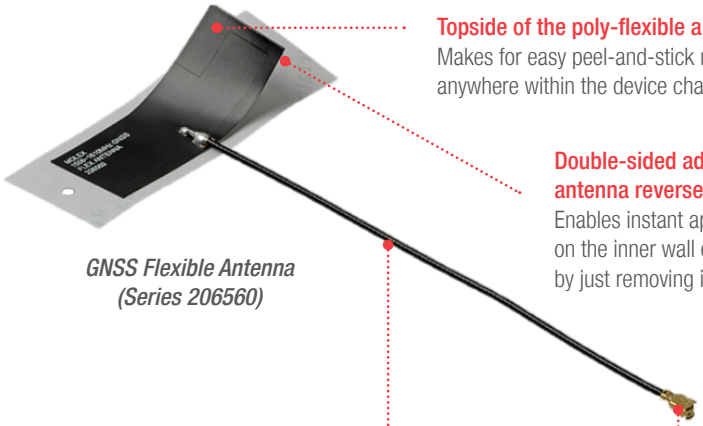
GNSS Antennas

molex

GNSS Active Patch and Flexible antennas complement ceramic and LDS-MID chip selections for superior signal processing and ground-independence over a wide range of navigation and tracking applications

Features and Advantages



GNSS Flexible Antenna (Series 206560)

Topside of the poly-flexible antenna
Makes for easy peel-and-stick mounting anywhere within the device chassis

Double-sided adhesive on the antenna reverse
Enables instant application anywhere on the inner wall of the device chassis by just removing its tape liner

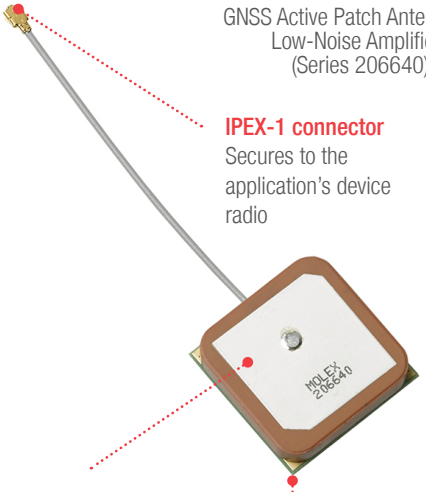
6 Micro-coaxial Cable Length options (50, 100, 150, 200, 250, 300mm)
Extends connectivity for maximum design flexibility

UFL-type connector
Secures to the application's device radio

GNSS Flexible Antenna (Series 206560)

GNSS Active Patch Antenna with Low-Noise Amplifier* (Series 206640)

IPEX-1 connector
Secures to the application's device radio



Ceramic Patch Antenna
Delivers high gain, high radiation efficiency performance for the most demanding GPS applications

GNSS Active Patch Antenna with Low-Noise Amplifier (Series 206640)

PCB with integrated LNAs and SAW Filter
Ensures filtered, amplified signals are transmitted by the ceramic antenna on it

*The series 206640 antenna is an active patch antenna with ceramic patch, ground plane (PCB), 2-stage LNA and SAW (Surface Acoustic Wave) filter - all integrated within a compact 25 by 25 by 6.5mm module complete with a 60mm cabled (IPEX-1 connector) extension.

Applications

Automotive
- Navigation devices

Commercial Vehicles
- High-speed rail

Industrial
- Drones
- Maritime Port Technology Systems
- Surveying and Mapping Systems
- Emergency Response Systems

Automotive

Drones

Maritime Port Technology Systems

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Specifications

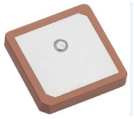
REFERENCE INFORMATION
Packaging: Tape-and-Reel
(146216, 146235, 204283)
Tray (146168, 204286, 206640)
PET Film (206560)
Designed In: mm
RoHS: Yes
Halogen Free: Yes

ELECTRICAL
RF Power (Watt): 2
Average Total Radiation Efficiency: Refer to Product Specifications
Peak Gain: Refer to Product Specifications
Input Impedance (ohms): 50

MECHANICAL
Refer to Product Specifications

PHYSICAL
Housing: Ceramic
(206640, 204286, 204283, 146168)
Flexi (206560)
LDS-MID (146216, 146235)
Plating: Refer to Sales Drawings
Operating Temperature:
-40 to +85°C (206560, 206640)
-40 to +125°C (146168, 146216, 146235, 204283, 204286)

GNSS Antenna Family

Antennas	GNSS Flexible Antenna (206560)	GNSS Active Patch Antenna with Low-Noise Amplifier (206640)	Helix GPS Antenna (146235)	RHCP LDS-MID GPS Antenna (146216)	RHCP Ceramic GPS Antenna (146168)	GPS/BEIDOU/ GLONASS Ceramic Antenna (204286)	Low-profile GNSS Ceramic Antenna (204283)
Dimension	40.40 by 15.40mm	25.00 by 25.00 by 6.50mm	3.00 by 5.00 by 4.00mm	11.80 by 11.55 by 6.00mm	25.00 by 25.00 by 4.00mm	25.00 by 25.00 by 4.00mm	3.20 by 1.60 by 1.10mm
PCB Clearance	No clearance	No clearance	4mm x 6mm	No clearance	No clearance	No clearance	5mm x 6mm
Material	Flexi	Ceramic + PCB + Tin Plate	LDS	LDS	Ceramic	Ceramic	Ceramic
Antenna Type	Dipole	Active Patch	Monopole	PIFA	Patch	Patch	Loop
Frequency Range	1561 – 1602 MHz	1561 – 1602 MHz	1561 – 1602 MHz	1575 MHz	1575 MHz	1561 – 1602 MHz	1561 – 1602 MHz
Return Loss	< -8dB	- 8dB (VSWR 2.5)	<-8dB	<-10dB	<-15dB	<-10dB	<-10dB
Peak Gain	1.5dBi	LNA 28dB	1.1dBi	1dBi	5.5dBi	5.5dBi	2.0dBi
Total Efficiency	> 74% (50mm)	NA	>50%	>55%	>75%	>70%	>60%
Polarization	Linear	RHCP	Elliptic	RHCP	RHCP	Elliptic	Linear
Axial Ratio	N.A.	N.A.	<6.0	<3.0	<3.0	<13.0	N.A.
							

Ordering Information

Series No.	Description	Mounting Style
206560	GNSS Flexible Antenna	Peel-and-stick
206640	GNSS Active Patch Antenna with Low-Noise Amplifier	SMT
204286	GPS/BEIDOU/ GLONASS Ceramic Antenna	Peel-and-stick
204283	Low-profile GNSS Ceramic Antenna	SMT
146235	Helix LDS-MID GPS Antenna	SMT
146216	RHCP LDS-MID GPS Antenna	SMT
146168	RHCP Ceramic GPS Antenna	Peel-and-stick

www.molex.com/link/standard_antennas.html

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