

Description

The MFA303000S-K is a multi-function wideband antenna system designed for submarine applications. The system comprises multiple antennas combined in a single radome controlled by an Antenna Control System (ACS). The system is highly customizable to suit a specific requirement. Mechanical integration of the system can be tailored to suit the platform.



- Wide coverage; 30-3000MHz both Tx (selected bands) and Rx
- Highly customizable antenna configuration
- Multi mode; satisfies the need for LoS and Beyond-LoS communication
- Modular; constructed from proven antenna elements that can be exchanged if other needs arises
- Compact; high efficiency in a small form factor, given the number of functions/bands.

Antenna element specifications

- Cellular
Frequency range: 450-2620MHz,
VSWR: <3.5
Maximum power 20W for 30minutes
Radiation pattern
V: Like a thick dipole with similar dimensions
H: Omni directional with some distortion due interference from cables
Gain: Nominal 1dBi
Polarization: Vertical
- Low VHF
Frequency range: 30-88MHz
VSWR: <3.5, measured on the corner of a 3x3m ground plane
Maximum power 100W for 5minutes
Radiation pattern
V: Like a monopole, but depends slightly on the mast height
H: Omni directional.
Gain: -20dBi..0dBi @ $q=0^\circ$
Polarization: Vertical
- Broadband Dipole
Frequency range: 118-1500MHz,
VSWR: <3,
Maximum power 100W for 30minutes, 500W peak for IFF
Radiation pattern
V: Like a dipole, but with some ripple
H: Omni directional.
Gain: -5..+2dBi @ $q=0^\circ$ for 118-430MHz,
Polarization: Vertical
- V/UHF SatCom
Frequency range: 243-318MHz & 360-380MHz
VSWR: <2
Maximum power 100W for 30 minutes
Radiation pattern Omni directional with maximum in $q=90^\circ$ (zenith).
Gain: >2dBic @ $q=90^\circ$, >-4dBic @ $q=0^\circ$
Gain measured: -2..2 dBic @ $q=90^\circ$
Polarization: RHCP
- L-band SatCom
Frequency range: TX: 1600-1650MHz
VSWR: <2
Maximum power 20W for 30minutes
Radiation pattern Omni directional with maximum in $q=90^\circ$ (zenith).
Gain: >3dBic @ $q=90^\circ$, >-4dBic @ $q=0^\circ$
Polarization: RHCP
- Active VLF-HF Rx antenna
Frequency range: 0.01-30MHz
Connector: N-female
Antenna factor: 0.1, 0.01 with attenuator @ 2MHz
1dB comp. point input: 50V/m, ~ 500V/m with attenuator @ 2MHz
1dB comp. point out: 27dBm, approx.
- VHF/UHF Rx antenna
Power rating: RX
Antenna gain:
-31 .. -10dBi @ 30-88MHz
-15 .. -1dBi @ 118-174MHz
-6 .. +2dBi @ 225-430MHz

