

Plasma Antennas

SelectaBeam SC-800 3.3-3.8GHz



Overview

The SelectaBeam SC-800 is a compact, dual-polar, selectable multi-beam antenna designed to be tightly integrated directly with small cell base stations and wireless back-haul equipment.

Based on Plasma Antennas' advanced beam-switching technologies, the SC-800 provides switching between 4 sectoral beams across 360° in azimuth. In addition, the SC-800 also supports a set of multi-sector modes, including a full omni-directional pattern.

Suitable for both backhaul and access applications, versions of the SC-800 are available operating in the following bands: 2.3-2.7GHz, 3.3-3.8GHz, 4.9GHz and 5.4-5.85GHz.

Fully Electronic Alignment

In backhaul applications, the SC-800 can be automatically aligned, enabling the network to self-organize as new cells are deployed, traffic patterns alter and operating conditions change. This increases capacity and improves frequency use across the entire small cell network, as well as reducing installation and maintenance time.

Multi-Sector Patterns

Because many small cells will be deployed in "canyons" at street level, traditional directional and omni-directional antennas will not provide suitable coverage patterns for network access. In addition to an omni-directional mode, the SC-800 also supports a set of multi-sector modes, designed to address typical street-level access deployment scenarios.

These multi-sector modes provide optimal coverage patterns for network access, for example, along the length of a street or at street corners.

A New Generation of Smart Antennas

Plasma Antennas has developed a range of next-generation smart multi-beam antennas for applications that include small cell backhaul, broadband wireless access and mesh network applications.

Based on state-of-the-art and patented technologies, Plasma Antennas' smart multi-beam antennas increase throughput, extend range and reduce interference, resulting in greatly enhanced spectral efficiency.

Key Features

- **Electronic beam switching** simplifies small cell installation and network management by enabling automatic alignment and re-alignment of wireless backhaul connections.
- **Directional gain** provides increased link budget, significantly enhancing link capacity.
- **Low side and back-lobes** suppress co-network interference and enable greater frequency re-use.
- **Multi-Sector Patterns** enable optimal coverage for small cell access networks deployed at street level.
- **Lightweight, compact and affordable** – designed to be integrated directly with small cell base stations and wireless back-haul equipment.

General Specification

Parameter	SC-800 (3.3-3.8GHz)
Operational Band	3.3-3.8GHz
Polarization	Dual slant (+/-45°)
Field of View (in Az)	360°
Number of Directional Beams	4 (per polarization)
Peak Directional Antenna Gain	>9.5dBi
Antenna Gain at Beam Cross-overs	>6dBi
Az Beamwidth	90° typical
EI Beamwidth	>20°
Front-to-back Ration	>20dB
Omnidirectional Mode	Yes
Omni Gain (average)	4dB
Multi-sector Modes	Yes
Cross-Polar Discrimination	>20dB (directional mode)
Beam-to-Beam Switching Time	< 1µs

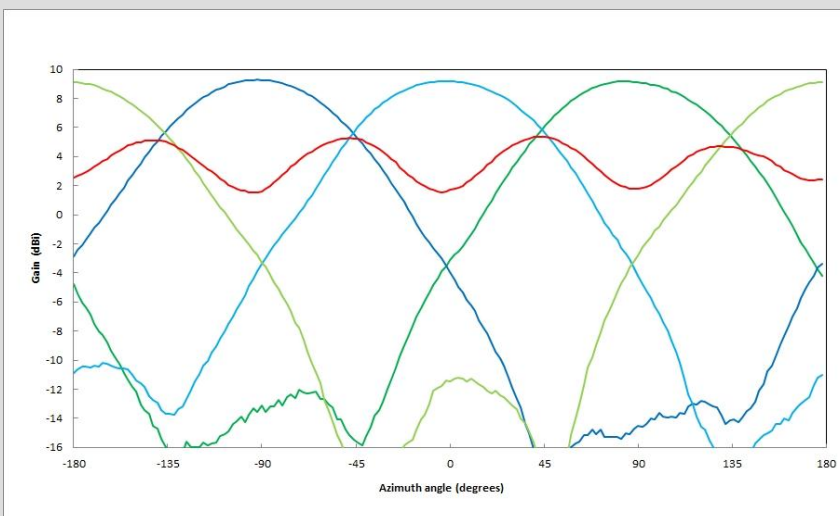
Interface Specification

Control Interface	Parallel or SPI
Power Supply	5V (<150mA)

Mechanical and Environmental Specification

Dimensions (Height x Diameter)	220 x 120mm
Radome Diameter	100mm
Weight	< 1 kg
Operating Temperature Range	-40°C to +55°C
Storage Temperature Range	-40°C to +70°C
Ingress Protection	IP66

Typical Beam Patterns



About Plasma Antennas

Headquartered and manufacturing in the UK, Plasma Antennas has developed a range of next-generation smart multi-beam antennas for small cell backhaul, broadband wireless access and mesh network applications.

Plasma Antennas works with wireless communications OEMs enabling them to deliver strongly differentiated solutions to customers in the mobile, industrial and defence sectors.



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