CLAIMS

1. A process chamber, comprising:

a chamber body having a chamber lid assembly disposed thereon, the chamber body being operable at a first radio frequency range;

one or more monitoring devices coupled to the chamber lid assembly and containing encrypted data, each of the one or more monitoring devices being operable at a second radio frequency range that is different than the first radio frequency range; and

one or more antennas disposed adjacent to the chamber lid assembly and in communication with the one or more monitoring devices.

2. The process chamber of claim 1, wherein the one or more monitoring devices include identification information for components of the chamber lid assembly.

3. The process chamber of claim 2, wherein the identification information includes one or both of fixed data and variable data.

4. The process chamber of claim 2, wherein the identification information includes date of manufacture, first date in service, time in active process, cumulative hours of radio frequency application, and combinations thereof.

5. The process chamber of claim 2, wherein the identification information includes end of life limits.

6. The process chamber of claim 2, wherein the identification information includes operating parameters.

7. The process chamber of claim 1, wherein each of the one or more monitoring devices comprises a radio frequency identification device.

8. The process chamber of claim 1, wherein each of the one or more monitoring devices comprises a memory.

9. The process chamber of claim 1, wherein the chamber lid assembly includes a magnetron and a sputtering target.

10. A sputtering target for a sputtering chamber, the sputtering target comprising:

a backing plate having a frontside surface and a backside surface, the backside surface having:

a plurality of circular grooves which are spaced apart from one another; and

at least one arcuate channel cutting through the circular grooves;

a monitoring device containing encrypted data and positioned on the backside surface of the backing plate, the monitoring device being operable at a first radio frequency range; and

a sputtering plate mounted on the frontside surface of the backing plate, the sputtering chamber being operable at a second radio frequency range that is different than the first radio frequency range.

11. The target of claim 10, wherein the monitoring device comprises a radio frequency identification tag.

12. The target of claim 10, wherein the monitoring device includes identification information for the target.

13. The target of claim 12, wherein the identification information includes one or both of fixed data and variable data.

14. The target of claim 12, wherein the identification information includes date of manufacture, first date in service, time in active process, cumulative hours of radio frequency application, or combinations thereof.

15. The target of claim 12, wherein the identification information includes end of life limits.

16. The target of claim 12, wherein the identification information includes operating parameters.

17. A magnetron, comprising:

a magnet disposed in a chamber, the chamber being operable at a first radio frequency range;

a counterweight positioned adjacent to the magnet; and

a monitoring device coupled to a metallic component of the magnetron, the monitoring device operable at a second radio frequency range that is different than the first radio frequency range.

18. The magnetron of claim 17, wherein the monitoring device includes identification information for the magnetron.

19. The magnetron of claim 18, wherein the identification information includes date of manufacture, first date in service, time in active process, cumulative hours of radio frequency application, or combinations thereof.

20. The magnetron of claim 18, wherein the identification information includes operating parameters.