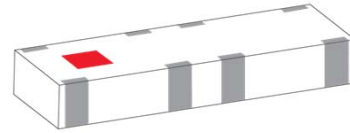


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BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590
 Detail Specification: 11/10/2015 Page 1 of 9

General Specifications

| | | | | | | |
|--|--------------------|--------------------|--------------------|--------------------|------------------------------|----------------|
| Part Number | 2450AD47A1590 | | | | | |
| Frequency (MHz) | 2400~2500 | 1561 | 1575 | 1602 | | |
| Peak Gain (dBi typ.) | 1.0 (YZ-Total) | 0.5 (YZ-Total) | 1.5 (YZ-Total) | 1.5 (YZ-Total) | | |
| Average Gain (dBi typ.) | -1.0 (YZ-Total) | -2.5 (YZ-Total) | -2.0 (YZ-Total) | -2.0 (YZ-Total) | | |
| Return Loss (dB) | 8 min. | 7.5 min. | 9.0 min. | 8 min. | Reel Quantity | 1,000 |
| Ave Radiation Efficiency %¹ (on JTI EVB) | 83 | 45 | 51 | 51 | Operating Temperature | -40 to +85°C |
| Isolation | 20 dB | 15 dB | 15 dB | 15 dB | Storage Temperature | -40 to +85°C |
| | | | | | Storage Period | 18 months max. |
| | | | | | Power Capacity | 2W max. (CW) |



¹On Johanson test board p/n: 2450AD47A1590-EB1SMA. EVB details on pages 2/3

Part Number Explanation

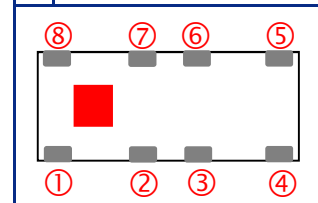
| | | | | |
|-------------------|-------------------------|--|-----------------|-----------------------------|
| P/N Suffix | Packing Style | Bulk (loose) | Suffix = S | e.g.. 2450AD47A1590S |
| | | T & R | Suffix = E | e.g.. 2450AD47A1590E |
| | | 100% Tin | Suffix = E or S | e.g.. 2450AD47A1590(E or S) |
| | Evaluation Board | 2450AD47A1590-EB1SMA (Pre-tuned with SMA connectors) | | |

Mechanical Dimensions

| | In | mm |
|-----------|----------------------|-----------------|
| L | 0.394 ± 0.008 | 10.00 ± 0.20 |
| W | 0.126 ± 0.008 | 3.20 ± 0.20 |
| T | 0.059 ± 0.008 | 1.50 ± 0.20 |
| a1 | 0.031 ± 0.008 | 0.80 ± 0.20 |
| a2 | 0.106 ± 0.008 | 2.70 ± 0.20 |
| a3 | 0.039 ± 0.008 | 1.00 ± 0.20 |
| b | 0.012 ± 0.004/-0.008 | 0.30 ± 0.1/-0.2 |

Terminal Configuration

| No. | Function |
|-----|-----------------------|
| 1 | 2.4GHz Feed Point |
| 2 | GND |
| 3 | GND |
| 4 | 1.5-1.6GHz Feed Point |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |



Find out more about our antenna design assistance services at:
<http://www.johansontechnology.com/ipc-antenna-services>

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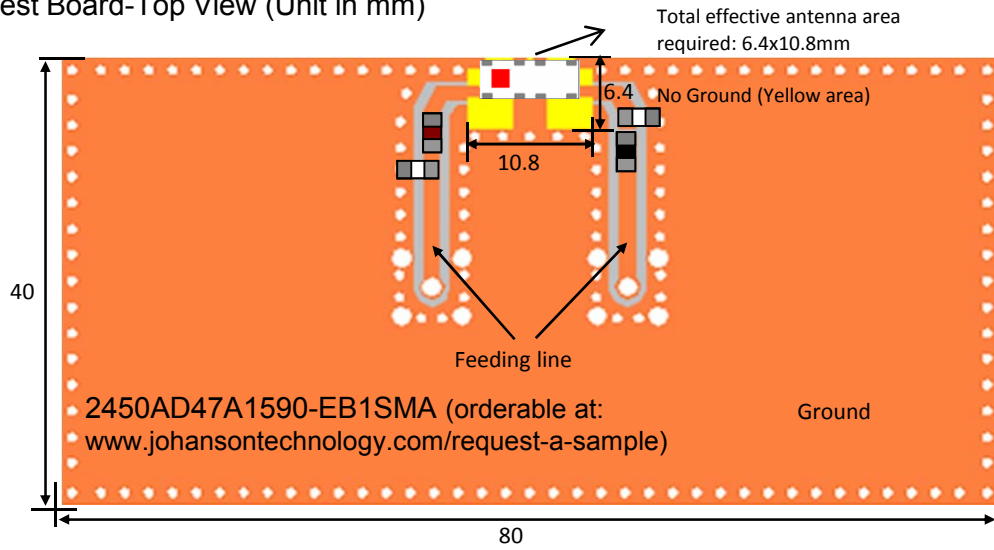
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

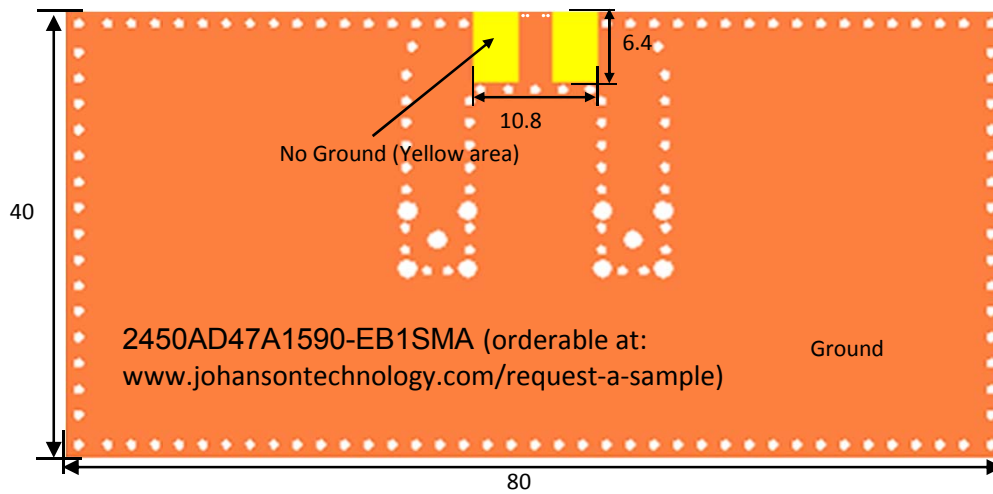
Page 3 of 9

Typical Electrical Characteristics (T=25°C)

❖ Test Board-Top View (Unit in mm)



❖ Test Board-Bottom View (Unit in mm)



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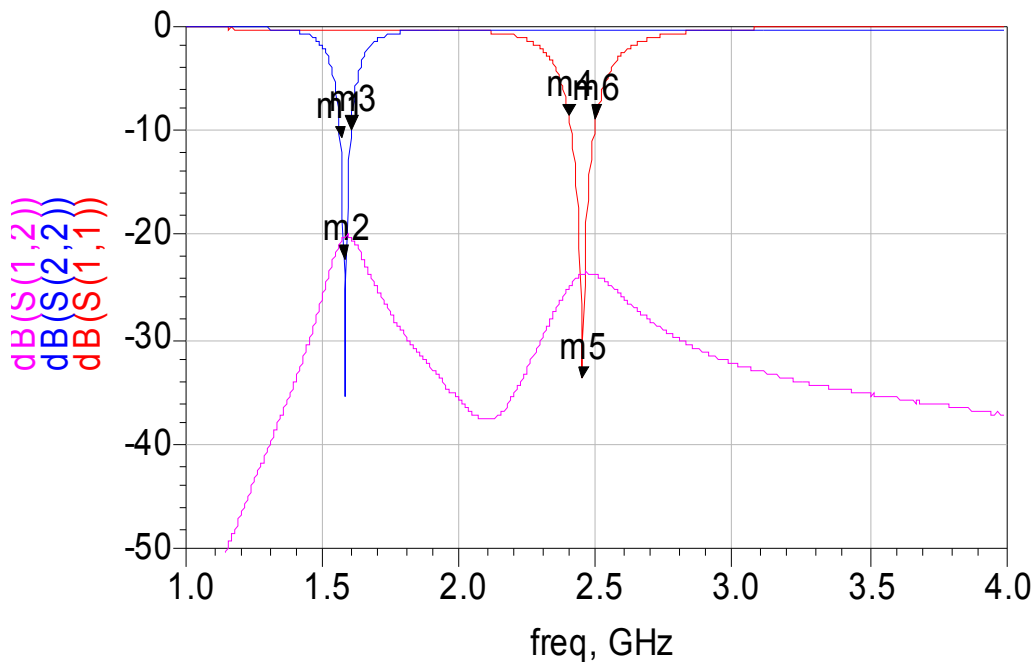
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

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Typical Electrical Characteristics (T=25°C)

Return Loss and Isolation With Matching Circuits On Johanson EVB



| | |
|--------------------|--------------------|
| m1 | m4 |
| Freq=1.561GHz | Freq=2.400GHz |
| dB(S(2,2))=-10.697 | dB(S(1,1))=-8.678 |
| m2 | m5 |
| Freq=1.575GHz | Freq=2.450GHz |
| dB(S(2,2))=-22.294 | dB(S(1,1))=-33.793 |
| m3 | m6 |
| Freq=1.602GHz | Freq=2.500GHz |
| dB(S(2,2))=-9.842 | dB(S(1,1))=-8.901 |

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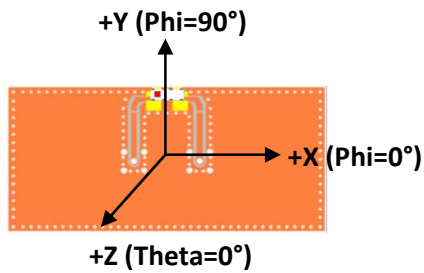
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

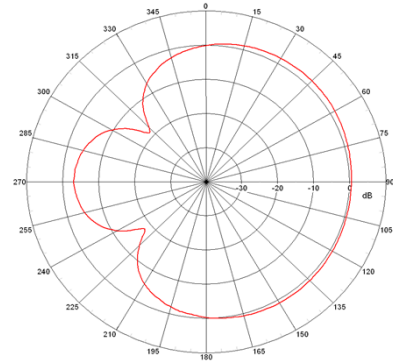
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Typical Radiation Patterns

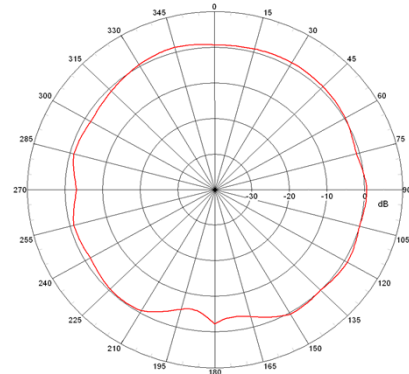
❖ Radiation Patterns @ 2.44GHz



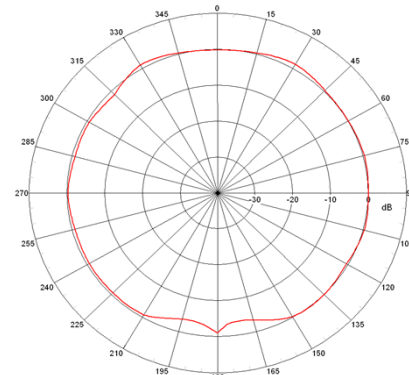
XY-Plane



YZ-Plane



XZ-Plane



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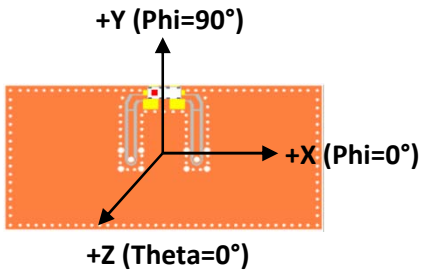
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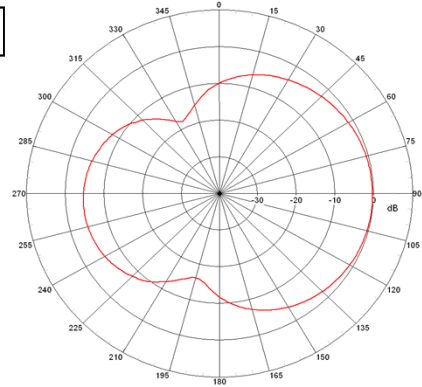
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590
Detail Specification: 11/10/2015 Page 6 of 9

Typical Radiation Patterns

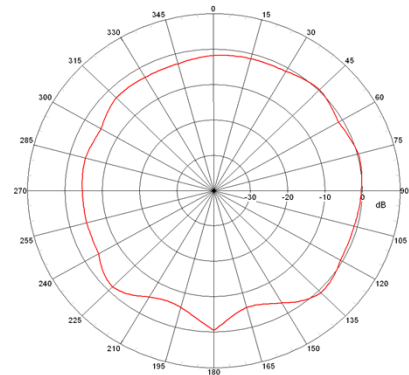
❖ Radiation Patterns @ 1.561GHz



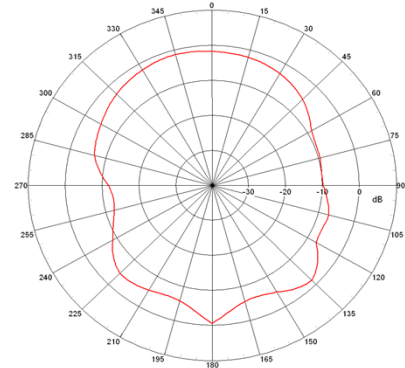
XY-Plane



YZ-Plane



XZ-Plane



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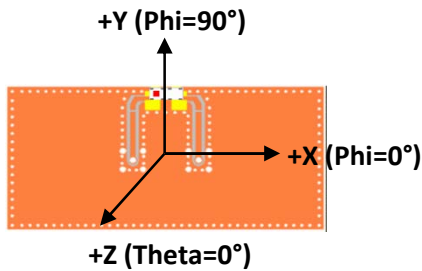
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

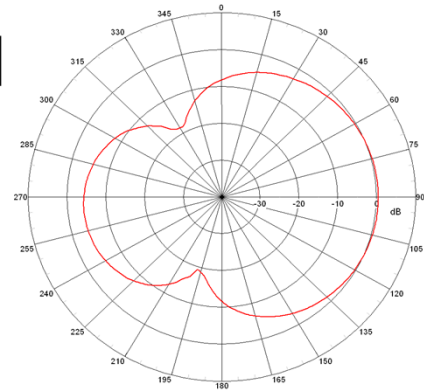
Page 7 of 9

Typical Radiation Patterns

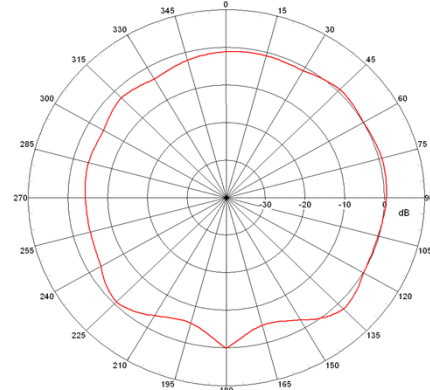
❖ Radiation Patterns @ 1.575GHz



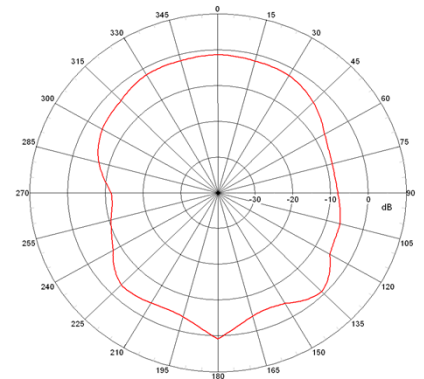
XY-Plane



YZ-Plane



XZ-Plane



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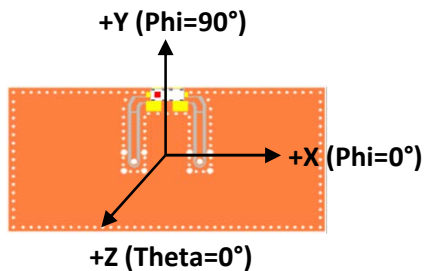
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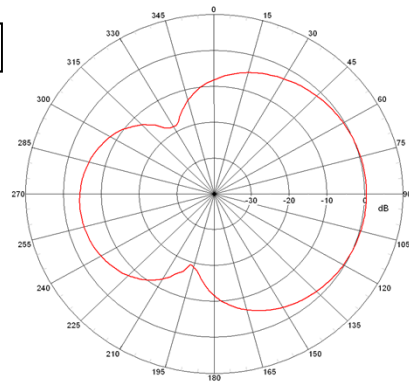
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Typical Radiation Patterns

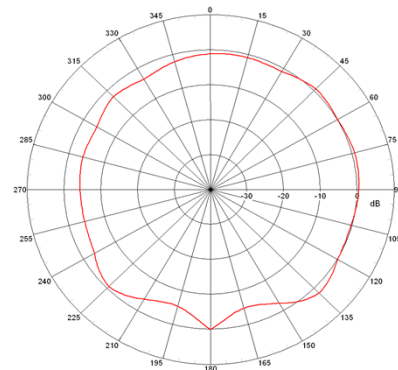
❖ Radiation Patterns @ 1.602GHz



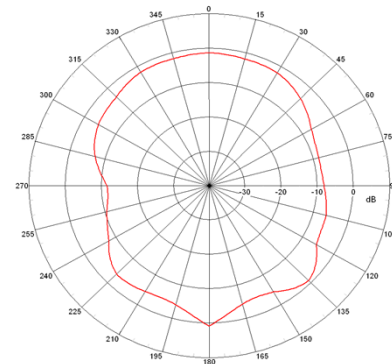
XY-Plane



YZ-Plane



XZ-Plane



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MSL Info

www.johansontechnology.com/technical-notes/msl-rating.html

Packaging information

www.johansontechnology.com/ipcpackaging.html

For layout review contact our Applications Team at:

www.johansontechnology.com/component/techquestion

RoHS Compliance

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
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Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru