

CLAIMS

What is claimed is:

1. A RAMP-radio frequency (RAMP-RF) assembly, comprising:
an RF panel comprising a microstrip interface;
a plate comprising a stripline interface; and
a microstrip-to-stripline transition element operably connectable to the microstrip interface and to the stripline interface.
2. The RAMP-RF assembly according to claim 1, wherein the RF panel is frequency independent.
3. The RAMP-RF assembly according to claim 1, further comprising a printed circuit board (PCB) on which the RF panel is disposed.
4. The RAMP-RF assembly according to claim 1, wherein the plate comprises at least one of a structural plate and a thermal plate.
5. The RAMP-RF assembly according to claim 1, wherein:
the microstrip interface comprises a ground-signal configuration and the stripline interface comprises a ground-signal-ground configuration, and
the microstrip-to-stripline transition element comprises a ground-signal-ground configuration.
6. The RAMP-RF assembly according to claim 1, 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.
7. The RAMP-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. The RAMP-RF assembly according to claim 1, wherein the microstrip-to-stripline transition element is at least partially curvilinear or at least partially angular.
9. A RAMP-radio frequency (RAMP-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 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.

10. The RAMP-RF assembly according to claim 9, wherein the RF panel is frequency independent.

11. The RAMP-RF assembly according to claim 9, further comprising a printed circuit board (PCB) on which the RF panel is disposed.

12. The RAMP-RF assembly according to claim 9, wherein the plate comprises at least one of a structural plate and a thermal plate.

13. The RAMP-RF assembly according to claim 9, wherein:
the microstrip interface comprises a ground-signal configuration and the stripline interface comprises a ground-signal-ground configuration, and
the microstrip-to-stripline transition element comprises a ground-signal-ground configuration.

14. The RAMP-RF assembly according to claim 9, 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.

15. The RAMP-RF assembly according to claim 9, 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.

16. The RAMP-RF assembly according to claim 9, wherein the microstrip-to-stripline transition element is at least partially curvilinear or at least partially angular.

17. A method of assembling a RAMP-radio frequency (RAMP-RF) assembly, the method comprising:

forming an RF panel having an upper surface to comprise a microstrip interface at the upper surface;

forming a plate having a lower surface to comprise a stripline interface at the lower surface; and

bending a microstrip-to-stripline transition element having first and second ends into operable connection 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.

18. The method according to claim 17, wherein:

the microstrip interface comprises a ground-signal configuration and the stripline interface comprises a ground-signal-ground configuration, and

the microstrip-to-stripline transition element comprises a ground-signal-ground configuration.

19. The method according to claim 17, further comprising at least one of:

applying a compressive force through the RF panel and the plate to the microstrip-to-stripline transition element; and

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

20. The method according to claim 17, wherein the bending comprises:

bending the microstrip-to-stripline transition element to be at least partially curvilinear, or

bending the microstrip-to-stripline transition element to be at least partially angular.