



SL-Muti01

Antenna Test Report

Date : Jun. 1, 2023

Prepared by : Jerry Ko

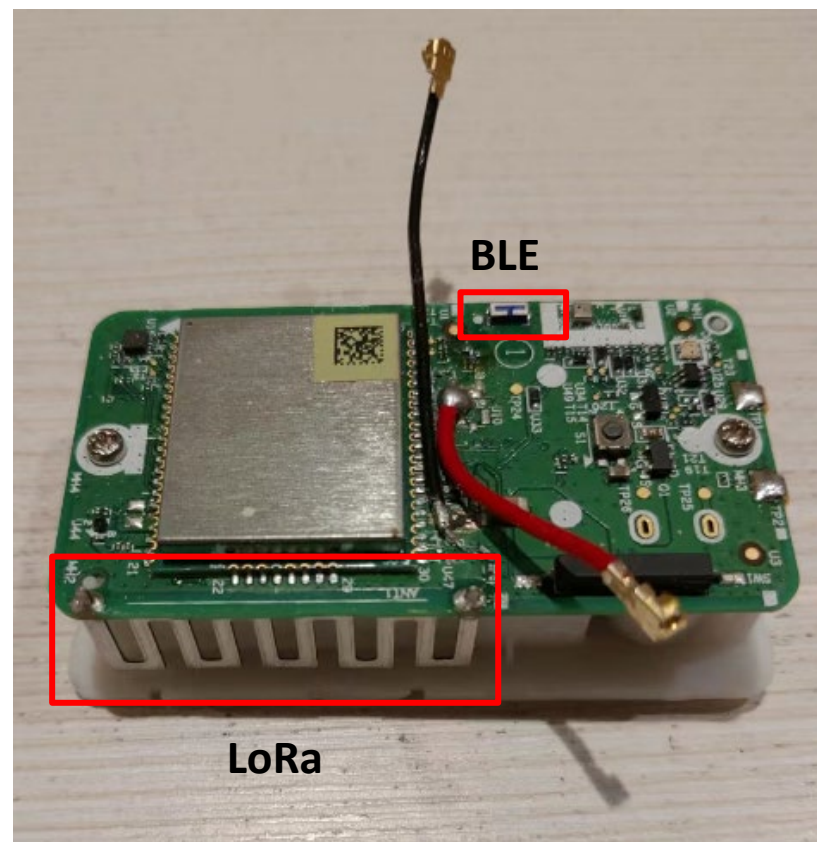


Outline

- **Antenna Structure & Placement**
- **Return Loss**
- **Radiation Pattern**
- **Peak Gain & Efficiency**
- **Manufacturer, Manufacturer's address and model name**
- **BLE Antenna Model number : ANT3216A063R2400A**
- **Manufacturer : Yageo Corporation**
- **Manufacturer's address: 3F, 233-1, Baoqiao Rd. Xindian Dist., New Taipei City 23145 Taiwan**

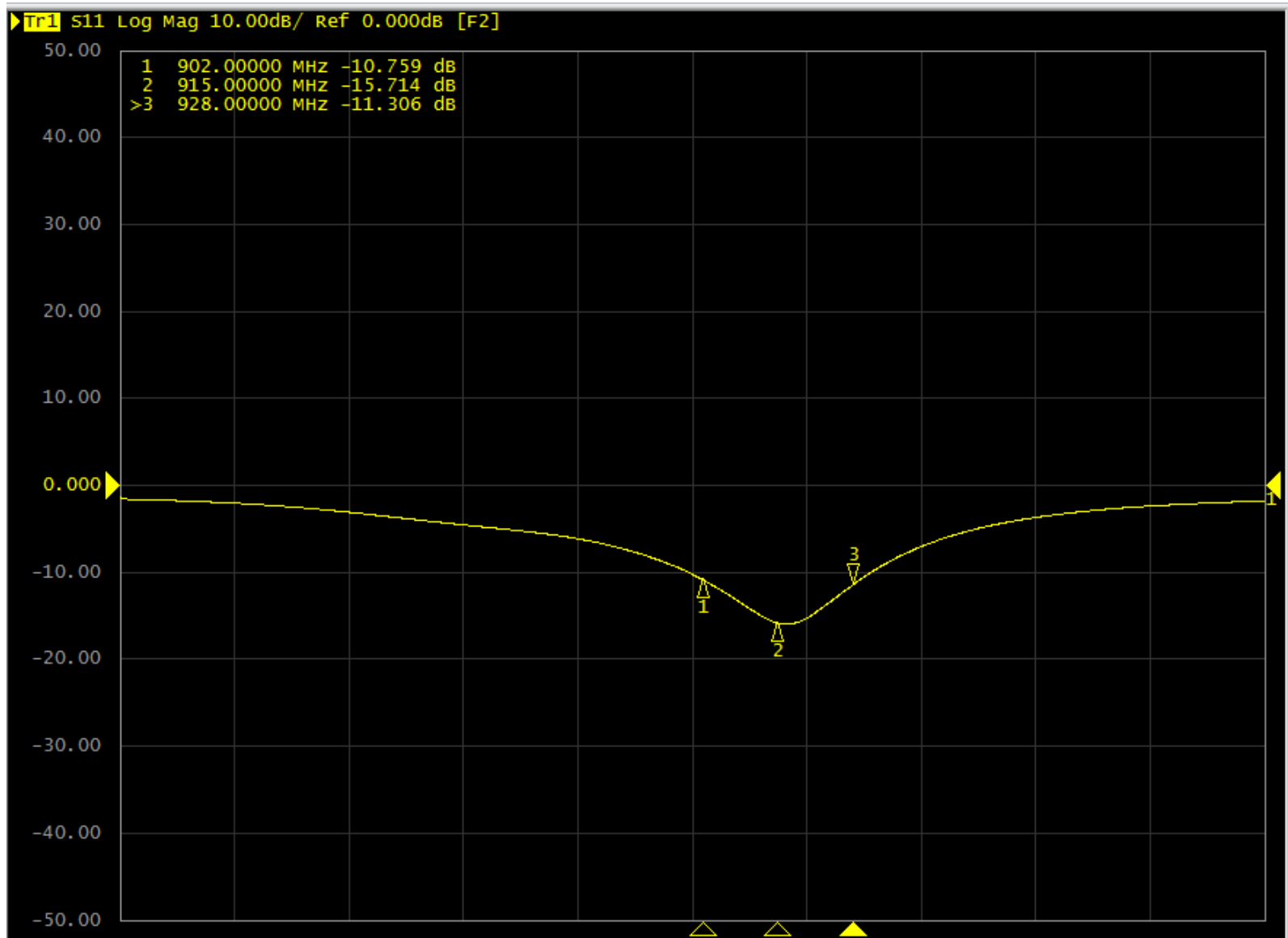
- **LoRa Antenna Model number : 617211CD**
- **P/N: RFMTA311300NNUB001**
- **Manufacturer : INPAQ**
- **Manufacturer's address: No. 11, Keyi St., Zhunan Township, Miaoli County 350402 , Taiwan (R.O.C.)**
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Antenna Structure & Placement



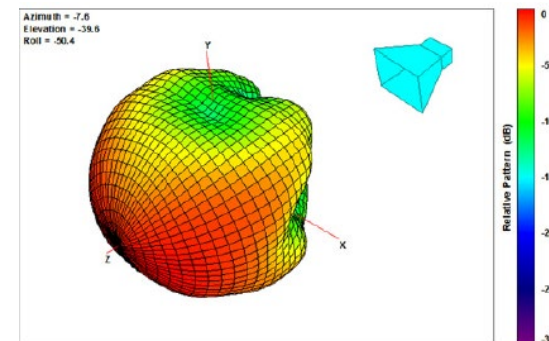
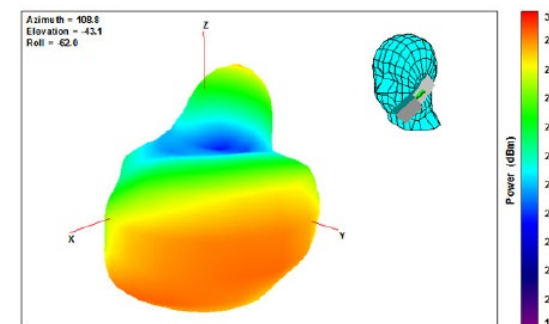
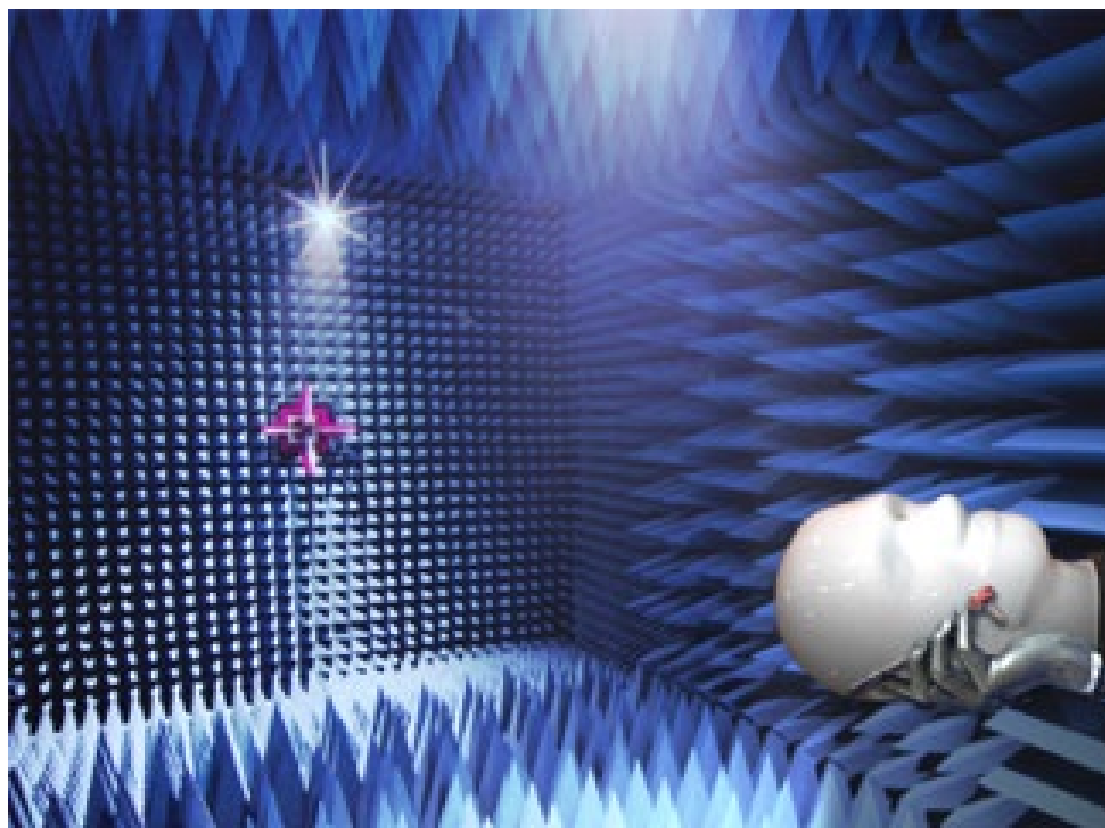
Ant No.	Operating Band	Type	Material	Feeding	Dimension
LoRa	902 MHz ~ 928MHz	Monopole	Metal	RF Trace	33 x 30 x 6 mm ³
BLE	2400 MHz ~ 2484 MHz	PIFA	Ceramic	RF Trace	3.2 x 1.6 x 0.6 mm ³

Return Loss – LoRa Ant

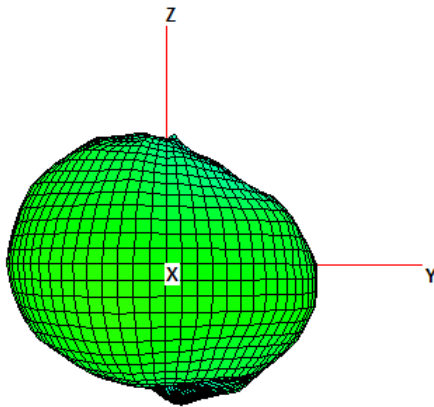
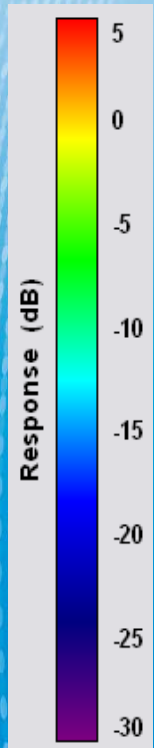


Antenna Measurement Chamber

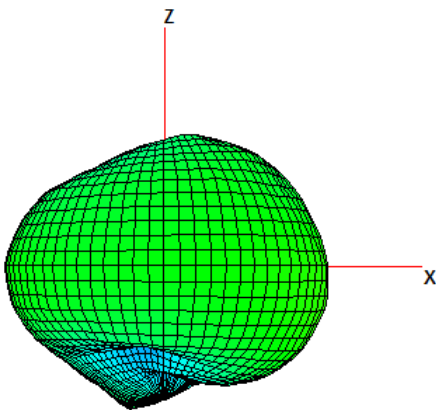
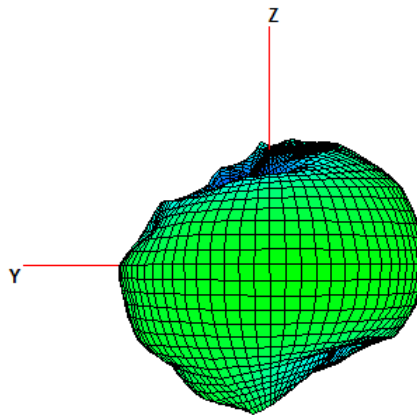
- ETS AMS-8500 antenna measurement system
- Interior dimensions : 7.32(L)×3.66(W)×3.66(H)m³
- Operating band : 700 MHz – 10 GHz
- Support passive test & active test
- Provide graphic data display



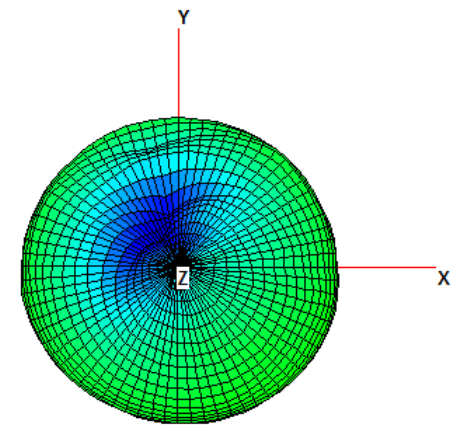
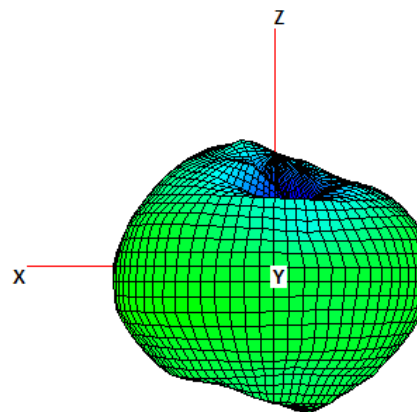
3D Radiation Pattern – LoRa Ant



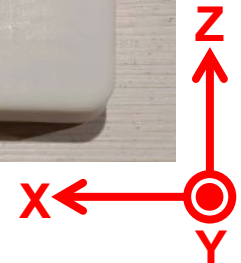
YZ-Plane



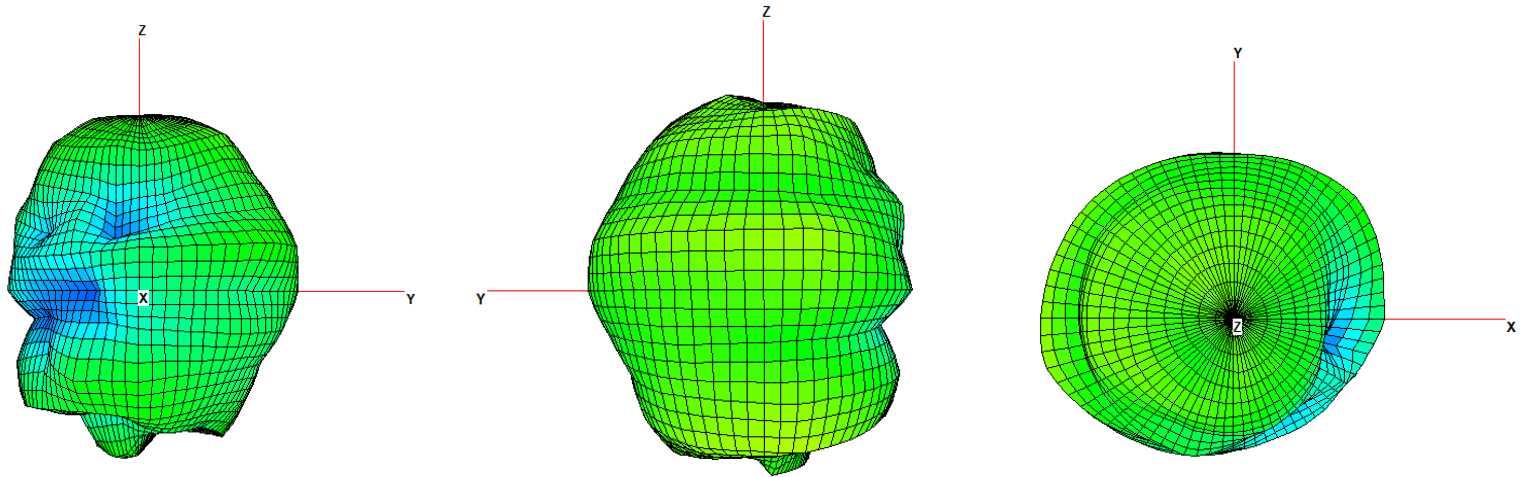
XZ-Plane



XY-Plane

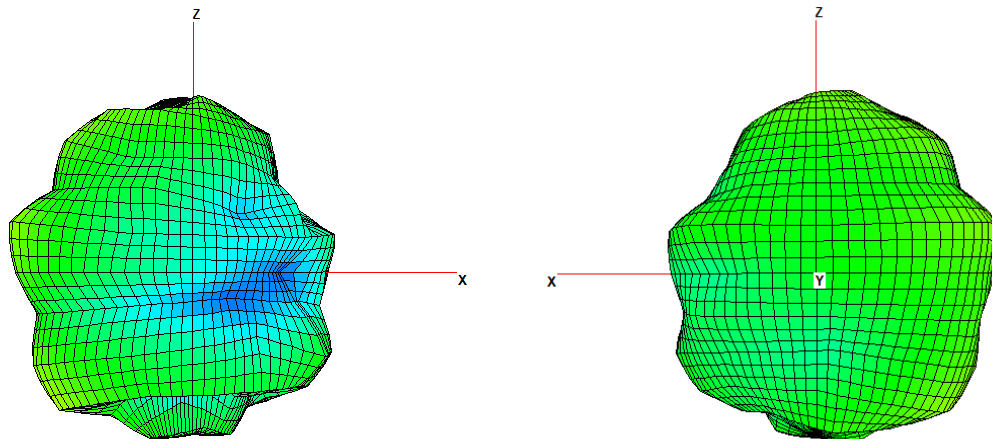


3D Radiation Pattern – BLE Ant

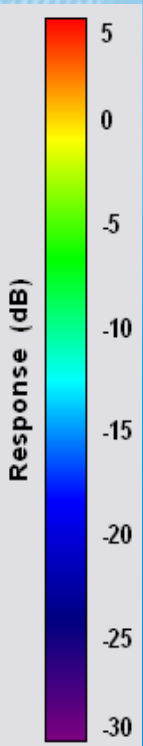
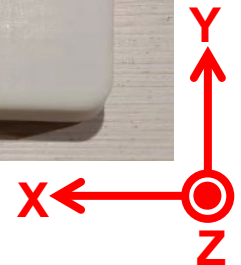
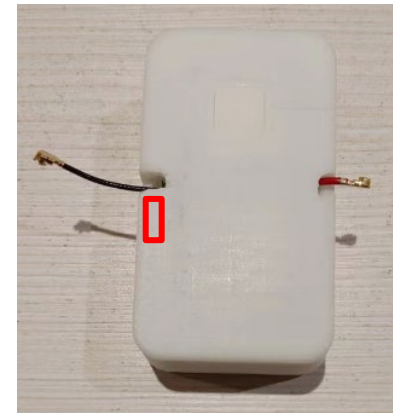


YZ-Plane

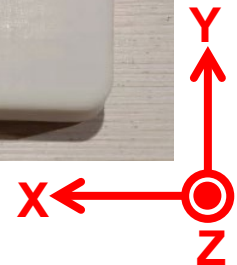
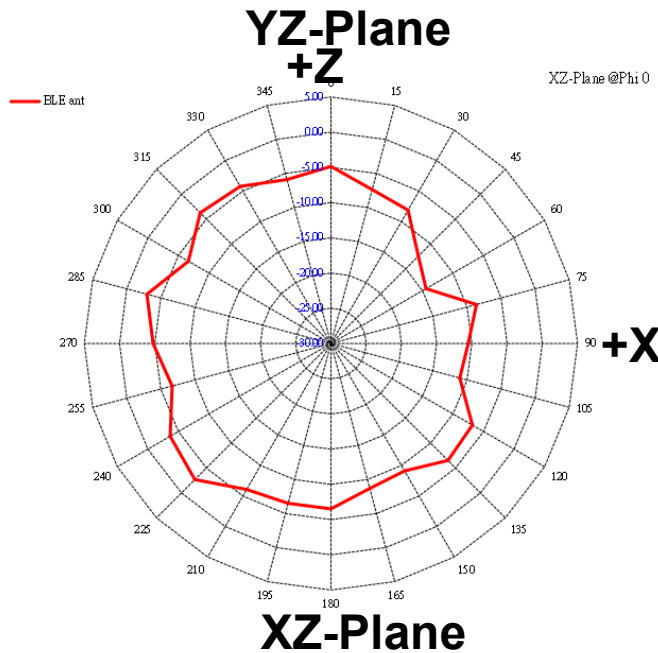
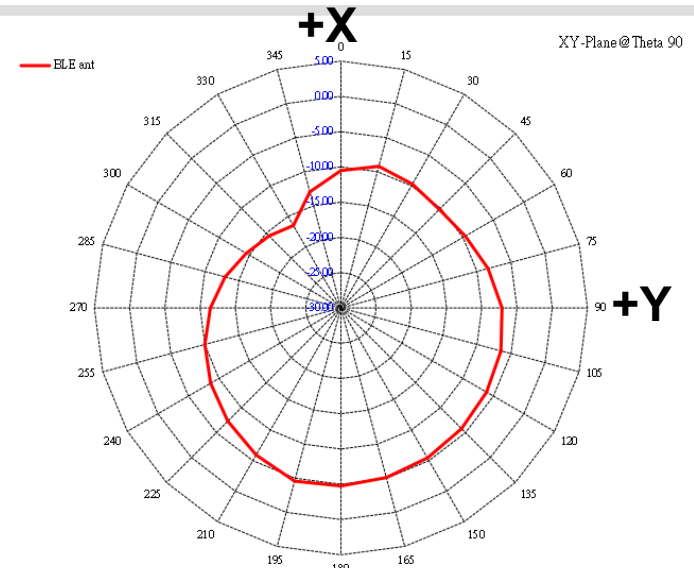
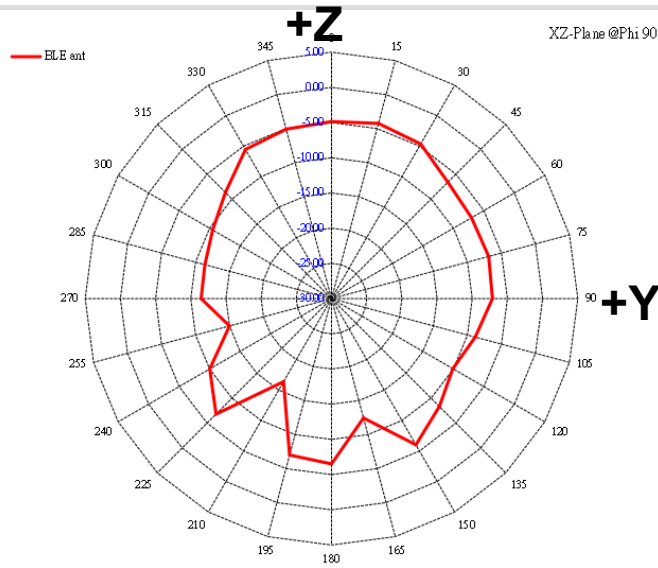
XY-Plane



XZ-Plane



2D Radiation Pattern – BLE Ant



Peak Gain & Efficiency

LoRa Antenna		
Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
902	-5.6	15
915	-4.8	16
928	-5.3	16

BLE Antenna		
Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400	-2.9	25
2442	-2.7	21
2484	-3.5	15

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