

1-1/4" Leaky Cable

P/N: AT1L114-1S



The **1-1/4" radiating (Leaky) cable** is an **ultra-low-loss coaxial** solution engineered for superior wireless distribution across massive underground infrastructures. Utilizing a large-diameter, precision-slotted copper outer conductor, it acts as a **high-capacity linear antenna** for simultaneous multi-band broadcasting and reception. This specific size is the premier choice for extended distances, offering the industry's lowest longitudinal attenuation

to minimize the need for active boosters in **lengthy transit tunnels, deep-vein mines, and complex utility corridors**. Designed with a **rugged, fire-resistant jacket** and optimized for **low Passive Intermodulation (PIM)**, it delivers the maximum coverage footprint and reliability required for critical **5G networks and emergency communication backbones**.

Construction Specifications

Description	Material & Plating	Diameter (mm)
Inner Conductor	Helical Copper Tube	12.80±0.02
Dielectric	Foamed Polyethylene	32.40±0.2
Outer Conductor	Overlapping Copper Foil	32.80±0.5
Jacket	Low Smoke Halogen-free Fire-Retardant PE	36.80±0.5

Electrical Specifications

Parameter	Value	Unit
Operating Frequency Band	5-3800	MHz
Characteristic Impedance	50±2	Ω
Propagation Velocity	89	%
Capacitance	75	pF/m
Jacket Spark	10.0	kV
Insulation Resistance	10000	MΩ-Km
Inner Conductor Resistance	≤ 2.10	Ω/km
Outer Conductor Resistance	≤ 3.00	Ω/km
Dielectric Strength	10.0	kV
Stop Bands	1090-1100, 2170-2200, 2725-2750 & 3270-3300	MHz



Technical Data Sheet

Electrical Performance (VSWR)

Frequency Range	Typical VSWR Value
698~960 MHz	≤ 1.30
1710~2025 MHz	≤ 1.30
2110~2170 MHz	≤ 1.30
2300~2700 MHz	≤ 1.30
3300~3800 MHz	≤ 1.30

Mechanical Specifications

Parameter	Value	Unit
Weight	610	Kg/km
Single Bending Radius	≥ 400	mm
Repeated Bending Radius	≥ 600	mm
Tensile Strength	2500	N
Bending Moment	15.2	Nm
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 ~ 80	°C
Operation Temperature	-55 ~ 85	°C
Relative Humidity	95	%



Technical Data Sheet

Attenuation & Coupling loss vs Frequency

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Coupling Loss 50%(dB)
700	2.70	0.82	75
800	2.90	0.88	72
900	3.10	0.95	72
1800	4.60	1.40	66
1900	4.80	1.46	67
2000	5.00	1.52	66
2200	5.40	1.65	66
2400	5.90	1.80	65
2600	6.40	1.95	64
3400	8.50	2.59	63
3500	9.20	2.80	62
3600	9.90	3.02	62
3700	10.8	3.29	62
3800	11.7	3.57	63

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.