

IBIS Measurement and Correlation Handbook outline – 23 March 2010

- 1) Scope (Mike) Accuracy encompasses Construction, Measurement, and Correlation
- 2) Definitions
- 3) Measurement
 - i) Measurement setup
 - (a) Temperature and Voltage
 - (b) Signal Types
 1. Single-ended
 2. Psuedo-differential
 3. True Differential
 4. Pre-emphasis
 - ii) Measurement Quantities
 - (a) Voltage/Time
 - (b) Current/Time
 - (c) Voltage/Current
 - (d) Capacitance
 - iii) Measurement methods
 - (a) Simulation
 1. Reference simulator
 2. IBIS simulator
 - (b) Bench Instrumentation
 1. Bare die
 2. Packaged part
 3. System
- 4) Correlation
 - i) Types of correlation metrics
 - (a) Overlay validation
 - (b) Envelope validation
 - (c) Feature selective validation
 1. Frequency Domain (Bruce Archambeault)
 2. Voltage Domain
 3. Time Domain
 - ii) I/V correlation
 - (a) Driver I/V (Moshiul: frequently checked)
 - (b) On-Die Termination I/V
 - (c) Clamp I/V
 - iii) V/T correlation
 - iv) Input correlation
 - (a) Effective capacitance
 - (b) Reflection correlation
 - (c) Receiver Output correlation ??? (not useful)
 - v) Package correlation
 - (a) Time of flight
 - (b) Impedance
 - (c) Frequency response
- 5) Recommended Test Fixtures (Use [Test Load])
 - i) Vref/Rref/Cref/Vmeas fixture
 - ii) Differential fixtures