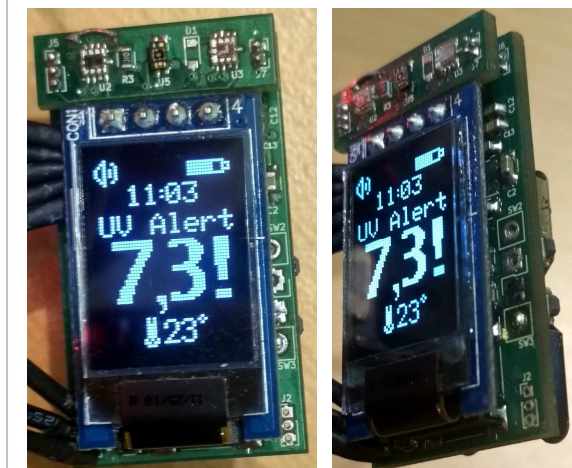


Department of Sonar Systems

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Date:	14.01.2020r.
Key words:	band, wearable, UV radiation monitoring, UV index



PROJECT TITLE:

Band with UVA and UVB radiation sensor

PRODUCT APPLICATIONS:

The aim of the project is to help people exposed to excessive exposure to UV radiation by enabling them to monitor the level of this radiation, which should ultimately help to protect their health.

Potential end users are, among others tourists, sunbathers, people with fair skin, people working outside, pregnant women, children, people who are allergic to the sun, people taking medications that prohibit sunbathing, people leaving for a country with more sunshine (business trip, leisure trip).

APPLIED SOLUTIONS:

1. Ultra-low-power STM32L4 microcontroller.
2. SSD1306 OLED display with very high contrast and maximum brightness.
3. Two small LR44 batteries with a capacity of up to 150 mAh each.
4. Miniature sounder with high sound level of 80 dB.
5. UV level display using accurate Si1145 sensor measurements.
6. Customizable threshold of safe UV dose based on skin type.
7. Implementation of standard watch functions.
8. Replaceable strap attached to spring bar.

PRODUCT FEATURES:

1. Small dimensions.
2. Set of digital sensors (radiation, temperature, g-sensor)
3. Intuitive graphical user interface.
4. Displaying measurement results on a miniature display below 1.5 inches.
5. Visual and acoustic signaling of dangerous radiation level.
6. All-season operation with the possibility of easy battery replacement.
7. Waterproof housing made in 3D printing technology.