

7/8" Leaky Cable

P/N: AT1L78-1S



The **7/8" radiating (leaky) cable** is a specialized high-performance coaxial line designed to provide seamless wireless coverage in confined environments. By featuring precision-engineered slots in its copper outer conductor, it functions as a continuous linear antenna, broadcasting and receiving RF signals along its entire length; it can be used as both one-way and two-way communication systems. This 7/8" diameter is specifically

chosen for long-distance infrastructure because it offers significantly **lower longitudinal attenuation** and **good bending properties** than smaller cables, allowing for extended runs in **metro & railway tunnels, mining shafts, and underground roadways**. Engineered with a **flame-retardant jacket** and **low PIM**, it ensures reliable, **high-speed 4G/5G and emergency radio connectivity** where traditional antennas fail.

Construction Specifications

Description	Material & Plating	Diameter (mm)
Inner Conductor	Smooth Copper Tube	9.00±0.05
Dielectric	Foamed Polyethylene	22.50±0.4
Outer Conductor	Overlapping Copper Foil	22.80±0.5
Jacket	Low Smoke Halogen-free Fire-Retardant PE	27.20±0.5

Electrical Specifications

Parameter	Value	Unit
Characteristic Impedance	50±2	Ω
Propagation Velocity	89	%
Capacitance	75	pF/m
Jacket Spark	8	kV
Insulation Resistance	5000	MΩ-Km
Inner Conductor Resistance	≤ 1.20	Ω/km
Outer Conductor Resistance	≤ 2.80	Ω/km
Dielectric Strength	10.0	kV
Peak Power Rating	90	kW
PIM	≤ -160	dBc@(2×43dBm)



Technical Data Sheet

Electrical Performance (VSWR)	
Frequency Range	Typical VSWR Value
300~500 MHz	≤ 1.20
800~1000 MHz	≤ 1.20
1700~1900 MHz	≤ 1.25
2300~2500 MHz	≤ 1.25

Mechanical Specifications		
Parameter	Value	Unit
Weight	550	Kg/km
Single Bending Radius	≥ 250	mm
Repeated Bending Radius	≥ 500	mm
Tensile Strength	1470	N
Number of Bends	15	
Recommended Clamp Spacing	1.0	m
Minimum Distance to Wall	50	mm

Environmental Specifications		
Parameter	Value	Unit
Storage Temperature	-55 ~ 85	°C
Installation Temperature	-40 ~ 60	°C
Operation Temperature	-55 ~ 85	°C

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Technical Data Sheet

Attenuation & Coupling loss vs Frequency		
Frequency (MHz)	Attenuation (dB/100m)	Coupling loss (2m) (50%/90%) (dB)
75	-	-
150	1.70	68 / 80
450	3.30	69 / 78
800	5.10	64 / 74
900	5.30	63 / 73
1800	-	-
2200	-	-
2400	-	-

Standard Conditions

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

Note: Maximum attenuation value shall be 105% off nominal attenuation value.
Maximum coupling loss variation shall be ±5 dB from the nominal value.