CLAIMS

What is claimed is:

1. A method of testing an electrostatic chuck having a front surface and a back surface and comprising at least one electrode, said method comprising:

establishing predetermined acceptable limits of a parameter of the electrostatic chuck within a frequency band; and

measuring, between the back surface and one of the at least one electrode, the parameter of the electrostatic chuck within the frequency band.

2. The method of claim 1, wherein said measuring a first parameter of the electrostatic chuck comprises measuring resistance.

3. The method of claim 2,

wherein the at least one electrode comprises a first electrode and a second electrode, and

wherein said measuring a resistance comprises measuring a resistance between the first electrode and the second electrode.

~~4. The method of claim 2, wherein said measuring a resistance comprises measuring a resistance between the back surface and one of the at least one electrode.~~

54. The method of claim 1, wherein said measuring a first parameter of the electrostatic chuck comprises measuring capacitance.

65. The method of claim 54,

wherein the at least one electrode comprises a first electrode and a second electrode, and

wherein said measuring a capacitance comprises measuring a capacitance between the first electrode and the second electrode.

~~7. The method of claim 5, wherein said measuring a capacitance comprises measuring a capacitance between the back surface and one of the at least one electrode.~~

8. The method of claim 1, wherein said measuring a first parameter of the electrostatic chuck comprises measuring impedance.

9. The method of claim 8,

wherein the at least one electrode comprises a first electrode and a second electrode, and

wherein said measuring an impedance comprises measuring an impedance between the first electrode and the second electrode.

~~10. The method of claim 8, wherein said measuring an impedance comprises measuring an impedance between the back surface and one of the at least one electrode.~~

11. The method of claim 1 , wherein said measuring the parameter of the electrostatic chuck within the frequency band comprises measuring the parameter of the electrostatic chuck within the frequency band at a first temperature and measuring the parameter of the electrostatic chuck within the frequency band at a second temperature.

12. The method of claim 1, wherein said measuring a first parameter of the electrostatic chuck comprises measuring at least one of resistance, capacitance and impedance.

~~13~~10. The method of claim ~~12~~9, wherein said measuring the parameter of the electrostatic chuck within the frequency band comprises measuring the parameter of the electrostatic chuck within the frequency band at a first temperature and measuring the parameter of the electrostatic chuck within the frequency band at a second temperature.

~~14. A method of establishing acceptable limits of a parameter of an electrostatic chuck using a known upper limit of the parameter at a single frequency and a known lower limit of the parameter at the single frequency, said method comprising:~~

~~measuring the parameter of the electrostatic chuck within a frequency band to obtain a function of the parameter within the frequency band;~~

~~generating a slope of the function of the parameter within the frequency band;~~

~~generating an acceptable upper limit of the parameter using the known upper limit of the parameter at the single frequency and the slope of the function of the parameter, and~~

~~generating an acceptable lower limit of the parameter using the known lower limit of the parameter at the single frequency and the slope of the function of the parameter.~~

~~15. The method of claim 14, wherein said measuring the parameter of the electrostatic chuck within a frequency band comprises measuring at least one of resistance, capacitance and impedance.~~

~~16. The method of claim 14, wherein said measuring the parameter of the electrostatic chuck within a frequency band comprises measuring the parameter of the electrostatic chuck within the frequency band at a first temperature and measuring the~~

parameter of the electrostatic chuck within the frequency band at a second temperature.

17. A method of establishing acceptable limits of a parameter of an electrostatic chuck using a known upper limit of the parameter at a single frequency and a known lower limit of the parameter at the single frequency, said method comprising:

measuring the parameter of the electrostatic chuck within a frequency band a plurality of times to obtain a corresponding plurality of functions of the parameter within the frequency band;

generating a mean function of the parameter based on the plurality of functions;

generating a predetermined number of standard deviations of the parameter based on the plurality of functions;

generating an acceptable upper limit of the parameter and an acceptable lower limit of the parameter using the predetermined number of standard deviations of the parameter.

18. The method of claim 17, wherein said measuring the parameter of the electrostatic chuck within a frequency band comprises measuring at least one of resistance, capacitance and impedance.

19. The method of claim 17, wherein said measuring the parameter of the electrostatic chuck within a frequency band comprises measuring the parameter of the electrostatic chuck within the frequency band at a first temperature and measuring the parameter of the electrostatic chuck within the frequency band at a second temperature.