Product Details:

- EMI Clock Attenuator & Synthesizer Products.
- The product includes high frequency Phase Lock Loop & Voltage Controlled Oscillator Modules with digitally selectable control inputs.
- The Customer is at the heart of any system that is built to perform: computation, data communications, automotive, industrial, consumer and solar power.
- The product application portfolio includes a broad selection of wired and wireless USB devices, CMOS image sensors, timing solutions, network search engines, specialty memories, high-bandwidth synchronous and micro power memory products, optical solutions, and reconfigurable mixed-signal arrays.

Project Details:

- The project necessitated the development of a cost effective test solution for testing the frequency products with digital modules also.
- The base frequency of the signal along with it's spread percentage upon enabling the control input need to be measured on each unit.
- The test flow included the AC tests like frequency & spread measurement apart from the standard DC tests like Leakage, VOL, VOH, Pull-up, Pull-down Resistance, IDD, etc.
- Direct plunge type handlers were used instead of using cables which would create noise. The decoupling cap was made as near to the devices as possible.

Key Highlights:

- The main challenge was to reduce noise components generated externally which could affect the testability and performance.
- Calculation of Spread cannot be done directly as the tester is not supported with proper resources for frequency domain measurement. Hence time measurement module was used to calculate Spread indirectly. The measurements were more accurate and correlated well with the actual spread measurements.

Equipments Used:

Tester : Credence ASL 1000
Handler : MCT5105