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(54) **Title:** MULTI-LEVEL RF PULSE MONITORING AND RF PULSING PARAMETER OPTIMIZATION AT A MANUFACTURING SYSTEM

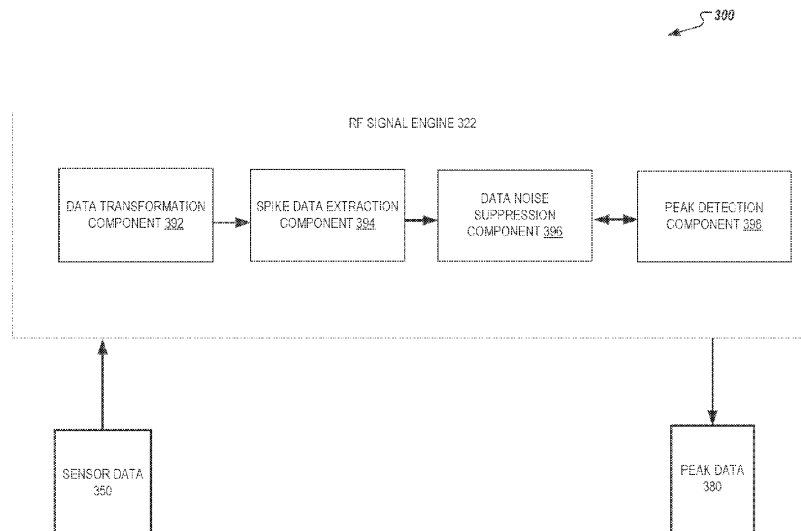


FIG. 3

(57) **Abstract:** Methods and systems for multi-level RF pulse monitoring and RF pulsing parameter optimization at a manufacturing system are provided. A radio frequency (RF) signal is pulsed within a processing chamber in accordance with a set of RF pulsing parameters. Sensor data is received from one or more sensors that indicates a multi-level RF pulse waveform detected within the processing chamber based on the RF signal pulsing. One or more peaks are identified in the detected multi-level RF pulse waveform. Each identified peak corresponds to at least one RF signal pulse of the RF signal pulsing within the processing chamber. A determination is made, based on the identified one or more peaks, whether the detected multi-level RF pulse waveform corresponds to the target multi-level RF pulse waveform. An indication of whether the detected multi-level RF pulse waveform corresponds to the target multi-level RF pulse waveform is provided to a client device.

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