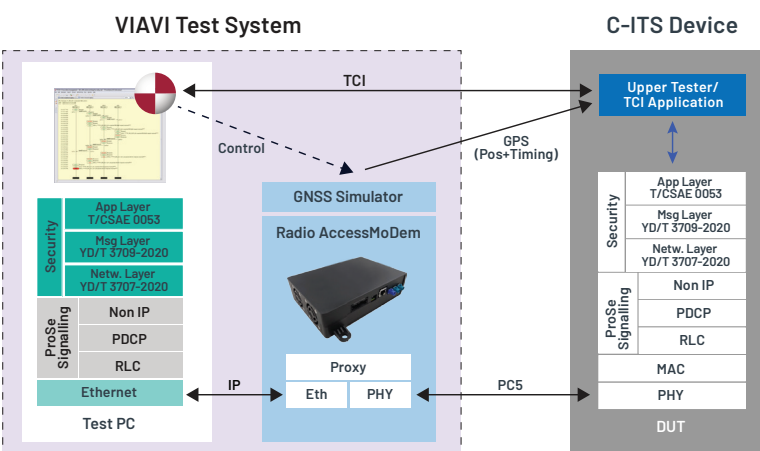


# TTsuite-China-ITS

TTsuite-China-ITS enables customers to test conformance of V2X equipment (OBUs and RSUs) signaling protocol layers to China CCSA and C-SAE test specifications for Cellular Vehicle-to-Everything (C-V2X) communication over the LTE-V PC5 (C-V2X) RF interface.

Vehicle to everything (V2X) technology enables parties involved in road traffic (e.g. vehicles, infrastructure, pedestrians) to exchange messages among each other, indicating information like their type, size, their position, the direction they are heading to etc. Using that information, applications hosted by those parties can implement algorithms for enhancing road safety, e.g. by supporting Advanced Driving Assistance Systems (ADAS) or for monitoring or optimizing road traffic.

Interoperability is a key requirement for all types of C-V2X equipment like On-Board Units (OBUs), Road-Side Units (RSUs) and any other system component implementing the signaling protocol stack. By verifying that the C-V2X protocols were implemented as per the standard specifications with automated test scripts, this solution helps customers to quickly deliver interoperable C-V2X products.



## Features

- Network Layer Test Cases
  - DSM Message Transmission and Reception
  - DSA Message Transmission and Reception
- Application Layer Test Cases
  - BSM Message Set Test Cases
  - MAP Message Set Test Cases
  - RSM Message Set Test Cases
  - SPAT Message Set Test Cases
  - RSI Message Set Test Cases
- Full test automation via Test Control Interface
- Freely combinable with additional test access (TTplugins)

## Benefits

- Ensure the conformance of an implementation or a system based on China Communication Standards Association (CCSA) and China Society of Automotive Engineers (CSAE) test specifications
- Fast and simple test execution and analysis
- Repeatability of tests and full support of test automation
- Platform independence and rapid integration in existing test environments
- Flexibility through usage of the constantly evolving standardized test notation TTCN-3
- Implement vendor-specific test cases to cover additional requirements beyond standard specifications

## Target Audience

- Companies supplying or testing C-V2X technology as per CCSA specifications

## Scope of Delivery

- C-V2X LTE-V Modem hardware device as radio proxy (optional)

## Reference Platforms

- Java 8
- Microsoft Windows 7/8/10
- Linux (GTK2, x86-32, x86-64)

## Technical Specifications

Base Specifications	
T/CSAE 0053 (2017) Application Layer	Cooperative intelligent transportation system; vehicular communication; application layer specification and data exchange standard
CCSA YD/T 3709 (2020) Message Layer	Technical requirements of message layer of LTE-based vehicular communication
CCSA YD/T 3707 (2020) Network Layer	Technical requirements of network layer of LTE-based vehicular communication
Test Specifications	
YD/T 3708 - 2020	Technical requirements for telecommunication network and Internet asset security management platform
YD/T 3710 - 2020	Test methods of message layer of LTE-based vehicular communication

## Ordering Information

Product Number	Description
TEC-SUITE-CH-ITS-LTEV	TTsuite-China-ITS, Protocol Conformance Test Suite for CCSA V2X Specifications
TEC-SVC-1015-TS-1Y	TTsuite Support and Maintenance 1 Year
TEC-TT-TEC-TT-WP	TTworkbench Professional
TEC-SVC-1015-WB-1Y	TTworkbench Support and Maintenance 1 Year



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