

## Emissions Reference Source

### Take the uncertainty out of radiated emissions measurements.

ERS

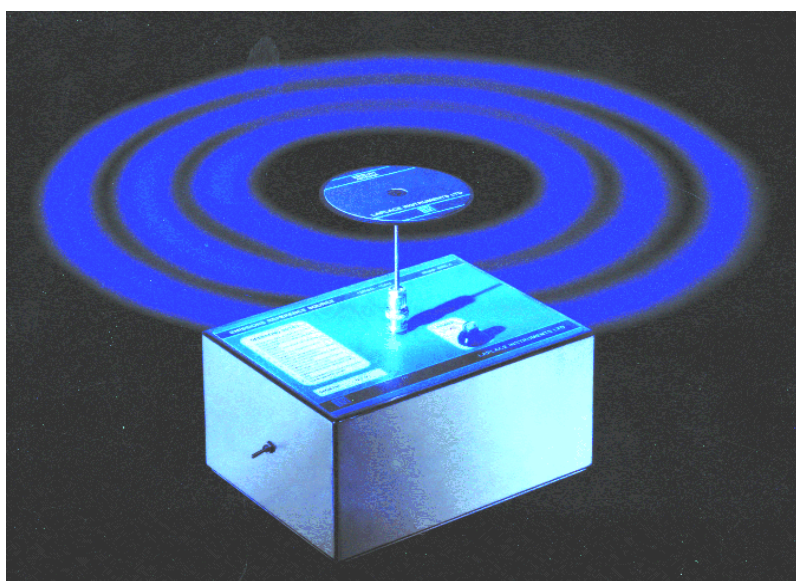
Small, self contained comb source which generates a known, stable field strength at the standard measurement distance of 3m. These sources ensure measurement integrity and reduce measurement uncertainty.

- Obtain true end-to-end calibration including site conditions, antenna and receiver.
- Frequency range from 30MHz to 1GHz
- Ultra-stable emission level with traceable calibration.

The ERS radiates a precisely known RF field strength and are supplied with calibration data measured at 3 metres. Their output is in the form of a closely spaced harmonic series which provides a series of continuous, narrowband signals covering the whole range.

Measurements of these signals are unaffected by receiver RBW or detector type, reducing the possibility of error and ensuring a highly stable result.

A key application for these sources is the measurement of test site characteristics so that non-compliant sites can be corrected.



**Reduce Measurement Errors** By correlation between the results on your site and the calibration data supplied with these sources, errors due to site distortions and instrumentation error are quantified and can be compensated.

**Site Flexibility** If your site is somewhat 'less than ideal' then these sources compensate for the unwanted reflections, lack of ground plane and any other influences that may reduce result integrity.

**Self Contained** These units are shipped complete with antenna, battery, charger and calibration data. Their small size make them ideal for spot checks and enclosure screening trials.



## General

The ERS source has been developed originally for the evaluation of screened room resonances and other test site inconsistencies. They are now universally used for site integrity checks and for the calibration of all kinds of test sites from informal to compliant measurement OATS.

Even on stable and well characterised test sites, the ERS provides a very quick facility to check that the whole measurement system (antenna, cables, pre-amplifiers, receiver and system settings) are proper and correct.

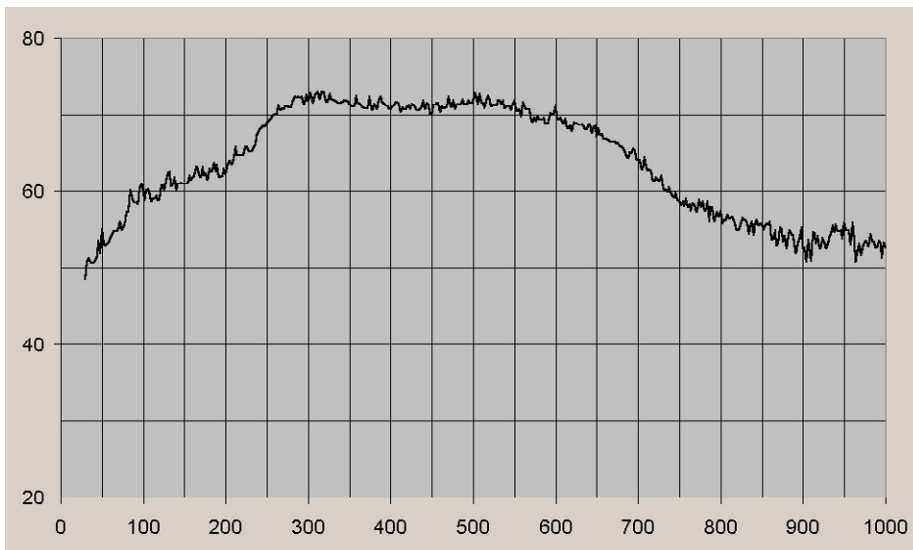
## Calibration

Each unit supplied with individual calibration data measured under the following conditions:

Antenna—source distance:	3 metres
Polarisation:	Vertical & horizontal
Source height:	0.8 metres
Antenna height:	Scanned 1 to 4 metres

### Calibration process.

A 'Master Transfer Standard' is calibrated at regular intervals at the master EMC test site in the UK. (National Physical Laboratory, Teddington, London). Each production ERS is then correlated against this master in a large FAC. Each peak (at 2MHz intervals) is individually measured and logged for both vertical and horizontal modes.



### ERS

Typical calibration plot showing harmonic peak values against a linear frequency axis.

## Specifications

RF output:	From detachable antenna.
RF signal:	Continuous, steady state, narrow band, harmonic series.
Amplitude stability:	0.5dB (short term)
Drift over time:	1dB/annum
Harmonic spacing:	2MHz
Frequency range:	30MHz—1GHz
Frequency stability:	80ppm
RF level at 3m:	50—73 dBuV/m
Power:	Internal battery (LiMH)
Running time:	6 hours
Size (with antenna):	10 x 65 x 188mm
Control:	On/OFF switch

## Calibration

An annual re-calibration service is available. This calibration maintains the traceability to NPL

## Stability

Long term monitoring of annual calibration results over the past 8 years have shown that these sources have exceptional long term stability, with changes less than the measurement uncertainty of the calibration process.