Technical
Data Sheet

1/4" Super Flexible Cable

P/N: AT1S14-1S

The **1/4" superflexible (Superflex) cable** is an ultra-pliable, **50-ohm coaxial cable** designed for the most space-constrained RF environments. Featuring a high-degree corrugated outer conductor, it offers **Ultra Low Attenuation** and an incredible bend radius that allows for sharp turns without signal degradation or physical kinking. Despite its small profile, it maintains **100% EMI shielding** and **low Passive Intermodulation (PIM)**, ensuring clean signal paths in dense hardware setups. This makes it the ultimate choice for **short jumper assemblies**, **small cell sites & 5G Millimeter Wave applications**, **Antenna Array Wiring** and **internal cabinet wiring** where maximum maneuverability and high-frequency reliability are non-negotiable.

Construction Specifications

Description	Material & Plating	Diameter (mm)
Inner Conductor	Copper Clad Aluminium Wire	1.90±0.02
Dielectric	Foamed Polyethylene	4.75±0.2
Outer Conductor	Corrugated Copper Tube	6.35±0.5
Jacket	Low Smoke Halogen-free Fire-Retardant PE	7.50±0.5

Electrical Specifications

Parameter	Value	Unit
Operating Frequency	≤ 20.0	GHz
Impedance	50±1	Ω
Propagation Velocity	83	%
Capacitance	80	pF/m
Screening Effectiveness	≥120	dB
Insulation Resistance	5000	MΩ-Km
Inner Conductor Resistance	≤ 8.9	Ω/km
Outer Conductor Resistance	≤ 5.8	Ω/km
RF Peak Voltage	800	V
Dielectric Strength	2.5	kV
Peak Power Rating	6.5	kW
PIM	≤ -160	dBc@(2×43dBm)

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Electrical Performance (VSWR)	
Frequency Range	**Typical VSWR Value**
500~800 MHz	≤ 1.10
1000~1500 MHz	≤ 1.10
1700~2400 MHz	≤ 1.10
2400~2800 MHz	≤ 1.10

Mechanical Specifications		
Parameter	**Value**	**Unit**
Weight	110	Kg/km
Single Bending Radius	≥ 12.5	mm
Repeated Bending Radius	≥ 25	mm
Tensile Strength	600	N
Number of Bends	15	
Recommended Clamp Spacing	1.0	m

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

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Attenuation & Power Rating vs Frequency			
Frequency (MHz)	**Attenuation (dB/100m)**	**Attenuation (dB/100 ft)**	**Average Power Rating (kW)**
100	5.6	1.71	1.23
150	7.25	2.21	0.95
200	8	2.44	0.86
280	10.2	3.11	0.67
450	12.2	3.72	0.57
800	16.7	5.09	0.42
900	17.5	5.33	0.39
1000	18.6	5.67	0.37
1500	23.4	7.13	0.3
1800	25.7	7.83	0.27
2000	26.9	8.2	0.26
2200	28.5	8.69	0.25
2400	30	9.14	0.24
2500	30.6	9.33	0.23
3000	33.5	10.21	0.21
3400	38.2	11.64	0.18
4000	41.8	12.74	0.17
5000	47.5	14.48	0.15

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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