

TD-LTE SCANNING RECEIVERS

Greater Flexibility, New Challenges

TD-LTE is the 4G cellular technology for operators with unpaired spectrum. Unlike LTE FDD, TD-LTE's time-synchronized base stations alternate between uplink and downlink signaling in a variety of configurations. A special subframe is used to avoid interference in the transition from downlink to uplink, with downlink in the Downlink Pilot Timeslot (DwPTS), uplink in the Uplink Pilot Timeslot (UpPTS), and a configurable Guard Period (GP) between.

PCTEL® scanning receivers provide high-performance TD-LTE measurements, with advanced features including Carrier to Interference and Noise Ratio (CINR), Time Offset, measurements of multiple Transmit (Tx) antenna ports, and subband measurements. PCTEL TD-LTE scanning receivers supplement these robust LTE measurements with TDD-specific features, including:

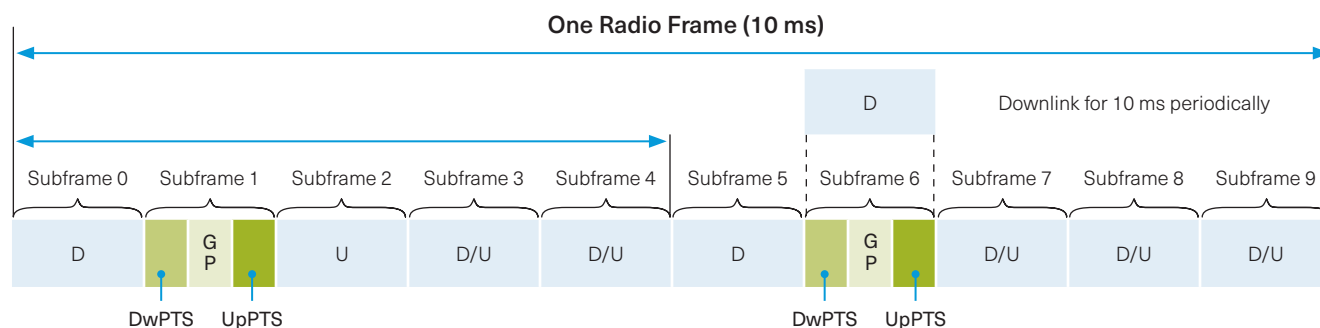
Top N Measurements: Featuring high dynamic range for all Uplink-Downlink Configurations as well as Time Offset to verify network synchronization.

Uplink-Downlink Configuration: Automatically detects which subframes are devoted to downlink and uplink and reports the associated configuration number for verification purposes.

DwPTS Symbol: Reports the last symbol number used by the Downlink Pilot Time Slot (DwPTS) within the special subframe. In combination with base station location information, DwPTS Symbol can be used to identify downlink signaling that overlaps the recommended GP.

LTE Power Analysis: Measures power levels of individual slots and Resource Blocks (RBs). LTE Power Analysis allows engineers to troubleshoot time or frequency-selective issues.

TDD Subframe Structure



- ▲ The TD-LTE subframes types are Downlink (D), Uplink (U), and special subframe. Parts of the special subframe include Downlink Pilot Time Slot (DwPTS), Guard Period (GP), and Uplink Pilot Time Slot (UpPTS).

PCTEL, Inc.

T: +1 301 515 0036 | pctel.com | NASDAQ: PCTI

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