

OVERVIEW

Packet Generator is a software tool that will be running on a Host computer and generate traffic patterns. USB Packet Generator is a product that generates series of specification compliant packets for Gen 3.2, Gen 3.1, Gen 3.0 and Gen 2 which can be used by emulator platform to generate traffic on DUTs interfaces. It can also be used on simulation platform to generate traffic on simulation environment on DUTs interface.

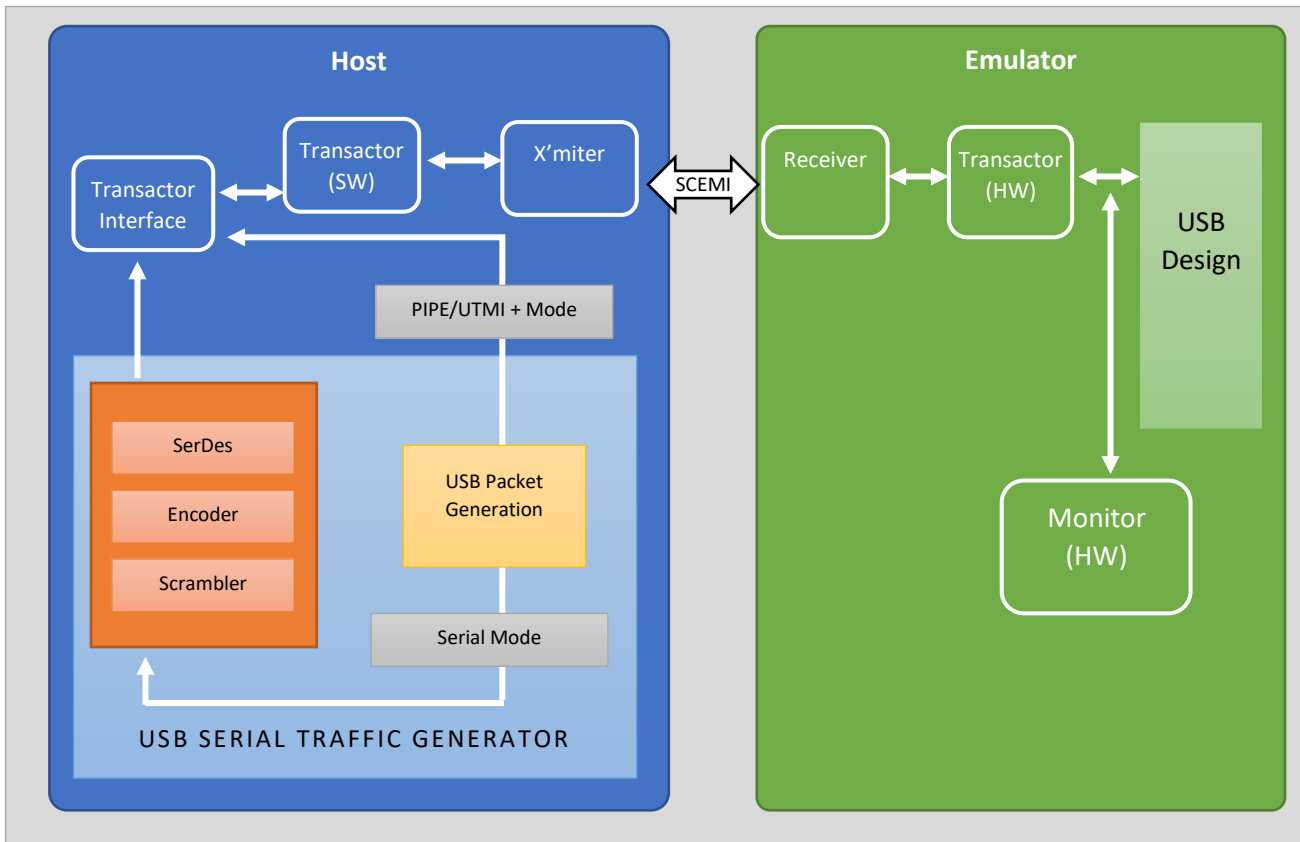


Figure 1: USB Traffic Generator in Emulation Platform

FEATURES

- USB Traffic generator supports Serial Packet and PIPE/UTMI+ Packet transmission & reception for Host, Device and Hub designs.
- Serial Packet generator generates data traffic on the serial interface and provides consumer the emulation of USB protocol with PHY layer.
- PIPE Packet generator generates data traffic on PIPE interface which can be connected at MAC interface of USB protocol without PHY layer.
- Supports multiple EP(End Points) with USB Hub topology.
- Automatic handling of Protocol, Link and PHY Layer traffic with error injection at multiple levels and automatic error recovery.
- USB Traffic generator can generate all the types of packets specified in the USB Protocol.
 - DP - Data Packets
 - TLP - Transaction Layer Packets
 - LMP - Link Management Packets
 - ITP - Isochronous Timestamp Packets
- USB Traffic generator completely supports all the states and arcs of LTSSM with Low Power states.

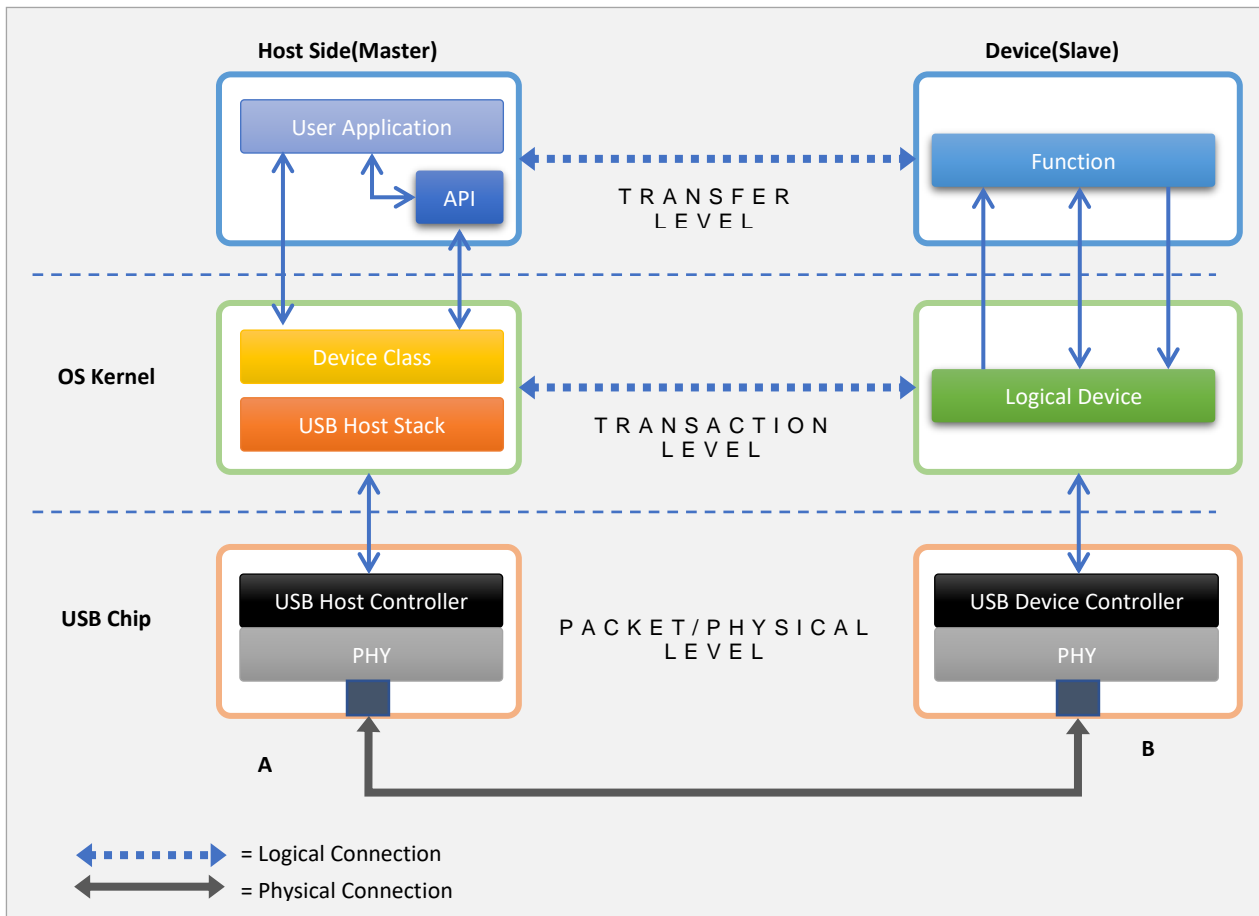


Figure 2: USB Software Architecture

BENEFITS

- Compliance test suite with constrained random and directed test scenarios verifies all the layers of USB protocol
- Easy to debug customized message formatting and reporting
- Guarantees compliance to USB specifications
- Reduces risk to design flaws
- Ensures first pass design success
- Reduces overall design and verification costs and time

Tools & Technologies: Verilog, SystemVerilog, C, DPI, UVM
EDA Tools
Emulators