Technical
Data Sheet

HLF 500 Coaxial Cable

P/N: AT1ATR500-1S

The **HLF500 cable** is an elite, **high-performance 50-ohm coaxial cable** designed to provide **significantly lower signal loss** than the industry-standard 400-series, while remaining **more flexible** and easier to install than corrugated hardline cables. Featuring a thick, solid copper-clad aluminum center conductor and a sophisticated double-shielding system—combining 100% coverage bonded aluminum foil with a high-density tinned copper braid—it ensures **exceptional EMI protection** and **signal integrity**. Its large-profile, low-density foam dielectric enables **ultra-low attenuation**, making it the premier choice for **long-range antenna feeders, high-power base station links, and critical wireless infrastructure** where every decibel of signal strength is vital for network performance.

Construction Specifications

Description	Material & Plating	Diameter (mm)
Centre Conductor	Solid Copper Clad Aluminum Wire	3.62
Dielectric	Solid Polyethylene	9.40
1st Outer Conductor	Sealed APA Tape	9.55
2nd Outer Conductor	Tinned Copper Braid	10.35
Jacket	Black PE	12.70

Electrical Specifications

Parameter	Value	Unit
Frequency Range	DC - 8	GHz
Impedance	50	Ω
Propagation Velocity	86	%
Capacitance	77.5	pF/m
Screening Effectiveness	≥90	dB
Insulation Resistance	1000	MΩ-Km
Inner Conductor Resistance	3	Ω/km
Outer Conductor Resistance	4	Ω/km
Voltage Withstanding	2500	V DC
Peak Power Rating	12	KW

Mechanical Specifications

Parameter	Value	Unit
Weight	250	Kg/km
Single Bending Radius	≥ 30	mm
Repeated Bending Radius	≥ 120	mm

Environmental Specifications

Parameter	Value	Unit
Operation Temperature	-35 ~ 75	°C
Installation Temperature	-20 ~ 60	°C

Attenuation and Power Rating vs Frequency

Frequency	Attenuation (dB/100ft)	Attenuation (dB/100m)	Avg. Power Rating (kW)
30 MHz	0.55	1.8	4.40
50 MHz	0.70	2.3	3.39
150 MHz	1.22	4.0	1.93
220 MHz	1.49	4.9	1.58
450 MHz	2.16	7.1	1.09
900 MHz	3.14	10.3	0.75
1500 MHz	4.15	13.6	0.57
1800 MHz	4.57	15.0	0.52
2000 MHz	4.85	15.9	0.49
2500 MHz	5.49	18.0	0.43
5800 MHz	8.87	29.1	0.26