

WHAT IS CLAIMED IS:

1. A radio frequency (RF) energy transmission line transition for coupling RF energy comprises: a pair of RF transmission line sections disposed on intersecting
5 surfaces of a corresponding one of a pair of conductive members, a first one of the pair of conductive members having a wall with a jog therein for receiving an end portion of a second one of the pair of conductive members, the end portion of an electrically
conductive strip of the first one of the pair of radio frequency transmission line sections being disposed on, and electrically connected to, an electrically conductive strip of a
10 second one of the pair of radio frequency transmission line sections.

2. The radio frequency (RF) energy transmission line transition wherein the jog has orthogonal walls.

15 3. A radio frequency (RF) energy transmission line transition for coupling RF energy between a pair of RF transmission line sections disposed on intersecting surfaces, comprising:

(a) A first one of the pair of radio frequency transmission line sections disposed on a first one of the pair of surfaces, comprising:

20 a first electrically conductive member;
a first dielectric disposed on the first electrically conductive member; and
a first electrically conductive strip disposed on the first dielectric;

(b) A second one of the pair of radio frequency transmission line sections disposed on a second one of the pair of surfaces, comprising:

25 a second electrically conductive member having a first surface portion disposed on the first one of the pair of surfaces and a second surface portion disposed on a second one of the pair surfaces;

a second dielectric disposed on the first surface portion and the second surface portion of the second electrically conductive member;

30 a second electrically conductive strip having an end portion disposed on both: the first surface portion of the second dielectric and on the second surface portion of the second dielectric; and

(c) wherein the end portion of the second electrically conductive strip disposed on the first surface of the second dielectric is disposed on and electrically connected to the first electrically conductive strip conductor.

5 4. The radio frequency (RF) energy transmission line transition recited in claim 3 wherein the intersecting surfaces are orthogonal surfaces.

10 5. The radio frequency (RF) energy transmission line transition recited in claim 3 wherein the second electrically conductive member comprises a block of conductive material, such block having a wall with a jog therein for receiving a front portion of the second one of the pair of radio frequency transmission line sections, a wall of the jog having the end portion of the second electrically conductive strip disposed on the first surface of the second dielectric is disposed on and electrically connected to the first electrically conductive strip conductor.

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6. A radio frequency transmission line structure, comprising:

(a) A first radio frequency transmission line section, comprising:

a first electrically conductive member having a horizontal surface;

a first dielectric disposed on the horizontal surface; and

20 a first electrically conductive strip disposed on the horizontal surface of the dielectric;

(b) A second radio frequency transmission line section, comprising:

a second electrically conductive member having a vertical surface portion and a horizontal surface portion;

25 a second dielectric disposed on the vertical surface portion and the horizontal surface portion of the second electrically conductive member;

a second electrically conductive strip disposed on the vertical surface portion of and the horizontal portion of the second dielectric; and

30 (c) a transition region wherein the end portion of the second electrically conductive strip disposed on the horizontal surface of the second dielectric is electrically connected to the first electrically conductive strip conductor.