

VoLTE-IMS options for RTD

Introduction

The Rapid Test Designer (RTD) VoLTE-IMS solution is designed to support the R&D test needs to develop VoLTE capable devices. The solution provides the following major capabilities:

- Test VoLTE and IMS functionality of LTE devices
- Test Single Radio Voice Call Continuity (SRVCC) capabilities
- Make end-to-end audio and video quality measurements between a device under test and a simulated IMS client

Voice over LTE (VoLTE) is the industry-adopted standard for delivering voice and SMS call services over LTE networks. VoLTE uses IP Multimedia Subsystem (IMS) components in the core network. The RTD VoLTE-IMS solution with the MD8430A signaling tester provides robust test capabilities for VoLTE, video call and IMS capabilities of LTE devices.

Single Radio Voice Call Continuity (SRVCC) is the standard for seamlessly handing over a voice call from LTE to a legacy circuit switched network. The RTD VoLTE-IMS solution with the MD8430A and MD8480C signaling testers provides ability to test Single Radio Voice Call Continuity (SRVCC) from LTE to UTRAN and GERAN.

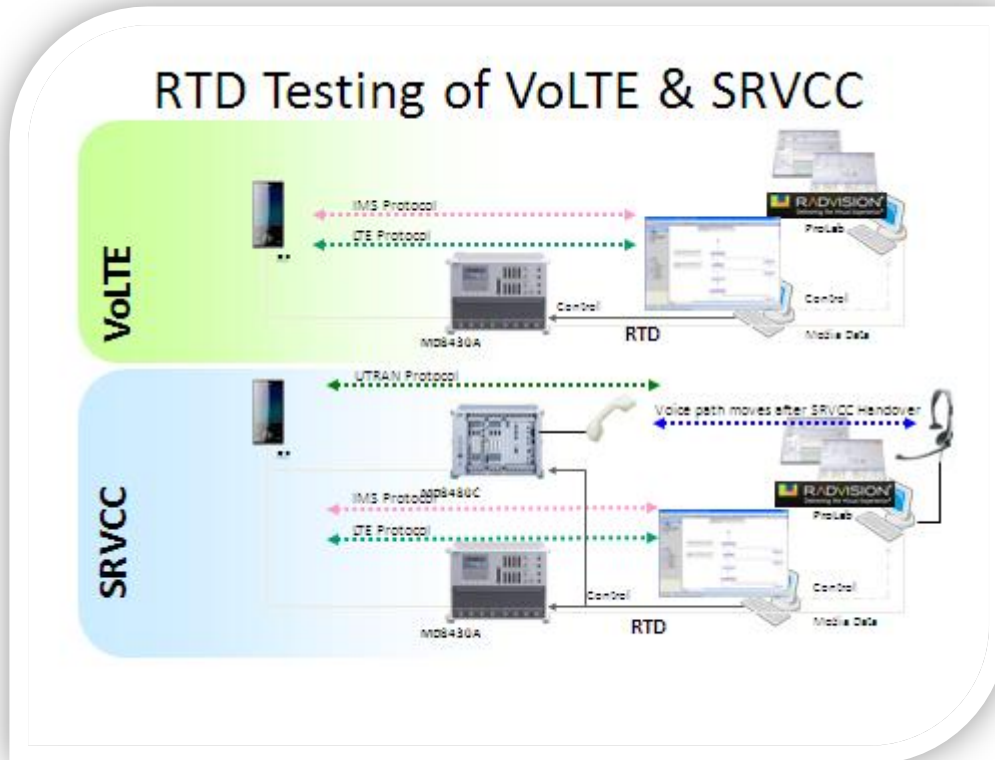
The RTD VoLTE-IMS solution provides real-time end-to-end audio and video quality measurements during calls between a device under test and a simulated IMS client.

Solution Overview

RTD software on the control PC is used to create, manage and execute the suite of VoLTE tests. The RTD VoLTE-IMS solution not only includes the industry leading MD8430A and MD8430C signaling testers but also incorporates Radvision's industry leading Prolab IMS/VoLTE Testing Suite. Prolab is installed on a PC dedicated to simulating the IMS core network. The RTD application controls all the testing performed in the VoLTE test environment.

Description of Basic Operation

The user creates and executes an RTD test to set up the LTE radio connection for the device under test. Procedures from the RTD Procedure Library (IMS) are added to the test in order to set up application layer IMS communications. The user can change the nature of the radio connection or the behaviour of the simulated IMS components to test a device's behaviour over a variety of conditions.



Features

The RTD VoLTE-IMS solution extends the RTD application to provide:

LTE Radio Access Features

Semi-persistent Scheduling (SPS); TTI Bundling; Discontinuous Reception (DRX); Robust Header Compression (RoHC).

IMS Core Emulation

Call Session Control Function Registrar; Proxy and Security; SIP; IPsec; TLS; SigComp; IPv4; IPv4v6; IPv6; AKA-MD5; Digest; P-CSCF; S-CSCF; I-CSCF; P-Headers Rules; Location DB.

UE Emulation

Pre-packaged test scripts for SIP, IMS, RTP, audio and video testing; Built in

media scenarios for AMR-WB, AMR-NB, H.264, MPEG4.

Audio and Video Quality Analysis

PESQ, MOS

Specification Compliance

The RTD VoLTE-IMS solution may be used to test compliance with the following specifications:

- GSMA IR.92 (Voice and SMS)
- GSMA IR.94 (Video)
- GSMA IR.88 (LTE Roaming)
- GSMA IR.64 (SRVCC)*
- 3GPP TS26.114 (Media handling and interaction)*

*Partially supported in RTD 4.10. Please refer to the product road map for details of support for these specifications in future releases.

Configuration and Ordering

Configuration Overview

There are three versions of the RTD Prolab IMS Package:

Package	IMS Core Emulation	UE Emulation	Audio Quality Measurement	Video Quality Measurement
MX787450A PROLAB IMS BASIC (requires MX786201A-026)	●	●		
MX787450A-001 PROLAB IMS AUDIO (requires MX787450A)	●	●	●	
MX787450A-002 PROLAB IMS VIDEO (requires MX787450A-001)	●	●	●	●

All of the above options require MX786201A-026 RTD Procedure Library (IMS), and the MD8430A-081 LTE RoHC option.

The RTD Prolab IMS package installs on a dedicated PC, Z1321B Additional PC for RTD Prolab (With Monitor), with Z1614A

Prolab USB Dongle. An ethernet switch is required, Z1109A Ethernet Hub. LAN cables, J1440A will be required from the additional PC to the ethernet switch, and from the MD8430A data port to the ethernet switch.

Part Number Descriptions

MX786201A-026 RTD PROCEDURE LIBRARY (IMS)

Single user license to execute functions contained in the RTD Procedure Library (IMS).

RTD Procedure Library (IMS) provides procedures which may be added to an RTD test to control and synchronise with the IMS core and UE emulation functions of Prolab.

MX787450A PROLAB IMS BASIC

Single user license to execute Prolab IMS Basic.

Prolab IMS Basic provides IMS core and UE emulation. Requires MX786201A-026 RTD PROCEDURE LIBRARY (IMS).

MX787450A-001 PROLAB IMS AUDIO

Single user license to execute Prolab IMS Audio.

Prolab IMS Audio provides IMS core and UE emulation, plus audio quality measurements. Requires MX787450A PROLAB IMS BASIC.

MX787450A-002 PROLAB IMS VIDEO

Single user license to execute Prolab IMS Video.

Prolab IMS Video provides IMS core and UE emulation, plus audio and video quality measurements. Requires MX787450A-001 PROLAB IMS AUDIO.

Z1321B ADDITIONAL PC FOR RTD PROLAB (WITH MONITOR)

Desktop PC with monitor conforming to the recommended specification for RTD Prolab.

MD8430A-081 LTE ROHC option

Robust Header Compression for MD8430A.

Z1109A ETHERNET HUB

Gigabit ethernet switch.

J1440A LAN CABLE

Z1614A PROLAB USB DONGLE

MX786201A-20 SOFTWARE UPDATE AND MAINTENANCE CONTRACT

MX786201A RTD customer support service, with software updates for 12 months.

MX787450A-SS120 1YR SUPPORT FOR PROLAB IMS BASIC

MX787450A customer support service, with software updates for 12 months.

MX787450A-SS121 1YR SUPPORT FOR PROLAB IMS AUDIO

MX787450A-001 customer support service, with software updates for 12 months.

MX787450A-SS122 1YR SUPPORT FOR PROLAB IMS VIDEO

MX787450A-002 customer support service, with software updates for 12 months.