



LMR[®]-600-UF UltraFlex Communications Coax

Ideal for...

- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application that requires periodic/repeated flexing





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- **LMR[®] - UltraFlex** has a stranded center conductor and rubber outer jacket designed for multiple bending/flexing cycles. It is used for both indoor and outdoor applications.
- **Flexibility** and bendability are hallmarks of the LMR-600-UF cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.
- **Low Loss** is another hallmark feature of LMR-600-UF. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.
- **RF Shielding** is 50 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 90 dB (i.e. >180 dB between two adjacent cables).
- **Weatherability:** LMR-600-UF cables are designed for outdoor exposure and have a life expectancy in excess of 10 years.

- **Connectors:** A wide variety of connectors are available for LMR-600-UF cable, including all common interface types, reverse polarity, and solder-on center pins. Most LMR connectors employ crimp outer attachment using standard hex crimp sizes.
- **Cable Assemblies:** All LMR-600-UF cable types are available as pre-terminated cable assemblies. Refer to the section on FlexTech for further details.

| Part Description | | | | |
|------------------|----------------|--------|-------|------------|
| Part Number | Application | Jacket | Color | Stock Code |
| LMR-600-UF | Indoor/Outdoor | TPE | Black | 54044 |

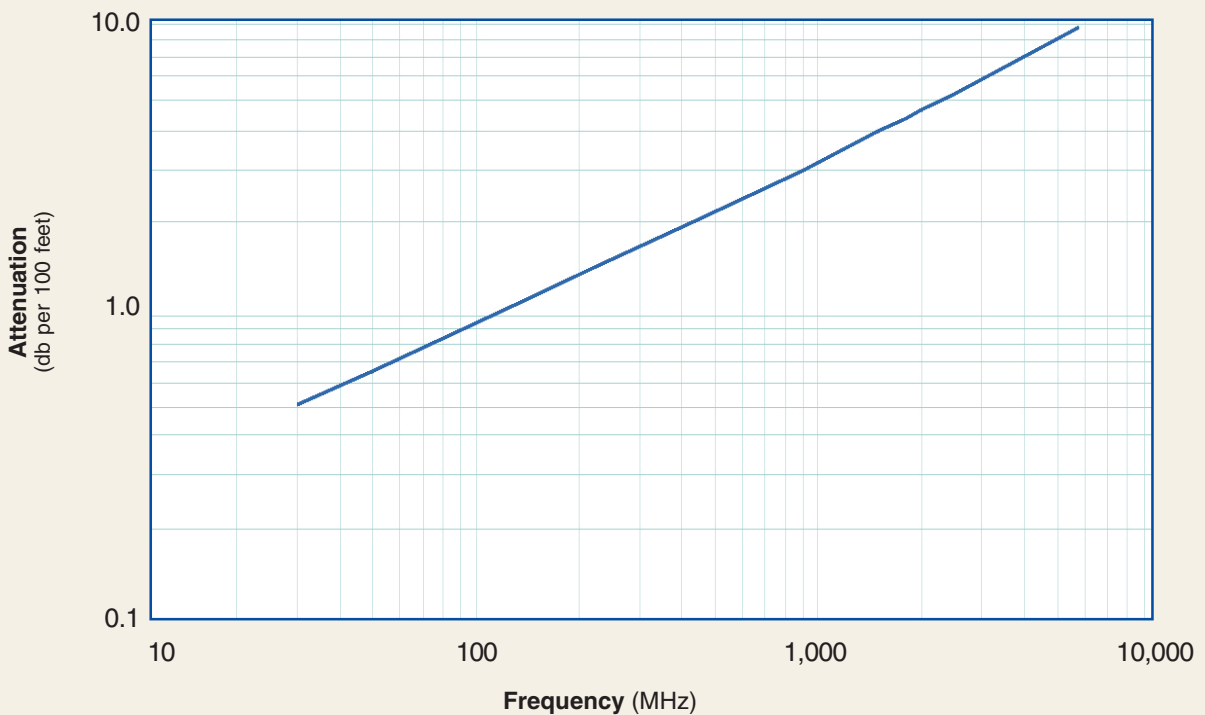
| Construction Specifications | | | |
|-----------------------------|-------------------------------|-------|---------|
| Description | Material | In. | (mm) |
| Inner Conductor | Stranded BC | 0.176 | (4.47) |
| Dielectric | Foam Polyethylene | 0.455 | (11.56) |
| Outer Conductor | Aluminum Tape | 0.461 | (11.71) |
| Overall Braid | Tinned Copper | 0.490 | (12.45) |
| Jacket | Black Thermoplastic Elastomer | 0.590 | (14.99) |

| Mechanical Specifications | | | |
|---------------------------|----------------|-------|----------|
| Performance Property | Units | US | (metric) |
| Bend Radius: installation | in. (mm) | 1.5 | (38.1) |
| Bend Radius: repeated | in. (mm) | 6.0 | (152.4) |
| Bending Moment | ft-lb (N-m) | 1.75 | (2.37) |
| Weight | lb/ft (kg/m) | 0.165 | (0.25) |
| Tensile Strength | lb (kg) | 350 | (158.9) |
| Flat Plate Crush | lb/in. (kg/mm) | 40 | (0.71) |

| Environmental Specifications | | |
|--------------------------------|----------|---------|
| Performance Property | °F | °C |
| Installation Temperature Range | -40/+185 | -40/+85 |
| Storage Temperature Range | -94/+185 | -70/+85 |
| Operating Temperature Range | -40/+185 | -40/+85 |

| Electrical Specifications | | | |
|---------------------------|-------------------|-------|----------|
| Performance Property | Units | US | (metric) |
| Cutoff Frequency | GHz | 10 | |
| Velocity of Propagation | % | 87 | |
| Dielectric Constant | NA | 1.32 | |
| Time Delay | nS/ft (nS/m) | 1.17 | (3.83) |
| Impedance | ohms | 50 | |
| Capacitance | pF/ft (pF/m) | 23.4 | (76.6) |
| Inductance | uH/ft (uH/m) | 0.058 | (0.19) |
| Shielding Effectiveness | dB | >90 | |
| DC Resistance | | | |
| Inner Conductor | ohms/1000ft (/km) | 0.43 | (1.42) |
| Outer Conductor | ohms/1000ft (/km) | 1.2 | (3.9) |
| Voltage Withstand | Volts DC | 4000 | |
| Jacket Spark | Volts RMS | 8000 | |
| Peak Power | kW | 40 | |

Attenuation vs. Frequency (typical)



| Frequency (MHz) | 30 | 50 | 150 | 220 | 450 | 900 | 1500 | 1800 | 2000 | 2500 | 5800 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|
| Attenuation dB/100 ft | 0.5 | 0.7 | 1.2 | 1.4 | 2.1 | 3.0 | 4.0 | 4.4 | 4.7 | 5.3 | 8.7 |
| Attenuation dB/100 m | 1.7 | 2.2 | 3.8 | 4.6 | 6.8 | 9.8 | 13.1 | 14.5 | 15.3 | 17.4 | 28.6 |
| Avg. Power kW | 4.59 | 3.53 | 2.00 | 1.64 | 1.12 | 0.77 | 0.58 | 0.52 | 0.49 | 0.43 | 0.26 |

Calculate Attenuation = $(0.090660) \cdot \sqrt{\text{FMHz}} + (0.000312) \cdot \text{FMHz}$ (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; Inner Conductor = 100°C (212°F); Sea Level; dry air; atmospheric pressure; no solar loading

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Connectors

| Interface | Description | 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) |
|-----------------|---------------|----------------|------------|-----------------------|-----------------|----------------------------|----------------------------|-------------------------|----------------------|---------------------|---------------------|
| 7-16 DIN Female | Straight Jack | TC-600-716-FC | 3190-375 | <1.25:1 (2.5) | NA | Solder | Clamp | S/S | 1.1 (28) | 1.00 (25.4) | 0.249 (112.9) |
| 7-16 DIN Male | Straight Plug | TC-600-716-MC | 3190-502 | <1.25:1 (2.5) | Hex | Solder | Clamp | S/S | 2.0 (51) | 1.30 (33.0) | 0.347 (157.4) |
| | Right Angle | TC-600-716M-RA | 3190-395 | <1.35:1 (2.5) | Hex | Solder | Crimp | S/S | 1.4 (36) | 1.40 (35.6) | 0.354 (160.8) |
| 7/8 EIA | Flange | TC-600-78EIA | 3190-321 | <1.25:1 (2.5) | NA | Solder | Clamp | S/S | 2.3 (58) | 2.60 (66.0) | 0.873 (396.0) |
| N Male | Straight Plug | TC-600-NMH-D | 3190-208 | <1.25:1 (2.5) | Hex/Knurl | Solder | Crimp | A/G | 2.1 (53) | 0.92 (23.4) | 0.166 (75.3) |
| | Straight Plug | TC-600-NMC | 3190-357* | <1.25:1 (2.5) | Hex | Solder | Clamp | S/G | 2.1 (53) | 0.92 (23.4) | 0.208 (93.4) |
| | Right Angle | TC-600-NMC-RA | 3190-233 | <1.35:1 (2.5) | Hex | Solder | Clamp | S/G | 2.1 (53) | 0.92 (23.4) | 0.280 (117.9) |
| | Right Angle | TC-600-NMH-RA | 3190-785* | <1.35:1 (6) | Hex | Solder | Crimp | S/G | 2.1 (53) | 0.92 (23.4) | 0.185 (83.9) |
| N Female | Bulkhead Jack | TC-600-NF-BH | 3190-589* | <1.25:1 (2.5) | NA | Solder | Crimp | S/G | 2.4 (61) | 0.88 (22.4) | 0.195 (88.5) |
| | Bulkhead Jack | TC-600-NFC-BH | 3190-466 | <1.25:1 (2.5) | NA | Solder | Clamp | S/G | 2.2 (56) | 0.94 (23.9) | 0.214 (97.1) |
| UHF Male | Straight Plug | TC-600-UMC | 3190-213 | <1.25:1 (2.5) | Knurl | Solder | Clamp | S/G | 1.7 (43) | 0.88 (22.4) | 0.198 (89.8) |

* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alloy **VSWR spec based on 3 foot cable with a connector pair *Available in bulk pack



| Type | Part Number | Stock Code | Description |
|-------------------|-------------|------------|------------------------------------|
| Crimp Tool | HX-4 | 3190-200 | Crimp Handle |
| Crimp Dies | Y1720 | 3190-203 | .610" Hex Dies |
| Cutting Tool | CCT-01 | 3190-1544 | Cable end flush cut tool |
| Replacement Blade | RB-01 | 3190-1609 | Replacement blade for cutting tool |



Accessories

| Type | Part Number | Stock Code | Description |
|----------------------------------|--|------------|--------------------------------------|
| Ground Kit | GK-S600TT | GK-S600TT | Standard Grounding Kit (each) |
| Hoisting Grip | HG-600T | HG-600T | Split/Laced Type (each) |
| Cold Shrink | CS-A600T | CS-A600T | Cable to Antenna Junction (each) |
| Cold Shrink | CS-60120T | CS-60120T | LMR-600 to -1200 Junction (each) |
| Cold Shrink | CS-60170T | CS-60170T | LMR-600 to -1700 Junction (each) |
| Standard Entry Port Cushion | SC-600T-3 | SC-600T-3 | Three Cables (each) |
| Standard Entry Panels | Full Range of Port Styles/Combinations Available | | |
| Hanger Blocks | CB-600T | CB-600T | Dual Cable Support Block (kit of 10) |
| Hanger Block Supporting Hardware | Complete Range of Supporting Hardware & Adapters Available | | |