

# DATASHEET

## Coaxial Cable

**Model No:**

BWSMAJ-MMCXWJ-RG316L500

**Description:**

SMA Male to Right-angle MMCX adapter cable

**Features:**

0-6000MHz

**Structure:**

Cable: RG316 x 500mm

Connector: SMA Male to Right-angle MMCX

RoHS & REACH Compliant





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## BWSMAJ-MMCXWJ-RG316L500

### Part Number Description

BW	Company	BAT WIRELESS
SMAJ	Connector	SMA Male
-	Constant	Constant
MMCXWJ	Connector	Right-angle MMCX Male
-	Constant	Constant
RG316	Cable	RG316
L	Long	Length
500	Cable Length	500mm

### Selection Table

Connector	SMA	N	TNC	BNC	SMB	MCX	Customizable
Cable Type	RG174	RG178	RG316	RG58			Customizable
Cable Length	1000mm	1500mm	2000mm	2500mm	1000mm	1500mm	Customizable

### 1. Description

Bat Wireless BWSMAJ-MMCXWJ-RG316L500 is a high-performance RF coaxial adapter cable, typically operating in the 0-6 GHz frequency range. Designed specifically for wireless communication devices, it connects various interfaces and ensures stable, low-loss signal transmission. It is suitable for use in applications such as Wi-Fi modules, 4G/5G devices, GPS antennas, drones, and IoT terminals, resolving compatibility issues between different interfaces. It can connect to both SMA and MMCX interface device ports. High-purity coaxial cable minimizes signal attenuation, and optimized processing and coaxial structure ensure low insertion loss.

Classic application scenarios:

Wireless communication modules: GPS/Beidou positioning terminals, 4G/5G modules, Wi-Fi/Bluetooth modules

Test and measurement equipment: RF test probe connection ports, spectrum analyzers, signal generator antenna ports

IoT terminals: Signal enhancement for smart homes, drones, and wearable devices

Bat Wireless provides customized services to optimize your device, 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. Specifications

Parameters	Typ.	Units	Notes
Electrical Characteristics			
Product Type	Adapter Cable		
Frequency Range	0-6000	MHz	
Input Impedance	50	Ω	
Contact resistance	IC < 3, OC < 2	MΩ	
Insulation resistance	>5000	MΩ	
Insert Loss	0.15	dB(6GHz)	
RF leakage	1000	V	
Durability	500	Cycles	
ID of Plug / OD of Jack	-	mm	
DC Voltage	-	V	
Mechanical Characteristics			
Connector Type	SMA-Male(Customizable)		
Connector Type	Right-angle MMCX Male(Customizable)		
Cable Type	RG316(Customizable)		
Cable Length	500(Customizable)	mm	
Mount way	Screw-on & Plug-in		
Color	-		
Material	Copper		
Weight	-	g	
Environmental Characteristics			
Waterproof Rating	-		
ROHS Complaint	Yes		
Operating Temperature	-45~ +85	°C	
Storage Temperature	-45~ +85	°C	



### 3. Specification

Parameters	Parameters	Typ.	Units	Notes
<b>Electrical Characteristics</b>				
Inner Conductor	Material	Silver-plated copper wire		
	Construction	7/0.17	mm	
	Nom.Dia	0.51±0.02	mm	
Insulation	Material	FEP		
	Average Thickness	-	mm	
	Nom.Dia	1.52±0.05	mm	
Outer Conductor	Material	Tinned wire 16*5/0.10		
	Nom.Dia	1.95±0.05	mm	
	Coverage Ratio	90±5	%	
Jacket	Material	FEP		
	Nom.Dia	2.50±0.10	mm	
<b>Mechanical Characteristics</b>				
Impedanc	-	50±2	Pf/m	
Capacitance	-	95	Ω	
20°C Attenuation	0.1GHz	0.262	dB/m	
	0.4GHz	0.531	dB/m	
	1GHz	0.860	dB/m	
	3GHz	1.650	dB/m	
	-	-	dB/m	
	-	-	dB/m	
	-	-	dB/m	
<b>Structure Drawing</b>				

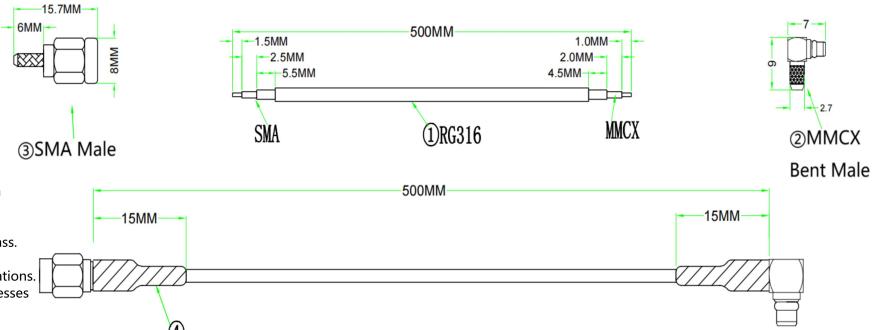
## 4 . Demensions

### 4.1 Actual Picture



\* Product images are for reference only.

### 4.1 Parts Drawing

PARTS DRAWING		REV	PRODUCT NO.	DATE	NAME	DESCRIPTION																																																																						
 <p>③SMA Male</p> <p>①RG316</p> <p>②MMCX Bent Male</p> <p>④</p> <p>Requirements:</p> <ol style="list-style-type: none"> <li>1. The wire jacket shall be free from cuts or damage.</li> <li>2. 100% continuity testing shall be performed, and all products must pass.</li> <li>3. 100% full inspection is required, and all products must meet specifications.</li> <li>4. Eco-friendly manufacturing processes shall be adopted, and finished products must comply with ROHS requirements.</li> <li>5. Unless otherwise specified, general tolerances shall apply.</li> </ol>																																																																												
<table border="1"> <thead> <tr> <th>NO</th> <th>Code</th> <th>Name</th> <th>Description</th> <th>O'ty</th> <th>ANGLE PROJECTION</th> <th>PRODUCT NAME</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Connector-SMA Male-MMCX Bent Male-RG316-L=500MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>UNIT</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>SIZE</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1:3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>PAGE</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1 OF 1</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>FORNMT</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>A4</td> </tr> </tbody> </table> <p>GENERAL TOLERANCE</p> <p>100-200: <math>\pm 3.00</math></p> <p>50-100: <math>\pm 2.00</math></p> <p>25-50: <math>\pm 0.20</math></p> <p>10-25: <math>\pm 0.15</math></p> <p>1-10: <math>\pm 0.10</math></p> <p>Operating Temperature: -45°C~85°C</p> <p>Storage Temperature: -45°C~85°C</p>							NO	Code	Name	Description	O'ty	ANGLE PROJECTION	PRODUCT NAME							Connector-SMA Male-MMCX Bent Male-RG316-L=500MM							UNIT							MM							SIZE							1:3							PAGE							1 OF 1							FORNMT							A4
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## 5 . Test Equipment



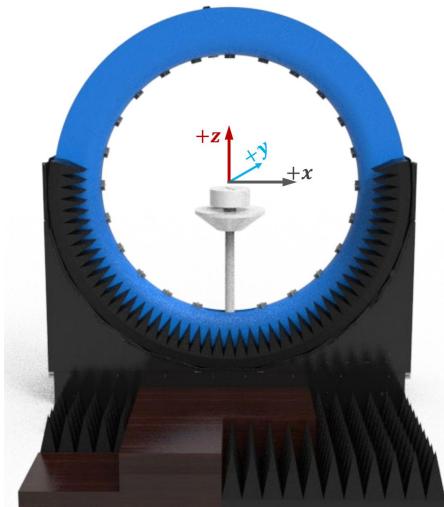
Keysight/E5071C Network Analyzer



R&amp;S/CMW500 Comprehensive tester



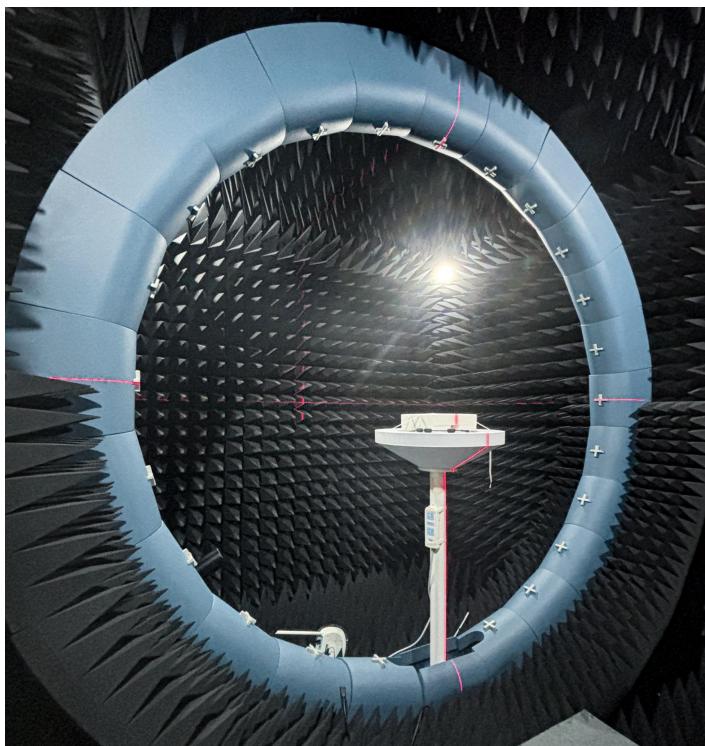
R&amp;S/SMBV100B Signal Source



### DT-3500 Datasheet / System Specifications

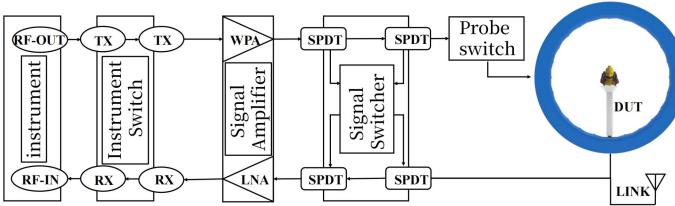
Specification:	Description
Test Frequency :	400MHz-8.5GHz
System Size :	$L \times W \times H = 4 \times 3.5 \times 3.5\text{m}$
Number of Probes :	23 (Probe) + 1 (link)
Interval Angle :	15°
Sampling Diameter :	2200mm
Carring Capacity :	$\leq 40\text{kg}$

Testing Capability	Description
Active measurement	<p><b>Capability :</b> TRP、TIS、EIRP、EIS,. etc</p> <p><b>Mode :</b> 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</p>
Pasive measurement	<p><b>Test category :</b> Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio, ECC, Phase center,. etc</p> <p><b>Polarization :</b> Circular polarization, linear polarization, elliptical polarization</p>

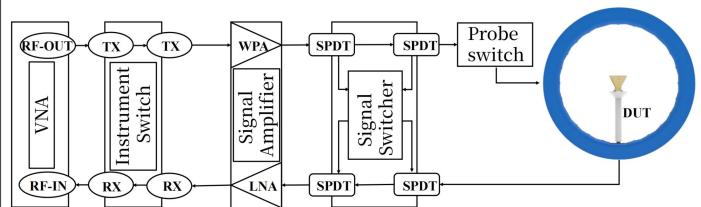


## RF Link diagram of multi probe spherical near-field testing system

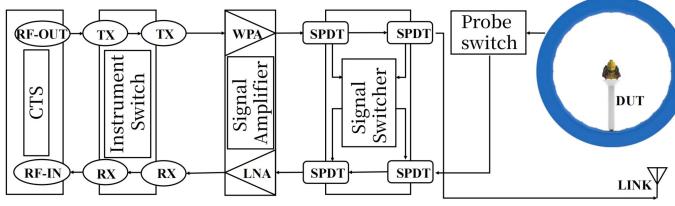
RF Link Overview



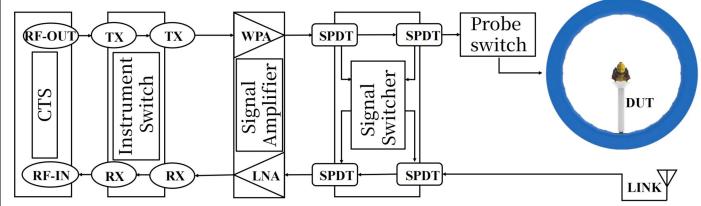
RF Link of Passivemeasurement



RF Link Overview



RF Link of Passivemeasurement





## DECLARATION:

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Author:	Carly

## Change Log
