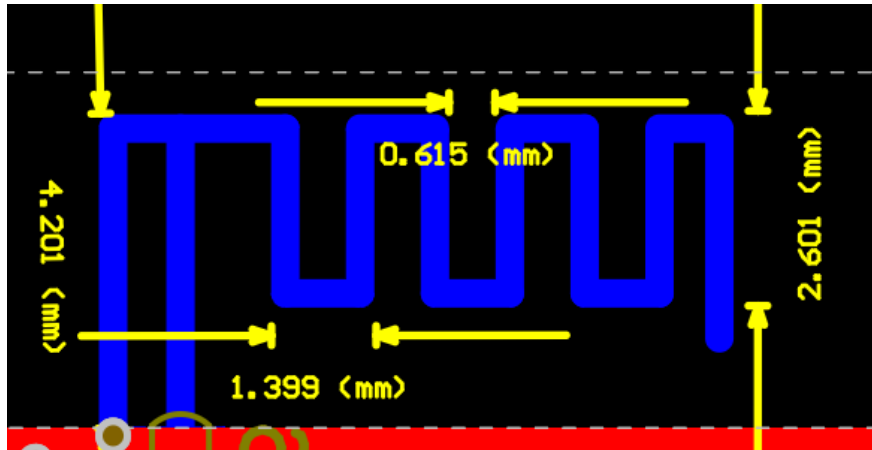


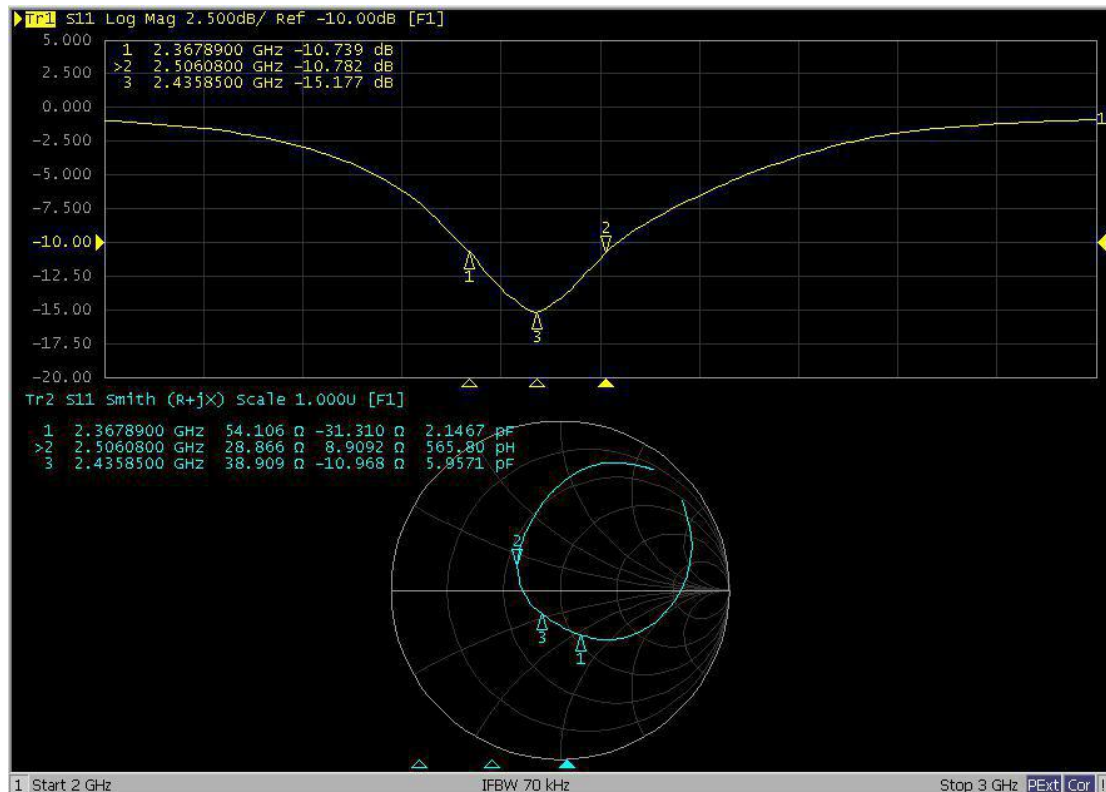
- Normal Dongle PIFA antenna design specification:

This PIFA antenna is used in normal dongle with whole layout board which size is 15mm*18mm and thickness is 1.0mm (FR4)



2-1 Normal Dongle PIFA Antenna

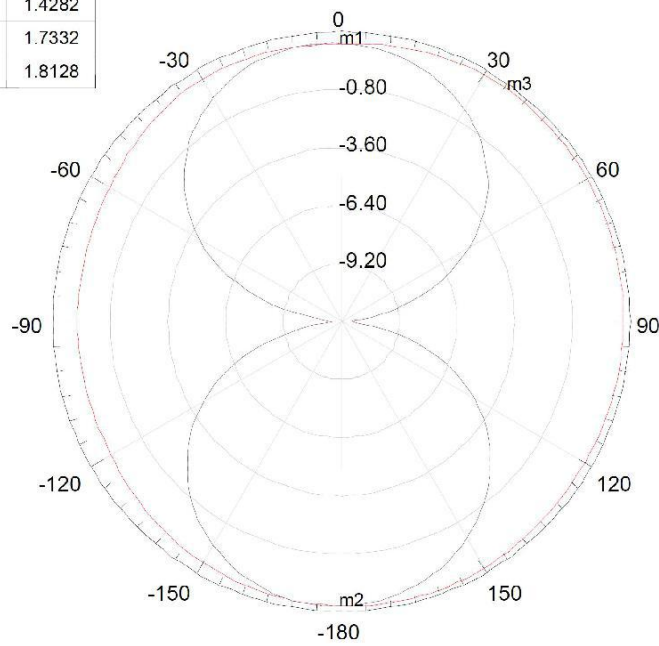
The performance of S11 as blow show and the working frequency band cover 2.4G ISM and bandwidth is wider than nano dongle.



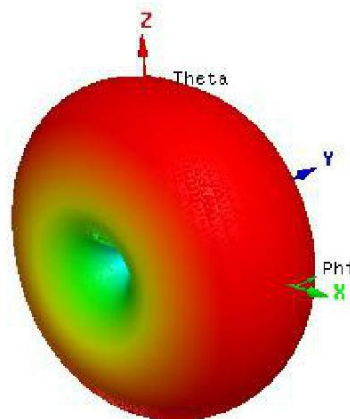
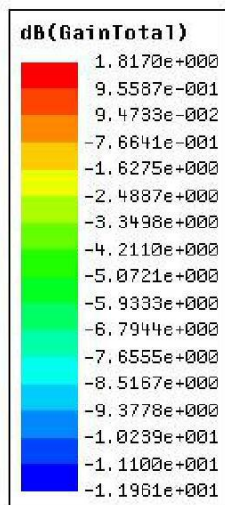
2-2 Normal Dongle PIFA S11 performance

The gain of this antenna 2D and 3D as blow show and the maximum gain is about 1.5dB.

| Name | Theta | Ang | Mag |
|------|----------|----------|--------|
| m1 | 0.0000 | 0.0000 | 1.4282 |
| m2 | 180.0000 | 180.0000 | 1.7332 |
| m3 | 36.0000 | 36.0000 | 1.8128 |



| Curve Info | |
|-----------------|---------------------------|
| — | dB(GainTotal) |
| Setup1 : Sweep1 | Phi='0deg' |
| — | dB(GainTotal) |
| Setup1 : Sweep1 | Phi='90.0000000000002deg' |



Radiation Patterns(GAIN @ 2440MHz)

| Plane | XY | | | XZ | | | YZ | | |
|----------------|------|------|------|------|------|------|------|------|------|
| | 2400 | 2440 | 2480 | 2400 | 2440 | 2480 | 2400 | 2440 | 2480 |
| Peak Gain(dBi) | 1.70 | 1.73 | 1.71 | 1.79 | 1.81 | 1.78 | 1.71 | 1.73 | 1.72 |

2-3 Normal Dongle PIFA gain