



Antenna Datasheet

FPC Antenna

Type:

BW2.4FND35-10B1L400

Description:

2.4G/5.8G FPC Antenna

Feature:

2400-2500MHz

5150-5850MHz

Structure: 360° Omnidirectional Radiation

Wire Type: RG1.13

Wire Length: 400mm

Size: 35.2mm x 9.6mm

RoHS & REACH Compliant



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BW2.4FND35-10B1L400

Description

BW	Company	Bat Wireless
2.4	Frequency	2400-2500MHz, 5150-5850MHz
F	Name	FPC Antenna
N	Type	Internal
D	Constant	D
35-10	Dimensions	35-10mm
B1	Connector	IPEX-1
L	Wire Length	Wire Length
400	Length	400

Selection Table

Connector	IPEX-1	IPEX-2	IPEX-3	IPEX-4	IPEX-5	SMA	customization
Wire Length	100	150	200	250	300	500	customization
Wire Type	RG0.81	RG1.13	RG1.37	RG174	RG178	RG316	customization

1. Description



Bat Wireless BW2.4FND35-10B1L400 is a flexible antenna widely used in wireless communication systems. It is fabricated on a flexible substrate, allowing it to be bent, folded, and adapted to curved surfaces or confined spaces for installation. The use of flexible materials such as polyimide enables the circuit to conform to complex spatial layouts, making it suitable for applications like wearable devices and foldable smartphones. With a typical thickness of 0.1–0.3 mm, it helps reduce device weight and improves portability. Offering high-frequency performance, excellent flexibility, and high integration, this antenna is a key component enabling the miniaturization and high performance of wireless devices.

Classic Application Scenarios:

- Consumer Electronics: Bluetooth earphones, smartwatches, drone remote controllers
- Industrial Applications: RFID tags, wireless sensors
- Automotive Electronics: Tire pressure monitoring systems (TPMS), vehicle-mounted antennas

Bat Wireless offers customized services to optimize your equipment, and we have an established 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	FPC Antenna		
Frequency Range	2400-2500, 5150-5850	MHz	
Input Impedence	50	Ω	
V.S.W.R	<2		
Gain	2-3	dBi	
Polarization Type	Vertical		
Power Capacity	50	W	
Lightning Protection	-		
DC Voltage	-	V	
Radiator	-		
Mechanical Characteristics			
Dimensions	35.2 x 9.6	mm	
Connector Type	IPEX-1 (customization)		
Cable Type	RG1.13 (customization)		
Cable Length	400 (customization)	mm	
Mount way	Snap Fastener		
Color	Black		
Meterial	FPC		
Weight	-	g	
Environmental Characteristics			
Waterproof Rating	-		
ROHS Complaint	Compliant		
Operating Temperature	-45~ +85	°C	
Storage Temperature	-45~ +85	°C	

3. Dimensions



Pictures are for reference only, actual product may vary.



4. Mechanical Drawing

BOM					
ITEM	COMPONENT	DESCRIPTION	Q'TY	P/N	VENDOR
1	CABLE	RF1.13 L=400MM Black	1PCS		
2	Connector	CM-113-BU	1PCS		
3	PCB	35.2*9.6mm Silk- 2.4/5GHz Ver1.0 White screen	1PCS		

400 ± 5mm

9.6000

35.2000

2.4/5GHz Ver1.0

RFL13 Black

IPEX-1

9.6000

35.2000

DRAW		DESIGN		CHECK	
Angle	±1°	101°	±3.0	31°	±2.0
~	~	~	~	~	~
~	~	~	~	~	~

TITLE: 2.4/5G	
PART NO.	BW2.4FND35-10B1L400
CUS. P/N	
DRAWING NO.	
SCALE	
UNIT	mm
A4	

5. Test Equipment



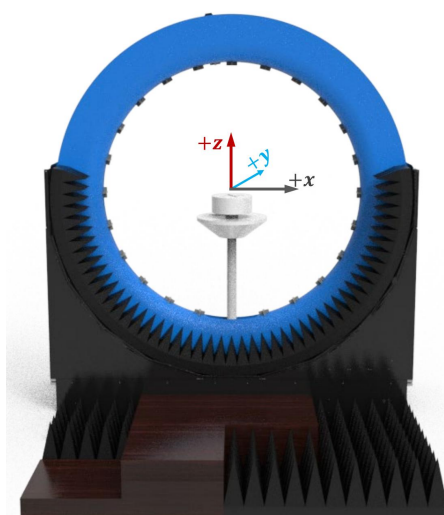
Keysight/E5071C Series Network Analyzer



R&S/CMW500 Communication Tester



R&S/SMBV100B Vector Signal Generator



DT-3500 Datasheet

Specification:

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

Testing Capability

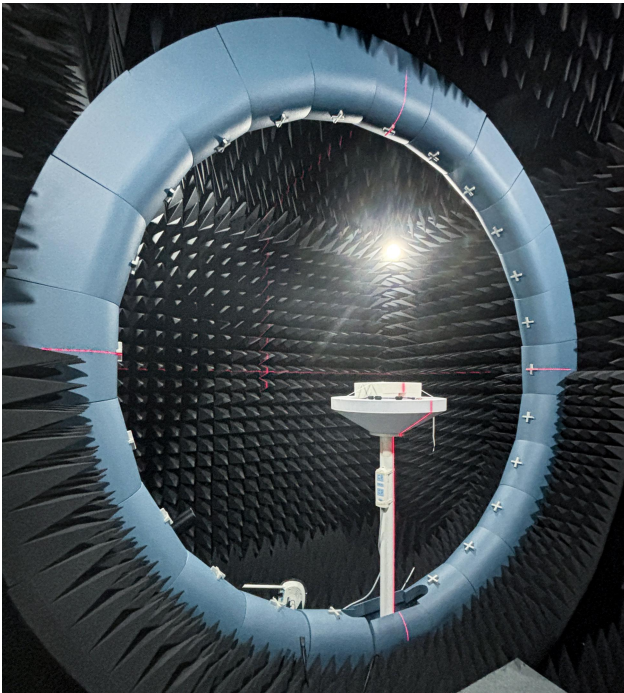
Description

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

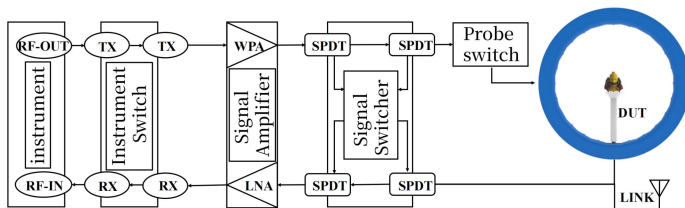
Passive measurement

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

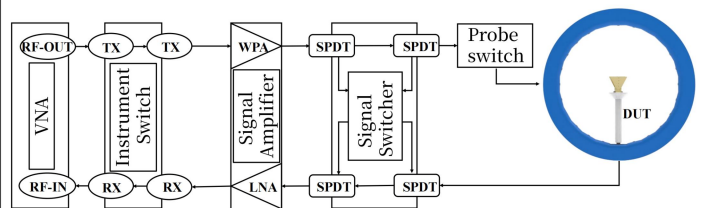


RF Link diagram of multi probe spherical near-field testing system

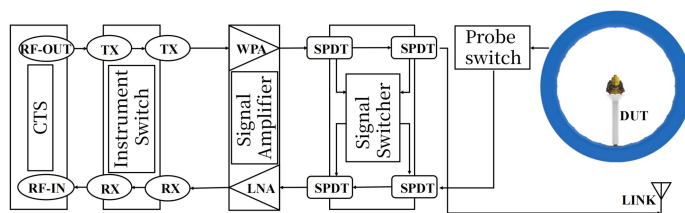
RF Link Overview



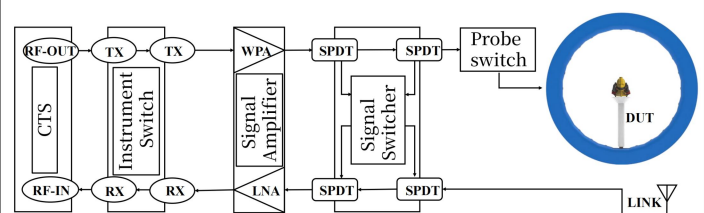
RF Link of Passive measurement



RF Link Overview



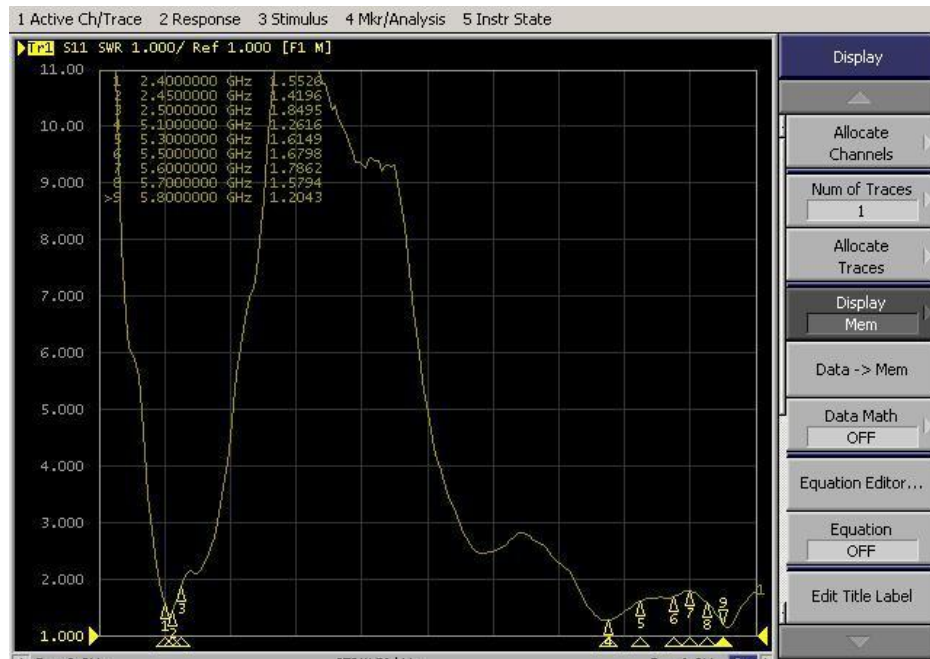
RF Link of Passive measurement



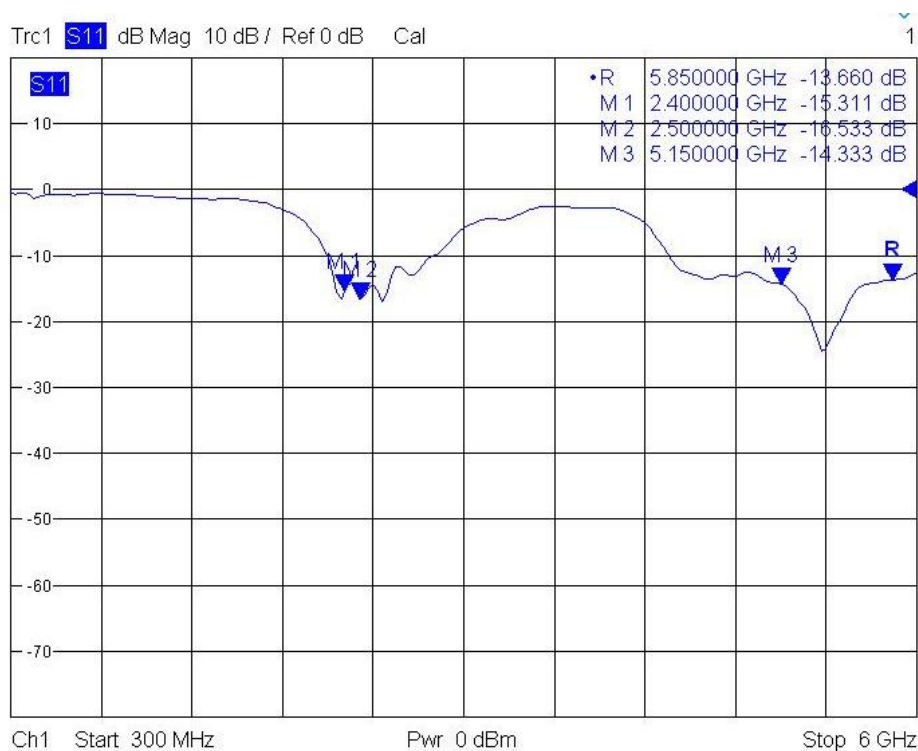


6. Performance Data

6.1 VSWR



6.2 Return Loss



6. Performance Data

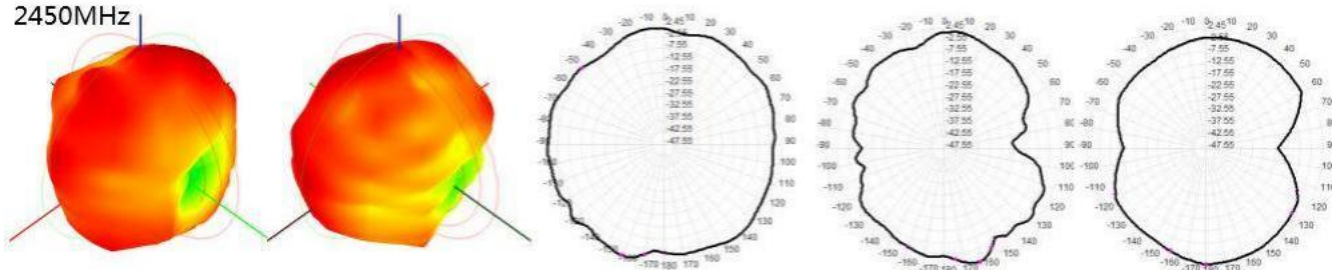
6.3 Gain and Efficiency

FEITUKEJI											
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	2.52	2.54	2.15	2.93	2.82	3.02	2.98	2.90	3.09	2.68	2.92
Efficiency (%)	46.28	45.23	46.18	47.36	51.27	52.07	51.68	52.99	50.48	49.63	48.61

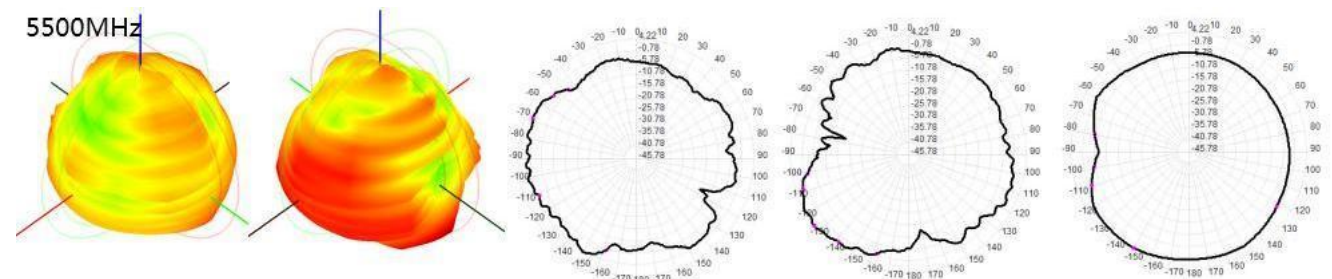
FEITUKEJI														
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0
Gain (dBi)	4.18	4.22	4.79	4.63	3.81	3.64	3.99	4.20	3.91	4.05	4.00	4.15	3.59	3.68
Efficiency (%)	54.18	51.18	48.58	50.86	50.87	47.95	48.76	47.41	46.38	46.31	49.49	47.79	48.61	49.94

6.4 2D,3D Radiation Patterns

2450MHz



5500MHz



Documentation

Version:	August-5-2025-A01
Date:	2025-8-5
Note:	First update
Editor:	Carly

Change Log



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