Investigation of antenna parameters of H3BO3 for microwave dielectric applications

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**Abstract**. There has been extensive research on microwave dielectric material considering their application in different field like Satellite communications, global positioning systems (GPS), mobile application and so on. In this paper the microwave dielectric properties of H3BO3 Ceramics have been intensively studied having low dielectric constant (ԑr) =2.83, high quality factor (Q × f)= 59400GHz and temperature coefficient of resonant frequency (τf)=-91ppm/◦c but the simulation of micro-strip patch antenna have not reported yet. Using H3BO3 ceramic as the substrate, a micro-strip patch antenna has been simulated using HFSS software, which realizes that the S11 curve is in good accordance i.e.S11of -14.03dB at resonant frequency of 4.28GHz and Bandwidth of 120MHz and that efficiency is high at 4.28GHz. The extraordinary performances indicate that H3BO3ceramic will be a promising candidate for microwave dielectric application in different field.

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