.

196. The only difference between claims 6 and 12 is that claim 12 does not expressly recite that the "operating component" is "operable to operate in . . . a second mode." However, this requirement is captured in the second additional

limitation of 12, which recites that the claimed method includes "switching operation of the operating component from the first mode ***to a second mode*** based on the crash mode signal." This requires that the "operating component" can in fact operate in a second mode. Accordingly, claims 6 and 12 are substantively the same. Therefore, Green renders obvious claim 12 for the same reasons as claim 6 (*see supra* section VI.B.6).

13. Independent Claim 13

197. It is my opinion that Green renders obvious each and every claim limitation of independent claim 13 as discussed below.

a. 13[pre]: "A non-transitory, computer-readable media having computer-readable instructions stored thereon, for use with a vehicle, the computer-readable instructions being capable of being read by a computer and being capable of instructing the computer to perform the method comprising"

198. To the extent the preamble of claim 13 is limiting, Green discloses "[a] non-transitory, computer-readable media having computer-readable instructions stored thereon, for use with a vehicle, the computer-readable instructions being capable of being read by a computer and being capable of instructing the computer to perform the method …."

199. In particular, in Figure 10, Green discloses an embodiment where the disclosed crash detection device, i.e., "for use with a vehicle," may be "***a computer***

program product installed on and executable by a mobile cellular device 54 such as for example a smartphone." Ex. 1005, Green at 12:44-47. A POSITA would understand that local device 10 or the mobile user device in Figure 10 contains a computer processor along with a non-transitory, computer-readable media, i.e., a storage device, having computer-readable instructions to be performed by the processor. Indeed, Green discloses in Figure 8 (which a POSITA would understand also applies to the smartphone disclosed in Figure 10) that the device includes a control unit 62 that has, among other things, "a processing unit 66" and "a memory 74 upon which resides instructions or program modules 76 such as for example a data filtering module 78, a speed calculation module 80, a sound analysis module 82 and a vehicle status determination module 84." Ex. 1005, Green at 7:13-22.

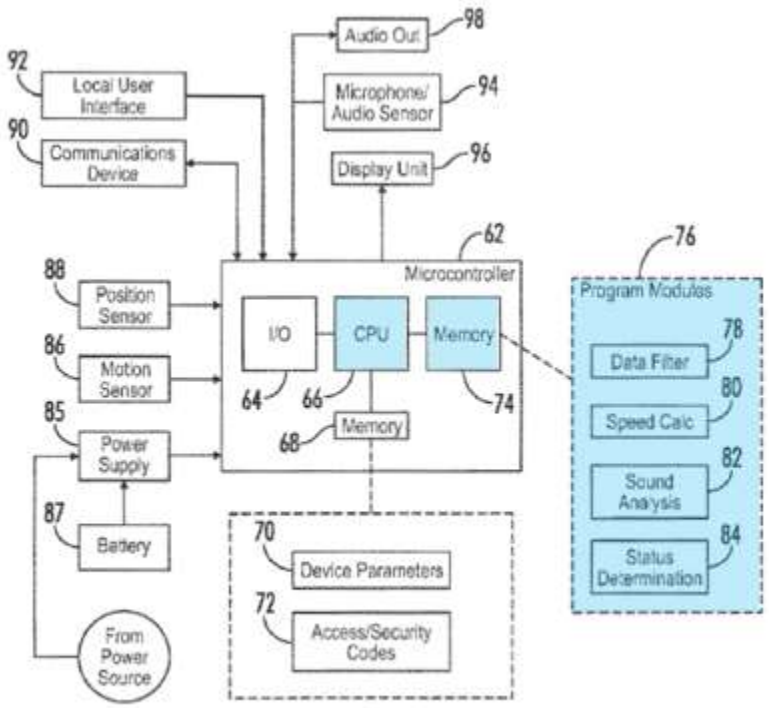


FIG. 8

Id. at Fig. 8 (annotated).

200. Accordingly, Green discloses the preamble of claim 13.

b. 13[a] & 13[b]: "detecting, via a mode-determining component, whether the mode-determining component is in the vehicle" & "generating, via the mode-determining component, an in-vehicle signal"

201. It is my opinion that Green discloses or renders obvious limitations 13[a] and 13[b].

202. The limitations of claim 13[a] and 13[b] refer to the steps of the computer-readable instructions performed by the components recited in claim 1[a], as shown in the table below:

Limitations 13[a] & 13[b]	Limitation 1[a]
13[a]: detecting, via a mode-determining component, whether the ***mode-determining component*** is in the vehicle	a mode-determining component operable to detect whether the ***device*** is in the vehicle and to generate an in-vehicle signal;
13[b]: generating, via the mode-determining component, an in-vehicle signal;	

203. A POSITA would understand that "detecting . . . whether the ***mode-determining component*** is in the vehicle" of limitation 13[a] corresponds to "detect[ing] whether the ***device*** is in the vehicle" of limitation 1[a]. As discussed above, A POSITA would understand that Green's control unit 62 is the "mode-determining component" of limitation 1[a]. As discussed above, Green discloses that the control unit 62 is contained within the "device" of limitation 1[a]. Therefore, Green discloses or renders obvious limitations 13[a] and 13[b] for the same reasons as limitation 1[a] (*see supra* section VI.B.1.b).

c. 13[c] & 13[d]: "detecting, via a first detecting component, a first parameter" & "generating, via the

first detecting component, a first detector signal based on the first detected parameter"

204. It is my opinion that Green discloses or renders obvious limitations 13[c] and 13[d].

205. The limitations of claim 13[c] and 13[d] refer to the steps of the computer-readable instructions performed by the components recited in claim 1[b], as shown in the table below:

Limitations 13[c] & 13[d]	Limitation 1[b]
13[c]: detecting, via a first detecting component, a first parameter	a first detecting component operable [to] detect a first parameter and to generate a first detector signal based on the first detected parameter
13[b]: generating, via the first detecting component, a first detector signal based on the first detected parameter	

206. Therefore, Green discloses or renders obvious limitations 13[c] and 13[d] for the same reasons as limitation 1[b] (*see supra* section VI.B.1.c).

d. 13[e] & 13[f]: "detecting, via a second detecting component, a second parameter" & "generating, via the second detecting component, a second detector signal based on the second detected parameter"

207. It is my opinion that Green discloses or renders obvious limitations

13[e] and 13[f].

208. The limitations of claim 13[e] and 13[f] refer to the steps of the computer-readable instructions performed by the components recited in claim 1[c], as shown in the table below:

Limitations 13[e] & 13[f]		Limitation 1[c]
13[e]:	detecting, via a second detecting component, a second parameter	a second detecting component operable [to] detect a second parameter and to generate a second detector signal based on the second detected parameter
13[f]:	generating, via the second detecting component, a second detector signal based on the second detected parameter	

209. Therefore, Green discloses or renders obvious limitations 13[e] and 13[f] for the same reasons Green discloses limitation 1[c] (*See supra* section **Error! Reference source not found.**).

e. 13[g]: "operating an operating component in a first mode"

210. It is my opinion that Green discloses or renders obvious limitation 13[g].

211. The limitations of claim 13[g] refer to the steps of the computer-

readable instructions performed by the components recited in the first portion of claim 6, as shown in the table below:

Limitation 13[g]	Claim 6
13[g]: operating an operating component in a first mode	The device of claim 1, further comprising: an operating component operable to operate in a first mode and a second mode, wherein said operating component is operable to switch from operating in the first mode to operating in the second mode based on the crash mode signal.

212. Therefore, Green discloses or renders obvious limitation 13[g] for the same reasons Green discloses the first portion of claim 6 (*see supra* section VI.B.6).

f. 13[h]: "generating, via the mode-determining component, a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal"

213. It is my opinion that Green discloses or renders obvious limitation

13[h].

214. The limitations of claim 13[h] refer to the steps of the computer-readable instructions performed by the components recited in claim 1[d], as shown in the table below:

Limitation 13[h]	Limitation 1[d]
13[h]: generating, via the mode-determining component, a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal.	wherein said mode-determining component is further operable to generate a crash mode signal based on the in-vehicle signal, the first detector signal and the second detector signal.

215. Therefore, Green discloses or renders obvious limitation 13[h] for the same reasons Green discloses limitation 1[d] (*see supra* section VI.B.1.d).

g. 13[i]: "switching operation of the operating component from the first mode to a second mode based on the crash mode signal"

216. It is my opinion that Green discloses or renders obvious limitation 13[i].

217. The limitations of claim 13[i] refer to the steps of the computer-readable instructions performed by the components recited in the last portion of claim 6, as shown in the table below:

Limitation 13[i]	Claim 6
13[i]: switching operation of the operating component from the first mode to a second mode based on the crash mode signal	The device of claim 1, further comprising: an operating component operable to operate in a first mode and a second mode, wherein said operating component is operable to switch from operating in the first mode to operating in the second mode based on the crash mode signal.

218. Therefore, Green discloses or renders obvious limitation 13[i] for the same reasons Green discloses the last portion of claim 6 (*see supra* section VI.B.6).

14. Claim 14

219. Claim 14 depends on claim 13, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 14.

220. Claim 2 depends on claim 1, which Green renders obvious as discussed above. The limitations of claim 14 refer to the steps of the computer-readable instructions performed by the components recited in claim 2, as shown in the table

below:

Claim 14	Claim 2
The non-transitory, computer-readable media of claim 13, wherein the computer-readable instructions are capable of instructing the computer to perform the method such that said detecting a first parameter comprises detecting	The device of claim 1, wherein said first detecting component is operable to detect, as the first parameter,
one of the group consisting of magnetic fields in any of three dimensions, electric fields in any of three dimensions, electro-magnetic fields in any of three dimensions, velocity in any of three dimensions, acceleration in any of three dimensions, angular velocity in any of three dimensions, angular acceleration in any of three dimensions, geodetic position, sound, temperature,	one of the group consisting of magnetic fields in any of three dimensions, electric fields in any of three dimensions, electro-magnetic fields in any of three dimensions, velocity in any of three dimensions, acceleration in any of three dimensions, angular velocity in any of three dimensions, angular acceleration in any of three dimensions, geodetic position, sound, temperature,

Claim 14	Claim 2
vibrations in any of three dimensions, pressure in any of three dimensions, biometrics, contents of surrounding atmosphere, a change in electric fields in any of three dimensions, a change in magnetic fields in any of three dimensions, a change in electro-magnetic fields in any of three dimensions, a change in velocity in any of three dimensions, a change in acceleration in any of three dimensions, a change in angular velocity in any of three dimensions, a change in angular acceleration in any of three dimensions, a change in geodetic position in any of three dimensions, a change in sound, a change in temperature, a change in vibrations in any of three dimensions, a	vibrations in any of three dimensions, pressure in any of three dimensions, biometrics, contents of surrounding atmosphere, a change in electric fields in any of three dimensions, a change in magnetic fields in any of three dimensions, a change in electro-magnetic fields in any of three dimensions, a change in velocity in any of three dimensions, a change in acceleration in any of three dimensions, a change in angular velocity in any of three dimensions, a change in angular acceleration in any of three dimensions, a change in geodetic position in any of three dimensions, a change in sound, a change in temperature, a change in vibrations in any of three dimensions, a

Claim 14	Claim 2
change in pressure in any of three dimensions, a change in biometrics, a change in contents of surrounding atmosphere and combinations thereof.	change in pressure in any of three dimensions, a change in biometrics, a change in contents of surrounding atmosphere and combinations thereof.

221. Claim 2 of the '952 patent requires that "said first detecting component is operable to detect, as the first parameter . . . ." As discussed above, claim 13, on which claim depends, requires "detecting, via a first detecting component, a first parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" as required by claim 14.

222. Therefore, Green renders obvious claim 14 for the same reasons as claim 2 (*see supra* section VI.B.2).

15. Claim 15

223. Claim 15 depends on claims 13 and 14, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 15.

224. Claim 3 depends on claims 1 and 2, which Green renders obvious as discussed above. The limitations of claim 15 refer to the steps of the computer-readable instructions performed by the components recited in claim 3, as shown in the table below:

Claim 15	Claim 3
The non-transitory, computer-readable media of claim 14, the computer-readable instructions being capable of being read by a computer and being capable of instructing the computer to perform the method such that said detecting a first parameter comprises detecting a parameter associated with deployment of an airbag within the vehicle.	The device of claim 2, wherein said first detecting component is operable to detect, as the first parameter, a parameter associated with deployment of an airbag within the vehicle.

225. Claim 3 of the '952 patent requires that "said first detecting component is operable to detect, as the first parameter . . . ." As discussed above, claim 13, to which claim 15 depends, requires "detecting, via a first detecting component, a first parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" as required by claim 15.

226. Therefore, Green renders obvious claim 15 for the same reasons as claim 3 (*see supra* section VI.B.3).

16. Claim 16

227. Claim 16 depends on claims 13 and 14, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 16.

228. Claim 4 depends on claims 1 and 2, which Green renders obvious as discussed above. The limitations of claim 16 refer to the steps of the computer-readable instructions performed by the components recited in claim 4, as shown in the table below:

Claim 16	Claim 4
The non-transitory, computer-readable media of claim 14, wherein the computer-readable instructions are capable of instructing the computer to perform the method such that said detecting a first parameter comprises detecting acceleration along a single axis, and said generating a first detector signal comprises generating the first detector signal when the detected acceleration	The device of claim 2, wherein said first detecting component is operable to detect, as the first parameter, acceleration along a single axis, and wherein said first detecting component is operable to generate the first detector signal when the detected acceleration along the single axis is equal to or greater than a predetermined value.

Claim 16	Claim 4
along the single axis is equal to or greater than a predetermined value.	

229. Claim 4 of the '952 patent requires that "said first detecting component is operable to detect, as the first parameter . . . ." As discussed above, claim 13, to which claim 16 depends, requires "detecting, via a first detecting component, a first parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" as required by claim 16.

230. Claim 4 of the '952 patent requires that "said first detecting component is operable to generate the first detector signal . . . ." As discussed above, claim 13, to which claim 16 depends, requires "generating, via the first detecting component, a first detector signal based on the first detected parameter." Thus a POSITA would understand that the "first detecting component" performs the "detecting a first parameter" and "generating a first detector signal" as required by claim 16.

231. Therefore, Green renders obvious claim 16 for the same reasons as claim 4 (*see supra* section VI.B.4).

17. Claim 17

232. Claim 17 depends on claim 13, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 17.

233. Claim 5 depends on claim 1, which Green renders obvious as discussed above. The limitations of claim 17 refer to the steps of the computer-readable instructions performed by the components recited in claim 5, as shown in the table below:

Claim 17	Claim 5
The non-transitory, computer-readable media of claim 13, the computer-readable instructions being capable of being read by a computer and being capable of instructing the computer to perform the method further comprising wirelessly communicating, via a communication component, with a network.	The device of claim 1, further comprising a communication component operable to wirelessly communicate with a network.

234. Therefore, Green renders obvious claim 17 for the same reasons as claim 5 (*see supra* section VI.B.5).

18. Claim 18

235. Claim 18 depends on claim 13, which Green renders obvious as discussed above. It is also my opinion that Green renders obvious claim 18.

236. Claim 6 depends on claim 1, which Green renders obvious as discussed above. The limitations of claim 18 refer to the steps of the computer-readable instructions performed by the components recited in claim 6, as shown in the table below:

Claim 18	Claim 6
The non-transitory, computer-readable media of claim 13, the computer-readable instructions being capable of being read by a computer and being capable of instructing the computer to perform the method further comprising: operating an operating component in a first mode; and switching operation of the operating component from the first mode to a second mode based on the crash mode signal.	The device of claim 1, further comprising: an operating component operable to operate in a first mode and a second mode, wherein said operating component is operable to switch from operating in the first mode to operating in the second mode based on the crash mode signal.

237. The only difference between claims 6 and 18 is that claim 18 does not expressly recite that the "operating component" is "operable to operate in . . . a

second mode." However, this requirement is captured in the second additional limitation of 18, which recites that the claimed method includes "switching operation of the operating component from the first mode ***to a second mode*** based on the crash mode signal." This requires that the "operating component" can in fact operate in a second mode. Accordingly, claims 6 and 18 are substantively the same. Therefore, Green renders obvious claim 18 for the same reasons as claim 6 (*see supra* section VI.B.6).

C. Ground 2: Wright in View of Green Renders Obvious Claims 1-18.

1. Motivation to Combine Wright and Green

238. In my opinion, a POSITA would have been motivated to combine the teachings of Wright and Green to more accurately and efficiently determine whether a mobile device is in a vehicle before registering the start of a driving period to collect sensor data.

239. As a first matter, like the '952 patent, Wright and Green are both directed to using a mobile device to determine whether a vehicle crash has occurred, so a POSITA would naturally look to the teachings of both references to see what improvements can be made to Wright's invention. For example, Wright states that it is directed to using a mobile device to collect driving information that "may subsequently be utilised to determine the cause of an event such as an accident …."

Wright, 1:19-24. Green is similarly directed to a "[s]ystem and method for automatic traffic accident determination and notification." Green, Title.

240. A POSITA reviewing Wright would understand that one aspect to be improved is the determination of when the mobile device is in a vehicle such that the start of a driving period should be registered. Wright discloses, as one example, that the driving period may be initiated "once a velocity greater than 20 kilometers per hour is detected." Ex. 1004, Wright at 18:35-39. I note that this example determination in Wright is similar to the AT&T DriveMode prior art application discussed in the '952 patent specification, in which an in-vehicle determination is made when "the smartphone GPS sensor senses that the smartphone is travelling at greater than 25 miles per hour." Ex. 1001, '952 patent at 2:6-11.

241. A POSITA would know that DriveMode's determination has drawbacks. For example, the '952 patent specification explains that "the speed threshold of the application is arbitrary, meaning that drive mode will not be detected/engaged at less than 25 mph. If the vehicle is stopped in traffic or at a traffic signal, for example, then the DriveMode application may inadvertently terminate." *Id.* at 2:21-25. Additionally, "and perhaps more importantly, AT&T's DriveMode application requires that the smartphone's GPS functionality be turned on at all times[,]" which is "extremely demanding to the battery resources of a

smartphone …." *Id.* at 2:25-31.

242. Given these concerns, a POSITA implementing Wright's invention would have looked for other more accurate and efficient ways to determine whether the smartphone is in a vehicle. Green provides one such alternative, which is using accelerometer data "to determine when the device … is transported into the interior of a moving vehicle." Ex. 1005, Green at 13:42-45. In particular, Green explains that "[t]his change in environment can be discovered using ***velocity and duration of velocity data***, as the speed achieved in a moving vehicle coupled with the time spent at that speed is only rarely achieved outside of a moving vehicle. Velocity data can be garnered by integrating the acceleration data from the accelerometer as the area under the acceleration curve is the velocity." *Id.*, 13:45-51. Green also discloses "continu[ing] to check data from the sensors to confirm that [the device] is, in reality, in a moving vehicle …." *Id.*, 14:4-7.

243. A POSITA would understand Green's teachings to overcome the concerns with AT&T's DriveMode application. First, rather than using only velocity to make the in-vehicle determination, Green discloses also using duration of velocity and to check data to confirm the determination. Green, 13:45-51. These teachings avoid the "arbitrary" nature of using just a speed threshold and decreases the likelihood of having a "false positive." Second, Green discloses using the

accelerometer to acquire velocity and duration of velocity, rather than the battery-intensive GPS sensor, which reduces the demand on the device's battery. A POSITA seeking to improve on Wright therefore would have been motivated to modify the in-vehicle determination in accordance with Green's teachings, i.e., by using the accelerometer and using multiple data points.

244. Because Wright and Green both disclose mobile devices with accelerometers (Wright, Fig. 3 (accelerometer 23); Green, Fig. 8 (motion sensor 86)), the above-referenced modification to Wright's in-vehicle determination would have been straightforward for a POSITA to implement with a reasonable expectation of success. Indeed, a POSITA would not need to introduce additional hardware to Wright's invention; she could simply code Wright's mobile application to make an in-vehicle determination using accelerometer data that is already available instead of GPS data. Such a modification would have been readily implementable with very high confidence of success.

2. Independent Claim 1

245. It is my opinion that Wright in view of Green renders obvious each and every limitation of independent claim 1 as discussed below.

a. 1[pre]: "A device for use with a vehicle, said device comprising"

246. To the extent the preamble of claim 1 is limiting, Wright discloses "a

device for use with a vehicle."

247. For example, Wright is directed to "[m]ethods and systems for logging driving information associated with a vehicle when driven." Ex. 1004, Wright at Abstract; *see also id.* at claim 1 ("A ***mobile telecommunications device*** configured to log driving information ***associated with a vehicle*** …").

248. Figure 2 of Wright, copied below, "illustrates a preferred arrangement of the mobile telecommunications device 17 within the automobile 3. In the illustrated embodiment, the mobile telecommunications device 17 relates to a smartphone configured with an image capture device, such as a camera." Ex. 1004, Wright at 14:45-50.

249. Figure 2 of Wright, copied below "illustrates a preferred arrangement of the mobile telecommunications device 17 within the automobile 3." *Id.* at 14:46-47. at 13:15-19.

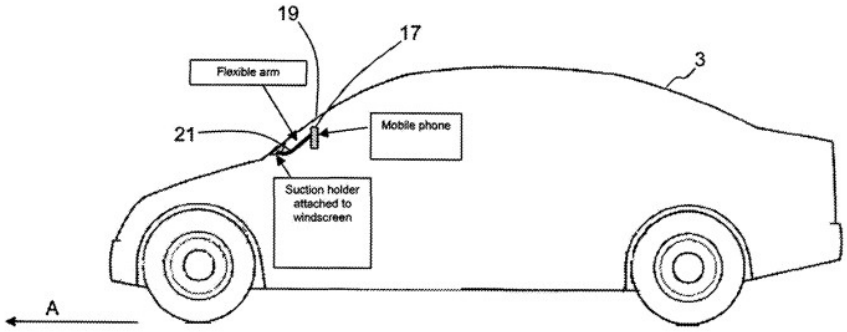


Fig .2

Id. at Fig. 2.

250. Wright's Figure 3 depicts some of the components of the mobile telecommunications device 17:

> Preferably the mobile telecommunications device 17 comprises: an image capture module 21, an accelerometer 23, a GPS receiver 25, an audio capture module 27, a communications module 29, a processor module 31 and a storage module 33. The image capture module 21, accelerometer 23, GPS receiver 25, and audio capture module 27 form a sensor set and are generically referred to as data capture modules in the ensuing description, and are differentiated from the communications module 29, processor module 31 and storage module 33, in that they comprise sensors for sampling physical data.

Id. at 15:16-28.

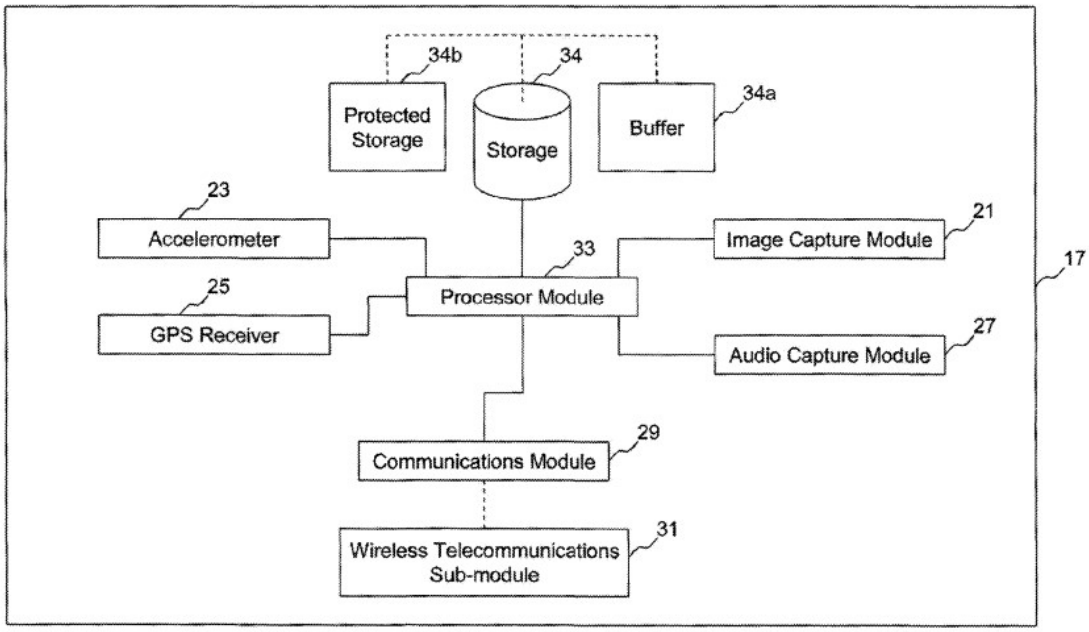


Fig .3

Id. at Fig. 3.

251. Accordingly, Wright discloses the preamble of claim 1.

b. 1[a]: "a mode-determining component operable to detect whether the device is in the vehicle and to generate an in-vehicle signal"

252. Wright in view of Green renders obvious "a mode-determining component operable to detect whether the device is in the vehicle and to generate an in-vehicle signal." As discussed further below, Wright's processor module 33, as modified by the teachings of Green, is the "mode-determining component" claimed

in the '952 patent.[3]

253. Figure 3 of Wright illustrates the various components of the mobile telecommunications device 17 according to Wright's invention:

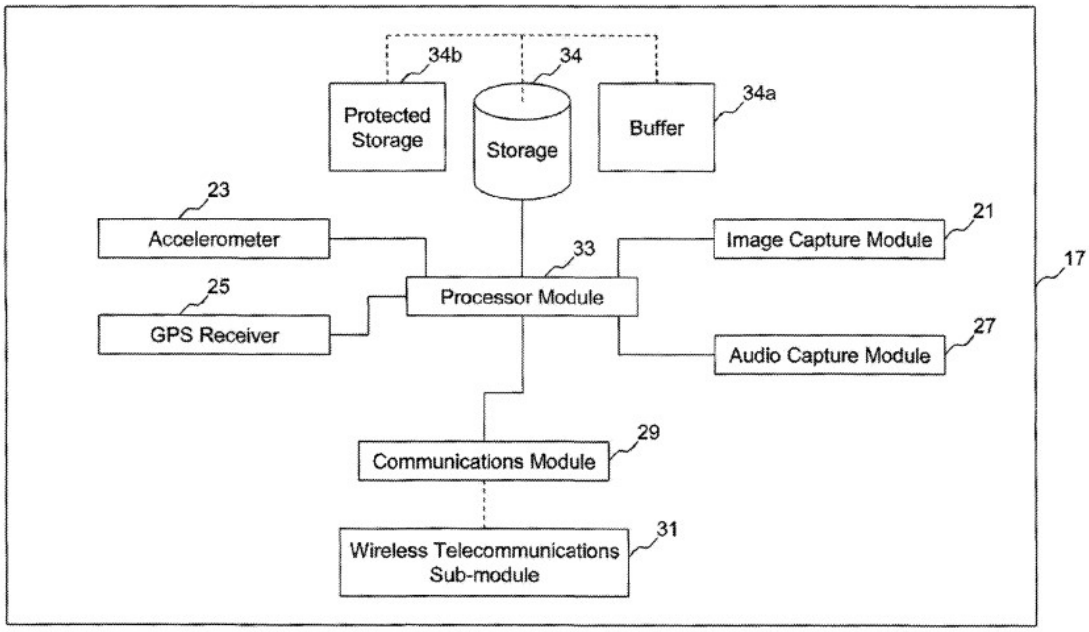


Fig .3

Ex. 1004, Wright at Fig. 3.

254. Wright explains:

[3] Wright's specification also sometimes refers to the processor module as element 31. For purposes of my declaration, I will refer to the processor module as 33, as a POSITA reviewing Wright would understand that any disclosures in Wright relating to a "processor module," whether as 31 or 33, are intended to reference the same processor module.

> FIG. 3 is a schematic of the modular components of the mobile telecommunications device 17 of FIG. 2. Preferably the mobile telecommunications device 17 comprises: an image capture module 21, an accelerometer 23, a GPS receiver 25, an audio capture module 27, a communications module 29, ***a processor module 31 and a storage module 33***. The image capture module 21, accelerometer 23, GPS receiver 25, and audio capture module 27 form a sensor set and are generically referred to as data capture modules in the ensuing description, and are differentiated from the communications module 29, processor module 31 and storage module 33, in that they comprise sensors for sampling physical data.

Id. at 15:16-28.

255. Wright further states: "This sampled physical data, which is also referred to as sensor data, is subsequently ***processed by the processor module 31 and stored in the storage module 33***." *Id.* at 15:29-31. In light of the above disclosures, a POSITA would understand that the processor module 33 is the component in Wright's mobile device 17 that is connected to all of the various sensors and that processes the sensor data provided by those sensors.

256. Figure 4a of Wright, depicted below, "is a flow chart outlining the method carried out by the mobile telecommunications device 17, to determine if a driving incident has occurred, in accordance with a preferred embodiment." Ex. 1004, Wright at 18:8-11.

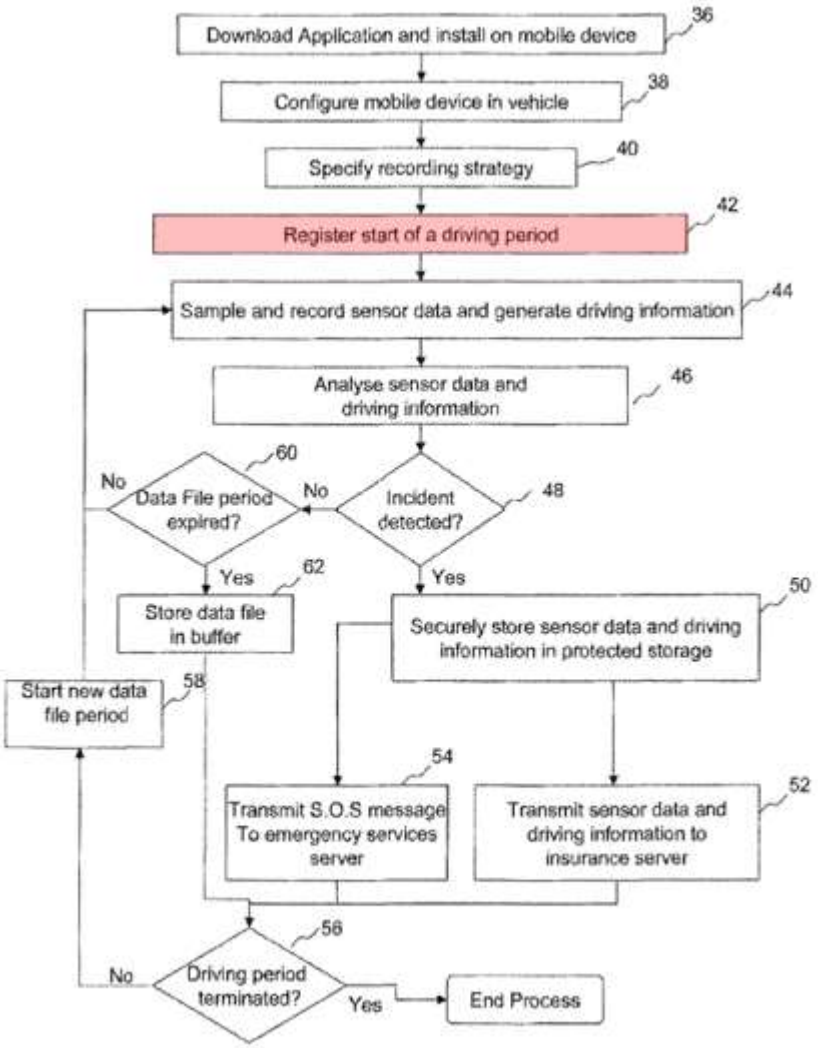


Fig. 4a

257.

Id. at Fig. 4a.

258. As relevant here, Wright discloses that "[t]he start of a driving period is registered, at step 42. The start of the driving period determines when the recording of sampled sensor data begins." *Id.* at 18:30-32. According to Wright, "the start of the driving period may be automated. For example, ***the mobile device***

17 may be configured to initiate the driving period once sensor data above a minimum threshold value is recorded, indicative of the vehicle being in motion. For example, once a velocity greater than 20 kilometers per hour is detected." *Id.* at 18:34-39. The normal operating mode of the mobile device during Wright's "driving period" is a first mode of the device, as determined by the processor module 33 ("mode-determining component").

259. As I discussed above, the '952 patent specification recognizes various problems in prior art methods of making an in-vehicle determination, specifically in the context of AT&T's DriveMode application. Such problems include the arbitrary nature of using a speed threshold (such as 25 mph in DriveMode; 20 km/h in Wright) to enter a drive mode and the extreme demand placed on the smartphone battery when constantly using the GPS sensor to determine whether the speed threshold has been surpassed. Ex. 1001, '952 patent at 2:21-31.

260. Given these problems in the prior art, it is my opinion, as discussed in Section VI.C.1 above, that a POSITA implementing Wright's invention would have explored different options to determine more accurately and more efficiently whether the smartphone is in a vehicle beyond simply using GPS data to see if a speed threshold has been exceeded. One such option a POSITA would have considered is Green's disclosure of using velocity and duration of velocity data from

an accelerometer to accurately determine whether the mobile device is in a vehicle, as Green's solution overcomes the problems with DriveMode identified by the '952 patent. Therefore, a POSITA reviewing Wright would have modified the in-vehicle determination in accordance with Green's teachings, i.e., by using the accelerometer.

261. In light of Wright's disclosures above that the processor module 33 collects and processes data from all of the sensors, *see, e.g.*, Ex. 1001, '952 patent at 15:16-31), a POSITA would understand that the processor module 33 is the component of mobile device 17 that "may be configured to initiate the driving period once sensor data above a minimum threshold value is recorded, indicative of the vehicle being in motion." Ex. 1004, Wright at 18:34-38. In other words, the processor module 33 is "operable to detect whether the device is in the vehicle."

262. Next, once the processor module 33 of Wright as modified by Green detects that (1) velocity is greater than a certain speed and (2) such velocity has been maintained for a certain period of time, it recognizes that the mobile device is in a vehicle and registers the start of the driving period that causes the mobile device 17 to begin recording sensor data. Wright, Fig. 3 (steps 42 and 44), 18:34-38. A POSITA would understand that the processor module must generate a signal (i.e., the "in-vehicle signal") to communicate that recording of sensor data should begin.

263. A POSITA would understand that the teachings of Wright in view of