



7810SB

Part Number: 7810SB

Low Loss 50 Ohm Wireless RF Transmission Cable

Product Description

10 AWG solid .108" bare copper-covered aluminum conductor, gas-injected foam HDPE insulation, Duobond® II & #43; tinned copper braid shield (95% coverage), LSZH jacket.

Product Specifications

Application

Suitable Applications:

Wireless RF, ABS Type Approved, CMG-LS, IEEE 45 clause 23, IEC 60092-376 clause 17, 60092-351, 60754-1, 60754-2, 61034, UL1865 FT4 Loading, Limited Smoke, IEC 60332-3-22 (Category A), 60332-1, IEEE 1202

Conductor

Total Number of Conductors:

1

Technical Specifications

APAC Standard

Mil Order #39 (China RoHS):

Yes

Bend Radius

Min Bend Radius/Minor Axis:

4 in

Contact Information

PHONE_NUM:

1-800-Belden1

EMEA Standard

EU Directive Compliance:

EU Directive 2003/11/EC (BFR)

Environmental Characteristics

Operating Temp Range:	-30°C To +75°C
Suitability - Indoor:	Yes

EU Directive

EU CE Mark:	Yes
EU RoHS Compliance Date (yyyy-mm-dd):	2006-08-07

General Electrical Parameters

Sweep Testing:	100% Sweep tested to 6 GHz.
----------------	-----------------------------

North American Standard

CA Prop 65 (CJ for Wire & Cable):	Yes
CEC/C(UL) Specification:	CMG-LS^CMR
IEEE Specification:	Std. 45 Clause 23
NEC/(UL) Specification:	CMG-LS, CMR
Other Specification:	UL444, ABS Type Approval Certificate 06-HS184641B
RG Type:	8/U
Series Type:	8/U

Safety

IEEE Flammability:	1202
UL Flammability:	UL1666 Vertical Shaft, UL1685 FT4 Loading, Limited Smoke
CSA Flammability:	FT4
ISO/IEC Flammability:	60332-1, 60332-3-22 (Category A)

Temperature Range

Non-UL Temp Rating:	80°C
UL Temp Rating:	75°C

Use

Suitability - Aerial:	Yes - Black only, when supported by messenger wire.
-----------------------	---

Suitability - Outdoor:	Yes
Suitability - Sunlight Resistance:	Yes
Max Recommended Pulling Tension:	150 lbs

Impedance:

Nominal Characteristic Impedance
50 Ohm

Inductance:

Nominal Inductance
0.06 μ H/ft

Conductor DCR:

Nominal Conductor DCR	Nominal Outer Shield DCR
1.34 Ohm/1000ft	2 Ohm/1000ft

Power Rating:

Frequency [MHz]	Max. Power Rating [W]
30 MHz	3,427 W
50 MHz	2,588 W
150 MHz	1,428 W
220 MHz	1,195 W
450 MHz	817 W
900 MHz	575 W
1,500 MHz	437 W
1,800 MHz	399 W
2,000 MHz	375 W
2,500 MHz	334 W
3,000 MHz	305 W
3,500 MHz	282 W
4,500 MHz	247 W
5,800 MHz	217 W

6,000 MHz	213 W
-----------	-------

Delay:

Nominal Delay	Nominal Velocity of Propagation (VP)
1.17 ns/ft	86 %

Voltage:

Non-UL Voltage Rating
300V RMS

High Freq:

Frequency [MHz]	Max. Insertion Loss (Attenuation)
30 MHz	0.7 db/100ft
50 MHz	0.93 db/100ft
150 MHz	1.58 db/100ft
220 MHz	1.94 db/100ft
450 MHz	2.83 db/100ft
900 MHz	4.06 db/100ft
1500 MHz	5.32 db/100ft
1800 MHz	5.98 db/100ft
2000 MHz	6.35 db/100ft
2500 MHz	7.08 db/100ft
3000 MHz	7.97 db/100ft
3500 MHz	8.8 db/100ft
4500 MHz	10.23 db/100ft
5800 MHz	12 db/100ft
6000 MHz	12.23 db/100ft

VSWR:

Frequency [MHz]	Max. VSWR
	1.25:1
5 MHz	

6000 MHz	
----------	--

Capacitance:

Nominal Capacitance Conductor to Shield

23 pF/ft

High Frequency (Nominal/Typical):

Frequency (MHz)	Nom. Insertion Loss
30 MHz	0.7 db/100ft
50 MHz	0.9 db/100ft
150 MHz	1.5 db/100ft
220 MHz	1.8 db/100ft
450 MHz	2.7 db/100ft
900 MHz	3.8 db/100ft
1500 MHz	5.1 db/100ft
1800 MHz	5.6 db/100ft
2000 MHz	6 db/100ft
2500 MHz	6.7 db/100ft
3000 MHz	7.5 db/100ft
3500 MHz	8.2 db/100ft
4500 MHz	9.5 db/100ft
5800 MHz	11.1 db/100ft
6000 MHz	11.4 db/100ft

Insulation:

Material	Nominal Diameter
Gas-injected FHDPE - Foam High Density Polyethylene	0.285 in

Outerjacket 1:

Material	Nominal Diameter
LSZH - Low Smoke Zero Halogen	0.405 in

Conductor:

AWG	Stranding	Material	Nominal Diameter	No. of Coax
10	Solid	BCCA - Bare Copper Covered Aluminum	0.108 in	1

Outershield 1:

Type	Layer	Material	Material Trade Name	Coverage
Tape	1	Bonded Aluminum Foil-Polyester Tape-Aluminum Foil	Bonded Duofoil®	100 %
Braid	2	TC - Tinned Copper		95 %

Product Variants

Part Number	Color	Put-Up Type	Length
7810SB 0101000	BLACK	Reel	1000 ft

© 2015 Belden, Inc

All Rights Reserved

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an 'AS IS' basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with EU RoHS (Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.

Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 73/23/EEC), as amended by directive 93/68/EEC.