



# fractus

Optimised Antennas for Wireless Devices



DATA SHEET · PRODUCTS & SERVICES

## Chip Antenna for Bluetooth®, Zigbee®, 802.11 b/g/n WLAN



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.

### Micro Reach Xtend™ 2.4GHz Chip Antenna

P/N: FR05-S1-N-0-110

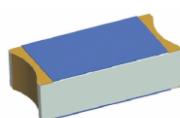
Fractus® Micro Reach Xtend™ Chip Antenna is a very small size and low cost antenna that combines reduced clearance area required within the customer PCB with its high performance and integration flexibility. This makes it ideal for small consumer electronics devices such as small wireless headsets and highly integrated multifunction mobile handsets.

Taking advantage of the space-filling properties, this small monopole antenna is perfect to use within indoor (highly scattered) environment.

**4.1 mm x 2.0 mm x 1.0 mm** (image larger than real size)



TOP



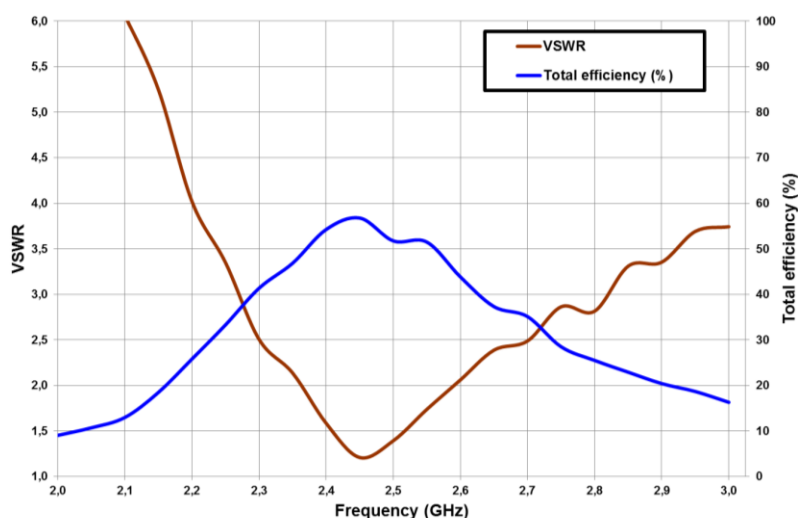
BOTTOM

PAT. US 7,148,850, US 7,202,822

### Product Benefits

- **Small form factor**  
Allows integration into space limited areas easily and efficiently with minimum clearance area.
- **Low cost**  
Enables product developers to reduce BoM cost increasing device competitiveness.
- **Omnidirectional pattern**  
Optimises device usage due to a uniform radiation pattern.
- **Broad bandwidth**  
Ensures robust performance when considering different plastic housing and close body proximity.

### VSWR and Total Efficiency (%) vs. Frequency (GHz)

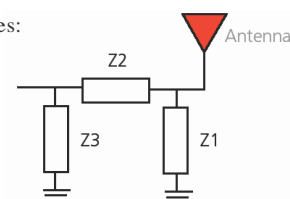


Technical Features	
Frequency range	2.4 GHz - 2.5 GHz
Average Efficiency	54.2 %
Peak Gain	0.2 dBi
Radiation Pattern	Omnidirectional
VSWR	< 2:1
Polarization	Linear
Weight (approx.)	0.02 g
Temperature	-40 to + 85°C
Impedance	50 Ω
Dimensions (L x W x H)	4.1 mm x 2.0 mm x 1.0 mm

Measures from the evaluation board (40.0 mm x 20.0 mm x 1.0 mm PCB) with 2 element matching network

Matching Network Values:

Z1: Not necessary  
Z2: L= 6.8 nH  
Z3: C= 1.5 pF



Optimal matching network values will vary depending on the antenna environment in the final device.

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).