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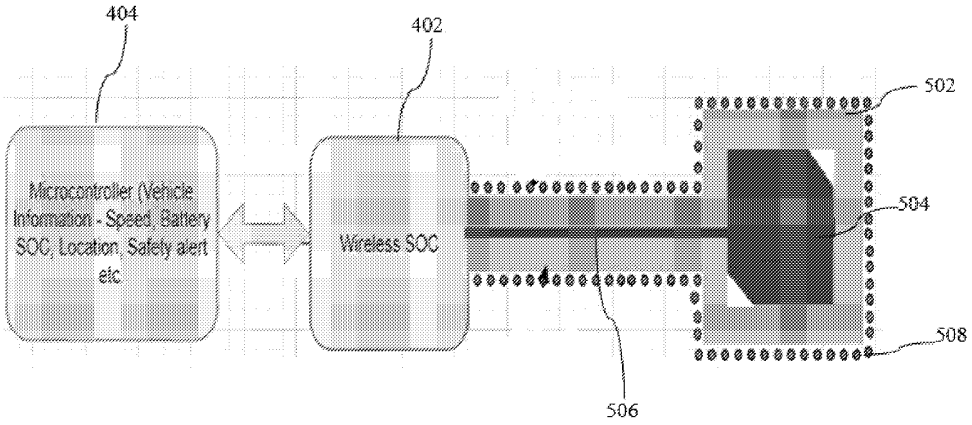


Fig. 5

(57) Abstract: An onboard/ microstrip antenna (502) comprises a radiator (504) for transmitting and receiving wireless signals. Truncations are present on at least one pair of diagonally opposite comers of the radiator to generate circular polarization. A ground plane (602) is positioned beneath the radiator (602) to reflect wireless signals. A plurality of dielectric substrates (604) is sandwiched between the radiator (504) and the ground plane (602) to facilitate impedance matching. Further, a feed line (506) is coupled to the radiator (504) to enable signal transmission between the radiator (504) and one or more wireless communication modules. Further, a plurality of V-shaped slots is integrated symmetrically along the edges of the radiator (504) to reduce the form factor of the antenna. The microstrip antenna (502) integrates an Electromagnetic Bandgap (EBG) structure with ground vias to mitigate signal interference and enhance radiation efficiency.

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