

1. Description

BDE-W25-17010-HRP is a waterproof 2.4G & 5G dual band dipole antenna with hinged reverse polarity SMA connector.

The antenna is waterproof with an ingress protection rating of IP67, making it suitable for both indoor and outdoor use.

Typical applications include:

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

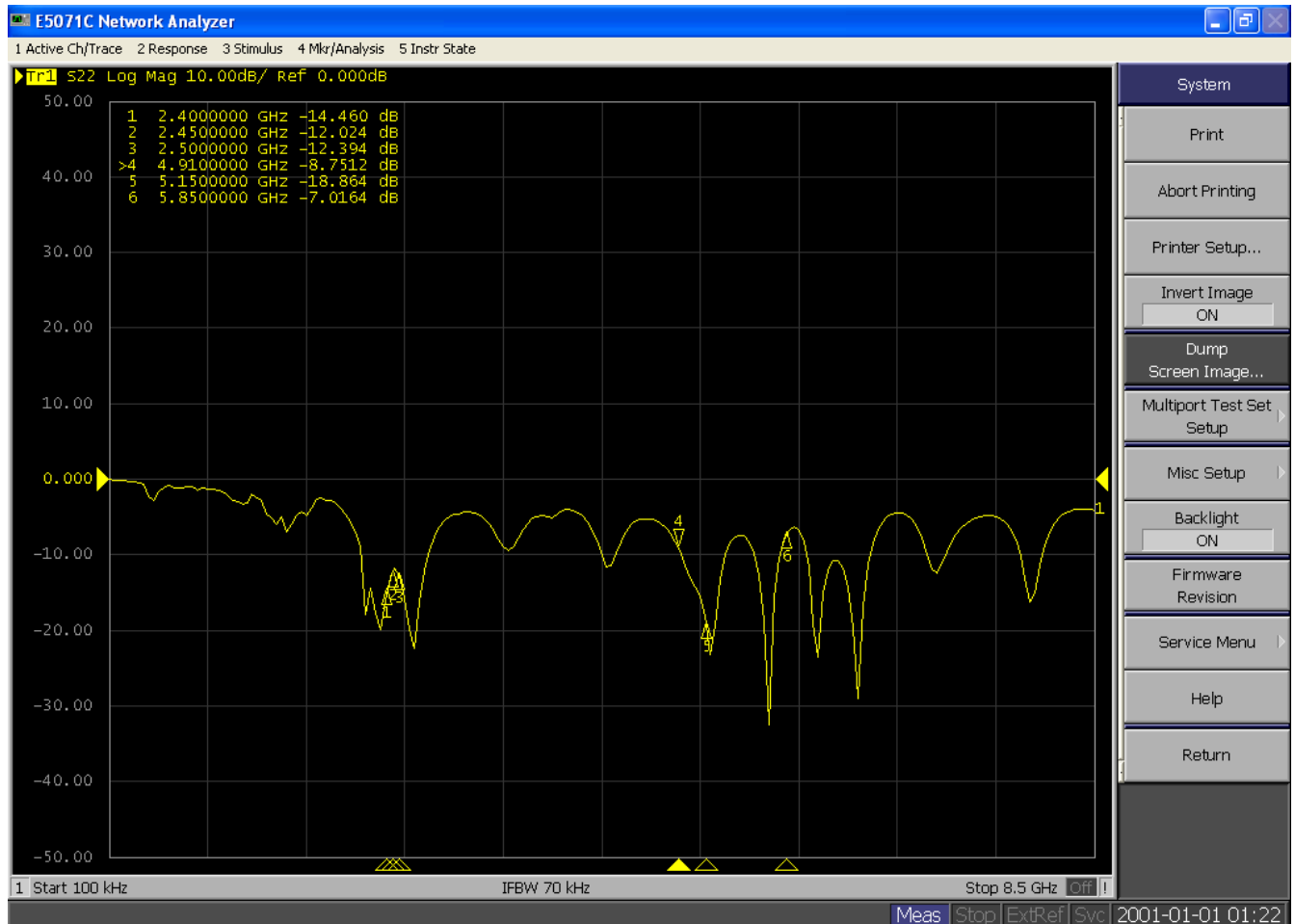


2. Specifications

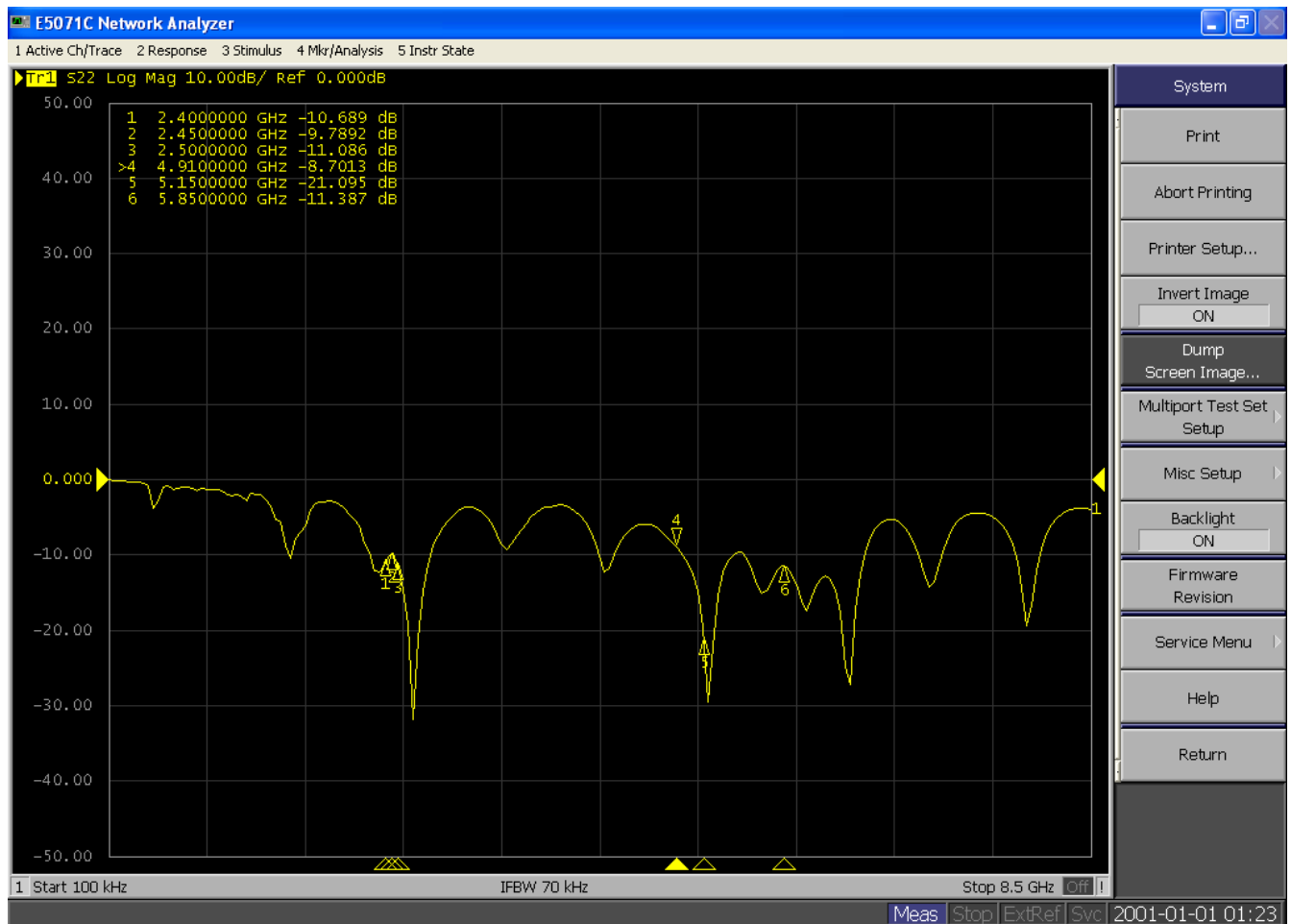
Electrical	
Frequency (MHz)	2400 - 2500, 4190 - 5850
Efficiency	71% @ 2.4G band
	66% @ 5G band
Peak Gain	2.7dBi @ 2.4G band
	2.3dBi @ 5G band
Impedance	50 ohm
Polarization	Linear, Vertical
Radiation	Omni-directional
Mechanical	
Height	Straight: 170±3mm
	Bent: 150±3mm
Diameter	Largest: 10mm
Casing	TPE
Connector	Hinged reverse-polarity SMA
Weight	11.2g
Environmental	
Temperature Range	-40°C to 85°C
IP Rating	IP67

3. Antenna Characteristics

3.1 Return Loss – Straight Position

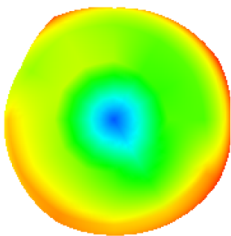


3.2 Return Loss – Bent Position (90 Degree)

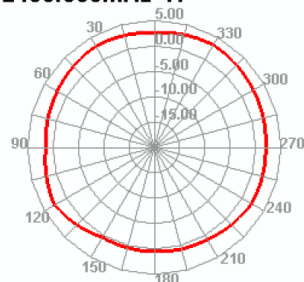


3.3 Radiation Pattern

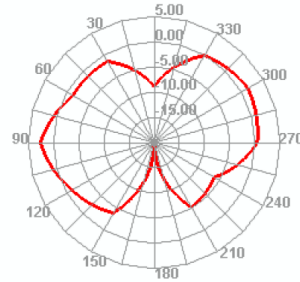
2400.000MHz



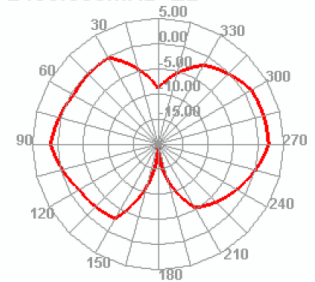
2400.000MHz H



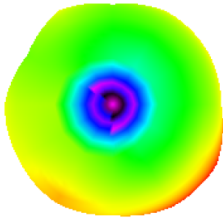
2400.000MHz E1



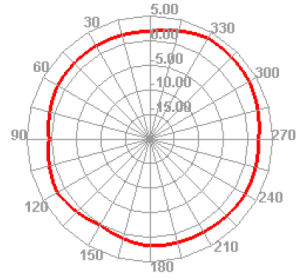
2400.000MHz E2



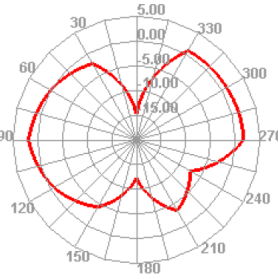
2450.000MHz



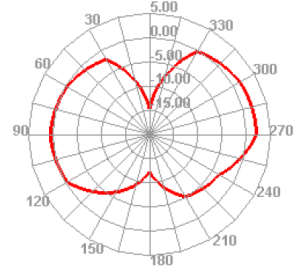
2450.000MHz H



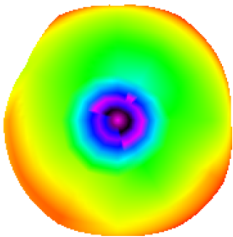
2450.000MHz E1



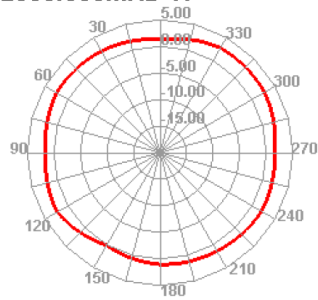
2450.000MHz E2



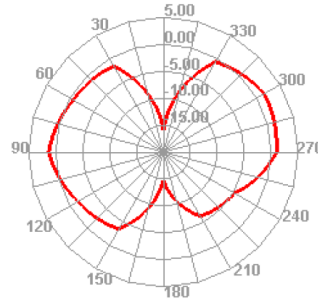
2500.000MHz



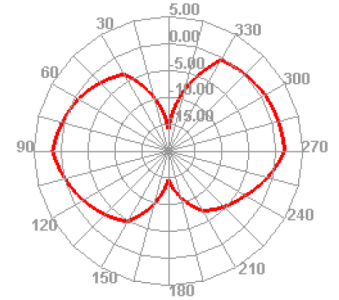
2500.000MHz H



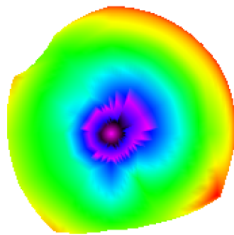
2500.000MHz E1



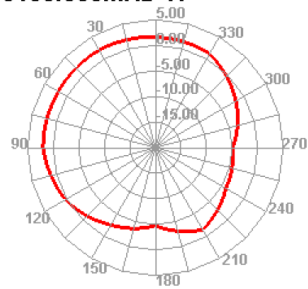
2500.000MHz E2



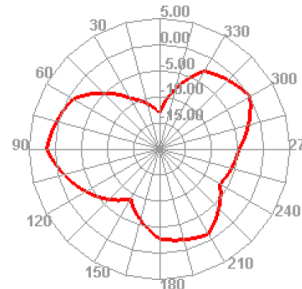
5150.000MHz



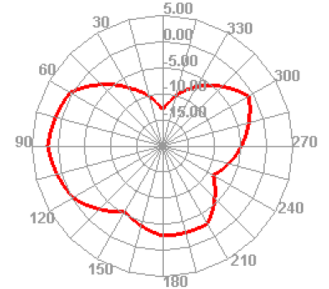
5150.000MHz H



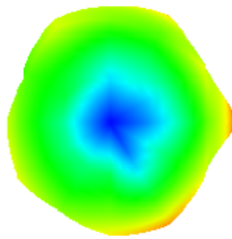
5150.000MHz E1



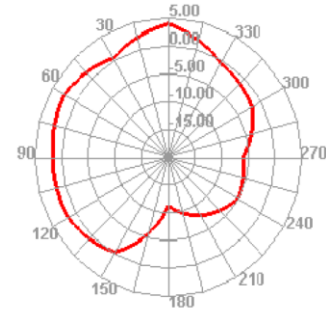
5150.000MHz E2



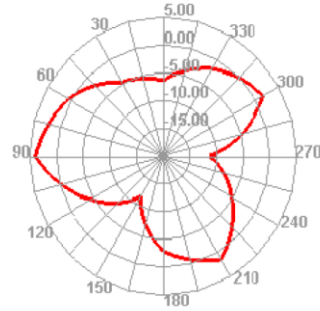
5500.000MHz



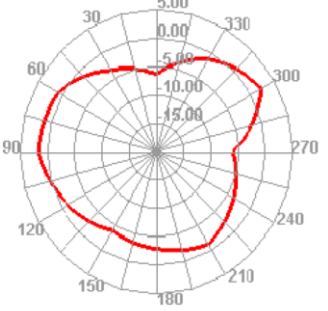
5500.000MHz H



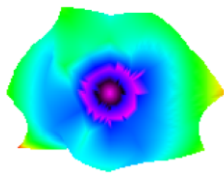
5500.000MHz E1



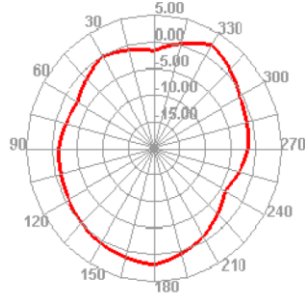
5500.000MHz E2



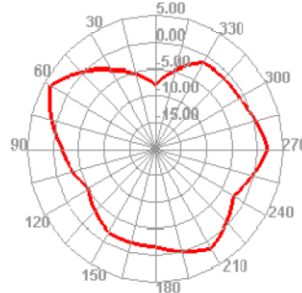
5850.000MHz



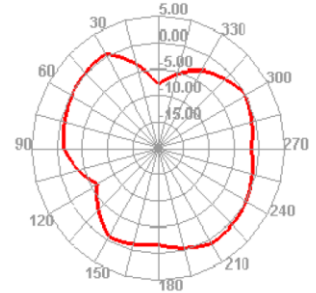
5850.000MHz H



5850.000MHz E1



5850.000MHz E2

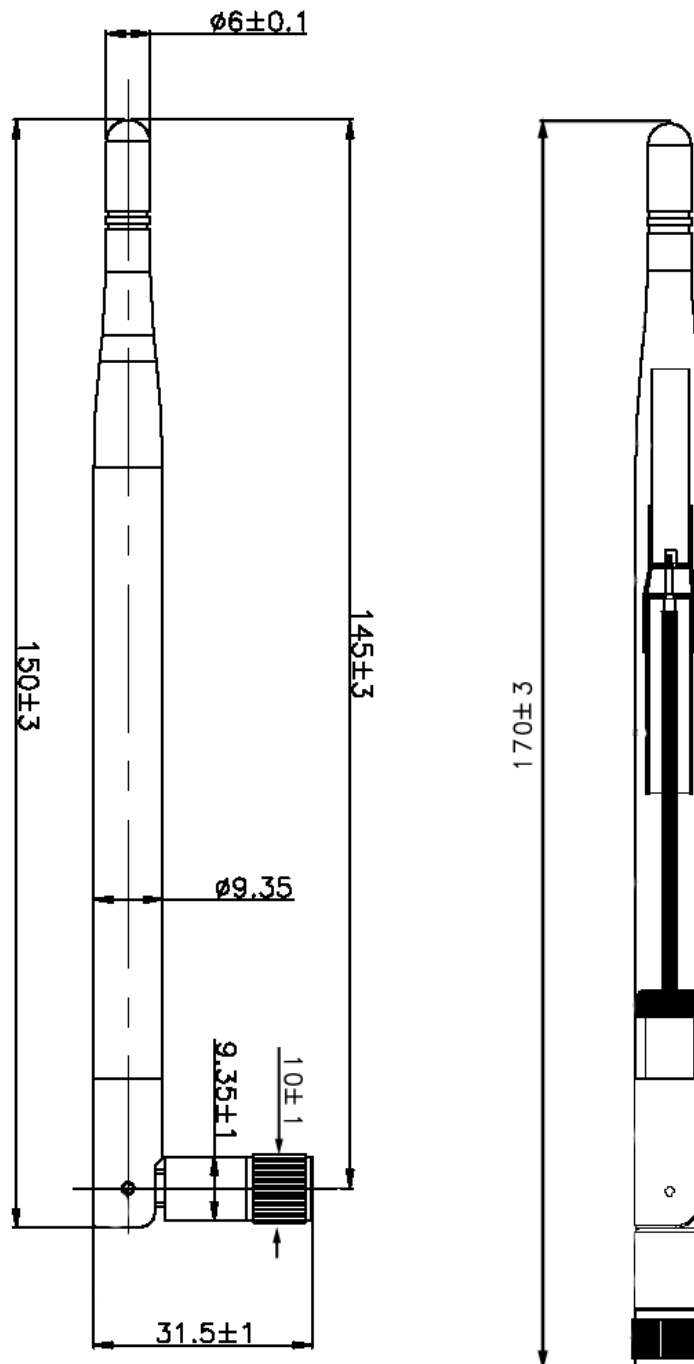


3.4 Efficiency and Gain

Frequency (MHz)	Efficiency (%)	Gain (dBi)
2.4G Band		
2400	66	2.7
2410	66	2.6
2420	68	2.5
2430	67	2.5
2440	67	2.3
2450	67	2.3
2460	70	2.2
2470	68	2.2
2480	69	2.4
2490	70	2.5
2500	71	2.5
5G Band		
5150	63	2.2
5250	64	2.1
5350	66	2.0
5450	62	1.9
5550	60	1.8
5650	59	2.1
5750	60	2.3

Frequency (MHz)	Efficiency (%)	Gain (dBi)
5850	57	1.7

4. Mechanical Drawing



All dimensions are in millimeter.

5. Ordering Information

Orderable Part Number	Description
BDE-W25-17010-HRP-B	Waterproof 2.4G & 5G dual-band dipole antenna with RP-SMA connector, black
BDE-W25-17010-HRP-W	Waterproof 2.4G & 5G dual-band dipole antenna with RP-SMA connector, white
BDE-CA-110-IPX1-RP-O	IPEX I to reverse polarity SMA cable, 110mm, with O-ring seal

6. Revision History

Revision	Remark	Date
V1.0	Initial release	2024/6/3

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