Experiment 3 Vector Network Analyzer

**Aim:** To study Vector Network Analyzer and measure the S-parameters of any port(s) network.

**Requirements:** Vector Network Analyzer/Internet, any-port network prototype (For. eg: Antenna (1 pot), MIMO antenna(2-port), Bandpass Filter etc.).

**Theory:**

**What is vector network analyzer and why is it required?**

**Block diagram of VNA (To be drawn)**

**Fig.1 Block diagram of VNA**

**Observations:**

|  |  |  |
| --- | --- | --- |
| **Sr. No** | **Parameters** | **Results** |
| **1** | Ports for which VNA Calibration was done |  |
| **2** | VNA Support Frequency |  |
| **3** | Type of network(s) |  |
| **4** | Operating Bandwidth |  |

**Conclusion:**

**Post Experiment Exercise**

**Questions**

1. List the different kinds of terminations available?
2. Write the input impedance of a transmission line for

a. Short circuit termination and b. Open circuit termination

1. Explain with a diagram how microwave power is measured using a Bolometer.
2. Explain with the help of block diagrams different methods to measure impedance
3. Describe the methods to measure high and low VSWR.