

Part No. 1001932FT

WLAN / BT / Zigbee / Wi-Fi 6E Tunable Embedded FPC Antenna

2.4 GHz, 5 GHz, 6 GHz, 7 GHz

Supports: Wi-Fi applications, Agriculture, Bluetooth, Zigbee, WLAN, Smart Home, Healthcare, Digital Signage



KYOCERA AVX WLAN antennas deliver on the key needs of device designers for higher functionality and performance in smaller/thinner designs. These innovative antennas provide compelling advantages for a 2.4 GHz, 5.0 GHz, 6.0 GHz, and 7.0 GHz enabled devices.

Real-World Performance and Implementation

Antennas may look alike on the outside, but the important difference is inside. Other antennas may contain simple PIFA or monopole designs that interact with their surroundings, complicating layout or changing performance with use position. KYOCERA AVX antennas utilize patented Isolated Magnetic Dipole (IMD) technology to deliver a unique size and performance combination.

FPC Wi-Fi Tunable Embedded Antenna with Cable

2.4 GHz; 5 GHz; 6 GHz; 7 GHz

The 1001932FT is offered in many standard cable lengths ranging from 25 mm up to 500 mm. Standard connector options offered in MHF and MHF4L compatibility. Ordering part number guide is located at end of document for selection ease.

KEY BENEFITS

Stay-in-Tune

KYOCERA AVX antenna technology provides superior RF field containment, resulting in less interaction with surrounding components.

Quicker Time-to-Market

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Environmental Compliance

Products are the latest RoHS version compliant.

APPLICATIONS

- Embedded design
- Cellular, Headsets, Tablets
- Gateway, Access Point
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid

Electrical Specifications

| Frequency (GHz) | 2.400 – 2.485 | 4.900 – 5.825 | 5.925 – 7.125 |
|----------------------|--------------------|---------------|---------------|
| Peak Gain | 2.5 dBi | 4.4 dBi | 6.11 dBi |
| Average Efficiency | 60% | 71% | 63% |
| VSWR Match | 2:1 max | 2:1 max | 2:1 max |
| Feed Point Impedance | 50 ohms unbalanced | | |
| Polarization | Linear | | |
| Power Handling | 2.0 Watt CW | | |

Mechanical Specifications

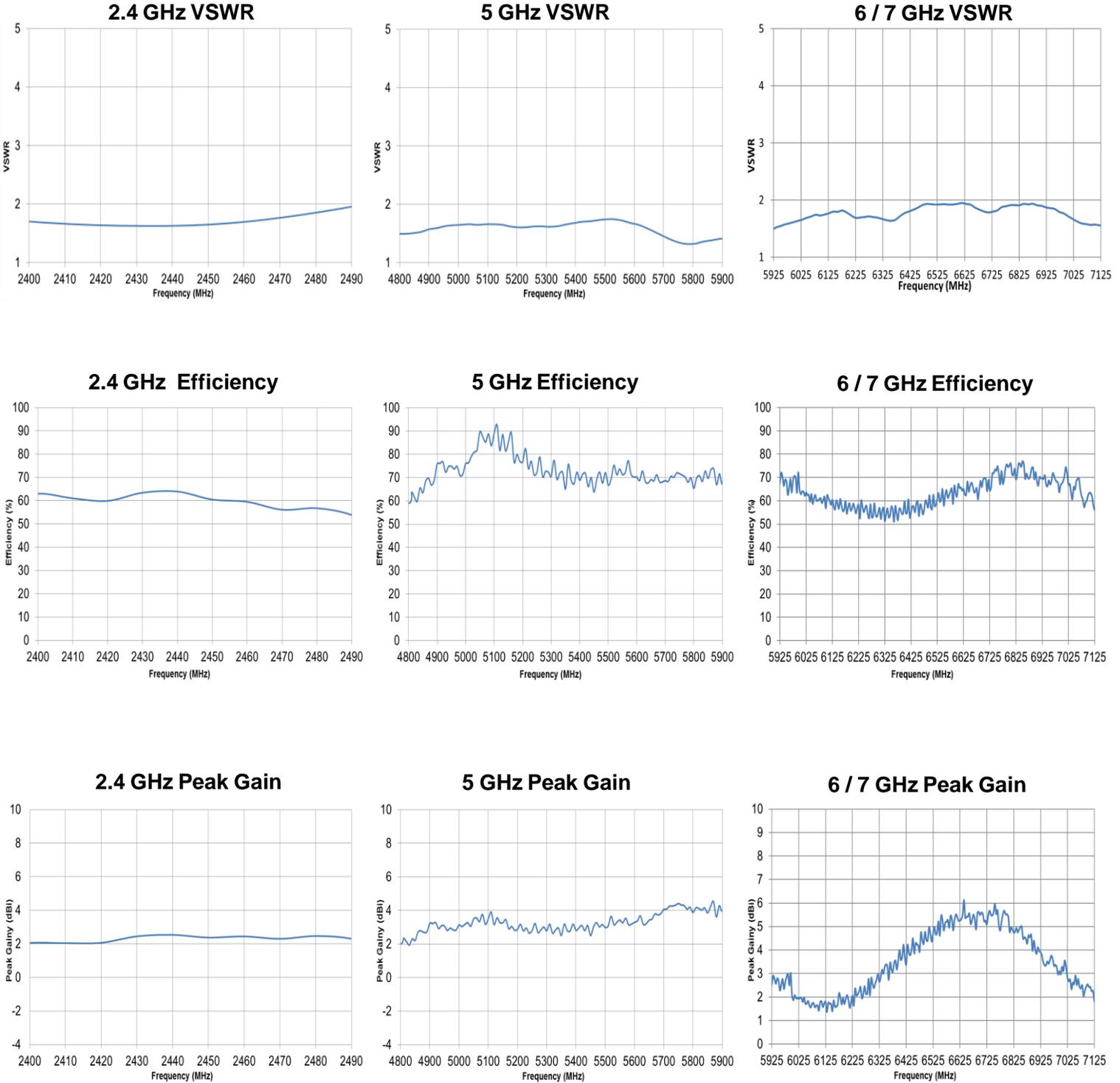
| Ordering Part # | 1001932FT-AA10L0100 |
|----------------------|--|
| Dimensions (mm) | 35.2 x 8.5 x 0.2 |
| Weight (grams) | 0.6 |
| Cable/Connector (mm) | Length: 100, Diameter: 1.13, Color: Black; MHF (U.FL compatible) connector |
| Mounting | Adhesive on bottom side of antenna |
| Packaging | PE bags |

*Additional variations with different cable lengths, colors and connectors are available.

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 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

VSWR, Efficiency and Peak Gain Plots

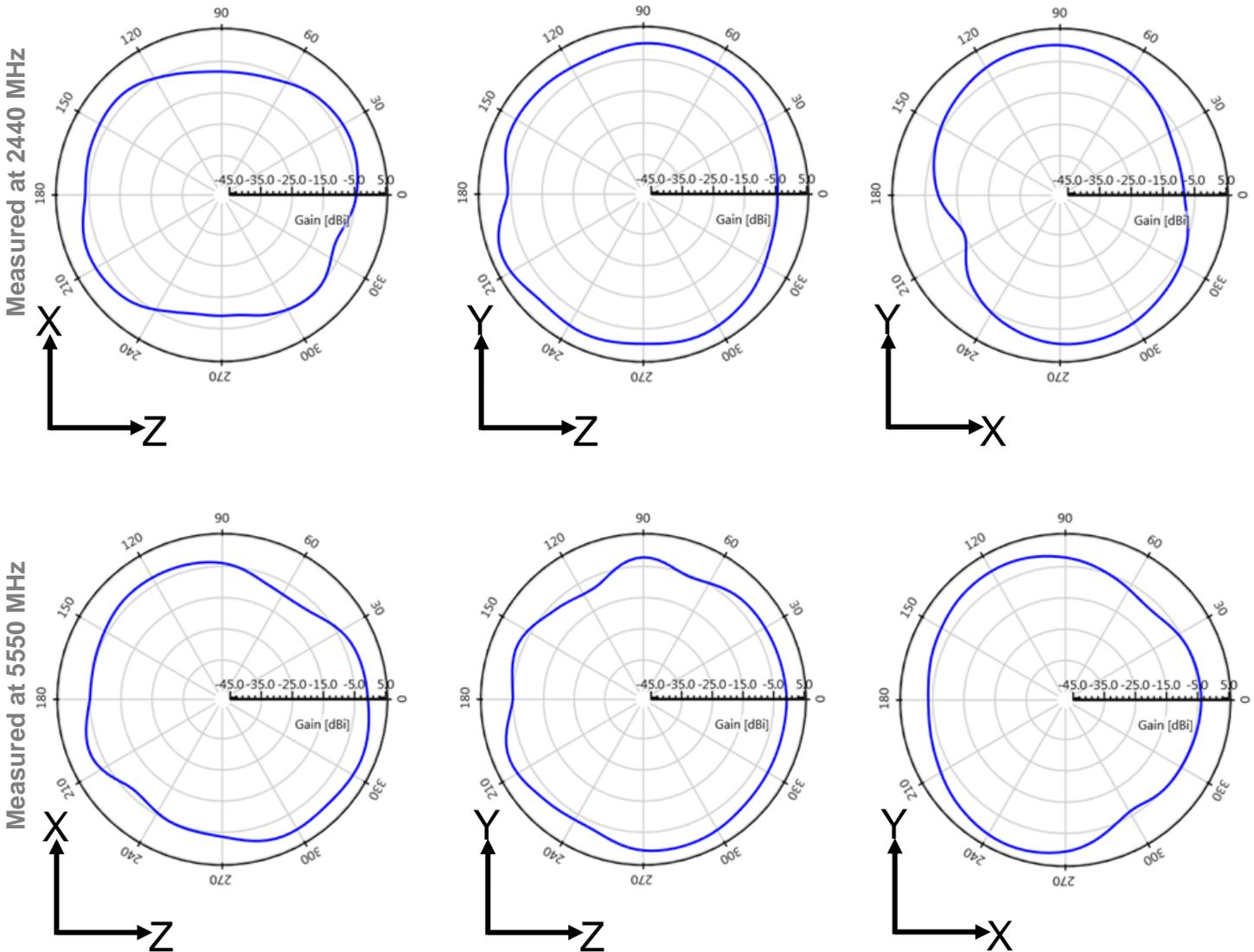
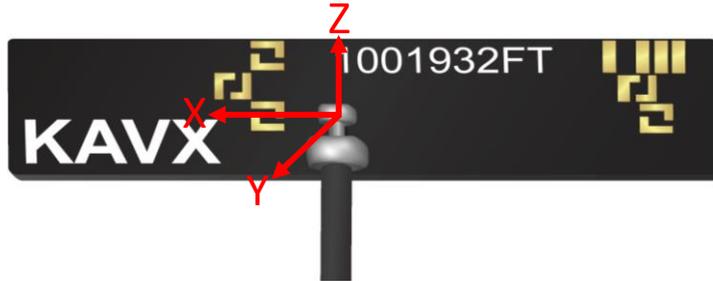
Typical Performance using 100 mm cable tested on PC-ABS



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Antenna Radiation Patterns

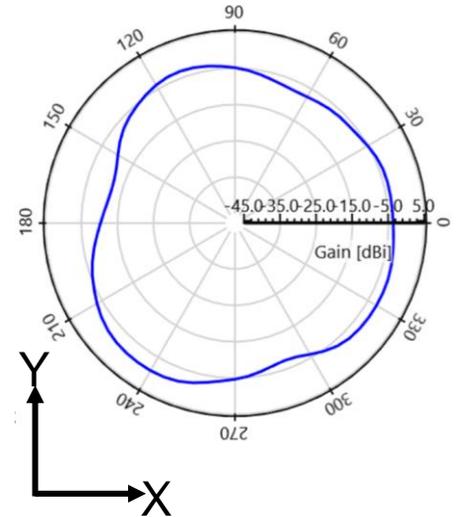
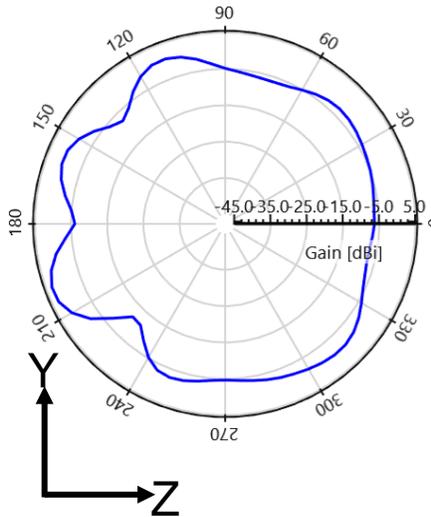
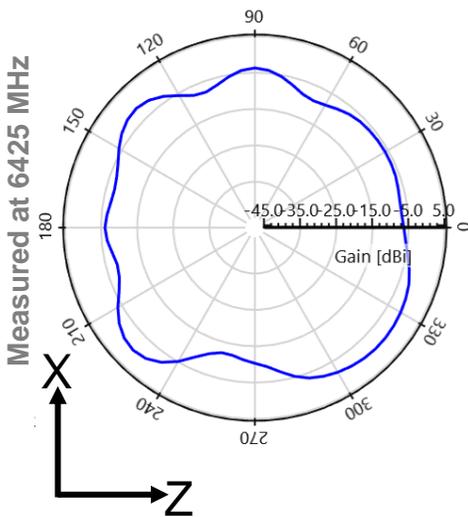
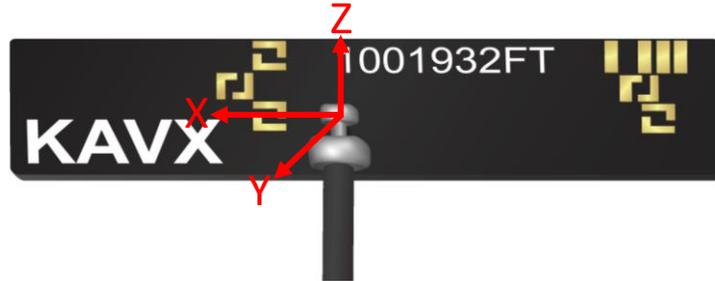
Typical Performance using 100 mm cable tested on PC-ABS
 Measured @ 2440, 5550 MHz



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Antenna Radiation Patterns

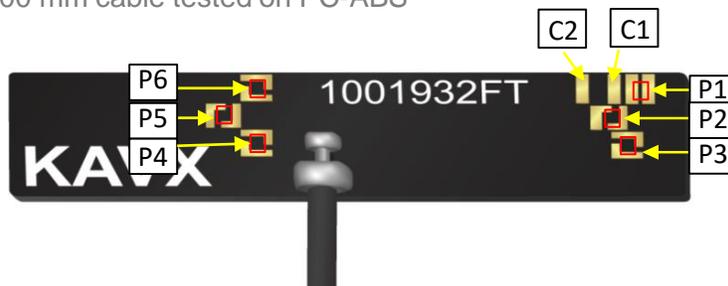
Typical Performance using 100 mm cable tested on PC-ABS
 Measured @ 6425 MHz



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Antenna Tuning Options

Typical Performance using 100 mm cable tested on PC-ABS



*This antenna has unique features enabling limited range RF tuning by leaving P1 - P6 and C1 - C2 connected by “solder bridge” or disconnected with a “cut” to the trace. Refer to detailed tuning options below.

Ref: Baseline = Typical Performance using 100 mm cable tested on PC-ABS

Options for Tuning: "2.4GHz (Lower)"

| MODE | T1 | T2 | T3 | T4 |
|-----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| PADS | Connect: P2 | Connect: P1 | Connect: P2+P3 | Connect: P1+P3 |
| Outcome: (Ref: Baseline) | ~200 MHz shift low | ~250 MHz shift low | ~350 MHz shift low | ~370 MHz shift low |

Options for Tuning: "2.4GHz (Higher)"

| MODE | C1 | C2 |
|-----------------------------|------------------------|------------------------|
| PADS | Cut: C1 | Cut: C2 |
| Outcome: (Ref: Baseline) | ~170 MHz shift high | ~300 MHz shift high |

Options for Tuning: "5GHz (Lower)"

| MODE | T5 | T6 | T7 | T8 |
|-----------------------------|-----------------------|------------------------|-----------------------|------------------------|
| PADS | Connect: P4 | Connect: P4+P5 | Connect: P6 | Connect: P5+P6 |
| Outcome: (Ref: Baseline) | ~200 MHz shift low | ~1500 MHz shift low | ~500 MHz shift low | ~1900 MHz shift low |

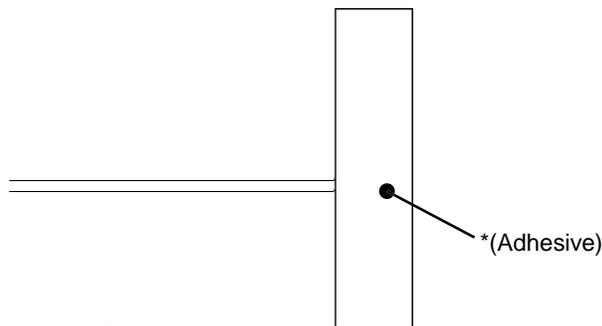
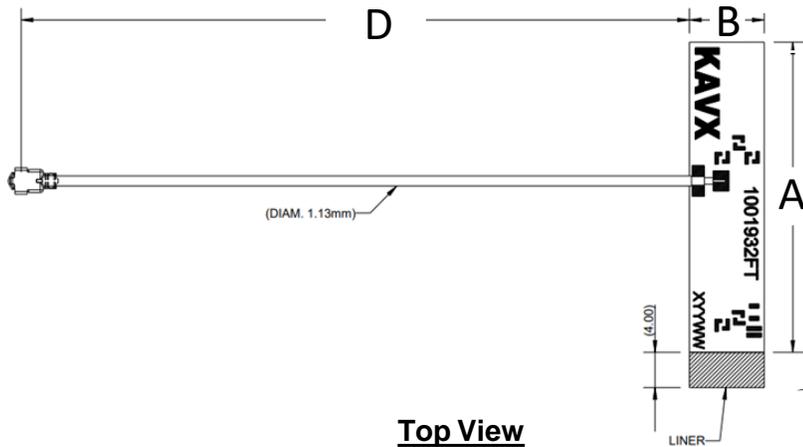
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Mechanical Dimensions & Ordering Part Numbers

Typical antenna dimensions in mm. MHF (U.FL compatible) connector

| Part Number | A | B | C | D Cable Length | Cable Tolerance |
|---------------------|--------|-------|-------|---------------------|-----------------|
| 1001932FT-AA10L0100 | (35.2) | (8.5) | (1.6) | 100.0 | ± 3.0 |
| 1001932FT-AA10L0XXX | (35.2) | (8.5) | (1.6) | 25.0 ≤ XXX < 149.0 | ± 3.0 |
| 1001932FT-AA10L0XXX | (35.2) | (8.5) | (1.6) | 149.0 ≤ XXX < 299.0 | ± 4.0 |
| 1001932FT-AA10L0XXX | (35.2) | (8.5) | (1.6) | 299.0 ≤ XXX ≤ 500.0 | ± 5.0 |

*“() ” Indicated the dimension is for reference only.



*Total Height of 1.6 mm includes the cable solder connection
 *Height “C” of 0.2 mm includes FPC + adhesive thicknesses
 *Dimensions in () parenthesis are Reference Only.

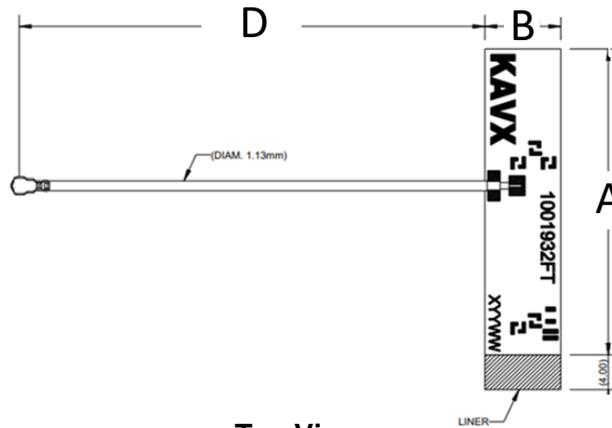
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Mechanical Dimensions & Ordering Part Numbers

Typical antenna dimensions in mm. MHF4L connector.

| Part Number | A | B | C | D Cable Length | Cable Tolerance |
|---------------------|--------|-------|-------|---------------------|--------------------|
| 1001932FT-AC10L0XXX | (35.2) | (8.5) | (1.6) | 25.0 ≤ XXX < 149.0 | ± 3.0 |
| 1001932FT-AC10L0XXX | (35.2) | (8.5) | (1.6) | 149.0 ≤ XXX < 299.0 | ± 4.0 |
| 1001932FT-AC10L0XXX | (35.2) | (8.5) | (1.6) | 299.0 ≤ XXX ≤ 500.0 | ± 5.0 |

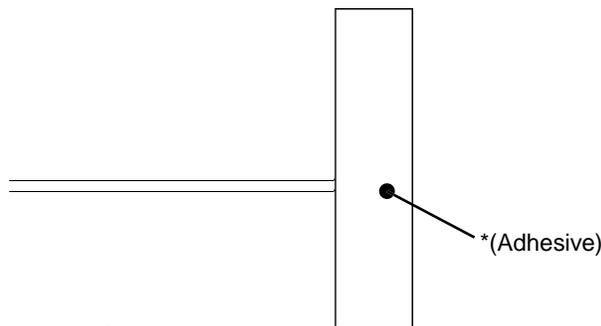
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Top View



Side View



Bottom View

- *Total Height of 1.6 mm includes the cable solder connection
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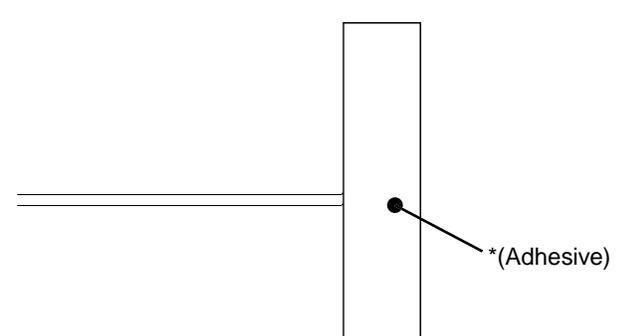
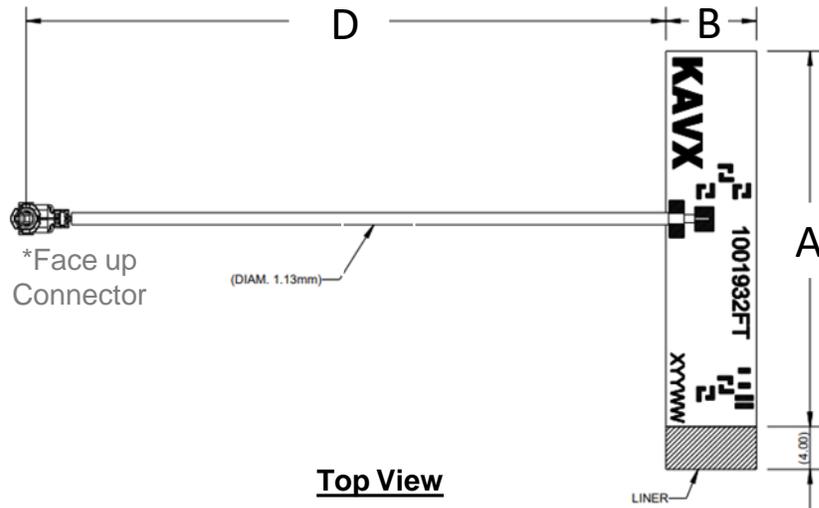
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Mechanical Dimensions & Ordering Part Numbers

Typical antenna dimensions in mm. MHF (U.FL compatible) connector. Face up connector orientation.

| Part Number | A | B | C | D | Cable Length | Cable Tolerance |
|----------------------|--------|-------|-------|---|--------------|-----------------|
| 1001932FT-AA10L0060U | (35.2) | (8.5) | (1.6) | | 60.00 | ± 3.0 |

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 *Height “C” of 0.2 mm includes FPC + adhesive thicknesses
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