



Antenna Specifications

Antenna Datasheet

2.4GShort rubber stick antenna

model:

BW2.4JWX27-10ZJ

describe:

2400-2500MHzShort rubber stick antennaSMAStraight head internal screw and internal needle interface

characteristic:

2400-2500MHzFrequency range

SMAStraight head internal screw and internal needle interface

structure:

360°Omnidirectional radiation

size:27mm xø10mm conform to

RoHS & REACHRegulation



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In the spirit of providing the best service to our users, Shenzhen Bat Wireless Technology Co., Ltd. (hereinafter referred to as "Bat Wireless") strives to provide users with detailed and accurate product information in this manual. However, due to the timeliness of the content in this manual, Bat Wireless cannot guarantee its currency and applicability at all times. Bat Wireless reserves the right to update the content of this manual without prior notice. To obtain the latest version of this information, please regularly visit the Bat Wireless official website or contact Bat Wireless staff. Thank you for your understanding and support!



BW2.4JWX27-10ZJ

Part Number Description		
BW	company /Company	Bat Wireless /Bat Wireless
2.4	Frequency band /Frequency	2400-2500MHz / 2400-2500MHz
J	Name /Name	Glue stick antenna /Rubber Antenna
W	type /Type	External /External
X	constant /Constant	X / X
27-10	size /Dimensions	27x10mm / 27x10mm
Z	Features /Feature	Straight /Straight
J	Interface /Connector	SMAInternal screw and internal needle /SMA Male

1. Product Description/Description



Bat WirelessBW2.4JWX27-10ZJIt is a high-performance omnidirectional antenna, a straight antenna with bionic design, while maintaining27mmWhile compact in size, it achieves breakthrough RF performance through its unique form factor. Featuring a high-quality plastic housing and a straight, non-foldable head, it boasts excellent signal reception and transmission capabilities, providing stable and reliable support for device connections. Its compact and lightweight, rubber-stick design makes it easy to install and transport.

Classic application scenarios:

Industry4.0: Real-time monitoring of CNC machine tools

Smart Healthcare: Surgical Robot Control

Intelligent Transportation: Rail Contact Network Monitoring

Energy Internet of Things: Substation Inspection Robot

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 andFAE.



2. Product Specifications/Specification

Parameters /Parameters	Typical value /Typ.	Unit /Unites	Remark /Notes
Electrical characteristics /Electrical Characteristics			
type /Antenna Type	Glue stick antenna /Rubber Antenna		
Frequency /Frequency Range	2400-2500	MHz	
Input impedance /Input Impendence	50	Ω	
Standing wave ratio /VSWR	<2.5		
Gain /Gain	2.8	dBi	
Polarization mode /Polarization Type	vertical /Vertical		
Power capacity /Power Capacity	50	W	
Lightning protection /Lightning Protection	-		
Working voltage /DC Voltage	-	V	
Radiator /Radiator	-		
Mechanical properties /Mechanical Characteristics			
size /Dimensions	27 x ϕ 10	mm	
Interface type /Connector Type	SMAInternal screw and internal needle /SMA Male		
Cable Model /Cable Type	-		
Cable length /Cable Length	-	mm	
Installation method /Mount way	Twist		
color /Color	black		
Material /Material	ABS		
weight /Weight	2.26	g	
Environmental characteristics /Environmental Characteristics			
Protection level /Waterproof Rating	-		
ROHSstandard /ROHS Complaint	conform to		
Operating temperature /Operating Temperature	-45~+85	$^{\circ}\text{C}$	
Storage temperature /Storage Temperature	-45~+85	$^{\circ}\text{C}$	



3. Actual picture/Dimensions



April-14-2025-A01



5. Test equipment/Test Equipment



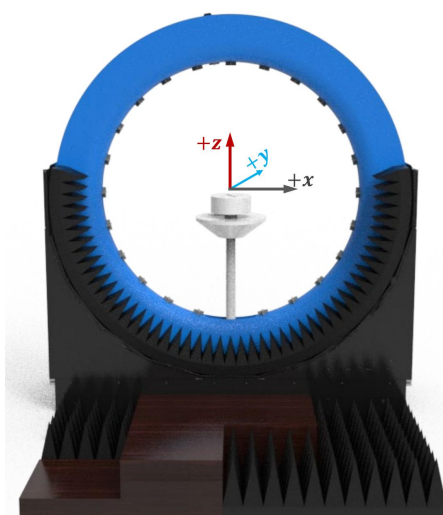
Keysight/E5071C Network Analyzer



R&S/CMW500 Comprehensive tester



R&S/SMBV100B Signal Source



DT-3500 Datasheet /System Specifications

Specification:	Description
Test Frequency /Test frequency domain:	400MHz-8.5GMHz
System Size /System size:	L*W*H=4*3.5*3.5m
Number of Probes /Number of probes:	23 (Probe) + 1 (link)
Interval Angle /Sampling clamp:	15°
Sampling Diameter /Sampling diameter:	2200mm
Carring Capacity /Carrying capacity:	≤40kg

Testing CapabilityTesting capabilities

Description /Ability Description

Active measurement

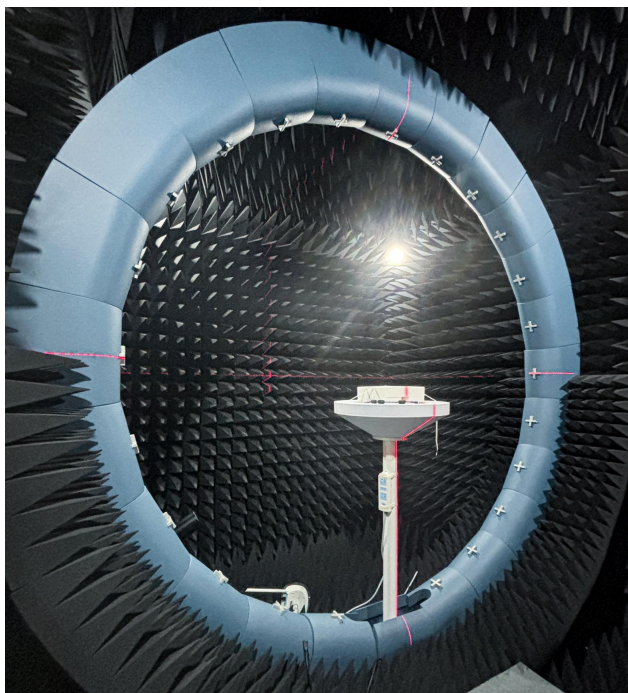
Active testing

Capability /Test indicators:TRP、TIS、EIRP、EIS, etc
Mode /Test format: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

Passive testing

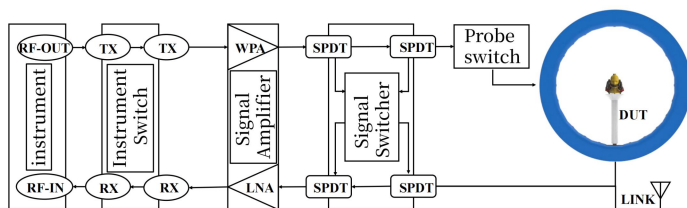
Test category /Test Type:Gain、Efficiency、2D pattern、3D pattern、Pattern roundness、Axial Ratio、ECC、Phase center,. etc
Polarization / Polarization:Circular polarization, linear polarization, elliptical polarization



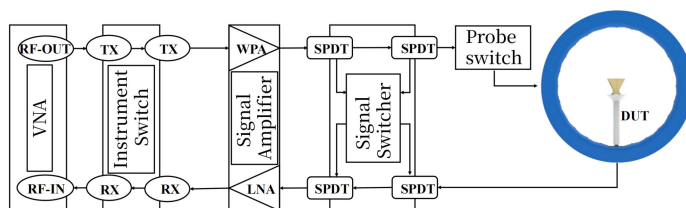
RF Link diagram of multi probe spherical near-field testing system

RF link diagram of multi-probe spherical near-field test system

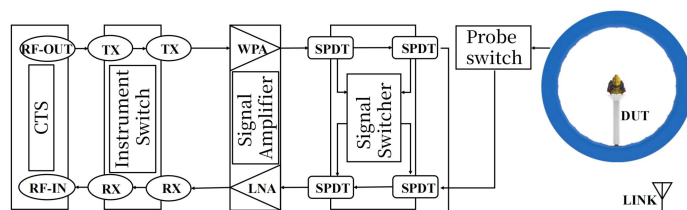
RF Link Overview
Total RF chain diagram



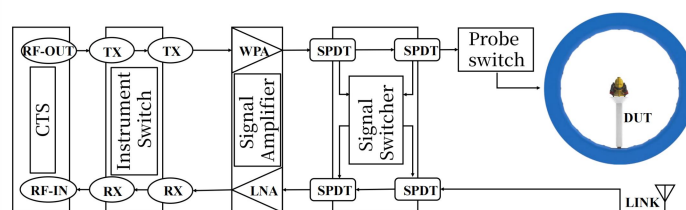
RF Link Overview
Passive test link diagram



RF Link Overview
Total RF chain diagram



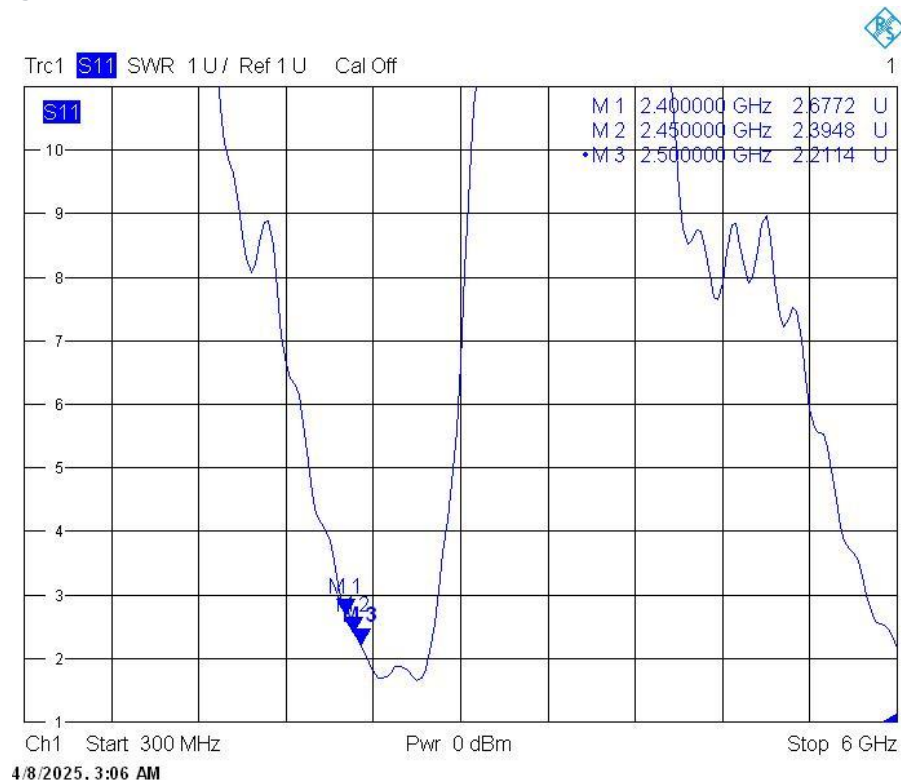
RF Link of Passive Measurement
Passive test link diagram





6. Performance data/Performance Data

6.1 VSWR/VSWR



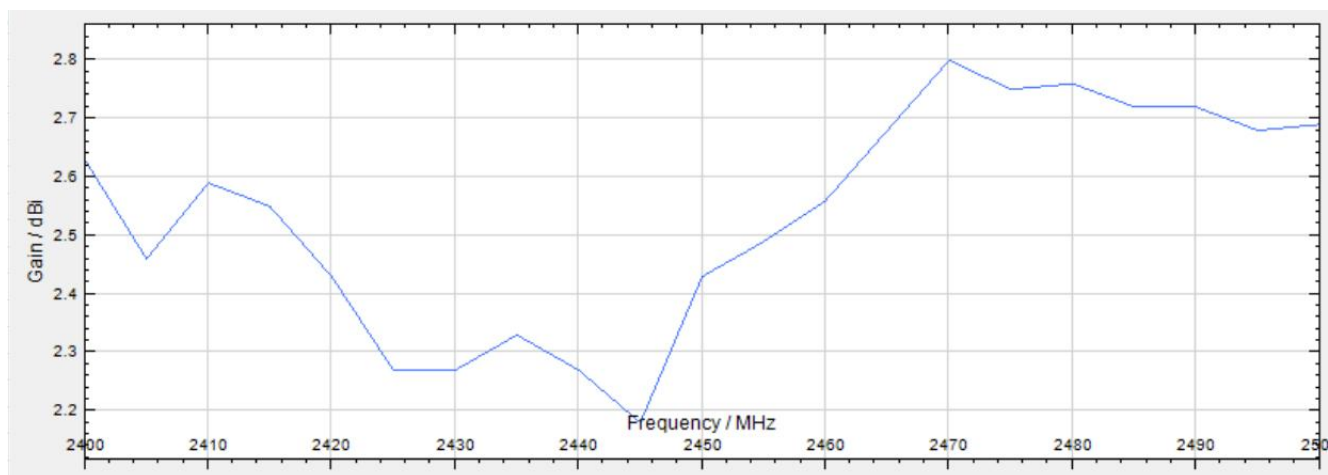
6.2 Return loss/Return Loss



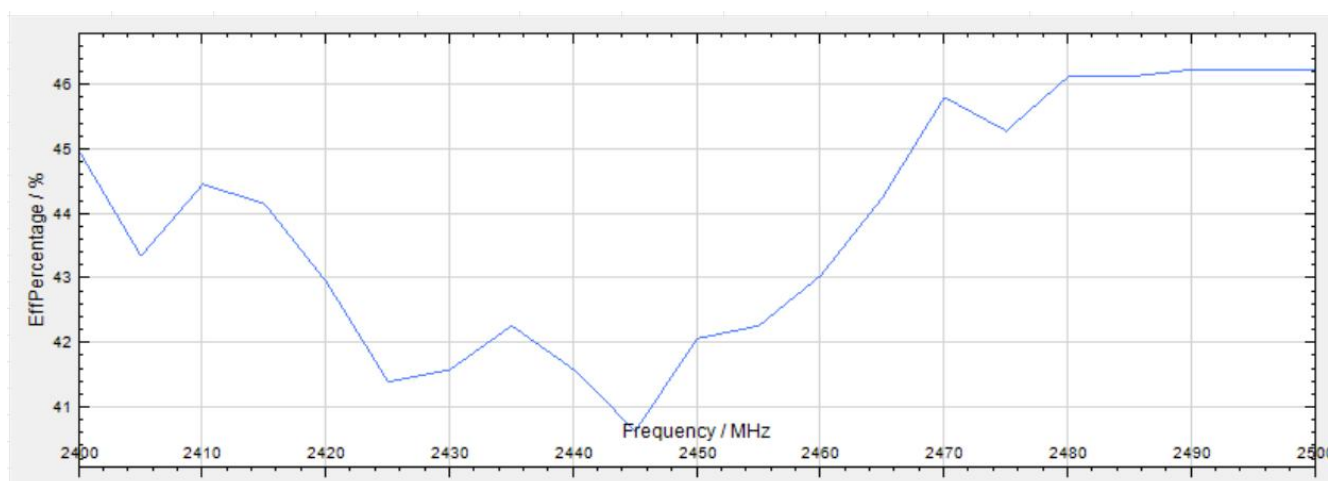


6. Performance data/Performance Data

6.3 Gain/Gain



6.4 efficiency/Efficiency



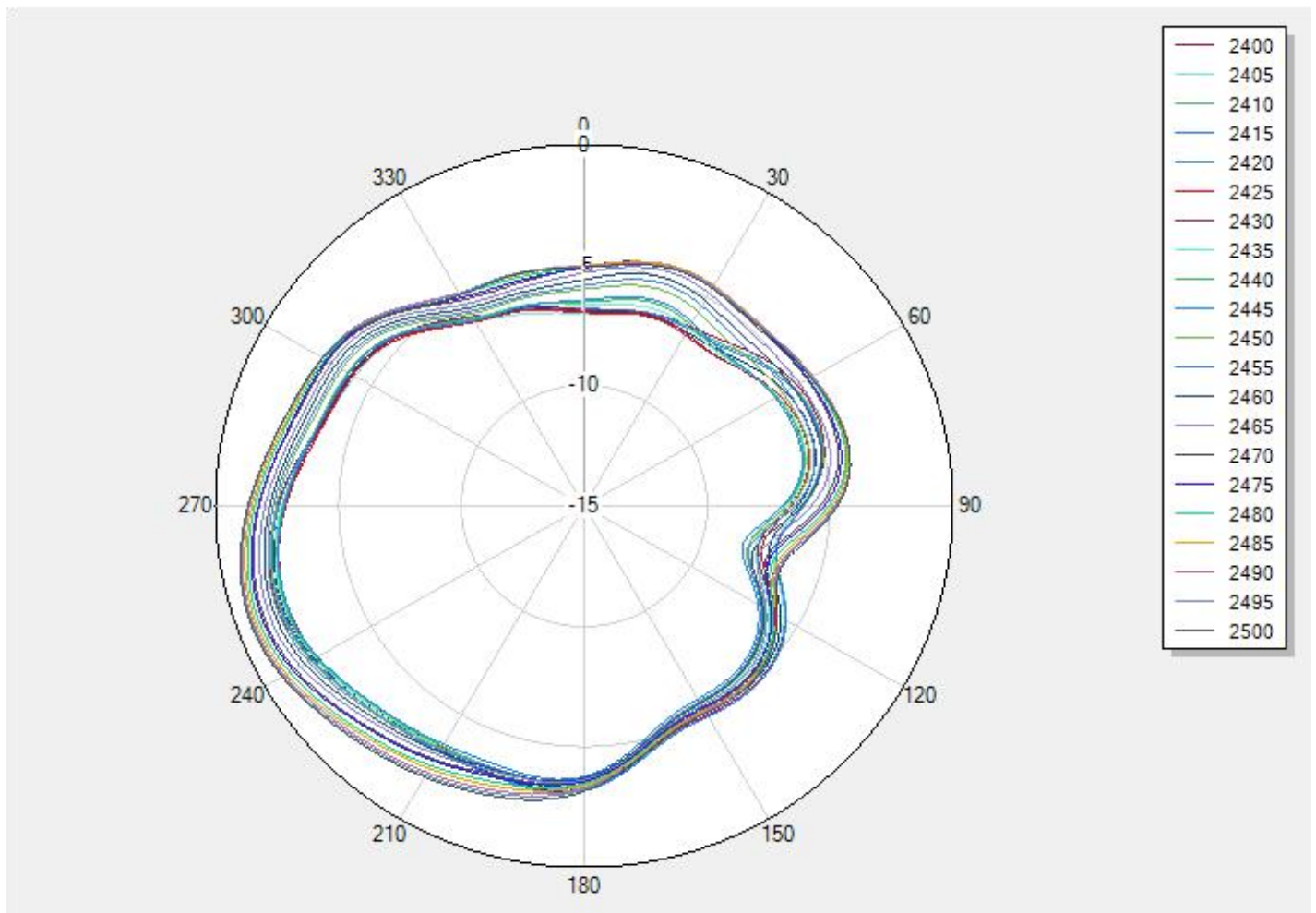
6.5 Antenna Gain and Efficiency

Frequency /Frequency (MHz)	2400	2425	2450	2475	2500
Maximum gain /Gain (dBi)	2.63	2.27	2.43	2.75	2.69
efficiency /Efficiency (%)	44.98	41.4	42.07	45.29	46.24



7. Radiation pattern/Radiation Patterns

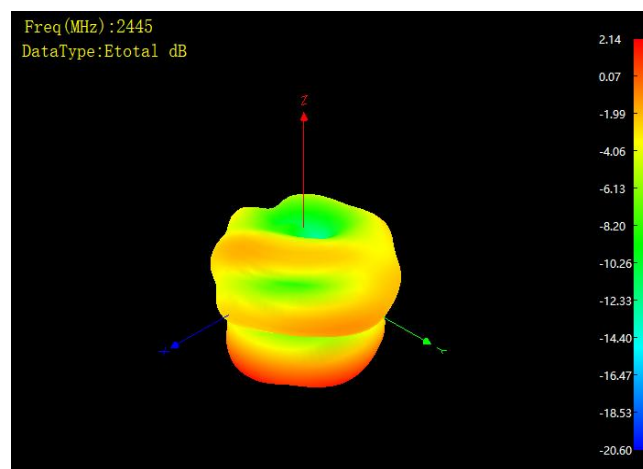
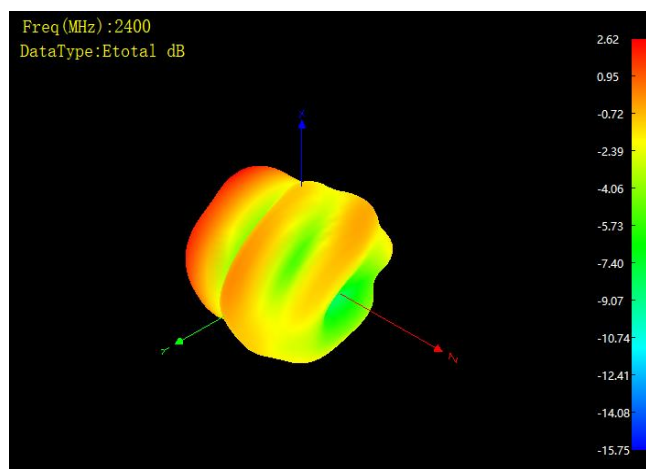
7.1 2DRadiation pattern diagram/Radiation Patterns





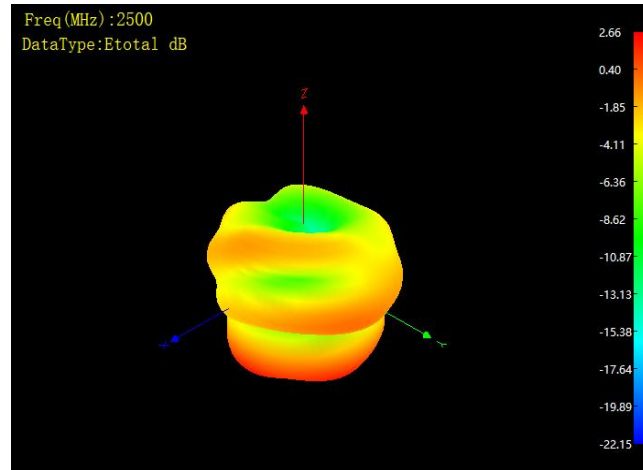
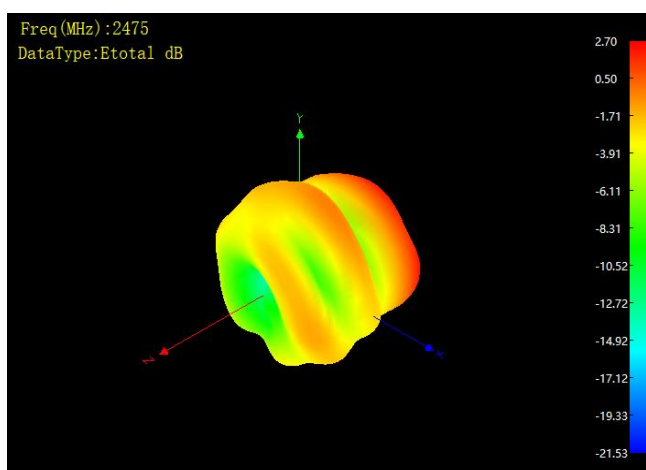
7.2

3DRadiation pattern diagram/3D Radiation Patterns—2400MHz、 2445MHz



7.3

3DRadiation pattern diagram/3D Radiation Patterns—2475MHz、 2500MHz





Documentation/Documentation	
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