

NEAR-INFRARED (NIR) AND FLUORESCENCE SPECTROSCOPY-BASED NON-INVASIVE SYSTEM



Description of the Invention

The invention provides an innovative health monitoring system that displays blood glucose trends and measures cellular energy production non-invasively using wearable optical spectroscopy technology.



Applicant

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Inventor

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Country

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Application Number

2025/006490

Status

Searching

Advantages

- Thanks to the optical spectroscopy involved, the invention can monitor multiple biomarkers and holistically evaluate glucose and metabolic health indicators.
- Provides painless, needle-free, and continuous measurement through non-invasive technology.
- With its early warning system, it can instantly notify critical health risks and offer AI-supported analysis and recommendations for personalized health management.
- Portable and ergonomic design makes it adaptable to daily life; can be integrated into wearable forms such as wristbands, armbands, socks, rings, necklaces, smartwatches, or glasses.
- Can provide comprehensive health monitoring in areas such as diabetes management, athletic performance tracking, aging process monitoring, sleep quality, and early detection of metabolic disorders.
- Data can be accessed instantly from anywhere thanks to mobile and cloud integration.

Market Information

The wearable health devices market is known to have reached a size of USD 45.2 billion in 2025. The non-invasive health monitoring devices market, which is the subject of this invention, is projected to reach USD 2.04 billion by 2033 with an annual growth rate of 3.7%.

Target Audience

This product is intended for use and sale by enterprises operating within the specified NACE codes.

Areas of Use

The invention is suitable for companies producing and selling medical devices, enterprises working on biosensors and biomarkers and institutions providing remote patient monitoring and home care services.

Nace Code

Activity

32.50.10

Manufacture of medical, surgical, or laboratory sterilization equipment

46.18.03

Activities of intermediaries in wholesale of medical products, instruments and materials

47.74.01

Retail trade of medical and orthopedic products

Expectation

The aim is to transfer the technology to target companies through patent licensing. Such technology transfer will be supported by industry-industry collaboration projects.

It is eligible for TÜBİTAK 1702 Patent-Based Technology Transfer Support Call.

Since the customer company qualifies as an SME, in the event of a technology transfer, the customer will be able to reclaim 25-40% of the payments made for licensing.

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