

ABSTRACT

Slotted line is a microwave device which can be used to measure VSWR, impedance and material's dielectric constant. The measurement of the parameter can be done by knowing standing wave pattern on slotted line. Because slotted line can be used to measure VSWR, then can be replace for fraction of network analyzer's function but it used manually.

Functional parts of the slotted line system consist of slotted line which can be used to measure wavelength, circulator which is used to reduce reflections back to the generator, sliding voltmeter to measure forward bias, and the signal generator used for generating power and measurement frequency.

For the purposes of learning, need to fitted with a transparent solid material and liquid dielectric materials to customize a standard characteristic impedance is 50Ω resistive.

At this occasion, the device that designed and realizationed was a slotted line which completed with circulator. From the measurement result that done, the device's working frequency that realizationed was at the frequency of 1800 MHz to 2400 MHz with VSWR value accord to 1,5.

For getting measurement result in accordance with the specifications, better should be correct in choosing materials. Let alone for the bandwidth device, in choosing materials should choose materials with levelled off ϵ_r value in every frequency.

Key words: slotted line, network analyzer, circulator, frequency