

IceShield™

Low-Temperature Probing Solution Without TopHat

FormFactor's IceShield™ solution is available on the SUMMIT200 and CM300xi probe stations. As an alternative to a TopHat/TopChamber enclosure, the IceShield insert provides an open environment for low-temperature probing.

The "flat hat" solution operates over a wide temperature range, including tests down to -60°C without a build-up of frost and condensation.

Ideal for S-parameters and load-pull applications that do not require light tightness or EMI-shielding, the IceShield insert ensures minimized insertion loss for highly accurate and repeatable cold measurements.

With this test data, engineers can evaluate device performance and reliability at low temperatures.



-60 to 300°C^*

Cold On-Wafer Measurements

Open environment for frost-free operation



High Accuracy and Repeatability

Optimized insertion loss for demanding RF applications



Modular Design

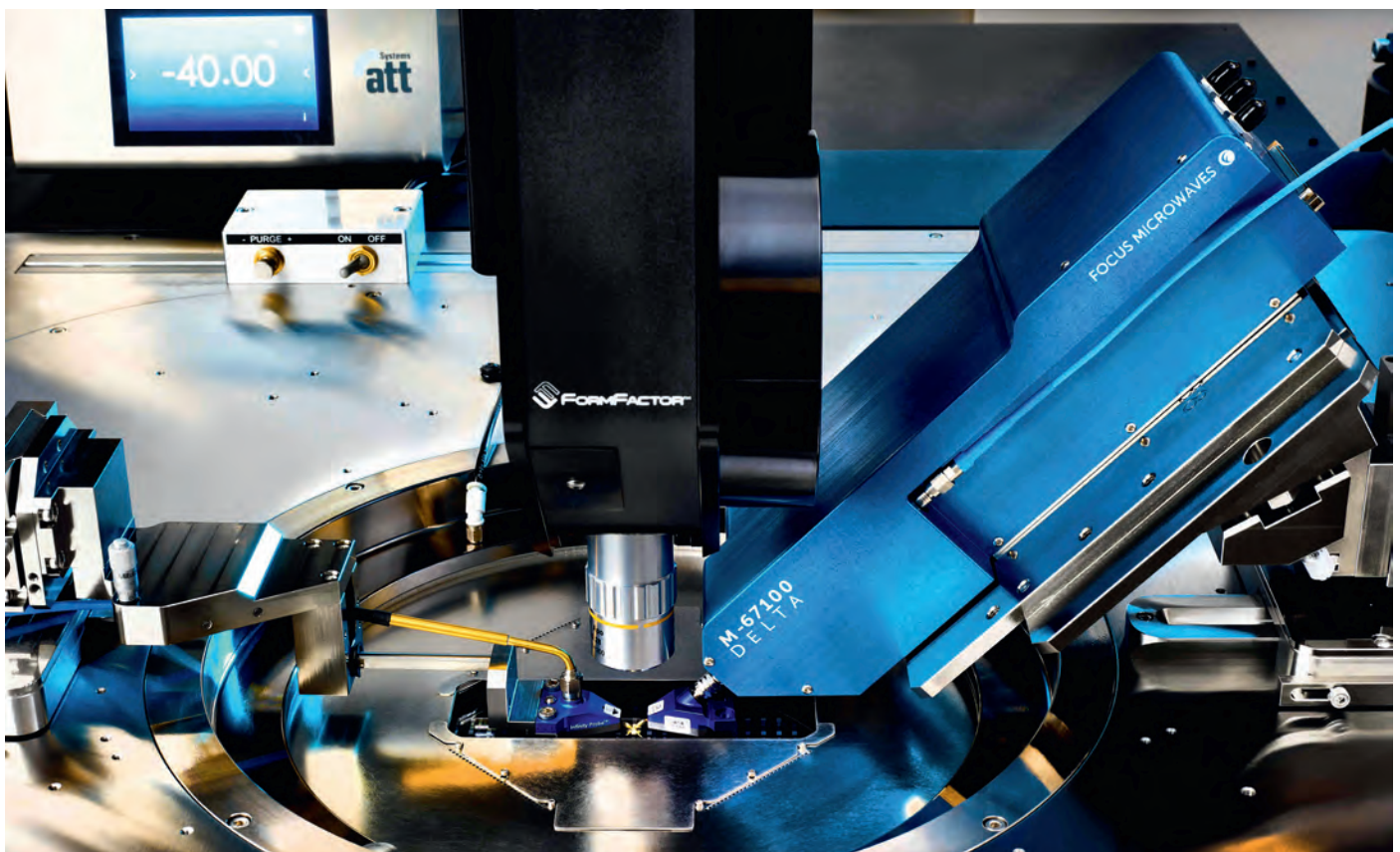
Easy to swap platen insert between IceShield and TopHat



Multiple Aperture Shapes

Four different aperture shapes available to suit application needs

* -40°C tested at 50% relative humidity
 -60°C tested at 25% relative humidity



Cold On-Wafer RF Measurements

With the SUMMIT200 and CM300xi IceShield solution, users can easily collect cold measurements without a TopHat.

The IceShield insert offers frost-free operation over an extended temperature range, from -60°C to +300°C. The solution is designed to create a laminar flow curtain to prevent ingress of moisture, allowing it to withstand high relative humidity.

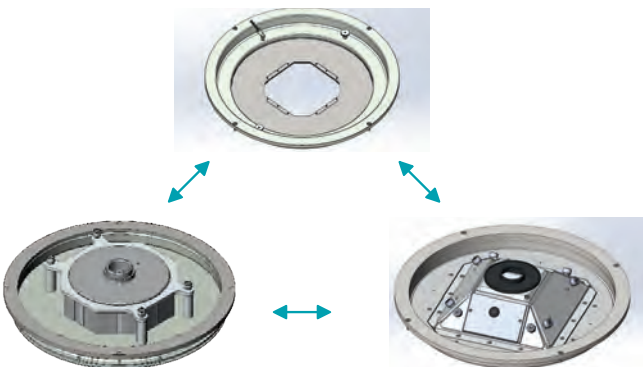
The open IceShield environment allows for the shortest path between the probes and the test instrumentation, considerably reducing insertion loss and maximizing accuracy for S-parameters and load-pull application layers.



The FormFactor IceShield solution is ideal for cold measurement applications such as S-Parameters (top) and Load-Pull (bottom).

Modular Solution

FormFactor's IceShield and TopHat platen inserts are easy to swap for different test requirements. The IceShield solution is field upgradeable to existing SUMMIT200 and CM300xi systems.

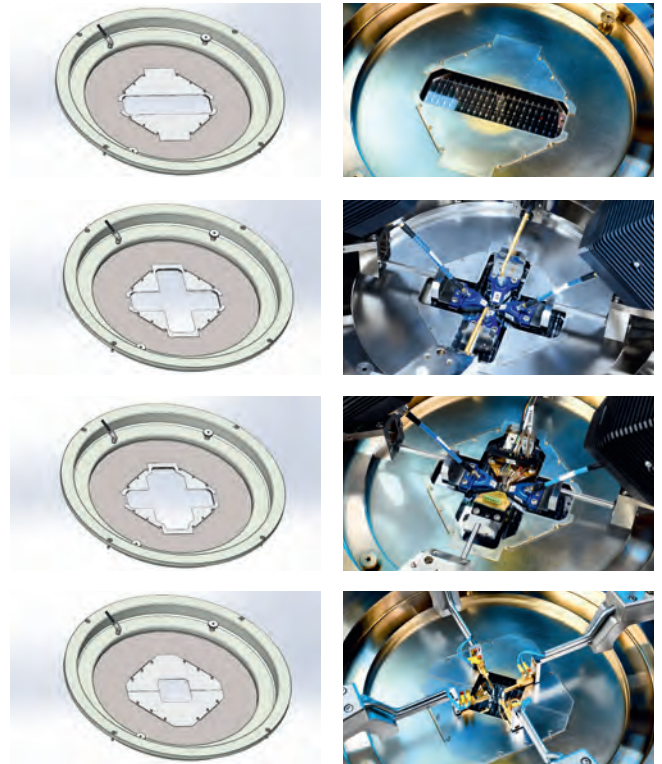


The IceShield (top), 8-sided TopHat (bottom left), and RF TopHat (bottom right) platen inserts are easy to swap on the SUMMIT200 and CM300xi probe system.

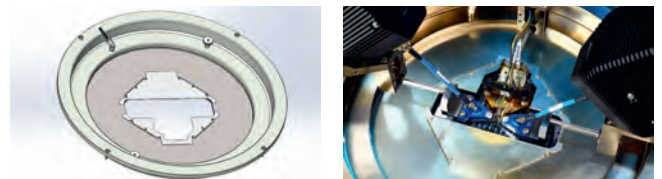
Multiple Aperture Shapes

For highest application flexibility, the IceShield kit includes four different cutout shapes:

- Extended cutout in X-axis for RF East/West setup
- Cross cutout for RF East/West and RF/DC North/South setup
- Extended cross cutout for RF East/West and multi-contact North/South setup
- Square cutout for DC probing



The cutout shapes can be mixed and matched to perfectly fit application requirements, for example with a T-shape cutout. Up to 10 different combinations are possible. Customized cutouts are available upon request.



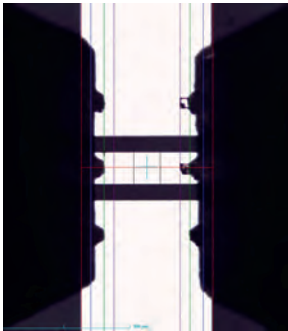
Probes and Positioners Compatibility

The SUMMIT200 and CM300xi IceShield solution is compatible with a wide range of FormFactor probes and positioners, including RF coaxial ACP, Infinity and IZI Probes, Infinity Waveguide probes, multi-contact probes and DC probes.

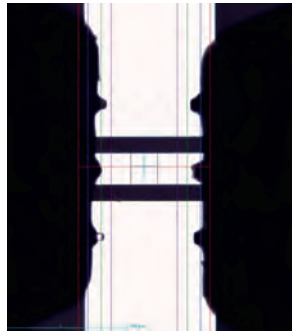
No Build-up of Frost and Condensation Down to -60°C

The main problem when making unshielded measurements at cold temperatures is condensate that freezes. The built-up ice will obscure the wafer and can get so thick that it envelops the probes too. Accurate measurements will become impossible.

The IceShield has been tested with Autonomous RF down to -60°C. No build-up of frost and condensation can be seen on the eVue snaps at different test temperatures.



Ice-free test at 25°C



Ice-free test at -60°C

Fully Compatible with Autonomous RF

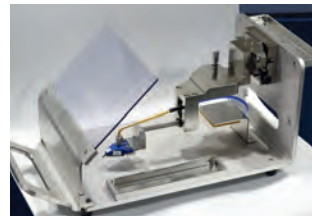
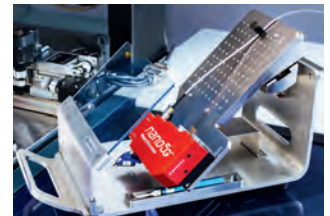
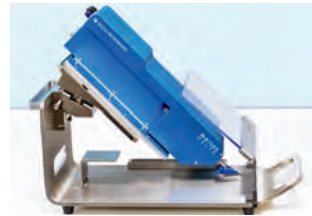
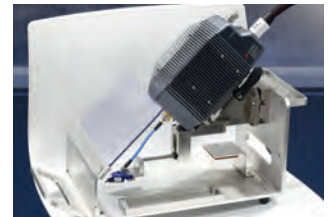
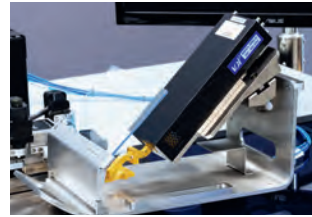
The IceShield is fully compatible with FormFactor's exclusive Autonomous RF Measurement Assistant which, together with WinCal, provides continuous calibration monitor and re-calibration for true unattended 24/7 testing and reduced measurement uncertainty.



Featuring the unique Contact Intelligence™ Technology, it significantly reduces cost of test and accelerates time to market with increased accuracy and reduced design cycles.

Fully Compatible with Modular RF Probe Arms

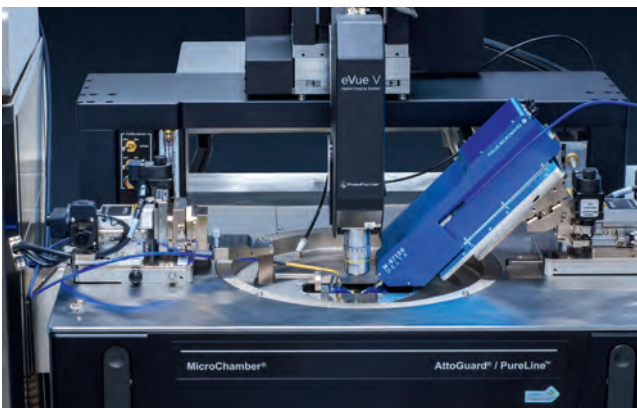
FormFactor's modular RF probe arms are fully compatible with the IceShield. They can be conveniently swapped with other probe arms for RF, millimeter-wave, Terahertz and Load-pull applications. Positioner bodies can be motorized or manual.



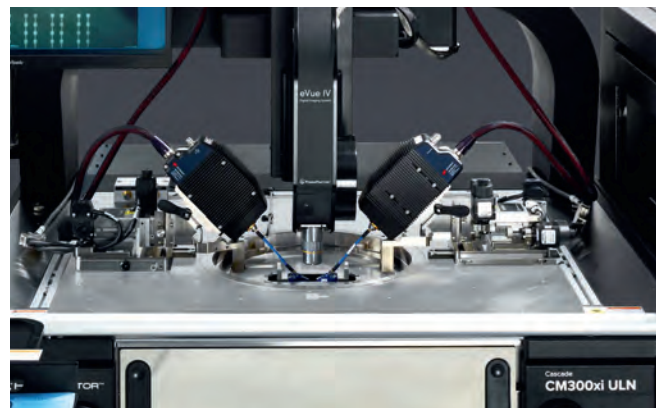
Swap different applications easily! All modular RF probe arms fit with our manual and motorized positioners (RPP404 and RPP504). Fully populated probe arms can be conveniently stored in FormFactor's Storage Pods.

Station Compatibility

FormFactor's IceShield is compatible with the CM300xi and SUMMIT200 Probe Stations.



SUMMIT200



CM300xi