

# V-BAND FIXED MESH REFLECTOR

## Low-weight alternative to large solid reflectors

L3Harris is extending the capability of our Fixed Mesh Reflector (FMR) to frequencies up to V band. The FMR is based on our fully qualified and previously flown S-band antenna reflector with select improvements to meet V-band requirements. It is the first mesh reflector to operate through 50 gigahertz.

L3Harris meets the growing demand for very-high-throughput satellite missions with a dedicated V-band gateway antenna. Doing so frees up the Ka-band bandwidth to connect more users in more locations with increased capacity.

The FMR uses L3Harris' patented X-mesh surface to achieve reflectivity and cross-polarization performance equivalent to solid reflectors. L3Harris' precision mesh surfaces have more than 40 years of flight heritage on communication satellites.

L3Harris has engineered first-of-their-kind payloads that meet and exceed the needs of our customers for more than 50 years. We have earned our position as the most experienced unfurlable mesh reflector manufacturer in the world by continually pushing the boundaries of space antenna technology. Today, we are the number-one provider of large high-accuracy mesh reflectors, with more than 90 antennas on orbit.

### PERFORMANCE PARAMETERS

PARAMETER	SPECIFICATION
Frequency of Operation	UHF - V band
Deployed Geometry	
Projected diameter	3.25 m
Focal length	5.84 m
Center offset	3.05 m
Surface Accuracy on Orbit	
Root mean square	0.27 mm
Mass	
Reflector	22 kg
Stiffness	
Stowed	>55 Hz
Deployed	>1.0 Hz



### KEY FEATURES

- > Supports high-frequency applications requiring small spot beams for efficient frequency reuse resulting in increased satellite capacity
- > Replaces solid and tri-axial weave reflectors with up to a 50% mass reduction
- > Offers innovative combination of radio frequency (RF) reflective mesh coupled with a thermoelastically stable composite frame
- > Accommodates applications from UHF to V-band with RF reflectivity equivalent to today's solid reflectors
- > Reduces acoustic loads compared to solid reflectors
- > Is not subject to International Traffic in Arms Regulations controls

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