Technical
Data Sheet

1/2" Feeder Cable

P/N: AT1F12-1S

The 1/2" feeder cable (**LDF-Low Density Foam**) is a low-loss, rugged, **50-ohm** coaxial hardline designed for minimal signal attenuation over long vertical and horizontal runs. It features a **corrugated copper tube** as the outer conductor, which provides superior mechanical strength and 100% EMI shielding compared to traditional braided cables. Its high-velocity foam dielectric and UV-resistant **Polyethylene (PE)** or **LSZH jacket** make it ideal for extreme outdoor environments. It is the primary choice for **cellular base station antennas (GSM/UMTS/LTE/5G), microwave links, In-Building Solutions (IBS)**, **Distributed Antenna Systems (DAS) and broadcast systems** where low Passive Intermodulation (PIM) and high reliability are critical.

Construction Specifications

Description	Material & Plating	Diameter (mm)
Inner Conductor	Copper-Clad Aluminum Wire	4.80±0.05
Dielectric	Foamed Polyethylene	12.30±0.4
Outer Conductor	Corrugated Copper Tube	13.80±0.5
Jacket	Low Smoke Halogen-free Fire-Retardant PE	15.70±0.5

Electrical Specifications

Parameter	Value	Unit
Operating Frequency	≤ 10	GHz
Impedance	50±2	Ω
Propagation Velocity	86	%
Capacitance	76	pF/m
Screening Effectiveness	≥120	dB
Insulation Resistance	5000	MΩ-Km
Inner Conductor Resistance	1.65	Ω/km
Outer Conductor Resistance	3.45	Ω/km
RF Peak Voltage	1.16	kV
Operating Voltage (at sea level)	≤ 1.8	kVrms
Peak Power Rating	40	kW
PIM	≤ -160	dBc@(2×43dBm)

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Electrical Performance (VSWR)	
Frequency Range	**Typical VSWR Value**
800~1000 MHz	≤ 1.2
1700~2200 MHz	≤ 1.2
2200~2700 MHz	≤ 1.2
3300~3800 MHz	≤ 1.4

Mechanical Specifications		
Parameter	**Value**	**Unit**
Weight	200	Kg/km
Single Bending Radius	≥ 80	mm
Repeated Bending Radius	≥ 125	mm
Tensile Strength	800	N
Number of Bends	15	
Recommended Clamp Spacing	1.0	m

Environmental Specifications		
Parameter	**Value**	**Unit**
Storage Temperature	-40 ~ 70	°C
Installation Temperature	-20 ~ 60	°C
Operation Temperature	-40 ~ 70	°C

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Attenuation & Power Rating vs Frequency			
Frequency (MHz)	**Attenuation (dB/100m)**	**Attenuation (dB/100 ft)**	**Average Power Rating (kW)**
100	2.17	0.66	3.94
150	2.67	0.81	3.17
200	3.10	0.94	2.75
280	3.69	1.12	2.27
450	4.74	1.44	1.80
800	6.45	1.97	1.33
900	6.87	2.09	1.25
1000	7.28	2.22	1.18
1500	9.08	2.77	0.95
1800	10.05	3.06	0.86
2000	10.66	3.25	0.81
2200	11.24	3.43	0.77
2400	11.80	3.60	0.75
2500	12.08	3.68	0.73
2600	12.34	3.76	0.71
2700	12.60	3.84	0.69
3000	13.39	4.08	0.65
3300	14.17	4.32	0.61
3400	14.41	4.39	0.60
3500	14.66	4.47	0.58
3600	14.90	4.54	0.57
3800	15.36	4.68	0.55

Standard Conditions

For Attenuation: VSWR: 1.0, Cable temperature: 20°C (68°F)

For Average Power: VSWR: 1.0, Ambient temperature: 40°C (104°F), Inner conductor temperature: 100°C (212°F)

Note: Maximum attenuation value shall be 105% off nominal attenuation value.

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