

			document number:
Specification For Approval			
Customer:			
Customer:	Dongguan Zhongyida Electronic Technology Co., LTD		
number:		Supplier part number:	P142
product description:	P142-Built-in WIFI patch antenna 1.37 Gray L=200mm +first generation terminal	Applicable model:	
Supplier acknowledges (with seal):		Customer Acknowledges (with seal):	
Production: Zhou Jingfeng	Structure: Zhou Jingfeng		
examine and verify:	Date: 2025.04.22		

catalogue

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1. Product pictures



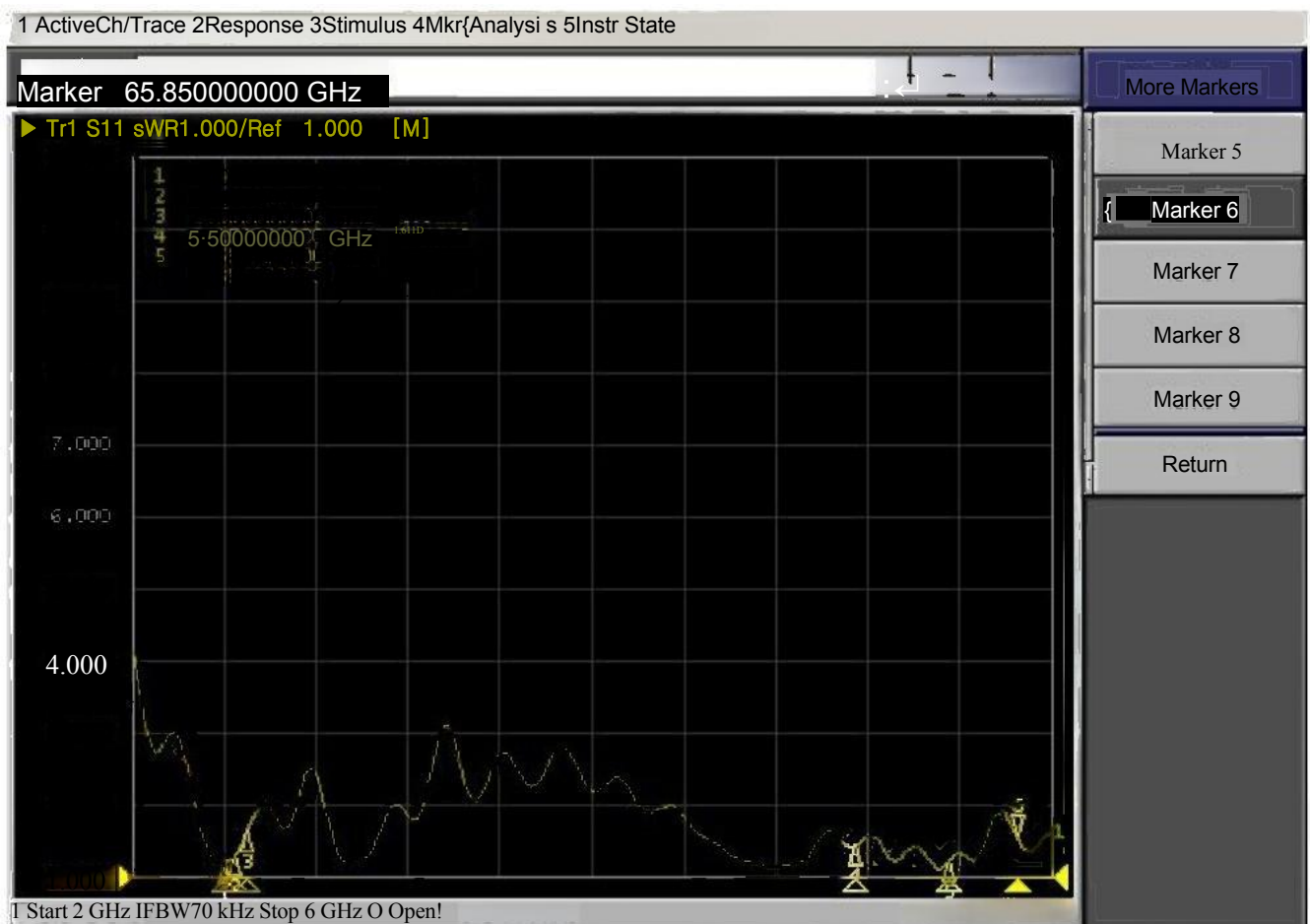
2. Product parameters

Product test parameters			
Product name (Name)	Built-in patch antenna	Product model (Model Type)	P144-Built-in WIFI patch antenna -1.37 Gray L=200mm -first generation terminal
Electrical performance index (Electrical Specifications)			
Frequency range (Frequency Range)	2400-5800MHZ	Polarization mode (Polarization)	perpendicular
Input impedance (Impedance)	50Ω	radiation direction	omnidirectional
Standing wave ratio (VSWR)	≤ 2	Power capacity (Power)	50W
Gain (Gain)	4 dBi	Bandwidth (Bandwidth)	100 MHz

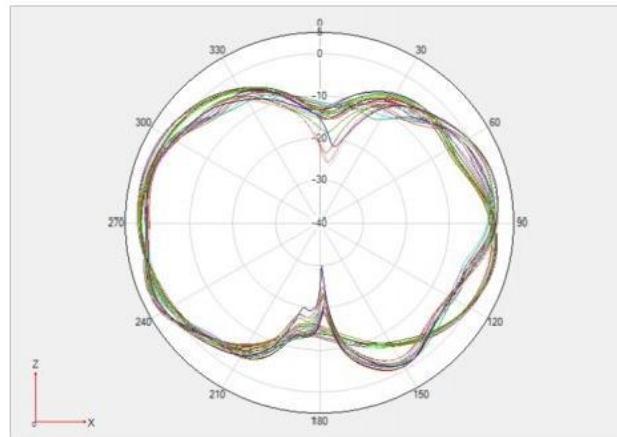
Mechanical indicators (Mechanical Specifications)			
Size (Dimensions)	47.8MM $\pm$ 2MM	Antenna color (Chassis Color)	green
Connector model (Connector)	A generation of terminals	Lead length (Cable Length)	200 $\pm$ 3mm
Antenna material (Chassis Material)	PC		
working temperature (Working Temperature)	-40 $^{\circ}$ C $\pm$ 85 $^{\circ}$ C	Storage temperature (Limit Temperature)	-40 $^{\circ}$ C $\pm$ 85 $^{\circ}$ C

S11 (VSWR, Return loss, Smith) data

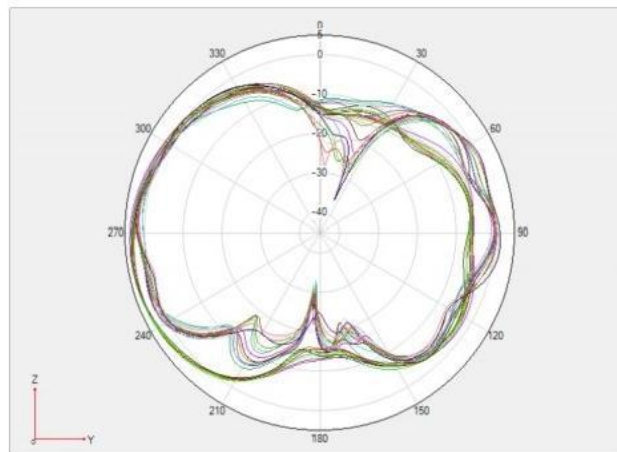
3.1-Network analyzer report



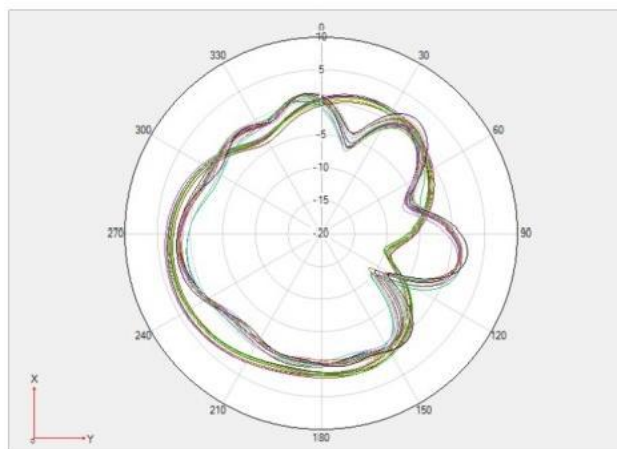
3. 2D direction diagram



Phi 0 2D

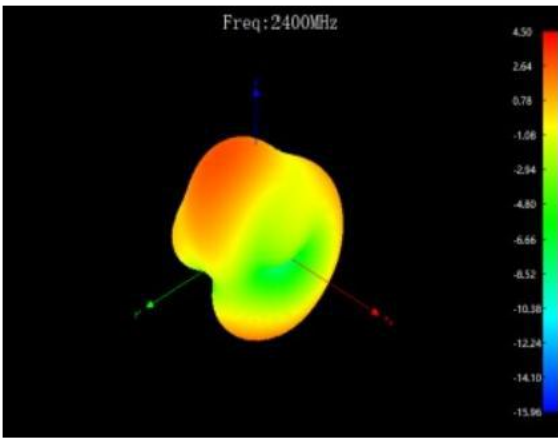


Phi 90 2D

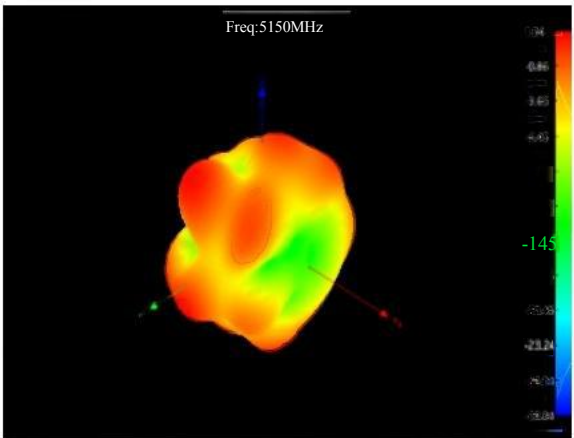


Theta 90 2D

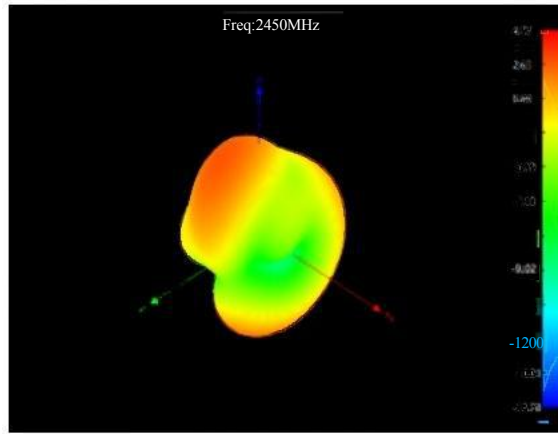
3. 3D Directional Chart



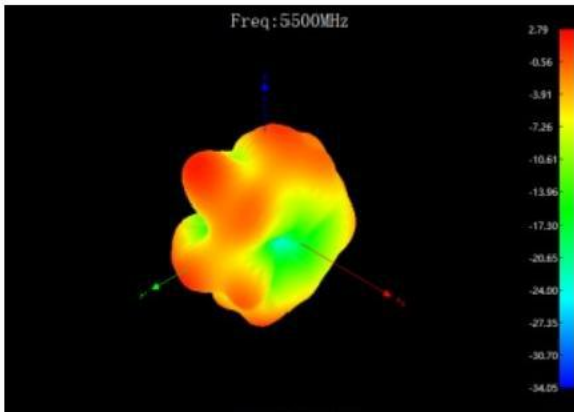
2400MHZ



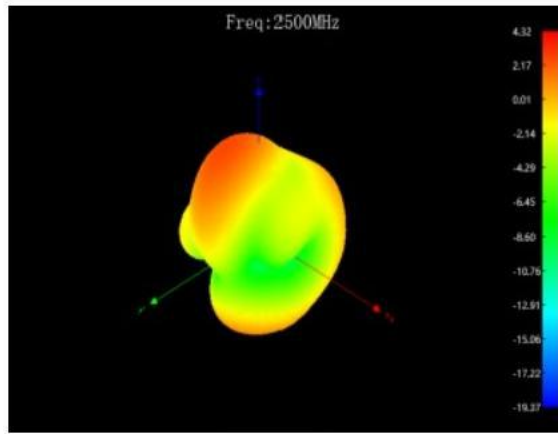
5150MHZ



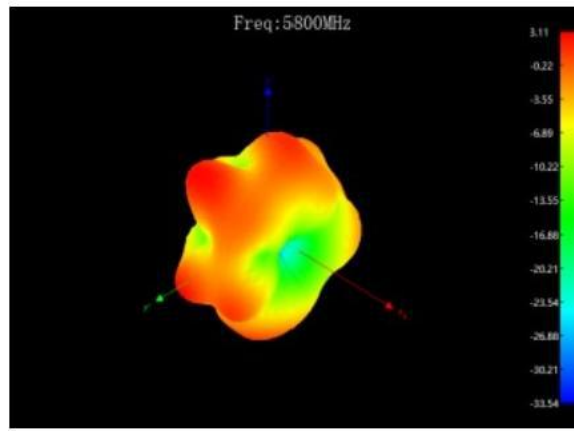
2450MHZ



5500MHZ



2500MHZ

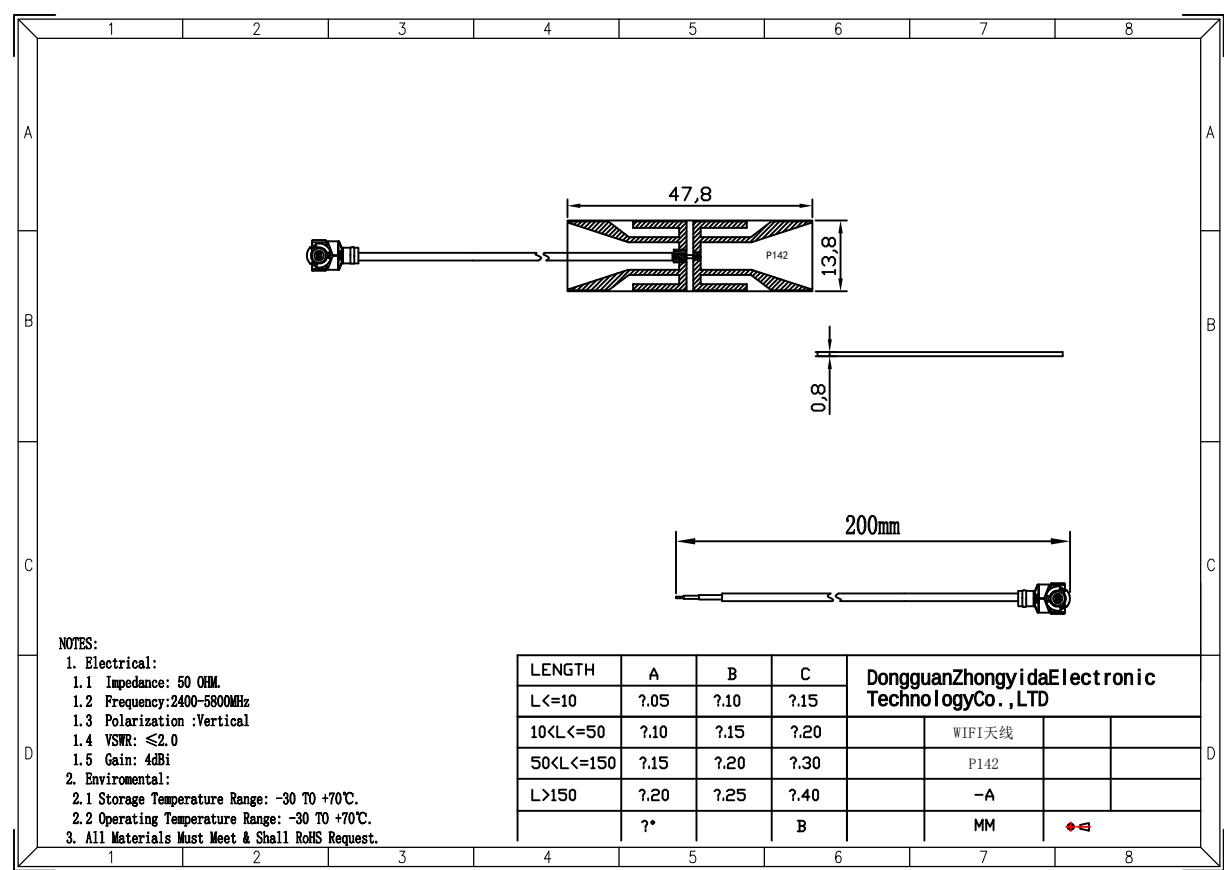


5800MHZ

4. Antenna efficiency and gain value

Frequency	Efficiency	Efficiency / %	Frequency	MaxGain/dBi	AvgGain/dBi
2400	-1.3	74.13	2400	4.5	-1.3
2410	-1.7	67.61	2410	4.25	-1.7
2420	-1.43	71.94	2420	4.43	-1.43
2430	-1.38	72.78	2430	4.54	-1.38
2440	-1.77	66.53	2440	3.97	-1.77
2450	-1.26	74.82	2450	4.57	-1.26
2460	-1.87	65.01	2460	4.13	-1.87
2470	-1.59	69.34	2470	4.45	-1.59
2480	-1.76	66.68	2480	4.42	-1.76
2490	-1.57	69.66	2490	4.47	-1.57
2500	-1.74	66.99	2500	4.32	-1.74
5150	-2.05	62.37	5150	1.94	-2.05
5200	-2.39	57.68	5200	2.22	-2.39
5250	-2.18	60.53	5250	2.43	-2.18
5300	-1.81	65.92	5300	3.35	-1.81
5350	-2.45	56.89	5350	2.68	-2.45
5400	-2.01	62.95	5400	3.03	-2.01
5450	-2.06	62.23	5450	3.36	-2.06
5500	-2.1	61.66	5500	2.79	-2.1
5550	-1.97	63.53	5550	2.9	-1.97
5600	-2.16	60.81	5600	2.27	-2.16
5650	-1.92	64.27	5650	2.79	-1.92
5700	-2.27	59.29	5700	2.36	-2.27
5750	-2.15	60.95	5750	2.88	-2.15
5800	-2.19	60.39	5800	3.11	-2.19

5. Product size drawings



6. Environmental performance test

Storage environment	If no specific test temperature, humidity and pressure are specified, the following shall be tested: 1. The temperature is $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 2. Relative humidity is 45%-85% 3. The air pressure is 86 kpa-106 kpa	Electrical and mechanical performance is normal
thermocycling	Five cycles between 70°C and 40°C were performed, followed by normal conditions 1-2H, check the appearance quality.	The size shall meet the requirements and should Satisfy Mechanical and electrical properties
Resistant to constant damp heat trial	Relative humidity $95 \pm 3\%$, test temperature: 40°C. After 2H action, The electrical properties of the sample shall be measured within 5 min after the sample is removed, and the sample shall be normal After 1-2H, check the appearance quality	The size shall meet the requirements and should Satisfy Mechanical and electrical properties
vibration test	Frequency range: 10-55 HZ, displacement amplitude: 0.35 MM, acceleration amplitude: 50.0M/S, Scan frequency cycle: 30 times	Electrical and mechanical performance is normal
fall-down test	The 1M high altitude is freely dropped three times in the direction of mutually perpendicular axis	Electrical and mechanical performance is normal