

"High Frequency Ceramic Solutions"

868 and 915MHz dual (wideband) ISM band SMD chip antenna P/N 0900AT43A0070

Detail Specification: 6/13/2016

Page 1 of 8

General Specifications

| | | | |
|-------------------------|-----------------------|--|-----------------------------------|
| Part Number | 0900AT43A0070 | | |
| Frequency (MHz) | 858 - 928 | | |
| Peak Gain (XZ-total) | -0.5 dBi typ. | | |
| Average Gain (XZ-total) | -2.5 dBi typ. | | |
| Radiated Efficiency | 48% ave. ¹ | | |
| Return Loss | -4 dB min. | | |
| impedance | 50 Ω | | |
| Reel Quantity | 1,000 | | |
| Operating Temperature | -40 to +85°C | Recommended Storage Conditions of unused product on T&R | +5 to +35°C, Humidity 45~75%RH |
| Storage Temperature | -40 to +85°C | | |
| Power Capacity | 2W max. (CW) | Storage Period | 18 months max. |



¹On test board 0900AT43A0070-EB2SMA, Layout# 2, page 5

Part Number Explanation

| P/N Suffix | Packing Style | | | |
|------------|---------------|--------------|-----------------|---------------------------|
| | | Bulk (loose) | Suffix = S | eg. 0900AT43A0070S |
| | | T & R | Suffix = E | eg. 0900AT43A0070E |
| | | 100% Tin | Suffix = E or S | eg. 0900AT43A0070(E or S) |

Mechanical Dimensions

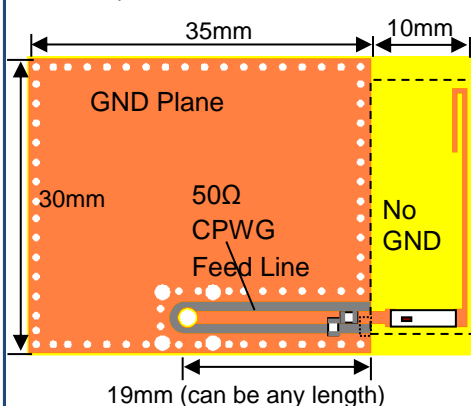
| | In | mm | |
|---|----------------------|------------------|--|
| L | 0.276 ± 0.008 | 7.00 ± 0.20 | |
| W | 0.079 ± 0.008 | 2.00 ± 0.20 | |
| T | 0.031 ± +.004/-0.008 | 0.80 ± +0.1/-0.2 | |
| a | 0.020 ± 0.012 | 0.50 ± 0.30 | |

Terminal Configuration

| No. | Function |
|-----|------------------|
| 1 | RF Feed Point |
| 2 | To trace element |

Layout Recommendation #1

Test board p/n: 0900AT43A0070-EB1SMA



- Orderable EVB for evaluation, it comes with a female SMA connector. Go to: www.johansontechnology.com/request-a-sample and ask for p/n 0900AT43A0070-EB1SMA

- Need help laying out the antenna, want us to review your antenna design (free!), require the Gerber files for this EVB, or would like us to validate the new tuning values of your PCB (fee may apply) go to: www.johansontechnology.com/ask-a-question

www.johansontechnology.com/ipc-antenna-services

- The total antenna area usage for this EVB is approx. 25x10mm (due to trace element), but the trace can be re-shaped to reduce effective area and conform to the designer's PCB!



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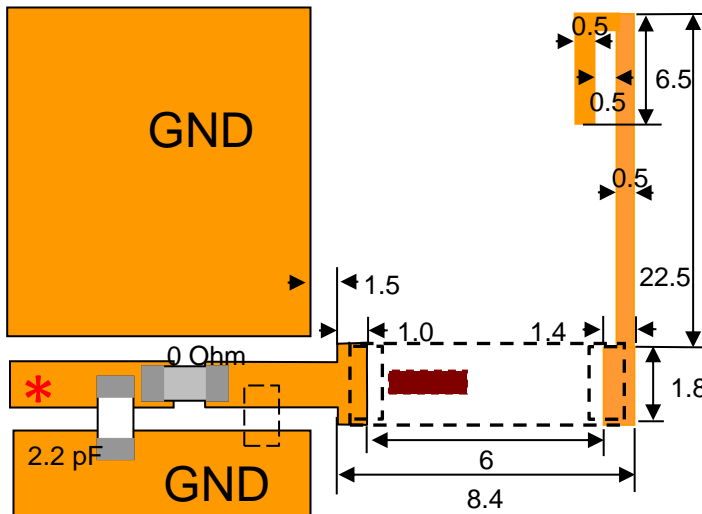
868 and 915MHz dual (wideband) ISM band SMD chip antenna P/N 0900AT43A0070

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Recommended Application ISM

Layout Recommendation #1

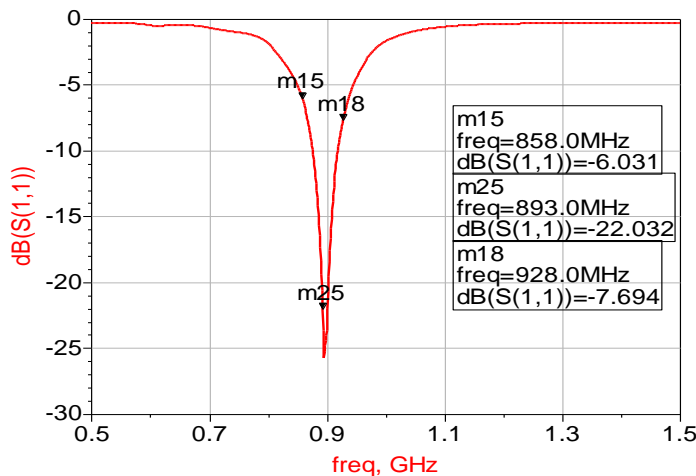


* Line width should be designed to match 50ohm characteristic impedance, depending on your PCB material and thickness (distance to GND)

• Attention: Matching circuits and component values will be different on the client's design, depending on PCB layout, geometry, etc. It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values you see here are used when antenna is mounted on Johanson's evaluation board.

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Typical Electrical Characteristics S11 return loss (T=25 °C) on Layout #1



This antenna has about 20MHz of guard-band on each side

Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



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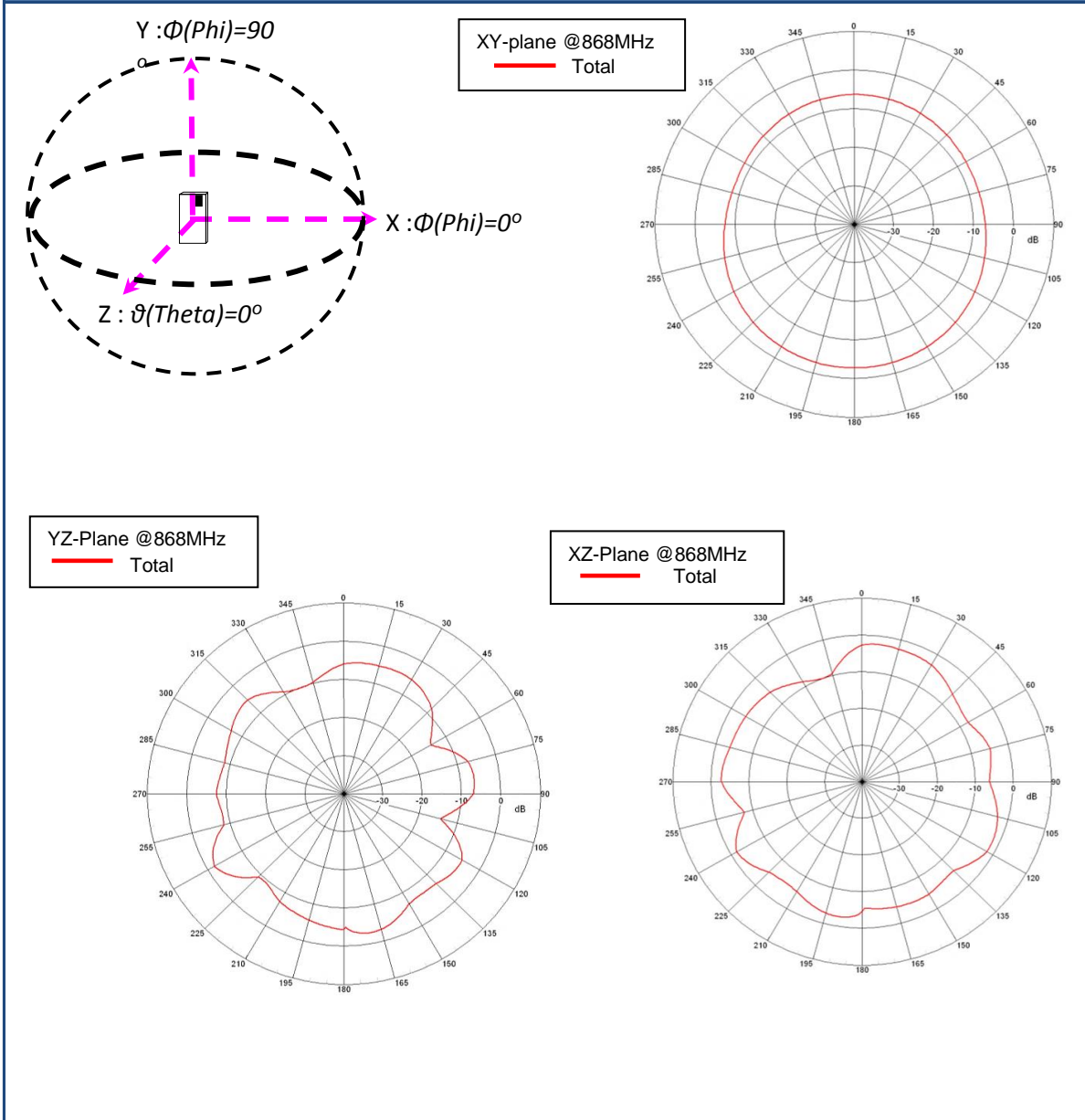
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Recommended Application ISM

Typical Radiation Patterns (@25C) of Layout Recommendation #1



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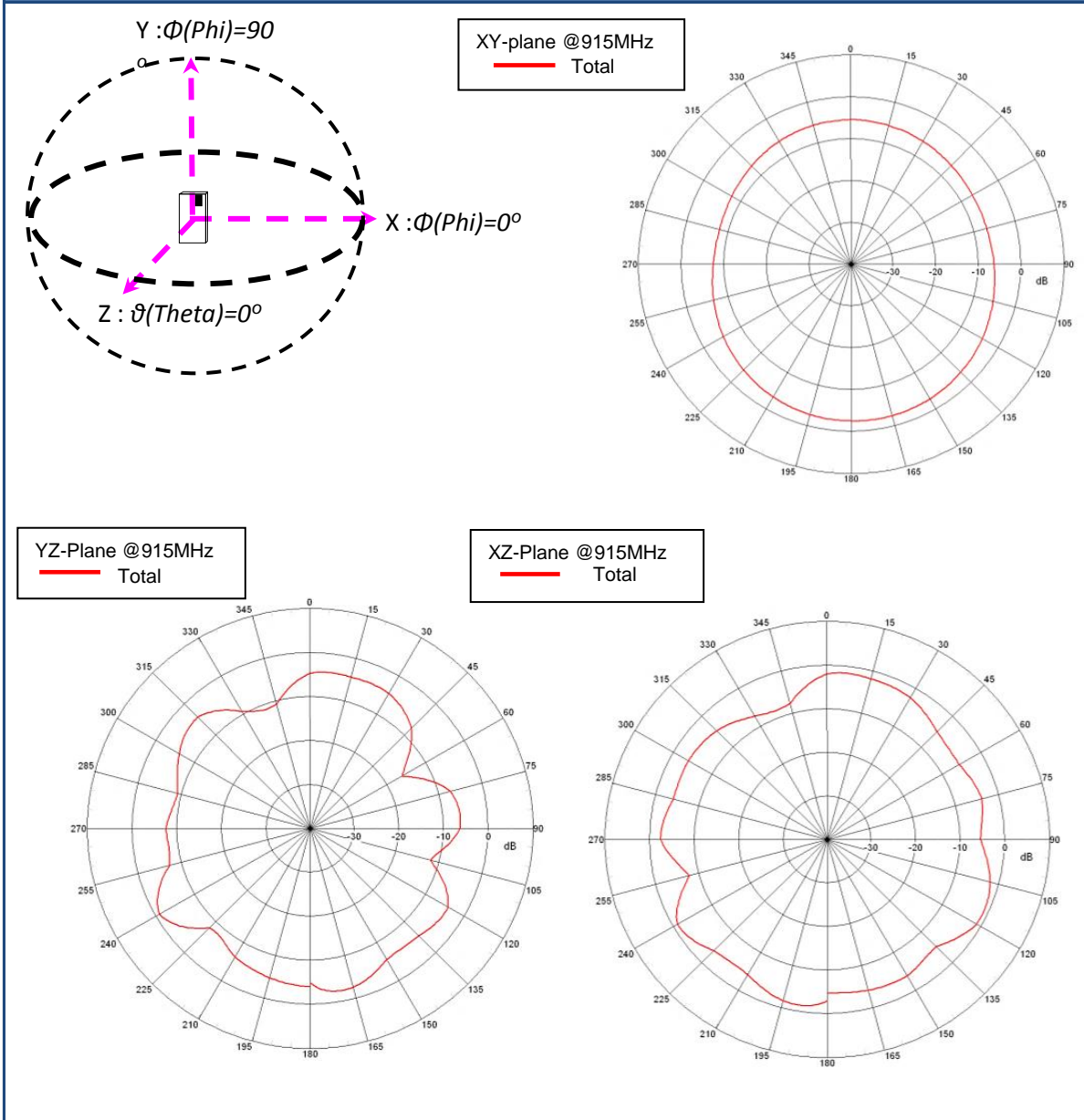
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Recommended Application ISM

Typical Radiation Patterns (@25C) of Layout Recommendation #1



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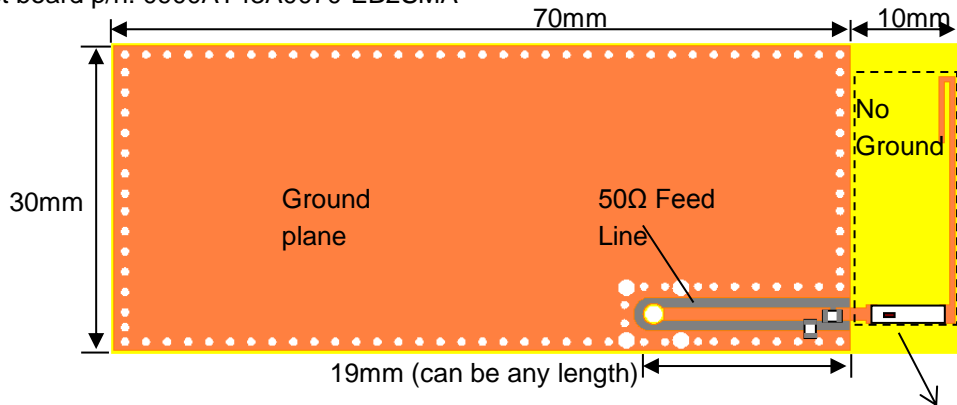
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Recommended Application ISM

Layout Recommendation #2

Test board p/n: 0900AT43A0070-EB2SMA



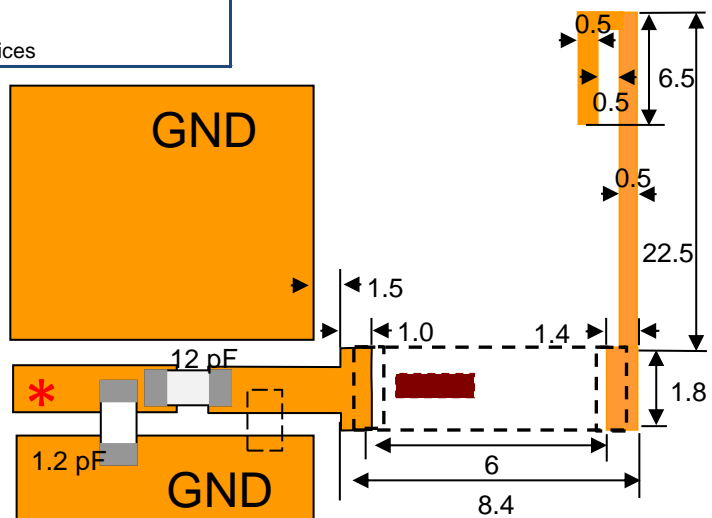
• Orderable EVB for evaluation, it comes with a female SMA connector. Go to: www.johansontechnology.com/request-a-sample and ask for p/n 0900AT43A0070-EB2SMA

• The total antenna area usage for this EVB is approx. 25x10mm (due to trace element), but the trace can be re-shaped to reduce effective area and conform to the designer's PCB!

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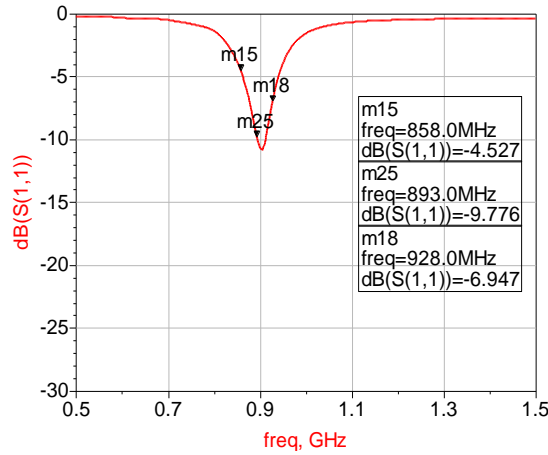
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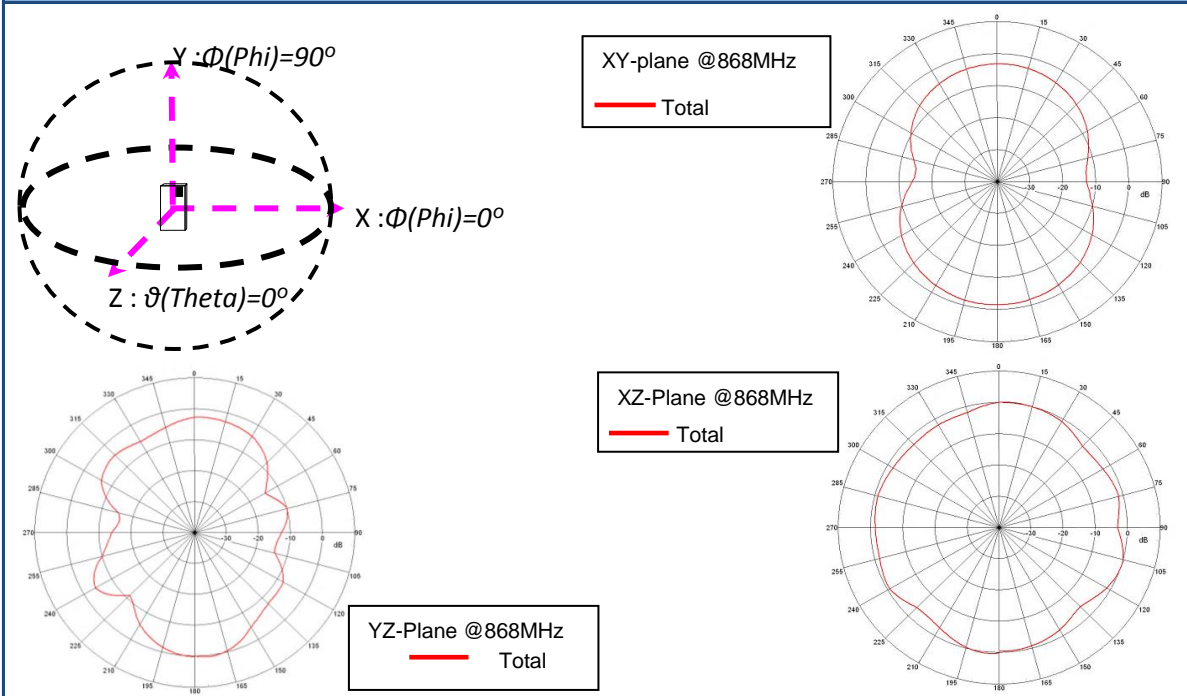
Recommended Application ISM

Typical Electrical Characteristics S11 return loss (T=25 °C) on Layout #2



This antenna has about 20MHz of guard-band on each side

Typical Radiation Patterns (@25C) of Layout Recommendation #2



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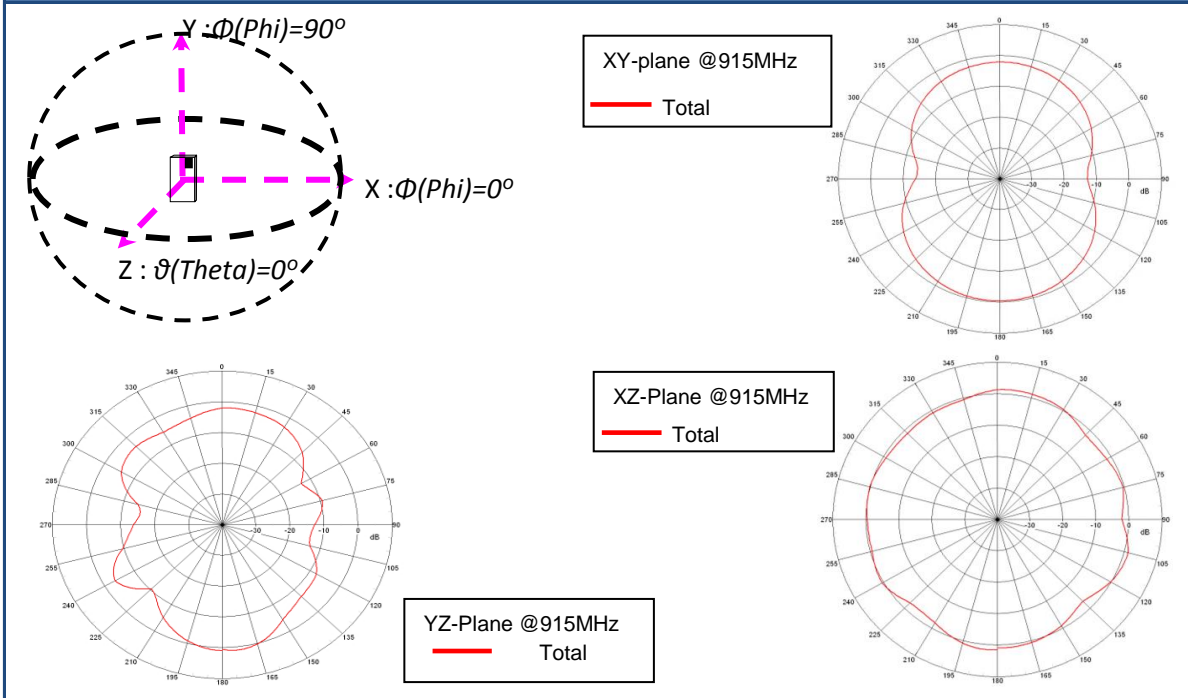
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Typical Radiation Patterns (@25C) of Layout Recommendation #2



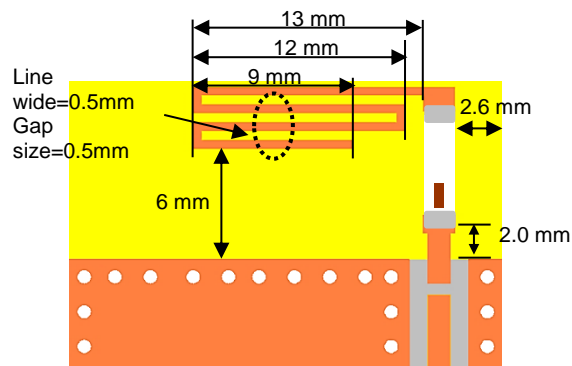
Alternative layout with reduced effective area

No EVB available for this layout

Total radiated efficiency will be reduced by about 10%

Do you have more questions about this layout?
 Contact our apps team at:

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Antenna tuning, optimization, and validation Services

www.johansontechnology.com/ipc-antenna-services

For layout review contact our Applications Team at:

www.johansontechnology.com/ask-a-question

Soldering Information

www.johansontechnology.com/typical-soldering-profile

MSL Info

www.johansontechnology.com/msl-rating

Packaging information

www.johansontechnology.com/tape-reel-packaging

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

www.johansontechnology.com/antennas

RoHS Compliance

www.johansontechnology.com/rohs-compliance

Recommended Storage Condition and Max Shelf Life

www.johansontechnology.com/recommended-storage-conditions

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Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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JONHON

«JONHON» (основан в 1970 г.)

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«FORSTAR» (основан в 1998 г.)

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(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А