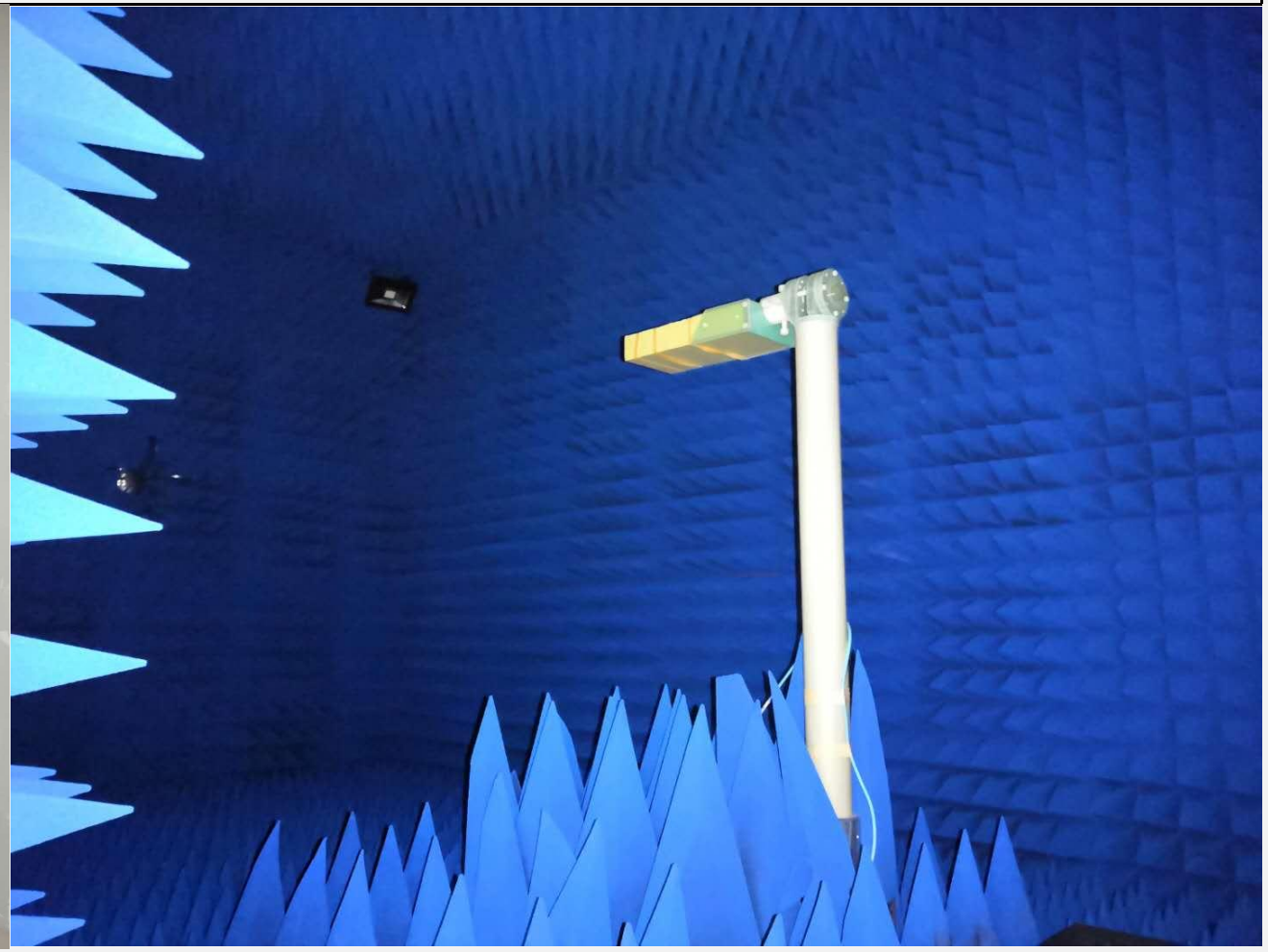
# 深圳市持胜科技有限公司

Shenzhenshi chisheng Technology Co., Ltd.

# 天线承认书

Client ： Shenzhen Maction Electronic Co., Ltd.
Band：**2.4G/WF A**NT
Name：**A10/V533**

| Testing Instrument | Agelent Techmologies E5071B & R&S CMW500 |
| --- | --- |
| Darkroom | Atenlab M3 |
| Testers | KEVIEN |
| Temperature | 25℃ |
| Humidity | 65% (RH) |



1.Test system description---S Parameter

2.Test system description--- Anechoic Chamber Test Setup

3.Test system description--- Test Instruments

4. Antenna

5.Test Result---Return Loss and Efficiency

6.Gain efficiency

7.schedule drawing

# 1.Test system description---S Parameter

## 1.1. Test Setup

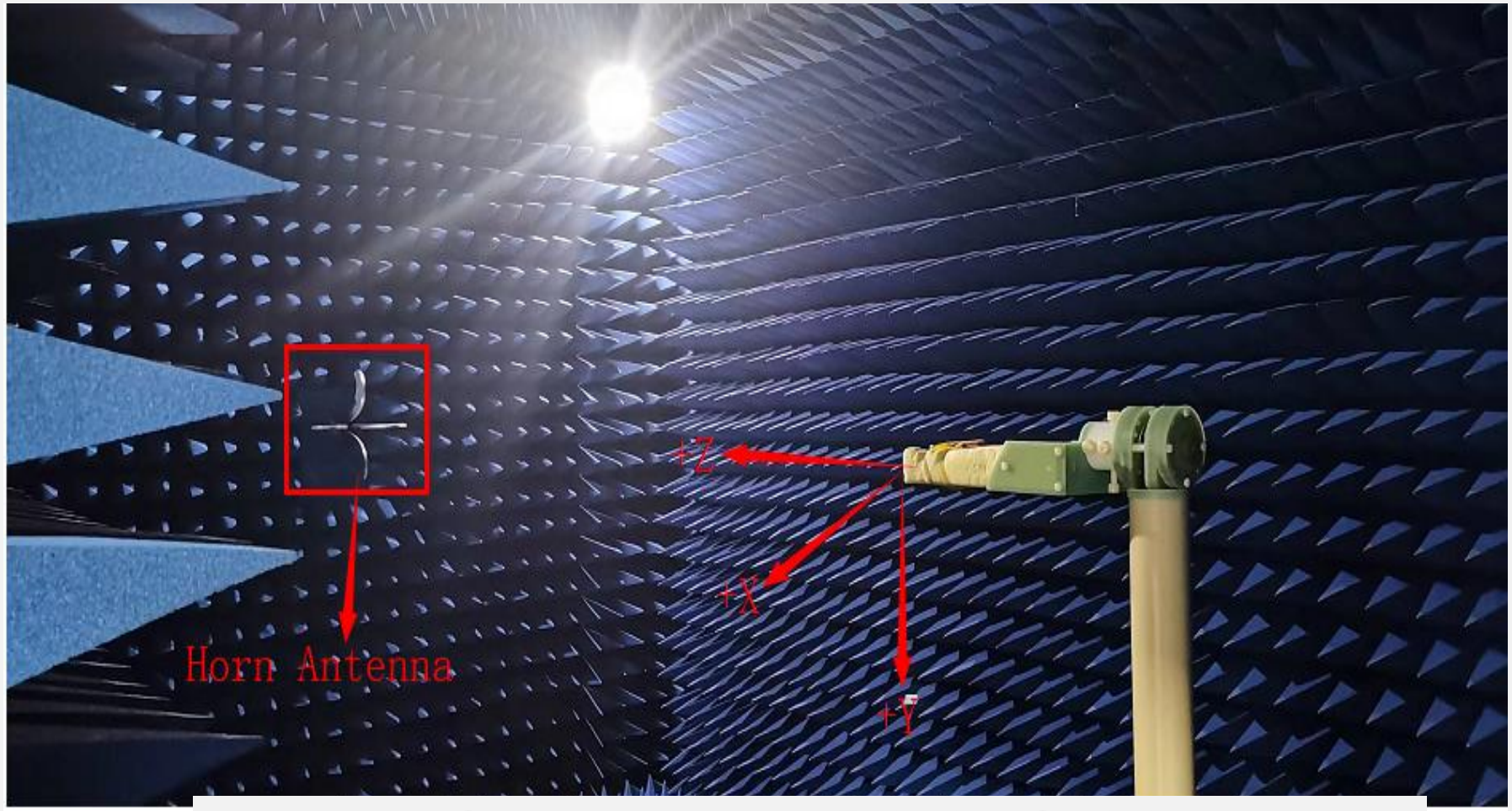
### 1.1.1 VNA Test Setup

S parameter measurements ($S_{11}$) were performed using an KeySight 5071B Network Analyzer and previously described tests fixtures. The isolation between antennas is also tested. The testing was performed with apparatus in free space.

# 2.Test system description--- Anechoic Chamber Test Setup

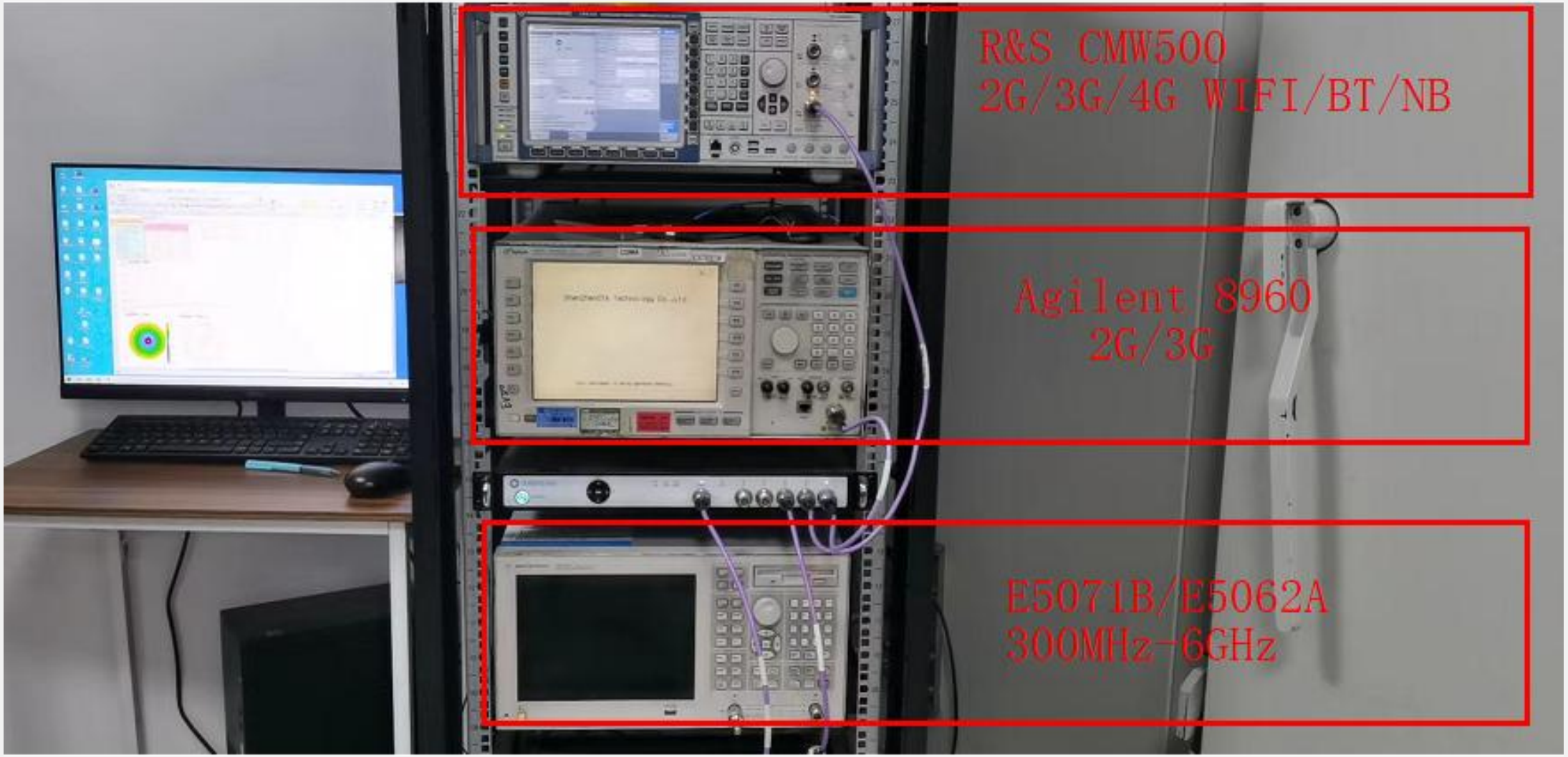
## 1.1.1 Anechoic Chamber Test Setup

The gain of the antenna was measured in the anechoic chamber(ETS-3D). The chamber provides less than –30 dB reflectivity from 400 MHz through 9 GHz. The chamber size is:7m*4m*3m.The measurement results are calibrated using a leaky wave horn standard. We can measure the antenna gain and efficiency accurately.



# 3.Test system description--- Test Instruments

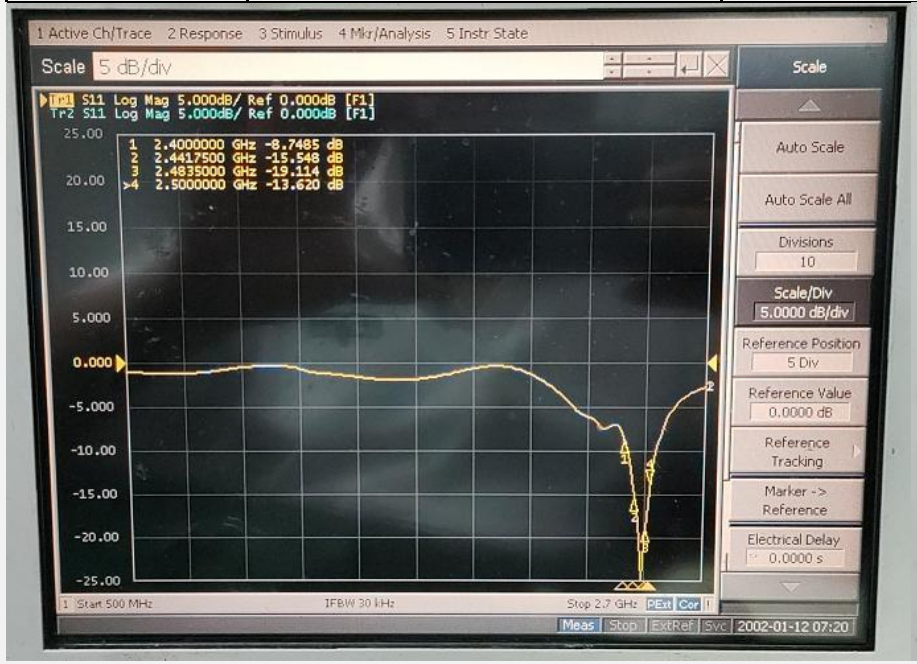
## 1.1.3 Instruments



# 5.Test Result---Return Loss and Efficiency

S11（GM5）：

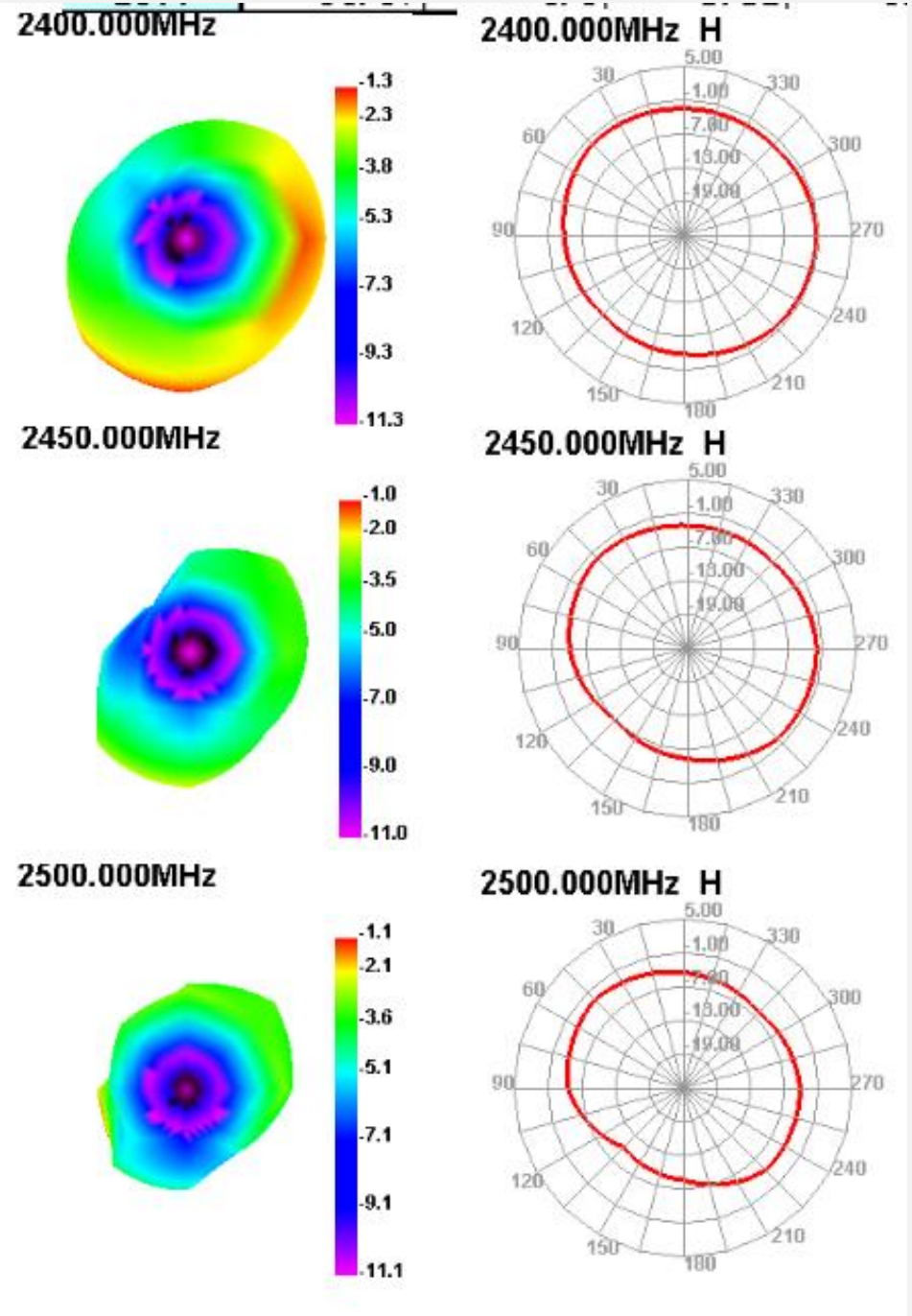
| LTC ANT S11 parameter Summary | | | |
|---|---|---|---|
| Band | 2400-2500(MHz) | | |
| | 2400 | 2450 | 2483 |
| R.L(dB) | -8.7 | -15.5 | -19.1 |
| VSWR | 2.1 | 1.4 | 1.2 |



# 6.Gain efficiency

Data（GM5）：

| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) | Gain (dBd) |
|---|---|---|---|---|
| 2400 | 46.14 | -3.36 | -1.28 | -3.43 |
| 2410 | 42.39 | -3.73 | -1.51 | -3.66 |
| 2420 | 39.91 | -3.99 | -1.54 | -3.69 |
| 2430 | 38.23 | -4.18 | -1.48 | -3.63 |
| 2440 | 38.65 | -4.13 | -1.3 | -3.45 |
| 2450 | 39.7 | -4.01 | -1.02 | -3.17 |
| 2460 | 38.09 | -4.19 | -1.14 | -3.29 |
| 2470 | 34.35 | -4.64 | -1.38 | -3.53 |
| 2480 | 35.45 | -4.5 | -1.12 | -3.27 |
| 2490 | 35.77 | -4.46 | -1.02 | -3.17 |
| 2500 | 34.67 | -4.6 | -1.12 | -3.27 |



# 7.schedule drawing（工程图）

A10/V533流媒体机型天线料号：CS2208线长90mm 1代端子