

## DATASHEET PRODUCTS & SERVICES

# Fractus mXTEND™ Antenna Booster 698 - 798 MHz, 824 - 960 MHz and 1710 - 2690 MHz

Fractus specialises in enabling effective mobile communications. Using Fractus technology, we design and manufacture optimised 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.

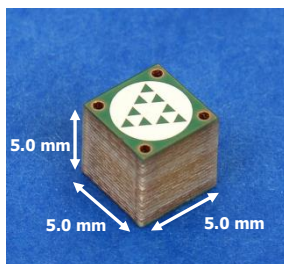
## Fractus mXTEND™ Antenna Booster

**P/N: FR01-S4-250**

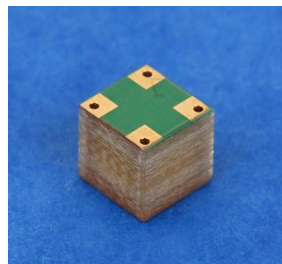
The Fractus mXTEND™ Antenna Booster has been specifically designed for providing multiband performance in wireless devices (in particular in mobile devices), enabling worldwide coverage by allowing operation in the communication standards GSM850, GSM900, GSM1800/DCS, GSM1900/PCS, UMTS, LTE700, LTE800, LTE850, LTE900, LTE1700, LTE1800, LTE1900, LTE2000, LTE2100, LTE2300, LTE2500 and LTE2600.

Bands: LTE 1-10, LTE 12-20, LTE 23, LTE 25-30, LTE 33-41, LTE 44.

5.0 mm x 5.0 mm x 5.0 mm (image larger than actual size)



**TOP**



**BOTTOM**

## Product Benefits

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

## Evaluation Boards

Class	Frequency range	Technology	Part Number	Page
1 Port	698 - 798 MHz	With UFL cables	EB_FR01-S4-250-UFL1R-700	2
		With coplanar transmission lines	EB_FR01-S4-250-CPW1R-700	2
	824 - 960 MHz	With UFL cables	EB_FR01-S4-250-UFL1R-850	2
		With coplanar transmission lines	EB_FR01-S4-250-CPW1R-850	2
	1710 - 2690 MHz	With UFL cables	EB_FR01-S4-250-UFL1R-1700	2
		With coplanar transmission lines	EB_FR01-S4-250-CPW1R-1700	2
2 Ports	824 - 960 MHz & 1710 - 2690 MHz	With UFL cables	EB_FR01-S4-250-UFL2R	3
		With coplanar transmission lines	EB_FR01-S4-250-CPW2R	3
3 Ports	698 - 798 MHz & 824 - 960 MHz & 1710 - 2690 MHz	With UFL cables	EB_FR01-S4-250-UFL3R	4
		With coplanar transmission lines	EB_FR01-S4-250-CPW3R	4

For additional information, please download the user manual from <http://www.fractus.com/index.php/fractus/documentation> or contact [info@fractus.com](mailto:info@fractus.com).

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### 1 port solution

#### a) Evaluation Boards with UFL cables

Technical features	698 - 798 MHz	824 - 960 MHz	1710 - 2690 MHz
Average Efficiency	> 45 %	> 50 %	> 75 %
Peak Gain	0.2 dBi	1.0 dBi	3.3 dBi
VSWR	< 3:1		
Radiation Pattern	Omnidirectional		
Polarization	Linear		
Weight (approx.)	0.25 g.		
Temperature	-40 to + 85 °C		
Impedance	50 $\Omega$		
Dimensions (L x W x H)	5.0 mm x 5.0 mm x 5.0 mm		

Technical features. Measures from the evaluation board (133 mm x 60 mm x 1 mm).

See pictures of the evaluation boards, matching network configuration and graphs of the specs in the chapters 2, 3 and 4 of the [User Manual](#).

#### b) Evaluation Boards with Coplanar transmission lines

Technical features	698 - 798 MHz	824 - 960 MHz	1710 - 2690 MHz
Average Efficiency	> 40 %	> 50 %	> 70 %
Peak Gain	0.1 dBi	1.2 dBi	2.8 dBi
VSWR	< 3:1		
Radiation Pattern	Omnidirectional		
Polarization	Linear		
Weight (approx.)	0.25 g.		
Temperature	-40 to + 85 °C		
Impedance	50 $\Omega$		
Dimensions (L x W x H)	5.0 mm x 5.0 mm x 5.0 mm		

Technical features. Measures from the evaluation board (133 mm x 60 mm x 1 mm).

See pictures of the evaluation boards, matching network configuration and graphs of the specs in the chapters 2, 3 and 4 of the [User Manual](#).

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### 2 ports solution

Technical features	824 - 960 MHz		1710 - 2690 MHz	
	Evaluation Board with UFL cables	Evaluation Board with coplanar transmission lines	Evaluation Board with UFL cables	Evaluation Board with coplanar transmission lines
<b>Average Efficiency</b>	> 50 %	> 50 %	> 70 %	> 70 %
<b>Peak Gain</b>	1.4 dBi	1.3 dBi	3.6 dBi	2.8 dBi
<b>VSWR</b>	< 3:1			
<b>Radiation Pattern</b>	Omnidirectional			
<b>Polarization</b>	Linear			
<b>Weight (approx.)</b>	0.25 g.			
<b>Temperature</b>	-40 to + 85 °C			
<b>Impedance</b>	50 Ω			
<b>Dimensions (L x W x H)</b>	5.0 mm x 5.0 mm x 5.0 mm			

Technical features. Measures from the evaluation board (133 mm x 60 mm x 1 mm).

a) For the evaluation board with UFL cables, see the pictures, the matching network configuration and the graphs of the specs in the chapter 5.2 of the [User Manual](#).

b) For the evaluation board with coplanar transmission lines, see the pictures, the matching network configuration and the graphs of the specs in the chapter 5.3 of the [User Manual](#).

## Fractus mXTEND™ Antenna Booster 698 - 798 MHz, 824 - 960 MHz and 1710 - 2690 MHz

### 3 ports solution

#### a) Evaluation Boards with UFL cables

Technical features	698 - 798 MHz	824 - 960 MHz	1710 - 2690 MHz
<b>Average Efficiency</b>	> 45 %	> 50 %	> 70 %
<b>Peak Gain</b>	0.6 dBi	0.6 dBi	3.2 dBi
<b>VSWR</b>	< 3:1		
<b>Radiation Pattern</b>	Omnidirectional		
<b>Polarization</b>	Linear		
<b>Weight (approx.)</b>	0.25 g.		
<b>Temperature</b>	-40 to + 85 °C		
<b>Impedance</b>	50 Ω		
<b>Dimensions (L x W x H)</b>	5.0 mm x 5.0 mm x 5.0 mm		

Technical features. Measures from the evaluation board (133 mm x 60 mm x 1 mm).

For the evaluation board with UFL cables, see the pictures, the matching network configuration and the graphs of the specs in the chapter 6.2 of the [User Manual](#).

#### b) Evaluation Boards with Coplanar transmission lines

Technical features	698 - 798 MHz	824 - 960 MHz	1710 - 2690 MHz
<b>Average Efficiency</b>	> 40 %	> 45 %	> 70 %
<b>Peak Gain</b>	-0.2 dBi	1.0 dBi	3.4 dBi
<b>VSWR</b>	< 3:1		
<b>Radiation Pattern</b>	Omnidirectional		
<b>Polarization</b>	Linear		
<b>Weight (approx.)</b>	0.25 g.		
<b>Temperature</b>	-40 to + 85 °C		
<b>Impedance</b>	50 Ω		
<b>Dimensions (L x W x H)</b>	5.0 mm x 5.0 mm x 5.0 mm		

Technical features. Measures from the evaluation board (133 mm x 60 mm x 1 mm).

For the evaluation board with coplanar transmission lines, see the pictures, the matching network configuration and the graphs of the specs in the chapter 6.3 of the [User Manual](#).