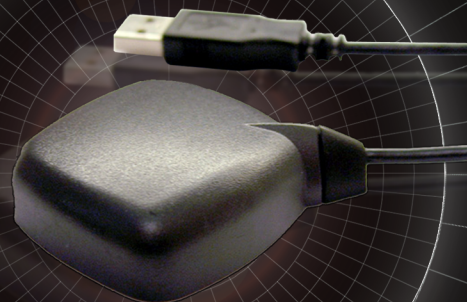


# GPS World

## ANTENNA SURVEY

# 2011



After choosing the most appropriate receiver for your application from the Receiver Survey in the [January issue of GPS World](#), you may need an antenna, too. We have collected key specifications for 336 antennas from 34 manufacturers.

We have made every effort to present an accurate and comprehensive listing of antenna information; however, *GPS World* cannot be held responsible for the accuracy of information supplied by the companies or the performance of any equipment listed. In some cases the manufacturer-provided data was abbreviated or truncated to fit the space available. Footnotes supply additional information to guide you through the survey.

Readers with questions about specific units should contact the manufacturers directly. We welcome your feedback about this special section and encourage new companies to participate next year. To recommend improvements or to be listed in the survey next year, please e-mail [info@gpsworld.com](mailto:info@gpsworld.com).

### Footnotes & Abbreviations

- 1 GPS L1 frequency 1575.42 MHz  
GPS L2 frequency 1227.60 MHz
- 2 User environment & applications:

A = aviation	O = other
D = defense	P = other position reporting
E = meteorology	R = real-time DGPS reference
G = survey/GIS	S = space
L = land	T = timing
M = marine	V = vehicle/vessel tracking
N = navigation	
- 3 A single voltage standing wave ratio (VSWR) figure indicates a combined antenna & amplifier.
- 4 Noise figure is expressed in maximum decibels.
- 5 L/D = lightning/diode

cm = centimeter	in = inch
dB = decibel	kg = kilogram
Ø = diameter	lb = pound
ft = foot	m = meter
g = gram	max = maximum
g = force of gravity	MHz = megahertz
Hz = hertz	min = minimum
mA = milliampere	mm = millimeter

Table with columns: Model, Intro. Date, User Envir. 1, Size: Length x Width x Height, Weight, Frequency/Bandwidth2, VSWR3, Axial Ratio (dB), Gain/Gain with Amplifier (dB), Pattern, Noise Figure (dB), Amplifier DC Voltage, Amplifier Current (mA), Operating Temperature (°C), Vibration, Environmentally Sealed (Y/N), L/D5, Connectors, Cable Type/Length, Mounting Configuration, List Price in U.S. Dollars, Integration. Rows include AeroAntenna Technology, Inc. and Allis Communications Co., Ltd.

Table with columns: Model, Intro. Date, User Envir., Size: Length x Width x Height, Weight, Frequency/Bandwidth, VSWR3, Axial Ratio (dB), Gain/Gain with Amplifier (dB), Pattern, Noise Figure (dB), Amplifier DC Voltage, Amplifier Current (mA), Operating Temperature (°C), Vibration, Environmentally Sealed (Y/N/Type), L/D5, Connectors, Cable Type/Length, Mounting Configuration, List Price in U.S. Dollars, Integration









	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth	VSWR3	Axial Ratio (dB)	Gain/Gain with Amplifier (dB)	Pattern	Noise Figure (dB)	Amplifier DC Voltage	Amplifier Current (mA)	Operating Temperature (°C)	Vibration	Environmentally Sealed (Y/N)/Type	L/D5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
Mobile Mark (continued)	SMW-402 series 4 cable	2006	NV	3.2 in H x 4.2 in D	1.8 LB	800-2700 MHz comm#1 2485 MHz comm#2 2.4 & 4.9-6.0 GHz comm#3 & 1575 MHz (GPS)	2.0:1	3 dB or better	5 dBi GPS, 2 dBi (800-1200 MHz); 5 dBi (1.7-2.7 GHz); 5 dBi (2400-2485 MHz) & 5 dBi (2.4 & 4.9-6 GHz)	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx7	No/No	Choice of connectors	15 ft. RG-174 GPS; 15 ft. RF-195 (800-2700 MHz); 15 ft. RF-195 (2400-2485 MHz) & RF-195 (2.6 & 4.9-6 GHz)	Surface mount	\$199.20 List Price	Cell, GSM/CDMA, WiFi & Public Safety
	SMW-403 series Orbcomm, 4 cable	2007	NV	5.3 in Ø x 3.2 in H 15 in overall	2.25 LB	800-2700 MHz comm#1 2400-2485 MHz comm#2 & Orbcomm comm#3, 1575 MHz (GPS)	2.0:1	3 dB or better	5 dBi gain GPS; 2 dBi (800-1200 MHz); 5 dBi (1.7-2.7 GHz) & 5 dBi (2400-2485 MHz)	Hemispheric	as above	as above	as above	-40 to +85	na	na	No/No	Choice of connectors	15 ft. RG-174 (GPS); 15 ft. RF-195 (800-2700 MHz); 15 ft. RF-195 (2.4 & 4.9-6 GHz)	Surface mount	\$314.20 List Price	Multiband
	SMW-404 series	2007	NV	4.2 in Ø x 3.2 in H	1.8 LB	800-2700 MHz comm#1 2.1-2.5 & 4.4-6.0 GHz comm#3 1575 MHz (GPS)	2.0:1	3 dB or better	5 dBi gain GPS; 2 dBi (800-1200 MHz); 5 dBi (1.7-2.7 GHz) & 5 dBi (2400-2485 MHz)	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx7	No/No	Choice of connectors	as above	Surface mount	\$199.20 List Price	Multiband
	SMW-406 Series	2009	NV	3.2 in H x 4.2 in D	1.8 LB	800-2700 MHz (Broadband) 1700-2700 MHz (AWS 1.7/2.1 GHz band) 2.1-2.5 & 4.4-6.0 GHz (2.4/5.0 GHz band) GPS (1575 MHz band)	2.0:1	3 dB or better	2 dBi gain (800-2700 MHz) 5 dBi gain (1700-2700 MHz) 5 dBi gain (2.4/5.0 GHz) 5 dBi gain (GPS)	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx7	No/No	Choice of connectors	15 ft. RF-195 (800-2700 MHz) 15 ft. RF-195 (1700-2700 MHz) 15 ft. RF-195 (2.4/5.0 GHz) 15 ft. RG-174 (GPS)	Surface mount	\$199.20 List Price	Multiband
	SMW-UMB series 3 cables	2006	NV	3.2 in H x 4.2 in D	1.8 LB	800-2700 MHz comm#1 2400-2485 MHz comm#2 & 1575 MHz (GPS)	2.0:1	3 dB or better	5 dBi gain GPS; 2 dBi (800-1200 MHz); 5 dBi (1.7-2.7 GHz) & 5 dBi (2400-2485 MHz)	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx7	No/No	Choice of connectors	15 ft. RG-174 (GPS); 15 ft. RF-195 (800-2700 MHz); 15 ft. RF-195 (2400-2485 MHz)	Surface mount	\$126.50 List Price	Cell, GSM/CDMA & WiFi
	SMX-U15 series	2005	NV	Overall H 12 in 1 in H x 2.6 in Ø	0.5 LB	824-894 MHz (Cell) 1850-1990 MHz (GSM/CDMA) & 1575 MHz (GPS)	2.0:1	3 dB or better	5 dBi GPS, 2 dBi Cell; 5 dBi PCS	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx5	No/No	Choice of connectors	15 ft. RG-174 GPS; 15 ft. RF-98 PCS/DCS	Surface mount	\$115.50 List Price	Cell & GSM/CDMA
	CLP-U15 Series	2010	NV	12.4 in D x 6.4 in H	0.6 LB	824-894 MHz & 1850-1990 MHz Comm#1 1575 MHz GPS Comm#2	2.0:1	3 dB or better	2.5 dBi (peak) 824-894 MHz & 1850-1990 MHz Comm#1 GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	IEEE 1478	IPx7	No/No	Choice of connectors	All cables RG-174, 2 ft (610 mm)	Standard license plate frame mounting	\$135.10 List Price	Cell & GSM/CDMA
	CLP-MB1 Series	2010	NV	12.4 in D x 6.4 in H	0.6 LB	824-925 & 1850-1990 MHz Comm#1 2.4 & 4.9-6.0 GHz Comm#2 1575 (GPS) Comm#3	2.0:1	3 dB or better	2.5 dBi (peak) 824-894 MHz & 1850-1990 MHz Comm#1 2 dBi (peak) 2.4 & 4.9-6.0 GHz Comm#2 GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	IEEE 1478	IPx7	No/No	Choice of connectors	All cables RG-174, 2 ft (610 mm)	Standard license plate frame mounting	\$157.10 List Price	Cell, GSM/CDMA & WiFi
	CWV-UMB Series	2010	NV	5.5 in L x 1.6 in W x 7 in D	0.4 LB	800-960 & 1700-2200 MHz comm#1 1575 (GPS) comm#2	2.0:1	3 dB or better	2.5 dBi (peak) 800-960 & 1700-2200 MHz comm#1 GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx5	No/No	Choice of connectors	Dual RG-174 (10 ft/3 m)	Double-sided tape	\$54.20 List Price	Cell & GSM/CDMA
	LMW-UMB Series	2010	NV	1.5 in H x 3.5 in Ø	1.0 LB	800-2200 MHz comm#1 1575 (GPS) comm#2	2.0:1	3 dB or better	Gain (800 - 1250 MHz) 2 dBi Gain (1650 - 2200 MHz) 4 dBi GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	na	na	No/No	Choice of connectors	Cable 1 RF-195 15 ft (3 meters) GPS RG-174, 15 ft (3 meters)	Surface mount	\$136.50 List Price	Cell & GSM/CDMA
	DM-W15 Series	2010	NV	1.45 in H x 2.85 in Ø	0.65 LB	2.4/4.9-6.0 GHz comm#1 1575 (GPS) comm#2	2.0:1	3 dB or better	2.5 dBi (peak) 2.4/4.9-6.0 GHz comm#1 GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx7	No/No	Choice of connectors	GPS RG-174, 15 ft (4.5 meters) 2.4/5 GHz RF-195, 15 ft (4.5 meters)	Surface mount	\$118.30 List Price	WiFi
	SMW-306 Series	2010	NV	3.2 in H x 4.2 in Ø	1.8 LB	2.4 GHz comm#1 3.360 GHz comm#2 1575 MHz (GPS)	2.0:1	3 dB or better	800 - 1250 MHz 3 dBi, 1650 - 2000 MHz 5 dBi, 2100 - 2700 MHz 3 dBi, 2400 - 2485 MHz 5 dBi, 1700 - 2700 MHz 5 dBi, GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	EN 61373, IEEE 1478, MIL-810G, TIA-329.2C	IPx7	No/No	Choice of connectors	Cable 1 & 2 Separate RF-195 cables, Cable 3 (GPS) RG-174, 15 ft (4.5 meters) 15 ft (4.5 meters)	Surface mount	\$126.50 List Price	Multiband
	NT-1575	2010	NV	3.75 in Ø x 1.25 in H	0.35 LB	1575 GPS Timing	2.0:1	3 dB or better	GPS, 1575.42 +/- 2 MHz 26 dB LNA 5 dBi nominal RHCP	Hemispheric	as above	as above	as above	-40 to +85	EN 300 019-2-4, IEC 60068	IPx7	No/No	Choice of connectors	NA	Pipe mount	\$100.10 List Price	GPS Timing only
	NavCom Technology, Inc. www.navcomtech.com	ANT-3001R	2009	D, G, L, M, N	5.75 x 2.46 in	1.1 LB	1570 ± 45 & 1164-1260 MHz	≤2.0:1	3 dB Max @ Boresight	39 dB	RHCP	2.6 dB Max	+4.2 +15 VDC	65 mA	-55C TO +85C	NR	Yes	Yes	TNC Female	Antenna Cable / 12ft	Pole Mount	NR
ANT-3001A		2009	D, G, L, M, N	5.75 x 2.46 in	1.1 LB	1570 ± 45 & 1164-1260 MHz	≤2.0:1	3 dB Max @ Boresight	39 dB	RHCP	2.6 dB Max	+4.2 +15 VDC	65 mA	-55C TO +85C	NR	Yes	Yes	TNC Female	Antenna Cable / 12ft	Pole Mount	NR	NR
ANT-3001BR		2009	R	14.82 x 13.83 in	10.5 LB	1570 ± 45 & 1164-1260 MHz	≤2.0:1	3 dB Max @ Boresight	38 dB	RHCP	2.6 dB Max	+4.2 +15 VDC	65 mA	-55C TO +85C	NR	Yes	Yes	TNC Female	Antenna Cable / 12ft	Roof Mount	NR	NR
Navis, Inc. www.navis.ru/en	Aviation antenna 434854.011	2008	A	119.4 x 73.6 x 107 mm	310 g	RHCP from 1570 MHz to 1610 MHz / 40MHz (GLONAVSS/GPS L1)	< 1.5	na	30	Simultaneous reception of signals from 1570 to 1608 MHz in the upper hemisphere with angles of elevation of satellites not less than 5 degrees.	< 4.5 / < 3.5	From 9.6 to 14.4 V	75 mA	From - 55 to 70 °	1) from 5 to 500 Hz @ 5 g 2) from 5 to 14 Hz @ 2.5 mm, from 14 to 500 Hz @ 2 g 3) from 5 to 2000 Hz @ 10 g 4) 12 g x 7000 @ 20 ms	Yes (AP-25)	Yes	TNC	na	Set of mounting parts	\$640.00	Antenna
	Aviation antenna A101P	2005	A	119.4 x 73.6 x 59 mm	180 g	RHCP from 1570 MHz to 1610 MHz / 40MHz (GLONAVSS/GPS L1)	< 1.7	na	na	same as above	na	na	na	From - 55 to 85 °	1) from 5 to 2000 Hz @ 10 g 2) from 14 to 20 Hz @ 2 g 3) 8 g x 7000 @ 20 ms 4) 12 g x 3000 @ from 5 to 15 ms 5) 15 g x 18 @ 15 ms	Yes (AP-25)	Yes	TNC	na	Set of mounting parts	\$254.00	Antenna + amplifier
	B102	2008	G	35.6 x 47 x 15.8 mm	90 g / 120 g	RHCP from 1570 MHz to 1610 MHz / 40MHz (GLONAVSS/GPS L1)	< 2.5	3	28	same as above	2	From 2.5 to 5.5	25 mA	From -40 to 55 °	1) 6Hz x from 1 to 60 Hz @ 5 g 2) 15 g x 12000 @ from 2 to 4 ms	na	No	SMA/TNC	RG174 / 3 m/5 m	Magnetic	\$102.00	Antenna
	M102	2004	M	177 x Ø 74 mm	280 g	RHCP from 1570 MHz to 1610 MHz / 40MHz (GLONAVSS/GPS L1)	< 2.0	na	48.5 +/- 2.5	same as above	3.5	From 5 to 11 V	45 mA	From -50 to 50 °	1) from 5 to 300 Hz @ 5 g 50 to 10000 Hz @ 130 dB 3) 100 g @ 1-5 ms 4) 15 g @ 5-10 ms	Yes (AP-25)	Yes	TNC	na	Set of mounting parts	\$391.00	Antenna
Navman Wireless OEM www.navmanwirelessoem.com	J3-AT10-00-350.14 (TTL interface, with Micro Battery, with LED)	2010	D,M,N,T,V	30.0 x 30.0 x 8.0 mm	8.5 g	GPS L1	na, integrated receiver	na, integrated receiver	na, integrated receiver	Hemispherical, RHCP	na, integrated receiver	3.0V...3.6V		-0C to +60C	random vibration EC 68-2-64 max. vehicle dynamics: 500 m/s shock (non-operating): 50 G peak, 11 ms	N		Spin gold fingers	optional accessory	Horizontally mounted	contact Navman Wireless at +1 949 461 7150	Antenna with fully integrated GPS engine
	J3-AT11-00-350.14 (TTL without Micro Battery, without LED)	2010	D,M,N,T,V	30.0 x 30.0 x 8.0 mm	8.5 g	GPS L1	na, integrated receiver	na, integrated receiver	na, integrated receiver	Hemispherical, RHCP	na, integrated receiver	3.0V...3.6V		-40C to +85C	random vibration EC 68-2-64 max. vehicle dynamics: 500 m/s shock (non-operating): 50 G peak, 11 ms	N		Spin gold fingers	optional accessory	Horizontally mounted	contact Navman Wireless at +1 949 461 7150	Antenna with fully integrated GPS engine
	J3-AR50-00-350.14 (RS232 interface, with Micro Battery, with LED)	2010	D,M,N,T,V	30.0 x 30.0 x 8.0 mm	8.5g	GPS L1	na, integrated receiver	na, integrated receiver	na, integrated receiver	Hemispherical, RHCP	na, integrated receiver	3.0V...3.6V		-0C to +60C	random vibration EC 68-2-64 max. vehicle dynamics: 500 m/s shock (non-operating): 50 G peak, 11 ms	N		Spin gold fingers	optional accessory	Horizontally mounted	contact Navman Wireless at +1 949 461 7150	Antenna with fully integrated GPS engine
	J3-AR51-00-350.14 (RS232 without Micro Battery, without LED)	2010	D,M,N,T,V	30.0 x 30.0 x 8.0 mm	8.5g	GPS L1	na, integrated receiver	na, integrated receiver	na, integrated receiver	Hemispherical, RHCP	na, integrated receiver	3.0V...3.6V		-40C to +85C	random vibration EC 68-2-64 max. vehicle dynamics: 500 m/s shock (non-operating): 50 G peak, 11 ms	N		Spin gold fingers	optional accessory	Horizontally mounted	contact Navman Wireless at +1 949 461 7150	Antenna with fully integrated GPS engine

	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth2	VSWR3	Axial Ratio (dB)	Gain/Gain with Amplifier (dB)	Pattern	Noise Figure (dB)4	Amplifier DC Voltage	Amplifier Current (mA)	Operating Temperature (°C)	Vibration	Environmentally Sealed (Y/N)/	L/D5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
NovAtel Inc. www.novatel.ca	GPS-703-GGG	2009	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	500 g	1580.5 ± 28.5 MHz, 1210.0 ± 45 MHz	≤2.0:1	3 dB max	L1: 5 dBic / 29 dB typ L2: 3 dBic / 29 dB typ L5: 3 dBic / 29 dB typ	RHCP	2.5 dB typ	4.5 - 18 VDC	36 mA typ	-40 to +85	ML-STD-810F method 514.5	Y/Waterproof to IPX7	Yes/Yes	TNC	na	Threaded	Inquire	nr
	GPS-702-GGL	2007	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	500 g	1575.4 ± 20 MHz, 1227.6 ± 20 MHz, 1543 ± 20 MHz	≤2.0:1	3 dB max	L1: 5 dBic / 27 dB typ L2: 2 dBic / 27 dB typ L5: 5 dBic / 27 dB typ	RHCP	2.5 dB typ	4.5 - 18 VDC	35 mA typ	-40 to +85	ML-STD-810F method 514.6	Y/Waterproof to IPX8	Yes/Yes	TNC	na	Threaded	Inquire	nr
	GPS-702-GG	2006	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	500 g	1575.4 - 10/+36 MHz, 1227.6 - 10/+26 MHz	≤2.0:1	3 dB max	L1: 5 dBic / 29 dB typ L2: 2 dBic / 29 dB typ	RHCP	2.0 dB typ	4.5 - 18 VDC	35 mA typ	-40 to +85	ML-STD-810F method 514.7	Y/Waterproof to IPX9	Yes/Yes	TNC, N	na	Threaded	Inquire	nr
	GPS-702L	2005	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	500 g	1575.4 ± 20 MHz, 1227.6 ± 20 MHz, 1543 ± 20 MHz	≤2.0:1	3 dB max	L1: 5 dBic / 27 dB typ L2: 1.5 dBic / 27 dB typ L5: 5 dBic / 27 dB typ	RHCP	2.5 dB typ	4.5 - 18 VDC	35 mA typ	-40 to +85	ML-STD-810F method 514.8	Y/Waterproof to IPX10	Yes/Yes	TNC	na	Threaded	Inquire	nr
	GPS-701-GGL	2007	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	500 g	1575.4 ± 20 MHz, 1543 ± 20 MHz	≤2.0:1	3 dB max	L1, L5: 5 dBic / 27 dB typ	RHCP	2.5 dB typ	4.5 - 18 VDC	35 mA typ	-40 to +85	ML-STD-810F method 514.9	Y/Waterproof to IPX11	Yes/Yes	TNC	na	Threaded	Inquire	nr
	GPS-701-GG	2006	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	500 g	1575.4 - 10/+36 MHz	≤2.0:1	3 dB max	L1, L5: 5 dBic / 29 dB typ	RHCP	2.0 dB typ	4.5 - 18 VDC	35 mA typ	-40 to +85	ML-STD-810F method 514.10	Y/Waterproof to IPX12	Yes/Yes	TNC	na	Threaded	Inquire	nr
	GPS-704X	2006	D,G,L,M,N,O,PR,V	69 x 185 mm Ø	468 g	1.15GHz - 1.65 GHz	≤2.0:1	3 dB max	L1, L5: +6 dBic, L2, L5: +2 dBic	RHCP	nr	nr	Passive	-40 to +85	nr	Y/nr	Yes/Yes	TNC	na	Threaded	Inquire	nr
	ANT-26C1GA-TBW-N	2006	A,L,G,M,V	18 x 66 mm Ø	113 g	1575.4 ± 12 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	2.4 dB typ	2.5 - 24 VDC	<30 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole back mount, surface	Inquire	nr
	ANT-26NSSA-TW	2009	A,L,G,M,V	26 x 66 mm Ø	255 g	1575.4 ± 17 MHz, 1609 ± 7 MHz, 1227.6 ± 12 MHz, 1252.5 ± 7.5 MHz, 1176.4 ± 12 MHz, 1542.5 ± 14 MHz	≤2.0:1	3.0 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<30 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole back mount, surface	Inquire	nr
	ANT-35C1GA-TW-N	2006	A,L,G,M,V	18 x 89 mm Ø	184 g	1575.4 ± 12 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	2.2 dB typ	2.5 - 24 VDC	<30 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-35C1GLA-TRW	2006	A,L,G,M,V	21 x 89 mm Ø	227 g	1575.4 ± 12 MHz, 1542.5 ± 17.5 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	1.9 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	Right-angle TNC	na	4-hole, surface	Inquire	nr
	ANT-35C2GA-TW	2007	A,L,G,M,V	38 x 89 mm Ø	191 g	1575.4 ± 12 MHz, 1227.6 ± 12 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-36NSSA-TW	2009	A,L,G,M,V	27 x 89 mm Ø	340 g	1575.4 ± 17 MHz, 1609 ± 7 MHz, 1227.6 ± 12 MHz, 1252.5 ± 7.5 MHz, 1176.4 ± 12 MHz, 1542.5 ± 14 MHz	≤2.0:1	3.5 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-A72GA-TW-N	2006	A,L,G,M,V	119 x 76 x 18 mm (ARINC 743A)	198 g	1575.4 ± 12 MHz, 1227.6 ± 12 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-A71GLA-TW	2007	A,L,G,M,V	119 x 76 x 20 mm (ARINC 743A)	191 g	1525-1595 MHz, 1602-1626 MHz	≤1.5:1	2 dB typ	40 dB typ	RHCP	2.4 dB typ	2.5 - 24 VDC	<30 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-42NSSA-TW	2009	A,L,G,M,V	119 x 76 x 26 mm (ARINC 743A)	272 g	1575.4 ± 17 MHz, 1609 ± 7 MHz, 1227.6 ± 12 MHz, 1252.5 ± 7.5 MHz, 1176.4 ± 12 MHz, 1542.5 ± 14 MHz	≤2.0:1	3.5 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-A72GLA-TW-N	2006	A,L,G,M,V	119 x 76 x 20 mm (ARINC 743A)	191 g	1575.4 ± 13 MHz, 1227.6 ± 13 MHz, 1542.5 ± 17.5 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	1.9 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-A72GLA4-TW-N	2006	A,L,G,M,V	119 x 76 x 20 mm (ARINC 743A)	191 g	1575.4 ± 13 MHz, 1227.6 ± 13 MHz, 1542.5 ± 17.5 MHz	≤1.5:1	2 dB typ	40 dB typ	RHCP	1.9 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-A72GOLA-TW	2009	A,L,G,M,V	119 x 76 x 23 mm (ARINC 743A)	227 g	1575.4 ± 17 MHz, 1609 ± 7 MHz, 1227.6 ± 12 MHz, 1252.5 ± 7.5 MHz, 1542.5 ± 14 MHz	≤2.0:1	2 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	4-hole, surface	Inquire	nr
	ANT-72NSSA-TW	2009	G,L,R	223 x 308 mm Ø	848 g	1575.4 ± 17 MHz, 1609 ± 7 MHz, 1227.6 ± 12 MHz, 1252.5 ± 7.5 MHz, 1176.4 ± 12 MHz, 1542.5 ± 14 MHz	≤2.0:1	3.0 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	Threaded	Inquire	nr
ANT-C2GA-NW-N	2006	G,L,R	223 x 308 mm Ø	4.1 kg	1575.4 ± 15 MHz, 1227.6 ± 15 MHz	≤1.5:1	nr	33 dB typ	RHCP	3.0 dB typ	2.5 - 24 VDC	<35 mA typ	-55 to +85	>30 G's	Y/nr	Yes/Yes	TNC	na	Threaded	Inquire	nr	
GNS-750	2008	G,L,R	380 x 200 mm Ø	7.6 kg	1150MHz - 1610MHz	≤1.5:1	2 dB @ zenith	5 dBic / 43 dB typ	RHCP	2.0 dB typ	3.3 - 12 V DC	100 mA typ	-55 to +85	ISO 9022-36-05	Y/ML-STD-810F	Yes/Yes	N-Type with TNC adaptor supplied	na	Threaded	Inquire	nr	
ORCA Technologies, LLC www.gotsync.com	ANT-ART-10S			2.36 x 1.49 in	1 lb	1575.42MHz/2MHz min	2 dB	3 dB	28dB		1.5 dB	2.5 to 5.5 Vdc	12 mA	minus 30 to plus 85 C		Y		TNC	up to 150 feet	3/4 inch pipe	\$150	
	GS-ANT			1.65 x 1.99 x 0.55 in	< 1 lb	1575.42 MHz/2 MHz min	2 dB	3 dB	27 dB		1.5 dB	2.5 to 5.5 Vdc	10 mA	minus 30 to plus 85 C		Y		SMA	5 meters	Magnetic patch	\$50	
PCTEL www.antenna.com	GPS-L1L2-28MAG	2011	D,L,O,V	2.75" D x 0.98" H	6.6 oz	GPS L1/10MHz, GPS L2/10MHz	<2.0:1	2 dB typ	3 dBic / 30 dB typ	RHCP	2.5 dB	2.5-5.5 VDC	37mA typ, 50mA (max)	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA F	N/A	Magnetic < 20lb pull force	425	nr
	1273FW	2002	A,D,L,O,V	3.4 in H x 2.2 in W	3.6 oz	GPS L1/10MHz	1.5:1	nr	4.5 dBic/35 dB	RHCP	2.5 dB	4.5-5.5 VDC	40mA Nominal	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	TNC F	N/A	Surface mount four hole pattern	320	nr
	1210FW	2002	A,D,L,O,V	2.7" OD x 0.75" D	3 oz	GPS L1/10MHz	1.9:1	nr	4.5 dBic/26 dB	RHCP	2.5 dB	5-28 VDC through connector	25 mA typ, 40 mA max @ 25.5 dB / 40 mA typ, 60 mA Max @ 40 dB	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	TNC F	N/A	Through hole 5/8-18UNC-2A thread	385.5	nr
	3226MSMA	2004	L,O,P,V	2.5" OD x 0.5"D	25 g	GPS L1	1.5:1 typical	<3 dB @ boresight	3.5 dBic / 26 dB	RHCP	1.8 dB	3 - 13.5 V	20 mA nominal, <30 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174/17 ft	Through-hole for 1-inch diameter	111.78	nr
	3235MSMA	2006	L,O,P,V	2.5" OD x 0.5"D	25 g	GPS L1	1.5:1 typical	<3 dB @ boresight	4 dBic / 34 dB	RHCP	1.8 dB	3 - 13.5 V	20 mA nominal, <30 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174/17 ft	Through-hole for 1-inch diameter	111.78	nr
	AGPS26GMSMA	2007	L,O,P,V	2.2" L X 1.97" W X .59"D	25 g	GPS L1	1.5:1 typical	<3 dB @ boresight	3.0 dBic / 26 dB	RHCP	1.8 dB	3 - 5.5 V	20 mA nominal, <30 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174/17 ft	Glass Mount	55.37	nr
	AGPS3P3SMMMSMA	2006	L,O,P,V	2" L x 1.77" W x .55" D	4.09 oz	GPS L1	1.5:1 typical	3.0 dB typical	4 dBic / 35 dB	RHCP	1.8 dB	3 - 5.5 V	20 mA nominal, <35 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174/17 ft	Magnet Mount	66.44	nr
	GPS3SMMMSMA-NC	2003	L,O,P,V	2.25" W x 4.25" L x 1.25" H	16 oz (approximately)	GPS L1; NMO interface for antennas from 132 MHz - 5.9 GHz	1.5:1 typical	<3 dB @ boresight	3.0 dBic / 26 dB (GPS)	RHCP	1.8 dB	3 - 5.5 V	20 mA nominal, <30 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174/17 ft (RF), RG-58/U17 ft (FF)	Through-hole for 3/4-inch diameter	162.96	nr
	GPS3PMMMO	2011	L,O,P,V	5.2" OD x 2.8" H	31.9 oz	GPS L1, 698-2500MHz, 3300-3800MHz, 1.7-2.8GHz, 4.9-5.9GHz	1.5:1 typical	<3 dB @ boresight	3.0 dBic / 26 dB (GPS)	RHCP	1.8 dB	3 - 13.5 V	20 mA nominal, <30 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA, SMA, SMA, SMA (options available)	Pro-Flex Plus 195/17 ft (3 RF) RG174/17 ft (GPS)	Through-hole for 3/4-inch diameter	250	nr
	GPS3P3SMM-SM-SM	2011	L,O,P,V	5.2" OD x 2.8" H	31.9 oz	GPS L1, 698-2500MHz, 3300-3800MHz, 1.7-2.8GHz, 4.9-5.9GHz	1.5:1 typical	<3 dB @ boresight	3.0 dBic / 26 dB (GPS)	RHCP	1.8 dB	3 - 13.5 V	20 mA nominal, <30 mA @ -40°C to +85°C	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA, SMA, SMA (options available)	Pro-Flex Plus 195/17 ft (2 RF) RG174/17 ft	Through-hole for 3/4-inch diameter	185	nr



	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth <sup>2</sup>	VSWR3	Axial Ratio (dB)	Gain/Gain with Amplifier (dB)	Pattern	Noise Figure (dB) <sup>4</sup>	Amplifier DC Voltage	Amplifier Current (mA)	Operating Temperature (°C)	Vibration	Environmentally Sealed (Y/N)/ Type	L/D5	Connectors	Cable Type/ Length	Mounting Configuration	List Price in U.S. Dollars	Integration	
<b>PCTEL</b> (continued)	PCTMDL	2009	L,O,PV	5.1" x 4.95" x 1.7"	31.9 oz	GPS L1, 806-960MHz, 1710-2170MHz, 2.3-2.6GHz	1.5:1 typical	nr	3.5 dBic / 27 dB (GPS)	RHCP	1.6 dB	3-5.5 VDC	20 mA typ	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA, SMA, SMA (options available)	RG174/17 ft (GPS), RG-58U/17 ft (Cell & Wi-Fi)	Through-hole for 3/4-inch diameter	115	nr	
	PCTMDL-RCVR	2010	L,O,PV	5.1" x 4.95" x 1.7"	31.9 oz	GPS L1, 806-960MHz, 1710-2170MHz, 2.3-2.6GHz	<2.0:1	nr	n/a Integrated Receiver, 2.8dB-3.3dB (Cell), 3.9dB (Wi-Fi)	RHCP	1.6 dB	3-5.5 VDC	20 mA typ	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	USB, SMA, SMA (options available)	USB Cable/17 ft (GPS) RG-58U/17 ft (Cell & Wi-Fi)	Through-hole for 3/4-inch diameter	228.81	nr	
	GPSGL-TMG-SP1-40NCB	2010	O, P, T	5.0" H x 3.2" D	0.75 lbs	GPS L1/10MHz, GLOPASS 1602-1615MHz	1.5:1	nr	3 dBic typ / 30 dB	RHCP	2.5 dB	3.3-9 VDC	40 mA	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	EN61000-4-5 Level 4	N Female	n/a	Mounting Options to pipes 1"-1.45"	333.5	nr	
	GPS-TMG-HR-26NOM	2010	O, P, T	5.0" H x 3.2" D	0.6 lbs	GPS L1/10MHz	1.5:1	nr	3.5 dBic / 26.5 dB	RHCP	4.0 dB	3.3-12 VDC	40 mA	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	N Female	n/a	Mounting Options to pipes 1"-1.45"	242	nr	
	3978D-DH-W	2009	O, P, T	2.36" D x 1.73" H	0.11 lbs	GPS L1/10MHz	1.5:1	nr	3 dBic / 40 dB	RHCP	0.5 dB	2.7-5.5 VDC	15mA @ 5.5VDC	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	TNC Female	n/a	3/4" through-hole or bracket mount	73.73	nr	
	3971D	2009	D,O, P,T,V	2.36" D x 0.83" H	0.11 lbs	GPS L1/10MHz	1.5:1	nr	3 dBic / 28 dB	RHCP	0.8 dB	2.7-5 VDC	8mA @ 3.3 VDC	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	TNC Female	n/a	3/4" through-hole or bracket mount	59.32	nr	
	1357D	2009	D,L,O,PV	0.63" x 0.63" x 0.23"	0.21 oz	GPS L1/10MHz	<2.0:1	nr	0.5 dBic / 28 dB	RHCP	1.5 dB	2.7-5 VDC	9 mA @ 3.3V	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	H.FL (J.FL & W.FL available)	CO-6FFH-SB / 6 inches	Embedded	31.81	nr	
	3961D	2009	D,L,O,PV	1.85" D x 0.32" H	0.56 oz	GPS L1/10MHz	1.5:1	nr	3 dBic / 28 dB	RHCP	0.5 dB	2.7-5 VDC	7.5mA @ 3.3 VDC	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	MCX/RA (others available)	RG174 / 15CM	Embedded	39.63	nr	
	3910D	2009	D,L,M,PV	1.77" x 2.01" x 0.47"	0.26 lbs	GPS L1/10MHz	1.5:1	nr	3 dBic / 28 dB	RHCP	0.5 dB	2.7-5 VDC	8 mA	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174 / 3M	Magnetic (5 lb lift-off) or screw mount	47.46	nr	
	3947D	2009	O,PV	5.2" x 2.3" x 0.3"	nr	GPS L1, 824-960MHz, 1710-2200MHz, 2.4-2.5GHz	1.5:1	nr	nr / 27 dB, 20dB (Cell/Wi-Fi)	RHCP	1.5 dB	3-5 VDC	9 mA @ 3.5V	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M/SMA M (options available)	RG174 / 3M	Covert, VHB Tape	52.2	nr	
	8117D	2011	D,L,M,PV	1.77" x 2.01" x 0.47"	0.26 lbs	GPS L1, GLOPASS L1 / 1568-1618MHz	1.5:1	nr	3 dBic / 28 dB	RHCP	1.5 dB	2.5-5 VDC	9 mA @ 3.3V	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174 / 3M	Magnetic (5 lb lift-off) or screw mount	55.26	nr	
	9211D	2009	D,L,M,PV	1.77" x 2.01" x 0.47"	0.26 lbs	Iridium, 1616-1626.5MHz	<2.0:1	nr	4 dBic / Passive	RHCP	n/a	nr	nr	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	SMA M, options available	RG174 / 2M	Magnetic (5 lb lift-off) or screw mount	54.97	nr	
	5012D-U	2009	L,O,PV	1.77" x 2.01" x 0.47"	0.26 lbs	GPS L1/10MHz	1.5:1	nr	3 dBic / n/a Integrated receiver	RHCP	nr	nr	5V	85 mA (max)	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	USB (RS232 Options Available)	USB Cable / 3M	Magnetic (5 lb lift-off) or screw mount	169.49	nr
	5072D-RD15	2009	L,O,PV	2.36" D x 0.83" H	0.23 lbs	GPS L1/10MHz	1.5:1	nr	3 dBic / n/a Integrated receiver	RHCP	nr	nr	8-18 VDC	nr	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	RS232 DB15 (RS232 DB9 & DB25 options available)	USB Cable / 5M	Through-hole	194.92	nr
	GPS-TMG-RCVR232	2008	O, P, T	5.0" H x 3.2" D	0.6 lbs	GPS L1/10MHz	1.5:1	nr	4 dBic / n/a Integrated Receiver	RHCP	nr	nr	8-12 V	nr	-40 to +85	ML-STD 810	Yes, when installed per manufacturer's instructions	Yes	8-pin Circular Connector conforming IEC 60130-9.v3.0	n/a	Mounting Options to pipes 1"-1.45"	549.5	nr
	<b>Pulse/Larsen</b> www.pulseelectronics.com	GPS Tri-Band Glass Mount	2004	V	2.9 x 1.8 x 0.7 in	nr	Linear, 824-960/1710-2170/ 1575.42 MHz	2:1 or better	nr	2 dB/2 dB/5 dBic/26 ± 2 dB (LNA)	Linear/Linear/RHCP	nr	3 or 5 V DC	25	-40 to +85	nr	y	nr	NoConn/SMA, NoConn/SMB, SMA/MPL, SMA/SMA	16 ft, 1 in RG174 / 16 ft, 1 in RG174	3M VHB adhesive tape	\$95	nr
		GPS Tri-Band Roof Mount	2004	V	7.6 x 3.4 x 1.3 in	nr	as above	2:1 or better	nr	as above	Omni/Omni/RHCP	nr	3 or 5 V DC	25	-40 to +85	nr	y	nr	TNC/SMA, NoConn/SMA, NoConn/SMB, MPL/SMA, SMA/SMA, TNC/BNC	as above	Direct feed 3/4-in hole	\$112	nr
		as above (white)	2004	V	7.6 x 3.4 x 1.3 in	nr	as above	2:1 or better	nr	as above	Omni/Omni/RHCP	nr	3 or 5 V DC	25	-40 to +85	nr	y	nr	NoConn/NoConn, NoConn/SMA, NoConn/SMB, SMA/SMA, MPL/SMA	as above	Direct feed 3/4-in hole	\$112	nr
		GPS Tri-Band Mag Mount	2009	V	7.6 x 3.4 x 1.3 in	nr	as above	2:1 or better	nr	as above	Omni/Omni/RHCP	nr	3 or 5 V DC	25	-40 to +85	nr	y	nr	TNC/SMA, NoConn/SMA	as above	Mag mount	\$225	nr
		GPS Tri-Band Combi Whip	2004	V	3.9 x 2.3 x 3.2 in	nr	as above	2:1 or better	nr	as above	Vertical/Vertical/RHCP	nr	3 or 5 V DC	25	-40 to +85	nr	y	nr	TNC/SMA, NoConn/SMA, NoConn/SMB, SMA/MPL, SMA/SMA	as above	Direct feed 3/4-in hole	\$120-126	nr
GPS NMO Mount (black)		2001	V	1.3 x 2.9 in Ø	nr	1575.4 MHz	>2:1	3 Max	5 dBic/28 ± 2 dB (LNA)	RHCP	2	2	5 V DC	20	-30 to +80	nr	y	nr	na	nr	NMO mount	\$82	nr
GPS NMO Mount (white)		2001	V	1.3 x 2.9 in Ø	nr	1575.4 MHz	>2:1	3 Max	5 dBic/28 ± 2 dB (LNA)	RHCP	2	2	5 V DC	20	-30 to +80	nr	y	nr	na	nr	NMO mount	\$82	nr
GPS NMO (black) w/ cable kit		2001	V	1.3 x 2.9 in Ø	nr	1575.4 MHz	>2:1	3 Max	5 dBic/28 ± 2 dB (LNA)	RHCP	2	2	5 V DC	20	-30 to +80	nr	y	nr	SMB, SMA, BNC	17 ft, RG58/U dual shield	NMO mount	\$105	nr
GPS NMO white w/ cable kit		2001	V	1.3 x 2.9 in Ø	nr	1575.4 MHz	>2:1	3 Max	5 dBic/28 ± 2 dB (LNA)	RHCP	2	2	5 V DC	20	-30 to +80	nr	y	nr	SMB, SMA, BNC	17 ft, RG58/U dual shield	NMO mount	\$105	nr
GPS Timing Antenna		2001	T	4 in H, 16 in with pipe x 4.25 in Ø	1 lb.	1575.42 MHz ± 1.023	<2.0:1	nr	25 ± 2 dB	RHCP	2.5	2.5	4-15 V DC	35	-30 to +80	nr	y	nr	N Male	nr	Bracket	Contact Factory	nr
GPS/UHF Dual Band		2000	V	base 2 in x 2.3 in x 0.7 in elliptical whip 6 1/4 in	nr	406-512/1575.42 MHz	2.0:1	nr	2.14 dB / 5 dBic / 26 ± 2 dB (LNA)	RHCP/Vertical	2	2	5 V DC	nr	-30 to +80	nr	y	nr	SMA/SMA, SMA/SMB	16.4 ft RG174	Direct feed 5/8 in hole with die cut	\$117.60	nr
GPS/800 Dual Band		2008	V	base 2 x 2.3 x 0.7 in elliptical whip 10.25 in	nr	806-896/1575.42 MHz	2.0:1	nr	5 dB / 5 dBic / 26 ± 2 dB (LNA)	RHCP/Vertical	2	2	5 V DC	nr	-30 to +80	nr	y	nr	SMA/SMB, SMA/SMA, FME/SMA, TNC/SMA	16.4 ft RG174	Direct feed 5/8 in hole with die cut	\$126.00	nr
GPS/900 Dual Band		2008	V	base 2 x 2.3 x 0.7 in elliptical whip 11.5 in	nr	890-960/1575.42 MHz	2.0:1	nr	5 dB / 5 dBic / 26 ± 2 dB (LNA)	RHCP/Vertical	2	2	5 V DC	nr	-30 to +80	nr	y	nr	SMA/SMB, SMA/SMA	16.4 ft RG174	Direct feed 5/8 in hole with die cut	\$126.00	nr
GPS Module		2005	V	1 x 1 x 0.3 in	nr	1575.42 MHz	2.0:1	nr	0 dB / 26 ± 2 dB (LNA)	Hemispherical	2	2	3V DC	20 Max	-30 to +80	nr	n	nr	SMB, SMA	16 ft RG174		\$50.00	nr
GPS Direct Mount		2001	V	0.7 x 2.5 in Ø	nr	1575.4 MHz	2.0:1	nr	5 dBic/28 ± 2 dB (LNA)	RHCP	nr	nr	5 V DC	nr	-30 to +80	nr	y	nr	MCX, MMX, SMB, SMA, NoConn	17 ft RG174	Bolt requiring 5/8-in hole with die cut	\$64.10	nr
GPS Glass Mount		2010	V	1.97 x 1.18 x .21 in	nr	1575.4 MHz	1.5:1	nr	28 ± 2 dB (LNA)	Omni	1	1	5 V DC	12 Typical	-40 to +85	nr	y	nr	MMCX, SMA, MCX, FME, SMA	RG174, 5 ft/9.8ft/16.5ft	Die-cut 2 sided tape included	\$16.63	nr
GPS Mag Mount		2001	V	1.7 x 1.5 x 0.5 in	nr	1575.4 MHz	>2:1	3 Max (at center frequency)	5 dBic/26 ± 2 dB (LNA)	RHCP	2	2	5 V DC	20 Max	-30 to +80	nr	y	nr	MCX, MMX, SMB, SMA, BNC, No Conn	17 ft RG174	Magnetic	\$44.00	nr
GPS 3V Direct Mount		2005	V	0.7 x 2.38 x 2 in	nr	1575.42 MHz	>2:1	nr	5 dBic/26 ± 2 dB (LNA)	RHCP	2	2	3V DC	20 Max	-30 to +80	nr	y	nr	Order separately	16.4 ft RG174	Direct feed 5/8" hole	\$54.00	nr
Roof Mount GPS with NMOHF High Frequency Mount		2010	V	4.6 x 2.1 x 7 in	nr	1574.4-1576.4 plus antenna frequency (any NMO mount antenna will work on the NMOHF side)	dependent on NMO mount antenna	nr	nr	*GPS: 5 dBic/26 ± 2 dB (LNA) NMOHF mount: dependent on antenna	*GPS: RHCP NMOHF: Dependent on antenna	2	25	-40 to +85	nr	y	nr	No Conn, FME/No Conn, SMA/SMA, FME/SMA	*GPS: 16.8 ft RG174 NMOHF: 16.8 ft RG58"	Direct feed 3/4-in hole	\$145.00	nr	
3 Cable Roof Mount LTE Antenna with GPS		2011	V	3.5 x 4.3 in Ø	nr	698-960/1710-2170/2400-2485/1575.42	*GPS: 2.0:1 Cable 1 & 2: 2.5:1	nr	nr	*GPS: 5 dBic/26 ± 2 dB (LNA) Cable 1 (698-960/1710-2485): 5 dB Cable 2 (2400-2485): 7 dB"	Linear Vertical/RHCP	2	25	-40 to +80	nr	y	nr	Available upon request	*GPS: RG-174 Cable 1 & 2: RG58UD Cable length as requested"	Direct feed 3/4" hole	\$110.50	nr	

	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth2	VSWR3	Axial Ratio (dB)	Gain/Gain with Amplifier (dB)	Pattern	Noise Figure (dB)		Amplifier DC Voltage	Amplifier Current (mA)	Operating Temperature (°C)	Vibration	Environmentally Sealed (Y/N)/Type	L/D5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
Pulse/Larsen (continued)	GPS Quadband glass mount	2010	V	1.5 x 5.2 x 0.54 in		824-960/1710-2170/ 1575.42 MHz	>2:1		0dB/0 dB/5 dB/26 ± 2 dB (LNA)			3 or 5 V DC	25	-40 to +185	nr	Y	nr	Various	Rg 174, 9.84 ft or 16.4 feet	3M VHB adhesive tape	\$24	nr	
	GPS Quadband glass mount	2010	V	4 x 2 x .33 in		824-960/1710-2170/ 1575.42 MHz	>2:1		2 dB/2 dB/5 dB/26 ± 2 dB (LNA)	Linear		4 or 5 V DC	26	-40 to +186	nr	N	nr	Various	Rg 174, 9.84 ft or 16.4 feet	3M VHB adhesive tape	\$20	nr	
	GPS Patch antenna	2010	Integrated antenna	5 x 5 x .16 in		1575.4 MHz	>2:1		0 dB	RHCP					-40 to +187		N				Soldering	\$0.50	
	GPS Pentaband LTE Direct mount	2011	V	5.5 x 2.2 x 1.4 in		700/824-960/1710-2170-2700 and 1575.42 MHz	>2:1		0 dB/2 dB/5 dB/26 ± 2 dB (LNA)	RHCP					-40 to +188		Y		Various	Rg 174, 9.84 ft or 16.4 feet	Direct mount	\$28	
	Active Integrated GPS antenna	2011	Integrated antenna	5 x 5 x .3 in		1575.4 MHz	>2:1		0 dB/25dB	RHCP					-30 to +80		N		IPEX	0.8 mm diameter cable, various lengths	via connector	\$7	
	GPS plus Glonass Patch antenna	2011	Integrated antenna	5 x 5 x .16 in		1575.4 MHz and glonass	>2:1		0 dB	RHCP					-30 to +80		N		IPEX	0.8 mm diameter cable, various lengths	via connector	\$7	
Rojone www.rojone.com	MaxNav	2000	DGLMV	110 x 18 mm	150 g	157.5 ± 5 MHz	<1.5:1	3 dB	6/36 dB	Omni-Directional	1.2 dB		3-30 VDC	25 mA	-40 to +60c	na	Y/IP68	DC ground	N preferred but all available	As applicable	Magnetic/Pole/ Screw	nr	nr
	GPS9A9-wide	2004	DLNFRV	115 x 30	220g	1535-1576 MHz DGPS-GPS	<1.5:1	3 dB	6/50 dB	Omni-Directional	<0.7 dB		5-30 VDC	80 mA	-40 to +60c	na	Y/IP68	DC ground	N preferred but all available	As applicable	as above	nr	nr
	L1A2	2004	DR	200 x 30 mm	480g	1535-1576/1220-1230MHz	<1.5:1	3 dB	6/50 dB	Omni-Directional	<0.7 dB		5-30 VDC	80 mA	-40 to +60c	na	Y/IP68	DC ground	N preferred but all available	As applicable	Pole/ Screw	nr	nr
Sarantel www.sarantel.com	SL1201/SL1202 (Geohelix-P2)	2006	ADLNPSM	22 x 11 x 11 mm	7g	1575.42 MHz ± 2	2.0:1 typ.	<1.5 dB	-2.8 dBic w/o gnd pin	RHCP cardioid	nr	nr	nr	nr	-40 to +85	Full report available	N	nr	Surface Mount	nr	Internal or external	Inquire	nr
	SL1206 (Geohelix-S)	2003	as above	44 x 14.6 x 12 mm	8.4g	1575.42 MHz ± 2	2.0:1 typ.	<2 dB	+25 dBic nom.	RHCP cardioid	1.2 dB typ.	3.3 VDC	13 mA	-40 to +85	Full report available	N	nr	Surface Mount	nr	Internal or external	Inquire	nr	
	SL1204 (Geohelix-M)	2008	as above	34 x 12.4 x 13.3 mm	7g	1575.42 MHz ± 2	2.0:1 typ.	<2 dB	+18 dBic nom.	RHCP cardioid	0.8dB typ.	3.0 VDC	3.4 mA	-40 to +85	Full report available	N	nr	Surface Mount	nr	Internal or external	Inquire	nr	
	SL1203A (Rugged Passive antenna)	2009	as above	31 x 19(15) x 19(15) mm	14g	1575.42 MHz ± 2	2.0:1 typ.	<2 dB	-2.8 dBic w/o gnd pin	RHCP cardioid	nr	nr	nr	nr	-40 to +85	Full report available	Y	nr	SMA male	nr	External	Inquire	nr
	SL1203C (Rugged Passive antenna)	2010	as above	31.5 x 19(15) x 19(15) mm	14g	1575.42 MHz ± 2	2.0:1 typ.	<2 dB	-2.8 dBic w/o gnd pin	RHCP cardioid	nr	nr	nr	nr	-40 to +85	Full report available	Y	nr	SMA male	nr	External	Inquire	nr
	SL1203D (Rugged Passive antenna)	2010	as above	31.4 x 15 x 15 mm	14g	1575.42 MHz ± 2	2.0:1 typ.	<2 dB	-2.8 dBic w/o gnd pin	RHCP cardioid	nr	nr	nr	nr	-40 to +85	Full report available	Y	nr	SMA male	nr	External	Inquire	nr
	SL1300 (Lb Pro Geohelix-P3)	2008	as above	12 x 7.5 x 7.5 mm	3 g	1575.42 MHz ± 3	2.0:1 typ.	<1.5 dB	-5.0 dBic w/o gnd pin	RHCP cardioid	nr	nr	nr	nr	-40 to +85	Full report available	N	nr	Surface Mount	nr	Internal or external	Inquire	nr
Surrey Satellite Technology, Ltd. www.sstl.co.uk	SGR Patch Antenna ASY-00741-04	2000	S	45 x 50 x 20 mm	50g	1574.5 - 1576.5MHz	<2:1		24dB	RHCP	2.5dB		2.7 - 5 VDC	24mA typ.	-35 to +60	> 10 grms	N / outgassing allowance	No/No	SMA	2 metre K022520	4 Screw	-	-
Tallysman Wireless, Inc www.tallysman.com	TW2010 GPS L1 Low cost magnet mount	2010	LNQTV	57 x 57 x 15 mm	150 g	GPS L1/1572.5 to 1578 MHz	<1.5:1	4	3 dBic/31dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	SMA female on side of radome (bulkhead) or SMA, TNC, MCX, N... on cable	RG174/5 m & Custom cable assembly available	Magnet or screw mount	46.67	Custom color and labelling available
	TW2100 GPS L1 magnet mount antenna with dual feed element	2010	DGLNQT	57 x 57 x 15 mm	150 g	GPS L1/1565 to 1585 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	SMA female on side of radome (bulkhead) or SMA, TNC, MCX, N... on cable	RG174/5 m & Custom cable assembly available	Magnet or screw mount	107.11	Custom color and labelling available
	TW2400 GPS L1 + GLONASS L1 magnet mount antenna with dual feed element	2010	DGLNQT	57 x 57 x 15 mm	150 g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	SMA female on side of radome (bulkhead) or SMA, TNC, MCX, N... on cable	RG174/5 m & Custom cable assembly available	Magnet or screw mount	107.11	Custom color and labelling available
	TW2410 GPS L1 + GLONASS L1 magnet mount with dual feed element, low voltage	2010	DGLNQT	57 x 57 x 15 mm	150 g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	<3	4.25 dBic/29.25 dB	Hemispherical	1		2.5 to 5.5	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	SMA female on side of radome (bulkhead) or SMA, TNC, MCX, N... on cable	RG174/5 m & Custom cable assembly available	Magnet or screw mount	107.11	Custom color and labelling available
	TW1915 GPS L1 embedded antenna, 2mm profile patch/low profile RF can	2011	ADLNQTV	35 x 35 x 4.8 mm	80 g	GPS L1/1572.5 to 1578 MHz	<1.5:1	4	2.5 dBic/18.5 dB	Hemispherical	1		2.5 to 5.5	5	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	UFL, H.F.L, MMS, MMCX	1.5 mm dia. CO-6F; FH-SB cable/15 cm	Screw or adhesive	30	Optimization & custom tuning available
	TW1916 GPS L1 low embedded antenna, 2mm profile patch/standard RF can	2011	ADLNQTV	35 x 35 x 5.8 mm	80 g	GPS L1/1572.5 to 1578 MHz	<1.5:1	4	3 dBic/19 dB	Hemispherical	1		2.5 to 5.5	5	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA	RG174/15 cm	Screw or adhesive	30	Optimization & custom tuning available
	TW1917 GPS L1 embedded antenna, 4mm profile patch/low profile RF can	2011	ADLNQTV	35 x 35 x 6.8 mm	80 g	GPS L1/1572.5 to 1578 MHz	<1.5:1	4	2.5 dBic/18.5 dB	Hemispherical	1		2.5 to 5.5	5	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	UFL, H.F.L, MMS, MMCX	1.5 mm dia. CO-6F; FH-SB cable/15 cm	Screw or adhesive	30	Optimization & custom tuning available
	TW1918 GPS L1 embedded antenna, 4mm profile patch/standard RF can	2011	ADLNQTV	35 x 35 x 7.8 mm	80 g	GPS L1/1572.5 to 1578 MHz	<1.5:1	4	3 dBic/19 dB	Hemispherical	1		2.5 to 5.5	5	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA	RG174/15 cm	Screw or adhesive	30	Optimization & custom tuning available
	TW2015 GPS L1 low cost embedded antenna	2010	ADLNQTV	50 x 50 x 7.8 mm	100 g	GPS L1/1572.5 to 1578 MHz	<1.5:1	4	3 dBic/31dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA	RG174/15 cm	Screw or adhesive	35	Optimization & custom tuning available
	TW2105 GPS L1 embedded antenna with dual feed element	2010	ADLNQTV	50 x 50 x 7.8 mm	100 g	GPS L1/1565 to 1585 MHz	<1.5:1	<3	4.25 dBic/32.25dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA	RG174/15 cm	Screw or adhesive	85	Optimization & custom tuning available
	TW2405 GPS L1 + GLONASS L1 embedded antenna with dual feed element	2010	ADLNQTV	50 x 50 x 7.8 mm	100 g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA	RG174/15 cm	Screw or adhesive	85	Optimization & custom tuning available
	TW2415 GPS L1 + GLONASS L1 embedded antenna with dual feed element, low voltage	2010	ADLNQTV	50 x 50 x 7.8 mm	100 g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	<3	4.25 dBic/29.25 dB	Hemispherical	1		2.5 to 5.5	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	no/yes 15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA	RG174/15 cm	Screw or adhesive	85	Optimization & custom tuning available
	TW3100 GPS L1 hard mount antenna with dual feed element	2010	DGLNMOT	66.5 x 66.5 x 21 mm	150 g	GPS L1/1565 to 1585 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	TNC female on bottom of base or SMA, TNC, MCX, N... on cable assembly	Custom cable assembly available	3/4 inch (19mm) through hole or bracket/mast mount	115	Custom color and labelling available
	TW3140 GPS L1 Timing antenna with dual feed element & domed radome	2011	DGLNMOT	66.5 x 66.5 x 45 mm	150 g	GPS L1/1565 to 1585 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	TNC female on bottom of base or SMA, TNC, MCX, N... on cable assembly	Custom cable assembly available	3/4 inch (19mm) bracket or mast mount	115	Custom color and labelling available
	TW3400 GPS L1 + GLONASS L1 hard mount antenna with dual feed element	2010	DGLNMOT	66.5 x 66.5 x 21 mm	150 g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	TNC female on bottom of base or SMA, TNC, MCX, N... on cable assembly	Custom cable assembly available	3/4 inch (19mm) through hole or bracket/mast mount	115	Custom color and labelling available
	TW3440 GPS L1 + GLONASS L1 Timing antenna with dual feed element & domed radome	2011	DGLNMOT	66.5 x 66.5 x 45 mm	150 g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	<3	4.25 dBic/32.25 dB	Hemispherical	1		3 to 10	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/IP67	no/yes 15 KV ESD Protection	TNC female on bottom of base or SMA, TNC, MCX, N... on cable assembly	Custom cable assembly available	3/4 inch (19mm) bracket or mast mount	115	Custom color and labelling available
	PG-A1	2003	GL	14.2 x 14.2 x 5.4 cm w/o GP; Ø 20.0 x 5.4 cm w GP	0.51kg w/o GP; 0.69kg w GP	1590 ± 30 MHz / 1240 ± 25 MHz	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-15	30	-40 to +65	nr	y/waterproof	y/y	TNC	RG-58/10 m	Threaded	Contact distributor	na
PG-A5	2003	GL	14.2 x 14.2 x 5.4 cm	0.375 kg	1590 ± 30 MHz	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-15	17	-40 to +65	nr	y/waterproof	y/y	TNC	RG-58/10 m	Threaded	Contact distributor	na	

	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth2	VSWR3	Axial Ratio (dB)	Gain/Gain with Amplifier (dB)	Pattern	Noise Figure (dB)		Amplifier DC Voltage	Amplifier Current (mA)	Operating Temperature (°C)	Vibration	Environmentally Sealed (Y/N)/Type	L/D5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
<b>Topcon Positioning Systems, Inc.</b> www.topconpositioning.com	MG-A2	2003	GL	Ø 8.9 x 20.5 cm	0.45 kg	1590 ± 30 MHz / 1240 ± 25 MHz	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-15	40	-40 to +65	nr	y/waterproof	y/y	TNC	RG-58/10 m	Threaded	Contact distributor	na
	MG-A5	2004	GL	14.2 x 14.2 x 19.5 cm	0.78 kg	1555 ± 30 MHz / 305 ± 20 kHz	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-15	45	-40 to +65	nr	y/waterproof	y/y	TNC	RG-58/10 m	Threaded	Contact distributor	na
	CR-4	2002	GLR	Ø 30.8 x 13.8 cm	4.0 kg	1590 ± 30 MHz / 1240 ± 25 MHz	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-12	45	-40 to +65	nr	y/waterproof	y/y	N	RG-58/10 m	Threaded	Contact distributor	na
	G3-A1	2005	GLR	14.2 x 14.2 x 5.4 cm w/o GP; Ø 20.0 x 5.4 cm w GP	515kg w/o GP, 685kg w/ GP	1590 ± 30 MHz / 1240 ± 25 MHz / 1176.5 ± 12.5 MHz	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-15	30	-40 to +65	MIL-STD-810F	y/waterproof	y/y	TNC	RG-58/10 m	Threaded	Contact distributor	na
	CR-G3	2006	GLR	Ø 30.8 x 13.8 cm	4.6 kg	as above	<1.5:1/1.5:1	2	5/30	Symmetrical	1.5		3-15	35	-40 to +65	MIL-STD-810F	y/waterproof	y/y	N	RG-58/10 m	Threaded	Contact distributor	na
	CR-G5	2011	GLR	Ø 30.8 x 15.25 cm (w/o dome)	4.8 kg (w/o dome)	L1 1565 +/- 50MHz (typical) L2 1230 +/- 80MHz (typical)	≤ 2.0:1	2	5/30	Symmetrical	1.5		3-12	100	-50C to +85C	MIL-STD-810F	y/waterproof	y/y	N	RG-58/10 m, >	Threaded	Contact distributor	na
	PN-A5	2011	GLR	Ø 41.5 x 29.2 cm (dome included)	7.1 kg (dome included)	L1 1565 +/- 50MHz (typical) L2 1230 +/- 80MHz (typical)	≤ 2.0:1	2	5/48	Symmetrical	1.5		3-12	100	-50C to +85C	MIL-STD-810F	y/waterproof	y/y	N	RG-58/10 m, >	Threaded	Contact distributor	na
<b>Trimble</b> www.trimble.com	Choke Ring Antenna	1996	GLRY	38.1 Ø x 12.7 cm, 15 Ø x 5 in	5.5 kg / 12.1 LB.	1575 MHz (L1), 1227 MHz (L2)	nr	nr	5/48 ±1.0 (L1)	nr	2.1 dB		7-12 VDC	nr	-40 to +65	nr	nr	N-Type	nr/30 m	Tripod, tribrach	OEM pricing; inquire	nr	
	Magnetic Mount 3 V Antenna, SMB, SMA, MCX, SMA connectors	2001	LNPWY	37.4 x 34 x 12.9 mm	25 g (without cable) cable length 5 m	1575 MHz	2.0 max	4 dB @ 90°	27 dB ±3dB typical temp	nr	1.8 (+25°C) / 2.3(+85°C)		5 VDC	nr	-40 to +85	as above	y/waterproof JS0203 S2	nr	SMB, SMA	1.5DS-QEH/5 m	Magnetic mount	OEM pricing; inquire	nr
	Magnetic Mount 5V Antenna, SMB, SMA, MCX, SMA connectors	2001	LNPWY	37.4 x 34 x 12.9 mm	25 g (without cable) cable length 5 m	1575 MHz	2.0 max	4 dB @ 90°	27 dB ±3dB typical temp	nr	1.8 (+25°C) / 2.3(+85°C)		5 VDC	nr	-40 to +85	as above	y/waterproof JS0203 S2	nr	MCX, SMA	1.5DS-QEH/5 m	Magnetic mount	OEM pricing; inquire	nr
	Unpackaged Embedded 3.V	2001	LNPWY	22 x 21 x 7.5 mm	20 g (cable length 85 mm)	1575 MHz	2.0 max	4dB @ 90°	27 dB ±3dB typical temp	nr	1.5 (+25°C) / 2.0(+85°C)		3 VDC	nr	-40 to +85	as above	nr	nr	H.F.L.	0.8 D/B cm	Mounting holes	OEM pricing; inquire	nr
	Bulkhead	2001	LNPWY	64.5 x 40 mm	150 g	1.8 dB max	2.0 max	4dB @ 90°	27 dB ±3dB typical temp	nr	1.8 (+25°C) / 2.3(+85°C)		5 V or 3 V	nr	-40 to +86	as above	nr	nr	TNC	na	Threaded	OEM pricing; inquire	nr
	Trimble A3	2005	DGLMNRV	16 x 6.2 cm	0.39 kg	1575 MHz	2.0 max	nr	42 dB	Upper hemispherical	nr		2.95-11.5 VDC	nr	-50° to +85°	MIL-STD-810-F	as above	nr	TNC-type	Any with up to 10 dB loss	Tripod, tribrach	Contact Distributor	nr
	Zephyr 2 Antenna	2006	DGLMNRV	34.3 x 7.6 cm	0.60 kg	L1/L2/L5/G1/G2/E1/E5ab/E6	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB		3.3-20 VDC	125	-40° to +70°	as above	as above	nr	TNC female	Any with up to 10 dB loss	Tripod, tribrach, pole	Contact Distributor	nr
	Zephyr Geodetic 2 Antenna	2006	DGLMNRV	34.3 x 8.5 cm	1.36 kg	L1/L2/L5/G1/G2/E1/E5ab/E6	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB		3.3-20 VDC	125	-40° to +70°	as above	as above	nr	TNC female	Any with up to 10 dB loss	as above	Contact Distributor	nr
Trimble GNSS Choke Ring	2008	GLRY	38.1 Ø x 12.7 cm, 15 Ø x 5 in	5.5 kg / 12.1 LB.	L1/L2/L5/G1/G2/E1/E5ab/E6	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB		3.3-20 VDC	100	-40° to +70°	as above	as above	nr	N-Type female	Any with up to 10 dB loss	Tripod, tribrach	Contact Distributor	nr	
Zephyr 2 Rugged	2008	DGLMNR	25.4 x 11.1 cm	1.8 kg	L1/L2/L5/G1/G2/OmniSTAR/E1/E2/E5ab/E6/SBAS	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB		3.3-20 VDC	125	-40° to +70°	Designed for extreme shock and vibration installations. Bouyant	+/- 5 psi sealing. Rain and spray per IEC 60945	nr	TNC female	Any with up to 10 dB loss	Rugged 4 point mount to pole, or 5/8" thread to pole	Contact Distributor	nr	
<b>u-blox AG</b> www.u-blox.com	ANN-MS	2003	LMWVT	48 x 40 x 13 mm	42 g (without cable) <105g (with cable)	GPS L1,10 MHz	2.0 max	3 dB typ.	4 dB/27 dB	nr	1.8 dB typ.		2.7 - 6.0 VDC	Typ. 8.5 mA, +/- 4.5 mA	-40 to +80	Sine sweep 1 G (z-y) 10-150-10 Hz ea axis	y/rubber sealed	No/No	Choice: SMA, SMB, MCX, FAKRA	RG-174, 5 m	Magnetic	contact u-blox	nr
<b>Wang Electro-Opto Corporation</b> www.weo.com	Universal GNSS Antenna Series 100	2007	A,D,G,LL,M,N,V,T	115x x 30 mm	160g	1100 - 2000 MHz	<2.0:1	<3dB	5dB typ.	RHCP	1.7dB typ.		na	na	-45 to +70	MIL-STD-810F, DO-160E	yes/ rubber sealed	No/No	SMA/other available	na	Side or bottom feed	Upon Inquiry	na
	Universal GNSS Antenna Series 120	2009	A,D,G,LL,M,N,V,T	200x x 30 mm	360g	1100 - 2000 MHz	<2.0:1	<3dB	5dB typ.	RHCP	1.5dB typ.		na	na	-45 to +70	MIL-STD-810F, DO-160E	yes/ rubber sealed	No/No	SMA/other available	na	Side or bottom feed	Upon Inquiry	na
	Universal GNSS Antenna Series 210	2009	A,D,G,LL,M,N,V,T	115x x 30 mm	162g	1100 - 2000 MHz	<2.0:1	<3dB	5dB / 21dB typ.	RHCP	1.7/2dB typ.		3-5 VDC	4 mA	-45 to +70	MIL-STD-810F, DO-160E	yes/ rubber sealed	No/No	SMA/other available	na	Side or bottom feed	Upon Inquiry	na
	Universal GNSS Antenna Series 230	2009	A,D,G,LL,M,N,V,T	115x x 30 mm	164g	1100 - 2000 MHz	<2.0:1	<3dB	5dB / 37dB typ.	RHCP	1.7/2dB typ.		3-5 VDC	9 mA	-45 to +70	MIL-STD-810F, DO-160E	yes/ rubber sealed	No/No	SMA/other available	na	Side or bottom feed	Upon Inquiry	na
	Universal GNSS Antenna Series 250	2009	A,D,G,LL,M,N,V,T	115x x 30 mm	166g	1100 - 2000 MHz	<2.0:1	<3dB	5dB / 50dB typ.	RHCP	1.7/2dB typ.		3-5 VDC	20 mA	-45 to +70	MIL-STD-810F, DO-160E	yes/ rubber sealed	No/No	SMA/other available	na	Side or bottom feed	Upon Inquiry	na
	Universal GNSS Antenna Series 400 SW	2010	L,N,V,T	60x x 15 mm	180g	1150 - 1620 MHz	<2.0:1	<4dB	4dB / 20dB typ.	RHCP	2/2.5dB typ.		3-5 VDC	4 mA	-30 to +60	MIL-STD-810F	yes/ rubber sealed	No/No	SMA/other available	na	Side or bottom feed	Upon Inquiry	na