

# Fusca 2.4GHz SMD Antenna

Part No. A10192-L

Product Specification

## 1 Features

- Designed for 2.4GHz applications [Bluetooth<sup>®</sup>, WiFi<sup>®</sup> (802.11b/g), ZigBee<sup>®</sup>, etc.]
- Intended for SMD mounting
- Supplied in tape on reel

## 2 Description

The Fusca antenna is intended for use with all 2.4GHz applications. The antenna requires a groundplane, i.e. your device acts as an active part of the antenna and thus demands careful consideration concerning its placement.

## 3 Applications

- Mobile phones
- PDAs
- Headsets
- PC-Cards
- CF-Cards



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## 4 Model Name

A10192



## 5 General Data

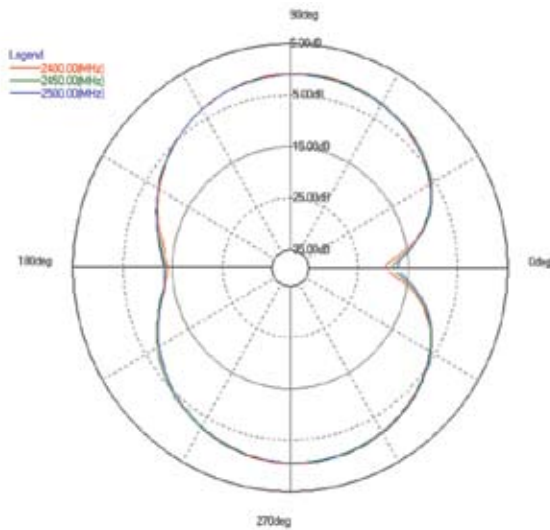
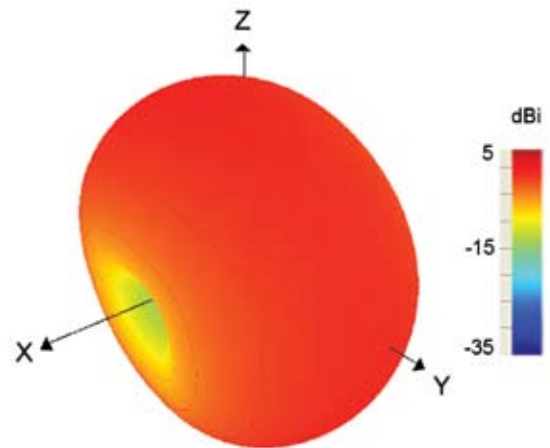
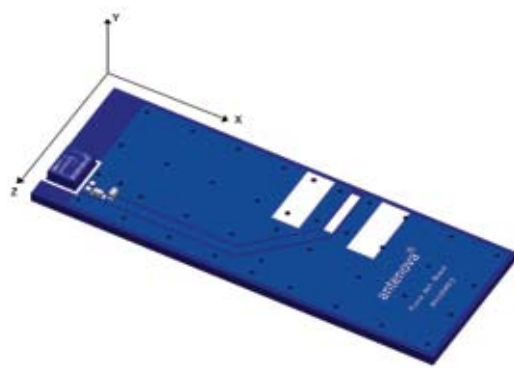
Product Name	Fusca 2.4GHz
Part No.	A10192-L
Frequency	2.4 – 2.5GHz
Polarization	Linear
Operating Temperature	-40 to +85 °C

## 6 Electrical Characteristics

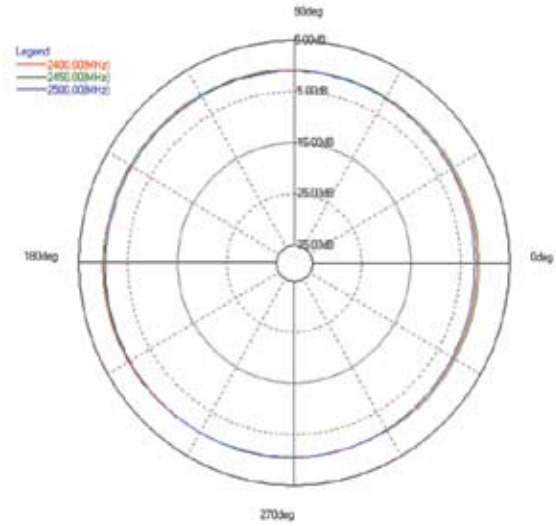
	Characteristics			*Conditions
	Min	Typ	Max	
Peak Gain	TBD	0.4dBi	TBD	Frequency 2.4-2.5GHz, Measured in 3D chamber (near field)
Efficiency	TBD	50%	TBD	
VSWR	TBD	2:1	TBD	Frequency 2.4-2.5GHz, Measured with Network Analyser

\* Note all data provided in this table are based on the Antenna reference board.

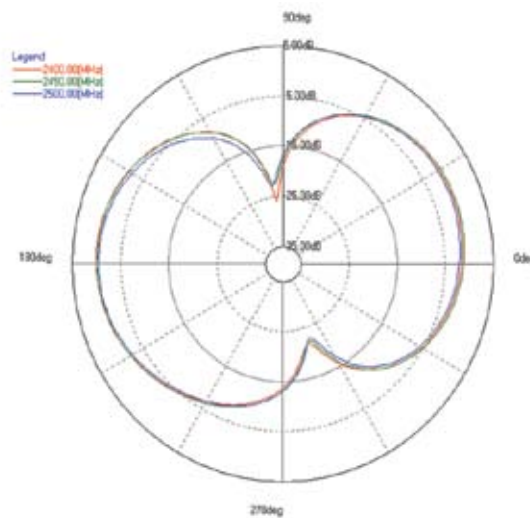
## 7 Electrical Performance



xy plane

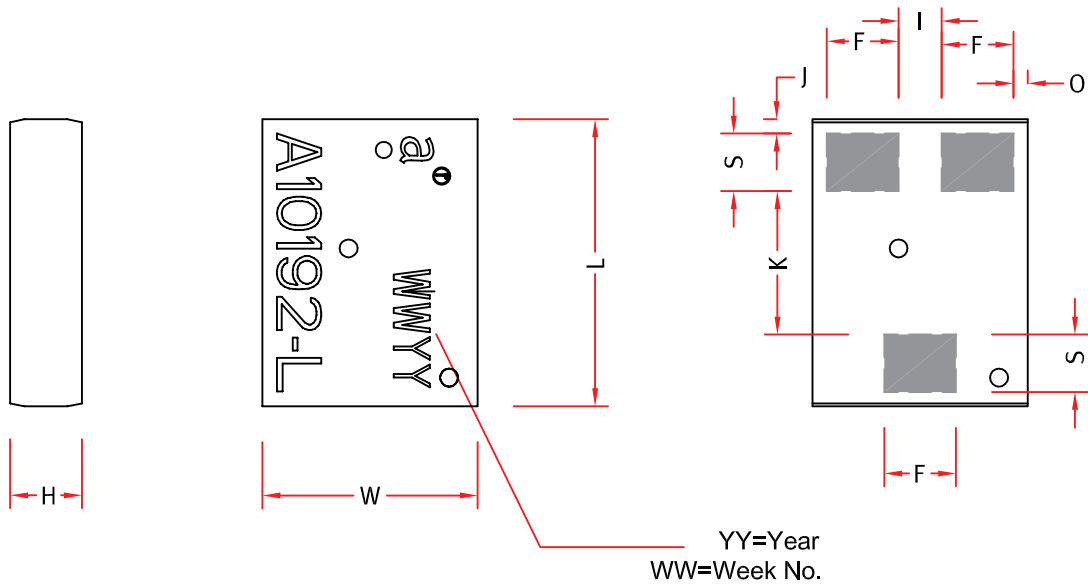


yz plane



xz plane

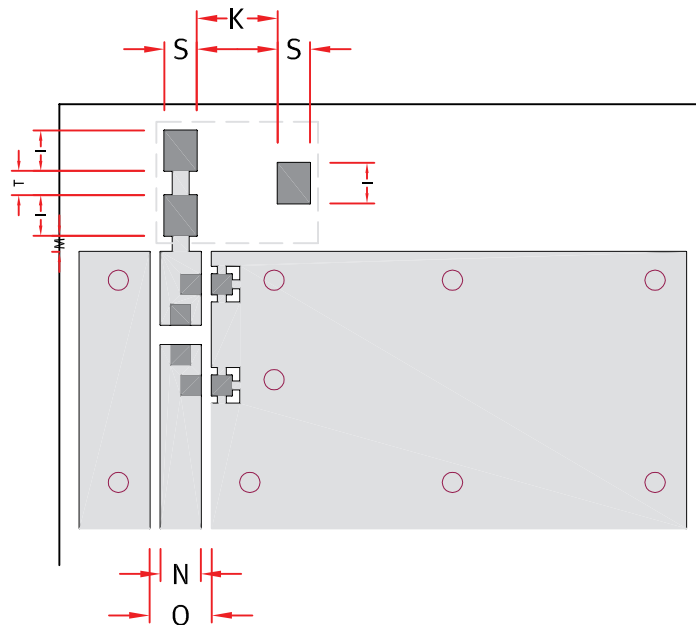
## 8 Antenna Dimensions



L	W	H	F	S	K	J	I	O
Length	Width	Height						
4.0 ±0.2	3.0 ±0.2	1.1 ±0.2	1.0 ±0.15	0.8 ±0.15	0.2 ±0.15	0.2 ±0.15	0.6 ±0.15	0.2 ±0.15

All dimensions in mm

## 9 Antenna Footprint

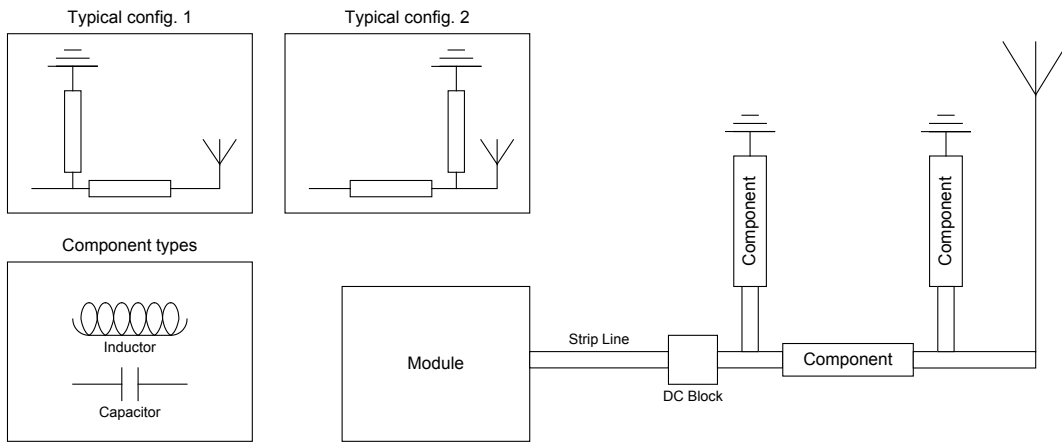


S	I	K	T	M	N	O
Pad					50Ω transmission line. Dependent on substrate	
0.8 ±0.1	1 ±0.1	2 ±0.1	0.6 ±0.1	0.4 ±0.2		

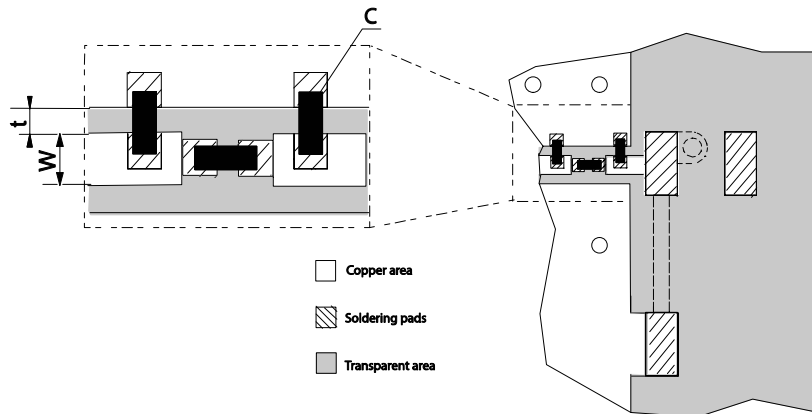
All dimensions in mm

## 10 Electrical Interface

### 10-1 Transmission Line and Matching



The matching network has to be individually designed using one, two or three components.

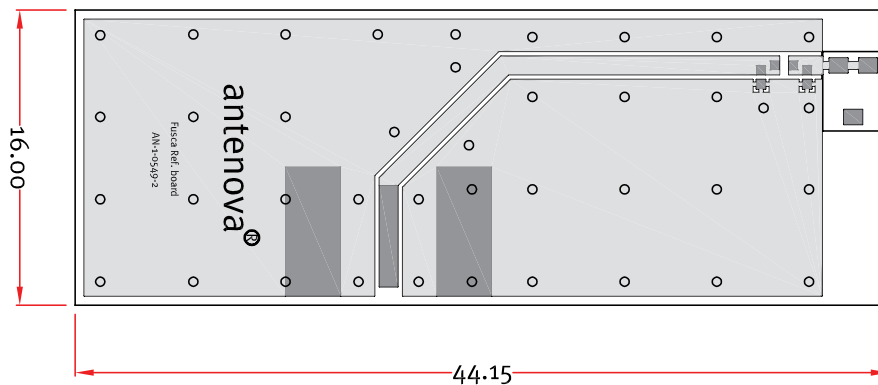


$t, W$  Unique dimensioning according to your PCB\*

$C$  Inductor and capacitor values according to your device\*

\*Antenna provides a design service to determine these parameters on request.

## 11 Test Board Dimensions



The test board is designed for evaluation purposes for Fusca 2.4GHz SMD antenna. The card is a similar size to a typical Bluetooth headset.

## 12 Soldering

The antenna has been designed for lead free soldering. A recommended solder paste and reflow profile will be provided.

## 13 Reliability

### 13-1 Temperature and Humidity

The antenna will be tested for conformance to the following standards:

Item	Standard	Low	High	Duration
Operating Temperature	EN/IEC 60068-2-2, Test Bd: Dry heat	-30 °C	+90 °C	-
Temperature Cycling	EN/IEC 60068-2-14, Test Na: Change of temperature	-40 °C	+90 °C	500 cycles / 10 min
Storage Life Humidity	EN/IEC 60068-2-1, Test Ca: Damp heat	+60 °C / 90% RH		-
Storage Life Low Temperature	EN/IEC 60068-2-1, Test Ad: Cold	-55 °C	-	-
Storage Life High Temperature	EN/IEC 60068-2-2, Test Bb: Dry heat	-	+125 °C	-

### 13-2 Mechanical

The antenna will be tested for conformance to the following standards:

Item	Standard	Low	High	Duration
Bending	IEC 60068-2-21, Test Ue1: Bending	Bending 1mm at a rate of 1mm/s with support at end of PCB 1mm depth on reference board		
Shear	IEC 60068-2-21, Test Ue3: Shear	Force of 5N applied to the side of the antenna		
Drop Test		Dummy weight: 150g Height: 170cm		One drop at each side, total drops: 6
Vibration	EN/IEC 60068-2-6, Test Fc (sinusoidal)	Acceleration spectral density: 10-1000Hz Acceleration: 20m/s <sup>2</sup> Number of axes: 3 mutually perpendicular		5 cycles per axis

## 14 Hazardous Material Regulation Conformance

Restriction of Hazardous Substances (RoHS)

The Fusca SMD Antenna A10192-L will be certified to be in full compliance with the relevant EU directives with respect to the content of:

<b>Cadmium and cadmium compounds</b>	<b>Chlorinated paraffin (CP)</b>
<b>Lead and lead compounds</b>	<b>Organic tin compounds</b>
<b>Organic brominated compound (PBB, PBDE)</b>	<b>Mirex</b>
<b>Mercury and mercury compounds</b>	<b>Asbestos</b>
<b>Polychlorinated biphenyl (PCB)</b>	<b>Formaldehyde</b>
<b>Hexavalent chromium compounds</b>	<b>Azo compounds</b>
<b>Polychlorinated naphthalene (PCN)</b>	<b>Tetra-bromo-bisphenol-A-bis (TBBP-A-bis)</b>

Antenova's Declaration of Compliance for the Fusca SMD Antenna A10192-L will be available upon request from Antenova Technical Support.

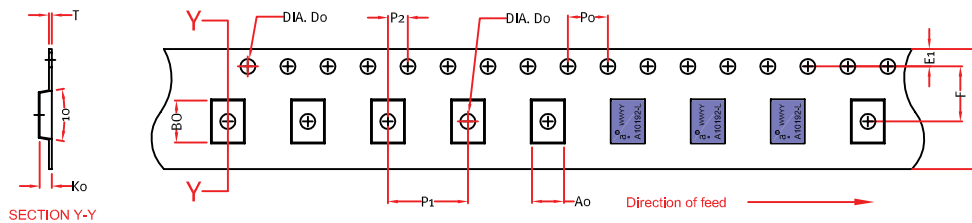


## 15 Packaging

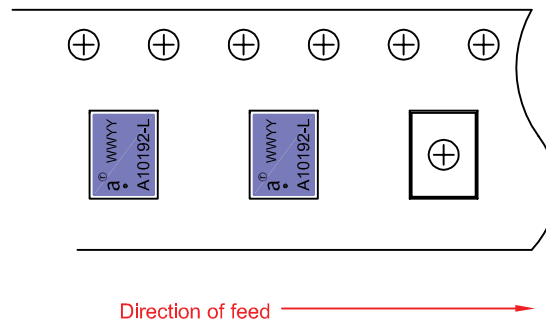
### 15-1 Shelf Storage Recommendations

Temperature	-10 to +40 °C
Humidity	Less than 75% RH
Shelf Life	18 Months
Storage Place	Away from corrosive gas and direct sunlight

### 15-2 Tape Characteristics



Detail of Antenna in reel (Scale 2:1)

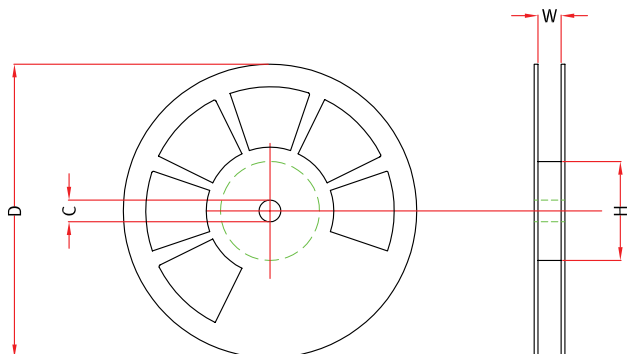


W	F	E1	P0	P1	P2	A0	B0	K0	T	D0	D1
12.00 ±0.2	5.50 ±0.1	1.75 ±0.1	4.00 ±0.1	8.00 ±0.1	2.00 ±0.1	3.20 ±0.1	4.20 ±0.1	1.30 ±0.1	0.30 ±0.1	1.50 ±0.1	1.50 ±0.1

Quantity	Leading Space	Trailing Space
TBC	60 blank antenna holders	37 blank antenna holders

### 15-3 Reel Dimensions

Material	Conductive Polystyrene
Width (W)	14mm
Reel Dia (D)	178mm ±2.0mm
Hub Dia (H)	60mm
Shaft Dia (C)	13.2mm ±0.5mm





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Certificate No: 4598/04

Integrated Antenna Solutions



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