

Sample Approval Certificate

Confirmation of products

Customer Name	Shenzhen Inios Technology Co., Ltd.				
Project Name	L190	Version	DH1	Date	2026-6-3
Project No.	03.03.0001.0006	Customer Part Number	ANT_2.4G_5G		
Frequency Range	2400~2500MHz 5150~5250MHz 5725~5850MHz	Notes			
Antenna gain:	1.89dBi (2.4G) 5.25dBi (5G)				
Antenna type	Integration antenna				
Antennadimensions:	190mmx11.3mm				

Supplier Information:

Company Name: Shenzhen Linrong Technology Co., Ltd.

R&D Address: Lianjian Industrial Park, Huarong Road, Daliang Subdistrict, Longhua District, Shenzhen

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1, Specifications

The report primarily provides parameter testing results for the Ineos performance

2, Electrical Performance

2-1 Antenna Matching Circuit The design of the antenna matching circuit utilizes the original motherboard's matching to achieve optimal RF performance for the entire device across its operating frequency band.

3 VSWR Testing

3-1 Test Setup

The VSWR test setup is connected in sequence as follows: E5071B network analyzer → 50-ohm coaxial cable → 100 mm long copper tube → test fixture. For the test fixture, an SMA-J connector is extended from the 50-ohm antenna test point on the main PCBA using a rigid cable, connected to the copper tube with a choke coil, and then linked sequentially to the other components.

3-2 Voltage Standing Wave Ratio Test

The following table shows the voltage standing wave ratio (VSWR) values at the edge frequencies of the 2.4G external antenna operating band. The measured VSWR and corresponding waveform diagrams are shown in the attachment:

	Main antenna VSWR		
Freq(MHz)	2400	2450	2500
Free Space	1.90	2.04	2.19

The following table shows the voltage standing wave ratio (VSWR) values at the edge frequencies of the 5G external antenna operating bands. The measured VSWR and corresponding waveform diagrams are shown in the attachment:

Main antenna VSWR			
Freq(MHz)	5100	5500	5800
Free Space	1.71	1.95	3.99

4 Active test setup

4-1 Test Site

GTS microwave anechoic chamber: Test frequency range from 400 MHz to 6 GHz, quiet zone diameter of 40 cm, reflection coefficient less than -90 dB.

4-2 Test Results

Maximum radiated power and maximum receive sensitivity reflect the antenna's peak power radiation value and optimal reception performance across the entire radiation space. TRP and TIS represent the antenna's average radiated power and average receive sensitivity, indicating its overall reception performance.

Below are the **PCB** antenna test data:

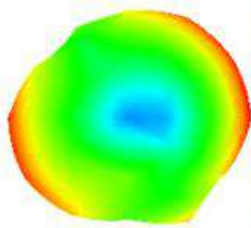
Passive Test For 2400-2500		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	55.48	1.69
2410	54.25	1.64
2420	52.58	1.73
2430	54.5	1.67
2440	59.59	1.78
2450	57.36	1.57
2460	61.67	1.85
2470	61.01	1.89
2480	60.1	1.67
2490	61.42	1.81
2500	60.41	1.85

5G Antenna Efficiency Test Results (%)		
Frequency (MHz)	Efficiency	Gain (dBi)
5100	55.86	5.1
5120	56.82	5.14
5140	56.3	5.12
5150	54.22	5.15
5180	53.46	5.11
5200	55.29	5.17
5220	56.43	5.16
5240	56.77	5.20
5250	57.45	5.19
5700	57.42	5.19
5720	56.78	5.21
5740	55.91	5.22
5750	58.04	5.15
5780	57.26	5.18
5800	56.3	5.16
5850	58.49	5.25
5860	57.87	5.18
5870	56.66	5.19

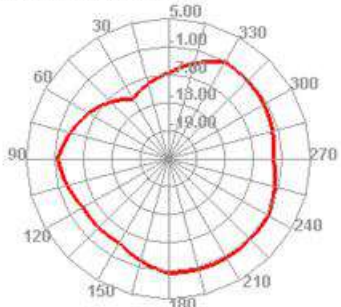
5, Environmental Processing

The screen and motherboard are properly grounded.

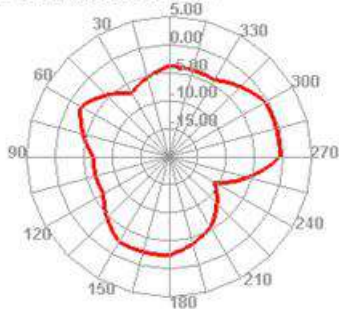
2400.000MHz



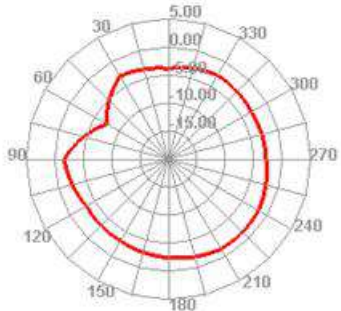
2400.000MHz H



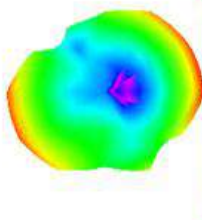
2400.000MHz E1



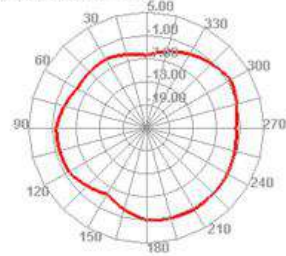
2400.000MHz E2



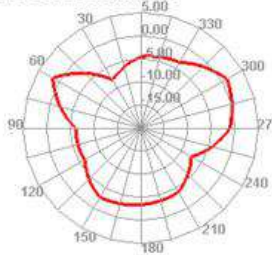
2450.000MHz



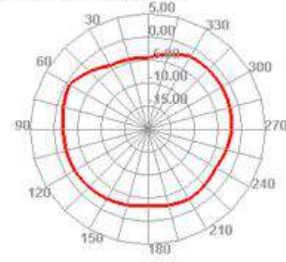
2450.000MHz H



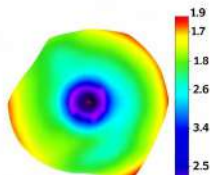
2450.000MHz E1



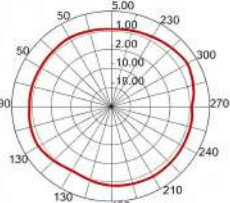
2450.000MHz E2



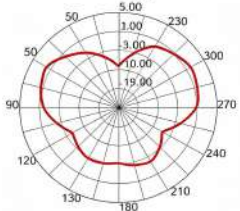
2470.00MHz



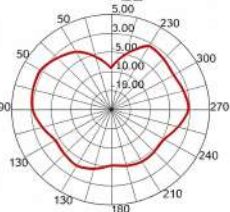
H



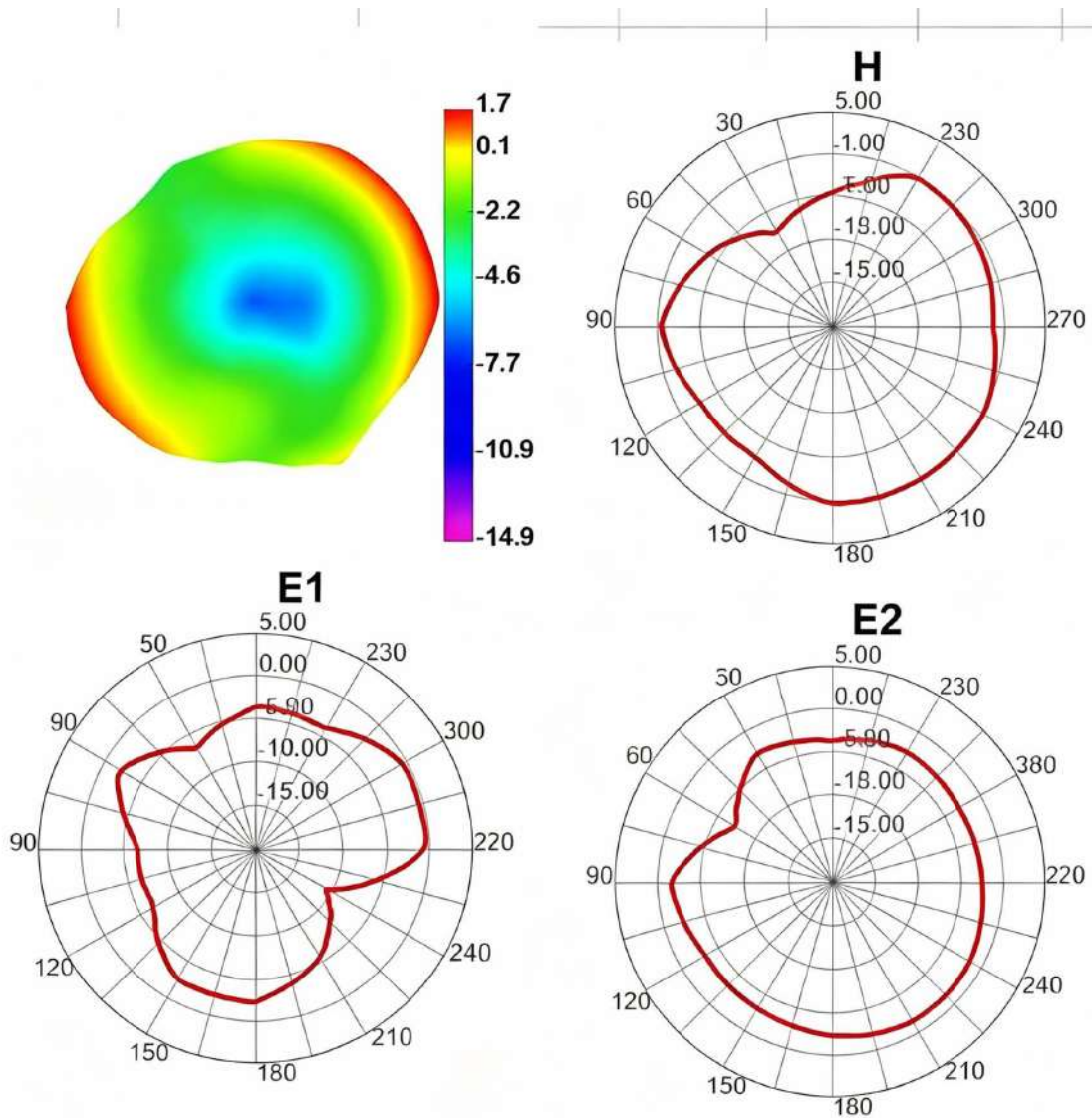
E1



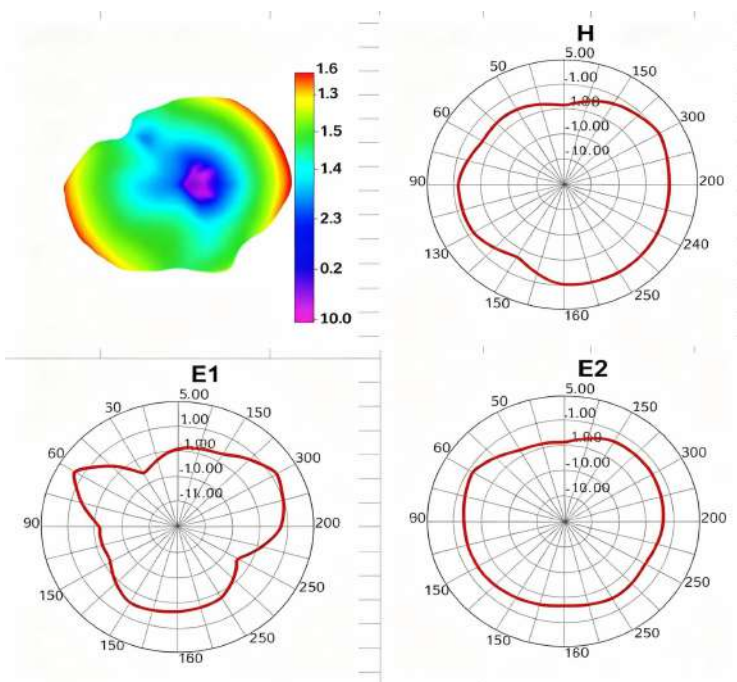
E2



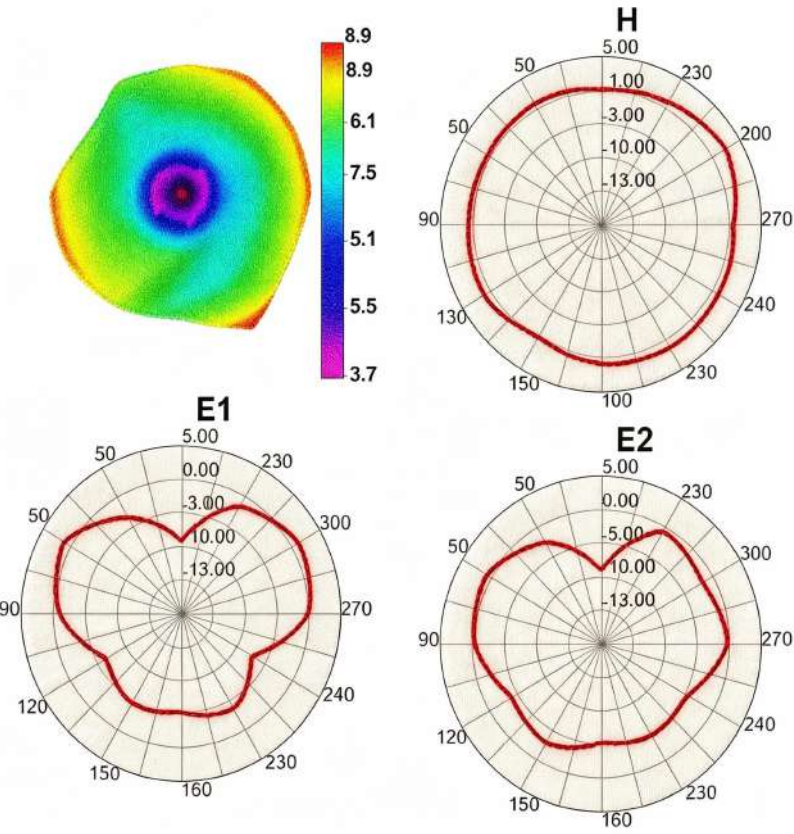
5100.00MHz



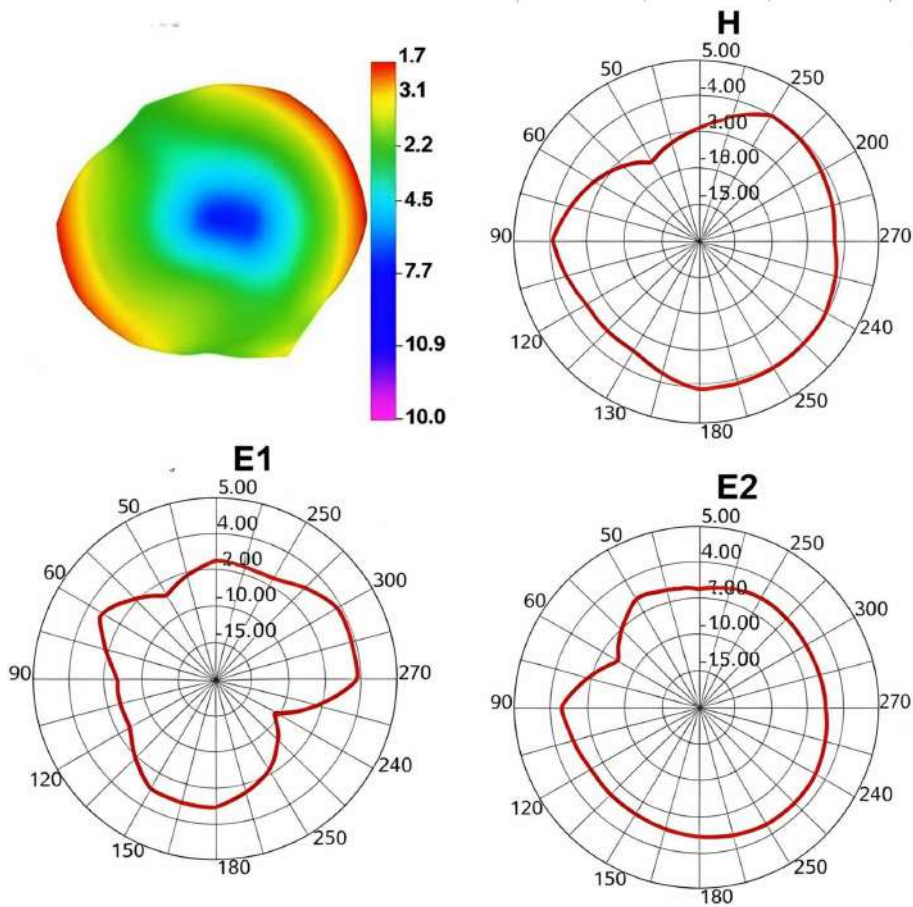
5150.00MHz



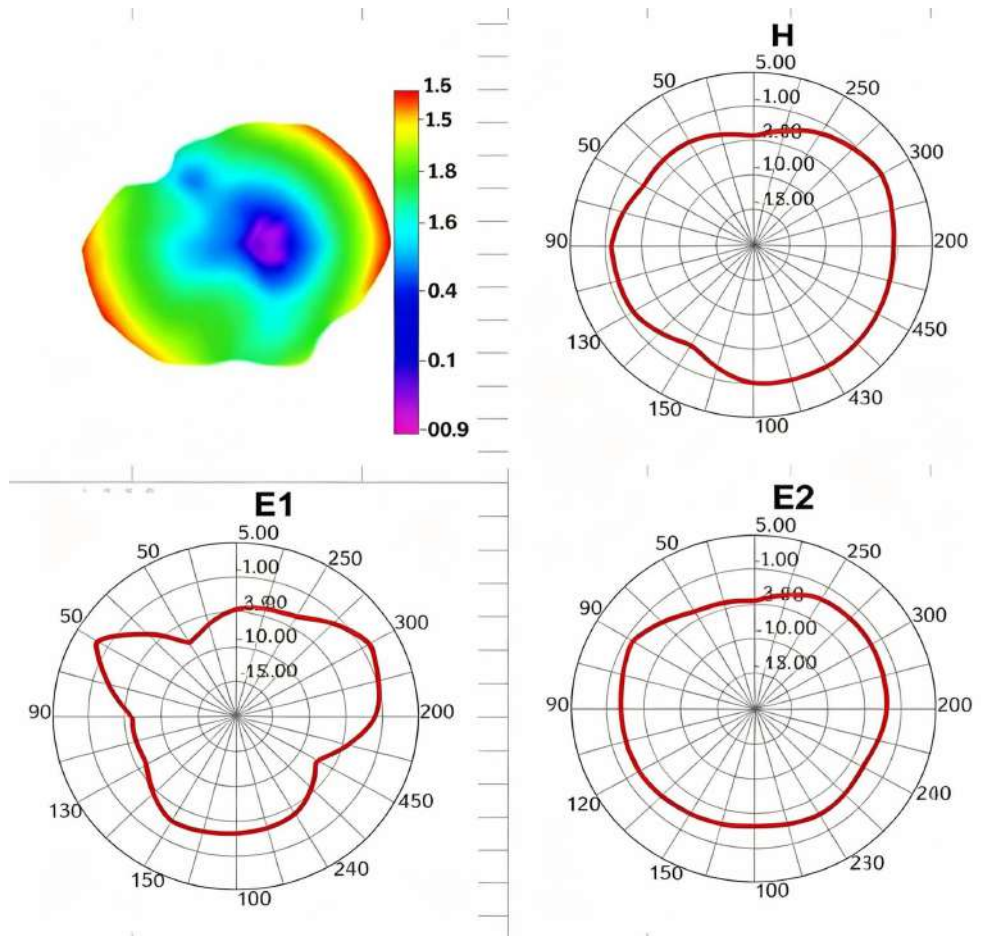
5200.00MHz



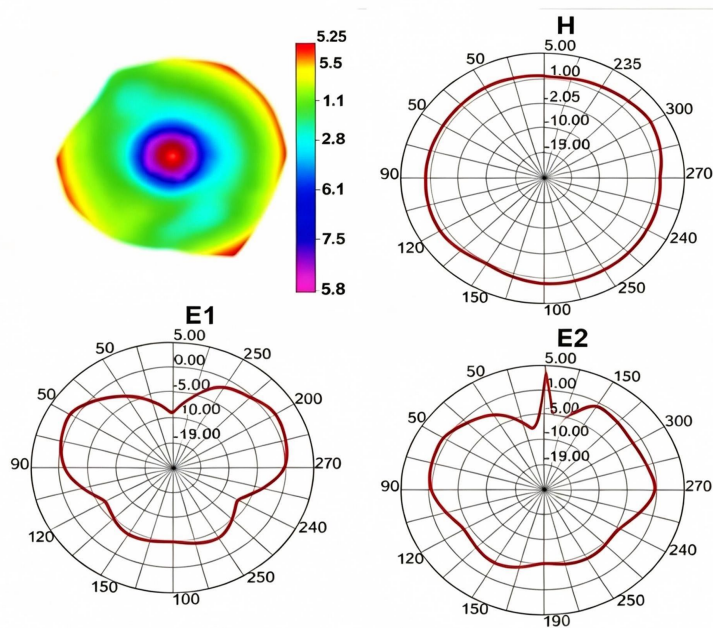
5700.00MHz



5750.00MHz



5850.00MHz



6 Product drawings

