

Keysight E7515A UXM Wireless Test Set



Configuration Guide

Make a Clear Call

The team looks to you: will a new chipset or UE pass the crucial tests? Clarity comes from accumulated insights, and that's the idea behind the Keysight Technologies Inc. UXM wireless test set. The UXM is the most highly integrated signaling test set created for functional and RF design validation in the 4G era and beyond. It provides the capabilities you need to test the newest designs, delivering LTE-Advanced category 7 now and handling increasingly complex test cases in the future. When the team counts on you, count on the UXM to help you assess design readiness with greater confidence and make a clear call.

Overview

This configuration guide contains a step-by-step process to help you configure your E7515A UXM wireless test set with hardware, software, accessories, and services to meet your specific test requirements, or to upgrade your existing UXM.

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1. Select LTE/LTE-Advanced Test Application or Lab Application

The “fixed” licenses shown below are tied to a specific UXM host instrument. “Transportable” licenses are also offered and allow licenses to be moved between different UXMs. For transportable licensing simply substitute -*TP instead of -*FP in the license part number.

1.1 E7530A LTE/LTE-Advanced test application (TA)

The TA was created to meet the needs of RF design validation, with flexible receiver test, trusted X-Series transmitter measurement science, and basic network emulation.

Choose the FDD or TDD base option (or both) and desired feature options for additional functionality.

Feature license	Description
E7530A-1FP-FDD	FDD, fixed perpetual license
E7530A-1FP-TDD	TDD, fixed perpetual license
E7530A-AFP-FDD	2CC DL carrier aggregation (FDD), fixed perpetual license
E7530A-BFP	4x2 DL MIMO (FDD/TDD), fixed perpetual license

For details visit www.keysight.com/find/E7530A

1.2 E7630A LTE/LTE-Advanced lab application (LA)

The LA is targeted at overall device design validation, including both functional and RF performance. It includes the receiver and transmitter test functionality of the TA, plus IP data-based capabilities such as end-to-end IP data throughput and advanced network emulation such as complex handover scenarios required for VoLTE¹ and battery drain¹ testing.

Additionally, each LA version license adds new capabilities, building on the previous version². Choose the LA version that includes the functionality required for your particular testing needs.

Feature license	Description
E7630A-1FP-FDD	FDD version A.01 (LTE rel 8), fixed perpetual license
E7630A-1FP-TDD	TDD version A.01 (LTE rel 8), fixed perpetual license
E7630A-2FP-FDD	FDD version A.02, fixed perpetual license
E7630A-2FP-TDD	TDD version A.02, fixed perpetual license
E7630A-MTP	Message editor, transportable perpetual license

For details visit www.keysight.com/find/E7630A

1.3 TA and LA upgrades

Feature license	Description
E7630A-1FP-FTA	FDD TA to version A.01 LA upgrade, fixed perpetual license
E7630A-1FP-TTA	TDD TA to version A.01 LA upgrade, fixed perpetual license
E7630A-2FP-F01	FDD LA version A.01 to A.02 upgrade, fixed perpetual license
E7630A-2FP-T01	TDD LA version A.01 to A.02 upgrade, fixed perpetual license

1. Additional system components are required to verify VoLTE and battery drain performance. Ref. section 4.
2. LA version A.02 is a superset of A.01.

2. Select UXM Wireless Test Set Features

Configure the E7515A UXM wireless test set with features for your application requirements.

2.1 Choose the operating frequency range

Feature	Description
E7515A-504 (standard)	Frequency range 300 MHz to 3.8 GHz
E7515A-506	Frequency range 300 MHz to 6 GHz

2.2 Choose between single-transmit/receive (TRX) and dual-TRX

Single TRX is included as standard

Feature	Description
E7515A-RA1 (standard)	RF up-down converter A
E7515A-BA1 (standard)	Digital baseband transceiver A

For dual-TRX, supporting two independent cells or carriers (for Carrier Aggregation) add:

Feature	Description
E7515A-RB1	RF up-down converter B
E7515A-BB1	Digital baseband transceiver B

2.3 Channel emulation

For channel emulation capability such as fading, select:

Feature	Description
E7515A-C01	Channel emulator

Relevant fading profiles are provided in the TA or LA installed on the test set.

2.4 Protocol logging

Enables protocol information to be sent to a standalone logging application

Feature	Description
E7515A-L01	Protocol logging data source

2.5 Accessories and documentation

The following are included as standard

Feature	Description
E7515A-1BW	Getting Started Guide
E7515A-KYB	Keyboard, USB
E7515A-MSE	Mouse, USB
E7515A-9xx	Powercord (15 A)

2. Select UXM Wireless Test Set Features (continued)

Configure the E7515A UXM wireless test set with features for your application requirements.

2.6 Warranty, calibration, and start-up assistance

2.6.1 Hardware warranty

Feature	Description
Standard	Return-to-Keysight warranty: 3 years ¹
R-51B-001-5Z	Warranty Assurance Plan - Return-to-Keysight: 5 years

2.6.2 Calibration

Feature	Description
Standard	Keysight factory calibration
E7515A-UK6	Commercial calibration certificate with test data

2.6.3 Startup and productivity assistance

Feature	Description
PS-S20 (standard)	1-day on site startup assistance
PS-S20-01	Recommended startup assistance
PS-S10	Remote scheduled productivity assistance. Select 1 to 999 hours
PS-X10	Custom services to be qualified by a Keysight technical consultant

2.7 UXM wireless test set upgrades

2.7.1 User-installable upgrade kits

Feature	Description
E7515AK-506	Extend frequency range to 6 GHz
E7515AK-C01	Channel emulator
E7515AK-L01	Protocol logging data source

2.7.2 Return-to-Keysight upgrades

Feature	Description
E7515AU-RB1	RF up-down converter B
E7515AU-BB1	Digital baseband transceiver B

1. For more detailed information on the Keysight 3-year warranty go to www.keysight.com/find/ThreeYearWarranty

3. Example Configurations

3.1 LTE FDD TDD RF design validation, single-cell

Application software

Feature license	Description
E7530A-1FP-FDD	FDD, fixed perpetual license
E7530A-1FP-TDD	TDD, fixed perpetual license

UXM wireless test set

Feature	Description
E7515A-504 (standard)	Frequency range 300 MHz to 3.8 GHz
E7515A-RA1 (standard)	RF up-down converter A
E7515A-BA1 (standard)	Digital baseband transceiver A
E7515A-1BW (standard)	Getting started guide
E7515A-KYB (standard)	Keyboard, USB
E7515A-MSE (standard)	Mouse, USB
E7515A-9xx (standard)	Powercord (15 A)

3.2 LTE-A FDD RF design validation, with CA, MIMO, channel emulation, and logging

Application software

Feature license	Description
E7530A-1FP-FDD	FDD, fixed perpetual license
E7530A-AFP-FDD	2CC DL carrier aggregation (FDD), fixed perpetual license
E7530A-BFP	4x2 DL MIMO (FDD/TDD), fixed perpetual license

UXM wireless test set

Feature	Description
E7515A-504 (standard)	Frequency range 300 MHz to 3.8 GHz
E7515A-RA1 (standard)	RF up-down converter A
E7515A-BA1 (standard)	Digital baseband transceiver A
E7515A-RB1	RF up-down converter B
E7515A-BB1	Digital baseband transceiver B
E7515A-C01	Channel emulator
E7515A-L01	Protocol logging data source
E7515A-1BW (standard)	Getting Started Guide
E7515A-KYB (standard)	Keyboard, USB
E7515A-MSE (standard)	Mouse, USB
E7515A-9xx (standard)	Powercord (15 A)

3. Example Configurations (continued)

3.3 LTE FDD and TDD RF design validation and functional performance test

Feature license	Description
E7630A-1FP-FDD	FDD version A.01 (LTE rel 8), fixed perpetual license
E7630A-1FP-TDD	TDD version A.01 (LTE rel 8), fixed perpetual license
E7630A-MTP	Message editor, transportable perpetual license

UXM wireless test set (standard features)

Feature	Description
E7515A-504	Frequency range 300 MHz to 3.8 GHz
E7515A-RA1	RF up-down converter A
E7515A-BA1	Digital baseband transceiver A
E7515A-L01	Protocol logging data source
E7515A-1BW	Getting started guide
E7515A-KYB	Keyboard, USB
E7515A-MSE	Mouse, USB
E7515A-9xx	Powercord (15 A)

3.4 LTE-A FDD RF design validation and functional performance test with CA, MIMO, and channel emulation

Application software

Feature license	Description
E7630A-2FP-FDD	FDD version A.02, fixed perpetual license
E7630A-MTP	Message editor, transportable perpetual license

UXM wireless test set

Feature	Description
E7515A-504 (standard)	Frequency range 300 MHz to 3.8 GHz
E7515A-RA1 (standard)	RF up-down converter A
E7515A-BA1 (standard)	Digital baseband transceiver A
E7515A-RB1	RF up-down converter B
E7515A-BB1	Digital baseband transceiver B
E7515A-C01	Channel emulator
E7515A-L01	Protocol logging data source
E7515A-1BW (standard)	Getting Started Guide
E7515A-KYB (standard)	Keyboard, USB
E7515A-MSE (standard)	Mouse, USB
E7515A-9xx (standard)	Powercord (15 A)

4. Related Software Applications

4.1 VoLTE testing with IMS-SIP network emulator

Feature license	Description
E6966B-1FP	IMS-SIP server emulator, fixed, perpetual license
E6966B-2FP	IMS-SIP client emulator, fixed, perpetual license
E6966B-3FP	IMS-SIP conference server emulator, fixed, perpetual license

For further details visit www.keysight.com/find/e6966b

4.2 Battery drain analysis and automation

Feature license	Description
14585A	Control and analysis software for advanced power supplies
14565B	Device characterization software with test automation

For further details visit

www.keysight.com/find/14585a

www.keysight.com/find/14565b

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