MAGIC SERIES · MULTI-USE

MAGIC ELF

Drop-in directional steering at <250 g — engineered for size- and weight-constrained applications.

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

Separate C-band variant available.

RANGE	STEERING	WEIGHT	POWER	DIAMETER	SWITCHING
~1.8×	360°	250	<600	60	~16
vs omni	azimuth	g	mW	mm	ms

01 — OVERVIEW

Directional steering at compact SWaP scale.

MAGIC ELF is a small-form-factor, interference-mitigating drop-in replacement for omnidirectional antennas — **250 g**, **<600 mW**, no moving parts — engineered for size- and weight-constrained applications where larger steerable antennas don't fit.

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 interference-resilient configurations on demand.

/ 01
Compact SWaP
165 × 60 mm, 250 g, <600 mW — fits payload budgets that exclude conventional steerables.

/ 02
360° Coverage
Full azimuthal coverage with no blind spots and no moving parts.

/ 03
Interference-Resilient
Selectable patterns mitigate in-band interferers and reduce unintended reception.

/ 04
Plug-and-Play
Simple control via UART or Ethernet — pattern selection through a software interface.

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	5 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	165 mm · 6.49″
Diameter	60 mm · 2.36″
Weight	250 g · 0.55 lbs
Mounting	¼–20 UNC (RH)

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

Actively supporting field evaluations to extend communication range and maintain link performance under interference.

AWARDABLE