

OPERATING SYSTEM FOR EMBEDDED PRODUCTS

LumenRadio's operating system MiraOS enables a large scale and easy-to-install wireless network of your HVAC system.

Today there is a huge demand for wireless control and sensor products within HVAC that can fulfill the new requirement and legislations derived from BREEAM, LEED, WELL and EPBD.

Wired sensors have until now been the only reliable alternative but with disadvantages such as expensive cables, time consuming installation work and limitation in scalability and maintenance. Wireless sensors in a perfectly applied mesh network is today even more reliable and easy to maintain than wired solutions.



UNIQUE FEATURES FOR HVAC

MiraOS enables your products and services to provide environmental friendly buildings, with energy efficient and demand-controlled HVAC solutions.

Our patented technologies offers an ultra-reliable and Future-Proof connectivity with unparalleled features for the most challenging IoT applications. MiraOS is the perfect fit for large scale meshing networks in commercial buildings and opens the opportunity to take your demand-controlled HVAC systems to a new level.

- Collect data from sensors & control products
- Easy commissioning using NFC or Bluetooth for very low installation cost
- Ultra-Low energy meshing mode
- Large scale communication with >1000 nodes in a network
- Scalable & flexible setup (from small to large-sized installations)
- Best in class Firmware update over the air
- Open application layer for customer development

◆ FOTA – FIRMWARE OVER THE AIR

MiraOS comes with best in class firmware upgrade over the air (FOTA). This gives you the opportunity to upgrade your product and add new features without costly onsite visits and your system will be operational during the update. This means easier installation, increased flexibility, lower maintenance and installation cost. FOTA can be used for both MiraOS and the application even when it is hosted on an external CPU.

◆ EASY COMMISSIONING

The biggest problem with today's wired HVAC and building control systems is the expensive and time-consuming installation procedure. MiraOS enables products to be installed in days instead of months. By using NFC or BLE for easy commissioning as well as communicating with devices using a mobile app, a controls network can be installed without the need of 3rd party devices.

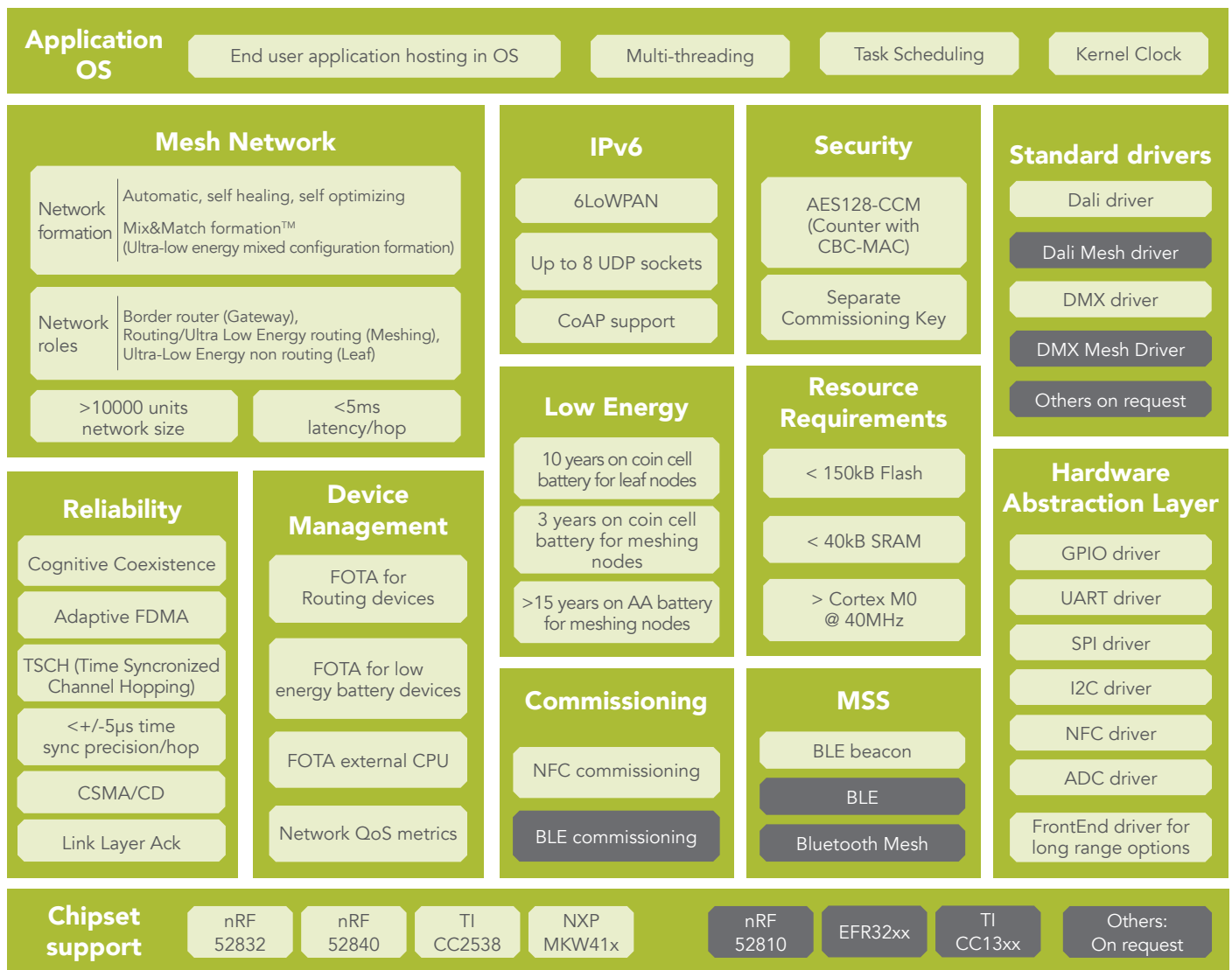
◆ ULTRA-LOW ENERGY

When doing an upgrade (from Constant Air Volume to Demand Controlled Ventilation) of an existing building's HVAC-system you aim for the lowest possible upgrade and installation cost. Our Ultra-low energy meshing mode makes that possible by enabling meshed communication between battery powered sensors within buildings. This means your sensors can run for >10 years in meshing mode on an AA-sized battery.

◆ COEXISTING MESH

The worst thing that could happen using wireless communication within a building would be to interfere with existing critical networks. MiraOS is developed with focus on reliability and efficient communication and our patented Cognitive Coexistence technology makes your product Future-Proof as it will coexist along with other wireless technologies, not being interfered or causing interference.

Building blocks of MiraOS



MiraOS v2.1

Available standard feature

Planned feature, not available yet



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