

## 9dBi Underground Antenna

### SBA-U2509UA

**SBA-U2509UA** is a 9dBi UHF RFID antenna optimized for underground and floor-level applications in the 902–928 MHz range. With circular polarization and a wide beam pattern (80° horizontal, 40° vertical), it ensures stable tag reading even when placed below surfaces like floors or entry mats. Its compact aluminum design and IP65 waterproof rating provide reliable performance in challenging or semi-concealed environments.

#### Features and Benefits:

- Frequency Range: 902–928 MHz (UHF)
- Gain: 9dBi for effective underground tag detection
- Circular Polarization ensures flexible tag orientation
- Beam Coverage: 80° horizontal / 40° vertical
- VSWR ≤1.5 for stable RF performance
- Connector Type: SMA socket
- IP65 waterproof rating with a robust aluminum body
- Slim and durable for embedded or low-profile installations
- Operating Temperature: -20°C to +60°C
- Lightning protection with DC grounding

#### Applications:

- Vehicle entry systems with underground tag readers
- Smart retail zones with floor-mounted antennas
- Access control beneath entry mats or panels
- Conveyor belt and pallet tracking systems
- Industrial automation in embedded environments



| <b><u>SPECIFICATIONS</u></b>    |                                |
|---------------------------------|--------------------------------|
| <b>Physical Parameter</b>       |                                |
| Dimensions                      | 354mm X 229mm X 20mm           |
| Colour                          | Black                          |
| Weight                          | 1.25 Kgs (Gross)               |
| Packaging Dimensions            | 360mm X 280mm X 70mm           |
| Material                        | Aluminium                      |
| Waterproof Rating               | IP65                           |
| <b>UHF Technical Parameters</b> |                                |
| Operating Frequency             | 902-928 MHz                    |
| Gain                            | Up to 9 dBi                    |
| Beam Width                      | Horizontal: 80°, Vertical: 40° |
| VSWR                            | <=1.5                          |
| Front Back Ratio                | >=20                           |
| Polarization                    | Circular                       |
| Input Impedance                 | 50 Ω                           |
| Maximum Input Power             | 100 W                          |
| Lightening Protection           | DC Grounding                   |
| Connector Type                  | SMA Socket                     |
| <b>Environmental Parameters</b> |                                |
| Operating Temperature           | -20°C to +60°C                 |
| Storage Temperature             | -40°C to +85°C                 |
| Working Humidity                | 5% to 95% RH No condensation   |

*Soochak Bharat, with its technical expertise in RFID technology, focuses on designing, developing, innovating, and deploying RFID hardware solutions.*

\*Read range is dependent on tag size and design.

\*Soochak Bharat reserves the right to make changes in the above specifications without notice.

#### **SOOCHAK BHARAT TECHNOLOGIES PRIVATE LIMITED**