

# LR250 with Flanged Encapsulated Antenna - Radiation Pattern

Gabriel Serban, June 26, 2013

# OUTLINE

- Assembly drawing of LR250 with Standard Horn and Flanged Encapsulated Antenna
- LR250 with 2in Flanged Encapsulated Antenna Radiation Pattern
- LR250 with 3in Flanged Encapsulated Antenna Radiation Pattern
- LR250 with 2in Standard Horn Antenna Radiation Pattern
- LR250 with 3in Standard Horn Antenna Radiation Pattern
- Comparison between 2in Flanged Encapsulated Antenna and 2in Standard Horn Radiation Patterns
- Comparison between 3in Flanged Encapsulated Antenna and 3in Standard Horn Radiation Patterns

# Assembly drawing of LR250 with Standard Horn and Flanged Encapsulated Antenna

Assembly drawing of LR250 with Standard Horn - 7ML5431

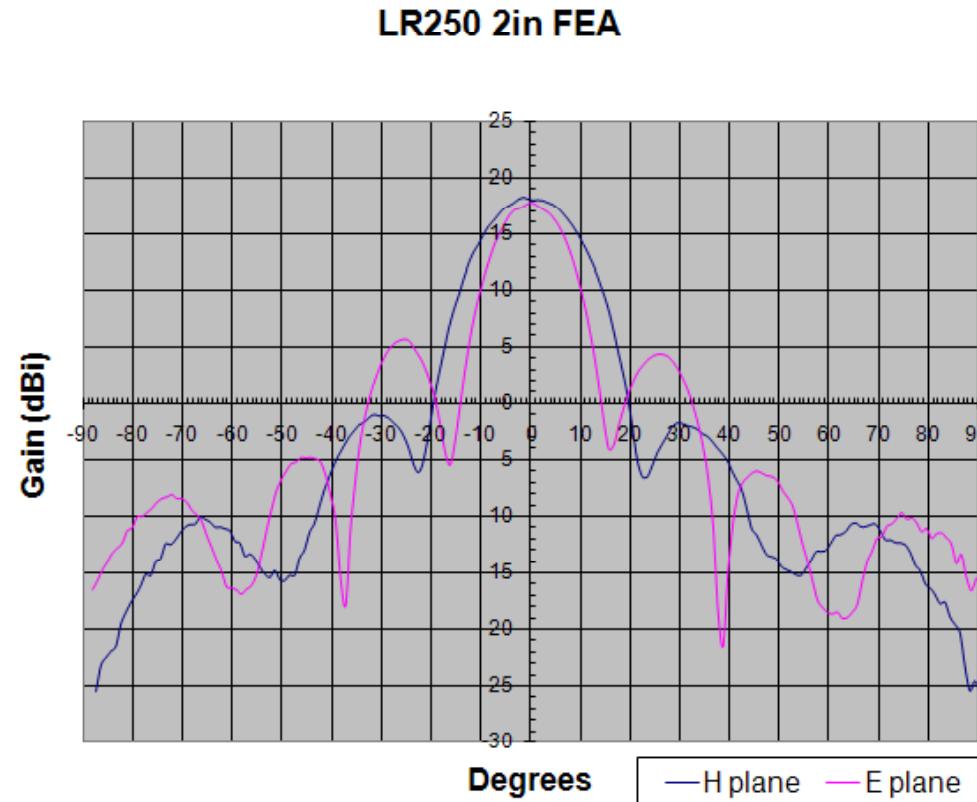
**See *7ML5431.pdf***

Assembly drawing of LR250 with Flanged Encapsulated Antenna - 7ML5432

**See *7ML5432.pdf***

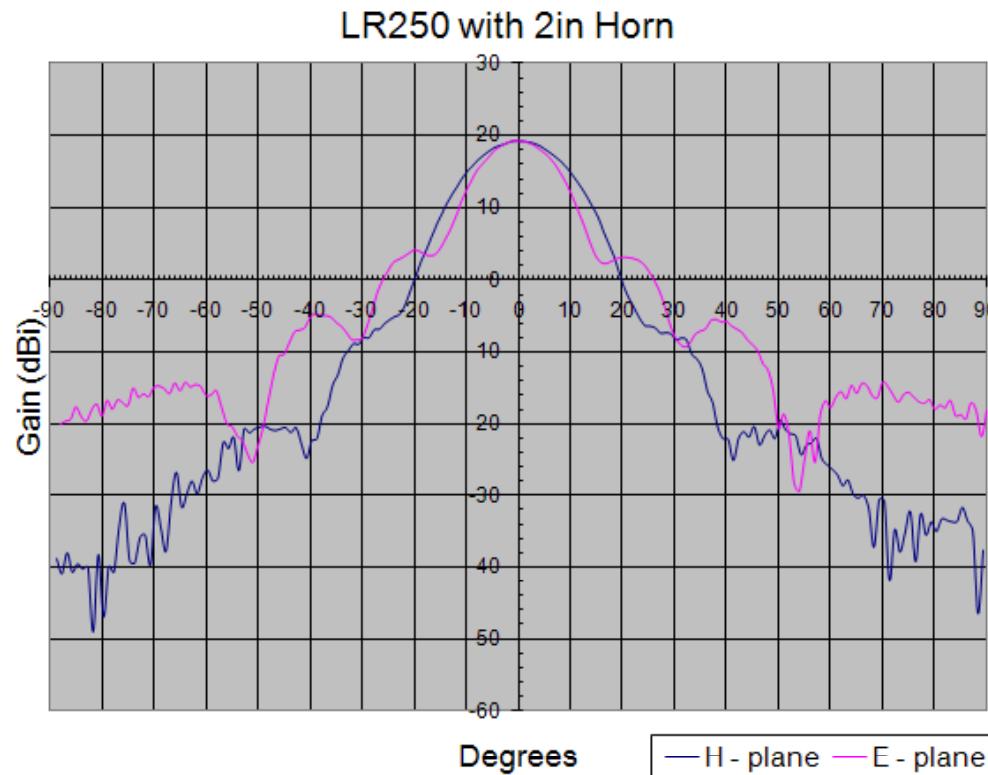
# LR250 with 2in Flanged Encapsulated Antenna

## Radiation Pattern



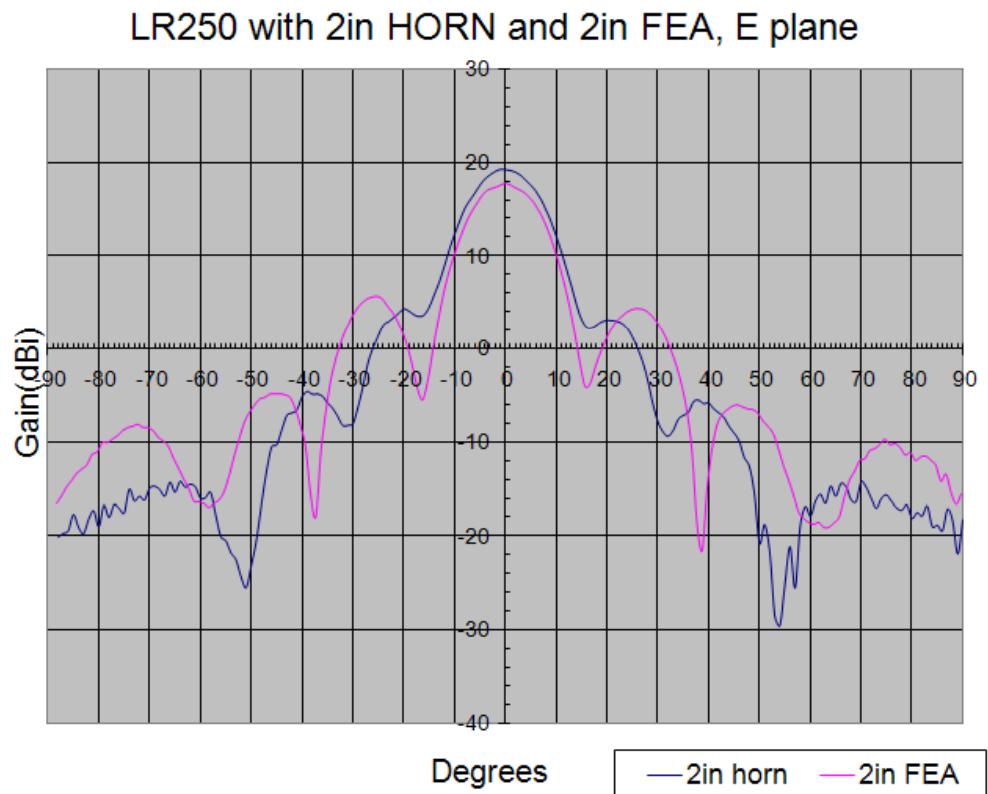
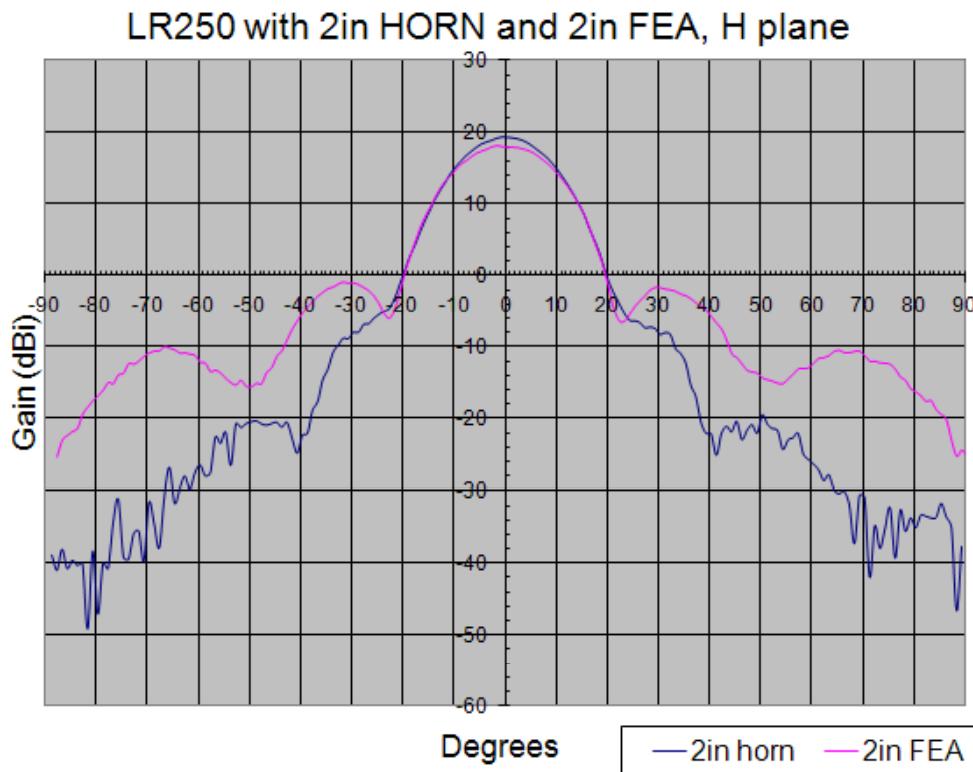
LR250 2in FEA	E plane	H plane
Gain	17.9dBi	18.2dBi
Amplitude of first side lobes	5.2dB (12.8dB under main lobe)	-2.0dB (20.0dB under main lobe)
Half beam width at half power (-3dB)	6.4 deg	9.1deg
Half beam width at the first side lobes	25 deg	31 deg

# LR250 with 2in Standard Horn Antenna Radiation Pattern



LR250 2in Horn	E plane	H plane
Gain	19.3dBi	19.3dBi
Amplitude of first side lobes	3.4dB (15.9dB under main lobe)	-20.0dB (39.3dB under main lobe)
Half beam width at half power (-3dB)	6.6 deg	8.3deg
Half beam width at the first side lobes	22 deg	45 deg

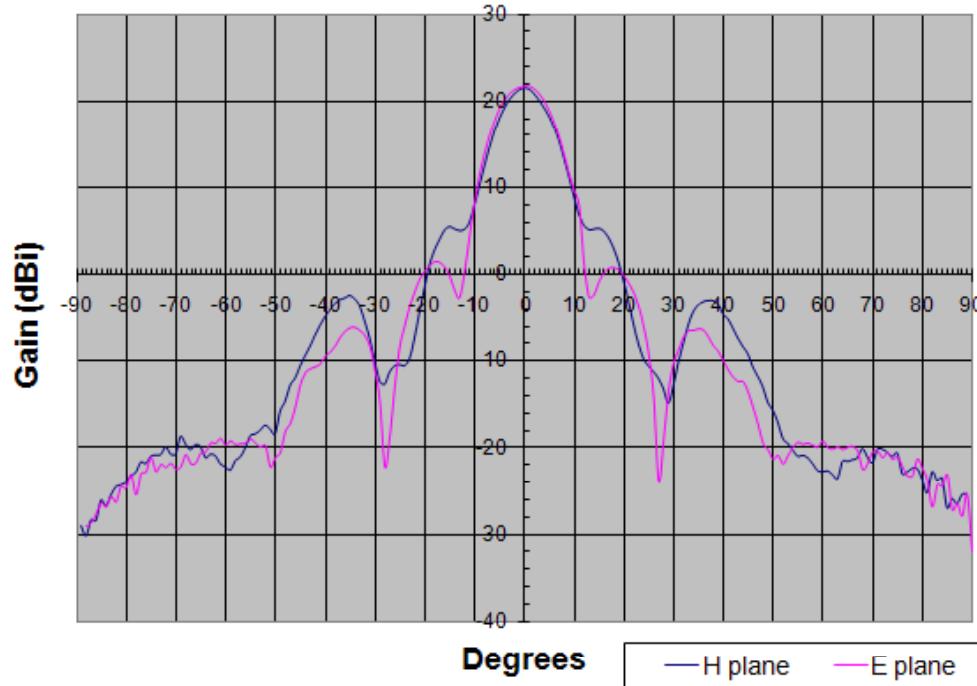
# Comparison between 2in Flanged Encapsulated Antenna and 2in Standard Horn Radiation Patterns



# LR250 with 3in Flanged Encapsulated Antenna

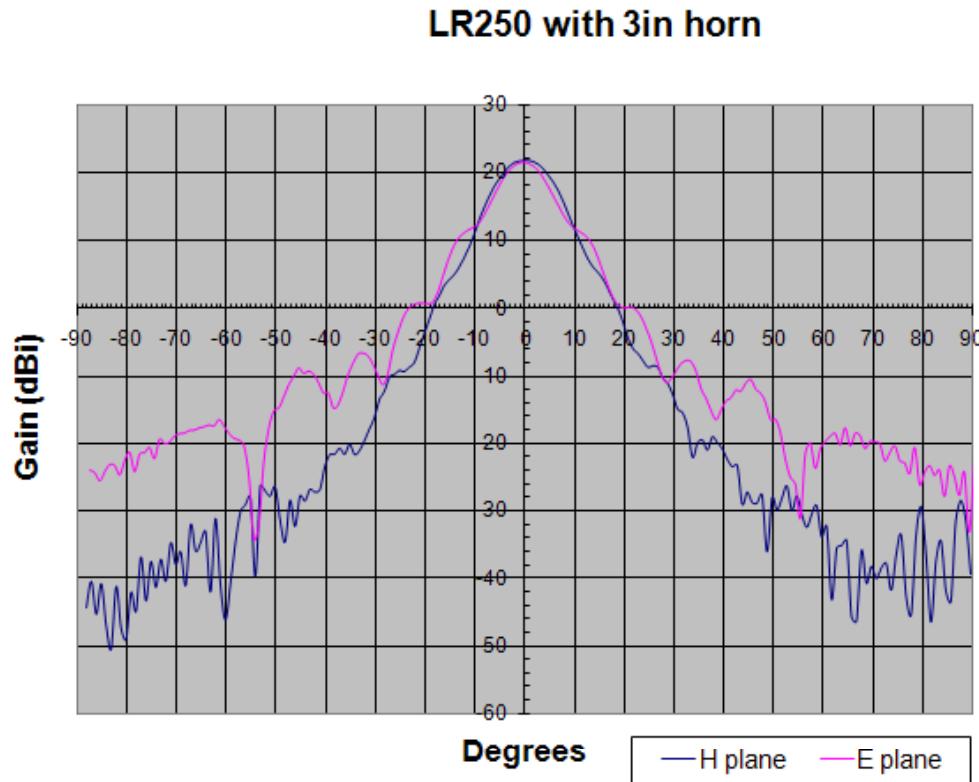
## Radiation Pattern

LR250 3in FEA with 3in flange



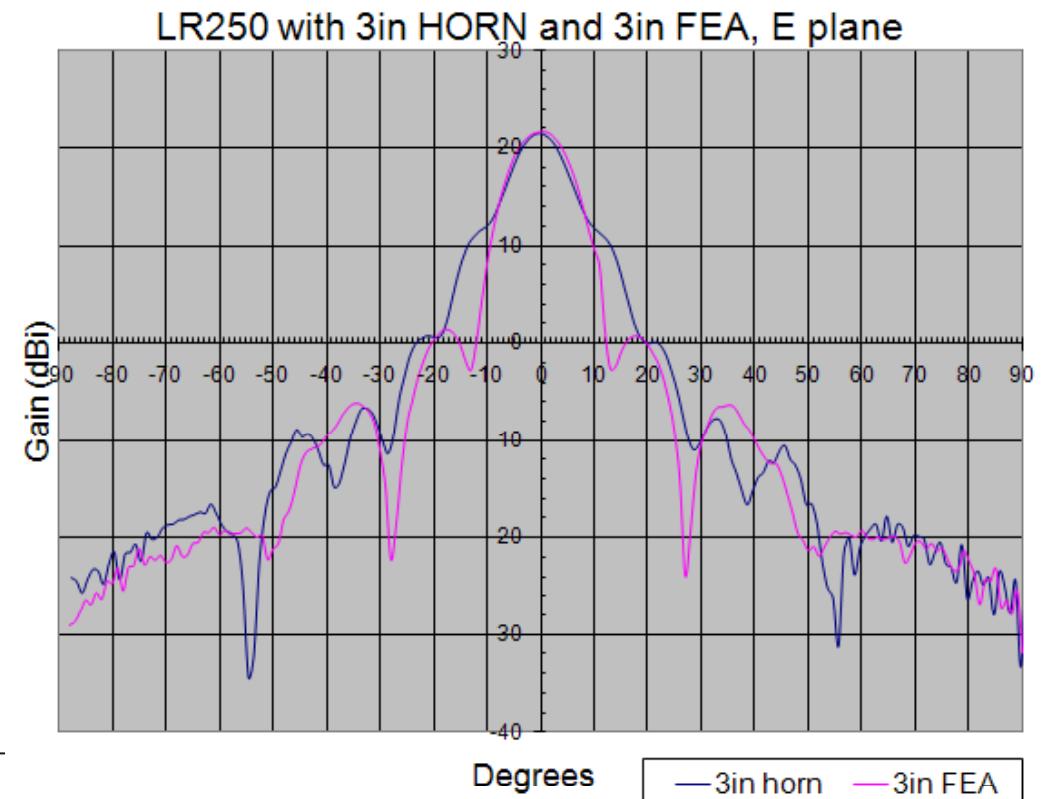
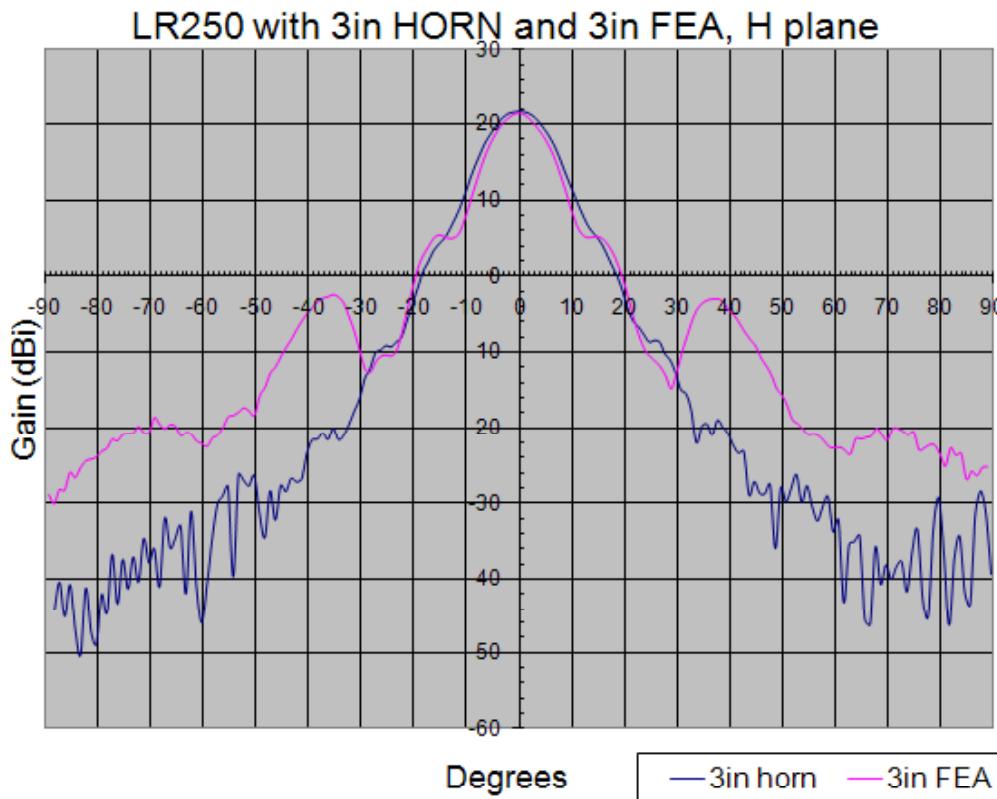
LR250 3in FEA	E plane	H plane
Gain	21.9dBi	21.3dBi
Amplitude of first side lobes	+1.0dB (20.6dB under main lobe)	5.0dB (16.0dB under main lobe)
Half beam width at half power (-3dB)	4.8 deg	4.8deg
Half beam width at the first side lobes	19.1 deg	16.1 deg

# LR250 with 3in Standard Horn Antenna Radiation Pattern



LR250 with 3in Horn	E plane	H plane
Gain	20.7dBi	21.9dBi
Amplitude of first side lobes	+1.0dB (20.6dB under main lobe)	-20.0dB (31.9dB under main lobe)
Half beam width at half power (-3dB)	5.5 deg	5.4deg
Half beam width at the first side lobes	20.1 deg	50 deg

# Comparison between 3in Flanged Encapsulated Antenna and 3in Standard Horn Radiation Patterns



# Contact



**Gabriel Serban**  
Sr. HF Designer  
Siemens Milltronics, PI2

1954 Technology Dr  
Peterborough ON, K9J 7B1, Canada

Phone: +1 (705)-740-7659  
Fax: +1 (705)-740-7692

E-mail:  
[gabriel.serban@siemens.com](mailto:gabriel.serban@siemens.com)

**siemens.com/answers**