First Medical-Grade Consumer Sleep Assessment Monitor Has Wristwatch Form-Factor And Uses Nordic 2.4ghz ANT Transceivers

The ReadiBand™ from Fatigue Science is the only consumer friendly, scientifically validated sleep assessment product to provide medical grade results without requiring users to stay overnight in a specialist sleep clinic. It is already being used by a major international mining company to monitor employee fatigue and is available to consumers in Canada via the pharmacy chain London Drugs.
Oslo, Norway – February 10, 2011 – Ultra low power (ULP) RF specialist Nordic Semiconductor ASA (OSE: NOD) today announces that Fatigue Science has employed Nordic 2.4GHz ANT transceivers in its ReadiBand wrist-worn sleep monitoring device that is the first solution of its kind to produce medical-grade results of sleep quality, quantity and timing but at a fraction of the cost of an overnight stay in a specialist sleep clinic (performing traditional electrode-based polysomnography testing).

Major international mining, energy and transport companies are already using the ReadiBand to monitor fatigue and optimize operational safety. The ReadiBand – which is worn continuously like a wristwatch and runs on rechargeable batteries – is also being used to improve athletic performance by the Vancouver Canucks NHL ice hockey team, and by Olympic athletes at the Australian Institute of Sport.

"While most people might feel they don't get enough sleep, few are probably aware of just how severe their sleep deficiency is," says Dr. John Caldwell, Senior Scientist at Fatigue Science. "Yet fatigue stemming from insufficient sleep impairs cognitive performance, judgment and motor function in ways very similar to alcohol."

In operation, the ReadiBand uses a series of sophisticated algorithms to measure sleep quality from a user's wrist movements, technically termed 'actigraphy'. Collected data is then wirelessly downloaded to a computer for analysis using Nordic 2.4GHz ANT transceivers while the user is still wearing the ReadiBand. The information is subsequently processed through a specialized performance prediction model, which originated from research work within the US Department of Defense.

"We selected the Nordic 2.4GHz ANT transceivers because we realized that battery life was going to be crucial to the success of this application," comments J Stautzenberger, the electrical engineer who led the ReadiBands electronic design team. "After performing direct comparisons between a number of competing products, we found that Nordic clearly offered the best 2.4GHz wireless solutions for ultra low power applications and our decision has since been validated by excellent quality technical documentation, application notes, local FAE assistance, and technical support."

The ReadiBand now provides consumers and their physicians with an affordable and practical medical-grade sleep analysis, following the launch of a partnership with leading Canadian pharmacy chain, London Drugs (see www.tinyurl.com/37r44dp [1]). There, consumers pay a small fee to 'rent' a ReadiBand from London Drugs and after wearing it continuously for one week, return the ReadiBand to their pharmacist who will download the stored data and generate a personalized sleep report, which Fatigue Science says is 93 percent as accurate as a professional sleep clinic analysis in a polysomnography lab.

The report includes statistics such as average sleep per night, median time to fall asleep, average number of times a user wakes during the night, percentage of time in bed actually spent sleeping, and a fatigue risk analysis (from 'Low' to 'Very High') that equates a wearer's fatigue level to various blood alcohol equivalences. The user can then discuss their results with their physician with both confidence and medically certified accuracy.

"The ReadiBand is a great example of the 'consumer revolution' now occurring in the health, wellness and medical sectors," comments Geir Langeland, Nordic Semiconductor's Director of Sales & Marketing. "By making clever use of modern technology, Fatigue Science has managed to remove the cost and complexity of what was previously a fairly exclusive, 'high end' medical test procedure and in doing so open the door to regular physicians and consumers concerned about sleep fatigue, while adding a brand new level of health and safety monitoring to industries where tiredness can quite literally kill."

Links:
[1] http://www.tinyurl.com/37r44dp