

Optical encryption device for software protection

ABSTRACT

An optical-based hardware encryption device for software protection is proposed. Software piracy and illegal usage require that software operation is secured through a form of hardware protection. Electronic-based hardware keys such as dongle keys may be vulnerable to attacks through reverse engineered technology. A simple optical device can be included as part of the hardware key where it can be used as an encryption device. Software users will require specific hardware key with built optical device in order to operate the software. The LED activated optical device can produce encrypted signals via generated optical codes solely based on the geometrical feature of the optical device. A suitable form of optical code generating device is presented in the form of 1xN asymmetric waveguide coupler.

Keyword: Asymmetric waveguide; Dongle; Encryption; Optical device; Software protection