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(57) Abstract :
The present disclosure relates to a ferrite material with chemical composition Ni0.9Zn0.1Fe2O4 and a process thereof The present disclosure also relates to an isolator device designed using a ferrite material with chemical composition Ni0.9Zn0.1Fe2O4 developed for applications in the microwave frequency region of X band. The instant disclosure relates to ferrite co-axial isolators, which have been developed in the microwave frequency region of X-band using nickel-zinc ferrite. These materials have isolation of greater than 40 dB and insertion loss of less than 0.6 dB. The test results indicate negligible variation over a temperature range of-30 to + 75 °C. These materials have high isolation with a bandwidth of 50 MHz and the values of return loss and VSWR are 20 dB and 1.15 respectively.

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