

## FR4 chip antenna- 12.0 mm x 4.0 mm size

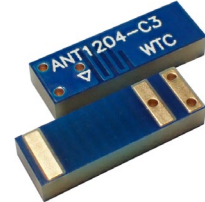
### – RGFRA1204021A1T

#### FEATURES

1. Surface Mounted Devices with a small dimension of 12.0 x 4.0 x 2.0 mm<sup>3</sup>.
2. Embedded technology is able to future integrate with system design as well as beautifying the housing of final product.
3. Reel Packaging

#### APPLICATIONS

1. Bluetooth, ISM 2.4GHz in samrt phone, PDA and other handheld devices.
2. ISM band 2.4GHz applications



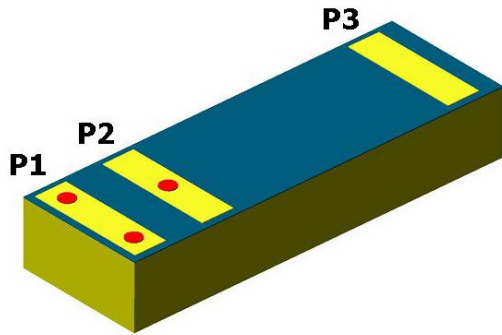
#### DESCRIPTION

Walsin Technology Corporation develops a new antenna specified for 2.4 GHz ISM Band application, as shown in below "CONSTRUCTION". It's application typically located on this unlicensed frequency band which range covers from 2.4GHz to 2.4835GHz.

#### Recommended Link Parts

Product Category	Walsin PN	description	Remark
capacitor	RFxxN	high Q MLCC	matching circuit
chip antenna	AMANT3216120A5T	3.2 X 1.6mm, automotive version	other choice
chip antenna	AMANT5220110A0T	5.2 x 2.0mm, automotive version	other choice
chip antenna	RFANT3216120A5T	2.4GHz, 3.2 X 1.6mm, monopole type	other choice
chip antenna	RFANT5220110A0T	2.4GHz, 5.2 x 2.0mm, monopole type	other choice
chip antenna	RFANT9520120A0T	2.4GHz, 9.5 x 2.1mm, monopole type	other choice
chip antenna	RGFRA1204021A1T	2.4GHz, 12.0 x 4.0mm, FR4 type	other choice
chip antenna	RGFRA1903041A1T	2.4GHz, 19 x 3 mm, FR4 type	other choice
chip antenna	RGFRA1903041A1T	2.4GHz, 19 x 3 mm, FR4 type	other choice
chip antenna	RGFRA8010110A2T	2.4GHz, 8.0 x 1.0mm, FR4 type	other choice

**CONSTRUCTION**



PIN	Definition
P1	GND
P2	Feed
P3	Soldering

Fig 1. Outline of Free Antenna – RGFRA1204021A1T

**DIMENSUIIONS**

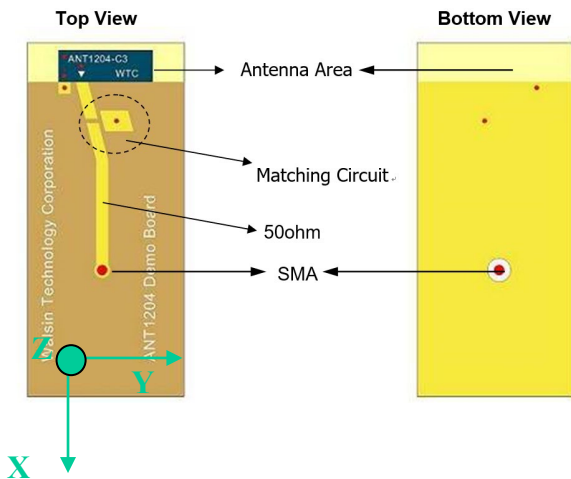
Figure	Dimension	Port definition	
<p>The figure contains three diagrams: 1) A top view of the antenna with length L and width W. The text 'ANT1204-C3' and 'WTC' is visible. 2) A side view showing the thickness T and width W. 3) A detailed view of the pads showing their widths P1, P2, and P3, and the pad width Pw.</p>	L	12.0 ± 0.15 mm	-
	W	4.0 ± 0.15 mm	-
	T	2.0 ± 0.20 mm	-
	P <sub>w</sub>	3.6 ± 0.10 mm	Pad width
	P <sub>1</sub>	1.0 ± 0.10 mm	GND
	P <sub>2</sub>	1.0 ± 0.10 mm	Feed
	P <sub>3</sub>	1.0 ± 0.10 mm	Soldering terminal

**ELECTRICAL CHARACTERICS**

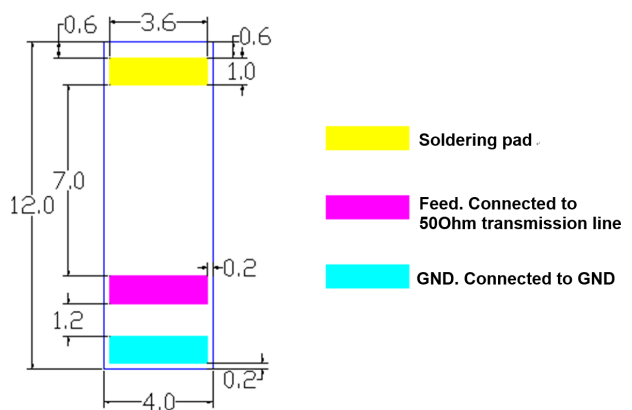
RGFRA1204021A1T	Specification
Working Frequency Range	2.4 GHz ~ 2.5GHz
Gain	2 dBi (Typical)
VSWR	2.0 max.
Polarization	Linear
Azimuth Bandwidth	Omni-directional
Impedance	50Ω
Moisture sensitivity levels	MSL is LEVEL 1 (Refer to : IPC/JEDEC J-STD-020)
HBM ESD	Pass 1KV on all pins (Base on AEC-Q200-002)
MM ESD	Pass 200V (Base on EIA/JESD22-A115)
<b>Operating &amp; Storage Condition (Component)</b> Operation Temperature Range: -40°C ~ +85°C Storage Temperature Range: -40°C ~ +85°C	
<b>Storage Condition before Soldering (Included packaging material)</b> Storage Temperature Range: +5 ~ +40°C Humidity: 30 to 70% relative humidity	

**Remark: The specification is defined based on the test board dimension as in below**

**Antenna on Test Board**

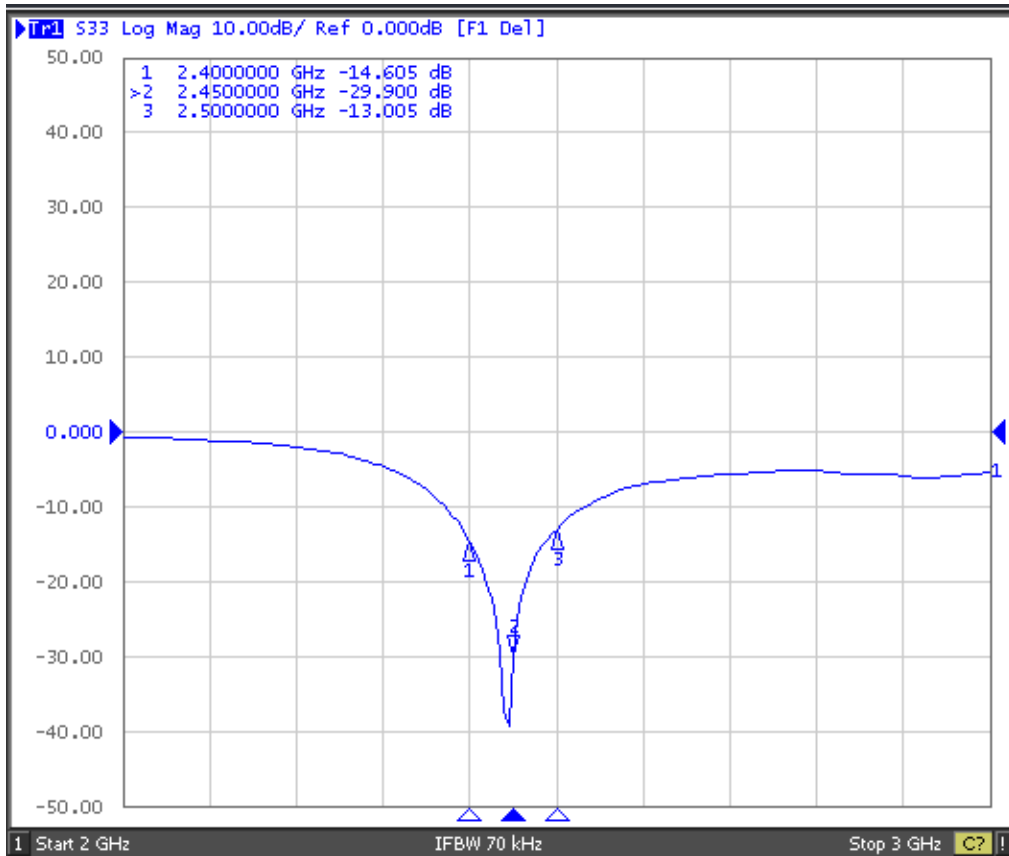


**SOLDER LAND PATTERN DESIGN**

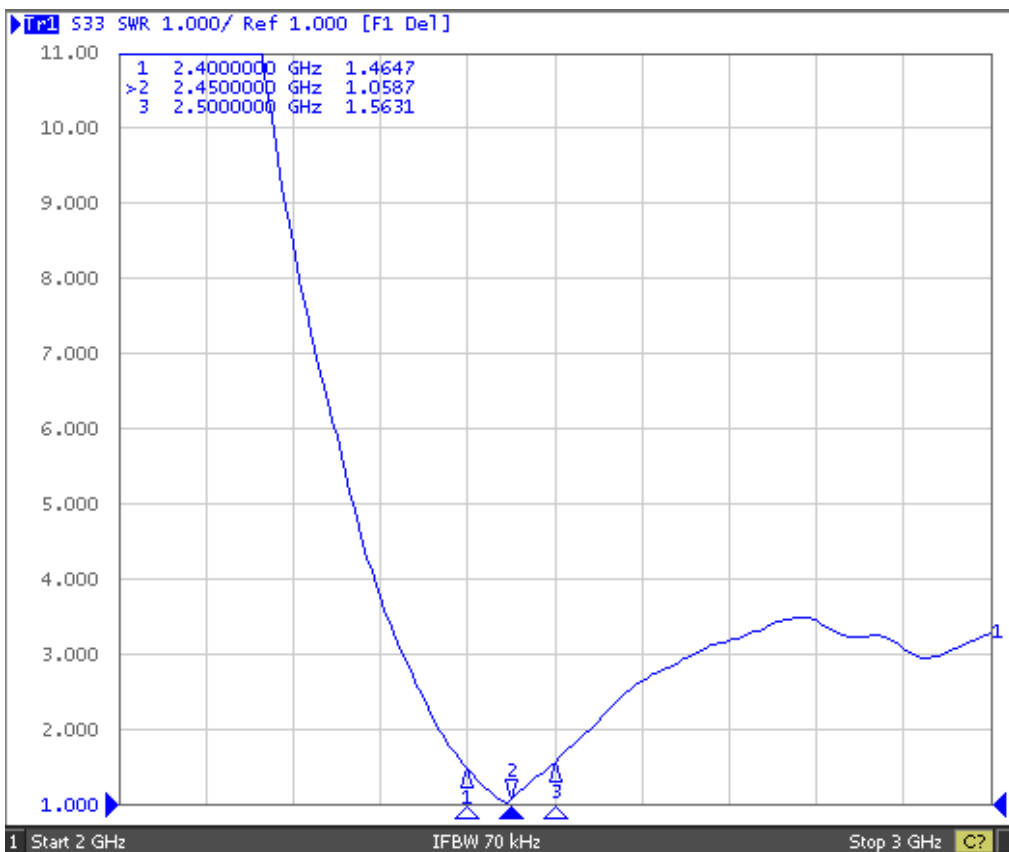


**Unit: mm**

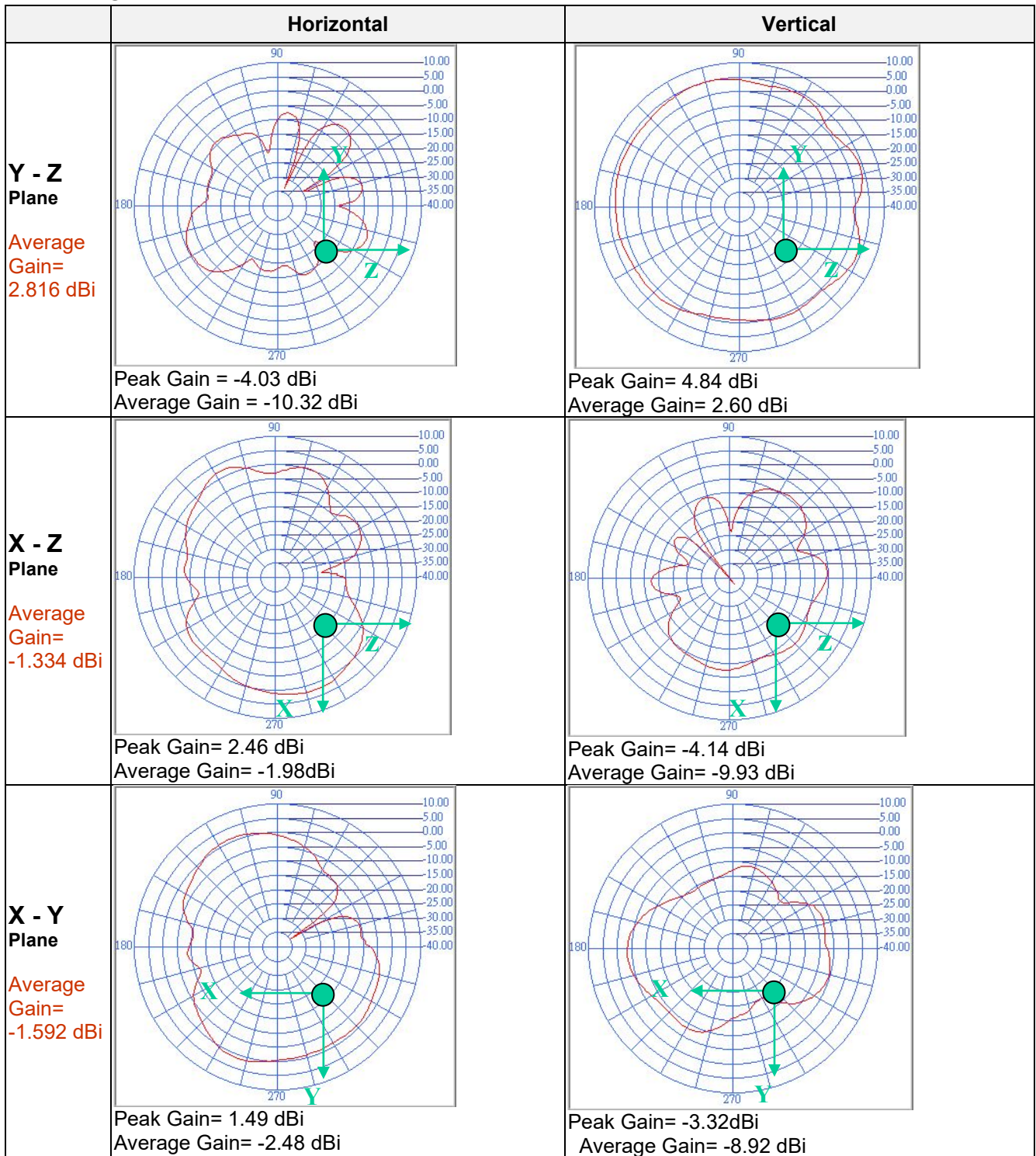
Antenna S11 on Test Board



VSWR



**RADIATION PATTERN**



**CONTACT INFORMATION**

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Specification subject to change without prior notice