

W band Antenna 12 Beam Rotman Lens

W-RL-12B-9296 Previously named TU-WRT94-12-12

12 Beam Rotman Lens Antenna*

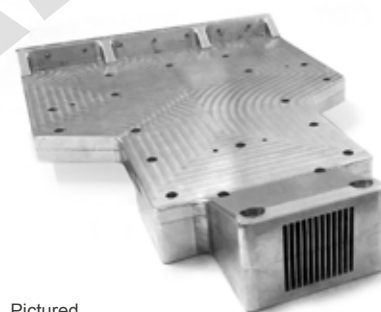
Overview

The W-RL-12B-9296 is a beam forming Rotman lens antenna optimised for use in the 92-96 GHz band. The assembly is milled out of high quality low loss materials to realise a waveguide module.

It can be supplied with a low loss switch matrix to enable switching and therefore electronic scanning.

This lens antenna overcomes the problems of scanning electronically at high frequencies where mechanical scanners are big and heavy and phase shifters are too large and lossy.

*This product is filed under EU Patent Application EP15159261 and is subject to an EU Export License.



Pictured
Rotman with 02 option

Features

- Complete waveguide assembly.
- Gain 14dB typical.
- Low sidelobes.
- Matching switch and horn modules.

Specification Overview

*Option 01 (open waveguide elements) is baseline for other options unless otherwise specified.

Parameter	-01	-02	-03	Units
Frequency Range	92 – 96	92 – 96	92 – 96	GHz
Angular FOV	±22	±22	±20	Degrees
No of Beams	12	12	6	
Scan Angle Step	4	4	8	Degrees
HPBW	9	10	10	Degrees
Lens Loss	< 5	< 5	< 2.5	dB
Gain	13	19.5	15*	dB
Dimensions	114 x 166 x 23	140 x 166 x 23	114 x 200 x 23	mm
Operating Temperature	-10 to +40	°C		

Options

- | | |
|----------------------------------------------------------------|-------------------------------------------------|
| 01 Open waveguide antenna elements | 04 Waveguide switch module |
| 02 Integrated horn antennas | 05 Gold-plated construction |
| 03 Integrated hybrid couplers (for monopulse operation) | *all options can be combined except -01 and -02 |

Simulated Performance Data Gain (Option -01)

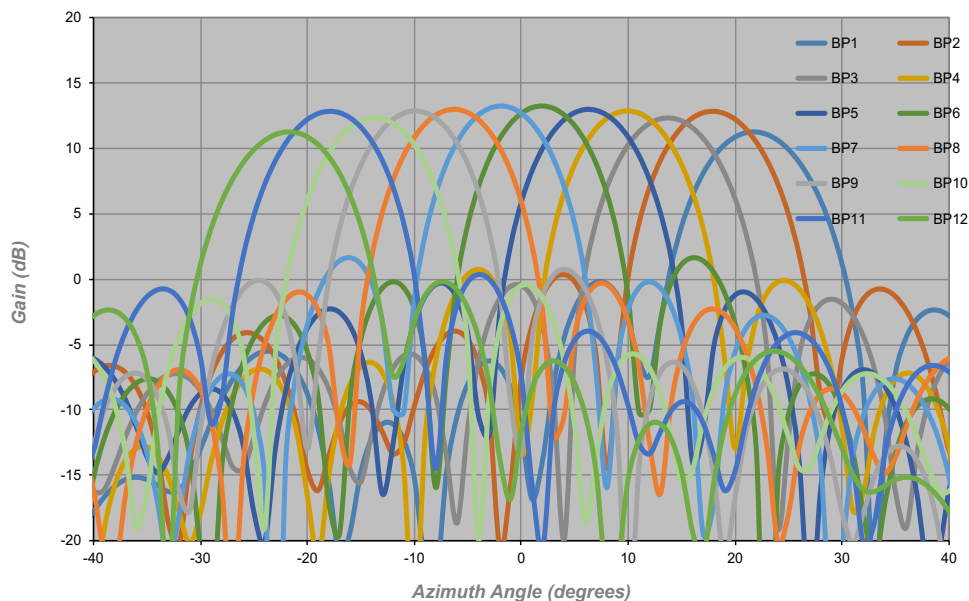
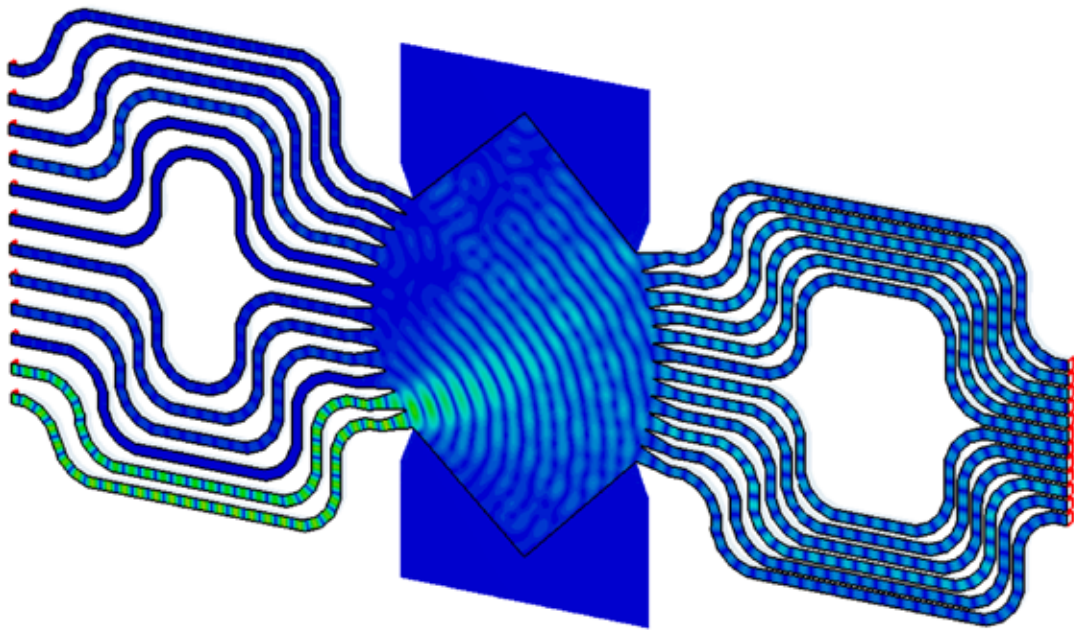


Figure 1
Rotman Gain

EM Simulation Diagram



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Arralis European Offices

t: +(44) 1793 239670 (UK)

e: sales@arralis.com

Arralis USA Office

+(1) 386 301 3249 (USA)

e: emilie.wren@arralis.com

arralis.com

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