



The **Microwave Test Bench** is a comprehensive experimental platform designed for **X-Band (8.2 – 12.4 GHz)** studies using Klystron-based RF sources and detectors. Developed for RF and Microwave Engineering education, it enables practical experiments in **microwave generation, transmission, and antenna/component measurements**. The rugged construction ensures long-term usage in classrooms and laboratories, making it ideal for academic and research training.

Application

- Study of **Klystron tube characteristics** and electronic tuning range
- Determination of **frequency and wavelength** in rectangular waveguide (TE₁₀ mode)
- Measurement of **standing wave ratio (SWR)** and **reflection coefficient**
- Measurement of **unknown impedance** using Smith Chart
- Study of **square-law behavior of microwave crystal detector**
- Study of **fixed and variable attenuators**
- Study of **waveguide tees** (E-plane, H-plane, Magic Tee)
- Function analysis of **multi-hole directional coupler** (parameters: main line & auxiliary line VSWR, coupling factor, directivity, isolation)
- Study of **circulators and isolators**

Product Features

- **Klystron-based microwave bench** for X-Band (8.2 – 12.4 GHz) operations
- Specially designed as a **versatile training setup** for RF & Microwave studies
- Rugged construction for **durability in labs and classrooms**
- Supports **hands-on experiments** in microwave transmission, generation, and measurement

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
 India Sales: +91-9588842361



IT-2013, Ramchandrapura Industrial Area,
 Sitapura Extension, Jaipur-302022, India.



info@tesca.in
 www.tescaglobal.com

Technical Specifications

- **Operating Frequency:** 8.2 – 12.4 GHz (X-Band)
- **Waveguide Standard:** WR-90
- **Flange Type:** UG-39/U

Performance Parameters (at 10.5 GHz):

- Waveguide Twist Return Loss: ≥ -30 dB
- Matched Termination: ≥ -35 dB
- Waveguide Adaptor: ≥ -25 dB
- Fixed Attenuators: ≥ -32 dB

Accessories

- 1 × Klystron Tube
- 1 × Klystron Mount
- 1 × Solid-State Klystron Power Supply
- 1 × Solid-State VSWR Meter
- 1 × E-plane Tee
- 1 × H-plane Tee
- 1 × Magic Tee
- 3 × Fixed Attenuators (3 dB, 6 dB, 10 dB each)
- 2 × Multi-hole Directional Couplers (10 dB, 3 dB each)
- 1 × 3-port T Circulator
- 1 × Y Circulator
- 1 × Slotted Section
- 1 × Tunable Probe
- 1 × Variable Attenuator (20 dB)
- 1 × Detector Mount
- 1 × Frequency Meter (Direct Readout)
- 1 × Slide Screw (S.S.) Tuner
- 1 × Matched Termination (Load)
- 4 × Waveguide Stands
- 1 × Cooling Fan
- 1 × Isolator
- 1 × Movable Short
- 1 × Fixed Short
- 1 × Smith Chart Pad
- 4 × BNC to BNC Cables

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
India Sales: +91-9588842361



IT-2013, Ramchandrapura Industrial Area,
Sitapura Extension, Jaipur-302022, India.



info@tesca.in
www.tescaglobal.com



- 2 × Special Cables with Proper Terminations
- Extra Nuts, Bolts, and Washers



Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
India Sales: +91-9588842361



IT-2013, Ramchandrapura Industrial Area,
Sitapura Extension, Jaipur-302022, India.



info@tesca.in
www.tescaglobal.com

