Optical communication equipment in base stations

Why do we need a ground station in optical communications?
Many ground stations are needed in optical communications to maintain link availability. NASA's Glenn Research Center in Cleveland is researching how to lower the recurring cost of photon counting optical communications ground station components.

What is an optical ground station?
Unlike a traditional ground station with a radiofrequency (RF) antenna, an optical ground station consists of a telescope and optoelectronic components for laser communication transmission and reception. The optical ground stations also integrate the latest addition to the Cortex family, the Cortex Lasercom.

Can optical communications be used in deep space missions?
In the future,missions will need a high data return communications link,and optical communications systems offer the benefit of high data return combined with lower mass and power than traditional radio frequency (RF) communications systems. Photon counting optical communications will be used in deep space missions.

Are Transportable Optical ground stations a viable alternative for ground-to-space FSOC development?
To date,the construction of traditional optical ground stations (OGS) sites has been the focus of the vast majority of ground-to-space FSOC development. However,transportable optical ground stations (TOGS) have been presented as a versatile alternativewith some key advantages 7,8,9.

HISILICON optical modules play an important role in mobile communication base stations. A base station usually consists of an antenna, an equipment room, a base station ...

Contributing to the realization of digital transformation (DX) by enabling high-speed/high-capacity optical fiber communication when equipped in large-scale data centers, ...

This research aims to create trustworthy, fast communication technologies for 5G and beyond. The design investigates the possibilities of Free-Space Optical (FSO) ...

Imagine ultra-fast data transfers between satellites and ground stations, enabling real-time transmission of high-definition data and images! This is made possible by optical ...

IRIS optical ground stations are designed for all types of applications (LEO/GEO/Probes): Earth observation, High Throughput bi-directional telecommunications, ...

Telecom infrastructure equipment is essential for establishing reliable communication networks and ensuring uninterrupted data flow worldwide. It encompasses components such ...

Wide application range: suitable for telecom fiber optic connections, widely used in communication base stations, data centers, and network equipment for reliable communication ...

By utilizing the same optical frequencies already used in fiber optic networks, free space optical communications (FSOC) can offer a host of advantages over traditional radio ...

The communication triangle tower must be familiar to everyone. In this article, ETU-LINK will introduce the base station under the communication triangle tower and the ...