



Fraunhofer
IIS

FRAUNHOFER INSTITUTE FOR
INTEGRATED CIRCUITS IIS

**RESPISHIRT®:
MEASUREMENT OF RESPIRATORY
FREQUENCY AND EFFORT**





Monitoring of respiration is important in many areas. Important applications in the medical field include neonatal and premature care, sleep diagnostics and patient telecare/home care.

Another application area is sports. Recreational and elite athletes alike can gain information about their respiratory frequency and effort.

RespiSHIRT®: Textile-integrated respiration measurement

Researchers at Fraunhofer IIS have integrated a measurement system directly into T-shirts and baby rompers. The electronics for signal analysis, also developed at Fraunhofer IIS, are housed in a unit smaller than a business card holder. It is inserted into a small pocket on the side of the RespiSHIRT and is connected to the shirt. All that is required for the system to function correctly is the wearing of a RespiSHIRT equipped with it. Through the electronics, data is transmitted by radio to a Smartphone or a PDA, where it is then analyzed.

This development has produced a stable system that makes reliable measurements without false alarms being triggered by jogging or other activities. Because no additional sensors or measuring devices are needed, the RespiSHIRT is comfortable and can be worn for all daily activities.

RespiSHIRT has not yet been certified as a medical device. The Fraunhofer IIS is presenting RespiSHIRT with the objective of gaining partners for further development, production and marketing.

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