

WiMAX GPS Time Receiver and Antennas

StarMAX 4930 and 4931



StarMAX 4930 Integrated GPS Antenna and Receiver

GPS-BASED NETWORK SYNCHRONIZATION

GPS satellite synchronization is the most effective and reliable way to ensure WiMAX network synchronization. EION Wireless WiMAX product portfolio includes reliable and field-proven solutions for a wide range of network configurations and service levels.

GPS TIME RECEIVER

The StarMAX 4930 is an integrated GPS antenna and receiver. This unit is specially design to be used in EION Wireless WiMAX networks, and offers a reliable and cost effective synchronization solution. It's powered directly from the WiMAX base station. It is directly connected to StarMAX 6012 or StarMAX 6022 WiMAX Network Processing blades or can be used as an optional reference signal source for StarMAX 6080 Sync blade. Connected to StarMAX 4940 GPS Receive Clock Splitter, it can be used as a synchronization source for up to 4 WiMAX Network Processing blades installed in different chassis on one BS location (most likely to be a case in multi-sectored systems).

PRODUCT FEATURES

- Integrated GPS antenna and receiver in one rugged housing
- Quadrifilar helix element for optimal coverage and multipath rejection
- Embedded low noise amplifier with preselector and interstage filter for minimizing interference
- Low power consumption (500 mW typical)
- Input voltage 8-12 VDC
- Surge suppression IEC61000-4-5:1995

STARMAX 4930 SPECIFICATIONS

Low Noise Amplifier Specifications		4930-60-10-01
Frequency Band (MHz)		1575.42 ± 12 MHz
Amplifier Gain		40 ± 3 dB
Normal Impedance		50 ohms
Output VSWR		< 2.0:1
Maximum Noise Figure		< 2.5dB @ +25° C
DC Voltage \ Current		3.3-6 V / ≤ 40 mA
Filtering		3 stage filtering included pre-selector
Bandwidth		≥ 60 dB @ +/- 50 MHz off center frequency
Antenna Electrical Specifications		
Frequency Band		1575.42 ± 10 MHz
Antenna Gain		3.5 dBic
Normal Impedance		50 ohms
VSWR		≤ 1.5:1
Polarization		Right hand circular
Connector		N, female (one-bottom fed)
Mechanical Specifications		
Antenna Dimensions		5.0" H x 3.2" D (126 H x 81 mm)
Shipping Dimensions		7.5" L x 4.4" W x 3.8" D (190 x 112 x 96 mm)
Antenna Weight		0.6 lbs (0.3 kg)
Shipping Weight		1.9 lbs (0.9 kg)
Radome Color		White
Environmental Specifications		
Temperature Range		-40° C to + 85° C
Humidity		95%

STARMAX 4931 ACTIVE GPS ANTENNA

The StarMAX 4930-60-10-01 is high gain permanent mount GPS antenna providing 40 dB of gain and great high out-of-band rejection performance. It features a perfectly tuned custom ceramic patch element for maximum signal reception, ESD circuit protection, a very low noise (0.5 dB) 3 stage LNA circuit and a SAW filter, enabling the GPS antenna to provide a reliable and clear GPS signal while minimizing loss-of-lock, even when conditions are less than ideal. It comes in an all-plastic, non-corrosive white cone-shaped radome for fixed wall/pole installations. The antenna is used as a GPS synchronization source for StarMAX 6080 synchronization blade.



StarMAX 4930 Integrated GPS Antenna and Receiver

PRODUCT FEATURES

- Weather proof, all-plastic, noncorrosive, cone-shaped enclosure
- 3/4 inch thru-hole or bracket mount
- Voltage range: 2.7 to 5.5 V DC
- High gain: 40 dB (typical)
- Very low noise figure: 0.5dB
- Superior out-of-band signal rejection
- 15 KV ESD circuit protection

STARMAX 4931 SPECIFICATIONS

Electrical Specifications	4931-60-X0-01
Voltage	2.7 to 5.5 V DC
Current	15 mA
ESD circuit protection	15 KV
Mechanical Specifications	
Dimensions	60 mm dia. x 44 mm H
Weight	50 g
Housing	GE Lexan EXL9330
Mounting	3/4" thru-hole or bracket mount
Shock	Vertical axis 50G, Other axes 30G
Vibration	3 axis, sweep = 15 min, 10 –200 Hz log sweep: 3G
Antenna properties	
Frequency	1575.42 MHz
Gain	3 dBi @ 90° - 2 dBi @ 20°
Polarization	Right Hand Circular
Axial ratio	4 dB @ 90° - 6 dB @ 20°
LNA Specifications	
Frequency	1572.5 – 1578 MHz
Output Impedance	50 Ohm
VSWR	1.5:1 max (at connector)
Gain	40 dB (typical)
Noise figure	0.5 dB (typical)
Environmental Specifications	
Operating temperature	-40°C to +85°C (-45°C to +85°C storage)
Weather Proof	IP67

ORDERING INFO

Product Code	Description
6080-00-00-01	StarMAX 6080, GPS Receiver Blade, 24hr Holdover
4930-60-10-01	Ext.GPS Synchronization unit GPS Time Receiver
4930-60-1X-01	Cable Kit for 4930-60-10 External GPS Receiver, 15m
4930-60-11-01	Cable Kit for 4930-60-10 External GPS Receiver, 40m
4931-60-00-01	Ext.GPS Antenna (for use with 6080 GPS Receiver Blades)
8921-15-00-01	Cable Kit for 4930-60-10 External GPS Receiver, 15m
8921-40-00-01	Cable Kit for 4930-60-10 External GPS Receiver, 40m