

ignion[™]

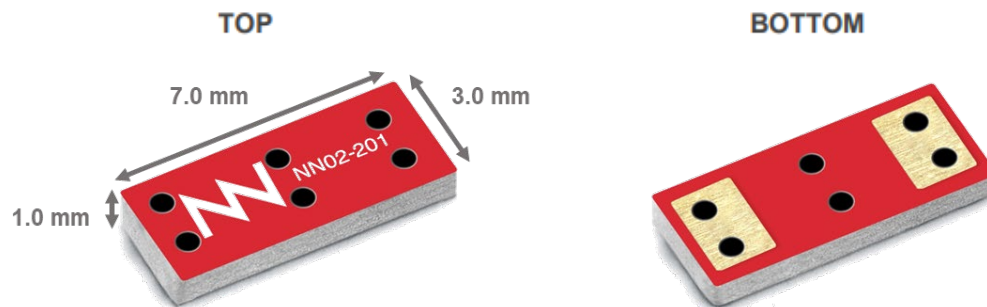
Your innovation.
Accelerated.

ONE mXTEND[™] (NN02-201)

DATASHEET

ONE mXTEND[™] (NN02-201)

The ONE mXTEND[™] antenna booster, with a **volume of only 21mm³**, is the smallest chip of the Virtual Antenna[™] family. This miniature, multipurpose and ultra slim component is designed to provide multiband connectivity at **cellular IoT**, including connectivity within several 2G, 3G, 4G and 5G bands, but also for other regions of the spectrum, such as **Wi-Fi 6E**.



Product Benefits

- **Smallest volume:** Multiband cellular/ISM IoT performance in the smallest volume form factor: 7.0 mm x 3.0 mm x 1.0 mm.
- **Multiband:** 2G/3G, NB-IoT/LTE-M, 5G, ISM and Wi-Fi 6E applications.
- **Wide reach:** Multi regional product (compatible with multiple regional standards).
- **Reliability:** Off-the-Shelf standard product, no antenna part customization (electronic optimization).
- **Use cases:** Wi-Fi 6E devices and IoT entry level products such as miniature trackers, IoT sensors, wearables and alike.

Operation Bands Summary

- GSM, UMTS, 5G, Wi-Fi 6E (824 – 960MHz, 1710 – 2170MHz, 3300 – 5000MHz, 5170 – 5835 MHz and 5925 – 7125 MHz)

1. AVAILABLE SOLUTIONS SUMMARY

Class	Frequency Regions	Frequency range	More detailed info
1 Port	1	3300 – 5000 MHz	<u>5G</u>
1 Port	2	880 – 894 MHz & 1710 – 2170 MHz	<u>CELLULAR EUROPE</u>
1 Port	2	824 – 960 MHz & 1710 – 2170 MHz	<u>CELLULAR USA</u>
1 Port	3	2400 – 2500 MHz & 5170 – 5835 MHz & 5925 – 7125 MHz	<u>Wi-Fi 6E</u>

2. DETAILED AVAILABLE SOLUTIONS

2.1. 5G SOLUTION

Technical features	3300 MHz – 5000 MHz
Average Efficiency	> 70 %
Peak Gain	4.1
VSWR	< 3:1
Radiation Pattern	Omnidirectional
Polarization	Linear
Weight (approx.)	0.02 g.
Temperature	-40 to +125 °C
Impedance	50 Ω
Dimensions (L x W x H)	7.0 mm x 3.0 mm x 1.0 mm

Technical features. Measures from the evaluation board (131 mm x 60 mm x 1 mm).

2.2 CELLULAR EUROPE SOLUTION

Technical features	880 – 960 MHz	1710 – 2170 MHz
Average Efficiency	> 55%	> 65%
Peak Gain	1.3 dBi	1.7 dBi
VSWR	< 3:1	
Radiation Pattern	Omnidirectional	
Polarization	Linear	
Weight (approx.)	0.02 g.	
Temperature	-40 to +125 °C	
Impedance	50 Ω	
Dimensions (L x W x H)	7.0 mm x 3.0 mm x 1.0 mm	

Technical features. Measures from the evaluation board (131 mm x 60 mm x 1 mm).

2.3 CELLULAR USA SOLUTION

Technical features	824 – 894 MHz	1850 – 2170 MHz
Average Efficiency	> 65%	> 70%
Peak Gain	1.9	2.0
VSWR	< 3:1	
Radiation Pattern	Omnidirectional	
Polarization	Linear	
Weight (approx.)	0.02 g.	
Temperature	-40 to +125 °C	
Impedance	50 Ω	
Dimensions (L x W x H)	7.0 mm x 3.0 mm x 1.0 mm	

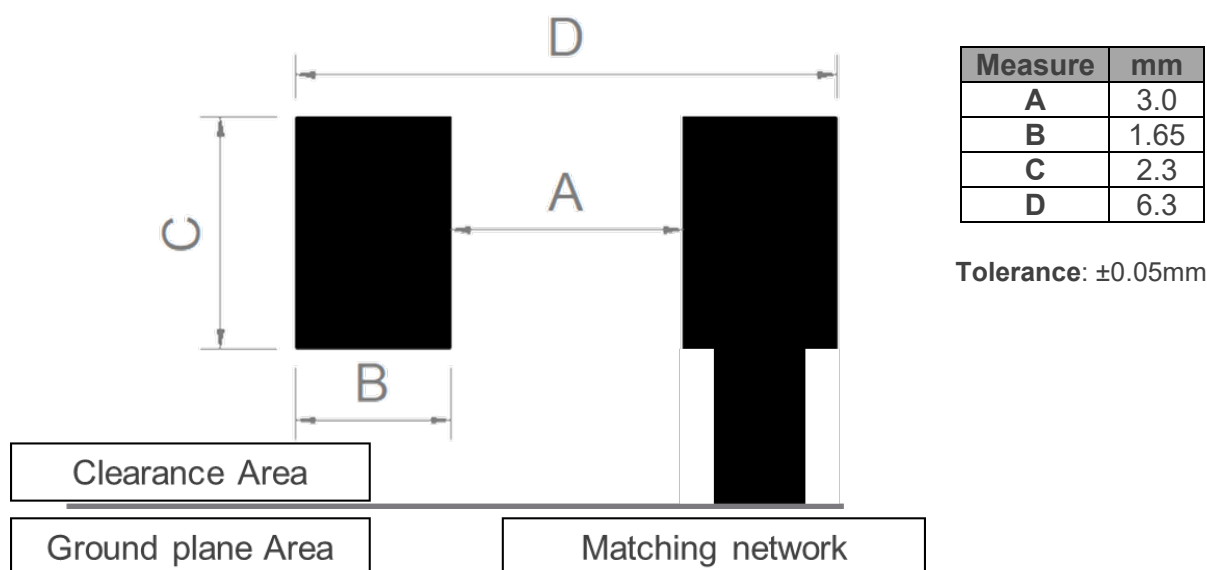
Technical features. Measures from the evaluation board (131 mm x 60 mm x 1 mm).

2.4 WI-FI 6E SOLUTION

Technical features	2400 – 2500 MHz	5170 – 5835 MHz	5925 – 7125 MHz
Average Efficiency	> 80%	> 85%	> 85%
Peak Gain	3.2	3.3	5.0
VSWR	< 2.5:1		
Radiation Pattern	Omnidirectional		
Polarization	Linear		
Weight (approx.)	0.02 g.		
Temperature	-40 to +125 °C		
Impedance	50 Ω		
Dimensions (L x W x H)	7.0 mm x 3.0 mm x 1.0 mm		

Technical features. Measures from the evaluation board (86 mm x 54 mm x 1 mm).

2.5 ANTENNA FOOTPRINT



Footprint dimensions for the ONE mXTEND™ (NN02-201) antenna booster.

If you need assistance to design your matching network beyond this application note, please contact support@ignion.io, or if you are designing a **different device size** or a **different frequency band**, we can assist you in less than 24 hours. Please, try our free-of-charge¹ [Antenna Intelligence Cloud](#), which will get you a complete design report including a custom matching network for your device in 24h¹. Additional information related to Ignion’s range of R&D services is available at: <https://ignion.io/rdservices/>

¹ See terms and conditions for a free Antenna Intelligence Cloud service in 24h at: <https://www.ignion.io/antenna-intelligence/>

ignion[™]

Your innovation.
Accelerated.

Contact:

support@ignion.io

+34 935 660 710

Barcelona

Av. Alcalde Barnils, 64-68 Modul C, 3a pl.
Sant Cugat del Vallés
08174 Barcelona
Spain

Shanghai

Shanghai Bund Centre
18/F Bund Centre, 222 Yan'an Road East,
Huangpu District
Shanghai, 200002
China

New Delhi

New Delhi, Red Fort Capital Parsvnath Towers
Bhai Veer Singh Marg, Gole Market,
New Delhi, 110001
India

Tampa

8875 Hidden River Parkway
Suite 300
Tampa, FL 33637
USA