

# GPS WORLD

GNSS  
POSITION  
NAVIGATION  
TIMING

## 2018 GNSS ANTENNA SURVEY

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 **285 antennas** from **28 manufacturers**.

We publish the Antenna Survey each year in our February issue. To recommend improvements or to be listed in the survey next year, please email [gpsworld@gpsworld.com](mailto:gpsworld@gpsworld.com).



### FOOTNOTES

<sup>1</sup> User environment and applications:

- A = aviation
- D = defense
- E = meteorology
- G = survey/GIS
- L = land
- M = marine
- N = navigation
- O = other
- P = other position reporting
- R = real-time DGPS reference
- S = space
- T = timing
- V = vehicle/vessel tracking

<sup>2</sup> GPS L1 frequency 1575.42 MHz  
GPS L2 frequency 1227.60 MHz

<sup>3</sup> A single voltage standing wave ratio (VSWR) figure indicates a combined antenna and amplifier.

<sup>4</sup> Noise figure is expressed in maximum decibels.

<sup>5</sup> L/D = lightning/diode.

### ABBREVIATIONS

- cm: centimeter
- dB: decibel
- Ø: diameter
- ft: foot
- g: force of gravity
- g: gram
- Hz: hertz
- in: inch
- kg: kilogram
- lb: pound
- m: meter
- mA: milliampere
- max: maximum
- MHz: megahertz
- min: minimum
- mm: millimeter
- na: not applicable
- nr: no response
- qty: quantity
- RHCP: right-hand circular polarization
- typ: typical

# ANTENNA SURVEY 2018

Manufacturer	Model	Intro. Date	User Envir. <sup>1</sup>	Size: Length x Width x Height	Weight	Frequency/Bandwidth <sup>2</sup>	VSWR <sup>3</sup>	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/D <sup>5</sup>	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
AEI www.gpsantennas.com	GPS-SMA	2008	int/ext	43 x 33 x 14mm	100g	1575.42 MHz	2.01	2dB	25±3 dB	RHCP	1.5 dB	3-5V	8-15mA	-40 to +85		Waterproof IP66		SMA, BNC,FME, MCX,MMCX,SMB,SMC,TNC,FAKRA	RG174/3m	stick/magnet/screw mount	\$6 to \$12	Custom cable lengths, mounts and connectors available
	GPS, GSM & WIFI Dual & Triway Antennas	2009	int/ext	80D x 15mm	165g	1575.42 MHz±824MHz-894MHz/1710MHz-1990MHz/2400-2500 MHz	2.01	2dB	25±3 dB	RHCP	1.5 dB	3-5V	8-15mA	-40 to +85		Waterproof IP66		SMA, BNC,FME, MCX,MMCX,SMB,SMC,TNC,FAKRA	RG174/3m	stick/magnet/screw mount	\$12 to \$34	Custom cable lengths, mounts and connectors available
	GPSMR5232, GPSUSB	2008	int/ext	43 x 32 x 14mm	135g	1575.42 MHz	2.01	3dB	25±3 dB	RHCP	1.5 dB	5V	5mA	-40 to +85		Waterproof IP66		USB or RS232	RG174/3m	stick/magnet/screw mount	\$20 to \$38	Custom cable lengths, mounts and connectors available
	Jammer Detector AE-55SP	2014	Detects GPS GSM Jamming Equipment and triggers GPS panic button	9 x 5 x 1.7cm	65g	50 MHz ± 6.0 GHz						12V ~ 24VDC	9mA	-40 to +85		Interior use only		N/C and N/O relay contact output	20 gauge	stick/screw mount	\$45 to \$65	Installs next to GPS antenna and GSM modules to detect any jamming frequency transmitters in area to disable the GPS systems. Unit triggers GPS panic button with built-in relay.
	GPS-Fakra	2015	int/ext	60D x 14mm	110g	1575.42 MHz	2.01	2dB	25±3 dB	25±3 dB	RHCP	1.5 dB	1.5 dB	8-15mA	-40 to +85		Waterproof IP66		Fakra	RG174/3m	3M double stick tape	\$7 to \$16
AeroAntenna Technology, Inc. www.aeroantenna.com	AT1675-32 GNSS Antenna	2009	LG	5.75 x 1.53in	1.0lb	1525-1615 MHz & 1217-1260 MHz	≤2.0:1	3 dB max @ Boresight	26 and 39 dB	RHCP	2.6 dB Max	+4.2 to +15 VDC	40 & 65 mA	-55 to +85	nr	Y	Y	TNC/SMA Female	None	Roof Mount	nr	Amplifier
	AT1675-180 GNSS Airborne Antenna, Iridium Protected	2011	A	5.62 x 4.37 x 1.48in	.85lb	1525-1610 MHz & 1160-1252 MHz	≤2.0:1	as above	39 dB	RHCP	3.5 dB Max	+4.2 to +15 VDC	130 mA	-50 to +70	nr	Y	Y	TNC Female	None	Roof Mount	nr	Amplifier
	AT1675-182 GNSS Antenna	2009	LG	5.75 x 2.46in	1.0lb	1525-1615 MHz & 1217-1260 MHz	≤2.0:1	as above	26 and 39 dB	RHCP	2.6 dB Max	+4.2 to +15 VDC	40 & 65 mA	-55 to +85	nr	Y	Y	TNC Female	None	Roof Mount	nr	Amplifier
	AT1675-300 GNSS Choke Ring Antenna	2014	P	14.70 x 13.77in	11.0lb	1525-1615 MHz & 1164-1250 MHz	≤2.0:1	as above	39 & 45 dB	RHCP	2.6 dB Max	+4.2 to +15 VDC	65 mA	-55 to +85	nr	Y	Y	Type N Female	None	Pole Mount	nr	Amplifier
	AT3075-470 Beacon & GNSS Antenna, Inmarsat Protected	2012	M	7.50 x 3.17in	1.6lb	285-323 KHz, 1525-1610 MHz & 1160-1252 MHz	≤2.0:1	as above	39 & 45 dB	RHCP	2.6 dB Max	+5.0 to +18 VDC	120 mA	-55 to +70	nr	Y	Y	TNC Female	None	Pole Mount	nr	Amplifier
	AT1675-540 GNSS Antenna	2011	V	7.0 x 2.88in	1.0lb	1525-1610 MHz & 1160-1252 MHz	≤2.0:1	as above	39 dB	RHCP	2.6 dB Max	+3.0 to +15 VDC	65 mA	-55 to +70	nr	Y	Y	TNC Female	None	Pole Mount	nr	Amplifier
	AT1675-382 GNSS Antenna	2010	LG	5.75 x 2.46in	1.1lb	1525-1615 MHz & 1164-1260 MHz	≤2.0:1	as above	26 & 39 dB	RHCP	2.5 dB Max	+4.2 to +15 VDC	65 mA	-55 to +85	nr	Y	Y	TNC Female	None	Pole Mount	nr	Amplifier
	AT1675-304 L-Band, GPS & GLONAS Antenna	2012	V	2.71 x 1.05in	.28lb	1525-1607 MHz	≤2.0:1	as above	28 dB	RHCP	2.5 dB Max	+3.3 to +5.5 VDC	20 mA	-40 to +70	nr	Y	Y	SMA Female	None	Roof Mount	nr	Amplifier
	AT1675-504 L-Band, GPS & GLONASS Antenna	2012	V	2.71 x 1.05in	.28lb	1525-1607 MHz & 1217-1260 MHz	≤2.0:1	as above	26 & 36 dB	RHCP	2.5 dB Max	+3.3 to +5.5 VDC	45 mA	-40 to +85	nr	Y	Y	SMA Female	None	Roof Mount	nr	Amplifier
AT1675-450 GPS & GLONASS Antenna	2011	G	3.5 x .84in	213g	1565-1607 MHz & 1217-1260 MHz	≤2.0:1	as above	39 & 43 dB	RHCP	2.5 dB Max	+4.5 to +18 VDC	65 mA	-55 to +85	nr	Y	Y	TNC & SMA Female	None	Roof Mount	nr	Amplifier	
Allis Communications Co., Ltd. www.alliswireless.com	GCRU	2017	NV	100 D x 39mm	280g max. (without cable)	GPS: 1575.42 ± 3 MHz Cellular: 824-960 /1850-1990 MHz	GPS: 2.0: 1 max. Cellular: 2.0: 1 max.	GPS: 3 dB max.	GPS: 27dB typ.	GPS: RHCP Cellular: Omni-direction/ Linear	GPS: 1.5 dB max.	GPS: 2.7-6V	8.5±4.5mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-10Hz each axis	Y: IP66/IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	GPS: RG174/ RG316 Cellular: RG58/ RG174/ RG316	Thread Permanent Mount		GPS/ Cellular
	M828G	2015	NV	48 x 40 x 13mm	42g max. (without cable)	GPS/ GLONASS: 1560-1605 MHz	2.0: 1 max.	3 dB max.	27dB typ.	RHCP	2.0dB max.	2.7-5.5 V	6-11mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-10Hz each axis	Y: IP66/IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	RG174/RG316	Magnetic base		GPS/ GLONASS
	GCRGI	2013	MNV	100 D x 67mm	280g max. (without cable)	GPS: 1575.42± 3 MHz Iridium: 1621 ± 3 MHz	GPS: 1.5: 1 max. Iridium: 1.5: 1 max.	3 dB Max.	GPS: 28 dB typ. Iridium: 50dB typ.	RHCP	GPS: 1.8 dB max.	2.7-6.0V	12±5.5 mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-18Hz each axis	Y: IP66/IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	GPS: RG174/ RG316 Cellular: RG58/ RG174/ RG316	Thread Permanent Mount		Iridium/ GPS
	AM460	2013	MNOV	139 D x 60mm	<1.1kg (without cable)	GPS: 1575.42 ± 3 MHz Iridium: 1616-1620MHz Cellular: 698-960MHz, 1710-2170MHz Wi-Fi: 2.4-2.5GHz, 4.7-5.9GHz	GPS: 1.5: 1 max. Iridium: 2.0: 1 max. Cellular: 3.0: 1 max. Wi-Fi: 3.0: 1 max.	GPS/ Iridium: 3 dB Max.	GPS: 27dB typ. Iridium: 40B typ. Cellular: Omni-direction/ Linear Wi-Fi: 7dB max.	GPS/ Iridium: Cellular/ Wi-Fi: Omni-direction/ Linear	GPS: 1.8dB max.	GPS: 2.7-6.0V	8.5±4.5mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-20Hz each axis	Y: IP67 stainless bottom	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	GPS: RG174/ RG316 Cellular: RG58/ RG174/ RG316 Wi-Fi: RG58/ RG174/ RG316	Thread Permanent Mount		GPS/ LTE/ 2G/ 3G/ Wi-Fi
	SG25C	2015	NV	48 x 40 x 13mm	42g max.(without cable)	GPS/GLONASS/BDS: 1559MHz - 1615MHz	2.0: 1 max.	3 dB max.	25dB typ.	RHCP	2.0dB max.	2.7-5.5V	12-16mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-21Hz each axis	Y: IP66/IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	RG174/RG316	Magnetic base		GPS/GLONASS/BDS/Galileo
	ACCP1	2007	NV	55 D X 31mm	105g max.(without cable)	GPS: 1575.42 ± 3 MHz	2.0: 1 max.	3 dB max.	27dB typ.	RHCP	2.0dB max.	3-5.5V	22±3 mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-21Hz each axis	Y: IP66	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	RG174/RG316	Thread Permanent Mount		GPS
	U827U	2017	NV	49 x 36.6 x 15.8mm	42g max.(without cable)	GPS: 1575.42 ± 3 MHz	2.0: 1 max.	3 dB max.	29dB typ.	RHCP	0.9dB max.	2.7-5.5V	6-11mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-21Hz each axis	Y: IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	RG174/RG316	Magnetic base		GPS
	CM20U	2017	NV	75 D x 16mm	75g max.(without cable)	GPS: 1575.42 ± 3 MHz	2.0: 1 max.	3 dB max.	20dB typ.	RHCP	2.5dB max.	2.7-6V	3.5±2 mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-21Hz each axis	Y: IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	GPS: RG174/ RG316 Cellular: RG58/ RG174/ RG316	Magnetic base		GPS/ Cellular
	X830B	2013	NV	36 x 36 x 13.9mm	35g max.	GPS: 1575.42 ± 3 MHz	1.5 max.	3dB max. at 1575MHz	GPS -- 27dB @ 2.7VDC 36dB @ 6VDC	RHCP	2.0dB max.	2.7 to 6 V	9.5±4.5mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-22Hz each axis	Y: IP67	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	RG174/5m	Magnetic base		GPS Only
	L827U	2017	NV	49.3 x 49.3 x 17.3mm	46g max.(without cable)	GPS: 1575.42 ± 3 MHz	2.0: 1 max.	3 dB max.	29dB typ.	RHCP	0.9dB max.	2.7-5.5V	6-11mA	-40 to +85	Sine Sweep, 1G(0-P), 10-150-22Hz each axis	Y: IP66	N/N	BNC,TNC,SMA,SMB,MCX,SMC, MMCX, FAKRA	RG174/RG316	Magnetic base		GPS Only
Antcom, Inc. www.antcom.com	0.9G15A-XX-X (active) 0.9G15P-XX-X (passive)	2009	DLMOV	31.75 x 31.75 x 13.59mm	30g	1575.42 ± 12 MHz	≤1.5:1	2.5 dB typ	24 dB typ (passive also available)	RHCP	1 dB typ	2.5 - 24 VDC	15 to 25 mA typ	-55 to +85	>30 G	Yhermetically	YY	RA MCX, MCX, SMA, SMB, SSMA, SSMB, SSMC, TNC, Lemo	RG-316/15.24cm (custom length available)	2x flange mounts	Contact Antcom	nr
	1G1215A-XX-X (active) 1G1215P-XX-X (passive)	2007	DLMOV	52.78 x 52.78 x 17.54mm	82g	1575.42 ± 15 MHz 1227.60 ± 15 MHz	≤1.5:1	2 dB typ	L1: 33 dB typ L2: 35 dB typ (passive also available)	RHCP	3 dB typ	2.5 - 24 VDC	20 to 50mA typ	-55 to +85	>30 G	Yhermetically	YY	SMA F, TNC, TNC-Bulkhead, N, N-Bulkhead, MCX, MMCX	RG-178/7.39cm (custom length available)	4x screws back mount & adhesive gasket	Contact Antcom	nr
	1.3G1215A-XX-X (active) 1.3G1215P-XX-X (passive)	2013	DGLMNOV	33.53 x 33.53 x 17.58mm	53.9g	1575.42 ± 15 MHz 1227.60 ± 12 MHz	≤1.5:1	L1: 1 dB typ L2: 3dB typ	24 dB typ (filter option available)	RHCP	1.8dB typ	2.5 - 28 VDC	15 to 25 mA typ	-55 to +85	>30 G	Yhermetically	YY	SMA F, MCX, QMA, TNC, SMB, SSMA, SSMB, SSMC, SSMC, MCX, SMP	24 dB and 30 dB typ (filter option available)	4x screws back mount + o-ring	Contact Antcom	nr
	1.9G1215A-XX-X (active) 1.9G1215P-XX-X (passive)	2004	DGLMNOV	50 x 50 x 13.54mm	68g	1575.42 ± 12 MHz 1227.60 ± 12 MHz	≤1.5:1	2 dB typ	20 dB and 30 dB typ (filter option available)	RHCP	<3dB typ	2.5 - 24 VDC	20 to 50 mA typ	-55 to +85	>30 G	Yhermetically	YY	SMA F, TNC, TNC-Bulkhead, N, N-Bulkhead, MCX, SMA	20 dB and 30 dB typ (filter option available)	4x corner flange mounts	Contact Antcom	nr
	2G1215A-XX-X (active) 2G1215P-XX-X (passive)	2007	ADGLMNOTV	66.04 Ø x 18mm no-mag 66.04 Ø x 22mm with-mag	113g no mag 198g with mag	1575.42 ± 15 MHz 1227.60 ± 15 MHz	≤1.5:1	2 dB typ	L1: 33 dB typ L2: 35 dB typ (filter option available)	RHCP	3 dB typ	2.5 - 24 VDC	<50 mA typ	-55 to +85	>30 G	Yhermetically	YY	SMA F, TNC, N, MCX, MMCX,	24 dB and 30 dB typ (filter option available)	4x screws back mount + o-ring	Contact Antcom	nr
	G3Ant-2XXX (2.7" dia. screw thru-hole/magnmount) G3Ant-3XXX (3.5" dia. aviation/screw thru-hole)	2009	ADGLMNOTSV	2.7": 68.81 Ø x 17.30mm 3.5": 88.90 Ø x 21.89mm	184g 256g	1575.42 ± 17 MHz 1609 ± 7 MHz 1542.4 ± 14 MHz 1561.098 ± 10 MHz	≤1.5:1	1 dB typ	33 dB typ (passive also available)	RHCP	3 dB typ	2.5 - 24 VDC	30 to 40 mA	-55 to +85	>30 G	Yhermetically	YY	SMA MALE, TNC, N, MCX, MCX	24 dB and 30 dB typ (filter option available)	4x hole, surface	Contact Antcom	nr
	G5Ant-42XXX (ARINC 743)	2009	ADGLMNOTSV	119.38 x 76.20 x 22.80mm	227g	1575.42 ± 16 MHz 1609 ± 7 MHz 1227.6 ± 12 MHz 1252.5 ± 7.5 MHz 1542.5 ± 14 MHz	≤2.0:1	2 dB typ	33 - 35 dB typ (passive also available)	RHCP	3.0 dB typ	2.5 - 24 VDC	20 to 50 mA typ	-55 to +85	>30 G	Yhermetically	YY	TNC F, SMA, BNC, TNC Bulkhead, N, N Bulkhead, MCX, MMCX	33 - 35 dB typ (passive also available)	4x hole, surface	Contact Antcom	nr
	G8Ant-52A4XX Rev A (active) G8Ant-52P4XX (passive)	2013	DGLMNOV	127 D x 83.55mm	567g	1575.42 ± 17 MHz 1598 - 1609 MHz 1164.45 - 1219.14 MHz 1242 - 1252 MHz 1266.75 - 1290.75 MHz 1227.6 ± 12 MHz 1207.14 ± 10MHz 1252.5 ± 7.5 MHz 1542.5 ± 14 MHz	≤2.0:1	1 dB typ	42 - 43 dB typ (passive also available)	RHCP	2.6dB	2.5 - 24 VDC	<50 mA typ	-55 to +85	>30 G	Yhermetically	YY	TNC F, SMA, BNC, TNC Bulkhead, N, N Bulkhead, MCX, MMCX	42 - 43 dB typ (passive also available)	5/8-11 UNC	Contact Antcom	nr
	4NC-3.5G1215X-XS-X Rev B	2006	CRPA	88.90 D x 17.53mm	146g	1575.42 ± 50 MHz 1227.60 ± 27 MHz	≤2.0:1	2 dB typ	na (active also available)	RHCP	na	na	na	-55 to +85	>30 G	Yhermetically	YY	SMA, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	na (active also available)	4x hole, surface	Contact Antcom	nr

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Manufacturer	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth 2	VSWR 3	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)/Type	L/D 5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
	SNF-4.5CG1215P-XS-X Rev D	2007	CRPA	114.3 D x 13.90mm	146g	1575.42 ± 24 MHz 1227.60 ± 24 MHz	≤2.0:1	2 dB typ	na (active also available)	RHCP	na	na	na	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable, hardward options and other enclosure form factors available	5x hole, bottom	Contact Antcom	nr
	GSAnt-72CAT1	2009	DGLMNOV	178 D x 159.48mm	825g	1575.42 ± 16 MHz 1609 ± 7 MHz 1227.6 ± 12 MHz 1252.5 ± 7.5 MHz 1542.5 ± 14 MHz	≤2.0:1	1 to 4 dB typ	33 - 35 dB typ (passive also available)	RHCP	3.0 dB typ	2.5 - 24 VDC	20 to 50 mA typ	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable and hardward options available		Contact Antcom	nr
	GSAnt-123CAT1	2010	DGLMNOV	308 D x 222.8mm	4.1kg	1575.42 ± 16 MHz 1609 ± 7 MHz 1227.6 ± 12 MHz 1252.5 ± 7.5 MHz 1542.5 ± 14 MHz	≤2.0:1	0.4 to 3 dB typ	33 - 35 dB typ (passive also available)	RHCP	3.0 dB typ	2.5 - 24 VDC	20 to 50 mA typ	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable and hardward options available		Contact Antcom	nr
	3DSSA-XTM-4	2011	DGLMNOV	25.40 D x 106.68mm	48.62g	1575.42 ± 16 MHz 1609 ± 7 MHz 1227.6 ± 12 MHz 1252.5 ± 7.5 MHz 1542.5 ± 14 MHz	≤1.5:1	1 to 5 dB typ	20 - 24 dB typ (passive also available)	RHCP	2.6 dB typ	2.5 - 5 VDC	20 to 30 mA typ	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable and hardward options available		Contact Antcom	nr
	SSGIR1516RR-AP-XDGO2-UU	2013	Underwater Application	129.69 x 57.91 x 76.07mm	1.03kg	1575 ± 17 MHz 1610 - 1626 MHz	≤2.0:1	2 dB typ	33 dB typ for L1 GPS (passive also available)	RHCP	2.6 dB typ	2.5 - 24 VDC	<50 mA typ	-55 to +85	>30 G	Y/hermetically	YY	DGO/Ametek Underwater Connector	cable and hardward options available	screw mount	Contact Antcom	nr
	SSGIR121625RRL-APP-XDGO3-UU	2013	Underwater Application	129.69 x 57.91 x 76.07mm	1.03kg	1575 ± 17 MHz 1227.60 ± 15 MHz 1610 - 1626 MHz 2400 - 2500 MHz	≤2.0:1	2 dB typ	33 dB typ for L1 and L2 GPS (passive also available)	RHCP/Vertical	2.6 dB typ	2.5 - 24 VDC	<50 mA typ	-55 to +85	>30 G	Y/hermetically	YY	DGO/Ametek Underwater Connector	cable and hardward options available	screw mount	Contact Antcom	nr
	5BGL1L2IR24G-AP3-XT4-2	2013	ADGLMNOTSV	127.66 x 55.88 x 130.48mm	1.03kg	1575 ± 17 MHz 1227.60 ± 15 MHz 1610 - 1626 MHz 810 - 960 MHz 2400 - 2500 MHz 4400 - 5850 MHz	≤2.0:1	3 dB typ	33 dB typ for L1 and L2 GPS (passive also available)	RHCP/Vertical	3.0 dB typ	2.5 - 24 VDC	<50 mA typ	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable and hardward options available	screw mount	Contact Antcom	nr
	5G12160925RRL-AP3-XCRA2154-UU	2014	Underwater Application	129.69 x 57.91 x 160.40mm	1.32kg	1575 ± 17 MHz 1227 ± 15 MHz 1610 - 1626 MHz 810 - 960 MHz 2400 - 2500 MHz	≤2.0:1	3 dB typ	33 dB typ for L1 and L2 GPS (passive also available)	RHCP/Vertical	3.0 dB typ	2.5 - 24 VDC	<50 mA typ	-55 to +85	>30 G	Y/hermetically	YY	DGO/Ametek Underwater Connector	cable and hardward options available	screw mount	Contact Antcom	nr
	5GNSS16RR-PP-XTT-1	2015	ADGLMNOTSV	127.66 x 55.88 x 21.41mm	226g	1542.5 ± 17.5 MHz 1575 ± 17 MHz 1609 - 2626 MHz 1642.5 ± 17.5 MHz	≤2.0:1	3 dB typ	na (active for receiving only also available)	RHCP	na	na	na	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable and hardward options available	screw mount	Contact Antcom	nr
	5G1616RR-PP-XTT-1 Rev A	2013	ADGLMNOTSV	127.66 x 55.88 x 14.81mm	187g	1610.0 - 1626.5 MHz 1610.0 - 1626.5 MHz	≤2.0:1	2 dB typ	na (active for receiving only also available)	RHCP	na	na	na	-55 to +85	>30 G	Y/hermetically	YY	SMA, TNC, SMB, SMC, SSMA, SSMB, SSMC, MCX, MMCX	cable and hardward options available	screw mount	Contact Antcom	nr
Antenna www.antenna-m2m.com	Sinca SR4G008	2015	LMNOPRV	7 x 5.8 x 0.4mm	<0.2g	1559-1609 MHz	1.4:1	na	RHCP	na	na	na	-40 to +125	na	na	na	na	na	SMD	Contact distributor or Antenna		
	Belli SRG013	2016	LMNOPRV	15.65 x 4.4 x 3.2mm	<0.5g	1559-1609 MHz	2.24:1	na	RHCP	na	na	na	-40 to +125	na	na	na	na	na	SMD	Contact distributor or Antenna		
	Bentoni SRF017	2016	LMNOPRV	40 x 14 x 0.15mm	<0.5g	1559-1609 MHz	1.48:1	na	RHCP	na	na	na	-40 to +125	na	na	na	1.13mm RF Cable with IPEX MHF	50mm,100mm,150mm	self-adhesive	Contact distributor or Antenna		
	Asper SRFW018	2016	LMNOPRV	81 x 14 x 0.15mm	<0.5g	1559-1609 MHz / 2.4-2.5 GHz	1.4:1	na	RHCP	na	na	na	-40 to +125	na	na	na	1.13mm RF Cable with IPEX MHF	100mm,150mm,200mm	self-adhesive	Contact distributor or Antenna		
	Robusta SR4G031	2017	LMNOPRSTV	23.0 x 16.0 x 1.7mm	<0.5g	1559-1609MHz	1.70:1 on metal, 1.60:1 in free space	na	na	na	na	na	na	-40 to +85	na	na	na	RF cable with IPEX MHF	100mm, 150mm	self-adhesive	Contact distributor or Antenna	
	M20048-1	2017	LMNPTV	13.8 x 9.5 x 1.8mm	<1g	1575 MHz	na, integrated receiver	na, integrated receiver	na, integrated receiver	RHCP	na, integrated receiver	2.8-4.2 VDC	na, integrated receiver	-40 to +85	na	na	na	na	na	SMD	Contact distributor or Antenna	
	M20050-1	2017	LMNPTV	13.8 x 9.5 x 1.8mm	<1g	1575-1609 MHz	na, integrated receiver	na, integrated receiver	na, integrated receiver	RHCP	na, integrated receiver	2.8-4.2 VDC	na, integrated receiver	-40 to +85	na	na	na	na	na	SMD	Contact distributor or Antenna	
	M10578-A2	2016	LMNPTV	9 x 9 x 1.8mm	<1g	1575 MHz	na, integrated receiver	na, integrated receiver	na, integrated receiver	RHCP	na, integrated receiver	2.8-4.2 VDC	na, integrated receiver	-40 to +85	na	na	na	na	na	SMD	Contact distributor or Antenna	
M10578-A3	2016	LMNPTV	9 x 9 x 1.8mm	<1g	1575-1609 MHz	na, integrated receiver	na, integrated receiver	na, integrated receiver	RHCP	na, integrated receiver	2.8-4.2 VDC	na, integrated receiver	-40 to +85	na	na	na	na	na	SMD	Contact distributor or Antenna		
M20047-1	2017	LMNPTV	7.0 x 7.0 x 1.1mm	<1g	1559-1609 MHz	1.4:1	na, integrated receiver	na, integrated receiver	na, integrated receiver	na, integrated receiver	1.5-3.3V via bias feed	na	-40 to +85	na	na	na	na	na	SMD	Contact distributor or Antenna		
ftech Radio Frequency System Corporation www.f-tech.com.tw	FA02	2010	ALMN+D2:WZV	30 x 30 x 12mm	20g	1575.42MHz/L1	2	≤5	29	RHCP	0.65	2.5-3.3	5	-40 to +85	na	Y/IP65	N	SMA/MCX/MMCX	various length available	magnetic /sticker	price will be quoted by qty.	
GPS Source, Inc. www.gps-source.com	L1A	2006	ADELMNOTV	3.5 x 3.5 x .65in	3.5oz	1575.5 k +/- 10MHz	2:01	nr	3 dB/33dB	Hemispheric	2.0dB	3-16 VDC	20 mA max	-30 to +70	Sine 10-500 Hz 5G XYZ, Shock 30G	Y/Water Proof	DC ground	SMA, TNC, N	na	10-32 4-Hole 2.3in	Please call	GPS
	L1L2-2GP	2010	ADELMNOTV	2.6 x .94in	6.4oz	1575.5 k 10MHz 1227.6 k 10MHz	2:01	nr	3 dB	Hemispheric	na	3-10 VDC	50 mA max	-54 to +71	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	6-32 4-Hole 2.3in	Please call	GPS
	L1L2-2GA	2010	ADELMNOTV	2.6 x .94in	6.4oz	1575.5 k 10MHz 1227.6 k 10MHz	2:01	nr	L1 3 dB/33 dB L2 6.7dB/33 dB	Hemispheric	na	3-10 VDC	50 mA max	-54 to +71	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	6-32 4-Hole 2.3in	Please call	GPS
	L1L2-RA-1	2011	ADELMNOTV	3 x 2.27in	6.3oz	1575.42 k 15MHz 127.6 k 15MHz	2:0:1	2dB max	L1 3dB/26 dB L2 3dB/26dB	Hemispheric	2.8dB	2.5 - 10 VDC	30 mA max	-54 to +71	as above	Y/Water Proof	DC ground	SMA	na	Magnet or 10-32 1-hole and 6-32 3-hole	Please call	GPS
	L1L2-RA-2	2011	ADELMNOTV	3.4 x 2.2in	6.7oz	1575.42 k 15MHz 1227.6 k 15MHz	2:0:1	2dB max	L1 3dB/26 dB L2 3dB/26dB	Hemispheric	2.8dB	2.5 - 10 VDC	30 mA max	-54 to +71	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	6-32 4-hole	Please call	GPS
	L1G1A	2015	ADELMNOTV	3.5 x 3.5 x .65in	3.5oz	1585 +/- 25MHz	2:0:1	2dB max	3 dB/30dB	Hemispheric	2dB	3-16 VDC	20 mA max	-30 to +70	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	10-32 4-Hole 2.3in	Please call	GNSS
	L1G1P	2015	ADELMNOTV	3.5 x 3.5 x .65in	2.7oz	1585 +/- 25MHz	2:0:1	2dB max	3 dB	Hemispheric	2dB	3-16 VDC	20 mA max	-30 to +70	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	10-32 4-Hole 2.3in	Please call	GNSS
	GNSS-3A	2014	ADELMNOTV	3.5 x .97in	9.6oz	1584 +/- 26MHz 1215 +/- 25MHz	2:0:1	2.8dB max	L1 3dB/30 dB	Hemispheric	3dB	3.3 - 10 VDC	35 mA max	-54 to +71	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	6-32 4-Hole or 10-32 4-Hole	Please call	GNSS
GNSS-3P	2014	ADELMNOTV	3.5 x .97in	9.4oz	1585 +/- 25MHz	2:0:1	2.8dB max	3 dB	Hemispheric	2dB	na	na	-54 to +71	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	10-32 4-Hole 2.3in	Please call	GNSS	
	L1G1A-STD	2015	ADELMNOTV	3.5 x 3.5 x .65in	3.5oz	1585 +/- 25MHz	2:0:1	nr	3 dB/33dB	Hemispheric	2dB	3-16 VDC	20 mA max	-30 to +70	as above	Y/Water Proof	DC ground	SMA, TNC, N	na	10-32 4-Hole 2.3in	195	GNSS
Gutec AB www.gutec.se	GNSSA210	2015	G	96 x 170mm Ø	300g	GPS L1, GPS L2, GPS L5, GLONASS G1, GLONASS G2, GLONASS G3, GALILEO E1, GALILEO E5	<0.1	<3 dB	6 dB/29 dB	Hemispheric	<1.5 dB	4-15 VDC	15 mA	-40 to +85	Sine 10-200 Hz 1 G XYZ, Shock 10 G	Y/ventilated body (Gore vent), hermetic connector	na	TNC	na	5/8in UNC	2500	Y
Harxon Corporation www.en.harxon.com	HX-CH4601A	2015	ADEGLNR/PO	27.5 Ø x 59mm	19g	GPS L1/L2 GLONASS L1/L2	2 (max)	3 dB max	2dB/36dB	RHCP	<2.0 dB	3.3-12VDC	≤55mA	-40 to +70	na	IP67	na	SMA-J	na	Bracket mounting	Contact: sales@harxon.com	Amplifier
	HX-CH6017A	2016	AGLNPR	23.8 Ø x 45.3mm	7g	GPS L1/L2 BDS B1/B2 GLONASS L1/L2	2 (max)	3 dB max	2dB/33dB	RHCP	<2.0 dB	3-12VDC	≤55mA	-40 to +70	na	na	na	SMA-male	OEM	Embedded snap-in mounting	Contact: sales@harxon.com	Embedded
	HX-CA7607A	2012	ADEGNV/PO	90 Ø x 41.5mm	137g	GPS L1/L2 GLONASS L1/L2 BDS B1/B2/B3	2 (max)	3 dB max	4dB/36dB	RHCP	<2.0 dB	3.3-12VDC	≤45mA	-40 to +80	na	IP67	na	TNC-K SMA-K	na	M4 screw	Contact: sales@harxon.com	Amplifier
	D-Helix Antenna	2017	ADEGLNR/PO	40 Ø x 82.6mm	40g	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2/L3 Galileo E1/E5a/E5b/E6 L-Band	2 (max)	3 dB max	4dB/33dB	RHCP	<2.0 dB	3.3-12VDC	≤55mA	-40 to +70	na	IP65	na	SMA-J	na	Bracket mounting	Contact: sales@harxon.com	Amplifier
	GPS500	2016	DEGLMNR/PO	152 Ø x 62.2mm	374g	GPS L1/L2 GLONASS L1/L2 BDS B1/B2/B3	2 (max)	3 dB max	5.5dB/40dB	RHCP	<2.0 dB	3.3-12VDC	≤45mA	-40 to +70	na	IP67	na	TNC-K	na	5/8" x 11 Threaded	Contact: sales@harxon.com	Amplifier

# ANTENNA SURVEY 2018

Manufacturer	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth 2	VSWR 3	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)/Type	L/D 5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration	
	GPS1000	2016	DEGLMNRVPO	152 Ø x 62.2mm	374g	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2 Galileo E1/E2/E5a/E5b L-Band	2 (max)	3 dB max	5.5dB/40dB	RHCP	<2.0 dB	3.3-12VDC	≤45mA	-45 to +85		IP67		TNC-K	na	5/8" x 11 Threaded	Contact: sales@hanxon.com	Amplifier	
	HX-CSX601A	2015	DEGLMNRVPO	173.4 Ø x 62.2mm	456g	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2 Galileo E1/E2/E5a/E5b L-Band	2 (max)	3 dB max	5.5dB/40dB	RHCP	<2.0 dB	3.3-12VDC	≤45mA	-40 to +70		IP67		TNC-K	na	5/8" x 11 Threaded	Contact: sales@hanxon.com	Amplifier	
	HX-CSX607A	2015	DEGLMNRVPO	173 Ø x 62.2mm	456g	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2 Galileo E1/E2/E5a/E5b L-Band	2 (max)	3 dB max	5.5dB/40dB	RHCP	<2.0 dB	3.3-12VDC	≤45mA	-40 to +70		IP67		TNC-K	na	5/8" x 11 Threaded	Contact: sales@hanxon.com	Amplifier	
	HX-CGX601A	2014	DGLNRPO	379 Ø x 312mm	10.5kg	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2 Galileo E1/E2/E5a/E5b L-Band	2 (max)	3 dB max	7dB/40dB 7dB/50dB	RHCP	<2.0 dB	3.3-12VDC	≤60mA	-45 to +85		IP67		TNC-K	na	5/8" x 11 Threaded	Contact: sales@hanxon.com	Amplifier	
	HX-CSX048A	2015	AGLNVPO	148 Ø x 25.4mm	220g	GPS L1/L2/L5 BDS B1/B2/B3 GLONASS L1/L2 Galileo E1/E2/E5a/E5b L-Band	2 (max)	3 dB max	5.5dB/40dB	RHCP	<2.0 dB	3.3-12VDC	≤45mA	-40 to +85		na		MMCX-50KWE	OEM	M3 screw	Contact: sales@hanxon.com	Amplifier,OEM.embedded	
Hemisphere GNSS www.hemispheregnss.com	A21	2009	ADEGLMNV	70 x 130mm	380g	1525 - 1610MHz			30 dB	RHCP	2.0, typ	3 - 12 VDC	24mA typ	-40 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 1" or 5/8" adapter	call	L1 GPS / L1 GLONASS / L-Band	
	A25	2014	DEGLMNV	47 x 152mm	400g	1525 - 1615MHz			30 dB	RHCP	2.0, typ	3 - 12 VDC	12mA typ	-40 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 5/8"	call	L1 GPS / L1 GLONASS / B1 BeiDou / E1 Galileo/ L-Band	
	A31	2011	DEGLMNV	104 x 145mm	730g	283.5 - 325kHz, 1525 - 1610MHz			30 dB	RHCP	2.0, typ	5 - 12 VDC	50 - 60mA typ	-30 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 1" or 5/8" adapter	call	L1 GPS / L1 GLONASS / L-Band / Beacon	
	A42	2011	DEGLMNV	70 x 130mm	380g	1165 - 1253MHz, 1525 - 1613MHz			30 dB	RHCP	2.0, typ	3 - 12 VDC	35mA typ	-40 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 5/8"	call	L1/L2/L5 GPS / L1/L2 GLONASS / B1/B2/B3 BeiDou / Galileo / QZSS / SBAS / L-Band	
	A43	2012	DEGLMNV	104 x 145mm	730g	283.5 - 325kHz, 1165 - 1278MHz, 1525 - 1613MHz			30 dB	RHCP	2.0, typ	5 - 12 VDC	50 - 60mA typ	-40 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 1" or 5/8" adapter	call	L1/L2/L5 GPS / L1/L2 GLONASS / B1/B2/B3 BeiDou / Galileo / QZSS / SBAS / L-Band/ Beacon	
	A45	2014	DEGLMNV	47 x 152mm	500g	1165 - 1278MHz, 1525 - 1615MHz			30 dB	RHCP	2.0, typ	3 - 12 VDC	25mA typ	-40 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 5/8"	call	L1/L2/L5 GPS / L1/L2 GLONASS / B1/B2/B3 BeiDou / Galileo / QZSS / SBAS / L-Band	
	A52	2010	DEGLMNV	76 x 185mm	780g	1165 - 1253MHz, 1525 - 1613MHz			30 dB	RHCP	2.0, typ	3 - 12 VDC	35mA typ	-40 to +70	EP455	Y/IP69K	NN	TNC	5m typ	Magnetic, screw 5/8"	call	L1/L2/L5 GPS / L1/L2 GLONASS / B1/B2/B3 BeiDou / Galileo / QZSS / SBAS / L-Band	
Inventeksys www.inventeksys.com	ACTPAT154-01-IP	2007	GLMNV	15 x 15 x 4mm	0.01oz	1578.00 +/-2.0 MHz	1.5	2 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +85	nr	N		U.FL	63	Active Patch	\$9.75		
	ACTPAT184-01-IP	2007	GLMNV	18 x 18 x 4mm	0.01oz	1578.00 +/-2.0 MHz	1.5	2 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +85	nr	N		U.FL	63	Active Patch	\$9.75		
	ACTPAT182-025-IP	2008	GLMNV	18 x 18 x 2mm	0.01oz	1578.00 +/-2.0 MHz	1.5	2 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +85	nr	N		U.FL	25	Active Patch	\$9.75		
	ACTPAT182-01-IP	2008	GLMNV	18 x 18 x 2mm	0.01oz	1578.00 +/-2.0 MHz	1.5	2 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +85	nr	N		U.FL	63	Active Patch	\$9.75		
	ACTPAT182-07-IP	2008	GLMNV	18 x 18 x 2mm	0.01oz	1578.00 +/-2.0 MHz	1.5	2 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +85	nr	N		U.FL	165	Active Patch	\$9.75		
	ACTPAT254-01-IP	2008	GLMNV	25 x 25 x 4mm	0.01oz	1581.00 +/-2.0 MHz	2	2 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +85	nr	N		U.FL	25	Active Patch	\$9.75		
	ANTDOM-05-01-WPM	2008	ADGLMNV	45 x 14.5mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +90	nr	Y		SMA	5000	Active Dome	\$12.75		
	ANTDOM-10-MCX-WPM	2008	ADGLMNV	45 x 14.5mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +90	nr	Y		MCX	10000	Active Dome	\$13.27		
	ANTDOM-10-MCX-WPMT	2008	ADGLMNV	45 x 14.5mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +90	nr	Y		MCX	10000	Active Dome	\$13.27		
	ANTDOM-05-MMCX-WPM	2008	ADGLMNV	45 x 14.5mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.4	2.7-5.4 V	10	-40 to +90	nr	Y		MMCX	5000	Active Dome	\$13.27		
	ANTBULK-0.2-SMB-RG316	2009	ADGLMNV	47 x 15.2mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.5	3.0-5.4 V	10	-40 to +90	nr	Y		SMB	200	Bulkhead	\$14.75		
	ANTBULK-05-SMA	2009	ADGLMNV	47 x 15.2mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.5	3.0-5.4 V	10	-40 to +90	nr	Y		SMA	5000	Bulkhead	\$13.27		
	ANTBULK-05-SMA-RG316	2009	ADGLMNV	47 x 15.2mm	0.01oz	1575.42 MHz	2	1.0 dB typ	26 to 35 dB	RHCP	1.5	3.0-5.4 V	10	-40 to +90	nr	Y		SMA	5000	Bulkhead	\$13.27		
	PAT152																						
	ACTPATM3333-01-IP-UWB	2017	GLMNV	25 x 25 x 4mm	0.01oz	1561, 1575.42, 1598-1606	2	2 dB typ	4.2 dB	RHCP	NA	NA	NA	-40 to +85	nr	N		U.FL	63	PCB	\$15.39		
ANTDOM3333-01-SMA-UWB	2017	GLMNV	25 x 25 x 4mm	0.01oz	1561, 1575.42, 1598-1606	2	2 dB typ	4.2 dB	RHCP	NA	NA	NA	-40 to +85	nr	N		SMA	5000	Bulkhead	\$17.57			
JAVAD GNSS www.javad.com	GrAnt-GST	2014	GDLMNRVPO	140 x 140 x 62mm	515g	1555-1610 MHz, 1164-1300 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB 4 / L2 32±2 dB	Omnidirectional, hemispherical	L1 1.7 dB L2 1.7 dB	3-15 VDC	45 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	GrAnt-GST	2008	GDLMNRVPO	140 x 140 x 62mm	515g	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB 4 / L2 32±2 dB	as above	L1 1.7 dB L2 1.7 dB	3-15 VDC	45 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	GrAnt-GST+	2016	GDLMNRVPO	140 x 140 x 62mm	515g	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 33±3 dB 4 / L2 33±3 dB	as above	L1 2.8 dB L2 2.8 dB	4.5-15 VDC	90 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	Filter J-SHIELD+, GPS/GLONASS/GALILEO/BEIDOU/WAAS/EGNOS/MSAS/GAGAN/QZSS; opt. Snow Cone; opt. N-type connector	
	GrAnt-GST-JS	2012	GDLMNRVPO	140 x 140 x 62mm	515g	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 33±3 dB 4 / L2 33±3 dB	as above	L1 2.8 dB L2 2.8 dB	4.5-15 VDC	90 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	Filter J-SHIELD, GPS/GLONASS/GALILEO/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	GrAnt-G3	2008	GDLMNRVPO	140 x 140 x 62mm	450g	1555-1610 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB	as above	L1 1.7 dB	3-15 VDC	25 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	GrAnt-G3+	2017	GDLMNRVPO	140 x 140 x 62mm	450g	1555-1610 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 33±3 dB	as above	L1 2.8 dB	4.5-15 VDC	57 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	Filter J-SHIELD+, GPS/GLONASS/GALILEO/BEIDOU/WAAS/EGNOS/MSAS/GAGAN/QZSS; opt. Snow Cone; opt. N-type connector	
	RingAnt-GST	2014	GDLMNRVPO	Ø 326 x 88mm	2.7kg	1555-1610 MHz, 1164-1300 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB 4 / L2 32±2 dB	as above	L1 1.7 dB L2 1.7 dB	3-15 VDC	45 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	RingAnt-G3T	2008	GDLMNRVPO	Ø 326 x 88mm	2.7kg	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB 4 / L2 32±2 dB	as above	L1 1.7 dB L2 1.7 dB	3-15 VDC	45 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	RingAnt-G3T+	2017	GDLMNRVPO	Ø 326 x 88mm	2.7kg	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 33±3 dB 4 / L2 33±3 dB	as above	L1 2.8 dB L2 2.8 dB	4.5-15 VDC	90 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	Filter J-SHIELD+, GPS/GLONASS/GALILEO/BEIDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	RingAnt-G3T-JS	2012	GDLMNRVPO	Ø 326 x 88mm	2.7kg	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 33±3 dB 4 / L2 33±3 dB	as above	L1 2.8 dB L2 2.8 dB	4.5-15 VDC	90 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	Filter J-SHIELD, GPS/GLONASS/GALILEO/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	RingAnt-DM	2008	GDLMNRVPO	Ø 380 x 138mm	4.4kg	1555-1610 MHz, 1164-1300 MHz	1.5:1/ 2.0:1	3 dB	6 / L1 32±2 dB 5 / L2 32±2 dB	as above	L1 2.2 dB; L2 1.7 dB	3-15 VDC	45 mA @ 5 V	-45 to +85	nr	Y/nr	YN	TNC	RG58/3 m	Threaded 5/8-11; 1in-14; 4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	AirAnt-G3T	2008	ADNVPO	120 x 74 x 44.5mm	320g	1559-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	4 / L1 30±3 dB 3 / L2 30±3 dB	as above	L1 2.5 dB; L2 2.0 dB	4.7-12 VDC	85 mA @ 5 V	-45 to +85	nr	Y/nr	YY	TNC	RG58/3 m	4 holes	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector	
	GyrAnt	2008	GDLMNRVPO	140 x 140 x 62mm	570g	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB 4 / L2 32±2 dB	as above	L1 1.7 dB L2 1.7 dB	Antenna 3-15 VDC IMU 9-35 VDC	Antenna 45 mA @ 5 V IMU 100 mA @ 9 V	-45 to +85	nr	Y/nr	YY	TNC; M12	RG58/3 m, M12 Connector	Threaded 5/8-11; 1in-14; 4 holes	nr	Combined Antenna with IMU	
TriAnt	2008	GDLMNRVPO	128 x 128 x 54mm	425g	1555-1610 MHz, 1164-1253 MHz	1.5:1/ 2.0:1	3 dB	5 / L1 32±2 dB 4 / L2 32±2 dB	as above	L1 1.7 dB L2 1.7 dB	3-15 VDC	45 mA @ 5 V	-45 to +85	nr	Y/nr	YY	TNC	RG58/3 m	Threaded 1in-14; 3 hole	nr	GPS/GLONASS/GALILEO/BeiDOU/QZSS/SBAS; opt. Snow Cone; opt. N-type connector		



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Manufacturer	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth 2	VSWR 3	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)/Type	LD 5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration	
	TyrAnt-G2T	2008	GDLMNRVPO	140 x 140 x 62mm	600g	1555-1610 MHz, 1164-1263 MHz	1.5:1/2.0:1	3 dB	5 / L1 32±2 dB / L2 32±2 dB	as above	L1 1.7 dB L2 1.7 dB	9-35 VDC	170 mA @ 9 V	-45 to +85	nr	Y/nr	Y/Y	M12	M12 Connector	Threaded 5/8-11; 1in-14; 4 holes	nr	Smart Antenna, integrated with Receiver TR-G2T	
	TyrAnt-G3	2008	GDLMNRVPO	140 x 140 x 62mm	600g	1555-1610 MHz	1.5:1/2.0:1	3 dB	5 / L1 32 ± 2 dB	as above	L1 1.7 dB	9-35 VDC	130 mA @ 9 V	-45 to +85	nr	Y/nr	Y/Y	M12	M12 Connector	Threaded 5/8-11; 1in-14; 4 holes	nr	Smart Antenna, integrated with Receiver TR-G3	
Jiashan Jinchang Electron Co., Ltd www.jinchanggps.com	GPS/GLONASS Antenna JCA002	2014	Tracking, navigation, automotive car.pnd and so on	48 x 39 x 14mm	100g	1575.42/1602/1561 MHz	1.5:1	3	28	RHCP	<1.5	3-5V	5-15 mA	-45 to +85		IP67	5	SMA/MCX/FAKRA and so on	RG174, LMR195, RG58 and so on	Magnet3M adhesive	1.5-5USD	GPS/GLONASS/COMPASS	
	Timing reciver JCSS005	2015		Ø94 x 135mm	450g	1575.42 MHz	1.5:1	5	20	RHCP	<2.0	8-36V	<100 mA	-45 to +85		IP67	5	SMA/MCX/FAKRA and so on	RG174, LMR195, RG58 and so on	Screw	10-100USD		
	Choke antenna	2015	Base station	Ø300 x 200mm	5000g	1207/1227/1252/1268/1561/1575/1602 MHz	2.0:1	3	45	RHCP	<2.0	3-5.5V	<40 mA	-45 to +85		IP67	5	tnc-k	na	Screw	1000USD		
	Surveying antenna	2015	Surveying devices	Ø146 x 63mm	350g	1207/1227/1252/1268/1561/1575/1602 MHz	2.0:1	3	40	RHCP	<2.0	3-5.5V	<40 mA	-45 to +85		ip67	5	tnc-k	na	Screw	1000USD		
	GPS/GLONASS4G/WIFI Combination antenna JCE058	2015	Tracking, navigation, automotive car.pnd and so on	Ø50 x 48mm	300g	1575.42/1602/1561/698-2700/2400 MHz	2.0:1	3	28	RHCP	<2.0	3-5V	5-15 mA	-45 to +85		ip67	5	SMA/MCX/FAKRA and so on	RG174, LMR195, RG58 and so on	Screw	5-15USD		
	4G antenna JCG017L	2015	Communication devices	115 x 22 x 6.4mm	55g	698-2700 MHz	1.5:1	3	2	RHCP	<2.0	3-5V	5-15 mA	-45 to +85		ip67	5	SMA/MCX/FAKRA and so on	RG174, LMR195, RG58 and so on	3M adhesive	0.5-2USD		
	433MHz antenna jcg411	2015	Home alarm system	Ø10 x 53mm	15g	433 MHz	1.5:1	3	2	RHCP	<2.0	3-5V	5-15 mA	-45 to +85		ip67	5	SMA	na	SMA	0.5-1.5USD		
868MHz antenna JCG410	2015	Home alarm system	Ø13 x 195mm	20g	868 MHz	1.5:1	3	2	RHCP	<2.0	3-5V	5-15 mA	-45 to +85		ip67	5	SMA	na	SMA	0.5-1.5USD			
GNSS Antenna JCA228	2016	Bridge monitor, building monitor, driving training etc	Ø146.5 x 62.5mm	100g	GPS L1 L2 GLONASS L1L2 Compass B1/B2/B3 Galileo E5bE6	1.5:1	3	40±2	RHCP	<2.0	3-5.5V	≤45 mA	-45 to +85		IP67	5	TNC/BNC and so on	RG174, LMR195, RG58 and so on	Magnet3M adhesive	1.5-5USD			
Leica Geosystems AG www.leica-geosystems.com	AS05	2009	EGLMNORT	Ø 170 x 62mm	0.44kg	1565.5-1611.5 MHz	<2.0:1	na	-27 dB typ	Omni-Directional	<2 dB	4.5-18 VDC	35 mA max	-40 to +70		Y/IP68	N/N	TNC female	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, SBAS	
	AS10	2009	EGLMNORT	Ø 170 x 62mm	0.44kg	1552.0-1609.0 MHz, 1165.0-1255.0 MHz	<2.0:1	na	-29 dB typ	Omni-Directional	<2 dB	4.5-18 VDC	35 mA max	-40 to +70		Y/IP68	N/N	TNC female	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	AR10	2010	EGLMNORTV	Ø 240 x 136mm	1.12kg	1525.0-1612.0 MHz, 1164.0-1301.0 MHz	<2.0:1	<1.4dB @ zenith	-29 dB +/- 3dB typ	Omni-Directional; RHCP	<2 dB	3.3-12 VDC	100 mA max	-40 to +70		Y/IP67	N/N	TNC female	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BeiDou, QZSS, NavIC, SBAS, L-band	
	AR20	2012	EGLMNORT	Ø 320 x 163mm	5.9kg	1525.0-1612.0 MHz, 1164.0-1301.0 MHz	<1.8:2	<1.2dB @ zenith	-29 dB +/- 3dB typ	Omni-Directional; RHCP	<2.0 dB	3.3-12 VDC	100 mA max	-55 to +85		Y/IP67	N/N	N female with TNC adapter supplied	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BeiDou, QZSS, NavIC, SBAS, L-band	
	AR20-LHCP	2013	EGLMOP	Ø 320 x 163mm	5.9kg	1525.0-1612.0 MHz, 1164.0-1301.0 MHz	<1.8:2	<1.2dB @ zenith	-29 dB +/- 3dB typ	Omni-Directional; LHCP	<2.0 dB	3.3-12 VDC	100 mA max	-55 to +85		Y/IP67	N/N	N female with TNC adapter supplied	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BeiDou, QZSS, NavIC, SBAS, L-band	
	AR25	2008	EGLMNORT	Ø 380 x 200mm	7.6kg	1513.5-1623.5 MHz, 1152.0-1312.0 MHz	<1.5:1	2 dB @ zenith	- / 40 dB +/- 30dB typ	Omni-Directional; RHCP	<1.2 dB	3.3-12 VDC	100 mA max	-55 to +85		Y/IP67	Y/Y	N female with TNC adapter supplied	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BeiDou, QZSS, NavIC, SBAS, L-band	
	GS08plus	2012	EGLMNORT	Ø 186 x 71mm	0.70kg	1558.4-1616.0 MHz, 1215.6-1259.7 MHz	<2.0:1	na	-37 dB typ	Omni-Directional	<3 dB	na	na	-40 to +65		Y/IP68	Y/Y	8-pin LEMO-1 / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, SBAS	
	GS14	2012	EGLMNORT	Ø 190 x 90mm	0.93kg	1552.0-1609.0 MHz, 1165.0-1255.0 MHz	<2.0:1	na	-27 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP68	Y/Y	8-pin LEMO-1 / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	GS15	2009	EGLMNORT	Ø 196 x 198mm	1.34kg	1525.0-1609.0 MHz, 1165.0-1255.0 MHz	<2.0:1	na	-27 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP68	Y/Y	2 * 8-pin LEMO-1 / UART / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	GS16	2016	EGLMNORT	Ø 190 x 90mm	0.93kg	1525.0-1609.0 MHz, 1165.0-1255.0 MHz	<2.0:1	na	-27 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP68	Y/Y	8-pin LEMO-1 / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	GS18 T	2017	EGLMNORT	173 x 173 x 108mm	1.20kg	1525.0-1611.0 MHz, 1164.0-1300.0 MHz	<2.0:1	na	-22 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP66, IP68	Y/Y	8-pin LEMO-1 / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	GMX910	2016	EDGLMNR	Ø 186 x 71mm	0.7kg	1525.0-1611.0 MHz, 1164.0-1290.7 MHz	<2.0:1	na	-28 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP68	Y/Y	8-pin LEMO-1	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, QZSS	
	GG04	2017	DGLMNOPRV	Ø 186 x 71mm	0.7kg	1525.0-1611.0 MHz, 1164.0-1290.7 MHz	<2.0:1	na	-28 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP68	Y/Y	8-pin LEMO-1 / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	GG04 plus	2018	DGLMNOPRV	Ø 186 x 71mm	0.7kg	1525.0-1611.0 MHz, 1164.0-1290.7 MHz	<2.0:1	na	-28 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP68	Y/Y	8-pin LEMO-1 / Bluetooth	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	ICG60	2012	DGLMNRV	197 x 197 x 130mm	1.45kg	1552.0-1609.0 MHz, 1165.0-1255.0 MHz	<2.0:1	na	-27 dB typ	Omni-Directional	<2 dB	na	na	-40 to +65		Y/IP67	Y/Y	8-pin LEMO-1 / Bluetooth / USB Host/QN Female / TNC Female/UART	na	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
	CGA60	2014	DGLMNRV	Ø 170 x 62mm	0.4kg	1552.0-1609.0 MHz, 1165.0-1255.0 MHz	<2.0:1	na	-27 dB typ	Omni-Directional	<2 dB	na	na	-40 to +70		Y/IP68	N/N	TNC female	diff. type & length from 1.2m-70m available	5/8 Threaded	nr	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, L-band	
Microwave Photonics Systems www.b2bphotonics.com	OPW-3478		DLMNOPV2	7.5 x 3.2in	0.80lb	1575.42 +/-10 MHz	<1.5:1	3.5 dB	40 dB	RHCP	<2.5 dB	3.3-9.0 VDC	<30 mA @ 5 VDC	-40 to +85		Y		N-Type		Pole Mount			
NavCom Technology, Inc. www.navcomtech.com	ANT-3001R	2009	DGLMN	5.75 x 2.46in	1.1lb	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	-55 to +85	nr	Y	Y	TNC Female	Antenna Cable / 12ft	Pole Mount	nr	nr	
	ANT-3001A	2009	DGLMN	5.75 x 2.46in	1.1lb	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	-55 to +85	nr	Y	Y	TNC Female	Antenna Cable / 12ft	Fuselage/Vehicle Flush Mount (FAA Certified)	nr	nr	
	ANT-3001BR	2009	R	14.82 x 13.83in	10.5lb	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	-55 to +85	nr	Y	Y	TNC Female	Antenna Cable / 12ft	Roof Mount	nr	nr	
NovAtel, Inc. www.novatel.ca	GNSS-850	2016	LNOPRV	55 x 179mm Ø	500g	1569.0 ± 43.0 MHz / 1232.0 ± 68.0 MHz	≤2.0:1	3 dB max	L1/B1/E1/G1: 5.0 dB min / 29 dB typ / L2/B2/E5b/G2: 5 dB min / 29 dB typ / L5/E5a +3.0 dB minimum / 29 dB typ	RHCP	<2.0 dB typ	3.8-18 VDC	60 mA max	-40 to +85		Y/Water Resistant to IP67, IP69K	N/N	TNC	na	5/8" thread mount	Inquire	nr	nr
	GNSS-804L	2016	LNOPRV	55 x 179mm Ø	500g	1588.0 ± 23.0 MHz / 1225.5 ± 28.5 MHz	≤2.0:1	3 dB max	L1/B1/E1/G1: 5.0 dB min / 29 dB typ / L2/B2/E5b/G2: 5 dB min / 29 dB typ / L-Band +5.0 dB min / 29 dB typ	RHCP	<2.0 dB typ	3.8-18 VDC	60 mA max	-40 to +85		Y/Water Resistant to IP67, IP69K	N/N	TNC	na	5/8" thread mount	Inquire	nr	nr
	GNSS-804	2016	LNOPRV	55 x 179mm Ø	500g	1588.0 ± 23.0 MHz / 1225.5 ± 28.5 MHz	≤2.0:1	3 dB max	L1/B1/E1/G1: 5.0 dB min / 29 dB typ / L2/B2/E5b/G2: 5 dB min / 29 dB typ	RHCP	<2.0 dB typ	3.8-18 VDC	60 mA max	-40 to +85		Y/Water Resistant to IP67, IP69K	N/N	TNC	na	5/8" thread mount	Inquire	nr	nr
	GNSS-802L	2016	LNOPRV	55 x 179mm Ø	500g	1588.0 ± 23.0 MHz / 1234.0 ± 17.0 MHz	≤2.0:1	3 dB max	L1/B1/E1/G1: 5.0 dB min / 29 dB typ / L2/G2: 5 dB min / 29 dB typ / L-Band +5.0 dB min / 29 dB typ	RHCP	<2.0 dB typ	3.8-18 VDC	60 mA max	-40 to +85		Y/Water Resistant to IP67, IP69K	N/N	TNC	na	5/8" thread mount	Inquire	nr	nr

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Manufacturer	Model	Intro. Date	User Envir. <sup>1</sup>	Size: Length x Width x Height	Weight	Frequency/Bandwidth <sup>2</sup>	VSWR <sup>3</sup>	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/D <sup>5</sup>	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
	GNSS-802	2016	LNOPRV	55 x 179mm Ø	500g	1588.0 ± 23.0 MHz 1234.0 ± 17.0 MHz	≤2.0:1	3 dB max	L1: 18.1 dB / 19.1 dB 5.0 dB min / 29 dB typ	RHCP	<2.0 dB typ	3.8-18 VDC	60 mA max	-40 to +85	MIL-STD-810G(CH1), 514.7 Annex E Procedure 1, Category 24	Y/Water Resistant to IP67, IP69K	NN	TNC	na	5/8" thread mount	Inquire	nr
	GNSS-501	2015	LNOPRV	45 x 155mm Ø	450g	1569.0 ± 43.0 MHz	≤2.0:1	3 dB max	L1: 18.1 dB / 19.1 dB 4.0 dB min / 29 dB typ	RHCP	2.5 dB typ	3.3-18VDC	20 mA typ	-40 to +85	MIL-STD-810G(CH1), 514.7 Annex E Procedure 1, Category 24	Y/Water Resistant to IP67, IP69K	NN	TNC	na	2 x magnetic mounts 2 x M4 screw inserts	Inquire	nr
	GNSS-502	2015	LNOPRV	45 x 155mm Ø	450g	1588.5 ± 23.0 MHz 1220.0 ± 31.0 MHz 1545.0 ± 20.0 MHz	≤2.0:1	3 dB max	L1: 18.1 dB / 19.1 dB 4.0 dB min / 29 dB typ	RHCP	2.5 dB typ	3.3-18VDC	20 mA typ	-40 to +85	MIL-STD-810G(CH1), 514.7 Annex E Procedure 1, Category 24	Y/Water Resistant to IP67, IP69K	NN	TNC	na	2 x magnetic mounts 2 x M4 screw inserts	Inquire	nr
	GPS-703-GGG	2009	DGLMNOPRV	69 x 185mm Ø	500g	1580.5 ± 28.5 MHz 1210.0 ± 45 MHz	≤2.0:1	3 dB max	L1: 5 dB / 29 dB typ L2: 3 dB / 29 dB typ L5: 3 dB / 29 dB typ	RHCP	2.0 dB typ	4.5-18 VDC	36 mA typ	-40 to +85	MIL-STD-810F method 514.5 ASAE EP455 Section 5.15.2 Level 1	Y/Water Resistant to IPX7	YY	TNC	na	Threaded	Inquire	nr
	GPS-703-GGG-HV	2014	DGLMNOPRV	69 x 185mm Ø	530g	1580.5 ± 28.5 MHz 1210.0 ± 45 MHz	≤2.0:1	3 dB max	L1: 5 dB / 29 dB typ L2: 3 dB / 29 dB typ L5: 3 dB / 29 dB typ	RHCP	2.0 dB typ	4.5-18 VDC	36 mA typ	-40 to +85	MIL-STD-810G 514.6E-1, Category 24 MIL-STD-810G 514.6C-3, Category 4 ASAE EP455 Section 5.15.2 Level 1 ISO 9022-3 Method 36	Y/Water Resistant to IPX7	YY	TNC	na	Threaded	Inquire	nr
	GPS-702-GG	2006	DGLMNOPRV	69 x 185mm Ø	500g	1588.5 ± 23 MHz 1236.0 ± 18.3 MHz	≤2.0:1	3 dB max	L1: 5 dB / 29 dB typ L2: 2 dB / 29 dB typ	RHCP	2.5 dB typ	4.5-18 VDC	35 mA typ	-40 to +85	MIL-STD-202F method 214	Y/Water Resistant to IPX7	YY	TNC, N	na	Threaded	Inquire	nr
	GPS-702-GG-HV	2014	DGLMNOPRV	69 x 185mm Ø	530g	1588.5 ± 23 MHz 1236.0 ± 18.3 MHz	≤2.0:1	3 dB max	L1: 5 dB / 29 dB typ L2: 2 dB / 29 dB typ	RHCP	2.5 dB typ	4.5-18 VDC	35 mA typ	-40 to +85	MIL-STD-810G 514.6E-1, Category 24 MIL-STD-810G 514.6C-3, Category 4 ASAE EP455 Section 5.15.2 Level 1 ISO 9022-3 Method 36	Y/Water Resistant to IPX7	YY	TNC	na	Threaded	Inquire	nr
	GPS-702L	2005	DGLMNOPRV	69 x 185mm Ø	500g	1575.4 ± 20 MHz 1227.6 ± 20 MHz 1543 ± 20 MHz	≤2.0:1	3 dB max	L1: 5 dB / 27 dB typ L2: 1.5 dB / 27 dB typ L: 5 dB / 27 dB typ	RHCP	2.5 dB typ	4.5-18 VDC	35 mA typ	-40 to +85	MIL-STD-810F method 514.5 ASAE EP455 Section 5.15.2 Level 1	Y/Water Resistant to IPX7	YY	TNC	na	Threaded	Inquire	nr
	GPS-701-GGL	2007	DGLMNOPRV	69 x 185mm Ø	500g	1588.5 ± 23 MHz 1545 ± 20 MHz	≤2.0:1	3 dB max	L1, L: 5 dB / 29 dB typ	RHCP	2.5 dB typ	4.5-18 VDC	35 mA typ	-40 to +85	MIL-STD-202F method 214 SAE/J1211 section 4.7	Y/Water Resistant to IPX7	YY	TNC	na	Threaded	Inquire	nr
	GPS-701-GG	2006	DGLMNOPRV	69 x 185mm Ø	500g	1575.4 -10/+36 MHz	≤2.0:1	3 dB max	L1, L: 5 dB / 29 dB typ	RHCP	2.5 dB typ	4.5-18 VDC	35 mA typ	-40 to +85	MIL-STD-202F method 214 SAE/J1211 section 4.7	Y/Water Resistant to IPX7	YY	TNC	na	Threaded	Inquire	nr
	GPS-704X	2006	DGLMNOPRV	69 x 185mm Ø	468g	1.15GHz-1.65 GHz	≤2.0:1	3 dB max	L1, L: +6 dB L2, L5: +2 dB	RHCP	nr	nr	Passive	-40 to +85	nr	Y/nr	YY	TNC	na	Threaded	Inquire	nr
	Pinwheel OEM	2013	DGLMNOPRV	30 x 143mm Ø	120g	1525-1611 MHz 1164-1254 MHz	≤2.0:1	3 dB max	L1/L: 3 dB / 23 dB typ L2: 2 dB / 23 dB typ E50/B2: 0 dB / 23 dB typ	RHCP	2.0 dB typ	5 VDC	35 mA typ	-40 to +85	MIL-STD-202F SAE/J1211 Section 4.7	N	YY	R/A MMCX	na	Screw Flange	Inquire	Required
	ANT-26C1GA-TBW-N	2006	ALGMV	18 x 66mm Ø	113g	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	Y/nr	YY	TNC	na	4-hole back mount, surface	Inquire	nr
	ANT-26C1GOA-19MNSB	2012	LGMOV	19 x 63mm Ø	184g	1575.4 ± 15 MHz 1609.0 ± 7 MHz 1542.0 ± 14 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	3 dB typ	2.5-24 VDC	<40 mA typ	-55 to +85	>30 G	Y/nr	YY	SMA Male	7.7 m/RG-316	4-hole back mount, flush magnetic	Inquire	nr
	3GOXX16A4-XTR-1-2-CERT	2013	ALGMV	18 x 89mm Ø	184g	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	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	3GOXX16A4-XTR-1-1-CERT	2013	ALGMV	19 x 89mm Ø	191g	1575.4 ± 15 MHz 1227.6 ± 15 MHz	≤1.5:1	2 dB typ	33 dB typ	RHCP	3.0 dB typ	2.5-24 VDC	<50 mA typ	-55 to +85	>30 G	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	42G1215A-XTR-1-CERT	2013	ALGMV	119 x 76 x 18mm (ARINC 743A)	198g	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	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	42G016A4-XTR-1-CERT	2013	ALGMV	119 x 76 x 20mm (ARINC 743A)	191g	1525-1595 MHz 1602-1626 MHz	≤1.5:1	2 dB typ	40 dB typ	RHCP	3.0 dB typ	2.5-24 VDC	<39 mA typ	-55 to +85	>30 G	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	42G1215A-XTR-1-2-CERT	2013	ALGMV	119 x 76 x 20mm (ARINC 743A)	191g	1575.4 ± 12 MHz 1227.6 ± 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	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	42G1215A-XTR-1-3-CERT	2013	ALGMV	119 x 76 x 20mm (ARINC 743A)	191g	1575.4 ± 12 MHz 1227.6 ± 12 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	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	42G0XX16A4-XTR-1-1-CERT	2013	ALGMV	119 x 76 x 23mm (ARINC 743A)	227g	1575.4 ± 15 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 @ 3.3V typ	-55 to +85	>30 G	Y/nr	YY	TNC	na	4-hole, surface	Inquire	nr
	ANT-C2GA-TW-N	2006	GLR	223 x 308mm Ø	4.1kg	1575.4 ± 13 MHz 1227.6 ± 13 MHz	≤1.5:1	nr	32 dB typ	RHCP	3.0 dB typ	2.5-24 VDC	<35 mA typ	-55 to +85	>30 G	Y/nr	YY	TNC	na	Threaded	Inquire	nr
	GNSS-750	2008	GLR	380 x 200mm Ø	7.6kg	1525-1612 MHz 1164-1301 MHz	≤1.5:1	2 dB @ zenith	5 dB / 43 dB typ	RHCP	2.0 dB typ	3.3-12VDC	70 mA typ	-55 to +85	ISO 9022-3 Method 36	Y/MIL-STD-810F IEC-60529	YY	N-Type with TNC adaptor supplied	na	Threaded	Inquire	nr
OriginGPS LTD. www.origingps.com	Micro Hornet (ORG1410)	2012	DLMNTV	10 x 10 x 5.8mm	2.5g	GPS L1, SBAS (WAAS, EGNOS), QZSS	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	1.8V or 2 - 5.5V	8 (low power tracking)	-40 to +85	na	N	N	N	na	SMD LGA10	Contact Distributor	GPS Receiver Module With Integrated Antenna
	Nano Hornet (ORG1411)	2014	DLMNTV	10 x 10 x 3.8mm	1.6g	GPS L1, SBAS (WAAS, EGNOS), QZSS	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	1.8V or 2 - 5.5V	8 (low power tracking)	-40 to +85	na	N	N	N	na	SMD LGA10	Contact Distributor	GPS Receiver Module With Integrated Antenna
	Ultra Sensitive Hornet (ORG1418)	2010	LMNTV	18 x 18 x 4.8mm	4.8g	GPS L1, SBAS (WAAS, EGNOS), QZSS	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	1.8V or 2 - 5.5V	10 (low power tracking)	-40 to +85	na	N	N	N	na	SMD LGA22	Contact Distributor	GPS Receiver Module With Integrated Antenna
	Snap-In Snap-Out Hornet (ORG4502)	2015	ELMNTV	18.5 x 28 x 7mm	8g	GPS L1, GLONASS L1, SBAS (WAAS, EGNOS), QZSS	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	2 - 6V	10 (low power tracking)	-40 to +85	na	N	N	10 position ZIF connector	na	FPC cable	Contact Distributor	GPS Receiver Module With Integrated Antenna
	Multi Micro Hornet (ORG1510-R01)	2015	DLMNTV	10 x 10 x 5.9mm	2.5g	GPS L1, GLONASS L1, SBAS (WAAS, EGNOS), QZSS, Galileo and Beidou Ready	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	3 - 3.6V	10 (low power tracking)	-40 to +85	na	N	N	N	na	SMD LGA10	Contact Distributor	GPS Receiver Module With Integrated Antenna
	Multi Micro Hornet (ORG1510-MK04)	2015	DLMNTV	10 x 10 x 6.1mm	2.4g	GPS L1, GLONASS L1, SBAS (WAAS, EGNOS), QZSS, Galileo and Beidou Ready	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	1.8V	10 (low power tracking)	-40 to +85	na	N	N	N	na	SMD LGA10	Contact Distributor	GNSS Receiver Module With Integrated Antenna
	Multi Micro Hornet (ORG1518-R02)	2016	DLMNTV	18 x 18 x 4.8mm	4.8g	GPS L1, GLONASS L1, SBAS (WAAS, EGNOS), QZSS, Galileo and Beidou Ready	na, Integrated Receiver	na, Integrated Receiver	na / Integrated Receiver	Hemispheric, RHCP	na, Integrated Receiver	1.8V	10 (low power tracking)	-40 to +85	na	N	N	N	na	SMD LGA10	Contact Distributor	GNSS Receiver Module With Integrated Antenna
	ORG8805	2012	LMNTV	49 x 39 x 15mm	106g including cable and connector	1575 / 20MHz	1.5 : 1	2.0 (max)	4dB (min) / 27dB (typ)	Hemispheric, RHCP	1.5 (max)	3 - 5V	8.5 (typ)	-40 to +85	Sine sweep 5 - 55 - 5 Hz, 1 octave/min	Y / IP66	N	SMA plug	RG-174 / 5m	Magnetic base	Contact Distributor	GPS Active Antenna

# ANTENNA SURVEY 2018

Manufacturer	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth 2	VSWR 3	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)/Type	L/D 5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration	
	ORG9802	2011	LMNTV	13.4 x 13.4 x 6.5mm	4g / 6.3g including 150mm cable and connector	1575 / 10MHz	1.5:1	2.5 (max)	-1dB / na	Hemispheric, RHCP	na, Passive Antenna	na, Passive Antenna	na, Passive Antenna	-40 to +85	na	N	N	Hirose WFL / I-pex MHFIII plug	AWG36 / 43mm or 150mm	na	Contact Distributor	GPS Passive Antenna	
	ORG12-4T GPS	2011	LMNTV	12 x 12 x 4mm	3.4g	1575 / 10MHz	1.5:1	3.0 (max)	-1.3dB / na	Hemispheric, RHCP	na, Passive Element	na, Passive Element	na, Passive Element	-40 to +85	Sine sweep 5 - 55 - 5 Hz, 1 octave/min	N	N	na	na	Manual Soldering	Contact Distributor	GPS Antenna Element	
	ORG12-4T GNSS	2014	LMNTV	12 x 12 x 4mm	3.4g	GPS L1 / GLONASS L1	1.5:1	3.0 (max)	-1.3dB / na	Hemispheric, RHCP	na, Passive Element	na, Passive Element	na, Passive Element	-40 to +85	Sine sweep 5 - 55 - 5 Hz, 1 octave/min	N	N	na	na	Manual Soldering	Contact Distributor	GPS/GLONASS Antenna Element	
	ORG18-4T	2012	LMNTV	18 x 18 x 4mm	6.5g	GPS L1 / GLONASS L1	1.5:1	3.0 (max)	0.3dB / na	Hemispheric, RHCP	na, Passive Element	na, Passive Element	na, Passive Element	-40 to +85	Sine sweep 5 - 55 - 5 Hz, 1 octave/min	N	N	na	na	Manual Soldering	Contact Distributor	GPS/GLONASS Antenna Element	
Panasonic Corporation business.panasonic.co.jp	CAAH32ST01	1997	T	Ø 90 x 98.4mm	285g	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	N	TNC	na	Mounting to screw size of Pole: 1.0-14UNS-2A		GPS Timing Antenna	
	CAAH32ST02	1998	T	Ø 90 x 98.4mm	200g (Antenna) 230g (Mounting Base)	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	N	TNC	na	Mounting to Pole Ø41-43mm		GPS Timing Antenna	
	CAAH32ST03	1998	T	Ø 90 x 98.4mm	195g	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	N	N (Jack)	na	4 Screw		GPS Timing Antenna	
	CAAH32ST04	1998	T	Ø 90 x 98.4mm	200g (Antenna) 230g (Mounting Base)	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	N	N (Jack)	na	Mounting to Pole Ø41-43mm		GPS Timing Antenna	
	CAAH32ST05	2000	T	Ø 90 x 98.4mm	182g	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	N	TNC	na	4 Screw		GPS Timing Antenna	
	CAAH32ST12	2007	T	Ø 90 x 98.4mm	200g (Antenna) 230g (Mounting Base)	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	Y	TNC	na	Mounting to Pole Ø41-43mm		GPS Timing Antenna w/ lightning Protection per EN61000-4-5 4kV	
	CAAH32ST13	2007	T	Ø 90 x 98.4mm	195g	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	Y	N (Jack)	na	4 Screw		GPS Timing Antenna w/ lightning Protection per EN61000-4-5 4kV	
	CAAH32ST14	2007	T	Ø 90 x 98.4mm	200g (Antenna) 230g (Mounting Base)	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	Y	N (Jack)	na	Mounting to Pole Ø41-43mm		GPS Timing Antenna w/ lightning Protection per EN61000-4-5 4kV	
	CAAH32ST15	2007	T	Ø 90 x 98.4mm	182g	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	Y	TNC	na	4 Screw		GPS Timing Antenna w/ lightning Protection per EN61000-4-5 4kV	
	CAAH32ST16	2007	T	Ø 90 x 98.4mm	285g	1575.42 MHz	1.5:1	3 typ	3 / 38 typ	RHCP	2.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	Y	TNC	na	Mounting to screw size of Pole: 1.0-14UNS-2A		GPS Timing Antenna w/ lightning Protection per EN61000-4-5 4kV	
	CAAH32ST24	2018	T	Ø 90 x 98.4mm	200g (Antenna) 230g (Mounting Base)	1575.42 MHz	1.5:1	3 typ	3 / 33 typ	RHCP	3.2 max	3.5 - 6.0 VDC	20 typ	-40 to +85		Y / IP66, 67	N	N (Jack)	na	Mounting to Pole Ø41-43mm		GPS Timing Antenna	
	CAAH32VL47	2016	T	Ø 60 x 60mm	115g	1575.42 MHz	1.5:1	5 typ	3 / 33 typ	RHCP	3.2 max	3.5 - 6.0 VDC	18 typ	-40 to +85		Y / IP66, 67	Y	N (Jack)	na	4 Screw		Enhanced Filtering, Small Cell Timing Antenna w/ lightning Protection per EN61000-4-5 4kV	
	CAAH32VL27	2016	T	Ø 60 x 60mm	115g	1575.42 MHz	1.5:1	5 typ	3 / 33 typ	RHCP	3.2 max	3.5 - 6.0 VDC	18 typ	-40 to +85		Y / IP66, 67	N	N (Jack)	na	4 Screw		Enhanced Filtering, Small Cell Timing Antenna	
Raytheon UK www.raytheon.co.uk	GAS-1 7 Element Anti-Jam	1998	ADLMNOTV	CRPA = 350mm ø AE = 220 x 60 x 330mm	CRPA 3.8kg, AE 4kg	GPS L1/GPS L2 Simultaneous	nr	nr	7-40dB	nr	nr	nr	nr	nr	nr	nr	nr	TNC	nr	nr	nr		
	ADAP 7 Element Anti-Jam	2005	ADLMNOTV	CRPA = 350mm ø AE = 220 x 60 x 330mm	CRPA 3.4kg, AE 4.5kg	GPS L1/GPS L2 Simultaneous	nr	nr	7-40dB	nr	nr	nr	nr	nr	nr	nr	nr	nr	TNC	nr	nr	nr	
	Mini-GAS 4 Element Anti-Jam (Integrated CRPA & AE)	2012	ADLMNOTV	125 x 100mm	1.5kg	GPS L1/GPS L2 Simultaneous	nr	nr	7-28dB	nr	nr	nr	nr	nr	nr	nr	nr	nr	SMA	nr	nr	nr	
	Landshield 4 Element Anti-Jam (Integrated CRPA & AE)	2015	ADLMNOTV	115 ø x 62mm	1kg	GPS L1/GPS L2 Simultaneous	nr	nr	7-38dB	nr	nr	nr	nr	nr	nr	nr	nr	nr	SMA	nr	nr	nr	
	SAS 5 Element Anti-Jam (AE)	2009	ADLMNOTV	144 x 115 x 76mm	1.5kg	GPS L1/GPS L2 Simultaneous	nr	nr	7-38dB	nr	nr	nr	nr	nr	nr	nr	nr	nr	TNC	nr	nr	nr	
	MicroCAS 2 Element Anti-Jam, DAGR & Non DAGR (Integrated CRPA & AE)	2015	ADLMNOTV	35 x 35 x 70mm	260g	GPS L1/GPS L2 Simultaneous	nr	nr	7-30dB	nr	nr	nr	nr	nr	nr	nr	nr	nr	SMA	nr	nr	nr	
Spectra Precision www.spectraprecision.com	GNSS Choke Ring Antenna	2009	GLOR	Ø 376 x 351.2mm Ø 14.82 x 13.83in	4.7kg 10.5lb	L1/L2/L5 GPS L1/L2 GLONASS GALILEO E1/E5a L-Band	<2.0:1	3 dB max @ BORESIGHT	39 dB ± 2 dB	nr	2.6 dB max	+4.2 to +15 VDC	65 mA	-55 to +85	D0-160D ENV CAT E1-ABB[CLMY] XSFDFSAACPH[A3] [2A]CA	nr	NIN	TNC (f) coaxial conn. -50 ohms	nr	1-14 UNS-2B THREAD 3X 3/8-16UNC-2B INSERTS ON A B.C. #12.70	nr	nr	
	SPGA Rover	2017	DGLMNRV	16.5 Ø x 7.6cm	0.64kg	L1/L2/L3/L5/G1/G2/G3/E1/E2/E3/E5a/E5b/E5a/B/C/E6/S/R/T/V/OmniSTAR/SBAS	2.0 max	2 dB @ Zenith	50 dB ± 2.0	Upper Hemispherical	2.0 dB	3.5-20 VDC	125	-40 to +85	MIL-STD-810-F	Y / IP67	nr	TNC female	Any with up to 10 dB loss	Tripod, trirach, pole	Contact Distributor	nr	
Surrey Satellite Technology Ltd. www.sstl.co.uk	SGR Patch Antenna ASY-00741-04	2000	S	45 x 50 x 20mm	50g	1574.5 - 1576.5 MHz	<2:1		3 dB / 24 dB	RHCP	2.5 dB	2.7 - 5 VDC	24 mA typ	-35 to +60	> 10g	N / outgassing allowance	NIN	SMA	2m K02252D	4 Screw			
	Circular Slotted Ground-Plane Antenna	2016	All applications	80 Ø x 22mm	180g	1100 - 1600 MHz	<2:1		>2 dB across band	RHCP	na	na	na	-35 to +60	> 10g	Y or N / outgassing allowance	NIN	SMA	na	4 Screw			
Synergy Systems, LLC www.synergy-gps.com	ART-10S	2006	DELMNP	2.36 x 1.49in	1lb	1575.42MHz/2 MHz min	2 dB	3 dB	28 dB		1.5 dB	2.5 - 5.5 VDC	12 mA	-40 to +85		Y	TNC	16ft	3/4in pipe	\$41.50			
	Timing1000	2012	DELMNPT	1.66 x 4.53in	7.8 oz	1575.42 MHz	1.5 max	3 dB	30 dB		2.0 dB	4.5 - 5.5 VDC	27 mA @ 4.5V	-30 to +85		Y	TNC, N	bulkhead	1-14 Marine Mnt; or N(on side)	\$51.00 - \$65.75			
Tallysman www.tallysman.com	VP 6000 All GNSS Frequencies + L-Band Geodetic Antenna	2015	DEGLMNOR	167 D x 124.5mm	700g	GPS L1/L2/L5 + GLONASS G1/G2/G3 + Galileo E1/E5/E6 + BeiDou B1/B2/B3 + L-Band	<1.5:1	< 0.5 @ zenith, <2.0 @ horizon	5-7 dB/35 or 50 dB	Hemispherical	<1.5	2.7 - 24	<40	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC or N-Type		5/8" x 11 tpi	Contact distributor or Tallysman	Room for customer provided circuitry	
	VP6300 Triple Band Reference Antenna	2015	DEGLMNOR	167 D x 124.5mm	700g	GPS L1/L2/L5 + GLONASS G1/G2/G3 + Galileo E1/E5 + BeiDou B1/B2	<1.5:1	< 0.5 @ zenith, <2.0 @ horizon	5-7 dB/35 or 50 dB	Hemispherical	<1.5	2.7 - 24	<40	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC or N-Type		5/8" x 11 tpi	Contact distributor or Tallysman	Room for customer provided circuitry	
	VP6200 Dual Band Reference Antenna	2015	DEGLMNOR	167 D x 124.5mm	700g	GPS L1/L2 + GLONASS G1/G2 + Galileo E1/E5a + BeiDou B1/B2 + L-Band	<1.5:1	< 0.5 @ zenith, <2.0 @ horizon	5-7 dB/35 or 50 dB	Hemispherical	<1.5	2.7 - 24	<40	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC or N-Type		5/8" x 11 tpi	Contact distributor or Tallysman	Room for customer provided circuitry	
	TW1421 / TW4421- GPS L1+ GLONASS G1, Dual Feed, Patch Antenna	2012	ADLNOPTV	35 D x 7.25mm	30g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	< 3.5	4.5 dB/28 dB	Hemispherical	1.25	2.5 - 16	15	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	15 KV ESD Protection	SMA Male, MCX, SMB, MCX right angle, H.F.L., U.F.L., SMA right angle, SSMA	1.5mm dia. CO-6FFH-SB cable/custom	Screw or adhesive	Contact distributor or Tallysman	Custom Tuning available	
	TW2406 / TW2410 - GPS L1+ GLONASS G1, Dual Feed Antenna	2010	ADLGNOPTV	50 D x 7.8mm	100g	GPS L1+GLONASS L1/1574 to 1606 MHz	<1.5:1	< 3	4 dB/ 28 dB	Hemispherical	1	2.5 - 16	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead, H.F.L.	1.5mm dia. CO-6FFH-SB cable/custom	Screw or adhesive	Contact distributor or Tallysman	Custom Tuning available	
	TW4721 - Dual Feed GPS/GLONASS/ Galileo/BeiDou L1	2013	DGLMNOPTV	38 x 38 x 14.3mm	50g	1559 - 1606 MHz	<1.5:1	< 2	4.5 dB/ 26 dB	Hemispherical	1	2.5 - 16	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	SMA, MMCX, MCX, SMB, SMC, SMA, SMB, SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA	RG174/ Custom	magnetic or adhesive	Contact distributor or Tallysman		
	TW2710 - GPS + GLONASS + Galileo + BeiDou, Magnet/Screw Mount, Dual Feed Antenna	2013	ADLGNOPTV	57 D x 15mm	150g	1557 to 1606 MHz	<1.5:1	< 2	4.75 dB/ 28 dB	Hemispherical	< 1	2.5 - 16	15	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead, H.F.L.	RG174/ Custom	Magnet, screw or adhesive	Contact distributor or Tallysman	Custom labelling available	
	TW1721 - GPS L1 + GLONASS G1 + Galileo E1 + BeiDou B1 (Embedded)	2013	ADELMNSV	35 D x 8.75mm	30g	1559 to 1606 MHz	<1.5:1	<2	4.5 dB / 28 dB	Hemispherical	<1.5	2.5 - 16	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	15 KV ESD Protection	Full range	RG174 or Micro-Coax	Screw	Contact distributor or Tallysman	Custom Tuning available	
	TW829 - GPS L1/L2 + GLONASS G1/G2 + Galileo E1 + BeiDou B1	2017	ADELMNSOV	47.3 x 18.3mm	52g	L2:1215MHz-1261MHz L1: 1557 MHz-1606MHz	<1.5:1	<2	4.5 dB / 27 dB	Hemispherical	<2.5	2.5 - 16	12	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	Full range	RG174/ Custom	Magnet or Adhesive	Contact distributor or Tallysman		
	TW3152 - GPS L1	2015	TL	66.5 x 21mm	150g	1565 - 1585 MHz	<1.5:2	<1	4.5 dB / 50 dB	Hemispherical	1.5	2.5 - 16	25	-40 to +86	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC or N-Type					
	TW3872E - GPS L1/L2 + GLONASS G1/G2 + Galileo E1 + BeiDou B1 (Embedded)	2015	ADMGLMNOSTV	60 D x 15.7mm	75g	1213 to 1261 MHz + 1559 to 1610 MHz	<1.5:1	<2	4.5 dB and 3dB / 35 dB	Hemispherical	2	2.5 - 16	25	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	15 KV ESD Protection	Full range	RG174 or Micro-Coax	Screw	Contact distributor or Tallysman	Custom Tuning available	
TW2320 - GPS L1 + GLONASS G1 + Galileo E1 + BeiDou B1 + L-band	2015	DGLMNOPTV	57 D x 15mm	100g	1525 - 1610 MHz	<1.5:1	1	4.25 dB / 35 dB	Hemispherical	<2.5	2.5 - 16		-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)		15 KV ESD Protection	Full range	RG174	Screw, Magnetic or Adhesive	Contact distributor or Tallysman			

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Manufacturer	Model	Intro. Date	User Envir. 1	Size: Length x Width x Height	Weight	Frequency/Bandwidth 2	VSWR 3	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)/Type	L/D 5	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
	TW3972 - GPS L1/L2/L5 + GLONASS G1/G2/G3 + Galileo E1/E5 - BeiDou B1/B2 + L-band	2016	DGLMNOPTV	66.5 x 21mm	185g	1164 to 1254 MHz + 1525 - 1610 MHz	<1.5:1	<-2	L1: 3.5dB/35dB L2: 4.5dB/35dB L5: 0dB/35dB	Hemispherical	2.5	2.5 - 16	20	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC or N-Type		3/4in (19mm) thru-hole with option L-bracket or mast mount	Contact distributor or Tallysman	Conical or low profile radome in White or Grey
	TW7972 - GPS L1/L2/L5 + GLONASS G1/G2/G3 + Galileo E1/E5 - BeiDou B1/B2 + L-band	2016	DGLMNOPTV	69 D x 22mm	180g	1164 to 1254 MHz + 1525 - 1610 MHz	<1.5:1	<-2	L1: 3.5dB/35dB L2: 4.5dB/35dB L5: 0dB/35dB	Hemispherical	2.5	2.5 - 16	20	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	Full range		Screw, Magnetic or Adhesive	Contact distributor or Tallysman	Embedded version available
	TW3740 - Dual Feed High Gain GPS/ GLONASS/Galileo/BeiDou	2014	DGLMNOPTV	66.5 D x 21mm	150g	1559 to 1606 MHz	<1.5:1	<-2	4.25 dB/ 40 dB	Hemispherical	1	2.5 - 16	15	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC female or N Type on bottom of base, or MMCX, MCX, SMB, SMC, SMA, SMB, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA,	RG174/ Custom	3/4in (19mm) thru-hole with option L-bracket or mast mount	Contact distributor or Tallysman	Conical or low profile radome in White or Grey
	TW1829 - GPS L1/L2 + GLONASS G1/G2 + Galileo E1 + BeiDou B1 (embedded)	2017	ADEGLMNOSV	48 x 12.2mm	37g	L2:1215MHz-1261MHz L1: 1557 MHz-1606MHz	<1.5:1	<-2	4.5 dB / 27 dB	Hemispherical	<2.5	2.5 - 16	12	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	N	15 KV ESD Protection	Full range	RG174 or Micro-Coax	Screw	Contact distributor or Tallysman	Custom Tuning available
	TW3440 - GPS L1+ GLONASS, Timing Antenna	2012	DGLMNOPTV	66.5 D x 21mm	150g	1574 to 1606 MHz	<1.5:1	1	4.25 dB/ 40 dB	Hemispherical	1	2.5 - 16	10	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC female or N Type on bottom of base, or MMCX, MCX, SMB, SMC, SMA, SMB, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA, H.F.L.	RG174/ Custom	3/4in (19mm) thru-hole with option L-bracket or mast mount	Contact distributor or Tallysman	Conical or low profile radome in White or Grey
	TW3710 - GPS + GLONASS + Galileo + BeiDou, Thru-hole mount, Dual Feed Antenna	2013	DGLMNOPTV	66.5 D x 21mm	150g	1557 to 1606 MHz	<1.5:1	<-2	4.75 dB/ 28 dB	Hemispherical	1	2.5 - 16	15	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC female or N Type on bottom of base, or MMCX, MCX, SMB, SMC, SMA, SMB, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA, H.F.L.	RG174/ Custom	3/4in (19mm) thru-hole with option L-bracket or mast mount	Contact distributor or Tallysman	Conical or low profile radome in White or Grey
	TW3872 - GPS L1/L2 + GLONASS G1/ G2 + Galileo E1 + BeiDou B1	2015	DGLMNOPTV	66.5 x 21mm	185g	1213 to 1261 MHz + 1559 to 1610 MHz	<1.5:1	<-2	4.5 dB + 3dB / 35 dB	Hemispherical	2	2.5 - 16	25	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	TNC female or N Type on bottom of base, or MMCX, MCX, SMB, SMC, SMA, SMB, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA, H.F.L.	RG174/ Custom	3/4in (19mm) thru-hole with option L-bracket or mast mount	Contact distributor or Tallysman	Conical or low profile radome in White or Grey
	TW2600 - Iridium Certified Magnet/Screw Mount, Dual Feed Antenna	2011	DMNV	57 D x 15mm	150g	1616 to 1626.5 MHz	<1.5:1	< 3	4.25 dB/ --	Hemispherical	1 (GPS)	na	na	-40 to +85	3G (3 axis, 15min, 10 to 200Hz sweep)	Y/ IP67	15 KV ESD Protection	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right Angle, Waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead, H.F.L.	RG174/ Custom	Magnet, screw or adhesive mount	Contact distributor or Tallysman	Custom labelling available
Taoglas www.taoglas.com	CGGP25.4.E.02	Apr-16	LNOV	25 x 25 x 4mm	5.74g	1575 - 1610 MHz	1.8 max	10 typ.	3.34 dB typ.	Linear	na	na	na	-40 to 85	na	N	na	na	na	Pin and adhesive tape	Contact Taoglas	Taoglas provides GPS internal and external antennas suitable for very small environments to large automotive and outdoor applications to many M2M and IoT brands worldwide. Particular focus is spend on optimising axial ratio. We provide GPS integration testing and tuning optimisation, including, gain, efficiency, axial ratio, receive strength, noise figure, desense testing for all our customers worldwide in our own RF facilities.
	GPDF47.8.A.02	Nov-16	LNOV	47.5 x 47.5 x 8mm	45g	1575.42 MHz and 1227.6 MHz	1.2 max	2.19 typ.	4.23 dB typ.	RHCP	na	na	na	-40 to 85	na	N	na	na	na	Pin and adhesive tape	Contact Taoglas	
	AP25E.07.0054A	April 12	LNOV	35 x 35 x 4.5mm	7g	1561 - 1602 MHz	2.0 max	3	3 dB typ.	RHCP	2.8dB	1.8-5.5v	na	-40 to 85	na	N	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	coaxial cable Ø1.13/54mm	Surface mount	Contact Taoglas	
	SGGP18.4.A.02	May 13	LNOV	18 x 18 x 4mm	N/A	1559 - 1610 MHz	1.2 max	na	3.88 dB typ.	Linear	na	5.0V	na	-40 to 85	na	N	na	na	na	Surface mount	Contact Taoglas	
	GBLA.01	March 14	LNOV	3.2 x 1.6 x 0.5mm	neg.	1575.42 - 1608 MHz	2.0 max	na	2.8 dB typ.	Linear	na	2.5-5.5V typ.	na	-40 to 85	na	N	na	na	na	Surface mount	Contact Taoglas	
	FXP612.07.0095A	Jun-16	LNOV	76 x 47 x 0.15mm	3g	1164-1189 MHz, 1215-1240 MHz, 1559-1591 MHz and 1593-1610 MHz	1.6 max	na	3.1-4.0 dB typ.	Linear	na	na	na	-40 to 85	na	N	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	Mini-Coax 1.13 mm/ 95mm	Adhesive	Contact Taoglas	
	A.41A.301111 Hercules Gen II	October 14	LNOV	47.8 x 47.8 x 28.5mm	157g	1575.42 MHz	3.26 max	3 dB typ.	28 dB typ.	RHCP	2.8 dB	3.0V typ.	10mA	-40 to 85	na	Y - IP67 & IP69K	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	RG174/3m	Screw Mount	Contact Taoglas	
	AA.171.301111 MagmaX	January 15	LNOV	53 x 50 x 17mm	92g	1561 - 1602 MHz	2	<3 dB typ.	28 dB typ.	RHCP	2.4 dB typ.	3.0V typ.	7.3mA	-40 to 85	na	Y - IP65	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	RG174/3m	Magnetic mount	Contact Taoglas	
	AA.107.301111 Stingray	February 13	LNOV	55 x 51.7 x 10.8mm	62g	1575.42/1602 MHz	2	na	28 dB typ.	RHCP	2.2 dB typ.	3.3V typ.	10mA	-40 to 85	na	Y - IP65	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	RG174/3m	Adhesive mount	Contact Taoglas	
	AA.180.501111	January 18	LNOV	35 x 35 x 15mm	92g	1561 - 1602 MHz	2.0 max	2.19 dB typ	2.71 dB	RHCP	3.09 dB typ.	na	na	-40 to 85	na	Y - IP67	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	RG174/3m	Magnetic mount	Contact Taoglas	
A.80A.101111 Bolt	January 18	LNOV	94.3 x 94.3 x 25.4mm	250g	1227 / 1575-1606 MHz	2.0 max	3 dB typ.	3.5 dB typ.	RHCP	3.5 dB typ.	3.27V typ.	55.7mA	-40 to 85	na	Y - IP67 and IP69K	na	MMCX, MCX, SMB, SMC, SMA, U.F.L., SMA Right angle, waterproof SMA, SSMA, Reverse Polarity SMA, SMA on bulkhead	RG174/1M	Screw Mount	Contact Taoglas		
Topcon Positioning Systems, Inc. www.topconpositioning.com	PL-S1	2012	GL	141.6 x 141.6 x 54.2mm	430g w/o GP, 615g w/GP	L1 GPS/GLONASS 1586.5 ± 25MHz L2 GPS/GLONASS 1236 ± 20 MHz L-Band 1535 ± 10 MHz	≤ 2.0:1	2	4.5/33	Symmetrical	1.5	3-18	55 (typ)	-50 to +85	IEC 60068-2-34, Test Fd IEC 60068-2-6, Test Fc	Y/IP67	Y/Y	TNC	RG-58/Variable Length	5/8-11 UNC-2B Threaded	Contact distributor	< 1cm centering
	PG-S1	2012	GLR	141.6 x 141.6 x 54.2mm	430g w/o GP, 615g w/GP	L1 GPS/GLONASS 1586.5 ± 25MHz L2 GPS/GLONASS 1236 ± 20 MHz L-Band 1535 ± 10 MHz	≤ 2.0:1	2	4.5/33	Symmetrical	1.5	3-18	55 (typ)	-50 to +85	IEC 60068-2-34, Test Fd IEC 60068-2-6, Test Fc	Y/IP67	Y/Y	TNC	RG-58/Variable Length	5/8-11 UNC-2B Threaded	Contact distributor	<1mm, micro-centered
	PG-F1	2015	GLR	141.6 x 141.6 x 67.3mm	490g w/o GP, 675g w/GP	Lower band 1230 MHz±70 MHz Upper band 1565 MHz±50 MHz	≤ 2.0:1	2	5.5/35	Symmetrical	1.5	3-15	60 (typ)	-50 to +85	MIL-STD-810G	Y/IP65	Y/Y	TNC	Variable	5/8-11 UNC-2B Threaded	Contact distributor	na
	MG-A8	2012	MN	Ø 89mm Height w/o adapter 102.5mm w/ adapter 205mm	250g w/o adapter	Upper band 1520 - 1590 MHz Lower Band 1215 - 1260 MHz	≤ 2.0:1	2	5.5/35	Symmetrical	1.5	3-18	60 (typ)	-40 to +70	MIL-STD-810G	Y/IP65	Y/Y	TNC	Variable	5/8-11 Internal Thread	Contact distributor	na
	CR-G5	2011	GLR	380 x 155.5mm (without dome)	4900g w/o dome 6000g w/dome	Lower band 1230 MHz±70 MHz Upper band 1565 MHz±50 MHz	≤ 1.5:1	2	5/43 typ	Symmetrical	1.0	3-12	100	-50 to +70	MIL-STD-810G	Y/IP67	Y/Y	N	RG-58/Variable Length	Threaded	Contact distributor	na
	PN-A5	2011	GLR	380 x 262mm (without dome) 380 x 292mm (with dome)	6700g w/out dome 7800g w/dome	Lower band 1230 MHz±70 MHz Upper band 1565 MHz±50 MHz	≤ 1.5:1	2	5/43 typ	Symmetrical	1.0	3-12	100	-50 to +70	MIL-STD-810G	Y/IP67	Y/Y	N	RG-58/Variable Length	Threaded	Contact distributor	na
	G5-A1	2015	GLR	298 x 75mm	1300g	Lower band 1230 MHz±70 MHz Upper band 1570 MHz±40 MHz	≤ 2.0:1	2	10/35 typ	Symmetrical	1.0	3-16	65	-40 to +75	MIL-STD-810G	Y/IP67	Y/Y	TNC	Variable	5/8-11 Threaded	Contact distributor	< 1mm



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Manufacturer	Model	Intro. Date	User Envir. <sup>1</sup>	Size: Length x Width x Height	Weight	Frequency/Bandwidth <sup>2</sup>	VSWR <sup>3</sup>	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/D <sup>5</sup>	Connectors	Cable Type/Length	Mounting Configuration	List Price in U.S. Dollars	Integration
	G3-A1	2005	GLR	141.6 x 14.61 x 53.7mm w/o dome 141.6 x 14.61 x 149.5mm w/dome	515g w/o GP, 700g w/ GP	L1 GPS/GLONASS 1586 ± 25 MHz L2GPS/GLONASS 1236 ± 20 MHz L5 1176 ± 12 MHz	≤ 2.0:1	2	5/30	Symmetrical	1.8	3-18	30	-50 to +70	Method 514.5	Y/IPX5/IPGX	Y/Y	TNC	RG-58/Variable Length	5/8-11 Threaded	Contact distributor	na
	CR-G5-C	2015	GLR	380 x 155.5mm w/ out dome 380 x 292mm w/dome	5300g w/o dome, 6400g w/dome	Lower band 1230 MHz±70 MHz Upper band 1565 MHz±50 MHz	≤ 1.5:1	2	5/43 typ	Symmetrical	1.0	3.3-12	100	-50 to +85	MIL-STD-810G	Y/IP67	Y/Y	N	RG-58/Variable Length	Threaded	Contact distributor	< 1mm
Trimble www.trimble.com	Magnetic Mount 3 V Antenna, MCX, SMA connectors	2001	LNPVY	37.4 x 34 x 12.9mm	25g (without cable) cable length 5m	1575 MHz	2.0 max	4 dB @ 90°	27 dB ±3 dB typ temp	Upper hemispherical	1.8 (+25°C) / 2.3(+85°C)	3 VDC	20 max	-40 to +85	as above	Y/waterproof JISD0203 S2	nr	SMB, SMA	1.5DS-QEHV5 m	Magnetic mount	OEM pricing; inquire	nr
	Magnetic Mount 5V Antenna, SMB, SMA connectors	2001	LNPVY	37.4 x 34 x 12.9mm	25g (without cable) cable length 5m	1575 MHz	2.0 max	4 dB @ 90°	27 dB ±3 dB typ temp	Upper hemispherical	1.8 (+25°C) / 2.3(+85°C)	5 VDC	30 max	-40 to +85	as above	Y/waterproof JISD0203 S2	nr	MCX, SMA	1.5DS-QEHV5 m	Magnetic mount	OEM pricing; inquire	nr
	Unpackaged Embedded 3.V	2001	LNPVY	22 x 21 x 7.5mm	20g (cable length 85mm)	1575 MHz	2.0 max	4 dB @ 90°	27 dB ±3 dB typ temp	Upper hemispherical	1.5 (+25°C) / 2.0(+85°C)	3 VDC	13 max	-40 to +85	as above	nr	nr	H.FL	0.8 D/8 cm	Mounting holes	OEM pricing; inquire	nr
	Bulkhead	2001	LNPVY	64.5 x 40mm	150g	1575 MHz	2.0 max	4 dB @ 90°	27 dB ±3 dB typ temp	Upper hemispherical	1.8 (+25°C) / 2.3(+85°C)	5 V or 3 V	35 max	-40 to +86	as above	nr	nr	TNC	na	Threaded	OEM pricing; inquire	nr
	GPS/GLONASS Magnetic Mount 3 V Antenna, MCX, SMA connectors	2011	LNPVY	49.14 x 46.14 x 15.94mm	25g (without cable) cable length 5m	1575 to 1615 MHz	2.0 max	4 dB @ 90°	30 dB typ	Upper hemispherical	2.0 typ	3 VDC	8 typ	-40 to +85	as above	Y/waterproof JISD0203 S2	nr	MCX, SMA	1.5DS-QEHV5 m	Magnetic mount	OEM pricing; inquire	nr
	GPS/Beidou Magnetic Mount 3V Antenna, MCX, SMA connectors	2016	LNPVY	49.14 x 46.14 x 15.94mm	25g (without cable) cable length 5m	1558 to 1615 MHz	2.0 max	5 dB max @ Zenith	30 dB typ	Upper hemispherical	2.7 max	3 VDC	10 typ	-40 to +85	10Hz - 200Hz, log sweep 3G	nr	nr	MCX, SMA	RG-174/5 m	Magnetic mount	OEM pricing; inquire	nr
	GPS/Beidou Magnetic Mount 5V Antenna, SMA connector	2016	LNPVY	49.14 x 46.14 x 15.94mm	25g (without cable) cable length 5m	1558 to 1615 MHz	2.0 max	5 dB max @ Zenith	30 dB typ	Upper hemispherical	2.6 max	5 VDC	17 typ	-40 to +85	10Hz - 200Hz, log sweep 3G	nr	nr	SMA	RG-174/5 m	Magnetic mount	OEM pricing; inquire	nr
	GPS/GLONASS Bulkhead	2011	LNPVY	64.5 x 40mm	150g	1575 to 1615 MHz	2.0 max	4 dB @ 90°	30 dB typ	Upper hemispherical	2.0 typ	5 V or 3 V	6.5 typ @ 3V 13 typ @ 3V	-40 to +85	as above	nr	nr	TNC	na	Threaded	OEM pricing; inquire	nr
	Trimble A3	2005	DGLMNRV	16 x 6.2cm	0.39kg	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 7.6cm	0.60kg	L1/L2/L3/L5/G1/G2/B1/B2/E1/E2/E5ab/E6/RTX/OmniSTAR/SBAS	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 2 Rugged	2008	DGLMNR	25.4 x 11.1cm	1.8kg	L1/L2/L3/L5/G1/G2/B1/B2/E1/E2/E5ab/E6/RTX/OmniSTAR/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. Buoyant	+/- 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 5/8in thread to pole	Contact Distributor	nr
	Zephyr Geodetic 2 Antenna	2006	DGLMnrV	34.3cm Ø x 8.5cm	1.36kg	L1/L2/L5/G1/G2/G3/E1/E2/E5ab/E6/Compass	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB	3.3-20 VDC	125	-55 to +85	MIL-STD-810-F	Rated to IP67	nr	TNC female	Any with up to 10 dB loss	Tripod, tribrach, pole	Contact Distributor	nr
	Trimble GNSS Choke Ring	2008	DEGLR	38cm Ø x 12.7cm	4.3kg	L1/L2/L5/G1/G2/G3/E1/E2/E5ab/E6/Compass	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB	3.3-20 VDC	125	-55 to +85	4.3 GRMS	Rated to IP67	nr	N-Type female	Any with up to 10 dB loss	Tripod, tribrach, monument	Contact Distributor	nr
	Trimble GNSS-Ti Choke Ring	2011	DEGLR	38cm Ø x 14.6cm	4.3kg	L1/L2/L5/G1/G2/G3/E1/E2/E5ab/E6/Compass	2.0 max	2 dB @ Zenith	50 dB ±2.0	Upper hemispherical	2.0 dB	3.3-20 VDC	125	-55 to +85	4.3 GRMS	Rated to IP67	nr	N-Type female	Any with up to 10 dB loss	Tripod, tribrach, monument	Contact Distributor	nr
	Bullet III GPS Antenna	1990	LMNOPTV	77.5 Ø x 66.2mm	0.2kg	GPS L1	2.0 max	4 dB Max @ 90°	30 dB ±3.0 (5 V)	Upper hemispherical	3.0 dB typ	3.3 V or 5.0 VDC options	30 max (5 V)	-40 to +90	10Hz - 200Hz, log sweep 3g, 3-axis	Y / up to IP67	nr	TNC (F option for 5 V antenna)	depends upon use case	1" - 14 UNF or 3/4" NPT	OEM or System Integrator pricing contact: technology@trimble.com	nr
	Bullet GG (GPS & GLONASS) Antenna	2014	LMNOPTV	77.5 Ø x 66.2mm	0.2kg	GPS L1 / GLONASS L1	2.0 max	4 dB Max @ 90°	32 dB ±3.0 (5 V)	Upper hemispherical	3.3 dB max	3.3 V or 5.0 VDC options	30 max (5 V)	-40 to +90	10Hz - 200Hz, log sweep 3g, 3-axis	Y / up to IP67	nr	TNC (F option for 5 V antenna)	depends upon use case	1" - 14 UNF or 3/4" NPT	OEM or System Integrator pricing contact: technology@trimble.com	nr
	Bullet L1 L2 Antenna	2015	LMNOPTV	77.5 Ø x 66.2mm	0.2kg	GPS L1 / GPS L2	2.0 max	<3 dB	36 dB ±3.0 (5 V)	Upper hemispherical	3.3 dB max	3.3 V or 5.0 VDC options	35 max (5 V)	-40 to +90	10Hz - 200Hz, log sweep 3g, 3-axis	Y / up to IP67	nr	TNC (F option for 5 V antenna)	Up to 75 ft RG-58 or RG-59	1" - 14 UNF or 3/4" NPT	OEM or System Integrator pricing contact: technology@trimble.com	nr
	Bullet 360 Antenna	2015	LMNOPTV	77.5 Ø x 66.2mm	0.2kg	GPS L1 / BeiDou B1 / GLONASS G1 / Galileo E1	2.0 max	<5 dB GPS	28 dB ±3.0	Upper hemispherical	2.0 dB typ	3.3 V or 5.0 VDC options	20 max (5 V)	-40 to +90	10Hz - 200Hz, log sweep 3g, 3-axis	Y / up to IP67	nr	TNC (F option for 5 V antenna)	depends upon use case	1" - 14 UNF or 3/4" NPT	OEM or System Integrator pricing contact: technology@trimble.com	nr
	Bullet 40dB Antenna	2015	LMNOPTV	77.5 Ø x 66.2mm	0.2kg	GPS L1	2.0 max	<3 dB	40 dB ±3.0 (5 V)	Upper hemispherical	2.0 dB typ	3.3 V or 5.0 VDC options	35 max (5 V)	-40 to +90	10Hz - 200Hz, log sweep 3g, 3-axis	Y / up to IP67	nr	TNC (F option for 5 V antenna)	depends upon use case	1" - 14 UNF or 3/4" NPT	OEM or System Integrator pricing contact: technology@trimble.com	nr
	Bullet GB Antenna	2015	LMNOPTV	77.5 Ø x 66.2mm	0.2kg	GPS L1 / BeiDou B1	2.0 max	< 5 dB GPS	28 dB ±3.0 (5.0 V)	Upper hemispherical	2.0 dB typ	3.3 V or 5.0 VDC options	20 max (5 V)	-40 to +90	10Hz - 200Hz, log sweep 3g, 3-axis	Y / up to IP67	nr	TNC (F option for 5 V antenna)	depends upon use case	1" - 14 UNF or 3/4" NPT	OEM or System Integrator pricing contact: technology@trimble.com	nr
Trimble AV33	2010	LG	8.9 x 2.1cm 3.5 x 0.084in	0.21kg [0.47lb]	GPS L1 / GLONASS L1 / Galileo E1 / BeiDou B1 / SBAS	2.0 max	3 dB Max @ boresight	43 dB	RHCP	2.5 dB max	4.5 V to 18 VDC	na	-55 to +85	nr	Y	nr	TNCF female	None	Roof Mount		nr	
Trimble AV34	2011		8.9 x 2.1cm 3.5 x 0.084in	0.21kg [0.47lb]	GPS L1 / GLONASS L1 / Galileo E1 / BeiDou B1 / SBAS	2.0 max	3 dB Max @ boresight	43 dB	RHCP	2.5 dB max	4.5 V to 18 VDC	na	-55 to +85	nr	Y	nr	TNCF female	None	Roof Mount		nr	
Trimble AV37	2008	AG	11.9 x 7.6 x 2.34cm	0.28kg [0.63lb]	GPS L1 L2 / GLONASS L1 L2 / Galileo E1 / BeiDou B1 / SBAS	1.5 max	3 dB Max @ boresight	43 dB	RHCP	2.5 dB max	5 V to 15 VDC	na	-55 to +70	nr	Y	nr	TNCF female	None	Roof Mount		nr	
Trimble AV39	2011	A	11.1 x 14.27 x 3.76cm	0.39kg [0.85lb]	GPS L1 L2 L5 / GLONASS L1 L2 L3 / Galileo E1 E2 E5 / BeiDou B1 B2 / SBAS	2.0 max	3 dB Max @ boresight	38dB	RHCP	3.5 dB max	4.2 V to 15 VDC	na	-55 to +85	nr	Y	nr	TNCF female	None	Roof Mount		nr	
Trimble AV59	2009	LG	14.6 x 3.9cm 5.75 x 1.53in	0.30kg [0.67lb]	GPS L1 L2 L5 / GLONASS L1 L2 L3 / Galileo E1 E2 E5 / BeiDou B1 B2 / SBAS	2.0 max	3 dB Max @ boresight	39 dB	RHCP	2.6 dB max	4.2 V to 15 VDC	na	-40 to +85	nr	Y	nr	TNCF female	None	Roof Mount		nr	
Trimble LV59	2010	LG	14.6 x 6.2cm 5.75 x 2.46in	0.48kg [1.06lb]	GPS L1 L2 L5 / GLONASS L1 L2 L3 / Galileo E1 E2 E5 / BeiDou B1 B2 / SBAS	2.0 max	3 dB Max @ boresight	39 dB	RHCP	2.6 dB max	4.2 V to 15 VDC	na	-40 to +85	nr	Y	nr	TNCF female	None	Pole Mount		nr	
Trimble AV28	2016	DGLMNOPTV	66.5 x 21cm	0.185kg	1164 MHz to 1254 MHz + 1525 - 1610 MHz	<1.5:1	2 dB Max	35 dB	Hemispherical	2.5	2.5 V to 16 VDC	20	-40 to +85	3g	Y	15 KB ESD Protection	TNC		3/4in thru hole			
Wang Electro-Opto Corporation www.wco.com	GNSS-D060-L-P0900	2011	LNVTV	60x x 15mm	180g	1150 - 1620 MHz	<2.0:1	<4dB	4dB typ	RHCP	2 dB typ	3-5 VDC	na	-30 to +60	MIL-STD-810F	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery	Cover all GNSS bands; thin and conformal
	GNSS-D060-L-P0900-LNA	2011	LNVTV	60x x 15mm	182g	1150 - 1620 MHz	<2.0:1	<4dB	4dB / 20dB typ	RHCP	2/2.5 dB typ	3-5 VDC	4 mA	-30 to +60	MIL-STD-810F	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery	Cover all GNSS bands; thin and conformal
	GNSS-D060-L-P0500	2011	LNVTV	60x x 15mm	180g	1150 - 1620 MHz	<2.0:1	<4dB	4dB typ	RHCP	2 dB typ	3-5 VDC	na	-30 to +60	MIL-STD-810F	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery	Cover all GNSS bands; thin and conformal
	GNSS-D060-L-P0100	2011	LNVTV	60x x 15mm	180g	1150 - 1620 MHz	<2.0:1	<4dB	4dB typ	RHCP	2 dB typ	3-5 VDC	na	-30 to +60	MIL-STD-810F	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery	Cover all GNSS bands; thin and conformal
	GNSS-D060-L-P0100-LNA	2011	LNVTV	60x x 15mm	182g	1150 - 1620 MHz	<2.0:1	<4dB	4dB / 20dB typ	RHCP	2/2.5 dB typ	3-5 VDC	4 mA	-30 to +60	MIL-STD-810F	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery	Cover all GNSS bands; thin and conformal
	GNSS-D115-L-P0100	2011	DGLNVT	115x x 30mm	250g	1100 - 2000 MHz	<2.0:1	<3 dB	5dB typ	RHCP	1.7 dB typ	na	na	-45 to +70	MIL-STD-810F, DO-160E	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery	Cover all GNSS bands and some cell bands; thin and conformal
	GNSS-D115-L-P0010	2011	DLNVT	115x x 30mm	250g	1100 - 2000 MHz	<2.0:1	<3 dB	5dB typ	RHCP	1.7 dB typ	na	na	-45 to +70	MIL-STD-810F, DO-160E	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery schedule	Cover all GNSS bands and some cell bands; thin and conformal
	GNSS-D115-L-P0010-LNA	2011	DLNVT	115x x 30mm	252g	1100 - 2000 MHz	<2.0:1	<3 dB	5dB / 21-43dB typ	RHCP	1.7/2 dB typ	3-5 VDC	4-20 mA	-45 to +70	MIL-STD-810F, DO-160E	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery schedule	Cover all GNSS bands and some cell bands; thin and conformal
	GNSS-D200-L-P0010	2011	DGLNVT	200x x 30mm	360g	1100 - 2000 MHz	<2.0:1	<3 dB	5dB typ	RHCP	1.5 dB typ	na	na	-45 to +70	MIL-STD-810F, DO-160E	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery schedule	Cover all GNSS bands and some cell bands; thin and conformal
	GNSS-D200-L-P0010-LSQ	2012	DGLNVT	200x x 30mm	362g	1100 - 2000 MHz	<2.0:1	<3 dB	5dB typ	RHCP	1.5 dB typ	na	na	-45 to +70	MIL-STD-810F, DO-160E	Y/Rubber Sealed	NN	SMA/other available	na	Side or bottom feed	Low cost; inquiry with quantity and delivery schedule	Cover all GNSS bands and some cell bands; LightSquared compatible