

# Antenna

# **FLM540R** Datasheet

**Antenna Services**

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# About the Document

## Revision History

Version	Date	Author	Note
-	2024-05-06	Damon Zhang	Creation of the document
1.0	2024-05-06	Damon Zhang	First official release

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## 1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

## 2 Product Features

- BT
- High efficiency
- Excellent performance

### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	2400-2500MHz; 5150-5850MHz
Input Impedance	50 $\Omega$
VSWR	$\leq 2$
Gain	$\leq 2.7$ dBi
Polarization Type	Linear

#### Mechanical Specifications

Antenna Size(mm)	14.4 × 6.7
Material	FR4
Color	Green
Working Temperature	-40 °C to +85 °C

Specification	Band	Band	Wi-Fi 2G	Wi-Fi 5G			
		Freq. (MHz)	2400 - 2500	5150 - 5250	5250 - 5350	5470 - 5725	5725 - 5850
Max. VSWR			1.8	2.0	1.7	1.5	1.4
Max. Return Loss (dB)			-10.5	-9.5	-11.2	-14.0	-14.7
AVG Eff. (%)			42.8	46.6	50.0	49.8	45.9
AVG Gain (dB)			-3.7	-3.3	-3.0	-3.0	-3.4
Max. Peak Gain (dBi)			2.3	2.5	2.6	2.7	2.0
VSWR			≤ 2				
Return Loss			≤ -9.5 dB				
Peak Gain			≤ 2.7 dBi				

## 4 Overall Performance

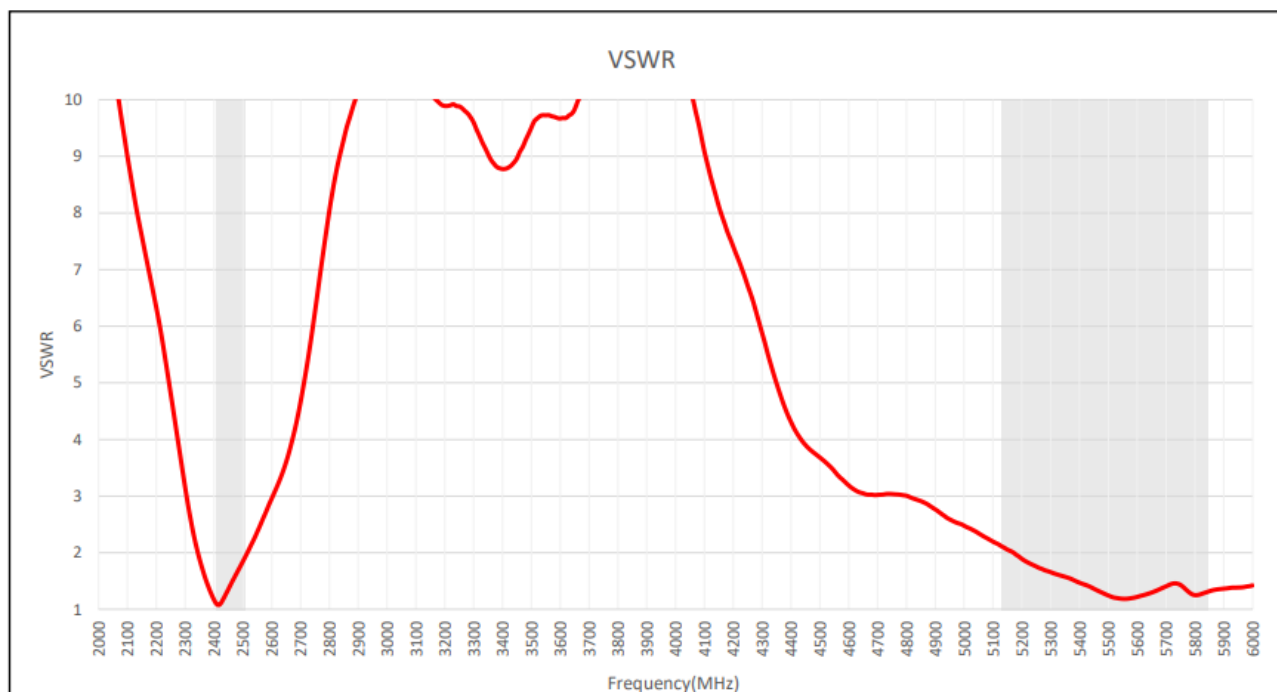
### 4.1. Test Environment

- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz



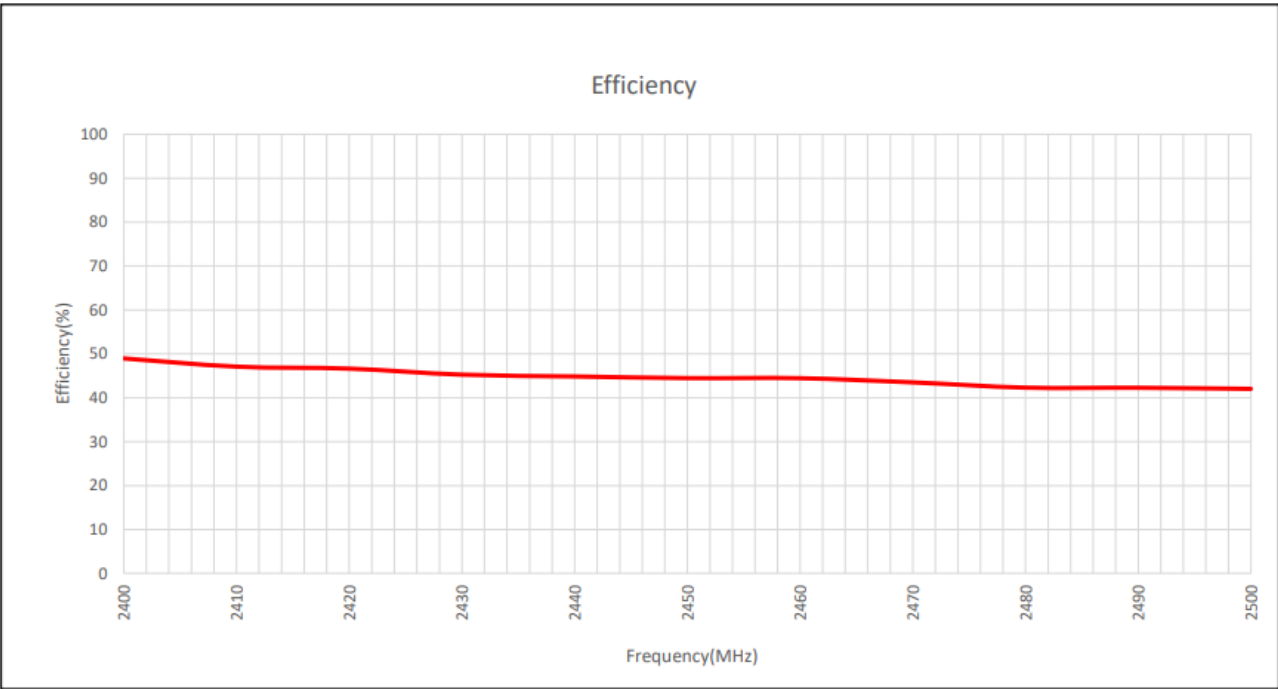


## 4.2. VSWR

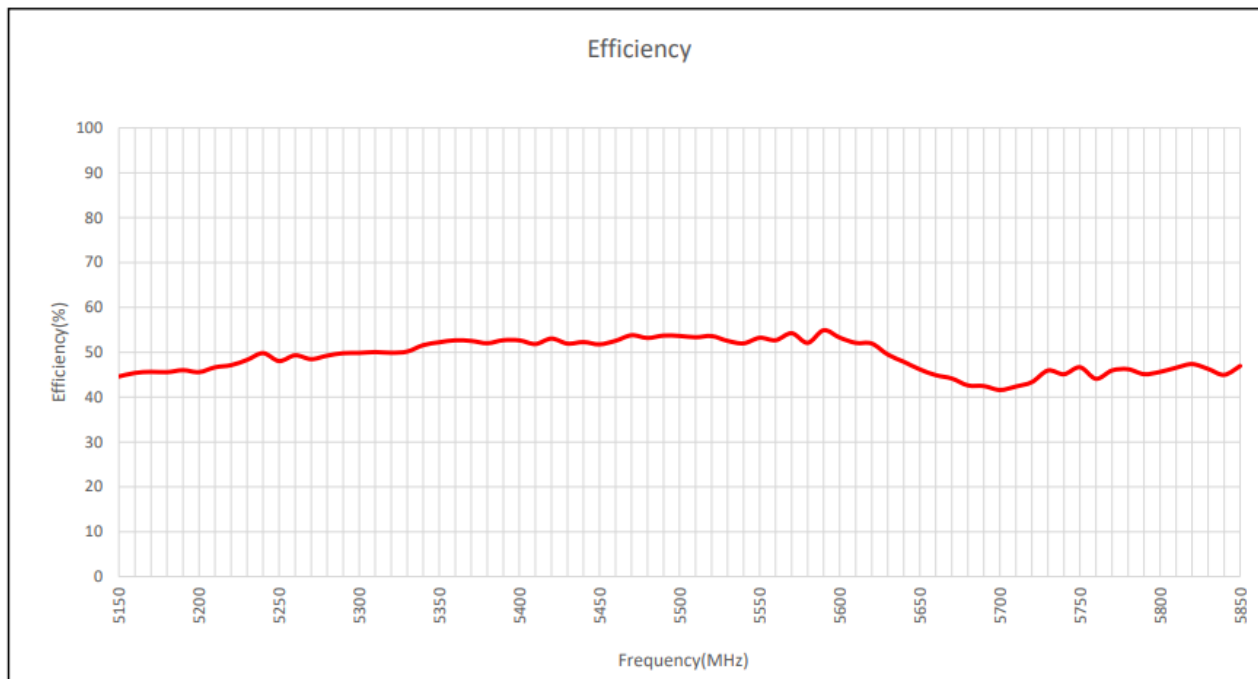


Frequency (MHz)	2400	2500	5150	5500	5850
VSWR	1.2	1.8	2.0	1.4	1.4

4.3. Efficiency

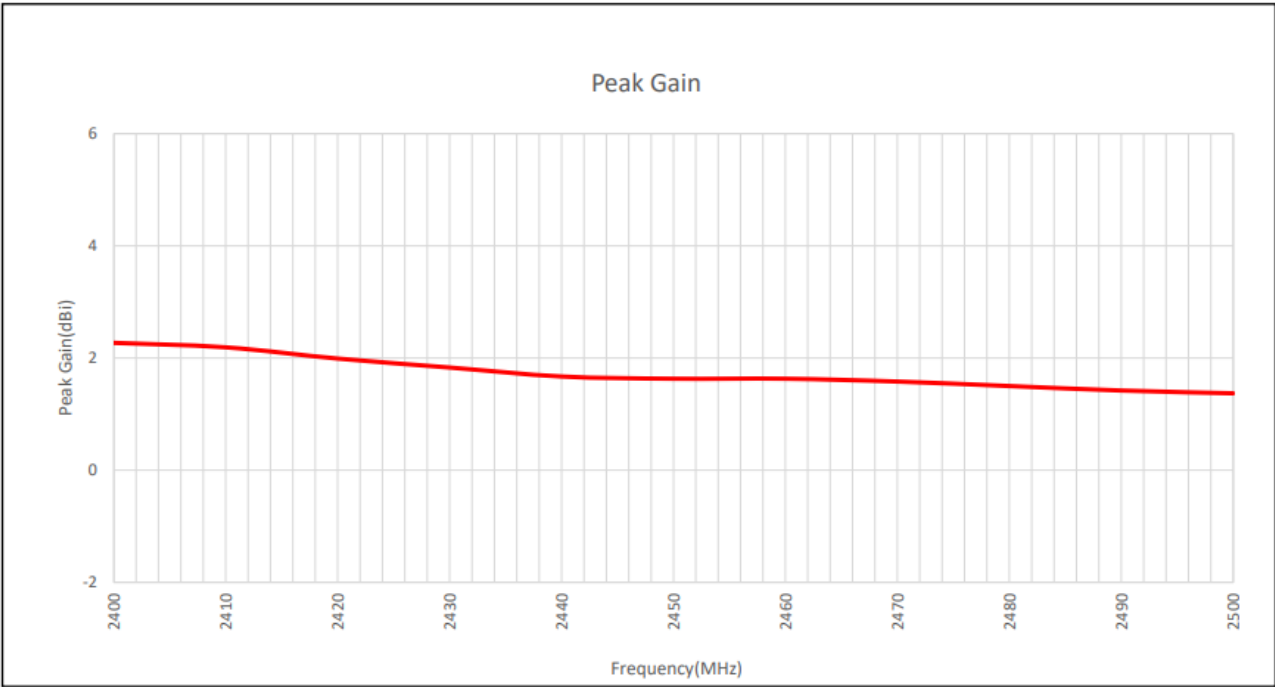


Frequency (MHz)	2400	2500
Efficiency (%)	49.0	42.0

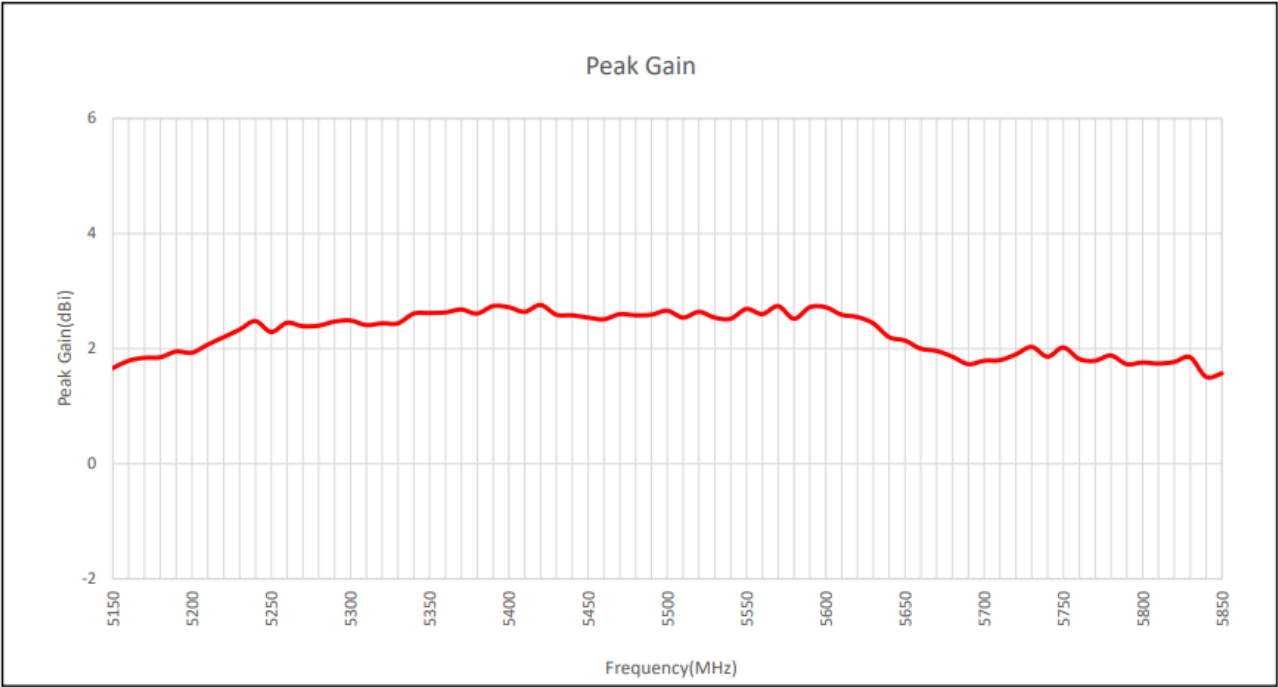


Frequency (MHz)	5150	5500	5850
Efficiency (%)	45.0	53.0	47.0

**4.4. Gain**

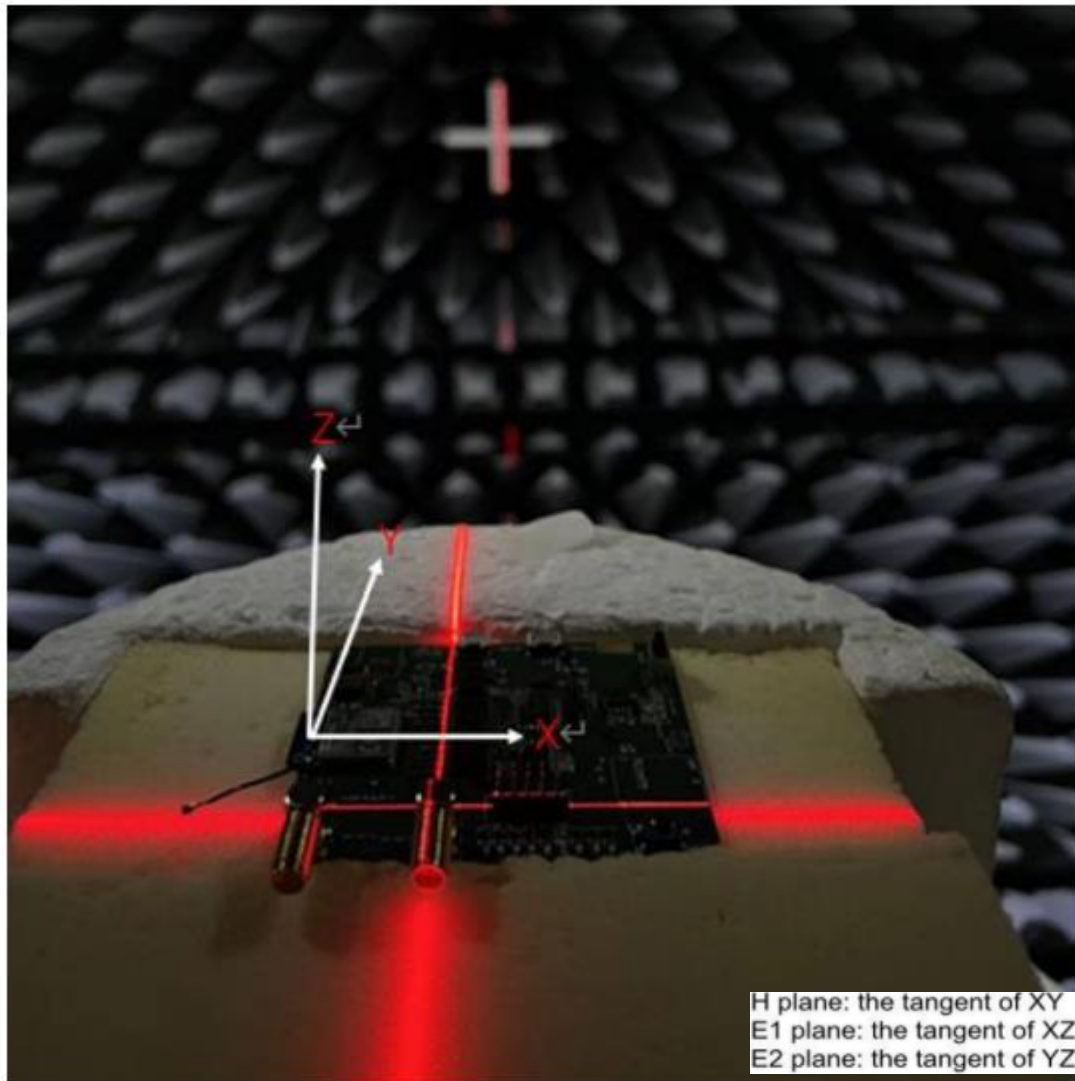


Frequency (MHz)	2400	2500
Gain (dBi)	2.2	1.4

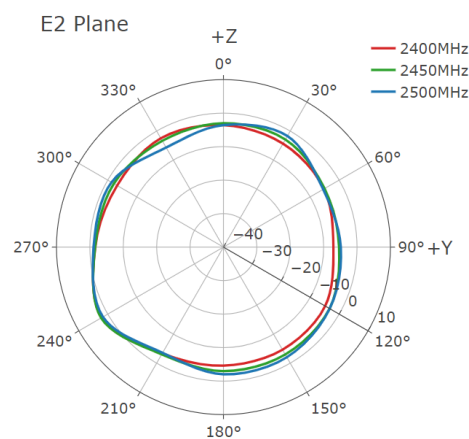
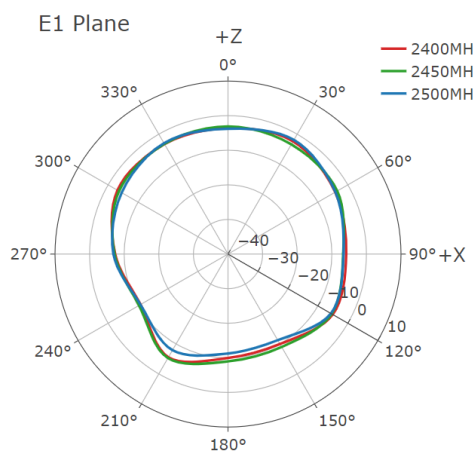
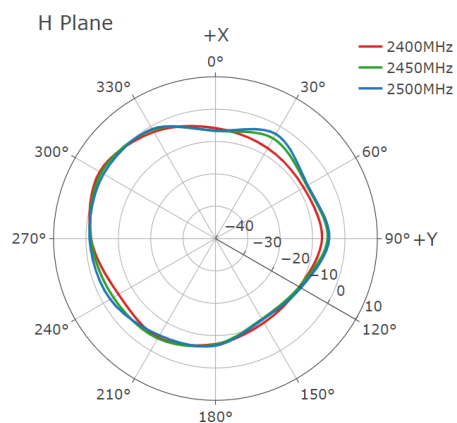
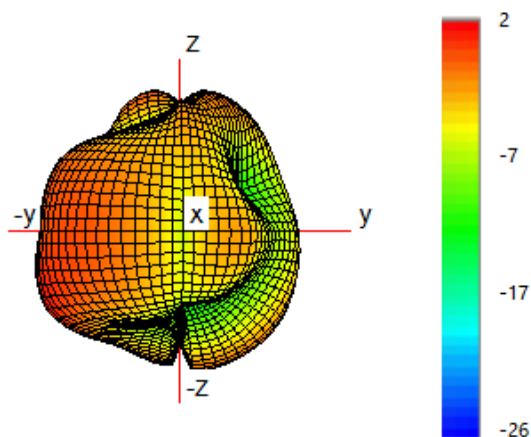


Frequency (MHz)	5150	5500	5850
Gain (dBi)	1.6	2.6	1.6

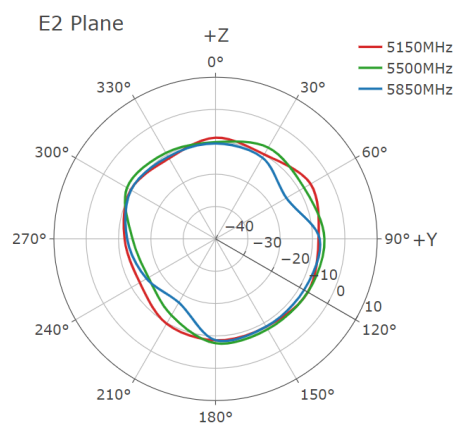
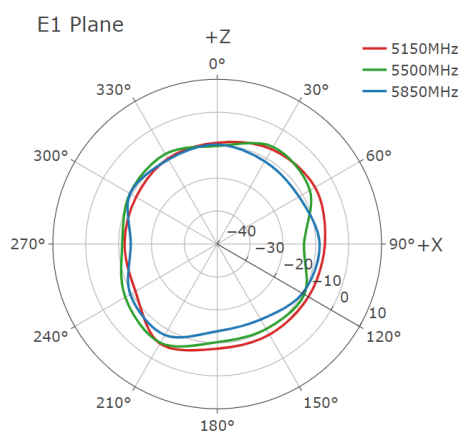
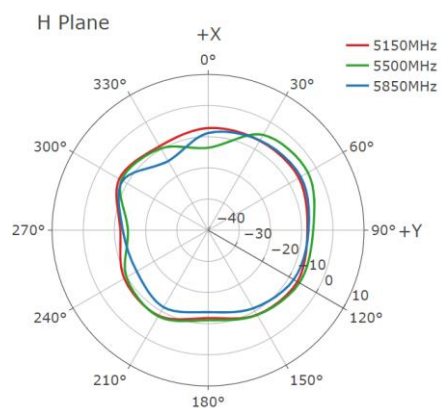
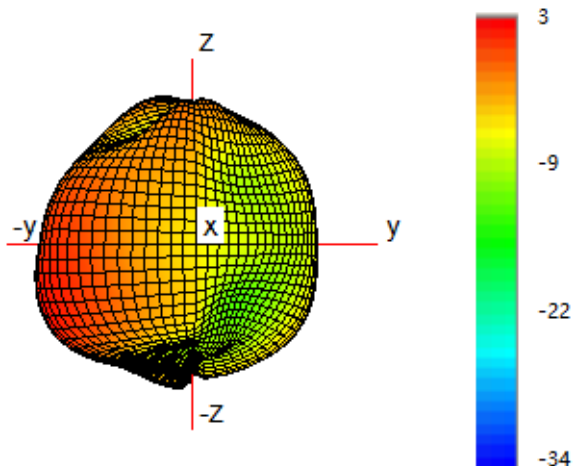
## 4.5. Radiation Pattern



2450MHz



5500MHz





## 5 Product Size (mm)

