

## ONE mXTEND™ (NN02-201)

GSM, UMTS, 5G (824 – 960MHz, 1710 – 2170MHz and 3300 – 5000MHz)

Fractus Antennas specializes in enabling effective mobile communications. Using Fractus Antennas technology, we design and manufacture optimized antennas to make your wireless devices more competitive. Our mission is to help our clients develop innovative products and accelerate their time to market through our expertise in antenna design, testing and manufacturing.

The ONE mXTEND™ antenna booster has been specifically designed for providing multiband performance in wireless devices with small space requirements, enabling 2G, 3G, 4G and 5G coverage by allowing operation in the communication standards GSM850, GSM900, GSM1800/DCS, GSM1900/PCS, UMTS, n77, n78 and n79.

The ONE mXTEND™ antenna booster is built on glass epoxy substrate.

Bands: GSM850, GSM900, GSM1800/DCS, GSM1900/PCS, UMTS, n77, n78 and n79.

### Product Benefits

- Small size
- Cost-effective
- High efficiency
- Easy to use (pick and place)
- Off-the-Shelf
- Standard Product (no customization is required)

**7.0 mm x 3.0 mm x 1.0 mm** (image larger than real size)



PAT. US 62/529032

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## Evaluation Boards

Class	Frequency Regions	Frequency range	Technology	Part Number
1 Port	1	3300 – 5000 MHz	Coplanar PCB	<a href="#">EB_NN02-201-5G</a>
1 Port	2	880 – 894 MHz & 1710 – 2170 MHz	With UFL cables	<a href="#">EB_NN02-201-2G/3G-Europe</a>
1 Port	2	824 – 960 MHz & 1710 – 2170 MHz	With UFL cables	<a href="#">EB_NN02-201-2G/3G-USA</a>

## 1 port solution – 1 frequency region (EB\_NN02-201-5G)

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).

See pictures of the evaluation boards, matching network configuration and graphs of the specs in the [User Manual](#).

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**1 port solution – 2 frequency region****a) Europe Solution (EB NN02-201-2G/3G-Europe):**

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).

See pictures of the evaluation boards, matching network configuration and graphs of the specs in the [Application Note](#).

**b) USA Solution (EB NN02-201-2G/3G-USA):**

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).

See pictures of the evaluation boards, matching network configuration and graphs of the specs in the [Application Note](#).

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For additional information, please visit [www.fractusantennas.com](http://www.fractusantennas.com) or contact [info@fractusantennas.com](mailto:info@fractusantennas.com).

If you need assistance to design your matching network, please contact [support@fractusantennas.com](mailto:support@fractusantennas.com), or try our free-of-charge<sup>1</sup> **NN Wireless Fast-Track** design service, you will get your chip antenna design including a custom matching network for your device in 24h<sup>1</sup>. Other related to NN's range of R&D services is available at: <https://www.fractusantennas.com/rdservices/>

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