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CLAIMS

1. A method of detecting the temperature of a component of a support system for semiconductor processing equipment, the method comprising:
 - 5 applying a radio frequency identity tag to the component, the radio frequency identity tag having a serial number;
reading the radio frequency identity tag with a reader, the reader arranged to read the serial number of the radio frequency identity tag, and to identify the resonant frequency of the radio frequency identity tag; and
 - 10 converting the resonant frequency of the radio frequency tag to a temperature of the radio frequency identity tag.
2. The method of claim 1 further comprising, when the radio frequency identity tag is applied to the component, recording the serial number and
15 installation location of the radio frequency identity tag in a database; and when a temperature reading is subsequently obtained, the location of that temperature reading is determined by looking up the serial number of the radio frequency identity tag in the database.
- 20 3. The method of claim 1 or 2, wherein the temperature of the component is determined to be the same as the temperature of the radio frequency identity tag.
4. The method of claim 1 wherein the component is a process pipe of
25 semiconductor processing equipment.
5. The method of claim 1 wherein the component is an electrical component of a power distribution system for providing electrical power to the semiconductor processing equipment.

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6. A reader for detecting the temperature of a component of a support system for semiconductor processing equipment, the reader comprising:
- a transmitter arranged to transmit a signal to a radio frequency identity tag attached to the component, the radio frequency identity tag having a serial number;
 - a receiver for receiving the serial number of the radio frequency identity tag;
 - the reader further arranged to identify the resonant frequency of the radio frequency identity tag; and
 - the reader further comprising a processor arranged to convert the resonant frequency of the radio frequency tag to a temperature of the radio frequency identity tag.
7. The reader of claim 6, further comprising a long read-in antenna arranged along the length of the process pipe, the long read-in antenna connected to at least one of the transmitter and receiver.
8. The reader of claims 6 or 7, wherein the reader identifies the resonant frequency of the radio frequency identity tag by transmitting a series of different frequency signals to the radio frequency identity tag and determining the signal strength of a signal received from the radio frequency identity chip for each different frequency signal.
9. The reader of any of claims 6 or 7, wherein the reader identifies the resonant frequency of the radio frequency identity tag by detecting the frequency of a signal received from the radio frequency identity chip.

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10. A radio frequency identity tag for detecting the temperature of a component of a support system for semiconductor processing equipment, the radio frequency identity tag comprising:

an antenna arranged to be placed in thermal communication with the
5 component;

an electrically insulating pad, the electrically insulating pad separating the antenna from the component; and

electrical parts electrically coupled to the antenna and arranged to be remote from the process pipe.

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11. The radio frequency identity tag of claim 10, wherein the antenna, electrically insulating pad and electrical parts are encased in a case.

12. The radio frequency identity tag of claim 10 or 11, further comprising an
15 adhesive pad for affixing the electrically insulating pad to the component.

13. The radio frequency identity tag of claim 10, 11 or 12, wherein the radio frequency identity tag is one of:

a passive tag,

20 an active tag, and

a battery assisted passive tag.

14. The radio frequency identity tag of any of claims 10 to 13, wherein the electrical parts include a memory for storing a serial number, the serial number
25 transmitted by the radio frequency identity tag when the radio frequency identity tag is interrogated.

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15. The radio frequency identity tag of any of claims 10 to 14, wherein the electrically insulating pad is an electrical insulator and is thermally conductive.

16. The radio frequency identity tag of any of claims 10 to 15, further
5 comprising a thermal insulation layer, the thermal insulation layer separating the electrical parts of the radio frequency identity tag from the antenna, the insulating pad, and the pipe.

17. A program or plurality of programs arranged such that when executed by
10 a computer system or one or more processors it/they cause the computer system or the one or more processors to operate in accordance with the method of any of claims 1 to 5.

18. A machine-readable storage medium storing a program or at least one of
15 the plurality of programs according to claim 17.