



Ki Cordless Kitchen: From Concept to Industry Standard

The Ki Cordless Kitchen standard

The Wireless Power Consortium (WPC) has developed the Ki Cordless Kitchen standard for cordless kitchen appliances, from simple low-wattage juicers to blenders, kettles, and other appliances that require up to 2.2 kW of power. This standard is supported by leading corporations in the kitchen and consumer electronics industries, including prominent appliance manufacturers.

The Ki standard enables the development of safer, smarter and more convenient appliances that will reduce clutter and make cleanup and storage easier in any kitchen. The standard focuses on interoperability and safety while leaving ample freedom for makers of cordless kitchen appliances and transmitters to design products that provide differentiating features. In addition to the Ki Cordless Kitchen standard, the WPC maintains a compliance program to ensure interoperability of cordless appliances in kitchens into the future.



“Ki is one of the most significant kitchen innovations since the microwave oven.”

– Hans Kablau, Philips
WPC Ki Cordless Kitchen Chair

What is Ki Cordless Kitchen?

The Ki Cordless Kitchen is a revolution in food preparation and cooking convenience. Instead of power cords that would otherwise be draped across the counter, Ki cordless appliances are powered simply by placing them on Ki-compliant power sources (transmitters) that are built into a cooktop, in a standalone unit, or mounted underneath a countertop or table. Power is provided to the appliance by inductive power transfer: the Ki transmitter draws power from the mains or household power and transfers it using magnetic induction to the appliance. The power is then converted within the appliance back into electrical power or heat for food prep or cooking.

Replacing traditional kitchen appliances

Traditional corded kitchen appliances—blenders, mixers, rice cookers, slow cookers, toasters, and more—all share a standard component that has been in use since the early twentieth century: the power cord. While we have all benefitted from the ability to plug virtually any appliance into a wall outlet, it has meant living with the inherent inconvenience of power cords:



- The placement and use of the appliance depend entirely on the location of power outlets.
- The power cord must be long enough to reach the nearest outlet, cluttering counter space.
- Only a limited number of appliances can be plugged into a single outlet at a time.
- Appliances purchased for use in one country might not work in another country without using adapters.
- Power cords get in the way, creating a potential safety hazard in use and an inconvenience in storage.

As seen with the growth of wireless technologies such as Bluetooth, Wi-Fi, and Qi wireless charging, people given an alternative to wires and cables never want to go back.

The Ki Cordless Kitchen difference

With the Ki Cordless Kitchen standard, virtually any type of kitchen appliance can be made cordless. Examples include mixers, juicers, kettles, rice cookers, bread makers, coffee makers, wine bottle chillers, slow cookers (crock pots), griddles, toasters, deep fryers, and more.

Unlike traditional kitchen appliances, Ki Cordless Kitchen appliances are intelligent: they communicate with the transmitter using near-field communication (NFC) to ensure that the amount of power received remains within the limits of the appliance and according to input from the user. The communication begins as soon as the appliance is placed on the transmitter, resulting in cooking that is much more precise, responsive, and repeatable with Ki Cordless Kitchen appliances.

User controls can also be added to Ki Cordless Kitchen pots and pans, providing an alternative to traditional cooktop controls. Cookware can even be designed to be programmed by a smartphone app to specify temperature and timing taken directly from recipes. This is a significant change, placing precise power management in the appliance and replacing analog heat controls on the cooktop.

No more guessing whether the temperature in the pan is too hot or too cool. Ki Cordless Kitchen appliances may ultimately end cooking disasters like milk boiling over or a meal that is under-cooked or burned.

Advantages of the Ki Cordless Kitchen

Designed for interoperability

As seen with many open standards, interoperability is a powerful driver of rapid adoption and worldwide market opportunities. Ki Cordless Kitchen transmitters and appliances are designed to work with each other regardless of brand. Consumers can use any Ki Cordless Kitchen appliance on any compatible transmitter, whether in a different room or in a different house—just as a corded appliance can be plugged into any compatible outlet in any building.

This interoperability gives the product maker the option to focus on developing differentiating product features and frees the consumer and integrators from worrying about being locked into a particular brand or proprietary technology. All they have to do is look for the Ki Cordless Kitchen logo when they are shopping for new or replacement products.

Safety benefits

Unlike old-fashioned traditional appliances, Ki Cordless Kitchen appliances carry no inherent risk of electrical shock, due to the following:

- There is no power cord to fray or accidentally cut while it is plugged in.
- Liquids spilled on the appliance or between the appliance and transmitter will have no effect on operation or safety.
- The appliance immediately stops receiving power if it is knocked over or moved off the transmitter location.



The Ki Cordless Kitchen standard also helps prevent burns. The standard requires that the bottom surface of appliances and cookware, as well as the transmitter surface or countertop (in the case of a hidden transmitter mounted underneath the counter) will never be too hot to touch due to the operation of a Ki Cordless Kitchen appliance.

Finally, Ki Cordless Kitchen appliances are designed to comply with local regulations, including those regarding safety, EMC (emissions, disturbances, and immunities), EMF exposure, and energy consumption. The emission levels associated with the transmitter will be similar to those of conventional induction cooktops.

Efficiency

Ki Cordless Kitchen appliances are required to operate at efficiencies greater than 90% of equivalent appliances that use power cords. The difference in usable power is negligible and is unlikely to be noticed in daily usage.

The Ki Cordless Kitchen

Hybrid cooktops add one or more Ki Cordless Kitchen transmitters into a traditional induction cooktop. In addition to providing traditional heating for cookware designed for induction cooktops, Ki Cordless Kitchen appliances draw their power from transmitters underneath the surface of the cooktop. This versatility can be a welcome help to a cook when preparing multiple dishes at the same time.

Ordinary induction cookware does not have an integrated power receiver and so requires cooktop controls to manually set the temperatures. Ki Cordless Kitchen appliances have their own integrated controls and in some cases may be programmed remotely using a smartphone or other device.

On the kitchen counter and beyond

A transmitter can be installed in a standalone transmitter device, much like the power base used with electric kettles today. These

standalone transmitters will allow Ki Cordless cooking to move from the cooktop to the countertop or table, or even to the patio or beyond.

Ki Cordless Kitchen transmitters will also be able to be installed directly beneath almost any type of kitchen counter or other flat working surface. In this scenario, the transmitter directly powers the Ki Cordless appliance or heats the Ki-compliant induction cookware through the countertop surface. With an undercounter transmitter, consumers will be able to use the same countertop area for food prep, cooking, and serving a meal, making it ideal for any kitchen where counter space is at a premium. The appliance and cookware are smart, with controls to set the optimal temperature for cooking and instruct the transmitter to provide the exact level of power that they need.

The versatility of the Ki Cordless Kitchen appliances expands the possibilities of cooking and makes it much easier in terms of set up, clean up, and putting appliances away.



Invitation to participate

Join the WPC to participate in developing and growing the Ki Cordless Kitchen standard. By joining the WPC Kitchen Work Group, you will be able to present your views, influence the specification, and get early access to draft specifications and other technical resources.

Membership is appropriate for companies in the kitchen and consumer electronics industries, including makers of:

- Small kitchen appliances
- Built-in kitchen appliances, such as stoves and induction cooktops
- Components, including coils and ICs
- Cookware
- Kitchen counters
- Kitchen and dining room furniture

Kitchen retailers, integrators, and other interested parties are also encouraged to contact the WPC for further information and are cordially invited to attend any of our several trade shows held every year in North America, Europe, and Asia.

Learn more

For more information about the Ki Cordless Kitchen Standard, visit cookwithki.com

To learn about membership in the Wireless Power Consortium, contact us:

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About the Wireless Power Consortium

The Wireless Power Consortium is an open standards development organization that develops, promotes and certifies products using its global interface standards for wireless power transfer. The WPC's more than 300 member companies collaborate to develop the standards and certification testing to ensure safety and interoperability for wireless power devices. The WPC is best known for its Qi (pronounced "chee") wireless charging standard for smartphones and other small electronic devices. There are currently over 9,000 Qi certified products in the market worldwide, making the Qi logo a hallmark of trust relied upon by millions of people daily throughout the world.

WIRELESS POWER
CONSORTIUM

¹ Retrofits may require electrical upgrades, which may require a local building or construction permit in some regions, as well as a qualified electrician to ensure safe wiring and adequate power circuits. A transmitter requires a regular 200-240 or 100-120 Volt AC outlet.