



Datasheet

SMB Antenna Connector

Model No:

BWSMB-KE

Description:

SMB PCB-end Straight & Internal Hole Connector

Features :

0-6000MHz

With Internal Pin

PCB-end connection

Size:13mm x 6.5mm x 6.5mm

RoHS & REACH Complaint



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BWSMB-KE

Part Number Description

BW	Company	Bat Wireless
SMB	Name	SMB Type
K	Connector	K(Hole)
E	Type	Board-End Connector

1. Description

Bat Wireless **BWSMB-KE** is a common RF coaxial connector with a typical frequency range of 0 to 6 GHz. It is widely used in high-frequency applications such as wireless communications, test equipment, and radar systems. Its core features include high-frequency support and rugged durability, making it suitable for PCB-mounted antennas or RF signal connections. transmission direction perpendicular to the PCB. Designed for top-side connections to antennas or RF cables, its angled structure simplifies installation and accommodates applications with limited space. Featuring an internal pin interface, it pairs with female connectors. Its low-loss design, optimized manufacturing processes, and coaxial structure ensure minimal insertion loss during signal transmission.

Classic Application Scenarios:

Wireless Communication Modules: GPS/BeiDou positioning terminals, 4G/5G modules, Wi-Fi/Bluetooth modules

Test and Measurement Equipment: Connection interfaces for RF test probes, spectrum analysers, antenna ports for signal generators

Consumer Electronics and Industrial Equipment: Walkie-talkies, RFID readers/writers, medical monitoring 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. Specification

Parameters	Typ.	Unites	Notes
Electrical Characteristics			
Product Type	SMB Antenna Connector		
Frequency Range	0-6000	MHz	
Input Impedence	50	Ω	
Contact resistance	IC<3 , OC<2	m Ω	
Insulation resistance	>5000	M Ω	
Insert Loss	0.15	dB(6GHz)	
RF leakage	1000	V	
Durability	500	Cycles	
PLUG ID/JACK OD	-	mm	
DC Voltage	-	V	
Mechanical Characteristics			
Dimensions	13x6.5x6.5	mm	
Connector Type	K(Hole)		
Cable Type	-		
Cable Length	-	mm	
Mount way	Interlocking Snap		
Color	Gold		
Material	Phosphor bronze plated with hard gold		
Weight	1.76	g	
Environmental Characteristics			
Waterproof Rating	-		
ROHS Complaint	YES		
Operating Temperature	-45~ +85	$^{\circ}\text{C}$	
Storage Temperature	-45~ +85	$^{\circ}\text{C}$	

3. Product Picture



Mechanical Drawing

PARTS DRAWING

ROHS Compliant

REV	PRODUCT NO.	DATE	NAME	DESCRIPTION

Requirements:

- 1、The wire jacket shall be free from cuts or damage.
- 2、100% continuity testing shall be performed, and all products must pass.
- 3、100% full inspection is required, and all products must meet specifications.
- 4、Eco-friendly manufacturing processes shall be adopted, and finished products must comply with ROHS requirements.
- 5、Unless otherwise specified, general tolerances shall apply.

Material Requirements:

- 1、Housing: BHPb59-1, Gold-Plated
- 2、Insulator: PTFE
- 3、Inner Conductor: Phosphor Bronze, Gold-Plated
- 4、Clamp: Beryllium Copper, Nickel Plating
- 5、Contact: BHPb59-1, Gold-Plated

This side view cross-section drawing illustrates the internal components of a connector. The outer housing has a total length of 13 units. A central cavity contains an inner conductor with a diameter of $\phi 6.4$. The inner conductor is surrounded by an insulating layer. The assembly is secured by a clamp and a contact. Dimensions shown include a 7.8 unit distance from the left face to the start of the inner conductor, a 4 unit distance from the right face to the end of the inner conductor, and a 3.5 unit distance from the right face to the end of the contact. The contact is labeled with numbers 1 through 5, indicating different layers or materials.

This top view drawing shows the square footprint of the connector. The overall dimensions are 6.5 units by 6.5 units, indicated by SQ 6.5. The central feature is a circular hole with a diameter of $\phi 1$. Four rectangular features, each measuring 1x4 units, are positioned around the perimeter. The distance between the center of the circle and the corners of these rectangles is 5.08 units. The bottom edge features a 3X3 grid pattern.

ANGLE PROJECTION

PRODUCT NAME

BFSMB-KC

UNIT	MM	SIZE	1:3
PAGE	1 OF 1	FORNMT	A4

GENERAL TOLERANCE

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

Operating Temperature : -45°C ~85°C
Storage Temperature : -45°C ~85°C

4 . Test Equipment



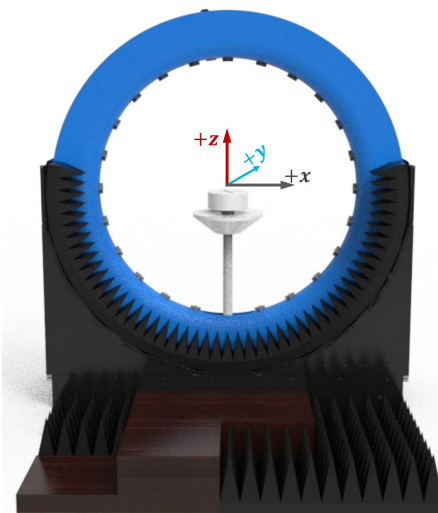
Keysight/E5071C Network Analyzer



R&S/CMW500 Comprehensive tester



R&S/SMBV100B Signal Source



DT-3500 Datasheet / System Specifications

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 :	≤40 kg

Testing Capability

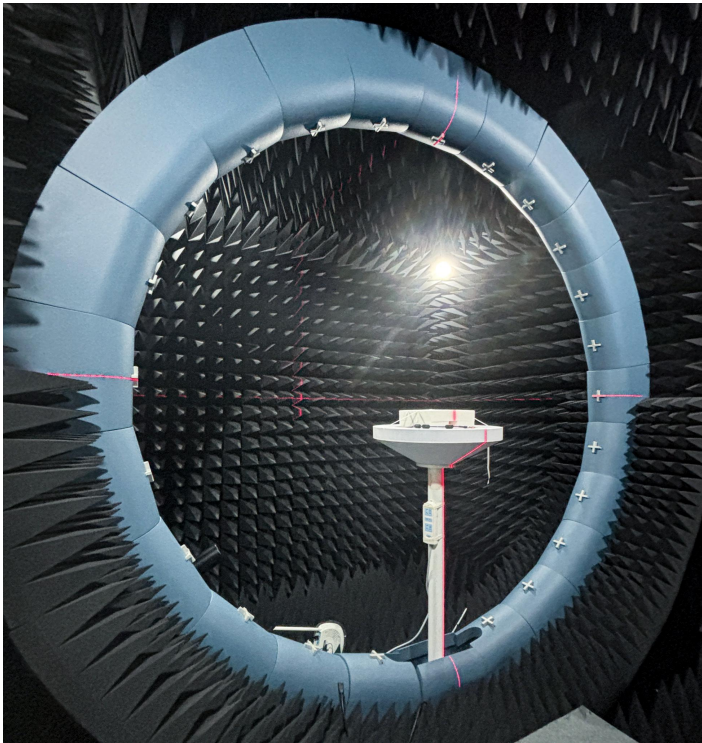
Description

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

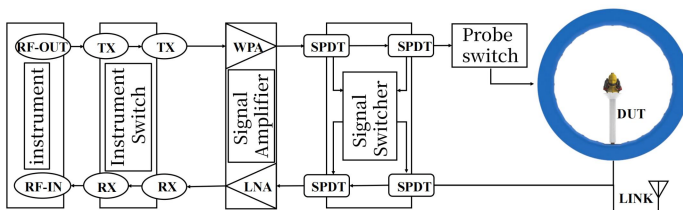
Passive measurement

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

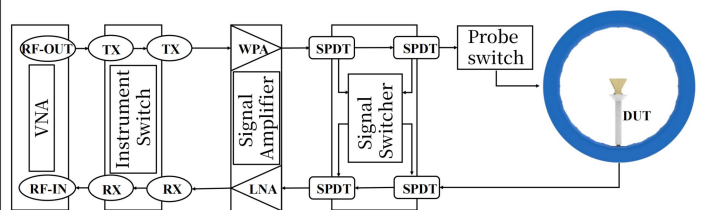


RF Link diagram of multi probe spherical near-field testing system

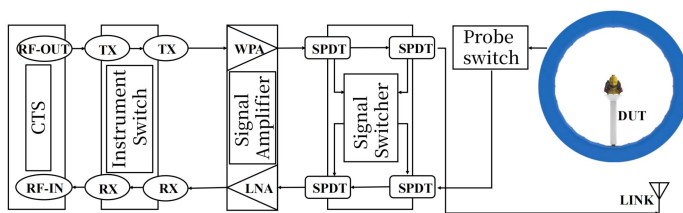
RF Link Overview



RF Link of Passivemeasurement



RF Link Overview



RF Link of Passivemeasurement





DECLARATION:

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