CLAIMS

What is claimed is:

1. A wireless power system comprising:

a transmitter comprising:

a substrate;

a distribution of transmitter coils on the substrate, each transmitter coil formed with at least one crossover per turn; and

a receiver magnetically coupled to at least one transmitter coil and comprising a receiver coil formed with at least one crossover per turn;

wherein a first transmitter coil of the distribution of transmitter coils comprises:

a first portion;

a second portion; and

an in-line filter capacitor coupled between the first portion and the second portion.

2. The wireless power system of claim 1, wherein:

the substrate is a layered substrate; and

each transmitter coil of the distribution of transmitter coils comprises:

a number of turn layers, each turn layer accommodated by a respective one substrate layer of the layered substrate; and

at least one via per layer of the layered substrate, the at least one via per layer electrically coupling a first turn layer to a second turn layer.

3. The wireless power system of claim 1, wherein:

the substrate is first layer of a layered substrate;

the distribution of transmitter coils is a first distribution of transmitter coils; and

the wireless power system further comprises a second distribution of transmitter coils on a second layer of the layered substrate.

4. The wireless power system of claim 3, wherein the receiver coil is magnetically coupled to at least one transmitter coil of the first distribution of transmitter coils and magnetically coupled to at least one transmitter coil of the second distribution of transmitter coils.

5. The wireless power system of claim 1, wherein the in-line filter capacitor bisects the first transmitter coil.

6. The wireless power system of claim 1, wherein the in-line filter capacitor is defined by a capacitance exhibited between a first end of the first portion and a second end of second portion.

7. The wireless power system of claim 1, wherein:

the receiver coil is a first receiver coil; and

the receiver comprises a second receiver coil formed with at least one crossover per turn.

8. The wireless power system of claim 7, wherein:

the first transmitter coil comprises a first crossover and a second crossover each associated with a first turn; and

the first crossover is diametrically opposite the second crossover.

9. The wireless power system of claim 1, wherein at least one transmitter coil of the array of transmitter coils comprises a first crossover formed as a via defined through the substrate.

10. The wireless power system of claim 1, wherein the receiver comprises a capacitive sensor positioned above the receiver coil.

11. A method of forming an inductor array for a wireless power system, the method comprising:

selecting a turn layer comprising a number of turn trace pairs, each turn trace pair comprising:

a first turn trace; and

a second turn trace;

positioning a crossover layer on the turn layer, the crossover layer comprising a number of crossover traces, each crossover trace positioned over a respective one first turn trace and over a respective one second turn trace; and

electrically connecting the crossover layer to the turn layer to define an array of inductors, each inductor comprising at least one crossover per turn.

12. The method of claim 11, further comprising laminating the turn layer and the crossover layer together.

13. The method of claim 11, wherein:

the turn layer and the crossover layer are a first combined layer that is a member of a plurality of combined layers.

14. The method of claim 13, further comprising laminating the plurality of combined layers together.

15. The method of claim 11, wherein selecting the turn layer comprises forming the first turn trace and the second turn trace onto a substrate.

16. A method of forming an inductor for a wireless power system, the method comprising:

forming a turn layer comprising:

a first turn trace;

a second turn trace adjacent to the first turn trace;

a third turn trace opposite the first turn trace;

a fourth turn trace adjacent to the third turn trace and opposite the third turn trace;

forming a first crossover electrically connecting the first turn trace and the fourth turn trace;

depositing an insulating material over the crossover; and

forming a second crossover electrically connecting the second turn trace and the third turn trace.

17. The method of claim 16, wherein:

the turn layer is a first turn layer; and

the method further comprises:

disposing an insulating layer over the first turn layer and the first crossover and the second crossover;

disposing a second turn layer, comprising a fifth turn trace, over the first turn layer; and

forming an electrical connection through the insulating layer between the fifth turn trace and the first turn trace.

18. The method of claim 16, further comprising electrically connecting the first turn trace to a fifth turn trace through an in-line filter capacitor.

19. The method of claim 16, further comprising forming an in-line filter capacitor with at least a portion of the first turn trace and at least a portion of a fifth turn trace.