

Multi-functional Humanoid Structure Art Antenna Series

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In this paper, a series of humanoid art antennas with various functions are proposed. These antennas have the characteristics of simple structure and beautiful shape, and the effect is good. Including ultra-wideband antenna, multi-band antenna and miniature single-band antenna, can be used in a variety of directions, with great practical value.

Such as single person shaped multi-band antenna consists of a dielectric substrate, a $50\ \Omega$ microstrip feedline and a single person shaped radiating element, and the dielectric substrate is made of FR4-epoxy. The antenna has a size of $50 \times 50\text{mm}$ and has five frequency bands, of which 4.55GHz and 10.35GHz can be used for satellite communications and radar X-band, respectively, and have meet the multi-band antenna design requirements; Double person shaped ultra-wideband antenna consists of a dielectric substrate, a $50\ \Omega$ microstrip feedline and a double person shaped radiating element, and the dielectric substrate is made of FR4-epoxy. The antenna has a size of $21 \times 26\text{mm}$ and Its center frequency is 1.57GHz , the working bandwidth is $1.22\text{-}2.02\text{GHz}$, and have meet the design requirements of ultra-wideband antenna; Scarecrow shaped multi-band antenna consists of a dielectric substrate, a $50\ \Omega$ microstrip feedline and a scarecrow shaped radiating element, and the dielectric substrate is made of FR4-epoxy. The antenna has a size of $35 \times 30\text{mm}$ and has two frequency bands at 2.45GHz and 6.05GHz , respectively, of which 2.45GHz can be used for WLAN; Bachelor-shaped structure miniature single-band antenna consists of a dielectric substrate, a $50\ \Omega$ microstrip feeder, and a bachelor-shaped radiating element, and the dielectric substrate is made of FR4-epoxy. The antenna has a size of $30 \times 30\text{mm}$ and the center frequency is 3.5GHz , can be used for WIMAX, and has a very good impedance matching effect.

These antennas are different from the ordinary antenna, the main difference is that the shape is beautiful. The antenna from only to meet the practicality become at the same time of satisfying practical pursuit of its art, make the antenna at the same time has a high artistic value, and bring more fun to the people, so it has great practicality.

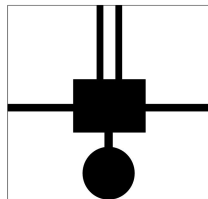


Figure 1. Single person shaped antenna.

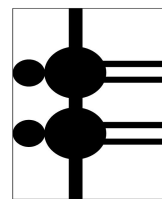


Figure 2. Double person shaped antenna.

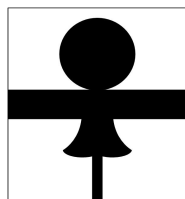


Figure 3. Scarecrow shaped antenna.

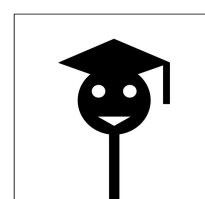


Figure 4. Bachelor-shaped antenna.