3GPP LTE PHY- Automated Test and Diagnostic Tool

The increasing complexity of today’s wireless communication products makes their verification a time consuming activity, involving tremendous manual effort as well. Given the reduced time-to-market scenario, this puts extra pressure on the verification process.

At Tata Consultancy Services (TCS), we have designed and developed an Automated Test and Diagnostic (ATD) Tool, which accelerates the verification process for complex signal processing blocks used in wireless communication. The ATD tool is designed to test module level user defined regression testing and physical layer system level compliance and regression level testing for LTE and LTE-Advanced solution.

The ATD tool is targeted to the LTE and LTE-A physical layer development players like OEM, Test and measurements and semiconductor manufacturer etc. The ATD Tool is capable of verifying design under test (DUT) against the golden MATLAB Reference. The generalized ATF schematic diagram is shown below.

![Generalized Schematic Diagram](image-url)
Features

- ATD Tool is used for Physical Layer subsystem module and integration level functional verification
- ATD is a fully automated user friendly GUI based testing tool
- ATD verifies the Target C code against the Golden Reference code.
- ATD is a test framework that provides sophisticated functionality for extensive testing and diagnostic feature to debug the failure module in the system
- Duplex mode selection for TD-LTE and FDD LTE PHY verification
- ATD can be easily integrated with other new development environment.
- ATD supports platform independent as well as platform dependent code solution
- Test automation helps to test a variety of test scenarios for better test coverage

- ATD is fully automated verification environment for
  - Generation of Test cases
  - Execution of Test cases
  - 3GPP specified LTE Performance testing as per 36.104 and 36.101
  - User defined and Regression testing
  - Automatic Scenario generation and testing
  - L1 Module level Diagnostic testing environment.

Applications

- FDD,TD-LTE Physical Layer Development
- FDD,TD-LTE-Advanced Physical Layer Development

Deliverables

- Golden Reference MATLAB Source Code
- C Source Code
- GUI Setup Code
- User Manual

Contact

To know more about 3GPP LTE PHY- Automated Test and Diagnostic Tool, contact eis.marketing@tcs.com

About Tata Consultancy Services (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India’s largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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