

# GNSS Antennas



**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
- Low-profile design**  
Provides space savings
- UFL-type connector**  
Secures to the application's device radio

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

- IPEX-1 connector**  
Secures to the application's device radio
- PCB with integrated LNAs and SAW Filter**  
Ensures filtered, amplified signals are transmitted by the ceramic antenna on it

**GNSS Ceramic Antenna (Series 208890)**

- Excellent re stripping characteristics**  
Allows product re-use within 48 hours
- Ceramic Patch Antenna**  
Delivers high gain, high radiation efficiency performance for the most demanding GPS applications
- Silver Pin**  
Positions and fixes the antenna to the PCB (via soldering); provides electrical contact between antenna and board

\*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

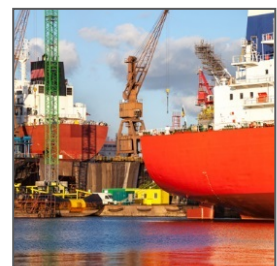
Emergency Response Systems



Automotive



Drones



Maritime Port Technology Systems

## Specifications

### REFERENCE INFORMATION

Packaging: Tape-and-Reel  
 (146216, 146235, 204283)  
 Tray (146168, 204286, 206640, 208890)  
 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





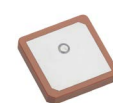



### MECHANICAL

Refer to Product Specifications

### PHYSICAL

Housing: Ceramic  
 (206640, 204286, 204283, 146168, 208890)  
 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)  
 -30 to +85°C (208890)

## 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)	Low-profile GPS Ceramic Antenna (208890)
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	18.00 by 18.00 by 2.00mm
PCB Clearance	No clearance	No clearance	4mm x 6mm	No clearance	No clearance	No clearance	5mm x 6mm	No clearance
Material	Flexi	Ceramic + PCB + Tin Plate	LDS	LDS	Ceramic	Ceramic	Ceramic	Ceramic
Antenna Type	Dipole	Active Patch	Monopole	PIFA	Patch	Patch	Loop	Patch
Frequency Range	1561 – 1602 MHz	1561 – 1602 MHz	1561 – 1602 MHz	1575 MHz	1575 MHz	1561 – 1602 MHz	1561 – 1602 MHz	1575 MHz
Return Loss	< -8dB	- 8dB (VSWR 2.5)	<-8dB	<-10dB	<-15dB	<-10dB	<-10dB	<-15dB
Peak Gain	1.5dBi	LNA 28dB	1.1dBi	1dBi	5.5dBi	5.5dBi	2.0dBi	2.6dBi
Total Efficiency	> 74% (50mm)	NA	>50%	>55%	>75%	>70%	>60%	>45%
Polarization	Linear	RHCP	Elliptic	RHCP	RHCP	Elliptic	Linear	RHCP
Axial Ratio	N.A.	N.A.	<6.0	<3.0	<3.0	<13.0	N.A.	<2
								

## Ordering Information

Series No.	Description	Mounting Style
<a href="#">206560</a>	GNSS Flexible Antenna	Peel-and-stick
<a href="#">206640</a>	GNSS Active Patch Antenna with Low-Noise Amplifier	SMT
<a href="#">204286</a>	GPS/BEIDOU/ GLONASS Ceramic Antenna	Peel-and-stick
<a href="#">204283</a>	Low-profile GNSS Ceramic Antenna	SMT
<a href="#">146235</a>	Helix LDS-MID GPS Antenna	SMT
<a href="#">146216</a>	RHCP LDS-MID GPS Antenna	SMT
<a href="#">146168</a>	RHCP Ceramic GPS Antenna	Peel-and-stick
<a href="#">208890</a>	18x18mm GPS Ceramic Antenna	Peel-and-stick

[www.molex.com/link/gnss-gps.html](http://www.molex.com/link/gnss-gps.html)