CLAIMS

1. A transformer comprising:

a primary coil corresponding to a primary winding configured to receive an input from a match network or a filter, the primary coil comprising

a first shield of a first coaxial cable,

a second shield of a second coaxial cable, and

a conductive interconnector connecting the first shield to the second shield; and

a secondary coil corresponding to a second winding configured to provide an output to an electrode of a process chamber, the secondary coil comprising

a first core of the first coaxial cable,

a second core of the second coaxial cable, and

a pair of conductive lines connecting the first core to the second core.

2. The transformer of claim 1, wherein the first coaxial cable extends parallel to the second coaxial cable.

3. The transformer of claim 1, wherein a sum of lengths of the first core, the second core and the pair of conductive lines is at least one of based or equal to a multiple of a length of each of the first coaxial cable and the second coaxial cable.

4. The transformer of claim 1, wherein a length of each of the first coaxial cable and the second coaxial cable is at least one of based on or equal to a fraction multiple of a wavelength of a radio frequency signal transmitted by the transformer.

5. A radio frequency distribution circuit comprising:

a radio frequency generator to generate a first radio frequency signal including a frequency component at a radio frequency; and

the transformer of claim 1, wherein the transformer is to convert the first radio frequency signal to a second radio frequency signal, the second radio frequency signal includes a frequency component at the radio frequency.

6. A substrate processing system comprising:

the radio frequency distribution circuit of claim 5;

a process chamber;

a showerhead comprising an electrode and implemented in the process chamber; and

a substrate support implemented in the process chamber adjacent the showerhead,

wherein the transformer is to supply the second radio frequency signal to the electrode.

7. A radio frequency distribution circuit to supply radio frequency power to an electrode in a substrate processing system, the radio frequency distribution circuit comprising:

a radio frequency generator to generate a first radio frequency signal;

a transformer to convert the first radio frequency signal to a second radio frequency signal and supply the second radio frequency signal to the electrode to adjust plasma ionization density and ionization energy within a process chamber of the substrate processing system, wherein the transformer is a coaxial transformer, and comprises a primary coil corresponding to a primary winding and a secondary coil corresponding to a secondary winding; and

a match network to match an output of the radio frequency generator to an input of the transformer.