CLAIMS

1. A system comprising:

a base RF generator for generating a first RF signal, wherein the first RF signal transitions from one state to another, the transition from one state to another of the first RF signal resulting in a change in plasma impedance;

a secondary RF generator for generating a second RF signal, wherein the second RF signal transitions from one state to another to stabilize the change in the plasma impedance;

a controller coupled to the secondary RF generator, the controller for providing parameter values to the secondary RF generator to perform edge ramping of the second RF signal when the second RF signal transitions from one state to another, wherein the edge ramping of the second RF signal is performed to modify a rate of transition of the second RF signal to be different than a rate of transition of the first RF signal.

2. The system of claim 1, wherein the edge ramping has a positive or a negative slope.

3. The system of claim 1, wherein the parameter values include frequency values, power values, or a combination thereof.

4. A system for reducing an effect of a change in power level of a radio frequency (RF) signal on plasma impedance, comprising:

a primary generator including:

a primary driver and amplifier for generating a primary RF signal;

a primary digital signal processor (DSP) for identifying states of a digital pulsed signal, the states including a first state and a second state,

identifying a second secondary frequency input when the digital pulsed signal is in the second state;

tuning a secondary RF signal to achieve plasma impedance corresponding to the first secondary frequency input when the digital pulsed signal is in the first state;

tuning the secondary RF signal to achieve plasma impedance corresponding to the second secondary frequency input when the digital pulsed signal is in the second state,

determining a secondary rate of transition from the first secondary frequency input to the second secondary frequency input, wherein the secondary rate of transition is different than the primary rate of transition.

19. The method of claim 18, wherein the secondary rate of transition is less than the primary rate of transition.

20. The method of claim 18, wherein a first amount of time taken to transition from the first secondary frequency input to the second secondary frequency input is greater than a second amount of time taken to transition from the first primary frequency input to the second primary frequency input.

21. The method of claim 20, wherein the first amount of time is less than a third amount of time for plasma impedance to stabilize at the second state.

22. The method of claim 20, wherein the first amount of time is less than a third amount of time, the third amount of time for matching impedance of one or more portions of a generator for generating the secondary RF signal with impedance of one or more portions of a plasma chamber.