CUBE mXTEND™ (FR01-S4-250)

GSM, UMTS, LTE (698 – 798MHz, 824 – 960MHz and 1710 – 2690MHz)

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.

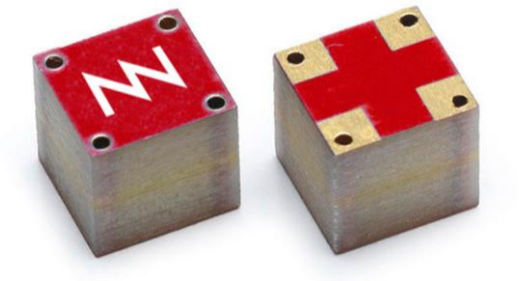
The CUBE mXTEND™ Antenna Booster has been specifically designed for providing multiband performance in wireless devices (in particular in mobile devices), enabling worldwide coverage by allowing operation in the communication standards GSM850, GSM900, GSM1800/DCS, GSM1900/PCS, UMTS, LTE700, LTE800, LTE850,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

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

Product Benefits

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

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



PAT US 8,203,492

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Evaluation Boards

Class	Frequency range	Technology	Part Number	Page
1 Port	698 – 798 MHz	With UFL cables	EB_FR01-S4-250-UFL1R-700	3
		With coplanar transmission lines	EB_FR01-S4-250-CPW1R-700	3
	824 – 960 MHz	With UFL cables	EB_FR01-S4-250-UFL1R-850	3
		With coplanar transmission lines	EB_FR01-S4-250-CPW1R-850	3
	1710 – 2690 MHz	With UFL cables	EB_FR01-S4-250-UFL1R-1700	3
		With coplanar transmission lines	EB_FR01-S4-250-CPW1R-1700	3
2 Ports	824 – 960 MHz & 1710 – 2690 MHz	With UFL cables	EB_FR01-S4-250-UFL2R	4
		With coplanar transmission lines	EB_FR01-S4-250-CPW2R	4
3 Ports	698 – 798 MHz & 824 – 960 MHz & 1710 – 2690 MHz	With UFL cables	EB_FR01-S4-250-UFL3R	5
		With coplanar transmission lines	EB_FR01-S4-250-CPW3R	5

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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 ºC		
Impedance	50 Ω		
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 ºC		
Impedance	50 Ω		
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
Average Efficiency	> 50 %	> 50 %	> 70 %	> 70 %
Peak Gain	1.4 dBi	1.3 dBi	3.6 dBi	2.8 dBi
VSWR	< 3:1			
Radiation Pattern	Omnidirectional			
Polarization	Linear			
Weight (approx.)	0.25 g.			
Temperature	-40 to + 85 ºC			
Impedance	50 Ω			
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).

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.

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3 ports solution

a) Evaluation Boards with UFL cables

Technical features	698 – 798 MHz	824 – 960 MHz	1710 – 2690 MHz
Average Efficiency	> 45 %	> 50 %	> 70 %
Peak Gain	0.6 dBi	0.6 dBi	3.2 dBi
VSWR	< 3:1		
Radiation Pattern	Omnidirectional		
Polarization	Linear		
Weight (approx.)	0.25 g.		
Temperature	-40 to + 85 ºC		
Impedance	50 Ω		
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).

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
Average Efficiency	> 40 %	> 45 %	> 70 %
Peak Gain	-0.2 dBi	1.0 dBi	3.4 dBi
VSWR	< 3:1		
Radiation Pattern	Omnidirectional		
Polarization	Linear		
Weight (approx.)	0.25 g.		
Temperature	-40 to + 85 ºC		
Impedance	50 Ω		
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).

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.

For additional information, please visit www.fractusantennas.com or contact info@fractusantennas.com.

