

# "High Frequency Ceramic Solutions"

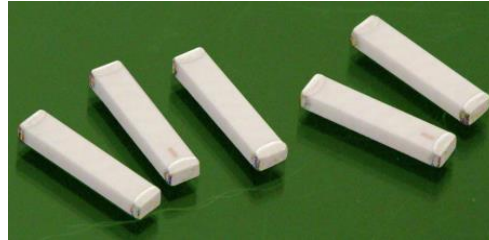
**868 and 915MHz dual (wideband) ISM band SMD chip antenna P/N 0900AT43A0070**

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. <sup>1</sup>
Return Loss	-4 dB min.
impedance	50 Ω
Reel Quantity	1,000
Operating Temperature	-40 to +85°C
Storage Temperature	-40 to +85°C
Power Capacity	2W max. (CW)



Recommended Storage Conditions of unused product on T&R	+5 to +35°C, Humidity 45~75%RH
Storage Period	18 months max.

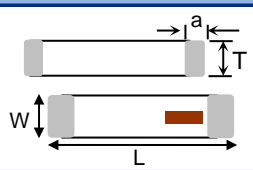
<sup>1</sup>On test board 0900AT43A0070-EB2SMA, Layout# 2, page 5

## 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

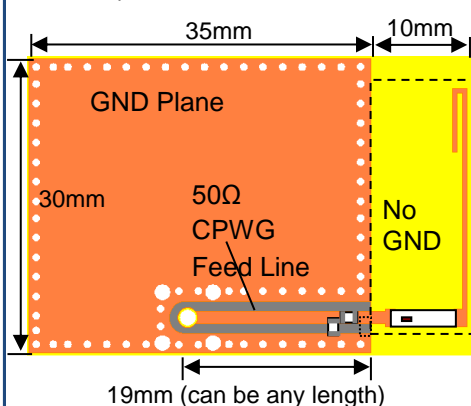


## Terminal Configuration

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](http://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](http://www.johansontechnology.com/ask-a-question)

[www.johansontechnology.com/ipc-antenna-services](http://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!



[www.johansontechnology.com](http://www.johansontechnology.com)

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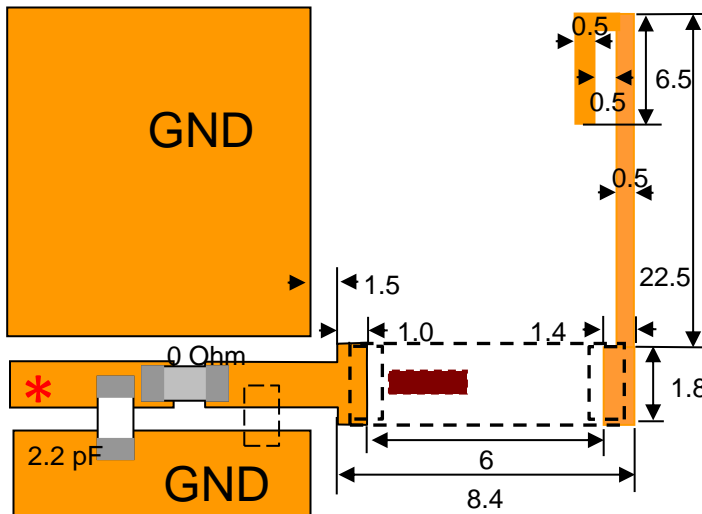
868 and 915MHz dual (wideband) ISM band SMD chip antenna P/N 0900AT43A0070

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Recommended Application ISM

## Layout Recommendation #1

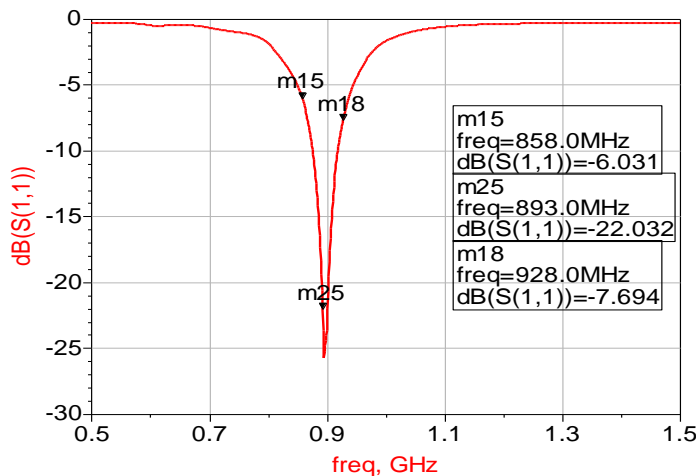


• Attention: Matching circuits and component values will be different on the client's design, depending on PCB layout, geometry, etc. It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values you see here are used when antenna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

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

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



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

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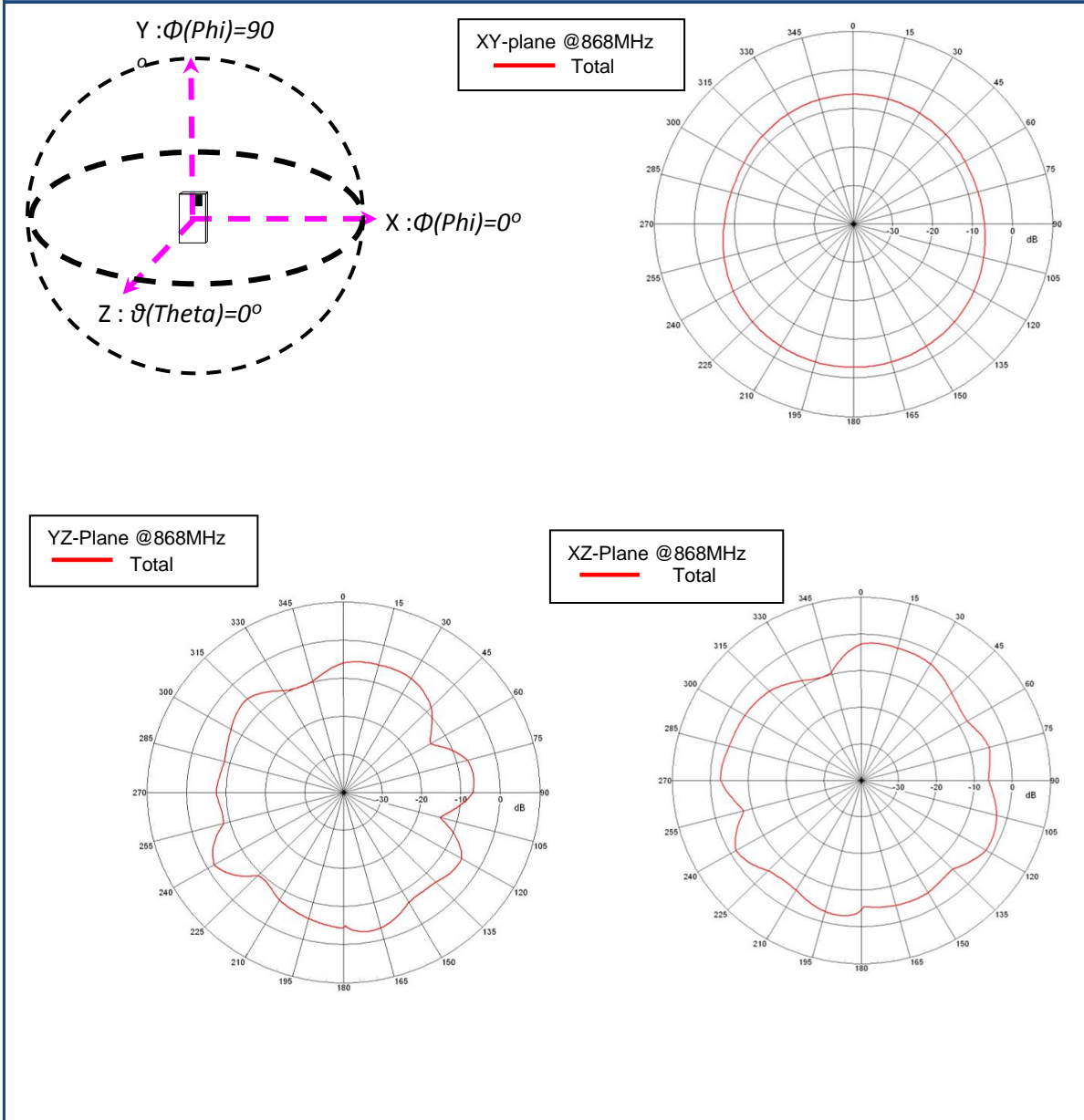
868 and 915MHz dual (wideband) ISM band SMD chip antenna P/N 0900AT43A0070

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Recommended Application ISM

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



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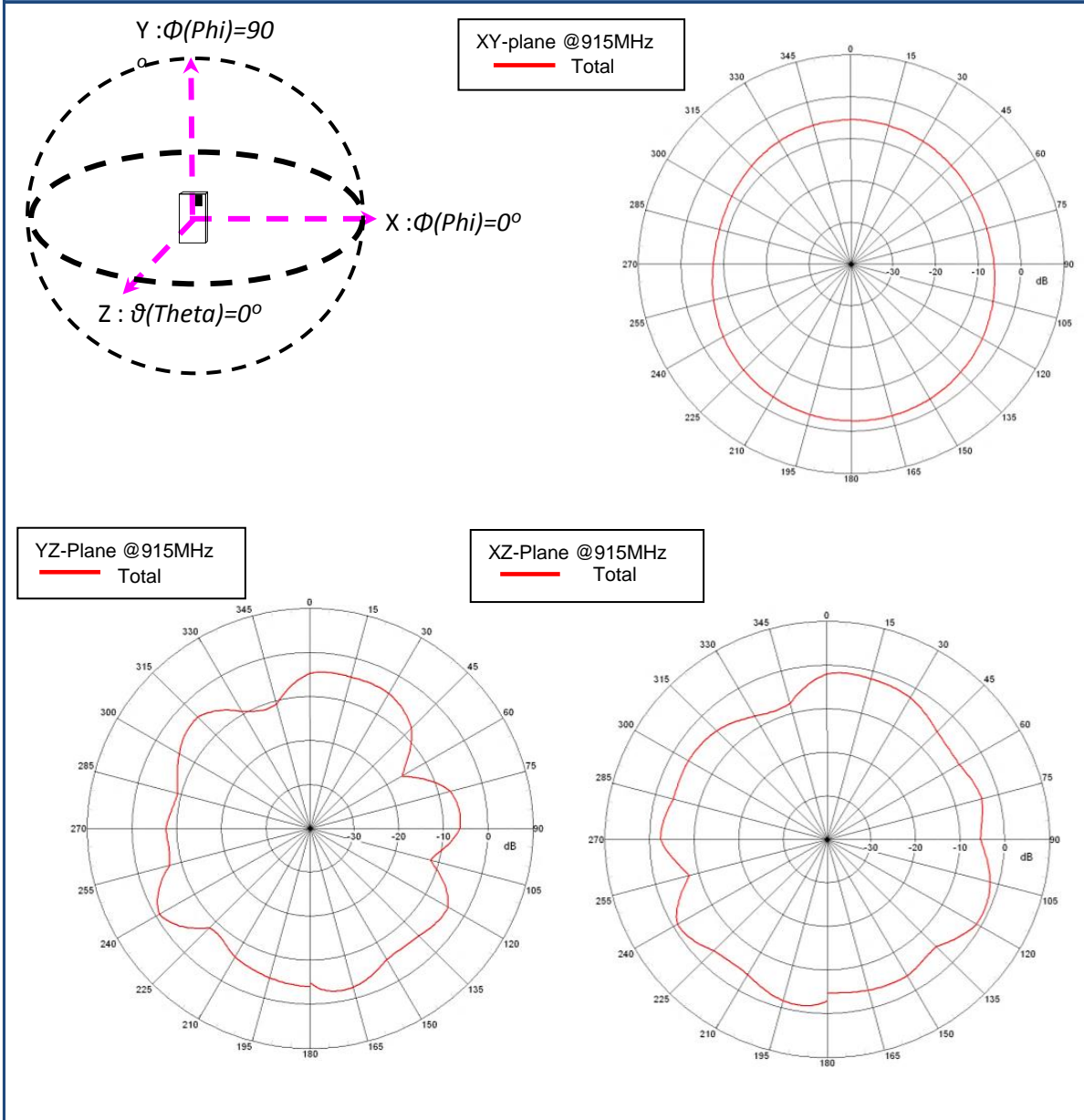
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## Typical Radiation Patterns (@25C) of Layout Recommendation #1



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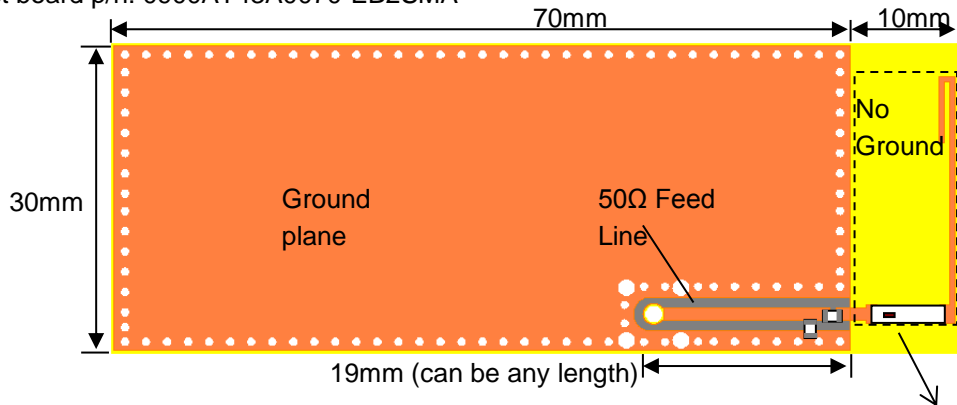
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Recommended Application ISM

## Layout Recommendation #2

Test board p/n: 0900AT43A0070-EB2SMA



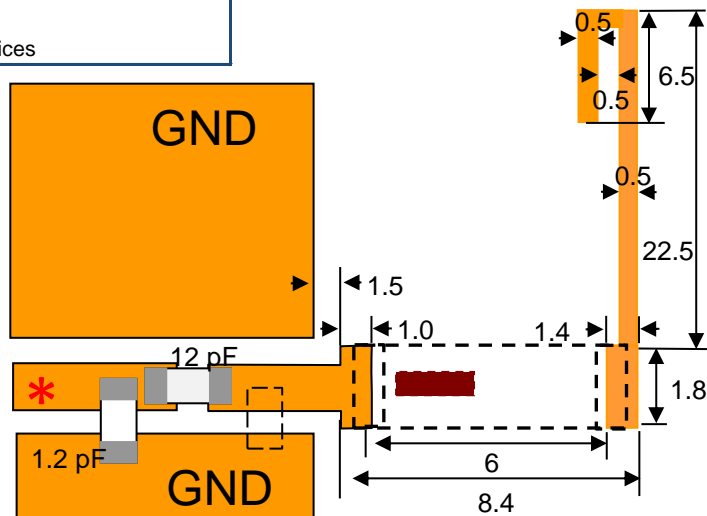
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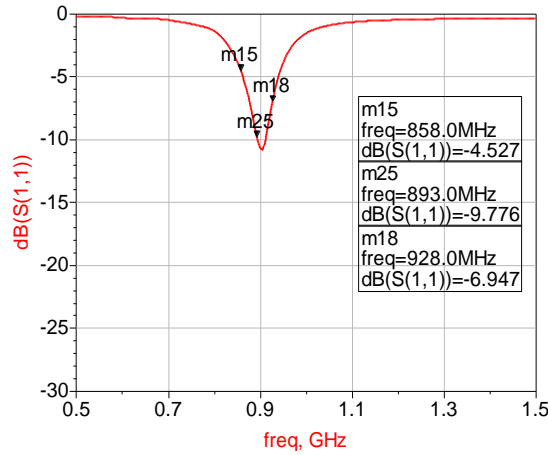
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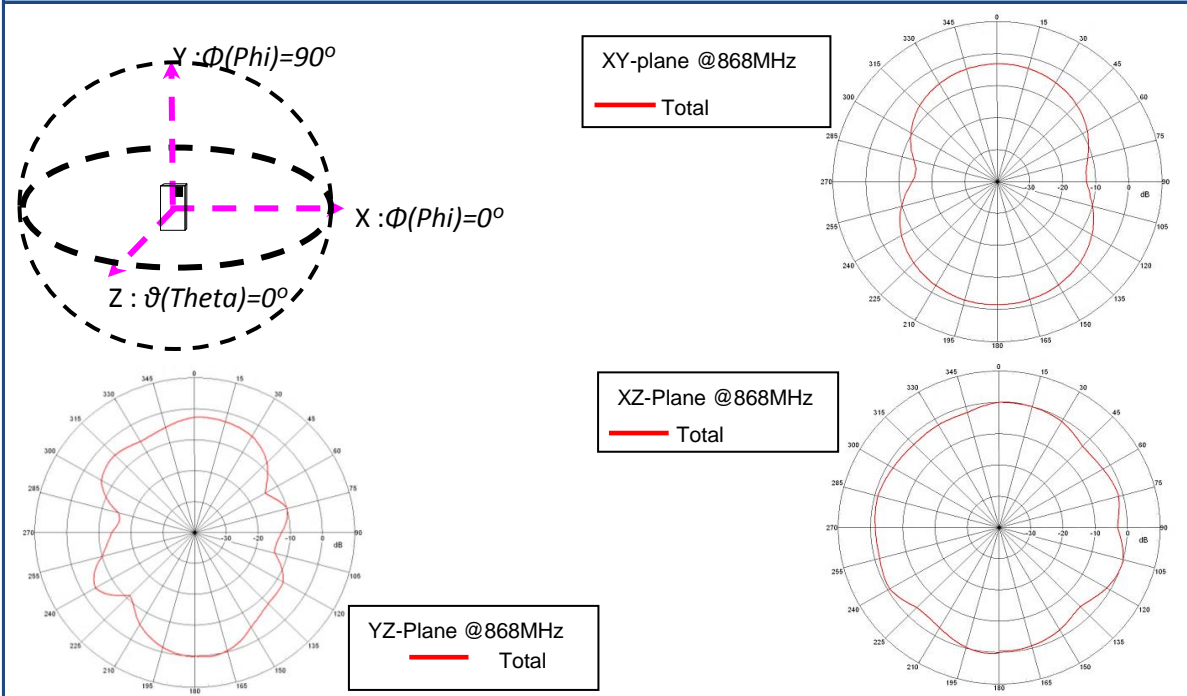
Recommended Application ISM

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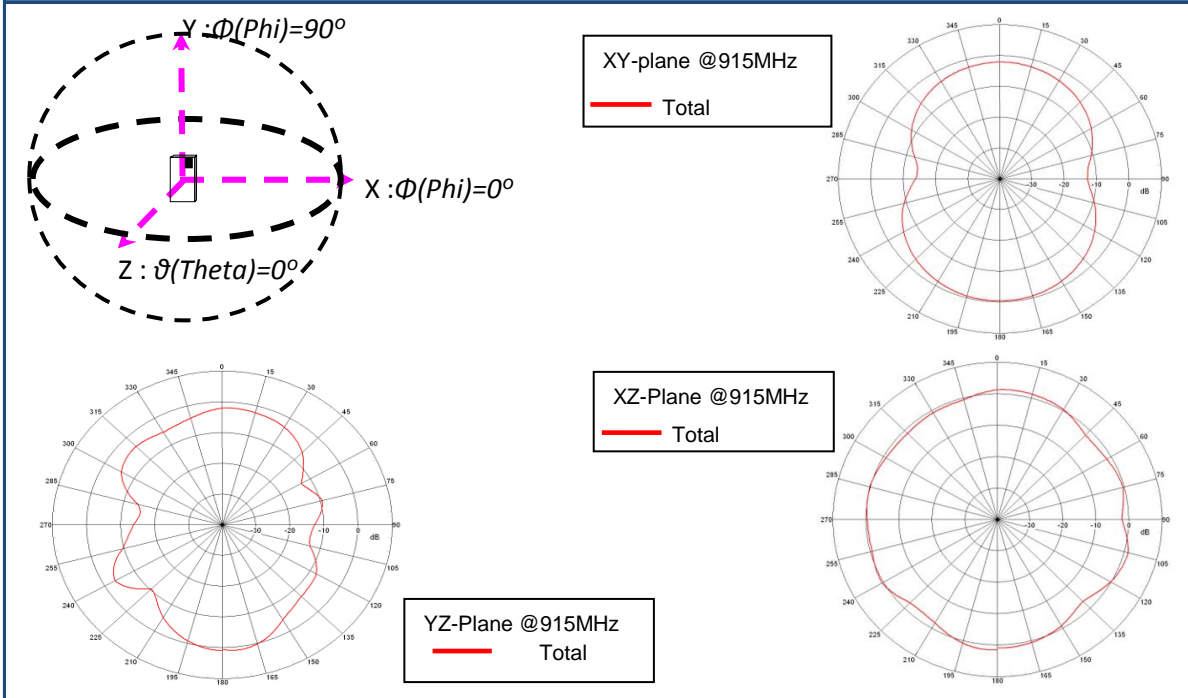
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## Typical Radiation Patterns (@25C) of Layout Recommendation #2



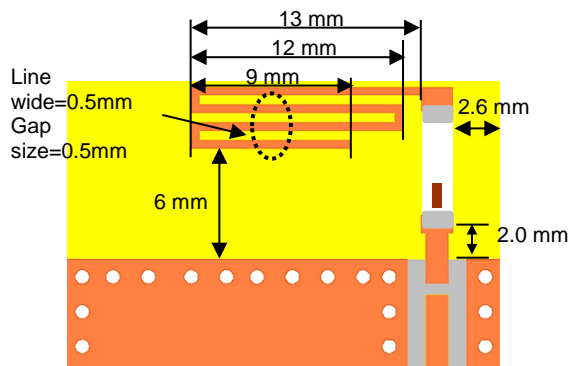
## Alternative layout with reduced effective area

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:

[www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)



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## Antenna tuning, optimization, and validation Services

[www.johansontechnology.com/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

## For layout review contact our Applications Team at:

[www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

## Soldering Information

[www.johansontechnology.com/typical-soldering-profile](http://www.johansontechnology.com/typical-soldering-profile)

## MSL Info

[www.johansontechnology.com/msl-rating](http://www.johansontechnology.com/msl-rating)

## Packaging information

[www.johansontechnology.com/tape-reel-packaging](http://www.johansontechnology.com/tape-reel-packaging)

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

[www.johansontechnology.com/antennas](http://www.johansontechnology.com/antennas)

## RoHS Compliance

[www.johansontechnology.com/rohs-compliance](http://www.johansontechnology.com/rohs-compliance)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/recommended-storage-conditions](http://www.johansontechnology.com/recommended-storage-conditions)

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.