KLA-Tencor

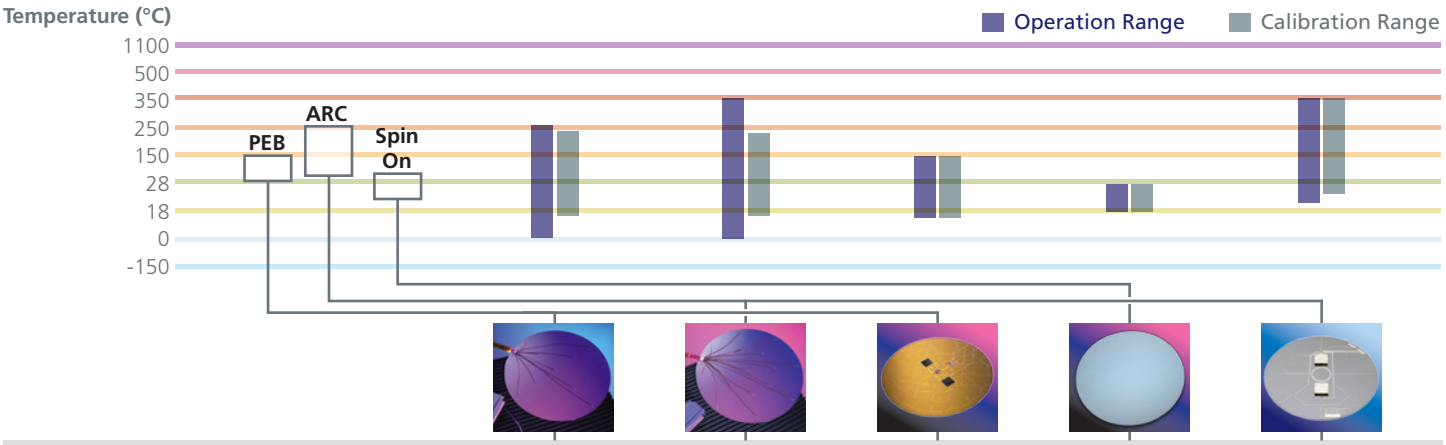
SensArray

WAFER LEVEL METROLOGY

Product Line Overview

Lithography

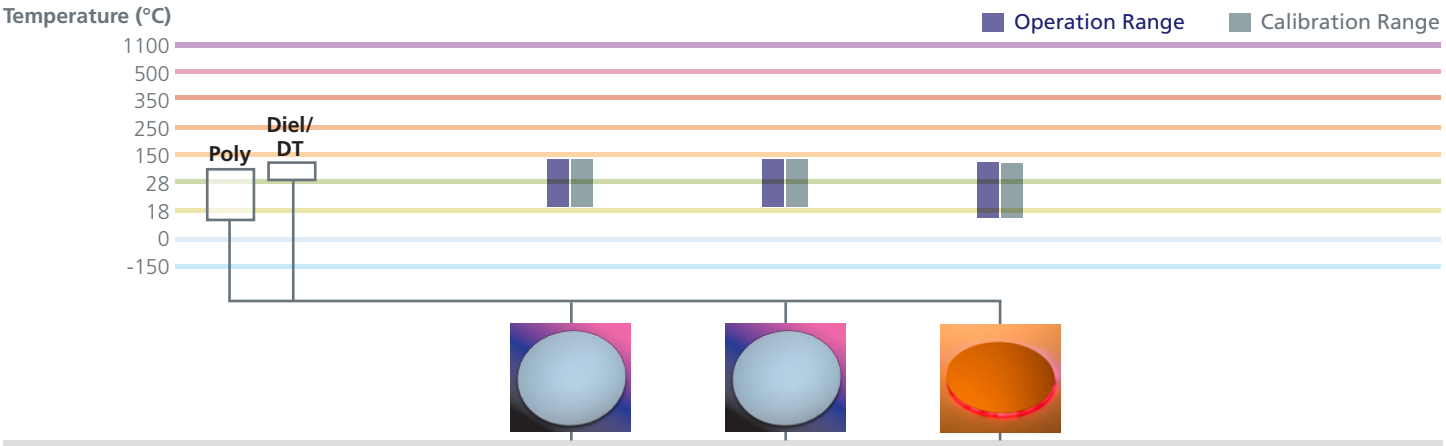
WAFER LEVEL METROLOGY



AT A GLANCE	UNITS	1840	1850	Integrated Wafer	Integral ScannerTemp	HighTemp-350XP
Accuracy	± °C	0.05	0.5	0.1	0.05C	1
Sensor-to-Sensor	< °C	0.03	0.1	0.1	0.03 C	0.6
Sensor Type		RTD	RTD	IC	IC	RTD
Sensor Quantity	Number	1-34	1-34	53,65	65	21
Power Source	Battery or Wired	Wired	Wired	Battery	Battery	Battery
Special Notes		Polyimide coated copper leads	High temp flat cable	Low Profile	<6um local flatness	Time limited elevated temp-erature missions

SPECIFICATIONS	UNITS	1840	1850	Integrated Wafer	Integral ScannerTemp	HighTemp-350XP
Measurand		Temperature	Temperature	Temperature	Temperature	Temperature
Sampling f(max)	Hz	8	8	4	4	4
Operating Range	Min-Max °C	0-250	0-350	15-145	20-24	20 -350
Calibration Range	Min-Max °C	15-230	15-230	15-145	20-24	24 -350
Substrate Material		Silicon	Silicon	Silicon	Silicon	Silicon
Wafer Sizes	mm	50-300	50-300	200-300	300	300
Upper Coating		NA	NA	Polyimide	Si	NA
Cleanability		Manual Wipe	Manual Wipe	Manual Wipe	Wet Clean (SC1,SC2)	Manual Wipe
Power System		Passive	Passive	Dual replaceable batteries	Dual fixed batteries	Battery
Communications		ISIS 5	ISIS 5	RF, IR or pins	RF	USB
Thickness	mm above	<1	<1	<0.5	<0.0	5±0.19
Recharge Time	Minutes	NA	NA	<5	<5	<5
Recording Time	Minutes	Unlimited	Unlimited	18	18	15
Storage		Shipping Case	Shipping Case	BaseStation300Z	Shipping Case	Shipping/ Charging Case
FOUP		NA	NA	BaseStation300Z	BaseStation300Z	BaseStation
Warranty	Months/Cycles/Hours	6 mo/60 cyc	6 mo/60 cyc	6 mo/60 cyc	6 mo/8 hrs	120 cyc/4hrs
Use Life		NA	NA	NA	8 hrs	4hrs
Calibration Life	Months	12	12	12	12	12

Plasma Etch

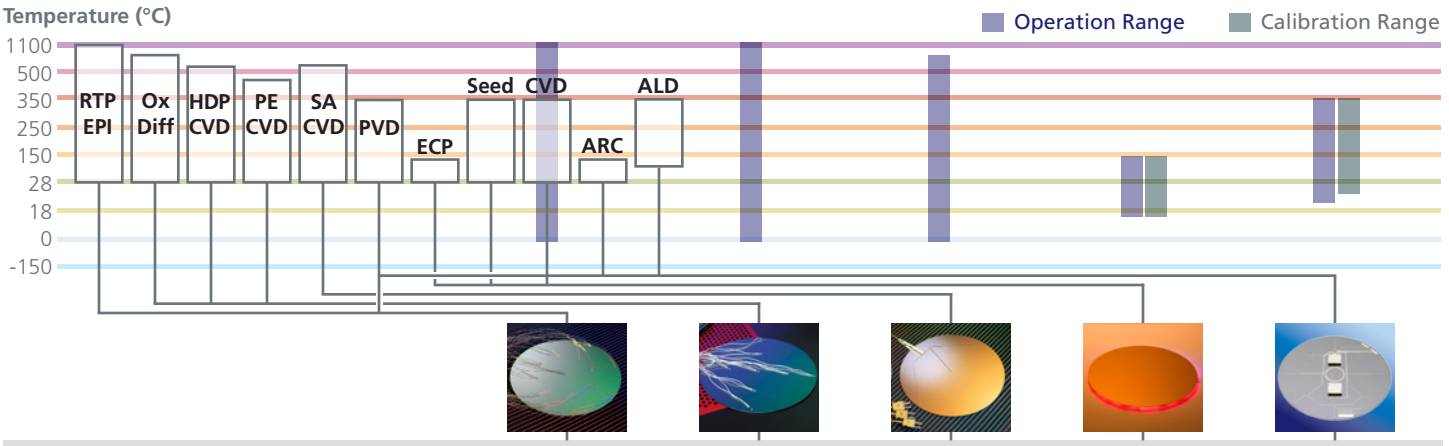


AT A GLANCE	UNITS	EtchTemp	EtchTemp SE	Integral i3
Accuracy	± °C	0.2	0.2	0.5
Sensor-to-Sensor	< °C	0.25	0.25	0.25
Sensor Type		IC	IC	IC
Sensor Quantity	Number	65	65	53
Power Source		Battery	Battery	Battery
Special notes		Oxide Etch RF-7KW Totally sealed	Si Etch RF-7KW Totally sealed	RF - 4KW Totally sealed RF

SPECIFICATIONS	UNITS	EtchTemp	EtchTemp SE	Integral i3
Measurand		Temperature	Temperature	Temperature
Sampling f(max)	Hz	4	4	4
Operating Range	Min-Max °C	20-140	20-140	15 -140
Calibration Range	Min-Max °C	20-140	20-140	15 -140
Substrate Material		Silicon	Silicon	Silicon
Wafer Sizes	mm	300	300	200
Upper Coating		Silicon	Coated Silicon	Silicon
Cleanability		Wet Clean (SC1,SC2)	Wet Clean (SC1,SC2)	Automated
Power System		Dual fixed battery	Dual fixed battery	Dual fixed batteries
Communications		RF	RF	RF
Thickness	mm above	<0.38	<0.38	<0.38
Recharge Time	Minutes	<5	<5	<5
Recording Time	Minutes	18	18	18
Storage		Shipping Case	Shipping Case	Shipping Case
FOUP		BaseStation300Z	BaseStation300Z	Shipping/ Charging Case
Warranty	Months/Hours	6 mo/4 hrs	6 mo/4 hrs	6 mo/4 hrs
Use Life		4 hrs	4 hrs	4 hrs
Calibration Life	Months	12	12	12

Thin Films and Thermal Processes

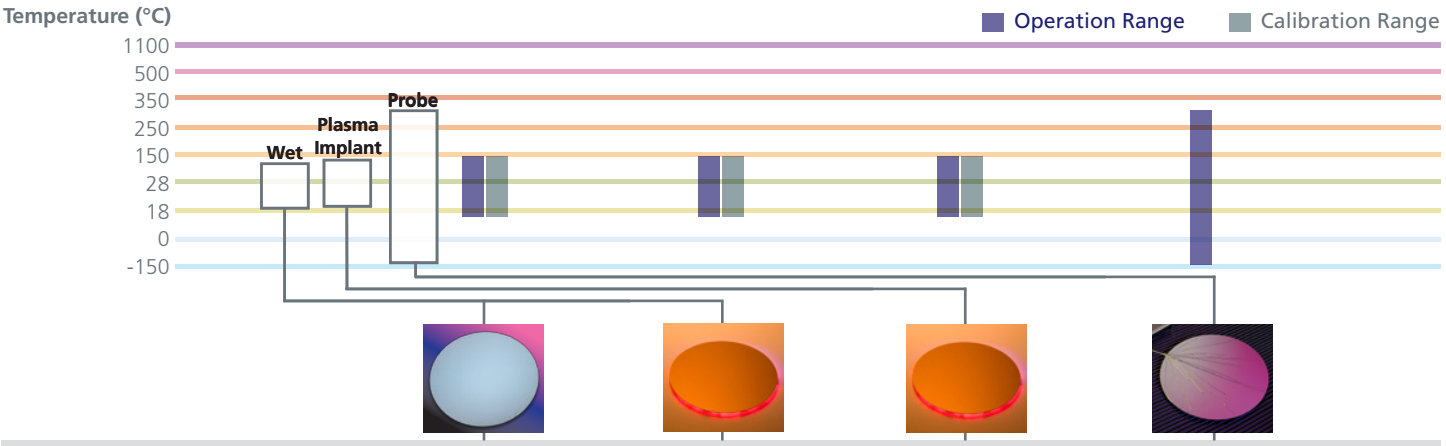
WAFER LEVEL METROLOGY



AT A GLANCE	UNITS	1530	1535	1630	Integral i3	HighTemp-350XP
Accuracy	± °C	1.1 or 0.4%(HT)	1.5 or 0.25%(HT)	1.1 or 0.4%(HT)	0.5	1
Sensor-to-Sensor	< °C	0.2	0.25	0.1	0.25	0.6
Sensor Type		TC - Type K	TC - Type R or S	TC - Type K	IC	RTD
Sensor Quantity	Number	1-34	1-34	1,3,5,8,9	53	21
Power Source		Wired	Wired	Wired	Battery	Battery
Special Notes		Application specific lead insulation	Application specific lead insulation	Inconel Sheath	RF - hardened Totally sealed RF comm	Time limited elevated temp-erature missions

SPECIFICATIONS	UNITS	1530	1535	1630	Integral i3	HighTemp-350XP
Measurand		Temperature	Temperature	Temperature	Temperature	Temperature
Sampling f(max)	Hz	8	8	8	4	4
Operating Range	Min-Max °C	0-1100	0-1100	0-800	15 -140	20 -350
Calibration Range	Min-Max °C	NA	NA	NA	15 -140	24 -350
Substrate Material		Silicon	Silicon	Silicon	Silicon	Silicon
Wafer Sizes	mm	50-300	50-300	100-300	200	300
Upper Coating					Silicon	
Cleanability		Manual Wipe	Manual Wipe	Manual Wipe	Wet Clean (SC1,SC2)	Manual Wipe
Power System		Passive	Passive	Passive	Dual fixed batteries	Battery
Communications		ISIS 5	ISIS 5	ISIS 5	RF	USB
Thickness	mm above	<1	<1	<1	<0.38	5±0.19
Recharge Time	Minutes	NA	NA	NA	<5	<5
Recording Time	Minutes	Unlimited	Unlimited	Unlimited	18	15
Storage		Shipping Case	Shipping Case	Shipping Case	Shipping/ Charging Case	Shipping/ Charging Case
FOUP		NA	NA	NA	NA	BaseStation
Warranty	Months/Cycles/Hours	6 mo/60 cyc	6 mo/60 cyc	6 mo/60 cyc	6 mo/4hrs	120 cyc/4hrs
Use Life		NA	NA	NA	4hrs	4hrs
Calibration Life	Months	NA	NA	NA	12 mo	12 mo

Wet Process, Implant, Probe

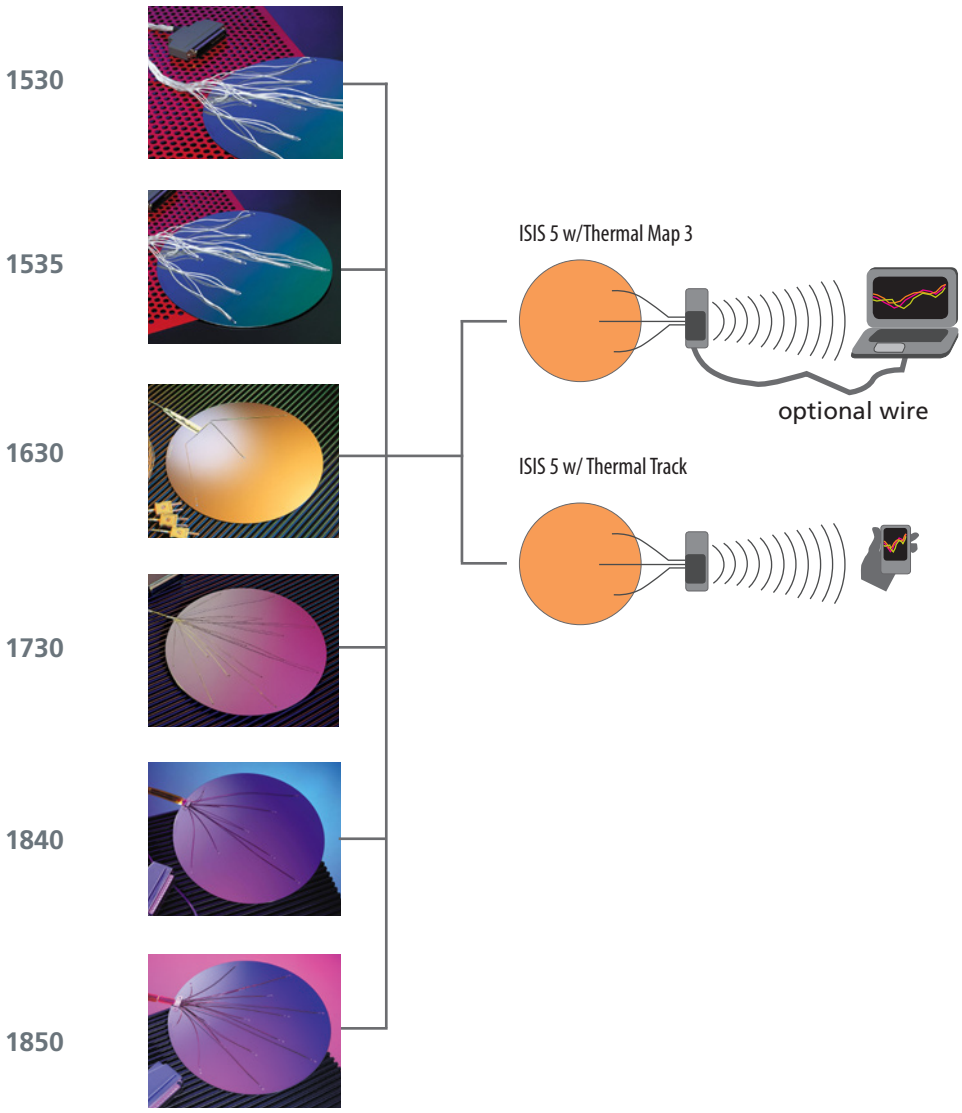


AT A GLANCE	UNITS	WetTemp-LP	Integral WetPro i3	Integral Implant i3	1730
Accuracy	± °C	0.5	0.5	0.5	1.1 or 0.4%
Sensor-to-Sensor	< °C	0.5	0.25	0.25	0.1
Sensor Type		IC	IC	IC	TC - Type K
Sensor Quantity	Number	65	53,65	53,65	1 - 34
Power Source		Battery	Battery	Battery	Wired
Special Notes		Silicon cover low profile sealed	Silicon cover sealed	RF Hardened Silicon cover sealed	Special sensor mounting for low temp

SPECIFICATIONS	UNITS	WetTemp-LP	Integral WetPro i3	Integral Implant i3	1730
Measurand		Temperature	Temperature	Temperature	Temperature
Sampling f(max)	Hz	4	4	4	20
Operating Range	Min-Max °C	15-140	15-140	15-140	-150-300
Calibration Range	Min-Max °C	15-140	15-140	15-140	NA
Substrate Material		Silicon	Silicon	Silicon	Silicon
Wafer Sizes	mm	300	200-300	200-300	50-300
Upper Coating		Silicon	Silicon	Silicon	
Cleanability		Wet Clean (SC1,SC2)	Wet Clean (SC1,SC2)	Wet Clean (SC1,SC2)	Manual Wipe
Power System		Dual fixed batteries	Dual fixed batteries	Dual fixed batteries	Passive
Communications		RF	RF	RF	ISIS 5
Thickness	mm above	0	<0.38	<0.38	<2
Recharge Time	Minutes	<5	<5	<5	NA
Recording Time	Minutes	18	18	18	Continuous
Storage		Shipping/Charging Case	BaseStation300Z/ Shipping Case	BaseStation300Z/ Shipping Case	Shipping Case
FOUP		BaseStation300Z	BaseStation300Z/ Shipping Case	BaseStation300Z/ Combo Station	NA
Warranty	Months/Cycles	6 mo/8 hrs	6 mo/8 hrs	6 mo/4 hrs	6 mo/60 cyc
Use Life		8 hrs	8 hrs	4 hrs	NA
Calibration Life	Months	6 mo	12 mo	12 mo	NA

System Architecture–Wired

WAFER LEVEL METROLOGY

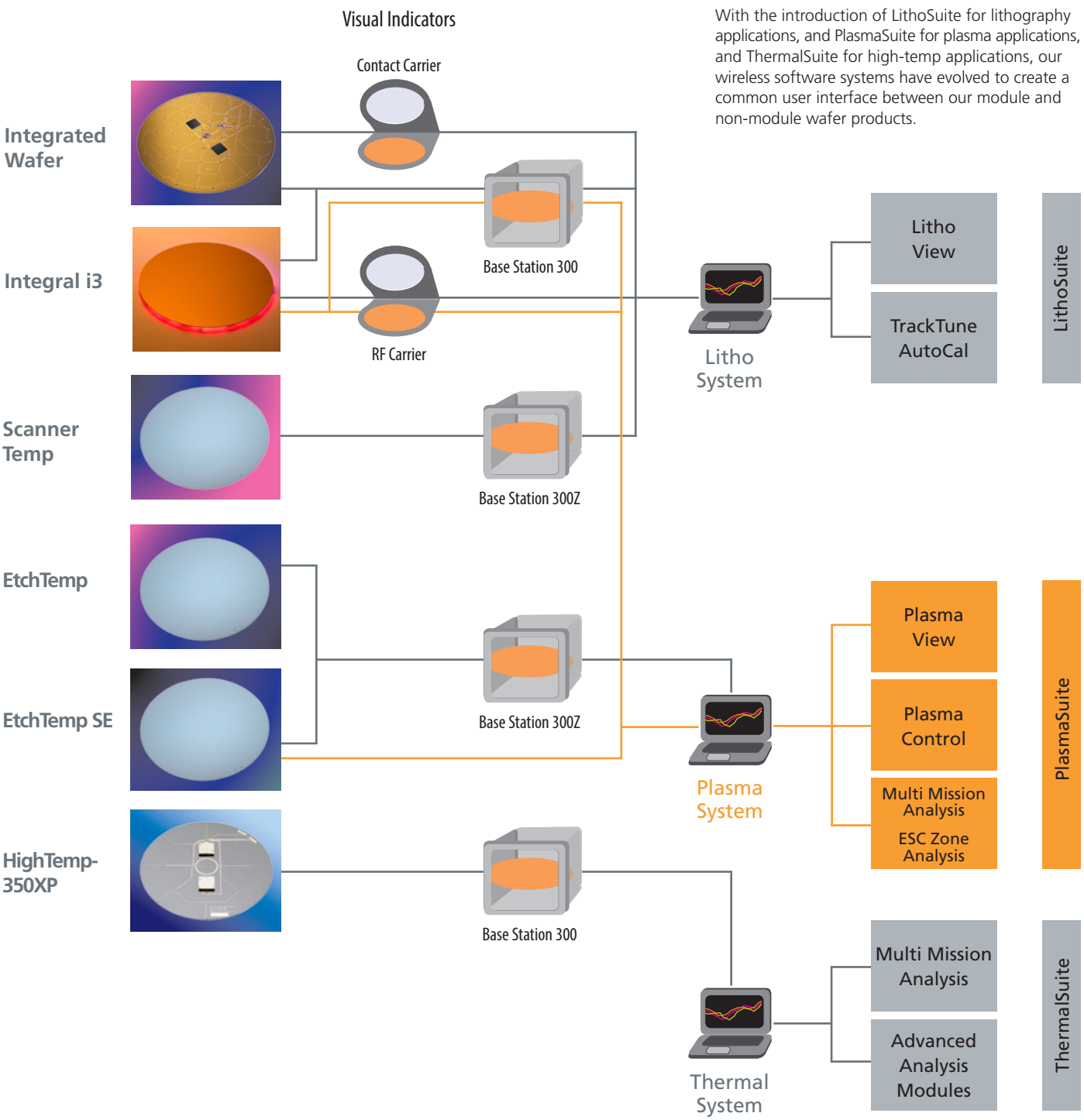


For high temperatures or subzero temperatures, self-contained, battery-powered systems are not yet available. They cannot function or become damaged in those environments. Wired architectures allow the electronics to be remote from the harsh process environment, but are not as easy to deploy, particularly in vacuum sealed environments.

Modern systems include a small, near-wafer module (the ISIS 5) which can read the signals from the wafer sensors and transmit them to the handheld (Thermal Track) or laptop (Thermal Map 3) systems for analysis and viewing.

System Architecture–Wireless

With the introduction of LithoSuite for lithography applications, and PlasmaSuite for plasma applications, and ThermalSuite for high-temp applications, our wireless software systems have evolved to create a common user interface between our module and non-module wafer products.



KLA-TENCOR SERVICE and SUPPORT

Customer service is an integral part of KLA-Tencor's portfolio that enables our customers to accelerate yield. Our vast customer service organization collaborates with worldwide customers to achieve the required productivity and performance at the lowest overall cost. K-T Services includes comprehensive contracts, time and materials, spares, asset management, customer training, and yield consulting.

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KLA-Tencor Corporation
One Technology Drive
Milpitas, CA 95035
phone +1 408 875 3000
www.kla-tencor.com

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