

On The Enhancements Of Planar Based RF Sensor Technology

ABSTRACT

5 A radio frequency sensor system includes a printed circuit board (PCB). The PCB includes a first exterior layer, a second exterior layer, a first interior layer, a second interior layer, and an inner perimeter that defines an aperture through the PCB. The PCB also includes a first loop. The first loop includes a first plurality of sensor pads coupled to a first plurality of vias by a first plurality of traces. The first plurality of sensor
10 pads is arranged on the inner perimeter. The PCB also includes a second loop. The second loop includes a second plurality of sensor pads coupled to a second plurality of vias by a second plurality of traces. The second plurality of sensor pads is arranged on the inner perimeter. A core ring is embedded within the first interior layer proximal to the first plurality of sensor pads, the first plurality of vias, and the first plurality of traces.
15 A center conductor, for carrying RF current, extends through the aperture. The first and second loops generate an electrical signal based on the first and second plurality of sensor pads, the first and second plurality of vias, the first and second plurality of traces, and the core ring.

20 Figure 1 accompanies the abstract