R Series
Semi-Flexible Cable

09

INTRODUCTION

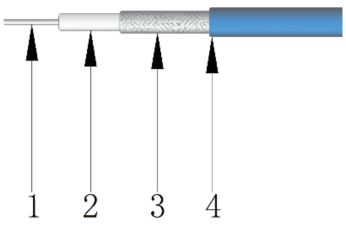
R series adopts high–density round wire knit tinning structure as its outer conductor. Due to nearly 100% coverage after tin–plating on shielding layer, which makes the cable with good shielding, higher operating frequency and good electrical performance. The shielding layer after tin–plating has good bending formability and is suitable for repeated bending with certain forming adjustment. It is often used to replace semi–rigid cable. In terms of electrical performance, it has high operating frequency, low VSWR and good shielding. In terms of mechanical property, the outer conductor of high–density round wire knit tinning enables the cable strong tensility and good bending formability. In terms of environmental resistance, due to the characteristics of the raw materials of the inner and outer conductors and insulating layers, the cable has strong environmental adaptability (–65 ℃ ~ + 165℃), corrosion resistance and mold resistance. But different outer sheathing materials also determine different environmental adaptability.

Typical Application

- Aerospace
- Plate– to– plate connection
- Instrumentation and card interconnection
- Feed network

Features

- Ultra–low loss
- Light weight
- High power resistance
- High temperature resistance
- Good temperature and phase stability

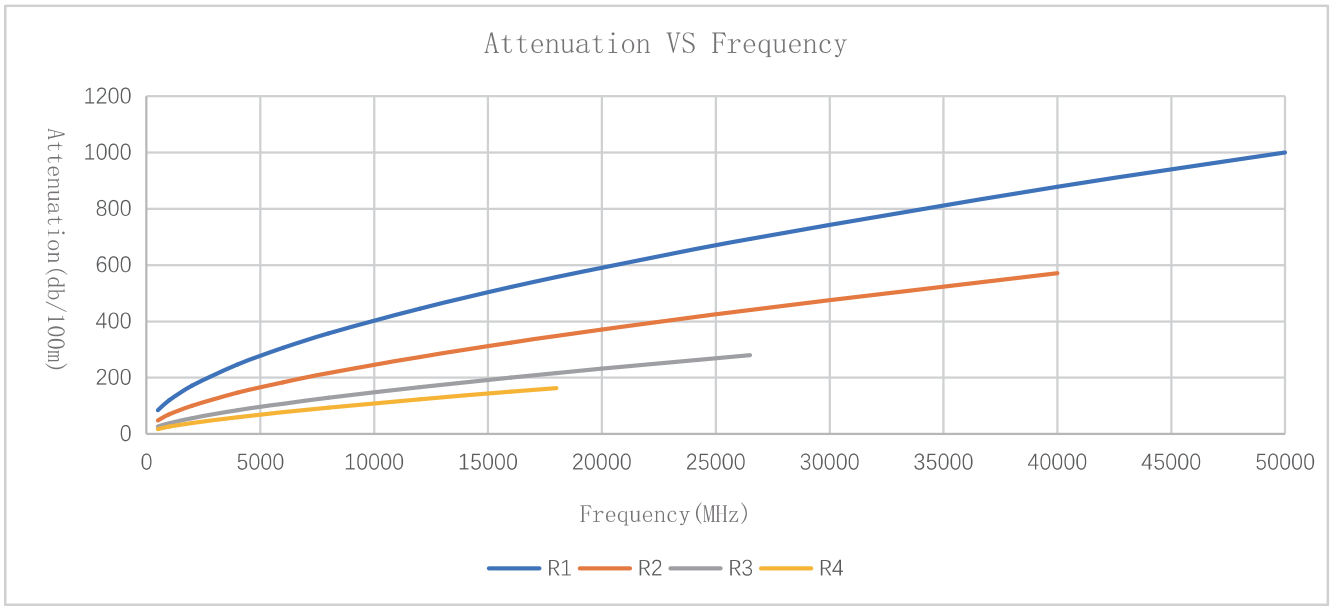


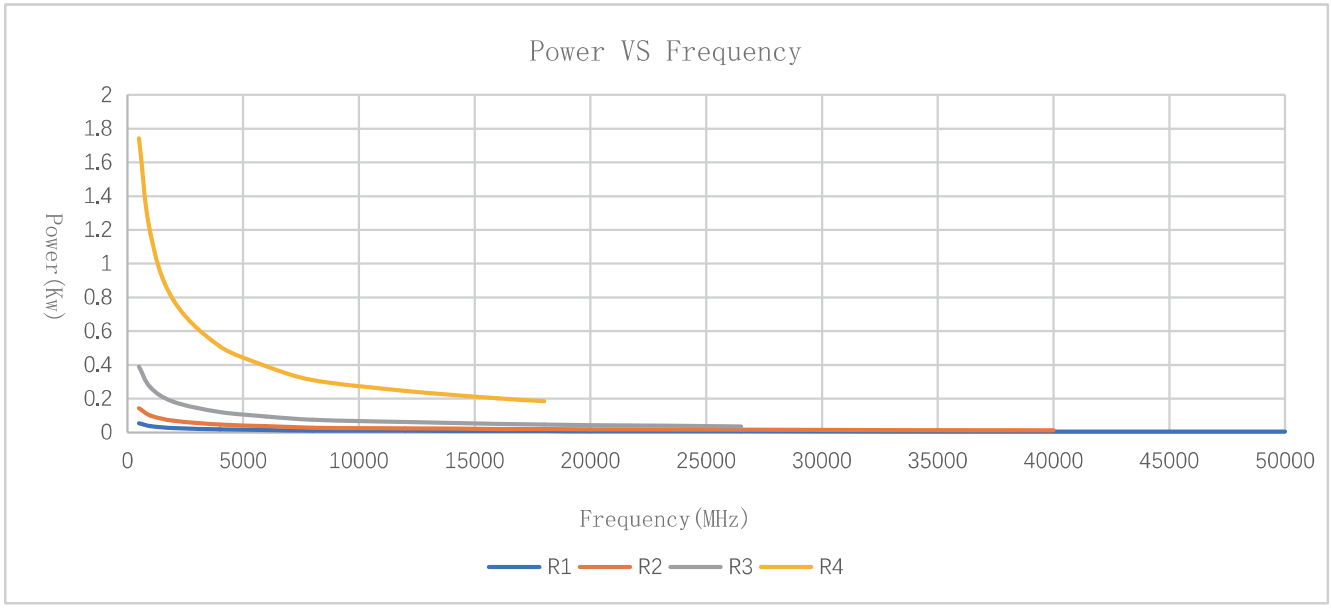
1–Center Conductor——SPC(Silver Plated Copper)
2–Dielectric——PTFE
3–Outer Conductor——Knit+Wicking
4–Jacket——FEP (Optional)

Cable Specification

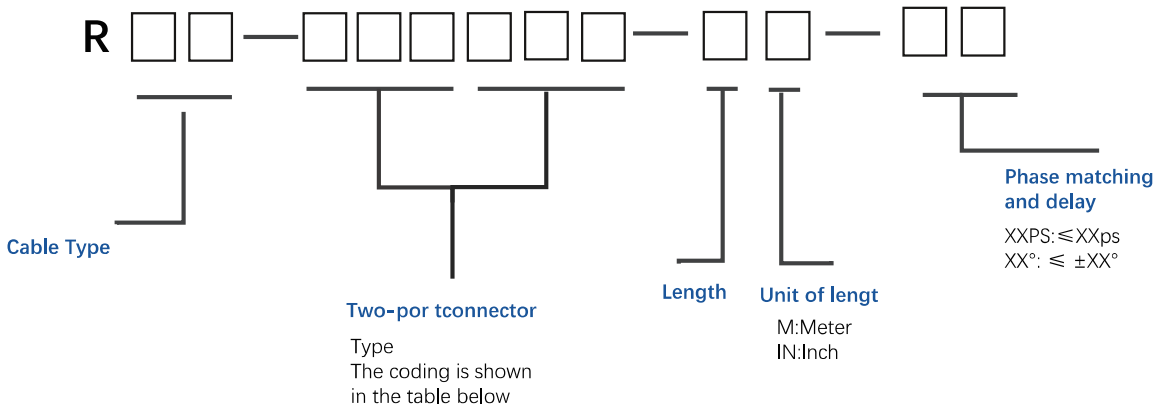
Model	R1		R2		R3		R4	
Mechanical Specifications								
Center Conductor (mm)	0.29		0.51		0.92		1.65	
Dielectric (mm)	0.94		1.68		2.98		5.25	
Outer Conductor (mm)	1.19		2.17		3.55		6.30	
Jacket (mm)	1.60		2.50		4.20		7.00	
Electrical Specifications								
Impedance(Ω)	50		50		50		50	
Velocity of Propagation(%)	70		70		70		70	
Shielding Effectiveness (dB)	< -100		< -100		< -100		< -100	
Time Delay (ns/m)	4.76		4.76		4.76		4.76	
Capacitance (pF/m)	95.2		95.2		95.2		95.2	
Cut-off Frequency(GHz)	109		60		34		19	
Voltage Withstand(V,DC)	500		1000		1500		2000	
Static Bending Radius (mm)	6		11		18		32	
Operating Temperature (℃)	-55~125		-55~125		-55~125		-55~125	
Attenuation(+25°C Ambient)&Power Handling(+40°C Ambient;SeaLevel;VSWR 1:1)								
Frequency (MHz)	dB/100m	KW	dB/100m	KW	dB/100m	KW	dB/100m	KW
500	83.94	0.0540	48.19	0.144	26.17	0.390	17.37	1.743
1000	119.76	0.0378	69.30	0.100	38.17	0.267	25.72	1.177
2000	171.47	0.0264	100.31	0.069	56.28	0.181	38.69	0.783
4000	246.68	0.0184	146.47	0.047	84.20	0.121	59.32	0.510
6000	306.07	0.0148	183.73	0.038	107.46	0.095	76.99	0.393
8000	357.25	0.0112	216.37	0.028	128.31	0.075	93.12	0.310
12000	445.42	0.0102	273.66	0.025	165.81	0.062	122.72	0.247
16000	522.00	0.0087	324.44	0.021	199.91	0.051	150.14	0.202
18000	557.35	0.0081	348.17	0.020	216.09	0.047	163.30	0.185
20000	591.17	0.0077	371.05	0.019	231.81	0.044		
26500	692.94	0.0065	440.80	0.016	280.53	0.036		
40000	877.98	0.0052	570.87	0.012				
50000	1000.51	0.0045						
K1	3.6740161		2.0669291		1.0824		0.688976	
K2	0.0035795		0.003937		0.003937		0.003937	

Test Data


Attenuation VS Frequency
Attenuation(db/100m)
1200
1000
800
600
400
200
0
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
50000
Frequency(MHz)
R1
R2
R3
R4


Power VS Frequency
Power(Kw)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
50000
Frequency(MHz)
R1
R2
R3
R4

Assembly Selection Information



Optional Connectors

Connector Code	Connector Type	Operating Frequency	R1	R2	R3	R4	VSWR（Max）
1.85M	1.85mm Male	DC-40GHz		●			
2.92M	2.92mm Male	DC-40GHz	●	●			1.30
2.92F	2.92mm Female	DC-40GHz	●	●			1.30
SSMAM	SSMA Male	DC-40GHz		●			1.30
3.5M	3.5mm Male	DC-27GHz			●		1.30
SMAM	SMA Male	DC-27GHz		●	●	●	1.25
SMAWM	SMA Male Right Angle	DC-18GHz		●	●		1.25
SMAF	SMA Female	DC-27GHz		●		●	1.25
NM	N Male	DC-18GHz		●	●	●	1.25
NF	N Female	DC-18GHz		●	●	●	1.25
TNCM	TNC Male	DC-12GHz		●			1.25
SMPF	SMP Female	DC-40GHz		●			1.25
SSMPF	SSMP Female	DC-40GHz		●			1.25