

Combo External Antennas (4G/Wi-Fi/GPS)

molex

Fully balanced, IP66-rated antenna offers high 4G, Wi-Fi and GPS signal performance in telematics, remote monitoring and other applications

Features and Advantages

Compact, waterproof 3-in-1 External Antenna (Diameter: 77.00mm; Height: 15.00mm)
Enables space-efficiency and easy integration into applications requiring IP66 protection

Self-adhesive tape

Tape liner

Flip-side of antenna housing

Compact, waterproof 2-in-1 External Antenna (Diameter: 77mm; Height: 15mm)
Enables space-efficiency and easy integration into applications requiring IP66 protection

3.0m cables

Extend connectivity between the antenna and the application's 2 radio devices for their respective 4G and GPS/BD operations

Cable Connectors

Allow customization with other connectors including SMA, MMCX and more

3.0m cables

Extend connectivity between the antenna and the application's 3 radio devices for their respective 4G, Wi-Fi and GPS operations

Cable connectors

Allow customization with other connectors including SMA, MMCX and more

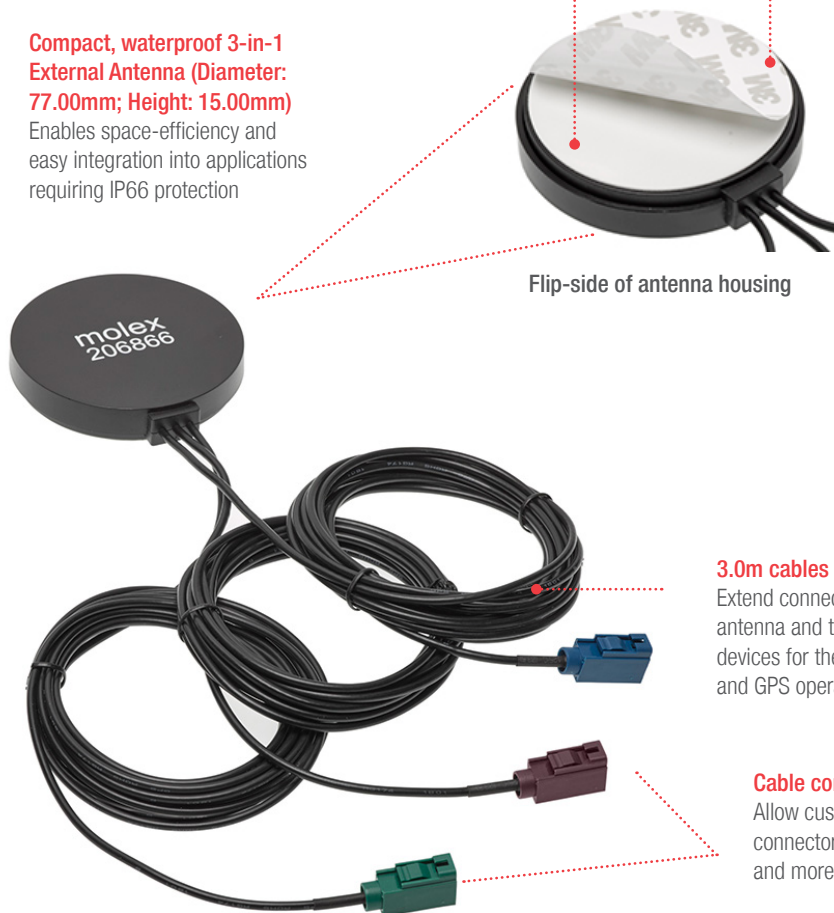
FAKRA Connectors

(Blue: GPS/BD, FAKRA Model C; Purple: 4G, FAKRA Model D)

Positions and fixes the antenna to the PCB (via soldering); provides electrical contact between antenna and board

FAKRA Connectors

(Blue: GPS, FAKRA Model C; Purple: 4G, FAKRA Model D; Green: Wi-Fi, FAKRA Model E)



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Combo External Antennas (4G/Wi-Fi/GPS)

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Specifications

REFERENCE INFORMATION

Packaging: Box
Use With: FAKRA connectors (Model C/D/E) for series 206866 and (Model C/D) for series 211297
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: No

ELECTRICAL (GPS ANTENNA)

Frequency Range: 1,575.42±1.023 MHz for series 206866 and 1561.098±2.046 MHz, 1,575.42±1.023 MHz for series 211297
Average Total Efficiency: 26.2% for series 206866 and 22.3% (1561.098±2.046 MHz), 22.1% (1,575.42±1.023 MHz) for series 211297
Peak Gain: 3dBi based on 70 by 70mm ground plane (206866) and -2.1dBi based on 70 by 70mm ground plane (211297)
Polarization: RHCP

ELECTRICAL (GPS LNA)

Frequency Range: 1,575.42±1.023 MHz
DC Voltage: 3 to 5V (206866) and 3V (211297)
DC Current: 11±3mA (at 3.3V)
Noise Figure: ≤1.5 dB
Gain: 28±3 dB (206866) and 25±3 dB (211297)

ELECTRICAL (4G ANTENNA)

Frequency Range: 824 to 960 MHz, 1.71 to 2.60 GHz for series 206866 and 211297
Average Total Efficiency: 21.6% (824 to 960 MHz), 27.2% (1.71 to 2.60 GHz) for series 206866 and 33.6% (824 to 960 MHz), 26.8% (1.71 to 2.60 GHz) for series 211297
Peak Gain: -0.5 dBi type (824 to 960 MHz), 0 dBi type (1.71 to 2.60 GHz) for series 206866 and -0.8dBi type (824 to 960 MHz), 0.4 dBi type (1.71 to 2.60 GHz) for series 211297
Polarization: Linear

ELECTRICAL

(WI-FI AND BLUETOOTH ANTENNA) (206866)

Frequency Range: 2.4 to 2.5 GHz
Average Total Efficiency: 23.3%
Peak Gain: -2.7 dBi
Polarization: Linear

MECHANICAL

Pull Force: ≥15N

PHYSICAL

Housing: ABS
IP Rating: IP66
PCB: FR4
Shielding Case: Tin plate
Cable: RG174
Adhesive: 3M
Operating Temperature: -40 to +85°C

Ordering Information

Series No.	Operating Frequencies	Cable Length	Cable Connectors
206866	GPS: 1575.42 ± 1.023 MHz 4G: 824 to 960 MHz, 1.71 to 2.60 GHz Wi-Fi: 2.4 to 2.5 GHz	3.0m	FAKRA (Model C/D/E)
211297	GPS: 1561.098±2.046 MHz 1575.42 ± 1.023 MHz 4G: 824 to 960 MHz 1.71 to 2.60 GHz	3.0m	FAKRA (Model C/D)

Custom Product	Cable Connectors
Contact Molex	SMA, MMCX and others

PRELIMINARY

Multi-Hub 5-in-1 Antenna

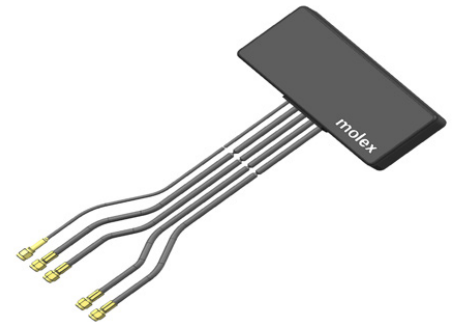
(5G MIMO/Wi-Fi MIMO/GPS)

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Multi-Hub 5-in-1 Antenna features 2 x 5G, 2 x Wi-Fi and 1 x GPS functionalities with an IP67 rating and easy mounting in a low-profile design, making it ideal for advanced commercial vehicle and wireless applications

Features and Advantages

5-in-1 antenna with built-in cellular (LTE, 5G) MIMO *2, Wi-Fi (tri-band) *2 and GPS features
Makes it ideal for diverse and advanced applications



Multi-Hub 5-in-1 Antenna

SMA connector

Facilitates adjustable cable length and connectors adjustable to FAKRA

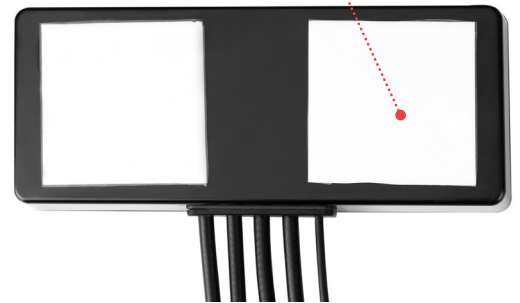


Metal surface mount

Allows mounting directly on the metal surface without compromising RF performance

Backside adhesive mounting

Makes it ideal for external applications



Compact footprint

Provides space savings

Applications

Commercial Vehicles

- Networking
- Smart vehicles
- T-boxes
- Specialized vehicles

IoT

- IoT and IT infrastructure
- Advanced industry IoT

Telecommunications/Networking

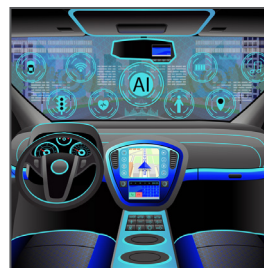
- Infrastructure/Networking

Applicable industry standards

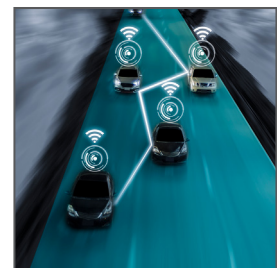
- IP67
- RoHS



Advanced industry IoT



Smart transportation



Intelligence vehicle

PRELIMINARY

Multi-Hub 5-in-1 Antenna *(5G MIMO/Wi-Fi MIMO/GPS)*

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Specifications

REFERENCE INFORMATION

Packaging: Bag/Carton
Mates With.: SMA straight cable plugs (male)
Designed In: Millimeters
RoHS: Yes

ELECTRICAL

Frequency (MHz): Cellular 5G: 698 to 960MHz;
1710MHz to 5GHz
Wi-Fi: 2.4GHz; 5GHz; 6GHz
GPS: 1575MHz
RF Power (Watt): 2.0
Return Loss (dB): See details in Product Specification
Average Total Radiation Efficiency
Peak Gain (dBi)
Impedance (Ohms): 50

MECHANICAL

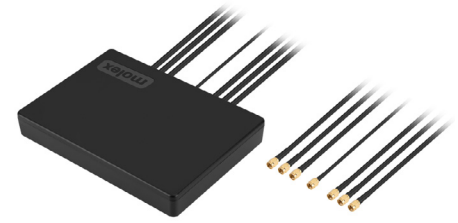
See details in Product Specification

PHYSICAL

Size (mm): 155.00 by 65.00 by 20.00
(Cable not included)
Material: Refer to Sales Drawings
Operating Temperature: -40 to +85°C

Molex Multi-Hub 7-in-1 Antenna (5G MIMO*4/Wi-Fi MIMO*2/GNSS) ➤

The low profile Multi-Hub 7-in-1 Antenna features 2 x LTE/5G full-band, 2 x LTE/5G high-band, 2 x Wi-Fi, and 1 x GNSS functionalities with an IP67 rating and easy mounting, and is ideal for advanced commercial vehicle and wireless applications.



Molex Multi-Hub 7-in-1 Antenna
(5G MIMO*4/Wi-Fi MIMO*2/GNSS)

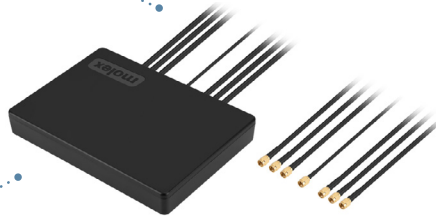
FEATURES AND ADVANTAGES

7-in-1 Antenna with Built-in Cellular (LTE, 5G) MIMO*4, Wi-Fi (tri-band) *2 and GNSS Features

Makes it ideal for diverse and advanced applications

SMA Connector

Facilitates adjustable cable length and connector adjustable to FAKRA and HFM connectors



Backside Adhesive Mounting

Makes it ideal for external applications

APPLICATIONS

Commercial Vehicles

Networking
Smart vehicles
T-boxes
Specialized vehicles

Wireless Infrastructure

IoT and IT infrastructure
Advanced industry IoT

Telecommunications/Networking

Infrastructure

Applicable Industry standards

IP67
RoHS



Commercial Vehicles



Auto Guided Vehicles



Telematics Unit in Automotive

Molex Multi-Hub 7-in-1 Antenna (5G MIMO*4/Wi-Fi MIMO*2/GNSS)

SPECIFICATIONS

Reference Information

Packaging: Bag/carton
Mates With: SMA Female
Designed In: Millimeters
RoHS: Yes

Electrical

Frequency (MHz):
Cellular 5G: 600 to 960 MHz; 1,400 to 1,550 MHz;
1,710 MHz to 5 GHz
WiFi: 2.4GHz; 5GHz; 6GHz
GNSS: 1561 to 1602MHz
RF Power (Watt): 2.0
Return Loss (dB):
See details in product specifications
Average Total Radiation Efficiency:
See details in product specifications
Peak Gain (dBi):
See details in product specifications
Impedance (Ohms): 50

Mechanical

Refer to product specifications

Physical

Size (mm): 160.00 by 115.00 by 22.50mm
Material: Refer to sales drawings
Operating Temperatures: -40 to +85°C

Sunshade 5-in-1 Antenna (5G MIMO*2/Wi-Fi MIMO*2/GNSS) >

Low-profile Sunshade 5-in-1 antennas featuring LTE/5G full-band cellular, Wi-Fi and GNSS functionalities with IP67 rating and easy mounting are ideal for advanced commercial vehicle and wireless applications.



*Sunshade 5-in-1 Antennas
(5G MIMO*2/Wi-Fi MIMO*2/GNSS)*

FEATURES AND ADVANTAGES

5-in-1 antenna with built-in cellular (LTE, 5G) MIMO *2, Wi-Fi (Tri-band) *2 and GNSS features

Makes it ideal for diverse and advanced applications

Backside adhesive mounting

Allows for mounting on any type of surface



219264-0001



220573-1000

SMA connector

Facilitates adjustable cable length and connector adjustable to FAKRA and HFM connectors



Bolt-nut mounting

Allows antenna to sit on a vehicle top or roof cabinet

Sunshade 5-in-1 Antenna (5G MIMO*2/Wi-Fi MIMO*2/GNSS) >

APPLICATIONS

Commercial Vehicles

Networking
Smart vehicles
Telematics box
Specialized vehicles

Wireless Infrastructure

IoT and IT infrastructure
Advanced industry IoT

Telecommunications/Networking

Infrastructure/networking



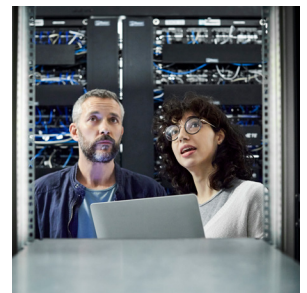
Auto Guided Vehicles



Telematics Unit in Automotive



Commercial Vehicles



Smart Infrastructure

SPECIFICATIONS

Reference Information

Packaging: Bag/Carton
Mates with: SMA straight cable plugs (female)
Designed in: Millimeters
RoHS: Yes

Physical

Size: 95 by 95 by 38mm
Material: Refer to sales drawings
Operating Temperatures: -40 to +85°C

Mechanical

Refer to product specifications

Electrical

Frequency (MHz)

Cellular 5G: 698 to 960 MHz; 1,710 MHz to 5GHz

Wi-Fi: 2.4 GHz; 5 GHz; 6 GHz

GNSS: 1,561 to 1,602 MHz

RF Power: 2.0W

Return Loss (dB): See details in the
Product Specifications

Average Total Radiation Efficiency: See details in
the Product Specifications

Peak Gain: See details in the
Product Specifications

5G and LTE Antenna Lite >

Molex off-the-shelf (OTS) 5G and LTE Antenna Lite, designed for 2G/3G/4G/5G systems and devices, offers superior coverage and reliability with high efficiency and peak gain, making it ideal for a variety of wireless and networking applications.

FEATURES AND ADVANTAGES

Hinge joint allows 90° rotation on vertical plane and SMA connector allows 360° rotation on horizontal plane

Provides excellent directional coverage



5G and LTE Antenna Lite

High gain and efficiency for all major cellular bands

Provides strong and stable wireless connection



LTE/5G Antennas



RP-SMA-Male



SMA-Male

Antenna connectors in straight and folded modes with SMA-Male and RP-SMA-Male mounting options

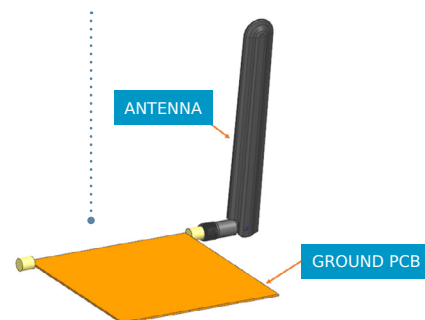
Offer design flexibility



150.40 by 19.90mm (straight mode)

Multi-protocol solution that supports GSM, CDMA, UMTS, LTE, 5G NR and other cellular bands

Makes it suitable for diverse applications



5G and LTE Antenna Lite

APPLICATIONS

Connected Home

Security and surveillance
Home automation
Streaming devices
Smart appliances
Energy and utilities

IoT

Wireless solutions

Telecommunications/Networking

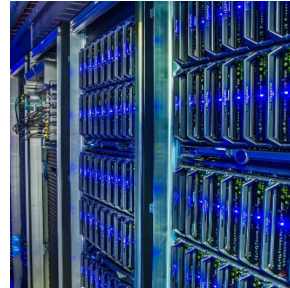
Infrastructure/networking

Commercial Vehicles

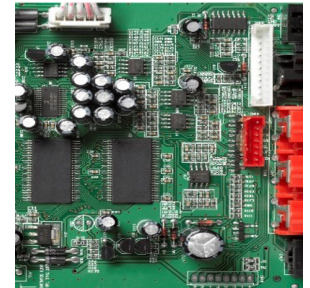
Networking



IoT



Networking



Cellular Communication Module

SPECIFICATIONS

Reference Information

Packaging: PET bag
Mates with: SMA jack receptacle
Designed in: Millimeters
RoHS: Yes

Physical

Size: 150.40 by 19.90mm (straight mode)
129.70 by 19.90mm (folded mode)
Material: Refer to sales drawings
Operating Temperatures: -40 to +85°C

Mechanical

Refer to product specifications

Electrical

Frequency: 698 to 960 MHz

RF Power: 2.0W
Return Loss: <5 dB
Average Total Radiation Efficiency: >55%
Peak Gain: 1 dBi
Impedance: 50 Ohms

Frequency: 1.71 to 2.69 GHz

RF Power: 2.0W
Return Loss: <5 dB
Average Total Radiation Efficiency: >70%
Peak Gain: 4.5 dBi
Impedance: 50 Ohms

Electrical

Frequency: 3.3 to 4.2 GHz

RF Power: 2.0W
Return Loss: <5 dB
Average Total Radiation Efficiency: >60%
Peak Gain: 3.6 dBi
Impedance: 50 Ohms

Frequency: 4.2 to 5 GHz

RF Power: 2.0W
Return Loss: <10 dB
Average Total Radiation Efficiency: >65%
Peak Gain: 3.5 dBi
Impedance: 50 Ohms

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