LLS (Low Loss Spiral Shield) Coaxial Cable

-solid or stranded center conductors

Construction:
Center Conductor: Solid or standed silver plated copper
Dielectric: Expanded PTFE tape
Inner Shield: Spiral strip of silver plated copper
Outer Braid: Round silver plated copper
Jacket: Blue translucent FEP

Operating temperature -55 +200° C
Velocity of Propagation 81%-85%
Impedence 50 Ohms
Shielding Effectiveness <-110 dB

	LLS160-40GHZ	LLS195STR	LLS195	LLS290
Center conductor diameter	.0403" solid	.057" stranded	.051" solid	.089" solid
Dielectric diameter	.111"	.147"	.145"	.241"
Diameter over inner shield	.117"	.153"	.151"	.247"
Diameter over outer braid	.135"	.171"	.169"	.273"
Overall diameter	.160"	.195"	.195"	.290"
Weight(lbs/mft)	24.5	35.8	36.0	74.0
Bend radius	0.8"	1.0"	1.0"	1.45"
Attenuation (dB/100ft) @				
400 MHz	6.3	5.0	4.7	2.7
1 GHz	10.0	7.9	7.5	4.3
3 GHz	17.7	14.1	13.2	7.7
5 GHz	23.1	18.5	17.2	10.1
10 GHz	33.4	26.9	24.9	14.8
18 GHz	46.0	37.3	34.2	20.6
40 GHz	71.8	--	--	--

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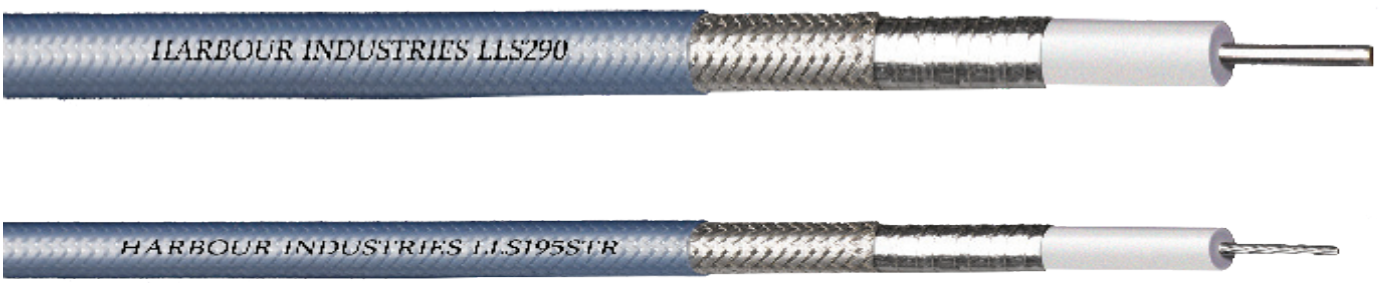

Designed for Low Attenuation
The inner silver plated flat strip shield coupled with higher velocity expanded PTFE tape dielectrics yield lower attenuation levels over operating frequencies.

LLS cables are **smaller** and **lighter weight** than comparable LL flat strip braid constructions.

Return loss improved by minimizing inherent spikes from the strip braid and interlayer.

Shielding Effectiveness levels have been measured at <-110 dB

Special connectors have been designed and are readily available.

Attenuation Calculation and K Factors
Although typical and maximum attenuation values are given for discrete frequencies, typical attenuation values may be calculated by using K1 and K2 factors for each construction. The K1 factor is calculated by taking into consideration the type, strand factor, and diameter of the center conductor, and the impedance of the cable. The K2 factor is calculated by taking into consideration the velocity of propagation and the dissipation factor of the dielectric.

Formula for Calculating Attenuation using K Factors:

Attenuation (dB/100 ft) at any frequency (**MHz**) =
$(K1 \times \sqrt{\text{frequency}}) + (K2 \times \text{frequency})$

	LLS160-40GHz	LLS195STR	LLS195	LLS290
K1	0.309	0.243	0.231	0.131
K2	0.0002500	0.0002600	0.0001785	0.0001674