High-Power LPDA Antenna

30 – 2500 MHz

Product Code: LPDA-A0050

VERSION: 3.4

PRODUCT DESCRIPTION:

The LPDA is a directional log-periodic dipole array primarily designed for EW high-power applications to cover the 30 MHz to 2500 MHz frequency band with a typical gain of 7 dBi. The polarisation is adjustable between vertical and horizontal without lowering the mast.

For quick deployment applications this antenna is supplied with a boom that breaks into three sections and all the elements can be removed and stored in a roll-up canvas bag for compact storage. The antenna can be assembled and erected within 10 min by two people. For fixed installations the boom and elements are configured for a more permanent erection.

PRODUCT FEATURES:

- Wideband frequency 30 MHz to 2500 MHz
- Low VSWR
- High gain of typically 7 dBs over 90% of the band
- Rugged construction and compact packaging for quick deployment applications
- Easy to assemble and disassemble (< 10 minutes for two people)
- Also configured for fixed applications

SPECIFICATIONS:

Product codes:		
LPDA-A0050	Isolating pole, adjustable polarisation	
LPDA-A0050-01	Mounting plate only, no mast and extension cable, fixed polarisation	
LPDA-A0050-02	Higher power version	
LPDA-A0050-03	Higher power version, 1 m isolation pole	
LPDA-A0050-04	Standard power version, 1.4 m isolation pole	
Electrical:		
Frequency range	30 – 2500 MHz *	
VSWR	1.75:1 typical, 2.5:1 maximum	
Nominal input impedance	50 Ω	
	LPDA-A0050 / -01/ -04	**LPDA-A0050-02 / -03**
Feed power handling	1000 W up to 1 GHz 800W up to 1.5 GHz 625 W up to 2 GHz 400 W up to 2.5 GHz Rolling off to 250 W at 3 GHz	2000 W up to 100 MHz 1500 W up to 520 MHz 1000 W up to 1 GHz 800 W up to 1.5 GHz 625 W up to 2 GHz 400 W up to 2.5 GHz Rolling off to 250 W at 3 GHz
Gain	> 4 dBi (6 dBi typical)	
Beamwidth, E-plane	-3 dB at 55º typical	
Beamwidth, H-plane	-3 dB at 100º typical	
Polarisation	Adjustable: vertical and horizontal	
	Fixed (when using LPDA-A0050-01)	
Connector	7/16 female	
Mechanical:		
Dimensions (w x l)	5000 mm x 6150 mm	
Material	Aluminium, stainless steel, fibreglass	
Mass LPDA-A0050	38 kg	
Mass LPDA-A0050-01	25 kg	
MTBF	50000 hours	
Environmental*: designed to meet the following specifications		
Wind survival	160 km/h (theoretical)	
Temperature range	- 30 ºC to + 65 ºC	
Water and dust resistance	IP66	
Corrosion	Designed for MIL-STD-810F MIL-1250A	

* Deteriorated performance from 20 MHz – 30 MHz

** See TRM for complete list of environmental specifications

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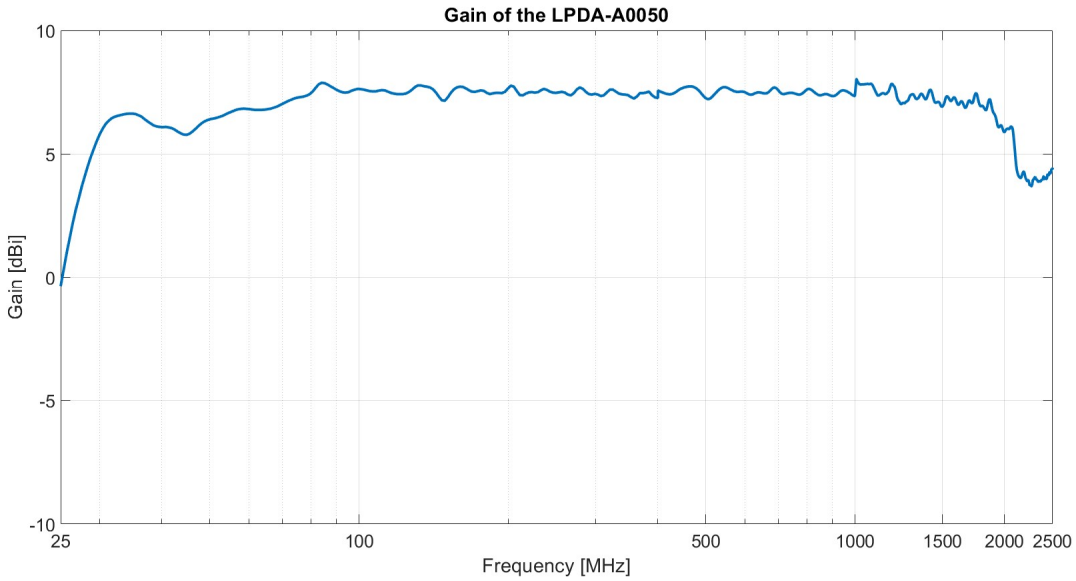
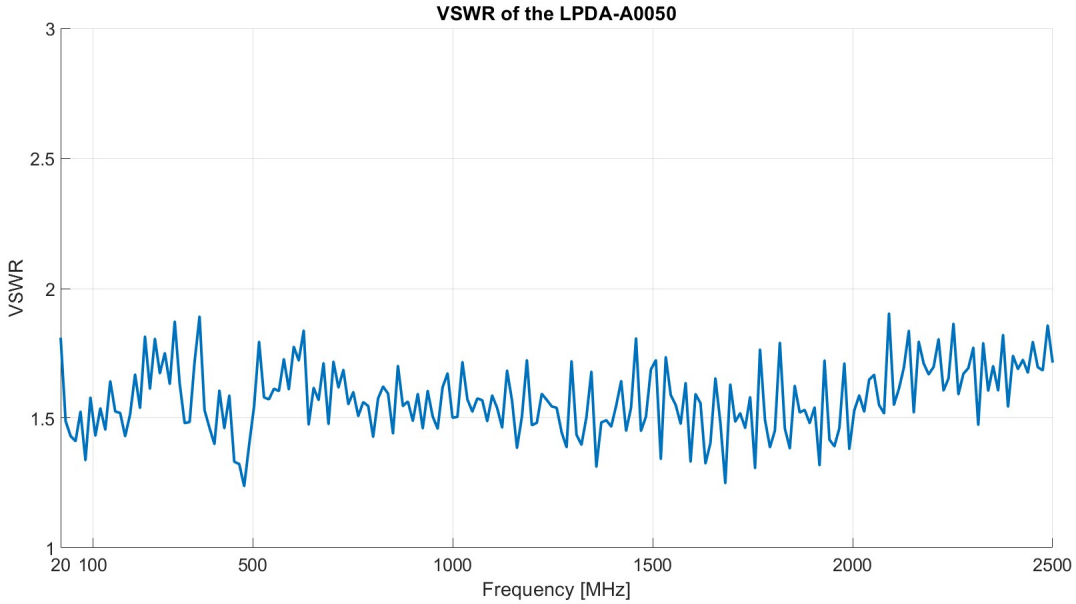
VSWR AND GAIN GRAPHS:

Measured gain:



Measured VSWR:



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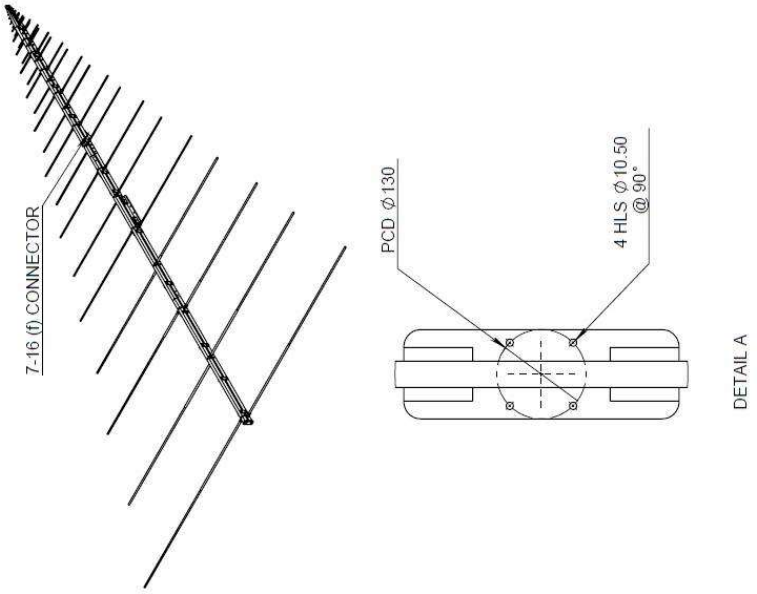
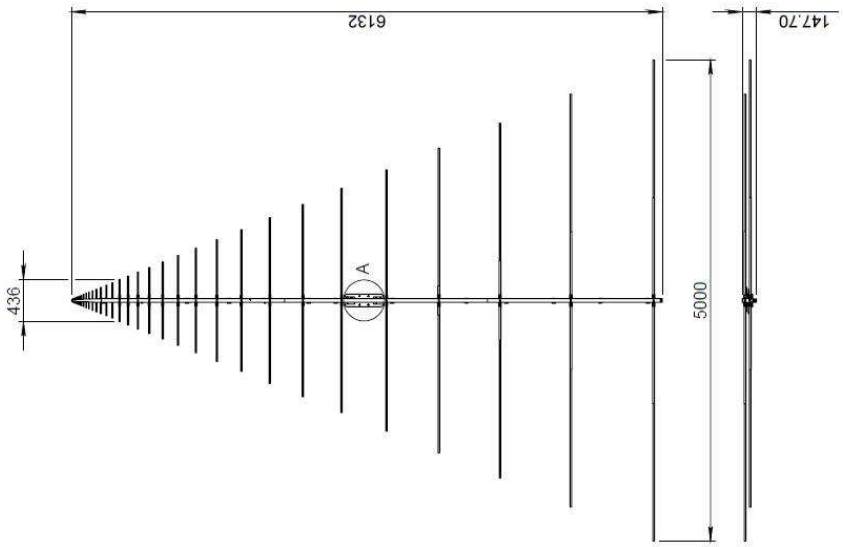


LPDA-A0050-01



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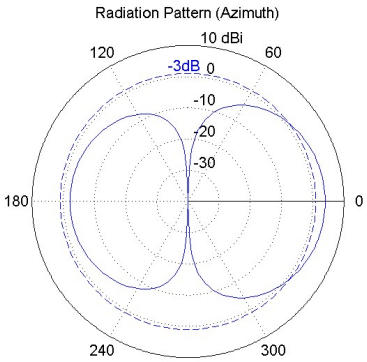
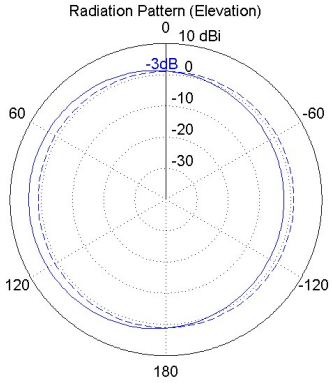
RADIATION PATTERNS:

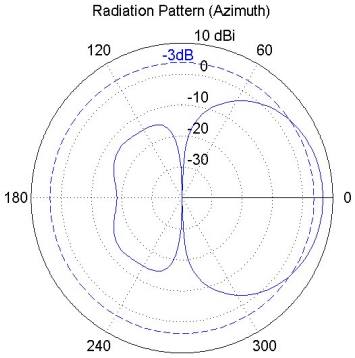
E-plane plot at 30 MHz



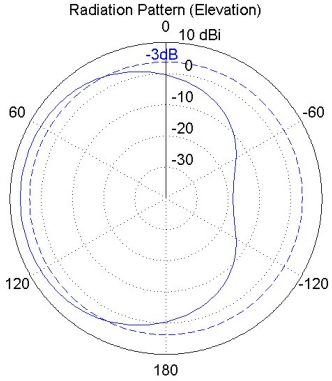
H-plane plot at 30 MHz



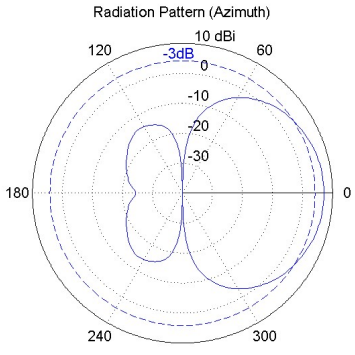
E-plane plot at 100 MHz



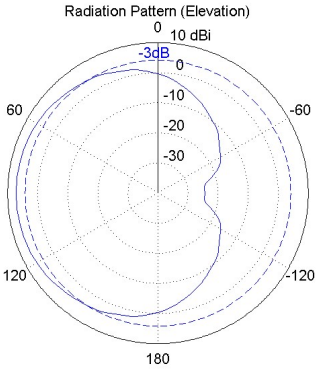
H-plane plot at 100 MHz



E-plane plot at 300 MHz



H-plane plot at 300 MHz



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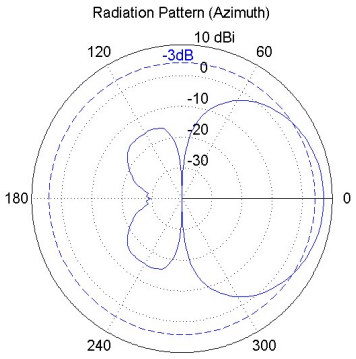
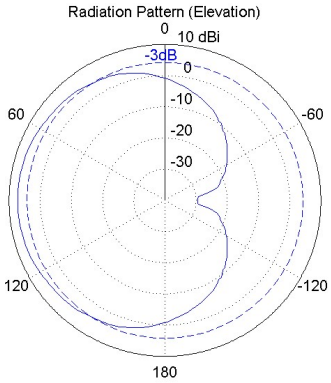
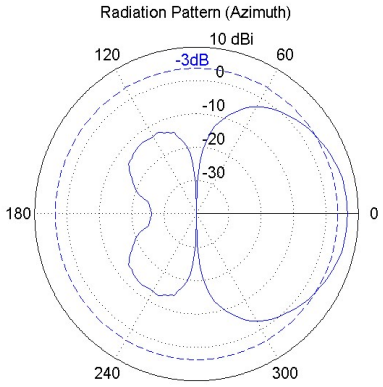
E-plane plot at 1000 MHz



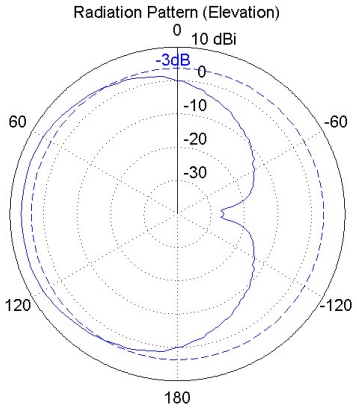
H-plane plot at 1000 MHz



E-plane plot at 2500 MHz



H-plane plot at 2500 MHz



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