

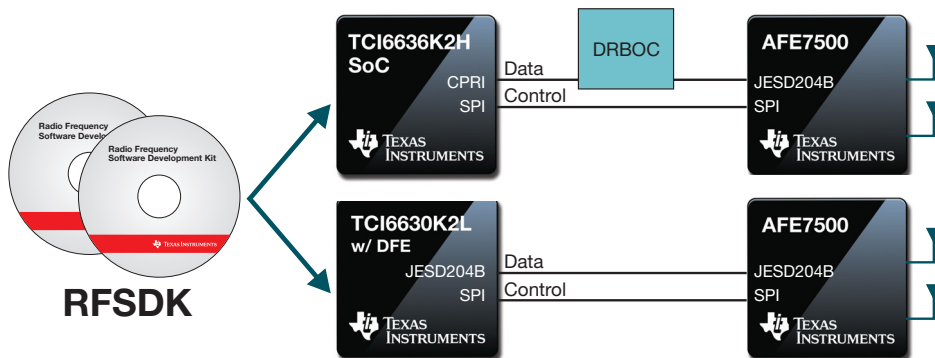
Radio Frequency Software Development Kit (RFSDK)



Delivering pre-integrated RFSDK software to reduce customers' time-to-market

Texas Instruments' (TI's) RFSDK software provides small cell and wireless backhaul vendors a production-quality framework to seamlessly integrate baseband and integrated transceiver solutions from TI. The RFSDK can also be leveraged by industrial solution providers such as test and measurement, aerospace and defense and medical equipment providers, to seamlessly integrate digital front end (DFE) and high-speed data converter solutions from TI. The RFSDK software shortens radio software development by months, thus reducing time-to-market. On a small cell system based on baseband and integrated transceiver solutions from TI, the RFSDK software enables developers to achieve first call in just one day.

The RFSDK software is pre-integrated with TI's Base Station SoftwarePac and system tested on a high-performance small cell platform which combines TI's KeyStone™-based TCI6636K2H with TI's integrated analog front end transceiver, the AFE7500, and a digital radio breakout card (DRBOC). RFSDK software has been system tested on an industry-leading small cell solutions platform which combines TI's KeyStone-based TCI6630K2L with the AFE7500 transceiver. In addition to supporting flexible digital up/down converter functions (DUC/DDC) and an optimized JESD204B interface on the above platforms, the RFSDK software enables crest factor reduction (CFR) and digital pre-distortion (DPD) techniques to help lower overall system power consumption and minimize system BOM cost by choosing efficient power amplifiers (PA).



Ease of use

The RFSDK software provides simple, well-defined APIs to configure and control the entire radio chain, which combines the digital radio processing and analog RF processing. Different modes of operation supported by the RFSDK software include command line, interactive and script, in addition to the standard web interface. The RFSDK software enables automatic configuration of the entire radio chain, by setting up > 50,000 chip-level parameters for the AFE7500 transceiver and DFE components of the solutions platform.

Key Features

- Multiple radio chain configurations including FDD/TDD LTE, 20/15/10/5MHz, 2x/4x antenna
- User friendly APIs and web-like interface
- System-level parameters are abstracted from thousands of radio-specific parameters
- Preconfigured setups for common use cases allow for rapid demo, evaluation and testing
- Integrated Digital Pre-Distortion (DPD)
- Integrated Crest Factor Reduction (CFR)
- RFIC configuration, control and monitoring
- Digital up and down conversion

Reduced time-to-market

The RFSDK software includes a complete integration framework to hook up the baseband with integrated transceivers or DFE with discrete data converters. The framework dramatically reduces development and maintenance efforts, enabling customers to quickly ramp to production. The test suite, benchmarks and performance reports included in the framework simplify the overall testing and performance evaluation of customer systems.

For more information on TI's small cell portfolio and Base Station SoftwarePac visit www.ti.com/smallcells

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