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(54) CONTROLLABLE ELECTRICAL OUTLET HAVING A RESONANT LOOP ANTENNA

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(57)ABSTRACT

A controllable electrical outlet may comprise a resonant loop antenna. The resonant loop antenna may comprise a feed loop electrically coupled to a radio-frequency (RF) communication circuit and a main loop magnetically coupled to the feed loop. The controllable electrical outlet may comprise one or more electrical receptacles configured to receive a plug of a plug-in electrical load and may be configured to control power delivered to the plug-in electrical load in response to an RF signal received via the RF communication circuit. The RF performance of the controllable electrical outlet may be substantially immune to devices plugged into the receptacles (e.g., plugs, power supplies, etc.) due to the operation of the resonant loop antenna. For example, degradation of the RF performance of the controllable electrical outlet may be less when the controllable electrical outlet includes the resonant loop antenna rather than other types of antennas.

