

Choke Ring Antenna



- High-end Geodetic Antenna
- Environmentally robust and sealed
- Topcon designed choke ring groundplane
- Topcon's TA-5 vertical convex dipole antenna element for full spectrum GNSS signal tracking
- Improved phase center stability in vertical over expanded GNSS frequency band.



Next Generation Full Wave Geodatic Antenna Anti-Snow Spherical Dome

The CR-G5 is a newly designed choke ring antenna based on Topcon's new TA-5 full spectrum GNSS antenna element. The TA-5 antenna element utilizes an array of vertical convex dipoles. This new antenna provides Full Wave tracking technology for existing and future GNSS signals. The antenna addresses the evolving requirements for reference networks and infrastructure monitoring applications.

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SPECIFICATIONS

Dimensions

Antenna without Anti-snow Dome	380 mm (D) x 155.5 mm (H)
With Topcon Anti-snow Spherical Dome	380 mm (D) x 292 mm (H)
With SCIGN Anti-snow Short Dome	415 mm (D) x 287 mm (H)

Weight

Antenna	4.9 kg
Topcon Anti-snow Spherical Dome	1.1 kg

Power

Input Voltage	+3 to +12 VDC
Current Consumption	100 mA (typical)
Connector	N-type

Environmental

MIL-STD-810G	
Temperature	(Methods 501.5, 502.5)
Operating Range / Storage Range	-50°C to +70°C / -55°C to +85°C
Humidity	95%, Method 507.5
Salt Fog, 5%	Method 509.4
Vibration	Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV
Mechanical Shock	Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-1, Fig. 516.6-8, accelerative forces up to 40g
IP Rating	IEC 60529 IP67
Drop Test	Repeated drops from the height of 1 m on concrete surface. All sides – top, bottom & border (with Dome)
RoHS Compliant	Yes

Performance

Operating Frequency Range	
Lower band	1230 MHz±70 MHz (L5, E5B, E3, L2, G2, E4, E6)
Upper band	1565 MHz±50 MHz (E2, L1, E1, G1, OmniStar, SBAS, CDGPS)
Out-of-Band Rejection	
Upper band (1568.5 MHz ±150 MHz)	-40 dBc (typical)
Lower band (1232 MHz ± 100 MHz)	-60 dBc (typical)
Other bands f < 1000 MHz	-60 dBc (typical)
Other bands f > 1750 MHz	-60 dBc (typical)
LNA Gain	43 dB (typical)
Gain at Zenith (90°)	Lower band: +7.5 dB (typical) Upper band: +5 dB (typical)
Gain Roll-Off (from Zenith to Horizon)	Lower band: -16.5 dB (typical) Upper band: -13 dB (typical)
Noise Figure	1.0 dB (typical)
VSWR	1.5 : 1
Differential Propagation Delay (typical)	Lower band: 3 ns (maximum) Upper band: 3 ns (maximum)
Nominal Impedance	50 Ohm



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