

## 7976R Coax - Low Loss 50 Ohm Wireless RF Transmission Cable



For more Information  
please call

1-800-Belden1

**General Description:**

7 AWG solid .142" bare copper-covered aluminum conductor, foam HDPE insulation, Duobond® II (100% coverage) plus a tinned copper braid shield (90% coverage), PVC jacket.

**Physical Characteristics (Overall)****Conductor**

AWG:

| # Coax | AWG | Stranding | Conductor Material                  | Dia. (in.) |
|--------|-----|-----------|-------------------------------------|------------|
| 1      | 7   | Solid     | BCCA - Bare Copper Covered Aluminum | .142       |

Total Number of Conductors: 1

**Insulation**

Insulation Material:

| Insulation Material                    | Dia. (in.) |
|----------------------------------------|------------|
| FHDPE - Foam High Density Polyethylene | .370       |

**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                                | 90           |

**Outer Jacket**

Outer Jacket Material:

| Outer Jacket Material    |
|--------------------------|
| PVC - Polyvinyl Chloride |

**Overall Cable**

Overall Nominal Diameter: 0.500 in.

**Mechanical Characteristics (Overall)**

|                                   |                  |
|-----------------------------------|------------------|
| Operating Temperature Range:      | -40°C To +80°C   |
| UL Temperature Rating:            | 60°C             |
| Bulk Cable Weight:                | 120 lbs/1000 ft. |
| Max. Recommended Pulling Tension: | 235 lbs.         |
| Min. Bend Radius/Minor Axis:      | 5 in.            |

**Applicable Specifications and Agency Compliance (Overall)****Applicable Standards & Environmental Programs**

|                                       |            |
|---------------------------------------|------------|
| NEC/(UL) Specification:               | CMR        |
| CEC/C(UL) Specification:              | CMG        |
| EU Directive 2011/65/EU (RoHS II):    | Yes        |
| EU CE Mark:                           | Yes        |
| 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        |
| EU Directive 2003/11/EC (BFR):        | Yes        |
| CA Prop 65 (CJ for Wire & Cable):     | Yes        |
| MII Order #39 (China RoHS):           | Yes        |
| Series Type:                          | RF 500     |

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### 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) |
|---------------------|
| 25.1                |

#### Nominal Velocity of Propagation:

| VP (%) |
|--------|
| 84     |

#### Nominal Delay:

| Delay (ns/ft) |
|---------------|
| 1.21          |

#### Nom. Conductor DC Resistance:

| DCR @ 20°C (Ohm/1000 ft) |
|--------------------------|
| .82                      |

#### Nominal Outer Shield DC Resistance:

| DCR @ 20°C (Ohm/1000 ft) |
|--------------------------|
| 1.6                      |

#### Maximum VSWR:

| Start Freq. (MHz) | Stop Freq. (MHz) | Max. VSWR |
|-------------------|------------------|-----------|
| 5.000             | 2690.000         | 1.25:1    |
| 2690.000          | 3290.000         | 2.00:1    |
| 3290.000          | 6000.000         | 1.43:1    |

#### Nom. Attenuation:

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|-------------|--------------------------|
| 30          | .55                      |
| 50          | .73                      |
| 150         | 1.2                      |
| 220         | 1.5                      |
| 450         | 2.2                      |
| 900         | 3.2                      |
| 1500        | 4.2                      |
| 1800        | 4.7                      |
| 2000        | 5.0                      |
| 2500        | 5.7                      |
| 3000        | 6.3                      |
| 3500        | 6.9                      |
| 4500        | 8.0                      |
| 5800        | 9.3                      |
| 6000        | 9.5                      |

#### Max. Power Rating:

| Freq. (MHz) | Rating (W) |
|-------------|------------|
| 30          | 4187       |
| 50          | 3168       |
| 150         | 1947       |
| 220         | 1602       |
| 450         | 1086       |
| 900         | 741        |
| 1500        | 558        |

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|      |     |
|------|-----|
| 1800 | 504 |
| 2000 | 474 |
| 2500 | 418 |
| 3000 | 376 |
| 3500 | 345 |
| 4500 | 299 |
| 5800 | 258 |
| 6000 | 252 |

**Max. Operating Voltage - UL:**

|                |
|----------------|
| <b>Voltage</b> |
| 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       |
|---------------|----------|-------------|-------|-------|-----------------|
| 7976R 0101000 | 1,000 FT | 135.000 LB  | BLACK | C     | #7 FPE SH FRPVC |
| 7976R 010500  | 500 FT   | 71.000 LB   | BLACK | C     | #7 FPE SH FRPVC |

**Notes:**

C = CRATE REEL PUT-UP.

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