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(54) **RF IMPEDANCE MATCHING NETWORK WITH CLAMPING CIRCUIT**

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(57) **ABSTRACT**

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In one embodiment, an RF impedance matching circuit is disclosed. The matching circuit includes at least one electronically variable capacitor (EVC). Each EVC includes fixed capacitors, each of the fixed capacitors having a corresponding switching circuit for switching in and out the fixed capacitor to alter a total capacitance of the EVC. Each switching circuit includes a switch comprising a PIN diode or an NIP diode, a driver circuit operably coupled to the switch, a filter operably coupled between the driver circuit and the switch, and a clamping circuit operably coupled between the filter and the switch. The clamping circuit includes a blocking device having a first terminal operably coupled to a clamping power supply and a distinct second terminal operably coupled to a terminal of the filter.

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