

# FRF-105DF DATA SHEET

## Description:

The FIRST RF Corporation FRF-105DF receive antenna consists of thirteen individual radiators and associated beam forming network (BFN) packaged within a single aperture and riser. These radiators are designed to provide continuous frequency coverage over multi-octaves with wide instantaneous bandwidths.

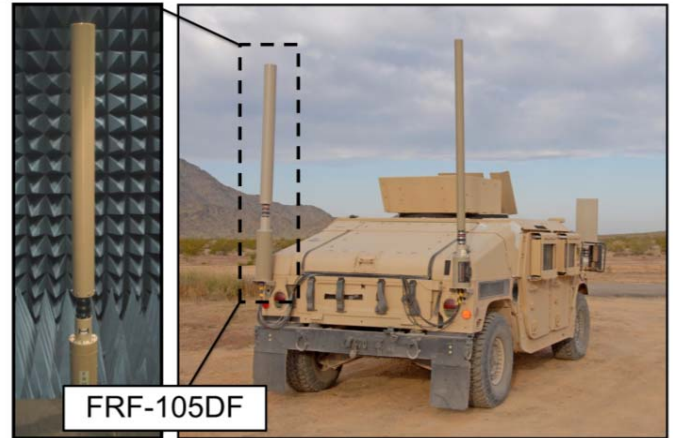
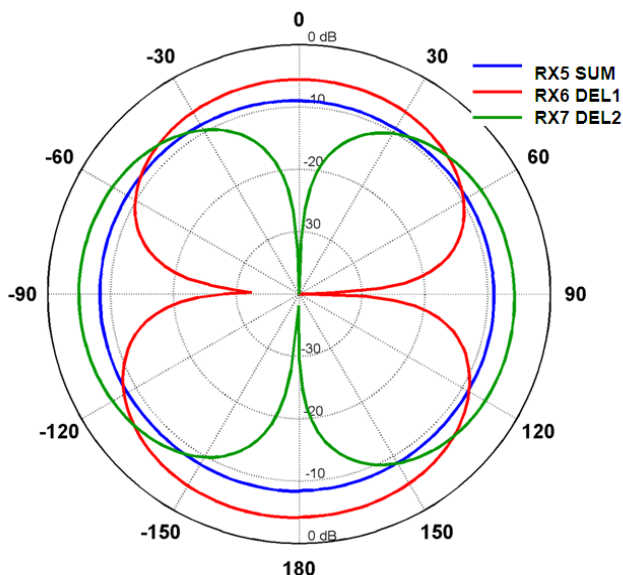
Integrated into the base of the FRF-105DF is a BFN that utilizes the four separate elements in the array to form three different radiation pattern modes (Omni, Sine and Cosine). These three modes allow for direction finding utilizing standard Watson-Watts signal processing techniques.

Prototypes have been successfully demonstrated in an operational environment resulting in a TRL 7. The system is suitable for installation on commercial and tactical wheeled vehicles and has been designed to meet MIL-STD 810 environments.

## RF Performance Overview:

### Typical Radiation Pattern(s)

Azimuth Pattern Cut (0° Elevation)



## Environmental:

Designed to exceed MIL-STD-810F  
Temperature: -40-+71°C Operational

## Mechanical Overview:

### Connectors:

Label	Signal	Connector	Description
RX1 UL	VHF Omni	TNC jack (female)	Omni Pattern Band 1
RX2 L	UHF Omni	TNC jack (female)	Omni Pattern Band 2
RX3 M	L Band Omni	TNC jack (female)	Omni Pattern Band 3
RX4 H	C Band Omni	TNC jack (female)	Omni Pattern Band 4
RX5 SUM	SUM	TNC jack (female)	Omni Pattern UHF/L/C Band
RX6 DEL1	Delta 1 / COS	TNC jack (female)	Cosine Pattern UHF/L/C Band
RX7 DEL2	Delta 2 / SIN	TNC jack (female)	Sine Pattern UHF/L/C Band
RX8 CAL	Calibration	TNC jack (female)	Calibration Path

### Flexibility:

Spring with damping

### Physical Dimensions:

Height (w/o BFN): 61.25"

BFN: 18"

Diameter: 4.5"

### Mass:

(w/o BFN): 15.2 lbs

BFN: 12.5 lbs

### Radome:

Electrically Insulated to 10kV rms

### Vehicle Mounting:

Spring Mount Antenna has flexible eight hole mounting interface and vehicle mounting bracket provides the Standard four (4) hole interface mount per CECOM drawing A3207505.