

## A Multistate Reflectometer in Dielectric Guide for the Frequency Range 75-140GHz

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In the paper an implementation of a four-port Multistate Reflectometer using dielectric guide for the frequency band 75-140GHz is presented along with all its necessary components. The paper focuses on the realisation of a phase shifter as this, the key component, does not till now have an equivalent for use with dielectric waveguides. The characteristics of the final instrument are then measured at intermediate frequencies and a calibration performed at 94GHz.

Measurements were performed at the National Standards Division at R.S.R.E. in Malvern U.K., and subsequent results are in good agreement with theory.

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