

## 2.4 GHz Reference Design for Innovative Mass-Market Remote Controlled Racing Toys

Nordic Semiconductor ASA today releases the nRFready R/C Racing - a complete reference design for advanced remote controlled racing toys, such as cars, that enables toy manufacturers to bring previously impossible game-play features to mass-market toys by using Nordic's low cost 2.4 GHz wireless solutions.

These features include racing with multiple friends, setting up free-form racing tracks using waypoints, feeling crashes through controller vibration, and the ability to collect, see and share racing data (see "Key game-play features of nRFready R/C Racing" below for more detail).

The nRFready R/C Racing reference design includes a pair of cars and controllers, four waypoints, a USB dongle, the nRFready Racing Studio PC application, as well as all required source code and hardware design files. The cars, controllers and waypoints are all based on Nordic's single chip nRF24LE1 2.4 GHz RF System-on-Chip (SoC) solution. This provides both a flexible development platform with flash, and a smooth migration to Nordic's lower-cost OTP (one time programmable) variants for mass production.

The cars in the nRFready R/C Racing reference design feature continuous steering and throttle control, crash sensors, plus blinker lights and headlights that can be switched on and off from the controller. In addition, the controllers include LEDs for car battery status and force (vibration) feedback to indicate crashes. Cars can also detect when they are in close proximity to a waypoint and wirelessly send race statistics such as lap times, speed and number of crashes to the nRFready Racing Studio PC application through the supplied USB dongle.

"We see an increasing interest in our 2.4 GHz technology from the toy industry," says Thomas Embla Bonnerud, product manager with Nordic Semiconductor. "This reference design enables innovative toy manufacturers to very easily take advantage of our 2.4 GHz technology to take their remote controlled toys to the next level by adding features not possible with the 27/49 MHz technologies typically employed today, and at a price point consumers around the world will find appealing."

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