MegaPhase

KILLERBEE®

# MegaPhase Killer Bee® Series Test Cables to 50 GHz

## Phase & Amplitude Stable Performance through Ka-Band

MADE IN THE USA

- Phase Stable
- Low VSWR
- Low Loss
- Armored
- Wide Variety of Connectors
- Ultra-Flexible

MegaPhase designed its Killer Bee series test cable specifically for the needs of lab technicians where precise measurements are critical. Typical applications: RF production and benchtop testing, RF instruments, and Vector network analyzers. These high-performance cables are designed for phase and amplitude stable test applications. This cable provides a long service life with repeatable performance throughout the life of the cable. A wide variety of connectors and phase matching are available.

## Electrical Data

**Maximum Frequency:**
50 GHz

**Impedance:**
50 Ω nominal

**Propagation Velocity:**
KBx 84% nominal
KB50 80% nominal

**Time Delay:**
KBx 1.21 ns/ft (3.97 ns/m)
KB50 1.27ns/ft. (4.167 ns/m)

**Shielding Effectiveness:**
-100 dB minimum (cable only)

**Dielectric Withstanding Voltage:**
KBx 7.0 kV at 60 Hz
KB50 1.2 kV at 60 Hz

**Capacitance:**
KBx 24.0 pF/ft (78.7 pF/m)
KB50 25.4 pF/ft. (83.3 pF/m)

## Mechanical Data

**Finished Outer Diameter:**
KBx 0.360 in, nominal
KB50 0.315 in, nominal

**Static Bend Radius:**
KBx 1.75 in (4.445 cm)
KB50 1.5 in (3.81 cm)

**Weight with Standard Jacket/Armor:**
KBx 0.05 lbs/ft (0.67 kg/m)
KB50 0.04 lbs/ft (0.060 kg/m)

**Max. Assembly Length:**
KBx 25 ft (8 m)
KB50 40 ft (12 m)

**Crush Resistance:**
250 lbs/linear in (44.6 kg/linear cm)

**Operating Temp. Range:**
-67 to 275° F (-55 to 135° C)

### Cable Construction

| | |
|---|---|
| Inner Conductor: | Solid Ag-plated Cu |
| Dielectric: | KBx PTFE Tape<br>KB50 Foamed FEP |
| | Inner Shield Ag-plated Cu |
| | Outer Braid Shield: Ag-plated Cu |
| Standard Finish: | NOMEX® Braid over<br>Polyolefin over Metal Armor |

### Available Connectors

KBx SMA, Type N, TNC, 3.5mm, 2.92mm
KB40 3.5mm, 2.92mm
KB50 2.4mm

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| Frequency | | KBx Attenuation | | KB50 Attenuation | | Conn Loss dB each | VSWR |
|---|---|---|---|---|---|---|---|
| Band | GHz | dB/ft | dB/m | dB/ft | dB/m | | |
| UHF | 0.3 | 0.060 | 0.196 | 0.104 | 0.341 | 0.006 | 1.10 |
| | 0.5 | 0.077 | 0.254 | 0.135 | 0.443 | 0.009 | |
| | 0.8 | 0.098 | 0.323 | 0.172 | 0.566 | 0.012 | |
| L | 1.0 | 0.110 | 0.362 | 0.194 | 0.635 | 0.014 | |
| S | 2.0 | 0.158 | 0.518 | 0.279 | 0.915 | 0.024 | 1.15 |
| | 2.4 | 0.174 | 0.570 | 0.307 | 1.009 | 0.027 | |
| | 3.0 | 0.195 | 0.640 | 0.347 | 1.137 | 0.032 | |
| C | 4.0 | 0.227 | 0.745 | 0.405 | 1.328 | 0.04 | |
| | 6.0 | 0.281 | 0.923 | 0.505 | 1.658 | 0.055 | 1.20 |
| X | 8.0 | 0.328 | 1.077 | 0.593 | 1.945 | 0.07 | 1.25 |
| | 10.0 | 0.370 | 1.215 | 0.672 | 2.205 | 0.084 | |
| | 12.4 | 0.416 | 1.366 | 0.759 | 2.491 | 0.101 | 1.30 |
| Ku | 15.0 | 0.462 | 1.516 | 0.847 | 2.779 | 0.118 | 1.35 |
| | 18.0 | 0.511 | 1.677 | 0.941 | 3.089 | 0.139 | 1.40 |
| K | 20.0 | 0.542 | 1.778 | 1.001 | 3.285 | 0.152 | |
| | 22.0 | 0.571 | 1.875 | 1.059 | 3.475 | 0.165 | |
| | 24.0 | 0.600 | 1.969 | 1.115 | 3.659 | 0.178 | |
| | 26.5 | 0.634 | 2.082 | 1.183 | 3.881 | 0.194 | 1.45 |
| Ka | 28.0 | 0.655 | 2.148 | 1.223 | 4.011 | 0.204 | |
| | 30.0 | 0.681 | 2.233 | 1.274 | 4.181 | 0.217 | |
| | 32.0 | 0.706 | 2.317 | 1.325 | 4.347 | 0.23 | |
| | 34.0 | 0.731 | 2.398 | 1.375 | 4.510 | 0.243 | 1.50 |
| | 36.0 | | | 1.423 | 4.669 | 0.256 | |
| V | 40.0 | | | 1.518 | 4.980 | 0.281 | |
| | 45.0 | | | 1.633 | 5.356 | 0.313 | |
| | 50.0 | | | 1.743 | 5.719 | 0.344 | 1.55 |

KBx includes KB4x, KB8x, KB18x, KB26x and KB34x
KB50 includes KB40

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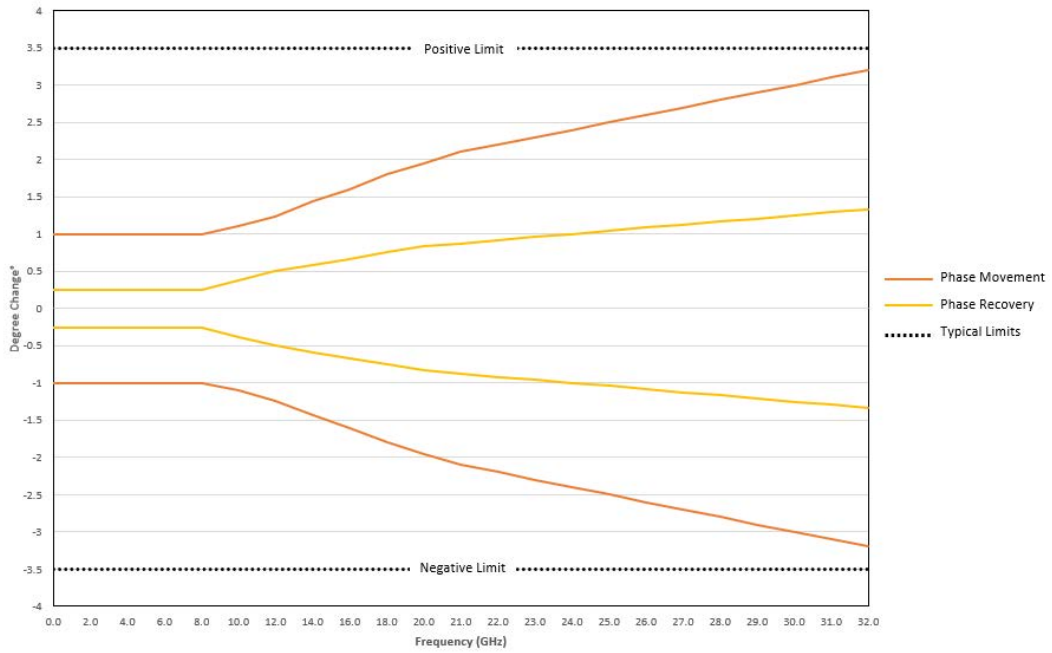
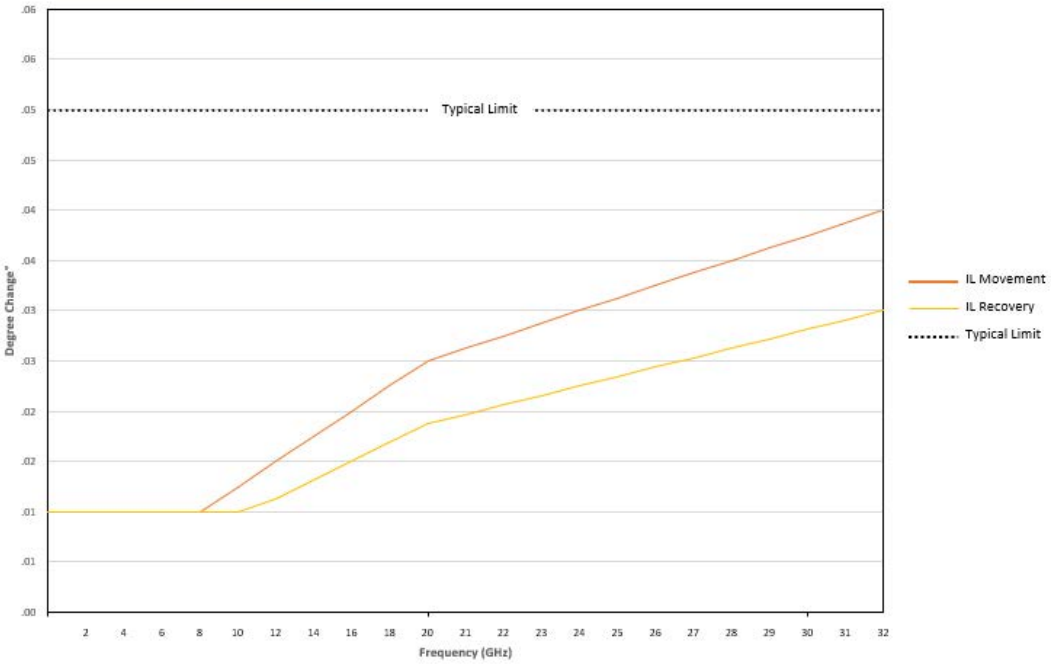
# MegaPhase Killer Bee™ Series Test Cable to 50 GHz (continued)

## KBx Graphs Below

**Phase Change vs. Flexure**




**Amplitude Change vs. Flexure**

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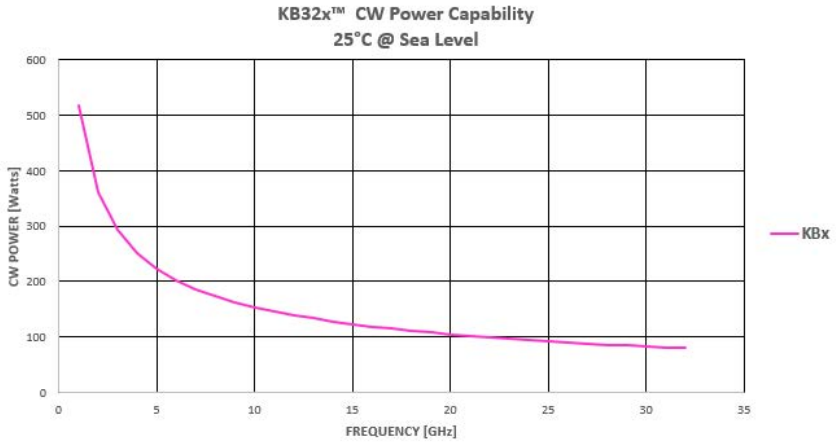
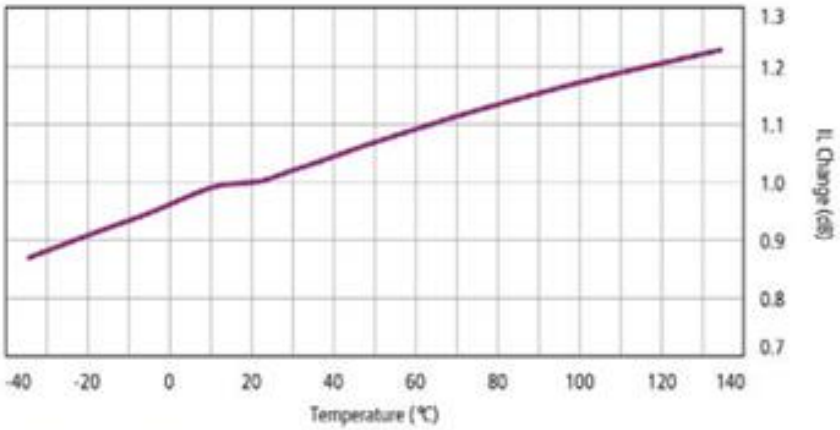
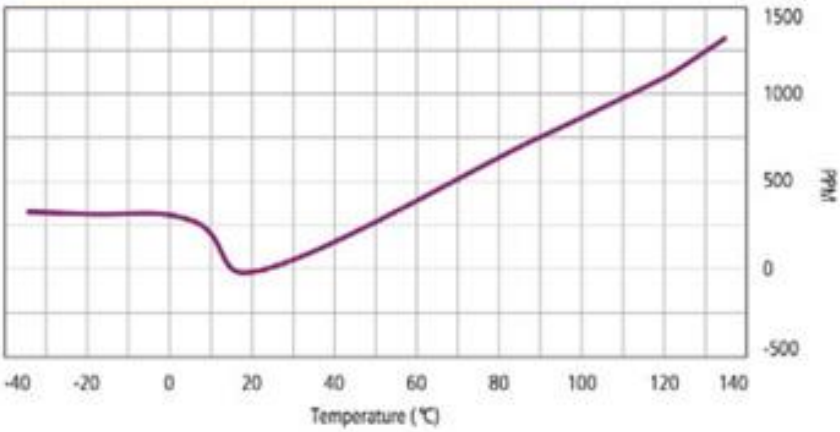



## Insertion Loss vs. Temperature




## Phase Change vs. Temperature

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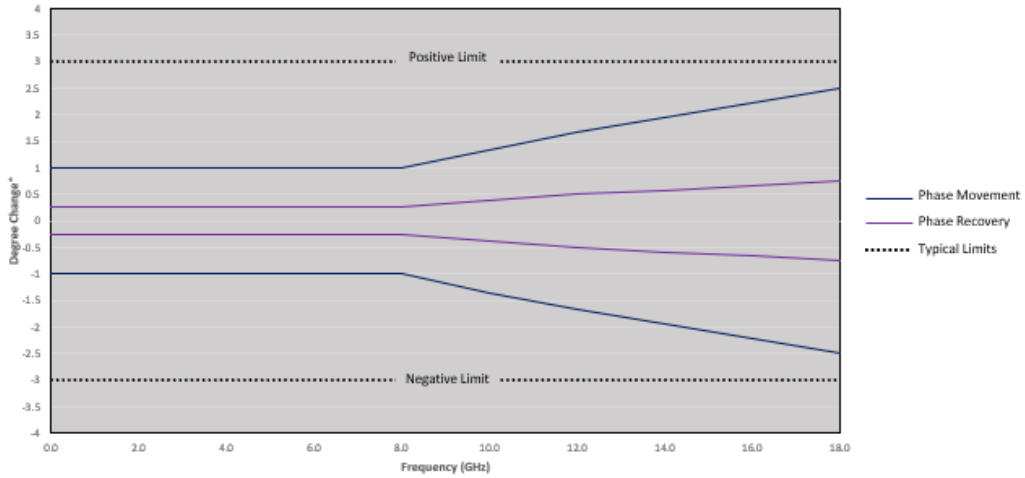
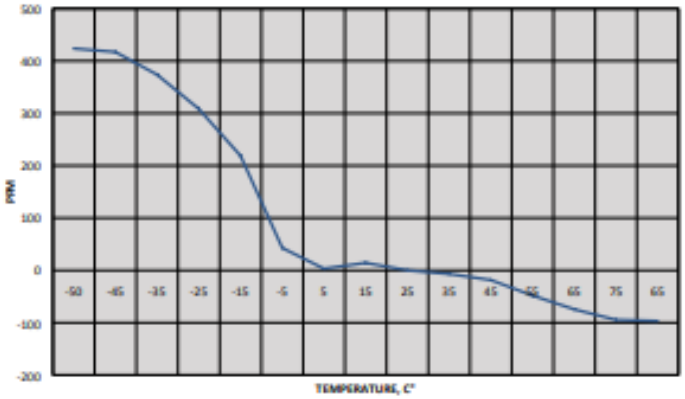
# MegaPhase Killer Bee™ Series Test Cable to 50 GHz (continued)

## KB50 Graphs Below

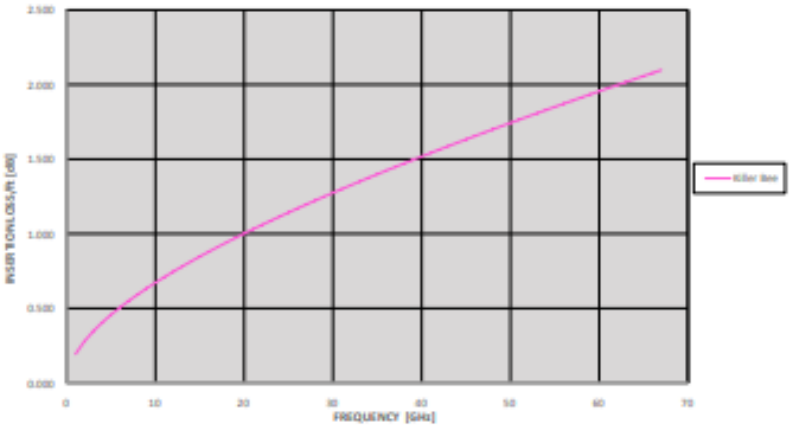
### Phase Change vs. Flexure




### Phase vs. Temperature




### Insertion Loss





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