



ADVANCE MOTORIZED ANTENNA TRAINER



ET-AMS-A

- Excel Antenna Measurement System has been designed to Teach, Measure and Test Various parameters of Antennas. This system consists of a wide band PLL based source and detector module working up to 3GHz, a very sturdy non magnetic Transmitter and Receiver stand, Universal Antenna Mount with plug and fit assembly and radiation pattern plotting software. This system can be interface with PC for remote access of the system and supplied software enables to plot the radiation pattern and perform measurement.

SPECIFICATIONS

- Single training system to teach all types of antenna measurement
- Covers UHF, L, S and ISM Bands
- Software controlled PLL Synthesized Source and Detector working upto 3GHz with high dynamic range of power Transmission
- Customized selection of antenna from the list as per syllabus requirement
- Non conductive and non magnetic Transmitter and Receiver stand
- Radiation pattern plotting software
- Stepper motor controlled receiver stand.

SPECIFICATIONS

Antenna Measurement System

RF Source

- Source types : PLL Synthesized with integrated VCO
- Frequency range : 100MHz to 3GHz
- Frequency resolution : 1MHz
- Transmitted power min : -50dBm
- Transmitted power max : +5dBm
- Impedance : 50 Ohm / SMA

RF Detector

- Detector type : logarithmic detector
- Frequency range : 1MHz to 8GHz
- Resolution : 0.1dB
- Dynamic range : 65dB (± 3 dB)
- Noise level : < -120 dbm
- Impedance : 50 Ohm /SMA
- Representation of RF level : dBm

Display

- 128x64 Graphic LCD Display with backlit.

Keypad

- 15 Key Membrane Keypad for user entry.

Stepper motor controller

- 1.8 Degree to 5.4 resolutions

List of Standard 22 Antenna Supplied with the setup Wire Antenna

- Monopole Plane base ground
- Dipole -2 Nos
- Yagi
- Folded Dipole
- Vee Dipole
- Rectangular Loop
- Helical

Microstrip Antenna

- Planar Dipole
- Planar Monopole
- RMSA- Circular Polarized
- CMSA
- TMSA
- 2X1 Array
- Annular Ring
- Chip Antenna
- RMSA

Aperture Antenna

- E- Horn
- Open ended Waveguide Rectangular

Array Antenna

- Broadside Array
- Collinear Array

Array Antenna

- Broadside Array
- Collinear Array

Reflector Antenna

- Corner reflector

Note : Specifications are subject to change due to our constant efforts for Improvement. Please refer to quotation for final specifications.



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ANTENNA SELECTION LIST AS PER USER REQUIREMENT

WIRE ANTENNA

| | | |
|-----------------------------|-----------------------|----------------------|
| Monopole - Wire | Dipole-Wire | Yagi |
| Monopole - wire base ground | Monopole with loading | 3 λ /2 linear dipole |
| Folded dipole | Cross dipole | Vee dipole |
| Logperodic | Circular loop | Rectangular loop |
| Helical | | |

PLANNER ANTENNA

| | | |
|-------------------------|---------------------------------|---------------------|
| Monopole - Planner | Dipole planner | RMSA - Shorting pin |
| RMSA -Circular polarize | RMSA- Shorting plate | Yagi-Uda |
| RMSA- Stubloaded | RMSA- Dual stub and Slot loaded | CMSA |
| TMSA | Insert Feed | 2X1 ARRAY |
| Annular ring | RMSA | |

APERTURE ANTENNA

| | | |
|----------------------------------|--------|--------|
| Dipole - SLOT | E-Horn | H-Horn |
| Open Ended Waveguide Rectangular | | |

REFLECTOR ANTENNA

| | | |
|--------------------------|------------------|-----------|
| DIPOLE - Plane reflector | Corner reflector | Parabolic |
|--------------------------|------------------|-----------|

ARRAY ANTENNA

| | | |
|-----------|----------|-----------|
| Broadside | End fire | Collinear |
|-----------|----------|-----------|

SOFTWARE

- Radiation pattern plotting and analysis software suitable for windows environment

Antenna Positioner

The Transmitter and Receiver Antenna stand is made of special material which is inert to EM frequency and it has engraved height and angle scale on it. It has facility to adjust the height and level. Universal plug and fix Antenna mounts are provided to hold the antenna assembly in vertical and horizontal orientation for co and cross polarization.

Accessories

- SMA (M) to SMA (M) 50 Ohm RG316 cable : 02nos
- USB Cable (Male A to Male A) : 01nos
- 3 Pin 6 Amp power chord : 01nos
- Manual : 01nos
- Software on CD : 01nos

EXPERIMENTS

- Measure the variation of field strength /inverse square law.
- Prove the reciprocity theorem of antenna .
- Plot Radiation pattern of WIRED Antenna Omni directional antenna.
- Plot Radiation pattern of all Aperture Antenna.
- Plot Radiation pattern of all Reflector Antenna.
- Plot Radiation pattern of all Array Antenna.
- Measure co-polarization ,cross polarization, gain, f/b ratio.

WIRELESS ENVIRONMENT EMULATOR - Add on module

Wireless environment emulator operates at ISM band (2.45GHz), allows transmission of Audio and Video Signal.

SPECIFICATIONS

- Two analog inputs for low (Audio) and high (video) frequencies
- Multipath Phase shifter range : 0° to 360° @ 5.6° step.
- Frequency range : -2.4 to 2.48 GHz
- RF Output Impedance : -50Ω
- Antenna : Identical pair of Horn, Identical pair of reflector, Identical pair of RMSA

Additional Experiments with this add on Module

- Demonstration of VIDEO TRANSMISSION using directional antenna
- Demonstration of AUDIO TRANSMISSION using micro strip antenna on 2.45GHz

ACCESSORIES

- Camera
- Microphone
- BNC to BNC cable
- BNC tee connector
- TV& connecting cables

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