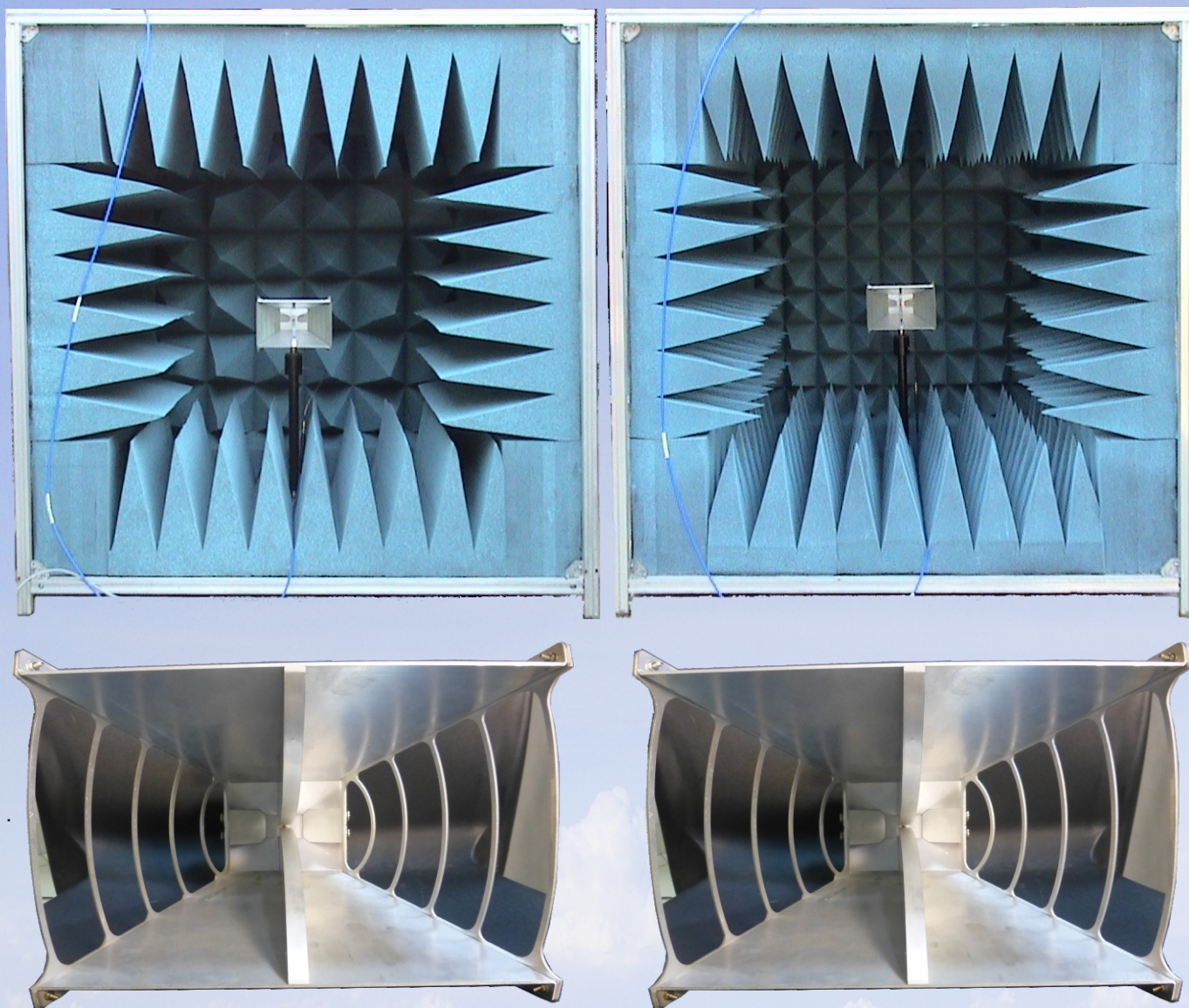




Amitec Microwave Anechoic Chamber AMS20 Features:

- * EMI/EMC , Antenna & RCS Measurements
- * Low cost solution to anechoic chamber.
- * Reflected signal (reaching test zone) down by min -30dB with respect to direct signal.
- * Low RCS stand (FRP Rod and holding devices) to hold transmitting/ receiving antenna
- * Antenna under test / RCS measurement target stand on a stepper motor monopod with resolution of 1deg.
- * Five-side PU Foam absorber covered Aluminum Clad Frame.
- * Special corner block absorbers used.
- * PU Absorbers are high performance Pyramidal Microwave absorbers constructed using low density, flexible foam impregnated with carbon formulation.
- * Suitable type optimum performing absorbers at near normal/grazing incidences of extraneous signals used.
- * Specially shaped absorbers for transmitting and receiving (Pyramids for Transmitting and Wedges for receiving).

- * Custom tailored solution, other size boxes, anechoic rooms can be provided.
- * The pyramidal structure gives it the geometrical matching and carbon dispersed gives high attenuation
- * Suitable for 800 MHz to 20GHz and higher frequencies. Performance (Reflection Loss) at lower frequencies shall be deteriorated, like at 500MHz it will be -20dB only)
- * Fire retardant and Zero halogen.
- * Comprehensive Testing Validation report available

Areas of Application

- * Suitable for Microwave and Antenna labs.
- * Measurement of radio noise emission.
- * Making screens for hiding area of maximum reflections.
- * For obtaining Quiet zones in very wide frequency range.
- * Wedge shaped absorbers have maximum performance at grazing incidence angles.
- * Designed in view of requirements of educational institutes.
- * Necessary attachment for Antenna/Microwave Trainers
- * Accurate antenna pattern/RCS Measurements

Mfd by: Amitec Electronics Ltd.

Regd. Off: 504, Nilgiri, Barakhamba Road, New Delhi-110001, India

Corp. Office & Unit I: 4/32, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India

Unit II: 4/46, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India

amitec@amitecltd.com, www.amitec.co, www.amitecltd.com



ISO 9001:2000
Quality Management System
Cert. No. 2919



Technical Specifications:

Amitec Anechoic Chamber

Dimensions : **8ftX8ftX8ft X2 Nos**
 Absorber : EM Lossy PU Foam Pyramids
 Reflection : **-40dB @ 10GHz**
 Fire retardancy : As Per NRL USA-8093 Standard complying Tests No.: 1,2 and 3 with ZERO HALOGEN MEANS.

Shielding
 Effectiveness : 40dB from 2-18 GHz, 50dB 0.5-2 GHz
 Quiet zone : **-40dB**
 Equivalent RCS : **-30dBsm 2-40GHz**

Amitec Dual Ridge Horn Antenna DRH20

Frequency Range : 1-18GHz
 Gain(Typ.) : 8.5dBi
 Polarization : Linear
 VSWR (Typ.) : <2:1
 3dB Beam width : 52-24 degree
 Net Weight : 1.1Kgs
 Connector : N type Female
 Mounting Bracket : Aluminum right angled plates with screws

Accessories :

- * All necessary connectors and cables
- * SMA - N Adapters - 2 Nos, N-N right angle adapter - 2 Nos
- * 3m Low Loss SMA-SMA cables - 2 Nos.

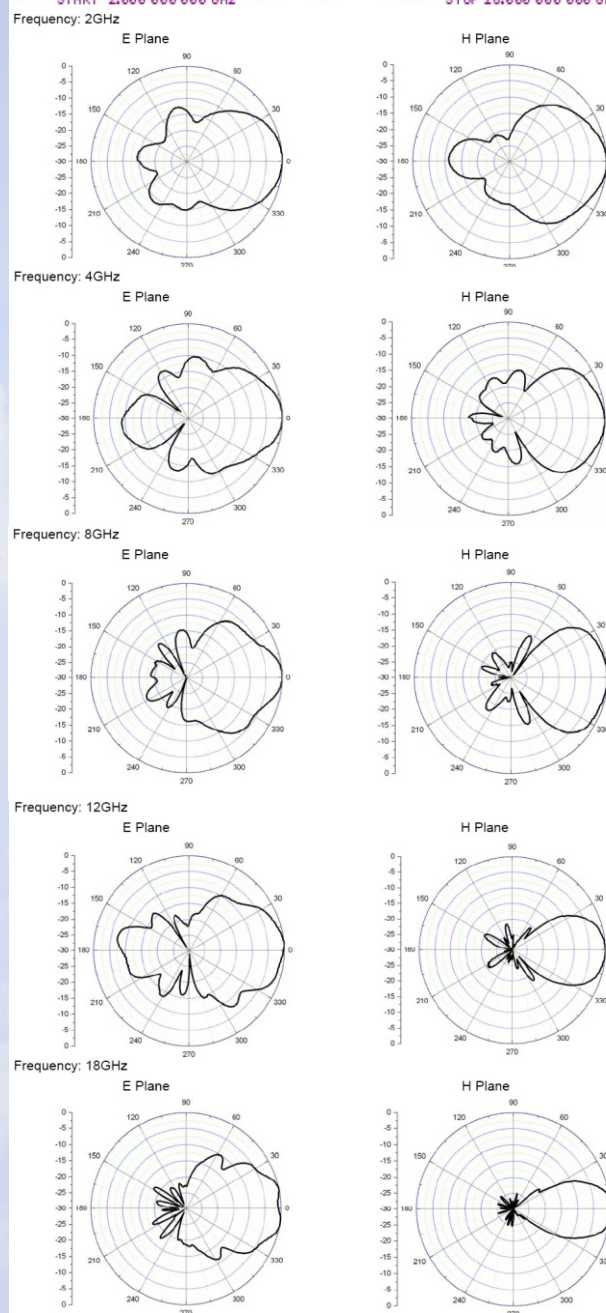
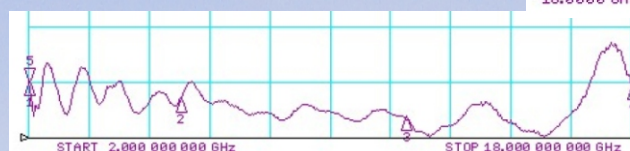
E-Manual: Installation Video for ease of Learning

Dimensions: 8ft X 8ft X 8ft - 2 Nos. Weight: 500 kg.
 Warranty: 3 yrs

EXPERIMENTS

- * Square law characteristics of Microwave propagation
- * 3D Polar Plots- E & H Plane
- * Cartesian Plots- E & H Plane
- * Vertical Plane Plots – Ground Plane effect
- * Directive gain, Front to back ratio of Antenna.
- * Side lobe Level and its Angular Position
- * Beam width – Half Power (3dB) & 10 dB
- * Frequency Bandwidth of an Antenna
- * Study RF reflection loss and absorption loss properties of some sample absorbers

CH1 Markers
 1: 2.0081
 2.00000 GHz
 2: 1.6868
 6.00000 GHz
 3: 1.3602
 12.0000 GHz
 4: 1.9296
 18.0000 GHz



Mfd by: Amitec Electronics Ltd.

Regd. Off: 504, Nilgiri, Barakhamba Road, New Delhi-110001, India
 Corp. Office & Unit I: 4/32, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India
 Unit II: 4/46, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India
 amitec@amitecltd.com, www.amitec.co, www.amitecltd.com



Features:

- * PLL transmitter and receiver 40MHz-12.4 GHz.
- * 10 KHz step size with measurement in 0.1 dB resolution
- * 80 dB dynamic range.
- * Directional Coupler for VSWR/ Return Loss.
- * Stepper motor antenna rotator.
- * 1 degree resolution stepper motor
- * USB interface with polar/cartesian plotting software
- * All SMA connectors, Teflon RG316 Cables
- * All antenna gain, return loss and pattern plot provided
- * 1000 location Frequency and level storage in receiver

1. PLL Synthesized Signal Source



Technical Specifications:

Display	: 320 X 240 pixel TFT Touch Screen
Frequency range	: 40-12.4 GHz PLL synthesized
Step size	: 1KHz to 1GHz
Modulation	: ASK, FM
Accuracy	: 10ppm
RF Level	: 0dBm typical
USB interface	: To PC for antenna plotting software
Connector	: Gold plated SMA

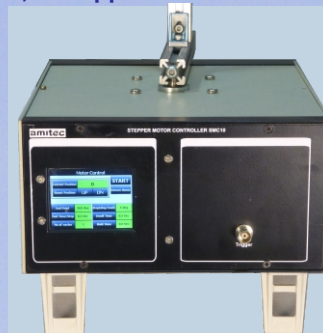
2. PLL Synthesized Receiver



Technical Specifications:

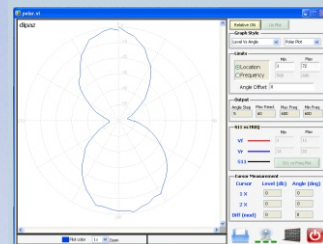
Display	: 320 X 240 pixel TFT Touch Screen
Frequency range	: 40-12.4 GHz PLL synthesized
Step size	: 1KHz to 1GHz
Measurements	: RF level in dBm & 22 other units
Resolution	: 0.1dB with a dynamic range of 70 dB
USB interface	: To PC for antenna plotting software
Connector	: Gold plated SMA
Motor Rotation	: 0-359 degrees in 1 degree
Motor Mode	: Fully programmable start/end position, Step Size, Forward step/dwell/stop time
Auto mode	: Automatic rotation with receiver
Locations	: 10,000 location Frequency and Level

3, 4. Stepper Motor Controller Unit - 2 Nos.



Display: 320 X 240 pixel TFT Touch Screen
Motor Rotation : 0-359 degrees in 1 degree
Motor Mode: Fully programmable start/end position, Step Size, Forward step/dwell/stop time, No of cycles
Auto mode: Automatic rotation with receiver
Locations : 10,000 location

5. Software



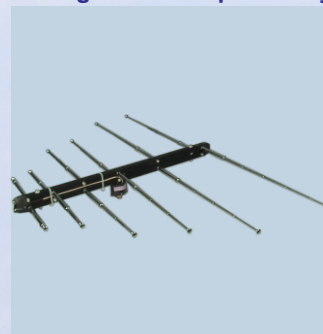
USB interface with polar plotting with log, linear cartesian and polar plots, V_i , V_r & Return loss plots, Multiple pattern overlay, Double cursor, Zoom, Colour editing, 1000 location editor, Absolute/Relative, 3dB/10dB beam-width, Gain, Front to back, Side lobe level and position, Plot rotate, File-edit, save, get.

6. Directional Coupler



Bandwidth: 2 - 12.4 GHz
Insertion S_{12} : 1.5 ± 0.5 dB
Coupling S_{13} : 18 ± 2 dB
Isolation S_{14} : 20 ± 2 dB
Directivity S_{23} : 15 ± 3 dB
Impedance : 50 Ohms
Connector : SMA
Usage: Antenna forward & reverse power & VSWR measurements.

7. Log Periodic Dipole Array



S_{11} : >10dB
Bandwidth: 600 ± 300 MHz
Gain: 4dBi
Beamwidth : E plane 60°
Beamwidth : H Plane 80°
Polarisation : Linear
Front to Back Ratio: >6dB
Connector : SMA

8. Microstrip Log Periodic Antenna



S_{11} : >10dB
Bandwidth: 1500 ± 500 MHz
Gain: 6dBi
Beamwidth : E plane 60°
Beamwidth : H Plane 80°
Polarisation : Linear
Front to Back Ratio: 6dB
Connector : SMA

Mfd by: Amitec Electronics Ltd.

Regd. Off: 504, Nilgiri, Barakhamba Road, New Delhi-110001, India

Corp. Office & Unit I: 4/32, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India

Unit II: 4/46, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India

amitec@amitecltd.com, www.amitec.co, www.amitecltd.com



ISO 9001:2000
Quality Management System
Cert. No. 2919

9. Near Field Magnetic probe M1



Type: Loop
Sensor: Magnetic Field
Rejection E/H: 40dB
Frequency: 800MHz upper resonant
Sensitivity: High
Diameter: 6cm

10. Near Field Magnetic probe M2



Type: Loop
Sensor: Magnetic Field
Rejection E/H: 30dB
Frequency: 1.5GHz upper resonant
Sensitivity: High
Diameter: 3cm

11. Near Field Magnetic probe M3



Type: Loop
Sensor: Magnetic Field
Rejection E/H: 10dB
Frequency: 2.5GHz upper resonant
Sensitivity: Low
Diameter: 1cm

12. Near Field Electric probe E1



Type: Omni Directinoal
Sensor: Electric Field
Rejection H/E: 30dB
Frequency: 1GHz upper resonant
Sensitivity: High
Diameter: 3.6cm

13. Near Field Electric probe E2



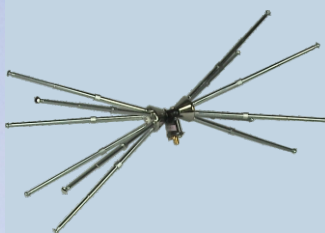
Type: Narrow Directinoal
Sensor: Electric Field
Rejection H/E: 30dB
Frequency: 3GHz upper resonant
Sensitivity: Low
Size: 0.6cm

14. Passive Magnetic Loop Antenna



Frequency: 9KHz-30MHz
Diameter: 300mm
Connector: SMA
Inductance: 1uH
Turns: Multi
Shielding: Electrostatic
Applications: RE, RI

15. Biconical Antenna



S11: >10dB
Bandwidth: 600 ± 300 MHz
Gain: 2dBi
Beamwidth: E plane 60°
Beamwidth: H Plane 180°
Polarisation: Linear
Front to Back Ratio: 0dB
Connector: SMA

16,17. Dipole L/2, L/4



S11: >10dB
Bandwidth: 600 ± 300 MHz
Gain: 2dBi
Beamwidth: E plane 70°
Beamwidth: H Plane 180°
Polarisation: Linear
Front to Back Ratio: 0dB
Connector: SMA

Mfd by: Amitec Electronics Ltd.

Regd. Off: 504, Nilgiri, Barakhamba Road, New Delhi-110001, India
Corp. Office & Unit I: 4/32, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India
Unit II: 4/46, Site-4, Industrial Estate, Sahibabad, NCR Delhi-201010, India
amitec@amitecltd.com, www.amitec.co, www.amitecltd.com



ISO 9001:2000
Quality Management System
Cert. No. 2919