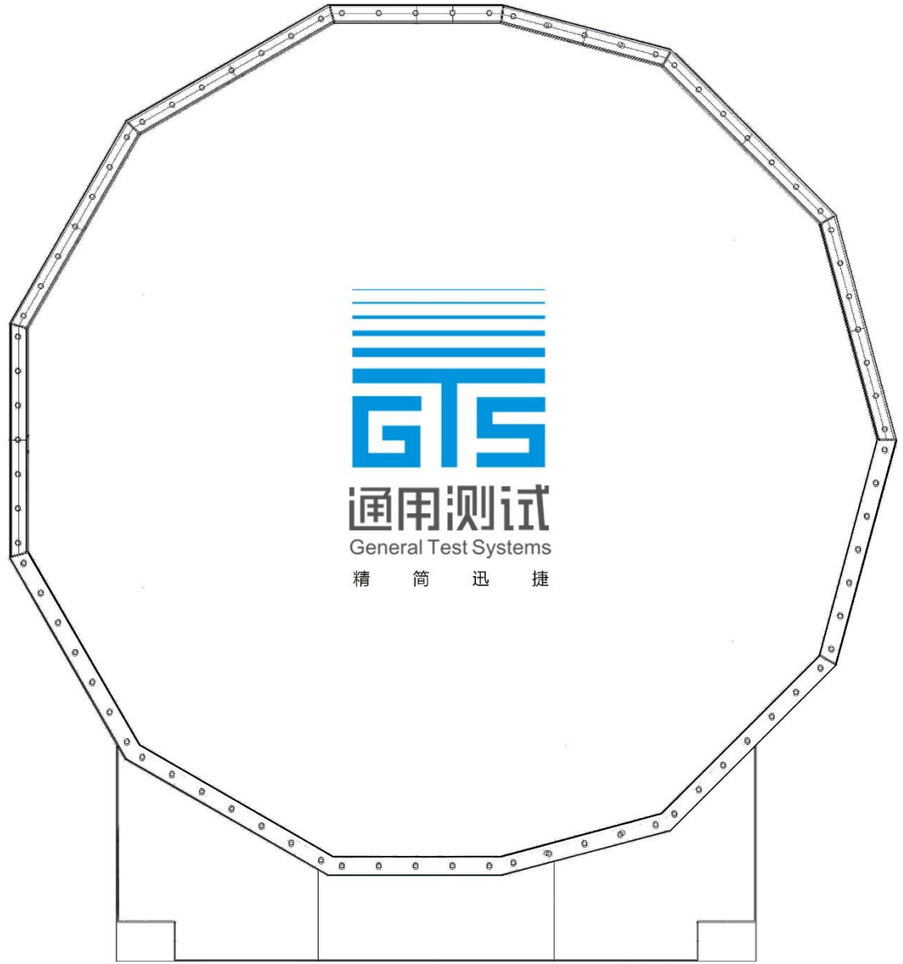
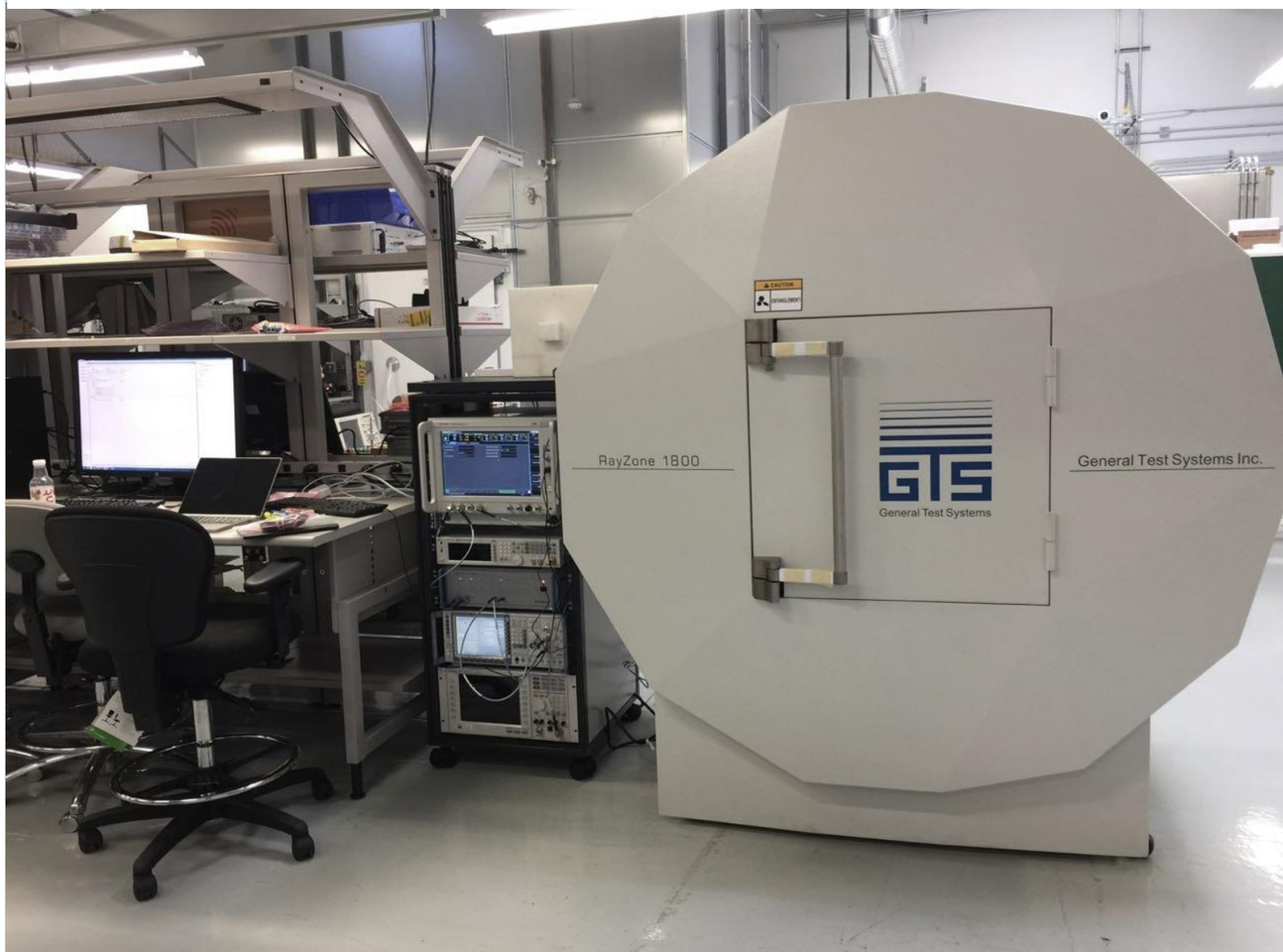



Product specifications in this manual are subject to change without notice. The actual product appearance may be different.



# RayZone 1800 Compact Wireless Test Platform

*Accurate, Efficient, Stable, Portable*



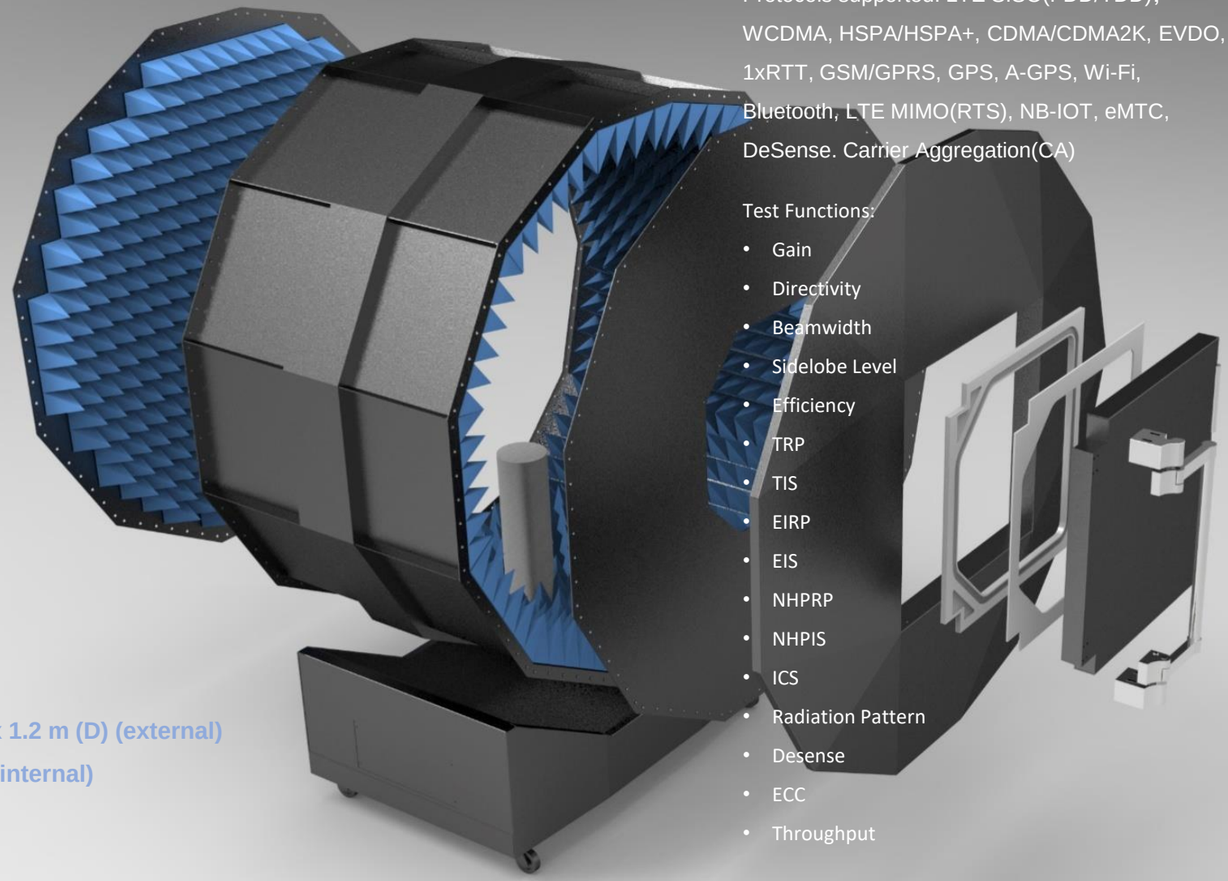
# The Most Compact Full Functional OTA Test Platform

*CTIA Certification System  Accuracy Comparable*

RayZone 1800 is the smallest full-functional OTA test platform in the world. It can be configured flexibly to conduct almost any OTA tasks with the same accuracy and repeatability as a large certification system, but much higher speed and smaller floor space.

Based on new understandings of EM measurement theory and characteristics of mobile terminal devices radiation patterns, RayZone 1800 applies a number of engineering breakthroughs as to classical rectangle chamber designs. It comes with an anechoic chamber design of asymmetric polygon shape, doubles the sampling points with the same amount of measurement probes, and maximizes the quiet zone.

RayZone 1800 brings competitive advantages to antenna/RF engineers in the 4G era. It supports both LTE SISO and MIMO tests. With GTS initiated/3GPP approved Radiated Two-stage MIMO throughput test method, the upgrade from SISO to MIMO, even from 2D to 3D channel model is software only.



**Enclosure dimensions:**

**1.95 m (H) x 1.83 m (W) x 1.2 m (D) (external)**

**1.74 m x 1.70 m x 1.0 m (internal)**

**Chamber weight:**

**approx. 350 kg**

Protocols supported: LTE SISO(FDD/TDD), WCDMA, HSPA/HSPA+, CDMA/CDMA2K, EVDO, 1xRTT, GSM/GPRS, GPS, A-GPS, Wi-Fi, Bluetooth, LTE MIMO(RTS), NB-IOT, eMTC, DeSense. Carrier Aggregation(CA)

Test Functions:

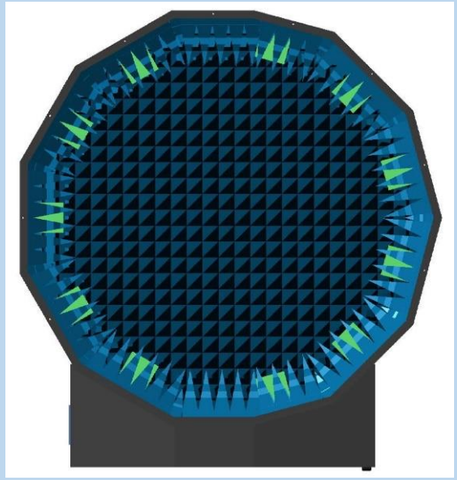
- Gain
- Directivity
- Beamwidth
- Sidelobe Level
- Efficiency
- TRP
- TIS
- EIRP
- EIS
- NHPRP
- NHPIS
- ICS
- Radiation Pattern
- Desense
- ECC
- Throughput

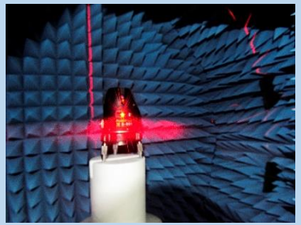
# Impeccable Performance

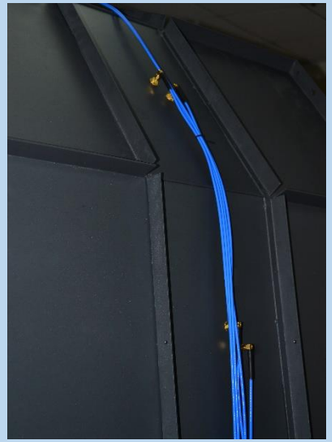
*Perfect Fit for Pre-Certification and R&D*

RayZone 1800's comprehensive functions and high efficiency accelerate the R&D cycle, improve certification test passing rate, and significantly reduce your product time to market.

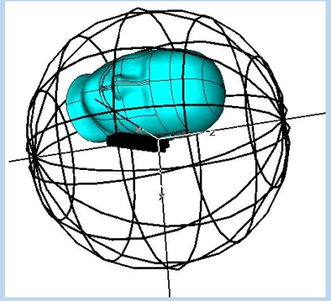
RayZone 1800 complies with the latest CTIA specifications wherever applicable. The smaller size does not sacrifice its function, accuracy and repeatability. Together with extensive acceleration mechanisms, RayZone 1800 is an ideal tool for pre-certification and R&D.







- CTIA standards compliance wherever applicable
- Passive and active tests
- Head-and-hand phantom
- 2D/3D antenna pattern display
- Desense test
- Multiple test instruments
- Rich debugging information for R&D
- 15° sampling resolution



# Software Only System Upgrade to MIMO OTA


For LTE SISO, RayZone 1800 provides the fastest and smoothest test in the industry. It finishes a single channel TIS test in less than 10 minutes following exactly the CTIA approved method, or less than 5 minutes with SmartTest method.

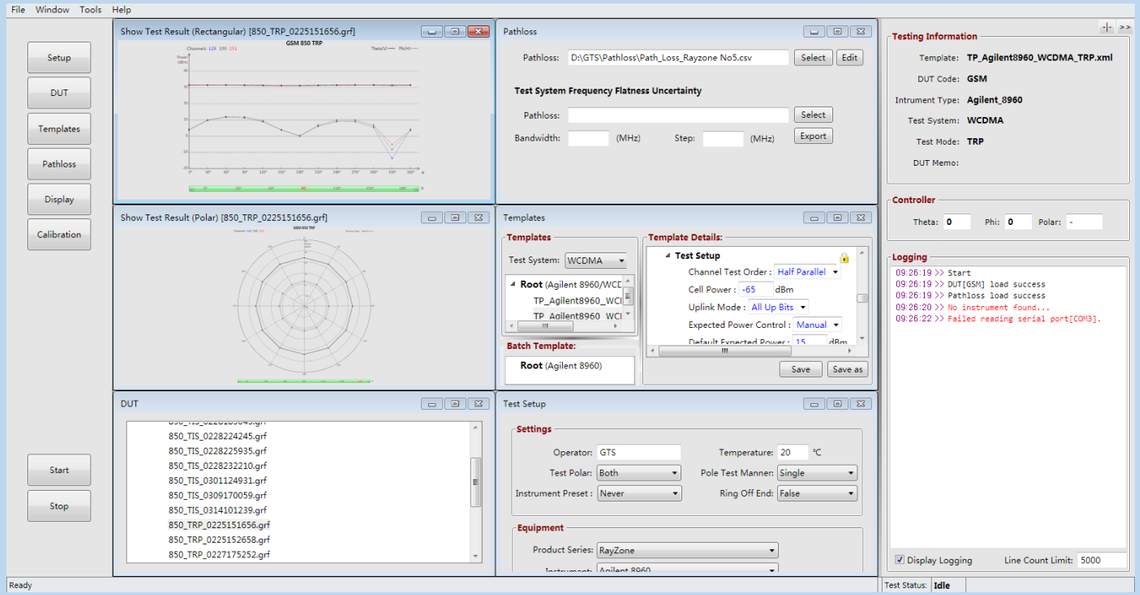
In addition, RayZone1800 supports LTE Envelope Correlation Coefficient (ECC) measurement. The accurate and repeatable ECC test results with extensive antenna pattern information help R&D engineers identify areas for improvement visually .

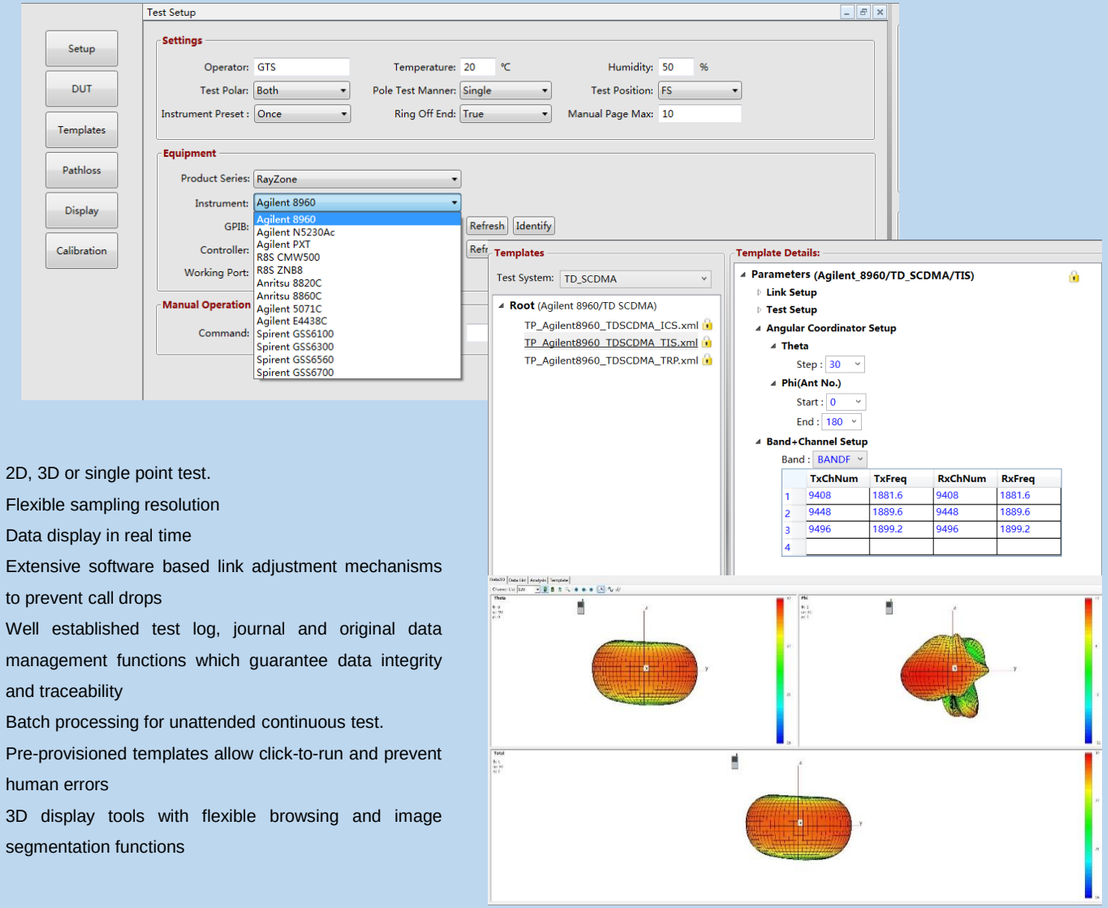
Furthermore, RayZone1800 can be upgraded to support MIMO OTA throughput test without any hardware change or service interruption.

With RayZone 1800, device manufacturers have a future proof system, with pay-as-you-go functions tailored for your demands.

# MaxSign 100 : The Integrated Measurement Software

*Open, Flexible, Stable, Friendly*




MaxSign 100 OTA test automation software is designed independently by General Test Systems Inc.. It strictly complies with CTIA specifications and has been updated timely following the latest CTIA test plan revision. MaxSign 100 leads the industry with extraordinary test speed, accuracy, repeatability, fluency, flexibility and overall end user experience. MaxSign 100 meets OTA test requirements from early stage R&D, pre-certification, certification to production test.

- Based on latest development platform
- Separation between UI and test control automation procedures
- Highly open and flexible system architecture
- Optimized test instrument interface and data sharing mechanism
- Template-based test configuration for accuracy, flexibility and easy to use
- Extensive data analyzing, report generation and display tools maximizing information to engineers

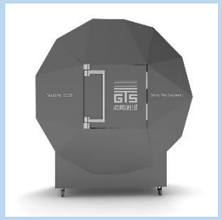
- 2D, 3D or single point test.
- Flexible sampling resolution
- Data display in real time
- Extensive software based link adjustment mechanisms to prevent call drops
- Well established test log, journal and original data management functions which guarantee data integrity and traceability
- Batch processing for unattended continuous test.
- Pre-provisioned templates allow click-to-run and prevent human errors
- 3D display tools with flexible browsing and image segmentation functions

# RayZone 1800 Configuration

Absorber Specification

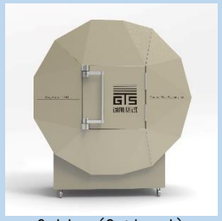
- Max Power Density：0.75 kW/m²
- Fire Retardancy：DIN 4102 Class B2；ISO 11925-2；NRL 8093 Tests 1, 2 & 3
- Typical Reflectivity：See table below ——

| 120MHz | 200MHz | 300MHz | 500MHz | 1GHz | 3GHz | 5GHz | 10GHz | 15GHz | 24GHz |
|---|---|---|---|---|---|---|---|---|---|
| | | | | –30 | –40 | –50 | –50 | –50 | –50 |

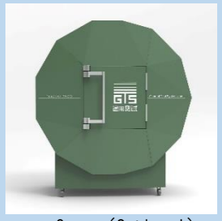


Gray (Standard)

White (Standard)



Golden (Optional)



Green (Optional)

| | |
|---|---|
| Turn table max load | 20 kg |
| Turn table max speed | 40° /s |
| ϕ-resolution | 0.5° |
| θ-resolution | 15° |
| Door (H x W) | 570 mm x 570 mm |
| DUT supported | <25cm, <10Kg |
| Shielding effect (0.1-6 GHz) | 80 dB |
| Measurement path | 0.8 m |
| Number of antennas | 2+11 |
| Working freq./band | 433MHz, 600MHz – 6GHz |
| RF interfaces | 4 SMA In/Out, 1 calibration |
| Power | AC 220/110 V |
| Control interface | RS 232/USB |

| RayZone 1800 Chamber System | |
|---|---|
| Hardware | Includes shield enclosure, door, absorber, turn table, cables, controllers, etc. |

| 3rd Party Instrument Support | |
|---|---|
| Testers | KeySight UXM，Agilent 8960，R&S CMW500，Anritsu MT8820C, Anritsu 8860C, and etc. |
| VNA | Agilent E5071C，Agilent N5230A，R&S ZNB 8, and etc. |
| Signal Generator | Agilent MXG，Spirent GSS6100/6300，Spirent GSS6560/6700 |
| Channel Emulator | KeySight UXM，Spirent VR5，Anite FS8 |

| Max Sign 100 Software Modules | |
|---|---|
| Base SW MaxSign 100 V2.1 | Base functions, Passive Tests |
| 3D Browser | 3D antenna pattern display |
| GSM / GPRS / EGPRS<br>CDMA / CDMA 1xRTT | TRP/TIS/EIRP/EIS/ICS |
| WCDMA / CDMA 1xEVDO | TRP/TIS/EIRP/EIS/ICS |
| TD-SCDMA | TRP/TIS/EIRP/EIS/ICS |
| Wi-Fi | UE/AP TRP/TIS/Throughput |
| Desense | Wi-Fi/Cellular/GPS |
| LTE SISO | FDD/TDD<br>TRP/TIS/EIRP/EIS/ICS |
| LTE ECC | Passive ECC/Active ECC |
| WCDMA ECC | WCMDA Active ECC |
| Bluetooth | TRP/TIS |
| LTE MIMO (RTS) | Throughput |
| Standalone GPS/BeiDou | CNo/EIS/TIS |
| NB-IoT/eMTC | TRP/TIS |

# RayZone Series

*A full range of selection for OTA testing*

RayZone 1200

1.5 m x 1.3 m x 0.9 m

200kg

RayZone 3500

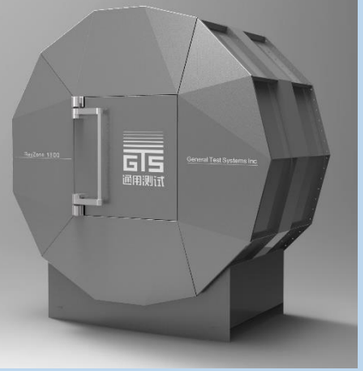
3.7 m x 3.6 m x 2.6 m

1200kg

RayZone 1800

1.95 m x 1.83 m x 1.1 m

400kg



RayZone 1200 is designed for R&D and production sampling test. It is small, fast, economical and convenient, with the highest repeatability and accuracy in its class.

RayZone 1800 is a full functional OTA system designed for pre-certification and R&D. It supports passive test, head and hand phantom, MIMO throughput, desense and other complicated tests that require simultaneous operation of multiple test instruments. Its accuracy and repeatability are comparable to those of a certification system.

RayZone 3500 is the smallest system that fully meets CTIA certification system requirements.

## Contact


Address：Building A 101-114, Taohuayuan High-tech Park, Baoan, Shenzhen, China

Tel：(+86) 755 2940 3544

Fax：(+86) 755 2974 8114

Email：sales@generaltest.com


General Test SYSTEMS

For more information, please visit www.generaltest.com.

With innovative engineering, patented technologies , General Test Systems offers industry leading RF and wireless communication test solutions to the global market.