What is claimed is:

1. A substrate support comprising:

a body having a support surface and a bottom surface, the distance between the support surface and bottom surface defining a thickness of the body, the support surface having a plurality of purge channels extending a distance into the body, the plurality of purge channels bounded by a seal band, the body including at least two electrodes configured to electrostatically chuck a substrate to the support surface;

a support post connected to the bottom surface of the body;

a purge line in fluid communication with the purge channels;

a power supply connected to the electrodes; and

a controller connected to the electrodes and configured to measure capacitance of a substrate on the support surface, wherein the controller is configured to determine if the substrate is flat and chucked by correlating changes in the capacitance with an increase in a flow rate of purge gas to a back side of the substrate .

2. The substrate support of claim 1, wherein the power supply is configured to provide high voltage direct current (DC) and a low voltage alternating current (AC) component to the electrodes.

3. The substrate support of claim 1, wherein the controller is configured to continuously measure the capacitance of a substrate on the support surface throughout processing and stop the processing upon a change in capacitance above a threshold value.

4. The substrate support of claim 1, wherein the controller is connected to the purge line and configured to measure the flow rate of purge gas through the purge line to the back side of a substrate on the support surface.

5. The substrate support of claim 1, wherein the body further comprises at least one heating element within the thickness of the body.

6. The substrate support of claim 5, wherein the controller is connected to the at least one heating element and configured to control power to the at least one heating element.

7. A substrate support assembly comprising:

a central hub rotatable around a rotational axis;

a plurality of substrate supports positioned at a distance from the rotational axis, each of the substrate supports comprising:

a body having a support surface and a bottom surface, the distance between the support surface and bottom surface defining a thickness of the body, the support surface having a plurality of purge channels extending a distance into the body, the plurality of purge channels bounded by a seal band, the body including at least two electrodes configured to electrostatically chuck a substrate to the support surface;

a support post connected to the bottom surface of the body;

a purge line in fluid communication with the purge channels;

a power supply connected to the electrodes; and

a controller connected to the electrodes and configured to measure capacitance of a substrate on the support surface, wherein the controller is configured to determine if the substrate is flat and chucked by correlating changes in the capacitance with an increase in a flow rate of the purge gas to a back side of the substrate.

8. The substrate support assembly of claim 7, wherein each power supply is configured to provide high voltage direct current (DC) and a low voltage alternating current (AC) component to the electrodes.

9. The substrate support assembly of claim 7, wherein the controller is configured to continuously measure the capacitance of a substrate on the support surfaces

throughout processing and stop the processing upon a change in capacitance of any of the substrates above a threshold value.

10. The substrate support assembly of claim 9, wherein the controller is connected to the purge line and configured to measure the flow rate of purge gas through the purge line to the back side of a substrate on the support surface.

11. The substrate support assembly of claim 7, wherein the body of each of the substrate supports further comprises at least one heating element within the thickness of the body.

12. The substrate support assembly of claim 11, wherein the controller is connected to the at least one heating element and configured to control power to the at least one heating element.

13. The substrate support assembly of claim 7, wherein there are three or four substrate supports connected to the central hub.

14. A processing method comprising:

providing a flow of purge gas into a plurality of purge channel formed in a support surface of a body of a substrate support, the plurality of purge channels bounded by a seal band, the substrate support having a substrate positioned thereon and the flow of gas leaking through the seal band;

polarizing at least two electrodes formed in the body of the substrate support so that there is a voltage differential between the at least two electrodes to electrostatically chuck the substrate to the support surface;

measuring a capacitance of the substrate on the substrate support to determine whether the substrate is chucked; and

increasing the flow of purge gas to a back side of the substrate and measuring the capacitance of the substrate to determine if the substrate is flat and chucked to the support surface.

15. The method of claim 14, wherein polarizing the at least two electrodes comprises providing power from a power supply configured to provide high voltage direct current (DC) and a low voltage alternating current (AC) component to the electrodes.

16. The method of claim 15, wherein the substrate is processed and the capacitance of a substrate on the support surface is continuously measured and the processing is stopped when a change in capacitance above a threshold value is reached.

17. The method of claim 14, wherein there are a plurality of substrate supports positioned around a rotational axis of a substrate support assembly, each of the substrate supports having a plurality of purge gas channels and electrodes, and a capacitance of each substrate on the support surfaces is monitored throughout a deposition process to determine if a substrate becomes de-chucked.