

# Antena Test Report



customer name: 艾莱卡科技

project name: D800S

Shenzhen Ailaika Electronic TechnologyCo., Ltd.

frequency band: WIFI2.4G: A

manufacture date: 2023-7-6

# Test system

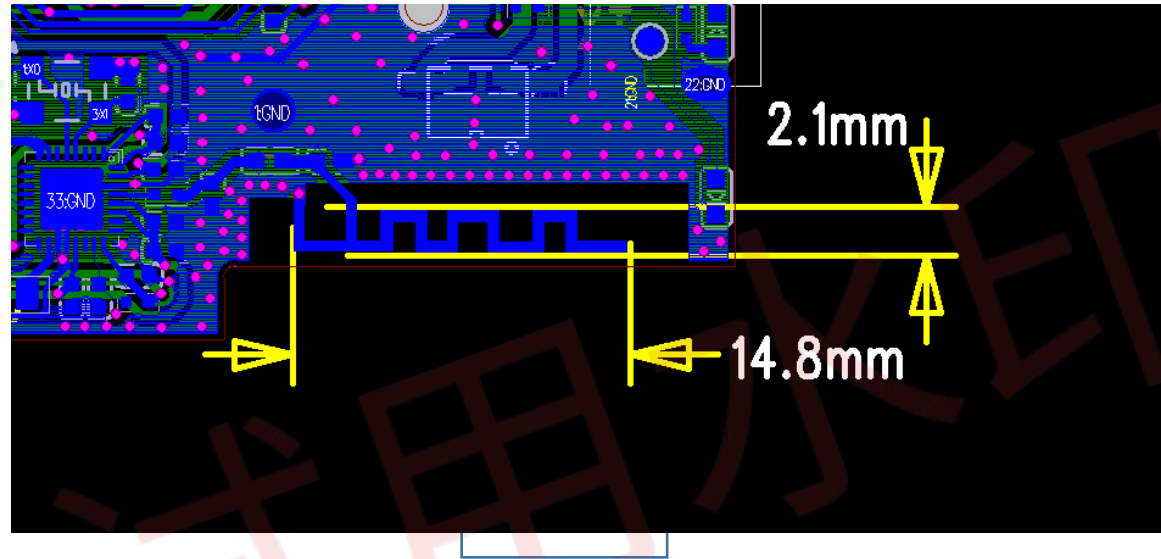
| Sequence Number   | Test Item         | equipment                                                       |
|-------------------|-------------------|-----------------------------------------------------------------|
| S parameter       | VSWR              | Agilent 5071C & Agilent 5062A                                   |
| OTA Test          | TRP&TIS           | Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270<br>ETS&SATIMO |
| Gain & Efficiency | Gain & Efficiency | ETS&SATIMO<br>Agilent 5071C                                     |



# antenna circuit



顺达成科技



# Efficiency & Gain

| Frequency ID               | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     | 24     | 25     | 26     | 27     | 28     | 29     | 30     | 31     |  |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Frequency (MHz)            | 2300.0 | 2310.0 | 2320.0 | 2330.0 | 2340.0 | 2350.0 | 2360.0 | 2370.0 | 2380.0 | 2390.0 | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 | 2510.0 | 2520.0 | 2530.0 | 2540.0 | 2550.0 | 2560.0 | 2570.0 | 2580.0 | 2590.0 | 2600.0 |  |
| Efficiency (dBi)           | -11.75 | -11.55 | -11.34 | -9.98  | -9.47  | -9.57  | -9.47  | -8.94  | -8.16  | -7.40  | -6.86  | -6.55  | -6.58  | -5.89  | -5.82  | -5.70  | -5.60  | -5.71  | -5.80  | -5.96  | -6.23  | -6.11  | -6.95  | -7.29  | -7.29  | -7.60  | -7.87  | -8.84  | -9.13  | -9.76  | -9.16  |  |
| Gain (dBi)                 | -7.14  | -6.71  | -6.75  | -5.36  | -4.86  | -4.96  | -4.68  | -3.80  | -3.09  | -2.18  | -1.86  | -1.52  | -1.49  | -0.76  | -0.45  | -0.23  | 0.30   | 0.10   | 0.41   | 0.32   | -0.24  | 0.14   | -0.90  | -1.07  | -1.03  | -1.53  | -1.50  | -2.52  | -2.59  | -3.35  | -2.66  |  |
| Efficiency (%)             | 6.69   | 7.00   | 7.34   | 10.04  | 11.29  | 11.05  | 11.30  | 12.77  | 15.29  | 18.21  | 20.61  | 22.15  | 22.00  | 25.75  | 26.16  | 26.92  | 27.53  | 26.86  | 26.29  | 25.33  | 23.81  | 24.48  | 20.20  | 18.64  | 18.67  | 17.39  | 16.34  | 13.06  | 12.23  | 10.57  | 12.13  |  |
| Directivity (dB)           | 4.60   | 4.84   | 4.59   | 4.62   | 4.61   | 4.61   | 4.79   | 5.14   | 5.06   | 5.22   | 5.00   | 5.03   | 5.08   | 5.13   | 5.37   | 5.47   | 5.90   | 5.81   | 6.21   | 6.29   | 5.99   | 6.26   | 6.05   | 6.23   | 6.26   | 6.07   | 6.36   | 6.32   | 6.53   | 6.41   | 6.50   |  |
| Peak Gain Position (Theta) | 150.00 | 150.00 | 150.00 | 45.00  | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 | 135.00 |        |  |
| Peak Gain Position (Phi)   | 315.00 | 315.00 | 315.00 | 330.00 | 315.00 | 315.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 315.00 | 315.00 | 315.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 |  |
| Efficiency ThetaPol (%)    | 2.24   | 2.34   | 2.42   | 3.25   | 3.58   | 3.46   | 3.50   | 3.97   | 4.66   | 5.51   | 6.13   | 6.58   | 6.47   | 7.50   | 7.37   | 7.40   | 7.39   | 7.18   | 6.97   | 6.78   | 6.46   | 6.60   | 5.51   | 5.12   | 5.07   | 4.81   | 4.49   | 3.59   | 3.33   | 2.85   | 3.31   |  |
| Efficiency PhiPol (%)      | 4.45   | 4.66   | 4.92   | 6.80   | 7.70   | 7.59   | 7.79   | 8.81   | 10.62  | 12.69  | 14.48  | 15.58  | 15.52  | 18.25  | 18.80  | 19.52  | 20.14  | 19.68  | 19.32  | 18.55  | 17.36  | 17.88  | 14.68  | 13.53  | 13.60  | 12.58  | 11.85  | 9.48   | 8.90   | 7.72   | 8.81   |  |
| Upper Hem. Efficiency (%)  | 3.24   | 3.39   | 3.55   | 4.95   | 5.52   | 5.55   | 5.70   | 6.31   | 7.70   | 8.96   | 10.15  | 10.88  | 10.79  | 12.57  | 12.85  | 13.45  | 13.47  | 13.62  | 12.81  | 12.24  | 11.82  | 11.60  | 9.64   | 8.87   | 8.57   | 8.24   | 7.57   | 6.06   | 5.71   | 4.99   | 5.69   |  |
| Lower Hem. Efficiency (%)  | 3.45   | 3.62   | 3.79   | 5.09   | 5.76   | 5.49   | 5.60   | 6.46   | 7.59   | 9.25   | 10.46  | 11.28  | 11.21  | 13.18  | 13.31  | 13.46  | 14.06  | 13.24  | 13.48  | 13.09  | 11.99  | 12.88  | 10.55  | 9.78   | 10.10  | 9.15   | 8.76   | 7.00   | 6.52   | 5.57   | 6.44   |  |
| T90(H)圆度                   | 14.25  | 16.46  | 16.42  | 17.70  | 17.40  | 18.23  | 18.76  | 19.65  | 19.86  | 23.22  | 20.73  | 22.93  | 26.28  | 25.24  | 21.65  | 20.05  | 19.31  | 18.45  | 20.28  | 22.67  | 24.09  | 22.56  | 20.88  | 19.70  | 21.42  | 23.55  | 23.37  | 22.44  | 19.05  | 16.82  | 16.02  |  |
| Gain 15deg (dBi)           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| E1(XZ)波瓣宽度                 | 48.00  | 51.00  | 56.00  | 64.00  | 61.00  | 64.00  | 63.00  | 54.00  | 62.00  | 60.00  | 59.00  | 56.00  | 57.00  | 59.00  | 62.00  | 52.00  | 52.00  | 59.00  | 55.00  | 53.00  | 48.00  | 50.00  | 49.00  | 50.00  | 59.00  | 51.00  | 53.00  | 55.00  | 54.00  | 55.00  | 56.00  |  |
| E1(XZ)前后比                  | 0.65   | 0.57   | 0.59   | 0.25   | 0.55   | 0.85   | 1.23   | 1.07   | 1.48   | 0.71   | 0.24   | 0.33   | 0.63   | 0.46   | 0.25   | 0.00   | 0.00   | 0.24   | 0.45   | 0.58   | 1.12   | 0.94   | 0.55   | 0.31   | 0.00   | 0.07   | 0.56   | 0.12   | 0.25   | 0.00   | 0.00   |  |
| E2(YZ)波瓣宽度                 | 114.00 | 115.00 | 145.00 | 145.00 | 144.00 | 179.00 | 181.00 | 130.00 | 129.00 | 124.00 | 122.00 | 121.00 | 121.00 | 118.00 | 123.00 | 125.00 | 125.00 | 127.00 | 126.00 | 127.00 | 129.00 | 129.00 | 132.00 | 137.00 | 132.00 | 139.00 | 137.00 | 136.00 | 137.00 | 136.00 | 135.00 |  |
| E2(YZ)前后比                  | 1.00   | 0.95   | 0.37   | 0.50   | 0.72   | 0.85   | 0.38   | 0.51   | 0.18   | 0.45   | 0.26   | 0.51   | 0.49   | 0.89   | 0.82   | 0.86   | 0.86   | 0.94   | 1.05   | 0.90   | 1.01   | 0.94   | 1.02   | 1.09   | 1.66   | 1.28   | 1.53   | 1.73   | 1.73   | 1.52   | 1.44   |  |
| 最大增益处轴比(P)                 | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   |  |
| 顶点(Theta=0)处轴比(P)          | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   |  |
| 仰角10度最差(大)轴比(P)            | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   |  |
| Hc(XY)波瓣宽度                 | 77.00  | 79.00  | 77.00  | 75.00  | 75.00  | 74.00  | 73.00  | 72.00  | 70.00  | 72.00  | 74.00  | 71.00  | 70.00  | 68.00  | 67.00  | 66.00  | 65.00  | 64.00  | 66.00  | 64.00  | 63.00  | 66.00  | 66.00  | 64.00  | 64.00  | 65.00  | 63.00  | 64.00  | 62.00  | 60.00  | 59.00  |  |
| Hc(XY)前后比                  | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |  |
|                            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| Empty                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |



