

MAGIC SERIES · MULTI-USE

MAGIC WIZARD

A drop-in replacement for omnidirectional antennas — with ~2.5× the range, electronic beam steering, and no moving parts.

L/S band · Demonstrated through field integrations · Available for evaluation.



RANGE	STEERING	GAIN	POWER	WEIGHT	SWITCHING
~2.5× vs omni	360° azimuth	8.7 dBi (max)	<600 mW	700 g	~16 ms

01 — OVERVIEW

~2.5× effective communication range at omni-class SWaP.

MAGIC WIZARD delivers directional beam steering at the size, weight, and power of a standard omnidirectional antenna — 700 g, <600 mW, no moving parts — extending effective communication range by up to ~2.5× and improving link reliability in interference-heavy RF environments.

Steering is fully electronic, enabled by Notch's reconfigurable metamaterial architecture. Beam patterns are software-controlled and configurable per platform without hardware redesign — directional, multi-beam, or relay configurations on demand.

/ 01

360° Coverage

Full azimuthal coverage with no blind spots and no rotating parts.

/ 02

Multi-Beam

Form and switch beams independently — point at multiple links at once.

/ 03

Configurable Patterns

Software-selectable beam patterns support directional, multi-link, and interference-resilient operation.

/ 04

Compact SWaP

240 × 120 mm, 700 g, <600 mW form factor — matches standard omni antennas.

02 — DEPLOYMENT

Integrates in under an hour, not months.

Rapid and repeatable integration across fielded platforms. **Built for production.**

01 Replace existing omnis

Direct mechanical and electrical replacement for standard omnidirectional antennas.

02 No system changes

No modifications to radio, waveform, or system architecture required.

03 Standard interfaces

Integrates via standard SMA RF connection and conventional power / control I/O.

04 Operate via software

Beam selection and pattern control through a simple software interface.

03 — SPECIFICATIONS

All values representative of demonstrated configurations.

Radiation pattern data for additional patterns available upon request.

RF PERFORMANCE

Frequency Range	1500–2700 MHz
Maximum Gain	8.7 dBi
VSWR	≤ 2.75
Polarization	Vertical
Azimuth Steering	360° software-selectable
Switching Speed	~16 ms typical

POWER

Consumption	< 600 mW
Input Options	Micro-USB · XT30 · 5–40 V

MECHANICAL

Height	240 mm · 9.45"
Diameter	120 mm · 4.72"
Weight	700 g · 1.5 lbs
Mounting	¼–20 UNC (RH)

INTERFACING

RF Connection	Female SMA
Control I/O	Micro-USB · UART · Ethernet

Actively supporting evaluation platforms to extend communication range and maintain link performance under interference.

AWARDABLE

