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**EXPERIMENT NO.-6**

**Objective :**

* To understand the analysis of a two-port network
* To understand the behavior of a two-port network using parametric analysis.
* To learn the measurement conditions and procedure for two-port analysis.

**Software Used :** NI Multisim

**Theory :**

The electrical network with two pairs of terminals is a two-port network . The network inside the box can contain resistors, inductors, capacitors, transformers, transistors and in general any linear circuit device, including depending devices but no independent sources are allowed. The behavior of a linear two-port network is described by impedance (Z), admittance (Y), transmission (ABCD), or hybrid (h) parameter .

**Z-parameters :**

**V1 = Z11I1 + Z12I2**

**V2 = Z21I1 + Z22I2**

**Parameter Condition Name**

**Z11 = V1/I1 I2 = 0 Input Impedance**

**Z21** **= V2/I1 I2 = 0 Transfer Impedance**

**Z12 = V1/I2 I1 = 0 Transfer Impedance**

**Z22 = V2/I2 I1 = 0 Output Impedance**

**Y-parameters :**