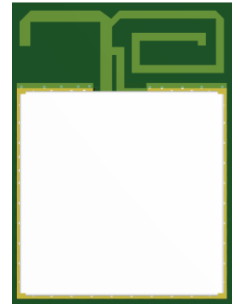


## 1. Description

BDE-ANT-BW33A is an integrated PCB trace antenna designed for BDE-BW33A module series, including but not limited to the below part numbers:

- BDE-BW3301A1
- BDE-BW3300A1
- BDE-BW3351A1
- BDE-BW3350A1

The dimension of the antenna area is 11.0mm x 4.0mm.



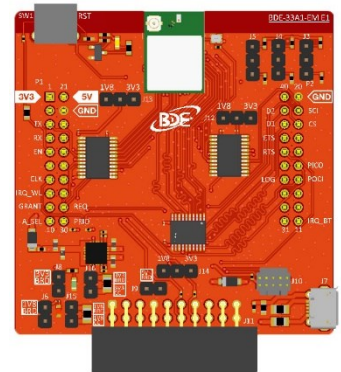
## 2. Specifications

Electrical	
Frequency (MHz)	2400 – 2500, 4190 – 5850
Efficiency	23.79% @ 2.4G band
	64.85% @ 5G band
Peak Gain	-2.63dBi @ 2.4G band
	1.88dBi @ 5G band
Impedance	50 ohm
Polarization	Linear
Radiation	Omni-directional
Mechanical	
Dimension	11.0mm x 4.0mm x 0.6mm
PCB Substrate	FR4
Environmental	
Temperature Range	-40°C to 85°C

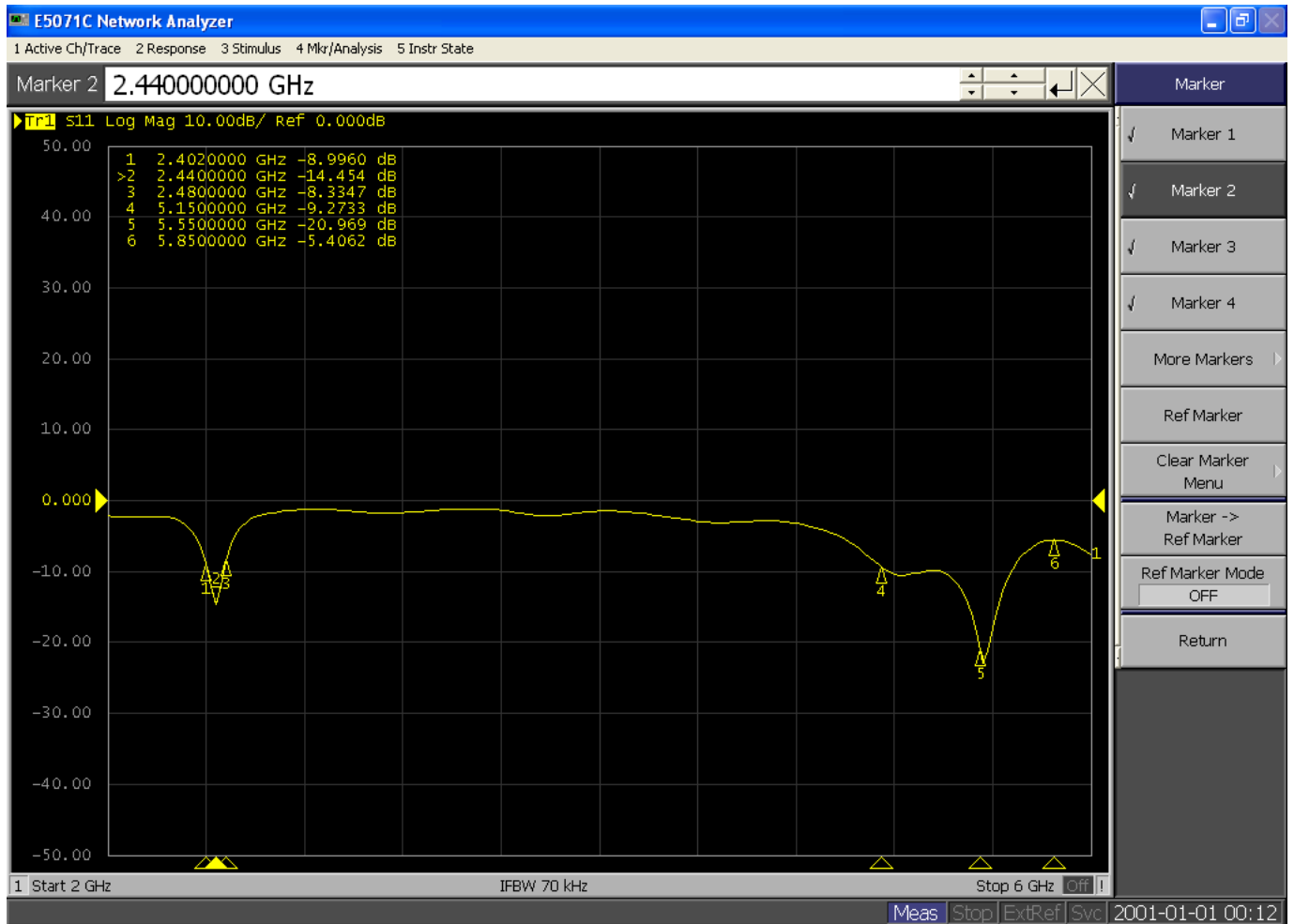
## 3. Antenna Characteristics

The antenna characteristics data are measured with the module sitting on the evaluation board as the picture on the right shows.

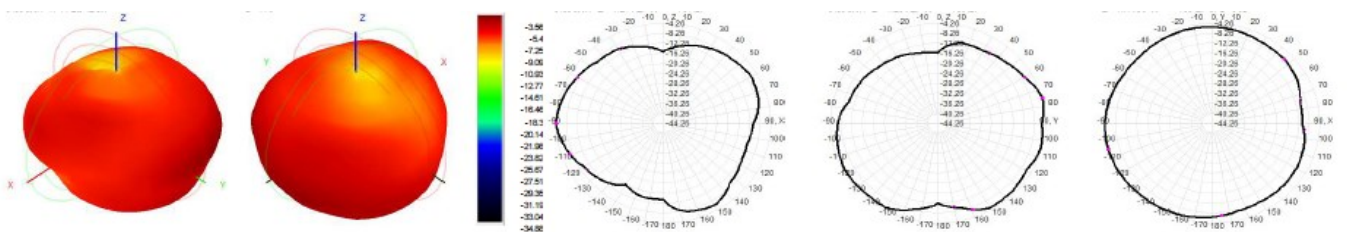
The dimension of the evaluation board is 59mm x 59mm x1.6mm.

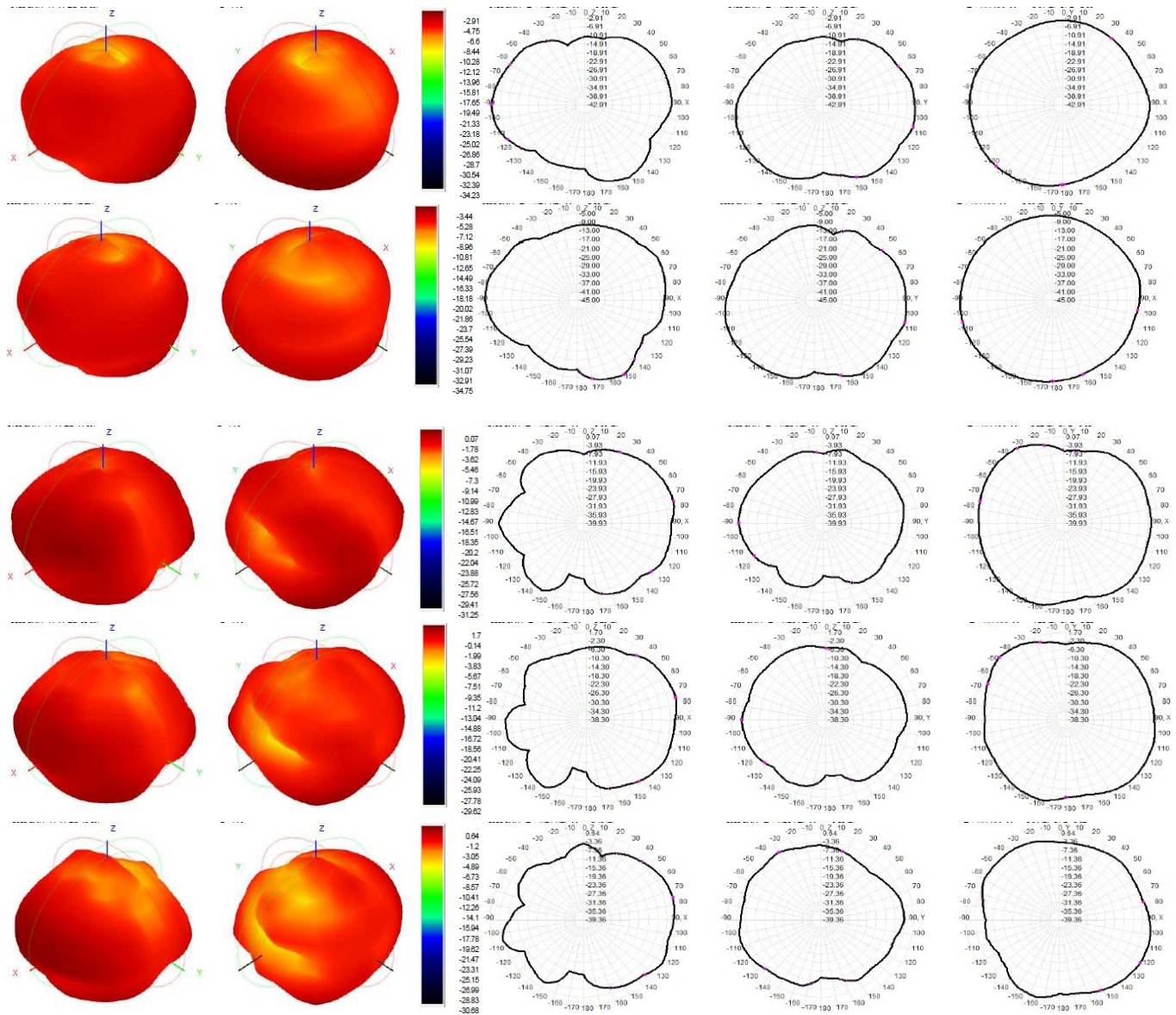


### 3.1 Return Loss



### 3.2 Radiation Pattern





### 3.3 Efficiency and Gain

Frequency (MHz)	Efficiency (%)	Gain (dBi)
<b>2.4G Band</b>		
2400	17.24	-3.56
2410	19.49	-3.10
2420	21.61	-3.00
2430	22.07	-3.19
2440	23.79	-2.63
2450	22.77	-2.91
2460	22.05	-2.98
2470	20.53	-3.14
2480	20.65	-3.12
2490	18.49	-3.41
2500	17.68	-3.44

Frequency (MHz)	Efficiency (%)	Gain (dBi)
5G Band		
5150	44.85	0.07
5250	56.16	1.34
5350	57.39	1.10
5450	51.68	0.74
5550	60.86	1.70
5650	64.85	1.88
5750	58.55	1.59
5850	42.96	0.64

4. Revision History

Revision	Remark	Date
V1.0	Initial release	2024/12/2

## Important Notice and Disclaimer

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## Contact

### **BDE Technology Inc.**

USA: 67 E Madison St, # 1603A, Chicago, IL 60603, US  
Tel: +1-312-379-9589

China: B2-403, 162 Science Avenue, Huangpu District, Guangzhou 510663, China  
Tel: +86-20-28065335

Website: [www.bdecomm.com](http://www.bdecomm.com)

Email: [info@bdecomm.com](mailto:info@bdecomm.com)