Pulse | LARSEN Antennas
A YAGEO Company

TECHNICAL DATA SHEET

**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**


## Features:

- Frequency
  - 824-960/1710-2170MHz
- Impedance 50 Ohm
- Efficiency average
  - 40%/55% for W3544A
  - 55%/57% for W3544B
- Size 7.65 x 26 x 3 mm
- SMD Compliant
- A and B variants for different mounting positions on PCB

## Applications:

- 2G/3G Cellular antenna
- GPRS
- Nb-IoT, LTE Cat M1

All dimensions are in mm

Issue: 1922

RoHS COMPLIANT



For more information:

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**Series: Domino**

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## ELECTRICAL SPECIFICATIONS*

| | |
|---|---|
| Frequency | 824-960/1710-2170MHz |
| Nominal Impedance | 50Ω |
| Return Loss | <-3dB/-4dB for W3544A<br><-4dB/-4dB for W3544B |
| Average Radiation Efficiency | 40%/55% for W3544A<br>55%/57% for W3544B |
| Average Peak Gain | -0.9dBi/1.5dBi for W3544A<br>1.9dBi/1dBi for W3544B |
| Maximum power input | 3W |

## MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Overall Length | 7.65 x 26 x 3 mm |
| Weight | 1.11 g |
| Antenna Color | Black |
| Mounting | SMD |
| Moisture Sensitivity Level | MSL3 |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| Operating Temperature | -45 ~ 85° C |
| Storage Temperature | -45 ~ 85° C |
| RoHS Compliant | Yes |

(*) All RF parameters measured on Pulse reference test PCB

Issue: 1922



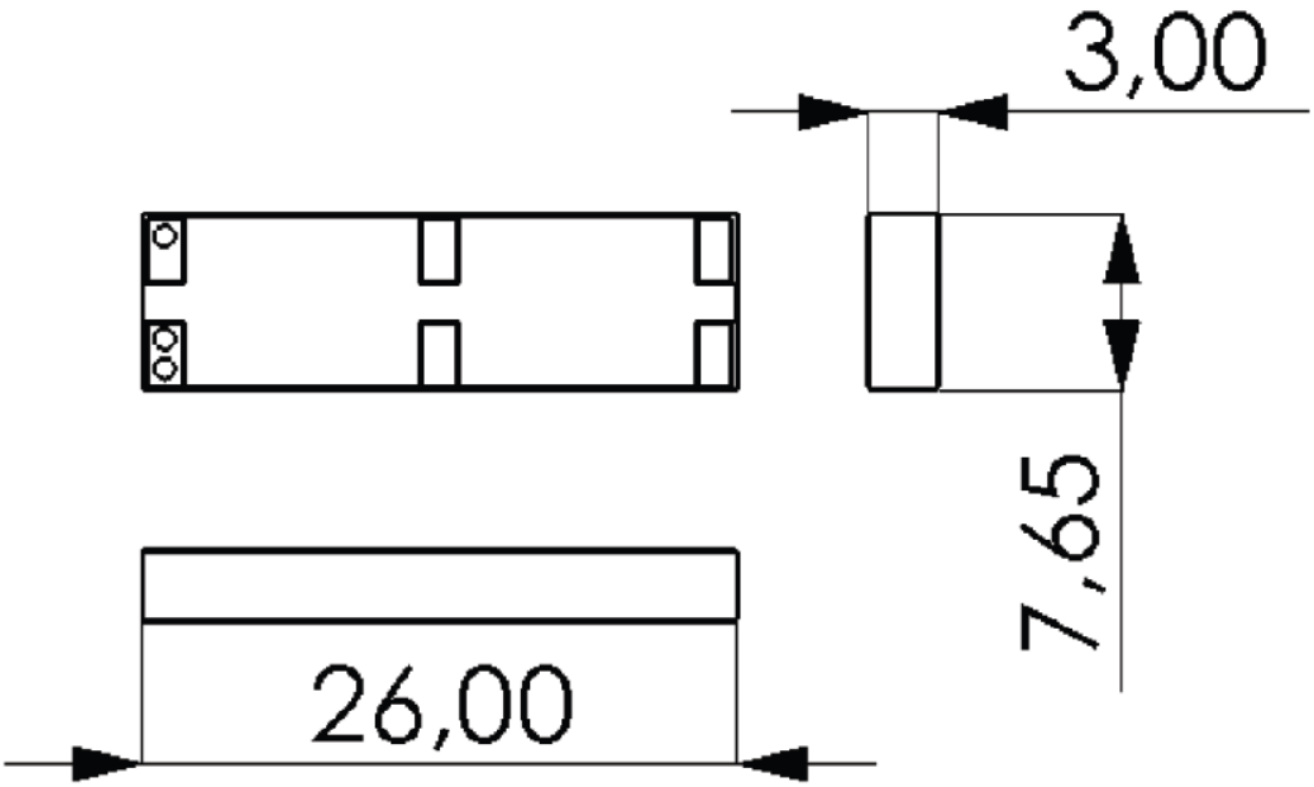
RoHS COMPLIANT

**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

## MECHANICAL DRAWING



**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

## Recommendation for reflow soldering process

Printing stencil thickness 0,15 - 0,25 mm is recommended for the solder paste. The maximum soldering temperature should not exceed 260°C. The temperature profile recommendations for reflow soldering process is presented in the Figures 1 and 2. The reflow profile presented in figure 1 describes minimum reflow temperatures. The reflow profile presented in figure 2 describes maximum reflow temperatures. located at the center of the coverage area.

| | Method of heat transfer | Controlled hot air convection |
|---|---|---|
| 1 | Average temperature gradient in preheating | 2.5 °C/s |
| 2 | Soak time | 2-3 minutes |
| 3 | Max temperature gradient in reflow | 3 °C/s |
| 4 | Time above 217 °C | Max 30 sec |
| 5 | Peak temperature in reflow | 230 °C for 10 seconds |
| 6 | Temperature gradient in cooling | Max -5 °C/s |

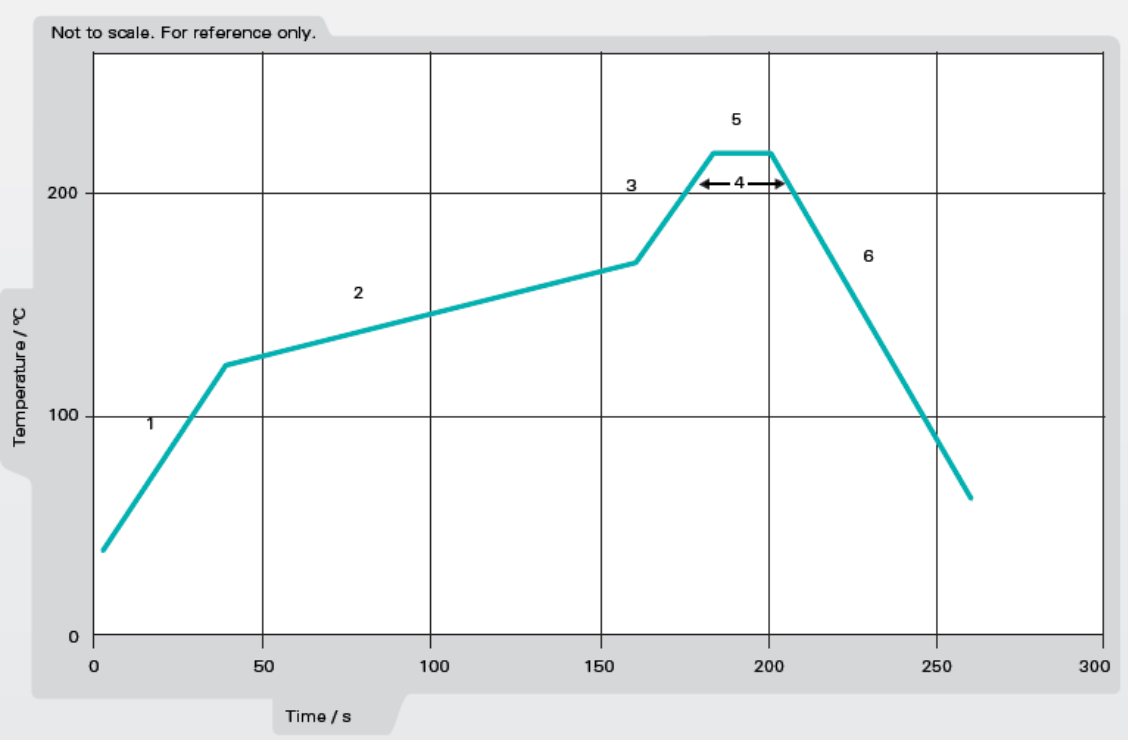



Figure 1. Minimum temperature profile recommendation for reflow soldering process





RoHS COMPLIANT

**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

## Recommendation for reflow soldering process

| | Method of heat transfer | Controlled hot air convection |
|---|---|---|
| 1 | Average temperature gradient in preheating | 2.5 °C/s |
| 2 | Soak time | 2-3 minutes |
| 3 | Max temperature gradient in reflow | 3 °C/s |
| 4 | Time above 217 °C | Max 60 sec |
| 5 | Time above 230 °C | Max 50 sec |
| 6 | Time above 250 °C | Max 10 sec |
| 7 | Peak temperature in reflow | 260 °C for 5 seconds |
| 8 | Temperature gradient in cooling | Max -5 °C/s |

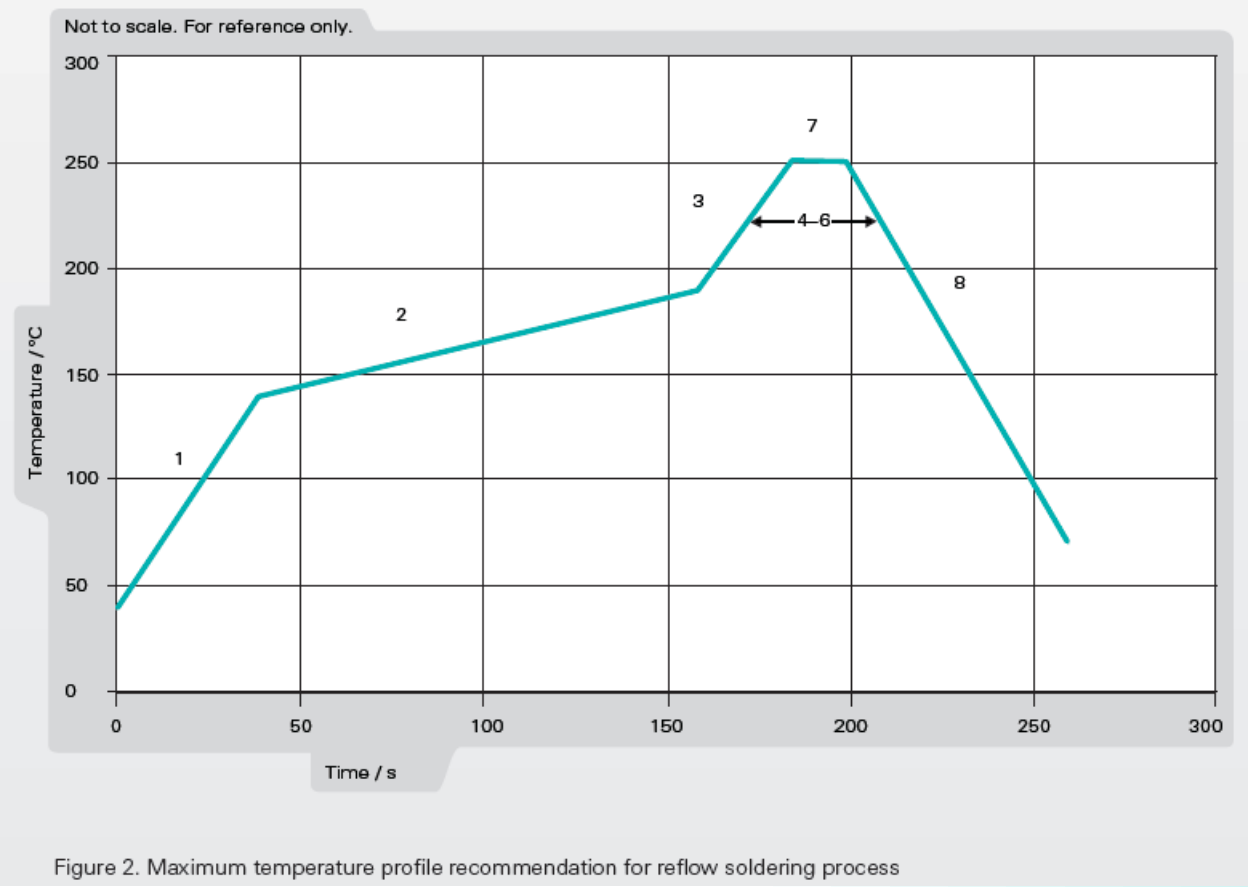



Figure 2. Maximum temperature profile recommendation for reflow soldering process





RoHS COMPLIANT

**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

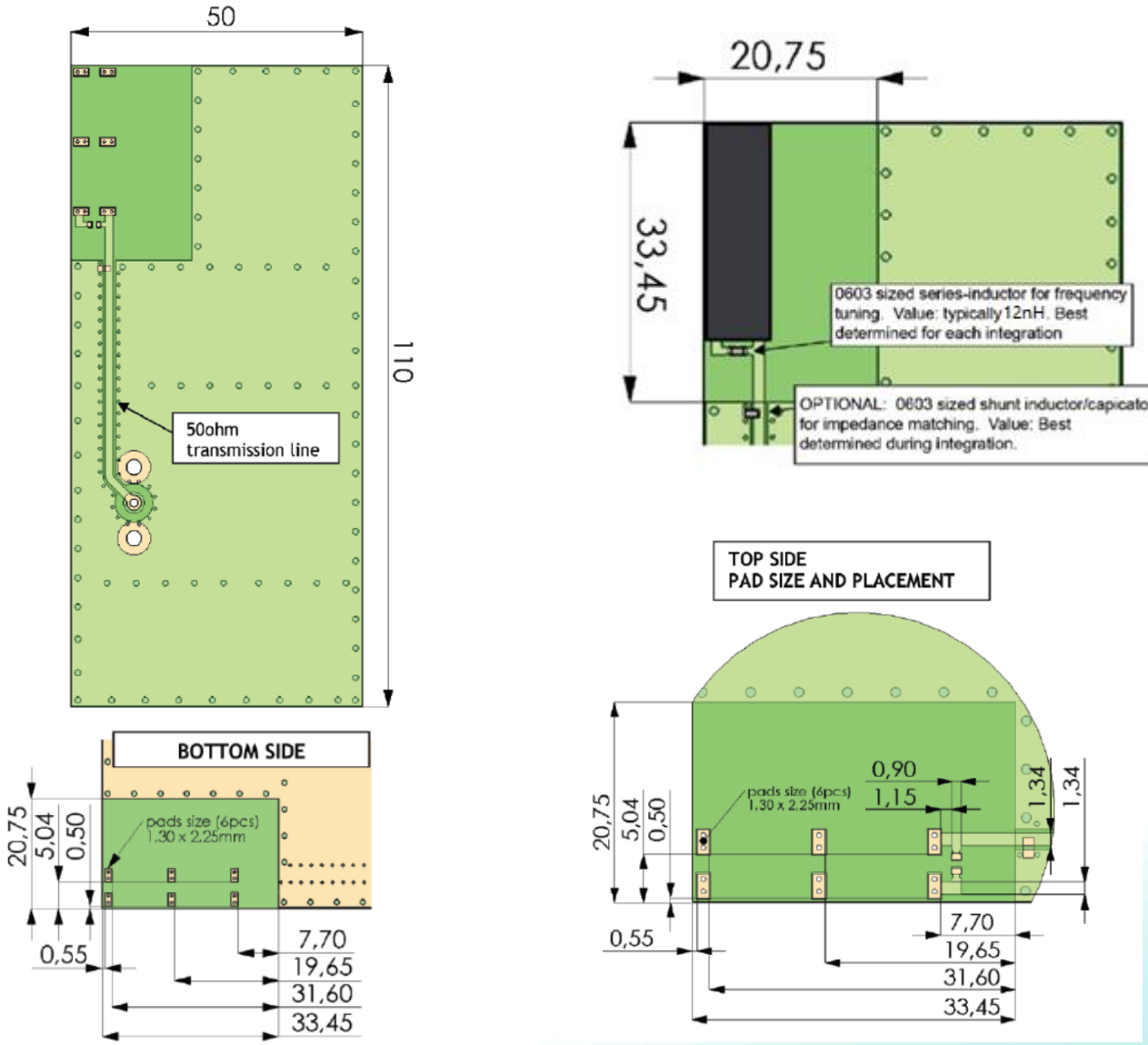
## TEST SETUP

### Test Setup for Electrical Measurements

Recommended test board layout for electrical characteristic measurement. Test board outline size 110 mm x 50 mm. Ground cleared under antenna.

**NOTE**: All measurements are in mm.

**W3544A** - Antenna positioned vertically on PWB corner







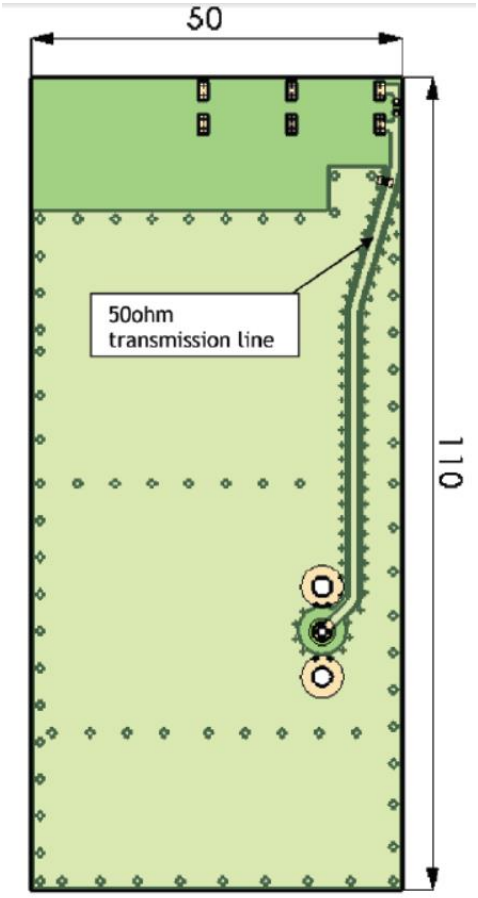

RoHS COMPLIANT

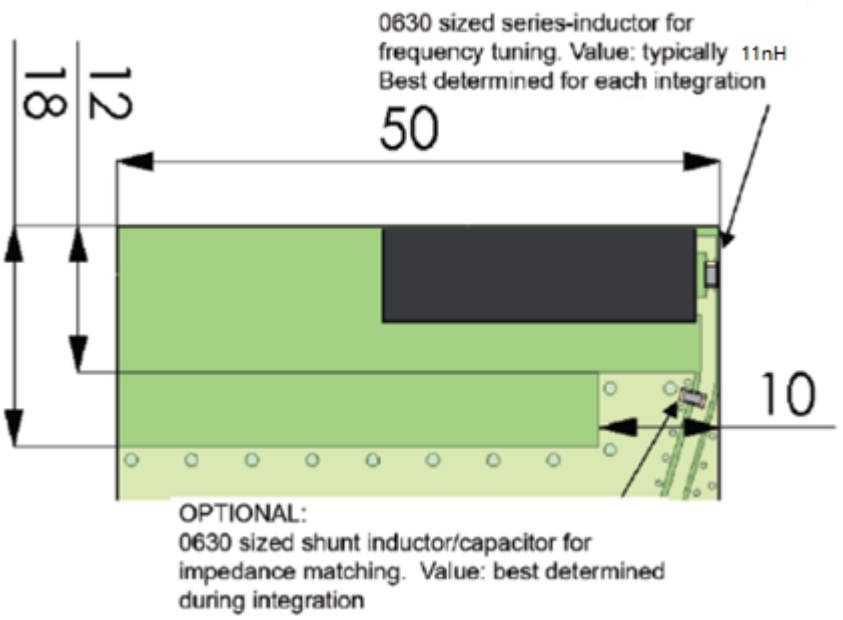
**Description**: 824-2170MHz SMD Antenna

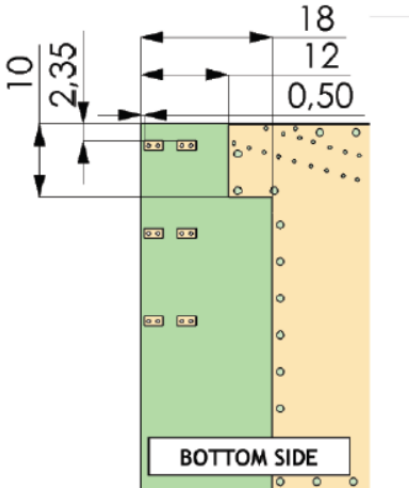
**Series: Domino**

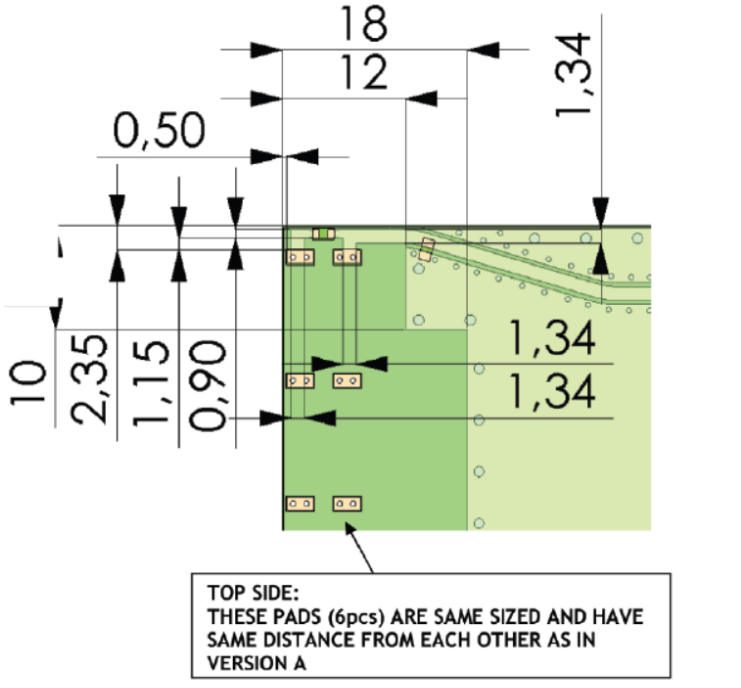
**PART NUMBER: W3544X**

## W3544B - Antenna positioned horizontally on PWB corner








RoHS COMPLIANT

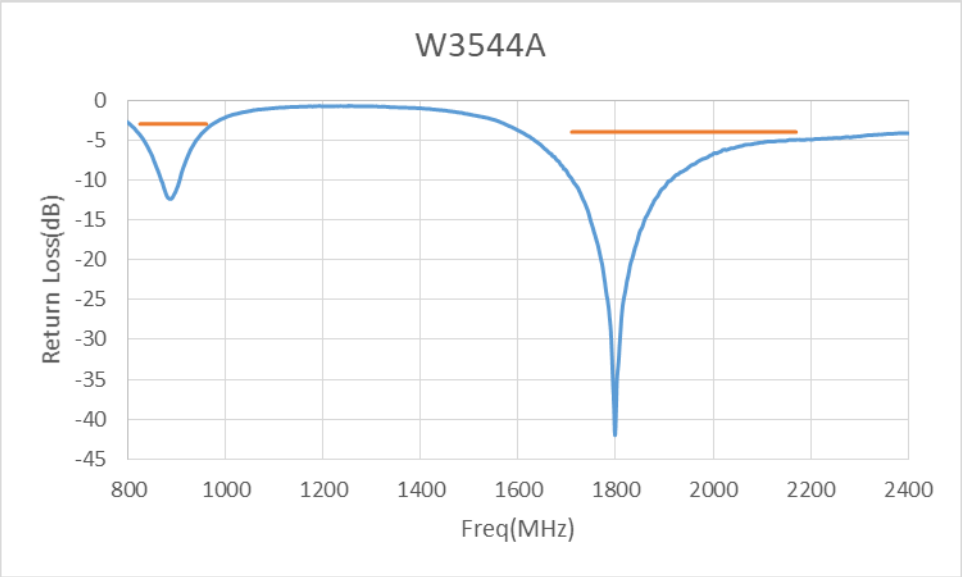
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

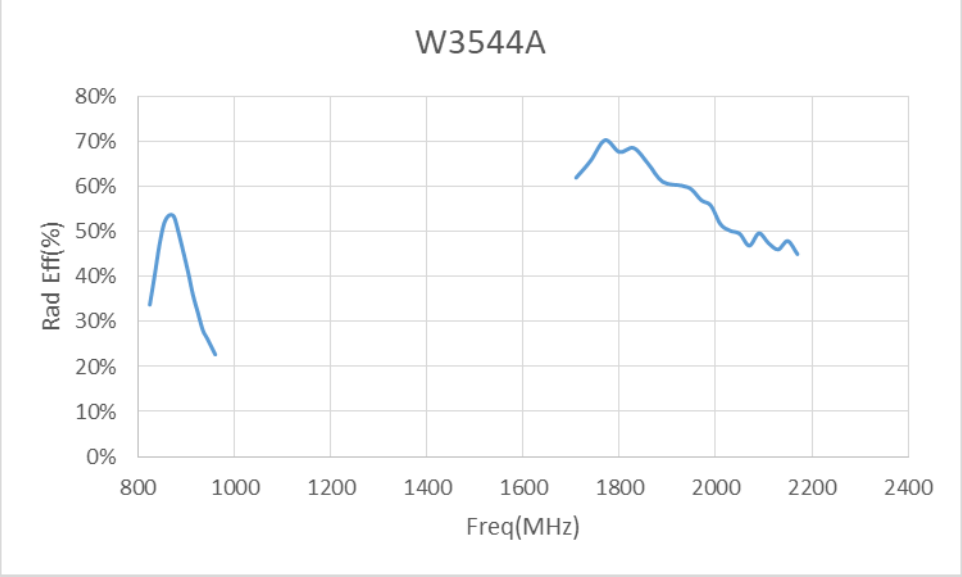
**PART NUMBER: W3544X**

## CHARTS

### Return loss of W3544A




### Radiation Efficiency of W3544A



**Description**: 824-2170MHz SMD Antenna

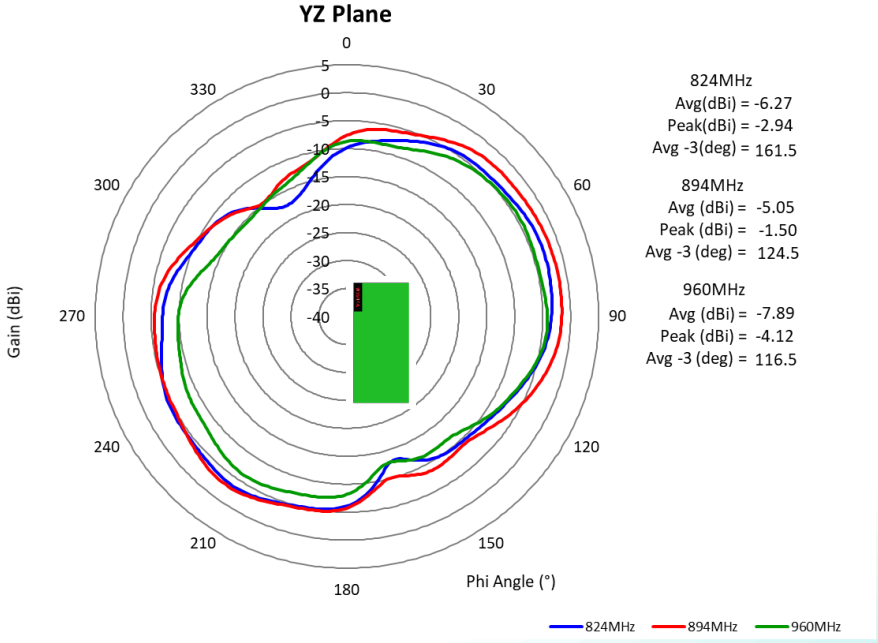
**Series: Domino**

**PART NUMBER: W3544X**

## CHARTS

### Peak Gain of W3544A


### Low band Radiation pattern at Vertical plane, front view of W3544A








RoHS COMPLIANT

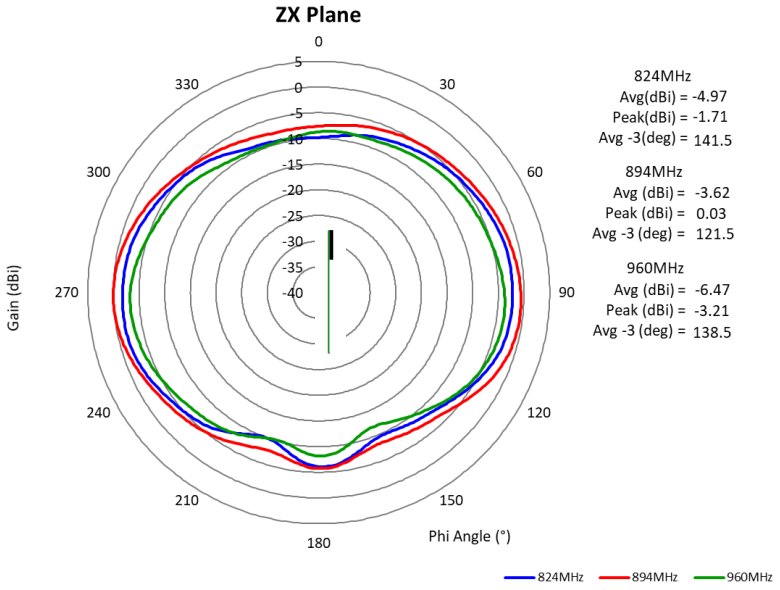
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

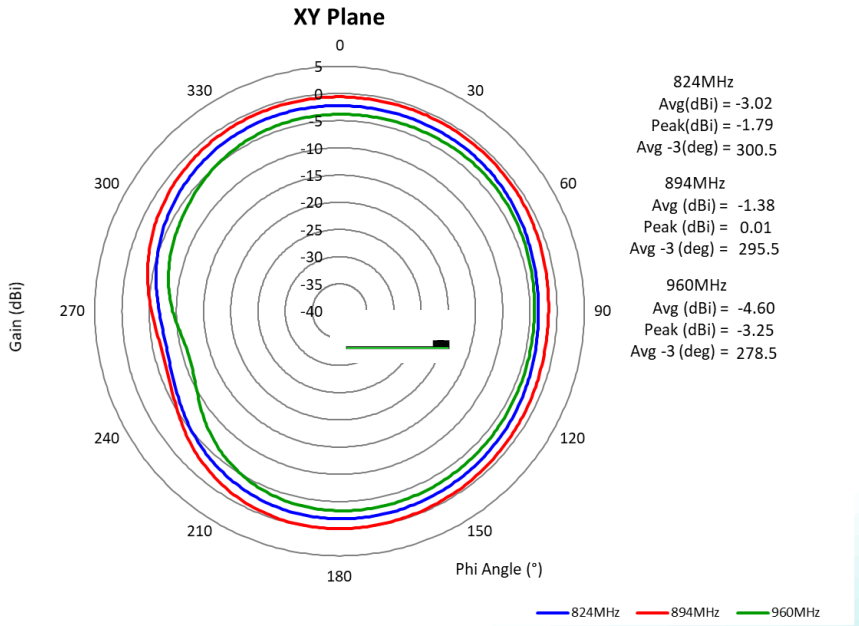
**PART NUMBER: W3544X**

## CHARTS

### Low band Radiation pattern at Vertical plane, side view of W3544A




### Low band Radiation pattern at horizontal plane of W3544A








RoHS COMPLIANT

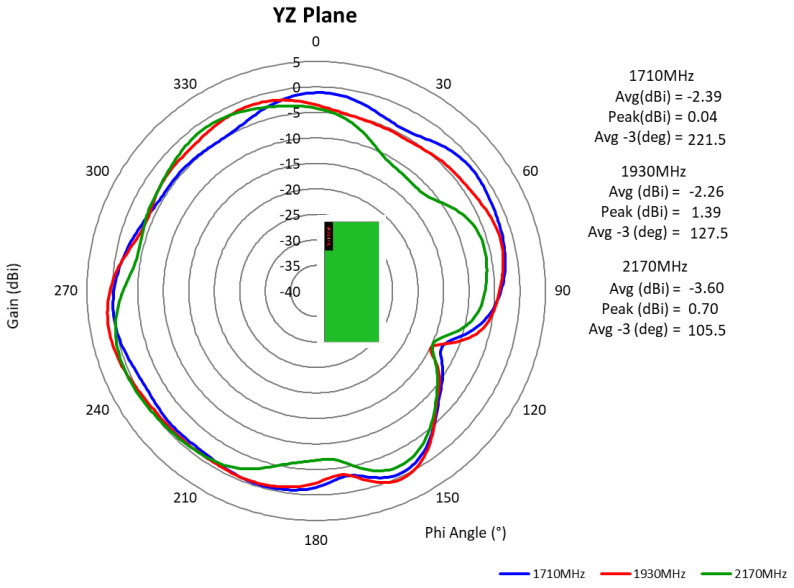
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

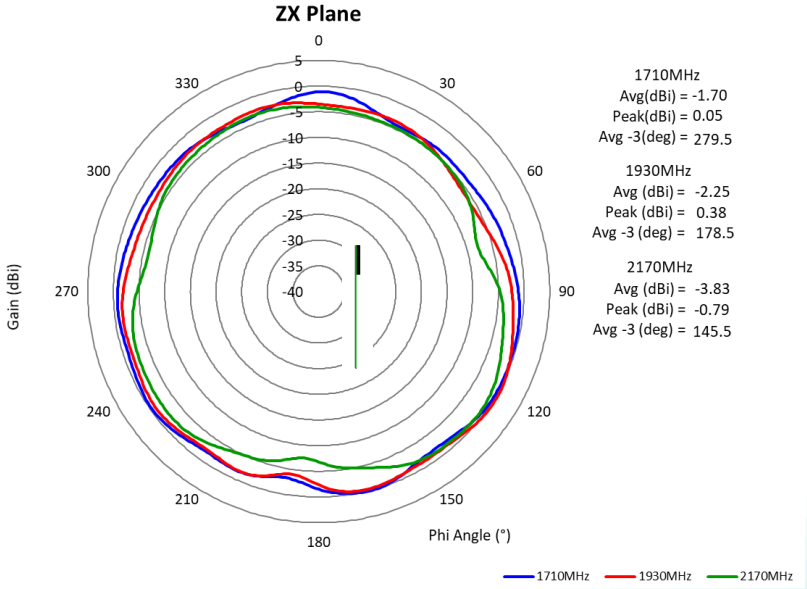
**PART NUMBER: W3544X**

## CHARTS

### High band Radiation pattern at Vertical plane, front view of W3544A




### High band Radiation pattern at Vertical plane, side view of W3544A








RoHS COMPLIANT

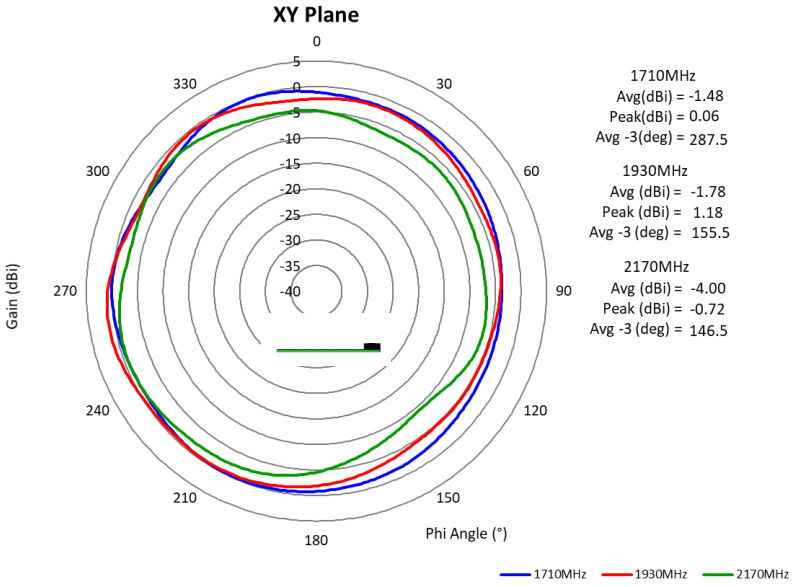
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

## CHARTS

### High band Radiation pattern at Horizontal plane of W3544A



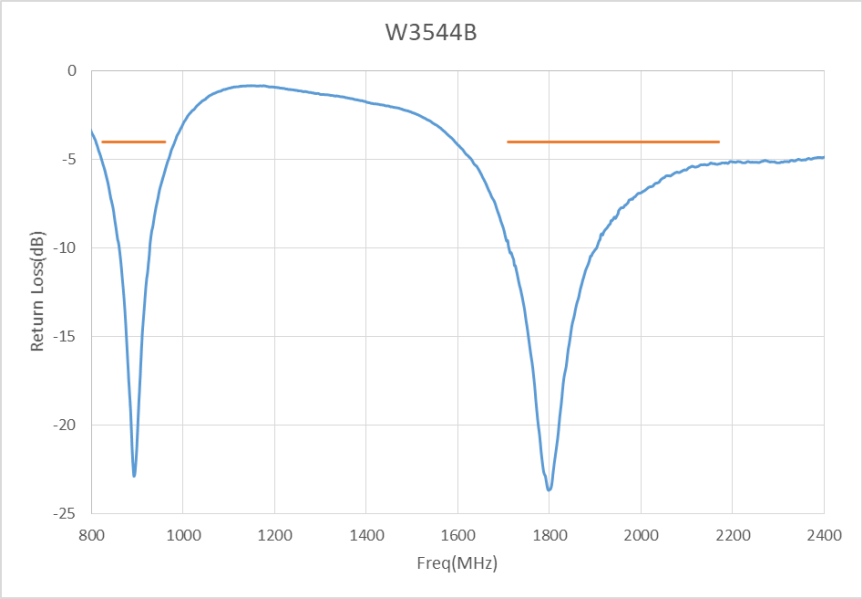
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

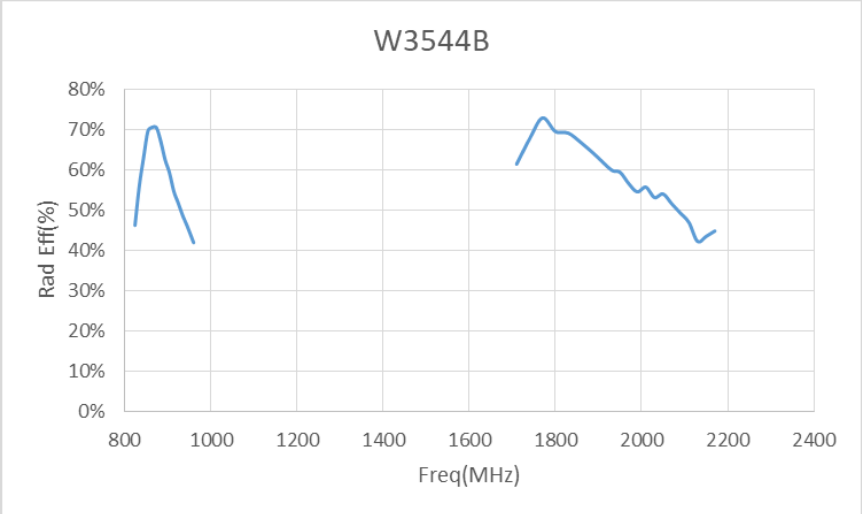
**PART NUMBER: W3544X**

## CHARTS

### Return loss of W3544B




### Radiation Efficiency of W3544B



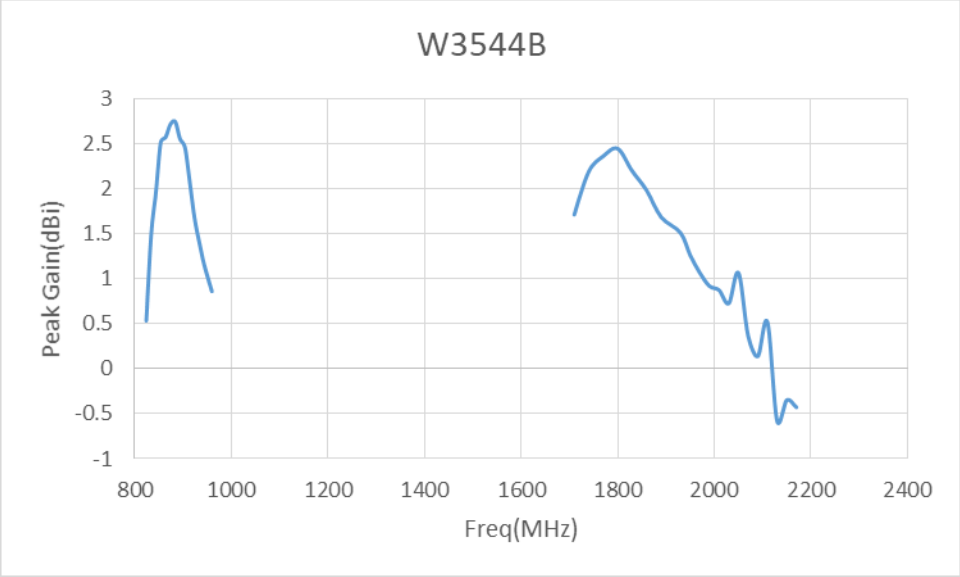
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

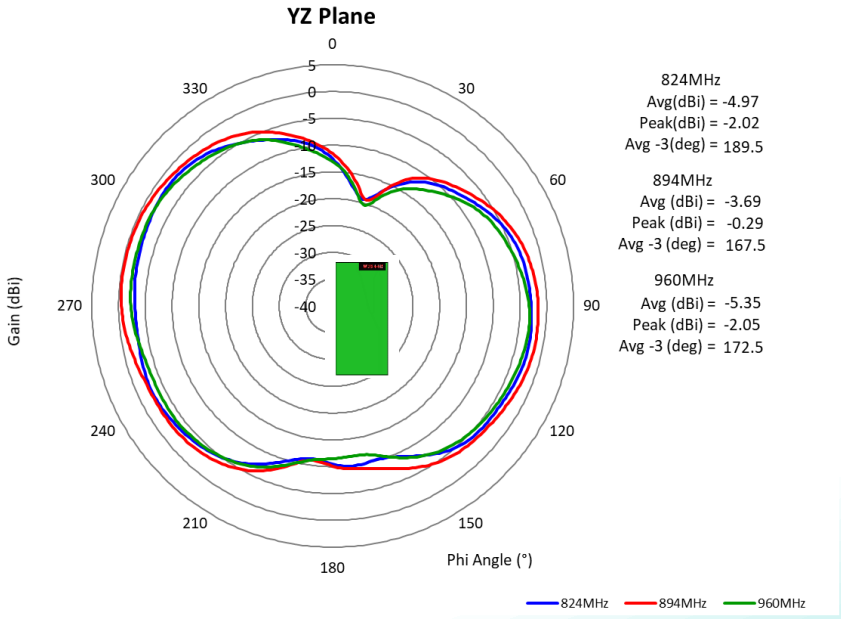
**PART NUMBER: W3544X**

## CHARTS

### Peak Gain of W3544B




### Low band Radiation pattern at Vertical plane, front view of W3544B








RoHS COMPLIANT

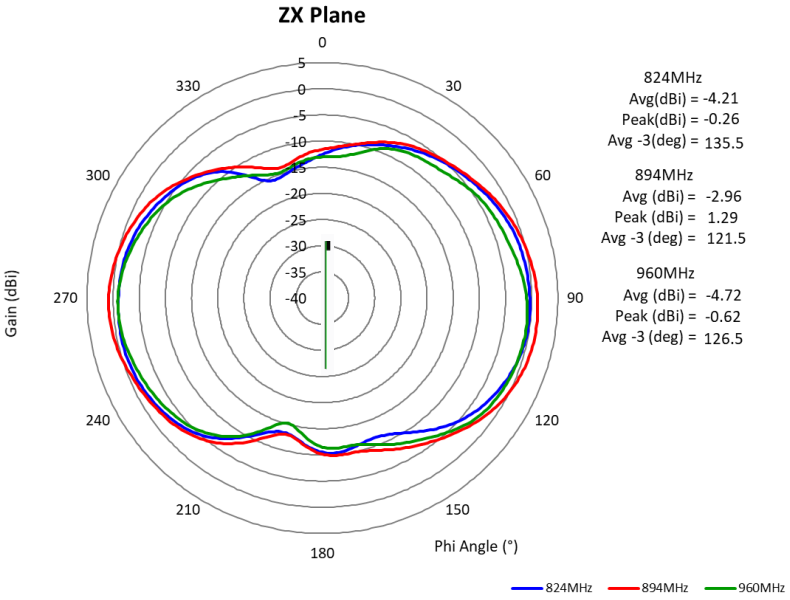
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

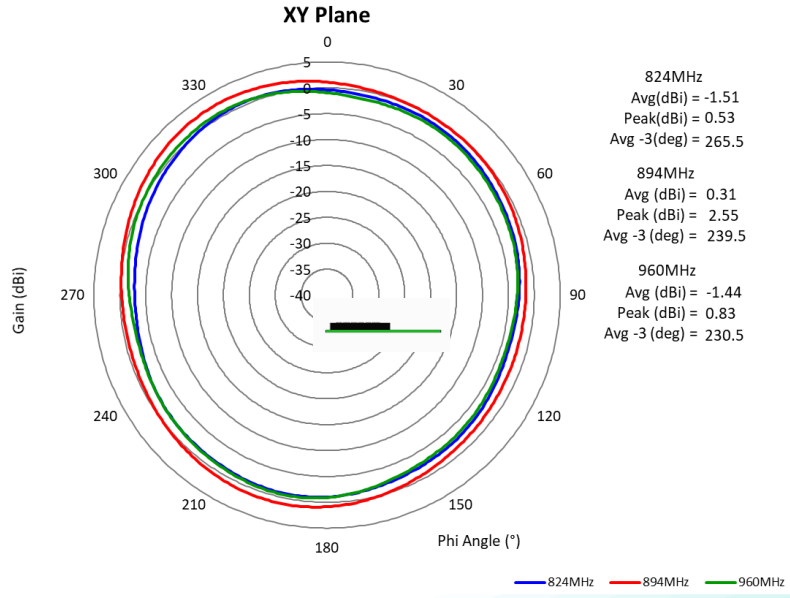
**PART NUMBER: W3544X**

## CHARTS

Low band Radiation pattern at Vertical plane, side view of W3544B




Low band Radiation pattern at horizontal plane of W3544B








RoHS COMPLIANT

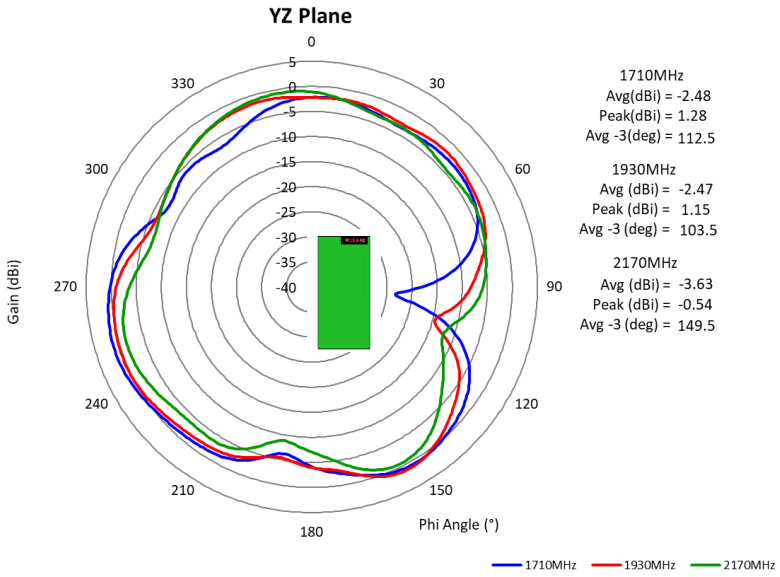
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

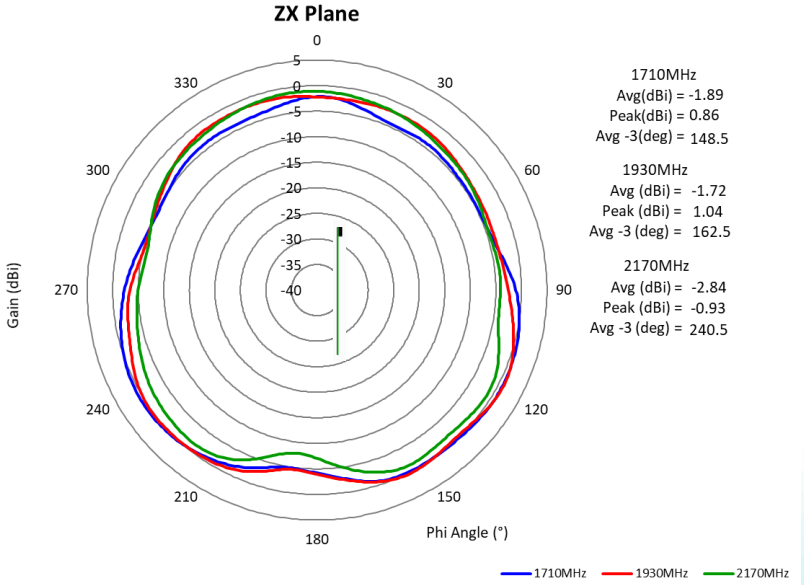
**PART NUMBER: W3544X**

## CHARTS

High band Radiation pattern at Vertical plane, front view of W3544B




High band Radiation pattern at Vertical plane, side view of W3544B



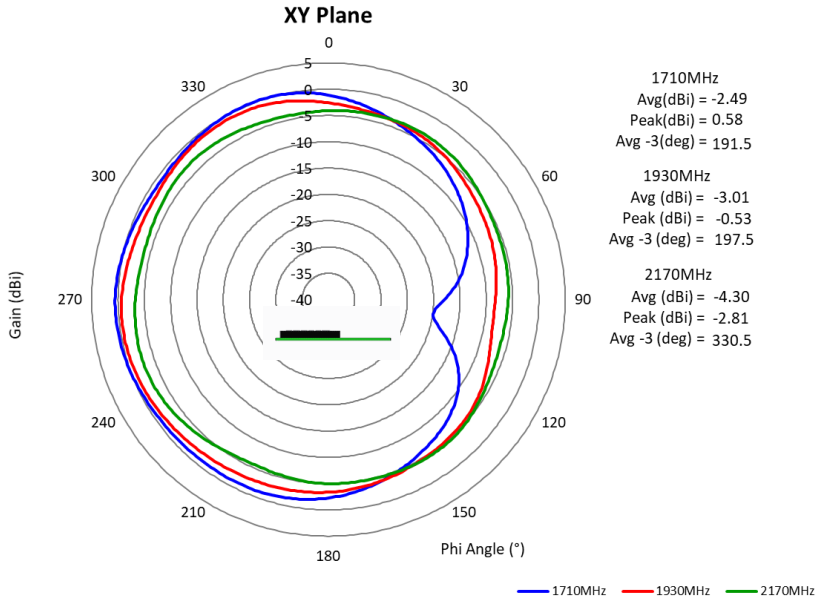
**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

## CHARTS

High band Radiation pattern at Horizontal plane of W3544B



**Description**: 824-2170MHz SMD Antenna

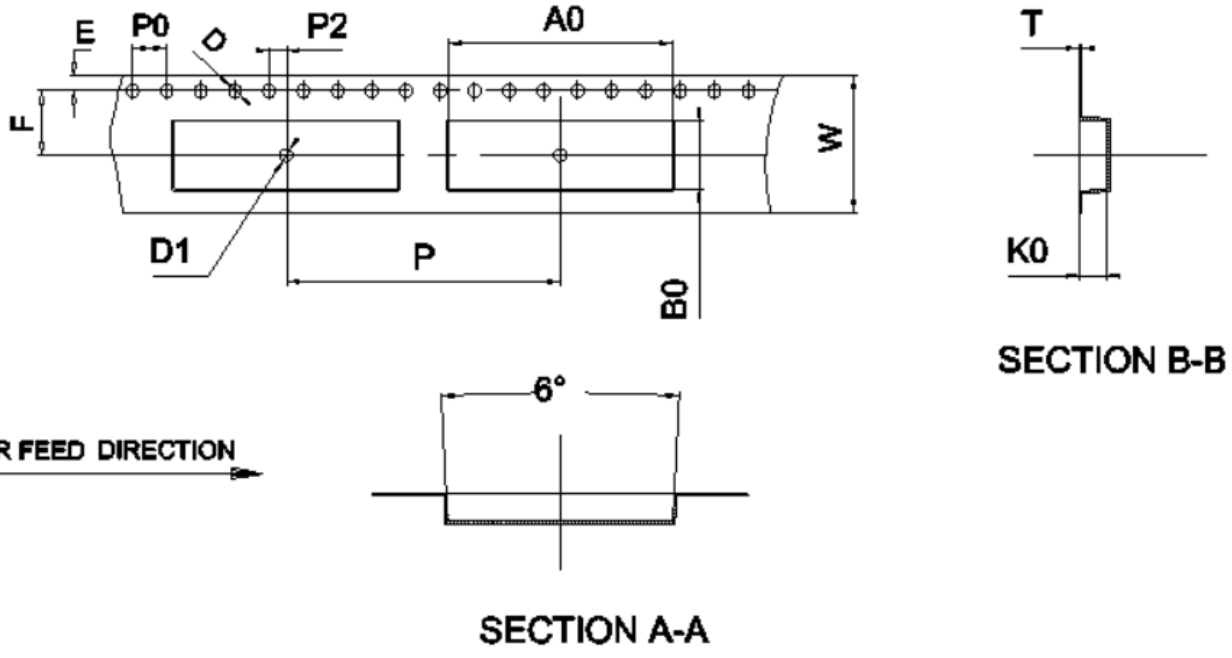
**Series: Domino**

**PART NUMBER: W3544X**

## PACKAGING

140pcs Antennas Per 1pcs 7” Tape & Reel
10 pcs 7” Tape & Reel (total 1,400 pcs Antennas) per 1 box

| ITEM | W | A0 | B0 | K0 | P | F | E | D | D1 | P0 | P2 | t | 7″ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIM | 16.0 | 26.7 | 8.35 | 3.3 | 32.0 | 7.5 | 1.75 | 1.50 | 1.50 | 4.00 | 2.00 | 0.3 | LENGTH / REEL | UNITS / REEL |
| TOLE | +0.30 -0.30 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.10 | +0.10 -0.00 | +0.10 -0.00 | +0.10 -0.10 | +0.10 -0.10 | +0.05 -0.05 | 4.7M/R | 130PCS |




According to MSL3 packing requirement, MBB-Moisture Barrel Bag, Desiccant, HIC-Humidity Indicator Card, MSID Label, Caution Label are required.




RoHS COMPLIANT

**Description**: 824-2170MHz SMD Antenna

**Series: Domino**

**PART NUMBER: W3544X**

## ASSEMBLY

| Part Number | Positioning |
|---|---|
| W3544A | Vertically mounted at board edge |
| W3544B | Horizontally mounted at board edge |





RoHS COMPLIANT

# OCEAN CHIPS
## Океан Электроники
## Поставка электронных компонентов

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

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.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».

AVIC JONHON

**«JONHON»** (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

**«FORSTAR»** (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

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

FORSTAR®

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