

## Power Quality Analysis

As part of NeST's focus on SMART GRID, our engineers have come out with algorithms required for advanced power quality analysis. It is essential for new generation devices to have clean power and these algorithms may be used as part of the monitoring and control devices. NeST is currently designing a standalone HW also to run this with necessary interfaces to power lines.

The following is an overview of the algorithms developed at NeST

- Accurate measurement techniques to detect, measure, analyze and classify power quality characteristics satisfying real time requirements
- Provision for the aggregation of the power quality parameters compliant to the IEC standards
- Compliance with standards
  - IEC 61000-4-30
  - IEC 61000-4-7
  - EN 50160
- Algorithms developed and validated in Simulink and Embedded MATLAB. Targeted Platform is TMS320C6747 DSP. Easily portable to other platforms.
- Measurements
  - Power frequency
  - Magnitude of supply voltage
  - Supply voltage dips/swells
  - Voltage interruption
  - Voltage unbalance
  - Harmonic and Inter-harmonic distortion