



L3HARRIS™
FAST. FORWARD.

FSS-4180-IP

Communications on-the-move (COTM) Antenna System

The L3Harris COTM Antenna System delivers combat-ready performance when the mission is most critical. The series FSS-4180-IP is a next-generation COTM solution.

It is a self-contained, water-resistant system that expands ground and ship-board applications without modifying the platform. High torque drives increase system dynamics. Mean-time-between-failure (MTBF) is increased by reduction of moving components and reduced power consumption. The FSS-4180-IP COTM Antenna System is a single, self-contained unit, making integration into any tactical or commercial application easy.

Included in this single unit solution are the antenna control unit (ACU), inertial measurement unit (IMU), beacon receiver and swappable radio frequency (RF) suites of: a solid state power amplifier (SSPA), block up converter (BUC) and low noise block downconverter (LNB). Antenna connection is quick and easy with an intermediate frequency (IF) transmit cable, IF receive cable, single system power cable, GPS and an Ethernet communications cable. The system is modem agnostic as it operates with any L-band modem which gives the user the most flexibility. The series FSS-4180-IP was designed with the same mounting footprint, cable interfaces and Simple Network Management Protocol (SNMP) interface to provide an easy transition across product lines.



KEY FEATURES

- > ARSTRAT WGS Ka- and X-band certified
- > KA-band is INMARSAT compatible
- > Combat proven
- > Single self-contained unit with ACU, IMU and beacon receiver
- > Easy integration
- > Interchangeable feed units for X, Ku- and Ka-band SATCOM

FEATURES	BENEFITS
Multi-band, supports X-, Ku- and Ka-band operation	Provides flexibility across commercial and MILSATCOM bands of operation
Compliant to FCC, ITU and ARSTRAT	Ease of implementation on existing or new platforms
Compliant to MIL-STD-810F (environmental performance)	Tested and proven to meet the most demanding conditions
Compliant to MIL-STD-461 (EMI standards)	For interoperability with other electronic systems on the platform
Modem agnostic	Operates with any L-band modem
Improved water-resistance	IP67 compliant design is submersible up to 1 meter for 30 minutes
Reduced moving parts	Improved MTBF (reliability)
Non-volatile memory, increased logging and displayed elapsed time feature	Available for analysis, reliability calculation and system health monitor
Quick-release latches	Tool-less radome access

TYPICAL PERFORMANCE CHARACTERISTICS

Frequency Band	X-band	Ku-band	Ka-band
Model	FSS-4180-IP-3-X	FSS-4180-IP-1D-X	FSS-4180-IP-2-X
Aperture size	18 in. (46 cm)	18 in. (46 cm)	18 in. (46 cm)
RF frequency	Tx: 7.90 to 8.40 GHz Rx: 7.25 to 7.75 GHz	Tx: 13.75 to 14.50 GHz Rx: 10.95 to 12.75 GHz	Tx: 29.00 to 31.00 GHz Rx: 19.20 to 21.20 GHz
Mid-band G/T*	8.0 dB/K	12.4 dB/K	12.8 dB/K
EIRP (p1dB)	40.0 dBW	44.0 dBW	46.0 dBW
Beamwidth (nominal)	Tx: 5.4° Rx: 5.9°	Tx: 3.2° Rx: 3.9°	Tx: 1.5° Rx: 2.2°
Polarization (remotely selectable)	Tx: Circular polarized Rx: Oppositely polarized to Tx	Tx: Steered linear Rx: Oppositely polarized to Tx	Tx: Circular polarized Rx: Oppositely polarized to Tx
Coverage	Az: 360° continuous , El: 0° to 90°		
Pointing error	<0.5° peak error on Churchville B up to 70° elevation, up to 80° elevation on improved roads		
Satellite reacquisition time	< 5 sec	< 5 sec	< 5 sec
Height (radome)	23.0 in. (58.4 cm)	23.0 in. (58.4 cm)	23.0 in. (58.4 cm)
Base footprint (minimum)	26 x 26 in. (66 x 66 cm)		
Weight	<147 lbs. (67kg)	<145 lbs. (66kg)	<145 lbs. (66kg)
EMI	MIL-STD-461		
Power	28 VDC, peak @ 300 W continuous @ 175 W	28 VDC, peak @ 280 W continuous @ 150 W	28 VDC, peak @ 280 W continuous @ 150 W

ORDER NUMBER CONFIGURATION-EXAMPLE: FSS4180IP-1-110100

FSS4180IP-	X-	X	X	X	X	X	X
Model	Frequency	Radome color	Latch kit	Base color	GPS	Isolator	External items (cables)

FREQUENCY		RADOME		QUICK RELEASE LATCH	
Code	Model	Code	Model	Code	Required
1	Dual Ku-	1	Tan	0	No
2	Dual Ka-	2	White	1	Yes
3	X-band	3	Green		

BASE COLOR		GPS		ISOLATOR	
Code	Color	Code	Required	Code	Required
0	Black	0	No	0	No
1	Match radome	1	Yes	1	Yes



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Nonexport-controlled Information

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.



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