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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: 2045

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Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.
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Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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PART NUMBER: W3544X

ELECTRICAL SPECIFICATIONS*

Frequency	824-960/1710-2170MHz
Nominal Impedance	50Ω
Return Loss	<-3dB/-4dB for W3544A <-4dB/-4dB for W3544B
Average Radiation Efficiency	40%/55% for W3544A 55%/57% for W3544B
Average Peak Gain	-0.9dBi/1.5dBi for W3544A 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

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Description: 824-2170MHz SMD Antenna

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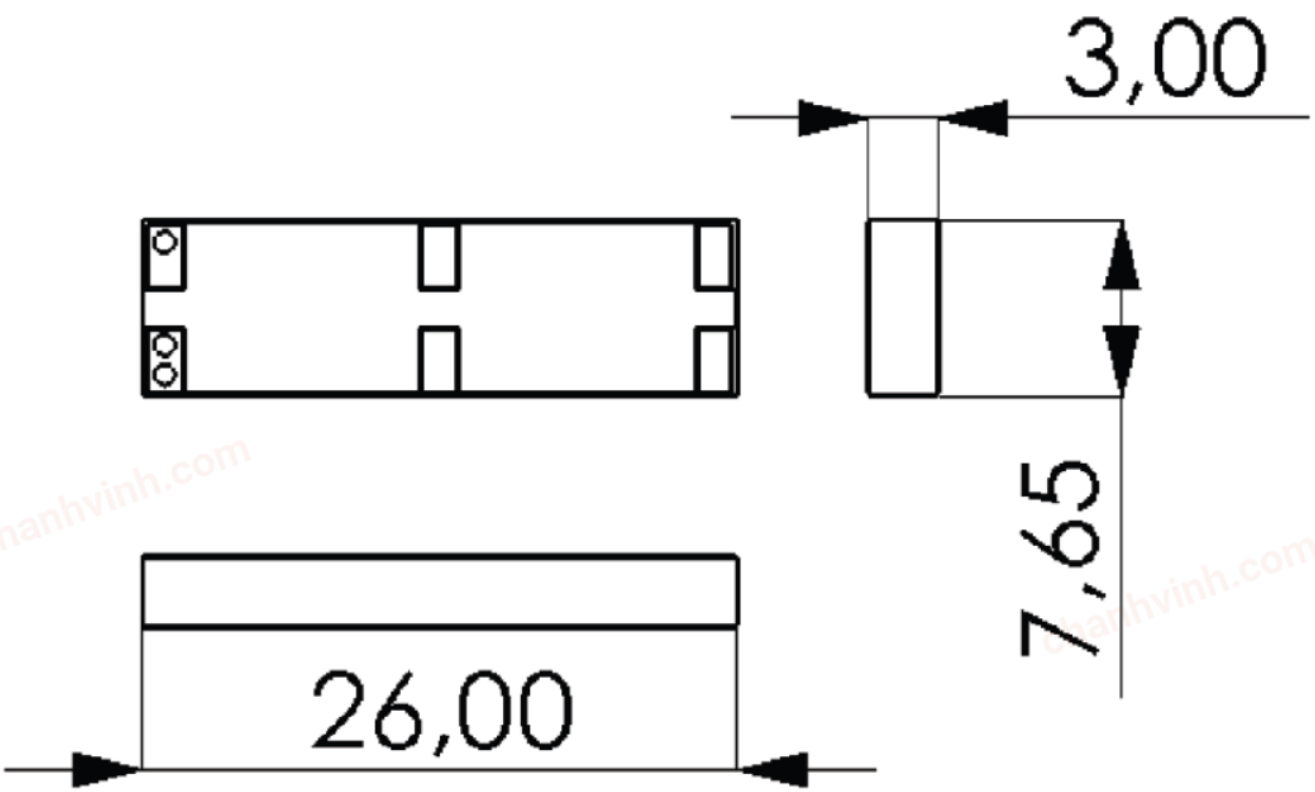
PART NUMBER: W3544X

MECHANICAL DRAWING



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Description: 824-2170MHz SMD Antenna

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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

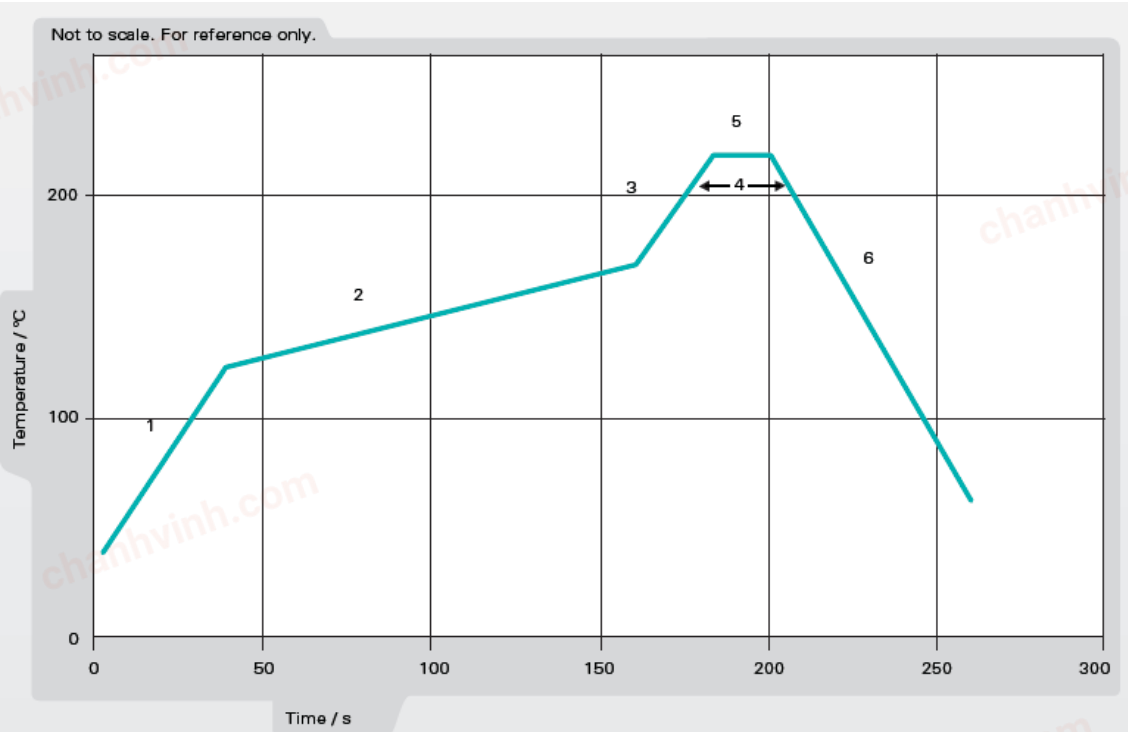

Figure 1. Minimum temperature profile recommendation for reflow soldering process

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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

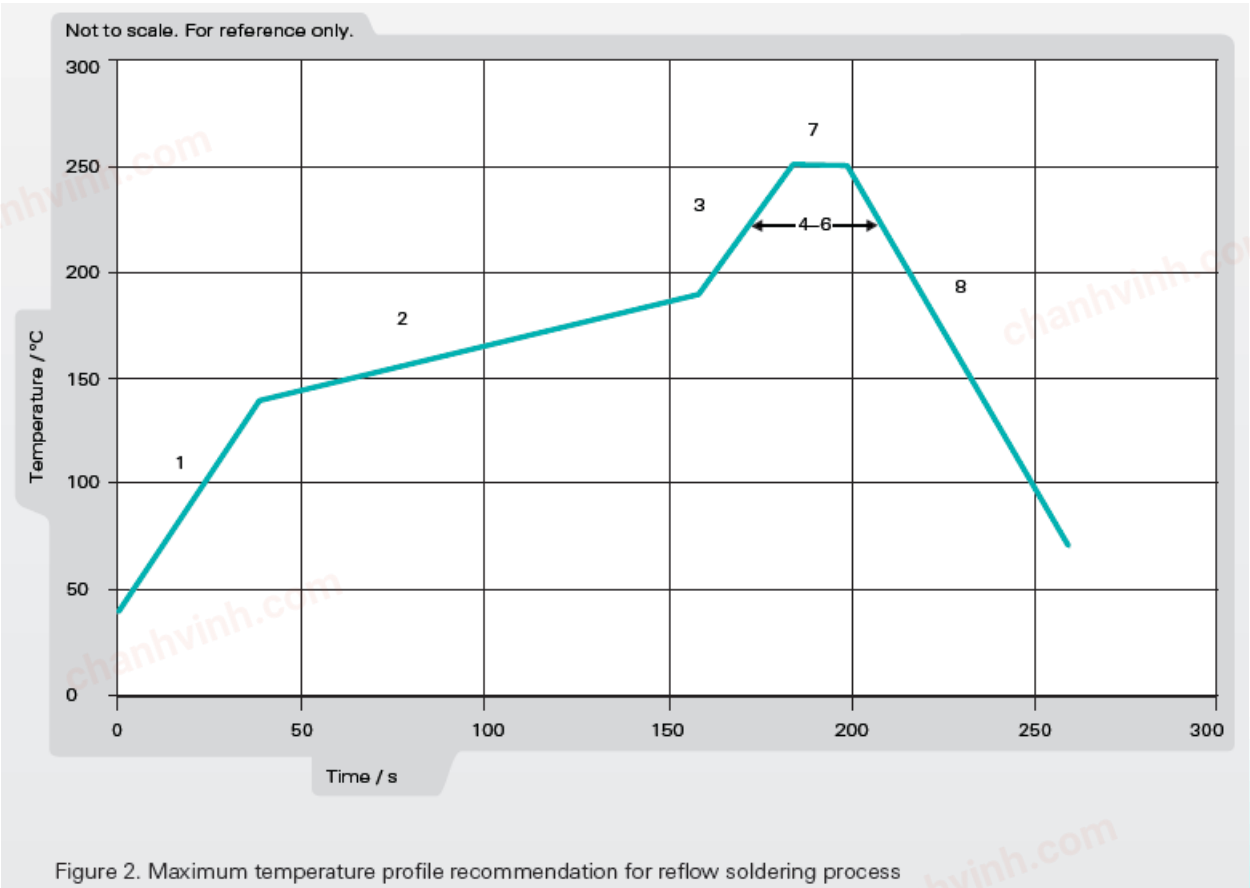

Figure 2. Maximum temperature profile recommendation for reflow soldering process

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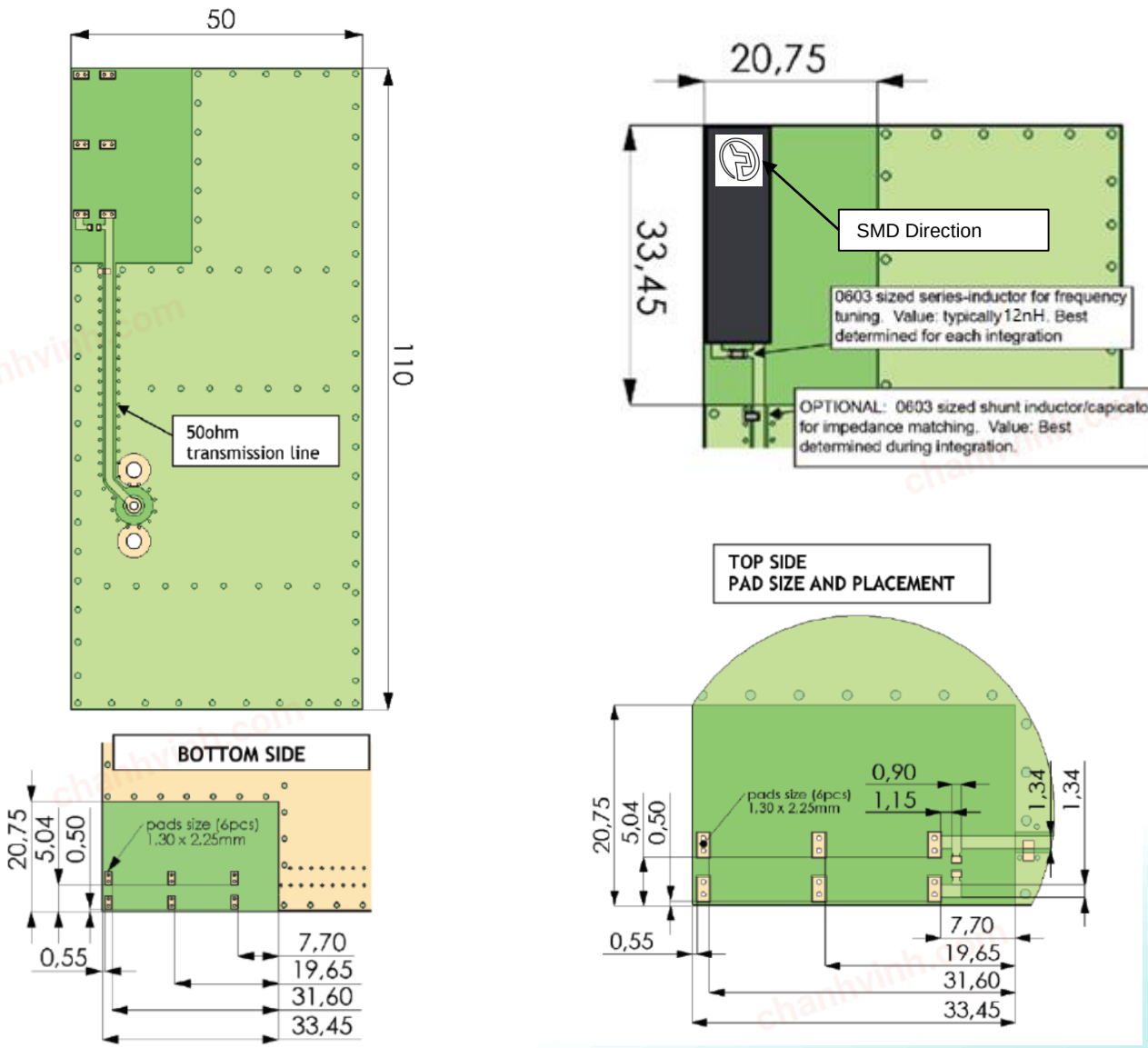
TEST SETUP

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



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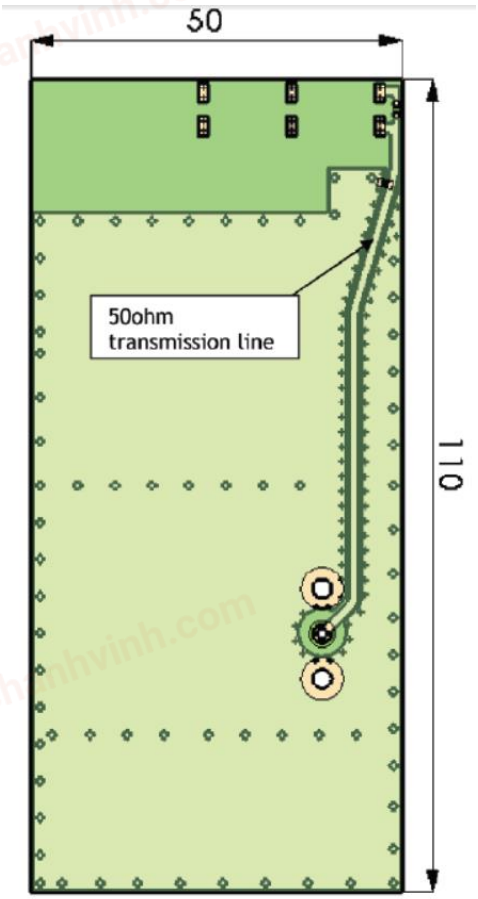
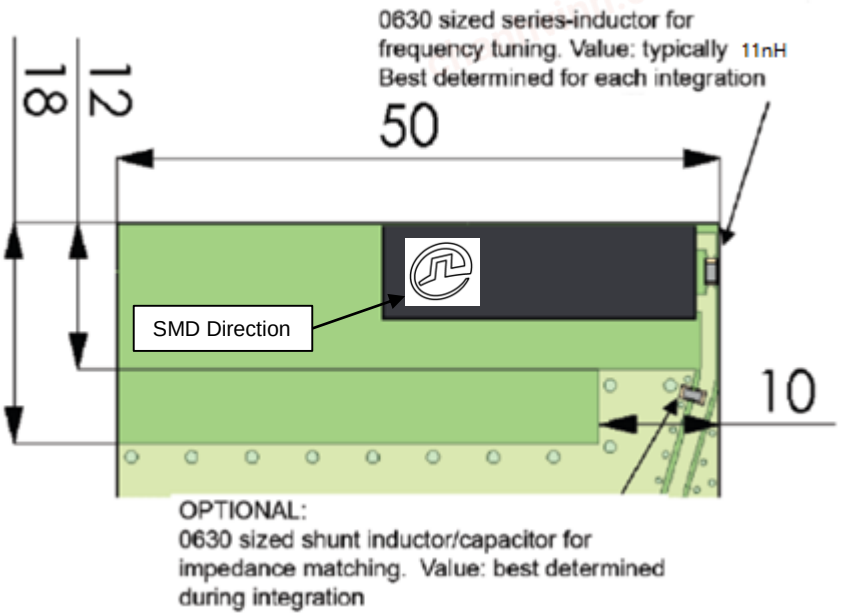
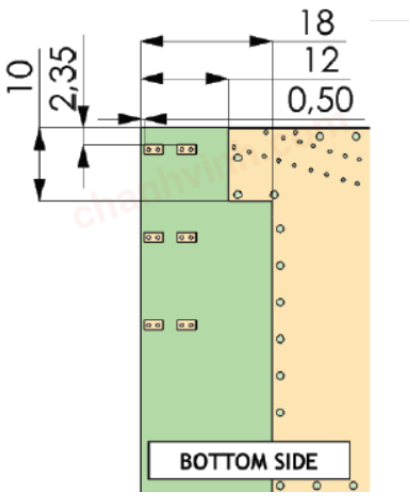
Series: Domino

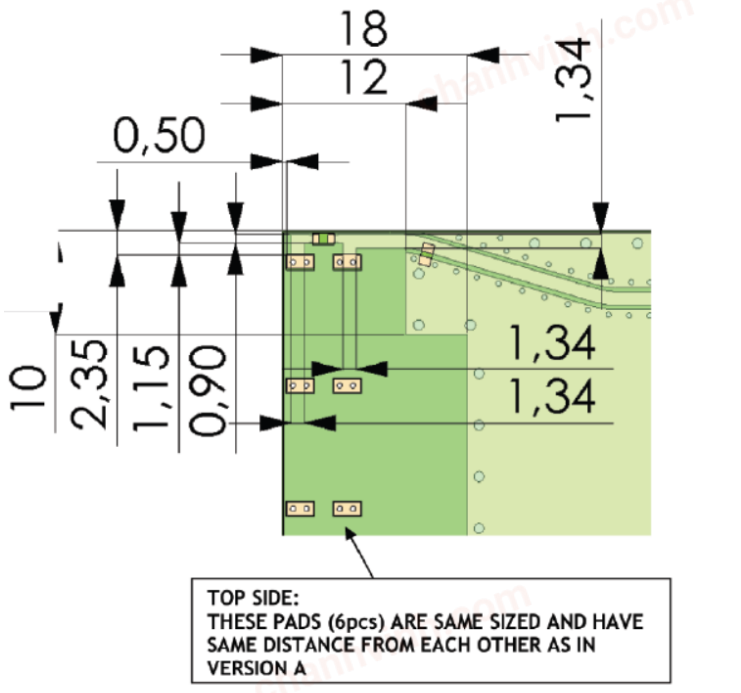
PART NUMBER: W3544X

W3544B - Antenna positioned horizontally on PWB corner









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TECHNICAL DATA SHEET

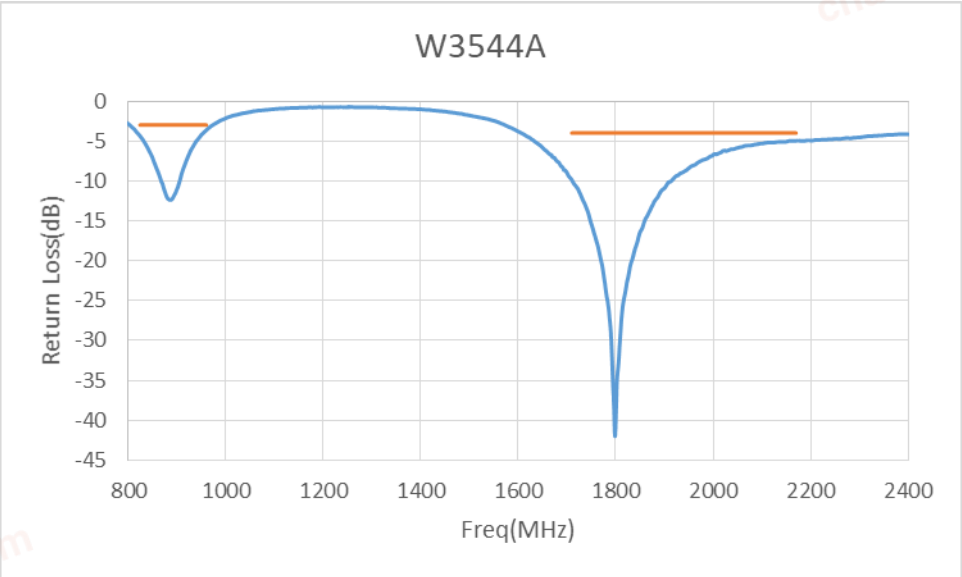
Description: 824-2170MHz SMD Antenna

Series: Domino

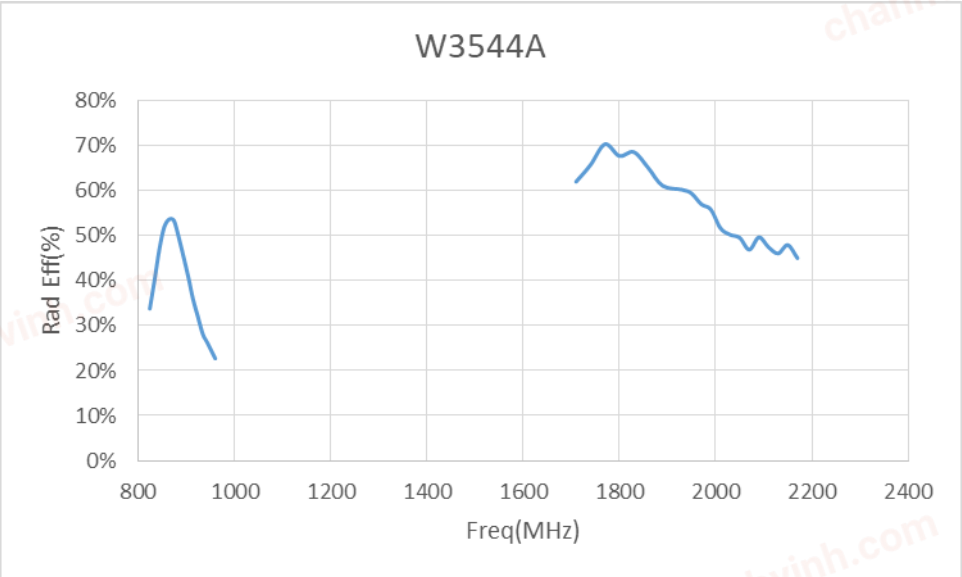
PART NUMBER: W3544X

CHARTS

Return loss of W3544A



Radiation Efficiency of W3544A



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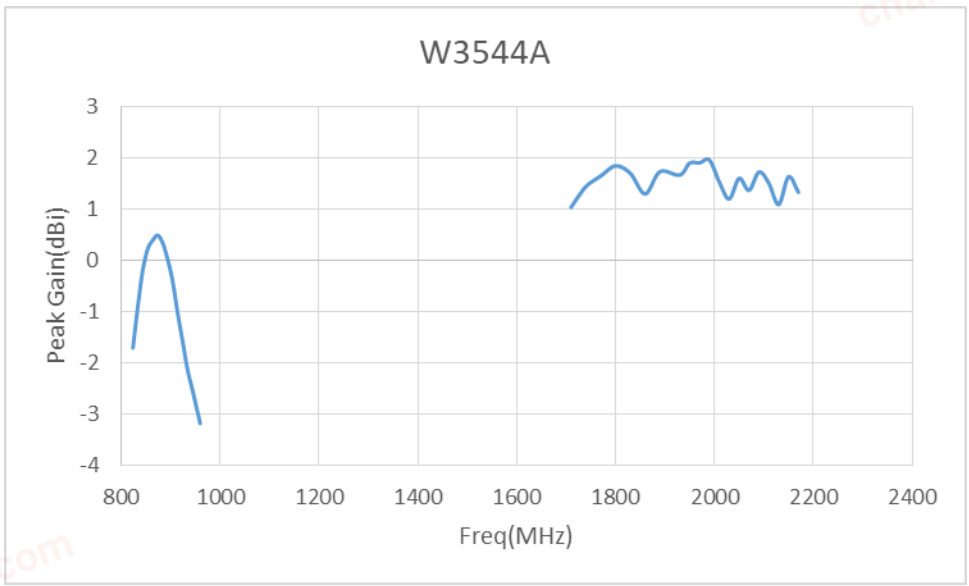
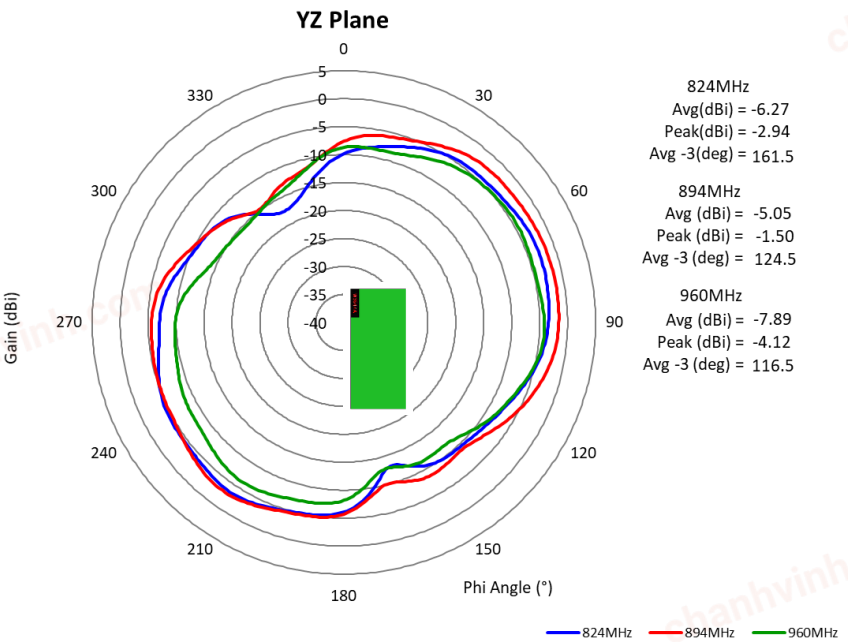
CHARTS

Peak Gain of W3544A



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



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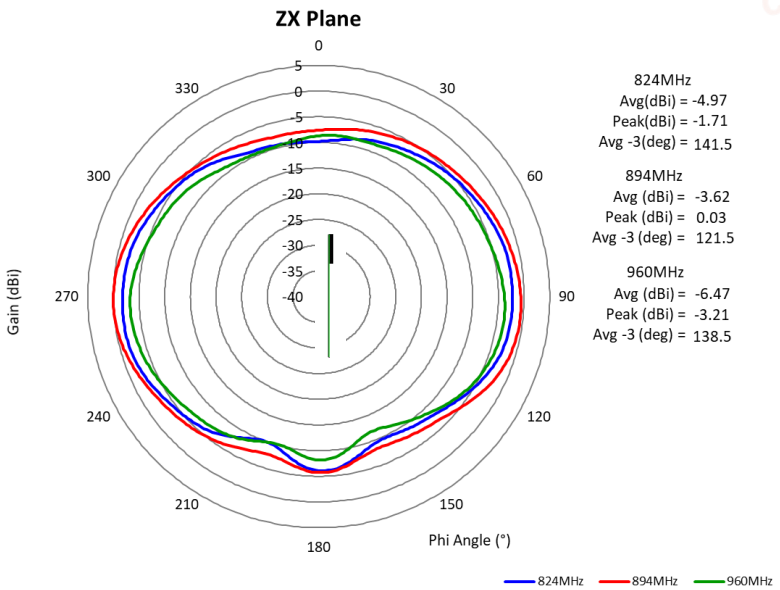
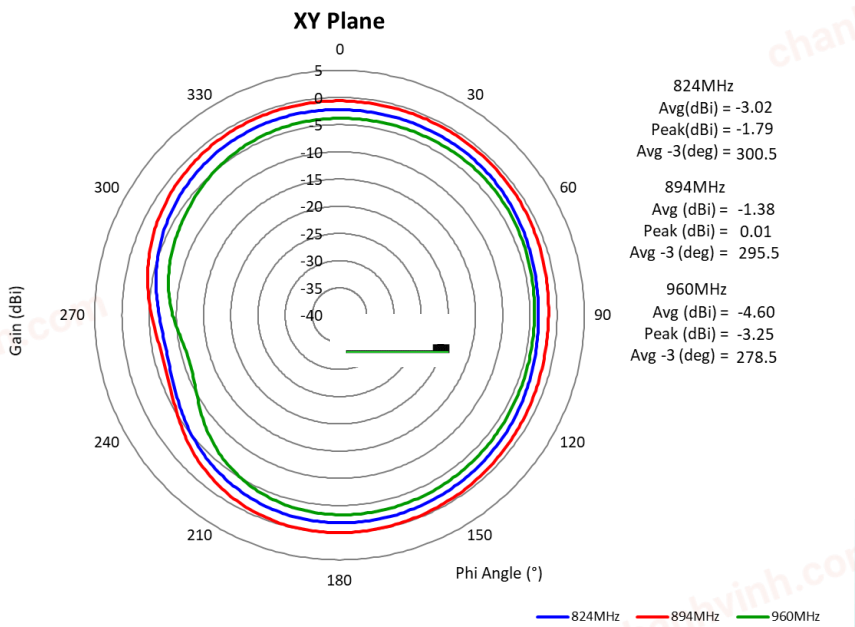
CHARTS

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



Low band Radiation pattern at horizontal plane of W3544A



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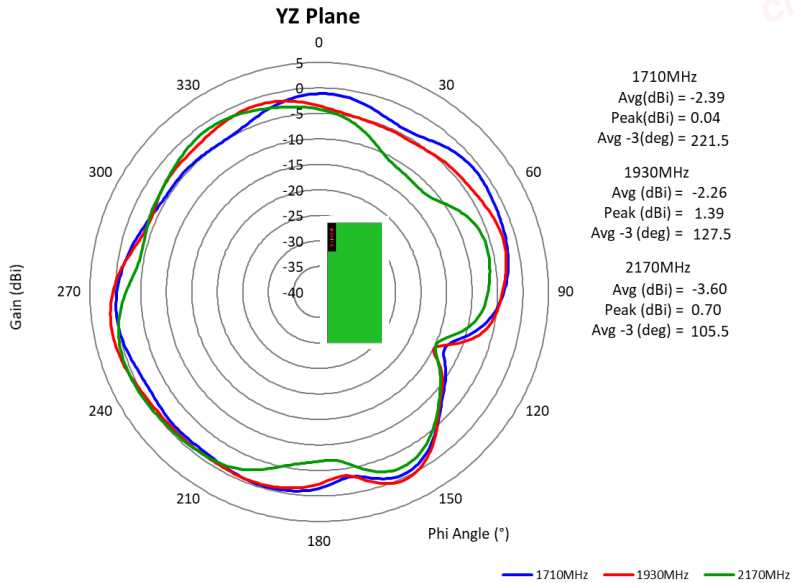
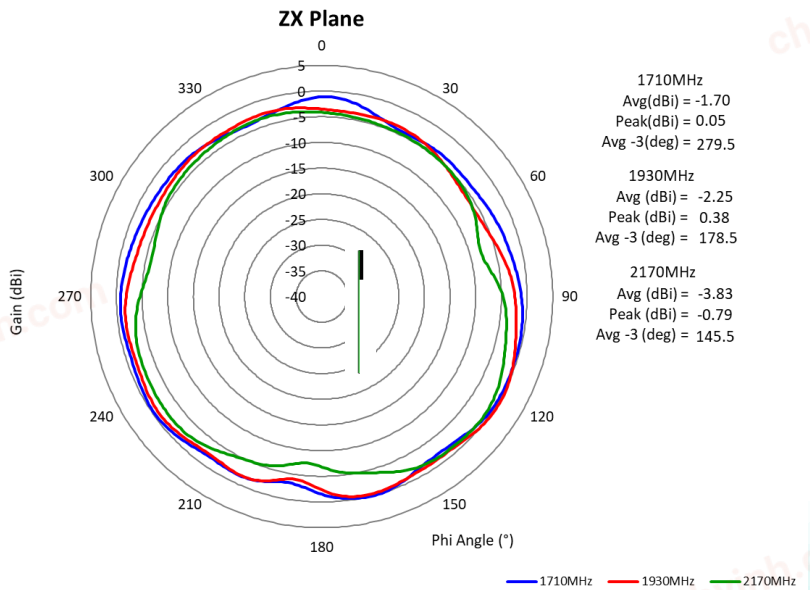
High band Radiation pattern at Vertical plane, front view of W3544A



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



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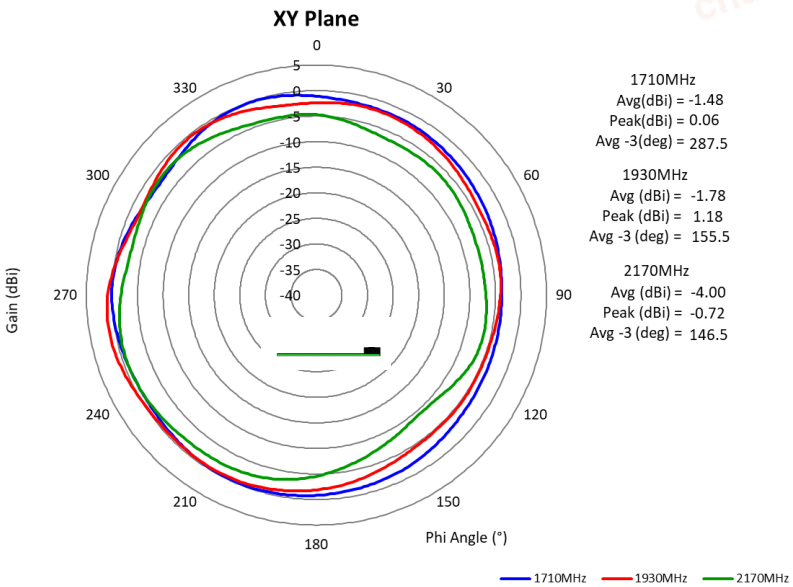
CHARTS

High band Radiation pattern at Horizontal plane of W3544A



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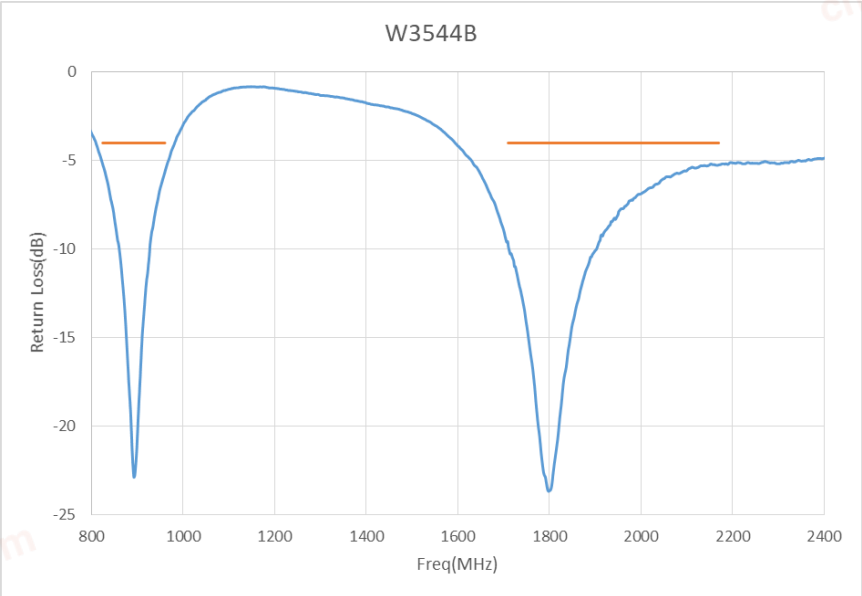
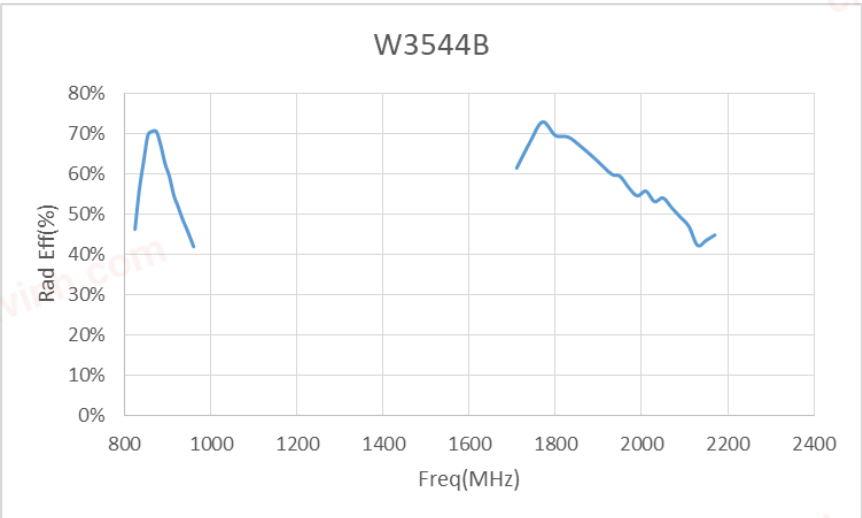
PART NUMBER: W3544X

CHARTS

Return loss of W3544B



Radiation Efficiency of W3544B



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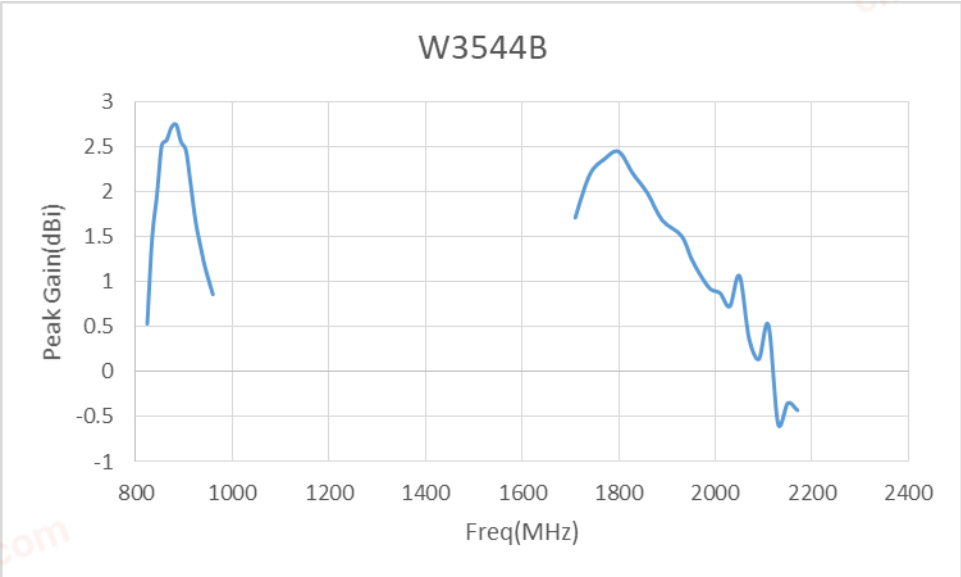
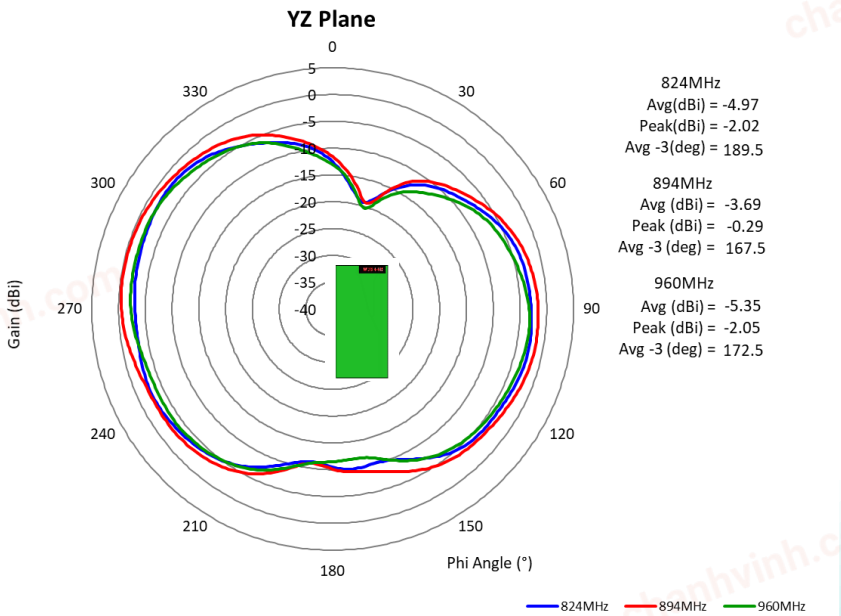
CHARTS

Peak Gain of W3544B



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



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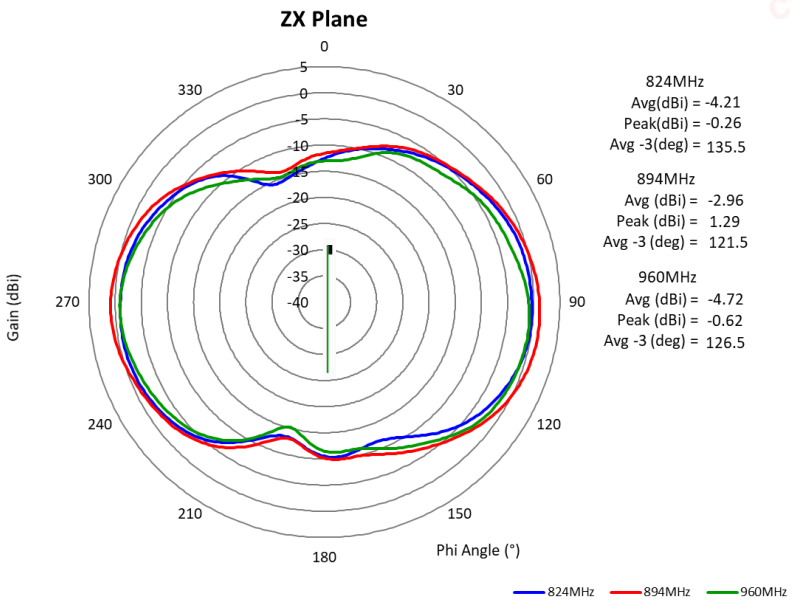
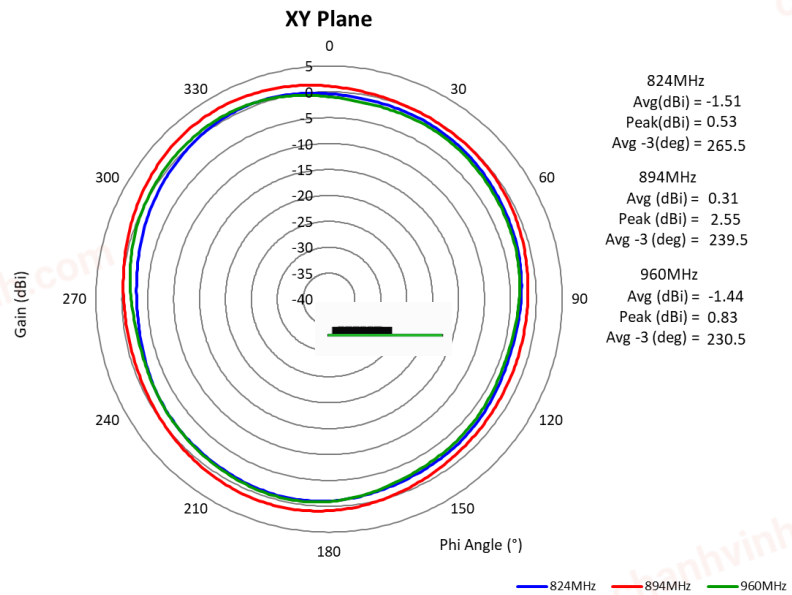
CHARTS

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



Low band Radiation pattern at horizontal plane of W3544B



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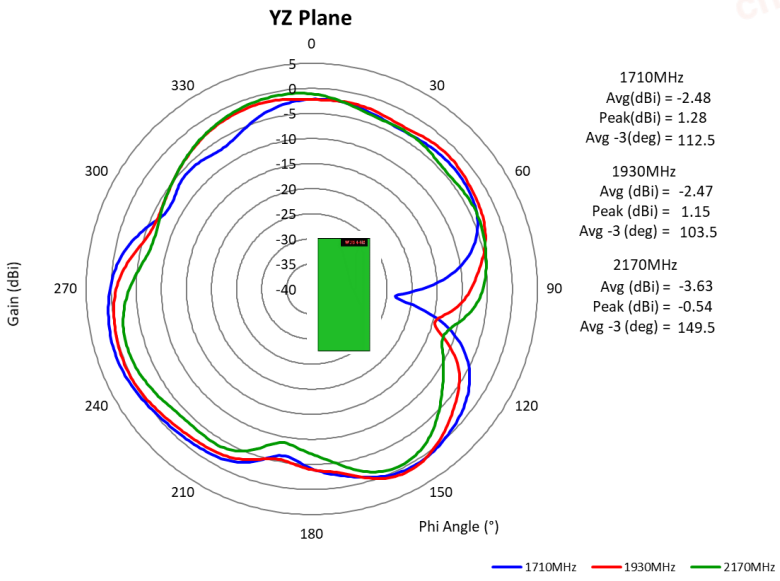
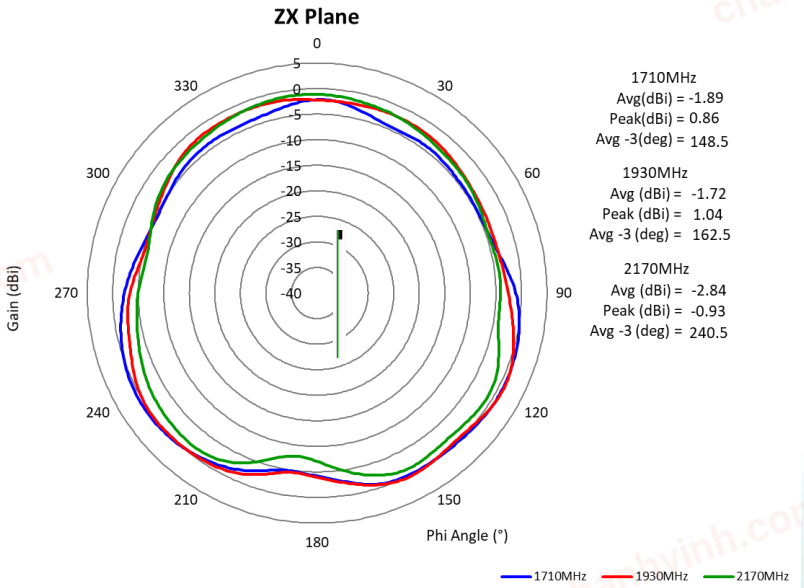
High band Radiation pattern at Vertical plane, front view of W3544B



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



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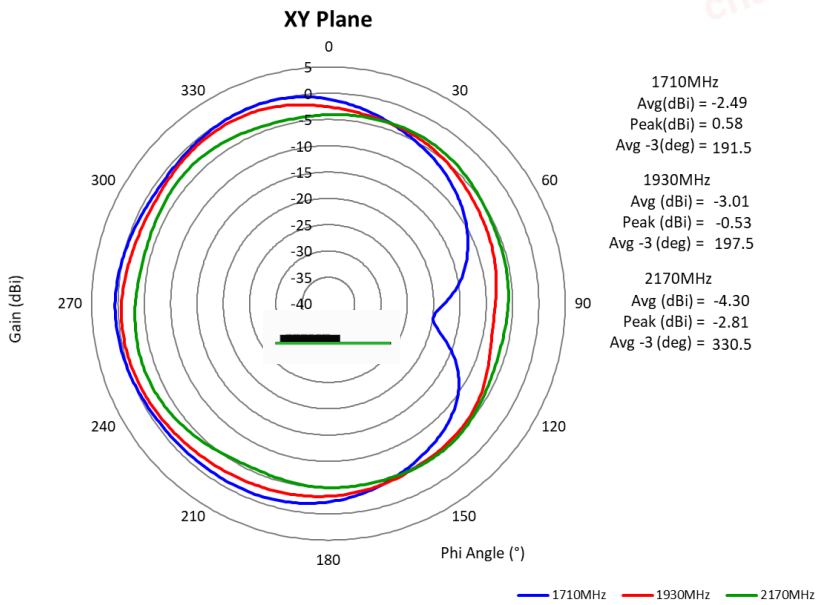
Series: Domino

PART NUMBER: W3544X

CHARTS

High band Radiation pattern at Horizontal plane of W3544B



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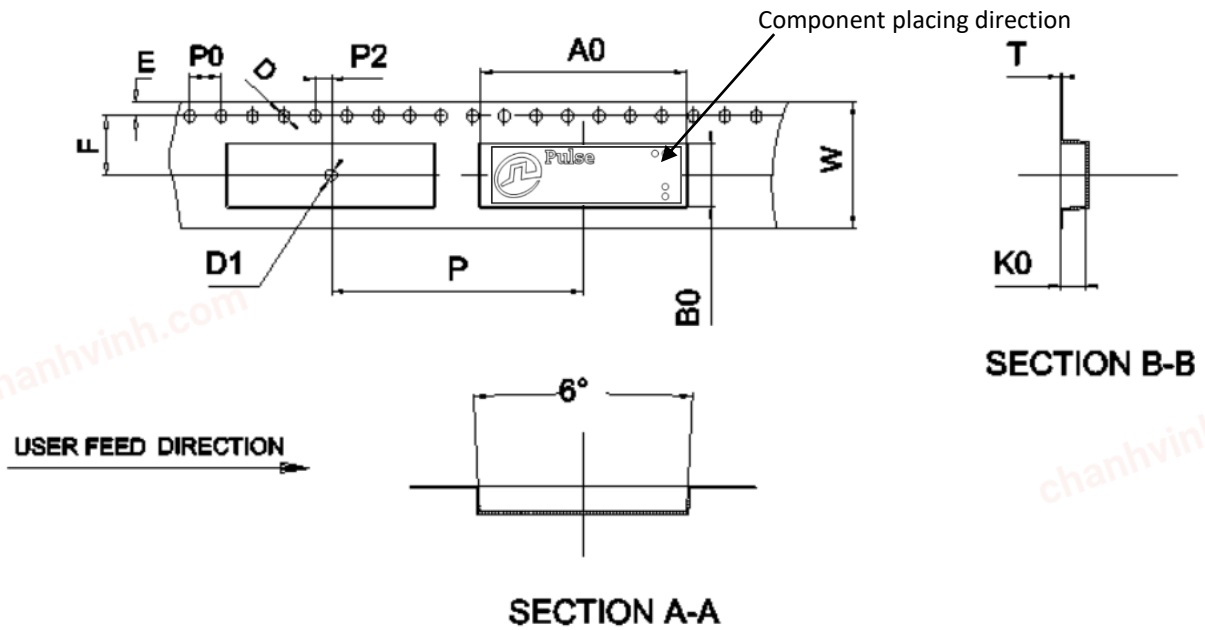
PART NUMBER: W3544X

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	140PCS



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



Issue: 2045

In the effort to improve our products, we reserve the right to make changes judged to be necessary.
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TECHNICAL DATA SHEET

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

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