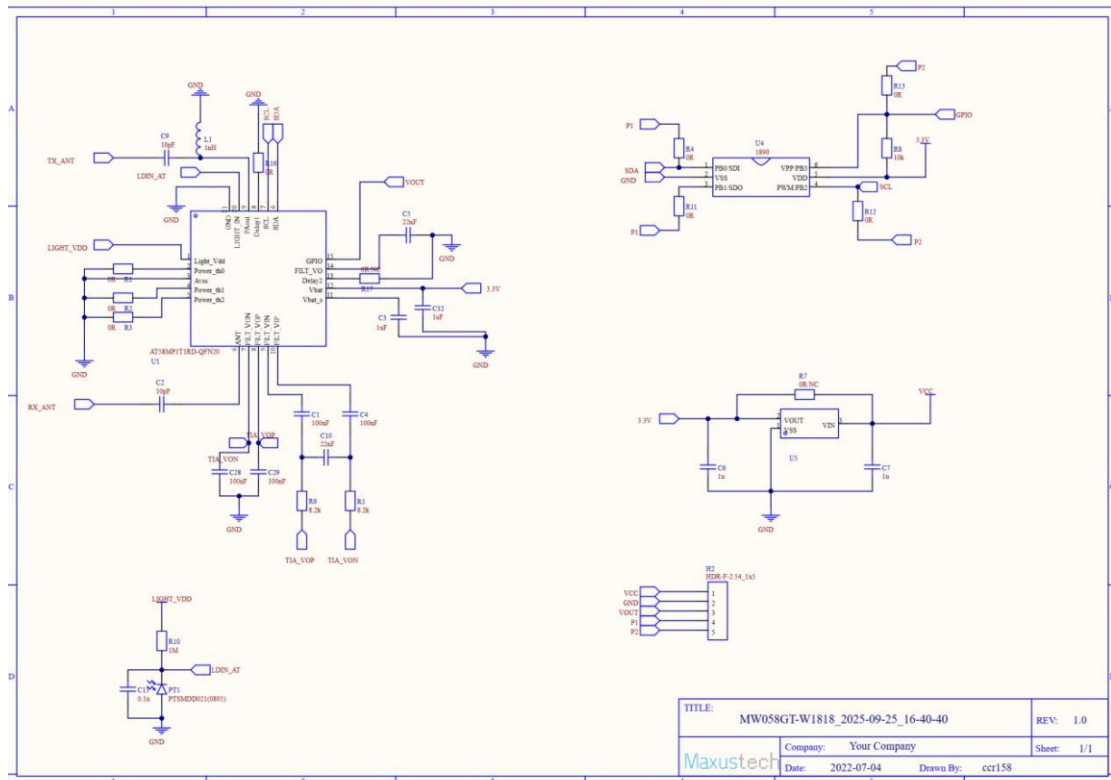
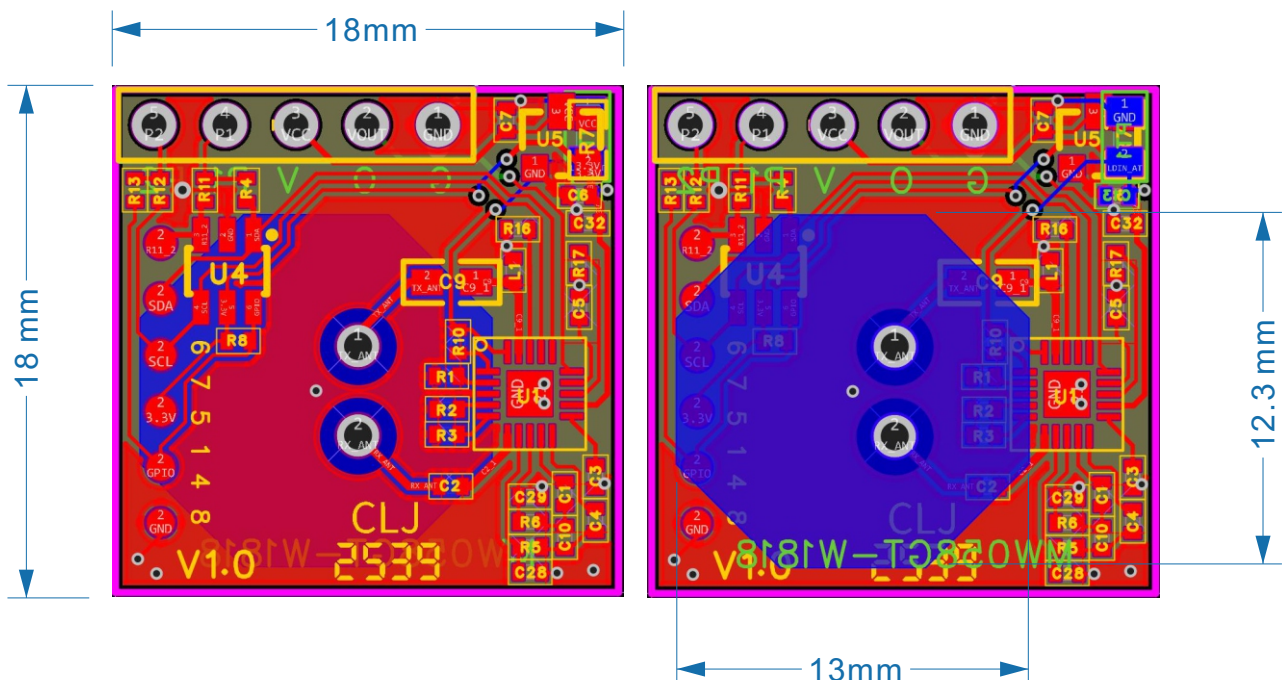


MW058GT-W1818 Antenna Simulation Specification

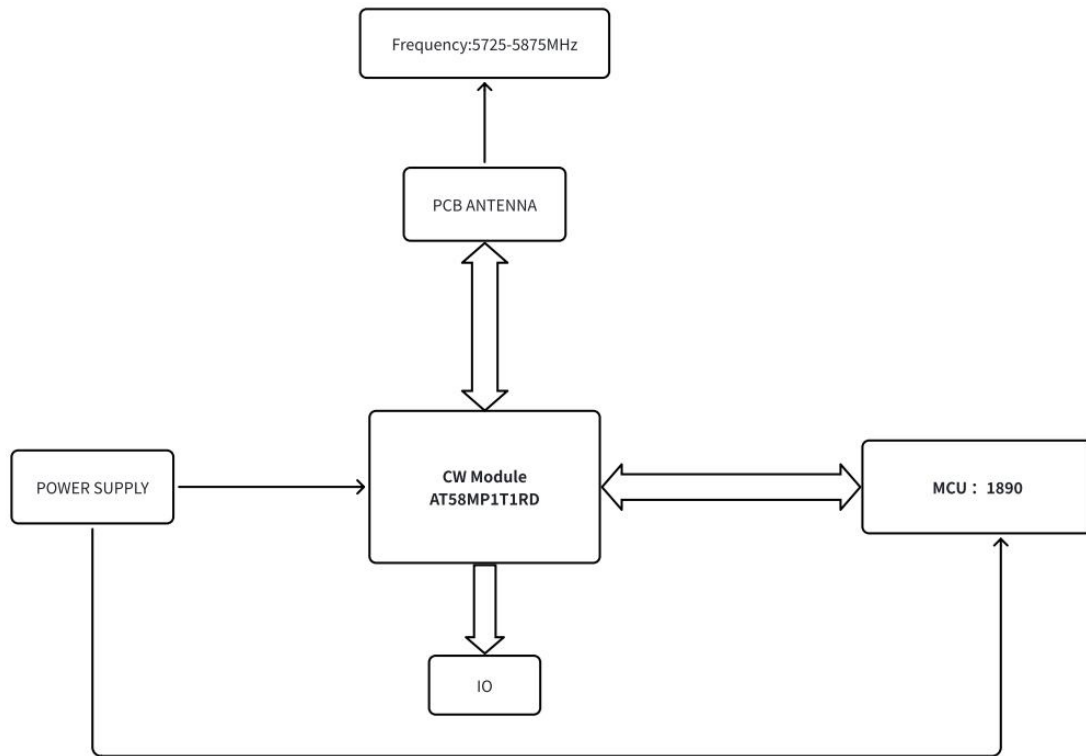
1. Hardware Schematic



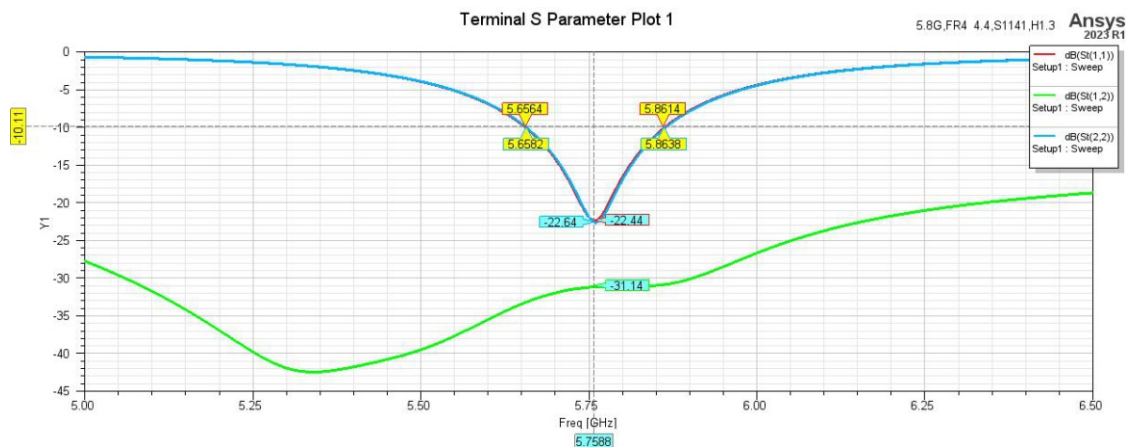
2. PCB layout



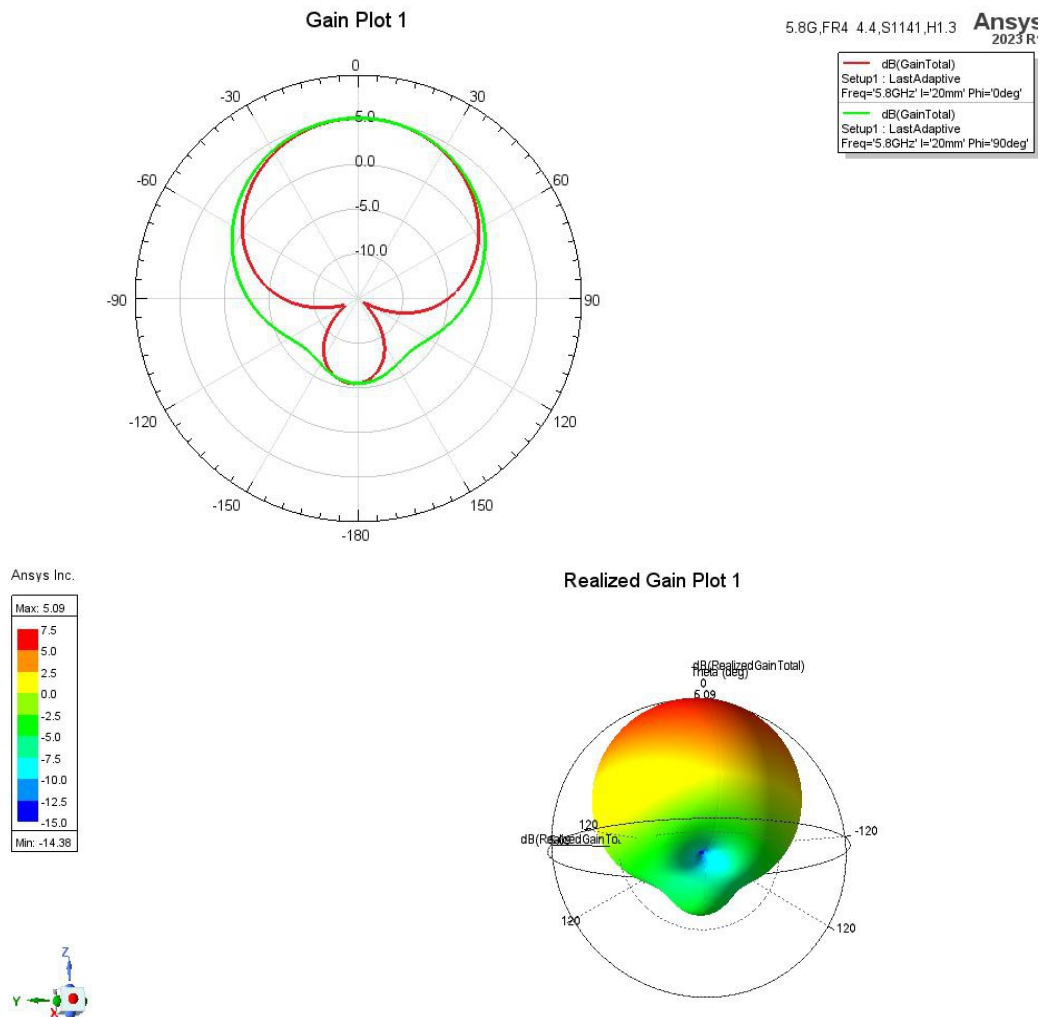
3. Radar Module Block Diagram



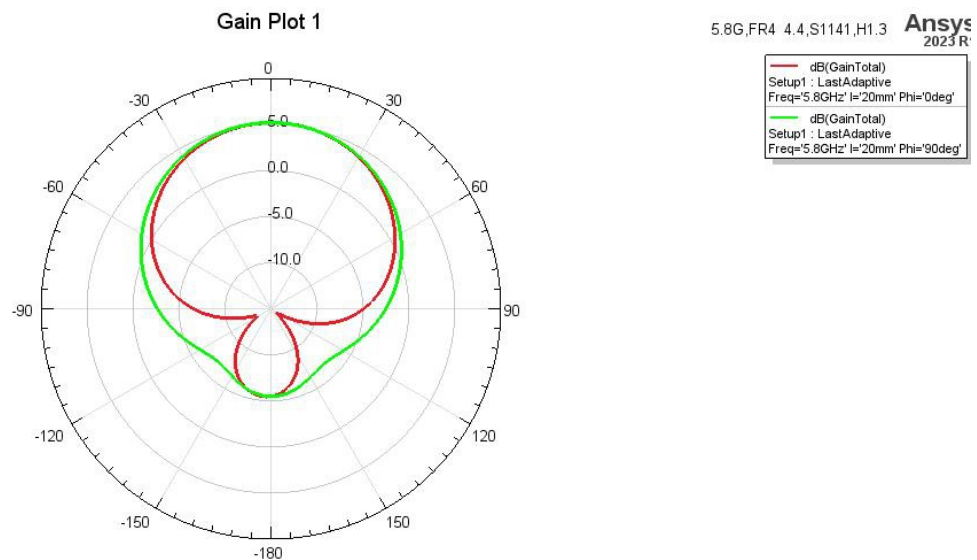
4. S-parameter isolation



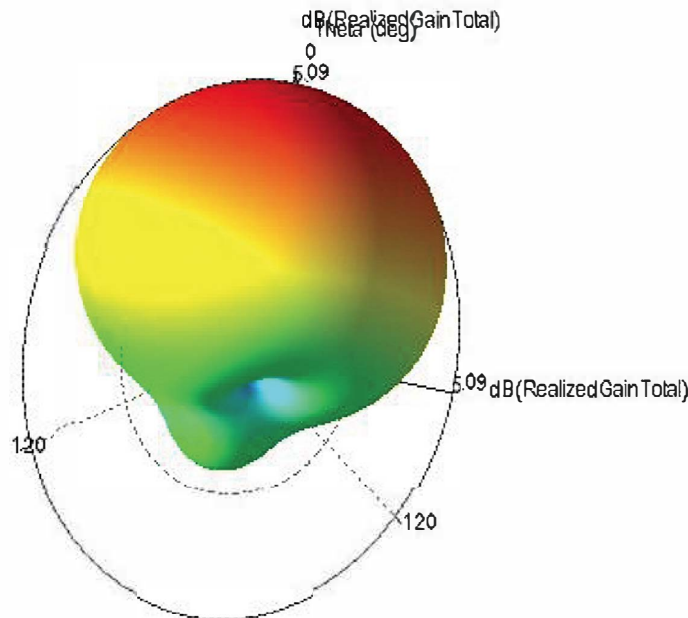
5. Receiving Antenna RX Ant1 Orientation Diagram



6. Transmitting Antenna TX Ant Direction Diagram



Realized Gain Plot 1



6.Circuit Description

①The device under test is a 5.8 GHz radar sensor module with DC supply voltage ranging from 5 V to 10 V.

②This product mainly consists of a microcontroller unit (MCU) and radar RF IC.

③The radar chip transmits and receives signals via an on-board antenna to detect motion information of targets.

④ After power-on, the AT58MP1T1RD radar chip generates 5.8 GHz continuous wave (CW) through RC oscillation. An internal power switch enables fast pulse mode for power consumption reduction. Signals are transmitted and received through orthogonally polarized PCB on-board antenna. The on-board antenna receives echo signals carrying Doppler frequency shift. Internal mixing generates the beat frequency signal between transmitted signal and echo signal. The MCU judges trigger output according to the signal energy threshold configured.

⑤Electrical Parameter DC:5V

⑥ Product Name: Microwave Radar Sensor MW058GT-W1818

⑦ Radar Module Specifications:

Operation Frequency: 5820MHz

Modulation: CW,CW(PULSE)

Antenna Type: PCB On-board Antenna

Antenna Gain(Peak): 5 dBi



7. Summarize

The bandwidth of the antenna covers 5.65 to 5.86 GHz;

Individual antenna gain around 5.0dBi;

Antenna H-plane (wide-plane) -3db beamwidth $\pm 60^\circ$ without fluctuation, E-plane (narrow-plane) -3dB beamwidth $\pm 60^\circ$;

Transceiver antenna isolation of the worst -20dB, in line with the requirements;

Manufacturer: GROLL INDUSTRIAL COMPANY LIMITED

Manufacturer Address: B-32, Lot CN4, An Duong Industrial Park,
Hong Phong commune, An Duong District,
Hai Phong City, Vietnam.

Antenna Size: 13x12.3mm