

MIRA WIDE AREA RADIO MODULE

The LumenRadio **MWA-N2** (Mira Wide Area) module is an industrial grade, long range, multi standard radio module, designed for high volume production. MWA-N2 is based on the Nordic Semiconductor nRF52840 and features a powerful ARM Cortex M4 microcontroller and dual radio for Bluetooth based standards and 802.15.4 based standards. MWA-N2 is optimized for MiraOS and the MiraMesh radio stack.

The MiraOS, MSS (Multi standard support) feature will allow concurrent operation of MiraMesh and Bluetooth v5.0 and NFC. This feature provides reliable mesh networking through MiraMesh with concurrent support for easy commissioning, local control and user interaction over Bluetooth v5.0/NFC using a smartphone or tablet. Ultra-low energy consumption allows for battery-powered products or energy harvesting operation. MWA-N2 is an SMD module and thanks to with its small footprint it it can be easily be integrated into any product. Best in class +1000m line of sight range, due to the built in PA and LNA.



FEATURES

- Optimized for MiraOS operation
- Based on Nordic Semiconductor nRF52840 chipset
- Up to 20dBm configurable transmit output power
- -96dBm receiver sensitivity
- 116dB link budget
- External antenna connector interface
- NFC-A support
- -40 – +85 °C operating temperature
- ARM Cortex-M4F at 64MHz operation
- 1MB flash and 256kB RAM
- 1.7 VDC - 3.6 VDC operation
- AES 128-bit ECB/CCM/AAR hardware accelerator
- 12bit ADC, SPI, I2C, UART, PWM, USB 2.0, GPIO
- Pre certified for Europe (ETSI RED), US (FCC/CFR 47 Part 15 unlicensed modular transmitter approval)*, Canada (IC RSS)*
- 33.5 x 18.5 x 3.77mm footprint

BENEFITS

- Long Range operation
- Industrial Grade
- Multi Standard Support
- Easy integration into products through standard SMT process
- Connector for external antenna

MAIN APPLICATIONS

- Connected lighting
- HVAC & Building control and sensor networks
- Industrial sensor networks
- Physical security and access control

KEY FEATURES TOGETHER WITH MIRAOS

- Ultra reliable and scalable meshed network
- IPv6 support
- High-precision time source (<50 μs clock throughout the network) for exact time stamping of data or triggering of events
- Bluetooth beacon support (any format supported)
- Concurrent Bluetooth operation
- Automated PA and LNA control for ultra-long range operation
- MSS - Supports concurrent MiraMesh and Bluetooth v5.0
- 7μA average current consumption* in non-routing (leaf) mode
- 16μA average current consumption* in routing (meshing) mode
- Cognitive Coexistence - adaptive frequency-hopping providing ultra reliable data transfer and ultra-low power consumption
- FOTA (Firmware Over The Air) updates
- Up to 1200 pkt/min true meshing network throughput (1 pkt = 160 bytes)

*Current consumption is measured in a network with a throughput of 10 pkt/min

