

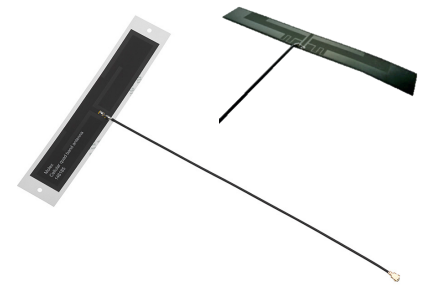
Multi-band Cellular and Combo Cellular/Wi-Fi* Flexible Antennas with Balanced Transmission

molex[®]

Advanced flexible antenna technology combines extended cellular coverage with Wi-Fi capabilities for better connectivity and faster wireless-device processing

Features and Benefits

Balanced combo antenna with ground-plane-independent design	Reduces engineering resources and costs needed to mitigate PCB ground-induced radiation
High radiation efficiencies	Support high-performance RF application needs
Poly-flexible, double-sided adhesive tape on antenna	Enables easy peel-and-stick mounting anywhere within the device casing
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 length options	Extends connectivity for maximum design flexibility



The Multi-band Cellular/Wi-Fi Combo antenna and Cellular 6-band antenna (inset)

Applications

Data/Network/Telecom

High-End Computing
Personal Computers
Infrastructure
Telephone Sets/Landlines
Networking equipment

Industrial applications

Smart grid concentrators
Smart meters
Home energy displays
Remote sensors
Alarm and monitoring equipment

Consumer Electronics (CE) Applications

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



Smartmeters



Wireless Internet TV

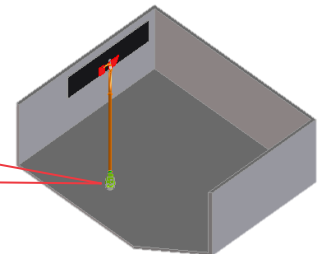
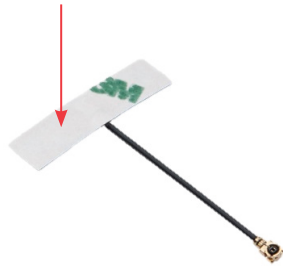
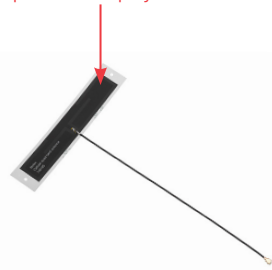


Telecommunication Infrastructure

Topside of the poly-flexible antenna

Double -sided adhesive on the reverse

Top and underside views of the UFL-type connector



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

By removing its tape liner, the combo antenna can be 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)

*Wi-Fi is a registered trademark of the Wi-Fi Alliance

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Specifications

Multi-band Cellular (Series 146185)

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 (Low Band) include:

f_start (MHz): 824
f_end (MHz): 960
Return Loss S11 (dB): Refer to table
Total Eff. (dBi): Refer to table
Peak Gain (dBi): Refer to table
Polarization: Linear
Input Impedance (Ohms): 50

Electrical specifications (High Band) include:

f_start (MHz): 1710
f_end (MHz): 6000
Return Loss S11 (dB): Refer to table
Total Eff. (dBi): Refer to table
Peak Gain (dBi): Refer to table
Polarization: Linear
Input Impedance (Ohms): 50

Mechanical

Pull Force: > 18.0N

Physical

Thickness: 0.10mm
Operating Temperature: -30 to +85°C

Cellular 6-band (Series 105263)

Reference Information

Packaging: Tray
Mates With: Micro-coaxial SMT Jack
(Part Number: 73412-0110)
Use In: Any device that requires a compact and balanced transmission antenna
Designed In: mm
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: No

Electrical

Frequency Band: Refer to table
Return Loss S11 (dB): Refer to table
Total Efficiency: Refer to table
Peak Gain: Refer to table
Polarization: Linear
Input Impedance: 50 Ohms
Max PWR: 2 W / 33 dBm

Physical

Contact: Micro coaxial (< 2.5 mm mating height).
PCB Thickness: 0.10 mm (0.004")
Operating Temperature: -40 to +85°C

Mechanical

Connector Mating Force: Initial 20N max, 15N after 30 mating cycles
Connector Unmating Force: Initial 2N min, 1.5N after 30 mating cycles
Connector Mating Cycles: 30
Cable Pull-force: 18N max.

Ordering Information

Multi-band Cellular (Series 146185)

Order No.	Miniature Coaxial Cable Lengths (mm)	Frequency Range (GHz)	Return Loss S11 (dB)	Peak Gain (dBi)	Total Efficiency (%)
146185-0050	50	0.824 – 0.96	< -4	1.6	> 65
		1.71 – 2.7	< -4	3.4	> 72
		3 – 6	< -6	4.2	> 74
146185-0100	100	0.824 – 0.96	< -4	1.5	> 64
		1.71 – 2.7	< -4	3.2	> 70
		3 – 6	< -6	4	> 70
146185-0150	150	0.824 – 0.96	< -4	1.4	> 62
		1.71 – 2.7	< -4	3.0	> 67
		3 – 6	< -6	3.7	> 66
146185-0200	200	0.824 – 0.96	< -4	1.3	> 61
		1.71 – 2.7	< -4	2.9	> 65
		3 – 6	< -6	3.5	> 62
146185-0250	250	0.824 – 0.96	< -4	1.2	> 60
		1.71 – 2.7	< -4	2.7	> 63
		3 – 6	< -6	3.3	> 59
146185-0300	300	0.824 – 0.96	< -4	1.1	> 59
		1.71 – 2.7	< -4	2.6	> 61
		3 – 6	< -6	3	> 56

Cellular 6-band (Series 105263)

Order No.	Miniature Coaxial Cable Lengths (mm)	Frequency Range (GHz)	Return Loss S11 (dB)	Total Efficiency (%)	Peak Gain (dBi)
105263-0001	100	824 – 894	< -7.0	> -1.8 dB (>66 %)	2.3
		880 – 960	< -7.5	> -1.6 dB (>69 %)	2.2
		1710 – 1880	< -10.0	> -1.5 dB (>70 %)	2.3
		1850 – 1990	< -7.5	> -1.7 dB (>68 %)	2
		1920 – 2170	< -6.8	> -2.2 dB (>60 %)	2
		2500 – 2690	< -10.5	> -1.7 dB (>68 %)	3.1
105263-0002	150	824 – 894	< -7.7	> -1.7 dB (>67 %)	2.2
		880 – 960	< -7.5	> -1.4 dB (>72 %)	2.1
		1710 – 1880	< -10.5	> -1.4 dB (>72 %)	1.5
		1850 – 1990	< -8.5	> -1.6 dB (>70 %)	1.8
		1920 – 2170	< -6.8	> -2.2 dB (>60 %)	1.7
		2500 – 2690	< -11.0	> -1.7 dB (>68 %)	3.0
105263-0003	200	824 – 894	< -8.0	> -1.9 dB (>65 %)	2.2
		880 – 960	< -7.5	> -1.8 dB (>66 %)	2.0
		1710 – 1880	< -9.0	> -1.7 dB (>68 %)	1.7
		1850 – 1990	< -8.5	> -2.0 dB (>63 %)	1.3
		1920 – 2170	< -8.8	> -2.2 dB (>61 %)	1.7
		2500 – 2690	< -12.0	> -1.9 dB (>64 %)	3.0

www.molex.com/link/standard_antennas.html