

9/10 Meeting

Date: 9/10/25

Time: 11:00am-12:00pm CDT

Attendees: Juliette Reeder, Jack Hicks, Forrest Tuschhoff, Dr. Chuck Bunting, Dr. Pavithrkrishnan Radhakrishnan

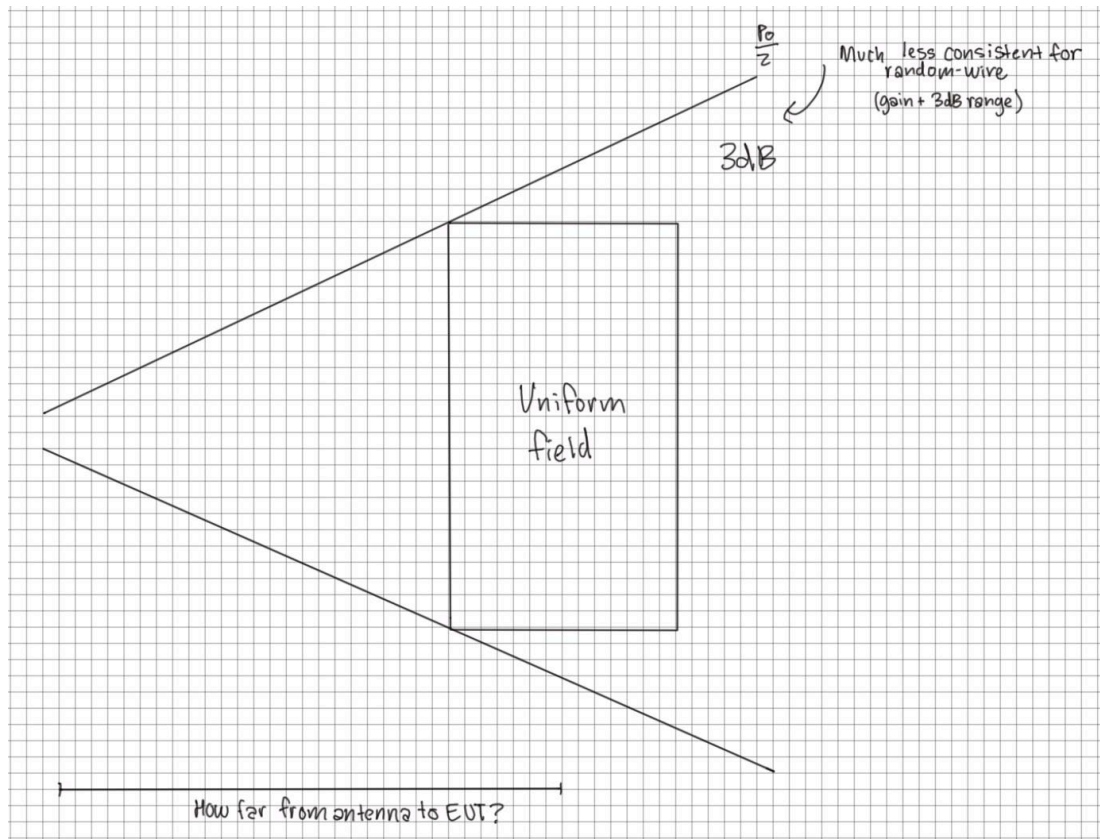
Links:

[First Wire-Based Log-Periodic \(NOT GOOD FOR HIGH POWER\)](#)

[Second Wire-Based Log-Periodic](#)

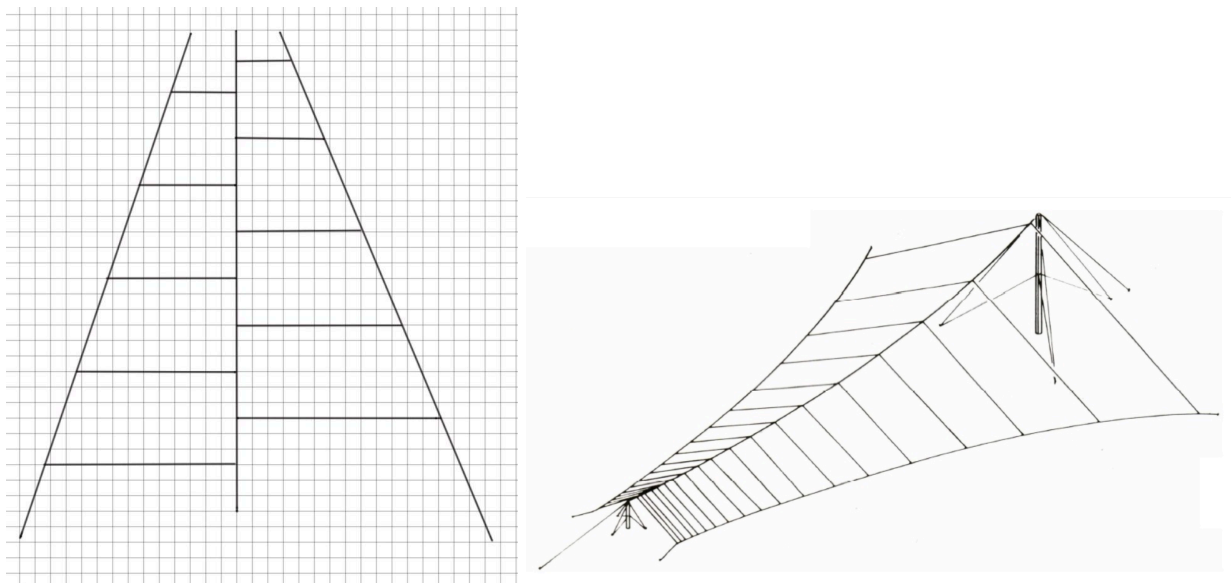
Testing existing log-periodic at Richmond Hills:

- In anechoic chamber/outdoors
- Develop measurement system using spectrum analyzer
- Want to learn what design decisions imply for radiation pattern (trade-offs)
- Want to design for appropriate exposure



Information about wire based log-periodic:

General concept:



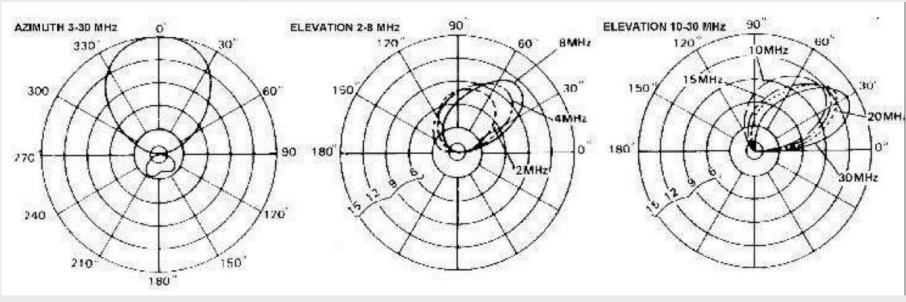
AT LPA HF Log Periodic Antennas:

Our HF Broadband Log Periodics are almost 100% efficient and are short to medium range antennas. They can be supplied in a number of models to suit differing frequency spans. They are high gain and directional and can be configured as bidirectional if two are mounted back to back. The antennas are end fed and can be supplied with power ratings ranging from 200 watts, to 10 Kilowatts CW (Continuous). The antennas are almost 100% efficient across the full operating range of frequencies. Radiation is horizontally polarised

Full lightning protection is provided
Specifications

	AT LPA-2-30	AT LPA-3-30	AT LPA-5-30
Frequency:	2-30 MHz	3-30 MHz	5-30 MHz
Gain:	Dependant on frequency 8-13 dBi		
VSWR:	2.0:1 most of band, 2.5:1 maximum		
Polarisation:	Horizontal		
Power Rating :	250 watt average (1 kW PEP) 1Kilowatt average (4 kW PEP) and 10 Kilowatt (40 kW PEP) models available		
Input Impedance:	50 ohms		
Input connection:	Dependant on power rating		
Mechanical			
Mast Height:	23m	18m	12m
Overall length:	130m	100m	65m
Overall Width:	80m	62m	40m
Wind Rating	150 km/hr		

All metal materials are of high grade stainless steel or hot-dip galvanised steel.
Ceramic insulators used throughout.



Action items:

- Simulate LPDA in EZNEC
- Simulate Random Wire in EZNEC
- Find the required spec for the E-field strength and area
- Determine procedure for testing existing log-periodic antenna (higher frequency band) using NA
 - In anechoic chamber
 - Outdoors
- Understand common-mode (CM) current
- Determine balun/choke needed for design