

1. Description

BDE-W25-19513-HRP is a 2.4G & 5G dual band dipole antenna with hinged reverse polarity SMA connector.

Typical applications include:

- Bluetooth/ZigBee/2.4G ISM band
- Wi-Fi
- Gateways/Routers
- IoT Solutions

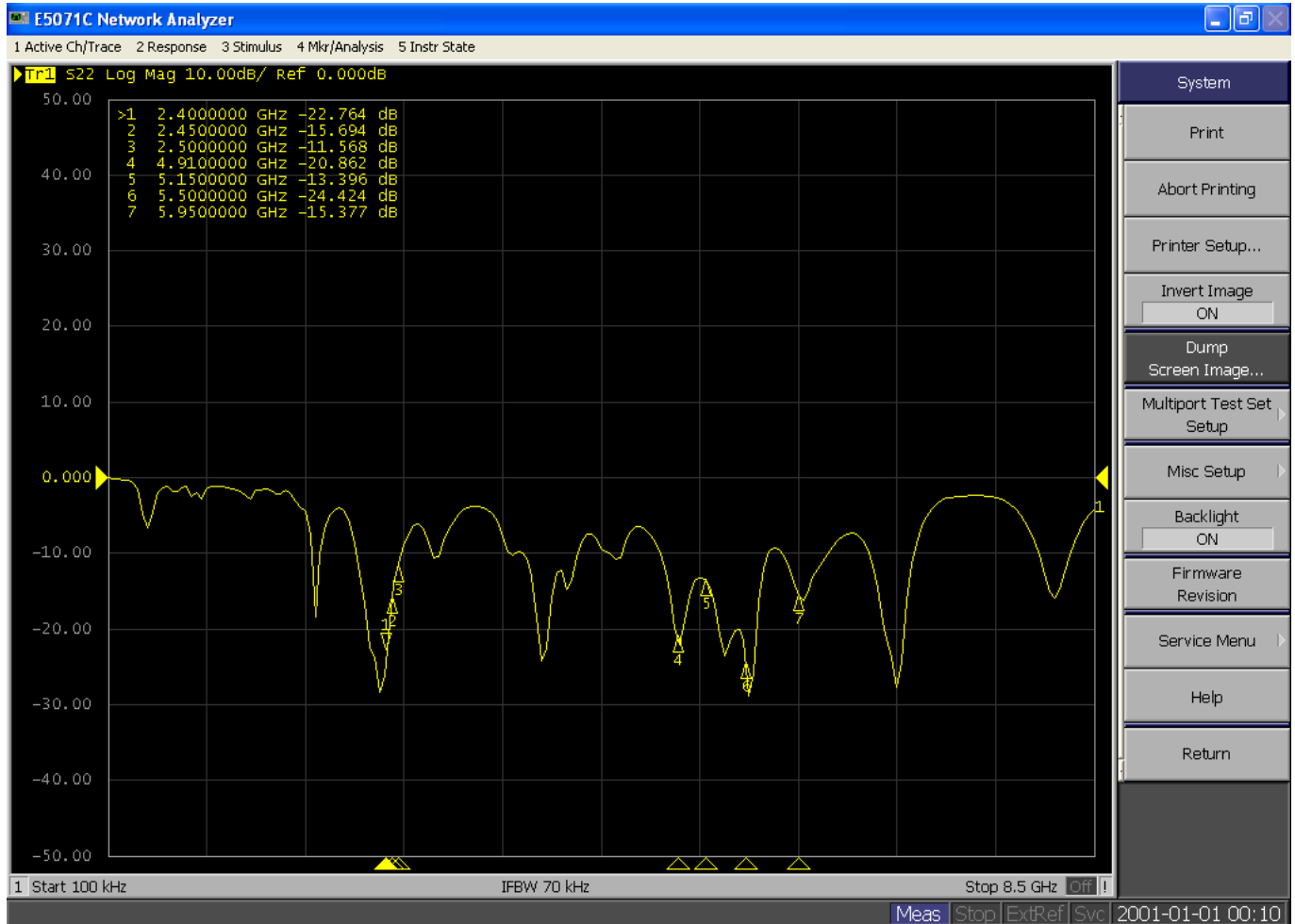


2. Specifications

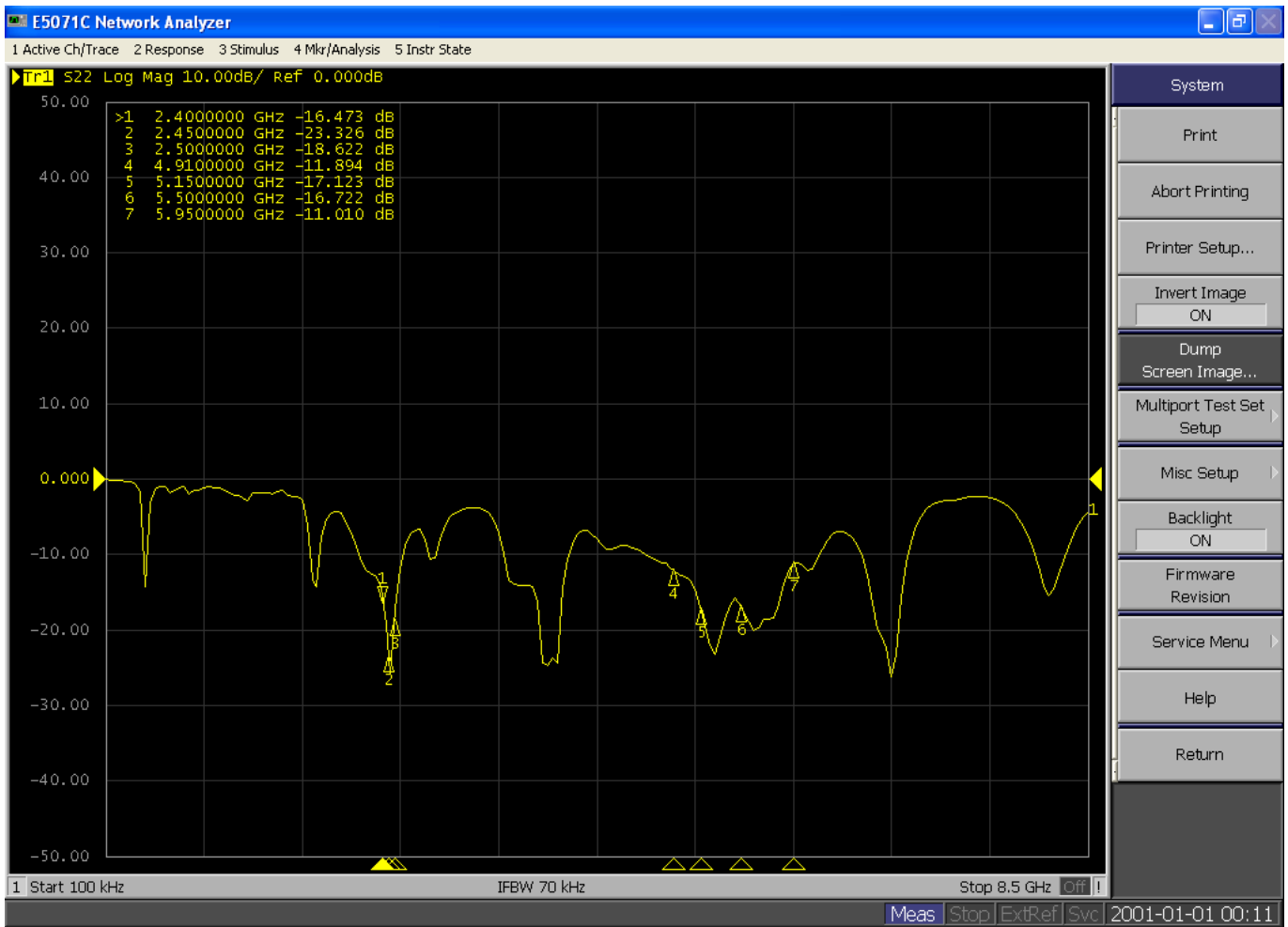
Electrical	
Frequency (MHz)	2400 - 2500, 4190 - 5850
Efficiency	69.20% @ 2.4G band
	51.3% @ 5G band
Peak Gain	3.0dBi @ 2.4G band
	1.83dBi @ 5G band
Impedance	50 ohm
Polarization	Linear, Vertical
Radiation	Omni-directional
Mechanical	
Heigh	Straight: 195±2mm
	Bent: 172±2mm
Diameter	Largest: 13±0.2mm
Casing	TPE
Connector	Hinged reverse-polarity SMA
Weight	16.3g
Environmental	
Temperature Range	-40°C to 85°C
IP Rating	IP67

3. Antenna Characteristics

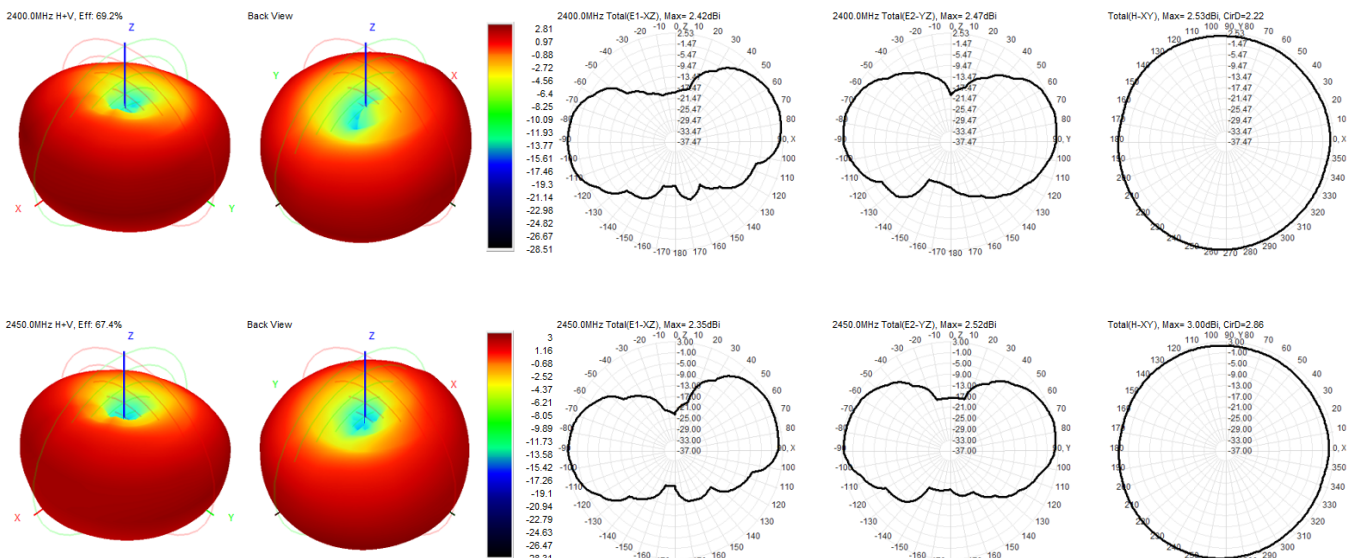
3.1 Return Loss – Straight Position



3.2 Return Loss – Bent Position (90 Degree)



3.3 Radiation Pattern

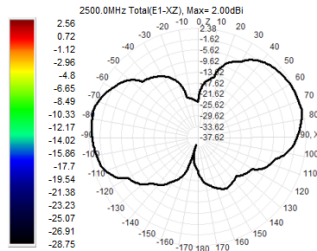
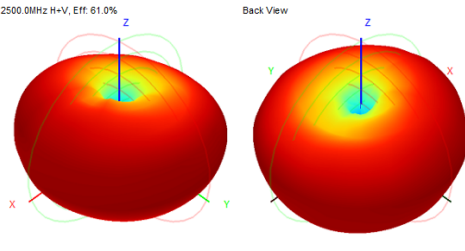


BDE-W25-19513-HRP

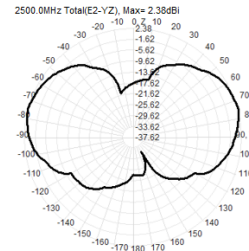
2440MHz Dipole Antenna

Datasheet

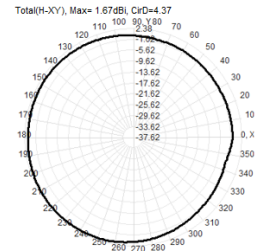
2500.0MHz H+V, Eff: 61.0%



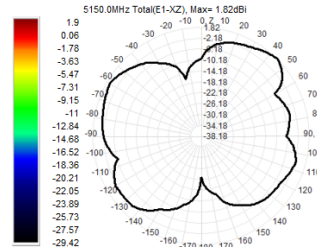
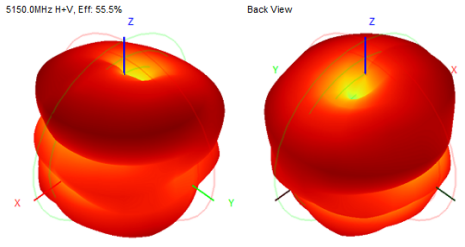
2500.0MHz Total(E2-YZ), Max= 2.38dBi



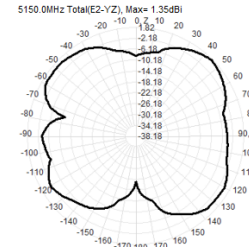
Total(H-XV), Max= 1.67dBi, CrD=4.37



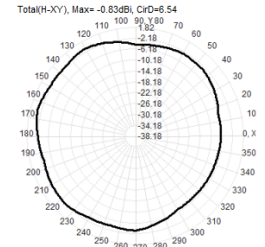
5150.0MHz H+V, Eff: 55.5%



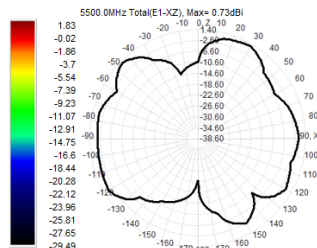
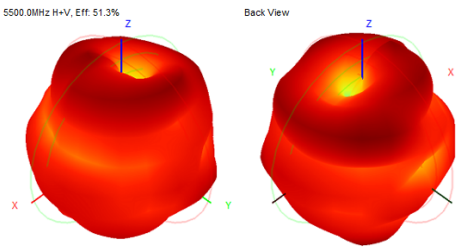
5150.0MHz Total(E2-YZ), Max= 1.35dBi



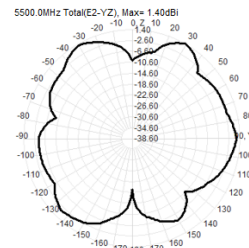
Total(H-XV), Max= -0.83dBi, CrD=6.54



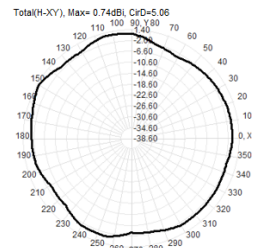
5500.0MHz H+V, Eff: 51.3%



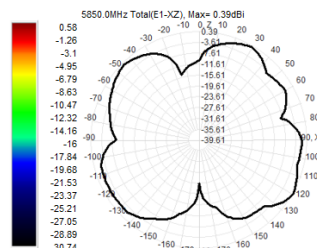
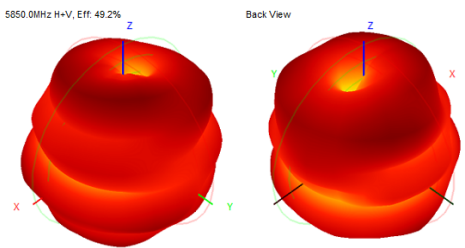
5500.0MHz Total(E2-YZ), Max= 1.40dBi



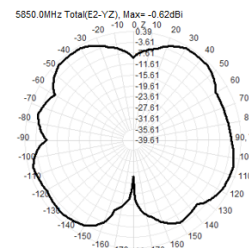
Total(H-XV), Max= 0.74dBi, CrD=5.06



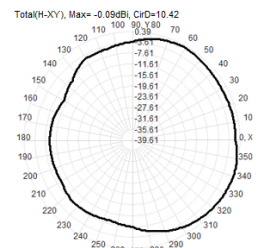
5850.0MHz H+V, Eff: 49.2%



5850.0MHz Total(E2-YZ), Max= -0.62dBi



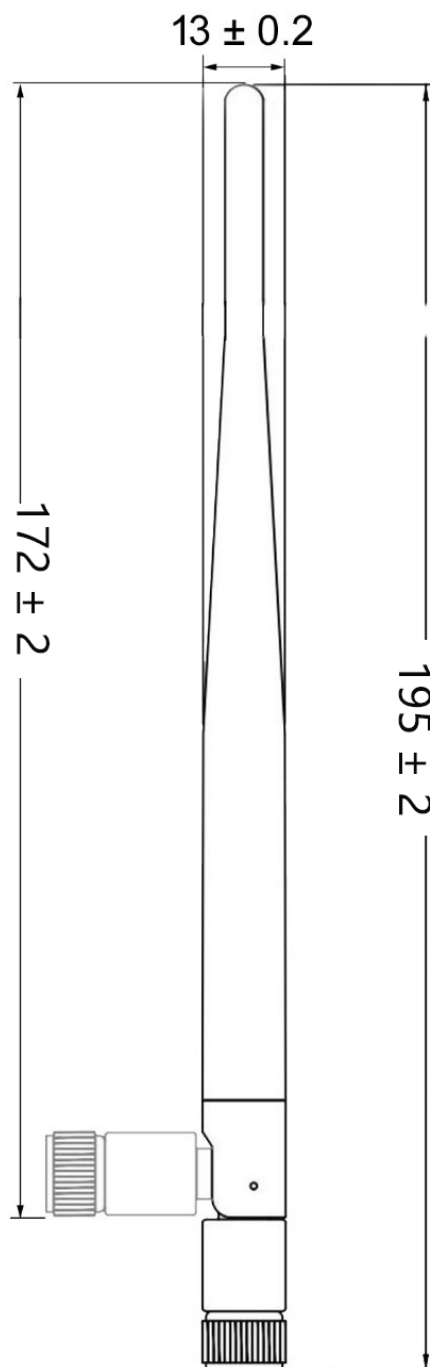
Total(H-XV), Max= -0.09dBi, CrD=10.42



3.4 Efficiency and Gain

Frequency (MHz)	Efficiency (%)	Gain (dBi)
2.4G Band		
2400	69.18	2.81
2410	69.20	2.83
2420	68.04	2.87
2430	66.11	2.75
2440	66.49	2.90
2450	67.40	3.00
2460	66.59	2.89
2470	63.97	2.48
2480	63.22	2.55
2490	62.35	2.44
2500	61.03	2.56
5G Band		
5150	55.46	1.9
5250	58.79	2.19
5350	54.52	1.99
5450	50.61	1.90
5550	50.12	1.34
5650	45.97	1.35
5750	45.24	1.24
5850	49.18	0.58

4. Mechanical Drawing



All dimensions are in millimeter.

5. Ordering Information

Orderable Part Number	Description
BDE-W25-19513-HRP-B	2.4/5GHz dipole antenna with RP-SMA connector, black
BDE-CA-110-IPX1-RP	IPEX I to reverse polarity SMA cable, 110mm

6. Revision History

Revision	Remark	Date
V1.0	Initial release	2024/8/21

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