

Standard Antenna Solutions

TE connectivity

Selector Guide

Part Number	698-821 MHz LTE	824-894 MHz GSM / CDMA 850	880-960 MHz GSM 900	868-870 MHz ZB EU	902-928 MHz ISM / ZB US	1565-1585 MHz GPS	1710-1880 MHz GSM 1800	1850-1990 MHz GSM / CDMA 1900	1920-2170 MHz UMTS	2300-2700 MHz LTE / WiMAX	2300-3800 MHz WiMAX	3300-3800 MHz WiMAX	2400-2483.5 MHz BT / Wi-Fi / ZB	3100-6000 MHz UWB	4900-5875 MHz Wi-Fi	5150-5875 MHz Wi-Fi	Page Number
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Legend: ZB = ZigBee
BT = Bluetooth

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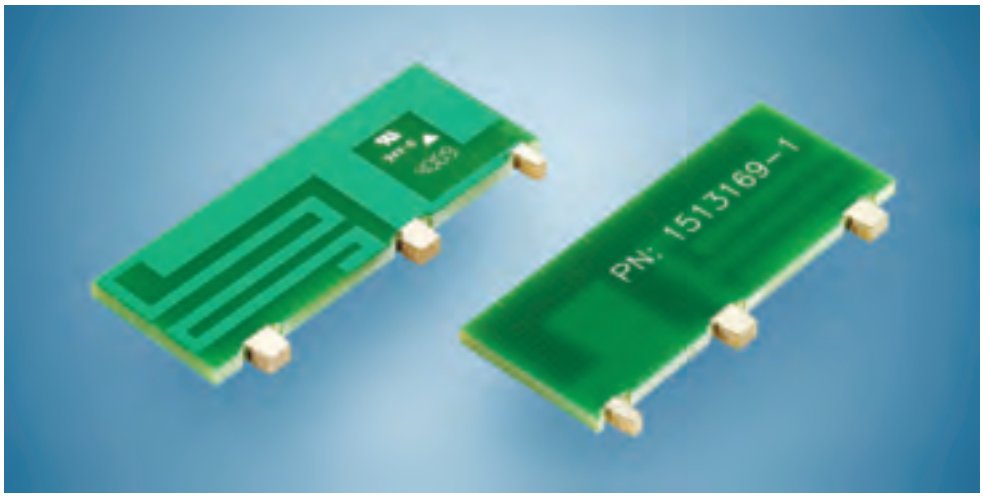
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824 – 894 MHz Single Band Antenna
(US Cellular and includes frequencies of ZigBee EU)

Part Number: 1513169-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers**
- **RoHS compliant**

Recommendations

- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 100 mm.**

Specifications

Frequency Range (MHz) — 824 – 894

Peak Gain — +2 dBi

VSWR — < 2.5:1

Polarization — Linear

Azimuth Beamwidth — Omni-directional

Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

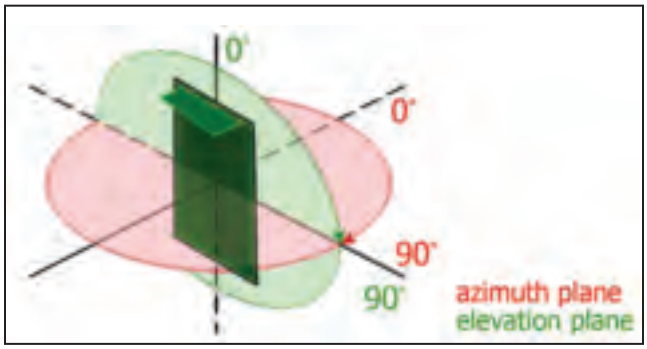
Size — 38.10 mm x 15.24 mm x 1.57 mm

Weight — < 2 g

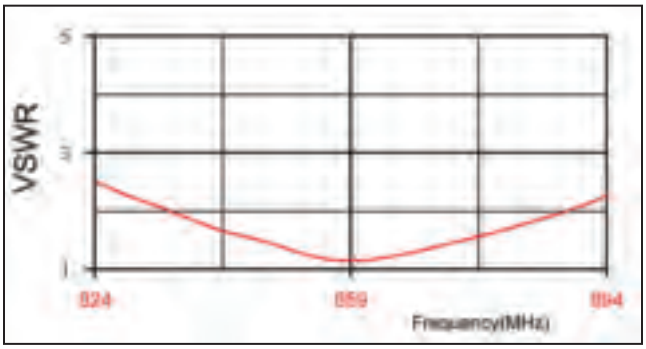
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Keep Out Area — See diagram on next page

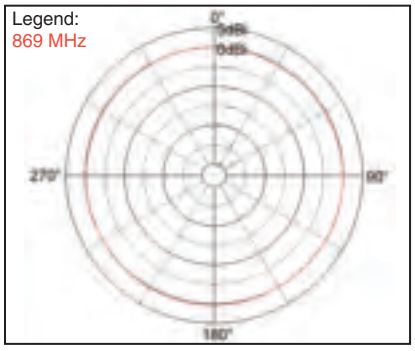
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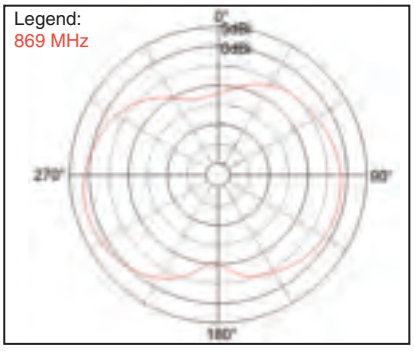
VSWR



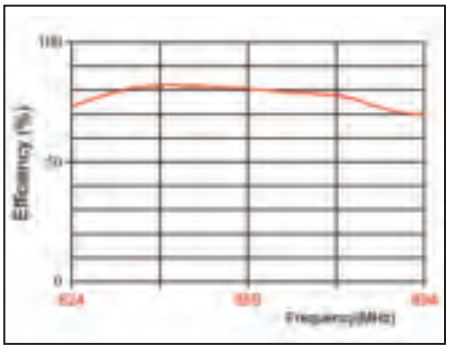
Azimuth



Elevation



Efficiency



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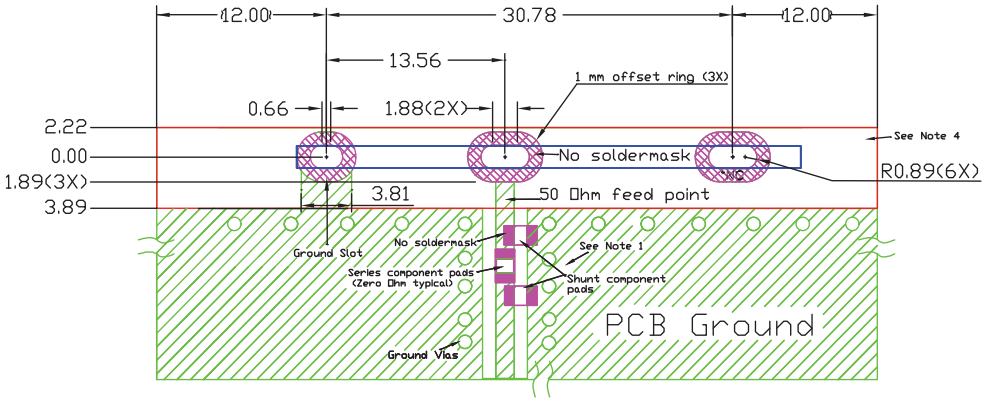
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824 – 894 MHz Single Band Antenna
(US Cellular and includes frequencies of ZigBee EU) (Continued)

Part Number: 1513169-1
(Continued)

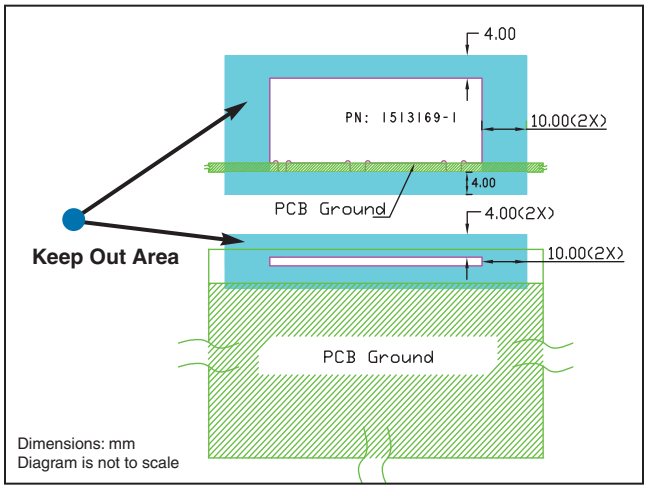
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

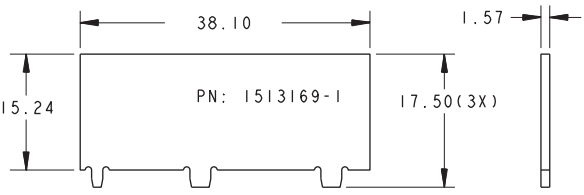
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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902 – 928 MHz Single Band Antenna
(includes frequencies of 915 ISM and ZigBee US)

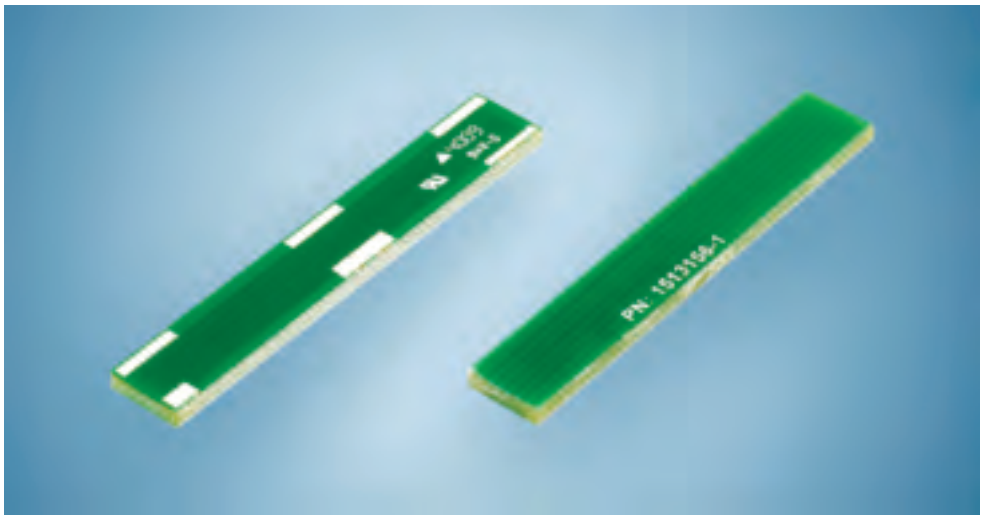
Part Number: 1513156-1

Product Facts

- Small and lightweight
- Available in tape & reel
- RoHS compliant

Recommendations

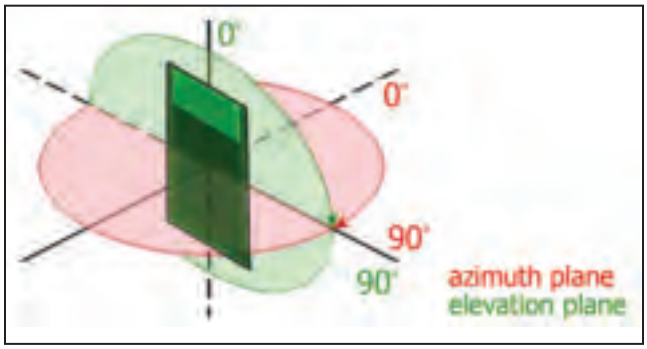
- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 90 mm.
- PCB ground is to be on top layer



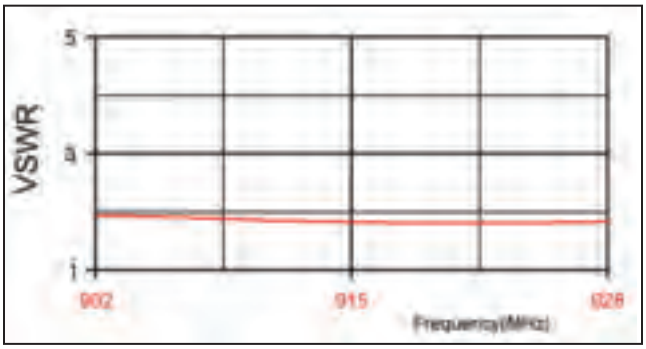
Specifications

Frequency Range (MHz) — 902 – 928
Peak Gain — +1 dBi
VSWR — < 2.5:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 38.10 mm x 6.60 mm x 1.57 mm
Weight — < 0.9 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

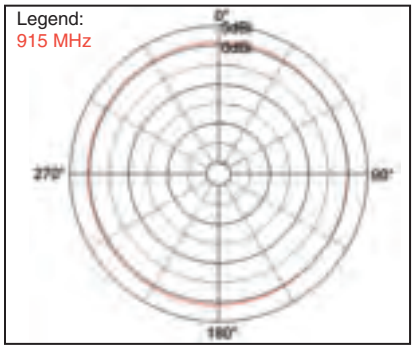
Test Orientation in Free Space



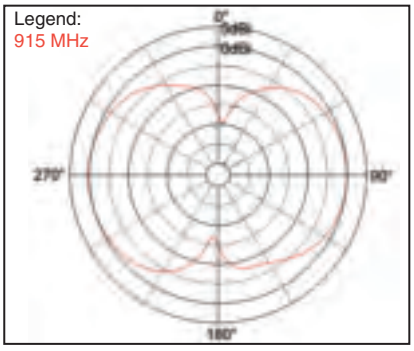
VSWR



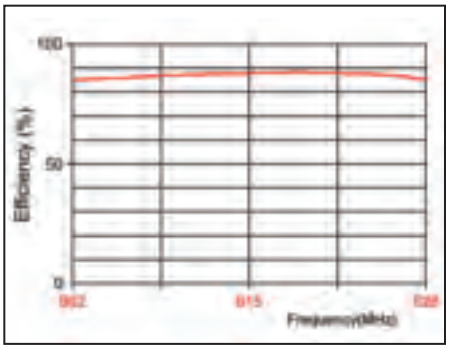
Azimuth



Elevation



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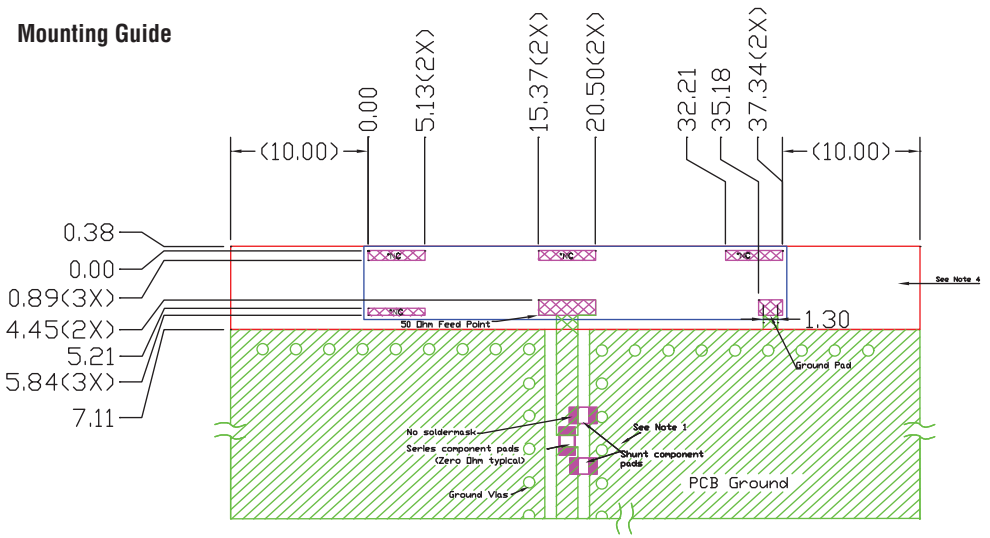
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(includes frequencies of 915 ISM and ZigBee US) (Continued)

Part Number: 1513156-1
(Continued)

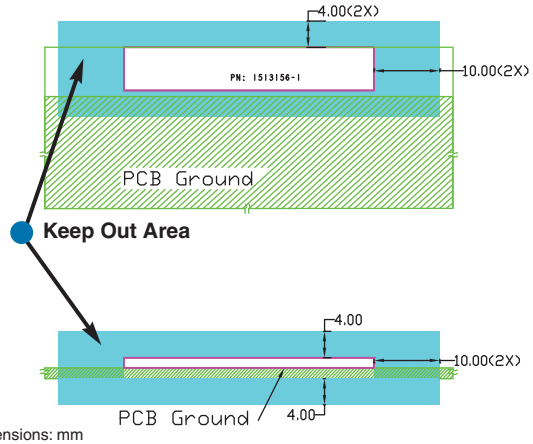
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

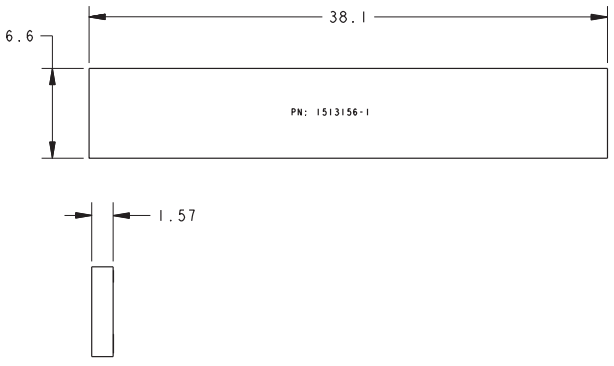
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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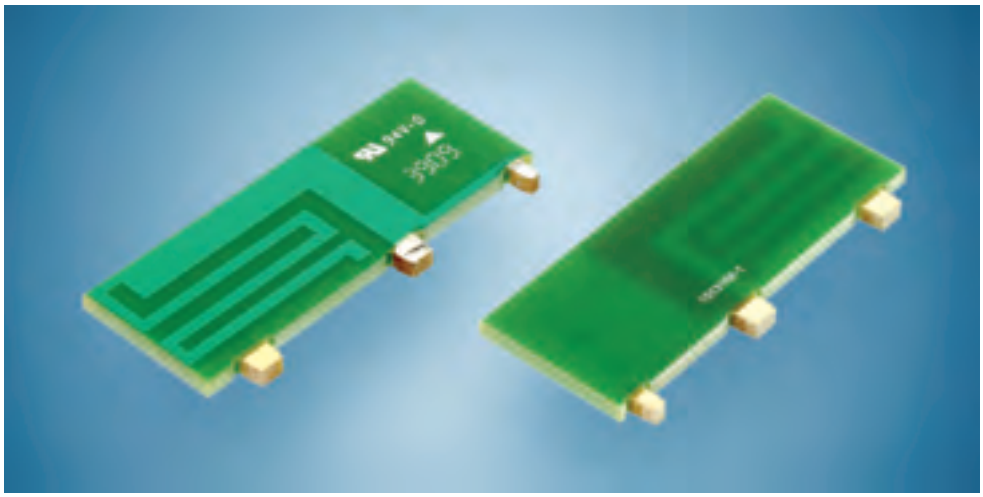
Part Number: 1513168-1

Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers**
- **Small and lightweight**
- **RoHS compliant**

Recommendations

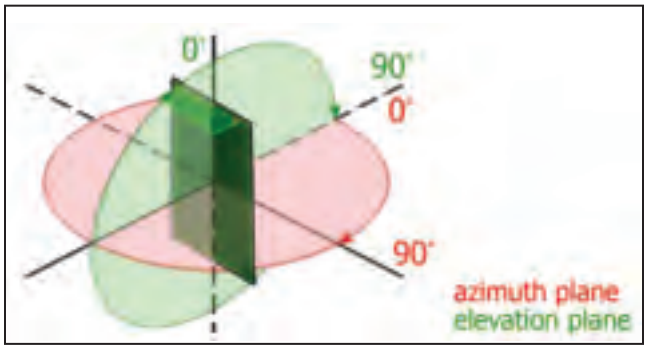
- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 90 mm.**



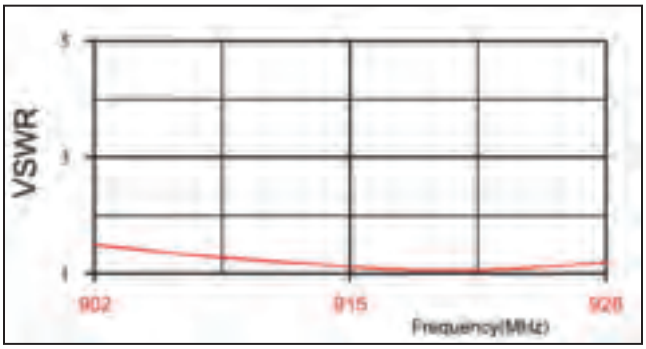
Specifications

Frequency Range (MHz) — 902 – 928
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 38.10 mm x 15.24 mm x 1.57 mm
Weight — < 2 g
Mounting — Tabmounted with plated through holes. See next page
Keep Out Area — See diagram on next page

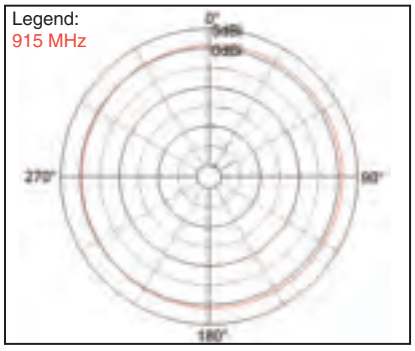
Test Orientation in Free Space



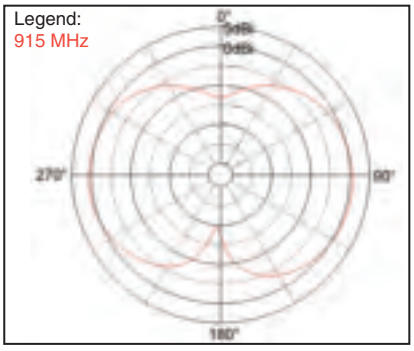
VSWR



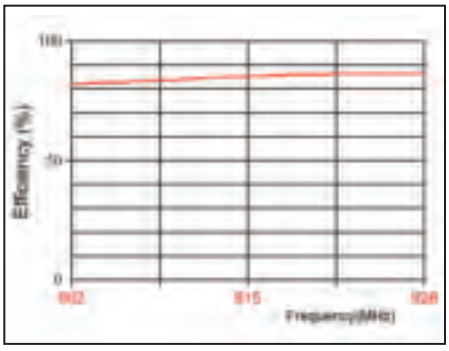
Azimuth



Elevation



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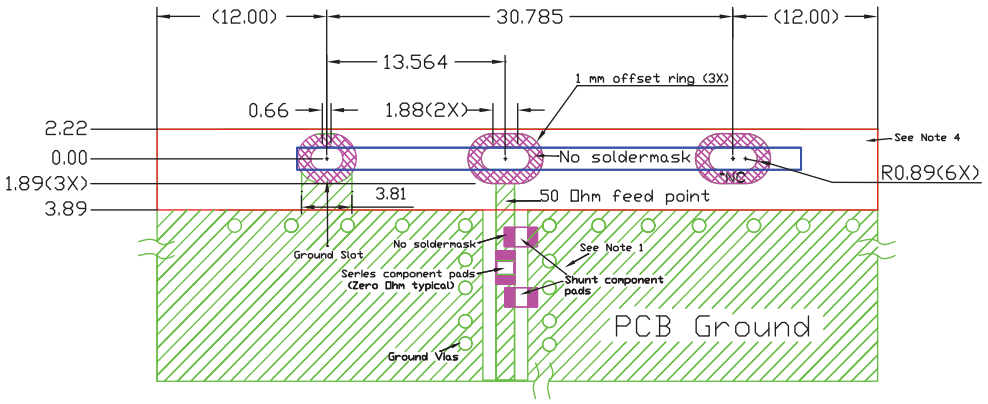
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(Continued)

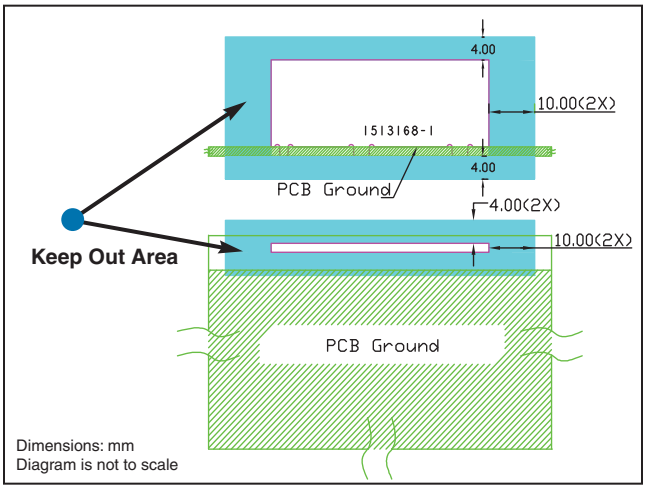
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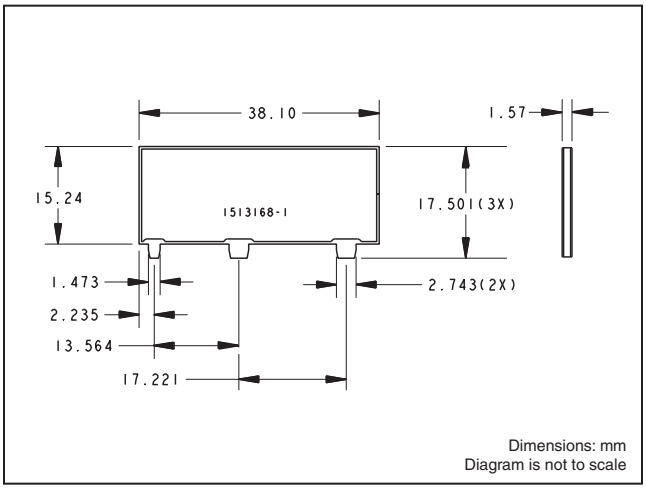
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

ZigBee is a trademark of ZigBee Alliance.

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
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USA: 1-800-522-6752
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Germany: +49 (0) 6251-133-1999

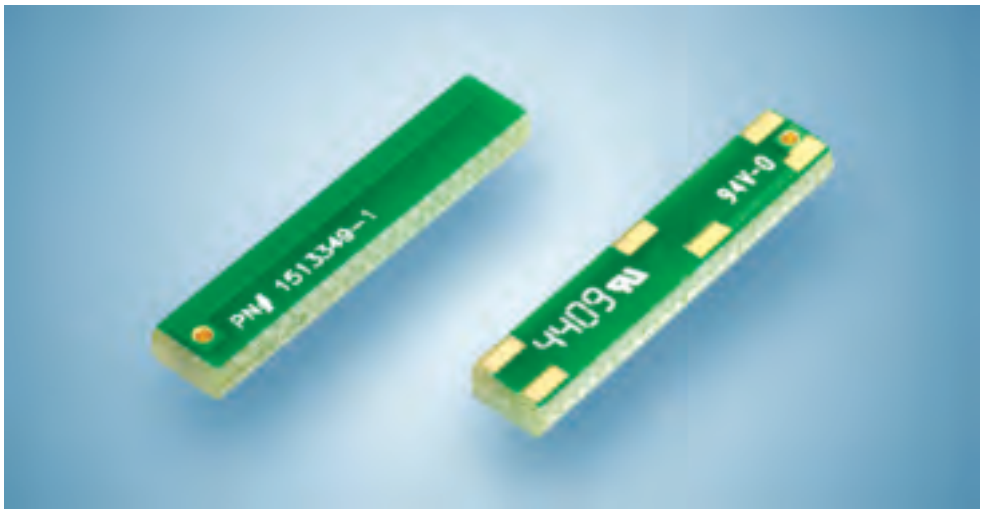
For other country numbers go to:

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Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 1513349-1



Product Facts

- Small and lightweight
- Available in tape & reel
- RoHS compliant

Recommendations

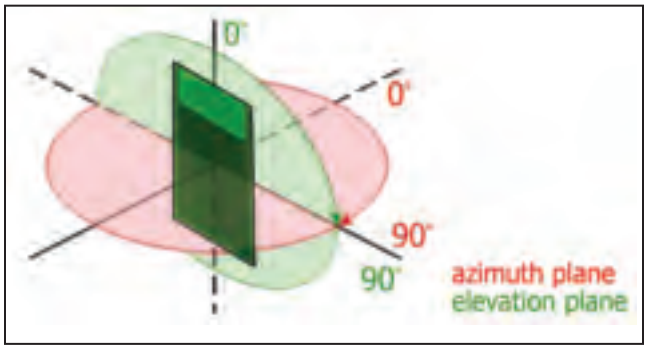
- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.
- PCB ground is to be on top layer

Specifications

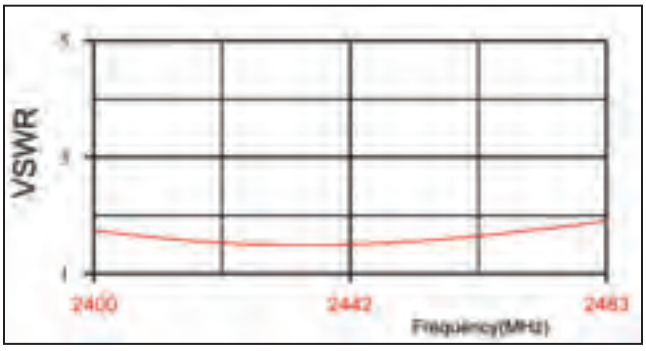
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear, Vertical
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

Size — 18.03 mm x 3.76 mm x 1.57 mm
Weight — < 0.5 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

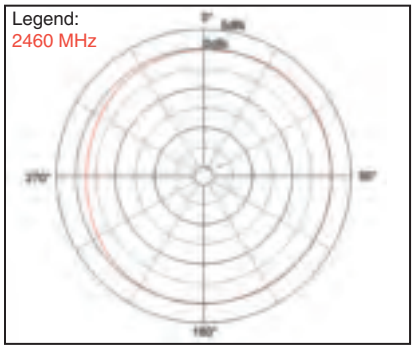
Test Orientation in Free Space



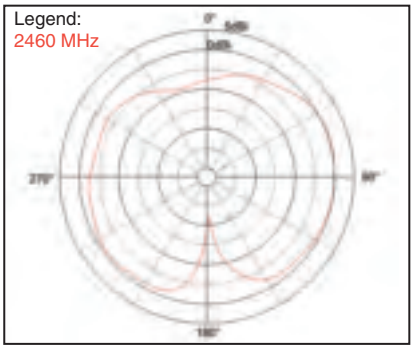
VSWR



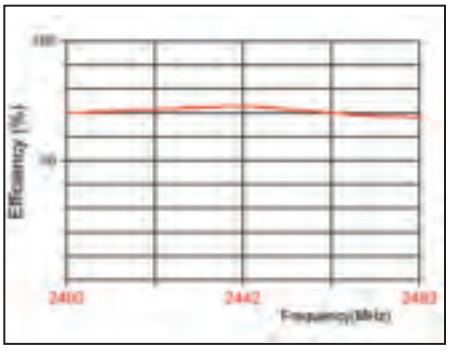
Azimuth



Elevation



Efficiency



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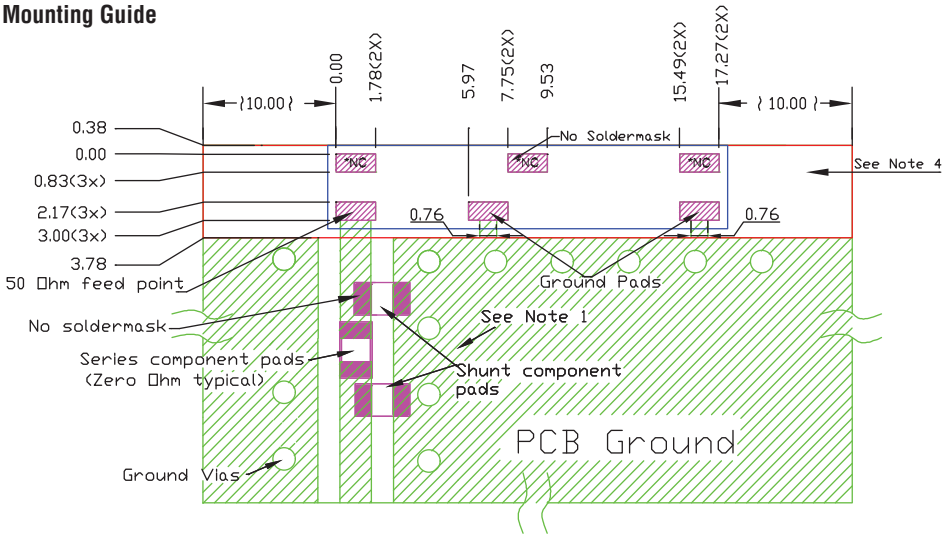
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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513349-1
(Continued)

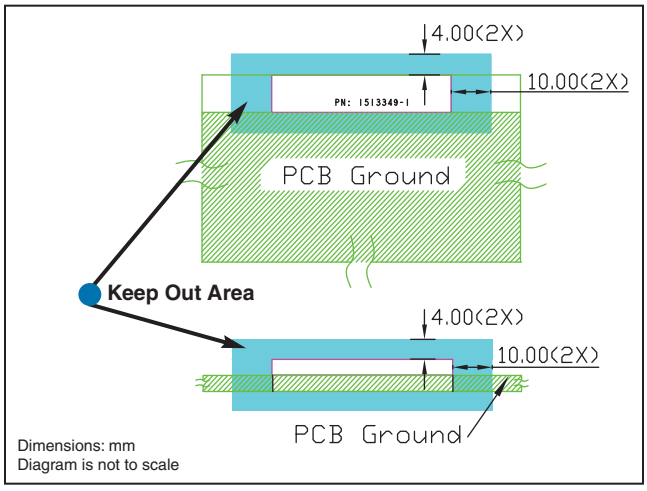
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers – ▭
5. For more information please call TE.

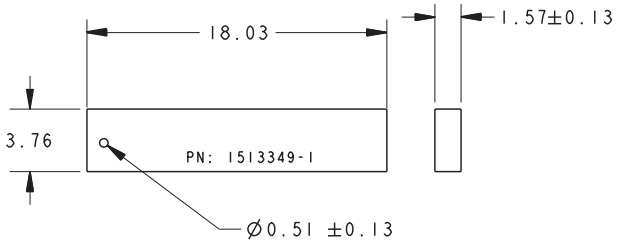
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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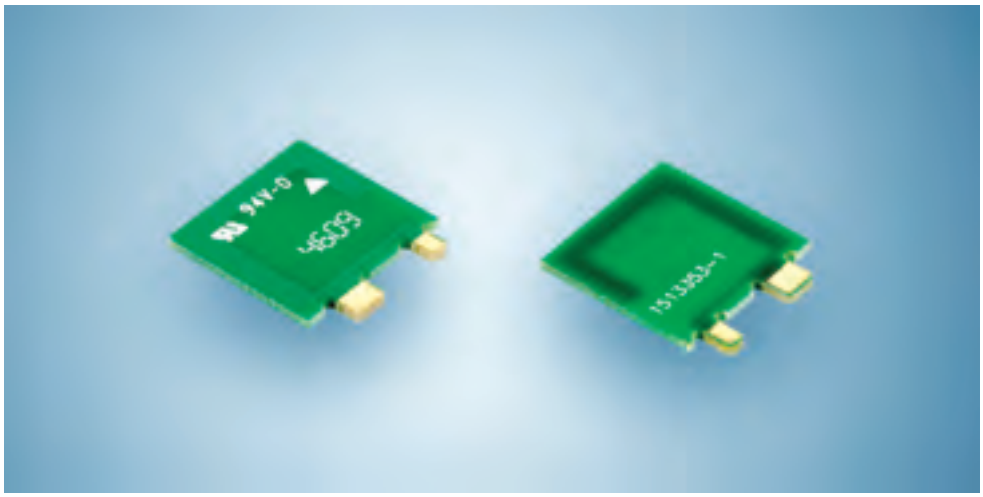
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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 1513353-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers**
- **RoHS compliant**

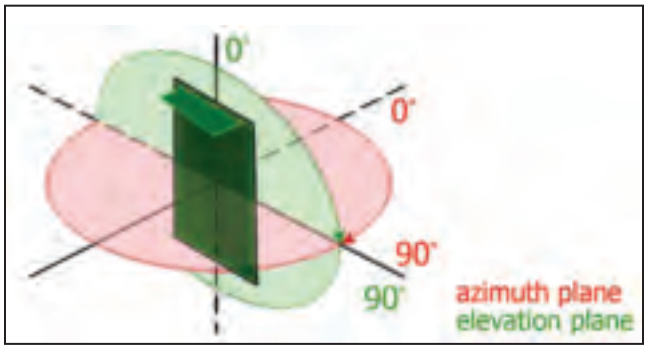
Recommendations

- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**

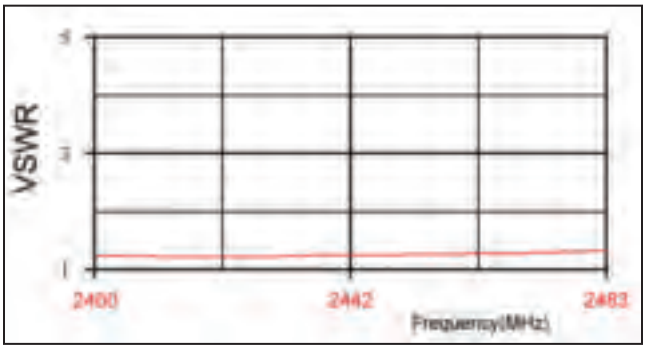
Specifications

Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — +2 dBi
VSWR — < 2.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 12.70 mm x 12.70 mm x 0.78 mm
Weight — < 0.5 g
Mounting — Tab mounted with plated through holes. See next page
Keep Out Area — See diagram on next page

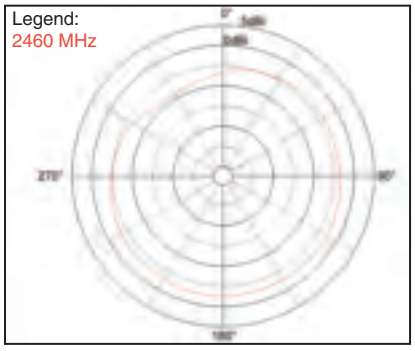
Test Orientation in Free Space



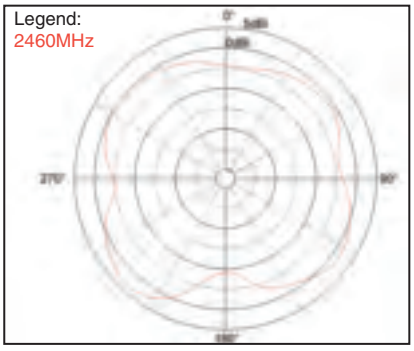
VSWR



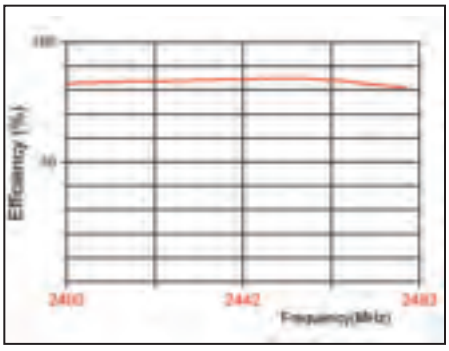
Azimuth



Elevation



Efficiency



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ZigBee is a trademark of ZigBee Alliance.

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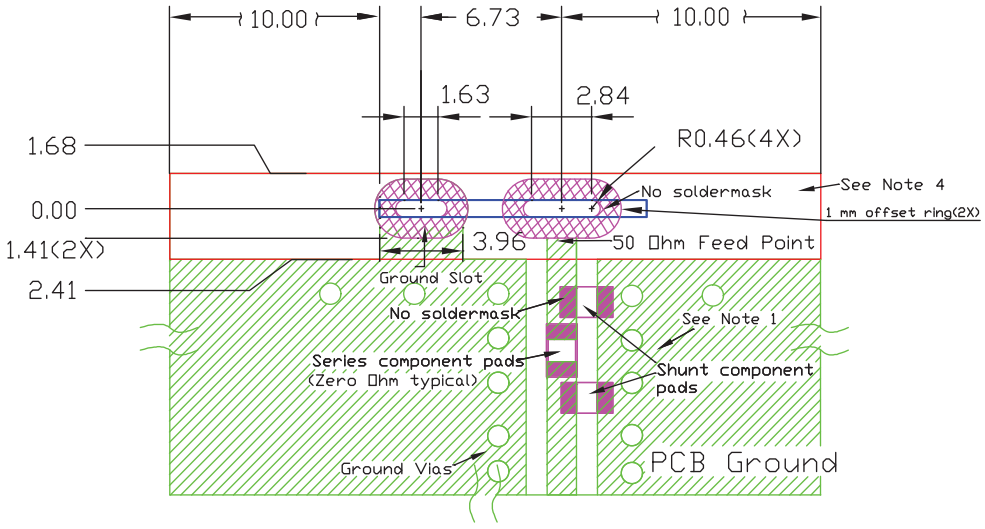
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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513353-1
(Continued)

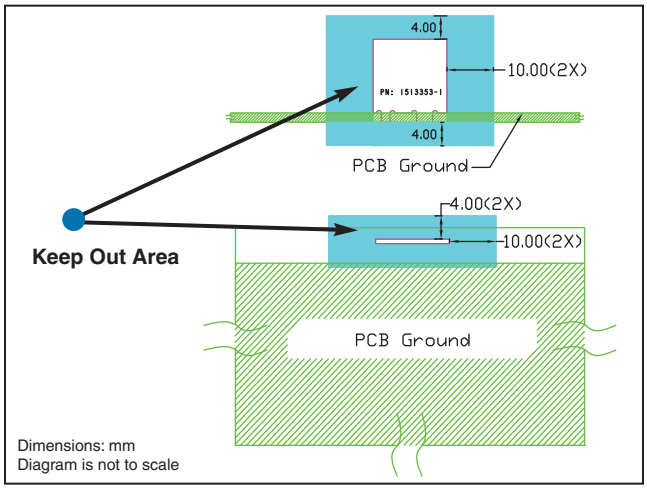
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers – ▭
5. For more information please call TE.

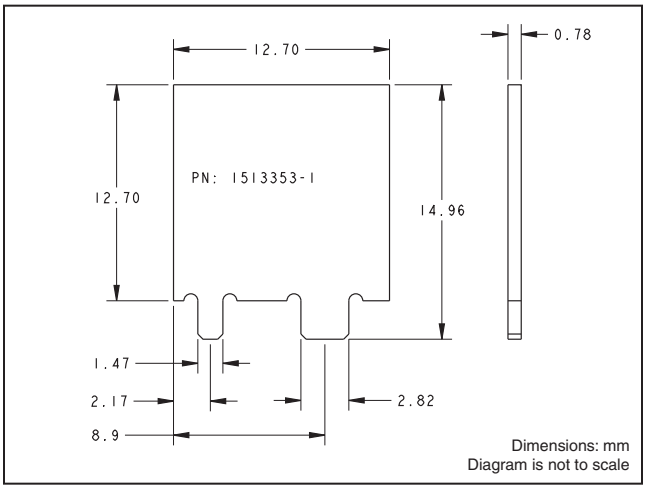
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

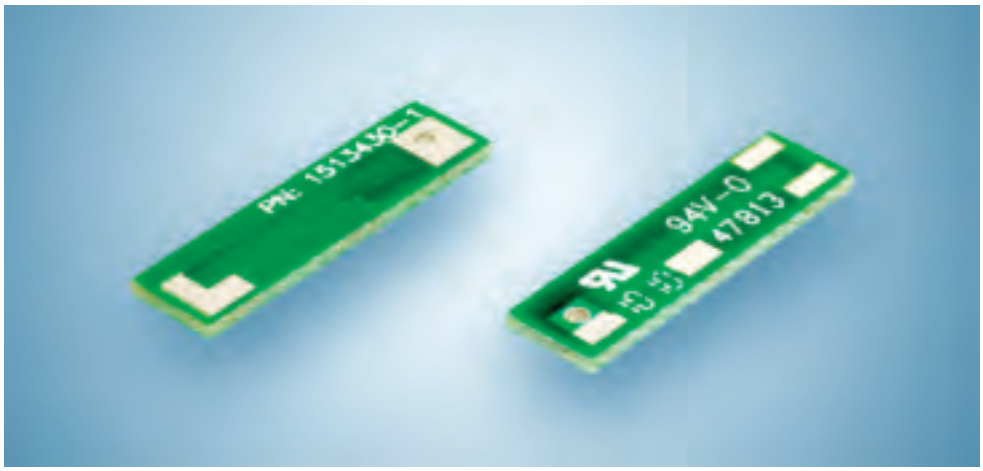
Part Number: 1513430-1

Product Facts

- **Small and lightweight**
- **Available in Tape & Reel for automatic mounting**
- **RoHS compliant**

Recommendations

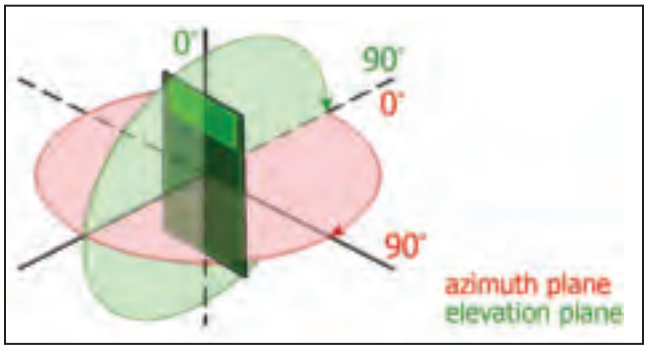
- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer**



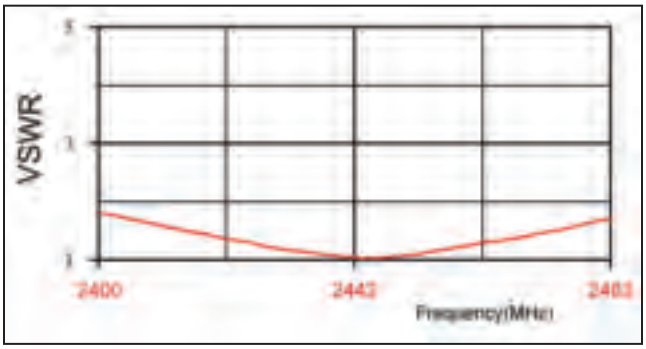
Specifications

Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 12.85 mm x 3.76 mm x 0.79 mm
Weight — < 0.5 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

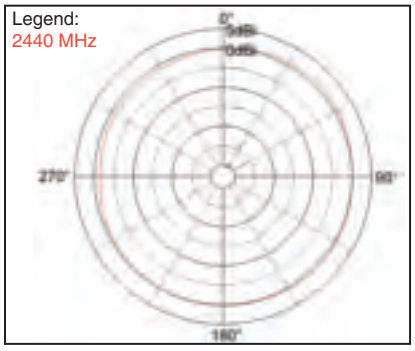
Test Orientation in Free Space



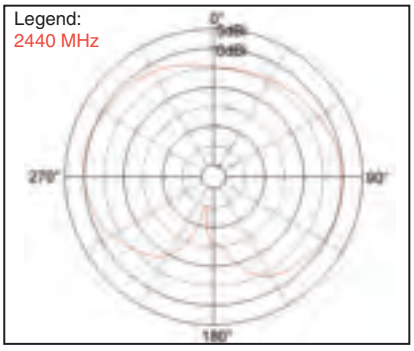
VSWR



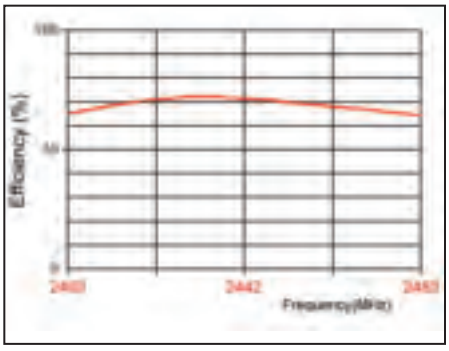
Azimuth



Elevation



Efficiency



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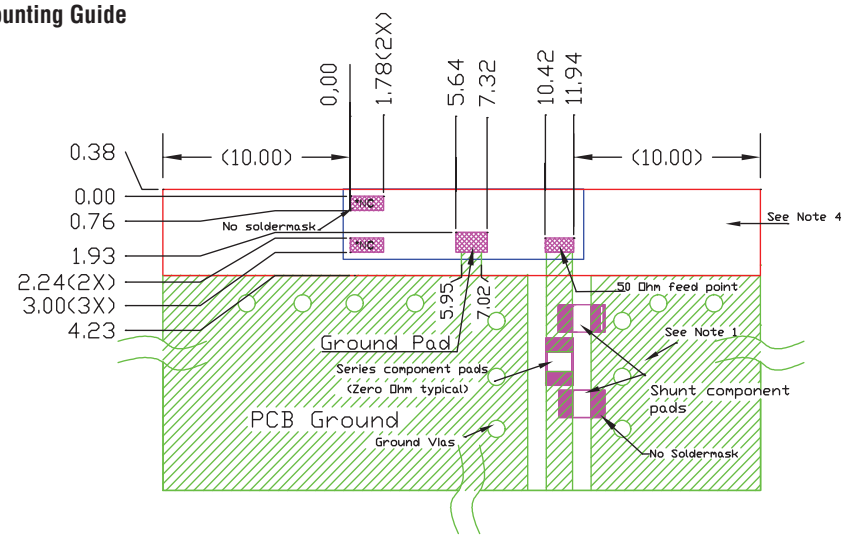
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Part Number: 1513430-1
(Continued)

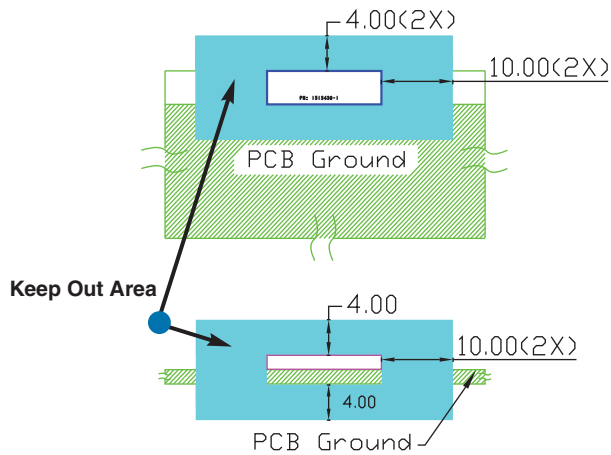
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers – 
5. For more information please call TE.

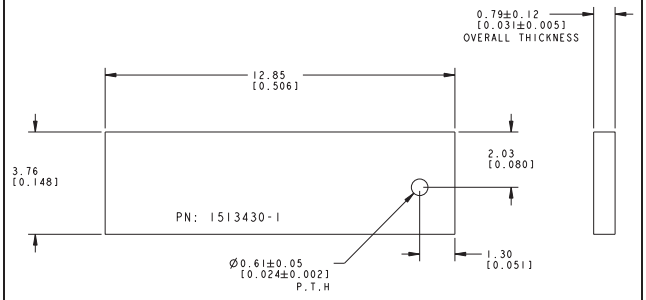
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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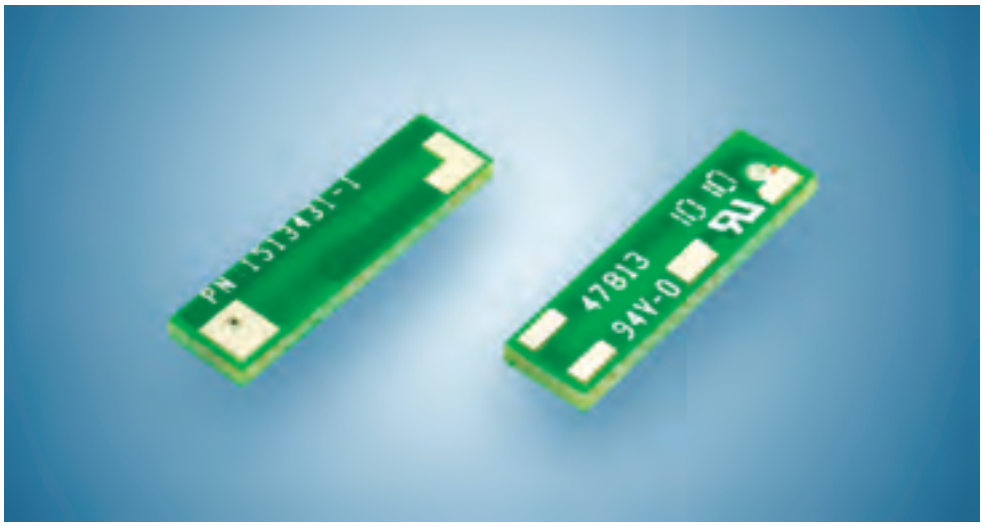
Part Number: 1513431-1

Product Facts

- **Small and lightweight**
- **Available in tape & reel for automatic mounting**
- **RoHS compliant**

Recommendations

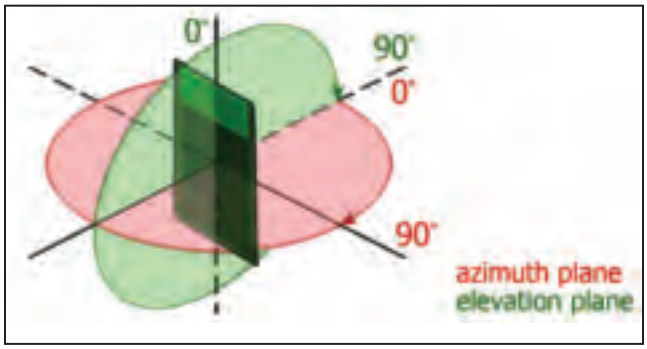
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- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer**



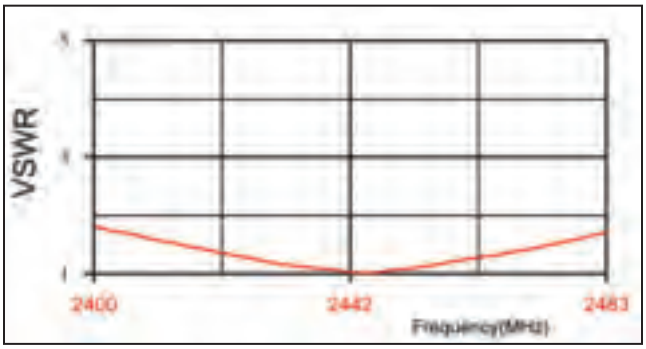
Specifications

Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms
Size — 12.85 mm x 3.76 mm x 0.79 mm
Weight — < 0.5 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

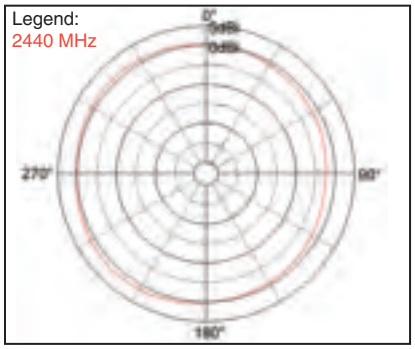
Test Orientation in Free Space



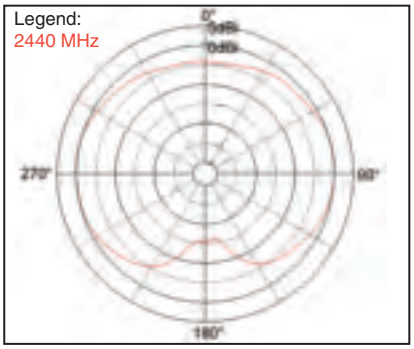
VSWR



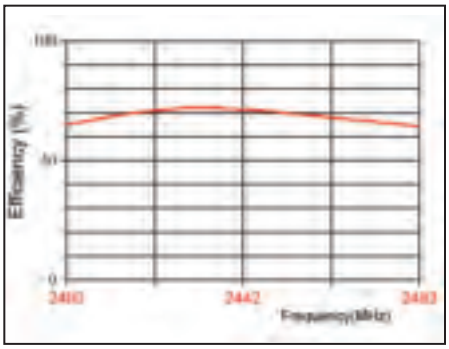
Azimuth



Elevation



Efficiency



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Germany: +49 (0) 6251-133-1999

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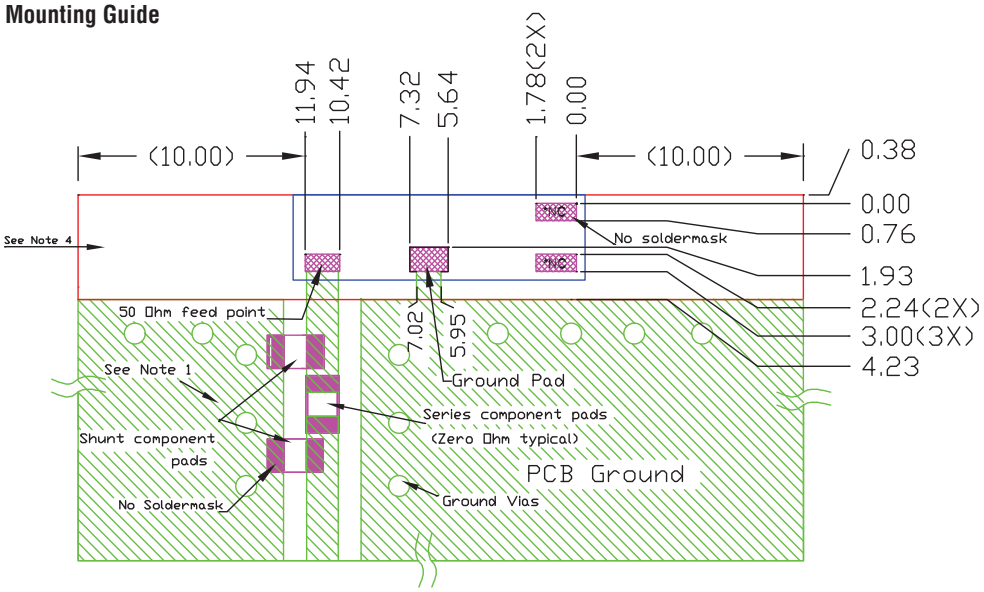
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513431-1
(Continued)

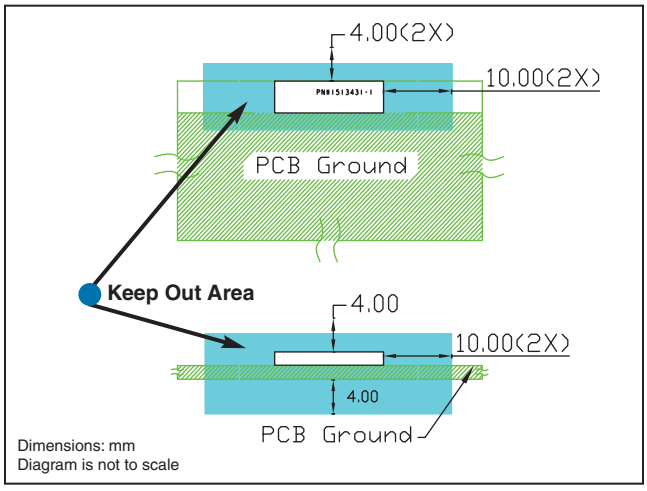
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

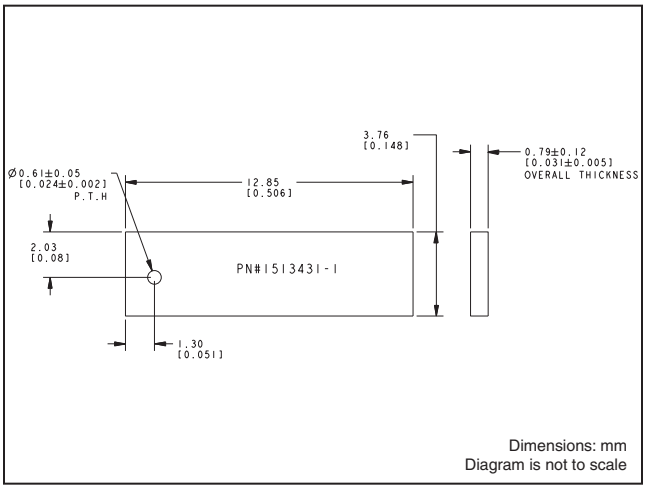
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

Bluetooth is a trademark of Bluetooth SIG, Inc.
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For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 1513504-1



Product Facts

- **Wide bandwidth and high gain in a compact size**
- **Enhanced hemispherical pattern improves RF link reliability of portable devices**
- **Available in tape & reel**
- **RoHS compliant**

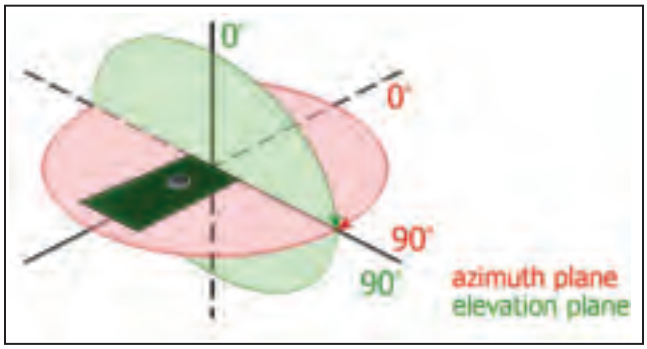
Recommendations

- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer**

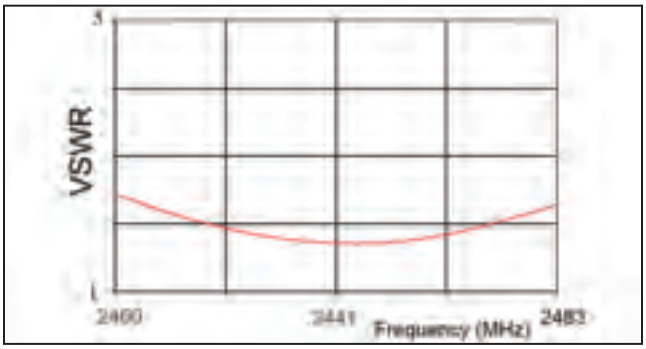
Specifications

Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — +2 dBi
VSWR — < 2.5:1
Reflow Temperature — 275°C max.
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 16.00 mm dia. x 6.05 mm
Weight — < 1 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

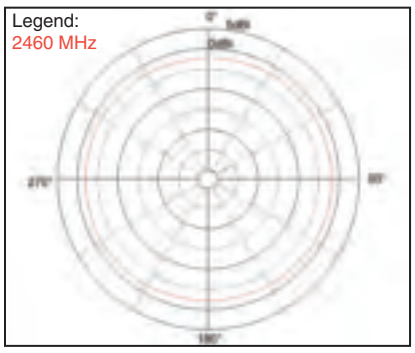
Test Orientation in Free Space



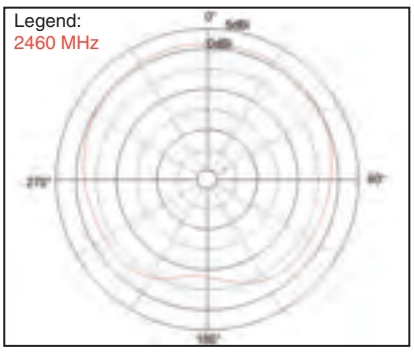
VSWR



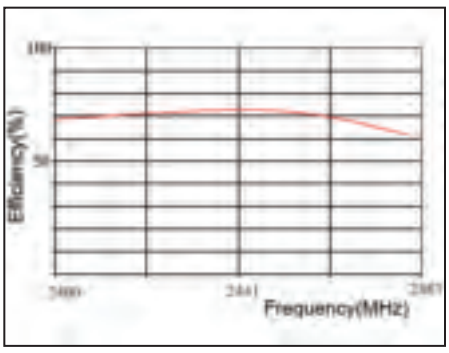
Azimuth



Elevation



Efficiency



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Catalog: 4-1773459-7
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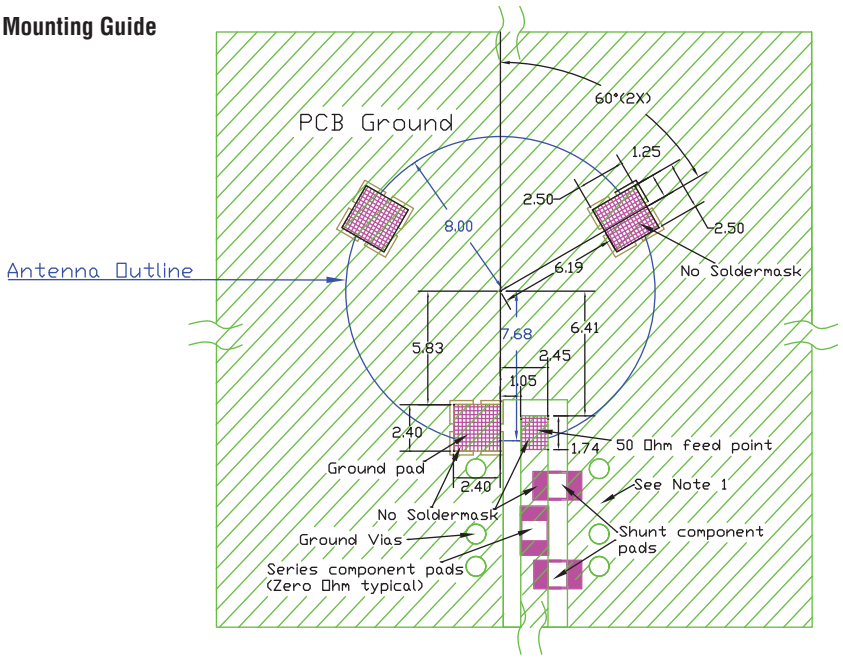
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513504-1
(Continued)

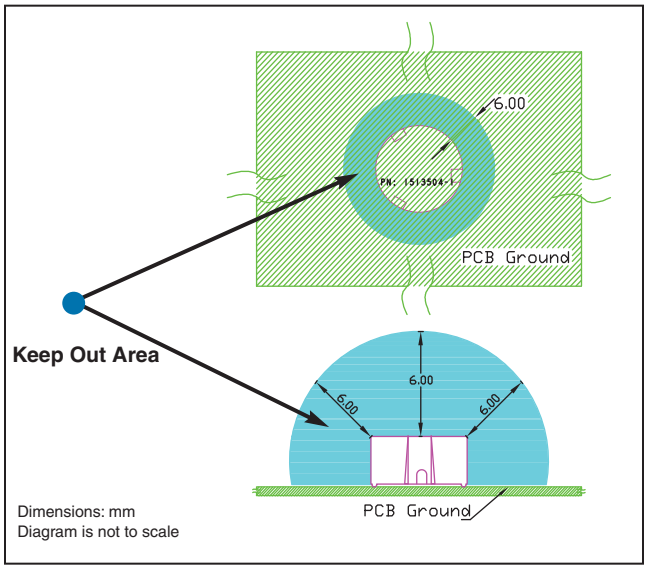
Mounting Guide



NOTES: 1. Suggested matching component pads.
2. For more information please call TE.

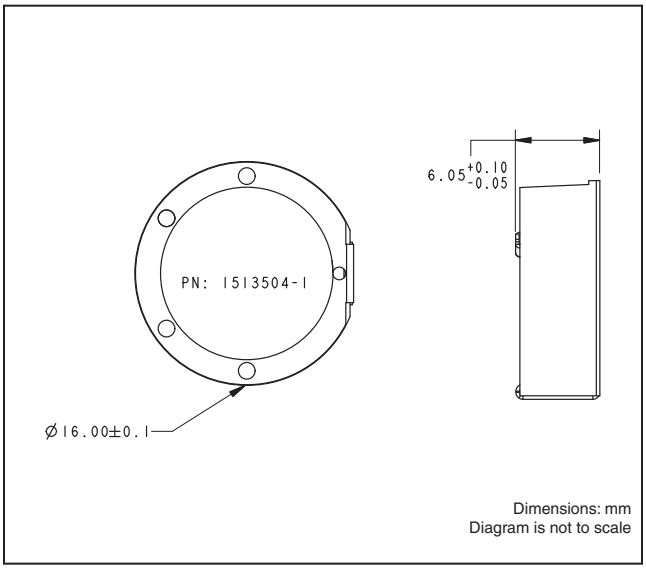
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

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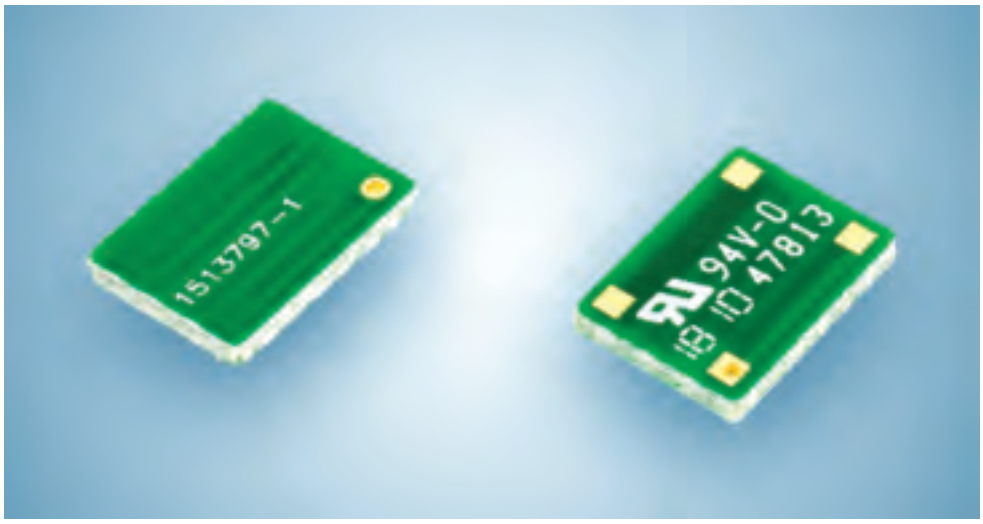
For other country numbers go to:

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Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 1513797-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, adjustment-free antenna technology for handling during assembly and implementation by developers**
- **Available in tape & reel**
- **RoHS compliant**

Recommendations

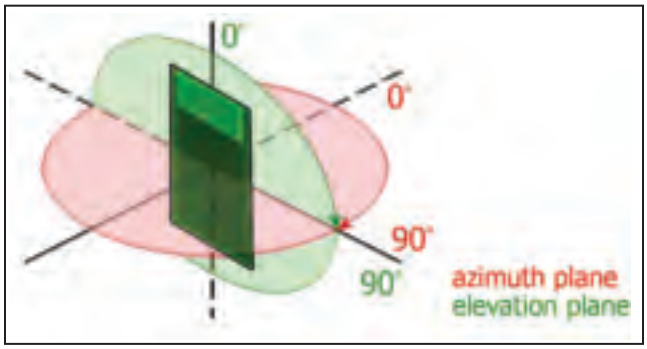
- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer**

Specifications

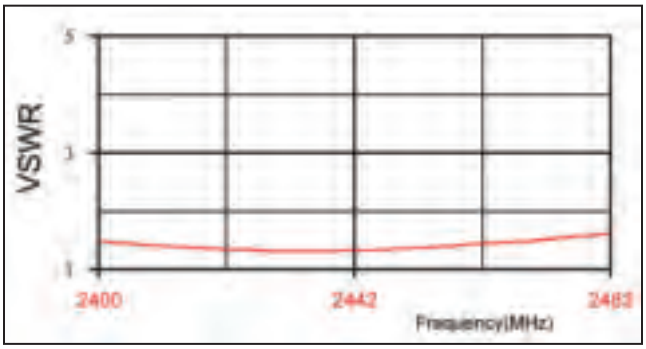
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — +1 dBi
VSWR — < 2.5:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms

Size — 8.45 mm x 6.40 mm x 0.79 mm
Weight — < 0.2 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

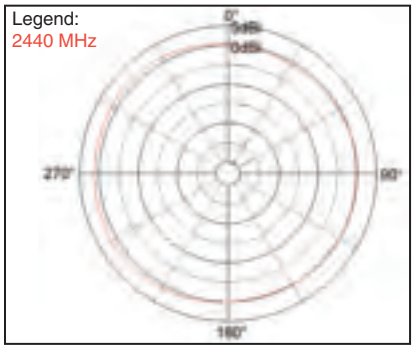
Test Orientation in Free Space



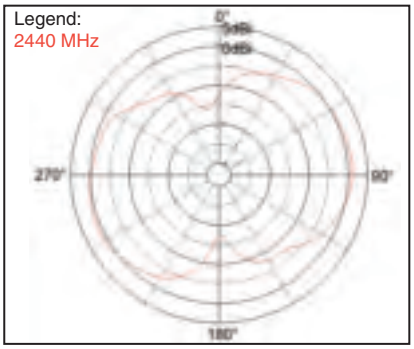
VSWR



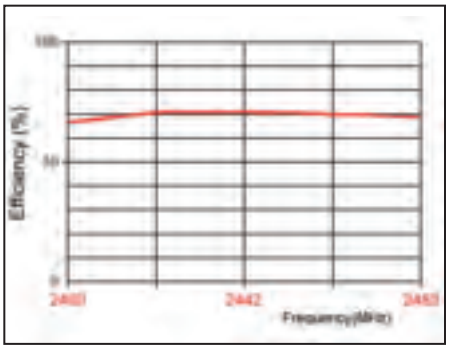
Azimuth



Elevation



Efficiency



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ZigBee is a trademark of ZigBee Alliance.

Catalog: 4-1773459-7
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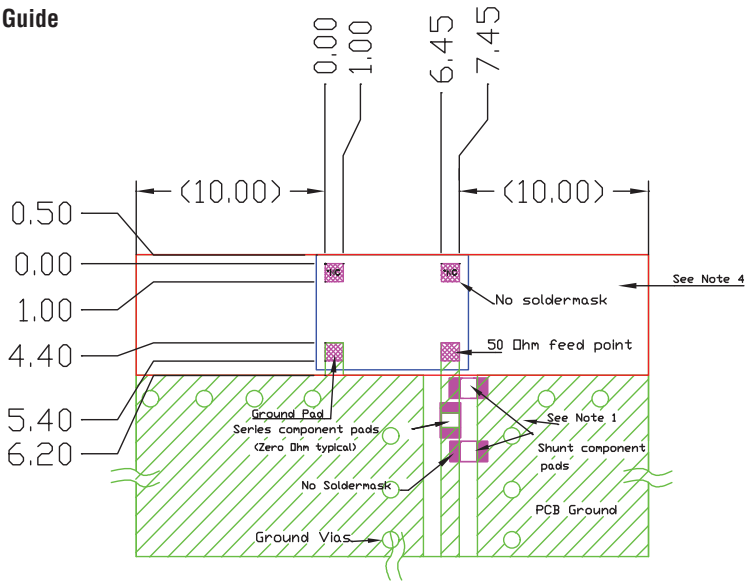
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
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2400 – 2483.5 MHz Single Band Antenna
(802.11 b/g, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513797-1
(Continued)

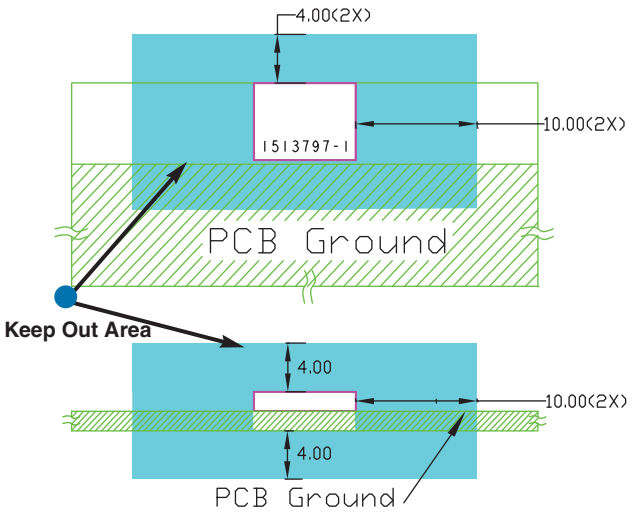
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers – ▭
5. For more information please call TE.

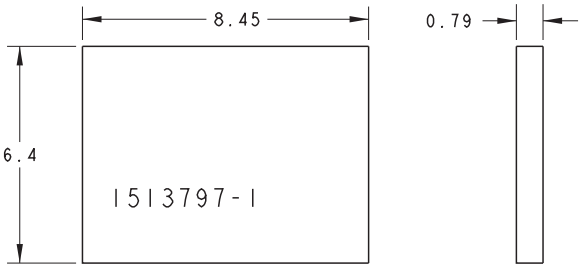
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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2300 – 3800 MHz Single Band Antenna

(802.11 b/g, includes frequencies of Bluetooth, ZigBee, Wi-Fi, and WiMAX products)

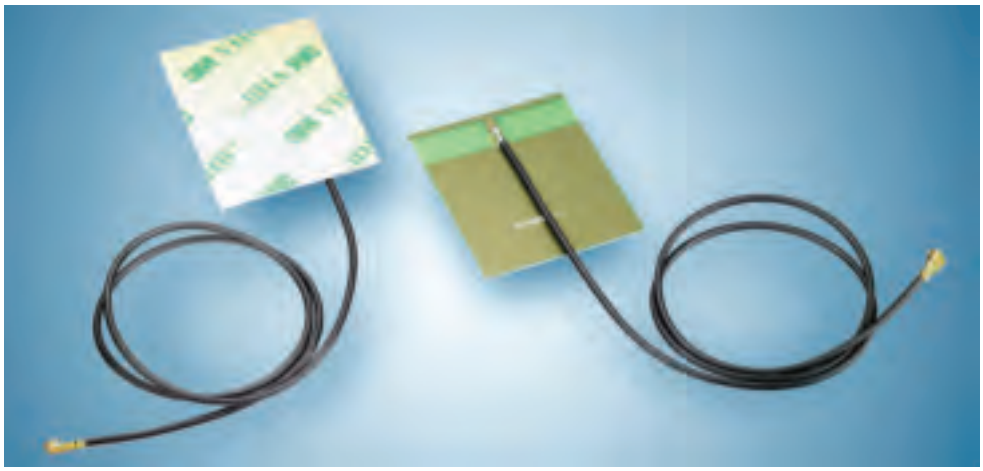
Part Number: 2118059-1

Product Facts

- **Small and lightweight thin PCB antenna assembly**
- **RoHS compliant**

Recommendations

- **For best performance follow Mounting Guide and Keep Out Area on next page**



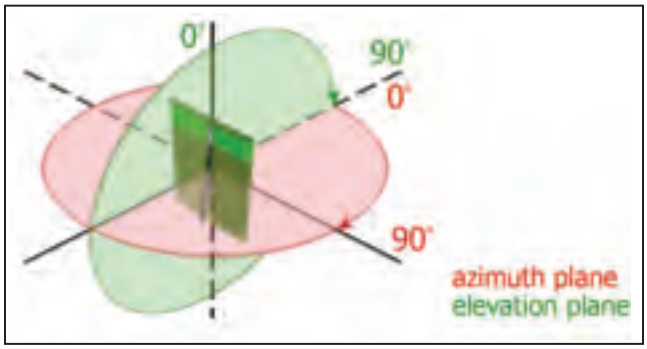
Specifications

Frequency Range (MHz) — 2300 – 3800
Peak Gain — +4 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 3 Watt
Feed Point Impedance — 50 Ohms unbalanced

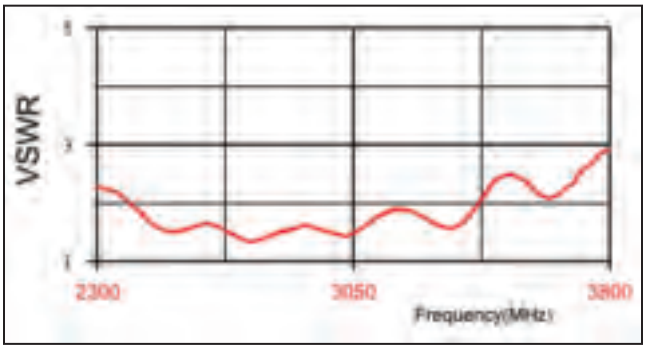
Size — 30.60 mm x 36.85 mm x 0.304 mm
Weight — < 3.3 g
Mounting — Adhesive. See diagram on next page
Keep Out Area — See diagram on next page
Cable / Connector — 350 mm length. 1.37 mm dia. with U.FI connector

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WiMAX is a trademark of WiMAX Forum.
ZigBee is a trademark of ZigBee Alliance.

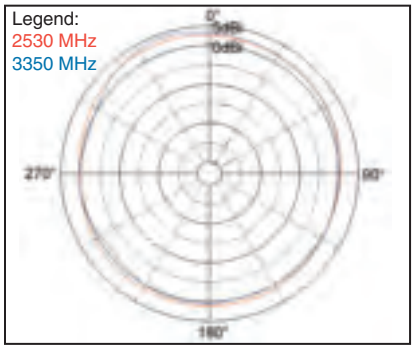
Test Orientation in Free Space



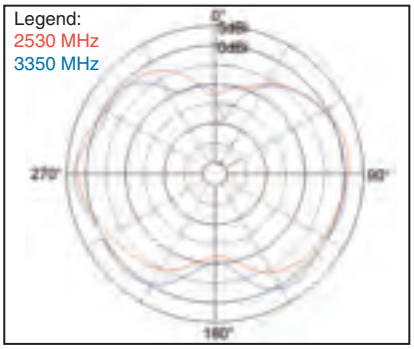
VSWR



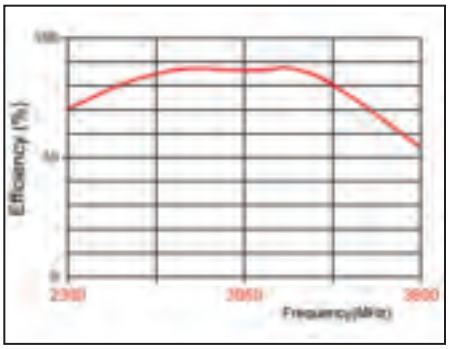
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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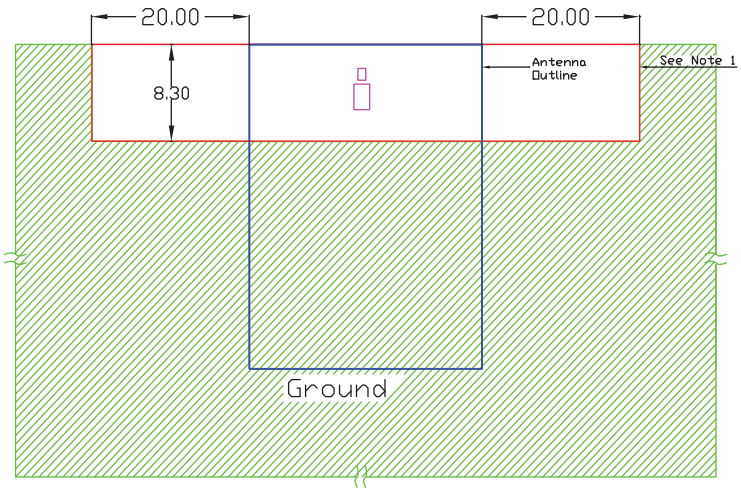
2300 – 3800 MHz Single Band Antenna

(802.11 b/g, incl. frequencies of Bluetooth, ZigBee, Wi-Fi, and WiMAX products) (Continued)

Part Number: 2118059-1

(Continued)

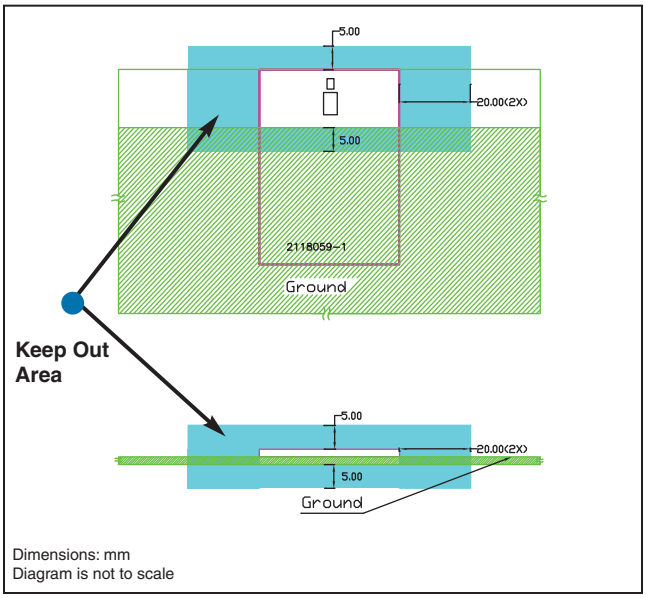
Mounting Guide



NOTES: 1. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

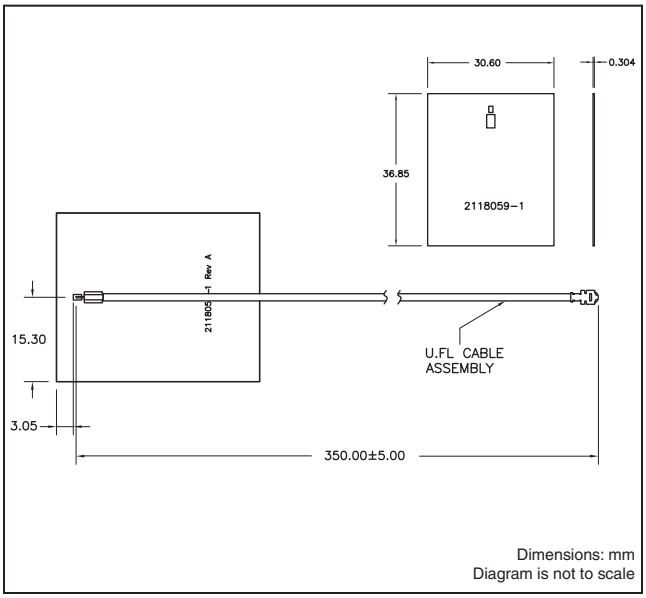
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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2400-2483.5 & 4900-5875 MHz Dual Band Antenna

(IEEE 802.11 a/b/g/n/ac/ad, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

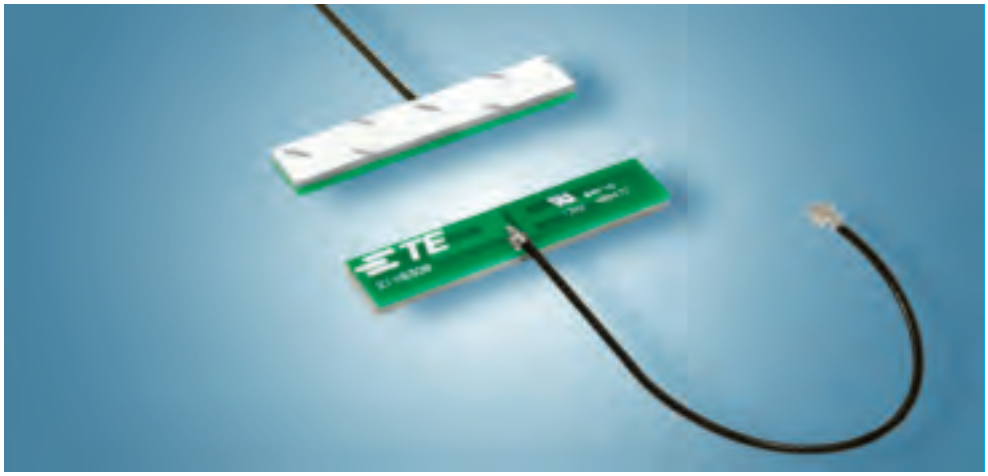
Part Number: 2118309-1

Product Facts

- **Small and lightweight PCB antenna assembly.**
- **RoHS compliant.**

Recommendations

- **For best performance follow Mounting Guide and Keep Out Area on next page.**

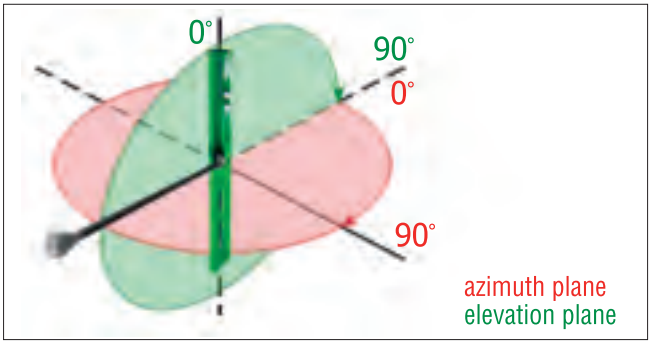


Specifications

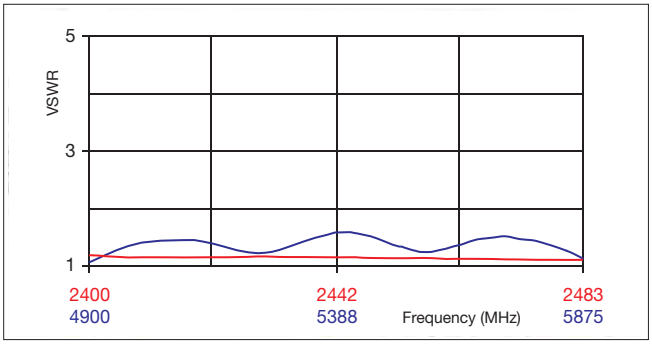
Frequency Range (MHz) — 2400–2483.5; 4900–5875
Peak Gain — +3.7 dBi
VSWR — < 2.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 3 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

Size — 40.0 mm x 8.0 mm x 1.0 mm
Weight — 1.4 g.
Mounting — Adhesive. See diagram on page 2.
Keep Out Area — See diagram on page 2.
Cable / Connector — 120 mm length. 1.13 mm dia. with U.FL connector

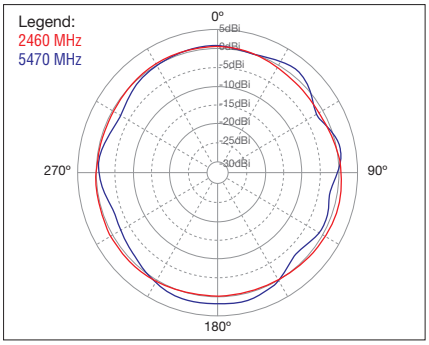
Test Orientation in Free Space



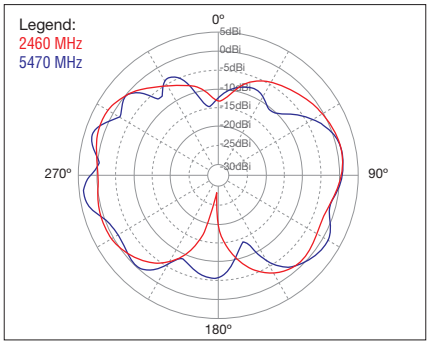
VSWR



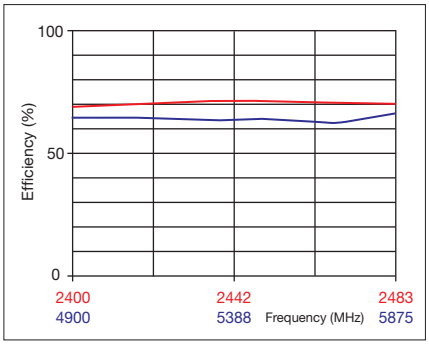
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

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For other country numbers go to:

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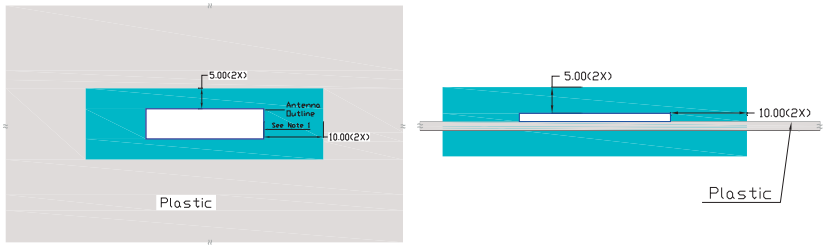
2400-2483.5 & 4900-5875 MHz Dual Band Antenna

(IEEE 802.11 a/b/g/n/ac/ad, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)(Continued)

Part Number: 2118309-1

(Continued)

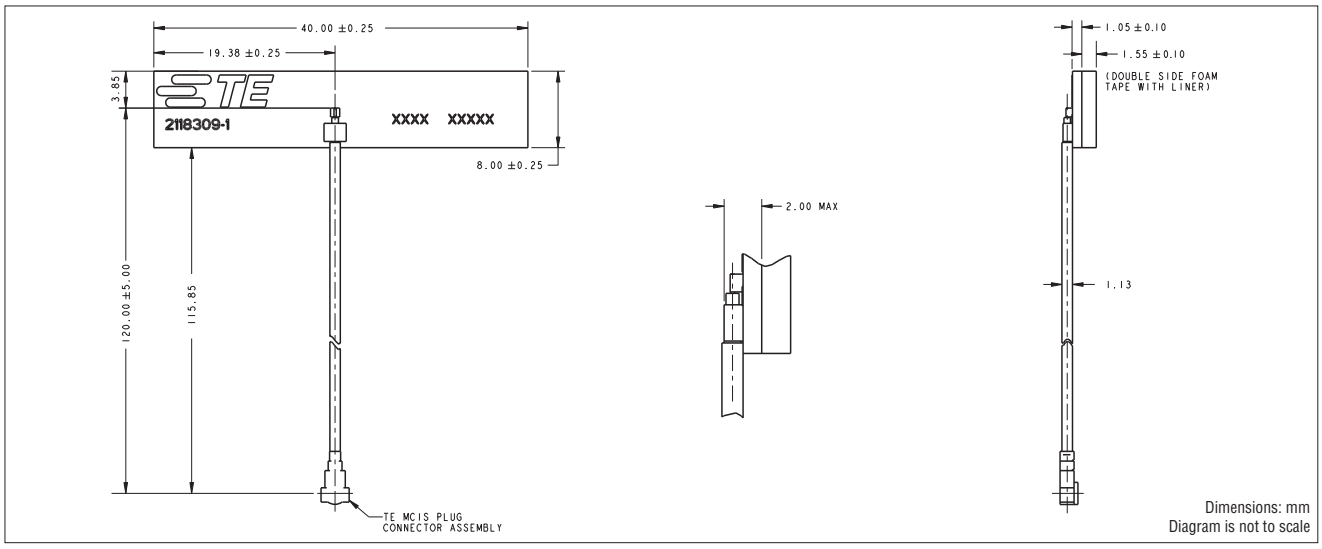
Mounting Guide and Keep Out Area



NOTES:
1. Antenna designed to be mounted on plastic cover.
2. Area in blue above indicates Keep Out Area.
3. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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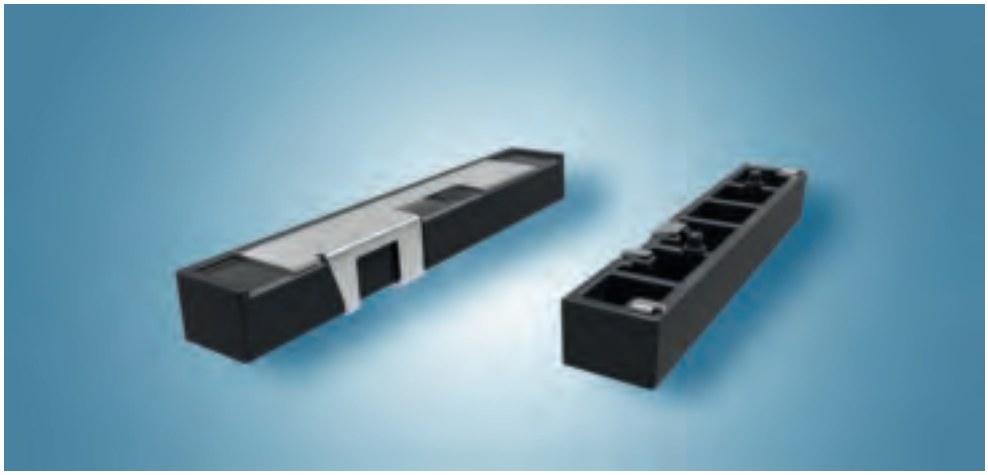
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2400-2483.5 & 4900-5875 MHz Dual Band Antenna

(IEEE 802.11 a/b/g/n/ac/ad, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 2118315-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers.**
- **Available in tray (2118315-2) or tape & reel (2118315-1) for automatic mounting**
- **RoHS compliant.**

Recommendations

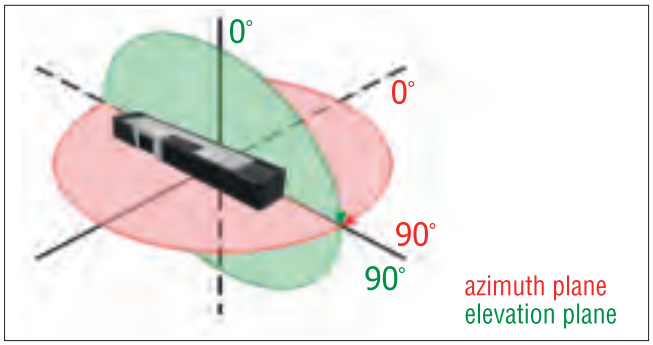
- **Minimum or no matching circuits required.**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer.**

Specifications

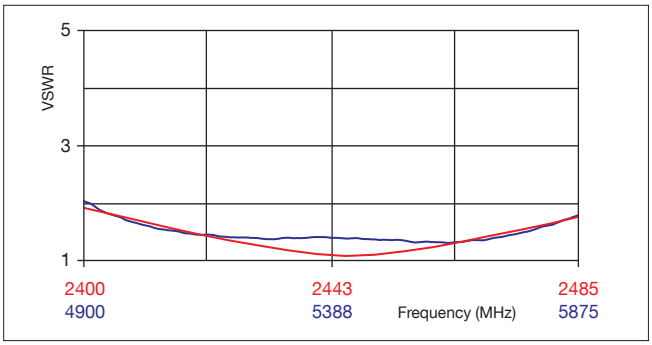
Frequency Range (MHz) — 2400–2483.5; 4900–5875
Peak Gain — +4.3 dBi
VSWR — < 2.5:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 3 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

Size — 35.95 mm x 6.05 mm x 4.28 mm
Weight — 1.2 g.
Mounting — Surface-mount technology. See diagram on page 2.
Keep Out Area — See diagram on page 2.

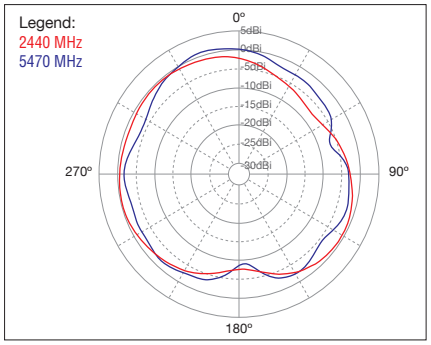
Test Orientation in Free Space



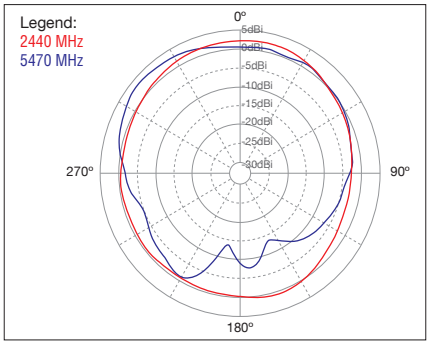
VSWR



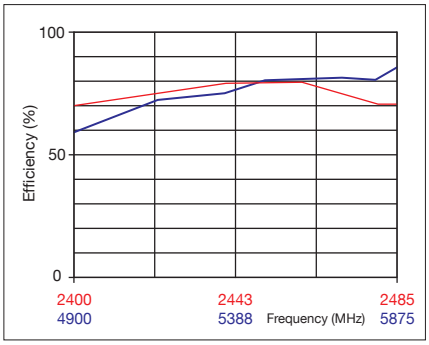
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
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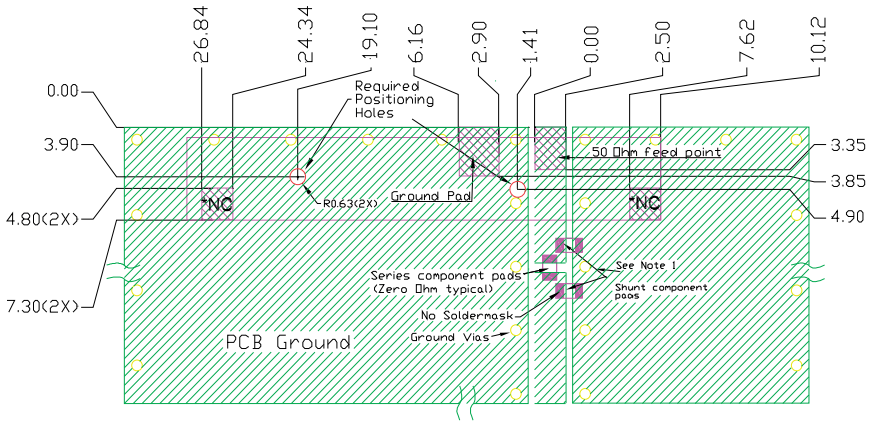
2400-2483.5 & 4900-5875 MHz Dual Band Antenna

(IEEE 802.11 a/b/g/n/ac/ad, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)(Continued)

Part Number: 2118315-1

(Continued)

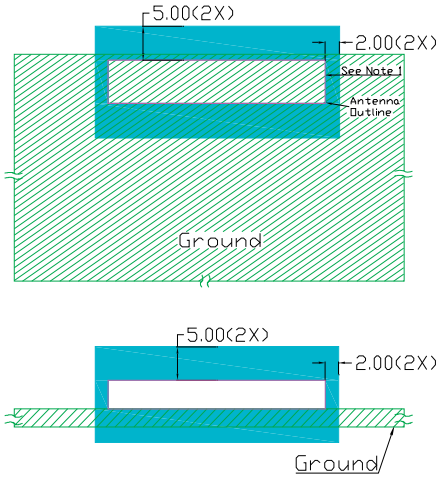
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. For more information please call TE.

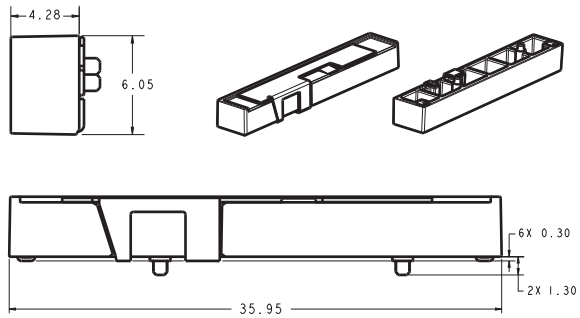
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 1513164-1

Product Facts

- **This is a surface-mount dual-band antenna intended for use in Bluetooth, and 802.11 a/b/g/n applications. This antenna provides excellent performance at a low cost.**
- **Available in tape & reel**
- **RoHS compliant**

Recommendations

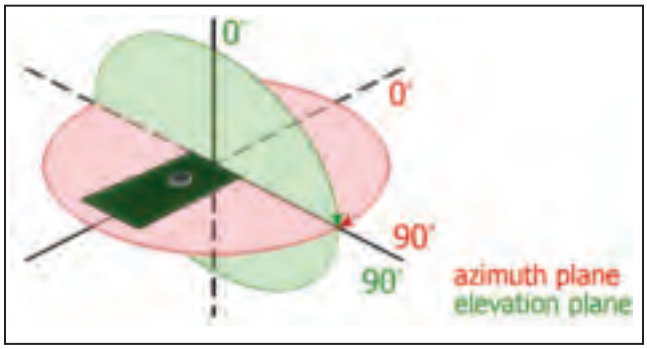
- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer**



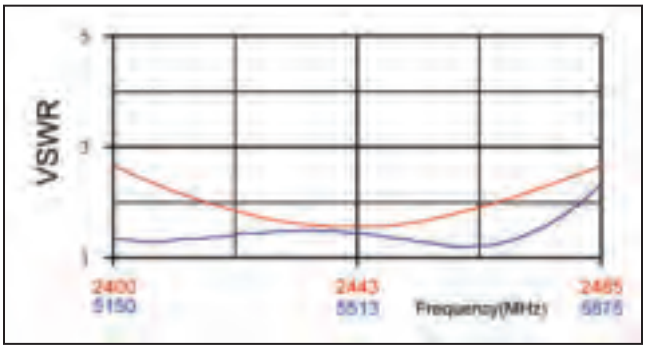
Specifications

Frequency Range (MHz) — 2400 – 2483.5; 5150 – 5875
Peak Gain — +4 dBi
VSWR — < 2.5:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 16.0 mm x 6.0 mm
Weight — < 1 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

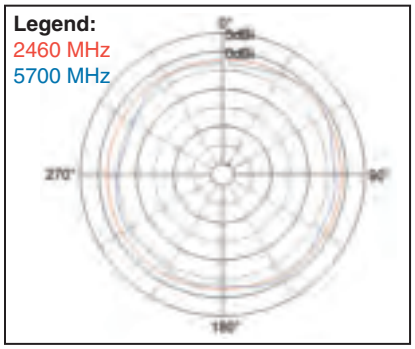
Test Orientation in Free Space



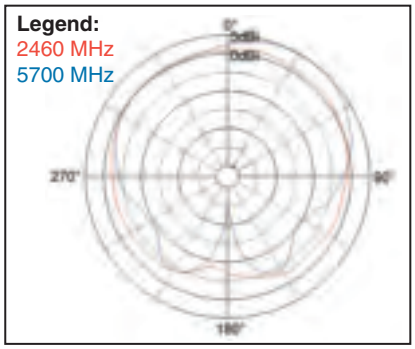
VSWR



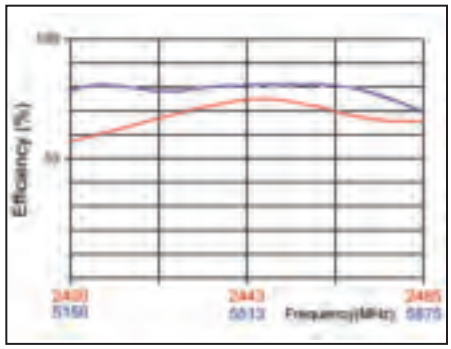
Azimuth



Elevation



Efficiency



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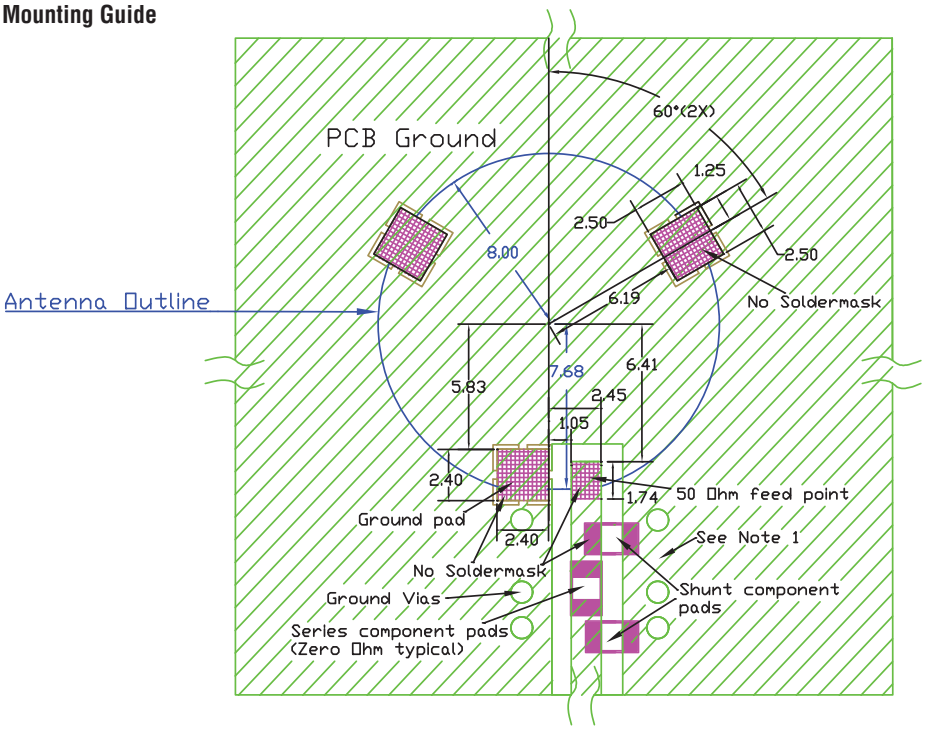
2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513164-1

(Continued)

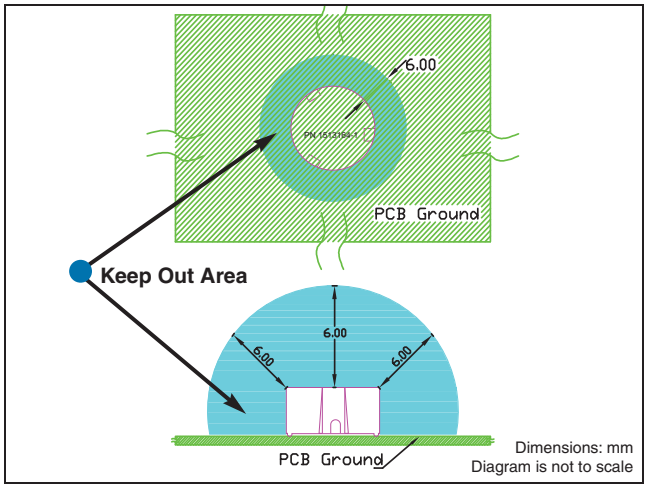
Mounting Guide



NOTES: 1. Suggested matching component pads.
2. For more information please call TE.

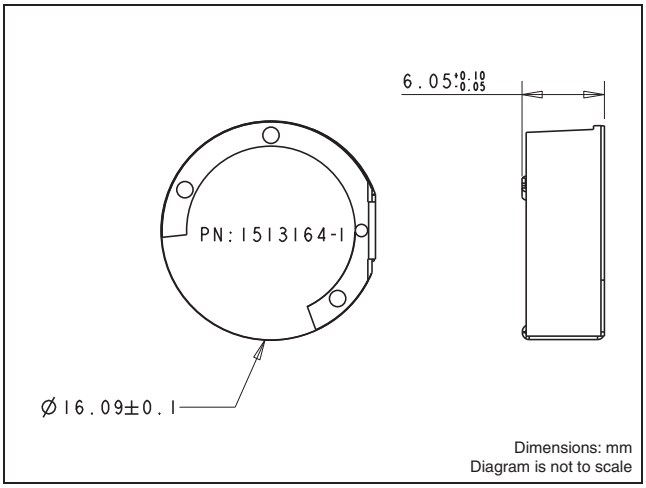
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 1513472-5

Product Facts

- **Universal antenna module assembly**
- **RoHS compliant**

Recommendations

- **Antenna is to be mounted on a metal chassis**
- **Panel thickness must be between .8 mm and 1 mm**
- **Performance and bandwidth is dependant on chassis size**



Specifications

Frequency Range (MHz) — 2400 – 2483.5; 5150 – 5875

Peak Gain — 3 dBi

VSWR — <3.0:1

Polarization — Linear

Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

Size — 29.00 mm x 12.00 mm x 10.00 mm

Weight — < 5.5 g

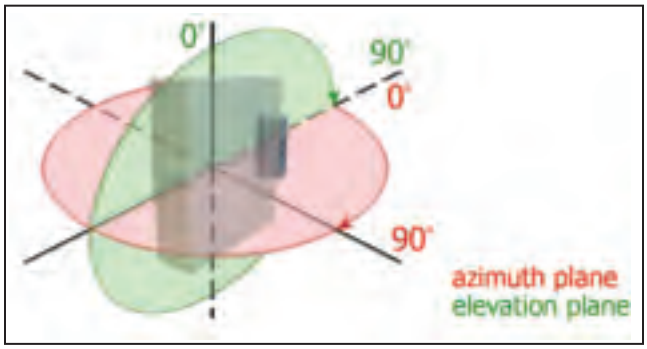
Mounting — Universal Antenna Module

Keep Out Area — See diagram on next page

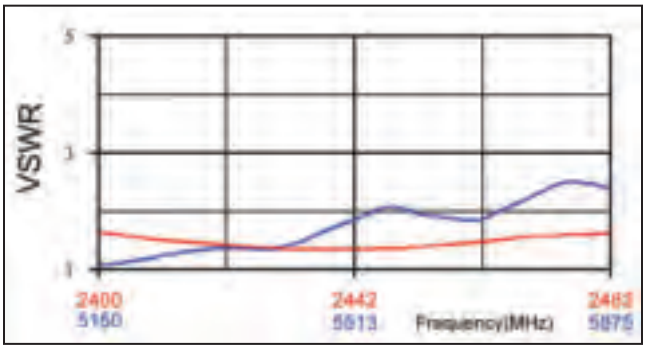
Cable / Connector — 360 mm length. 1.13 mm dia. with U.FI connector

Note — Data shown was taken on a nominal size metal chassis

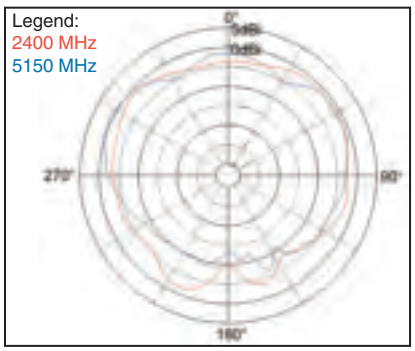
Test Orientation in Free Space



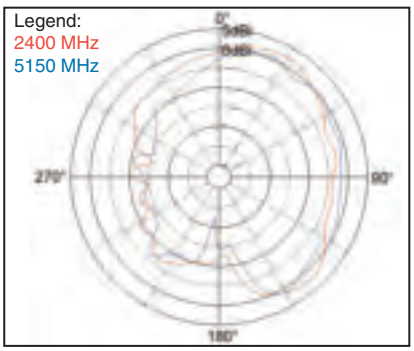
VSWR



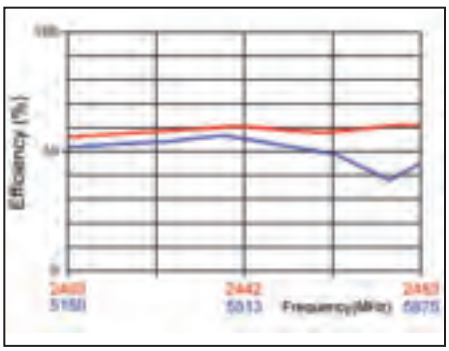
Azimuth



Elevation



Efficiency



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2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

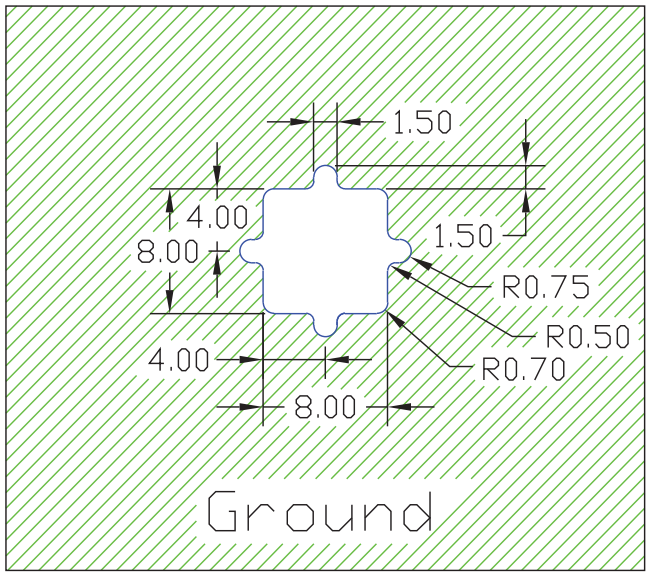
(802.11 a/b/g/n, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513472-5

(Continued)

NOTE:
Panel thickness must be between 0.8 mm and 1 mm.

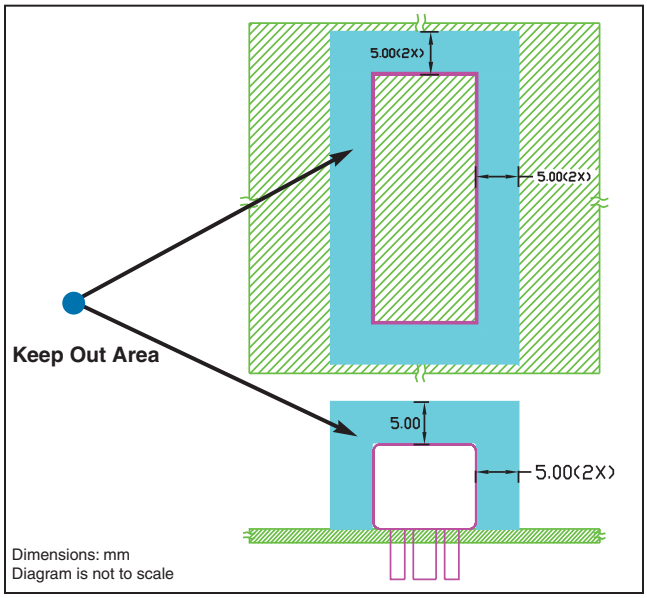
Mounting Guide



NOTES: 1. Antenna must be mounted on a metal chassis.
2. For more information please call TE.

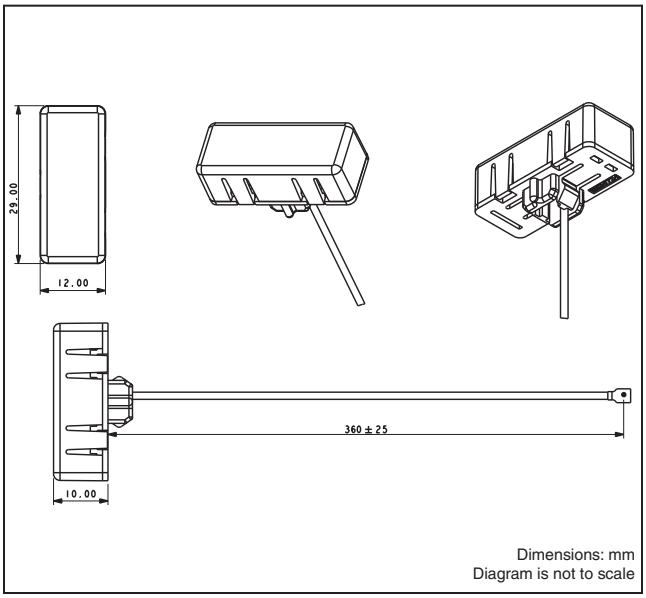
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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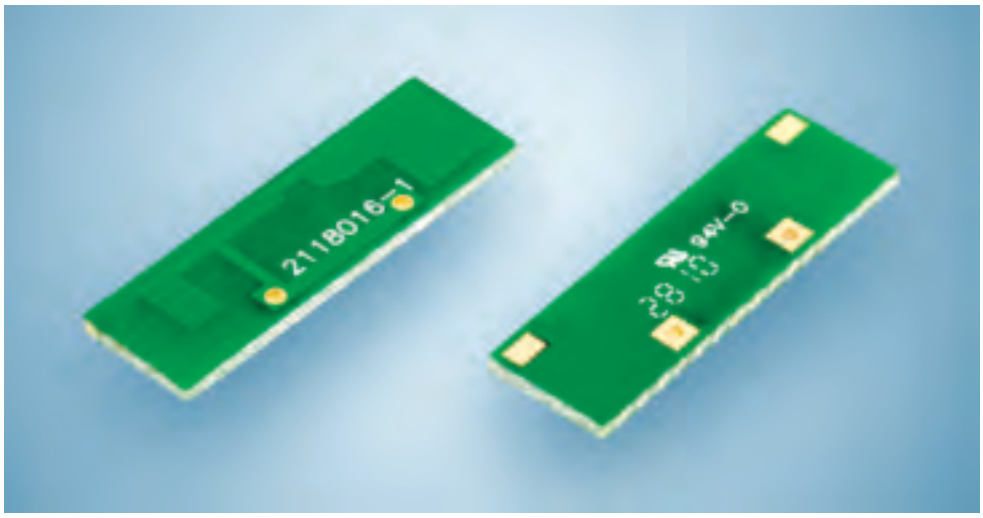
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2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, includes frequencies of Bluetooth, ZigBee, and Wi-Fi products)

Part Number: 2118016-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, adjustment-free antenna technology for handling during assembly and implementation by developers**
- **RoHS compliant**

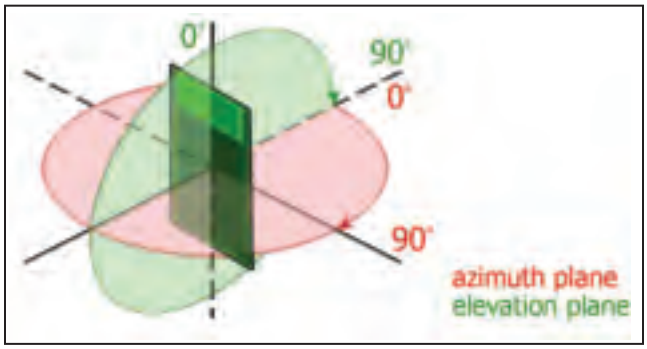
Recommendations

- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.**
- **PCB ground is to be on top layer**

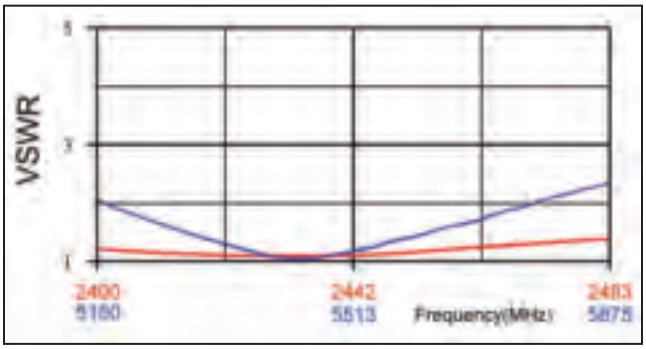
Specifications

Frequency Range (MHz) — 2400 – 2483.5; 5150 – 5875
Peak Gain — +2 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 18.90 mm x 6.20 mm x 0.79 mm
Weight — < 0.3 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

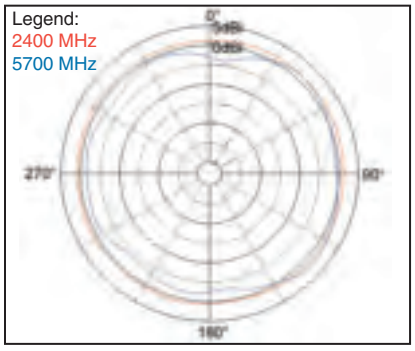
Test Orientation in Free Space



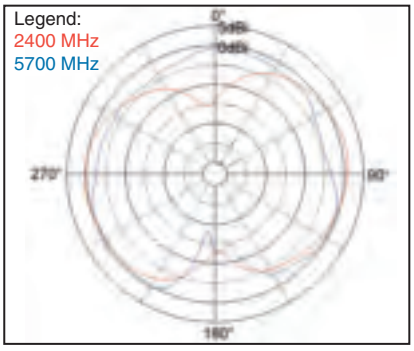
VSWR



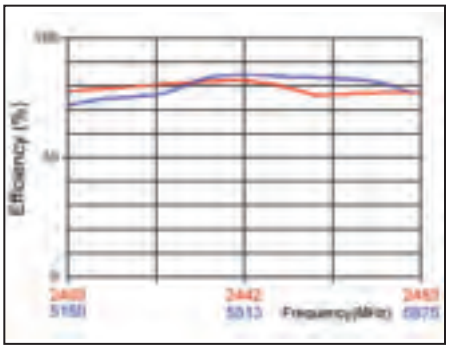
Azimuth



Elevation



Efficiency



Bluetooth is a trademark of Bluetooth SIG, Inc.
Wi-Fi is a trademark of Wi-Fi Alliance.
ZigBee is a trademark of ZigBee Alliance.

Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

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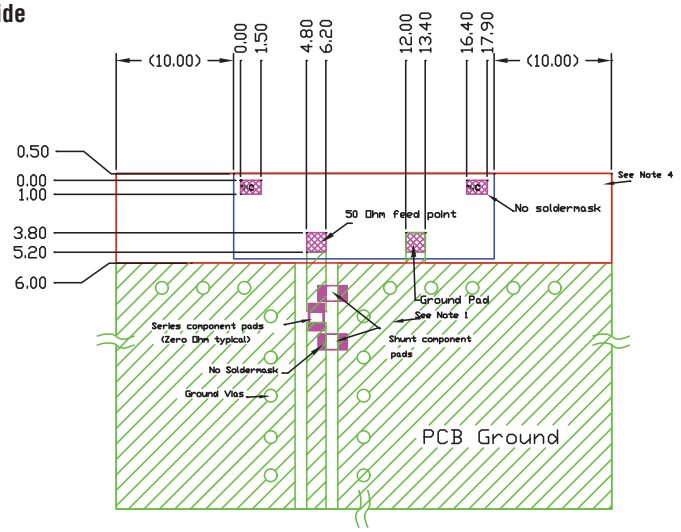
2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 2118016-1

(Continued)

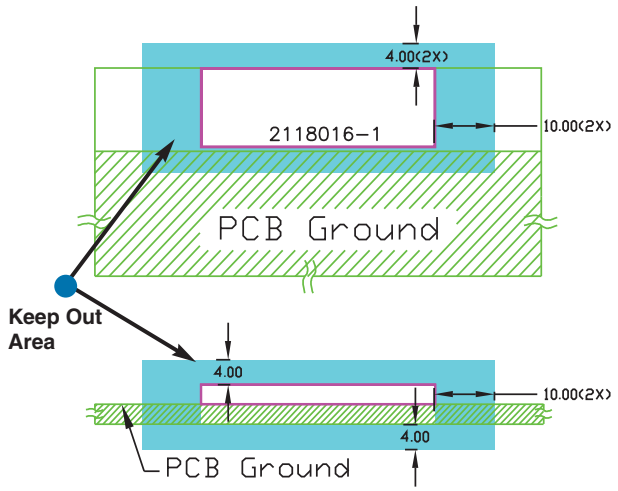
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers – ▭
5. For more information please call TE.

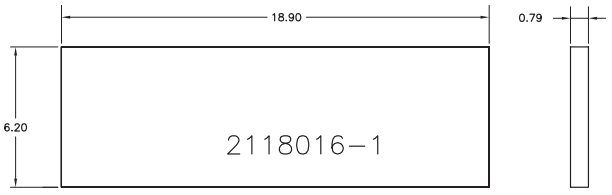
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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2300 – 3800 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, includes frequencies of Bluetooth, ZigBee, Wi-Fi, and WiMAX products)

Part Number: 2118060-1

Product Facts

- **Small and lightweight thin PCB antenna assembly**
- **RoHS compliant**

Recommendations

- **For best performance follow Mounting Guide and Keep Out Area on next page**



Specifications

Frequency Range (MHz) — 2300 – 3800; 5150 – 5875

Peak Gain — +2 dBi

VSWR — < 3.0:1

Polarization — Linear

Azimuth Beamwidth — Omni-directional

Power Handling — 3 Watt

Feed Point Impedance — 50 Ohms unbalanced

Size — 29.60 mm x 41.24 mm x 0.304 mm

Weight — < 3.3 g

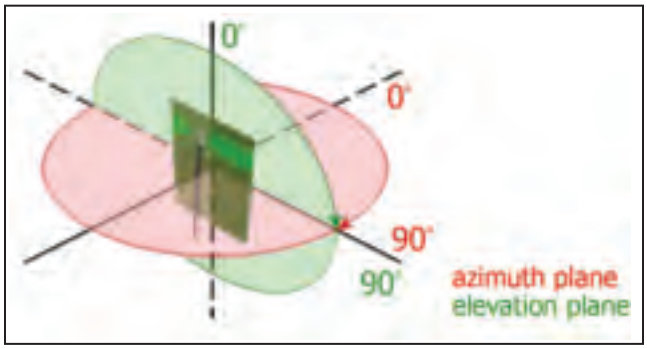
Mounting — Adhesive. See diagram on next page

Keep Out Area — See diagram on next page

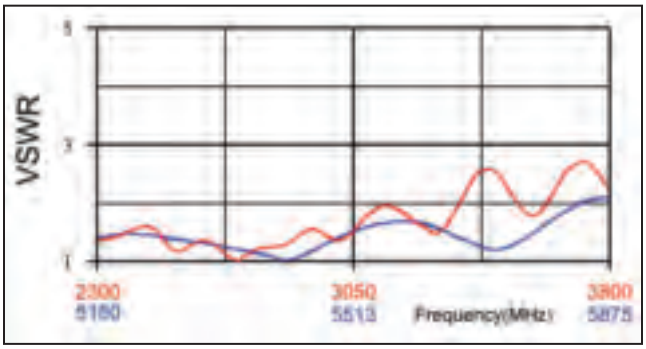
Cable / Connector — 350 mm length. 1.37 mm dia. with U.FI connector

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WiMAX is a trademark of WiMAX Forum.
ZigBee is a trademark of ZigBee Alliance.

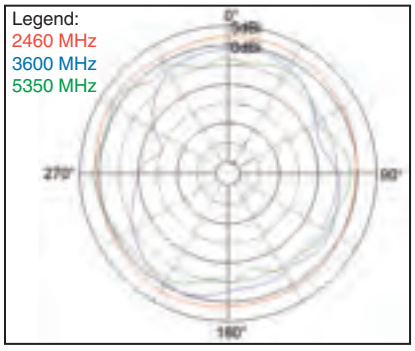
Test Orientation in Free Space



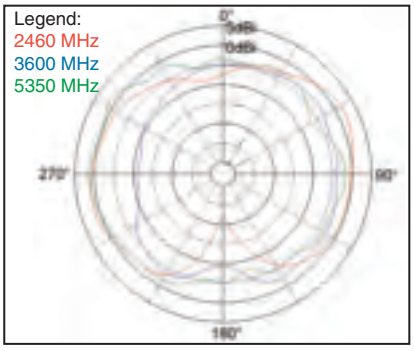
VSWR



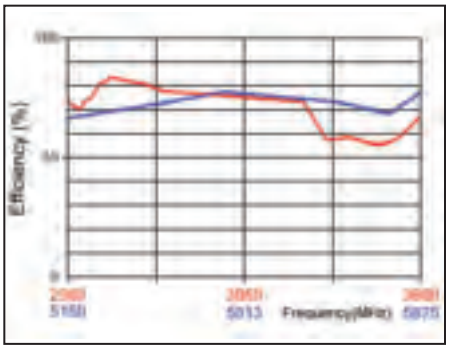
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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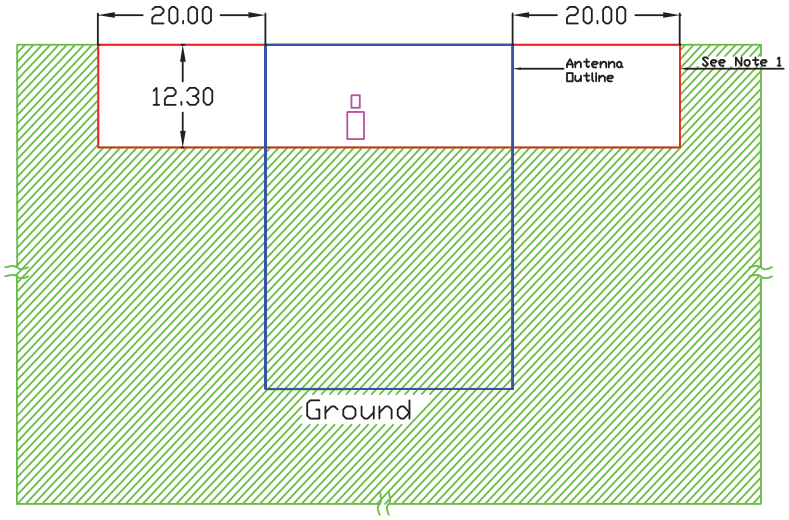
2300 – 3800 & 5150 – 5875 MHz Dual Band Antenna

(802.11 a/b/g/n, incl. frequencies of Bluetooth, ZigBee, Wi-Fi, and WiMAX products) (Continued)

Part Number: 2118060-1

(Continued)

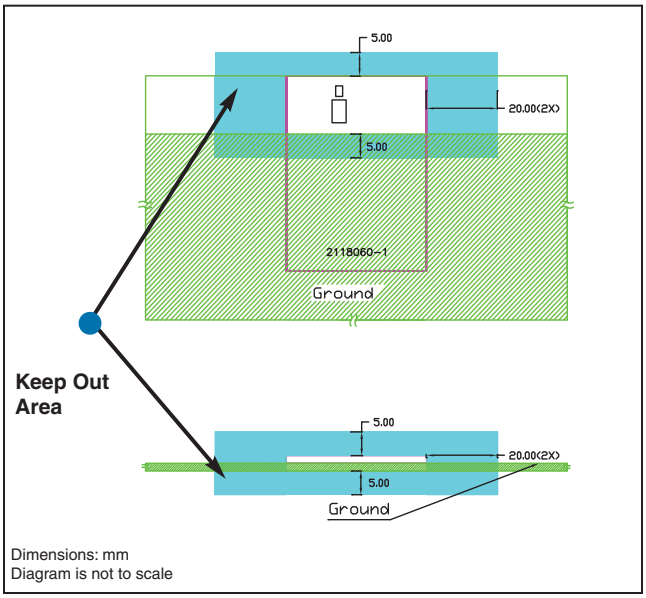
Mounting Guide



NOTES: 1. No copper allowed in designated area on all PCB layers –
2. For more information please call TE.

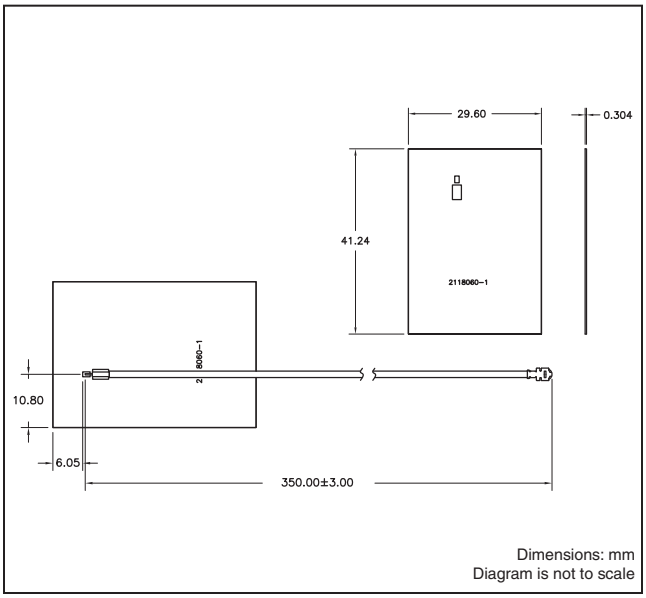
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

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WiMAX is a trademark of WiMAX Forum.
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For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

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4900-5875 MHz Single Band Antenna
(IEEE 802.11 a/g/n/ac, includes frequencies of Wi-Fi products)

Part Number: 2118316-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers.**
- **Available in tray (2118316-2) or tape & reel (2118316-1) for automatic mounting.**
- **RoHS compliant.**

Recommendations

- **Minimum or no matching circuits required.**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 15 mm.**
- **PCB ground is to be on top layer.**

Specifications

Frequency Range (MHz) — 4900–5875

Peak Gain — +4.9 dBi

VSWR — < 2.5:1

Polarization — Linear

Azimuth Beamwidth — Omni-directional

Power Handling — 3 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

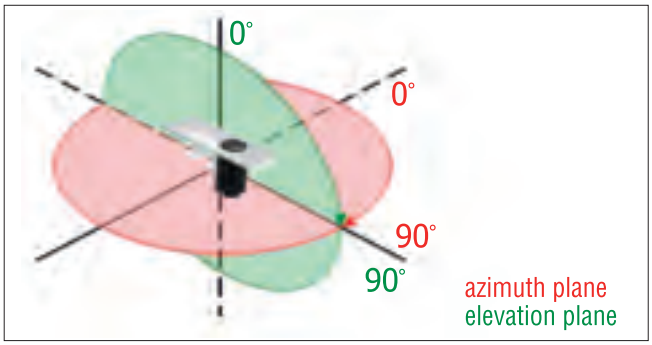
Size — 11.00 mm x 4.25 mm x 4.90 mm

Weight — 0.2 g.

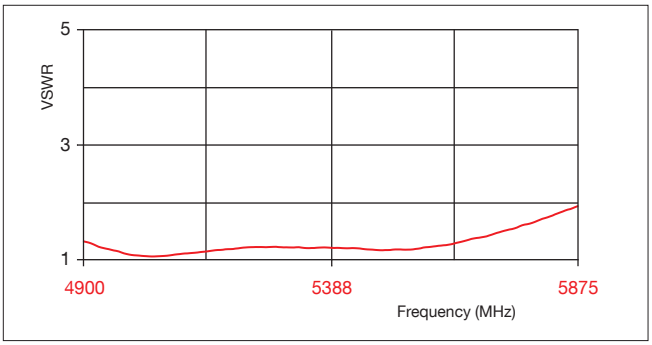
Mounting — Surface-mount technology. See diagram on page 2.

Keep Out Area — See diagram on page 2.

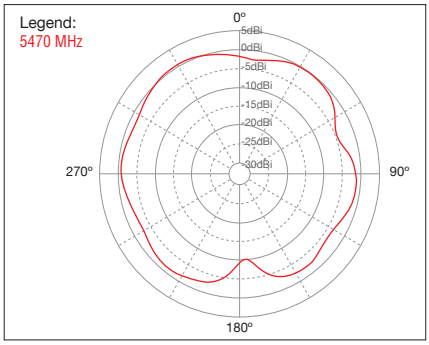
Test Orientation in Free Space



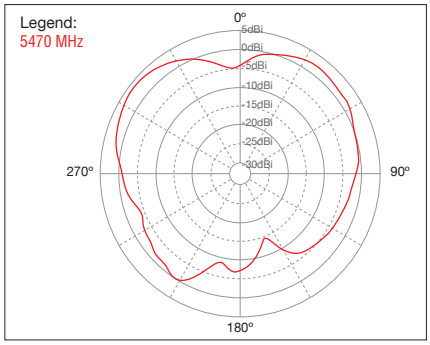
VSWR



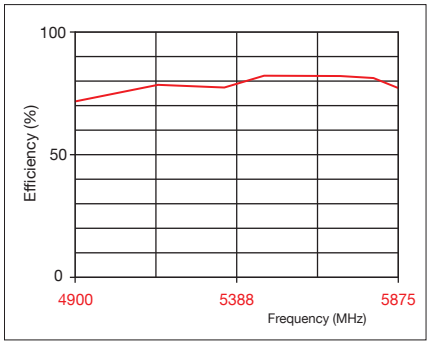
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
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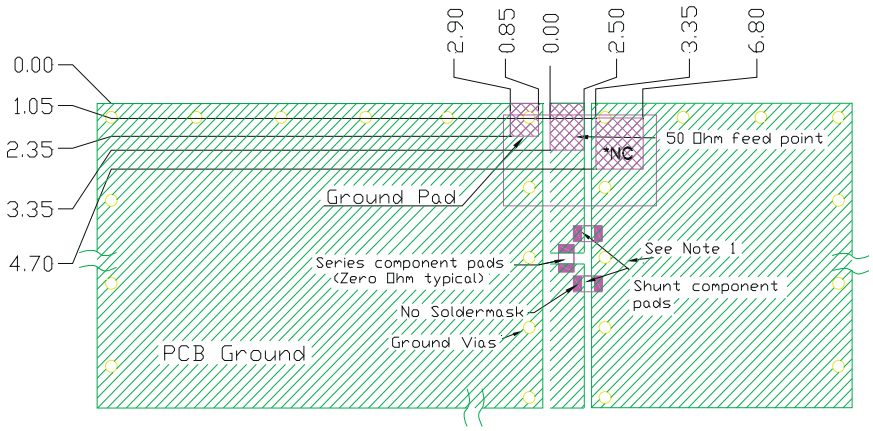
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4900-5875 MHz Single Band Antenna
(IEEE 802.11 a/g/n/ac, includes frequencies of Wi-Fi products)(Continued)

Part Number: 2118316-1
(Continued)

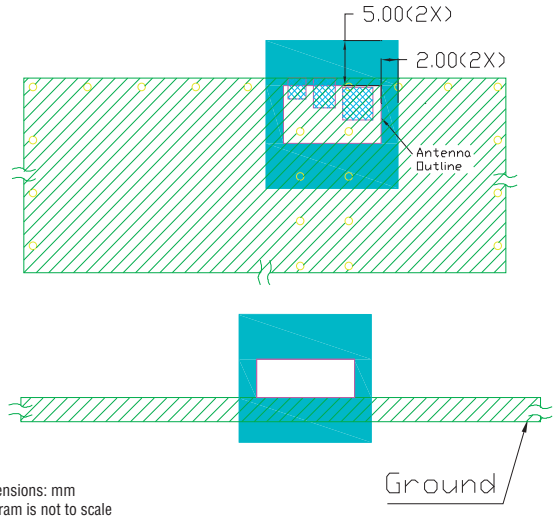
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. For more information please call TE.

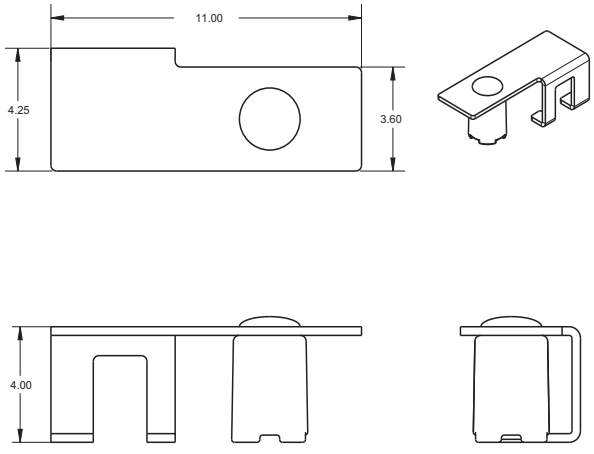
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

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4900-5875 MHz Single Band Antenna
(IEEE 802.11 a/g/n/ac, includes frequencies of Wi-Fi products)

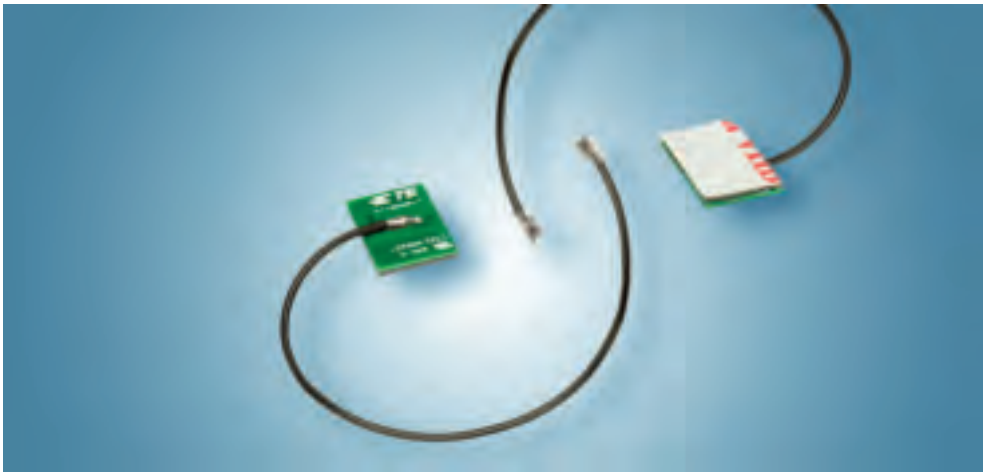
Part Number: 2118326-1

Product Facts

- **Small and lightweight PCB antenna assembly.**
- **RoHS compliant.**

Recommendations

- **For best performance follow Mounting Guide and Keep Out Area on next page.**



Specifications

Frequency Range (MHz) — 4900–5875

Peak Gain — +2.4 dBi

VSWR — < 2.5:1

Polarization — Linear

Azimuth Beamwidth — Omni-directional

Power Handling — 3 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

Size — 15.0 mm x 10.0 mm x 1.0 mm

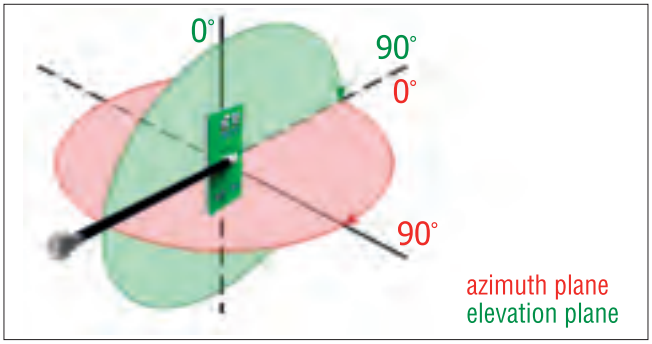
Weight — 1.0 g.

Mounting — Adhesive. See diagram on page 2.

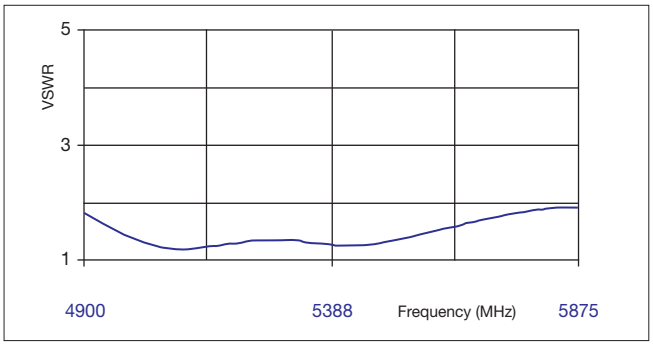
Keep Out Area — See diagram on page 2.

Cable / Connector — 120 mm length. 1.13 mm dia. with U.FL connector

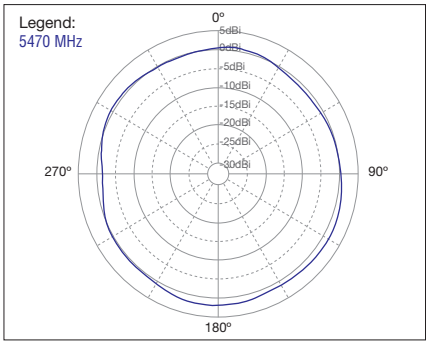
Test Orientation in Free Space



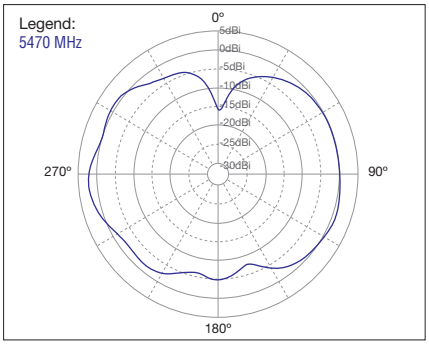
VSWR



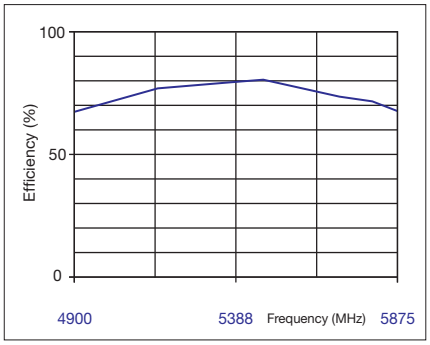
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
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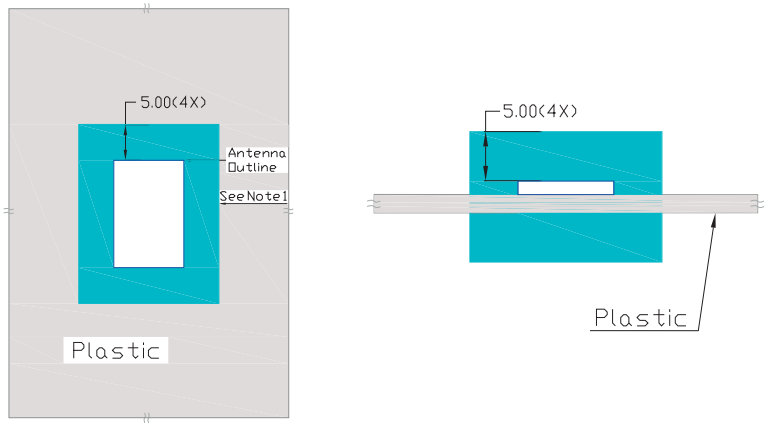
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4900-5875 MHz Single Band Antenna
(IEEE 802.11 a/g/n/ac, includes frequencies of Wi-Fi products)(Continued)

Part Number: 2118326-1
(Continued)

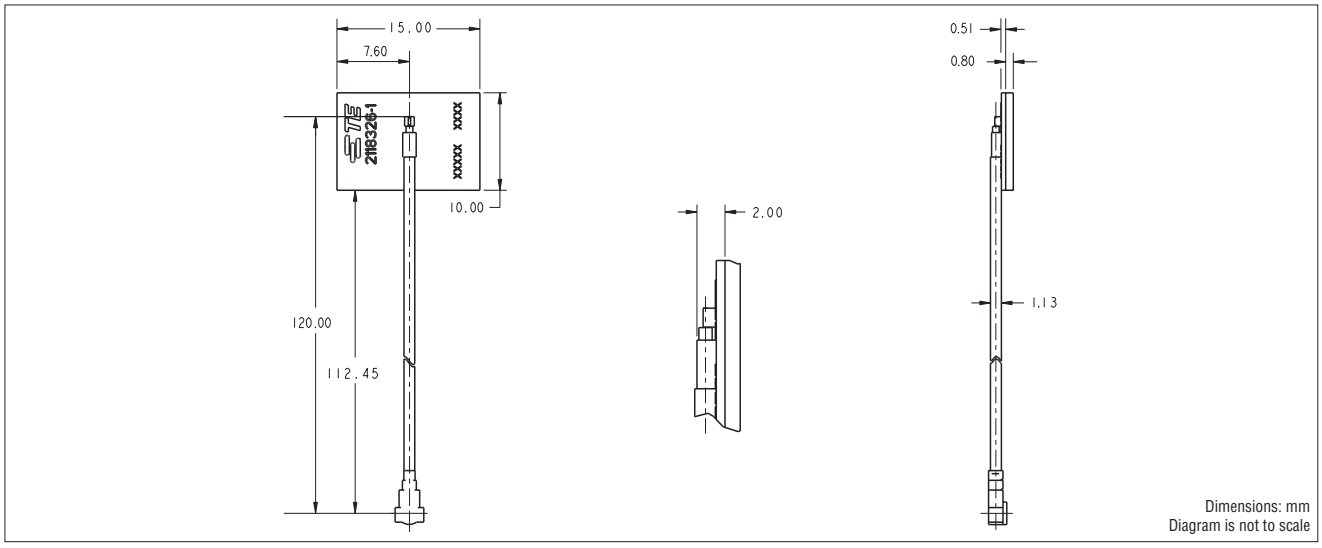
Mounting Guide and Keep Out Area



NOTES:
1. Antenna designed to be mounted on plastic cover.
2. Area in blue above indicates Keep Out Area.
3. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Approx. Dimensions



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698-960, 1710-2170 & 2300-2700 MHz LTE/Cell Band Antenna
(includes frequencies of LTE, UMTS, US Dual, EU Triband, and WCDMA products)

Part Number: 2118308-1

Product Facts

- **This MetaSpan antenna product uses metamaterial technology to cover virtually all cell bands in one compact antenna assembly.**
- **RoHS compliant.**

Recommendations

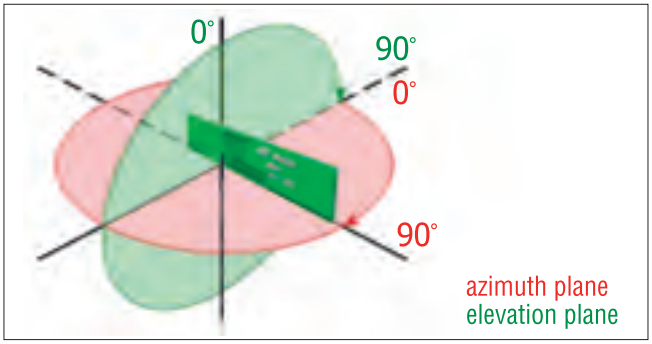
- **For best performance follow Mounting Guide and Keep Out Area on next page.**



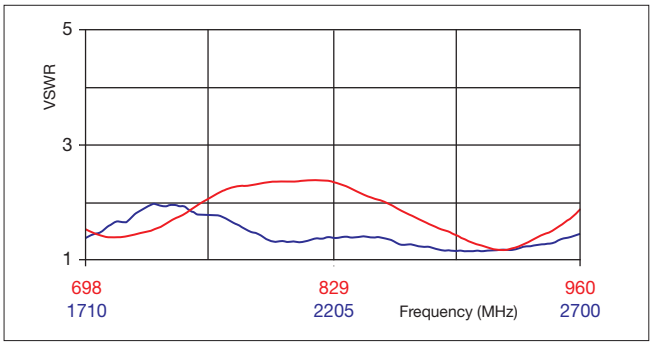
Specifications

Frequency Range (MHz) — 698–960; 1710–2170; 2300-2700
Peak Gain — +3.9 dBi
VSWR — < 3.0:1
Polarization — Linear
Power Handling — 3 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 110.0 mm x 14.0 mm x 1.31 mm
Weight — 4.2 g.
Mounting — Adhesive. See diagram on page 2.
Keep Out Area — See diagram on page 2.
Cable / Connector — 120 mm length. 1.13 mm dia. with TE MCIS connector

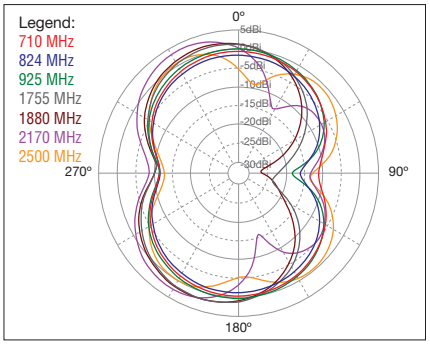
Test Orientation in Free Space



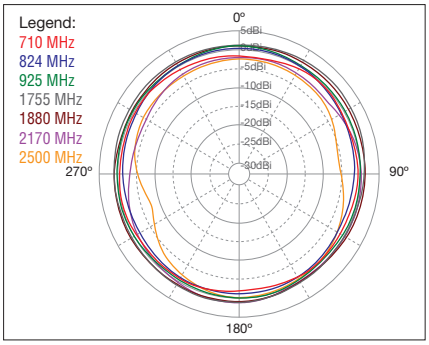
VSWR



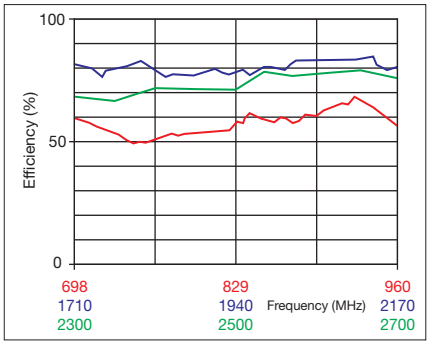
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

www.te.com
www.antenna.te.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

For other country numbers go to:

UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

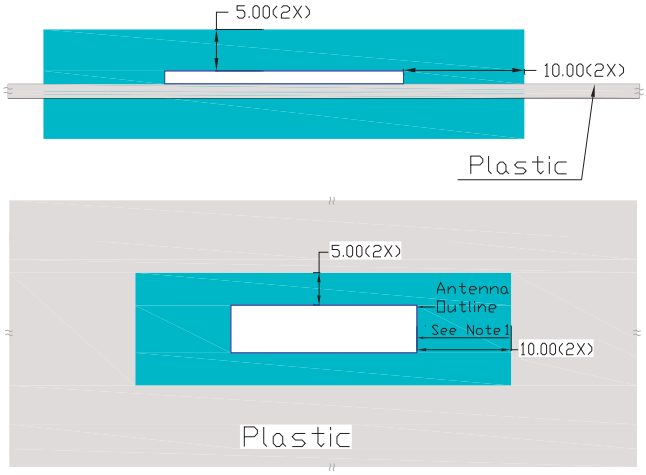
698-960, 1710-2170 & 2300-2700 MHz LTE/Cell Band Antenna

(includes frequencies of LTE, UMTS, US Dual, EU Triband, and WCDMA products)(Continued)

Part Number: 2118308-1

(Continued)

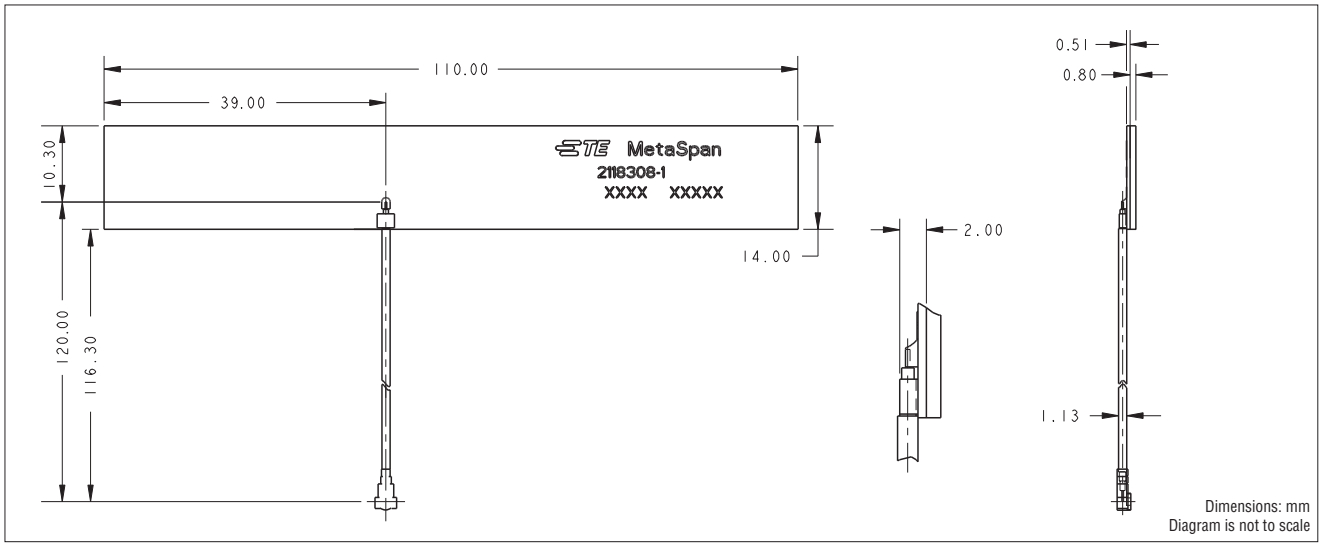
Mounting Guide and Keep Out Area



NOTES:
1. Antenna designed to be mounted on plastic cover.
2. Area in blue above indicates Keep Out Area.
3. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

MetaSpan is a trademark.

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
Revised 05-14

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www.antenna.te.com

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698-960, 1710-2170 & 2300-2700 MHz LTE/Cell Band Antenna
(includes frequencies of LTE, UMTS, US Dual, EU Triband, and WCDMA products)

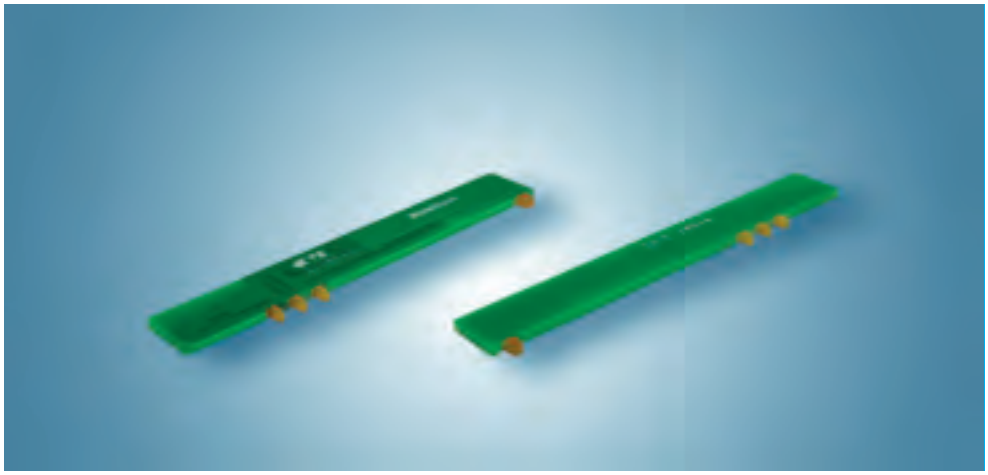
Part Number: 2118310-1

Product Facts

- **This MetaSpan antenna product uses metamaterial technology to cover virtually all cell bands in one compact antenna assembly.**
- **RoHS compliant.**

Recommendations

- **Minimum or no matching circuits required.**
- **Bandwidth and performance are dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 120 mm.**
- **PCB ground is to be on top layer.**

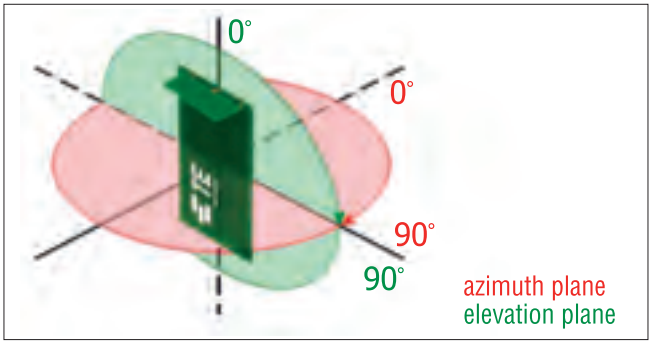


Specifications

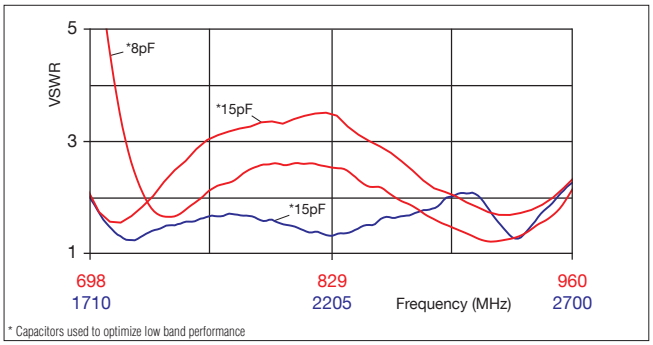
Frequency Range (MHz) — 698–960; 1710-2170; 2300–2700
Peak Gain — +3.5 dBi
VSWR — < 3.0:1 tunable
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 3 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

Size — 74.0 mm x 10.56 mm x 1.57 mm
Weight — 2.55 g.
Mounting — Tab mounted with plated through holes. See page 2.
Keep Out Area — See diagram on page 2.

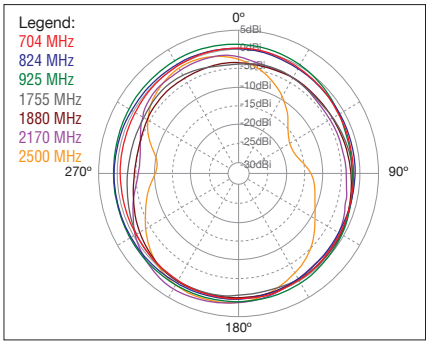
Test Orientation in Free Space



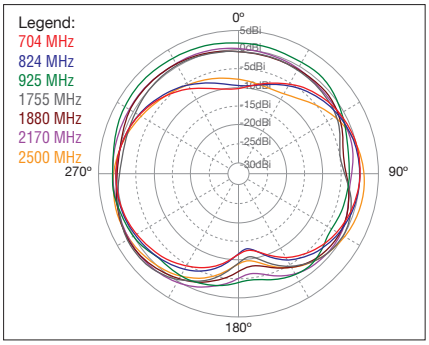
VSWR



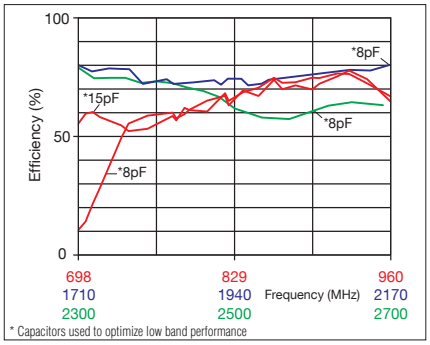
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Germany: +49 (0) 6251-133-1999

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Netherlands: +31 (0) 73-6246-999
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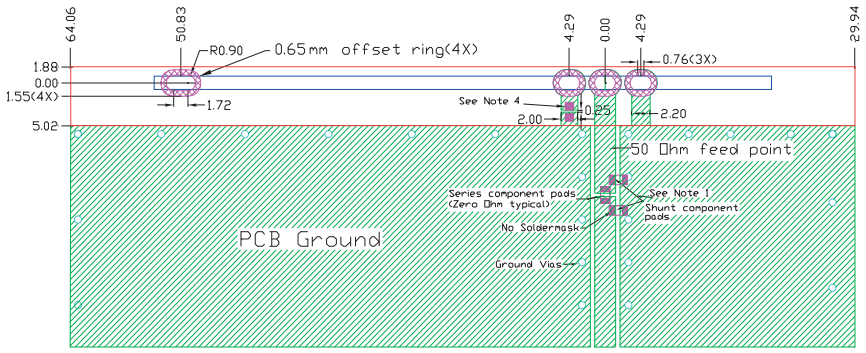
698-960, 1710-2170 & 2300-2700 MHz LTE/Cell Band Antenna

(includes frequencies of LTE, UMTS, US Dual, EU Triband, and WCDMA products)(Continued)

Part Number: 2118310-1

(Continued)

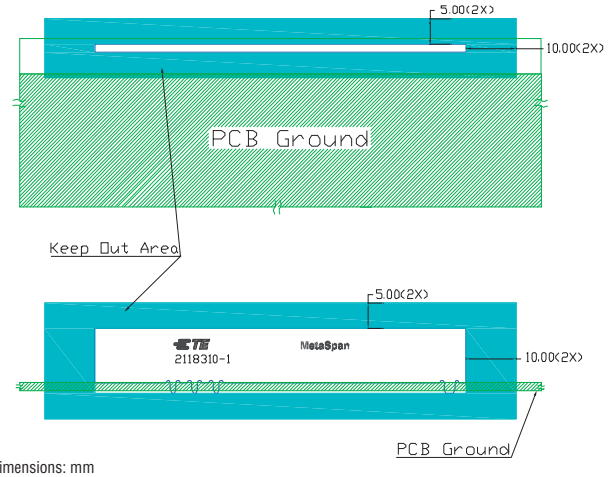
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. No copper allowed in designated area on all PCB layers – ▭
4. Capacitor used to optimize low band performance
5. For more information please call TE.

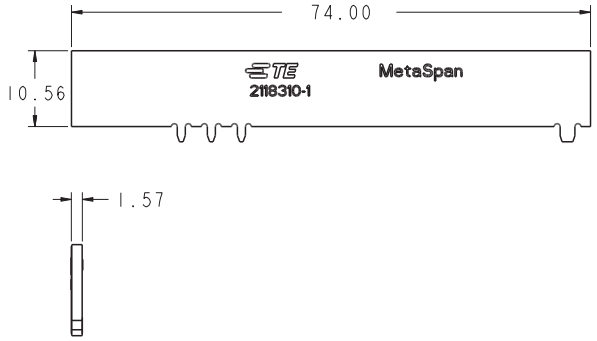
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

MetaSpan is a trademark.

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

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824 – 894 & 1850 – 1990 MHz Dual Band Antenna (US Dual Band)

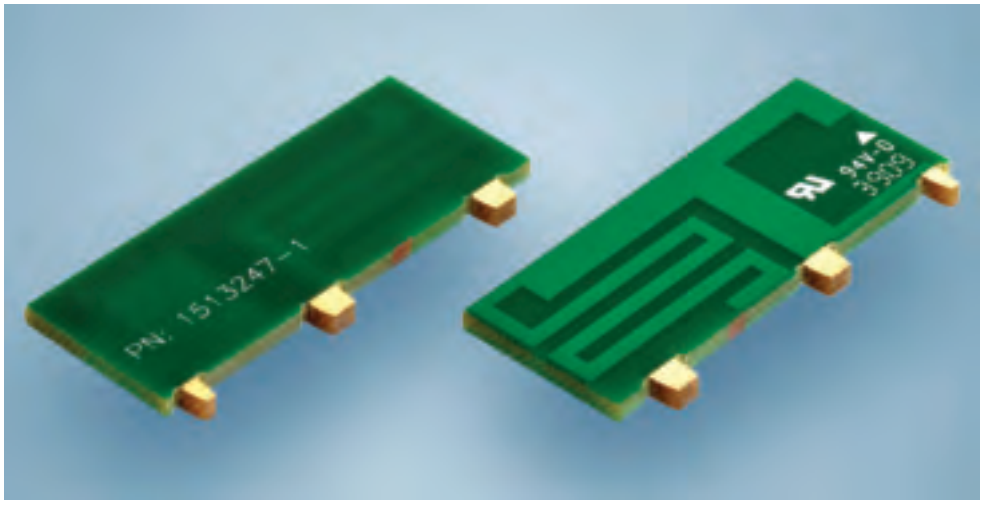
Part Number: 1513247-1

Product Facts

- Small and lightweight
- RoHS compliant

Recommendations

- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 100 mm.

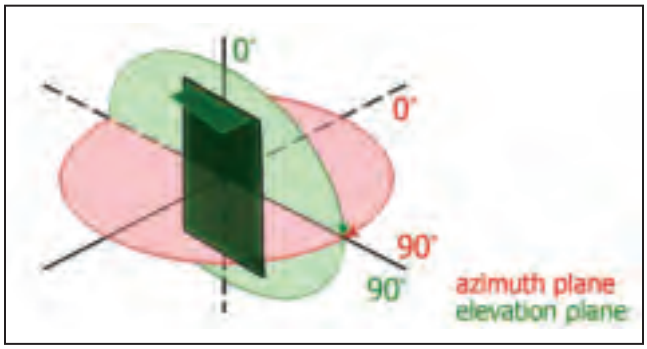


Specifications

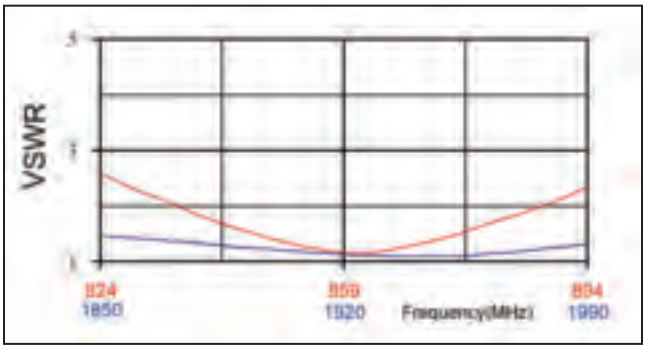
Frequency Range (MHz) — 824 – 894; 1850 – 1990
Peak Gain — 0 dBi; +3 dBi
VSWR — < 3.0:1; < 3.0:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms

Size — 38.10 mm x 15.24 mm x 1.57 mm
Weight — < 2 g
Mounting — Tab mounted with plated through holes. See next page
Keep Out Area — See diagram on next page

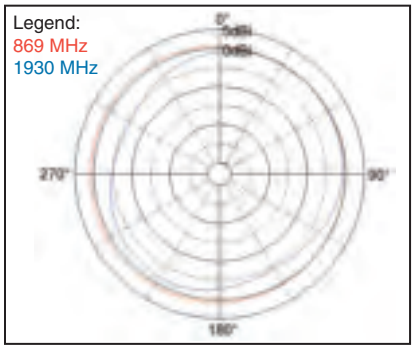
Test Orientation in Free Space



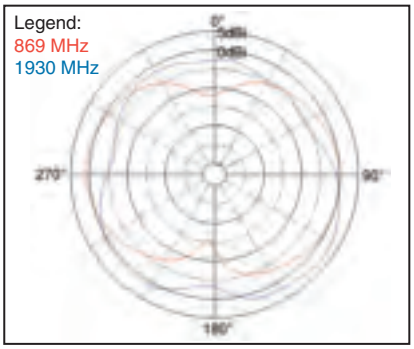
VSWR



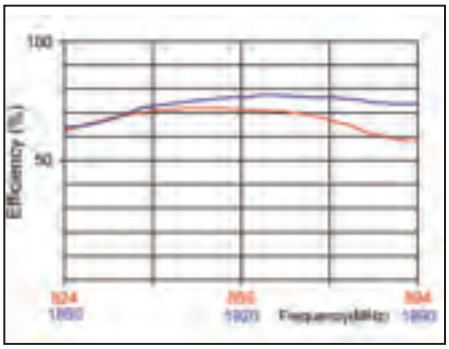
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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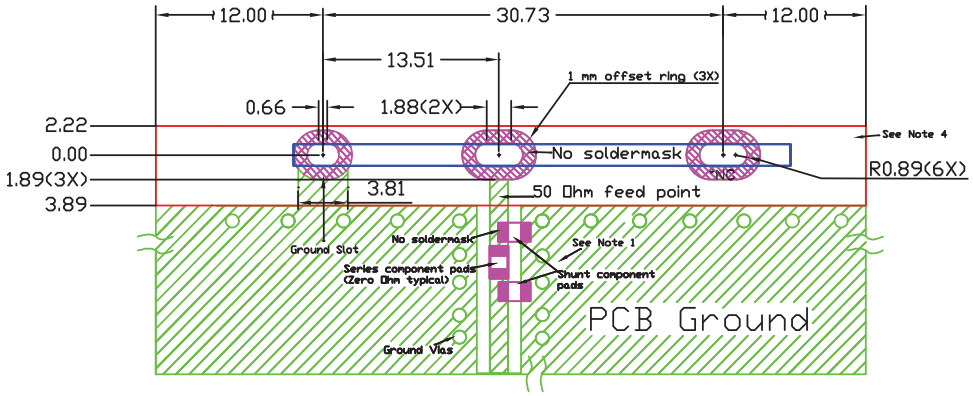
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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824 – 894 & 1850 – 1990 MHz Dual Band Antenna (US Dual Band) (Continued)

Part Number: 1513247-1
(Continued)

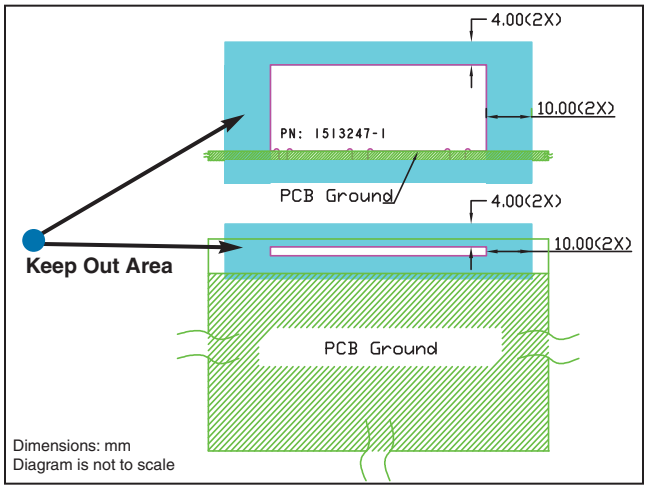
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

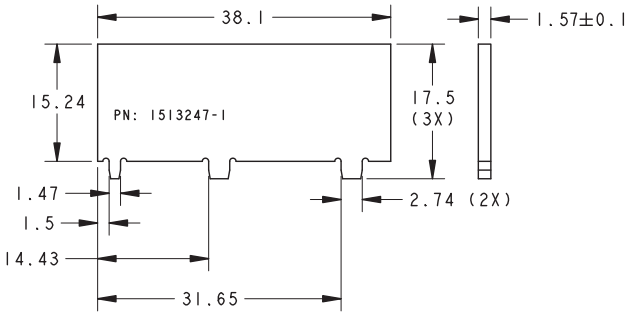
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

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China: +86 (0) 400-820-6015

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824 – 960 & 1710 – 1990 MHz Quad Band Antenna
(US Dual and EU Dual Band)

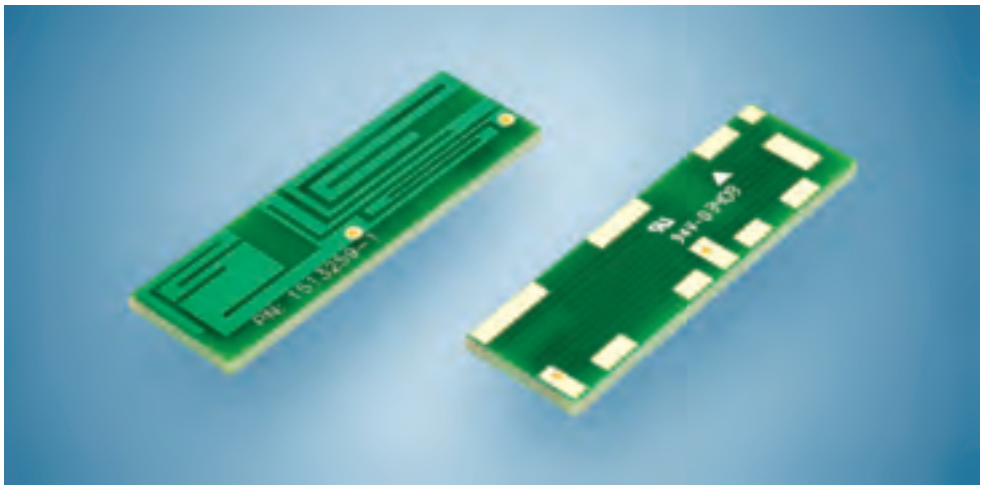
Part Number: 1513259-1

Product Facts

- This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers
- Also available in tape & reel (P/N 1513259-9) for automatic mounting
- RoHS compliant

Recommendations

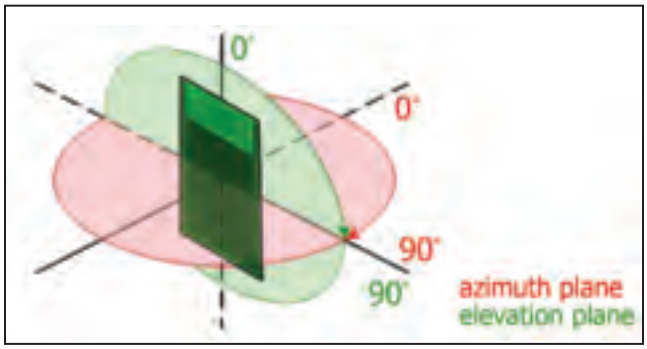
- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 100 mm.
- PCB ground is to be on top layer



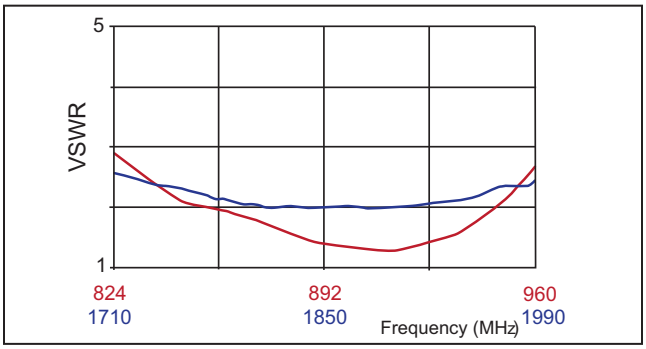
Specifications

Frequency Range (MHz) — 824 – 960; 1710 – 1990
Peak Gain — +1 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 37.59 mm x 11.94 mm x 1.57 mm
Weight — < 1.6 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

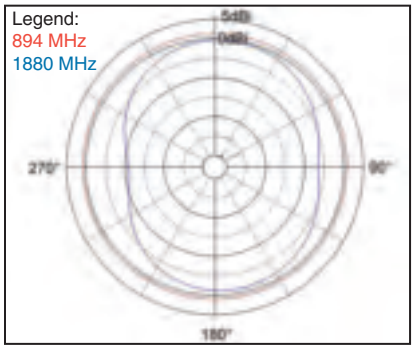
Test Orientation in Free Space



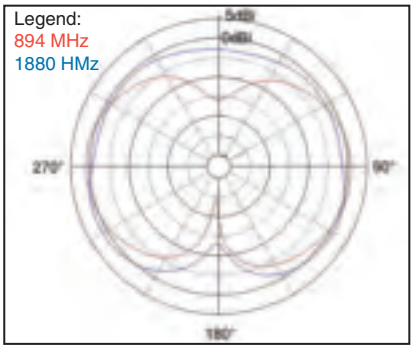
VSWR



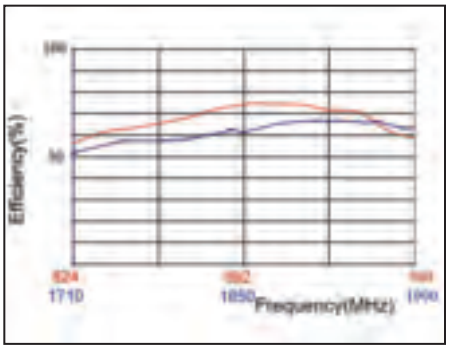
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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Canada: 1-905-475-6222
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For other country numbers go to:

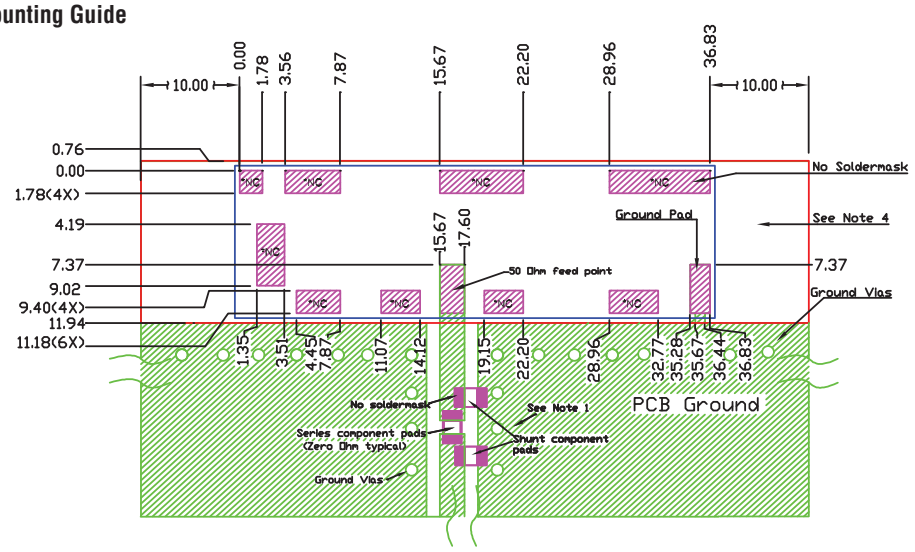
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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824 – 960 & 1710 – 1990 MHz Quad Band Antenna
(US Dual and EU Dual Band) (Continued)

Part Number: 1513259-1
(Continued)

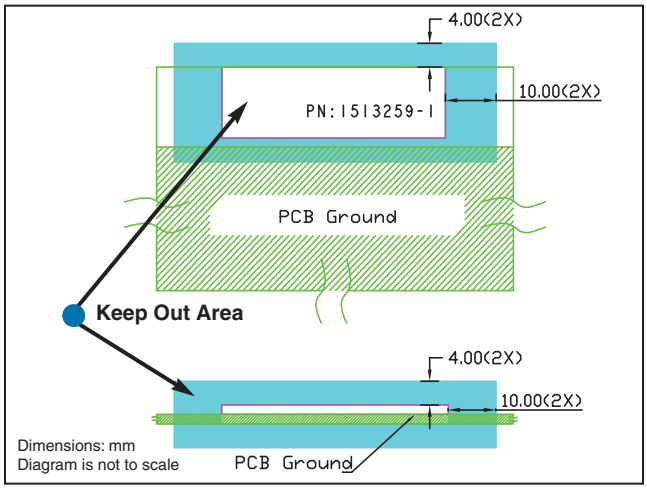
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

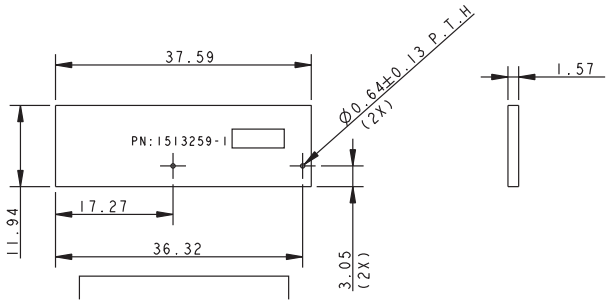
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
Revised 05-14

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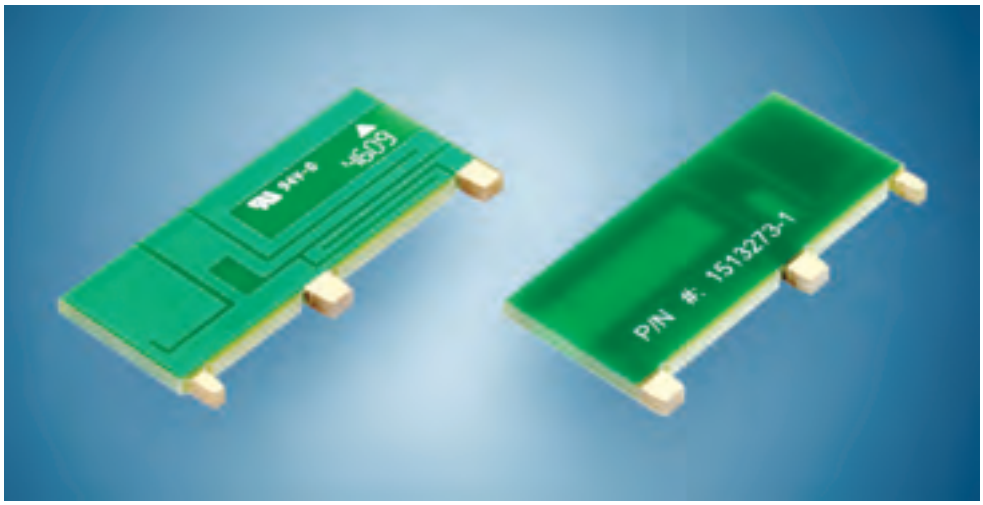
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824 – 960 & 1710 – 1990 MHz Quad Band Antenna
(US Dual and EU Dual Band)

Part Number: 1513273-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers**
- **RoHS compliant**

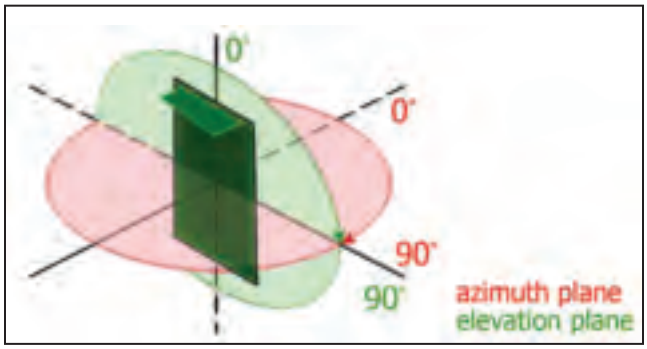
Recommendations

- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 100 mm.**

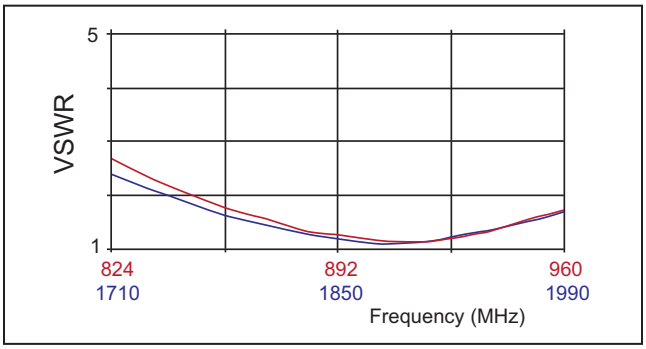
Specifications

Frequency Range (MHz) — 824 – 960; 1710 – 1990
Peak Gain — +2 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 35.56 mm x 15.11 mm x 1.57 mm
Weight — < 1.8 g
Mounting — Tab mounted with plated through holes. See next page
Keep Out Area — See diagram on next page

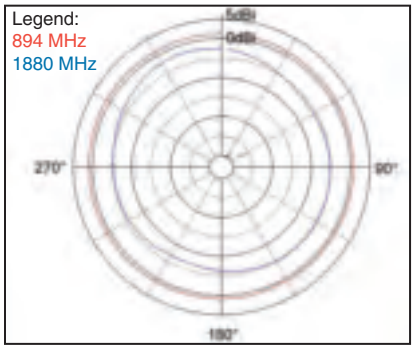
Test Orientation in Free Space



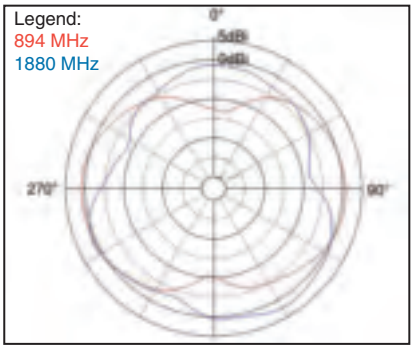
VSWR



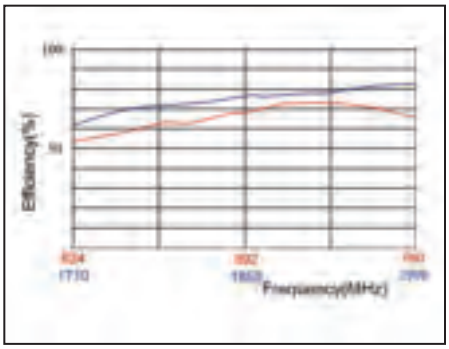
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

www.te.com
www.antenna.te.com

Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

For other country numbers go to:

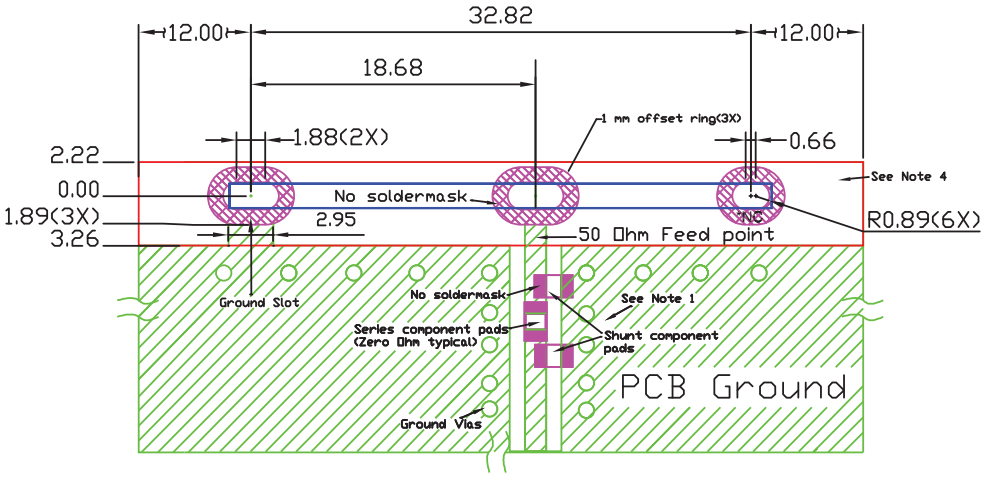
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

824 – 960 & 1710 – 1990 MHz Quad Band Antenna
(US Dual and EU Dual Band) (Continued)

Part Number: 1513273-1
(Continued)

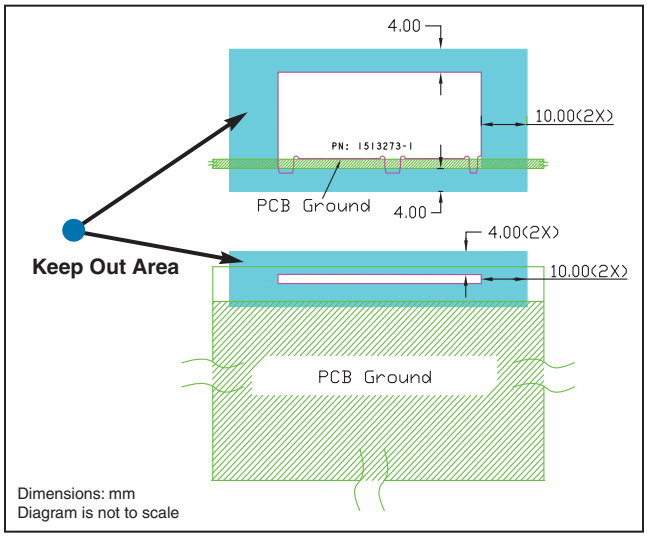
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

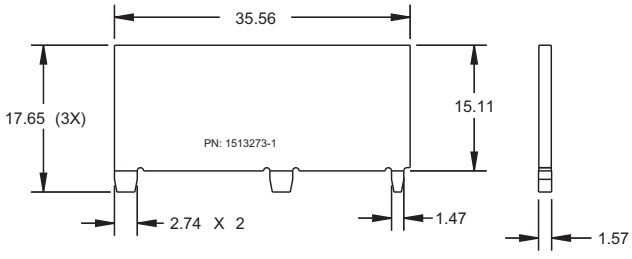
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
Revised 05-14

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Germany: +49 (0) 6251-133-1999

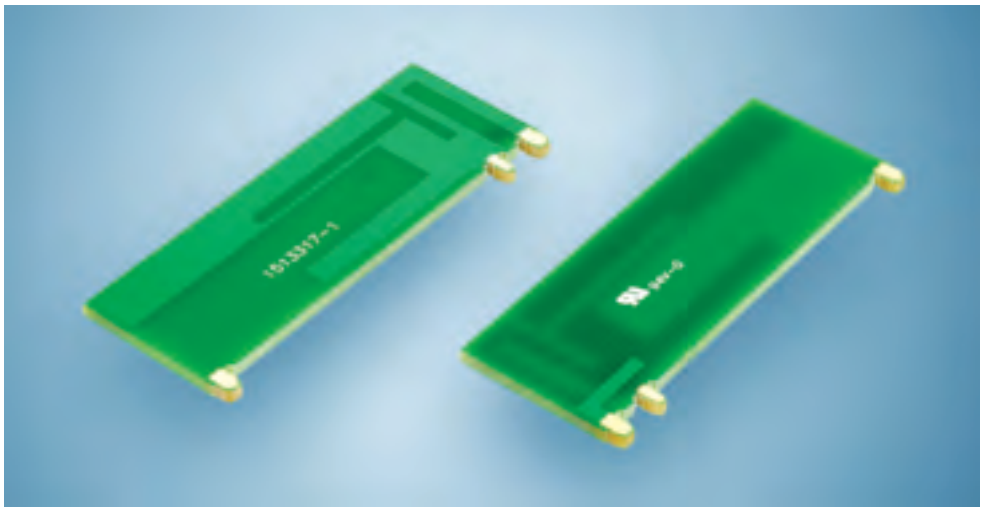
For other country numbers go to:

UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

824 – 960 & 1710 – 2170 MHz Penta Band Antenna
(UMTS, US Dual, EU Dual, and WCDMA)

Part Number: 1513317-1



Product Facts

- **This small embedded antenna provides the most reliable easy-to-use, and adjustment-free antenna technology for handling during assembly and implementation by developers**
- **RoHS compliant**

Recommendations

- **Minimum or no matching circuits required**
- **Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 100 mm.**

Specifications

Frequency Range (MHz) — 824 – 960; 1710 – 2170

Peak Gain — +3 dBi

VSWR — < 3.0:1

Polarization — Linear

Azimuth Beamwidth — Omni-directional

Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

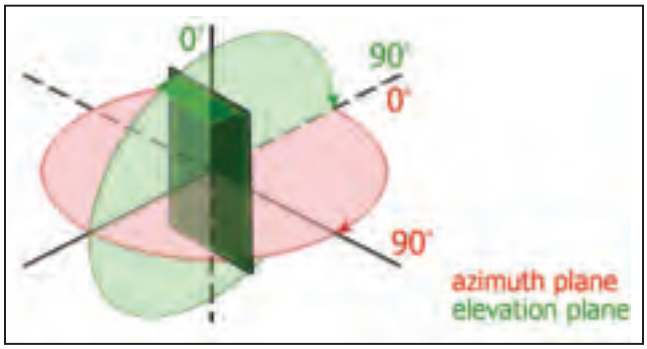
Size — 49.90 mm x 20.27 mm x 1.58 mm

Weight — < 2.9 g

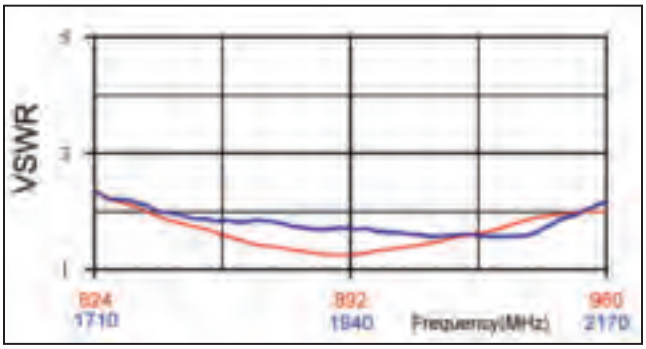
Mounting — Tab mounted with plated through holes. See next page

Keep Out Area — See diagram on next page

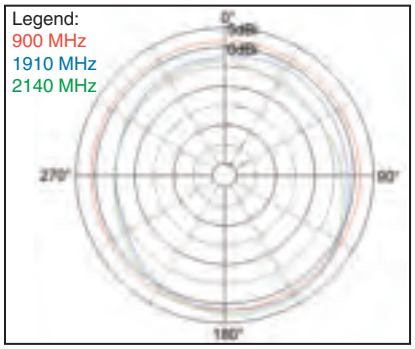
Test Orientation in Free Space



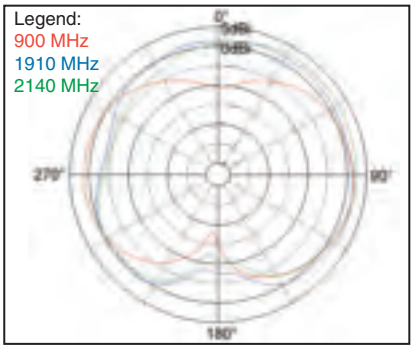
VSWR



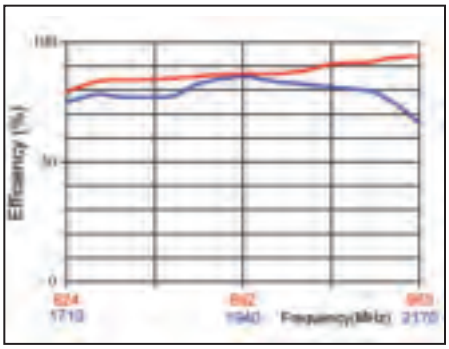
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

For other country numbers go to:

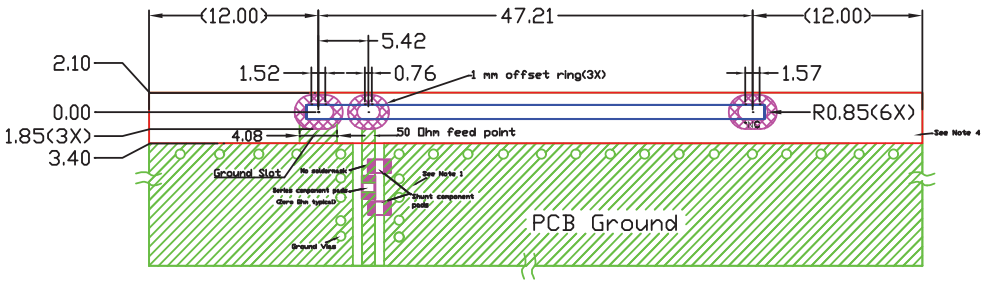
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

824 – 960 & 1710 – 2170 MHz Penta Band Antenna
(UMTS, US Dual, EU Dual, and WCDMA) (Continued)

Part Number: 1513317-1
(Continued)

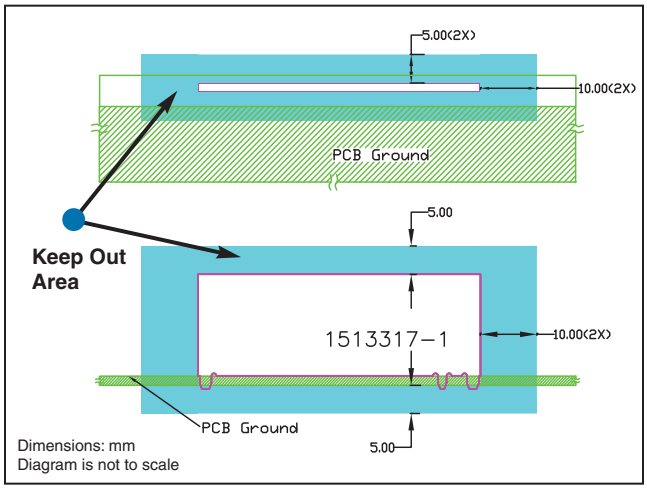
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

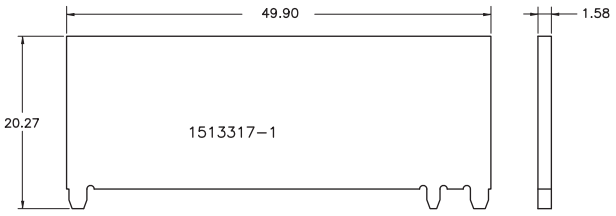
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
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For other country numbers go to:

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Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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880 – 960 & 1710 – 1880 MHz Dual Band Antenna (EU Dual)

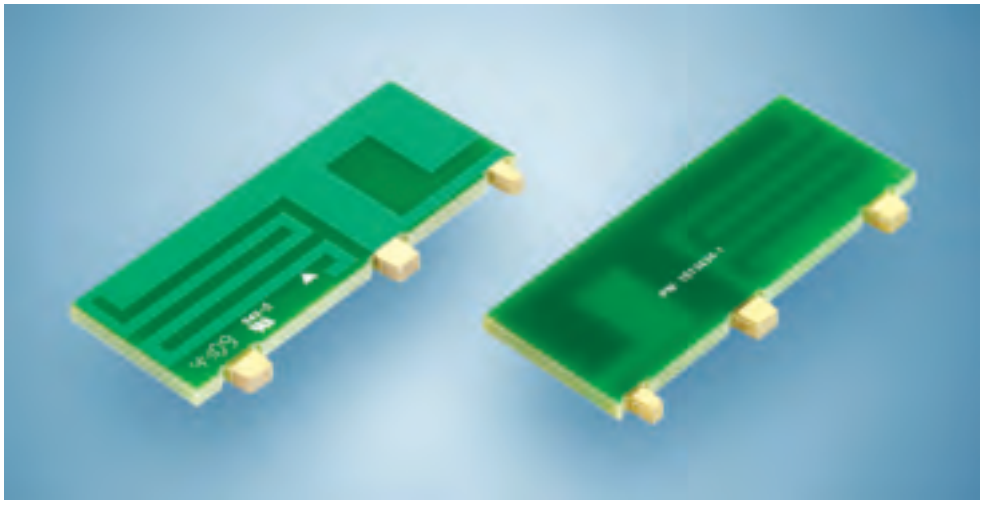
Part Number: 1513434-1

Product Facts

- Small and lightweight
- RoHS compliant

Recommendations

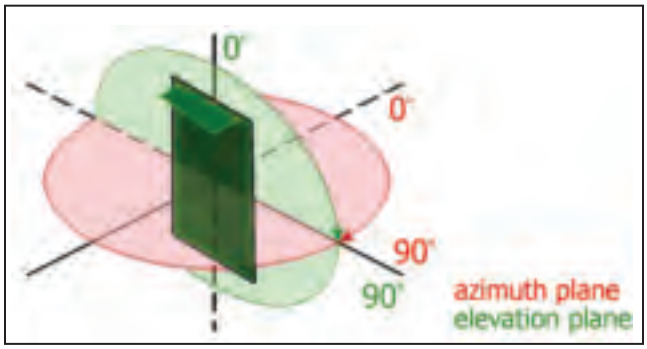
- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 90 mm.



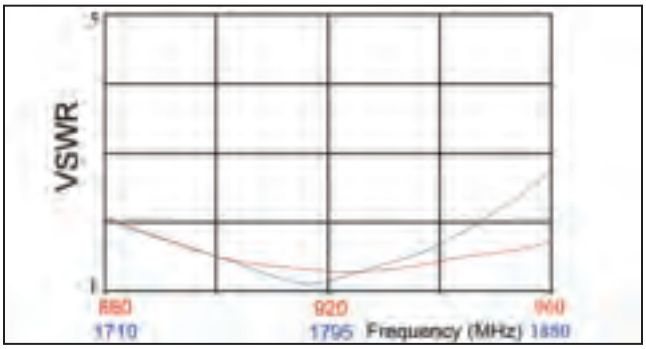
Specifications

Frequency Range (MHz) — 880 – 960; 1710 – 1880
Peak Gain — 0 dBi; +1 dBi
VSWR — < 2.5:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 38.10 mm x 15.20 mm x 1.57 mm
Weight — < 2 g
Mounting — Tab mounted with plated through holes. See next page
Keep Out Area — See diagram on next page

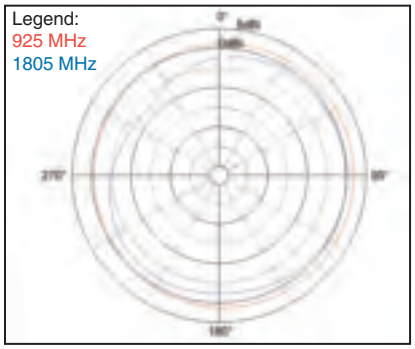
Test Orientation in Free Space



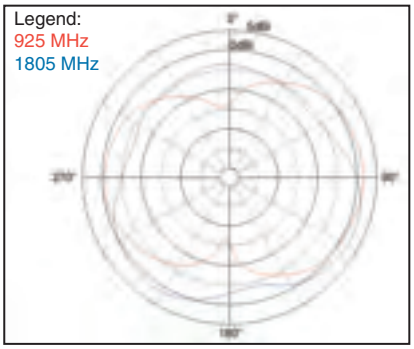
VSWR



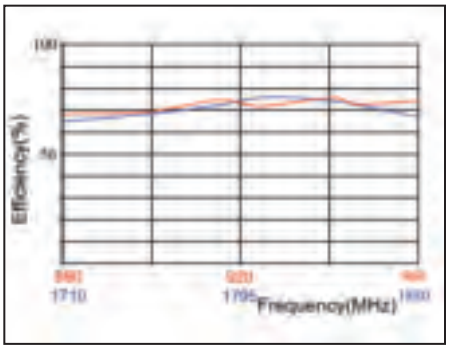
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

For other country numbers go to:

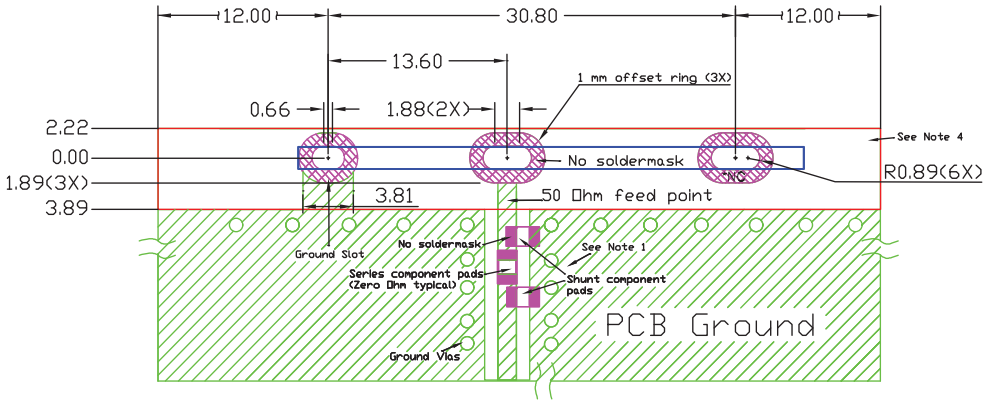
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

880 – 960 & 1710 – 1880 MHz Dual Band Antenna (EU Dual) (Continued)

Part Number: 1513434-1
(Continued)

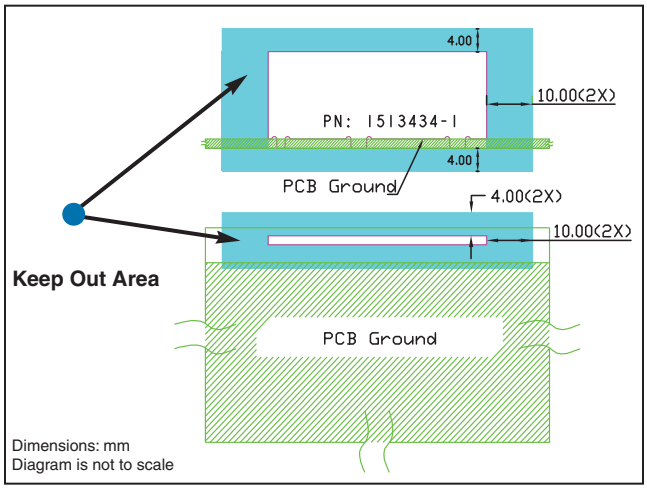
Mounting Guide



NOTES:
1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. No copper allowed in designated area on all PCB layers –
5. For more information please call TE.

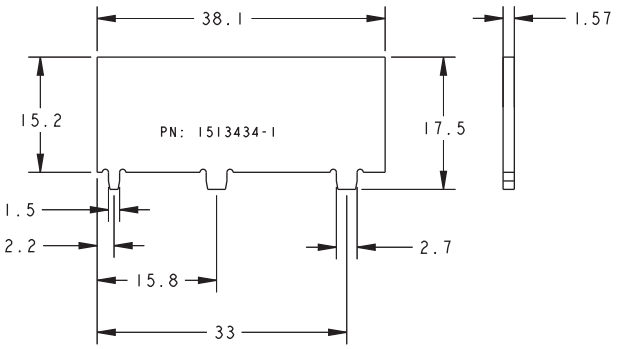
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
Revised 05-14

www.te.com
www.antenna.te.com

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USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

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UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

1565 – 1585 MHz Single Band Antenna (GPS)

Part Number: 1513634-1

Product Facts

- Small form factor enables use in virtually any wireless device
- Available in Tape & Reel
- RoHS compliant

Recommendations

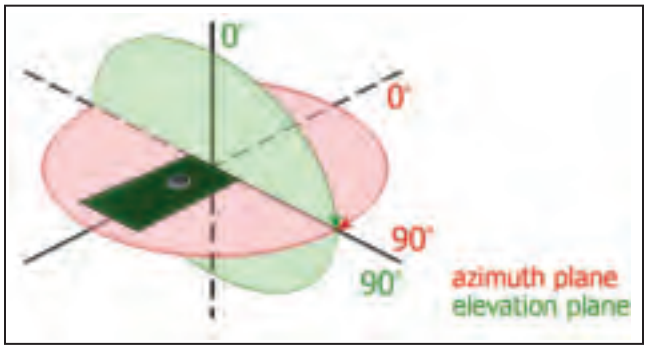
- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 50 mm.
- PCB ground is to be on top layer



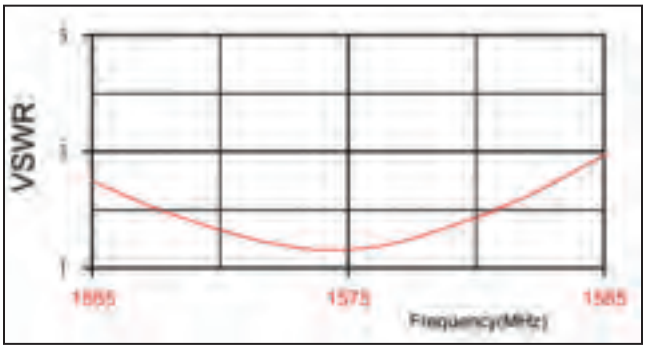
Specifications

Frequency Range (MHz) — 1565 – 1585
Peak Gain — 0 dBi
VSWR — < 3.0:1
Polarization — RHCP (right-hand circular)
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 16.00 mm dia. x 6.05 mm
Weight — < 1 g
Mounting — Surface-mount technology. See next page
Keep Out Area — See diagram on next page

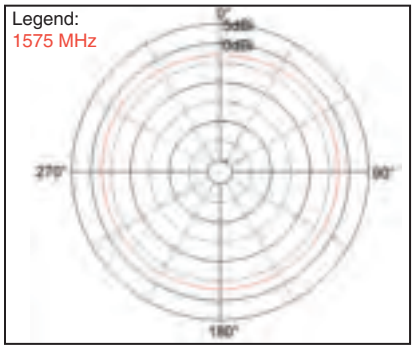
Test Orientation in Free Space



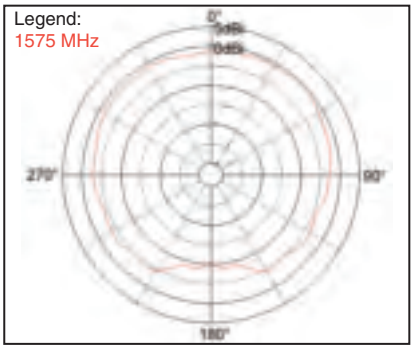
VSWR



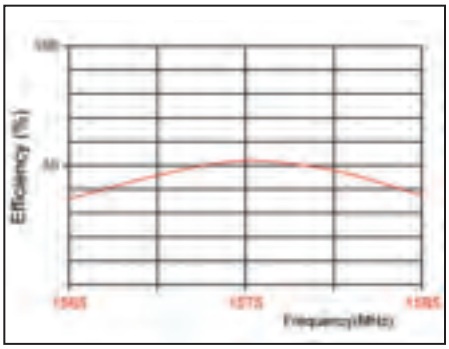
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-475-6222
Germany: +49 (0) 6251-133-1999

For other country numbers go to:

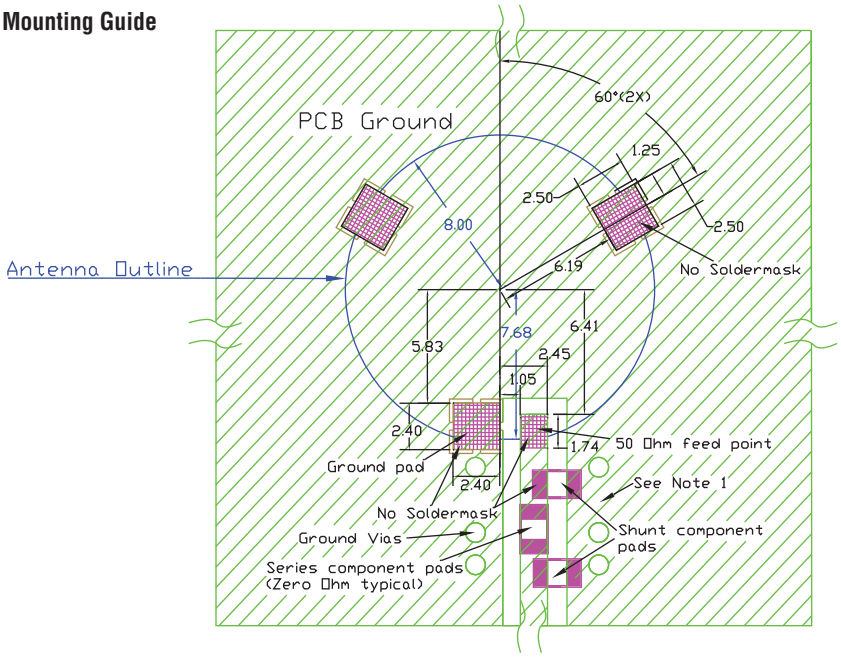
UK: +44 (0) 800-267666
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

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1565 – 1585 MHz Single Band Antenna (GPS) (Continued)

Part Number: 1513634-1
(Continued)

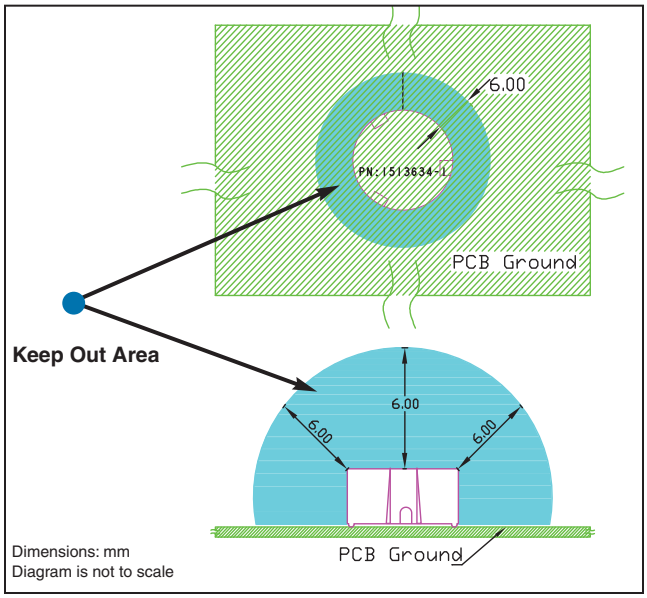
Mounting Guide



NOTES: 1. Suggested matching component pads.
2. For more information please call TE.

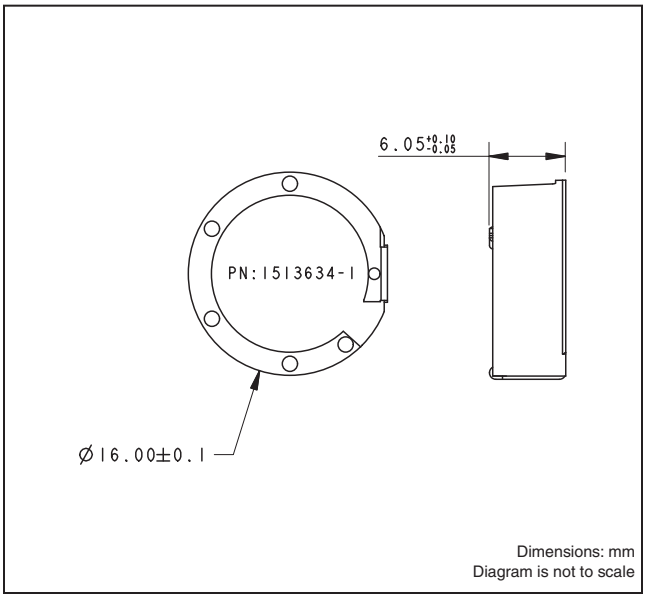
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

Catalog: 4-1773459-7
Revised 05-14

www.te.com
www.antenna.te.com

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Dimensions are shown for reference purposes only. Specifications subject to change.

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Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

www.te.com/supportcenter

3100 – 6000 MHz Single Band Antenna (UWB)

Part Number: 1513381-1

Product Facts

- Universal antenna module assembly
- RoHS compliant

Recommendations

- Antenna is to be mounted on a metal chassis
- Panel thickness must be between .8 mm and 1 mm
- Performance and bandwidth is dependant on chassis size



Specifications

Frequency Range (MHz) — 3100 – 6000

Peak Gain — 4 dBi

VSWR — < 3.0:1

Polarization — Linear

Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

Size — 29.00 mm x 12.00 mm x 10.00 mm

Weight — < 5.5 g

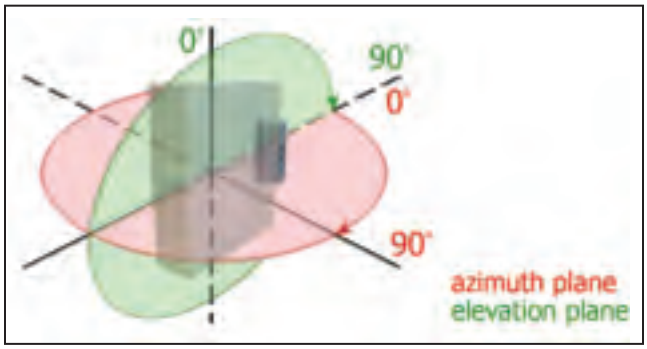
Mounting — Universal Antenna Module. See next page

Keep Out Area — See diagram on next page

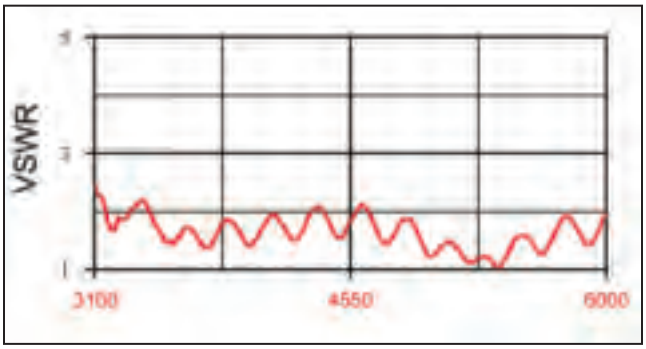
Cable / Connector — 365 mm length. 1.13 mm dia. with U.FI connector

Note — Data shown was taken on a nominal size metal chassis

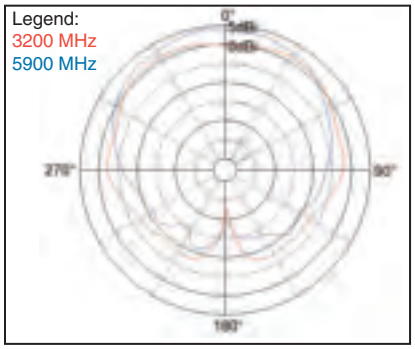
Test Orientation in Free Space



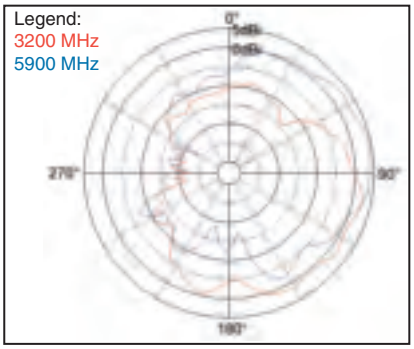
VSWR



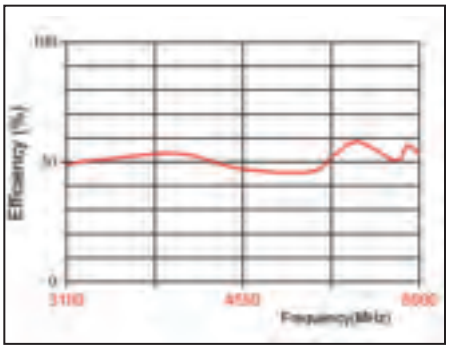
Azimuth



Elevation



Efficiency



Catalog: 4-1773459-7
Revised 05-14

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Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.

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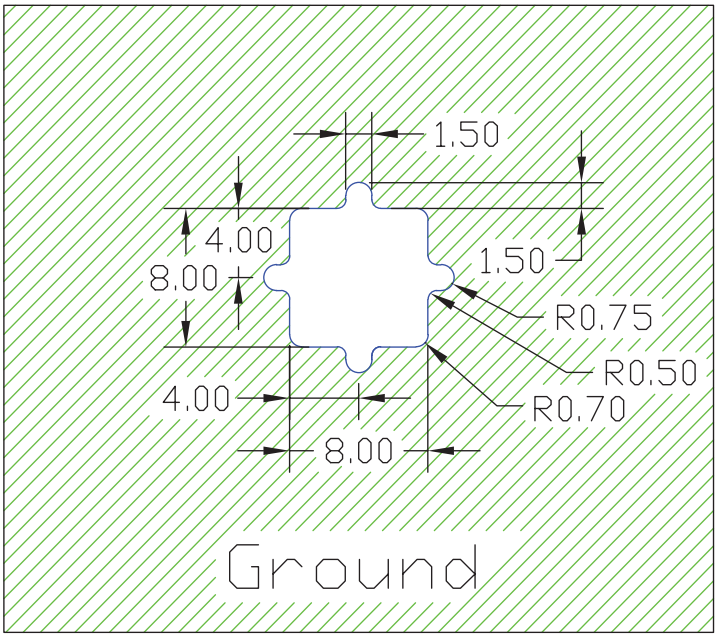
www.te.com/supportcenter

3100 – 6000 MHz Single Band Antenna (UWB) (Continued)

Part Number: 1513381-1
(Continued)

NOTE:
Panel thickness must be between 0.8 mm and 1 mm.

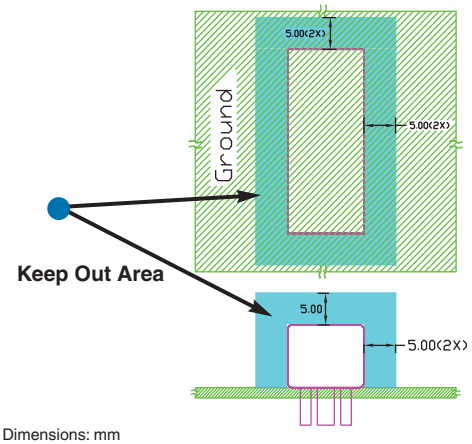
Mounting Guide



NOTES: 1. Antenna must be mounted on a metal chassis.
2. For more information please call TE.

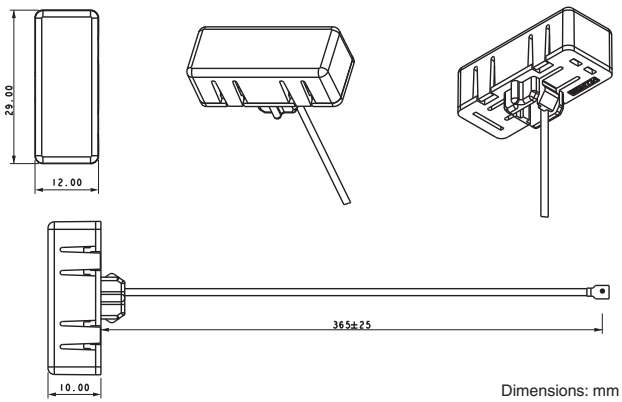
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

For design support in USA, please send an e-mail to antenna.AMER@te.com
For design support in Europe, please send an e-mail to antenna.EMEA@te.com
For design support in Asia Pacific, please send an e-mail to antenna.AP@te.com

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2300 – 2700 & 3300 – 3800 & 4900 – 5875 MHz Quad Band Antenna

(802.11 a/b/g/n, includes frequencies of Bluetooth, ZigBee, and WiMAX products)

Part Number: 1513711-1

Product Facts

- **3 element quad-band vertically polarized omni-directional, hemispherical antenna with 0.8 meter cable and QSL type 3 port connector (RPSMA optional)**
- **QSL test adaptor with SMA launches — Part number 1513743-1**
- **802.11 a/b/g/n and WiMAX frequency coverage**
- **RoHS compliant**



Specifications

Frequency Range (MHz) — 2300 – 2700; 3300 – 3800; 4900 – 5875

Peak Gain — 0 dBi @ 2300 MHz; 3 dBi @ 3500 MHz; 2 dBi @ 5470 MHz

VSWR — < 2.5:1

Operating Temperature — –40°C to 70°C

Polarization — Vertical linear

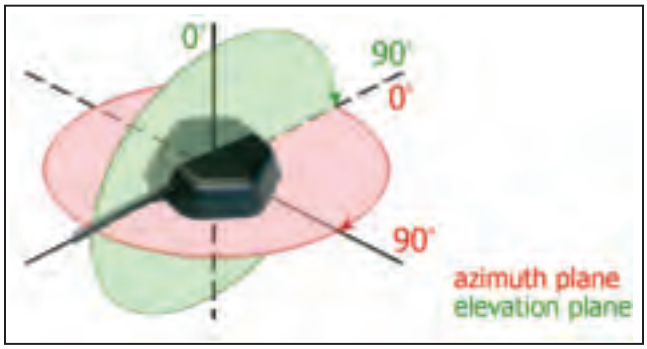
Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms

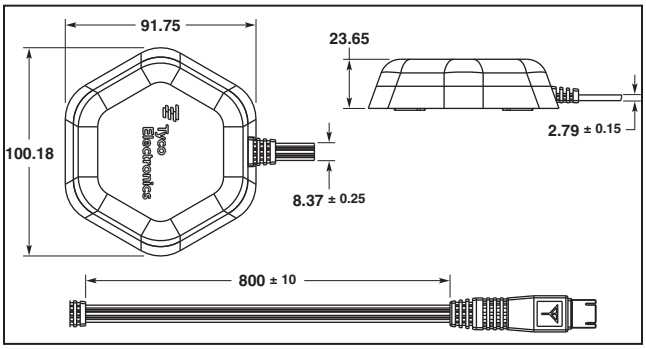
Size — 100.18 mm x 91.75 mm x 23.65 mm

Weight — < 130 g

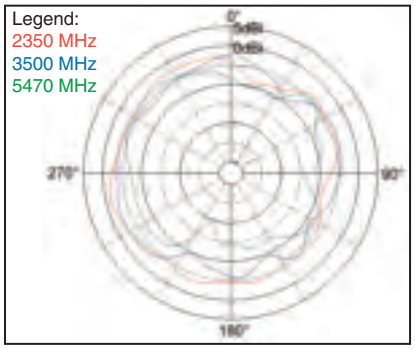
Test Orientation in Free Space



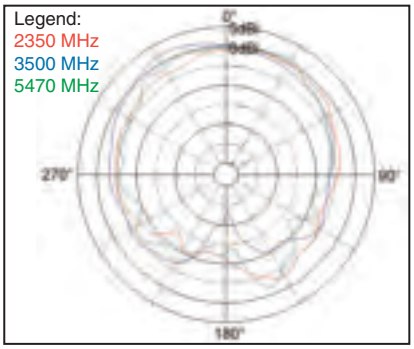
Approx. Dimensions



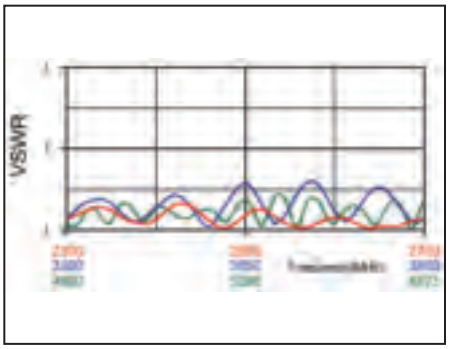
Azimuth



Elevation



VSWR



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WiMAX is a trademark of WiMAX Forum.

ZigBee is a trademark of ZigBee Alliance.

Catalog: 4-1773459-7
Revised 05-14

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2300 – 2700 & 3300 – 3800 & 4900 – 5875 MHz Quad Band Antenna

(802.11 a/b/g/n, includes frequencies of Bluetooth, ZigBee, and WiMAX products)

Part Number: 1513712-1

Product Facts

- **3 element quad-band vertically polarized omni-directional, hemispherical antenna with 0.8 meter cable and QSL type 3 port connector with attachment screws and flange (RPSMA optional)**
- **QSL test adaptor with SMA launches — Part number 1513743-1**
- **802.11 a/b/g/n and WiMAX frequency coverage**
- **RoHS compliant**



Specifications

Frequency Range (MHz) — 2300 – 2700; 3300 – 3800; 4900 – 5875

Peak Gain — 0 dBi @ 2300 MHz; 3 dBi @ 3500 MHz; 2 dBi @ 5470 MHz

VSWR — < 2.5:1

Operating Temperature — –40°C to 70°C

Polarization — Vertical linear

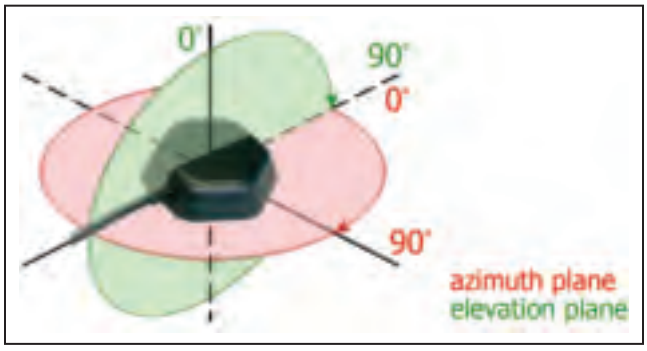
Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms

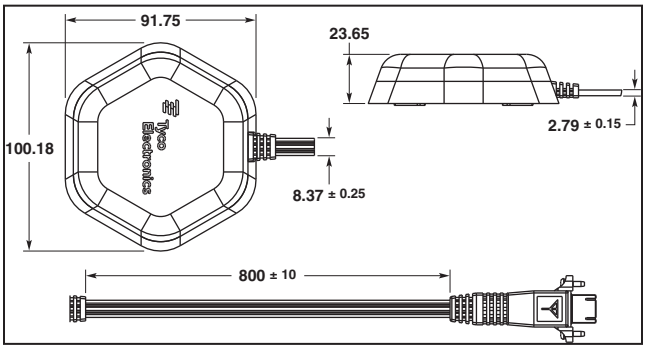
Size — 100.18 mm x 91.75 mm x 23.65 mm

Weight — < 130 g

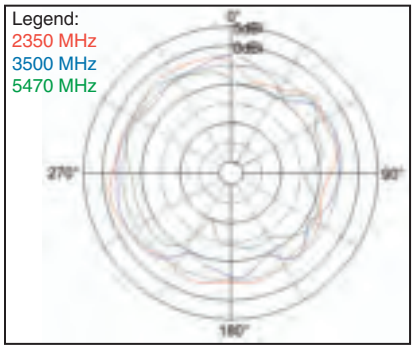
Test Orientation in Free Space



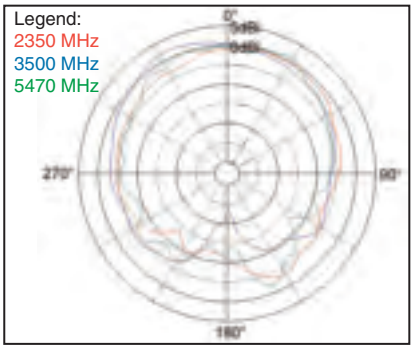
Approx. Dimensions



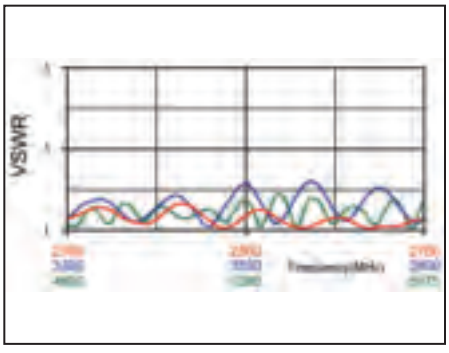
Azimuth



Elevation



VSWR



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