



Standard Antenna Solutions

Selector Guide

| Part Number | 698-821 MHz LTE | 824-894 MHz GSM / CDMA 850 | 860-960 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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| 2118326-1 | | | | | | | | | | | | | | | X | | 36 |

Legend: ZB = ZigBee
BT = Bluetooth

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

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Disclaimer

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

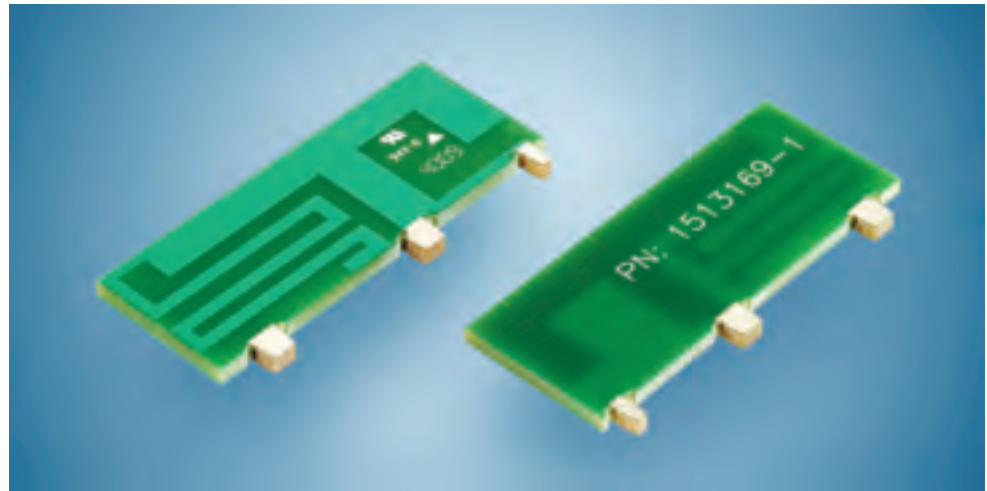
Part Number: 1513169-1

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.

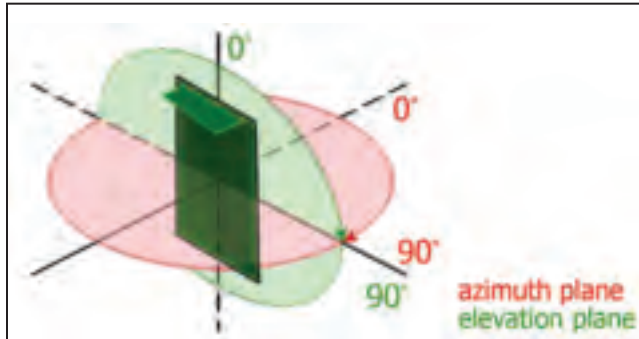


Specifications

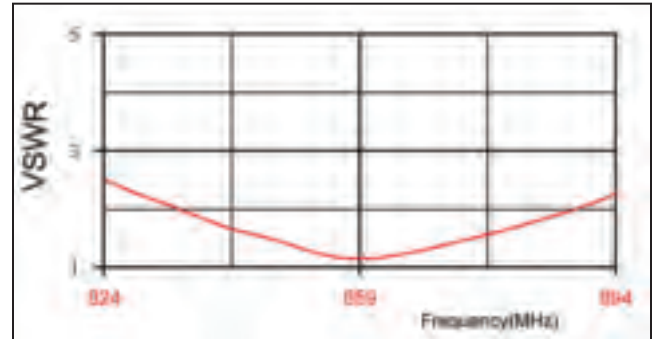
Frequency Range (MHz) — 824 – 894
Peak Gain — +2 dBi
VSWR — < 2.5:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

Feed Point Impedance — 50 Ohms unbalanced
Size — 38.10 mm x 15.24 mm x 1.57 mm
Weight — < 2 g
Mounting — Tab mounted with plated through holes. See next page
Keep Out Area — See diagram on next page

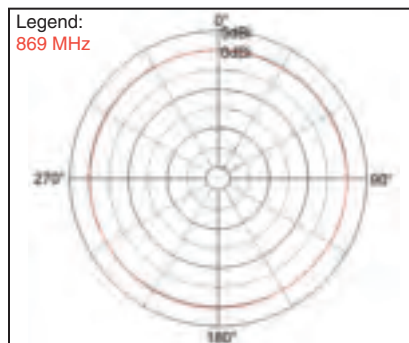
Test Orientation in Free Space



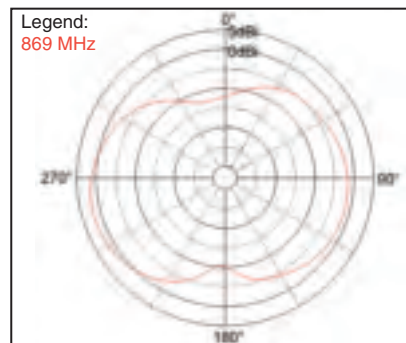
VSWR



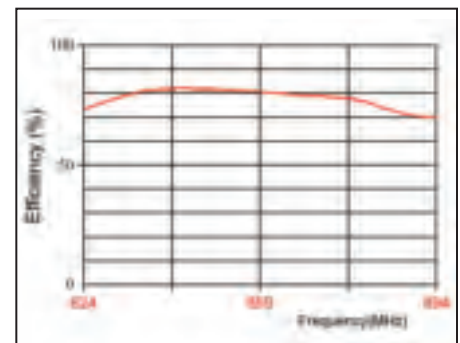
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Elevation



Efficiency

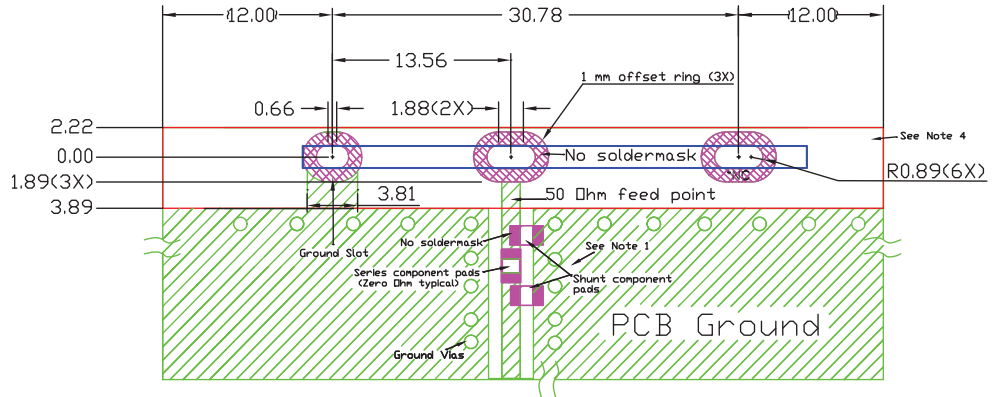


ZigBee is a trademark of ZigBee Alliance.

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

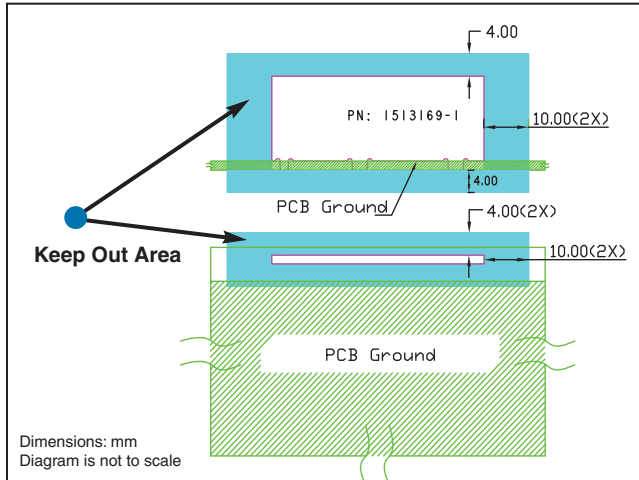
Part Number: 1513169-1
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Mounting Guide

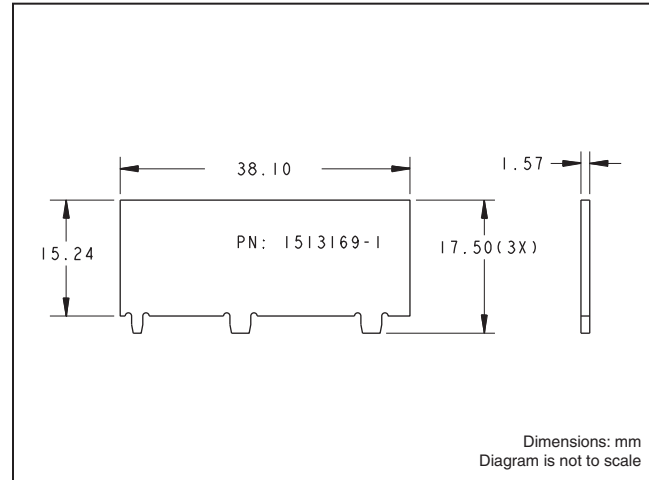


- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers – Dimensions: mm
Diagram is not to scale
 5. For more information please call TE.

Keep Out Area



Approx. Dimensions



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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

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

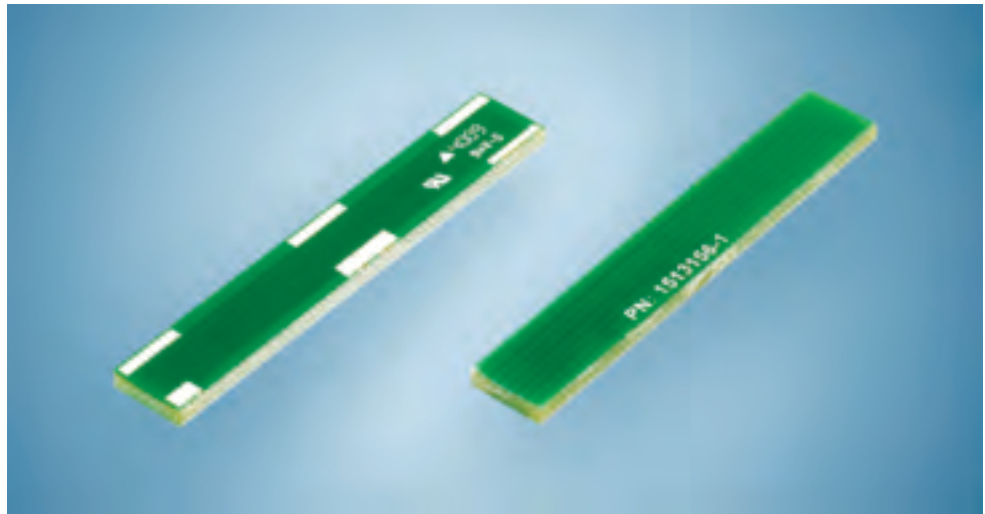
Part Number: 1513156-1

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

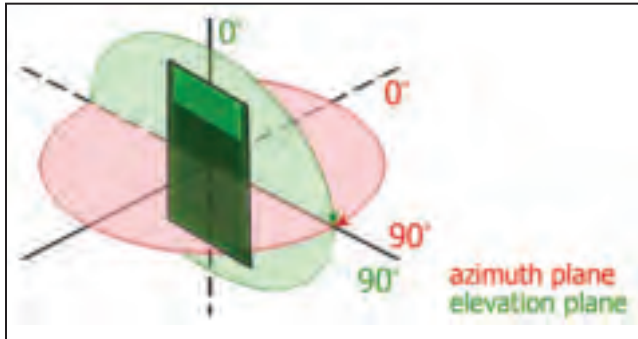


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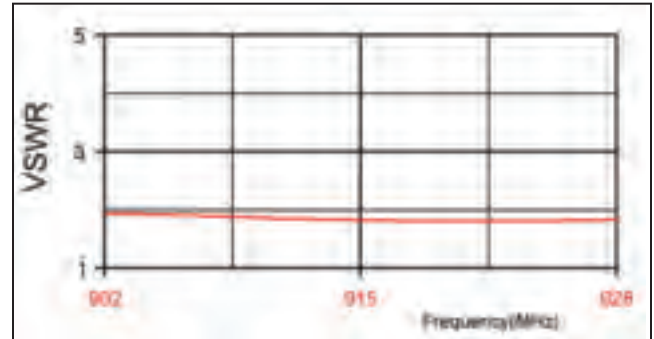
Frequency Range (MHz) — 902 – 928
Peak Gain — +1 dBi
VSWR — < 2.5:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

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

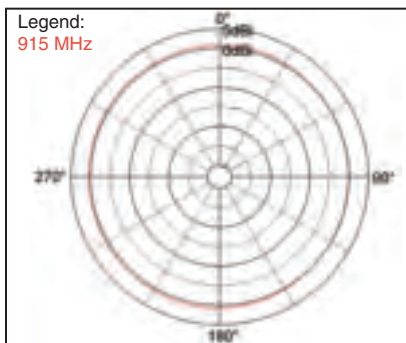
Test Orientation in Free Space



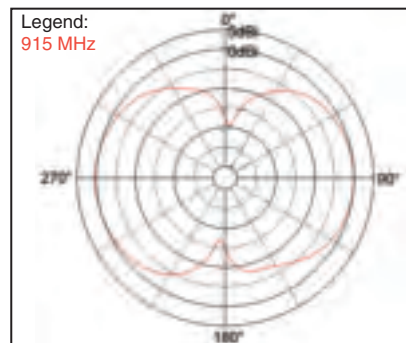
VSWR



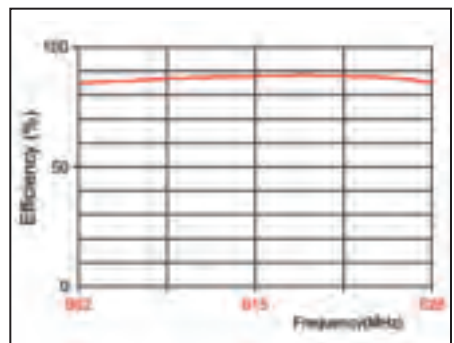
Azimuth



Elevation



Efficiency

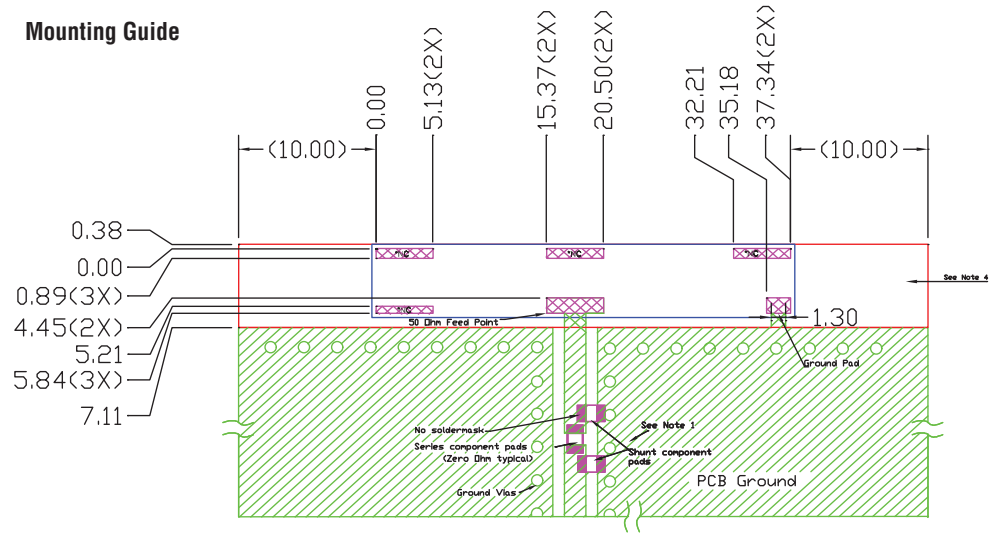


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902 – 928 MHz Single Band Antenna (includes frequencies of 915 ISM and ZigBee US) (Continued)

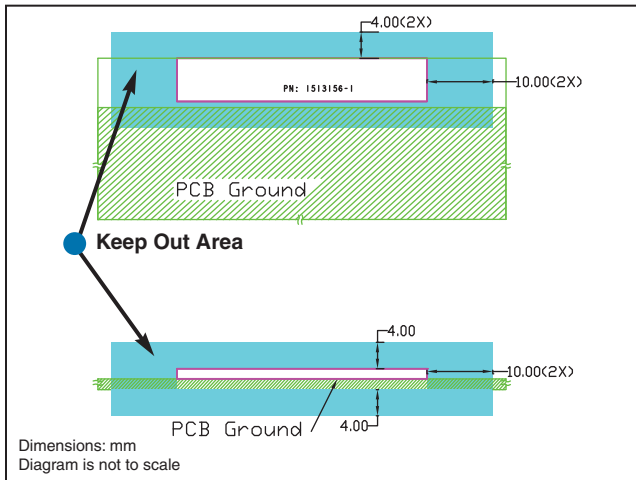
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Mounting Guide

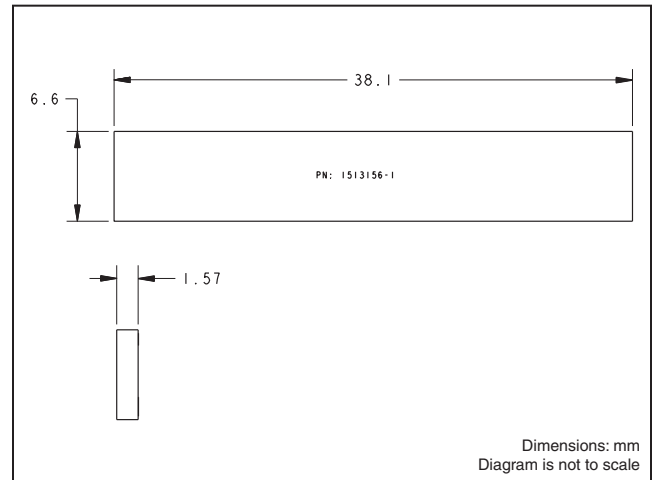


- NOTES:
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 3. NC = No connection (mechanical mounting pads).
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Diagram is not to scale
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Keep Out Area



Approx. Dimensions



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

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

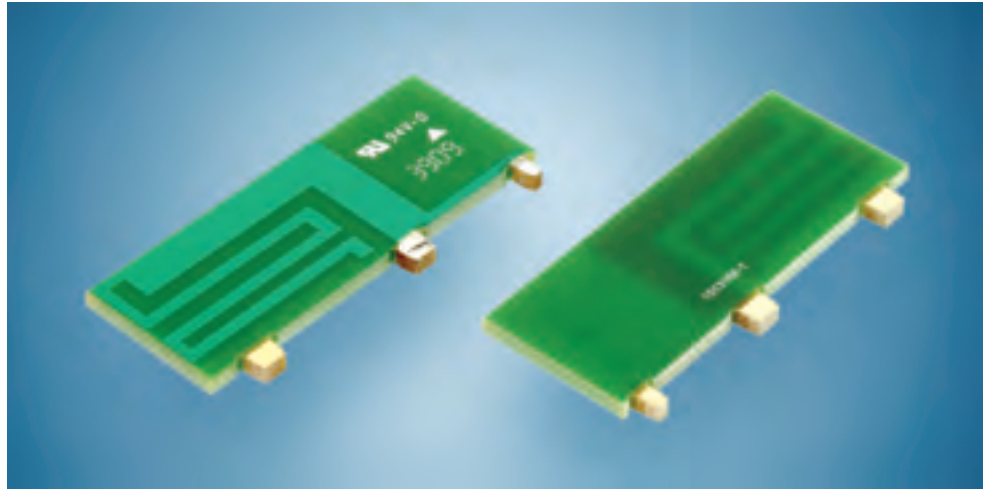
Part Number: 1513168-1

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.

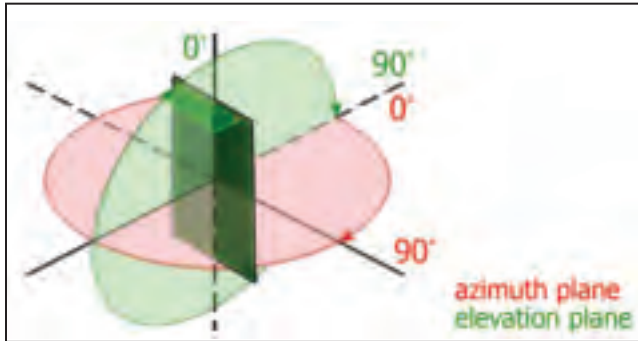


Specifications

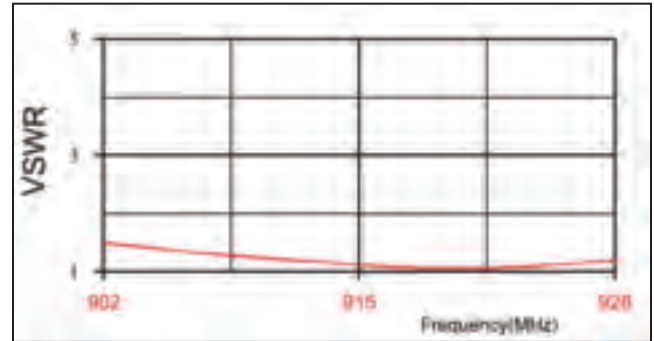
Frequency Range (MHz) — 902 – 928
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

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

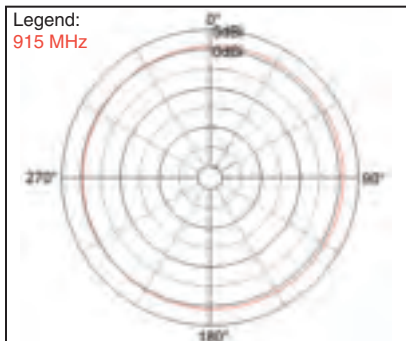
Test Orientation in Free Space



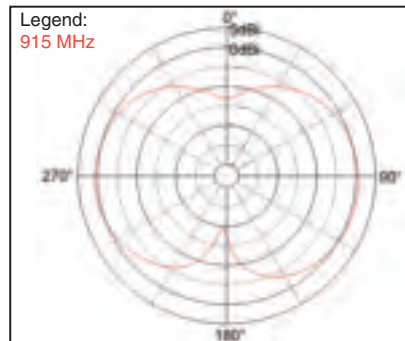
VSWR



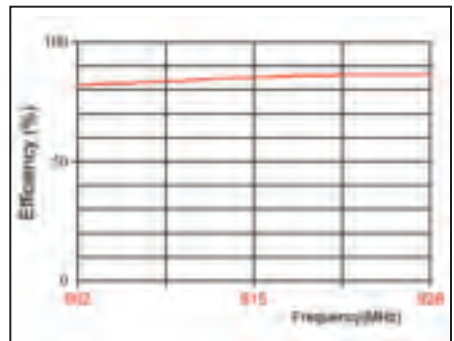
Azimuth



Elevation



Efficiency

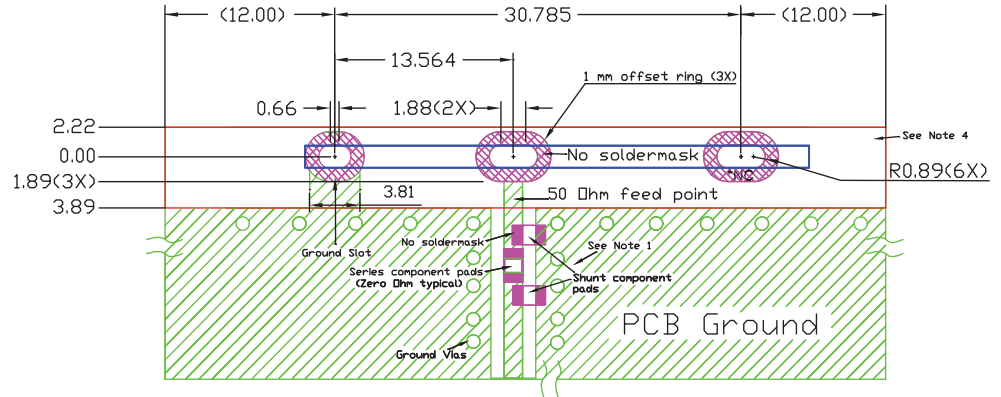


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902 – 928 MHz Single Band Antenna (includes frequencies of 915 ISM and ZigBee US) (Continued)

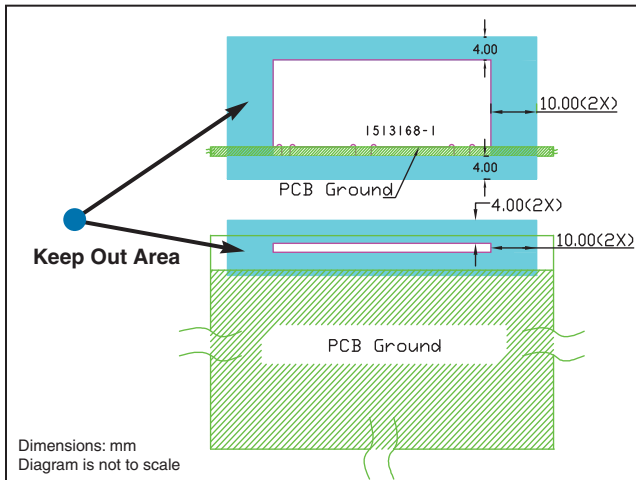
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Mounting Guide

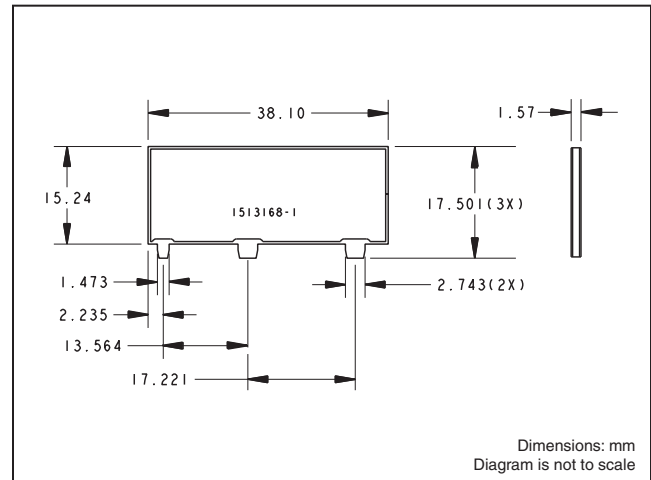


- NOTES:
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 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers – Dimensions: mm
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 5. For more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

Keep Out Area



Approx. Dimensions



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

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

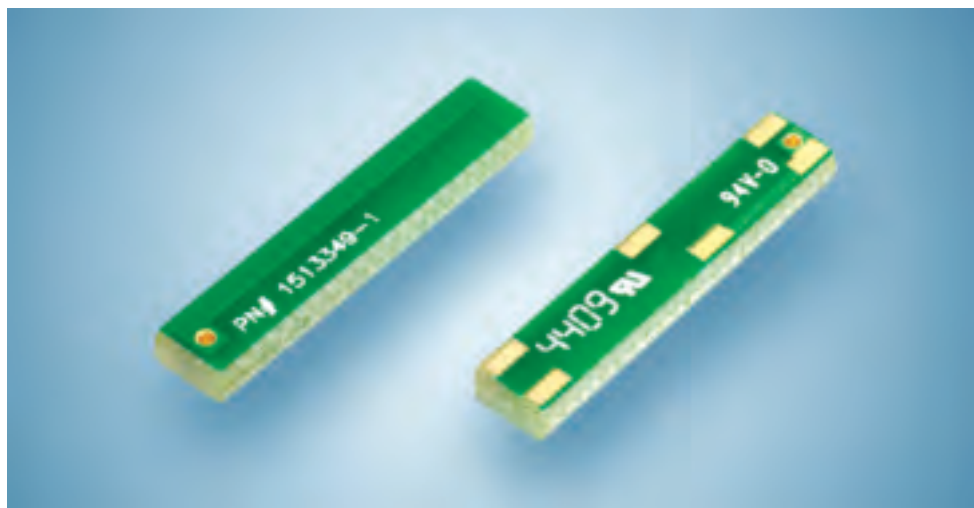
Part Number: 1513349-1

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

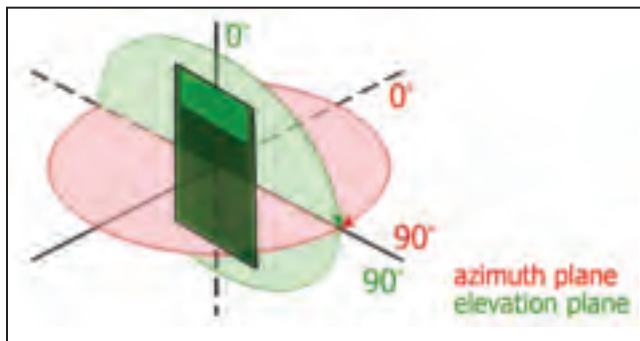


Specifications

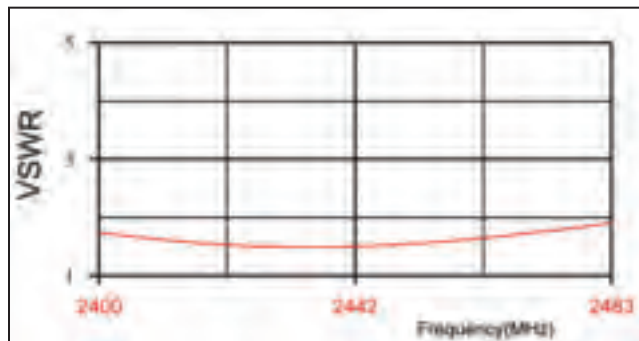
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear, Vertical
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

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

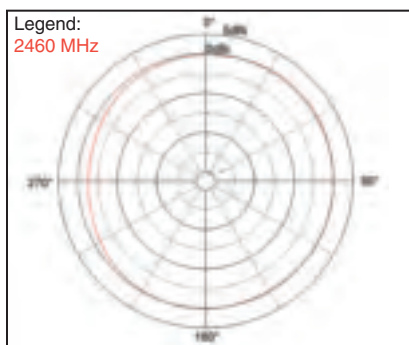
Test Orientation in Free Space



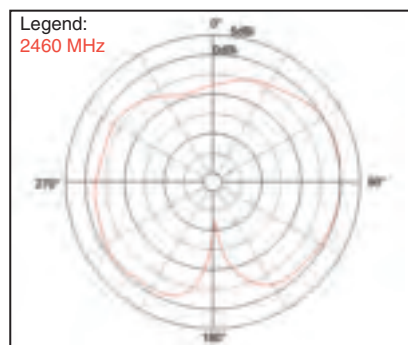
VSWR



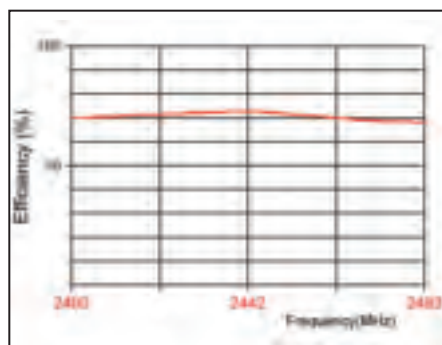
Azimuth



Elevation



Efficiency



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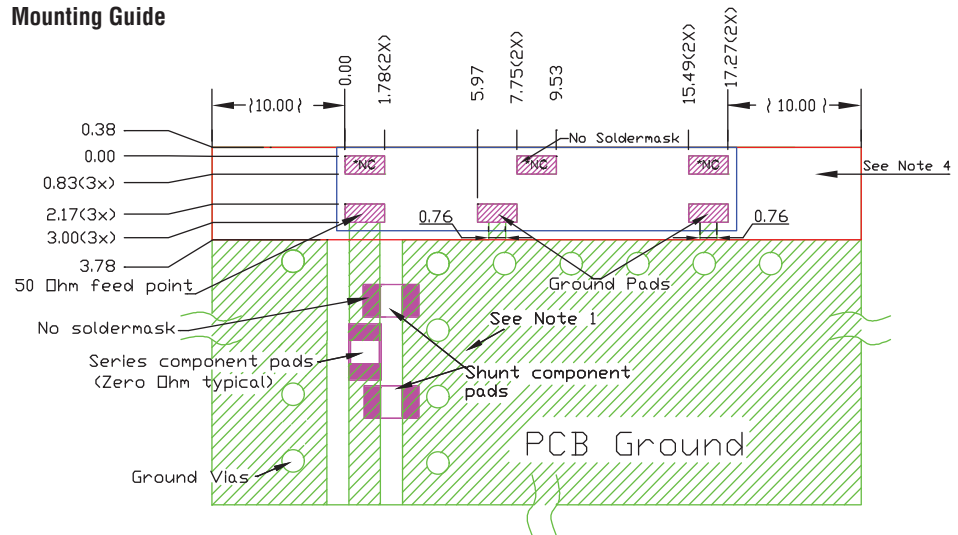
Wi-Fi is a trademark of Wi-Fi Alliance.

ZigBee is a trademark of ZigBee Alliance.

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)

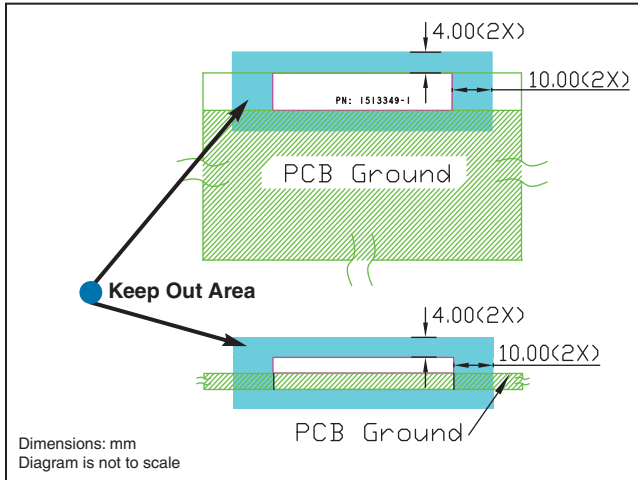
Mounting Guide



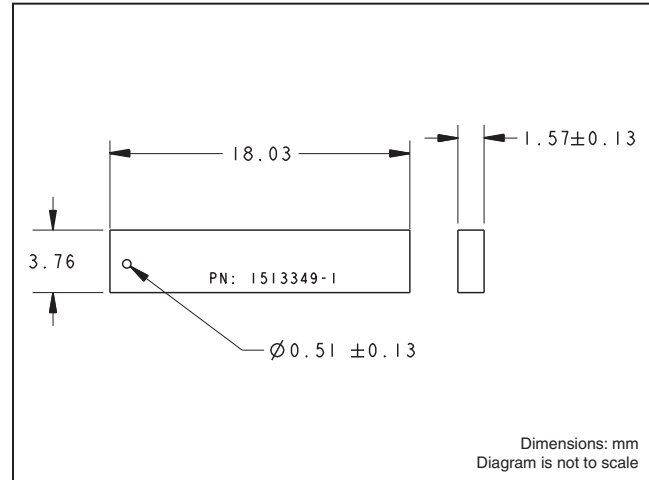
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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

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.

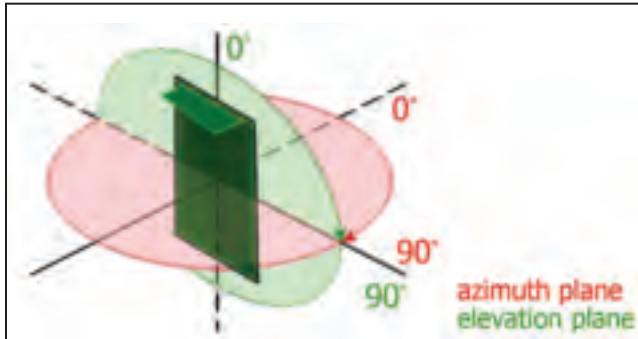


Specifications

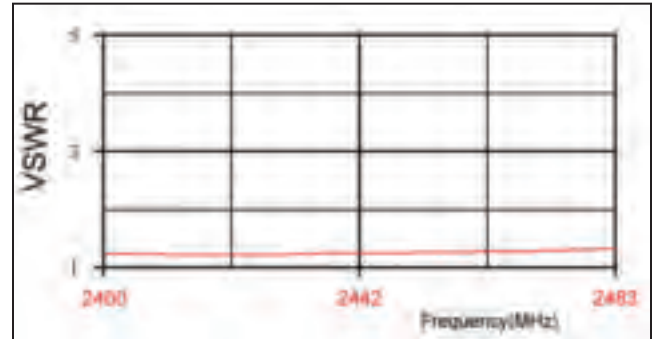
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — +2 dBi
VSWR — < 2.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

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



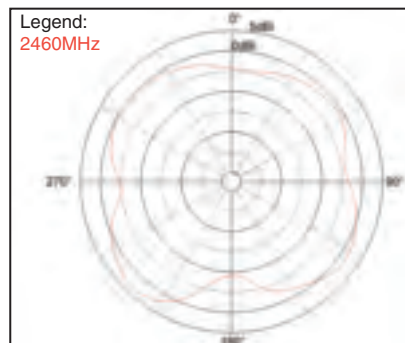
VSWR



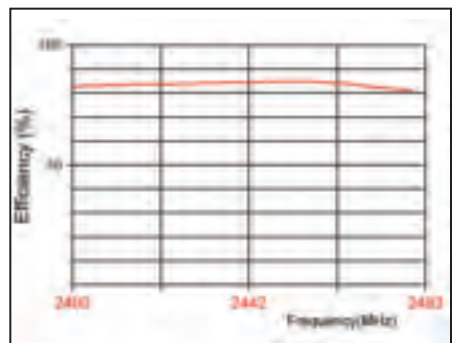
Azimuth



Elevation



Efficiency



Bluetooth is a trademark of Bluetooth SIG, Inc.

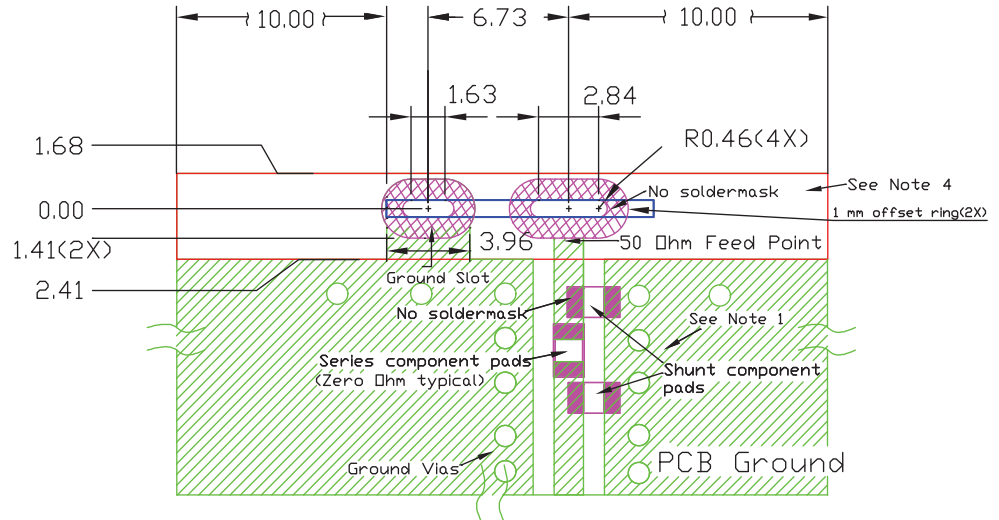
Wi-Fi is a trademark of Wi-Fi Alliance.

ZigBee is a trademark of ZigBee Alliance.

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)

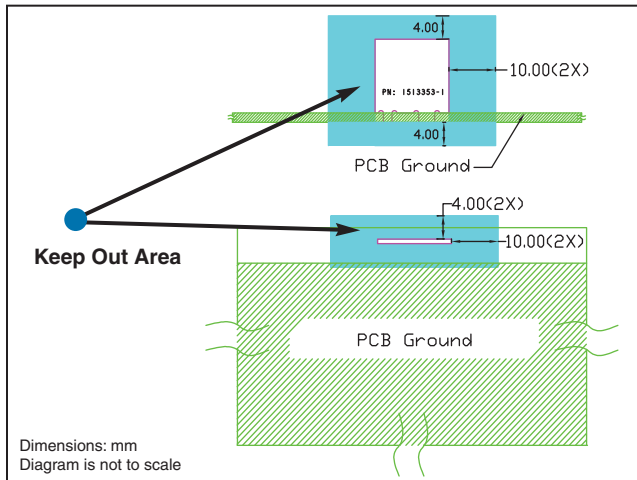
Mounting Guide



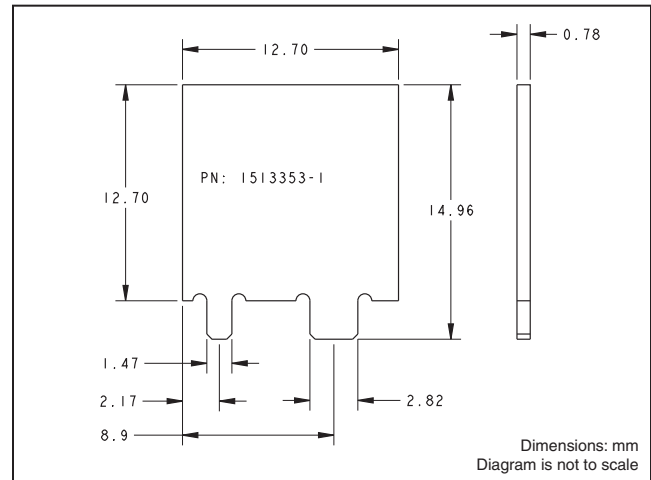
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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ZigBee is a trademark of ZigBee Alliance.

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

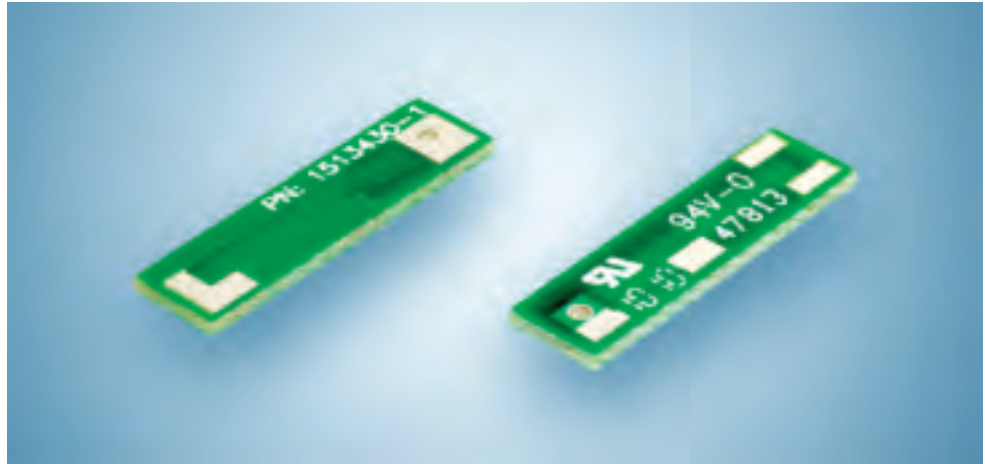
Part Number: 1513430-1

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

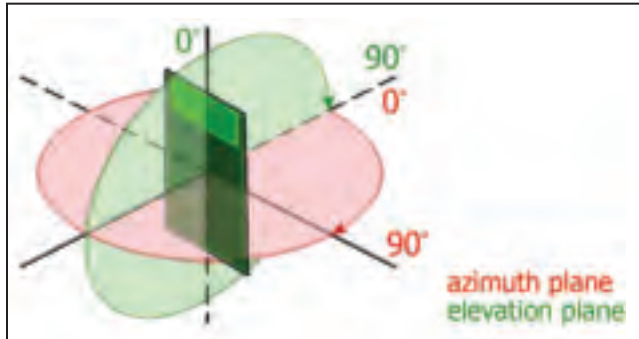


Specifications

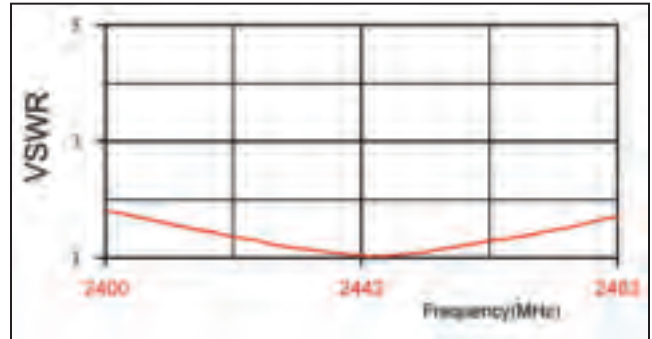
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

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



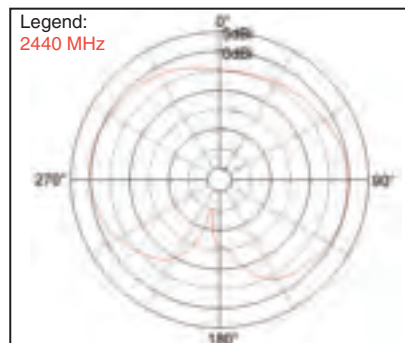
VSWR



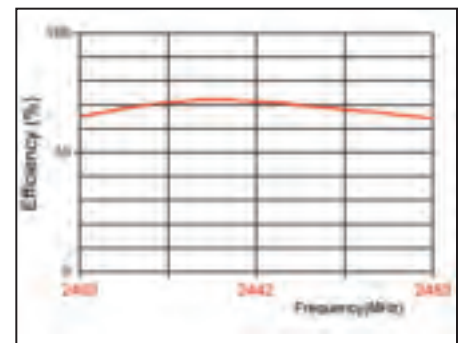
Azimuth



Elevation



Efficiency



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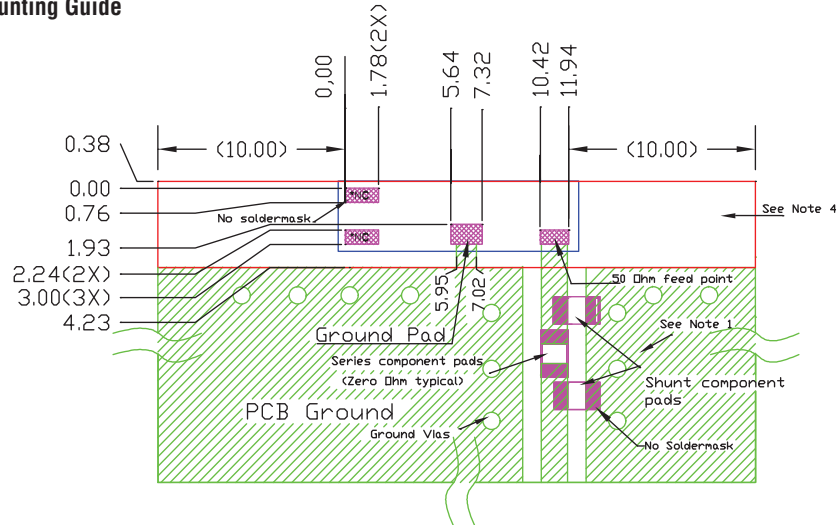
Wi-Fi is a trademark of Wi-Fi Alliance.

ZigBee is a trademark of ZigBee Alliance.

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

Part Number: 1513430-1
(Continued)

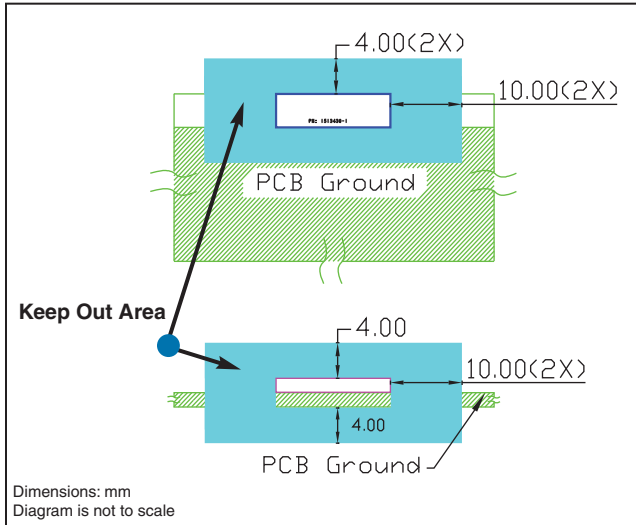
Mounting Guide



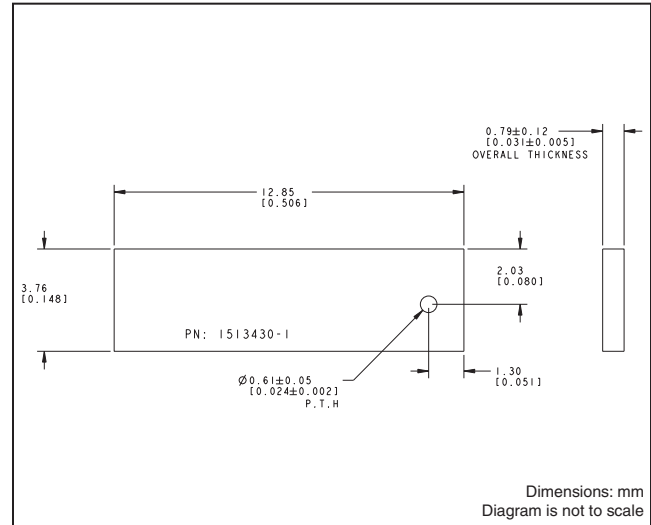
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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

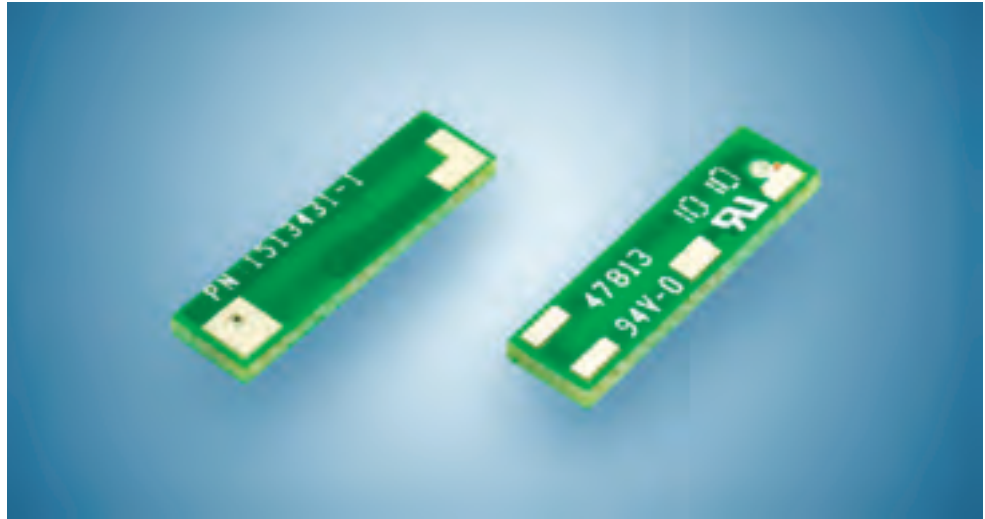
Part Number: 1513431-1

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

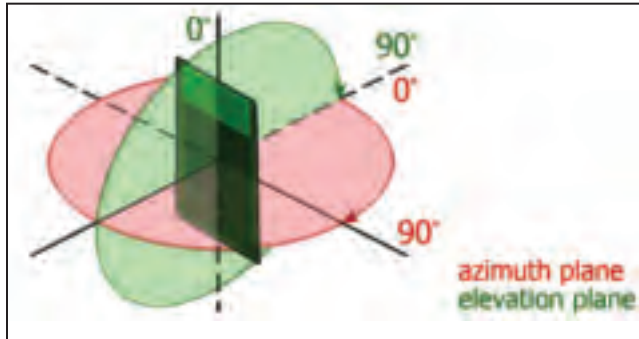


Specifications

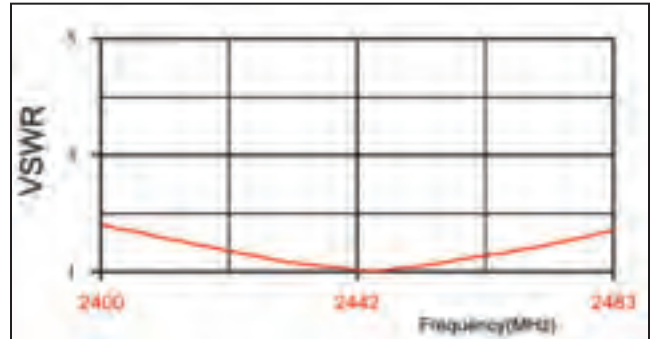
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — 0 dBi
VSWR — < 2.0:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms

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



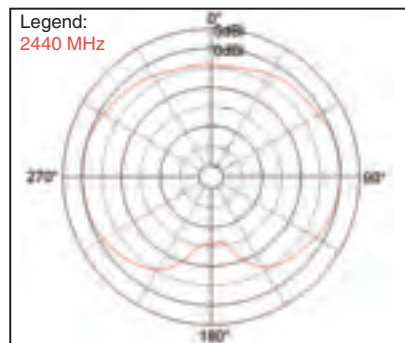
VSWR



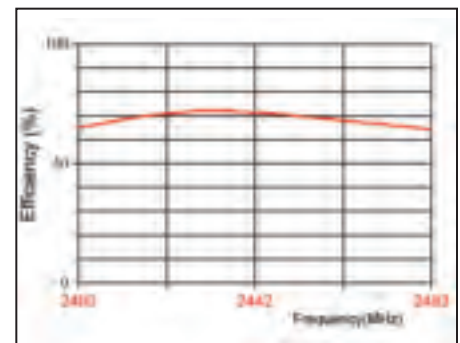
Azimuth



Elevation



Efficiency



Bluetooth is a trademark of Bluetooth SIG, Inc.

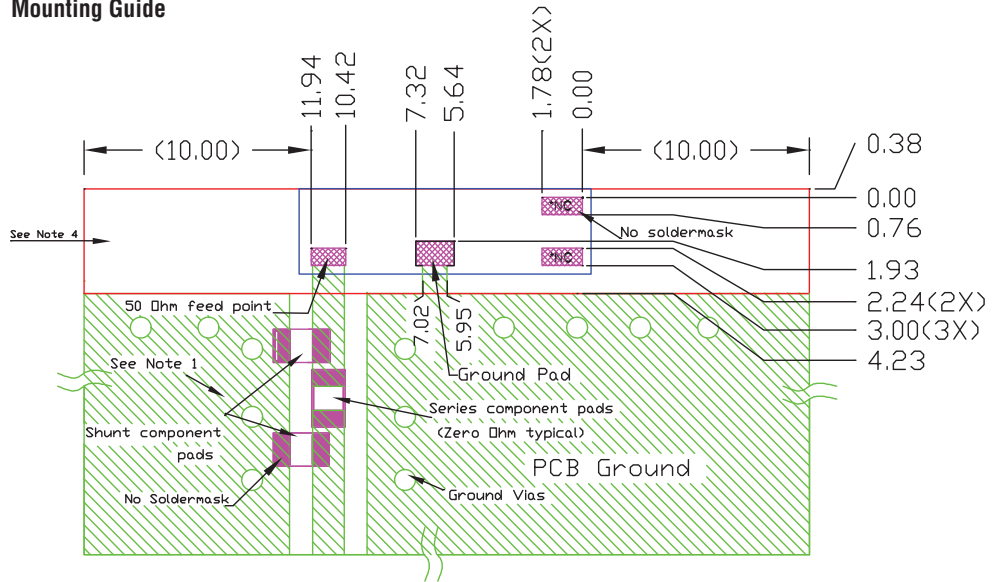
Wi-Fi is a trademark of Wi-Fi Alliance.

ZigBee is a trademark of ZigBee Alliance.

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)

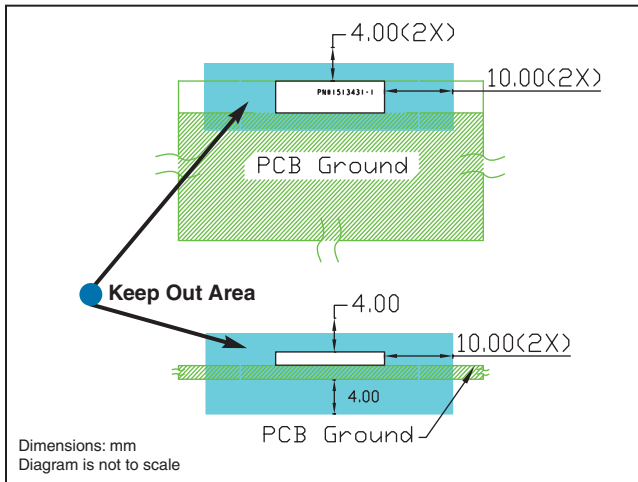
Mounting Guide



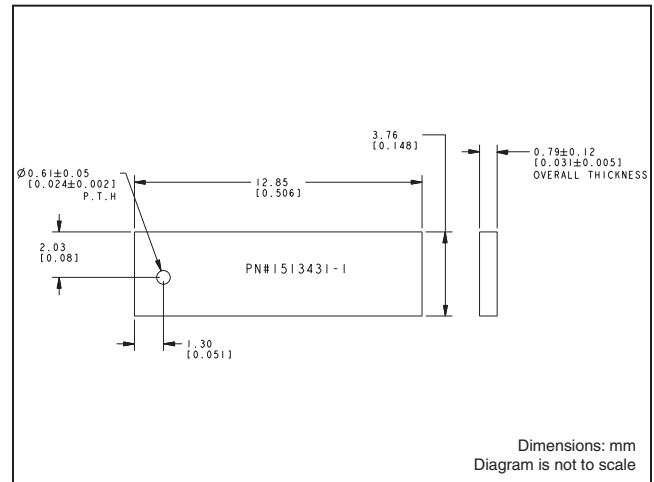
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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ZigBee is a trademark of ZigBee Alliance.

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

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

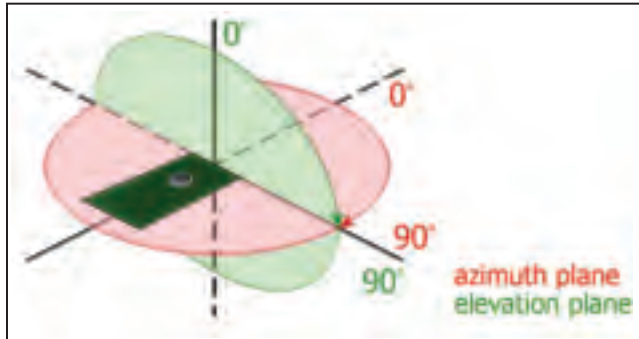
Size — 16.00 mm dia. x 6.05 mm

Weight — < 1 g

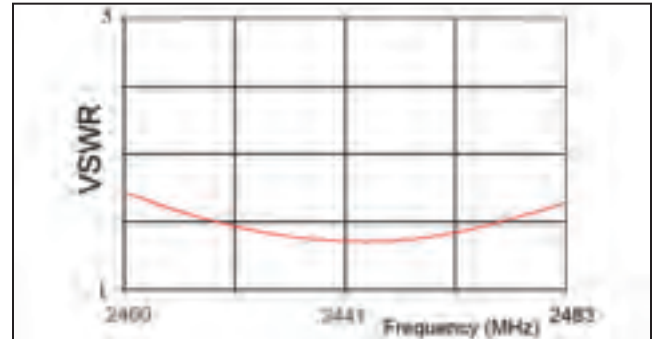
Mounting — Surface-mount technology. See next page

Keep Out Area — See diagram on next page

Test Orientation in Free Space



VSWR



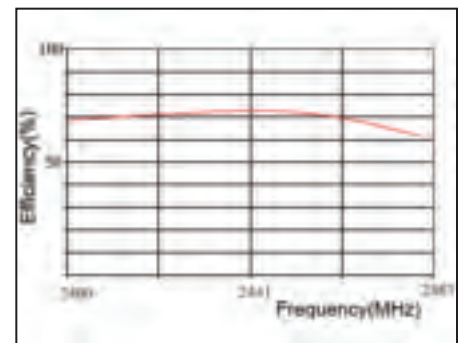
Azimuth



Elevation



Efficiency



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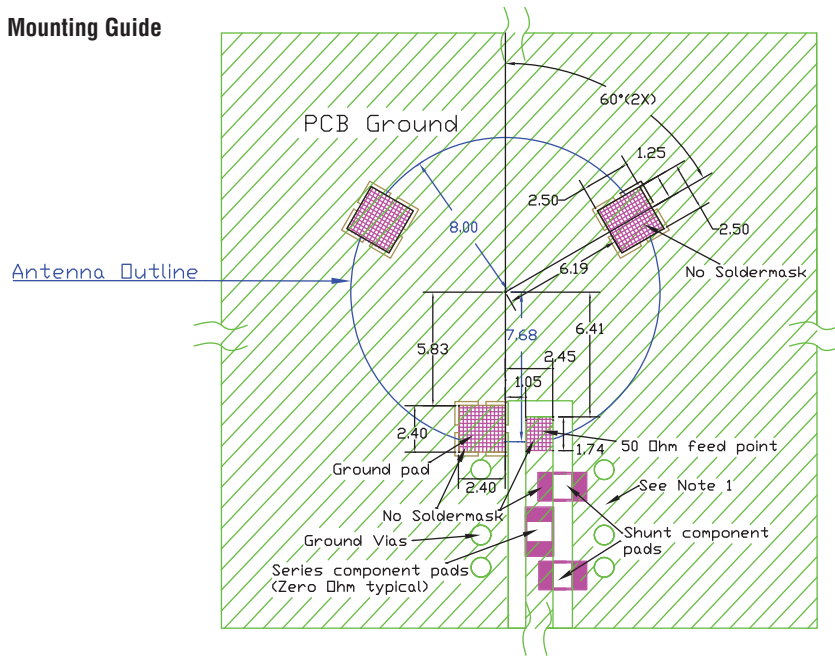
Wi-Fi is a trademark of Wi-Fi Alliance.

ZigBee is a trademark of ZigBee Alliance.

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)

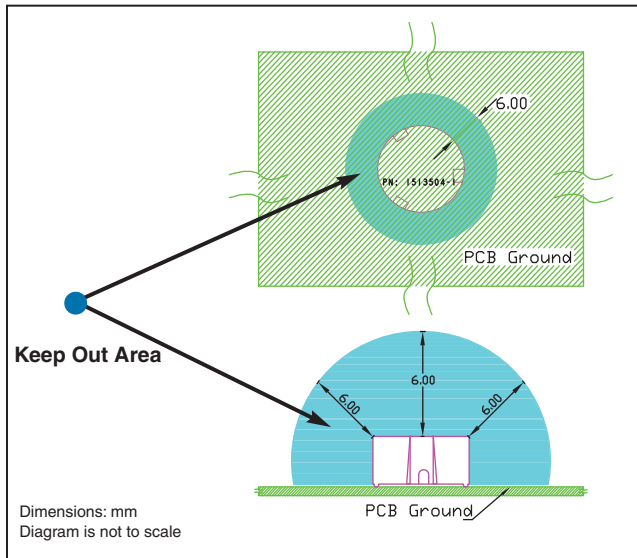
Mounting Guide



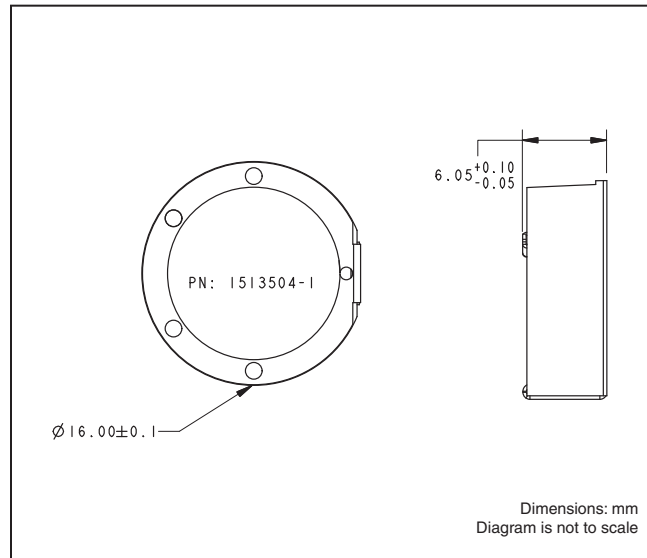
NOTES: 1. Suggested matching component pads.
2. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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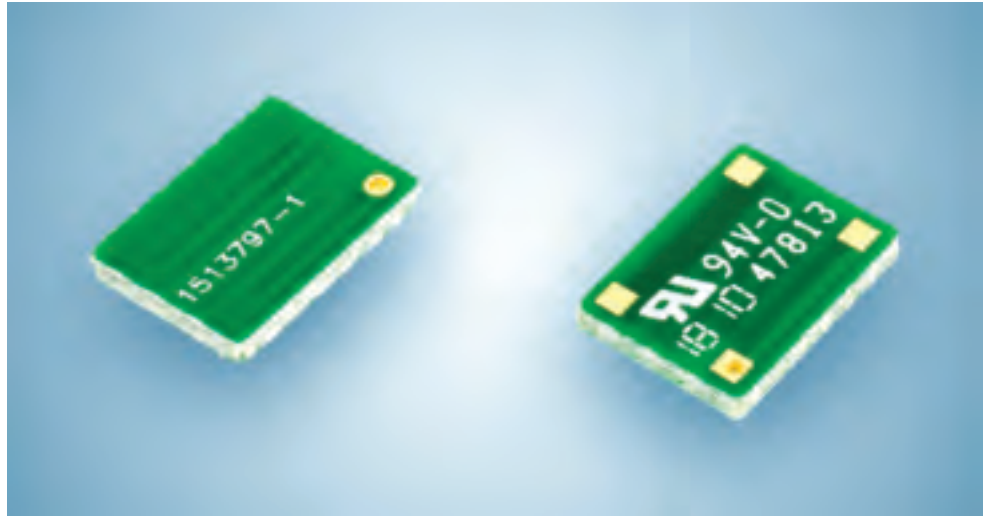
Part Number: 1513797-1

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

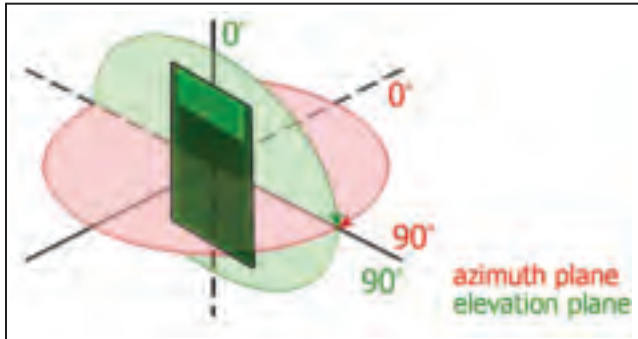


Specifications

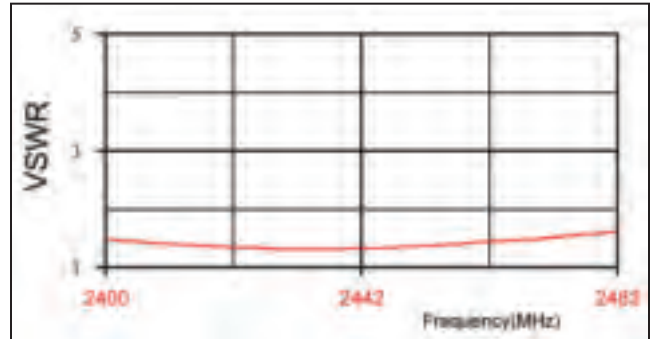
Frequency Range (MHz) — 2400 – 2483.5
Peak Gain — +1 dBi
VSWR — < 2.5:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms

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

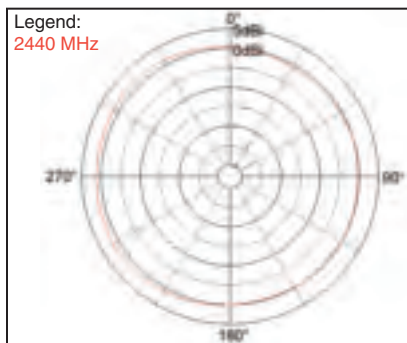
Test Orientation in Free Space



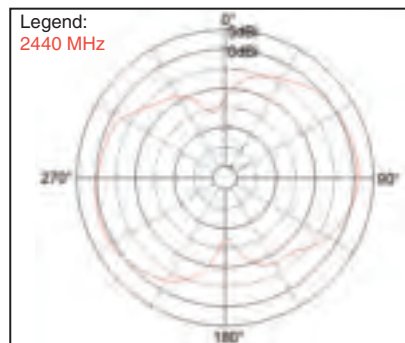
VSWR



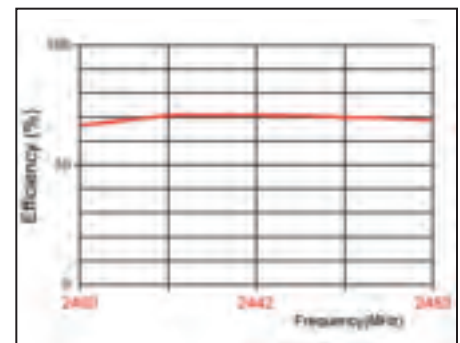
Azimuth



Elevation



Efficiency



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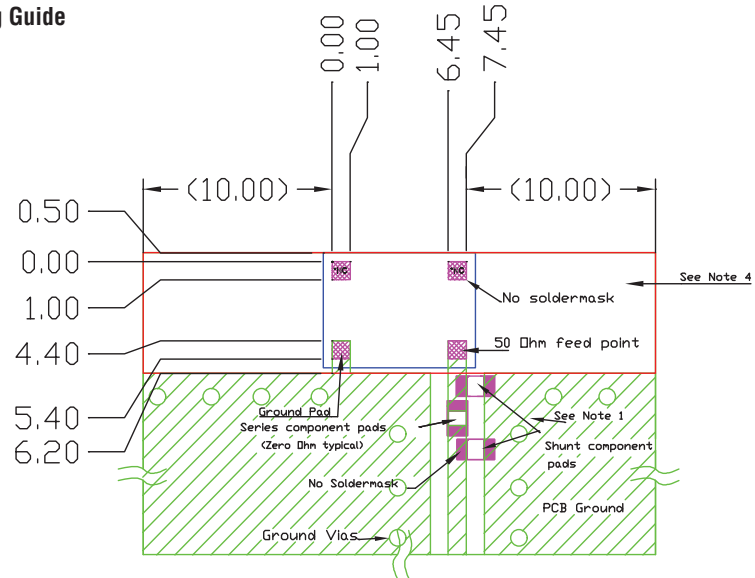
Wi-Fi is a trademark of Wi-Fi Alliance.

ZigBee is a trademark of ZigBee Alliance.

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)

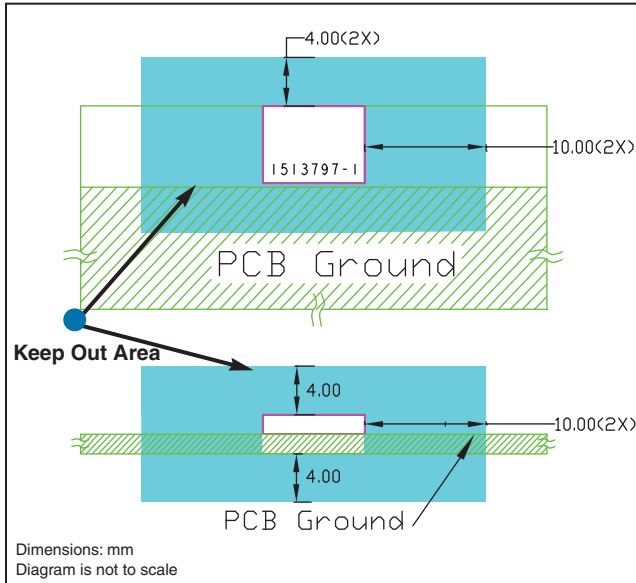
Mounting Guide



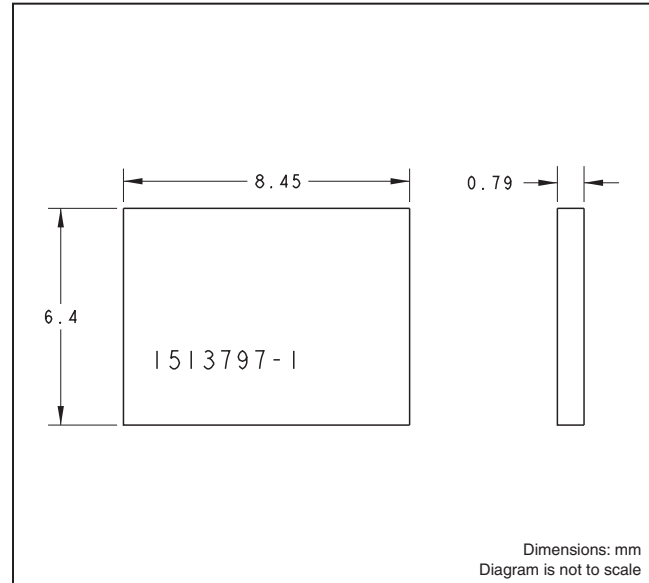
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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ZigBee is a trademark of ZigBee Alliance.

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2300 – 3800 MHz Single Band Antenna

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

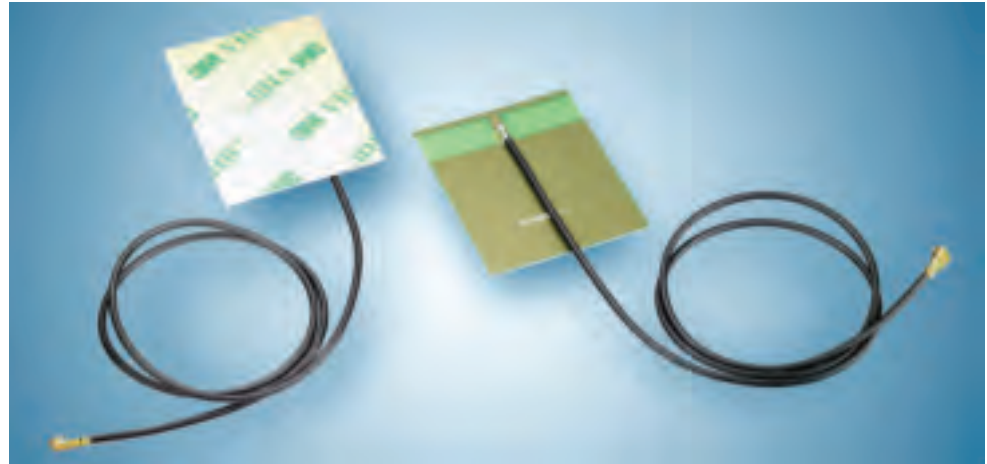
Part Number: 2118059-1

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



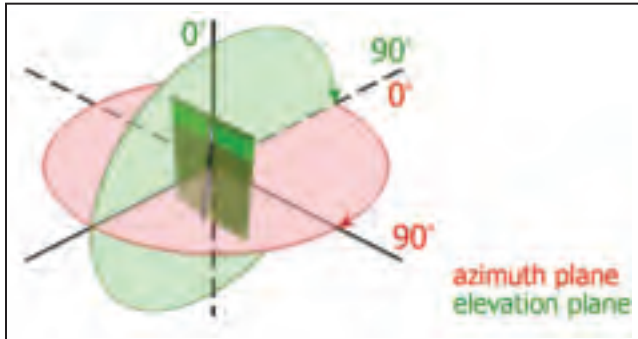
Specifications

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

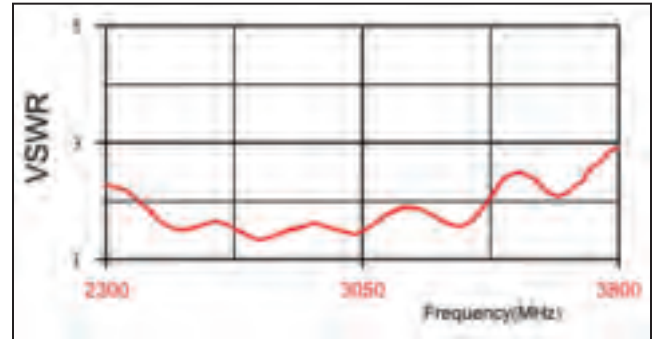
Size — 30.60 mm x 36.85 mm x 0.304 mm
Weight — < 3.3 g
Mounting — Adhesive. See diagram on next page
Keep Out Area — See diagram on next page
Cable / Connector — 350 mm length. 1.37 mm dia. with U.F.I connector

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

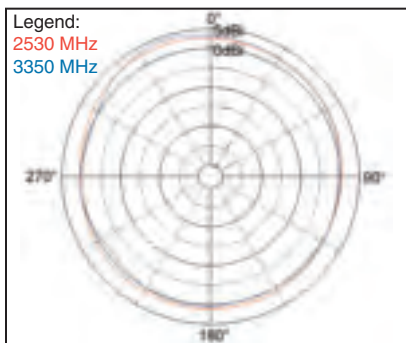
Test Orientation in Free Space



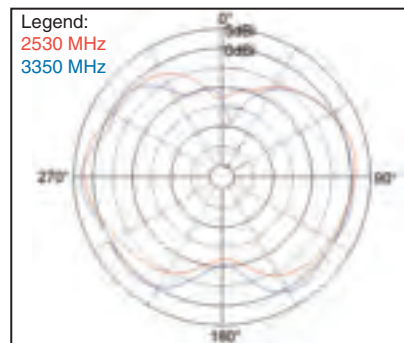
VSWR



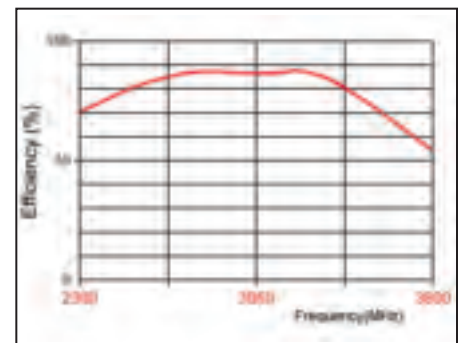
Azimuth



Elevation



Efficiency



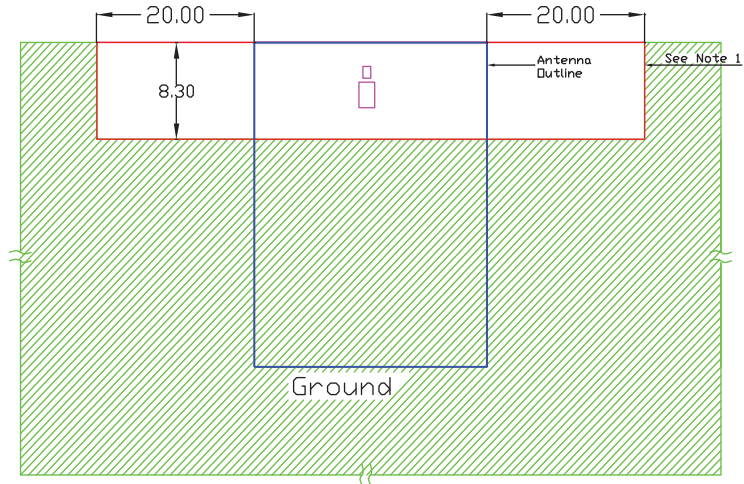
2300 – 3800 MHz Single Band Antenna

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

Part Number: 2118059-1

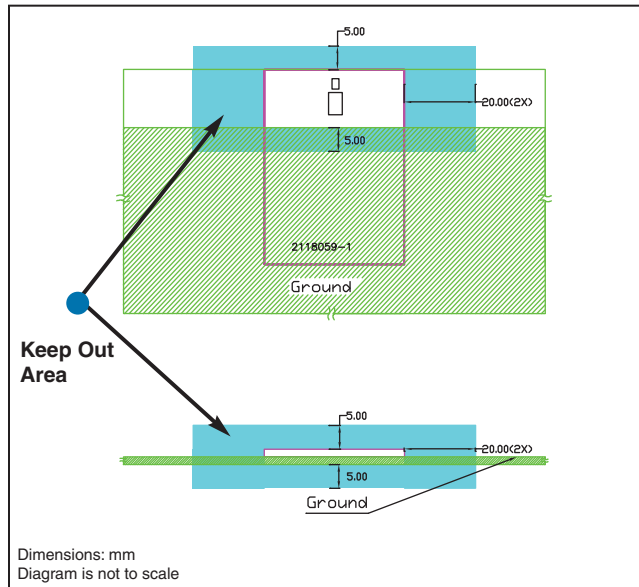
(Continued)

Mounting Guide

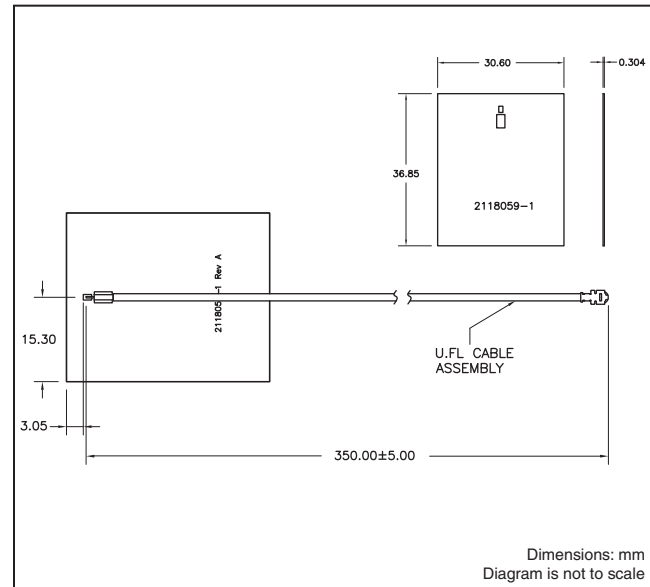


NOTES: 1. No copper allowed in designated area on all PCB layers – Dimensions: mm
5. For more information please call TE. Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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

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

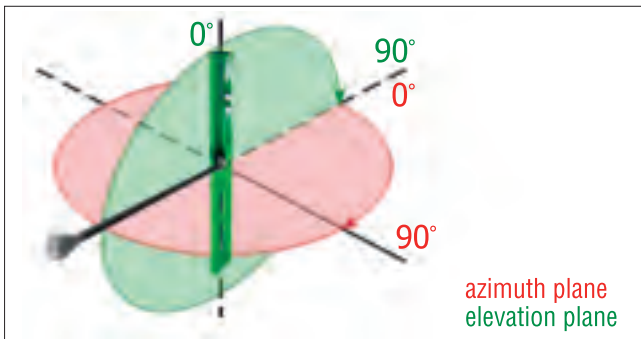
Weight — 1.4 g.

Mounting — Adhesive. See diagram on page 2.

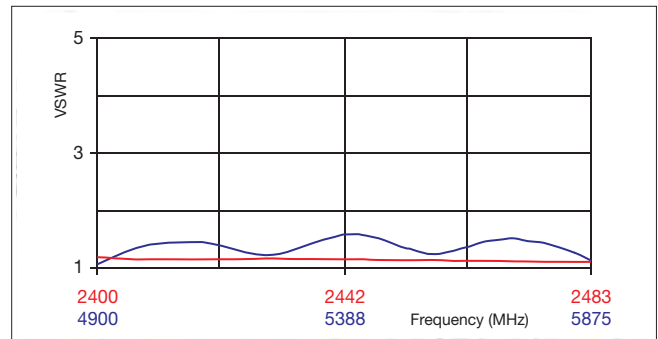
Keep Out Area — See diagram on page 2.

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

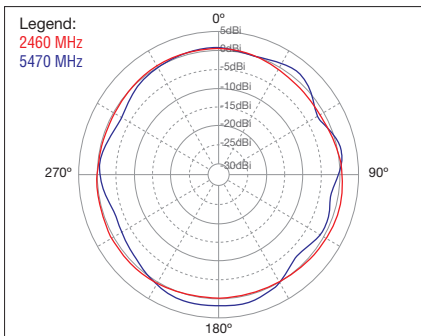
Test Orientation in Free Space



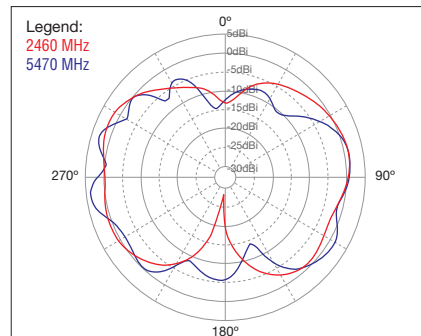
VSWR



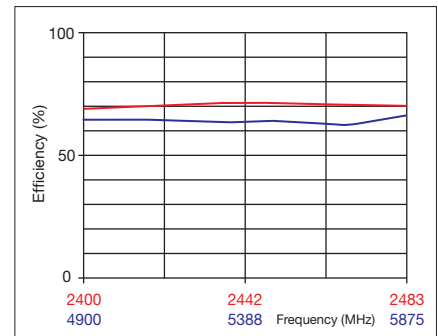
Azimuth



Elevation



Efficiency

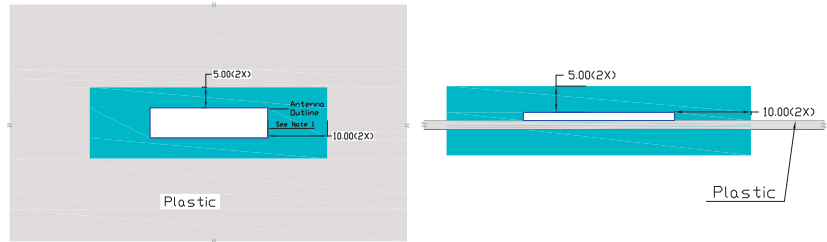


2400-2483.5 & 4900-5875 MHz Dual Band Antenna

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

Part Number: 2118309-1
(Continued)

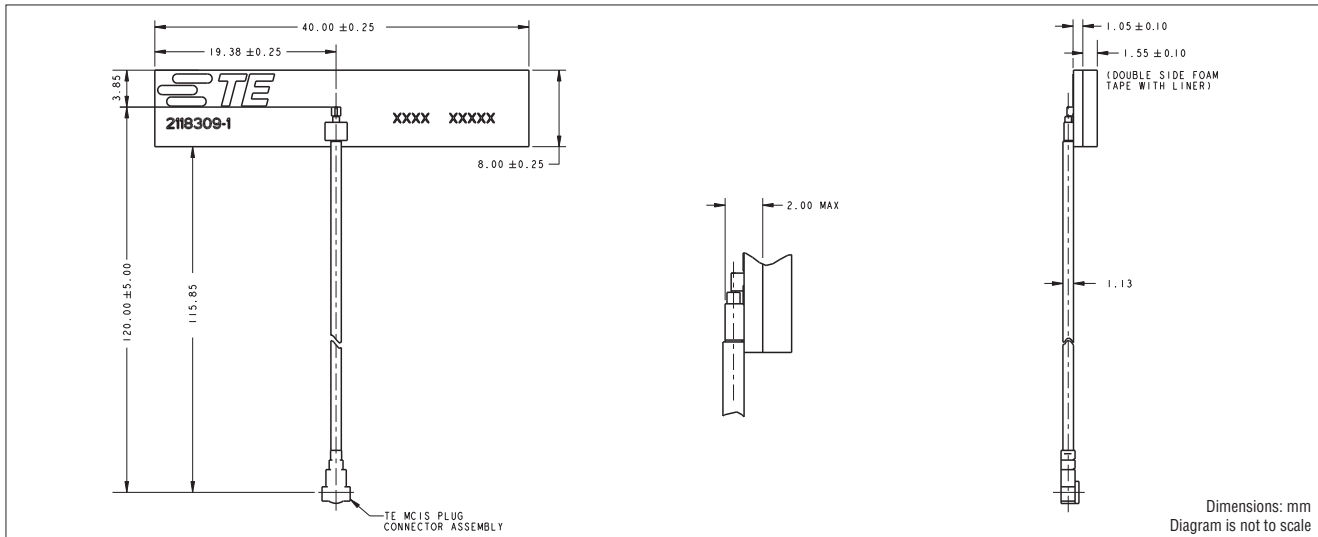
Mounting Guide and Keep Out Area



- 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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Wi-Fi is a trademark of Wi-Fi Alliance.
ZigBee is a trademark of ZigBee Alliance.

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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

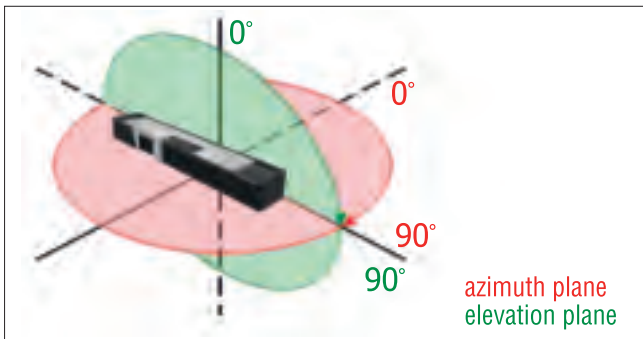
- Minimum or no matching circuits required.
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 30 mm.
- PCB ground is to be on top layer.

Specifications

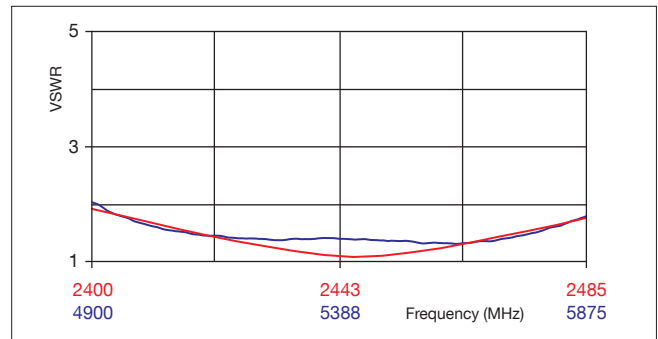
Frequency Range (MHz) — 2400–2483.5; 4900–5875
Peak Gain — +4.3 dBi
VSWR — < 2.5:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 3 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

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.

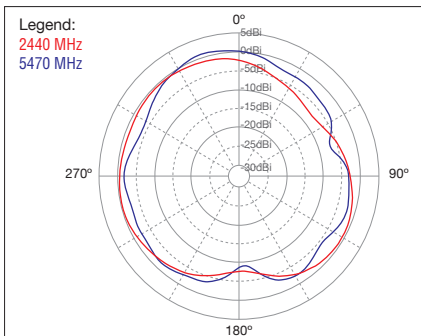
Test Orientation in Free Space



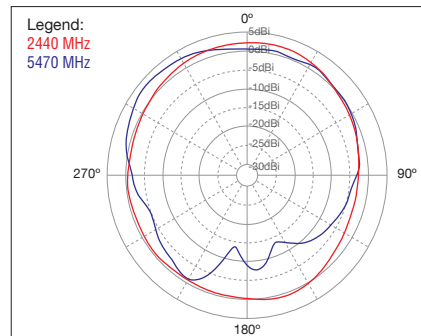
VSWR



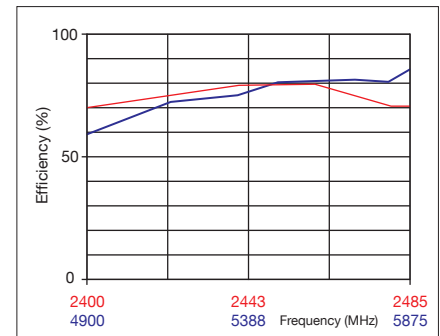
Azimuth



Elevation



Efficiency

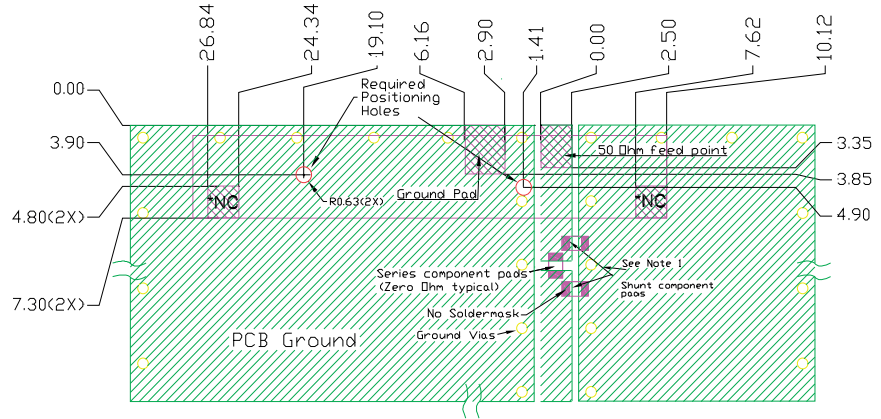


2400-2483.5 & 4900-5875 MHz Dual Band Antenna

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

Part Number: 2118315-1
(Continued)

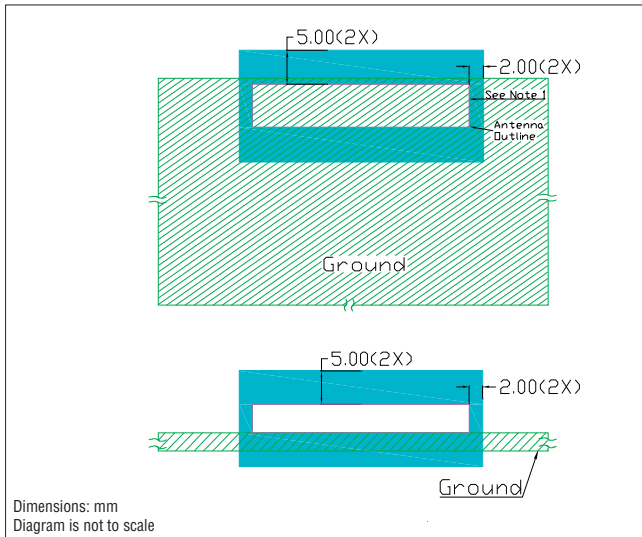
Mounting Guide



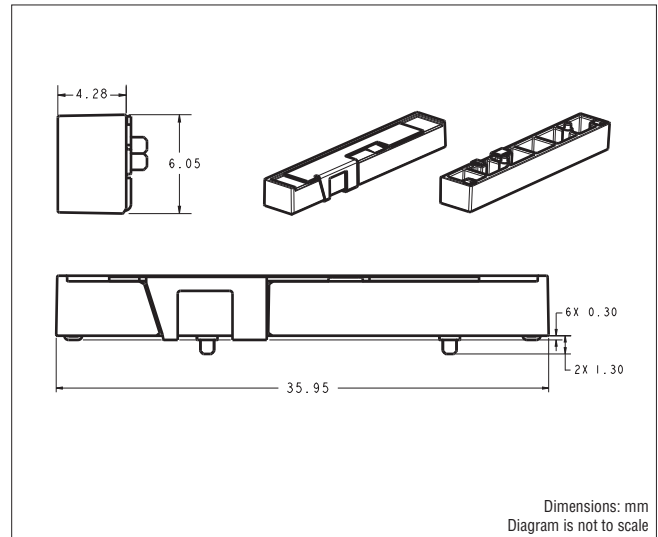
- NOTES: 1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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)

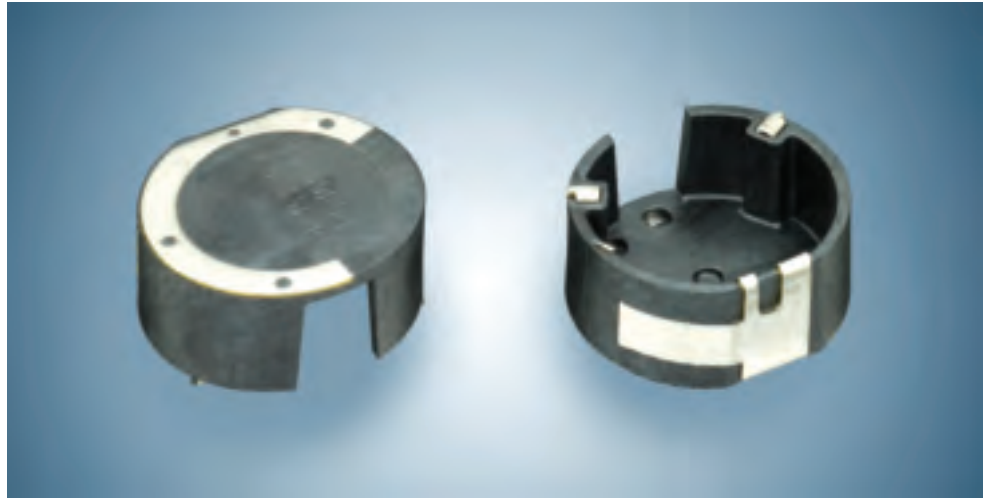
Part Number: 1513164-1

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

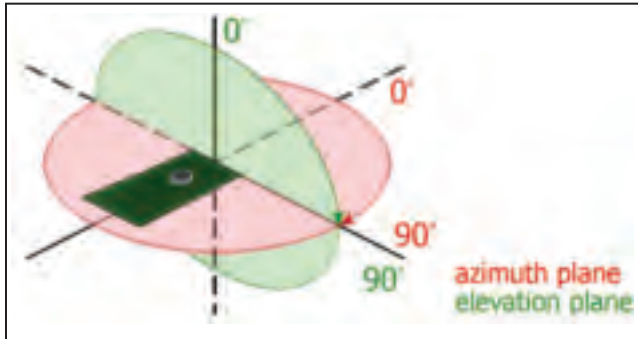
Size — 16.0 mm x 6.0 mm

Weight — < 1 g

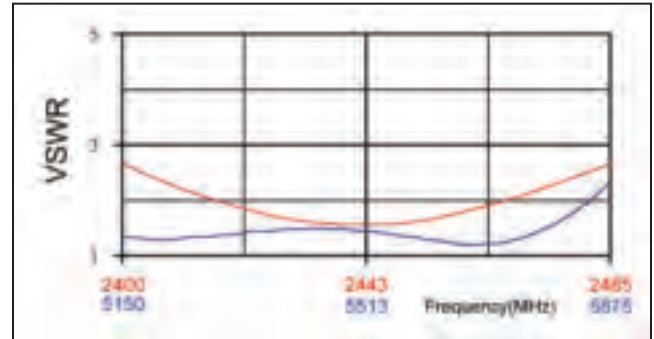
Mounting — Surface-mount technology. See next page

Keep Out Area — See diagram on next page

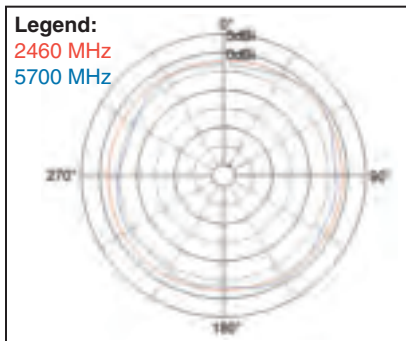
Test Orientation in Free Space



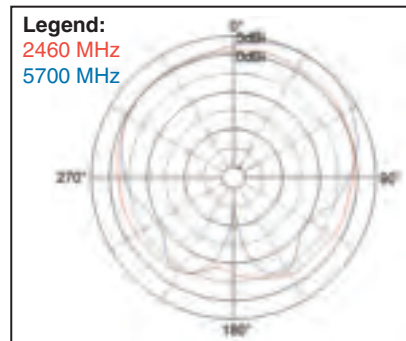
VSWR



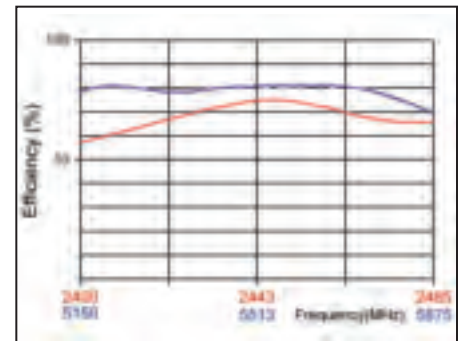
Azimuth



Elevation



Efficiency



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ZigBee is a trademark of ZigBee Alliance.

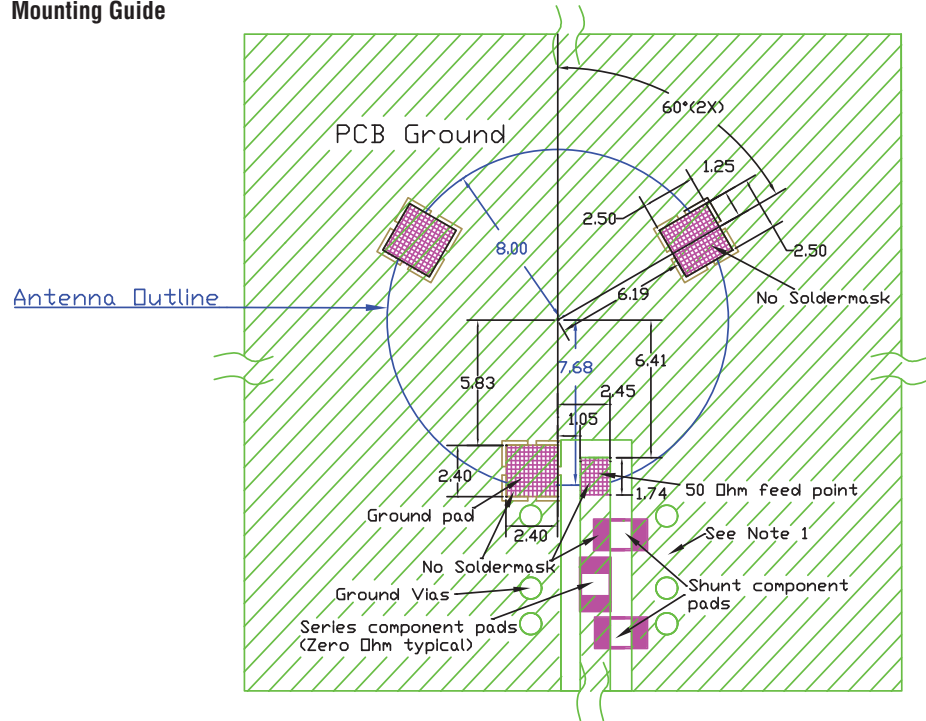
2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

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

Part Number: 1513164-1

(Continued)

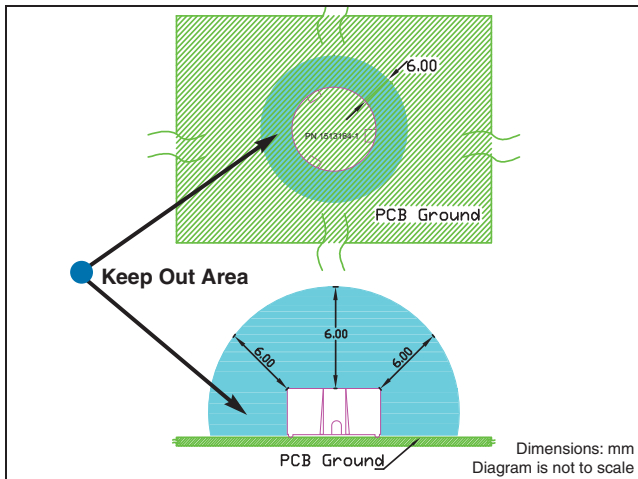
Mounting Guide



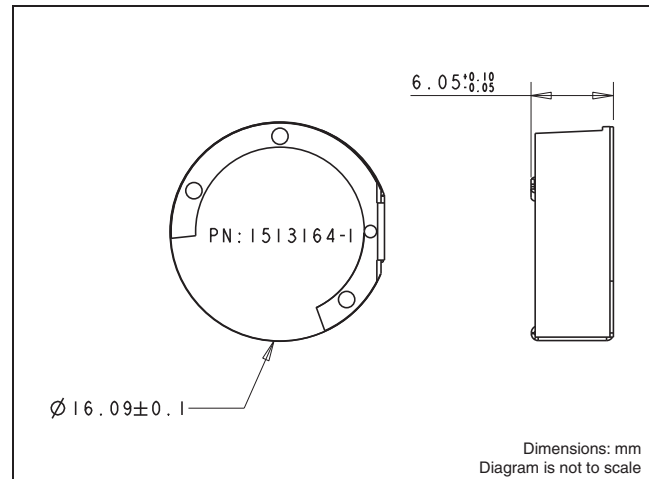
- NOTES: 1. Suggested matching component pads.
2. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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

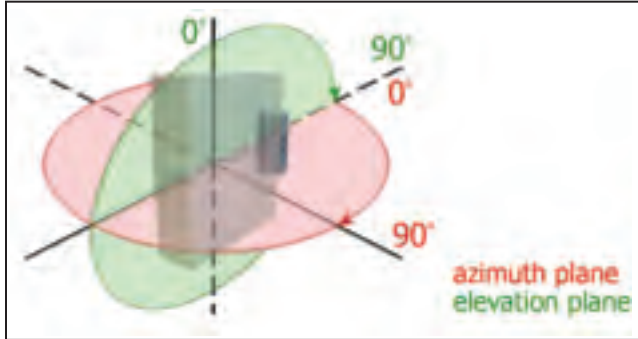


Specifications

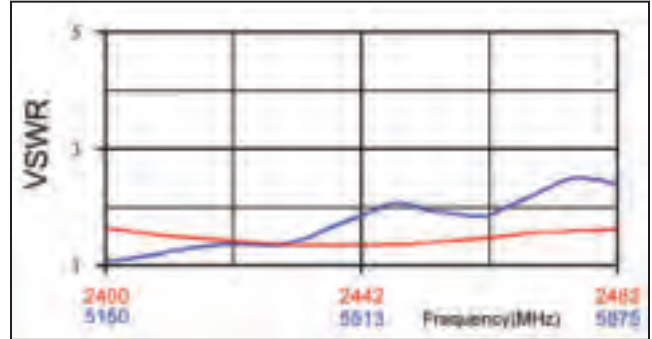
Frequency Range (MHz) — 2400 – 2483.5; 5150 – 5875
Peak Gain — 3 dBi
VSWR — <3.0:1
Polarization — Linear
Power Handling — 10 Watt cw
Feed Point Impedance — 50 Ohms unbalanced

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

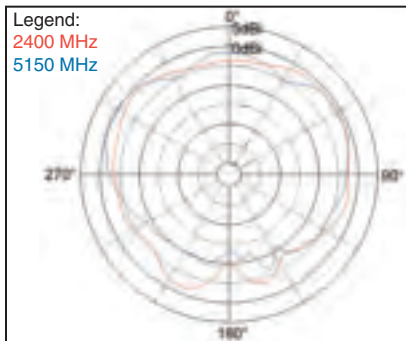
Test Orientation in Free Space



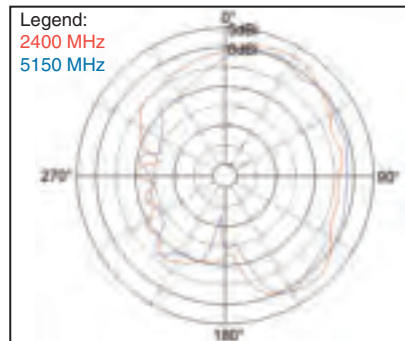
VSWR



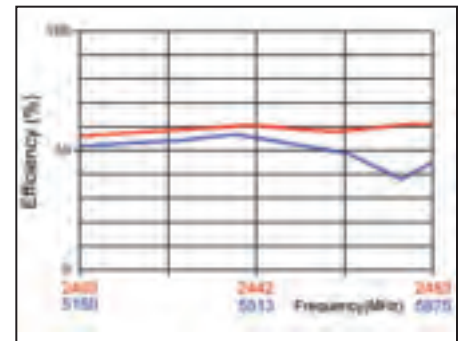
Azimuth



Elevation



Efficiency



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2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

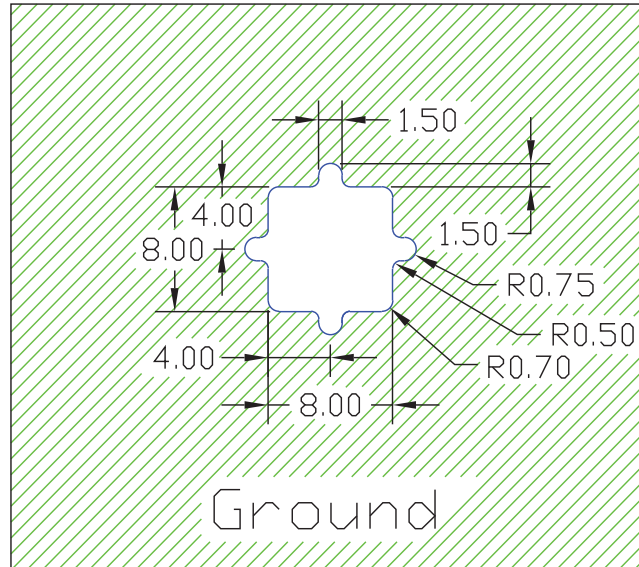
(802.11 a/b/g/n, incl. frequencies of Bluetooth, ZigBee, and Wi-Fi products) (Continued)

Part Number: 1513472-5

(Continued)

Mounting Guide

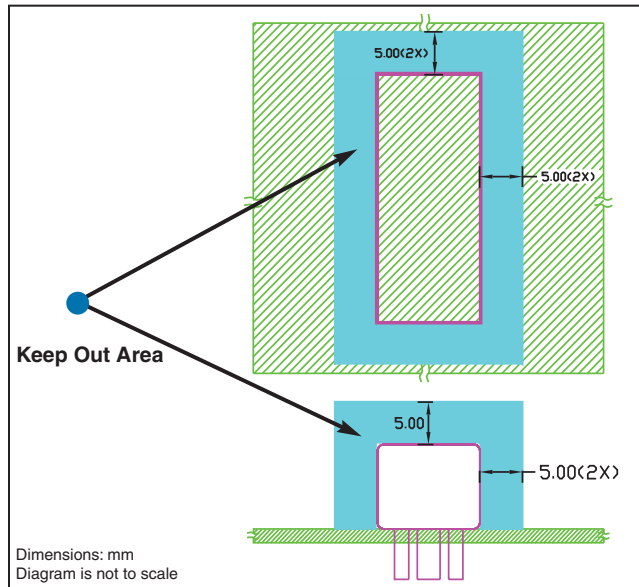
NOTE:
Panel thickness must be between
0.8 mm and 1 mm.



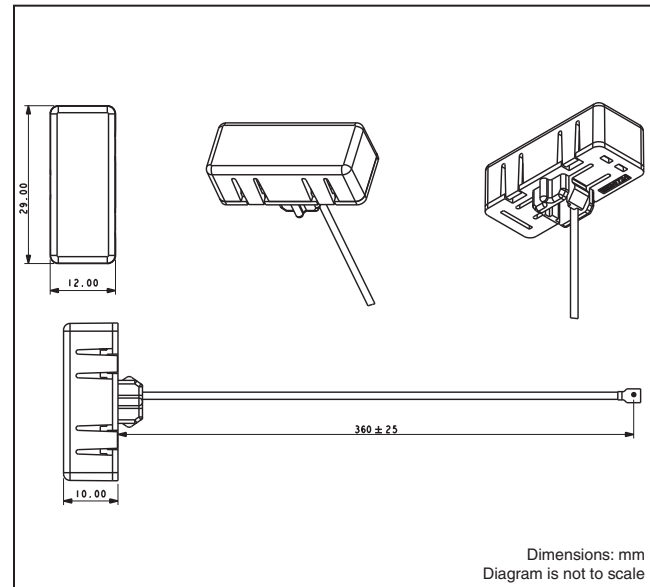
NOTES: 1. Antenna must be mounted on a metal chassis.
2. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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)

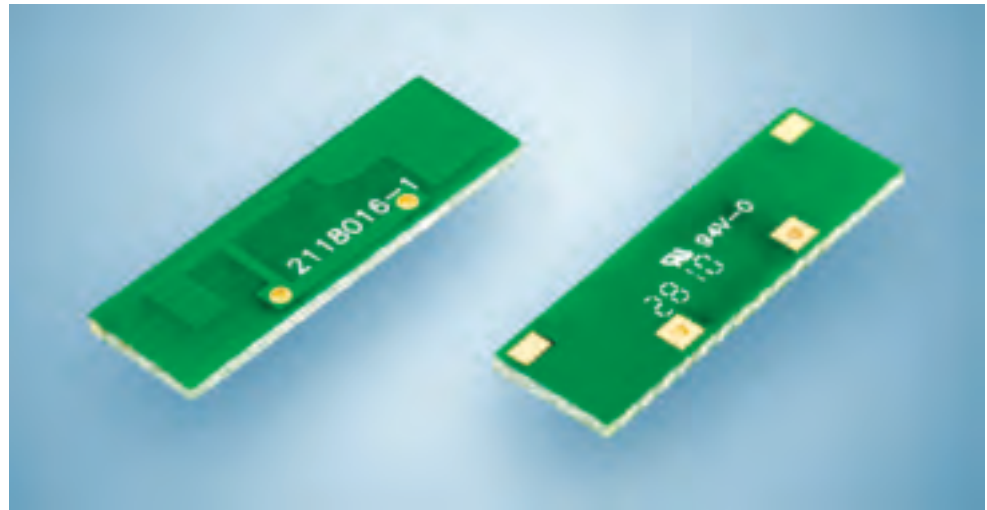
Part Number: 2118016-1

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

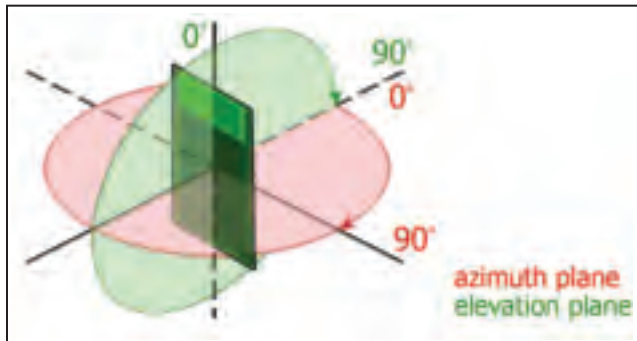


Specifications

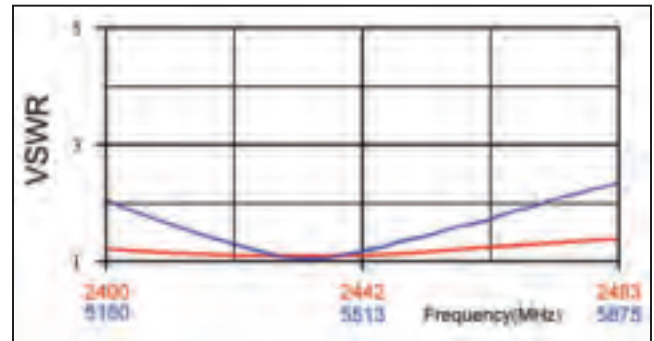
Frequency Range (MHz) — 2400 – 2483.5; 5150 – 5875
Peak Gain — +2 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

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

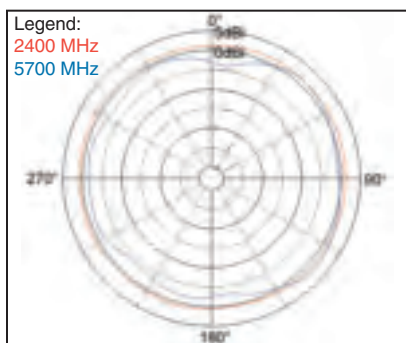
Test Orientation in Free Space



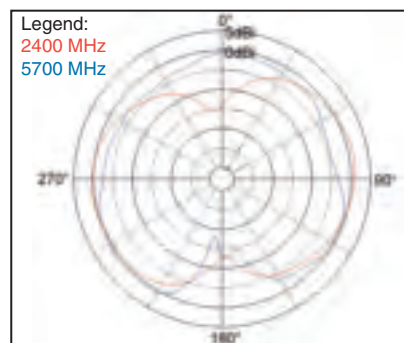
VSWR



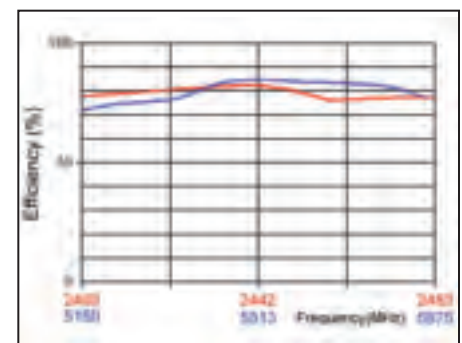
Azimuth



Elevation



Efficiency



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ZigBee is a trademark of ZigBee Alliance.

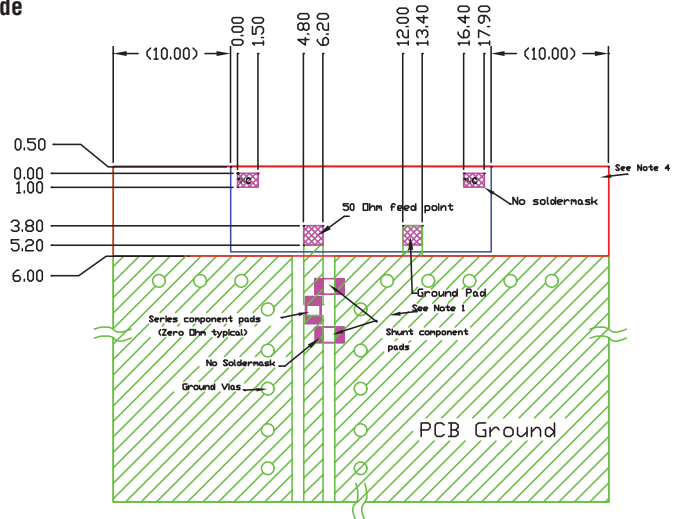
2400 – 2483.5 & 5150 – 5875 MHz Dual Band Antenna

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

Part Number: 2118016-1

(Continued)

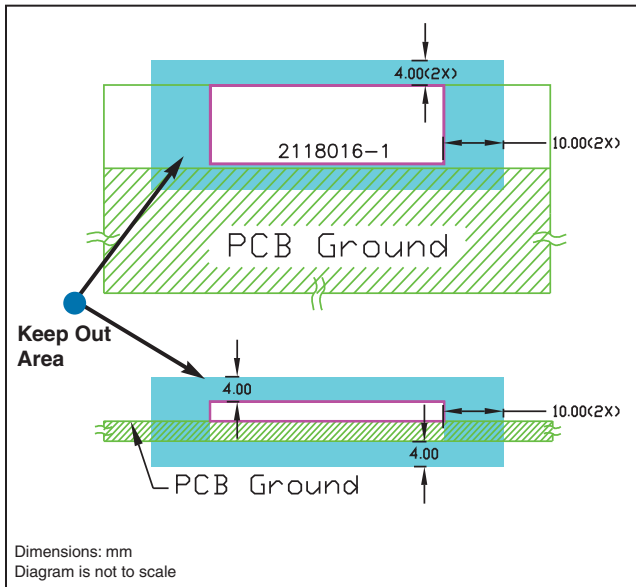
Mounting Guide



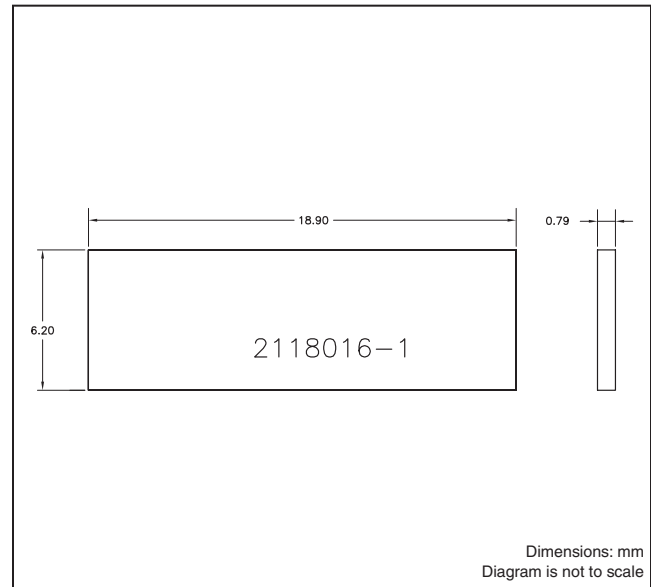
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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



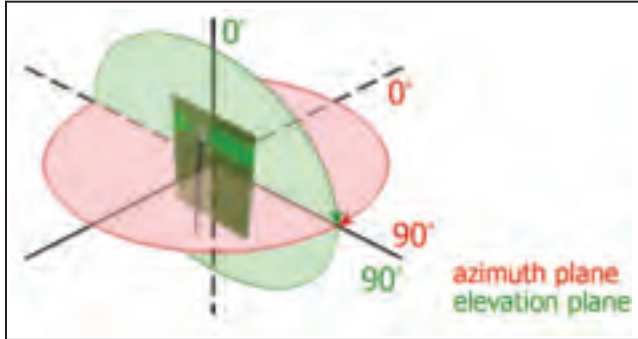
Specifications

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

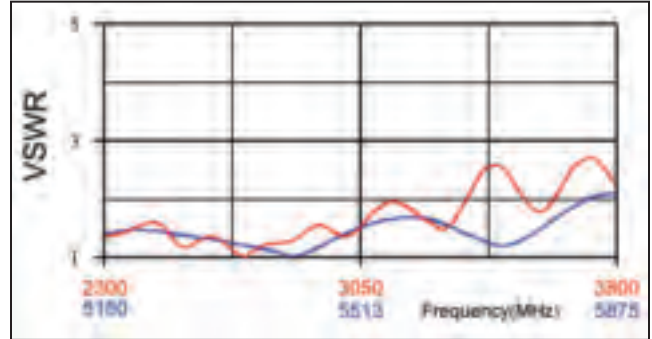
Size — 29.60 mm x 41.24 mm x 0.304 mm
Weight — < 3.3 g
Mounting — Adhesive. See diagram on next page
Keep Out Area — See diagram on next page
Cable / Connector — 350 mm length. 1.37 mm dia. with U.FI connector

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 Wi-Fi is a trademark of Wi-Fi Alliance.
 WiMAX is a trademark of WiMAX Forum.
 ZigBee is a trademark of ZigBee Alliance.

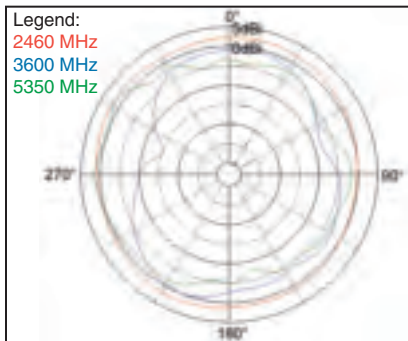
Test Orientation in Free Space



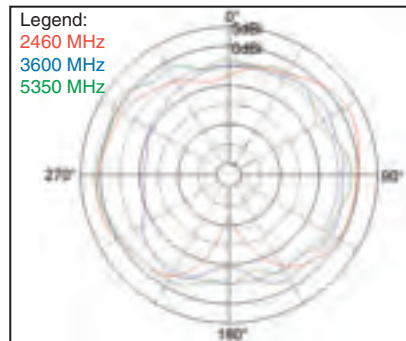
VSWR



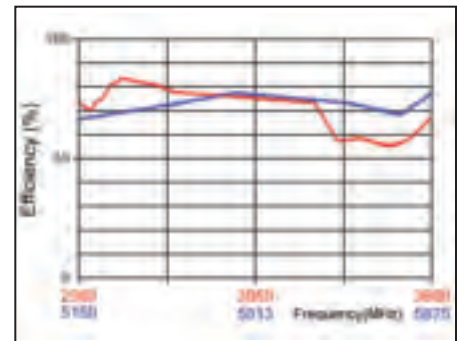
Azimuth



Elevation



Efficiency



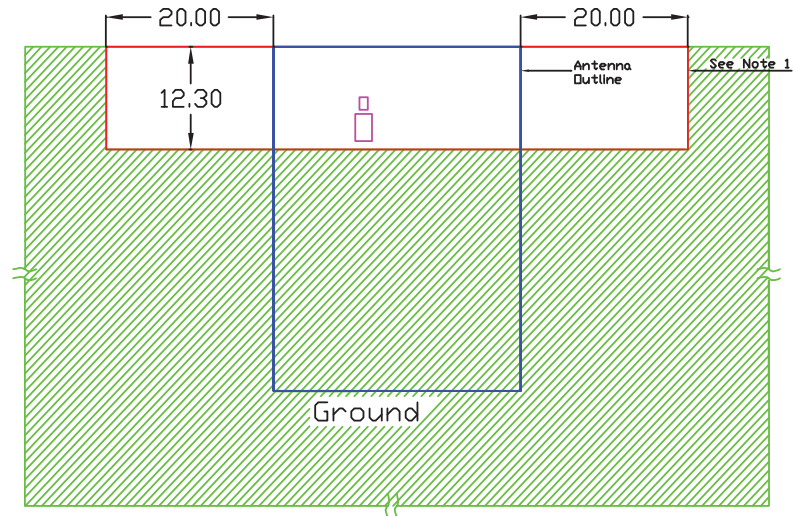
2300 – 3800 & 5150 – 5875 MHz Dual Band Antenna

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

Part Number: 2118060-1

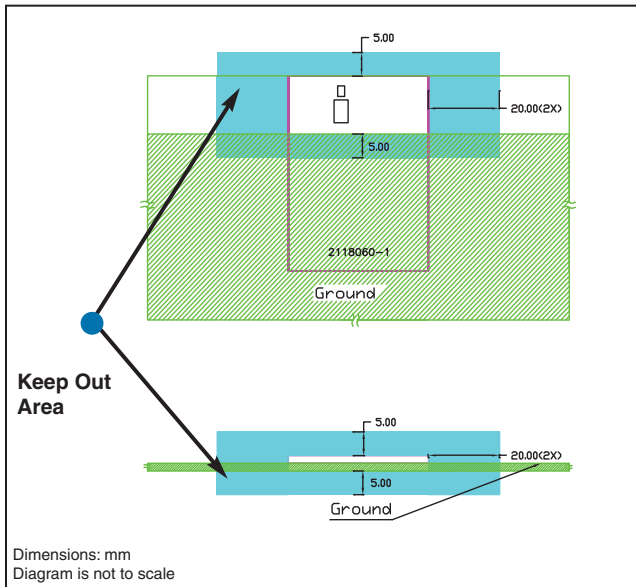
(Continued)

Mounting Guide

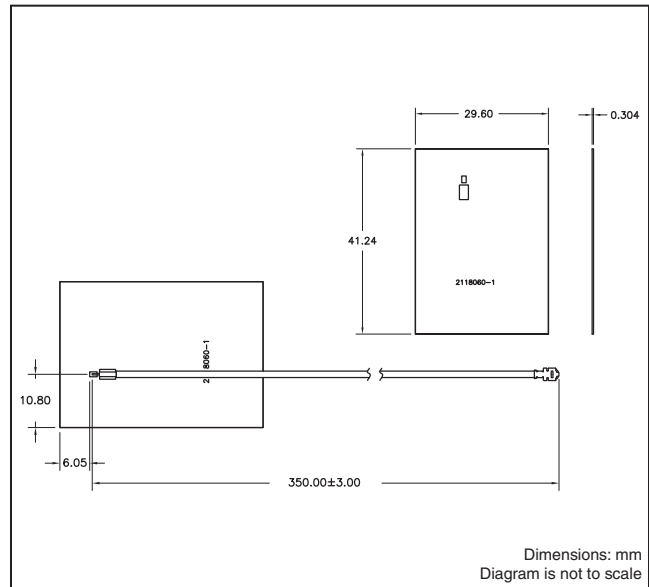


- NOTES: 1. No copper allowed in designated area on all PCB layers – Dimensions: mm
 2. For more information please call TE. Diagram is not to scale

Keep Out Area



Approx. Dimensions



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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 — Omnidirectional

Power Handling — 3 Watt cw

Feed Point Impedance — 50 Ohms unbalanced

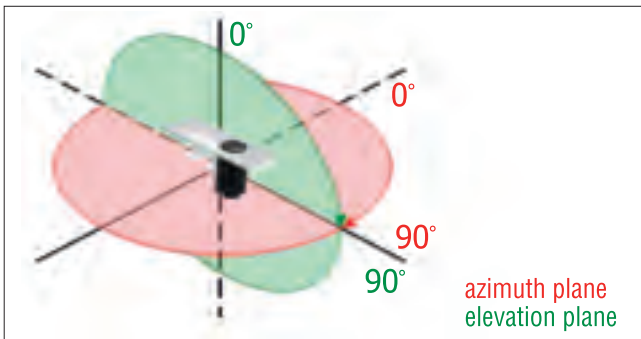
Size — 11.00 mm x 4.25 mm x 4.90 mm

Weight — 0.2 g.

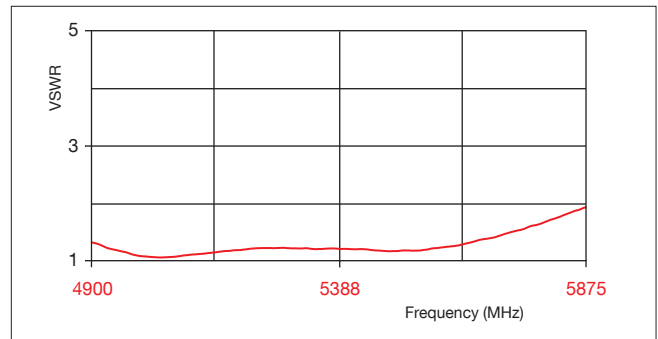
Mounting — Surface-mount technology. See diagram on page 2.

Keep Out Area — See diagram on page 2.

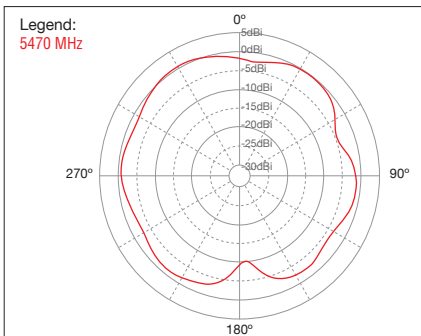
Test Orientation in Free Space



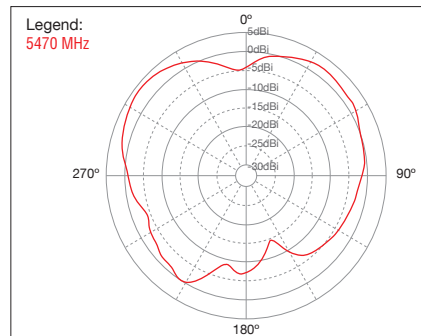
VSWR



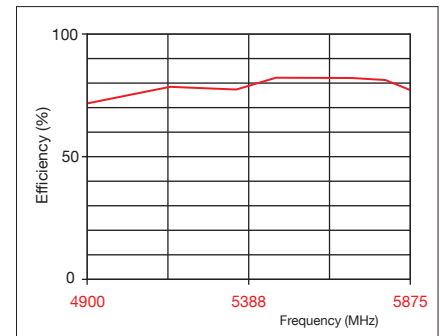
Azimuth



Elevation



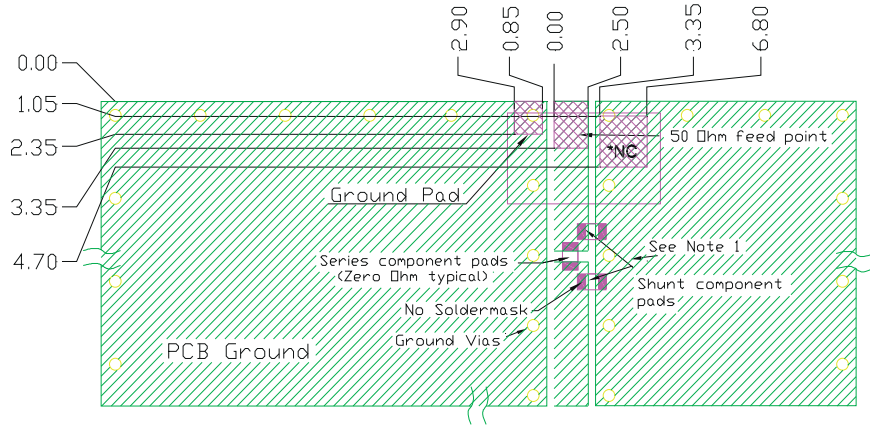
Efficiency



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)

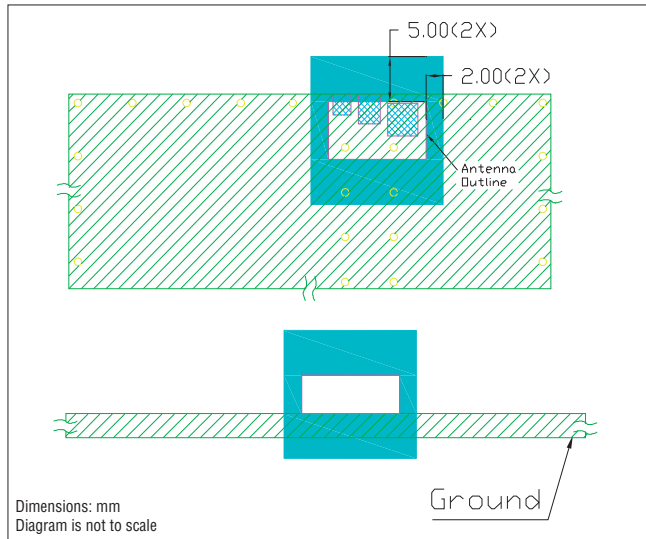
Mounting Guide



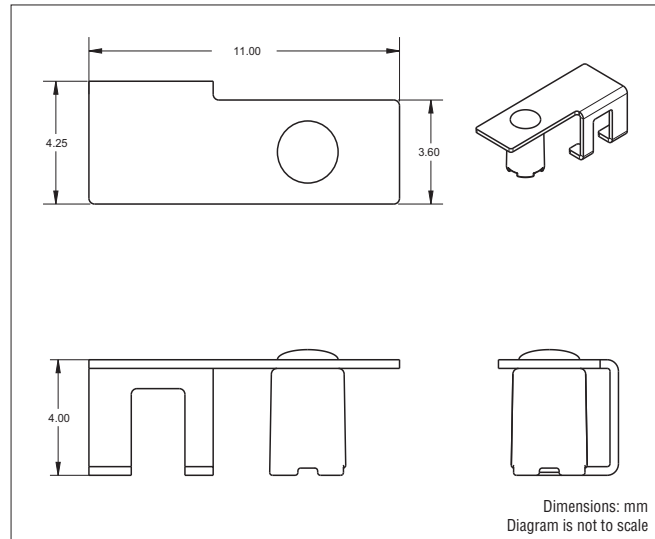
- NOTES: 1. Suggested matching component pads.
2. Antenna must be mounted on the edge of PCB.
3. NC = No connection (mechanical mounting pads).
4. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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

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

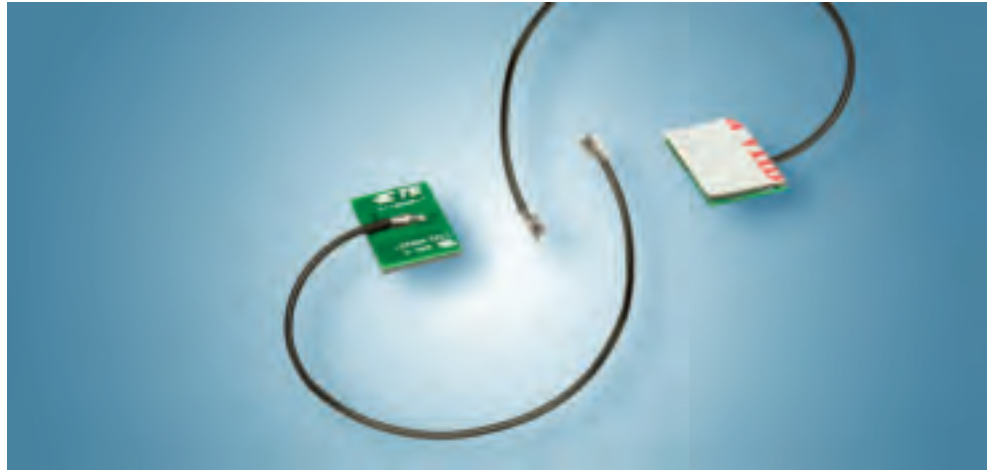
Part Number: 2118326-1

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

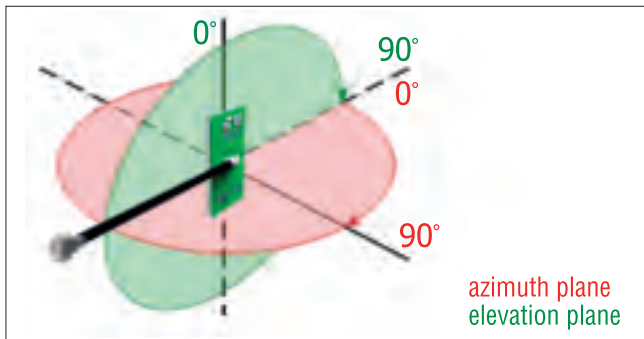
Weight — 1.0 g.

Mounting — Adhesive. See diagram on page 2.

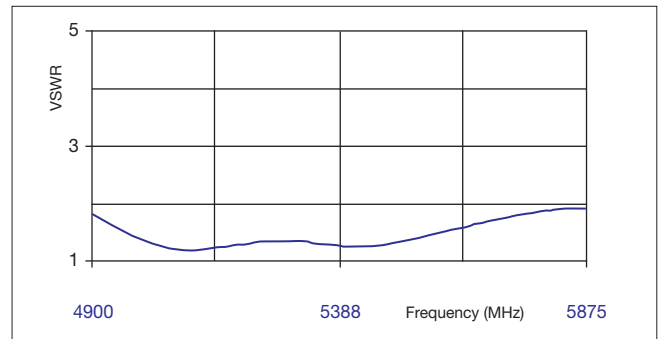
Keep Out Area — See diagram on page 2.

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

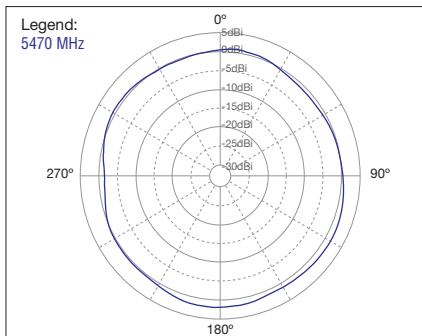
Test Orientation in Free Space



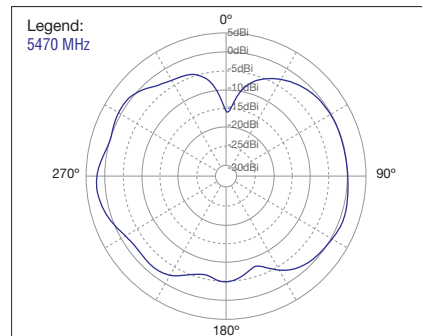
VSWR



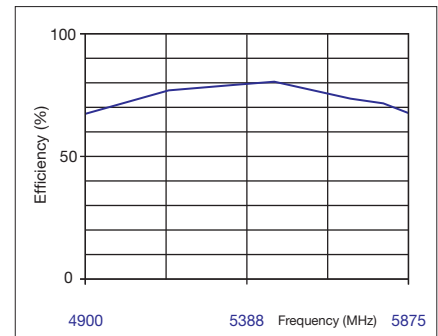
Azimuth



Elevation



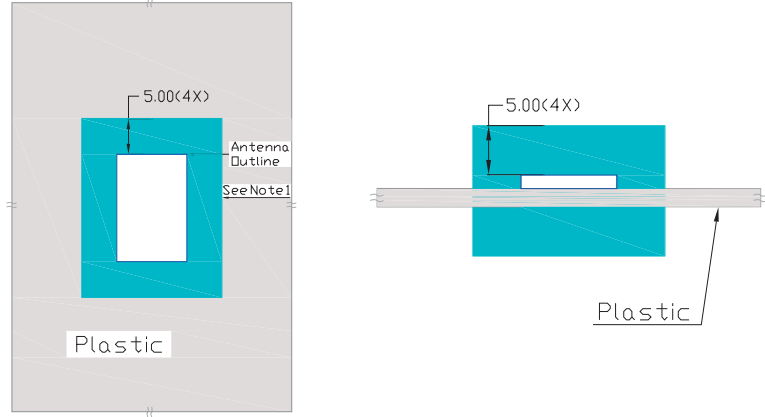
Efficiency



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)

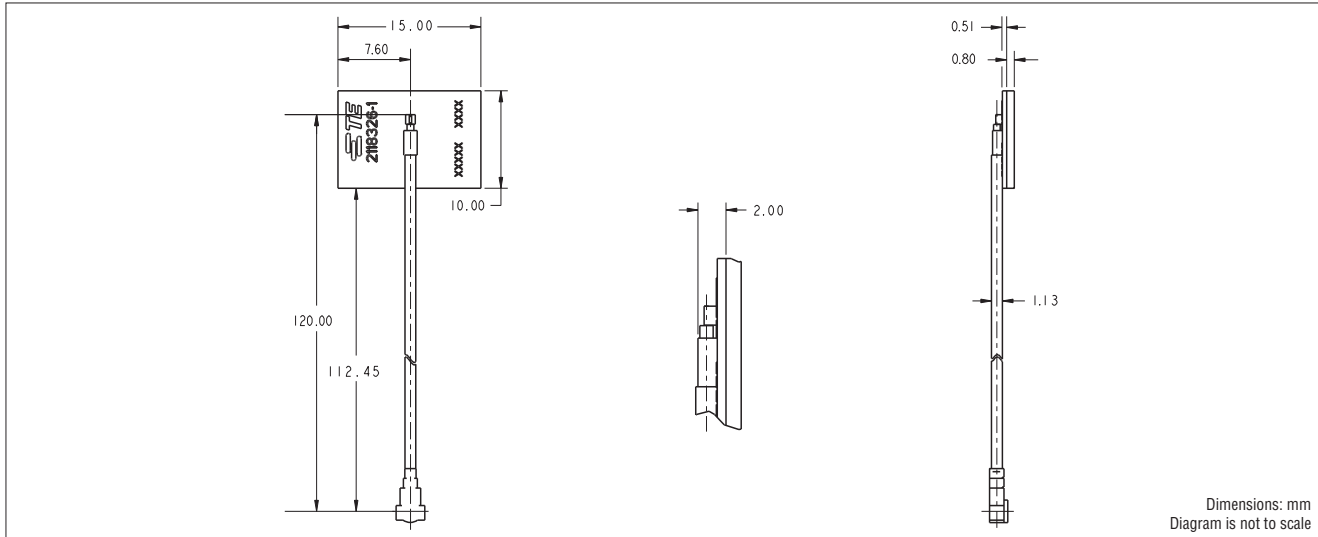
Mounting Guide and Keep Out Area



- 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



Dimensions: mm
Diagram is not to scale

Wi-Fi is a trademark of Wi-Fi 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

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.

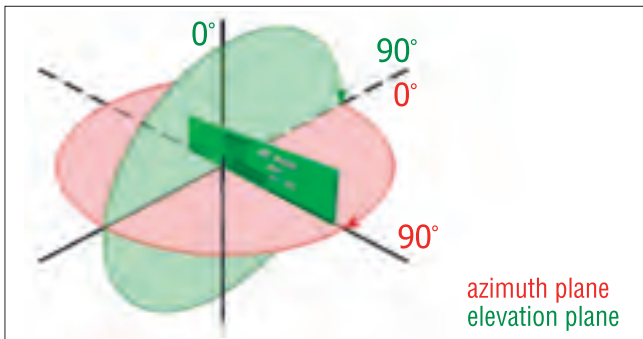


Specifications

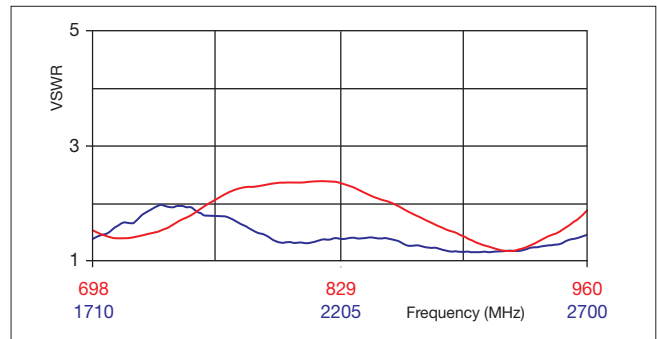
Frequency Range (MHz) — 698–960; 1710–2170; 2300–2700
Peak Gain — +3.9 dBi
VSWR — < 3.0:1
Polarization — Linear
Power Handling — 3 Watt cw
Feed Point Impedance — 50 Ohms unbalanced
Size — 110.0 mm x 14.0 mm x 1.31 mm

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

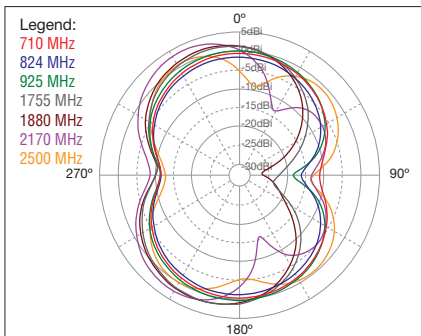
Test Orientation in Free Space



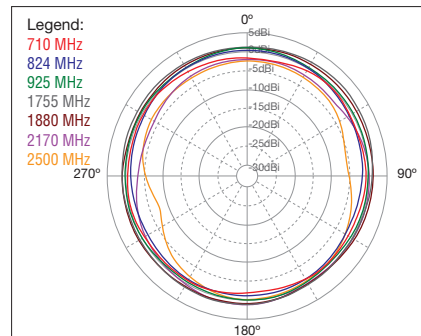
VSWR



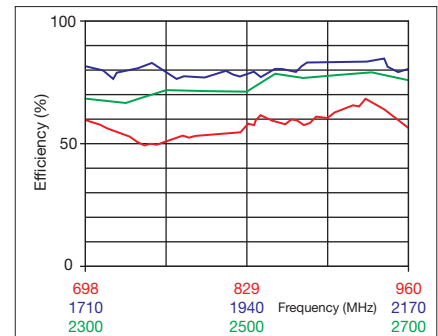
Azimuth



Elevation



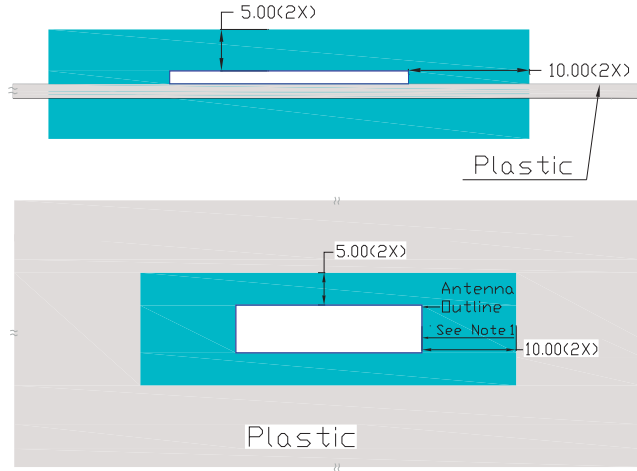
Efficiency



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

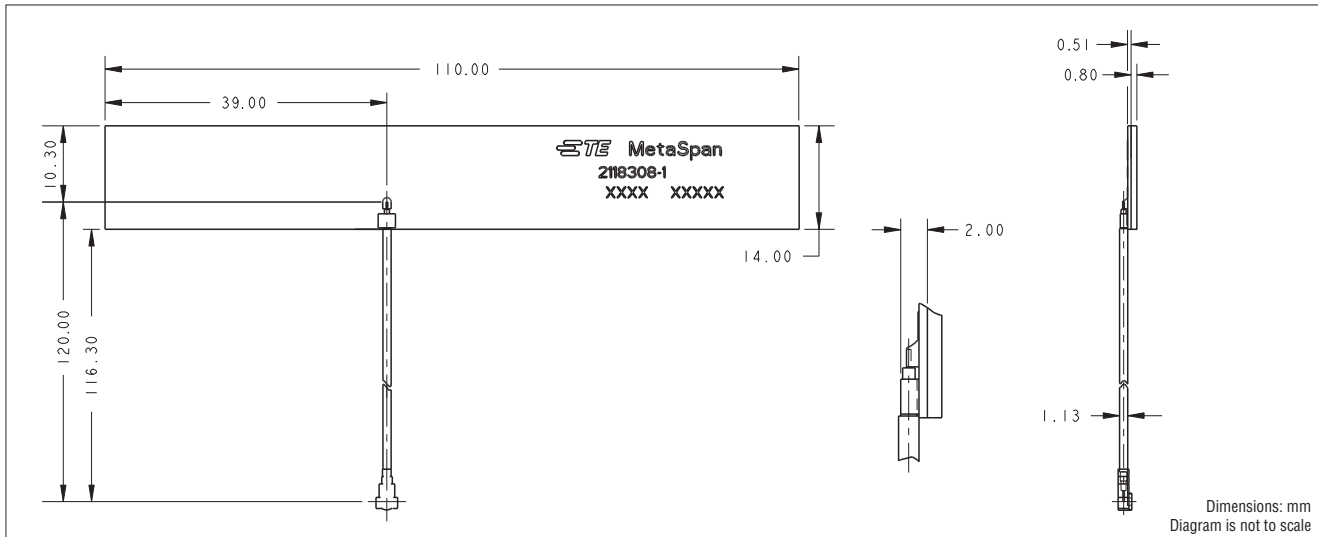


- NOTES: 1. Antenna designed to be mounted on plastic cover.
 2. Area in blue above indicates Keep Out Area.
 3. For more information please call TE.

Dimensions: mm
 Diagram is not to scale

Cell, LTE, & WiMAX

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

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.



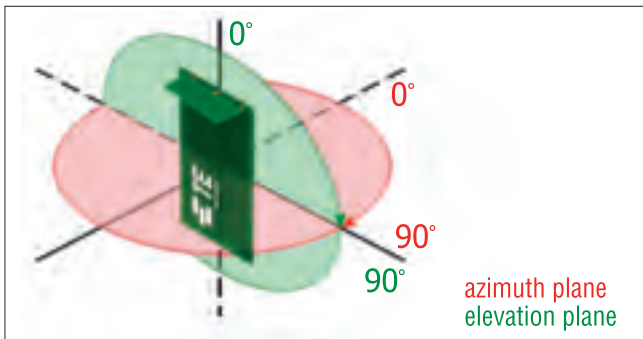
Specifications

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

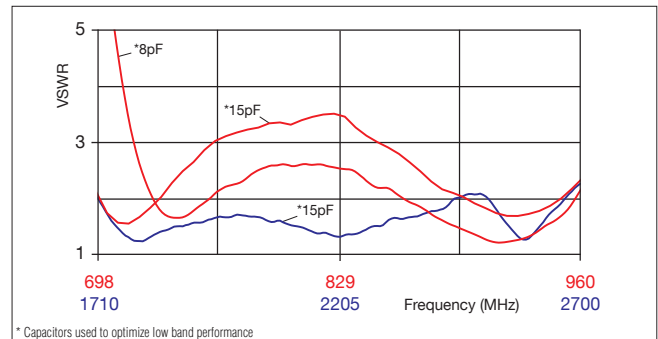
Size — 74.0 mm x 10.56 mm x 1.57 mm
Weight — 2.55 g.
Mounting — Tab mounted with plated through holes. See page 2.
Keep Out Area — See diagram on page 2.

Cell, LTE, & WiMAX

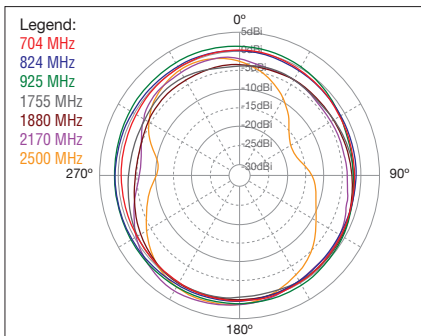
Test Orientation in Free Space



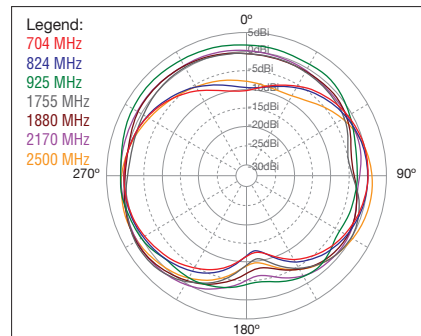
VSWR



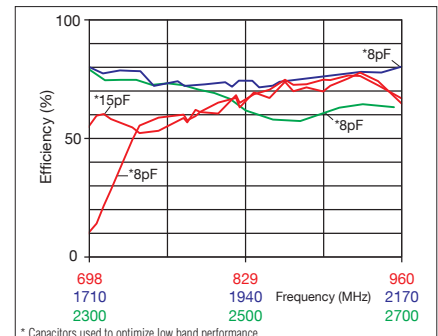
Azimuth



Elevation



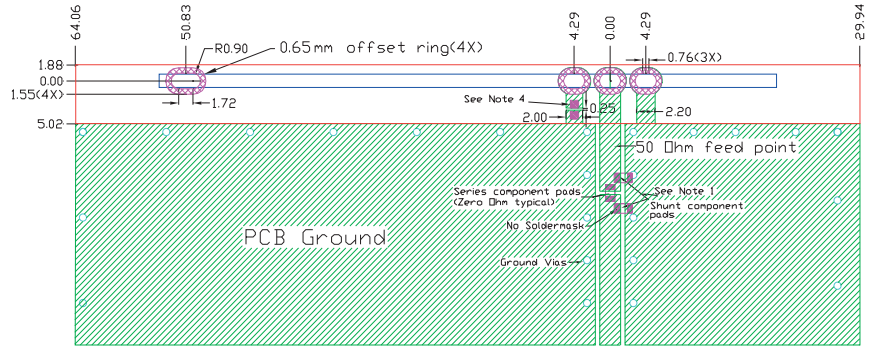
Efficiency



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)

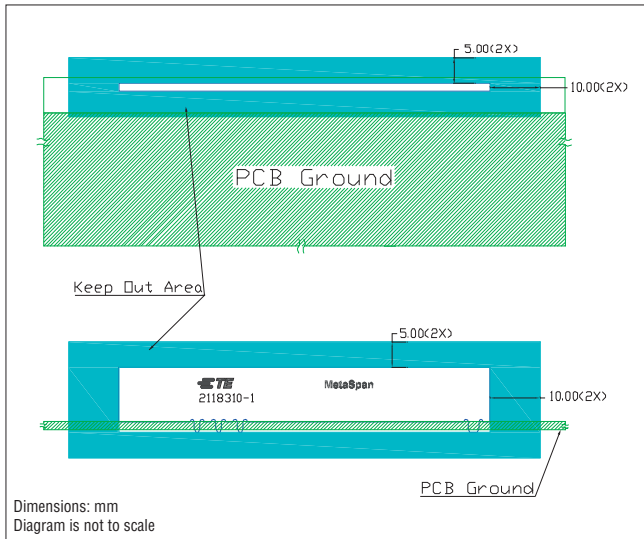
Mounting Guide



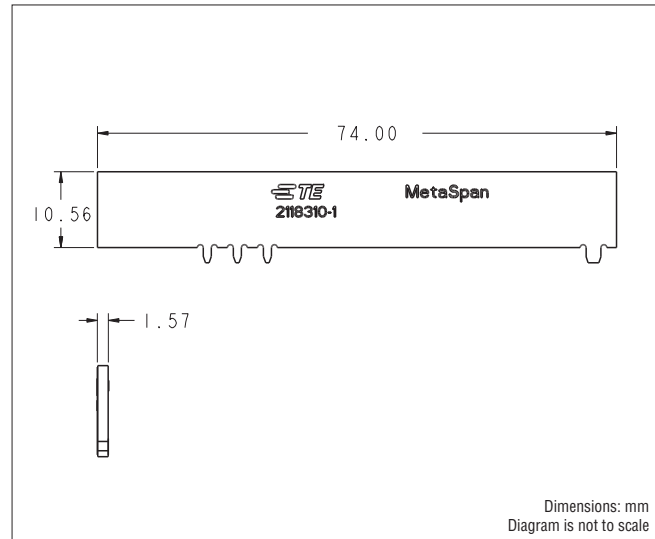
- NOTES: 1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. No copper allowed in designated area on all PCB layers –
 4. Capacitor used to optimize low band performance
 5. For more information please call TE.

Dimensions: mm
 Diagram is not to scale

Keep Out Area



Approx. Dimensions



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

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

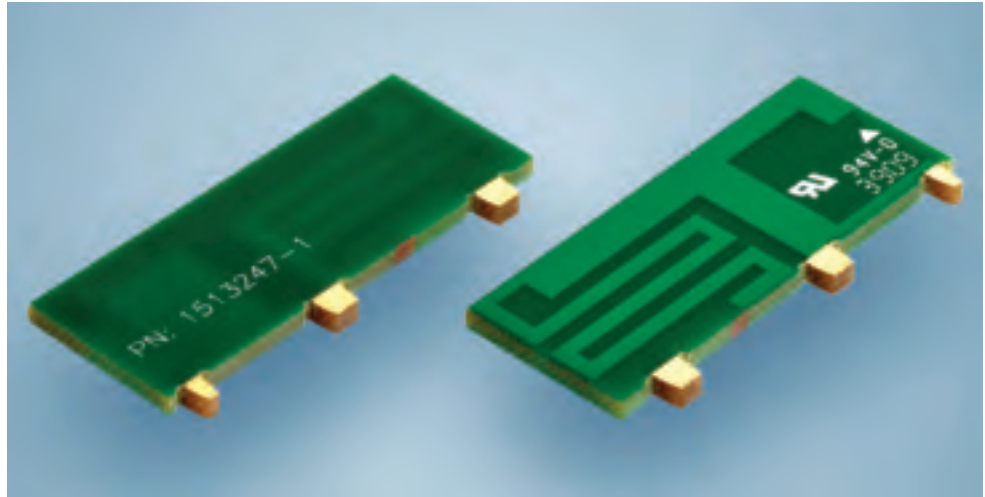
Part Number: 1513247-1

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.



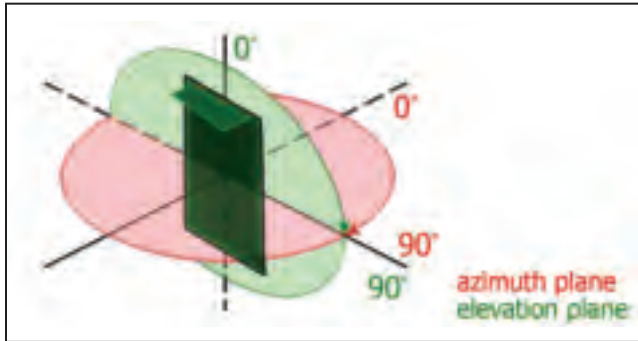
Specifications

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

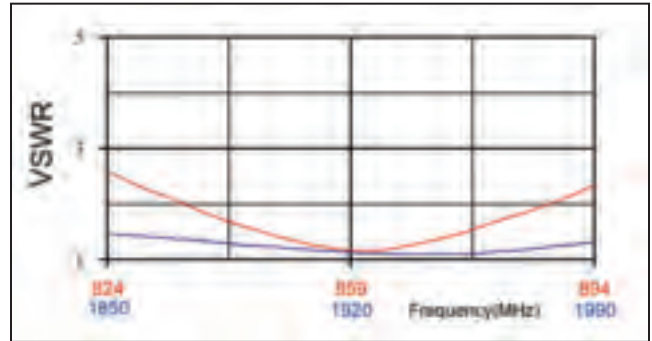
Size — 38.10 mm x 15.24 mm x 1.57 mm
Weight — < 2 g
Mounting — Tab mounted with plated through holes. See next page
Keep Out Area — See diagram on next page

Cell, LTE, & WiMAX

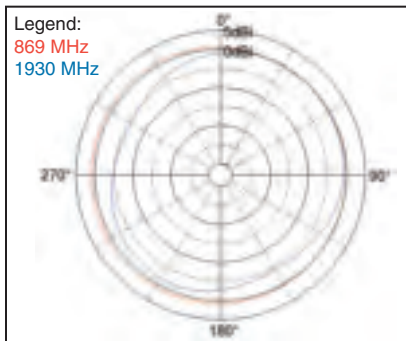
Test Orientation in Free Space



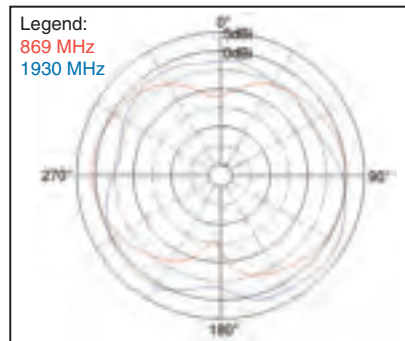
VSWR



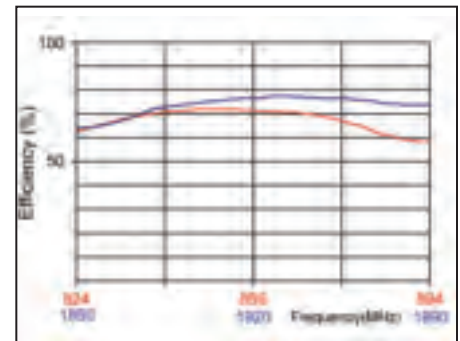
Azimuth



Elevation



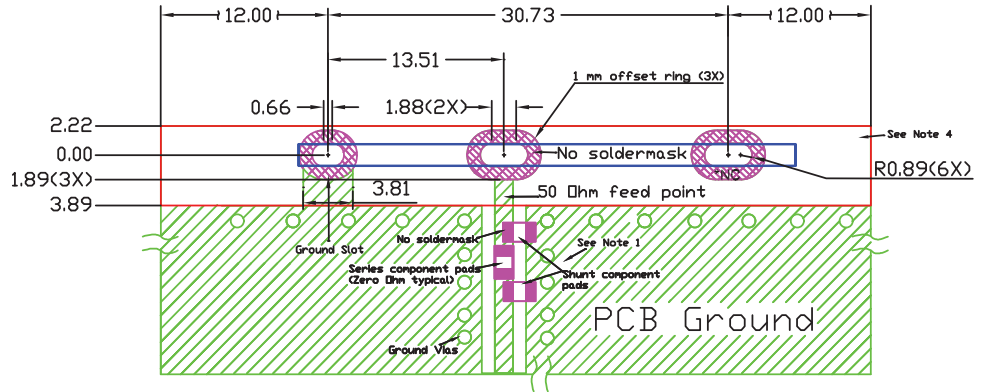
Efficiency



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

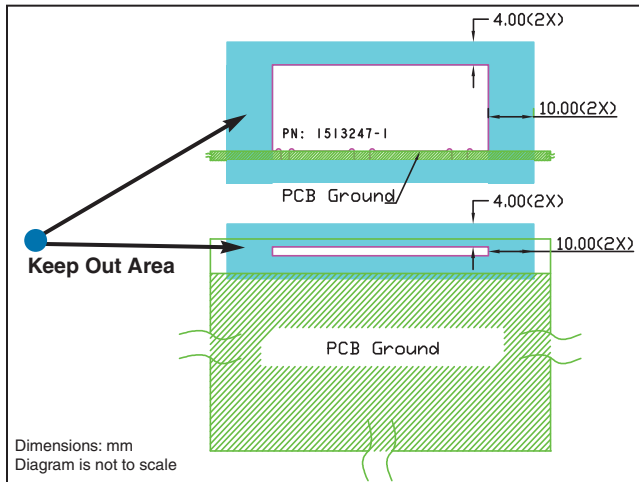
Part Number: 1513247-1
(Continued)

Mounting Guide

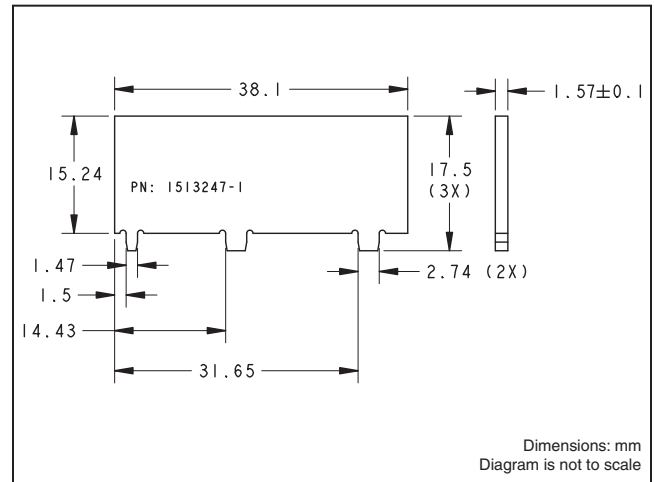


- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers – Dimensions: mm
Diagram is not to scale
 5. For more information please call TE.

Keep Out Area



Approx. Dimensions

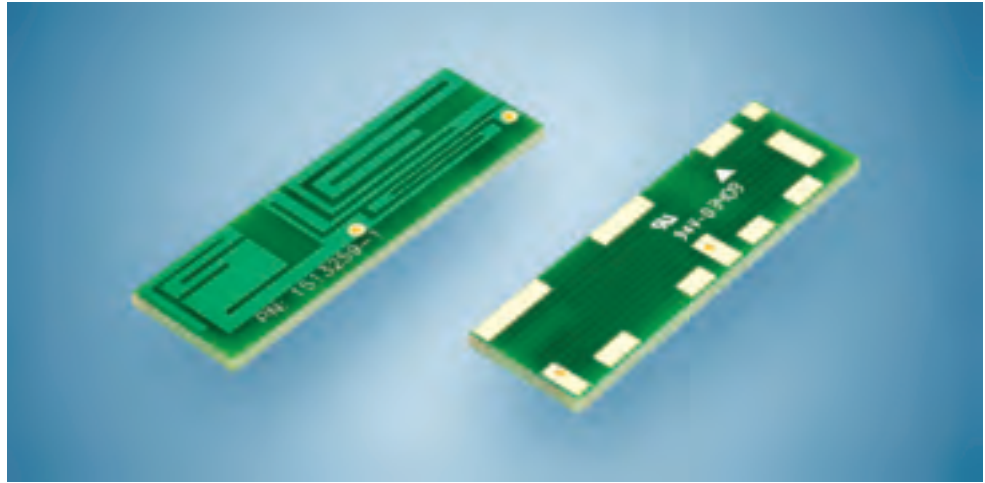


824 – 960 & 1710 – 1990 MHz Quad Band Antenna (US Dual and EU Dual Band)

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

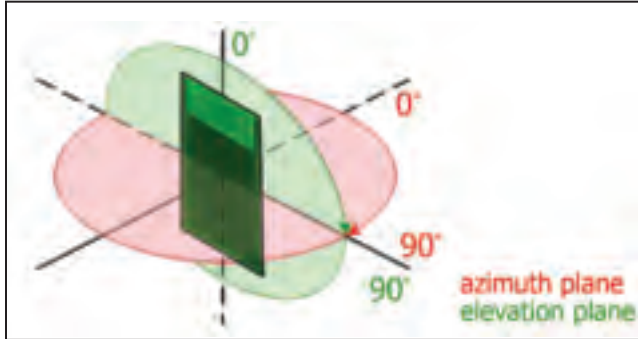
- Minimum or no matching circuits required
- Bandwidth and performance is dependent on ground plane size. Suggested minimum ground plane length from the antenna feed is 100 mm.
- PCB ground is to be on top layer

Specifications

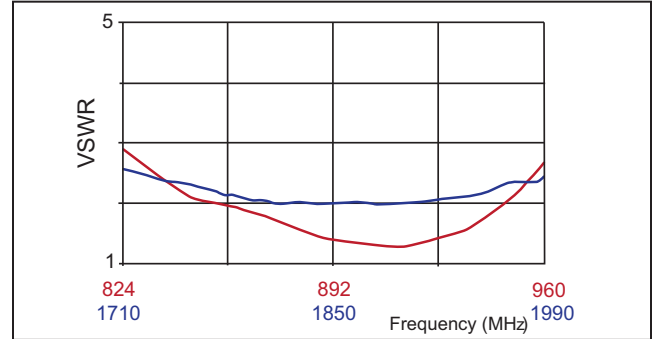
Frequency Range (MHz) — 824 – 960; 1710 – 1990
Peak Gain — +1 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

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

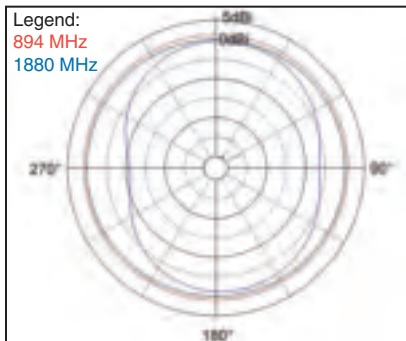
Test Orientation in Free Space



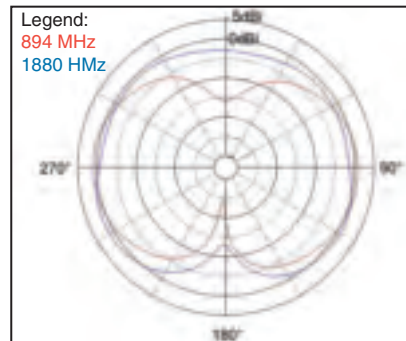
VSWR



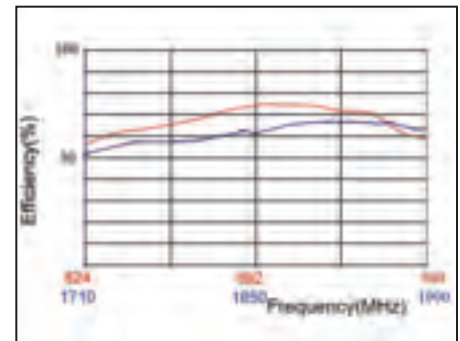
Azimuth



Elevation



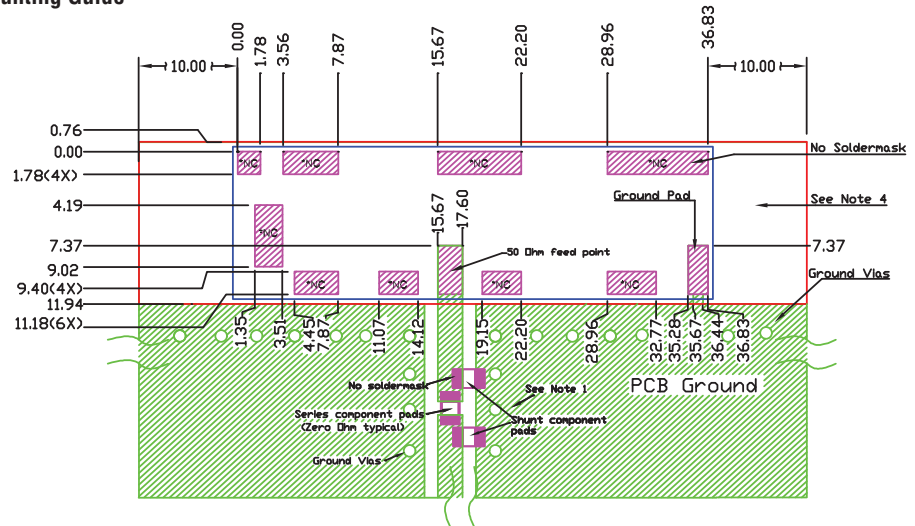
Efficiency



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

Part Number: 1513259-1
(Continued)

Mounting Guide

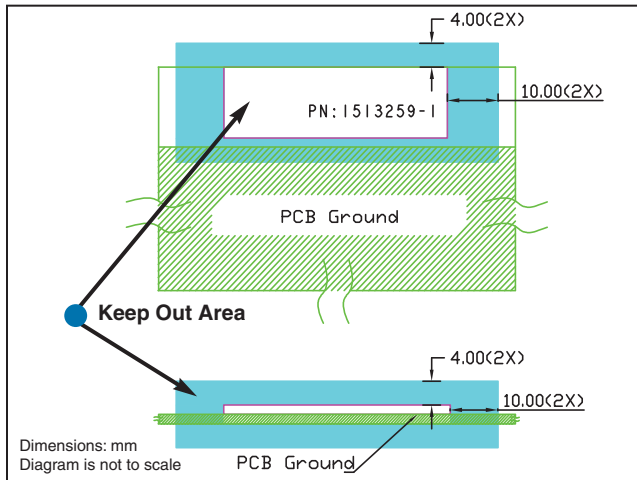


- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

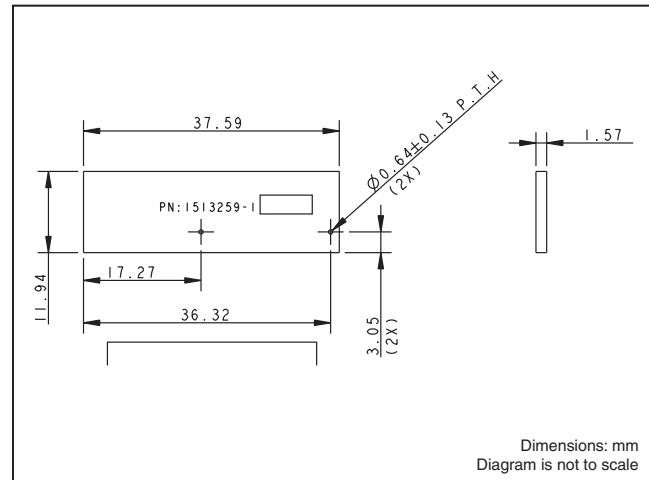
Dimensions: mm
Diagram is not to scale

Cell, LTE, & WiMAX

Keep Out Area



Approx. Dimensions



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

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

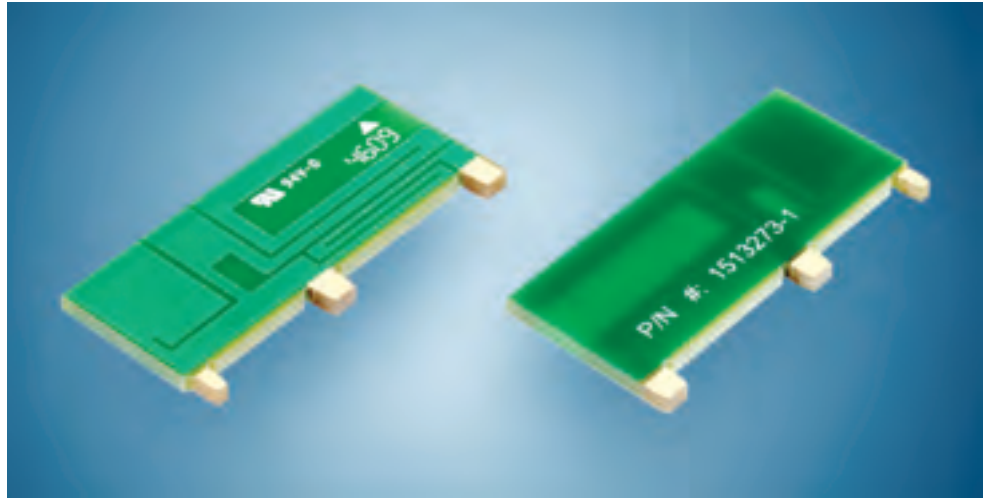
Part Number: 1513273-1

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.

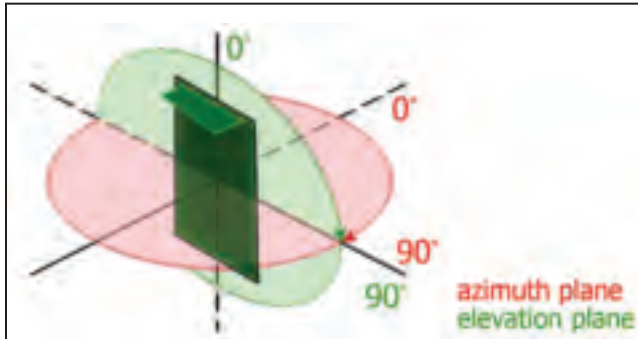


Specifications

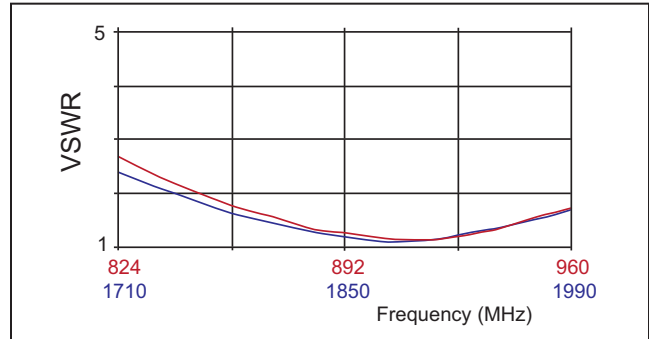
Frequency Range (MHz) — 824 – 960; 1710 – 1990
Peak Gain — +2 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

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

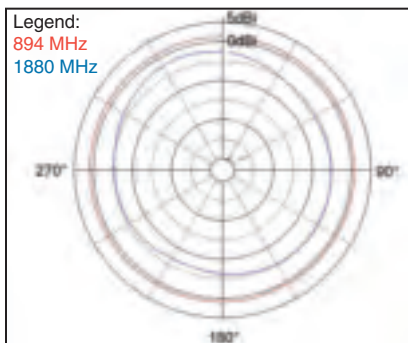
Test Orientation in Free Space



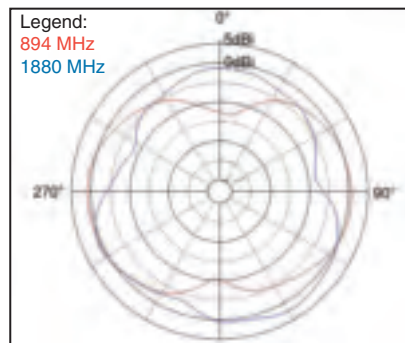
VSWR



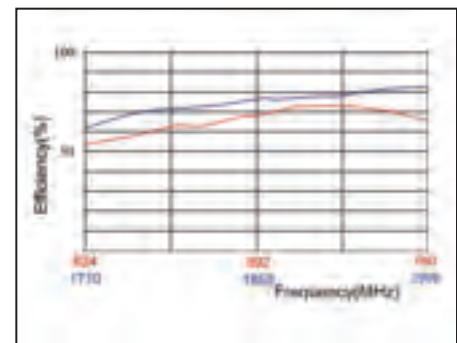
Azimuth



Elevation



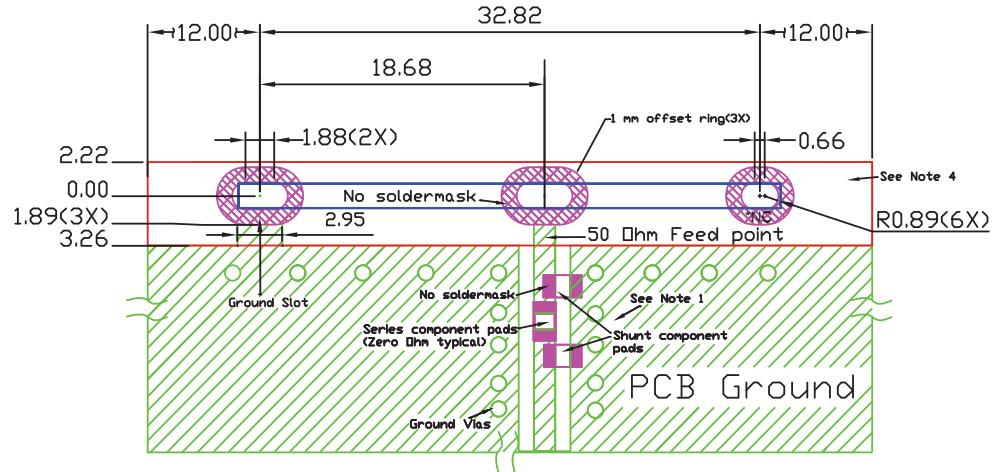
Efficiency



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

Part Number: 1513273-1
(Continued)

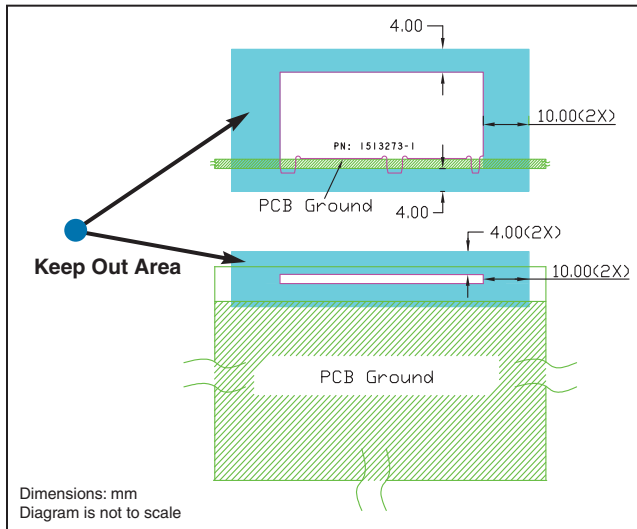
Mounting Guide



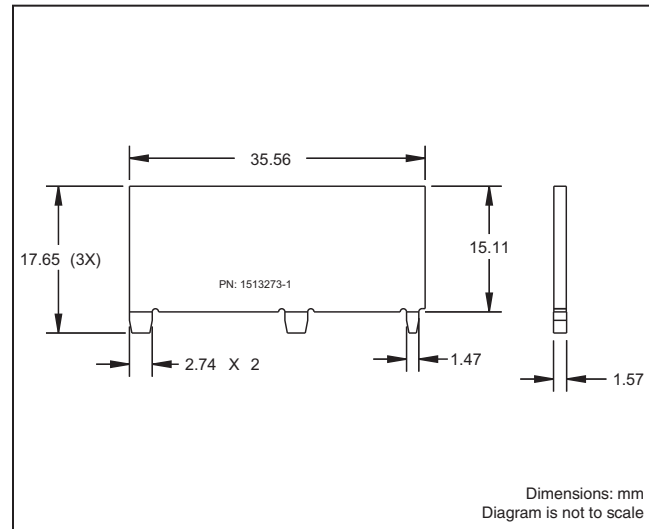
- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers –
 5. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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

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

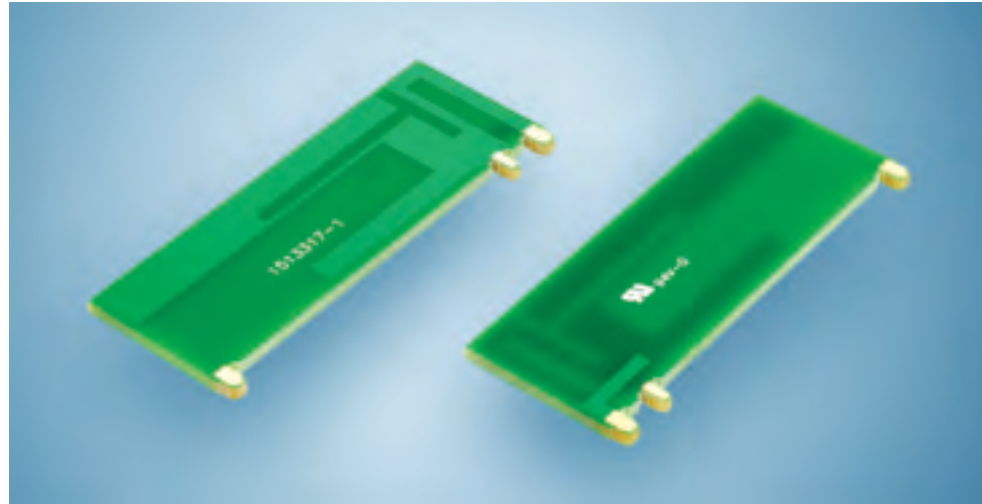
Part Number: 1513317-1

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.

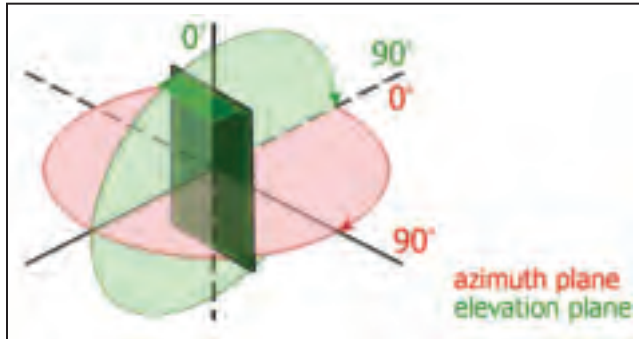


Specifications

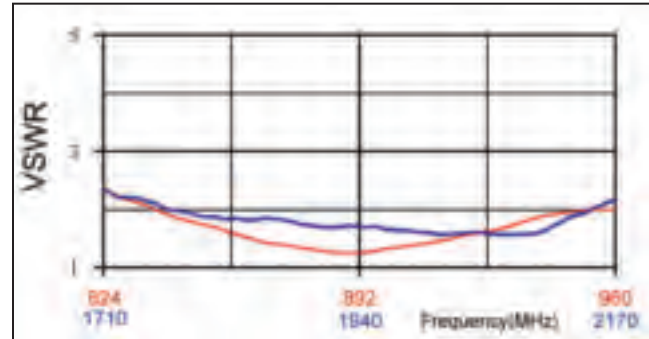
Frequency Range (MHz) — 824 – 960; 1710 – 2170
Peak Gain — +3 dBi
VSWR — < 3.0:1
Polarization — Linear
Azimuth Beamwidth — Omni-directional
Power Handling — 10 Watt cw

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

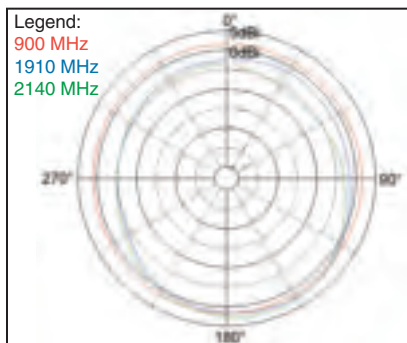
Test Orientation in Free Space



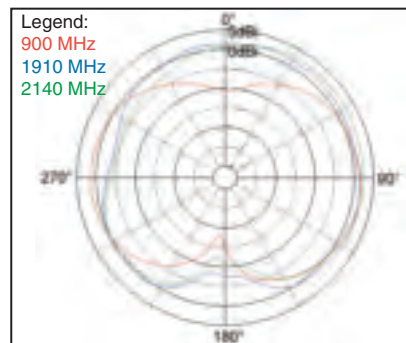
VSWR



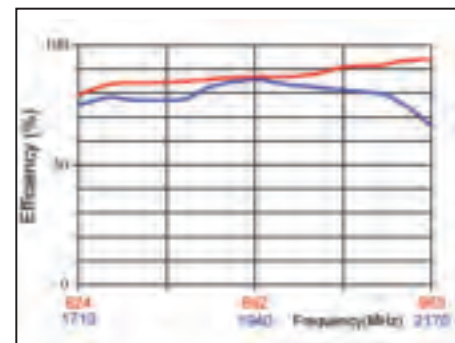
Azimuth



Elevation



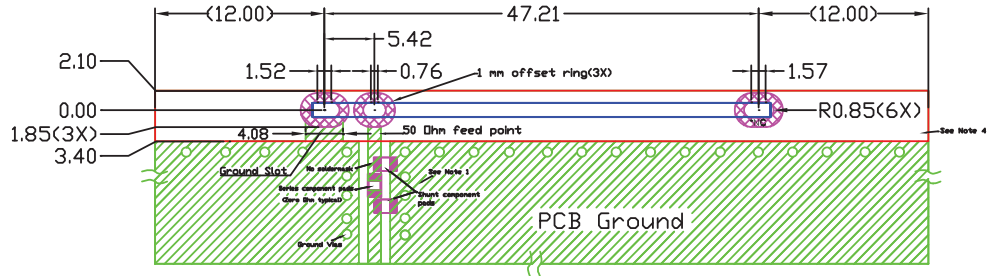
Efficiency



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

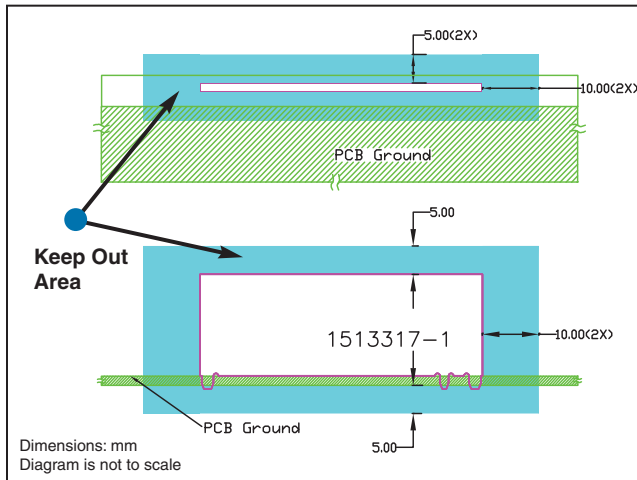
Part Number: 1513317-1
(Continued)

Mounting Guide

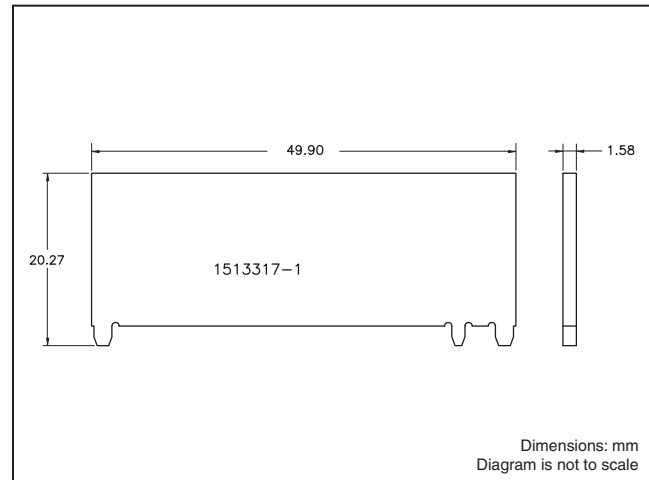


- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers – Dimensions: mm
Diagram is not to scale
 5. For more information please call TE.

Keep Out Area



Approx. Dimensions



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

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

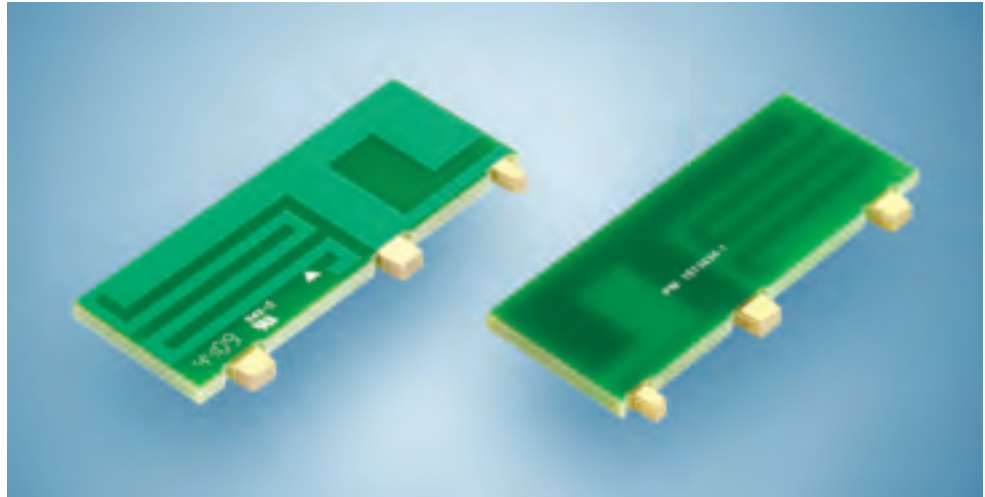
Part Number: 1513434-1

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

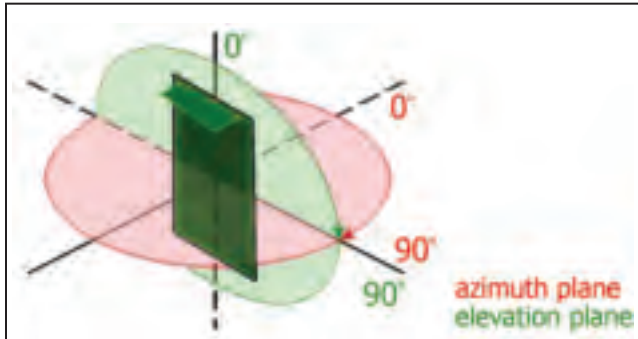
Size — 38.10 mm x 15.20 mm x 1.57 mm

Weight — < 2 g

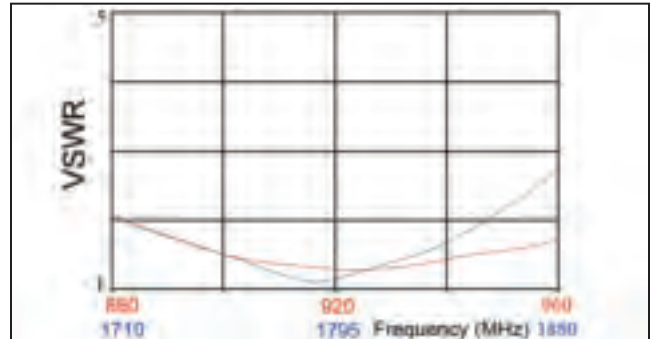
Mounting — Tab mounted with plated through holes. See next page

Keep Out Area — See diagram on next page

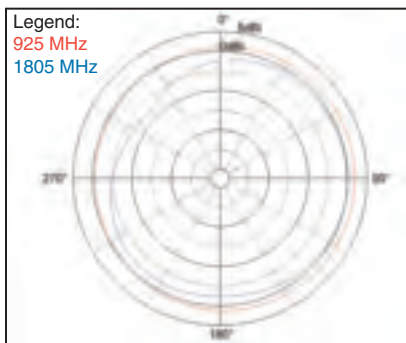
Test Orientation in Free Space



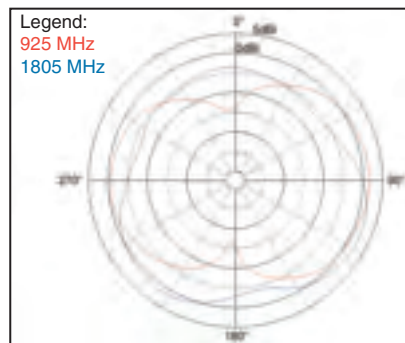
VSWR



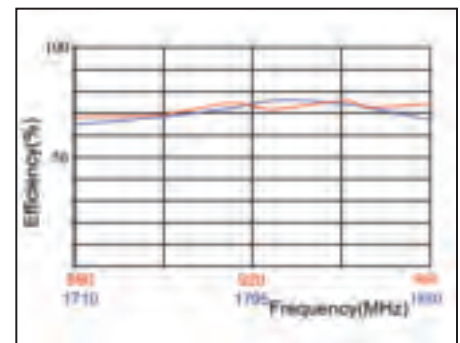
Azimuth



Elevation



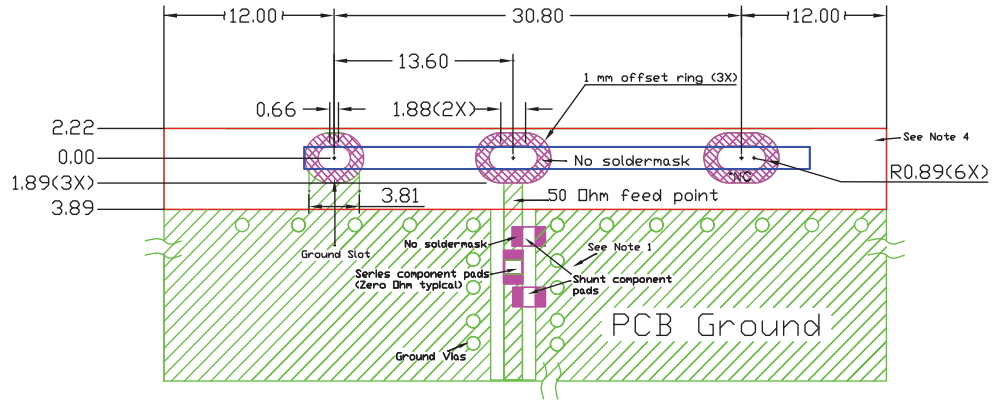
Efficiency



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

Part Number: 1513434-1
(Continued)

Mounting Guide

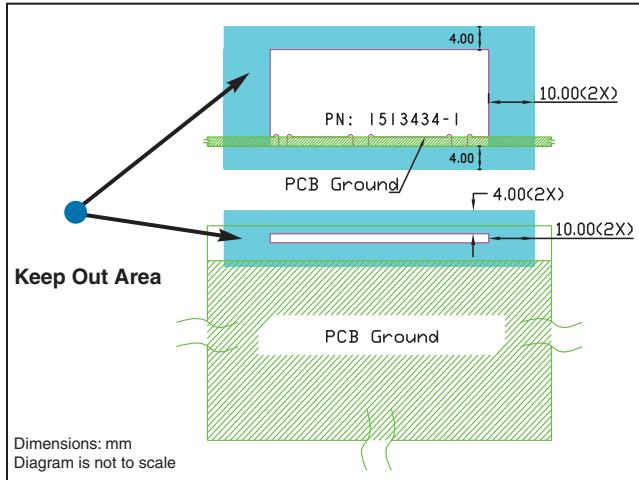


- NOTES:
1. Suggested matching component pads.
 2. Antenna must be mounted on the edge of PCB.
 3. NC = No connection (mechanical mounting pads).
 4. No copper allowed in designated area on all PCB layers – Dimensions: mm
 5. For more information please call TE.

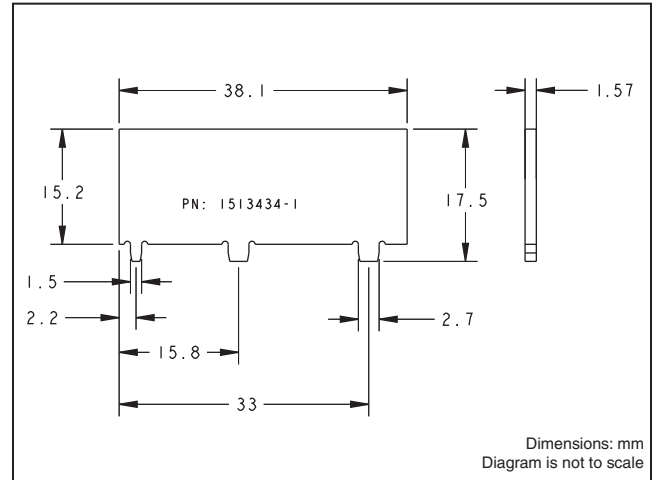
Diagram is not to scale

Cell, LTE, & WiMAX

Keep Out Area



Approx. Dimensions



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

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

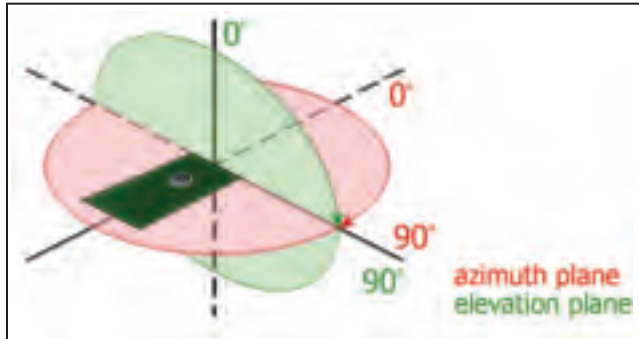
Size — 16.00 mm dia. x 6.05 mm

Weight — < 1 g

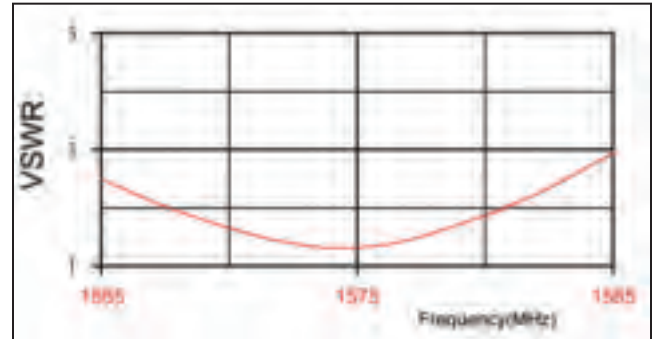
Mounting — Surface-mount technology. See next page

Keep Out Area — See diagram on next page

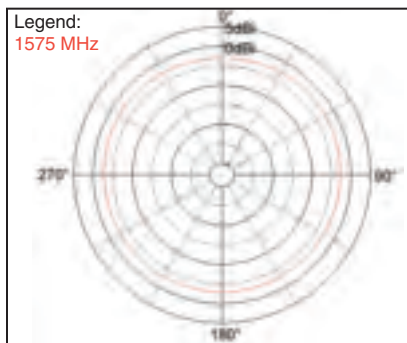
Test Orientation in Free Space



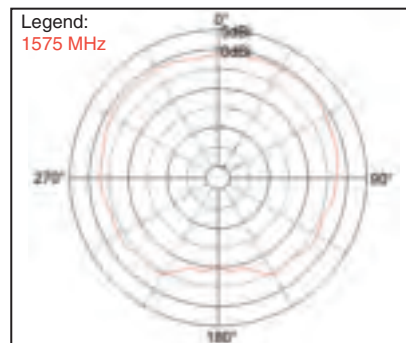
VSWR



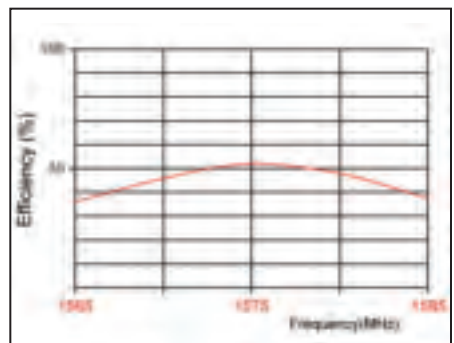
Azimuth



Elevation



Efficiency

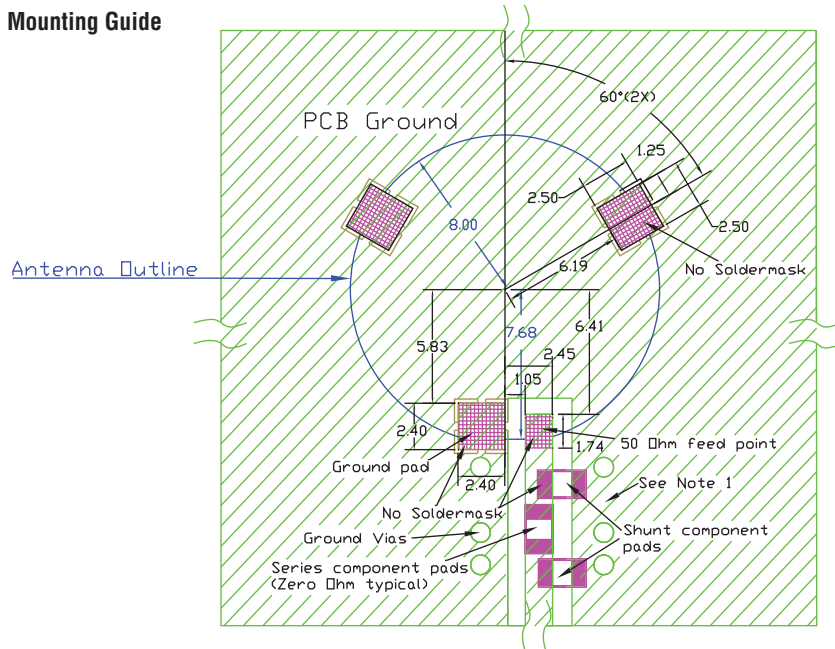


1565 – 1585 MHz Single Band Antenna (GPS) (Continued)

Part Number: 1513634-1

(Continued)

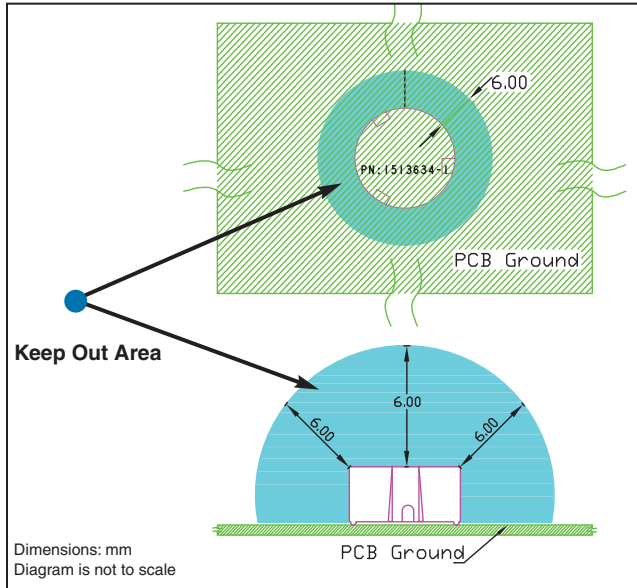
Mounting Guide



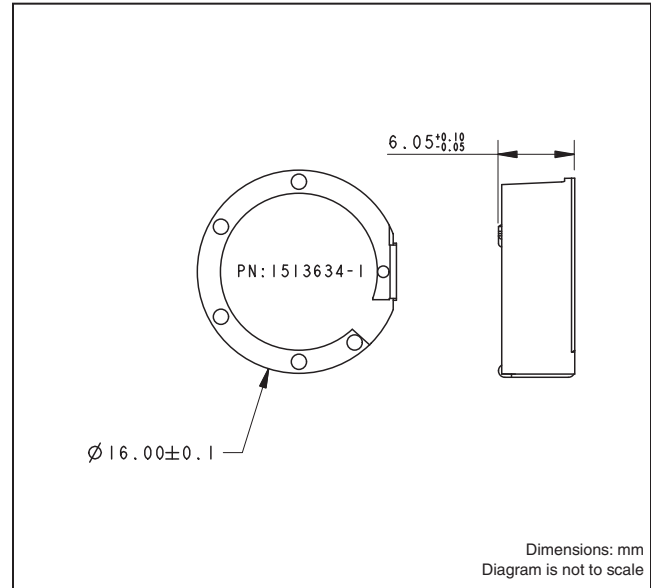
- NOTES: 1. Suggested matching component pads.
2. For more information please call TE.

Dimensions: mm
Diagram is not to scale

Keep Out Area



Approx. Dimensions



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

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



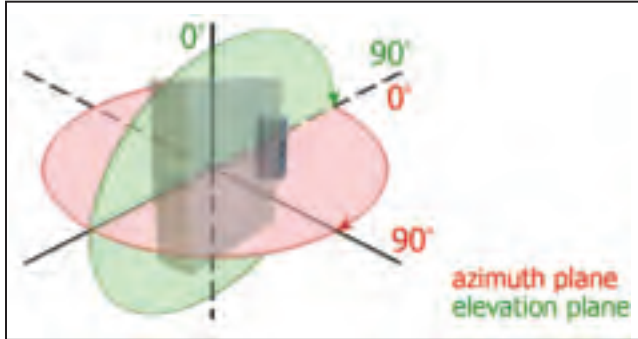
Specifications

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

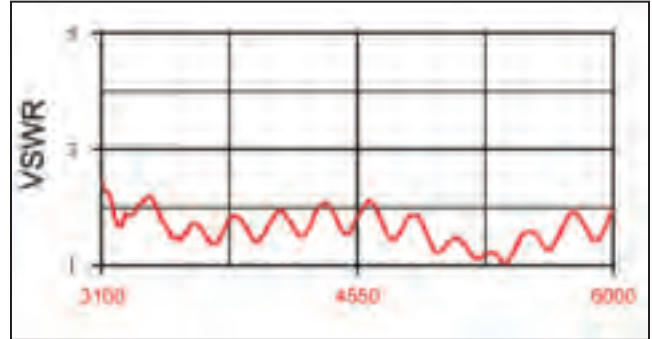
Weight — < 5.5 g
Mounting — Universal Antenna Module. See next page
Keep Out Area — See diagram on next page
Cable / Connector — 365 mm length, 1.13 mm dia. with U.FI connector
Note — Data shown was taken on a nominal size metal chassis

Others (GPS, UWB)

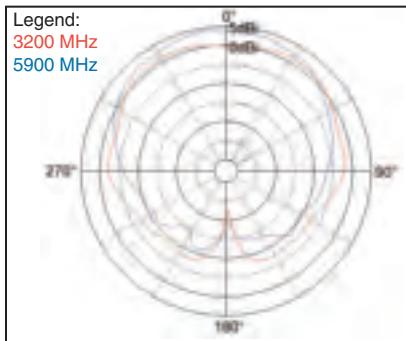
Test Orientation in Free Space



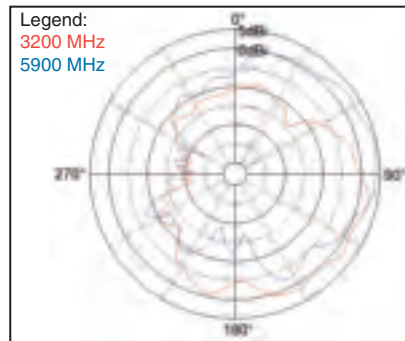
VSWR



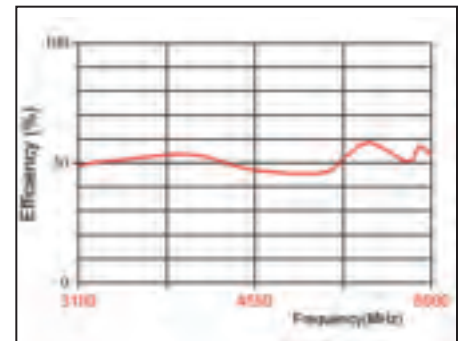
Azimuth



Elevation



Efficiency



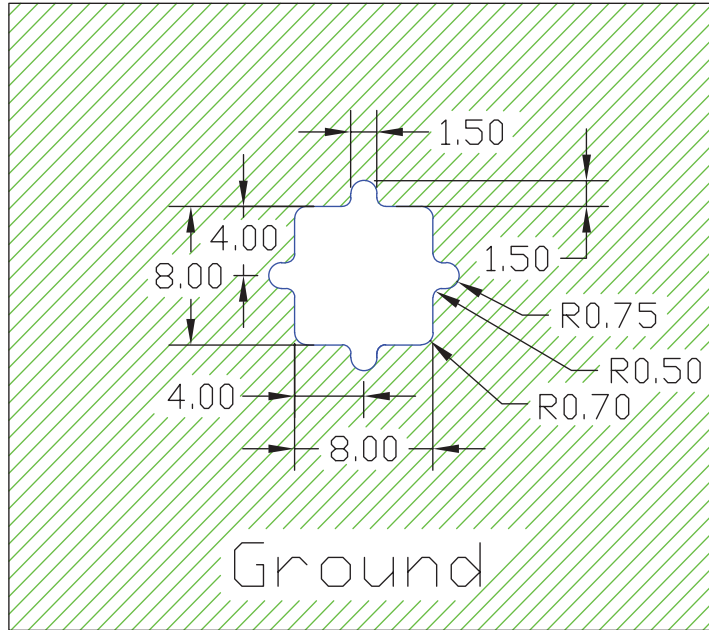
3100 – 6000 MHz Single Band Antenna (UWB) (Continued)

Part Number: 1513381-1

(Continued)

Mounting Guide

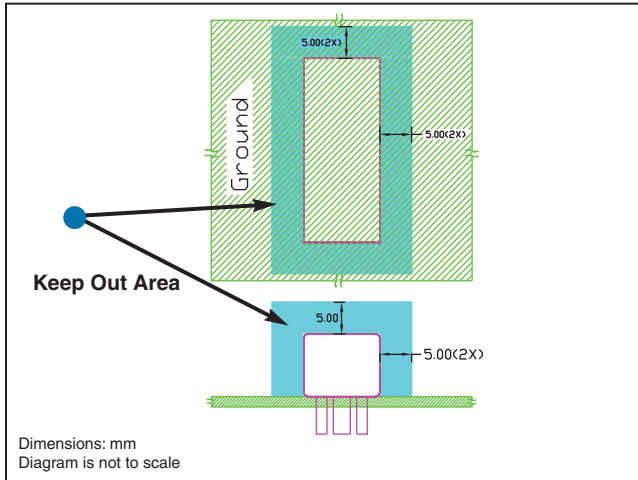
NOTE:
Panel thickness must be between
0.8 mm and 1 mm.



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

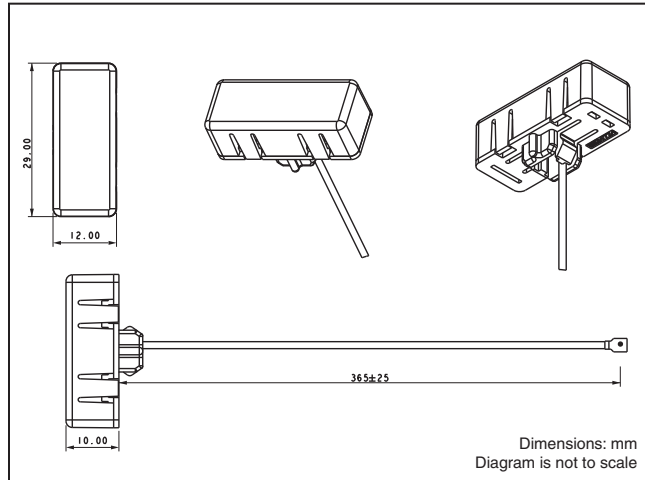
Dimensions: mm
Diagram is not to scale

Keep Out Area



Dimensions: mm
Diagram is not to scale

Approx. Dimensions



Dimensions: mm
Diagram is not to scale

Others (GPS, UWB)

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

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

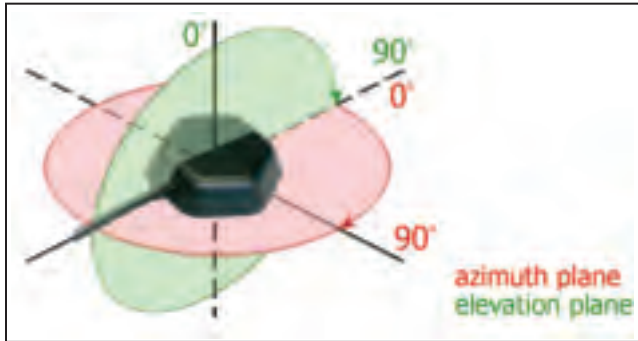
- 3 element quad-band vertically polarized omnidirectional, hemispherical antenna with 0.8 meter cable and QSL type 3 port connector (RPSMA optional)
- QSL test adaptor with SMA launches — Part number 1513743-1
- 802.11 a/b/g/n and WiMAX frequency coverage
- RoHS compliant



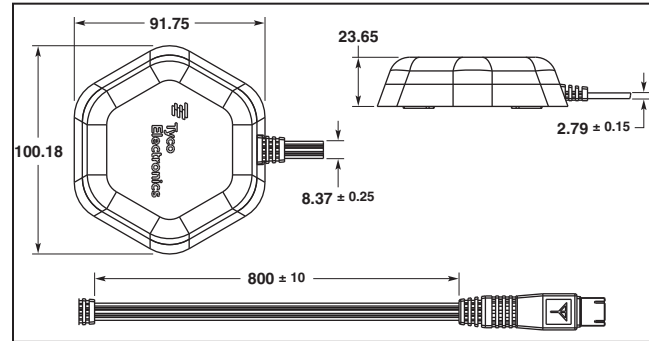
Specifications

- 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

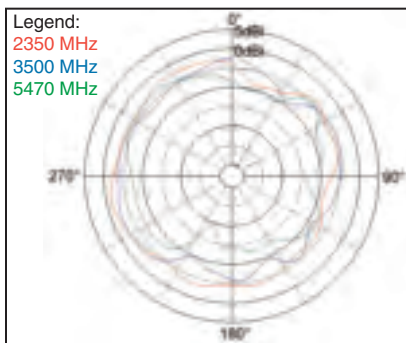


Approx. Dimensions

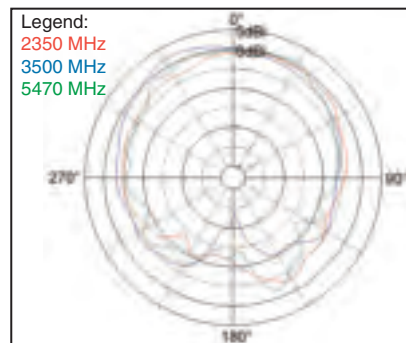


External QSL Antennas

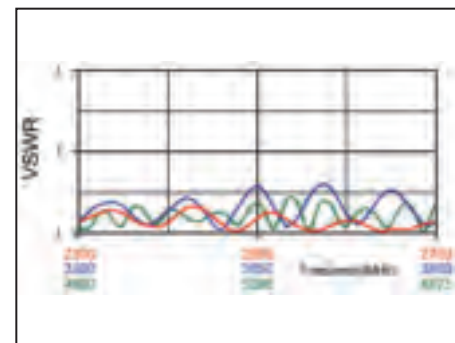
Azimuth



Elevation



VSWR



Bluetooth is a trademark of Bluetooth SIG, Inc.

WiMAX is a trademark of WiMAX Forum.

ZigBee is a trademark of ZigBee Alliance.

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 omnidirectional, 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

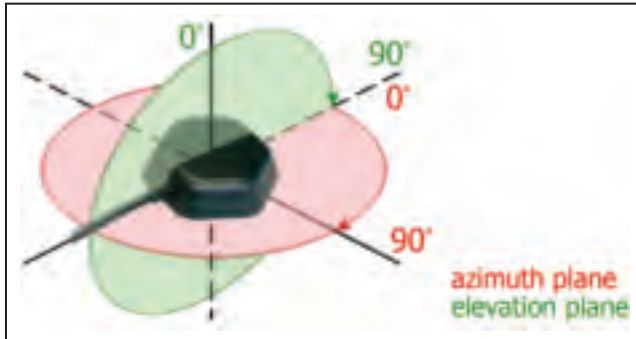


Specifications

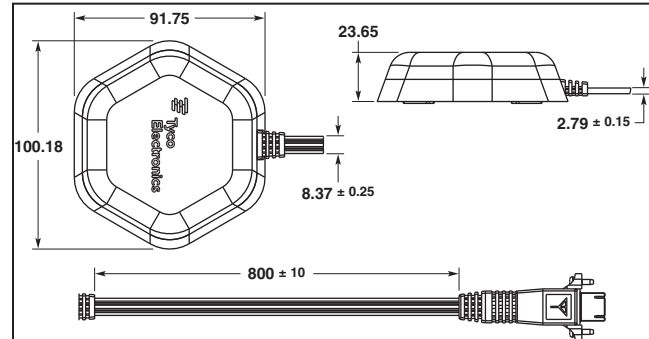
Frequency Range (MHz) — 2300 – 2700; 3300 – 3800; 4900 – 5875
Peak Gain — 0 dBi @ 2300 MHz; 3 dBi @ 3500 MHz; 2 dBi @ 5470 MHz
VSWR — < 2.5:1
Operating Temperature — -40°C to 70°C

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

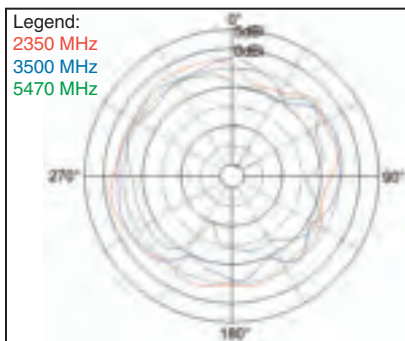
Test Orientation in Free Space



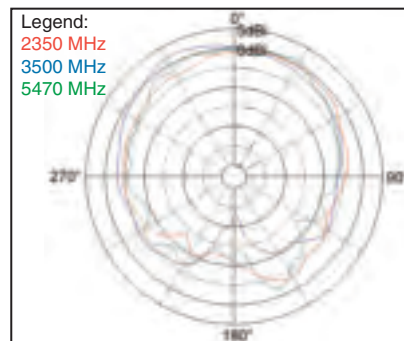
Approx. Dimensions



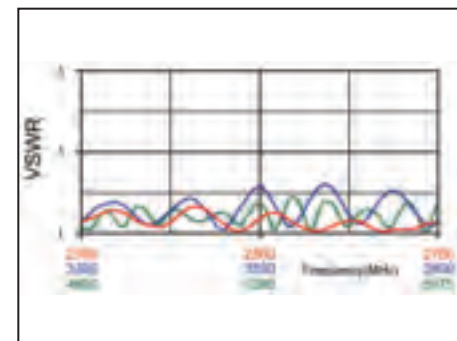
Azimuth



Elevation



VSWR



Bluetooth is a trademark of Bluetooth SIG, Inc.

WiMAX is a trademark of WiMAX Forum.

ZigBee is a trademark of ZigBee Alliance.

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