

## 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



