nYOI-6e-5G

Edge Device with Wi-Fi 6e and 5G Interfaces, Edge Computing Capabilities, and Embedded Design



5G
+
Wi Fi 6e
≃ 8 W

The **Internet of Edges (IoE)** is a disruptive digital infrastructure created by a network of interconnected edge devices that share resources to deliver high-performing, locally hosted digital services. Autonomous and interoperable, it serves as both an alternative and a complement to centralized global systems. IoE combines cutting-edge technologies in direct communications networking, edge computing, and distributed systems through GreenSoft, designed to integrate custom edge devices. We also offer ready-to-use edge devices called **YOI (Your Own Internet of Edges device)** with GreenSoft integrated.

nYOI-6e-5G

nYOI-6e-5G is an embedded Linux device with GreenSoft inside. Each device comes with one tri-band Wi-Fi 6e interface (2.4, 5, and 6 GHz) that creates a wireless backhaul network with other YOIs, and provides an access point to smartphones, tablets, laptops, or any other Wi-Fi device. Additionally, it includes a 5G modem to connect a group of YOI devices to an external network. The nYOI-6e-5G is equipped with edge computing resources and a web server, offering edge services to the local network, including chat, voice communications, and file sharing.

Turn It On, It Works

Anyone can create a stand-alone digital infrastructure simply by switching on a group of YOI devices. They integrate everything needed to provide connectivity and digital services autonomously, without the need for Internet access or external infrastructure.

Mobility

The Internet of Edges supports the mobility of YOI devices, servers and users. Embedded YOI devices collectively form a dynamic, self- configuring wireless network. Users can seamlessly handover from one device to another while maintaining continuity of service.

Performance

Technological advances in the Internet of Edges (IoE) offer robustness, energy efficiency, and scalability, making it an alternative and interoperable solution to traditional centralized digital infrastructures. IoE is capable of efficiently handling communications at various scales, whether on a site, city, or regional level

Openness

YOI devices provide tools, raw data and support open standards, allowing you to create new edge services, integrate third-party ones, and operate YOI devices like any ordinary Linux system.

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Green communications

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5G + Wi Fi 6e

≃ 8 W

5G	▪ 1 5G interface: n1 (FDD 2100) MHz, n2 (FDD 1900) MHz, n3 (FDD 1800) MHz, n5 (FDD 850) MHz, n7 (FDD 2600) MHz, n8 (FDD 900) MHz, n12 (FDD 700) MHz, n13 (FDD 700) MHz, n14 (FDD 700) MHz, n18 (FDD 850) MHz, n20 (FDD 800) MHz, n25 (FDD 1900) MHz, n26 (FDD 850) MHz, n28 (FDD 700) MHz, n29 (SDL 700) MHz, n30 (FDD 2300) MHz, n38 (TDD 2600) MHz, n40 (TDD 2300) MHz, n41 (TDD 2500) MHz, n48 (TDD 3600) MHz, n66 (FDD 1700 / AWS-3) MHz, n71 (FDD 600) MHz, n75 (SDL 1500) MHz, n76 (SDL 1500) MHz, n77 (TDD 3700) MHz, n78 (TDD 3500) MHz, n79 (TDD 4500) MHz
Ethernet	▪ 2 Ethernet port (10/100/1000 Mbit/s)
Wi-Fi	▪ 1 tri-band Wi-Fi card (a, b, g, n, ac, ax), providing 2 Wi-Fi interfaces to the system, one assigned to the 2.4 GHz band, and one assigned to the 5 GHz or 6 GHz bands. Each interface can operate simultaneously to the other on its dedicated band.
Suggested operation	▪ Wi-Fi no.1: Backhaul ▪ Wi-Fi no.2: Access ▪ Ethernet: Internet when available
Frequency	▪ 2.4 GHz, 5 GHz, and 6 GHz
Antenna	▪ 3 tri-band Wi-Fi (RP-SMA, 5 dBi max) ▪ 4 wide-band 5G (SMA, 5 dBi max)
Wireless rates	▪ Up to 2.4 Gbit/s
Encryption	▪ WPA2/WPA3 (access), SAE (backhaul)
Operating system	▪ Custom GNU/Linux system (based on Buildroot)
CPU	▪ i.MX 8M Mini Quad Core 1.6GHz ARM® Cortex™-A53
RAM	▪ 4 GB
Storage	▪ 64 GB
Other Interfaces	▪ 1 USB OTG, 1 Micro-HDMI
Environmental features	▪ -40 °C +85 °C
Dimensions	▪ Approx. 85 × 105 × 45 mm (casing without antenna)
Power supply	▪ Barrel Jack DC from 8 to 60 V (AC adapter included) ▪ Passive Power-over-Ethernet (PoE), PoE, PoE+
Voltage	▪ 8 to 60 V
Power Consumption	▪ ≃ 8W
Weight	▪ 480 g (enclosure and antennas included)
Software	▪ **Each YOI comes with a GreenSoft license**

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