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(54) **FAST FREQUENCY SWITCHING IN A
VARIABLE RF FILTER**

(52) **U.S. Cl.**

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(57)

ABSTRACT

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An RF signal is tuned by: producing a first signal at a first frequency using a digital sequence generator; filtering the first signal using a frequency-tunable tracking filter that is tuned to the first frequency, the tracking filter comprising one or more variable resonators; tuning the tracking filter from the first frequency to a second frequency over a transition period; and tuning the first signal to the second frequency by causing the digital sequence generator to transition between two or more states during the transition period. The two or more states are selected such that, immediately after the transition period, the analog signal substantially matches a desired steady state at the second frequency.

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