A Series
High-Performance Low Loss Phase Stable Flexible Cable

01

INTRODUCTION

A Series adopts strict production process and control requirements, so that the product has excellent electrical and mechanical performance within its working frequency range;
In terms of electrical performance, the signal transmission rate of this series can reach 83%, which makes the cable signal loss as low as possible and the temperature phase stability is less than 550PPM;
In terms of mechanical performance, the strict production technology ensures excellent bending performance;
In terms of environmental adaptability, the use of excellent production materials ensures the product used in a wide temperature range and has corrosion resistance, cracking resistance, moisture-proof, mildew-proof and fire resistance characteristics.

Typical Application

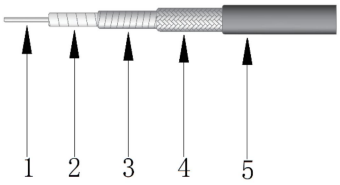
- Test cables
- Radar
- Aerospace systems
- Millimeter wave 5G communication
- Lab test

Features

- Operating frequency up to 110GHz
- Extra-low loss
- High power
- High temperature resistance
- Good shielding

Replacement Table

Talent Model	Replacement Model	Replacement Brand
A15	CXN3657	GORE
A22	CXN3506	GORE
A40	CXN3507	GORE
	UFB142	MCC
A48	CXN3449	GORE
A50	UFB205A	MCC
A75	CXN3450	GORE
A81	UFB311A	MCC



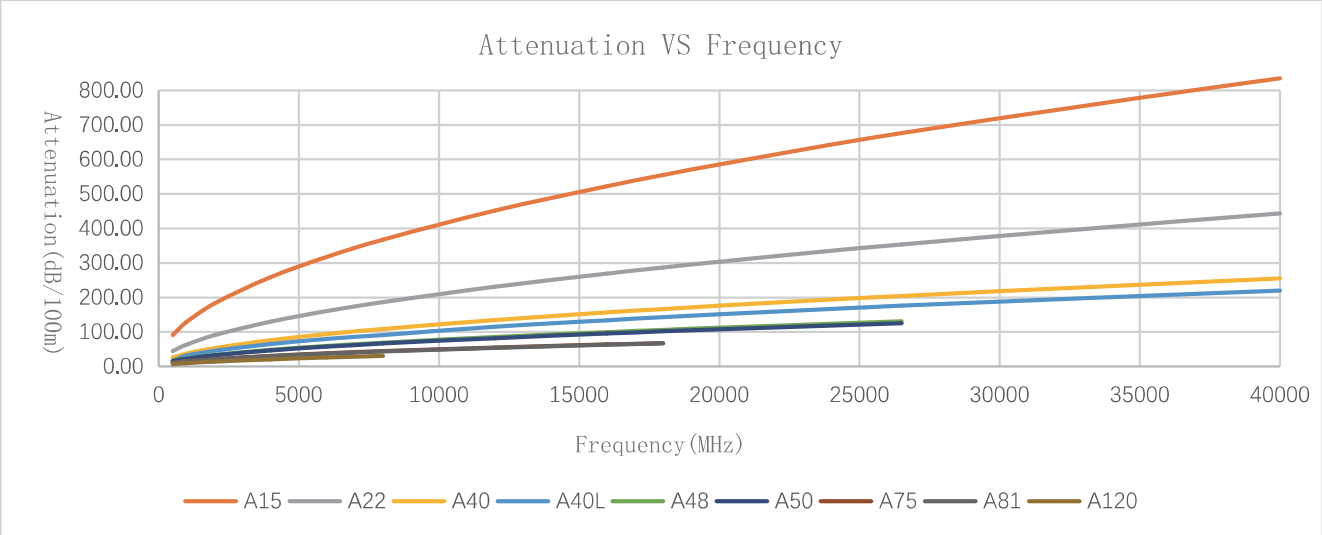
1-Center Conductor——SPC(Silver Plated Copper)
2-Dielectric——PTFE
3-Inner Shield——SPC(Silver Plated Copper)
4-Outer Shield——SPC(Silver Plated Copper)
5-Jacket——FEP

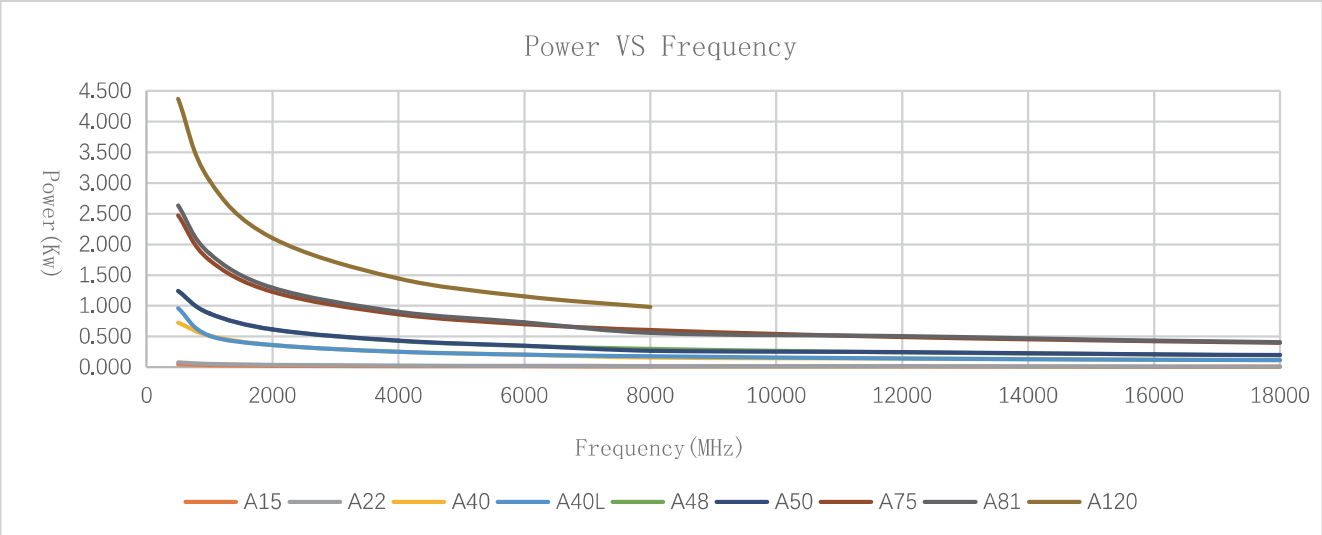
CABLE SPECIFICATION

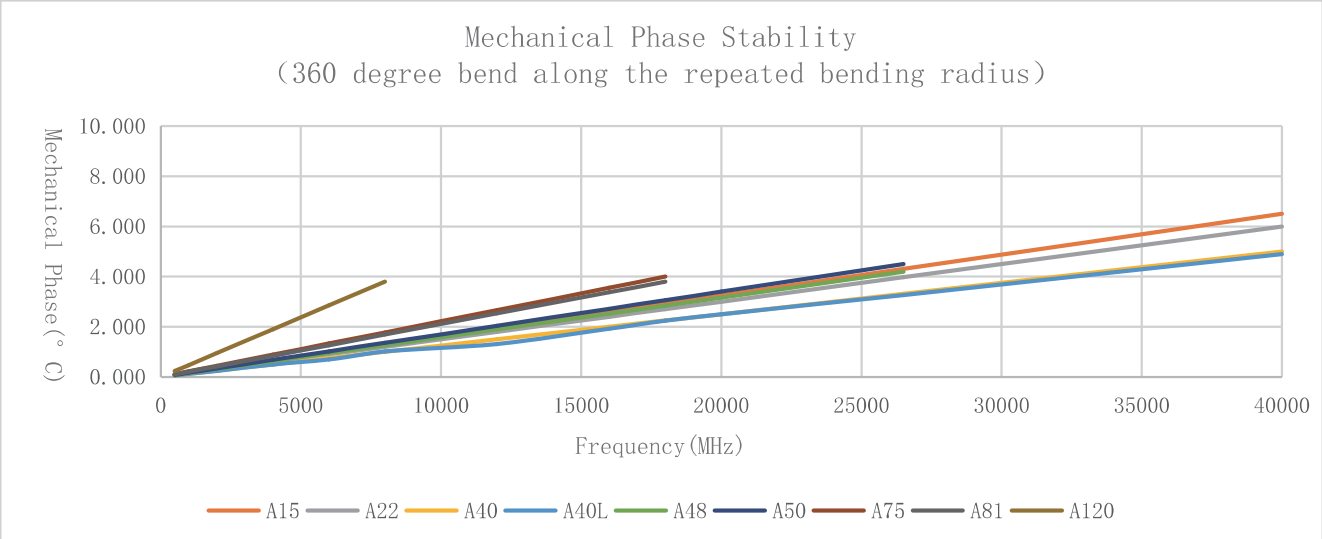
Model	A15		A22		A40L		A40		A48	
Mechanical Specifications										
Center Conductor (mm)	0.29		0.51		1.02		0.91		1.4	
Dielectric (mm)	0.85		1.38		3.0		2.45		3.75	
Inner Shield (mm)	1.01		1.58		3.1		2.66		3.95	
Outer Shield (mm)	1.24		1.9		3.35		3.15		4.35	
Jacket (mm)	1.54		2.2		3.7		3.6		4.8	
Electrical Specifications										
Impedance(Ω)	50		50		50		50		50	
Velocity of Propagation(%)	80		82		83		83		83	
Shielding Effectiveness (dB)	< -90		< -90		< -90		< -90		< -90	
Time Delay（ns/m）	4.16		4.06		4.06		4.01		4.01	
Capacitance（pF/m）	81.7		83		79.8		79.8		81.9	
Cut-off Frequency(GHz)	135		83		46		46		31	
Voltage Withstand(V,DC)	200		350		650		650		1000	
Static Bending Radius (mm)	7		11		18		18		24	
Dynamic Bending Radius (mm)	15		22		36		36		48	
Operating Temperature (℃)	-55~165		-55~165		-55~165		-55~165		-55~165	
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	dB/100m	KW
500	75.73	0.047	44.79	0.079	16.75	0.960	26.40	0.726	16.65	1.243
1000	107.41	0.033	63.70	0.055	31.91	0.511	37.50	0.511	23.67	0.874
2000	152.51	0.023	90.80	0.039	45.45	0.359	53.36	0.359	33.73	0.613
4000	216.90	0.016	129.85	0.027	64.93	0.251	76.10	0.252	48.22	0.429
6000	266.80	0.013	160.37	0.022	80.13	0.203	93.81	0.204	59.54	0.347
8000	309.20	0.012	186.49	0.019	91.15	0.176	108.91	0.157	69.22	0.299
12000	380.99	0.009	231.09	0.015	115.28	0.142	134.60	0.142	85.75	0.241
16000	442.17	0.008	269.46	0.013	134.30	0.122	156.60	0.122	99.96	0.207
18000	470.07	0.008	287.06	0.012	143.02	0.115	166.67	0.115	106.48	0.194
20000	496.57	0.007	303.84	0.012	151.31	0.110	176.25	0.109	112.69	0.184
26500	575.23	0.006	354.00	0.010	176.12	0.093	204.79	0.094	131.24	0.158
40000	714.50	0.005	444.01	0.008	220.51	0.074	255.69	0.075		
50000	804.35	0.004	502.86	0.007						
67000	940.64	0.004	593.24	0.006						
110000	1230.52	0.003								
K1	3.3634		1.975832		0.991550		1.16847		0.734593	
K2	0.0010455		0.001221		0.000555		0.00055		0.00044	

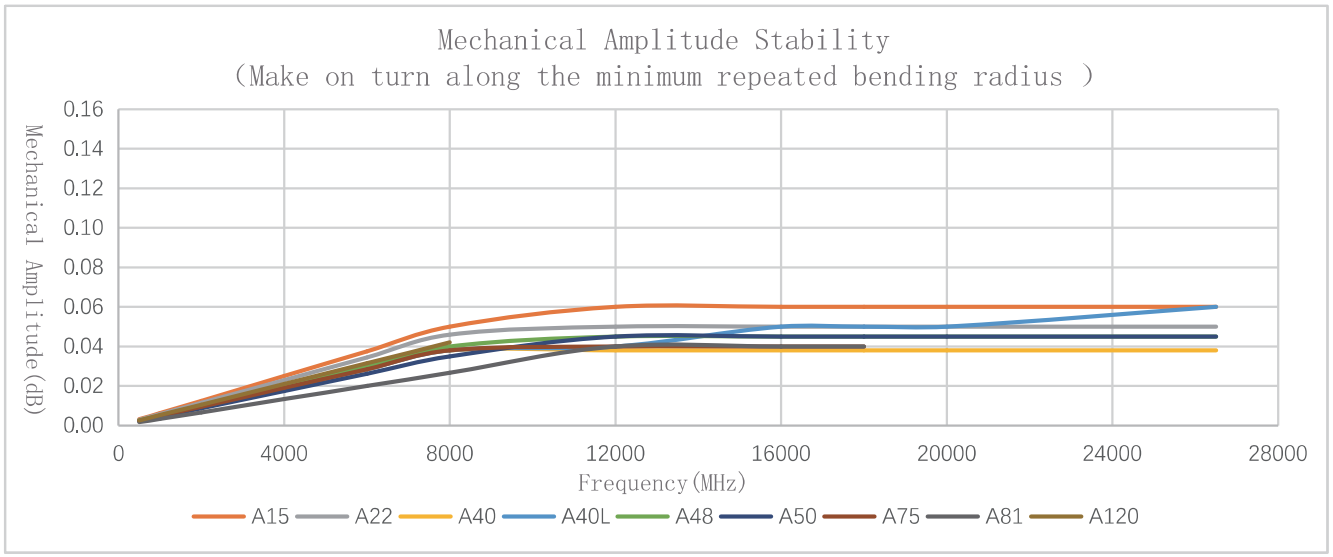
Mode	A50		A75		A81		A120	
Mechanical Specifications								
Center Conductor (mm)	1.45		2.1		2.3		3.80	
Dielectric (mm)	4		5.75		6.25		10.40	
Inner Shield (mm)	4.2		6.07		6.57		10.78	
Outer Shield (mm)	4.7		6.58		7.15		11.35	
Jacket (mm)	5.1		7.50		7.80		12.00	
Electrical Specifications								
Impedance(Ω)	50		50		50		50	
Velocity of Propagation(%)	83		83		83		83	
Shielding Effectiveness(dB)	< -90		< -90		< -90		< -90	
Time Delay（ns/m）	4.01		4.01		4.01		4.01	
Capacitance（pF/m）	79.5		80.1		80.1		80.1	
Cut-off Frequency(GHz)	29		20		18		11	
Voltage Withstand(V,DC)	1100		1600		1700		2900	
Static Bending Radius (mm)	26		38		39		60	
Dynamic Bending Radius (mm)	51		75		78		120	
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	16.17	1.243	10.88	2.474	10.37	2.633	6.94	4.372
1000	22.96	0.875	15.43	1.744	14.76	1.850	9.98	3.043
2000	32.66	0.615	21.93	1.227	21.07	1.296	14.42	2.105
4000	46.58	0.431	31.21	0.862	30.18	0.905	21.02	1.444
6000	57.40	0.350	38.42	0.700	37.32	0.732	26.34	1.153
8000	66.66	0.268	44.55	0.604	43.44	0.558	30.98	0.980
12000	82.34	0.244	54.94	0.490	53.93	0.506		
16000	95.78	0.210	63.81	0.422	62.98	0.434		
18000	101.92	0.197	67.86	0.397	67.13	0.407		
20000	107.77	0.186						
26500	125.20	0.161						
K1	0.715987		0.48249		0.45638		0.298565	
K2	0.000328		0.000174		0.000328		0.000535	

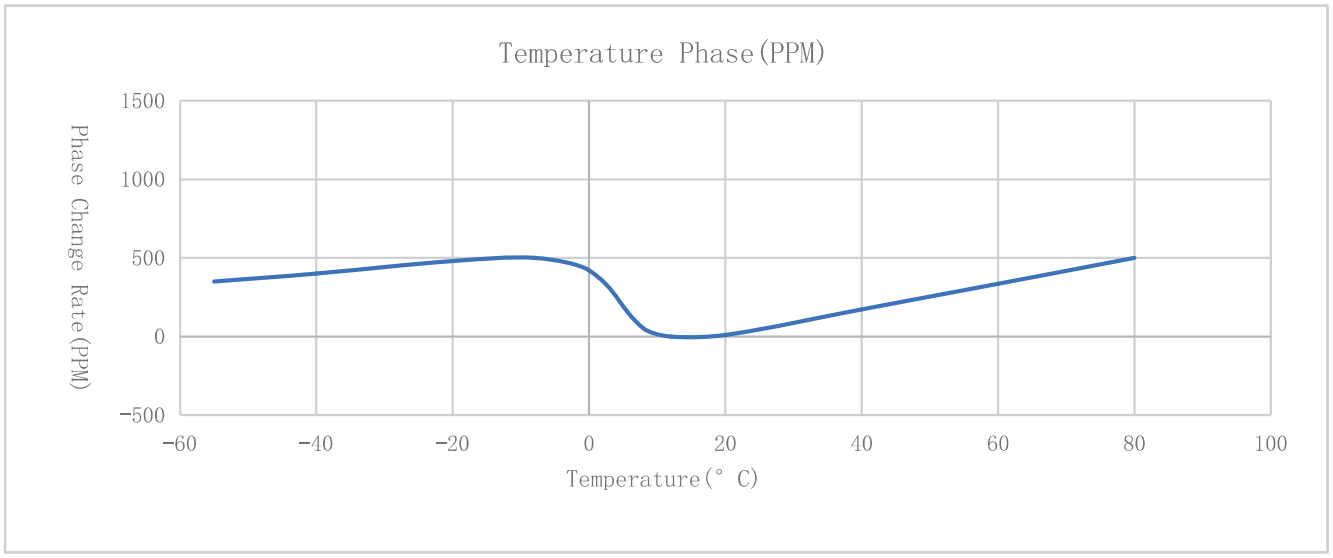
Test Data


Attenuation VS Frequency
Attenuation(dB/100m)
800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
0
5000
10000
15000
20000
25000
30000
35000
40000
Frequency(MHz)
A15 A22 A40 A40L A48 A50 A75 A81 A120

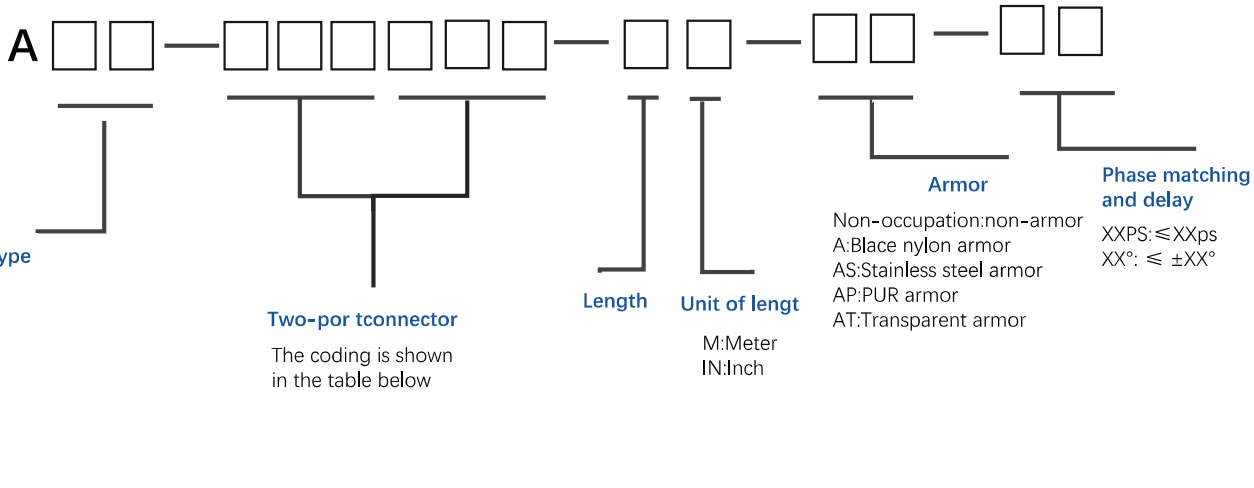

Power VS Frequency
Power(Kw)
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
Frequency(MHz)
A15 A22 A40 A40L A48 A50 A75 A81 A120


Mechanical Phase Stability
(360 degree bend along the repeated bending radius)
Mechanical Phase(°C)
10.000
8.000
6.000
4.000
2.000
0.000
0
5000
10000
15000
20000
25000
30000
35000
40000
Frequency(MHz)
A15 A22 A40 A40L A48 A50 A75 A81 A120


Mechanical Amplitude Stability
(Make on turn along the minimum repeated bending radius)
Mechanical Amplitude(dB)
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
4000
8000
12000
16000
20000
24000
28000
Frequency(MHz)
A15
A22
A40
A40L
A48
A50
A75
A81
A120


Temperature Phase(PPM)
Phase Change Rate(PPM)
1500
1000
500
0
-500
-60
-40
-20
0
20
40
60
80
100
Temperature(° C)

Assembly Selection Information



Optional Connectors

Connector Code	Connector Type	Operating Frequency	A15	A22	A40L	A40	A48	A50	A75	A81	A120	VSWR (Max)
1.0M	1.0mm Male	DC-110GHz	●									1.50
1.0F	1.0mm Female	DC-110GHz	●									1.50
1.85M	1.85mm Male	DC-67GHz	●	●								1.30
1.85F	1.85mm Female	DC-67GHz	●	●								1.30
2.4M	2.4mm Male	DC-50GHz		●		●						1.30
2.4F	2.4mm Female	DC-50GHz		●		●						1.30
2.92M	2.92mm Male	DC-40GHz		●	●	●						1.30
2.92WM	2.92 Male Right Angle	DC-40GHz		●	●	●						1.30
2.92F	2.92mm Female	DC-40GHz		●	●	●						1.30
3.5M	3.5mm Male	DC-27GHz					●	●				1.30
3.5F	3.5mm Female	DC-27GHz					●	●				1.30
SMPF	SMP Female	DC-40GHz		●								1.30
SSMAM	SSMA Male	DC-40GHz		●								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
SCM	SC Male	DC-6GHz								●		1.25
DINM	7/16 Male	DC-6GHZ								●	●	1.25