

Dielectric Properties of La₂MoO₆ Ceramics at Microwave Frequency

Authors : Yih-Chien Chen, Yu-Cheng You

Abstract : The microwave dielectric properties of La₂MoO₆ ceramics were investigated with a view to their application in mobile communication. La₂MoO₆ ceramics were prepared by the conventional solid-state method with various sintering conditions. The X-ray diffraction peaks of La₂MoO₆ ceramic did not vary significantly with sintering conditions. The average grain size of La₂MoO₆ ceramics increased as the temperature and time of sintering increased. A maximum density of 5.67 g/cm³, a dielectric constants (ϵ_r) of 14.1, a quality factor ($Q \times f$) of 68,000 GHz, and a temperature coefficient of resonant frequency (τ_f) of -56 ppm/°C were obtained when La₂MoO₆ ceramics that were sintered at 1300 °C for 4h.

Keywords : ceramics, sintering, microwave dielectric properties, La₂MoO₆

Conference Title : ICCME 2017 : International Conference on Composites and Materials Engineering

Conference Location : Kyoto, Japan

Conference Dates : April 27-28, 2017