

**SERCOM**

**SL-IMG01**  
**Antenna Datasheet**

Apr. 25, 2023

Prepared by Shian Chuang

# Outline

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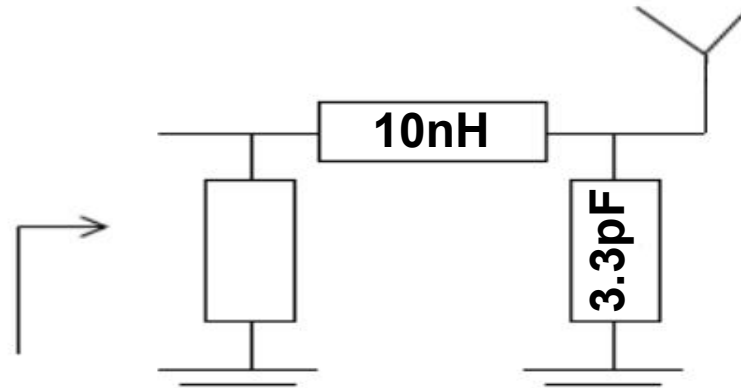
- Antenna Structure & Placement
- Matching Circuit
- Return Loss
- Peak Gain & Efficiency

# Antenna Structure & Placement

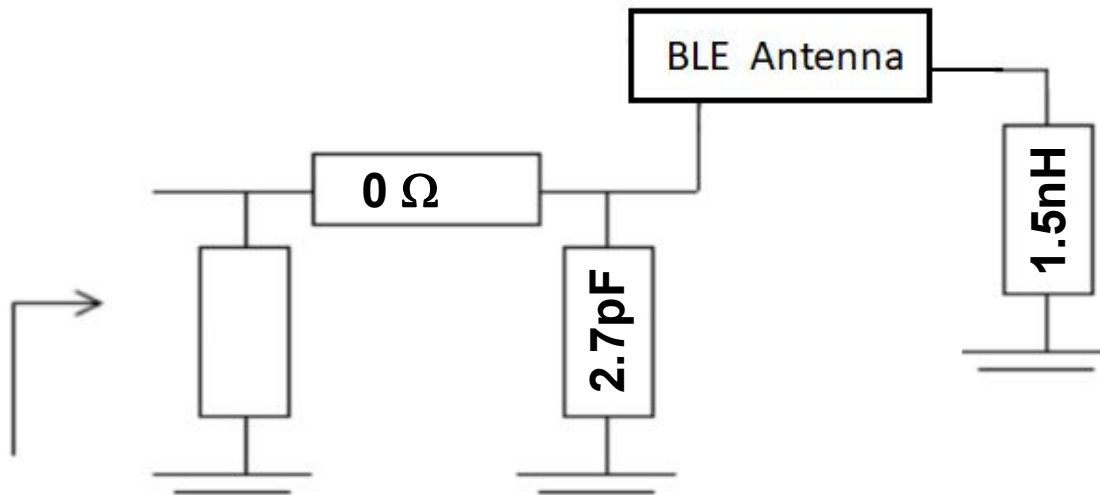
Ant No.	Operating Band	Type	Material	Feeding	Dimension
LoRa Antenna	LoRa 915 MHz	PIFA	Metal	Trace	55 mm x 7 mm x 10 mm
BLE Antenna	2400MHz ~ 2500MHz	Chip	Ceramic	Trace	8mm x 7mm x 2mm

# Matching Circuit

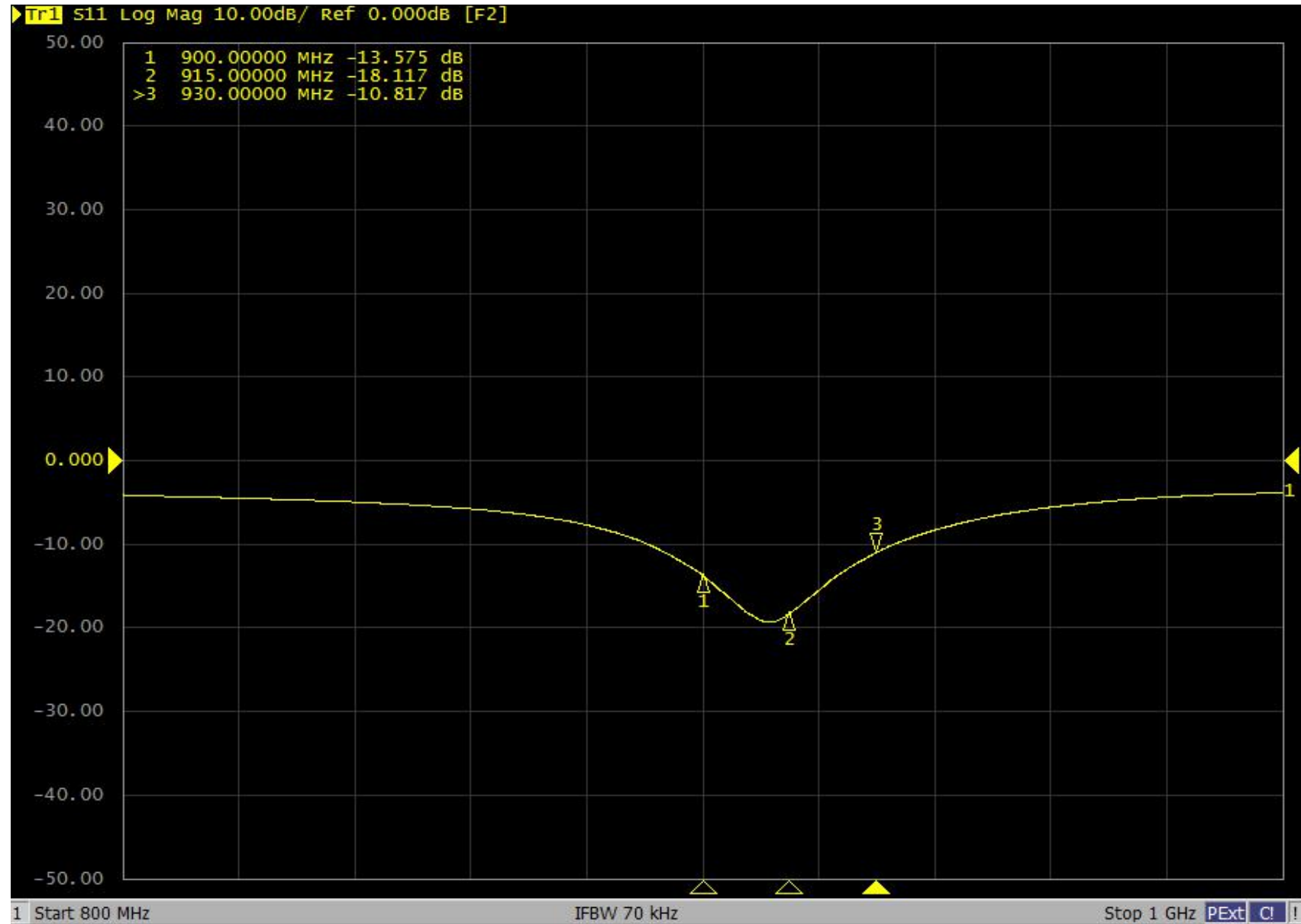
LoRa Antenna



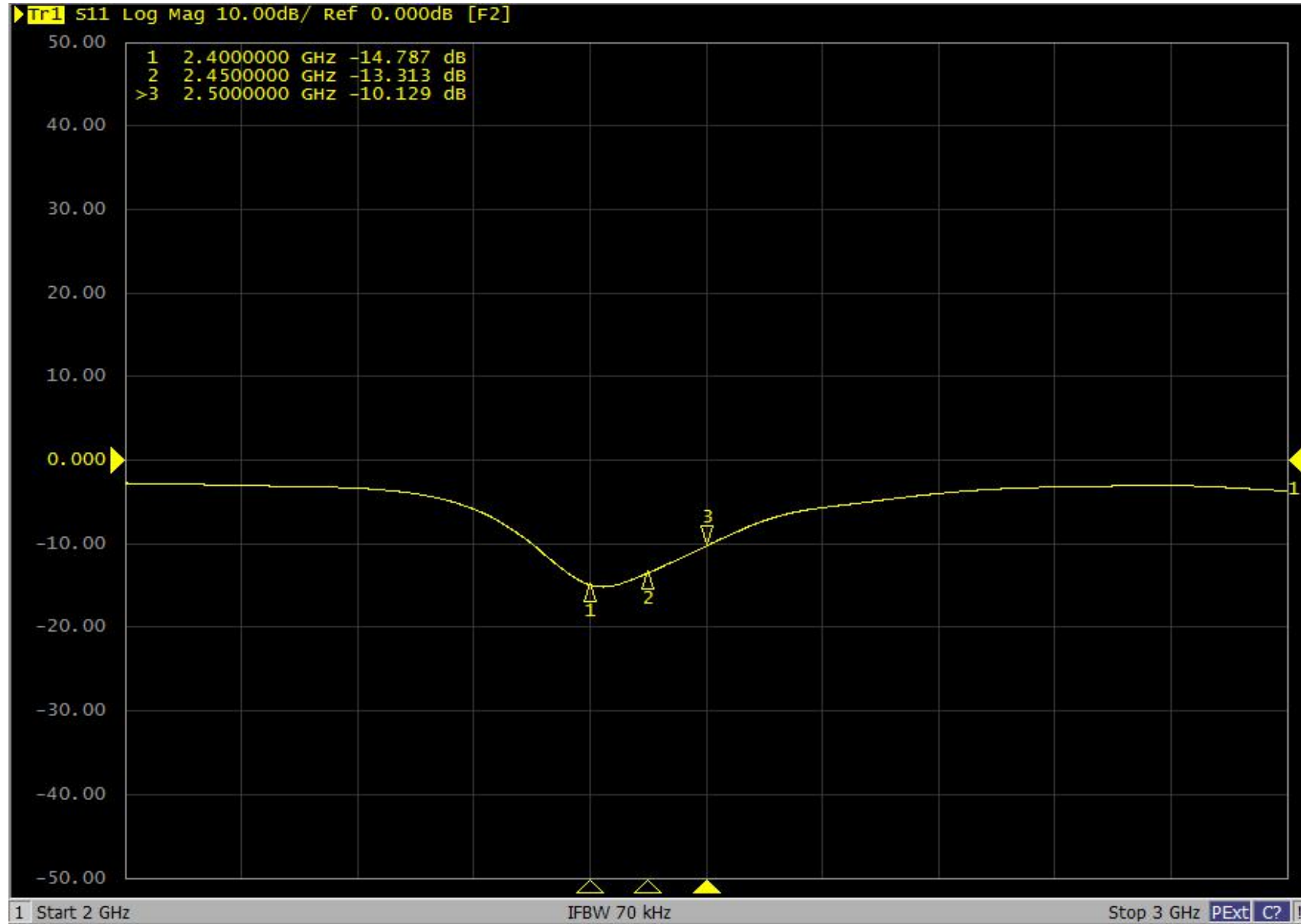
BLE Antenna



# Return Loss – LoRa Ant

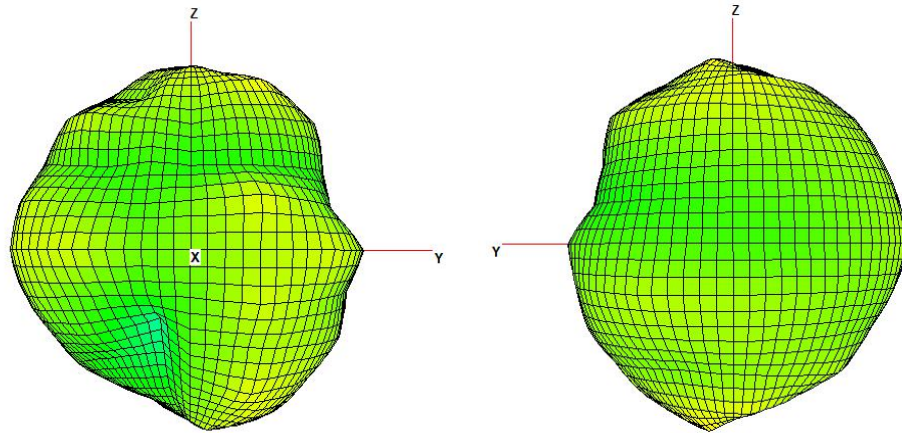
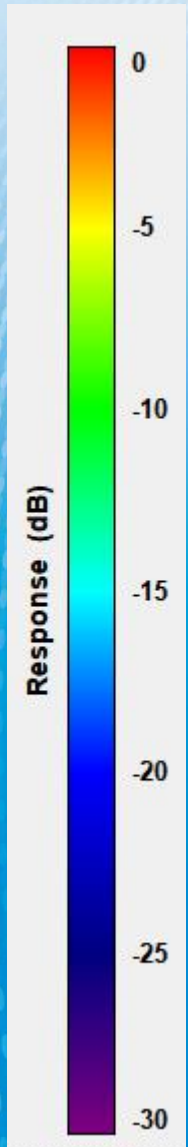


# Return Loss – BLE Ant

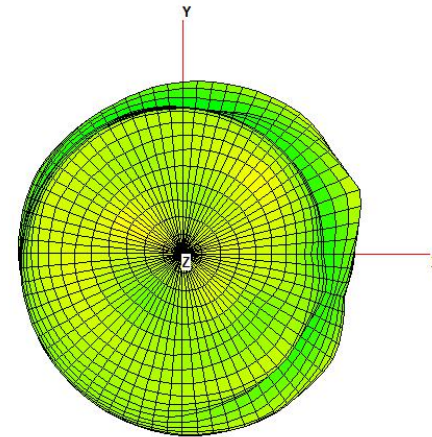




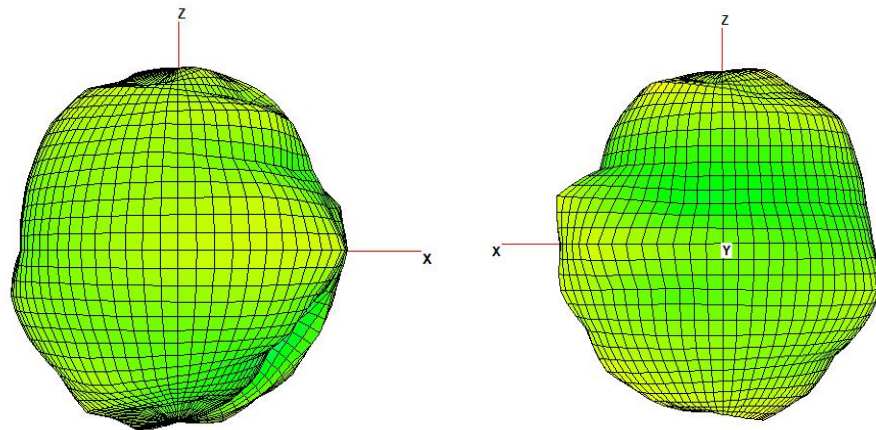
# 3D Radiation Pattern – LoRa Antenna @ 915MHz



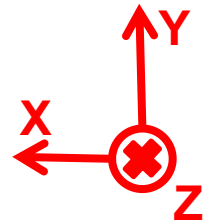
**YZ-Plane**



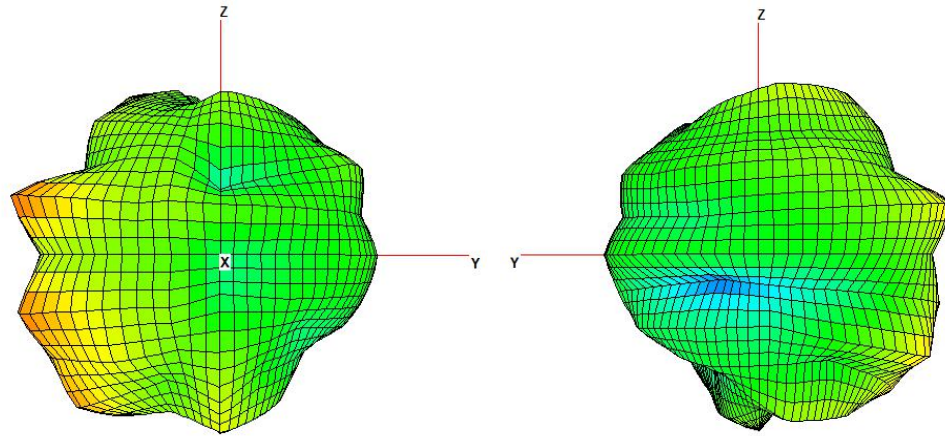
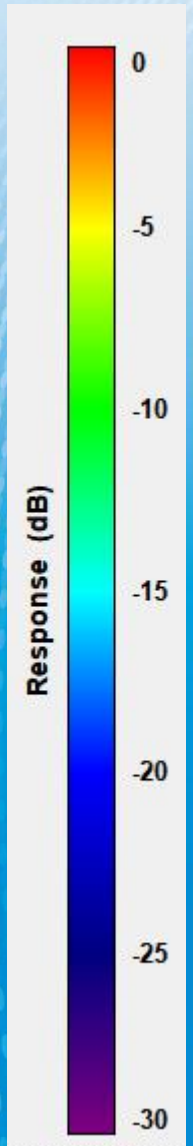
**XY-Plane**



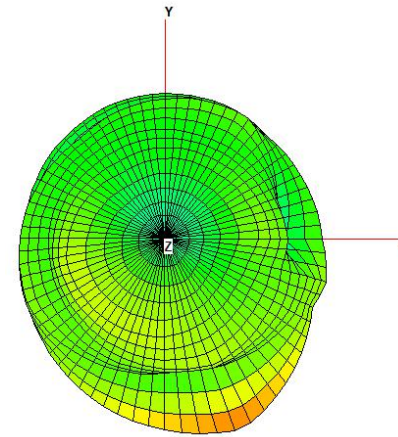
**XZ-Plane**



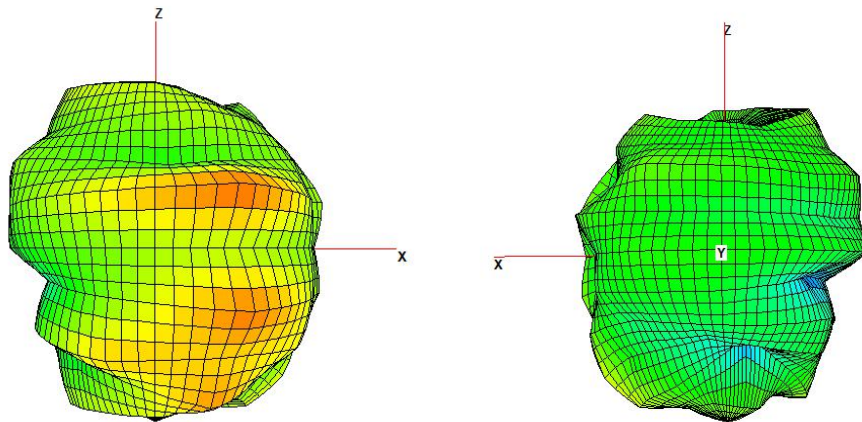
# 3D Radiation Pattern – LoRa Antenna @ 915MHz



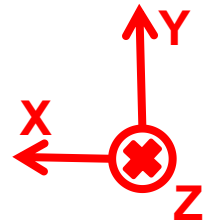
**YZ-Plane**



**XY-Plane**



**XZ-Plane**





# Peak Gain & Efficiency

## LoRa Antenna Performance

Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
900	21.0	-3.3
915	23.2	-2.8
930	20.1	-3.5

## BLE Antenna Performance

Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	23.4	-1.2
2450	25.3	-0.7
2500	23.6	-1.1

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