

LMR[®]-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 |

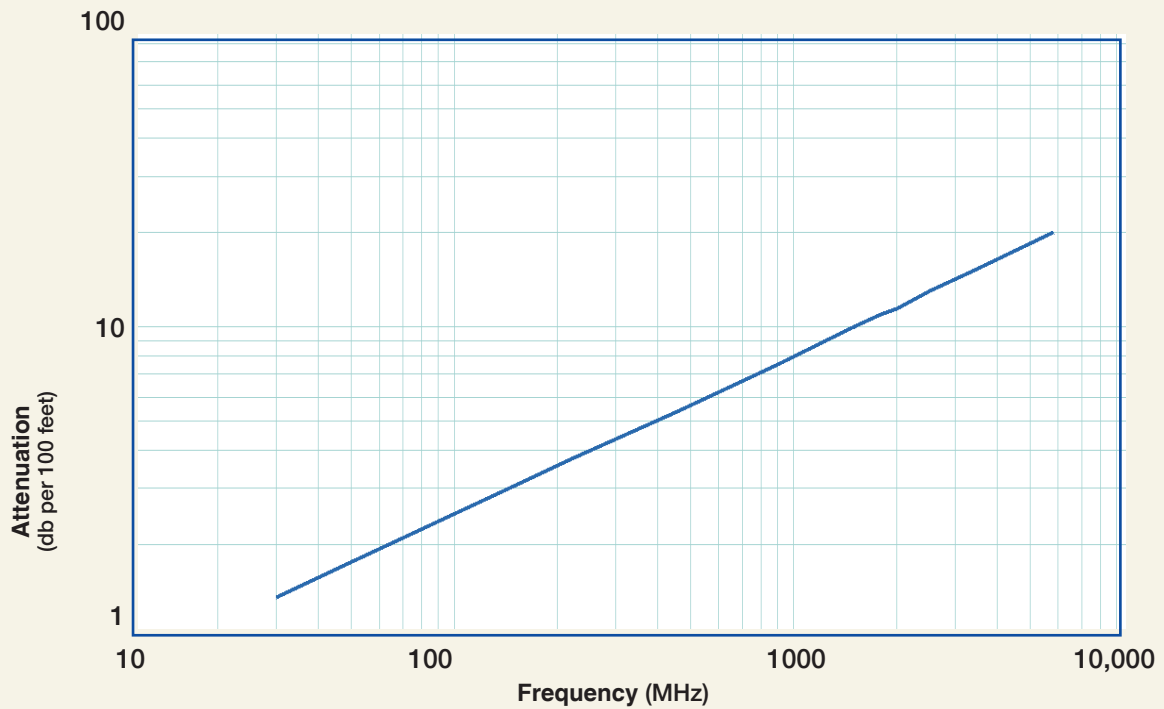
| Environmental Specifications | | | |
|--------------------------------|----------|----------|--|
| Performance Property | °F | °C | |
| Installation Temperature Range | -40/+257 | -40/+125 | |
| Storage Temperature Range | -40/+257 | -40/+125 | |
| Operating Temperature Range | -40/+257 | -40/+125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

| 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 | |

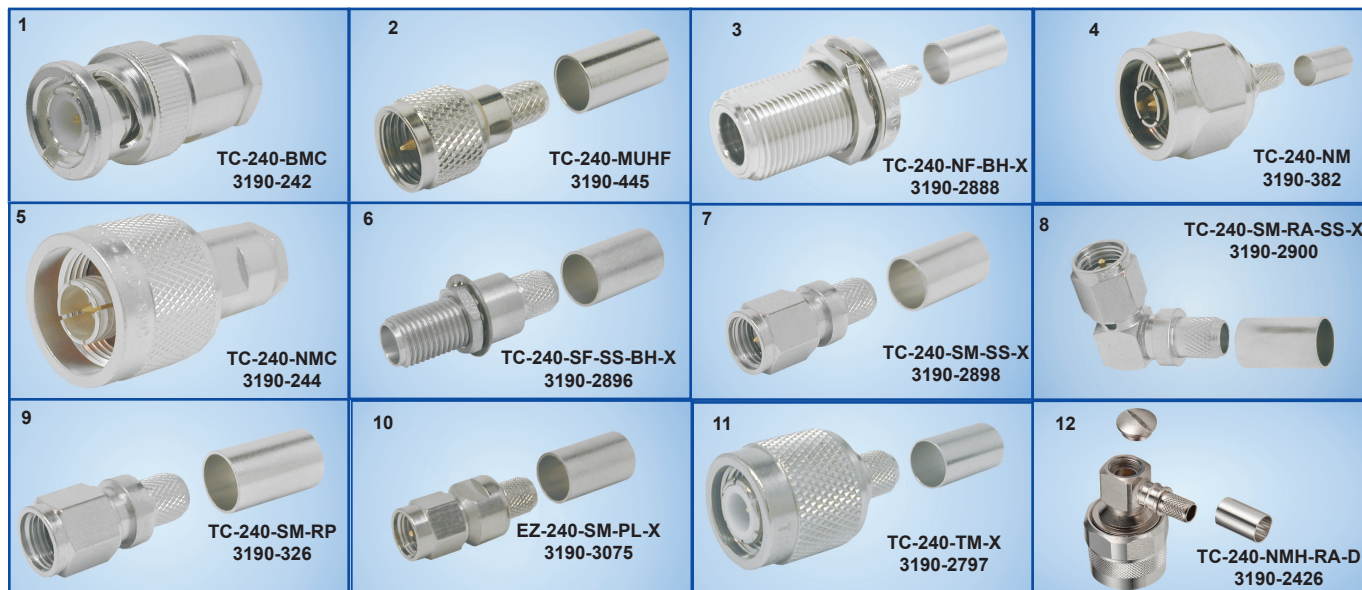
Attenuation vs. Frequency (typical)



| Frequency (MHz) | 30 | 50 | 150 | 220 | 450 | 900 | 1500 | 1800 | 2000 | 2500 | 3400 | 5800 | 8000 |
|------------------------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| Attenuation dB/100 ft | 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 |
| Attenuation dB/100 m | 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)
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

LMR[®]-240-LLPX Flexible Low Loss Plenum Coax



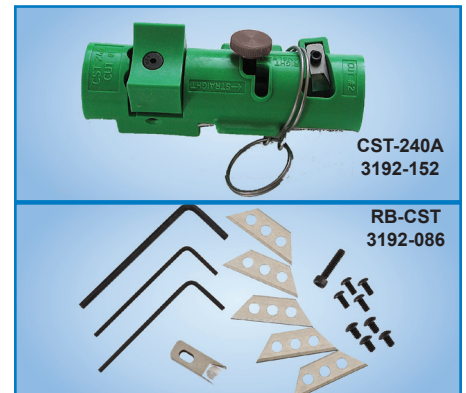
| Connectors | | Part Number | Stock Code | VSWR** Freq. (GHz) | Coupling Nut | Inner Contact Attach | Outer Contact Attach | Finish* Body /Pin | Length in (mm) | Width in (mm) | Weight lb (g) |
|---------------|---------------|-------------------|------------|-----------------------|-----------------|----------------------------|----------------------------|-------------------------|----------------------|---------------------|---------------------|
| 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 |