

Geodetic Antenna Comparison

Antenna	Novatel GNSS 750	Trimble Zephyr 2	Ashtech ChokeRing	Topcon PN-A5	Leica AR20	Harxon HX GG486A	VeraPhase 6000
Image							
Centre frequency(ies)	1568.5 +/- 55 MHz, 1232 +/- 80 MHz (3dB pass band)	L1/L2/L5/G1/G2/ Omnistar/E1/E2/ E5ab/E6	1575 +/- 10MHz 1227 +/- 10MHz	1230 +/-70MHz, 1565 +/-50 MHz	L1/L2/L5/G1/G2/ Terrastar/E1/E2/ E5ab/E6, B1/B2/B3	L1/L2, G1/G2	L1,L2,L5,E1, E5ab, E6,G1,G2, G3,G5,B1,B2,B3 +1525 - 1559 MHz (1 dB pass band)
Out of Band Rejection	80dB @ 900MHz 30dB @ 1132MHz 50dB @ 1382MHz 30dB @ 1668MHz 50dB @ 1718MHz			L1,L2: +/- 100MHz - 30 dBc, +/- 150 MHz -50dBc			>60dB @ 800MHz 45dB @ 900MHz 15dB @ 1000MHz 25dB @ 1430MHz 25dB @ 1690MHz >60dB @ 1710MHz
Gain @ Zenith	L1/E1/B1/L2/L5/E5/ B2/B3/E6: +5.0 dBic (min)		+5 dBic	L1: +4.7dB L2: +6.0 dB		≥6dBi	L1: 6.7dBic L2: 5.7dBic L5: 5.1dBic E5: 5.1dBic E1: 7.0dBic G1: 6.8dBic G2: 5.7dBic
LNA Gain	41 dB ±3 dB	50 dB ± 2dB	L1: 38 dB L2: 39dB	43 dB	29 dB, 40 dB option	50 dB	33-35 dB 48-50 dB
Noise Figure	2.0 dB (typ.)	2 dB		1.0 dB (typ)			1.5dB typ. at 25°C
VSWR	1.5:1	2.0:1 (max)		1.5:1		<2:1	<1.5:1 max
L1 - L2 Differential Propagation Delay							< 5 ns
Group Delay Ripple						< 5 ns	< 5 ns
Axial Ratio	2.0 dB @ zenith	2 dB @ zenith		2 dB		< 3dB	< 0.5 dB at zenith, 2dB max at horizon
PCO	<2mm	<2mm Note: 4 point antenna feed		<1mm all GNSS	<3mm variation above 15deg		
PCV						±1mm	±1mm
Power	100 mA (typ)	125d mA	45 mA	100 mA	100 mA	≤35 mA	35mA
Voltage	3.3 - 12VDC	+3.3 to +12.0 VDC	5.0 - 15.0 VDC	3.3 - 20 V	3.3 - 12 VDC	3 - 18VDC	+2.7 to 24VDC nominal
Connector	N-type w TNC Adapter	TNC	N-Type	TNC or N-Type	N-Type	TNC	TNC
Water	IEC-60529 IPX6 and IPX7	100% fully sealed	100%	IEC 60529 IP67	IP67		IP67
Shock	MIL-STD-810F, 516.5	MIL-810-F Fig. 514 5c-17		Method 514.6	ISO9022-36-05		
Weight	7.6 Kg	1.36 Kg	4.7 Kg	6.7 Kg	5.9 Kg	4.92 Kg	0.7 Kg

Size	38 cm dia x 20 cm	34 cm dia x 7.6 cm		38 cm dia x 26 cm	32 cm dia x 16.3 cm	32.2 cm dia x 26.1 cm	15.7 cm x 13.6 cm
Mount	5/8" x 11 tpi	5/8" x 11 tpi	5/8" x 11 tpi		5/8" x 11 tpi	5/8" x 11 tpi	5/8" x 11 tpi

NOTE: **Highlighted** cells identify the best performance amongst the group.