

# Antenna Gain Test Data

**Model: Lily,316000308581; Reggata,316000308491**

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**1 Antenna describe:**

Lily:ANT

Brand name / Model Name	SPEED / 316000308581
Antenna type	LDS Antenna
Antenna Manufacturer	SPEED
Antenna Manufacturer address	No.1043 Huize Street, Huicheng District, Huizhou,Guangzhou, 261031,P.R. China
Frequency range	2400MHZ~2480MHz

Reggata: ANT

Brand name / Model Name	SPEED / 316000308491
Antenna type	FPC Antenna
Antenna Manufacturer	SPEED
Antenna Manufacturer address	No.1043 Huize Street, Huicheng District, Huizhou,Guangzhou, 261031,P.R. China
Frequency range	2400MHZ~2480MHz

## 2 External view drawing

The antenna position is shown in the picture.

## 3 Antenna Gain for nRF/BLE

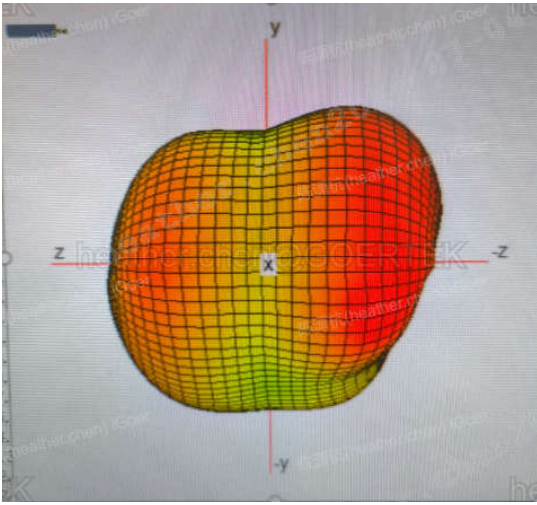
### 3.1 Test Result

TestMode	Antenna	Antenna Type	Frequency(MHz)	Total Peak Gain(dBi)
SISO	Lily Ant	LDS Antenna	2400	-5.98
			2410	-6.05
			2420	-6.43
			2430	-6.32
			2440	-6.89
			2450	-6.97
			2460	-7.31
			2470	-7.23
			2480	-7.52

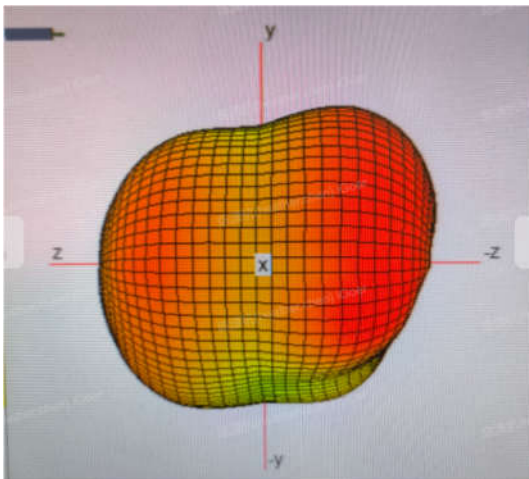
TestMode	Antenna	Antenna Type	Frequency(MHz)	Total Peak Gain(dBi)
SISO	Reggata Ant	FPC Antenna	2400	1.97
			2410	1.88
			2420	1.86
			2430	1.98
			2440	2
			2450	1.92
			2460	1.91
			2470	1.94
			2480	1.76

Note: Peak Gain for Ant is shown in bold letters

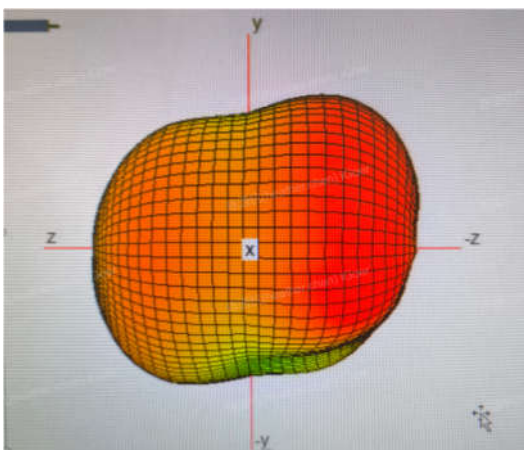
Lily Antenna Radiation Pattern



2.4G

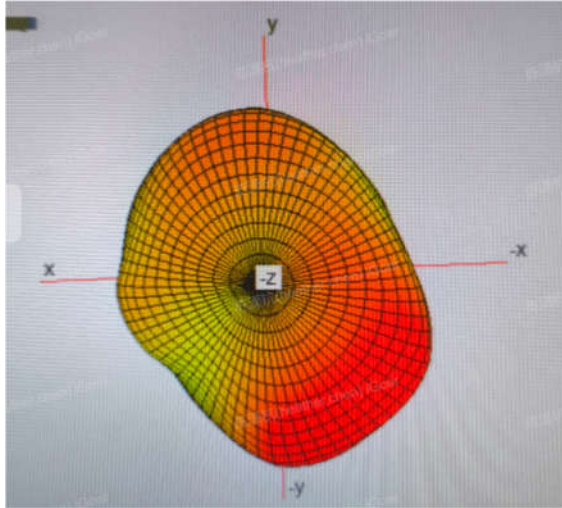


2.44G

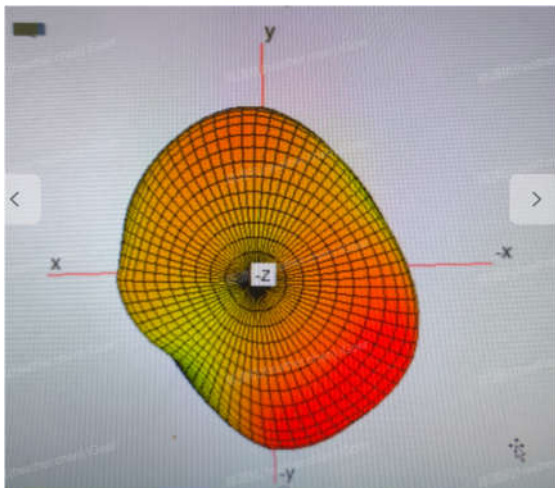


2.48G

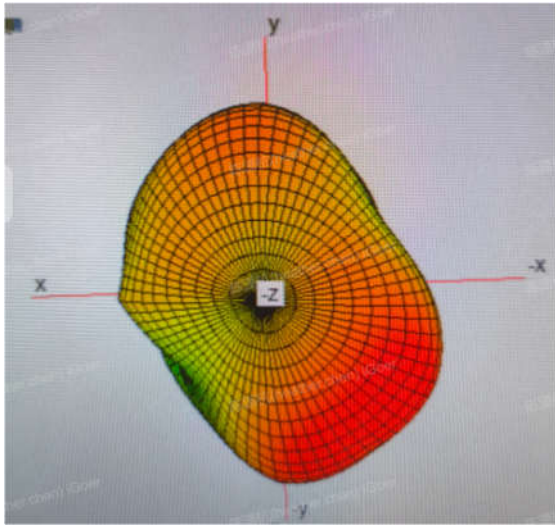
Reggata Antenna Radiation Pattern



2.4G



2.44G

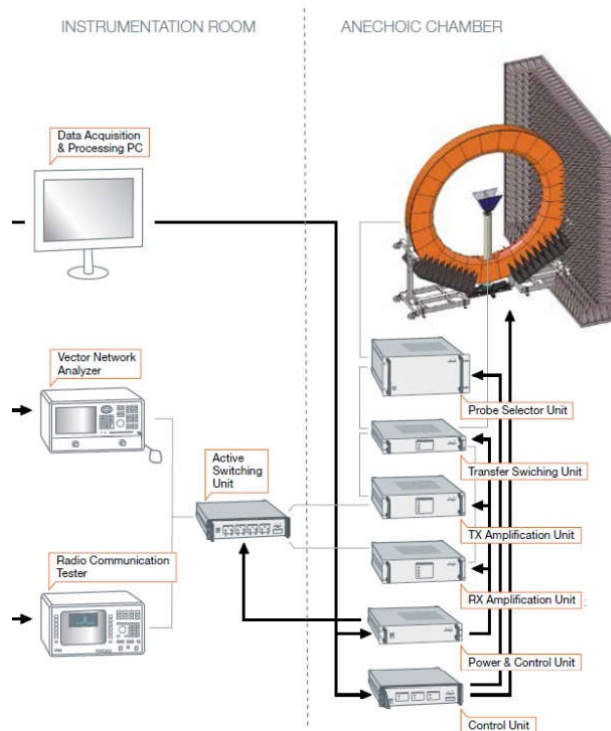


2.48G

#### 4 Description of Radiated measurement

##### 4.1 Test Procedure

Antennas gain measurement are done with the test model fully assembled. A 50 Ohm coaxial cable is connected to the switch in contact with the antenna on the main board. The other end of the 50 Ohm coaxial cable is connected to a network analyzer. The OTA Chamber is calibrated using dipoles. The diagram of the OTA test system is as follow:



#### 4.2 Test Equipmen

No	Test Equipment	Model	calibration date	Due Date
1	OTA Chamber	GTS-RZ1800	2023/10/10	2024.10.09
2	Vector Network Analyzer	E5071C	2023/10/10	2024.10.09

Test software : Maxsign 100



Test engineer : 陈潇杭 Heather.Chen 2023.6.18