

418MHz Antenna

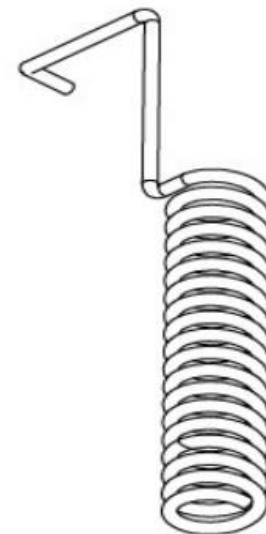
RF Engineer: 牟振韬

Version: V1.1

Date: 2018.06.02

1 Feature

- * internal monopole antenna;
- * frequency: 417MHz-419MHz;
- * Through-hole interface;
- * wireless communication;

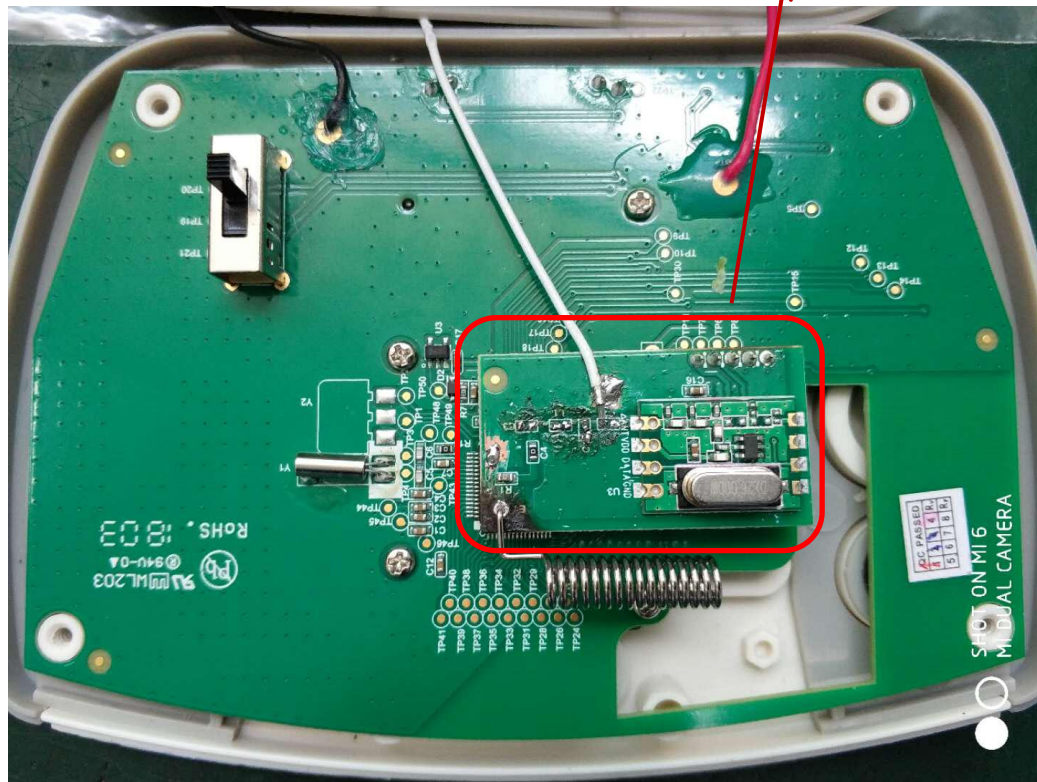


2 Real Electromagnetic Environment

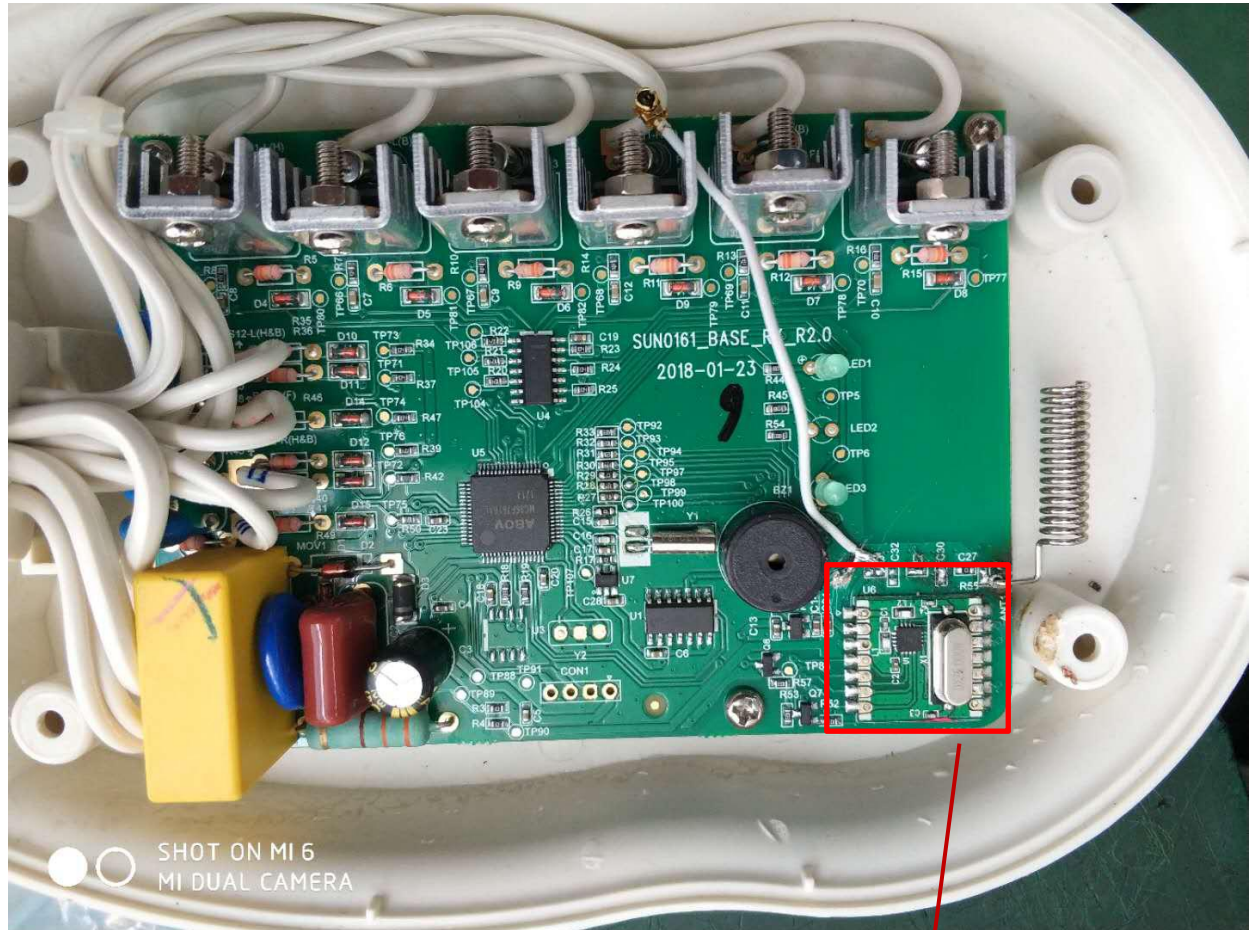
* The ground of RF module in the transmitters is discrete with the ground of the whole PCB. It will affect 418MHz antenna.

* It has no clear area for the 418MHz antenna.

RF module



* The ground of RF module in the receivers is also discrete with the ground of the whole PCB. It will affect 418MHz antenna.

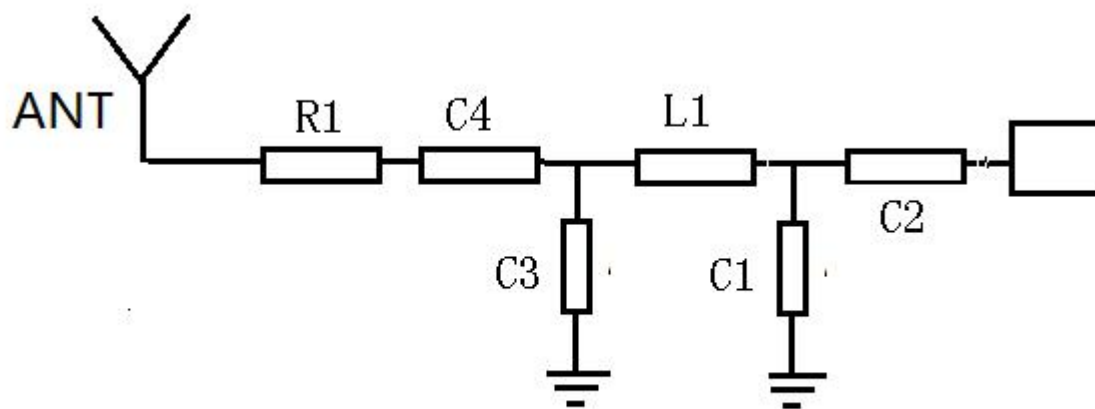


RF module

3 Matching Circuit

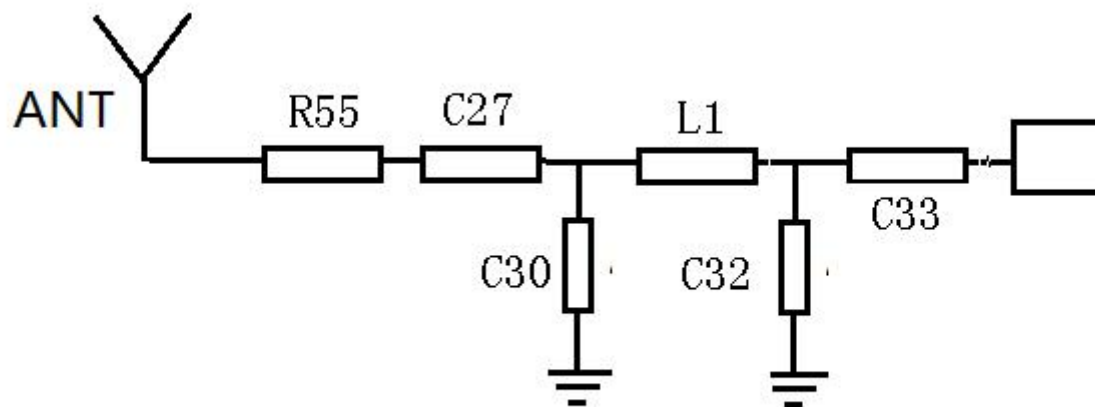
*As each internal environment is different, we should add some different elements to make the antenna independence approach 50Ω .

*Transmitters



Element	Value
R1(0402)	0 Ω
C4(0402)	0 Ω
C3(0402)	N/A
L1(0402)	0 Ω
C1(0402)	10nH
C2(0402)	0 Ω

*Receivers



Element	Value
R55(0402)	0Ω
C27(0402)	0Ω
C30(0402)	27nH
L1(0402)	2.7pF
C32(0402)	N/A
C33(0402)	0Ω

4 General parameters

*Transmitters

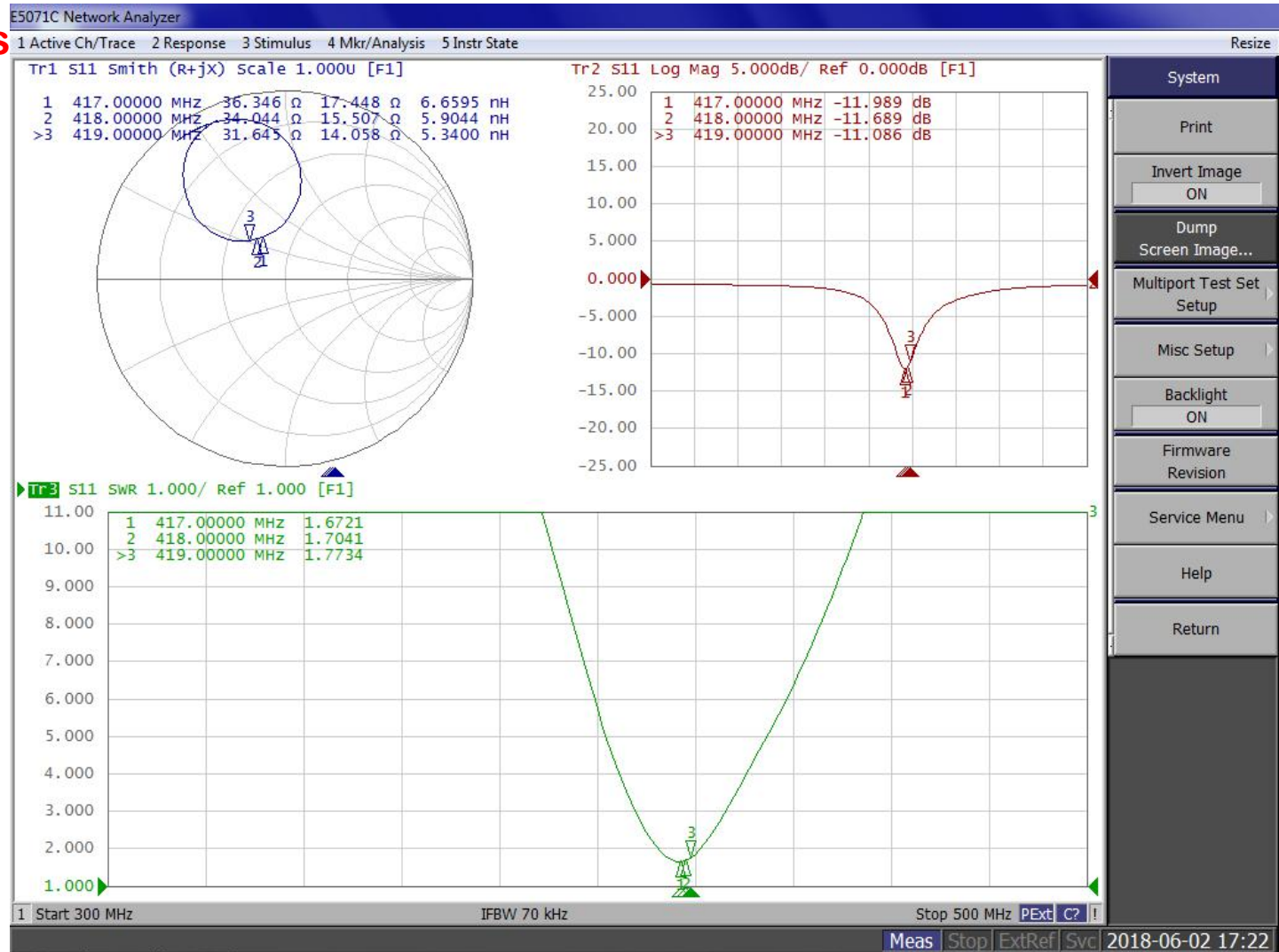
Product Name	418MHz Antenna
Frequency	417-419MHz
V. S. W. R(Center)	≤ 2
Peak Gain	'-9dBi — -8dBi
Polarization	Vertical
Storage Temp	-40°C—80°C
Operating Temperature	-10°C—60°C
Impedance with matching	50 Ω
Weight	0.12g
Antenna Type	Monopole

*Receivers

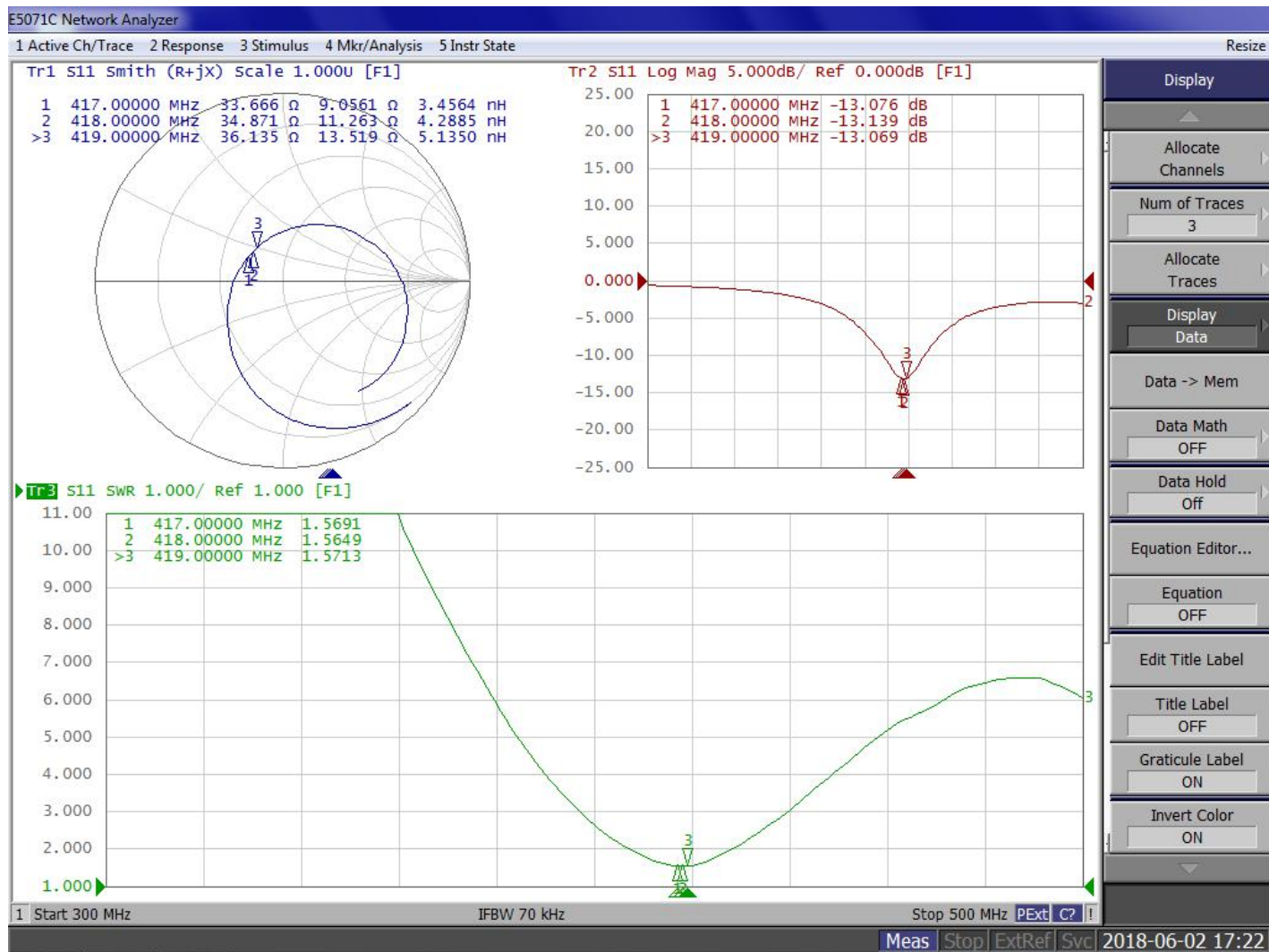
Product Name	418MHz Antenna
Frequency	417-419MHz
V. S. W. R(Center)	≤ 2
Gain	-4dBi — -3dBi
Polarization	Vertical
Storage Temp	-40℃—80℃
Operating Temperature	-10℃—60℃
Impedance with matching	50 Ω
Weight	0.12g
Antenna Type	Monopole

4 VSWR

*Transmitters



***Receivers**





Thanks For Your Kind Support!

