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(54) Title: RADIO FREQUENCY GENERATOR WITH AUTOMATIC LEVEL CONTROL

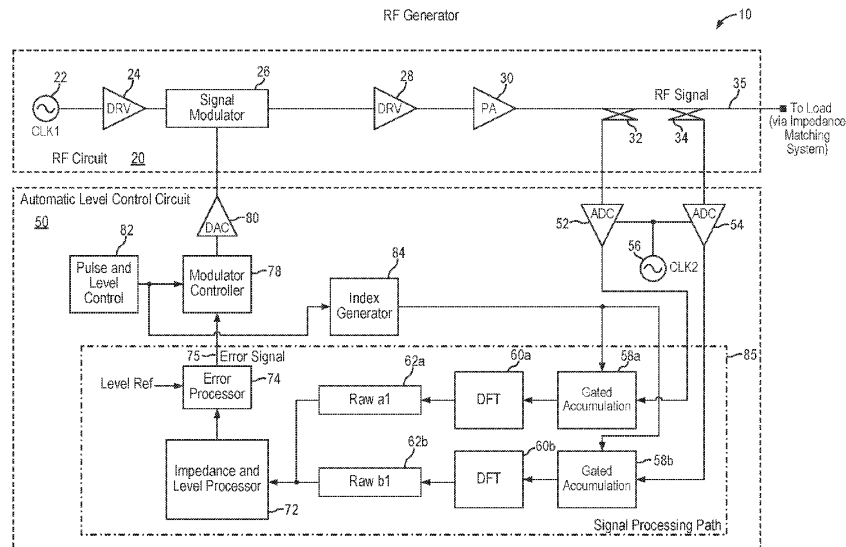


FIG. 2

(57) Abstract: A radio frequency (RF) generator incorporates an automatic level control (ALC) circuit to control the output level of the RF signal where the ALC circuit implements synchronized ADC sampling, pulse sample indexing, gated accumulation to enable fast ALC loop control, especially for pulse-modulated RF signals. In other embodiments, the ALC circuit implements multi-level control for multi-level RF signals. In this manner, the RF generator uses the ALC circuit to generate an RF signal having a constant power level for RF signals having any pulse shape or output levels. In other embodiments, a clock generation circuit in an impedance matching network synchronizes a slave clock to a clock signal of the RF signal when the load impedance is resistive only or when the clock signal of the RF signal has a given phase condition.

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