

# ADAPTER DATASHEET

## Adapter Cable

**Model No:**

BWMCXJ-FAKRAC-RG178L500

**Description:**

MCX male to FAKRA-C adapter cable

**Features:**

0-6000MHz

**Structure:**

Cable: RG178 x 50m

Connector: MCX male to FAKRA-C

RoHS & REACH Complaint



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## BWMCXJ-FAKRAC-RG178L500

### Part Number Description

BW	Company	BAT WIRELESS
MCXJ	Connector	MCX male
-	Constant	Constant
FAKRAC	Connector	FAKRA-C
-	Constant	Constant
RG178	Cable	RG178
L	Long	Length
1000	Cable Length	1000mm

### Selection Table

Connector	SMA	N	TNC	BNC	SMB	MCX	Customizable
Cable Type	RG174	RG178	RG316	RG58			Customizable
Cable Length	100mm	200mm	300mm	500mm	1000mm	1500mm	Customizable

## 1. Description

Bat Wireless BWMCXJ-FAKRAC-RG178L500 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 MCX and FAKRA interfaces or 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

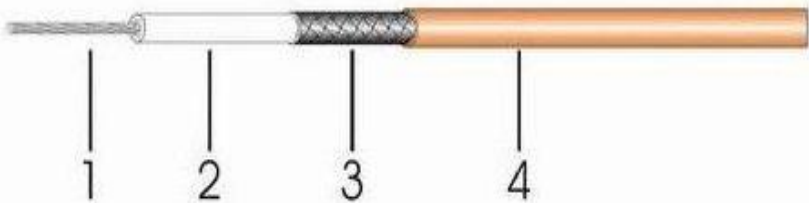
Bat Wireless provides customized services to optimize your device, we have a mature R&D team that can respond quickly to meet your needs. If you have any requirements, please contact our sales and FAE.

## 2. Specifications

Parameters	Typ.	Unites	Notes
Electrical Characteristics			
Product Type	Adapter Cable		
Frequency Range	0-6000	MHz	
Input Impendence	50	$\Omega$	
Contact resistance	IC < 5, OC < 2.5	M $\Omega$	
Insulation resistance	>1000	M $\Omega$	
InsertLoss	0.15	dB(6GHz)	
RF leakage	500	V	
Durability	500	Times	
ID of Plug / OD of Jack	-	mm	
DCVoltage	-	V	
Mechanical Characteristics			
Connector Type	MCX Male		
Connector Type	FAKRA-C		
Cable Type	RG178		
Cable Length	50	mm	
Mount way	MCX press-fit / FAKRA-C snap-fit type		
Color	-		
Meterial	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.	Unites	Notes
Electrical Characteristics				
Inner Conductor	Material	Tinned Copper Wire		
	Construction	1/0.8±0.05	mm	
	Nom.Dia	0.306±0.02	mm	
Insulation	Material	FEP		
	Average Thickness	-	mm	
	Nom.Dia	0.88±0.05	mm	
Outer Conductor	Material	Tinned Copper Wire 16*3/0.10		
	Nom.Dia	1.30±0.05	mm	
	CoverageRatio	90±5	%	
Jacket	Material	FEP		
	Nom.Dia	1.80±0.05	mm	
Mechanical Characteristics				
Impedanc	-	50±2	Pf/m	
Capacitance	-	96	Ω	
20°C Max Attenuation	0.1GHz	0.70	dB/m	
	0.4GHz	1.50	dB/m	
	1GHz	1.90	dB/m	
	2GHz	2.80	dB/m	
	3GHz	3.70	dB/m	
	-	-	dB/m	
Structure Drawing				
				

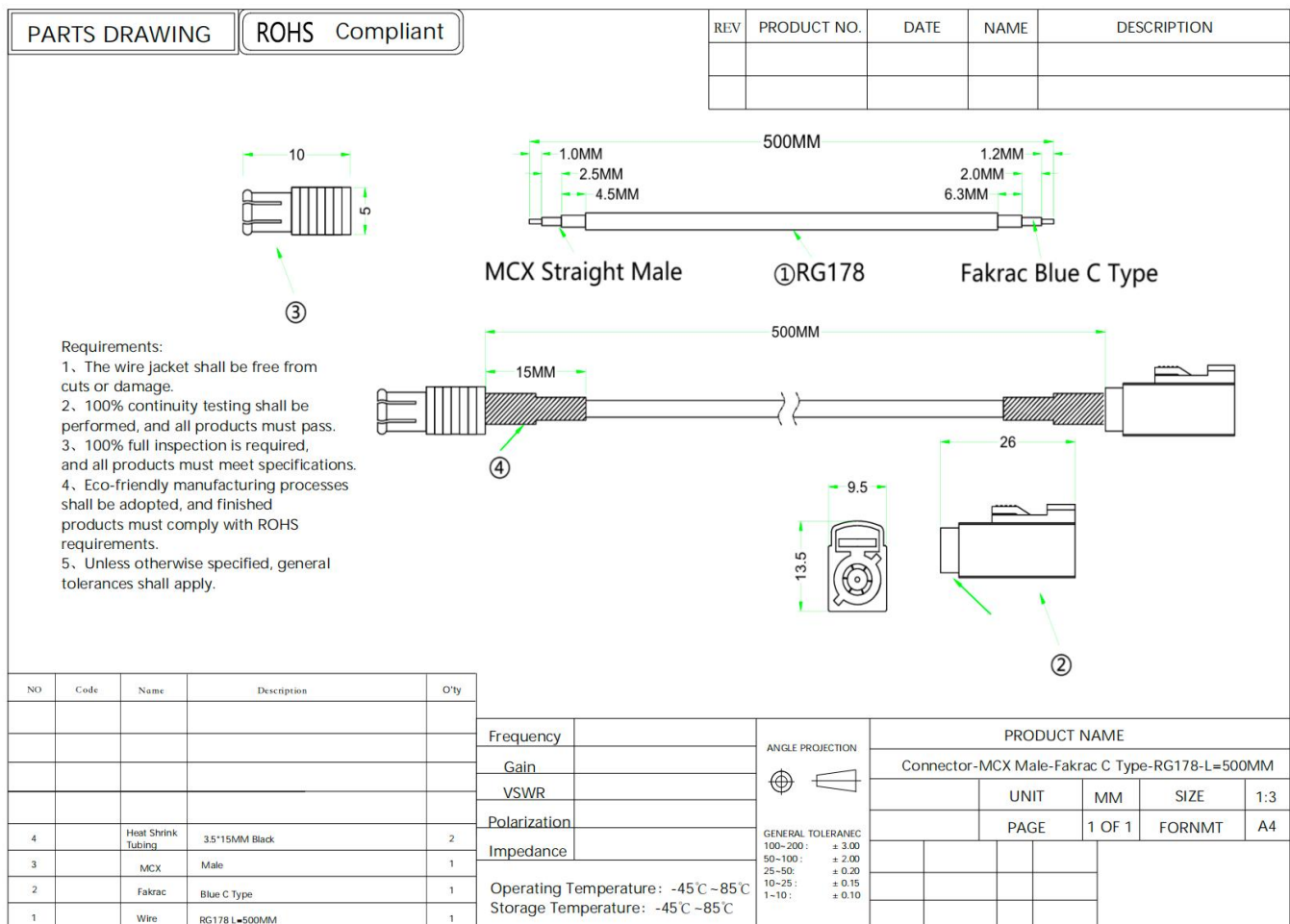
## 4 . Demensions

### 4.1 Actual Picture



(\* Note: The picture is for reference only. Due to the sensitive nature of the antenna, please notify us of any changes to the surrounding structure for evaluation.)

### 4.1 Parts Drawing



## 5 . Test Equipment



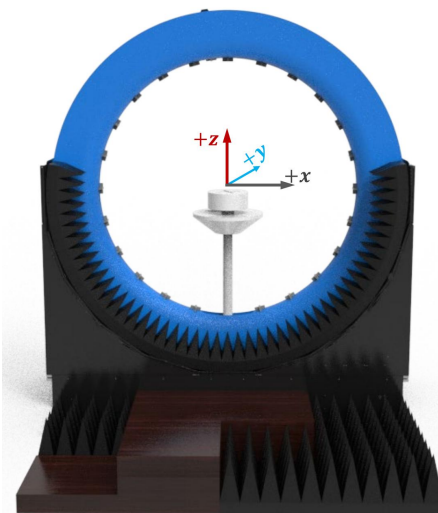
Keysight/E5071C Network Analyzer



R&amp;S/CMW500 Comprehensive tester



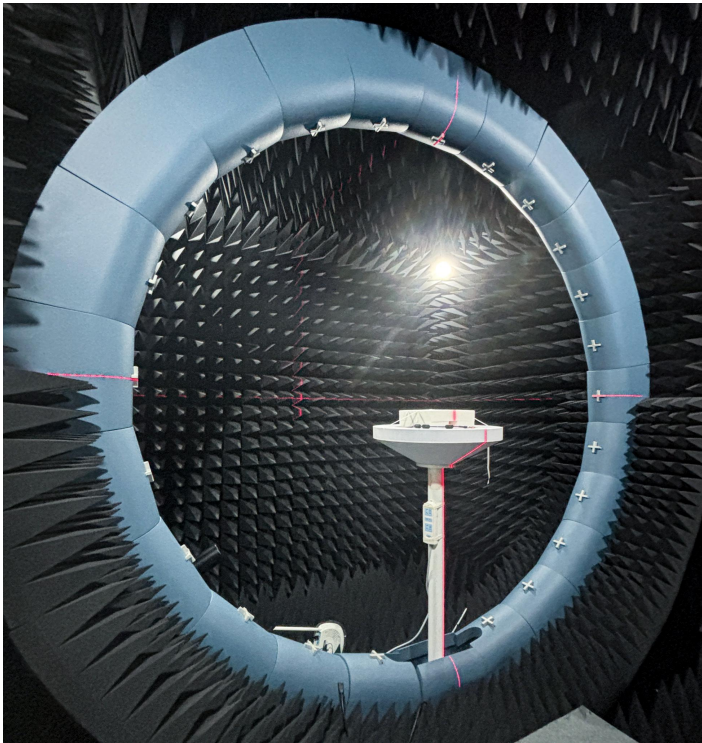
R&amp;S/SMBV100B Signal Source



### DT-3500 Datasheet / System Specifications

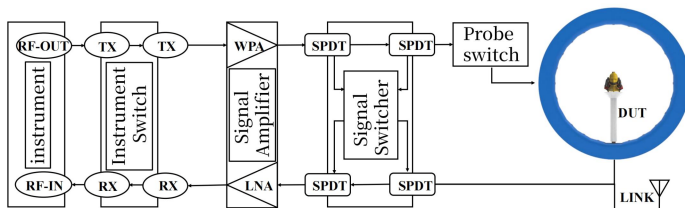
Specification:	Description
Test Frequency :	400MHz-8.5GHz
System Size :	L*W*H=4*3.5*3.5m
Number of Probes :	23 (Probe) + 1 (link)
Interval Angle :	15°
Sampling Diameter :	2200mm
Carring Capacity :	≤40 kg

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

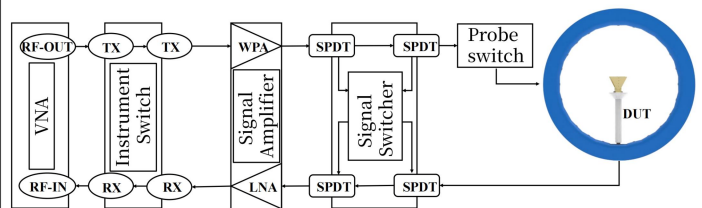


## RF Link diagram of multi probe spherical near-field testing system

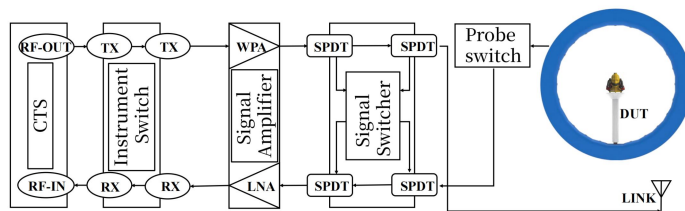
### RF Link Overview



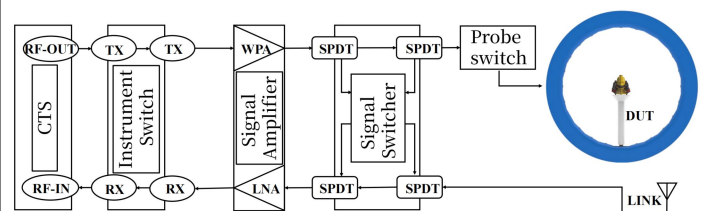
### RF Link of Passivemeasurement



### RF Link Overview



### RF Link of Passivemeasurement







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Documentation

Version:	Aug-21-2025-A01
Date:	2025-08-21
Note:	First released
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