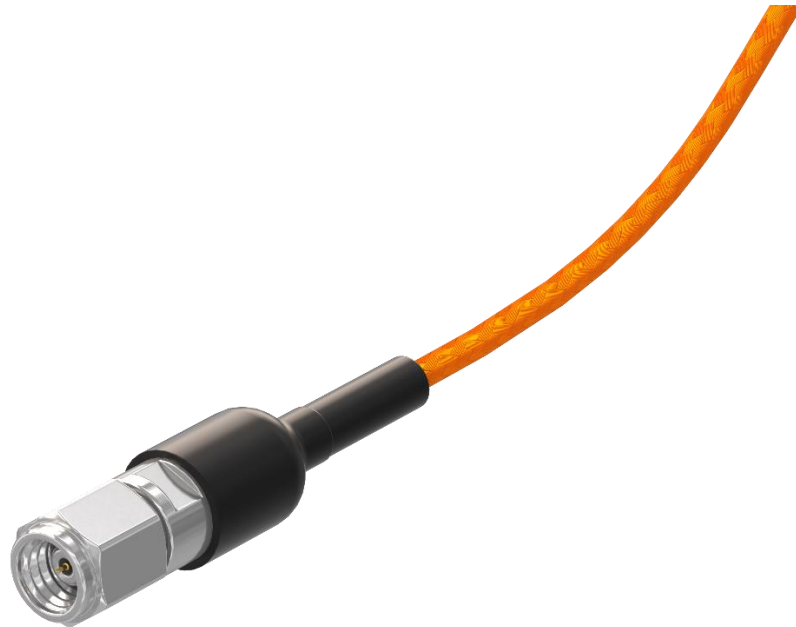
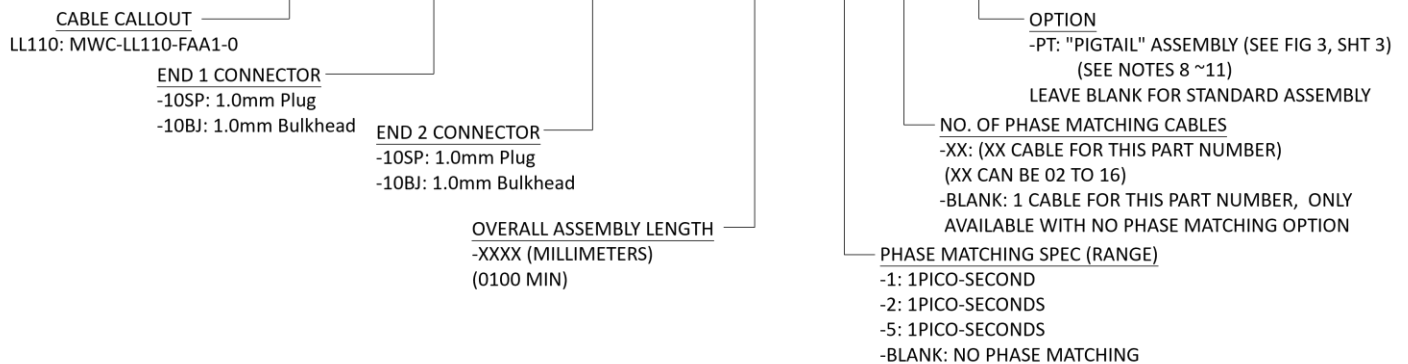


Series: LL110, Microwave Cable Assembly, 50 Ω



Part Number:

LL110-XXXX-XXXXXX-XXXX-X-XX-XX



Series: LL110, Microwave Cable Assembly, 50 Ω

CABLE CONSTRUCTION

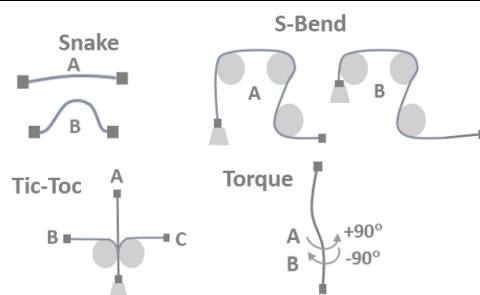
Center Conductor	Solid SPC
Dielectric	Low-Density PTFE
Flat Wire Helical Shield	SPC Flat Wire
INTERLAYER	PTFE
Braid	SPC Braid
Jacket	Orange FEP

MECHANICAL DATA

Max Outer Diameter	1.73 mm (0.068 inch)
Min. Static Bend Radius ¹	3.17 mm (0.125 inch)
Min. Dynamic Bend Radius	50.8 mm (2.000 inch)
Max. Weight (cable only)	8.8 g/m (0.095 oz/ft)
Pull Strength ²	3.17 kg (7 lbs)
Compression Resistance ³	210 N/100mm (12 lbs./inch)
Flex Life	
Snake ²	500,000 cycles
S-Bend ²	35,000 cycles
Tic-Toc ⁴	10,000 cycles
Torque Life ²	500,000 cycles

Mechanical Notes:

¹360-degree bend, $\leq 0.5 \Omega$ change in Z_0
²per IEC 60966-1:2019, paragraphs 9.1,9.3,9.5 & 9.6 as applicable,
 $\leq 10\% \Delta$ Insertion Loss

³per IEC 60966-1:2019, paragraph 9.4, $\leq 0.5 \Omega \Delta Z_0$
⁴per MIL-T-81490, paragraph 3.6.5.4, $\leq 10\% \Delta$ Insertion Loss

ENVIRONMENTAL DATA

Operating Temperature	-65°C to +125°C
Thermal Shock	20 cycles, -65°C to +125°C
Flammability	AS4373 Method 801

Series: LL110, Microwave Cable Assembly, 50 Ω

ELECTRICAL DATA⁶

Impedance	50 Ω
Frequency Range	DC - 110 GHz ⁷
Velocity of Propagation	76.5 %
Time Delay	4.36 ns/m (1.33 ns/ft)
Capacitance	87.1 pF/m (26.55 pF/ft)
Shielding Effectiveness ⁸	90 dB Minimum
Insulation Resistance	10,000 MΩ/km (33,000 MΩ/1000 ft)
Insertion Loss ⁹	<i>See Graph</i>
VSWR	<i>See Connector Table</i>
Power Handling ¹⁰	<i>See Graph</i>
Phase vs. Temperature	<i>See Graph</i>
Phase vs. Bending ¹¹	< 1° to 5 GHz < 2° to 10 GHz < 3° to 18 GHz < 6° to 43.5 GHz < 9° to 71 GHz < 12° to 95 GHz < 13° to 110 GHz
Insertion Loss vs. Bending ¹²	< 0.02 dB

Electrical Notes:
⁶Unless otherwise specified at Temperature=25°C

⁷may be further limited by connectors. See Connector Options.

⁸per IEC 61000-4-21 (Mode Stir, 2-18 GHz) Connector options can affect shielding performance.

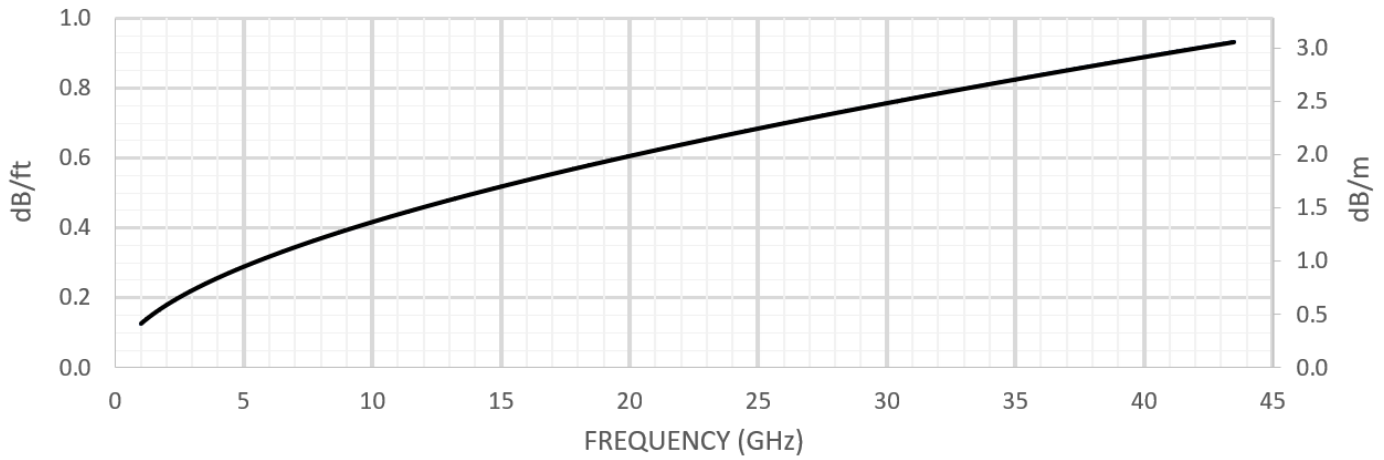
⁹Insertion loss graph does not include connectors; loss for each connector $\approx 0.045 \times \sqrt{F(\text{GHz})}$
¹⁰Power Handling should be further derated for higher altitudes and temperatures.

¹¹per IEC 60966-1:2019, paragraph 8.6, Method 2 (360° Bend, ϕ 101.6 mm (4.00 in) mandrel

¹²per IEC 60966-1:2019, paragraph 8.6, Method 1 ($\pm 180^\circ$ Bend, ϕ 101.6 mm (4.00 in) mandrel

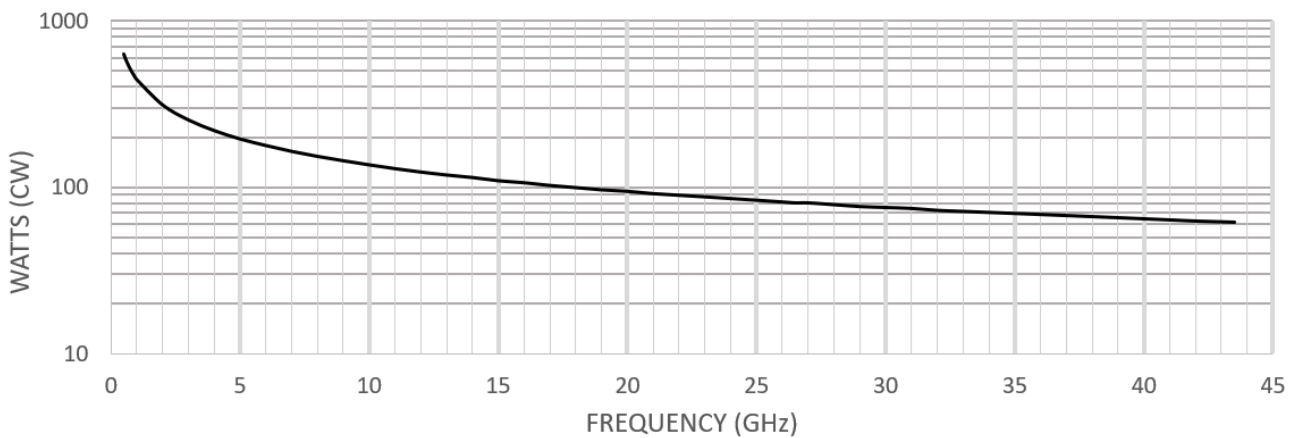
Series: LL110, Microwave Cable Assembly, 50 Ω

MAXIMUM INSERTION LOSS @ T=25°C⁹



$$IL_{dB/ft} = \frac{31.4 \times \sqrt{F_{GHz}} + 0.59 \times F_{GHz} + 1 \times 10^{-6} \times F_{GHz}^4}{100}$$

TYPICAL POWER HANDLING @ T=25°C, SEA LEVEL¹⁰



TYPICAL PHASE VS. TEMPERATURE @ 5GHz

