Fusca 2.4GHz SMD Antenna

Part No. A10192-L

Product Specification

1 Features

- **Designed for 2.4GHz applications [Bluetooth®, WiFi® (802.11b/g), ZigBee®, 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**

Integrated Antenna Solutions

Contents

1 Features 1
2 Description 1
3 Applications 1
4 Model Name 3
5 General Data 3
6 Electrical Characteristics 3
7 Electrical Performance 4
8 Antenna Dimensions 5
9 Antenna Footprint 5
10 Electrical Interface 6
    10-1 Transmission Line and Matching 6
11 Test Board Dimensions 6
12 Soldering 7
13 Reliability 7
    13-1 Temperature and Humidity 7
    13-2 Mechanical 7
14 Hazardous Material Regulation Conformance 8
15 Packaging 9
    15-1 Shelf Storage Recommendations 9
    15-2 Tape Characteristics 9
    15-3 Reel Dimensions 9

4 Model Name

A10192

5 General Data

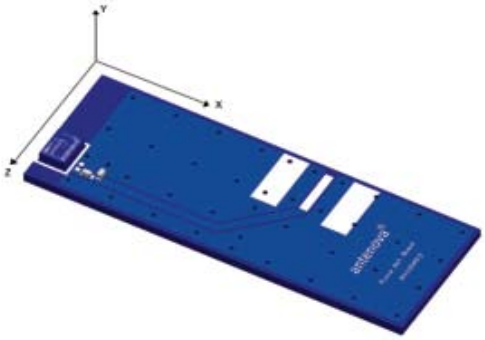
Product Name	Fusca 2.4GHz
Part No.	A10192-L
Frequency	2.4 – 2.5GHz
Polarization	Linear
Operating Temperature	-40 to +85 °C

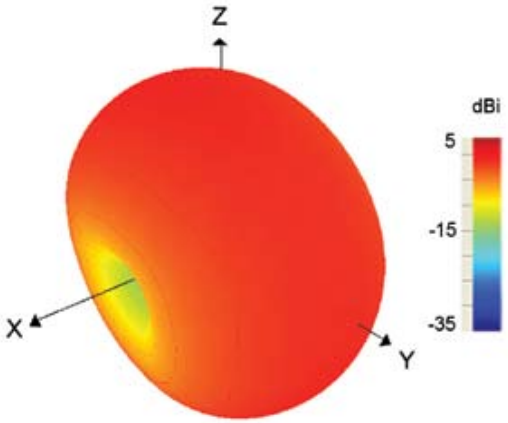
6 Electrical Characteristics

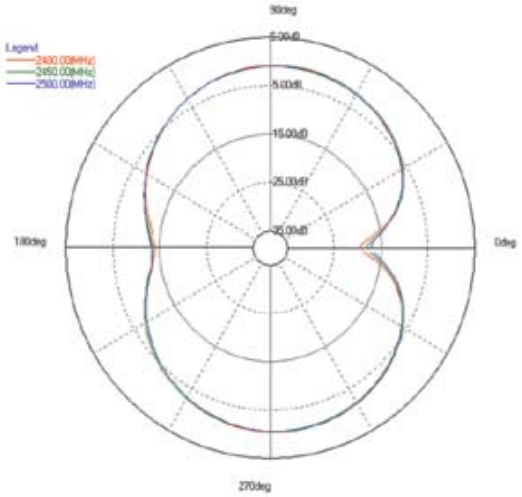
	Characteristics			***Conditions**
	Min	Typ	Max	
Peak Gain	TBD	0.4dBi	TBD	Frequency 2.4-2.5GHz, Measured in 3D chamber (near field)
Efficiency	TBD	50%	TBD	
VSWR	TBD	2:1	TBD	Frequency 2.4-2.5GHz, Measured with Network Analyser

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

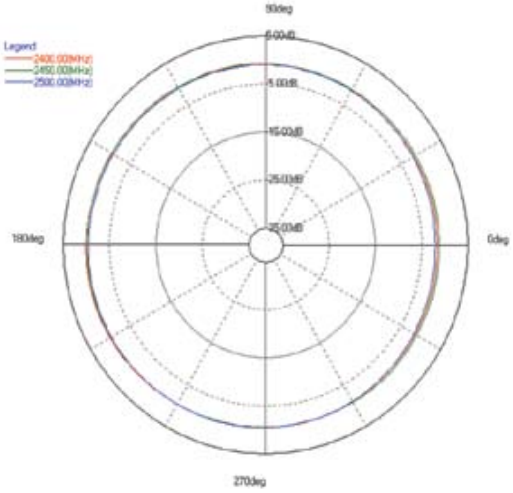
7 Electrical Performance



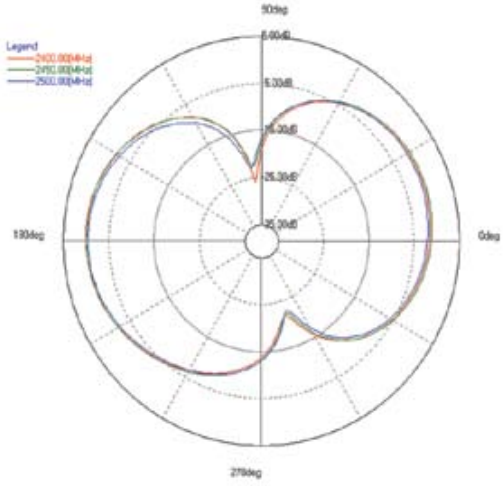




xy plane

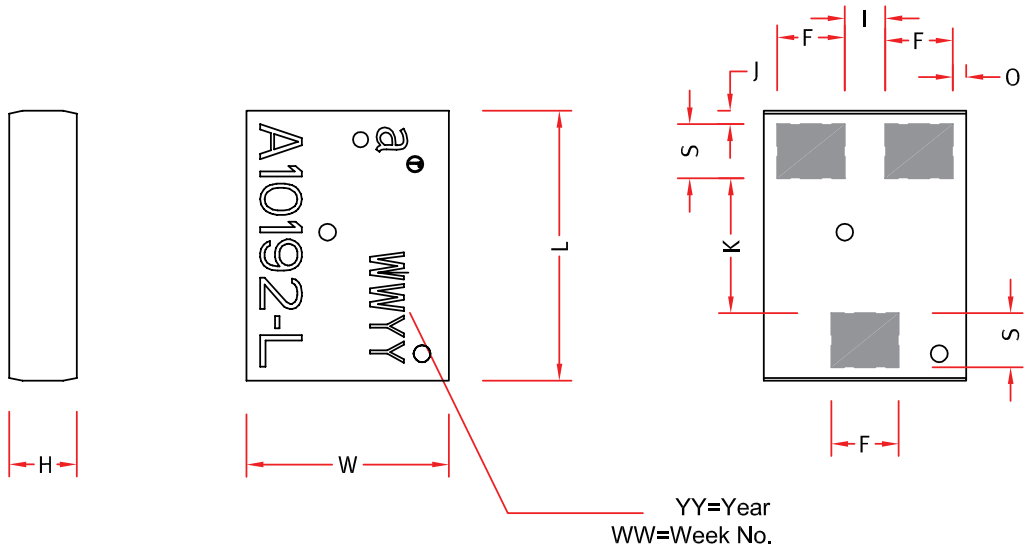


yz plane



xz plane

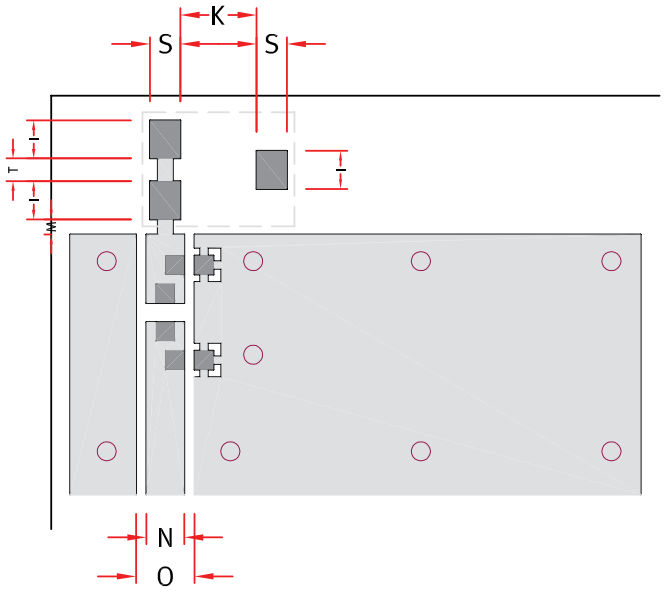
8 Antenna Dimensions



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

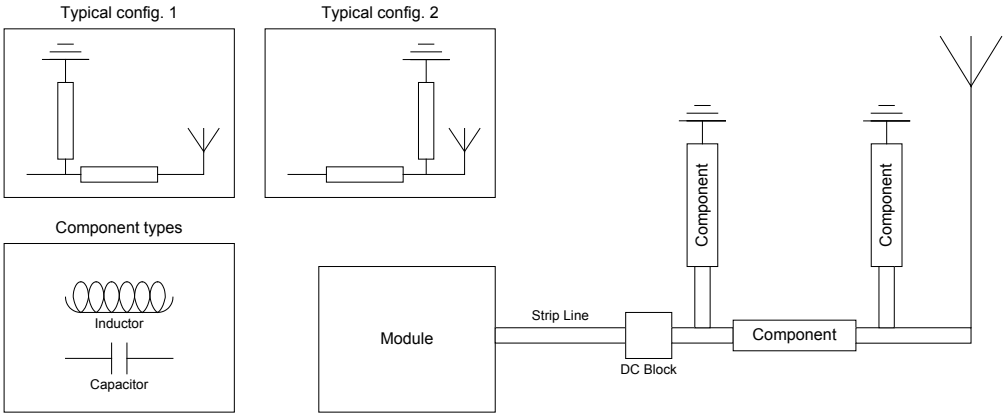


S	I	K	T	M	N	O
Pad					50Ω transmission line. Dependent on substrate	
0.8 ±0.1	1 ±0.1	2 ±0.1	0.6 ±0.1	0.4 ±0.2		

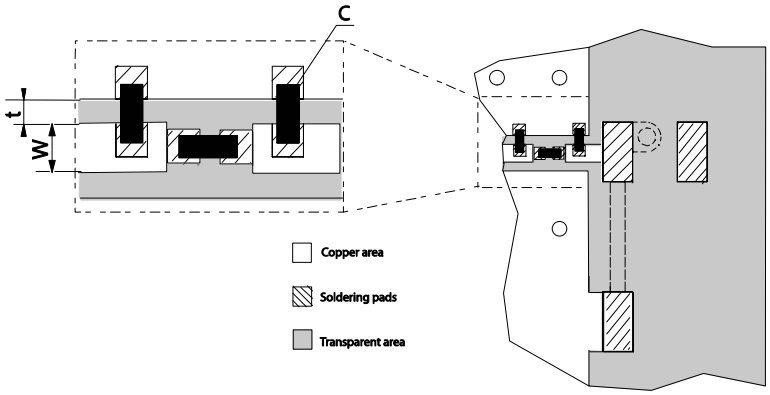
All dimensions in mm

10 Electrical Interface

10-1 Transmission Line and Matching



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

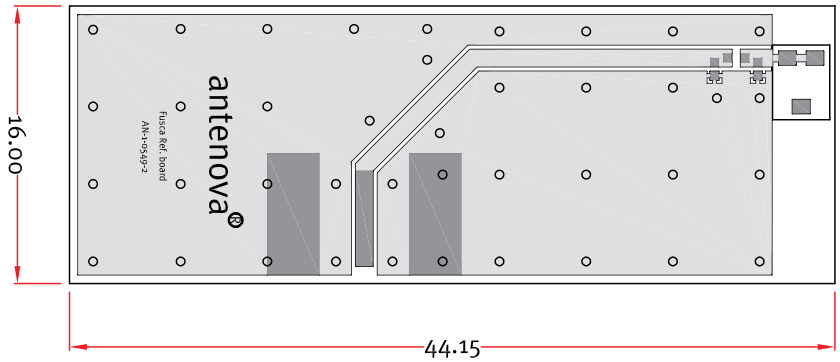


t, W Unique dimensioning according to your PCB*

C Inductor and capacitor values according to your device*

*Antenova 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^2 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:

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

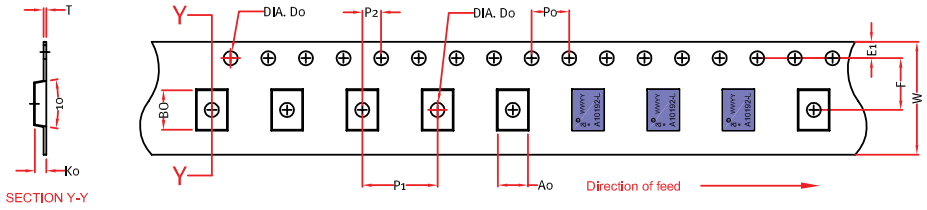
Antenova's Declaration of Compliance for the Fusca SMD Antenna A10192-L will be available upon request from Antenova Technical Support.

15 Packaging

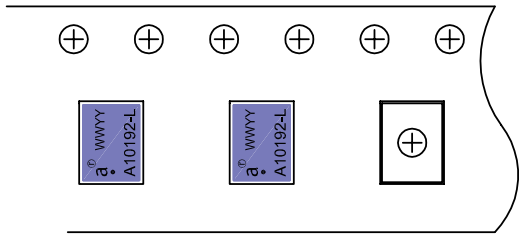
15-1 Shelf Storage Recommendations

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)

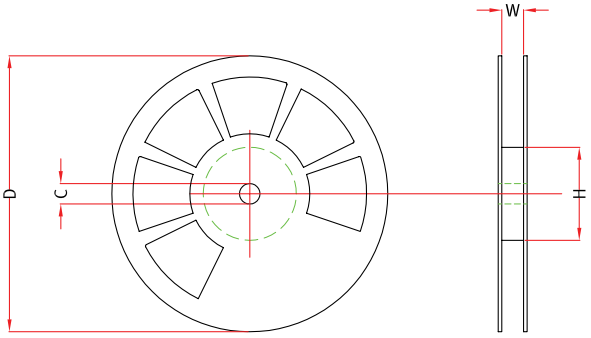


W	F	E1	P0	P1	P2	A0	B0	K0	T	D0	D1
12.00 ±0.2	5.50 ±0.1	1.75 ±0.1	4.00 ±0.1	8.00 ±0.1	2.00 ±0.1	3.20 ±0.1	4.20 ±0.1	1.30 ±0.1	0.30 ±0.1	1.50 ±0.1	1.50 ±0.1

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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