

Optical communication chip internet access device



Overview

Google's X lab introduces the groundbreaking 'Taara' chip, a photonic marvel transmitting data at 10 Gbps using light beams. This innovation could revolutionize internet access, especially in hard-to-reach areas, potentially marking the end of fiber optics as we know it. While our first-generation technology, the Taara Lightbridge, steers light physically using a system of mirrors, sensors, and hardware, this new chip uses software to steer, track, and correct the beam of light. The Taara Beam transceiver boasts fiberlike internet connection speeds using eye-safe infrared lasers that connect with one another over open air. Its newest product, debuting. Optical chips come in two primary categories: laser chips and detector chips. Laser chips, or light-emitting chips, are the heart of optical communication systems.



Article Content

Sep 14, 2025

World's fastest internet speed from a single optical chip

A research team has recorded the world's fastest internet speed from a single optical chip of 44.2 Terabits per second.

Feb 14, 2026

No Fiber Needed: New Chip Uses Light to Beam 10Gig

A project from Google's parent company, Alphabet, is debuting a new chip that promises to deliver gigabit internet speeds over the air — no cable

Sep 11, 2025

Internet-on-a-Chip Connects Almost Anything Using Wi-Fi

These flexible wireless chips make it fast and easy to build products that connect nearly anything to anything else via the Internet using Wi-Fi.

Nov 04, 2025

Google's Taara chip delivers internet at speed of light

Alphabet explains that this chip can transmit data through the air using beams of light. The new chip is a significant improvement over its predecessor,

Aug 25, 2025

Free Space Optical Link Tackles Urban Connectivity

Its newest product, debuting this week at Mobile World Congress (MWC), in Barcelona, aims at a different kind of connectivity problem: getting

Dec 20, 2025

Internet traffic is growing 25% each year. We created a

My colleagues and I have demonstrated a new fingernail-sized chip that can transmit data at 40 Tbps through a single optical fibre connection of the

Aug 30, 2025

Optical networking

The most common fiber-optic networks are communication networks, mesh networks or ring networks commonly used in metropolitan, regional, national and international systems. Another variant of fiber

Dec 23, 2025

New World's Record for Fastest Internet Speed From a

Researchers from Monash, Swinburne, and RMIT universities have successfully tested and recorded Australia's fastest internet data speed, and that

Dec 18, 2025

Recent progress in quantum photonic chips for quantum communication

Recent years have witnessed significant progress in quantum communication and quantum internet with the emerging quantum photonic chips, whose characteristics of scalability,

Jan 26, 2026

optical access network

The emerging optical and wireless access networks are continuously competing with each other to provide these requirements for the end-users. The optical access networks provide huge data rate

Mar 17, 2026

Tiny chip enables cable-free, fast internet access via

Taara's silicon photonic chip features an optical phased array

Apr 12, 2026

Taara, the Alphabet chip that brings internet at the

When Loon was shut down in 2021, researchers focused their efforts on Taara, using its technology to beam broadband connections across the Congo

Apr 30, 2026

What You Need to Install Fiber-Optic Internet

Fiber-optic internet connections are by far the fastest and most reliable type of internet connection you can choose, but getting those precious

Dec 04, 2025

Tiny chip enables cable-free, fast internet access via

For years now, Alphabet's Taara division has been delivering internet connectivity in far-flung areas with traffic-light-sized transmitters that

Apr 23, 2026

Wireless Chip to Connect Mobile Devices to the Internet

The chip provides embedded Internet connectivity for devices via wireless Global Systems for Mobile (GSM) communications modems. The embedded chip enables Internet access via any Internet

Jul 13, 2025

10G Optical Chip Market Evolution & Growth Outlook 2024-2033

The 10G Optical Chip market projects robust expansion due to increasing data center and mobile network demands. Discover key growth drivers and market valuations.

Dec 17, 2025

Google's parent Alphabet unveils Taara chip to expand

Alphabet has introduced a breakthrough in optical wireless communication with its newly developed Taara chip, a fingernail-sized silicon

Dec 12, 2025

Radio-frequency identification

Textile RFID tag for laundry with printed EPC and QR code. Radio-frequency identification (RFID) uses electromagnetic fields to automatically identify and

Jul 17, 2025

IB_Intro_WP_190.fm

For each communication channel between devices, a Work Queue Pair (WQP - send and receive queue) is assigned at each end. The client places a transaction into the work queue (Work Queue

May 01, 2026

Network and Communication Chips Information

Power efficiency is critical, especially in mobile devices like smartphones, laptops, and IoT devices that rely on batteries. Efficient chips help

Apr 13, 2026

Internet access

Fiber-optic communication, while only recently being used in premises and to the curb schemes, has played a crucial role in enabling broadband Internet access by

Jul 19, 2025

Optical Chips: Types, Applications, and Future Trends

Optical chips come in two primary categories: laser chips and detector chips. These two types work hand in hand to enable data transmission

Jun 06, 2026

Lighting the way forward: The bright future of photonic integrated ...

Integrated optics, a key photonics technology, has major implications for telecommunications, sensing, and computing. By integrating optical elements like lasers, modulators,

Aug 03, 2025

Optical transceiver chip

Optical transceiver chips facilitate the use of fiber to the premises (FTTP) services, in which optical fiber runs from central hubs all the way to the end users. This can provide extremely high-speed Internet

Nov 12, 2025

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Nov 07, 2025

Introducing the Taara Chip

From the bustling streets of Nairobi, to cities straddling the world's deepest river, Taara's wireless optical communication links have delivered fiber-like speeds to communities too remote, too

Apr 08, 2026

Defining ONT: Optical Network Terminal

The Optical Network Terminal (ONT) is a device primarily used in fiber-optic communication systems. It acts as an interface between the fiber-optic network and the user's equipment, converting optical

Dec 14, 2025

Optical Communication Chip Market Forecast To 2035

The global Optical Communication Chip Market is estimated at USD 5.04 billion in 2026 and is projected to grow to USD 15.02 billion by 2035 at a CAGR of 12.9%.

Jan 05, 2026

Google's New Photonic "Taara" Chip: The Future of Wireles...

Google's X lab introduces the groundbreaking "Taara" chip, a photonic marvel transmitting data at 10 Gbps using light beams. This innovation could revolutionize internet access, especially in

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