

## LMR<sup>®</sup>-240-LLPX Flexible Low Loss Plenum Coax

### Ideal for...

- Indoor/Outdoor Plenum Feeder runs
- UL/NEC/CSA rated CMP/FT6 (listed under UL file #E-170516)
- Any wireless application (e.g. LMDS, MMDS, WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Cellular, PCS, Paging) requiring an easily routed, low loss RF cable for in-building systems



| Part Description |                               |               |       |            |
|------------------|-------------------------------|---------------|-------|------------|
| Part No.         | Application                   | Jacket        | Color | Stock Code |
| LMR-240-LLPX     | Indoor/Outdoor Plenum CMP/FT6 | Fluoropolymer | Red   | 54459      |

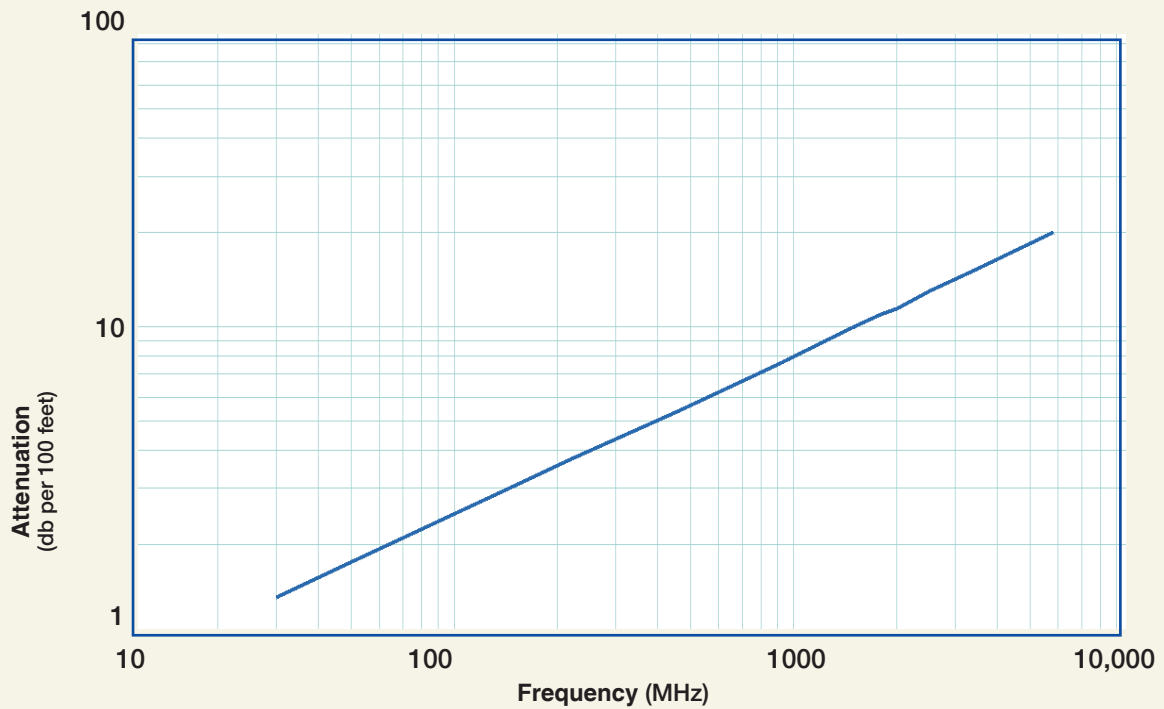
| Environmental Specifications   |          |          |
|--------------------------------|----------|----------|
| Performance Property           | °F       | °C       |
| Installation Temperature Range | -40/+257 | -40/+125 |
| Storage Temperature Range      | -40/+257 | -40/+125 |
| Operating Temperature Range    | -40/+257 | -40/+125 |

| Construction Specifications |                   |       |        |
|-----------------------------|-------------------|-------|--------|
| Description                 | Material          | In.   | (mm)   |
| Inner Conductor             | Solid Bare Copper | 0.051 | (1.30) |
| Dielectric                  | Low density PTFE  | 0.150 | (3.81) |
| Outer Conductor             | Aluminum Tape     | 0.155 | (3.94) |
| Overall Braid               | Tinned Copper     | 0.178 | (4.52) |
| Jacket                      | Red Fluoropolymer | 0.214 | (5.43) |

| Mechanical Specifications |                |      |          |
|---------------------------|----------------|------|----------|
| Performance Property      | Units          | US   | (metric) |
| Bend Radius: installation | in. (mm)       | 0.75 | (19.1)   |
| Bend Radius: repeated     | in. (mm)       | 2.5  | (63.5)   |
| Weight                    | lb/ft (kg/m)   | .040 | (0.06)   |
| Tensile Strength          | lb (kg)        | 60   | (27.22)  |
| Flat Plate Crush          | lb/in. (kg/mm) | 85   | (1.52)   |

| Electrical Specifications |                   |       |          |
|---------------------------|-------------------|-------|----------|
| Performance Property      | Units             | US    | (metric) |
| Velocity of Propagation   | %                 | 76    |          |
| Dielectric Constant       | NA                | 1.73  |          |
| Time Delay                | nS/ft (nS/m)      | 1.34  | (4.40)   |
| Impedance                 | ohms              | 50    |          |
| Capacitance               | pF/ft (pF/m)      | 26.7  | (87.6)   |
| Inductance                | uH/ft (uH/m)      | 0.067 | (0.22)   |
| Shielding Effectiveness   | dB                | >90   |          |
| DC Resistance             |                   |       |          |
| Inner Conductor           | ohms/1000ft (/km) | 4.0   | (13.1)   |
| Outer Conductor           | ohms/1000ft (/km) | 3.9   | (12.8)   |
| Voltage Withstand         | Volts DC          | 1500  |          |
| Jacket Spark              | Volts RMS         | 5000  |          |
| Peak Power                | kW                | 5.6   |          |

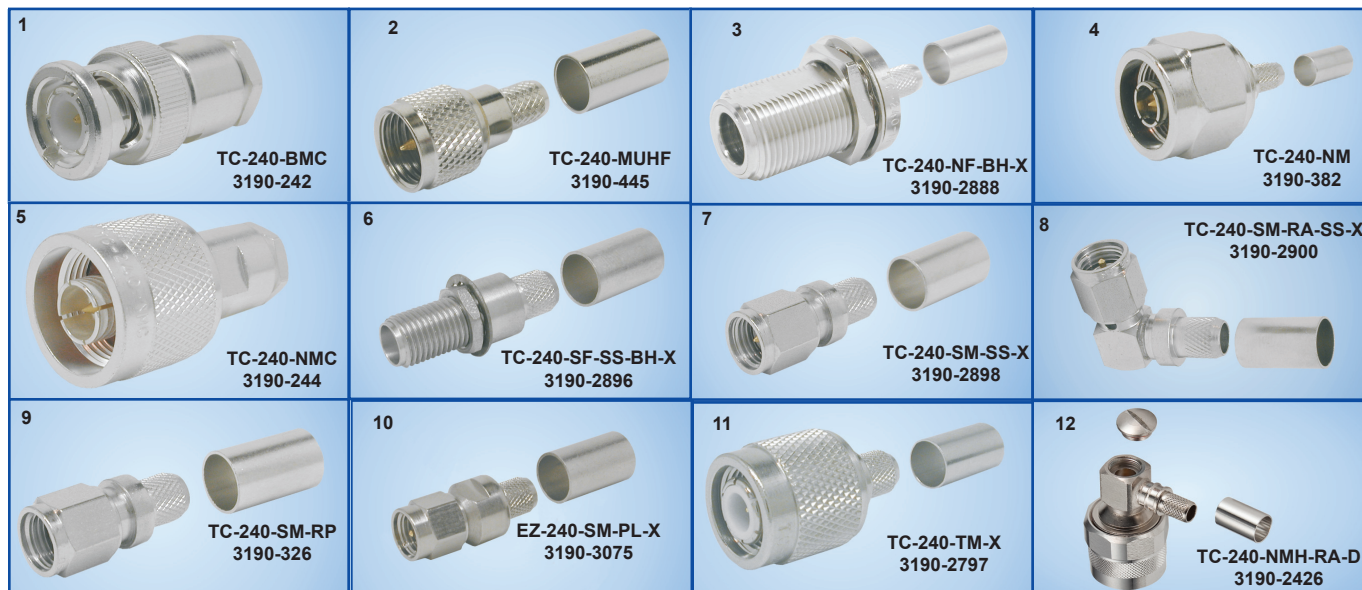
**Attenuation vs. Frequency (typical)**



| Frequency (MHz)              | 30  | 50  | 150  | 220  | 450  | 900  | 1500 | 1800 | 2000 | 2500 | 3400 | 5800 | 8000 |
|------------------------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| <b>Attenuation dB/100 ft</b> | 1.4 | 1.8 | 3.1  | 3.7  | 5.4  | 7.6  | 9.9  | 10.9 | 11.5 | 12.9 | 15.1 | 20.0 | 24.3 |
| <b>Attenuation dB/100 m</b>  | 4.5 | 5.8 | 10.1 | 12.2 | 17.6 | 25.0 | 32.5 | 35.7 | 37.7 | 42.3 | 49.6 | 65.6 | 79.7 |
| Avg. Power kW                | 2.5 | 1.9 | 1.1  | 0.91 | 0.63 | 0.44 | 0.34 | 0.31 | 0.29 | 0.26 | 0.23 | 0.17 | 0.12 |

**Calculate Attenuation =**  
 $(0.248520) \sqrt{\text{FMHz}} + (0.000183) \cdot \text{FMHz}$  (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](http://www.timesmicrowave.com/cable_calculators))  
**Attenuation:**  
 VSWR=1.0; Ambient = +25°C (77°F)  
**Power:**  
 VSWR=1.0; Ambient = +40°C; Jacket = +75°C (167°F); Sea Level; dry air; atmospheric pressure; no solar loading

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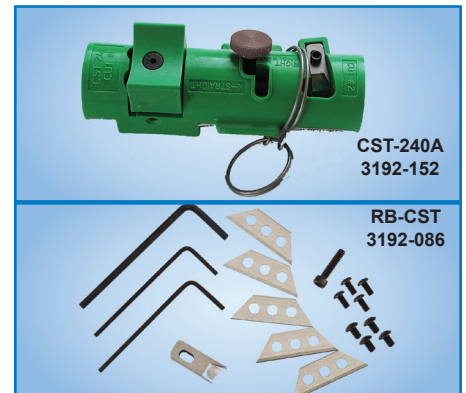
| Connectors    |               | Part Number       | Stock Code | VSWR**<br>Freq. (GHz) | Coupling<br>Nut | Inner<br>Contact<br>Attach | Outer<br>Contact<br>Attach | Finish*<br>Body<br>/Pin | Length<br>in<br>(mm) | Width<br>in<br>(mm) | Weight<br>lb<br>(g) |
|---------------|---------------|-------------------|------------|-----------------------|-----------------|----------------------------|----------------------------|-------------------------|----------------------|---------------------|---------------------|
| 1. BNC Male   | Straight Plug | TC-240-BMC        | 3190-242   | <1.25:1 (2.5)         | Knurl           | Solder                     | Clamp                      | S/G                     | 1.7 (43)             | 0.56 (14.2)         | 0.040 (18.1)        |
| 2. Mini-UHF   | Straight Plug | TC-240-MUHF       | 3190-445   | <1.25:1 (2.5)         | Knurl           | Solder                     | Crimp                      | N/G                     | 1.1 (28)             | 0.45 (11.4)         | 0.014 (6.4)         |
| 3. N Female   | Bulkhead Jack | TC-240-NF-BH-X    | 3190-2888  | <1.25 (2.5)           | NA              | Solder                     | Crimp                      | A/G                     | 1.7 (44)             | 0.88 (22.2)         | 0.115 (52.2)        |
| 4. N Male     | Straight Plug | TC-240-NM         | 3190-382   | <1.25:1 (2.5)         | Hex             | Solder                     | Crimp                      | N/S                     | 1.5 (38)             | 0.75 (19.1)         | 0.086 (39.0)        |
| 5. N Male     | Straight Plug | TC-240-NMC        | 3190-244   | <1.25:1 (2.5)         | Knurl           | Solder                     | Clamp                      | S/G                     | 1.5 (38)             | 0.75 (19.1)         | 0.082 (37.2)        |
| 6. SMA Female | Bulkhead Jack | TC-240-SF-SS-BH-X | 3190-2896  | <1.25:1 (2.5)         | NA              | Solder                     | Crimp                      | SS/G                    | 1.1 (29)             | 0.31 (7.9)          | 0.019 (8.6)         |
| 7. SMA Male   | Straight Plug | TC-240-SM-SS-X    | 3190-2898  | <1.25:1 (10)          | Hex             | Solder                     | Crimp                      | SS/G                    | 1.0 (25)             | 0.32 (8.1)          | 0.016 (7.3)         |
| 8. SMA Male   | Right Angle   | TC-240-SM-RA-SS-X | 3190-2900  | <1.35:1 (6)           | Hex             | Solder                     | Crimp                      | SS/G                    | 0.8 (20)             | 0.65 (16.5)         | 0.019 (8.6)         |
| 9. SMA Male   | Rev. Polarity | TC-240-SM-RP      | 3190-326   | <1.25:1 (2.5)         | Hex             | Solder                     | Crimp                      | SS/G                    | 1.0 (25)             | 0.32 (8.1)          | 0.016 (7.3)         |
| 10. SMA Male  | Straight Plug | EZ-240-SM-PL-X    | 3190-3075  | <1.25:1 (6)           | Hex             | Spring Finger              | Crimp                      | A/G                     | 1.0 (25.4)           | 0.32 (8.1)          | 0.016 (PL)          |
| 11. TNC Male  | Straight Plug | TC-240-TM-X       | 3190-2797  | <1.25:1 (2.5)         | Knurl           | Solder                     | Crimp                      | N/S                     | 1.7 (43)             | 0.59 (15.0)         | 0.043 (19.5)        |
| 12. N Male    | Right Angle   | TC-240-NMH-RA-D   | 3190-2426  | <1.35:1 (6)           | Hex/Knurl       | Solder                     | Crimp                      | A/G                     | 1.2 (32.4)           | 1.22 (31.0)         | 0.091 (41.7)        |

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Albally \*VSWR spec based on 3 foot cable with a connector pair



## Hardware Accessories

| Type       | Part Number | Stock Code | Description                |
|------------|-------------|------------|----------------------------|
| Ground Kit | GK-S240TT   | GK-S240TT  | Standard Ground Kit (each) |



## Install Tools

| Type                  | Part Number        | Stock Code | Description  |
|-----------------------|--------------------|------------|--|
| Crimp Tool            | CT-240/200/195/100 | 3190-667   | Crimp tool for LMR-100, 195, 200 and 240 connectors  |
| Strip Tool            | CST-240A           | 3192-152   | Prep tool for LMR-240 connectors   |
| Deburr Tool           | DBT-U              | 3192-001   | Removes center conductor rough edges   |
| Cutting Tool          | CCT-02             | 3192-165   | Cable end flush cut tool   |
| Replacement Blade     | RB-02              | 3192-166   | Replacement blade for cutting tool   |
| Replacement Blade Kit | RB-CST             | 3192-086   | Replacement kit for all CST strip tools  |
| Weather Seal Boots    | WSB-240            | 3109-400   | Weather seal/strain relief boots (10 pk) for use with most popular LMR-240-X series connectors |