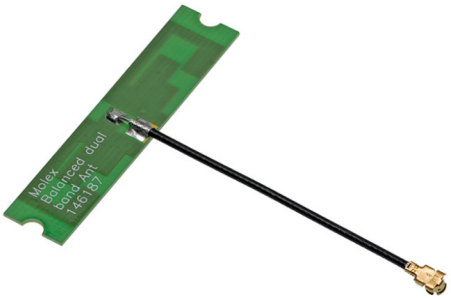
2.4/5GHz Wi-Fi† PCB Antenna with Balanced Transmission

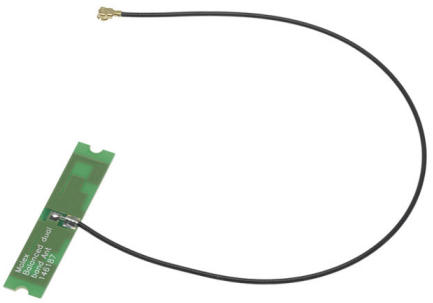
146187 RoHS-compliant, Halogen-free

Combining higher radiation efficiency and greater space savings, this transmission-balanced PCB antenna offers robust installation features over a wide range of industry and technology-based applications



Features and Benefits

Compact (40.95 by 9.00mm) rigid PCB antenna	Combines greater space savings with secure mounting to the application device chassis
Total efficiency values of 80% minimum (2.4GHz band) and 70% minimum (5GHz band)	High antenna radiation performance
Balanced antenna with ground-plane-independent design	Reduces engineering resources and costs needed to mitigate PCB ground-induced radiation
Coaxial cable to center-fed antenna attachment with over 18.0N of pull force	Ensures robust antenna reliability and connectivity to radio device
Wide selection of micro-coaxial cable lengths from 50 to 300mm	Extends connectivity for maximum design flexibility



Screw-nut mounting at the sides of the PCB secures this high-performance antenna to the device chassis

Applications

Telecommunications/Networking

- Wi-Fi devices
- Wireless LAN (WLAN)
- IEEE 802.11b/g/n devices

Industrial applications

- Machine to machine (M2M) communication
- Smartmeters
- 2.4GHz §ZigBee IEEE 802.15.4 devices
- 2.4 GHz and 5 GHz Industrial, Scientific and Medical (ISM) band systems and wireless devices

Consumer Electronics (CE) Applications

- Cameras
- Mobile gaming devices
- Personal navigation devices
- Wireless internet TV and audio devices

Medical

- Telemedicine and telehealth device

Automotive applications

- ‡Bluetooth devices
- Infotainment devices
- Mobile hotspots

Telehealth devices

Smartmeters

Infotainment devices

Wireless Internet TV

†Wi-Fi is a registered trademarks of the Wi-Fi Alliance
‡Bluetooth is a registered trademark of Bluetooth SIG
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molex®

Specifications

REFERENCE INFORMATION
Packaging: PE film
Mates With: Surface-mount, micro-coaxial jack (Part Number: 73412-0110)
Designed In: mm
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: No

ELECTRICAL SPECIFICATIONS (2.4 GHZ) INCLUDE:
f_start (MHz): 2400
f_end (MHz): 2483.5
Return Loss S11 (dB): Refer to table
Total Eff. (dB): Refer to table
Peak Gain (dBi): Refer to table
Polarization: Linear
Input Impedance (Ohms): 50

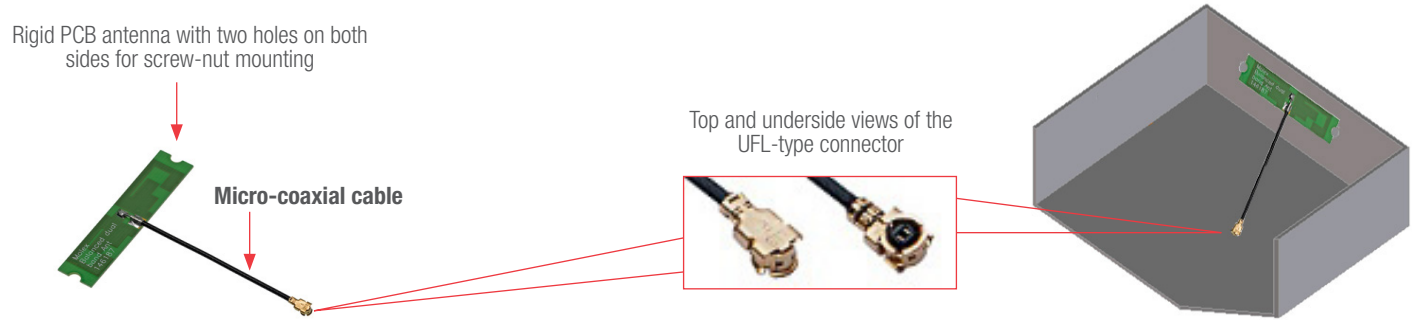
ELECTRICAL SPECIFICATIONS (5 GHZ) INCLUDE:
f_start (MHz): 5150
f_end (MHz): 5850
Return Loss S11 (dB): Refer to table
Total Eff. (dB): Refer to table
Peak Gain (dBi): Refer to table
Polarization: Linear
Input Impedance (Ohms): 50

MECHANICAL
Pull Force: > 18.0N

PHYSICAL
Thickness: 0.75mm
Operating Temperature: -30 to +85°C

Ordering Information

Order No.	Flexi-Antenna Dimensions	Miniature Coaxial Cable Lengths (mm)	Frequency Range (GHz)	Return Loss S11 (db)	Peak Gain (dBi)	Total Efficiency (%)
146187-0050	40.95 by 9.00mm	50	2.4 - 2.5	< -10	3.4	> 85
			5.15 - 5.85	< -10	4.75	> 75
146187-0100		100	2.4 - 2.5	< -10	3.2	> 80
			5.15 - 5.85	< -10	4.5	> 70
146187-0150		150	2.4 - 2.5	< -10	3.0	> 76
			5.15 - 5.85	< -10	4.2	> 66
146187-0200		200	2.4 - 2.5	< -10	2.8	> 73
			5.15 - 5.85	< -10	4.0	> 63
146187-0250		250	2.4 - 2.5	< -1	2.6	> 70
			5.15 - 5.85	< -10	3.7	> 60
146187-0300		300	2.4 - 2.5	< -10	2.4	> 68
			5.15 - 5.85	< -10	3.5	> 57



This dipole-style antenna offers balanced transmission throughout the entire connection regardless of cable length

The antenna can be screw-mounted anywhere within the device chassis. The UFL-type connector at the extreme end of the antenna is secured to the application's device radio (not shown in the illustration)

www.molex.com/link/standard_antennas.html