

## 7977R Coax - Low Loss 50 Ohm Wireless RF Transmission Cable



For more Information  
please call

1-800-Belden1



### Description:

5.5 AWG solid .176" bare copper-covered aluminum conductor, foam HDPE insulation, Duobond® II (100% coverage) plus a tinned copper braid shield (85% coverage), PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (in.)
1	5.5	Solid	BCCA - Bare Copper Covered Aluminum	.176

#### Insulation

Insulation Material:

Insulation Material	Dia. (in.)
FHDPE - Foam High Density Polyethylene	.455

#### Outer Shield

Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Bonded Duofoil®	Tape	Bonded Aluminum Foil-Polyester Tape-Aluminum Foil	100
2		Braid	TC - Tinned Copper	85

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

#### Overall Cabling

Overall Nominal Diameter: 0.590 in.

### Mechanical Characteristics (Overall)

Operating Temperature Range: -40°C To +80°C

UL Temperature Rating: 80°C

Bulk Cable Weight: 163 lbs/1000 ft.

Max. Recommended Pulling Tension: 290 lbs.

Min. Bend Radius (Install)/Minor Axis: 5.900 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

CEC/C(UL) Specification: CMG

EU CE Mark: No

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

EU RoHS Compliance Date (mm/dd/yyyy): 01/01/2005

EU Directive 2002/96/EC (WEEE): Yes

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EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire & Cable): Yes

MII Order #39 (China RoHS): Yes

Series Type: RF 600

### Flame Test

UL Flame Test: UL1666 Vertical Shaft

C(UL) Flame Test: FT4

### Suitability

Suitability - Indoor: Yes

Suitability - Aerial: Yes - when supported by a messenger wire

### Plenum/Non-Plenum

Plenum (Y/N): No

## Electrical Characteristics (Overall)

### Nom. Characteristic Impedance:

Impedance (Ohm)

50

### Nom. Inductance:

Inductance (µH/ft)

0.060

### Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)

24.6

### Nominal Velocity of Propagation:

VP (%)

84

### Nominal Delay:

Delay (ns/ft)

1.21

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

.53

### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

1.8

### Maximum VSWR:

Start Freq. (MHz)	Stop Freq. (MHz)	Max. VSWR
50	2400	1.43:1
2400	2500	1.30:1
5000	6000	1.43:1

### Nom. Attenuation:

Freq. (MHz)	Attenuation (dB/100 ft.)
30	.46
50	.61
150	.98
220	1.18
450	1.72
900	2.54
1500	3.40
1800	3.77
2000	4.01
2500	4.58

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3000	5.07
3500	5.56
4500	6.44
5800	7.56
6000	7.75

**Max. Power Rating:**

Freq. (MHz)	Rating (W)
30	5057
220	1975
450	1353
900	921
1500	691
1800	623
2000	587
3500	425
4500	368
5800	315
6000	309

**Max. Operating Voltage - UL:**

Voltage
300 V RMS

### Notes (Overall)

**Notes:** 100% Sweep tested. Belden® The Wire in Wireless®.

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7977R 0101000	1,000 FT	178.000 LB	BLACK	C	#5 FPE SH FRPVC
7977R 010500	500 FT	89.500 LB	BLACK	C	#5 FPE SH FRPVC

**Notes:**

C = CRATE REEL PUT-UP.

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