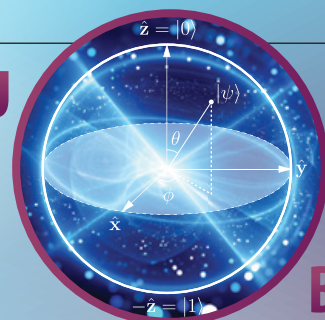


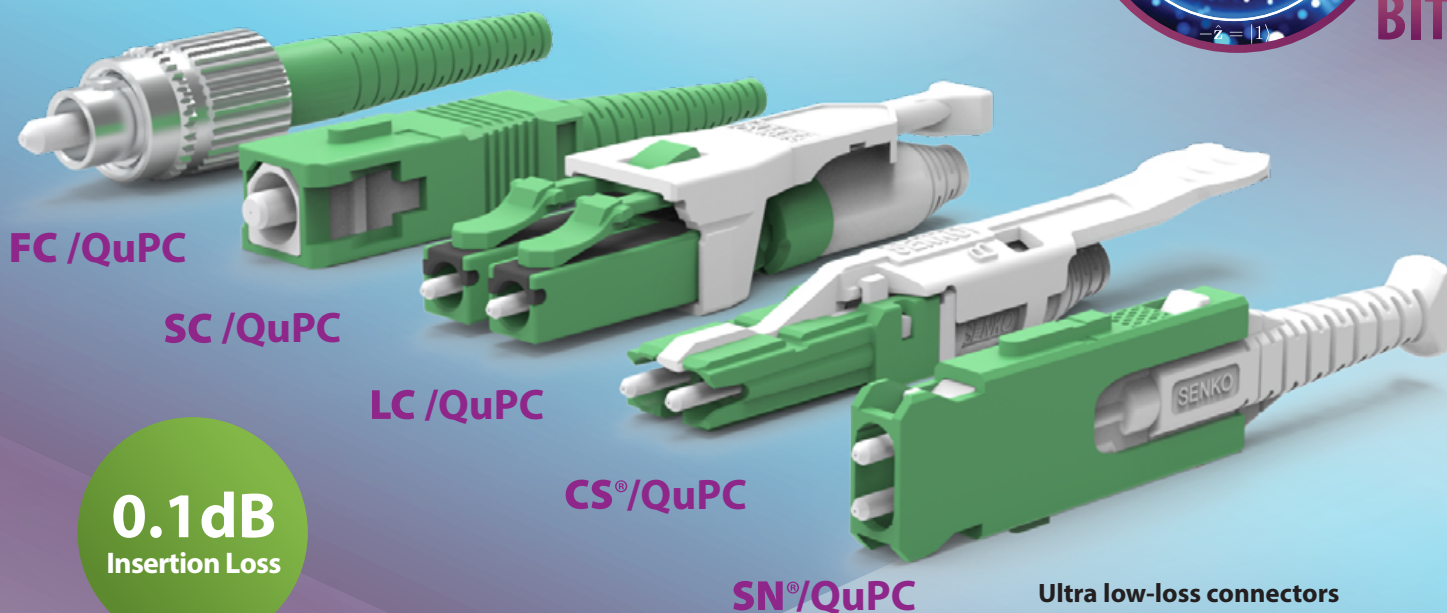
# Quantum Networking

Connectors built for  
the next generation

QU



BIT



**0.1dB**  
Insertion Loss

**The future is here  
with QuPC assemblies**

Next generation connectors with ultra-low insertion loss, high return loss, and high-density capabilities to support the advancement and reliability of quantum computing and quantum key distribution (QKD).

**Ultra low-loss connectors  
designed for quantum  
networking applications**

#### FEATURES

- Premium super low-loss < 0.1dB
- Optical return loss > 80dB
- High density
- Suitable for QKD networks

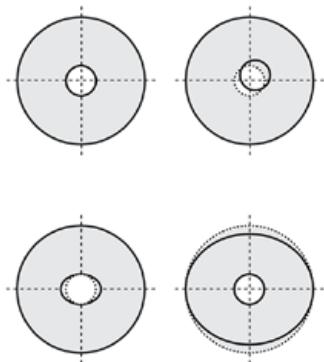
Quantum Networking

# The future is here

Unlike traditional computers, which use binary digits or bits to perform operations, quantum computers use quantum bits or qubits. Quantum computers are expected to be able to solve mathematical problems that cannot be solved using conventional computers. Although this problem-solving capability enables computation far beyond classical computing, it inevitably presents significant threats to cyber security and attacks the foundations of today's cryptography.

Quantum Key Distribution (QKD), a means of enabling secure encryption and authentication in the presence of the unbounded computational power to be introduced by quantum information technologies. QKD enables the exchange of secret symmetric keys used for encryption and authentication. These keys are secure, even against eavesdropping attempts powered by quantum computing. SENKO is developing an optical approach to quantum computing with a line of Ultra Low-Loss connectors designed for Quantum Networking applications.

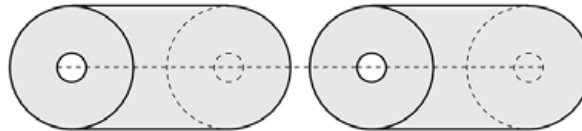
## Core-cladding concentricity



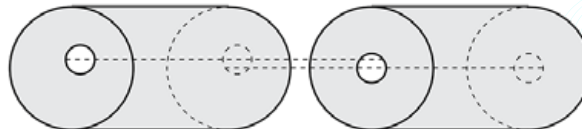
Minimizing the core-cladding concentricity error is essential for ensuring efficient light transmission through the fiber.

## Core ovality and cladding ovality

Perfect ferrule concentricity



Ferrule concentricity error



Both core and cladding should ideally maintain a perfect circular shape. Ovality or deviation from this ideal shape, can lead to increased loss and reflection.

Large ferrule hole diameter



Minimized ferrule hole diameter



The ferrule bore hole must precisely align with the fiber. Any deviation here can lead to misalignment and increased loss. Additionally, minimizing the size of the hole diameter is critical to maintaining fiber alignment.