CLAIMS

1. A radio frequency (RF) assembly, comprising:

an RF panel comprising a microstrip interface, the microstrip interface comprising a ground-signal configuration;

a plate comprising a stripline interface, the stripline interface comprising a ground-signal-ground configuration;

a microstrip-to-stripline transition element, which comprises a ground-signal-ground configuration that is curvilinear, operably connectable to the microstrip interface and to the stripline interface; and

an additional chip element interposed between an upper surface of the RF panel and a lower surface of the plate,

wherein:

the microstrip and stripline interfaces are axially offset from one another with the microstrip-to-stripline transition element having an inflective curve between the microstrip and stripline interfaces,

an upper ground conductor of the ground-signal-ground configuration of the microstrip-to-stripline transition element terminates at a side of the additional chip element facing the inflective curve, and

the ground-signal configuration of the microstrip interface extends between the additional chip element and the RF panel.

2. The RF assembly according to claim 1, wherein:

the ground-signal configuration of the microstrip interface is characterized in that dielectric material insulates a signal conductor from a ground conductor and the ground conductor extends along the upper surface of the RF panel,

the ground-signal-ground configuration of the stripline interface is characterized in that dielectric material insulates a signal conductor from ground conductors along the lower surface of the plate, and

the ground-signal-ground configuration of the microstrip-to-stripline transition element is similar to that of the stripline interface with the upper ground conductor terminating at the microstrip interface.

3. The RF assembly according to claim 2, wherein:

the stripline interface is longitudinally interposed between a longitudinal end of the microstrip-to-stripline transition element and a chip element at the lower surface of the plate.

4. The RF assembly according to claim 1, further comprising a printed circuit board (PCB) on which the RF panel is disposed.

5. The RF assembly according to claim 1, wherein the plate comprises at least one of a structural plate and a thermal plate.

6. The RF assembly according to claim 1, further comprising at least one of a chip element at the stripline interface and additional chip elements interposed between the RF panel and the plate.

7. The RF assembly according to claim 1, further comprising at least one of:

fastening elements coupled to the RF panel and the plate to apply a compressive force to the microstrip-to-stripline transition element; and

solder applied to at least a mechanical interface of the RF panel and the microstrip-to-stripline transition element.

8. A radio frequency (RF) assembly, comprising:

an RF panel having an upper surface and comprising a microstrip interface at the upper surface;

a plate having a lower surface and comprising a stripline interface at the lower surface;

a microstrip-to-stripline transition element, which has a ground-signal-ground configuration which is curvilinear, having first and second ends and being operably connected at the first end thereof to the microstrip interface at the upper surface of the RF panel and at the second end thereof to the stripline interface at the lower surface of the plate; and

an additional chip element interposed between the upper surface of the RF panel and the lower surface of the plate,

wherein:

the microstrip and stripline interfaces are axially offset from one another with the microstrip-to-stripline transition element having an inflective curve between the microstrip and stripline interfaces,

an upper ground conductor of the ground-signal-ground configuration of the microstrip-to-stripline transition element terminates at a side of the additional chip element facing the inflective curve, and

a ground-signal configuration of the microstrip interface extends between the additional chip element and the RF panel.

9. The RF assembly according to claim 8, wherein:

the ground-signal configuration of the microstrip interface is characterized in that dielectric material insulates a signal conductor from a ground conductor and the ground conductor extends along the upper surface of the RF panel,

a ground-signal-ground configuration of the stripline interface is characterized in that dielectric material insulates a signal conductor from ground conductors along the lower surface of the plate, and

the ground-signal-ground configuration of the microstrip-to-stripline transition element is similar to that of the stripline interface with the upper ground conductor terminating at the microstrip interface.

10. The RF assembly according to claim 9, wherein:

the stripline interface is longitudinally interposed between a longitudinal end of the microstrip-to-stripline transition element and a chip element at the lower surface of the plate.

11. The RF assembly according to claim 8, further comprising a printed circuit board (PCB) on which the RF panel is disposed.

12. The RF assembly according to claim 8, wherein the plate comprises at least one of a structural plate and a thermal plate.

13. The RF assembly according to claim 8, further comprising at least one of a chip element at the microstrip interface and additional chip elements interposed between the RF panel and the plate.

14. The RF assembly according to claim 8, further comprising at least one of:

fastening elements coupled to the RF panel and the plate to apply a compressive force to the microstrip-to-stripline transition element; and

solder applied to at least a mechanical interface of the RF panel and the microstrip-to-stripline transition element.

15. A radio frequency (RF) assembly, comprising:

an RF panel having an upper surface and comprising a microstrip interface at the upper surface;

a plate having a lower surface and comprising a stripline interface at the lower surface; and

a microstrip-to-stripline transition element comprising:

a first end operably connected to the microstrip interface at the upper surface of the RF panel;

a second end operably connected to the stripline interface at the lower surface of the plate;

a section which has a ground-signal-ground configuration that is curvilinear and which is connected to the first and second ends; and

an additional chip element interposed between the upper surface of the RF panel and the lower surface of the plate,

wherein:

the microstrip and stripline interfaces are axially offset from one another with the microstrip-to-stripline transition element having an inflective curve between the microstrip and stripline interfaces,

an upper ground conductor of the ground-signal-ground configuration of the microstrip-to-stripline transition element terminates at a side of the additional chip element facing the inflective curve, and

a ground-signal configuration of the microstrip interface extends between the additional chip element and the RF panel.