

Antenna Datasheet

4G External Patch Antenna

Model:

BW4GTWX105-15SL1000J

Description:

700-2700MHz External Patch Antenna with SMA Male Jack RG174 1000mm Length

Features:

700-2700MHz Frequency Range

SMA Male Jack (Inner Thread, Inner Pin) Connector

Cable Type: RG174

Cable Length: 1000mm

360° Omnidirectional Radiation

Dimensions: 116mm x 21.6 mm

Compliant with RoHS & REACH Regulations

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BW4GTWX105-15SL1000J

Part Number Explanation

BW	Company	Bat Wireless
4G	Frequency	700-2700MHz
T	Name	Patch Antenna
W	Type	External
X	Constant	X
105-15	Dimensions	116-21.6mm
S	Connector	SMA
L	Length	Length
1000	Cable Length	1000mm
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	RG0.81	RG1.13	RG1.37	RG174	RG178	RG316	Customizable

1. Description

The Bat Wireless BW4GTWX105-15SL1000J is a high-performance omnidirectional external patch antenna specifically designed for the 4GHz frequency band. It combines strong penetration, omnidirectional coverage, and easy deployment features. Adopting a microstrip external patch structure, the antenna is thinner and lighter than traditional omnidirectional antennas, making it suitable for embedded or external installation and long-term use in complex environments. The adhesive mounting mode allows for easy installation on device casings, walls, or metal surfaces, enabling quick deployment. Its compact and lightweight design further meets the needs of scenarios such as vehicle-mounted, industrial, and outdoor applications, providing stable and low-loss connections for outdoor CPEs, security monitoring equipment, and industrial IoT devices.

Classic Application Scenarios:

Outdoor CPEs/Routers: Solve the problem of weak 4G signal coverage in homes and enterprises.

Industrial Internet of Things (IIoT): Communication for smart meters, remote monitoring, and AGV (Automated Guided Vehicles).

Vehicle-mounted Communication: Deployment of 4G/Wi-Fi hotspots in logistics vehicles and buses.

Security Monitoring: Wireless data transmission for 4G cameras and emergency communication devices.

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
Electrical Characteristics			
Antenna Type	Patch Antenna		
Frequency Range	700-2700	MHz	
Input Impedence	50	Ω	
V.S.W.R	<1.7		
Gain	1	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
Mechanical Characteristics			
Dimensions	116 x 21.6	mm	
Connector Type	SMA-J Male (Customizable)		
Cable Type	RG174		
Cable Length	1000	mm	
Mount way	Screw-on		
Color	Black		
Meterial	ABS		
Weight	25	g	
Environmental Characteristics			
Waterproof Rating	-		
ROHS Complaint	Compliant		
Operating Temperature	-45~ +85	$^{\circ}\text{C}$	
Storage Temperature	-45~ +85	$^{\circ}\text{C}$	

3. Product Picture



5. Test Equipment



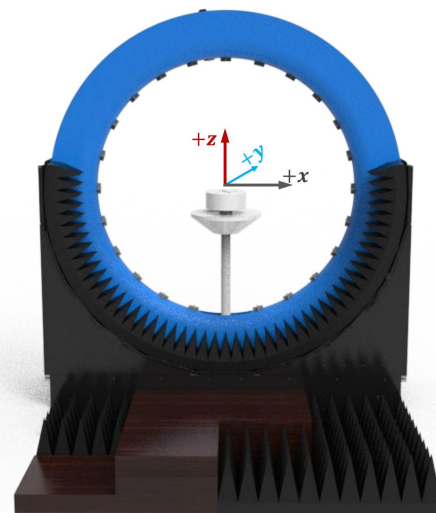
Keysight/E5071C Network Analyzer



R&S/CMW500 Comprehensive Tester



R&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

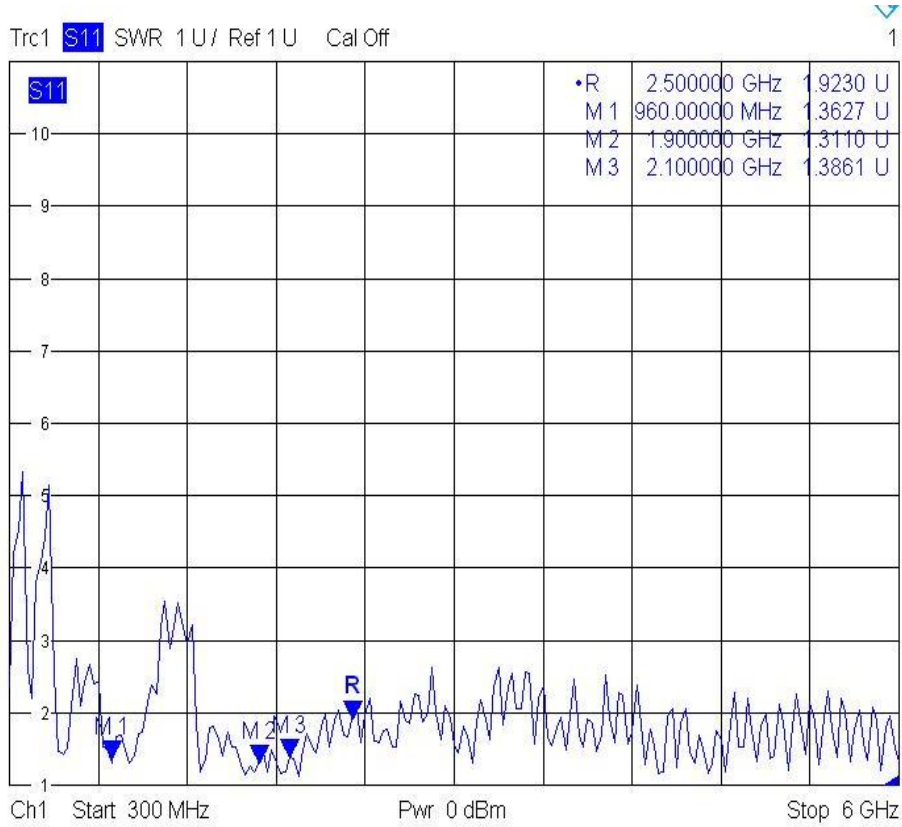


RF Link of Passive measurement

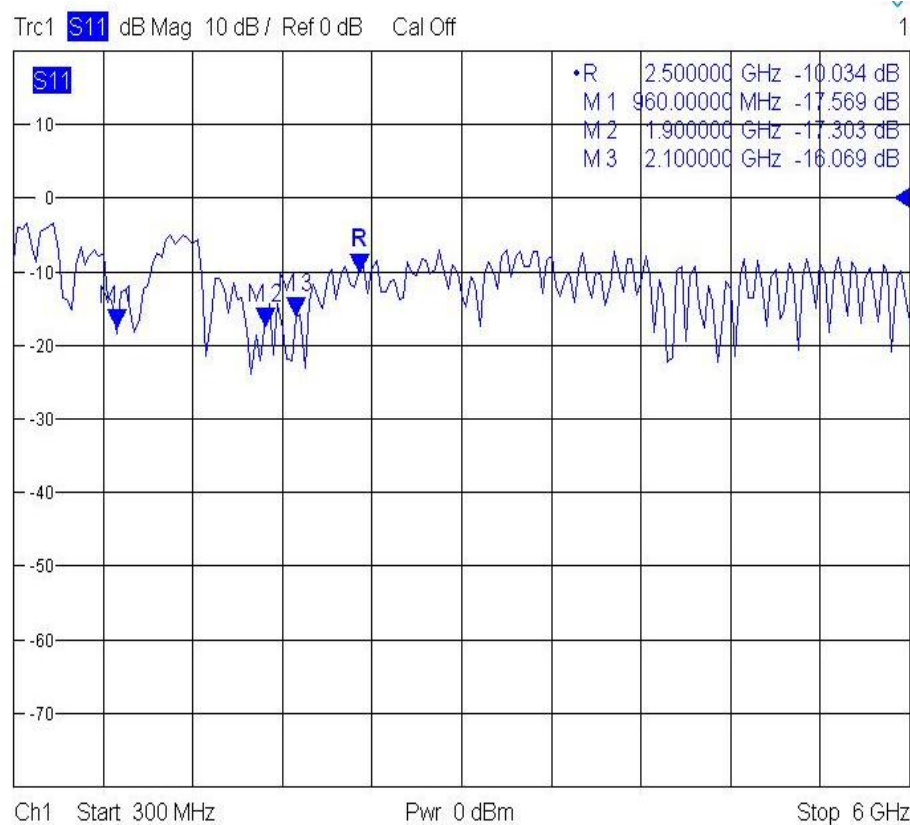


6. Performance Data

6.1 VSWR

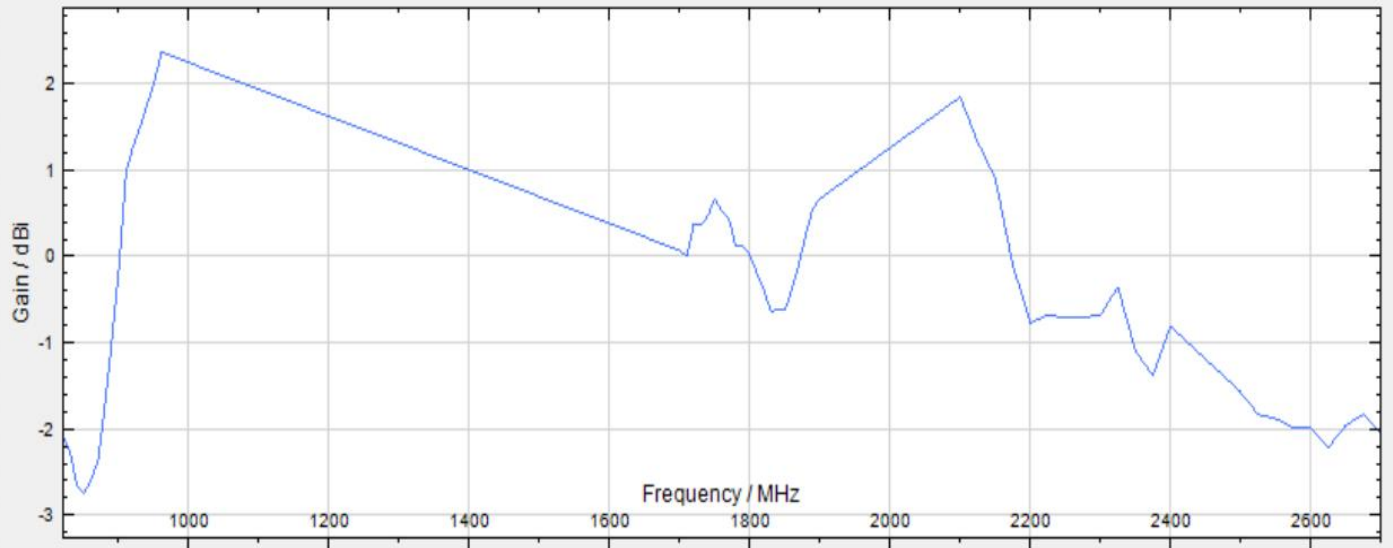


6.2 Return Loss

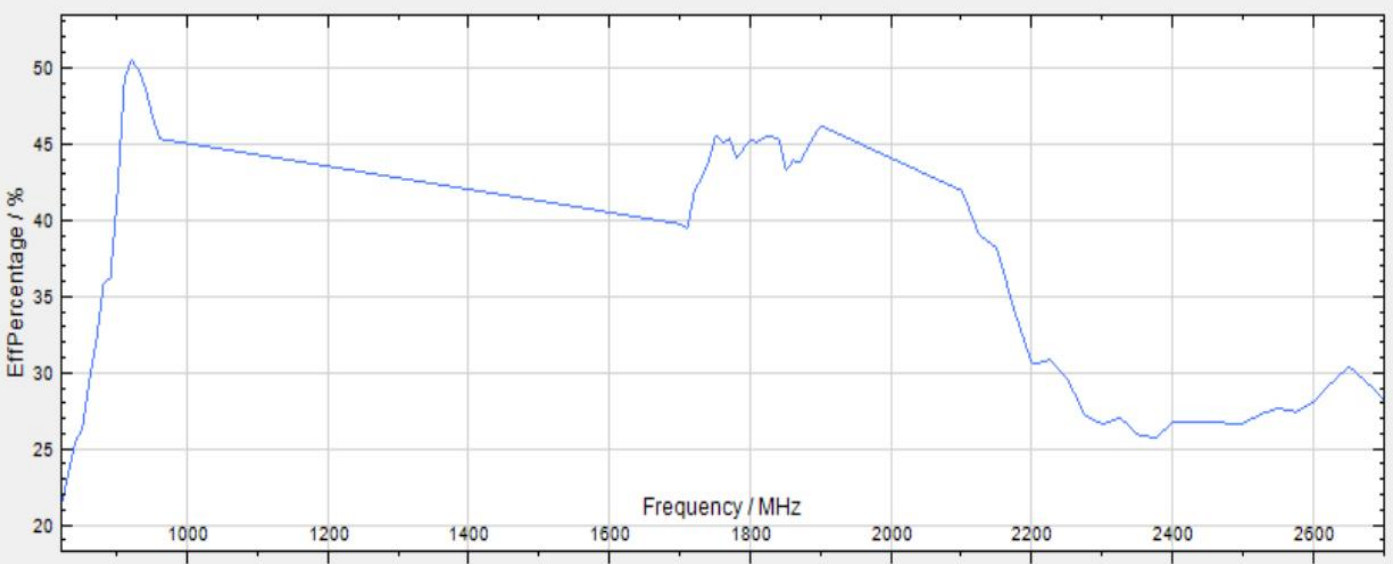


6. Performance Data

6.3 Gain



6.4 Efficiency

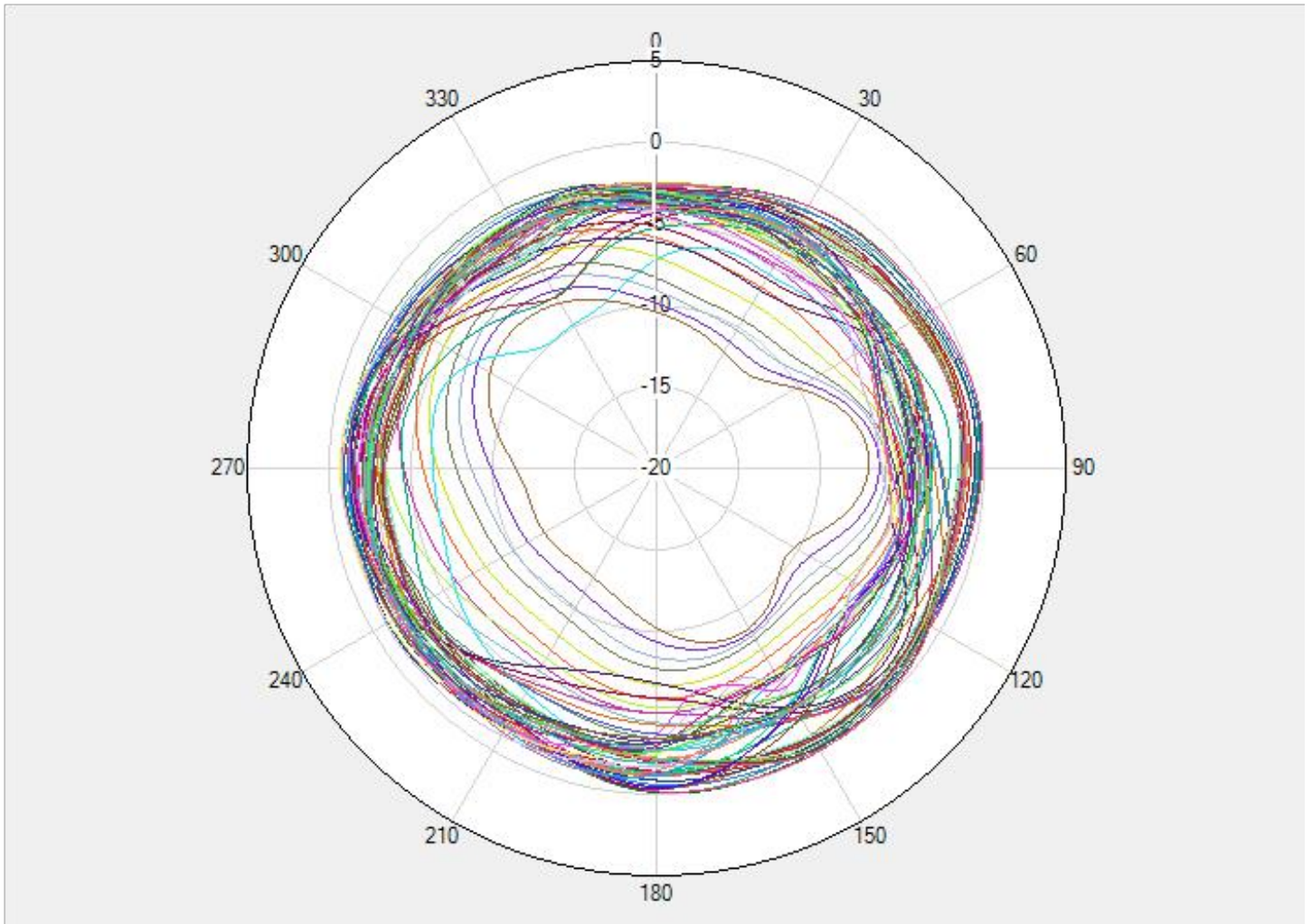


6.5 Gain and Efficiency

Frequency (MHz)	824-960	1710-2170	2300-2400	2500-2690
Gain (dBi)	2.38	0.68	1.86	-1.56
Efficiency (%)	45.39	46.24	41.98	26.73

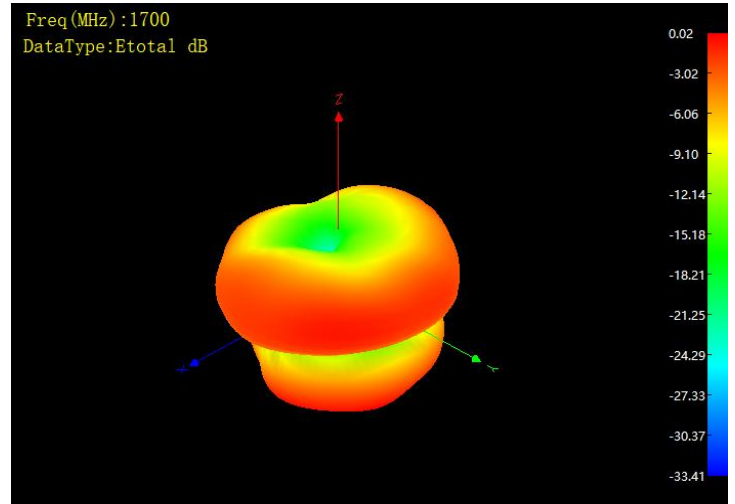
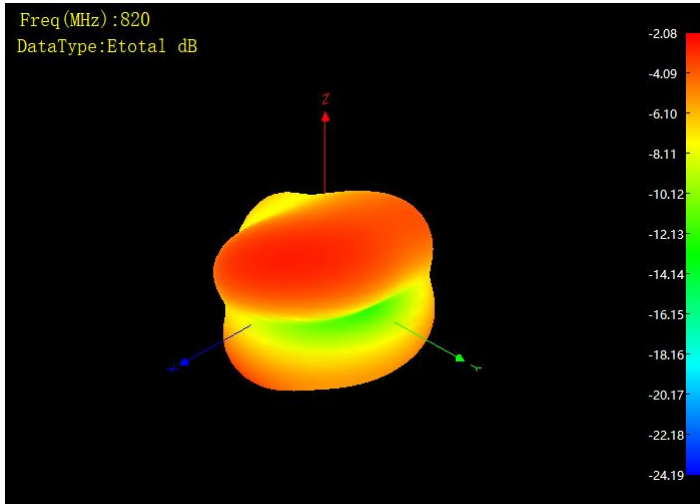
7. Radiation Patterns

7.1 2 D Radiation Patterns

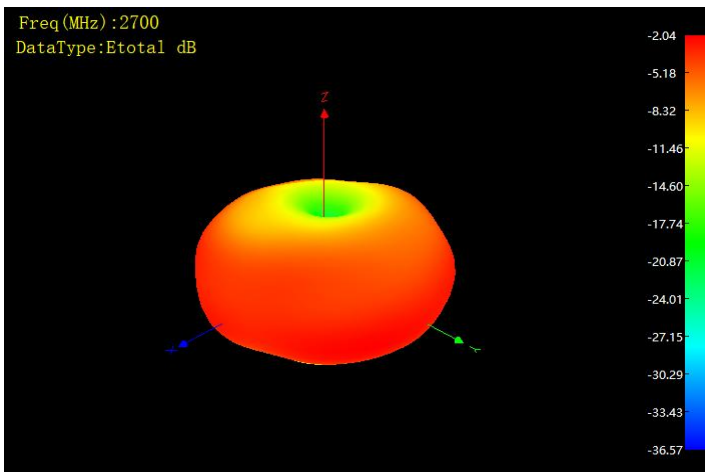
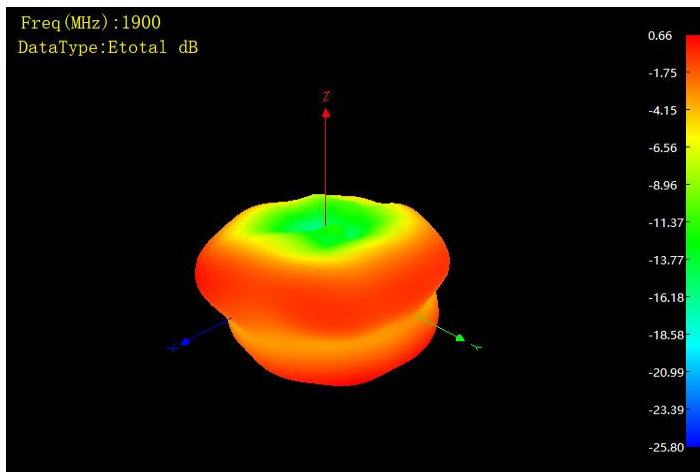




7.2 3D Radiation Patterns—820MHz、1700Mhz



7.2 3D Radiation Patterns—1900MHz、2700Mhz





DECLARATION:

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