



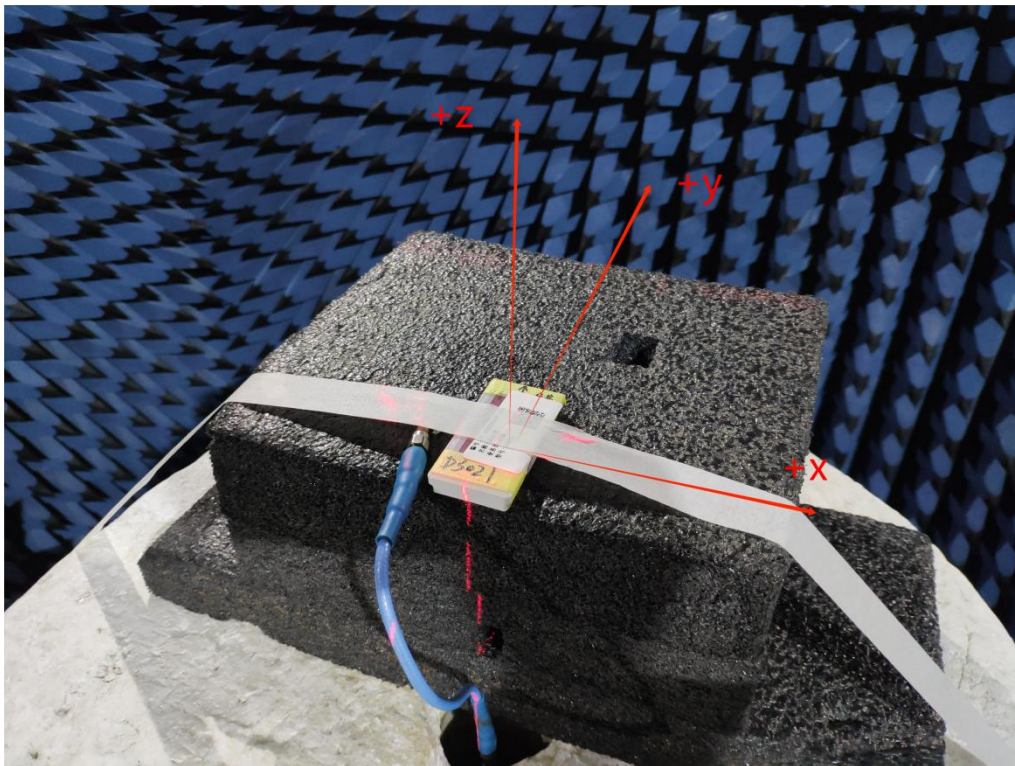
天线型号 (Antenna Version): ANT-BBNCNC23016  
产品型号 (Model of the DUT): DS021  
PCB 编号及版本 (PCB number and version): ES003F6\_V1.1  
责任硬件工程师 (Hardware Engineer): 窦淼全  
测试日期 (Test Data): 2023.11.21  
1、技术指标 (Technical Specification)

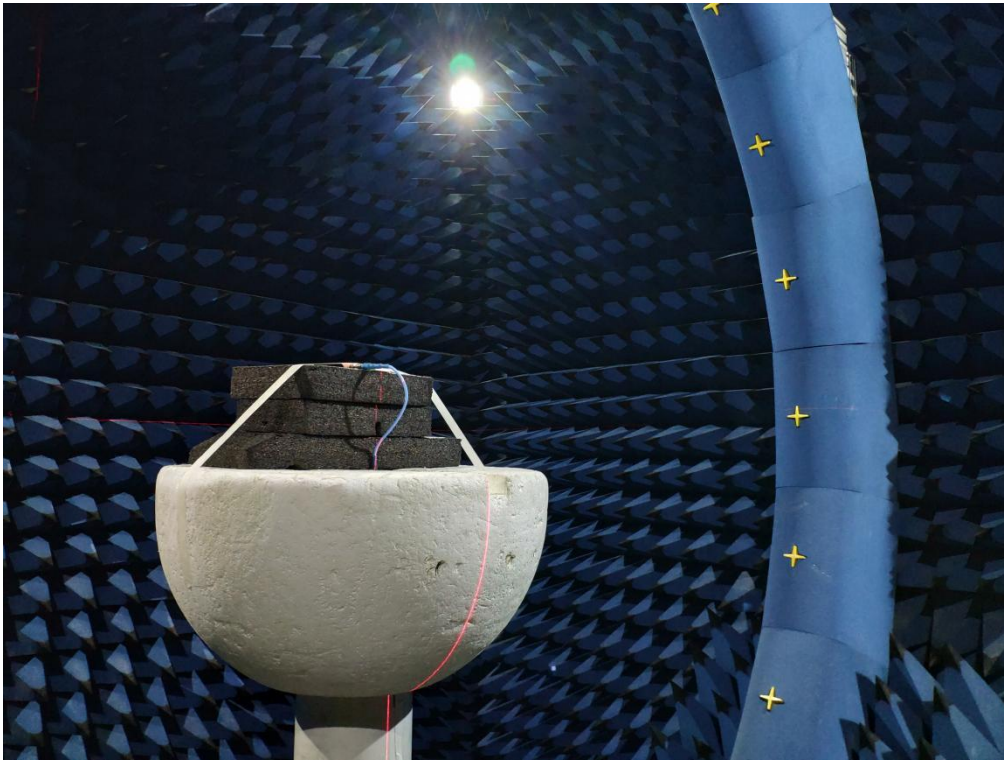
电性能指标 Electrical Specifications	
频率范围 Frequency Range (MHz)	2400-2500
频带宽度 Bandwidth (-10dB) (MHz)	300MHZ
输入阻抗 Input Impedance ( $\Omega$ )	50
回波损耗 Return Loss (dB)	<-13
电压驻波比 VSWR	<1.5
增益 Gain (@2.44GHz) (dBi)	-1.5
峰值增益 (Peak Gain) (dBi)	-0.83
极化形式 Polarization Type	线极化 Linear polarization
雷电保护 Lightning Protection	直流接地 (DC grounding)
功率容量 Power Capacity (mW)	1000
机械指标 Mechanical Specifications	
天线尺寸 Antenna Size (mm)	17.3mm*5.3mm
辐射体 Radiator	铜 Cuprum
连接器型号 Connect Type	无
工作温度 Working Temperature ( $^{\circ}\text{C}$ )	-20~50
存储温度 Storage Temperature ( $^{\circ}\text{C}$ )	-40~65

2、天线外形和尺寸 (the shape and size of the antenna)



### 3、测试结果 (The result of the test)





### 3.1 增益和效率 (Gain and Efficiency)

样品编号	4#-DS021	
EUT型号	4#	
备注	4#	
Frequency	Gain (dBi)	Efficiency( )
2400MHz	-1.97	21%
2402MHz	-1.96	21%
2404MHz	-1.95	21%
2406MHz	-2.04	21%
2408MHz	-2.04	22%
2410MHz	-2.04	22%
2412MHz	-2.07	22%
2414MHz	-2.10	22%
2416MHz	-2.11	22%
2418MHz	-2.15	22%
2420MHz	-2.19	22%
2422MHz	-2.21	22%
2424MHz	-2.16	22%
2426MHz	-2.11	22%
2428MHz	-2.09	22%
2430MHz	-2.01	22%



深圳云里物里科技股份有限公司  
产品天线测试报告 (The Antenna Test Report)

Y-YB-CR-089

V003

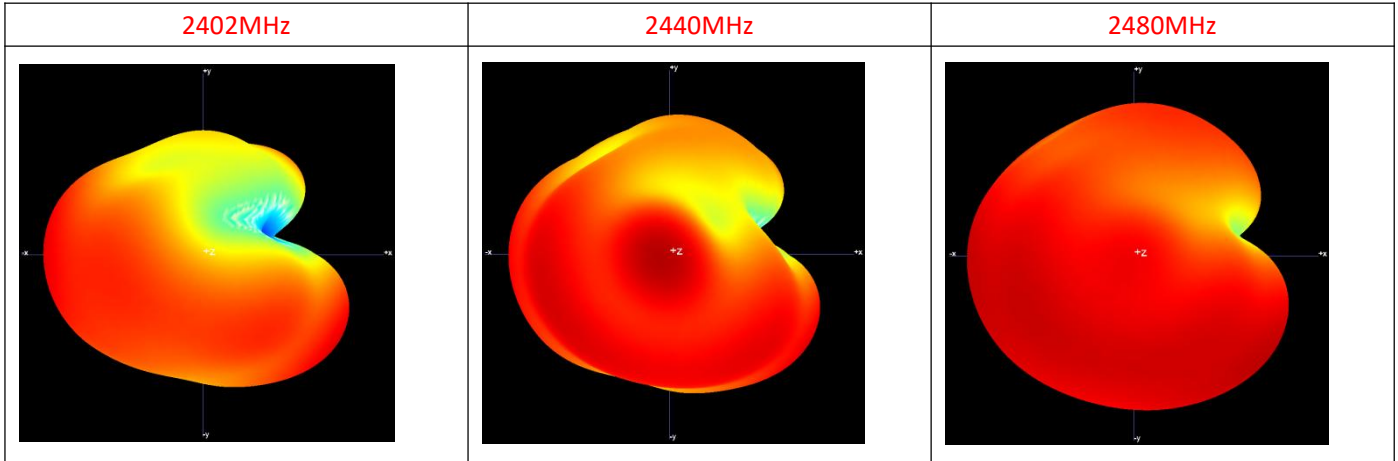
密级: 绝密 /confidentiality

2432MHz	-1.93	23%
2434MHz	-1.85	23%
2436MHz	-1.71	23%
2438MHz	-1.61	23%
2440MHz	-1.50	23%
2442MHz	-1.41	23%
2444MHz	-1.31	23%
2446MHz	-1.18	24%
2448MHz	-1.12	24%
2450MHz	-1.20	24%
2452MHz	-1.15	24%
2454MHz	-1.13	24%
2456MHz	-1.10	24%
2458MHz	-1.09	25%
2460MHz	-1.11	25%
2462MHz	-1.11	25%
2464MHz	-1.10	25%
2466MHz	-1.15	25%

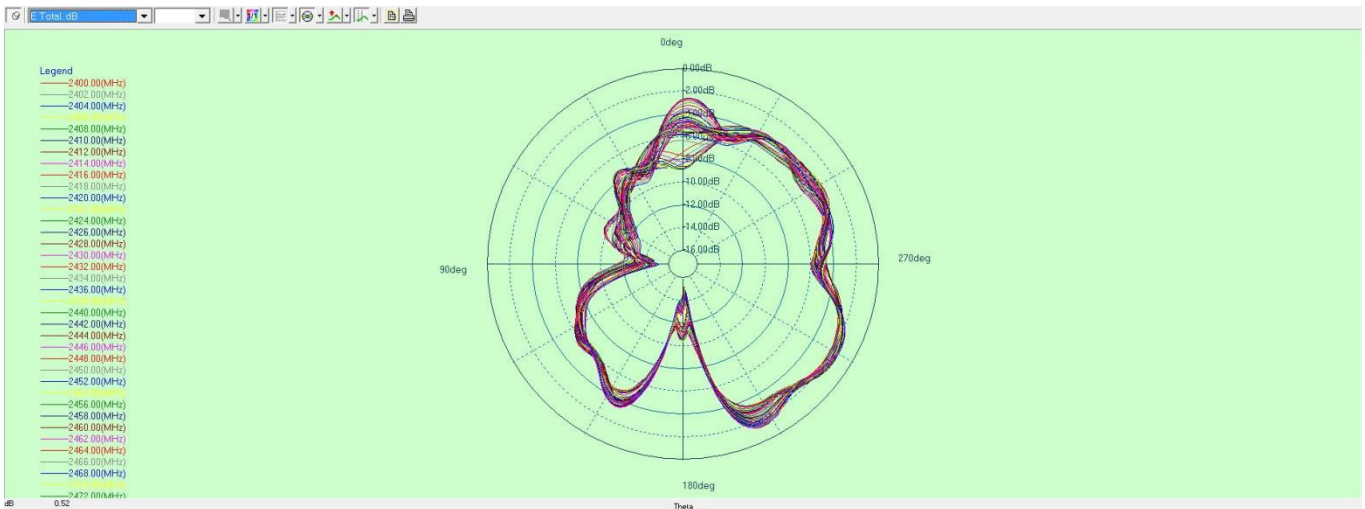
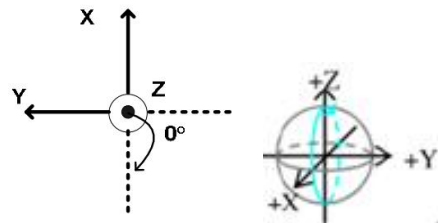
2466MHz	-1.15	25%
2468MHz	-1.14	26%
2470MHz	-1.13	26%
2472MHz	-1.13	26%
2474MHz	-1.11	26%
2476MHz	-1.12	27%
2478MHz	-0.94	27%
2480MHz	-0.93	27%
2482MHz	-0.92	27%
2484MHz	-0.89	27%
2486MHz	-0.85	27%
2488MHz	-0.85	27%
2490MHz	-0.84	27%
2492MHz	-0.83	27%
2494MHz	-0.84	27%
2496MHz	-0.94	26%
2498MHz	-0.95	26%
2500MHz	-0.98	26%

### 3.2 辐射方向图 (Radiation Pattern)

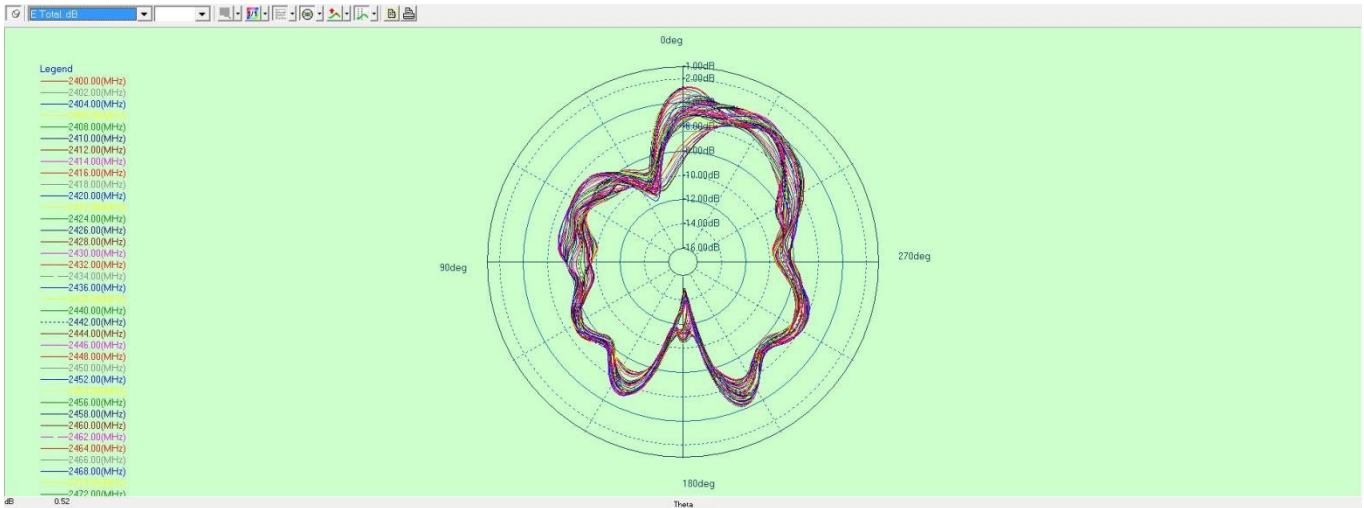
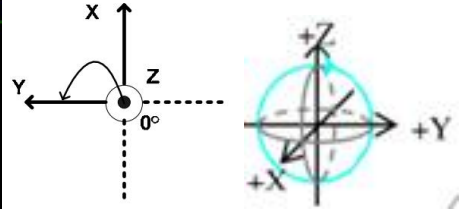
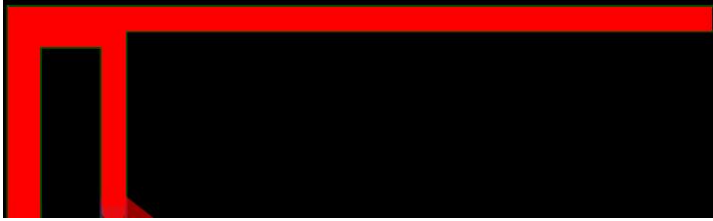
3D 方向图



(1) E1, XZ 面,  $\phi=0^\circ$  ; (E1, XZ plane,  $\phi=0^\circ$ )



(2) E2, YZ 面,  $\phi=90^\circ$  ; (E2, YZ 面,  $\phi=90^\circ$ )



(3) H, XY 面,  $\theta=90^\circ$  ; (H, XY plane,  $\theta=90^\circ$ )

