

High Frequency Ceramic Solutions

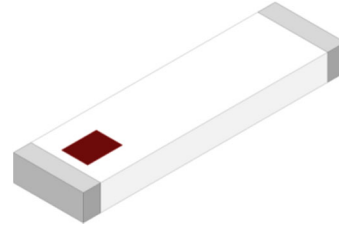
Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

P/N: 0900AD54B2450

Detail Specification: 12/7/2018

Page 1 of 6

| General Specifications | |
|---|--|
| Part Number | 0900AD54B2450 |
| Frequency (MHz) | 868 - 928 2400 - 2480 |
| Return Loss (dB) | 6.5 typ. 6.5 typ. |
| Peak Gain (dBi)* | 1.1 typ. 1.7 typ. |
| Average Gain (dBi)* | -2.4 typ. -1.5 typ. |
| Efficiency* | 51% 62% |
| Power Capacity (W) | 3 max. (CW) |
| Quantity/Reel | 500 pcs |
| Operating Temperature | -40°C to +85°C (may be expanded, ask us how) |
| Storage Conditions for unused product on T&R and max shelf period | +5 to +35 °C Humidity 45 - 75%RH 18 months max |



Need help with the antenna layout or performance?
We offer 2 free layout/optimization reviews!
Contact our applications engineers at:
<https://www.johansontechnology.com/ask-a-question>

*Performance based on antenna evaluation board illustrated on page 2

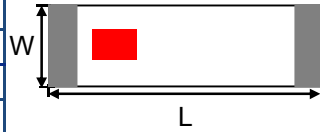
For more antennas, go to:
<https://www.johansontechnology.com/antennas>

Part Number Explanation

| P/N Suffix | Packing Style | Bulk | Suffix = S | eg. 0900AD54B2450S |
|------------|-------------------|----------------------|---------------|---------------------------|
| | | T & R | Suffix = E | eg. 0900AD54B2450E |
| | | 100% Tin | Suffix = None | eg. 0900AD54B2450(E or S) |
| | Evaluation Boards | 0900AD54B2450-EB1SMA | | |

Mechanical Dimensions

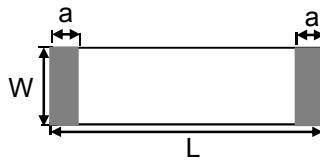
| | In | mm |
|---|---------------|-------------|
| L | 0.591 ± 0.008 | 15.00 ± 0.2 |
| W | 0.157 ± 0.008 | 4.00 ± 0.2 |
| T | 0.059 ± 0.008 | 1.50 ± 0.2 |
| a | 0.039 ± 0.012 | 1.00 ± 0.3 |



Top View



Side View



Bottom View

Terminal Configuration

| No. | Function |
|-----|----------|
| 1 | FEED |
| 2 | NC |



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver. 1.0

2018 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

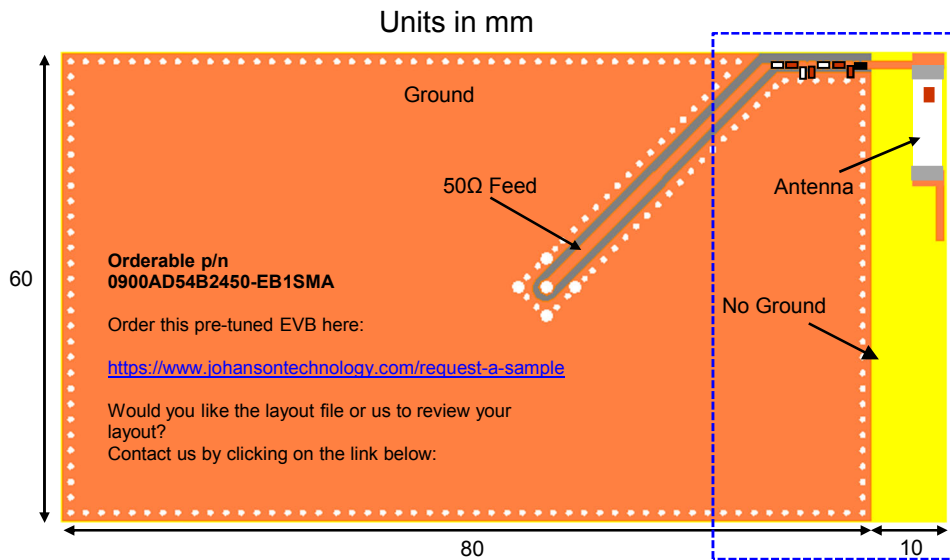
Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

P/N: 0900AD54B2450

Detail Specification: 12/7/2018

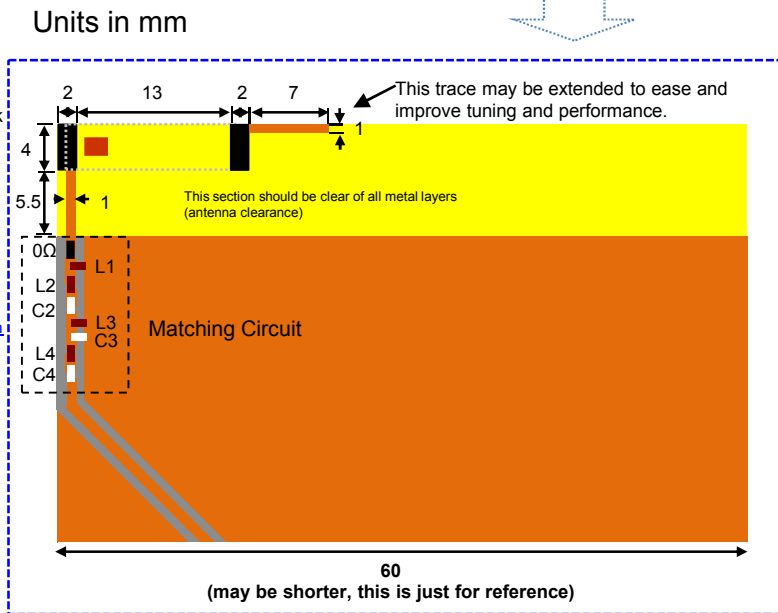
Page 2 of 6

Mounting Style, Small



It is recommended that the designer leave available slots for the topology of the network to the right. These particular antenna matching values are used when the antenna is mounted on Johanson's evaluation board. The matching values on other PCBs will be different. We recommend to leave them unpopulated until final assembly to tune.

Want us to tune it for you and need layout optimization? Contact us here:
<https://www.johansontechnology.com/ask-a-question>



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.

High Frequency Ceramic Solutions

Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

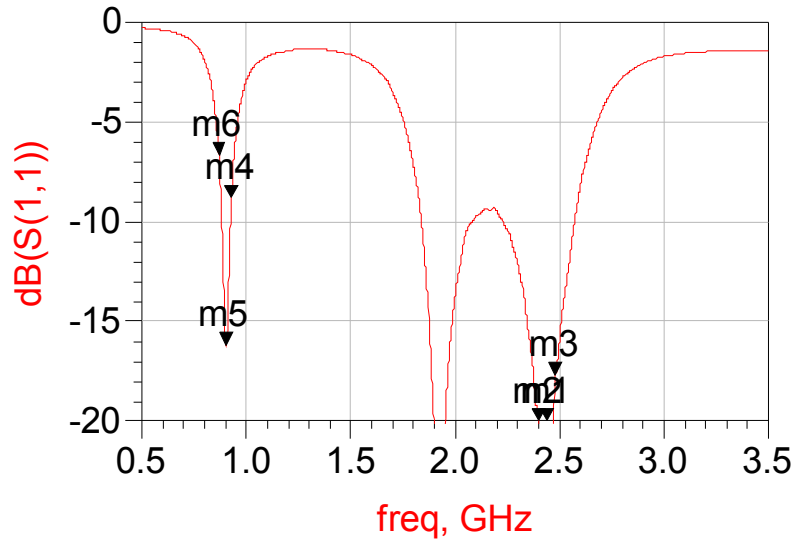
P/N: 0900AD54B2450

Detail Specification: 12/7/2018

Page 3 of 6

Typical Electrical Characteristics (T=25°C)

Evaluation Board p/n: 0900AD54B2450-EB1SMA



m6
freq=868.0MHz
 $\text{dB}(S(1,1))=-6.722$

m5
freq=900.0MHz
 $\text{dB}(S(1,1))=-16.237$

m4
freq=928.0MHz
 $\text{dB}(S(1,1))=-8.819$

m2
freq=2.400GHz
 $\text{dB}(S(1,1))=-20.252$

m1
freq=2.440GHz
 $\text{dB}(S(1,1))=-23.639$

m3
freq=2.480GHz
 $\text{dB}(S(1,1))=-17.712$

To order a pre-tuned 50Ω EVB with a female SMA connector
go here: <https://www.johansontechnology.com/request-a-sample>
Reference p/n: **0900AD54B2450-EB1SMA**

Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver. 1.0

2018 Johanson Technology, Inc. All Rights Reserved

High Frequency Ceramic Solutions

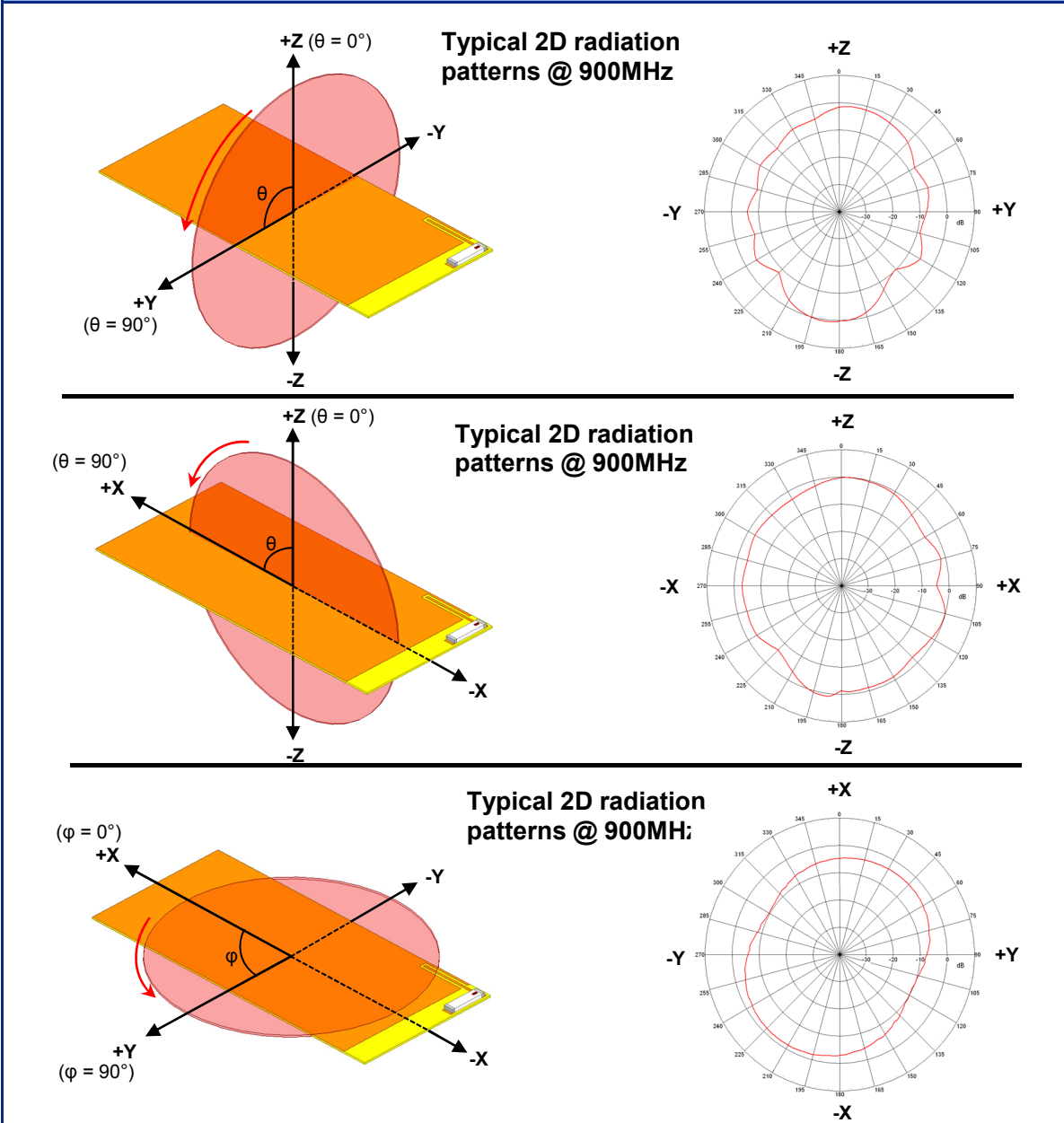
Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

P/N: 0900AD54B2450

Detail Specification: 12/7/2018

Page 4 of 6

Radiation pattern and gain for P/N 0900AD54B2450-EB1SMA (Low Band)



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.

High Frequency Ceramic Solutions

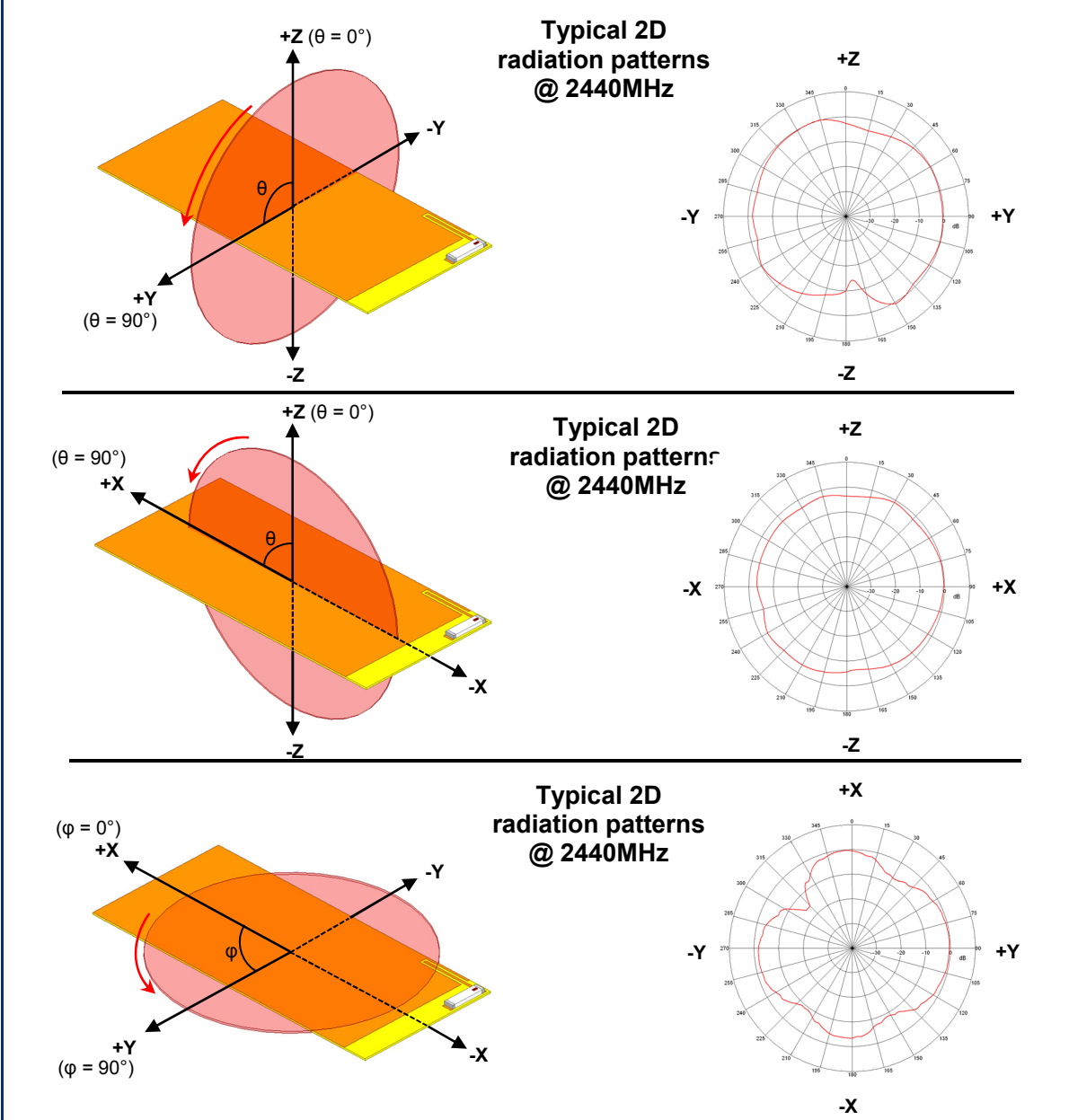
Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

P/N: 0900AD54B2450

Detail Specification: 12/7/2018

Page 5 of 6

Radiation pattern and gain for P/N 0900AD54B2450-EB1SMA (High Band)



Johanson Technology, Inc. reserves the right to make design changes without notice.
All sales are subject to Johanson Technology, Inc. terms and conditions.

High Frequency Ceramic Solutions

Sub-GHz / 2.4GHz Dual-band Antenna, Single Feed

P/N: 0900AD54B2450

Detail Specification: 12/7/2018

Page 6 of 6

Antenna tuning, optimization, and validation services:

<https://www.johansontechnology.com/ipc-antenna-services>

For more antennas and to download measured S-parameters, go to:

<https://www.johansontechnology.com/antennas>

Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

MSL Info

<https://www.johansontechnology.com/msl-rating>

Packaging information

<https://www.johansontechnology.com/tape-reel-packaging>

For layout review contact our Applications Team at:

<https://www.johansontechnology.com/ask-a-question>

RoHS Compliance

<https://www.johansontechnology.com/rohs-compliance>

Would you like us to review your layout for free? Need an embedded antenna recommendation for your application?

Contact us at:

<https://www.johansontechnology.com/ask-a-question>

Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



<https://www.johansontechnology.com>

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver. 1.0

2018 Johanson Technology, Inc. All Rights Reserved

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Antennas](#) category:

Click to view products by [Johanson](#) manufacturer:

Other Similar products are found below :

[GAN30084EU](#) [930-033-R](#) [GW17.07.0250E](#) [1513563-1](#) [EXE902SM](#) [APAMPG-117](#) [MAF94383](#) [W3908B0100](#) [W6102B0100](#) [YE572113-30RSMM](#) [108-00014-50](#) [66089-2406](#) [SPDA17RP918](#) [A09-F8NF-M](#) [A09-F5NF-M](#) [RGFRA1903041A1T](#) [W3593B0100](#) [W3921B0100](#) [SIMNA-868](#) [SIMNA-915](#) [SIMNA-433](#) [W1044](#) [W1049B090](#) [A75-001](#) [WTL2449CQ1-FRSMM](#) [CPL9C](#) [EXB148BN](#) [0600-00060](#) [TRA9020S3PBN-001](#) [Y4503](#) [GD5W-28P-NF](#) [MA9-7N](#) [GD53-25](#) [GD5W-21P-NF](#) [C37](#) [MAF94051](#) [MA9-5N](#) [EXD420PL](#) [B1322NR](#) [QWFTB120](#) [MAF94271](#) [MAF94300](#) [GPSMB301](#) [FG4403](#) [AO-AGSM-OM54](#) [5200232](#) [MIKROE-2349](#) [WCM.01.0111](#) [MIKROE-2393](#) [MIKROE-2352](#)