



SPIRENT 8100 MOBILE DEVICE TEST SYSTEM

LTE Location Technology Solution

Navigation and location-aware applications are among the most popular mobile applications available. Ensure that your device will meet the needs of next-generation location applications running on LTE networks.

APPLICATIONS

Test Houses:

- Type approval and certification testing (GCF/PTCRB)
 - RF
 - Protocol
- Operator acceptance testing and validation

Device and Chipset Manufacturers:

- Type approval and certification testing (GCF/PTCRB)
 - RF
 - Protocol
- Design verification and validation
- R&D performance and functional testing
- Operator acceptance testing and validation

Network Operators:

- Acceptance testing
- Device characterization and comparison

A decade ago, Spirent pioneered automated testing of location-equipped mobile devices. As the world's leading vendor of GNSS (Global Navigation Satellite System) simulators and a leading supplier of automated mobile device testing systems, Spirent has become the industry's first choice for location technology testing on mobile devices.

Now Spirent applies this experience to enable the testing of location technologies in LTE devices on its 8100 Mobile Device Test system. With the 8100 Location Technology Solution, users benefit from the unique advantage of being able to test multiple GNSS/A-GNSS location technologies and air interfaces in one system, which can scale to address evolving LTE, CDMA, WCDMA, and GSM multi-mode device testing needs.

Many of today's LTE multi-mode devices include SUPL 2.0 protocol support. The SUPL 2.0 standard is defined by the Open Mobile Alliance (OMA) and Spirent has been a leading contributor to development of the SUPL standards. Beyond its comprehensive performance and conformance testing capabilities, the Spirent 8100 Location Technology Solution is the first to offer SUPL 2.0 test capability on LTE, WCDMA, GPRS, and CDMA air interfaces.

To help leverage our customers' investments, existing Spirent ULTS and PLTS systems can be easily upgraded to support LTE location technology testing.

BENEFITS

- *A single solution for the entire product life cycle* – control both conducted mode and radiated Over-The-Air (OTA) testing using a single interface. Run location technology test cases on the same hardware platform used for other areas of LTE device testing.
- *Addresses the requirements of leading LTE network operators* – Spirent test cases ensure that you'll quickly meet operator acceptance test requirements, shaving weeks off your product's time to market.
- *Built with experience and expertise* – Spirent is the world's leading vendor of satellite navigation simulators as well as the world's most experienced location technology device-testing provider.
- *Save on time and cost of testing* – Spirent solutions have proven automation, scalability and comprehensive test coverage of performance and standards-based (conformance) testing.



KEY FEATURES

- TTCN-3 test case development tools
- Optimized test methods reduce testing time
- Support for multiple air technologies (LTE/CDMA/WCDMA/GSM)
- Support for multiple GNSS/A-GNSS technologies (GPS, GLONASS)
- Device automation
- Purchase only the system you need right now... the configuration evolves with your test requirements.

CONFORMANCE AND OPERATOR ACCEPTANCE

LTE network operators are actively rolling out a rich array of protocols to enable location technologies on multi-mode devices. Spirent works directly with operators and technology suppliers to ensure complete test coverage of user plane and control plane implementations. This includes the latest control plane protocols such as LTE Positioning Protocol [LPP], legacy protocols such as Radio Resource Location Protocol [RRLP] and IS-801-1, as well as the latest user plane protocols, including SUPL 2.0.

Spirent made significant contributions to development of the OMA SUPL 2.0 standard, which is emerging as a key enabler of A-GNSS on LTE networks and devices. Spirent’s LTE Location Technology Solution is the industry’s first SUPL 2.0 conformance test solution and Spirent leads in SUPL 2.0 test coverage across LTE, CDMA, WCDMA, and GPRS air interfaces, with a best-in-class TTCN-3 protocol testing platform.

Bearer	SUPL Payload	# Test Cases
LTE	RRLP	102
WCDMA	RRLP	118
GSM	RRLP	102
CDMA 1x, HRPD, eHRPD	IS-801-1	86

Spirent currently offers two SUPL 2.0 test packs:

Test Type	TP1 (NI & SI) # of tests supported	TP2 (NI & SI) # of tests supported
Common Part	33	8
Single Session	13	10
Triggered Services (all)	N/A	35
Timer Expiry	6	11
Basic Functionality	4	N/A
Notification and Verification	13	N/A

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Another important growth area is hybrid positioning, which makes use of technologies such as OTDOA and Wi-Fi to improve location performance. As the plans of key technology providers and network operators evolve, Spirent in turn evolves its test solutions to meet the latest requirements.

CONDUCTED AND OTA RADIATED TESTING

The 8100 LTE Location Technology Solution is not limited to conducted-mode testing. For OTA testing, Spirent offers seamless integration with the leading anechoic test chambers. Spirent always keeps its testing capabilities at the forefront of location technology, ensuring that its customers can focus on their testing, no matter how the industry’s OTA test requirements evolve in the future. And if you’re planning to be a part of the first large-scale North American rollout of LTE, Spirent is ready right now with the test cases you need for operator acceptance.

ORDERING INFORMATION

As a part of Spirent’s scalable 8100 platform, the LTE Location Technology Solution can be an upgrade to existing Spirent test solutions or implemented as a dedicated location testing station. Existing 8100 customers can re-use much of their existing hardware, helping to conserve precious testing budgets. Please see your Spirent representative for more details on the depth and breadth of testing available with the 8100 system.

PLATFORMS	
Part Number	Description
8100-B052-R01	LTE Network Emulator Platform (Dual Cell)
8100-B500-R01	Advanced LBS platform for LTE, WCDMA, CDMA and GSM radio technologies
8100-B750-R01	Entry level LBS platform for LTE, WCDMA, CDMA and GSM radio technologies
SOFTWARE OPTIONS FOR LTE LBS TESTING	
TP-LBS-LTE-VZW-TP1	Verizon LTE LBS Test Pack*
8100-CFG-LBS-IS801	IS-801 Positioning Protocol Option
8100-CFG-LBS-RRLP	RRLP Positioning Protocol Option
8100-CFG-LBS-TTCN3-WB	TTCN-3 Test Executive and Compiler License
TP-LBS-OMA-SUPL-V2.0-TP1	OMA SUPL 2.0 ETS Test Pack # 1
TP-LBS-OMA-SUPL-V2.0-TP2	OMA SUPL 2.0 ETS Test Pack # 2

* Authorized Verizon Wireless suppliers only.

SPIRENT GLOBAL SERVICES

Spirent Global Services provides a variety of professional services, support services and education services — all focused on helping customers meet their complex testing and service assurance requirements. For more information, visit the Global Services website at www.spirent.com/gs or contact your Spirent sales representative.

