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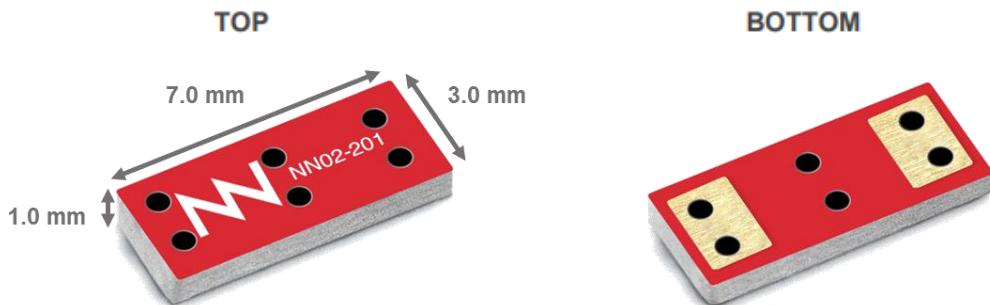
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# ONE mXTEND<sup>TM</sup> (NN02-201)

DATASHEET

## ONE mXTEND™ (NN02-201)

The ONE mXTEND™ antenna booster, with a **volume of only 21mm<sup>3</sup>**, 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	<a href="#"><b>5G</b></a>
1 Port	2	880 – 894 MHz & 1710 – 2170 MHz	<a href="#"><b>CELLULAR EUROPE</b></a>
1 Port	2	824 – 960 MHz & 1710 – 2170 MHz	<a href="#"><b>CELLULAR USA</b></a>
1 Port	3	2400 – 2500 MHz & 5170 – 5835 MHz & 5925 – 7125 MHz	<a href="#"><b>Wi-Fi 6E</b></a>

# 2. DETAILED AVAILABLE SOLUTIONS

## 2.1. 5G SOLUTION

Technical features	3300 MHz – 5000 MHz
<b>Average Efficiency</b>	> 70 %
<b>Peak Gain</b>	4.1
<b>VSWR</b>	< 3:1
<b>Radiation Pattern</b>	Omnidirectional
<b>Polarization</b>	Linear
<b>Weight (approx.)</b>	0.02 g.
<b>Temperature</b>	-40 to +125 °C
<b>Impedance</b>	50 Ω
<b>Dimensions (L x W x H)</b>	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
<b>Average Efficiency</b>	> 55%	> 65%
<b>Peak Gain</b>	1.3 dBi	1.7 dBi
<b>VSWR</b>	< 3:1	
<b>Radiation Pattern</b>	Omnidirectional	
<b>Polarization</b>	Linear	
<b>Weight (approx.)</b>	0.02 g.	
<b>Temperature</b>	-40 to +125 °C	
<b>Impedance</b>	50 Ω	
<b>Dimensions (L x W x H)</b>	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
<b>Average Efficiency</b>	> 65%	> 70%
<b>Peak Gain</b>	1.9	2.0
<b>VSWR</b>	< 3:1	
<b>Radiation Pattern</b>	Omnidirectional	
<b>Polarization</b>	Linear	
<b>Weight (approx.)</b>	0.02 g.	
<b>Temperature</b>	-40 to +125 °C	
<b>Impedance</b>	50 Ω	
<b>Dimensions (L x W x H)</b>	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
<b>Average Efficiency</b>	> 80%	> 85%	> 85%
<b>Peak Gain</b>	3.2	3.3	5.0
<b>VSWR</b>	< 2.5:1		
<b>Radiation Pattern</b>	Omnidirectional		
<b>Polarization</b>	Linear		
<b>Weight (approx.)</b>	0.02 g.		
<b>Temperature</b>	-40 to +125 °C		
<b>Impedance</b>	50 Ω		
<b>Dimensions (L x W x H)</b>	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).

If you need assistance to design your matching network, please contact [support@ignion.io](mailto:support@ignion.io)

You can also try our free of charge<sup>1</sup> **NN Wireless Fast Track service** you will receive a tailored antenna design approach for free in 24h<sup>1</sup>. discover the feasibility of your next wireless project including the antenna!

<sup>1</sup> See terms and conditions for a free NN Wireless Fast-Track service in 24h at: <https://www.ignion.io/fast-track-project/>



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