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(54) Title: ELECTROMAGNETIC STATE SENSING DEVICES

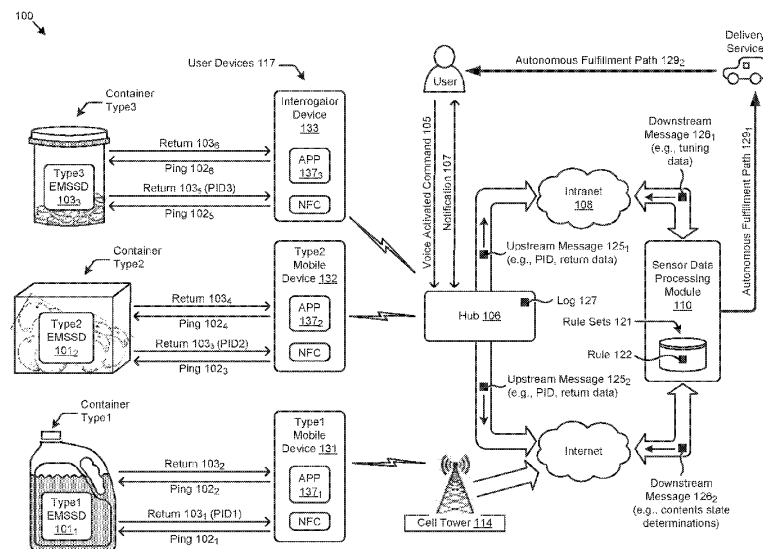


FIG. 1

(57) Abstract: Methods include receiving a request from a user device to download an application and providing access to the application in response to the request. The application is configured to transmit a first electromagnetic radiation and receive, from an electromagnetic state sensing device (EMSSD) that is affixed to product packaging, a first electromagnetic radiation return signal. The first electromagnetic radiation return signal is transduced by the EMSSD to produce an electromagnetic radiation signal that encodes first information comprising a product identification code. The application is also configured to apply a rule that is selected based on the product identification code; transmit a second electromagnetic radiation ping that is tuned based on the rule; receive, from the EMSSD, a second electromagnetic radiation return signal that encodes second information pertaining to contents within the product packaging; and send, from the user device, a portion of the second information to an upstream computing device.

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