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# Antenna specification

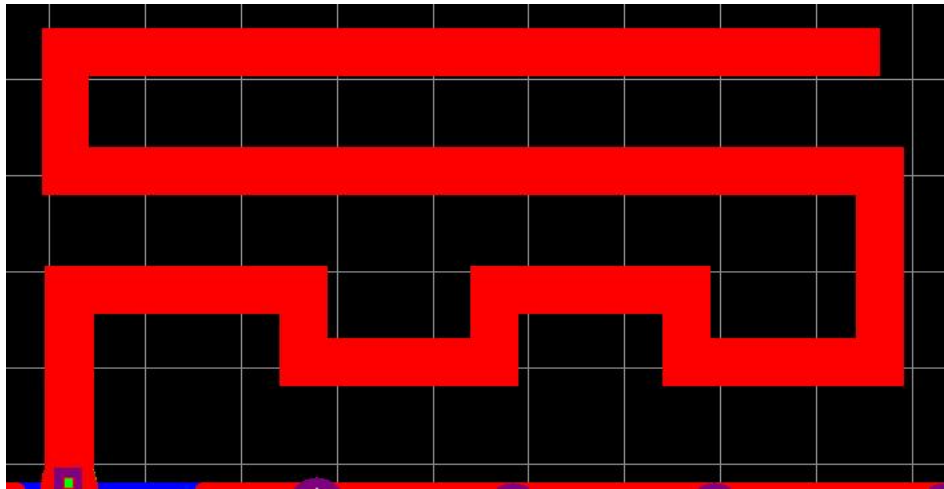
## 1、 Antenna introduction

The Bluetooth module antenna is directly used on the PCB.

**Manufacturer:** Shenzhen xlw technology

**Address:** A436, Huafeng Internet Creative Park, No.107 Gong He Industrial Road, Xixiang, Bao'An, Shenzhen, 518102, China

## 2、 Antenna shape



## 3、 Antenna parameter

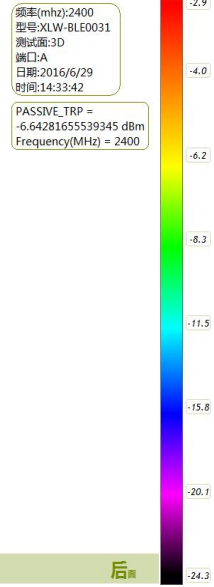
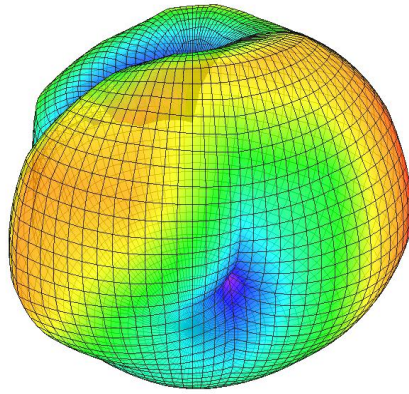
The Bluetooth antenna operates at 2402-2480 MHz and generates resonance in this band. The table below shows the main parameters of the antenna.

Frequency (MHz)	2402 ~ 2480 MHz
VSWR	$\leq 1.7$
Impedance	50 Ohm Nominal
Return Loss	-12 dB Max
Gain (Peak)	-2.94dBi

#### 4、Antenna gain report

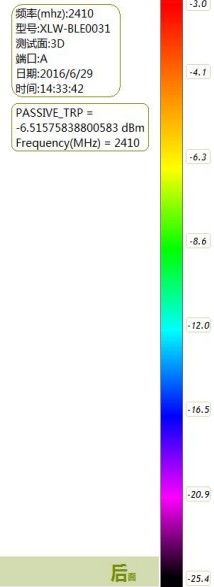
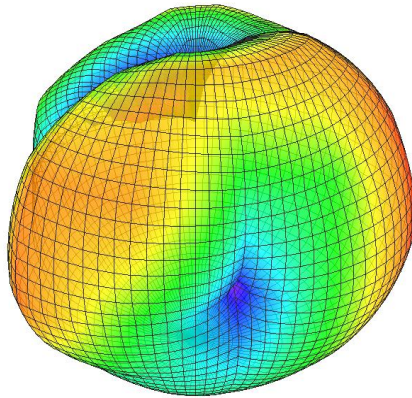
TRP(dBm)	-6.64	-6.52	-6.64	-6.99	-7.43	-6.85	-7.65	-7.68	-8.1	-8.07	-7.93
参数\频率 (mhz)	<b>2400</b>	<b>2410</b>	<b>2420</b>	<b>2430</b>	<b>2440</b>	<b>2450</b>	<b>2460</b>	<b>2470</b>	<b>2480</b>	<b>2490</b>	<b>2500</b>
Peak EIRP(dBm)	-2.94	-2.97	-3.34	-3.73	-4.08	-3.36	-4.01	-3.9	-4.24	-4.2	-4.1
Directivity	3.7	3.55	3.3	3.26	3.35	3.49	3.64	3.78	3.86	3.87	3.83
Gain(dBi)	-2.94	-2.97	-3.34	-3.73	-4.08	-3.36	-4.01	-3.9	-4.24	-4.2	-4.1
Efficiency(dB)	-6.64	-6.52	-6.64	-6.99	-7.43	-6.85	-7.65	-7.68	-8.1	-8.07	-7.93
Efficiency(%)	21.68	22.28	21.68	20	18.07	20.65	17.18	17.06	15.49	15.6	16.11
NHPRP $\pi$ /4(dBm)	-7.42	-7.29	-7.42	-7.77	-8.22	-7.64	-8.45	-8.48	-8.9	-8.87	-8.72
NHPRP $\pi$ /6(dBm)	-8.76	-8.63	-8.77	-9.12	-9.56	-8.99	-9.81	-9.83	-10.26	-10.22	-10.07
Min. EIRP(dBm)	-14.19	-13.95	-14.03	-14.21	-14.56	-13.91	-14.73	-14.84	-15.44	-15.59	-15.44
Upper Hem. PRP(dBm)	-9.15	-9.03	-9.15	-9.5	-9.95	-9.38	-10.16	-10.18	-10.59	-10.56	-10.43
Lower Hem. PRP(dBm)	-10.22	-10.09	-10.23	-10.57	-11	-10.41	-11.23	-11.26	-11.7	-11.68	-11.52
Ant. Port Input Pwr.(dBm)	0	0	0	0	0	0	0	0	0	0	0

$\theta: 60^\circ$   
 $\varphi: 45^\circ$



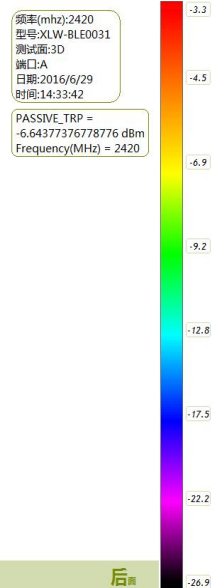
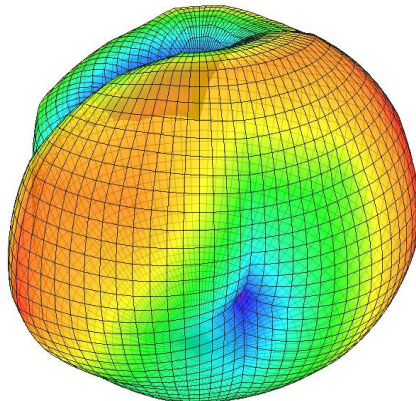
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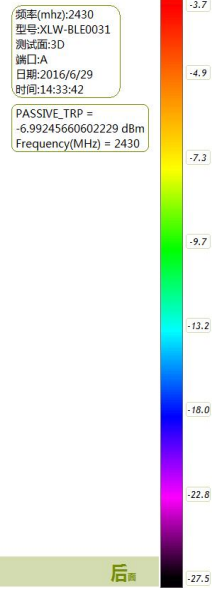
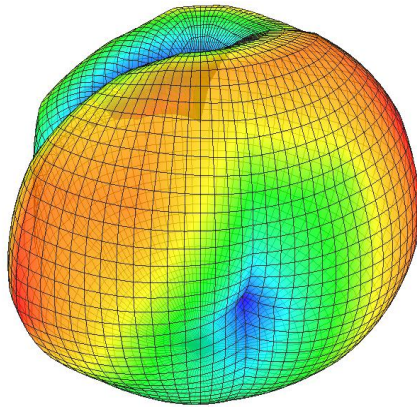
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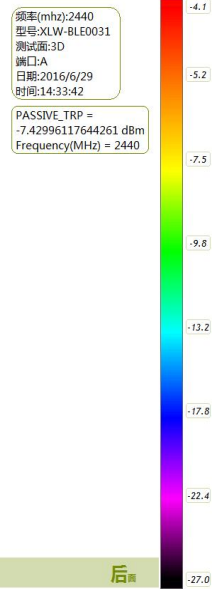
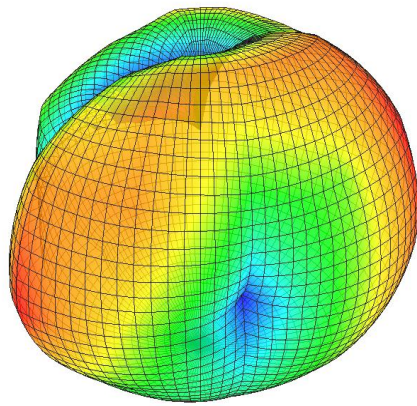
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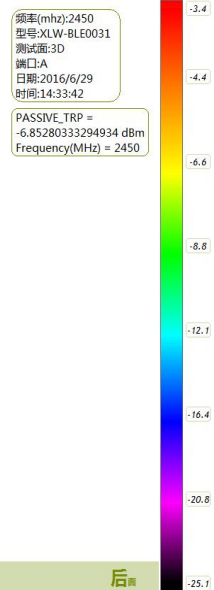
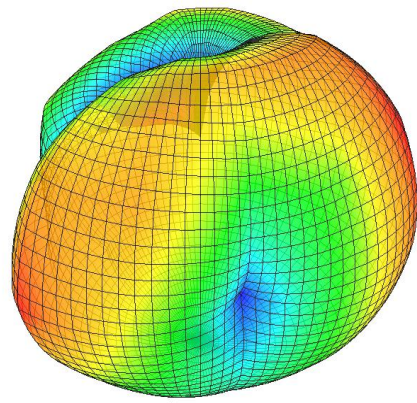
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$\theta: 60^\circ$   
 $\phi: 45^\circ$



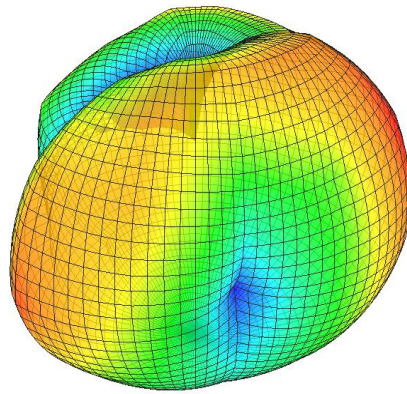
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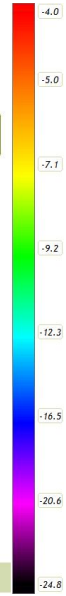


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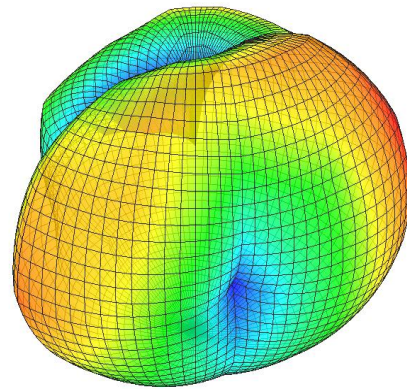


频率(mhz):2460  
型号:XLW-BLE0031  
测试面:3D  
端口:A  
日期:2016/6/29  
时间:14:33:42  
PASSIVE\_TRP =  
-7.65025818012351 dBm  
Frequency(MHz) = 2460

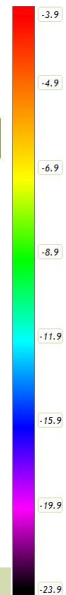


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$\theta: 60^\circ$   
 $\varphi: 45^\circ$

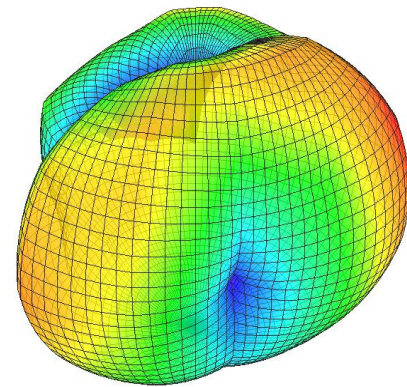


频率(mhz):2470  
型号:XLW-BLE0031  
测试面:3D  
端口:A  
日期:2016/6/29  
时间:14:33:42  
PASSIVE\_TRP =  
-7.67581937767671 dBm  
Frequency(MHz) = 2470

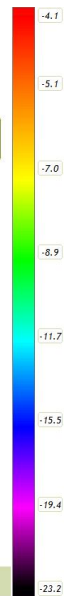


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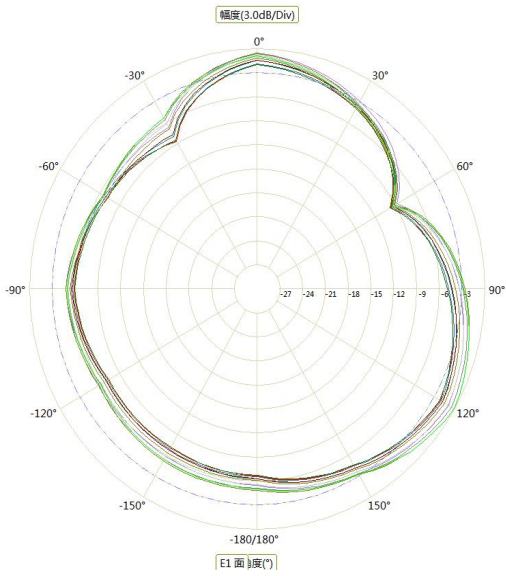
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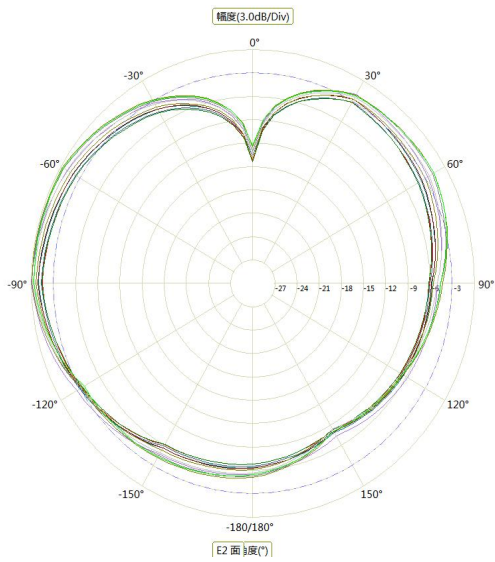
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型号:XLW-BLE0031  
测试面:3D  
端口:A  
日期:2016/6/29  
时间:14:33:42  
PASSIVE\_TRP =  
-7.93057864451588 dBm  
Frequency(MHz) = 2500



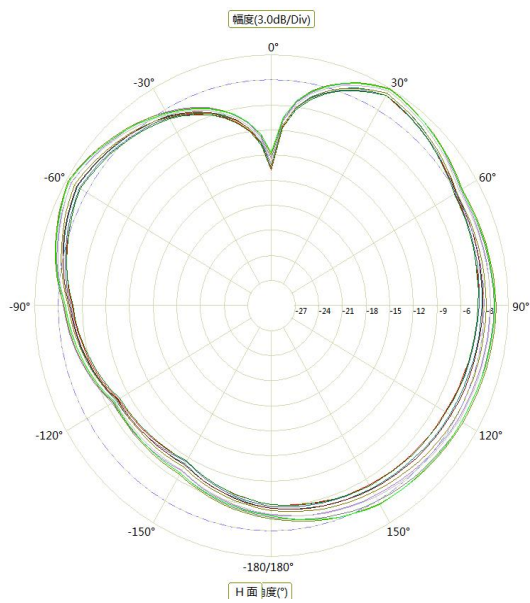
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- hm\_1\_passive\_trp(h) 2500M
- hm\_1\_passive\_trp(h) 2490M
- hm\_1\_passive\_trp(h) 2480M
- hm\_1\_passive\_trp(h) 2470M
- hm\_1\_passive\_trp(h) 2460M
- hm\_1\_passive\_trp(h) 2450M
- hm\_1\_passive\_trp(h) 2440M
- hm\_1\_passive\_trp(h) 2430M
- hm\_1\_passive\_trp(h) 2420M
- hm\_1\_passive\_trp(h) 2410M
- hm\_1\_passive\_trp(h) 2400M



- vm\_1\_passive\_trp(e1) 2500M
- vm\_1\_passive\_trp(e1) 2490M
- vm\_1\_passive\_trp(e1) 2480M
- vm\_1\_passive\_trp(e1) 2470M
- vm\_1\_passive\_trp(e1) 2460M
- vm\_1\_passive\_trp(e1) 2450M
- vm\_1\_passive\_trp(e1) 2440M
- vm\_1\_passive\_trp(e1) 2430M
- vm\_1\_passive\_trp(e1) 2420M
- vm\_1\_passive\_trp(e1) 2410M
- vm\_1\_passive\_trp(e1) 2400M



- vm\_2\_passive\_trp(e2) 2500M
- vm\_2\_passive\_trp(e2) 2490M
- vm\_2\_passive\_trp(e2) 2480M
- vm\_2\_passive\_trp(e2) 2470M
- vm\_2\_passive\_trp(e2) 2460M
- vm\_2\_passive\_trp(e2) 2450M
- vm\_2\_passive\_trp(e2) 2440M
- vm\_2\_passive\_trp(e2) 2430M
- vm\_2\_passive\_trp(e2) 2420M
- vm\_2\_passive\_trp(e2) 2410M
- vm\_2\_passive\_trp(e2) 2400M