



深圳云里物里科技股份有限公司  
(Shenzhen MineW Technologies Co., Ltd.)  
产品天线测试报告 (The Antenna Test Report)

Y-YB-CR-115

V001

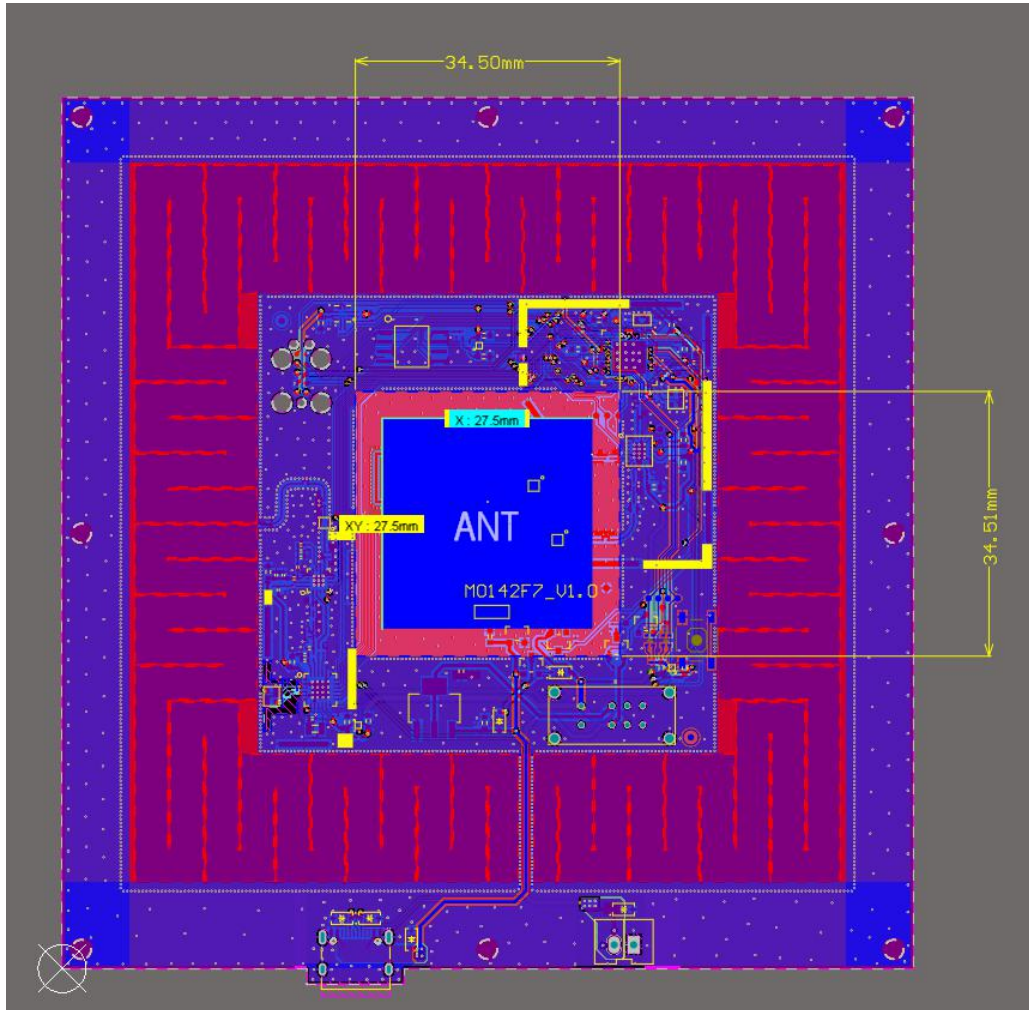
密级: 绝密 /confidentiality

天线型号 (Antenna Version): ANT-BPNCNC23002  
产品型号 (Model of the DUT): MNDB1  
PCB 编号及版本 (PCB number and version): MO142F7\_V1.0  
责任硬件工程师 (Hardware Engineer): Jovan  
测试日期 (Test Data): 20230421

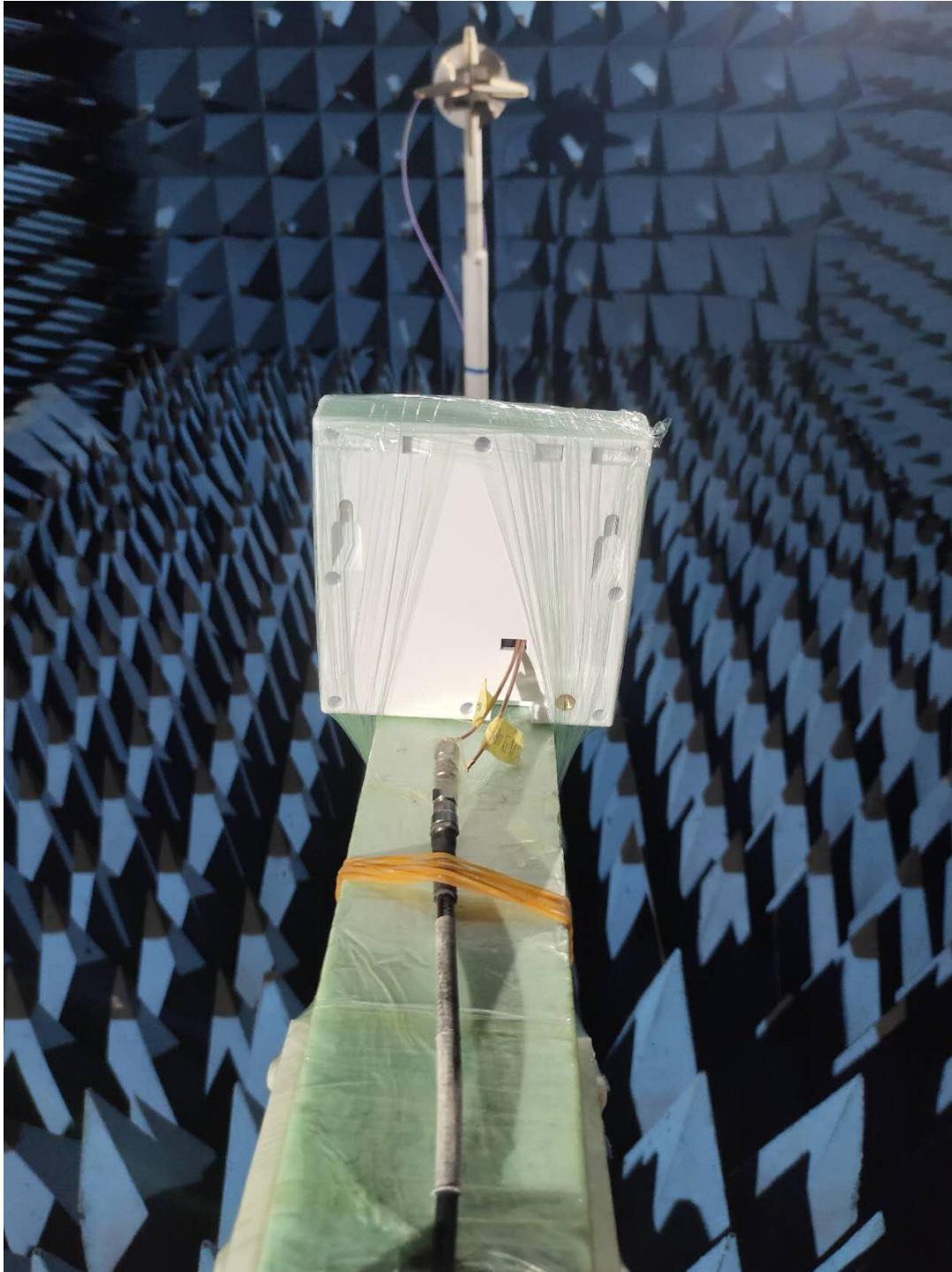
1、技术指标 (Technical Specification)

电性能指标 Electrical Specifications	
频率范围 Frequency Range (MHz)	2400-2480
频带宽度 Bandwidth (-10dB) (MHz)	100
输入阻抗 Input Impedance ( $\Omega$ )	50
回波损耗 Return Loss (dB)	<-10.386
电压驻波比 VSWR	<1.8003
增益 Gain (@2.44GHz) (dBi)	1.26 -26.08(horizontal polarization) 1.25(vertical polarization)
峰值增益 Peak Gain (dBi)	1.83 -26.51(horizontal polarization) 1.82(vertical polarization)
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)	27.5*27.5
辐射体 Radiator	铜 Cuprum
连接器型号 Connect Type	板载无, 外接天线需要
工作温度 Working Temperature ( $^{\circ}\text{C}$ )	-40~85 以产品要求为准)
存储温度 Storage Temperature ( $^{\circ}\text{C}$ )	-40~85 (以产品要求为准)

## 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)



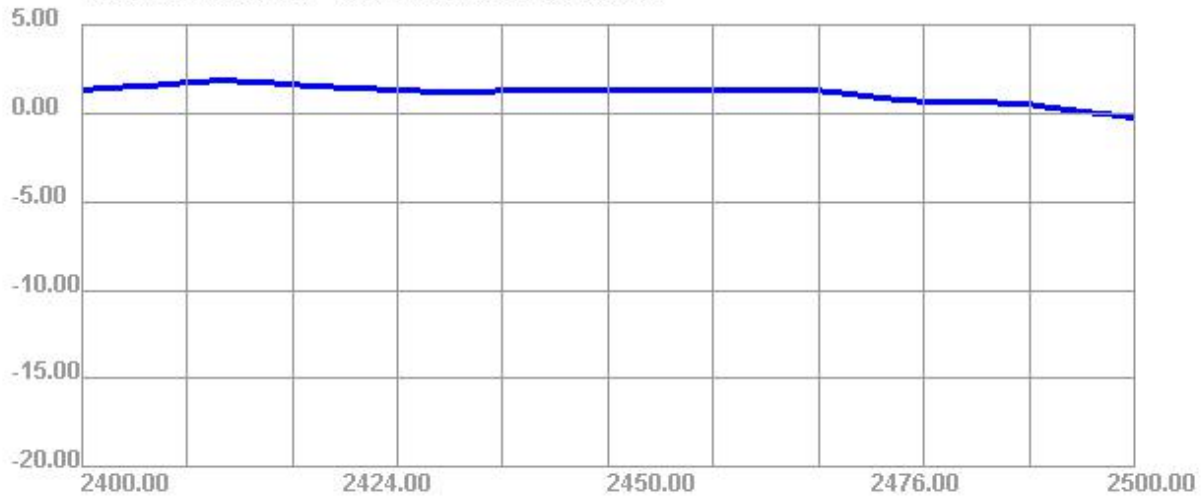


3.1 增益和效率 (Gain and Efficiency)

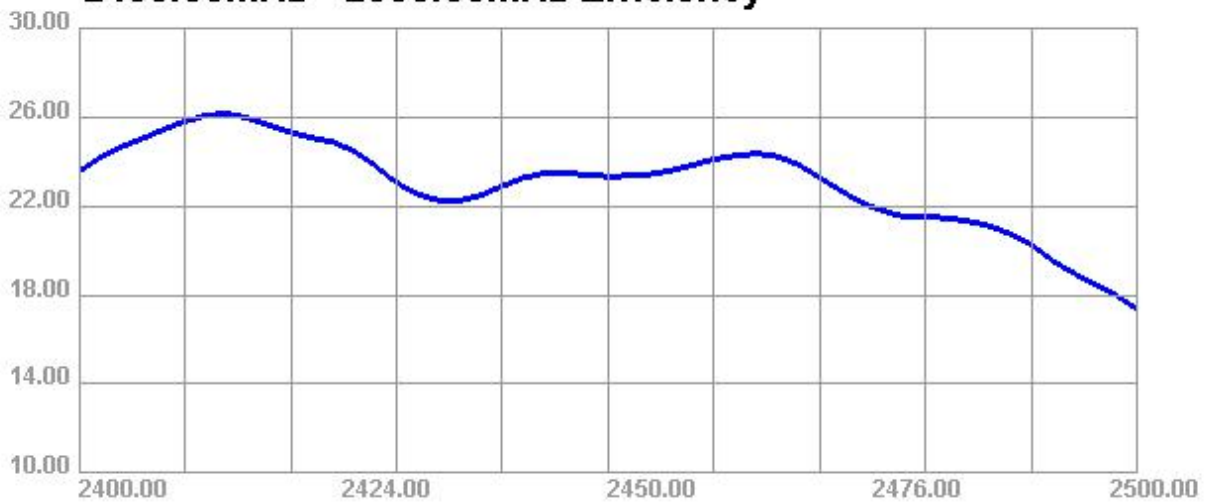
Frequency	Effi	horizontal polarization	vertical polarization	Combine
(GHz)	(%)	Gain (dBi)	Gain (dBi)	Gain (dBi)
2400	23.55	-25.6	1.29	1.3
2402	24.18	-25.52	1.4	1.83
2404	24.67	-25.21	1.46	1.47
2406	25.04	-25.79	1.54	1.54
2408	25.44	-26.08	1.6	1.61
2410	25.8	-25.72	1.72	1.73
2412	26.07	-26.29	1.8	1.8
2414	26.15	-26.51	1.82	1.41
2416	25.96	-26.34	1.77	1.78
2418	25.61	-26.18	1.7	1.71
2420	25.32	-25.82	1.6	1.61
2422	25.07	-24.71	1.54	1.55
2424	24.87	-25.48	1.46	1.47
2426	24.47	-25.46	1.42	1.43
2428	23.81	-26.05	1.35	1.36
2430	23.05	-26.17	1.27	1.28
2432	22.54	-26.75	1.25	1.25
2434	22.25	-26.72	1.22	1.23
2436	22.25	-27.18	1.2	1.21
2438	22.49	-26.78	1.22	1.23
2440	22.89	-26.08	1.25	1.26
2442	23.28	-25.69	1.31	1.32
2444	23.47	-25.13	1.31	1.32
2446	23.47	-25.42	1.32	1.33
2448	23.41	-26.06	1.29	1.3
2450	23.33	-26.62	1.27	1.27
2452	23.36	-26.5	1.25	1.26
2454	23.43	-26.65	1.28	1.29
2456	23.61	-26.62	1.3	1.31
2458	23.85	-26.24	1.29	1.3
2460	24.11	-26.06	1.3	1.31
2462	24.26	-25.72	1.34	1.35
2464	24.36	-25.96	1.32	1.33
2466	24.23	-26.07	1.32	1.33
2468	23.86	-25.81	1.32	1.33
2470	23.26	-26.52	1.26	1.27
2472	22.69	-27.62	1.14	1.15
2474	22.14	-28.2	0.99	1
2476	21.78	-28.67	0.85	0.86
2478	21.51	-28.23	0.73	0.74
2480	21.52	-27.57	0.66	0.67



### 2400.00MHz - 2500.00MHz Gain



### 2400.00MHz - 2500.00MHz Efficiency



3.2、辐射方向图 (Radiation Pattern)

表 1 2402MHz 方向图

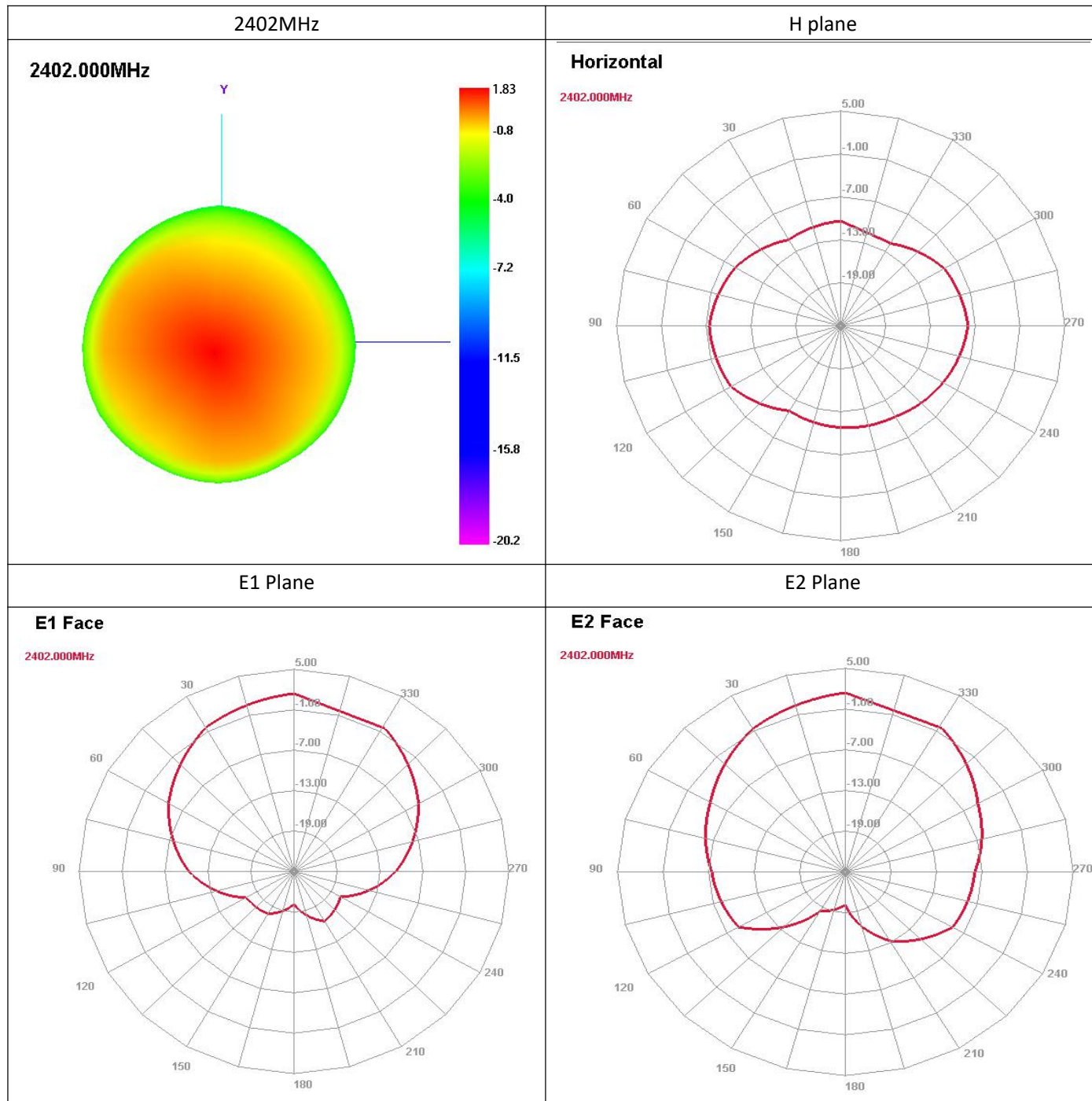


表 2 2440MHz 方向图

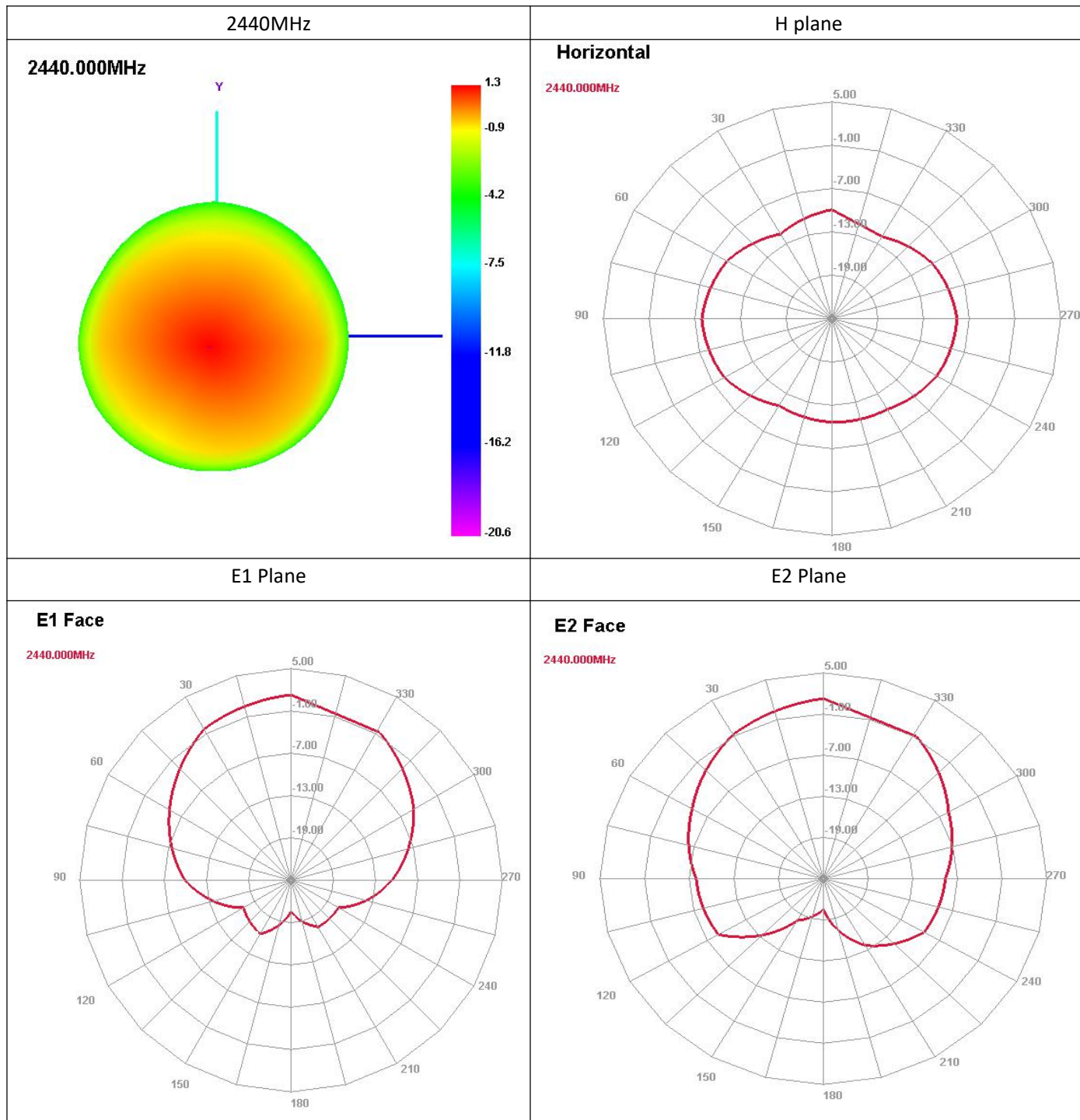


表 3 2480MHz 方向图

