

## GPS

### SKY-3 Innovative New Design GPS Antenna

- 1) RF protection in front-end, protect any kind of receives in the GPS market.
- 2) Standard WAAS tune from our antennas
- 3) Short-circuit protection as standard design
- 4) Wide power supplier voltage from +2.5~12V
- 5) Narrow band-width $\leq$ 30 MHz.
- 6) Cable can be up to >10 meters even for small patch antenna.

**SKY-3** GPS antenna is the only innovating design antenna with performance, quality and a Power protection circuit built-in to protect the active LNA's, and most importantly the host GPS receiver down the connector end from the danger of a SHORT circuit external antenna (Note: GPS receiver front-end can be destroyed or de-graded by an external GPS antenna in an over-load or short conditions. The **SKY-3** is a low profile GPS active antenna system for the next generation multi-purpose GPS mobile antenna products for Telemetric, Fleet Management, Navigations and AVL applications. This small print size of the antenna design does not reflect over-all performance, since the antenna itself needs no ground plane aid to deliver the L1 band small signal carrier that originates from the 24 orbiting USA satellites located thousands of miles over-head and with the ground reception power sensitivity at over -130dB. The **SKY-1** antenna is also design as a standard power input voltages in range from +2.5Vdc to +12Vdc with reverse polarity shutdown, over-current sense shutdown and an EMC power line suppression. The most important over-all design concept of the **SKY-3** active antenna is the complete protections of the host sensitive GPS receiver made from any manufacturer that it serve and can also be destroy or de-grade using an improper design antenna





## **Specification:**

General		2 Stages active LNA
		Dual Filters, (HPF & LPF(lump element))
		+28dB gain
	Architecture Design	Dielectric Patch antenna
		Low Noise Low drop-out, Linear Regulator
		GPS receiver short circuit protect
		Low Loss RG/174 Coax cable
		Aluminum Base/ PC+ Radome Plastic
Performance	Receiving Frequency	L1 Band(1575MHz)
	Output Impedance	50 ohms
	Polarization's	Right Hand Circular (RHC)
	Bandwidth	10dB Mhz @ -3dB point
	VSWR	1.5 Typical @ 1575MHz
	Elev. Angle Coverage	5~90 degree
	Az. Bearing Coverage	360 degree
	Filterin	Dual(BPF <10 Mhz B/W, LPF @1576 MHz Stop-band @ 1585MHz)
	Over-all Gain	28dB (typical including 4dB cable loss & Filters)
	Over-all NF	<1.8dB @fo, 2dB max.
	LNA Characteristic	K=>1 Un-conditionally Stable
	RF Insertions loss	0.1dB, leakage power 100mW /1 watt input
	Power Consumption	5 to 11mA (max)
	Power Input Sensor	Reverse Polarity Short Circuit shutdown
	Over-Current Sensor	Thermal Over-current shutdown >+150degreeC
Physical	Dimensions	44 x 34 x 12mm +/-0.5mm
	Mount	Magnetic
	Radome Color	Black
	Coax Connector	BNC, SMA, SMB, MCX, MMCX, GT-5
	Coax Cable	RG-174U double shielded 5m, Low Loss 0.7dB/m
Environmental	Operating emperature	-30 to + 85 degreeC
Option	Storage	-40 to + 90 degreeC
	OEM Hardware	1. Open Frame Antenna , with RF shield
		2. Open Frame with 3" Flanges & RF shield
		3. Ant + Aluminum Base
Electrical	Power Input	+2.5Vdc to +12Vdc input, AutoSwitch

RF Castle Electronics Co., Ltd.

NO.151, Sec 3, Haidian RD., Annan District, Tainan City 70966, Taiwan, R.O.C.

TEL: + 886-6-2475285 FAX : + 886-6-2475282 E-mail: [sales@rfcastle.com](mailto:sales@rfcastle.com) Website: [www.rfcastle.com](http://www.rfcastle.com)

STR-3 antenna RHCP response / ANTENNA RADIATION PATTERN TEST



