HyperBend

Qualified, Cost-effective Microwave Cable Assemblies with Excellent Bending Property

www.ocenx.com

OCENX

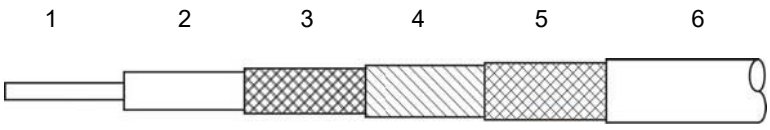
Product Description

The flexible, preassembled coaxial cable assemblies designed for internal point-to-point interconnections between RF modules within systems. Enables bending immediately behind the connector and boasts impressive pull strength and mechanical durability.

Features and Benefits:

- Frequency range up to 50 GHz
- Excellent bending phase, amplitude stability
- Triple shielded for high isolation
- Stainless steel soldering-free connector
- Bending at random and maintaining shape stability
- “Bend it. Stay put.”

Construction



		Material
1	Centre conductor	Copper wire, silver plated
2	Dielectric	PTFE
3	Outer conductor	Copper wire, silver plated
4	Barrier	Aluminum foil
5	Outer braid	Stainless steel wire
6	Jacket	FEP

Cable Types

		HB250	HB250L	HB260L	HB360
Outer diameter	mm [inch]	2.50 [0.098]	2.50 [0.098]	2.64 [0.104]	3.61 [0.142]
Min. bending radius static	mm [inch]	10.00 [0.394]	10.00 [0.394]	10.56 [0.416]	18.05 [0.728]
Min. bending radius dynamic	mm [inch]	25.00 [0.984]	25.00 [0.984]	26.40 [1.040]	36.00 [1.417]
Weight	g/m [lbs/ft]	18 [0.012]	16 [0.011]	17 [0.011]	31 [0.021]
Temperature range	℃	-55 to +125	-55 to +165	-55 to +165	-55 to +165
Impedance	Ω	50	50	50	50
Max. operating frequency	GHz	40.0	40.0	50.0	26.5
Max. phase stability	°	± 8	± 8	± 8	± 8
Max. amplitude stability	dB	± 0.15	± 0.15	± 0.15	± 0.15
Screening effectiveness	dB	≥ 90	≥ 90	≥ 90	≥ 90
Velocity of propagation	%	70	74	76	76

Recommended connectors

HB250	2.92mm Male, SMA Male, Bulkhead SMA Female
HB250L	2.92mm Male, SMA Male, Bulkhead SMA Female
HB260L	2.4mm Male, 2.4mm Female, 2.92mm Male, SMA Male
HB360	SMA Male

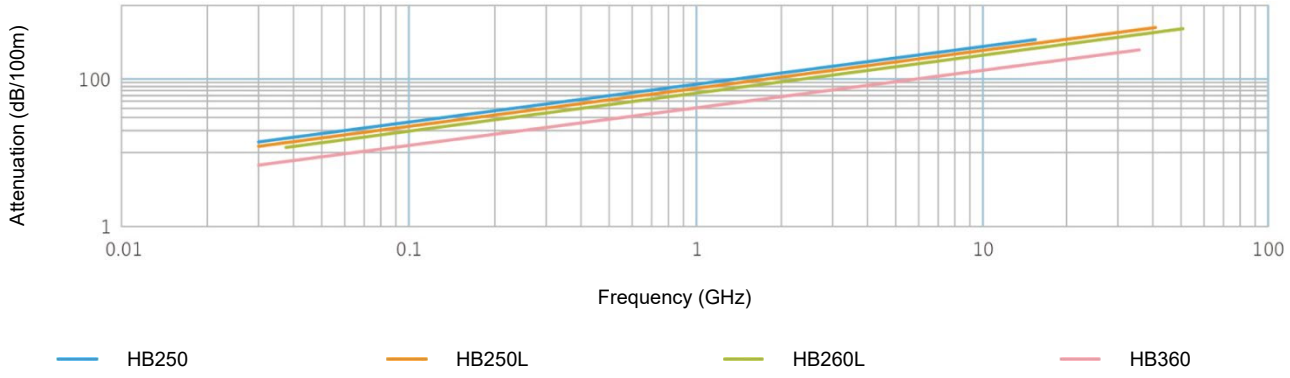
Attenuation & Power Handling

	HB250			HB250L			HB260L			HB360		
Frequency (MHz)	dB/ 100m	dB/ 100ft	kW	dB/ 100m	dB/ 100ft	kW	dB/ 100m	dB/ 100ft	kW	dB/ 100m	dB/ 100ft	kW
30	14.17	4.32	0.6050	12.27	3.74	0.6060	10.23	3.12	0.6060	6.80	2.07	2.0270
50	18.31	5.58	0.4680	15.86	4.84	0.4690	13.22	4.03	0.4690	8.79	2.68	1.5690
100	25.94	7.91	0.3310	22.48	6.85	0.3310	18.73	5.71	0.3310	12.45	3.79	1.1080
300	45.09	13.75	0.1900	39.13	11.93	0.1900	32.61	9.94	0.1900	21.64	6.60	0.6370
500	58.36	17.79	0.1470	50.69	15.45	0.1470	42.24	12.88	0.1470	28.01	8.54	0.4920
900	78.59	23.96	0.1090	68.36	20.84	0.1090	56.97	17.37	0.1090	37.73	11.50	0.3650
1000	82.91	25.28	0.1030	72.14	21.99	0.1030	60.12	18.33	0.1030	39.80	12.13	0.3460
1500	101.90	31.07	0.0840	88.78	27.07	0.0840	73.99	22.56	0.0840	48.93	14.92	0.2820
2000	118.02	35.98	0.0730	102.94	31.38	0.0720	85.78	26.15	0.0720	56.67	17.28	0.2430
3000	145.26	44.29	0.0590	126.93	38.70	0.0590	105.78	32.25	0.0590	69.76	21.27	0.1980
4000	168.42	51.35	0.0510	147.40	44.94	0.0500	122.84	37.45	0.0500	80.90	24.67	0.1700
5000	188.99	57.62	0.0450	165.63	50.50	0.0450	138.02	42.08	0.0450	90.79	27.68	0.1520
6000	207.71	63.33	0.0410	182.25	55.56	0.0410	151.87	46.30	0.0410	99.80	30.43	0.1380
8000	241.23	73.55	0.0360	212.12	64.67	0.0350	176.76	53.89	0.0350	115.94	35.35	0.1190
10000	271.08	82.65	0.0320	238.80	72.80	0.0310	199.00	60.67	0.0310	130.31	39.73	0.1060
12000	298.31	90.95	0.0290	263.22	80.25	0.0280	219.35	66.88	0.0280	143.42	43.73	0.0960
12400	303.51	92.53	0.0280	267.89	81.67	0.0280	223.24	68.06	0.0280	145.92	44.49	0.0940
13500	317.41	96.77	0.0270	280.39	85.49	0.0270	233.66	71.24	0.0270	152.62	46.53	0.0900
15000	335.58	102.31	0.0260	296.76	90.48	0.0250	247.30	75.40	0.0250	161.38	49.20	0.0850
18000	369.65	112.70	0.0230	327.53	99.86	0.0230	272.95	83.21	0.0230	177.80	54.21	0.0780
20000	390.98	119.20	0.0220	346.85	105.75	0.0210	289.04	88.12	0.0210	188.09	57.34	0.0730
26500	454.58	138.59	0.0190	404.68	123.38	0.0180	337.24	102.82	0.0180	218.77	66.70	0.0630
35000	528.33	161.07	0.0160	472.17	143.95	0.0160	393.47	119.96	0.0160			
40000	568.16	173.22	0.0150	508.80	155.12	0.0150	424.00	129.27	0.0150			
50000							480.91	146.62	0.0130			
Typical attenuation	$dB/m = \frac{K1 * \sqrt{F(MHz)} + K2 * F[MHz)}{100}$											
K1	2.5808901			2.2320000			1.8600000			1.2380700		
K2	0.0013000			0.0015600			0.0013000			0.0006499		

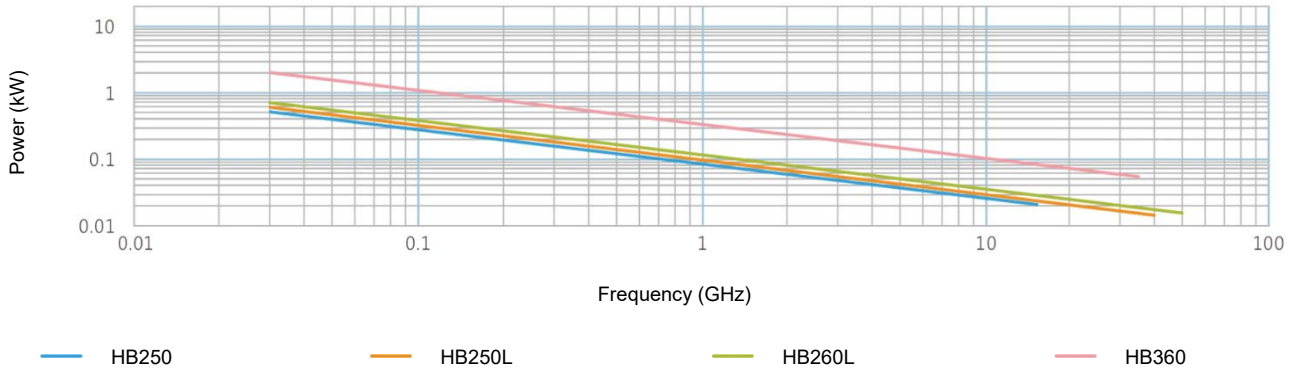
Attenuation: sea level +25°C ambient temperature

Power handling: sea level +40°C ambient temperature, VSWR = 1:1

Attenuation (nominal values at +25 °C ambient temperature and sea level)



Power handling (maximum values at +40 °C ambient temperature and sea level)



Typical Product Ordering Details

Type	Frequency	Connector A	Connector B	Length
HB260L-24M24M-00.10M	50 GHz	2.4mm Male	2.4mm Male	100 mm
HB260L-24M24M-00.20M	50 GHz	2.4mm Male	2.4mm Male	200 mm
HB260L-24M24M-00.30M	50 GHz	2.4mm Male	2.4mm Male	300 mm
HB260L-24M24M-04.00IN	50 GHz	2.4mm Male	2.4mm Male	4 inches
HB260L-24M24M-05.00IN	50 GHz	2.4mm Male	2.4mm Male	5 inches
HB260L-24M24M-06.00IN	50 GHz	2.4mm Male	2.4mm Male	6 inches
HB260L-24M24M-07.00IN	50 GHz	2.4mm Male	2.4mm Male	7 inches
HB260L-24M24M-08.00IN	50 GHz	2.4mm Male	2.4mm Male	8 inches
HB260L-24M24M-09.00IN	50 GHz	2.4mm Male	2.4mm Male	9 inches
HB260L-29M29M-00.10M	40 GHz	2.92mm Male	2.92mm Male	100 mm
HB260L-29M29M-00.20M	40 GHz	2.92mm Male	2.92mm Male	200 mm
HB260L-29M29M-00.30M	40 GHz	2.92mm Male	2.92mm Male	300 mm
HB260L-29M29M-04.00IN	40 GHz	2.92mm Male	2.92mm Male	4 inches
HB260L-29M29M-05.00IN	40 GHz	2.92mm Male	2.92mm Male	5 inches
HB260L-29M29M-06.00IN	40 GHz	2.92mm Male	2.92mm Male	6 inches
HB260L-29M29M-07.00IN	40 GHz	2.92mm Male	2.92mm Male	7 inches
HB260L-29M29M-08.00IN	40 GHz	2.92mm Male	2.92mm Male	8 inches
HB260L-29M29M-09.00IN	40 GHz	2.92mm Male	2.92mm Male	9 inches

Other connector types and cable lengths are available upon request.

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