

# Model 8230/8230AJ Outdoor GPS/GNSS Antenna Installation Guide

Rev 3, February 2018 / PN 1222-5000-0050

Spectracom offers model 8230 for certain products with embedded GPS/GNSS receivers. Model 8230AJ also includes horizon-blocking anti-jam technology. Each antenna is shipped with an L-bracket and clamps for affixing the antenna to an appropriate structure. Various accessories are offered to facilitate installation of the antenna.

**NOTE:** A rugged antenna mount, post mounting kit, weather-proofing kit and free-standing base are sold separately. Contact Spectracom for details and to order these accessories for your antenna.

Model 8230 and 8230AJ are active GPS/GNSS antennas covering the following bands:

- GPS L1
- GLONASS L1
- BeiDou B1
- Galileo E1, and
- QZSS L1.

The active antenna circuitry provides 40dB of gain and requires 2.5 to 16 V<sub>DC</sub> at 21 milliamps (provided by a Spectracom receiver over the antenna cable) to operate.

## Specifications Summary

	8230 Antenna	8230AJ Antenna
Type	Active	Active
Frequency	1559 to 1606 MHz	1559 to 1606 MHz
Temp Range	-40 to +85°C	-40 to +85°C
Gain	40dB	40dB
Connector	N type, female	N type, female
Diameter	66.5 mm dia. x 47.5 mm H (2.62" x 1.87")	100 mm dia. x 101.5 mm H (3.9" x 4")
Weight	150 g (5.3 oz)	370 g (13 oz)



Model 8230

## Installing the Antenna

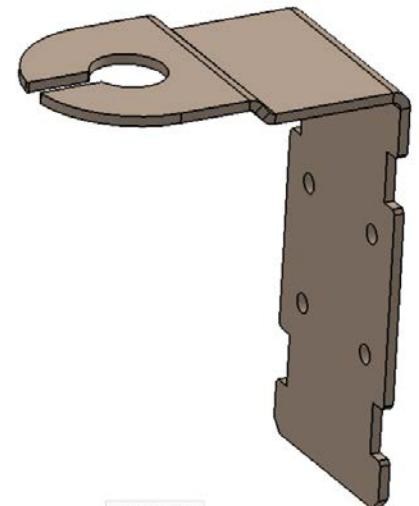
The GPS/GNSS antenna must be installed outdoors with an unobstructed view of the sky (to 20° elevation from the horizon). An unobstructed line of sight to the sky allows the antenna to locate and track the maximum number of satellites throughout the day. Installations with obstructed views may still prove functional, but the equipment may experience reduced reception quality or be unable to simultaneously track the maximum number of satellites. Make sure the antenna is installed somewhere that it will not be buried in loose or drifting snow, or obstructed by growing foliage. Whenever possible, avoid placing the GPS/GNSS antenna in close proximity to broadcast antennas. See Spectracom's Technical Note for detailed information on antenna installation.



Model 8230AJ  
(with ANT-KT mount)

When using the included L-bracket, remove the double panel nuts, insert the connector end into the 19 mm (0.75") through hole and replace and tighten the nuts. Connect the L-bracket to a post, pole, vent pipe, or other suitable location via hose clamps. Then connect the antenna to the antenna cable via type N connectors. In wet weather locations, it is recommended to wrap the connection in weather-proofing tape. Spectracom offers a weather-proofing kit for this purpose.

**A rugged antenna mount is available separately as model ANT-KT (see picture on the left). It is designed to mount to a vertical or horizontal pipe, or to a flat surface.**



Capture screenshot

### Antenna Cable and Accessories

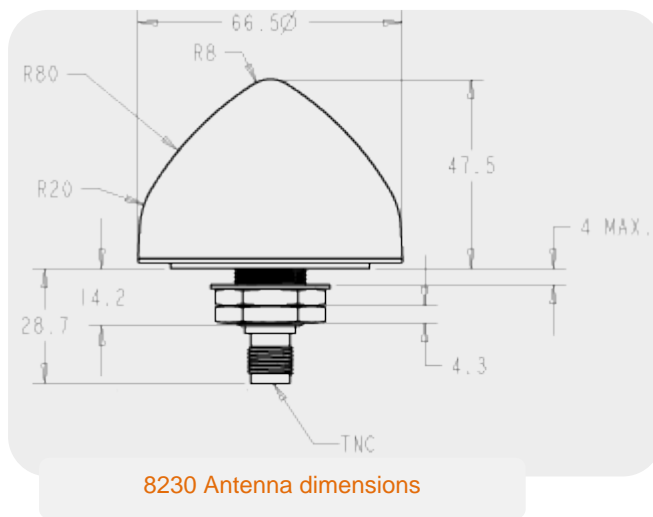
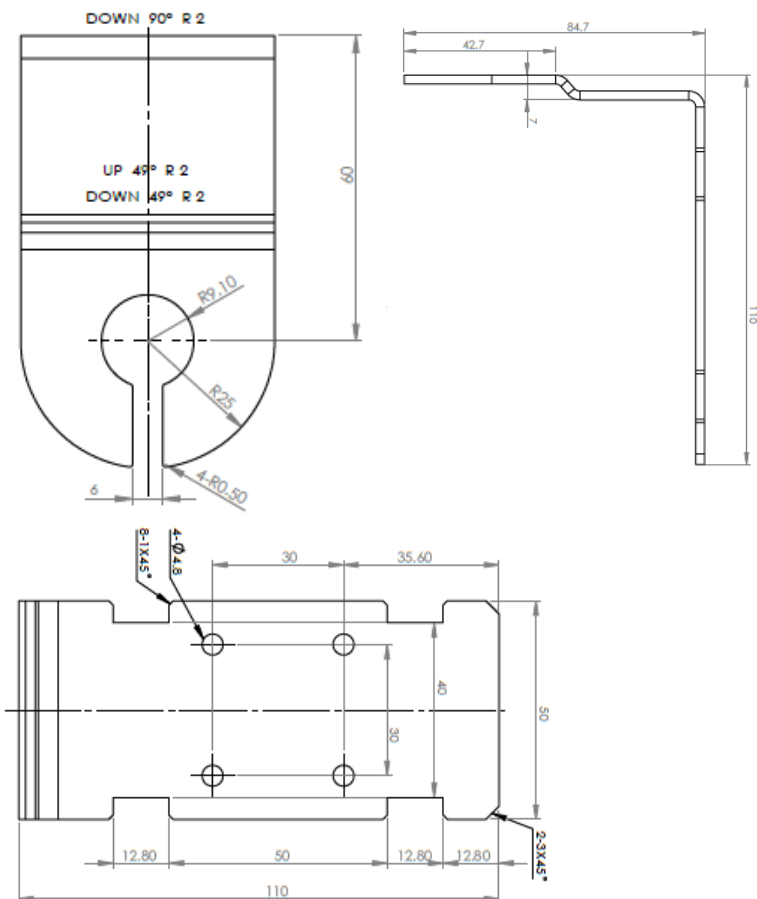
When using a Model 8230 or 8230AJ GNSS outdoor antenna, Spectracom recommends using low loss type cable for the antenna cable such as LMR-400 (or equivalent). To simplify the installation process, Spectracom offers cable assemblies terminated with Type N Male connectors. Standard lengths are 25, 50, 100, 150 and 200 feet.

If the antenna cable is purchased locally, select coax suitable for outdoor use. A surge protection device in the antenna line is recommended to protect the GPS/GNSS receiver and connected devices from lightning damage. Spectracom offers Surge Suppressors to shunt potentially damaging voltages on the antenna coax to ground.

### Cable Length

With low loss LMR 400 equivalent antenna cable, the maximum recommended antenna cable length is 125 meters or 400 feet. Installations requiring longer distances can be achieved with an inline amplifier. See Spectracom's Technical Note for detailed information on cables and allowable cable lengths.

### Included L-Bracket Dimensions



8230 Antenna dimensions

### Document Revision History

Rev	ECN	Description	Date
A	3243	Document created	September 2013
2	775	Specification update; addition of antenna dimensions	February 2016
3	1560	Bracket update; addition of 8230AJ	February 2018