Measurement using Vector Network Analyzer

Vector Network Analyzer is an instrument that measures the network parameters of electrical networks. Network Analyzers commonly measure S-parameters because reflection and transmission of electrical networks are easy to measure at high frequencies. Network analyzers are often used to characterize two-port active and passive devices, but they can also be used on networks with an arbitrary number of ports. Vector error correction, which improves measurement accuracy by removing the effects of inherent measurement-system errors, requires both magnitude and phase data to build an effective error model. Phase-measurement capability is very important even for scalar measurements such as return loss, in order to achieve a high level of accuracy.

Vector Network Analyzer

Unique Features

The MS46122B is part of the ShockLine TM family of Vector Network Analyzers from Anritsu. It is a very low-cost series of 1Uhigh, 2-port Compact Vector Network Analyzers (VNAs). It is available in the frequency range of 1 MHz to 20 GHz, and is capable of S-parameter and time domain measurements. The MS46122B is based on patented ShockLine TM VNA-on-chip technology, which simplifies the internal VNA architecture at high frequencies, reduces instrument cost, and enhances accuracy and measurement repeatability. The good performance makes Shock Line TM VNAs ideal candidates for testing RF and Microwave passive devices up to 20 GHz. The MS46122B series is controlled through USB from an external PC. The MS46122B runs the same software as the rest of the ShockLine family, providing a powerful graphical user interface for debugging and manual testing of devices. N5230A PNA-L Network Analyzer is one of the variants of the Vector Network Analyzer (VNA). It works in the frequency range of 1 MHz – 20 GHz. Its dynamic range is 108 dB. This Network Analyzer offers OSL/TRL calibration and waveguide measurements.

- The Department of Electronics and Communication Engineering is extended a facility of using VNA to external users on chargeable basis.
- Payment as per the charges given in Table I against each type of measurements needs to be done prior to using the facilities.

Table-I: Analytical charges for using measurement facilities

Sr. No.	Name of the facility	Type of Measurements	Analytical Charges (in INR)			Tax
			Users from External Academic Institutes	Users from Non Academic Field		
				Govt. Sector	Non Govt. Sector	
1	Vector Network Analyzer	Any five parameters measurement using VNA without certificate	5000/-	8000/-	9000/-	Service Tax @18% or as applicable from time to time
2		Any five parameters measurement using VNA with certificate	6000/-	9000/-	10000/-	
3		Full day measurements using VNA without certificate	8000/-	11000/-	12000/-	
4		Full day measurements using VNA with certificate	9000/-	12000/-	13000/	
5		Measurements with consultation and certificate	12000/-	15000/-	16000/-	

Terms and Conditions for using the Facilities

1. The measurement facility can be used as per the charges mentioned in the table mentioning analytical charges for using measurement facilities including taxes.
2. Measurements are subject to the corresponding instrument being in working condition.
3. In case of the measurement remains incomplete due to malfunctioning or any unforeseen situation, the user will be notified. Depending upon user's discretion, either the payment received will be returned or the measurement will be carried out after the instrument becomes functional (maximum waiting period also may be informed by user).
4. User's need to handle instrument with care and proper precaution to avoid any type of malfunctioning situation during measurement.

GENERAL CONDITIONS

1. Payment may be done through DD/cheque/online transfer.
2. The DD can be in favor of **"Director, IIIT Nagpur"**, payable at 'IIIT Nagpur'.
3. Online transfer can be made using following details.

Account number	:	**37236982961**
Account name	:	**Indian Institute of Information Technology Nagpur**
Bank	:	**State Bank of India**
Branch	:	**VNIT, Nagpur**
IFSC	:	**SBIN0006702**
MICR	:	**440002005**

4. It is recommended that the user gets the confirmation through e-mail regarding measurement , compatibility as well as the instrument working status etc before sending any sample/payment.

Contact Details:

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