Document	Datasheet
Type	Quadrifilar Spiral Antenna
Application	UHF RFID
Part No.	AQUAxxxS_6010
Revision	0

DATASHEET

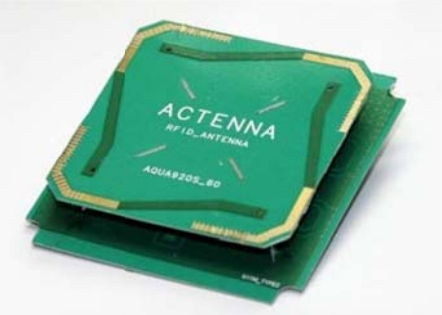
AQUA920S Series

Application

UHF RFID

Features

High Efficiency
High Front-Back Ratio
Wide bandwidth
Pb-free Condition
RoHS Compliant



ACTENNA

Notes
The contents of this datasheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

Revision History

Rev. No	Date	Title	Contents	Page
0	2010.9.10		First, documented	-

Table of Content

1. FEATURES

- UHF RFID Reader Circular Polarization Antenna
- Square Quadrifilar Sprial Antenna (* Patent Registration)
- Wide Beamwidth, Wide Bandwidth
- Small Antenna Element
- Low Weight, Compact Size
- Low Frequency Shift by Platform Size
- Immunity from User Proximity and Handling
- Easy Application and Save Development Time
- OEM / ODM

2. SPECIFICATIONS

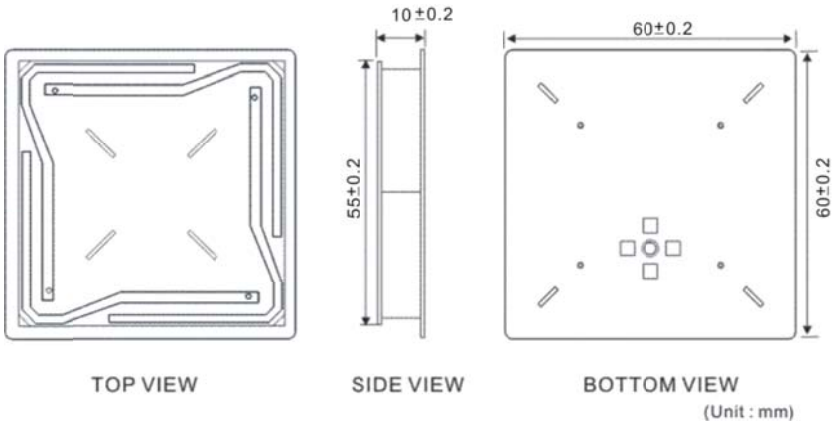
2.1 Electrical Specifications

No	Item	Min	Typ.	Max	Remark
1	Operating Frequency [MHz]		902~928		
2	Polarization		RHCP		
3	Peak Gain [dBic]	2.0	2.5		
4	Axial Ratio		<2.0		
5	Bandwidth (-10dB R.L.) [MHz]		200		
6	Beamwidth (degrees)		>130		
7	Impedance (Ω)		50		

2.2 Mechanical Specifications

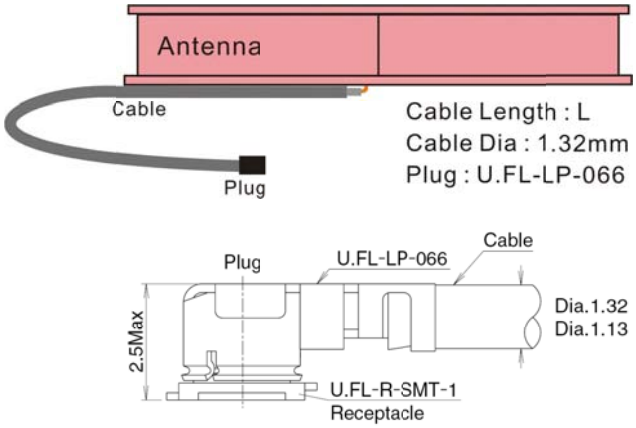
No	Item	Spec.	Remark
1	Dimensions (L x W x H)	60 x 60 x 10 mm^3	
2	Operating Temperature	-40 ~ +90 ℃	

2.3 Drawing and Marking



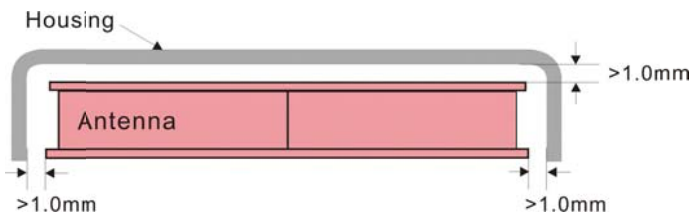
2.4 Design for Test

- Cable connection



Note 1 : Minimum available cable length(L) is 35mm

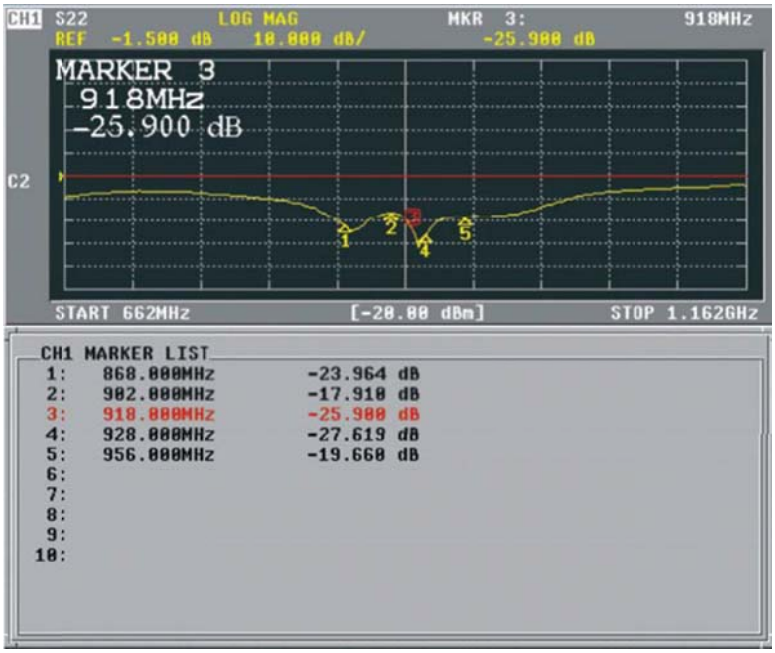
- Housing



3 MEASUREMENT RESULT

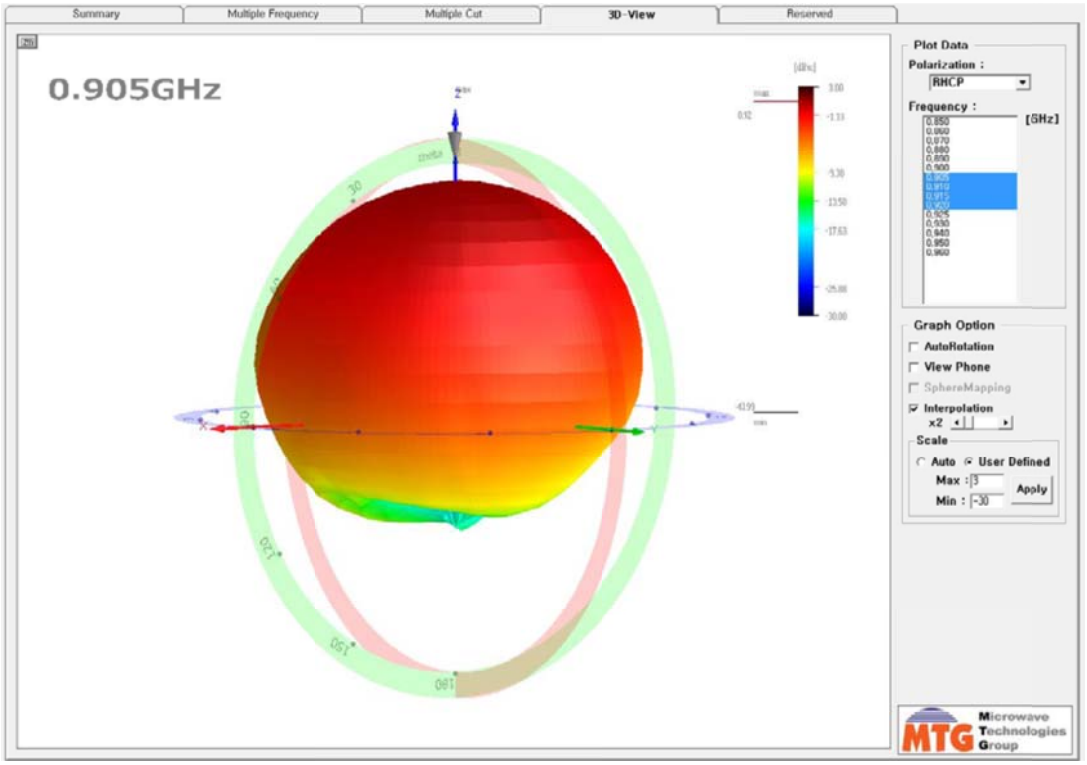
3-1 Typical Measurement Result (Return Loss)

- Return Loss

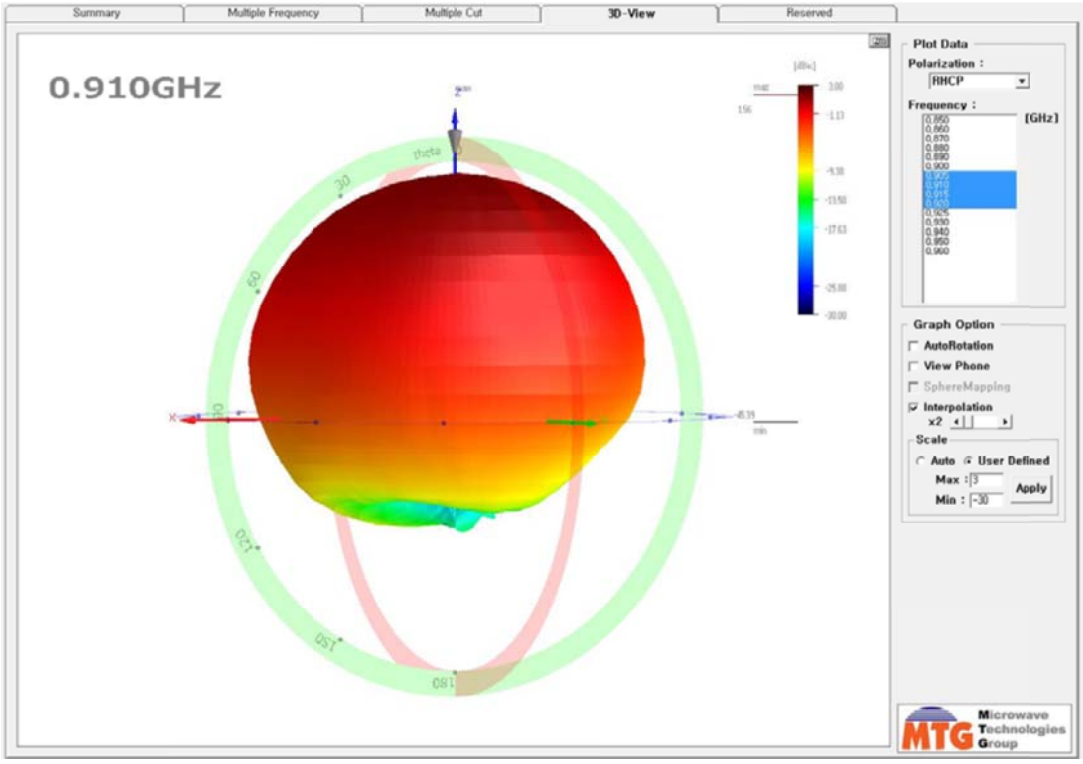


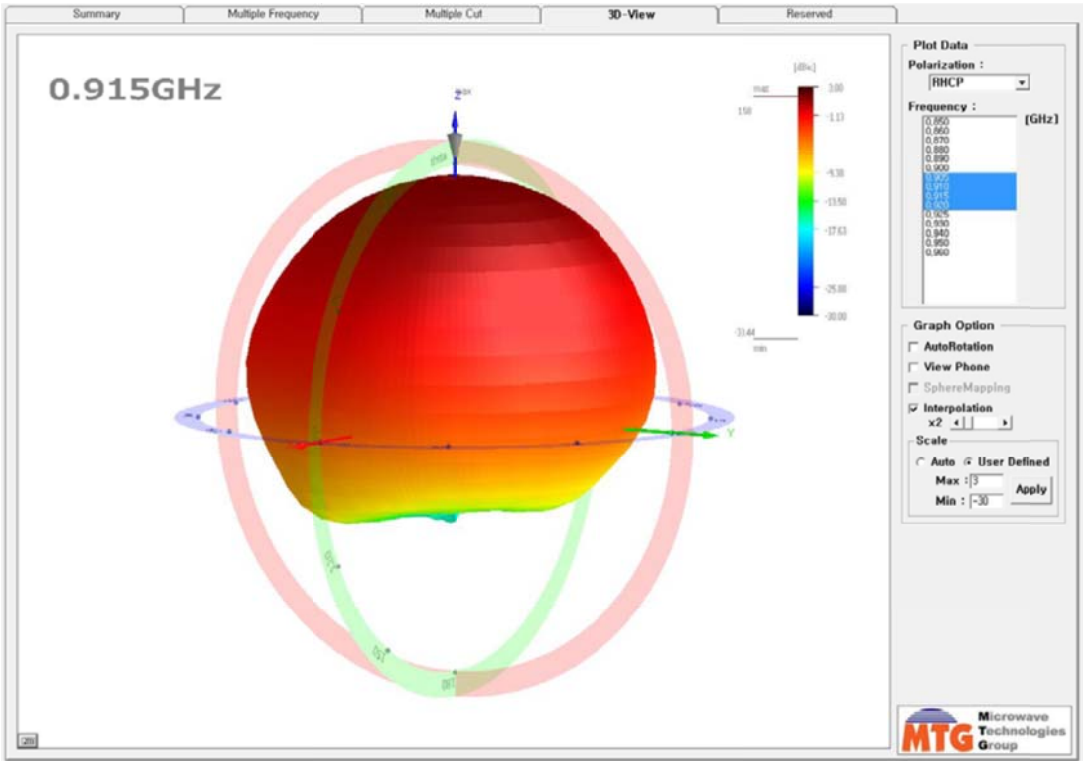
3-2 Typical Measurement Result (Gain & Radiation Pattern)

- 3D Radiation Pattern



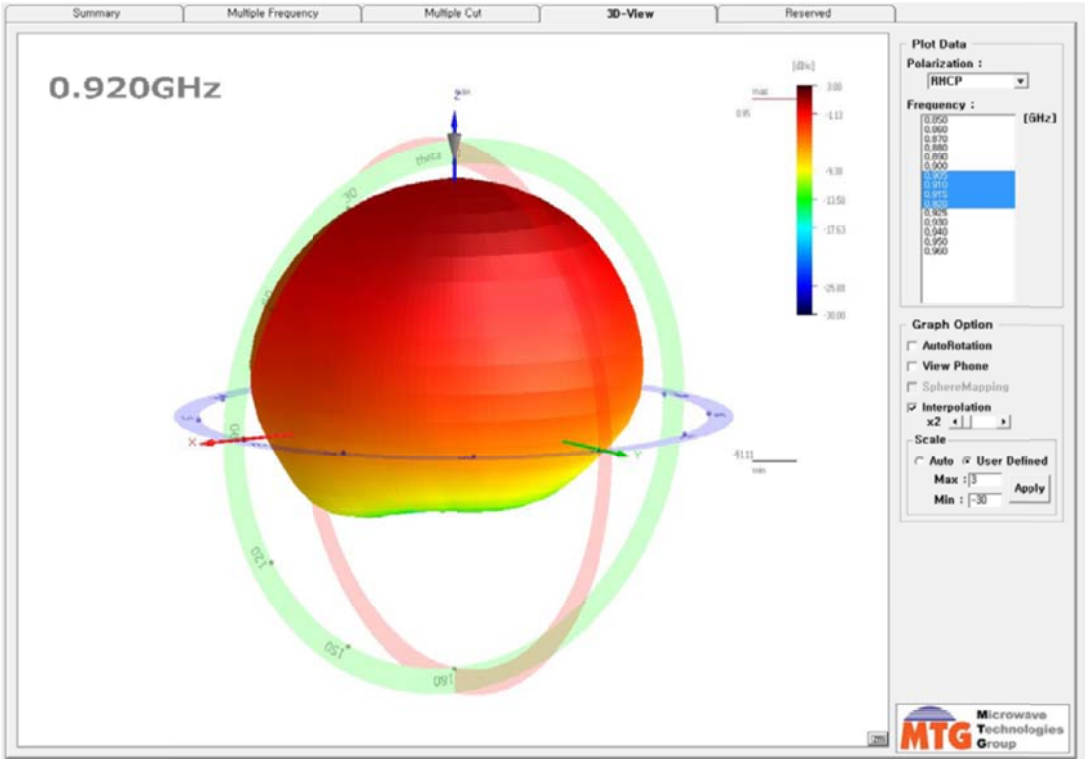
Notes
The contents of this datasheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.



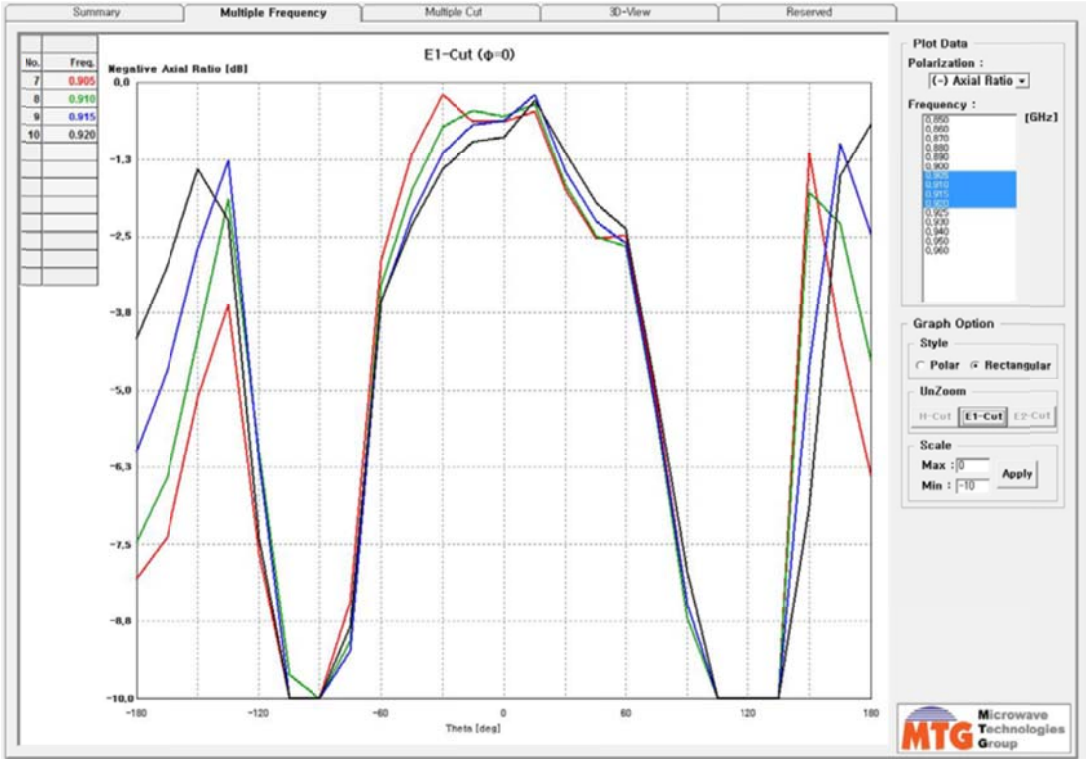


Notes

The contents of this datasheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.



- Axial Ratio



Notes

The contents of this datasheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

4 SOLERING

- Manual Soldering (By Iron) – Pb free
- Soldering Temperature : 300℃ ±5℃, 5sec max. (Solder : Sn/Ag/Cu:96.5/3.0/0.5)
- Must comply with above soldering condition to prevent from degradation of antenna performance.

5 RELIABILITY

No	Item	Test Condition	Requirement
1	Drop Test	1. Place antenna on set 2. 1.5 m height 3. Drop 5 times	1. No visible defect 2. S11 satisfy
2	Vibration Test	1. 5-55-5Hz, 1 octive/min Amp. = 1.5mm, acceleration=2g Crossover Freq.=18Hz, Holdtime=2H.R	1. No visible defect 2. S11 satisfy
3	Humidity	1. 60℃, 95%RH, 96Hr	1. No visible defect 2. S11 satisfy
4	Thermal Shock	1. +80℃(30min)→5min→-40℃(30min) 2. 10 cycle	1. No visible defect 2. S11 satisfy
5	High Temperature Resistance	1. +90℃, 96Hr	1. No visible defect 2. S11 satisfy
6	Low Temperature Resistance	1. -40℃, 96Hr	1. No visible defect 2. S11 satisfy
7	Adhesion Strength of Soldering	1. Used of pull push gauge	1. Spec (min. 5kgf)