WHAT IS CLAIMED IS:

1. A metamaterial antenna, comprising:

a substrate having a first surface and a second surface, wherein the first surface and the second surface are opposed to each other;

a main radiation unit disposed on the first surface of the substrate for generating at least one resonance frequency band;

a split ring resonator disposed on the first surface of the substrate and located near the main radiation unit, wherein the split ring resonator has a metamaterial structure property for increasing a bandwidth of the at least one resonance frequency band; and

a compensator connected with the split ring resonator, the compensator comprising a main bent part for adjusting impedance match of the main radiation unit~~.~~ **, wherein the main bent part comprises a meander structure.**

2. The metamaterial antenna according to claim 1, wherein the main radiation unit and the split ring resonator are separated from each other by a coupling gap, wherein a capacitive coupling action between the main radiation unit and the split ring resonator is generated through the coupling gap.

3. The metamaterial antenna according to claim 1, wherein the main radiation unit is a monopole antenna, and the main radiation unit comprises:

a first radiation part;

a second radiation part connected with the first radiation part, and comprising a first segment, a second segment and an anfractuous segment, wherein the first segment is connected with the first radiation part, the second segment is connected between the first segment and the anfractuous segment, and the anfractuous segment is arranged between the first radiation part, the first segment and the second segment; and

a feeding part connected with the first radiation part.

4. The metamaterial antenna according to claim 3, wherein the main radiation unit further comprises a third radiation part, wherein the third radiation part is connected with the feeding part.

5. The metamaterial antenna according to claim 1, wherein the main radiation unit is a dipole antenna, and the main radiation unit comprises a first radiation part, a second radiation part and a feeding part, wherein both of the first radiation part and the second radiation part are U-shaped, and two ends of the feeding part are connected with the first radiation part and the second radiation part, respectively.

6. The metamaterial antenna according to claim 1, wherein the at least one resonance frequency band generated by the main radiation unit includes a first resonance frequency band of 5.0GHz~5.9GHz and a second resonance frequency band of 2.4GHz~2.5GHz.

7. The metamaterial antenna according to claim 1, wherein the substrate comprises plural conductive vias, and the plural conductive vias run through the first surface and the second surface of the substrate, wherein the compensator is disposed on the second surface of the substrate, and the compensator is connected with the split ring resonator through the plural conductive vias.

8. The metamaterial antenna according to claim 1, wherein the compensator is disposed on the first surface of the substrate, and the compensator is directly connected with the split ring resonator.

~~9. The metamaterial antenna according to claim 1, wherein the main bent part comprises a meander structure.~~

~~10~~9. The metamaterial antenna according to claim 1, wherein the split ring resonator comprises two split square-shaped rings, which are split at opposite ends.

~~11~~10. The metamaterial antenna according to claim ~~10~~9, wherein the split ring resonator comprises an inner ring and an outer ring, wherein the outer ring is arranged around the inner ring with a gap therebetween.

~~12~~11. The metamaterial antenna according to claim ~~11~~10, wherein the compensator is connected with the inner ring of the split ring resonator.