CLAIMS

What is claimed is:

1. An antenna system, comprising: a first antenna array, a second antenna array, and a first reflection panel, wherein the first antenna array and the second antenna array are antenna arrays operating on different frequency bands; and

the first antenna array and the second antenna array are stacked on the first reflection panel, and the first antenna array and the second antenna array share the first reflection panel.

2. The antenna system according to claim 1, further comprising a second feeding network feeding the second antenna array, wherein the second feeding network is disposed between the second antenna array and the first antenna array.

3. The antenna system according to claim 1 or 2, further comprising a radome, wherein the first antenna array, the second antenna array, and the second feeding network are disposed in the radome.

4. The antenna system according to claim 3, wherein the radome comprises a first radome and a second radome, the first antenna array and the first reflection panel are disposed in the first radome, and the second antenna array and the second feeding network are disposed in the second radome.

5. The antenna system according to claim 1 or 2, further comprising a second reflection panel, wherein

the second antenna array comprises a first part of second antennas and a second part of second antennas;

the first part of second antennas and the first antenna array are stacked on the first reflection panel; and

the second part of second antennas are disposed on the second reflection panel.

6. The antenna system according to claim 5, further comprising a third antenna array, wherein the first antenna array, the second antenna array, and the third antenna array are antenna arrays operating on different frequency bands; and

the third antenna array and the second part of second antennas are stacked on the second reflection panel.

7. The antenna system according to claim 6, further comprising a radome, wherein the radome

comprises a first radome and a second radome;

the first antenna array and the first reflection panel are disposed in the first radome; and

the second antenna array, the second feeding network, the third antenna array, and the second reflection panel are disposed in the second radome.

8. The antenna system according to claim 6, further comprising a radome, wherein the radome comprises a first radome and a second radome;

the first part of second antennas, the second feeding network, the first antenna array, and the first reflection panel are disposed in the first radome; and

the second part of second antennas, the third antenna array, and the second reflection panel are disposed in the second radome.

9. The antenna system according to claim 8, further comprising a phase shifter connected to the second feeding network, wherein the phase shifter is disposed in the second radome, and the first part of second antennas located in the first radome are connected to the phase shifter through a jumper.

10. The antenna system according to any one of claims 6 to 8, further comprising a fourth antenna array, wherein the first antenna array, the second antenna array, the third antenna array, and the fourth antenna array are antenna arrays operating on different frequency bands; and

the fourth antenna array, the second antenna array, and the third antenna array are stacked on the second reflection panel.

11. A base station, comprising the antenna system according to any one of claims 1 to 10 and a digital phase shifter connected to the antenna system.