

DIELECTRIC FILTER ANTENNA, ELECTRONIC DEVICE, AND ANTENNA ARRAY

ABSTRACT

This application provides a dielectric filter antenna, an electronic device, and an antenna array.

5 The dielectric filter antenna includes a dielectric antenna and at least one layer of dielectric resonant cavity. The dielectric antenna is located at a top layer. The at least one layer of dielectric resonant cavity is located below the dielectric antenna. Energy coupling is performed between the dielectric antenna and a dielectric resonant cavity adjacent to the dielectric antenna. Materials of the dielectric antenna and the dielectric resonant cavity are a ceramic dielectric with a high
10 dielectric constant. The energy coupling is performed between the dielectric antenna of the dielectric filter antenna in this application and the dielectric resonant cavity adjacent to the dielectric antenna, to avoid use of a transmission line or a matching circuit and avoid an insertion loss, thereby implementing a small size and good echo performance.

15 Fig. 3