

# Antenna Datasheet

## 315MHz Rubber Antenna

Model:

BW315JWX50-10WJ

Description:

315MHz Rubber Antenna with SMA Male Connector

Features:

315MHz Frequency Range

SMA Male (Inner Thread, Inner Pin) Connector

Structure: Angled

360° Omnidirectional Radiation

Dimensions: 50mm x 10mm

Compliant with RoHS & REACH Regulations

# Contents

1.	Description	3
2.	Specifications	4
3.	Product Picture	5
4.	Mechanical Drawing	6
5.	Testing Equipment	7-8
6.	Performance Data	9
	6.1 V.S.W.R	9
	6.2 Return Loss	9



## BW315JWX50-10WJ

### Part Number Explanation

BW	Company	Bat Wireless
315	Frequency	315MHz
J	Name	Rubber Antenna
W	Type	External
X	Constant	X
50-10	Dimensions	50-10mm
W	Feature	Angled
J	Connector	SMA Male

### Selection Table

Connector	IPEX-1	IPEX-2	IPEX-3	IPEX-4	IPEX-5	SMA	Customizable
Cable Length	100	150	200	250	300	500	Customizable
Cable Type	RG1.13	RG1.13	RG1.37	RG174	RG178	RG316	Customizable

## 1. Description

Bat Wireless BW315JWX50-10WJ is a high-performance omnidirectional antenna commonly used in remote keyless entry (RKE), wireless access control, automotive TPMS (tyre pressure monitoring), and industrial remote control applications. It features a high-quality rubber housing with a non-foldable bend, offering excellent signal reception and transmission capabilities to provide stable and reliable support for device connectivity. Its compact and lightweight rubber rod design makes it easy to install and transport.

Typical Application Scenarios:

Car remote control key (RKE): Concealed installation, omnidirectional coverage

Wireless access control system: Optimised matching required for walls or metal door frames

Industrial remote control: Outdoor environments with high weather resistance requirements

Bat Wireless provides customized services to optimize your equipment. We have a mature R&D team that can respond quickly to meet your needs. If you have any requirements, please contact our sales and FAE.

## 2. Specification

Parameters	Typ.	Unites	Notes
<b>Electrical Characteristics</b>			
Antenna Type	Rubber Antenna		
Frequency Range	315	MHz	
Input Impedence	50	$\Omega$	
V.S.W.R	<3.2		
Gain	--	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
<b>Mechanical Characteristics</b>			
Dimensions	50 x 10	mm	
Connector Type	SMA-J Male (Customizable)		
Cable Type	-		
Cable Length	-	mm	
Mount way	Screw-on		
Color	Black		
Meterial	ABS		
Weight	7	g	
<b>Environmental Characteristics</b>			
Waterproof Rating	-		
ROHS Compliant	Compliant		
Operating Temperature	-45~ +85	$^{\circ}\text{C}$	
Storage Temperature	-45~ +85	$^{\circ}\text{C}$	

\*Note: The above data is for reference only. Since the antenna function is relatively sensitive, please inform us for evaluation if there are any changes to the structural components around the main body of the antenna.

3. Product Picture



\* Product images are for reference only

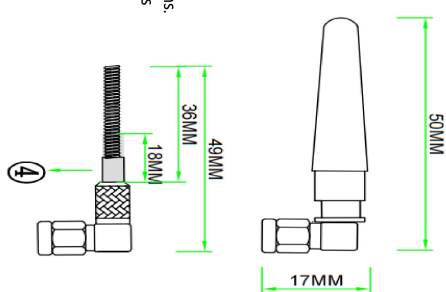
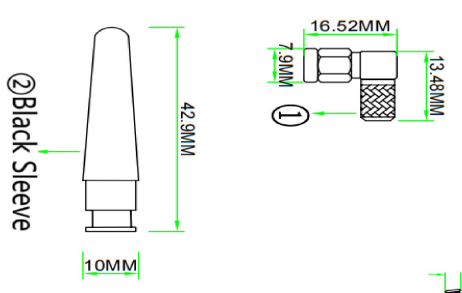
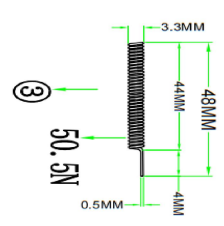
# 4. Mechanical Drawing

PARTS DRAWING	ROHS Compliant	REV	PRODUCT NO.	DATE	NAME	DESCRIPTION

**Requirements:**


- The wire jacket shall be free from cuts or damage.
- 100% continuity testing shall be performed, and all products must pass.
- 100% full inspection is required, and all products must meet specifications.
- Eco-friendly manufacturing processes shall be adopted, and finished products must comply with ROHS requirements.
- Unless otherwise specified, general tolerances shall apply.

NO	Code	Name	Description	Qty
4		Heat Shrink Tubing	3.5*1.8 Black Heat Shrink Tubing	1
3		Spring	4# 3.3MM Phosphor Bronze	1
2		Rubber Shell	Black	1
1		SMA	Bent Male	1

Frequency	315MHz	ANGLE PROJECTION	
Gain	-10dBi	PRODUCT NAME	Rubber Antenna315MHz SMA Male L=50MM
VSWR	<3.2	UNIT	MM
Polarization	Vertical	PAGE	1 OF 1
Impedance	50Ω	SIZE	1:3
Operating Temperature	-45°C~85°C	FORNMT	A4
Storage Temperature	-45°C~85°C		

GENERAL TOLERANCE	± 3.00
100~200:	± 2.00
50~100:	± 0.20
25~50:	± 0.15
10~25:	± 0.10
1~10:	± 0.10

## 5. Test Equipment



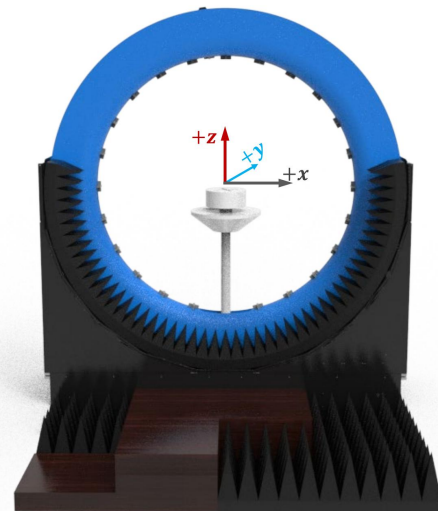
Keysight/E5071C Network Analyzer



R&amp;S/CMW500 Comprehensive Tester



R&amp;S/SMBV100B Signal Generator



### DT-3500 Datasheet

#### Specification:

Specification:	Description
Test Frequency	400MHz-8.5GHz
System Size	L*W*H=4*3.5*3.5m
Number of Probes	23 (Probe) + 1 (link)
Interval Angle	15°
Sampling Diameter	2200mm
Carring Capacity	≤40kg

#### Testing Capability

#### Description

##### Active measurement

**Capability** : TRP、TIS、EIRP、EIS,. etc  
**Mode** : 2G/3G/4G/5G、Wi-Fi b/g/n/a/ac/ax、BT、NB-IOT、Cat-M (eMTC)、GPS/BEIDOU/GLONASS、ZigBee、LoRa(Non-Signaling),.etc

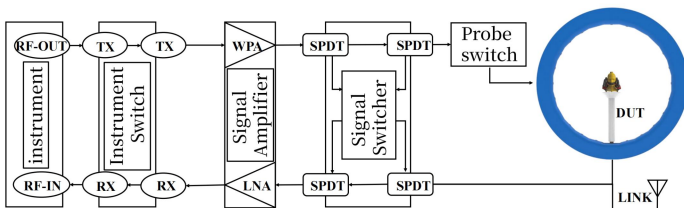
##### Passive measurement

**Test category** : Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio、ECC,Phase center,. etc  
**Polarization** : Circular polarization, linear polarization, elliptical polarization

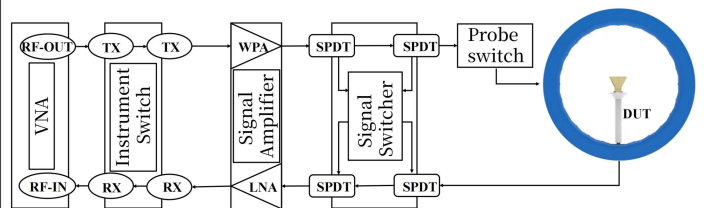


## RF Link diaram of multi probe spherical near-field testing system

RF Link Overview



RF Link of Passive measurement



RF Link Overview

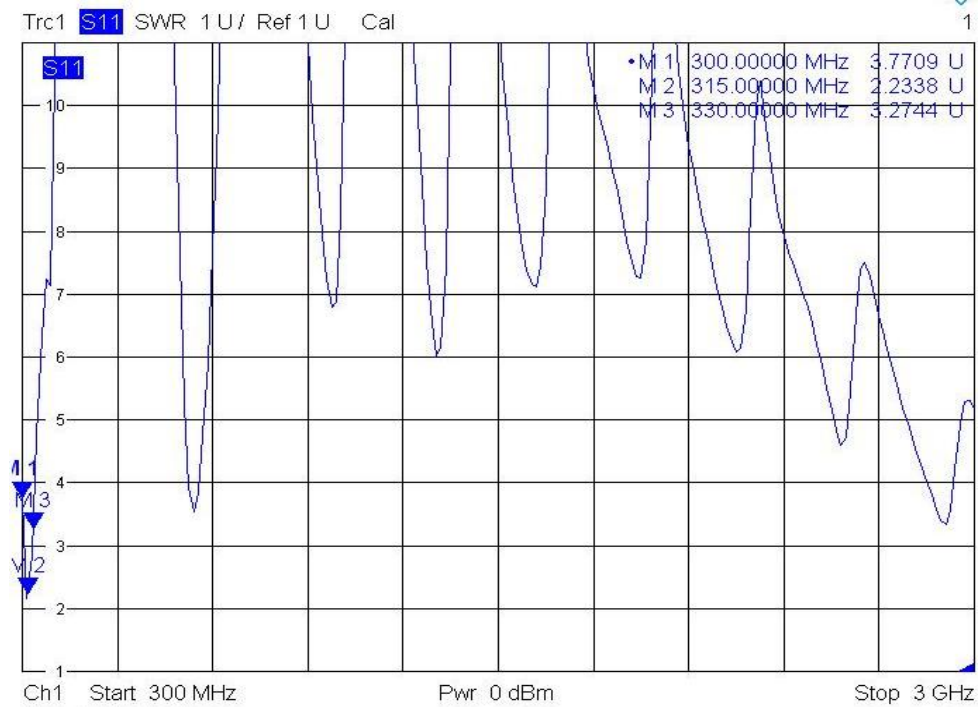


RF Link of Passive measurement

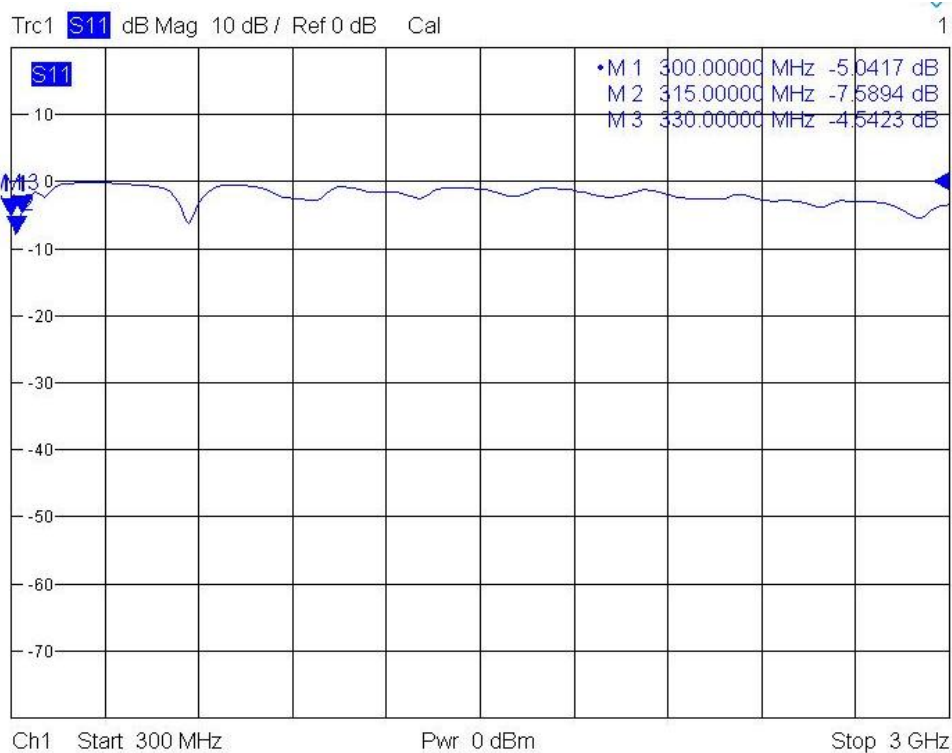


## 6. Performance Data

### 6.1 VSWR



### 6.2 Return Loss





## DECLARATION:

**Legal Notice:** In order to provide users with better service, Shenzhen Bat Wireless Technology Co., Ltd. (hereinafter referred to as ' Bat Wireless' ) will endeavour to present users with detailed and accurate product information in this manual. However, due to the time-sensitive nature of the content in this manual, Bat Wireless cannot guarantee the timeliness and applicability of this document at all times. Bat Wireless reserves the right to update the content of this manual without prior notice. To obtain the latest information, we kindly request users to regularly visit the Bat Wireless official website or contact Bat Wireless staff. Thank you for your understanding and support!

**Copyright Notice:** All content in this product manual (including text, charts, logos, and designs) is protected by copyright law and international copyright treaties. No entity or individual may reproduce, modify, distribute, or use any part or all of this manual in any form (including electronic, mechanical, photocopying, etc.) without prior written authorisation from our company. Infringers will be held legally liable. All rights reserved.

**Trademark Notice:** All product names and corporate logos of Bat Wireless mentioned in this manual are the lawful property of our company (including affiliated companies). Unauthorised use, reproduction, or imitation is strictly prohibited. Third-party trademarks referenced in this manual are the property of their respective owners, and their use is solely for illustrative purposes and does not imply any commercial affiliation or authorisation. Our company reserves all rights to pursue legal action against any infringement.

**Disclaimer:** The product information contained in this manual is for reference only. Actual product performance may vary depending on the usage environment and configuration differences. Our company makes no express or implied warranties regarding the accuracy, completeness, or applicability of the content of this manual and shall not be liable for any direct or indirect losses arising from the use or inability to use the content of this manual. Users should assess the applicability of the product and follow actual operating procedures. The final interpretation of this manual is reserved by our company.

## Shenzhen Bat Wireless Technology Co.,Ltd

Office Add: Room 1301, 13th Floor, No. 8 Langhua Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen

Email: [marketing@batwireless.com](mailto:marketing@batwireless.com)

Tel: 0755-21031236



Documentation

Version :	August-20-2025-A01
Date :	2025-8-20
Remarks :	First update
Author:	Carly

Change Log
