

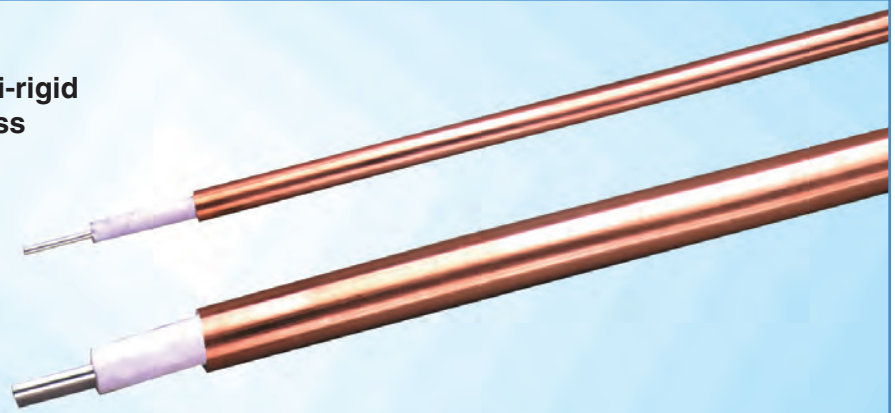
# Coppersol<sup>®</sup> CLL

Low Loss Semirigid Coax

- Low Loss Microwave Interconnect
- Wireless Base Station Interconnect

## Features & Benefits

- Lower Loss than Standard Semi-rigid
- Excellent Shielding Effectiveness
- Low Passive Intermod (PIM)
- Stable Loss, Phase and VSWR



Coppersol-CLL employs a thin tubular copper outer conductor and low-density PTFE dielectric which provide the lowest loss and highest shielding giving it significant performance advantages over semirigid coax of similar size.

Coppersol-CLL was developed 25 years ago and have been widely adopted by the military OEM's.

### Some of the key characteristics of Coppersol-CLL are:

**Shielding Effectiveness** – the highest achievable for any cable and is estimated at > 165 dB, well below measurable limits.

**Small/Lightweight** – same size but lighter weight than standard CL semirigid coax.

**Phase Stable** – the solid outer conductor and low density PTFE minimizes electrical length change with temperature to yield 100 % improvement over

standard CL semirigid coax.

**Low Loss** – can achieve up to 30 % less loss than standard CL semirigid coax.

**Attenuation Stability** – impervious outer conductor prevents oxidation of the conductors thereby minimizing attenuation change vs time.

**Power Handling** – higher operating temperature provides 200% increase in power handling vs standard CL semirigid.

**Corrosion Resistance** – jacketing of the bare copper tube or plating with tin or silver is recommended when cable is deployed in a corrosive environment.

**Formability** – the solid copper tube enables the cable to be bent to any 3 dimensional configuration and have it retain its shape.

**Connectors** – are available from a variety of sources to fit Coppersol-CLL.

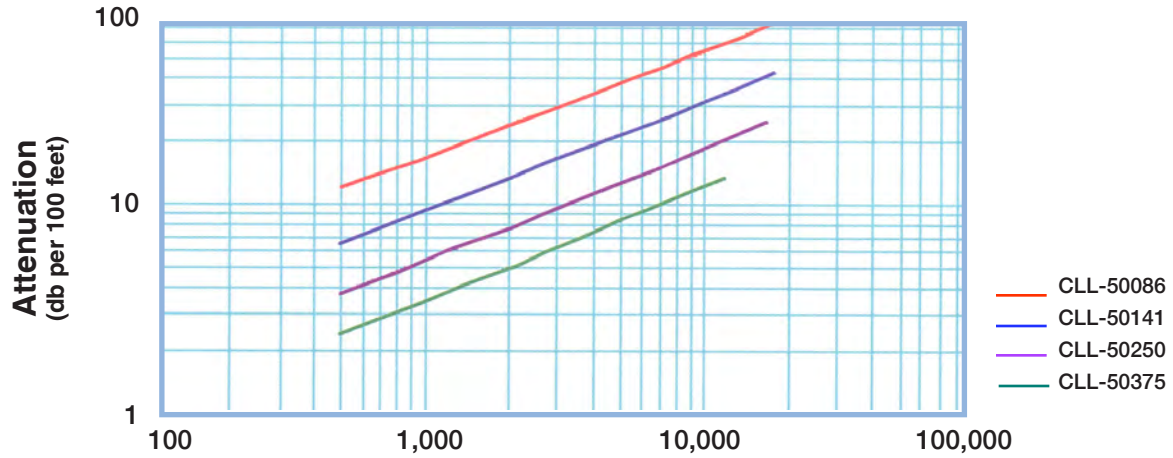
## Coppersol CLL Low Loss Semirigid Coaxial Cables

TMS Number	Conductor inches (mm)	Dielectric inches (mm)	Shields inches (mm)	Weight lbs/foot (kg/m)	Impedance ohms Vp(%)	Capacitance pF/foot (pF/m)	DC Resistance ohms/1kft (/km)		Oper. Voltage kvrms	Temp. Range F (C)	Min. Bend Radius in. (mm)	Test Freq. GHz
							Cent. Cond	Shield (s)				
CLL-50086	SCCS	LD PTFE	BC Tube	0.0130	50+/-1.5	26.8	53.6	2.68	0.6	-85+482	0.25	0.5-20
	0.022 (0.56)	0.066 (1.68)	0.0860 (2.18)	(0.019)	76	(87.9)	(175.9)	(8.8)				
CLL-50141	SC	LD PTFE	BC Tube	0.0290	50+/-1	26.8	6.8	1.32	1.3	-85+482	0.50	0.5-20
	0.039 (0.99)	0.1180 (3.00)	0.141 (3.58)	(0.0431)	76	(87.9)	(22.4)	(4.3)				
CLL-50250	SC	LD PTFE	BC Tube	0.091	50+/-1	26.8	2.1	0.45	2.2	-85+482	2.0	0.5-20
	0.0700 (1.78)	0.210 (5.33)	0.250 (6.35)	(0.136)	76	(87.95)	(7.0)	(1.5)				
CLL-50375	SC	LD PTFE	BC Tube	0.187	50+/-1	26.8	0.83	0.365	3.0	-85+482	3.25	0.5-12
	0.1120 (2.84)	0.335 (8.51)	0.375 (9.535)	(0.279)	76	(87.9)	(2.7)	(1.2)				

Tinned and Silver Plated Outer Conductors Available on Request

- Low Passive Intermod
- High Temperature
- High Power

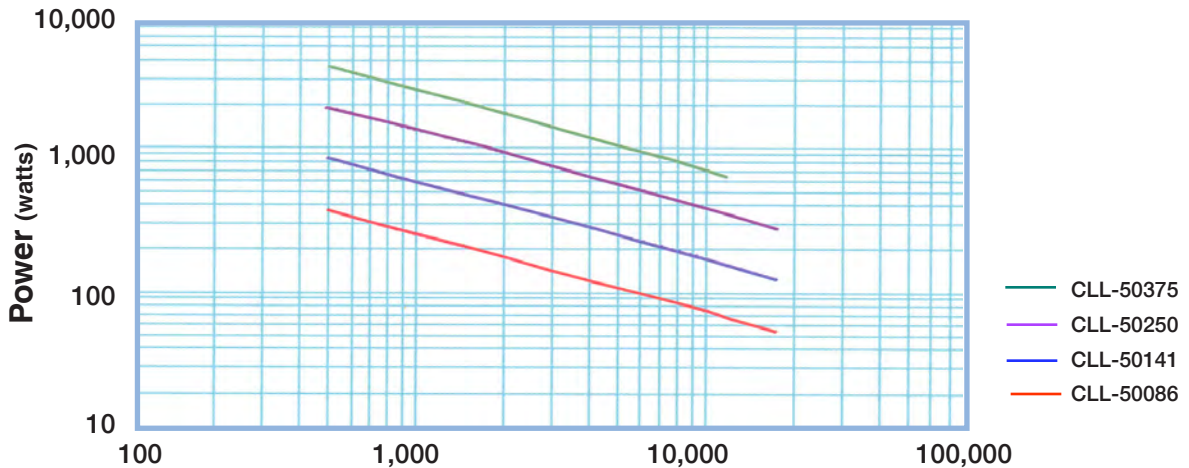
**Attenuation vs. Frequency (Typical)**



Frequency (MHz)	500	1,000	2,000	3,000	8,000	10,000	12,000	16,000	18,000	20,000	k1	k2
CLL-50086	11.8	16.8	23.9	29	48	54	60	69	74	78	0.525	0.00018
CLL-50141	6.7	9.5	13.5	16.6	28	31	34	40	43	45	0.293	0.00018
CLL-50250	3.8	5.4	7.8	9.6	16	18	20	24	25	27	0.165	0.00018
CLL-50375	2.4	3.5	5.0	6.2	11	12	14	-	-	-	0.104	0.00018

Attenuation at Any Frequency = [ k1 x SQRT (Fmhz) ] + [ k2 x Fmhz ]; dB per 100 feet

**Power Handling vs. Frequency (Maximum)**



Frequency (MHz)	500	1,000	2,000	3,000	8,000	10,000	12,000	16,000	18,000	20,000
CLL-50375	3633	2525	1743	1397	805	707	635	-	-	-
CLL-50250	1908	1332	925	745	436	384	347	294	274	257
CLL-50141	834	584	407	329	194	171	155	131	123	116
CCL-50086	363	254	177	143	84	74	67	56	53	50

Watts; Sea Level; Ambient +40C; VSWR 1:1; Outer Conductor +250C