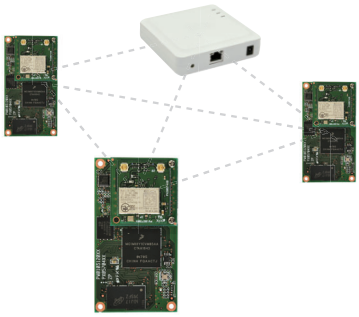
When it **Absolutely Must** Connect



Embedded Wi-Fi Mesh with Enterprise Security

MNS-300EM

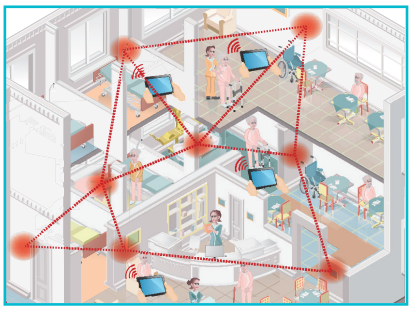
Silex Mesh Delivers High Throughput and Reliable Connectivity

Overview

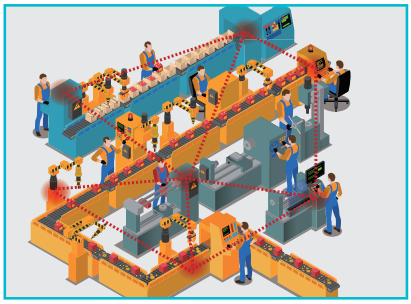
MNS-300EM is an embedded module that provides mesh connectivity for low-power portable devices to connect to a 802.11s capable mesh network. The MNS-300EM features NXP's power efficient and cost optimized applications processor, the i.MX 6ULL, featuring a single ARM Cortex-A7 core, with an 802.11ac radio, a complete TCP/IP network protocol stack, and an optimized QCA9377 wireless radio driver and security supplicant in a self-contained hardware package. It also supports enterprise security, including WPA2 with 802.1x authentication, which ensures data integrity and privacy for highly sensitive applications. It can be used as a mesh node to extend your existing BR-400AN based mesh network infrastructure. It supports two operation modes; mesh mode and WLAN slave mode (regular Wi-Fi). It has the ability to toggle between these two operation modes making it a flexible option for either of these two types Wi-Fi networks.

Applications

- Medical / Health Care

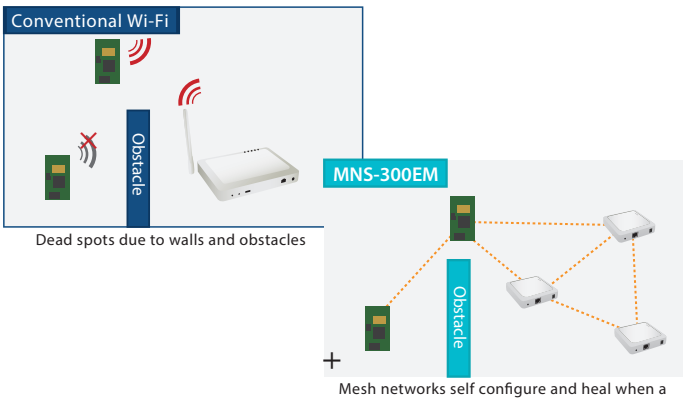


- Factory / Warehouse



Benefits

Mesh networks are "self healing," since the network automatically finds the fastest and most reliable paths to send data, even if nodes are blocked or lose their signal. In addition to creating a strong, reliable Wi-Fi signal, it is also easier to setup and manage a mesh network when compared with traditional Wi-Fi.



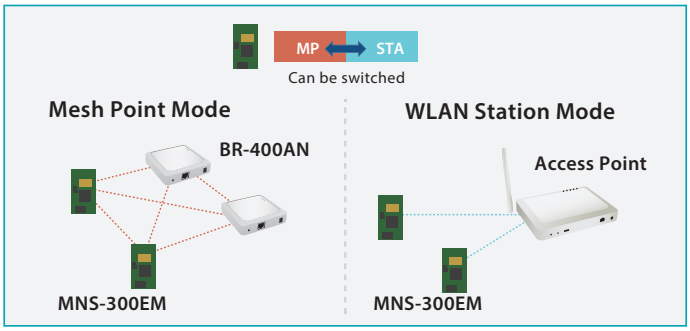
Features

1 Two Operation Modes

MNS-300EM can operate in two modes. It can automatically toggle between the two modes depending on its wireless environment.

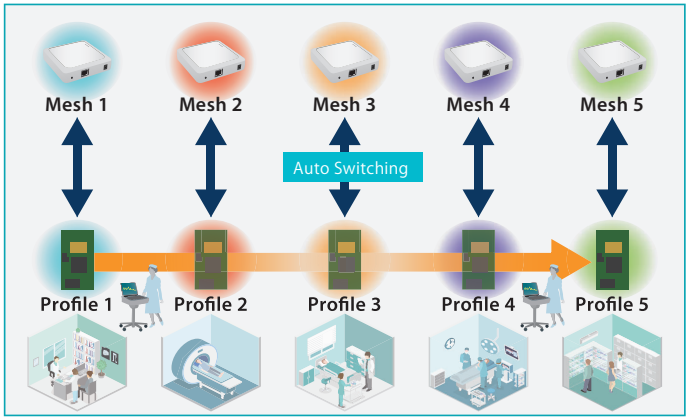
Mesh Point Mode (MP):
As a mesh point, MNS-300EM can provide mesh backhaul /network connectivity. It is compatible with our BR-400AN. Mesh points are aware of potential neighbors and can form new mesh links if the current mesh link is no longer available.

WLAN Station Mode (STA):
MNS-300EM in STA mode, can connect to a traditional access point as a wireless client and join the wireless network.



2 Automatic Profile Switching

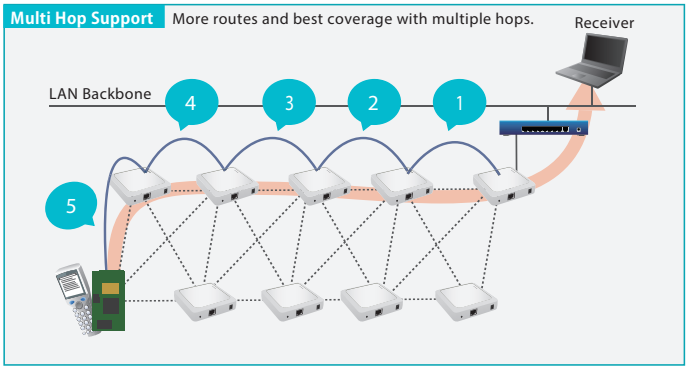
MNS-300EM can save up to five mesh network profiles that it wants to automatically toggle between. As your device moves between different mesh networks, it automatically configures itself to the network profile with the best strength.



Embedded Mesh Network System MNS-300EM

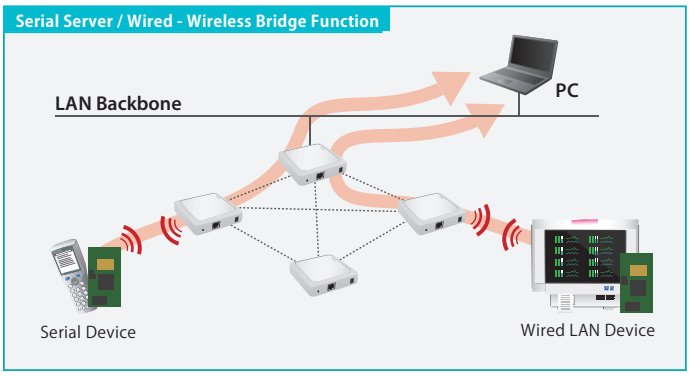
3 Multiple Hop Support

The amount of hops represents the number of devices connected to relay data and provide multiple paths of communication in your mesh network. We recommend mesh networks to comprise of no more than 32 nodes (MNS-300EM's & BR-400AN's). Our implementation allows multiple hops (5 recommended) for best performance.



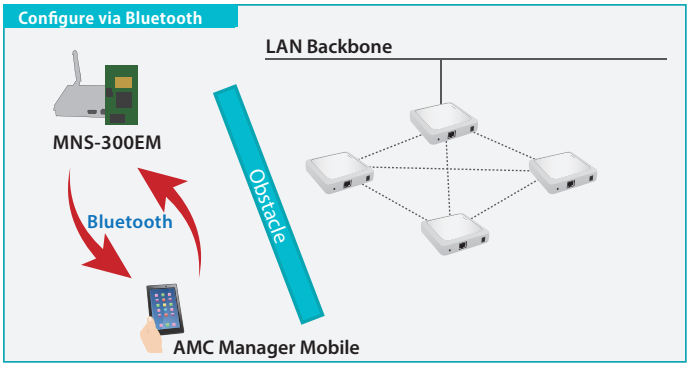
4 Add Wi-Fi to your Serial and Wired LAN Devices

By embedding the MNS-300EM into your device, you can easily connect your serial (RS232C) or ethernet device to your traditional Wi-Fi or Mesh network.



5 Configuration via Bluetooth

AMC Manager Mobile application allows users to configure your mesh device remotely using your tablet or cell phones via bluetooth. This allows accessibility to the devices in remote and hard to reach areas.



Search, connect, and configure settings of this product using a dedicated application (iOS: App is available on the Apple Store)

Product Specifications

Product Name	MNS-300EM
CPU	i.MX6ULL ARM Cortex-A7 528MHz
Memory	32MB ROM / 128MB RAM
WLAN Module	SX-SDMAC
Wi-Fi Specification	IEEE 802.11a/b/g/n/ac (1x1)
BT Specification	Bluetooth v4.2（BR/EDR/HS/LE Compliant
Antenna Connector	MHF Connector : 2
Interfaces	UART/Ethernet (10Base-T/100Base-TX)
OS	Linux
Security	• Mesh Point Mode - SAE(AES) • WLAN Station Mode (STA) WEP (64bit/128bit) WPA/WPA2-PSK(TKIP/AES) 802.1X (LEAP, EAP-TLS, EAP-TTLS, PEAP, EAP-FAST)
Operating Voltage	5V ± 5%
Current Consumption (Peak Value)	[2.4GHz] Tx: 720mA, Rx: 550mA [5GHz] Tx: 830mA, Rx: 620mA
Operating Environment	Temp: -40 ° C to 85°C (SoC temp not to exceed 105°C) Humidity : 15 to 95% (RH No condensation)
Storage Environment	Temp : -40 °C to 85°C Humidity conditions: 15 to 95% RH (No condensation)
Dimensions	30 x 55 x 11mm / 9.5g
Connectory Type	50 pin connector
Modular Certification	North America, Europe and Japan

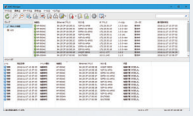
Other Mesh Products

Mesh Network System BR-400AN

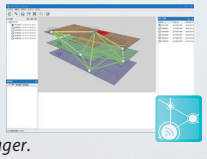
BR-400AN uses Silex's enhanced IEEE802.11s implementation to not only make it easier to construct a mesh network, but also to improve and enhance the network stability and performance.

It allows user to create a mesh network that helps devices to get connected to the network. With the multi-hop function, it can cover up to 200 sq. meters with 1 channel. Silex's Wi-Fi Mesh Bridge offers your business a financial and operational benefit through enterprise level security to provide protection to your systems.

AMC Manager®
Mesh Monitor (AMC Manager® plug-in)



AMC Manager® software allows users to easily configure, manage, and monitor Silex products connected to your network remotely and helps maintain a healthy wireless environment.



Mesh Monitor is an optional plug-in software for the AMC Manager. This tool allows users to visualize mesh networks comprising of BR-400AN's and MNS-300EM's.

Note: *Mesh Monitor is separate install from the AMC Manager.*

Any questions about the product?
Contact our customer support team!

https://www.silextechnology.com/support/contact-silex-support

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