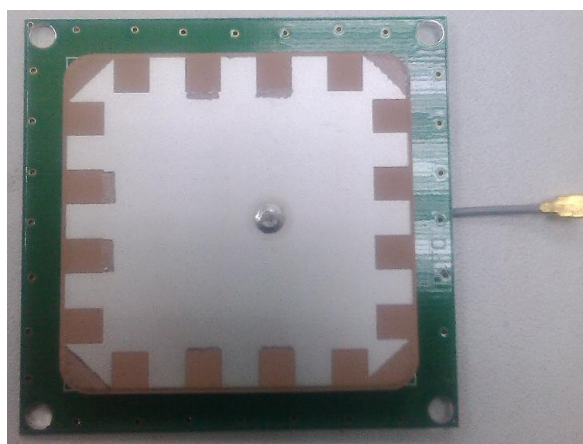


# 902~928MHz RHCP Ceramic Antenna for RFID Reader(RA032)

## 1. Explanation of Product Number

R	A	1	1	R	C	P	J	0	6	R	A	0	3	2
		(1)	(2)	(3)	(4)	(5)	(6)							



### Product Code:

(1) Antenna Dimensions / Cable Diameter / Cable Length / Connector Type:

11: 50x50x5 mm /  $\phi$  1.13mm / 37mm / IPEX I

(2) Polarization:

R: RHCP

(3) Product Categories:

CP: Ceramic Patch

(4) Working Frequency:


J: 902~928MHz

(5) Applications:

06: RFID

(6) Antenna Series:

RA032: serial number

<b>Tolerances (Unless otherwise specified)</b> X : $\pm 1$ X.X : $\pm 0.1$ X.XX : $\pm 0.01$ Angle : $\pm$ Hole Dia. : $\pm$		 <b>RIFO Technologies Corporation</b> Website: <a href="http://www.rifo.com.tw">www.rifo.com.tw</a>	
Scale :	Unit : mm	THIS SPECIFICATION IS THE PROPERTY OF RIFO TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION	
Prepared By : Helen	Checked By :Jeff		
Designed By :Jason	Approved By :Allen		
<b>TITLE:902~928MHz RHCP Ceramic Antenna for RFID Reader(RA032)</b>		<b>DOCUMENT NO.</b>	<b>RA11RCPJ06RA032S</b>
			REV. <b>A</b>

## 2. Features

- \*Stable and reliable in performances
- \*High gain for RHCP
- \*RoHS compliance
- \*Low temperature coefficient of frequency

## 3. Applications

- \* RFID Reader
- \* Devices of the Right Hand Circular polarization (RHCP) antenna

## 4. Description


RIFO's RFID Reader antenna is specially designed for RFID application. It has excellent stability and sensitivity to consistently provide high signal reception efficiency.

## 5. Electrical Specifications

5-1.

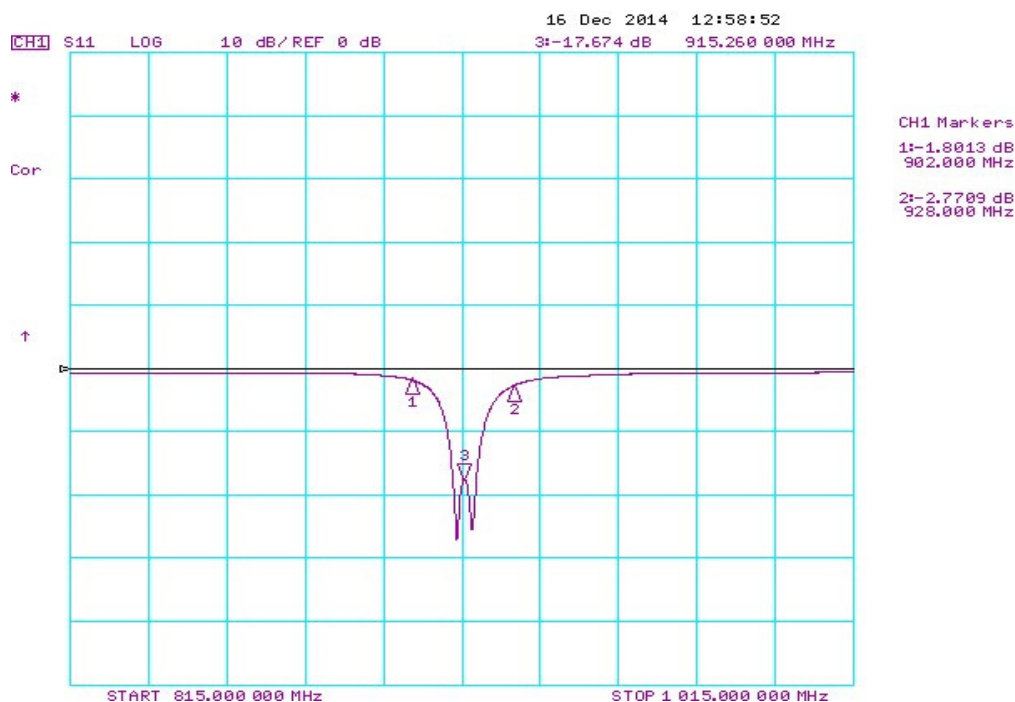
Characteristics	Specifications
Antenna size	50x50x5 mm
Frequency Range	902MHZ~928MHz
V.S.W.R	1.5 : 1
Impedance	50 ohm
Gain at Zenith	5.7 dBic typ.
Polarization	R.H.C.P
3dB Beamwidth Degree(RHCP)	55 deg
Front to back ratio	20dB
Axial ratio	3.0 dB max.
Patch size	40x40x4mm

\*Center frequency will be offset to working frequency according to the conditions of user's ground plane and radome.

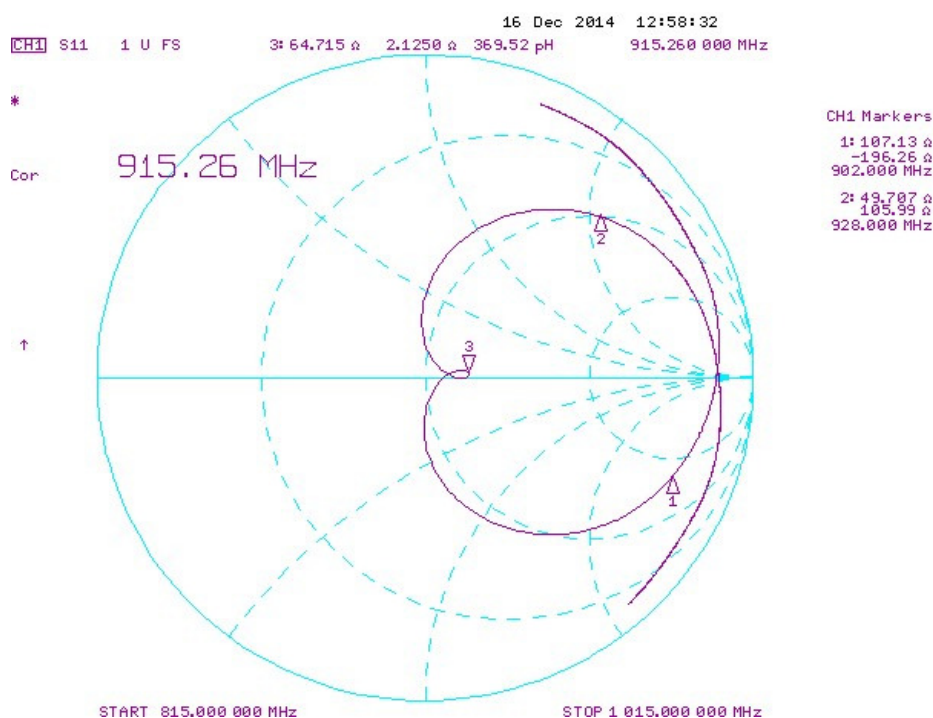
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5-2.

# Return Loss( $S_{11}$ )



# Smith chart( $S_{11}$ )



Tolerances (Unless otherwise specified)

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Angle :  $\pm$       Hole Dia. :  $\pm$

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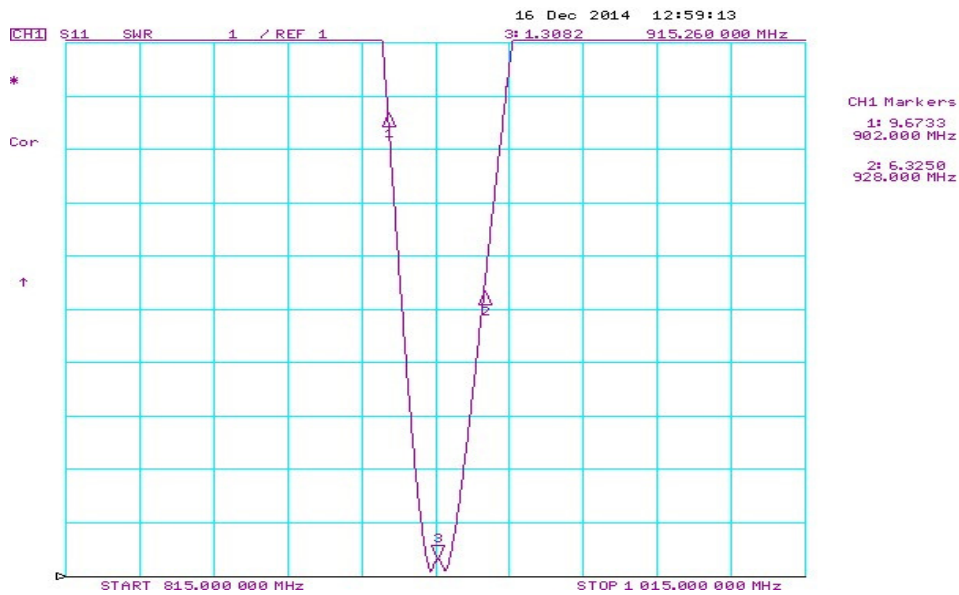
**DOCUMENT NO.**

**RA11RCPJ06RA032S**

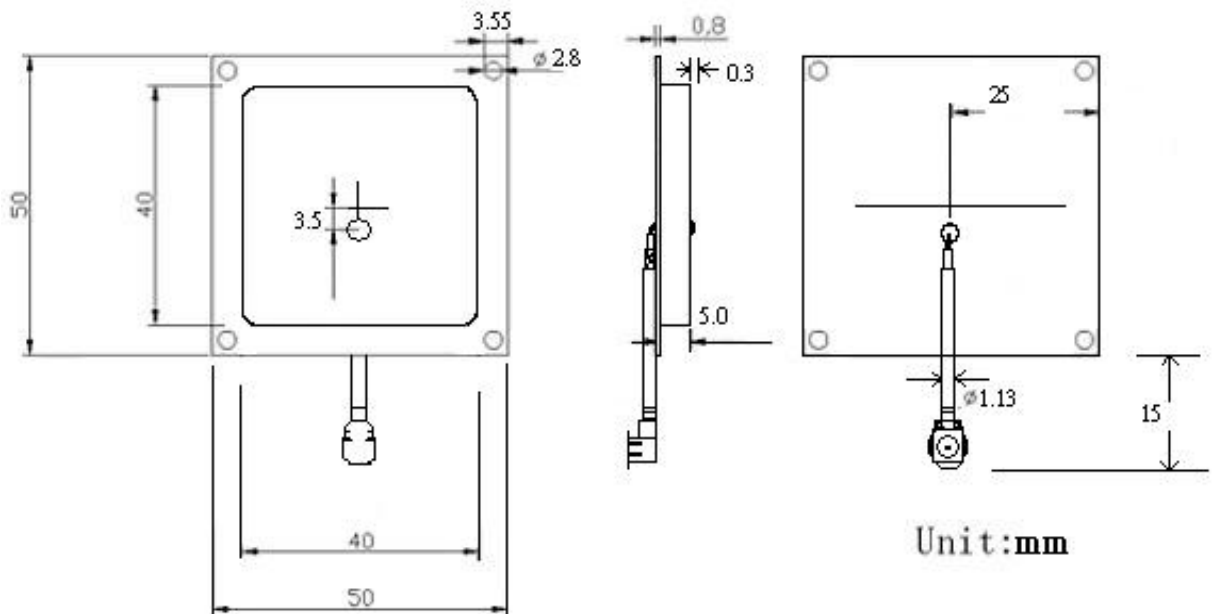
REV.

**A**

VSWR(S11)



## 6. Antenna Dimensions



Tolerances (Unless otherwise specified)

X :  $\pm 1$       X.X :  $\pm 0.1$       X.XX :  $\pm 0.01$

Angle :  $\pm$       Hole Dia. :  $\pm$

Scale :      Unit : mm

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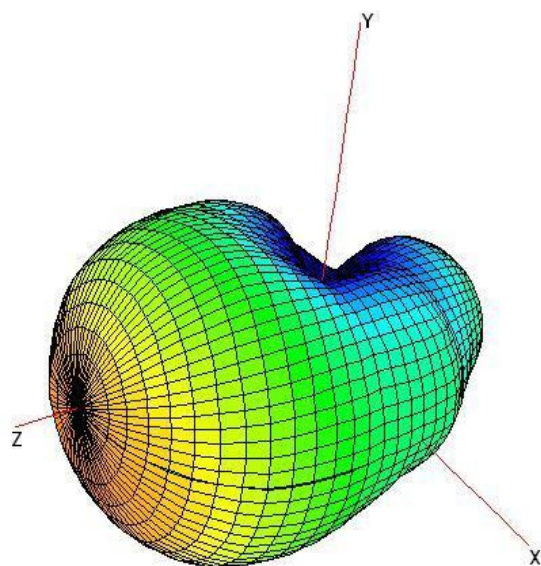
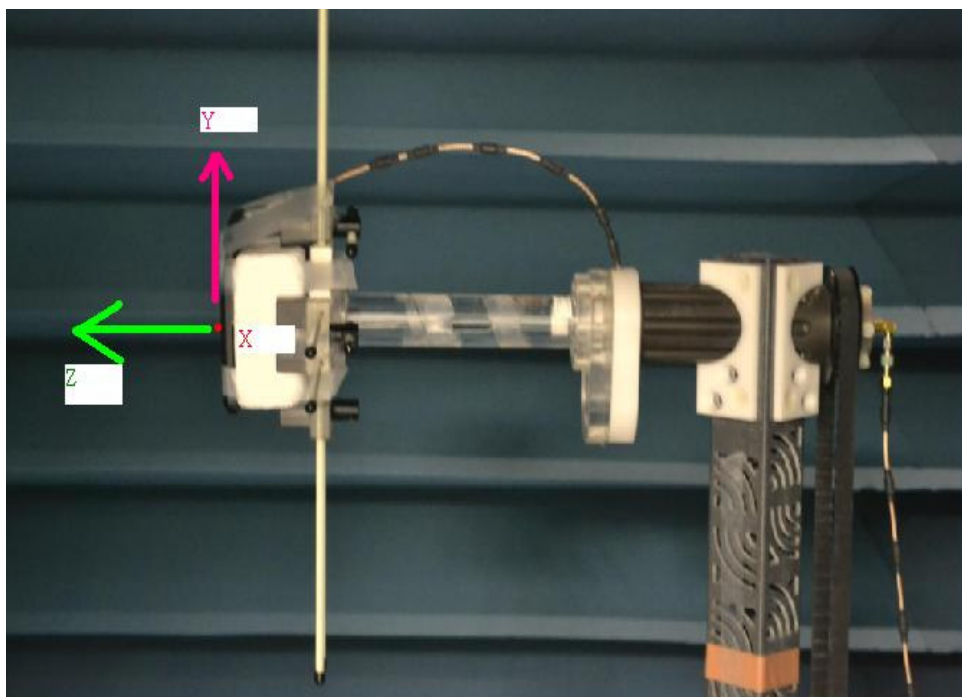
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## 7. Measurement Results:

### 7-1. 3D Gain Pattern and Axial Ratio at 915 MHz



Axial Ratio: 1.5 dB  
Peak Gain: 2.7dBi (5.7dBic)  
Efficiency: 61%



#### Tolerances (Unless otherwise specified)

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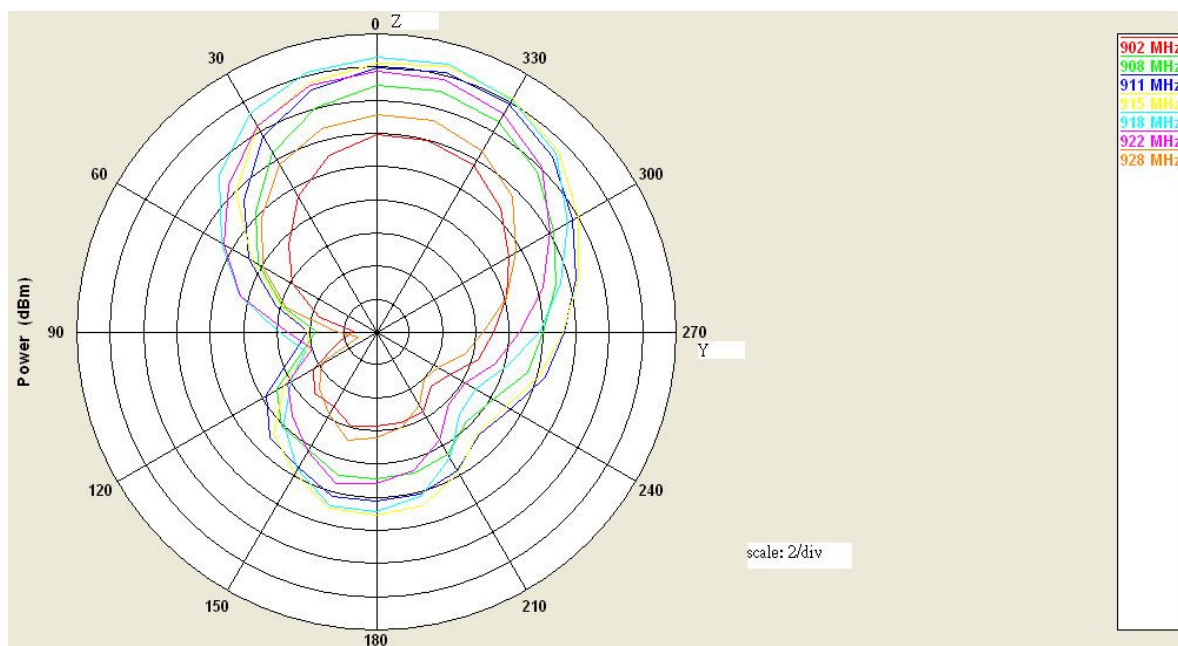
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## 7-2. 2D Gain pattern



## 7-3. Efficiency Table

Frequency(GHz)	902MHz	908MHz	915MHz	922MHz	928MHz
Efficiency(dB)	-6.55	-3.55	-2.13	-3.08	-5.57
Efficiency(%)	22.1	44.1	61.1	49.2	27.7
Peak Gain	-1.80 dBi	1.18 dBi	2.7 dBi	1.76 dBi	-0.73 dBi
	1.20 dBic(typ.)	4.18 dBic(typ.)	5.70 dBic(typ.)	4.76 dBic(typ.)	2.27 dBic(typ.)

Tolerances (Unless otherwise specified)

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