



## *iGEM™ Sensor Module*

### Portable, High Resolution, CZT Sensor Module

The iGEM™ is a Portable eV-CZT® Gamma-ray and X-ray Spectrometer “Engine” for mobile/portable Nuclear Spectroscopy systems. It combines eV-CZT® detector technology with a Low Power ASIC (Preamp/Shaper), 12bit A/D (MCA), and a Microprocessor.. Available with a standard SPI interface or customize your own. Take advantage of the custom programmable options of the iGEM to optimize the system performance to your specific system requirements.

The iGEM spectrometer engine takes the risk out of high performance radiation sensor system development.

The iGEM can allow for converting almost any mobile or fixed electronic derived into a high resolution Nuclear Radiation Identification system. Utilizing existing GPS & Cellular Networks, iGEM™ handsets could provide compact, covert sensor systems/networks to locate and identify radioactive materials.

The iGEM Spectroscopy system is the ideal solution to evaluate the iGEM Sensor Module. It includes iSpectrum™ Software and one USB cable Operation. Simply plug into your PC and generate spectra that rival any NIM/MCA System.

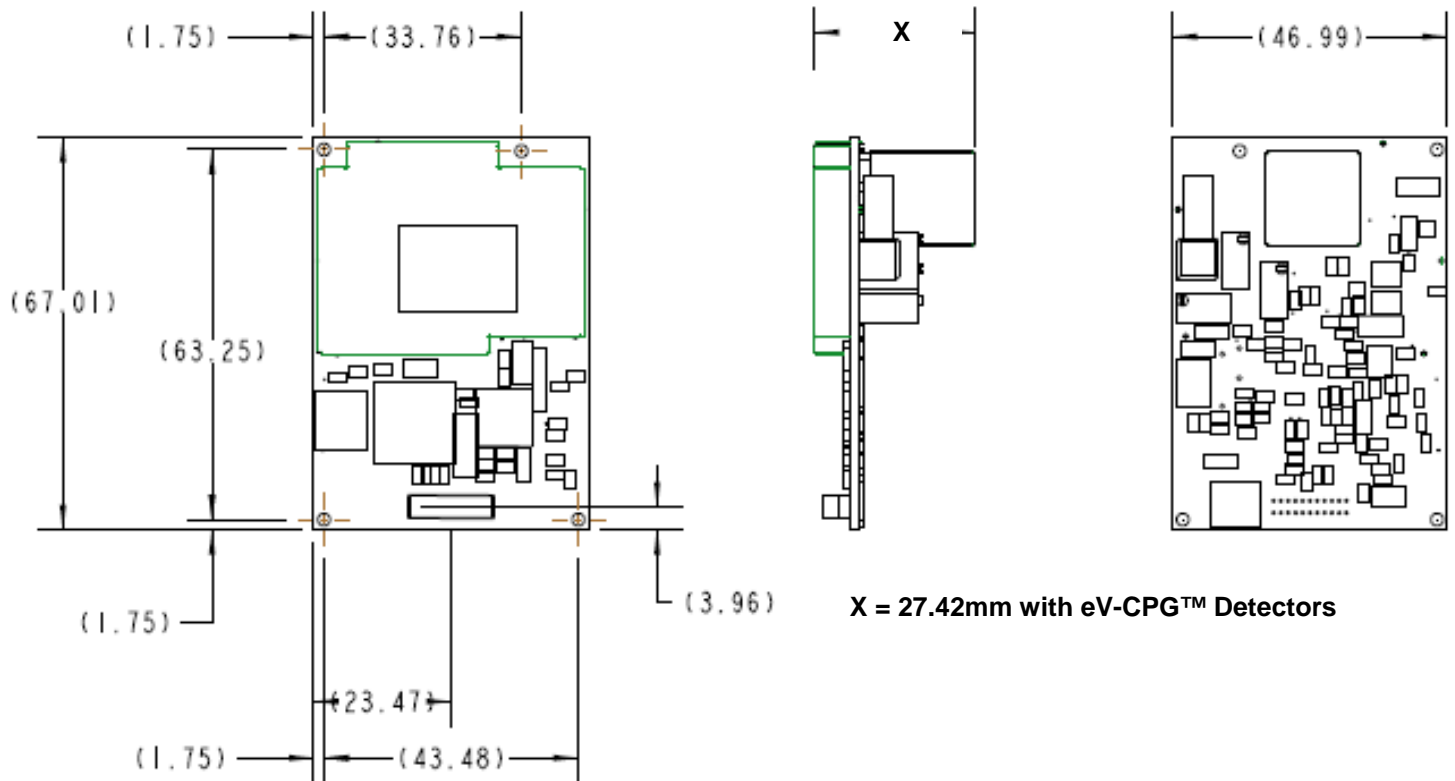


### *Applications*

- Homeland Security
- Remote Portable Sensors
- Isotope Identification
- Lab based Gamma-ray Spectroscopy
- Health Physics
- Medical Diagnostics

### *Features*

- eV-CZT® Detector Technology
- High Resolution Spectroscopy
- Robust Package
- Next Generation eVASIC™
- On-board 12 bit MCA
- On-board Microprocessor
- Secondary Detector Input
- Versatile Programmability
- Low Power Photon Counting Mode
- Ultra Low Power Sleep Mode



## Specifications

- CdZnTe Detector Crystal Dimensions
  - 10x10x10 mm<sup>3</sup> Coplanar Grid Detector
- Measurement Capabilities
  - Energy Range: 30keV to 3MeV
  - Energy Resolution: <1.5% to 3% FWHM @ 662keV
- Operating Temperature
  - Range: +10° to +35° C Standard
- Power Requirements
  - ~180mW @ full power spectroscopy mode
- Input Requirements
  - +5V CD, -HV (up to 2000V)
- Communications:
  - SPI or Custom
- 5000 Event on board FIFO Buffer

\*Reduced Energy Resolution outside of specified temperature range

