

**DIELECTRIC STRUCTURE APPLIED TO BUILDING COMPONENTS FOR
INCREASING TRANSMITTANCE OF RF SIGNAL AND DISPOSING METHOD
THEREOF**

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ABSTRACT

A dielectric structure (200A,200B,200C,200D,300A,300B,300C,300D) applied to building components for increasing a transmittance of an RF signal is provided. The dielectric structure (200A,200B,200C,200D,300A,300B,300C,300D) includes a structural body (403) and a fixing component (220,330,402). The structural body (403) includes at least one dielectric material layer (201,202,301), and a dielectric constant of each dielectric material layer (201,202,301) is between 1 and 10,000. The fixing component (220,330,402) joins the structural body (403) and a joining component (250,350,401). A composite structure after the dielectric structure (200A,200B,200C,200D,300A,300B,300C,300D) and building components are joined may have the RF signal of the working frequency f_0 pass and reduce the reflection loss. The minimum equivalent diameter of a projection plane on a surface of the joining component (250,350,401) of the dielectric structure (200A,200B,200C,200D,300A,300B,300C,300D) on a surface through which an RF signal passes is no less than one-eighth of a working wavelength λ_0 corresponding to the working frequency f_0 .

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Fig. 4 accompanies the abstract.