

# NFC EVERYWHERE: VITAMIX GIVES HOME CHEFS A PROFESSIONAL EDGE

Success stories



Professional chefs are known for their advanced knife skills and their deep understanding of how ingredients work together. Now, with the help of NFC wireless technology, Vitamix is giving home cooks a professional edge, with sophisticated blenders that identify accessories and automatically adjust their performance to match the task. The result is a series of smart appliances that make it easier for home cooks to produce flawless meals and explore new cuisines.

Founded in 1921, Ohio-based Vitamix is still privately held and family owned and operated. Their high-performance blending equipment, designed for home and commercial use, continues to win awards and is known for performance, versatility, and ease of use. Gourmet chefs tend to give the company their highest possible compliment, saying their Vitamix machines are as important to them as their knives.

In recent years, though, the consumer blender market has become increasingly crowded, with relative newcomers claiming their machines match the performance of a Vitamix at a fraction of the cost. This is generally untrue, but it can be difficult to cut through the noise.




One way Vitamix has attacked this challenge is through innovation—redefining the high-performance blending space, which they created, through new features others cannot claim. A good example of this is their use of NFC to create smarter products that support a host of new applications, now and in the future.

Vitamix's new Ascent blenders feature SELF-DETECT™ Technology, based on NFC, that makes it easier to use different blending containers and scale recipes. The Ascent series works with blending containers of different sizes. There's an 8-ounce (25 cl) bowl, for prepping ingredients; a 20-ounce (60 cl) to-go cup for making portable recipes like smoothies; and there's a standard 64-ounce (2 l) pitcher for handling the larger quantities needed to make fresh pasta sauces, hot soup, frozen desserts, blended beverages and so on.





Each container is equipped with an NFC tag that communicates with the NFC reader in the blender base once it's attached to the machine. **The container** tells the machine what it is and **verifies its authenticity**, so the blender knows it's working with an original container that's safe to use. The container then **describes how it is to be handled**, and the blender **automatically adjusts its settings, changing up to 140 parameters**.

That way, ingredients in the smaller container aren't over-blended, items in the larger container get the blending force they need, and the operating parameters always remain within prescribed safety limits.

## CONSUMER BENEFITS OF SELF – IDENTIFICATION:

-  **Ease of use** – The main unit identifies the accessory, so interactions are simpler, there are fewer errors, and operation is friendlier
-  **Safety** – The accessory can define the operating modes automatically in order to keep within safe limits (motor speed, time, etc.). It provides an interlock system for our blending cups with accessible blades
-  **Hygiene** – Cleanable with no hidden dirt traps

## VITAMIX BENEFITS OF SELF – IDENTIFICATION:

-  **Fewer fakes** – Counterfeit containers won't work with the main unit
-  **Happier customers** – Easier operation means fewer support issues
-  **Smaller user interface** – Allows the user's phone or tablet to be an extended interface
-  **Tougher operating environments** – NFC works with dustproof and waterproof accessories. They survive the molding process as well as years of extreme heat, vibration and many dishwasher cycles

## A BIG DESIGN CHALLENGE

Vitamix's end product had to:



Be dishwasher – safe



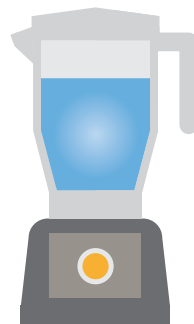
Be simple to use



Be easy to clean, with no dirt  
traps or hidden cavities



Meet global regulatory  
requirements



Work in all positions and perform with  
different physical configurations



Maintain their visual  
brand language

The company tried several different options for wireless, but found that using NFC technology from NXP and hardtag technology from Smartrac created the perfect combination of smart and tough for this demanding application. After months of prototyping and testing the alternatives, the Vitamix team found that, with NFC, they needed only a few hours to create their first working proof of concept. From there, NFC solutions by NXP allowed rapid, flexible development of a world – leading solution.

The solution architecture is based on an NXP MCU and an NXP NFC reader in the appliance base. The combination of these two ICs allowed maximum flexibility in the NFC application because Vitamix was able to customize the NXP Reader Library to

meet its needs. In the accessories, the use of NXP's NFC IC afforded a complete end – to – end solution that optimizes use of the NFC tag features. The approach also lets Vitamix extend the solution to include engaging smartphone interactions. The NXP MCU offers a safety – critical solution with support for Class B safety requirements, as well as tight NFC integration with a complete reference demo in addition to local support – all ensuring that Vitamix met strict time – to – market requirements. Vitamix tested the new product line extensively, gauging performance underwater, in the dishwasher, and in real – word situations that simulate years of use.





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## CONNECTED KITCHEN CONCEPT

As an extension of its NFC functionality, Vitamix is developing a connected kitchen concept, which will include the Vitamix Perfect Blend Scale and a mobile app. The app guides the user through recipe – making with use of the scale. The scale is connected to the app, and the user gets real – time feedback on the portioning of the product into the container. The NFC technology in the container rounds out this system by identifying itself to the app through the blender's Bluetooth Low Energy (BLE) connection. The app then modifies the recipe parameters based on the container detected. What this all means for consumers is an exciting platform enabling them to make and create recipes like professional chefs, with the ease and convenience of seamless technology.

## A LAUNCH PAD FOR FUTURE GROWTH

NFC will allow for an unprecedented machine reconfiguration when new Vitamix containers and attachments are introduced in future. The machine will reprogram itself to ensure that, no matter what is placed on top of it, it runs with intelligent information.

NXP has the most comprehensive NFC portfolio including NFC tags, Connected NFC tags, NFC frontends, and NFC Controllers and is ready to accept all implementation challenges!



## RELATED LINKS

### Vitamix Ascent Series

[https://www.vitamix.com/us/en\\_us/shop/ascent-series](https://www.vitamix.com/us/en_us/shop/ascent-series)

### Smartrac Vitamix Announcement

<https://www.smartrac-group.com/pr/smartrac-technology-blends-convenience-and-safety-for-vitamix.html>

### NXP's NFC Technology Hub

[www.nxp.com/nfceverywhere](http://www.nxp.com/nfceverywhere)