

# PATPET-PS01-A-Transmitting-receiving-antenna debugging report

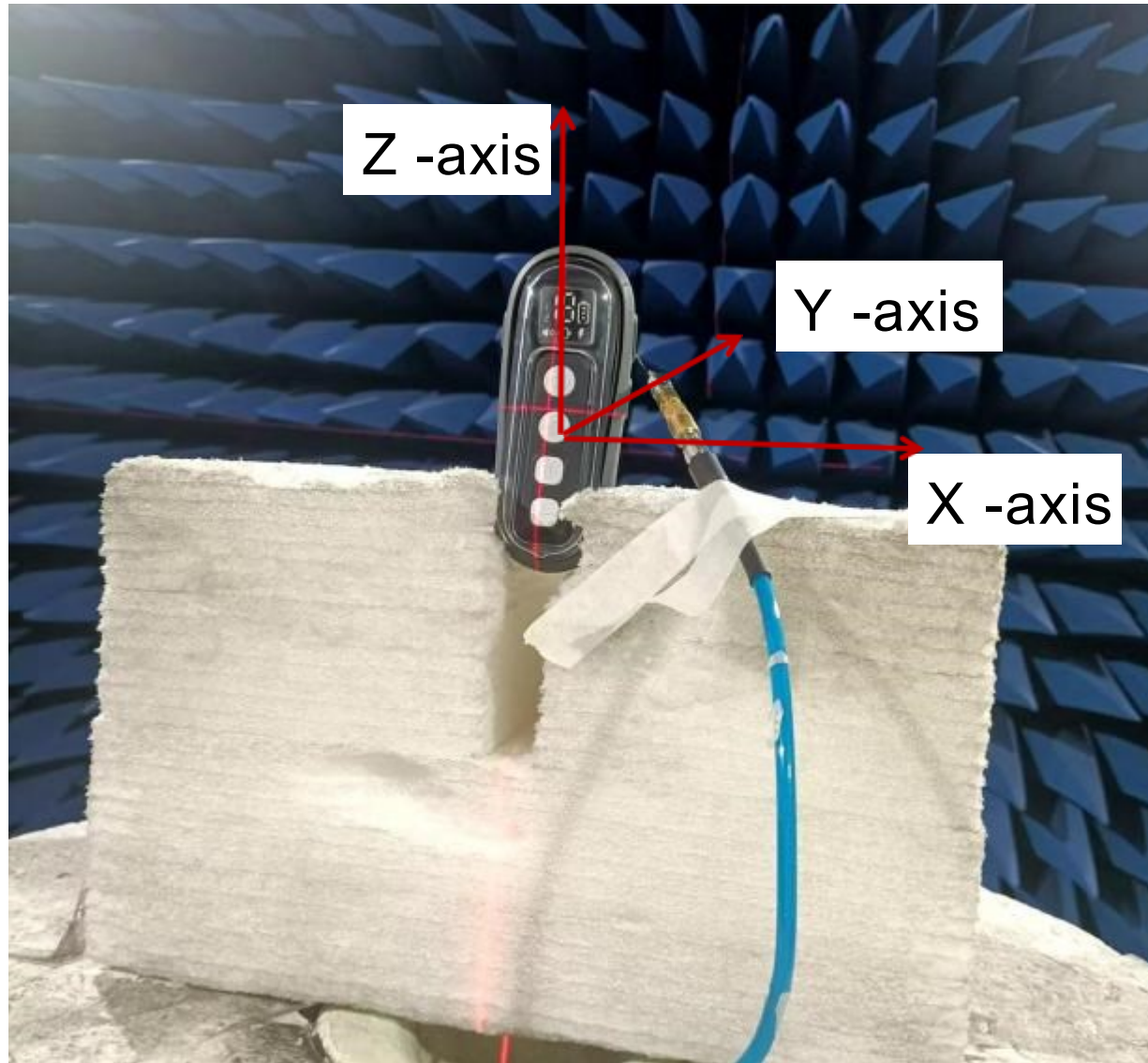
# contents

- ☐ Project Requirements Analysis
- ☐ Passive debugging data

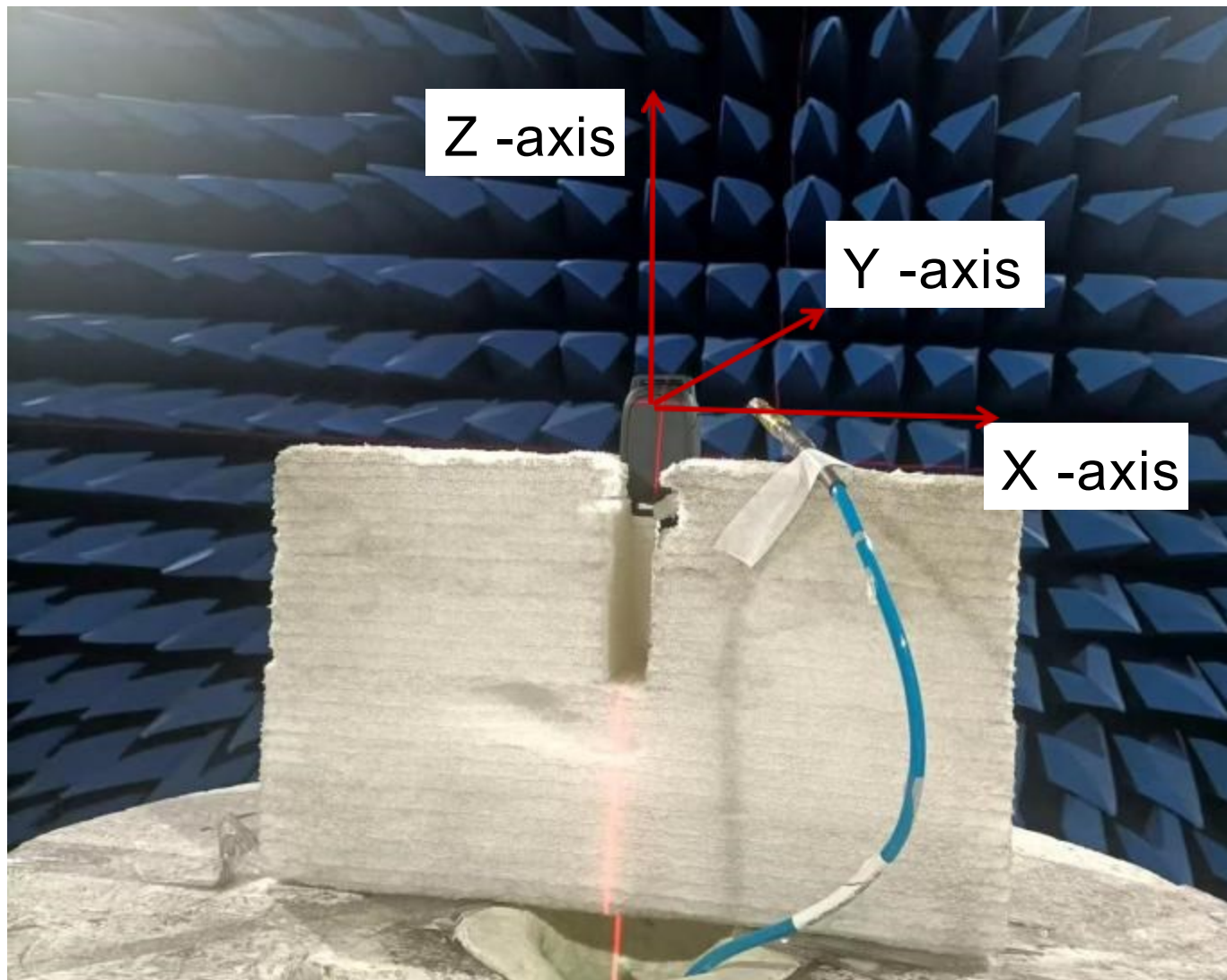
# Project requirements

- ☐ Passive data
- ☐ S11, Efficiency, gain, directional diagram, 3D diagram

# Test of transmitting antenna in darkroom ZTX 中天迅



# Test of receiving antenna in darkroom

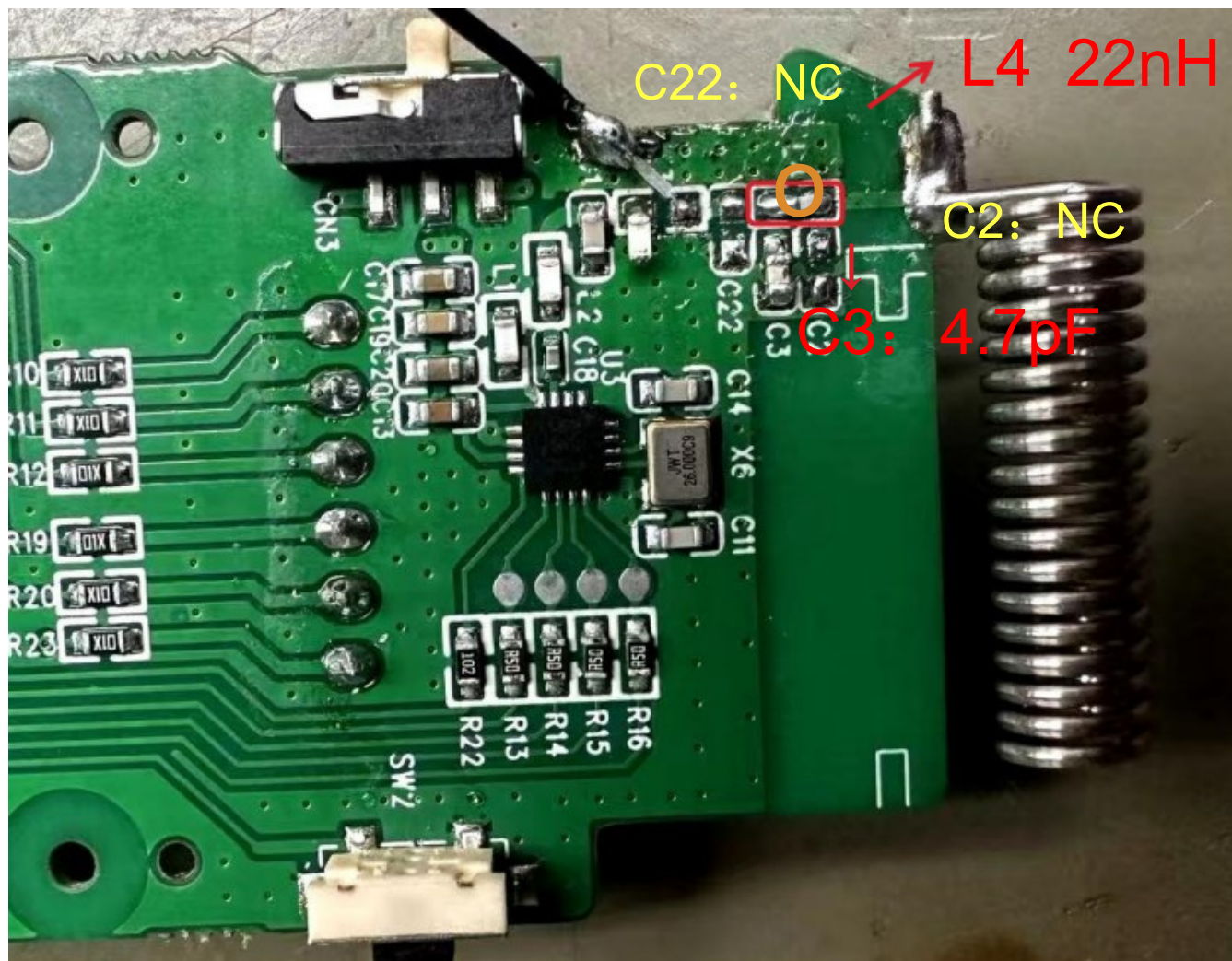


# Installation position of spring antenna at the transmitting end

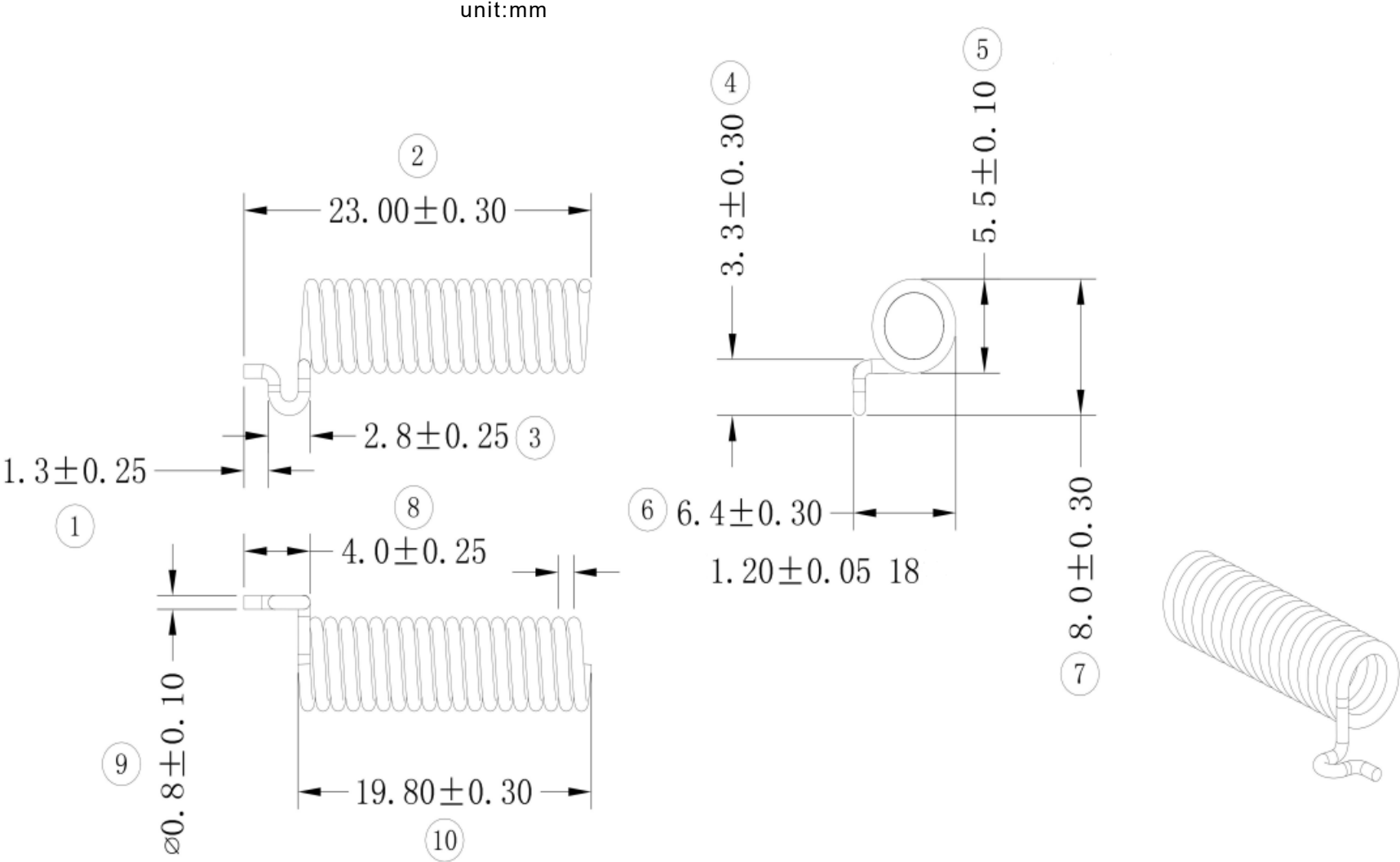


Spring Antenna

# Schematic diagram of spring antenna matching at the transmitting end

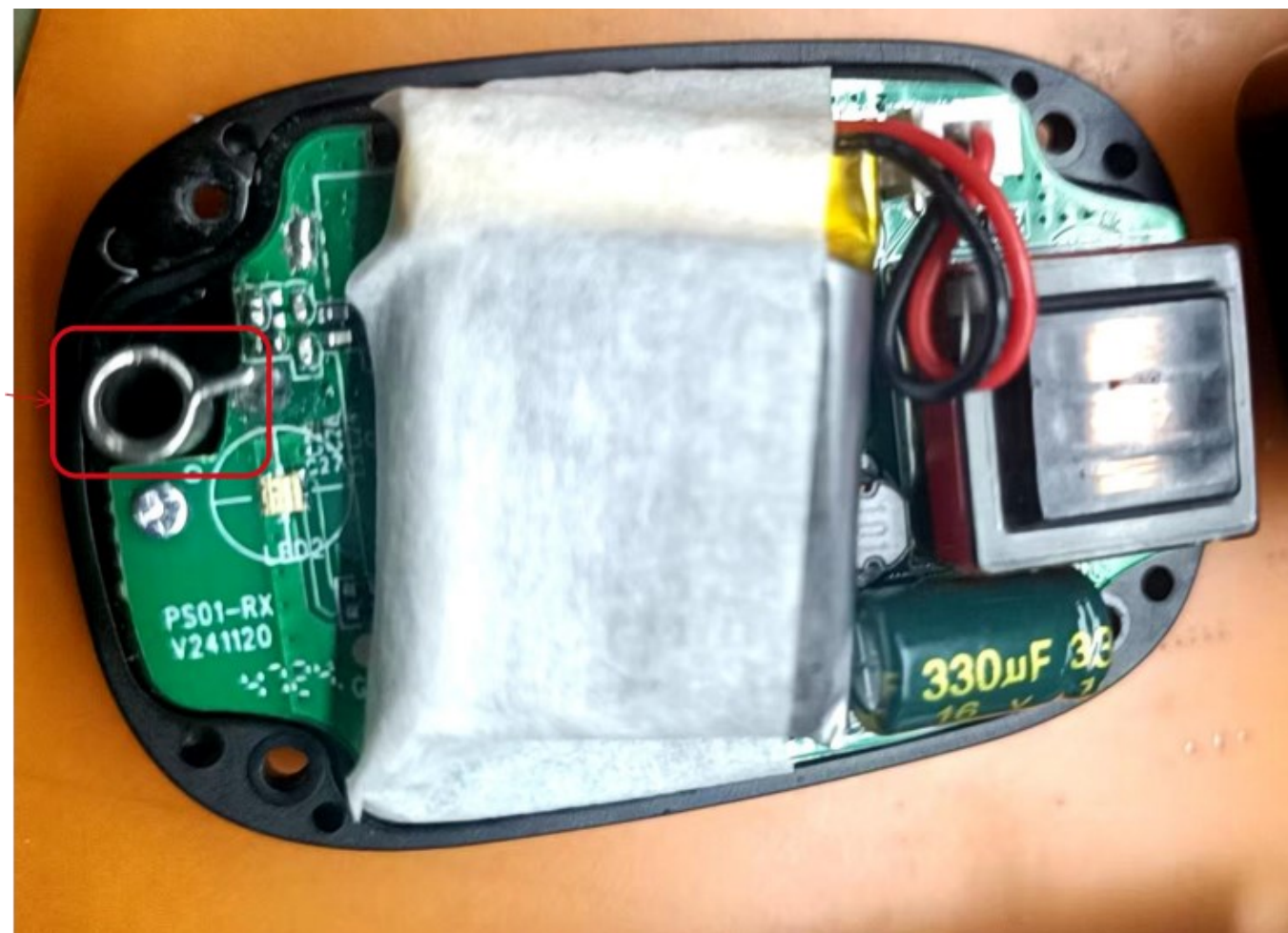


# Transmitter antenna size diagram



# Installation position of spring antenna at the receiving end

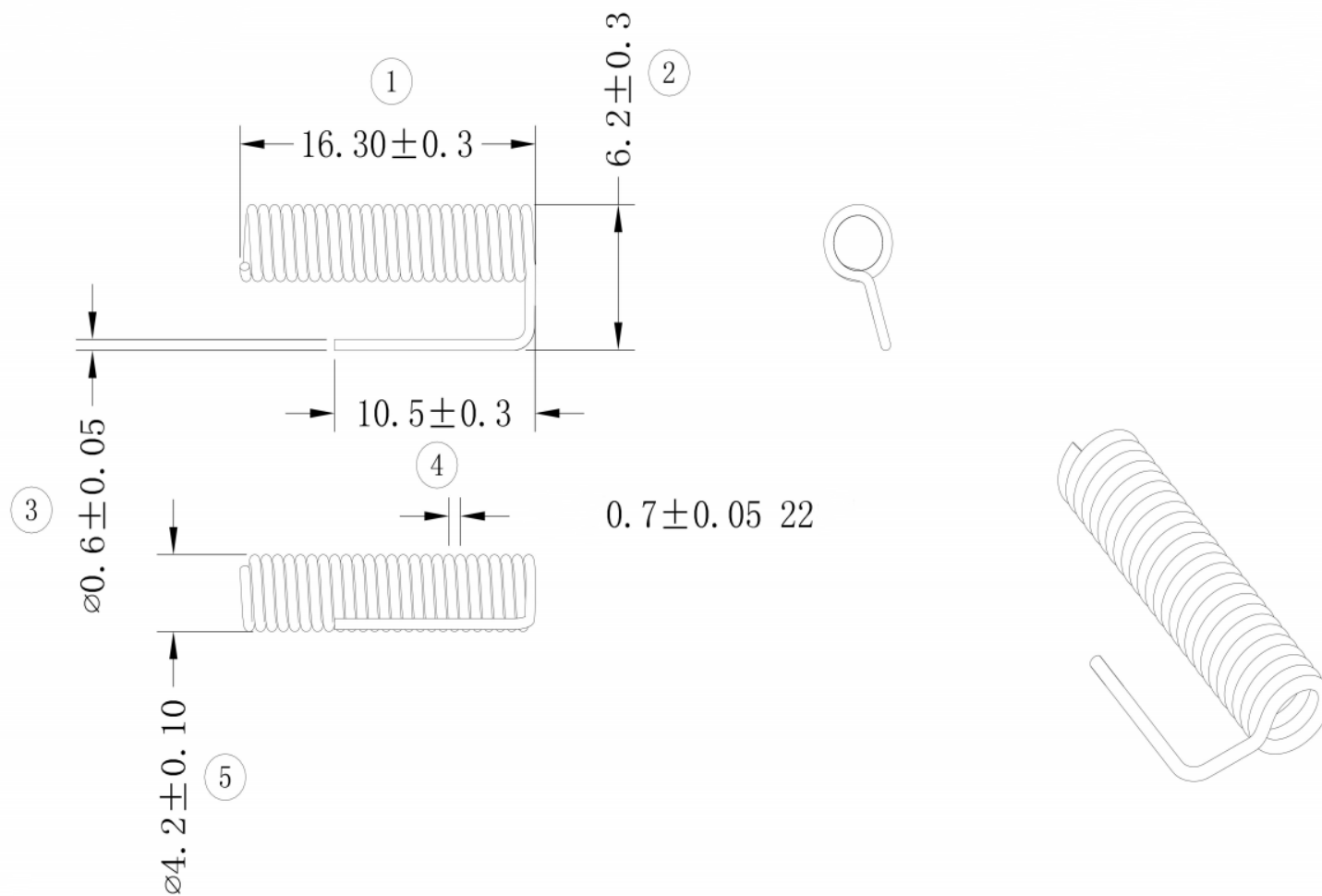
Place the antenna vertically to the bottom and weld it.  
Pay attention to keeping the antenna away from the matching end



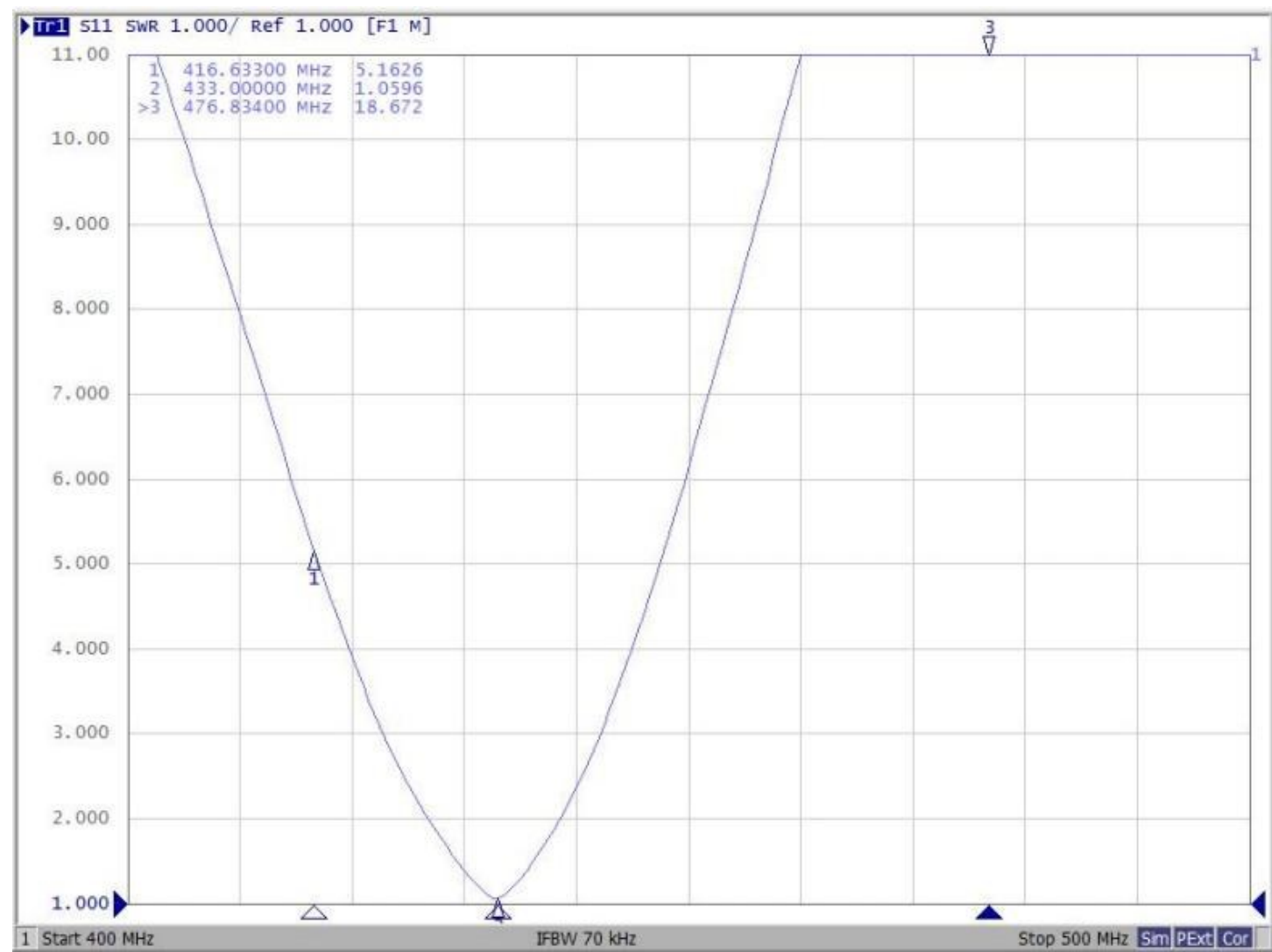
# Schematic diagram of antenna matching at the receiving end



# Receiver antenna size diagram

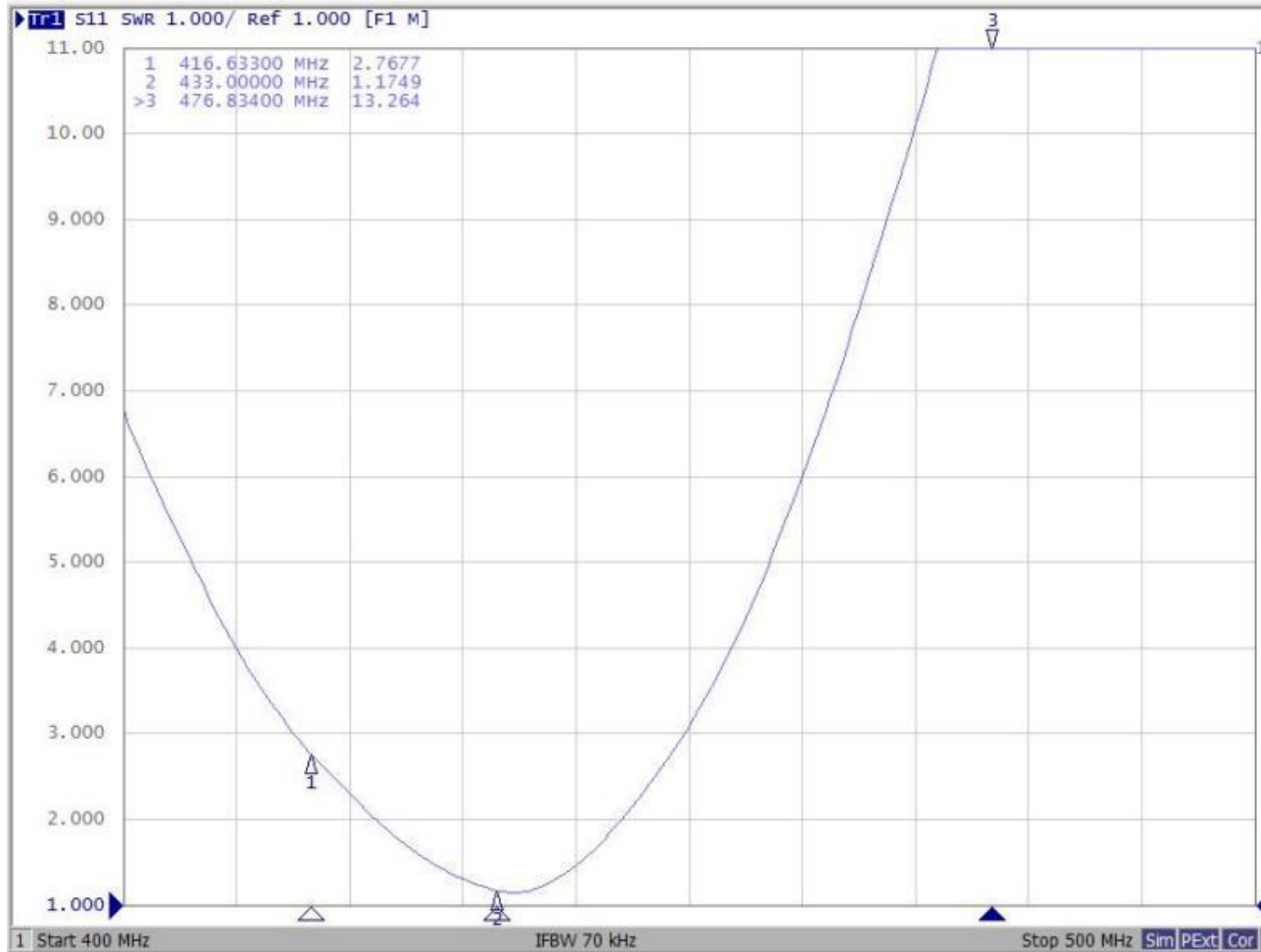


# Passive test data of transmitting end spring antenna (VSWR)



| Frequency<br>(MHz) | VSWR<br>(standing-wave<br>ratio) |
|--------------------|----------------------------------|
| 433                | 1.05                             |

# Passive test data of receiving end spring antenna (VSWR)



| Frequency<br>(MHz) | VSWR<br>(standing-<br>wave ratio) |
|--------------------|-----------------------------------|
| 433                | 1.17                              |

# Passive debugging data of transmitting end spring antenna: efficiency/gain

| Frequency (MHz) | Efficiency | Efficiency . dB | Gain . dB |
|-----------------|------------|-----------------|-----------|
| 400             | 5%         | -12.85          | -9.38     |
| 410             | 7%         | -11.25          | -7.86     |
| 420             | 8%         | -10.72          | -5.90     |
| 430             | 12%        | -9.09           | -4.38     |
| 433             | 16%        | -7.99           | -4.11     |
| 440             | 14%        | -8.65           | -5.45     |
| 450             | 6%         | -12.42          | -8.17     |
| 460             | 3%         | -14.96          | -10.57    |
| 470             | 2%         | -16.65          | -12.24    |
| 480             | 2%         | -17.97          | -13.50    |
| 490             | 1%         | -19.17          | -14.86    |
| 500             | 1%         | -20.56          | -16.27    |

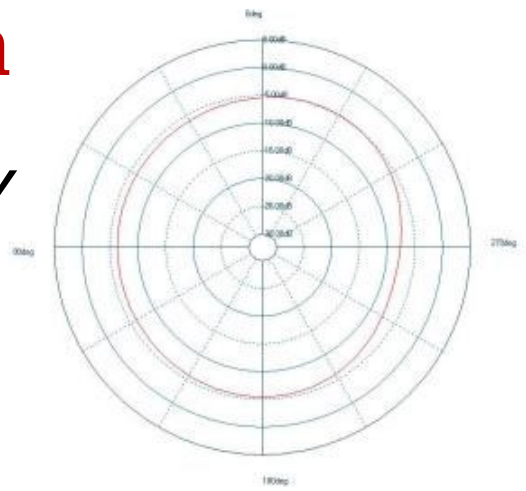
# Passive debugging data of receiving end spring antenna: efficiency/gain

| Frequency (MHz) | Efficiency | Efficiency . dB | Gain . dB |
|-----------------|------------|-----------------|-----------|
| 400             | 5%         | -13.27          | -10.23    |
| 410             | 7%         | -11.74          | -8.23     |
| 420             | 7%         | -11.51          | -7.20     |
| 430             | 8%         | -11.04          | -7.04     |
| 433             | 8%         | -11.22          | -7.12     |
| 440             | 9%         | -10.36          | -8.15     |
| 450             | 4%         | -14.30          | -10.28    |
| 460             | 2%         | -16.65          | -12.43    |
| 470             | 1%         | -18.80          | -14.28    |
| 480             | 1%         | -20.62          | -15.85    |
| 490             | 1%         | -22.27          | -17.41    |
| 500             | 0%         | -23.86          | -19.24    |

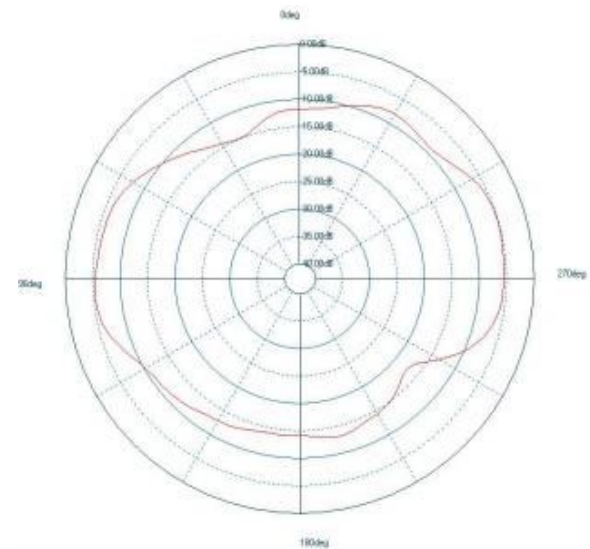
# Passive debugging data of transmitting end spring antenna: 433MHz directional pattern/3D pattern



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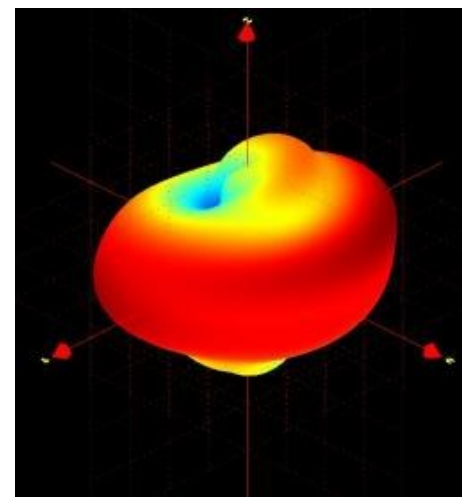
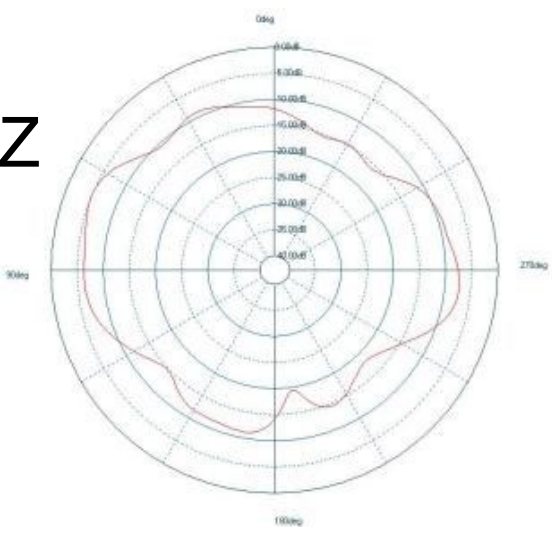


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Legend  
— 433.00(MHz)

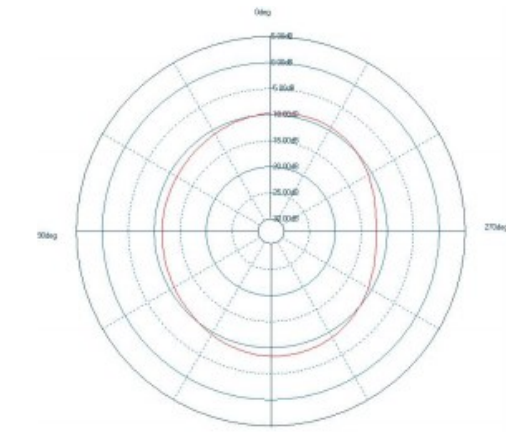
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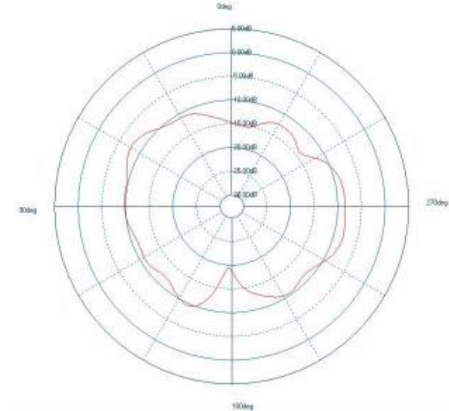
# Passive debugging data of receiving end spring antenna: 433MHz directional pattern/3D pattern



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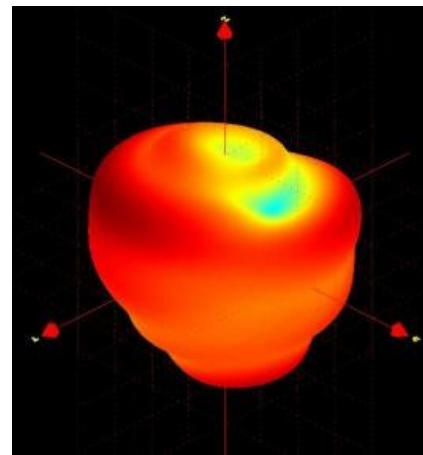
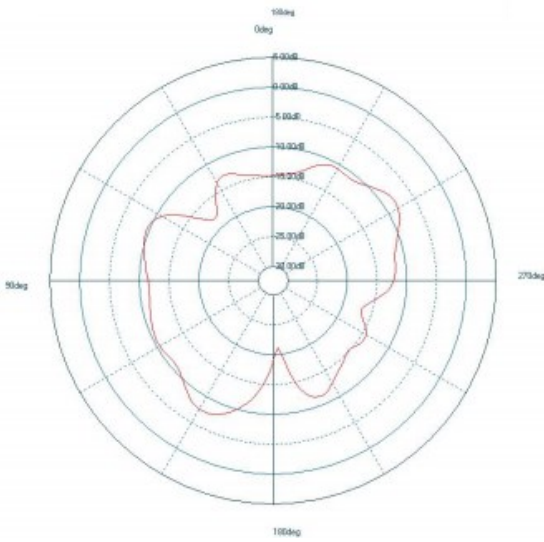


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Legend  
— 433.00(MHz)

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# Thank You

