ISSI Reliability Test Equipment List

The reliability test equipment utilized throughout ISSI’s device measurement laboratory and approved subcontractors are shown in below Table.

Table 1: ISSI Reliability Test Equipment List

Category	Item	Application	Application Site
Visual	Stereo Microscope	For visual inspection of wafer and package parts	In-house lab
	Scanning Electron Microscope (SEM)	Inspect surface or cross section of a device at high magnification	In-house lab
	Acoustic Microscope (CSAM)	For visual inspection delamination in package	In-house lab
	Optical Microscope	For visual inspection both wafer and package parts	In-house lab
	X-ray	To inspect the bonding wire of encapsulated devices	In-house lab
Electrical Test	Keytek ESD & Latch-up Test system	To test ESD and Latch-up, both JEDEC and EIAJ modes available	Currently in subcontractor
	Curve Tracer	To measure parameters	In-house lab
	Parameter Tester	To measure parameters	In-house lab
	Oscilloscope	To test timing and functionalities	In-house lab
	Bench testers (GII, Adventest -Tester, EPRO-142,etc.)	To test parametric and functional characteristics.	In-house lab
	MOSAID Tester	To test functionalities and parameters	In-house lab
Stress Test	Temperature Probe System	To probe the device at high temperature.	In-house lab
	HTOL Oven	To do high-temperature operating life test	In-house lab
	HAST Test System	To do highly accelerative stress test	In-house lab
	Temperature Cycling System	To do temperature cycling test (-65 ℃ to 150 ℃)	In-house lab
	Bake Oven	To do baking and data retention test.	In-house lab
	Temp.& Humid. Storage Chamber	To do high temp and humidity soak test.	In-house lab
	PCT Test System	To do pressure cooker test.	In-house lab
	IR-reflow chamber	To do preconditioning test.	In-house lab
	Other Package Related Tests	To quality the leads, marking, etc.	In-house lab

Figure 1. STK Burn-in Oven, for HTOL test

Figure 2. Signality Burn-in Oven, for HTOL test

Figure 3. HIRAYAMA Pressure Oven, for HAST test

Figure 4. HITACHI Thermal Shock chamber for TCT test

Figure 5. HITACHI Cycling Oven, for TCT test

Figure 6. ISUZU High Temp Oven, for HTS test

Figure 7. HITACHI Humidity Oven, for THS test

Figure 8. KSON Temperature cycle chamber and Keithley system switch/mutimeter, for solder joint life test