

Yigu Electronics-Y02: Antenna Optimization Report

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Report Version Outline

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Antenna passive efficiency

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Actual measurement of the antenna for star search

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directional diagram

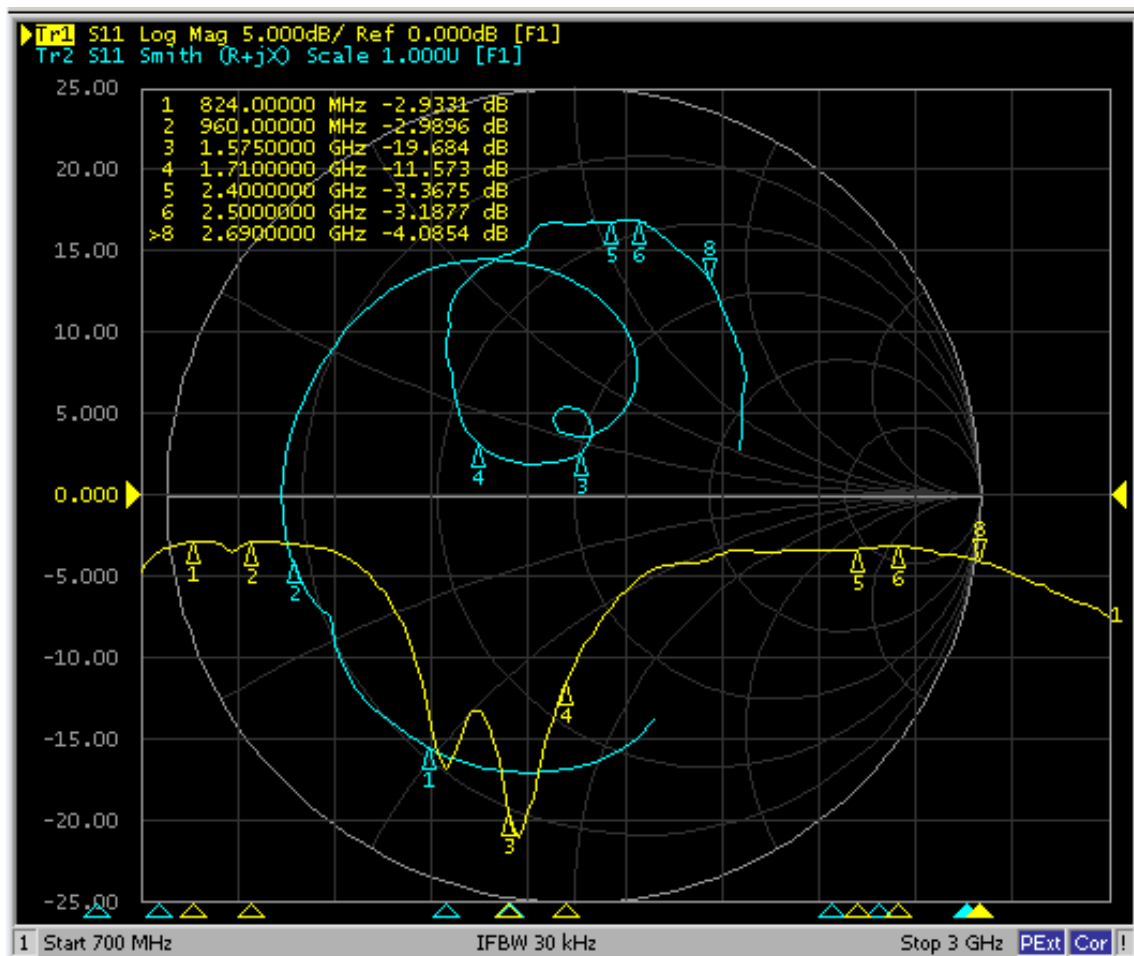
6

Environmental Treatment

Project Commissioning Overview

type	watch		
Band and antenna material	GPS/BT	Frequency	material quality
		1575.42MHz/2.4G	
performance requirement	Implement according to customer requirements		

S11



GPS Star Tracking-Arm

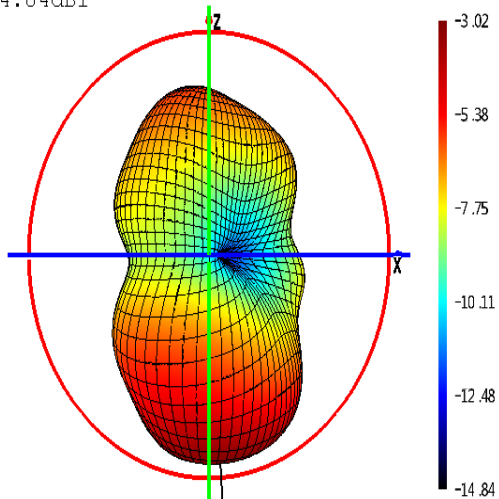


Antenna efficiency, gain

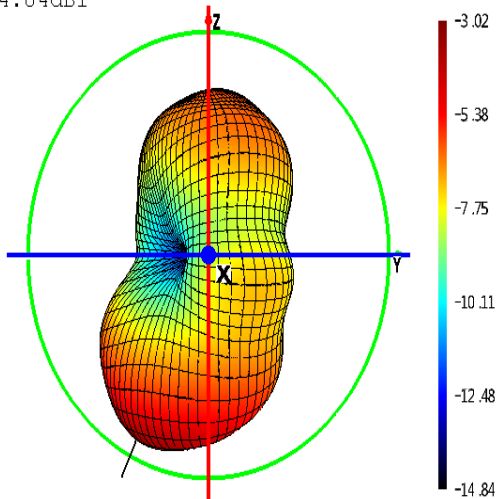
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-8.21	-11.69	6.77
2410	-8.17	-11.81	6.59
2420	-8.07	-11.78	6.64
2430	-8.89	-12.22	6
2440	-8.65	-12.20	6.03
2450	-8.43	-12.11	6.15
2460	-8.55	-12.14	6.11
2470	-8.81	-12.35	5.82
2480	-8.58	-12.34	5.84
2490	-8.35	-12.15	6.09
2500	-8.35	-12.15	6.1

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
1570	-3.05	-7.64	17.21
1571	-3.05	-7.63	17.26
1572	-3.05	-7.62	17.32
1573	-3.05	-7.59	17.40
1574	-3.04	-7.56	17.52
1575	-3.02	-7.53	17.68
1576	-2.99	-7.47	17.89
1577	-2.95	-7.41	18.14
1578	-2.94	-7.35	18.43
1579	-2.88	-7.27	18.74
1580	-2.83	-7.20	19.06

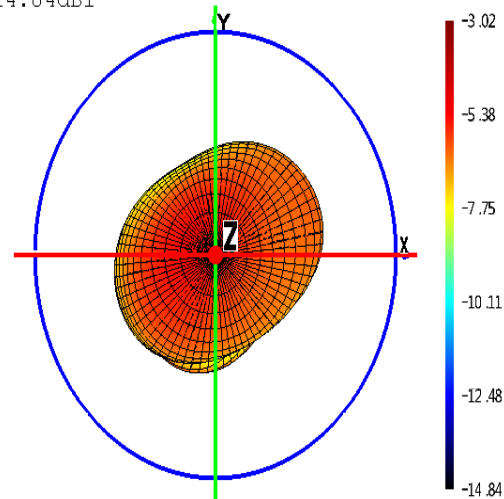
MAX:-3.02dBi
MIN:-14.84dBi



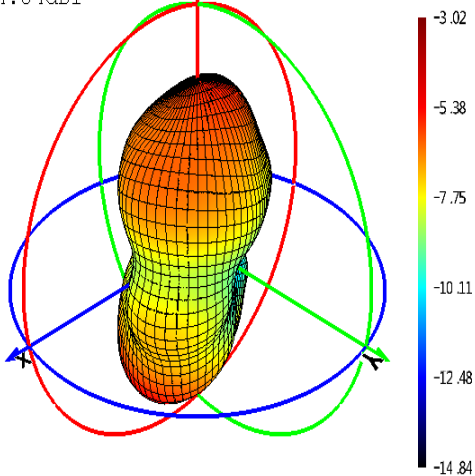
MAX:-3.02dBi
MIN:-14.84dBi



MAX:-3.02dBi
MIN:-14.84dBi



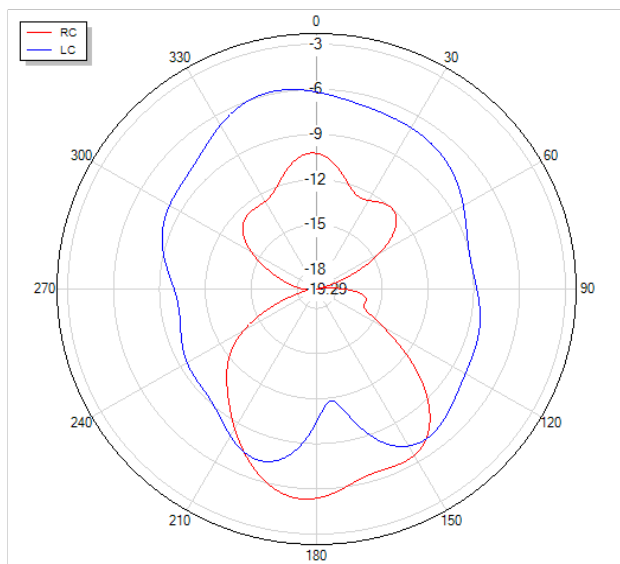
MAX:-3.02dBi
MIN:-14.84dBi



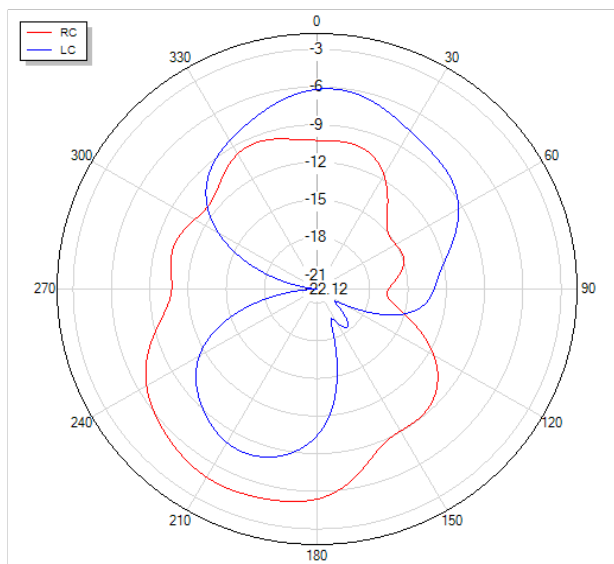
GPS Apple Image

GPS directional diagram

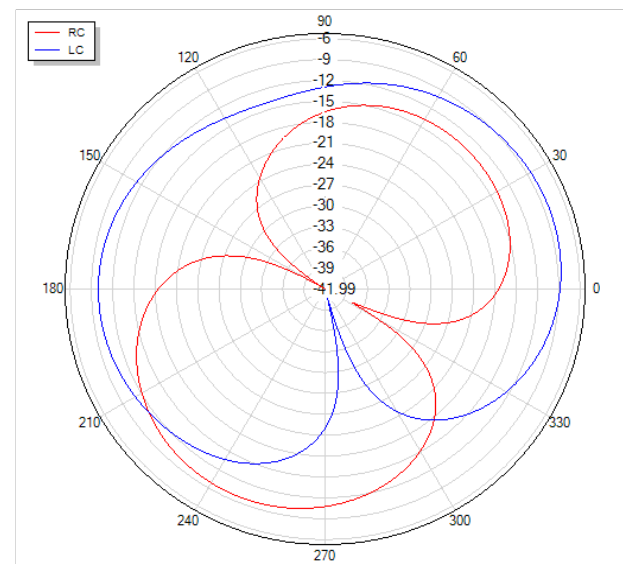
Phi=0 freq=1575MHz



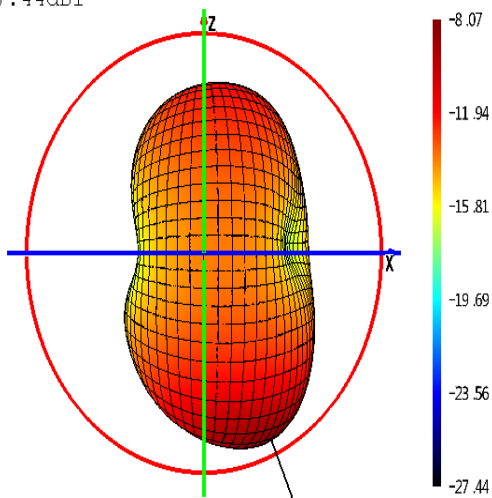
Phi=90 freq=1575MHz



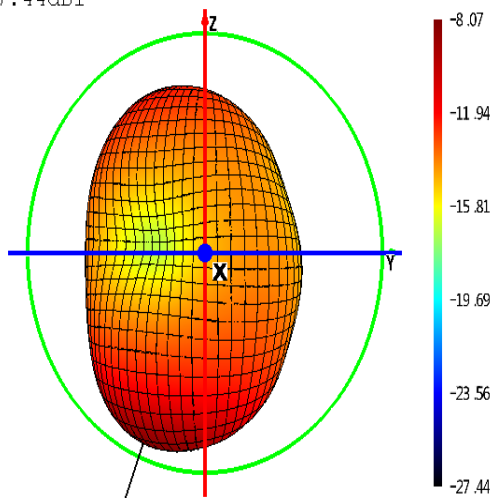
Theta=90 freq=1575MHz



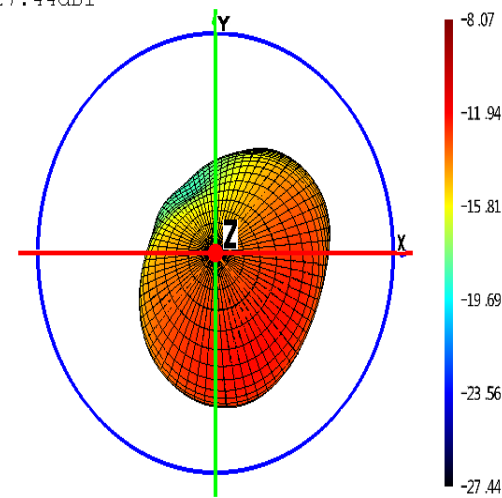
MAX:-8.07dBi
MIN:-27.44dBi



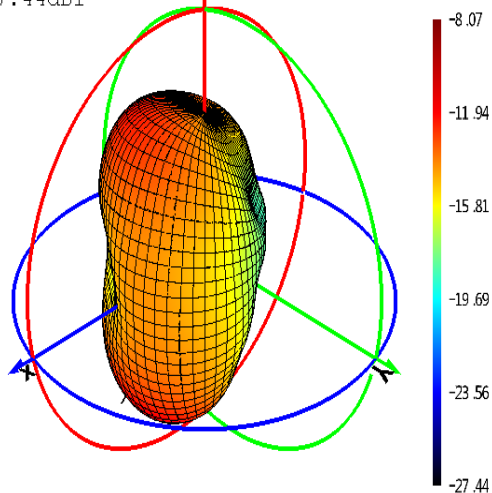
MAX:-8.07dBi
MIN:-27.44dBi



MAX:-8.07dBi
MIN:-27.44dBi



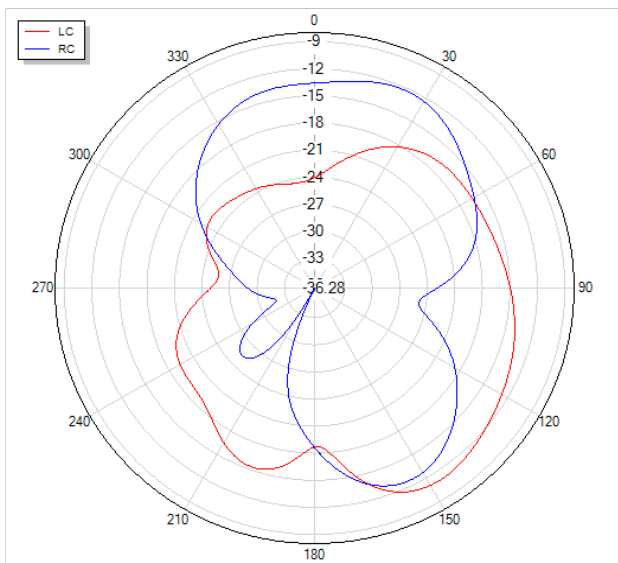
MAX:-8.07dBi
MIN:-27.44dBi



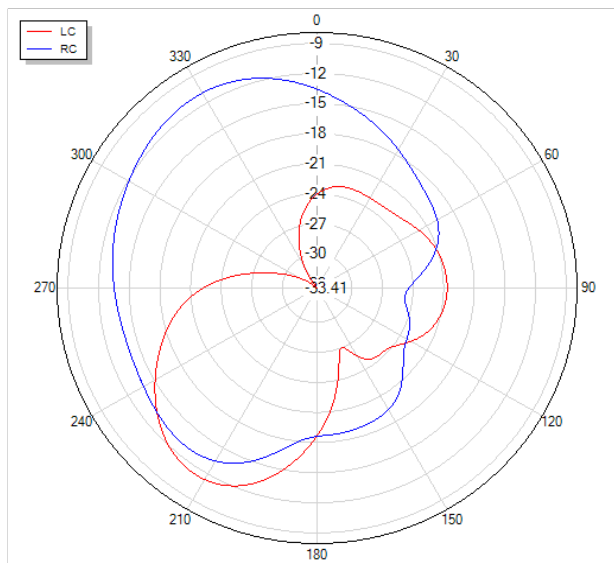
BT Apple Image

BT directional diagram

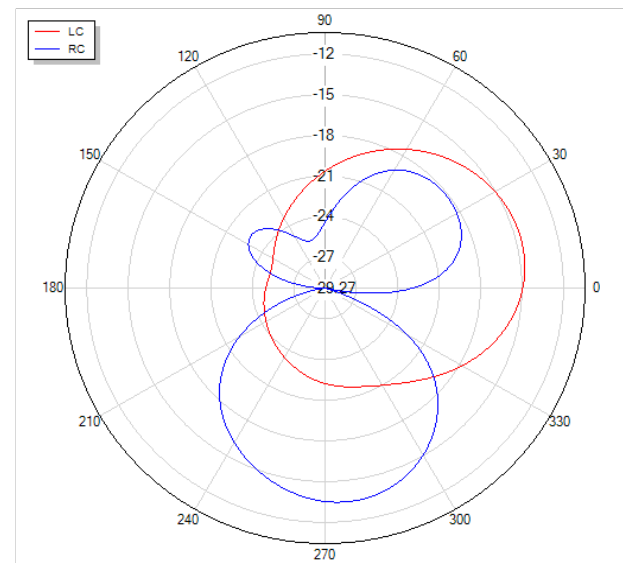
Phi=0 freq=2420MHz



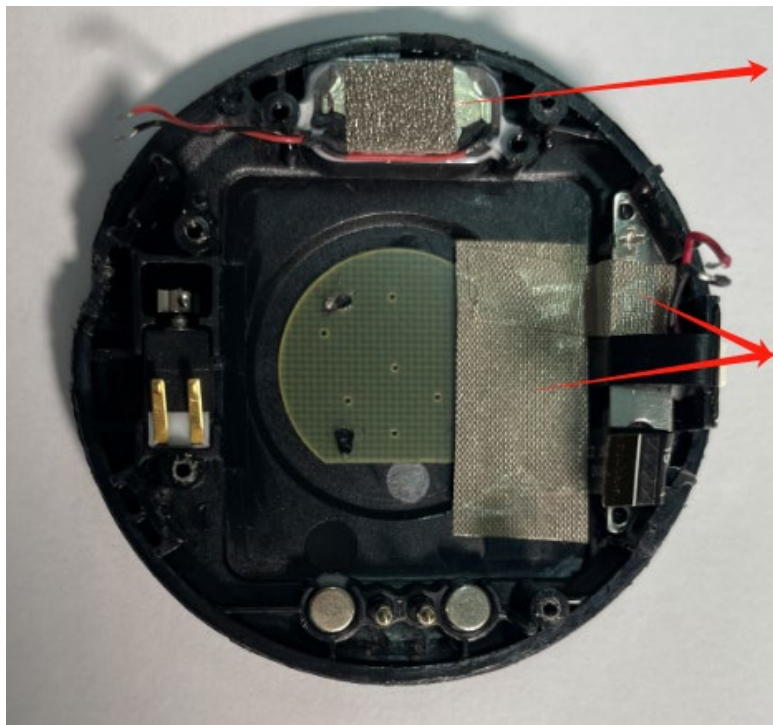
Phi=90 freq=2420MHz



Theta=90 freq=2420MHz

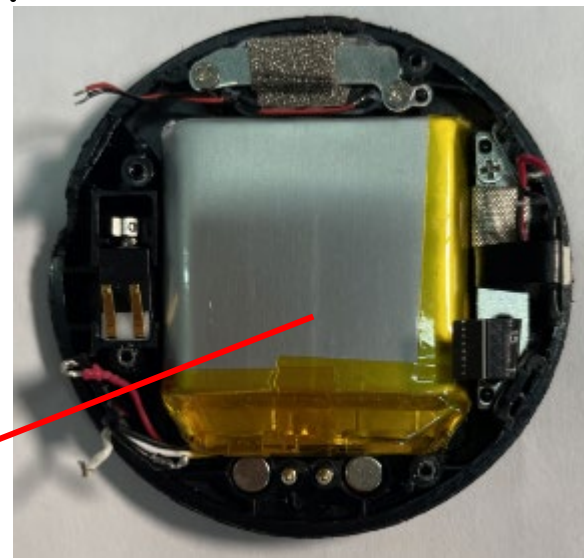


Environmental Treatment



1. The speaker is covered with conductive cotton.

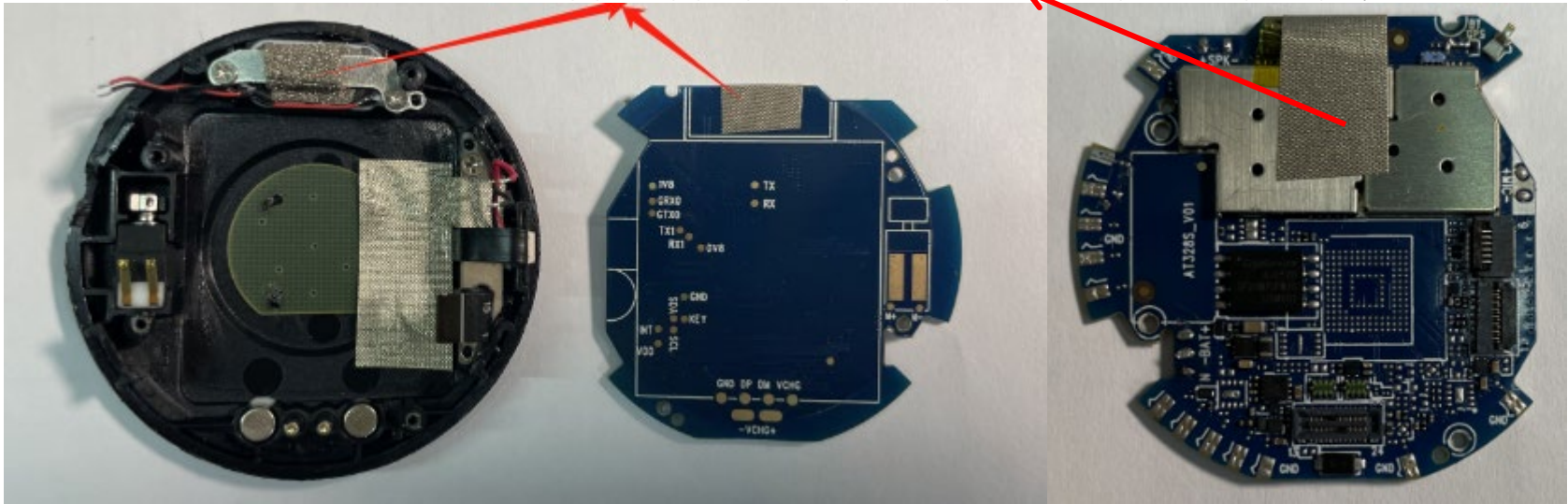
2. The wiring strip is attached to a conductive fabric and connected to a metal plate.



The original pack battery has been canceled.

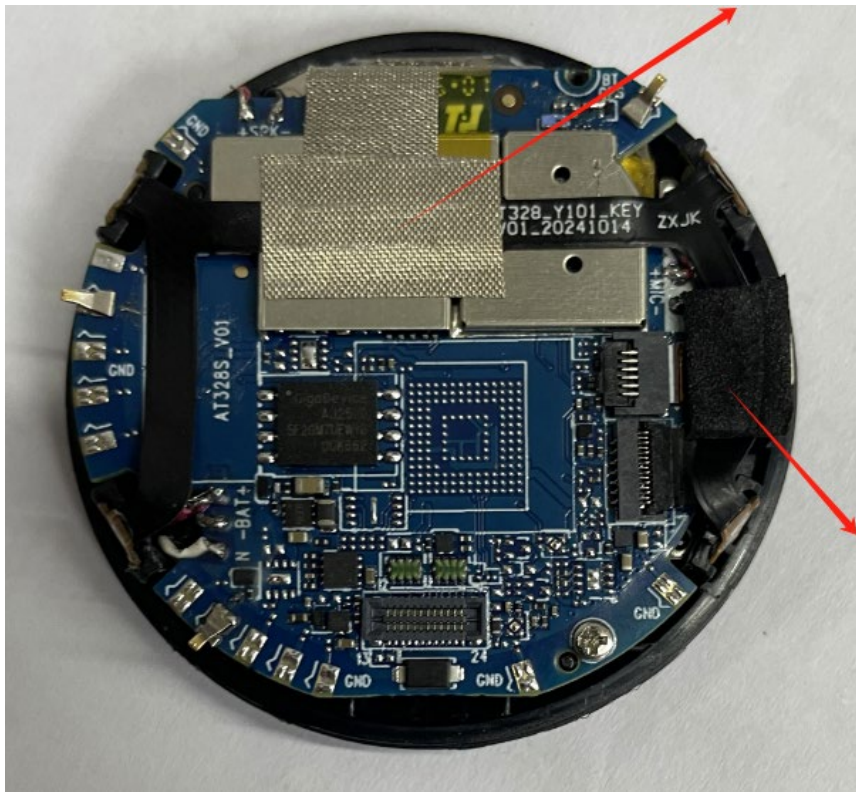
Environmental Treatment

3. The metal sheet of the speaker is attached to conductive cotton and connected to the back of the PCB.



Environmental Treatment

4. Apply conductive fabric to the wiring strip



5. Press the foam pad to align the wiring lines for consistency

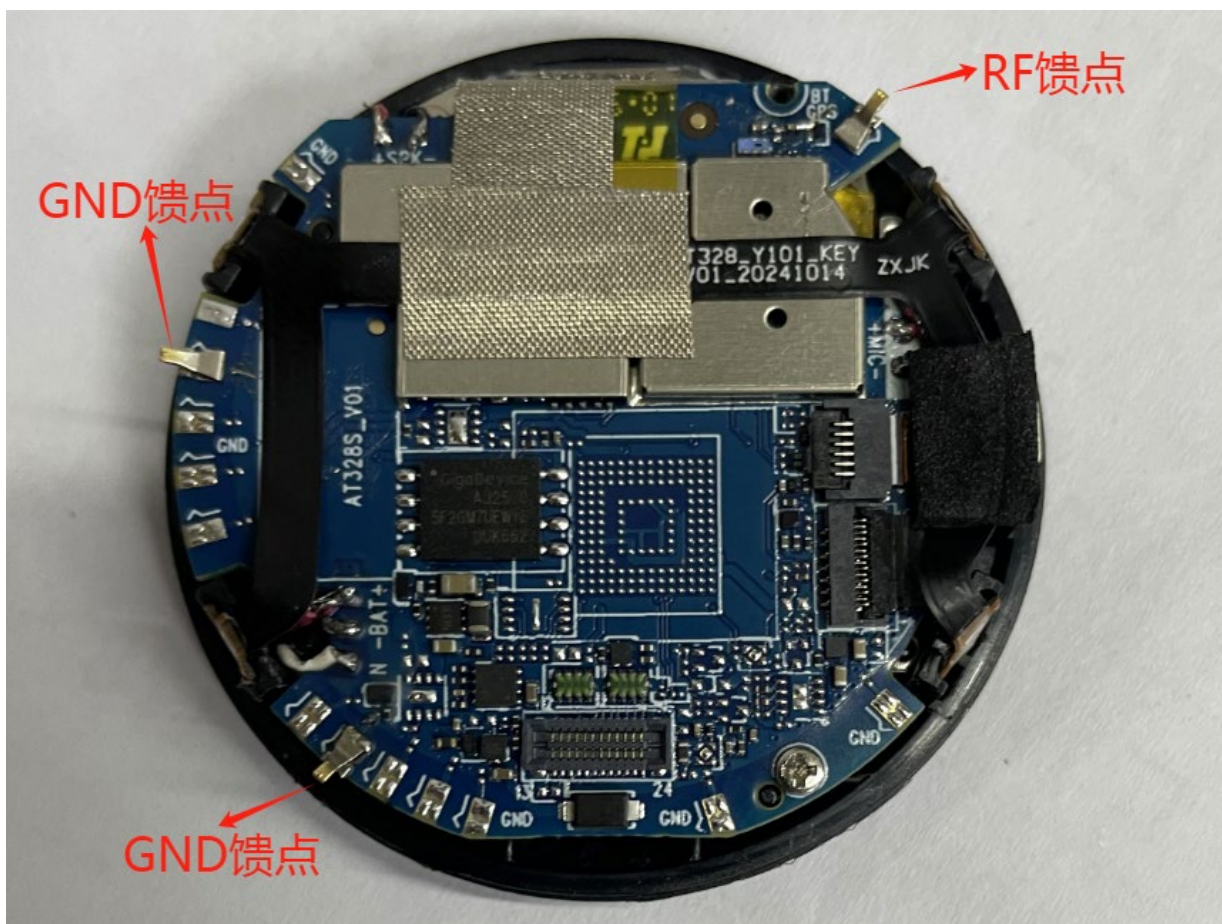
Environmental Treatment

6. Trim the stratum near the feed point of the patch cord.

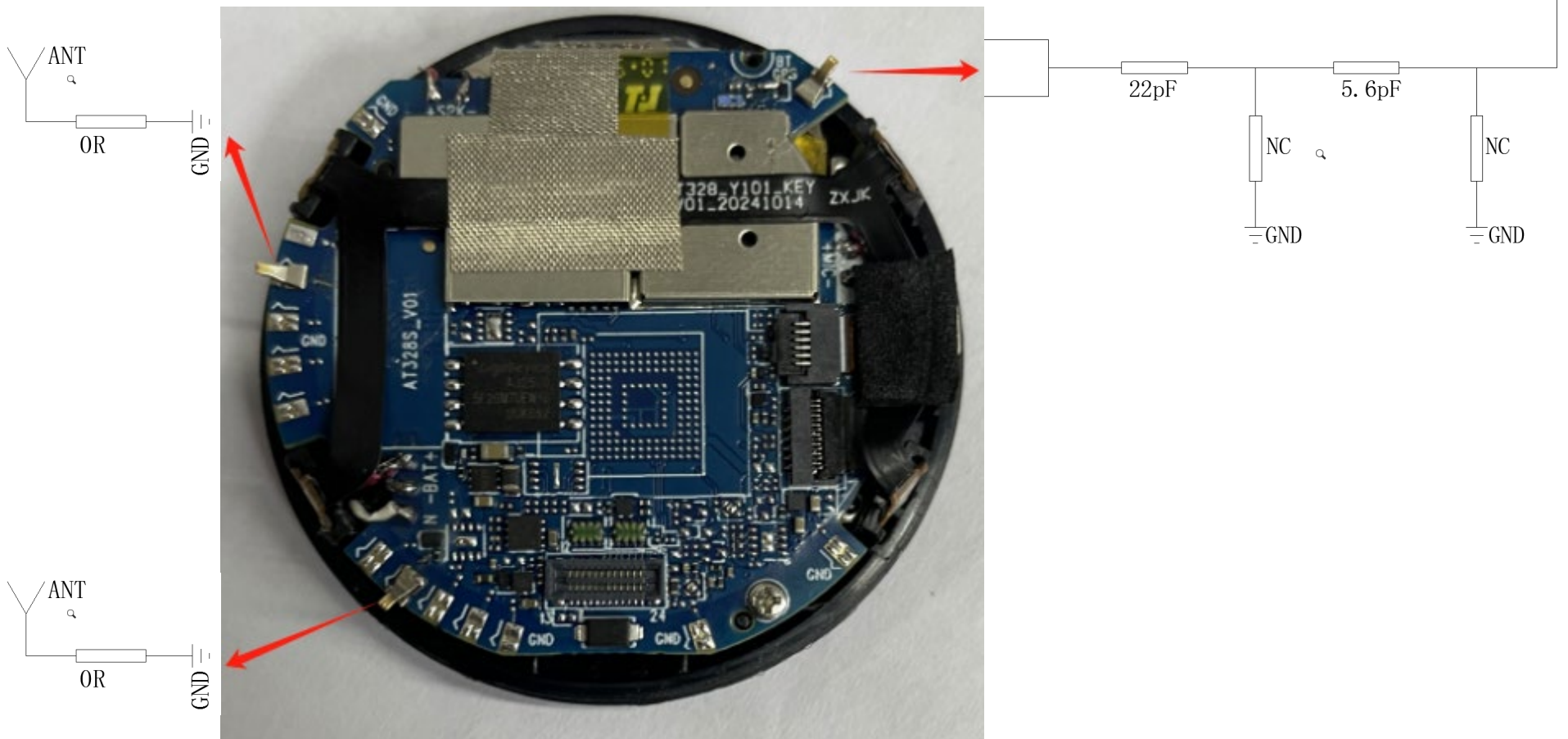


7. Apply the conductive fabric and the insulating film.

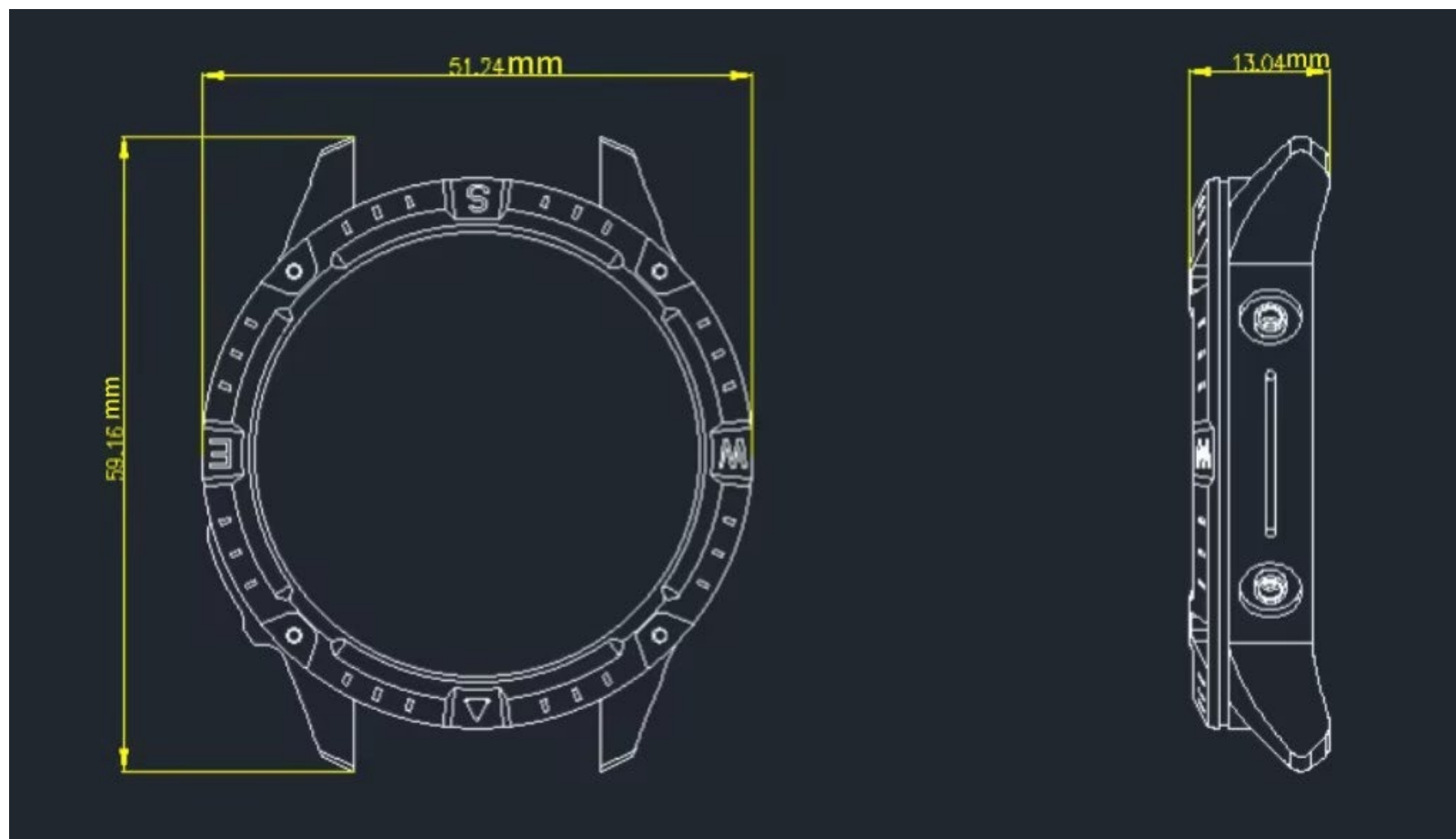
Spring Usage Instructions



Match Description



Antenna size diagram



Thank you!



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