

Yuande Electronics(Shenzhen) Co., LTD

SAMPLE APPROVAL SHEET

Part Information:

客户 (Customer)	
部品名称 (Material Description)	TAB5309 TX Ant.
客户料号 (Customer's Part number)	
部品规格 (Specifications)	TAB5309 TX antenna: FPC (L42*W16mm) + white coaxial line (ϕ 1.13*185mm) + welding + pad UV
型号 (Model)	136-B5309-20A
送样日期 (Date)	2023-11-10

This sample approval sheet is guaranteed to be true. If it is confirmed by your R&D department, please send it back to us as soon as possible. If there are other reasons, please inform us in writing.

1 Specification

This report mainly provides the test status of various electrical and structural performance parameters of TAB5309 TX Ant.



Photo 1 Ant

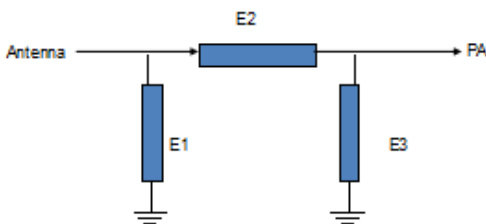
1.1 Electrical specification standard

1.1.1 Electrical performance index

The antenna works at 2400-2480MHz

Ant	TAB5309 TX Ant
Freq.	2400-2480MHz
SWR	< 2
Efficiency	> 50%
impedance	50 ohm
Polarization mode	Linear polarization

1.1.2 Match the circuit diagram



2 Test

Antenna commissioning and testing with the prototype provided by the customer.

2.1 Test the passive S11

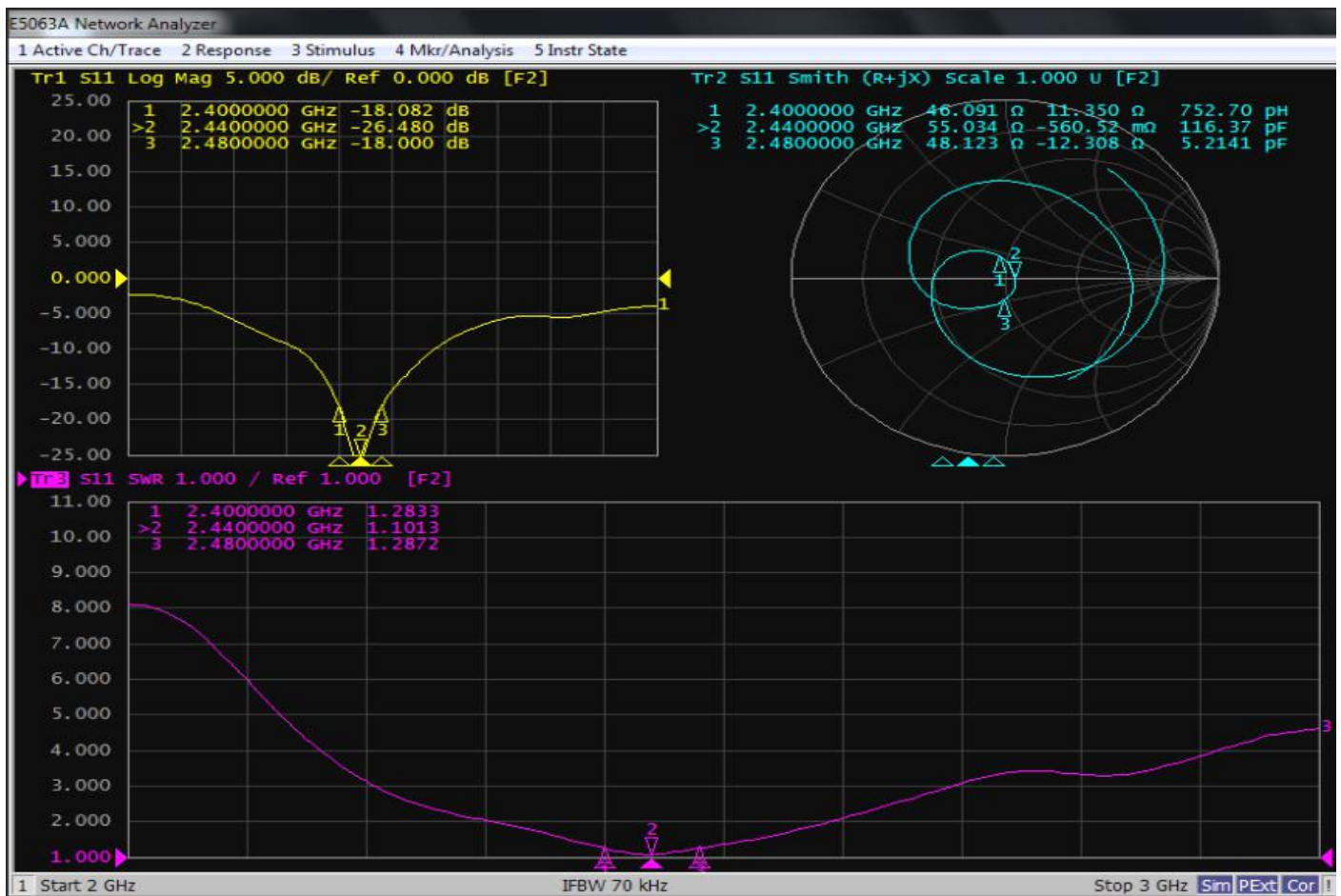
2.1.1 Test connection

The connection of passive S11 test device is as follows: network analyzer → test line → test fixture.

2.1.2 Passive S11

The following table shows the value of standing wave ratio of the frequency points at the edge of the working band of the antenna. ReturnLoss and VSWR related waveforms obtained from the test are shown in the figure below.

Freq. (MHz)	2400	2440	2480
VSWR	1.28	1.10	1.29
Return Loss	-18.08	-26.48	-18.00



2.2 Measurement of gain and efficiency

2.2.1 Test site

Yuande microwave anechoic chamber: Test frequency range is 400MHz - 6GHz

2.2.2 Instrument for testing

Network analyzer, standard horn antenna, multi-probe near-field antenna test system, test computer, etc.

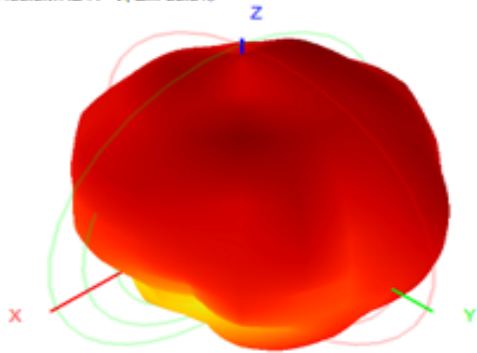
2.2.3 Test result

In the microwave darkroom, the values related to efficiency and gain measured are shown in the table below

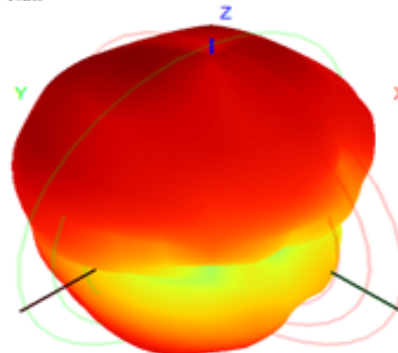
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	1.33	50.30
2410	1.45	51.66
2420	1.63	53.00
2430	2.00	53.38
2440	2.28	53.60
2450	2.45	53.52
2460	2.50	55.07
2470	2.60	56.79
2480	2.84	57.54
2490	2.10	53.00
2500	1.20	50.99

2.2.4 Passive radiation direction diagram

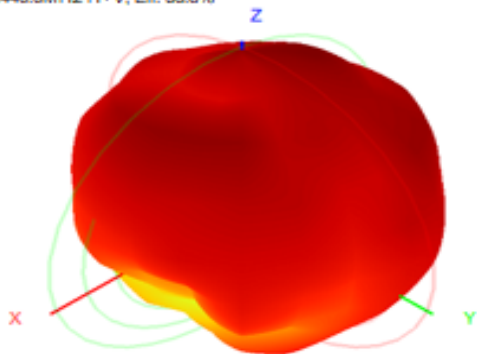
2400.0MHz H+V, Eff: 50.3%



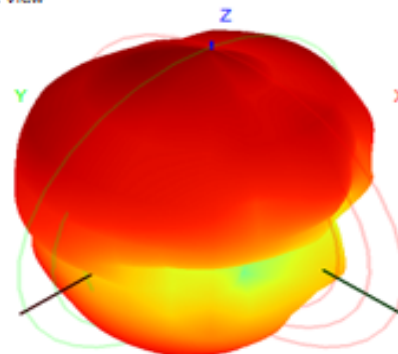
Back View



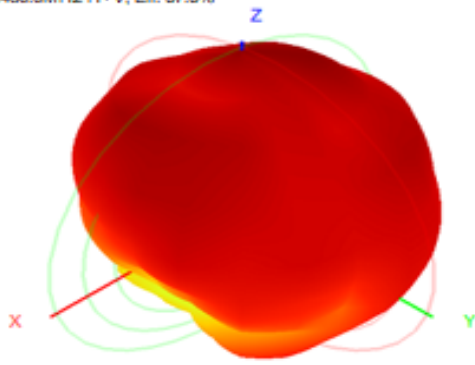
2440.0MHz H+V, Eff: 53.6%



Back View



2480.0MHz H+V, Eff: 57.5%



Back View

