

WaveCell®

COMPACT EMC TEST SYSTEM

STATE-OF-THE-ART EMC TESTING SYSTEM

All electrical and electronic devices have to be tested according to the Electromagnetic Compatibility Directive (89/336/EEC) to obtain the CE marking, needed to sell throughout Europe.

Other countries around the world have their own standardization procedures or follow EMC international standards: IEC, CISPR...

WaveCell is a state-of-the-art EMC testing system designed and manufactured by Wavecontrol, offering a compact and economical way to perform EMC/RF pre-compliance tests from 9 kHz up to 2700 MHz for radiated immunity and radiated emissions.

WaveCell is the ideal solution to verify the EMC accomplishment of your devices and equipment, increasing at the same time your electronic lab and R+D department capabilities.

These powerful capabilities avoid the excessive and high cost design modifications caused by EMC test failure in the late stages of the design process.



Standard IEC 61000-4-20

"Testing and measurement techniques - Emission and immunity testing in transverse electromagnetic TEM waveguides".

It has the status of a basic EMC publication and it relates to emission and immunity test methods for electrical and electronic equipment using various types of transverse electromagnetic (TEM) waveguides, also known as TEM cells.

TEM Mode (Transversal Electromagnetic Mode)

The WaveCell® TEM Cell accomplishes the TEM mode verification indicated in the standard IEC 61000-4-20:2003. The TEM mode verification is very important because allows the simulation of the far field propagation characteristic.

Total radiated power method

The IEC 61000-4-20 describes a correlation procedure called "total radiated power method", that allows to correlate the emission measurements inside the WaveCell to Open Area Test Site (OATS) measurements.

This method is based on a three voltage measurements made in a TEM Cell from which the total radiated power of the EUT may be calculated. The total radiated power is then used to simulate the maximum EUT fields over a ground plane based on a model of parallel dipoles (source and receive dipole) transmitting the same total power.

Using this method, the obtained results can be compared with the limits specified in several national and international standards like: CISPR 22, EN 55022, VDE 0871, ANSI C63.4, MIL-STD 462...

FIELD UNIFORMITY

The WaveCell® has been also designed to accomplish the uniformity field area (UFA) requirements as indicated in the international standards IEC 61000-4-20:2003.

This uniformity field area (UFA) is measured in different vertical planes along the internal testing volume.

A minimum of 75% of measured points from each of these planes must have a tolerance of -0, +6dB.

The WaveCell® complies with the uniformity field area requirements up to 2,7 GHz.

FIELD LEVEL

WaveCell® state-of-the-art design and its high performance allows the operator to reach high field levels using the minimum RF input power, reducing the final system cost.

The WaveCell® allows both, radiated emission and radiated immunity testing up to 2700 MHz, covering also UMTS, Bluetooth, RFID and other wireless frequencies.

APPLICATIONS / EQUIPMENT

RADIATED IMMUNITY TESTING

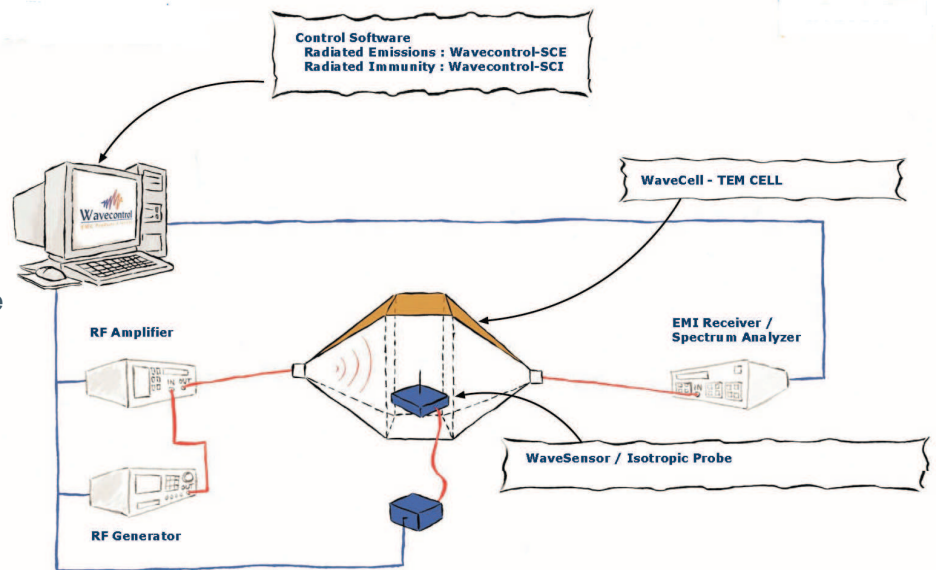
EQUIPMENT NEEDED:

WaveCell® TEM CELL
 Wavecontrol SCI control software
 RF Generator
 RF Amplifier
 RF Cables
 EMI Filters
 Optional: RF Sensor / Isotropic Probe

RADIATED EMISSION TESTING

EQUIPMENT NEEDED:

WaveCell® TEM CELL
 Wavecontrol SCE control software
 EMI Receiver or Spectrum Analyzer
 RF Cables
 EMI Filters



WaveCell® - BENEFITS AND ADVANTAGES



PRE-COMPLIANCE TESTING

Designed to comply with IEC 61000-4-20:2003

FUNCTIONALITY

Radiated emissions and immunity testing up to 2700 MHz

PERFORMANCES

Maximum optimization of the input RF power

COMPACT SIZE

Easy moving within facility

LOW COST

Low cost EMC solution compared with other systems in the market

EASY INSTALATION

Shipped completely mounted and assembled

TURN-KEY SOLUTION (OPTIONAL)

SPECIFICATIONS

FREQUENCY:

9 kHz - 2700 MHz

EXTERNAL DIMENSIONS (long x wide x heigh):

180 x 85 x 83 (160 incl. support table) cm

USABLE TEST VOLUME:

35 x 35 x 25 cm (Optimized area 25x25x25 cm.)

RF POWER NEEDED:

10 V/m 80 % AM : < 10W

DOOR DIMENSIONS:

36 x 36 cm

CONECTORS:

N (female)

WEIGHT (Approx.): 120 kg

ACCESORIES:

Waveguide diameter 20 mm

EMI Filter - 10/16 A - 2 lines

OPTIONS:

Control Software

RF Generator

RF Amplifier

EMI Receiver or Spectrum analyzer

RF Sensor

Additional EMI filters for data and comms.

RF Cables

DISTRIBUTED BY: