



深圳市凯普深通讯科技有限公司

Shenzhen cape deep communication technology co., LTD

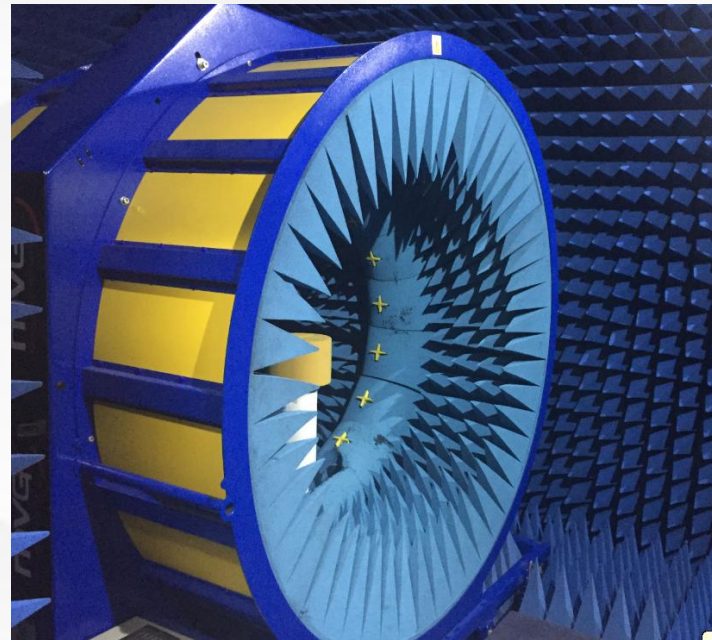
天线测试报告

test report

客 户：达诺科技
项目名：FDYG-AU
射 频：胡工
日 期：2025.7.9
版 本： 01



Laboratory testing environment and equipment



测试项目	测试设备
S11、S12、VSWR、LOSS	网络分析仪E5071B、E5062A
Efficiency、Gain 3D Radiation Pattern	Satimo SG16暗室、GP7*4*3暗室、E5071B
TRP、TIS	Satimo SG16暗室、GP7*4*3暗室、8960、 CMW500、MT8820C、E4438C、



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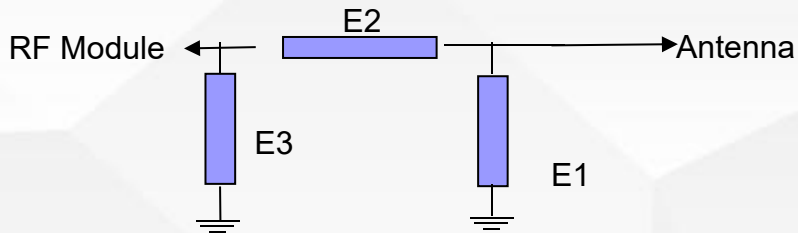
Project Commissioning Introduction

整机类型	小飞碟		
		频段信息	天线形式
天线种类及频段信息	主天线	LTE2/4/5/7/28/66/38/40/41	单极
	分集天线	中高频	PIFA
	WiFi天线	2400-2500MHz	PIFA
天线材质	FPC		



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Main antenna matching circuit

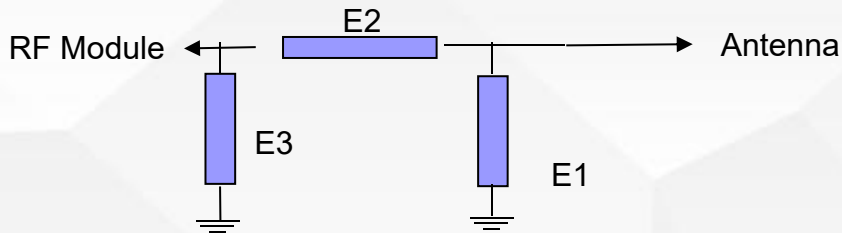


主天线	Element	Value	附图说明
	E1	主板原匹配	
	E2	4.7PF	
	E3	NC	



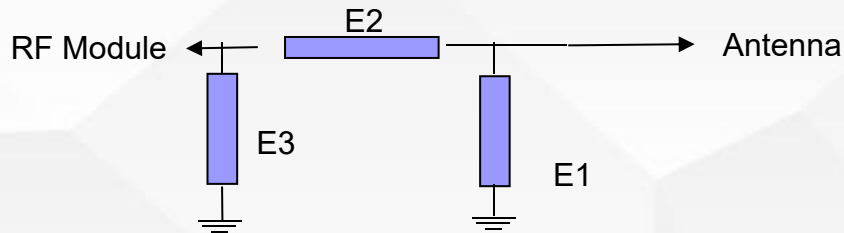
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WiFi antenna matching circuit



WiFi天线	Element	Value	附图说明
	E1(0201)		主板原匹配
	E2(0201)		
	E3(0201)		

Diversity antenna matching circuit



分集天线	Element	Value	附图说明
	E1(0201)		主板原匹配
	E2(0201)		
	E3(0201)		



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Main antenna test data

FS	Channel	TRP	TIS
LTE-2	L	18.9	
	M	18.5	
	H	18.4	-92.8
LTE-4	L	18.1	
	M	18.4	
	H	18.7	-92.6
LTE-5	L	16.8	
	M	16.2	
	H	15.8	-86.5
LTE-7	L	19.5	
	M	19.2	
	H	18.7	-89.8
LTE-28	L	15.6	
	M	15.7	
	H	16.2	-86.1

	Channel	TRP	TIS
LTE-66	L	18.1	
	M	18.4	
	H	18	-91.5
LTE-38	L	19.2	
	M	18.9	
	H	18.6	-90.2
LTE-40	L	18.9	
	M	19.5	
	H	19.3	-90.7
LTE-41	L	19.1	
	M	18.8	
	H	18.6	-90.3



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Passive test data of the main antenna

Passive Test For 低频			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	18.27	-7.38	-4.76
710	17.57	-7.55	-3.27
720	17.82	-7.49	-3.29
730	19.3	-7.14	-3.28
740	28.06	-5.52	-2.32
750	24.5	-6.11	-3.16
760	23.16	-6.35	-3.02
770	24.47	-6.11	-2.39
780	24.63	-6.09	-1.34
790	24.73	-6.07	-1.73
800	22.88	-6.41	-1.78
810	19.42	-7.12	-2.5
820	16.58	-7.8	-3.48
830	18.32	-7.37	-3.43
840	19.38	-7.13	-4.83
850	17.31	-7.62	-5.34
860	14.81	-8.3	-5.87
870	13.33	-8.75	-6.13
880	12.06	-9.19	-6.72

Passive Test For 中频							
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1700	53.22	-2.74	1.38	1940	42.67	-3.7	0.27
1710	56.48	-2.48	1.88	1950	45.27	-3.44	1.4
1720	50.1	-3	1.06	1960	46.38	-3.34	1.42
1730	51.58	-2.88	1.26	1970	47.08	-3.27	2.21
1740	48.05	-3.18	0.56	1980	43.89	-3.58	1.42
1750	46.3	-3.34	0.56	1990	48.14	-3.18	2.05
1760	51	-2.92	1.27	2000	42.98	-3.67	1.7
1770	44.3	-3.54	0.43	2010	48.07	-3.18	2.11
1780	48.49	-3.14	0.66	2020	44.74	-3.49	1.67
1790	45.21	-3.45	0.34	2030	45.65	-3.41	1.53
1800	49.85	-3.02	0.76	2040	43.7	-3.59	2.19
1810	48.72	-3.12	0.69	2050	47.24	-3.26	1.41
1820	44.88	-3.48	0.48	2060	40.71	-3.9	0.83
1830	56	-2.52	1.46	2070	43.71	-3.59	1.71
1840	41.59	-3.81	0.41	2080	44.21	-3.55	1.61
1850	53.95	-2.68	1.67	2090	43.29	-3.64	1.51
1860	46.27	-3.35	0.46	2100	45.24	-3.44	1.96
1870	44.55	-3.51	0.15	2110	41.42	-3.83	1.66
1880	46.44	-3.33	0.85	2120	41.68	-3.8	1.62
1890	43.83	-3.58	0.54	2130	47.52	-3.23	2.87
1900	46.14	-3.36	0.53	2140	38.4	-4.16	1.32
1910	42.95	-3.67	0.53	2150	40.95	-3.88	1.93
1920	46.68	-3.31	1.63	2160	38.03	-4.2	1.26
1930	42.79	-3.69	0.7	2170	39.02	-4.09	1.53



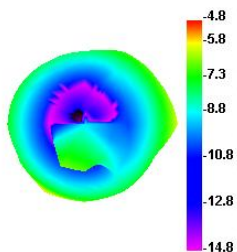
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Passive test data of the main antenna

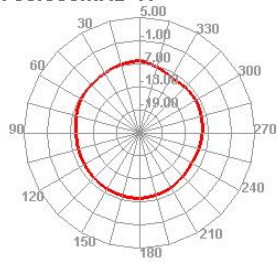
Passive Test For 高频							
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2300	53.37	-2.73	2.51	2500	56.54	-2.48	2.34
2310	54.84	-2.61	2.62	2510	57.25	-2.42	2.49
2320	61.55	-2.11	2.78	2520	52.05	-2.84	2.13
2330	60.5	-2.18	2.69	2530	53.34	-2.73	1.98
2340	66	-1.8	3.16	2540	49.55	-3.05	4.33
2350	62.92	-2.01	2.89	2550	48.14	-3.18	1.09
2360	62.15	-2.07	3.04	2560	47.41	-3.24	1.15
2370	58.15	-2.35	2.74	2570	47.06	-3.27	0.62
2380	59.54	-2.25	2.56	2580	42.64	-3.7	0.22
2390	62.05	-2.07	2.83	2590	46.26	-3.35	0.71
2400	66.24	-1.79	3.17	2600	44.9	-3.48	0.94
2410	59.59	-2.25	2.56	2610	44	-3.57	1.07
2420	59.97	-2.22	2.53	2620	39.96	-3.98	0.62
2430	58.28	-2.34	2.57	2630	40.66	-3.91	0.57
2440	64.43	-1.91	5.57	2640	39.5	-4.03	0.37
2450	58.58	-2.32	2.61	2650	42.37	-3.73	6.29
2460	55.34	-2.57	2.31	2660	43.08	-3.66	1.34
2470	57.85	-2.38	2.34	2670	43.71	-3.59	0.28
2480	54.7	-2.62	2.61	2680	41.14	-3.86	0.19
2490	64.85	-1.88	2.96	2690	42.37	-3.73	0.58

Passive pattern of the main antenna

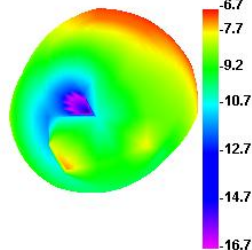
700.000MHz



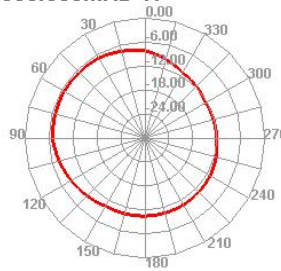
700.000MHz H



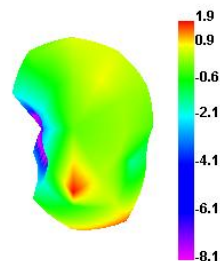
880.000MHz



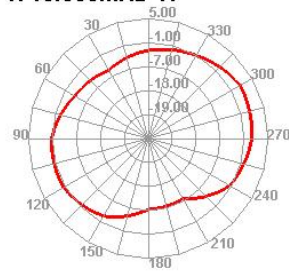
880.000MHz H



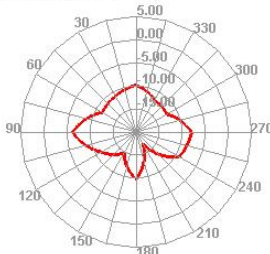
1710.000MHz



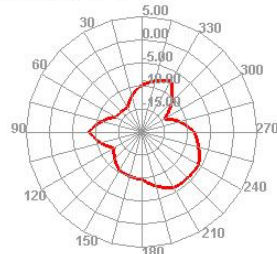
1710.000MHz H



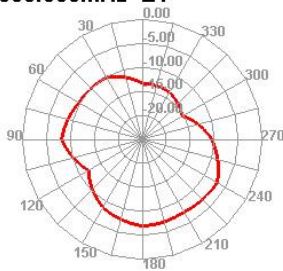
700.000MHz E1



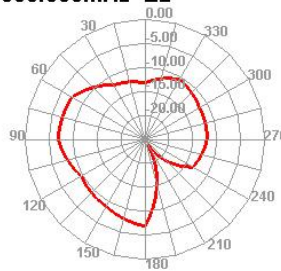
700.000MHz E2



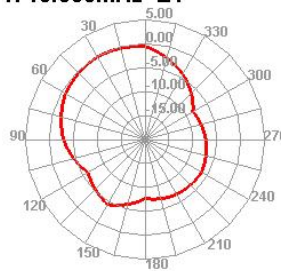
880.000MHz E1



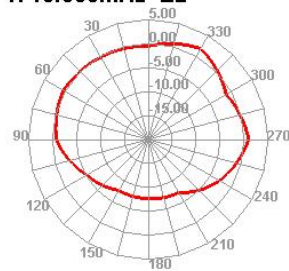
880.000MHz E2



1710.000MHz E1



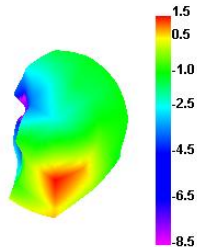
1710.000MHz E2



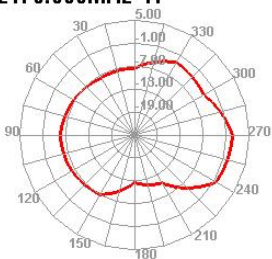


Passive pattern of the main antenna

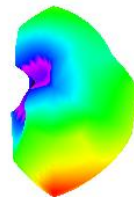
2170.000MHz



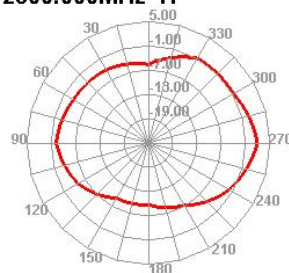
2170.000MHz H



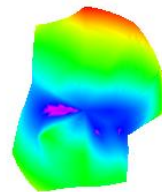
2300.000MHz



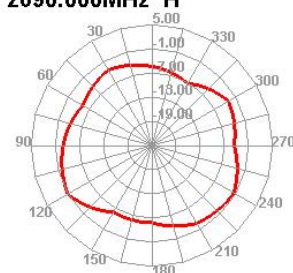
2300.000MHz H



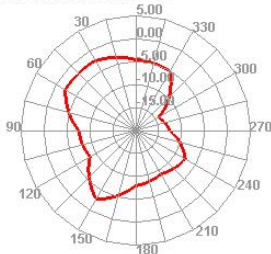
2690.000MHz



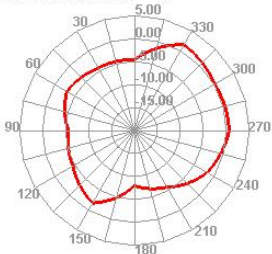
2690.000MHz H



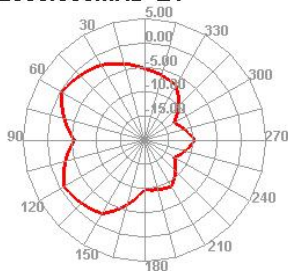
2170.000MHz E1



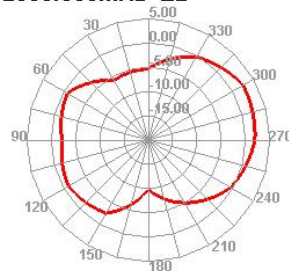
2170.000MHz E2



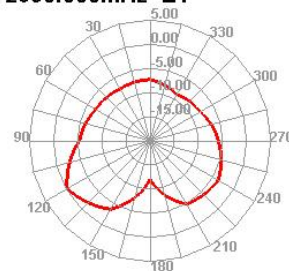
2300.000MHz E1



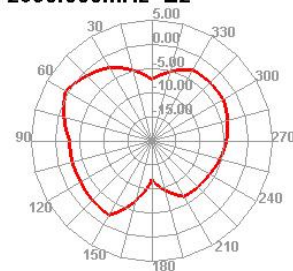
2300.000MHz E2



2690.000MHz E1



2690.000MHz E2



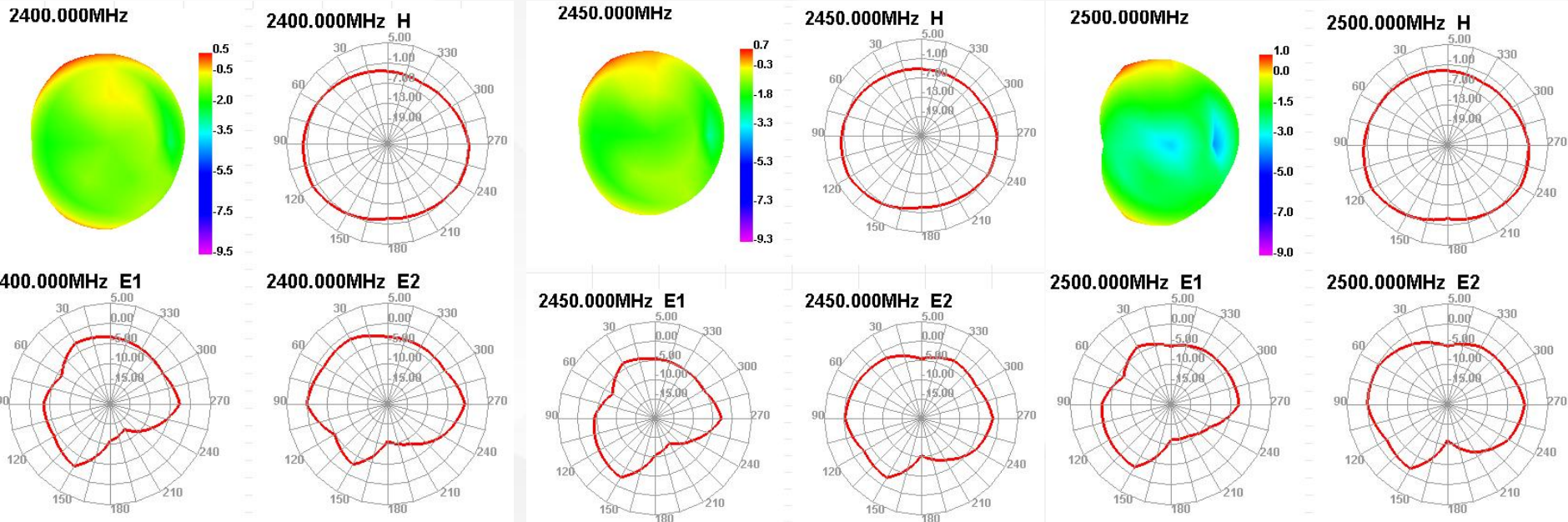


WiFi Antenna test data

Passive Test For WIFI2.4			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	45.8	-3.39	0.49
2410	45.26	-3.44	0.43
2420	44.94	-3.47	0.47
2430	44.06	-3.56	0.49
2440	43.84	-3.58	0.56
2450	44.95	-3.47	0.7
2460	45.02	-3.47	0.62
2470	45.93	-3.38	0.66
2480	49.53	-3.05	0.96
2490	50.47	-2.97	0.93
2500	51.7	-2.87	1.02



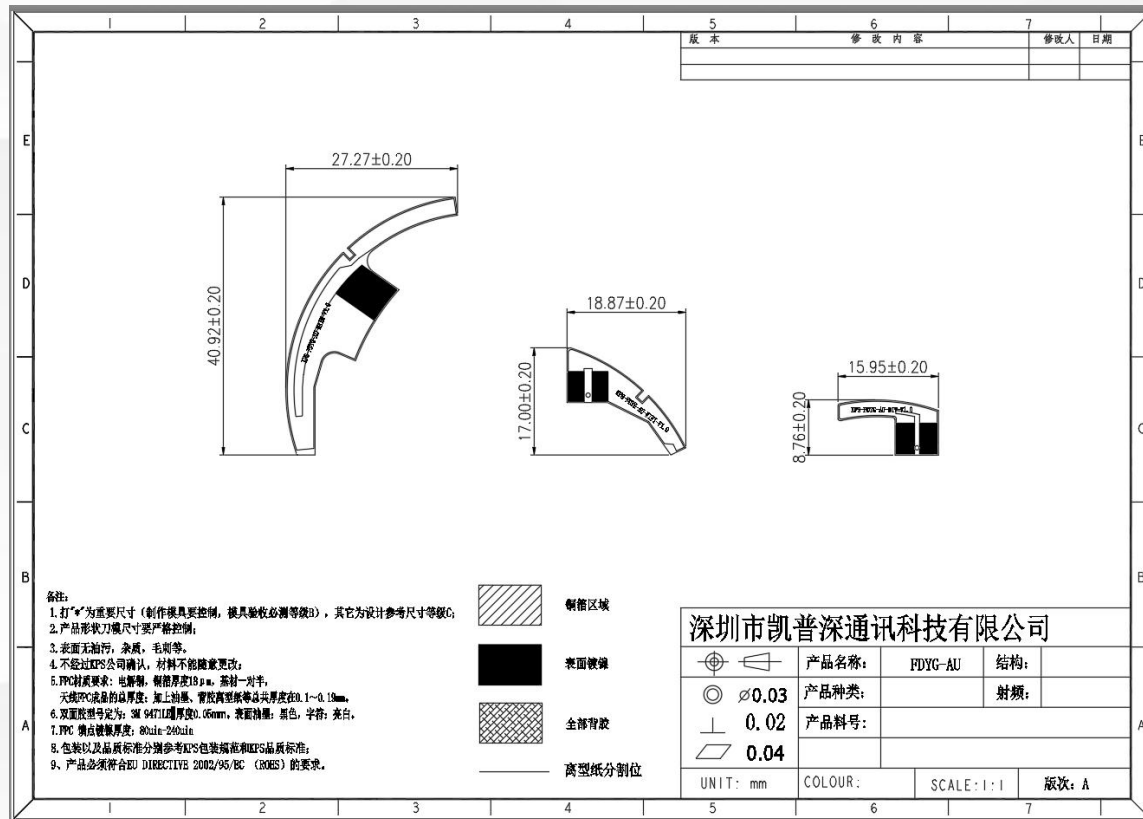
WiFi Passive antenna pattern





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Antenna size diagram



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THE END

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