



# Specification for Approval

## CONTENTS

<b>Customer:</b>	N/A	<b>Vendor:</b>	N/A
<b>Customer P/N:</b>	N/A	<b>HL P/N:</b>	N/A
<b>Customer Device Name:</b>	N/A	<b>HL Device Name:</b>	N/A
<b>Version:</b>	Initial Release	<b>Approval Date:</b>	2023-8-11

Internal Approval		
Approved By:	Checked By:	Prepared By:
		Tian Xiang
Customer Approval		



HL Tronics (Kunshan) Co.,Ltd.

Revision:

Date	Rev	Description of Changes
2018-03-09	A	Initial Release



## 1、Products Electrical

### PCB Antenna

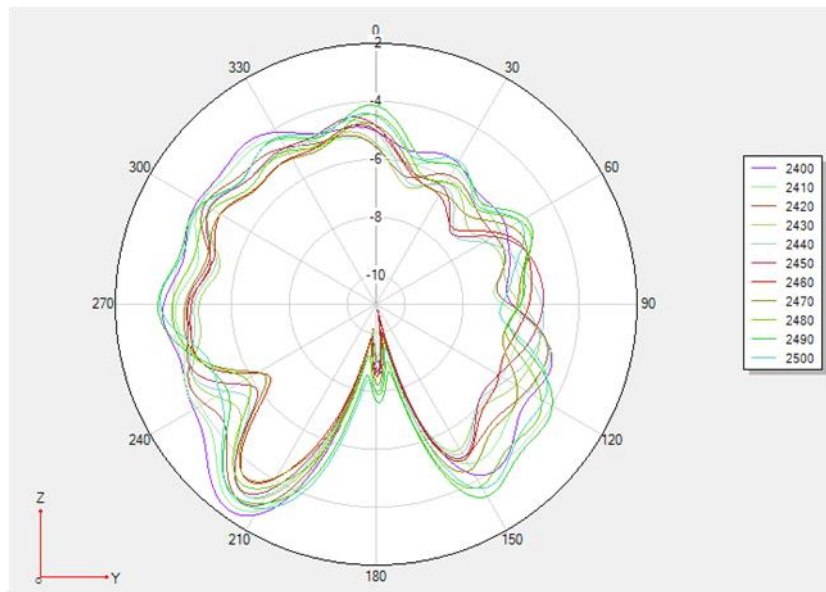
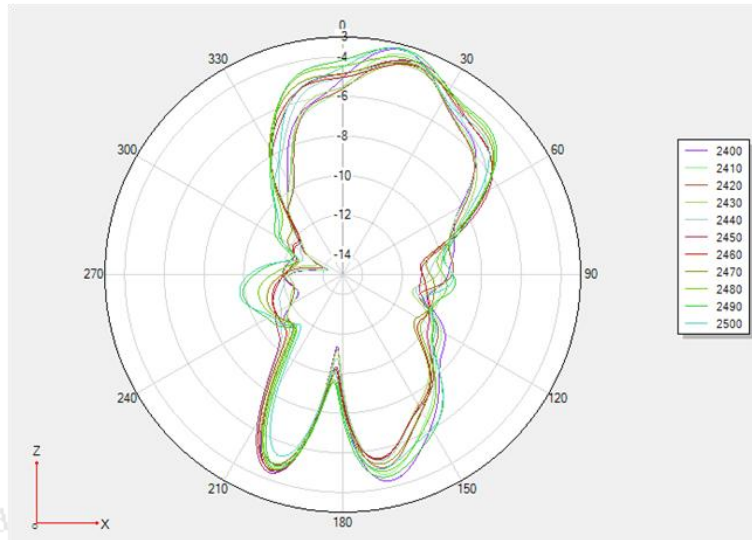
1	Antenna Model	PCB IFA Antenna
2	Frequency Range	2400-2500MHz
3	VSWR	<2
4	Broadband	>100MHz
5	Impedance	50 ohm
6	Gain	-0.89dbi±1dbi
7	Polarization	LP

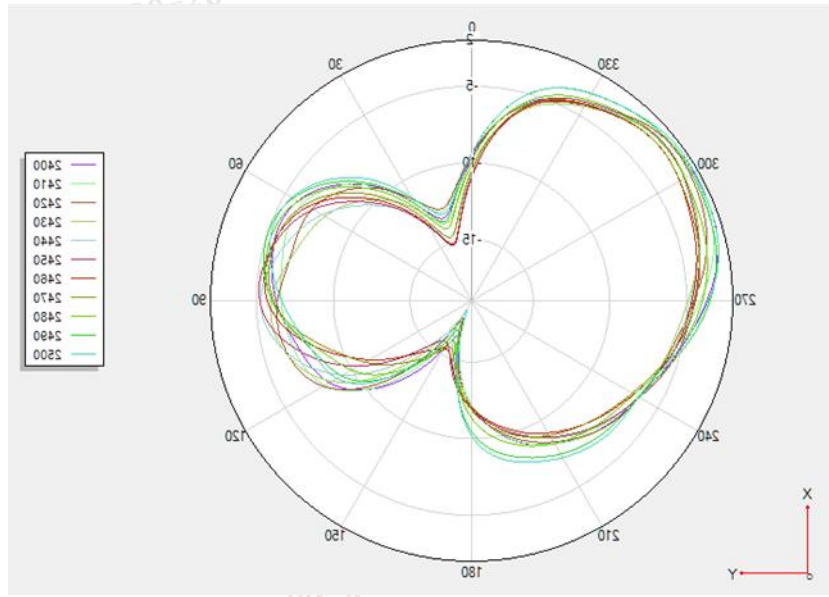
## 2、Antenna Test Data

### 2.1VSWR



## 2.2 RADIATION PATTERNS





### 2.3 GAIN AND EFFICIENCY

Hsel5Q_01_54M_00		
Frequency / MHz	Efficiency / %	Gain/ dBi
2400	29.43	-1.13
2410	30.29	-1.13
2420	30.82	-1.1
2430	30.35	-1.02
2440	30.72	-1.0
2450	31.55	-0.91
2460	31.34	-1.03
2470	32.28	-0.89
2480	31.86	-1.03
2490	30.77	-1.29
2500	30.91	-1.43
AVG	30.94	-1.09

2023-09-26

### 3、PCB ANTENNA (MM)

