HORIZONTAL/VERTICAL (H/V) ELECTRIC FIELD GENERATOR 5502

Horizontal/Vertical (H/V) Electric Field Generator

ETS-Lindgren's 5502 Horizontal/ Vertical (H/V) Electric Field Generator is a two conductor transmission line system that generates a Transverse Electromagnetic wave (TEM) to support Immunity testing of a device positioned below the conductors.

ETS-Lindgren's 5502 Horizontal/ Vertical (H/V) Electric Field Generator is a two conductor transmission line system that generates a Transverse Electromagnetic wave (TEM) at low frequencies. The Model 5502 is also known as an E/H field generator for its ability to excite a vertical electric or magnetic field over the conductive ground of the chamber.

Key Features

- Generates Vertical or Horizontal Electric Field
- Generates Fields up to 200 v/m in the 10 kHz to 30 MHz Frequency Range
- Fully Adjustable Height and Separation of Main Conductors
- Large Immunity Volume
- Chamber Supported

Features

Either Horizontal or Vertical Field Generation

The Model 5502 has two modes of operation with a switch located in the balun/feed box to change between modes. The E-Mode (or vertical electric field generation) occurs when the two elements are driven against the ground of the chamber. A vertical electric field is generated between the two elements and the ground. The H-Mode (or horizontal electric field generation) occurs when the elements are isolated from ground by means of an isolating transformer. One element is then driven against the other element. A horizontal electric field and a vertical magnetic field is created between the two elements simultaneously.

Frequency Range

The 5502 has a frequency range of 10 kHz to 30 MHz when operating on the E-Mode. The H-Mode is limited to 100 kHz to 30 MHz with a band break (switch) at 1.5 MHz. The frequency range makes the Model 5502 ideal for ISO-11451-2 and SAE J551/11. The 5502 can also be used for MIL-STD 461 testing of military vehicles.

Adjustable Height and Separation

The 5502 allows for the elements to be located between 1 m to 6 m (3.28 ft to 19.69 ft) over the ground. When not in use, the elements are disconnected and stored (with the balun and load boxes) outside the chamber. The non-metallic frame can be raised and stored nested in the ceiling absorber. Element to element separation can be adjusted from 1 m to 4.5 m (3.28 ft to 14.76 ft).

Large Immunity Volume

The Model 5502 provides a large volume for immunity at low frequencies (under 30 MHz) provided the TEM mode is supported by the structure. At the upper limit of its frequency range the element separation and height may require adjustment to improve the performance. Internal resonances of the chamber can also affect the performance. Ferrite lined chambers are preferred, but not required.

Specifications

Electrical Specifications

Frequency E Mode: 10 kHz to 30 MHz; H Mode: 100 kHz to 300 MHz
Input Impedance: 50 Ω, (H), <150 Ω (E)
Max RF Input Power: 10 kW
RF Connector: 1-5/8" EIA
VSWR: 2:1 Typical, 4:1 Maximum

Physical Specifications

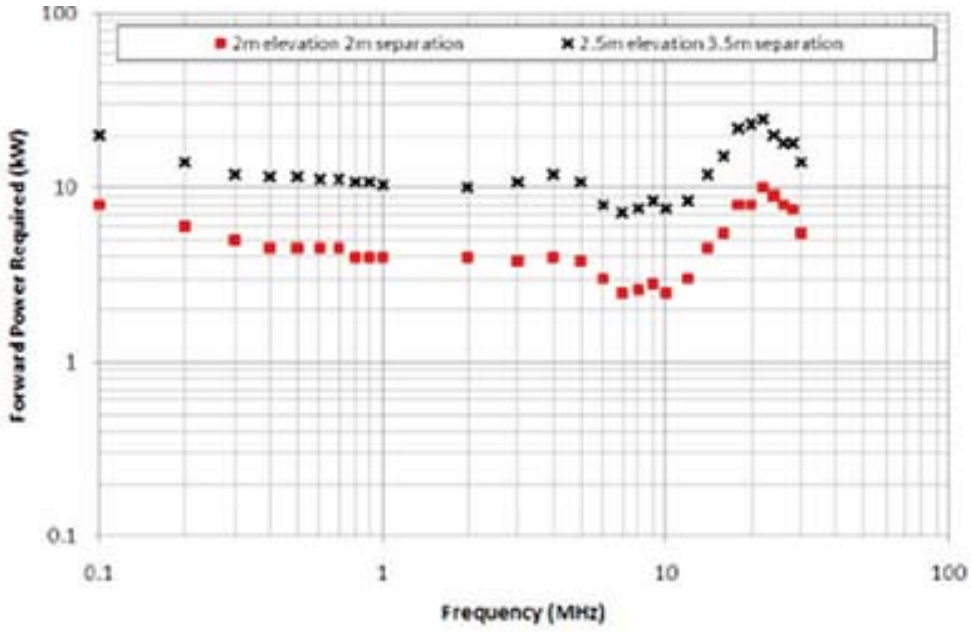
Frame Width: 7.6 m (24.93 ft)
Frame Length 5.58 m (18.31 ft)
Element Length: 6 m Standard, 8 m Optional (19.7 ft Standard, 26.2 ft Optional)
Element Diameter 30.5 cm (12.01 in)
Total Weight Frame Plus Elements: 1,134 kg (2500.0 lb)

Other Specifications

- 6 m (19.7 ft) Long Conducting Elements with Retracting Wire Bundles
- Support Frame Assembly
- Motorized Winch and Pulley Assembly
- RF Load with Ground Connections
- RF Feed Box with Ground Connections
- Waveguide Feed-thru Penetrations for the Chamber Ceiling
- Ground Connection Sockets for the Chamber Floor

Product Charts

5502 H/V Electric Field Generator E-Mode Operation for 200 v/m Level



5502 H/V Electric Field Generator H-Mode Operation for 200 v/m Level