

HETD26L Frame Structure



In TD-LTE frame structure, each radio frame spans 10ms and consists of ten 1ms subframes. Subframes 0 and 5 contain synchronization signal and broadcast information which is necessary for the UE to perform synchronization and obtain relevant system information.

Subframe 1 is special to serve as a switching point between UL and DL. It contains three fields – Downlink Pilot Time Slot (DwPTS), Guard Period (GP) and Uplink Pilot Time Slot (UpPTS).

Basic Principle for HETD26L

- 1) Receive TDD signals from BTS and down-convert to IF signals firstly.
- 2) Filter out 20MHz expected TD-LTE carrier signals by built-in digital filter.
- 2) Digitalize the signal via high speed ADCs (Analogue to Digital Converter) and implement baseband digital demodulation on DSP then.
- 3) Identify PSS (Primary Synchronization Signal) in DwPTS and SSS(Secondary Synchronization Signal) in TS0 through TD-LTE frame structure.
- 4) Acquire the switch point between UpPTS and DwPTS by verifying correlation between the local PSS Code and demodulation signals basing on the correlation property of Synchronization Code.
- 5) Lock corresponding carriers via expected PSS and SSS.
- 6) With accurate time point of PSS and SSS, it can deduce the accurate each switching point of UL/DL according to current Uplink-Downlink Allocations and the length of each fields in the Special Sub-frame (DwPTS, GP and UpPTS).
- 7) The booster has built-in 2 digital filters, both two digital filters are all 20MHz bandwidth, but there will be only amplify one carrier (20MHz) signal on working