helix. A first end of the coil may be connected to a first plate of the capacitor and a second end of the coil may be connected to a second plate of the capacitor. In this regard, the capacitor may comprise two parallel plates that are formed on either side of a dielectric layer. According to some example embodiments, the capacitor may include a deactivation spot.

[0009] Also described herein is a foldable label comprising a core, a capacitor comprising a dielectric layer disposed between a top plate and a bottom plate, a coil wrapped around the core and connected to the capacitor to form a resonant circuit and a liner, wherein the resonant circuit is disposed above the liner. The coil may be formed of angled traces wrapped around the core to form turns such that each turn is electrically and physically connected in series to an adjacent angled turn to form a helical structure of the coil. The core may comprise at least one ferrite layer and may comprise a spacer layer. The spacer layer may comprise a non-conductive or ferrous flexible member. In some examples, the foldable label may comprise a liner, wherein the resonant circuit is disposed above the liner. At least one metal layer may be disposed between the liner and the resonant circuit. The at least one metal layer may comprise a thickness between about 40-80 microns. At least one spacer layer may be disposed between the liner and the resonant circuit. The at least one spacer layer may comprise a mass per unit area of between about 160 to 500 g/m^2. It is noted that the foldable label may comprise at least one spacer layer disposed between the liner and the resonant circuit independent of a metal layer. For instance, wherein a space between the resonate circuit and the liner may be free of metal. Moreover, a space between the resonate circuit and the liner may be free of metal and the core may be free of metal, such that the label comprises no metal other than the coil. For instance at least a portion of the top plate may be

CLAIMS

What is claimed is:

1. A foldable label comprising:

a core;

a capacitor comprising a dielectric layer disposed between a top plate and a bottom plate;

a coil wrapped around the core and connected to the capacitor to form a resonant circuit;

a liner, wherein the resonant circuit is disposed above the liner; and

wherein the coil is formed of angled traces wrapped around the core to form turns such that each turn is electrically and physically connected in series to an adjacent angled turn to form a helical structure of the coil.

2. The foldable label of claim 1, wherein the core comprises at least one ferrite layer.

3. The foldable label of claim 2, wherein the core comprises a spacer layer.

4. The foldable label of claim 3, wherein the spacer layer comprises a non-conductive or ferrous flexible member.

5. The foldable label of claim 1, further comprising at least one metal layer disposed between the liner and the resonant circuit.

6. The foldable label of claim 5, wherein the at least one metal layer comprises a thickness between about 40-80 microns.

7. The foldable label of claim 5, further comprising at least one spacer layer disposed between the liner and the resonant circuit.

8. The foldable label of claim 7, wherein the at least one spacer layer comprises a mass per unit area of between about 160 to 500 g/m^2.

9. The foldable label of claim 1, further comprising at least one spacer layer disposed between the liner and the resonant circuit.

10. The foldable label of claim 1, wherein at least a portion of the top plate is disposed between the core and the liner.

11. The foldable label of claim 1, wherein a space between the resonate circuit and the liner is free of metal.

12. The foldable label of claim 1, wherein a space between the resonate circuit and the liner is free of metal and the core is free of metal, such that the label comprise no metal other than the coil.

13. The foldable label of claim 1, wherein the resonant circuit comprises a laser tuned resonant circuit.

14. A foldable label comprising:

a core;

a capacitor comprising a dielectric layer disposed between a top plate and a bottom plate;

a coil wrapped around the core and connected to the capacitor to form a resonant circuit;

a liner disposed beneath the resonant circuit; and

at least one metal layer disposed between the liner and the resonant circuit, wherein the at least one metal layer comprises a thickness between about 40-80 microns.

15. The foldable label of claim 14, wherein the bottom plate is generally coplanar with a bottom of the coil.

16. The foldable label of claim 14 or 15, wherein the capacitor is horizontally adjacent to the coil.

17. A foldable label comprising:

a resonant circuit comprising:

a core comprising a ferrite material;

a capacitor comprising a dielectric layer disposed between a top plate and a bottom plate;

a coil comprising angled traces that wrap around the core, and welds operatively coupled adjacent angles traces together to form a generally helical shaped coil;

a liner disposed beneath the resonant circuit; and

at least one metal layer disposed between the liner and the resonant circuit.

18. The foldable label of claim 17, wherein the top plate is disposed at least partially below the core.

19. The foldable label of claim 17, wherein the bottom plate is disposed at least partially below the core.

20. The foldable label of claim 17, wherein the dielectric layer forms at least a portion of the coil.