

Brochure

# VIAVI

## Optical Solutions for Personalized Healthcare Monitoring

VIAVI technologies are ideal for demanding applications that require high contrast performance, wavelength agility, and 24/7 reliability. Our patented low angle shift (LAS) bandpass filters enable instrument miniaturization and improve signal collection. VIAVI Engineered Diffusers<sup>®</sup> generate best in class uniform illumination beams with efficient light management. Our durable wafer level patterned coatings are enabling novel biosensors and continuous healthcare monitoring devices.

VIAVI products are relied upon in a wide variety of medical diagnostic, life science instrumentation, and health care applications.

We uniquely combine quality, performance and low-cost solutions in our offerings, while de-risking supply chain with our facilities and teams based in US and Asia.



# Thin Film Optical Coatings

VIAMI durable patterned coatings on wafers serve multiple purposes: they eliminate glass-substrate based fluorescence filters, reduce device size and enable the creation of low-cost biosensors for precision medicine. Dark Mirror coatings are designed to prevent stray light by absorbing non-transmitted light, reducing crosstalk between multiple wavelength channels in miniaturized devices and improving confidence in diagnostic analyses.

Our patented low angle shift (LAS) filters enable compact instruments that require narrower bandpass filters than traditional thin film coatings when imaging a wide field of view and help improve signal-to-noise ratio. LAS filters with wide-band blocking capabilities effectively blocks both illumination and ambient light, even at high angles of incidence which enables the detection of weak fluorescence signals, as seen in continuous glucose monitoring.

Induced Transmission Filters provide enabling technology that facilitates signal collection across a wide 180° field of view (FOV) in wearable point-of-care (POC) devices. The utilization of wafer-level solutions ensure cost-effectiveness in the development of POC disposable solutions. Multispectral Filter Arrays enable dense, multiplexed spectral sensing for healthcare monitoring applications. Wafer level meta-materials coatings offer precise control of coating thickness and ultra-low surface roughness for metastructures for emerging biosensors and devices.

## Light Shaping Optics

VIAMI Engineered Diffusers® enable uniform beam illumination and customized beam shaping that improve the accuracy of quantitative measurement techniques and send light precisely where its needed. Our Polymer-on-glass (POG) products with 0.2mm thin glass substrate, effectively reduce device size and enhance ease of use. These products utilize reflow compatible material with 300 mm diameter production wafers,

enabling wafer level integration in compact sensing systems. Our Reactive Ion Etched (RIE) products enable environmentally durable products suitable for wearable devices with prolonged instrument lifetime.

## Applications

- Glucose Monitoring
- Wearable Devices
- Implantable Devices
- Spectral Sensing

## VIAMI Product Offerings

- Thin Film Optical Coating
  - Wafer Level Patterned (WLP) Coatings
  - Induced Transmission Filters
  - Low Angle Shift (LAS) Filters
  - Meta-materials Coated Wafers
  - Dark Mirror Absorbing Coatings
- Light Shaping Optics
  - Engineered Diffusers
  - Polymer-on-glass (POG)
  - Reactive Ion Etching (RIE)

