NXP Expands Smart Kitchen Appliance Leadership with World's First Automated Frozen Food Defrosting Reference Design

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NXP Smart Defrost Solution uses solid state RF technology to deliver fast, high quality and safe food defrosting

LAS VEGAS, Jan. 09, 2018 (GLOBE NEWSWIRE) -- NXP Semiconductors N.V. (NASDAQ:NXPI) today extended its leadership in smart kitchen appliance integrated circuits (ICs) by making available the world's first reference design for automated frozen food defrosting and thawing. The reference design can be used as the basis for stand-alone smart defrost countertop kitchen appliances or integrated into other kitchen appliances such as refrigerators or cooking appliances such as ovens. The NXP Smart Defrost Solution, based on NXP components and software, addresses the age-old problem of fast and safe food defrosting while reducing food waste, and preserving moisture and nutrition. This innovation makes it possible to defrost food items such as ground beef, fish, fruits or vegetables in only a few minutes.

Conventional methods of defrosting frozen food in a residential kitchen are limited by the amount of time, attention required, difficulty in achieving full defrost and even temperature results, as well as ensuring safe food practices. Simple methods such as letting frozen food thaw on a counter, in a water bath, or in a refrigerator take a long time and can require personal attention to monitor the progress. Letting food sit on a countertop or in water also introduces the risk of bacterial contamination, since exterior surfaces of the food are exposed to temperatures which promote the growth of bacteria. Using a conventional microwave oven to speed up the process often results in uneven thawing with hot spots and cold spots. In addition, conventional microwave ovens lose their effective power over time, making the duration of thawing longer and the outcome worse.

"We've seen many advances in the smart kitchen, and the NXP smart defrost reference design will bring those improvements to thawing food," said Robert Wilson, president and co-founder of the Arizona Culinary Institute. "Finally, the guess work and risk of uneven results and introducing unsafe bacteria will be removed from the defrosting process."

The NXP smart defrost reference design is a set of fully engineered sub-system solutions that enable OEMs to quickly bring differentiated appliances incorporating this unique functionality to market with minimal engineering. The solution performs real-time monitoring and adjustment of its operation during the entire defrost process helping to ensure efficient and effective energy transfer during the full cycle of defrosting. This is important since food properties change as the temperature of the food changes. The NXP Smart Defrost Solution also minimizes user input and provides automated operation freeing users' time from the responsibility to monitor the outcome. The solution is electronic in nature, making it reliable, compact, cost-efficient and able to deliver consistent results.

"Prior attempts to introduce smart defrosting technologies failed in large part due to their cumbersome size and high cost," said Paul Hart, Senior Vice President of RF Power at NXP. "While smart kitchen appliance technology is still in its infancy, NXP has been and will continue to be, dedicated to producing the components and reference designs needed to ensure that the applications reach their full potential. This solution is another step toward that goal."

The NXP smart defrost reference design consists of a compact RF energy controller module incorporating NXP components, a smart tuning unit (STU), electrodes, a shielded cavity, and a reference power supply unit (PSU). The reference design will be made available to appliance OEM customers through a license from NXP or through purchase of sub-system assemblies from NXP's assembly partners.

Availability

NXP's smart defrost reference design will be available on a limited basis in the first quarter 2018 and expected to be generally available in the second quarter 2018. The smart defrost reference design will be showcased in a countertop appliance form factor at CES 2018 in NXP's tent in the central plaza, booth CP-25 of the Las Vegas Convention Center.

NXP Smart Defrost Solution shown as a countertop appliance concept for fast, convenient frozen food thawing that helps reduce food waste – integration with refrigerators or ovens are also possible
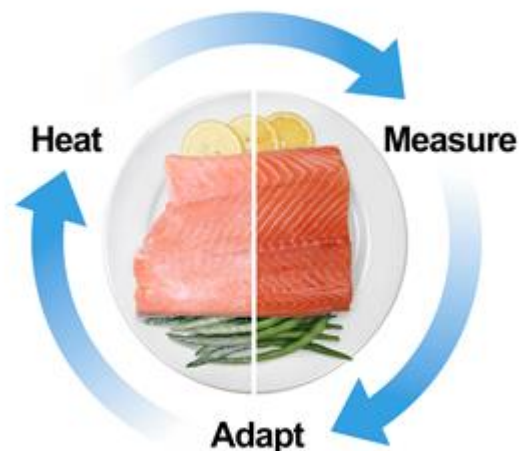
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For more information, please contact:

NXP's Smart Defrost Solution performs unique Heat, Measure, and Adapt functions continuously during the thawing process of frozen food giving a quick, real time automated outcome

NXP solid state RF energy is the ingenuity that will change how we defrost bringing the digital age to frozen foods

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