

*Channel Partner Product Solutions*  
**Universal Spherical  
Dipole Source**  
by Applied Electromagnetic Technology



*Universal Spherical Dipole Source (USDS)  
by Applied Electromagnetic Technology*

**THE UNIVERSAL SPHERICAL DIPOLE SOURCE (USDS),** is an instrument that helps you maintain the integrity of your test environment (chamber or OATS). It does this by allowing you to create a radiated emissions profile that can be compared with other profiles made on a daily basis. Differences in profiles can indicate changes occurring in the test environment that may affect the accuracy and repeatability of test results. For example, deteriorating cable shielding or weakening chamber seals may go unnoticed, but result in a loss of measurement integrity. By taking daily measurements with the USDS and comparing profile results, these changes become known and can be investigated and corrected.

Test environments can be characterized using complex published methods, but the USDS provides a quick, convenient method that makes daily measurement practical and affordable.

- **Portable EMI Source for Quick Test Site Characterization and Site-to-Site Comparisons**
- **Horizontal and Vertical Polarizations**
- **Selectable Pulse Mode for Testing Quasi-Peak Detectors**
- **10 MHz – 10 GHz**
- **Four Switch Selectable Fundamental Frequencies**
  - 10 MHz
  - 64 MHz
  - 100 MHz
  - 133 MHz
- **Minimum Output Level of 35 dBuV/m Over Most Frequencies in Most Test Environments**

**DESCRIPTION**

The USDS is a spherical dipole that radiates a broadband RF signal in a highly uniform radiation pattern. The RF signal is generated by a stable internal comb generator, and amplified to create a highly repeatable RF source. The fundamental RF frequency is factory set at 10 MHz, but can be changed by the operator, using a four position rotary switch to select one of four clock frequencies. All electronics including a rechargeable power source (five AAA Ni-MH batteries) are located within the spherical dipole. All controls and indicators are externally accessible and include LED indicator for On, Off and Pulse modes, Switch for On/Off modes, switch for On, Off of the pulse function, rotary switch for selecting one of four fundamental frequencies.

### APPLICATIONS

- **Test Environment Characterization:**  
The USDS can be used for assessment of semi-anechoic chambers, shielded rooms and enclosures, open area test sites, GTEMs, and complex RF test environments.
- **Site Comparisons:**  
Companies with multiple labs will appreciate that the USDS can be used to make site-to-site comparison. Comparisons can all be made between different environment types, GTEM to chamber for example.
- **Shielding Effectiveness Testing:**  
The compact 10 cm diameter of the radiating element allows the USDS to be used in small enclosures.

### STANDARD CONFIGURATION

- Model USDS-HE; Bundled System (AET P/N 90025-02)
- Universal Spherical Dipole Source (USDS-H) Comb Generator with Four Selectable Clocks (AET P/N 90005-01)
- Internal Battery Board (AET P/N 20028) provides a Nominal Operating Time of 3-4 Hours (Rechargeable NI-MH AAA Batteries Not Included)
- AC Battery Charger
- Manual
- Bundled Spherical Dipole Yoke Tripod Adapter Assembly (AET P/N 90016-02)

### OPTIONS

- Additional Internal Battery Board for Extended Operation (AET P/N 20028). Provides a Total Nominal Operating Time of 6-8 Hours When Used with Included Battery Board.

### Physical Specifications

MODEL	DIAMETER	WEIGHT
USDS-HE	10 cm (4 in)	385 g (13.6 oz)

### Electrical Specifications

MODEL	POWER	BATTERY CHARGER
USDS-HE	6 VDC	110 VAC

*The Universal Spherical Dipole Source (USDS) is a product manufactured and supported by Applied Electromagnetic Technology L.L.C., [www.appliedemtech.com](http://www.appliedemtech.com) and is distributed by ETS-Lindgren.*