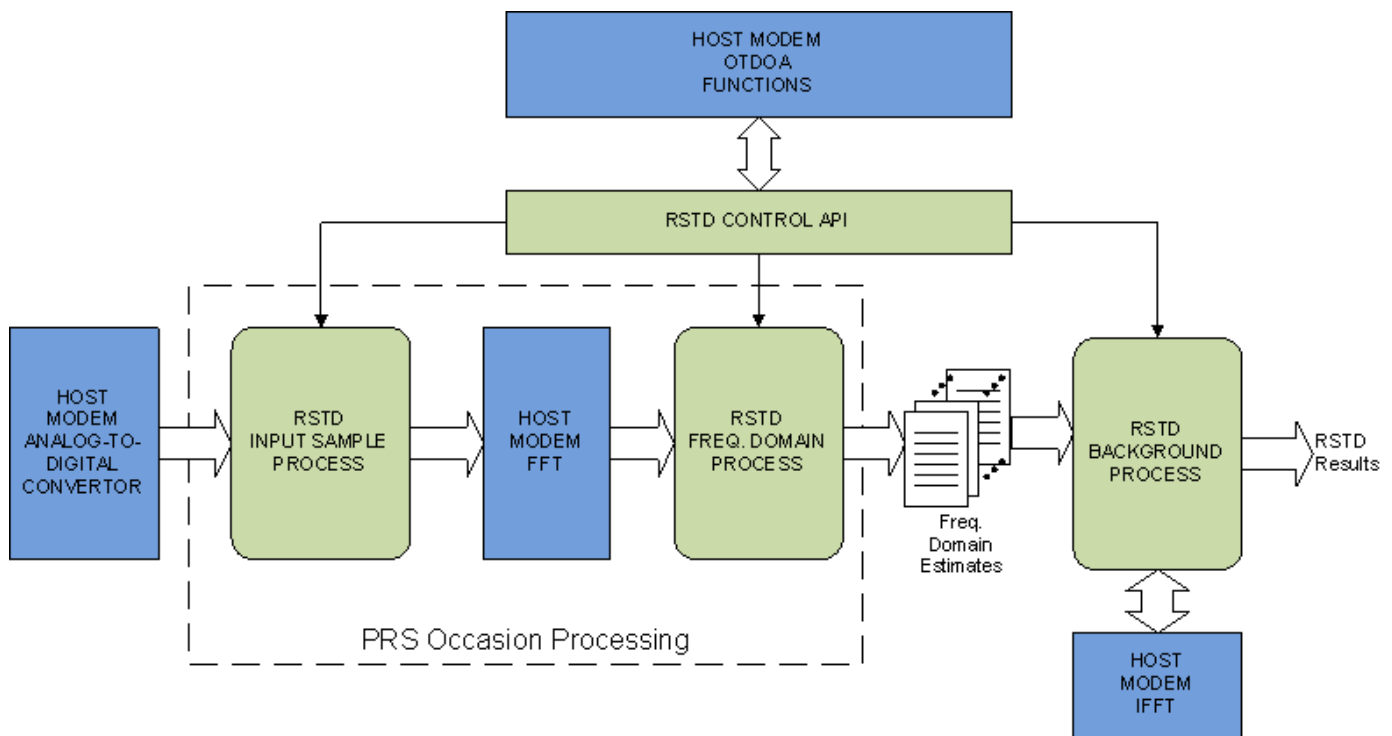


Overview

hellaPHY™ RSTD is an advanced signal processing algorithm that is designed to improve LTE wireless network indoor and outdoor location accuracy and offers extreme performance in an efficient low-power DSP implementation. The algorithm has been demonstrated to outperform advanced super-resolution algorithms at a fraction of the complexity. It is designed to be a drop-in replacement for existing Reference Signal Time Difference (RSTD) algorithms in User Equipment (UE) chipsets and can be customized for any unique DSP or interface requirements. The hellaPHY™ RSTD IP core is designed to support advanced LTE features contemplated by operators as well as for LTE Release 14 including PRS muting, CRS plus PRS transmit diversity, and fractional T_s reporting. The hellaPHY™ RSTD IP core is scalable and can support CAT-M through CAT-15.

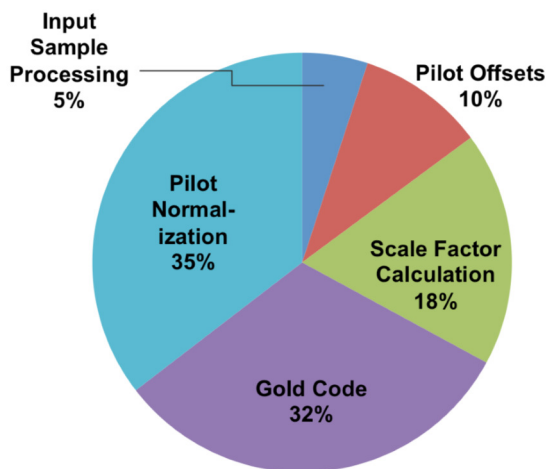
Block Diagram



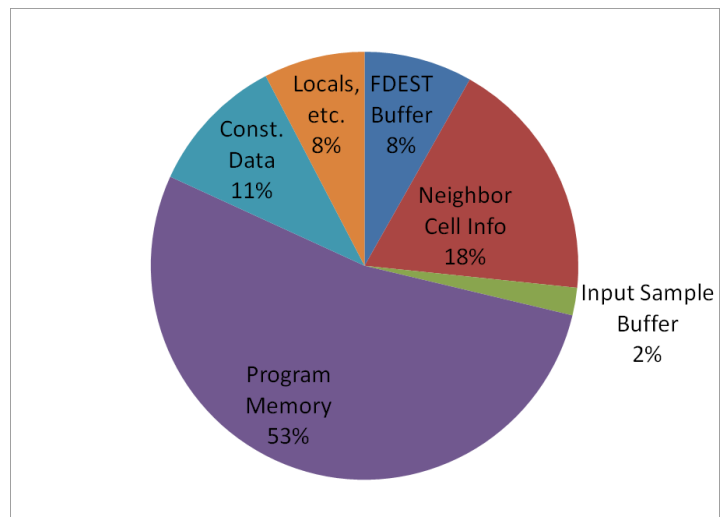
Key features and benefits

- ⇒ 3GPP Rel. 9 through 13 compliant
- ⇒ Optimized for commercial 16b DSP
- ⇒ <140 MIPS during PRS occasion (6RB)
- ⇒ < 3MIPS between PRS occasions (6RB)
- ⇒ 8KB data memory for 6RB
- ⇒ 9KB program memory for 6RB
- ⇒ Full LPP UE assistance data support
- ⇒ Detects up to 17 cells per PRS occasion

Resource Requirements 6RB



Processor loading



Memory

Deliverables

- ⇒ DSP libraries
- ⇒ Mixed C and assembly language
- ⇒ Documentation
- ⇒ Matlab functional model
- ⇒ Verification test bench
- ⇒ Matlab fixed-point bit-exact model
- ⇒ Integration support
- ⇒ Porting services available