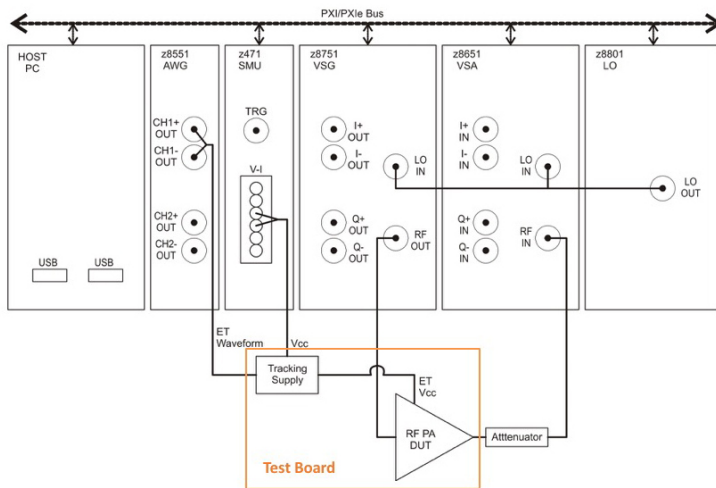


# Envelope Tracking Measurements

Envelope Tracking (ET) techniques are widely used in the Power Amplifier (PA) industry due to complex modulation schemes and increasing peak-to-average power ratios. ET aims to optimize EVM and PAE performance by modulating the Vcc applied to the PA. ET provides optimal performance at all power levels and allows broadband operation. zScript test sequencer provides comprehensive ET characterization test flows. ([www.litepoint.com/test-solutions-for-the-rf-lab-software/zscript/](http://www.litepoint.com/test-solutions-for-the-rf-lab-software/zscript/))



## ET Testing Configuration

### Test Board

Requires high-efficiency ET supply close to PA. The ET supply is part of PA reference design and can be obtained at 3rd party ET suppliers.

## Testing and Characterization sweeps in zScript test sequence software

### RF-to-V<sub>cc</sub> Calibration

- Voltage shaping table  
Characterization at fixed V<sub>cc</sub>: PAE, Gain, EVM, ACLR, AM-AM & AM-PM
- Time alignment  
Sweep AWG-to-VSG with different propagation delays ( $\Delta t$ ) between the RF and ET supply paths. EVM "V" defines optimum  $\Delta t$ .

### Characterization

- TX measurements
- AM-AM/AM-PM
- Power added efficiency
- Combined ET + DPD performance

