

# LAPLACELL TEST CELL

Lc300/2  
Lc600

## Calibrated cell for Immunity and Emissions Testing

- ▼ Fully calibrated and ready-to-use
- ▼ Avoid the hassle of OATS testing
- ▼ Compact - ideal if space is limited
- ▼ Affordable - easy on the budget.  
Avoid test lab expenditure by self testing
- ▼ Calibrated in accordance with IEC61000-4-20



The LaplaCell is a unique concept featuring a balanced septum design, proven to deliver better uniformity of field than any other GTEM or similar compact cell.

Two models are available, covering EUT sizes up to 60cm<sup>3</sup>, and frequencies up to 3GHz. The cells are fitted internally with a field strength sensor, so no need to provide this as a separate item. Each cell is individually calibrated and shipped fully checked and tested so that when they arrive, simply connect to the ancillary equipment, switch on and go.

When used with the RF1000 or RF 2000 system controller for immunity testing, operation is entirely automatic.

**EMISSIONS.** Avoid all the difficulties of background signals, test site calibration, poor weather conditions and lack of space by using the LaplaCell

**IMMUNITY.** Efficient design means that 20V/m can be delivered with just 10W RF input power. If used in conjunction with the Laplace signal generators and software, testing is fully automated

**COMPLIANCE.** These cells provide the capabilities to test to IEC61000-4-3, domestic, commercial, medical and industrial levels. For emissions and immunity, these cells meet the requirements of IEC61000-4-20

**CONVENIENCE.** The LaplaCell occupies just one small corner in the lab, yet provides a simple and immediate resource for EMC testing as and when you need it. Testing prototypes or production samples avoids potentially costly and time consuming rectification work at later date



Lc300/2 with access door open



LAPLACE INSTRUMENTS LIMITED

# EMC Test Cells... MAKING LIFE EASIER

LaplaCell

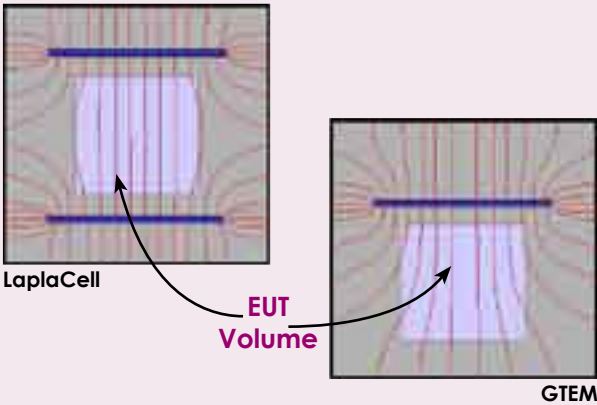
The LaplaCell range provides a practical solution to the issues and difficulties related to EMC testing. They are specifically designed to offer a resource that is quick and easy to use which will deliver results of immediate benefit to the user.

Emissions problem...	... THE SOLUTION
Strong ambient signals >>>>>>	<b>The cell provides an ambient-free volume due to total screening</b>
Test site distortion >>>>>>>>>>	<b>The cell is fully correlated and traceable to 3m OATS</b>
Lack of ground plane and height scanning >>>>>>	<b>Not required!</b>
Lack of space >>>>>>>>>>	<b>LaplaCells are very compact</b>

Immunity problem...	... THE SOLUTION
Expensive ancillaries >>>>>>>>	<b>LaplaCells include field sensor as standard</b>
Power amplifier requirements >>>>>>>>>>>>>>>>	<b>Very efficient design so that RF power requirements are minimal</b>
Leakage of high power RF >>>	<b>Fully screened so RF energy is contained</b>
Field uniformity >>>>>>>>>>>>>>>>	<b>LaplaCell concept produces better uniformity than GTEM (see below)</b>

**IMMUNITY**  
IEC61000-4-3 sets the requirements for RF immunity testing. It specifies fields of up to 10V/m over the range 80MHz to 3GHz and provides minimum performance requirements. The LaplaCell range fully meets these requirements and, when used in conjunction with the Laplace synthesiser and power amplifier, provides a complete integrated solution.

**EMISSIONS**  
European, US and international EMC/EMI standards all require the use of an OATS (Open Area Test Site). This is a demanding requirement in terms of space, resources, calibration and expertise. The LaplaCell range provides an ideal alternative solution, delivering equivalent OATS performance without OATS problems.



**UNIFORMITY:** The balanced septum design ensures good uniformity, even when compared with the 'industry standard' GTEM type. The above views make this obvious.

**IMPEDANCE:** The aim of a test cell is to emulate an OATS test. Free space impedance as applies to OATS sites is 377ohm. Conventional test cells are 50ohm systems. The unique design of the LaplaCell, matches the incoming 50ohm impedance to around 200ohm inside the cell, a much closer match to the free space impedance.

SPECIFICATION SUMMARY		
	LC300/2	LC600
EUT size (max)	30cm <sup>3</sup>	60cm <sup>3</sup>
EUT volume (cm)	51 x 48 x 41	78 x 82 x 87
Frequency range	30-3000Mhz	30-3000MHz
Range Switching	2 bands, switched (local & remote switching)	
Screening attenuation	60dB	60dB
Max RF power in	70W	70W
Power for 10V/m	10W	20W
Field @max RF in	60V/m	40V/m
RF input/output connector	N type / 50ohm VSWR better than 2:1	
Auxiliary power requirement	24V dc (mains power unit supplied with cell, 110-240V ac)	
Field sensor	Included with cell. Calibrated for 0-2.5V dc output	
Emissions calibration	Calibrated and correlated to 3m OATS. Full calibration data included (hardcopy & disk)	
Door interlock	Yes	
Filtered I/O	Mains feed plus 10 general purpose signals. 5 way DIN connections for camera and lighting	
Options	Camera and lighting Additional I/O filtered feeds (to suit application)	
Construction	Stainless steel with polypropylene EUT chamber	
Mounting	Table top	Floor, fitted with castors
Total weight	200kg	400kg
EUT weight (max)	20kg	100kg
Size, L x H x W (m)	2.3 x 1.0 x 0.87	3.2 x 1.6 x 1.3

Available from:

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