Low-profile Wideband Microstrip Antenna Integrated with Solar Cells

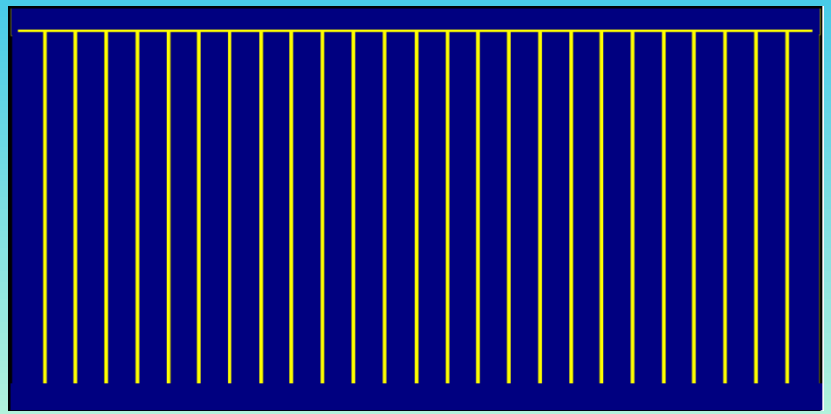
An Wenxing

Tianjin University

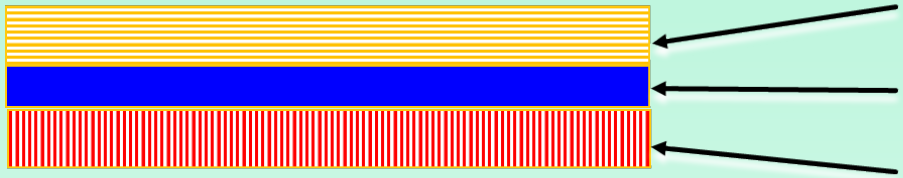
Back Ground

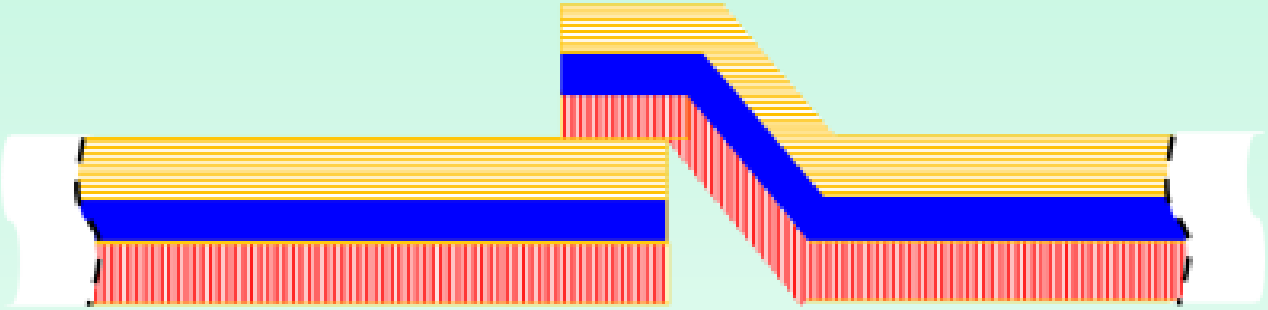
Structure of solar cell

Top view

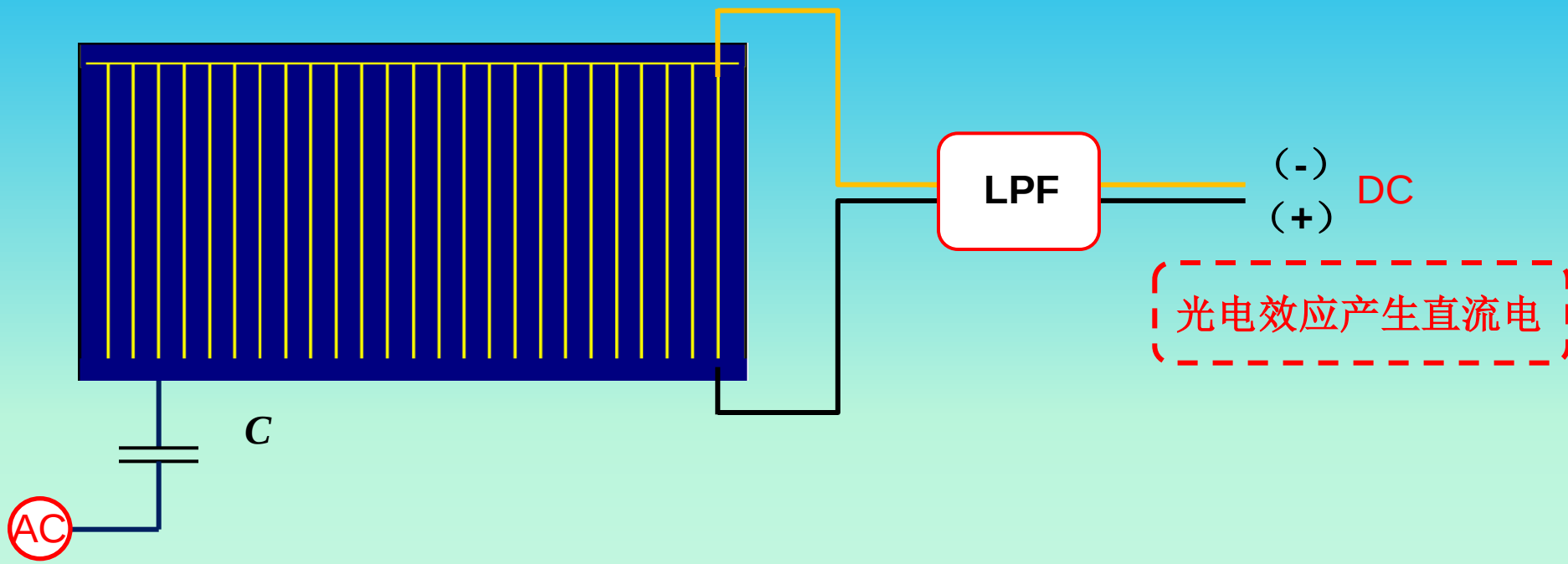


Side view





Feeding mechanism

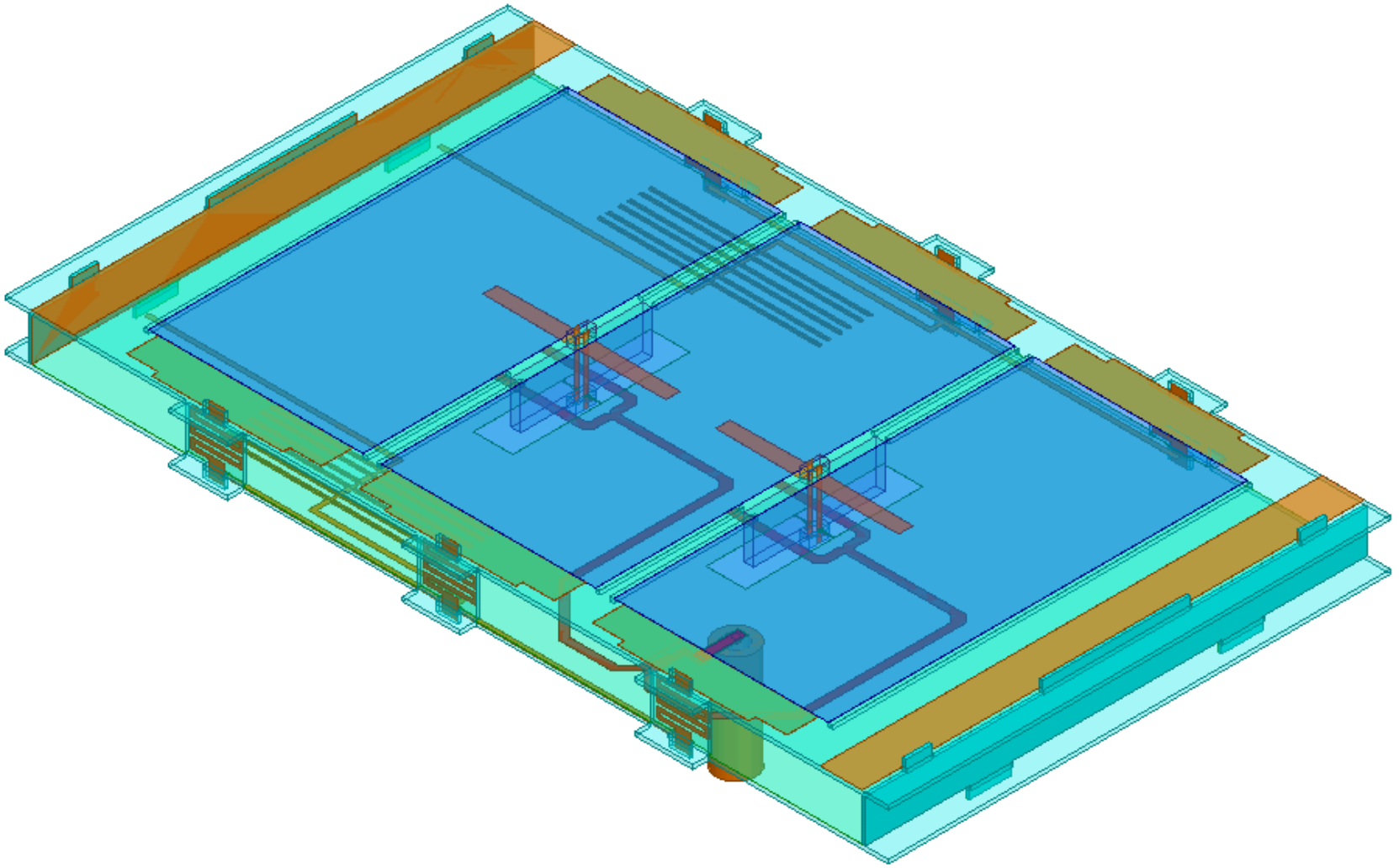


$$Z_C = \frac{1}{j\omega C} = \frac{1}{j2\pi fC} = \frac{1}{j2\pi C} \bullet \frac{1}{f}$$

$$f = 0Hz \Rightarrow Z_C = \infty$$

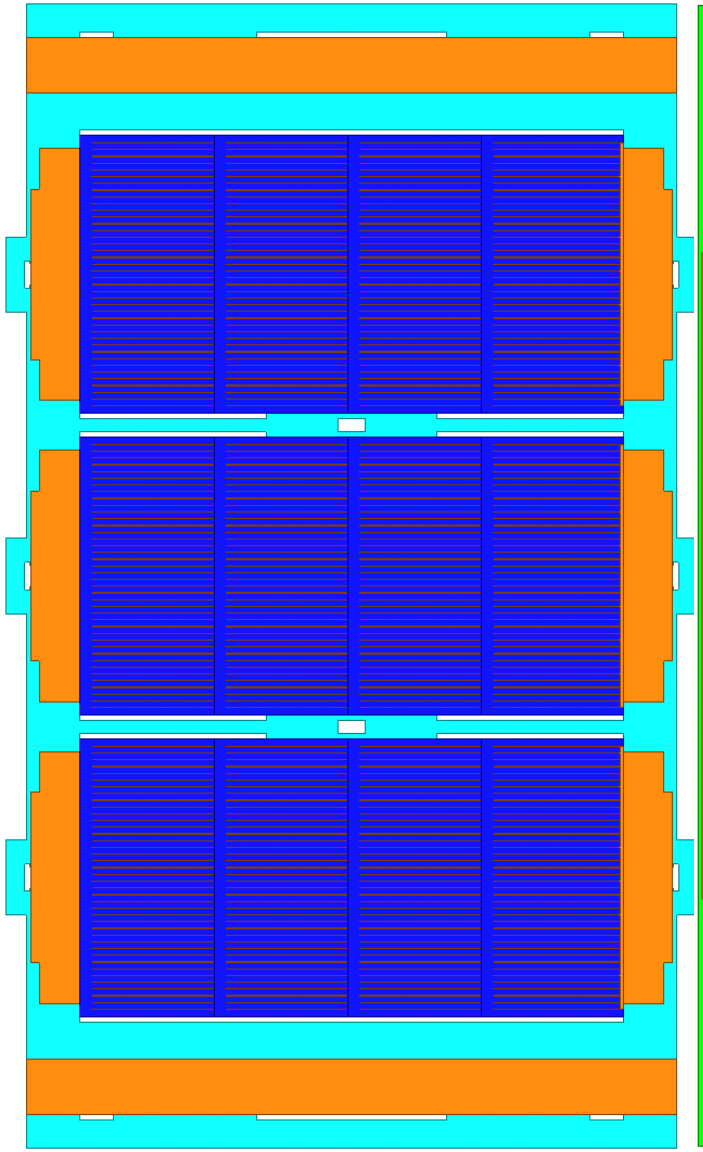
$$f = 2.4GHz \Rightarrow Z_C \approx 0$$

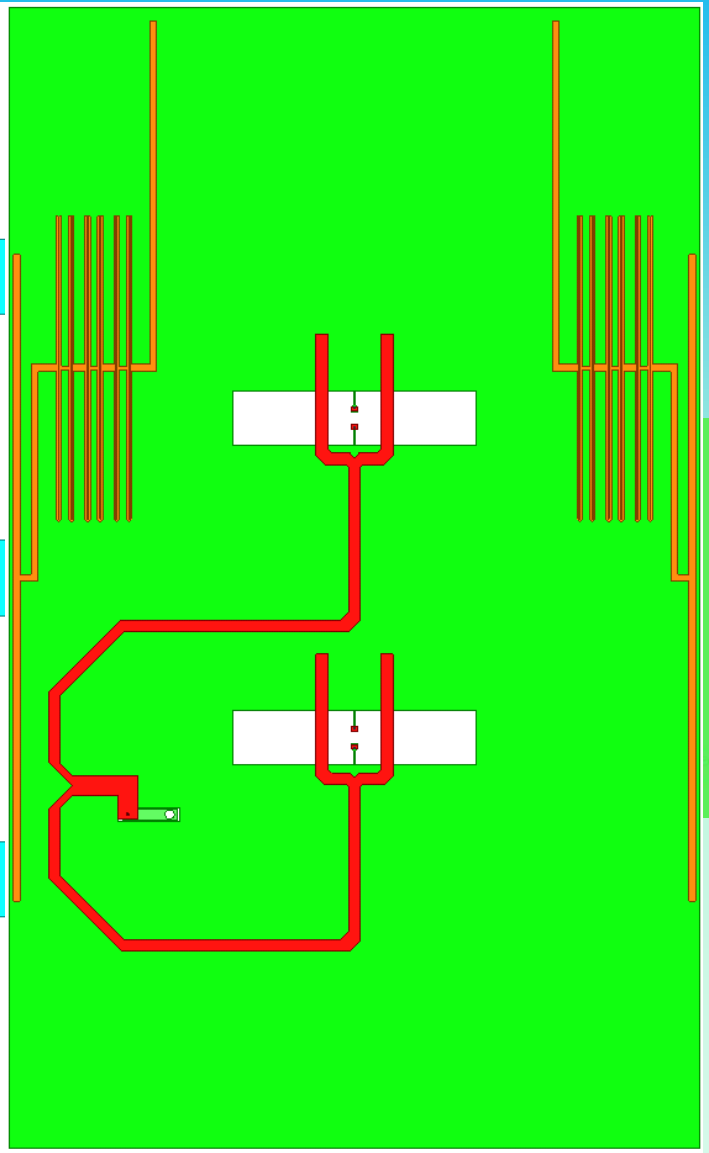
Antenna Structure

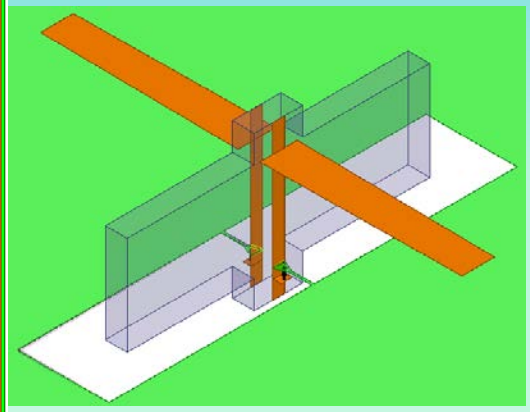


3D view (1.7GHz~2.7GHz)

Antenna Structure

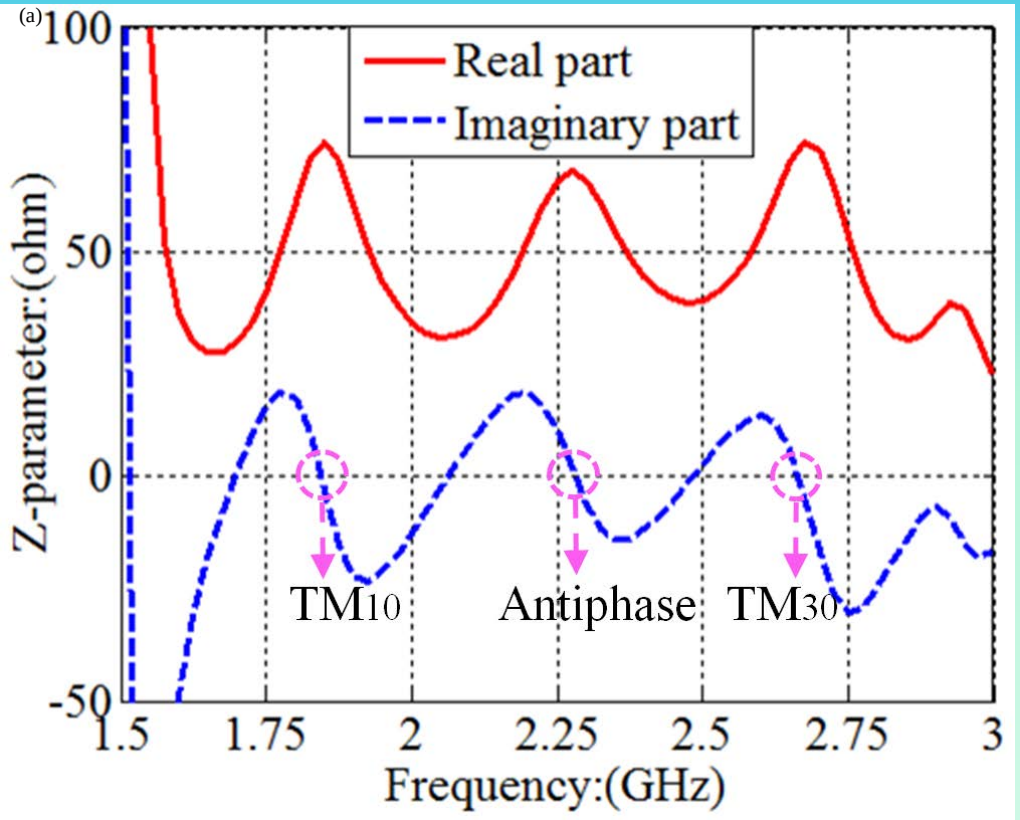


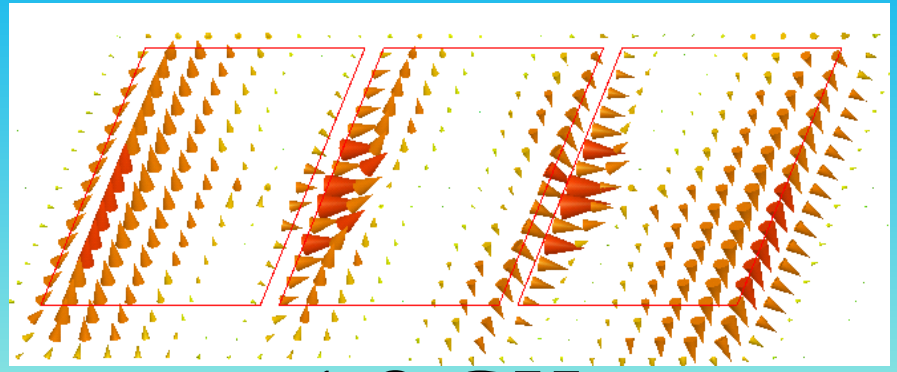




Top view **Bottom view**

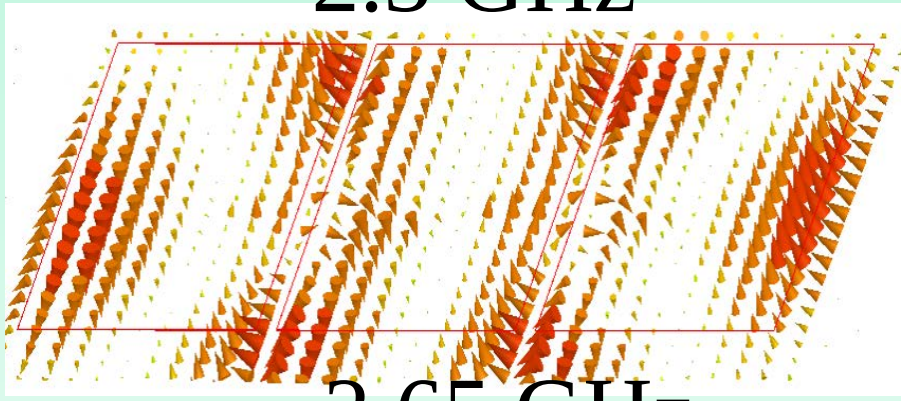
Working Mechanism





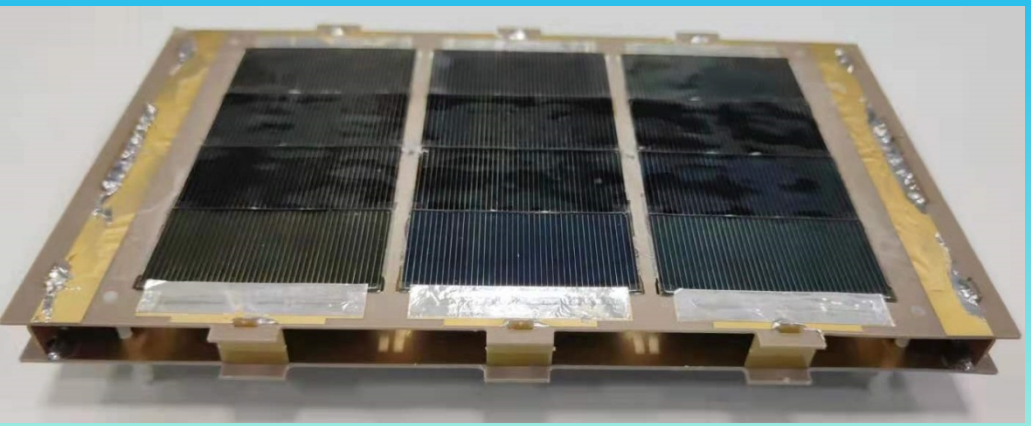
1.8 GHz

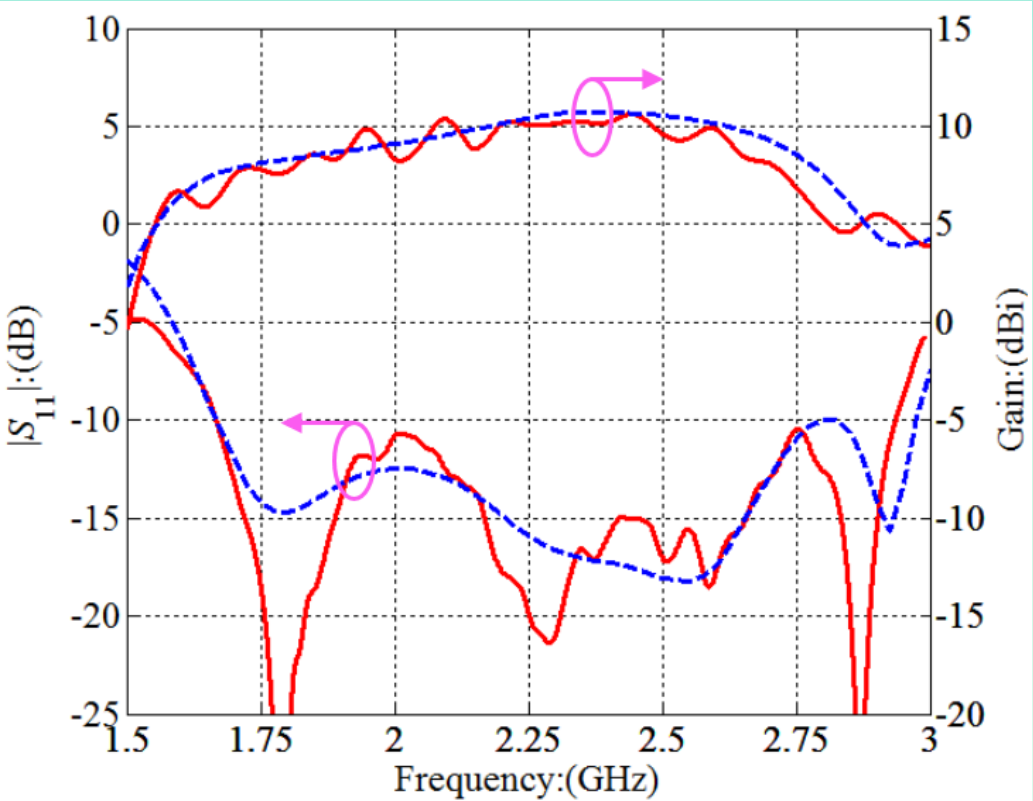
2.3 GHz

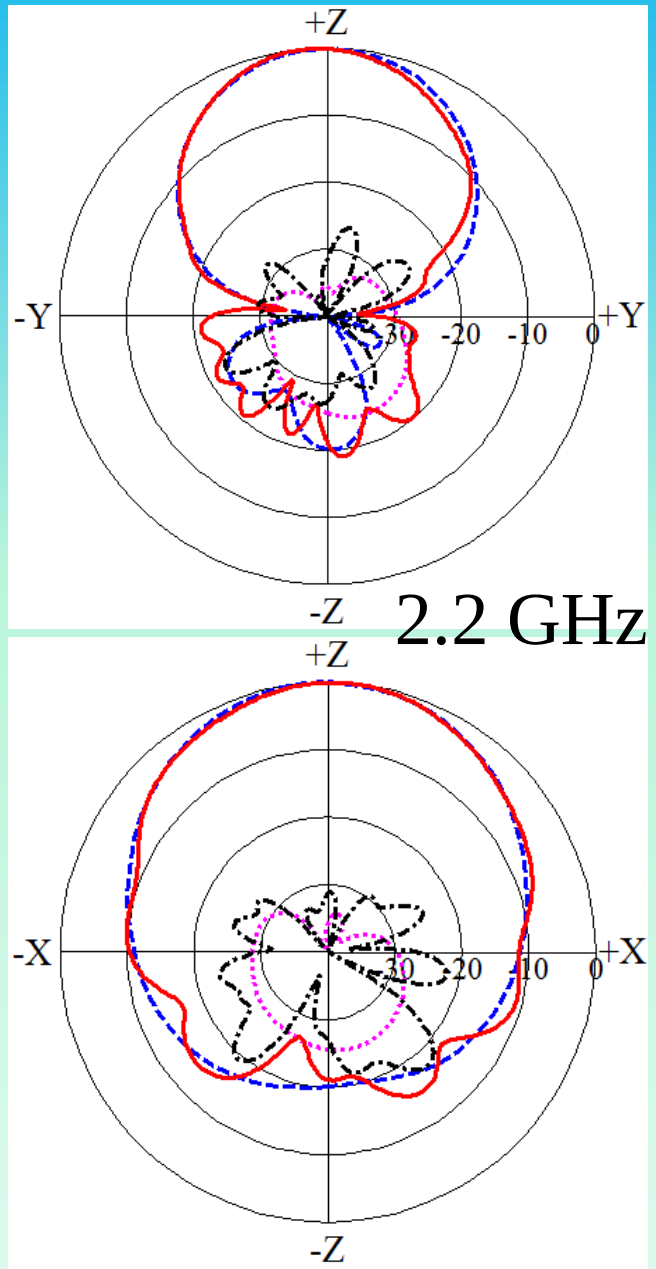


2.65 GHz

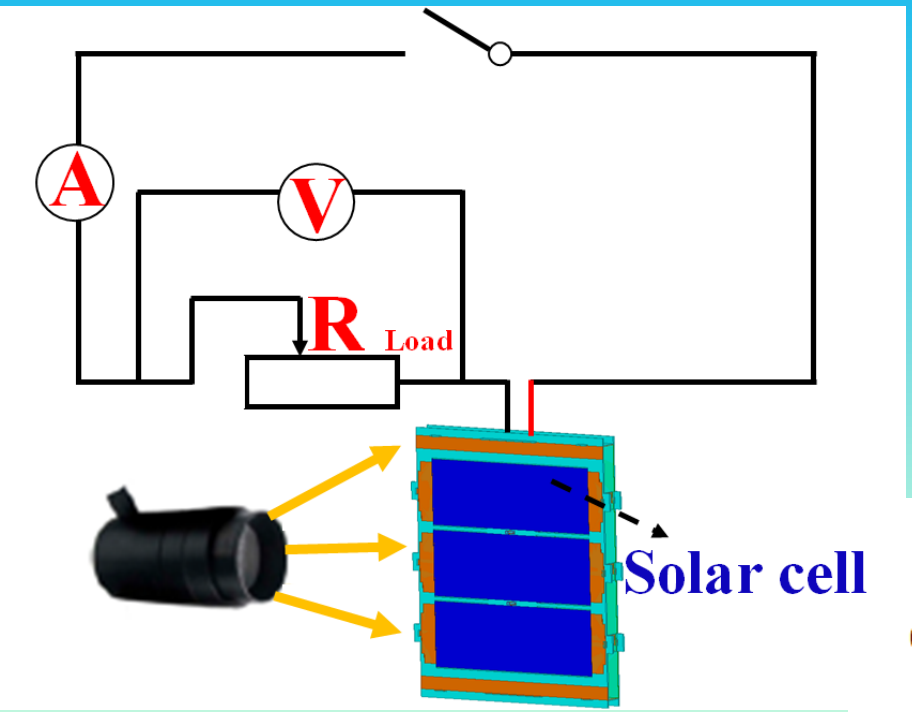
RF Measurement

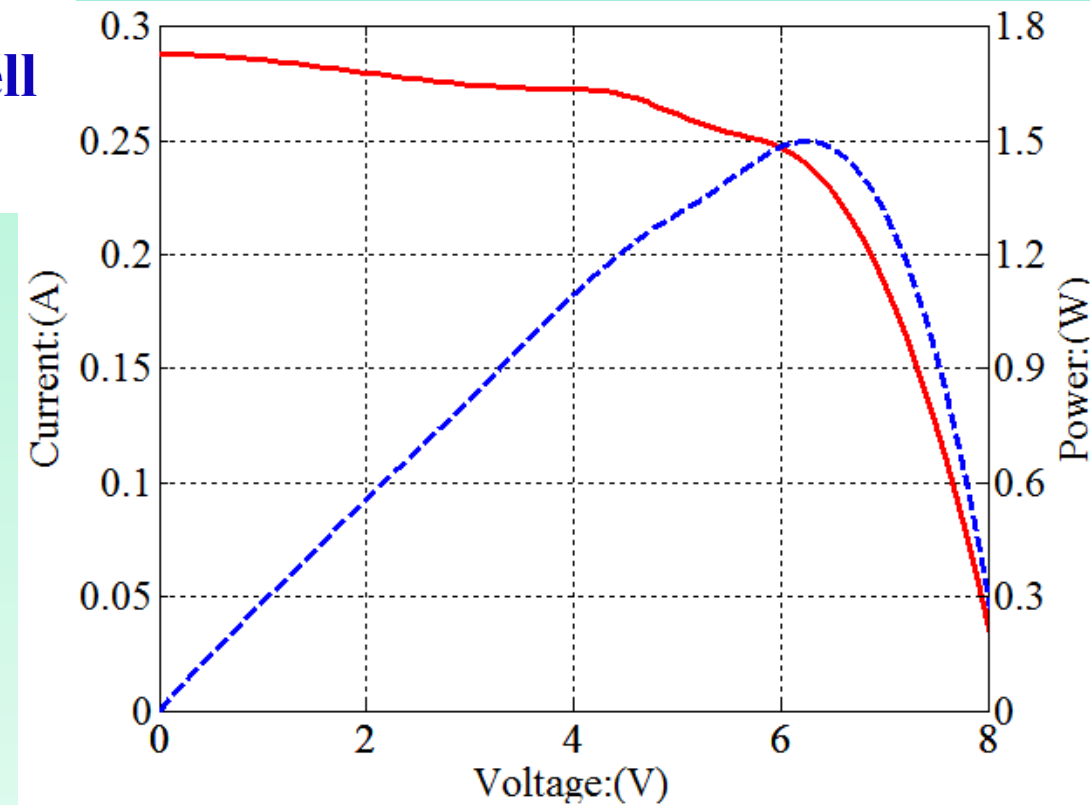






Opti. Measurement





Thanks !

Questions