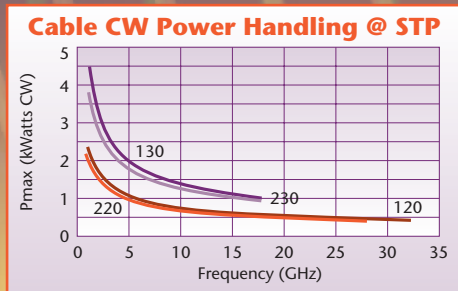
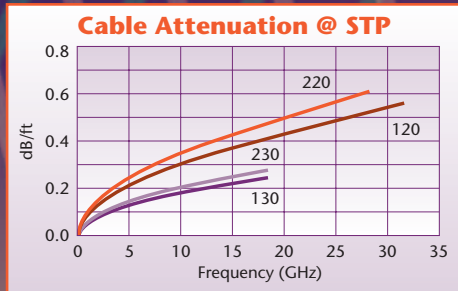


GrooveTube® Low Loss Cables – Series 1 & 2

Lowest Loss – EMC Lab • Low Loss System Connections



Series 1 & 2 Typical Insertion Loss_{dB} = (Attenuation)(Length) + 2(Connector Loss)

Frequency		Attenuation								Conn. Loss dB	SWR
GHz	Band	130		230		120		220			
		dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m		
0.045	VHF	0.01	0.04	0.01	0.05	0.02	0.07	0.02	0.08	0.01	1.02:1
0.512	UHF	0.04	0.13	0.05	0.15	0.07	0.23	0.08	0.26	0.02	1.04:1
0.900		0.05	0.17	0.06	0.21	0.09	0.30	0.11	0.35	0.02	
1.000	L	0.05	0.18	0.07	0.22	0.10	0.32	0.11	0.36	0.03	1.05:1
1.900		0.08	0.25	0.09	0.30	0.13	0.44	0.15	0.50	0.03	
2.000	S	0.08	0.26	0.09	0.31	0.14	0.45	0.16	0.51	0.04	1.10:1
3.000		0.10	0.32	0.11	0.37	0.17	0.55	0.19	0.63	0.04	
4.000	C	0.11	0.37	0.13	0.43	0.19	0.63	0.22	0.72	0.05	1.15:1
5.000		0.13	0.41	0.14	0.47	0.21	0.70	0.24	0.80	0.06	
6.000		0.14	0.45	0.15	0.51	0.23	0.76	0.26	0.87	0.06	
7.000		0.15	0.49	0.17	0.55	0.25	0.81	0.28	0.93	0.07	
8.000	X	0.16	0.53	0.18	0.59	0.27	0.87	0.32	1.06	0.07	1.20:1
9.000		0.17	0.56	0.19	0.63	0.28	0.93	0.33	1.09	0.08	
10.000		0.18	0.60	0.20	0.66	0.30	0.98	0.34	1.13	0.08	
12.000		0.20	0.66	0.22	0.73	0.33	1.09	0.38	1.24	0.09	
12.400	Ku	0.20	0.67	0.23	0.75	0.34	1.11	0.42	1.38	0.09	1.25:1
14.000		0.22	0.72	0.24	0.80	0.36	1.18	0.44	1.44	0.09	
15.000		0.23	0.74	0.25	0.83	0.37	1.23	0.45	1.48	0.10	
16.000		0.23	0.77	0.26	0.86	0.39	1.27	0.46	1.51	0.10	
18.000	K	0.25	0.82	0.28	0.91	0.41	1.36	0.47	1.55	0.11	1.30:1
20.000						0.44	1.44	0.50	1.65	0.11	
22.000						0.46	1.52	0.55	1.80	0.12	
24.000						0.49	1.59	0.56	1.82	0.12	
26.500	Ka					0.51	1.69	0.62	2.03	0.13	1.35:1
28.000						0.53	1.74			0.13	
30.000						0.55	1.81			0.14	
32.000						0.57	1.88			0.14	

Series 1 & 2 Electrical Data

	130	230	120	220
Maximum Frequency	18.0 GHz	18.0 GHz	32.0 GHz	26.5 GHz
Impedance	50 Ω nominal	50 Ω nominal	50 Ω nominal	50 Ω nominal
Propagation Velocity	80% nominal	80% nominal	80% nominal	80% nominal
Time Delay	1.21 ns/ft (3.97 ns/m)	1.21 ns/ft (3.97 ns/m)	1.27 ns/ft (4.17 ns/m)	1.27 ns/ft (4.17 ns/m)
Capacitance	26.7 pF/ft (87.6 pF/m)	26.7 pF/ft (87.6 pF/m)	26.7 pF/ft (87.6 pF/m)	26.7 pF/ft (87.6 pF/m)
Shielding Effectiveness	< -90 dB	< -90 dB	< -90 dB	< -90 dB
Dielectric Constant	1.43	1.43	1.57	1.57
Dielectric Withstdg. Voltage	15 kV at 60 Hz	15 kV at 60 Hz	10 kV at 60 Hz	10 kV at 60 Hz

Series 1 & 2 Mechanical Data

	130	230	120	220
Outer Conductor Diam.	0.307 in (7.8 mm)	0.307 in (7.8 mm)	0.207 in (5.3 mm)	0.207 in (5.3 mm)
Bend Radius	1.00 in (2.54 cm)	1.00 in (2.54 cm)	0.50 in (1.27 cm)	0.50 in (1.27 cm)
Operating Temp. Range	-76 to 347°F (-60 to +175°C)		-76 to 347°F (-60 to +175°C)	
Unjacketed Weight	0.08 lbs/ft (0.12 kg/m)	0.08 lbs/ft (0.12 kg/m)	0.04 lbs/ft (0.06 kg/m)	0.04 lbs/ft (0.06 kg/m)
Max. Assembly Length	25 ft (7.62 m)	25 ft (7.62 m)	25 ft (7.62 m)	25 ft (7.62 m)
Flex. Rating – Highest = 5.0	4.0	5.0	4.0	5.0

Series 1 & 2 Cable Construction

Inner Conductor	Solid Ag-plated Cu (120 & 130) Stranded Ag-plated Cu (220 & 230)
Dielectric	PTFE
Outer Conductor	Cu GrooveTube®
Outer Jacket	Neoprene over Braid-F (130 & 230) Polyolefin-C (120 & 220) (Other jackets available upon request.)

Standard Connectors

130 & 230: 7mm, 7-16, SMA, TNC, Type N
120 & 220: 2.4mm, 2.92mm, 3.5mm, 7mm, SMA, TNC, Type N
Other connectors available upon request.