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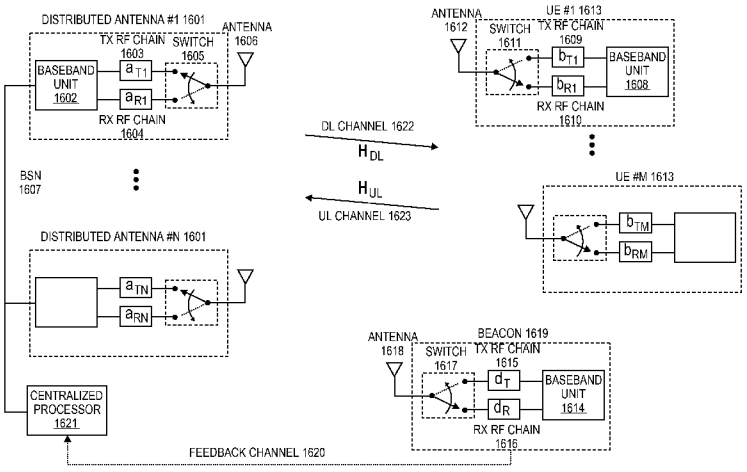

FIG. 16

(57) Abstract: Systems and methods are described for radio frequency (RF) calibration in a multiple antenna system (MAS) with multi-user (MU) transmissions ("MU-MAS") exploiting uplink/downlink channel reciprocity. The RF calibration is used to compute open-loop downlink precoder based on uplink channel estimates, thereby avoiding feedback overhead for channel state information as in closed-loop schemes. For example, a MU-MAS of one embodiment comprises a wireless cellular network with one or multiple beacon stations, multiple client devices and multiple distributed antennas operating cooperatively via precoding methods to eliminate inter-client interference and increase network capacity.

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