# LTE Capacity Test

## E500 Data Centre Cabinet

### Quick Fact sheet

**COBHAM**

The most important thing we build is trust

## Introduction

The Cobham Wireless E500 family provide powerful and easy to use network performance test systems based upon the TM500 - the industry standard test mobile for advanced network function and feature validation as well as performance assessment which are widely used by Network Operators, Network Equipment Manufacturers and Chipset Vendors.

The system is fully scalable, connecting to tens of base station sectors, emulating tens of thousands of mobile devices and modelling real RF channel conditions. It is upgradable so that each mobile may be configured to support 2G, 3G, 4G technologies, and using advanced mobility models can create inter and intra technology handover scenarios. Real world user data applications can be generated for each mobile allowing true 'end-to-end' IP performance analysis. Comprehensive statistics and logging capabilities are also available for trouble-shooting.

The E500-D Data Centre cabinet is the latest generation of E500, which has been specifically designed for supporting highly scalable LTE-A and Multi-RAT network performance and capacity testing with higher density, scalability and flexibility. It is capable of supporting up to 24 Carriers per system with up to 36,000 UEs. With front to back airflow the E500-D cabinet is compatible with centralized data centre labs layout, and meets the trend of global labs planning.

## Benefits

**Higher Density & Scalability** - High performance system enabling higher number of carriers and UEs

**Real-World Network Scenario Emulation** – Real-world load emulation by mixing 3GPP features, channel conditions and data traffic for each UE

**Leading Edge 3GPP Technologies** – First to market and most advanced 3GPP Rel-10/11/12 technologies available today

## Form-Factor

| | |
|---|---|
| **Data Centre Compatible** | Yes |
| **External Dimensions** | Large 19" 42U Cabinet |
| | 600 x 2165 x 900 mm (W x H x D) |
| | 23.6" x 85.2" x 35.4" (W x H x D) |
| **Weight** | 550 kg (24 Carrier Configuration) |
| **Interconnection Panel** | Top |
| **Cooling Airflow Type** | Cool Air In: Front / Hot Air Out: Back |
| **Power Consumption** | 15 KW (24 Carrier Configuration) |

A set of core test cases supported which the user can use to assess the performance of network features within a loaded network environment, or quality of experience of the subscribers who are with real-world behaviour under complex test scenarios of HetNet, C-RAN, Small Cells deployment, FDD/TDD convergence, etc. A good example is that multiple trains arrive at and leave from the platform with subscribers migrating between application data and voice/messaging services.

## Quick Facts

- *A multi-standard system supports up to 24 Carriers capacity testing over the RF or CPRI interface, covering LTE/LTE-A FDD and TDD radio access technologies which can also be supplied as 12, 16 or 18 Carrier system*

- *Emulates up to 36,000 UEs over multiple carriers with real world radio conditions and supports any-to-any handover among the carriers*

- *Generates traffic profiles using real data services and applications e.g. VoLTE, FTP, HTTP, OTT enabling true end-to-end testing, with up to 3.6 Gbps aggregated downlink throughput*

- *Based on a high performance hardware platform, LTE-A features such as 8x4 & 4x4 MIMO, UL/DL FDD&TDD carrier aggregation (CA), CoMP, etc. are supported for high capacity testing as well as functional testing*

- *Combinations of traffic profiles, fading channel models and 3GPP features working simultaneously on each UE which enables real-world scenario emulation*

- *Capable of generating signalling avalanche and user plane load exceeding the capacity of a base station*

- *Increasing hardware utilization and flexibility by remote access to support multiple users sharing and pooling of resources*

### Network Functionality
- Call Processing
- Messaging Compliance
- EPC Performance

### Content Delivery
- Voice Quality (VoLTE, CS)
- Data QoS
- Max Throughput
- Scheduler Optimization

### Multi-Technology
- Handover Performance
- Inter Radio Handover
- CS Fall Back & SRVCC

### Capacity Management
- Capacity Handling
- Signaling Storms
- High Load Management
- Emergency Scenarios