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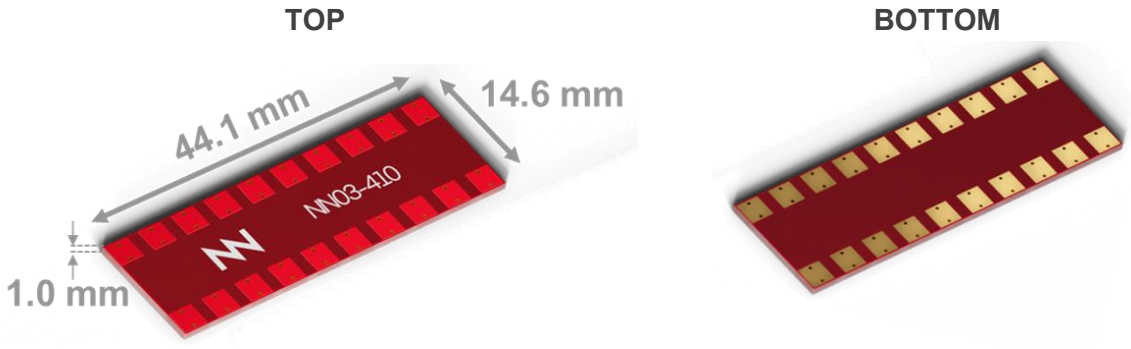
OMNIA mXTEND™ (NN03-410)

DATASHEET

OMNIA mXTEND™: A STANDARD ANTENNA SOLUTION FOR MOBILE FREQUENCY BANDS

The OMNIA mXTEND™ chip antenna component is engineered to provide high-performance multiband coverage in wireless devices, supporting a wide array of communication standards across Cellular, GNSS, and Wi-Fi/BLE technologies. This versatile antenna solution allows for seamless integration into devices that require robust, multi-frequency operation while minimizing design complexity.



Material: The OMNIA mXTEND™ chip antenna component is built on glass epoxy substrate.

Most used industries.

- **Smart Metering**
- **Industrial IoT**
- **Automotive Telematics**
- **Asset Tracking & Logistics**

OMNIA mXTEND™ benefits.

- **High Performance:** Provides reliable and consistent signal strength across Cellular, GNSS, and Wi-Fi/BLE, ensuring robust connectivity even in challenging environments.
- **Multiband:** Supports a broad range of frequencies, ensuring global compatibility for mobile, location-based, and data transmission services.
- **Simplified Integration:** A single antenna part with a triple-port configuration reduces the need for multiple components, simplifying your design and lowering costs.
- **Reliability:** An off-the-shelf standard product that requires no customization, allowing for quicker deployment and reduced time-to-market.

Operation bands summary.

The OMNIA mXTEND™ SMD antenna component covers a broad spectrum of frequencies, ensuring comprehensive support for Cellular Networks (4G, 5G, NB-IoT, LTE-M), GNSS Systems (GPS, GLONASS, Galileo, BeiDou), and Wi-Fi/BLE and many more within the range of 400 MHz to 8000 MHz.

1 AVAILABLE CONFIGURATIONS SUMMARY

Configuration	Frequency range	Frequency regions
CELLULAR IoT + GNSS + Wi-Fi/BLE	790 – 960 MHz, 1561 – 1606 MHz & 2400 – 2500 MHz	3

Table 1 - List of available configurations included in the datasheet.

2 DETAILED AVAILABLE CONFIGURATIONS

2.1 CELLULAR IoT + GNSS + Wi-Fi/BLE CONFIGURATION

Technical Features	790 – 960 MHz	1561 – 1606 MHz	2400 – 2500 MHz
Average Efficiency	> 55 %	> 75 %	> 65 %
Peak Gain	0.9 dBi	4.0 dBi	3.5 dBi
VSWR	< 2.6:1	< 1.5:1	< 2:1
Radiation Pattern	Omnidirectional		
Polarization	Linear		
Weight (approx.)	1.23 g		
Temperature	-40 to +125 ºC		
Impedance	50 Ω		

Table 2 – Technical features. Measures from the evaluation board (100 mm x 69 mm x 1 mm).

ANTENNA FOOTPRINT: 3 PORT CONFIGURATION

Measure	mm
A	3.0
B	1.5
C	8.0

Tolerance: ±0.05mm

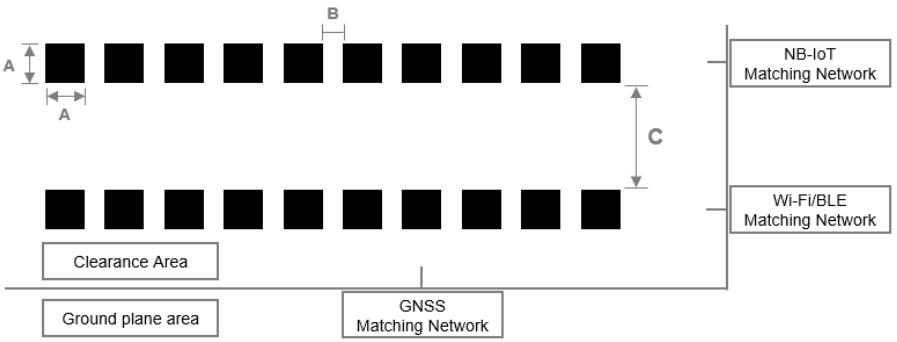


Table 3 – Footprint dimensions related to the 3-port solution.

If you are designing a device with a different size or operating frequency than shown above, you can assess the performance of this configuration using our free-of-charge Oxion™ platform. This platform provides a complete design report, including expected performance and tailored design guide, within 24 hours. For additional information about Ignion's range of R&D services, please visit: https://ignion.io/resources-support/technical-center/engineering-support/. If you require further assistance, please contact support@ignion.io.

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