CM300xi

300 mm semi-automated probe system with Contact Intelligence™ technology

Large microscope bridge
- High-Temperature Stability microscope bridge enabling automated testing over temperature*
- Easy to mount measurement instruments such as parameter or noise analyzer and VNA, as close as possible to the DUT
- Minimizes signal path to eliminate parasitic effects, achieving high measurement accuracy and dynamics

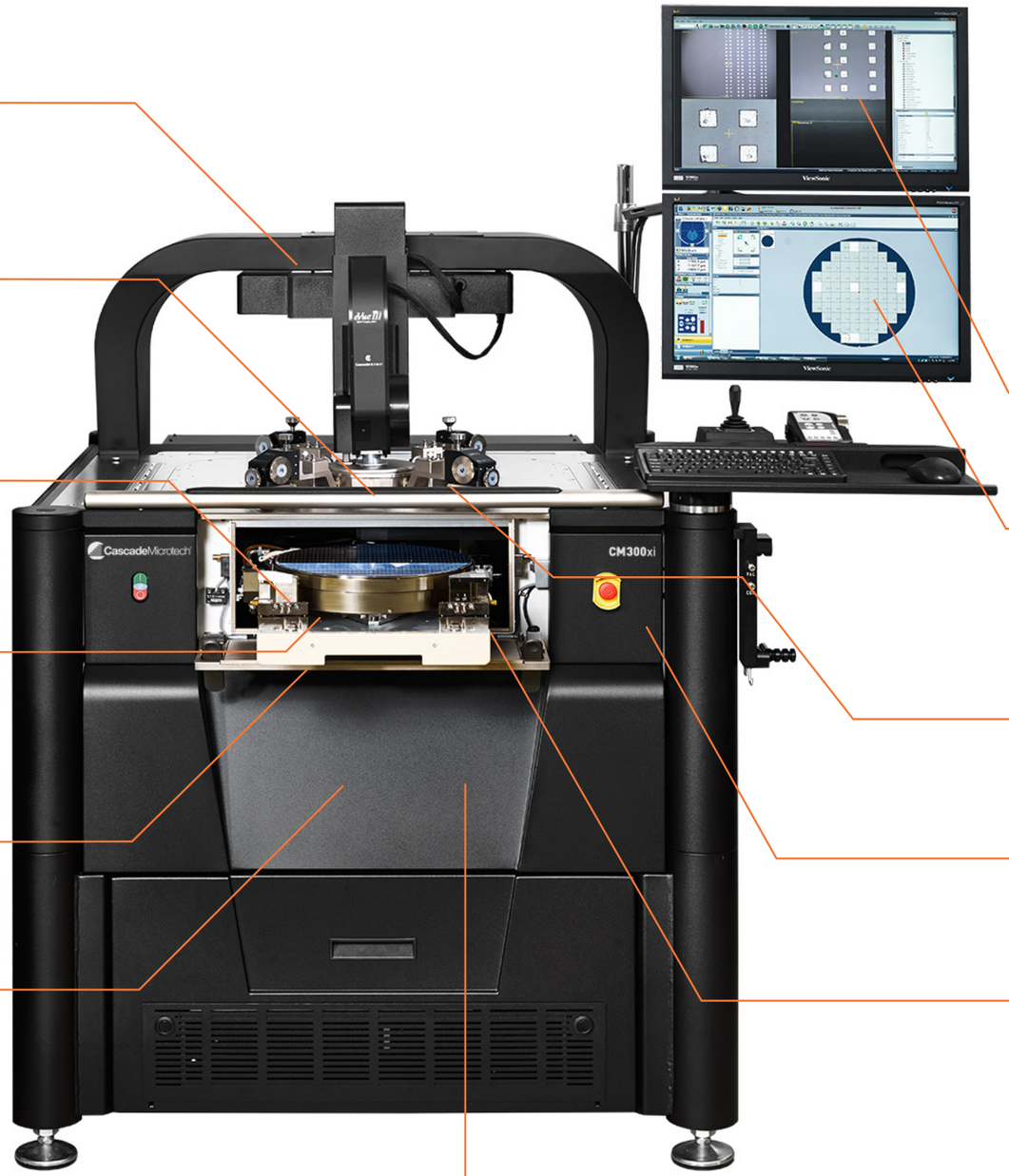
Automated Test Measurement (ATM™)
- ATM minimizes thermal drift and reduces wafer and die soak times, ensuring shortest time to reach thermal equilibrium after every thermal step*
- Automated re-alignment capability compensates for thermal drift after every temperature change
- Reliable and repeatable contact on small pads down to 30 µm and microbumps

Quick access to auxiliary chucks
- Two patented auxiliary chucks for high calibration accuracy for RF/mmW measurements at frequencies up to 110 GHz
- Three sites for advanced cleaning procedures and contact verification

Probing over wide thermal range
- -60˚C to 300˚C systems available for characterization and modeling
- High-Temperature Stability platen, shielding solution and ultra-flat wafer chucks ensure stable and repeatable measurements

Safe wafer loading and unloading
- Full wafer access via locking roll-out stage
- Easily handles 200/300 mm wafers and smaller, as well as single die and wafer fractions

Built-in vibration-isolation system
- Eliminates vibration from external sources, such as acoustic and architectural, enabling reliable small pad probing
- Enhances system stability and reduces damage to pads, wafers and probe tips
- Easy access from front- and back-side for fast configuration and service



Upgradable to fully-automated system (Option)
- Field upgradable with handling unit to allow test automation out-of-cassette for higher test cell efficiency for over-night/over-weekend operation

*Contact Intelligence technology enables unattended test over multiple temperatures:
- VueTrack™ closed-loop positioning capability minimizes the need of manual re-adjustment when probing small pads across multiple temperatures.
- Velox probe station software provides a single command interface for automated temperature transitions continuously managing the separation between probes and pad during temperature ramp.
- Velox probe station software provide the ability to optimize the soak time after a temperature transition or when stepping across the wafer based on the temperature variance.
- Realign option is much faster due to the fast focus scan, which minimizes the thermally-induced drift during off-axis alignment of prober and pads.
- High Temperature Stability (HTS) microscope bridge enables automated test over multiple temperatures.
- HTS platen provides stability over a wide thermal probing range.
- HTS probe card holder ensures EMI-shielded and light-tight environment, achieving accurate and reliable small-pad probing (option).
- As an additional option, the Contact Intelligence DC Motorized Positioner Package includes VueTrack Pro, motorized positioners with friction-less EMI shielding and HTS probe arms, enabling unattended testing on small pads across multiple temperatures. This is an ideal option for customers working with high-mix/ low-volume device layouts requiring flexible positioner-based setups.

Powerful automation tools for data collection
- Automatic wafer alignment
- Auto XYZ and theta correction for sub-micron stepping
- Automatic die size measurement tool

Velox™ probe station control software
- Intuitive GUI for efficient system utilization by novice and expert users
- Software joystick for precise, sub-micron positioning
- Improved sub-die navigation with CellView
- Easy integration with instrument, testers, and test and measurement software for fast data collection

Advanced EMI/RFI shielding
- Ensures highly-accurate low-leakage and low-noise measurement results
- Minimizes settling times for efficient measurements, without compromising accuracy over full thermal range

Integrated shielding solution
- Chuck enclosure ensures moisture-free, light-tight and EMI-shielded measurements, making over-temperature measurements easy
- Top-side shielding provided by TopHat ™ or optional top chambers

Mechanical accuracy
- Stage accuracy and stability ensure precise and repeatable small-pad and fine-pitch probing*
- Ideal for testing modeling and reliability structures in the kerfs and microbumps
- High-resolution probe-to-pad alignment (PTPA) for use with vertical/advanced probe cards (option)

The image shown and features listed above are based on the fully-shielded version of CM300xi (CM300xi-F) with additional options. Cascade Microtech also offers CM300xi-S (shielded system) and CM300-O (open system). For more details, please refer to CM300xi Data Sheet.

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